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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ATH **01** 00:03:14.9, 36.°01N×21.°49E, h15km±2km, MD3.6/14*
*IDC **01** 00:03:22.6±3.5, 37.°28N×22.°83E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, Error ellipse: s-maj=89.5km s-min=30.5km az=178.0*
ISC 01 00:03:13.9±1.7**, 36.°3N**±0.°1×**21.°33E**±0.°09**, h15km, n22, σ1.s50**/21**, mb3.8**/4**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	1.01	28	ePN	Pg	00 03 38.3	+4.7
VLI	Veliai	1.36	71	ePN	Pg	00 03 40.9	+0.7
VLI				eSN	Sg	00 03 59.5	+1.5
KYTH	Kithira	1.38	90	ePN	Pb	00 03 38.9	-0.5
RLS	Riolos of Patr	1.77	3	ePN	Pg	00 03 50.7	+2.7
VLS	Valsamata	1.98	343	ePN	Pg	00 03 54.4	+2.4
EFP	Efpalio	2.19	12	ePB	Pg	00 03 56.0	+0.1
NAIG	Nisos Aigina	2.27	49	ePN	Pg	00 03 56.6	-0.9
VIL1	Vilia, Western	2.46	40	ePN	Pb	00 03 58.9	+1.0
VAM	Vamos	2.49	110	ePN	Pn	00 03 54.5	+0.6
VLY	Voula,Athens	2.52	51	ePB	Pb	00 03 59.5	+0.7
EVR	Evrytania	2.66	8	ePB	Pg	00 04 03.9	-1.0
PTL	Penteli	2.68	48	ePN	Pb	00 04 01.2	-0.5
LKR	Lokris	2.71	29	ePN	Pb	00 04 02.6	+0.5
AGG	Agios Georgios	2.85	16	ePN	Pb	00 04 05.1	+0.6
THL	Klokotos Trika	3.32	9	ePN	Pb	00 04 11.9	-0.6
NEO	Neokhori	3.37	26	ePN	Pb	00 04 12.6	-0.8
KZN	Kozani	4.03	5	ePN	Pb	00 04 22.0	-2.7
ESDC	Sonseca Array	20.20	287	P	P	00 08 08.7	+20
	0.1nm,0.3s,baz=84,slow=10,SNR=4.1						
ARCES	ARCESS Array B	33.39	3	P	P	00 09 53.0	+1.7
	2.7nm,0.8s,baz=191,slow=11,SNR=5.3						
KURK	Kurchatov	42.91	52	P	P	00 11 09.9	-1.9
	0.1nm,0.4s,baz=274,slow=8.4,SNR=3.5						
MKAR	Makanchi Array	45.77	57	P	P	00 11 33.4	-1.4
	0.3nm,0.4s,baz=268,slow=8.0,SNR=10						
ZALV	Zalesovo Beam	46.49	47	P	P	00 11 38.4	-1.9
	0.5nm,0.4s,baz=273,slow=9.9,SNR=3.9						

IDC 01 00:42:45.0±3.1**, 31.°01S×176.°93W, h0km, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.8**/16**, mbtmp3.7**/3**, ML3.1**/1**, Error ellipse: s-maj=76.7km s-min=44.8km az=125.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.74	213	Pn	Pn	00 44 51.6	-1.1
	0.2nm,0.3s,baz=354,slow=19,SNR=2.6						
URZ				Sn	Sn	00 46 26.6	-5.4
	0.7nm,0.3s,baz=111,slow=11,SNR=3.7						
ASAR	Alice Springs	44.00	267	P	P	00 50 54.2	-0.3
	0.3nm,0.6s,baz=108,slow=7.0,SNR=6.0						
WRA	Warramunga Arr	45.05	272	P	P	00 51 03.1	+0.3
	0.5nm,0.4s,baz=111,slow=8.0,SNR=20						
FINES	FINESS Array B	146.03	340	PKPbc	PKPdf	01 02 25.2	-0.1
	10nm,1.1s,baz=29,slow=3.2,SNR=8.0						

*OMAN **01** 00:43:07.0±99.0, 26.°20N×55.°81E, h10km, Error ellipse: s-maj=98.9km s-min=7.0km az=349.0*
CSEM 01 00:43:06.4±2.6**, 26.°27N×55.°84E, h15km, ML3.6**/2**, Error ellipse: s-maj=73.4km s-min=3.9km az=174.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BANOM	Banah	0.54	130	P	Pg	00 43 17.0	-0.2
	SNR=78						
BANOM	Banah	0.54	130	Pg	Pg	00 43 17.1	-0.1
	SNR=78						
HATD	Hatta, Dubai	1.47	169	Pn	Pn	00 43 32.4	0.0
FAQ	Al Faqa, Dubai	1.54	188	Pn	Pn	00 43 33.1	-0.2
	SNR=11						
ASHO	Ashiyiah	1.59	173	P	Pn	00 43 34.3	+0.1
	SNR=18						
ASHO	Ashiyiah	1.59	173	Pn	Pn	00 43 34.1	-0.1
	SNR=18						
ASUD	Al Ashush, Dub	1.70	196	P	Pn	00 43 35.6	+0.1
	SNR=9.3						
ASUD	Al Ashush, Dub	1.70	196	P	Pn	00 43 35.6	0.0
	SNR=9.3						

*THR **01** 00:45:24.3±0.4, 35.°68N×48.°91E, h14km±3km, ML3.6*
*CSEM **01** 00:45:25.6±0.2, 35.°77N×48.°92E, h2km, ML3.6, Error ellipse: s-maj=6.2km s-min=4.1km az=163.0*
*TEH **01** 00:45:26.5, 35.°84N×48.°92E, h4km, ML3.7*
*KISR **01** 00:45:34.0±1.3, 34.°79N×46.°21E, h34km±999km, ML2.9*
ISC 01 00:45:25.9±1.4**, 35.°74N**±0.°04×**48.°89E**±0.°03**, h7km**±13km**, n51, σ1.s22**/65**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZNJK	Zanjan	0.94	350	ePg	Pg	00 45 43.4	-0.6
ZNJK				eSg	Sg	00 45 57.1	+0.8
ZNJK	Zanjan	0.94	350	ePg	Pg	00 45 43.4	-0.6
ZNJK				eSg	Sg	00 45 57.1	+0.8
IMHD	Mahdasht	1.45	92	ePg	Pn	00 45 51.8	-0.8
IMHD				eSg	Sn	00 46 11.3	-0.7
IMHD				e		00 46 14.0	
	comp=Z,19μm,0.1s						
IMHD	Mahdasht	1.45	92	ePg	Pn	00 45 51.8	-0.8
IMHD				eSg	Sn	00 46 11.3	-0.7
ASAO	Ashtian	1.51	142	ePg	Pn	00 45 51.1	-2.5
ASAO				eSg	Sn	00 46 10.8	-2.8
THKV	Tehran--Karaj	1.63	83	ePg	Pn	00 45 54.0	-1.1
THKV				eSg	Sn	00 46 16.0	-0.5
THKV				AML	AML	00 46 22.3	
	comp=N,505nm,0.5s						
THKV				AML	AML	00 46 22.5	
	comp=E,564nm,0.5s						
THKV	Tehran--Karaj	1.63	83	eSg	Sg	00 46 16.0	-2.7
IR3	Iran Long-Peri	1.76	98	ePn	Pn	00 45 57.0	+0.1
IR3				eSg	Sb	00 46 21.2	+0.3
IR3	Iran Long-Peri	1.76	98	ePn	Pn	00 45 57.0	+0.1
IKOM	Komasi	1.93	216	ePn	Pn	00 45 59.0	-0.3
IKOM				e		00 46 05.8	
	comp=Z,6μm,0.2s						
IKOM	Komasi	1.93	216	ePn	Pn	00 45 59.0	-0.3
IVIS	Veis	2.06	235	e		00 46 11.3	
	comp=Z,2μm,0.2s						
IVIS				ePn	Pb	00 46 02.8	-0.9
IVIS				eSg	Sg	00 46 33.5	+1.3
IDHR	Dehrash	2.30	244	ePn	Pn	00 46 05.9	+1.5
IDHR	Dehrash	2.30	244	ePn	Pn	00 46 05.9	+1.5
IGHG	Ghaleghazi	2.37	234	e		00 46 15.3	
	comp=Z,5μm,0.3s						
IGHG				ePn	Pb	00 46 07.2	-1.8
DAMV	Damavand	2.51	92	ePn	Pn	00 46 06.7	-0.7
DAMV				AML	AML	00 46 48.8	
	comp=N,372nm,0.6s						
DAMV				AML	AML	00 46 50.9	
	comp=E,420nm,0.7s						
DAMV	Damavand	2.51	92	ePn	Pn	00 46 06.7	-0.7
IPRN	Peran	2.84	79	ePn	Pn	00 46 12.2	+0.4
IPRN				e		00 46 27.7	
	comp=Z,2μm,0.3s						
IFTB	Fath-abad	3.03	319	ePn	Pn	00 46 14.0	-0.5
IFTB				e		00 46 27.2	
	comp=Z,24μm,0.2s						
IFTB	Fath-abad	3.03	319	ePn	Pn	00 46 14.0	-0.5
IFIR	Firoozkooh	3.15	91	ePn	Pn	00 46 16.4	+0.3
IFIR				e		00 46 29.1	
	comp=Z,2μm,0.2s						
IFIR				eSg	Sb	00 47 03.8	+2.8
IFIR	Firoozkooh	3.15	91	ePn	Pn	00 46 16.4	+0.3
IFIR				eSg	Sb	00 47 03.8	+2.8
IALA	Alasht	3.20	83	ePn	Pn	00 46 17.1	+0.2
IALA				e		00 46 26.5	
	comp=Z,2μm,0.2s						
IALA	Alasht	3.20	83	ePn	Pn	00 46 17.1	+0.2
IKLH	Kolahrood	3.28	137	ePn	Pn	00 46 18.8	+0.8
IKLH				e		00 47 11.5	
	comp=Z,2μm,0.2s						
IKLH	Kolahrood	3.28	137	ePn	Pn	00 46 18.8	+0.8
ILAS	Lasjerd	3.34	95	ePn	Pn	00 46 19.2	+0.5
ILAS				e		00 47 21.3	
	comp=Z,2μm,0.4s						
ILAS	Lasjerd	3.34	95	ePn	Pn	00 46 19.2	+0.5
IPIR	Pirpir	3.47	151	ePn	Pn	00 46 22.2	+1.6
IPIR				e		00 47 21.3	
	comp=Z,2μm,0.3s						
IPIR	Pirpir	3.47	151	ePn	Pn	00 46 22.2	+1.6
ISHM	Shahmirzad	3.58	88	ePn	Pn	00 46 22.6	+0.5
ISHM				e		00 46 38.9	
	comp=Z,2μm,0.2s						
ISHM	Shahmirzad	3.58	88	ePn	Pn	00 46 22.6	+0.5
SHGR	Shooshtar-Gavs	3.62	181	ePn	Pn	00 46 21.2	-1.2
SHGR				AML	AML	00 47 10.4	
	comp=N,91nm,0.8s						
SHGR				AML	AML	00 47 37.3	
	comp=E,75nm,0.8s						
IZEF	Zefreh	4.02	134	ePn	Pn	00 46 29.3	+1.2
IZEF				e		00 46 44.4	
	comp=Z,392nm,0.2s						
IZEF	Zefreh	4.02	134	ePn	Pn	00 46 29.3	+1.2
IANJ	Anjilo	4.10	92	ePn	Pn	00 46 29.5	+0.2
IANJ				e		00 46 45.8	
	comp=Z,792nm,0.2s						
IANJ	Anjilo	4.10	92	ePn	Pn	00 46 29.5	+0.2
NASN	Na'in	4.38	131	ePn	Pn	00 46 31.9	-1.2
NASN	Na'in	4.38	131	ePn	Pn	00 46 31.9	-1.2
BHD	Baghdad	4.46	238	ePn	Pn	00 46 33.0	-1.0
BHD				eSn	Sn	00 47 25.0	-1.2
BHD				eSb	Sb	00 47 42.0	+3.4
BHD				eSg	Sg	00 47 49.0	-0.2
BHD	Baghdad	4.46	238	ePn	Pn	00 46 33.0	-1.0
BHD				eSn	Sn	00 47 25.0	-1.2
BHD				eSg	Sg	00 47 49.0	-0.2
ICHK	Chekchek	5.76	126	ePn	Pn	00 46 52.8	+0.8
ICHK				e		00 47 35.7	
	comp=Z,163nm,0.2s						
ICHK	Chekchek	5.76	126	ePn	Pn	00 46 52.8	+0.8
MIB	Mutribah	6.06	193	eP	Pn	00 46 55.9	0.0
MIB				AML	AML	00 48 05.2	
	comp=Z,5.4nm,0.5s						
MIB	Mutribah	6.06	193	eP	Pn	00 46 55.9	0.0
UMR	Umm Al-Rimmam	6.25	189	eP	Pn	00 47 00.7	+2.2
UMR	Umm Al-Rimmam	6.25	189	eP	Pn	00 47 00.7	+2.2
NAY	Al-Naaiem	6.62	193	eP	Pn	00 47 03.9	+0.3
NAY				eS	Sn	00 48 10.6	-8.8
NAY				AML	AML	00 48 16.2	
	comp=Z,3.3nm,0.5s						
NAY	Al-Naaiem	6.62	193	eP	Pn	00 47 03.9	+0.3
NAY				eS	Sn	00 48 10.6	-8.8
	comp=Z,3.3nm,0.5s						
RDF	Al-Radifah	6.89	190	eP	Pn	00 47 07.9	+0.6
RDF				AML	AML	00 48 25.0	
	comp=Z,12nm,0.6s						
RDF	Al-Radifah	6.89	190	eP	Pn	00 47 07.9	+0.6

*IDC **01** 00:49:05.5±1.1, 39.°37N×74.°01E, h0km, mb3.6/9, mb1 3.7/14, mb1mx3.6/30, mbtmp3.5/14, ML3.2/5, Error ellipse: s-maj=20.5km s-min=17.1km az=150.0*
*NNC **01** 00:49:10.0±1.4, 39.°62N×73.°75E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=12.0km s-min=6.4km az=177.0*
ISC 01 00:49:10.5±1.0**, 39.°70N**±0.°08×**74.°22E**±0.°06**, h28km, n34, σ1.s60**/43**, mb3.5**/9**, 11C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	2.46	351	P	Pb	00 49 53.2	-1.2
	SNR=69						
AML				P	Pb	00 49 53.2	-1.2
	SNR=69						
KZA	Kyzart	2.50	18	P	Pb	00 49 55.4	+0.3
	SNR=36						
KZA				P	Pb	00 49 55.4	+0.3
	SNR=36						
UCH	Uchtor	2.54	5	P	Pb	00 49 55.8	+0.1
	SNR=30						
UCH				P	Pb	00 49 55.8	+0.1
	SNR=30						
AAK	Ala-Archa	2.94	4	P	Pb	00 50 00.9	-1.4
	SNR=58						
AAK				P	Pb	00 50 00.9	-1.4
	SNR=58						
ULHL	Ulahol	2.97	30	P	Pb	00 50 01.7	-1.3
	SNR=24						
ULHL				P	Pb	00 50 01.7	-1.3
	SNR=24						
EKS2	Erkin-Say	2.98	354	P	Pb	00 50 00.6	-2.5
	SNR=32						
EKS2				P	Pb	00 50 00.6	-2.5
	SNR=32						
KBK	Karagaybulak	3.01	10	P	Pb	00 50 02.5	-1.0
	SNR=60						
KBK				P	Pb	00 50 02.5	-1.0
	SNR=60						
CHMS	Chumysh	3.32	7	P	Pb	00 50 06.5	-2.2
	SNR=7.7						
CHMS				P	Pb	00 50 06.5	-2.2
	SNR=7.7						
TKM2	Tokmak 2	3.38	17	P	Pb	00 50 07.4	-2.5
	SNR=9.9						
TKM2				P	Pb	00 50 07.4	-2.5
	SNR=9.9						
TKM2	Tokmak 2	3.38	17	⇓Pn	Pb	00 50 07.2	-2.8
	9.2nm,0.5s						
TKM2				⇑Sn	Sb	00 50 51.5	+0.8
	30nm,0.7s						
USP	Ospenovka	3.57	3	P	Pb	00 50 10.1	-3.0
	SNR=28						
USP				P	Pb	00 50 10.1	-3.0
	SNR=28						
KNDC	Almaty	4.08	30	⇑Pn	Pb	00 50 18.0	-3.7
	12nm,0.6s						
KNDC				⇓Pg	Pn	00 50 28.0	+17
	36nm,0.7s						
KNDC				⇑Lg	Lg	00 51 26.6	
	120nm,1.1s						
KK31	Karatay Array	4.40	322	Pn	Pn	00 50 17.0	+1.5
	3.7nm,0.5s,baz=133,slow=12,SNR=110						
KK31				⇑Pg	Pb	00 50 27.1	0.0
	5.2nm,0.3s,baz=148,slow=17,SNR=23						
KK31				⇑Sn	Sn	00 51 08.1	+2.4
	26nm,0.5s,baz=141,slow=25,SNR=6.5						
KK31				⇑Lg	Lg	00 51 25.8	
	20nm,0.5s,baz=0.0,slow=0.1,SNR=5.3						
MK31	Makanchi Array	9.21	37	⇓Pn	Pn	00 51 27.6	+6.0
	0.1nm,0.5s,baz=219,slow=14,SNR=4.6						
MK31				⇓Lg	Lg	00 54 11.9	
	2.1nm,0.8s,baz=222,slow=28,SNR=3.7						
MKAR	Makanchi Array	9.21	37	Pn	Pn	00 51 27.4	+5.8
	0.1nm,0.3s,baz=214,slow=14,SNR=5.8						
MKAR				Lg	Lg	00 54 06.0	
	0.1nm,0.3s,baz=228,slow=26,SNR=4.3						
KURBB	Kurchatov Arra	11.34	14	⇓Lg	Lg	00 55 15.6	
	1.5nm,0.7s						
KURK	Kurchatov	11.44	14	Pn	Pn	00 51 51.8	-0.2
	0.0nm,0.3s,baz=207,slow=13,SNR=4.0						
KURK				Lg	Lg	00 55 11.4	
	0.0nm,0.3s,baz=213,slow=30,SNR=4.5						
VOSK	Vostochnaya	13.22	351	⇑Pn	Pn	00 52 17.7	+1.4
VOSK				⇓Lg	Lg	00 56 10.6	
	2.8nm,0.8s						
BVA0	Borovoye Array	13.59	350	Pn	Pn	00 52 24.0	+2.7
	0.1nm,0.4s,baz=164,slow=10,SNR=9.8						
BVA0				⇑Lg	Lg	00 56 21.3	
	0.4nm,0.8s,baz=158,slow=10,SNR=4.1						
BVAR	Borovoye Array	13.59	350	Pn	Pn	00 52 21.4	+0.1
	0.2nm,0.3s,baz=157,slow=11,SNR=9.4						
BVAR				Lg	Lg	00 56 14.8	
	0.1nm,0.3s,baz=172,slow=22,SNR=3.8						
ZRNK	Zerenda	13.73	347	⇑Pn	Pn	00 52 24.3	+1.1
ZRNK				⇓Lg	Lg	00 56 25.4	
	2.0nm,0.8s						
AB31	Akbulak array	13.95	318	⇑Pn	Pn	00 52 25.6	-0.6
	0.8nm,0.5s,baz=125,slow=13,SNR=17						
AB31				⇓Sn	Sn	00 54 57.6	-2.4
	1.1nm,0.7s,baz=124,slow=24,SNR=6.4						
AKTO	Aktyubinsk	15.66	319	Pn	Pn	00 52 47.8	-1.3
	0.2nm,0.3s,baz=141,slow=14,SNR=3.6						
AKTO	Aktyubinsk	15.66	319	⇑Pn	Pn	00 52 47.9	-1.2
	0.6nm,1.0s						
ZALV	Zalesovo Beam	15.97	23	Pn	P	00 52 56.1	-0.2
	0.3nm,0.3s,baz=211,slow=9.3,SNR=3.9						
SONM	Songino Array	24.48	60	P	P	00 54 29.2	+2.0
	0.3nm,0.6s,baz=256,slow=6.0,SNR=4.5						
FINES	FINESS Array B	36.36	323	P	P	00 56 12.1	+0.3
	1.5nm,0.4s,baz=113,slow=9.4,SNR=18						
ARCES	ARCESS Array B	39.23	335	P	P	00 56 37.1	+1.1
	4.0nm,0.9s,baz=120,slow=7.4,SNR=4.2						
GERES	GERESS Array B	43.24	303	P	P	00 57 09.9	+0.6
	0.2nm,0.5s,baz=59,slow=8.0,SNR=5.3						
NOA	NORSAR Array B	43.43	321	P	P	00 57 10.5	-0.1
	0.7nm,0.7s,baz=109,slow=7.3,SNR=2.9						
TORD	Torodi Ar. Bea	68.32	269	P	P	01 00 07.5	-1.9
	0.2nm,0.5s,baz=53,slow=5.5,SNR=5.5						
ILAR	Eielson Array	71.00	17	P	P	01 00 25.1	-0.1
	0.4nm,0.8s,baz=324,slow=4.9,SNR=6.0						
YKA	Yellowknife Ar	77.91	4	P	P	01 01 05.0	-0.4
	0.3nm,0.7s,baz=345,slow=6.2,SNR=4.2						
WRA	Warramunga Arr	81.61	124	P	P	01 01 25.9	-0.1
	0.6nm,0.6s,baz=326,slow=5.2,SNR=7.3						

*IDC **01** 00:51:28.7±0.8, 15.°31S×173.°14W, h0km, mb3.9/9, mb1 4.3/10, mb1mx4.1/20, mbtmp4.0/10, ML4.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/26, Error ellipse: s-maj=34.8km s-min=19.8km az=141.0*
*ISCJB **01** 00:51:30.8±0.6, 15.°4S±0.°1×173.°17W±0.°09, h29km, mb3.9/11, MS4.0/2, Error ellipse: s-maj=18.5km s-min=11.2km az=158.9*
*NEIC **01** 00:51:33.5±0.4, 15.°43S×173.°14W, h35km, mb4.0/3, Error ellipse: s-maj=13.4km s-min=8.4km az=159.0*
ISC 01 00:51:32.7±0.6**, 15.°4S**±0.°1×**173.°13W**±0.°10**, h29km, n35, σ0.s61**/28**, mb3.8**/11**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.77	253	ePn	Pn	00 53 36.9	-0.7
RAR	Rarotonga	13.93	116	Pn	Pn	00 54 47.5	-0.7
	3.3nm,0.3s,baz=317,slow=17,SNR=5.2						
RAR				Sn	Sn	00 57 08.3	-14
	0.8nm,0.3s,baz=312,slow=14,SNR=1.9						
RAR				LR	LR	00 59 19.5	
	comp=Z,75nm,18.9s,baz=110,slow=34						
RAR	Rarotonga	13.93	116	ePn	Pn	00 54 47.8	-0.4
RAR				Sn	Sn	00 57 08.3	-14
DZM	Mont Dzumac	20.44	248	eLR	LR	01 01 34.5	
	177nm,26.3s						
PPT2	Papeete2	22.69	99	eLR	LR	01 01 49.7	
	174nm,27.2s						
TBI	Tubuai	23.66	113	eLR	LR	01 02 21.6	
	207nm,28.5s						
URZ	Urewera	24.34	199	P	P	00 56 49.3	+1.3
	4.0nm,0.6s,baz=341,slow=2.6,SNR=4.7						
URZ	Urewera	24.34	199	eP	P	00 56 48.6	+0.6
	6.6nm,0.6s						
ARMA	Armidale	35.56	239	eP	P	00 58 27.8	0.0
	0.9nm,0.5s						
RKT	Rikitea	36.75	108	eLR	LR	01 08 29.4	
	569nm,39.2s						
CAN	Canberra	39.23	233	P	P	00 59 02.4	+3.7
WRAB	Tennant Creek	50.09	257	eP	P	01 00 24.7	-0.8
	0.9nm,0.9s						
WRA	Warramunga Arr	50.09	257	P	P	01 00 25.0	-0.5
	0.5nm,0.6s,baz=90,slow=7.0,SNR=12						
WRA	Warramunga Arr	50.09	257	P	P	01 00 25.0	-0.5
ASAR	Alice Springs	50.36	252	P	P	01 00 28.0	+0.5
	1.0nm,0.6s,baz=87,slow=7.6,SNR=23						
ASAR	Alice Springs	50.36	252	P	P	01 00 28.0	+0.5
PETK	Petropavlovsk-	72.71	342	P	P	01 02 57.8	0.0
	4.8nm,0.8s,baz=144,slow=11,SNR=3.3						
PETK	Petropavlovsk-	72.71	342	P	P	01 02 57.8	0.0
NVAR	Mina Array Bea	74.16	42	P	P	01 03 07.1	+0.2
	0.6nm,0.7s,baz=221,slow=10,SNR=4.7						
NVAR	Mina Array Bea	74.16	42	P	P	01 03 07.1	+0.2
KSRS	Korea Array	76.34	315	LR	LR	01 36 34.5	
	comp=Z,53nm,18.9s,baz=76,slow=36						
TXAR	Lajitas Array	80.40	56	P	P	01 03 42.3	+0.4
	0.9nm,1.1s,baz=205,slow=4.0,SNR=4.8						
TXAR	Lajitas Array	80.40	56	P	P	01 03 42.3	+0.4
PDAR	Pinedale Array	82.10	42	P	P	01 03 51.2	+0.4
	0.6nm,0.7s,baz=243,slow=1.7,SNR=4.9						
PDAR	Pinedale Array	82.10	42	P	P	01 03 51.2	+0.4
ILAR	Eielson Array	82.40	11	P	P	01 03 51.4	-0.2
	1.2nm,0.7s,baz=228,slow=5.9,SNR=16						
ILAR	Eielson Array	82.40	11	P	P	01 03 51.4	-0.2
PLCA	Paso Flores	89.31	132	LR	LR	01 33 22.3	
	comp=Z,69nm,20.6s,baz=106,slow=28						
YKA	Yellowknife Ar	90.00	23	P	P	01 04 28.3	-0.7
	0.5nm,0.8s,baz=234,slow=4.4,SNR=6.7						
YKA	Yellowknife Ar	90.00	23	P	P	01 04 28.3	-0.7
KHC	Kasperske Hory	145.92	352	ePKP	PKPab	01 11 11.5	+1.6
GERES	GERESS Array B	146.18	352	PKPbc	PKPab	01 11 10.9	-0.1
	1.5nm,1.0s,baz=25,slow=4.4,SNR=21						
GERES	GERESS Array B	146.18	352	PKPbc	PKPab	01 11 10.9	-0.1
BRTR	Keskin Array B	146.32	321	PKPbc	PKPab	01 11 12.3	+0.4
	4.5nm,0.9s,baz=92,slow=1.8,SNR=16						
BRTR	Keskin Array B	146.32	321	PKPbc	PKPab	01 11 12.3	+0.4

IDC 01 01:00:15.9±5.5**, 16.°65S×169.°30E, h0km, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.9**/16**, mbtmp4.0**/5**, Error ellipse: s-maj=118.2km s-min=58.2km az=115.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	22.13	258	P	P	01 05 15.3	+2.0
	3.3nm,0.8s,baz=82,slow=11,SNR=4.4						
STKA	Stephens Creek	29.35	234	P	P	01 06 20.6	0.0
	1.9nm,0.5s,baz=72,slow=7.4,SNR=8.1						
WRA	Warramunga Arr	33.32	259	P	P	01 06 54.8	-1.1
	0.3nm,0.3s,baz=88,slow=8.9,SNR=11						
ASAR	Alice Springs	33.89	252	P	P	01 07 00.1	-0.7
	4.6nm,0.6s,baz=78,slow=9.4,SNR=75						
CMAR	Chiang Mai Arr	77.51	294	P	P	01 12 14.6	+0.6
	0.3nm,0.8s,baz=128,slow=5.8,SNR=4.2						

*DJA **01** 01:26:04, 3.°73N×127.°34E, h67km, MLv4.6/14*
IDC 01 01:25:52.5±3.7**, 4.°46N×127.°81E, h108km**±32km**, mb3.9**/8**, mb1 4.1**/8**, mb1mx3.7**/19**, mbtmp3.9**/8**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.1**/31**, Error ellipse: s-maj=89.3km s-min=13.4km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.52	185	P	P	01 30 43.0	-0.4
	2.9nm,0.6s,baz=17,slow=8.0,SNR=8.5						
WRA	Warramunga Arr	25.08	165	P	P	01 31 06.7	-0.4
	4.9nm,0.3s,baz=342,slow=10,SNR=48						
ASAR	Alice Springs	28.58	168	P	P	01 31 38.6	+0.1
	2.0nm,0.5s,baz=355,slow=8.4,SNR=60						
ASAR				ScP	ScP	01 38 18.6	-0.4
	0.7nm,0.9s,baz=345,slow=3.9,SNR=4.2						
KSRS	Korea Array	32.84	0	LR	LR	01 46 59.0	
	comp=Z,13nm,19.9s,baz=190,slow=39						
STKA	Stephens Creek	38.45	161	P	P	01 33 04.3	+0.4
	5.4nm,0.4s,baz=336,slow=7.9,SNR=22						
SONM	Songino Array	46.97	340	P	P	01 34 12.8	+0.1
	0.3nm,0.4s,baz=153,slow=7.3,SNR=5.2						
MKAR	Makanchi Array	57.58	325	P	P	01 35 31.6	+0.5
	2.9nm,0.4s,baz=113,slow=8.1,SNR=152						
ZALV	Zalesovo Beam	60.44	332	P	P	01 35 50.0	-0.6
	1.0nm,0.4s,baz=128,slow=7.8,SNR=6.5						
ARCES	ARCESS Array B	90.14	340	P	P	01 38 39.0	-1.2
	4.1nm,1.0s,baz=343,slow=3.8,SNR=3.6						

*PRU **01** 01:37:38.0, 44.°25N×12.°15E, h6km*
*GEN **01** 01:37:39.1, 43.°96N×12.°26E, h31km, ML2.3*
*CSEM **01** 01:37:39.5±0.2, 44.°06N×12.°14E, h30km, ML2.8/10, Error ellipse: s-maj=5.0km s-min=3.3km az=35.0*
*LDG **01** 01:37:39.1±0.1, 44.°11N×12.°33E, h25km, Ml2.6/23, Error ellipse: s-maj=3.8km s-min=2.8km az=42.0*
ROM 01 01:37:40.2±0.2**, 43.°98N×12.°18E, h37km**±5km**, Md2.5**/20**, Ml2.4**/13**, 1C, Error ellipse: s-maj=3.1km s-min=1.7km az=17.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSM	Repubblica di	0.20	103	Pg	Pn	01 37 47.4	-2.2
RSM				Sg	Sn	01 37 51.8	-6.9
	63nm,0.2s						
RSM	Repubblica di	0.20	103	Pg	Pn	01 37 47.4	-2.2
RSM				Sg	Sn	01 37 51.8	-6.9
	63nm,0.2s						
BRSN	Barisano	0.32	346	Pg	Pn	01 37 48.9	+0.5
	139nm,0.2s						
BRSN	Barisano	0.32	346	Pg	Pn	01 37 48.9	+0.5
	139nm,0.2s						
ASQU	Asqua	0.34	238	Pg	Pn	01 37 48.8	+0.1
ASQU				Sg	Sn	01 37 56.7	+1.1
	152nm,0.3s						
ASQU	Asqua	0.34	238	Pg	Pn	01 37 48.8	+0.1
ASQU				Sg	Sn	01 37 56.7	+1.1
	152nm,0.3s						
FAEN	Faenza	0.38	325	Pg	Pn	01 37 49.7	+0.7
FAEN	Faenza	0.38	325	Pg	Pn	01 37 49.7	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CRE	Caprese Michel	0.39	205	Pg	Pn	01 37 50.0	+0.7
CRE				Sg	Sn	01 37 57.6	+1.4
	97nm,0.3s						
CRE	Caprese Michel	0.39	205	Pg	Pn	01 37 50.0	+0.7
CRE				Sg	Sn	01 37 57.6	+1.4
	97nm,0.3s						
VMG	Vicchio	0.46	269	Pg	Pn	01 37 50.6	+0.4
VMG				Sg	Sn	01 37 58.3	+0.9
	63nm,0.2s						
VMG	Vicchio	0.46	269	Pg	Pn	01 37 50.6	+0.4
VMG				Sg	Sn	01 37 58.3	+0.9
	63nm,0.2s						
PESA	Pesaro	0.48	94	Pg	Pn	01 37 50.3	-0.1
PESA				Sg	Sn	01 37 59.6	+2.0
	526nm,0.2s						
PESA	Pesaro	0.48	94	Pg	Pn	01 37 50.3	-0.1
PESA				Sg	Sn	01 37 59.6	+2.0
	526nm,0.2s						
PIEI	Pieia	0.51	150	Pg	Pn	01 37 50.7	-0.3
PIEI				Sg	Sn	01 38 00.4	+1.8
	223nm,0.3s						
PIEI	Pieia	0.51	150	Pg	Pn	01 37 50.7	-0.3
PIEI				Sg	Sn	01 38 00.4	+1.8
	223nm,0.3s						
FSSB	Fossombrone	0.52	123	Pg	Pn	01 37 50.9	-0.2
FSSB				Sg	Sn	01 38 00.6	+1.9
	660nm,0.3s						
FSSB	Fossombrone	0.52	123	Pg	Pn	01 37 50.9	-0.2
FSSB				Sg	Sn	01 38 00.6	+1.9
	660nm,0.3s						
CDCA	Citt‘ di Caste	0.52	176	Pg	Pn	01 37 51.8	+0.7
	87nm,0.6s						
CDCA	Citt‘ di Caste	0.52	176	Pg	Pn	01 37 51.8	+0.7
	87nm,0.6s						
SEI	Scarperia	0.60	278	Pg	Pn	01 37 52.5	+0.1
	561nm,0.4s						
SEI	Scarperia	0.60	278	Pg	Pn	01 37 52.5	+0.1
	561nm,0.4s						
MTRZ	Monterenzio	0.65	308	Pg	Pn	01 37 53.9	+0.8
	262nm,0.5s						
MTRZ	Monterenzio	0.65	308	Pg	Pn	01 37 53.9	+0.8
	262nm,0.5s						
CAFI	Castiglion Fio	0.66	194	Pg	Pn	01 37 53.3	+0.1
CAFI				Sg	Sn	01 38 03.2	+0.8
CAFI	Castiglion Fio	0.66	194	Pg	Pn	01 37 53.3	+0.1
CAFI				Sg	Sn	01 38 03.2	+0.8
MURB	Monte Urbino	0.75	161	Pg	Pn	01 37 55.4	+1.0
	235nm,0.4s						
MURB	Monte Urbino	0.75	161	Pg	Pn	01 37 55.4	+1.0
	235nm,0.4s						
CSNT	Castellina Chi	0.82	232	Pg	Pn	01 37 55.4	+0.1
	45nm,0.5s						
CSNT	Castellina Chi	0.82	232	Pg	Pn	01 37 55.4	+0.1
	45nm,0.5s						
FIU	Minerbio Fiu	0.83	323	Pg	Pn	01 37 57.1	+1.8
CRMI	Carmignano	0.90	259	Pg	Pn	01 37 56.3	0.0
CRMI				Sg	Sn	01 38 08.5	+0.4
CRMI	Carmignano	0.90	259	Pg	Pn	01 37 56.3	0.0
CRMI				Sg	Sn	01 38 08.5	+0.4
SNTG	Esanatoglia	0.91	142	Pg	Pn	01 37 56.8	+0.3
	53nm,0.2s						
SNTG	Esanatoglia	0.91	142	Pg	Pn	01 37 56.8	+0.3
	53nm,0.2s						
CING	Cingoli	0.95	129	Pg	Pn	01 37 57.6	+0.6
	38nm,0.4s						
CING	Cingoli	0.95	129	Pg	Pn	01 37 57.6	+0.6
	38nm,0.4s						
MGAB	Montegabbione	1.06	183	Pg	Pn	01 37 58.9	+0.3
	41nm,0.3s						
MGAB	Montegabbione	1.06	183	Pg	Pn	01 37 58.9	+0.3
	41nm,0.3s						
BDI	Bagni Di Lucca	1.15	275	Pg	Pn	01 37 59.2	-0.6
BDI	Bagni Di Lucca	1.15	275	Pg	Pn	01 37 59.2	-0.6
MAIM	Mastiano	1.22	268	P	Pn	01 38 00.2	-0.5
MAIM				S	Sn	01 38 14.1	-1.9
CRDM	Cardoso	1.23	273	P	Pn	01 38 00.4	-0.4
CRDM				S	Sn	01 38 14.4	-1.8
NRCA	Norcia	1.33	149	Pg	Pn	01 38 03.7	+1.4
	5.0nm,0.3s						
NRCA	Norcia	1.33	149	Pg	Pn	01 38 03.7	+1.4
	5.0nm,0.3s						
GRAM	Graiana	1.61	289	P	Pn	01 38 06.4	+0.3
GRAM				S	Sn	01 38 24.3	-1.4
TERO	Teramo	1.70	142	Pg	Pn	01 38 07.7	+0.3
	17nm,0.4s						
TERO	Teramo	1.70	142	Pg	Pn	01 38 07.7	+0.3
	17nm,0.4s						
CODM	Codolo	1.73	285	P	Pn	01 38 07.1	-0.6
CODM				S	Sn	01 38 25.9	-2.7
ROVR	Rover˜¤ Verone	1.85	335	Pg	Pn	01 38 07.5	-2.0
	27nm,0.4s						
ROVR	Rover˜¤ Verone	1.85	335	Pg	Pn	01 38 07.5	-2.0
	27nm,0.4s						
NVLJ	Novalja	2.02	72	ePn	Pn	01 38 10.2	-1.4
NVLJ				Sn	Sn	01 38 33.1	-2.5
NVLJ	Novalja	2.02	72	ePn	Pn	01 38 10.2	-1.4
NVLJ				Sn	Sn	01 38 33.0	-2.6
SKDS	Skadanscina	2.04	39	i Pn	Pn	01 38 09.2	-2.9
SKDS				i Sn	Sn	01 38 33.2	-3.1
SKDS							
	comp=Z,5.0nm,0.1s						
JAVS	Javornik	2.34	34	i Pn	Pn	01 38 13.4	-2.8
JAVS				i Sn	Sn	01 38 40.4	-3.3
JAVS							
	comp=Z,2.0nm,0.1s						
CADS	Cadrg	2.51	25	i Pn	Pn	01 38 16.1	-2.4
CADS				i Sn	Sn	01 38 44.5	-3.3
CADS							
	comp=Z,3.0nm,0.1s						
VISS	Visnje	2.63	45	i Pn	Pn	01 38 18.1	-1.9
VISS				i Sn	Sn	01 38 48.6	-2.1
VISS							
	comp=Z,4.0nm,0.1s						
BOJS	Bojanci	2.67	54	i Pn	Pn	01 38 18.8	-1.8
BOJS				i Sn	Sn	01 38 49.9	-1.7
BOJS							
	comp=Z,2.0nm,0.1s						
PGF	Pioggiola	2.73	240	ePn	Pn	01 38 21.8	+0.2
PGF				eSn	Sn	01 38 53.5	+0.1
	comp=Z,9.9nm,0.5s						
PGF	Pioggiola	2.73	240	ePn	Pn	01 38 21.8	+0.2
PGF				eSn	Sn	01 38 53.5	+0.1
	comp=Z,4.9nm,0.5s						
WATA	Walderalm	3.39	353⇑	iPn	Pn	01 38 31.3	+0.6
WATA	Walderalm	3.39	353	Pn	Pn	01 38 31.3	+0.6
SBF	Sospel	3.43	270	ePn	Pn	01 38 31.4	+0.2
SBF				eSn	Sn	01 39 08.8	-1.9
	comp=Z,11nm,0.5s						
SBF	Sospel	3.43	270	ePn	Pn	01 38 31.4	+0.2
SBF				eSn	Sn	01 39 08.8	-1.9
	comp=Z,5.6nm,0.5s						
MBDF	Montbardon	3.95	283	ePn	Pn	01 38 37.2	-1.3
MBDF				eSn	Sn	01 39 19.8	-3.9
	comp=Z,0.6nm,0.2s						
MBDF	Montbardon	3.95	283	ePn	Pn	01 38 37.2	-1.3
MBDF				eSn	Sn	01 39 19.8	-3.9
	comp=Z,0.3nm,0.2s						
LPG	La Plagne	4.16	293	ePn	Pn	01 38 38.9	-2.6
LPG				eSn	Sn	01 39 24.6	-4.5
	comp=Z,2.3nm,0.4s						
LPG	La Plagne	4.16	293	ePn	Pn	01 38 38.9	-2.6
LPG				eSn	Sn	01 39 24.6	-4.5
	comp=Z,1.1nm,0.4s						
LMR	La Mourre	4.17	263	ePn	Pn	01 38 41.6	+0.4
LMR				eSn	Sn	01 39 26.2	-2.4
	comp=Z,1.8nm,0.3s						
LMR	La Mourre	4.17	263	ePn	Pn	01 38 41.6	+0.4
LMR				eSn	Sn	01 39 26.2	-2.4
	comp=Z,0.9nm,0.3s						
LPL	La Plagne	4.18	294	ePn	Pn	01 38 39.2	-2.4
LPL				eSn	Sn	01 39 25.2	-4.2
	comp=Z,3.1nm,0.4s						
LPL	La Plagne	4.18	294	ePn	Pn	01 38 39.2	-2.4
LPL				eSn	Sn	01 39 25.2	-4.2
	comp=Z,1.5nm,0.4s						
ORIF	Oris-en-Rattie	4.61	284	ePn	Pn	01 38 46.1	-1.3
ORIF				eSn	Sn	01 39 35.8	-4.0
	comp=Z,1.0nm,0.3s						
ORIF	Oris-en-Rattie	4.61	284	ePn	Pn	01 38 46.1	-1.3
ORIF				eSn	Sn	01 39 35.8	-4.0
	comp=Z,0.5nm,0.3s						
SMRF	Simiane la Rot	4.77	272	ePn	Pn	01 38 48.6	-0.9
SMRF				eSn	Sn	01 39 40.6	-3.0
	comp=Z,1.7nm,0.5s						
SMRF	Simiane la Rot	4.77	272	ePn	Pn	01 38 48.6	-0.9
SMRF				eSn	Sn	01 39 40.6	-3.0
	comp=Z,0.9nm,0.5s						
CABF	La Chapelle	5.04	304	ePn	Pn	01 38 52.0	-1.4
CABF				eSn	Sn	01 39 45.4	-5.0
	comp=Z,1.3nm,0.5s						
CABF	La Chapelle	5.04	304	ePn	Pn	01 38 52.0	-1.4
CABF				eSn	Sn	01 39 45.4	-5.0
	comp=Z,0.6nm,0.5s						
KHC	Kasperske Hory	5.25	10	ePN	Pn	01 38 54.0	-2.1
KHC				eSN	Sn	01 39 50.1	-5.2
KHC	Kasperske Hory	5.25	10	Pn	Pn	01 38 54.0	-2.1
KHC				Sn	Sn	01 39 50.1	-5.2
HINF	Hinteralfeld	5.35	318	ePn	Pn	01 38 56.1	-1.4
HINF				eSn	Sn	01 39 51.2	-6.6
	comp=Z,2.0nm,0.3s						
HINF	Hinteralfeld	5.35	318	ePn	Pn	01 38 56.1	-1.4
HINF				eSn	Sn	01 39 51.2	-6.6
	comp=Z,1.0nm,0.3s						
VIVF	Saint-Julien-l	5.45	282	ePn	Pn	01 38 57.0	-1.9
VIVF				eSn	Sn	01 39 55.8	-4.6
	comp=Z,1.1nm,0.4s						
VIVF	Saint-Julien-l	5.45	282	ePn	Pn	01 38 57.0	-1.9
CDF	Champ du Feu	5.59	324	ePn	Pn	01 38 59.7	-1.2
CDF				eSn	Sn	01 39 56.8	-7.2
	comp=Z,3.9nm,0.6s						
CDF	Champ du Feu	5.59	324	ePn	Pn	01 38 59.7	-1.2
HAU	Haudompre	5.72	317	ePn	Pn	01 39 00.2	-2.4
HAU				eSn	Sn	01 40 00.3	-6.7
	comp=Z,5.5nm,0.4s						
HAU	Haudompre	5.72	317	ePn	Pn	01 39 00.2	-2.4
LASF	Ste Croix	6.00	274	ePn	Pn	01 39 04.5	-2.0
LASF				eSn	Sn	01 40 09.9	-4.0
	comp=Z,1.3nm,0.3s						
LASF	Ste Croix	6.00	274	ePn	Pn	01 39 04.5	-2.0
PAGF	Fort de Pagny	6.40	318	ePn	Pn	01 39 10.4	-1.5
PAGF				eSn	Sn	01 40 16.9	-6.8
	comp=Z,0.2nm,0.3s						
PAGF	Fort de Pagny	6.40	318	ePn	Pn	01 39 10.4	-1.5
SMF	Signal de Mont	6.46	297	ePn	Pn	01 39 11.5	-1.2
SMF				eSn	Sn	01 40 19.1	-6.0
	comp=Z,1.4nm,0.3s						
SMF	Signal de Mont	6.46	297	ePn	Pn	01 39 11.5	-1.2
SFTF	Sexfontaines	6.52	313	ePn	Pn	01 39 12.6	-1.0
SFTF				eSn	Sn	01 40 19.8	-6.9
	comp=Z,1.0nm,0.3s						
SFTF	Sexfontaines	6.52	313	ePn	Pn	01 39 12.6	-1.0
LOR	Lormes	6.70	302	ePn	Pn	01 39 13.9	-2.1
LOR				eSn	Sn	01 40 24.7	-6.4
	comp=Z,1.3nm,0.3s						
LOR	Lormes	6.70	302	ePn	Pn	01 39 13.9	-2.1
AVF	Avril sur Loir	6.83	297	ePn	Pn	01 39 15.0	-2.7
AVF				eSn	Sn	01 40 27.7	-6.3
	comp=Z,0.7nm,0.3s						
AVF	Avril sur Loir	6.83	297	ePn	Pn	01 39 15.0	-2.7
SSF	Saint Saulge	6.83	300	ePn	Pn	01 39 16.4	-1.4
SSF				eSn	Sn	01 40 27.9	-6.3
	comp=Z,1.5nm,0.5s						
SSF	Saint Saulge	6.83	300	ePn	Pn	01 39 16.4	-1.4
BGF	Bois d'Agland	7.08	295	ePn	Pn	01 39 19.8	-1.3
BGF				eSn	Sn	01 40 34.0	-6.3
	comp=Z,1.4nm,0.3s						
BGF	Bois d'Agland	7.08	295	ePn	Pn	01 39 19.8	-1.3
HYF	Humbligny	7.46	300	ePn	Pn	01 39 25.4	-1.0
HYF				eSn	Sn	01 40 42.8	-6.8
HYF	Humbligny	7.46	300	ePn	Pn	01 39 25.4	-1.0

CSEM ***01*** *01:38:34.3±0.1, 43˚14N×0˚66W, h15km, ML2.1/9, Error ellipse: s-maj=2.2km s-min=1.8km az=3.0*
LDG ***01*** *01:38:35.4±0.1, 43˚12N×0˚68W, h10km, Md2.2/3, Ml2.2/6, Error ellipse: s-maj=1.9km s-min=1.4km az=4.0*
MDD 01 01:38:35.4±0.4**, 43˚12N**×**0˚68W, h10**km±4km**, mbLg1.7**/15**, Error ellipse: s-maj=4.2km s-min=2.5km az=21.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.21	296	Pg	Pg	01 38 39.6	-0.2
ORDF				Sg	Sg	01 38 43.1	+0.3
REYF	Montagne du Re	0.21	104	Pg	Pg	01 38 39.3	-0.7
REYF				Sg	Sg	01 38 42.4	-0.7
ETSF	Etsaut	0.24	159	ePg	Pg	01 38 39.9	-0.5
ETSF				eSg	Sg	01 38 43.2	-0.6
	103nm,0.2s						
ETSF	Etsaut	0.24	159	Pg	Pg	01 38 39.9	-0.5
ETSF				eSg	Sg	01 38 43.2	-0.6
	52nm,0.2s						
SJPF	Ste Jean	0.40	269	ePg	Pg	01 38 42.8	-0.6
SJPF				eSg	Sg	01 38 48.1	-0.7
	47nm,0.3s						
SJPF	Ste Jean	0.40	269	Pg	Pg	01 38 42.8	-0.6
SJPF				eSg	Lg	01 38 48.1	
	24nm,0.3s						
OSSF	Osses	0.45	288	Pg	Pg	01 38 43.7	-0.5
OSSF				Sg	Sg	01 38 49.8	-0.4
LABF	Labassere	0.55	97	Pg	Pg	01 38 45.9	-0.4
LABF				Sg	Sg	01 38 53.8	+0.1
VIEF	Viey	0.56	115	Pg	Pg	01 38 45.6	-0.9
VIEF				Sg	Sg	01 38 52.9	-1.2
IPRE	Itoiz	0.59	238	Pg	Pg	01 38 46.6	-0.4
	0.6nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	01 38 54.9	
	11nm,0.3s,SNR=7.9						
IPRE	Itoiz	0.59	238	Pg	Pg	01 38 46.6	-0.3
	0.6nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	01 38 54.9	
	11nm,0.3s,SNR=7.9						
EALK	Alkurruntz	0.62	279	Pg	Pg	01 38 46.8	-0.5
	2.2nm,0.1s,SNR=19						
EALK				Lg	Lg	01 38 55.3	
	28nm,0.4s,SNR=7.9						
EALK	Alkurruntz	0.62	279	Pg	Pg	01 38 46.8	-0.5
	2.2nm,0.1s,SNR=19						
EALK				Lg	Lg	01 38 55.3	
	28nm,0.4s,SNR=7.9						
EBIE	Bielsa	0.74	126	Pg	Pg	01 38 48.5	-1.6
	1.2nm,0.2s,SNR=21						
EBIE				Lg	Lg	01 38 58.3	
	6.6nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.74	126	Pg	Pg	01 38 48.5	-1.6
	1.2nm,0.2s,SNR=21						
EBIE				Lg	Lg	01 38 58.3	
	6.6nm,0.1s,SNR=7.9						
EARA	Aranguren	0.75	243	Pg	Pg	01 38 49.7	-0.2
	1.6nm,0.2s,SNR=7.9						
EARA				Lg	Lg	01 39 00.1	
	3.4nm,0.1s,SNR=7.9						
EARA	Aranguren	0.75	243	Pg	Pg	01 38 49.7	-0.2
	1.6nm,0.2s,SNR=7.9						
EARA				Lg	Lg	01 39 00.2	
	3.4nm,0.1s,SNR=7.9						
EPF	Esparros	0.75	97	ePg	Pg	01 38 49.2	-0.8
EPF				eSg	Sg	01 38 59.6	-0.3
	8.7nm,0.2s						
EPF	Esparros	0.75	97	Pg	Pg	01 38 49.2	-0.8
EPF				eSg	Lg	01 38 59.6	
	4.3nm,0.2s						
ESAC	San Caprasio	1.41	174	Pg	Pg	01 39 02.3	-0.2
	9.0nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	01 39 21.5	
	21nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.41	174	Pg	Pg	01 39 02.3	-0.2
	9.0nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	01 39 21.5	
	21nm,0.2s,SNR=7.9						
CSOR	Sort	1.53	119	Pg	Pb	01 39 04.3	+0.3
	0.0nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	01 39 26.1	
	9.0nm,0.2s,SNR=7.9						
CSOR	Sort	1.53	119	Pg	Pb	01 39 04.3	+0.3
	SNR=7.9						
CSOR				Lg	Lg	01 39 26.1	
	9.0nm,0.2s,SNR=7.9						
ELAN	Lanestosa	2.02	274	Pg	Pb	01 39 11.4	-0.8
	0.6nm,0.3s,SNR=7.9						
ELAN				Lg	Lg	01 39 39.2	
	2.3nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.02	274	Pg	Pb	01 39 11.4	-0.8
	0.6nm,0.3s,SNR=7.9						
ELAN				Lg	Lg	01 39 39.2	
	2.3nm,0.3s,SNR=7.9						
EMIR	Miracle	2.03	126	Pg	Pb	01 39 13.4	+0.9
	SNR=7.9						
EMIR				Lg	Lg	01 39 40.8	
	1.4nm,0.2s,SNR=7.9						
EMIR	Miracle	2.03	126	Pg	Pb	01 39 13.4	+0.9
	SNR=7.9						
EMIR				Lg	Lg	01 39 40.8	
	1.4nm,0.2s,SNR=7.9						
CLLI	Llivia	2.05	107	Pg	Pg	01 39 14.2	-0.8
	0.5nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	01 39 41.7	
	0.8nm,0.5s,SNR=7.9						
CLLI	Llivia	2.05	107	Pg	Pg	01 39 14.2	-0.8
	0.5nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	01 39 41.7	
	0.8nm,0.5s,SNR=7.9						
LFF	La Frestale	2.08	29	ePn	Pn	01 39 09.2	-1.3
LFF	La Frestale	2.08	29	ePg	Pg	01 39 14.5	-0.9
LFF				eSg	Sb	01 39 40.3	+0.9
	2.6nm,0.2s						
LFF	La Frestale	2.08	29	Pn	Pn	01 39 09.2	-1.3
LFF	La Frestale	2.08	29	Pg	Pg	01 39 14.5	-0.9
LFF				eSg	Sb	01 39 40.3	+0.9
	1.3nm,0.2s						
LFF				Lg	Lg	01 39 40.3	
	0.6nm,0.2s						
MTLF	Montolieu	2.13	83	ePn	Pn	01 39 09.4	-1.7
MTLF	Montolieu	2.13	83	ePg	Pb	01 39 14.5	+0.4
MTLF				eSg	Sg	01 39 42.3	-1.5
	3.4nm,0.4s						
MTLF	Montolieu	2.13	83	Pn	Pn	01 39 09.4	-1.7
MTLF	Montolieu	2.13	83	Pg	Pb	01 39 14.5	+0.4
MTLF				eSg	Lg	01 39 42.3	
	1.7nm,0.4s						
EPOB	Poblet	2.19	143	Pg	Pb	01 39 15.0	-0.3
	0.4nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	01 39 43.9	
	1.8nm,0.1s,SNR=7.9						
EPOB	Poblet	2.19	143	Pg	Pb	01 39 15.0	-0.4
	0.4nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	01 39 43.9	
	1.8nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.29	160	Pg	Pb	01 39 16.9	0.0
	0.4nm,0.3s,SNR=7.9						
ERTA				Lg	Lg	01 39 47.1	
	1.7nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.29	160	Pg	Pb	01 39 16.9	0.0
	0.4nm,0.3s,SNR=7.9						
ERTA				Lg	Lg	01 39 47.1	
	1.7nm,0.2s,SNR=7.9						
CFON	Fontmartina	2.67	119	Pn	Pn	01 39 20.5	+1.8
	0.5nm,0.1s,SNR=4.0						
CFON				Pg	Pg	01 39 25.8	-1.0
	0.9nm,0.1s,SNR=7.9						
CFON				Lg	Lg	01 39 58.7	
	7.1nm,0.3s,SNR=7.9						
CFON	Fontmartina	2.67	119	Pg	Pg	01 39 25.8	-1.0
	0.9nm,0.1s,SNR=7.9						
CFON	Fontmartina	2.67	119	Pn	Pn	01 39 20.5	+1.8
	0.5nm,0.1s,SNR=4.0						
CFON				Lg	Lg	01 39 58.7	
	7.1nm,0.3s,SNR=7.9						
CAF	Calviac	2.68	47	ePn	Pn	01 39 17.6	-1.1
CAF	Calviac	2.68	47	ePg	Pg	01 39 25.6	-1.2
CAF				eSg	Sb	01 39 59.0	+2.5
	2.5nm,0.3s						
CAF	Calviac	2.68	47	Pn	Pn	01 39 17.6	-1.1
CAF	Calviac	2.68	47	ePg	Pg	01 39 25.6	-1.2
CAF				eSg	Sb	01 39 59.0	+2.5
	1.2nm,0.3s						
RJF	Les Rejaudoux	2.69	35	ePn	Pn	01 39 17.1	-1.8
RJF	Les Rejaudoux	2.69	35	ePg	Pb	01 39 25.4	+1.6
RJF				eSg	Sb	01 39 59.3	+2.4
	1.7nm,0.2s						
RJF	Les Rejaudoux	2.69	35	Pn	Pn	01 39 17.1	-1.8
RJF	Les Rejaudoux	2.69	35	Pg	Pb	01 39 25.4	+1.6
RJF				Lg	Lg	01 39 59.3	
	0.4nm,0.2s						
RJF				eSg	Lg	01 39 59.3	
	0.9nm,0.2s						
EJON	La Jonquera	2.71	103	Lg	Lg	01 40 00.4	
	1.1nm,0.2s,SNR=7.9						
EJON	La Jonquera	2.71	103	Lg	Lg	01 40 00.4	
	1.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.76	177	Pg	Pg	01 39 28.0	-0.6
	0.4nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	01 40 00.5	
	SNR=7.9						
EMOS	Mosqueruela	2.76	177	Pg	Pg	01 39 28.0	-0.6
	0.4nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	01 40 00.5	
	SNR=7.9						
EARI	Arriondas	3.32	275	Sn	Sn	01 40 08.3	+1.2
	0.3nm,0.2s,SNR=7.9						
EARI	Arriondas	3.32	275	Sn	Sn	01 40 08.3	+1.2
	0.3nm,0.2s,SNR=7.9						
LASF	Ste Croix	3.43	72	ePn	Pn	01 39 27.3	-1.7
LASF				eSn	Sn	01 40 05.9	-3.8
LASF				eSg	Sg	01 40 22.6	-3.0
	0.9nm,0.3s						
LASF	Ste Croix	3.43	72	Pn	Pn	01 39 27.3	-1.7
LASF				Sn	Sn	01 40 05.9	-3.8
LASF				eSg	Lg	01 40 22.6	
	0.4nm,0.3s						
MFF	Saint Martin d	3.50	6	ePn	Pn	01 39 28.4	-1.6
MFF	Saint Martin d	3.50	6	ePg	Pb	01 39 39.9	+2.4
MFF				eSg	Sg	01 40 24.5	-3.4
	0.7nm,0.2s						
MFF	Saint Martin d	3.50	6	Pn	Pn	01 39 28.4	-1.6
MFF	Saint Martin d	3.50	6	Pg	Pb	01 39 39.9	+2.4
MFF				Lg	Lg	01 40 24.5	
	0.2nm,0.2s						
MFF				eSg	Lg	01 40 24.5	
	0.3nm,0.2s						

BJI ***01*** *01:39:15.5, 17˚05N×39˚86E, h10km, mB5.3/21, mb4.7/31, Ms4.9/18, Ms7 4.6/20*
DHMR ***01*** *01:39:18.2±1.0, 17˚17N×40˚64E, h14km, mb4.6, ML4.5*
ISCJB ***01*** *01:39:19.9±1.2, 17˚10N±0˚04×40˚46E±0˚03, h12km±7km, mb4.6/83, MS4.2/36, Error ellipse: s-maj=6.8km s-min=3.9km az=25.0*
MOS ***01*** *01:39:19.6±0.9, 17˚14N×40˚51E, h10km, mb4.9/22, Error ellipse: s-maj=10.2km s-min=4.7km az=104.7*
IDC ***01*** *01:39:20.1±0.7, 17˚23N×40˚56E, h0km, mb4.3/20, mb1 4.4/23, mb1mx4.3/32, mbtmp4.3/23, ML3.7/3, MS4.1/30, Ms1 4.1/30, ms1mx4.1/38, Error ellipse: s-maj=17.5km s-min=15.8km az=159.0*
NEIC ***01*** *01:39:21.9±0.3, 17˚22N×40˚52E, h10km, mb4.6/30, Error ellipse: s-maj=6.5km s-min=5.2km az=83.0*
CSEM ***01*** *01:39:23.3±0.1, 17˚19N×40˚51E, h20km, mb4.6/40, Ms5.0, Mw5.0, Error ellipse: s-maj=5.6km s-min=3.7km az=21.0*
ISC 01 01:39:21.8±0.6**, 17˚18N**±0˚05×**40˚55E**±0˚04**, h11**km±3km**, h10**km**:pP-P, n409,** σ1**˚05**/434**, mb4.6**/83**, MS4.3**/36**, 54C-20D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	Hajjah	3.28	116⇑	iP	Pn	01 40 11.0	-2.4
HAJJ				AMb	AMB	01 40 11.3	
	comp=Z,26nm,0.3s						
HAJJ				i S	Sn	01 40 51.4	-1.1
HAJJ	Hajjah	3.28	116⇑	iP	Pn	01 40 11.0	-2.4
	comp=Z,13nm,0.3s						
HAJJ				i S	Sn	01 40 51.4	-1.1
SANA	San‘a	3.94	116	i P	Pn	01 40 19.8	-2.7
SANA				i S	Sn	01 41 08.6	-0.4
SANA				AML	AML	01 41 09.9	
	comp=E,2µm,0.2s						
SANA	San‘a	3.94	116	i P	Pn	01 40 19.8	-2.7
SANA				i S	Sn	01 41 08.6	-0.4
	comp=E,1µm,0.2s						
TRBA	At Turbah	5.23	138	i P	Pn	01 40 37.2	-2.9
ATD	Arta Tunnel	6.05	158	Pn	Pn	01 40 52.4	+1.0
	comp=E,1.6nm,0.3s,baz=322,slow=16,SNR=8.6						
ATD				LR	LR	01 43 03.3	
	comp=E,1µm,20.1s,baz=352,slow=37						
ATD	Arta Tunnel	6.05	158	Pn	Pn	01 40 52.4	+1.0
ATD	Arta Tunnel	6.05	158	Pn	Pn	01 40 52.3	+1.0
FURI	Furi	8.44	193	ePn	Pn	01 41 24.2	-0.1
FURI				eSn	Sn	01 42 55.9	-3.9
FURI	Furi	8.44	193	P	Pn	01 41 28.9	+4.5
FURI				S	Sb	01 43 38.0	+8.8
FURI	Furi	8.44	193	ePn	Pn	01 41 24.2	-0.1
EIL	Elat	13.44	339	LR	LR	01 46 43.1	
	comp=E,988nm,19.9s,baz=339,slow=33						
ASF	Jabal al Asfar	15.28	348	Pn	Pn	01 42 57.3	-0.4

comp=E,0.1nm,0.3s,baz=189,slow=1.5,SNR=4.8
ASF Jabal al Asfar 15.28 348 P Pn 01 42 57.3 -0.4
ASF Jabal al Asfar 15.28 348 Pn Pn 01 42 57.3 -0.4
ASUD Al Ashush, Dub 15.66 59 P P 01 43 08.3 +1.6
SNR=9.4
ASUD Al Ashush, Dub 15.66 59 P P 01 43 08.3 +1.6
SNR=9.4
FAQ Al Faqa, Dubai 15.93 59 P P 01 43 08.6 -1.1
NAZ Nazwa, Dubai 16.09 59 P P 01 43 12.6 +1.1
SNR=11
NAZ Nazwa, Dubai 16.09 59 P P 01 43 12.6 +1.1
SNR=11
ASHO Ashiyiah 16.29 60 P P 01 43 13.3 -0.4
SNR=32
ASHO Ashiyiah 16.29 60 P P 01 43 13.3 -0.4
SNR=32
BHD Baghdad 16.39 11 *i* P **Pn 01 43 11.0 -0.8**
BHD *i* S **Sn 01 46 11.0 -2.7**
BHD *i* LQ LQ 01 48 42.0
BHD *i* LR LR 01 49 46.0
BHD *i* RM 01 51 24.0
HATD Hatta, Dubai 16.41 60 P P 01 43 14.8 -0.2
SNR=21
HATD Hatta, Dubai 16.41 60 P P 01 43 14.8 -0.2
SNR=21
MMAI Mount Meron Ar 16.43 345 Pn Pn 01 43 12.6 +0.1
comp=E,1.0nm,0.3s,baz=243,slow=4.7,SNR=3.9
MMAI LR LR 01 48 53.5
comp=E,478nm,18.9s,baz=185,slow=35
MMAI Mount Meron Ar 16.43 345 Pn Pn 01 43 12.6 +0.1
MMAI Mount Meron Ar 16.43 345 Pn Pn 01 43 12.6 +0.1
BSY Bisya 16.60 68 P Pn 01 43 13.3 -1.4
SNR=14
HOQ Hoqain 16.95 65 P P 01 43 22.2 +1.2
SNR=25
HOQ Hoqain 16.95 65 P P 01 43 22.2 +1.2
SNR=25
BANOM Banah 17.03 57 P P 01 43 22.1 +0.1
SNR=12
BANOM Banah 17.03 57 P P 01 43 22.0 +0.1
SNR=12
JMDO Jabal Madar 17.31 70 P Pn 01 43 22.4 -1.1
SNR=22
SMDO Samad 17.44 68 P P 01 43 28.3 +1.8
SNR=16
SMDO Samad 17.44 68 P P 01 43 28.3 +1.8
SNR=16
WBK Wadi Bani Khal 18.14 70 P P 01 43 34.8 +0.6
SNR=21
WBK Wadi Bani Khal 18.14 70 P P 01 43 34.8 +0.6
SNR=21
KMBO Kilima Mbogo 18.48 190 *eP* **P 01 43 36.8 -1.4**
KMBO Kilima Mbogo 18.48 190 *eP* **P 01 43 39.7 +1.5**
comp=E,78nm,2.8s
KMBO Kilima Mbogo 18.48 190 *eP* **P 01 43 36.8 -1.4**
ISP Isparta 22.37 339 *eP* **P 01 44 21.0 +0.9**
ISP pmax pmax
comp=E,41nm,1.5s
ISP Isparta 22.37 339 *eP* **P 01 44 21.0 +0.9**
comp=E,41nm,1.5s
ISP Isparta 22.37 339 *eP* **P 01 44 21.0 +0.9**
comp=E,41nm,1.5s
GNI Garni 23.17 8 LR LR 01 53 28.2
comp=E,381nm,21.6s,baz=182,slow=37
BR131 Keskin Array S 23.25 346 *eP* **P 01 44 30.0 +0.7**
comp=E,18nm,1.3s
BR131 Keskin Array S 23.25 346 *eP* **P 01 44 30.0 +0.7**
comp=E,18nm,1.3s
BRTR Keskin Array B 23.25 346 P **P 01 44 30.1 +0.7**
comp=E,6.4nm,0.9s,baz=164,slow=11,SNR=26
BRTR PcP **PcP 01 48 17.2 +0.1**
comp=E,1.8nm,0.8s,baz=145,slow=5.9,SNR=8.0
BRTR LR LR 01 52 53.5
comp=E,349nm,19.4s,baz=139,slow=35
BRTR Keskin Array B 23.25 346 P **P 01 44 30.1 +0.7**
BRTR 01 48 17.3
BRTR Keskin Array B 23.25 346 P **P 01 44 30.1 +0.7**
BRTR PcP **PcP 01 48 17.2 +0.1**
BRTR Keskin Array B 23.25 346 P **P 01 44 30.1 +0.7**
ZEI Tsey 25.66 6 *eP* **P 01 44 51.9 0.0**
ZEI pmax pmax
comp=E,35nm,1.8s
ZEI Tsey 25.66 6 *eP* **P 01 44 51.9 0.0**
comp=E,35nm,1.8s
MAK Makhachkala 26.37 12 *eP* **P 01 44 57.0 -1.0**
MAK *e* 01 45 34.5
MAK *eS* **S 01 49 31.1 0.0**
MAK pmax pmax
comp=E,274nm,2.4s
MAK MLR MLR
comp=E,814nm,14.0s
MAK Makhachkala 26.37 12 *eP* **P 01 44 57.0 -1.0**
comp=E,274nm,2.4s
VTS Vitosha 29.33 333⇑P **P 01 45 26.6 +1.9**
VTS Vitosha 29.33 333⇑*i*P **P 01 45 26.6 +1.9**
VTS Vitosha 29.33 333 P **P 01 45 26.6 +1.9**
TIP Timpagrande 30.16 321 *eP* **P 01 45 31.9 -0.1**
comp=E,6.5nm,1.1s
TIP Timpagrande 30.16 321 *eP* **P 01 45 31.9 -0.1**
comp=E,6.5nm,1.1s
MLR Muntele Rosu 30.75 340 P **P 01 45 37.7 +0.5**
comp=E,0.8nm,0.8s,baz=209,slow=5.4,SNR=8.0
MLR Muntele Rosu 30.75 340 P **P 01 45 37.7 +0.5**
MLR Muntele Rosu 30.75 340 P **P 01 45 37.7 +0.5**
MLR Muntele Rosu 30.75 340⇓*i*P **P 01 45 38.8 +1.6**
MLR Muntele Rosu 30.75 340 P **P 01 45 37.7 +0.5**
KBL Kabul 30.77 50 *eP* **P 01 45 38.5 +0.8**
KBL pmax pmax
comp=E,15nm,1.6s
KBL Kabul 30.77 50 *eP* **P 01 45 38.5 +0.8**
comp=E,15nm,1.6s
KBL Kabul 30.77 50 *eP* **P 01 45 38.5 +0.8**
comp=E,15nm,1.6s
VRI Vrincioaia 30.83 341⇑P **P 01 45 40.5 +2.7**
VRI Vrincioaia 30.83 341⇑*i*P **P 01 45 40.5 +2.7**
PLOR Plostina 30.84 341⇑P **P 01 45 40.2 +2.3**
PLOR Plostina 30.84 341⇑*i*P **P 01 45 40.2 +2.3**
PLOR Plostina 30.84 341 P **P 01 45 40.2 +2.3**
VOIR 31.01 339⇓P **P 01 45 40.4 +0.9**
VOIR 31.01 339⇓*i*P **P 01 45 40.3 +0.8**
VOIR 31.01 339 P **P 01 45 40.4 +0.9**
BZS Buzias 32.46 335⇓P **P 01 45 51.8 -0.3**
BZS Buzias 32.46 335⇓*i*P **P 01 45 51.8 -0.3**
BZS Buzias 32.46 335 P **P 01 45 51.8 -0.3**
MSKU Masuku 32.49 237 P **P 01 45 53.6 +0.8**
comp=E,11nm,0.7s,baz=73,slow=8.2,SNR=4.4
MSKU LR LR 01 58 59.7
comp=E,2µm,19.9s,baz=231,slow=36
MSKU Masuku 32.49 237 P **P 01 45 53.6 +0.8**
MSKU Masuku 32.49 237 P **P 01 45 53.6 +0.8**
BURAR Bucovina Array 32.86 341⇑P **P 01 45 57.2 +1.4**
BURAR Bucovina Array 32.86 341⇑*i*P **P 01 45 57.2 +1.4**
BURAR Bucovina Array 32.86 341⇑*i*P **P 01 45 57.2 +1.4**
BUR08 Bucovina Ar. S 32.89 341 *eP* **P 01 45 55.9 -0.1**
BUR08 Bucovina Ar. S 32.89 341 *eP* **P 01 45 55.9 -0.1**
DRGR 33.01 337⇓P **P 01 45 57.7 +0.7**
DRGR 33.01 337⇓*i*P **P 01 45 57.7 +0.7**
DRGR 33.01 337 P **P 01 45 57.7 +0.7**
KEST Kesra 33.28 310 P **P 01 46 01.0 +1.5**
comp=E,4.1nm,0.9s,baz=160,slow=0.8,SNR=6.1
KEST LR LR 01 59 16.2
comp=E,95nm,20.1s,baz=23,slow=36
KEST Kesra 33.28 310 P **P 01 46 01.0 +1.5**
KEST Kesra 33.28 310 P **P 01 46 01.0 +1.5**
TAM Tamanrasset 33.33 285 *eP* **P 01 46 01.2 +1.0**
TAM pmax pmax
comp=E,10.0nm,1.2s
TAM Tamanrasset 33.33 285 *eP* **P 01 46 01.1 +1.0**
comp=E,9.6nm,1.2s
TAM Tamanrasset 33.33 285 *eP* **P 01 46 01.1 +0.9**
comp=E,9.6nm,1.2s
PKSM Moragy 34.19 333⇓P **P 01 46 07.1 -0.1**
PKSM Moragy 34.19 333⇓*i*P **P 01 46 07.1 -0.1**
PKSM Moragy 34.19 333 P **P 01 46 07.1 -0.1**
KIEV Kiev 34.64 347*c iP* **P 01 46 10.5 -0.5**
KIEV Kiev 34.64 347 *eP* **P 01 46 10.8 -0.2**
comp=E,40nm,2.0s
KIEV Kiev 34.64 347 *eP* **P 01 46 10.8 -0.2**
comp=E,40nm,2.0s
AKASG Malin Array Be 34.65 347 P **P 01 46 09.9 -1.2**
comp=E,1.9nm,0.8s,baz=162,slow=7.0,SNR=11
AKASG PcP **PcP 01 48 45.0 -0.2**
comp=E,2.8nm,0.8s,baz=149,slow=2.2,SNR=7.2
AKASG Malin Array Be 34.65 347 P **P 01 46 09.9 -1.2**
AKASG 01 48 45.0
AKASG Malin Array Be 34.65 347 P **P 01 46 09.9 -1.2**
AKASG PcP **PcP 01 48 45.0 -0.2**
AKASG Malin Array Be 34.65 347 P **P 01 46 09.9 -1.2**
AKASG Malin Array Be 34.65 347 PcP **PcP 01 46 09.9 -1.2**
PSZ Piszkesteto 35.02 336 *eP* **P 01 46 15.9 +1.5**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 35.02 336 *eP* **P 01 46 15.9 +1.5**
comp=Z,11nm,1.1s
PSZ Piszkesteto 35.02 336⇓*i*P **P 01 46 15.9 +1.5**
PSZ Piszkesteto 35.02 336 *eP* **P 01 46 15.9 +1.5**
comp=Z,11nm,1.1s
CRVS Cervenica-Dubn 35.24 338 *eP* **P 01 46 16.8 +0.5**
CRVS pmax pmax
comp=Z,8.0nm,1.2s
CRVS Cervenica-Dubn 35.24 338 *eP* **P 01 46 16.8 +0.5**
CRVS *e* 01 58 22.7
CRVS Cervenica-Dubn 35.24 338 *eP* **P 01 46 16.8 +0.5**
comp=Z,8.0nm,1.2s
KECS Kecovo 35.25 337 *eP* **P 01 46 16.8 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 35.25 337 *eP* **P 01 46 16.8 +0.4**
KECS Kecovo 35.25 337 *eP* **P 01 46 16.8 +0.4**
comp=Z,3.0nm,0.9s
BOJS Bojanci 35.26 329 *eP* **P 01 46 16.5 0.0**
KOGS Kog 35.46 331 *i* P **P 01 46 18.0 -0.1**
ABKAR Akbulak array 35.65 22 *eP* **P 01 46 19.9 +0.1**
ABKAR *e*PcP **PcP 01 48 48.1 0.0**
ABKAR Akbulak array 35.65 22 *eP* **P 01 46 19.9 +0.1**
STHS Stebnicka Huta 35.75 338 *eP* **P 01 46 21.0 +0.3**
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 35.75 338 *eP* **P 01 46 21.0 +0.3**
STHS *e* 01 58 26.9
STHS Stebnicka Huta 35.75 338 *eP* **P 01 46 21.0 +0.3**
comp=Z,6.0nm,1.0s
VYHS Vyhne 35.90 335 *eP* **P 01 46 21.2 -0.8**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 35.90 335 *eP* **P 01 46 21.2 -0.8**
VYHS *e* 01 58 26.5
VYHS *e* 02 01 38.2
VYHS Vyhne 35.90 335 *eP* **P 01 46 21.2 -0.8**
comp=Z,9.0nm,1.0s
AKTO Aktyubinsk 36.02 19 LR LR 02 03 48.4
comp=Z,290nm,18.0s,baz=47,slow=41
OPO Ambohidratompo 36.13 169 LR LR 02 00 03.2
comp=Z,232nm,21.1s,baz=353,slow=34
KOLL Kolacno 36.14 335 *eP* **P 01 46 24.3 +0.3**
KOLL Kolacno 36.14 335 *eP* **P 01 46 24.3 +0.3**
KOLL *e* 01 58 29.2
KOLL Kolacno 36.14 335 *eP* **P 01 46 24.3 +0.3**
SOKA Soboth 36.20 330⇑*i*P **P 01 46 25.1 +0.4**
comp=Z,8.5nm,1.4s
SOKA Soboth 36.20 330⇑*i*P **P 01 46 25.1 +0.4**
comp=Z,8.5nm,1.4s
SOKA Soboth 36.20 330⇑*i*P **P 01 46 25.0 +0.4**
comp=Z,8.5nm,1.4s
MOZS Mozjanca 36.22 329 *eP* **P 01 46 25.0 +0.3**
KKAR Karatay Array 36.25 38 *eP* **P 01 46 25.7 +0.7**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 36.25 38 *eP* **P 01 46 25.7 +0.7**
comp=Z,1.9nm,0.6s
KKAR Karatay Array 36.25 38 *eP* **P 01 46 25.7 +0.7**
comp=Z,2.0nm,0.6s
ARSA Arzberg 36.38 331⇑*i*P **P 01 46 26.7 +0.6**
comp=Z,12nm,0.9s
ARSA Arzberg 36.38 331⇑*i*P **P 01 46 26.7 +0.6**
comp=Z,12nm,0.9s
ARSA Arzberg 36.38 331⇑*i*P **P 01 46 26.7 +0.6**
comp=Z,12nm,0.9s
CONA Conrad Observa 36.73 332⇑*i*P **P 01 46 29.6 +0.4**
comp=Z,14nm,1.6s
CONA Conrad Observa 36.73 332⇑*i*P **P 01 46 29.5 +0.4**
comp=Z,14nm,1.6s
CONA Conrad Observa 36.73 332⇑*i*P **P 01 46 29.5 +0.4**
comp=Z,14nm,1.6s
OJC Ojcow 36.94 338 *eP* **P 01 46 30.2 -0.6**
OJC Ojcow 36.94 338 *eP* **P 01 46 30.2 -0.6**
OJC Ojcow 36.94 338 *eP* **P 01 46 30.2 -0.6**
OKC Ostrava-Krasne 37.25 336 *eP* **P 01 46 33.3 -0.1**
OKC Ostrava-Krasne 37.25 336⇑*eP* **P 01 46 33.3 -0.1**
OKC Ostrava-Krasne 37.25 336 *eP* **P 01 46 33.3 -0.1**
KBA Koelnbreinsper 37.30 329⇓*i*P **P 01 46 34.4 +0.2**
KBA pmax pmax
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 37.30 329⇓*i*P **P 01 46 34.4 +0.2**
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 37.30 329⇓*i*P **P 01 46 34.4 +0.2**
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 37.30 329 *i* P **P 01 46 34.4 +0.2**
comp=Z,9.0nm,1.1s
MOA Molln 37.41 331⇑*i*P **P 01 46 35.1 +0.3**
comp=Z,11nm,0.8s
MOA Molln 37.41 331⇑*i*P **P 01 46 35.1 +0.3**
comp=Z,11nm,0.8s
MOA Molln 37.41 331⇑*i*P **P 01 46 35.1 +0.3**
comp=Z,11nm,0.8s
MORC Moravsky Berou 37.44 335⇓P **P 01 46 35.3 +0.2**
MORC Moravsky Berou 37.44 335 *eP* **P 01 46 35.0 -0.1**
comp=Z,10nm,1.0s
MORC Moravsky Berou 37.44 335⇓*i*P **P 01 46 35.3 +0.2**
MORC Moravsky Berou 37.44 335 *eP* **P 01 46 35.0 -0.1**
comp=Z,10nm,1.0s
VRAC Vranov 37.46 334 P **P 01 46 34.4 -0.8**
comp=Z,5.1nm,0.9s,baz=136,slow=7.7,SNR=12
VRAC Vranov 37.46 334⇓P **P 01 46 35.5 +0.3**
VRAC Vranov 37.46 334 P **P 01 46 34.4 -0.8**
VRAC Vranov 37.46 334⇓*i*P **P 01 46 35.5 +0.3**
VRAC Vranov 37.46 334 P **P 01 46 35.5 +0.3**
AML Almayashu 37.67 42 P **P 01 46 38.3 +0.7**
TORD Torodi Ar. Bea 37.67 269 P **P 01 46 37.4 0.0**
comp=Z,12nm,0.8s,baz=84,slow=7.8,SNR=42
TORD PcP **PcP 01 48 55.2 +0.3**
comp=Z,1.7nm,1.1s,baz=62,slow=2.7,SNR=4.0
TORD LR LR 02 02 40.1
comp=Z,450nm,20.1s,baz=90,slow=37
TORD Torodi Ar. Bea 37.67 269 P **P 01 46 37.4 0.0**
TORD PcP **PcP 01 48 55.2 +0.3**
TORD Torodi Ar. Bea 37.67 269 P **P 01 46 37.4 0.0**
TORD Torodi Ar. Bea 37.67 269 PcP **PcP 01 48 55.2 +0.3**
TREC Trest 37.92 333⇑*i*P **P 01 46 38.9 -0.2**
TREC Trest 37.92 333⇑*i*P **P 01 46 38.9 -0.2**
TREC Trest 37.92 333 *i* P **P 01 46 38.9 -0.2**
KRLC Kraliky 37.98 335⇑*eP* **P 01 46 39.5 -0.1**
KRLC Kraliky 37.98 335 P **P 01 46 39.5 -0.1**
WATA Walderalm 38.36 328⇓*i*P **P 01 46 42.7 -0.4**
WATA pmax pmax
comp=Z,9.0nm,1.2s
WATA Walderalm 38.36 328⇓*i*P **P 01 46 42.7 -0.4**
comp=Z,9.3nm,1.2s
WATA Walderalm 38.36 328⇓*i*P **P 01 46 42.7 -0.4**
comp=Z,9.3nm,1.2s,SNR=6.4
WATA Walderalm 38.36 328 *i* P **P 01 46 42.7 -0.4**
comp=Z,9.0nm,1.2s
DPC Dobruska-Polom 38.38 335⇑*i*P **P 01 46 42.6 -0.4**
DPC Dobruska-Polom 38.38 335 *eP* **P 01 46 42.8 -0.2**
comp=Z,12nm,1.0s
DPC Dobruska-Polom 38.38 335⇑*i*P **P 01 46 42.6 -0.4**
DPC Dobruska-Polom 38.38 335 *eP* **P 01 46 42.8 -0.2**
comp=Z,12nm,1.0s
GERES GERESS Array B 38.38 331 P **P 01 46 42.9 -0.2**
comp=Z,6.2nm,0.7s,baz=132,slow=7.4,SNR=75
GERES PcP **PcP 01 48 56.1 -0.5**
comp=Z,1.4nm,0.8s,baz=116,slow=3.1,SNR=7.6
GERES LR LR 02 02 52.6
comp=Z,105nm,18.9s,baz=86,slow=37
GERES GERESS Array B 38.38 331 P **P 01 46 42.9 -0.2**
GERES 01 48 56.1
GERES GERESS Array B 38.38 331 P **P 01 46 42.9 -0.2**
GERES PcP **PcP 01 48 56.1 -0.5**
GERES GERESS Array B 38.38 331 P **P 01 46 42.9 -0.2**
AAK Ala-Archa 38.43 42 *eP* **P 01 46 45.3 +1.5**
AAK pmax pmax
comp=Z,49nm,1.3s
AAK Ala-Archa 38.43 42 *eP* **P 01 46 45.3 +1.5**
comp=Z,50nm,1.3s
AAK Ala-Archa 38.43 42 *eP* **P 01 46 45.3 +1.5**
comp=Z,49nm,1.3s
MOS Moscow 38.55 357 *eP* **P 01 46 41.4 -2.9**
MOS pmax pmax
comp=Z,43nm,1.2s
FETA Feichten 38.59 327 *i* P **P 01 46 45.2 +0.2**
comp=Z,12nm,0.9s
FETA Feichten 38.59 327 *i* P **P 01 46 45.2 +0.2**
comp=Z,12nm,0.9s,SNR=16
FETA Feichten 38.59 327 *i* P **P 01 46 45.2 +0.2**
comp=Z,12nm,0.9s
MOTA Moosalm 38.61 328⇑*i*P **P 01 46 44.5 -0.7**
MOTA pmax pmax
comp=Z,6.0nm,0.8s
MOTA Moosalm 38.61 328⇑*i*P **P 01 46 44.5 -0.7**
comp=Z,5.8nm,0.8s
MOTA Moosalm 38.61 328⇑*i*P **P 01 46 44.5 -0.7**
comp=Z,5.8nm,0.8s
MOTA Moosalm 38.61 328 *i* P **P 01 46 44.5 -0.7**
comp=Z,6.0nm,0.8s
FRU Bishkek 38.61 41 *eP* **P 01 46 48.0 +2.9**
FRU pmax pmax
comp=Z,67nm,2.0s
FRU Bishkek 38.61 41 *eP* **P 01 46 48.0 +2.9**
comp=Z,67nm,2.0s
UPC Upice 38.62 335 *eP* **P 01 46 44.8 -0.2**
UPC Upice 38.62 335⇑*eP* **P 01 46 44.8 -0.2**
UPC Upice 38.62 335 *eP* **P 01 46 44.8 -0.2**
KHC Kasperske Hory 38.65 332 *eP* **P 01 46 44.3 -1.0**
KHC Kasperske Hory 38.65 332 *eP* **P 01 46 44.5 -0.8**
comp=Z,6.7nm,0.9s
KHC Kasperske Hory 38.65 332⇑*eP* **P 01 46 44.3 -1.0**
KHC Kasperske Hory 38.65 332 *eP* **P 01 46 44.5 -0.8**
comp=Z,6.7nm,0.9s
KSP Ksiaz 38.77 335⇑*eP* **P 01 46 46.1 -0.2**
KSP Ksiaz 38.77 335⇑*eP* **P 01 46 46.1 -0.2**
PRU Pruhonice 38.85 333 *eP* **P 01 46 46.4 -0.5**
PRU Pruhonice 38.85 333⇑*eP* **P 01 46 46.4 -0.5**
PRU Pruhonice 38.85 333 *eP* **P 01 46 46.4 -0.5**
RETA Reutte 38.88 328⇑*i*P **P 01 46 46.6 -0.7**
comp=Z,5.9nm,1.0s
RETA Reutte 38.88 328⇑*i*P **P 01 46 46.6 -0.7**
comp=Z,5.9nm,1.0s
RETA Reutte 38.88 328⇑*i*P **P 01 46 46.6 -0.7**
comp=Z,5.9nm,1.0s
DAVOX Davos/Dischmat 38.89 326 LR LR 02 03 49.6
comp=Z,72nm,19.3s,baz=266,slow=38
SUW Suwalki 39.15 344 *eP* **P 01 46 48.7 -0.6**
SUW pmax pmax
comp=Z,29nm,1.0s
SUW Suwalki 39.15 344 *eP* **P 01 46 48.7 -0.6**
comp=Z,28nm,1.0s
SUW Suwalki 39.15 344 *eP* **P 01 46 48.7 -0.6**
comp=Z,29nm,1.0s
DAVA Damuels 39.21 327⇑*i*P **P 01 46 49.8 -0.4**
comp=Z,24nm,0.8s
DAVA Damuels 39.21 327⇑*i*P **P 01 46 49.8 -0.4**
comp=Z,24nm,0.8s,SNR=8.4
DAVA Damuels 39.21 327⇑*i*P **P 01 46 49.8 -0.4**
comp=Z,24nm,0.8s
PVCC Panska Ves 39.24 334 *eP* **P 01 46 49.8 -0.4**
PVCC Panska Ves 39.24 334⇑*eP* **P 01 46 49.8 -0.4**
PVCC Panska Ves 39.24 334 *eP* **P 01 46 49.8 -0.4**
TKM2 Tokmak 2 39.28 42 *eP* **P 01 46 51.6 +0.7**
TKM2 pmax pmax
comp=Z,10.0nm,1.4s
TKM2 Tokmak 2 39.28 42 *eP* **P 01 46 51.6 +0.7**
comp=Z,10nm,1.4s
TKM2 Tokmak 2 39.28 42 *eP* **P 01 46 51.6 +0.7**
comp=Z,10.0nm,1.4s
BRG Berggiesshubel 39.76 334⇑*i*P **P 01 46 53.9 -0.6**
comp=Z,12nm,1.1s
BRG Berggiesshubel 39.76 334⇑*i*P **P 01 46 53.9 -0.6**
BRG pmax pmax
comp=Z,12nm,1.1s
BRG Berggiesshubel 39.76 334 *i* P **P 01 46 53.9 -0.6**
comp=Z,12nm,1.1s
NKC Novy Kostel 39.95 332⇑*i*P **P 01 46 55.7 -0.4**
NKC Novy Kostel 39.95 332⇑*i*P **P 01 46 55.7 -0.4**
NKC Novy Kostel 39.95 332 *i* P **P 01 46 55.7 -0.4**
GRFO Grafenberg 40.13 330 *eP* **P 01 46 57.0 -0.7**
GRFO pmax pmax
comp=Z,51nm,1.9s
GRFO Grafenberg 40.13 330 *eP* **P 01 46 57.0 -0.7**
comp=Z,51nm,1.9s
GRFO Grafenberg 40.13 330 *eP* **P 01 46 57.0 -0.7**
comp=Z,51nm,1.9s
SPAK Spaichingen-Ko 40.30 327 *eP* **P 01 46 58.1 -1.0**
CLL Collm 40.48 333⇑*i*P **P 01 47 00.0 -0.5**
CLL *i* 01 47 02.1
CLL pmax pmax
comp=Z,25nm,1.4s
CLL MLR MLR
comp=Z,200nm,18.8s
CLL Collm 40.48 333⇑*i*P **P 01 47 00.0 -0.5**
comp=Z,25nm,1.4s
CLL *i* pP **pP 01 47 02.1 -1.7**
CLL Lm MLR 02 05 00.0
comp=Z,200nm,18.8s
CLL Collm 40.48 333 *i* P **P 01 47 00.0 -0.5**
comp=Z,25nm,1.4s
FELD Feldberg im Sc 40.57 326 *eP* **P 01 47 00.9 -0.6**
BBS Basel-Blauen 40.59 325 *eP* **P 01 47 01.6 +0.1**
BFO Black Forest 40.68 327 *eP* **P 01 47 01.5 -0.7**
BFO *e* 01 49 04.3
BFO pmax pmax
comp=Z,14nm,1.2s
BFO Black Forest 40.68 327 *eP* **P 01 47 01.5 -0.7**
comp=Z,14nm,1.2s
BFO *e*PcP **PcP 01 49 04.3 +0.4**
BFO Black Forest 40.68 327 *eP* **P 01 47 01.5 -0.7**
comp=Z,14nm,1.2s
CABF La Chapelle 40.88 323 *eP* **P 01 47 02.3 -1.7**
comp=Z,37nm,1.0s
LASF Ste Croix 40.88 319 *eP* **P 01 47 03.1 -0.9**
comp=Z,45nm,1.0s
KOLN Koldanda 40.97 67 *eP* **P 01 47 06.0 +0.8**
comp=Z,18nm,0.7s
KOLN Koldanda 40.97 67 *eP* **P 01 47 06.0 +0.8**
KOLN Koldanda 40.97 67 *eP* **P 01 47 06.0 +0.8**
MOF Molkenrain 41.02 326 *eP* **P 01 47 04.6 -0.5**
DANN Dangsing 41.17 66 *eP* **P 01 47 07.6 +0.7**
comp=Z,88nm,1.1s
DANN Dangsing 41.17 66 *eP* **P 01 47 07.6 +0.7**
DANN Dangsing 41.17 66 *eP* **P 01 47 07.6 +0.7**
ECH Echery 41.23 326 *eP* **P 01 47 06.1 -0.6**
LANF Langenberg 41.35 327 *eP* **P 01 47 07.2 -0.6**
LBL Lubilhac 41.83 320 *eP* **P 01 47 11.9 +0.1**
GKN Gorkha 41.91 67 *eP* **P 01 47 12.8 0.0**
comp=Z,41nm,1.2s
GKN Gorkha 41.91 67 *eP* **P 01 47 12.8 0.0**
GKN Gorkha 41.91 67 *eP* **P 01 47 12.8 0.0**
PLDF La Plantade 41.98 321 *eP* **P 01 47 12.3 -0.7**
DMN Daman 42.29 68 *eP* **P 01 47 16.4 +0.4**
DMN Daman 42.29 68 *eP* **P 01 47 16.4 +0.4**
DMN Daman 42.29 68 *eP* **P 01 47 16.4 +0.4**
SVE Sverdlovsk 42.37 16 *eP* P 01 47 11.8 -4.1
SVE pmax pmax
comp=Z,18nm,1.4s
CAF Calviac 42.42 319 *eP* **P 01 47 16.2 -0.3**
comp=Z,26nm,1.0s
KKN Kakani 42.46 67 *eP* **P 01 47 17.9 +0.6**
KKN Kakani 42.46 67 *eP* **P 01 47 17.9 +0.6**
KKN Kakani 42.46 67 *eP* **P 01 47 17.9 +0.6**
KKN Kakani 42.46 67 *eP* **P 01 47 17.9 +0.6**
PKI Pulchoki 42.55 68 *eP* **P 01 47 18.5 +0.2**
PKI Pulchoki 42.55 68 *eP* **P 01 47 18.5 +0.2**
PKI Pulchoki 42.55 68 *eP* **P 01 47 18.5 +0.2**
PKI Pulchoki 42.55 68 *eP* **P 01 47 18.5 +0.2**
AVF Avril sur Loir 42.56 322 *eP* **P 01 47 16.3 -1.3**
comp=Z,9.4nm,0.7s
BVAR Borovoye Array 42.70 26 LR LR 02 07 24.1
comp=Z,377nm,18.5s,baz=239,slow=40
GUN Gumba 42.99 67 *eP* **P 01 47 22.0 +0.1**
comp=Z,85nm,1.4s
GUN Gumba 42.99 67 *eP* **P 01 47 22.0 +0.1**
GUN Gumba 42.99 67 *eP* **P 01 47 22.0 +0.1**
JIRN Jiri 43.25 68 *eP* **P 01 47 24.1 +0.1**
JIRN Jiri 43.25 68 *eP* **P 01 47 24.1 +0.1**
JIRN Jiri 43.25 68 *eP* **P 01 47 24.1 +0.1**
MEM Membach 43.28 328 P **P 01 47 23.5 +0.1**
MEM Membach 43.28 328 P **P 01 47 23.5 +0.1**
BCLA Clavier 43.52 328 P **P 01 47 25.2 -0.1**
BCLA Clavier 43.52 328 P **P 01 47 25.2 -0.1**
RAMN Ramite 43.57 69 *eP* **P 01 47 26.4 0.0**
comp=Z,134nm,2.0s
RAMN Ramite 43.57 69 *eP* **P 01 47 26.4 0.0**
RAMN Ramite 43.57 69 *eP* **P 01 47 26.4 0.0**
DOU Dourbes 43.70 327 P **P 01 47 26.3 -0.5**
DOU Dourbes 43.70 327 P **P 01 47 26.2 -0.5**
SJPF Ste Jean 43.78 315 *eP* **P 01 47 27.5 -0.1**

comp=Z,27nm,0.9s
SNF Seneffe 44.10 327 P **P** **01 47 29.8 -0.2**
SNF Seneffe 44.10 327 P **P** **01 47 29.7 -0.2**
ODAN Odare 44.27 69 *eP* **P** **01 47 32.3 +0.3**
comp=Z,21nm,1.1s
ODAN Odare 44.27 69 *eP* **P** **01 47 32.3 +0.3**
ODAN Odare 44.27 69 *eP* **P** **01 47 32.3 +0.3**
LBTB Lobatse 44.40 200 LR LR 02 05 43.9
comp=Z,287nm,21.0s,baz=58,slow=36
ESDC Sonseca Array 44.53 310 P **P** **01 47 34.0 +0.3**
comp=Z,3.7nm,0.7s,baz=102,slow=7.6,SNR=28
ESDC LR LR 02 09 52.0
comp=Z,67nm,18.2s,baz=300,slow=41
ESDC Sonseca Array 44.53 310 P **P** **01 47 34.0 +0.3**
ESDC Sonseca Array 44.53 310 P **P** **01 47 34.0 +0.3**
MFF Saint Martin d 44.57 320 *eP* **P** **01 47 32.7 -1.1**
comp=Z,65nm,1.5s
TAPN Taplejung 44.58 68 *eP* **P** **01 47 34.7 +0.1**
TAPN Taplejung 44.58 68 *eP* **P** **01 47 34.7 +0.1**
TAPN Taplejung 44.58 68 *eP* **P** **01 47 34.7 +0.1**
PAB San Pablo 44.78 309 *eP* **P** **01 47 36.0 +0.3**
PAB pmax pmax
comp=Z,23nm,1.3s
PAB San Pablo 44.78 309 *eP* **P** **01 47 36.0 +0.3**
comp=Z,22nm,1.3s
PAB San Pablo 44.78 309 *eP* **P** **01 47 36.0 +0.3**
comp=Z,22nm,1.3s
KURK Kurchatov 45.17 34 LR LR 02 08 24.8
comp=Z,390nm,20.3s,baz=240,slow=39
MK31 Makanchi Array 45.30 40 *eP* **P** **01 47 40.4 +0.7**
MK31 *e* 01 49 19.0
MK31 Makanchi Array 45.30 40 *eP* **P** **01 47 40.4 +0.7**
MK31 *e*PcP **PcP** **01 49 19.0 -0.4**
MK31 Makanchi Array 45.30 40 *eP* **P** **01 47 40.4 +0.7**
MK31 Makanchi Array 45.30 40 *e*PcP **PcP** **01 49 19.0 -0.4**
MKAR Makanchi Array 45.30 40 P **P** **01 47 40.2 +0.5**
comp=Z,3.0nm,1.0s,baz=242,slow=7.7,SNR=19
MKAR PcP **PcP** **01 49 19.6 +0.2**
comp=Z,1.5nm,0.9s,baz=284,slow=0.5,SNR=4.3
MKAR LR LR 02 09 01.7
comp=Z,546nm,18.0s,baz=234,slow=39
MKAR Makanchi Array 45.30 40 *eP* **P** **01 47 40.5 +0.9**
MKAR Makanchi Array 45.30 40 *eP* **P** **01 47 40.6 +0.9**
MKAR PcP **PcP** **01 49 19.6 +0.2**
MKAR Makanchi Array 45.30 40 *eP* **P** **01 47 40.6 +0.9**
FINES FINESS Array B 45.39 350 P **P** **01 47 38.3 -1.8**
comp=Z,2.6nm,0.8s,baz=148,slow=12,SNR=2.9
FINES LR LR 02 10 30.1
comp=Z,154nm,18.3s,baz=186,slow=41
FINES FINESS Array B 45.39 350 P **P** **01 47 38.3 -1.8**
FINES FINESS Array B 45.39 350 P **P** **01 47 38.3 -1.8**
FINES FINESS Array B 45.39 350 P **P** **01 47 38.3 -1.8**
LDF La Druitiere 45.50 323 *eP* **P** **01 47 39.2 -2.0**
comp=Z,11nm,0.9s
DBIC Dimbokro 45.53 262 P **P** **01 47 41.3 -0.6**
comp=Z,11nm,1.0s,baz=52,slow=11,SNR=6.5
DBIC LR LR 02 06 41.2
comp=Z,563nm,20.4s,baz=56,slow=36
DBIC Dimbokro 45.53 262 P **P** **01 47 41.3 -0.6**
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC Dimbokro 45.53 262 P **P** **01 47 41.3 -0.6**
comp=Z,13nm,1.0s
DBIC Dimbokro 45.53 262 P **P** **01 47 41.3 -0.6**
comp=Z,13nm,1.0s
HFS Hagfors 47.07 342 P **P** **01 47 52.0 -1.4**
comp=Z,4.2nm,0.8s,baz=106,slow=4.8,SNR=5.1
HFS LR LR 02 09 52.6
comp=Z,123nm,19.6s,baz=74,slow=39
HFS Hagfors 47.07 342 P **P** **01 47 52.0 -1.4**
HFS Hagfors 47.07 342 P **P** **01 47 52.0 -1.4**
HFS Hagfors 47.07 342 P **P** **01 47 52.0 -1.4**
EVO Evora 47.28 307⇑ *iP* **P** **01 47 54.9 -0.5**
comp=Z,107nm,1.7s
WMQ Urumqi 47.69 46 P **P** **01 48 00.6 +2.1**
WMQ pP pP 01 48 05.1 +3.2
WMQ sP sP 01 48 07.6 +4.3
WMQ PcP **PcP** **01 49 30.6 +2.7**
WMQ S **S** **01 54 56.5 +1.9**
WMQ SS SS 01 58 17.6 -5.2
WMQ pmax pmax
comp=Z,13nm,1.5s
WMQ pmax pmax
comp=Z,180nm,4.4s
WMQ LR LR
comp=N,230nm,18.2s
WMQ LR LR
comp=E,250nm,25.6s
WMQ LR LR
comp=Z,310nm,22.6s
LSA Lhasa 47.73 65 P **P** **01 48 00.7 +1.1**
BOSA Boshof 47.87 198 LR LR 02 08 35.1
comp=Z,676nm,20.0s,baz=27,slow=37
BOSA Boshof 47.87 198 *eP* P 01 47 53.1 -7.0
BOSA pmax pmax
comp=Z,30nm,1.5s
BOSA Boshof 47.87 198 *eP* P 01 47 53.0 -7.0
comp=Z,30nm,1.5s
NB2 NORSAR Subarra 48.54 341 P **P** **01 48 03.1 -1.7**
comp=Z,8.6nm,0.9s,baz=137,slow=7.9
NB2 NORSAR Subarra 48.54 341 P **P** **01 48 03.1 -1.7**
comp=Z,8.6nm,0.9s,SNR=7.0
NOA NORSAR Array B 48.54 341 P **P** **01 48 03.6 -1.2**
comp=Z,4.9nm,0.8s,baz=137,slow=7.9,SNR=8.1
NOA LR LR 02 08 48.7
comp=Z,64nm,19.1s,baz=100,slow=36
NOA NORSAR Array B 48.54 341 P **P** **01 48 03.6 -1.2**
NOA NORSAR Array B 48.54 341 P **P** **01 48 03.6 -1.2**
NOA NORSAR Array B 48.54 341 P **P** **01 48 03.6 -1.2**
NVS Novosibirsk 49.76 31⇑ *iP* **P** **01 48 14.0 -0.2**
NVS *e* 01 51 07.2
NVS pmax pmax
comp=N,30nm,1.7s
NVS pmax pmax
comp=E,14nm,1.7s
NVS pmax pmax
comp=Z,83nm,1.7s
ZAA0 Zalesovo Array 50.10 33 *eP* **P** **01 48 16.6 -0.2**
ZAA0 Zalesovo Array 50.10 33 *eP* **P** **01 48 16.6 -0.2**
ZALV Zalesovo Beam 50.10 33 P **P** **01 48 16.8 0.0**
comp=Z,6.8nm,0.7s,baz=245,slow=7.9,SNR=44
ZALV LR LR 02 13 43.6
comp=Z,185nm,19.1s,baz=215,slow=41
ZALV Zalesovo Beam 50.10 33 P **P** **01 48 16.8 0.0**
ZALV Zalesovo Beam 50.10 33 P **P** **01 48 16.8 0.0**
ZALV Zalesovo Beam 50.10 33 P **P** **01 48 16.8 0.0**
CMAR Chiang Mai Arr 55.40 79 P **P** **01 48 54.9 -1.7**
comp=Z,0.7nm,0.8s,baz=278,slow=7.2,SNR=7.9
CMAR LR LR 02 11 19.9
comp=Z,123nm,21.3s,baz=97,slow=35
CMAR Chiang Mai Arr 55.40 79 P **P** **01 48 54.9 -1.7**
CMAR Chiang Mai Arr 55.40 79 P **P** **01 48 54.9 -1.7**
CMAR Chiang Mai Arr 55.40 79 P **P** **01 48 54.9 -1.7**
GTA Gaotai 55.66 54 *eP* **P** **01 48 59.7 +1.4**
GTA pP **pP** **01 49 03.4 +1.7**
GTA sP sP 01 49 06.3 +3.2
GTA PP PP 01 51 07.6 +5.1
GTA S **S** **01 56 49.2 +4.5**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,210nm,5.0s
GTA LR LR
comp=N,230nm,18.1s
GTA LR LR
comp=E,300nm,15.7s
GTA LR LR
comp=Z,300nm,19.0s
KMI Kunming 58.12 71 P **P** **01 49 17.5 +1.4**
KMI pmax pmax
comp=Z,8.0nm,1.8s
CD2 Chengdu 58.64 64 P **P** **01 49 21.6 +2.1**
CD2 pP pP 01 49 26.2 +3.3
CD2 sP sP 01 49 28.6 +4.4
CD2 PP **PP** **01 51 33.3 +4.2**
CD2 S **S** **01 57 25.0 +0.9**
CD2 SS **SS** **02 01 19.8 +2.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,570nm,5.3s
CD2 LR LR
comp=N,530nm,6.5s
CD2 LR LR
comp=Z,320nm,7.7s

LZH Lanzhou 58.66 58 *eP* **P** **01 49 20.0 +0.4**
LZH pP **pP** **01 49 23.2 +0.1**
LZH sP **sP** **01 49 24.7 +0.3**
LZH *e*PP **PP** **01 51 31.8 +2.5**
LZH *e*S **S** **01 57 23.1 -1.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,150nm,6.6s
LZH LR LR
comp=N,260nm,13.9s
LZH LR LR
comp=E,360nm,16.0s
LZH LR LR
comp=Z,380nm,17.0s
ZAK Zakamensk 59.61 41 *eP* **P** **01 49 25.6 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SONM Songino Array 61.28 45 P **P** **01 49 38.4 +1.0**
comp=Z,2.6nm,1.0s,baz=258,slow=7.4,SNR=24
SONM LR LR 02 19 35.6
comp=Z,457nm,19.7s,baz=250,slow=39
SONM Songino Array 61.28 45 P **P** **01 49 38.4 +1.0**
SONM Songino Array 61.28 45 P **P** **01 49 38.4 +1.0**
SONM Songino Array 61.28 45 P **P** **01 49 38.4 +1.0**
GYA Guiyang 61.51 69 P **P** **01 49 41.0 +1.7**
GYA PP **PP** **01 51 58.4 +3.7**
GYA ScP **ScP** **01 54 22.2 -0.9**
GYA S **S** **01 58 01.5 +0.3**
GYA SS **SS** **02 02 04.9 +2.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.2s
GYA LR LR
comp=N,480nm,18.3s
GYA LR LR
comp=E,420nm,19.0s
GYA LR LR
comp=Z,480nm,18.4s
SPITS Spitsbergen Ar 62.15 355 LR LR 02 17 09.1
comp=Z,139nm,18.6s,baz=125,slow=36
HHC Hu-ho-hao-te 64.71 53 *eP* **P** **01 50 01.4 +1.1**
HHC pP **pP** **01 50 04.4 +0.6**
HHC sP sP 01 50 08.7 +3.6
HHC PP **PP** **01 52 25.6 +3.1**
HHC S **S** **01 58 39.1 -1.7**
HHC sS sS 01 58 50.0 +3.4
HHC SS **SS** **02 02 52.8 +1.2**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.7s
HHC LR LR
comp=N,270nm,8.2s
HHC LR LR
comp=E,270nm,8.9s
HHC LR LR
comp=Z,290nm,12.1s
SCO Scoresbysund 64.85 341 *i* P **P** **01 50 00.1 -0.4**
SCO pmax pmax
comp=Z,3.0nm,0.9s
SCO Scoresbysund 64.85 341 *i* P **P** **01 50 00.1 -0.4**
comp=Z,3.0nm,0.9s
SCO Scoresbysund 64.85 341 *i* P **P** **01 50 00.1 -0.4**
comp=Z,3.0nm,0.9s,SNR=21
QIZ Qiongzhong 65.49 77 P **P** **01 50 05.4 -0.2**
QIZ S **S** **01 58 47.9 -2.9**
QIZ LR LR
comp=Z,110nm,36.5s
DAG Danmarks Havn 66.52 348 *i* P **P** **01 50 10.1 -1.1**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 66.52 348 *i* P **P** **01 50 10.1 -1.1**
comp=Z,20nm,0.9s
BOD Bodaibo 66.81 34 *eP* **P** **01 50 12.7 -0.7**
BOD pmax pmax
comp=Z,58nm,1.1s
BJI Beijing 68.27 53 P **P** **01 50 22.3 -0.6**
BJI pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 70.43 342 *eP* **P** **01 50 36.1 -0.2**
SUMG pmax pmax
comp=Z,164nm,2.7s
SUMG Summit 70.43 342 *eP* **P** **01 50 36.0 -0.2**
comp=Z,164nm,2.7s
SUMG Summit 70.43 342 *i* P **P** **01 50 36.8 +0.6**
comp=Z,7.2nm,1.0s
SUMG Summit 70.43 342 *eP* **P** **01 50 36.0 -0.2**
comp=Z,164nm,2.7s
NJ2 Nanjing 71.36 61 *eP* **P** **01 50 42.2 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 74.69 48 *eP* **P** **01 51 02.5 +0.9**
CN2 *e*sP sP 01 51 09.5 +3.0
CN2 *e*S **S** **02 00 37.4 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
MDJ Mudanjiang 77.47 47 P **P** **01 51 17.0 -0.5**
MDJ pmax pmax
comp=Z,22nm,2.3s
MDJ pmax pmax
comp=Z,170nm,5.0s
MDJ LR LR
comp=E,190nm,22.2s
MDJ LR LR
comp=Z,260nm,22.2s
KSRS Korea Array 77.72 54 LR LR 02 31 26.6
comp=Z,169nm,19.0s,baz=265,slow=40
USRK Ussuriysk Arra 79.25 47 LR LR 02 30 43.9
comp=Z,222nm,21.5s,baz=18,slow=39
SEY Seymchan 84.35 25⇑ *eP* **P** **01 51 53.5 -0.3**
MJAR Matsushiro Arr 85.91 53 LR LR 02 34 11.3
comp=Z,157nm,20.2s,baz=335,slow=38
INK Inuvik 94.64 358 P **P** **01 52 42.1 -0.4**
comp=Z,2.9nm,0.9s,baz=12,slow=8.1,SNR=7.7
INK Inuvik 94.64 358 P **P** **01 52 42.1 -0.4**
INK Inuvik 94.64 358 P **P** **01 52 42.1 -0.4**
INK Inuvik 94.64 358 P **P** **01 52 42.1 -0.4**
ILAR Eielson Array 98.10 3 P **P** **01 52 57.6 -0.8**
comp=Z,0.5nm,0.8s,baz=328,slow=4.3,SNR=5.4
ILAR LR LR 02 47 03.8
comp=Z,112nm,18.8s,baz=325,slow=41
ILAR Eielson Array 98.10 3 P **P** **01 52 57.6 -0.8**
ILAR Eielson Array 98.10 3 P **P** **01 52 57.6 -0.8**
ILAR Eielson Array 98.10 3 P **P** **01 52 57.6 -0.8**
YKA Yellowknife Ar 98.20 349 P **P** **01 52 58.0 -0.8**
comp=Z,0.5nm,0.7s,baz=18,slow=5.0,SNR=5.8
YKA Yellowknife Ar 98.20 349 P **P** **01 52 58.1 -0.8**
YKA Yellowknife Ar 98.20 349 P **P** **01 52 58.0 -0.8**
YKA Yellowknife Ar 98.20 349 P **P** **01 52 58.0 -0.8**
DAU Daniels Canyon 116.98 336 PKIKP **PKPdf** **01 58 09.2 +1.7**
DAU Daniels Canyon 116.98 336 PKPdf **PKPdf** **01 58 09.2 +1.7**
DAU Daniels Canyon 116.98 336 PKIKP **PKPdf** **01 58 09.2 +1.7**
NVAR Mina Array Bea 121.23 341 PKP **PKPdf** **01 58 14.9 -0.7**
comp=Z,0.8nm,0.8s,baz=31,slow=2.4,SNR=5.9
NVAR Mina Array Bea 121.23 341 PKP **PKPdf** **01 58 14.9 -0.7**
NVAR Mina Array Bea 121.23 341 PKIKP **PKPdf** **01 58 14.9 -0.7**
TXAR Lajitas Array 122.27 323 PKP **PKPdf** **01 58 18.0 +0.3**
comp=Z,0.9nm,0.8s,baz=107,slow=2.4,SNR=12
TXAR Lajitas Array 122.27 323 PKP **PKPdf** **01 58 18.0 +0.3**
TXAR Lajitas Array 122.27 323 PKIKP **PKPdf** **01 58 18.0 +0.3**
TXAR Lajitas Array 122.27 323 PKIKP **PKPdf** **01 58 18.0 +0.3**

*IDC **01** 01:51:25.5±1.1, 17.°20N×40.°47E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/32, mbtmp4.0/16, ML3.7/1, MS3.8/14, Ms1 3.8/14, ms1mx3.6/39, Error ellipse: s-maj=23.7km s-min=18.4km az=175.0*

*ISCJB **01** 01:51:25.8±0.6, 17.°19N±0.°09×40.°37E±0.°05, h10km, mb4.1/21, MS3.8/10, Error ellipse: s-maj=13.1km s-min=7.2km az=11.8*

*VIE **01** 01:51:35.7, 17.°29N×40.°51E, h75km, mb3.8 264 km WSW of Khamis-Mushait*

ISC 01 01:51:27.3±0.8, 17.°2N±0.°1×40.°49E±0.°10, h10km, n51, σ0.°99/47, mb4.1/21, MS3.7/10, 7C-4D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**6.11**	**158**	Pn	**Pn**	**01 52 58.7**	**+0.9**
	2.0nm,0.3s,baz=280,slow=22,SNR=4.3						
ATD				LR	LR	01 55 07.9	

comp=Z,574nm,20.7s,baz=308,slow=36
EIL Elat 13.38 339 LR LR 01 58 48.6
comp=Z,510nm,18.9s,baz=99,slow=33
ASF Jabal al Asfar 15.23 348 LR LR 02 00 24.6
comp=Z,194nm,19.3s,baz=53,slow=35
ASUD Al Ashush, Dub 15.69 60 P **P** **01 55 14.1 +1.5**
SNR=5.4
ASHO Ashiyiah 16.31 60 P **P** **01 55 20.3 +0.7**
SNR=11
ASHO P **P** **01 55 20.8 +1.2**
SNR=7.2
MMAI Mount Meron Ar 16.37 345 LR LR 02 01 08.6
comp=Z,231nm,18.8s,baz=115,slow=36
HATD Hatta, Dubai 16.43 60 P **P** **01 55 22.1 +1.2**
SNR=14
BSY Bisya 16.63 68 P **Pn** **01 55 18.8 -1.9**
SNR=8.7
HOQ Hoqain 16.98 65 P **P** **01 55 27.2 +0.2**
SNR=8.2
JMDO Jabal Madar 17.34 70 P **P** **01 55 30.7 -0.3**
SNR=7.1
SMDO Samad 17.47 68 P **P** **01 55 33.6 +1.1**
SNR=6.9
WBK Wadi Bani Khal 18.18 70 P **P** **01 55 41.2 +1.0**
SNR=10
GNI Garni 23.13 8 LR LR 02 05 57.2
comp=Z,178nm,18.0s,baz=220,slow=38
BRTR Keskin Array B 23.19 346 P **P** **01 56 36.1 +1.7**
4.4nm,1.0s,baz=165,slow=12,SNR=15
MLR Muntele Rosu 30.69 340 P **P** **01 57 42.0 -0.3**
0.6nm,1.0s,baz=168,slow=9.3,SNR=4.6
MLR LR LR 02 11 30.3
comp=Z,34nm,18.4s,baz=154,slow=39
MLR Muntele Rosu 30.69 340⇓ *iP* **P** **01 57 43.6 +1.3**
VRI Vrincioaia 30.77 341⇑ *iP* P 01 57 49.9 +7.0
PLOR Plostina 30.78 341⇓ *iP* **P** **01 57 45.7 +2.7**
VOIR 30.94 339⇓ *iP* **P** **01 57 46.3 +1.8**
BZS Buzias 32.39 335⇑ *iP* **P** **01 57 57.5 +0.4**
DRGR 32.94 337⇑ *iP* **P** **01 58 03.0 +0.9**
KEST Kesra 33.21 310 LR LR 02 15 16.1
comp=Z,71nm,18.0s,baz=292,slow=43
AKTO Aktyubinsk 35.99 19 P **P** **01 58 28.5 +0.2**
1.8nm,0.8s,baz=228,slow=9.7,SNR=9.3
AKTO LR LR 02 14 35.8
comp=Z,171nm,19.4s,baz=40,slow=39
MOA Molln 37.34 331⇓ *iP* **P** **01 58 41.0 +1.1**
4.6nm,0.8s
MORC Moravsky Berou 37.37 335⇑ *iP* **P** **01 58 40.7 +0.5**
VRAC Vranov 37.39 334 P **P** **01 58 41.1 +0.8**
1.4nm,0.8s,baz=158,slow=10,SNR=4.8
VRAC Vranov 37.39 334⇑ *iP* **P** **01 58 41.1 +0.8**
TORD Torodi Ar. Bea 37.62 269 P **P** **01 58 42.6 0.0**
5.2nm,0.8s,baz=86,slow=8.1,SNR=24
TORD LR LR 02 15 03.5
comp=Z,304nm,19.3s,baz=280,slow=38
DPC Dobruska-Polom 38.31 335 *eP* **P** **01 58 47.9 -0.2**
GERES GERESS Array B 38.31 331 P **P** **01 58 47.5 -0.8**
2.8nm,0.8s,baz=133,slow=7.5,SNR=28
GERES PcP **PcP** **02 01 00.8 -1.3**
0.6nm,0.8s,baz=145,slow=3.6,SNR=4.7
GERES LR LR 02 17 22.6
comp=Z,107nm,18.2s,baz=272,slow=41
FETA Feichten 38.52 327⇑ *iP* **P** **01 58 49.7 -0.3**
6.6nm,1.0s
KHC Kasperske Hory 38.58 332 *eP* **P** **01 58 50.1 -0.3**
KHC *ex* x 02 02 01.5
DAVOX Davos/Dischmat 38.82 326 P **P** **01 58 52.1 -0.5**
1.6nm,0.8s,baz=279,slow=13,SNR=3.8
DAVA Damuels 39.14 327⇑ *iP* **P** **01 58 55.7 +0.4**
7.9nm,0.8s
NKC Novy Kostel 39.88 332 *eP* **P** **01 59 01.0 -0.2**
CABF La Chapelle 40.81 323 *eP* **P** **01 59 08.0 -1.1**
26nm,1.0s
LASF Ste Croix 40.81 319 *eP* **P** **01 59 08.0 -1.0**
AVF Avril sur Loir 42.49 322 *eP* **P** **01 59 21.6 -1.1**
6.7nm,0.8s
BVAR Borovoye Array 42.69 26 P **P** **01 59 24.7 +0.5**
1.0nm,0.8s,baz=198,slow=9.3,SNR=8.4
BVAR PcP **PcP** **02 01 15.8 -0.1**
0.9nm,0.8s,baz=274,slow=4.0,SNR=4.3
SJPF Ste Jean 43.70 315 *eP* **P** **01 59 33.2 +0.6**
32nm,1.1s
ESDC Sonseca Array 44.46 309 P **P** **01 59 38.4 -0.4**
6.4nm,1.2s,baz=98,slow=7.4,SNR=9.4
ESDC LR LR 02 20 56.2
comp=Z,77nm,18.4s,baz=305,slow=40
KURK Kurchatov 45.16 34 P **P** **01 59 42.9 -1.2**
1.6nm,0.8s,baz=236,slow=8.3,SNR=18
KURK PcP **PcP** **02 01 23.2 -1.2**
0.9nm,1.0s,baz=232,slow=4.4,SNR=5.8
MKAR Makanchi Array 45.30 40 P **P** **01 59 45.3 0.0**
0.5nm,0.5s,baz=244,slow=8.5,SNR=20
DBIC Dimbokro 45.48 262 LR LR 02 18 55.2
comp=Z,304nm,18.8s,baz=54,slow=36
HFS Hagfors 47.01 342 P **P** **01 59 58.3 -0.2**
4.1nm,0.8s,baz=138,slow=16,SNR=4.7
EVO Evora 47.21 307 *eP* **P** **02 00 00.5 0.0**
BOSA Boshof 47.90 198 LR LR 02 20 19.1
comp=Z,393nm,19.1s,baz=31,slow=36
NOA NORSAR Array B 48.48 341 P **P** **02 00 09.6 -0.4**
1.7nm,0.8s,baz=138,slow=7.9,SNR=4.8
NOA LR LR 02 24 24.5
comp=Z,47nm,18.3s,baz=140,slow=41
ZALV Zalesovo Beam 50.09 33 P **P** **02 00 22.2 -0.1**
3.1nm,0.7s,baz=246,slow=7.7,SNR=17
SONM Songino Array 61.29 45 P **P** **02 01 43.5 +0.4**
1.0nm,0.9s,baz=280,slow=8.0,SNR=9.6
TXAR Lajitas Array 122.20 323 PKP **PKPdf** **02 10 22.0 -1.2**
0.5nm,0.8s,baz=89,slow=2.3,SNR=5.5

IDC 01 02:12:25.1±1.9, 13.°38S×167.°47E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/16, mbtmp3.9/8, MS2.4/1, Ms1 2.4/1, ms1mx2.3/29, Error ellipse: s-maj=67.2km s-min=26.2km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.02**	**228**	P	P	02 18 37.2	+1.4
	1.8nm,0.7s,baz=62,slow=10,SNR=12						
WRA	**Warramunga Arr**	**32.36**	**254**	P	P	02 18 55.7	-0.9
	0.5nm,0.9s,baz=85,slow=9.5,SNR=5.0						
ASAR	**Alice Springs**	**33.35**	**247**	P	P	02 19 05.1	-0.2
	0.8nm,0.5s,baz=74,slow=9.1,SNR=22						
ASAR				PcP	PcP	02 21 45.5	-1.9
	0.4nm,0.6s,baz=87,slow=2.4,SNR=5.5						
TGY	**Tagaytay City**	**53.56**	**299**	LR	LR	02 44 06.6	
	comp=Z,3.1nm,19.0s,baz=108,slow=36						
CMAR	**Chiang Mai Arr**	**74.58**	**294**	P	P	02 24 07.0	+0.5
	1.2nm,0.7s,baz=126,slow=5.0,SNR=7.1						
SONM	**Songino Array**	**81.53**	**323**	P	P	02 24 45.0	+0.3
	0.3nm,0.7s,baz=142,slow=3.6,SNR=3.3						
ILAR	**Eielson Array**	**85.19**	**18**	P	P	02 25 04.4	+1.4
	0.2nm,0.6s,baz=230,slow=5.6,SNR=3.7						
MKAR	**Makanchi Array**	**96.36**	**316**	P	P	02 25 56.2	+0.2
	0.4nm,0.5s,baz=86,slow=6.4,SNR=9.5						
ZALV	**Zalesovo Beam**	**96.42**	**324**	P	P	02 25 54.9	-1.1
	0.3nm,0.3s,baz=116,slow=6.6,SNR=3.3						
ARCES	**ARCESS Array B**	**119.00**	**346**	PKP	PKPdf	02 31 14.0	-1.3
	6.8nm,1.0s,baz=92,slow=2.7,SNR=4.2						

IDC 01 02:40:31.1±2.5, 5.°35S×133.°78E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/13, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=92.6km s-min=29.8km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.51**	**178**	Pn	Pn	02 43 56.8	-1.2
	0.0nm,0.3s,baz=357,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**14.96**	**211**	Pn	Pn	02 44 04.1	+0.1
	0.1nm,0.3s,baz=35,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**18.21**	**180**	P	P	02 44 46.0	+0.2
	0.1nm,0.3s,baz=3.2,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**68.98**	**325**	P	P	02 51 38.4	0.0
	0.2nm,0.5s,baz=115,slow=8.6,SNR=7.1						

IDC 01 02:44:57.4±3.0, 5.°26S×133.°89E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/14, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=131.9km s-min=28.4km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.61**	**178**	Pn	Pn	02 48 25.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.1nm,0.3s,baz=357,slow=13,SNR=3.1						
WRA				Sn	Sn	02 51 01.1	-7.3
	0.1nm,0.3s,baz=358,slow=23,SNR=2.7						
FITZ	Fitzroy Crossi	15.10	212	Pn	Pn	02 48 31.8	-0.3
	0.1nm,0.3s,baz=32,slow=11,SNR=2.9						
FITZ				Sn	Sn	02 51 12.3	-8.0
	0.1nm,0.3s,baz=193,slow=18,SNR=2.7						
ASAR	Alice Springs	18.30	180	P	Pn	02 49 12.9	-0.1
	0.1nm,0.3s,baz=0.7,slow=11,SNR=3.4						
MKAR	Makanchi Array	68.97	325	P	P	02 56 05.8	+1.2
	0.5nm,0.7s,baz=130,slow=8.2,SNR=6.0						
KURK	Kurchatov	73.11	327	P	P	02 56 28.3	-1.3
	0.2nm,0.8s,baz=123,slow=5.1,SNR=4.1						

ISCJB ***01*** *02:46:18.9±0.4, 55°.20S±0°.07×29°.0W±0°.1, h10km, mb4.5/15, MS4.1/8, Error ellipse: s-maj=11.8km s-min=9.3km az=144.1*

IDC ***01*** *02:46:19.1±0.6, 55°.20S×29°.01W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.5/14, mbtmp4.5/10, ML5.3/1, MS4.1/9, Ms1 4.1/9, ms1mx4.0/16, Error ellipse: s-maj=22.2km s-min=18.1km az=160.0*

NEIC ***01*** *02:46:24.4±0.3, 55°.16S×29°.09W, h35km, mb4.7/7, Error ellipse: s-maj=10.3km s-min=8.6km az=187.0*

ISC 01 02:46:20.7±0.5**, 55°.16S**±0°.09×**29°.10W**±0°.09**, h10km, n63, σ1s.04**/59**, mb4.6**/15**, MS4.1**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	18.03	157	eP	P	02 50 35.3	+3.9
VNA3	Neumayer Olymp	18.20	160	eP	Pn	02 50 32.2	-0.9
VNA2	Neumayer--Watz	18.43	157	eP	P	02 50 34.8	-1.1
	baz=316,slow=11						
PMSA	Palmer Station	19.70	227	P	Pn	02 50 51.2	+0.1
	0.9nm,0.3s,baz=54,slow=6.4,SNR=4.4						
PMSA				LR	LR	02 56 35.6	
	comp=Z,247nm,19.7s,baz=132,slow=31						
PMSA	Palmer Station	19.70	227	P	Pn	02 50 51.2	+0.1
SNAA	Sanae	20.00	156	eP	P	02 50 52.1	-1.0
SNAA	Sanae	20.00	156	eP	P	02 50 52.6	-0.5
	22nm,0.8s						
USHA	Ushuaia	22.37	255	P	P	02 51 20.3	+1.7
	24nm,0.9s,baz=74,slow=12,SNR=5.5						
USHA	Ushuaia	22.37	255	P	P	02 51 20.3	+1.7
TRQA	Tornquist	27.97	294	eP	P	02 52 11.5	+0.2
	4.7nm,0.6s						
PLCA	Paso Flores	30.77	281	LR	LR	03 05 00.8	
	comp=Z,161nm,20.6s,baz=295,slow=36						
QSPA	South Pole Qui	35.09	180	P	P	02 53 14.0	+0.2
	2.3nm,0.6s,baz=180,slow=3.5,SNR=7.9						
QSPA				LR	LR	03 06 25.2	
	comp=Z,265nm,20.4s,baz=189,slow=34						
QSPA	South Pole Qui	35.09	180	P	P	02 53 14.0	+0.2
CPUP	Villa Florida	35.41	313	P	P	02 53 16.1	-0.5
	4.6nm,0.6s,baz=131,slow=7.9,SNR=18						
CPUP				LR	LR	03 06 58.9	
	comp=Z,175nm,18.4s,baz=23,slow=35						
CPUP	Villa Florida	35.41	313	P	P	02 53 16.1	-0.5
LVC	Limon Verde	43.91	301	eP	P	02 54 28.4	+0.6
	13nm,0.7s						
BOSA	Boshof	46.83	78	P	P	02 54 50.0	-0.7
	4.9nm,1.0s,baz=196,slow=3.4,SNR=5.3						
BOSA				LR	LR	03 10 45.9	
	comp=Z,231nm,18.8s,baz=345,slow=31						
BOSA	Boshof	46.83	78	eP	P	02 54 51.4	+0.7
LPAZ	La Paz	48.97	307	P	P	02 55 08.4	+0.4
	12nm,0.6s,baz=154,slow=6.2,SNR=40						
LPAZ				LR	LR	03 14 18.6	
	comp=Z,100nm,18.1s,baz=277,slow=34						
LPAZ	La Paz	48.97	307	P	P	02 55 08.4	+0.4
LBTB	Lobatse	49.81	76	P	P	02 55 13.2	-0.5
	3.0nm,0.8s,baz=230,slow=12,SNR=7.0						
LBTB	Lobatse	49.81	76	P	P	02 55 13.2	-0.5
TSUM	Tsumeb	50.22	63	eP	P	02 55 17.1	+0.2
	6.9nm,1.0s						
SAML	Samuel	53.41	316	eP	P	02 55 39.1	-1.4
	7.1nm,0.9s						
DBIC	Dimbokro	64.83	27	P	P	02 57 01.5	+1.9
	2.9nm,0.9s,baz=150,slow=14,SNR=2.7						
DBIC	Dimbokro	64.83	27	P	P	02 57 01.5	+1.9
OTAV	Otavalo	68.25	305	eP	P	02 57 22.4	+0.2
	7.7nm,1.1s						
SDV	Santo Domingo	72.61	317	eP	P	02 57 47.0	-1.3
	6.5nm,0.7s						
TORD	Torodi Ar. Bea	72.83	31	P	P	02 57 49.8	+0.4
	5.9nm,1.0s,baz=201,slow=6.0,SNR=35						
TORD				LR	LR	03 25 30.4	
	comp=Z,170nm,18.1s,baz=235,slow=32						
TORD	Torodi Ar. Bea	72.83	31	P	P	02 57 49.8	+0.4
URZ	Urewera	84.28	200	LR	LR	03 28 33.4	
	comp=Z,676nm,21.4s,baz=6.6,slow=30						
PPT2	Papeete2	91.81	235	eLR	LR	02 58 28.8	
	124nm,25.8s						
KEST	Kesra	96.34	31	LR	LR	03 37 37.8	
	comp=Z,92nm,21.1s,baz=212,slow=32						
ESDC	Sonseca Array	96.88	19	P	P	02 59 52.7	+1.3
	0.2nm,0.5s,baz=194,slow=4.9,SNR=2.8						
ESDC	Sonseca Array	96.88	19	P	P	02 59 52.7	+1.3
ASAR	Alice Springs	100.16	164	P	Pdif	03 00 05.0	-1.8
	0.9nm,1.1s,baz=183,slow=4.6,SNR=4.7						
ASAR	Alice Springs	100.16	164	P	Pdif	03 00 05.0	-1.8
NVAR	Mina Array Bea	120.04	295	PKP	PKPdf	03 05 11.1	-0.1
	0.5nm,0.8s,baz=82,slow=6.6,SNR=2.1						
NVAR	Mina Array Bea	120.04	295	PKP	PKPdf	03 05 11.1	-0.1
FINES	FINESS Array B	124.11	28	PKP	PKPdf	03 05 16.7	-1.2
	1.5nm,0.6s,baz=90,slow=1.9,SNR=4.8						
FINES	FINESS Array B	124.11	28	PKP	PKPdf	03 05 16.7	-1.2
ARCES	ARCESS Array B	130.52	22	PKP	PKPdf	03 05 29.4	-0.5
	3.2nm,0.8s,baz=151,slow=2.1,SNR=2.9						
ARCES	ARCESS Array B	130.52	22	PKP	PKPdf	03 05 29.4	-0.5
YKA	Yellowknife Ar	134.78	319	PKP	PKPdf	03 05 37.4	-0.7
	1.1nm,0.7s,baz=125,slow=2.7,SNR=8.3						
YKA	Yellowknife Ar	134.78	319	PKP	PKPdf	03 05 37.4	-0.7
MKAR	Makanchi Array	137.63	72	PKP	PKPdf	03 05 43.9	0.0
	0.3nm,0.6s,baz=225,slow=3.5,SNR=3.5						
MKAR	Makanchi Array	137.63	72	PKP	PKPdf	03 05 43.9	0.0
KURK	Kurchatov	138.00	65	PKP	PKPdf	03 05 44.9	+0.4
	0.7nm,0.7s,baz=235,slow=2.8,SNR=4.7						
KURK	Kurchatov	138.00	65	PKP	PKPdf	03 05 44.9	+0.4
ZALV	Zalesovo Beam	142.95	64	PKhKP	PKPpre	03 05 49.3	
	0.7nm,0.6s,baz=209,slow=3.3,SNR=3.3						
ZALV				PKP	PKPdf	03 05 54.4	+1.1
	1.4nm,0.5s,baz=240,slow=3.9,SNR=5.2						
ZALV	Zalesovo Beam	142.95	64	PKPpre	PKPpre	03 05 49.3	
ZALV				PKP	PKPdf	03 05 54.4	+1.1
INK	Inuvik	144.43	322	PKP	PKPab	03 05 53.4	-0.3
	7.9nm,0.9s,baz=123,slow=5.2,SNR=10						
INK	Inuvik	144.43	322	PKP	PKPab	03 05 53.4	-0.3
DAWY	Dawson	145.39	313	ePKPdf	PKPdf	03 05 56.2	-1.1
ILAR	Eielson Array	148.71	313	PKPbc	PKPbc	03 06 06.0	-0.6
	7.6nm,0.7s,baz=124,slow=1.8,SNR=64						
ILAR	Eielson Array	148.71	313	PKPbc	PKPbc	03 06 06.0	-0.6
MCK	McKinley	149.37	311	ePKPbc	PKPbc	03 06 08.3	0.0
KDAK	Kodiak Island	149.44	298	PKPbc	PKPbc	03 06 07.8	-0.8
	7.4nm,0.6s,baz=63,slow=2.0,SNR=8.6						
KDAK	Kodiak Island	149.44	298	PKPbc	PKPbc	03 06 07.8	-0.8
TRF	Thorofare Moun	149.90	310	ePKPbc	PKPbc	03 06 09.5	-0.3
COLD	Coldfoot	150.43	318	ePKPdf	PKPbc	03 06 10.8	+0.1
SONM	Songino Array	151.75	86	PKPbc	PKPbc	03 06 13.8	-0.9
	3.4nm,0.8s,baz=219,slow=2.4,SNR=12						
SONM	Songino Array	151.75	86	PKPbc	PKPbc	03 06 13.8	-0.9

DDA ***01*** *02:48:37.9, 37°.88N×29°.24E, h16km, MD3.2*

CSEM ***01*** *02:48:38.8±0.2, 37°.83N×29°.22E, h2km, MD3.3, Error ellipse: s-maj=4.0km s-min=3.9km az=111.0*

ISK 01 02:48:37.7, 37°.86N×29°.23E, h5km, MD3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.19	237	PG	Pg	02 48 42.4	+0.9
DENT	Denizli	0.19	237	i Pg	Pg	02 48 42.4	+0.9
KHAL	Karahalli	0.55	22	i P	Pg	02 48 48.5	0.0
KHAL				i S	Sg	02 48 56.1	+0.2
KHAL	Karahalli	0.55	22	i P	Pg	02 48 48.5	-0.1
KHAL				i S	Sg	02 48 56.1	+0.2
GOLH	Golhisar	0.67	157	i P	Pg	02 48 51.2	+0.4
GOLH				i S	Sn	02 49 03.7	-1.3
GOLH	Golhisar	0.67	157	i P	Pg	02 48 51.2	+0.5
GOLH				i S	Sn	02 49 03.7	-1.3
GLHS	Glhisar (BURDU	0.73	163	ePG	Pb	02 48 53.4	+0.3
GLHS				eSG	Sn	02 49 05.0	-1.5
GLHS	Glhisar (BURDU	0.73	163	ePg	Pb	02 48 53.4	+0.3
KULA	Kula-Manisa	0.80	326	ePG	Pg	02 48 53.4	+0.2
KULA	Kula-Manisa	0.80	326	ePg	Pg	02 48 53.4	+0.2
MANT	Manisa	0.83	320	i P	Pg	02 48 54.0	+0.1
MANT				i S	Sg	02 49 05.4	+0.5
MANT	Manisa	0.83	320	i P	Pg	02 48 54.0	+0.1
MANT				i S	Sg	02 49 05.4	+0.5
ISP	Isparta	1.02	91	ePG	Pb	02 48 57.9	-0.1
ISP				eSG	Sn	02 49 13.3	-0.4
ISP	Isparta	1.02	91	ePg	Pb	02 48 57.9	-0.1
ISP				eSg	Sn	02 49 13.3	-0.4
YER	Yerkesik	1.04	227	ePG	Pg	02 48 56.9	-0.9
YER				eSG	Sn	02 49 13.9	-0.1
YER	Yerkesik	1.04	227	ePg	Pg	02 48 56.9	-0.9
YER				eSg	Sn	02 49 13.9	-0.2
AYDN	Tasoluk	1.09	260	i P	Pb	02 48 59.0	-0.2
AYDN				i S	Sg	02 49 13.3	+0.4
AYDN	Tasoluk	1.09	260	i P	Pb	02 48 59.0	-0.1
AYDN				i S	Sg	02 49 13.3	+0.4
TURN	Turunc	1.10	207	i P	Pn	02 49 02.8	+3.1
TURN				i S	Sn	02 49 23.6	+8.3
TURN	Turunc	1.10	207	i P	Pn	02 49 02.8	+3.0
ELL	Elmali	1.23	154	ePN	Pg	02 49 01.4	-0.1
ELL	Elmali	1.23	154	ePn	Pg	02 49 01.4	-0.1
GDZ	Gediz	1.25	9	i P	Pg	02 49 01.6	-0.3
GDZ				i S	Sg	02 49 18.3	+0.1
GDZ	Gediz	1.25	9	i P	Pg	02 49 01.6	-0.3
GDZ				i S	Sg	02 49 18.3	+0.1
SHUT	Suhut-Afyon	1.25	56	ePN	Pn	02 49 02.5	+0.5
SHUT	Suhut-Afyon	1.25	56	ePn	Pn	02 49 02.5	+0.5
DEMI	Demirci	1.25	341	i P	Pn	02 49 02.3	+0.3
DEMI				i S	Sg	02 49 16.3	-2.0
DEMI	Demirci	1.25	341	i P	Pn	02 49 02.3	+0.3
DEMI				i S	Sg	02 49 16.3	-2.0
ALT	Altintas	1.38	30	ePN	Pg	02 49 04.6	+0.2
ALT	Altintas	1.38	30	ePn	Pg	02 49 04.6	+0.2
ANTB	Antalya	1.48	130	ePN	Pg	02 49 06.7	+0.6
ANTB	Antalya	1.48	130	ePn	Pg	02 49 06.7	+0.6
AKHS	Akhisar	1.51	313	i P	Pn	02 49 05.2	-0.3
AKHS				i S	Sg	02 49 28.6	+2.1
AKHS	Akhisar	1.51	313	i P	Pn	02 49 05.2	-0.3
AKHS				i S	Sg	02 49 28.6	+2.2
GCAM	G?zelcaml?	1.59	265	i P	Pn	02 49 07.0	+0.5
GCAM				i S	Sn	02 49 27.2	-0.2
GCAM	G?zelcaml?	1.59	265	i P	Pn	02 49 07.0	+0.5
GCAM				i S	Sn	02 49 27.2	-0.2
BODT	Bodrum	1.72	243	ePN	Pb	02 49 10.0	+0.1
BODT	Bodrum	1.72	243	ePn	Pb	02 49 10.0	+0.1
BLCB	Balcova	1.81	288	ePN	Pb	02 49 10.7	-0.6
BLCB	Balcova	1.81	288	ePn	Pb	02 49 10.7	-0.6
BALB	Balikesir	2.07	330	ePN	Pb	02 49 15.0	-0.8
BALB	Balikesir	2.07	330	ePn	Pb	02 49 15.0	-0.8
ESKT	Eskisehir	2.09	37	ePN	Pb	02 49 14.9	-1.4
ESKT	Eskisehir	2.09	37	ePn	Pn	02 49 14.9	+1.3
BALY	Balya	2.27	327	i P	Pn	02 49 16.0	+0.1
BALY				i S	Sb	02 49 48.6	+1.0
BALY	Balya	2.27	327	i P	Pn	02 49 16.0	+0.1
BALY				i S	Sb	02 49 48.6	+1.0
CAVI	Cavuskoy	2.39	11	ePN	Pb	02 49 20.0	-1.3
CAVI	Cavuskoy	2.39	11	ePn	Pb	02 49 20.0	-1.3
SVRH	Sivrihisar-ESK	2.40	48	ePN	Pb	02 49 20.3	-1.2
SVRH	Sivrihisar-ESK	2.40	48	ePn	Pb	02 49 20.3	-1.2
KONT	Konya--Tatoy	2.48	87	ePN	Pb	02 49 21.1	-1.7
KONT	Konya--Tatoy	2.48	87	ePn	Pb	02 49 21.1	-1.7
GONE	Gonen-Balikesi	2.50	332	ePN	Pb	02 49 21.6	-1.5
GONE	Gonen-Balikesi	2.50	332	ePn	Pb	02 49 21.6	-1.5
KCTX	Karacabey (Bur	2.50	344	ePN	Pb	02 49 21.6	-1.6
KCTX	Karacabey (Bur	2.50	344	ePn	Pb	02 49 21.6	-1.6
MDNY	Mudanya-Bursa	2.52	354	ePN	Pb	02 49 21.7	-1.8
MDNY	Mudanya-Bursa	2.52	354	ePn	Pb	02 49 21.7	-1.8
GEMT	Gemlik	2.58	359	ePN	Pb	02 49 22.6	-1.8
GEMT	Gemlik	2.58	359	ePn	Pb	02 49 22.7	-1.7
ADVT	Abdulvahap	2.60	9	ePN	Pb	02 49 22.9	-2.0
ADVT	Abdulvahap	2.60	9	ePn	Pb	02 49 22.9	-2.0
EDC	Edincik	2.71	337	ePN	Pn	02 49 24.2	+2.3
EDC	Edincik	2.71	337	ePn	Pn	02 49 24.2	+2.3
YLV	Yalova	2.71	2	ePN	Pb	02 49 24.8	-2.0
YLV	Yalova	2.71	2	ePn	Pb	02 49 24.8	-2.0
ARMT	Armutlu	2.72	354	ePN	Pb	02 49 24.6	-2.3
ARMT	Armutlu	2.72	354	ePn	Pb	02 49 24.6	-2.3
KRBG	Karabiga-Canak	2.95	330	ePN	Pn	02 49 27.4	+2.3
KRBG	Karabiga-Canak	2.95	330	ePn	Pn	02 49 27.4	+2.2
SPNC	Sapanca-Adapaz	2.95	16	ePN	Pn	02 49 28.0	+2.8
SPNC	Sapanca-Adapaz	2.95	16	ePn	Pb	02 49 28.0	-2.7
HRT	Hereke	2.98	6	ePN	Pn	02 49 28.0	+2.3
HRT	Hereke	2.98	6	ePn	Pn	02 49 28.0	+2.3
EZN	Ezine	3.00	312	ePN	Pn	02 49 28.5	+2.6
EZN	Ezine	3.00	312	ePn	Pn	02 49 28.5	+2.6
MDUB	Mudurnu	3.03	30	ePN	Pn	02 49 29.2	+2.7
MDUB	Mudurnu	3.03	30	ePn	Pn	02 49 29.2	+2.8
RKY	Sarkoy-Tekirda	3.25	331	ePN	Pn	02 49 31.9	+2.6
RKY	Sarkoy-Tekirda	3.25	331	ePn	Pn	02 49 31.9	+2.5
MFT	Murefte	3.29	333	ePN	Pn	02 49 32.9	+2.8
MFT	Murefte	3.29	333	ePn	Pn	02 49 32.9	+2.8
GELI	Tayfur-Gelibol	3.32	321	ePN	Pn	02 49 32.7	+2.4
GELI	Tayfur-Gelibol	3.32	321	ePn	Pn	02 49 32.7	+2.4
AFSR	Af¯ar-Bala (A	3.40	61	ePN	Pn	02 49 34.3	+2.8
AFSR	Af¯ar-Bala (A	3.40	61	ePn	Pn	02 49 34.3	+2.8
ENEZ	Enez	3.74	321	ePN	Pn	02 49 39.1	+3.1
ENEZ	Enez	3.74	321	ePn	Pn	02 49 39.1	+3.0

IDC 01 02:52:38.8±4.2**, 46°.97N**×**152°.92E, h0km, mb3.8**/7**, mb1 3.9**/9**, mb1mx3.6**/26**, mbtmp3.8**/9**, ML3.0**/2**, Error ellipse: s-maj=101.3km s-min=26.7km az=157.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.87	25	Pn	Pn	02 54 26.2	+5.5
	0.5nm,0.3s,baz=179,slow=15,SNR=8.5						
ASAJ	Asahikawa	7.79	252	Pn	Pn	02 54 33.0	-0.3
	0.3nm,0.3s,baz=80,slow=18,SNR=2.5						
USRK	Ussuriysk Arra	14.90	267	Pn	Pn	02 56 11.3	+0.7
	0.3nm,0.3s,baz=75,slow=10,SNR=7.2						
ILAR	Eielson Array	36.46	39	P	P	02 59 44.5	-0.4
	0.3nm,0.8s,baz=267,slow=8.6,SNR=4.8						
ZALV	Zalesovo Beam	42.38	306	P	P	03 00 33.4	-1.0
	0.2nm,0.3s,baz=91,slow=7.2,SNR=3.1						
MKAR	Makanchi Array	46.72	297	P	P	03 01 09.3	-0.1
	0.5nm,0.7s,baz=64,slow=6.6,SNR=7.8						
KURK	Kurchatov	47.13	303	P	P	03 01 13.2	+0.8
	0.8nm,0.7s,baz=68,slow=8.2,SNR=9.0						
FINES	FINESS Array B	63.78	335	P	P	03 03 11.7	-0.3
	2.3nm,0.8s,baz=25,slow=11,SNR=4.5						
NOA	NORSAR Array B	67.98	341	P	P	03 03 40.0	+0.8
	0.9nm,0.7s,baz=29,slow=6.1,SNR=3.4						
AKASG	Malin Array Be	71.29	326	P	P	03 04 00.2	+0.5
	1.7nm,0.5s,baz=34,slow=6.2,SNR=6.9						

BJI ***01*** *02:54:00.8, 81°.00N×2°.60W, h10km, mB5.2/24, mb4.8/39, Ms5.0/23, Ms7 4.6/22*

ISCJB ***01*** *02:54:03.9±1.5, 80°.95N±0°.03×3°.2W±0°.1, h9km±9km, mb4.7/96, MS4.1/26, Error ellipse: s-maj=5.7km s-min=2.7km az=24.7*

IDC ***01*** *02:54:03.8±0.4, 80°.89N×3°.36W, h0km, mb4.2/29, mb1 4.4/30, mb1mx4.4/31, mbtmp4.3/30, ML4.9/3, MS3.9/21, Ms1 4.0/21, ms1mx3.8/40, Error ellipse: s-maj=12.2km s-min=9.0km az=36.0*

CSEM ***01*** *02:54:03.4±0.3, 80°.80N×3°.42W, h2km, mb4.4/9, Mw4.8, Error ellipse: s-maj=11.8km s-min=9.9km az=20.0*

MOS ***01*** *02:54:04.0±1.3, 80°.87N×3°.29W, h10km, mb4.8/39, Error ellipse: s-maj=39.6km s-min=5.6km az=93.9*

NEIC ***01*** *02:54:05.6±0.2, 80°.85N×3°.03W, h10km, mb4.8/42, Error ellipse: s-maj=6.1km s-min=3.3km az=36.0*

NAO ***01*** *02:54:07.9±8.0, 81°.14N×1°.32W, h32km±96km, ML3.4*

BER ***01*** *02:54:08.1, 80°.94N×1°.63W, h15km, MD3.2, ML3.6, ML3.4(NAO)*

ISC 01 02:54:06.7±0.3**, 80°.85N**±0°.04×**2°.59W**±0°.03**, h17km**±1km**, h16km:pP-P, n604, σ1s.19**/598**, mb4.7**/97**, MS4.2**/26**, 138C-140D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.20	120	Pn	Pn	02 54 54.0	-2.1
KBS				Sn	Sn	02 55 28.7	-5.3
KBS	Kingsbay	3.20	120⥣	iP	Pn	02 54 54.1	-2.1
KBS				eS	Sn	02 55 28.6	-5.3
KBS				AML	AML	02 55 33.5	
	comp=Z,411nm,0.5s						
KBS	Kingsbay	3.20	120	eP	Pn	02 54 54.1	-2.1
KBS	Kingsbay	3.20	120	ePn	Pn	02 54 54.1	-2.1
KBS				eS	Sn	02 55 27.7	-6.2
KBS	Kingsbay	3.20	120	i P	Pn	02 54 54.3	-1.9
	SNR=92						
KBS				eS	Sn	02 55 28.6	-5.3
	comp=Z,411nm,0.5s,SNR=55						
SPB4	Spitsbergen Ar	4.36	118	ePn	Pn	02 55 10.4	-1.6
SPB4				eS	Sn	02 56 01.5	-0.8
SPB4	Spitsbergen Ar	4.36	118	ePn	Pn	02 55 10.4	-1.6
SPA0	Spitsbergen Ar	4.36	118	Pn	Pn	02 55 10.4	-1.7
	baz=325,slow=10						
SPA0				Sn	Sn	02 55 57.4	-5.0
SPA0	Spitsbergen Ar	4.36	118	Pn	Pn	02 55 10.4	-1.7
	baz=325,slow=10.0,SNR=55						
SPITS	Spitsbergen Ar	4.36	118	Pn	Pn	02 55 10.4	-1.7
	baz=340,slow=7.3,SNR=1045						
SPITS				Sn	Sn	02 56 00.1	-2.3
	baz=322,slow=28,SNR=5.3						
SPITS				LR	LR	02 56 47.8	
	comp=Z,2µm,20.5s,baz=120,slow=37						
SPITS	Spitsbergen Ar	4.36	118	P	Pn	02 55 10.4	-1.7
SPITS						02 56 00.1	
SPITS				MLR	MLR		
	comp=Z,2µm,20.5s						
SPITS	Spitsbergen Ar	4.36	118	Pn	Pn	02 55 10.4	-1.7
SPITS				Sn	Sn	02 56 00.1	-2.3
SPITS	Spitsbergen Ar	4.36	118	Pn	Pn	02 55 10.4	-1.7
DAG	Danmarks Havn	5.13	225	i P	Pn	02 55 17.6	-5.0
DAG				i		02 56 15.6	
HOPEN	Hopen	6.87	115	eP	Pn	02 55 44.9	-1.5
HOPEN				eS	Sn	02 56 56.4	-7.7
HOPEN				AML	AML	02 57 03.5	
	comp=Z,92nm,0.2s						
HOPEN	Hopen	6.87	115	eP	Pn	02 55 44.9	-1.5
	SNR=51						
BJO	Bjornoya	7.81	133	eP	Pn	02 55 58.7	-0.6
BJO	Bjornoya	7.81	133	eP	Pn	02 55 58.7	-0.6
	SNR=51						
JMIC	Jan Mayen	10.02	191	Pn	Pn	02 56 27.7	-1.8
	comp=Z,39nm,0.3s,baz=72,slow=2.5,SNR=21						
JMIC				Sn	Sn	02 58 09.4	-12
	comp=Z,10.0nm,0.3s,baz=102,slow=3.6,SNR=6.1						
JMIC	Jan Mayen	10.02	191	eP	Pn	02 56 27.7	-1.8
JMIC	Jan Mayen	10.02	191	Pn	Pn	02 56 27.7	-1.8
JMIC				Sn	Sn	02 58 09.4	-12
JMIC	Jan Mayen	10.02	191	eP	Pn	02 56 27.7	-1.8
	SNR=51						
SCO	Scoresbysund	11.35	214	i P	Pn	02 56 43.9	-3.9
SCO	Scoresbysund	11.35	214	i P	Pn	02 56 43.9	-3.9
SCO				eS	Sn	02 58 41.8	-12
SUMG	Summit	11.38	243	i P	Pn	02 56 43.2	-5.4
SUMG	Summit	11.38	243	ePn	Pn	02 56 43.1	-5.4
SUMG				eS	Sn	02 58 42.0	-14
SUMG	Summit	11.38	243	i P	Pn	02 56 43.2	-5.4
SUMG				i		02 56 44.3	
SUMG				eS	Sn	02 58 44.1	-12
KEV	Kevo	13.14	131	eP	Pn	02 57 11.6	-0.6
KEV	Kevo	13.14	131	ePn	Pn	02 57 11.6	-0.6
KEV				eS	Sn	02 59 29.0	-8.6
KEV	Kevo	13.14	131	ep	Pn	02 57 11.7	-0.5
	comp=Z,2.4nm,0.3s						
KEV	Kevo	13.14	131	ep	Pn	02 57 11.7	-0.5
	comp=Z,2.4nm,0.3s						
ARA0	ARCESS Array S	13.17	133	Pn	Pn	02 57 11.1	-1.5
	baz=352,slow=14						
ARA0				Sn	Sn	02 59 30.3	-8.2
	baz=346,slow=18						
ARA0	ARCESS Array S	13.17	133	Pn	Pn	02 57 11.1	-1.5
	SNR=55						
ARCES	ARCESS Array B	13.17	133	Pn	Pn	02 57 10.6	-2.0
	comp=Z,2.0nm,0.3s,baz=357,slow=8.6,SNR=34						
ARCES				Sn	Sn	02 59 30.0	-8.4
	comp=Z,0.6nm,0.3s,baz=345,slow=25,SNR=3.5						
ARCES				LR	LR	03 01 59.4	
	comp=Z,321nm,18.9s,baz=328,slow=36						
ARCES	ARCESS Array B	13.17	133	P	Pn	02 57 10.6	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,321nm,18.9s						
ARCES	ARCESS Array B	13.17	133	Pn	Pn	02 57 10.6	-2.0
ARCES				Sn	Sn	02 59 30.1	-8.4
ARE0	ARCESS Array S	13.17	133	ePn	Pn	02 57 12.4	-0.2
BORG	Borgarnes	16.93	208	LR	LR	03 05 40.4	
	comp=Z,228nm,18.3s,baz=121,slow=41						
RES	Resolute Bay	18.21	302	P	Pn	02 58 11.6	-6.5
	comp=Z,1.4nm,0.3s,baz=27,slow=12,SNR=26						
RES				LR	LR	03 05 34.8	
	comp=Z,261nm,19.4s,baz=16,slow=38						
RES	Resolute Bay	18.21	302	P	Pn	02 58 11.6	-6.5
RES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RES				MLR	MLR		
	comp=Z,261nm,19.4s						
RES	Resolute Bay	18.21	302	eP	Pn	02 58 11.6	-6.5
	comp=Z,14nm,0.7s						
RES				eS	Sn	03 01 21.0	-20
SFJD	Kangerlussuaq	18.24	249	i P	Pn	02 58 10.4	-8.2
SFJD	Kangerlussuaq	18.24	249	ePn	Pn	02 58 09.2	-9.3
	comp=Z,53nm,0.7s						
SFJD				eS	Sn	03 01 16.6	-25
SFJD	Kangerlussuaq	18.24	249	i P	Pn	02 58 10.4	-8.2
JOF	Joensuu	20.21	132	eP	P	02 58 40.4	+0.2
JOF				pmax	pmax		
	comp=Z,11nm,0.6s						
JOF	Joensuu	20.21	132	ep	P	02 58 40.4	+0.2
	comp=Z,10nm,0.6s						
JOF	Joensuu	20.21	132	ep	P	02 58 40.4	+0.2
	comp=Z,10nm,0.6s						
NB2	NORSAR Subarra	20.29	160	P	P	02 58 42.0	+0.8
	comp=Z,20nm,1.2s,baz=354,slow=11						
NB2	NORSAR Subarra	20.29	160	P	P	02 58 42.7	+1.5
NB2	NORSAR Subarra	20.29	160	P	P	02 58 42.7	+1.5
	SNR=51						
NOA	NORSAR Array B	20.29	160	P	P	02 58 43.0	+1.8
	comp=Z,2.8nm,0.8s,baz=348,slow=12,SNR=6.1						
NOA				LR	LR	03 05 27.2	
	comp=Z,188nm,18.0s,baz=350,slow=34						
NOA	NORSAR Array B	20.29	160	P	P	02 58 43.0	+1.8
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,188nm,18.0s						
NOA	NORSAR Array B	20.29	160	P	P	02 58 43.0	+1.8
KAF	Kangasniemi	20.44	139	eP	P	02 58 43.2	+0.5
KAF				pmax	pmax		
	comp=Z,11nm,0.6s						
KAF	Kangasniemi	20.44	139	ep	P	02 58 43.2	+0.5
	comp=Z,11nm,0.6s						
KAF	Kangasniemi	20.44	139	ep	P	02 58 43.2	+0.5
	comp=Z,11nm,0.6s						
FIA0	FINESS Array S	21.07	140	P	P	02 58 50.7	+1.2
	baz=345,slow=14						
FIA0	FINESS Array S	21.07	140	P	P	02 58 50.7	+1.2
	SNR=51						
FINES	FINESS Array B	21.07	140	P	P	02 58 50.3	+0.8
	comp=Z,17nm,0.8s,baz=344,slow=12,SNR=20						
FINES				LR	LR	03 06 35.7	
	comp=Z,314nm,19.5s,baz=1.5,slow=36						
FINES	FINESS Array B	21.07	140	P	P	02 58 50.3	+0.8
FINES				pmax	pmax		
	comp=Z,17nm,0.8s						
FINES				MLR	MLR		
	comp=Z,314nm,19.5s						
FINES	FINESS Array B	21.07	140	P	P	02 58 50.3	+0.8
HFS	Hagfors	21.34	157	P	P	02 58 52.9	+0.4
	comp=Z,16nm,0.9s,baz=10,slow=8.8,SNR=11						
HFS				LR	LR	03 06 28.0	
	comp=Z,223nm,18.5s,baz=250,slow=35						
HFS	Hagfors	21.34	157	P	P	02 58 53.4	+1.0
	baz=14,slow=8.6						
HFS	Hagfors	21.34	157	P	P	02 58 52.9	+0.4
HFS				pmax	pmax		
	comp=Z,16nm,0.9s						
HFS				MLR	MLR		
	comp=Z,223nm,18.5s						
HFS	Hagfors	21.34	157	P	P	02 58 52.9	+0.4
HFS	Hagfors	21.34	157	P	P	02 58 53.4	+1.0
	SNR=51						
PUL	Pulkovo	23.17	136⥣	eP	P	02 59 12.6	+0.8
PUL				pmax	pmax		
	comp=Z,33nm,0.7s						
FRB	Frobisher Bay	24.06	265	P	P	02 59 18.2	-2.2
	comp=Z,25nm,0.9s,baz=24,slow=10,SNR=34						

FRB LR LR 03 07 26.4
comp=Z,359nm,20.6s,baz=246,slow=34
FRB Frobisher Bay 24.06 265 P **P** **02 59 18.3 -2.2**
FRB pmax pmax
comp=Z,25nm,0.9s
FRB MLR MLR
comp=Z,359nm,20.6s
FRB Frobisher Bay 24.06 265 P **P** **02 59 18.2 -2.2**
VSU Vasula 24.07 141⇓ *e*P **P** **02 59 20.3 -0.3**
VSU pmax pmax
comp=Z,36nm,1.7s
MNK Minsk 28.08 141 *e*P P 03 00 03.0 +6.1
MICGM Minsk 28.09 141 *e* P 03 00 03.0 +6.1
INK Inuvik 28.67 324 P **P** **02 59 59.7 -2.3**
comp=Z,2.3nm,0.9s,baz=8.8,slow=13,SNR=5.6
INK Inuvik 28.67 324 P **P** **02 59 59.7 -2.3**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 28.67 324 *e*P **P** **03 00 00.1 -1.9**
CLL Collm 30.10 160 *e*P **P** **03 00 16.0 +1.2**
CLL *i* 03 00 22.2
CLL Collm 30.10 160 *e*P **P** **03 00 16.0 +1.2**
CLL *i* (sP) **sP** **03 00 22.2 +0.2**
comp=Z,9.0nm,1.3s
SVE Sverdlovsk 30.21 103⇑ *e*P P 03 00 19.1 +3.4
SVE *e* 03 06 55.9
SVE pmax pmax
comp=Z,20nm,1.2s
SVE MLR MLR
comp=Z,691nm,15.0s
BRG Berggiesshubel 30.58 159 *i* P P 03 00 26.6 +7.6
comp=Z,13nm,1.3s
BRG Berggiesshubel 30.58 159 *i* P P 03 00 26.6 +7.6
BRG pmax pmax
comp=Z,13nm,1.3s
PVCC Panska Ves 30.96 159 *e*P P 03 00 26.0 +3.6
PVCC Panska Ves 30.96 159 *e*P P 03 00 26.0 +3.6
BAIF Baives 31.00 171 *e*P P 03 00 26.5 +3.7
comp=Z,9.4nm,1.0s
COLD Coldfoot 31.06 336 *e*P **P** **03 00 22.5 -0.7**
comp=Z,7.6nm,1.0s
NKC Novy Kostel 31.14 161 *e*P **P** **03 00 24.6 +0.6**
NKC *e* 03 00 32.0
NKC Novy Kostel 31.14 161 *e*P **P** **03 00 24.6 +0.6**
NKC *ex* x 03 00 32.0
BILL Bilibino 31.18 8 *e*P **P** **03 00 23.8 -0.3**
BILL pmax pmax
comp=Z,19nm,1.4s
BILL Bilibino 31.18 8 *e*P **P** **03 00 23.8 -0.3**
comp=Z,19nm,1.4s
DPC Dobruska-Polom 31.25 156 *e*P P 03 00 33.1 +8.1
DPC Dobruska-Polom 31.25 156 *e*P P 03 00 33.1 +8.1
PRU Pruhonice 31.50 159 *e*P P 03 00 35.3 +8.1
PRU MLR MLR
comp=Z,300nm,19.0s
PRU Pruhonice 31.50 159 *e*P P 03 00 35.3 +8.1
PRU AMS AMS 03 11 20.0
comp=Z,300nm,19.0s
OJC Ojcow 31.62 152 *e*P **P** **03 00 29.7 +1.5**
OJC Ojcow 31.62 152 *e*P **P** **03 00 29.7 +1.5**
MORC Moravsky Berou 31.90 155 *e*P **P** **03 00 32.1 +1.4**
MORC pmax pmax
comp=Z,48nm,2.4s
MORC Moravsky Berou 31.90 155 *e*P **P** **03 00 32.1 +1.4**
comp=Z,48nm,2.4s
MORC Moravsky Berou 31.90 155⇑ *i*P P 03 00 39.3 +8.6
AKASG Malin Array Be 31.98 141 P **P** **03 00 30.6 -0.7**
comp=Z,0.9nm,0.5s,baz=342,slow=9.0,SNR=4.6
AKASG Malin Array Be 31.98 141 P **P** **03 00 30.6 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 31.98 141 P **P** **03 00 30.6 -0.7**
KIEV Kiev 31.98 141 *e*P **P** **03 00 30.3 -1.0**
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV Kiev 31.98 141 *e*P **P** **03 00 30.3 -1.0**
comp=Z,12nm,1.0s
YKA Yellowknife Ar 32.17 306 P **P** **03 00 31.3 -1.6**
comp=Z,1.1nm,0.8s,baz=13,slow=9.0,SNR=14
YKA PcP **PcP** **03 03 20.1 -0.9**
comp=Z,0.4nm,0.6s,baz=19,slow=3.0,SNR=3.7
YKA Yellowknife Ar 32.17 306 P **P** **03 00 31.3 -1.6**
YKA 03 03 20.1
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 32.17 306 P **P** **03 00 31.3 -1.6**
YKA PcP **PcP** **03 03 20.1 -0.9**
SCHQ Schefferville 32.29 257 P **P** **03 00 32.3 -1.8**
comp=Z,3.9nm,0.9s,baz=12,slow=15,SNR=5.5
SCHQ LR LR 03 13 24.9
comp=Z,523nm,21.8s,baz=44,slow=36
SCHQ Schefferville 32.29 257 *e*P **P** **03 00 33.4 -0.7**
KHC Kasperske Hory 32.30 160 *e*P P 03 00 41.1 +6.9
KHC *e* 03 00 49.2
KHC Kasperske Hory 32.30 160 *e*P P 03 00 41.1 +6.9
KHC *ex* x 03 00 49.2
VRAC Vranov 32.30 156 ⇓P P 03 00 43.0 +8.8
VRAC Vranov 32.30 156 ⇓ *i*P P 03 00 43.0 +8.8
KWP Kalwaria Pacla 32.43 149 *e*P **P** **03 00 36.0 +0.6**
KWP pmax pmax
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 32.43 149 *e*P **P** **03 00 36.0 +0.6**
comp=Z,18nm,1.1s
NIE Niedzica 32.45 152 *e*P P 03 00 39.1 +3.5
NIE Niedzica 32.45 152 *e*P P 03 00 39.1 +3.5
STHS Stebnicka Huta 32.53 151 *e*P **P** **03 00 38.7 +2.5**
STHS Stebnicka Huta 32.53 151 *e*P **P** **03 00 38.7 +2.5**
GERES GERESS Array B 32.59 160 P **P** **03 00 38.4 +1.5**
comp=Z,1.1nm,1.0s,baz=342,slow=3.1,SNR=6.0
GERES LR LR 03 13 50.3
comp=Z,94nm,18.6s,baz=101,slow=36
GERES GERESS Array B 32.59 160 P **P** **03 00 38.4 +1.5**
GERES pmax pmax
comp=Z,1.0nm,1.0s
GERES MLR MLR
comp=Z,94nm,18.6s
GERES GERESS Array B 32.59 160 P **P** **03 00 38.4 +1.5**
VSR Storozhevoye 32.59 129 *e*P P 03 00 44.6 +7.9
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=E,1.0nm,0.4s
EGAK Eagle 32.81 328 *e*P **P** **03 00 37.9 -0.6**
comp=E,12nm,1.1s
VRHR Novokhopersk 33.02 126 *e*P P 03 00 48.2 +7.7
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=N,110nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.8s
CRVS Cervenica-Dubn 33.06 150 *e*P **P** **03 00 41.9 +1.1**
CRVS *e* 03 00 48.0
CRVS Cervenica-Dubn 33.06 150 *e*P **P** **03 00 41.9 +1.1**
CRVS *ep*P **pP** **03 00 48.0 +2.0**
KOLS Kolonicke sedl 33.09 149 *e*P P 03 00 49.5 +8.4
KOLS Kolonicke sedl 33.09 149 *ep*P P 03 00 49.5 +8.4
COLA College 33.23 334 *e*P **P** **03 00 42.5 +0.4**
COLA pmax pmax
comp=Z,7.0nm,1.2s
COLA College 33.23 334 *e*P **P** **03 00 42.5 +0.4**
comp=Z,7.0nm,1.2s
ILAR Eielson Array 33.26 333 P **P** **03 00 42.5 +0.1**
comp=Z,4.0nm,0.9s,baz=5.6,slow=7.5,SNR=46
ILAR PcP **PcP** **03 03 22.8 -1.3**
comp=Z,1.4nm,0.7s,baz=338,slow=3.5,SNR=12
ILAR Eielson Array 33.26 333 P **P** **03 00 42.5 +0.1**
ILAR 03 03 22.8
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 33.26 333 P **P** **03 00 42.5 +0.1**
ILAR PcP **PcP** **03 03 22.8 -1.3**
VYHS Vyhne 33.27 154 *e*P **P** **03 00 43.8 +1.1**
VYHS Vyhne 33.27 154 *e*P **P** **03 00 43.8 +1.1**
DAWY Dawson 33.36 327 *e*P **P** **03 00 42.1 -1.2**
UZH Uzhgorod 33.39 150 *e*P P 03 00 48.7 +5.0
UZH *e* 03 00 53.3
KECS Kecovo 33.40 152 *e*P **P** **03 00 45.7 +1.9**
KECS *e* 03 00 52.6
KECS Kecovo 33.40 152 *e*P **P** **03 00 45.7 +1.9**
KECS *ep*P **pP** **03 00 52.6 +3.7**
KECS *e* 03 01 45.8
LOR Lormes 33.79 172 *e*P P 03 00 50.9 +3.7
comp=Z,18nm,1.3s
PSZ Piszkesteto 33.92 153 *e*P **P** **03 00 48.8 +0.4**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 33.92 153 *e*P **P** **03 00 48.8 +0.4**
comp=Z,9.5nm,1.0s
DOT Dot Lake 34.16 330 *e*P **P** **03 00 50.4 +0.1**
comp=Z,5.6nm,1.4s
DOT *ep*P **pP** **03 00 58.8 +3.3**
AVF Avril sur Loir 34.25 173 *e*P **P** **03 00 53.8 +2.6**
BUR08 Bucovina Ar. S 34.62 146 *e*P **P** **03 00 55.1 +0.6**
BURAR Bucovina Array 34.65 146⇑P P 03 00 58.6 +3.8
BURAR Bucovina Array 34.65 146⇑ *i*P P 03 00 58.6 +3.8
YAK Yakutsk 34.94 38 *e*P **P** **03 00 55.4 -1.5**
YAK *e* 03 01 03.6
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK Yakutsk 34.94 38 *e*P **P** **03 00 56.8 -0.1**
comp=E,35nm,0.9s
DRGR 35.25 149⇑P P 03 01 04.0 +4.0
DRGR 35.25 149⇑ *i*P P 03 01 04.0 +4.0
GAMB Gambell 35.46 352 *e*P **P** **03 01 00.8 -0.6**
comp=E,4.3nm,0.7s
PKSM Moragy 35.52 154⇑P P 03 01 11.0 +8.8
PKSM Moragy 35.52 154⇑ *i*P P 03 01 11.0 +8.8
LPL La Plagne 35.62 169 *e*P **P** **03 01 05.6 +2.4**
LPG La Plagne 35.63 169 *e*P P 03 01 06.2 +2.7
RJF Les Rejaudoux 35.71 175 *e*P **P** **03 01 06.0 +2.2**
comp=E,31nm,1.2s
NVS Novosibirsk 35.71 81⇑ *i*P **P** **03 01 05.0 +1.3**
NVS pmax pmax
comp=N,44nm,3.0s
NVS pmax pmax
comp=Z,98nm,3.0s
NVS pmax pmax
comp=E,10.0nm,2.5s
SEY Seymchan 35.76 19⇑ *i*P **P** **03 01 04.1 0.0**
TESR 35.87 145⇑ *i*P **P** **03 01 06.5 +1.3**
ORIF Oris-en-Rattie 36.19 170 *e*P P 03 01 10.7 +2.7
comp=E,42nm,1.4s
SML Sawmill 36.30 333 *e*P **P** **03 01 07.6 -1.2**
SML pmax pmax
comp=Z,98nm,2.7s
SML Sawmill 36.30 333 *e*P **P** **03 01 07.6 -1.2**
comp=Z,98nm,2.7s
BZS Buzias 36.34 151⇓P P 03 01 13.1 +4.0
BZS Buzias 36.34 151⇓ *i*P P 03 01 13.1 +4.0
VRI Vrincioaia 36.52 145⇓P P 03 01 14.8 +4.1
VRI Vrincioaia 36.52 145⇓ *i*P P 03 01 14.8 +4.1
PLOR Plostina 36.53 145⇑P **P** **03 01 12.8 +2.0**
PLOR Plostina 36.53 145⇑ *i*P **P** **03 01 12.8 +2.0**
VOIR 36.80 147⇑P **P** **03 01 15.0 +1.8**
VOIR 36.80 147⇑ *i*P **P** **03 01 15.0 +1.8**
MLR Muntele Rosu 36.82 146⇑P **P** **03 01 14.5 +1.0**
MLR Muntele Rosu 36.82 146⇑ *i*P **P** **03 01 14.5 +1.0**
ZAA0 Zalesovo Array 36.83 80 *e*P **P** **03 01 14.4 +1.2**
ZALV Zalesovo Beam 36.83 80 P **P** **03 01 14.7 +1.5**
comp=Z,2.5nm,0.6s,baz=351,slow=8.3,SNR=15
ZALV LR LR 03 19 50.5
comp=Z,189nm,18.3s,baz=319,slow=42
ZALV Zalesovo Beam 36.83 80 P **P** **03 01 14.7 +1.5**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV MLR MLR
comp=Z,189nm,18.3s
ZALV Zalesovo Beam 36.83 80 P **P** **03 01 14.7 +1.5**
BOD Bodaibo 37.30 52 *e*P **P** **03 01 16.6 -0.6**
BOD pmax pmax
comp=Z,91nm,1.5s
ABKAR Akbulak array 37.43 107 *e*P **P** **03 01 20.1 +1.7**
comp=Z,3.6nm,0.9s
ABKAR Akbulak array 37.43 107 *e*P **P** **03 01 20.1 +1.7**
comp=Z,3.6nm,0.9s
SLKM Skilak Lake 37.73 334 *e*P **P** **03 01 19.9 -1.0**
SLKM Skilak Lake 37.73 334 *e*P **P** **03 01 19.9 -1.0**
SLKM Skilak Lake 37.73 334 *e*P **P** **03 01 19.9 -1.0**
EPF Esparros 37.97 177 *e*P **P** **03 01 24.9 +1.8**
TIRR Tirgusor 38.08 143⇑P **P** **03 01 23.3 -0.6**
TIRR Tirgusor 38.08 143⇑ *i*P **P** **03 01 23.3 -0.6**
TIRR Tirgusor 38.08 143 P **P** **03 01 23.3 -0.6**
KURK Kurchatov 38.97 87 P **P** **03 01 33.6 +2.3**
comp=Z,12nm,0.8s,baz=344,slow=7.8,SNR=84
KURK Kurchatov 38.97 87 P **P** **03 01 33.6 +2.3**
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 38.97 87 P **P** **03 01 33.6 +2.3**
KURK Kurchatov 38.97 87 P **P** **03 01 33.6 +2.3**
comp=Z,12nm,0.9s
VTS Vitosha 39.47 150⇑P P 03 01 43.5 +7.7
VTS Vitosha 39.47 150⇑ *i*P P 03 01 43.5 +7.7
CLNS Chul'man 39.54 43 *e*P **P** **03 01 36.0 -0.1**
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS Chul'man 39.54 43 *e*P **P** **03 01 36.0 -0.1**
comp=E,13nm,0.9s
KDAK Kodiak Island 40.60 336 P **P** **03 01 45.0 +0.2**
comp=E,22nm,0.9s,baz=36,slow=4.1,SNR=8.8
KDAK Kodiak Island 40.60 336 *i*P **P** **03 01 44.0 -0.7**
KDAK Kodiak Island 40.60 336 P **P** **03 01 45.0 +0.2**
KDAK Kodiak Island 40.60 336 *i*P **P** **03 01 44.0 -0.7**
ESDC Sonseca Array 41.31 182 P **P** **03 01 51.1 +0.2**
comp=E,1.4nm,0.8s,baz=3.5,slow=9.0,SNR=8.8
ESDC Sonseca Array 41.31 182 P **P** **03 01 51.1 +0.2**
ESDC Sonseca Array 41.31 182 P **P** **03 01 51.1 +0.2**
ULM Lac du Bonnet 41.33 284 P **P** **03 01 49.6 -1.3**
comp=E,3.9nm,0.6s,baz=20,slow=9.7,SNR=7.8
ULM LR LR 03 17 27.4
comp=E,305nm,20.5s,baz=17,slow=34
ULM Lac du Bonnet 41.33 284 P **P** **03 01 49.6 -1.3**
ULM pmax pmax
comp=Z,4.0nm,0.6s
ULM Lac du Bonnet 41.33 284 *e*P **P** **03 01 49.9 -1.0**
ULM Lac du Bonnet 41.33 284 P **P** **03 01 49.6 -1.3**
comp=Z,4.0nm,0.6s
ZEI Tsey 41.50 126 *e*P **P** **03 01 53.7 +1.1**
ZEI pmax pmax
comp=Z,43nm,1.5s
ZEI Tsey 41.50 126 *e*P **P** **03 01 53.7 +1.1**
comp=Z,43nm,1.5s
MOY Mondy 41.51 66 *e*P **P** **03 01 54.6 +2.1**
MOY Mondy 41.51 66 *e*P **P** **03 01 54.6 +2.1**
ZAK Zakamensk 43.09 64 *e*P **P** **03 02 06.1 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZAK Zakamensk 43.09 64 *e*P **P** **03 02 06.1 +0.7**
comp=Z,3.0nm,1.4s
AGMN Agassiz Nation 43.22 283 *e*P **P** **03 02 04.6 -1.7**
comp=Z,67nm,1.7s
AGMN Agassiz Nation 43.22 283 *e*P **P** **03 02 04.6 -1.7**
comp=Z,67nm,1.7s
BR131 Keskin Array S 43.29 138 *e*P **P** **03 02 08.5 +1.4**
comp=Z,3.3nm,0.8s
BR131 Keskin Array S 43.29 138 *e*P **P** **03 02 08.5 +1.4**
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 43.29 138 P **P** **03 02 08.7 +1.5**
comp=Z,1.8nm,0.8s,baz=348,slow=5.4,SNR=8.8
BRTR LR LR 03 22 17.5
comp=Z,46nm,20.9s,baz=147,slow=39
BRTR Keskin Array B 43.29 138 P **P** **03 02 08.7 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,46nm,20.9s
BRTR Keskin Array B 43.29 138 P **P** **03 02 08.7 +1.5**
BRTR Keskin Array B 43.29 138 P **P** **03 02 08.7 +1.5**
comp=Z,46nm,20.9s
MK31 Makanchi Array 43.36 85 *e*P **P** **03 02 09.0 +1.5**
MK31 *e* 03 02 17.4
MK31 Makanchi Array 43.36 85 *e*P **P** **03 02 09.0 +1.5**
MK31 *e* 03 02 17.4
MK31 Makanchi Array 43.36 85 *e*P **P** **03 02 09.0 +1.5**
MKAR Makanchi Array 43.36 85 P **P** **03 02 09.2 +1.6**
comp=Z,6.4nm,0.7s,baz=347,slow=7.3,SNR=60
MKAR LR LR 03 24 21.6
comp=Z,260nm,18.0s,baz=338,slow=42
MKAR Makanchi Array 43.36 85 P **P** **03 02 09.2 +1.6**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR MLR MLR
comp=Z,260nm,18.0s
MKAR Makanchi Array 43.36 85 P **P** **03 02 09.2 +1.6**
MKAR Makanchi Array 43.36 85 P **P** **03 02 09.1 +1.6**
A22A Carney Farms, baz=44 44.07 293 ⇓P **P** **03 02 13.2 0.0**
A21A Bergtoll Ranch baz=44 44.22 294 ⇑P **P** **03 02 14.6 +0.1**
MDND Maddock baz=44 44.24 287 ⇑P **P** **03 02 14.9 +0.3**
DGMT Dagmar 44.33 291 *e*P **P** **03 02 18.1 +2.8**
comp=Z,143nm,2.3s
DGMT Dagmar baz=44 44.33 291 ⇓P **P** **03 02 14.9 -0.3**
A20A Cobblestone Ra baz=44 44.48 295 ⇓P **P** **03 02 16.7 +0.2**
A19A Klindworth Far baz=44 44.55 295 ⇑P **P** **03 02 17.2 +0.1**
B20A Solberg Farm, baz=45 44.92 295 ⇓P **P** **03 02 20.0 0.0**
B19A Brinkman Farms baz=45 45.04 295 ⇑P **P** **03 02 20.7 -0.2**
A15A Johnson Ranch, baz=45 45.07 299 ⇓P **P** **03 02 20.8 -0.5**
KKAR Karatay Array 45.08 98 *e*P **P** **03 02 23.4 +2.1**
KKAR *e* 03 02 32.0
KKAR Karatay Array 45.08 98 *e*P **P** **03 02 23.4 +2.1**
KKAR *e* 03 02 32.0
C23A Lambert baz=45 45.13 292 ⇑P **P** **03 02 21.8 +0.2**
WALA Waterton Lakes 45.15 300 *e*P **P** **03 02 21.4 -0.6**
comp=Z,0.1nm,1.1s
A14A Double T Ranch baz=45 45.17 300 ⇓P **P** **03 02 21.1 -1.0**
C24A Savage baz=45 45.28 291 ⇓P **P** **03 02 22.7 -0.2**
KEST Kesra 45.47 166 P **P** **03 02 25.1 +0.5**
comp=Z,1.9nm,1.1s,baz=16,slow=7.4,SNR=4.1
KEST Kesra 45.47 166 P **P** **03 02 25.1 +0.5**
A12A Yaak River Ran baz=45 45.51 302 ⇑P **P** **03 02 24.4 -0.3**
C20A Veseth Ranch, baz=45 45.63 294 ⇓P **P** **03 02 24.8 -0.8**
D24A Glendive baz=45 45.67 291 ⇑P **P** **03 02 25.5 -0.5**
B15A Bradely Ranch, baz=45 45.69 299 ⇓P **P** **03 02 24.8 -1.4**
D23A Lindsay baz=46 45.74 292 ⇑P **P** **03 02 26.2 -0.4**
C19A Slack Wire Ran baz=46 45.76 295 ⇑P **P** **03 02 26.1 -0.6**
PETK Petropavlovsk- **45.84 16** P **P** **03 02 25.8 -1.4**
comp=Z,6.7nm,0.9s,baz=46,slow=6.4,SNR=4.7
PETK Petropavlovsk- **45.84 16** P **P** **03 02 25.8 -1.4**
PETK pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- **45.84 16** P **P** **03 02 25.8 -1.4**
D22A Cohagen baz=46 45.91 293 ⇑P **P** **03 02 27.2 -0.7**
SONM Songino Array 46.02 62 P **P** **03 02 30.0 +1.2**
comp=Z,4.7nm,1.0s,baz=337,slow=8.3,SNR=28
SONM PcP **PcP** **03 04 04.8 -0.2**
comp=Z,1.2nm,0.9s,baz=308,slow=3.6,SNR=3.9
SONM LR LR 03 23 02.6
comp=Z,512nm,20.3s,baz=8.0,slow=38
SONM Songino Array 46.02 62 P **P** **03 02 30.0 +1.2**
SONM 03 04 04.8
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,513nm,20.3s
SONM Songino Array 46.02 62 P **P** **03 02 30.0 +1.2**
SONM PcP **PcP** **03 04 04.8 -0.2**
EKS2 Erkin-Say 46.03 95 *e*P **P** **03 02 31.6 +2.7**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 46.03 95 *e*P **P** **03 02 31.6 +2.7**
comp=Z,8.7nm,0.8s
TKM2 Tokmak 2 46.06 93 *e*P **P** **03 02 31.1 +1.8**
TKM2 pmax pmax
comp=Z,19nm,1.4s
TKM2 Tokmak 2 46.06 93 *e*P **P** **03 02 31.1 +1.8**
comp=Z,19nm,1.4s
C16A Fuhringer Ranc baz=46 46.08 298 ⇓P **P** **03 02 28.5 -0.8**
ULN Ulaanbaatar 46.09 62 *e*P **P** **03 02 30.6 +1.2**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 46.09 62 *e*P **P** **03 02 30.6 +1.2**
comp=Z,24nm,1.0s
C17A Wharram Farm, baz=46 46.10 297 ⇓P **P** **03 02 28.7 -0.8**
D21A La Casta Ranch baz=46 46.11 293 ⇓P **P** **03 02 28.7 -0.7**
AAK Ala-Archa 46.17 94⇑ *e*P **P** **03 02 32.4 +2.3**
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 46.17 94 *e*P **P** **03 02 31.6 +1.5**
comp=Z,81nm,0.9s
E24A Baker baz=46 46.21 291 ⇓P **P** **03 02 29.9 -0.3**
D20A Manuel Ranch, baz=46 46.26 294 ⇓P **P** **03 02 30.1 -0.5**
D19A Cripps Ranch, baz=46 46.29 295 ⇓P **P** **03 02 30.3 -0.6**
C14A Swan Lake baz=46 46.39 300 ⇑P **P** **03 02 30.9 -0.8**
BSMT Bassoo Peak 46.45 301 *e*P **P** **03 02 31.6 -0.7**
D17A Six Diamond Ra baz=46 46.56 297 ⇑P **P** **03 02 32.4 -0.7**
SWMT Swartz Lake **46.68 300** *e*P **P** **03 02 33.2 -0.8**
comp=Z,6.9nm,1.1s
D16A Dana Ranch, Ca baz=46 46.80 297 ⇑P **P** **03 02 33.9 -1.1**
E20A Meyer Farm, Mu baz=47 46.83 294 ⇓P **P** **03 02 34.4 -0.7**
F24A Ekalaka baz=47 46.93 291 ⇑P **P** **03 02 35.5 -0.4**
E19A Rath Farm, Rou baz=47 46.97 295 ⇓P **P** **03 02 35.4 -0.8**
WMQ Urumqi 47.12 81 P **P** **03 02 39.1 +1.7**
WMQ pP **pP** **03 02 43.6 +0.9**
WMQ sP **sP** **03 02 46.1 +1.4**
WMQ PP PP 03 04 30.1 +2.2
WMQ S **S** **03 09 30.6 +2.1**
WMQ SS SS 03 12 51.1 -3.9
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ pmax pmax
comp=Z,200nm,5.0s
WMQ LR LR
comp=N,240nm,21.4s
WMQ LR LR
comp=E,190nm,17.3s
WMQ LR LR
comp=Z,170nm,19.0s
HRY Holter Researc 47.16 298 *e*P **P** **03 02 38.6 +0.8**
F23A Volborg baz=47 47.19 291 ⇓P **P** **03 02 37.5 -0.5**
F22A Rosebud baz=47 47.26 292 ⇑P **P** **03 02 38.0 -0.5**
E17A Martinsdale baz=47 47.26 297 ⇑P **P** **03 02 37.8 -0.9**
E16A East Helena baz=47 47.31 297 ⇑P **P** **03 02 37.9 -1.1**
MSO Missoula 47.34 300 *e*P **P** **03 02 38.5 -0.6**
comp=Z,13nm,1.4s
G24A Alzada baz=47 47.43 290 ⇑P **P** **03 02 39.1 -0.7**
E15A Deer Lodge baz=47 47.55 298 ⇑P **P** **03 02 39.9 -1.0**
F19A Roth Farm, Mol baz=47 47.58 295 ⇓P **P** **03 02 40.3 -0.8**
F18A Big Timber baz=47 47.65 295 ⇓P **P** **03 02 41.1 -0.4**
G23A Biddle baz=47 47.70 291 ⇓P **P** **03 02 40.9 -1.0**
E13A Victor baz=48,SNR=6.0 47.75 300 ⇑P **P** **03 02 41.6 -0.8**
ECSD EROS Data Cent comp=Z,291nm,2.6s 47.79 283 *e*P **P** **03 02 41.2 -1.4**

GNW	Green Mountain	47.80	308	eP	P	03 02 43.0	+0.4
	comp=Z,18nm,1.2s						
G22A	Birney	47.81	292	⇑P	P	03 02 42.0	-0.9
	baz=48						
H24A	Dirks Ranch, A	48.02	290	⇑P	P	03 02 43.3	-1.1
	baz=48						
G20A	Bridger	48.10	294	⇓P	P	03 02 44.1	-0.9
	baz=48						
F15A	Butte	48.10	298	⇓P	P	03 02 44.3	-0.9
	baz=48						
RLMT	Red Lodge	48.34	295	eP	P	03 02 47.2	+0.2
	comp=Z,176nm,2.9s						
F13A	Darby	48.41	300	⇓P	P	03 02 46.6	-0.9
	baz=48						
H22A	Clearmont	48.43	292	⇓P	P	03 02 46.6	-1.0
	baz=48						
RSSD	Black Hills	48.55	290	eP	P	03 02 48.2	-0.5
RSSD				pmax	pmax		
	comp=Z,81nm,2.3s						
RSSD	Black Hills	48.55	290	eP	P	03 02 48.2	-0.5
	comp=Z,81nm,2.3s						
H19A	Powell	48.75	294	⇓P	P	03 02 48.7	-1.4
	baz=48						
G15A	Dillon	48.77	298	⇓P	P	03 02 49.2	-1.1
	baz=48						
H20A	Greybull	48.78	293	⇓P	P	03 02 49.4	-0.9
	baz=48						
H16A	Russell Place,	49.04	297	⇓P	P	03 02 51.9	-0.5
	baz=49						
G13A	Cobalt	49.08	299	⇓P	P	03 02 51.8	-0.8
	baz=49						
I22A	9 Mile Ranch,	49.14	292	⇓P	P	03 02 52.3	-0.8
	baz=49						
MCMT	McKenzie Canyo	49.15	298	eP	P	03 02 52.9	-0.4
	comp=Z,4.7nm,1.3s						
H15A	Lima	49.32	298	⇓P	P	03 02 54.0	-0.6
	baz=49,SNR=6.7						
I20A	Worland	49.33	293	⇓P	P	03 02 53.5	-1.0
	baz=49						
I21A	Big Trails, Te	49.34	293	⇑P	P	03 02 53.7	-0.9
	baz=49,SNR=9.2						
I19A	Meeteetse	49.37	294	⇑P	P	03 02 54.1	-0.9
	baz=49						
J24A	Dixon Ranch, L	49.42	290	⇑P	P	03 02 54.2	-1.0
	baz=49						
H14A	Leadore	49.43	298	⇓P	P	03 02 54.4	-1.0
	baz=49						
KSH	Kashi	49.45	94	eP	P	03 03 00.3	+4.8
KSH				epP	pP	03 03 04.6	+3.8
KSH				esP	sP	03 03 07.1	+4.3
KSH				ePcP	PcP	03 04 20.4	+3.0
KSH				ePP	PP	03 04 55.1	+5.8
KSH				eScP	ScP	03 08 14.6	+3.2
KSH				ePcS	PcS	03 08 16.4	+2.3
KSH				eS	S	03 10 07.6	+5.9
KSH				esS	sS	03 10 15.3	+4.9
KSH				eScS	ScS	03 12 48.1	+2.1
KSH				eSS	SS	03 13 36.4	+3.5
KSH				pmax	pmax		
	comp=Z,37nm,2.4s						
KSH				LR	LR		
	comp=N,220nm,6.5s						
KSH				LR	LR		
	comp=E,240nm,6.6s						
KSH				LR	LR		
	comp=Z,230nm,7.3s						
H13A	Challis	49.60	299	⇓P	P	03 02 55.8	-0.8
	baz=49						
H12A	Diamond D Ranc	49.70	300	⇓P	P	03 02 56.3	-1.1
	baz=49,SNR=6.1						
J21A	Lysite	49.82	293	⇓P	P	03 02 57.8	-0.6
	baz=50						
I16A	Newdale	49.89	297	⇑P	P	03 02 58.4	-0.4
	baz=50						
J20A	Shoshoni	49.90	293	⇑P	P	03 02 58.6	-0.4
	baz=50,SNR=8.8						
MOOW	Moose Ponds	49.90	296	eP	P	03 02 59.5	+0.5
	comp=Z,14nm,1.4s						
I15A	Monteview	49.91	297	⇓P	P	03 02 58.5	-0.4
	baz=50						
K25A	Mack Ranch, Ha	50.00	289	⇓P	P	03 02 59.4	-0.2
	baz=50						
I14A	Mackay	50.11	298	⇓P	P	03 02 60.0	-0.6
	baz=50						
J19A	Crowheart	50.13	294	⇑P	P	03 03 00.3	-0.4
	baz=50,SNR=8.0						
I13A	Wildhorse Cree	50.22	299	⇓P	P	03 03 00.7	-0.8
	baz=50						
J17A	Brown Place, J	50.28	296	⇓P	P	03 03 01.1	-0.7
	baz=50						
J18A	Kendall Valley	50.33	295	⇓P	P	03 03 01.5	-0.8
	baz=50						
K22A	Casper	50.36	292	⇓P	P	03 03 01.5	-0.9
	baz=50						
I12A	Atlanta	50.48	300	⇑P	P	03 03 01.8	-1.6
	baz=50						
J15A	Blackfoot	50.49	297	⇓P	P	03 03 02.5	-0.9
	baz=50						
J16A	Bone	50.49	296	⇓P	P	03 03 02.8	-0.7
	baz=50						
HLID	Hailey	50.61	299	⇓P	P	03 03 03.4	-0.9
	baz=50						
PD02	Pinedale Array	50.68	294	eP	P	03 03 04.2	-0.8
PD01	Pinedale Array	50.69	294	eP	P	03 03 04.6	-0.4
BW06	Boulder Array	50.69	294	eP	P	03 03 04.4	-0.6
PDAR	Pinedale Array	50.69	294	P	P	03 03 04.2	-0.8
	comp=Z,3.4nm,1.1s,baz=32,slow=5.9,SNR=9.3						
PDAR				LR	LR	03 24 33.5	
	comp=Z,241nm,21.3s,baz=18,slow=36						
PDAR	Pinedale Array	50.69	294	P	P	03 03 04.2	-0.8
J14A	Carey	50.72	298	⇑P	P	03 03 04.1	-1.0
	baz=50						
J13A	Cove Ranch, Pi	50.73	299	⇑P	P	03 03 04.1	-1.2
	baz=50,SNR=6.8						
K18A	Toltan Ranch,	50.89	295	⇑P	P	03 03 05.3	-1.2
	baz=51						
K16A	Soda Springs	50.92	296	⇑P	P	03 03 06.1	-0.6
	baz=51						
MFID	Camas Ranch	50.95	300	⇑P	P	03 03 05.6	-1.2
	baz=51						
K15A	Arbon	51.20	297	⇓P	P	03 03 08.1	-0.6
	baz=51						
L20A	Wamsutter	51.26	293	⇓P	P	03 03 08.5	-0.8
	baz=51						
L19A	Farson	51.32	294	⇑P	P	03 03 08.0	-1.7
	baz=51						
J08A	Circle Bar Ran	51.37	303	⇑P	P	03 03 08.8	-1.1
	baz=51						
M23A	Laramie	51.40	291	⇑P	P	03 03 09.7	-0.7
	baz=51						
K14A	Jones Ranch, D	51.43	298	⇑P	P	03 03 09.8	-0.6
	baz=51						
M21A	Separation Pea	51.51	292	⇓P	P	03 03 10.5	-0.7
	baz=51						
L17A	Cokeville	51.54	296	⇑P	P	03 03 10.8	-0.6
	baz=51						
L18A	Fontenelle, Gr	51.59	295	⇑P	P	03 03 10.7	-1.1
	baz=51						
M22A	Cedar Creek Ra	51.59	291	⇑P	P	03 03 11.0	-0.8
	baz=51						
M20A	Sweetwater, Wa	51.74	293	⇑P	P	03 03 11.8	-1.1
	baz=52						
L15A	Malad City	51.85	297	⇓P	P	03 03 12.7	-0.9
	baz=52						
M19A	Rock Springs	51.87	294	⇓P	P	03 03 13.1	-0.8
	baz=52						
N24A	Carr	51.90	290	⇑P	P	03 03 13.8	-0.2
	baz=52						
N23A	Red Feather La	51.99	291	⇑P	P	03 03 13.9	-1.0
	baz=52						
M18A	Lyman	52.08	295	⇓P	P	03 03 14.2	-1.2
	baz=52						
MDJ	Mudanjiang	52.11	42	P	P	03 03 15.0	-0.3
MDJ				pmax	pmax		
	comp=Z,19nm,2.3s						
HWUT	Hardware Ranch	52.12	296	eP	P	03 03 15.1	-0.6
N22A	Wattenberg Ran	52.16	291	⇓P	P	03 03 15.4	-0.7
	baz=52						
N21A	Black Mountain	52.36	292	⇑P	P	03 03 16.5	-1.1
	baz=52						
M15A	Larsen Ranch,	52.39	297	⇑P	P	03 03 16.8	-0.8
	baz=52						
N20A	Spence Gulch,	52.40	293	⇑P	P	03 03 17.1	-0.7
	baz=52,SNR=6.7						
M16A	Huntsville	52.42	296	⇓P	P	03 03 17.0	-0.9
	baz=52						
CN2	Changchun	52.45	46	eP	P	03 03 18.4	+0.6
CN2				esP	sP	03 03 25.4	+0.2
CN2				eS	S	03 10 41.9	-0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
N18A	Larsen Ranch,	52.47	294	⇑P	P	03 03 17.2	-1.0
	baz=52						
N19A	John Jarvie Ra	52.47	294	⇓P	P	03 03 17.7	-0.6
	baz=52						
O25A	Wiggins	52.48	289	⇑P	P	03 03 17.7	-0.7
	baz=52						
O23A	Lake Granby, G	52.66	290	⇓P	P	03 03 19.2	-0.6
	baz=52						
N17A	Moffit Pass	52.67	295	⇑P	P	03 03 19.2	-0.6
	baz=52						
USRK	Ussuriysk Arra	52.77	40	P	P	03 03 19.9	-0.3
	comp=Z,2.2nm,0.7s,baz=353,slow=5.4,SNR=7.2						
O22A	Kremmling	52.80	291	⇑P	P	03 03 20.4	-0.5
	baz=52,SNR=8.3						
O21A	Pagoda	52.89	292	⇓P	P	03 03 20.9	-0.6
	baz=53						
ISCO	Idaho Springs	53.02	290	eP	P	03 03 24.4	+1.9
ISCO				pmax	pmax		
	comp=Z,77nm,2.6s						
ISCO	Idaho Springs	53.02	290	eP	P	03 03 24.4	+1.9
	comp=Z,77nm,2.6s						
ISCO	Idaho Springs	53.02	290	⇑P	P	03 03 21.9	-0.6
	baz=53						
O19A	Miners Draw (B	53.05	293	⇓P	P	03 03 22.3	-0.2
	baz=53						
O20A	White River Ci	53.08	293	⇑P	P	03 03 22.3	-0.5
	baz=53,SNR=18						
P25A	Willow Gulch B	53.08	289	⇑P	P	03 03 22.3	-0.4
	baz=53						
P24A	Kohler Place,	53.19	289	⇓P	P	03 03 23.6	0.0
	baz=53						
KBL	Kabul	53.22	102	eP	P	03 03 24.7	+0.8
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	Kabul	53.22	102	eP	P	03 03 24.7	+0.8
	comp=Z,3.2nm,0.6s						
GTA	Gaotai	53.31	71	⇓P	P	03 03 25.4	+1.0
GTA				pP	pP	03 03 29.7	0.0
GTA				sP	sP	03 03 32.3	+0.5
GTA				PP	PP	03 05 28.3	+4.1
GTA				S	S	03 10 57.9	+3.0
GTA				sS	sS	03 11 05.5	+1.9
GTA				pmax	pmax		
	comp=Z,14nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,4.8s						
GTA				LR	LR		
	comp=N,250nm,16.6s						
GTA				LR	LR		
	comp=E,280nm,15.2s						
GTA				LR	LR		
	comp=Z,250nm,16.2s						
KSCO	Kaye Shedlock'	53.34	287	⇓P	P	03 03 24.4	-0.2
	baz=53						
O17A	Robinson Place	53.39	295	⇓P	P	03 03 24.9	-0.2
	baz=53						
P22A	Eagle	53.39	291	⇓P	P	03 03 25.1	0.0
	baz=53						
ELK	Elko	53.49	299	eP	P	03 03 25.8	0.0
ELK				pmax	pmax		
	comp=Z,82nm,2.8s						
ELK	Elko	53.49	299	eP	P	03 03 25.8	0.0
	comp=Z,82nm,2.8s						
O15A	The Old Anders	53.55	297	⇓P	P	03 03 26.0	-0.2
	baz=53						
Q26A	Hugo	53.56	288	⇓P	P	03 03 26.0	-0.3
	baz=53						
P21A	Newcastle	53.56	292	⇑P	P	03 03 26.1	-0.3
	baz=53						
HHC	Hu-ho-hao-te	53.59	59	eP	P	03 03 26.4	-0.1
HHC				pP	pP	03 03 30.6	-1.2
HHC				sP	sP	03 03 34.2	+0.4
HHC				PP	PP	03 05 29.1	+2.3
HHC				S	S	03 10 57.1	-1.6
HHC				sS	sS	03 11 04.2	-3.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,4.8s						
HHC				LR	LR		
	comp=N,190nm,11.2s						
HHC				LR	LR		
	comp=E,300nm,8.8s						
HHC				LR	LR		
	comp=Z,370nm,13.8s						
TKL	Tuckaleechee C	53.64	268	eP	P	03 03 28.2	+1.5
TKL	Tuckaleechee C	53.64	268	eP	P	03 03 28.2	+1.5
Q25A	Bedland, Calha	53.68	288	⇓P	P	03 03 26.6	-0.6
	baz=53						
P19A	Cripple Cowboy	53.68	293	⇑P	P	03 03 26.5	-0.8
	baz=53						
DUG	Dugway	53.69	297	eP	P	03 03 26.3	-0.8
DUG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DUG	Dugway	53.69	297	eP	P	03 03 26.3	-0.8
	comp=Z,3.4nm,1.1s						
DUG	Dugway	53.69	297	⇓P	P	03 03 26.4	-0.8
	baz=53						
P20A	De Beque	53.73	293	⇓P	P	03 03 26.8	-0.7
	baz=54,SNR=7.1						
KMSC	Kings Mountain	53.76	265	⇑P	P	03 03 27.3	-0.2
	baz=54						
Q24A	Divide	53.77	289	⇓P	P	03 03 27.1	-0.8
	baz=54						
SMCO	Snowmass	53.83	291	eP	P	03 03 27.6	-0.9
P18A	Preston Nutter	53.87	294	⇓P	P	03 03 27.8	-1.0
	baz=54						
R27A	Eads	54.07	287	⇑P	P	03 03 29.2	-0.8
	baz=54						
P16A	Fountain Green	54.09	296	⇓P	P	03 03 29.5	-0.7
	baz=54						
Q22A	Crested Butte,	54.13	291	⇑P	P	03 03 30.0	-0.6
	baz=54,SNR=7.3						
R26A	Arlington	54.16	288	⇑P	P	03 03 30.4	-0.2
	baz=54						
Q20A	Ridgley Place,	54.25	292	⇑P	P	03 03 30.4	-0.9
	baz=54						
Q21A	Lamborn Mesa,	54.26	292	⇑P	P	03 03 30.8	-0.6
	baz=54,SNR=8.5						
Q18A	Rafter H Ranch	54.37	294	⇑P	P	03 03 31.7	-0.5
	baz=54						
Q19A	Hogan Spring (	54.39	293	⇓P	P	03 03 32.0	-0.2
	baz=54						
R25A	Fountain Ranch	54.43	288	⇓P	P	03 03 31.9	-0.7
	baz=54						
R24A	Sanders Place,	54.48	289	⇑P	P	03 03 32.6	-0.4
	baz=54						
R23A	Moffat	54.62	290	⇓P	P	03 03 33.4	-0.8
	baz=54						
Q16A	Castle Valley	54.70	295	⇓P	P	03 03 34.2	-0.5
	baz=54,SNR=9.9						
R21A	Cimarron	54.71	292	⇓P	P	03 03 34.7	-0.1
	baz=54,SNR=7.5						
R22A	Saguache, Gunn	54.73	291	⇑P	P	03 03 34.0	-0.9
	baz=54						
S26A	Kim	54.83	287	⇓P	P	03 03 34.9	-0.6
	baz=55						
PV04	Paradox Valley	54.88	293	eP	P	03 03 35.8	-0.2
S25A	Robets Cordova	54.93	288	⇑P	P	03 03 35.2	-1.1
	baz=55						
R20A	Redvale	55.01	292	⇑P	P	03 03 36.1	-0.8
	baz=55						
BJI	Beijing	55.01	55	P	P	03 03 38.0	+1.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				LR	LR		
	comp=N,240nm,15.3s						
BJI				LR	LR		
	comp=E,210nm,19.4s						
R18A	Canyonlands Na	55.04	294	⇑P	P	03 03 36.0	-1.1
	baz=55,SNR=5.5						
R19A	Curley Farm, L	55.04	293	⇑P	P	03 03 36.5	-0.6
	baz=55						
PV01	Paradox Valley	55.09	292	eP	P	03 03 37.3	-0.3
	comp=E,1μm,0.9s						
T28A	Walsh	55.11	286	⇑P	P	03 03 37.1	-0.4
	baz=55						
R17A	Hanksville Air	55.12	294	⇑P	P	03 03 36.7	-1.0
	baz=55,SNR=5.7						
S22A	4UR Ranch, Cre	55.21	291	⇑P	P	03 03 37.7	-0.8
	baz=55,SNR=5.2						
MSU	Marysvale	55.25	296	eP	P	03 03 38.7	+0.1
MSU				pmax	pmax		
	comp=Z,15nm,1.5s						
MSU	Marysvale	55.25	296	eP	P	03 03 38.7	+0.1
	comp=Z,15nm,1.5s						
S20A	Disappointment	55.36	292	⇑P	P	03 03 38.7	-0.7
	baz=55,SNR=10.0						
S21A	Coal Bank Pass	55.44	292	⇓P	P	03 03 39.2	-0.9
	baz=55						
WCN	Washoe City	55.52	303	⇓P	P	03 03 39.2	-1.3
	baz=55						
S19A	Harvey Farm, M	55.55	293	⇓P	P	03 03 40.3	-0.6
	baz=55,SNR=13						
S18A	Hurst Farm, Bl	55.73	294	⇑P	P	03 03 41.6	-0.6
	baz=56,SNR=8.3						
T23A	Casias Ranch,	55.79	290	⇑P	P	03 03 41.6	-1.0
	baz=56						
R13A	O'Grain Ranch,	55.83	298	⇓P	P	03 03 42.5	-0.3
	baz=56,SNR=5.9						
R11A	Troy Canyon, C	55.89	299	⇓P	P	03 03 42.3	-0.9
	baz=56,SNR=5.4						
S17A	Black Ridge (B	55.91	294	⇓P	P	03 03 42.7	-0.6
	baz=56,SNR=9.6						
S16A	Weppner Ranch,	55.94	295	⇓P	P	03 03 43.1	-0.4
	baz=56,SNR=11						
T22A	Edith	55.94	291	⇑P	P	03 03 43.0	-0.7
	baz=56						
MVCO	Mesa Verde	55.99	292	eP	P	03 03 42.8	-1.2
	comp=Z,4.1nm,0.8s						
MVCO	Mesa Verde	55.99	292	⇑P	P	03 03 43.4	-0.6
	baz=56						
T21A	Navajo Lake	56.06	291	⇑P	P	03 03 43.7	-0.8
	baz=56						
U26A	Atchley Ranch,	56.07	287	⇑P	P	03 03 43.9	-0.6
	baz=56						
U25A	Circle Dot Ran	56.17	288	⇑P	P	03 03 44.5	-0.7
	baz=56						
NVAR	Mina Array Bea	56.19	302	P	P	03 03 44.3	-1.0
	comp=Z,2.5nm,0.9s,baz=14,slow=4.9,SNR=13						
NVAR				LR	LR	03 27 00.1	
	comp=Z,151nm,18.1s,baz=169,slow=35						
NVAR	Mina Array Bea	56.19	302	P	P	03 03 44.3	-1.0
T18A	Mexican Hat	56.26	293	⇑P	P	03 03 45.0	-0.8
	baz=56,SNR=7.3						
T19A	Beclabito	56.44	293	⇑P	P	03 03 46.8	-0.4
	baz=56						
U23A	El Rito	56.51	290	⇓P	P	03 03 46.9	-0.8
	baz=56,SNR=10						
T17A	Navajo Res., N	56.53	294	⇓P	P	03 03 47.1	-0.8
	baz=56						
U22A	Llaves	56.56	290	⇑P	P	03 03 47.3	-0.8
	baz=56						
U21A	Nageezi	56.63	291	⇑P	P	03 03 47.9	-0.7
	baz=56						
V25A	Rancho No Teng	56.75	288	⇓P	P	03 03 48.4	-1.0
	baz=56						
U20A	Newcomb	56.81	292	⇑P	P	03 03 48.7	-1.1
	baz=56						
WMOK	Wichita Mounta	56.93	282	eP	P	03 03 50.6	+0.2
WMOK	Wichita Mounta	56.93	282	eP	P	03 03 50.6	+0.2
V24A	Rampart Ranch,	56.96	289	⇑P	P	03 03 49.9	-1.0
	baz=57						
U19A	Dine' College,	56.99	293	⇑P	P	03 03 50.2	-0.9
	baz=57						
V22A	San Miguel Ran	57.02	290	⇑P	P	03 03 50.8	-0.5
	baz=57,SNR=12						
V23A	Ortiz Mt. (NFS	57.08	290	⇑P	P	03 03 50.9	-0.9
	baz=57						
LZH	Lanzhou	57.17	68	eP	P	03 03 52.8	+0.5
LZH				pP	pP	03 03 56.0	-1.7
LZH				sP	sP	03 03 57.5	-2.2
LZH				ePP	PP	03 06 01.0	+2.2
LZH				eS	S	03 11 45.3	-1.4
LZH				sS	sS	03 11 53.0	-2.5
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
LZH				pmax	pmax		
	comp=Z,170nm,8.0s						
LZH				LR	LR		
	comp=N,580nm,18.0s						
LZH				LR	LR		
	comp=E,520nm,15.1s						
LZH				LR	LR		
	comp=Z,570nm,18.5s						
V21A	Milan	57.24	291	⇓P	P	03 03 52.2	-0.6
	baz=57						
W27A	Bowe Ranch, En	57.27	286	⇑P	P	03 03 52.4	-0.6
	baz=57						
U15A	North Rim	57.31	296	⇓P	P	03 03 52.3	-1.1
	baz=57,SNR=5.8						
V20A	Brimhall	57.37	292	⇑P	P	03 03 52.5	-1.2
	baz=57						
U16A	Tuba City	57.42	294	⇓P	P	03 03 53.5	-0.6
	baz=57,SNR=10.0						
W24A	Lazy 6 Ranch,	57.48	289	⇓P	P	03 03 53.5	-1.1
	baz=57						
V17A	Tonalea, Kykot	57.88	294	⇓P	P	03 03 56.7	-0.7
	baz=58						
W21A	San Fidel	57.91	291	⇓P	P	03 03 57.1	-0.5
	baz=58						
W20A	Ramah	58.03	292	⇓P	P	03 03 57.1	-1.4
	baz=58,SNR=7.9						
WUAZ	Wupatki	58.07	294	eP	P	03 03 57.4	-1.2
	comp=Z,5.3nm,0.8s						
WUAZ	Wupatki	58.07	294	⇑P	P	03 03 58.0	-0.7
	baz=58,SNR=7.2						
W19A	Sanders	58.18	293	⇓P	P	03 03 58.7	-0.7
	baz=58,SNR=7.8						
TAM	Tamanrasset	58.24	171	P	P	03 04 00.7	+0.8
TAM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TAM	Tamanrasset	58.24	171	P	P	03 04 00.7	+0.8
	comp=Z,2.7nm,0.6s						
W17A	Winslow	58.40	294	⇑P	P	03 04 00.3	-0.6
	baz=58						
MPMC	Manual Prospec	58.41	300	⇑P	P	03 04 00.9	-0.1
	baz=58,SNR=7.5						
Y27A	Causey	58.44	286	⇑P	P	03 04 00.3	-0.9
	baz=58						
X21A	Alamocita Cree	58.59	291	⇑P	P	03 04 01.6	-0.8
	baz=58						
X20A	Quemado	58.60	292	⇓P	P	03 04 01.4	-1.1
	baz=58						
Y25A	Mesa, Roswell	58.64	288	⇓P	P	03 04 01.7	-0.9
	baz=58						
BNM	Barren Site	58.71	290	eP	P	03 04 02.6	-0.6
	comp=Z,5.6nm,1.0s						
Y24A	Capitan	58.75	289	⇓P	P	03 04 02.5	-0.9
	baz=58						
DDI	Dehra Dun	58.78	94	ex	P	03 04 05.5	+2.0
TUQ	Turquoise Moun	58.80	299	⇓P	P	03 04 02.8	-0.9
	baz=58						
X19A	St. Johns	58.83	292	⇓P	P	03 04 03.1	-0.9
	baz=59						
Y23A	Lovelace Mesa,	58.84	289	⇑P	P	03 04 03.3	-0.8
	baz=59						
W13A	Hualapai Mount	58.84	297	⇓P	P	03 04 03.4	-0.7
	baz=59						
ISA	Isabella	58.93	301	⇓P	P	03 04 03.7	-0.8
	baz=59						
Y22A	Socorro	58.97	290	⇓P	P	03 04 04.2	-0.7
	baz=59						
KSRS	Korea Array	59.00	45	P	P	03 04 04.3	-0.5
	comp=Z,3.5nm,0.9s,baz=347,slow=5.1,SNR=4.6						
KSRS				LR	LR	03 32 51.2	
	comp=Z,88nm,18.2s,baz=159,slow=39						
KSRS	Korea Array	59.00	45	P	P	03 04 04.4	-0.5
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSRS				MLR	MLR		
	comp=Z,88nm,18.2s						
Y21A	Point of Rocks	59.00	291	⇑P	P	03 04 04.6	-0.7
	baz=59						
Z27A	Tatum	59.01	286	⇓P	P	03 04 04.3	-0.9
	baz=59						
KSAR	Wonju Array Be	59.01	45	P	P	03 04 04.4	-0.6
KSAR	Wonju Array Be	59.01	45	P	P	03 04 04.3	-0.6
LDFC	Landfair	59.04	298	eP	P	03 04 05.0	-0.3
	comp=Z,10nm,1.2s						
GSC	Goldstone	59.05	300	⇓P	P	03 04 04.8	-0.6
	baz=59						
X16A	Lo Mia Camp, P	59.16	294	⇑P	P	03 04 05.5	-0.8
	baz=59						
Z26A	Caprock	59.17	287	⇓P	P	03 04 05.2	-1.0
	baz=59						
Z25A	Roswell	59.27	288	⇑P	P	03 04 06.3	-0.6
	baz=59						
Y19A	Nutrioso	59.29	292	⇓P	P	03 04 06.3	-1.0

	baz=59						
HEC	Hector,Ludlow	59.45	299	⇑P	P	03 04 07.8	-0.4
	baz=59						
Y18A	Canyon Day Jun	59.58	293	⇓P	P	03 04 08.7	-0.5
	baz=59						
EDW2	Edwards Air Fo	59.63	301	⇑P	P	03 04 09.0	-0.4
	baz=59						
Z22A	Elephant Butte	59.64	290	⇓P	P	03 04 08.8	-0.7
	baz=59						
PDMCI	Parker Dam,Lak	59.66	297	⇓P	P	03 04 09.0	-0.5
	baz=59						
Y14A	Wickenburg	59.86	296	⇑P	P	03 04 10.6	-0.4
	baz=60						
125A	Gardner Draw,	59.87	287	⇓P	P	03 04 10.5	-0.6
	baz=60						
IRM	Iron Mountain	59.95	298	⇑P	P	03 04 11.1	-0.5
	baz=60						
Z20A	Nine Sixteen R	60.02	291	⇓P	P	03 04 11.6	-0.6
	baz=60						
BFSC	Mount Baldy Ra	60.22	300	⇓P	P	03 04 12.8	-0.7
	baz=60						
BELC	Belle Mtn. Jos	60.22	299	⇓P	P	03 04 12.9	-0.6
	baz=60						
Y12C	Blythe	60.26	297	⇑P	P	03 04 13.2	-0.4
	baz=60						
226A	Malaga, Loving	60.37	287	⇓P	P	03 04 13.7	-0.8
	baz=60						
225A	Deer Hill, Car	60.44	288	⇑P	P	03 04 14.3	-0.8
	baz=60						
119A	Ashpeak Ranch,	60.47	292	⇓P	P	03 04 14.6	-0.7
	baz=60						
121A	Cookes Peak, D	60.47	290	⇑P	P	03 04 14.6	-0.7
	baz=60						
120A	U Bar Ranch, L	60.58	291	⇑P	P	03 04 15.5	-0.5
	baz=60						
PFO	Pinyon Flat Ob	60.67	299	⇓P	P	03 04 15.9	-0.7
	baz=60						
328A	Wristen Ranch,	60.84	285	⇑P	P	03 04 16.8	-0.9
	baz=61						
MJAR	Matsushiro Arr	60.97	36	P	P	03 04 17.6	-0.9
	comp=Z,3.9nm,0.9s,baz=346,slow=6.3,SNR=6.5						
MJAR				LR	LR	03 33 19.4	
	comp=Z,46nm,18.6s,baz=70,slow=39						
MJAR	Matsushiro Arr	60.97	36	P	P	03 04 17.6	-0.9
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,46nm,18.6s						
MJAR	Matsushiro Arr	60.97	36	P	P	03 04 17.6	-0.9
TUC	Tucson	61.13	293	eP	P	03 04 19.0	-0.7
TUC				pmax	pmax		
	comp=Z,26nm,1.7s						
TUC	Tucson	61.13	293	eP	P	03 04 19.0	-0.7
	comp=Z,26nm,1.7s						
220A	Playas Peak, P	61.20	291	⇓P	P	03 04 19.6	-0.6
	baz=61,SNR=6.0						
JCT	Junction City	61.26	282	eP	P	03 04 19.9	-0.6
JCT				pmax	pmax		
	comp=Z,11nm,0.6s						
JCT	Junction City	61.26	282	eP	P	03 04 19.9	-0.6
	comp=Z,11nm,0.6s						
JCT	Junction City	61.26	282	⇓P	P	03 04 19.8	-0.6
	baz=61						
218A	Dragoon	61.35	293	⇑P	P	03 04 20.6	-0.6
	baz=61						
MONP	Monument Peak	61.37	299	⇑P	P	03 04 21.1	-0.4
	baz=61						
427A	Hayter Ranch,	61.45	286	⇓P	P	03 04 21.4	-0.5
	baz=61						
428A	Kincaid Ranch,	61.46	285	⇓P	P	03 04 21.5	-0.5
	baz=61						
LSA	Lhasa	61.48	81	P	P	03 04 22.9	+0.4
DANN	Dangsing	61.62	89	eP	P	03 04 24.5	+1.2
	comp=Z,56nm,0.6s						
DANN	Dangsing	61.62	89	eP	P	03 04 24.5	+1.2
426A	McDonald Obser	61.73	286	⇓P	P	03 04 23.2	-0.7
	baz=62						
320A	Kipp Ranch, An	61.75	291	⇓P	P	03 04 23.4	-0.6
	baz=62						
425A	Indio Mountain	61.76	287	⇑P	P	03 04 23.3	-0.7
	baz=62						
214A	Organ Pipe Nat	61.78	295	⇑P	P	03 04 23.2	-0.7
	baz=62						
319A	Douglas	61.83	292	⇓P	P	03 04 23.9	-0.6
	baz=62						
318A	Bisbee	61.87	292	⇑P	P	03 04 23.8	-1.0
	baz=62						
528A	Cox Ranch, San	62.03	285	⇓P	P	03 04 25.0	-0.9
	baz=62						
GKN	Gorkha	62.10	88	eP	P	03 04 27.0	+0.6
	comp=Z,48nm,0.9s						
GKN	Gorkha	62.10	88	eP	P	03 04 27.0	+0.6
KOLN	Koldanda	62.17	89	eP	P	03 04 27.5	+0.7
	comp=Z,9.1nm,0.6s						
KOLN	Koldanda	62.17	89	eP	P	03 04 27.5	+0.7
527A	Woodward Ranch	62.18	286	⇓P	P	03 04 25.9	-0.9
	baz=62						
CD2	Chengdu	62.23	69	P	P	03 04 28.3	+1.2
CD2				pP	pP	03 04 32.9	+0.4
CD2				sP	sP	03 04 35.3	+0.8
CD2				PP	PP	03 06 47.1	+3.5
CD2				S	S	03 12 51.6	-0.2
CD2				sS	sS	03 12 58.8	-1.9
CD2				SS	SS	03 16 55.9	+1.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,4.9s						
CD2				LR	LR		
	comp=N,850nm,5.3s						
CD2				LR	LR		
	comp=Z,470nm,6.2s						
526A	Mary Lane Ranc	62.33	286	⇓P	P	03 04 26.8	-1.0
	baz=62						
GUN	Gumba	62.39	87	eP	P	03 04 29.6	+1.1
	comp=Z,59nm,1.2s						
GUN	Gumba	62.39	87	eP	P	03 04 29.6	+1.1
KKN	Kakani	62.41	87	eP	P	03 04 29.4	+0.9
	comp=Z,62nm,0.7s						
KKN	Kakani	62.41	87	eP	P	03 04 29.4	+0.9
KKN	Kakani	62.41	87	eP	P	03 04 29.4	+0.9
DMN	Daman	62.56	88	eP	P	03 04 30.3	+0.7
	comp=Z,24nm,0.8s						
DMN	Daman	62.56	88	eP	P	03 04 30.3	+0.7
PKI	Pulchoki	62.65	87	eP	P	03 04 31.1	+0.9
	comp=Z,14nm,0.7s						
PKI	Pulchoki	62.65	87	eP	P	03 04 31.1	+0.9
PKI	Pulchoki	62.65	87	eP	P	03 04 31.1	+0.9
JIRN	Jiri	62.69	86	eP	P	03 04 31.8	+1.3
	comp=Z,34nm,0.7s						
JIRN	Jiri	62.69	86	eP	P	03 04 31.8	+1.3
628A	Black Gap, Mar	62.71	285	⇓P	P	03 04 29.4	-0.9
	baz=62						
627A	Terlingua Ranc	62.82	286	⇓P	P	03 04 30.0	-1.1
	baz=63						
626A	Big Bend Ranch	62.84	286	⇓P	P	03 04 29.9	-1.3
	baz=63						
TXAR	Lajitas Array	62.98	286	P	P	03 04 30.9	-1.3
	comp=Z,1.2nm,0.7s,baz=39,slow=4.3,SNR=19						
TXAR				LR	LR	03 32 24.5	
	comp=Z,185nm,18.0s,baz=295,slow=37						
TXAR	Lajitas Array	62.98	286	P	P	03 04 30.9	-1.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR				MLR	MLR		
	comp=Z,185nm,18.0s						
TXAR	Lajitas Array	62.98	286	P	P	03 04 30.9	-1.3
NJ2	Nanjing	63.23	54	eP	P	03 04 30.1	-3.5
NJ2				pmax	pmax		
	comp=Z,20nm,1.1s						
TAPN	Taplejung	63.23	85	eP	P	03 04 34.6	+0.5
	comp=Z,26nm,1.2s						
TAPN	Taplejung	63.23	85	eP	P	03 04 34.6	+0.5
RAMN	Ramite	63.45	86	eP	P	03 04 35.9	+0.5
	comp=Z,26nm,0.8s						
RAMN	Ramite	63.45	86	eP	P	03 04 35.9	+0.5
ODAN	Odare	63.66	85	eP	P	03 04 37.8	+0.9
ODAN	Odare	63.66	85	eP	P	03 04 37.8	+0.9
GYA	Guiyang	67.04	67	P	P	03 05 00.2	+1.6
GYA				PP	PP	03 07 28.9	+3.0
GYA				ScP		03 09 31.2	
GYA				S	S	03 13 51.8	+0.5
GYA				SS	SS	03 18 12.0	+2.7
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,490nm,18.6s						
GYA				LR	LR		
	comp=E,460nm,19.4s						
GYA				LR	LR		
	comp=Z,510nm,18.2s						
TORD	Torodi Ar. Bea	67.76	175	P	P	03 05 02.4	-0.7
	comp=Z,1.8nm,0.5s,baz=353,slow=6.4,SNR=33						
TORD	Torodi Ar. Bea	67.76	175	P	P	03 05 02.4	-0.7
KMI	Kunming	67.76	71	P	P	03 05 05.9	+2.6
KMI				pmax	pmax		
	comp=Z,6.0nm,1.8s						
HYB	Hyderabad	71.51	96	iP	P	03 05 26.0	-0.2
CMAR	Chiang Mai Arr	73.72	76	P	P	03 05 39.1	-0.2
	comp=Z,4.8nm,1.0s,baz=346,slow=7.1,SNR=14						
CMAR				LR	LR	03 41 45.7	
	comp=Z,157nm,19.7s,baz=175,slow=39						
CMAR	Chiang Mai Arr	73.72	76	P	P	03 05 39.2	-0.2
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,157nm,19.7s						
CMAR	Chiang Mai Arr	73.72	76	P	P	03 05 39.1	-0.2
QIZ	Qiongzhong	74.80	65	P	P	03 05 46.5	+0.9
QIZ				S	S	03 15 18.8	-2.5
QIZ				LR	LR		
	comp=Z,170nm,19.7s						
KIP	Kipapa	77.12	337	⇓eP	P	03 05 58.2	-0.6
SDV	Santo Domingo	77.84	250	eP	P	03 06 02.3	-0.9
	comp=Z,8.7nm,0.8s						
ROSC	El Rosal	82.36	253	P	P	03 06 28.3	+0.5
	comp=Z,1.2nm,0.4s,baz=105,slow=23,SNR=4.4						
ROSC	El Rosal	82.36	253	eP	P	03 06 28.3	+0.5
VNA1	Neumayer--Stat	151.35	184	e	PKPab	03 14 07.0	+1.5
SYO	Syowa Base	151.41	150	⇓eP	PKPab	03 14 04.6	-1.1
VNA2	Neumayer--Watz	151.62	183	e	PKPbc	03 13 58.2	+0.5
	baz=338,slow=3.0						
VNA2				e		03 14 06.6	
VNA3	Neumayer Olymp	151.97	185	e	PKPbc	03 13 57.8	-0.7
VNA3				e		03 14 07.1	
SNAA	Sanae	152.35	180	e	PKPbc	03 14 00.0	+0.6
SNAA				e		03 14 07.9	
SNAA	Sanae	152.35	180	ePKIKP	PKPdf	03 13 52.8	+0.2
SNAA				e		03 13 59.6	
SNAA				e		03 14 07.5	
SNAA	Sanae	152.35	180	ePKPdf	PKPdf	03 13 52.8	+0.2
SNAA				ePKPbc	PKPbc	03 13 59.6	+0.2
SNAA				ePKPab	PKPab	03 14 07.5	-2.3

*IDC **01** 03:05:40.2±0.6, 6°.98S×155°.44E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.5/19, mbtmp4.4/19, ML4.2/2, MS3.6/8, Ms1 3.6/8, ms1mx3.5/28, Error ellipse: s-maj=20.8km s-min=15.0km az=121.0*
*ISCJB **01** 03:05:46.0±0.3, 6°.98S±0°.05×155°.37E±0°.06, h50km, mb4.4/27, MS3.6/6, Error ellipse: s-maj=9.6km s-min=6.0km az=38.6*
*NEIC **01** 03:05:51.3±1.2, 6°.92S×155°.18E, h82km±11km, mb4.6/11, Error ellipse: s-maj=9.8km s-min=6.8km az=167.0*
ISC 01 03:05:47.3±0.5, **7°.03S**±0°.09×**155°.44E**±0°.08, **h50km, n110, σ0s.93**/107, **mb4.4**/27, **MS3.6**/6, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.06	118	Pn	Pn	03 06 57.3	-3.3
	30nm,0.3s,baz=161,slow=4.5,SNR=14						
HNR				Sn	Sn	03 08 09.3	+12
	baz=186,slow=6.9,SNR=3.6						
HNR				LR	LR	03 08 46.9	
	comp=Z,395nm,18.8s,baz=173,slow=37						
HNR	Honiara	5.06	118	Sn	Sn	03 08 09.3	+12
PMG	Port Moresby	8.53	253	Pn	Pn	03 07 48.6	+0.3
	9.0nm,0.3s,baz=69,slow=9.8,SNR=23						
PMG				Sn	Sn	03 09 24.5	+1.3
	4.3nm,0.3s,baz=36,slow=17,SNR=9.9						
PMG	Port Moresby	8.53	253	ePn	Pn	03 07 48.2	-0.1
	54nm,0.6s						
PMG				eS	Sn	03 09 24.7	+1.4
CTA	Charters Tower	15.75	214	Pn	Pn	03 09 23.4	-2.5
	0.2nm,0.3s,baz=37,slow=8.9,SNR=1.8						
CTA				LR	LR	03 14 54.3	
	comp=Z,302nm,18.3s,baz=52,slow=35						
CTA	Charters Tower	15.75	214	eP	Pn	03 09 27.3	+1.4
CTA	Charters Tower	15.75	214	Pn	Pn	03 09 23.4	-2.5
RMQ	Roma	20.37	197	eP	P	03 10 20.9	+1.0
	40nm,1.4s						
QLP	Quilpie	22.18	207	eP	P	03 10 39.4	+0.1
GUMO	Guam	23.02	333	LR	LR	03 18 43.3	
	comp=Z,103nm,20.9s,baz=240,slow=34						
ARMA	Armidale	23.54	188	eP	P	03 10 54.7	+1.4
WRAB	Tennant Creek	24.15	236	eP	P	03 10 59.0	0.0
	41nm,1.4s						
WB2	Warramunga Arr	24.16	236	eP	P	03 10 58.7	-0.3
WRA	Warramunga Arr	24.16	236	P	P	03 10 59.0	-0.1
	7.6nm,0.8s,baz=60,slow=9.5,SNR=36						
WRA				LR	LR	03 19 48.1	
	comp=Z,74nm,19.8s,baz=325,slow=35						
WRA	Warramunga Arr	24.16	236	P	P	03 10 59.0	-0.1
MSVF	Nonsavu	24.48	118	eP	P	03 11 01.2	-0.8
	17nm,1.1s						
CMSA	Cobar Meteorol	26.03	199	eP	P	03 11 17.6	+1.7
AS31	Alice Springs	26.48	229	eP	P	03 11 19.5	-0.6
ASAR	Alice Springs	26.49	229	P	P	03 11 19.4	-0.7
	1.7nm,0.5s,baz=58,slow=10.0,SNR=38						
ASAR	Alice Springs	26.49	229	P	P	03 11 19.4	-0.7
STKA	Stephens Creek	27.90	206	P	P	03 11 33.2	+0.6
	1.2nm,0.5s,baz=38,slow=15,SNR=4.3						
STKA				LR	LR	03 23 04.8	
	comp=Z,270nm,18.1s,baz=25,slow=37						
STKA	Stephens Creek	27.90	206	eP	P	03 11 33.2	+0.6
STKA	Stephens Creek	27.90	206	eP	P	03 11 33.4	+0.8
FITZ	Fitzroy Crossi	31.05	246	P	P	03 12 00.2	-0.5
	6.0nm,0.8s,baz=106,slow=7.9,SNR=15						
FITZ				LR	LR	03 23 48.5	
	comp=Z,154nm,21.6s,baz=258,slow=35						
FITZ	Fitzroy Crossi	31.05	246	eP	P	03 12 00.2	-0.5
FITZ	Fitzroy Crossi	31.05	246	eP	P	03 11 59.9	-0.9
DAV	Davao City (W)	32.92	295	LR	LR	03 25 42.1	
	comp=Z,99nm,19.7s,baz=348,slow=36						
FORT	Forrest	34.87	224	eP	P	03 12 33.7	-0.3
MBWA	Marble Bar	37.26	244	eP	P	03 12 53.9	-0.6
NWAO	Narrogin (SRO)	43.81	229	LR	LR	03 31 38.0	
	comp=Z,141nm,19.2s,baz=173,slow=36						
MJAR	Matsushiro Arr	46.26	341	P	P	03 14 06.3	-1.5
	1.4nm,0.7s,baz=75,slow=1.0,SNR=4.8						
MJAR	Matsushiro Arr	46.26	341	P	P	03 14 06.3	-1.5
KSRS	Korea Array	51.17	332	P	P	03 14 44.4	-1.1
	1.7nm,0.6s,baz=138,slow=7.0,SNR=3.0						
KSAR	Wonju Array Be	51.18	332	P	P	03 14 44.4	-1.2
USRK	Ussuriysk Arra	55.21	340	P	P	03 15 15.4	+0.3
	1.6nm,0.7s,baz=122,slow=7.1,SNR=5.1						
PETK	Petropavlovsk-	59.93	2	P	P	03 15 49.1	+1.0
	13nm,0.8s,baz=159,slow=7.8,SNR=9.9						
PETK	Petropavlovsk-	59.93	2	P	P	03 15 49.1	+1.0
CMAR	Chiang Mai Arr	61.20	295	P	P	03 15 58.7	+1.3
	9.0nm,0.6s,baz=123,slow=5.5,SNR=54						
CMAR	Chiang Mai Arr	61.20	295	P	P	03 15 58.7	+1.3
SONM	Songino Array	69.60	327	P	P	03 16 51.0	-0.4
	2.0nm,0.9s,baz=161,slow=2.7,SNR=15						
SONM	Songino Array	69.60	327	P	P	03 16 51.0	-0.4
SHL	Shillong	69.69	300	eP	P	03 16 53.0	+0.5
TAPN	Taplejung	73.80	301	eP	P	03 17 17.5	+0.2
	26nm,0.9s						
TAPN	Taplejung	73.80	301	eP	P	03 17 17.5	+0.2
ODAN	Odare	73.93	300	eP	P	03 17 18.3	+0.3
	33nm,0.6s						
ODAN	Odare	73.93	300	eP	P	03 17 18.3	+0.3
RAMN	Ramite	74.63	300	eP	P	03 17 22.2	+0.1
	6.7nm,0.5s						
RAMN	Ramite	74.63	300	eP	P	03 17 22.2	+0.1
GAMB	Gambell	74.84	14	eP	P	03 17 23.1	+1.1
	5.6nm,0.8s						
JIRN	Jiri	75.18	301	eP	P	03 17 25.6	+0.2
	11nm,0.6s						
JIRN	Jiri	75.18	301	eP	P	03 17 25.6	+0.2
BILL	Bilibino	75.28	4	eP	P	03 17 25.7	+1.1
	5.3nm,0.8s						
GUN	Gumba	75.51	301	eP	P	03 17 27.5	+0.2
	24nm,0.6s						
GUN	Gumba	75.51	301	eP	P	03 17 27.5	+0.2
PKI	Pulchoki	75.82	301	eP	P	03 17 28.8	-0.2
PKI	Pulchoki	75.82	301	eP	P	03 17 28.8	-0.2
KKN	Kakani	75.99	301	eP	P	03 17 30.0	+0.2
KKN	Kakani	75.99	301	eP	P	03 17 30.0	+0.2
DMN	Daman	76.09	301	eP	P	03 17 30.3	-0.1
	19nm,0.4s						
GKN	Gorkha	76.60	301	eP	P	03 17 33.2	0.0
	22nm,0.8s						
GKN	Gorkha	76.60	301	eP	P	03 17 33.2	0.0
KOLN	Koldanda	77.42	300	eP	P	03 17 37.5	-0.4
	9.5nm,0.6s						
KOLN	Koldanda	77.42	300	eP	P	03 17 37.5	-0.4
DANN	Dangsing	77.44	301	eP	P	03 17 38.2	+0.1
DANN	Dangsing	77.44	301	eP	P	03 17 38.2	+0.1
RC01	Rabbit Creek A	80.11	24	eP	P	03 17 51.6	0.0
	5.1nm,0.4s						
TRF	Thorofare Moun	81.26	22	eP	P	03 17 57.6	-0.3
	9.5nm,0.8s						
MCK	McKinley	81.92	22	eP	P	03 18 01.1	-0.2
	11nm,0.7s						
QSPA	South Pole Qui	82.95	180	eP	P	03 18 07.7	+0.9
	4.3nm,0.8s						
ILAR	Eielson Array	83.24	21	P	P	03 18 07.2	-0.9
	2.3nm,0.6s,baz=250,slow=5.2,SNR=43						
ILAR	Eielson Array	83.24	21	P	P	03 18 07.2	-0.9
DOT	Dot Lake	83.72	23	eP	P	03 18 10.8	+0.1
	2.3nm,0.6s						
MK31	Makanchi Array	83.72	319	eP	P	03 18 10.7	-0.3
MKAR	Makanchi Array	83.72	319	P	P	03 18 10.6	-0.4
	1.9nm,0.7s,baz=103,slow=5.4,SNR=27						
MKAR	Makanchi Array	83.72	319	P	P	03 18 10.6	-0.4
ZAA0	Zalesovo Array	84.45	326	eP	P	03 18 12.8	-1.6
ZALV	Zalesovo Beam	84.45	326	P	P	03 18 12.7	-1.8
	1.4nm,0.7s,baz=110,slow=5.4,SNR=7.4						
ZALV	Zalesovo Beam	84.45	326	P	P	03 18 12.7	-1.8
EGAK	Eagle	85.38	23	eP	P	03 18 19.6	+0.7
	4.4nm,0.6s						
DAWY	Dawson	85.75	24	eP	P	03 18 19.7	-1.1
TKM2	Tokmak 2	87.36	314	eP	P	03 18 29.9	+0.5
INK	Inuvik	89.59	21	P	P	03 18 39.6	+0.5
	4.5nm,0.5s,baz=281,slow=4.8,SNR=35						
INK	Inuvik	89.59	21	eP	P	03 18 39.3	+0.2
	4.9nm,0.6s						
NVAR	Mina Array Bea	91.39	52	P	P	03 18 50.3	+1.8
	0.7nm,0.8s,baz=248,slow=8.0,SNR=5.0						
NVAR	Mina Array Bea	91.39	52	P	P	03 18 50.3	+1.8
YKA	Yellowknife Ar	96.16	28	P	P	03 19 09.8	+0.3
	1.5nm,0.6s,baz=267,slow=4.5,SNR=20						
YKA	Yellowknife Ar	96.16	28	P	P	03 19 09.8	+0.3
PDAR	Pinedale Array	98.39	48	P	P	03 19 19.9	-0.5
	0.5nm,0.7s,baz=264,slow=1.5,SNR=4.8						
PDAR	Pinedale Array	98.39	48	P	P	03 19 19.9	-0.5
FINES	FINESS Array B	114.15	336	PKP	PKPdf	03 24 20.9	+0.1
	13nm,1.2s,baz=101,slow=4.4,SNR=2.9						
FINES	FINESS Array B	114.15	336	PKP	PKPdf	03 24 20.9	+0.1
BRTR	Keskin Array B	118.74	312	PKP	PKPdf	03 24 30.1	-0.4
	0.6nm,0.8s,baz=24,slow=4.9,SNR=3.2						
BRTR	Keskin Array B	118.74	312	PKP	PKPdf	03 24 30.1	-0.4
NOA	NORSAR Array B	119.88	341	PKP	PKPdf	03 24 30.7	-1.2
	1.2nm,0.7s,baz=47,slow=2.0,SNR=4.9						
NOA	NORSAR Array B	119.88	341	PKP	PKPdf	03 24 30.7	-1.2
GERES	GERESS Array B	127.31	329	PKP	PKPdf	03 24 46.9	+0.3
	0.7nm,0.7s,baz=90,slow=0.4,SNR=8.4						
GERES	GERESS Array B	127.31	329	PKP	PKPdf	03 24 46.9	+0.3
ROSC	El Rosal	130.47	90	PKP	PKPdf	03 24 54.3	+0.3
	1.4nm,0.5s,baz=284,slow=19,SNR=2.8						
ROSC	El Rosal	130.47	90	PKP	PKPdf	03 24 54.3	+0.3
LPAZ	La Paz	131.05	119	PKP	PKPdf	03 24 55.8	+0.5
	0.7nm,0.4s,baz=3.7,slow=7.1,SNR=3.2						
LPAZ	La Paz	131.05	119	PKP	PKPdf	03 24 55.8	+0.5
CPUP	Villa Florida	134.06	137	PKP	PKPdf	03 25 00.6	+0.7
	2.1nm,0.7s,baz=344,slow=2.1,SNR=8.4						
CPUP	Villa Florida	134.06	137	PKP	PKPdf	03 25 00.6	+0.7
ESDC	Sonseca Array	142.60	333	PKhKP	PKPdf	03 25 12.5	-2.8
	0.3nm,0.5s,baz=10.0,slow=4.0,SNR=4.5						
ESDC	Sonseca Array	142.60	333	PKPpre	PKPdf	03 25 12.5	-2.8
TAM	Tamanrasset	147.08	302	ePKPbc	PKPbc	03 25 26.4	+0.6
TORD	Torodi Ar. Bea	153.46	285	PKP	PKPdf	03 25 33.2	-0.4
	0.2nm,0.6s,baz=28,slow=4.5,SNR=3.1						
TORD				PKPbc	PKPbc	03 25 40.8	-0.5
	0.8nm,0.3s,baz=96,slow=2.1,SNR=30						
TORD	Torodi Ar. Bea	153.46	285	PKP	PKPdf	03 25 33.2	-0.4
TORD				PKPbc	PKPbc	03 25 40.8	-0.5
DBIC	Dimbokro	160.44	270	PKPab	PKPab	03 26 23.4	-0.3
	3.1nm,0.7s,baz=107,slow=1.0,SNR=4.3						
DBIC	Dimbokro	160.44	270	PKPab	PKPab	03 26 23.4	-0.3

IDC 01 03:05:55.9±15.0, **19°.60S**×**178°.39W, h650**km±209km, **mb2.9**/6, **mb1 3.2**/6, **mb1mx3.0**/16, **mbtmp2.9**/6, **Error ellipse: s-maj=81.1km s-min=56.4km az=29.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.22	263	P	P	03 11 42.6	+0.1
	2.6nm,0.4s,baz=100,slow=12,SNR=3.9						
WRA	Warramunga Arr	44.37	261	P	P	03 13 11.4	-0.1
	0.4nm,0.3s,baz=97,slow=7.5,SNR=5.5						
ASAR	Alice Springs	44.37	256	P	P	03 13 11.7	+0.2
	0.8nm,0.5s,baz=89,slow=7.8,SNR=5.4						
MJAR	Matsushiro Arr	69.27	324	P	P	03 16 00.3	+0.2
	0.6nm,0.5s,baz=155,slow=5.8,SNR=4.4						
TXAR	Lajitas Array	86.88	58	P	P	03 17 34.3	+0.3
	0.6nm,0.8s,baz=218,slow=6.5,SNR=6.0						
PDAR	Pinedale Array	88.56	43	P	P	03 17 41.4	-0.3
	0.3nm,0.5s,baz=212,slow=3.2,SNR=3.4						

*CSEM **01** 03:10:20.1±0.5, 40°.34N×25°.77E, h2km, MD2.9, Error ellipse: s-maj=10.0km s-min=5.1km az=93.0*
*DDA **01** 03:10:23.3, 40°.28N×26°.06E, h7km, MD2.7*
ISK 01 03:10:20.9, 40°.35N×25°.88E, h5km, MD2.9, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENEZ	Enez	0.44	29	ePg	Pg	03 10 29.4	0.0
ENEZ				eSg	Sg	03 10 36.4	+1.3
ENEZ	Enez	0.44	29	ePG	Pg	03 10 29.4	+0.1
ENEZ				eSG	Sg	03 10 36.4	+1.3
GELI	Tayfur-Gelibol	0.46	84	ePG	Pb	03 10 31.1	-0.4
GELI				eSG	Sg	03 10 36.7	+0.9
GELI	Tayfur-Gelibol	0.46	84	ePg	Pb	03 10 31.1	-0.4
GELI				eSg	Sg	03 10 36.7	+0.9
BOZC	Bozcaada	0.53	165	iP	Pg	03 10 31.4	+0.3
BOZC				iS	Sb	03 10 39.4	-1.2
ERIK	Erikli-Kesan	0.58	57	ePG	Pg	03 10 32.6	+0.5
ERIK				eSG	Sb	03 10 41.1	-1.0
ERIK	Erikli-Kesan	0.58	57	ePg	Pg	03 10 32.6	+0.5
ERIK				eSg	Sb	03 10 41.1	-1.0
EZN	Ezine	0.63	147	ePG	Pg	03 10 32.7	-0.3
EZN	Ezine	0.63	147	ePg	Pg	03 10 32.7	-0.3
LPK	Lapseki	0.68	88	ePG	Pb	03 10 35.1	-0.1
LPK	Lapseki	0.68	88	ePg	Pb	03 10 35.1	-0.1
RKY	Sarkoy-Tekirda	1.05	71	ePG	Pg	03 10 40.9	-0.2
RKY	Sarkoy-Tekirda	1.05	71	ePg	Pg	03 10 40.9	-0.2
SART	Tekirdag	1.05	71	iP	Pg	03 10 41.1	-0.1
SART				iS	Sb	03 10 56.5	+0.7
SART	Tekirdag	1.05	71	iP	Pg	03 10 41.1	-0.1
SART				iS	Sb	03 10 56.5	+0.7
KRBG	Karabiga-Canak	1.09	87	ePN	Pg	03 10 41.7	0.0
KRBG	Karabiga-Canak	1.09	87	ePn	Pg	03 10 41.7	-0.1
AYVA	Ayvalik	1.22	149	iP	Pg	03 10 43.5	-0.7
AYVA				iS	Sn	03 11 01.9	+0.5
AYVA	Ayvalik	1.22	149	iP	Pg	03 10 43.5	-0.7
AYVA				iS	Sn	03 11 01.9	+0.5
TKR	Tekirdag	1.41	63	ePN	Pg	03 10 48.1	+0.1
TKR	Tekirdag	1.41	63	ePn	Pg	03 10 48.1	+0.1
GONE	Gonen-Balikesi	1.42	102	ePN	Pb	03 10 47.8	-0.1
GONE	Gonen-Balikesi	1.42	102	ePn	Pb	03 10 47.8	-0.1
BALY	Balya	1.47	114	iP	Pn	03 10 47.3	-0.8
BALY				iS	Sg	03 11 09.7	+1.3
BALY	Balya	1.47	114	iP	Pn	03 10 47.3	-0.9
BALY				iS	Sg	03 11 09.7	+1.3
EDC	Edincik	1.52	90	ePN	Pg	03 10 50.0	-0.1
EDC	Edincik	1.52	90	ePn	Pg	03 10 50.0	-0.1
CRLT	Corlu	1.61	61	ePN	Pb	03 10 51.0	-0.1
CRLT	Corlu	1.61	61	ePn	Pb	03 10 51.0	-0.2
EDRB	Edirne	1.63	23	ePN	Pn	03 10 50.2	0.0
EDRB	Edirne	1.63	23	ePn	Pn	03 10 50.2	-0.1
BALB	Balikesir	1.70	114	ePN	Pb	03 10 52.4	-0.2
BALB	Balikesir	1.70	114	ePn	Pb	03 10 52.4	-0.2
SLVT	Silivri	1.98	63	ePN	Pb	03 10 56.4	-1.0
SLVT	Silivri	1.98	63	ePn	Pb	03 10 56.4	-1.0
CTKS	Kestanelik-??a	2.18	65	ePN	Pn	03 10 59.3	+1.5
CTKS	Kestanelik-??a	2.18	65	ePn	Pn	03 10 59.3	+1.5

IDC 01 03:18:54.8±1.4, 6°.71S×128°.82E, h0km, mb3.8/1, mb1 4.3/5, mb1mx3.8/16, mbtmp4.2/5, ML4.0/4, Error ellipse: s-maj=46.6km s-min=25.3km az=65.0

ISC 01 03:19:00.1±3.7, 6°.9S±0°.3×128°.8E±0°.2, h35km, n9, σ0s.37/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.52	195	Pn	Pn	03 21 45.2	+2.9
	2.7nm,0.3s,baz=32,slow=9.8,SNR=74						
FITZ				Sn	Sx	03 23 42.3	
	5.1nm,0.3s,baz=120,slow=20,SNR=8.8						
FITZ	Fitzroy Crossi	11.52	195	eP	Pn	03 21 45.1	+2.9
FITZ				eS	Sx	03 23 41.3	
WRA	Warramunga Arr	13.98	158	Pn	Pn	03 22 15.8	-0.1
	0.6nm,0.3s,baz=330,slow=13,SNR=30						
WRA				Sn	Sx	03 24 38.5	
	2.2nm,0.3s,baz=332,slow=22,SNR=9.6						
COEN	Coen	15.72	117	eP	P	03 22 43.0	+0.3
COEN				eS	Sx	03 25 19.7	
MBWA	Marble Bar	16.66	211	eP	P	03 22 53.4	+0.4
MBWA				eS	Sx	03 25 44.2	
ASAR	Alice Springs	17.33	164	P	P	03 23 00.6	0.0
	0.6nm,0.3s,baz=339,slow=9.6,SNR=56						
ASAR				S	Sx	03 25 57.5	
	0.2nm,0.3s,baz=337,slow=19,SNR=4.8						
PMG	Port Moresby	18.30	99	P	P	03 23 11.1	-0.1
	0.5nm,0.3s,baz=263,slow=17,SNR=2.1						
PMG				S	Sx	03 26 23.8	
	0.2nm,0.3s,baz=178,slow=18,SNR=2.0						
MEEK	Meekatharra	21.87	205	eP	P	03 23 49.6	-0.4
MEEK				eS	Sx	03 27 48.8	
MKAR	Makanchi Array	67.55	327	P	P	03 29 51.7	-1.2
	0.4nm,0.3s,baz=120,slow=8.1,SNR=21						

IDC 01 03:43:53.9±1.2, 14°.71N×147°.16E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/23, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=33.6km s-min=21.0km az=125.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.49	244	Pn	Pn	03 44 37.0	+1.4
	26nm,0.3s,baz=115,slow=4.2,SNR=21						
GUMO				Sn	Sn	03 45 07.1	+0.3
	28nm,0.3s,baz=357,slow=22,SNR=6.1						
ASAR	Alice Springs	40.28	199	P	P	03 51 32.4	-0.6
	5.9nm,0.7s,baz=8.0,slow=9.4,SNR=3.1						
SONM	Songino Array	47.14	323	P	P	03 52 27.8	-0.3
	1.0nm,0.6s,baz=134,slow=7.8,SNR=13						
ZALV	Zalesovo Beam	62.03	324	P	P	03 54 15.2	-0.8
	0.6nm,0.5s,baz=109,slow=7.1,SNR=5.6						
MKAR	Makanchi Array	62.25	315	P	P	03 54 18.0	+0.3
	2.0nm,0.8s,baz=94,slow=8.7,SNR=21						
ILAR	Eielson Array	66.61	25	P	P	03 54 45.5	-0.4
	0.9nm,1.1s,baz=212,slow=6.4,SNR=4.2						
YKA	Yellowknife Ar	80.84	28	P	P	03 56 10.6	+1.2
	0.4nm,0.8s,baz=282,slow=5.2,SNR=5.1						

ISK 01 03:44:08.2, 38°.40N×38°.92E, h4km, MD3.1
DDA 01 03:44:08.7, 38°.40N×38°.90E, h7km, MD2.7
ISCJB 01 03:44:09.0±0.5, 38°.40N±0°.03×38°.90E±0°.03, h5km±4km, Error ellipse: s-maj=5.0km s-min=3.5km az=153.6
CSEM 01 03:44:09.0±0.2, 38°.41N×38°.90E, h2km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.4km az=152.0

ISC 01 03:44:09.4±1.0, 38°.40N±0°.02×38°.91E±0°.02, h8km±7km, n41, σ0s.69/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.12	30	i P	Pg	03 44 12.0	-0.2
ELZG				i S	Sg	03 44 14.4	+0.3
ELZG	Elazig	0.12	30	i P	Pg	03 44 12.0	-0.2
ELZG				i S	Sg	03 44 14.4	+0.3
SVRC	Sivrice-ELAZID	0.31	93	PG	Pg	03 44 14.6	-1.0
SVRC				eSG	Sg	03 44 19.8	0.0
SVRC	Sivrice-ELAZID	0.31	93	i Pg	Pg	03 44 14.6	-1.0
SVRC				eSg	Sg	03 44 19.8	0.0
MYA	Malataya	0.39	260	PG	Pg	03 44 16.5	-0.5
MYA	Malataya	0.39	260	i Pg	Pg	03 44 16.5	-0.5
MALT	Malatya	0.39	258	PG	Pg	03 44 16.6	-0.3
MALT				eSG	Sg	03 44 22.2	+0.2
MALT	Malatya	0.39	258	i Pg	Pg	03 44 16.7	-0.3
MALT				eSg	Sg	03 44 22.3	+0.2
PTK	Pertek	0.62	37	PG	Pg	03 44 20.4	-1.1
PTK				eSG	Sg	03 44 30.2	+0.5
PTK	Pertek	0.62	37	i Pg	Pg	03 44 20.4	-1.1
PTK				eSg	Sg	03 44 30.2	+0.5
AKCD	Akcadag	0.78	263	i P	Pg	03 44 23.5	-0.9
AKCD				i S	Sg	03 44 35.1	+0.5
AKCD	Akcadag	0.78	263	i P	Pg	03 44 23.5	-0.9
AKCD				i S	Sg	03 44 35.1	+0.5
KEMA	Kemaliye	0.93	340	i P	Pg	03 44 26.2	-1.1
KEMA				i S	Sg	03 44 39.4	0.0
KEMA	Kemaliye	0.93	340	i P	Pg	03 44 26.2	-1.1
KEMA				i S	Sg	03 44 39.4	0.0
URFA	Urfa	0.96	184	ePG	Pg	03 44 27.3	-0.4
URFA	Urfa	0.96	184	ePg	Pg	03 44 27.3	-0.4
ATAB	Bozova	1.04	208	i P	Pg	03 44 29.1	-0.3
ATAB				i S	Sn	03 44 44.7	-0.4
ATAB	Bozova	1.04	208	i P	Pg	03 44 29.1	-0.3
ATAB				i S	Sn	03 44 44.7	-0.4
DIYA	Diyarbakir	1.07	116	i P	Pg	03 44 29.1	-0.8
DIYA				i S	Sg	03 44 44.0	+0.3
DIYA	Diyarbakir	1.07	116	i P	Pg	03 44 29.0	-0.8
DIYA				i S	Sg	03 44 44.0	+0.3
ILIC	ilic-Erzincan	1.09	346	ePN	Pg	03 44 29.8	-0.5
ILIC	ilic-Erzincan	1.09	346	ePn	Pg	03 44 29.8	-0.5
BINT	Bingol	1.33	68	ePn	Pg	03 44 37.1	+2.2
ERZN	Erzincan	1.35	28	ePN	Pn	03 44 34.4	-0.3
EZC	Erzincan	1.40	14	ePn	Pn	03 44 34.4	-0.9
BNGB	Bingˆ¶l	1.51	66	ePN	Pn	03 44 37.1	+0.3
GAZ	Gaziantep	1.82	228	ePN	Pn	03 44 41.1	+0.1
GAZ	Gaziantep	1.82	228	ePn	Pn	03 44 41.1	+0.1
GUMT	Gumushane	2.11	12	ePN	Pn	03 44 45.7	+0.6
GUMT	Gumushane	2.11	12	ePn	Pn	03 44 45.7	+0.6
BAYT	Ayd˜–ntepe-Bay	2.21	25	ePN	Pn	03 44 47.1	+0.5
BAYT	Ayd˜–ntepe-Bay	2.21	25	ePn	Pn	03 44 47.1	+0.5
RSDY	Resadiye-TOKAT	2.34	329	ePN	Pn	03 44 48.4	+0.2
RSDY	Resadiye-TOKAT	2.34	329	ePn	Pn	03 44 48.4	+0.2
EZM	Erzurum	2.43	51	ePN	Pn	03 44 49.8	+0.1
BNN	Bunyan	2.44	282	ePN	Pn	03 44 50.3	+0.6
BNN	Bunyan	2.44	282	ePn	Pn	03 44 50.3	+0.6
KOZT	Kozan	2.60	250	ePN	Pn	03 44 52.5	+0.7
KOZT	Kozan	2.60	250	ePn	Pn	03 44 52.5	+0.7
YOZ	Yozgat	3.06	295	ePN	Pn	03 44 59.2	+1.1
YOZ	Yozgat	3.06	295	ePn	Pn	03 44 59.2	+1.1

BJI 01 03:44:44.3, 7°.77S×130°.38E, h45km, mB5.3/19, mb4.9/37, Ms4.9/14, Ms7 4.6/15
IDC 01 03:44:47.9±0.6, 6°.74S×129°.86E, h0km, mb4.6/12, mb1 4.8/16, mb1mx4.7/18, mbtmp4.7/16, ML4.7/4, MS3.6/3, Ms1 3.6/3, ms1mx3.2/20, Error ellipse: s-maj=24.9km s-min=13.5km az=77.0
MOS 01 03:44:49.8±1.3, 6°.76S×129°.84E, h27km, mb5.1/13, Error ellipse: s-maj=15.3km s-min=6.8km az=116.3
NEIC 01 03:44:54.4±1.2, 6°.83S×129°.99E, h50km±12km, mb4.7/20, Error ellipse: s-maj=10.3km s-min=7.4km az=58.0
ISCJB 01 03:44:56.9±0.2, 6°.91S±0°.03×130°.35E±0°.04, h104km, mb4.8/55, Error ellipse: s-maj=5.8km s-min=3.8km az=155.1
DJA 01 03:45:00, 6°.84S×130°.22E, h103km, mb5.2/26

ISC 01 03:44:59.0±0.3, 7°.00S±0°.05×130°.14E±0°.06, h104km, n218, σ1s.62/213, mb4.8/55, 5C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLE	Tual	2.91	63	P	Pn	03 45 45.0	+1.3
AAI	Ambon	3.82	329	P	Pn	03 45 54.2	-1.6
MSAI	Masohi	3.82	341	P	Pn	03 45 55.0	-0.9
FAKI	Fak Fak	4.56	27	P	Pn	03 46 03.9	-2.0
NLAI	Namlea	4.81	321	P	Pn	03 46 09.7	+0.5
LBMI	Labuha	6.84	337	P	Pn	03 46 36.9	+0.1
	698nm,1.2s,7µm2.0nm						
BBSI	Bau Bau	7.67	281	P	Pn	03 46 52.9	+4.7
	377nm,1.1s,3µm1.1nm						
MMRI	Maumere	8.00	258	P	Pn	03 46 55.2	+2.6
	145nm,0.9s,2µm0.5nm						
KDI	Kendari	8.07	292	P	Pn	03 46 56.1	+2.5
	51nm,1.4s,616nm0.2nm						
TNTI	Ternate	8.20	340	P	Pn	03 46 55.1	-0.2
	331nm,0.9s,3µm1.0nm						
BAKI	Biak	8.28	46	P	Pn	03 46 57.4	+1.0
	468nm,1.0s,5µm1.5nm						
WAMI	Wamena	9.07	71	P	Pn	03 47 12.9	+5.8
	389nm,0.8s,4µm						
LUWI	Luwuk	9.43	309	P	Pn	03 47 13.7	+1.6
	137nm,1.2s,2µm						
SMPI	Sarmi	9.88	60	P	Pn	03 47 18.4	+0.3
	267nm,1.1s,3µm						
MNI	Manado	9.91	328	P	Pn	03 47 19.9	+1.3
	400nm,0.8s,3µm						
WSI	Waingapu	10.10	254	P	Pn	03 47 20.5	-0.6
	552nm,0.7s,6µm						
BKSI	Bulukumba	10.10	279	P	Pn	03 47 26.1	+5.0
	69nm,0.9s						
GTOI	Gorontalo	10.40	317	P	Pn	03 47 30.1	+4.9
	100nm,0.8s,1µm						
TTSI	Tana Toraja	11.01	290	P	P	03 47 44.2	+0.2
MRSI	Marisa	11.05	312	P	Pn	03 47 35.1	+1.1
	200nm,1.2s						
MJSI	Majene	11.63	287	P	P	03 47 55.2	+4.3
FITZ	Fitzroy Crossi	11.88	201	Pn	Pn	03 47 42.2	-2.9
	5.8nm,0.3s,baz=33,slow=11,SNR=89						
FITZ				Sn	Sn	03 49 45.7	-10
	16nm,0.3s,baz=272,slow=22,SNR=9.1						
FITZ				LR	LR	03 53 01.3	
	comp=Z,138nm,18.8s,baz=27,slow=41						
FITZ	Fitzroy Crossi	11.88	201	eP	Pn	03 47 42.1	-2.9
FITZ				eS	Sn	03 49 45.0	-11
FITZ	Fitzroy Crossi	11.88	201	ePn	Pn	03 47 43.2	-1.9
FITZ				eS	Sn	03 49 46.6	-9.2
WRAB	Tennant Creek	13.49	163	eP	Pn	03 48 04.7	-1.6
WRAB				pmax	pmax		
	comp=Z,36nm,0.4s						
WRAB	Tennant Creek	13.49	163	ePn	Pn	03 48 04.7	-1.6
	comp=Z,36nm,0.4s						
WRAB				eSn	Sn	03 50 25.9	-9.1
WRA	Warramunga Arr	13.50	163	Pn	Pn	03 48 04.7	-1.7
	comp=Z,9.0nm,0.3s,baz=347,slow=13,SNR=176						
WRA				Sn	Sn	03 50 26.2	-8.8
	comp=Z,26nm,0.3s,baz=342,slow=22,SNR=32						
WRA	Warramunga Arr	13.50	163	P	Pn	03 48 04.7	-1.7
WRA	Warramunga Arr	13.50	163	Pn	Pn	03 48 04.7	-1.7
WRA				Sn	Sn	03 50 26.2	-8.8
WB2	Warramunga Arr	13.50	163	ePn	Pn	03 48 04.7	-1.7
WB2				eSn	Sn	03 50 26.1	-9.1
SMKI	Samarinda	14.45	296	P	P	03 48 25.4	+2.9
	comp=Z,89nm,1.0s						
COEN	Coen	14.56	119	ePn	Pn	03 48 20.3	+0.2
	comp=Z,236nm,0.6s						
COEN				eS	Sn	03 50 51.6	-9.1
BBKI	Banjar Baru	15.63	282	P	P	03 48 38.1	+2.4
	comp=Z,358nm,1.0s,comp=Z,4µm						
KMMI	Kalianget	16.06	269	P	P	03 48 52.1	+12
QIS	Mount Isa	16.30	147	eP	P	03 48 42.4	-0.6
BLJI	Banyuglugur	16.43	266	P	P	03 48 46.3	+1.9
	comp=Z,62nm,0.7s,comp=Z,2µm						
TSM	Tawau	16.61	312	P	P	03 48 45.9	-0.4
MYLDM	Lahad Datu	16.77	316	P	P	03 48 49.4	+1.2
MYLDM	Lahad Datu	16.77	316	P	P	03 48 49.4	+1.2
	comp=Z,83nm,1.3s						
AS31	Alice Springs	16.96	168	ePn	P	03 48 50.6	+0.2
AS31				eS	Sn	03 51 53.8	-5.0
ASAR	Alice Springs	16.96	168	P	P	03 48 50.1	-0.2
	comp=Z,2.8nm,0.3s,baz=347,slow=14,SNR=112						
ASAR				S	Sn	03 51 48.5	-10
	comp=Z,6.8nm,0.3s,baz=350,slow=26,SNR=12						
ASAR	Alice Springs	16.96	168	P	P	03 48 50.1	-0.2
ASAR	Alice Springs	16.96	168	P	P	03 48 50.1	-0.2
ASAR				S	Sn	03 51 48.5	-10
PMG	Port Moresby	17.01	99	P	P	03 48 53.1	+2.3
	comp=Z,1.5nm,0.3s,baz=282,slow=8.5,SNR=24						
PMG				S	Sn	03 51 48.9	-11
	comp=Z,1.0nm,0.3s,baz=173,slow=24,SNR=7.4						
PMG	Port Moresby	17.01	99d	i P	P	03 48 53.7	+2.8
PMG				pmax	pmax		
	comp=Z,55nm,1.0s						
PMG	Port Moresby	17.01	99	ePn	P	03 48 52.9	+2.0
	comp=Z,47nm,0.9s						
PMG				eS	Sn	03 51 46.4	-14
MBWA	Marble Bar	17.31	215	eP	Pn	03 48 53.8	-0.5
MBWA	Marble Bar	17.31	215	ePn	Pn	03 48 53.5	-0.8
	comp=Z,30nm,0.6s						
MTSU	Mount Surprise	17.70	130	eP	Pn	03 49 01.2	+2.1
	comp=Z,23nm,0.5s						
MTSU				eS	Sn	03 52 03.9	-13
SDKM	Sandakan	18.01	314	P	P	03 49 05.0	+3.0
SJI	Sawahan	18.24	267	P	Pn	03 49 12.6	+7.0
	comp=Z,42nm,0.7s,comp=Z,6µm						
PBKI	Pangkalan Bun	18.89	282	P	Pn	03 49 15.0	+1.7
	comp=Z,188nm,1.0s,comp=Z,5µm						
KKM	Kota Kinabalu	19.00	313	eP	P	03 49 11.7	-1.1
	comp=Z,80nm,1.0s						
KKM	Kota Kinabalu	19.00	313	P	Pn	03 49 13.8	-0.9
KKM	Kota Kinabalu	19.00	313	P	Pn	03 49 13.2	-1.4
	comp=Z,86nm,1.1s,comp=Z,863nm						
BTM	Bintulu	19.81	300	P	Pn	03 49 23.0	-1.1
STKI	Sintang	19.90	290	P	Pn	03 49 25.7	+0.6
	comp=Z,55nm,1.2s,comp=Z,18µm						
SBUM	Sibu	20.20	297	P	Pn	03 49 27.0	-1.6
SBUM	Sibu	20.20	297	P	Pn	03 49 26.4	-2.2
	comp=Z,75nm,1.0s,comp=Z,637nm						
CTA	Charters Tower	20.34	131	P	Pn	03 49 31.9	+1.8
	comp=Z,4.9nm,0.6s,baz=340,slow=12,SNR=4.4						
CTA				S	Sn	03 53 14.9	-4.8
	comp=Z,5.6nm,0.8s,baz=51,slow=20,SNR=3.6						
CTA	Charters Tower	20.34	131	P	Pn	03 49 32.0	+1.9
CTA				S	Sn	03 53 14.9	-4.8
CTA	Charters Tower	20.34	131	P	Pn	03 49 31.9	+1.8
CTA				S	Sn	03 53 14.9	-4.8
CTAO	Charters Tower	20.34	131	eP	Pn	03 49 32.4	+2.3
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	Charters Tower	20.34	131	eP	Pn	03 49 32.4	+2.3
	comp=Z,17nm,0.8s						
KSM	Kuching	21.51	292	eP	P	03 49 37.7	-2.1
	comp=Z,12nm,0.6s						
KSM	Kuching	21.51	292	P	P	03 49 41.4	+1.6
KSM	Kuching	21.51	292	P	P	03 49 40.9	+1.1
	comp=Z,32nm,0.8s						
LEM	Lembang	22.36	269	P	P	03 49 55.8	+6.8
	comp=Z,56nm,0.7s						
MEEK	Meekatharra	22.41	208	eP	P	03 49 50.6	+1.5
TPI	Tanjungpandan	22.80	280	P	P	03 49 55.1	+1.9
	comp=Z,44nm,0.9s						
TGY	Tagaytay City	22.86	336	P	P	03 49 52.9	-0.9
	comp=Z,379nm,0.7s,baz=254,slow=2.7,SNR=13						
TGY	Tagaytay City	22.86	336	P	P	03 49 52.9	-0.9
TGY	Tagaytay City	22.86	336	P	P	03 49 52.9	-0.9
QLP	Quilpie	23.65	147	eP	P	03 50 07.1	+6.1
FORT	Forrest	23.74	184	eP	P	03 50 05.1	+3.3
FORT				eS	S	03 54 20.3	+11
FORT	Forrest	23.74	184	eP	P	03 50 04.8	+3.0
	comp=Z,54nm,0.6s						
FORT				eS	S	03 54 22.1	+13
PPBI	Pangkal Pinang	24.40	280	P	P	03 50 10.8	+2.9
	comp=Z,52nm,0.8s,comp=Z,3µm						
KMBL	Kambalda	25.45	197	eP	P	03 50 20.5	+3.2
STKA	Stephens Creek	26.96	158	P	P	03 50 34.1	+3.2
	comp=Z,2.6nm,0.3s,baz=337,slow=8.3,SNR=16						
STKA				LR	LR	04 02 26.5	
	comp=Z,180nm,20.5s,baz=215,slow=39						
STKA	Stephens Creek	26.96	158	eP	P	03 50 34.6	+3.7
STKA				eS	S	03 55 42.9	+42
STKA	Stephens Creek	26.96	158	eP	P	03 50 34.7	+3.7
STKA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
STKA	Stephens Creek	26.96	158	eP	P	03 50 34.7	+3.7
	comp=Z,5.4nm,1.1s						
KLBR	Kellerberrin	27.07	204	eP	P	03 50 34.1	+2.2
	comp=Z,8.4nm,0.5s						
KLBR				eS	S	03 55 43.0	+41
MYKOM	Kota Tinggi	27.65	287	P	P	03 50 41.1	+3.8
KGM	Kluang	28.23	288	P	P	03 50 44.5	+2.1
NWAO	Narrogin (SRO)	28.45	203	P	P	03 50 45.8	+1.6
	comp=Z,2.5nm,0.4s,baz=238,slow=22,SNR=6.9						
NWAO				LR	LR	04 02 32.3	
	comp=Z,131nm,18.9s,baz=24,slow=37						
NWAO	Narrogin (SRO)	28.45	203	eP	P	03 50 46.6	+2.4
NWAO	Narrogin (SRO)	28.45	203	eP	P	03 50 46.6	+2.4
FRIM	Kepong	30.23	289	P	P	03 50 55.4	-4.7
PPI	Padang Panjang	30.37	281	P	P	03 51 03.2	+1.8
	comp=Z,54nm,0.8s						
IPM	Ipoh	31.22	291	P	P	03 51 10.7	+1.8
MNSI	Mandailing Nat	31.46	283	P	P	03 51 11.8	+0.8
	comp=Z,40nm,0.9s						
PSI	Prapat	32.64	286	P	P	03 51 20.5	-1.0
	comp=Z,39nm,0.9s						
CM31	Chiang Mai Arr	39.84	310	eP	P	03 52 22.2	-0.4
	comp=Z,8.3nm,0.6s						
CMAR	Chiang Mai Arr	39.84	310	P	P	03 52 21.6	-1.0
	comp=Z,14nm,0.7s,baz=137,slow=7.3,SNR=96						
CMAR	Chiang Mai Arr	39.84	310	P	P	03 52 21.6	-1.0
CMAR	Chiang Mai Arr	39.84	310	P	P	03 52 21.6	-1.0
CHTO	Chiang Mai	40.05	310	eP	P	03 52 23.1	-1.2
CHTO				pmax	pmax		
	comp=Z,22nm,0.7s						
CHTO	Chiang Mai	40.05	310	eP	P	03 52 23.1	-1.2
	comp=Z,22nm,0.7s						
CHTO	Chiang Mai	40.05	310	P	P	03 52 23.5	-0.8
	comp=Z,42nm,0.9s						
WHN	Wuhan	40.28	339	eP	P	03 52 25.9	-0.1
NJ2	Nanjing	40.30	345	eP	P	03 52 26.7	+0.6
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA	Guiyang	40.31	326	eP	P	03 52 28.0	+1.5
GYA				pP	pP	03 52 40.6	-10
GYA				sP	sP	03 52 46.8	-15
GYA				PP	PnPn	03 54 04.3	-1.7
GYA				S	S	03 58 30.0	+3.3
GYA				sS	sS	03 58 52.4	-16
GYA				ScS	ScS	04 02 27.8	+5.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	Kunming	41.60	321	P	P	03 52 37.7	+0.5
KMI				pmax	pmax		
	comp=Z,20nm,1.2s						
MAJO	Matsushiro	43.96	9	eP	P	03 52 54.4	-1.5
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAJO	Matsushiro	43.96	9	eP	P	03 52 54.4	-1.5
	comp=Z,9.9nm,0.7s						
MAT	Matsushiro	43.96	9	P	P	03 52 54.1	-1.8
MJAR	Matsushiro Arr	43.96	9	P	P	03 52 54.2	-1.7
	comp=Z,5.3nm,0.6s,baz=190,slow=10,SNR=27						
MJAR	Matsushiro Arr	43.96	9	P	P	03 52 54.2	-1.7
MJAR	Matsushiro Arr	43.96	9	P	P	03 52 54.2	-1.7
KSAR	Wonju Array Be	44.26	357	P	P	03 52 58.0	-0.2
KSAR	Wonju Array Be	44.26	357	P	P	03 52 58.0	-0.2
KSRS	Korea Array	44.27	357	P	P	03 52 58.0	-0.2
	comp=Z,3.2nm,0.5s,baz=174,slow=9.1,SNR=20						
CD2	Chengdu	45.38	328	P	P	03 53 05.7	-1.6
CD2				pP	pP	03 53 18.2	-13
CD2				sP	sP	03 53 23.6	-20
CD2				PP	PP	03 54 52.7	-2.8
CD2				S	S	03 59 42.4	+1.7
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,180nm,4.8s						
CD2				LR	LR		
	comp=N,590nm,4.8s						
CD2				LR	LR		
	comp=Z,350nm,5.4s						
XAN	Xi’an	45.49	335	P	P	03 53 06.9	-1.2
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BJT	Baijiatuau	48.53	346	eP	P	03 53 30.7	-0.8
BJT				pmax	pmax		
	comp=Z,12nm,0.5s						
BJT	Baijiatuau	48.53	346	eP	P	03 53 30.7	-0.8
	comp=Z,12nm,0.5s						
BJI	Beijing	48.55	346	P	P	03 53 30.7	-1.0
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				pmax	pmax		
	comp=Z,130nm,4.0s						
SHL	Shillong	49.30	312	eP	P	03 53 37.0	-1.0
LZH	Lanzhou	49.47	332	eP	P	03 53 37.8	-1.2
LZH				pP	pP	03 53 50.3	-13
LZH				sP	sP	03 53 55.5	-20
LZH				PP	PP	03 55 32.5	-1.8
LZH				pmax	pmax		
	comp=Z,35nm,1.5s						
LZH				pmax	pmax		
	comp=Z,86nm,5.4s						
LZH				LR	LR		
	comp=N,310nm,14.0s						
LZH				LR	LR		
	comp=E,320nm,13.7s						
LZH				LR	LR		
	comp=Z,370nm,18.9s						
HHC	Hu-ho-hao-te	50.58	342	eP	P	03 53 50.7	+3.4
HHC				pP	pP	03 54 02.9	-9.2
HHC				sP	sP	03 54 08.5	-15
HHC				PP	PP	03 55 47.9	+3.6
HHC				S	S	04 01 00.8	+6.8
HHC				sS	sS	04 01 22.5	-14
HHC				SS	SS	04 04 32.3	+2.6
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,4.6s						
HHC				LR	LR		
	comp=N,120nm,11.0s						
HHC				LR	LR		
	comp=E,150nm,12.0s						
HHC				LR	LR		
	comp=Z,200nm,10.4s						
CN2	Changchun	50.74	356	eP	P	03 53 51.8	+3.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	Ussuriysk Arra	50.98	2	P	P	03 53 49.4	-0.7
	comp=Z,4.6nm,0.6s,baz=182,slow=6.8,SNR=26						
MDJ	Mudanjiang	51.38	359	P	P	03 53 52.9	-0.1
MDJ				pmax	pmax		
	comp=Z,200nm,4.1s						
LSA	Lhasa	52.29	316	P	P	03 53 59.8	-0.9
LSA	Lhasa	52.29	316	eP	P	03 54 00.6	-0.1
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	Lhasa	52.29	316	eP	P	03 54 00.6	-0.1
	comp=Z,5.7nm,0.6s						
ODAN	Odare	53.36	311	eP	P	03 54 07.4	-0.9
	comp=Z,35nm,0.7s						
ODAN	Odare	53.36	311	eP	P	03 54 07.4	-0.9
TAPN	Taplejung	53.39	312	eP	P	03 54 07.2	-1.4
TAPN	Taplejung	53.39	312	eP	P	03 54 07.2	-1.4
RAMN	Ramite	54.00	311	eP	P	03 54 12.0	-1.0
	comp=Z,78nm,0.7s						
RAMN	Ramite	54.00	311	eP	P	03 54 12.0	-1.0
GTA	Gaotai	54.04	331	eP	P	03 54 12.7	-0.2
GTA				pP	pP	03 54 25.5	-12
GTA				sP	sP	03 54 30.6	-19
GTA				S	S	04 01 45.4	+4.1
GTA				sS	sS	04 02 06.3	-18
GTA				pmax	pmax		
	comp=Z,22nm,0.7s						
GTA				pmax	pmax		
	comp=Z,140nm,5.2s						
JIRN	Jiri	54.69	311	eP	P	03 54 17.4	-0.7
JIRN	Jiri	54.69	311	eP	P	03 54 17.4	-0.7
GUN	Gumba	55.06	311	eP	P	03 54 19.4	-1.4
	comp=Z,53nm,0.7s						
GUN	Gumba	55.06	311	eP	P	03 54 19.4	-1.4
PKI	Pulchoki	55.23	310	eP	P	03 54 20.9	-1.1
	comp=Z,24nm,0.6s						
PKI	Pulchoki	55.23	310	eP	P	03 54 20.9	-1.1
PKI	Pulchoki	55.23	310	eP	P	03 54 20.9	-1.1
KKN	Kakani	55.44	311	eP	P	03 54 22.3	-1.1
	comp=Z,27nm,0.8s						
KKN	Kakani	55.44	311	eP	P	03 54 22.3	-1.1
KKN	Kakani	55.44	311	eP	P	03 54 22.3	-1.1
DMN	Daman	55.48	310	eP	P	03 54 22.8	-0.9
	comp=Z,42nm,0.8s						
DMN	Daman	55.48	310	eP	P	03 54 22.8	-0.9
GKN	Gorkha	56.04	310	eP	P	03 54 26.7	-0.9
	comp=Z,46nm,0.7s						
GKN	Gorkha	56.04	310	eP	P	03 54 26.7	-0.9
HYB	Hyderabad	56.44	296	i P	P	03 54 29.0	-1.4
KOLN	Koldanda	56.71	310	eP	P	03 54 30.9	-1.5
	comp=Z,27nm,0.6s						
KOLN	Koldanda	56.71	310	eP	P	03 54 30.9	-1.5
DANN	Dangsing	56.88	310	eP	P	03 54 32.6	-1.1
	comp=Z,20nm,0.6s						
DANN	Dangsing	56.88	310	eP	P	03 54 32.6	-1.1

ULN	Ulaanbaatar	58.30	342	eP	P	03 54 43.1	0.0
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	Ulaanbaatar	58.30	342	eP	P	03 54 43.0	0.0
	comp=Z,5.7nm,0.7s						
ULN	Ulaanbaatar	58.30	342	P	P	03 54 43.3	+0.2
	comp=Z,8.6nm,1.9s						
SONM	Songino Array	58.48	341	P	P	03 54 44.3	0.0
	comp=Z,1.7nm,0.7s,baz=157,slow=6.4,SNR=13						
SONM	Songino Array	58.48	341	P	P	03 54 44.3	0.0
SONM	Songino Array	58.48	341	P	P	03 54 44.3	0.0
ZAK	Zakamensk	61.71	341	eP	P	03 55 01.9	-4.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
WMQ	Urumqi	63.47	327	P	P	03 55 17.8	-0.3
WMQ				pP	pP	03 55 30.5	-13
WMQ				sP	sP	03 55 35.8	-19
WMQ				PcP	PcP	03 55 54.7	+0.8
WMQ				pmax	pmax		
	comp=Z,38nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.5s						
MOY	Mondy	63.56	340	eP	P	03 55 19.3	+0.7
PETK	Petropavlovsk-	64.28	18	P	P	03 55 23.7	+0.6
	comp=Z,5.2nm,0.6s,baz=159,slow=4.2,SNR=18						
PETK	Petropavlovsk-	64.28	18	P	P	03 55 23.7	+0.6
PETK	Petropavlovsk-	64.28	18	P	P	03 55 23.7	+0.6
KSH	Kashi	68.11	317	eP	P	03 55 48.6	+0.5
KSH				epP	PcP	03 56 01.1	-12
KSH				esP	sP	03 56 06.5	-19
KSH				ePcP	pP	03 56 14.5	+0.3
KSH				ePP	PP	03 58 19.6	-0.1
KSH				eScP		04 00 13.5	
KSH				ePcS		04 00 18.5	
KSH				eS	S	04 04 39.4	-0.5
KSH				esS	sS	04 05 12.6	-12
KSH				eScS	ScS	04 05 38.6	+0.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KSH				LR	LR		
	comp=N,140nm,5.0s						
KSH				LR	LR		
	comp=E,130nm,6.1s						
KSH				LR	LR		
	comp=Z,200nm,5.9s						
MK31	Makanchi Array	68.30	327	eP	P	03 55 48.6	-0.3
MK31	Makanchi Array	68.30	327	eP	P	03 55 48.6	-0.3
MKAR	Makanchi Array	68.30	327	P	P	03 55 48.9	-0.1
	comp=Z,24nm,0.6s,baz=118,slow=8.0,SNR=227						
MKAR	Makanchi Array	68.30	327	P	P	03 55 48.9	-0.1
MKAR	Makanchi Array	68.30	327	P	P	03 55 48.9	-0.1
YAK	Yakutsk	68.82	360	eP	P	03 55 50.6	-1.2
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK	Yakutsk	68.82	360	eP	P	03 55 51.5	-0.3
	comp=E,31nm,0.7s						
KZA	Kyzart	69.87	320	P	P	03 56 00.2	+1.0
	SNR=5.9						
KZA				P	P	03 56 00.2	+1.0
	SNR=5.9						
TKM2	Tokmak 2	70.07	320	P	P	03 56 00.6	+0.4
	SNR=7.3						
TKM2				P	P	03 56 00.6	+0.4
	SNR=7.3						
TKM2	Tokmak 2	70.07	320	P	P	03 55 59.7	-0.5
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TKM2	Tokmak 2	70.07	320	eP	P	03 56 00.3	+0.1
	comp=Z,4.2nm,0.6s						
AAK	Ala-Archa	70.63	320	P	P	03 56 03.6	0.0
	SNR=5.8						
AAK				P	P	03 56 03.6	0.0
	SNR=5.8						
AAK	Ala-Archa	70.63	320c	iP	P	03 56 03.5	0.0
AAK				i *PP	pP	03 56 29.4	-0.4
AAK				pmax	pmax		
	comp=Z,47nm,1.9s						
AAK	Ala-Archa	70.63	320	eP	P	03 56 03.6	0.0
	comp=Z,87nm,1.3s						
KBL	Kabul	70.87	310	eP	P	03 56 04.5	-0.8
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBL	Kabul	70.87	310	eP	P	03 56 04.5	-0.8
	comp=Z,4.7nm,0.6s						
AML	Almayashu	70.90	319	P	P	03 56 06.4	+0.9
	SNR=7.4						
AML				P	P	03 56 06.4	+0.9
	SNR=7.4						
USP	Ospenovka	70.94	320	P	P	03 56 05.3	+0.1
	SNR=10						
USP				P	P	03 56 05.3	+0.1
	SNR=10						
EKS2	Erkin-Say	71.10	320	P	P	03 56 07.2	+0.8
	SNR=7.7						
EKS2				P	P	03 56 07.2	+0.8
	SNR=7.7						
EKS2	Erkin-Say	71.10	320	eP	P	03 56 07.1	+0.7
EKS2				pmax	pmax		
	comp=Z,23nm,1.3s						
EKS2	Erkin-Say	71.10	320	eP	P	03 56 07.1	+0.7
	comp=Z,23nm,1.3s						
ZAA0	Zalesovo Array	71.64	334	eP	P	03 56 07.8	-1.4
ZALV	Zalesovo Beam	71.64	334	P	P	03 56 07.9	-1.3
	comp=Z,4.5nm,0.5s,baz=134,slow=5.5,SNR=18						
ZALV	Zalesovo Beam	71.64	334	P	P	03 56 07.9	-1.3
ZALV	Zalesovo Beam	71.64	334	P	P	03 56 07.9	-1.3
SEY	Seymchan	71.78	11	⇑eP	P	03 56 10.2	+0.4
NVS	Novosibirsk	72.93	334	⇑iP	P	03 56 13.8	-3.0
NVS				pmax	pmax		
	comp=N,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
NVS				pmax	pmax		
	comp=Z,16nm,1.7s						
KK31	Karatay Array	73.43	319	P	P	03 56 19.7	-0.4
KK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	Karatay Array	73.43	319	eP	P	03 56 18.9	-1.2
KKAR				pmax	pmax		
	comp=Z,19nm,1.4s						
KKAR	Karatay Array	73.43	319	eP	P	03 56 18.9	-1.2
	comp=Z,19nm,1.4s						
KIP	Kipapa	75.86	66	⇑eP	P	03 56 32.4	-2.1
KIP				pmax	pmax		
	comp=Z,90nm,1.7s						
BVA0	Borovoye Array	78.14	328	P	P	03 56 45.8	-0.8
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AB31	Akbulak array	82.59	322	P	P	03 57 09.6	-1.0
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	Akbulak array	82.59	322	eP	P	03 57 09.7	-0.9
	comp=Z,2.1nm,0.6s						
QSPA	South Pole Qui	82.98	180	eP	P	03 57 14.6	+2.1
NAY	Al-Naaiem	87.23	300	eP	P	03 57 33.8	-0.5
NAY				AMb	AMB	03 57 36.7	
	comp=Z,18nm,0.9s						
MIB	Mutribah	87.23	300	eP	P	03 57 34.0	-0.2
MIB				AMb	AMB	03 57 36.9	
	comp=Z,25nm,0.7s						
KDAK	Kodiak Island	89.14	32	P	P	03 57 45.1	+2.5
	comp=Z,6.4nm,0.8s,baz=309,slow=6.5,SNR=3.6						
KDAK	Kodiak Island	89.14	32	P	P	03 57 45.1	+2.5
KDAK	Kodiak Island	89.14	32	P	P	03 57 45.1	+2.5
ILAR	Eielson Array	93.28	25	P	P	03 58 00.0	-1.7
	comp=Z,0.7nm,0.6s,baz=264,slow=4.5,SNR=14						
ILAR	Eielson Array	93.28	25	P	P	03 58 00.0	-1.7
ILAR	Eielson Array	93.28	25	P	P	03 58 00.0	-1.7
APA	Apatity	99.00	337	⇑eP	P	03 58 25.0	-2.6
APA				MLR	MLR		
	comp=Z,2µm,17.0s						
TXAR	Lajitas Array	124.80	59	PKP	PKPdf	04 03 49.4	+1.9
	comp=Z,0.1nm,0.4s,baz=105,slow=1.5,SNR=4.1						
TXAR	Lajitas Array	124.80	59	PKIKP	PKPdf	04 03 49.4	+1.9
TXAR	Lajitas Array	124.80	59	PKP	PKPdf	04 03 49.4	+1.9
TORD	Torodi Ar. Bea	128.95	281	PKP	PKPdf	04 03 55.9	+0.2
	comp=Z,0.7nm,0.6s,baz=57,slow=2.1,SNR=8.7						
TORD	Torodi Ar. Bea	128.95	281	PKP	PKPdf	04 03 55.9	+0.2
LPA	La Plata	137.63	170	PKIKP	PKPdf	04 04 16.0	+4.6
LPAZ	La Paz	150.63	142	ePKIKP	PKPab	04 04 43.5	-4.2
LPAZ	La Paz	150.63	142	ePKPbc	PKPab	04 04 43.5	-4.2

*NEIC **01** 03:56:28.5, 33.80S×72.72W, h0km, ML4.6(GUC), After GUC.*
*GUC **01** 03:56:28.5±0.8, 33.80S×72.72W, h0km±3km, ML4.6*
*IDC **01** 03:56:31.1±0.8, 33.86S×72.27W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/14, mbtmp4.1/11, ML4.0/2, MS3.8/3, Ms1 3.8/3, ms1mx3.5/19, Error ellipse: s-maj=31.1km s-min=21.9km az=59.0*
ISC 01 03:56:32.3±1.9**, 33.84S**±0.03×**72.55W**±0.05**, h8**km±12km**, n63, σ1s.29**/89**, mb4.0**/9**, 4C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.35	83	iP	Pn	03 56 55.8	-1.7
TACH				iS	Sg	03 57 16.1	+0.4
TACH	Talagante	1.35	83	iP	Pn	03 56 55.8	-1.7
TACH				iS	Sg	03 57 16.1	+0.4
CTCH	Constitucion	1.50	176	AML	AML	03 57 38.5	
	comp=E,33µm,0.7s						
ROCH	El Roble	1.55	57	iP	Pn	03 56 58.9	-1.5
ROCH				iS	Sn	03 57 21.2	+0.5
ROCH	El Roble	1.55	57	eP	Pn	03 56 58.6	-1.8
ROCH				iP	Pn	03 56 58.9	-1.5
ROCH				iS	Sn	03 57 21.2	+0.5
CHCH	Chadas Angostu	1.58	94	iP	Pn	03 56 59.5	-1.1
CHCH	Chadas Angostu	1.58	94	iP	Pn	03 56 59.5	-1.1
ANTU	Antumapu	1.62	81	eP	Pn	03 57 00.2	-0.9
ANTU				iS	Sb	03 57 23.8	+0.8
ANTU	Antumapu	1.62	81	eP	Pn	03 57 00.2	-0.9
ANTU				iS	Sb	03 57 23.8	+0.8
ANTU				AML	AML	03 57 29.4	
	comp=E,9µm,0.6s						
SAN	Santiago	1.62	77	eP	Pn	03 56 59.6	-1.5
SAN				iS	Sb	03 57 23.6	+0.7
SAN	Santiago	1.62	77	eP	Pn	03 56 59.6	-1.5
SAN				iS	Sb	03 57 23.6	+0.7
SAN				AML	AML	03 57 52.9	
	comp=E,10µm,0.6s						
STL	Santa Lucia	1.64	76	eP	Pn	03 57 00.3	-1.2
STL				iS	Sb	03 57 24.2	+0.6
CACH	El Canelo	1.64	100	iP	Pn	03 57 01.1	-0.4
CACH	El Canelo	1.64	100	iP	Pn	03 57 01.1	-0.4
PEL	Peldehue	1.70	67	eP	Pn	03 57 01.6	-0.7
PEL				iS	Sb	03 57 25.8	+0.4
PEL				AML	AML	03 57 37.8	
	comp=N,13µm,0.7s						
PCH	Pirque	1.71	83	eP	Pn	03 57 01.2	-1.3
PCH				iS	Sb	03 57 26.3	+0.7
PCH	Pirque	1.71	83	eP	Pn	03 57 01.2	-1.3
PCH				⇓iP	Pn	03 57 01.2	-1.3
PCH				iS	Sb	03 57 26.3	+0.7
TALC	Talca	1.73	155	eP	Pn	03 57 01.3	-1.4
TALC				iS	Sn	03 57 25.4	+0.5
TALC	Talca	1.73	155	eP	Pn	03 57 01.3	-1.4
TALC				iS	Sn	03 57 25.4	+0.5
TALC				AML	AML	03 57 33.2	
	comp=E,10µm,0.5s						
CLCH	Cerro Calan	1.73	76	eP	Pn	03 57 01.9	-0.9
CLCH				⇑iP	Pb	03 57 02.0	-2.4
CLCH				iS	Sb	03 57 27.2	+0.8
CLCH				AML	AML	03 57 37.1	
	comp=E,7µm,0.8s						
FCH	Farellones	1.95	76	⇑iP	Pn	03 57 05.4	-0.6
FCH				iS	Sb	03 57 34.6	+1.7
FCH				AML	AML	03 57 41.2	
	comp=E,3µm,0.8s						
LMEL	Las Melosas	1.95	91	eP	Pn	03 57 05.6	-0.3
LMEL				iS	Sb	03 57 33.8	+1.1
LMEL	Las Melosas	1.95	91	iP	Pn	03 57 05.3	-0.5
LMEL				eP	Pn	03 57 05.6	-0.3
LMEL				iS	Sb	03 57 33.8	+1.1
LMEL				AML	AML	03 57 44.0	
	comp=N,3µm,0.7s						
PTCH	Petorca	2.07	41	AML	AML	03 57 50.1	
	comp=N,2µm,0.5s						
CHNG	Los Chungos	2.14	25	eP	Pn	03 57 06.4	-1.9
CHNG				iS	Sn	03 57 35.2	+0.2
CHNG	Los Chungos	2.14	25	eP	Pn	03 57 06.4	-1.9
CHNG				iS	Sn	03 57 35.2	+0.2
LNCH	Linares	2.15	159	AML	AML	03 58 05.0	
	comp=N,7µm,0.5s						
COCH	Cobquecura	2.30	185	⇑iP	Pn	03 57 08.3	-2.1
COCH				iS	Sn	03 57 39.4	+0.5
COCH	Cobquecura	2.30	185	⇑iP	Pn	03 57 08.3	-2.1
COCH				iS	Sn	03 57 39.4	+0.5
CCHI	Chillan	2.79	172	iP	Pn	03 57 16.3	-0.9
CCHI				iS	Sn	03 57 52.7	+1.7
CCHI	Chillan	2.79	172	iP	Pn	03 57 16.3	-0.9
CCHI				iS	Sn	03 57 52.7	+1.7
CCHI				AML	AML	03 58 19.9	
	comp=N,2µm,0.5s						
CMCH	Combarbala	2.96	27	iP	Pn	03 57 18.3	-1.4
CMCH				iS	Sn	03 57 56.3	+0.9
CMCH	Combarbala	2.96	27	iP	Pn	03 57 18.3	-1.4
CMCH				iS	Sn	03 57 56.3	+0.9
OVCH	Ovalle	3.41	20	AML	AML	03 58 36.7	
	comp=N,1µm,0.6s						
TLL	Tololo Astrono	3.94	22	P	Pg	03 58 00.0	+12
TLL				iS	Sn	03 58 20.8	+0.8
TLL	Tololo Astrono	3.94	22	iS	Sn	03 58 20.8	+0.8
TLL				AML	AML	03 58 55.9	
	comp=E,806nm,0.9s						
CFAA	Coronel Fontan	4.26	60	Pn	Pn	03 57 37.8	+0.3
	comp=E,0.3nm,0.3s,baz=233,slow=12,SNR=50						
CFAA				Lg	Lg	03 58 41.3	
	comp=E,1.5nm,0.3s,baz=269,slow=5.6,SNR=4.5						
LCO	Las Campanas	5.06	19	ePn	Pn	03 57 46.7	-2.0
LCO				eS	Sg	03 59 18.6	+3.7
PLCA	Paso Flores	7.07	168	Pn	Pn	03 58 16.3	+0.2
	comp=E,0.6nm,0.3s,baz=334,slow=13,SNR=14						
PLCA				Lg	Lg	04 00 04.2	
	baz=100,slow=21,SNR=1.6						
PLCA				LR	LR	04 01 04.7	
	comp=E,589nm,19.3s,baz=157,slow=39						
PLCA	Paso Flores	7.07	168	Pn	Pn	03 58 16.1	0.0
PLCA				eS	Sg	04 00 19.6	+0.6
TRQA	Tornquist	9.54	119	ePn	Pn	03 58 51.1	+1.1
TRQA				eS	Sn	04 01 32.3	+55
LVC	Limon Verde	11.63	17	ePn	Pn	03 59 16.5	-2.4
CPUP	Villa Florida	15.14	64	Pn	Pn	04 00 08.4	+2.0
	comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=5.1						
CPUP	Villa Florida	15.14	64	Pn	Pn	04 00 06.2	-0.3
LPAZ	La Paz	17.92	14	P	P	04 00 43.4	+0.2
	comp=E,0.2nm,0.3s,baz=186,slow=8.4,SNR=17						
LPAZ	La Paz	17.92	14	ePn	Pn	04 00 42.1	-0.5
SIV	San Ignacio	20.56	33	P	P	04 01 10.0	-1.6
	comp=E,8.3nm,0.8s,baz=227,slow=11,SNR=22						
SIV				LR	LR	04 10 38.3	
	comp=E,542nm,18.3s,slow=41						
NNA	Nana	22.10	349	P	P	04 01 34.0	+5.8
	comp=E,4.3nm,0.7s,baz=228,slow=14,SNR=3.3						
ATAH	Atahualpa	27.12	347	LR	LR	04 11 35.0	
	comp=E,153nm,20.4s,baz=352,slow=33						
VNA2	Neumayer--Watz	50.33	157	e	P	04 05 31.2	+2.1
SNAA	Sanae	51.90	158	e	P	04 05 41.9	+0.9
TXAR	Lajitas Array	69.39	331	P	P	04 07 39.8	-0.9
	comp=E,0.4nm,0.7s,baz=155,slow=9.1,SNR=7.1						
ANMO	Albuquerque	75.44	332	P	P	04 08 19.0	+2.1
	comp=E,0.6nm,0.4s,baz=193,slow=6.6,SNR=4.4						
DBIC	Dimbokro	75.53	72	P	P	04 08 15.8	-1.9
	comp=E,5.1nm,0.9s,baz=202,slow=4.6,SNR=4.8						
BOSA	Boshof	80.52	118	P	P	04 08 44.8	-0.6
	comp=E,2.4nm,0.9s,baz=270,slow=5.1,SNR=2.9						
PDAR	Pinedale Array	83.43	333	P	P	04 08 59.8	-0.5
	comp=E,0.2nm,0.6s,baz=197,slow=5.6,SNR=2.7						
NVAR	Mina Array Bea	83.51	326	P	P	04 09 03.3	+2.5
	comp=E,0.8nm,0.9s,baz=142,slow=4.6,SNR=5.4						
TORD	Torodi Ar. Bea	84.55	70	P	P	04 09 05.3	-1.1
	comp=E,2.3nm,0.7s,baz=250,slow=4.4,SNR=15						
ULM	Lac du Bonnet	86.23	345	P	P	04 09 16.0	+2.1
	comp=E,3.4nm,0.9s,baz=210,slow=6.7,SNR=5.1						
WRA	Warramunga Arr	120.70	210	PKP	PKPdf	04 15 24.2	-1.3
	comp=E,0.4nm,0.8s,baz=159,slow=1.8,SNR=3.0						
BRTR	Keskin Array B	122.12	61	PKP	PKPdf	04 15 27.4	-0.3
	comp=E,1.0nm,1.1s,baz=222,slow=1.9,SNR=2.8						
ZALV	Zalesovo Beam	154.31	32	PKPbc	PKPbc	04 16 32.3	-0.2
	comp=E,1.4nm,0.6s,baz=310,slow=3.1,SNR=9.7						
MKAR	Makanchi Array	156.97	48	PKPbc	PKPbc	04 16 44.4	
	comp=E,0.4nm,0.7s,baz=348,slow=2.0,SNR=5.2						
MKAR				PKPab	PKPab	04 16 57.6	-0.8
	comp=E,1.1nm,0.7s,baz=301,slow=3.9,SNR=9.9						

*ATH **01** 04:03:14.3, 40.36N×25.76E, h11km±1km, MD3.1/5*
*CSEM **01** 04:03:14.4±0.2, 40.37N×25.73E, h8km, MD3.0, Error ellipse: s-maj=3.7km s-min=3.3km az=10.0*
*DDA **01** 04:03:14.5, 40.36N×25.86E, h24km, MD2.9*
*THE **01** 04:03:14.7, 40.39N×25.75E, h13km, ML2.3/6, Error ellipse: s-maj=0.8km s-min=0.4km az=64.0*
*ISK **01** 04:03:14.2, 40.36N×25.79E, h5km, MD3.0*
*ISCJB **01** 04:03:14.0±0.5, 40.37N±0.02×25.75E±0.03, h6km±3km, Error ellipse: s-maj=3.3km s-min=3.2km az=175.5*
ISC 01 04:03:14.3±1.0**, 40.37N**±0.02×**25.76E**±0.02**, h13**km±8km**, n86, σ0s.97**/118**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.47	40	PG	Pg	04 03 23.6	0.0
ENEZ				eSG	Sg	04 03 30.4	+0.5
ENEZ	Enez	0.47	40	iPg	Pg	04 03 23.6	0.0
ENEZ				eSg	Sg	04 03 30.4	+0.5
GELI	Tayfur-Gelibol	0.55	87	PG	Pg	04 03 25.1	0.0
GELI				eSG	Sg	04 03 33.1	+0.7
GELI	Tayfur-Gelibol	0.55	87	iPg	Pg	04 03 25.1	0.0
GELI				eSg	Sg	04 03 33.1	+0.7
ALN	Alexandroupoli	0.57	23	P	Pg	04 03 25.4	0.0
ALN				S	Sg	04 03 33.2	+0.2
ALN	Alexandroupoli	0.57	23	ePB	Pg	04 03 25.4	0.0
ALN				eSB	Sg	04 03 33.4	+0.4
ALN	Alexandroupoli	0.57	23	P	Pg	04 03 25.4	0.0
ALN				eSb	Sg	04 03 33.4	+0.4
BOZC	Bozcaada	0.58	157	iP	Pg	04 03 25.6	-0.1
BOZC				iS	Sg	04 03 33.1	-0.2
ERIK	Erikli-Kesan	0.65	63	ePG	Pg	04 03 26.1	-0.8
ERIK				eSG	Sg	04 03 35.5	0.0
ERIK	Erikli-Kesan	0.65	63	ePg	Pg	04 03 26.2	-0.8
ERIK				eSg	Sg	04 03 35.5	0.0
LIA	Limnos Island	0.65	223	P	Pb	04 03 27.3	-0.2
LIA				S	Sb	04 03 36.7	+0.3
LIA	Limnos Island	0.65	223	P	Pb	04 03 27.3	-0.2
EZN	Ezine	0.70	141	ePG	Pg	04 03 27.2	-0.6
EZN				eSG	Sg	04 03 36.9	-0.2
EZN	Ezine	0.70	141	ePg	Pg	04 03 27.3	-0.6
EZN				eSg	Sg	04 03 36.9	-0.2
LPK	Lapseki	0.77	90	ePG	Pg	04 03 28.8	-0.4
LPK	Lapseki	0.77	90	ePg	Pg	04 03 28.8	-0.4
RDO	Rodhopi	0.79	348	P	Pg	04 03 29.6	0.0
RDO				S	Sb	04 03 40.8	+0.3
RDO	Rodhopi	0.79	348	ePB	Pg	04 03 29.7	+0.1
RDO				eSB	Sb	04 03 40.8	+0.3
RDO	Rodhopi	0.79	348	ePb	Pg	04 03 29.7	+0.1
RDO				S	Sb	04 03 40.8	+0.3
RKY	Sarkoy-Tekirda	1.13	73	ePN	Pg	04 03 36.5	+0.4
RKY	Sarkoy-Tekirda	1.13	73	ePn	Pg	04 03 36.5	+0.4
SART	Tekirdag	1.13	73	iP	Pb	04 03 34.7	-1.1
SART				iS	Sb	04 03 50.7	+0.3
SART	Tekirdag	1.13	73	iP	Pb	04 03 34.7	-1.1
SART				iS	Sb	04 03 50.7	+0.3
KRBG	Karabiga-Canak	1.18	89	ePN	Pn	04 03 36.1	-0.4
KRBG	Karabiga-Canak	1.18	89	ePn	Pn	04 03 36.1	-0.4
PRK	Paraskevi	1.20	160	P	Pn	04 03 36.4	-0.3
PRK				S	Sn	04 03 52.9	+0.1
PRK	Paraskevi	1.20	160	ePB	Pn	04 03 36.5	-0.3
PRK				eSB	Sn	04 03 52.7	-0.1
PRK	Paraskevi	1.20	160	ePb	Pn	04 03 36.5	-0.3
PRK				eSb	Sn	04 03 52.7	-0.1
MFT	Murefte	1.23	70	ePN	Pg	04 03 38.5	+0.4
MFT	Murefte	1.23	70	ePn	Pg	04 03 38.5	+0.4
AYVA	Ayvalik	1.28	146	iP	Pb	04 03 38.3	-0.1
AYVA				iS	Sn	04 03 55.1	+0.1
AYVA	Ayvalik	1.28	146	iP	Pb	04 03 38.3	-0.1
AYVA				iS	Sn	04 03 55.1	+0.1
OUR	Ouranopolis	1.36	269	P	Pn	04 03 38.5	-0.5
OUR				S	Sn	04 03 57.1	+0.3
OUR	Ouranopolis	1.36	269	P	Pn	04 03 38.5	-0.5
OUR				S	Sn	04 03 57.1	+0.3
TKR	Tekirdag	1.49	65	ePN	Pb	04 03 42.3	+0.5
TKR	Tekirdag	1.49	65	ePn	Pb	04 03 42.3	+0.5
GONE	Gonen-Balikesi	1.51	102	ePN	Pb	04 03 42.3	0.0
GONE	Gonen-Balikesi	1.51	102	ePn	Pb	04 03 42.3	0.0
BALY	Balya	1.56	113	iP	Pn	04 03 42.3	+0.4
BALY				iS	Sb	04 04 03.2	+0.3
BALY	Balya	1.56	113	iP	Pn	04 03 42.3	+0.4
BALY				iS	Sb	04 04 03.2	+0.3
EDC	Edincik	1.61	90	ePN	Pb	04 03 43.9	0.0
EDC	Edincik	1.61	90	ePn	Pb	04 03 43.9	0.0
EDRB	Edirne	1.65	27	ePN	Pn	04 03 43.9	+0.9
EDRB	Edirne	1.65	27	ePn	Pn	04 03 43.9	+0.9
BNT	Bandirma	1.65	90	ePN	Pb	04 03 44.1	-0.5
BNT	Bandirma	1.65	90	ePn	Pb	04 03 44.1	-0.5
CRLT	Corlu	1.68	63	ePN	Pb	04 03 44.9	-0.2
CRLT	Corlu	1.68	63	ePn	Pb	04 03 44.9	-0.2
NVR	Nevrokopi	1.74	305	ePB	Pb	04 03 45.4	-0.7
NVR	Nevrokopi	1.74	305	ePb	Pb	04 03 45.4	-0.7
PLG	Polygyros	1.77	271	ePN	Pb	04 03 46.6	0.0
PLG	Polygyros	1.77	271	ePn	Pb	04 03 46.6	0.0
BALB	Balikesir	1.79	114	ePN	Pb	04 03 46.5	-0.4
BALB	Balikesir	1.79	114	ePn	Pb	04 03 46.5	-0.4
SRS	Serrai	1.80	295	P	Pn	04 03 44.5	-0.7
SRS				S	Sn	04 04 07.6	-0.3
SRS	Serrai	1.80	295	P	Pn	04 03 44.5	-0.7
SRS				S	Sn	04 04 07.6	-0.3
KCTX	Karacabey (Bur	1.99	92	ePN	Pn	04 03 49.2	+1.5
KCTX	Karacabey (Bur	1.99	92	ePn	Pn	04 03 49.2	+1.5
SLVT	Silivri	2.05	65	ePN	Pn	04 03 50.0	+1.5
SLVT	Silivri	2.05	65	ePn	Pn	04 03 50.0	+1.5
ELBA	Catalca	2.17	68	iP	Pn	04 03 48.2	-2.0
ELBA				iS	Sn	04 04 14.0	-3.0
ELBA	Catalca	2.17	68	iP	Pn	04 03 48.2	-2.0
AKHS	Akhisar	2.18	133	iP	Pn	04 03 50.2	-0.1
AKHS				iS	Sn	04 04 16.5	-0.7
AKHS	Akhisar	2.18	133	iP	Pn	04 03 50.2	-0.1
CTYL	Yal??k??y-??at	2.21	59	ePN	Pn	04 03 52.1	+1.4
CTYL	Yal??k??y-??at	2.21	59	ePn	Pn	04 03 52.1	+1.4
BLCB	Balcova	2.22	153	ePN	Pn	04 03 52.1	+1.2
BLCB	Balcova	2.22	153	ePn	Pn	04 03 52.1	+1.2
DURS	Dursunbey	2.23	109	iP	Pn	04 03 51.5	+0.5
DURS				iS	Sn	04 04 19.3	+0.8
DURS	Dursunbey	2.23	109	iP	Pn	04 03 51.5	+0.5
CTKS	Kestanelik-??a	2.26	67	ePN	Pb	04 03 53.4	-1.5
CTKS	Kestanelik-??a	2.26	67	ePn	Pb	04 03 53.4	-1.5
ARMT	Armutlu	2.38	84	ePN	Pb	04 03 55.3	-1.7
ARMT	Armutlu	2.38	84	ePn	Pb	04 03 55.3	-1.7
MDNY	Mudanya-Bursa	2.39	89	ePN	Pn	04 03 54.7	+1.6
MDNY	Mudanya-Bursa	2.39	89	ePn	Pn	04 03 54.7	+1.6
BGKT	Bogazkoy	2.43	70	ePN	Pn	04 03 55.5	+1.8
BGKT	Bogazkoy	2.43	70	ePn	Pn	04 03 55.5	+1.8
ISK	Istanbul-Kandi	2.60	74	ePN	Pb	04 03 58.7	-2.1
ISK	Istanbul-Kandi	2.60	74	ePn	Pb	04 03 58.7	-2.1
GEMT	Gemlik	2.62	88	ePN	Pn	04 03 58.2	+1.8
GEMT	Gemlik	2.62	88	ePn	Pn	04 03 58.2	+1.8
YLV	Yalova	2.77	85	ePN	Pn	04 04 01.1	+2.7
YLV	Yalova	2.77	85	ePn	Pn	04 04 01.1	+2.7
KULA	Kula-Manisa	2.92	129	ePN	Pn	04 04 02.1	+1.7
KULA	Kula-Manisa	2.92	129	ePn	Pn	04 04 02.2	+1.7

*DDA **01** 04:27:08.0, 37.16N×38.78E, h40km, MD3.1*
*ISK **01** 04:27:08.8, 37.24N×38.68E, h5km, MD3.2*
*CSEM **01** 04:27:09.1±0.6, 37.18N×38.83E, h10km, MD3.2, Error ellipse: s-maj=14.1km s-min=6.6km az=139.0*
*ISCJB **01** 04:27:09.1±1.0, 37.16N±0.04×38.80E±0.03, h10km±5km, Error ellipse: s-maj=7.3km s-min=3.9km az=165.6*
ISC 01 04:27:07.9±1.2**, 37.13N**±0.04×**38.86E**±0.03**, h13**km±8km**, n49, σ1s.07**/64**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.31	355	PG	Pg	04 27 14.2	-0.2
URFA				SG	Sg	04 27 18.7	0.0
URFA	Urfa	0.31	355	iPg	Pg	04 27 14.2	-0.2
URFA				iSg	Sg	04 27 18.7	0.0
ATAB	Bozova	0.56	308	iP	Pg	04 27 18.9	0.0
ATAB				iS	Sg	04 27 26.7	+0.3
ATAB	Bozova	0.56	308	iP	Pg	04 27 18.9	0.0
ATAB				iS	Sg	04 27 26.7	+0.3
GZT	Gaziantep	1.05	283	iP	Pb	04 27 27.6	-0.5
MALT	Malatya	1.23	344	ePN	Pb	04 27 31.1	+0.1
MALT				eSN	Sb	04 27 47.0	+0.2
MALT	Malatya	1.23	344	ePn	Pb	04 27 31.1	+0.1
MALT				eSn	Sb	04 27 47.0	+0.2
MYA	Malataya	1.24	344	ePN	Pb	04 27 31.3	+0.1

MYA	Malataya	1.24	344	ePn	Pb	04 27 31.3	+0.1
DIYA	Diyarbakir	1.28	51	iP	Sb	04 27 47.0	-1.3
DIYA				iS	Sg	04 27 49.7	+0.5
SVRC	Sivrice-ELAZID	1.30	16	ePN	Pn	04 27 32.2	+0.3
SVRC	Sivrice-ELAZID	1.30	16	ePn	Pn	04 27 32.2	+0.3
GAZ	Gaziantep	1.31	272	ePN	Pn	04 27 31.3	-0.7
GAZ				eSN	Sn	04 27 49.8	+0.4
GAZ	Gaziantep	1.31	272	ePn	Pn	04 27 31.3	-0.7
GAZ				eSn	Sn	04 27 49.8	+0.4
ELZG	Elazig	1.37	4	iP	Pb	04 27 33.9	+0.4
ELZG				iS	Sn	04 27 48.5	-2.5
ELZG	Elazig	1.37	4	iP	Pb	04 27 33.9	+0.4
ELZG				iS	Sn	04 27 48.5	-2.5
AKCD	Akcadag	1.38	328	iP	Pg	04 27 34.3	-0.1
AKCD				iS	Sn	04 27 51.1	0.0
AKCD	Akcadag	1.38	328	iP	Pg	04 27 34.3	-0.1
AKCD				iS	Sn	04 27 51.1	0.0
KUZU	Kuzuini	1.47	257	iP	Pn	04 27 34.4	+0.4
KUZU				iS	Sb	04 27 53.9	+0.3
KUZU	Kuzuini	1.47	257	iP	Pn	04 27 34.4	+0.4
KUZU				iS	Sb	04 27 53.9	+0.3
MARD	Mardin	1.55	83	iP	Pn	04 27 35.8	+0.6
MARD				iS	Sb	04 27 57.1	+1.1
KMRS	Kahramanmaras	1.60	284	ePN	Pb	04 27 37.3	0.0
KMRS	Kahramanmaras	1.60	284	ePn	Pb	04 27 37.3	0.0
PTK	Pertek	1.81	13	ePN	Pb	04 27 40.6	-0.4
PTK	Pertek	1.81	13	ePn	Pb	04 27 40.6	-0.4
DARE	Darende-Malaty	2.00	336	ePN	Pn	04 27 40.3	-1.1
DARE	Darende-Malaty	2.00	336	ePn	Pn	04 27 40.3	-1.1
BEST	Besiri	2.07	68	iP	Pn	04 27 42.9	+0.6
BEST				iS	Sb	04 28 11.7	+0.8
KEMA	Kemaliye	2.16	353	iP	Pn	04 27 43.7	+0.2
KEMA	Kemaliye	2.16	353	iP	Pn	04 27 43.7	+0.2
SARI	SarD1z-Kayseri	2.30	313	ePN	Pn	04 27 47.1	+1.4
ILIC	ilic-Erzincan	2.33	355	ePN	Pb	04 27 48.4	-1.4
ILIC	ilic-Erzincan	2.33	355	ePn	Pb	04 27 48.4	-1.4
BNGB	Bingˆ¶l	2.35	37	ePN	Pb	04 27 50.5	+0.4
KOZT	Kozan	2.44	279	ePN	Pb	04 27 50.0	-1.6
KOZT	Kozan	2.44	279	ePn	Pb	04 27 50.0	-1.6
CEYT	Ceyhan	2.49	268	ePN	Pb	04 27 51.0	-1.3
CEYT	Ceyhan	2.49	268	ePn	Pb	04 27 51.1	-1.3
ERZN	Erzincan	2.55	15	ePN	Pb	04 27 52.4	-1.1
EZC	Erzincan	2.65	8	ePn	Pn	04 27 52.4	+2.0
VRTB	Varto-Mus	2.88	45	ePN	Pb	04 27 58.2	-1.0
BNN	Bunyan	2.93	307	ePN	Pn	04 27 55.5	+1.2
BNN	Bunyan	2.93	307	ePn	Pn	04 27 55.5	+1.2
YOZ	Yozgat	3.74	313	ePN	Pn	04 28 07.2	+1.9
YOZ	Yozgat	3.74	313	ePn	Pn	04 28 07.3	+1.9
AGRB	Hanur-Agry	4.07	52	ePN	Pb	04 28 15.5	-3.9
PZAR	Pazar-Rize	4.34	21	ePN	Pn	04 28 18.2	+4.6
CORM	Corum	4.50	314	ePN	Pn	04 28 18.6	+2.9
CORM	Corum	4.50	314	ePn	Pn	04 28 18.6	+2.9

*IDC **01** 04:38:28.3±1.4, 10°.27S×152°.25E, h0km, mb3.8/7, mb1 4.0/10, mb1mx4.0/15, mbtmp3.9/10, ML3.1/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/26, Error ellipse: s-maj=40.0km s-min=20.9km az=113.0*

ISC 01 04:38:32.4±1.0**, 10°.5S**±0°.1×**152°.6E**±0°.1**, h35**km**, n20,** σ**1s31**/15**, mb4.0**/7**, MS3.4**/4**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.43	281	Pn	Pn	04 39 45.5	-5.4
	1.3nm,0.3s,baz=86,slow=7.2,SNR=5.8						
PMG				Sn	Sn	04 40 53.1	+1.0
	1.3nm,0.3s,baz=63,slow=10,SNR=3.5						
PMG				LR	LR	04 41 49.3	
	comp=Z,1µm,21.1s,baz=314,slow=39						
HNR	Honiara	7.35	83	LR	LR	04 42 45.9	
	comp=Z,252nm,18.4s,baz=304,slow=34						
CTA	Charters Tower	11.34	212	Pn	Pn	04 41 11.8	-0.2
	2.2nm,0.3s,baz=29,slow=15,SNR=27						
CTA				LR	LR	04 45 03.7	
	comp=Z,213nm,20.4s,baz=45,slow=35						
CTA	Charters Tower	11.34	212	eP	Pn	04 41 11.8	-0.2
EIDS	Eidsvold	14.89	185	eP	P	04 42 04.5	-1.2
RMQ	Roma	16.34	192	eP	P	04 42 21.1	-0.7
	21nm,1.1s						
WRA	Warramunga Arr	19.93	240	P	P	04 43 00.6	-0.9
	0.1nm,0.3s,baz=62,slow=11,SNR=4.1						
CMSA	Cobar Meteorol	21.91	196	eP	P	04 43 29.3	+6.6
ASAR	Alice Springs	22.11	231	P	P	04 43 24.4	-0.5
	1.6nm,0.7s,baz=62,slow=9.9,SNR=15						
STKA	Stephens Creek	23.60	204	P	P	04 43 41.5	+1.4
	5.5nm,0.9s,baz=12,slow=7.0,SNR=6.7						
STKA				LR	LR	04 52 25.0	
	comp=Z,147nm,18.9s,baz=28,slow=35						
STKA	Stephens Creek	23.60	204	eP	P	04 43 43.4	+3.2
GUMO	Guam	25.09	342	LR	LR	04 52 28.3	
	comp=Z,64nm,21.4s,baz=149,slow=34						
RPZ	Rata Peaks	36.81	157	LR	LR	04 56 02.3	
	comp=Z,71nm,21.6s,baz=146,slow=28						
KSRS	Korea Array	52.97	335	LR	LR	05 09 24.1	
	comp=Z,28nm,18.5s,baz=70,slow=35						
CMAR	Chiang Mai Arr	60.20	298	P	P	04 48 35.6	-1.7
	0.6nm,0.7s,baz=116,slow=4.1,SNR=4.4						
SONM	Songino Array	71.00	329	P	P	04 49 46.9	+0.2
	1.6nm,0.9s,baz=144,slow=5.6,SNR=7.3						
MKAR	Makanchi Array	84.43	319	P	P	04 51 01.0	-0.5
	0.8nm,0.8s,baz=101,slow=6.3,SNR=5.8						
ZALV	Zalesovo Beam	85.72	327	P	P	04 51 07.6	-0.1
	0.5nm,0.5s,baz=122,slow=5.6,SNR=3.7						
ILAR	Eielson Array	87.47	22	P	P	04 51 16.8	+0.8
	1.1nm,0.9s,baz=257,slow=5.2,SNR=10						
TORD	Torodi Ar. Bea	151.37	278	PKPbc	PKPbc	04 58 24.2	+0.7
	1.2nm,0.8s,baz=51,slow=1.7,SNR=8.1						

*IDC **01** 04:52:21.0±0.8, 58°.28S×21°.88W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, MS3.4/3, Ms1 3.3/3, ms1mx3.2/18, Error ellipse: s-maj=27.9km s-min=19.4km az=7.0*

*ISCJB **01** 04:52:21.1±0.6, 58°.27S±0°.08×21°.8W±0°.2, h10km, mb4.1/9, MS3.3/3, Error ellipse: s-maj=17.2km s-min=9.3km az=152.0*

*NEIC **01** 04:52:22.5±0.5, 58°.29S×21°.81W, h10km, mb4.4/5, Error ellipse: s-maj=16.4km s-min=11.7km az=220.0*

ISC 01 04:52:22.5±0.6**, 58°.3S**±0°.1×**21°.9W**±0°.1**, h10**km**, n30,** σ**0s87**/34**, mb4.2**/9**, MS3.4**/3**, East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.71	161	eP	Pn	04 55 37.6	+0.9
VNA3	Neumayer Olymp	14.00	164	eP	Pn	04 55 40.9	+0.2
VNA2	Neumayer--Watz	14.10	160	eP	Pn	04 55 42.0	0.0
	baz=326,slow=17						
SNAA	Sanae	15.58	157	eP	Pn	04 56 01.8	-0.1
SNAA	Sanae	15.58	157	ePn	Pn	04 56 01.4	-0.5
	75nm,0.3s						
QSPA	South Pole Qui	32.00	180	P	P	04 58 49.1	+0.5
	3.4nm,1.0s,baz=208,slow=4.2,SNR=8.1						
QSPA				LR	LR	05 10 57.4	
	comp=Z,42nm,18.8s,baz=250,slow=35						
QSPA	South Pole Qui	32.00	180	eP	P	04 58 48.6	0.0
	5.8nm,1.1s						
PLCA	Paso Flores	35.19	278	P	P	04 59 14.8	-1.7
	2.4nm,0.8s,baz=158,slow=7.1,SNR=6.7						
PLCA				LR	LR	05 13 33.2	
	comp=Z,63nm,18.7s,baz=336,slow=36						
PLCA	Paso Flores	35.19	278	eP	P	04 59 14.8	-1.7
	4.0nm,0.9s						
CPUP	Villa Florida	40.43	307	P	P	05 00 00.9	+0.2
	0.9nm,0.5s,baz=130,slow=7.0,SNR=4.9						
CPUP	Villa Florida	40.43	307	P	P	05 00 00.9	+0.2
BOSA	Boshof	43.91	68	P	P	05 00 28.9	-0.4
	1.9nm,0.7s,baz=280,slow=20,SNR=4.3						
BOSA				LR	LR	05 15 05.7	
	comp=Z,49nm,18.8s,baz=347,slow=31						
BOSA	Boshof	43.91	68	P	P	05 00 28.9	-0.4
LBTB	Lobatse	47.08	66	P	P	05 00 54.1	-0.2
	1.8nm,0.8s,baz=206,slow=8.1,SNR=6.7						
LBTB	Lobatse	47.08	66	P	P	05 00 54.1	-0.2
LVC	Limon Verde	48.87	296	eP	P	05 01 11.1	+2.6
	1.4nm,0.5s						
SIV	San Ignacio	51.19	309	P	P	05 01 27.4	+1.5
	1.3nm,0.5s,baz=158,slow=7.8,SNR=14						
SIV	San Ignacio	51.19	309	P	P	05 01 27.4	+1.5
LPAZ	La Paz	53.99	301	P	P	05 01 48.2	+0.9
	4.0nm,0.7s,baz=211,slow=8.4,SNR=10						
LPAZ	La Paz	53.99	301	eP	P	05 01 47.9	+0.7
	3.6nm,0.6s						
TORD	Torodi Ar. Bea	73.73	24	P	P	05 03 56.9	+0.4
	0.6nm,0.5s,baz=202,slow=6.2,SNR=19						
TORD	Torodi Ar. Bea	73.73	24	P	P	05 03 56.9	+0.4
YKA	Yellowknife Ar	139.75	314	PKP	PKPdf	05 11 49.5	+0.5
	0.2nm,0.5s,baz=135,slow=1.7,SNR=2.9						
YKA	Yellowknife Ar	139.75	314	PKP	PKPdf	05 11 49.5	+0.5
SONM	Songino Array	148.00	86	PKPbc	PKPbc	05 12 06.6	-0.6
	1.0nm,0.6s,baz=211,slow=3.2,SNR=8.5						
SONM	Songino Array	148.00	86	PKPbc	PKPbc	05 12 06.6	-0.6
INK	Inuvik	149.35	317	PKP	PKPdf	05 12 05.1	-0.3
	1.1nm,0.7s,baz=165,slow=8.2,SNR=4.0						
INK				PKPbc	PKPbc	05 12 09.8	+0.1
	1.4nm,0.6s,baz=252,slow=3.3,SNR=3.2						
INK	Inuvik	149.35	317	PKP	PKPdf	05 12 05.1	-0.3
INK				PKPbc	PKPbc	05 12 09.8	+0.1
ILAR	Eielson Array	153.74	307	PKPbc	PKPbc	05 12 19.9	-0.1
	0.2nm,0.6s,baz=142,slow=2.8,SNR=2.8						
ILAR				PKPab	PKPab	05 12 32.2	-0.9
	0.7nm,0.8s,baz=149,slow=4.1,SNR=7.9						
ILAR	Eielson Array	153.74	307	PKPbc	PKPbc	05 12 19.9	-0.1
ILAR				PKPab	PKPab	05 12 32.2	-0.9

*ISCJB **01** 04:58:51.7±0.8, 13°.61N±0°.07×120°.3E±0°.1, h70km, mb3.6/4, Error ellipse: s-maj=17.8km s-min=9.0km az=20.7*

*MAN **01** 04:58:53, 13°.55N×120°.40E, h52km, mb4.3, ML3.1, MS2.9*

*IDC **01** 04:58:53.3±3.2, 13°.66N×120°.60E, h76km±35km, mb3.3/4, mb1 3.4/4, mb1mx3.1/20, mbtmp3.3/4, Error ellipse: s-maj=103.7km s-min=17.8km az=68.0*

ISC 01 04:58:52.9±1.0**, 13°.59N**±0°.08×**120°.4E**±0°.1**, h70**km**, n9,** σ**0s66**/10**, mb3.7**/4**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.73	46	P	Pn	04 59 08.0	-0.3
	323nm,0.3s,baz=256,slow=5.3,SNR=14						
TGY				S	Sn	04 59 19.3	-0.3
	774nm,0.3s,baz=306,slow=23,SNR=8.3						
TGY	Tagaytay City	0.73	46	⇑iP	Pn	04 59 09.5	+1.3
BUSP	Coron	1.59	187	eP	Pn	04 59 19.6	+0.5
BUSP				eS	Sn	04 59 27.8	-11
ENPP	El Nido	2.55	202	eP	Pn	04 59 32.3	+0.2
CUYO	Cuyo Island	2.79	167	eP	Pn	04 59 35.8	+0.4
WRA	Warramunga Arr	36.04	157	P	P	05 05 47.0	-0.7
	0.8nm,0.7s,baz=336,slow=9.6,SNR=8.0						
SONM	Songino Array	36.08	344	P	P	05 05 47.5	-0.4
	1.1nm,0.5s,baz=164,slow=9.9,SNR=9.8						
ASAR	Alice Springs	39.32	160	P	P	05 06 15.4	+0.1
	0.5nm,0.5s,baz=339,slow=7.1,SNR=13						
MKAR	Makanchi Array	45.94	324	P	P	05 07 09.1	+0.3
	0.2nm,0.8s,baz=110,slow=10,SNR=3.2						

*IDC **01** 05:01:28.3±0.8, 6°.99S×156°.06E, h49km±4km, mb4.1/11, mb1 4.3/12, mb1mx4.1/18, mbtmp4.2/12, MS3.5/7, Ms1 3.5/7, ms1mx3.3/25, Error ellipse: s-maj=21.3km s-min=15.0km az=111.0*

*NEIC **01** 05:01:29.1±0.4, 6°.86S×155°.93E, mb4.7/7, Error ellipse: s-maj=10.9km s-min=10.2km az=85.0*

*ISCJB **01** 05:01:29.8±1.5, 6°.96S±0°.07×155°.90E±0°.05, h70km±15km, mb4.3/16, Error ellipse: s-maj=12.2km s-min=8.2km az=178.3*

ISC 01 05:01:29.3±0.5**, 6°.85S**±0°.08×**155°.93E**±0°.06**, h52**km±4km**, h51**km**:pP-P, n79,** σ**1s06**/105**, mb4.5**/16**, MS3.4**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.73	123	P	Pn	05 02 38.0	-0.1
	3.7nm,0.3s,baz=280,slow=6.1,SNR=2.5						
HNR				LR	LR	05 03 33.2	
	comp=Z,104nm,19.9s,baz=0.0,slow=28						
HNR				S	Sn	05 03 34.2	+2.6
	11nm,0.3s,baz=304,slow=6.4,SNR=3.6						
HNR	Honiara	4.73	123	P	Pn	05 02 38.0	-0.1
HNR				S	Sn	05 03 34.2	+2.6
PMG	Port Moresby	9.05	253	P	Pn	05 03 39.5	+2.1
	12nm,0.3s,baz=56,slow=9.3,SNR=43						
PMG				S	Sn	05 05 20.8	+2.9
	1.9nm,0.3s,baz=353,slow=16,SNR=5.5						
PMG	Port Moresby	9.05	253	ePn	Pn	05 03 39.0	+1.6
	76nm,0.6s						
PMG				eSn	Sn	05 05 20.2	+2.3
PMG				S		05 05 20.8	
CTA	Charters Tower	16.17	215	P	P	05 05 15.4	-0.1
	0.6nm,0.3s,baz=33,slow=13,SNR=9.0						
CTA				LR	LR	05 10 30.5	
	comp=Z,184nm,20.5s,baz=49,slow=34						
CTA	Charters Tower	16.17	215	P	P	05 05 15.4	-0.1
DZM	Mont Dzumac	18.22	147	eP	Pn	05 05 40.2	+1.6
	7.6nm,0.8s						
RMQ	Roma	20.69	198	eP	P	05 06 04.9	-0.3
	24nm,1.1s						
QLP	Quilpie	22.57	208	eP	P	05 06 24.1	-1.2
GUMO	Guam	23.09	332	LR	LR	05 14 09.4	
	comp=Z,92nm,19.4s,baz=104,slow=33						
WRAB	Tennant Creek	24.66	236	eP	P	05 06 44.4	-1.0
	11nm,0.8s						
WRAB				epP	pP	05 06 57.5	-1.1
WB2	Warramunga Arr	24.66	236	eP	P	05 06 44.2	-1.2
WRA	Warramunga Arr	24.67	236	P	P	05 06 44.9	-0.6
	6.5nm,0.6s,baz=62,slow=9.5,SNR=50						
WRA				PcP	PcP	05 10 20.7	-1.2
	1.6nm,0.8s,baz=67,slow=2.0,SNR=6.0						
WRA				LR	LR	05 15 26.4	
	comp=Z,106nm,20.9s,baz=70,slow=34						
WRA	Warramunga Arr	24.67	236	P	P	05 06 44.9	-0.6
WRA				PcP	PcP	05 10 20.7	-1.2
CMSA	Cobar Meteorol	26.36	200	eP	P	05 07 00.2	-0.5
AS31	Alice Springs	26.97	229	eP	P	05 07 04.7	-1.5
ASAR	Alice Springs	26.97	229	P	P	05 07 04.8	-1.5
	1.9nm,0.5s,baz=59,slow=9.9,SNR=55						
ASAR				PcP	PcP	05 10 26.0	-1.2
	0.9nm,0.8s,baz=38,slow=4.3,SNR=4.2						
ASAR	Alice Springs	26.97	229	P	P	05 07 04.8	-1.5
ASAR				PcP	PcP	05 10 26.0	-1.2
STKA	Stephens Creek	28.27	206	P	P	05 07 18.5	+0.7
	2.1nm,0.6s,baz=32,slow=15,SNR=6.2						
STKA				LR	LR	05 17 50.0	
	comp=Z,165nm,18.8s,baz=206,slow=35						
STKA	Stephens Creek	28.27	206	eP	P	05 07 19.0	+1.2
STKA	Stephens Creek	28.27	206	P	P	05 07 18.4	+0.7
FITZ	Fitzroy Crossi	31.57	246	P	P	05 07 46.0	-1.0
	6.5nm,0.7s,baz=93,slow=6.9,SNR=12						
FITZ				pP	pP	05 07 58.2	-2.3
	8.5nm,0.6s,baz=64,slow=5.7,SNR=7.1						
FITZ				LR	LR	05 20 38.2	
	comp=Z,89nm,21.0s,baz=68,slow=36						
FITZ	Fitzroy Crossi	31.57	246	eP	P	05 07 45.8	-1.3
FITZ	Fitzroy Crossi	31.57	246	P	P	05 07 46.0	-1.0
	15nm,1.8s						
FITZ				pP	pP	05 07 58.2	-2.3
FORT	Forrest	35.34	224	eP	P	05 08 18.1	-1.7
KKM	Kota Kinabalu	41.65	287	eP	P	05 09 13.5	+0.3
	25nm,0.8s						
KKM				epP	pP	05 09 25.8	-1.1
KLBR	Kellerberrin	43.30	230	eP	P	05 09 24.2	-1.9
	8.9nm,0.5s						
KSM	Kuching	46.28	279	eP	P	05 09 50.2	+0.1
	9.1nm,0.8s						
KSM				epP	pP	05 10 03.7	-0.3
KSRS	Korea Array	51.25	331	P	P	05 10 27.7	-0.1
	2.9nm,0.8s,baz=141,slow=6.5,SNR=6.0						
KSAR	Wonju Array Be	51.26	331	P	P	05 10 27.7	-0.2
PETK	Petropavlovsk-	59.74	1	LR	LR	05 34 37.2	
	comp=Z,97nm,18.4s,baz=3.6,slow=33						
CMAR	Chiang Mai Arr	61.56	295	P	P	05 11 42.8	+1.1
	3.0nm,0.8s,baz=122,slow=5.3,SNR=14						
CMAR				pP	pP	05 11 56.5	+0.4
	6.3nm,0.8s,baz=118,slow=4.9,SNR=18						
CMAR	Chiang Mai Arr	61.56	295	P	P	05 11 42.8	+1.1
CMAR				pP	pP	05 11 56.5	+0.4
ULN	Ulaanbaatar	69.38	327	eP	P	05 12 33.3	+1.5
	5.7nm,0.9s						
ULN				epP	pP	05 12 47.8	+1.3
SONM	Songino Array	69.72	327	P	P	05 12 35.2	+1.3
	6.2nm,0.8s,baz=134,slow=6.5,SNR=30						
SONM	Songino Array	69.72	327	P	P	05 12 35.2	+1.3
TAPN	Taplejung	74.13	301	eP	P	05 13 01.6	+0.7
	11nm,0.7s						
TAPN	Taplejung	74.13	301	eP	P	05 13 01.6	+0.7
ODAN	Odare	74.26	300	eP	P	05 13 02.1	+0.4
	18nm,0.5s						
ODAN	Odare	74.26	300	eP	P	05 13 02.1	+0.4
RAMN	Ramite	74.97	300	eP	P	05 13 06.2	+0.5
	4.2nm,0.4s						
JIRN	Jiri	75.51	301	eP	P	05 13 09.5	+0.5
	13nm,0.7s						
JIRN	Jiri	75.51	301	eP	P	05 13 09.5	+0.5
GUN	Gumba	75.84	301	eP	P	05 13 11.1	+0.2
	19nm,0.7s						
GUN	Gumba	75.84	301	eP	P	05 13 11.1	+0.2
PKI	Pulchoki	76.15	300	eP	P	05 13 12.8	+0.2
PKI	Pulchoki	76.15	300	eP	P	05 13 12.8	+0.2
KKN	Kakani	76.32	301	eP	P	05 13 14.0	+0.5
	9.8nm,0.5s						
KKN	Kakani	76.32	301	eP	P	05 13 14.0	+0.5
DMN	Daman	76.42	300	eP	P	05 13 14.5	+0.4
	16nm,0.7s						
DMN	Daman	76.42	300	eP	P	05 13 14.5	+0.4
GKN	Gorkha	76.92	301	eP	P	05 13 17.1	+0.3
	16nm,0.7s						
GKN	Gorkha	76.92	301	eP	P	05 13 17.1	+0.3
KOLN	Koldanda	77.75	300	eP	P	05 13 21.7	+0.2
	5.9nm,0.5s						
KOLN	Koldanda	77.75	300	eP	P	05 13 21.7	+0.2
DANN	Dangsing	77.76	301	eP	P	05 13 22.1	+0.5
DANN	Dangsing	77.76	301	eP	P	05 13 22.1	+0.5
ILAR	Eielson Array	82.90	21	P	P	05 13 48.0	-0.1
	0.3nm,0.7s,baz=249,slow=5.2,SNR=4.1						
ILAR	Eielson Array	82.90	21	P	P	05 13 48.0	-0.1
QSPA	South Pole Qui	83.13	180	P	P	05 13 48.6	-0.9
	4.7nm,0.8s,baz=345,slow=1.2,SNR=24						
QSPA				pP	pP	05 14 03.2	-1.3
	5.1nm,0.6s,baz=328,slow=2.0,SNR=8.6						
QSPA	South Pole Qui	83.13	180	eP	P	05 13 48.6	-0.9
	4.5nm,0.8s						
QSPA				pP	pP	05 14 03.2	-1.3
QSPA				epP	pP	05 14 04.1	-0.4
MK31	Makanchi Array	83.91	318	eP	P	05 13 54.5	+0.8
MK31				epP	pP	05 14 09.3	+0.5
MKAR	Makanchi Array	83.91	318	P	P	05 13 54.7	+1.0
	5.8nm,0.7s,baz=104,slow=5.4,SNR=64						
MKAR				pP	pP	05 14 09.4	+0.6
	3.8nm,0.7s,baz=99,slow=6.3,SNR=12						
MKAR	Makanchi Array	83.91	318	P	P	05 13 54.7	+1.0
MKAR				pP	pP	05 14 09.4	+0.6
ZAA0	Zalesovo Array	84.58	326	eP	P	05 13 56.6	-0.3
ZALV	Zalesovo Beam	84.58	326	P	P	05 13 56.8	-0.1
	2.2nm,0.6s,baz=111,slow=5.8,SNR=16						
ZALV				pP	pP	05 14 12.0	0.0
	1.1nm,0.4s,baz=119,slow=5.8,SNR=5.1						
ZALV	Zalesovo Beam	84.58	326	P	P	05 13 56.8	-0.1
ZALV				pP	pP	05 14 12.0	0.0
AKASG	Malin Array Be	117.96	325	PKP	PKPdf	05 20 09.1	-1.1
	0.6nm,0.6s,baz=53,slow=3.5,SNR=4.2						
AKASG	Malin Array Be	117.96	325	PKP	PKPdf	05 20 09.1	-1.1
BOSA	Boshof	120.84	231	PKP	PKPdf	05 20 16.0	-0.6
	1.6nm,0.9s,baz=282,slow=5.2,SNR=3.9						
BOSA	Boshof	120.84	231	PKP	PKPdf	05 20 16.0	-0.6
CLL	Collm	126.12	332	ePKPdf	PKPdf	05 20 26.0	+0.2
GERES	GERESS Array B	127.41	329	PKP	PKPdf	05 20 28.6	+0.1
	1.0nm,0.6s,baz=90,slow=1.3,SNR=9.8						
GERES	GERESS Array B	127.41	329	PKP	PKPdf	05 20 28.6	+0.1
TAM	Tamanrasset	147.40	302	ePKPbc	PKPbc	05 21 08.9	+0.5
TORD	Torodi Ar. Bea	153.88	286	PKPbc	PKPbc	05 21 23.1	-0.9
	1.8nm,0.7s,baz=63,slow=2.4,SNR=14						
TORD				pPKPbc	PKPab	05 21 36.9	-0.3
	1.4nm,0.7s,baz=64,slow=2.3,SNR=5.5						
TORD	Torodi Ar. Bea	153.88	286	PKPbc	PKPbc	05 21 23.1	-0.9
TORD				pPKPbc	PKPab	05 21 36.9	-0.3
DBIC	Dimbokro	160.92	271	PKPab	PKPab	05 22 07.0	-0.6
	6.1nm,0.8s,baz=112,slow=4.8,SNR=9.1						
DBIC				pPKPab	pPKPab	05 22 21.4	-1.5
	3.4nm,0.6s,baz=147,slow=19,SNR=2.9						
DBIC	Dimbokro	160.92	271	PKPab	PKPab	05 22 07.0	-0.6
DBIC				pPKPab	pPKPab	05 22 21.4	-1.5

*NEIC **01** 05:19:50.0, 44°.53N×110°.36W, h0km, ML2.5(SLC), After SLC.*

ISC 01 05:19:50.9±0.9**, 44°.52N**±0°.02×**110°.35W**±0°.02**, h9**km±8km**, n50,** σ**0s63**/57**, 25C-13D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKWY	Lake	0.06	327	ePg	Pg	05 19 52.2	-1.0
H17A	Grant Village	0.20	233	P	Pg	05 19 55.5	+0.4
	baz=0.2,SNR=101						
H17A				⇓S	Sg	05 19 58.7	+0.7
	baz=0.2						
YNR	Norris Junctio	0.31	311	ePg	Pg	05 19 57.2	+0.1
YFT	Old Faithful	0.35	260	ePg	Pb	05 19 58.5	-1.0
YFT				eSg	Sb	05 20 05.5	+0.3
YMR	Madison River	0.46	290	ePg	Pb	05 20 01.3	-0.1
FLWY	Flagg Ranch	0.50	210	ePg	Pb	05 20 01.3	-0.8
FLWY				eSg	Sb	05 20 09.5	0.0
H18A	Shoshone NF, C	0.52	72	⇓P	Pg	05 20 01.0	0.0
	baz=0.5,SNR=64						
I17A	Pilgrim Ck.	0.62	195	⇓P	Pb	05 20 03.5	-0.6
	baz=0.6,SNR=16						
H16A	Russell Place,	0.67	287	⇑P	Pb	05 20 04.4	-0.5
	baz=0.7,SNR=19						
MOOW	Moose Ponds	0.82	200	ePg	Pb	05 20 07.0	-0.4
QLMT	Earthquake Lak	0.83	293	Pg	Pg	05 20 05.5	-1.5
G17A	Pierce Place,	0.85	341	⇑P	Pb	05 20 08.4	+0.4
	baz=0.8						
I18A	Diamond G Ranc	0.90	154	⇓P	Pg	05 20 08.5	+0.2
	baz=0.9,SNR=38						
I18A				⇑Sb	Sb	05 20 21.6	+0.5
	baz=0.9						
LOHW	Long Hollow	0.92	191	ePg	Pb	05 20 09.2	0.0
G18A	Lazy EL Ranch,	0.98	35	⇑P	Pb	05 20 10.1	-0.1
	baz=1.0,SNR=34						
G18A				⇑S	Sb	05 20 23.1	-0.2
	baz=1.0						
RLMT	Red Lodge	0.98	52	ePg	Pb	05 20 09.6	-0.7
H19A	Powell	0.99	81	⇑P	Pb	05 20 10.1	-0.3
	baz=1.0,SNR=28						
H19A				⇑S	Sb	05 20 23.5	-0.1
	baz=1.0						
I19A	Meeteetse	1.09	116	⇑P	Pb	05 20 11.8	-0.3
	baz=1.1,SNR=20						
I19A				⇑S	Sg	05 20 26.3	+0.3
	baz=1.1						
SNOW	Snow King Moun	1.09	195	ePg	Pg	05 20 10.5	-1.4
SNOW				eS	Sn	05 20 29.2	+1.1
J17A	Brown Place, J	1.18	193	⇑P	Pn	05 20 14.1	+0.2
	baz=1.2,SNR=26						
REDW	Red Top Meadow	1.21	197	ePg	Pn	05 20 14.6	+0.4
J18A	Kendall Valley	1.33	169	⇑S		05 20 34.3	
	baz=1.3						
RRI2	Red Ridge	1.36	211	eP	Pb	05 20 18.1	+1.3
GCMT	Greycliff	1.36	21	eP	Pb	05 20 17.7	+0.9
F17A	Fitzpatrick Pl	1.41	351	⇑P	Pb	05 20 18.4	+0.9
	baz=1.4,SNR=11						
BOZ	Bozeman (W)	1.45	322	ePn	Pb	05 20 18.4	+0.2
F18A	Big Timber	1.46	18	⇑P	Pb	05 20 19.0	+0.6
	baz=1.4,SNR=14						
J19A	Crowheart	1.56	143	⇑Sb	Sb	05 20 41.8	+1.4
	baz=1.6						
I15A	Monteview	1.61	252	⇓P	Pg	05 20 21.5	-0.4
	baz=1.6						
H15A	Lima	1.64	274	⇓Pg	Pg	05 20 23.2	+0.8
	baz=1.6						
G15A	Dillon	1.65	294	⇓Pb	Pg	05 20 22.6	0.0
	baz=1.6,SNR=23						
G20A	Bridger	1.68	64	⇑P	Pb	05 20 21.7	-0.4
	baz=1.7,SNR=40						
G20A				⇑S	Sg	05 20 44.0	-0.8
	baz=1.7						
H20A	Greybull	1.69	90	⇓P	Pb	05 20 21.6	-0.6
	baz=1.7,SNR=21						
H20A				⇑S	Sb	05 20 44.0	+0.4
	baz=1.7						
I20A	Worland	1.70	109	⇑Pb	Pb	05 20 22.4	0.0
	baz=1.7,SNR=19						
I20A				⇓S	Sb	05 20 44.4	+0.5
	baz=1.7						
DLMT	Dillon	1.80	299	ePn	Pg	05 20 25.2	-0.3
MCMT	McKenzie Canyo	1.81	281	ePn	Pg	05 20 25.6	0.0
PD01	Pinedale Array	1.83	162	ePn	Pb	05 20 24.9	+0.2
PD01				eSn	Sg	05 20 49.5	-0.2
PD02	Pinedale Array	1.83	161	ePn	Pb	05 20 24.7	0.0
PD02				eSn	Sb	05 20 48.1	+0.3
LRM	Limekiln Ridge	1.98	312	ePn	Pg	05 20 28.9	0.0

E17A	**Martinsdale**	**1.98**	**350**	⇑Pg	**Pg**	**05 20 29.2**	**+0.3**
	baz=2.0						
J20A	**Shoshoni**	**2.01**	**125**	⇑Sb	Sb	05 20 54.5	+1.3
	baz=2.0						
F20A	**Billings**	**2.02**	**50**	⇑Pg	**Pg**	**05 20 29.3**	**-0.4**
	baz=2.0						
F20A				⇓Sb	**Sg**	**05 20 55.0**	**-0.9**
	baz=2.0						
H14A	**Leadore**	**2.16**	**274**	⇑Pb	**Pg**	**05 20 31.1**	**-1.2**
	baz=2.1						
I14A	**Mackay**	**2.30**	**256**	⇑Pb	**Pb**	**05 20 33.3**	**+0.5**
	baz=2.3						
I21A	**Big Trails, Te**	**2.31**	**107**	⇓Pb	**Pb**	**05 20 32.3**	**-0.6**
	baz=2.3						
G21A	**Lodge Grass**	**2.35**	**71**	⇓Sb	Sb	05 21 04.5	+1.7
	baz=2.3						
K20A	**Yellowstone Ra**	**2.36**	**141**	⇑Sb	Sb	05 21 05.3	+1.8
	baz=2.4						
H21A	**Big Horn, Sher**	**2.37**	**86**	⇓Sb	Sb	05 21 04.6	+1.1
	baz=2.4						
J21A	**Lysite**	**2.41**	**118**	⇑Sb	Sb	05 21 05.3	+0.6
	baz=2.4						
HLID	**Hailey**	**3.08**	**253**	*e*Pn	**Pb**	**05 20 45.3**	**-0.7**

*IDC **01** 05:27:05.3±0.6, 1°14N×120°67E, h0^{km}, mb4.3/13, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, ML4.3/1, MS3.7/9, Ms1 3.8/9, ms1mx3.4/36, Error ellipse: s-maj=28.3km s-min=12.5km az=68.0*

*MOS **01** 05:27:07.9±1.0, 1°15N×120°85E, h33^{km}, mb4.9/18, Error ellipse: s-maj=20.4km s-min=7.6km az=114.8*

*DJA **01** 05:27:08, 1°45N×120°74E, h10^{km}, MLv5.1/14*

*NEIC **01** 05:27:11.8±1.1, 1°12N×120°73E, h50^{km}±11^{km}, mb4.7/14, Error ellipse: s-maj=12.2km s-min=5.1km az=60.0*

NEIC Felt [III] at Tolitoli.

*BJI **01** 05:27:12.3, 1°01N×120°47E, h50^{km}, mB5.1/21, mb4.8/38, Ms4.7/19, Ms7 4.3/19*

*ISCJB **01** 05:27:12.6±0.7, 1°17N±0°04×120°81E±0°05, h70^{km}±7^{km}, mb4.5/45, Error ellipse: s-maj=9.2km s-min=5.5km az=142.0*

ISC 01 05:27:12.4±0.4**, 1°16N**±0°05×**120°76E**±0°06**, h51**^{km}±2^{km}**, h50**^{km}**:pP-P, n157,** σ1^{s}42/166**, mb4.6**/45**, MS3.7**/17**, 3C-3D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.36**	**120**	P	**Pn**	**05 27 33.5**	**-1.6**
PCI	**Palu**	**2.25**	**204**	P	Pn	05 27 56.4	+9.2
GTOI	**Gorontalo**	**2.31**	**103**	P	**Pn**	**05 27 46.3**	**-1.7**
LUWI	**Luwuk**	**2.98**	**137**	P	**Pn**	**05 27 59.3**	**+2.2**
KMSI	**Cibinong**	**3.27**	**100**	P	Pn	05 28 05.3	+4.1
TSM	**Tawau**	**4.24**	**317**	P	Pn	05 28 11.1	-3.4
TTSI	**Tana Toraja**	**4.28**	**193**	P	Pn	05 28 18.4	+3.3
MYLDM	**Lahad Datu**	**4.58**	**331**	P	**Pn**	**05 28 19.2**	**0.0**
MJSI	**Majene**	**5.01**	**201**	P	Pn	05 28 32.7	+7.7
SPSI	**Sidrap Palu**	**5.19**	**191**	P	Pn	05 28 32.9	+5.4
KDI	**Kendari**	**5.42**	**160**	P	**Pn**	**05 28 33.2**	**+2.6**
SDKM	**Sandakan**	**5.70**	**321**	P	**Pn**	**05 28 32.5**	**-2.0**
KAPI	**Kappang**	**6.22**	**189**	Pn	**Pn**	**05 28 40.6**	**-1.1**
	76nm,0.6s						
KAPI	**Kappang**	**6.22**	**189**	P	Pn	05 28 48.1	+6.5
	128nm,1.0s,1µm0.5nm						
KBKI	**Kotabaru**	**6.38**	**226**	P	Px	05 28 54.3	
	84nm,0.8s,2µm0.3nm						
BKSI	**Bulukumba**	**6.47**	**186**	P	Pn	05 28 51.7	+6.6
	131nm,0.7s,1µm0.4nm						
KKM	**Kota Kinabalu**	**6.64**	**317**	*e*Pn	**Pn**	**05 28 46.2**	**-1.3**
KKM				*e*Sn	**Sn**	**05 29 56.9**	**-5.0**
KKM	**Kota Kinabalu**	**6.64**	**317**	P	**Pn**	**05 28 46.3**	**-1.2**
LBMI	**Labuha**	**6.98**	**105**	P	Pn	05 28 55.3	+3.3
	306nm,1.0s,2µm1.3nm						
BBKI	**Banjar Baru**	**7.49**	**232**	P	Px	05 29 09.3	
	58nm,0.9s,2µm0.4nm						
NLAI	**Namlea**	**7.70**	**125**	P	Pn	05 29 06.0	+4.0
	116nm,0.7s,6µm0.4nm						
SBUM	**Sibu**	**8.63**	**279**	P	**Pn**	**05 29 17.1**	**+2.4**
MSAI	**Masohi**	**9.31**	**119**	P	Pn	05 29 27.8	+3.7
	27nm,1.3s,2µm0.1nm						
KSM	**Kuching**	**10.45**	**272**	*e*Pn	**Pn**	**05 29 39.6**	**-0.1**
KSM	**Kuching**	**10.45**	**272**	P	**Pn**	**05 29 40.1**	**+0.4**
BJII	**Banjamegara**	**13.88**	**232**	P	P	05 30 39.7	+6.3
	55nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.74**	**166**	P	**P**	**05 31 37.7**	**-0.4**
	0.7nm,0.3s,baz=276,slow=0.5,SNR=18						
FITZ				LR	LR	05 39 21.4	
	comp=Z,226nm,20.9s,baz=352,slow=37						
FITZ	**Fitzroy Crossi**	**19.74**	**166**	*e*P	**P**	**05 31 37.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.74**	**166**	P	**P**	**05 31 37.7**	**-0.4**
	21nm,1.0s						
KULM	**Kulim**	**20.49**	**282**	*e*P	**P**	**05 31 45.6**	**-0.6**
	21nm,1.2s						
QIZ	**Qiongzhong**	**20.73**	**330**	P	Pn	05 31 50.9	-0.8
QIZ				sP	sP	05 32 05.6	-1.3
QIZ				S	**S**	**05 35 40.4**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,340nm,6.0s						
QIZ				LR	LR		
	comp=Z,150nm,21.6s						
MBWA	**Marble Bar**	**22.21**	**183**	*e*P	**P**	**05 32 07.3**	**+2.6**
MBWA	**Marble Bar**	**22.21**	**183**	*e*P	**P**	**05 32 03.1**	**-1.5**
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**24.84**	**148**	*e*P	**P**	**05 32 25.9**	**-4.3**
WRAB				pmax	pmax		
	comp=Z,38nm,1.2s						
WRAB	**Tennant Creek**	**24.84**	**148**	*e*P	**P**	**05 32 25.9**	**-4.3**
	comp=Z,38nm,1.2s						
WRA	**Warramunga Arr**	**24.85**	**148**	P	**P**	**05 32 29.0**	**-1.3**
	comp=Z,9.2nm,0.8s,baz=328,slow=10,SNR=35						
WRA	**Warramunga Arr**	**24.85**	**148**	P	**P**	**05 32 29.0**	**-1.3**
WRA	**Warramunga Arr**	**24.85**	**148**	P	**P**	**05 32 29.0**	**-1.3**
WB2	**Warramunga Arr**	**24.85**	**148**	*e*P	**P**	**05 32 29.3**	**-1.0**
COEN	**Coen**	**26.81**	**125**	*e*P	**P**	**05 32 48.9**	**+0.8**
COEN	**Coen**	**26.81**	**125**	P	**P**	**05 32 48.3**	**+0.2**
	comp=Z,52nm,0.9s						
GUMO	**Guam**	**26.87**	**62**	LR	LR	05 41 09.6	
	comp=Z,160nm,20.5s,baz=223,slow=31						
CMAR	**Chiang Mai Arr**	**27.45**	**310**	P	**P**	**05 32 53.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=133,slow=7.8,SNR=3.2						
CMAR				PcP	**PcP**	**05 36 12.4**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=174,slow=2.7,SNR=4.4						
CMAR				LR	LR	05 43 30.1	
	comp=Z,138nm,18.6s,baz=138,slow=36						
CMAR	**Chiang Mai Arr**	**27.45**	**310**	P	**P**	**05 32 53.8**	**0.0**
CMAR						05 36 12.5	
CMAR	**Chiang Mai Arr**	**27.45**	**310**	P	**P**	**05 32 53.8**	**0.0**
CMAR				PcP	**PcP**	**05 36 12.4**	**+0.8**
AS31	**Alice Springs**	**27.79**	**153**	*e*P	**P**	**05 32 56.4**	**-0.4**
ASAR	**Alice Springs**	**27.79**	**153**	P	**P**	**05 32 56.0**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=336,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**27.79**	**153**	P	**P**	**05 32 56.0**	**-0.9**
ASAR	**Alice Springs**	**27.79**	**153**	P	**P**	**05 32 56.0**	**-0.9**
PMG	**Port Moresby**	**28.31**	**112**	P	**P**	**05 33 03.3**	**+1.7**
	comp=Z,5.0nm,0.7s,baz=305,slow=15,SNR=4.1						
PMG	**Port Moresby**	**28.31**	**112**	*e*P	**P**	**05 33 02.2**	**+0.6**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PMG	**Port Moresby**	**28.31**	**112**	*e*P	**P**	**05 33 02.2**	**+0.6**
	comp=Z,4.7nm,0.7s						
GYA	**Guiyang**	**28.57**	**333**	P	**P**	**05 33 06.6**	**+2.7**
GYA				pP	**pP**	**05 33 18.8**	**+1.9**
GYA				sP	**sP**	**05 33 25.4**	**+2.4**
GYA				PP	PP	05 34 01.2	-8.0
GYA				S	**S**	**05 37 50.5**	**+1.7**
GYA				sS	**sS**	**05 38 12.3**	**+1.5**
GYA				ScP	**ScP**	**05 39 52.2**	**+0.6**
GYA				ScS	**ScS**	**05 43 44.0**	**-1.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,420nm,17.6s						
GYA				LR	LR		
	comp=E,390nm,18.4s						
GYA				LR	LR		
	comp=Z,400nm,17.2s						
KMI	**Kunming**	**29.50**	**325**	P	**P**	**05 33 14.1**	**+1.9**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
NJ2	**Nanjing**	**30.78**	**357**	*e*P	P	05 33 26.2	+3.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FORT	**Forrest**	**32.52**	**168**	*e*P	**P**	**05 33 37.7**	**-0.8**
CD2	**Chengdu**	**33.69**	**333**	P	**P**	**05 33 51.0**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,240nm,5.9s						
NWAO	**Narrogin (SRO)**	**34.07**	**185**	P	**P**	**05 33 51.4**	**-0.6**
	comp=Z,8.7nm,1.0s,baz=326,slow=11,SNR=3.6						
NWAO	**Narrogin (SRO)**	**34.07**	**185**	P	**P**	**05 33 51.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**34.07**	**185**	P	**P**	**05 33 51.4**	**-0.6**
KSRS	**Korea Array**	**36.71**	**10**	LR	LR	05 48 42.9	
	comp=Z,103nm,21.0s,baz=190,slow=35						
BBOO	**Buckleboo**	**36.75**	**158**	*e*P	**P**	**05 34 15.3**	**+0.2**
SHL	**Shillong**	**36.93**	**313**	*e*P	**P**	**05 34 17.0**	**+0.1**
LZH	**Lanzhou**	**38.13**	**338**	*e*P	P	05 34 32.1	+5.2
LZH				pP	pP	05 34 45.2	+5.0
LZH				sP	sP	05 34 50.3	+4.1
LZH				PP	PP	05 36 04.2	+9.3
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,57nm,4.8s						
LZH				LR	LR		
	comp=N,320nm,12.8s						
LZH				LR	LR		
	comp=E,330nm,13.0s						
LZH				LR	LR		
	comp=Z,370nm,17.2s						
STKA	**Stephens Creek**	**38.34**	**151**	P	**P**	**05 34 28.3**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=329,slow=9.1,SNR=5.7						
STKA	**Stephens Creek**	**38.34**	**151**	*e*P	**P**	**05 34 28.2**	**-0.3**
STKA	**Stephens Creek**	**38.34**	**151**	*e*P	**P**	**05 34 27.1**	**-1.4**
STKA				pmax	pmax		
	comp=Z,29nm,2.8s						
STKA	**Stephens Creek**	**38.34**	**151**	*e*P	**P**	**05 34 27.1**	**-1.4**
	comp=Z,29nm,2.8s						
MAT	**Matsushiro**	**38.73**	**23**	P	**P**	**05 34 30.0**	**-1.8**
MJAR	**Matsushiro Arr**	**38.73**	**23**	P	**P**	**05 34 30.0**	**-1.8**
	comp=Z,6.5nm,1.0s,baz=197,slow=9.9,SNR=8.9						
MJAR				LR	LR	05 50 05.2	
	comp=Z,57nm,21.4s,baz=215,slow=36						
MJAR	**Matsushiro Arr**	**38.73**	**23**	P	**P**	**05 34 30.0**	**-1.8**
MJAR	**Matsushiro Arr**	**38.73**	**23**	P	**P**	**05 34 30.0**	**-1.8**
BJI	**Beijing**	**38.92**	**354**	P	**P**	**05 34 34.4**	**+1.2**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI				LR	LR		
	comp=Z,70nm,21.5s						
LSA	**Lhasa**	**39.98**	**318**	P	**P**	**05 34 43.1**	**+0.3**
CMSA	**Cobar Meteorol**	**40.22**	**146**	*e*P	**P**	**05 34 43.9**	**-0.3**
HHC	**Hu-ho-hao-te**	**40.37**	**349**	*e*P	**P**	**05 34 47.8**	**+2.3**
HHC				pP	**pP**	**05 35 00.5**	**+1.6**
HHC				sP	**sP**	**05 35 05.8**	**+1.0**
HHC				PP	PP	05 36 20.9	+1.7
HHC				S	**S**	**05 40 54.2**	**+4.1**
HHC				sS	**sS**	**05 41 13.4**	**+0.7**
HHC				SS	SS	05 43 50.4	-0.3
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC				LR	LR		
	comp=N,330nm,9.0s						
HHC				LR	LR		
	comp=E,240nm,10.8s						
HHC				LR	LR		
	comp=Z,180nm,9.0s						
ODAN	**Odare**	**40.98**	**311**	*e*P	**P**	**05 34 51.1**	**+0.3**
	comp=Z,20nm,0.9s						
ODAN	**Odare**	**40.98**	**311**	*e*P	**P**	**05 34 51.1**	**+0.3**
TAPN	**Taplejung**	**41.01**	**312**	*e*P	**P**	**05 34 51.3**	**+0.2**
	comp=Z,27nm,1.1s						
TAPN	**Taplejung**	**41.01**	**312**	*e*P	**P**	**05 34 51.3**	**+0.2**
RAMN	**Ramite**	**41.62**	**311**	*e*P	**P**	**05 34 57.0**	**+0.9**
	comp=Z,44nm,1.2s						
RAMN	**Ramite**	**41.62**	**311**	*e*P	**P**	**05 34 57.0**	**+0.9**
JIRN	**Jiri**	**42.31**	**312**	*e*P	**P**	**05 35 02.6**	**+0.7**
	comp=Z,8.1nm,0.6s						
JIRN	**Jiri**	**42.31**	**312**	*e*P	**P**	**05 35 02.6**	**+0.7**
GTA	**Gaotai**	**42.60**	**336**	*e*P	**P**	**05 35 04.9**	**+1.2**
GTA				pP	**pP**	**05 35 17.9**	**+0.6**
GTA				sP	**sP**	**05 35 23.7**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CN2	**Changchun**	**42.66**	**5**	*e*P	P	05 35 08.7	+4.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GUN	**Gumba**	**42.67**	**312**	*e*P	**P**	**05 35 05.1**	**+0.3**
	comp=Z,35nm,1.1s						
GUN	**Gumba**	**42.67**	**312**	*e*P	**P**	**05 35 05.1**	**+0.3**
PKI	**Pulchoki**	**42.85**	**311**	*e*P	**P**	**05 35 07.2**	**+1.0**
PKI	**Pulchoki**	**42.85**	**311**	*e*P	**P**	**05 35 07.2**	**+1.0**
PKI	**Pulchoki**	**42.85**	**311**	*e*P	**P**	**05 35 07.2**	**+1.0**
KKN	**Kakani**	**43.06**	**311**	*e*P	**P**	**05 35 08.9**	**+1.1**
KKN	**Kakani**	**43.06**	**311**	*e*P	**P**	**05 35 08.9**	**+1.1**
KKN	**Kakani**	**43.06**	**311**	*e*P	**P**	**05 35 08.9**	**+1.1**
DMN	**Daman**	**43.09**	**311**	*e*P	**P**	**05 35 08.9**	**+0.8**
	comp=Z,30nm,1.1s						
DMN	**Daman**	**43.09**	**311**	*e*P	**P**	**05 35 08.9**	**+0.8**
GKN	**Gorkha**	**43.65**	**311**	*e*P	**P**	**05 35 13.0**	**+0.5**
	comp=Z,52nm,1.2s						
GKN	**Gorkha**	**43.65**	**311**	*e*P	**P**	**05 35 13.0**	**+0.5**
MDJ	**Mudanjiang**	**43.97**	**9**	P	**P**	**05 35 14.2**	**-0.4**
MDJ				ScP	**ScP**	**05 40 46.9**	**-0.5**
MDJ				S	**S**	**05 41 40.8**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,23nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,94nm,4.8s						
MDJ				LR	LR		
	comp=N,80nm,29.6s						
MDJ				LR	LR		
	comp=E,58nm,28.4s						
MDJ				LR	LR		
	comp=Z,81nm,20.9s						
MDJ	**Mudanjiang**	**43.97**	**9**	*e*P	**P**	**05 35 14.4**	**-0.2**
	comp=Z,40nm,1.3s						
USRK	**Ussuriysk Arra**	**44.00**	**12**	P	**P**	**05 35 14.5**	**-0.3**
	comp=Z,7.3nm,0.9s,baz=199,slow=8.9,SNR=10						
KOLN	**Koldanda**	**44.32**	**310**	*e*P	**P**	**05 35 18.6**	**+0.7**
KOLN	**Koldanda**	**44.32**	**310**	*e*P	**P**	**05 35 18.6**	**+0.7**
DANN	**Dangsing**	**44.49**	**311**	*e*P	**P**	**05 35 19.9**	**+0.5**
DANN	**Dangsing**	**44.49**	**311**	*e*P	**P**	**05 35 19.9**	**+0.5**
HYB	**Hyderabad**	**44.52**	**294**	*i* P	**P**	**05 35 20.0**	**+0.6**
ASAJ	**Asahikawa**	**46.97**	**22**	LR	LR	05 56 09.6	
	comp=Z,57nm,18.9s,baz=173,slow=37						
ULN	**Ulaanbaatar**	**48.01**	**348**	*e*P	**P**	**05 35 46.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ULN	**Ulaanbaatar**	**48.01**	**348**	*e*P	**P**	**05 35 46.2**	**-0.3**
	comp=Z,6.2nm,1.1s						
SONM	**Songino Array**	**48.13**	**347**	P	**P**	**05 35 47.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=165,slow=9.2,SNR=21						
SONM				LR	LR	05 55 40.3	
	comp=Z,102nm,20.0s,baz=206,slow=36						
SONM	**Songino Array**	**48.13**	**347**	P	**P**	**05 35 47.8**	**+0.4**
SONM	**Songino Array**	**48.13**	**347**	P	**P**	**05 35 47.8**	**+0.4**
HABR	**Khabarovsk**	**48.72**	**13**	*e*P	**P**	**05 35 50.0**	**-1.7**
HABR				*e**PP	**pP**	**05 36 02.7**	**-2.7**
HABR				*e*		05 37 43.4	
HABR				*e*		05 45 36.9	
HABR				*e*SS	SS	05 46 21.5	-0.1
HABR				pmax	pmax		
	comp=N,56nm,1.9s						
HABR				pmax	pmax		
	comp=E,73nm,2.5s						
HABR				pmax	pmax		
	comp=Z,89nm,2.5s						
HABR				MLR	MLR		
	comp=Z,108nm,18.0s						
ZAK	**Zakamensk**	**51.24**	**346**	*e*P	**P**	**05 36 11.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMQ	**Urumqi**	**51.65**	**330**	*e*P	**P**	**05 36 14.2**	**0.0**
WMQ				pP	**pP**	**05 36 26.6**	**-1.4**
WMQ				sP	**sP**	**05 36 32.2**	**-1.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.1s						
WMQ				LR	LR		
	comp=N,83nm,23.7s						
WMQ				LR	LR		
	comp=E,69nm,19.0s						
WMQ				LR	LR		
	comp=Z,57nm,20.2s						
TLY	**Talaya**	**52.36**	**347**	*e*P	**P**	**05 36 19.1**	**-0.1**
TLY				*e*		05 48 54.6	
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,70µm,17.0s						
MOY	**Mondy**	**53.00**	**345**	*e*P	**P**	**05 36 24.5**	**+0.4**
KSH	**Kashi**	**55.83**	**319**	*e*P	**P**	**05 36 46.1**	**+1.2**
KSH				*e*pP	**pP**	**05 36 58.4**	**-0.4**
KSH				*e*sP	**sP**	**05 37 04.1**	**-0.6**
KSH				*e*PcP	**PcP**	**05 37 44.1**	**+0.7**
KSH				*e*PP	PP	05 38 52.1	+2.2
KSH				*e*ScP	**ScP**	**05 41 38.0**	**-0.4**
KSH				*e*PcS	**PcS**	**05 41 43.2**	**-0.6**
KSH				*e*S	**S**	**05 44 26.2**	**-2.5**
KSH				*e*sS	**sS**	**05 44 49.2**	**-2.9**
KSH				*e*ScS	**ScS**	**05 46 27.1**	**-2.9**
KSH				*e*SS	SS	05 48 13.1	-2.0
KSH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSH				LR	LR		
	comp=N,200nm,5.2s						
KSH				LR	LR		
	comp=E,170nm,4.6s						
KSH				LR	LR		
	comp=Z,250nm,4.1s						
MK31	**Makanchi Array**	**56.46**	**329**	*e*P	**P**	**05 36 49.3**	**+0.1**
MK31	**Makanchi Array**	**56.46**	**329**	*e*P	**P**	**05 36 49.3**	**+0.1**
MKAR	**Makanchi Array**	**56.46**	**329**	P	**P**	**05 36 49.5**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=128,slow=8.5,SNR=51						
MKAR	**Makanchi Array**	**56.46**	**329**	*e*P	**P**	**05 36 49.5**	**+0.4**
MKAR	**Makanchi Array**	**56.46**	**329**	*e*P	**P**	**05 36 49.5**	**+0.4**
BOD	**Bodaibo**	**56.74**	**356**	*e*P	**P**	**05 36 51.2**	**+0.3**
BOD				pmax	pmax		
	comp=Z,19nm,1.3s						
TKM2	**Tokmak 2**	**57.89**	**322**	*e*P	**P**	**05 37 00.0**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,22nm,1.6s						
TKM2	**Tokmak 2**	**57.89**	**322**	*e*P	**P**	**05 37 00.0**	**+0.5**
	comp=Z,22nm,1.6s						
AAK	**Ala-Archa**	**58.42**	**321***d*	*i*P	**P**	**05 37 03.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,32nm,2.5s						
AAK	**Ala-Archa**	**58.42**	**321**	*e*P	**P**	**05 37 03.3**	**+0.1**
	comp=Z,41nm,1.4s						
ZAA0	**Zalesovo Array**	**60.35**	**336**	*e*P	**P**	**05 37 15.1**	**-0.9**
ZALV	**Zalesovo Beam**	**60.35**	**336**	P	**P**	**05 37 15.6**	**-0.4**
	comp=Z,11nm,0.9s,baz=123,slow=5.5,SNR=53						
ZALV	**Zalesovo Beam**	**60.35**	**336**	P	**P**	**05 37 15.6**	**-0.4**
ZALV	**Zalesovo Beam**	**60.35**	**336**	P	**P**	**05 37 15.6**	**-0.4**
YAK	**Yakutsk**	**61.09**	**5**	*e*P	**P**	**05 37 20.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,28nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK	**Yakutsk**	**61.09**	**5**	*e*P	**P**	**05 37 21.1**	**+0.2**
	comp=N,34nm,1.2s						
NVS	**Novosibirsk**	**61.63**	**336**	*i* P	**P**	**05 37 22.7**	**-2.0**
NVS				*e*		05 38 03.6	
NVS				pmax	pmax		
	comp=Z,13nm,1.8s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,16nm,1.7s						
RPZ	**Rata Peaks**	**63.31**	**141**	LR	LR	06 02 36.6	
	comp=E,127nm,20.4s,baz=274,slow=34						
VOSK	**Vostochnaya**	**65.88**	**329**	P	**P**	**05 37 52.0**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SEY	**Seymchan**	**65.96**	**15**⇓	*e*P	**P**	**05 37 54.0**	**+1.0**
BVA0	**Borovoye Array**	**66.34**	**329**	P	**P**	**05 37 55.4**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ZRNK	**Zerenda**	**67.01**	**329**	P	**P**	**05 37 58.3**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AB31	**Akbulak array**	**70.45**	**323**	P	**P**	**05 38 21.3**	**-0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**70.45**	**323**	*e*P	**P**	**05 38 21.7**	**+0.3**
SVE	**Sverdlovsk**	**73.10**	**330**⇓	*i*P	**P**	**05 38 37.6**	**+0.4**
SVE				pmax	pmax		
	comp=Z,15nm,1.1s						
BILL	**Bilibino**	**73.61**	**16**⇑	*e*P	**P**	**05 38 39.6**	**-0.4**
BILL				*e**PP	**pP**	**05 38 54.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s						
ARU	**Arti**	**73.99**	**329***c*	*i*P	**P**	**05 38 41.7**	**-0.7**
ARU						05 41 27.4	
ARU				S	**S**	**05 48 14.9**	**+4.0**
ARU				SS	**SS**	**05 52 53.1**	**-3.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	**Arti**	**73.99**	**329**	*e*P	**P**	**05 38 42.2**	**-0.2**
	comp=Z,7.6nm,1.1s						
OBN	**Obninsk**	**85.72**	**325**	P	**P**	**05 39 45.0**	**-0.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BR131	**Keskin Array S**	**87.04**	**310**	*e*P	**P**	**05 39 51.5**	**-1.5**
	comp=Z,3.4nm,0.9s						
BRTR	**Keskin Array B**	**87.04**	**310**	P	**P**	**05 39 51.6**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=127,slow=6.1,SNR=14						
BRTR	**Keskin Array B**	**87.04**	**310***c*	*e*P	**P**	**05 39 52.2**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**87.04**	**310**	P	**P**	**05 39 51.6**	**-1.3**
KDAK	**Kodiak Island**	**87.23**	**32**	LR	LR	06 15 28.5	
	comp=Z,85nm,19.4s,baz=96,slow=33						
ILAR	**Eielson Array**	**89.97**	**25**	P	**P**	**05 40 08.1**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=299,slow=3.9,SNR=3.7						
ILAR	**Eielson Array**	**89.97**	**25**	P	**P**	**05 40 08.1**	**+2.1**
ILAR	**Eielson Array**	**89.97**	**25**	P	**P**	**05 40 08.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**117.94**	**285**	PKP	**PKPdf**	**05 45 53.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=64,slow=1.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**117.94**	**285**	PKP	**PKPdf**	**05 45 53.1**	**-1.4**

IDC 01 05:33:36.4±1.2**, 11°93N×143°99E, h0**^{km}**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.3**/21**, mbtmp3.3**/4**, Error ellipse: s-maj=38.5km s-min=18.9km az=103.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**27**	Pn	Pb	05 34 10.5	-0.8
	34nm,0.3s,baz=205,slow=23,SNR=18						
GUMO				Sn	Sn	05 34 33.2	-0.6
	34nm,0.3s,baz=352,slow=23,SNR=8.8						
WRA	**Warramunga Arr**	**33.06**	**197**	P	P	05 40 13.6	-0.3
	0.3nm,0.7s,baz=21,slow=9.7,SNR=2.9						
ASAR	**Alice Springs**	**36.73**	**196**	P	P	05 40 46.0	+0.4
	0.2nm,0.8s,baz=21,slow=10.0,SNR=4.1						
MKAR	**Makanchi Array**	**62.09**	**317**	P	P	05 43 58.4	-0.7
	0.2nm,0.6s,baz=98,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**62.47**	**325**	P	P	05 44 01.8	+0.3
	0.3nm,0.5s,baz=124,slow=7.9,SNR=2.5						

*ISCJB **01** 05:38:42.7±0.6, 11°62S±0°08×166°79E±0°10, h250^{km}, mb4.1/17, Error ellipse: s-maj=14.4km s-min=9.3km az=34.6*

*IDC **01** 05:38:44.1±3.9, 11°66S×166°74E, h248^{km}±33^{km}, mb3.8/14, mb1 3.9/16, mb1mx3.9/21, mbtmp3.8/16, Error ellipse: s-maj=29.7km s-min=15.2km az=122.0*

*NEIC **01** 05:38:44.5±1.2, 11°66S×166°75E, h255^{km}±10^{km}, mb4.7/3, Error ellipse: s-maj=11.0km s-min=9.2km az=116.0*

ISC 01 05:38:44.0±0.6**, 11°66S**±0°09×**166°8E**±0°1**, h250**^{km}**, n55,** σ**0**^{s}**63**/57**, mb4.1**/17**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.09**	**288**	P	**Pn**	**05 40 26.3**	**+0.5**
	9.2nm,0.3s,baz=172,slow=2.1,SNR=4.4						
HNR	**Honiara**	**7.09**	**288**	P	**Pn**	**05 40 26.3**	**+0.5**
DZM	**Mont Dzumac**	**10.36**	**182**	*e*P	**Pn**	**05 41 06.2**	**-0.9**
DZM	**Mont Dzumac**	**10.36**	**182**	*e*Pn	**Pn**	**05 41 07.3**	**+0.2**
	13nm,0.4s						
PMG	**Port Moresby**	**19.44**	**275**	P	**P**	**05 42 51.5**	**-0.6**
	0.5nm,0.3s,baz=164,slow=1.3,SNR=6.6						

PMG	**Port Moresby**	**19.44**	**275**	P	**P**	**05 42 51.5**	**-0.6**
EIDS	**Eidsvold**	**20.17**	**225**	*e*P	**P**	**05 43 00.2**	**+0.3**
EIDS	**Eidsvold**	**20.17**	**225**	*e*P	**P**	**05 43 00.6**	**+0.7**
	18nm,0.7s						
CTA	**Charters Tower**	**21.44**	**244**	P	**P**	**05 43 13.0**	**0.0**
	7.6nm,0.6s,baz=72,slow=12,SNR=18						
CTA	**Charters Tower**	**21.44**	**244**	*e*P	**P**	**05 43 12.9**	**0.0**
CTA	**Charters Tower**	**21.44**	**244**	P	**P**	**05 43 13.0**	**0.0**
RMQ	**Roma**	**22.50**	**226**	*e*P	**P**	**05 43 23.2**	**+0.6**
	9.3nm,0.6s						
MTSU	**Mount Surprise**	**22.64**	**251**	*e*P	**P**	**05 43 24.7**	**+0.7**
	24nm,0.9s						
COEN	**Coen**	**23.14**	**262**	*e*P	**P**	**05 43 29.2**	**+0.6**
ARMA	**Armidale**	**23.37**	**215**	*e*P	**P**	**05 43 31.8**	**+1.2**
STKA	**Stephens Creek**	**30.72**	**225**	P	**P**	**05 44 36.5**	**+0.5**
	2.5nm,0.4s,baz=91,slow=11,SNR=13						
STKA	**Stephens Creek**	**30.72**	**225**	*e*P	**P**	**05 44 36.4**	**+0.4**
STKA	**Stephens Creek**	**30.72**	**225**	P	**P**	**05 44 36.5**	**+0.5**
WB2	**Warramunga Arr**	**32.24**	**251**	*e*P	**P**	**05 44 48.5**	**-1.0**
WRA	**Warramunga Arr**	**32.25**	**251**	P	**P**	**05 44 48.5**	**-1.0**
	2.9nm,0.6s,baz=84,slow=9.0,SNR=29						
WRA	**Warramunga Arr**	**32.25**	**251**	P	**P**	**05 44 48.5**	**-1.0**
ASAR	**Alice Springs**	**33.45**	**245**	P	**P**	**05 44 58.6**	**-1.2**
	3.8nm,0.8s,baz=74,slow=10,SNR=40						
ASAR	**Alice Springs**	**33.45**	**245**	P	**P**	**05 44 58.6**	**-1.2**
BBOO	**Buckleboo**	**35.18**	**228**	*e*P	**P**	**05 45 14.5**	**0.0**
FITZ	**Fitzroy Crossi**	**40.22**	**256**	P	**P**	**05 45 56.6**	**-0.2**
	4.7nm,0.8s,baz=35,slow=2.2,SNR=9.6						
FITZ	**Fitzroy Crossi**	**40.22**	**256**	P	**P**	**05 45 56.6**	**-0.2**
MJAR	**Matsushiro Arr**	**54.99**	**332**	P	**P**	**05 47 48.7**	**-1.0**
	0.8nm,0.3s,baz=170,slow=8.8,SNR=5.6						
MJAR	**Matsushiro Arr**	**54.99**	**332**	P	**P**	**05 47 48.7**	**-1.0**
ASAJ	**Asahikawa**	**59.72**	**340**	P	**P**	**05 48 22.9**	**+0.4**
	7.8nm,0.5s,baz=22,slow=10,SNR=4.6						
ASAJ	**Asahikawa**	**59.72**	**340**	P	**P**	**05 48 22.9**	**+0.4**
NIKO	**Nikolski**	**67.68**	**16**	*e*P	**P**	**05 49 13.4**	**-0.6**
	12nm,0.5s						
CMAR	**Chiang Mai Arr**	**73.30**	**293**	P	**P**	**05 49 49.5**	**+0.7**
	1.2nm,0.7s,baz=121,slow=4.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**73.30**	**293**	P	**P**	**05 49 49.5**	**+0.7**
SONM	**Songino Array**	**79.77**	**323**	P	**P**	**05 50 25.0**	**+0.5**
	1.1nm,0.6s,baz=135,slow=6.1,SNR=5.6						
SONM	**Songino Array**	**79.77**	**323**	P	**P**	**05 50 25.0**	**+0.5**
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**05 50 44.9**	**+0.1**
	4.1nm,0.8s,baz=229,slow=5.7,SNR=32						
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**05 50 44.9**	**+0.1**
NVAR	**Mina Array Bea**	**85.64**	**50**	P	**P**	**05 50 55.6**	**+0.6**
	1.0nm,0.8s,baz=225,slow=9.4,SNR=6.6						
NVAR	**Mina Array Bea**	**85.64**	**50**	P	**P**	**05 50 55.6**	**+0.6**
PDAR	**Pinedale Array**	**93.21**	**47**	P	**P**	**05 51 31.1**	**+0.6**
	0.6nm,1.1s,baz=206,slow=3.7,SNR=2.2						
PDAR	**Pinedale Array**	**93.21**	**47**	P	**P**	**05 51 31.1**	**+0.6**
MKAR	**Makanchi Array**	**94.67**	**317**	P	**P**	**05 51 36.9**	**+0.1**
	2.3nm,0.7s,baz=87,slow=6.4,SNR=34						
MKAR	**Makanchi Array**	**94.67**	**317**	P	**P**	**05 51 36.9**	**+0.1**
YKA	**Yellowknife Ar**	**95.05**	**27**	P	**P**	**05 51 36.8**	**-1.2**
	0.5nm,0.5s,baz=258,slow=4.7,SNR=9.3						
YKA	**Yellowknife Ar**	**95.05**	**27**	P	**P**	**05 51 36.9**	**-1.2**
ARCES	**ARCESS Array B**	**117.19**	**346**	PKP	**PKPdf**	**05 56 58.8**	**0.0**
	5.3nm,0.9s,baz=34,slow=2.1,SNR=6.0						
ARCES	**ARCESS Array B**	**117.19**	**346**	PKP	**PKPdf**	**05 56 58.8**	**0.0**
FINES	**FINESS Array B**	**122.72**	**339**	PKP	**PKPdf**	**05 57 09.2**	**-0.4**
	4.5nm,0.9s,baz=48,slow=2.8,SNR=3.4						
FINES	**FINESS Array B**	**122.72**	**339**	PKP	**PKPdf**	**05 57 09.2**	**-0.4**
KEST	**Kesra**	**148.53**	**323**	PKPbc	**PKPbc**	**05 58 02.3**	**+0.5**
	0.5nm,0.5s,baz=267,slow=5.3,SNR=4.8						
KEST	**Kesra**	**148.53**	**323**	PKPbc	**PKPbc**	**05 58 02.3**	**+0.5**
ESDC	**Sonseca Array**	**150.92**	**345**	PKPbc	**PKPbc**	**05 58 07.8**	**+0.3**
	0.2nm,0.5s,baz=0.5,slow=2.5,SNR=6.3						
ESDC				PKPab	**PKPab**	**05 58 15.7**	**+0.1**
	0.8nm,0.6s,baz=12,slow=3.7,SNR=11						
ESDC	**Sonseca Array**	**150.92**	**345**	PKPbc	**PKPbc**	**05 58 07.8**	**+0.3**
ESDC				PKPab	**PKPab**	**05 58 15.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.37**	**277**	PKP	**PKPdf**	**05 58 19.5**	**+0.1**
	0.7nm,1.1s,baz=27,slow=1.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**165.37**	**277**	PKP	**PKPdf**	**05 58 19.6**	**+0.1**

BJI ***01*** *05:46:23.7, 40°.31N×122°.94E, h10^{km}, mb3.9/5, ML4.1/10, Ms3.9/2, Ms7 3.5/2*

IDC ***01*** *05:46:24.7±0.6, 40°.64N×122°.96E, h0^{km}, mb3.9/14, mb1 4.0/17, mb1mx3.9/27, mbtmp3.9/17, ML3.3/3, Error ellipse: s-maj=19.1km s-min=12.4km az=43.0*

ISCJB ***01*** *05:46:24.0±0.4, 40°.59N±0°.03×123°.00E±0°.05, h13^{km}, mb4.0/16, Error ellipse: s-maj=5.6km s-min=4.5km az=20.5*

NEIC ***01*** *05:46:26.1±0.4, 40°.62N×123°.02E, h10^{km}, mb4.1/1, Error ellipse: s-maj=18.8km s-min=7.1km az=45.0*

ISC 01 05:46:26.2±0.5**, 40°.62N**±0°.04**×123°.07E**±0°.05**, h13**^{km}**, n45,** σ**1^{s}06**/48**, mb4.1**/16**, 1D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.27**	**18**	⇓Pg	**Pg**	**05 46 50.3**	**-0.3**
SNY				Sg	**Sg**	**05 47 07.2**	**+0.1**
SNY				smax	smax		
	comp=N,2μm,0.6s						
SNY				smax	smax		
	comp=E,2μm,0.6s						
DL2	**Dalian**	**2.04**	**213**	Pg	**Pb**	**05 47 02.8**	**-0.3**
DL2				Sg	**Sb**	**05 47 29.6**	**+1.3**
DL2				smax	smax		
	comp=N,2μm,0.8s						
DL2				smax	smax		
	comp=E,2μm,0.7s						
CN2	**Changchun**	**3.64**	**28**	*e*Pg	**Pg**	**05 47 35.2**	**-0.7**
CN2				*e*Sg	**Sg**	**05 48 20.5**	**-2.6**
CN2				smax	smax		
	comp=N,100nm,0.8s						
CN2				smax	smax		
	comp=E,100nm,0.8s						
INCN	**Inchon**	**4.18**	**137**	*e*Pn	**Pn**	**05 47 28.4**	**-1.3**
INCN				*e*Pg	**Pg**	**05 47 44.8**	**-1.5**
INCN				*e*Sg	**Sg**	**05 48 40.2**	**-0.3**
KSAR	**Wonju Array Be**	**4.91**	**129**	Pn	**Pn**	**05 47 41.8**	**+2.0**
KSAR				Lg	Lg	05 49 02.5	
KSRS	**Korea Array**	**4.93**	**128**	Pn	**Pn**	**05 47 41.8**	**+1.9**
	comp=E,3.0nm,0.3s,baz=311,slow=14,SNR=37						
KSRS				Lg	Lg	05 49 02.5	
	comp=E,29nm,0.3s,baz=312,slow=28,SNR=13						
MDJ	**Mudanjiang**	**6.25**	**48**	Pg	Pg	05 48 21.6	-4.3
MDJ				smax	smax		
	comp=N,140nm,1.0s						
MDJ				smax	smax		
	comp=E,160nm,0.8s						
USRK	**Ussuriysk Arra**	**7.52**	**59**	Pn	**Pn**	**05 48 17.3**	**+1.9**
	comp=E,0.8nm,0.3s,baz=246,slow=13,SNR=18						
USRK				Lg	Lg	05 50 23.0	
	comp=E,2.8nm,0.3s,baz=247,slow=27,SNR=16						
HHC	**Hu-ho-hao-te**	**8.74**	**275**	*e*P	**Pn**	**05 48 31.2**	**-1.2**
HHC				pP	pP	05 48 34.4	
HHC				sP		05 48 37.2	
HHC				S	**Sn**	**05 50 10.2**	**-0.6**
HHC				sS	sS	05 50 14.9	
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				LR	LR		
	comp=N,280nm,7.0s						
HHC				LR	LR		
	comp=E,190nm,8.6s						
HHC				LR	LR		
	comp=Z,140nm,7.9s						
MJAR	**Matsushiro Arr**	**12.53**	**104**	Pn	Pn	05 49 29.0	+4.8
	comp=Z,0.1nm,0.3s,baz=284,slow=17,SNR=2.5						
MJAR	**Matsushiro Arr**	**12.53**	**104**	Pn	Pn	05 49 29.0	+4.8
SONM	**Songino Array**	**13.95**	**307**	Pn	**Pn**	**05 49 43.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=118,slow=12,SNR=5.8						
SONM				Lg	Lg	05 53 43.5	
	comp=Z,0.1nm,0.3s,baz=111,slow=26,SNR=6.4						
SONM	**Songino Array**	**13.95**	**307**	Pn	**Pn**	**05 49 43.8**	**+0.2**
SONM				Lg	Lg	05 53 43.5	
ZALV	**Zalesovo Beam**	**28.78**	**311**	P	**P**	**05 52 23.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=95,slow=8.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**28.78**	**311**	P	**P**	**05 52 23.3**	**-0.2**
MKAR	**Makanchi Array**	**29.86**	**296**	P	**P**	**05 52 33.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=99,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**29.86**	**296**	P	**P**	**05 52 33.8**	**+0.5**
KURK	**Kurchatov**	**32.22**	**303**	P	**P**	**05 52 54.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=91,slow=9.3,SNR=8.4						
KURK	**Kurchatov**	**32.22**	**303**	P	**P**	**05 52 54.8**	**+0.9**
BVAR	**Borovoye Array**	**37.29**	**308**	P	**P**	**05 53 38.3**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=91,slow=7.4,SNR=8.7						
BVAR	**Borovoye Array**	**37.29**	**308**	P	**P**	**05 53 38.3**	**+0.6**
ABKAR	**Akbulak array**	**44.33**	**303**	*e*P	**P**	**05 54 36.1**	**+0.4**
	comp=Z,1.9nm,0.6s						
ILAR	**Eielson Array**	**54.15**	**32**	P	**P**	**05 55 52.0**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=282,slow=6.2,SNR=19						
ILAR	**Eielson Array**	**54.15**	**32**	P	**P**	**05 55 52.0**	**+1.3**
ARCES	**ARCESS Array B**	**55.12**	**335**	P	**P**	**05 55 56.5**	**-1.2**
	comp=Z,5.0nm,1.0s,baz=67,slow=9.3,SNR=6.9						
ARCES	**ARCESS Array B**	**55.12**	**335**	P	**P**	**05 55 56.5**	**-1.2**
JOF	**Joensuu**	**55.53**	**326**	*e*p	**P**	**05 56 00.8**	**+0.1**
	comp=Z,2.7nm,0.7s						
JOF	**Joensuu**	**55.53**	**326**	*e*p	**P**	**05 56 00.8**	**+0.1**
	comp=Z,2.7nm,0.7s						
MENT	**Mentasta**	**56.14**	**33**	*e*P	**P**	**05 56 02.2**	**-2.9**
FINES	**FINESS Array B**	**58.38**	**326**	P	**P**	**05 56 21.1**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=63,slow=6.1,SNR=21						
FINES	**FINESS Array B**	**58.38**	**326**	P	**P**	**05 56 21.1**	**+0.2**
WRA	**Warramunga Arr**	**61.16**	**168**	P	**P**	**05 56 40.9**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=350,slow=7.6,SNR=3.0						
WRA	**Warramunga Arr**	**61.16**	**168**	P	**P**	**05 56 40.9**	**+0.5**
AKASG	**Malin Array Be**	**62.09**	**314**	P	**P**	**05 56 45.3**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=52,slow=7.0,SNR=4.4						
AKASG	**Malin Array Be**	**62.09**	**314**	P	**P**	**05 56 45.3**	**-1.1**
NOA	**NORSAR Array B**	**64.62**	**330**	P	**P**	**05 57 03.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=52,slow=6.4,SNR=3.2						
NOA	**NORSAR Array B**	**64.62**	**330**	P	**P**	**05 57 03.1**	**0.0**
ASAR	**Alice Springs**	**64.74**	**169**	P	**P**	**05 57 05.3**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=353,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**64.74**	**169**	P	**P**	**05 57 05.3**	**+1.1**
BRTR	**Keskin Array B**	**65.25**	**302**	P	**P**	**05 57 07.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=90,slow=4.6,SNR=6.3						
BRTR	**Keskin Array B**	**65.25**	**302**	P	**P**	**05 57 07.3**	**-0.4**
YKA	**Yellowknife Ar**	**67.33**	**25**	P	**P**	**05 57 21.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=314,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**67.33**	**25**	P	**P**	**05 57 21.1**	**+0.6**
STKA	**Stephens Creek**	**74.14**	**164**	P	**P**	**05 58 02.6**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=330,slow=5.5,SNR=3.1						
STKA	**Stephens Creek**	**74.14**	**164**	P	**P**	**05 58 02.6**	**+0.5**

MEX 01 05:52:36.1±0.8**, 18°.22N**×**104°.93W, h16**^{km}±14^{km}**, MD3.8, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.28**	**355**	*i* P	Pn	05 52 55.3	-4.0
CJM				*e*S	Sb	05 53 10.5	-5.5
R15V		**1.30**	**43**	*i* P	Pn	05 52 56.0	-3.8
R15V				*e*S	Sb	05 53 11.2	-5.7
MMIG	**Aquila**	**1.51**	**87**	*i* P	Pn	05 52 58.6	-3.9
MMIG				*e*S	Sn	05 53 16.4	-5.4
EZ5V		**1.77**	**45**	*i* P	Pn	05 53 03.8	-2.8
EZ5V				*i* S	Sn	05 53 23.4	-5.6
ANIG	**Ahuacatlan**	**2.84**	**8**	*i* P	Pn	05 53 18.3	-2.8
ANIG				*i* S	Sn	05 53 51.8	-3.3
ZIIG	**Zihuatanejo**	**3.35**	**100**	*i* P	Pn	05 53 24.7	-3.2
ZIIG				*i* S	Sn	05 54 03.3	-4.1

IDC 01 05:54:27.0±7.4**, 20°.23S**×**176°.06W, h0**^{km}**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.5**/16**, mbtmp3.5**/2**, Error ellipse: s-maj=422.8km s-min=49.6km az=150.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.35**	**256**	P	P	06 02 55.2	0.0
	0.6nm,0.7s,baz=99,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**46.44**	**261**	P	P	06 02 55.7	-0.3
	0.3nm,0.3s,baz=97,slow=7.6,SNR=5.2						
GERES	**GERESS Array B**	**150.39**	**347**	PKPbc	PKPbc	06 14 20.1	-0.4
	0.2nm,0.4s,baz=352,slow=6.0,SNR=2.6						

IDC 01 06:12:33.1±1.4**, 2°.17N**×**127°.25E, h0**^{km}**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.4**/16**, mbtmp3.4**/4**, Error ellipse: s-maj=129.8km s-min=20.7km az=70.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**163**	P	P	06 17 38.6	-1.7
	0.4nm,0.4s,baz=342,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**26.49**	**166**	P	P	06 18 13.5	+1.2
	0.2nm,0.3s,baz=346,slow=12,SNR=7.6						
SONM	**Songino Array**	**48.93**	**341**	P	P	06 21 21.0	-0.1
	0.2nm,0.5s,baz=154,slow=8.2,SNR=2.6						
MKAR	**Makanchi Array**	**59.12**	**326**	P	P	06 22 35.5	0.0
	0.5nm,0.6s,baz=119,slow=7.9,SNR=10						

IDC ***01*** *06:27:47.7±0.6, 34°.93S×107°.97W, h0^{km}, mb4.5/12, mb1 4.7/12, mb1mx4.6/15, mbtmp4.5/12, MS5.0/16, Ms1 5.0/16, ms1mx5.0/19, Error ellipse: s-maj=20.3km s-min=19.6km az=66.0*

ISCJB ***01*** *06:27:49.0±0.3, 34°.84S±0°.05×107°.70W±0°.07, h10^{km}, mb4.9/46, MS5.2/151, Error ellipse: s-maj=9.1km s-min=7.0km az=144.6*

MOS ***01*** *06:27:50.2±1.9, 34°.77S×107°.59W, h10^{km}, mb5.1/17, MS5.1/11, Error ellipse: s-maj=20.8km s-min=11.6km az=87.7*

NEIC ***01*** *06:27:51.2±0.3, 34°.84S×107°.65W, h10^{km}, mb5.1/36, MS5.2/131, MW5.8, MW5.7, Error ellipse: s-maj=11.5km s-min=9.1km az=66.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}0.22; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$1.74; $M_{r\theta}$0.41; $M_{\theta\phi}$-4.33; $M_{\phi r}$-0.22; Best double couple: $M_0$4.70000×10^{17} NP1:ϕ_s192.00000°, δ85.00000°, λ2.00000°. NP2:ϕ_s101.00000°, δ88.00000°, λ175.00000°. Principal axes: T 4.6400, Plg5.0000°, Azm56.0000°; N 0.1900, Plg84.0000°, Azm262.0000°; P -4.8300, Plg2.0000°, Azm146.0000°;*

NEIC ***01*** *06:28:05.9±0.0, 35°.08S×107°.42W, h10^{km}, Moment Tensor Solution. s152 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$2.43; $M_{r\theta}$-2.14; $M_{\theta\phi}$-6.01; $M_{\phi r}$1.55; Best double couple: $M_0$6.90000×10^{17} NP1:ϕ_s11.00000°, δ71.00000°, λ6.00000°. NP2:ϕ_s279.00000°, δ84.00000°, λ161.00000°. Principal axes: T 7.4300, Plg17.0000°, Azm233.0000°; N -1.1500, Plg69.0000°, Azm83.0000°; P -6.2900, Plg9.0000°, Azm326.0000°;*

ISC 01 06:27:50.4±0.3**, 34°.85S**±0°.09**×107°.73W**±0°.09**, h10**^{km}**, n399,** σ**1^{s}16**/479**, mb5.0**/47**, MS5.2**/151**, 166C-142D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.82**	**349**	T	T	06 37 55.0	
	92nm,0.3s,baz=218,slow=22,SNR=6.9						
RKT	**Rikitea**	**26.45**	**289**	*e*S	S	06 38 02.8	+1.4
	839nm,26.4s						
RKT				*e*LQ	LQ	06 39 04.8	
	6μm,36.2s						
RKT				*e*LR	LR	06 40 01.2	
	2μm,36.8s						
PLCA	**Paso Flores**	**29.81**	**112**	P	**P**	**06 33 58.4**	**+0.8**
	17nm,0.9s,baz=268,slow=9.9,SNR=12						
PLCA				LR	LR	06 42 14.2	
	comp=Z,3μm,21.7s,baz=274,slow=29						
PLCA	**Paso Flores**	**29.81**	**112**	*e*P	**P**	**06 33 58.3**	**+0.8**
PLCA				pmax	pmax		
	comp=Z,34nm,1.1s						
PLCA	**Paso Flores**	**29.81**	**112**	*e*P	**P**	**06 33 58.3**	**+0.8**
	comp=Z,34nm,1.1s						
LCO	**Las Campanas**	**31.84**	**90**	*e*P	**P**	**06 34 16.6**	**+0.8**
	comp=Z,20nm,0.9s						
USHA	**Ushuaia**	**33.68**	**139**	LR	LR	06 44 48.9	
	comp=Z,14μm,19.8s,baz=271,slow=30						
LVC	**Limon Verde**	**35.95**	**81**	*e*P	**P**	**06 34 53.2**	**+1.7**
	comp=Z,98nm,1.7s						
LVC				LR	LR		
	comp=Z,8μm,21.0s						
NNA	**Nana**	**36.10**	**58**	*e*P	**P**	**06 34 52.5**	**-0.1**
NNA				pmax	pmax		
	comp=Z,44nm,1.3s						
NNA				MLR	MLR		
	comp=Z,7μm,19.0s						
NNA	**Nana**	**36.10**	**58**	*e*P	**P**	**06 34 52.5**	**-0.1**
	comp=Z,44nm,1.3s						
NNA				LR	LR		
	comp=Z,7μm,19.0s						
NNA	**Nana**	**36.10**	**58**	P	**P**	**06 34 53.5**	**+0.9**
	comp=Z,157nm,1.1s,SNR=5.1						
TRQA	**Tornquist**	**36.66**	**109**	*e*P	**P**	**06 34 58.6**	**+1.4**
	comp=Z,78nm,1.7s						
TRQA				LR	LR		
	comp=Z,7μm,20.0s						
TBI	**Tubuai**	**37.97**	**276**	*e*S	S	06 41 00.3	-0.2
	comp=Z,1μm,31.0s						
TBI				*e*LQ	LQ	06 43 54.2	
	comp=Z,11μm,34.0s						
TBI				*e*LR	LR	06 45 20.5	
	comp=Z,2μm,29.0s						
ATAH	**Atahualpa**	**38.59**	**51**	P	**P**	**06 35 16.0**	**+1.9**
	comp=Z,21nm,0.9s,baz=140,slow=5.5,SNR=12						
ATAH	**Atahualpa**	**38.59**	**51**	P	**P**	**06 35 16.0**	**+1.9**
EFI	**East Falkland**	**39.05**	**131**	PFAKE		06 35 30.0	+13
EFI				LR	LR		
	comp=Z,8μm,19.0s						
TAOE	**Nuku Hiva Isla**	**39.36**	**303**	*e*S	S	06 41 23.9	+2.1
	comp=Z,1μm,29.5s						
TAOE				*e*LQ	LQ	06 44 27.3	
	comp=Z,6μm,28.8s						
TAOE				*e*LR	LR	06 46 11.7	
	comp=Z,4μm,32.8s						
PMSA	**Palmer Station**	**39.75**	**152**	LR	LR	06 47 53.7	
	comp=Z,5μm,18.6s,baz=294,slow=30						
LPAZ	**La Paz**	**39.90**	**73**	P	**P**	**06 35 25.6**	**+0.2**
	comp=Z,14nm,0.7s,baz=250,slow=5.0,SNR=37						
LPAZ				LR	LR	06 48 08.7	
	comp=Z,2μm,20.5s,baz=239,slow=30						
LPAZ	**La Paz**	**39.90**	**73**	*e*P	**P**	**06 35 25.5**	**+0.2**
LPAZ				pmax	pmax		
	comp=Z,56nm,1.3s						
LPAZ	**La Paz**	**39.90**	**73**	*e*P	**P**	**06 35 25.5**	**+0.2**
	comp=Z,56nm,1.3s						
PPT2	**Papeete2**	**40.95**	**284**	*e*S	S	06 41 46.6	+1.1
	comp=Z,2μm,28.0s						
PPT2				*e*LQ	LQ	06 44 55.2	
	comp=Z,15μm,32.0s						
CPUP	**Villa Florida**	**43.83**	**93**	P	**P**	**06 35 56.3**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=239,slow=8.9,SNR=12						
CPUP				LR	LR	06 51 22.7	
	comp=Z,3μm,18.2s,baz=234,slow=32						
CPUP	**Villa Florida**	**43.83**	**93**	P	**P**	**06 35 56.3**	**-0.4**
CPUP	**Villa Florida**	**43.83**	**93**	P	**P**	**06 35 56.3**	**-0.4**
OTAV	**Otavalo**	**44.35**	**44**	*e*P	**P**	**06 36 01.4**	**-0.1**
	comp=Z,41nm,1.6s						
OTAV				LR	LR		
	comp=Z,765nm,21.0s						
RAR	**Rarotonga**	**47.42**	**272**	LR	LR	06 49 50.0	
	comp=Z,503nm,20.2s,baz=119,slow=28						
SAML	**Samuel**	**48.16**	**68**	*e*P	**P**	**06 36 29.6**	**-1.5**
	comp=Z,20nm,1.0s						
SAML				LR	LR		
	comp=Z,6μm,19.0s						
ROSC	**El Rosal**	**50.48**	**45**	P	**P**	**06 36 47.8**	**-1.3**
	comp=Z,15nm,0.7s,baz=123,slow=4.1,SNR=11						
ROSC				LR	LR	06 54 14.9	
	comp=Z,4μm,21.5s,baz=202,slow=31						
ROSC	**El Rosal**	**50.48**	**45**	P	**P**	**06 36 47.8**	**-1.3**
BCIP	**Isla Barro Col**	**51.12**	**36**	PFAKE		06 37 10.0	+17
BCIP				LR	LR		
	comp=Z,4μm,21.0s						
TGUH	**Tegucigalpa,Un**	**52.37**	**25**	*e*P	**P**	**06 37 05.8**	**+3.1**
	comp=Z,56nm,1.3s						
TGUH				LR	LR		
	comp=Z,1μm,20.0s						
CMIG	**Matias Romero**	**53.08**	**15**	LR	LR	06 54 11.3	
	comp=Z,2μm,20.0s,baz=178,slow=30						
SPB	**Sao Paulo**	**53.12**	**95**	PFAKE		06 37 20.0	+12
SPB				LR	LR		
	comp=Z,3μm,22.0s						
SBA	**Scott Base**	**55.28**	**195**	*e*P	**P**	**06 37 25.4**	**+2.0**
SBA				pmax	pmax		
	comp=Z,22nm,1.3s						
SBA				MLR	MLR		
	comp=Z,1μm,19.0s						
SBA	**Scott Base**	**55.28**	**195**	*e*P	**P**	**06 37 25.4**	**+2.0**
	comp=Z,22nm,1.3s						
SBA				LR	LR		
	comp=Z,1μm,19.0s						
QSPA	**South Pole Qui**	**55.35**	**180**	P	**P**	**06 37 23.5**	**-0.7**
	comp=Z,6.8nm,0.9s,baz=116,slow=4.9,SNR=13						
QSPA	**South Pole Qui**	**55.35**	**180**	P	**P**	**06 37 23.5**	**-0.7**
	comp=Z,8.6nm,1.1s						
QSPA				LR	LR		
	comp=Z,2μm,19.0s						
SDV	**Santo Domingo**	**55.88**	**46**	*e*P	**P**	**06 37 28.0**	**-0.6**
	comp=Z,15nm,1.0s						
SDV				LR	LR		
	comp=Z,977nm,20.0s						
VNDA	**Vanda**	**56.36**	**195**	*e*P	**P**	**06 37 30.3**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,13nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**56.36**	**195**	*e*P	**P**	**06 37 30.3**	**-0.8**
	comp=Z,13nm,1.1s						
VNDA				LR	LR		
	comp=Z,1μm,19.0s						
TEIG	**Tepich**	**57.81**	**22**	PFAKE		06 37 50.0	+8.1
TEIG				LR	LR		
	comp=Z,3μm,20.0s						
URZ	**Urewera**	**58.89**	**243**	LR	LR	06 56 13.6	
	comp=Z,1μm,21.9s,baz=86,slow=29						
SNZO	**South Karori**	**59.50**	**239**	PFAKE		06 38 10.0	+16
SNZO				LR	LR		
	comp=Z,1μm,20.0s						
VNA2	**Neumayer--Watz**	**60.75**	**158**	*e*	**P**	**06 38 02.5**	**+0.7**
RPZ	**Rata Peaks**	**61.13**	**235**	LR	LR	06 57 60.0	
	comp=Z,1μm,20.9s,baz=70,slow=30						
SNAA	**Sanae**	**61.79**	**160**	*e*	**P**	**06 38 10.2**	**+1.3**
SNAA	**Sanae**	**61.79**	**160**	*e*P	P	06 38 11.2	+2.3
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**61.79**	**160**	*e*P	P	06 38 11.2	+2.3
	comp=Z,7.9nm,1.1s						
KVTX	**Kingsville**	**62.75**	**10**	PFAKE		06 38 30.0	+14
KVTX				LR	LR		
	comp=Z,1μm,22.0s						
SDDR	**Presa de Saban**	**63.76**	**39**	PFAKE		06 38 40.0	+17
SDDR				LR	LR		
	comp=Z,2μm,20.0s						
TXAR	**Lajitas Array**	**63.95**	**4**	P	**P**	**06 38 24.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=184,slow=7.6,SNR=13						
TXAR				LR	LR	07 01 28.3	
	comp=Z,596nm,18.7s,baz=10.0,slow=32						
TXAR	**Lajitas Array**	**63.95**	**4**	P	**P**	**06 38 24.0**	**+0.3**
TXAR	**Lajitas Array**	**63.95**	**4**	P	**P**	**06 38 24.0**	**+0.3**
626A	**Big Bend Ranch**	**64.15**	**3**	⇑P	**P**	**06 38 25.2**	**+0.2**
	baz=64						
626A				⇑P	**P**	**06 38 25.2**	**+0.2**
	baz=64						
626A				⇑P	**P**	**06 38 25.2**	**+0.2**
	baz=64						
JCT	**Junction City**	**65.41**	**8**	*e*P	**P**	**06 38 34.7**	**+1.5**
JCT				pmax	pmax		
	comp=Z,22nm,1.0s						
JCT				MLR	MLR		
	comp=Z,818nm,21.0s						
JCT	**Junction City**	**65.41**	**8**	*e*P	**P**	**06 38 34.7**	**+1.5**
	comp=Z,22nm,1.0s						
JCT				LR	LR		
	comp=Z,818nm,21.0s						
325A	**Bean Ranch, Si**	**65.92**	**3**	⇓P	**P**	**06 38 36.3**	**-0.3**
	baz=66						
325A				⇓P	**P**	**06 38 36.3**	**-0.3**
	baz=66						
325A				⇓P	**P**	**06 38 36.3**	**-0.3**
	baz=66						
318A	**Bisbee**	**65.97**	**358**	⇑P	**P**	**06 38 36.5**	**-0.4**
	baz=66						
318A				⇑P	**P**	**06 38 36.5**	**-0.4**
	baz=66						
318A				⇑P	**P**	**06 38 36.5**	**-0.4**
	baz=66						
324A	**Moseley Ranch,**	**65.97**	**2**	⇓P	**P**	**06 38 36.3**	**-0.7**
	baz=66						
324A				⇓P	**P**	**06 38 36.3**	**-0.7**
	baz=66						
324A				⇓P	**P**	**06 38 36.3**	**-0.7**
	baz=66						
CBYP	**Canovanas**	**66.13**	**44**	*e*P	**P**	**06 38 38.2**	**+0.1**
	comp=Z,21nm,1.0s						
FDF	**Fort de France**	**66.22**	**50**	PFAKE		06 38 50.0	+11
FDF				LR	LR		
	comp=Z,2μm,20.0s						
MNTX	**Cornudas Mount**	**66.23**	**2**	PFAKE		06 38 50.0	+12
MNTX				LR	LR		
	comp=Z,532nm,19.0s						
NVL	**N'lazarevskaya**	**66.28**	**162**	*e*P	P	06 38 41.3	+3.0
NVL				*e*		06 48 01.4	

NVL eSSS 06 51 52.3
NVL pmax pmax
comp=Z,6.0nm,0.8s
224A Cornudas Mount 66.60 2 ⇓P **P 06 38 41.2 +0.2**
baz=67
224A ⇓P **P 06 38 41.2 +0.2**
baz=67
224A ⇓P **P 06 38 41.2 +0.2**
baz=67
225A Deer Hill, Car 66.66 3 ⇑P **P 06 38 40.9 -0.4**
baz=67
225A ⇑P **P 06 38 40.9 -0.4**
baz=67
225A ⇑P **P 06 38 40.9 -0.4**
baz=67
TUC Tucson 66.87 357 *e*P **P 06 38 43.3 +0.8**
TUC pmax pmax
comp=Z,14nm,1.5s
TUC MLR MLR
comp=Z,750nm,19.0s
TUC Tucson 66.87 357 *e*P **P 06 38 43.3 +0.8**
comp=Z,14nm,1.5s
TUC LR LR
comp=Z,750nm,19.0s
120A U Bar Ranch, L 67.05 359 ⇓P **P 06 38 44.3 +0.5**
baz=67
120A ⇓P **P 06 38 44.3 +0.5**
baz=67
120A ⇓P **P 06 38 44.3 +0.5**
baz=67
125A Gardner Draw, 67.22 3 ⇓P **P 06 38 43.8 -1.0**
baz=68
125A ⇓P **P 06 38 43.8 -1.0**
baz=68
125A ⇓P **P 06 38 43.8 -1.0**
baz=68
119A Ashpeak Ranch, 67.28 359 ⇓P **P 06 38 44.5 -0.7**
baz=68
119A ⇓P **P 06 38 44.5 -0.7**
baz=68
119A ⇓P **P 06 38 44.5 -0.7**
baz=68
MSVF Nonsavu 67.33 264 PFAKE 06 39 00.0 +14
MSVF LR LR
comp=Z,638nm,21.0s
NATX Nacogdoches 67.39 12 PFAKE 06 39 00.0 +14
NATX LR LR
comp=Z,719nm,21.0s
114A Black Gap (USA 67.42 355 ⇑P **P 06 38 45.4 -0.5**
baz=68
114A ⇑P **P 06 38 45.4 -0.5**
baz=68
114A ⇑P **P 06 38 45.4 -0.5**
baz=68
113A Mohawk Valley, 67.50 354 ⇑P **P 06 38 46.9 +0.5**
baz=68
113A ⇑P **P 06 38 46.9 +0.5**
baz=68
113A ⇑P **P 06 38 46.9 +0.5**
baz=68
CPRX Cap Rock 67.62 4 *e*P **P 06 38 47.6 +0.2**
comp=Z,14nm,0.9s
BAR Barrett 67.70 352 *e*P **P 06 38 49.0 +1.3**
comp=Z,13nm,1.2s
Z22A Elephant Butte 67.75 1 ⇑P **P 06 38 48.6 +0.4**
baz=68
Z22A ⇑P **P 06 38 48.6 +0.4**
baz=68
Z22A ⇑P **P 06 38 48.6 +0.4**
baz=68
Z23A Rita Site, Whi 67.77 1 ⇓P **P 06 38 49.2 +0.9**
baz=68
Z23A ⇓P **P 06 38 49.2 +0.9**
baz=68
Z23A ⇓P **P 06 38 49.2 +0.9**
baz=68
Z25A Roswell 67.83 3 ⇓P **P 06 38 48.6 -0.1**
baz=68
Z25A ⇓P **P 06 38 48.6 -0.1**
baz=68
Z25A ⇓P **P 06 38 48.6 -0.1**
baz=68
Z17A San Carlos Hig 67.84 358 ⇑P **P 06 38 48.5 -0.1**
baz=68
Z17A ⇑P **P 06 38 48.5 -0.1**
baz=68
Z17A ⇑P **P 06 38 48.5 -0.1**
baz=68
Z26A Caprock 67.86 3 ⇓P **P 06 38 48.2 -0.6**
baz=68
Z26A ⇓P **P 06 38 48.2 -0.6**
baz=68
Z26A ⇓P **P 06 38 48.2 -0.6**
baz=68
Z24A Sheeppen Canyo 67.86 2 ⇑P **P 06 38 48.4 -0.6**
baz=68
Z24A ⇑P **P 06 38 48.4 -0.6**
baz=68
Z24A ⇑P **P 06 38 48.4 -0.6**
baz=68
MONP Monument Peak 67.88 352 ⇓P **P 06 38 47.8 -1.3**
baz=68
MONP ⇓P **P 06 38 47.8 -1.3**
baz=68
MONP ⇓P **P 06 38 47.8 -1.3**
baz=68
Z27A Tatum 67.94 4 ⇑P **P 06 38 48.9 -0.5**
baz=68
Z27A ⇑P **P 06 38 48.9 -0.5**
baz=68
Z27A ⇑P **P 06 38 48.9 -0.5**
baz=68
Y17A Roosevelt 68.25 357 ⇑P **P 06 38 52.1 +0.9**
baz=69
Y17A ⇑P **P 06 38 52.1 +0.9**
baz=69
Y17A ⇑P **P 06 38 52.1 +0.9**
baz=69
Y20A Horse Springs, 68.40 359 ⇑P **P 06 38 53.1 +0.7**
baz=69
Y20A ⇑P **P 06 38 53.1 +0.7**
baz=69
Y20A ⇑P **P 06 38 53.1 +0.7**
baz=69
Y22A Socorro 68.43 1 ⇑P **P 06 38 52.9 +0.4**
baz=69
Y22A ⇑P **P 06 38 52.9 +0.4**
baz=69
Y22A ⇑P **P 06 38 52.9 +0.4**
baz=69
Y23A Lovelace Mesa, 68.44 2 ⇑P **P 06 38 53.0 +0.5**
baz=69
Y23A ⇑P **P 06 38 53.0 +0.5**
baz=69
Y23A ⇑P **P 06 38 53.0 +0.5**
baz=69
Y24A Capitan 68.45 2 ⇑P **P 06 38 53.2 +0.6**
baz=69
Y24A ⇑P **P 06 38 53.2 +0.6**
baz=69
Y24A ⇑P **P 06 38 53.2 +0.6**
baz=69
Y19A Nutrioso 68.46 359 ⇓P **P 06 38 53.8 +1.0**
baz=69
Y19A ⇓P **P 06 38 53.8 +1.0**
baz=69
Y19A ⇓P **P 06 38 53.8 +1.0**
baz=69
Y25A Mesa, Roswell 68.47 3 ⇑P **P 06 38 52.7 0.0**
baz=69
Y25A ⇑P **P 06 38 52.7 0.0**
baz=69
Y25A ⇑P **P 06 38 52.7 0.0**
baz=69
Y21A Point of Rocks 68.50 0 ⇑P **P 06 38 54.2 +1.2**
baz=69
Y21A ⇑P **P 06 38 54.2 +1.2**
baz=69
Y21A ⇑P **P 06 38 54.2 +1.2**
baz=69
Y27A Causey 68.51 4 ⇓P **P 06 38 53.3 +0.4**
baz=69
Y27A ⇓P **P 06 38 53.3 +0.4**
baz=69
Y27A ⇓P **P 06 38 53.3 +0.4**
baz=69
Y12C Blythe 68.54 354 ⇓P **P 06 38 53.4 +0.5**
baz=69
Y12C ⇓P **P 06 38 53.4 +0.5**
baz=69
Y12C ⇓P **P 06 38 53.4 +0.5**
baz=69
PFO Pinyon Flat Ob 68.59 352 PFAKE 06 39 10.0 +17
PFO LR LR
comp=Z,385nm,20.0s
Y14A Wickenburg 68.61 355 ⇑P **P 06 38 54.0 +0.5**
baz=69
Y14A ⇑P **P 06 38 54.0 +0.5**
baz=69
Y14A ⇑P **P 06 38 54.0 +0.5**
baz=69
MSTX Muleshoe 68.62 4 ⇓P **P 06 38 53.6 0.0**
baz=69
MSTX ⇓P **P 06 38 53.6 0.0**
baz=69
MSTX ⇓P **P 06 38 53.6 0.0**
baz=69
VBMS Vicksburg 68.65 16 PFAKE 06 39 10.0 +16
VBMS LR LR
comp=Z,1μm,20.0s
LENM Lemitar 68.66 1 *e*P **P 06 38 54.3 +0.3**
comp=Z,12nm,1.2s
X17A Forest Lakes 68.89 357 ⇓P **P 06 38 56.0 +0.5**
baz=69
X17A ⇓P **P 06 38 56.0 +0.5**
baz=69
X17A ⇓P **P 06 38 56.0 +0.5**
baz=69
X16A Lo Mia Camp, P 68.99 357 ⇑P **P 06 38 56.5 +0.5**
baz=69
X16A ⇑P **P 06 38 56.5 +0.5**
baz=69
X16A ⇑P **P 06 38 56.5 +0.5**
baz=69
X20A Quemado 69.03 359 ⇑P **P 06 38 56.8 +0.4**
baz=69
X20A ⇑P **P 06 38 56.8 +0.4**
baz=69
X20A ⇑P **P 06 38 56.8 +0.4**
baz=69
X18A Snowflake 69.05 358 ⇑P **P 06 38 56.5 +0.1**
baz=69
X18A ⇑P **P 06 38 56.5 +0.1**
baz=69
X18A ⇑P **P 06 38 56.5 +0.1**
baz=69
ANMO Albuquerque 69.45 1 PFAKE 06 39 10.0 +11
ANMO LR LR
comp=Z,632nm,19.0s
AMTX Amarillo 69.60 5 PFAKE 06 39 10.0 +10
AMTX LR LR
comp=Z,2μm,19.0s
W19A Sanders 69.62 359 ⇓P **P 06 38 59.7 -0.1**
baz=70
W19A ⇓P **P 06 38 59.7 -0.1**
baz=70
W19A ⇓P **P 06 38 59.7 -0.1**
baz=70
W20A Ramah 69.62 359 ⇓P **P 06 39 00.7 +0.8**
baz=70
W20A ⇓P **P 06 39 00.7 +0.8**
baz=70
W20A ⇓P **P 06 39 00.7 +0.8**
baz=70
W23A Werner Place, 69.66 1 ⇑P **P 06 39 00.5 +0.3**
baz=70
W23A ⇑P **P 06 39 00.5 +0.3**
baz=70
W23A ⇑P **P 06 39 00.5 +0.3**
baz=70
W26A Owens Ranch, T 69.67 3 ⇓P **P 06 38 59.9 -0.2**
baz=70
W26A ⇓P **P 06 38 59.9 -0.2**
baz=70
W26A ⇓P **P 06 38 59.9 -0.2**
baz=70
W27A Bowe Ranch, En 69.69 4 ⇑P **P 06 38 59.9 -0.3**
baz=70
W27A ⇑P **P 06 38 59.9 -0.3**
baz=70
W27A ⇑P **P 06 38 59.9 -0.3**
baz=70
WMOK Wichita Mounta 69.73 8 PFAKE 06 39 10.0 +10
WMOK LR LR
comp=Z,643nm,21.0s
W24A Lazy 6 Ranch, 69.73 2 ⇓P **P 06 39 01.3 +0.7**
baz=70
W24A ⇓P **P 06 39 01.3 +0.7**
baz=70
W24A ⇓P **P 06 39 01.3 +0.7**
baz=70
W25A X Bar L Ranch, 69.77 3 ⇓P **P 06 39 01.7 +0.9**
baz=70
W25A ⇓P **P 06 39 01.7 +0.9**
baz=70
W25A ⇓P **P 06 39 01.7 +0.9**
baz=70
LDFC Landfair 69.91 354 *e*P **P 06 39 03.1 +1.6**
comp=Z,31nm,1.1s
WUAZ Wupatki 70.09 357 PFAKE 06 39 20.0 +17
WUAZ LR LR
comp=Z,931nm,20.0s
V17A Tonalea, Kykot 70.17 357 ⇑P **P 06 39 03.6 +0.4**
baz=70
V17A ⇑P **P 06 39 03.6 +0.4**
baz=70
V17A ⇑P **P 06 39 03.6 +0.4**
baz=70
V18A Ganado 70.23 358 ⇓P **P 06 39 03.7 +0.1**
baz=71
V18A ⇓P **P 06 39 03.7 +0.1**
baz=71
V18A ⇓P **P 06 39 03.7 +0.1**
baz=71
LRAL Lakeview Retre 70.28 18 PFAKE 06 39 20.0 +16
LRAL LR LR
comp=Z,2μm,20.0s
V20A Brimhall 70.29 359 ⇑P **P 06 39 04.6 +0.6**
baz=71
V20A ⇑P **P 06 39 04.6 +0.6**
baz=71
V20A ⇑P **P 06 39 04.6 +0.6**
baz=71
GSC Goldstone 70.30 352 *e*P **P 06 39 05.4 +1.5**
GSC pmax pmax
comp=Z,27nm,1.6s
GSC Goldstone 70.30 352 *e*P **P 06 39 05.4 +1.5**
comp=Z,27nm,1.6s
TUQ Turquoise Moun 70.34 353 ⇑P **P 06 39 04.2 0.0**
baz=71
TUQ ⇑P **P 06 39 04.2 0.0**
baz=71
TUQ ⇑P **P 06 39 04.2 0.0**
baz=71
V22A San Miguel Ran 70.40 1 ⇓P **P 06 39 04.9 +0.2**
baz=71
V22A ⇓P **P 06 39 04.9 +0.2**
baz=71
V22A ⇓P **P 06 39 04.9 +0.2**
baz=71
LRMC Laurel Mountai 70.58 351 ⇑P **P 06 39 06.7 +1.0**
baz=71
LRMC ⇑P **P 06 39 06.7 +1.0**
baz=71
LRMC ⇑P **P 06 39 06.7 +1.0**
baz=71
U23A El Rito 70.83 1 ⇓P **P 06 39 08.4 +1.1**
baz=71
U23A ⇓P **P 06 39 08.4 +1.1**
baz=71
U23A ⇓P **P 06 39 08.4 +1.1**
baz=71
ISA Isabella 70.86 351 *e*P **P 06 39 08.5 +1.2**
ISA pmax pmax
comp=Z,17nm,1.3s
ISA Isabella 70.86 351 *e*P **P 06 39 08.5 +1.2**
comp=Z,17nm,1.3s
U22A Llaves 70.87 1 ⇓P **P 06 39 07.9 +0.3**
baz=71
U22A ⇓P **P 06 39 07.9 +0.3**
baz=71
U22A ⇓P **P 06 39 07.9 +0.3**
baz=71
MPMC Manual Prospec 71.13 352 ⇓P **P 06 39 09.7 +0.6**
baz=72
MPMC ⇓P **P 06 39 09.7 +0.6**
baz=72
U17A Shonto 71.14 358 ⇑P **P 06 39 09.4 +0.2**
baz=72
U17A ⇑P **P 06 39 09.4 +0.2**
baz=72
U17A ⇑P **P 06 39 09.4 +0.2**
baz=72
TUL1 Tulsa 71.27 10 ⇑P **P 06 39 09.6 -0.1**
baz=72
TUL1 ⇑P **P 06 39 09.6 -0.1**
baz=72
TUL1 ⇑P **P 06 39 09.6 -0.1**
baz=72
T19A Beclabito 71.32 359 ⇑P **P 06 39 10.8 +0.5**
baz=72
T19A ⇑P **P 06 39 10.8 +0.5**
baz=72
T19A ⇑P **P 06 39 10.8 +0.5**
baz=72
DAC Darwin (Calif) 71.36 352 PFAKE 06 39 20.0 +10
DAC LR LR
comp=Z,831nm,20.0s
T22A Edith 71.50 1 ⇑P **P 06 39 12.4 +1.1**
baz=72
T22A ⇑P **P 06 39 12.4 +1.1**
baz=72
T22A ⇑P **P 06 39 12.4 +1.1**
baz=72
T17A Navajo Res., N 71.54 357 ⇓P **P 06 39 12.7 +1.1**
baz=72
T17A ⇓P **P 06 39 12.7 +1.1**
baz=72
T17A ⇓P **P 06 39 12.7 +1.1**
baz=72
GOGA Godfrey 71.61 21 PFAKE 06 39 20.0 +8.2
GOGA LR LR
comp=Z,888nm,19.0s
T18A Mexican Hat 71.65 358 ⇓P **P 06 39 12.8 +0.7**
baz=72
T18A ⇓P **P 06 39 12.8 +0.7**
baz=72
T18A ⇓P **P 06 39 12.8 +0.7**
baz=72
MVCO Mesa Verde 71.70 359 *e*P **P 06 39 13.8 +1.2**
comp=Z,29nm,1.4s
MVCO Mesa Verde 71.70 359 ⇑P **P 06 39 13.0 +0.5**
baz=72
MVCO ⇑P **P 06 39 13.0 +0.5**
baz=72
MVCO ⇑P **P 06 39 13.0 +0.5**
baz=72
RCBR Riachuelo 71.79 84 PFAKE 06 39 30.0 +17
RCBR LR LR
comp=Z,1μm,19.0s
PLAL Pickwick Lake 71.86 17 PFAKE 06 39 30.0 +17
PLAL LR LR
comp=Z,1μm,20.0s
S21A Coal Bank Pass 72.14 360 ⇓P **P 06 39 16.1 +0.7**
baz=72
S21A ⇓P **P 06 39 16.1 +0.7**
baz=72
S21A ⇓P **P 06 39 16.1 +0.7**
baz=72
S18A Hurst Farm, Bl 72.20 358 ⇓P **P 06 39 15.6 -0.1**
baz=73
S18A ⇓P **P 06 39 15.6 -0.1**
baz=73
S18A ⇓P **P 06 39 15.6 -0.1**
baz=73
CCUT Cedar City 72.22 355 *e*P **P 06 39 16.7 +1.0**
comp=Z,15nm,1.3s
S22A 4UR Ranch, Cre 72.23 1 ⇑P **P 06 39 16.2 +0.4**
baz=73
S22A ⇑P **P 06 39 16.2 +0.4**
baz=73
S22A ⇑P **P 06 39 16.2 +0.4**
baz=73
S19A Harvey Farm, M 72.24 359 ⇑P **P 06 39 15.8 0.0**
baz=73
S19A ⇑P **P 06 39 15.8 0.0**
baz=73
S19A ⇑P **P 06 39 15.8 0.0**
baz=73
SDCO Great Sand Dun 72.26 2 PFAKE 06 39 30.0 +14
SDCO LR LR
comp=Z,476nm,19.0s
S20A Disappointment 72.31 359 ⇑P **P 06 39 17.1 +0.8**
baz=73
S20A ⇑P **P 06 39 17.1 +0.8**
baz=73
S20A ⇑P **P 06 39 17.1 +0.8**
baz=73
NHSC New Hope 72.38 24 PFAKE 06 39 30.0 +14
NHSC LR LR
comp=Z,2μm,22.0s
PV01 Paradox Valley 72.62 359 *e*P **P 06 39 18.1 +0.1**
comp=Z,602nm,1.1s
R20A Redvale 72.67 359 ⇑P **P 06 39 17.5 -0.9**
baz=73
R20A ⇑P **P 06 39 17.5 -0.9**
baz=73
R20A ⇑P **P 06 39 17.5 -0.9**
baz=73
R25A Fountain Ranch 72.70 3 ⇓P **P 06 39 18.6 +0.2**
baz=73
R25A ⇓P **P 06 39 18.6 +0.2**
baz=73
R25A ⇓P **P 06 39 18.6 +0.2**
baz=73
R22A Saguache, Gunn 72.72 1 ⇑P **P 06 39 20.0 +1.2**
baz=73
R22A ⇑P **P 06 39 20.0 +1.2**
baz=73
R22A ⇑P **P 06 39 20.0 +1.2**
baz=73
R21A Cimarron 72.85 0 ⇑P **P 06 39 20.0 +0.6**
baz=73
R21A ⇑P **P 06 39 20.0 +0.6**
baz=73
R21A ⇑P **P 06 39 20.0 +0.6**
baz=73
PV04 Paradox Valley 72.88 359 *e*P **P 06 39 20.7 +1.2**
R26A Arlington 72.89 4 ⇓P **P 06 39 21.0 +1.4**
baz=73
R26A ⇓P **P 06 39 21.0 +1.4**
baz=73
R26A ⇓P **P 06 39 21.0 +1.4**
baz=73
R13A O'Grain Ranch, 72.89 355 ⇓P **P 06 39 20.3 +0.6**
baz=73
R13A ⇓P **P 06 39 20.3 +0.6**
baz=73
R13A ⇓P **P 06 39 20.3 +0.6**
baz=73
R27A Eads 72.91 4 ⇑P **P 06 39 20.1 +0.5**
baz=73
R27A ⇑P **P 06 39 20.1 +0.5**
baz=73
R27A ⇑P **P 06 39 20.1 +0.5**
baz=73
MVU Marysvale 73.10 356 PFAKE 06 39 30.0 +9.0
MVU LR LR
comp=Z,821nm,19.0s
R11A Troy Canyon, C 73.19 354 ⇓P **P 06 39 21.7 +0.3**
baz=74
R11A ⇓P **P 06 39 21.7 +0.3**
baz=74
R11A ⇓P **P 06 39 21.7 +0.3**
baz=74
Q22A Crested Butte, 73.35 1 ⇓P **P 06 39 23.2 +0.7**
baz=74
Q22A ⇓P **P 06 39 23.2 +0.7**
baz=74
Q22A ⇓P **P 06 39 23.2 +0.7**
baz=74
CMB Columbia Colle 73.46 350 *e*P **P 06 39 24.0 +1.2**
CMB pmax pmax
comp=Z,53nm,2.1s
CMB Columbia Colle 73.46 350 *e*P **P 06 39 24.0 +1.2**
comp=Z,53nm,2.1s
NVAR Mina Array Bea 73.57 351 P **P 06 39 23.3 -0.3**
comp=Z,2.6nm,0.8s,baz=182,slow=8.8,SNR=11
NVAR LR LR 07 05 18.4
comp=Z,781nm,21.6s,baz=186,slow=31
NVAR Mina Array Bea 73.57 351 P **P 06 39 23.3 -0.3**
Q18A Rafter H Ranch 73.62 358 ⇓P **P 06 39 24.3 +0.5**

baz=74
Q18A ⇓P P 06 39 24.3 +0.5
baz=74
Q18A ⇓P P 06 39 24.3 +0.5
baz=74
SRU San Rafael 73.64 358 *e*P P 06 39 24.1 +0.1
SRU pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael 73.64 358 *e*P P 06 39 24.1 +0.1
comp=Z,15nm,1.1s
SYO Syowa Base 73.67 168‖ *e*P P 06 39 21.5 -2.2
P20A De Beque 73.98 359 ⇑P P 06 39 27.7 +1.7
baz=74
P20A ⇑P P 06 39 27.7 +1.7
baz=74
P20A ⇑P P 06 39 27.7 +1.7
baz=74
KSU1 Kansas State U 74.30 9 PFAKE 06 39 40.0 +12
KSU1 LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 74.45 254 *e*S S 06 49 03.1 -1.3
comp=Z,1μm,26.9s
DZM *e*LR LR 07 02 18.5
comp=Z,3μm,32.5s
DUG Dugway 74.82 356 *e*P P 06 39 32.1 +1.3
DUG pmax pmax
comp=Z,11nm,1.3s
DUG MLR MLR
comp=Z,749nm,21.0s
DUG Dugway 74.82 356 *e*P P 06 39 32.1 +1.3
comp=Z,11nm,1.3s
DUG LR LR
comp=Z,749nm,21.0s
DAU Daniels Canyon 74.96 357 *e*P P 06 39 33.0 +1.2
DAU Daniels Canyon 74.96 357 *e*P P 06 39 33.0 +1.2
CASY Casey 74.99 195 PFAKE 06 39 40.0 +8.6
CASY LR LR
comp=Z,687nm,19.0s
CNNC Cliffs of the 75.09 25 PFAKE 06 39 40.0 +7.7
CNNC LR LR
comp=Z,3μm,21.0s
JLU Jordanelle 75.16 357 *e*P P 06 39 33.3 +0.4
comp=Z,41nm,1.7s
N20A Spence Gulch, 75.31 360 ⇑P P 06 39 34.6 +0.8
baz=76
N20A ⇑P P 06 39 34.6 +0.8
baz=76
N20A ⇑P P 06 39 34.6 +0.8
baz=76
N19A John Jarvie Ra 75.38 359 ⇓P P 06 39 34.3 +0.2
baz=76
N19A ⇓P P 06 39 34.3 +0.2
baz=76
N19A ⇓P P 06 39 34.3 +0.2
baz=76
BMN Battle Mountai 75.42 353 *e*P P 06 39 35.3 +1.0
BMN pmax pmax
comp=Z,19nm,1.2s
BMN Battle Mountai 75.42 353 *e*P P 06 39 35.3 +1.0
comp=Z,19nm,1.2s
N17A Moffit Pass 75.47 358 ⇑P P 06 39 34.7 -0.1
baz=76
N17A ⇑P P 06 39 34.7 -0.1
baz=76
N17A ⇑P P 06 39 34.7 -0.1
baz=76
N18A Larsen Ranch, 75.47 358 ⇑P P 06 39 35.1 +0.4
baz=76
N18A ⇑P P 06 39 35.1 +0.4
baz=76
N18A ⇑P P 06 39 35.1 +0.4
baz=76
M18A Lyman 75.94 358 ⇓P P 06 39 37.1 -0.2
baz=76
M18A ⇓P P 06 39 37.1 -0.2
baz=76
M18A ⇓P P 06 39 37.1 -0.2
baz=76
M20A Sweetwater, Wa 75.97 360 ⇓P P 06 39 37.6 +0.1
baz=76
M20A ⇓P P 06 39 37.6 +0.1
baz=76
M20A ⇓P P 06 39 37.6 +0.1
baz=76
BLA Blacksburg 76.06 22 PFAKE 06 39 50.0 +12
BLA LR LR
comp=Z,2μm,20.0s
M15A Larsen Ranch, 76.06 356 ⇓P P 06 39 37.8 -0.1
baz=76
M15A ⇓P P 06 39 37.8 -0.1
baz=76
M15A ⇓P P 06 39 37.8 -0.1
baz=76
HWUT Hardware Ranch 76.17 357 PFAKE 06 39 50.0 +11
HWUT LR LR
comp=Z,760nm,20.0s
L20A Wamsutter 76.49 360 ⇑P P 06 39 41.3 +0.9
baz=77
L20A ⇑P P 06 39 41.3 +0.9
baz=77
L20A ⇑P P 06 39 41.3 +0.9
baz=77
L19A Farson 76.59 359 ⇑P P 06 39 41.5 +0.5
baz=77
L19A ⇑P P 06 39 41.5 +0.5
baz=77
L19A ⇑P P 06 39 41.5 +0.5
baz=77
L15A Malad City 76.60 356 ⇑P P 06 39 40.8 -0.2
baz=77
L15A ⇑P P 06 39 40.8 -0.2
baz=77
L15A ⇑P P 06 39 40.8 -0.2
baz=77
TAU Tasmania Unive 76.70 227 PFAKE 06 39 50.0 +8.3
TAU LR LR
comp=Z,2μm,22.0s
HDIL Hopedale 76.93 14 PFAKE 06 40 00.0 +17
HDIL LR LR
comp=Z,1μm,21.0s
MOD Modoc 77.25 350 *e*P P 06 39 46.2 +1.6
comp=Z,36nm,1.5s
BW06 Boulder Array 77.26 359 PFAKE 06 40 00.0 +15
BW06 LR LR
comp=Z,809nm,21.0s
PDAR Pinedale Array 77.26 359 P P 06 39 44.7 -0.1
comp=Z,3.6nm,0.8s,baz=166,slow=6.2,SNR=20
PDAR LR LR 07 08 06.3
comp=Z,613nm,21.2s,baz=190,slow=31
PDAR Pinedale Array 77.26 359 P P 06 39 44.7 -0.1
PD02 Pinedale Array 77.27 359 *e*P P 06 39 45.0 +0.1
AHID Auburn Hatcher 77.30 357 PFAKE 06 40 00.0 +15
AHID LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 77.56 352 PFAKE 06 40 00.0 +14
WVOR LR LR
comp=Z,664nm,21.0s
REDW Red Top Meadow 77.89 358 *e*P P 06 39 49.1 +0.9
comp=Z,23nm,1.3s
J22A Midwest 77.90 1 ⇓P P 06 39 47.3 -0.9
baz=78
J22A ⇓P P 06 39 47.3 -0.9
baz=78
J22A ⇓P P 06 39 47.3 -0.9
baz=78
CBN Corbin 77.95 24 PFAKE 06 40 00.0 +12
CBN LR LR
comp=Z,4μm,19.0s
J13A Cove Ranch, Pi 78.10 355 ⇓P P 06 39 50.8 +1.5
baz=78
J13A ⇓P P 06 39 50.8 +1.5
baz=78
J13A ⇓P P 06 39 50.8 +1.5
baz=78
ACSO Alum Creek Sta 78.12 19 PFAKE 06 40 00.0 +11
ACSO LR LR
comp=Z,3μm,22.0s
BBSR BB Station 78.14 36 PFAKE 06 40 00.0 +10
BBSR LR LR
comp=Z,790nm,19.0s
K05A Summer Lake 78.14 350 ⇑P P 06 39 48.7 -1.0
baz=78
K05A ⇑P P 06 39 48.7 -1.0
baz=78
K05A ⇑P P 06 39 48.7 -1.0
baz=78
HLID Hailey 78.28 355 *e*P P 06 39 51.3 +0.9
comp=Z,30nm,1.3s
HLID Hailey 78.28 355 ⇑P P 06 39 50.5 +0.2
baz=79
HLID ⇑P P 06 39 50.5 +0.2
baz=79
HLID ⇑P P 06 39 50.5 +0.2
baz=79
I21A Big Trails, Te 78.29 0 ⇑P P 06 39 50.6 +0.2
baz=79
I21A ⇑P P 06 39 50.6 +0.2
baz=79
I21A ⇑P P 06 39 50.6 +0.2
baz=79
I22A 9 Mile Ranch, 78.38 1 ⇓P P 06 39 51.2 +0.3
baz=79
I22A ⇓P P 06 39 51.2 +0.3
baz=79
I22A ⇓P P 06 39 51.2 +0.3
baz=79
I20A Worland 78.43 360 ⇓P P 06 39 51.5 +0.4
baz=79
I20A ⇓P P 06 39 51.5 +0.4
baz=79
I20A ⇓P P 06 39 51.5 +0.4
baz=79
RSSD Black Hills 78.67 3 *e*P P 06 39 53.9 +1.3
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 78.67 3 *e*P P 06 39 53.9 +1.3
comp=Z,10nm,1.0s
ECSD EROS Data Cent 78.86 8 *e*P P 06 39 53.9 +0.5
comp=Z,17nm,1.0s
JFWS Jewell Farm 79.03 13 PFAKE 06 40 10.0 +16
JFWS LR LR
comp=Z,1μm,19.0s
LKWY Lake 79.08 358 PFAKE 06 40 10.0 +15
LKWY LR LR
comp=Z,1μm,19.0s
H19A Powell 79.16 359 ⇑P P 06 39 55.7 +0.6
baz=80
H19A ⇑P P 06 39 55.7 +0.6
baz=80
H19A ⇑P P 06 39 55.7 +0.6
baz=80
I07A Izee 79.29 351 ⇓P P 06 39 55.5 -0.4
baz=80
I07A ⇓P P 06 39 55.5 -0.4
baz=80
I07A ⇓P P 06 39 55.5 -0.4
baz=80
RLMT Red Lodge 79.61 359 *e*P P 06 40 05.8 +8.1
comp=Z,173nm,3.0s
RLMT LR LR
comp=Z,798nm,21.0s
G20A Bridger 79.70 360 ⇓P P 06 39 58.9 +0.8
baz=80
G20A ⇓P P 06 39 58.9 +0.8
baz=80
G20A ⇓P P 06 39 58.9 +0.8
baz=80
G23A Biddle 79.70 2 ⇑P P 06 39 58.9 +0.9
baz=80
G23A ⇑P P 06 39 58.9 +0.9
baz=80
G23A ⇑P P 06 39 58.9 +0.9
baz=80
BMO Blue Mountains 79.80 353 PFAKE 06 40 10.0 +11
BMO LR LR
comp=Z,365nm,20.0s
AAM Ann Arbor 79.88 18 PFAKE 06 40 10.0 +11
AAM LR LR
comp=Z,2μm,21.0s
CAN Canberra 80.04 234 PFAKE 06 40 10.0 +10
CAN LR LR
comp=Z,489nm,21.0s
BOZ Bozeman (W) 80.20 357 PFAKE 06 40 10.0 +9.2
BOZ LR LR
comp=Z,659nm,21.0s
F23A Volborg 80.22 2 ⇑P P 06 40 01.6 +0.8
baz=81
F23A ⇑P P 06 40 01.6 +0.8
baz=81
F23A ⇑P P 06 40 01.6 +0.8
baz=81
ERPA Erie 80.71 21 PFAKE 06 40 20.0 +17
ERPA LR LR
comp=Z,3μm,20.0s
E18A Harlowton 81.07 358 ⇓P P 06 40 06.0 +0.6
baz=81
E18A ⇓P P 06 40 06.0 +0.6
baz=81
E18A ⇓P P 06 40 06.0 +0.6
baz=81
D23A Lindsay 81.68 2 ⇑P P 06 40 09.7 +1.1
baz=82
D23A ⇑P P 06 40 09.7 +1.1
baz=82
D23A ⇑P P 06 40 09.7 +1.1
baz=82
BINY Binghamton 82.01 23 PFAKE 06 40 20.0 +10
BINY LR LR
comp=Z,4μm,21.0s
GLMI Grayling 82.03 16 PFAKE 06 40 20.0 +10
GLMI LR LR
comp=Z,2μm,20.0s
TARA Tarawa 82.03 277 PFAKE 06 40 20.0 +8.9
TARA LR LR
comp=Z,522nm,22.0s
SWMT Swartz Lake 82.18 356 *e*P P 06 40 12.0 +0.8
C20A Veseth Ranch, 82.19 360 ⇑P P 06 40 12.2 +1.0
baz=83
C20A ⇑P P 06 40 12.2 +1.0
baz=83
C20A ⇑P P 06 40 12.2 +1.0
baz=83
JTMT Jette 82.43 356 *e*P P 06 40 13.7 +1.1
EGMT Eagleton 82.52 359 PFAKE 06 40 30.0 +17
EGMT LR LR
comp=Z,553nm,19.0s
B18A Beardsley Farm 82.89 359 ⇑P P 06 40 16.2 +1.4
baz=83
B18A ⇑P P 06 40 16.2 +1.4
baz=83
B18A ⇑P P 06 40 16.2 +1.4
baz=83
DGMT Dagmar 83.01 2 PFAKE 06 40 30.0 +15
DGMT LR LR
comp=Z,1μm,22.0s
A14A Double T Ranch 83.60 356 ⇑P P 06 40 19.1 +0.5
baz=84
A14A ⇑P P 06 40 19.1 +0.5
baz=84
A14A ⇑P P 06 40 19.1 +0.5
baz=84
EYMN Ely 83.70 11 PFAKE 06 40 30.0 +11
EYMN LR LR
comp=Z,926nm,20.0s
LONY Lake Ozonia 84.63 23 PFAKE 06 40 40.0 +16
LONY LR LR
comp=Z,2μm,21.0s
ULM Lac du Bonnet 85.38 8 P P 06 40 28.2 +0.9
comp=Z,4.2nm,0.7s,baz=194,slow=6.2,SNR=7.1
ULM Lac du Bonnet 85.38 8 P P 06 40 28.2 +0.9
ULM MLR MLR
comp=Z,1μm,19.0s
ULM Lac du Bonnet 85.38 8 P P 06 40 28.2 +0.9
ULM LR LR
comp=Z,1μm,19.0s
HNR Honiara 86.57 261 PFAKE 06 40 50.0 +16
HNR LR LR
comp=Z,366nm,20.0s
STKA Stephens Creek 87.02 233 LR LR 07 12 02.4
comp=Z,625nm,21.1s,baz=84,slow=31
CTAO Charters Tower 91.09 245 PFAKE 06 41 10.0 +14
CTAO LR LR
comp=Z,588nm,20.0s
SCHQ Schefferville 95.99 22 LR LR 07 18 58.4
comp=Z,2μm,21.3s,baz=218,slow=32
PMG Port Moresby 96.84 254 PFAKE 06 41 30.0 +7.9
PMG LR LR
comp=Z,364nm,21.0s
YKA Yellowknife Ar 97.16 357 P P 06 41 19.4 -2.8
comp=Z,0.3nm,0.6s,baz=165,slow=3.6,SNR=4.3
YKA Yellowknife Ar 97.16 357 P P 06 41 19.4 -2.8
YKA Yellowknife Ar 97.16 357 P P 06 41 19.4 -2.8
ASAR Alice Springs 97.54 234 P P 06 41 23.1 -2.0
comp=Z,0.2nm,0.7s,baz=120,slow=3.7,SNR=3.8
ASAR Alice Springs 97.54 234 P P 06 41 23.2 -2.0
ASAR Alice Springs 97.54 234 P P 06 41 23.1 -2.0
KDAK Kodiak Island 99.67 337 PFAKE 06 41 50.0 +16
KDAK LR LR
comp=Z,593nm,19.0s
WRAB Tennant Creek 99.76 238 PFAKE 06 41 50.0 +15
WRAB LR LR
comp=Z,581nm,20.0s
WRA Warramunga Arr 99.76 238 LR LR 07 23 14.5
comp=Z,536nm,19.0s,baz=145,slow=33
NWAO Narrogin (SRO) 100.47 217 PFAKE 06 41 50.0 +12
NWAO LR LR
comp=Z,665nm,22.0s
EGAK Eagle 102.70 346 PFAKE 06 42 00.0 +13
EGAK LR LR
comp=Z,802nm,22.0s
BOSA Boshof 102.83 139 PFAKE 06 42 00.0 +11
BOSA LR LR
comp=Z,2μm,21.0s
COLA College 104.23 344 PFAKE 06 42 10.0 +16
COLA LR LR
comp=Z,674nm,19.0s
DBIC Dimbokro 104.34 92 PFAKE 06 42 10.0 +14
DBIC LR LR
comp=Z,1μm,20.0s
TSUM Tsumeb 105.27 127 PFAKE 06 46 30.0
TSUM LR LR
comp=Z,2μm,19.0s
LBTB Lobatse 105.83 137 PFAKE 06 46 30.0
LBTB LR LR
comp=Z,1μm,22.0s
MBWA Marble Bar 108.35 226 PFAKE 06 46 30.0
MBWA LR LR
comp=Z,602nm,20.0s
SFJD Kangerlussuaq 110.34 21 PFAKE 06 46 30.0
SFJD LR LR
comp=Z,1μm,19.0s
TORD Torodi Ar. Bea 113.27 90 PP PP 06 47 16.6 -2.6
comp=Z,1.5nm,1.0s,baz=244,slow=7.6,SNR=5.4
TORD Torodi Ar. Bea 113.27 90 PP PP 06 47 16.6 -2.6
RTC Rabat Centre 116.45 66 PFAKE 06 46 50.0 +16
RTC LR LR
comp=Z,1μm,20.0s
SFS San Fernando 117.98 63 PFAKE 06 46 50.0 +13
SFS LR LR
comp=Z,2μm,22.0s
MTE Manteigas 118.58 59 PFAKE 06 46 50.0 +12
MTE LR LR
comp=Z,916nm,20.0s
KAPI Kappang 120.29 238 PFAKE 06 46 50.0 +7.6
KAPI LR LR
comp=Z,413nm,20.0s
BILL Bilibino 120.36 334 PFAKE 06 46 50.0 +9.1
BILL LR LR
comp=Z,584nm,20.0s
PAB San Pablo 120.53 61 PFAKE 06 46 50.0 +7.8
PAB LR LR
comp=Z,1μm,22.0s
ESDC Sonseca Array 120.85 61 PP PP 06 48 12.9 +0.9
comp=Z,0.9nm,0.9s,baz=247,slow=8.9,SNR=4.0
ESDC Sonseca Array 120.85 61 PP PP 06 48 12.9 +0.9
ESLA Sonseca Array 120.85 61 PFAKE 06 47 00.0 +17
ESLA LR LR
comp=Z,8μm,22.0s
TAM Tamanrasset 121.25 83 PFAKE 06 47 00.0 +16
TAM LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 121.38 152 PFAKE 06 47 00.0 +15
ABPO LR LR
comp=Z,797nm,22.0s
DAV Davao City (W) 123.87 253 PFAKE 06 47 00.0 +11
DAV LR LR
comp=Z,803nm,21.0s
ESK Eskdalemuir 125.78 43 PFAKE 06 47 00.0 +8.4
ESK LR LR
comp=Z,1μm,19.0s
MBAR Mbarara 127.57 123 PFAKE 06 47 10.0 +13
MBAR LR LR
comp=Z,955nm,22.0s
COCO West Island 127.73 211 PFAKE 06 47 10.0 +13
COCO LR LR
comp=Z,872nm,19.0s
SSB Saint Sauveur 128.53 57 PFAKE 06 47 10.0 +13
SSB LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 129.56 13 PFAKE 06 47 10.0 +12
KBS LR LR
comp=Z,1μm,20.0s
BNI Bardonecchia 129.95 57 PFAKE 06 47 10.0 +10
BNI LR LR
comp=Z,2μm,22.0s
WLF Walferdange 130.45 51 PFAKE 06 47 10.0 +9.3
WLF LR LR
comp=Z,672nm,21.0s
VSL Villasalto 130.57 65 PFAKE 06 47 10.0 +8.7
VSL LR LR
comp=Z,580nm,21.0s
ECH Echery 130.88 53 PFAKE 06 47 10.0 +8.4
ECH LR LR
comp=Z,669nm,20.0s
KSM Kuching 131.46 235 PFAKE 06 47 20.0 +16
KSM LR LR
comp=Z,466nm,20.0s
KMBO Kilima Mbogo 131.48 130 PFAKE 06 47 20.0 +16
KMBO LR LR
comp=Z,1μm,22.0s
BFO Black Forest 131.66 53 PFAKE 06 47 20.0 +17
BFO LR LR
comp=Z,523nm,20.0s
TUE Stuetta 132.06 56 PFAKE 06 47 20.0 +16
TUE LR LR
comp=Z,822nm,21.0s
KONO Kongsberg 132.98 38 PFAKE 06 47 20.0 +15
KONO LR LR
comp=Z,711nm,19.0s
WDD Wield Dalam 133.50 71 PFAKE 06 47 20.0 +13
WDD LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 134.19 62 PFAKE 06 47 20.0 +12
AQU LR LR
comp=Z,757nm,21.0s
CLL Collm 134.96 50 *e*PKPdf **PKPdf 06 47 10.0 +0.9**
CLL *e*PKSdf **PKSdf 06 50 50.0 +4.8**
CLL *e*PPP 06 52 47.0
CLL *e*PS PS 06 59 58.0 -8.0
CLL *e*PPS 07 01 52.0
CLL *e*SS SS 07 07 48.0 +10
CLL *e*PSPS 07 08 36.0
CLL *e* 07 12 12.0
CLL *e*SSS 07 12 36.0
CLL *e*SSSS 07 16 48.0
TRI Trieste 134.99 58 PFAKE 06 47 20.0 +11
TRI LR LR
comp=Z,603nm,21.0s
CEL Celeste 135.18 68 PFAKE 06 47 20.0 +10
CEL LR LR
comp=Z,674nm,21.0s
GERES GERESS Array B 135.27 53 PKP **PKPdf 06 47 07.7 -2.3**
comp=Z,0.7nm,0.9s,baz=197,slow=4.2,SNR=4.0
GERES GERESS Array B 135.27 53 PKIKP **PKPdf 06 47 07.7 -2.3**
GERES GERESS Array B 135.27 53 PKP **PKPdf 06 47 07.7 -2.3**
YAK Yakutsk 135.27 326 PFAKE 06 47 20.0 +11
YAK LR LR
comp=Z,357nm,21.0s
CUC Castrocucco 135.51 66 PFAKE 06 47 20.0 +9.4
CUC LR LR
comp=Z,388nm,20.0s
BRG Berggiesshubel 135.54 50 *e*(P) **PKPdf 06 47 12.8 +2.5**
comp=Z,1.1nm,0.7s
BRG Berggiesshubel 135.54 50 *e*PKIKP **PKPdf 06 47 12.8 +2.5**
BRG pmax pmax
comp=Z,1.0nm,0.7s
MDJ Mudanjiang 135.66 301 PKP **PKPdf 06 47 12.5 +1.8**
MDJ PP **PP 06 49 50.5 +1.4**
MDJ AMB AMB
comp=Z,190nm,4.6s
MDJ LR LR
comp=N,520nm,49.1s
MDJ LR LR
comp=E,230nm,47.6s
MDJ LR LR
comp=Z,220nm,35.3s
MDJ Mudanjiang 135.66 301 PFAKE 06 47 20.0 +9.3
MDJ LR LR
comp=Z,351nm,20.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TIP	Timpagrande	136.05	67	PFAKE		06 47 20.0	+8.3
TIP				LR	LR		
	comp=Z,687nm,21.0s						
MSEY	Mahe Island	137.63	155	PFAKE		06 47 30.0	+15
MSEY				LR	LR		
	comp=Z,629nm,20.0s						
CN2	Changchun	138.52	299	ePKP	PKPdf	06 47 18.8	+2.8
TIR	Tirane	138.78	65	PFAKE		06 47 30.0	+13
TIR				LR	LR		
	comp=Z,671nm,22.0s						
PSZ	Piszkesteto	139.35	55	PFAKE		06 47 30.0	+13
PSZ				LR	LR		
	comp=Z,669nm,22.0s						
APA	Apatity	140.45	22⇓	iPKIKP	PKPdf	06 47 25.2	+6.4
FINES	FINESS Array B	140.57	33	PKP	PKPdf	06 47 16.5	-2.6
	comp=Z,4.5nm,1.0s,baz=350,slow=4.2,SNR=2.6						
FINES	FINESS Array B	140.57	33	PKIKP	PKPdf	06 47 16.5	-2.6
FINES	FINESS Array B	140.57	33	PKP	PKPdf	06 47 16.5	-2.6
LVZ	Lovozero	140.63	21	PFAKE		06 47 30.0	+11
LVZ				LR	LR		
	comp=Z,959nm,19.0s						
KWP	Kalwaria Pacla	141.17	52	PFAKE		06 47 30.0	+9.3
KWP				LR	LR		
	comp=Z,649nm,22.0s						
NJ2	Nanjing	141.30	279	ePKP	PKPdf	06 47 23.3	+1.9
HIA	Hailar	142.56	307	PFAKE		06 47 40.0	+17
HIA				LR	LR		
	comp=Z,406nm,21.0s						
BUR08	Bucovina Ar. S	142.93	55	ePKPdf	PKPdf	06 47 31.5	+7.5
MLR	Muntele Rosu	143.50	59⇓	iP	PKPbc	06 47 22.1	-0.3
BOD	Bodaibo	143.99	323	ePKHKP	PKPpre	06 47 18.0	
BOD				pmax	pmax		
	comp=Z,16nm,1.3s						
BJI	Beijing	145.03	292	PKPbc	PKPdf	06 47 28.0	+0.3
BJT	Baijiatuau	145.03	292	ePKIKP	PKPdf	06 47 28.2	+0.5
BJT				MLR	MLR		
	comp=Z,564nm,21.0s						
BJT	Baijiatuau	145.03	292	ePKPbc	PKPdf	06 47 28.2	+0.5
BJT				LR	LR		
	comp=Z,564nm,21.0s						
KIEV	Kiev	145.20	50	ePKP2	PKPbc	06 47 26.2	-1.1
KIEV				MLR	MLR		
	comp=Z,818nm,21.0s						
KIEV	Kiev	145.20	50	ePKPdf	PKPbc	06 47 26.2	-1.1
KIEV				LR	LR		
	comp=Z,818nm,21.0s						
AKASG	Malin Array Be	145.21	50	PKPbc	PKPbc	06 47 26.2	-1.2
	comp=Z,3.2nm,0.7s,baz=277,slow=3.7,SNR=6.0						
AKASG	Malin Array Be	145.21	50	PKP2	PKPbc	06 47 26.2	-1.2
AKASG	Malin Array Be	145.21	50	PKPbc	PKPbc	06 47 26.2	-1.2
AKBB	Malin Array Si	145.21	50	ePKIKP	PKPdf	06 47 29.3	+1.6
AKBB	Malin Array Si	145.21	50	ePKPdf	PKPdf	06 47 29.2	+1.6
TIRR	Tirgusor	145.26	61	ePKP2	PKPbc	06 47 24.9	-2.8
TIRR	Tirgusor	145.26	61	ePKPdf	PKPbc	06 47 24.9	-2.8
TIRR	Tirgusor	145.26	61⇑	iP	PKPbc	06 47 25.1	-2.6
KIS	Kishinev	145.43	56	ePKIKP	PKPab	06 47 29.0	+0.6
KIS				e		06 47 36.0	
KIS				e		06 54 02.0	
KIS	Kishinev	145.43	56	ePKP	PKPab	06 47 29.0	+0.6
KIS				LRM	MLR	07 42 56.0	
	comp=Z,700nm,25.0s						
ISP	Isparta	146.44	73	PFAKE		06 47 40.0	+7.3
ISP				LR	LR		
	comp=Z,474nm,21.0s						
OBN	Obninsk	148.14	39⇓	iPKP2	PKPbc	06 47 35.7	0.0
OBN				e		06 51 03.3	
OBN				pmax	pmax		
	comp=Z,14nm,0.8s						
OBN	Obninsk	148.14	39	ePKPdf	PKPbc	06 47 35.7	0.0
OBN				LR	LR		
	comp=Z,799nm,20.0s						
CSS	Prodhromos	148.20	78	PFAKE		06 47 50.0	+10
CSS				LR	LR		
	comp=Z,609nm,22.0s						
MOS	Moscow	148.41	38	ePKP2	PKPab	06 47 39.0	-0.7
ENH	Enshi	148.42	272	ePKPdf	PKPbc	06 47 38.3	+0.9
ENH				LR	LR		
	comp=Z,476nm,20.0s						
HHC	Hu-ho-hao-te	148.59	293	ePKPbc	PKPdf	06 47 31.3	-2.6
HHC				pPKP	PKPab	06 47 41.5	+0.4
HHC				PKS	PP	06 51 03.1	-4.7
HHC				PP	PP	06 51 08.8	+1.0
HHC				SS	SS	07 10 16.2	-1.3
HHC				AMB	AMB		
	comp=Z,130nm,9.1s						
HHC				LR	LR		
	comp=N,440nm,21.5s						
HHC				LR	LR		
	comp=E,330nm,21.1s						
HHC				LR	LR		
	comp=Z,470nm,21.5s						
BR131	Keskin Array S	149.05	69	ePKPdf	PKPbc	06 47 37.9	-0.9
BR131				LR	LR		
	comp=Z,292nm,19.0s						
BRTR	Keskin Array B	149.05	69	PKPbc	PKPbc	06 47 36.8	-2.0
	comp=Z,2.5nm,1.0s,baz=212,slow=4.4,SNR=5.2						
BRTR	Keskin Array B	149.05	69	PKIKP	PKPbc	06 47 36.8	-2.0
BRTR	Keskin Array B	149.05	69	PKPbc	PKPbc	06 47 36.8	-2.0
GYA	Guiyang	149.37	264	PKPbc	PKPdf	06 47 36.4	+0.8
GYA				PKPab	PKPab	06 47 47.9	+3.2
GYA				PKS	PKSdf	06 51 10.0	-0.8
GYA				PP	PP	06 51 17.9	+5.4
GYA				SKKS		06 58 03.4	
GYA				SS	SS	07 10 29.0	+2.4
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
GYA				LR	LR		
	comp=N,120nm,21.6s						
GYA				LR	LR		
	comp=E,110nm,22.4s						
GYA				LR	LR		
	comp=Z,140nm,23.2s						
ULN	Ulaanbaatar	151.09	307	ePKIKP	PKPbc	06 47 44.2	+0.7
ULN				MLR	MLR		
	comp=Z,488nm,22.0s						
ULN	Ulaanbaatar	151.09	307	ePKPdf	PKPbc	06 47 44.2	+0.7
ULN				LR	LR		
	comp=Z,488nm,22.0s						
VSR	Storozhevoye	151.11	45	ePKIKP	PKPbc	06 47 42.0	-1.2
VSR				pmax	pmax		
	comp=N,5.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	Chiang Mai Arr	151.23	242	PKPbc	PKPbc	06 47 41.9	-2.6
	comp=Z,3.9nm,0.9s,baz=194,slow=1.7,SNR=13						
CMAR	Chiang Mai Arr	151.23	242	PKIKP	PKPbc	06 47 41.9	-2.6
CMAR	Chiang Mai Arr	151.23	242	PKPbc	PKPbc	06 47 41.9	-2.6
IRK	Irkutsk	151.34	317	ePKIKP	PKPab	06 47 50.9	-1.0
IRK				pmax	pmax		
	comp=Z,37nm,1.4s						
CHTO	Chiang Mai	151.46	243	ePKIKP	PKPdf	06 47 40.8	+1.9
CHTO				MLR	MLR		
	comp=Z,402nm,20.0s						
CHTO	Chiang Mai	151.46	243	ePKPdf	PKPdf	06 47 40.8	+1.9
CHTO				LR	LR		
	comp=Z,402nm,20.0s						
SONM	Songino Array	151.53	308	PKPbc	PKPbc	06 47 41.5	-3.0
	comp=Z,1.1nm,0.7s,baz=106,slow=1.9,SNR=8.7						
SONM	Songino Array	151.53	308	PKIKP	PKPbc	06 47 41.5	-3.0
SONM	Songino Array	151.53	308	PKPbc	PKPbc	06 47 41.5	-3.0
TLY	Talaya	151.92	316	PFAKE		06 47 50.0	-4.4
TLY				LR	LR		
	comp=Z,351nm,21.0s						
KMI	Kunming	151.97	258	PKPbc	PKPdf	06 47 41.7	+1.9
VRHR	Novokhopersk	152.58	44	ePKIKP	PKPbc	06 47 47.7	+1.2
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,0.9s						
ZAK	Zakamensk	152.65	314	ePKIKP	PKPbc	06 47 46.8	-0.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CD2	Chengdu	153.32	270	PKPbc	PKPdf	06 47 41.8	+0.4
CD2				PKPab	PKPab	06 48 04.0	+3.0
CD2				PKS	PKSdf	06 51 14.8	-1.1
CD2				PP	PP	06 51 39.0	+3.9
CD2				SKS	SKSdf	06 54 46.2	-2.4
CD2				SKKS	SKKSac	06 58 25.3	0.0
CD2				SS	SS	07 11 10.9	+0.6
CD2				AMB	AMB		
	comp=Z,260nm,5.9s						
LZH	Lanzhou	154.31	282	ePKPbc	PKPdf	06 47 41.5	-1.3
LZH				pPKP	pPKPdf	06 47 44.8	-1.4
LZH				sPKP		06 47 46.2	
LZH				ePP	PP	06 51 43.5	+2.7
LZH				SKKS		06 58 28.0	
LZH				eSS	SS	07 11 18.6	-2.5
LZH				AMB	AMB		
	comp=Z,110nm,7.0s						
LZH				LR	LR		
	comp=N,150nm,18.0s						
LZH				LR	LR		
	comp=E,140nm,18.5s						
LZH				LR	LR		
	comp=Z,200nm,20.1s						
KIV	Kislovodsk	155.51	59	PFAKE		06 48 00.0	-10
KIV				LR	LR		
	comp=Z,505nm,21.0s						
ARU	Arti	156.47	19	PFAKE		06 48 00.0	-13
ARU				LR	LR		
	comp=Z,769nm,22.0s						
GNI	Garni	157.57	68	PFAKE		06 48 00.0	+13
GNI				LR	LR		
	comp=Z,381nm,20.0s						
NVS	Novosibirsk	158.60	342	ePKIKP	PKPdf	06 47 51.9	+4.4
NVS				pmax	pmax		
	comp=Z,61nm,1.8s						
NVS				pmax	pmax		
	comp=N,500nm,2.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.7s						
ZALV	Zalesovo Beam	158.96	339	PKP	PKPdf	06 47 46.3	-1.7
	comp=E,0.1nm,0.4s,baz=68,slow=0.8,SNR=3.1						
ZALV	Zalesovo Beam	158.96	339	PKIKP	PKPdf	06 47 46.3	-1.7
ZALV	Zalesovo Beam	158.96	339	PKP	PKPdf	06 47 46.3	-1.7
SHL	Shillong	160.71	247	eP	PKPab	06 48 35.0	+1.9
AKTO	Aktyubinsk	161.28	29	PKP	PKPdf	06 47 52.3	+1.6
	comp=E,0.2nm,0.3s,baz=11,slow=10,SNR=2.0						
AKTO	Aktyubinsk	161.28	29	PKIKP	PKPdf	06 47 52.3	+1.6
AKTO	Aktyubinsk	161.28	29	PKP	PKPdf	06 47 52.3	+1.6
BVAR	Borovoye Array	161.78	4	PKP	PKPdf	06 47 52.1	+0.9
	comp=E,0.3nm,0.5s,baz=320,slow=5.6,SNR=2.7						
BVAR	Borovoye Array	161.78	4	PKIKP	PKPdf	06 47 52.1	+0.9
BVAR	Borovoye Array	161.78	4	PKP	PKPdf	06 47 52.1	+0.9
LSA	Lhasa	163.23	257	PFAKE		06 48 10.0	+16
LSA				LR	LR		
	comp=Z,614nm,22.0s						
KURK	Kurchatov	163.48	346	PKP	PKPdf	06 47 54.5	+1.6
	comp=Z,0.1nm,0.3s,baz=9.7,slow=0.7,SNR=2.2						
KURK				PKPab	PKPab	06 48 42.2	-1.8
	comp=Z,1.0nm,0.8s,baz=18,slow=3.9,SNR=6.2						
KURK	Kurchatov	163.48	346	PKIKP	PKPdf	06 47 54.5	+1.6
KURK						06 48 42.2	
KURK	Kurchatov	163.48	346	PKP	PKPdf	06 47 54.5	+1.6
KURK				PKPab	PKPab	06 48 42.2	-1.8
WMQ	Urumqi	165.09	312	ePKP	PKPdf	06 47 54.1	-0.6
WMQ				PP	PP	06 52 37.1	-1.3
WMQ				AMB	AMB		
	comp=Z,45nm,10.9s						
WMQ				LR	LR		
	comp=N,410nm,21.5s						
WMQ				LR	LR		
	comp=E,490nm,25.6s						
WMQ				LR	LR		
	comp=Z,740nm,23.5s						
MKAR	Makanchi Array	165.88	331	PKP	PKPdf	06 47 57.1	+1.9
	comp=Z,0.5nm,0.9s,baz=71,slow=5.2,SNR=2.1						
MKAR				PKPab	PKPab	06 48 54.3	-0.5
	comp=Z,0.6nm,0.8s,baz=15,slow=6.0,SNR=3.4						
MKAR	Makanchi Array	165.88	331	PKIKP	PKPdf	06 47 57.1	+1.9
MKAR						06 48 54.3	
MKAR	Makanchi Array	165.88	331	PKP	PKPdf	06 47 57.1	+1.9
MKAR				PKPab	PKPab	06 48 54.3	-0.5
TKM2	Tokmak 2	171.53	343	PFAKE		06 48 10.0	+11
TKM2				LR	LR		
	comp=Z,733nm,21.0s						
AAK	Ala-Archa	172.03	348	PFAKE		06 48 10.0	+11
AAK				LR	LR		
	comp=Z,702nm,20.0s						
EKS2	Erkin-Say	172.11	352	PFAKE		06 48 10.0	+11
EKS2				LR	LR		
	comp=Z,464nm,20.0s						

*IDC **01** 06:28:51.1±1.7, 9.°48S×120.°86E, h0km, mb3.4/2, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML4.0/3, Error ellipse: s-maj=158.8km s-min=22.7km az=56.0*
*NEIC **01** 06:28:53.6±0.8, 9.°61S×120.°72E, h20km, mb4.2/3, Error ellipse: s-maj=25.1km s-min=9.3km az=63.0*
ISC 01 06:28:54.0±0.9**, 9.°5S**±0.°1×**121.°5E**±0.°1**, h35km, n19, σ2.s66**/19**, mb4.4**/5**, Savu Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KAPI	Kappang	4.78	339	Pn	Pn	06 30 02.7	-0.9
FITZ	Fitzroy Crossi	9.45	155	Pn	Pn	06 31 12.9	+5.3
	1.0nm,0.3s,baz=352,slow=7.4,SNR=47						
FITZ				Sn	Sn	06 32 54.4	+1.7
	0.3nm,0.3s,baz=210,slow=20,SNR=2.5						
FITZ	Fitzroy Crossi	9.45	155	Pn	Pn	06 31 12.9	+5.3
FITZ				Sn	Sn	06 32 54.4	+1.7
MBWA	Marble Bar	11.71	188	ePn	Pn	06 31 36.1	-2.6
MBWA				eSn	Sn	06 33 34.3	-14
WRA	Warramunga Arr	16.18	131	Pn	P	06 32 44.7	+3.1
	0.5nm,0.3s,baz=300,slow=14,SNR=6.4						
WRA				Sn	Sn	06 35 36.1	-1.1
	0.2nm,0.3s,baz=305,slow=26,SNR=4.0						
WRA	Warramunga Arr	16.18	131	Pn	P	06 32 44.7	+3.1
WRA				Sn	Sn	06 35 36.1	-1.1
WRAB	Tennant Creek	16.18	131	ePn	P	06 32 46.2	+4.5
	3.6nm,0.9s						
WRAB				eSn	Sn	06 35 34.1	-3.1
WB2	Warramunga Arr	16.18	131	ePn	P	06 32 45.9	+4.2
WB2				eSn	Sn	06 35 32.5	-5.0
AS31	Alice Springs	18.41	141	eP	P	06 33 12.6	+6.2
AS31				eS	S	06 36 34.2	-0.7
ASAR	Alice Springs	18.41	141	P	P	06 33 14.1	+7.7
	0.4nm,0.3s,baz=317,slow=12,SNR=18						
ASAR	Alice Springs	18.41	141	P	P	06 33 14.1	+7.7
COEN	Coen	21.68	104	eP	P	06 33 55.0	+13
	59nm,1.2s						
CTAO	Charters Tower	26.11	117	eP	P	06 34 23.4	-1.5
	12nm,1.2s						
EIDS	Eidsvold	32.23	123	eP	P	06 35 19.4	+0.2
	3.1nm,0.6s						
DRV	Dumont d'Urvil	58.46	171	PP	PP	06 41 00.0	+4.4
DRV				S	S	06 47 17.0	+30
DRV				SS	SS	06 51 46.0	+67
DRV				L	L	06 55 00.0	
DRV				R		06 59 00.0	
MKAR	Makanchi Array	66.05	332	P	P	06 39 37.0	-0.2
	0.3nm,0.8s,baz=144,slow=8.0,SNR=4.7						
MKAR	Makanchi Array	66.05	332	P	P	06 39 37.0	-0.2
ZALV	Zalesovo Beam	70.41	338	P	P	06 40 05.6	+1.2
	0.2nm,0.3s,baz=121,slow=5.6,SNR=2.5						
ZALV	Zalesovo Beam	70.41	338	P	P	06 40 05.6	+1.2

*ISCJB **01** 06:39:12.7±1.0, 22.°2S±0.°2×179.°7W±0.°2, h592km, mb4.1/10, Error ellipse: s-maj=23.5km s-min=16.6km az=146.5*
*NEIC **01** 06:39:14.1±1.3, 22.°04S×179.°60W, h602km±12km, mb4.5/3, Error ellipse: s-maj=24.0km s-min=14.9km az=144.0*
*IDC **01** 06:39:15.9±3.0, 22.°12S×179.°68W, h623km±37km, mb3.3/8, mb1 3.5/8, mb1mx3.2/18, mbtmp3.3/8, Error ellipse: s-maj=22.3km s-min=18.2km az=2.0*
ISC 01 06:39:13.7±1.0**, 22.°2S**±0.°1×**179.°6W**±0.°1**, h592km, n24, σ1.s07**/25**, mb4.1**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MSVF	Nonsavu	4.97	333	eP	P	06 40 45.8	-0.2
MSVF				eS	S	06 42 03.6	+2.3
EIDS	Eidsvold	26.97	257	eP	P	06 44 10.6	+0.9
	7.4nm,0.1s						
ARMA	Armidale	26.98	246	eP	P	06 44 11.7	+1.9
CTA	Charters Tower	31.86	267	P	P	06 44 52.2	+0.3
	6.4nm,0.4s,baz=95,slow=9.9,SNR=19						
CTA	Charters Tower	31.86	267	P	P	06 44 52.2	+0.3
CTAO	Charters Tower	31.86	267	eP	P	06 44 52.0	+0.1
	5.2nm,0.4s						
PMG	Port Moresby	34.32	286	P	P	06 45 12.6	0.0
	7.8nm,0.8s,baz=50,slow=9.2,SNR=4.5						
PMG	Port Moresby	34.32	286	P	P	06 45 12.6	0.0
AS31	Alice Springs	42.68	259	eP	P	06 46 19.8	-0.2
ASAR	Alice Springs	42.68	259	P	P	06 46 19.9	-0.1
	4.8nm,0.8s,baz=98,slow=8.2,SNR=60						
ASAR				S	S	06 51 60.0	-1.8
	0.6nm,0.7s,baz=92,slow=16,SNR=5.3						
ASAR	Alice Springs	42.68	259	P	P	06 46 19.9	-0.1
ASAR				S	S	06 51 60.0	-1.8
WRAB	Tennant Creek	42.89	264	eP	P	06 46 20.4	-1.2
	5.3nm,0.8s						
WRA	Warramunga Arr	42.90	264	P	P	06 46 20.9	-0.8
	2.2nm,0.3s,baz=96,slow=7.7,SNR=20						
WRA	Warramunga Arr	42.90	264	P	P	06 46 20.9	-0.8
QSPA	South Pole Qui	67.86	180	P	P	06 49 14.4	+0.7
	3.1nm,0.8s,baz=31,slow=1.7,SNR=17						
QSPA	South Pole Qui	67.86	180	P	P	06 49 14.4	+0.7
MJAR	Matsushiro Arr	70.72	325	P	P	06 49 30.1	-1.0
	1.4nm,0.8s,baz=171,slow=9.3,SNR=5.2						
MJAR	Matsushiro Arr	70.72	325	P	P	06 49 30.1	-1.0
NVAR	Mina Array Bea	83.30	44	P	P	06 50 38.6	-0.9
	0.2nm,0.4s,baz=232,slow=8.7,SNR=2.7						
NVAR	Mina Array Bea	83.30	44	P	P	06 50 38.6	-0.9
CMAR	Chiang Mai Arr	89.28	290	P	P	06 51 09.0	+0.8
	1.1nm,0.9s,baz=125,slow=2.7,SNR=4.6						
CMAR	Chiang Mai Arr	89.28	290	P	P	06 51 09.0	+0.8
AKASG	Malin Array Be	143.74	329	PKP	PKPbc	06 57 39.4	-1.8
	0.8nm,0.4s,baz=44,slow=4.0,SNR=7.6						
AKASG	Malin Array Be	143.74	329	PKP	PKPbc	06 57 39.4	-1.8

MEX 01 07:14:28.5±0.8**, 17.°29N×100.°41W, h5km, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAIG	El Cayaco	0.28	151	iP	Pg	07 14 33.0	-0.9
CAIG				eS	Sg	07 14 38.2	+0.6
MEIG	Mezcala	0.98	50	iP	Pg	07 14 45.5	-2.0
MEIG				eS	Sg	07 14 57.5	-2.9
ZIIG	Zihuatanejo	1.06	287	eP	Pg	07 14 46.1	-2.7
ZIIG				iS	Sg	07 14 59.9	-2.6

CASC 01 07:17:59.3±2.3**, 8.°98N×82.°80W, h20km**±11km**, MD3.8, 2C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRU2	Volcan	0.21	150⇑	iP	Pb	07 18 05.1	+0.2
	baz=337,slow=5.6						
BRU2				iS	Sb	07 18 08.8	+0.2
ACR	Cerro Adams	0.49	229⇓	eP	Pb	07 18 08.0	-1.2
ACR				eS	Sb	07 18 15.0	-1.0
CNI	Changuinola	0.52	32	eP	Pn	07 18 19.3	+7.7
BUS	Buena Vista	1.11	301	eP	Pn	07 18 20.2	-0.1
URSC	Urasca	1.29	311	eP	Pb	07 18 23.0	-0.1
URSC				eS	Sb	07 18 40.2	+0.8
QCR	Quepos	1.42	288	eP	Pn	07 18 23.9	-0.1
QCR				eS	Sn	07 18 41.7	-0.5
SJS	Escuela Geolog	1.56	308	eP	Pb	07 18 27.1	-0.7
SJS				eS	Sb	07 18 47.2	-0.2
PTP	Ponta Puerca	19.05	59⇑	iP	x	07 18 13.8	
PTP				iS	x	07 18 25.5	

*DDA **01** 07:54:15.8, 37.°63N×30.°61E, h7km, MD2.9*
*CSEM **01** 07:54:15.5±0.2, 37.°63N×30.°54E, h5km, MD2.9, Error ellipse: s-maj=6.8km s-min=3.9km az=99.0*
ISC 01 07:54:15.7±1.1**, 37.°63N**±0.°03×**30.°57E**±0.°05**, h5km**±10km**, n16, σ0.s48**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BCK	Bucak	0.17	174	ePG	Pg	07 54 18.8	-0.3
BCK				eSG	Sg	07 54 21.7	+0.3
BCK	Bucak	0.17	174	ePg	Pg	07 54 18.8	-0.3
BCK				eSg	Sg	07 54 21.7	+0.3
ISP	Isparta	0.19	349	ePG	Pg	07 54 19.6	0.0
ISP	Isparta	0.19	349	ePg	Pg	07 54 19.6	0.0
KORT	Korkueli	0.65	195	iP	Pg	07 54 27.9	-0.3
KORT				iS	Sb	07 54 39.2	+0.2
KORT	Korkueli	0.65	195	iP	Pg	07 54 27.9	-0.3
GOLH	Golhisar	0.89	244	iP	Pg	07 54 33.2	+0.4
GOLH				iS	Sn	07 54 47.9	-0.3
GOLH	Golhisar	0.89	244	iP	Pg	07 54 33.2	+0.4
SHUT	Suhut-Afyon	0.92	359	ePG	Pg	07 54 33.2	-0.1
SHUT	Suhut-Afyon	0.92	359	ePg	Pg	07 54 33.2	-0.1
KHAL	Karahalli	1.12	311	iP	Pg	07 54 36.3	-0.9
KHAL				iS	Sn	07 54 55.0	+1.0
KHAL	Karahalli	1.12	311	iP	Pg	07 54 36.3	-0.9
BOLV	Bolvadin	1.13	15	iP	Pb	07 54 37.6	-0.1
BOLV				iS	Sn	07 54 54.4	+0.3
BOLV	Bolvadin	1.13	15	iP	Pb	07 54 37.6	-0.1
BOLV				iS	Sn	07 54 54.4	+0.3
KDHN	Kadinhani	1.51	54	iP	Pn	07 54 43.1	-0.4
KDHN				iS	Sg	07 55 04.7	+0.5
KDHN	Kadinhani	1.51	54	iP	Pn	07 54 43.1	-0.4
KDHN				iS	Sg	07 55 04.7	+0.5

*NEIC **01** 08:22:18.8, 19.°43N×65.°68W, h62km, MD3.2(RSPR), After RSPR.*
RSPR 01 08:22:18.8, 19.°43N×65.°68W, h62km±14km**, MD3.2**/3**, 12C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CBYP	Canovanas	1.16	188⇑	eP	Pn	08 22 37.8	-1.3
CBYP	Canovanas	1.16	188	eS	Sn	08 22 53.6	-0.6
CBYP	Canovanas	1.16	188⇑	eP	Pn	08 22 37.8	-1.3
CBYP				eS	Sn	08 22 53.6	-0.6
CBYP	Canovanas	1.16	188⇑	eP	Pn	08 22 37.8	-1.3
CBYP				eS	Sn	08 22 53.6	-0.6
HUMP	Col San Antoni	1.29	187⇑	eP	Pn	08 22 39.9	-0.7
HUMP	Col San Antoni	1.29	187	eS	Sn	08 22 56.2	-0.8
HUMP	Col San Antoni	1.29	187⇑	eP	Pn	08 22 39.9	-0.7
HUMP				eS	Sn	08 22 56.2	-0.8
HUMP	Col San Antoni	1.29	187⇑	eP	Pn	08 22 39.9	-0.7
HUMP				eS	Sn	08 22 56.2	-0.8
MTP	Monte Pirata	1.33	175⇑	eP	Pn	08 22 40.3	-0.9
MTP	Monte Pirata	1.33	175	eS	Sn	08 22 57.3	-0.7
MTP	Monte Pirata	1.33	175⇑	eP	Pn	08 22 40.3	-0.9
MTP				eS	Sn	08 22 57.3	-0.7
MTP	Monte Pirata	1.33	175⇑	eP	Pn	08 22 40.3	-0.9
MTP				eS	Sn	08 22 57.3	-0.7
CPD	Cerro la Pandu	1.40	189⇑	eP	Pn	08 22 41.8	-0.5
CPD	Cerro la Pandu	1.40	189	eS	Sn	08 22 58.8	-1.0
CPD	Cerro la Pandu	1.40	189⇑	eP	Pn	08 22 41.8	-0.5
CPD				eS	Sn	08 22 58.8	-1.0
CPD	Cerro la Pandu	1.40	189⇑	eP	Pn	08 22 41.8	-0.5
CPD				eS	Sn	08 22 58.8	-1.0

*TRN **01** 08:24:10.8, 18.°44N×64.°91W, h34km, MD3.0(RSPR)*
*NEIC **01** 08:24:13.3, 18.°59N×64.°92W, h18km, MD3.0(RSPR), After RSPR.*
RSPR 01 08:24:13.3, 18.°59N×64.°92W, h18km±1km**, MD3.0**/3**, 12C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STVI	Saint Thomas	0.24	187⇑	eP	Pg	08 24 18.8	0.0
STVI	Saint Thomas	0.24	187	eS	Sg	08 24 22.5	0.0
STVI	Saint Thomas	0.24	187⇑	eP	Pg	08 24 18.8	0.0
STVI				eS	Sg	08 24 22.5	0.0
STVI	Saint Thomas	0.24	187⇑	eP	Pg	08 24 18.8	0.0
STVI				eS	Sg	08 24 22.5	0.0
TBVI	Tortola	0.34	120⇑	eP	Pg	08 24 19.9	-0.5
TBVI				eS	Sg	08 24 25.4	+0.1
TBVI	Tortola	0.34	120⇑	eP	Pg	08 24 19.9	-0.5
TBVI				eS	Sg	08 24 25.4	+0.1
TBVI	Tortola	0.34	120⇑	eP	Pg	08 24 19.9	-0.5
TBVI				eS	Sg	08 24 25.4	+0.1
MTP	Monte Pirata	0.77	231⇑	eP	Pb	08 24 26.3	-1.9
MTP	Monte Pirata	0.77	231	eS	Sb	08 24 36.6	-1.8
MTP	Monte Pirata	0.77	231⇑	eP	Pb	08 24 26.3	-1.9
MTP				eS	Sb	08 24 36.6	-1.8
MTP	Monte Pirata	0.77	231⇑	eP	Pb	08 24 26.3	-1.9
MTP				eS	Sb	08 24 36.6	-1.8
CBYP	Canovanas	0.94	251	eS	Sb	08 24 40.7	-2.7
CBYP	Canovanas	0.94	251	eS	Sb	08 24 40.7	-2.7
CPD	Cerro la Pandu	1.09	240⇑	eP	Pb	08 24 31.4	-2.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CPD	Cerro la Pandu	1.09	240	eS	Sb	08 24 44.6	-3.1
CPD	Cerro la Pandu	1.09	240	⇑eP	Pb	08 24 31.4	-2.3
CPD				eS	Sb	08 24 44.6	-3.1
CPD	Cerro la Pandu	1.09	240	⇑eP	Pb	08 24 31.4	-2.3
CPD				eS	Sb	08 24 44.6	-3.1

IDC 01 08:37:16.3±1.7, 17°.45S×178°.13W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/16, mbtmp3.9/6, Error ellipse: s-maj=109.6km s-min=21.3km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.08	241	P	P	08 44 45.3	-0.1
	1.6nm,0.4s,baz=90,slow=7.1,SNR=3.5						
WRA	Warramunga Arr	44.98	259	P	P	08 45 33.8	+0.1
	1.3nm,0.5s,baz=97,slow=6.6,SNR=24						
ASAR	Alice Springs	45.17	254	P	P	08 45 34.9	-0.3
	7.4nm,0.5s,baz=90,slow=8.6,SNR=127						
NVAR	Mina Array Bea	78.91	44	P	P	08 49 22.7	+0.7
	0.2nm,0.5s,baz=215,slow=7.7,SNR=2.5						
ILAR	Eielson Array	85.38	13	P	P	08 49 54.7	-0.4
	0.3nm,0.4s,baz=224,slow=5.1,SNR=12						
TXAR	Lajitas Array	85.53	58	P	P	08 49 56.1	-0.7
	0.3nm,0.6s,baz=211,slow=5.6,SNR=4.5						

*IDC **01** 08:42:07.6±0.9, 1°.26N×121°.77E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML4.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=132.6km s-min=16.4km az=67.0*
*DJA **01** 08:42:09, 1°.52N×122°.01E, h10km, MLv4.5/10*
*ISCJB **01** 08:42:11.0±0.7, 1°.55N±0°.08×122°.1E±0°.1, h33km, mb3.9/6, MS3.3/1, Error ellipse: s-maj=16.6km s-min=10.0km az=159.2*
ISC 01 08:42:13.0±0.9, 1°.4N±0°.1×122°.1E±0°.1, h35km, n16, σ1s.39/12, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.93	188	P	Pn	08 42 28.4	-1.2
GTOI	Gorontalo	1.21	129	P	Pn	08 42 32.8	-0.6
KMSI	Cibinong	2.08	113	P	Pn	08 42 54.2	+8.8
LUWI	Luwuk	2.53	164	P	Pn	08 42 54.6	+3.0
TTSI	Tana Toraja	4.96	207	P	Pn	08 43 26.1	+1.1
	94nm,0.7s,3μm0.4nm						
KDI	Kendari	5.36	174	P	Pn	08 43 35.0	+4.5
	78nm,0.9s,937nm0.3nm						
SPSI	Sidrap Palu	5.81	203	P	Pn	08 43 41.9	+5.2
	47nm,0.5s,726nm0.2nm						
FITZ	Fitzroy Crossi	19.70	170	P	P	08 46 37.4	-2.0
	1.3nm,0.3s,baz=14,slow=12,SNR=30						
RGRI	Rengat	19.81	265	P	Pn	08 46 43.0	+0.5
WRA	Warramunga Arr	24.39	151	P	P	08 47 28.1	-0.1
	0.9nm,0.3s,baz=330,slow=11,SNR=8.5						
GUMO	Guam	25.60	61	LR	LR	08 55 46.4	
	comp=Z,100nm,19.6s,baz=222,slow=32						
ASAR	Alice Springs	27.45	156	P	P	08 47 55.1	-0.7
	1.0nm,0.5s,baz=340,slow=14,SNR=16						
STKA	Stephens Creek	37.93	152	P	P	08 49 27.2	0.0
	1.8nm,0.3s,baz=321,slow=6.9,SNR=4.0						
SONM	Songino Array	48.20	346	P	P	08 50 50.6	+0.4
	1.4nm,0.7s,baz=164,slow=9.1,SNR=6.5						
MKAR	Makanchi Array	56.94	328	P	P	08 51 55.0	+0.3
	0.4nm,0.6s,baz=126,slow=9.4,SNR=7.1						
ZALV	Zalesovo Beam	60.66	336	P	P	08 52 19.8	-0.6
	0.2nm,0.3s,baz=134,slow=8.4,SNR=2.9						

*VIE **01** 08:56:34.1±0.4, 45°.07N×14°.99E, h13km±1km, mb2.2/3, ML2.5/5, Error ellipse: s-maj=2.3km s-min=1.4km az=170.0 55 km SE of Rijeka*
*CSEM **01** 08:56:34.9±0.3, 45°.07N×14°.98E, h5km, ML3.1/5, Error ellipse: s-maj=4.9km s-min=4.5km az=41.0*
*ISCJB **01** 08:56:34.5±0.5, 45°.08N±0°.02×14°.98E±0°.03, h5km±3km, Error ellipse: s-maj=4.4km s-min=3.8km az=137.9*
*ROM **01** 08:56:35.8±0.7, 45°.05N×14°.96E, h5km, Md2.8/8, Ml2.4/3, Error ellipse: s-maj=13.6km s-min=5.9km az=63.0*
ISC 01 08:56:35.3±1.0, 45°.06N±0°.02×14°.98E±0°.03, h13km±8km, n57, σ0s.86/105, 7C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOJS	Bojanci	0.48	23	⇓iPg	Pg	08 56 44.7	-0.1
BOJS				i Sg	Sg	08 56 51.9	+0.6
BOJS							
	comp=Z,72nm,0.1s						
BOJS	Bojanci	0.48	23	⇓iPg	Pg	08 56 44.7	-0.1
BOJS				eSg	Sg	08 56 51.9	+0.6
GBRS	Gornja Briga	0.49	346	⇓iPg	Pg	08 56 44.5	-0.4
GBRS				i Sg	Sg	08 56 52.1	+0.6
NVLJ	Novalja	0.50	189	ePg	Pg	08 56 44.7	-0.4
NVLJ				Sg	Sg	08 56 52.7	+0.9
NVLJ	Novalja	0.50	189	ePg	Pg	08 56 44.7	-0.4
NVLJ				Sg	Sg	08 56 52.6	+0.9
KNDS	Knezji Dol	0.63	318	⇓iPg	Pg	08 56 46.8	-0.9
KNDS				i Sg	Sb	08 56 56.7	-0.4
KNDS							
	comp=Z,99nm,0.2s						
KNDS	Knezji Dol	0.63	318	⇓iPg	Pg	08 56 46.8	-0.9
KNDS				i Sg	Sb	08 56 56.7	-0.4
SKDS	Skadanscina	0.84	306	i Pg	Pg	08 56 50.0	-1.5
SKDS				i Sg	Sb	08 57 03.1	+0.1
SKDS							
	comp=Z,80nm,0.2s						
SKDS	Skadanscina	0.84	306	i Pg	Pg	08 56 50.0	-1.5
SKDS				i Sg	Sb	08 57 03.1	+0.1
LJU	Ljubljana	1.04	342	ePg	Pn	08 56 57.5	+1.9
LJU				eSg	Sn	08 57 11.5	+1.5
SISC	Sisak	1.06	67	ePg	Pn	08 56 56.1	+0.2
SISC				Sg	Sn	08 57 10.9	+0.2
SISC	Sisak	1.06	67	ePg	Pn	08 56 56.1	+0.2
SISC				Sg	Sn	08 57 10.8	+0.2
TRI	Trieste	1.08	308	⇓ePg	Pg	08 56 54.5	-1.6
TRI				eSg	Sn	08 57 11.0	0.0
TRI	Trieste	1.08	308	Pg	Pg	08 56 54.5	-1.6
TRI				Sg	Sn	08 57 11.3	+0.4
	comp=Z,53nm,0.2s						
TRI	Trieste	1.08	308	Pg	Pg	08 56 54.5	-1.6
TRI				eSg	Sn	08 57 11.0	0.0
SABO	M.te Sabotino	1.34	314	ePg	Pg	08 57 00.7	-0.3
SABO				eSg	Sg	08 57 19.0	+0.5
SABO	M.te Sabotino	1.34	314	Pg	Pg	08 57 01.0	0.0
SABO				Sg	Sg	08 57 19.1	+0.6
SABO	M.te Sabotino	1.34	314	ePg	Pg	08 57 00.7	-0.3
SABO				eSg	Sg	08 57 19.0	+0.5
DRE	Drenchia	1.46	320	ePg	Pb	08 57 02.2	-0.1
DRE				eSg	Sg	08 57 23.1	+0.9
DRE	Drenchia	1.46	320	ePg	Pb	08 57 02.2	-0.1
DRE				eSg	Sg	08 57 23.1	+0.9
OBKA	Obir	1.48	348	⇑ePg	Pb	08 57 03.0	+0.2
	SNR=16						
OBKA				⇓iSg	Sg	08 57 23.0	0.0
	comp=Z,39nm,0.4s						
OBKA	Obir	1.48	348	Pg	Pb	08 57 03.0	+0.2
	SNR=16						
OBKA				Sg	Sg	08 57 23.0	0.0
	comp=Z,39nm,0.4s						
COLI	Coloredo	1.56	314	ePg	Pb	08 57 04.1	+0.1
COLI				eSg	Sg	08 57 26.5	+1.1
COLI	Coloredo	1.56	314	ePg	Pb	08 57 04.1	+0.1
COLI				eSg	Sg	08 57 26.5	+1.1
SOKA	Soboth	1.62	1	⇓iPg	Pb	08 57 04.7	-0.4
SOKA				⇓iSn	Sn	08 57 24.2	-0.3
SOKA				⇓iSg	Sg	08 57 27.8	+0.3
	comp=Z,6.5nm,0.2s						
SOKA	Soboth	1.62	1	Pg	Pb	08 57 04.7	-0.4
SOKA				Sn	Sn	08 57 24.2	-0.3
SOKA				Sg	Sg	08 57 27.8	+0.3
	comp=Z,6.5nm,0.2s						
VINO	Villanova	1.69	316	⇓ePg	Pb	08 57 06.4	+0.1
VINO				eSg	Sg	08 57 30.3	+0.6
VINO	Villanova	1.69	316	ePg	Pb	08 57 06.4	+0.1
VINO				eSg	Sg	08 57 30.3	+0.6
BAD	Bernadia	1.70	315	⇓ePg	Pb	08 57 06.1	-0.3
BAD				eSg	Sg	08 57 29.6	-0.3
BAD	Bernadia	1.70	315	ePg	Pb	08 57 06.1	-0.3
BAD				eSg	Sg	08 57 29.5	-0.3
PTCC	Patocco-Chiusa	1.77	320	Pg	Pb	08 57 07.5	-0.1
PTCC				Sg	Sg	08 57 32.6	+0.5
	comp=Z,9.0nm,0.3s						
PTCC	Patocco-Chiusa	1.77	320	Pg	Pb	08 57 07.5	-0.1
PTCC				Sg	Sg	08 57 32.6	+0.5
	comp=Z,9.0nm,0.3s						
ACOM	Acomizza, Ital	1.81	326	⇑ePn	Pb	08 57 08.7	+0.3
ACOM	Acomizza, Ital	1.81	326	Pg	Pb	08 57 08.7	+0.3
ACOM				Sg	Sg	08 57 35.0	+1.5
	comp=Z,60nm,1.3s						
ACOM	Acomizza, Ital	1.81	326	Pg	Pb	08 57 08.7	+0.3
ACOM				Sg	Sg	08 57 35.0	+1.5
	comp=Z,60nm,1.3s						
MYKA	Terra Mystica	1.83	330	⇑iPg	Pb	08 57 08.8	+0.1
MYKA				⇓iSn	Sn	08 57 29.3	-0.3
MYKA				⇑iSg	Sg	08 57 34.6	+0.5
	comp=Z,14nm,0.2s						
MYKA	Terra Mystica	1.83	330	Pg	Pb	08 57 08.8	+0.1
MYKA				Sn	Sn	08 57 29.3	-0.3
MYKA				Sg	Sg	08 57 34.6	+0.5
	comp=Z,14nm,0.2s						
FUSE	Fusea	1.94	315	ePn	Pb	08 57 09.9	-0.7
FUSE	Fusea	1.94	315	ePn	Pb	08 57 09.9	-0.7
MLNI	Malnisio	1.99	304	⇑ePn	Pn	08 57 09.9	+1.1
MLNI	Malnisio	1.99	304	ePn	Pn	08 57 09.9	+1.1
POLC	Polcenigo	2.00	300	⇓ePn	Pn	08 57 10.3	+1.6
POLC				eSn	Sg	08 57 40.1	+0.7
ZOU	Zoufplan	2.05	318	ePn	Pn	08 57 11.5	+1.7
ZOU				eSn	Sg	08 57 40.1	-1.2
FSSB	Fossombrone	2.09	230	Pg	Pb	08 57 12.2	-0.9
FVI	Forni Avoltri	2.18	316	Pg	Pn	08 57 13.2	+1.9
	comp=Z,45nm,0.4s						
FVI	Forni Avoltri	2.18	316	ePg	Pn	08 57 13.2	+1.9
CIMO	Cimolais	2.18	306	⇓ePn	Pn	08 57 12.1	+0.8
CIMO	Cimolais	2.18	306	ePn	Pn	08 57 12.1	+0.8
ARSA	Arzberg	2.23	10	⇑iPg	Pg	08 57 16.9	-1.1
ARSA				⇓iSn	Sn	08 57 38.9	-0.4
ARSA	Arzberg	2.23	10	Pg	Pg	08 57 16.9	-1.1
ARSA				Sn	Sn	08 57 38.9	-0.4
KBA	Koelnbreinsper	2.32	331	⇓iPn	Pn	08 57 12.0	-1.4
KBA				⇑iSn	Sn	08 57 41.4	-0.5
KBA	Koelnbreinsper	2.32	331	Pn	Pn	08 57 12.0	-1.4
KBA				Sn	Sn	08 57 41.4	-0.5
SNTG	Esanatoglia	2.33	220	Pg	Pb	08 57 16.2	-0.9
CGRP	Cima Grappa	2.38	291	⇓ePn	Pn	08 57 15.1	+0.8
CGRP				eSn	Sb	08 57 47.0	-0.6
CGRP	Cima Grappa	2.38	291	ePn	Pn	08 57 15.1	+0.8
CGRP				eSn	Sb	08 57 47.0	-0.6
CTI	Castel Tesino	2.54	294	Pg	Pn	08 57 18.4	+2.0
CTI	Castel Tesino	2.54	294	ePg	Pn	08 57 18.4	+2.0

*NEIC **01** 09:06:14.3, 19°.33N×65°.80W, h57km, MD3.4(RSPR), After RSPR.*
RSPR 01 09:06:14.3, 19°.33N×65°.80W, h57km±9km, MD3.4/3, 12C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	Canovanas	1.06	183	⇑eP	Pn	09 06 32.1	-1.0
CBYP	Canovanas	1.06	183	eS	Sn	09 06 46.2	-0.8
CBYP	Canovanas	1.06	183	⇑eP	Pn	09 06 32.1	-1.0
CBYP				eS	Sn	09 06 46.2	-0.8
CBYP	Canovanas	1.06	183	⇑eP	Pn	09 06 32.1	-1.0
CBYP				eS	Sn	09 06 46.2	-0.8
HUMP	Col San Antoni	1.19	182	eS	Sn	09 06 48.9	-1.0
HUMP	Col San Antoni	1.19	182	eS	Sn	09 06 48.9	-1.0
MTP	Monte Pirata	1.25	169	⇑eP	Pn	09 06 35.1	-0.5
MTP	Monte Pirata	1.25	169	eS	Sn	09 06 50.7	-0.8
MTP	Monte Pirata	1.25	169	⇑eP	Pn	09 06 35.1	-0.5
MTP				eS	Sn	09 06 50.7	-0.8
MTP	Monte Pirata	1.25	169	⇑eP	Pn	09 06 35.9	+0.3
MTP				eS	Sn	09 06 50.7	-0.8
STVI	Saint Thomas	1.26	141	⇑eP	Pn	09 06 34.6	-1.1
STVI	Saint Thomas	1.26	141	eS	Sn	09 06 51.0	-0.7
STVI	Saint Thomas	1.26	141	⇑eP	Pn	09 06 34.6	-1.1
STVI				eS	Sn	09 06 51.0	-0.7
STVI	Saint Thomas	1.26	141	⇑eP	Pn	09 06 34.6	-1.1
STVI				eS	Sn	09 06 51.0	-0.7
CPD	Cerro la Pandu	1.29	185	⇑eP	Pn	09 06 35.4	-0.9
CPD	Cerro la Pandu	1.29	185	eS	Sn	09 06 51.6	-1.0
CPD	Cerro la Pandu	1.29	185	⇑eP	Pn	09 06 35.4	-0.9
CPD				eS	Sn	09 06 51.6	-1.0
CPD	Cerro la Pandu	1.29	185	⇑eP	Pn	09 06 35.4	-0.9
CPD				eS	Sn	09 06 51.6	-1.0

*ISCJB **01** 09:11:25.0±0.5, 48°.26N±0°.07×147°.5E±0°.2, h500km, mb3.1/9, Error ellipse: s-maj=16.2km s-min=6.1km az=30.8*
*IDC **01** 09:11:25.8±1.4, 48°.57N×147°.42E, h483km±18km, mb2.7/9, mb1 3.0/14, mb1mx2.8/27, mbtmp2.7/14, Error ellipse: s-maj=18.4km s-min=11.6km az=135.0*
ISC 01 09:11:25.6±0.7, 48°.22N±0°.10×147°.5E±0°.1, h500km, n28, σ2s.19/32, mb3.2/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	4.83	235	P	P	09 12 52.7	+1.6
JTKR	Abashiri--Toko	4.94	212	P	P	09 12 52.6	+0.6
ASAJ	Asahikawa	5.34	222	P	P	09 12 57.0	+1.3
	0.6nm,0.3s,baz=47,slow=19,SNR=4.4						
JAR	Ashorobuto	5.58	209	P	P	09 12 58.2	+0.2
JAK	Akkeshi	5.59	202	P	P	09 12 56.9	-1.1
JAK				eS	S	09 14 09.4	-4.1
JHR	Hokuryu	6.03	224	P	P	09 13 03.5	+1.3
JFR	Furan	6.12	216	P	P	09 13 03.8	+0.7
JCH	Churui	6.33	209	P	P	09 13 04.0	-1.1
JCH				eS	S	09 14 22.0	-4.5
JNBK	Urakawa-nobuka	6.83	211	P	P	09 13 09.3	-0.8
JNBK				eS	S	09 14 31.6	-4.0
JEW	Eniwo	6.87	221	P	P	09 13 10.8	+0.4
JKB	Kayabe	7.82	218	P	P	09 13 21.4	+1.3
JKB				eS	S	09 14 51.8	-2.3
PETK	Petropavlovsk-	8.10	49	P	P	09 13 21.1	-1.7
	0.3nm,0.3s,baz=213,slow=8.4,SNR=6.2						
JOT	Ohata	8.24	216	P	P	09 13 24.5	0.0
JOT				eS	S	09 14 57.8	-4.2
JANG	Nango	8.95	211	eS	S	09 15 13.4	-2.3
JOM	Ohasama	9.83	209	P	P	09 13 43.9	+2.7
JOM				eS	S	09 15 33.2	+0.5
JMK	Ichinoseki	10.33	209	P	P	09 13 49.3	+2.9
USRK	Ussuriysk Arra	11.48	255	P	P	09 13 58.3	-0.2
	0.3nm,0.3s,baz=59,slow=9.3,SNR=8.0						
MJAR	Matsushiro Arr	13.54	214	P	P	09 14 23.4	+3.0
	0.2nm,0.3s,baz=9.1,slow=10,SNR=8.0						
KSRS	Korea Array	17.90	240	P	P	09 15 07.7	+2.7
	0.2nm,0.3s,baz=45,slow=9.9,SNR=4.7						
SONM	Songino Array	27.27	285	P	P	09 16 29.1	+0.1
	0.4nm,0.6s,baz=57,slow=8.8,SNR=3.1						
ILAR	Eielson Array	37.80	40	P	P	09 17 58.0	0.0
	0.3nm,0.9s,baz=278,slow=9.2,SNR=3.1						
MKAR	Makanchi Array	42.88	294	P	P	09 18 39.0	0.0
	0.4nm,0.6s,baz=64,slow=6.4,SNR=8.7						
YKA	Yellowknife Ar	51.98	36	P	P	09 19 45.6	-1.6
	0.3nm,0.6s,baz=302,slow=6.8,SNR=3.2						
FINES	FINESS Array B	61.02	332	P	P	09 20 48.2	-1.4
	3.7nm,0.9s,baz=30,slow=6.4,SNR=4.1						
PDAR	Pinedale Array	66.86	51	P	P	09 21 28.4	+0.9
	0.3nm,0.4s,baz=41,slow=1.6,SNR=6.6						
WRA	Warramunga Arr	68.87	193	P	P	09 21 42.7	+3.1
	0.6nm,0.9s,baz=8.3,slow=4.4,SNR=4.1						
ASAR	Alice Springs	72.60	193	P	P	09 22 05.2	+3.6
	0.8nm,0.5s,baz=4.7,slow=5.4,SNR=18						
TXAR	Lajitas Array	79.97	57	P	P	09 22 44.0	+1.5
	0.3nm,0.6s,baz=288,slow=4.2,SNR=8.0						

*MDD **01** 09:30:08.0±1.5, 36°.61N×12°.07W, h0km, mb4.2/12, Error ellipse: s-maj=13.3km s-min=9.6km az=52.0, PRXIMO*
*IGIL **01** 09:30:08.2, 36°.56N×12°.26W, h12km, ML3.0*
*INMG **01** 09:30:09.4±1.6, 36°.49N×12°.48W, h10km, ML2.7, Error ellipse: s-maj=5.4km s-min=3.8km az=88.0*
*CSEM **01** 09:30:10.9±0.3, 36°.77N×11°.85W, h10km, ML3.8/4, Error ellipse: s-maj=6.0km s-min=4.6km az=45.0*
ISC 01 09:30:07.1±3.0, 36°.72N±0°.09×12°.1W±0°.1, h10km, n108, σ1s.67/199, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.64	80	ePn	Pn	09 30 50.5	+0.8
PFVI				eSn	Sn	09 31 22.1	+0.3
PFVI				A	A	09 31 24.5	
	14nm,0.3s						
PFVI	Vila Bisbo	2.64	80	ePn	Pn	09 30 50.5	+0.8
PFVI				eSn	Sn	09 31 22.1	+0.3
	14nm,0.3s						
PTEO	Sao Teotonio	2.80	72	ePn	Pn	09 30 53.3	+1.3
PTEO				eSn	Sn	09 31 26.6	+0.7
PTEO				A	A	09 31 30.3	
	12nm,0.3s						
PTEO	Sao Teotonio	2.80	72	P	Pn	09 30 53.3	+1.3
PTEO				S	Sn	09 31 26.6	+0.7
	5.8nm,0.3s						
PTEO	Sao Teotonio	2.80	72	P	Pn	09 30 53.3	+1.3
PTEO				S	Sn	09 31 26.6	+0.7
	5.8nm,0.3s						
MORF	Marmelete	2.80	77	ePn	Pn	09 30 54.0	+1.9
MORF				eSn	Sn	09 31 26.7	+0.7
MORF				A	A	09 31 30.2	
	12nm,0.1s						
MORF	Marmelete	2.80	77	P	Pn	09 30 54.0	+1.9
MORF				S	Sn	09 31 26.7	+0.7
	12nm,0.1s						
MORF	Marmelete	2.80	77	P	Pn	09 30 54.0	+1.9
MORF				S	Sn	09 31 26.7	+0.7
	12nm,0.1s						
PMAFR	Mafra	3.14	44	ePn	Pn	09 30 58.4	+1.7
PMAFR				eSn	Sn	09 31 35.8	+1.5
PMAFR				A	A	09 31 37.9	
	111nm,0.2s						
PMAFR	Mafra	3.14	44	ePn	Pn	09 30 58.4	+1.7
PMAFR				eSn	Sn	09 31 35.8	+1.5
	111nm,0.2s						
PNCL	Nicolau / Gran	3.15	63	ePn	Pn	09 30 58.1	+1.4
PNCL				eSn	Sn	09 31 34.9	+0.5
PNCL				A	A	09 31 39.8	
	9.8nm,0.1s						
PNCL	Nicolau / Gran	3.15	63	ePn	Pn	09 30 58.1	+1.4
PNCL				eSn	Sn	09 31 34.9	+0.5
	9.8nm,0.1s						
PCVE	Castro Verde	3.35	73	ePn	Pn	09 31 00.9	+1.4
PCVE				eSn	Sn	09 31 40.0	+0.6
PCVE				A	A	09 31 44.1	
	4.0nm,0.1s						
PCVE	Castro Verde	3.35	73	P	Pn	09 31 00.9	+1.4
PCVE				S	Sn	09 31 40.0	+0.6
	4.0nm,0.1s						
PCVE	Castro Verde	3.35	73	P	Pn	09 31 00.9	+1.4
PCVE				S	Sn	09 31 40.0	+0.6
	4.0nm,0.1s						
PBDV	Barranco-do-Ve	3.36	80	ePn	Pn	09 31 00.9	+1.2
PBDV				eSn	Sn	09 31 39.8	+0.1
PBDV				A	A	09 31 43.6	
	5.4nm,0.1s						
PBDV	Barranco-do-Ve	3.36	80	P	Pn	09 31 00.9	+1.2
PBDV				S	Sn	09 31 39.8	+0.1
	5.4nm,0.1s						
PBDV	Barranco-do-Ve	3.36	80	P	Pn	09 31 00.9	+1.2
PBDV				S	Sn	09 31 39.8	+0.1
	5.4nm,0.1s						
PVAQ	Vaqueiros	3.55	78	ePn	Pn	09 31 03.7	+1.4
PVAQ				eSn	Sn	09 31 44.8	+0.4
PVAQ				A	A	09 31 47.7	
	6.6nm,0.2s						
PVAQ	Vaqueiros	3.55	78	P	Pn	09 31 03.7	+1.4
PVAQ				S	Sn	09 31 44.8	+0.4
	6.6nm,0.2s						
PVAQ	Vaqueiros	3.55	78	P	Pn	09 31 03.7	+1.4
PVAQ				S	Sn	09 31 44.8	+0.4
	6.6nm,0.2s						
PBEJ	Beja	3.60	67	ePn	Pn	09 31 04.5	+1.5
PBEJ				eSn	Sn	09 31 45.8	+0.3
PBEJ				A	A	09 31 49.2	
	5.9nm,0.2s						
PBEJ	Beja	3.60	67	P	Pn	09 31 04.5	+1.5
PBEJ				S	Sn	09 31 45.8	+0.3
	3.0nm,0.2s						
PBEJ	Beja	3.60	67	P	Pn	09 31 04.5	+1.5
PBEJ				S	Sn	09 31 45.8	+0.3
	3.0nm,0.2s						
ALMR	Almeirim	3.68	48	eP	Pn	09 31 05.9	+1.8
ALMR				eS	Sn	09 31 48.5	+0.9
ALMR				AML	AML	09 31 49.8	
	comp=N,65nm,0.2s						
ALMR	Almeirim	3.68	48	eP	Pn	09 31 05.9	+1.8
ALMR				eS	Sn	09 31 48.5	+0.9
ALMR	Almeirim	3.68	48	P	Pn	09 31 05.9	+1.8
ALMR				S	Sn	09 31 48.5	+0.9
	comp=N,32nm,0.2s						
ALMR	Almeirim	3.68	48	P	Pn	09 31 05.9	+1.8
ALMR				S	Sn	09 31 48.5	+0.9
	comp=N,32nm,0.2s						
EVO	Evora	3.70	59	ePn	Pn	09 31 06.2	+1.9
EVO				eSn	Sn	09 31 48.4	+0.4
EVO				A	A	09 31 50.9	
	comp=N,18nm,0.1s						
EVO	Evora	3.70	59	P	Pn	09 31 06.2	+1.9
EVO				S	Sn	09 31 48.4	+0.4
	comp=N,18nm,0.1s						
EVO	Evora	3.70	59	P	Pn	09 31 06.2	+1.9
EVO				S	Sn	09 31 48.4	+0.4
	comp=N,18nm,0.1s						
EGRO	El Granado	3.76	76	P	Pn	09 31 06.8	+1.6
	comp=N,1.7nm,0.1s,SNR=25						
EGRO				S	Sn	09 31 49.3	-0.2
	comp=N,1.6nm,0.1s,SNR=6.9						
EGRO	El Granado	3.76	76	P	Pn	09 31 06.8	+1.6
	comp=N,1.7nm,0.1s,SNR=25						
EGRO				S	Sn	09 31 49.3	-0.2
	comp=N,1.6nm,0.1s,SNR=6.9						
PMTG	Montargil	3.84	51	ePn	Pn	09 31 08.4	+2.1
PMTG				eSn	Sn	09 31 51.8	+0.2
PMTG	Montargil	3.84	51	ePn	Pn	09 31 08.4	+2.1
PMTG				eSn	Sn	09 31 51.8	+0.2
PTOM	Tomar	4.09	44	ePn	Pn	09 31 12.1	+2.4
PTOM				eSn	Sn	09 31 58.4	+0.8
PTOM				A	A	09 32 00.6	
	comp=N,15nm,0.5s						
PTOM	Tomar	4.09	44	P	Pn	09 31 12.1	+2.4
PTOM				S	Sn	09 31 58.4	+0.8
	comp=N,7.4nm,0.5s						
PTOM	Tomar	4.09	44	P	Pn	09 31 12.1	+2.4
PTOM				S	Sn	09 31 58.4	+0.8
	comp=N,7.4nm,0.5s						
PESTR	Estremoz	4.15	58	ePn	Pn	09 31 12.2	+1.6
PESTR				eSn	Sn	09 31 59.1	0.0
PESTR				A	A	09 32 02.6	
	comp=N,5.1nm,0.5s						
PESTR	Estremoz	4.15	58	P	Pn	09 31 12.2	+1.6
PESTR				S	Sn	09 31 59.1	0.0
	comp=N,2.6nm,0.5s						
PESTR	Estremoz	4.15	58	P	Pn	09 31 12.2	+1.6
PESTR				S	Sn	09 31 59.1	0.0
	comp=N,2.6nm,0.5s						
PBAR	Barrancos	4.26	69	ePn	Pn	09 31 13.8	+1.7
PBAR				eSn	Sn	09 32 01.4	-0.5
PBAR				A	A	09 32 05.2	
	comp=N,3.6nm,0.2s						
PBAR	Barrancos	4.26	69	P	Pn	09 31 13.8	+1.7
PBAR				S	Sn	09 32 01.4	-0.5
	comp=N,3.6nm,0.2s						
PBAR	Barrancos	4.26	69	P	Pn	09 31 13.8	+1.7
PBAR				S	Sn	09 32 01.4	-0.5
	comp=N,3.6nm,0.2s						
EMIN	Mina Concepcio	4.44	75	P	Pn	09 31 15.8	+1.3
	comp=N,2.5nm,0.1s,SNR=32						
EMIN				S	Sn	09 32 05.8	-0.4
	comp=N,2.4nm,0.2s,SNR=9.7						
EMIN	Mina Concepcio	4.44	75	P	Pn	09 31 15.8	+1.3
	comp=N,2.5nm,0.1s,SNR=32						
EMIN				S	Sn	09 32 05.8	-0.4
	comp=N,2.4nm,0.2s,SNR=9.7						
EBAD	Badajoz	4.50	62	P	Pn	09 31 16.7	+1.4
	comp=N,1.0nm,0.1s,SNR=16						
EBAD				S	Sn	09 32 07.4	-0.3
	comp=N,2.9nm,0.1s,SNR=8.4						
EBAD	Badajoz	4.50	62	P	Pn	09 31 16.7	+1.4
	comp=N,1.0nm,0.1s,SNR=16						
EBAD				S	Sn	09 32 07.4	-0.3
	comp=N,2.9nm,0.1s,SNR=8.4						
PMRV	Marv??o	4.58	52	ePn	Pn	09 31 17.4	+0.9
PMRV				eSn	Sn	09 32 09.3	-0.4
PMRV				A	A	09 32 10.3	
	comp=N,12nm,0.2s						
PMRV	Marv??o	4.58	52	P	Pn	09 31 17.4	+0.9
PMRV				S	Sn	09 32 09.3	-0.4
	comp=N,12nm,0.2s						
PMRV	Marv??o	4.58	52	P	Pn	09 31 17.4	+0.9

PMRV S Sn 09 32 09.3 -0.4
comp=N,12nm,0.2s
PCBR Castelo Branco 4.78 48 *e*Pn **Pn 09 31 20.9 +1.8**
PCBR *e*Sn **Sn 09 32 13.9 -0.6**
PCBR A A 09 32 16.3
comp=N,3.2nm,0.1s
PCBR Castelo Branco 4.78 48 P **Pn 09 31 20.9 +1.8**
PCBR S **Sn 09 32 13.9 -0.6**
comp=N,1.6nm,0.1s
PCBR Castelo Branco 4.78 48 P **Pn 09 31 20.9 +1.8**
PCBR S **Sn 09 32 13.9 -0.6**
comp=N,1.6nm,0.1s
MTE Manteigas 5.11 43 *e*Pn **Pn 09 31 25.6 +1.8**
MTE *e*Sn **Sn 09 32 23.0 +0.1**
MTE A A 09 32 24.6
comp=N,6.9nm,0.1s
MTE Manteigas 5.11 43 P **Pn 09 31 25.6 +1.8**
MTE S **Sn 09 32 23.0 +0.1**
comp=N,3.5nm,0.1s
MTE Manteigas 5.11 43 P **Pn 09 31 25.6 +1.8**
MTE S **Sn 09 32 23.0 +0.1**
comp=N,3.5nm,0.1s
PVIS Viseu 5.16 38 *e*Pn **Pn 09 31 26.1 +1.6**
PVIS *e*Sn **Sn 09 32 23.5 -0.6**
PVIS A A 09 32 24.7
comp=N,15nm,0.1s
PVIS Viseu 5.16 38 P **Pn 09 31 26.1 +1.6**
PVIS S **Sn 09 32 23.5 -0.6**
comp=N,7.3nm,0.1s
PVIS Viseu 5.16 38 P **Pn 09 31 26.1 +1.6**
PVIS S **Sn 09 32 23.5 -0.6**
comp=N,7.3nm,0.1s
PMAR Madeira 5.63 226 *e*Pn Pn 09 31 21.1 -10
PMAR *e*Sn Sn 09 32 15.1 -21
PMAR A A 09 32 17.7
comp=N,19nm,0.2s
PMAR Madeira 5.63 226 P Pn 09 31 21.1 -10
PMAR S Sn 09 32 15.1 -21
comp=N,9.3nm,0.2s
EPLA Plasencia 5.77 53 P **Pn 09 31 34.6 +1.7**
comp=N,1.0nm,0.1s,SNR=7.7
EPLA S **Sn 09 32 37.8 -1.4**
comp=N,2.0nm,0.1s,SNR=14
EPLA Plasencia 5.77 53 P **Pn 09 31 34.6 +1.7**
comp=N,1.0nm,0.1s,SNR=7.7
EPLA S **Sn 09 32 37.8 -1.4**
comp=N,2.0nm,0.1s,SNR=14
EMIJ Mijas 5.88 89 P **Pn 09 31 35.1 +0.9**
comp=N,0.7nm,0.3s,SNR=7.9
EMIJ S **Sn 09 32 38.8 -2.9**
comp=N,0.4nm,0.2s,SNR=7.9
EMIJ Mijas 5.88 89 P **Pn 09 31 35.1 +0.9**
comp=N,0.7nm,0.3s,SNR=7.9
EMIJ S **Sn 09 32 38.8 -2.9**
comp=N,0.4nm,0.2s,SNR=7.9
ELOB Lobios 6.01 30 P **Pn 09 31 38.2 +2.0**
comp=N,0.6nm,0.1s,SNR=7.4
ELOB S **Sn 09 32 43.5 -1.6**
comp=N,2.1nm,0.1s,SNR=12
ELOB Lobios 6.01 30 P **Pn 09 31 38.2 +2.0**
comp=N,0.6nm,0.1s,SNR=7.4
ELOB S **Sn 09 32 43.5 -1.6**
comp=N,2.1nm,0.1s,SNR=12
PGAV Gavieira, Arco 6.01 28 *e*Pn **Pn 09 31 38.9 +2.7**
PGAV *e*Sn **Sn 09 32 42.9 -2.2**
PGAV A A 09 32 44.2
comp=N,3.9nm,0.2s
PGAV Gavieira, Arco 6.01 28 *e*Pn **Pn 09 31 38.9 +2.7**
PGAV *e*Sn **Sn 09 32 42.9 -2.2**
comp=N,3.9nm,0.2s
EZAM Zamans 6.02 25 P **Pn 09 31 38.7 +2.5**
comp=N,1.3nm,0.1s,SNR=7.9
EZAM S **Sn 09 32 42.4 -2.9**
comp=N,2.5nm,0.1s,SNR=7.9
EZAM Zamans 6.02 25 P **Pn 09 31 38.7 +2.5**
comp=N,1.3nm,0.1s,SNR=7.9
EADA Adamuz 6.14 74 P **Pn 09 31 39.3 +1.4**
comp=N,1.6nm,0.1s,SNR=25
EADA S **Sn 09 32 47.1 -1.1**
comp=N,1.5nm,0.1s,SNR=7.9
EADA Adamuz 6.14 74 P **Pn 09 31 39.3 +1.4**
comp=N,1.6nm,0.1s,SNR=25
EADA S **Sn 09 32 47.1 -1.1**
comp=N,1.5nm,0.1s,SNR=7.9
ELUQ Luque 6.29 80 P **Pn 09 31 41.2 +1.1**
comp=N,1.4nm,0.2s,SNR=7.9
ELUQ S **Sn 09 32 50.8 -1.3**
comp=N,0.7nm,0.1s,SNR=7.9
ELUQ Luque 6.29 80 P **Pn 09 31 41.2 +1.1**
comp=N,1.4nm,0.2s,SNR=7.9
ELUQ S **Sn 09 32 50.8 -1.3**
comp=N,0.7nm,0.1s,SNR=7.9
ERON Agron 6.64 85 P **Pn 09 31 45.1 +0.2**
comp=N,1.2nm,0.4s,SNR=7.9
ERON S **Sn 09 32 58.5 -2.1**
comp=N,0.1nm,0.1s,SNR=7.9
ERON Agron 6.64 85 P **Pn 09 31 45.1 +0.2**
comp=N,1.2nm,0.4s,SNR=7.9
ERON S **Sn 09 32 58.5 -2.1**
comp=N,0.1nm,0.1s,SNR=7.9
ECAL Calabor 6.66 37 P **Pn 09 31 46.1 +1.1**
comp=N,2.5nm,0.5s,SNR=6.2
ECAL S **Sn 09 32 58.3 -2.7**
comp=N,1.7nm,0.2s,SNR=10
ECAL Calabor 6.66 37 P **Pn 09 31 46.1 +1.1**
comp=N,2.5nm,0.5s,SNR=6.2
ECAL S **Sn 09 32 58.3 -2.7**
comp=N,1.7nm,0.2s,SNR=10
EMAZ Mazaricos 6.66 20 P **Pn 09 31 46.8 +1.7**
comp=N,1.1nm,0.2s,SNR=7.9
EMAZ S **Sn 09 32 56.1 -4.9**
comp=N,4.8nm,0.1s,SNR=9.4
EMAZ Mazaricos 6.66 20 P **Pn 09 31 46.8 +1.7**
comp=N,1.1nm,0.2s,SNR=7.9
STS Santiago 6.73 23 P **Pn 09 31 49.0 +3.0**
comp=N,2.4nm,0.2s,SNR=7.9
STS S **Sn 09 32 58.8 -3.9**
comp=N,0.9nm,0.1s,SNR=7.9
STS Santiago 6.73 23 P **Pn 09 31 49.0 +3.0**
comp=N,2.4nm,0.2s,SNR=7.9
EGUA Guajares 6.83 86 P **Pn 09 31 49.0 +1.6**
comp=N,2.5nm,0.3s,SNR=7.9
EGUA Guajares 6.83 86 P **Pn 09 31 49.0 +1.6**
comp=N,2.5nm,0.3s,SNR=7.9
EQUE Quentar 6.93 83 P **Pn 09 31 50.2 +1.3**
comp=N,0.6nm,0.4s,SNR=7.9
EQUE S **Sn 09 33 05.6 -2.2**
comp=N,0.1nm,0.2s,SNR=7.9
EQUE Quentar 6.93 83 P **Pn 09 31 50.2 +1.3**
comp=N,0.6nm,0.4s,SNR=7.9
EQUE S **Sn 09 33 05.6 -2.2**
comp=N,0.1nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.04 63 P **Pn 09 31 51.4 +1.2**
comp=N,0.5nm,0.2s,baz=246,slow=13,SNR=15
ESDC S **Sn 09 33 08.5 -1.9**
comp=N,0.6nm,0.3s,baz=249,slow=23,SNR=7.4
ESDC Sonseca Array 7.04 63 P **Pn 09 31 51.4 +1.2**
comp=N,0.5nm,0.2s,baz=246,slow=13,SNR=15
ESDC S **Sn 09 33 08.5 -1.9**
comp=N,0.6nm,0.3s,baz=249,slow=23,SNR=7.4
EQES Quesada 7.26 79 P **Pn 09 31 53.6 +0.2**
comp=N,0.2nm,0.1s,SNR=7.9
EQES S **Sn 09 33 13.1 -2.9**
comp=N,0.1nm,0.2s,SNR=7.9
EQES Quesada 7.26 79 P **Pn 09 31 53.6 +0.2**
comp=N,0.2nm,0.1s,SNR=7.9
EQES S **Sn 09 33 13.1 -2.9**
comp=N,0.1nm,0.2s,SNR=7.9
GUD Guadarrama 7.33 55 P **Pn 09 31 55.5 +1.1**
comp=N,0.7nm,0.2s,SNR=7.9
GUD S **Sn 09 33 15.4 -2.3**
comp=N,0.2nm,0.1s,SNR=7.9
GUD Guadarrama 7.33 55 P **Pn 09 31 55.5 +1.1**
comp=N,0.7nm,0.2s,SNR=7.9
GUD S **Sn 09 33 15.4 -2.3**
comp=N,0.2nm,0.1s,SNR=7.9
EPON Pontenova 7.61 28 P **Pn 09 31 59.8 +1.8**
comp=N,0.5nm,0.1s,SNR=7.9
EPON S **Sn 09 33 20.0 -4.2**
comp=N,0.4nm,0.2s,SNR=4.6
EPON Pontenova 7.61 28 P **Pn 09 31 59.8 +1.8**
comp=N,0.5nm,0.1s,SNR=7.9
EHUE Huescar 7.64 79 P **Pn 09 31 59.0 +0.4**
comp=N,0.2nm,0.2s,SNR=7.9
EHUE S **Sn 09 33 23.3 -2.0**
SNR=7.9
EHUE Huescar 7.64 79 P **Pn 09 31 59.0 +0.4**
comp=N,0.2nm,0.2s,SNR=7.9
EHUE S **Sn 09 33 23.3 -2.0**
SNR=7.9
EARI Arriondas 8.42 37 S **Sn 09 33 41.7 -2.7**
comp=N,0.1nm,0.2s,SNR=7.9
EARI Arriondas 8.42 37 S **Sn 09 33 41.7 -2.7**
comp=N,0.1nm,0.2s,SNR=7.9
ETOB Tobarra 8.57 74 P **Pn 09 32 11.1 -0.2**
comp=N,0.2nm,0.1s,SNR=7.9
ETOB S **Sn 09 33 47.3 -0.7**
comp=N,0.3nm,0.3s,SNR=7.9
ETOB Tobarra 8.57 74 P **Pn 09 32 11.1 -0.2**
comp=N,0.2nm,0.1s,SNR=7.9
ETOB S **Sn 09 33 47.3 -0.7**
comp=N,0.3nm,0.3s,SNR=7.9
ETOR Torete 8.83 59 P **Pn 09 32 16.6 +1.7**
comp=N,3.5nm,0.1s,SNR=7.8
ETOR S **Sn 09 33 49.7 -4.9**
comp=N,0.5nm,0.2s,SNR=7.9
ETOR Torete 8.83 59 P **Pn 09 32 16.6 +1.7**
comp=N,3.5nm,0.1s,SNR=7.8
ELAN Lanestosa 9.29 43 S **Sn 09 34 02.3 -3.2**
comp=N,0.2nm,0.3s,SNR=7.9
ELAN Lanestosa 9.29 43 S **Sn 09 34 02.3 -3.2**
comp=N,0.2nm,0.3s,SNR=7.9
EALK Alkurruntz 10.38 48 S **Sn 09 34 28.6 -3.8**
comp=N,0.3nm,0.3s,SNR=7.9
EALK Alkurruntz 10.38 48 S **Sn 09 34 28.6 -3.8**
comp=N,0.3nm,0.3s,SNR=7.9

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*CSEM **01** 09:51:40.2±0.2, 30°.75N×56°.99E, h2km, ML3.2, Error ellipse: s-maj=4.6km s-min=3.4km az=134.0*
*TEH **01** 09:51:44.1, 30°.84N×56°.98E, h29km, ML3.6*
ISC 01 09:51:40.3±1.5**, 30°.76N**±0°.04×**57°.00E**±0°.04**, h1**km±18km**,**
n22, σ**0s.53**/28**, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KRBR Kerman 0.80 195 *e*Pg **Pg 09 51 55.4 -0.3**
KRBR *e*Sg **Sg 09 52 06.5 +0.4**
IBAF Bafgh 1.48 304 *e* 09 52 09.8
comp=Z,6μm,0.1s
IBAF *e*Pn **Pn 09 52 06.8 -1.4**
IBAF *e*Sg **Sg 09 52 29.4 +1.5**
IMEH Mehriz 2.14 288 *e*Pn **Pn 09 52 17.2 -0.2**
IMEH *e* 09 52 49.3
comp=Z,4μm,0.2s
IMEH Mehriz 2.14 288 *e*Pn **Pn 09 52 17.2 -0.2**
IKOO Kooshah 2.38 45 *e*Pn **Pn 09 52 20.8 +0.1**
IKOO *e* 09 52 60.0
comp=Z,6μm,0.2s
IKOO Kooshah 2.38 45 *e*Pn **Pn 09 52 20.8 +0.1**
ITEG Tejag 2.60 34 *e*Pn **Pn 09 52 23.6 0.0**
ITEG *e*Sg **Sg 09 53 03.7 -0.1**
ITEG *e* 09 53 06.5
comp=Z,3μm,0.2s
ITEG Tejag 2.60 34 *e*Pn **Pn 09 52 23.6 0.0**
ITEG *e*Sg **Sg 09 53 03.7 -0.1**
ICHK Chekchek 2.66 304 *e*Pn **Pn 09 52 25.2 +0.7**
ICHK *e* 09 53 06.7
comp=Z,2μm,0.3s
ICHK Chekchek 2.66 304 *e*Pn **Pn 09 52 25.2 +0.7**
TABS Tabas 2.88 2 *e*Pn **Pn 09 52 27.5 +0.1**
ISAD Sadrabad 3.06 293 *e*Pn **Pn 09 52 29.7 -0.3**
ISAD *e* 09 53 27.9
comp=Z,1μm,0.1s
ISAD Sadrabad 3.06 293 *e*Pn **Pn 09 52 29.7 -0.3**
IDAH Dahanechah 3.14 50 *e*Pn **Pn 09 52 31.1 0.0**
IDAH *e* 09 53 36.0
comp=Z,885nm,0.4s
IDAH Dahanechah 3.14 50 *e*Pn **Pn 09 52 31.1 0.0**
IMON Monand 3.32 42 *e*Pn **Pn 09 52 33.4 -0.1**
IMON *e* 09 52 45.5
comp=Z,2μm,0.1s
IMON *e*Sg **Sg 09 53 26.8 -0.1**
IMON Monand 3.32 42 *e*Pn **Pn 09 52 33.4 -0.1**
IMON *e*Sg **Sg 09 53 26.8 -0.1**
BNDS Bandar-Abbas 3.43 192 *e*Pn **Pn 09 52 35.2 +0.2**
SHRT Shahrakht 4.01 43 *e*Pn **Pn 09 52 43.7 +0.9**
NASN Na'in 4.11 301 *e*Pn **Pn 09 52 44.2 -0.3**
IZEF Zefreh 4.51 299 *e*Pn **Pn 09 52 49.6 -0.3**
IZEF *e* 09 54 05.1
comp=Z,253nm,0.3s
IZEF Zefreh 4.51 299 *e*Pn **Pn 09 52 49.6 -0.3**

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*NEIC **01** 10:02:57.0, 44°.53N×110°.36W, h2km, ML2.9(SLC), After SLC.*
ISC 01 10:02:57.5±1.0**, 44°.53N**±0°.02×**110°.35W**±0°.02**, h3**km±8km**,**
n60, σ**0s.69**/76**, 28C-22D, Yellowstone region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LKWY Lake 0.05 320 *e*Pg **Pg 10 02 58.7 -0.1**
LKWY *e*Sg **Sg 10 03 00.0 +0.3**
H17A Grant Village 0.21 231 P **Pg 10 03 02.1 +0.6**
baz=0.2,SNR=222
H17A ⇑S **Sg 10 03 05.0 +0.8**
baz=0.2
YNR Norris Junctio 0.30 309 *e*Pg **Pg 10 03 03.9 +0.5**
YNR *e*Sg **Sg 10 03 07.7 +0.4**
YFT Old Faithful 0.35 258 *e*Pg **Pg 10 03 05.1 +0.7**
YMR Madison River 0.46 288 *e*Pg **Pb 10 03 07.2 -1.2**
FLWY Flagg Ranch 0.51 209 *e*Pg **Pg 10 03 08.0 +0.7**
H18A Shoshone NF, C 0.52 73 P **Pg 10 03 07.7 +0.3**
baz=0.5,SNR=67
I17A Pilgrim Ck. 0.63 195 ⇑P **Pg 10 03 10.1 +0.6**
baz=0.6,SNR=55
H16A Russell Place, 0.66 286 ⇑P **Pb 10 03 10.9 -1.0**
baz=0.7,SNR=27
MOOW Moose Ponds 0.83 200 *e*Pg **Pg 10 03 12.8 -0.5**
QLMT Earthquake Lak 0.83 292 *e*Pg **Pb 10 03 14.1 -0.5**
G17A Pierce Place, 0.84 341 ⇓P **Pb 10 03 14.2 -0.6**
baz=0.8,SNR=8.7
G17A ⇑S **Sg 10 03 25.2 +0.7**
baz=0.8
I18A Diamond G Ranc 0.91 155 ⇑P **Pg 10 03 15.0 +0.1**
baz=0.9,SNR=32
I18A ⇓S **Sg 10 03 27.1 +0.4**
baz=0.9
LOHW Long Hollow 0.93 191 *e*Pg **Pg 10 03 15.5 +0.2**
LOHW *e*Sg **Sb 10 03 29.2 0.0**
G18A Lazy EL Ranch, 0.97 35 ⇑P **Pg 10 03 16.3 +0.2**
baz=1.0,SNR=65
G18A ⇑S **Sg 10 03 28.9 +0.2**
baz=1.0
RLMT Red Lodge 0.98 52 *e*Pg **Pg 10 03 16.0 -0.2**
RLMT *e*Sg **Sg 10 03 27.9 -1.0**
H19A Powell 0.99 81 ⇑P **Pg 10 03 16.5 +0.1**
baz=1.0,SNR=30
H19A ⇑S **Sg 10 03 30.0 +0.8**
baz=1.0
I19A Meeteetse 1.09 116 P **Pg 10 03 18.3 -0.1**
baz=1.1,SNR=42
I19A ⇓S **Sg 10 03 32.8 +0.3**
baz=1.1
SNOW Snow King Moun 1.10 195 *e*Pg **Pg 10 03 18.8 +0.2**
DCID1 Drake Creek 1.11 213 *e*Pg **Pg 10 03 18.0 -0.6**
J17A Brown Place, J 1.19 193 ⇓P **Pb 10 03 20.4 -0.3**
baz=1.2,SNR=49
J17A ⇑S **Sb 10 03 36.8 +0.2**
baz=1.2
REDW Red Top Meadow 1.22 197 *e*Pg **Pn 10 03 21.4 -0.2**
G16A Moss Hill, Enn 1.25 305 ⇑P **Pn 10 03 21.6 -0.4**
baz=1.2,SNR=14
G16A ⇓S **Sn 10 03 39.0 -0.4**
baz=1.2
J18A Kendall Valley 1.34 169 ⇓P **Pg 10 03 22.9 -0.1**
baz=1.3,SNR=21
J18A ⇑S **Sg 10 03 40.3 -0.1**
baz=1.3
GCMT Greycliff 1.36 21 *e*P **Pb 10 03 24.3 +0.7**
RRI2 Red Ridge 1.37 211 *e*P **Pb 10 03 24.5 +0.7**
F17A Fitzpatrick Pl 1.40 351 ⇑S 10 03 43.3
baz=1.4
BOZ Bozeman (W) 1.44 322 *e*Pn **Pg 10 03 25.4 +0.3**
BOZ Sn **Sn 10 03 47.2 +3.2**
F18A Big Timber 1.45 18 ⇓P **Pb 10 03 24.7 -0.5**
baz=1.4,SNR=45
F18A ⇓S **Sn 10 03 44.7 +0.4**
baz=1.4
J16A Bone 1.55 216 ⇑Sb Sb 10 03 47.6 +0.4
baz=1.5
F16A Kennard Place, 1.55 325 ⇑Pg **Pg 10 03 27.8 +0.7**
baz=1.5,SNR=17
J19A Crowheart 1.57 143 ⇓Pg **Pb 10 03 27.2 -0.1**
baz=1.6
J19A ⇑Sb **Sg 10 03 48.1 +0.1**
baz=1.6
I15A Monteview 1.62 252 ⇓Pg **Pg 10 03 28.7 +0.2**
baz=1.6,SNR=9.0
H15A Lima 1.64 274 ⇓Pg **Pg 10 03 29.1 +0.2**
baz=1.6,SNR=24
H15A ⇓S **Sb 10 03 49.5 -0.1**
baz=1.6
G15A Dillon 1.65 294 ⇓Pg **Pg 10 03 29.3 +0.3**
baz=1.6
F19A Roth Farm, Mol 1.66 36 ⇑Pg **Pg 10 03 29.4 +0.1**
baz=1.7
G20A Bridger 1.67 65 ⇓Pb **Pb 10 03 28.2 -0.8**
baz=1.7,SNR=17
G20A ⇓S **Sn 10 03 49.7 0.0**
baz=1.7
H20A Greybull 1.69 90 Pb **Pn 10 03 28.2 +0.3**
baz=1.7,SNR=20
H20A ⇑Sb **Sb 10 03 51.0 +0.2**
baz=1.7
I20A Worland 1.70 109 ⇑Pb **Pn 10 03 28.5 +0.3**
baz=1.7,SNR=50
I20A ⇓Sb **Sb 10 03 51.6 +0.3**
baz=1.7
DLMT Dillon 1.80 299 *e*Pn **Pg 10 03 31.7 -0.2**
K17A Gardner Place, 1.82 193 ⇓Pb **Pb 10 03 31.2 -0.4**
baz=1.8
PD01 Pinedale Array 1.84 162 *e*Pn **Pb 10 03 31.9 +0.1**
PD01 *e*Sn **Sg 10 03 56.3 -0.2**
PD02 Pinedale Array 1.84 162 *e*Pn **Pb 10 03 31.9 +0.1**
PD02 *e*Sn **Sn 10 03 54.5 +0.5**
AHID Auburn Hatcher 1.84 197 *e*Pn **Pb 10 03 31.8 0.0**
J15A Blackfoot 1.88 234 ⇓Pb **Pb 10 03 32.3 -0.1**
baz=1.9
E17A Martinsdale 1.97 350 ⇓Pg **Pg 10 03 35.5 +0.2**
baz=2.0
LRM Limekiln Ridge 1.97 312 *e*Pg **Pg 10 03 34.5 -0.7**
F15A Butte 2.00 312 ⇑Pg **Pg 10 03 36.1 +0.2**
baz=2.0
F20A Billings 2.02 50 ⇓Pg **Pg 10 03 35.9 -0.2**
baz=2.0
J20A Shoshoni 2.02 125 ⇑Sb Sb 10 04 00.9 +0.3
baz=2.0
K19A Absolon Red Bu 2.02 147 ⇓Pb **Pb 10 03 34.4 -0.5**
baz=2.0
K19A ⇑Sb **Sb 10 04 01.2 +0.6**
baz=2.0
E18A Harlowton 2.06 8 ⇑Pb **Pb 10 03 35.6 -0.1**
baz=2.1
E16A East Helena 2.21 336 ⇓Pg **Pg 10 03 40.3 +0.4**
baz=2.2
I21A Big Trails, Te 2.32 107 ⇑Pb **Pb 10 03 38.6 -1.3**
baz=2.3,SNR=41
H21A Big Horn, Sher 2.37 86 ⇑Sb Sb 10 04 11.0 +0.3
baz=2.4
K20A Yellowstone Ra 2.37 141 ⇑Sb Sb 10 04 11.5 +0.6
baz=2.4
J21A Lysite 2.41 118 ⇑Sb Sb 10 04 12.2 +0.2
baz=2.4
L19A Farson 2.53 163 ⇑Sb Sb 10 04 16.7 +1.2
baz=2.5
HWUT Hardware Ranch 3.05 197 *e*Pn **Pn 10 03 45.8 -0.9**
HLID Hailey 3.08 253 *e*Pn **Pb 10 03 50.5 -2.6**

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*NEIC **01** 10:06:50.0, 44°.54N×110°.35W, h2km, ML2.9(SLC), After SLC.*
ISC 01 10:06:50.7±0.9**, 44°.53N**±0°.02×**110°.37W**±0°.02**, h4**km±7km**,**
n60, σ**0s.75**/77**, 27C-26D, Yellowstone region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LKWY Lake 0.04 325 *e*Pg **Pg 10 06 52.0 -0.1**
LKWY *e*Sg **Sg 10 06 52.7 -0.4**
H17A Grant Village 0.20 228 P **Pg 10 06 55.5 +0.8**
baz=0.2,SNR=211
H17A ⇑S **Sg 10 06 58.6 +1.2**
baz=0.2
YNR Norris Junctio 0.29 310 *e*Pg **Pg 10 06 57.0 +0.6**
YFT Old Faithful 0.34 257 *e*Pg **Pg 10 06 58.3 +0.8**
YMR Madison River 0.45 288 *e*Pg **Pb 10 07 00.5 -0.8**
FLWY Flagg Ranch 0.51 208 *e*Pg **Pb 10 07 01.5 -0.8**
H18A Shoshone NF, C 0.52 74 ⇓P **Pg 10 07 00.8 0.0**
baz=0.5,SNR=49
H18A ⇑S **Sg 10 07 07.3 -0.4**
baz=0.5
I17A Pilgrim Ck. 0.63 194 ⇓P **Pb 10 07 03.5 -0.8**
baz=0.6,SNR=54
H16A Russell Place, 0.65 286 ⇑P **Pb 10 07 04.0 -0.8**
baz=0.7
QLMT Earthquake Lak 0.82 292 *e*Pg **Pb 10 07 07.1 -0.4**
MOOW Moose Ponds 0.83 199 *e*Pg **Pg 10 07 06.5 -0.1**
G17A Pierce Place, 0.83 342 ⇓P **Pb 10 07 07.9 0.0**
baz=0.8
I18A Diamond G Ranc 0.92 154 ⇓P **Pg 10 07 08.5 +0.2**
baz=0.9,SNR=34
I18A ⇓S **Sg 10 07 20.8 +0.5**
baz=0.9
LOHW Long Hollow 0.93 191 *e*Pg **Pg 10 07 08.9 +0.2**
LOHW *e*S **Sb 10 07 23.0 +0.6**
G18A Lazy EL Ranch, 0.97 36 ⇑P **Pb 10 07 10.1 -0.1**
baz=1.0,SNR=41
RLMT Red Lodge 0.98 53 *e*Pg **Pb 10 07 09.7 -0.7**
H19A Powell 1.00 81 ⇓P **Pb 10 07 09.9 -0.7**
baz=1.0,SNR=23
H19A ⇑S **Sb 10 07 23.1 -1.0**
baz=1.0
I19A Meeteetse 1.10 116 P **Pb 10 07 11.7 -0.7**
baz=1.1,SNR=52
I19A ⇑S **Sg 10 07 26.2 0.0**
baz=1.1
SNOW Snow King Moun 1.10 195 *e*Pg **Pb 10 07 12.4 -0.1**
DCID1 Drake Creek 1.11 212 *e*Pg **Pn 10 07 12.9 -0.2**
DCID1 *e*S **Sn 10 07 31.3 +2.4**
J17A Brown Place, J 1.19 192 ⇓P **Pb 10 07 13.9 -0.1**
baz=1.2,SNR=31
J17A ⇓S **Sb 10 07 30.2 +0.4**
baz=1.2
G16A Moss Hill, Enn 1.24 305 ⇓P **Pn 10 07 15.3 +0.4**
baz=1.2,SNR=14
J18A Kendall Valley 1.34 169 ⇑P **Pb 10 07 16.4 -0.2**
baz=1.3,SNR=21
J18A ⇓S **Sg 10 07 33.9 0.0**
baz=1.3
GCMT Greycliff 1.35 21 *e*Pg **Pb 10 07 17.9 +1.2**
RRI2 Red Ridge 1.37 211 *e*Pg **Pg 10 07 16.9 -0.1**
F17A Fitzpatrick Pl 1.39 352 ⇓P **Pb 10 07 18.4 +1.1**
baz=1.4
BOZ Bozeman (W) 1.43 322 *e*Pn **Pg 10 07 17.8 -0.3**
BOZ *e*S **Sn 10 07 37.9 +1.1**
F18A Big Timber 1.45 18 ⇑P **Pg 10 07 19.0 +0.5**
baz=1.4
F18A ⇓S **Sn 10 07 38.7 +1.4**
baz=1.4
F16A Kennard Place, 1.54 325 ⇑P **Pg 10 07 20.5 +0.3**
baz=1.5
J16A Bone 1.55 216 ⇓P **Pb 10 07 20.0 0.0**
baz=1.6
J16A ⇓S **Sg 10 07 41.2 +0.9**
baz=1.6
J19A Crowheart 1.58 143 ⇓Pb **Pg 10 07 20.6 -0.4**
baz=1.6
J19A ⇑S **Sg 10 07 41.1 -0.4**
baz=1.6
I15A Monteview 1.61 251 ⇑P **Pg 10 07 21.5 -0.1**
baz=1.6
H15A Lima 1.63 274 ⇑P **Pg 10 07 21.8 -0.1**
baz=1.6
G15A Dillon 1.64 294 ⇓Pb **Pg 10 07 22.0 -0.1**
baz=1.6,SNR=14
F19A Roth Farm, Mol 1.66 37 ⇑Pb **Pg 10 07 22.7 +0.1**
baz=1.7
G20A Bridger 1.68 65 ⇓P **Pb 10 07 21.5 -0.7**
baz=1.7,SNR=22
G20A ⇑S **Sg 10 07 43.8 -0.8**
baz=1.7
H20A Greybull 1.69 91 ⇑P **Pb 10 07 21.6 -0.8**
baz=1.7,SNR=28
H20A ⇑S **Sb 10 07 43.9 -0.3**
baz=1.7
I20A Worland 1.71 109 ⇓Pb **Pb 10 07 22.2 -0.5**
baz=1.7,SNR=62
I20A ⇓S **Sg 10 07 44.6 -1.0**
baz=1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DLMT	Dillon	1.79	298	ePn	Pg	10 07 25.1	+0.1
K17A	Gardner Place,	1.82	193	⇓Pb	Pg	10 07 25.1	-0.6
	baz=1.8						
AHID	Auburn Hatcher	1.84	197	ePn	Pg	10 07 25.9	-0.1
PD01	Pinedale Array	1.84	162	ePn	Pb	10 07 25.0	-0.1
PD01				eSn	Sb	10 07 48.4	-0.2
PD02	Pinedale Array	1.85	161	ePn	Pb	10 07 24.9	-0.3
PD02				eSn	Sn	10 07 47.7	+0.5
J15A	Blackfoot	1.87	234	⇓Pb	Pg	10 07 26.1	-0.5
	baz=1.9						
K18A	Toltan Ranch,	1.91	173	⇑Pb	Pg	10 07 26.8	-0.5
	baz=1.9						
LRM	Limekiln Ridge	1.96	312	ePn	Pg	10 07 29.0	+0.7
E17A	Martinsdale	1.96	350	⇑Pg	Pg	10 07 29.2	+0.9
	baz=2.0						
F15A	Butte	1.99	312	⇑Pb	Pg	10 07 28.9	0.0
	baz=2.0						
F20A	Billings	2.02	50	⇑Pg	Pg	10 07 29.5	+0.1
	baz=2.0						
F20A				⇑Sb	Sg	10 07 55.4	-0.1
	baz=2.0						
J20A	Shoshoni	2.03	125	⇑Pb	Pb	10 07 28.2	0.0
	baz=2.0						
J20A				⇑Sb	Sb	10 07 54.2	+0.5
	baz=2.0						
K19A	Absolon Red Bu	2.03	147	⇑Pb	Pb	10 07 28.4	+0.1
	baz=2.0						
K19A				⇓Sb	Sb	10 07 54.5	+0.6
	baz=2.0						
E18A	Harlowton	2.06	9	⇑Pb	Pg	10 07 29.5	-0.7
	baz=2.1						
H14A	Leadore	2.15	273	⇓Pb	Pg	10 07 31.1	-0.7
	baz=2.1						
G21A	Lodge Grass	2.35	72	⇑Sb	Sb	10 08 04.2	+1.0
	baz=2.3						
H21A	Big Horn, Sher	2.38	87	⇓Sb	Sb	10 08 04.5	+0.4
	baz=2.4						
K20A	Yellowstone Ra	2.38	141	⇑Sb	Sb	10 08 05.2	+0.9
	baz=2.4						
J21A	Lysite	2.42	118	⇓Sb	Sb	10 08 05.7	+0.2
	baz=2.4						
L19A	Farson	2.54	163	⇓Sb	Sb	10 08 10.4	+1.6
	baz=2.5						
HLID	Hailey	3.07	253	ePn	Pb	10 07 43.9	-2.1
HLID				eSn	Sb	10 08 21.4	-2.6
TMUT	Trail Mountain	5.27	187	ePn	Pn	10 08 05.7	-4.8
	11nm,0.5s						

*TRN **01** 10:10:08.9, 10.59N×60.95W, h46km, MD3.1*
*FUNV **01** 10:10:09.1, 11.00N×61.09W, h16km, MW3.0*
*ISCJB **01** 10:10:09.4±0.5, 10.82N±0.04×61.22W±0.03, h12km, Error ellipse: s-maj=5.9km s-min=4.1km az=161.7*
ISC 01 10:10:09.4±0.8**, 10.86N**±0.04×**61.24W**±0.04**, h12km, n15, σ1.32**/22**, 1C-1D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.27	216	⇑iP	Pg	10 10 19.5	+4.6
TRN				eS	Sg	10 10 27.1	+8.6
TBH	Brigand Hill	0.41	155	⇓eP	Pg	10 10 16.4	-1.2
TBH				eS	Sg	10 10 22.4	-0.7
TPR	Prospect	0.56	55	eP	Pb	10 10 21.9	+0.8
TPR				eS	Sb	10 10 30.5	+1.4
TOSP	Speyside	0.82	58	eP	Pg	10 10 24.0	-1.2
TOSP				eS	Sg	10 10 35.2	-0.7
GUIV	Guiria	0.99	258	eP	Pn	10 10 30.0	+1.0
GUIV				eS	Sn	10 10 46.3	+3.3
GUNV	Guanoco	1.81	248	eP	Pn	10 10 41.4	+1.0
GUNV				eS	Sb	10 11 06.0	+0.8
ITEV	Isla Los Testi	1.92	285	eP	Pn	10 10 42.8	+0.9
ITEV				eS	Sb	10 11 07.1	-1.1
CRUV	Carupano	1.97	265	eP	Pn	10 10 43.3	+0.7
CRUV				eS	Sn	10 11 08.1	+0.9
RIOV	Rio Grande	2.83	192	eP	Pn	10 10 55.3	+0.7
PCRV	Puerto La Cruz	3.41	259	eP	Pn	10 11 01.7	-0.7
PCRV				eS	Sn	10 11 41.5	-1.3
GURV	El Guri	3.58	211	eP	Pn	10 11 06.2	+1.5
LUEV	Luepa	4.99	182	eP	Pn	10 11 23.9	-0.5
TURV	Turiamo	6.50	267	eP	Pn	10 11 44.8	-0.1
BAUV	El Baul	6.96	255	eP	Pn	10 11 49.9	-1.4
MAPV	Macapo	7.17	262	eP	Pn	10 11 52.5	-1.7

*NEIC **01** 10:13:00.0, 44.53N×110.36W, h0km, ML2.6(SLC), After SLC.*
ISC 01 10:13:01.1±0.9**, 44.52N**±0.02×**110.36W**±0.02**, h9km**±10km**, n35, σ0.67**/52**, 14C-14D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H17A	Grant Village	0.20	231	⇓P	Pg	10 13 05.5	+0.1
	baz=0.2						
H17A				⇑S	Sg	10 13 08.7	+0.4
	baz=0.2						
YFT	Old Faithful	0.35	259	ePg	Pg	10 13 06.2	-1.9
YFT				eSg	Sg	10 13 14.0	+1.3
YMR	Madison River	0.46	289	ePg	Pb	10 13 11.3	-0.2
FLWY	Flagg Ranch	0.50	209	ePg	Pg	10 13 11.1	+0.2
FLWY				eSg	Sb	10 13 19.1	-0.6
H18A	Shoshone NF, C	0.52	72	⇓P	Pg	10 13 11.0	-0.3
	baz=0.5,SNR=22						
H18A				⇑S	Sg	10 13 17.8	-0.5
	baz=0.5						
I17A	Pilgrim Ck.	0.62	195	⇓P	Pg	10 13 13.4	+0.3
	baz=0.6						
I17A				⇓S	Sg	10 13 22.3	+1.0
	baz=0.6						
H16A	Russell Place,	0.66	286	⇑P	Pg	10 13 14.0	0.0
	baz=0.7						
H16A				⇑S	Sg	10 13 22.5	-0.1
	baz=0.7						
MOOW	Moose Ponds	0.82	200	ePg	Pg	10 13 16.9	-0.1
QLMT	Earthquake Lak	0.82	292	ePg	Pg	10 13 17.1	+0.1
G17A	Pierce Place,	0.84	342	⇓P	Pg	10 13 17.3	-0.2
	baz=0.8						
G17A				⇓S	Sg	10 13 28.6	+0.1
	baz=0.8						
I18A	Diamond G Ranc	0.91	154	⇑P	Pg	10 13 18.4	-0.2
	baz=0.9,SNR=21						
I18A				⇑S	Sg	10 13 30.7	+0.3
	baz=0.9						
LOHW	Long Hollow	0.93	191	ePg	Pg	10 13 18.8	-0.1
LOHW				eSg	Sg	10 13 31.1	+0.1
G18A	Lazy EL Ranch,	0.98	35	⇑P	Pg	10 13 19.7	-0.2
	baz=1.0						
RLMT	Red Lodge	0.98	52	ePg	Pg	10 13 19.2	-0.9
RLMT				eSg	Sg	10 13 32.9	+0.1
H19A	Powell	0.99	81	⇓P	Pg	10 13 19.8	-0.4
	baz=1.0,SNR=19						
H19A				⇑S	Sg	10 13 33.4	+0.2
	baz=1.0						
I19A	Meeteetse	1.09	116	⇑P	Pg	10 13 21.5	-0.7
	baz=1.1,SNR=20						
I19A				⇑S	Sg	10 13 36.3	-0.1
	baz=1.1						
SNOW	Snow King Moun	1.09	195	ePg	Pg	10 13 21.9	-0.3
DCID1	Drake Creek	1.10	213	ePg	Pg	10 13 21.4	-0.9
J17A	Brown Place, J	1.19	193	⇓P	Pn	10 13 24.0	0.0
	baz=1.2						
REDW	Red Top Meadow	1.21	197	ePg	Pb	10 13 23.7	-0.7
J18A	Kendall Valley	1.33	169	⇓P	Pb	10 13 26.6	+0.2
	baz=1.3,SNR=20						
J18A				⇑S	Sb	10 13 44.1	+0.5
	baz=1.3						
GCMT	Greycliff	1.36	21	ePn	Pg	10 13 27.3	+0.1
BOZ	Bozeman (W)	1.44	322	ePn	Pn	10 13 27.5	-0.1
F18A	Big Timber	1.46	18	⇓P	Pb	10 13 28.5	0.0
	baz=1.4,SNR=14						
J19A	Crowheart	1.57	143	⇑S	Sg	10 13 51.6	-0.1
	baz=1.6						
G20A	Bridger	1.68	65	⇓P	Pn	10 13 31.4	+0.6
	baz=1.7,SNR=9.1						
H20A	Greybull	1.69	90	⇓P	Pn	10 13 31.5	+0.5
	baz=1.7,SNR=26						
H20A				⇑S	Sb	10 13 54.0	+0.2
	baz=1.7						
I20A	Worland	1.70	109	⇑P	Pn	10 13 31.8	+0.7
	baz=1.7,SNR=30						
I20A				⇓S	Sb	10 13 54.8	+0.6
	baz=1.7						
DLMT	Dillon	1.80	299	ePn	Pg	10 13 35.1	-0.5
PD01	Pinedale Array	1.83	162	ePn	Pb	10 13 35.3	+0.4
PD01				eSn	Sb	10 13 59.3	+1.3
PD02	Pinedale Array	1.83	161	ePn	Pb	10 13 35.0	0.0
PD02				eSn	Sb	10 13 57.9	-0.2
LRM	Limekiln Ridge	1.97	312	ePn	Pg	10 13 38.9	0.0
K19A	Absolon Red Bu	2.02	147	⇓S	Sg	10 14 03.4	-2.6
	baz=2.0						
HLID	Hailey	3.08	253	ePn	Pb	10 13 55.5	-0.6
SRU	San Rafael	5.41	181	ePn	Pn	10 14 22.1	+0.1
	7.9nm,0.6s						

IDC 01 10:27:51.2±1.9**, 20.52S×68.45W, h122km**±16km**, mb3.7**/4**, mb1 3.8**/7**, mb1mx3.6**/14**, mbtmp3.6**/7**, Error ellipse: s-maj=24.3km s-min=15.2km az=88.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.22	4	P	Pn	10 28 54.6	0.0
	2.0nm,0.3s,baz=197,slow=5.8,SNR=29						
LPAZ				S	Sn	10 29 44.2	+0.5
	1.3nm,0.3s,baz=221,slow=5.4,SNR=4.4						
SIV	San Ignacio	8.33	58	P	Pn	10 29 48.7	-0.5
	4.1nm,0.3s,baz=257,slow=12,SNR=81						
SIV				S	Sn	10 31 20.6	-1.2
	0.1nm,0.3s,baz=170,slow=19,SNR=4.4						
CFAA	Coronel Fontan	11.04	179	P	Pn	10 30 24.6	-1.1
	0.0nm,0.3s,baz=356,slow=14,SNR=4.8						
CFAA				S	Sn	10 32 20.4	-6.9
	0.0nm,0.3s,baz=254,slow=16,SNR=2.1						
CPUP	Villa Florida	11.73	122	P	Pn	10 30 36.3	+1.5
	0.5nm,0.3s,baz=286,slow=12,SNR=12						
PLCA	Paso Flores	20.23	185	P	P	10 32 16.8	0.0
	1.1nm,0.6s,baz=41,slow=4.4,SNR=4.6						
TXAR	Lajitas Array	60.08	324	pP	pP	10 38 11.2	-3.9
	0.2nm,0.6s,baz=139,slow=11,SNR=2.4						
DBIC	Dimbokro	68.04	74	P	P	10 38 38.4	+0.3
	5.3nm,0.7s,baz=224,slow=6.7,SNR=9.2						
NVAR	Mina Array Bea	75.00	322	pP	pP	10 39 48.0	-2.0
	0.8nm,0.9s,baz=127,slow=5.9,SNR=4.5						
TORD	Torodi Ar. Bea	76.62	70	P	P	10 39 29.1	0.0
	3.1nm,0.7s,baz=254,slow=5.2,SNR=15						
TORD				pP	pP	10 40 00.8	+1.2
	1.0nm,0.9s,baz=247,slow=5.0,SNR=4.8						
YKA	Yellowknife Ar	90.41	340	P	P	10 40 37.8	-0.6
	0.3nm,0.6s,baz=131,slow=5.0,SNR=6.5						
YKA				pP	pP	10 41 07.6	-2.3
	1.1nm,0.7s,baz=134,slow=4.9,SNR=15						
MKAR	Makanchi Array	144.59	35	PKP	PKPdf	10 47 13.1	-0.3
	0.9nm,0.5s,baz=333,slow=3.0,SNR=4.5						
SONM	Songino Array	152.43	8	PKPbc	PKPbc	10 47 33.0	-0.1
	0.3nm,0.4s,baz=349,slow=2.2,SNR=2.8						

*BJI **01** 10:35:30.9, 1.12N×122.01E, h36km, mB5.3/35, mb4.9/43, Ms4.7/41, Ms7 4.4/37*
*MOS **01** 10:35:32.7±1.2, 1.40N×121.87E, h33km, mb5.2/32, MS4.1/5, Error ellipse: s-maj=13.9km s-min=6.0km az=115.2*
*ISCJB **01** 10:35:33.2±0.4, 1.41N±0.02×121.92E±0.03, h38km±4km, mb5.0/92, MS4.2/34, Error ellipse: s-maj=4.4km s-min=3.6km az=155.5*
*NEIC **01** 10:35:34.3±0.2, 1.32N×121.84E, mb5.1/36, Error ellipse: s-maj=6.9km s-min=4.0km az=66.0*
NEIC Felt [III] at Buol, Gorontalo and Tolitoli.
*DJA **01** 10:35:35, 1.41N×122.00E, h34km, Mw5.0/40*
*IDC **01** 10:35:35.3±1.9, 1.32N×121.84E, h43km±16km, mb4.5/22, mb1 4.6/24, mb1mx4.6/28, mbtmp4.5/24, ML4.9/2, MS4.2/18, Ms1 4.2/18, ms1mx4.0/30, Error ellipse: s-maj=17.7km s-min=8.2km az=69.0*
ISC 01 10:35:34.6±0.3**, 1.33N**±0.03×**121.87E**±0.04**, h34km, h35km:pP-P, n355, σ1.50**/445**, mb5.0**/92**, MS4.3**/35**, 24C-16D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.85	175	P	Pn	10 35 50.3	+0.2
GTOI	Gorontalo	1.33	121	P	Pn	10 35 55.1	-1.7
KMSI	Cibinong	2.24	110	P	Pn	10 36 11.0	+1.7
LUWI	Luwuk	2.52	159	P	Pb	10 36 16.3	-3.0
MNI	Manado	2.97	88	P	Pn	10 36 18.9	-0.4
SGSI	Sangihe	4.34	57	P	Pn	10 36 36.5	-1.7
TTSI	Tana Toraja	4.81	205	P	Pn	10 36 47.0	+2.4
TSM	Tawau	4.96	306	P	Pn	10 36 44.5	-2.1
SMKI	Samarinda	4.98	249	P	Pn	10 36 48.7	+1.7
	396nm,1.0s,6µm1.7nm						
MYLDM	Lahad Datu	5.09	319	P	Pn	10 36 47.7	-0.9
MYLDM	Lahad Datu	5.09	319	P	Pn	10 36 47.6	-0.9
	278nm,1.1s,8µm2.3nm						
KDI	Kendari	5.31	172	P	Pn	10 36 54.7	+3.3
	792nm,1.0s,7µm2.2nm						
TNTI	Ternate	5.53	96	P	Pb	10 37 07.4	-3.0
MJSI	Majene	5.64	211	P	Pn	10 37 00.3	+4.2
	661nm,0.8s,8µm3.4nm						
SPSI	Sidrap Palu	5.66	202	P	Pn	10 36 58.8	+2.4
	699nm,1.0s,5µm8µm2.2nm						
LBMI	Labuha	5.96	109	P	Pn	10 37 01.6	+1.1
	572nm,0.9s,10µm5.4nm						
CTBH	Cotabato--PC H	6.31	22	⇓eP	Pn	10 37 01.6	-3.7
SDKM	Sandakan	6.33	313	P	Pn	10 37 04.6	-1.0
IPIL	Ipil	6.45	6	eP	Pn	10 37 04.3	-2.9
PAGZ	Pagadian	6.65	13	eP	Pn	10 37 06.6	-3.3
KAPI	Kappang	6.65	199	ePn	Pn	10 37 10.9	+1.0
	296nm,1.0s						
KAPI				eSn	Sn	10 38 23.3	-1.2
KAPI	Kappang	6.65	199	P	Pn	10 37 11.8	+1.9
	SNR=10						
KAPI	Kappang	6.65	199	P	Pn	10 37 11.6	+1.7
	92nm,0.9s,3µm0.8nm						
DAV	Davao City (W)	6.80	33	P	Pn	10 37 12.3	+0.3
	38nm,0.3s,baz=52,slow=2.3,SNR=21						
DAV				S	Sn	10 38 35.2	+7.0
	40nm,0.3s,baz=280,slow=22,SNR=2.4						
DAV				LR	LR	10 39 58.8	
	comp=Z,2µm,19.6s,baz=178,slow=39						
DAV	Davao City (W)	6.80	33	P	Pn	10 37 12.3	+0.3
DAV				ePn	Pn	10 37 12.8	+0.8
DAV				eSn	Sn	10 38 31.9	+3.8
DAV				S	Sb	10 38 35.2	-18
DAV	Davao City (W)	6.80	33	P	Pn	10 37 13.3	+1.4
	SNR=22						
DAV	Davao City (W)	6.80	33	P	Pn	10 37 13.0	+1.1
	1µm,0.8s,11µm3.9nm						
BKSI	Bulukumba	6.83	195	P	Pn	10 37 15.3	+2.8
	200nm,0.9s,2µm0.8nm						
NLAI	Namlea	6.92	131	P	Pn	10 37 16.7	+3.0
	565nm,1.0s,5µm2.8nm						
MATI	Mati	7.09	38	eP	Pn	10 37 14.1	-1.9
BUKP	Musuan	7.24	26	eP	Pn	10 37 15.8	-2.2
KBKI	Kotabaru	7.32	231	P	Pn	10 37 21.0	+1.8
	192nm,0.9s,2µm0.9nm						
KKM	Kota Kinabalu	7.33	310	ePn	Pn	10 37 17.7	-1.7
	124nm,0.8s						
KKM	Kota Kinabalu	7.33	310	P	Pn	10 37 18.4	-1.0
KKM	Kota Kinabalu	7.33	310	P	Pn	10 37 18.0	-1.4
	73nm,1.2s,2µm0.5nm						
KDM	Kudat	7.48	318	P	Pn	10 37 20.9	-0.4
CGP	Cagayan de Oro	7.62	22	⇓eP	Pn	10 37 23.2	0.0
AAI	Ambon	8.05	128	P	Pn	10 37 40.4	+11
MSAI	Masohi	8.45	123	P	Pn	10 37 37.5	+2.9
	106nm,1.3s,2µm0.4nm						
BBKI	Banjar Baru	8.49	236	P	Pn	10 37 38.0	+2.8
	213nm,0.9s,2µm1.1nm						
BTM	Bintulu	8.97	282	P	Pn	10 37 43.2	+1.4
SBUM	Sibu	9.71	277	P	Pn	10 37 53.5	+1.6
SBUM	Sibu	9.71	277	P	Pn	10 37 54.7	+2.8
	16nm,1.1s,541nm						
MMRI	Maumere	9.91	178	P	Pn	10 38 12.0	+17
STKI	Sintang	10.47	263	P	Pn	10 38 05.0	+2.7
	109nm,0.5s						
FAKI	Fak Fak	11.20	112	P	Pn	10 38 23.9	+11
MTNI	Mataram	11.41	210	P	Pn	10 38 22.3	+7.0
	115nm,1.1s,15µm						
KMMI	Kalianget	11.47	223	P	Pn	10 38 24.2	+8.2
KSM	Kuching	11.56	271	ePn	Pn	10 38 18.1	+0.9
	38nm,1.1s						
KSM	Kuching	11.56	271	P	Pn	10 38 19.2	+1.9
KSM	Kuching	11.56	271	P	Pn	10 38 24.0	+6.7
	18nm,1.4s						
PCJI	Pacitan	14.26	228	P	P	10 39 02.1	+1.2
	111nm,1.3s						
BAKI	Biak	14.46	100	P	P	10 39 05.5	+2.3
TPI	Tanjungpandan	14.78	254	P	Pn	10 39 01.8	+0.5
	39nm,1.4s,679nm						
BJII	Banjamegara	14.87	234	P	P	10 39 07.4	-0.5
	229nm,1.4s,3µm						
PPBI	Pangkal Pinang	16.11	258	P	Pn	10 39 18.4	-0.2
	43nm,0.5s						
LEM	Lembang	16.37	240	P	P	10 39 26.5	+1.9
	196nm,1.1s,2µm						
CISI	Cisompet, Garu	16.57	238	P	P	10 39 28.0	+1.3
	271nm,1.2s,3µm						
CBJI	Citeko	16.86	243	P	P	10 39 32.8	+3.0
	550nm,1.1s						
SMPI	Sarmi	17.16	101	P	P	10 39 45.3	+12
CGJI	Cibinong	17.97	244	P	P	10 39 43.7	+1.5
	176nm,1.3s,3µm						
MYKOM	Kota Tinggi	18.02	272	P	P	10 39 56.4	+14
KLI	Kotabumi	18.08	250	P	P	10 39 55.8	+12
LWLI	Liwa	18.88	250	P	Pn	10 40 00.9	+7.8
	442nm,0.9s,5µm						
JAY	Jayapura	19.21	101	P	Pn	10 40 00.2	+3.1
	58nm,1.0s,4µm						
FITZ	Fitzroy Crossi	19.66	169	P	P	10 40 00.9	+0.2
	1.8nm,0.3s,baz=2.1,slow=8.8,SNR=88						
FITZ				LR	LR	10 48 56.1	
	comp=Z,648nm,18.4s,baz=351,slow=41						
FITZ	Fitzroy Crossi	19.66	169	⇑iP	P	10 40 00.9	+0.2
FITZ				eS	S	10 43 37.7	-3.1
FITZ	Fitzroy Crossi	19.66	169	eP	P	10 40 00.9	+0.2
	163nm,1.1s						
KSI	Kapahiang	19.89	256	P	Pn	10 40 17.1	+12
XMIS	Christmas Isla	19.95	234	ePn	P	10 40 01.7	-2.2
	2µm,1.8s						
KRJI	Kerinci	20.68	261	P	Pn	10 40 22.4	+7.9
	436nm,1.1s,10µm						
BKNI	Bangkinang	20.85	267	P	Pn	10 40 23.3	+7.0
	130nm,1.1s,2µm						
IPM	Ipoh	21.05	279	eP	P	10 40 15.6	-0.2
	55nm,1.1s						
IPM	Ipoh	21.05	279	P	P	10 40 16.5	+0.7
IPM	Ipoh	21.05	279	P	pP	10 40 26.1	+1.1
	49nm,1.1s						
QIZ	Qiongzhong	21.17	327	P	P	10 40 19.0	+1.9
QIZ				pP	pP	10 40 26.9	+0.6
QIZ				sP	sP	10 40 31.0	+0.4
QIZ				S	S	10 44 13.0	+2.1
QIZ				pmax	pmax		
	comp=Z,41nm,1.2s						
QIZ				LR	LR		
	comp=Z,810nm,15.9s						
KULM	Kulim	21.54	281	eP	P	10 40 20.4	-0.8
	comp=Z,85nm,1.4s						
KULM	Kulim	21.54	281	P	P	10 40 21.7	+0.6
KULM	Kulim	21.54	281	P	pP	10 40 32.2	+1.9
PPI	Padang Panjang	21.54	265	P	P	10 40 35.8	+15
TPUB	Ta-pu	21.87	357	eP	P	10 40 25.4	+0.8
	comp=Z,132nm,1.0s						
YULB	Yu-li	21.94	359	eP	P	10 40 24.7	-0.6
	comp=Z,58nm,1.0s						
MNSI	Mandailing Nat	22.29	269	P	P	10 40 29.7	+0.5
	comp=Z,78nm,0.9s						
SSLB	Suanglung	22.34	358	eP	P	10 40 30.2	+0.6
	comp=Z,19nm,0.9s						
MBWA	Marble Bar	22.45	185	eP	P	10 40 29.1	-1.7
	comp=Z,38nm,0.9s						
PSI	Prapat	22.98	274	P	P	10 40 37.2	+0.6
	comp=Z,48nm,1.2s,comp=Z,740nm						
TSI	Tuntungan	23.38	276	P	P	10 40 42.4	+1.9
	comp=Z,270nm,1.1s,comp=Z,3µm						
WRAB	Tennant Creek	24.42	151	eP	P	10 40 49.3	-0.9
WRAB				pmax	pmax		
	comp=Z,86nm,0.9s						
WRAB	Tennant Creek	24.42	151	eP	P	10 40 49.3	-0.9
	comp=Z,86nm,0.9s						
WRAB	Tennant Creek	24.42	151	P	P	10 40 49.0	-1.2
	comp=Z,560nm,0.9s,SNR=29						
WRA	Warramunga Arr	24.43	151	P	P	10 40 49.1	-1.1
	comp=Z,71nm,0.9s,baz=330,slow=10,SNR=140						
WRA				LR	LR	10 51 03.5	
	comp=Z,574nm,20.1s,baz=340,slow=38						
WRA	Warramunga Arr	24.43	151	P	P	10 40 49.1	-1.1
WRA	Warramunga Arr	24.43	151	P	P	10 40 49.1	-1.1
WB2	Warramunga Arr	24.43	151	eP	P	10 40 49.3	-1.0
TPTI		24.74	275	P	pP	10 41 05.0	+2.0
COEN	Coen	26.01	126	eP	P	10 41 04.3	-0.3
	comp=Z,601nm,0.9s						
JOW	Kunigami	26.09	13	LR	LR	10 51 12.4	
	comp=Z,405nm,18.6s,baz=250,slow=36						
PMG	Port Moresby	27.36	113	P	P	10 41 17.1	+0.4
	comp=Z,36nm,0.9s,baz=309,slow=5.5,SNR=10						
PMG	Port Moresby	27.36	113	c iP	P	10 41 17.1	+0.4
PMG				pmax	pmax		
	comp=Z,60nm,1.3s						
PMG	Port Moresby	27.36	113	eP	P	10 41 17.2	+0.4
	comp=Z,54nm,0.9s						
AS31	Alice Springs	27.46	156	eP	P	10 41 17.0	-0.7
ASAR	Alice Springs	27.47	156	P	P	10 41 17.0	-0.7
	comp=Z,11nm,0.7s,baz=346,slow=14,SNR=208						
ASAR				PcP	PcP	10 44 35.7	-0.1
	comp=Z,3.9nm,0.9s,baz=293,slow=2.5,SNR=4.4						
ASAR				S	S	10 45 53.1	-3.1
	comp=Z,1.4nm,0.8s,baz=341,slow=20,SNR=2.7						
ASAR				ScP	ScP	10 48 13.1	-0.9
	comp=Z,3.0nm,1.1s,baz=360,slow=2.1,SNR=6.8						
ASAR	Alice Springs	27.47	156	P	P	10 41 17.0	-0.7
ASAR						10 44 35.7	
ASAR				S	S	10 45 53.2	-3.1
ASAR	Alice Springs	27.47	156	P	P	10 41 17.0	-0.7
ASAR				PcP	PcP	10 44 35.7	-0.1
ASAR				S	S	10 45 53.1	-3.1
ASAR				ScP	ScP	10 48 13.1	-0.9
CMAR	Chiang Mai Arr	28.21	309	P	P	10 41 24.4	+0.1
	comp=Z,0.6nm,0.7s,baz=153,slow=7.8,SNR=5.2						
CMAR				PcP	PcP	10 44 38.1	+0.4
	comp=Z,2.4nm,1.0s,baz=171,slow=1.9,SNR=5.5						
CMAR				ScP	ScP	10 48 14.9	-1.4
	comp=Z,0.5nm,0.7s,baz=67,slow=3.0,SNR=3.5						
CMAR				LR	LR	10 53 56.9	
	comp=Z,442nm,18.8s,baz=285,slow=39						
CMAR	Chiang Mai Arr	28.21	309	P	P	10 41 24.5	+0.1
CMAR						10 44 38.1	
CMAR	Chiang Mai Arr	28.21	309	P	P	10 41 24.4	+0.1
CMAR				PcP	PcP	10 44 38.1	+0.4
CMAR				ScP	ScP	10 48 14.9	-1.4
CHTO	Chiang Mai	28.41	309	eP	P	10 41 27.6	+1.4
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s						
CHTO	Chiang Mai	28.41	309	eP	P	10 41 27.6	+1.4
	comp=Z,12nm,1.0s						
CHTO	Chiang Mai	28.41	309	P	pP	10 41 36.1	0.0
	comp=Z,18nm,2.0s						
GYA	Guiyang	28.95	331	⇑iP	P	10 41 32.8	+1.8
GYA				pP	pP	10 41 44.0	+3.1
GYA				sP	sP	10 41 49.2	+4.1
GYA				PcP	PcP	10 44 41.5	+2.0
GYA				S	S	10 46 21.9	+2.2
GYA				sS	sS	10 46 38.7	+2.6
GYA				SS	SS	10 47 51.4	-32
GYA				ScP	ScP	10 48 18.8	+0.2
GYA				ScS	ScS	10 52 11.0	-1.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,4.7s						
GYA				LR	LR		
	comp=N,820nm,16.6s						
GYA				LR	LR		
	comp=E,710nm,17.4s						
GYA				LR	LR		
	comp=Z,940nm,15.2s						
KMI	Kunming	30.01	324	P	P	10 41 48.3	+7.8
KMI				pP	pP	10 42 01.2	+11
KMI				S	S	10 46 42.2	+5.6
KMI				sS	sS	10 47 04.4	+11
KMI				SS	ScP	10 48 21.8	-0.4
KMI				pmax	pmax		
	comp=Z,14nm,1.2s						
KMI				pmax	pmax		
	comp=Z,290nm,7.0s						
KMI				LR	LR		
	comp=N,460nm,11.3s						
KMI				LR	LR		
	comp=E,420nm,12.3s						
KMI				LR	LR		
	comp=Z,420nm,17.1s						
NJ2	Nanjing	30.69	355	eP	P	10 41 49.2	+3.0
NJ2				pP	pP	10 41 58.1	+2.0
NJ2				sP	sP	10 42 01.2	+0.9
NJ2				S	S	10 46 49.0	+2.4

NJ2 sS sS 10 47 09.0 +5.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,450nm,5.0s
NJ2 LR LR
comp=N,940nm,29.4s
NJ2 LR LR
comp=E,370nm,17.1s
NJ2 LR LR
comp=Z,720nm,22.0s
ENH Enshi 31.09 339 *e*P **P 10 41 49.8 -0.1**
comp=Z,30nm,1.0s
CTA Charters Tower 32.01 133 P **P 10 41 58.9 +0.9**
comp=Z,36nm,0.8s,baz=316,slow=11,SNR=38
CTA PcP **PcP 10 44 48.5 +0.9**
comp=Z,7.2nm,0.8s,baz=279,slow=1.9,SNR=3.8
CTA Charters Tower 32.01 133 ⇑*i*P **P 10 41 58.8 +0.8**
CTA Charters Tower 32.01 133 P **P 10 41 58.9 +0.9**
CTA 10 44 48.5
CTA Charters Tower 32.01 133 P **P 10 41 58.9 +0.9**
CTA PcP **PcP 10 44 48.5 +0.9**
CTAO Charters Tower 32.01 133 *e*P **P 10 41 58.8 +0.8**
CTAO pmax pmax
comp=Z,46nm,0.9s
CTAO Charters Tower 32.01 133 *e*P **P 10 41 58.8 +0.8**
comp=Z,46nm,0.9s
FORT Forrest 32.47 170 ⇑*i*P **P 10 42 00.9 -0.9**
FORT Forrest 32.47 170 *e*P **P 10 42 01.0 -0.9**
comp=Z,137nm,0.7s
KLBR Kellerberrin 32.97 186 *e*P **P 10 42 04.5 -1.8**
comp=Z,16nm,0.7s
CD2 Chengdu 34.06 332 ⇓*i*P **P 10 42 15.2 -0.6**
CD2 pP **pP 10 42 25.6 -0.2**
CD2 sP **sP 10 42 29.8 -0.2**
CD2 PP **PnPn 10 43 30.5 +0.6**
CD2 S **S 10 47 38.7 -0.6**
CD2 sS **sS 10 47 55.5 -0.3**
CD2 SS **SnSn 10 49 48.3 0.0**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,200nm,4.5s
CD2 LR LR
comp=N,620nm,7.7s
CD2 LR LR
comp=Z,550nm,10.7s
NWAO Narrogin (SRO) 34.35 187 P **P 10 42 17.3 -1.0**
comp=Z,26nm,0.9s,baz=8.4,slow=7.8,SNR=9.7
NWAO LR LR 10 56 17.4
comp=Z,323nm,21.4s,baz=6.8,slow=36
NWAO Narrogin (SRO) 34.35 187 *e*P **P 10 42 17.3 -1.0**
NWAO pmax pmax
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 34.35 187 *e*P **P 10 42 17.3 -1.0**
comp=Z,27nm,0.9s
XAN Xi'an 34.72 341 P **P 10 42 21.5 0.0**
XAN pP **pP 10 42 28.6 -2.9**
XAN S **S 10 47 47.3 -2.2**
XAN sS **sS 10 48 05.6 -0.4**
XAN ScS **ScS 10 52 38.3 -2.9**
XAN pmax pmax
comp=Z,45nm,8.6s
XAN LR LR
comp=N,470nm,18.4s
XAN LR LR
comp=Z,170nm,15.7s
KSAR Wonju Array Be 36.36 8 P **P 10 42 35.5 +0.1**
KSAR Wonju Array Be 36.36 8 P **P 10 42 35.5 +0.1**
KSRS Korea Array 36.38 8 P **P 10 42 35.5 -0.1**
comp=Z,3.6nm,0.9s,baz=180,slow=8.8,SNR=5.8
KSRS LR LR 11 01 09.3
comp=Z,378nm,18.3s,baz=178,slow=42
BBOO Buckleboo 36.51 160 *e*P **P 10 42 36.0 -0.8**
comp=Z,351nm,0.8s
SHL Shillong 37.63 312 *e*P **P 10 42 48.0 +1.4**
SHL *ex* x 10 48 29.0
STKA Stephens Creek 37.95 152 P **P 10 42 49.1 0.0**
comp=Z,77nm,0.8s,baz=322,slow=8.1,SNR=102
STKA LR LR 10 59 21.2
comp=Z,510nm,19.9s,baz=132,slow=38
STKA Stephens Creek 37.95 152 ⇑*i*P **P 10 42 49.0 0.0**
STKA Stephens Creek 37.95 152 P **P 10 42 49.1 0.0**
STKA Stephens Creek 37.95 152 P **P 10 42 49.1 0.0**
MAT Matsushiro 38.16 22 P **P 10 42 48.4 -2.4**
MAT *e*S **S 10 48 40.0 -1.9**
MJAR Matsushiro Arr 38.16 22 P **P 10 42 48.8 -2.0**
comp=Z,6.8nm,0.7s,baz=196,slow=9.7,SNR=24
MJAR LR LR 10 56 17.4
comp=Z,312nm,19.6s,baz=205,slow=32
MJAR Matsushiro Arr 38.16 22 P **P 10 42 48.8 -2.0**
MJAR Matsushiro Arr 38.16 22 P **P 10 42 48.8 -2.0**
LZH Lanzhou 38.41 336 *e*P P 10 43 00.2 +7.1
LZH pP pP 10 43 10.8 +7.6
LZH sP sP 10 43 14.5 +7.2
LZH PP PnPn 10 44 32.5 +9.1
LZH *e*S **ScP 10 48 54.2 +2.5**
LZH sS sS 10 49 10.5 +7.9
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,190nm,4.6s
LZH LR LR
comp=N,350nm,12.0s
LZH LR LR
comp=E,510nm,12.1s
LZH LR LR
comp=Z,830nm,16.2s
EIDS Eidsvold 38.78 135 *e*P **P 10 42 55.7 -0.4**
comp=Z,26nm,1.2s
BJI Beijing 38.88 353 P **P 10 42 56.4 -0.3**
BJI pP **pP 10 43 08.4 +1.6**
BJI PP **PnPn 10 44 27.5 -1.2**
BJI S **S 10 48 52.3 -0.2**
BJI pmax pmax
comp=Z,10.0nm,1.1s
BJI LR LR
comp=N,440nm,23.7s
BJI LR LR
comp=E,310nm,18.1s
BJI LR LR
comp=Z,390nm,22.0s
SNY Shenyang 40.34 2 ⇑P **P 10 43 08.4 -0.5**
SNY S **S 10 49 17.0 +2.5**
SNY pmax pmax
comp=Z,15nm,0.9s
SNY pmax pmax
comp=Z,370nm,4.1s
SNY LR LR
comp=E,560nm,17.1s
SNY LR LR
comp=Z,540nm,16.7s
HHC Hu-ho-hao-te 40.43 348 *e*P P 10 43 13.4 +3.6
HHC pP pP 10 43 23.2 +3.3
HHC sP sP 10 43 27.8 +3.7
HHC PP **PnPn 10 44 50.8 +3.5**
HHC S **S 10 49 19.0 +2.9**
HHC sS sS 10 49 35.4 +2.6
HHC SS **SS 10 52 15.9 -0.3**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,200nm,4.9s
HHC LR LR
comp=N,350nm,14.0s
HHC LR LR
comp=E,320nm,14.8s
HHC LR LR
comp=Z,420nm,15.2s
LSA Lhasa 40.61 317 P **P 10 43 12.2 +0.3**
VIS Vishakhapatnam 41.21 296 *ex* P 10 43 12.1 -4.3
VIS AMb AMB 10 43 13.2
comp=Z,54nm,0.7s
ODAN Odare 41.71 311 *e*P **P 10 43 20.6 -0.1**
ODAN Odare 41.71 311 *e*P **P 10 43 20.6 -0.1**
TAPN Taplejung 41.72 311 *e*P **P 10 43 20.3 -0.6**
comp=Z,84nm,1.3s
TAPN Taplejung 41.72 311 *e*P **P 10 43 20.3 -0.6**
RAMN Ramite 42.35 310 *e*P **P 10 43 26.5 +0.5**
comp=Z,138nm,1.3s
RAMN Ramite 42.35 310 *e*P **P 10 43 26.5 +0.5**
CN2 Changchun 42.41 4 *e*P P 10 43 29.7 +3.9
CN2 *ep*P pP 10 43 39.6 +3.6
CN2 *e*S **S 10 49 49.9 +4.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,500nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
ARMA Armidale 42.43 141 ⇑*i*P **P 10 43 27.9 +1.5**
ARMA Armidale 42.43 141 *e*P **P 10 43 28.1 +1.7**
comp=Z,42nm,0.7s
MDRS Chennai 42.83 288 *e*P **P 10 43 30.0 +0.3**
GTA Gaotai 42.91 335 P **P 10 43 30.8 +0.6**
GTA pP **pP 10 43 41.1 +0.8**
GTA sP **sP 10 43 45.9 +1.4**
GTA PP **PcP 10 45 16.3 -4.3**
GTA S **S 10 49 53.7 +0.8**
GTA sS **sS 10 50 10.8 +1.1**
GTA pmax pmax
comp=Z,16nm,0.8s
GTA pmax pmax
comp=Z,150nm,5.2s
GTA LR LR
comp=N,240nm,15.7s
GTA LR LR
comp=E,310nm,19.0s
GTA LR LR
comp=Z,330nm,14.7s
JIRN Jiri 43.03 311 *e*P **P 10 43 31.1 -0.5**
comp=Z,47nm,1.0s
JIRN Jiri 43.03 311 *e*P **P 10 43 31.1 -0.5**
GUN Gumba 43.40 311 *e*P **P 10 43 34.2 -0.3**
comp=Z,138nm,1.1s
GUN Gumba 43.40 311 *e*P **P 10 43 34.2 -0.3**
PKI Pulchoki 43.58 310 *e*P **P 10 43 35.8 -0.2**
comp=Z,66nm,1.3s
PKI Pulchoki 43.58 310 *e*P **P 10 43 35.8 -0.2**
PKI Pulchoki 43.58 310 *e*P **P 10 43 35.8 -0.2**
USRK Ussuriysk Arra 43.62 11 P **P 10 43 35.0 -0.6**
comp=Z,7.6nm,0.8s,baz=198,slow=7.3,SNR=18
USRK LR LR 11 01 41.1
comp=Z,225nm,21.8s,baz=355,slow=36
MDJ Mudanjiang 43.64 8 P **P 10 43 35.3 -0.5**
MDJ pP **pP 10 43 44.7 -1.3**
MDJ sP **sP 10 43 47.5 -2.6**
MDJ PP **PP 10 45 16.3 -1.5**
MDJ S **S 10 50 01.0 -2.2**
MDJ pmax pmax
comp=Z,17nm,1.8s
MDJ pmax pmax
comp=Z,170nm,5.9s
MDJ LR LR
comp=N,150nm,34.2s
MDJ LR LR
comp=E,55nm,34.2s
MDJ LR LR
comp=Z,270nm,21.4s
MDJ Mudanjiang 43.64 8 *e*P **P 10 43 35.8 0.0**
comp=Z,28nm,1.1s
KKN Kakani 43.79 310 *e*P **P 10 43 37.9 +0.3**
KKN Kakani 43.79 310 *e*P **P 10 43 37.9 +0.3**
KKN Kakani 43.79 310 *e*P **P 10 43 37.9 +0.3**
DMN Daman 43.83 310 *e*P **P 10 43 38.1 +0.1**
comp=Z,85nm,1.2s
DMN Daman 43.83 310 *e*P **P 10 43 38.1 +0.1**
GKN Gorkha 44.39 310 *e*P **P 10 43 42.6 +0.3**
comp=Z,40nm,0.7s
GKN Gorkha 44.39 310 *e*P **P 10 43 42.6 +0.3**
CAN Canberra 44.41 148 *e*P **P 10 43 43.6 +1.4**
CAN pmax pmax
comp=Z,35nm,0.8s
CAN Canberra 44.41 148 *e*P **P 10 43 43.6 +1.4**
comp=Z,35nm,0.8s
TOO Toolangi 44.46 153 *e*P **P 10 43 43.0 +0.5**
CNB Canberra Magne 44.60 147 *e*P **P 10 43 44.2 +0.4**
KOLN Koldanda 45.07 309 *e*P **P 10 43 47.5 -0.3**
comp=Z,48nm,1.0s
KOLN Koldanda 45.07 309 *e*P **P 10 43 47.5 -0.3**
DANN Dangsing 45.23 310 *e*P **P 10 43 48.8 -0.4**
comp=Z,93nm,0.9s
DANN Dangsing 45.23 310 *e*P **P 10 43 48.8 -0.4**
HYB Hyderabad 45.47 293 *i*P **P 10 43 50.0 -0.9**
HYB *es*P **sP 10 44 06.0 +0.8**
HYB *e*S **S 10 50 28.0 -2.6**
ASAJ Asahikawa 46.41 21 P **P 10 43 57.7 -0.1**
comp=Z,10nm,0.7s,baz=123,slow=25,SNR=5.4
ASAJ Asahikawa 46.41 21 P **P 10 43 57.7 -0.1**
YUK Yuzh-Kuril'sk 47.57 23 *d*iP **P 10 44 05.2 -1.6**
YUK *i* 10 45 56.9
YUK *i*S **S 10 51 01.7 +2.0**
YUK *i*SS SS 10 54 19.4 -8.8
YUK pmax pmax
comp=Z,261nm,8.2s
YUK MLR MLR
comp=Z,269nm,18.0s
HIA Hailar 47.79 358 *e*P **P 10 44 08.4 -0.1**
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 47.79 358 *e*P **P 10 44 08.4 -0.1**
comp=Z,15nm,0.8s
ULN Ulaanbaatar 48.10 347 *e*P **P 10 44 11.0 -0.1**
ULN pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 48.10 347 *e*P **P 10 44 11.0 -0.1**
comp=Z,30nm,1.0s
ULN Ulaanbaatar 48.10 347 P **P 10 44 11.1 -0.1**
comp=Z,32nm,1.5s,comp=Z,365nm
SONM Songino Array 48.23 346 P **P 10 44 12.2 +0.1**
comp=Z,13nm,0.8s,baz=160,slow=8.4,SNR=54
SONM LR LR 11 06 53.3
comp=Z,443nm,18.3s,baz=137,slow=39
SONM Songino Array 48.23 346 P **P 10 44 12.2 +0.1**
SONM Songino Array 48.23 346 P **P 10 44 12.2 +0.1**
BHPL Bhopal 48.27 300 *e*P **P 10 44 13.7 +0.9**
BHPL AMb AMB 10 44 24.3
comp=Z,43nm,1.0s
HABR Khabarovsk 48.32 12 P **P 10 44 10.5 -2.1**
HABR *e*PP **pP 10 44 20.1 -2.8**
HABR *e*SP **sP 10 44 24.2 -2.8**
HABR *e* 10 45 36.2
HABR *e*S **S 10 51 09.2 -1.0**
HABR *e*SS **sS 10 51 25.5 -1.7**
HABR *e* 10 53 59.7
HABR SS **SS 10 54 39.9 -0.3**
HABR pmax pmax
comp=N,14nm,1.0s
HABR pmax pmax
comp=E,41nm,1.3s
HABR pmax pmax
comp=Z,37nm,1.0s
HABR MLR MLR
comp=Z,169nm,17.0s
DZM Mont Dzumac 49.31 121 *e*P **P 10 44 20.4 -0.4**
KAD Karad 49.48 292 *e*P **P 10 44 22.2 +0.1**
KAD AMb AMB 10 44 32.9
comp=Z,26nm,0.8s
POO Poona 50.08 293 *e*P **P 10 44 26.8 +0.1**
POO AMb AMB 10 44 37.5
comp=Z,26nm,0.6s
NDI New Delhi 50.51 307 *ex* P 10 44 33.0 +3.3
DDI Dehra Dun 50.55 309 *ex* x 10 44 40.0
ZAK Zakamensk 51.36 345 ⇓*i*P **P 10 44 35.9 0.0**
ZAK *e* 10 44 45.9
ZAK pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 52.08 329 P **P 10 44 41.2 -0.1**
WMQ pP **pP 10 44 51.2 -0.4**
WMQ sP **sP 10 44 55.1 -0.6**
WMQ PcP **PcP 10 45 52.2 -0.8**
WMQ S **S 10 52 01.2 -1.8**
WMQ SS **SS 10 55 38.2 -2.4**
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ pmax pmax
comp=Z,290nm,5.0s
WMQ LR LR
comp=N,240nm,20.0s
WMQ LR LR
comp=E,160nm,18.2s
WMQ LR LR
comp=Z,190nm,20.0s
TLY Talaya 52.46 346 *e*P **P 10 44 43.9 0.0**
TLY *e* **pP 10 44 54.0 -0.3**
TLY *e*SS **SS 10 55 42.8 -3.5**
TLY pmax pmax
comp=Z,22nm,1.0s
TLY MLR MLR
comp=Z,251nm,19.0s
TLY Talaya 52.46 346 *e*P **P 10 44 45.0 +1.1**
comp=Z,53nm,1.0s
TLY Talaya 52.46 346 P **P 10 44 44.4 +0.5**
comp=Z,283nm,0.9s,SNR=6.2
IRK Irkutsk 52.83 347 *e*P **P 10 44 46.7 +0.1**
IRK pmax pmax
comp=Z,85nm,1.5s
MOY Mondy 53.14 344 *e*P **P 10 44 49.3 +0.2**
MOY pmax pmax
comp=Z,28nm,1.8s
CLNS Chul'man 55.39 2 *e*P **P 10 45 05.0 -0.2**
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,17nm,0.9s
KSH Kashi 56.44 318 *e*P **P 10 45 15.0 +1.8**
KSH *ep*P **pP 10 45 25.3 +1.6**
KSH sP **sP 10 45 29.2 +1.5**
KSH *e*PcP **PcP 10 46 11.2 +1.3**
KSH PP **PP 10 47 23.1 +4.0**
KSH *e*ScP **ScP 10 50 07.2 +0.3**
KSH *e*PcS **PcS 10 50 10.1 -0.5**
KSH *e*S **S 10 53 00.3 -1.8**
KSH *es*S **sS 10 53 18.4 -0.9**
KSH *e*ScS **ScS 10 54 58.2 -2.0**
KSH *e*SS **SS 10 56 51.3 +1.6**
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,65nm,4.0s
KSH LR LR
comp=N,140nm,6.3s
KSH LR LR
comp=E,130nm,4.9s
KSH LR LR
comp=Z,220nm,5.2s
BOD Bodaibo 56.67 355 *e*P **P 10 45 14.2 -0.1**
BOD *e* 10 45 24.2
BOD pmax pmax
comp=Z,18nm,1.1s
MK31 Makanchi Array 56.90 328 *e*P **P 10 45 16.1 -0.1**
MK31 Makanchi Array 56.90 328 *e*P **P 10 45 16.1 -0.1**
MKAR Makanchi Array 56.90 328 P **P 10 45 16.1 -0.1**
comp=Z,2.1nm,0.7s,baz=128,slow=8.5,SNR=25
MKAR LR LR 11 12 27.0
comp=Z,210nm,18.8s,baz=249,slow=39
MKAR PKP2bc 11 15 18.0
comp=Z,0.4nm,0.9s,baz=267,slow=2.4,SNR=3.6
MKAR Makanchi Array 56.90 328 P **P 10 45 16.1 -0.1**
MKAR Makanchi Array 56.90 328 P **P 10 45 16.1 -0.1**
MKAR ⇑*e* 11 15 18.0
MSVF Nonsavu 58.44 112 *e*P **P 10 45 29.7 +2.1**
MSVF *e*PP **pP 10 45 40.6 +2.5**
MSVF pmax pmax
comp=Z,23nm,1.1s
MSVF Nonsavu 58.44 112 *e*P **P 10 45 29.7 +2.1**
comp=Z,24nm,1.1s
MSVF *ep*P **pP 10 45 40.6 +2.5**
TKM2 Tokmak 2 58.45 321 *e*P **P 10 45 28.7 +1.3**
TKM2 pmax pmax
comp=Z,16nm,1.2s
TKM2 Tokmak 2 58.45 321 *e*P **P 10 45 28.7 +1.3**
comp=Z,16nm,1.2s
AAK Ala-Archa 58.99 321 *e*P **P 10 45 31.5 +0.4**
AAK *e*PP **pP 10 45 41.3 -0.3**
AAK *e*SP **sP 10 45 46.8 +1.1**
AAK pmax pmax
comp=Z,155nm,1.5s
AAK Ala-Archa 58.99 321 *e*P **P 10 45 31.5 +0.4**
comp=Z,155nm,1.5s
AAK *ep*P **pP 10 45 41.3 -0.3**
AAK *es*P **sP 10 45 46.8 +1.1**
FRU Bishkek 59.02 321 *e*P pP 10 45 43.0 +1.3
KBL Kabul 59.22 310 *e*P **P 10 45 32.6 -0.3**
KBL *e*PP **pP 10 45 41.6 -1.9**
KBL pmax pmax
comp=Z,42nm,0.9s
KBL Kabul 59.22 310 *e*P **P 10 45 32.6 -0.3**
comp=Z,42nm,0.9s
KBL *ep*P **pP 10 45 41.6 -1.9**
EKS2 Erkin-Say 59.46 320 *e*P **P 10 45 36.0 +1.7**
EKS2 *e*PP **pP 10 45 45.0 +0.1**
EKS2 pmax pmax
comp=Z,23nm,1.3s
EKS2 Erkin-Say 59.46 320 *e*P **P 10 45 36.0 +1.7**
comp=Z,23nm,1.3s
EKS2 *ep*P **pP 10 45 45.0 +0.1**
PETK Petropavlovsk- 59.53 24 P **P 10 45 34.7 +0.3**
comp=Z,2.7nm,0.8s,baz=215,slow=7.0,SNR=2.4
PETK LR LR 11 06 57.7
comp=Z,92nm,21.7s,baz=128,slow=32
PETK Petropavlovsk- 59.53 24 P **P 10 45 34.7 +0.3**
PETK Petropavlovsk- 59.53 24 P **P 10 45 34.7 +0.3**
ZAA0 Zalesovo Array 60.64 336 *e*P **P 10 45 41.0 -1.0**
ZAA0 *ep*P **pP 10 45 52.0 -0.6**
ZAA0 *es*P **sP 10 45 56.0 -0.6**
ZALV Zalesovo Beam 60.64 336 P **P 10 45 40.8 -1.2**
comp=Z,3.4nm,0.8s,baz=122,slow=7.1,SNR=19
ZALV LR LR 11 12 42.0
comp=Z,117nm,19.3s,baz=247,slow=37
ZALV PKP2bc 11 15 05.6
comp=Z,0.2nm,0.3s,baz=300,slow=2.9,SNR=4.1
ZALV Zalesovo Beam 60.64 336 P **P 10 45 40.8 -1.2**
ZALV Zalesovo Beam 60.64 336 P **P 10 45 40.8 -1.2**
ZALV ⇑*e* 11 15 05.6
YAK Yakutsk 60.84 4 *e*P **P 10 45 42.2 -1.0**
YAK *e*PP **pP 10 45 51.4 -2.3**
YAK *e* 10 46 23.7
YAK *e*S **S 10 53 54.0 -4.2**
YAK *e* 10 55 27.3
YAK *e*SS **SS 10 57 51.2 -6.4**
YAK *e*SSS SSS 11 00 30.1
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,266nm,4.4s
YAK pmax pmax
comp=N,64nm,2.2s
YAK pmax pmax
comp=E,169nm,4.4s
YAK smax smax
comp=N,216nm,3.1s
YAK smax smax
comp=E,92nm,3.0s
YAK MLR MLR
comp=Z,181nm,19.0s
YAK MLR MLR
comp=N,117nm,17.0s
YAK MLR MLR
comp=E,139nm,17.0s
YAK Yakutsk 60.84 4 *e*P **P 10 45 42.8 -0.4**
comp=E,111nm,0.9s
YAK *ep*P **pP 10 45 53.4 -0.4**
KURK Kurchatov 61.27 330 P **P 10 45 45.9 -0.4**
comp=E,6.0nm,1.0s,baz=125,slow=6.5,SNR=20
KURK LR LR 11 14 20.7
comp=E,117nm,19.4s,baz=135,slow=38
KURK PKP2bc 11 15 07.2
comp=E,0.4nm,0.3s,baz=307,slow=3.2,SNR=4.4
KURK Kurchatov 61.27 330 P **P 10 45 45.9 -0.4**
KURK Kurchatov 61.27 330 P **P 10 45 45.9 -0.4**
KURK ⇑*e* 11 15 07.2
KURK Kurchatov 61.27 330 P **P 10 45 46.2 -0.1**
comp=E,205nm,1.1s,SNR=7.3
KKAR Karatay Array 61.77 320 *e*P **P 10 45 51.4 +1.4**
KKAR *e*PP **pP 10 45 58.9 -1.6**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 61.77 320 *e*P **P 10 45 51.4 +1.4**
comp=Z,3.8nm,0.8s
KKAR *ep*P **pP 10 45 58.9 -1.6**
NVS Novosibirsk 61.93 336 *e*P **P 10 45 49.2 -1.5**
NVS pmax pmax
comp=N,33nm,1.8s
NVS pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,35nm,1.8s						
NVS				pmax	pmax		
	comp=Z,57nm,1.8s						
RPZ	**Rata Peaks**	**62.75**	**142**	P	**P**	**10 45 57.2**	**+0.8**
	comp=Z,158nm,0.9s,baz=292,slow=0.9,SNR=40						
RPZ	**Rata Peaks**	**62.75**	**142**	eP	**P**	**10 45 57.6**	**+1.2**
	comp=Z,201nm,0.9s						
SEY	**Seymchan**	**65.51**	**15**	⇓eP	**P**	**10 46 15.2**	**+1.0**
BVA0	**Borovoye Array**	**66.77**	**329**	i P	**P**	**10 46 22.8**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BVAR	**Borovoye Array**	**66.77**	**329**	P	**P**	**10 46 22.0**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=141,slow=9.6,SNR=9.3						
BVAR	**Borovoye Array**	**66.77**	**329**	P	**P**	**10 46 22.0**	**-0.5**
BVAR	**Borovoye Array**	**66.77**	**329**	P	**P**	**10 46 22.0**	**-0.5**
DRV	**Dumont d'Urvil**	**69.07**	**172**	P	P	10 46 33.0	-3.6
DRV				S	**S**	**10 55 40.0**	**+0.9**
DRV				SP	**SKiKP**	**10 56 20.0**	**-4.9**
DRV				SS	**SS**	**11 00 07.0**	**+1.4**
DRV				L	L	11 04 00.0	
DRV				R		11 09 00.0	
AB31	**Akbulak array**	**70.99**	**322**	i P	**P**	**10 46 48.1**	**-0.7**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ABKAR	**Akbulak array**	**70.99**	**322**	eP	**P**	**10 46 48.3**	**-0.5**
	comp=Z,14nm,1.1s						
ABKAR				epP	**pP**	**10 47 00.1**	**+0.6**
AKTO	**Aktyubinsk**	**72.57**	**323**	P	**P**	**10 46 57.9**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=103,slow=5.5,SNR=18						
AKTO	**Aktyubinsk**	**72.57**	**323**	P	**P**	**10 46 58.2**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AKTO	**Aktyubinsk**	**72.57**	**323**	P	**P**	**10 46 57.9**	**-0.4**
BILL	**Bilibino**	**73.14**	**16**	P	P	10 47 08.0	+6.7
BILL				e		10 47 26.5	
BILL				pmax	pmax		
	comp=Z,13nm,1.4s						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
SVE	**Sverdlovsk**	**73.51**	**330**	⇓eP	P	10 47 12.1	+8.4
SVE				pmax	pmax		
	comp=Z,33nm,1.3s						
ARU	**Arti**	**74.42**	**329**	d iP	**P**	**10 47 07.7**	**-1.3**
ARU						10 49 54.3	
ARU				S	**S**	**10 56 42.3**	**+1.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
OPO	**Ambohidratompo**	**75.92**	**251**	P	**P**	**10 47 18.2**	**-0.5**
	comp=Z,7.4nm,1.0s,baz=71,slow=4.5,SNR=8.8						
OPO	**Ambohidratompo**	**75.92**	**251**	P	**P**	**10 47 18.2**	**-0.5**
ZEI	**Tsey**	**80.27**	**313**	eP	**P**	**10 47 41.8**	**-0.6**
ZEI				e		10 47 51.2	
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**81.29**	**314**	P	**P**	**10 47 45.0**	**-2.7**
KIV				e		10 47 55.0	
KIV				e		10 48 02.2	
KIV				pmax	pmax		
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**81.71**	**172**	eP	**P**	**10 47 48.3**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**81.71**	**172**	eP	**P**	**10 47 48.2**	**-0.8**
	comp=Z,4.7nm,0.8s						
SOC	**Sochi**	**83.39**	**314**	eP	**P**	**10 47 55.6**	**-2.9**
SOC				e		10 51 10.5	
SOC				eS	**S**	**10 58 12.8**	**-4.6**
SOC				eSS	**SS**	**11 03 45.4**	**+2.1**
SOC				pmax	pmax		
	comp=Z,16nm,1.0s						
ANN	**Anapa**	**85.11**	**315**	eP	P	10 48 03.1	-4.1
ANN				i *PP	**PcP**	**10 48 13.8**	**+3.4**
ANN				eS	S	10 58 23.1	-11
ANN				pmax	pmax		
	comp=Z,45nm,1.6s						
OBN	**Obninsk**	**86.22**	**325**	P	**P**	**10 48 12.0**	**-0.4**
OBN				e		10 48 21.7	
OBN				e		10 48 27.0	
OBN				ePPS	PPS	11 00 06.8	
OBN				e		11 07 54.9	
OBN				pmax	pmax		
	comp=Z,34nm,1.5s						
BR131	**Keskin Array S**	**87.79**	**310**	eP	**P**	**10 48 19.3**	**-1.4**
	comp=Z,4.9nm,0.9s						
BRTR	**Keskin Array B**	**87.79**	**310**	P	**P**	**10 48 19.0**	**-1.7**
	comp=Z,2.7nm,1.1s,baz=120,slow=7.2,SNR=6.9						
BRTR	**Keskin Array B**	**87.79**	**310**	c eP	P	10 48 29.5	+8.8
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**87.79**	**310**	P	**P**	**10 48 19.0**	**-1.7**
COLD	**Coldfoot**	**87.98**	**23**	eP	**P**	**10 48 22.4**	**+1.7**
	comp=Z,4.8nm,0.9s						
COLD				epP	**pP**	**10 48 31.5**	**-0.2**
MCK	**McKinley**	**88.46**	**26**	eP	**P**	**10 48 22.4**	**-0.8**
MCK				e*PP	**pP**	**10 48 32.1**	**-2.0**
MCK				pmax	pmax		
	comp=Z,15nm,1.0s						
MCK	**McKinley**	**88.46**	**26**	eP	**P**	**10 48 22.4**	**-0.8**
	comp=Z,15nm,1.0s						
MCK				epP	**pP**	**10 48 32.1**	**-2.0**
SYO	**Syowa Base**	**88.46**	**201**	⇓eP	**P**	**10 48 21.2**	**-1.8**
ILAR	**Eielson Array**	**89.34**	**25**	P	**P**	**10 48 26.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=246,slow=4.8,SNR=27						
ILAR				LR	LR	11 26 32.5	
	comp=Z,67nm,20.3s,baz=302,slow=34						
ILAR	**Eielson Array**	**89.34**	**25**	P	**P**	**10 48 26.2**	**-1.1**
ILAR	**Eielson Array**	**89.34**	**25**	P	**P**	**10 48 26.1**	**-1.1**
AKASG	**Malin Array Be**	**90.66**	**321**	P	**P**	**10 48 31.5**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=73,slow=4.4,SNR=4.1						
AKASG				LR	LR	11 31 27.6	
	comp=Z,102nm,20.1s,baz=90,slow=37						
AKASG	**Malin Array Be**	**90.66**	**321**	P	**P**	**10 48 31.5**	**-2.2**
AKASG	**Malin Array Be**	**90.66**	**321**	P	**P**	**10 48 31.4**	**-2.2**
ARCES	**ARCESS Array B**	**91.00**	**340**	LR	LR	11 33 15.0	
	comp=Z,186nm,18.4s,baz=126,slow=38						
QSPA	**South Pole Qui**	**91.25**	**180**	P	**P**	**10 48 35.5**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=325,slow=1.5,SNR=15						
QSPA	**South Pole Qui**	**91.25**	**180**	eP	**P**	**10 48 35.5**	**-0.8**
	comp=Z,3.8nm,0.8s						
QSPA				epP	**pP**	**10 48 48.3**	**+1.0**
BUR08	**Bucovina Ar. S**	**93.53**	**318**	eP	**P**	**10 48 46.9**	**-0.3**
BUR08				epP	**pP**	**10 48 57.4**	**-0.9**
INK	**Inuvik**	**94.15**	**21**	eP	**P**	**10 48 49.7**	**+0.3**
INK				e*PP	**pP**	**10 48 58.9**	**-1.5**
INK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
INK	**Inuvik**	**94.15**	**21**	eP	**P**	**10 48 49.7**	**+0.3**
	comp=Z,7.1nm,1.2s						
INK				epP	**pP**	**10 48 58.9**	**-1.5**
UZH	**Uzhgorod**	**95.34**	**319**	eP	**P**	**10 48 57.6**	**+2.3**
OJC	**Ojcow**	**96.70**	**321**	eP	P	10 49 11.2	+10
OJC	**Ojcow**	**96.70**	**321**	eP	P	10 49 11.2	+10
DLBC	**Dease Lake**	**98.27**	**30**	eP	P	10 49 05.0	-3.5
DLBC				epP	pP	10 49 16.9	-2.6
NOA	**NORSAR Array B**	**98.71**	**333**	PKKPbc	PKKPbc	11 05 31.8	-9.3
	comp=Z,0.8nm,0.7s,baz=325,slow=4.4,SNR=3.6						
NOA	**NORSAR Array B**	**98.71**	**333**	PKKPbc	PKKPbc	11 05 31.8	-9.3
YKA	**Yellowknife Ar**	**103.65**	**23**	PKKPbc	PKKPbc	11 05 21.7	-5.0
	comp=Z,0.5nm,0.8s,baz=118,slow=2.6,SNR=4.5						
YKA	**Yellowknife Ar**	**103.65**	**23**	PKKPbc	PKKPbc	11 05 21.8	-5.0
NVAR	**Mina Array Bea**	**112.10**	**47**	PKiKP	**PKiKP**	**10 54 06.3**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=255,slow=6.4,SNR=4.0						
NVAR				PP	PP	10 55 03.2	+12
	comp=Z,1.0nm,0.9s,baz=271,slow=7.9,SNR=5.4						
NVAR				PKKPbc	**PKKPab**	**11 05 04.1**	**-3.9**
	comp=Z,1.2nm,0.8s,baz=135,slow=5.2,SNR=8.8						
NVAR	**Mina Array Bea**	**112.10**	**47**	PKiKP	**PKiKP**	**10 54 06.3**	**-0.9**
NVAR				PP	PP	10 55 03.2	+12
NVAR				PKKPbc	**PKKPab**	**11 05 04.1**	**-3.9**
PDAR	**Pinedale Array**	**116.32**	**40**	PKP	**PKPdf**	**10 54 15.0**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=302,slow=5.2,SNR=2.9						
PDAR				PKKPbc	**PKKPbc**	**11 04 47.2**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=120,slow=6.4,SNR=21						
PDAR	**Pinedale Array**	**116.32**	**40**	PKP	**PKPdf**	**10 54 15.0**	**-0.2**
PDAR				PKKPbc	**PKKPbc**	**11 04 47.2**	**+1.7**
U15A	**North Rim**	**117.29**	**47**	⇓P	**PKPdf**	**10 54 17.5**	**+0.2**
	baz=117						
Q19A	**Hogan Spring (**	**118.34**	**44**	⇑P	**PKPdf**	**10 54 18.8**	**-0.3**
	baz=118						
O20A	**White River Ci**	**118.47**	**42**	⇑P	**PKPdf**	**10 54 18.6**	**-0.8**
	baz=118						
N21A	**Black Mountain**	**118.64**	**41**	⇑P	**PKPdf**	**10 54 19.4**	**-0.3**
	baz=119						
V17A	**Tonalea, Kykot**	**118.73**	**48**	⇑P	**PKPdf**	**10 54 19.6**	**-0.3**
	baz=119						
T18A	**Mexican Hat**	**118.74**	**46**	⇓P	**PKPdf**	**10 54 20.0**	**+0.1**
	baz=119						
TORD	**Torodi Ar. Bea**	**118.97**	**286**	PKP	**PKPdf**	**10 54 19.0**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=52,slow=2.2,SNR=5.6						
TORD				PKKPbc	**PKKPab**	**11 04 38.5**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=281,slow=4.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**118.97**	**286**	PKP	**PKPdf**	**10 54 19.0**	**-1.7**
TORD				PKKPbc	**PKKPab**	**11 04 38.5**	**+0.9**
S21A	**Coal Bank Pass**	**119.97**	**44**	⇓P	**PKPdf**	**10 54 22.7**	**+0.2**
	baz=120						
U22A	**Llaves**	**121.24**	**45**	⇓P	**PKPdf**	**10 54 25.4**	**+0.5**
	baz=121						
Z20A	**Nine Sixteen R**	**121.44**	**49**	⇑P	**PKPdf**	**10 54 24.9**	**-0.3**
	baz=121						
P25A	**Willow Gulch B**	**121.48**	**41**	⇑P	**PKPdf**	**10 54 24.8**	**-0.3**
	baz=121						
Y21A	**Point of Rocks**	**121.74**	**48**	⇑P	**PKPdf**	**10 54 25.8**	**-0.1**
	baz=122						
ANMO	**Albuquerque**	**122.20**	**46**	PKP	**PKPdf**	**10 54 26.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=155,slow=4.7,SNR=4.3						
ANMO	**Albuquerque**	**122.20**	**46**	PKIKP	**PKPdf**	**10 54 26.9**	**+0.2**
ANMO	**Albuquerque**	**122.20**	**46**	PKP	**PKPdf**	**10 54 26.9**	**+0.2**
121A	**Cookes Peak, D**	**122.30**	**50**	⇑P	**PKPdf**	**10 54 25.5**	**-1.4**
	baz=122						
222A	**Williams Famil**	**123.01**	**50**	⇑P	**PKPdf**	**10 54 28.2**	**0.0**
	baz=123						
Y25A	**Mesa, Roswell**	**123.97**	**47**	⇑P	**PKPdf**	**10 54 29.5**	**-0.5**
	baz=124						
425A	**Indio Mountain**	**125.21**	**50**	⇑P	**PKPdf**	**10 54 32.3**	**-0.2**
	baz=125						
Z27A	**Tatum**	**125.34**	**47**	⇓P	**PKPdf**	**10 54 32.1**	**-0.5**
	baz=125						
DBIC	**Dimbokro**	**126.24**	**279**	PKP	**PKPdf**	**10 54 33.9**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=44,slow=20,SNR=2.6						
DBIC	**Dimbokro**	**126.24**	**279**	PKIKP	**PKPdf**	**10 54 33.9**	**-0.8**
DBIC	**Dimbokro**	**126.24**	**279**	PKP	**PKPdf**	**10 54 33.9**	**-0.8**
427A	**Hayter Ranch,**	**126.39**	**49**	⇑P	**PKPdf**	**10 54 34.6**	**-0.2**
	baz=126						
328A	**Wristen Ranch,**	**126.59**	**48**	⇓P	**PKPdf**	**10 54 35.0**	**0.0**
	baz=126						
TXAR	**Lajitas Array**	**126.89**	**51**	PKP	**PKPdf**	**10 54 35.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=265,slow=1.2,SNR=4.5						
TXAR				PKKPbc	PKKPab	11 03 58.1	-5.4
	comp=Z,1.1nm,1.2s,baz=114,slow=4.4,SNR=4.1						
TXAR	**Lajitas Array**	**126.89**	**51**	PKIKP	**PKPdf**	**10 54 35.7**	**0.0**
TXAR	**Lajitas Array**	**126.89**	**51**	PKP	**PKPdf**	**10 54 35.7**	**0.0**
TXAR				PKKPbc	PKKPab	11 03 58.1	-5.4
JCT	**Junction City**	**129.28**	**48**	ePKIKP	**PKPdf**	**10 54 40.1**	**0.0**
JCT	**Junction City**	**129.28**	**48**	ePKPdf	**PKPdf**	**10 54 40.1**	**0.0**
JCT	**Junction City**	**129.28**	**48**	⇓P	**PKPdf**	**10 54 39.9**	**-0.3**
	baz=129						
TKL	**Tuckaleechee C**	**136.10**	**31**	PKP	**PKPdf**	**10 54 53.8**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=84,slow=16,SNR=3.3						
TKL	**Tuckaleechee C**	**136.10**	**31**	PKIKP	**PKPdf**	**10 54 53.8**	**+0.9**
TKL	**Tuckaleechee C**	**136.10**	**31**	PKP	**PKPdf**	**10 54 53.8**	**+0.9**
PLCA	**Paso Flores**	**139.19**	**166**	PKP	**PKPdf**	**10 54 59.7**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=206,slow=7.1,SNR=3.9						
PLCA	**Paso Flores**	**139.19**	**166**	PKIKP	**PKPdf**	**10 54 59.7**	**+1.3**
PLCA	**Paso Flores**	**139.19**	**166**	PKP	**PKPdf**	**10 54 59.7**	**+1.3**
CFAA	**Coronel Fontan**	**148.41**	**163**	PKP	**PKPdf**	**10 55 15.0**	**+0.3**
	comp=Z,1.6nm,0.7s						
CFAA				PKPbc	**PKPbc**	**10 55 18.2**	**0.0**
CFAA	**Coronel Fontan**	**148.41**	**163**	PKP	**PKPdf**	**10 55 15.0**	**+0.3**
CFAA				PKPbc	**PKPbc**	**10 55 18.2**	**0.0**
LCO	**Las Campanas**	**149.97**	**158**	ePKPdf	**PKPdf**	**10 55 18.5**	**+0.8**
LCO				ePKPbc	**PKPbc**	**10 55 22.9**	**+0.4**
LCO				ePKPab	**PKPab**	**10 55 28.5**	**+0.4**
CPUP	**Villa Florida**	**155.13**	**182**	PKP	**PKPdf**	**10 55 25.3**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=86,slow=6.5,SNR=4.8						
CPUP				PKPbc	PKPab	10 55 35.1	-14
	comp=Z,2.2nm,0.8s,baz=234,slow=0.6,SNR=5.9						
CPUP				PKPab	PKPab	10 55 47.7	-1.6
	comp=Z,2.7nm,0.8s,baz=147,slow=3.2,SNR=4.3						
CPUP	**Villa Florida**	**155.13**	**182**	PKIKP	**PKPdf**	**10 55 25.3**	**+0.4**
CPUP						10 55 35.2	
CPUP						10 55 47.7	
CPUP	**Villa Florida**	**155.13**	**182**	PKP	**PKPdf**	**10 55 25.3**	**+0.4**
CPUP				PKPbc	PKPab	10 55 35.1	-14
CPUP				PKPab	PKPab	10 55 47.7	-1.6
LVC	**Limon Verde**	**156.39**	**154**	ePKPdf	**PKPdf**	**10 55 25.2**	**-1.8**
LVC				ePKPab	**PKPab**	**10 55 56.6**	**+1.3**
LPAZ	**La Paz**	**162.17**	**147**	PKP	**PKPdf**	**10 55 35.2**	**+0.9**
	comp=Z,4.2nm,1.0s,baz=43,slow=2.7,SNR=12						
LPAZ				PKPab	**PKPab**	**10 56 22.1**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=235,slow=4.7,SNR=5.6						
LPAZ	**La Paz**	**162.17**	**147**	PKIKP	**PKPdf**	**10 55 35.3**	**+0.9**
LPAZ	**La Paz**	**162.17**	**147**	PKP	**PKPdf**	**10 55 35.2**	**+0.9**
LPAZ				PKPab	**PKPab**	**10 56 22.1**	**+1.2**
ROSC	**El Rosal**	**162.69**	**69**	PKP	**PKPdf**	**10 55 35.1**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=276,slow=23,SNR=4.7						
ROSC	**El Rosal**	**162.69**	**69**	PKP	**PKPdf**	**10 55 35.1**	**+0.4**
SIV	**San Ignacio**	**165.15**	**169**	PKP	**PKPdf**	**10 55 36.6**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=169,slow=2.5,SNR=7.6						
SIV				PKPab	**PKPab**	**10 56 33.2**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=193,slow=3.8,SNR=9.1						
SIV	**San Ignacio**	**165.15**	**169**	PKP	**PKPdf**	**10 55 36.6**	**+0.3**
SIV				PKPab	**PKPab**	**10 56 33.2**	**+0.1**
SAML	**Samuel**	**170.91**	**147**	ePKPdf	**PKPdf**	**10 55 40.1**	**-0.3**

DDA ***01*** *10:42:08.4, 36.̊21N×26.̊44E, h7km, MD3.0*
HLW ***01*** *10:42:15.3, 36.̊91N×27.̊23E, h18km±11km, Md3.7, Ml3.6*
ISCJB ***01*** *10:42:16.7±0.2, 36.̊62N±0.̊02×27.̊05E±0.̊02, h149km±2km, mb3.7/11, Error ellipse: s-maj=3.8km s-min=2.9km az=19.2*
CSEM ***01*** *10:42:17.5±0.1, 36.̊63N×27.̊06E, h148km±2km, ML3.3/8, Error ellipse: s-maj=3.7km s-min=2.6km az=17.0*
IDC ***01*** *10:42:17.6±1.6, 36.̊62N×27.̊11E, h146km±19km, mb3.5/11, mb1 3.4/19, mb1mx3.3/33, mbtmp3.3/19, Error ellipse: s-maj=12.9km s-min=12.7km az=88.0*
ATH ***01*** *10:42:19.0, 36.̊74N×26.̊69E, h8km±3km, MD3.4/7*
ISK ***01*** *10:42:19.6, 36.̊85N×27.̊08E, h137km, MD3.1*
THE ***01*** *10:42:21.4, 36.̊73N×26.̊94E, h124km±1km, ML3.3/8, Error ellipse: s-maj=1.8km s-min=0.5km az=102.0*
ISC 01 10:42:17.2±0.6**, 36.̊67N**±0.̊03×**27.̊04E**±0.̊03**, h144**km±5km**, n146,** σ1.̊**42**/186**, mb3.6**/11**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.13**	**123**	P	**Pn**	**10 42 37.5**	**+0.9**
NIS1				S	**Sn**	**10 42 49.8**	**-1.5**
NIS1	**Nisyros Isl.**	**0.13**	**123**	P	**Pn**	**10 42 37.5**	**+0.9**
BODT	**Bodrum**	**0.44**	**29**	ePG	**Pn**	**10 42 38.6**	**+1.2**
BODT				eSG	**Sn**	**10 42 53.4**	**+0.4**
BODT	**Bodrum**	**0.44**	**29**	ePg	**Pn**	**10 42 38.7**	**+1.2**
BODT				eSg	**Sn**	**10 42 53.4**	**+0.4**
ARG	**Arkhangelos**	**0.98**	**117**	P	**Pn**	**10 42 42.8**	**+1.6**
ARG				S	**Sn**	**10 42 58.9**	**-0.6**
ARG	**Arkhangelos**	**0.98**	**117**	ePG	**Pn**	**10 42 42.9**	**+1.7**
ARG				eSB	**Sn**	**10 43 00.8**	**+1.3**
ARG	**Arkhangelos**	**0.98**	**117**	P	**Pn**	**10 42 42.8**	**+1.6**
GCAM	**G?zelcaml?**	**1.03**	**8**	i P	**Pn**	**10 42 42.0**	**+0.4**
GCAM				i S	**Sn**	**10 43 00.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.03**	**8**	i P	**Pn**	**10 42 42.0**	**+0.4**
GCAM				i S	**Sn**	**10 43 00.4**	**+0.1**
YER	**Yerkesik**	**1.09**	**65**	ePG	**Pn**	**10 42 43.9**	**+1.6**
YER				eSG	**Sn**	**10 43 01.0**	**-0.4**
YER	**Yerkesik**	**1.09**	**65**	ePg	**Pn**	**10 42 43.9**	**+1.6**
YER				eSg	**Sn**	**10 43 01.0**	**-0.4**
KARP	**Karpathos**	**1.13**	**175**	P	**Pn**	**10 42 43.7**	**+1.1**
KARP				S	**Sn**	**10 43 01.0**	**-0.9**
KARP	**Karpathos**	**1.13**	**175**	ePB	**Pn**	**10 42 43.6**	**+1.0**
KARP				eSB	**Sn**	**10 42 59.4**	**-2.5**
KARP	**Karpathos**	**1.13**	**175**	P	**Pn**	**10 42 43.7**	**+1.1**
KARP				eSb	**Sn**	**10 42 59.4**	**-2.5**
AYDN	**Tasoluk**	**1.19**	**34**	i P	**Pn**	**10 42 44.5**	**+1.4**
AYDN	**Tasoluk**	**1.19**	**34**	i P	**Pn**	**10 42 44.6**	**+1.4**
TURN	**Turunc**	**1.27**	**81**	i P	**Pn**	**10 42 42.1**	**-1.7**
TURN				i S	**Sn**	**10 42 59.2**	**-5.0**
TURN	**Turunc**	**1.27**	**81**	i P	**Pn**	**10 42 42.1**	**-1.7**
APE	**Apeiranthos**	**1.28**	**288**	ePN	**Pn**	**10 42 46.7**	**+2.8**
APE				eSN	**Sn**	**10 43 04.9**	**+0.5**
APE	**Apeiranthos**	**1.28**	**288**	ePn	**Pn**	**10 42 46.7**	**+2.8**
APE				eSn	**Sn**	**10 43 04.9**	**+0.5**
THR1	**Thera Island**	**1.31**	**257**	P	**Pn**	**10 42 45.4**	**+1.1**
THR1	**Thera Island**	**1.31**	**257**	P	**Pn**	**10 42 45.4**	**+1.1**
THR6	**Thira Island,**	**1.36**	**257**	P	**Pn**	**10 42 45.4**	**+0.6**
THR6	**Thira Island,**	**1.36**	**257**	P	**Pn**	**10 42 45.4**	**+0.6**
ZKR	**Zakros**	**1.69**	**204**	P	**Pn**	**10 42 50.0**	**+1.6**
ZKR				S	**Sn**	**10 43 12.1**	**-0.2**
ZKR	**Zakros**	**1.69**	**204**	ePG	**Pn**	**10 42 50.1**	**+1.6**
ZKR				eSB	**Sn**	**10 43 13.8**	**+1.5**
ZKR	**Zakros**	**1.69**	**204**	P	**Pn**	**10 42 50.0**	**+1.6**
ZKR				S	**Sn**	**10 43 12.1**	**-0.2**
ZKR				eSb		10 43 13.8	
BLCB	**Balcova**	**1.71**	**360**	ePN	**Pn**	**10 42 48.8**	**+0.3**
BLCB	**Balcova**	**1.71**	**360**	ePn	**Pn**	**10 42 48.8**	**+0.3**
NPS	**Neapolis**	**1.82**	**220**	P	**Pn**	**10 42 50.6**	**+0.7**
NPS				S	**Sn**	**10 43 14.5**	**-0.5**
NPS	**Neapolis**	**1.82**	**220**	ePN	**Pn**	**10 42 50.7**	**+0.8**
NPS				eSN	**Sn**	**10 43 14.5**	**-0.5**
NPS	**Neapolis**	**1.82**	**220**	ePn	**Pn**	**10 42 50.7**	**+0.8**
NPS				S	**Sn**	**10 43 14.5**	**-0.5**
CHOS	**Chios island**	**1.88**	**336**	P	**Pn**	**10 42 51.1**	**+0.5**
CHOS				S	**Sn**	**10 43 13.7**	**-2.6**
CHOS	**Chios island**	**1.88**	**336**	ePN	**Pn**	**10 42 51.4**	**+0.8**
CHOS	**Chios island**	**1.88**	**336**	P	**Pn**	**10 42 51.1**	**+0.5**
CHOS	**Chios island**	**1.88**	**336**	ePn	**Pn**	**10 42 51.4**	**+0.8**
DNZL	**Cakiroluk**	**1.89**	**57**	i P	**Pn**	**10 42 52.9**	**+2.1**
DNZL	**Cakiroluk**	**1.89**	**57**	i P	**Pn**	**10 42 52.9**	**+2.1**
DENT	**Denizli**	**1.92**	**55**	ePN	**Pn**	**10 42 52.1**	**+1.1**
DENT	**Denizli**	**1.92**	**55**	ePn	**Pn**	**10 42 52.1**	**+1.1**
GLHS	**Glhisar (BURDU**	**2.02**	**76**	ePN	**Pn**	**10 42 54.7**	**+2.4**
GLHS	**Glhisar (BURDU**	**2.02**	**76**	ePn	**Pn**	**10 42 54.7**	**+2.4**
GOLH	**Golhisar**	**2.09**	**74**	i P	**Pn**	**10 42 54.8**	**+1.7**
GOLH	**Golhisar**	**2.09**	**74**	i P	**Pn**	**10 42 54.8**	**+1.7**
AKAS	**Kas**	**2.11**	**101**	i P	**Pn**	**10 42 54.3**	**+0.9**
AKAS				i S	**Sn**	**10 43 18.0**	**-3.1**
AKAS	**Kas**	**2.11**	**101**	i P	**Pn**	**10 42 54.3**	**+0.9**
AKAS				i S	**Sn**	**10 43 18.0**	**-3.1**
KULA	**Kula-Manisa**	**2.24**	**34**	ePN	**Pn**	**10 42 55.8**	**+0.9**
KULA	**Kula-Manisa**	**2.24**	**34**	ePn	**Pn**	**10 42 55.8**	**+0.9**
ELL	**Elmali**	**2.30**	**87**	ePN	**Pn**	**10 42 57.1**	**+1.4**
ELL	**Elmali**	**2.30**	**87**	ePn	**Pn**	**10 42 57.1**	**+1.4**
SIVA	**Sivas**	**2.46**	**228**	P	**Pn**	**10 42 58.8**	**+1.4**
SIVA				S	**Sn**	**10 43 28.1**	**-0.3**
SIVA	**Sivas**	**2.46**	**228**	ePN	**Pn**	**10 42 58.8**	**+1.4**
SIVA	**Sivas**	**2.46**	**228**	P	**Pn**	**10 42 58.8**	**+1.4**
SIVA				S	**Sn**	**10 43 28.1**	**-0.3**
KHAL	**Karahalli**	**2.58**	**48**	i P	**Pn**	**10 43 00.3**	**+1.3**
KHAL	**Karahalli**	**2.58**	**48**	i P	**Pn**	**10 43 00.3**	**+1.3**
VAM	**Vamos**	**2.63**	**242**	P	**Pn**	**10 43 00.8**	**+1.2**
VAM				S	**Sn**	**10 43 31.7**	**-0.5**
VAM	**Vamos**	**2.63**	**242**	P	**Pn**	**10 43 00.8**	**+1.2**
VAM				S	**Sn**	**10 43 31.7**	**-0.5**
PRK	**Paraskevi**	**2.64**	**347**	P	**Pn**	**10 43 00.5**	**+0.8**
PRK	**Paraskevi**	**2.64**	**347**	P	**Pn**	**10 43 00.5**	**+0.8**
VLY	**Voula,Athens**	**2.85**	**295**	P	**Pn**	**10 43 03.0**	**+0.7**
VLY	**Voula,Athens**	**2.85**	**295**	P	**Pn**	**10 43 03.0**	**+0.7**
ISP	**Isparta**	**3.00**	**67**	ePN	**Pn**	**10 43 06.3**	**+1.9**
ISP	**Isparta**	**3.00**	**67**	ePn	**Pn**	**10 43 06.3**	**+1.9**
GVD	**Gavdhos**	**3.02**	**234**	ePB	**Pn**	**10 43 06.6**	**+2.0**
GVD	**Gavdhos**	**3.02**	**234**	ePb	**Pn**	**10 43 06.6**	**+2.0**
DID	**Didima**	**3.15**	**286**	ePN	**Pn**	**10 43 07.3**	**+1.0**
DID	**Didima**	**3.15**	**286**	ePn	**Pn**	**10 43 07.3**	**+1.0**
DIDY	**Didyma**	**3.17**	**286**	P	**Pn**	**10 43 07.2**	**+0.7**
DIDY	**Didyma**	**3.17**	**286**	P	**Pn**	**10 43 07.2**	**+0.7**
KYTH	**Kithira**	**3.25**	**264**	P	**Pn**	**10 43 08.4**	**+0.9**
KYTH	**Kithira**	**3.25**	**264**	ePN	**Pn**	**10 43 08.5**	**+0.9**
KYTH	**Kithira**	**3.25**	**264**	P	**Pn**	**10 43 08.4**	**+0.9**
VLI	**Veliai**	**3.30**	**272**	P	**Pn**	**10 43 09.3**	**+1.2**
VLI				S	**Sn**	**10 43 46.1**	**-1.4**
VLI	**Veliai**	**3.30**	**272**	ePB	**Pn**	**10 43 09.6**	**+1.5**
VLI	**Veliai**	**3.30**	**272**	P	**Pn**	**10 43 09.3**	**+1.2**
VLI	**Veliai**	**3.30**	**272**	ePb	**Pn**	**10 43 09.6**	**+1.5**
SHUT	**Suhut-Afyon**	**3.36**	**55**	ePN	**Pn**	**10 43 10.4**	**+1.5**
SHUT	**Suhut-Afyon**	**3.36**	**55**	ePn	**Pn**	**10 43 10.4**	**+1.5**
ALT	**Altintas**	**3.40**	**45**	ePN	**Pn**	**10 43 10.6**	**+1.1**
ALT	**Altintas**	**3.40**	**45**	ePn	**Pn**	**10 43 10.6**	**+1.1**
LTK	**Loutraki**	**3.52**	**294**	ePN	**Pn**	**10 43 12.5**	**+1.6**
LTK	**Loutraki**	**3.52**	**294**	ePn	**Pn**	**10 43 12.5**	**+1.6**
VLX	**Vlachokerasia**	**3.80**	**282**	P	**Pn**	**10 43 15.3**	**+0.6**
VLX				S	**Sn**	**10 43 57.1**	**-2.1**
VLX	**Vlachokerasia**	**3.80**	**282**	ePN	**Pn**	**10 43 15.9**	**+1.2**
VLX	**Vlachokerasia**	**3.80**	**282**	P	**Pn**	**10 43 15.3**	**+0.6**
VLX	**Vlachokerasia**	**3.80**	**282**	ePn	**Pn**	**10 43 15.9**	**+1.2**
GUR	**Goura**	**3.95**	**290**	P	**Pn**	**10 43 17.1**	**+0.4**
GUR				S	**Sn**	**10 44 00.8**	**-2.1**
GUR	**Goura**	**3.95**	**290**	ePN	**Pn**	**10 43 19.1**	**+2.4**
GUR	**Goura**	**3.95**	**290**	P	**Pn**	**10 43 17.1**	**+0.4**
GUR	**Goura**	**3.95**	**290**	ePn	**Pn**	**10 43 19.1**	**+2.4**
ITM	**Ithomi**	**4.13**	**279**	P	**Pn**	**10 43 19.6**	**+0.6**
ITM				S	**Sn**	**10 44 05.2**	**-1.8**
ITM	**Ithomi**	**4.13**	**279**	ePN	**Pn**	**10 43 20.4**	**+1.4**
ITM	**Ithomi**	**4.13**	**279**	P	**Pn**	**10 43 19.6**	**+0.6**
ITM	**Ithomi**	**4.13**	**279**	ePn	**Pn**	**10 43 20.4**	**+1.4**
PYL	**PYLOS**	**4.26**	**275**	P	**Pn**	**10 43 20.7**	**0.0**
PYL	**PYLOS**	**4.26**	**275**	P	**Pn**	**10 43 20.7**	**0.0**
LAKA	**Lakka**	**4.32**	**293**	P	**Pn**	**10 43 22.2**	**+0.7**
LAKA				S	**Sn**	**10 44 09.4**	**-2.1**
LAKA	**Lakka**	**4.32**	**293**	P	**Pn**	**10 43 22.2**	**+0.7**
AGG	**Agios Georgios**	**4.41**	**304**	P	**Pn**	**10 43 22.6**	**0.0**
AGG				S	**Sn**	**10 44 11.1**	**-2.4**
AGG	**Agios Georgios**	**4.41**	**304**	ePN	**Pn**	**10 43 24.7**	**+2.1**
AGG	**Agios Georgios**	**4.41**	**304**	P	**Pn**	**10 43 22.6**	**0.0**
AGG	**Agios Georgios**	**4.41**	**304**	ePn	**Pn**	**10 43 24.7**	**+2.1**
RLS	**Riolos of Patr**	**4.65**	**289**	ePN	**Pn**	**10 43 28.7**	**+2.9**
RLS	**Riolos of Patr**	**4.65**	**289**	ePn	**Pn**	**10 43 28.7**	**+2.9**
KFL	**Anninata**	**5.18**	**288**	P	**Pn**	**10 43 33.3**	**+0.4**
KFL				S	**Sn**	**10 44 29.1**	**-2.8**
KFL	**Anninata**	**5.18**	**288**	P	**Pn**	**10 43 33.3**	**+0.4**
HMAT	**Matruh**	**5.57**	**180**	P	**Pn**	**10 43 38.5**	**+0.4**
HMAT				S	**Sn**	**10 44 39.2**	**-2.0**
RGA	**Parga**	**5.91**	**299**	P	**Pn**	**10 43 43.5**	**+1.0**
RGA	**Parga**	**5.91**	**299**	P	**Pn**	**10 43 43.5**	**+1.0**
BRTR	**Keskin Array B**	**6.02**	**58**	P	**Pn**	**10 43 45.8**	**+1.6**
	0.3nm,0.3s,baz=228,slow=14,SNR=19						
HBRG	**Burj al 'Arab**	**6.51**	**158**	P	**Pn**	**10 43 50.6**	**-0.1**
HNAT	**Natroun**	**7.63**	**156**	P	**Pn**	**10 44 05.8**	**+0.1**
MMA0	**Mount Meron ar**	**7.78**	**116**	Pn	**Pn**	**10 44 07.1**	**-0.6**
MMAI	**Mount Meron Ar**	**7.78**	**116**	P	**Pn**	**10 44 07.0**	**-0.7**
	11nm,0.3s,baz=308,slow=12,SNR=21						
MMAI				S	**Sn**	**10 45 31.4**	**-3.1**
	8.8nm,0.3s,baz=305,slow=25,SNR=7.2						
KSDI	**Kefar Szold**	**7.88**	**114**	Pn	**Pn**	**10 44 08.4**	**-0.6**
HHAG	**Hagoal**	**7.92**	**146**	P	**Pn**	**10 44 09.6**	**0.0**
HSAF	**As Saff**	**7.99**	**150**	P	**Pn**	**10 44 10.3**	**-0.2**
GLL	**Jalalah**	**8.09**	**150**	P	**Pn**	**10 44 11.5**	**-0.3**
MMLI	**Mount Malkishu**	**8.10**	**119**	Pn	**Pn**	**10 44 11.6**	**-0.3**
HMDT	**Nahal Hemdat**	**8.28**	**120**	Pn	**Pn**	**10 44 14.0**	**-0.3**
HMDT				Sn	**Sn**	**10 45 44.9**	**-1.4**
SUZ		**8.36**	**143**	P	**Pn**	**10 44 15.2**	**-0.2**
KZIT	**Kziot**	**8.40**	**131**	Pn	**Pn**	**10 44 14.3**	**-1.6**
DSI	**Dead Sea**	**8.58**	**124**	Sn	**Sn**	**10 45 51.6**	**-2.1**
ZAF		**8.70**	**146**	P	**Pn**	**10 44 19.9**	**-0.1**
MLR	**Muntele Rosu**	**8.85**	**355**	P	**Pn**	**10 44 23.1**	**+1.2**
	0.0nm,0.3s,baz=146,slow=4.4,SNR=4.1						
PRNI	**Paran**	**9.16**	**131**	Pn	**Pn**	**10 44 24.7**	**-1.4**
ASF	**Jabal al Asfar**	**9.29**	**116**	P	**Pn**	**10 44 28.2**	**+0.2**
	0.6nm,0.3s,baz=195,slow=8.2,SNR=2.9						
ASF				S	**Sn**	**10 46 12.2**	**+1.2**
	0.3nm,0.3s,baz=155,slow=23,SNR=2.5						
MBRI	**Mt Berech**	**9.51**	**134**	Pn	**Pn**	**10 44 29.3**	**-1.6**
EIL	**Elat**	**9.62**	**134**	P	**Pn**	**10 44 32.5**	**+0.2**
	0.4nm,0.3s,baz=116,slow=23,SNR=11						
EIL				S	**Sn**	**10 46 14.8**	**-4.1**
	4.0nm,0.3s,baz=352,slow=15,SNR=14						
EIL	**Elat**	**9.62**	**134**	Pn	**Pn**	**10 44 31.4**	**-0.9**
HKAT	**Jabal Katrina**	**10.02**	**142**	P	**Pn**	**10 44 38.0**	**+0.3**
NVLJ	**Novalja**	**12.14**	**314**	ePn	**Pn**	**10 45 05.2**	**-0.1**
NVLJ				Sn	Sn	10 47 11.0	-8.2
AKASG	**Malin Array Be**	**14.11**	**6**	P	**P**	**10 45 33.4**	**-0.4**
	0.9nm,0.3s,baz=194,slow=11,SNR=4.5						
KEST	**Kesra**	**14.32**	**272**	P	**Pn**	**10 45 34.6**	**+1.1**
	0.1nm,0.3s,baz=8.0,slow=9.3,SNR=4.1						
GERES	**GERESS Array B**	**15.59**	**325**	P	**Pn**	**10 45 50.1**	**+1.0**
	0.0nm,0.3s,baz=131,slow=14,SNR=3.0						
ESDC	**Sonseca Array**	**24.50**	**287**	P	**P**	**10 47 23.1**	**0.0**
	0.5nm,0.4s,baz=84,slow=9.2,SNR=7.0						
FINES	**FINESS Array B**	**24.80**	**359**	P	**P**	**10 47 26.1**	**+0.6**
	3.2nm,0.9s,baz=172,slow=15,SNR=4.2						
HFS	**Hagfors**	**24.99**	**344**	P	**P**	**10 47 26.8**	**-0.5**
	1.6nm,0.8s,baz=148,slow=12,SNR=10						
NOA	**NORSAR Array B**	**26.37**	**343**	P	**P**	**10 47 40.8**	**+1.1**
	0.4nm,0.8s,baz=148,slow=10,SNR=2.9						
TORD	**Torodi Ar. Bea**	**32.63**	**231**	P	**P**	**10 48 36.0**	**+0.5**
	1.7nm,0.5s,baz=36,slow=8.5,SNR=11						
ARCES	**ARCESS Array B**	**32.93**	**359**	P	**P**	**10 48 36.7**	**-0.8**
	4.0nm,0.9s,baz=163,slow=6.6,SNR=2.8						
KURK	**Kurchatov**	**39.04**	**52**	P	**P**	**10 49 29.5**	**-0.2**
	0.4nm,0.4s,baz=273,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**41.67**	**58**	P	**P**	**10 49 51.8**	**+0.4**
	0.2nm,0.3s,baz=270,slow=8.1,SNR=6.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	41.70	232	P	P	10 49 51.9	0.0
	2.3nm,0.9s,baz=159,slow=23,SNR=3.1						
ZALV	Zalesovo Beam	42.85	47	P	P	10 50 00.4	-0.4
	0.7nm,0.4s,baz=268,slow=8.2,SNR=6.5						
SCHQ	Schefferville	63.02	320	P	P	10 52 31.0	+2.4
	3.7nm,0.9s,baz=65,slow=17,SNR=2.3						

IDC 01 10:53:34.6±3.0, 30.80N×83.13E, h0km, mb3.3/6, mb1 3.5/8, mb1mx3.3/28, mbtmp3.3/8, ML3.4/2, Error ellipse: s-maj=81.4km s-min=29.7km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.98	358	Pn	Pn	10 57 20.0	-0.8
	0.0nm,0.3s,baz=190,slow=15,SNR=4.2						
CMAR	Chiang Mai Arr	18.89	127	P	P	10 57 55.8	-0.9
	0.1nm,0.3s,baz=308,slow=9.1,SNR=3.8						
KURK	Kurchatov	20.18	352	P	P	10 58 08.8	-1.7
	0.9nm,0.6s,baz=171,slow=10,SNR=10						
ZALV	Zalesovo Beam	23.16	3	P	P	10 58 41.5	-1.0
	0.8nm,0.8s,baz=188,slow=7.3,SNR=3.2						
BVAR	Borovoye Array	24.07	341	P	P	10 58 51.1	-0.3
	0.4nm,0.5s,baz=153,slow=9.7,SNR=3.2						
SONM	Songino Array	24.62	40	P	P	10 58 57.3	+0.6
	0.3nm,0.3s,baz=256,slow=12,SNR=1.7						
ILAR	Eielson Array	77.09	20	P	P	11 05 28.8	-0.7
	0.2nm,0.7s,baz=320,slow=5.4,SNR=4.5						
YKA	Yellowknife Ar	85.94	8	P	P	11 06 17.7	+1.4
	0.1nm,0.5s,baz=336,slow=5.3,SNR=2.5						

*CASC **01** 11:44:48.7±1.0, 14.77N×91.34W, h192km±7km, MD3.8, mb4.7(NEIC)*
*ISCJB **01** 11:44:50.2±0.4, 14.68N±0.06×91.46W±0.05, h175km±3km, mb4.1/13, Error ellipse: s-maj=11.5km s-min=4.1km az=34.4*
*NEIC **01** 11:44:51.7±0.6, 14.73N×91.39W, h169km±6km, mb4.7/9, MD4.2(MEX), Error ellipse: s-maj=11.5km s-min=8.2km az=51.0*
*MEX **01** 11:44:54.3±0.5, 14.69N×91.54W, h165km±6km, MD4.2*
*IDC **01** 11:44:55.6±2.9, 14.95N×90.88W, h200km±24km, mb3.5/8, mb1 3.7/10, mb1mx3.5/22, mbtmp3.5/10, Error ellipse: s-maj=26.2km s-min=13.5km az=49.0*
ISC 01 11:44:51.4±0.6, 14.71N±0.05×91.42W±0.04, h175km±5km, n70, σ1.67/92, mb4.2/13, 2C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TP2	Tecpan 2	0.39	79	eP	Pn	11 45 15.8	+0.1
JAT	Jato	0.44	208⇑	iP	Pn	11 45 15.2	-0.2
FG6		0.54	106	eP	Pn	11 45 15.8	-0.4
FUG	Fuego 3	0.62	115	eP	Pn	11 45 15.7	-0.7
THIG		0.84	284	iP	Pn	11 45 17.2	-0.2
THIG				eS	Sn	11 45 35.0	-2.5
THIG		0.84	284	iP	Pn	11 45 17.2	-0.2
THIG				eS	Sn	11 45 35.0	-2.5
PCG	Pacaya	0.85	112	eP	Pn	11 45 17.3	-0.5
NBG	Las Nubes	1.05	97⇓	eP	Pn	11 45 19.0	-0.2
CCIG	Comitan	1.71	336	iP	Pn	11 45 25.6	+0.4
CCIG				iS	Sn	11 45 50.7	-0.7
CCIG	Comitan	1.71	336	iP	Pn	11 45 25.6	+0.4
CCIG				iS	Sn	11 45 50.7	-0.7
RBDL	Robledal	1.78	109	eP	Pn	11 45 24.2	-1.7
RBDL				eS	Sn	11 45 51.8	-0.9
RTR	El Retiro	1.90	115⇓	iP	Pn	11 45 26.1	-1.1
RTR				eS	Sn	11 45 55.4	+0.5
SBLS	San Blas	1.95	116	eP	Pn	11 45 26.4	-1.4
SBLS				eS	Sn	11 45 57.0	+1.1
SNJE	San Jose	1.95	115	eP	Pn	11 45 26.6	-1.2
PCIG		2.00	300	iP	Pn	11 45 28.3	+0.3
PCIG				eS	Sn	11 45 53.6	-2.9
PCIG		2.00	300	iP	Pn	11 45 28.3	+0.3
PCIG				eS	Sn	11 45 53.6	-2.9
BOQS	Boqueron	2.29	115⇑	eP	Pn	11 45 30.5	-1.1
SNET	Serv Nac Est T	2.35	115	eP	Pn	11 45 30.8	-1.4
SNET				eS	Sn	11 46 04.4	+0.6
LBRS	Las Brisas	2.50	112⇓	eP	Pn	11 45 32.6	-1.3
LFRS	El Faro	2.53	115	eP	Pn	11 45 32.9	-1.4
TGIG		2.63	322	iP	Pn	11 45 35.2	-0.1
TGIG				iS	Sn	11 46 08.7	-0.9
TGIG		2.63	322	iP	Pn	11 45 35.2	-0.1
TGIG				iS	Sn	11 46 08.7	-0.9
SNVI	San Vicente	2.73	113	eP	Pn	11 45 35.5	-1.2
TGUH	Tegucigalpa,Un	4.07	99	ePn	Pn	11 45 52.3	-0.9
TGUH				eSn	Sn	11 46 40.7	-0.9
CMIG	Matias Romero	4.09	306	P	Pn	11 45 53.9	+0.4
	3.2nm,0.3s,baz=143,slow=8.4,SNR=90						
CMIG				S	Sn	11 46 39.0	-3.0
	21nm,0.3s,baz=311,slow=20,SNR=17						
CMIG	Matias Romero	4.09	306	P	Pn	11 45 53.9	+0.4
CMIG				S	Sn	11 46 39.0	-3.0
CMIG				iS		11 46 39.7	
CMIG	Matias Romero	4.09	306	iP	Pn	11 45 53.8	+0.4
CMIG				iS	Sn	11 46 39.7	-2.3
HUIG	Huatulco	4.64	284	iP	Pn	11 46 00.5	-0.1
HUIG				iS	Sn	11 46 50.1	-4.8
HUIG	Huatulco	4.64	284	iP	Pn	11 46 00.5	-0.1
HUIG				iS	Sn	11 46 50.1	-4.8
TEIG	Tepich	6.25	28	P	Pn	11 46 20.7	-0.9
	9.0nm,0.3s,baz=216,slow=1.3,SNR=46						
TEIG				S	Sn	11 47 28.5	-4.3
	1.9nm,0.3s,baz=128,slow=19,SNR=8.4						
TEIG	Tepich	6.25	28	P	Pn	11 46 20.7	-0.9
TEIG				S	Sn	11 47 28.5	-4.3
TEIG				eSn	Sn	11 47 29.6	-3.1
KVTX	Kingsville	14.12	336	Pn	Pn	11 48 00.0	-3.7
JCT	Junction City	17.49	335	eP	P	11 48 40.3	-3.0
	5.6nm,1.0s						
TXAR	Lajitas Array	18.43	324	P	Pn	11 48 58.0	+2.1
	0.5nm,0.3s,baz=148,slow=10,SNR=48						
TXAR	Lajitas Array	18.43	324	P	Pn	11 48 58.0	+2.1
LRAL	Lakeview Retre	18.68	12	ePn	Pn	11 48 59.2	+0.5
	90nm,2.3s						
OTAV	Otavalo	19.27	137	eP	Pn	11 49 05.6	-0.6
	1.6nm,0.8s						
ROSC	El Rosal	19.46	118	eP	Pn	11 49 07.8	-0.7
MIAR	Mount Ida	19.85	355	eP	P	11 49 08.8	0.0
	7.6nm,0.7s						
GOGA	Godfrey	19.97	20	eP	P	11 49 11.8	+1.7
	101nm,2.0s						
UALR	University of	20.00	358	eP	P	11 49 11.6	+1.2
	28nm,0.8s						
UALR				epP	pP	11 49 43.4	+3.1
SWET	Sewanee	21.01	13	eP	P	11 49 23.4	+2.2
	95nm,2.2s						
SDV	Santo Domingo	21.15	104	Pn	P	11 49 20.0	-3.1
TKL	Tuckaleechee C	21.96	17	P	P	11 49 32.5	+1.4
	14nm,0.5s,baz=200,slow=7.1,SNR=29						
TKL	Tuckaleechee C	21.96	17	P	P	11 49 32.5	+1.4
SIUC	Southern Illin	23.00	4	eP	P	11 49 42.0	+1.2
	13nm,0.8s						
WCI	Wyandotte Cave	23.86	10	eP	P	11 49 49.6	+0.9
	162nm,2.5s						
PDAR	Pinedale Array	32.02	334	P	P	11 51 02.8	+1.2
	0.5nm,1.0s,baz=143,slow=9.1,SNR=3.4						
PDAR	Pinedale Array	32.02	334	P	P	11 51 02.8	+1.2
NVAR	Mina Array Bea	33.48	320	P	P	11 51 19.1	+4.8
	2.5nm,0.6s,baz=130,slow=8.4,SNR=29						
NVAR				PcP	PcP	11 53 54.0	+2.8
	0.5nm,0.7s,baz=159,slow=2.7,SNR=4.5						
NVAR	Mina Array Bea	33.48	320	P	P	11 51 19.1	+4.8
NVAR				PcP	PcP	11 53 54.0	+2.8
ULM	Lac du Bonnet	35.63	355	P	P	11 51 31.8	-0.5
	3.0nm,0.6s,baz=179,slow=10,SNR=7.2						
ULM	Lac du Bonnet	35.63	355	P	P	11 51 31.8	-0.5
SAML	Samuel	36.56	128	eP	P	11 51 39.2	-1.4
	3.0nm,0.6s						
SAML				epP	pP	11 52 09.9	-7.8
SAML				eS	S	11 56 41.3	-29
SIV	San Ignacio	42.77	134	P	P	11 52 31.7	-0.2
	3.3nm,0.5s,baz=312,slow=7.9,SNR=30						
SIV				PcP	PcP	11 54 21.1	+0.9
	0.8nm,0.5s,baz=308,slow=3.7,SNR=8.6						
SIV	San Ignacio	42.77	134	P	P	11 52 31.7	-0.2
SIV				PcP	PcP	11 54 21.1	+0.9
SCHQ	Schefferville	44.37	20	P	P	11 52 43.5	-0.7
	9.0nm,0.6s,baz=226,slow=11,SNR=25						
SCHQ	Schefferville	44.37	20	P	P	11 52 43.5	-0.7
YKA	Yellowknife Ar	50.47	346	P	P	11 53 31.7	+0.7
	0.7nm,0.5s,baz=149,slow=7.7,SNR=16						
YKA	Yellowknife Ar	50.47	346	P	P	11 53 31.8	+0.7
ILAR	Eielson Array	62.41	337	P	P	11 54 55.8	+0.4
	0.3nm,0.4s,baz=115,slow=5.6,SNR=20						
ILAR	Eielson Array	62.41	337	P	P	11 54 55.8	+0.4
ESDC	Sonseca Array	78.84	52	P	P	11 56 33.8	-1.5
	0.2nm,0.5s,baz=283,slow=5.4,SNR=3.3						
ESDC	Sonseca Array	78.84	52	P	P	11 56 33.8	-1.5
WRA	Warramunga Arr	136.11	256	PKP	PKiKP	12 03 54.8	+0.5
	0.4nm,0.5s,baz=86,slow=2.7,SNR=7.6						
WRA	Warramunga Arr	136.11	256	PKP	PKiKP	12 03 54.8	+0.5
ASAR	Alice Springs	136.43	251	PKP	PKiKP	12 03 55.9	+1.0
	0.3nm,0.7s,baz=90,slow=2.2,SNR=5.2						
ASAR	Alice Springs	136.43	251	PKP	PKiKP	12 03 55.9	+1.0
CMAR	Chiang Mai Arr	145.50	342	PKPbc	PKPdf	12 04 09.9	+0.4
	1.1nm,0.8s,baz=340,slow=2.9,SNR=6.9						
CMAR	Chiang Mai Arr	145.50	342	PKPbc	PKPdf	12 04 09.9	+0.4

*BJI **01** 12:36:49.4, 8.93N×124.41E, h504km, mB4.8/24, mb4.6/45*
*MOS **01** 12:36:53.9±0.9, 9.41N×124.18E, h515km, mb4.2/16, Error ellipse: s-maj=16.1km s-min=6.7km az=115.2*
*NEIC **01** 12:36:55.7±0.4, 9.43N×124.15E, h525km±5km, mb4.5/14, Error ellipse: s-maj=9.4km s-min=5.0km az=75.0*
*ISCJB **01** 12:36:55.4±0.2, 9.44N±0.03×124.23E±0.05, h529km±3km, mb4.2/62, Error ellipse: s-maj=7.6km s-min=4.5km az=164.5*
*MAN **01** 12:36:55, 9.46N×124.17E, h522km, mb5.6, ML4.6, MS4.9*
*IDC **01** 12:36:56.8±0.8, 9.34N×124.15E, h539km±10km, mb3.6/27, mb1 3.6/30, mb1mx3.6/31, mbtmp3.6/30, Error ellipse: s-maj=14.3km s-min=6.1km az=75.0*
*DJA **01** 12:36:57, 9.37N×124.14E, h529km, mb4.7/18*
ISC 01 12:36:55.3±0.4, 9.39N±0.04×124.16E±0.06, h515km±3km, n229, σ1.39/270, mb4.2/62, 2C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.42	316	eP	P	12 38 00.1	+3.0
SNPH	Sibulan	0.91	267⇑	iP	P	12 37 59.6	+1.7
SNPH				iS	S	12 38 50.4	+1.7
MSLP	Maasin	1.01	43	eP	P	12 38 00.1	+2.0
PAGZ	Pagadian	1.71	207	eP	P	12 38 01.7	+1.1
BUKP	Musuan	1.75	149	eP	P	12 38 03.2	+2.4
GUIM	Jordan	1.97	309	eP	P	12 38 02.0	+0.3
CTBH	Cotabato--PC H	2.16	178⇓	iP	P	12 38 05.0	+2.3
RCP	Roxas	2.56	327⇑	eP	P	12 38 05.7	+0.9
DAV	Davao City (W)	2.70	148	P	P	12 38 08.8	+3.1
	31nm,0.3s,baz=78,slow=3.8,SNR=8.2						
DAV	Davao City (W)	2.70	148	P	P	12 38 08.8	+3.1
DAV	Davao City (W)	2.70	148	P	Px	12 38 18.8	
MATI	Mati	3.20	139	eP	P	12 38 11.1	+2.2
CUYO	Cuyo Island	3.41	295	eP	P	12 38 12.4	+2.0
OTRP	Odiongan	3.62	325	eP	P	12 38 13.7	+1.8
PVCP	Virac	4.18	360	eP	P	12 38 17.1	+1.0
BOAC	Boac	4.63	331	eP	P	12 38 21.8	+1.9
BUSP	Coron	4.68	304	eP	P	12 38 21.6	+1.3
ENPP	El Nido	4.99	292	eP	P	12 38 24.9	+1.9
TGY	Tagaytay City	5.64	326	P	P	12 38 30.6	+1.6
	66nm,0.3s,baz=229,slow=7.9,SNR=4.2						
TGY	Tagaytay City	5.64	326	P	P	12 38 30.6	+1.6
TGY	Tagaytay City	5.64	326	P	P	12 38 30.6	+1.6
BATP	Bataraza	6.30	265	eP	P	12 38 37.5	+2.2
MYLDM	Lahad Datu	7.00	234	P	P	12 38 45.7	+3.6
MYLDM	Lahad Datu	7.00	234	P	P	12 38 46.6	+4.6
	44nm,1.2s,0.3nm						
SCZP	Santa Cruz	7.58	327	eP	P	12 38 46.9	-0.8
KDM	Kudat	7.66	252	P	P	12 38 48.1	-0.5
SDKM	Sandakan	7.84	242	P	P	12 38 52.3	+1.7
CAUP	Cauayan	7.84	343	eP	P	12 38 54.4	+3.9
KKM	Kota Kinabalu	8.54	248	ePn	P	12 38 58.9	+1.0
KKM	Kota Kinabalu	8.54	248	P	P	12 38 59.0	+1.2
KKM	Kota Kinabalu	8.54	248	P	P	12 38 59.2	+1.4
	90nm,1.1s,927nm0.2nm						
KMSI	Cibinong	8.76	181	P	P	12 39 04.5	+4.5
	230nm,0.8s,0.7nm						
GTOI	Gorontalo	8.77	188	P	P	12 39 00.7	+0.6
	146nm,1.2s,2μm0.6nm						
MRSI	Marisa	9.13	194	P	P	12 39 06.5	+2.8
	145nm,0.8s,2μm						
TNTI	Ternate	9.14	159	P	P	12 39 04.9	+1.0
	189nm,0.9s,2μm						
LUWI	Luwuk	10.46	188	P	P	12 39 21.2	+3.5
	101nm,1.0s,909nm						
LBMI	Labuha	10.50	161	P	P	12 39 20.4	+2.2
	150nm,0.7s,2μm						
SMKI	Samarinda	11.97	216	P	P	12 39 37.9	+4.3
	134nm,0.8s						
NLAI	Namlea	12.88	167	P	P	12 39 45.4	+2.2
	98nm,0.8s,1μm						
TTSI	Tana Toraja	13.09	199	P	P	12 39 49.8	+4.5
	24nm,1.2s,491nm						
KDI	Kendari	13.35	187	P	P	12 39 50.9	+2.8
	42nm,1.2s,701nm						
TWG	Pinlang	13.68	348	ePn	P	12 39 49.3	-2.1
	952nm,2.8s						
SBUM	Sibu	13.72	241	P	P	12 39 54.5	+2.5
SBUM	Sibu	13.72	241	P	P	12 39 48.8	-3.2
	110nm,0.8s,844nm						
SBUM	Sibu	13.72	241	P	P	12 39 53.4	+1.4
	110nm,0.8s,844nm						
YULB	Yu-li	14.19	349	ePn	P	12 39 54.5	-2.3
	27nm,0.6s						
TPUB	Ta-pu	14.24	347	ePn	P	12 39 56.2	-1.1
	197nm,1.1s						
SSLB	Suanglung	14.64	348	ePn	P	12 40 00.0	-1.5
	42nm,0.8s						
YHNB	Yeheng	15.43	350	eP	P	12 40 08.7	-1.1
	42nm,0.8s						
KSM	Kuching	15.86	241	eP	P	12 40 14.7	+0.3
	15nm,0.5s						
KSM	Kuching	15.86	241	P	P	12 40 14.0	-0.4
KSM	Kuching	15.86	241	P	P	12 40 14.9	+0.5
	34nm,1.0s						
BAKI	Biak	15.88	131	P	P	12 40 18.9	+4.3
	94nm,0.9s						
QZH	Quanzhou	16.35	342⇓	iP	P	12 40 18.6	-0.6
QZH				pmax	pmax		
	comp=Z,70nm,0.6s						
JOW	Kunigami	17.78	12	P	P	12 40 33.1	+0.2
	comp=Z,3.5nm,0.3s,baz=301,slow=5.6,SNR=3.5						
JOW	Kunigami	17.78	12	P	P	12 40 33.1	+0.2
SMPI	Sarmi	18.39	127	P	P	12 40 41.2	+2.6
WHN	Wuhan	22.95	338	P	P	12 41 21.4	+1.8
NJ2	Nanjing	23.08	348	eP	P	12 41 22.2	+1.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
GYA	Guiyang	23.72	318	P	P	12 41 27.8	+1.0
GYA				sP	sP	12 43 46.0	-2.5
GYA				S	S	12 45 07.6	+2.1
GYA				ScP	ScP	12 47 44.4	+1.7
GYA				PcS	PcS	12 48 33.2	-0.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	Kunming	25.69	310	P	P	12 41 45.9	+1.6
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAR	Chiang Mai Arr	26.05	293	P	P	12 41 48.1	+0.7
	comp=Z,0.3nm,0.5s,baz=101,slow=8.4,SNR=4.0						
CMAR	Chiang Mai Arr	26.05	293	P	P	12 41 48.1	+0.7
CMAR	Chiang Mai Arr	26.05	293	P	P	12 41 48.1	+0.7
FITZ	Fitzroy Crossi	27.36	177	P	P	12 41 58.4	-0.4
	comp=Z,1.4nm,0.5s,baz=1.3,slow=8.7,SNR=9.6						
FITZ	Fitzroy Crossi	27.36	177	P	P	12 41 58.4	-0.4
KSAR	Wonju Array Be	28.13	6	P	P	12 42 06.1	+0.7
KSAR	Wonju Array Be	28.13	6	P	P	12 42 06.1	+0.7
KSRS	Korea Array	28.15	6	P	P	12 42 06.1	+0.6
	comp=Z,11nm,0.7s,baz=187,slow=9.6,SNR=37						
XAN	Xi'an	28.25	333	P	P	12 42 06.4	-0.1
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN				pmax	pmax		
	comp=Z,27nm,7.3s						
CD2	Chengdu	28.62	321	P	P	12 42 11.3	+1.4
CD2				sP	sP	12 44 35.1	-1.3
CD2				S	S	12 46 25.1	+3.1
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,190nm,4.9s						
PMG	Port Moresby	29.55	129	P	P	12 42 18.1	0.0
	comp=Z,9.2nm,0.9s,baz=309,slow=7.2,SNR=3.6						
PMG	Port Moresby	29.55	129	P	P	12 42 18.1	0.0
PMG	Port Moresby	29.55	129	P	P	12 42 18.1	0.0
MJAR	Matsushiro Arr	29.89	23	P	P	12 42 19.6	-1.2
	comp=Z,5.2nm,0.8s,baz=201,slow=9.7,SNR=12						
MJAR	Matsushiro Arr	29.89	23	P	P	12 42 19.6	-1.2
MJAR	Matsushiro Arr	29.89	23	P	P	12 42 19.6	-1.2
MAT	Matsushiro	29.89	23	P	P	12 42 19.6	-1.1
WRAB	Tennant Creek	30.82	161	eP	P	12 42 28.6	-0.3
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	Tennant Creek	30.82	161	eP	P	12 42 28.6	-0.3
	comp=Z,2.7nm,0.6s						
WRA	Warramunga Arr	30.82	161	P	P	12 42 28.2	-0.7
	comp=Z,3.4nm,0.7s,baz=331,slow=10,SNR=31						
WRA				S	S	12 46 51.0	-5.2
	comp=Z,1.3nm,0.9s,baz=337,slow=18,SNR=6.8						
WRA				ScP	ScP	12 48 01.5	-2.8
	comp=Z,2.9nm,0.8s,baz=342,slow=3.7,SNR=14						
WRA	Warramunga Arr	30.82	161	P	P	12 42 28.3	-0.7
WRA				S	S	12 46 51.0	-5.2
WRA	Warramunga Arr	30.82	161	P	P	12 42 28.2	-0.7
WRA				S	S	12 46 51.0	-5.2
WRA				ScP	ScP	12 48 01.5	-2.8
WB2	Warramunga Arr	30.83	161	eP	P	12 42 28.6	-0.4
BJI	Beijing	31.34	348	P	P	12 42 32.5	-0.6
BJI				pmax	pmax		
	comp=Z,51nm,0.7s						
BJI				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH	Lanzhou	32.37	328	⇓P	P	12 42 43.6	+1.4
LZH				PP	pP	12 44 16.2	+6.0
LZH				sP	sP	12 45 11.6	+1.7
LZH				S	S	12 47 23.0	+3.2
LZH				sS	sS	12 50 02.1	-1.0
LZH				pmax	pmax		
	comp=Z,43nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
HHC	Hu-ho-hao-te	33.26	342	eP	P	12 42 50.7	+1.1
HHC				pP	pP	12 44 20.0	+1.9
HHC				sP	sP	12 45 17.1	-0.6
HHC				S	S	12 47 36.6	+3.5
HHC				sS	sS	12 50 14.9	-2.0
HHC				SS	SS	12 50 26.1	-17
HHC				ScS	ScS	12 52 16.3	+1.5
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.0s						
AS31	Alice Springs	34.21	164	eP	P	12 42 57.7	0.0
ASAR	Alice Springs	34.21	164	P	P	12 42 57.9	+0.1
	comp=Z,2.1nm,0.4s,baz=342,slow=7.0,SNR=109						
ASAR				S	S	12 47 45.0	-2.8
	comp=Z,1.4nm,0.8s,baz=344,slow=13,SNR=12						
ASAR				ScP	ScP	12 48 13.7	-2.5
	comp=Z,1.5nm,0.9s,baz=333,slow=3.5,SNR=7.0						
ASAR	Alice Springs	34.21	164	P	P	12 42 57.9	+0.1
ASAR				S	S	12 47 45.0	-2.8
ASAR	Alice Springs	34.21	164	P	P	12 42 57.9	+0.1
ASAR				S	S	12 47 45.0	-2.8
ASAR				ScP	ScP	12 48 13.7	-2.5
CN2	Changchun	34.30	2	eP	P	12 42 59.3	+1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	Ussuriysk Arra	35.34	10	P	P	12 43 07.4	+0.6
	comp=Z,6.1nm,0.6s,baz=194,slow=8.1,SNR=22						
MDJ	Mudanjiang	35.41	7	P	P	12 43 08.2	+0.7
MDJ				pP	pP	12 44 36.4	-0.6
MDJ				PP	PP	12 44 46.7	+1.5
MDJ				sP	sP	12 45 34.0	-2.3
MDJ				S	S	12 48 06.7	+1.5
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.6s						
CTA	Charters Tower	36.49	144	P	P	12 43 17.3	+0.5
	comp=Z,7.4nm,1.0s,baz=338,slow=11,SNR=4.9						
CTA	Charters Tower	36.49	144	P	P	12 43 17.3	+0.5
CTA	Charters Tower	36.49	144	P	P	12 43 17.3	+0.5
GTA	Gaotai	36.97	328	P	P	12 43 21.8	+1.2
GTA				pP	pP	12 44 50.0	-1.0
GTA				PcP	PcP	12 45 28.8	+0.6
GTA				sP	sP	12 45 48.9	-1.2
GTA				ScP	ScP	12 48 25.6	-0.6
GTA				pmax	pmax		
	comp=Z,14nm,0.8s						
ASAJ	Asahikawa	38.12	22	P	P	12 43 30.4	+0.5
	comp=Z,11nm,0.9s,baz=1.0,slow=25,SNR=5.7						
ASAJ	Asahikawa	38.12	22	P	P	12 43 30.4	+0.5
TAPN	Taplejung	38.73	302	eP	P	12 43 36.0	+0.6
TAPN	Taplejung	38.73	302	eP	P	12 43 36.0	+0.6
ODAN	Odare	38.83	301	eP	P	12 43 36.5	+0.3
ODAN	Odare	38.83	301	eP	P	12 43 36.5	+0.3
RAMN	Ramite	39.52	301	eP	P	12 43 42.2	+0.4
	comp=Z,14nm,0.7s						
RAMN	Ramite	39.52	301	eP	P	12 43 42.2	+0.4
JIRN	Jiri	40.10	302	eP	P	12 43 47.1	+0.5
	comp=Z,7.7nm,0.3s						
GUN	Gumba	40.45	302	eP	P	12 43 49.7	+0.4
	comp=Z,22nm,0.8s						
GUN	Gumba	40.45	302	eP	P	12 43 49.7	+0.4
PKI	Pulchoki	40.73	302	eP	P	12 43 51.5	0.0
PKI	Pulchoki	40.73	302	eP	P	12 43 51.5	0.0
PKI	Pulchoki	40.73	302	eP	P	12 43 51.5	0.0
KKN	Kakani	40.91	302	eP	P	12 43 53.2	+0.4
KKN	Kakani	40.91	302	eP	P	12 43 53.2	+0.4
KKN	Kakani	40.91	302	eP	P	12 43 53.2	+0.4
ULN	Ulaanbaatar	40.98	342	eP	P	12 43 53.7	+0.7
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	Ulaanbaatar	40.98	342	eP	P	12 43 53.6	+0.7
	comp=Z,12nm,0.9s						
DMN	Daman	41.00	302	eP	P	12 43 53.9	+0.3
DMN	Daman	41.00	302	eP	P	12 43 53.9	+0.3
SONM	Songino Array	41.16	342	P	P	12 43 54.8	+0.4
	comp=Z,5.6nm,0.6s,baz=154,slow=8.6,SNR=19						
SONM				PcP	PcP	12 45 41.3	-0.2
	comp=Z,1.8nm,0.9s,baz=160,slow=4.6,SNR=3.7						
SONM				ScP	ScP	12 48 40.5	-1.8
	comp=Z,1.2nm,0.7s,baz=152,slow=4.3,SNR=4.0						
SONM	Songino Array	41.16	342	P	P	12 43 54.8	+0.4
SONM						12 45 41.3	
SONM	Songino Array	41.16	342	P	P	12 43 54.8	+0.4
SONM				PcP	PcP	12 45 41.3	-0.2
SONM				ScP	ScP	12 48 40.5	-1.8
GKN	Gorkha	41.52	302	eP	P	12 43 57.5	-0.1
	comp=Z,5.7nm,0.6s						
GKN	Gorkha	41.52	302	eP	P	12 43 57.5	-0.1
KOLN	Koldanda	42.31	301	eP	P	12 44 04.6	+0.6
	comp=Z,19nm,0.5s						
KOLN	Koldanda	42.31	301	eP	P	12 44 04.6	+0.6
DANN	Dangsing	42.36	302	eP	P	12 44 04.2	-0.2
DANN	Dangsing	42.36	302	eP	P	12 44 04.2	-0.2
NWAO	Narrogin (SRO)	42.59	189	P	P	12 44 05.6	-0.2
	comp=Z,5.9nm,0.8s,baz=46,slow=6.9,SNR=7.8						
NWAO	Narrogin (SRO)	42.59	189	P	P	12 44 05.6	-0.2
NWAO	Narrogin (SRO)	42.59	189	P	P	12 44 05.6	-0.2
STKA	Stephens Creek	44.30	159	P	P	12 44 19.3	+0.2
	comp=Z,1.9nm,0.7s,baz=335,slow=9.8,SNR=6.9						
STKA	Stephens Creek	44.30	159	P	P	12 44 19.3	+0.2
STKA	Stephens Creek	44.30	159	P	P	12 44 19.3	+0.2
ZAK	Zakamensk	44.37	341	eP	P	12 44 19.5	0.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
TLY	Talaya	45.39	342	eP	P	12 44 27.1	-0.1
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOY	Mondy	46.22	340	eP	P	12 44 34.5	+0.8
WMQ	Urumqi	46.66	324	eP	P	12 44 36.8	-0.3
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.5s						
BOD	Bodaibo	48.95	353	eP	P	12 44 54.1	+0.2
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PETK	Petropavlovsk-	51.30	25	P	P	12 45 11.8	+0.6
	comp=Z,5.0nm,0.9s,baz=195,slow=5.2,SNR=12						
PETK	Petropavlovsk-	51.30	25	P	P	12 45 11.8	+0.6
PETK	Petropavlovsk-	51.30	25	P	P	12 45 11.8	+0.6
MK31	Makanchi Array	51.49	324	eP	P	12 45 13.0	+0.2
MK31	Makanchi Array	51.49	324	eP	P	12 45 13.0	+0.2
MKAR	Makanchi Array	51.49	324	P	P	12 45 13.1	+0.3
	comp=Z,5.0nm,0.6s,baz=125,slow=8.2,SNR=79						
MKAR				PcP	PcP	12 46 17.8	-0.5
	comp=Z,2.2nm,0.6s,baz=116,slow=2.8,SNR=11						
MKAR	Makanchi Array	51.49	324	P	P	12 45 13.1	+0.3
MKAR						12 46 17.8	
MKAR	Makanchi Array	51.49	324	P	P	12 45 13.1	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR				PcP	**PcP**	**12 46 17.8**	**-0.5**
KSH	**Kashi**	**52.29**	**313**	*e*P	**P**	**12 45 20.8**	**+2.0**
KSH				*e*PcP	**PcP**	**12 46 23.6**	**+2.0**
KSH				*e*pP	**pP**	**12 46 58.6**	**+0.6**
KSH				*e*PP	PP	12 47 27.7	+3.2
KSH				*e*sP	**sP**	**12 47 53.6**	**-0.8**
KSH				*e*ScP	**ScP**	**12 49 31.6**	**+2.3**
KSH				*e*PcS	**PcS**	**12 50 20.5**	**-0.4**
KSH				*e*S	**S**	**12 52 05.8**	**+0.4**
KSH				*e*ScS	**ScS**	**12 54 13.6**	**-0.8**
KSH				*e*sS	**sS**	**12 55 01.6**	**-2.3**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,63nm,5.0s						
YAK	**Yakutsk**	**52.70**	**3**	*e*P	**P**	**12 45 20.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,33nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**52.70**	**3**	*e*P	**P**	**12 45 21.0**	**-0.1**
	comp=E,50nm,0.7s						
KZA	**Kyzart**	**53.77**	**316**	P	**P**	**12 45 30.8**	**+1.2**
	SNR=7.7						
KZA				P	**P**	**12 45 30.8**	**+1.2**
	SNR=7.7						
TKM2	**Tokmak 2**	**53.86**	**317**	P	**P**	**12 45 30.5**	**+0.4**
	SNR=9.1						
TKM2				P	**P**	**12 45 30.5**	**+0.4**
	SNR=9.1						
TKM2	**Tokmak 2**	**53.86**	**317**	*e*P	**P**	**12 45 30.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TKM2	**Tokmak 2**	**53.86**	**317**	*e*P	**P**	**12 45 30.4**	**+0.4**
	comp=Z,5.7nm,0.8s						
ZAA0	**Zalesovo Array**	**54.42**	**333**	*e*P	**P**	**12 45 32.6**	**-0.8**
ZALV	**Zalesovo Beam**	**54.42**	**333**	P	**P**	**12 45 32.8**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=134,slow=6.2,SNR=26						
ZALV	**Zalesovo Beam**	**54.42**	**333**	P	**P**	**12 45 32.8**	**-0.7**
ZALV	**Zalesovo Beam**	**54.42**	**333**	P	**P**	**12 45 32.8**	**-0.7**
AAK	**Ala-Archa**	**54.50**	**316**	⇓*i*P	**P**	**12 45 34.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AAK	**Ala-Archa**	**54.50**	**316**	*e*P	**P**	**12 45 34.1**	**-0.3**
	comp=Z,12nm,0.9s						
USP	**Ospenovka**	**54.74**	**317**	P	**P**	**12 45 36.4**	**+0.3**
	SNR=8.3						
USP				P	**P**	**12 45 36.4**	**+0.3**
	SNR=8.3						
AML	**Almayashu**	**54.86**	**315**	P	**P**	**12 45 37.9**	**+0.6**
	SNR=9.6						
AML				P	**P**	**12 45 37.9**	**+0.6**
	SNR=9.6						
EKS2	**Erkin-Say**	**55.00**	**316**	P	**P**	**12 45 38.7**	**+0.8**
	SNR=9.6						
EKS2				P	**P**	**12 45 38.7**	**+0.8**
	SNR=9.6						
EKS2	**Erkin-Say**	**55.00**	**316**	*e*P	**P**	**12 45 38.2**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
EKS2	**Erkin-Say**	**55.00**	**316**	*e*P	**P**	**12 45 38.2**	**+0.2**
	comp=Z,7.2nm,0.7s						
KURK	**Kurchatov**	**55.63**	**327**	P	**P**	**12 45 42.0**	**0.0**
	comp=Z,13nm,0.8s,baz=125,slow=6.1,SNR=132						
KURK	**Kurchatov**	**55.63**	**327**	P	**P**	**12 45 42.0**	**0.0**
KURK	**Kurchatov**	**55.63**	**327**	P	**P**	**12 45 42.0**	**0.0**
KK31	**Karatay Array**	**57.40**	**316**	P	**P**	**12 45 54.1**	**-0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**57.40**	**316**	*e*P	**P**	**12 45 54.3**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**57.40**	**316**	*e*P	**P**	**12 45 54.3**	**-0.1**
	comp=Z,2.8nm,0.5s						
BVA0	**Borovoye Array**	**61.22**	**326**	P	**P**	**12 46 19.6**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**61.22**	**326**	P	**P**	**12 46 19.6**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=118,slow=8.3,SNR=35						
BVAR	**Borovoye Array**	**61.22**	**326**	P	**P**	**12 46 19.6**	**-0.1**
BVAR	**Borovoye Array**	**61.22**	**326**	P	**P**	**12 46 19.6**	**-0.1**
BILL	**Bilibino**	**64.82**	**16**	P	**P**	**12 46 43.0**	**+0.4**
BILL				pmax	pmax		
	comp=Z,19nm,2.6s						
ABKAR	**Akbulak array**	**66.19**	**320**	*e*P	**P**	**12 46 51.0**	**-0.6**
	comp=Z,6.8nm,0.8s						
SVE	**Sverdlovsk**	**67.83**	**328**	⇓*i*P	**P**	**12 47 01.6**	**0.0**
SVE				pmax	pmax		
	comp=Z,17nm,1.0s						
ARU	**Arti**	**68.82**	**327**	*d i*P	**P**	**12 47 06.2**	**-1.4**
ARU						12 49 42.7	
ARU				S	**S**	**12 55 27.4**	**-2.8**
ARU				pmax	pmax		
	comp=Z,35nm,2.5s						
ARU	**Arti**	**68.82**	**327**	*e*P	**P**	**12 47 06.8**	**-0.8**
	comp=Z,11nm,0.6s						
KIV	**Kislovodsk**	**77.42**	**313**	⇓*e*P	**P**	**12 47 58.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDAK	**Kodiak Island**	**78.53**	**33**	P	**P**	**12 48 03.5**	**+0.7**
	comp=Z,6.7nm,0.7s,baz=311,slow=11,SNR=4.9						
KDAK	**Kodiak Island**	**78.53**	**33**	P	**P**	**12 48 03.5**	**+0.7**
KDAK	**Kodiak Island**	**78.53**	**33**	P	**P**	**12 48 03.5**	**+0.7**
OBN	**Obninsk**	**80.99**	**324**	P	**P**	**12 48 16.0**	**+0.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**81.13**	**26**	P	**P**	**12 48 14.9**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=263,slow=4.4,SNR=31						
ILAR	**Eielson Array**	**81.13**	**26**	P	**P**	**12 48 15.0**	**-1.4**
ILAR	**Eielson Array**	**81.13**	**26**	P	**P**	**12 48 14.9**	**-1.4**
JOF	**Joensuu**	**83.01**	**333**	*e*P	**P**	**12 48 25.4**	**-0.6**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**83.01**	**333**	*e*p	**P**	**12 48 25.4**	**-0.6**
	comp=Z,3.4nm,0.8s						
JOF	**Joensuu**	**83.01**	**333**	*e*p	**P**	**12 48 25.4**	**-0.6**
	comp=Z,3.4nm,0.8s						
KEV	**Kevo**	**83.73**	**340**	*e*p	P	12 48 42.1	+13
	comp=Z,7.0nm,0.8s						
KEV	**Kevo**	**83.73**	**340**	*e*p	P	12 48 42.1	+13
	comp=Z,7.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.29**	**340**	P	**P**	**12 48 31.4**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=78,slow=6.5,SNR=4.9						
ARCES	**ARCESS Array B**	**84.29**	**340**	P	**P**	**12 48 31.5**	**-0.8**
ARCES	**ARCESS Array B**	**84.29**	**340**	P	**P**	**12 48 31.4**	**-0.8**
BRTR	**Keskin Array B**	**84.47**	**309**	P	**P**	**12 48 32.5**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=108,slow=4.7,SNR=5.1						
BRTR	**Keskin Array B**	**84.47**	**309**	*i* P	**P**	**12 48 35.5**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**84.47**	**309**	P	**P**	**12 48 32.5**	**-1.4**
KAF	**Kangasniemi**	**85.43**	**332**	*e*P	**P**	**12 48 37.2**	**-0.7**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAF	**Kangasniemi**	**85.43**	**332**	*e*p	**P**	**12 48 37.2**	**-0.7**
	comp=Z,3.6nm,0.5s						
KAF	**Kangasniemi**	**85.43**	**332**	*e*p	**P**	**12 48 37.2**	**-0.7**
	comp=Z,3.6nm,0.5s						
FINES	**FINESS Array B**	**85.67**	**332**	P	**P**	**12 48 37.8**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=66,slow=4.7,SNR=13						
FINES	**FINESS Array B**	**85.67**	**332**	P	**P**	**12 48 37.8**	**-1.2**
FINES	**FINESS Array B**	**85.67**	**332**	P	**P**	**12 48 37.8**	**-1.2**
INK	**Inuvik**	**85.86**	**21**	P	**P**	**12 48 39.2**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=260,slow=6.1,SNR=6.1						
INK	**Inuvik**	**85.86**	**21**	P	**P**	**12 48 39.3**	**-0.6**
INK	**Inuvik**	**85.86**	**21**	P	**P**	**12 48 39.2**	**-0.6**
AKASG	**Malin Array Be**	**85.92**	**321**	P	**P**	**12 48 39.0**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=65,slow=5.8,SNR=5.2						
AKASG	**Malin Array Be**	**85.92**	**321**	P	**P**	**12 48 39.0**	**-1.5**
AKASG	**Malin Array Be**	**85.92**	**321**	P	**P**	**12 48 39.0**	**-1.5**
HFS	**Hagfors**	**91.85**	**332**	P	**P**	**12 49 06.5**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=107,slow=9.2,SNR=7.3						
HFS	**Hagfors**	**91.85**	**332**	P	**P**	**12 49 06.5**	**-1.5**
HFS	**Hagfors**	**91.85**	**332**	P	**P**	**12 49 06.5**	**-1.5**
NB2	**NORSAR Subarra**	**92.61**	**333**	P	**P**	**12 49 09.5**	**-1.9**
	comp=Z,3.5nm,0.8s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**92.61**	**333**	P	**P**	**12 49 09.6**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=63,slow=4.7,SNR=7.4						
NOA	**NORSAR Array B**	**92.61**	**333**	P	**P**	**12 49 09.6**	**-1.9**
NOA	**NORSAR Array B**	**92.61**	**333**	P	**P**	**12 49 09.6**	**-1.9**
YKA	**Yellowknife Ar**	**95.39**	**24**	P	**P**	**12 49 23.6**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=300,slow=4.4,SNR=9.0						
YKA	**Yellowknife Ar**	**95.39**	**24**	P	**P**	**12 49 23.6**	**-0.4**
YKA	**Yellowknife Ar**	**95.39**	**24**	P	**P**	**12 49 23.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**118.64**	**291**	PKP	**PKPdf**	**12 54 44.1**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=60,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**118.64**	**291**	PKP	**PKPdf**	**12 54 44.1**	**-1.4**
TXAR	**Lajitas Array**	**119.97**	**48**	PKP	**PKPdf**	**12 54 47.9**	**0.0**
	comp=Z,0.3nm,0.9s,baz=222,slow=1.2,SNR=3.7						
TXAR	**Lajitas Array**	**119.97**	**48**	PKIKP	**PKPdf**	**12 54 47.9**	**0.0**
TXAR	**Lajitas Array**	**119.97**	**48**	PKP	**PKPdf**	**12 54 47.9**	**0.0**
PLCA	**Paso Flores**	**146.17**	**160**	PKPbc	**PKPbc**	**12 55 38.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=214,slow=3.6,SNR=3.0						
PLCA	**Paso Flores**	**146.17**	**160**	PKP2	**PKPbc**	**12 55 38.3**	**+0.2**
PLCA	**Paso Flores**	**146.17**	**160**	PKPbc	**PKPbc**	**12 55 38.3**	**+0.2**

IDC ***01*** *12:42:04.3±0.8, 34.°88S×107.°89W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.1/9, MS4.2/15, Ms1 4.2/15, ms1mx4.1/19, Error ellipse: s-maj=24.2km s-min=23.3km az=67.0*

ISCJB ***01*** *12:42:04.1±1.0, 34.°8S±0.°1×107.°8W±0.°2, h10km, mb4.2/11, MS4.2/14, Error ellipse: s-maj=24.9km s-min=14.1km az=151.0*

NEIC ***01*** *12:42:05.7±0.6, 34.°88S×107.°78W, h10km, mb4.8/3, Error ellipse: s-maj=17.9km s-min=13.2km az=56.0*

ISC 01 12:42:05.1±0.7**, 34.°9S**±0.°1×**108.°0W**±0.°1**, h10km, n45, σ1.s42**/32**, mb4.2**/11**, MS4.2**/14**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.88**	**351**	LR	LR	12 46 10.7	
	comp=Z,1μm,18.7s,baz=331,slow=32						
RPN				T	T	12 52 04.1	
	44nm,0.3s,baz=164,slow=14,SNR=6.4						
RPN	**Rapa Nui**	**7.88**	**351**	Pn	**Pn**	**12 43 59.3**	**-0.4**
RPN				TT		12 52 04.1	
RKT	**Rikitea**	**26.30**	**289**	*e*LQ	LQ	12 53 07.0	
	372nm,25.5s						
RKT				*e*LR	LR	12 54 16.0	
	628nm,37.8s						
PLCA	**Paso Flores**	**29.95**	**112**	P	**P**	**12 48 14.1**	**+0.6**
	4.5nm,1.1s,baz=255,slow=6.4,SNR=4.1						
PLCA				LR	LR	12 56 26.5	
	comp=Z,225nm,20.8s,baz=281,slow=29						
PLCA	**Paso Flores**	**29.95**	**112**	P	**P**	**12 48 14.1**	**+0.6**
LCO	**Las Campanas**	**32.03**	**90**	*e*P	**P**	**12 48 29.6**	**-2.6**
	34nm,2.0s						
CFAA	**Coronel Fontan**	**33.23**	**96**	LR	LR	12 58 47.2	
	comp=Z,46nm,19.5s,baz=253,slow=30						
USHA	**Ushuaia**	**33.73**	**138**	LR	LR	12 59 12.4	
	comp=Z,1μm,19.1s,baz=288,slow=30						
TBI	**Tubuai**	**37.79**	**276**	*e*LQ	LQ	12 57 59.3	
	998nm,30.0s						
TBI				*e*LR	LR	12 59 34.8	
	733nm,26.0s,baz=117						
ATAH	**Atahualpa**	**38.79**	**51**	P	**P**	**12 49 32.4**	**+1.8**
	3.6nm,0.7s,baz=117,slow=12,SNR=3.2						
ATAH				LR	LR	12 59 42.7	
	comp=Z,47nm,21.0s,baz=211,slow=27						
ATAH	**Atahualpa**	**38.79**	**51**	P	**P**	**12 49 32.4**	**+1.8**
TAOE	**Nuku Hiva Isla**	**39.26**	**304**	*e*LR	LR	13 00 14.8	
	500nm,26.6s						
PMSA	**Palmer Station**	**39.76**	**152**	LR	LR	13 00 44.0	
	comp=Z,402nm,22.0s,baz=299,slow=28						
LPAZ	**La Paz**	**40.11**	**73**	P	**P**	**12 49 42.5**	**+0.7**
	1.3nm,0.6s,baz=250,slow=6.7,SNR=6.5						
LPAZ				LR	LR	13 02 22.9	
	comp=Z,294nm,21.4s,baz=238,slow=30						
LPAZ	**La Paz**	**40.11**	**73**	*e*P	**P**	**12 49 42.5**	**+0.7**
PPT2	**Papeete2**	**40.79**	**284**	*e*LQ	LQ	12 59 10.6	
	1μm,29.2s						
PPT2				*e*LR	LR	13 00 52.0	
	239nm,25.2s						
CPUP	**Villa Florida**	**44.02**	**93**	LR	LR	13 05 17.6	
	comp=Z,255nm,19.1s,baz=127,slow=32						
SIV	**San Ignacio**	**45.89**	**78**	P	**P**	**12 50 27.0**	**-1.0**
	1.3nm,0.9s,baz=246,slow=9.9,SNR=5.2						
SIV	**San Ignacio**	**45.89**	**78**	P	**P**	**12 50 27.0**	**-1.0**
ROSC	**El Rosal**	**50.68**	**46**	P	**P**	**12 51 04.3**	**-1.0**
	3.0nm,0.6s,baz=120,slow=19,SNR=2.9						
ROSC				LR	LR	13 08 27.8	
	comp=Z,424nm,20.5s,baz=206,slow=31						
ROSC	**El Rosal**	**50.68**	**46**	P	**P**	**12 51 04.3**	**-1.0**
QSPA	**South Pole Qui**	**55.26**	**180**	P	**P**	**12 51 40.1**	**+1.8**
	1.3nm,0.4s,baz=112,slow=3.5,SNR=6.1						
QSPA	**South Pole Qui**	**55.26**	**180**	*e*P	**P**	**12 51 39.8**	**+1.5**
	8.1nm,1.1s						
TXAR	**Lajitas Array**	**64.06**	**4**	P	**P**	**12 52 39.2**	**0.0**
	1.0nm,0.9s,baz=185,slow=9.8,SNR=9.0						
TXAR				LR	LR	13 16 48.3	
	comp=Z,75nm,19.3s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**64.06**	**4**	P	**P**	**12 52 39.2**	**0.0**
JCT	**Junction City**	**65.52**	**8**	*e*P	**P**	**12 52 49.2**	**+0.6**
	6.0nm,0.9s						
NVAR	**Mina Array Bea**	**73.63**	**352**	P	**P**	**12 53 39.7**	**+1.0**
	2.1nm,0.9s,baz=177,slow=6.0,SNR=13						
NVAR	**Mina Array Bea**	**73.63**	**352**	P	**P**	**12 53 39.7**	**+1.0**
DZM	**Mont Dzumac**	**74.24**	**254**	*e*S	**S**	**13 03 12.8**	**-4.0**
	80nm,25.4s						
DZM				*e*LR	LR	13 16 20.1	
	516nm,23.9s						
PDAR	**Pinedale Array**	**77.35**	**359**	P	**P**	**12 54 00.6**	**+0.6**
	2.9nm,0.9s,baz=163,slow=6.3,SNR=6.0						
PDAR				LR	LR	13 21 03.1	
	comp=Z,140nm,21.2s,baz=14,slow=30						
PDAR	**Pinedale Array**	**77.35**	**359**	P	**P**	**12 54 00.6**	**+0.6**
STKA	**Stephens Creek**	**86.82**	**233**	LR	LR	13 27 51.7	
	comp=Z,206nm,18.1s,baz=205,slow=32						
CTA	**Charters Tower**	**90.88**	**245**	LR	LR	13 29 40.2	
	comp=Z,198nm,19.6s,baz=50,slow=31						
SCHQ	**Schefferville**	**96.14**	**23**	LR	LR	13 38 17.8	
	comp=Z,273nm,20.2s,baz=278,slow=35						
WRA	**Warramunga Arr**	**99.55**	**238**	LR	LR	13 37 44.1	
	comp=Z,376nm,20.8s,baz=135,slow=34						
AKASG	**Malin Array Be**	**145.41**	**50**	PKP	**PKPbc**	**13 01 40.9**	**-1.9**
	1.9nm,0.7s,baz=273,slow=3.6,SNR=7.8						
AKASG	**Malin Array Be**	**145.41**	**50**	PKP	**PKPbc**	**13 01 40.9**	**-1.9**
BRTR	**Keskin Array B**	**149.26**	**70**	PKPab	**PKPab**	**13 01 57.8**	**-0.9**
	2.1nm,1.1s,baz=251,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**149.26**	**70**	PKPab	**PKPab**	**13 01 57.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**151.02**	**242**	PKPbc	**PKPbc**	**13 01 59.5**	**+0.8**
	1.5nm,0.8s,baz=198,slow=2.3,SNR=14						
CMAR	**Chiang Mai Arr**	**151.02**	**242**	PKPbc	**PKPbc**	**13 01 59.5**	**+0.8**
SONM	**Songino Array**	**151.43**	**307**	PKPbc	**PKPbc**	**13 02 00.1**	**+1.1**
	0.6nm,0.6s,baz=98,slow=2.0,SNR=3.5						
SONM	**Songino Array**	**151.43**	**307**	PKPbc	**PKPbc**	**13 02 00.1**	**+1.1**
MKAR	**Makanchi Array**	**165.86**	**330**	PKPab	**PKPab**	**13 03 10.5**	**+1.0**
	0.8nm,0.9s,baz=39,slow=6.2,SNR=7.4						
MKAR	**Makanchi Array**	**165.86**	**330**	PKPab	**PKPab**	**13 03 10.5**	**+1.0**

NEIC ***01*** *12:51:24.0, 44.°55N×110.°36W, h1km, ML2.9(SLC), After SLC.*

ISC 01 12:51:24.6±1.0**, 44.°55N**±0.°02×**110.°36W**±0.°02**, h3**km±9km**, n55, σ0.s62**/68**, 20C-18D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.04**	**304**	*e*Pg	**Pg**	**12 51 25.4**	**-0.4**
H17A	**Grant Village**	**0.22**	**226**	P	**Pg**	**12 51 29.4**	**+0.6**
	baz=0.2,SNR=409						
H17A				⇓S	**Sg**	**12 51 32.7**	**+1.0**
	baz=0.2						
YNR	**Norris Junctio**	**0.29**	**307**	*e*Pg	**Pg**	**12 51 30.3**	**0.0**
YNR				*e*Sg	**Sg**	**12 51 33.8**	**-0.2**
YFT	**Old Faithful**	**0.35**	**255**	*e*Pg	**Pg**	**12 51 32.1**	**+0.6**
YFT				*e*Sg	**Sg**	**12 51 37.3**	**+1.1**
YMR	**Madison River**	**0.45**	**286**	*e*Pg	**Pb**	**12 51 34.1**	**-1.2**
YMR				*e*Sg	**Sg**	**12 51 38.9**	**-0.3**
H18A	**Shoshone NF, C**	**0.51**	**75**	⇑P	**Pg**	**12 51 34.5**	**0.0**
	baz=0.5,SNR=71						
H18A				⇓S	**Sg**	**12 51 40.4**	**-0.8**
	baz=0.5						
FLWY	**Flagg Ranch**	**0.52**	**208**	*e*Pg	**Pb**	**12 51 35.5**	**-1.0**
FLWY				*e*Sg	**Sg**	**12 51 41.3**	**-0.1**
I17A	**Pilgrim Ck.**	**0.64**	**194**	⇓P	**Pb**	**12 51 37.7**	**-0.9**
	baz=0.7,SNR=82						
H16A	**Russell Place,**	**0.66**	**284**	⇑P	**Pg**	**12 51 37.5**	**+0.3**
	baz=0.7,SNR=104						
H16A				⇓S	**Sb**	**12 51 47.6**	**-0.8**
	baz=0.7						
QLMT	**Earthquake Lak**	**0.82**	**291**	*e*Pg	**Pg**	**12 51 40.6**	**+0.3**
G17A	**Pierce Place,**	**0.82**	**341**	⇑P	**Pb**	**12 51 40.8**	**-0.9**
	baz=0.8,SNR=35						
MOOW	**Moose Ponds**	**0.84**	**199**	*e*Pg	**Pg**	**12 51 41.1**	**+0.3**
I18A	**Diamond G Ranc**	**0.93**	**155**	P	**Pg**	**12 51 42.5**	**+0.1**
	baz=0.9,SNR=104						
I18A				⇓S	**Sg**	**12 51 55.0**	**+0.5**
	baz=0.9						
LOHW	**Long Hollow**	**0.95**	**191**	*e*Pg	**Pb**	**12 51 43.7**	**-0.1**
LOHW				*e*Sg	Sg	12 51 47.8	-7.3
G18A	**Lazy EL Ranch,**	**0.96**	**36**	⇓P	**Pb**	**12 51 43.2**	**-0.7**
	baz=0.9,SNR=70						
RLMT	**Red Lodge**	**0.97**	**53**	*e*Pg	**Pg**	**12 51 43.1**	**-0.1**
H19A	**Powell**	**0.99**	**82**	⇓P	**Pg**	**12 51 43.5**	**-0.1**
	baz=1.0,SNR=128						
I19A	**Meeteetse**	**1.10**	**117**	⇓P	**Pg**	**12 51 45.3**	**-0.5**
	baz=1.1,SNR=99						
I19A				⇓S	**Sg**	**12 52 00.1**	**+0.1**
	baz=1.1						
SNOW	**Snow King Moun**	**1.12**	**195**	*e*P	**Pn**	**12 51 47.1**	**-0.3**
DCID1	**Drake Creek**	**1.12**	**212**	*e*P	**Pb**	**12 51 46.4**	**-0.4**
J17A	**Brown Place, J**	**1.21**	**192**	⇑P	**Pn**	**12 51 48.4**	**-0.2**
	baz=1.2,SNR=36						
G16A	**Moss Hill, Enn**	**1.23**	**304**	⇑P	**Pn**	**12 51 48.8**	**-0.2**
	baz=1.2,SNR=21						
REDW	**Red Top Meadow**	**1.23**	**197**	*e*P	**Pn**	**12 51 48.8**	**-0.1**
GCMT	**Greycliff**	**1.34**	**21**	*e*Pn	**Pb**	**12 51 52.4**	**+1.9**
J18A	**Kendall Valley**	**1.35**	**170**	⇑P	**Pn**	**12 51 50.5**	**-0.2**
	baz=1.4,SNR=46						
F17A	**Fitzpatrick Pl**	**1.38**	**351**	⇓P	**Pb**	**12 51 51.8**	**+0.7**
	baz=1.4,SNR=42						
RRI2	**Red Ridge**	**1.38**	**210**	*e*Pn	**Pn**	**12 51 50.2**	**-0.9**
BOZ	**Bozeman (W)**	**1.42**	**321**	*e*Pn	**Pb**	**12 51 51.5**	**-0.4**
F18A	**Big Timber**	**1.43**	**18**	⇑P	**Pb**	**12 51 52.2**	**+0.2**
	baz=1.4,SNR=43						
F16A	**Kennard Place,**	**1.53**	**325**	⇑P	**Pg**	**12 51 53.9**	**-0.1**
	baz=1.5,SNR=30						
J19A	**Crowheart**	**1.59**	**143**	⇑P	**Pb**	**12 51 54.3**	**-0.4**
	baz=1.6,SNR=34						
J19A				⇓S	**Sb**	**12 52 15.4**	**+0.2**
	baz=1.6						
I15A	**Monteview**	**1.62**	**251**	⇓P	**Pg**	**12 51 55.2**	**-0.5**
	baz=1.6,SNR=8.4						
H15A	**Lima**	**1.64**	**273**	⇓Pb	**Pg**	**12 51 55.9**	**-0.1**
	baz=1.6,SNR=18						
G15A	**Dillon**	**1.64**	**293**	⇑Pb	**Pg**	**12 51 55.8**	**-0.2**
	baz=1.6,SNR=19						
F19A	**Roth Farm, Mol**	**1.65**	**37**	⇑P	**Pb**	**12 51 55.5**	**-0.2**
	baz=1.6						
G20A	**Bridger**	**1.67**	**65**	⇓P	**Pb**	**12 51 55.2**	**-0.8**
	baz=1.7,SNR=105						
H20A	**Greybull**	**1.69**	**91**	⇓P	**Pn**	**12 51 55.3**	**+0.2**
	baz=1.7,SNR=61						
I20A	**Worland**	**1.71**	**110**	⇓Pb	**Pb**	**12 51 56.0**	**-0.7**
	baz=1.7,SNR=37						
I20A				⇑S	**Sb**	**12 52 18.4**	**-0.2**
	baz=1.7						
DLMT	**Dillon**	**1.79**	**298**	*e*Pn	**Pg**	**12 51 58.4**	**-0.5**
MCMT	**McKenzie Canyo**	**1.80**	**280**	*e*Pn	**Pg**	**12 51 58.8**	**-0.4**
K17A	**Gardner Place,**	**1.84**	**193**	⇓Pb	**Pb**	**12 51 58.9**	**-0.1**
	baz=1.8						
PD01	**Pinedale Array**	**1.85**	**162**	*e*Pn	**Pb**	**12 51 58.7**	**-0.5**
PD01				*e*Sn	**Sn**	**12 52 21.4**	**-0.1**
PD02	**Pinedale Array**	**1.86**	**162**	*e*Pn	**Pb**	**12 51 58.8**	**-0.5**
PD02				*e*Sn	**Sn**	**12 52 21.2**	**-0.4**
AHID	**Auburn Hatcher**	**1.86**	**197**	*e*Pn	**Pb**	**12 51 59.1**	**-0.2**
BW06	**Boulder Array**	**1.87**	**162**	*e*Pn	**Pb**	**12 51 59.1**	**-0.4**
BW06				*e*Sn	**Sn**	**12 52 22.2**	**+0.3**
J15A	**Blackfoot**	**1.89**	**233**	⇑Pb	**Pb**	**12 51 59.6**	**-0.2**
	baz=1.9						
E17A	**Martinsdale**	**1.95**	**350**	⇑Pg	**Pg**	**12 52 02.3**	**+0.3**
	baz=1.9,SNR=154						
LRM	**Limekiln Ridge**	**1.96**	**312**	*e*Pn	**Pg**	**12 52 01.9**	**-0.2**
F15A	**Butte**	**1.99**	**311**	⇓Pb	**Pg**	**12 52 02.2**	**-0.5**
	baz=2.0						
F20A	**Billings**	**2.00**	**50**	⇑Pb	**Pb**	**12 52 01.8**	**+0.1**
	baz=2.0						
J20A	**Shoshoni**	**2.03**	**125**	⇑Pb	**Pb**	**12 52 01.8**	**-0.4**
	baz=2.0						
J20A				⇑Sb	**Sb**	**12 52 28.7**	**+0.8**
	baz=2.0						
K20A	**Yellowstone Ra**	**2.39**	**141**	⇑Sb	Sb	12 52 39.8	+1.3
	baz=2.4						
J21A	**Lysite**	**2.42**	**119**	⇑Sb	Sb	12 52 39.7	+0.2
	baz=2.4						
D17A	**Six Diamond Ra**	**2.62**	**355**	⇑P	**Pn**	**12 52 08.2**	**+0.2**
	baz=2.6,SNR=9.6						
HLID	**Hailey**	**3.08**	**253**	*e*Pn	**Pn**	**12 52 16.5**	**+2.1**

WEL 01 13:01:09.3±0.4**, 38.°29S**×**176.°04E, h176**km±3km**, ML3.5**/6**, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RRRZ	**Republican Roa**	**0.38**	**98**	PN	Pn	13 01 32.6	-0.5
TOZ	**Tahuroa Road**	**0.70**	**323**	PN	Pn	13 01 34.8	+0.3
TOZ				SN	Sn	13 01 54.8	+0.9
URZ	**Urewera**	**0.84**	**88**	PN	Pn	13 01 34.8	-0.6
URZ				SN	Sn	13 01 54.7	-0.8
BKZ	**Black Stump Fm**	**0.95**	**158**	PN	Pn	13 01 36.2	0.0
BKZ				SN	Sn	13 01 56.8	-0.4
WPVZ	**Whakapapa**	**0.99**	**203**	PN	Pn	13 01 36.8	+0.2
WPVZ				SN	Sn	13 01 57.7	-0.1
NMHZ	**Naumai**	**1.01**	**144**	PN	Pn	13 01 37.6	+1.0
NMHZ				SN	Sn	13 01 59.6	+1.7
RAHZ	**Arahi**	**1.03**	**128**	PN	Pn	13 01 37.3	+0.5
RAHZ				SN	Sn	13 01 58.8	+0.7
MOVZ	**Moawhango**	**1.14**	**191**	PN	Pn	13 01 37.4	-0.3
MOVZ				SN	Sn	13 01 58.9	-0.9
MWZ	**Matawai**	**1.17**	**93**	PN	Pn	13 01 37.6	-0.4
MWZ				SN	Sn	13 01 59.2	-0.9
BHHZ	**Black Hill Sta**	**1.20**	**179**	PN	Pn	13 01 38.0	-0.2
BHHZ				SN	Sn	13 01 59.8	-1.0
MCHZ	**McNeill Hill**	**1.26**	**156**	PN	Pn	13 01 39.5	+0.8
KNZ	**Kokohu**	**1.48**	**120**	PN	Pn	13 01 40.5	0.0
PRGZ	**Paritu Road**	**1.58**	**114**	PN	Pn	13 01 41.6	0.0
CKHZ	**Cape Kidnapper**	**1.59**	**150**	PN	Pn	13 01 42.1	+0.4
PNHZ	**Pukenui**	**1.63**	**176**	PN	Pn	13 01 41.8	-0.4
KAHZ	**Kahuranaki**	**1.64**	**157**	PN	Pn	13 01 42.5	+0.3
WAZ	**Wanganui**	**1.68**	**209**	PN	Pn	13 01 42.3	-0.3
MHGZ	**Mahia Peninsul**	**1.70**	**121**	PN	Pn	13 01 43.1	+0.3
CNGZ	**Carnagh Statio**	**1.72**	**97**	PN	Pn	13 01 43.4	+0.4
TSZ	**Takapari Road**	**1.77**	**182**	PN	Pn	13 01 43.1	-0.5
WPHZ	**Waipukurau**	**1.80**	**170**	PN	Pn	13 01 43.6	-0.3
PXZ	**Pawanui**	**1.86**	**160**	PN	Pn	13 01 44.1	-0.3
DVHZ	**Dannevirke**	**2.01**	**177**	PN	Pn	13 01 45.2	-1.0
PRHZ	**Porangahau**	**2.03**	**167**	PN	Pn	13 01 45.7	-0.6
BFZ	**Birch Farm**	**2.40**	**176**	PN	Pn	13 01 49.0	-1.4
MRZ	**Mangatainoka R**	**2.40**	**188**	PN	Pn	13 01 48.9	-1.5
TIWZ	**Tintock**	**2.49**	**183**	PN	Pn	13 01 50.1	-1.4
OGWZ	**Otaki Gorge**	**2.61**	**195**	PN	Pn	13 01 51.5	-1.5
HOWZ	**Holdsworth Sta**	**2.64**	**189**	PN	Pn	13 01 51.5	-1.8
KIW	**Kapiti Island**	**2.71**	**198**	PN	Pn	13 01 52.2	-2.0
MTW	**Mount Morrison**	**2.90**	**188**	PN	Pn	13 01 54.0	-2.4
CAW	**Cannon Point**	**2.91**	**195**	PN	Pn	13 01 54.5	-2.1
WEL	**Wellington**	**3.15**	**198**	PN	Pn	13 01 57.1	-2.4
SNZO	**South Karori**	**3.19**	**198**	PN	Pn	13 01 57.3	-2.6
TCW	**Tory Channel**	**3.22**	**204**	PN	Pn	13 01 57.9	-2.5
NNZ	**Nelson**	**3.57**	**214**	PN	Pn	13 02 01.6	-3.2
QRZ	**Quartz Range**	**3.71**	**226**	PN	Pn	13 02 02.7	-3.8
THZ	**Tophouse**	**4.22**	**214**	PN	Pn	13 02 10.3	-2.8
KHZ	**Kahutara**	**4.54**	**204**	PN	Pn	13 02 14.1	-3.1
DSZ	**Denniston Nort**	**4.74**	**222**	PN	Pn	13 02 15.5	-4.3
LTZ	**Lake Taylor**	**5.33**	**211**	PN	Pn	13 02 23.3	-4.0

WEL 01 13:10:44.3±0.5**, 39.°86S**×**175.°30E, h112**km±4km**, ML3.7**/1**, Error ellipse: s-maj=4.1km s-min=2.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.26**	**293**	PN	Pn	13 11 00.2	+0.1
WAZ				SN	Sn	13 11 12.2	+0.2
TSZ	**Takapari Road**	**0.55**	**112**	PN	Pn	13 11 01.4	-0.3
TSZ				SN	Sn	13 11 14.0	-0.8
VRZ	**Vera Road**	**0.84**	**330**	PN	Pn	13 11 03.9	-0.2
VRZ				SN	Sn	13 11 18.4	-0.5
HIZ	**Hauiti**	**1.38**	**345**	PN	Pn	13 11 09.9	0.0
HIZ				SN	Sn	13 11 27.0	-2.2
NNZ	**Nelson**	**2.00**	**226**	PN	Pn	13 11 16.9	-0.4

IDC 01 13:13:21.4±2.6**, 7.°02S**×**132.°37E, h0km, mb3.6**/2**, mb1 4.0**/5**, mb1mx3.7**/13**, mbtmp3.8**/5**, ML3.9**/3**, Error ellipse: s-maj=86.0km s-min=26.6km az=77.0, Tanimbar**

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.82	210	Pn	Pn	13 16 24.5	-0.6
	1.0nm,0.3s,baz=34,slow=13,SNR=27						
FITZ				Sn	Sn	13 18 36.6	-12
	0.8nm,0.3s,baz=195,slow=15,SNR=8.5						
WRA	Warramunga Arr	12.99	172	Pn	Pn	13 16 28.1	+0.7
	0.4nm,0.3s,baz=356,slow=13,SNR=11						
WRA				Sn	Sn	13 18 44.0	-8.8
	0.8nm,0.3s,baz=359,slow=24,SNR=8.6						
ASAR	Alice Springs	16.62	175	Pn	Pn	13 17 15.6	-0.4
	0.4nm,0.3s,baz=358,slow=14,SNR=41						
ASAR				Sn	Sn	13 20 14.3	-7.1
	0.2nm,0.3s,baz=356,slow=27,SNR=8.1						
CMAR	Chiang Mai Arr	41.57	308	P	P	13 21 10.8	-0.5
	0.6nm,0.5s,baz=131,slow=6.5,SNR=9.1						
MKAR	Makanchi Array	69.55	326	P	P	13 24 32.5	+0.3
	0.3nm,0.4s,baz=114,slow=7.7,SNR=7.9						

IDC 01 13:27:03.8±1.5**, 8°.55S×127°.64E, h0km, mb3.5**/3**, mb1 3.8**/6**, mb1mx3.6**/16**, mbtmp3.7**/6**, ML3.9**/3**, Error ellipse: s-maj=92.2km s-min=24.5km az=73.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.69	191	Pn	Pn	13 29 24.8	+0.3
	1.0nm,0.3s,baz=19,slow=13,SNR=40						
WRA	Warramunga Arr	13.05	151	Pn	Pn	13 30 10.4	-0.2
	0.7nm,0.3s,baz=327,slow=15,SNR=15						
WRA				Sn	Sn	13 32 30.1	-6.5
	0.8nm,0.3s,baz=324,slow=24,SNR=9.1						
ASAR	Alice Springs	16.18	159	Pn	Pn	13 30 52.6	-0.1
	0.3nm,0.3s,baz=330,slow=9.9,SNR=28						
ASAR				Sn	Sn	13 33 45.6	-7.5
	0.4nm,0.3s,baz=318,slow=17,SNR=8.7						
MKAR	Makanchi Array	68.27	328	P	P	13 38 07.4	+0.8
	0.4nm,0.8s,baz=126,slow=7.8,SNR=5.1						
ZALV	Zalesovo Beam	71.96	335	P	P	13 38 28.8	-0.3
	0.3nm,0.4s,baz=148,slow=6.8,SNR=3.1						
KURK	Kurchatov	72.64	330	P	P	13 38 32.6	-0.5
	0.2nm,0.5s,baz=125,slow=5.1,SNR=4.4						

IDC 01 13:31:22.4±17.0, 37°.91N×20°.74E, h0km, mb3.6/3, mb1 3.4/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=384.9km s-min=97.8km az=15.0
CSEM 01 13:31:30.8±0.2, 38°.08N×21°.61E, h10km, ML3.1, Error ellipse: s-maj=5.7km s-min=4.6km az=47.0
ISCJB 01 13:31:30.7±0.5, 38°.07N±0°.03×21°.64E±0°.03, h9km±3km, mb3.4/3, Error ellipse: s-maj=4.8km s-min=4.1km az=32.3
ATH 01 13:31:31.3, 38°.10N×21°.60E, h13km±1km, ML3.1
ISC 01 13:31:30.8±0.9**, 38°.09N**±0°.02×**21°.57E**±0°.02**, h18**km±3km**, n49,** σ0s.**99**/68**, mb3.5**/3**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.09	248	ePG	Pg	13 31 34.7	+0.3
RLS				eSG	Sg	13 31 37.1	+0.3
RLS	Riolos of Patr	0.09	248	ePg	Pg	13 31 34.7	+0.3
RLS				eSg	Sg	13 31 37.1	+0.3
UPR	University Cam	0.26	41	ePG	Pg	13 31 36.0	-0.6
UPR				eSG	Sg	13 31 41.0	+0.4
UPR	University Cam	0.26	41	ePg	Pg	13 31 36.0	-0.6
UPR				eSg	Sg	13 31 41.0	+0.4
EFP	Efpalio	0.42	38	ePG	Pg	13 31 38.5	-1.0
EFP				eSB	Sg	13 31 45.2	-0.2
EFP	Efpalio	0.42	38	ePg	Pg	13 31 38.5	-1.0
EFP				eSb	Sg	13 31 45.2	-0.2
GUR	Goura	0.63	104	ePB	Pg	13 31 42.4	-0.9
GUR				eSB	Sb	13 31 52.2	+0.5
GUR	Goura	0.63	104	ePb	Pg	13 31 42.4	-0.9
GUR				eSb	Sb	13 31 52.2	+0.5
VLS	Valsamata	0.78	277	ePB	Pg	13 31 45.3	-0.8
VLS				eSB	Sn	13 31 58.2	+0.1
VLS	Valsamata	0.78	277	ePb	Pg	13 31 45.3	-0.8
VLS				eSb	Sn	13 31 58.2	+0.1
EVR	Evrytania	0.84	13	ePB	Pb	13 31 47.1	+0.1
EVR				eSB	Sg	13 31 59.4	+0.9
EVR	Evrytania	0.84	13	ePb	Pb	13 31 47.1	+0.1
EVR				eSb	Sg	13 31 59.4	+0.9
ITM	Ithomi	0.95	163	ePG	Pg	13 31 49.0	-0.3
ITM				eSB	Sn	13 32 03.3	+0.9
ITM	Ithomi	0.95	163	ePg	Pg	13 31 49.0	-0.3
ITM				eSb	Sn	13 32 03.3	+0.9
AGG	Agios Georgios	1.10	32	ePB	Pb	13 31 50.9	-0.5
AGG	Agios Georgios	1.10	32	ePb	Pb	13 31 50.9	-0.5
LTK	Loutraki	1.10	93	ePG	Pn	13 31 51.3	0.0
LTK	Loutraki	1.10	93	ePg	Pn	13 31 51.3	0.0
PYL	PYLOS	1.20	174	ePN	Pg	13 31 53.4	-0.6
PYL	PYLOS	1.20	174	ePn	Pg	13 31 53.4	-0.6
LKR	Lokris	1.25	63	ePN	Pn	13 31 53.6	+0.2
LKR	Lokris	1.25	63	ePn	Pn	13 31 53.6	+0.2
VIL1	Vilia, Western	1.39	86	ePB	Pg	13 31 56.9	-0.6
VIL1	Vilia, Western	1.39	86	ePb	Pg	13 31 56.9	-0.6
DID	Didima	1.44	113	ePG	Pb	13 31 57.3	+0.2
DID	Didima	1.44	113	ePg	Pb	13 31 57.3	+0.2
THL	Klokotos Trika	1.51	13	ePB	Pg	13 31 59.5	-0.4
THL	Klokotos Trika	1.51	13	ePb	Pg	13 31 59.5	-0.4
NAIG	Nisos Aigina	1.55	102	ePG	Pb	13 31 59.3	+0.3
NAIG	Nisos Aigina	1.55	102	ePg	Pb	13 31 59.3	+0.3
JAN	Janina	1.66	340	ePG	Pg	13 32 02.3	-0.5
JAN	Janina	1.66	340	ePg	Pg	13 32 02.3	-0.5
ATH	Athens Observa	1.70	93	ePG	Pg	13 32 02.7	-0.8
ATH	Athens Observa	1.70	93	ePg	Pg	13 32 02.7	-0.8
VLI	Veliai	1.75	141	ePG	Pg	13 32 04.1	-0.3
VLI	Veliai	1.75	141	ePg	Pg	13 32 04.1	-0.3
VLY	Voula,Athens	1.77	97	ePN	Pb	13 32 02.7	0.0
VLY	Voula,Athens	1.77	97	ePn	Pb	13 32 02.7	0.0
SRN	Sarande	2.17	326	i PN	Pn	13 32 05.6	-0.3
SRN				i SN	Sb	13 32 37.3	+1.4
SRN	Sarande	2.17	326	i Pn	Pn	13 32 05.6	-0.3
SRN				i Sn	Sb	13 32 37.3	+1.4
KZN	Kozani	2.22	4	ePN	Pb	13 32 10.6	+0.2
KZN	Kozani	2.22	4	ePn	Pb	13 32 10.6	+0.2
KBN	Korca	2.60	347	i PN	Pb	13 32 16.3	-0.6
KBN				i SN	Sn	13 32 45.9	+2.8
KBN	Korca	2.60	347	i Pn	Pb	13 32 16.3	-0.6
KBN				i Sn	Sn	13 32 45.9	+2.8
NVLJ	Novalja	8.20	324	ePn	Pn	13 33 28.4	-0.4
NVLJ				Sn	Sn	13 34 56.8	-4.0
BRTR	Keskin Array B	9.55	76	Pn	Pn	13 33 50.6	+3.1
	0.0nm,0.3s,baz=265,slow=12,SNR=2.4						
KURK	Kurchatov	41.66	53	P	P	13 39 17.8	-0.1
	0.2nm,0.5s,baz=281,slow=8.8,SNR=4.2						
MKAR	Makanchi Array	44.64	59	P	P	13 39 41.5	-0.7
	0.4nm,0.6s,baz=277,slow=7.6,SNR=9.1						
ZALV	Zalesovo Beam	45.13	48	P	P	13 39 44.8	-1.1
	0.7nm,0.4s,baz=273,slow=7.4,SNR=5.3						

IDC 01 13:46:07.2±2.2**, 6°.73S×130°.48E, h0km, mb3.6**/1**, mb1 3.7**/3**, mb1mx3.5**/13**, mbtmp3.6**/3**, ML3.8**/2**, Error ellipse: s-maj=139.9km s-min=31.2km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.66	164	Pn	Pn	13 49 22.5	+0.1
	0.6nm,0.3s,baz=347,slow=13,SNR=32						
WRA				Sn	Sn	13 51 44.2	-11
	0.5nm,0.3s,baz=341,slow=21,SNR=6.6						
ASAR	Alice Springs	17.16	169	Pn	Pn	13 50 08.4	-0.2
	0.2nm,0.3s,baz=353,slow=12,SNR=26						
ASAR				Sn	Sn	13 53 06.9	-13
	0.1nm,0.3s,baz=345,slow=25,SNR=5.1						
MKAR	Makanchi Array	68.26	327	P	P	13 57 10.0	0.0
	0.2nm,0.3s,baz=121,slow=7.8,SNR=14						

ISCJB 01 13:56:56.3±0.5, 34°.65N±0°.08×136°.98E±0°.10, h344km±4km, mb3.0/7, Error ellipse: s-maj=13.7km s-min=11.2km az=43.4
IDC 01 13:56:56.1±0.8, 34°.54N×136°.95E, h327km±10km, mb3.0/7, mb1 3.2/10, mb1mx3.0/26, mbtmp2.9/10, Error ellipse: s-maj=20.8km s-min=13.7km az=67.0
JMA 01 13:56:57.0±0.2, 34°.76N×136°.92E, h343km±2km, M3.1
ISC 01 13:56:57.3±0.8**, 34°.69N**±0°.09×**136°.95E**±0°.09**, h338**km±6km**, n22,** σ0s.**77**/30**, mb3.2**/7**, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAA	Atsumi	0.17	111	P	Pn	13 57 40.3	+0.6
JAA				S	S	13 58 14.1	+0.6
JIE	Ise	0.36	214	P	Pn	13 57 40.4	+0.4
JIE				S	S	13 58 13.8	-0.3
JGM	Miyama	1.02	349	P	Pn	13 57 42.2	+0.4
JGM				S	S	13 58 17.4	0.0
JWY	Kouya	1.22	248	P	Pn	13 57 43.1	+0.3
JWT	Wachi	1.40	295	P	Pn	13 57 43.8	+0.2
JYN	Shimob	1.53	58	P	Pn	13 57 44.5	+0.1
JWZ	Kozaga	1.55	222	P	Pn	13 57 44.3	-0.3
JKG	Kaga	1.66	342	P	Pn	13 57 45.1	0.0
JOD2	Odawara 2	1.84	71	P	Pn	13 57 46.3	0.0
JOD2				eS	S	13 58 27.3	+1.7
JRY	Ryogami san	2.07	50	P	Pn	13 57 48.2	+0.3
JRY				eS	S	13 58 27.3	-1.2
MAT	Matsushiro	2.11	29	P	Pn	13 57 48.3	+0.1
MAT				S	S	13 58 28.1	-1.0
MAT	Matsushiro	2.11	29	P	Pn	13 57 47.7	-0.5
MAT				eS	S	13 58 28.1	-1.0
MJAR	Matsushiro Arr	2.11	29	P	Pn	13 57 48.4	+0.2
	2.0nm,0.3s,baz=206,slow=8.0,SNR=55						
MJAR				S	S	13 58 27.9	-1.1
	0.6nm,0.3s,baz=38,slow=16,SNR=7.1						
KSRS	Korea Array	7.81	293	P	Pn	13 58 49.3	+0.4
	0.2nm,0.3s,baz=108,slow=12,SNR=5.0						
USRK	Ussuriysk Arra	10.24	340	P	P	13 59 19.6	-0.1
	0.2nm,0.3s,baz=150,slow=12,SNR=5.0						
SONM	Songino Array	26.27	309	P	P	14 02 03.6	+0.8
	1.0nm,0.6s,baz=123,slow=10,SNR=4.7						
ZALV	Zalesovo Beam	40.89	315	P	P	14 04 06.9	-0.4
	0.5nm,0.7s,baz=91,slow=7.2,SNR=3.9						
MKAR	Makanchi Array	42.34	304	P	P	14 04 19.1	0.0
	0.8nm,0.5s,baz=85,slow=10,SNR=25						
ILAR	Eielson Array	53.39	31	P	P	14 05 43.2	+0.5
	0.2nm,0.6s,baz=268,slow=5.1,SNR=5.4						
WRA	Warramunga Arr	54.39	183	P	P	14 05 48.9	-1.5
	0.8nm,0.3s,baz=359,slow=7.7,SNR=20						
ASAR	Alice Springs	58.11	183	P	P	14 06 15.3	-1.1
	0.2nm,0.3s,baz=357,slow=5.3,SNR=22						
TXAR	Lajitas Array	94.41	50	P	P	14 09 40.9	+1.1
	0.1nm,0.5s,baz=305,slow=3.2,SNR=3.1						

IDC 01 13:59:28.3±7.3**, 25°.87S×179°.86E, h450**km±80km**, mb3.0**/4**, mb1 3.2**/5**, mb1mx3.1**/15**, mbtmp3.1**/5**, Error ellipse: s-maj=52.2km s-min=42.7km az=27.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	12.57	190	P	P	14 02 13.6	+0.3
	0.7nm,0.3s,baz=171,slow=20,SNR=7.7						
URZ				S	S	14 04 27.7	-1.7
	1.0nm,0.3s,baz=159,slow=19,SNR=6.5						
STKA	Stephens Creek	33.91	251	P	P	14 05 32.6	+0.2
	1.7nm,0.7s,baz=90,slow=9.5,SNR=4.7						
ASAR	Alice Springs	41.62	263	P	P	14 06 35.9	-0.1
	0.8nm,0.4s,baz=95,slow=7.9,SNR=48						
WRA	Warramunga Arr	42.18	268	P	P	14 06 39.6	-0.8
	0.8nm,0.4s,baz=102,slow=7.9,SNR=4.7						
MJAR	Matsushiro Arr	73.45	326	P	P	14 10 14.1	+0.4
	1.0nm,0.7s,baz=157,slow=5.0,SNR=4.8						
BRTR	Keskin Array B	148.62	305	PKPbc	PKPbc	14 18 23.1	-0.9
	0.3nm,0.5s,baz=20,slow=4.6,SNR=3.6						

NIED 01 14:02:00, 44°.10N×148°.10E, h41km, Mw4.2 Best double couple: Mo2.16000×10^15 NP1:φs1.00000°, δ75.00000°, λ73.00000°. NP2:φs229.00000°, δ22.00000°, λ136.00000°.
BJI 01 14:02:13.7, 44°.20N×149°.38E, h50km, mB4.9/6, mb4.7/12, Ms4.4/3, Ms7 4.0/2
MOS 01 14:02:21.5±1.0, 44°.55N×148°.31E, h62km, mb4.3/18, Error ellipse: s-maj=10.7km s-min=8.9km az=70.8
ISCJB 01 14:02:21.0±0.7, 44°.44N±0°.04×148°.36E±0°.06, h61km±5km, mb4.2/31, Error ellipse: s-maj=8.8km s-min=4.8km az=40.5
JMA 01 14:02:21.3±0.3, 44°.05N×148°.15E, h0km, M4.9
SKHL 01 14:02:22.4±1.2, 44°.48N×148°.32E, h80km±7km, mb5.1/3, msh6.0/1
NEIC 01 14:02:22.8±0.7, 44°.58N×148°.22E, h59km±7km, mb4.2/4, Error ellipse: s-maj=9.6km s-min=5.4km az=134.0
IDC 01 14:02:24.8±2.4, 44°.62N×148°.20E, h76km±21km, mb3.8/19, mb1 4.0/23, mb1mx3.9/27, mbtmp3.8/23, MS3.2/6, Ms1 3.2/6, ms1mx2.9/39, Error ellipse: s-maj=16.6km s-min=11.8km az=141.0
ISC 01 14:02:22.3±0.8**, 44°.43N**±0°.05×**148°.37E**±0°.06**, h56**km±6km**, n175,** σ1s.**29**/192**, mb4.2**/31**, 7C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.88	336	⇑iP	Pn	14 02 38.5	0.0
KUR				⇓iP	Pn	14 02 38.5	0.0
KUR				AMB	AMB	14 02 39.0	
	3μm,1.3s						
KUR				AMB	AMB	14 02 39.0	
	2μm,1.3s						
KUR				AMB	AMB	14 02 39.0	
	8μm,1.8s						
KUR				AMB	AMB	14 02 39.0	
	1μm,0.5s						
KUR				AMB	AMB	14 02 39.0	
	1μm,0.5s						
KUR				AMB	AMB	14 02 39.0	
	3μm,0.5s						
KUR				eS	Sn	14 02 50.0	-0.5
KUR				A	A	14 02 53.8	
	35μm,1.5s						
KUR				A	A	14 02 53.8	
	21μm,2.0s						
YUK	Yuzh-Kuril'sk	1.85	258	c iPN	Pn	14 02 50.2	-1.3
YUK				i S	Sn	14 03 12.4	-1.3
YUK				pmax	pmax		
	comp=N,312nm,0.3s						
YUK				pmax	pmax		
	comp=E,236nm,0.3s						
YUK				pmax	pmax		
	comp=Z,966nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,317nm,3.7s						
YUK				smax	smax		
	comp=N,188nm,3.7s						
YUK	Yuzh-Kuril'sk	1.85	258	⇑iP	Pn	14 02 50.3	-1.3
YUK				AMB	AMB	14 02 54.1	
	comp=N,600nm,0.4s						
YUK				AMB	AMB	14 02 54.1	
	comp=N,210nm,0.5s						
YUK				AMB	AMB	14 02 54.1	
	comp=N,580nm,0.5s						
YUK				i S	Sn	14 03 12.5	-1.3
YUK				A	A	14 03 25.6	
	comp=N,3μm,0.5s						
YUK				A	A	14 03 25.6	
	comp=N,2μm,0.5s						
NEM2	Nemuro 2	2.18	242	P	Pn	14 02 54.9	-1.2
NEM2				eS	Sn	14 03 19.5	-2.4
JRA	Rausu	2.39	259	P	Pn	14 02 59.6	+0.7
JRA				eS	Sn	14 03 28.0	+1.0
JNK	Nakash	2.77	253	P	Pn	14 03 04.4	+0.2
JNK				eS	Sn	14 03 36.2	-0.2
JAK	Akkeshi	3.03	243	P	Pn	14 03 07.2	-0.5
JAK				eS	Sn	14 03 39.8	-2.9
JTKR	Abashiri--Toko	3.24	263	P	Pn	14 03 11.4	+0.8
JAR	Ashorobuto	3.52	253	P	Pn	14 03 15.2	+0.8
JAR				eS	Sn	14 03 55.5	+0.8
JCH	Churui	4.07	245	P	Pn	14 03 21.7	-0.3
JKK2	Kamakawa 2	4.09	264	P	Pn	14 03 23.6	+1.4
ASAJ	Asahikawa	4.16	268	P	Pn	14 03 24.7	+1.5
	comp=N,7.0nm,0.3s,baz=67,slow=15,SNR=33						
ASAJ				S	Sn	14 04 23.8	+13
	comp=N,3.2nm,0.3s,baz=143,slow=20,SNR=2.2						
ASAJ				LR	LR	14 05 03.9	
	comp=N,446nm,20.2s,baz=111,slow=39						
ASAJ	Asahikawa	4.16	268	PN	Pn	14 03 24.7	+1.5
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,446nm,20.2s						
ASAJ	Asahikawa	4.16	268	ePn	Pn	14 03 24.0	+0.8
JFR	Furan	4.37	255	P	Pn	14 03 28.0	+1.9
ERM	Erimo	4.51	239	ePN	Pn	14 03 29.6	+1.6
ERM				e		14 04 24.5	
ERM	Erimo	4.51	239	ePn	Pn	14 03 29.6	+1.6
ERM				eSn	Sn	14 04 24.5	+5.3
JNBK	Urakawa-nobuka	4.63	244	P	Pn	14 03 29.1	-0.5
YSS	Yuzh-Sakhalins	4.67	305	⇓ePN	Pn	14 03 31.0	+0.8
YSS				eS	Sn	14 04 24.6	+1.5
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				smax	smax		
	comp=E,50nm,0.8s						
YSS	Yuzh-Sakhalins	4.67	305	ePn	Pn	14 03 30.4	+0.2
YSS	Yuzh-Sakhalins	4.67	305	⇓eP	Pn	14 03 31.0	+0.8
YSS				AMB	AMB	14 03 32.1	
	comp=E,50nm,0.9s						
YSS				eS	Sn	14 04 24.6	+1.5
YSS				A	A	14 04 26.9	
	comp=E,50nm,0.8s						
JWK2	Keihoku	4.69	283	P	Pn	14 03 33.9	+3.5
JHR	Hokuryu	4.84	264	P	Pn	14 03 35.3	+2.8
JEW	Eniwo	5.27	255	P	Pn	14 03 41.9	+3.5
JEW				eS	Sn	14 04 42.7	+4.9
JKB	Kayabe	5.94	247	P	Pn	14 03 48.0	+0.4
JKB				eS	Sn	14 04 52.5	-1.7
JOT	Ohata	6.18	243	P	Pn	14 03 50.7	-0.2
JOT				eS	Sn	14 04 55.6	-4.6
JANG	Nango	6.50	234	P	Pn	14 03 53.7	-1.5
JANG				eS	Sn	14 05 02.2	-5.7
SKR	Severo-Kuril's	8.15	37	ePN	Px	14 04 39.0	
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PEA0B	Petropavlovsk-	10.63	32	ePn	Pn	14 04 51.0	-0.7
PETK	Petropavlovsk-	10.63	32	P	Pn	14 04 52.1	+0.4
	comp=Z,1.0nm,0.3s,baz=204,slow=16,SNR=24						
PETK				LR	LR	14 09 37.2	
	comp=Z,81nm,18.0s,baz=236,slow=41						
PETK	Petropavlovsk-	10.63	32	PN	Pn	14 04 52.1	+0.4
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,81nm,18.0s						
PETK	Petropavlovsk-	10.63	32	P	Pn	14 04 52.1	+0.4
MAJO	Matsushiro	11.04	228	ePN	Pn	14 04 55.6	-1.8
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MAJO	Matsushiro	11.04	228	ePn	Pn	14 04 55.6	-1.8
	comp=Z,4.8nm,0.4s						
MJAR	Matsushiro Arr	11.04	228	P	Pn	14 04 56.6	-0.8
	comp=Z,0.6nm,0.3s,baz=26,slow=14,SNR=13						
MJAR				LR	LR	14 09 45.3	
	comp=Z,106nm,19.4s,baz=110,slow=40						
MJAR	Matsushiro Arr	11.04	228	PN	Pn	14 04 56.6	-0.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,106nm,19.5s						
MJAR	Matsushiro Arr	11.04	228	P	Pn	14 04 56.6	-0.8
USRK	Ussuriysk Arra	11.74	275	P	Pn	14 05 07.3	+0.5
	comp=Z,0.2nm,0.3s,baz=90,slow=14,SNR=11						
USRK				LR	LR	14 09 31.3	
	comp=Z,102nm,19.8s,baz=345,slow=37						
KSRS	Korea Array	16.93	253	P	Pn	14 06 15.4	+0.2
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=4.6						
KSRS				LR	LR	14 12 12.5	
	comp=Z,36nm,21.2s,baz=40,slow=35						
KSRS	Korea Array	16.93	253	P	Pn	14 06 15.4	+0.2
KSRS				MLR	MLR		
	comp=Z,36nm,21.2s						
KSAR	Wonju Array Be	16.96	253	P	Pn	14 06 15.4	-0.2
KSAR	Wonju Array Be	16.96	253	P	Pn	14 06 15.4	-0.2
INCN	Inchon	17.80	255	ePn	Pn	14 06 25.2	-0.8
SEY	Seymchan	18.68	6	ceP	P	14 06 34.5	-1.0
SEY	Seymchan	18.68	6	eP	P	14 06 34.5	-1.0
YAK	Yakutsk	20.74	335	eP	Pn	14 06 59.2	-1.5
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	Yakutsk	20.74	335	eP	P	14 06 55.1	-2.8
	comp=E,8.6nm,0.7s						
YAK	Yakutsk	20.74	335	eP	P	14 06 56.6	-1.3
BJT	Baijiatuau	24.16	271	eP	P	14 07 34.2	+1.2
BJT	Baijiatuau	24.16	271	eP	P	14 07 34.2	+1.2
NJ2	Nanjing	26.12	252	eP	P	14 07 49.3	-1.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ULN	Ulaanbaatar	28.59	292	eP	P	14 08 13.4	+0.4
ULN	Ulaanbaatar	28.59	292	eP	P	14 08 13.4	+0.4
ULN	Ulaanbaatar	28.59	292	eP	P	14 08 13.3	+0.3
SONM	Songino Array	29.03	292	P	P	14 08 15.8	-1.2
	comp=Z,1.2nm,0.6s,baz=60,slow=8.5,SNR=5.9						
SONM	Songino Array	29.03	292	P	P	14 08 15.8	-1.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	29.03	292	P	P	14 08 15.8	-1.2
TATO	Taipei	29.20	237	eP	P	14 08 21.1	+2.6
YHNB	Yeheng	29.50	237	eP	P	14 08 22.1	+0.9
	comp=Z,121nm,1.6s						
GUMO	Guam	30.88	187	eP	P	14 08 35.7	+2.3
GUMO	Guam	30.88	187	eP	P	14 08 35.7	+2.3
TNA	Tin City	31.80	33	eP	P	14 08 40.7	-0.3
GTA	Gaotai	36.05	279	eP	P	14 09 18.8	+0.5
GTA				pP	pP	14 09 33.2	+0.6
GTA				sP	sP	14 09 39.8	+0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	College	40.00	37	eP	P	14 09 51.5	+0.5
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	College	40.00	37	eP	P	14 09 51.5	+0.5
	comp=Z,4.6nm,0.8s						
ILAR	Eielson Array	40.41	37	P	P	14 09 54.8	+0.3
	comp=Z,1.1nm,0.5s,baz=265,slow=7.9,SNR=24						
ILAR	Eielson Array	40.41	37	P	P	14 09 54.8	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	40.41	37	P	P	14 09 54.8	+0.3
ZALV	Zalesovo Beam	41.29	307	P	P	14 10 01.0	-0.8
	comp=Z,0.2nm,0.3s,baz=79,slow=7.5,SNR=3.0						
ZALV				PcP	PcP	14 11 58.8	-0.6
	comp=Z,3.2nm,0.7s,baz=83,slow=3.0,SNR=14						
ZALV	Zalesovo Beam	41.29	307	P	P	14 10 01.1	-0.8
ZALV						14 11 58.8	
ZALV	Zalesovo Beam	41.29	307	P	P	14 10 01.1	-0.8
ZALV				PcP	PcP	14 11 58.8	-0.6
MK31	Makanchi Array	45.05	297	eP	P	14 10 31.1	-1.2
MK31	Makanchi Array	45.05	297	eP	P	14 10 31.1	-1.2
MKAR	Makanchi Array	45.05	297	P	P	14 10 32.0	-0.3
	comp=Z,1.1nm,0.7s,baz=79,slow=9.5,SNR=18						
MKAR				PcP	PcP	14 12 12.1	-0.2
	comp=Z,1.4nm,0.6s,baz=64,slow=3.9,SNR=8.9						
MKAR	Makanchi Array	45.05	297	ceP	P	14 10 37.5	+5.2
MKAR	Makanchi Array	45.05	297	P	P	14 10 32.0	-0.3
MKAR				PcP	PcP	14 12 12.1	-0.2
CMAR	Chiang Mai Arr	48.56	254	P	P	14 11 00.7	+0.6
	comp=Z,1.3nm,0.7s,baz=41,slow=7.1,SNR=12						
CMAR	Chiang Mai Arr	48.56	254	P	P	14 11 00.7	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	48.56	254	P	P	14 11 00.7	+0.6
CMAR	Chiang Mai Arr	48.56	254	eP	P	14 11 00.9	+0.9
TAPN	Taplejung	50.87	272	eP	P	14 11 18.2	+0.3
	comp=Z,17nm,0.9s						
TAPN	Taplejung	50.87	272	eP	P	14 11 18.2	+0.3
ODAN	Odare	51.39	271	eP	P	14 11 21.3	-0.4
	comp=Z,13nm,1.0s						
ODAN	Odare	51.39	271	eP	P	14 11 21.3	-0.4
JIRN	Jiri	51.78	273	eP	P	14 11 24.9	+0.2
	comp=Z,26nm,0.8s						
JIRN	Jiri	51.78	273	eP	P	14 11 24.9	+0.2
GUN	Gumba	51.85	274	eP	P	14 11 25.2	-0.1
	comp=Z,36nm,0.8s						
GUN	Gumba	51.85	274	eP	P	14 11 25.2	-0.1
RAMN	Ramite	51.91	272	eP	P	14 11 25.3	-0.2
	comp=Z,47nm,0.5s						
RAMN	Ramite	51.91	272	eP	P	14 11 25.3	-0.2
KKN	Kakani	52.35	274	eP	P	14 11 29.0	+0.2
KKN	Kakani	52.35	274	eP	P	14 11 29.0	+0.2
KKN	Kakani	52.35	274	eP	P	14 11 29.0	+0.2
PKI	Pulchoki	52.39	273	eP	P	14 11 29.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	52.39	273	eP	P	14 11 29.0	-0.2
PKI	Pulchoki	52.39	273	eP	P	14 11 29.0	-0.2
DMN	Daman	52.58	274	eP	P	14 11 30.6	0.0
	comp=Z,36nm,0.9s						
DMN	Daman	52.58	274	eP	P	14 11 30.6	0.0
GKN	Gorkha	52.69	274	eP	P	14 11 31.1	-0.1
	comp=Z,24nm,0.7s						
GKN	Gorkha	52.69	274	eP	P	14 11 31.1	-0.1
DANN	Dangsing	53.11	275	eP	P	14 11 34.8	+0.3
DANN	Dangsing	53.11	275	eP	P	14 11 34.8	+0.3
KOLN	Koldanda	53.56	275	eP	P	14 11 37.8	+0.1
	comp=Z,17nm,0.8s						
KOLN	Koldanda	53.56	275	eP	P	14 11 37.8	+0.1
KKAR	Karatay Array	54.17	298	eP	P	14 11 41.1	-0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	Karatay Array	54.17	298	eP	P	14 11 41.1	-0.6
	comp=Z,0.9nm,0.7s						
HNR	Honiara	54.63	166	LR	LR	14 29 22.2	
	comp=Z,48nm,21.6s,baz=203,slow=30						
YKA	Yellowknife Ar	54.74	34	P	P	14 11 45.9	+0.4
	comp=Z,2.3nm,0.8s,baz=300,slow=7.1,SNR=19						
YKA	Yellowknife Ar	54.74	34	P	P	14 11 45.9	+0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	54.74	34	P	P	14 11 45.9	+0.4
ABKAR	Akbulak array	57.32	309	eP	P	14 12 02.3	-1.8
	comp=Z,1.2nm,0.6s						
FFC	Flin Flon	64.62	37	iP	P	14 12 54.7	+1.1
FINES	FINESS Array B	64.66	333	P	P	14 12 51.4	-2.3
	comp=Z,2.0nm,0.6s,baz=48,slow=6.2,SNR=6.9						
FINES	FINESS Array B	64.66	333	P	P	14 12 51.4	-2.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	64.66	333	P	P	14 12 51.4	-2.3
WRA	Warramunga Arr	65.33	195	P	P	14 12 59.0	+0.5
	comp=Z,2.4nm,0.8s,baz=15,slow=6.8,SNR=10.0						
WRA	Warramunga Arr	65.33	195	P	P	14 12 59.0	+0.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	65.33	195	P	P	14 12 59.0	+0.5
NVAR	Mina Array Bea	66.47	59	P	P	14 13 07.0	+1.0
	comp=Z,1.4nm,0.6s,baz=302,slow=7.4,SNR=14						
NVAR	Mina Array Bea	66.47	59	P	P	14 13 07.0	+1.0
FRB	Frobisher Bay	68.28	17	P	P	14 13 15.2	-1.5
	comp=Z,4.8nm,1.0s,baz=338,slow=9.9,SNR=9.9						
FRB	Frobisher Bay	68.28	17	P	P	14 13 15.2	-1.5
FRB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FRB	Frobisher Bay	68.28	17	P	P	14 13 15.2	-1.5
PDAR	Pinedale Array	68.80	51	P	P	14 13 21.0	+0.4
	comp=Z,1.5nm,0.8s,baz=278,slow=1.0,SNR=9.3						
PDAR	Pinedale Array	68.80	51	P	P	14 13 21.0	+0.4
AS31	Alice Springs	69.05	194	eP	P	14 13 22.8	+0.8
ASAR	Alice Springs	69.05	194	P	P	14 13 23.2	+1.3
	comp=Z,1.9nm,0.8s,baz=13,slow=6.8,SNR=34						
ASAR	Alice Springs	69.05	194	P	P	14 13 23.3	+1.3
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	69.05	194	P	P	14 13 23.2	+1.3
NB2	NORSAR Subarra	69.28	339	P	P	14 13 21.9	-1.2
	comp=Z,0.9nm,0.5s,baz=30,slow=6.2						
NOA	NORSAR Array B	69.28	339	P	P	14 13 22.1	-1.0
	comp=Z,2.7nm,0.9s,baz=30,slow=6.5,SNR=10						
NOA	NORSAR Array B	69.28	339	P	P	14 13 22.1	-1.0
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	NORSAR Array B	69.28	339	P	P	14 13 22.1	-1.0
ULM	Lac du Bonnet	70.42	38	P	P	14 13 29.6	-0.6
	comp=Z,1.9nm,0.5s,baz=353,slow=6.2,SNR=3.7						
ULM	Lac du Bonnet	70.42	38	P	P	14 13 29.6	-0.6
ULM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULM	Lac du Bonnet	70.42	38	P	P	14 13 29.6	-0.6
AKASG	Malin Array Be	71.55	324	P	P	14 13 35.9	-1.1
	comp=Z,0.5nm,0.4s,baz=41,slow=5.8,SNR=4.2						
AKASG	Malin Array Be	71.55	324	ceP	P	14 13 37.2	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.55	324	P	P	14 13 35.9	-1.1
STKA	Stephens Creek	76.20	186	P	P	14 14 05.8	+1.6
	comp=Z,1.6nm,0.6s,baz=11,slow=2.8,SNR=4.0						
STKA	Stephens Creek	76.20	186	P	P	14 14 05.8	+1.6
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	76.20	186	P	P	14 14 05.8	+1.6
CLL	Collm	77.11	333	eP	P	14 14 09.0	-0.3
CLL	Collm	77.11	333	eP	P	14 14 09.0	-0.3
BRTR	Keskin Array B	77.71	314	P	P	14 14 12.0	-1.1
	comp=Z,0.8nm,0.9s,baz=92,slow=4.5,SNR=3.6						
BRTR	Keskin Array B	77.71	314	ceP	P	14 14 13.8	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	77.71	314	P	P	14 14 12.0	-1.1
KHC	Kasperske Hory	78.78	332	eP	P	14 14 19.0	+0.3
KHC				e		14 14 29.5	
KHC	Kasperske Hory	78.78	332	eP	P	14 14 19.0	+0.3
KHC				ePCP	PcP	14 14 29.5	+2.1
GERES	GERESS Array B	78.99	331	P	P	14 14 18.8	-1.1
	comp=Z,0.6nm,0.5s,baz=34,slow=5.9,SNR=8.2						
GERES	GERESS Array B	78.99	331	P	P	14 14 18.8	-1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	78.99	331	P	P	14 14 18.8	-1.1
TXAR	Lajitas Array	81.54	57	P	P	14 14 34.7	+0.7
	comp=Z,1.5nm,0.5s,baz=290,slow=4.7,SNR=45						
TXAR	Lajitas Array	81.54	57	P	P	14 14 34.7	+0.7
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	Lajitas Array	81.54	57	P	P	14 14 34.7	+0.7
FLN	La Foliniere	83.26	340	eP	P	14 14 41.7	-0.8
LDF	La Druitiere	83.33	340	eP	P	14 14 42.0	-0.8
	comp=Z,6.9nm,0.8s						
LOR	Lormes	83.48	337	eP	P	14 14 42.4	-1.3
	comp=Z,5.2nm,0.8s						
GRR	Gorron	83.70	340	eP	P	14 14 43.8	-0.9
SSF	Saint Saulge	83.77	337	eP	P	14 14 44.1	-1.0
AVF	Avril sur Loir	84.06	337	eP	P	14 14 45.9	-0.7
	comp=Z,36nm,1.4s						
LPG	La Plagne	84.21	334	eP	P	14 14 47.4	-0.4
ROSF	Rostrenen	84.32	341	eP	P	14 14 47.3	-0.6
ORIF	Oris-en-Rattie	85.00	334	eP	P	14 14 50.9	-0.6
	comp=Z,8.2nm,0.8s						
MFF	Saint Martin d	85.18	339	eP	P	14 14 51.8	-0.4
	comp=Z,16nm,1.0s						
CAF	Calviac	86.13	337	eP	P	14 14 56.4	-0.6
MTLF	Montolieu	87.53	336	eP	P	14 15 03.4	-0.5
ETSF	Etsaut	88.72	338	eP	P	14 15 09.2	-0.4
	comp=Z,6.2nm,0.9s						
TORD	Torodi Ar. Bea	115.18	324	PKP	PKPdf	14 20 56.4	-1.2
	comp=Z,0.2nm,0.4s,baz=32,slow=1.9,SNR=4.6						
TORD	Torodi Ar. Bea	115.18	324	PKP	PKPdf	14 20 56.4	-1.2
VNA2	Neumayer--Watz	150.89	196	e	PKPbc	14 22 09.1	+2.0
	baz=82,slow=2.6						
VNA3	Neumayer Olymp	151.06	194	e	PKPbc	14 22 09.9	+2.4
CPUP	Villa Florida	152.51	57	PKPbc	PKPbc	14 22 11.9	-0.3
	comp=Z,0.2nm,0.3s,baz=358,slow=3.7,SNR=3.5						
CPUP	Villa Florida	152.51	57	PKIKP	PKPbc	14 22 11.9	-0.3
CPUP	Villa Florida	152.51	57	PKPbc	PKPbc	14 22 11.9	-0.3

*ATH **01** 14:16:01.2, 36°.57N×27°.08E, h135km±6km*
*CSEM **01** 14:16:02.8±0.4, 36°.61N×27°.06E, h115km±5km, MD3.1, Error ellipse: s-maj=8.7km s-min=4.1km az=141.0*
*ISCJB **01** 14:16:02.3±1.2, 36°.63N±0°.07×27°.02E±0°.08, h117km±15km, Error ellipse: s-maj=14.5km s-min=6.2km az=137.2*
*DDA **01** 14:16:06.7, 36°.55N×27°.69E, h7km, MD3.1*
ISC 01 14:16:01.7±1.8**, 36°.59N**±0°.06×**27°.12E**±0°.05**, h129**km±16km**, n21, σ1s.33**/33**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.89	115	eP	Pn	14 16 24.6	+1.0
ARG				eS	Sn	14 16 41.5	+1.4
ARG	Arkhangelos	0.89	115	eP	Pn	14 16 24.6	+1.0
ARG				eS	Sn	14 16 41.5	+1.4
KARP	Karpathos	1.04	178	eP	Pn	14 16 25.1	+0.1
KARP	Karpathos	1.04	178	eP	Pn	14 16 25.1	+0.1
TURN	Turunc	1.22	76	iP	Pn	14 16 24.1	-2.6
TURN				iS	Sn	14 16 39.5	-6.2
AYDN	Tasoluk	1.23	29	iP	Pn	14 16 27.4	+0.5
AYDN				iS	Sn	14 16 44.8	-1.2
AYDN	Tasoluk	1.23	29	iP	Pn	14 16 27.4	+0.5
AYDN				iS	Sn	14 16 44.8	-1.2
ZKR	Zakros	1.65	207	eP	Pn	14 16 32.3	+0.8
ZKR				eS	Sn	14 16 54.2	+0.1
ZKR	Zakros	1.65	207	eP	Pn	14 16 32.3	+0.8
ZKR				eS	Sn	14 16 54.2	+0.1
NPS	Neapolis	1.81	223	eP	Pn	14 16 33.0	-0.3
NPS				eS	Sn	14 16 56.2	-1.2
NPS	Neapolis	1.81	223	eP	Pn	14 16 33.0	-0.3
NPS				eS	Sn	14 16 56.2	-1.2
DNZL	Cakiroluk	1.89	54	iP	Pn	14 16 35.9	+1.4
DNZL				iS	Sn	14 17 00.2	+0.7
DNZL	Cakiroluk	1.89	54	iP	Pn	14 16 35.9	+1.4
DNZL				iS	Sn	14 17 00.2	+0.7
AKAS	Kas	2.04	99	iP	Pn	14 16 36.8	+0.6
AKAS				iS	Sn	14 16 59.5	-3.1
AKAS	Kas	2.04	99	iP	Pn	14 16 36.8	+0.6
GOLH	Golhisar	2.06	71	iP	Pn	14 16 37.7	+1.3
GOLH				iS	Sn	14 16 59.8	-3.2
GOLH	Golhisar	2.06	71	iP	Pn	14 16 37.7	+1.3
VAM	Vamos	2.65	244	eP	Pn	14 16 44.7	+0.9
VAM	Vamos	2.65	244	eP	Pn	14 16 44.7	+0.9
KYTH	Kithira	3.31	266	eP	Pn	14 16 52.6	+0.3
KYTH	Kithira	3.31	266	eP	Pn	14 16 52.6	+0.3

*DDA **01** 14:25:09.3, 36°.25N×28°.92E, h35km, MD3.2*
*ATH **01** 14:25:10.8, 36°.17N×28°.92E, h30km*
*CSEM **01** 14:25:10.7±0.3, 36°.22N×28°.95E, h20km, MD3.2, Error ellipse: s-maj=7.7km s-min=5.5km az=10.0*
*ISCJB **01** 14:25:10.9±0.8, 36°.22N±0°.05×28°.93E±0°.04, h29km±6km, Error ellipse: s-maj=8.4km s-min=5.9km az=12.1*
ISC 01 14:25:10.4±1.2**, 36°.23N**±0°.04×**28°.92E**±0°.03**, h26**km±13km**, n23, σ0s.92**/38**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.54	98	ePN	Pn	14 25 22.2	-0.2
KSL	Kastellorizon	0.54	98	ePn	Pn	14 25 22.2	-0.2
AKAS	Kas	0.55	89	iP	Pb	14 25 20.4	-1.2
AKAS				iS	Sb	14 25 30.3	+1.1
AKAS	Kas	0.55	89	iP	Pb	14 25 20.4	-1.2
AKAS				iS	Sb	14 25 30.3	+1.1
ARG	Arkhangelos	0.65	269	ePN	Pn	14 25 24.0	+0.1
ARG	Arkhangelos	0.65	269	ePn	Pn	14 25 24.0	+0.1
TURN	Turunc	0.69	338	iP	Pn	14 25 24.4	-0.1
TURN				iS	Sn	14 25 34.3	-0.1
TURN	Turunc	0.69	338	iP	Pn	14 25 24.4	-0.1
TURN				iS	Sn	14 25 34.3	-0.1
GOLH	Golhisar	1.13	27	iP	Pn	14 25 30.5	-0.1
GOLH				iS	Sb	14 25 47.2	+1.6
GOLH	Golhisar	1.13	27	iP	Pn	14 25 30.5	-0.1
GOLH				iS	Sb	14 25 47.2	+1.6
KORT	Korkueli	1.38	56	iP	Pn	14 25 34.5	+0.4
KORT				iS	Sn	14 25 52.5	+0.8
KORT	Korkueli	1.38	56	iP	Pn	14 25 34.5	+0.4
KORT				iS	Sn	14 25 52.5	+0.8
DNZL	Cakiroluk	1.46	4	iP	Pb	14 25 36.6	-0.4
DNZL				iS	Sb	14 25 56.1	+0.8
DNZL	Cakiroluk	1.46	4	iP	Pb	14 25 36.6	-0.4
DNZL				iS	Sb	14 25 56.1	+0.8
KARP	Karpathos	1.58	245	ePN	Pb	14 25 38.4	-0.6
KARP	Karpathos	1.58	245	ePn	Pb	14 25 38.4	-0.6
AYDN	Tasoluk	1.66	330	iP	Pn	14 25 39.0	+1.2
AYDN				iS	Sn	14 25 57.6	-0.7
AYDN	Tasoluk	1.66	330	iP	Pn	14 25 39.0	+1.2
AYDN				iS	Sn	14 25 57.6	-0.7
GCAM	G?zelcaml?	2.00	318	iP	Pn	14 25 43.2	+0.8
GCAM				iS	Sn	14 26 07.0	+0.4
GCAM	G?zelcaml?	2.00	318	iP	Pn	14 25 43.2	+0.8
GCAM				iS	Sn	14 26 07.0	+0.4
KHAL	Karahalli	2.19	12	iP	Pn	14 25 43.2	-2.0
KHAL				iS	Sn	14 26 10.7	-0.8
SMG	Samos	2.23	312	ePN	Pb	14 25 48.4	-1.6
SMG	Samos	2.23	312	ePn	Pb	14 25 48.4	-1.6

*ISCJB **01** 14:38:34.6±0.5, 48°.33N±0°.02×121°.29W±0°.02, h4km±4km, Error ellipse: s-maj=3.7km s-min=2.2km az=32.5*
*NEIC **01** 14:38:35.6, 48°.32N×121°.28W, h2km, MD2.8(SEA), After SEA.*
*PGC **01** 14:38:35.7±0.5, 48°.26N×121°.30W, h1km, ML2.8/17, 106km Ene of Seattle, Wa Washington*
ISC 01 14:38:34.3±1.2**, 48°.32N**±0°.02×**121°.30W**±0°.02**, h0**km±10km**, n78, σ0s.82**/101**, 21C-39D, Washington**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPW	Rockport	0.20	313	⇑P	Pg	14 38 39.6	+1.5
JCW	Jim Creek	0.44	254	⇓P	Pg	14 38 43.9	+1.3
MBW	Mount Baker	0.61	320	⇓P	Pg	14 38 46.8	+0.7
NLW	Nelson Butte	0.69	110	⇑P	Pg	14 38 48.3	+0.9
EARN	East Ridge Ele	0.76	221	⇑P	Pb	14 38 50.3	0.0
SLFW	Sugar Loaf	0.76	137	P	Pg	14 38 49.5	+0.6
LEOT	Leota Junior H	0.77	225	P	Pb	14 38 50.5	-0.1
LYNC	Lynnwood City	0.83	234	P	Pb	14 38 52.1	+0.6
ALCT	Alcott Element	0.83	217	⇓P	Pg	14 38 51.3	+1.1
A05A	Maple Falls	0.86	323	⇑P	Pg	14 38 51.3	+0.6
	baz=0.9						
VDB	Vedder Mountai	0.89	324	⇑P	Pb	14 38 52.8	+0.2
VDB	Vedder Mountai	0.89	324	P	Pb	14 38 52.8	+0.2
VDB				⇑S	Sg	14 39 04.0	+1.2
RMW	Rattlesnake Mo	0.92	202	⇓P	Pg	14 38 51.9	0.0
ETW	Entiat	0.96	137	P	Pg	14 38 52.7	0.0
LAWT	Lawton Element	0.98	228	⇑P	Pb	14 38 54.9	+0.7
CBSW	Chelan Butte S	0.99	121	⇑P	Pg	14 38 53.5	+0.3
DHW2	Dyer Hill 2	1.08	107	⇓P	Pg	14 38 55.5	+0.5
WTV	Waterville	1.09	124	P	Pg	14 38 55.5	+0.2
LTY	Liberty	1.14	158	P	Pg	14 38 55.9	-0.3
BLN	Blyn Mountain	1.16	255	⇑P	Pg	14 38 56.5	0.0
GSM	Grass Mountain	1.16	197	⇑P	Pg	14 38 55.9	-0.6
TBM	Table Mountain	1.24	157	⇓P	Pg	14 38 58.1	+0.1
GNW	Green Mountain	1.27	234	⇑P	Pg	14 38 57.9	-0.7
HNB	Haney	1.28	319	⇓P	Pg	14 38 58.0	-0.8
HNB				⇓S	Sg	14 39 14.6	-0.8
SNB	Saturna Island	1.32	291	⇑P	Pg	14 38 59.9	+0.2
SNB				⇓S	Sb	14 39 17.7	+0.1
VGZ	Gonzales	1.35	275	⇓P	Pg	14 38 59.3	-0.9
VGZ				⇑S	Sg	14 39 16.9	-0.8
HDW	Hoodsport	1.35	241	⇓P	Pn	14 38 59.1	-1.4
FMW	Mount Fremont	1.41	190	P	Pn	14 39 00.3	-1.1
SAW	Saint Andrews	1.42	115	⇓P	Pb	14 39 02.0	+0.4
PGC	Sidney	1.47	284	ePn	Pn	14 39 01.3	-0.7
PGC				eSn	Sg	14 39 20.2	-1.2
PGC	Sidney	1.47	284	⇓P	Pn	14 39 01.3	-0.7
PGC				⇓S	Sg	14 39 19.7	-1.7
RCS	Mount Rainier-	1.47	192	P	Pn	14 39 01.5	-0.9
EBG	Ellensburg	1.49	160	⇓P	Pn	14 39 02.7	+0.3
PNT	Penticton	1.50	47	⇓P	Pn	14 39 02.7	+0.2
PNT				⇓S	Sn	14 39 23.1	+0.3
GOBB	Galiano Island	1.60	294	⇑P	Pb	14 39 04.7	0.0
GOBB				⇓S	Sn	14 39 25.4	+0.3
NAC	Naches	1.61	168	⇑P	Pb	14 39 05.0	0.0
WPW	White Pass	1.63	186	⇑P	Pn	14 39 04.3	0.0
LZB	Mount Lazard	1.71	281	⇓P	Pn	14 39 04.6	-0.8
LZB				⇑S	Sn	14 39 26.1	-1.7
BIB	Bowen Island	1.72	310	P	Pn	14 39 05.6	+0.2
BIB				⇑S	Sn	14 39 27.1	-0.9
GLK	Glacier Lake	1.76	187	⇓P	Pn	14 39 06.5	+0.3
WPB	Watts Point	1.84	318	⇑P	Pn	14 39 07.5	+0.3
WPB				⇓S	Sn	14 39 29.9	-1.2
MXC	Moxie City	1.87	158	P	Pb	14 39 09.5	+0.2
NLWA	Neilton Lookou	1.96	243	ePn	Pn	14 39 10.1	+1.3
NLWA				eSn	Sb	14 39 36.5	+0.7
OD2	Odessa Site #2	1.97	117	ePn	Pn	14 39 08.2	-0.8
OD2				⇑P	Pb	14 39 11.7	+0.6
OD2				eSn	Sn	14 39 34.8	+0.4
MDW	Midway	2.00	148	⇑P	Pb	14 39 12.2	+0.7
NLLB	Nanaimo Lost L	2.00	298	⇑P	Pn	14 39 09.6	+0.3
NLLB				⇓S	Sn	14 39 35.2	+0.2
GBB	Gable Butte	2.05	146	P	Pb	14 39 13.2	+0.8
C09A	Chrisman Ranch	2.10	103	⇓Pb	Pb	14 39 13.7	+0.5
	baz=2.1						
C09A				⇓Sb	Sg	14 39 40.9	-0.7
	baz=2.1						
WSLR	Whistler	2.10	330	⇓P	Pb	14 39 12.3	-1.0
WSLR				⇓S	Sb	14 39 40.0	0.0
PFB	Port Renfrew	2.10	278	⇓P	Pn	14 39 10.4	-0.4
PFB				⇓S	Sn	14 39 36.9	-0.8
SHB	Sechelt	2.13	308	⇑P	Pn	14 39 11.2	+0.1
SHB				⇑S	Sn	14 39 38.9	+0.6
SNIWA	Snively Ranch	2.16	148	⇑P	Pb	14 39 14.9	+0.6
GHNB	Nanoose	2.18	298	⇓P	Pn	14 39 12.5	+0.8
GHNB				⇑S	Sn	14 39 40.1	+0.7
FL2	Flat Top 2	2.24	199	⇑P	Pn	14 39 14.2	+1.5
RSW	Rattlesnake Hi	2.25	148	ePn	Pn	14 39 14.1	+1.3
RSW				eSn	Sn	14 39 41.9	+0.7
BMW	Boistfort Moun	2.26	216	⇓P	Pn	14 39 14.2	+1.2
HAWA	Hanford	2.27	147	ePn	Pb	14 39 15.2	-0.9
HAWA				eSn	Sb	14 39 44.8	+0.1
LLLB	Lillooet	2.33	351	⇑P	Pn	14 39 13.9	0.0
E03A	Lebam	2.34	222	⇑Sn	Sn	14 39 45.0	+1.5
	baz=2.4						
GL2	New Goldendale	2.38	172	⇓P	Pb	14 39 17.9	-0.2
REDWA	Red Mountain	2.38	147	⇓P	Pb	14 39 18.1	+0.1
TXB	Texada	2.48	305	⇓P	Pn	14 39 17.7	+1.7
ALB	Alberni	2.52	294	⇓P	Pn	14 39 17.5	+1.1
BMSB	Bamfield Mari	2.60	283	⇓P	Pn	14 39 19.1	+1.5
NEW	Newport	2.79	89	ePn	Pn	14 39 19.5	-0.8
OZB	Mount Ozzard	2.85	285	⇓P	Pn	14 39 23.3	+2.2
VLL	Laurance Lake	2.87	185	P	Pn	14 39 20.9	-0.4
LNOR	Lincton Mounta	3.20	139	ePn	Pn	14 39 26.7	+0.9
CROR	Criterion Ridg	3.34	176	⇑P	Pb	14 39 34.0	-0.4
F10A	Beach Ranch, E	3.63	129	⇓P	Pn	14 39 32.3	+0.4
	baz=3.6						
BSMT	Bassoo Peak	4.39	94	ePn	Pn	14 39 42.1	-0.3
BMO	Blue Mountains	4.42	140	ePn	Pn	14 39 43.3	+0.5
JTMT	Jette	4.74	94	ePn	Pn	14 39 47.0	-0.2
D13A	Huson	4.78	102	⇓P	Pn	14 39 47.0	-0.6
	baz=4.8						
SWMT	Swartz Lake	4.98	97	ePn	Pn	14 39 50.0	-0.4
C14A	Swan Lake	5.10	93	⇑P	Pn	14 39 51.1	-0.8
	baz=5.1						
E13A	Victor	5.18	109	⇓P	Pn	14 39 52.8	-0.4
	baz=5.2						
E13A				⇑Sn	Sn	14 40 52.1	-1.6
	baz=5.2						
F13A	Darby	5.39	115	⇑P	Pn	14 39 56.1	0.0
	baz=5.4						

*NIED **01** 15:12:00, 38°.70N×142°.30E, h71km, Mw3.9 Best double couple: M0 7.22000×10^14 NP1:φs 289.00000°, δ50.00000°, λ-87.00000°. NP2:φs 104.00000°, δ40.00000°, λ-94.00000°.*
JMA 01 15:12:14.2±0.1**, 38°.70N**×**142°.26E, h37**km±2km**, M3.6, 4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.60	310	⇓P	Pn	15 12 26.2	-0.1
OFUJ				eS	Sn	15 12 34.6	-0.2
JIO	Ouri	0.76	251	⇓P	Pn	15 12 28.2	-0.1
JIO				S	Sn	15 12 37.9	-0.5
JMK	Ichinoseki	0.85	288	⇓P	Pn	15 12 29.9	+0.3
JMK				S	Sn	15 12 40.9	0.0
JOM	Ohasama	1.08	316	⇓P	Pn	15 12 33.3	+0.5
JOM				S	Sn	15 12 47.2	+0.7
JTH	Tanohata	1.27	346	P	Pn	15 12 35.6	+0.1
JOU	Okura	1.29	256	P	Pn	15 12 36.5	+0.7
JOU				S	Sn	15 12 53.0	+1.1
JMM	Marumori	1.42	235	P	Pn	15 12 37.5	0.0
JMM				eS	Sn	15 12 55.4	+0.5
JYK	Kaneyama	1.50	279	P	Pn	15 12 39.7	+1.1

*ISK **01** 15:34:25.2, 40°.27N×26°.99E, h22km, MD2.7*
*DDA **01** 15:34:25.8, 40°.24N×27°.06E, h7km, MD2.9*
*CSEM **01** 15:34:25.6±0.1, 40°.27N×26°.99E, h21km±1km, MD2.7, Error ellipse: s-maj=2.5km s-min=2.0km az=23.0*
*ISCJB **01** 15:34:25.7±0.4, 40°.27N±0°.03×26°.99E±0°.04, h23km±6km, Error ellipse: s-maj=5.5km s-min=4.6km az=167.4*
ISC 01 15:34:25.5±1.0**, 40°.26N**±0°.03×**27°.00E**±0°.02**, h23**km±8km**, n35, σ0s.26**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPK	Lapseki	0.22	302	PG	Pb	15 34 31.1	-0.1
LPK				SG	Sb	15 34 34.8	-0.2
LPK	Lapseki	0.22	302	iPg	Pb	15 34 31.1	-0.1
LPK				iSg	Sb	15 34 34.8	-0.2
KRBG	Karabiga-Canak	0.26	59	ePG	Pb	15 34 31.8	0.0
KRBG				eSG	Sb	15 34 36.2	+0.1
KRBG	Karabiga-Canak	0.26	59	ePg	Pb	15 34 31.8	0.0
KRBG				eSg	Sb	15 34 36.2	+0.1
GELI	Tayfur-Gelibol	0.43	289	ePG	Pb	15 34 34.6	+0.2
GELI				eSG	Sb	15 34 40.9	+0.4
GELI	Tayfur-Gelibol	0.43	289	ePg	Pb	15 34 34.6	+0.2
GELI				eSg	Sb	15 34 40.9	+0.4
RKY	Sarkoy-Tekirda	0.45	17	ePG	Pb	15 34 35.0	+0.1
RKY				eSG	Sb	15 34 41.7	+0.4
RKY	Sarkoy-Tekirda	0.45	17	ePg	Pb	15 34 35.0	+0.1
RKY				eSg	Sb	15 34 41.7	+0.4
SART	Tekirdag	0.45	17	iP	Pb	15 34 34.9	0.0
SART				iS	Sb	15 34 41.3	0.0
SART	Tekirdag	0.45	17	iP	Pb	15 34 34.9	0.0
SART				iS	Sb	15 34 41.3	0.0
ERIK	Erikli-Kesan	0.56	318	ePG	Pb	15 34 36.7	+0.1
ERIK	Erikli-Kesan	0.56	318	ePg	Pb	15 34 36.7	+0.1
GONE	Gonen-Balikesi	0.56	112	ePG	Pn	15 34 37.9	-0.3
GONE	Gonen-Balikesi	0.56	112	ePg	Pn	15 34 37.9	-0.3
MFT	Murefte	0.57	22	ePG	Pb	15 34 36.9	0.0
MFT	Murefte	0.57	22	ePg	Pb	15 34 36.9	0.0
EZN	Ezine	0.68	231	ePG	Pb	15 34 38.6	0.0
EZN	Ezine	0.68	231	ePg	Pb	15 34 38.6	0.0
BALY	Balya	0.70	137	iP	Pb	15 34 39.0	-0.1
BALY				iS	Sb	15 34 48.4	+0.1
BALY	Balya	0.70	137	iP	Pb	15 34 39.0	-0.1
BALY				iS	Sb	15 34 48.4	+0.1
BNT	Bandirma	0.71	82	ePG	Pb	15 34 38.8	-0.4
BNT	Bandirma	0.71	82	ePg	Pb	15 34 38.8	-0.4
ENEZ	Enez	0.81	307	ePG	Pb	15 34 40.2	-0.7
ENEZ	Enez	0.81	307	ePg	Pb	15 34 40.2	-0.7
BOZC	Bozcaada	0.84	241	iP	Pb	15 34 41.4	0.0
BOZC				iS	Sb	15 34 52.2	0.0
CRLT	Corlu	1.03	32	ePG	Pb	15 34 44.4	-0.4
CRLT	Corlu	1.03	32	ePg	Pb	15 34 44.4	-0.4
DURS	Dursunbey	1.31	120	iP	Pb	15 34 49.6	+0.1
DURS				iS	Sb	15 35 06.0	+0.1
DURS	Dursunbey	1.31	120	iP	Pb	15 34 49.6	+0.1
DURS				iS	Sb	15 35 06.0	+0.1
ARMT	Armutlu	1.45	77	ePN	Pn	15 34 50.7	+0.3
ARMT	Armutlu	1.45	77	ePn	Pn	15 34 50.7	+0.3
CTKS	Kestanelik-??a	1.50	49	ePN	Pn	15 34 51.3	+0.2
CTKS	Kestanelik-??a	1.50	49	ePn	Pn	15 34 51.3	+0.2
EDRB	Edirne	1.60	353	ePN	Pn	15 34 52.4	0.0
EDRB	Edirne	1.60	353	ePn	Pn	15 34 52.4	0.0

IDC 01 15:54:50.2±5.4**, 39°.34N**×**110°.78E, h0**km**, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.4**/25**, mbtmp3.6**/5**, ML2.8**/1**, Error ellipse: s-maj=114.9km s-min=24.7km az=85.0, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.07	341	Pn	Pn	15 57 01.3	-1.1
	0.1nm,0.3s,baz=156,slow=14,SNR=14						
SONM				Sn	Sn	15 58 49.0	+3.8
	0.1nm,0.3s,baz=159,slow=21,SNR=2.7						
SONM				Lg	Lg	15 59 30.9	
	0.1nm,0.3s,baz=151,slow=30,SNR=2.8						
MKAR	Makanchi Array	22.02	299	P	P	15 59 45.6	-0.5
	2.1nm,0.9s,baz=98,slow=9.8,SNR=18						
ZALV	Zalesovo Beam	22.87	318	P	P	15 59 54.9	-0.1
	0.2nm,0.3s,baz=118,slow=9.4,SNR=2.7						
CMAR	Chiang Mai Arr	23.20	210	P	P	15 59 58.8	+0.1
	2.7nm,0.9s,baz=13,slow=9.9,SNR=15						
KURK	Kurchatov	25.21	307	P	P	16 00 18.2	+0.8
	2.5nm,1.1s,baz=106,slow=9.4,SNR=8.3						

MAN 01 15:57:44, 7°.63N×**124°.08E, h32**km**, mb4.0, ML2.8, MS2.4, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.43	158	⇑iP	Pn	15 57 55.2	+1.2
PAGZ	Pagadian	0.73	288	eP	Pb	15 57 59.1	+0.8
PAGZ				eS	Sb	15 58 08.0	-0.1
BUKP	Musuan	1.00	75	eP	Pb	15 58 02.5	-0.4
BUKP				eS	Sn	15 58 15.3	+0.3

JMA 01 16:23:59.9±0.6**, 44°.68N×148°.10E, h136km, M3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.15**	**233**	P	Pn	16 24 36.2	+0.2
NEM2				*e*S	Sn	16 25 04.3	+0.7
JNK	**Nakash**	**2.67**	**247**	P	Pn	16 24 42.7	+0.2
JAK	**Akkeshi**	**2.98**	**237**	P	Pn	16 24 46.5	+0.1
JAR	**Ashorobuto**	**3.42**	**248**	P	Pn	16 24 52.9	+0.8
JKK2	**Kamakawa 2**	**3.93**	**260**	P	Pn	16 24 57.7	-1.1
JCH	**Churui**	**4.01**	**241**	P	Pn	16 24 59.5	-0.4
JCH				*e*S	Sn	16 25 45.4	-1.0
JFR	**Furan**	**4.26**	**251**	P	Pn	16 25 03.5	+0.3
JNBK	**Urakawa-nobuka**	**4.57**	**240**	P	Pn	16 25 06.1	-1.2
JNBK				*e*S	Sn	16 25 57.5	-2.2
JKB	**Kayabe**	**5.87**	**244**	P	Pn	16 25 22.7	-1.9
JKB				*e*S	Sn	16 26 26.2	-4.5
JOT	**Ohata**	**6.13**	**240**	P	Pn	16 25 26.0	-2.1
JOT				*e*S	Sn	16 26 31.0	-6.0
JOSM	**Okushiri--Mats**	**6.80**	**251**	P	Pn	16 25 35.2	-1.9

NEIC 01 16:29:02.0, 50°.91N×177°.08W, h18km, ML3.6(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.22**	**53**	P	Pn	16 29 35.9	-2.0
ATKA				S	Sn	16 30 02.3	-2.6
KOWE	**Korovin West**	**2.29**	**49**	P	Pn	16 29 37.5	-1.4
KOFP	**Korovin Flat P**	**2.31**	**53**	P	Pn	16 29 38.3	-0.9
KOKV	**Korovin Volcan**	**2.33**	**50**	P	Pn	16 29 38.2	-1.3
KOKV				S	Sn	16 30 06.6	-1.1
MREP	**Makushin Rep't**	**6.96**	**61**	P	Pn	16 30 41.6	-1.6
UNV	**Unalaska Valle**	**7.11**	**61**	P	Pn	16 30 43.6	-1.4
UNV				S	Sn	16 32 02.7	-2.7
SPIA	**Saint Paul Isl**	**7.46**	**30**	P	Pn	16 30 45.8	-3.9
SPIA				S	Sn	16 32 08.7	-5.1

*ATH **01** 16:35:05.2, 39°.26N×26°.12E, h23km±1km, MD3.3/5*
*DDA **01** 16:35:05.8, 39°.26N×26°.16E, h25km, MD3.3*
*CSEM **01** 16:35:05.8±0.1, 39°.24N×26°.06E, h8km, MD3.3, Error ellipse: s-maj=2.1km s-min=2.0km az=115.0*
*ISCJB **01** 16:35:05.4±0.5, 39°.23N±0°.02×26°.04E±0°.03, h10km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=10.7*
*ISK **01** 16:35:06.1, 39°.25N×26°.13E, h12km, MD3.0*
*THE **01** 16:35:06.3, 39°.25N×26°.06E, h10km, ML3.0/3, Error ellipse: s-maj=1.0km s-min=0.4km az=83.0*
ISC 01 16:35:06.1±0.8**, 39°.24N**±0°.02×**26°.07E**±0°.02**, h15**km±5km**, n102,** σ**0s.83**/138**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.15**	**89**	P	**Pg**	**16 35 09.8**	**-0.2**
PRK				S	**Sg**	**16 35 12.8**	**+0.2**
PRK	**Paraskevi**	**0.15**	**89**	*e*PB	**Pg**	**16 35 09.9**	**-0.1**
PRK				*e*SB	**Sg**	**16 35 12.8**	**+0.2**
PRK	**Paraskevi**	**0.15**	**89**	P	**Pg**	**16 35 09.8**	**-0.2**
PRK				S	**Sg**	**16 35 12.8**	**+0.2**
AYVA	**Ayvalik**	**0.48**	**82**	*i* P	**Pg**	**16 35 15.6**	**0.0**
AYVA				*i* S	**Sg**	**16 35 21.0**	**-1.1**
AYVA	**Ayvalik**	**0.48**	**82**	*i* P	**Pg**	**16 35 15.6**	**0.0**
AYVA				*i* S	**Sg**	**16 35 21.0**	**-1.1**
BOZC	**Bozcaada**	**0.60**	**358**	*i* P	**Pb**	**16 35 17.6**	**-0.7**
BOZC				*i* S	**Sg**	**16 35 25.3**	**-0.6**
EZN	**Ezine**	**0.61**	**18**	PG	**Pb**	**16 35 18.0**	**-0.5**
EZN				SG	**Sb**	**16 35 27.1**	**+0.2**
EZN	**Ezine**	**0.61**	**18**	*i* Pg	**Pb**	**16 35 18.0**	**-0.5**
EZN				*i* Sg	**Sb**	**16 35 27.2**	**+0.2**
CHOS	**Chios island**	**0.85**	**181**	P	**Pg**	**16 35 22.1**	**-0.6**
CHOS				S	**Sb**	**16 35 35.3**	**+1.3**
CHOS	**Chios island**	**0.85**	**181**	*e*PN	**Pg**	**16 35 22.2**	**-0.5**
CHOS				*e*SN	**Sb**	**16 35 34.2**	**+0.2**
CHOS	**Chios island**	**0.85**	**181**	P	**Pg**	**16 35 22.1**	**-0.6**
CHOS				*e*Sn	**Sb**	**16 35 34.2**	**+0.2**
CHOS				S	**Sb**	**16 35 35.3**	**+1.3**
LIA	**Limnos Island**	**0.95**	**314**	P	**Pg**	**16 35 24.1**	**-0.4**
LIA				S	**Sb**	**16 35 37.6**	**+0.9**
LIA	**Limnos Island**	**0.95**	**314**	*e*PN	**Pb**	**16 35 24.3**	**0.0**
LIA				*e*SN	**Sg**	**16 35 36.6**	**-0.3**
LIA	**Limnos Island**	**0.95**	**314**	P	**Pg**	**16 35 24.1**	**-0.4**
LIA				*e*Sn	**Sg**	**16 35 36.6**	**-0.3**
LIA				S	**Sb**	**16 35 37.6**	**+0.9**
URLA	**Izmir**	**0.97**	**155**	*i* P	**Pb**	**16 35 24.5**	**-0.1**
URLA				*i* S	**Sg**	**16 35 36.7**	**-0.9**
URLA	**Izmir**	**0.97**	**155**	*i* P	**Pb**	**16 35 24.5**	**-0.1**
URLA				*i* S	**Sg**	**16 35 36.7**	**-0.9**
BLCB	**Balcova**	**1.14**	**138**	*e*PN	**Pn**	**16 35 28.0**	**+0.4**
BLCB	**Balcova**	**1.14**	**138**	*e*Pn	**Pn**	**16 35 28.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.19**	**15**	*e*PN	**Pn**	**16 35 28.6**	**+0.3**
GELI				*e*SN	**Sn**	**16 35 45.7**	**+1.4**
GELI	**Tayfur-Gelibol**	**1.19**	**15**	*e*Pn	**Pn**	**16 35 28.6**	**+0.3**
GELI				*e*Sn	**Sn**	**16 35 45.7**	**+1.4**
LPK	**Lapseki**	**1.25**	**25**	*e*PN	**Pg**	**16 35 29.3**	**-0.8**
LPK	**Lapseki**	**1.25**	**25**	*e*Pn	**Pg**	**16 35 29.3**	**-0.8**
BALY	**Balya**	**1.29**	**67**	*i* P	**Pg**	**16 35 30.0**	**-1.0**
BALY				*i* S	**Sn**	**16 35 47.0**	**+0.1**
BALY	**Balya**	**1.29**	**67**	*i* P	**Pg**	**16 35 30.0**	**-1.0**
BALY				*i* S	**Sn**	**16 35 47.0**	**+0.1**
AKS	**Akhisar**	**1.40**	**104**	*e*PN	**Pb**	**16 35 31.9**	**-0.1**
AKS	**Akhisar**	**1.40**	**104**	*e*Pn	**Pb**	**16 35 31.9**	**-0.1**
BALB	**Balikesir**	**1.45**	**74**	*e*PN	**Pb**	**16 35 32.3**	**-0.5**
BALB	**Balikesir**	**1.45**	**74**	*e*Pn	**Pb**	**16 35 32.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.47**	**13**	*e*PN	**Pb**	**16 35 32.8**	**-0.3**
ERIK	**Erikli-Kesan**	**1.47**	**13**	*e*Pn	**Pb**	**16 35 32.8**	**-0.3**
GONE	**Gonen-Balikesi**	**1.48**	**57**	*e*PN	**Pb**	**16 35 32.6**	**-0.7**
GONE	**Gonen-Balikesi**	**1.48**	**57**	*e*Pn	**Pb**	**16 35 32.6**	**-0.7**
KRBG	**Karabiga-Canak**	**1.49**	**39**	*e*PN	**Pb**	**16 35 32.7**	**-0.7**
KRBG	**Karabiga-Canak**	**1.49**	**39**	*e*Pn	**Pb**	**16 35 32.7**	**-0.7**
ENEZ	**Enez**	**1.49**	**2**	*e*PN	**Pb**	**16 35 33.1**	**-0.4**
ENEZ	**Enez**	**1.49**	**2**	*e*Pn	**Pb**	**16 35 33.1**	**-0.4**
ALN	**Alexandroupoli**	**1.65**	**359**	P	**Pn**	**16 35 34.3**	**-0.3**
ALN				S	**Sn**	**16 35 55.9**	**+0.3**
ALN	**Alexandroupoli**	**1.65**	**359**	*e*PN	**Pn**	**16 35 34.9**	**+0.3**
ALN				*e*SN	**Sn**	**16 35 55.5**	**-0.1**
ALN	**Alexandroupoli**	**1.65**	**359**	P	**Pn**	**16 35 34.3**	**-0.3**
ALN	**Alexandroupoli**	**1.65**	**359**	*e*Pn	**Pn**	**16 35 34.9**	**+0.3**
ALN				*e*Sn	**Sn**	**16 35 55.5**	**-0.1**
ALN				S	**Sn**	**16 35 55.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.67**	**30**	*e*PN	**Pn**	**16 35 35.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.67**	**30**	*e*Pn	**Pn**	**16 35 35.5**	**+0.6**
SART	**Tekirdag**	**1.68**	**30**	*i* P	**Pn**	**16 35 35.0**	**0.0**
SART				*i* S	**Sb**	**16 35 57.5**	**-0.2**
SART	**Tekirdag**	**1.68**	**30**	*i* P	**Pn**	**16 35 35.0**	**0.0**
SART				*i* S	**Sb**	**16 35 57.5**	**-0.2**
AOS	**Alonnisos**	**1.71**	**268**	P	**Pn**	**16 35 35.3**	**0.0**
AOS				S	**Sn**	**16 35 57.5**	**+0.6**
AOS	**Alonnisos**	**1.71**	**268**	P	**Pn**	**16 35 35.3**	**0.0**
AOS				S	**Sn**	**16 35 57.5**	**+0.6**
MFT	**Murefte**	**1.80**	**31**	*e*PN	**Pb**	**16 35 37.8**	**-1.0**
MFT	**Murefte**	**1.80**	**31**	*e*Pn	**Pb**	**16 35 37.8**	**-1.0**
DURS	**Dursunbey**	**1.89**	**78**	*i* P	**Pn**	**16 35 38.5**	**+0.5**
DURS				*i* S	**Sn**	**16 36 01.1**	**-0.6**
DURS	**Dursunbey**	**1.89**	**78**	*i* P	**Pn**	**16 35 38.5**	**+0.5**
DURS				*i* S	**Sn**	**16 36 01.1**	**-0.6**
RDO	**Rodhopi**	**1.94**	**348**	*e*PN	**Pn**	**16 35 39.7**	**+1.1**
RDO	**Rodhopi**	**1.94**	**348**	*e*Pn	**Pn**	**16 35 39.7**	**+1.1**
OUR	**Ouranopolis**	**1.95**	**305**	P	**Pn**	**16 35 38.3**	**-0.3**
OUR	**Ouranopolis**	**1.95**	**305**	P	**Pn**	**16 35 38.3**	**-0.3**
PAIG	**Paliouri**	**1.97**	**291**	P	**Pn**	**16 35 38.8**	**-0.2**
PAIG	**Paliouri**	**1.97**	**291**	P	**Pn**	**16 35 38.8**	**-0.2**
DEMI	**Demirci**	**2.06**	**95**	*e*P	**Pb**	**16 35 41.9**	**-1.4**
DEMI				*i* S	**Sb**	**16 36 09.9**	**+1.0**
DEMI	**Demirci**	**2.06**	**95**	*e*P	**Pb**	**16 35 41.9**	**-1.4**
DEMI				*i* S	**Sb**	**16 36 09.9**	**+1.0**
TKR	**Tekirdag**	**2.07**	**32**	*e*PN	**Pn**	**16 35 41.6**	**+1.2**
TKR	**Tekirdag**	**2.07**	**32**	*e*Pn	**Pn**	**16 35 41.6**	**+1.2**
PTL	**Penteli**	**2.10**	**236**	*e*PB	**Pn**	**16 35 41.6**	**+0.8**
KULA	**Kula-Manisa**	**2.15**	**109**	*e*PN	**Pn**	**16 35 42.4**	**+0.9**
KULA	**Kula-Manisa**	**2.15**	**109**	*e*Pn	**Pn**	**16 35 42.4**	**+0.9**
APE	**Apeiranthos**	**2.21**	**191**	*e*PN	**Pb**	**16 35 44.5**	**-1.3**
APE	**Apeiranthos**	**2.21**	**191**	P	**Pn**	**16 35 42.5**	**+0.2**
APE				S	**Sn**	**16 36 10.4**	**+0.9**
APE	**Apeiranthos**	**2.21**	**191**	*e*PN	**Pn**	**16 35 42.6**	**+0.2**
APE	**Apeiranthos**	**2.21**	**191**	*e*Pn	**Pn**	**16 35 42.6**	**+0.2**
APE				S	**Sn**	**16 36 10.4**	**+0.9**
VLY	**Voula,Athens**	**2.26**	**233**	*e*PB	**Pn**	**16 35 44.6**	**+1.6**
CRLT	**Corlu**	**2.27**	**34**	*e*PN	**Pn**	**16 35 44.0**	**+0.9**
CRLT	**Corlu**	**2.27**	**34**	*e*Pn	**Pn**	**16 35 44.0**	**+0.9**
VIL1	**Vilia, Western**	**2.40**	**244**	*e*PN	**Pn**	**16 35 45.6**	**+0.6**
VIL1	**Vilia, Western**	**2.40**	**244**	*e*Pn	**Pn**	**16 35 45.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.44**	**62**	*e*PN	**Pn**	**16 35 45.9**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.44**	**62**	*e*Pn	**Pn**	**16 35 45.9**	**+0.5**
NAIG	**Nisos Aigina**	**2.51**	**235**	*e*PN	**Pn**	**16 35 44.4**	**-2.0**
NAIG	**Nisos Aigina**	**2.51**	**235**	*e*Pn	**Pn**	**16 35 44.4**	**-2.0**
ARMT	**Armutlu**	**2.52**	**57**	*e*PN	**Pn**	**16 35 47.7**	**+1.2**
ARMT	**Armutlu**	**2.52**	**57**	*e*Pn	**Pn**	**16 35 47.7**	**+1.2**
SLVT	**Silivri**	**2.57**	**39**	*e*PN	**Pn**	**16 35 48.2**	**+1.0**
SLVT	**Silivri**	**2.57**	**39**	*e*Pn	**Pn**	**16 35 48.3**	**+1.0**
EDRB	**Edirne**	**2.65**	**11**	*e*PN	**Pn**	**16 35 49.6**	**+1.3**
EDRB	**Edirne**	**2.65**	**11**	*e*Pn	**Pn**	**16 35 49.6**	**+1.3**
GEMT	**Gemlik**	**2.68**	**63**	*e*PN	**Pn**	**16 35 49.6**	**+0.9**
GEMT	**Gemlik**	**2.68**	**63**	*e*Pn	**Pn**	**16 35 49.6**	**+0.9**
CTKS	**Kestanelik-??a**	**2.73**	**42**	*e*PN	**Pn**	**16 35 50.4**	**+1.0**
CTKS	**Kestanelik-??a**	**2.73**	**42**	*e*Pn	**Pn**	**16 35 50.4**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.80**	**36**	*e*PN	**Pn**	**16 35 51.7**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.80**	**36**	*e*Pn	**Pn**	**16 35 51.7**	**+1.4**
BGKT	**Bogazkoy**	**2.83**	**46**	*e*PN	**Pn**	**16 35 51.2**	**+0.4**
BGKT	**Bogazkoy**	**2.83**	**46**	*e*Pn	**Pn**	**16 35 51.2**	**+0.4**
AGG	**Agios Georgios**	**2.92**	**267**	*e*PN	**Pn**	**16 35 52.4**	**+0.3**
AGG	**Agios Georgios**	**2.92**	**267**	*e*Pn	**Pn**	**16 35 52.4**	**+0.3**
ISK	**Istanbul-Kandi**	**2.92**	**51**	*e*PN	**Pn**	**16 35 53.3**	**+1.2**
ISK	**Istanbul-Kandi**	**2.92**	**51**	*e*Pn	**Pn**	**16 35 53.3**	**+1.2**
CAVI	**Cavuskoy**	**3.06**	**71**	*e*PN	**Pn**	**16 35 54.6**	**+0.6**
CAVI	**Cavuskoy**	**3.06**	**71**	*e*Pn	**Pn**	**16 35 54.6**	**+0.6**
THL	**Klokotos Trika**	**3.16**	**277**	*e*PN	**Pn**	**16 35 56.9**	**+1.6**
THL	**Klokotos Trika**	**3.16**	**277**	*e*Pn	**Pn**	**16 35 56.9**	**+1.6**
HRT	**Hereke**	**3.18**	**59**	*e*PN	**Pn**	**16 35 57.0**	**+1.4**
HRT	**Hereke**	**3.18**	**59**	*e*Pn	**Pn**	**16 35 57.0**	**+1.4**
GULT	**Gulveren**	**3.62**	**69**	*e*PN	**Pn**	**16 36 03.1**	**+1.4**
GULT	**Gulveren**	**3.62**	**69**	*e*Pn	**Pn**	**16 36 03.1**	**+1.4**

IDC 01 16:36:20.3±7.2**, 30°.58S×177°.15W, h0km, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.7**/15**, mbtmp3.8**/2**, Error ellipse: s-maj=305.4km s-min=54.4km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.83**	**267**	P	P	16 44 27.8	-0.6
	0.7nm,0.7s,baz=103,slow=7.1,SNR=9.9						
WRA	**Warramunga Arr**	**44.83**	**272**	P	P	16 44 36.6	+0.2
	0.7nm,0.3s,baz=111,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPdf	16 55 59.1	-0.7
	4.0nm,0.9s,baz=29,slow=3.2,SNR=9.6						

*IDC **01** 16:37:14.8±1.0, 24°.69N×91°.59E, h0km, mb3.2/7, mb1 3.4/8, mb1mx3.3/26, mbtmp3.2/8, ML3.0/1, Error ellipse: s-maj=42.1km s-min=17.3km az=53.0*
*ISCJB **01** 16:37:18.2±0.6, 24°.79N±0°.06×91°.97E±0°.06, h33km, mb3.2/7, Error ellipse: s-maj=9.0km s-min=7.0km az=18.5*
ISC 01 16:37:20.7±0.8**, 24°.92N**±0°.07×**92°.00E**±0°.06**, h35km, n12,** σ**1s.50**/13**, mb3.3**/7**, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.66**	**351**	*e*P	**Pn**	**16 37 34.0**	**+0.2**
SHL				*e*S	**Sn**	**16 37 42.7**	**-0.2**
SHL				AML	AML	16 37 42.9	
SHL				AML	AML	16 37 43.5	
IMP	**Imphal**	**1.76**	**94**	*e*P	**Pn**	**16 37 51.0**	**+2.2**
IMP				*e*S	**Sn**	**16 38 08.0**	**-2.0**
BOK	**Bokaro**	**5.69**	**260**	*e*P	**Pn**	**16 38 45.2**	**+2.4**
BOK				*e*S	**Sn**	**16 39 46.0**	**-0.9**
BOK				AML	AML	16 39 49.6	
	comp=N,34nm,0.3s						
BOK				AML	AML	16 39 50.5	
	comp=E,25nm,0.0s						
CMAR	**Chiang Mai Arr**	**9.11**	**134**	Pn	**Pn**	**16 39 28.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=308,slow=13,SNR=3.8						
NGP	**Nagpur**	**12.50**	**255**	*e*x	x	16 42 26.8	
MKAR	**Makanchi Array**	**23.17**	**343**	P	**P**	**16 42 24.6**	**+0.5**
	comp=E,0.2nm,0.5s,baz=153,slow=8.3,SNR=5.8						
SONM	**Songino Array**	**25.55**	**23**	P	**P**	**16 42 48.4**	**+2.0**
	comp=E,0.4nm,0.5s,baz=205,slow=12,SNR=5.3						
KURK	**Kurchatov**	**27.75**	**342**	P	**P**	**16 43 05.3**	**-0.6**
	comp=E,0.1nm,0.3s,baz=158,slow=9.1,SNR=2.5						
BRTR	**Keskin Array B**	**50.65**	**302**	P	P	16 46 13.7	-3.1
	comp=E,0.5nm,0.8s,baz=80,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**60.70**	**133**	P	**P**	**16 47 28.8**	**-0.1**
	comp=E,0.2nm,0.7s,baz=322,slow=7.5,SNR=2.8						
ASAR	**Alice Springs**	**63.10**	**137**	P	**P**	**16 47 45.7**	**+0.7**
	comp=E,0.3nm,0.8s,baz=322,slow=6.7,SNR=3.9						
GERES	**GERESS Array B**	**64.14**	**314**	P	**P**	**16 47 51.0**	**-0.6**
	comp=E,0.2nm,0.7s,baz=95,slow=4.9,SNR=2.7						

IDC 01 16:39:06.0±1.7**, 5°.08S×129°.06E, h0km, mb3.2**/2**, mb1 3.7**/5**, mb1mx3.5**/17**, mbtmp3.5**/5**, ML3.1**/3**, Error ellipse: s-maj=86.8km s-min=24.2km az=74.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.37**	**194**	Pn	Pn	16 42 17.8	+0.6
	0.1nm,0.3s,baz=16,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**15.64**	**161**	Pn	Pn	16 42 46.3	-1.7
	0.1nm,0.3s,baz=340,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**19.06**	**166**	P	Pn	16 43 30.6	-0.2
	0.3nm,0.3s,baz=345,slow=12,SNR=35						
MKAR	**Makanchi Array**	**66.12**	**327**	P	P	16 49 55.5	+0.4
	0.1nm,0.4s,baz=124,slow=8.2,SNR=3.4						
KURK	**Kurchatov**	**70.40**	**329**	P	P	16 50 21.5	-0.4
	0.2nm,0.5s,baz=120,slow=5.5,SNR=3.0						

IDC 01 16:47:54.7±5.1**, 2°.64S×138°.88E, h0km, mb2.8**/2**, mb1 3.2**/3**, mb1mx3.0**/13**, mbtmp3.0**/3**, ML2.8**/1**, Error ellipse: s-maj=204.2km s-min=32.9km az=86.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.76**	**194**	P	Pn	16 52 03.9	+0.4
	0.0nm,0.3s,baz=16,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**21.45**	**193**	P	P	16 52 44.5	-0.3
	0.2nm,0.8s,baz=8.4,slow=10.0,SNR=3.8						
MKAR	**Makanchi Array**	**69.83**	**322**	P	P	16 59 07.4	+0.1
	0.1nm,0.5s,baz=108,slow=4.7,SNR=2.4						

*BJI **01** 16:57:49.9, 4°.90S×101°.24E, h40km, mB5.6/46, mb5.3/62, Ms5.5/65, Ms7 5.2/60*
*IDC **01** 16:57:50.2±0.4, 4°.26S×101°.34E, h0km, mb5.2/33, mb1 5.2/33, mb1mx5.2/34, mbtmp5.2/33, MS5.0/13, Ms1 5.0/13, ms1mx4.8/27, Error ellipse: s-maj=13.9km s-min=7.7km az=46.0*
*DJA **01** 16:57:53, 4°.41S×101°.11E, h21km, Mw5.3/61*
*NEIC **01** 16:57:53.1±0.2, 4°.33S×101°.30E, h19km, mb5.4/58, MW5.3, Error ellipse: s-maj=7.7km s-min=5.0km az=59.0, Moment Tensor Solution. s58 Moment tensor: Scale 10^17 Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.30000×10^17 NP1: φs343.00000°, δ31.00000°, λ110.00000°. NP2: φs140.00000°, δ61.00000°, λ78.00000°. Principal axes: T 1.1100, Plg71.0000°, Azm22.0000°; N 0.2600, Plg10.0000°, Azm145.0000°; P -1.3700, Plg15.0000°, Azm238.0000°;*
NEIC Felt [III] at Kapahiang and [II] at Bengkulu.
*ISCJB **01** 16:57:54.8±0.5, 4°.29S±0°.03×101°.25E±0°.03, h39km±3km, mb5.3/156, MS5.1/52 Error ellipse: s-maj=5.2km s-min=3.2km az=42.9*
*MOS **01** 16:57:54.3±1.1, 4°.19S×101°.37E, h33km, mb5.5/70, MS5.0/25, Error ellipse: s-maj=9.4km s-min=4.9km az=112.4*
*SZGRF **01** 16:58:12.8, 1°.51S×98°.85E, h33km, mb4.6, MS5.1, Southern Sumatera, Indonesia*
ISC 01 16:57:56.7±0.3**, 4°.32S**±0°.03×**101°.23E**±0°.04**, h42**km±1km**, h42km:pP-P, n814,** σ**1s.19**/1181**, mb5.3**/158**, MS5.1**/55**, 325C-278D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.51**	**64**	P	**Pn**	**16 58 21.0**	**-0.3**
MNAI	**Manna**	**1.72**	**92**	P	**Pn**	**16 58 24.0**	**-0.1**
KRJI	**Kerinci**	**2.22**	**6**	P	**Pn**	**16 58 31.2**	**0.0**
LWLI	**Liwa**	**2.90**	**104**	P	**Pn**	**16 58 40.0**	**-0.5**
KLI	**Kotabumi**	**3.65**	**99**	P	**Pn**	**16 58 51.3**	**+0.6**
PPI	**Padang Panjang**	**3.92**	**348**	P	**Pn**	**16 58 53.8**	**-0.7**
RGRI	**Rengat**	**4.09**	**16**	P	**Pn**	**16 58 57.1**	**+0.3**
BKNI	**Bangkinang**	**4.62**	**358**	P	**Pn**	**16 59 03.7**	**-0.3**
CGJI	**Cibinong**	**4.99**	**117**	P	**Pn**	**16 59 07.1**	**-2.0**
	1µm,0.8s,11µm4.1nm						
SBJI	**Serang**	**5.20**	**110**	P	Pn	16 59 15.9	+4.0
	848nm,1.0s,18µm6.0nm						
MNSI	**Mandailing Nat**	**5.34**	**342**	P	**Pn**	**16 59 12.8**	**-1.1**
	453nm,0.8s,10µm2.7nm						
PPBI	**Pangkal Pinang**	**5.34**	**67**	P	**Pn**	**16 59 14.4**	**+0.4**
	197nm,0.9s,5µm2.7nm						
TNG	**Tangerang**	**5.70**	**109**	P	**Pn**	**16 59 19.5**	**+0.6**
	2µm,1.0s,22µm8.7nm						
TNG	**Tangerang**	**5.70**	**109**	P	**Pn**	**16 59 19.4**	**+0.6**
	2µm,1.0s,15µm5.7nm						
SKJI	**Sukabumi**	**5.93**	**117**	P	Pn	16 59 30.4	+8.3
TPI	**Tanjungpandan**	**6.59**	**77**	P	**Pn**	**16 59 32.4**	**+1.3**
	67nm,0.8s,2µm1.2nm						
MYKOM	**Kota Tinggi**	**6.60**	**23**	P	**Pn**	**16 59 32.0**	**+0.7**
MYKOM	**Kota Tinggi**	**6.60**	**23**	P	**Pn**	**16 59 32.7**	**+1.4**
	193nm,1.0s,4µm2.4nm						
KGM	**Kluang**	**6.62**	**18**	P	**Pn**	**16 59 32.2**	**+0.6**
LEM	**Lembang**	**6.83**	**112**	P	**Pn**	**16 59 34.9**	**+0.4**
	764nm,1.0s,9µm3.4nm						
CISI	**Cisompet, Garu**	**7.29**	**116**	P	**Pn**	**16 59 38.3**	**-2.5**
	1µm,0.8s,9µm4.1nm						
PSI	**Prapat**	**7.44**	**342**	P	**Pn**	**16 59 40.5**	**-2.3**
	141nm,0.9s,2µm0.6nm						
XMIS	**Christmas Isla**	**7.53**	**145**	*e*P	Pn	16 59 36.9	-7.1
XMIS				*e*S	Sn	17 00 50.2	-18
TSI	**Tuntungan**	**8.21**	**341**	P	**Pn**	**16 59 53.9**	**+0.6**
	275nm,0.9s,3µm1.2nm						
TPTI		**8.55**	**332**	P	**Pn**	**16 59 58.3**	**+0.3**
	1µm,0.6s,30µm4.3nm						
IPM	**Ipoh**	**8.74**	**359**	⇑*e*Pn	**Pn**	**17 00 00.6**	**0.0**
	74nm,0.6s						
IPM	**Ipoh**	**8.74**	**359**	P	**Pn**	**17 00 00.7**	**+0.1**
IPM	**Ipoh**	**8.74**	**359**	P	**Pn**	**17 00 01.7**	**+1.1**
	129nm,0.8s,2µm0.4nm						
BJII	**Banjamegara**	**8.95**	**110**	P	**Pn**	**17 00 03.3**	**-0.3**
	144nm,1.1s,3µm						
COCO	**West Island**	**8.95**	**209**	Pn	Pn	16 59 58.9	-4.6
	5µm,0.6s,SNR=16						
COCO	**West Island**	**8.95**	**209**	P	Pn	16 59 58.2	-5.4
	SNR=6.9						
COCO	**West Island**	**8.95**	**209**	P	Pn	16 59 58.0	-5.5
	819nm,0.7s,6µm2.4nm						
SMRI	**Semarang**	**9.55**	**107**	P	**Pn**	**17 00 13.1**	**+1.3**
	554nm,1.1s						
KULM	**Kulim**	**9.56**	**356**	⇑*i*Pn	**Pn**	**17 00 10.9**	**-1.0**
	107nm,0.8s						
KULM	**Kulim**	**9.56**	**356**	P	**Pn**	**17 00 12.0**	**+0.1**
KULM	**Kulim**	**9.56**	**356**	P	**Pn**	**17 00 11.5**	**-0.4**
	144nm,1.0s,2µm						
PBKI	**Pangkalan Bun**	**10.54**	**82**	P	**Pn**	**17 00 28.3**	**+3.0**
	430nm,1.0s,4µm						
PCJI	**Pacitan**	**10.61**	**112**	P	**Pn**	**17 00 28.0**	**+1.8**
	211nm,0.8s						
KSM	**Kuching**	**10.74**	**58**	*e*Pn	**Pn**	**17 00 29.1**	**+1.1**
	56nm,0.9s						
KSM	**Kuching**	**10.74**	**58**	P	**Pn**	**17 00 28.9**	**+0.9**
KSM	**Kuching**	**10.74**	**58**	P	**Pn**	**17 00 29.8**	**+1.8**
	78nm,0.9s,943nm						
SJI	**Sawahan**	**11.01**	**108**	P	**Pn**	**17 00 31.1**	**-0.7**
	157nm,0.7s,2µm						
STKI	**Sintang**	**11.12**	**67**	P	Pn	17 00 37.0	+3.7
	96nm,1.2s,3µm						
PWJI	**Pagerwojo**	**11.13**	**110**	P	**Pn**	**17 00 31.6**	**-1.8**
	183nm,1.1s,2µm						
BSI	**Banda Aceh**	**11.41**	**329**	P	**Pn**	**17 00 35.2**	**-2.0**
	460nm,0.7s,4µm						
KRKI	**Karangkates**	**11.79**	**109**	P	Pn	17 00 45.9	+3.6
	209nm,0.9s,14µm						
BLJI	**Banyuglugur**	**12.76**	**106**	P	**P**	**17 01 07.5**	**+1.7**
GMJI	**Gumukmas**	**12.76**	**109**	P	**P**	**17 01 08.7**	**+2.9**
SBUM	**Sibu**	**12.87**	**59**	P	**Pn**	**17 00 58.3**	**+1.1**
SBUM	**Sibu**	**12.87**	**59**	P	Pn	17 01 00.7	+3.5
	153nm,1.1s,3µm13µm						
KMMI	**Kalianget**	**12.96**	**103**	P	**Pn**	**17 01 00.9**	**+2.5**
	212nm,1.0s,3µm						
JAGI	**Jajag, Banyuwa**	**13.48**	**108**	P	**Pn**	**17 01 05.6**	**0.0**
	140nm,1.1s,2µm						
BBKI	**Banjar Baru**	**13.60**	**87**	P	**Pn**	**17 01 09.2**	**+2.0**
	218nm,1.2s,3µm						
BTM	**Bintulu**	**14.00**	**58**	P	**Pn**	**17 01 13.7**	**+1.1**
KHKI	**Kahang-Kahang**	**14.84**	**106**	P	**P**	**17 01 31.8**	**+2.8**
KBKI	**Kotabaru**	**14.93**	**87**	P	**Pn**	**17 01 25.7**	**+0.6**
	163nm,1.0s,2µm						
MTNI	**Mataram**	**15.45**	**107**	P	**Pn**	**17 01 33.7**	**+1.9**
	105nm,1.0s,5µm						
SMKI	**Samarinda**	**16.41**	**77**	P	**P**	**17 01 46.6**	**+0.1**
	235nm,0.9s,5µm						
MJSI	**Majene**	**17.72**	**88**	P	**Pn**	**17 02 00.3**	**-0.2**
	467nm,0.9s,5µm						
KKM	**Kota Kinabalu**	**18.16**	**56**	⇑*i*P	**P**	**17 02 05.4**	**-0.4**
	95nm,0.9s						
KKM	**Kota Kinabalu**	**18.16**	**56**	P	**Pn**	**17 02 06.9**	**+1.0**
KKM	**Kota Kinabalu**	**18.16**	**56**	P	**Pn**	**17 02 06.5**	**+0.6**
	153nm,1.2s,3µm						
KAPI	**Kappang**	**18.47**	**93**	P	**P**	**17 02 08.0**	**-1.2**
	99nm,1.1s,2µm						
SPSI	**Sidrap Palu**	**18.49**	**90**	P	**P**	**17 02 08.8**	**-0.6**
	176nm,1.1s,3µm						
TTSI	**Tana Toraja**	**18.59**	**87**	P	**Pn**	**17 02 11.5**	**+0.4**
	148nm,1.2s,2µm						
TSM	**Tawau**	**18.69**	**63**	P	**Pn**	**17 02 12.5**	**+0.2**
SDKM	**Sandakan**	**18.76**	**58**	P	**Pn**	**17 02 13.3**	**+0.1**
BKSI	**Bulukumba**	**18.85**	**94**	P	**P**	**17 02 12.9**	**-0.5**
	138nm,0.9s,2µm						
KDM	**Kudat**	**19.16**	**54**	P	**Pn**	**17 02 18.4**	**+0.6**
WSI	**Waingapu**	**19.65**	**107**	P	**Pn**	**17 02 23.0**	**-0.8**
	340nm,0.8s,5µm						
MYLDM	**Lahad Datu**	**19.66**	**61**	P	**Pn**	**17 02 23.2**	**-0.6**
MYLDM	**Lahad Datu**	**19.66**	**61**	P	**Pn**	**17 02 23.9**	**0.0**
	212nm,1.0s,4µm						
MRSI	**Marisa**	**21.23**	**78**	P	**P**	**17 02 39.0**	**-0.3**
	443nm,0.9s,3µm						
MMRI	**Maumere**	**21.30**	**103**	P	**P**	**17 02 43.2**	**+3.2**
	86nm,0.8s						
KDI	**Kendari**	**21.33**	**90**	P	**P**	**17 02 40.2**	**-0.2**
	220nm,1.1s,2µm						
LUWI	**Luwuk**	**21.76**	**82**	P	**P**	**17 02 45.7**	**+0.8**
	353nm,1.1s,5µm						
GTOI	**Gorontalo**	**22.31**	**78**	P	**P**	**17 02 49.5**	**-1.3**
	225nm,1.0s,3µm						
CM31	**Chiang Mai Arr**	**22.74**	**354**	⇑*e*P	**P**	**17 02 52.9**	**-2.4**
	99nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.74**	**354**	P	**P**	**17 02 52.8**	**-2.6**
	84nm,0.8s,baz=185,slow=9.9,SNR=106						
CMAR				PcP	**PcP**	**17 06 46.0**	**-0.4**
	5.7nm,0.9s,baz=208,slow=3.5,SNR=5.3						
CMAR				LR	LR	17 13 35.0	
	comp=Z,5µm,19.8s,baz=181,slow=42						
CMAR	**Chiang Mai Arr**	**22.74**	**354**	P	**P**	**17 02 52.8**	**-2.6**
CMAR						17 06 46.0	
CMAR				pmax	pmax		
	comp=Z,84nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,5µm,19.8s						
CMAR	**Chiang Mai Arr**	**22.74**	**354**	P	**P**	**17 02 52.8**	**-2.6**
CMAR				PcP	**PcP**	**17 06 46.0**	**-0.4**
CHTO	**Chiang Mai**	**23.09**	**354**	⇑*e*P	**P**	**17 02 56.5**	**-2.5**
CHTO				pmax	pmax		
	comp=Z,58nm,0.8s						
CHTO	**Chiang Mai**	**23.09**	**354**	⇑*e*P	**P**	**17 02 56.5**	**-2.5**
	comp=Z,58nm,0.8s						
CHTO	**Chiang Mai**	**23.09**	**354**	P	**P**	**17 02 58.4**	**-0.6**
	comp=Z,108nm,1.0s,comp=Z,1µm						
KMSI	**Cibinong**	**23.24**	**78**	P	P	17 03 06.2	+5.7
	comp=Z,331nm,0.8s,comp=Z,4µm						
MNI	**Manado**	**24.27**	**77**	P	**P**	**17 03 12.5**	**+2.2**
	comp=Z,263nm,1.0s,comp=Z,2µm						
MBWA	**Marble Bar**	**24.56**	**135**	*e*P	**P**	**17 03 10.6**	**-2.2**
	comp=Z,30nm,1.0s						
QIZ	**Qiongzhong**	**24.70**	**20**	P	**P**	**17 03 14.7**	**+0.7**
QIZ				pP	**pP**	**17 03 25.7**	**+0.3**
QIZ				sP	**sP**	**17 03 31.2**	**+0.7**
QIZ				S	**S**	**17 07 35.8**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,68nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,810nm,6.7s						

QIZ				LR	LR		
	comp=N,3µm,14.7s						
QIZ				LR	LR		
	comp=Z,3µm,22.0s						
QIZ	**Qiongzhong**	**24.70**	**20**	*e*P	**P**	**17 03 13.8**	**-0.3**
	comp=Z,92nm,1.1s						
CTBH	**Cotabato--PC H**	**25.67**	**64**	⇓*i*P	**P**	**17 03 22.7**	**-0.2**
LBMI	**Labuha**	**26.49**	**83**	P	**P**	**17 03 31.0**	**+0.6**
	comp=Z,175nm,0.9s,comp=Z,2µm						
RCP	**Roxas**	**26.58**	**53**	⇑*e*P	**P**	**17 03 31.3**	**+0.2**
TGY	**Tagaytay City**	**26.77**	**47**	P	**P**	**17 03 32.4**	**-0.5**
	comp=Z,79nm,0.6s,baz=217,slow=20,SNR=3.1						
TGY				LR	LR	17 15 48.6	
	comp=Z,11nm,18.0s,baz=122,slow=40						
TGY	**Tagaytay City**	**26.77**	**47**	P	**P**	**17 03 32.4**	**-0.5**
TGY				pmax	pmax		
	comp=Z,79nm,0.6s						
TGY				MLR	MLR		
	comp=Z,11nm,18.0s						
TGY	**Tagaytay City**	**26.77**	**47**	P	**P**	**17 03 32.4**	**-0.5**
DAV	**Davao City (W)**	**26.80**	**65**	P	**P**	**17 03 30.9**	**-2.3**
	comp=Z,50nm,0.4s,baz=236,slow=15,SNR=3.2						
DAV	**Davao City (W)**	**26.80**	**65**	P	**P**	**17 03 33.2**	**+0.1**
TRD	**Trivandrum**	**27.36**	**298**	⇓*e*P	P	17 03 47.7	+10
TRD				*e*S	S	17 08 43.7	+28
FITZ	**Fitzroy Crossi**	**27.53**	**122**	P	**P**	**17 03 39.2**	**-0.4**
	comp=Z,62nm,0.9s,baz=291,slow=5.3,SNR=53						
FITZ	**Fitzroy Crossi**	**27.53**	**122**	⇑*i*P	**P**	**17 03 39.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.53**	**122**	⇑*i*P	**P**	**17 03 38.9**	**-0.7**
	comp=Z,67nm,0.9s						
FITZ				*e*pP	**pP**	**17 03 52.0**	**+1.0**
KMI	**Kunming**	**29.30**	**3**	⇑P	**P**	**17 03 56.7**	**+1.1**
KMI				pP	**pP**	**17 04 04.4**	**-2.6**
KMI				sP	**sP**	**17 04 09.0**	**-3.1**
KMI				PP	**PnPn**	**17 04 54.2**	**+3.9**
KMI				PcP	**PcP**	**17 07 01.1**	**-0.6**
KMI				S	**S**	**17 08 49.5**	**+3.3**
KMI				pmax	pmax		
	comp=Z,63nm,0.8s						
KMI				pmax	pmax		
	comp=Z,500nm,5.4s						
KMI				LR	LR		
	comp=N,6µm,17.3s						
KMI				LR	LR		
	comp=E,6µm,15.9s						
KMI				LR	LR		
	comp=Z,6µm,18.7s						
CAL	**Calcutta**	**29.52**	**335**	*e*P	**P**	**17 03 56.0**	**-1.2**
CAL				*e*x	x	17 08 52.8	
FAKI	**Fak Fak**	**30.98**	**88**	P	**P**	**17 04 08.9**	**-1.5**
	comp=Z,68nm,0.9s,comp=Z,796nm						
GYA	**Guiyang**	**31.04**	**9**	⇑*i*P	**P**	**17 04 10.9**	**+0.1**
GYA				pP	**pP**	**17 04 25.0**	**+2.7**
GYA				sP	**sP**	**17 04 31.4**	**+4.0**
GYA				PP	**PnPn**	**17 05 16.8**	**+3.6**
GYA				sS	**sS**	**17 09 35.2**	**+2.8**
GYA				pmax	pmax		
	comp=Z,60nm,1.0s						
GYA				pmax	pmax		
	comp=Z,340nm,4.7s						
GYA				LR	LR		
	comp=N,2µm,19.3s						
GYA				LR	LR		
	comp=E,3µm,19.6s						
GYA				LR	LR		
	comp=Z,3µm,18.9s						
SHL	**Shillong**	**31.06**	**343**	⇑*i*P	**P**	**17 04 11.0**	**-0.1**
	comp=Z,38nm,0.8s						
SHL				*i* x	x	17 09 10.0	
HYB	**Hyderabad**	**31.11**	**315**	*i* P	**P**	**17 04 10.0**	**-1.5**
HYB				*e*S	**S**	**17 09 16.0**	**+1.6**
NWAO	**Narrogin (SRO)**	**32.15**	**154**	P	**P**	**17 04 19.8**	**-0.7**
	comp=Z,39nm,1.0s,baz=324,slow=9.5,SNR=10						
NWAO				LR	LR	17 16 54.5	
	comp=Z,4µm,19.1s,baz=328,slow=36						
NWAO	**Narrogin (SRO)**	**32.15**	**154**	P	**P**	**17 04 19.8**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,39nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,4µm,19.1s						
NWAO	**Narrogin (SRO)**	**32.15**	**154**	*e*P	**P**	**17 04 20.6**	**+0.2**
	comp=Z,40nm,0.9s						
TPUB	**Ta-pu**	**33.34**	**34**	P	**P**	**17 04 32.7**	**+1.7**
	comp=Z,43nm,0.8s						
QZH	**Quanzhou**	**33.62**	**29**	*e*P	P	17 04 37.5	+4.2
QZH				S	**S**	**17 09 53.4**	**+0.1**
QZH				LR	LR		
	comp=N,3µm,12.1s						
QZH				LR	LR		
	comp=E,3µm,14.9s						
QZH				LR	LR		
	comp=Z,4µm,16.7s						
ODAN	**Odare**	**33.76**	**337**	⇑*i*P	**P**	**17 04 35.7**	**+0.9**
	comp=Z,220nm,0.7s						
ODAN	**Odare**	**33.76**	**337**	⇑*i*P	**P**	**17 04 35.7**	**+0.9**
	comp=Z,220nm,0.7s						
TAPN	**Taplejung**	**34.08**	**338**	⇑*i*P	**P**	**17 04 39.1**	**+1.4**
	comp=Z,394nm,0.9s						
TAPN	**Taplejung**	**34.08**	**338**	⇑*i*P	**P**	**17 04 39.1**	**+1.4**
	comp=Z,394nm,0.9s						
RAMN	**Ramite**	**34.15**	**336**	⇑*i*P	**P**	**17 04 39.4**	**+1.2**
	comp=Z,140nm,0.7s						
RAMN	**Ramite**	**34.15**	**336**	⇑*i*P	**P**	**17 04 39.4**	**+1.2**
	comp=Z,140nm,0.7s						
NACB	**Ninganchiao**	**34.57**	**34**	P	P	17 04 33.8	-7.8
YHNB	**Yeheng**	**34.84**	**33**	*e*P	**P**	**17 04 43.6**	**-0.4**
	comp=Z,55nm,1.0s						
JIRN	**Jiri**	**34.95**	**336**	⇑*i*P	**P**	**17 04 46.5**	**+1.3**
	comp=Z,340nm,0.7s						
JIRN	**Jiri**	**34.95**	**336**	⇑*i*P	**P**	**17 04 46.5**	**+1.3**
	comp=Z,340nm,0.7s						
BAKI	**Biak**	**34.97**	**86**	P	**P**	**17 04 46.8**	**+1.6**
	comp=Z,66nm,1.0s						
ALBI	**Allahabad**	**34.97**	**328**	*e*x	**P**	**17 04 43.0**	**-2.0**
CD2	**Chengdu**	**35.11**	**4**	P	**P**	**17 04 45.9**	**-0.3**
CD2				pP	**pP**	**17 04 57.5**	**-0.3**
CD2				sP	**sP**	**17 05 02.6**	**-0.2**
CD2				PP	**PP**	**17 06 05.9**	**-0.6**
CD2				S	**S**	**17 10 15.8**	**-0.4**
CD2				sS	**sS**	**17 10 35.3**	**-0.2**
CD2				pmax	pmax		
	comp=Z,110nm,0.8s						
CD2				pmax	pmax		
	comp=Z,190nm,5.5s						
CD2				LR	LR		
	comp=N,7µm,19.6s						
CD2				LR	LR		
	comp=Z,8µm,13.7s						
LSA	**Lhasa**	**35.18**	**345**	P	**P**	**17 04 48.0**	**+0.6**
LSA				S	**S**	**17 10 15.5**	**-2.6**
LSA				LR	LR		
	comp=N,1µm,25.1s						
LSA				LR	LR		
	comp=E,2µm,26.7s						
LSA				LR	LR		
	comp=Z,3µm,17.4s						
LSA	**Lhasa**	**35.18**	**345**	⇑*i*P	**P**	**17 04 47.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s						
LSA	**Lhasa**	**35.18**	**345**	⇑*i*P	**P**	**17 04 47.9**	**+0.6**
	comp=Z,25nm,0.8s						
PKI	**Pulchoki**	**35.19**	**335**	⇑*i*P	**P**	**17 04 48.0**	**+0.7**
	comp=Z,54nm,0.7s						
PKI	**Pulchoki**	**35.19**	**335**	⇑*i*P	**P**	**17 04 48.0**	**+0.7**
PKI				pmax	pmax		
	comp=Z,55nm,0.7s						
PKI	**Pulchoki**	**35.19**	**335**	⇑*i*P	**P**	**17 04 48.0**	**+0.7**
	comp=Z,54nm,0.7s						
POO	**Poona**	**35.26**	**311**	*e*P	**P**	**17 04 48.0**	**+0.3**
ENH	**Enshi**	**35.29**	**12**	⇑*i*P	**P**	**17 04 46.4**	**-1.4**
	comp=Z,66nm,0.7s						
GUN	**Gumba**	**35.29**	**336**	⇑*i*P	**P**	**17 04 49.4**	**+1.2**
	comp=Z,272nm,0.7s						
GUN	**Gumba**	**35.29**	**336**	⇑*i*P	**P**	**17 04 49.4**	**+1.2**
	comp=Z,272nm,0.7s						
DMN	**Daman**	**35.35**	**335**	⇑*i*P	**P**	**17 04 49.4**	**+0.8**
	comp=Z,137nm,0.8s						
DMN	**Daman**	**35.35**	**335**	⇑*i*P	**P**	**17 04 49.4**	**+0.8**
	comp=Z,137nm,0.8s						
KKN	**Kakani**	**35.44**	**335**	⇑*i*P	**P**	**17 04 50.1**	**+0.8**
	comp=Z,140nm,0.8s						
KKN	**Kakani**	**35.44**	**335**	⇑*i*P	**P**	**17 04 50.1**	**+0.8**
KKN				pmax	pmax		
	comp=Z,140nm,0.8s						
KKN	**Kakani**	**35.44**	**335**	⇑*i*P	**P**	**17 04 50.1**	**+0.8**
	comp=Z,140nm,0.8s						
WRA	**Warramunga Arr**	**35.79**	**119**	P	**P**	**17 04 51.4**	**-0.8**
	comp=Z,47nm,1.0s,baz=291,slow=10,SNR=103						
WRA				S	**S**	**17 10 28.1**	**+1.2**
	comp=Z,8.1nm,1.0s,baz=295,slow=15,SNR=6.3						
WRA	**Warramunga Arr**	**35.79**	**119**	P	**P**	**17 04 51.4**	**-0.8**
WRA				S	**S**	**17 10 28.2**	**+1.2**
WRA				pmax	pmax		
	comp=Z,47nm,1.0s						
WRA				smax	smax		
	comp=N,8.0nm,1.0s						
WRA	**Warramunga Arr**	**35.79**	**119**	P	**P**	**17 04 51.4**	**-0.8**
WRA				S	**S**	**17 10 28.1**	**+1.2**
WRAB	**Tennant Creek**	**35.79**	**118**	P	**P**	**17 04 51.0**	**-1.3**
	comp=N,351nm,0.9s,SNR=29						
WB2	**Warramunga Arr**	**35.80**	**119**	⇑*i*P	**P**	**17 04 51.4**	**-0.9**
WB2				*e*S	**S**	**17 10 28.4**	**+1.3**
GKN	**Gorkha**	**35.89**	**334**	⇑*i*P	**P**	**17 04 54.1**	**+1.0**
	comp=N,160nm,0.9s						
GKN	**Gorkha**	**35.89**	**334**	⇑*i*P	**P**	**17 04 54.1**	**+1.0**
	comp=N,160nm,0.9s						
KOLN	**Koldanda**	**36.15**	**333**	⇑*i*P	**P**	**17 04 56.4**	**+1.0**
	comp=N,98nm,0.7s						
KOLN	**Koldanda**	**36.15**	**333**	⇑*i*P	**P**	**17 04 56.4**	**+1.0**
	comp=N,98nm,0.7s						
DANN	**Dangsing**	**36.58**	**334**	⇑*i*P	**P**	**17 05 00.0**	**+0.9**
	comp=N,232nm,0.9s						
DANN	**Dangsing**	**36.58**	**334**	⇑*i*P	**P**	**17 05 00.0**	**+0.9**
	comp=N,232nm,0.9s						
WHN	**Wuhan**	**36.86**	**19**	P	**P**	**17 05 01.4**	**+0.3**
WHN				pP	**pP**	**17 05 08.9**	**-3.8**
WHN				PP	**PnPn**	**17 06 26.1**	**0.0**
WHN				PcP	**PcP**	**17 07 21.6**	**-0.8**
WHN				pmax	pmax		
	comp=Z,88nm,0.8s						
WHN				LR	LR		
	comp=N,5µm,12.8s						
WHN				LR	LR		
	comp=E,8µm,15.6s						
WHN				LR	LR		
	comp=Z,9µm,15.4s						
ASAR	**Alice Springs**	**36.92**	**125**	P	**P**	**17 05 01.6**	**-0.2**
	comp=Z,18nm,0.9s,baz=296,slow=7.5,SNR=125						
ASAR				PcP	**PcP**	**17 07 22.7**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=303,slow=3.1,SNR=5.1						
ASAR				S	**S**	**17 10 43.8**	**-0.4**
	comp=Z,4.8nm,1.1s,baz=288,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**36.92**	**125**	P	**P**	**17 05 01.7**	**-0.2**
ASAR						17 07 22.7	
ASAR				S	**S**	**17 10 43.8**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,18nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASAR				smax	smax		
	comp=N,5.0nm,1.1s						
ASAR	**Alice Springs**	**36.92**	**125**	P	**P**	**17 05 01.6**	**-0.2**
ASAR				PcP	**PcP**	**17 07 22.7**	**-0.2**
ASAR				S	**S**	**17 10 43.8**	**-0.4**
AS31	**Alice Springs**	**36.92**	**125**	⇑*i*P	**P**	**17 05 01.5**	**-0.4**
AS31				*e*S	**S**	**17 10 44.3**	**+0.1**
SMPI	**Sarmi**	**37.49**	**88**	P	**P**	**17 05 05.7**	**-1.0**
	comp=N,54nm,0.9s						
XAN	**Xi’an**	**38.83**	**10**	P	**P**	**17 05 17.1**	**-0.7**
XAN				pP	**pP**	**17 05 25.2**	**-4.3**
XAN				sP	sP	17 05 28.5	-6.0
XAN				S	**ScP**	**17 11 19.4**	**+5.9**
XAN				sS	**sS**	**17 11 33.8**	**+1.5**
XAN				SS	**SS**	**17 14 04.1**	**-1.1**
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN				pmax	pmax		
	comp=Z,100nm,7.0s						
XAN				LR	LR		
	comp=N,4µm,14.5s						
XAN				LR	LR		
	comp=E,1µm,16.0s						
XAN				LR	LR		
	comp=Z,2µm,14.9s						
JAY	**Jayapura**	**39.44**	**89**	P	**P**	**17 05 25.2**	**+2.0**
	comp=Z,40nm,1.2s,comp=Z,5µm						
NJ2	**Nanjing**	**39.86**	**24**	*e*P	**P**	**17 05 26.2**	**-0.1**
NJ2				pP	**pP**	**17 05 38.1**	**+0.1**
NJ2				sP	**sP**	**17 05 43.1**	**0.0**
NJ2				PP	**PP**	**17 06 59.0**	**+0.4**
NJ2				S	**S**	**17 11 29.0**	**+0.8**
NJ2				sS	**sS**	**17 11 48.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,550nm,6.3s						
NJ2				LR	LR		
	comp=N,4µm,19.0s						
NJ2				LR	LR		
	comp=E,3µm,16.5s						
NJ2				LR	LR		
	comp=Z,3µm,19.7s						
SSE	**Sheshan**	**40.03**	**27**	P	**P**	**17 05 28.5**	**+0.7**
SSE				pP	**pP**	**17 05 40.1**	**+0.6**
SSE				sP	**sP**	**17 05 44.4**	**-0.1**
SSE				S	**S**	**17 11 26.7**	**-4.1**
SSE				pmax	pmax		
	comp=Z,51nm,0.9s						
SSE				pmax	pmax		
	comp=Z,410nm,5.7s						
SSE				LR	LR		
	comp=N,3µm,15.7s						
SSE				LR	LR		
	comp=E,2µm,15.7s						
SSE				LR	LR		
	comp=Z,2µm,13.5s						
NDI	**New Delhi**	**40.13**	**326**	*e*x	**P**	**17 05 30.5**	**+1.9**
LZH	**Lanzhou**	**40.26**	**3**	⇑P	**P**	**17 05 30.4**	**+0.6**
LZH				pP	**pP**	**17 05 42.5**	**+0.9**
LZH				sP	**sP**	**17 05 48.2**	**+1.6**
LZH				PP	**PnPn**	**17 07 08.0**	**+1.0**
LZH				PcP	**PcP**	**17 07 32.7**	**-0.4**
LZH				S	**S**	**17 11 35.3**	**+0.8**
LZH				sS	**sS**	**17 11 55.5**	**+1.5**
LZH				SS	**SS**	**17 14 30.2**	**-4.0**
LZH				ScS	**ScS**	**17 15 31.6**	**-1.4**
LZH				pmax	pmax		
	comp=Z,120nm,1.3s						
LZH				pmax	pmax		
	comp=Z,740nm,8.3s						
LZH				LR	LR		
	comp=N,5µm,14.2s						
LZH				LR	LR		
	comp=E,5µm,15.1s						
LZH				LR	LR		
	comp=Z,7µm,17.9s						
DDI	**Dehra Dun**	**40.97**	**329**	*e*P	**P**	**17 05 36.3**	**+0.7**
DDI				*e*x	x	17 07 15.0	
COEN	**Coen**	**42.44**	**106**	⇑*i*P	**P**	**17 05 46.0**	**-1.8**
	comp=Z,210nm,0.9s						
COEN				*e*PcP	**PcP**	**17 07 40.9**	**+0.4**
TIA	**Tai’an**	**42.97**	**19**	P	**P**	**17 05 51.4**	**-0.4**
TIA				S	S	17 12 25.7	+11
TIA				LR	LR		
	comp=N,4µm,19.6s						
TIA				LR	LR		
	comp=E,5µm,19.0s						
TIA				LR	LR		
	comp=Z,1µm,20.5s						
GTA	**Gaotai**	**43.53**	**358**	⇑*i*P	**P**	**17 05 57.2**	**+0.8**
GTA				pP	**pP**	**17 06 09.3**	**+1.1**
GTA				sP	**sP**	**17 06 14.9**	**+1.7**
GTA				PcP	**PcP**	**17 07 44.7**	**+0.9**
GTA				ScP	**ScP**	**17 11 31.5**	**-0.6**
GTA				S	**S**	**17 12 23.3**	**+0.7**
GTA				sS	**sS**	**17 12 43.7**	**+1.5**
GTA				ScS	**ScS**	**17 15 50.8**	**-2.0**
GTA				pmax	pmax		
	comp=Z,32nm,0.8s						
GTA				pmax	pmax		
	comp=Z,650nm,6.9s						
GTA				LR	LR		
	comp=N,3µm,13.8s						
GTA				LR	LR		
	comp=E,5µm,19.0s						
GTA				LR	LR		
	comp=Z,4µm,14.3s						
MRIV	**Mauritius Mete**	**45.41**	**246**	*e*P	**P**	**17 06 12.0**	**+0.4**
BTO	**Baotou**	**45.42**	**9**	*e*P	**P**	**17 06 11.1**	**-0.4**
PMG	**Port Moresby**	**45.85**	**99**	P	**P**	**17 06 14.1**	**-1.1**
	comp=Z,61nm,0.9s,baz=251,slow=3.8,SNR=16						
PMG	**Port Moresby**	**45.85**	**99**	⇑*i*P	**P**	**17 06 13.3**	**-1.8**
PMG				pmax	pmax		
	comp=Z,61nm,0.9s						
PMG	**Port Moresby**	**45.85**	**99**	⇑*i*P	**P**	**17 06 13.3**	**-1.8**
	comp=Z,61nm,0.9s						
HHC	**Hu-ho-hao-te**	**45.93**	**11**	*e*P	**P**	**17 06 16.4**	**+0.9**
HHC				pP	**pP**	**17 06 28.9**	**+1.5**
HHC				sP	**sP**	**17 06 34.4**	**+2.0**
HHC				PP	**PP**	**17 08 04.4**	**+0.6**
HHC				S	**S**	**17 12 56.5**	**-0.8**
HHC				sS	**sS**	**17 13 18.2**	**+1.1**
HHC				ScS	**ScS**	**17 16 05.6**	**-2.4**
HHC				SS	SS	17 16 14.5	-8.3
HHC				pmax	pmax		
	comp=Z,36nm,0.8s						
HHC				pmax	pmax		
	comp=Z,400nm,4.4s						
HHC				LR	LR		
	comp=N,5µm,15.7s						
HHC				LR	LR		
	comp=E,3µm,16.6s						
HHC				LR	LR		
	comp=Z,5µm,15.4s						
BJT	**Baijiatuau**	**46.21**	**16**	⇑*i*P	**P**	**17 06 17.8**	**+0.2**
BJT				pmax	pmax		
	comp=Z,47nm,0.6s						
BJT	**Baijiatuau**	**46.21**	**16**	⇑*i*P	**P**	**17 06 17.8**	**+0.2**
	comp=Z,47nm,0.6s						
BJI	**Beijing**	**46.23**	**16**	P	**P**	**17 06 17.9**	**+0.2**
BJI				pP	**pP**	**17 06 29.7**	**+0.1**
BJI				sP	**sP**	**17 06 35.6**	**+1.1**
BJI				PcP	**PcP**	**17 07 53.9**	**+1.1**
BJI				S	**S**	**17 13 05.9**	**+4.6**
BJI				sS	**sS**	**17 13 25.4**	**+4.3**
BJI				pmax	pmax		
	comp=Z,78nm,0.9s						
BJI				pmax	pmax		
	comp=Z,460nm,7.0s						
BJI				LR	LR		
	comp=N,3µm,17.7s						
BJI				LR	LR		
	comp=E,2µm,17.1s						
BJI				LR	LR		
	comp=Z,2µm,20.1s						
CTA	**Charters Tower**	**46.52**	**114**	P	**P**	**17 06 20.0**	**-0.4**
	comp=Z,58nm,1.0s,baz=288,slow=9.1,SNR=30						
CTA	**Charters Tower**	**46.52**	**114**	⇑*i*P	**P**	**17 06 20.5**	**0.0**
CTA	**Charters Tower**	**46.52**	**114**	P	**P**	**17 06 20.0**	**-0.4**
CTA				pmax	pmax		
	comp=Z,58nm,1.0s						
CTA	**Charters Tower**	**46.52**	**114**	P	**P**	**17 06 20.0**	**-0.4**
CTAO	**Charters Tower**	**46.52**	**114**	⇑*e*P	**P**	**17 06 20.1**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,77nm,1.0s						
CTAO	**Charters Tower**	**46.52**	**114**	⇑*e*P	**P**	**17 06 20.1**	**-0.3**
	comp=Z,77nm,1.0s						
JNU	**Nakatsue**	**46.63**	**35**	*e*P	**P**	**17 06 19.4**	**-1.7**
	comp=Z,30nm,1.0s						
STKA	**Stephens Creek**	**46.71**	**131**	P	**P**	**17 06 21.4**	**-0.3**
	comp=Z,19nm,0.9s,baz=294,slow=7.5,SNR=19						
STKA				LR	LR	17 25 19.1	
	comp=Z,2µm,21.5s,baz=296,slow=35						
STKA	**Stephens Creek**	**46.71**	**131**	⇑*i*P	**P**	**17 06 21.7**	**0.0**
STKA	**Stephens Creek**	**46.71**	**131**	⇑*e*P	**P**	**17 06 21.7**	**0.0**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**46.71**	**131**	⇑*e*P	**P**	**17 06 21.7**	**0.0**
	comp=Z,6.6nm,0.8s						
DL2	**Dalian**	**46.96**	**22**	P	**P**	**17 06 23.1**	**-0.3**
DL2				S	**S**	**17 13 11.4**	**-0.4**
DL2				pmax	pmax		
	comp=Z,20nm,0.9s						
DL2				pmax	pmax		
	comp=Z,400nm,5.2s						
DL2				LR	LR		
	comp=N,1µm,16.6s						
DL2				LR	LR		
	comp=E,990nm,16.8s						
DL2				LR	LR		
	comp=Z,1µm,18.7s						
INCN	**Inchon**	**47.83**	**27**	*e*P	**P**	**17 06 28.9**	**-1.5**
	comp=Z,68nm,1.3s						
KSAR	**Wonju Array Be**	**48.38**	**29**	P	**P**	**17 06 34.3**	**-0.2**
KSAR	**Wonju Array Be**	**48.38**	**29**	P	**P**	**17 06 34.3**	**-0.2**
KSRS	**Korea Array**	**48.41**	**29**	P	**P**	**17 06 34.3**	**-0.4**
	comp=Z,72nm,0.9s,baz=216,slow=7.9,SNR=99						
KSRS	**Korea Array**	**48.41**	**29**	P	**P**	**17 06 34.3**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,72nm,0.9s						
KBL	**Kabul**	**49.12**	**324**	*e*P	**P**	**17 06 39.6**	**-0.9**
KBL				pmax	pmax		
	comp=Z,14nm,0.7s						
KBL	**Kabul**	**49.12**	**324**	*e*P	**P**	**17 06 39.6**	**-0.9**
	comp=Z,14nm,0.7s						
WMQ	**Urumqi**	**49.45**	**347**	P	**P**	**17 06 43.2**	**+0.5**
WMQ				pP	**pP**	**17 06 55.6**	**+0.9**
WMQ				sP	**sP**	**17 07 00.9**	**+1.3**
WMQ				PcP	**PcP**	**17 08 05.4**	**+1.0**
WMQ				S	**S**	**17 13 45.7**	**-1.4**
WMQ				ScS	**ScS**	**17 16 28.0**	**-3.1**
WMQ				pmax	pmax		
	comp=Z,140nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,790nm,5.1s						
WMQ				LR	LR		
	comp=N,1µm,22.2s						
WMQ				LR	LR		
	comp=E,2µm,21.6s						
WMQ				LR	LR		
	comp=Z,2µm,21.2s						
SNY	**Shenyang**	**50.23**	**22**	⇑P	**P**	**17 06 47.0**	**-1.6**
SNY				PP	**PP**	**17 08 43.6**	**-0.7**
SNY				S	**S**	**17 14 01.3**	**+3.4**
SNY				pmax	pmax		
	comp=Z,34nm,1.4s						
SNY				pmax	pmax		
	comp=Z,290nm,3.7s						
SNY				LR	LR		
	comp=N,2µm,17.6s						
SNY				LR	LR		
	comp=E,2µm,18.1s						
SNY				LR	LR		
	comp=Z,2µm,16.9s						
KZA	**Kyzart**	**51.87**	**336**	P	**P**	**17 07 02.2**	**+0.7**
	SNR=20						
KZA				P	**P**	**17 07 02.2**	**+0.7**
	SNR=20						
SONM	**Songino Array**	**52.13**	**4**	P	**P**	**17 07 03.7**	**+0.8**
	comp=Z,71nm,0.8s,baz=183,slow=8.6,SNR=490						
SONM				PcP	**PcP**	**17 08 14.8**	**+0.4**
	comp=Z,18nm,0.8s,baz=182,slow=3.9,SNR=5.8						
SONM				LR	LR	17 31 21.4	
	comp=Z,2µm,19.0s,baz=187,slow=39						
SONM	**Songino Array**	**52.13**	**4**	P	**P**	**17 07 03.7**	**+0.8**
SONM						17 08 14.8	
SONM				pmax	pmax		
	comp=Z,71nm,0.8s						
SONM				pmax	pmax		
	comp=Z,18nm,0.8s						
SONM				MLR	MLR		
	comp=Z,2µm,19.0s						
SONM	**Songino Array**	**52.13**	**4**	P	**P**	**17 07 03.7**	**+0.8**
SONM				PcP	**PcP**	**17 08 14.8**	**+0.4**
EIDS	**Eidsvold**	**52.15**	**119**	*e*P	**P**	**17 07 03.6**	**+0.3**
	comp=Z,42nm,1.1s						
ULN	**Ulaanbaatar**	**52.21**	**5**	⇑*i*P	**P**	**17 07 04.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,43nm,0.8s						
ULN	**Ulaanbaatar**	**52.21**	**5**	⇑*i*P	**P**	**17 07 04.3**	**+0.8**
	comp=Z,43nm,0.8s						
ULN				⇑*i*PcP	**PcP**	**17 08 14.8**	**+0.1**
ULN	**Ulaanbaatar**	**52.21**	**5**	P	**P**	**17 07 04.0**	**+0.5**
	comp=Z,62nm,0.9s,comp=Z,920nm						
TKM2	**Tokmak 2**	**52.43**	**336**	P	**P**	**17 07 05.9**	**+0.5**
	SNR=86						
TKM2				P	**P**	**17 07 05.9**	**+0.5**
	SNR=86						
TKM2	**Tokmak 2**	**52.43**	**336**	P	**P**	**17 07 05.6**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,44nm,0.8s						
TKM2	**Tokmak 2**	**52.43**	**336**	⇑*i*P	**P**	**17 07 05.6**	**+0.2**
	comp=Z,46nm,0.7s						
TKM2				*e*PP	**PP**	**17 09 08.3**	**+3.7**
KBK	**Karagaybulak**	**52.48**	**336**	P	**P**	**17 07 06.7**	**+1.1**
	SNR=30						
KBK				P	**P**	**17 07 06.7**	**+1.1**

Code	Station	Dist	Az	Phase	ISC phase	Time	Res
	SNR=30						
AML	**Almayashu**	**52.57**	**334**	P	**P**	**17 07 07.1**	**+0.5**
	SNR=51						
AML				P	**P**	**17 07 07.1**	**+0.5**
	SNR=51						
CN2	**Changchun**	**52.63**	**22**	*e*P	**P**	**17 07 05.4**	**-1.1**
CN2				*e*pP	**pP**	**17 07 17.9**	**-0.7**
CN2				*e*sP	**sP**	**17 07 23.3**	**-0.2**
CN2				*e*S	**S**	**17 14 32.5**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2µm,19.0s						
CN2				LR	LR		
	comp=E,2µm,19.0s						
CN2				LR	LR		
	comp=Z,1µm,20.0s						
AAK	**Ala-Archa**	**52.64**	**335**	P	**P**	**17 07 07.6**	**+0.8**
	SNR=18						
AAK				P	**P**	**17 07 07.6**	**+0.8**
	SNR=18						
AAK	**Ala-Archa**	**52.64**	**335**	*i* P	**P**	**17 07 07.6**	**+0.8**
AAK				pmax	pmax		
	comp=Z,139nm,2.4s						
AAK	**Ala-Archa**	**52.64**	**335**	P	**P**	**17 07 07.0**	**+0.1**
	comp=Z,97nm,0.9s,SNR=18						
FRU	**Bishkek**	**52.76**	**336**⇑	*i*P	**P**	**17 07 09.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,210nm,2.5s						
FRU				MLR	MLR		
	comp=E,3µm,20.0s						
CHMS	**Chumysh**	**52.84**	**336**	P	**P**	**17 07 08.3**	**+0.2**
	SNR=19						
CHMS				P	**P**	**17 07 08.3**	**+0.2**
	SNR=19						
EKS2	**Erkin-Say**	**52.97**	**335**	P	**P**	**17 07 10.0**	**+0.8**
	SNR=85						
EKS2				P	**P**	**17 07 10.0**	**+0.8**
	SNR=85						
USP	**Ospenovka**	**53.16**	**336**	P	**P**	**17 07 10.9**	**+0.3**
	SNR=46						
USP				P	**P**	**17 07 10.9**	**+0.3**
	SNR=46						
MAJO	**Matsushiro**	**53.33**	**37**	*e*P	**P**	**17 07 10.1**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,74nm,1.3s						
MAJO	**Matsushiro**	**53.33**	**37**	*e*P	**P**	**17 07 10.1**	**-1.7**
	comp=Z,74nm,1.3s						
MAT	**Matsushiro**	**53.33**	**37**	P	**P**	**17 07 10.4**	**-1.4**
MAT				*e*S	**S**	**17 14 37.0**	**-3.7**
MJAR	**Matsushiro Arr**	**53.33**	**37**	P	**P**	**17 07 10.7**	**-1.1**
	comp=Z,45nm,0.9s,baz=217,slow=8.0,SNR=92						
MJAR	**Matsushiro Arr**	**53.33**	**37**	P	**P**	**17 07 10.7**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,45nm,0.9s						
MJAR	**Matsushiro Arr**	**53.33**	**37**	P	**P**	**17 07 10.7**	**-1.1**
MK31	**Makanchi Array**	**53.58**	**344**⇑	*i*P	**P**	**17 07 13.3**	**-0.2**
MK31	**Makanchi Array**	**53.58**	**344**⇑	*i*P	**P**	**17 07 13.3**	**-0.2**
MKAR	**Makanchi Array**	**53.58**	**344**	P	**P**	**17 07 13.5**	**0.0**
	comp=Z,57nm,0.7s,baz=146,slow=8.0,SNR=555						
MKAR				S	**S**	**17 14 44.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=157,slow=12,SNR=2.1						
MKAR				LR	LR	17 34 02.1	
	comp=Z,846nm,20.9s,baz=159,slow=41						
MKAR	**Makanchi Array**	**53.58**	**344**	P	**P**	**17 07 13.5**	**0.0**
MKAR				S	**S**	**17 14 44.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,57nm,0.7s						
MKAR				smax	smax		
	comp=N,1.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,846nm,20.9s						
MKAR	**Makanchi Array**	**53.58**	**344**	P	**P**	**17 07 13.5**	**0.0**
MKAR				S	**S**	**17 14 44.1**	**+0.3**
ARMA	**Armidale**	**54.07**	**125**⇑	*i*P	**P**	**17 07 19.0**	**+1.5**
ARMA	**Armidale**	**54.07**	**125**	*e*P	**P**	**17 07 18.7**	**+1.2**
	comp=Z,39nm,1.1s						
ZAK	**Zakamensk**	**54.51**	**2**	*e*P	**P**	**17 07 20.5**	**+0.2**
ZAK				*e*		17 08 22.7	
ZAK				pmax	pmax		
	comp=Z,17nm,0.9s						
OPO	**Ambohidratompo**	**54.62**	**250**	P	**P**	**17 07 22.5**	**+0.8**
	comp=Z,7.7nm,0.8s,baz=72,slow=4.8,SNR=15						
OPO	**Ambohidratompo**	**54.62**	**250**	P	**P**	**17 07 22.5**	**+0.8**
KK31	**Karatay Array**	**54.76**	**333**	*i* P	**P**	**17 07 21.0**	**-1.2**
KK31				pmax	pmax		
	comp=Z,13nm,0.8s						
KKAR	**Karatay Array**	**54.76**	**333**⇑	*i*P	**P**	**17 07 21.1**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**54.76**	**333**⇑	*i*P	**P**	**17 07 21.1**	**-1.1**
	comp=Z,8.9nm,0.7s						
MDJ	**Mudanjiang**	**54.94**	**24**	P	**P**	**17 07 23.3**	**-0.1**
MDJ				sP	**sP**	**17 07 39.9**	**-0.5**
MDJ				PcP	**PcP**	**17 08 25.1**	**+0.2**
MDJ				PP	**PP**	**17 09 26.8**	**-0.1**
MDJ				S	**S**	**17 15 05.1**	**+2.9**
MDJ				pmax	pmax		
	comp=Z,38nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,330nm,5.2s						
MDJ				LR	LR		
	comp=E,1µm,21.8s						
MDJ				LR	LR		
	comp=Z,1µm,22.6s						
MDJ	**Mudanjiang**	**54.94**	**24**⇑	*i*P	**P**	**17 07 23.1**	**-0.3**
	comp=Z,33nm,0.9s						
USRK	**Ussuriysk Arra**	**55.64**	**26**	P	**P**	**17 07 28.6**	**+0.1**
	comp=Z,124nm,0.8s,baz=221,slow=5.9,SNR=200						
USRK				LR	LR	17 33 00.2	
	comp=Z,2µm,19.2s,baz=36,slow=38						
HIA	**Hailar**	**55.74**	**15**⇑	*i*P	**P**	**17 07 28.5**	**-0.6**
HIA				pmax	pmax		
	comp=Z,21nm,0.8s						
HIA	**Hailar**	**55.74**	**15**⇑	*i*P	**P**	**17 07 28.4**	**-0.6**
	comp=Z,21nm,0.8s						
MOY	**Mondy**	**55.77**	**360**	*e*P	**P**	**17 07 29.0**	**-0.4**
MOY				pmax	pmax		
	comp=Z,65nm,4.2s						
TLY	**Talaya**	**55.82**	**2**	*e*P	**P**	**17 07 29.7**	**+0.1**
TLY				*e*		17 09 32.2	
TLY				*e*PPP	PPP	17 10 51.3	
TLY				*e*S	S	17 15 07.1	-6.6
TLY				*e*		17 17 11.0	
TLY				pmax	pmax		
	comp=Z,38nm,1.0s						
TLY				MLR	MLR		
	comp=Z,2µm,17.0s						
TLY	**Talaya**	**55.82**	**2**	P	**P**	**17 07 30.5**	**+0.9**
	comp=Z,244nm,0.8s,SNR=12						
IRK	**Irkutsk**	**56.40**	**2**	*e*P	**P**	**17 07 33.7**	**-0.1**
IRK				pmax	pmax		
	comp=Z,77nm,2.0s						
ABKT	**Ailbek**	**58.00**	**320**	P	**P**	**17 07 45.6**	**+0.2**
	comp=Z,166nm,0.8s,SNR=8.2						
KURK	**Kurchatov**	**58.16**	**343**	P	**P**	**17 07 45.7**	**-0.5**
	comp=Z,40nm,0.8s,baz=160,slow=6.8,SNR=301						
KURK				S	**S**	**17 15 45.2**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=170,slow=16,SNR=3.1						
KURK	**Kurchatov**	**58.16**	**343**	P	**P**	**17 07 45.7**	**-0.5**
KURK				S	**S**	**17 15 45.3**	**+0.7**
KURK				pmax	pmax		
	comp=Z,40nm,0.8s						
KURK	**Kurchatov**	**58.16**	**343**	P	**P**	**17 07 45.7**	**-0.5**
KURK				S	**S**	**17 15 45.2**	**+0.7**
KURK	**Kurchatov**	**58.16**	**343**	P	**P**	**17 07 46.4**	**+0.2**
	comp=Z,423nm,0.9s,SNR=67						
HNR	**Honiara**	**58.46**	**98**	P	**P**	**17 07 47.0**	**-1.9**
	comp=Z,205nm,0.9s,baz=205,slow=4.0,SNR=4.9						
HNR	**Honiara**	**58.46**	**98**	*e*P	P	17 07 45.4	-3.5
HNR				pmax	pmax		
	comp=Z,281nm,1.0s						
HNR	**Honiara**	**58.46**	**98**	*e*P	P	17 07 45.4	-3.5
	comp=Z,281nm,1.0s						
ZAA0	**Zalesovo Array**	**59.66**	**349**⇑	*i*P	**P**	**17 07 56.2**	**-0.3**
ZALV	**Zalesovo Beam**	**59.66**	**349**	P	**P**	**17 07 56.4**	**-0.1**
	comp=Z,65nm,0.8s,baz=174,slow=4.8,SNR=304						
ZALV				S	**S**	**17 16 00.9**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=2.8						
ZALV				LR	LR	17 37 40.3	
	comp=Z,1µm,18.6s,baz=38,slow=40						
ZALV	**Zalesovo Beam**	**59.66**	**349**	P	**P**	**17 07 56.4**	**-0.1**
ZALV				S	**S**	**17 16 00.9**	**-3.0**
ZALV				pmax	pmax		
	comp=Z,65nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,1µm,18.6s						
ZALV	**Zalesovo Beam**	**59.66**	**349**	P	**P**	**17 07 56.4**	**-0.1**
ZALV				S	**S**	**17 16 00.9**	**-3.0**
HABR	**Khabarovsk**	**60.29**	**25***c*	*e*P	**P**	**17 07 58.2**	**-2.8**
HABR				*e**PP	**pP**	**17 08 09.6**	**-3.6**
HABR				*e**SP	**sP**	**17 08 14.4**	**-3.7**
HABR				*e*		17 08 43.1	
HABR						17 10 10.5	
HABR				*e*S	S	17 16 22.5	+10
HABR				*e**SS	**sS**	**17 16 28.3**	**-4.3**
HABR				*e*		17 17 45.1	
HABR				*e*SS	**SS**	**17 20 07.0**	**-3.4**
HABR				pmax	pmax		
	comp=Z,158nm,2.5s						
HABR				pmax	pmax		
	comp=E,109nm,2.0s						
HABR				pmax	pmax		
	comp=N,71nm,2.5s						
HABR				MLR	MLR		
	comp=Z,2µm,20.0s						
NVS	**Novosibirsk**	**60.81**	**348**⇑	*i*P	**P**	**17 08 02.8**	**-1.6**
NVS				*e*S	**S**	**17 16 18.3**	**-0.4**
NVS				pmax	pmax		
	comp=N,28nm,1.5s						
NVS				pmax	pmax		
	comp=Z,46nm,1.5s						
NVS				pmax	pmax		
	comp=E,14nm,1.2s						
NVS				smax	smax		
	comp=N,17nm,1.8s						
NVS				smax	smax		
	comp=E,25nm,1.8s						
CASY	**Casey**	**62.20**	**176**	*e*P	**P**	**17 08 13.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**62.61**	**35***d*	*i*P	P	17 08 09.8	-6.9
YUK				*i* PPP	PPP	17 11 58.9	
YUK				*e*S	**S**	**17 16 35.9**	**-5.8**
YUK				*e*		17 17 59.7	
YUK				SSS	SSS	17 23 35.6	
YUK				pmax	pmax		
	comp=Z,157nm,4.1s						
YUK				MLR	MLR		
	comp=Z,1µm,22.0s						
YUK				MLR	MLR		
	comp=N,415nm,20.0s						
BVA0	**Borovoye Array**	**62.77**	**340**	P	**P**	**17 08 16.9**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**62.77**	**340**	P	**P**	**17 08 17.0**	**-0.6**
	comp=Z,29nm,0.7s,baz=144,slow=8.6,SNR=268						
BVAR	**Borovoye Array**	**62.77**	**340**	P	**P**	**17 08 17.0**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,29nm,0.7s						
BVAR	**Borovoye Array**	**62.77**	**340**	P	**P**	**17 08 17.0**	**-0.6**
BOD	**Bodaibo**	**62.78**	**8**	*e*P	**P**	**17 08 17.9**	**+0.3**
BOD				pmax	pmax		
	comp=Z,38nm,1.0s						
YSS	**Yuzh-Sakhalins**	**62.81**	**31**⇑	*i*P	**P**	**17 08 19.0**	**+1.1**
YSS				*e*		17 08 26.8	
YSS				*e*		17 08 32.3	
YSS				pmax	pmax		
	comp=N,30nm,0.8s						
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS	**Yuzh-Sakhalins**	**62.81**	**31**⇑	*i*P	**P**	**17 08 17.5**	**-0.4**
	comp=Z,137nm,0.9s						
BRVK	**Borovoye**	**62.83**	**340***d*	*i*P	**P**	**17 08 17.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,28nm,0.8s						
BRVK	**Borovoye**	**62.83**	**340**	P	**P**	**17 08 17.4**	**-0.6**
	comp=Z,210nm,0.7s,SNR=24						
CLNS	**Chul'man**	**63.92**	**14**	*e*P	**P**	**17 08 24.3**	**-0.9**
CLNS				*e**PP	**pP**	**17 08 35.6**	**-2.0**
CLNS				*e*		17 08 57.0	
CLNS				*e*		17 10 45.5	
CLNS				*e*PPP	PPP	17 12 17.8	
CLNS				*e*S	**S**	**17 17 01.4**	**+3.5**
CLNS				*e*		17 18 14.2	
CLNS				*e*SS	**SS**	**17 21 03.9**	**-3.2**
CLNS				pmax	pmax		
	comp=Z,28nm,0.9s						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				smax	smax		
	comp=N,195nm,12.2s						
CLNS				smax	smax		
	comp=E,106nm,14.1s						
CLNS				MLR	MLR		
	comp=Z,3µm,16.0s						
CLNS				MLR	MLR		
	comp=E,2µm,16.0s						
CLNS				MLR	MLR		
	comp=N,2µm,13.0s						
KMBO	**Kilima Mbogo**	**63.97**	**271**	*e*P	**P**	**17 08 28.0**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMBO	**Kilima Mbogo**	**63.97**	**271**	*e*P	**P**	**17 08 28.0**	**+1.4**
	comp=Z,5.2nm,1.0s						
ABKAR	**Akbulak array**	**64.25**	**331**⇑	*i*P	**P**	**17 08 26.9**	**-0.5**
	comp=Z,43nm,0.7s						
BHD	**Baghdad**	**65.42**	**310**	*i* P	P	17 08 32.0	-3.4
BHD				*i* PcP	**PcP**	**17 09 12.0**	**+4.9**
BHD				*i* PP	**PP**	**17 11 03.0**	**+3.2**
BHD				*i* PPP	PPP	17 12 32.0	
BHD				*i* S	**S**	**17 17 12.0**	**-5.0**
BHD				*i* PS	**PnS**	**17 17 32.0**	**-8.7**
DZM	**Mont Dzumac**	**65.43**	**112**	*e*P	**P**	**17 08 38.8**	**+3.0**
	comp=Z,43nm,1.2s						
DZM				*e*S	**S**	**17 17 23.5**	**+5.7**
	comp=Z,1µm,27.5s						
DZM				*e*LR	LR	17 28 32.6	
	comp=Z,3µm,24.6s						
AKTO	**Aktyubinsk**	**65.97**	**331**	P	**P**	**17 08 38.0**	**-0.6**
	comp=Z,8.9nm,0.8s,baz=133,slow=8.5,SNR=34						
AKTO	**Aktyubinsk**	**65.97**	**331**	P	**P**	**17 08 38.0**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKTO	**Aktyubinsk**	**65.97**	**331**	P	**P**	**17 08 38.0**	**-0.6**
DRV	**Dumont d'Urvil**	**67.78**	**164**	P	**P**	**17 08 49.0**	**-0.8**
DRV				S	S	17 17 28.0	-16
DRV				SS	**SS**	**17 22 01.0**	**-5.3**
DRV				L	L	17 26 00.0	
DRV				R		17 28 00.0	
GNI	**Garni**	**68.04**	**316**	P	**P**	**17 08 52.0**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=180,slow=20,SNR=4.5						
GNI	**Garni**	**68.04**	**316**	P	**P**	**17 08 52.0**	**-0.2**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GNI	**Garni**	**68.04**	**316**	P	**P**	**17 08 52.0**	**-0.2**
SVE	**Sverdlovsk**	**69.28**	**338***d*	*i*P	**P**	**17 08 59.6**	**+0.3**
SVE				*e*		17 11 34.4	
SVE				*e*S	**S**	**17 18 06.7**	**+4.1**
SVE				*e*		17 18 51.0	
SVE				pmax	pmax		
	comp=Z,72nm,0.9s						
SVE				MLR	MLR		
	comp=Z,2µm,22.0s						
YAK	**Yakutsk**	**69.67**	**14***c*	*i*P	**P**	**17 09 00.4**	**-1.2**
YAK				*e**PP	pP	17 09 08.6	-5.5
YAK				*e*		17 09 18.6	
YAK				*e*		17 11 36.1	
YAK				*e*S	**S**	**17 18 06.6**	**-0.3**
YAK				*e*		17 18 56.3	
YAK				*e*SS	**SS**	**17 22 41.2**	**+5.4**
YAK				pmax	pmax		
	comp=Z,125nm,0.9s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				pmax	pmax		
	comp=N,19nm,1.0s						
YAK				pmax	pmax		
	comp=Z,88nm,3.2s						
YAK				smax	smax		
	comp=N,152nm,12.2s						
YAK				smax	smax		
	comp=E,42nm,9.6s						
YAK				MLR	MLR		
	comp=Z,4µm,17.0s						
YAK				MLR	MLR		
	comp=N,2µm,14.0s						
YAK				MLR	MLR		
	comp=E,1µm,17.0s						
YAK	**Yakutsk**	**69.67**	**14**⇑	*i*P	**P**	**17 09 00.3**	**-1.2**
	comp=E,133nm,0.8s						
ZEI	**Tsey**	**69.77**	**319**	*e*P	**P**	**17 09 03.7**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,20nm,0.7s						
ARU	**Arti**	**69.81**	**336***c*	*i*P	**P**	**17 09 02.3**	**-0.3**
ARU				*e*		17 09 23.0	
ARU				*e*		17 11 38.3	
ARU				PPP	PPP	17 13 19.5	
ARU				S	**S**	**17 18 08.3**	**-0.5**
ARU				SS	**SS**	**17 22 33.0**	**-5.2**
ARU				SSS	SSS	17 25 47.1	
ARU				pmax	pmax		
	comp=Z,35nm,0.8s						
ARU				MLR	MLR		
	comp=Z,1µm,20.0s						
ARU	**Arti**	**69.81**	**336**	P	**P**	**17 09 02.6**	**0.0**
	comp=Z,228nm,0.7s,SNR=16						
ASF	**Jabal al Asfar**	**70.94**	**306**	P	**P**	**17 09 11.0**	**+0.9**
	comp=Z,13nm,0.9s,baz=30,slow=20,SNR=16						
ASF	**Jabal al Asfar**	**70.94**	**306**	P	**P**	**17 09 11.0**	**+0.9**
ASF				pmax	pmax		
	comp=Z,13nm,0.9s						
ASF	**Jabal al Asfar**	**70.94**	**306**	P	**P**	**17 09 11.0**	**+0.9**
KIV	**Kislovodsk**	**71.09**	**319**⇑	*e*P	**P**	**17 09 11.0**	**+0.2**
KIV				*e*		17 09 21.6	
KIV				*e*		17 09 27.4	
KIV				*e*		17 11 58.3	
KIV				*i* S	**S**	**17 18 25.7**	**+1.2**
KIV				*e*		17 19 11.0	
KIV				SS	**SS**	**17 22 56.0**	**-2.7**
KIV				pmax	pmax		
	comp=Z,20nm,0.8s						
KIV				MLR	MLR		
	comp=Z,500nm,24.0s						
MMAI	**Mount Meron Ar**	**72.39**	**306**	P	**P**	**17 09 19.9**	**+1.0**
	comp=Z,13nm,0.9s,baz=110,slow=7.2,SNR=8.5						
MMAI	**Mount Meron Ar**	**72.39**	**306**	P	**P**	**17 09 19.9**	**+1.0**
RPZ	**Rata Peaks**	**72.49**	**134**	LR	LR	17 38 18.0	
	comp=Z,629nm,21.2s,baz=306,slow=34						
RPZ	**Rata Peaks**	**72.49**	**134**	*e*P	P	17 09 14.8	-4.4
SOC	**Sochi**	**72.89**	**318**	*e*P	**P**	**17 09 20.2**	**-1.3**
SOC				*e*		17 09 36.1	
SOC				*e*		17 11 59.7	
SOC				*e*PPP	PPP	17 13 45.6	
SOC				*e*S	**S**	**17 18 43.4**	**-1.5**
SOC				pmax	pmax		
	comp=Z,36nm,0.9s						
SOC				MLR	MLR		
	comp=Z,649nm,20.0s						
OUZ	**Omahuta**	**73.12**	**125**	P	**P**	**17 09 23.6**	**+0.5**
	comp=Z,12nm,1.2s						
KHZ	**Kahutara**	**74.06**	**133**	*e*P	**P**	**17 09 28.0**	**-0.4**
	comp=Z,22nm,0.8s						
PETK	**Petropavlovsk-**	**74.19**	**31**	P	**P**	**17 09 28.4**	**-0.6**
	comp=Z,17nm,0.8s,baz=195,slow=2.8,SNR=15						
PETK	**Petropavlovsk-**	**74.19**	**31**	P	**P**	**17 09 28.4**	**-0.6**
PETK				pmax	pmax		
	comp=Z,17nm,0.8s						
PETK	**Petropavlovsk-**	**74.19**	**31**	P	**P**	**17 09 28.4**	**-0.6**
CSS	**Prodhromos**	**74.61**	**308**	*e*P	**P**	**17 09 31.9**	**+0.1**
	comp=Z,64nm,1.4s						
PET	**Petropavlovsk**	**74.64**	**32**	*e*P	**P**	**17 09 30.7**	**-0.8**
PET				pmax	pmax		
	comp=Z,57nm,0.8s						
PET	**Petropavlovsk**	**74.64**	**32**	*e*P	**P**	**17 09 30.7**	**-0.8**
	comp=Z,57nm,0.8s						
ANN	**Anapa**	**74.87**	**319**	*e*	**P**	**17 09 33.0**	**-0.1**
ANN				pmax	pmax		
	comp=Z,82nm,1.4s						
VRHR	**Novokhopersk**	**74.92**	**326**	*e*P	**P**	**17 09 32.6**	**-0.6**
VRHR				pmax	pmax		
	comp=Z,50nm,0.6s						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,30nm,0.9s						
LBTB	**Lobatse**	**75.17**	**245**	*e*P	**P**	**17 09 35.3**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LBTB	**Lobatse**	**75.17**	**245**	*e*P	**P**	**17 09 35.3**	**-0.1**
	comp=Z,10nm,0.9s						
BOSA	**Boshof**	**75.64**	**242**	P	**P**	**17 09 37.7**	**-0.3**
	comp=Z,6.3nm,0.9s,baz=91,slow=5.5,SNR=8.0						
BOSA				LR	LR	17 37 10.0	
	comp=Z,1µm,19.9s,baz=88,slow=31						
BOSA	**Boshof**	**75.64**	**242**	P	**P**	**17 09 37.7**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOSA				MLR	MLR		
	comp=Z,1µm,19.9s						
BOSA	**Boshof**	**75.64**	**242**	*e*P	**P**	**17 09 37.2**	**-0.9**
	comp=Z,22nm,1.2s						
BRTR	**Keskin Array B**	**75.78**	**313**	P	**P**	**17 09 37.8**	**-0.8**
	comp=Z,9.8nm,0.8s,baz=131,slow=6.7,SNR=56						
BRTR	**Keskin Array B**	**75.78**	**313**	P	**P**	**17 09 37.8**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRTR	**Keskin Array B**	**75.78**	**313**	P	**P**	**17 09 37.8**	**-0.8**
BR131	**Keskin Array S**	**75.79**	**313**⇑	*i*P	**P**	**17 09 37.2**	**-1.4**
	comp=Z,7.9nm,0.7s						
SYO	**Syowa Base**	**76.09**	**199**⇑	*e*P	**P**	**17 09 39.6**	**0.0**
SYO	**Syowa Base**	**76.09**	**199**⇑	*e*PKiKP	**PKiKP**	**17 15 24.6**	**-0.6**
URZ	**Urewera**	**76.25**	**128**	P	**P**	**17 09 40.1**	**-1.1**
	comp=Z,9.4nm,1.0s,baz=319,slow=12,SNR=3.2						
URZ	**Urewera**	**76.25**	**128**	P	**P**	**17 09 40.1**	**-1.1**
VSR	**Storozhevoye**	**76.37**	**325**	*e*P	**P**	**17 09 40.8**	**-0.7**
VSR				*e*S	**SKSac**	**17 19 48.5**	**-0.9**
VSR				pmax	pmax		
	comp=N,7.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VSR				smax	smax		
	comp=N,180nm,3.3s						
VSR				smax	smax		
	comp=Z,190nm,2.8s						
VSR				smax	smax		
	comp=E,10.0nm,0.9s						
VSR				MLR	MLR		
	comp=Z,1µm,22.0s						
VSR				MLR	MLR		
	comp=N,150nm,6.0s						
VSR				MLR	MLR		
	comp=E,1µm,22.0s						
SIM	**Simferopol'**	**77.13**	**318**	*e*P	**P**	**17 09 46.5**	**+0.5**
SIM				*e*S	**S**	**17 19 32.0**	**-0.1**
SIM				pmax	pmax		
	comp=Z,22nm,0.9s						
SEY	**Seymchan**	**77.31**	**21**	*e*P	**P**	**17 09 45.7**	**-0.8**
MOS	**Moscow**	**79.10**	**329**	*e*P	**P**	**17 09 56.2**	**-0.4**
MOS				*e*		17 10 02.9	
MOS				*e*		17 12 59.1	
MOS				pmax	pmax		
	comp=Z,39nm,0.8s						
OBN	**Obninsk**	**79.40**	**328***c*	*e*P	**P**	**17 09 58.3**	**+0.1**
OBN				*e*		17 10 03.8	
OBN						17 10 07.0	
OBN				*e*		17 10 15.9	
OBN				*e*		17 12 58.3	
OBN				*e*		17 19 55.1	
OBN				*i* PS	**PnS**	**17 20 46.6**	**+2.7**
OBN				*e*SS	SS	17 25 03.6	-0.4
OBN				pmax	pmax		
	comp=Z,34nm,0.8s						
OBN				MLR	MLR		
	comp=Z,800nm,21.0s						
VNDA	**Vanda**	**79.67**	**169**	*e*P	**P**	**17 09 59.5**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**79.67**	**169**	*e*P	**P**	**17 09 59.5**	**+0.1**
	comp=Z,11nm,0.9s						
SBA	**Scott Base**	**80.76**	**169**	*e*P	**P**	**17 10 02.7**	**-2.5**
SBA				pmax	pmax		
	comp=Z,45nm,1.5s						
SBA	**Scott Base**	**80.76**	**169**	*e*P	**P**	**17 10 02.7**	**-2.5**
	comp=Z,45nm,1.5s						
TIRR	**Tirgusor**	**80.87**	**316**	⇓P	**P**	**17 10 06.5**	**+0.1**

TIRR Tirgusor 80.87 316 ⇓*i*P P 17 10 06.5 +0.1
KIS Kishinev 81.27 319 *e*P pP 17 10 25.0 +3.8
KIS *e* 17 20 16.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS Kishinev 81.27 319 *e*P pP 17 10 25.0 +3.8
KIS *e*S SKSac 17 20 33.0 +8.5
KIS LRM MLR 17 49 44.0
comp=Z,600nm,20.0s
AKASG Malin Array Be 82.06 322 P P 17 10 11.7 -0.8
comp=Z,7.3nm,0.8s,baz=86,slow=5.1,SNR=16
AKASG Malin Array Be 82.06 322 *i*P P 17 10 11.8 -0.8
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 82.06 322 P P 17 10 11.7 -0.8
AKBB Malin Array Si 82.06 322 *e*P P 17 10 11.1 -1.5
AKBB Malin Array Si 82.06 322 *e*P P 17 10 11.1 -1.5
KIEV Kiev 82.07 322 *e*P P 17 10 12.1 -0.5
KIEV Kiev 82.07 322 *e*P P 17 10 11.7 -0.9
comp=Z,5.7nm,0.7s
VRI Vrincioaia 82.38 317 ⇓P P 17 10 15.3 +0.9
VRI Vrincioaia 82.38 317 ⇓*i*P P 17 10 15.3 +0.9
TESR 82.59 318 ⇓*i*P P 17 10 17.1 +1.6
MLR Muntele Rosu 82.82 317 ⇓P P 17 10 17.7 +0.8
MLR Muntele Rosu 82.82 317 ⇓*i*P P 17 10 17.7 +0.8
VOIR 83.42 317 ⇓P P 17 10 19.6 -0.3
VOIR 83.42 317 ⇓*i*P P 17 10 19.6 -0.3
BURAR Bucovina Array 83.80 319 ⇓P P 17 10 23.2 +1.4
BURAR Bucovina Array 83.80 319 ⇓*i*P P 17 10 23.2 +1.4
BUR08 Bucovina Ar. S 83.82 319 ⇓*e*P P 17 10 22.6 +0.7
VTS Vitosha 84.12 313 ⇑P P 17 10 23.5 -0.2
VTS Vitosha 84.12 313 ⇑*i*P P 17 10 23.5 -0.2
BILL Bilibino 84.89 20 ⇑*i*P P 17 10 26.7 -0.1
BILL *i* 17 20 57.6
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,700nm,18.0s
BILL Bilibino 84.89 20 P P 17 10 26.3 -0.5
BMR Baia Mare 84.95 318 ⇓P P 17 10 28.8 +1.3
BMR Baia Mare 84.95 318 ⇓*i*P P 17 10 28.8 +1.3
LVV L'vov 85.06 321 *e*P P 17 10 28.0 0.0
IIGN Ignalina 85.07 326 *e*P P 17 10 28.1 +0.1
IIGN AMB AMB 17 10 29.3
comp=Z,14nm,0.8s
IZAR Zarasai 85.16 327 *e*P P 17 10 28.6 +0.2
IZAR AMB AMB 17 10 29.7
comp=Z,5.0nm,0.8s
ISAL Salakas 85.18 327 *e*P P 17 10 28.6 +0.1
ISAL AMB AMB 17 10 30.6
comp=Z,9.2nm,1.1s
DRGR 85.30 317 ⇑P P 17 10 30.0 +0.6
DRGR 85.30 317 ⇑*i*P P 17 10 30.0 +0.6
QSPA South Pole Qui 85.66 180 *e*P P 17 10 32.3 +1.4
comp=Z,15nm,1.2s
NVL N'lazarevskaya 85.76 199 *e*P pP 17 10 43.9 0.0
NVL *e**PP pP 17 10 52.7 +8.8
NVL *e**SP sP 17 10 58.1 +9.5
NVL pmax pmax
comp=Z,6.0nm,0.6s
NVL MLR MLR
comp=Z,455nm,17.0s
MAIT Maitri 85.79 199 *e*P P 17 10 34.2 +2.9
MAIT *e* 17 10 41.9
BZS Buzias 85.82 316 ⇑P P 17 10 32.0 +0.1
BZS Buzias 85.82 316 ⇑*i*P P 17 10 32.0 +0.1
UZH Uzhgorod 85.93 319 *e*P P 17 10 32.3 -0.1
KOLS Kolonicke sedl 86.00 320 *e*P P 17 10 33.8 +1.1
KOLS pmax pmax
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 86.00 320 *e*P P 17 10 33.8 +1.1
KOLS *e*pP pP 17 10 42.9 -2.6
SUW Suwalki 86.47 325 *e*P P 17 10 35.0 +0.1
SUW Suwalki 86.47 325 *e*P P 17 10 35.0 +0.1
SUW Suwalki 86.47 325 *e*P P 17 10 32.7 -2.2
comp=Z,59nm,0.9s
FINES FINESS Array B 86.72 332 P P 17 10 36.2 +0.3
comp=Z,5.7nm,0.7s,baz=126,slow=3.9,SNR=14
FINES LR LR 17 55 40.3
comp=Z,1μm,20.0s,baz=9.7,slow=40
FINES FINESS Array B 86.72 332 P P 17 10 36.2 +0.3
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES MLR MLR
comp=Z,1μm,20.0s
FINES FINESS Array B 86.72 332 P P 17 10 36.2 +0.3
STHS Stebnicka Huta 86.76 320 *e*P P 17 10 37.0 +0.5
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 86.76 320 *e*P P 17 10 37.0 +0.5
KAF Kangasniemi 86.79 333 *e*P P 17 10 37.2 +0.9
KAF pmax pmax
comp=Z,12nm,0.7s
KAF Kangasniemi 86.79 333 *e*p P 17 10 37.2 +0.9
comp=Z,12nm,0.7s
KAF Kangasniemi 86.79 333 *e*p P 17 10 37.2 +0.9
comp=Z,12nm,0.7s
KECS Kecovo 87.08 319 *e*P P 17 10 38.5 +0.5
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 87.08 319 *e*P P 17 10 38.5 +0.5
PSZ Piszkesteto 87.38 318 *e*P P 17 10 38.9 -0.7
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 87.38 318 *e*P P 17 10 38.9 -0.7
comp=Z,6.0nm,0.9s
OJC Ojcow 87.82 321 *e*P P 17 10 40.1 -1.4
OJC *e*PcP PcP 17 10 42.1 -1.3
OJC *e*pP pP 17 10 51.6 -2.8
OJC Ojcow 87.82 321 *e*P P 17 10 40.1 -1.4
OJC *e**PP pP 17 10 51.6 -2.8
PKSM Moragy 87.97 316 ⇑P P 17 10 42.5 +0.2
PKSM Moragy 87.97 316 ⇑*i*P P 17 10 42.5 +0.2
VYHS Vyhne 88.17 319 *e*P P 17 10 41.7 -1.6
VYHS pmax pmax
comp=Z,71nm,3.1s
VYHS Vyhne 88.17 319 *e*P P 17 10 41.7 -1.6
KOLL Kolacno 88.47 319 *e*P P 17 10 45.0 +0.4
KOLL *e* 17 10 53.8
KOLL Kolacno 88.47 319 *e*P P 17 10 45.0 +0.4
KOLL *e*pP pP 17 10 53.8 -3.7
KEV Kevo 88.61 340 *e*p P 17 10 45.2 +0.4
comp=Z,15nm,0.9s
KEV Kevo 88.61 340 *e*p P 17 10 45.2 +0.4
comp=Z,15nm,0.9s
OKC Ostrava-Krasne 88.81 320 *e*P P 17 10 46.8 +0.6
OKC *e* 17 10 55.2
OKC Ostrava-Krasne 88.81 320 *e*P P 17 10 46.8 +0.6
OKC *e*pP pP 17 10 55.2 -3.9
ARCES ARCESS Array B 89.06 340 P P 17 10 47.7 +0.7
comp=Z,20nm,0.8s,baz=86,slow=3.8,SNR=16
ARCES LR LR 17 54 43.5
comp=Z,2μm,21.9s,baz=104,slow=38
ARCES ARCESS Array B 89.06 340 P P 17 10 47.7 +0.7
ARCES pmax pmax
comp=Z,20nm,0.8s
ARCES MLR MLR
comp=Z,2μm,21.9s
ARCES ARCESS Array B 89.06 340 P P 17 10 47.7 +0.7
MORC Moravsky Berou 89.19 320 *e*P P 17 10 47.9 -0.2
MORC *e* 17 10 56.9
MORC pmax pmax
comp=Z,35nm,1.6s
MORC Moravsky Berou 89.19 320 *e*P P 17 10 47.9 -0.2
comp=Z,35nm,1.6s
MORC *e* 17 10 56.9
MORC Moravsky Berou 89.19 320 ⇓*i*P P 17 10 49.0 +0.9
DPC Dobruska-Polom 90.04 320 *e*P P 17 10 53.1 +1.0
DPC *e* 17 11 01.5
DPC MLR MLR
comp=Z,500nm,16.5s
DPC Dobruska-Polom 90.04 320 *e*P P 17 10 53.1 +1.0
DPC *e*pP pP 17 11 01.5 -3.4
DPC AMS AMS 17 58 50.0
comp=Z,500nm,16.5s
KSP Ksiaz 90.12 321 *e*P P 17 10 53.2 +0.9
KSP *e*S S 17 21 43.0 +0.3
KSP MLR MLR
comp=Z,1μm,22.6s
ARSA Arzberg 90.22 317 ⇓*i*PcP P 17 10 54.0 +1.0
comp=Z,9.3nm,0.9s
UPC Upice 90.26 320 *e*P P 17 10 54.3 +1.3
UPC *e* 17 11 02.8
UPC Upice 90.26 320 *e*P P 17 10 54.3 +1.3
UPC *e*pP pP 17 11 02.8 -3.1
SNAA Sanae 90.33 198 *e* P 17 10 55.2 +2.1
SNAA Sanae 90.33 198 *e*P P 17 10 55.1 +2.0
SNAA pmax pmax
comp=Z,15nm,0.9s
SNAA Sanae 90.33 198 *e*P P 17 10 55.1 +2.0
comp=Z,15nm,0.9s
SOKA Soboth 90.50 317 ⇑*i*PcP P 17 10 55.4 +1.1
comp=Z,9.3nm,1.0s
PRU Pruhonice 91.14 320 AMS AMS 18 00 30.0
comp=Z,600nm,17.2s
PVCC Panska Ves 91.17 320 AMS AMS 17 56 10.0
comp=Z,500nm,21.6s
GEC2 GERESS Array S 91.59 319 *e*P P 17 11 00.2 +0.8
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 91.59 319 *e*P P 17 11 00.2 +0.8
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 91.59 319 P P 17 10 59.8 +0.5
comp=Z,3.3nm,0.8s,baz=91,slow=5.3,SNR=30
GERES GERESS Array B 91.59 319 P P 17 10 59.8 +0.5
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 91.59 319 P P 17 10 59.8 +0.5
BRG Berggiesshubel 91.60 321 *e*P P 17 10 60.0 +0.7
comp=Z,4.1nm,1.0s
BRG *e* 17 11 08.7
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 91.60 321 *e*P P 17 11 00.2 +1.0
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 91.60 321 *e*P P 17 11 00.0 +0.7
BRG *e* 17 11 08.7
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 91.69 319 *e*P P 17 11 00.4 +0.6
KHC *e* 17 11 09.0
KHC MLR MLR
comp=Z,500nm,22.2s
KHC Kasperske Hory 91.69 319 *e*P P 17 11 00.4 +0.6
KHC *e*pP pP 17 11 09.0 -3.6
KHC AMS AMS 18 02 10.0
comp=Z,500nm,22.2s
VNA2 Neumayer--Watz 91.96 198 *e* P 17 11 03.1 +2.6
baz=88,slow=5.6
RJOB Jochberg 92.11 318 *e*P P 17 11 02.1 +0.3
comp=Z,3.0nm,0.8s
WET Wettzell 92.15 319 *e*P P 17 11 02.4 +0.5
comp=Z,4.0nm,1.1s
WET Wettzell 92.15 319 *e*P P 17 11 02.4 +0.5
WET pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 92.23 321 *e*P P 17 11 02.7 +0.6
comp=Z,736nm,3.7s
CLL Collm 92.23 321 *e*P P 17 11 03.0 +0.9
CLL *e*S S 17 22 02.0 +0.2
CLL MLR MLR
comp=Z,500nm,19.9s
CLL Collm 92.23 321 *e*P P 17 11 03.0 +0.9
CLL *e*S S 17 22 02.0 +0.2
CLL *e*PS PS 17 23 18.0 +0.3
CLL *e*SS SS 17 28 18.0 +5.5
CLL *e*SSS SSS 17 32 00.0
CLL *e*SSSS 17 35 18.0
CLL Lm MLR 17 59 00.0
comp=N,400nm,18.7s
CLL Lm MLR 17 59 00.0
comp=E,500nm,20.4s
CLL Lm MLR 17 59 00.0
comp=Z,500nm,19.9s
VNA1 Neumayer--Stat 92.32 198 *e* P 17 11 04.7 +2.5
TANN Tannenbergstha 92.51 320 *e*P P 17 11 03.0 -0.5
comp=Z,1.0nm,0.9s
VNA3 Neumayer Olymp 92.54 198 *e* P 17 11 04.1 +0.8
ROTZ Rotzenmuhle 92.63 320 *e*P P 17 11 05.0 +1.0
comp=Z,2.0nm,0.9s
MOX Moxa 93.06 320 *e*P P 17 11 06.7 +0.7
comp=Z,2.0nm,0.9s
MOX Moxa 93.06 320 *e*P P 17 11 06.7 +0.7
MOX pmax pmax
comp=Z,2.0nm,0.9s
GRF Grafenberg Arr 93.27 319 *e*P P 17 11 08.0 +1.0
comp=Z,6.0nm,1.0s
GRF *e*L L 18 02 40.9
comp=Z,647nm,18.8s
GRF Grafenberg Arr 93.27 319 *e*P P 17 11 08.0 +1.0
GRF pmax pmax
comp=Z,6.0nm,1.0s
GRF MLR MLR
comp=Z,600nm,18.8s
NB2 NORSAR Subarra 93.75 331 P P 17 11 08.6 -0.4
comp=Z,3.0nm,0.8s,baz=93,slow=4.6
NOA NORSAR Array B 93.75 331 P P 17 11 08.6 -0.4
comp=Z,2.4nm,0.9s,baz=93,slow=4.6,SNR=5.7
NOA LR LR 17 59 57.9
comp=Z,437nm,20.8s,baz=70,slow=40
NOA NORSAR Array B 93.75 331 P P 17 11 08.6 -0.4
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,437nm,20.8s
NOA NORSAR Array B 93.75 331 P P 17 11 08.6 -0.4
CLZ Clausthal 93.89 322 *e*P P 17 11 10.5 +0.6
comp=Z,4.0nm,1.0s
CLZ Clausthal 93.89 322 *e*P P 17 11 10.5 +0.6
CLZ pmax pmax
comp=Z,4.0nm,1.0s
KEST Kesra 94.03 305 LR LR 17 58 05.0
comp=Z,243nm,18.4s,baz=87,slow=38
UBBA Unterbreizbach 94.09 321 *e*P P 17 11 11.7 +1.1
comp=Z,1.0nm,0.7s
TNS Taunus Mts 95.07 320 *e*P P 17 11 16.1 +0.8
comp=Z,2.0nm,0.7s
TNS Taunus Mts 95.07 320 *e*P P 17 11 16.1 +0.8
TNS pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 100.25 283 P Pdif 17 11 39.1 -0.2
comp=Z,0.2nm,0.8s,baz=76,slow=5.3,SNR=2.4
TORD Torodi Ar. Bea 100.25 283 P Pdif 17 11 39.1 -0.2
MCK McKinley 102.56 25 P Pdif 17 11 46.3 -2.3
MCK McKinley 102.56 25 P Pdif 17 11 46.3 -2.3
ILAR Eielson Array 103.11 24 Pdiff Pdif 17 11 50.7 -0.2
comp=Z,0.4nm,0.9s,baz=287,slow=4.0,SNR=4.8
ILAR PP PP 17 15 58.0 -7.8
comp=Z,1.2nm,1.0s,baz=291,slow=7.4,SNR=5.5
ILAR PKKPbc PKKPbc 17 27 52.2 +2.5
comp=Z,0.5nm,0.9s,baz=76,slow=1.9,SNR=4.6
ILAR Eielson Array 103.11 24 P Pdif 17 11 50.7 -0.2
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 103.11 24 Pdif Pdif 17 11 50.7 -0.2
ILAR PP PP 17 15 58.0 -7.8
ILAR PKKPbc PKKPbc 17 27 52.2 +2.5
TBI Tubuai 105.88 116 *e*LR LR 17 47 12.5
comp=Z,1μm,23.2s
PPT2 Papeete2 106.87 110 *e*LR LR 17 47 39.4
comp=Z,914nm,25.5s
YKA Yellowknife Ar 116.20 18 PKP PKPdf 17 16 34.5 -0.6
comp=Z,1.6nm,0.9s,baz=315,slow=2.3,SNR=13
YKA PKKPbc PKKPbc 17 27 07.0 -0.3
comp=Z,0.4nm,0.9s,baz=149,slow=3.4,SNR=3.0
YKA Yellowknife Ar 116.20 18 PKIKP PKPdf 17 16 34.6 -0.6
YKA Yellowknife Ar 116.20 18 PKP PKPdf 17 16 34.5 -0.6
YKA PKKPbc PKKPbc 17 27 07.0 -0.3
TAOE Nuku Hiva Isla 117.42 102 *e*LR LR 17 52 34.0
comp=Z,809nm,24.0s
RKT Rikitea 118.78 119 *e*LR LR 17 53 11.6
comp=Z,849nm,21.8s
FRB Frobisher Bay 120.22 355 PKP PKPdf 17 16 42.0 -0.8
comp=Z,2.5nm,0.8s,baz=347,slow=5.5,SNR=3.5
FRB Frobisher Bay 120.22 355 PKIKP PKPdf 17 16 42.0 -0.8
FRB pmax pmax
comp=Z,3.0nm,0.8s
FRB Frobisher Bay 120.22 355 PKP PKPdf 17 16 42.0 -0.8
C09A Chrisman Ranch 125.02 32 ⇓PKiKP PKiKP 17 16 52.9 0.0
baz=125
C09A ⇓PKiKP PKiKP 17 16 52.9 0.0
baz=125
G06A Carlson Farm, 125.28 35 ⇑PKiKP PKiKP 17 16 53.9 +0.3
baz=125
G06A ⇑PKiKP PKiKP 17 16 53.9 +0.3
baz=125
E09A Wood Farm, Sta 125.90 33 ⇓PKiKP PKPdf 17 16 54.2 -0.1
baz=126
E09A ⇓PKiKP PKPdf 17 16 54.2 -0.1
baz=126
FFC Flin Flon 126.34 16 *i* PKIKP PKPdf 17 16 55.5 +0.6
K05A Summer Lake 126.55 38 ⇓PKiKP PKPdf 17 16 56.1 +0.1
baz=126
K05A ⇓PKiKP PKPdf 17 16 56.1 +0.1
baz=126
I07A Izee 126.61 36 ⇑PKiKP PKiKP 17 16 56.5 +0.2
baz=126
I07A ⇑PKiKP PKiKP 17 16 56.5 +0.2
baz=126
A14A Double T Ranch 126.64 28 ⇑PKiKP PKiKP 17 16 56.3 0.0
baz=126
A14A ⇑PKiKP PKiKP 17 16 56.3 0.0
baz=126
F10A Beach Ranch, E 126.73 33 ⇑PKiKP PKiKP 17 16 56.9 +0.4
baz=127
F10A ⇑PKiKP PKiKP 17 16 56.9 +0.4
baz=127
BSMT Bassoo Peak 126.76 30 *e*PKPdf PKPdf 17 16 56.3 +0.2
A15A Johnson Ranch, 126.95 27 ⇑PKiKP PKiKP 17 16 56.6 -0.2
baz=127
A15A ⇑PKiKP PKiKP 17 16 56.6 -0.2
baz=127
B14A Marquette Ranc 127.14 28 ⇑PKiKP PKiKP 17 16 57.1 -0.2
baz=127
B14A ⇑PKiKP PKiKP 17 16 57.1 -0.2
baz=127
MOD Modoc 127.37 39 *e*PKPdf PKPdf 17 16 57.9 +0.5
SWMT Swartz Lake 127.38 29 *e*PKPdf PKPdf 17 16 57.3 +0.1
A16A West Butte Ran 127.49 27 ⇓PKiKP PKiKP 17 16 57.9 -0.1
baz=127
A16A ⇓PKiKP PKiKP 17 16 57.9 -0.1
baz=127
B15A Bradely Ranch, 127.51 28 ⇑PKiKP PKPdf 17 16 57.5 0.0
baz=127
B15A ⇑PKiKP PKPdf 17 16 57.5 0.0
baz=127
J08A Circle Bar Ran 127.64 36 ⇑PKiKP PKiKP 17 16 58.6 +0.2
baz=128
J08A ⇑PKiKP PKiKP 17 16 58.6 +0.2
baz=128
B16A M & M Farms, S 127.83 27 ⇑PKiKP PKiKP 17 16 58.6 0.0
baz=128
B16A ⇑PKiKP PKiKP 17 16 58.6 0.0
baz=128
C15A Salmond Ranch, 127.87 28 ⇓PKiKP PKPdf 17 16 58.3 +0.1
baz=128
C15A ⇓PKiKP PKPdf 17 16 58.3 +0.1
baz=128
MSO Missoula 127.88 30 *e*PKPdf PKPdf 17 16 57.9 -0.3
A17A Triple J Farms 127.89 26 ⇑PKiKP PKPdf 17 16 58.4 +0.3
baz=128
A17A ⇑PKiKP PKPdf 17 16 58.4 +0.3
baz=128
E13A Victor 128.02 31 ⇑PKiKP PKPdf 17 16 58.7 +0.3
baz=128
E13A ⇑PKiKP PKPdf 17 16 58.7 +0.3
baz=128
C16A Fuhringer Ranc 128.25 28 ⇑PKiKP PKPdf 17 16 59.1 +0.2
baz=128
C16A ⇑PKiKP PKPdf 17 16 59.1 +0.2
baz=128
A18A Metzger Ranch, 128.28 26 ⇑PKiKP PKiKP 17 16 59.2 -0.3
baz=128
A18A ⇑PKiKP PKiKP 17 16 59.2 -0.3
baz=128
B17A L&G Farms, Che 128.33 27 ⇓PKiKP PKPdf 17 16 59.2 +0.3
baz=128
B17A ⇓PKiKP PKPdf 17 16 59.2 +0.3
baz=128
E14A Clinton 128.39 30 ⇓PKiKP PKPdf 17 16 59.4 +0.2
baz=128
E14A ⇓PKiKP PKPdf 17 16 59.4 +0.2
baz=128
F13A Darby 128.39 31 ⇓PKiKP PKiKP 17 16 59.9 0.0
baz=128
F13A ⇓PKiKP PKiKP 17 16 59.9 0.0
baz=128
B18A Beardsley Farm 128.71 26 ⇓PKiKP PKiKP 17 17 00.5 +0.1
baz=129
B18A ⇓PKiKP PKiKP 17 17 00.5 +0.1
baz=129
SCHQ Schefferville 128.72 351 PKP PKPdf 17 16 58.9 -0.5
comp=Z,5.0nm,1.0s,baz=314,slow=4.2,SNR=4.1
SCHQ Schefferville 128.72 351 PKP PKPdf 17 16 58.9 -0.5
A19A Klindworth Far 128.75 25 ⇓PKiKP PKiKP 17 17 00.3 -0.1
baz=129
A19A ⇓PKiKP PKiKP 17 17 00.3 -0.1
baz=129
E15A Deer Lodge 128.81 30 ⇓PKiKP PKiKP 17 17 00.5 -0.2
baz=129
E15A ⇓PKiKP PKiKP 17 17 00.5 -0.2
baz=129
F14A Wisdom 128.87 31 ⇑PKiKP PKiKP 17 17 00.8 -0.1
baz=129
F14A ⇑PKiKP PKiKP 17 17 00.8 -0.1
baz=129
D16A Dana Ranch, Ca 128.90 28 ⇓PKiKP PKPdf 17 17 00.4 +0.2
baz=129
D16A ⇓PKiKP PKPdf 17 17 00.4 +0.2
baz=129
H12A Diamond D Ranc 128.93 33 ⇓PKiKP PKPdf 17 17 00.7 +0.3
baz=129
H12A ⇓PKiKP PKPdf 17 17 00.7 +0.3
baz=129
EGMT Eagleton 129.00 26 ⇓PKiKP PKiKP 17 17 00.8 -0.2
baz=129
EGMT ⇓PKiKP PKiKP 17 17 00.8 -0.2
baz=129
B19A Brinkman Farms 129.02 26 ⇓PKiKP PKiKP 17 17 00.7 -0.3
baz=129
B19A ⇓PKiKP PKiKP 17 17 00.7 -0.3
baz=129
A20A Cobblestone Ra 129.12 24 ⇑PKiKP PKiKP 17 17 01.2 +0.1
baz=129
A20A ⇑PKiKP PKiKP 17 17 01.2 +0.1
baz=129
MFID Camas Ranch 129.13 34 *e*PKPdf PKPdf 17 17 01.3 +0.6
MFID Camas Ranch 129.13 34 ⇓PKiKP PKPdf 17 17 01.4 +0.6
baz=129
MFID ⇓PKiKP PKPdf 17 17 01.4 +0.6
baz=129
WCN Washoe City 129.14 41 ⇓PKiKP PKiKP 17 17 01.3 -0.3
baz=129
WCN ⇓PKiKP PKiKP 17 17 01.3 -0.3
baz=129
E16A East Helena 129.20 29 ⇓PKiKP PKiKP 17 17 01.4 -0.1
baz=129
E16A ⇓PKiKP PKiKP 17 17 01.4 -0.1
baz=129
G14A Jackson 129.21 31 ⇓PKiKP PKiKP 17 17 01.5 -0.1
baz=129
G14A ⇓PKiKP PKiKP 17 17 01.5 -0.1
baz=129
D17A Six Diamond Ra 129.22 28 ⇓PKiKP PKiKP 17 17 01.6 0.0
baz=129
D17A ⇓PKiKP PKiKP 17 17 01.6 0.0
baz=129
H13A Challis 129.25 32 ⇑PKiKP PKPdf 17 17 01.2 +0.3
baz=129
H13A ⇑PKiKP PKPdf 17 17 01.2 +0.3
baz=129
F15A Butte 129.29 30 ⇑PKiKP PKiKP 17 17 01.4 -0.3
baz=129
F15A ⇑PKiKP PKiKP 17 17 01.4 -0.3
baz=129
B20A Solberg Farm, 129.43 25 ⇓PKiKP PKiKP 17 17 02.0 +0.2
baz=129
B20A ⇓PKiKP PKiKP 17 17 02.0 +0.2
baz=129
A21A Bergtoll Ranch 129.44 24 ⇓PKiKP PKiKP 17 17 01.7 -0.1
baz=129
A21A ⇓PKiKP PKiKP 17 17 01.7 -0.1
baz=129
C19A Slack Wire Ran 129.53 26 ⇓PKiKP PKiKP 17 17 02.1 +0.1
baz=129
C19A ⇓PKiKP PKiKP 17 17 02.1 +0.1
baz=129
DLMT Dillon 129.57 31 *e*PKPdf PKPdf 17 17 03.0 +1.4
D18A Linhart Farms, 129.59 27 ⇓PKiKP PKiKP 17 17 02.1 -0.1
baz=130
D18A ⇓PKiKP PKiKP 17 17 02.1 -0.1
baz=130
E17A Martinsdale 129.64 28 ⇓PKiKP PKiKP 17 17 02.6 +0.2
baz=130

E17A ⇓PKiKP **PKiKP** 17 17 02.6 +0.2
baz=130
H14A Leadore 129.68 32 ⇑PKiKP **PKiKP** 17 17 02.8 +0.2
baz=130
H14A ⇑PKiKP **PKiKP** 17 17 02.8 +0.2
baz=130
I13A Wildhorse Cree 129.75 33 ⇑PKiKP **PKiKP** 17 17 02.6 -0.2
baz=130
I13A ⇑PKiKP **PKiKP** 17 17 02.6 -0.2
baz=130
F16A Kennard Place, 129.76 30 ⇓PKiKP **PKiKP** 17 17 02.6 0.0
baz=130
F16A ⇓PKiKP **PKiKP** 17 17 02.6 0.0
baz=130
G15A Dillon 129.76 31 ⇓PKiKP **PKiKP** 17 17 02.6 -0.1
baz=130
G15A ⇓PKiKP **PKiKP** 17 17 02.6 -0.1
baz=130
MCMT McKenzie Canyo 129.81 31 *e*PKPdf **PKPdf** 17 17 03.0 +0.8
HLID Hailey 129.82 33 ⇑PKiKP **PKiKP** 17 17 03.1 +0.2
baz=130
HLID ⇑PKiKP **PKiKP** 17 17 03.1 +0.2
baz=130
A22A Carney Farms, 129.84 23 ⇓PKiKP **PKiKP** 17 17 03.2 +0.6
baz=130
A22A ⇓PKiKP **PKiKP** 17 17 03.2 +0.6
baz=130
B21A Ellsworth Farm 129.85 24 ⇓PKiKP **PKiKP** 17 17 03.1 +0.5
baz=130
B21A ⇓PKiKP **PKiKP** 17 17 03.1 +0.5
baz=130
C20A Veseth Ranch, 130.00 26 ⇓PKiKP **PKiKP** 17 17 03.2 +0.3
baz=130
C20A ⇓PKiKP **PKiKP** 17 17 03.2 +0.3
baz=130
E18A Harlowton 130.01 28 ⇑PKiKP **PKiKP** 17 17 03.3 +0.2
baz=130
E18A ⇑PKiKP **PKiKP** 17 17 03.3 +0.2
baz=130
D19A Cripps Ranch, 130.03 27 ⇑PKiKP **PKiKP** 17 17 03.5 +0.4
baz=130
D19A ⇑PKiKP **PKiKP** 17 17 03.5 +0.4
baz=130
H15A Lima 130.06 31 ⇑PKiKP **PKiKP** 17 17 03.8 +0.4
baz=130
H15A ⇑PKiKP **PKiKP** 17 17 03.8 +0.4
baz=130
J13A Cove Ranch, Pi 130.06 33 ⇓PKiKP **PKiKP** 17 17 03.5 +0.1
baz=130
J13A ⇓PKiKP **PKiKP** 17 17 03.5 +0.1
baz=130
G16A Moss Hill, Enn 130.06 30 ⇑PKiKP **PKiKP** 17 17 03.4 +0.1
baz=130
G16A ⇑PKiKP **PKiKP** 17 17 03.4 +0.1
baz=130
I14A Mackay 130.10 33 ⇑PKiKP **PKiKP** 17 17 03.2 -0.2
baz=130
I14A ⇑PKiKP **PKiKP** 17 17 03.2 -0.2
baz=130
F17A Fitzpatrick Pl 130.14 29 ⇑PKiKP **PKiKP** 17 17 03.5 +0.1
baz=130
F17A ⇑PKiKP **PKiKP** 17 17 03.5 +0.1
baz=130
B22A Reddig Ranch S 130.37 24 ⇓PKiKP **PKiKP** 17 17 04.1 +0.4
baz=130
B22A ⇓PKiKP **PKiKP** 17 17 04.1 +0.4
baz=130
QLMT Earthquake Lak 130.53 30 *e*PKPdf **PKPdf** 17 17 03.7 +0.2
NVAR Mina Array Bea 130.56 41 PKP **PKPdf** 17 17 01.8 -1.9
comp=Z,2.9nm,0.7s,baz=278,slow=1.8,SNR=18
NVAR SKPbc **SKPbc** 17 20 26.4 +2.2
comp=Z,2.6nm,1.0s,baz=281,slow=4.0,SNR=6.2
NVAR Mina Array Bea 130.56 41 PKP **PKPdf** 17 17 01.8 -1.9
NVAR SKPbc **SKPbc** 17 20 26.4 +2.2
F18A Big Timber 130.59 28 ⇓PKiKP **PKiKP** 17 17 04.9 +0.6
baz=130
F18A ⇓PKiKP **PKiKP** 17 17 04.9 +0.6
baz=130
E19A Rath Farm, Rou 130.61 27 ⇓PKiKP **PKiKP** 17 17 04.7 +0.4
baz=130
E19A ⇓PKiKP **PKiKP** 17 17 04.7 +0.4
baz=130
B23A Brockton 130.63 23 ⇑PKiKP **PKiKP** 17 17 04.3 +0.1
baz=130
B23A ⇑PKiKP **PKiKP** 17 17 04.3 +0.1
baz=130
H16A Russell Place, 130.71 30 ⇓PKiKP **PKiKP** 17 17 05.0 +0.3
baz=131
H16A ⇓PKiKP **PKiKP** 17 17 05.0 +0.3
baz=131
C22A Vida 130.86 24 ⇓PKiKP **PKiKP** 17 17 05.4 +0.7
baz=131
C22A ⇓PKiKP **PKiKP** 17 17 05.4 +0.7
baz=131
E20A Meyer Farm, Mu 130.87 27 ⇓PKiKP **PKiKP** 17 17 04.9 +0.1
baz=131
E20A ⇓PKiKP **PKiKP** 17 17 04.9 +0.1
baz=131
F19A Roth Farm, Mol 130.99 28 ⇓PKiKP **PKiKP** 17 17 05.5 +0.4
baz=131
F19A ⇓PKiKP **PKiKP** 17 17 05.5 +0.4
baz=131
C23A Lambert 131.09 23 ⇓PKiKP **PKiKP** 17 17 05.3 +0.2
baz=131
C23A ⇓PKiKP **PKiKP** 17 17 05.3 +0.2
baz=131
K14A Jones Ranch, D 131.17 34 ⇓PKiKP **PKiKP** 17 17 06.0 +0.4
baz=131
K14A ⇓PKiKP **PKiKP** 17 17 06.0 +0.4
baz=131
D22A Cohagen 131.21 25 ⇑PKiKP **PKiKP** 17 17 05.7 +0.3
baz=131
D22A ⇑PKiKP **PKiKP** 17 17 05.7 +0.3
baz=131
E21A Keefer Ranch, 131.31 26 ⇓PKiKP **PKiKP** 17 17 05.8 +0.2
baz=131
E21A ⇓PKiKP **PKiKP** 17 17 05.8 +0.2
baz=131
K15A Arbon 131.43 33 ⇑PKiKP **PKiKP** 17 17 06.4 +0.2
baz=131
K15A ⇑PKiKP **PKiKP** 17 17 06.4 +0.2
baz=131
L14A Malta 131.47 34 ⇓PKiKP **PKiKP** 17 17 06.7 +0.5
baz=131
L14A ⇓PKiKP **PKiKP** 17 17 06.7 +0.5
baz=131
J16A Bone 131.53 32 ⇑PKiKP **PKiKP** 17 17 06.8 +0.4
baz=131
J16A ⇑PKiKP **PKiKP** 17 17 06.8 +0.4
baz=131
CWC Cottonwood Cre 131.78 43 ⇑PKiKP **PKiKP** 17 17 06.7 -0.3
baz=132
CWC ⇑PKiKP **PKiKP** 17 17 06.7 -0.3
baz=132
G20A Bridger 131.81 28 ⇓PKiKP **PKiKP** 17 17 06.3 -0.5
baz=132
G20A ⇓PKiKP **PKiKP** 17 17 06.3 -0.5
baz=132
F21A Absaloka Mine, 131.84 26 ⇑PKiKP **PKiKP** 17 17 06.7 0.0
baz=132
F21A ⇑PKiKP **PKiKP** 17 17 06.7 0.0
baz=132
K16A Soda Springs 131.84 32 ⇑PKiKP **PKiKP** 17 17 06.9 -0.1
baz=132
K16A ⇑PKiKP **PKiKP** 17 17 06.9 -0.1
baz=132
H19A Powell 131.85 29 ⇑PKiKP **PKiKP** 17 17 07.2 +0.3
baz=132
H19A ⇑PKiKP **PKiKP** 17 17 07.2 +0.3
baz=132
E22A Miles City 131.87 25 ⇓PKiKP **PKiKP** 17 17 07.3 +0.5
baz=132
E22A ⇓PKiKP **PKiKP** 17 17 07.3 +0.5
baz=132
ISA Isabella 131.92 44 ⇓PKiKP **PKiKP** 17 17 07.5 +0.3
baz=132
ISA ⇓PKiKP **PKiKP** 17 17 07.5 +0.3
baz=132
J17A Brown Place, J 131.93 31 ⇓PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
J17A ⇓PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
ARVC Arvin 131.94 45 ⇓PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
ARVC ⇓PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
GRAC Grapevine Rang 131.96 42 ⇑PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
GRAC ⇑PKiKP **PKiKP** 17 17 07.4 +0.2
baz=132
L15A Malad City 131.97 34 ⇓PKiKP **PKiKP** 17 17 07.3 +0.1
baz=132
L15A ⇓PKiKP **PKiKP** 17 17 07.3 +0.1
baz=132
ULM Lac du Bonnet 132.00 15 PKhKP PKPpre 17 17 02.2
comp=Z,8.2nm,0.8s,baz=290,slow=2.1,SNR=3.5
ULM Lac du Bonnet 132.00 15 PKPpre PKPpre 17 17 02.2
M15A Larsen Ranch, 132.30 34 ⇑PKiKP **PKiKP** 17 17 08.2 +0.4
baz=132
M15A ⇑PKiKP **PKiKP** 17 17 08.2 +0.4
baz=132
R11A Troy Canyon, C 132.37 40 ⇑PKiKP **PKiKP** 17 17 08.6 +0.4
baz=132
R11A ⇑PKiKP **PKiKP** 17 17 08.6 +0.4
baz=132
MPMC Manual Prospec 132.39 43 ⇓PKiKP **PKiKP** 17 17 08.4 +0.1
baz=132
MPMC ⇓PKiKP **PKiKP** 17 17 08.4 +0.1
baz=132
J18A Kendall Valley 132.40 31 ⇑PKiKP **PKiKP** 17 17 08.3 +0.1
baz=132
J18A ⇑PKiKP **PKiKP** 17 17 08.3 +0.1
baz=132
E24A Baker 132.45 24 ⇓PKiKP **PKiKP** 17 17 08.0 0.0
baz=132
E24A ⇓PKiKP **PKiKP** 17 17 08.0 0.0
baz=132
H20A Greybull 132.46 28 ⇓PKiKP **PKiKP** 17 17 08.3 +0.2
baz=132
H20A ⇓PKiKP **PKiKP** 17 17 08.3 +0.2
baz=132
LRMC Laurel Mountai 132.56 44 ⇑PKiKP **PKiKP** 17 17 08.3 -0.3
baz=132
LRMC ⇑PKiKP **PKiKP** 17 17 08.3 -0.3
baz=132
FURC Furnace Creek, 132.60 42 ⇑PKiKP **PKiKP** 17 17 08.3 -0.1
baz=132
FURC ⇑PKiKP **PKiKP** 17 17 08.3 -0.1
baz=132
EDW2 Edwards Air Fo 132.66 45 ⇑PKiKP **PKiKP** 17 17 09.0 +0.3
baz=133
EDW2 ⇑PKiKP **PKiKP** 17 17 09.0 +0.3
baz=133
F23A Volborg 132.67 25 ⇓PKiKP **PKiKP** 17 17 08.6 +0.2
baz=132
F23A ⇓PKiKP **PKiKP** 17 17 08.6 +0.2
baz=132
G22A Birney 132.68 26 ⇓PKiKP **PKiKP** 17 17 08.7 +0.2
baz=132
G22A ⇓PKiKP **PKiKP** 17 17 08.7 +0.2
baz=132
HWUT Hardware Ranch 132.69 34 *e*PKPdf **PKPdf** 17 17 06.6 -1.0
K18A Toltan Ranch, 132.79 31 ⇓PKiKP **PKiKP** 17 17 08.5 -0.4
baz=133
K18A ⇓PKiKP **PKiKP** 17 17 08.5 -0.4
baz=133
I20A Worland 132.80 29 ⇑PKiKP **PKiKP** 17 17 08.4 -0.4
baz=133
I20A ⇑PKiKP **PKiKP** 17 17 08.4 -0.4
baz=133
J19A Crowheart 132.85 30 ⇓PKiKP **PKiKP** 17 17 08.6 -0.4
baz=133
J19A ⇓PKiKP **PKiKP** 17 17 08.6 -0.4
baz=133
DUG Dugway 132.92 36 *e*PKiKP **PKPdf** 17 17 08.8 +0.7
DUG Dugway 132.92 36 *e*PKPdf **PKPdf** 17 17 08.8 +0.7
DUG Dugway 132.92 36 ⇑PKiKP **PKPdf** 17 17 08.7 +0.7
baz=133
DUG ⇑PKiKP **PKPdf** 17 17 08.7 +0.7
baz=133
PD02 Pinedale Array 132.94 31 *e*PKPdf **PKPdf** 17 17 05.6 -2.5
PDAR Pinedale Array 132.95 31 PKhKP PKPpre 17 17 02.9
comp=Z,1.1nm,0.8s,baz=98,slow=2.1,SNR=5.7
PDAR SKP 17 20 51.7
comp=Z,1.4nm,0.9s,baz=306,slow=5.1,SNR=3.5
PDAR Pinedale Array 132.95 31 PKPpre PKPpre 17 17 02.9
PDAR SKP 17 20 51.7
G23A Biddle 133.09 26 ⇓PKiKP **PKiKP** 17 17 09.3 0.0
baz=133
G23A ⇓PKiKP **PKiKP** 17 17 09.3 0.0
baz=133
H22A Clearmont 133.14 27 ⇓PKiKP **PKiKP** 17 17 09.8 +0.3
baz=133
H22A ⇓PKiKP **PKiKP** 17 17 09.8 +0.3
baz=133
BFSC Mount Baldy Ra 133.22 46 ⇓PKiKP **PKiKP** 17 17 10.1 +0.2
baz=133
BFSC ⇓PKiKP **PKiKP** 17 17 10.1 +0.2
baz=133
N16A Rees Ranch, Co 133.25 34 ⇓PKiKP **PKiKP** 17 17 09.9 0.0
baz=133
N16A ⇓PKiKP **PKiKP** 17 17 09.9 0.0
baz=133
J20A Shoshoni 133.26 29 ⇓PKiKP **PKiKP** 17 17 09.6 -0.2
baz=133
J20A ⇓PKiKP **PKiKP** 17 17 09.6 -0.2
baz=133
GSC Goldstone 133.27 44 ⇑PKiKP **PKPdf** 17 17 09.1 +0.3
baz=133
GSC ⇑PKiKP **PKPdf** 17 17 09.1 +0.3
baz=133
K19A Absolon Red Bu 133.27 30 ⇓PKiKP **PKPdf** 17 17 08.9 +0.2
baz=133
K19A ⇓PKiKP **PKPdf** 17 17 08.9 +0.2
baz=133
M17A Scullys Gap (B 133.28 33 ⇓PKiKP **PKiKP** 17 17 09.7 -0.3
baz=133
M17A ⇓PKiKP **PKiKP** 17 17 09.7 -0.3
baz=133
I21A Big Trails, Te 133.30 28 ⇑PKiKP **PKiKP** 17 17 09.3 -0.5
baz=133
I21A ⇑PKiKP **PKiKP** 17 17 09.3 -0.5
baz=133
SHOC Shoshone 133.30 43 ⇓PKiKP **PKPdf** 17 17 08.8 +0.1
baz=133
SHOC ⇓PKiKP **PKPdf** 17 17 08.8 +0.1
baz=133
R13A O'Grain Ranch, 133.49 39 ⇑PKiKP **PKiKP** 17 17 10.1 -0.4
baz=133
R13A ⇑PKiKP **PKiKP** 17 17 10.1 -0.4
baz=133
L19A Farson 133.53 31 ⇓PKiKP **PKPdf** 17 17 09.6 +0.4
baz=133
L19A ⇓PKiKP **PKPdf** 17 17 09.6 +0.4
baz=133
N17A Moffit Pass 133.55 34 ⇑PKiKP **PKPdf** 17 17 09.6 +0.2
baz=133
N17A ⇑PKiKP **PKPdf** 17 17 09.6 +0.2
baz=133
J21A Lysite 133.58 29 ⇑PKiKP **PKPdf** 17 17 09.6 +0.4
baz=133
J21A ⇑PKiKP **PKPdf** 17 17 09.6 +0.4
baz=133
H23A Clabaugh Cattl 133.59 26 ⇑PKiKP **PKiKP** 17 17 09.7 -0.6
baz=133
H23A ⇑PKiKP **PKiKP** 17 17 09.7 -0.6
baz=133
I22A 9 Mile Ranch, 133.62 28 ⇓PKiKP **PKiKP** 17 17 10.0 -0.4
baz=134
I22A ⇓PKiKP **PKiKP** 17 17 10.0 -0.4
baz=134
P15A Leamington 133.63 36 ⇓PKiKP **PKiKP** 17 17 10.7 +0.1
baz=134
P15A ⇓PKiKP **PKiKP** 17 17 10.7 +0.1
baz=134
TUQ Turquoise Moun 133.80 43 ⇓PKiKP **PKiKP** 17 17 10.8 -0.3
baz=134
TUQ ⇓PKiKP **PKiKP** 17 17 10.8 -0.3
baz=134
H24A Dirks Ranch, A 133.81 25 ⇓PKiKP **PKPdf** 17 17 09.3 -0.2
baz=134
H24A ⇓PKiKP **PKPdf** 17 17 09.3 -0.2
baz=134
HEC Hector,Ludlow 133.85 44 ⇑PKiKP **PKiKP** 17 17 10.9 -0.2
baz=134
HEC ⇑PKiKP **PKiKP** 17 17 10.9 -0.2
baz=134
J22A Midwest 133.99 28 ⇓PKiKP **PKPdf** 17 17 10.5 +0.6
baz=134
J22A ⇓PKiKP **PKPdf** 17 17 10.5 +0.6
baz=134
M19A Rock Springs 134.06 32 ⇓PKiKP **PKPdf** 17 17 10.5 +0.3
baz=134
M19A ⇓PKiKP **PKPdf** 17 17 10.5 +0.3
baz=134
O17A Robinson Place 134.11 34 ⇑PKiKP **PKiKP** 17 17 11.1 -0.6
baz=134
O17A ⇑PKiKP **PKiKP** 17 17 11.1 -0.6
baz=134
L20A Wamsutter 134.12 31 ⇓PKiKP **PKiKP** 17 17 11.6 0.0
baz=134
L20A ⇓PKiKP **PKiKP** 17 17 11.6 0.0
baz=134
N18A Larsen Ranch, 134.16 33 ⇑PKiKP **PKPdf** 17 17 10.9 +0.5
baz=134
N18A ⇑PKiKP **PKPdf** 17 17 10.9 +0.5
baz=134
MSU Marysvale 134.38 37 *e*PKiKP **PKPdf** 17 17 12.2 +1.3
MSU Marysvale 134.38 37 *e*PKPdf **PKPdf** 17 17 12.2 +1.3
PFO Pinyon Flat Ob 134.41 46 ⇓PKiKP **PKiKP** 17 17 11.9 -0.5
baz=134
PFO ⇓PKiKP **PKiKP** 17 17 11.9 -0.5
baz=134
TMUT Trail Mountain 134.44 36 *e*PKPdf **PKPdf** 17 17 12.9 +1.8
O18A Roosevelt 134.47 34 ⇑PKiKP **PKPdf** 17 17 11.4 +0.5
baz=134
O18A ⇑PKiKP **PKPdf** 17 17 11.4 +0.5
baz=134
N19A John Jarvie Ra 134.48 33 ⇓PKiKP **PKPdf** 17 17 11.5 +0.5
baz=134
N19A ⇓PKiKP **PKPdf** 17 17 11.5 +0.5
baz=134
BELC Belle Mtn. Jos 134.52 45 ⇑PKiKP **PKiKP** 17 17 12.5 -0.1
baz=134
BELC ⇑PKiKP **PKiKP** 17 17 12.5 -0.1
baz=134
RSSD Black Hills 134.53 26 *e*PKiKP PKPpre 17 17 06.8
RSSD Black Hills 134.53 26 *e*PKPpre PKPpre 17 17 06.8
K22A Casper 134.55 29 ⇑PKiKP **PKPdf** 17 17 11.5 +0.5
baz=134
K22A ⇑PKiKP **PKPdf** 17 17 11.5 +0.5
baz=134
M20A Sweetwater, Wa 134.58 31 ⇑PKiKP **PKiKP** 17 17 12.0 -0.7
baz=134
M20A ⇑PKiKP **PKiKP** 17 17 12.0 -0.7
baz=134
P17A Butcher Ranch, 134.59 35 ⇑PKiKP **PKiKP** 17 17 12.0 -0.6
baz=134
P17A ⇑PKiKP **PKiKP** 17 17 12.0 -0.6
baz=134
L21A Rawlins 134.65 30 ⇑PKiKP **PKiKP** 17 17 12.2 -0.5
baz=134
L21A ⇑PKiKP **PKiKP** 17 17 12.2 -0.5
baz=134
Q16A Castle Valley 134.71 36 ⇓PKiKP **PKiKP** 17 17 12.8 -0.1
baz=135
Q16A ⇓PKiKP **PKiKP** 17 17 12.8 -0.1
baz=135
P18A Preston Nutter 134.77 35 ⇑PKiKP **PKiKP** 17 17 12.9 -0.3
baz=135
P18A ⇑PKiKP **PKiKP** 17 17 12.9 -0.3
baz=135
MONP Monument Peak 134.80 46 ⇓PKiKP **PKiKP** 17 17 13.0 -0.3
baz=135
MONP ⇓PKiKP **PKiKP** 17 17 13.0 -0.3
baz=135
K23A Bowen Ranch, D 134.89 28 ⇑PKiKP **PKiKP** 17 17 12.7 -0.5
baz=135
K23A ⇑PKiKP **PKiKP** 17 17 12.7 -0.5
baz=135
M21A Separation Pea 134.91 30 ⇓PKiKP **PKPdf** 17 17 12.5 +0.7
baz=135
M21A ⇓PKiKP **PKPdf** 17 17 12.5 +0.7
baz=135
O19A Miners Draw (B 134.93 33 ⇓PKiKP **PKPdf** 17 17 12.0 +0.2
baz=135
O19A ⇓PKiKP **PKPdf** 17 17 12.0 +0.2
baz=135
N20A Spence Gulch, 135.01 32 ⇑PKiKP **PKPdf** 17 17 12.6 +0.6
baz=135
N20A ⇑PKiKP **PKPdf** 17 17 12.6 +0.6
baz=135
IRM Iron Mountain 135.03 44 ⇑PKiKP **PKiKP** 17 17 13.0 -0.5
baz=135
IRM ⇑PKiKP **PKiKP** 17 17 13.0 -0.5
baz=135
BC3 Big Chuckawall 135.09 45 ⇑PKiKP **PKiKP** 17 17 13.0 -0.7
baz=135
BC3 ⇑PKiKP **PKiKP** 17 17 13.0 -0.7
baz=135
DVTC Desert V Tower 135.15 47 ⇑PKiKP **PKPdf** 17 17 13.0 +0.7
baz=135
DVTC ⇑PKiKP **PKPdf** 17 17 13.0 +0.7
baz=135
Q18A Rafter H Ranch 135.19 35 ⇑PKiKP **PKiKP** 17 17 13.2 -0.6
baz=135
Q18A ⇑PKiKP **PKiKP** 17 17 13.2 -0.6
baz=135
S16A Weppner Ranch, 135.23 38 ⇑PKiKP **PKiKP** 17 17 13.5 -0.5
baz=135
S16A ⇑PKiKP **PKiKP** 17 17 13.5 -0.5
baz=135
R17A Hanksville Air 135.31 36 ⇓PKiKP **PKiKP** 17 17 13.4 -0.7
baz=135
R17A ⇓PKiKP **PKiKP** 17 17 13.4 -0.7
baz=135
L23A Garrett 135.35 29 ⇓PKiKP **PKPdf** 17 17 13.4 +0.7
baz=135
L23A ⇓PKiKP **PKPdf** 17 17 13.4 +0.7
baz=135
W13A Hualapai Mount 135.37 42 ⇑PKiKP **PKPdf** 17 17 13.5 +0.6
baz=135
W13A ⇑PKiKP **PKPdf** 17 17 13.5 +0.6
baz=135
N21A Black Mountain 135.46 31 ⇑PKiKP **PKPdf** 17 17 13.6 +0.7
baz=135
N21A ⇑PKiKP **PKPdf** 17 17 13.6 +0.7
baz=135
P19A Cripple Cowboy 135.47 34 ⇑PKiKP **PKiKP** 17 17 13.8 -0.7
baz=135
P19A ⇑PKiKP **PKiKP** 17 17 13.8 -0.7
baz=135
O20A White River Ci 135.52 33 ⇓PKiKP **PKiKP** 17 17 13.8 -0.7
baz=135
O20A ⇓PKiKP **PKiKP** 17 17 13.8 -0.7
baz=135
U15A North Rim 135.61 40 ⇑PKiKP **PKPdf** 17 17 14.0 +0.7
baz=136
U15A ⇑PKiKP **PKPdf** 17 17 14.0 +0.7
baz=136
PDMCI Parker Dam,Lak 135.65 43 ⇑PKiKP **PKiKP** 17 17 14.2 -0.4
baz=136
PDMCI ⇑PKiKP **PKiKP** 17 17 14.2 -0.4
baz=136
Y12C Blythe 135.69 44 ⇓PKiKP **PKPdf** 17 17 13.9 +0.7
baz=136
Y12C ⇓PKiKP **PKPdf** 17 17 13.9 +0.7
baz=136
S17A Black Ridge (B 135.77 37 ⇑PKiKP **PKiKP** 17 17 15.1 0.0
baz=136
S17A ⇑PKiKP **PKiKP** 17 17 15.1 0.0
baz=136
Q19A Hogan Spring (135.79 35 ⇑PKiKP **PKiKP** 17 17 14.2 -0.8
baz=136
Q19A ⇑PKiKP **PKiKP** 17 17 14.2 -0.8
baz=136
K25A Mack Ranch, Ha 135.81 27 ⇓PKiKP **PKiKP** 17 17 14.2 -0.7
baz=136
K25A ⇓PKiKP **PKiKP** 17 17 14.2 -0.7
baz=136
R18A Canyonlands Na 135.81 36 ⇓PKiKP **PKPdf** 17 17 14.3 +0.7
baz=136
R18A ⇓PKiKP **PKPdf** 17 17 14.3 +0.7
baz=136
M23A Laramie 135.83 29 ⇑PKiKP **PKPdf** 17 17 14.3 +0.7
baz=136
M23A ⇑PKiKP **PKPdf** 17 17 14.3 +0.7
baz=136
GLA Glamis 135.86 45 ⇓PKiKP **PKiKP** 17 17 14.9 -0.3
baz=136
GLA ⇓PKiKP **PKiKP** 17 17 14.9 -0.3
baz=136
P20A De Beque 135.89 33 ⇑PKiKP **PKiKP** 17 17 14.7 -0.6
baz=136
P20A ⇑PKiKP **PKiKP** 17 17 14.7 -0.6
baz=136
T17A Navajo Res., N 136.18 38 ⇑PKiKP **PKiKP** 17 17 15.3 -0.6
baz=136
T17A ⇑PKiKP **PKiKP** 17 17 15.3 -0.6
baz=136
S18A Hurst Farm, Bl 136.22 36 ⇓PKiKP **PKiKP** 17 17 16.5 +0.4
baz=136
S18A ⇓PKiKP **PKiKP** 17 17 16.5 +0.4
baz=136

R19A	**Curley Farm, L**	**136.24**	**35**	⇓PKiKP	**PKiKP**	**17 17 15.4**	**-0.7**
	baz=136						
R19A				⇓PKiKP	**PKiKP**	**17 17 15.4**	**-0.7**
	baz=136						
Q20A	**Ridgley Place,**	**136.33**	**34**	⇓PKiKP	**PKPdf**	**17 17 15.2**	**+0.7**
	baz=136						
Q20A				⇓PKiKP	**PKPdf**	**17 17 15.2**	**+0.7**
	baz=136						
P21A	**Newcastle**	**136.39**	**33**	⇑PKiKP	**PKiKP**	**17 17 15.8**	**-0.5**
	baz=136						
P21A				⇑PKiKP	**PKiKP**	**17 17 15.8**	**-0.5**
	baz=136						
O22A	**Kremmling**	**136.40**	**31**	⇑PKiKP	**PKiKP**	**17 17 16.2**	**-0.3**
	baz=136						
O22A				⇑PKiKP	**PKiKP**	**17 17 16.2**	**-0.3**
	baz=136						
U16A	**Tuba City**	**136.53**	**39**	⇓PKiKP	**PKiKP**	**17 17 16.0**	**-0.7**
	baz=136						
U16A				⇓PKiKP	**PKiKP**	**17 17 16.0**	**-0.7**
	baz=136						
U17A	**Shonto**	**136.53**	**38**	⇑PKiKP	**PKiKP**	**17 17 16.3**	**-0.4**
	baz=136						
U17A				⇑PKiKP	**PKiKP**	**17 17 16.3**	**-0.4**
	baz=136						
Z13A	**Yuma Proving G**	**136.60**	**44**	⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.2**
	baz=136						
Z13A				⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.2**
	baz=136						
Y14A	**Wickenburg**	**136.63**	**43**	⇓PKiKP	**PKPdf**	**17 17 15.8**	**+0.8**
	baz=136						
Y14A				⇓PKiKP	**PKPdf**	**17 17 15.8**	**+0.8**
	baz=136						
T18A	**Mexican Hat**	**136.66**	**37**	⇓PKiKP	**PKPdf**	**17 17 16.0**	**+0.9**
	baz=136						
T18A				⇓PKiKP	**PKPdf**	**17 17 16.0**	**+0.9**
	baz=136						
O23A	**Lake Granby, G**	**136.68**	**31**	⇑PKiKP	**PKPdf**	**17 17 16.1**	**+0.8**
	baz=136						
O23A				⇑PKiKP	**PKPdf**	**17 17 16.1**	**+0.8**
	baz=136						
S19A	**Harvey Farm, M**	**136.68**	**36**	⇑PKiKP	**PKiKP**	**17 17 16.4**	**-0.6**
	baz=137						
S19A				⇑PKiKP	**PKiKP**	**17 17 16.4**	**-0.6**
	baz=137						
WUAZ	**Wupatki**	**136.76**	**40**	*e*PKPdf	**PKPdf**	**17 17 14.7**	**-0.7**
WUAZ	**Wupatki**	**136.76**	**40**	⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.6**
	baz=137						
WUAZ				⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.6**
	baz=137						
Q21A	**Lamborn Mesa,**	**136.81**	**33**	⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.7**
	baz=137						
Q21A				⇓PKiKP	**PKiKP**	**17 17 16.5**	**-0.7**
	baz=137						
R20A	**Redvale**	**136.82**	**35**	⇑PKiKP	**PKiKP**	**17 17 16.5**	**-0.8**
	baz=137						
R20A				⇑PKiKP	**PKiKP**	**17 17 16.5**	**-0.8**
	baz=137						
Z14A	**Wintersburg**	**137.00**	**44**	⇑PKiKP	**PKiKP**	**17 17 17.1**	**-0.4**
	baz=137						
Z14A				⇑PKiKP	**PKiKP**	**17 17 17.1**	**-0.4**
	baz=137						
V17A	**Tonalea, Kykot**	**137.06**	**39**	⇑PKiKP	**PKiKP**	**17 17 17.1**	**-0.7**
	baz=137						
V17A				⇑PKiKP	**PKiKP**	**17 17 17.1**	**-0.7**
	baz=137						
S20A	**Disappointment**	**137.07**	**35**	⇓PKiKP	**PKiKP**	**17 17 17.0**	**-0.9**
	baz=137						
S20A				⇓PKiKP	**PKiKP**	**17 17 17.0**	**-0.9**
	baz=137						
Q22A	**Crested Butte,**	**137.15**	**33**	⇓PKiKP	**PKiKP**	**17 17 17.5**	**-0.6**
	baz=137						
Q22A				⇓PKiKP	**PKiKP**	**17 17 17.5**	**-0.6**
	baz=137						
R21A	**Cimarron**	**137.16**	**34**	⇓PKiKP	**PKiKP**	**17 17 17.7**	**-0.3**
	baz=137						
R21A				⇓PKiKP	**PKiKP**	**17 17 17.7**	**-0.3**
	baz=137						
114A	**Black Gap (USA**	**137.39**	**44**	⇓PKiKP	**PKiKP**	**17 17 18.1**	**-0.2**
	baz=137						
114A				⇓PKiKP	**PKiKP**	**17 17 18.1**	**-0.2**
	baz=137						
X16A	**Lo Mia Camp, P**	**137.39**	**41**	⇓PKiKP	**PKiKP**	**17 17 18.2**	**-0.3**
	baz=137						
X16A				⇓PKiKP	**PKiKP**	**17 17 18.2**	**-0.3**
	baz=137						
MVCO	**Mesa Verde**	**137.42**	**36**	⇑PKiKP	**PKiKP**	**17 17 17.8**	**-0.7**
	baz=137						
MVCO				⇑PKiKP	**PKiKP**	**17 17 17.8**	**-0.7**
	baz=137						
S21A	**Coal Bank Pass**	**137.52**	**35**	⇓PKiKP	**PKiKP**	**17 17 18.3**	**-0.6**
	baz=137						
S21A				⇓PKiKP	**PKiKP**	**17 17 18.3**	**-0.6**
	baz=137						
R22A	**Saguache, Gunn**	**137.69**	**33**	⇓PKiKP	**PKPdf**	**17 17 17.2**	**0.0**
	baz=138						
R22A				⇓PKiKP	**PKPdf**	**17 17 17.2**	**0.0**
	baz=138						
U20A	**Newcomb**	**137.97**	**37**	⇑PKiKP	**PKiKP**	**17 17 18.6**	**-1.0**
	baz=138						
U20A				⇑PKiKP	**PKiKP**	**17 17 18.6**	**-1.0**
	baz=138						
S22A	**4UR Ranch, Cre**	**138.00**	**34**	⇑PKiKP	**PKPdf**	**17 17 18.4**	**+0.6**
	baz=138						
S22A				⇑PKiKP	**PKPdf**	**17 17 18.4**	**+0.6**
	baz=138						
W18A	**Petrified Fore**	**138.05**	**39**	⇓PKiKP	**PKPdf**	**17 17 18.4**	**+0.6**
	baz=138						
W18A				⇓PKiKP	**PKPdf**	**17 17 18.4**	**+0.6**
	baz=138						
P25A	**Willow Gulch B**	**138.09**	**30**	⇑PKiKP	**PKPdf**	**17 17 18.4**	**+0.7**
	baz=138						
P25A				⇑PKiKP	**PKPdf**	**17 17 18.4**	**+0.7**
	baz=138						
V19A	**Window Rock**	**138.09**	**38**	⇓PKiKP	**PKPdf**	**17 17 18.6**	**+0.7**
	baz=138						
V19A				⇓PKiKP	**PKPdf**	**17 17 18.6**	**+0.7**
	baz=138						
T21A	**Navajo Lake**	**138.13**	**35**	⇑PKiKP	**PKPdf**	**17 17 18.9**	**+1.0**
	baz=138						
T21A				⇑PKiKP	**PKPdf**	**17 17 18.9**	**+1.0**
	baz=138						
Y17A	**Roosevelt**	**138.22**	**42**	⇑PKiKP	**PKiKP**	**17 17 19.3**	**-0.7**
	baz=138						
Y17A				⇑PKiKP	**PKiKP**	**17 17 19.3**	**-0.7**
	baz=138						
R23A	**Moffat**	**138.22**	**33**	⇑PKiKP	**PKPdf**	**17 17 18.9**	**+0.8**
	baz=138						
R23A				⇑PKiKP	**PKPdf**	**17 17 18.9**	**+0.8**
	baz=138						
V20A	**Brimhall**	**138.39**	**37**	⇓PKiKP	**PKiKP**	**17 17 19.5**	**-1.0**
	baz=138						
V20A				⇓PKiKP	**PKiKP**	**17 17 19.5**	**-1.0**
	baz=138						
U21A	**Nageezi**	**138.45**	**36**	⇑PKiKP	**PKiKP**	**17 17 19.7**	**-0.9**
	baz=138						
U21A				⇑PKiKP	**PKiKP**	**17 17 19.7**	**-0.9**
	baz=138						
P26A	**Davis Ranch, A**	**138.46**	**29**	⇑PKiKP	**PKPdf**	**17 17 19.3**	**+1.0**
	baz=138						
P26A				⇑PKiKP	**PKPdf**	**17 17 19.3**	**+1.0**
	baz=138						
SDCO	**Great Sand Dun**	**138.72**	**33**	*e*PKPdf	**PKPdf**	**17 17 18.8**	**-0.3**
W20A	**Ramah**	**138.82**	**38**	⇓PKiKP	**PKiKP**	**17 17 20.9**	**-0.5**
	baz=139						
W20A				⇓PKiKP	**PKiKP**	**17 17 20.9**	**-0.5**
	baz=139						
T23A	**Casias Ranch,**	**138.95**	**34**	⇑PKiKP	**PKiKP**	**17 17 20.9**	**-0.8**
	baz=139						
T23A				⇑PKiKP	**PKiKP**	**17 17 20.9**	**-0.8**
	baz=139						
R25A	**Fountain Ranch**	**139.07**	**31**	⇑PKiKP	**PKPdf**	**17 17 20.3**	**+0.8**
	baz=139						
R25A				⇑PKiKP	**PKPdf**	**17 17 20.3**	**+0.8**
	baz=139						
TUC	**Tucson**	**139.09**	**43**	*e*PKIKP	**PKPdf**	**17 17 20.8**	**+1.2**
TUC	**Tucson**	**139.09**	**43**	*e*PKPdf	**PKPdf**	**17 17 20.8**	**+1.2**
Y19A	**Nutrioso**	**139.10**	**40**	⇓PKiKP	**PKPdf**	**17 17 20.7**	**+0.8**
	baz=139						
Y19A				⇓PKiKP	**PKPdf**	**17 17 20.7**	**+0.8**
	baz=139						
BGNE	**Belgrade**	**139.19**	**22**	⇓PKiKP	**PKPdf**	**17 17 20.3**	**+0.8**
	baz=139						
BGNE				⇓PKiKP	**PKPdf**	**17 17 20.3**	**+0.8**
	baz=139						
T24A	**Torres, Weston**	**139.46**	**33**	⇑PKiKP	**PKPdf**	**17 17 21.3**	**+0.8**
	baz=139						
T24A				⇑PKiKP	**PKPdf**	**17 17 21.3**	**+0.8**
	baz=139						
X21A	**Alamocita Cree**	**139.71**	**38**	⇓PKiKP	**PKPdf**	**17 17 21.8**	**+0.8**
	baz=140						
X21A				⇓PKiKP	**PKPdf**	**17 17 21.8**	**+0.8**
	baz=140						
T25A	**Trinidad**	**139.76**	**32**	⇓PKiKP	**PKPdf**	**17 17 21.6**	**+0.7**
	baz=140						
T25A				⇓PKiKP	**PKPdf**	**17 17 21.6**	**+0.7**
	baz=140						
218A	**Dragoon**	**139.79**	**43**	⇑PKiKP	**PKPdf**	**17 17 21.8**	**+0.8**
	baz=140						
218A				⇑PKiKP	**PKPdf**	**17 17 21.8**	**+0.8**
	baz=140						
119A	**Ashpeak Ranch,**	**139.81**	**42**	⇑PKiKP	**PKPdf**	**17 17 22.1**	**+1.1**
	baz=140						
119A				⇑PKiKP	**PKPdf**	**17 17 22.1**	**+1.1**
	baz=140						
S26A	**Kim**	**139.89**	**31**	⇓PKiKP	**PKiKP**	**17 17 23.0**	**-0.4**
	baz=140						
S26A				⇓PKiKP	**PKiKP**	**17 17 23.0**	**-0.4**
	baz=140						
Z20A	**Nine Sixteen R**	**140.06**	**41**	⇑PKiKP	**PKiKP**	**17 17 23.3**	**-0.6**
	baz=140						
Z20A				⇑PKiKP	**PKiKP**	**17 17 23.3**	**-0.6**
	baz=140						
Y21A	**Point of Rocks**	**140.06**	**39**	⇑PKiKP	**PKiKP**	**17 17 23.3**	**-0.8**
	baz=140						
Y21A				⇑PKiKP	**PKiKP**	**17 17 23.3**	**-0.8**
	baz=140						
S27A	**Las Animas**	**140.13**	**30**	⇓PKiKP	**PKiKP**	**17 17 22.7**	**-1.2**
	baz=140						
S27A				⇓PKiKP	**PKiKP**	**17 17 22.7**	**-1.2**
	baz=140						
U25A	**Circle Dot Ran**	**140.31**	**33**	⇓PKiKP	**PKPdf**	**17 17 22.9**	**+1.0**
	baz=140						
U25A				⇓PKiKP	**PKPdf**	**17 17 22.9**	**+1.0**
	baz=140						
V24A	**Rampart Ranch,**	**140.31**	**35**	⇓PKiKP	**PKPdf**	**17 17 23.2**	**+1.2**
	baz=140						
V24A				⇓PKiKP	**PKPdf**	**17 17 23.2**	**+1.2**
	baz=140						
120A	**U Bar Ranch, L**	**140.39**	**41**	⇑PKiKP	**PKiKP**	**17 17 23.7**	**-0.9**
	baz=140						
120A				⇑PKiKP	**PKiKP**	**17 17 23.7**	**-0.9**
	baz=140						
LPM	**Los Pinos Moun**	**140.50**	**37**	*e*PKPdf	**PKPdf**	**17 17 23.6**	**+1.3**
Z21A	**St. Cloud Mine**	**140.52**	**40**	⇓PKiKP	**PKPdf**	**17 17 23.6**	**+1.2**
	baz=140						
Z21A				⇓PKiKP	**PKPdf**	**17 17 23.6**	**+1.2**
	baz=140						
Y22A	**Socorro**	**140.55**	**38**	⇓PKiKP	**PKPdf**	**17 17 23.4**	**+1.0**
	baz=140						
Y22A				⇓PKiKP	**PKPdf**	**17 17 23.4**	**+1.0**
	baz=140						
V25A	**Rancho No Teng**	**140.60**	**34**	⇑PKiKP	**PKPdf**	**17 17 23.7**	**+1.3**
	baz=140						
V25A				⇑PKiKP	**PKPdf**	**17 17 23.7**	**+1.3**
	baz=140						
W24A	**Lazy 6 Ranch,**	**140.60**	**35**	⇓PKiKP	**PKiKP**	**17 17 23.9**	**-1.2**
	baz=140						
W24A				⇓PKiKP	**PKiKP**	**17 17 23.9**	**-1.2**
	baz=140						
BNM	**Barren Site**	**140.61**	**38**	*e*PKPpre	PKPpre	17 17 17.0	
U26A	**Atchley Ranch,**	**140.67**	**33**	⇑PKiKP	**PKiKP**	**17 17 23.9**	**-1.3**
	baz=140						
U26A				⇑PKiKP	**PKiKP**	**17 17 23.9**	**-1.3**
	baz=140						
319A	**Douglas**	**140.67**	**43**	⇓PKiKP	**PKPdf**	**17 17 23.5**	**+0.9**
	baz=141						
319A				⇓PKiKP	**PKPdf**	**17 17 23.5**	**+0.9**
	baz=141						
T27A	**Campo**	**140.70**	**31**	⇓PKiKP	**PKPdf**	**17 17 23.0**	**+0.5**
	baz=141						
T27A				⇓PKiKP	**PKPdf**	**17 17 23.0**	**+0.5**
	baz=141						
CBKS	**Cedar Bluff**	**140.72**	**26**	*e*PKIKP	PKPdf	17 17 16.9	-5.5
CBKS	**Cedar Bluff**	**140.72**	**26**	*e*PKPdf	PKPdf	17 17 16.9	-5.5
220A	**Playas Peak, P**	**140.86**	**42**	⇓PKiKP	**PKiKP**	**17 17 24.4**	**-1.2**
	baz=141						
220A				⇓PKiKP	**PKiKP**	**17 17 24.4**	**-1.2**
	baz=141						
121A	**Cookes Peak, D**	**140.95**	**41**	⇑PKiKP	**PKPdf**	**17 17 23.9**	**+0.7**
	baz=141						
121A				⇑PKiKP	**PKPdf**	**17 17 23.9**	**+0.7**
	baz=141						
T28A	**Walsh**	**140.96**	**30**	⇑PKiKP	**PKPdf**	**17 17 23.7**	**+0.8**
	baz=141						
T28A				⇑PKiKP	**PKPdf**	**17 17 23.7**	**+0.8**
	baz=141						
Z22A	**Elephant Butte**	**141.00**	**39**	⇑PKiKP	**PKPdf**	**17 17 24.1**	**+0.9**
	baz=141						
Z22A				⇑PKiKP	**PKPdf**	**17 17 24.1**	**+0.9**
	baz=141						
Y23A	**Lovelace Mesa,**	**141.11**	**37**	⇑PKiKP	**PKPdf**	**17 17 24.1**	**+0.7**
	baz=141						
Y23A				⇑PKiKP	**PKPdf**	**17 17 24.1**	**+0.7**
	baz=141						
W25A	**X Bar L Ranch,**	**141.14**	**34**	⇓PKiKP	**PKPdf**	**17 17 24.7**	**+1.3**
	baz=141						
W25A				⇓PKiKP	**PKPdf**	**17 17 24.7**	**+1.3**
	baz=141						
320A	**Kipp Ranch, An**	**141.21**	**43**	⇑PKiKP	**PKiKP**	**17 17 25.1**	**-1.2**
	baz=141						
320A				⇑PKiKP	**PKiKP**	**17 17 25.1**	**-1.2**
	baz=141						
Z23A	**Rita Site, Whi**	**141.46**	**38**	⇓PKiKP	**PKiKP**	**17 17 25.5**	**-1.3**
	baz=141						
Z23A				⇓PKiKP	**PKiKP**	**17 17 25.5**	**-1.3**
	baz=141						
Y24A	**Capitan**	**141.49**	**37**	⇑PKiKP	**PKPdf**	**17 17 25.4**	**+1.3**
	baz=141						
Y24A				⇑PKiKP	**PKPdf**	**17 17 25.4**	**+1.3**
	baz=141						
KSU1	**Kansas State U**	**141.77**	**23**	*e*PKPdf	**PKPdf**	**17 17 21.2**	**-3.0**
Y25A	**Mesa, Roswell**	**141.93**	**36**	⇑PKiKP	**PKPdf**	**17 17 26.0**	**+1.2**
	baz=142						
Y25A				⇑PKiKP	**PKPdf**	**17 17 26.0**	**+1.2**
	baz=142						
Z24A	**Sheeppen Canyo**	**141.94**	**37**	⇑PKiKP	**PKPdf**	**17 17 26.1**	**+1.2**
	baz=142						
Z24A				⇑PKiKP	**PKPdf**	**17 17 26.1**	**+1.2**
	baz=142						
X26A	**CR and CF Fran**	**141.99**	**35**	⇓PKiKP	**PKPdf**	**17 17 26.1**	**+1.2**
	baz=142						
X26A				⇓PKiKP	**PKPdf**	**17 17 26.1**	**+1.2**
	baz=142						
W27A	**Bowe Ranch, En**	**142.03**	**33**	⇑PKiKP	**PKPdf**	**17 17 26.0**	**+1.1**
	baz=142						
W27A				⇑PKiKP	**PKPdf**	**17 17 26.0**	**+1.1**
	baz=142						
CFAA	**Coronel Fontan**	**142.90**	**195**	PKhKP	PKPpre	17 17 22.8	
	comp=Z,0.5nm,0.8s,baz=251,slow=2.5,SNR=6.1						
CFAA	**Coronel Fontan**	**142.90**	**195**	PKPpre	PKPpre	17 17 22.8	
MNTX	**Cornudas Mount**	**143.04**	**39**	*e*PKPdf	PKPbc	17 17 23.6	+0.1
CPRX	**Cap Rock**	**143.05**	**36**	*e*PKPdf	PKPbc	17 17 25.1	+1.4
CPUP	**Villa Florida**	**143.13**	**213**	PKhKP	PKPpre	17 17 24.2	
	comp=Z,1.3nm,0.7s,baz=87,slow=3.5,SNR=4.0						
CPUP	**Villa Florida**	**143.13**	**213**	PKPpre	PKPpre	17 17 24.2	
GDL2	**Guadalupe Moun**	**143.33**	**38**	*e*PKPdf	PKPbc	17 17 24.3	-0.1
CLNB	**Carlsbad**	**143.58**	**37**	*e*PKPdf	PKPbc	17 17 25.3	+0.1
ACSO	**Alum Creek Sta**	**144.04**	**6**	*e*PKPdf	**PKPab**	**17 17 25.2**	**-0.4**
SLM	**Saint Louis**	**144.28**	**15**	*e*PKIKP	**PKPab**	**17 17 25.4**	**-1.1**
SLM	**Saint Louis**	**144.28**	**15**	*e*PKPdf	**PKPab**	**17 17 25.4**	**-1.1**
WMOK	**Wichita Mounta**	**144.49**	**29**	*e*PKIKP	**PKPab**	**17 17 27.2**	**-0.3**
WMOK	**Wichita Mounta**	**144.49**	**29**	*e*PKPdf	**PKPab**	**17 17 27.2**	**-0.3**
426A	**McDonald Obser**	**144.59**	**39**	⇑PKiKP	**PKPdf**	**17 17 29.2**	**-0.4**
	baz=144						
426A				⇑PKiKP	**PKPdf**	**17 17 29.2**	**-0.4**
	baz=144						
BLO	**Bloomington**	**144.59**	**10**	*e*PKIKP	**PKPab**	**17 17 27.4**	**-0.3**
BLO	**Bloomington**	**144.59**	**10**	*e*PKPdf	**PKPab**	**17 17 27.4**	**-0.3**
OLIL	**Olney**	**144.70**	**13**	*e*PKPdf	**PKPab**	**17 17 27.7**	**-0.4**
328A	**Wristen Ranch,**	**144.85**	**37**	⇓PKiKP	**PKPdf**	**17 17 29.9**	**0.0**
	baz=145						
328A				⇓PKiKP	**PKPdf**	**17 17 29.9**	**0.0**
	baz=145						
427A	**Hayter Ranch,**	**144.85**	**39**	⇓PKiKP	**PKPdf**	**17 17 30.2**	**+0.2**
	baz=145						
427A				⇓PKiKP	**PKPdf**	**17 17 30.2**	**+0.2**
	baz=145						
TUL1	**Tulsa**	**144.85**	**24**	⇑PKiKP	PKPbc	17 17 29.1	+0.3
	baz=145						
TUL1				⇑PKiKP	PKPbc	17 17 29.1	+0.3
	baz=145						
526A	**Mary Lane Ranc**	**144.96**	**40**	⇑PKiKP	**PKPdf**	**17 17 30.9**	**+0.6**
	baz=145						
526A				⇑PKiKP	**PKPdf**	**17 17 30.9**	**+0.6**
	baz=145						
SDMD	**Soldier's Deli**	**145.02**	**357**	*e*PKPdf	**PKPbc**	**17 17 28.4**	**-0.8**
527A	**Woodward Ranch**	**145.20**	**40**	⇓PKiKP	**PKPdf**	**17 17 31.6**	**+0.9**
	baz=145						
527A				⇓PKiKP	**PKPdf**	**17 17 31.6**	**+0.9**
	baz=145						
626A	**Big Bend Ranch**	**145.26**	**41**	⇓PKiKP	**PKPdf**	**17 17 31.6**	**+0.9**
	baz=145						
626A				⇓PKiKP	**PKPdf**	**17 17 31.6**	**+0.9**
	baz=145						
428A	**Kincaid Ranch,**	**145.38**	**38**	⇓PKiKP	**PKPab**	**17 17 32.4**	**+1.5**
	baz=145						
428A				⇓PKiKP	**PKPab**	**17 17 32.4**	**+1.5**
	baz=145						
SIUC	**Southern Illin**	**145.41**	**15**	*e*PKPdf	**PKPbc**	**17 17 30.3**	**-0.2**
USIN	**University of**	**145.53**	**12**	*e*PKPdf	**PKPdf**	**17 17 30.4**	**-0.4**
WCI	**Wyandotte Cave**	**145.55**	**11**	*e*PKIKP	**PKPdf**	**17 17 30.6**	**-0.3**
WCI	**Wyandotte Cave**	**145.55**	**11**	*e*PKPdf	**PKPdf**	**17 17 30.6**	**-0.3**
528A	**Cox Ranch, San**	**145.71**	**39**	⇓PKiKP	**PKPab**	**17 17 33.3**	**+1.0**
	baz=146						
528A				⇓PKiKP	**PKPab**	**17 17 33.3**	**+1.0**
	baz=146						
TXAR	**Lajitas Array**	**145.71**	**41**	PKPbc	**PKPab**	**17 17 32.1**	**-0.1**
	comp=Z,66nm,0.9s,baz=285,slow=1.5,SNR=386						
TXAR	**Lajitas Array**	**145.71**	**41**	PKP2	**PKPab**	**17 17 32.2**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,66nm,0.9s						
TXAR	**Lajitas Array**	**145.71**	**41**	PKPbc	**PKPab**	**17 17 32.1**	**-0.1**
627A	**Terlingua Ranc**	**145.81**	**40**	⇓PKiKP	**PKPab**	**17 17 33.4**	**+0.8**
	baz=146						
627A				⇓PKiKP	**PKPab**	**17 17 33.4**	**+0.8**
	baz=146						
LCO	**Las Campanas**	**145.97**	**193**	*e*PKPdf	**PKPdf**	**17 17 30.7**	**-1.5**
628A	**Black Gap, Mar**	**146.11**	**40**	⇑PKiKP	**PKPab**	**17 17 34.2**	**+0.5**
	baz=146						
628A				⇑PKiKP	**PKPab**	**17 17 34.2**	**+0.5**
	baz=146						
PARMO	**Parma**	**146.26**	**16**	*e*PKPdf	**PKPdf**	**17 17 32.3**	**+0.2**
UTMT	**University of**	**146.80**	**15**	*e*PKPbc	**PKPbc**	**17 17 34.8**	**0.0**
GNAR	**Gosnell**	**146.84**	**17**	*e*PKPbc	**PKPdf**	**17 17 33.9**	**+0.8**
RFTA	**Plano**	**146.90**	**28**	*e*PKPbc	**PKPbc**	**17 17 34.6**	**-0.5**
MIAR	**Mount Ida**	**146.93**	**23**	*e*PKP2	**PKPbc**	**17 17 34.3**	**-0.9**
MIAR	**Mount Ida**	**146.93**	**23**	*e*PKPdf	**PKPbc**	**17 17 34.3**	**-0.9**
HBAR	**Harrisburg**	**147.03**	**18**	*e*PKPbc	**PKPbc**	**17 17 35.4**	**0.0**
UALR	**University of**	**147.18**	**21**	*e*PKPdf	**PKPdf**	**17 17 32.8**	**-0.8**
UALR				*e*PKPbc	**PKPbc**	**17 17 35.7**	**-0.2**
BLA	**Blacksburg**	**147.22**	**2**	*e*PKP2	**PKPbc**	**17 17 35.2**	**-0.8**
BLA	**Blacksburg**	**147.22**	**2**	*e*PKPbc	**PKPbc**	**17 17 35.2**	**-0.8**
WVT	**Waverly**	**147.26**	**14**	*e*PKIKP	**PKPdf**	**17 17 33.7**	**0.0**
WVT				*e*		17 17 36.0	
WVT	**Waverly**	**147.26**	**14**	*e*PKPdf	**PKPdf**	**17 17 33.7**	**0.0**
WVT				*e*PKPbc	**PKPbc**	**17 17 36.0**	**0.0**
JCT	**Junction City**	**147.27**	**35**	*e*PKP2	**PKPdf**	**17 17 34.5**	**+0.5**
JCT	**Junction City**	**147.27**	**35**	*e*PKPdf	**PKPdf**	**17 17 34.5**	**+0.5**
JCT				*e*PKPbc	**PKPbc**	**17 17 37.1**	**+0.7**
JCT	**Junction City**	**147.27**	**35**	⇓PKiKP	**PKPbc**	**17 17 37.0**	**+0.7**
	baz=147						
JCT				⇓PKiKP	**PKPbc**	**17 17 37.0**	**+0.7**
	baz=147						
TZTN	**Tazewell**	**147.63**	**7**	*e*PKPbc	**PKPbc**	**17 17 36.9**	**-0.2**
PLAL	**Pickwick Lake**	**148.29**	**15**	*e*PKPdf	**PKPdf**	**17 17 34.6**	**-0.9**
PLAL				*e*PKPbc	**PKPbc**	**17 17 38.2**	**-0.7**
PLAL				*e*PKPab	**PKPab**	**17 17 41.4**	**-0.5**
TKL	**Tuckaleechee C**	**148.47**	**8**	PKPbc	**PKPbc**	**17 17 39.3**	**0.0**
	comp=Z,47nm,0.7s,baz=67,slow=3.2,SNR=63						
TKL	**Tuckaleechee C**	**148.47**	**8**	PKP2	**PKPbc**	**17 17 39.3**	**0.0**
TKL				pmax	pmax		
	comp=Z,47nm,0.7s						
TKL	**Tuckaleechee C**	**148.47**	**8**	*e*PKPbc	**PKPbc**	**17 17 39.0**	**-0.4**
SWET	**Sewanee**	**148.54**	**11**	*e*PKPbc	**PKPbc**	**17 17 38.5**	**-1.1**
CPCT	**Cooper Cave**	**148.56**	**9**	*e*PKPbc	**PKPbc**	**17 17 39.4**	**-0.2**
NATX	**Nacogdoches**	**148.88**	**27**	*e*PKPbc	**PKPbc**	**17 17 41.1**	**+0.6**
CNNC	**Cliffs of the**	**149.22**	**359**	*e*PKPbc	**PKPbc**	**17 17 41.4**	**+0.2**
HKT	**Hockley**	**149.82**	**30**	*e*PKP2	**PKPbc**	**17 17 43.7**	**+0.9**
HKT	**Hockley**	**149.82**	**30**	*e*PKPbc	**PKPbc**	**17 17 43.7**	**+0.9**
JSC	**Jenkinsville**	**150.09**	**4**	*e*PKP2	**PKPbc**	**17 17 43.0**	**-0.4**
JSC	**Jenkinsville**	**150.09**	**4**	*e*PKPbc	**PKPbc**	**17 17 43.0**	**-0.4**
VBMS	**Vicksburg**	**150.13**	**20**	*e*PKPdf	**PKPdf**	**17 17 39.1**	**+0.6**
VBMS				*e*PKPbc	**PKPbc**	**17 17 43.9**	**+0.3**
LRAL	**Lakeview Retre**	**150.41**	**14**	*e*PKPbc	**PKPbc**	**17 17 43.4**	**-0.8**
KVTX	**Kingsville**	**150.57**	**36**	*e*PKPbc	**PKPbc**	**17 17 46.7**	**+2.0**
GOGA	**Godfrey**	**150.72**	**8**	*e*PKIKP	**PKPbc**	**17 17 45.0**	**0.0**
GOGA	**Godfrey**	**150.72**	**8**	*e*PKPbc	**PKPbc**	**17 17 45.0**	**0.0**
LVC	**Limon Verde**	**151.56**	**199**	*e*PKPdf	**PKPdf**	**17 17 41.8**	**+0.4**
LVC				*e*PKPbc	**PKiKP**	**17 17 48.5**	**+0.5**
BRAL	**Brewton**	**152.32**	**15**	*e*PKPdf	**PKPbc**	**17 17 49.2**	**+0.6**
SIV	**San Ignacio**	**153.29**	**221**	PKP	**PKPdf**	**17 17 43.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=207,slow=1.8,SNR=4.7						
SIV				PKPbc	**PKPbc**	**17 17 50.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=154,slow=4.9,SNR=6.5						
SIV	**San Ignacio**	**153.29**	**221**	PKP	**PKPdf**	**17 17 43.6**	**-0.2**
SIV				PKPbc	**PKPbc**	**17 17 50.8**	**-0.5**
LPAZ	**La Paz**	**156.98**	**207**	PKP	**PKPdf**	**17 17 49.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=164,slow=8.1,SNR=2.4						
LPAZ	**La Paz**	**156.98**	**207**	PKIKP	**PKPdf**	**17 17 49.7**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**156.98**	**207**	PKP	**PKPdf**	**17 17 49.7**	**+0.1**
OTAV	**Otavalo**	**175.94**	**184**	*e*PKPdf	**PKPdf**	**17 18 03.4**	**-0.6**

IDC 01 17:12:19.6±3.3**,0.°76S×98.°22E,h0**km**,mb3.5**/6**,mb1 3.6**/6**, mb1mx3.5**/21**,mbtmp3.5**/6**,Error ellipse: s-maj=142.6km s-min=20.1km az=56.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.15**	**121**	P	P	17 19 57.4	-0.4
	0.7nm,0.9s,baz=298,slow=8.8,SNR=3.8						
ASAR	**Alice Springs**	**41.42**	**126**	P	P	17 20 08.3	+0.1
	0.7nm,0.8s,baz=301,slow=8.0,SNR=14						
SONM	**Songino Array**	**48.92**	**7**	P	P	17 21 07.8	+0.2
	0.4nm,0.8s,baz=186,slow=7.3,SNR=2.9						
MKAR	**Makanchi Array**	**49.37**	**346**	P	P	17 21 10.2	-0.8
	0.2nm,0.4s,baz=161,slow=8.1,SNR=6.5						
KURK	**Kurchatov**	**53.93**	**345**	P	P	17 21 44.6	-0.3
	0.2nm,0.5s,baz=162,slow=7.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**55.64**	**350**	P	P	17 21 57.4	+0.1
	0.5nm,0.4s,baz=148,slow=6.1,SNR=4.2						

*DJA **01** 17:24:27,2.°00S×138.°71E,h97km,MLv3.3/4*

IDC 01 17:24:27.6±4.4**,2.°40S×139.°65E,h0**km**,mb3.1**/2**, mb1 3.4**/3**,mb1mx3.2**/13**,mbtmp3.2**/3**,ML3.5**/1**,Error ellipse: s-maj=169.4km s-min=29.7km az=88.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.19**	**196**	P	Pn	17 28 41.2	-0.7
	0.2nm,0.3s,baz=18,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.86**	**194**	P	P	17 29 22.3	+0.1
	0.3nm,0.5s,baz=22,slow=9.6,SNR=7.8						
MKAR	**Makanchi Array**	**70.12**	**322**	P	P	17 35 42.1	+0.1
	0.1nm,0.4s,baz=111,slow=6.8,SNR=4.8						

IDC 01 17:26:53.4±1.4**,4.°02S×101.°74E,h0**km**,mb4.0**/10**, mb1 4.1**/10**,mb1mx4.0**/20**,mbtmp4.0**/10**,Error ellipse: s-maj=47.8km s-min=16.9km az=54.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.51**	**353**	P	P	17 31 54.1	-0.7
	2.8nm,0.8s,baz=183,slow=8.3,SNR=26						
FITZ	**Fitzroy Crossi**	**27.26**	**123**	P	P	17 32 39.5	-0.1
	3.2nm,0.8s,baz=309,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	**35.49**	**119**	P	P	17 33 51.8	-0.4
	0.5nm,0.5s,baz=302,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**36.67**	**125**	P	P	17 34 01.6	-0.6
	0.7nm,0.8s,baz=298,slow=8.4,SNR=5.7						
SONM	**Songino Array**	**51.80**	**4**	P	P	17 36 03.9	+0.8
	2.6nm,0.8s,baz=184,slow=9.2,SNR=22						
MJAR	**Matsushiro Arr**	**52.79**	**37**	P	P	17 36 10.7	+0.1
	1.1nm,0.9s,baz=216,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**53.44**	**343**	P	P	17 36 14.0	-1.1
	1.8nm,0.7s,baz=148,slow=8.4,SNR=21						
USRK	**Ussuriysk Arra**	**55.16**	**26**	P	P	17 36 28.3	+0.6
	5.3nm,0.8s,baz=217,slow=5.3,SNR=13						
ZALV	**Zalesovo Beam**	**59.47**	**348**	P	P	17 36 56.8	-1.2
	1.2nm,0.5s,baz=160,slow=4.7,SNR=13						
BRTR	**Keskin Array B**	**75.96**	**312**	P	P	17 38 44.0	+1.4
	1.0nm,0.9s,baz=101,slow=5.2,SNR=3.8						
TXAR	**Lajitas Array**	**145.16**	**41**	PKPbc	PKPbc	17 46 33.2	-0.1

	2.2nm,0.9s,baz=276,slow=1.4,SNR=18						

IDC 01 17:35:39.2±1.9**,2°.22N×126°.85E,h0**km**,mb3.4**/4**, mb1 3.5**/4**,mb1mx3.3**/16**,mbtmp3.4**/4**,Error ellipse: s-maj=169.1km s-min=23.2km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**162**	P	P	17 40 48.7	+0.6
	0.3nm,0.3s,baz=338,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**26.63**	**165**	P	P	17 41 20.6	+0.8
	0.2nm,0.3s,baz=350,slow=7.7,SNR=9.6						
STKA	**Stephens Creek**	**36.69**	**159**	P	P	17 42 46.6	-1.4
	2.5nm,0.9s,baz=353,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**58.85**	**326**	P	P	17 45 39.9	+0.1
	0.1nm,0.4s,baz=111,slow=8.8,SNR=2.8						

MEX 01 18:04:16.8±0.3**,27°.96N×112°.25W,h24**km±41km**,MD3.7, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.64**	**180**	*i* P	Pb	18 04 27.3	-2.0
SRIG				*e*S	Sb	18 04 35.5	-2.4
HSIG		**1.55**	**47**	*i* P	Pn	18 04 40.4	-2.6
HSIG				*e*S	Sn	18 04 58.8	-3.6
LPIG	**La Paz**	**4.22**	**155**	*i* P	Pn	18 05 17.9	-1.7

IDC 01 18:09:53.0±3.6**,7°.30S×119°.75E,h558**km±49km**,mb3.1**/6**, mb1 3.1**/8**,mb1mx2.9**/18**,mbtmp3.0**/8**,Error ellipse: s-maj=55.9km s-min=16.2km az=65.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.17**	**152**	P	P	18 12 32.9	-0.4
	0.5nm,0.3s,baz=340,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**18.92**	**133**	P	P	18 13 39.0	0.0
	0.4nm,0.3s,baz=309,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.20**	**142**	P	P	18 13 59.4	-0.3
	0.6nm,0.4s,baz=320,slow=8.3,SNR=30						
ASAR				PcP	PcP	18 17 40.8	-0.4
	0.3nm,0.5s,baz=349,slow=1.3,SNR=5.3						
STKA	**Stephens Creek**	**31.82**	**143**	P	P	18 15 32.8	+0.2
	1.7nm,0.4s,baz=12,slow=5.0,SNR=10						
USRK	**Ussuriysk Arra**	**52.45**	**11**	P	P	18 18 13.8	-0.3
	1.3nm,0.8s,baz=201,slow=7.6,SNR=3.9						
SONM	**Songino Array**	**56.15**	**349**	P	P	18 18 40.8	+0.5
	0.6nm,0.6s,baz=174,slow=7.8,SNR=7.1						
MKAR	**Makanchi Array**	**63.30**	**332**	P	P	18 19 27.9	+0.2
	0.5nm,0.5s,baz=146,slow=7.6,SNR=18						
ZALV	**Zalesovo Beam**	**67.73**	**339**	P	P	18 19 54.4	-0.7
	1.1nm,0.3s,baz=144,slow=4.7,SNR=9.9						

*DDA **01** 18:21:50.4,41°.08N×40°.47E,h7km,MD2.5*
*ISK **01** 18:21:51.1,40°.86N×40°.62E,h16km,ML2.2*
*CSEM **01** 18:21:51.1±0.2,41°.00N×40°.45E,h20km,ML2.2,Error ellipse: s-maj=5.6km s-min=2.6km az=150.0*
*ISCJB **01** 18:21:51.5±0.6,41°.00N±0°.04×40°.45E±0°.04,h25km±9km, Error ellipse: s-maj=8.2km s-min=3.8km az=152.5*
ISC 01 18:21:51.1±1.2**,41°.00N**±0°.04×**40°.43E**±0°.03**,h20**km±5km**, n25,**σ**0s.67**/45**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZAR	**Pazar-Rize**	**0.40**	**63**	*e*PG	**Pb**	**18 21 59.4**	**-0.1**
PZAR				*e*SG	**Sb**	**18 22 05.8**	**+0.6**
PZAR	**Pazar-Rize**	**0.40**	**63**	*e*Pg	**Pb**	**18 21 59.4**	**-0.1**
PZAR				*e*Sg	**Sb**	**18 22 05.8**	**+0.6**
KTUT	**Trabzon**	**0.50**	**269**	*e*PG	**Pn**	**18 22 04.4**	**+1.2**
MACK	**Trabzon**	**0.51**	**264**	*i* P	**Pg**	**18 22 01.2**	**-0.2**
MACK				*i* S	**Sg**	**18 22 08.6**	**+0.3**
MACK	**Trabzon**	**0.51**	**264**	*i* P	**Pg**	**18 22 01.2**	**-0.2**
MACK				*i* S	**Sg**	**18 22 08.6**	**+0.3**
BAYT	**Ayd˜–ntepe-Bay**	**0.65**	**200**	*e*PG	**Pg**	**18 22 03.2**	**-0.8**
BAYT				*e*SG	**Sg**	**18 22 12.2**	**-0.5**
BAYT	**Ayd˜–ntepe-Bay**	**0.65**	**200**	*e*Pg	**Pg**	**18 22 03.2**	**-0.8**
BAYT				*e*Sg	**Sg**	**18 22 12.2**	**-0.5**
GUMT	**Gumushane**	**0.90**	**233**	*e*PG	**Pn**	**18 22 09.4**	**+0.5**
GUMT	**Gumushane**	**0.90**	**233**	*e*Pg	**Pn**	**18 22 09.4**	**+0.5**
DBAD	**Bademkaya**	**0.96**	**89**	*i* P	**Pb**	**18 22 08.7**	**-0.4**
DBAD				*i* S	**Sb**	**18 22 21.2**	**-0.2**
DBAD	**Bademkaya**	**0.96**	**89**	*i* P	**Pb**	**18 22 08.7**	**-0.4**
DBAD				*i* S	**Sb**	**18 22 21.2**	**-0.2**
KOPT	**Kop Dagi**	**0.98**	**177**	*i* P	**Pn**	**18 22 10.5**	**+0.4**
KOPT				*i* S	**Sb**	**18 22 22.1**	**-0.2**
KOPT	**Kop Dagi**	**0.98**	**177**	*i* P	**Pn**	**18 22 10.5**	**+0.4**
KOPT				*i* S	**Sb**	**18 22 22.1**	**-0.2**
DBOC	**Borcka**	**0.99**	**69**	*i* P	**Pb**	**18 22 09.5**	**-0.2**
DBOC				*i* S	**Sb**	**18 22 22.3**	**-0.1**
DBOC	**Borcka**	**0.99**	**69**	*i* P	**Pb**	**18 22 09.5**	**-0.2**
DBOC				*i* S	**Sb**	**18 22 22.3**	**-0.1**
BCA	**Borcka**	**1.00**	**63**	*e*PG	**Pb**	**18 22 09.0**	**-0.8**
BCA				*e*SG	**Sb**	**18 22 22.6**	**0.0**
BCA	**Borcka**	**1.00**	**63**	*e*Pg	**Pb**	**18 22 09.0**	**-0.8**
BCA				*e*Sg	**Sb**	**18 22 22.6**	**0.0**
DDEM	**Demirkent**	**1.01**	**96**	*i* P	**Pb**	**18 22 09.9**	**0.0**
DDEM				*i* S	**Sb**	**18 22 22.8**	**0.0**
DDEM	**Demirkent**	**1.01**	**96**	*i* P	**Pb**	**18 22 09.9**	**0.0**
DDEM				*i* S	**Sb**	**18 22 22.8**	**0.0**
DAGI	**Agillar**	**1.12**	**86**	*i* P	**Pb**	**18 22 11.6**	**-0.4**
DAGI				*i* S	**Sn**	**18 22 26.5**	**-0.4**
ARTV	**Artvin**	**1.15**	**80**	*i* P	**Pn**	**18 22 11.8**	**-0.5**
ARTV				*i* S	**Sb**	**18 22 27.0**	**0.0**
ARTV	**Artvin**	**1.15**	**80**	*i* P	**Pn**	**18 22 11.8**	**-0.5**
ARTV				*i* S	**Sb**	**18 22 27.0**	**0.0**
EZM	**Erzurum**	**1.30**	**147**	*e*PN	**Pn**	**18 22 12.9**	**-1.6**
ERZM	**Erzurum**	**1.31**	**147**	*i* P	**Pg**	**18 22 17.4**	**+1.0**
ERZM				*i* S	**Sg**	**18 22 36.1**	**+2.5**
ERZM	**Erzurum**	**1.31**	**147**	*i* P	**Pg**	**18 22 17.4**	**+1.0**

*BJI **01** 18:37:20.2,4°.67S×101°.34E,h39km,mB5.2/36,mb5.1/52, Ms4.9/43,Ms7 4.6/44*
*IDC **01** 18:37:24.4±0.5,4°.30S×101°.28E,h26km±2km,mb4.8/27, mb1 4.8/27,mb1mx4.7/29,mbtmp4.8/27,MS4.2/13, Ms1 4.2/13,ms1mx4.1/29,Error ellipse: s-maj=14.2km s-min=8.9km az=45.0*
*NEIC **01** 18:37:24.1±0.2,4°.33S×101°.24E,mb5.3/30,Error ellipse: s-maj=8.0km s-min=5.2km az=55.0*
NEIC Felt [III] at Kapahiang and [II] at Bengkulu.
*ISCJB **01** 18:37:24.3±0.6,4°.32S±0°.03×101°.20E±0°.03,h40km±4km, mb5.1/96,MS4.4/32,Error ellipse: s-maj=6.9km s-min=3.9km az=42.0*
*MOS **01** 18:37:24.8±1.0,4°.18S×101°.35E,h41km,mb5.3/30, MS4.4/5,Error ellipse: s-maj=11.4km s-min=5.9km az=108.5*
*DJA **01** 18:37:24,4°.43S×101°.05E,h27km,mb5.2/51*
ISC 01 18:37:24.2±0.3**,4°.37S**±0°.04×**101°.16E**±0°.05**,h27**km±1km**, h27**km**:pP-P,n399,**σ**1s.25**/483**,mb5.1**/96**,MS4.4**/32**, 41C-26D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.60**	**63**	P	**Pn**	**18 37 50.5**	**-0.2**
MNAI	**Manna**	**1.79**	**90**	P	**Pn**	**18 37 54.3**	**+1.0**
KRJI	**Kerinci**	**2.28**	**8**	P	**Pn**	**18 38 00.8**	**+0.6**
LWLI	**Liwa**	**2.96**	**103**	P	**Pn**	**18 38 09.9**	**+0.4**
KLI	**Kotabumi**	**3.71**	**98**	P	Pb	18 38 32.5	+3.4
PPI	**Padang Panjang**	**3.96**	**349**	P	**Pn**	**18 38 23.4**	**+0.2**
RGRI	**Rengat**	**4.16**	**16**	P	**Pn**	**18 38 27.2**	**+1.3**
BKNI	**Bangkinang**	**4.67**	**358**	P	**Pn**	**18 38 33.3**	**+0.4**
CGJI	**Cibinong**	**5.03**	**116**	P	**Pn**	**18 38 37.6**	**-0.3**
	422nm,0.8s,11µm3.1nm						
MNSI	**Mandailing Nat**	**5.37**	**343**	P	**Pn**	**18 38 42.6**	**+0.1**
	233nm,0.8s,5µm1.5nm						
PPBI	**Pangkal Pinang**	**5.43**	**66**	P	**Pn**	**18 38 44.0**	**+0.6**
	108nm,0.9s,2µm1.4nm						
TNG	**Tangerang**	**5.75**	**108**	P	Pb	18 38 57.3	-6.5
TNG	**Tangerang**	**5.75**	**108**	P	Pb	18 38 57.2	-6.5
CBJI	**Citeko**	**6.02**	**110**	P	Pn	18 38 56.0	+4.5
	2µm,0.7s,21µm6.9nm						
TPI	**Tanjungpandan**	**6.67**	**76**	P	**Pn**	**18 39 02.6**	**+2.1**
	29nm,1.0s,824nm0.5nm						
MYKOM	**Kota Tinggi**	**6.68**	**24**	P	**Pn**	**18 39 02.2**	**+1.6**
MYKOM	**Kota Tinggi**	**6.68**	**24**	P	**Pn**	**18 39 02.7**	**+2.1**
	170nm,0.8s,2µm0.7nm						
KGM	**Kluang**	**6.70**	**19**	P	**Pn**	**18 39 02.0**	**+1.1**
LEM	**Lembang**	**6.87**	**111**	P	**Pn**	**18 39 05.9**	**+2.5**
	361nm,0.8s,4µm1.4nm						
CISI	**Cisompet, Garu**	**7.33**	**116**	P	**Pn**	**18 39 08.9**	**-0.7**
	822nm,0.7s,7µm2.3nm						
PSI	**Prapat**	**7.47**	**343**	P	**Pn**	**18 39 10.5**	**-1.0**
	59nm,1.2s,982nm0.3nm						
TSI	**Tuntungan**	**8.24**	**342**	P	**Pn**	**18 39 24.7**	**+2.7**
	134nm,1.0s,2µm0.6nm						
TPTI		**8.56**	**332**	P	**Pn**	**18 39 27.9**	**+1.5**
	638nm,0.6s,2.3nm						
IPM	**Ipoh**	**8.79**	**359**	*e*P	**Pn**	**18 39 30.9**	**+1.4**
	30nm,0.6s						
IPM	**Ipoh**	**8.79**	**359**	P	**Pn**	**18 39 31.0**	**+1.4**
IPM	**Ipoh**	**8.79**	**359**	P	**Pn**	**18 39 31.6**	**+2.0**
	79nm,1.4s,0.3nm						
COCO	**West Island**	**8.87**	**209**	P	**Pn**	**18 39 28.6**	**-2.0**
	SNR=8.0						
COCO	**West Island**	**8.87**	**209**	P	**Pn**	**18 39 28.1**	**-2.5**
	874nm,0.7s,7µm3.0nm						
BJII	**Banjamegara**	**9.00**	**109**	P	Pn	18 39 40.1	+7.6
SMRI	**Semarang**	**9.61**	**107**	P	Pn	18 39 55.3	+14
KULM	**Kulim**	**9.61**	**357**	*e*P	**Pn**	**18 39 40.4**	**-0.4**
	76nm,1.0s						
KULM	**Kulim**	**9.61**	**357**	P	**Pn**	**18 39 41.5**	**+0.7**
KULM	**Kulim**	**9.61**	**357**	P	**Pn**	**18 39 41.3**	**+0.5**
	86nm,1.3s,1µm						
PBKI	**Pangkalan Bun**	**10.62**	**81**	P	Pn	18 39 58.2	+3.6
	146nm,1.0s						
KSM	**Kuching**	**10.83**	**58**	*e*P	**Pn**	**18 39 58.8**	**+1.3**
	38nm,1.0s						
KSM	**Kuching**	**10.83**	**58**	P	**Pn**	**18 39 59.0**	**+1.5**
KSM	**Kuching**	**10.83**	**58**	P	**Pn**	**18 39 59.9**	**+2.4**
	38nm,1.0s						
SJI	**Sawahan**	**11.06**	**108**	P	**Pn**	**18 40 02.4**	**+1.6**
	94nm,1.0s						
PWJI	**Pagerwojo**	**11.18**	**109**	P	Pn	18 40 09.3	+6.9
STKI	**Sintang**	**11.21**	**67**	P	Pn	18 40 09.7	+7.0
BSI	**Banda Aceh**	**11.42**	**329**	P	**Pn**	**18 40 04.9**	**-0.7**
	234nm,0.8s,2µm						
SBUM	**Sibu**	**12.96**	**59**	P	**Pn**	**18 40 28.5**	**+1.8**
SBUM	**Sibu**	**12.96**	**59**	P	Pn	18 40 30.6	+3.9
	84nm,1.0s,1µm						
JAGI	**Jajag, Banyuwa**	**13.53**	**108**	P	**P**	**18 40 42.7**	**-0.6**
BBKI	**Banjar Baru**	**13.68**	**87**	P	P	18 40 41.4	-3.5
BTM	**Bintulu**	**14.09**	**58**	P	**Pn**	**18 40 43.6**	**+1.5**
KBKI	**Kotabaru**	**15.01**	**86**	P	**Pn**	**18 40 56.2**	**+1.6**
	46nm,1.0s,602nm						
SMKI	**Samarinda**	**16.50**	**77**	P	**P**	**18 41 16.6**	**+0.3**
	118nm,0.9s						
MJSI	**Majene**	**17.79**	**88**	P	**Pn**	**18 41 30.2**	**+0.1**
	159nm,0.9s,2µm54µm						
KKM	**Kota Kinabalu**	**18.25**	**56**	*e*P	**Pn**	**18 41 35.4**	**-0.4**
	27nm,0.6s						
KKM	**Kota Kinabalu**	**18.25**	**56**	P	**P**	**18 41 36.5**	**+0.8**
KKM	**Kota Kinabalu**	**18.25**	**56**	P	**P**	**18 41 36.4**	**+0.6**
	51nm,1.6s,1µm						
KAPI	**Kappang**	**18.54**	**93**	P	**Pn**	**18 41 39.9**	**+0.7**
	42nm,1.3s						
SPSI	**Sidrap Palu**	**18.56**	**89**	P	**P**	**18 41 38.8**	**-0.3**
	53nm,1.1s,786nm						
TTSI	**Tana Toraja**	**18.66**	**87**	P	**Pn**	**18 41 42.2**	**+1.5**
	70nm,0.9s,775nm						
TSM	**Tawau**	**18.78**	**63**	P	**Pn**	**18 41 41.9**	**-0.3**
SDKM	**Sandakan**	**18.85**	**58**	P	**Pn**	**18 41 43.1**	**+0.1**
BKSI	**Bulukumba**	**18.92**	**94**	P	**Pn**	**18 41 45.8**	**+2.0**
	54nm,1.2s						
KDM	**Kudat**	**19.25**	**54**	P	**Pn**	**18 41 47.5**	**-0.2**
MYLDM	**Lahad Datu**	**19.75**	**61**	P	**P**	**18 41 52.8**	**+0.7**
MYLDM	**Lahad Datu**	**19.75**	**61**	P	**Pn**	**18 41 53.8**	**+0.1**
	122nm,0.9s,2µm						
MRSI	**Marisa**	**21.31**	**77**	P	**P**	**18 42 09.0**	**-0.1**
	172nm,1.0s,1µm						
LUWI	**Luwuk**	**21.83**	**82**	P	**P**	**18 42 15.8**	**+1.1**
	155nm,1.2s,2µm						
GTOI	**Gorontalo**	**22.39**	**78**	P	**P**	**18 42 19.4**	**-1.3**
	105nm,1.0s,1µm						
CM31	**Chiang Mai Arr**	**22.79**	**355**	*e*P	**P**	**18 42 22.6**	**-2.2**
	65nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.79**	**355**	P	**P**	**18 42 22.7**	**-2.1**
	49nm,0.8s,baz=185,slow=8.7,SNR=76						
CMAR				PcP	**PcP**	**18 46 17.1**	**+1.0**
	2.3nm,0.9s,baz=216,slow=3.2,SNR=4.7						
CMAR				LR	LR	18 53 04.8	
	comp=Z,872nm,20.9s,baz=180,slow=41						
CMAR	**Chiang Mai Arr**	**22.79**	**355**	P	**P**	**18 42 22.7**	**-2.1**
CMAR						18 46 17.1	
CMAR	**Chiang Mai Arr**	**22.79**	**355**	P	**P**	**18 42 22.7**	**-2.1**
CMAR				PcP	**PcP**	**18 46 17.1**	**+1.0**
CHTO	**Chiang Mai**	**23.14**	**355**	*e*P	**P**	**18 42 26.2**	**-2.3**
CHTO				pmax	pmax		
	comp=Z,50nm,0.9s						
CHTO	**Chiang Mai**	**23.14**	**355**	*e*P	**P**	**18 42 26.2**	**-2.3**
	comp=Z,50nm,0.9s						
CHTO	**Chiang Mai**	**23.14**	**355**	P	**P**	**18 42 28.2**	**-0.3**
	comp=Z,71nm,0.9s						
MBWA	**Marble Bar**	**24.57**	**134**	P	**P**	**18 42 43.4**	**+1.4**
QIZ	**Qiongzhong**	**24.77**	**20**	P	**P**	**18 42 46.0**	**+2.1**
QIZ				pP	**pP**	**18 42 52.2**	**+0.3**
QIZ				sP	**sP**	**18 42 54.2**	**-1.1**
QIZ				S	**S**	**18 47 08.2**	**+3.5**
QIZ				LR	LR		
	comp=Z,900nm,16.0s						
CTBH	**Cotabato--PC H**	**25.75**	**64**⇑	*i*P	**P**	**18 42 51.8**	**-1.0**
LBMI	**Labuha**	**26.57**	**83**	P	P	18 43 08.5	+8.3
	comp=Z,73nm,1.0s,comp=Z,1µm						
TGY	**Tagaytay City**	**26.86**	**47**	P	**P**	**18 43 02.3**	**-0.6**
	comp=Z,56nm,0.8s,baz=97,slow=8.1,SNR=2.4						
TGY	**Tagaytay City**	**26.86**	**47**	P	**P**	**18 43 02.3**	**-0.6**
TGY	**Tagaytay City**	**26.86**	**47**	P	**P**	**18 43 02.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.56**	**122**	P	**P**	**18 43 08.7**	**-0.4**
	comp=Z,5.0nm,0.6s,baz=326,slow=4.8,SNR=29						
FITZ				LR	LR	18 53 54.4	
	comp=Z,358nm,20.9s,baz=311,slow=36						
FITZ	**Fitzroy Crossi**	**27.56**	**122**	*e*P	**P**	**18 43 08.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.56**	**122**	*e*P	**P**	**18 43 08.1**	**-1.0**
	comp=Z,19nm,0.9s						
KMI	**Kunming**	**29.36**	**3**	P	**P**	**18 43 26.3**	**+1.1**
KMI				pP	**pP**	**18 43 34.0**	**+0.7**
KMI				sP	**sP**	**18 43 38.1**	**+1.4**
KMI				PP	**PnPn**	**18 44 24.7**	**+5.3**
KMI				S	**S**	**18 48 20.4**	**+2.9**
KMI				sS	**sS**	**18 48 33.4**	**+2.6**
KMI				SS	SS	18 49 53.8	-29
KMI				pmax	pmax		
	comp=Z,52nm,0.9s						
KMI				pmax	pmax		
	comp=Z,49nm,4.8s						
KMI				LR	LR		
	comp=N,1µm,14.2s						
KMI				LR	LR		
	comp=E,520nm,15.1s						
KMI				LR	LR		
	comp=Z,1µm,17.0s						
HYB	**Hyderabad**	**31.10**	**315**	*i* P	**P**	**18 43 40.0**	**-0.5**
GYA	**Guiyang**	**31.11**	**10**⇑	*i*P	**P**	**18 43 40.3**	**-0.3**
GYA				pP	**pP**	**18 43 51.0**	**+2.3**
GYA				sP	**sP**	**18 43 55.5**	**+3.5**
GYA				PP	**PP**	**18 44 47.9**	**-3.3**
GYA				S	**S**	**18 48 46.9**	**+2.2**
GYA				pmax	pmax		
	comp=Z,30nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,1µm,13.7s						
GYA				LR	LR		
	comp=E,450nm,11.8s						
GYA				LR	LR		
	comp=Z,1µm,15.0s						
NWAO	**Narrogin (SRO)**	**32.14**	**154**	P	**P**	**18 43 50.1**	**+0.6**
	comp=Z,31nm,0.9s,baz=315,slow=9.4,SNR=12						
NWAO	**Narrogin (SRO)**	**32.14**	**154**	P	**P**	**18 43 50.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**32.14**	**154**	P	**P**	**18 43 50.1**	**+0.6**
ODAN	**Odare**	**33.78**	**338**	*e*P	**P**	**18 44 05.4**	**+1.2**
	comp=Z,146nm,0.8s						
ODAN	**Odare**	**33.78**	**338**	*e*P	**P**	**18 44 05.4**	**+1.2**
	comp=Z,146nm,0.8s						
TAPN	**Taplejung**	**34.11**	**338**	*e*P	**P**	**18 44 08.6**	**+1.5**
	comp=Z,188nm,0.9s						
TAPN	**Taplejung**	**34.11**	**338**	*e*P	**P**	**18 44 08.6**	**+1.5**
	comp=Z,188nm,0.9s						
RAMN	**Ramite**	**34.17**	**336**	*e*P	**P**	**18 44 09.0**	**+1.4**
	comp=Z,106nm,0.8s						
RAMN	**Ramite**	**34.17**	**336**	*e*P	**P**	**18 44 09.0**	**+1.4**
	comp=Z,106nm,0.8s						
JIRN	**Jiri**	**34.97**	**336**	*e*P	**P**	**18 44 16.0**	**+1.4**
	comp=Z,210nm,0.7s						
JIRN	**Jiri**	**34.97**	**336**	*e*P	**P**	**18 44 16.0**	**+1.4**
	comp=Z,210nm,0.7s						
CD2	**Chengdu**	**35.17**	**4**	P	**P**	**18 44 15.3**	**-0.6**
CD2				pP	**pP**	**18 44 23.1**	**-1.0**
CD2				sP	**sP**	**18 44 26.7**	**-0.7**
CD2				PP	**PnPn**	**18 45 35.0**	**+0.9**
CD2				S	**S**	**18 49 47.1**	**-0.4**
CD2				sS	**sS**	**18 50 00.2**	**-0.8**
CD2				SS	**SnSn**	**18 52 05.1**	**-0.8**
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
CD2				pmax	pmax		
	comp=Z,290nm,5.4s						
CD2				LR	LR		
	comp=N,2µm,20.2s						
CD2				LR	LR		
	comp=Z,1µm,19.0s						
PKI	**Pulchoki**	**35.21**	**335**	*e*P	**P**	**18 44 17.5**	**+0.9**
	comp=Z,48nm,0.9s						
PKI	**Pulchoki**	**35.21**	**335**	*e*P	**P**	**18 44 17.5**	**+0.9**
PKI				pmax	pmax		
	comp=Z,48nm,0.9s						
PKI	**Pulchoki**	**35.21**	**335**	*e*P	**P**	**18 44 17.5**	**+0.9**
	comp=Z,48nm,0.9s						
LSA	**Lhasa**	**35.21**	**345**	P	**P**	**18 44 17.1**	**+0.3**
POO	**Poona**	**35.24**	**311**	*e*x	x	18 44 28.0	
GUN	**Gumba**	**35.31**	**336**	*e*P	**P**	**18 44 18.7**	**+1.1**
	comp=Z,207nm,0.8s						
GUN	**Gumba**	**35.31**	**336**	*e*P	**P**	**18 44 18.7**	**+1.1**
	comp=Z,207nm,0.8s						
DMN	**Daman**	**35.37**	**335**	*e*P	**P**	**18 44 19.1**	**+1.2**
	comp=Z,79nm,1.0s						
DMN	**Daman**	**35.37**	**335**	*e*P	**P**	**18 44 19.1**	**+1.2**
	comp=Z,79nm,1.0s						
KKN	**Kakani**	**35.45**	**335**	*e*P	**P**	**18 44 19.6**	**+1.0**
	comp=Z,103nm,0.9s						
KKN	**Kakani**	**35.45**	**335**	*e*P	**P**	**18 44 19.6**	**+1.0**
KKN				pmax	pmax		
	comp=Z,103nm,0.9s						
KKN	**Kakani**	**35.45**	**335**	*e*P	**P**	**18 44 19.6**	**+1.0**
	comp=Z,103nm,0.9s						
WRA	**Warramunga Arr**	**35.83**	**118**	P	**P**	**18 44 21.2**	**-0.5**
	comp=Z,5.0nm,0.5s,baz=304,slow=9.3,SNR=27						
WRA				S	**S**	**18 49 55.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=294,slow=16,SNR=6.8						
WRA	**Warramunga Arr**	**35.83**	**118**	P	**P**	**18 44 21.2**	**-0.5**
WRA				S	**S**	**18 49 55.8**	**-2.1**
WRA	**Warramunga Arr**	**35.83**	**118**	P	**P**	**18 44 21.2**	**-0.5**
WRA				S	**S**	**18 49 55.8**	**-2.1**
WB2	**Warramunga Arr**	**35.84**	**118**	*e*P	**P**	**18 44 21.2**	**-0.6**
GKN	**Gorkha**	**35.91**	**335**	*e*P	**P**	**18 44 23.5**	**+1.0**
	comp=Z,186nm,1.1s						
GKN	**Gorkha**	**35.91**	**335**	*e*P	**P**	**18 44 23.5**	**+1.0**
	comp=Z,186nm,1.1s						
KOLN	**Koldanda**	**36.17**	**333**	*e*P	**P**	**18 44 25.9**	**+1.2**
	comp=Z,59nm,0.7s						
KOLN	**Koldanda**	**36.17**	**333**	*e*P	**P**	**18 44 25.9**	**+1.2**
	comp=Z,59nm,0.7s						
FORT	**Forrest**	**36.50**	**139**	*e*P	**P**	**18 44 28.2**	**+0.9**
DANN	**Dangsing**	**36.59**	**334**	*e*P	**P**	**18 44 29.5**	**+1.0**
	comp=Z,99nm,0.8s						
DANN	**Dangsing**	**36.59**	**334**	*e*P	**P**	**18 44 29.5**	**+1.0**
	comp=Z,99nm,0.8s						
WHN	**Wuhan**	**36.94**	**19**	P	**P**	**18 44 30.8**	**-0.2**
WHN				pP	**pP**	**18 44 38.6**	**-0.5**
WHN				sP	**sP**	**18 44 45.2**	**+2.7**
WHN				S	**S**	**18 50 18.2**	**+3.7**
WHN				LR	LR		
	comp=N,1µm,5.2s						
WHN				LR	LR		
	comp=E,2µm,5.3s						
WHN				LR	LR		
	comp=Z,2µm,18.3s						
AS31	**Alice Springs**	**36.95**	**124**	*e*P	**P**	**18 44 31.0**	**-0.3**
ASAR	**Alice Springs**	**36.95**	**124**	P	**P**	**18 44 31.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=296,slow=7.4,SNR=68						
ASAR				PcP	**PcP**	**18 46 53.4**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=301,slow=2.7,SNR=2.4						
ASAR				S	**S**	**18 50 13.5**	**-1.5**
	comp=Z,2.8nm,1.1s,baz=297,slow=16,SNR=5.6						
ASAR	**Alice Springs**	**36.95**	**124**	P	**P**	**18 44 31.2**	**-0.1**
ASAR						18 46 53.4	
ASAR				S	**S**	**18 50 13.5**	**-1.5**
ASAR	**Alice Springs**	**36.95**	**124**	P	**P**	**18 44 31.2**	**-0.1**
ASAR				PcP	**PcP**	**18 46 53.4**	**+0.9**
ASAR				S	**S**	**18 50 13.5**	**-1.5**
XAN	**Xi'an**	**38.90**	**10**	P	**P**	**18 44 46.7**	**-0.9**
XAN				pP	**pP**	**18 44 54.7**	**-1.1**
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN				LR	LR		
	comp=N,600nm,14.7s						
XAN				LR	LR		
	comp=E,200nm,15.8s						
XAN				LR	LR		
	comp=Z,350nm,15.0s						
NJ2	**Nanjing**	**39.94**	**24**	*e*P	**P**	**18 44 56.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NDI	**New Delhi**	**40.13**	**326**	*e*x	**P**	**18 44 58.5**	**+0.6**
LZH	**Lanzhou**	**40.32**	**3**	⇑P	**P**	**18 44 59.6**	**0.0**
LZH				pP	**pP**	**18 45 07.5**	**-0.3**
LZH				sP	**sP**	**18 45 10.7**	**-0.4**
LZH				PP	**PnPn**	**18 46 37.0**	**+0.5**
LZH				*e*S	**S**	**18 51 07.0**	**+1.2**
LZH				sS	**sS**	**18 51 19.2**	**-0.2**
LZH				pmax	pmax		
	comp=Z,61nm,1.5s						
LZH				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH				LR	LR		
	comp=N,1µm,14.5s						
LZH				LR	LR		
	comp=E,740nm,12.5s						
LZH				LR	LR		
	comp=Z,1µm,17.6s						
JOW	**Kunigami**	**40.62**	**39**	P	**P**	**18 45 02.7**	**+0.8**
	comp=Z,33nm,0.4s,baz=86,slow=25,SNR=4.3						
JOW				LR	LR	19 01 35.6	
	comp=Z,257nm,18.9s,baz=252,slow=36						
JOW	**Kunigami**	**40.62**	**39**	P	**P**	**18 45 02.7**	**+0.8**
GTA	**Gaotai**	**43.58**	**358**	⇑P	**P**	**18 45 26.6**	**+0.5**
GTA				pP	**pP**	**18 45 34.3**	**-0.1**
GTA				sP	**sP**	**18 45 37.8**	**+0.1**
GTA				PcP	**PcP**	**18 47 14.8**	**+1.4**
GTA				S	**S**	**18 51 54.9**	**+1.1**
GTA				sS	**sS**	**18 52 08.2**	**+0.7**
GTA				pmax	pmax		
	comp=Z,18nm,0.8s						
GTA				LR	LR		
	comp=N,470nm,14.2s						
GTA				LR	LR		
	comp=E,950nm,18.1s						
GTA				LR	LR		
	comp=Z,700nm,12.8s						
MRIV	**Mauritius Mete**	**45.32**	**246**	*e*P	**P**	**18 45 40.5**	**+0.3**
PMG	**Port Moresby**	**45.91**	**99**	P	**P**	**18 45 44.4**	**-0.5**
	comp=Z,11nm,0.5s,baz=262,slow=2.5,SNR=9.1						
PMG	**Port Moresby**	**45.91**	**99***c*	*i*P	**P**	**18 45 43.9**	**-1.1**
PMG				pmax	pmax		
	comp=Z,32nm,1.7s						
PMG	**Port Moresby**	**45.91**	**99**	*e*P	**P**	**18 45 43.8**	**-1.1**
	comp=Z,23nm,0.9s						
HHC	**Hu-ho-hao-te**	**46.00**	**11**	*e*P	**P**	**18 45 45.7**	**+0.4**
HHC				pP	**pP**	**18 45 53.0**	**-0.6**
HHC				sP	**sP**	**18 45 56.9**	**0.0**
HHC				PP	**PP**	**18 47 33.7**	**+0.2**
HHC				S	**S**	**18 52 28.1**	**-0.7**
HHC				sS	**sS**	**18 52 41.2**	**-1.3**
HHC				ScS	**ScS**	**18 55 37.2**	**-2.2**
HHC				SS	SS	18 55 46.0	-8.2
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC				LR	LR		
	comp=N,930nm,13.5s						
HHC				LR	LR		
	comp=E,510nm,10.3s						
HHC				LR	LR		
	comp=Z,850nm,12.8s						
BJI	**Beijing**	**46.30**	**16**	P	**P**	**18 45 47.6**	**+0.1**
BJI				pP	**pP**	**18 45 55.5**	**-0.3**

BJI PP **PP** **18 47 40.2 +3.6**
BJI pmax pmax
comp=Z,58nm,0.9s
BJI pmax pmax
comp=Z,190nm,5.1s
BJI LR LR
comp=N,400nm,21.7s
BJI LR LR
comp=E,530nm,20.3s
BJI LR LR
comp=Z,380nm,20.3s
CTA Charters Tower 46.57 114 P **P** **18 45 51.0 +0.9**
comp=Z,9.2nm,0.7s,baz=292,slow=10,SNR=6.6
CTA Charters Tower 46.57 114 *eP* **P** **18 45 50.1 0.0**
CTA Charters Tower 46.57 114 P **P** **18 45 51.0 +0.9**
CTA Charters Tower 46.57 114 P **P** **18 45 51.0 +0.9**
CTAO Charters Tower 46.57 114 *eP* **P** **18 45 50.3 +0.2**
CTAO pmax pmax
comp=Z,21nm,0.9s
CTAO Charters Tower 46.57 114 *eP* **P** **18 45 50.3 +0.2**
comp=Z,21nm,0.9s
STKA Stephens Creek 46.73 131 P **P** **18 45 52.0 +0.9**
comp=Z,10nm,0.9s,baz=310,slow=8.6,SNR=13
STKA Stephens Creek 46.73 131 *eP* **P** **18 45 52.0 +0.9**
STKA Stephens Creek 46.73 131 *eP* **P** **18 45 51.3 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 46.73 131 *eP* **P** **18 45 51.3 +0.2**
comp=Z,2.7nm,0.8s
KSAR Wonju Array Be 48.47 29 P **P** **18 46 04.2 -0.2**
KSAR Wonju Array Be 48.47 29 P **P** **18 46 04.2 -0.2**
KSRS Korea Array 48.49 29 P **P** **18 46 04.2 -0.4**
comp=Z,34nm,0.9s,baz=217,slow=8.1,SNR=53
KBL Kabul 49.12 325 *eP* **P** **18 46 09.0 -0.8**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 49.12 325 *eP* **P** **18 46 09.0 -0.8**
comp=Z,9.1nm,0.8s
KSH Kashi 49.46 334 P **P** **18 46 11.4 -0.8**
KSH *epP* **pP** **18 46 18.9 -1.7**
KSH *esP* **sP** **18 46 22.1 -1.8**
KSH *ePcP* **PcP** **18 47 34.7 +0.6**
KSH *ePP* **PP** **18 48 05.6 -1.0**
KSH *eScP* **ScP** **18 51 26.8 -1.1**
KSH *ePcS* **PcS** **18 51 29.8 -1.0**
KSH *eS* **S** **18 53 13.3 -4.7**
KSH *eScS* **ScS** **18 55 58.5 -4.0**
KSH *eSS* SS 18 56 41.5 -8.9
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=N,130nm,6.2s
KSH LR LR
comp=E,230nm,8.6s
KSH LR LR
comp=Z,290nm,13.2s
WMQ Urumqi 49.48 347 P **P** **18 46 13.0 +0.8**
WMQ pP **pP** **18 46 20.5 -0.1**
WMQ sP **sP** **18 46 23.8 -0.1**
WMQ PcP **PcP** **18 47 36.0 +2.0**
WMQ S **S** **18 53 17.3 -0.8**
WMQ SS **SS** **18 56 45.1 -5.4**
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,270nm,4.5s
WMQ LR LR
comp=N,270nm,22.7s
WMQ LR LR
comp=E,270nm,22.0s
WMQ LR LR
comp=Z,300nm,20.0s
KZA Kyzart 51.89 336 P **P** **18 46 31.5 +0.6**
SNR=8.3
KZA P **P** **18 46 31.5 +0.6**
SNR=8.3
EIDS Eidsvold 52.19 119 *eP* **P** **18 46 32.4 -0.5**
comp=Z,28nm,1.4s
SONM Songino Array 52.19 4 P **P** **18 46 32.8 +0.2**
comp=Z,43nm,0.8s,baz=183,slow=9.3,SNR=244
SONM PcP **PcP** **18 47 44.5 +0.4**
comp=Z,7.0nm,0.7s,baz=195,slow=4.3,SNR=7.4
SONM LR LR 19 09 55.7
comp=Z,338nm,20.1s,baz=179,slow=37
SONM Songino Array 52.19 4 P **P** **18 46 32.8 +0.2**
SONM 18 47 44.5
SONM Songino Array 52.19 4 P **P** **18 46 32.8 +0.2**
SONM PcP **PcP** **18 47 44.5 +0.4**
ULN Ulaanbaatar 52.27 5 *eP* **P** **18 46 33.7 +0.4**
ULN pmax pmax
comp=Z,28nm,0.9s
ULN Ulaanbaatar 52.27 5 *eP* **P** **18 46 33.7 +0.4**
comp=Z,28nm,0.9s
TKM2 Tokmak 2 52.45 336 P **P** **18 46 35.2 +0.4**
SNR=33
TKM2 P **P** **18 46 35.2 +0.4**
SNR=33
TKM2 Tokmak 2 52.45 336 *i* P **P** **18 46 35.2 +0.4**
KBK Karagaybulak 52.50 336 P **P** **18 46 36.0 +1.0**
SNR=16
KBK P **P** **18 46 36.0 +1.0**
SNR=16
AML Almayashu 52.59 334 P **P** **18 46 36.4 +0.4**
SNR=16
AML P **P** **18 46 36.4 +0.4**
SNR=16
AAK Ala-Archa 52.66 335 P **P** **18 46 37.1 +0.8**
SNR=6.5
AAK P **P** **18 46 37.1 +0.8**
SNR=6.5
AAK Ala-Archa 52.66 335 *i* P **P** **18 46 37.1 +0.8**
AAK pmax pmax
comp=Z,28nm,1.3s
CN2 Changchun 52.71 22 *eP* **P** **18 46 35.5 -0.9**
CN2 *epP* **pP** **18 46 43.1 -1.7**
CN2 *eS* **S** **18 54 00.9 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,500nm,18.0s
FRU Bishkek 52.78 336 *ij* P **P** **18 46 38.0 +1.0**
CHMS Chumysh 52.86 336 P **P** **18 46 38.0 +0.4**
SNR=5.9
CHMS P **P** **18 46 38.0 +0.4**
SNR=5.9
EKS2 Erkin-Say 52.99 335 P **P** **18 46 39.6 +0.9**
SNR=33
EKS2 P **P** **18 46 39.6 +0.9**
SNR=33
USP Ospenovka 53.19 336 P **P** **18 46 40.3 +0.3**
SNR=20
USP P **P** **18 46 40.3 +0.3**
SNR=20
MAJO Matsushiro 53.41 37 *eP* **P** **18 46 39.1 -2.6**
MAJO pmax pmax
comp=Z,52nm,1.3s
MAJO Matsushiro 53.41 37 *eP* **P** **18 46 39.1 -2.6**
comp=Z,52nm,1.3s
MAT Matsushiro 53.41 37 P **P** **18 46 39.9 -1.8**
MJAR Matsushiro Arr 53.41 37 P **P** **18 46 40.2 -1.6**
comp=Z,22nm,0.8s,baz=218,slow=8.1,SNR=60
MJAR Matsushiro Arr 53.41 37 P **P** **18 46 40.2 -1.6**
MJAR Matsushiro Arr 53.41 37 P **P** **18 46 40.2 -1.6**
MK31 Makanchi Array 53.61 344 *eP* **P** **18 46 42.9 -0.1**
MK31 Makanchi Array 53.61 344 *eP* **P** **18 46 42.9 -0.1**
MKAR Makanchi Array 53.61 344 P **P** **18 46 43.1 +0.1**
comp=Z,30nm,0.7s,baz=147,slow=8.1,SNR=333
MKAR LR LR 19 15 00.9
comp=Z,134nm,18.3s,baz=348,slow=42
MKAR Makanchi Array 53.61 344 P **P** **18 46 43.1 +0.1**
MKAR Makanchi Array 53.61 344 P **P** **18 46 43.1 +0.1**
ARMA Armidale 54.10 125 *eP* pP 18 46 59.2 +3.7
OPO Ambohidratompo 54.53 250 P **P** **18 46 51.7 +1.2**
comp=Z,7.4nm,1.0s,baz=61,slow=3.6,SNR=7.4
OPO Ambohidratompo 54.53 250 P **P** **18 46 51.7 +1.2**
ZAK Zakamensk 54.56 2 *eP* **P** **18 46 50.1 +0.1**
ZAK pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 54.78 333 *i* P **P** **18 46 51.0 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 54.78 333 *eP* **P** **18 46 50.6 -1.0**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 54.78 333 *eP* **P** **18 46 50.6 -1.0**
comp=Z,4.8nm,0.7s
MDJ Mudanjiang 55.02 25 P P 18 46 47.4 -5.9
MDJ S S 18 54 22.3 -12
MDJ pmax pmax
comp=Z,22nm,2.5s
MDJ pmax pmax
comp=Z,140nm,4.4s
MDJ LR LR
comp=N,110nm,23.6s
MDJ LR LR
comp=E,170nm,22.4s
MDJ LR LR
comp=Z,220nm,21.2s
USRK Ussuriysk Arra 55.72 26 P **P** **18 46 58.2 -0.1**
comp=Z,70nm,0.8s,baz=216,slow=5.3,SNR=151
USRK pP **pP** **18 47 06.0 -0.8**
comp=Z,61nm,0.7s,baz=217,slow=5.1,SNR=25
MOY Mondy 55.82 360 *eP* **P** **18 46 59.5 +0.4**
TLY Talaya 55.88 2 *eP* **P** **18 46 58.8 -0.5**
TLY pmax pmax
comp=Z,23nm,0.9s
TLY MLR MLR
comp=Z,364nm,17.0s
IRK Irkutsk 56.46 2 *eP* **P** **18 47 03.1 -0.4**
IRK pmax pmax
comp=Z,31nm,1.4s
KURK Kurchatov 58.20 343 *c iP* **P** **18 47 15.5 -0.2**
KURK pmax pmax
comp=Z,37nm,0.8s
KURK Kurchatov 58.20 343 P **P** **18 47 15.3 -0.4**
comp=Z,224nm,0.8s,SNR=27
ZAA0 Zalesovo Array 59.70 349 *eP* **P** **18 47 25.2 -0.9**
ZALV Zalesovo Beam 59.70 349 P **P** **18 47 26.0 -0.1**
comp=Z,41nm,0.9s,baz=172,slow=4.5,SNR=185
ZALV LR LR 19 17 09.0
comp=Z,197nm,18.7s,baz=78,slow=40
ZALV Zalesovo Beam 59.70 349 P **P** **18 47 26.0 -0.1**
ZALV Zalesovo Beam 59.70 349 P **P** **18 47 26.0 -0.1**
ATD Arta Tunnel 60.11 286 LR LR 19 11 05.5
comp=Z,161nm,18.5s,baz=126,slow=34
HABR Khabarovsk 60.37 25 *eP* **P** **18 47 28.7 -2.1**
HABR *e*PP **pP** **18 47 37.9 -1.5**
HABR *e* 18 48 12.7
HABR *e* 18 49 41.1
HABR *eS* **S** **18 55 41.3 -2.6**
HABR *eS* S 18 55 53.8 +10
HABR *e*SS **sS** **18 55 57.7 -0.3**
HABR *e* 18 57 15.5
HABR *eSS* **SS** **18 59 39.5 -2.6**
HABR pmax pmax
comp=Z,65nm,1.6s
HABR pmax pmax
comp=E,68nm,2.1s
HABR pmax pmax
comp=N,40nm,2.1s
HABR MLR MLR
comp=Z,409nm,21.0s
NVS Novosibirsk 60.85 348 *i* P **P** **18 47 32.4 -1.6**
NVS pmax pmax
comp=N,31nm,2.0s
NVS pmax pmax
comp=Z,50nm,2.0s
NVS pmax pmax
comp=E,24nm,0.8s
ASAJ Asahikawa 60.93 33 P **P** **18 47 34.7 0.0**
comp=E,22nm,0.6s,baz=230,slow=11,SNR=22
ASAJ Asahikawa 60.93 33 P **P** **18 47 34.7 0.0**
BVA0 Borovoye Array 62.80 340 *i* P **P** **18 47 46.5 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BOD Bodaibo 62.85 8 *eP* **P** **18 47 47.4 0.0**
BOD pmax pmax
comp=Z,24nm,1.1s
BRVK Borovoye 62.86 340 *c iP* **P** **18 47 47.1 -0.4**
BRVK pmax pmax
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 62.89 31 *eP* **P** **18 47 48.0 +0.2**
YSS *e* 18 47 56.0
YSS pmax pmax
comp=Z,60nm,0.8s
CLNS Chul'man 63.99 14 *eP* **P** **18 47 54.8 -0.2**
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.0s
AB31 Akbulak array 64.26 331 *i* P **P** **18 47 56.4 -0.5**
AB31 pmax pmax
comp=Z,14nm,0.5s
ABKAR Akbulak array 64.26 331 *eP* **P** **18 47 56.2 -0.6**
comp=Z,17nm,0.6s
ABKAR *epP* **pP** **18 48 04.2 -1.3**
DZM Mont Dzumac 65.48 112 *eS* **S** **18 56 47.8 -1.3**
comp=Z,144nm,25.4s
DZM *e*LR LR 19 07 50.2
comp=Z,483nm,24.2s
AKTO Aktyubinsk 65.98 331 P **P** **18 48 07.7 -0.3**
comp=Z,3.7nm,0.7s,baz=132,slow=6.1,SNR=16
AKTO LR LR 19 21 32.3
comp=Z,154nm,18.2s,baz=142,slow=40
AKTO Aktyubinsk 65.98 331 P **P** **18 48 07.7 -0.3**
AKTO Aktyubinsk 65.98 331 P **P** **18 48 07.7 -0.3**
GNI Garni 68.03 316 P **P** **18 48 21.6 +0.1**
comp=Z,3.3nm,0.3s,baz=334,slow=12,SNR=7.6
GNI LR LR 19 17 36.6
comp=Z,47nm,20.1s,baz=115,slow=35
GNI Garni 68.03 316 P **P** **18 48 21.6 +0.1**
GNI Garni 68.03 316 P **P** **18 48 21.6 +0.1**
SVE Sverdlovsk 69.30 338 *deP* **P** **18 48 29.3 +0.5**
SVE pmax pmax
comp=Z,40nm,1.0s
YAK Yakutsk 69.74 14 *c iP* **P** **18 48 30.1 -1.3**
YAK *e*PP **pP** **18 48 38.0 -2.1**
YAK *e* 18 48 50.8
YAK *e* 18 51 02.0
YAK *e*PPP PPP 18 52 46.7
YAK *eS* **S** **18 57 34.7 -3.7**
YAK *e* 18 58 27.4
YAK *e*SSS SSS 19 05 02.4
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=Z,210nm,4.4s
YAK pmax pmax
comp=N,149nm,3.4s
YAK pmax pmax
comp=E,84nm,4.2s
YAK smax smax
comp=N,45nm,7.8s
YAK smax smax
comp=E,28nm,7.2s
YAK MLR MLR
comp=Z,698nm,20.0s
YAK MLR MLR
comp=E,368nm,22.0s
YAK MLR MLR
comp=N,587nm,24.0s
YAK Yakutsk 69.74 14 *eP* **P** **18 48 29.6 -1.8**
comp=N,77nm,0.8s
YAK *epP* **pP** **18 48 38.2 -1.8**
ZEI Tsey 69.77 319 *eP* **P** **18 48 32.6 +0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 69.83 336 *c iP* **P** **18 48 32.0 -0.1**
ARU *e* 18 51 01.9
ARU S **S** **18 57 41.3 +1.5**
ARU SS **SS** **19 02 10.6 +1.6**
ARU pmax pmax
comp=Z,35nm,1.7s
ARU Arti 69.83 336 P **P** **18 48 32.9 +0.8**
comp=Z,120nm,1.0s,SNR=7.1
KIV Kislovodsk 71.08 319 P **P** **18 48 41.0 +0.8**
KIV *i* 18 48 48.5
KIV *e* 18 48 57.0
KIV SS SS 19 02 24.0 -5.0
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,100nm,18.0s
PETK Petropavlovsk- 74.27 32 P **P** **18 48 58.2 -0.6**
comp=Z,7.5nm,0.7s,baz=208,slow=3.1,SNR=13
PETK *pP* **pP** **18 49 05.8 -1.8**
comp=Z,7.3nm,0.8s,baz=148,slow=1.2,SNR=4.8
PETK Petropavlovsk- 74.27 32 P **P** **18 48 58.2 -0.6**
PETK *PP **pP** **18 49 05.8 -1.8**
PETK Petropavlovsk- 74.27 32 P **P** **18 48 58.2 -0.6**
PETK pP **pP** **18 49 05.8 -1.8**
ANN Anapa 74.87 319 *eP* P 18 49 07.2 +4.8
ANN *e*PP **PcP** **18 49 16.8 +0.5**
ANN pmax pmax
comp=Z,217nm,1.4s
VRHR Novokhopersk 74.93 326 *eP* **P** **18 49 02.0 -0.6**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,30nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BOSA Boshof 75.55 242 P **P** **18 49 09.1 +2.2**
comp=E,4.9nm,1.1s,baz=93,slow=13,SNR=4.2
BOSA LR LR 19 16 18.7
comp=E,325nm,19.1s,baz=165,slow=31
BOSA Boshof 75.55 242 P **P** **18 49 09.1 +2.2**
BOSA Boshof 75.55 242 P **P** **18 49 09.1 +2.2**
BR131 Keskin Array S 75.77 313 *eP* **P** **18 49 07.4 -0.6**
comp=E,4.9nm,0.6s
BR131 *epP* **pP** **18 49 15.6 -1.1**
BRTR Keskin Array B 75.77 313 P **P** **18 49 07.6 -0.4**
comp=E,3.7nm,0.7s,baz=133,slow=7.0,SNR=20
BRTR pP **pP** **18 49 15.9 -0.8**
comp=E,6.3nm,0.6s,baz=136,slow=6.8,SNR=16
BRTR Keskin Array B 75.77 313 P **P** **18 49 07.6 -0.4**
BRTR *PP **pP** **18 49 15.9 -0.8**
BRTR Keskin Array B 75.77 313 P **P** **18 49 07.6 -0.4**
BRTR pP **pP** **18 49 15.9 -0.8**
SYO Syowa Base 76.02 199 *ij eP* **P** **18 49 09.0 +0.4**
VSR Storozhevoye 76.37 325 *eP* **P** **18 49 10.5 -0.4**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
SEY Seymchan 77.39 21 *ij iP* **P** **18 49 15.9 -0.5**
OBN Obninsk 79.41 328 *ceP* **P** **18 49 28.0 +0.3**
OBN *e* 18 49 35.7
OBN *PP **pP** **18 49 38.0 +1.5**
OBN *e*SP **sP** **18 49 43.1 +3.4**
OBN *e* 18 59 44.5
OBN SS **SS** **19 04 38.0 +3.4**
OBN pmax pmax
comp=Z,35nm,2.5s
OBN MLR MLR
comp=Z,100nm,17.0s
VNDA Vanda 79.63 169 *eP* **P** **18 49 28.0 -0.6**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 79.63 169 *eP* **P** **18 49 28.0 -0.6**
comp=Z,6.1nm,0.9s
AKASG Malin Array Be 82.06 322 P **P** **18 49 41.7 -0.3**
comp=Z,2.3nm,0.8s,baz=99,slow=4.1,SNR=7.4
AKASG pP **pP** **18 49 50.0 -0.7**
comp=Z,2.9nm,0.7s,baz=95,slow=4.3,SNR=7.6
AKASG Malin Array Be 82.06 322 P **P** **18 49 41.7 -0.3**
AKASG *PP **pP** **18 49 50.1 -0.7**
AKASG Malin Array Be 82.06 322 P **P** **18 49 41.7 -0.3**
AKASG pP **pP** **18 49 50.0 -0.7**
KIEV Kiev 82.06 322 *eP* **P** **18 49 41.1 -0.9**
KIEV *e*PP **pP** **18 49 49.5 -1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 82.06 322 *eP* **P** **18 49 41.1 -0.9**
comp=Z,3.0nm,0.8s
KIEV *epP* **pP** **18 49 49.5 -1.3**
VRI Vrincioaia 82.37 317 *ij iP* **P** **18 49 44.8 +1.0**
MLR Muntele Rosu 82.81 317 *ij iP* **P** **18 49 47.3 +1.1**
BURAR Bucovina Array 83.79 319 *ij iP* **P** **18 49 53.3 +2.1**
BUR08 Bucovina Ar. S 83.81 319 *eP* **P** **18 49 52.3 +1.0**
BUR08 *epP* **pP** **18 50 01.4 +1.2**
VTS Vitosha 84.11 313 *ij iP* **P** **18 49 53.4 +0.4**
VTS Vitosha 84.11 313 *ij iP* **P** **18 49 54.7 +1.7**
JOF Joensuu 84.84 334 *eP* P 18 49 48.5 -7.5
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 84.84 334 *ep* P 18 49 48.5 -7.5
comp=Z,3.5nm,0.8s
JOF Joensuu 84.84 334 *ep* P 18 49 48.5 -7.5
comp=Z,3.5nm,0.8s
BILL Bilibino 84.97 20 P **P** **18 49 56.0 -0.6**
BILL *e* 18 50 03.6
BILL *e* 19 01 11.0
BILL pmax pmax
comp=Z,29nm,2.5s
BILL Bilibino 84.97 20 *eP* **P** **18 49 55.4 -1.2**
comp=Z,16nm,1.1s
BILL *epP* **pP** **18 50 03.7 -1.7**
DRGR 85.29 318 *ij iP* **P** **18 49 59.8 +1.0**
BZS Buzias 85.81 316 *ij iP* **P** **18 50 02.1 +0.8**
UZH Uzhgorod 85.92 319 *eP* **P** **18 50 00.7 -1.1**
UZH *e* 18 50 12.5
KOLS Kolonicke sedl 86.00 320 *eP* **P** **18 50 03.1 +0.9**
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 86.00 320 *eP* **P** **18 50 03.0 +0.9**
KOLS *epP* **pP** **18 50 11.3 +0.3**
CRVS Cervenica-Dubn 86.52 319 *eP* **P** **18 50 05.9 +1.2**
CRVS *e* 18 50 14.1
CRVS Cervenica-Dubn 86.52 319 *eP* **P** **18 50 05.9 +1.2**
CRVS *epP* **pP** **18 50 14.1 +0.5**
FINES FINESS Array B 86.74 332 P **P** **18 50 05.8 +0.3**
comp=Z,3.7nm,0.8s,baz=144,slow=2.9,SNR=8.1
FINES pP **pP** **18 50 14.0 -0.3**
comp=Z,8.9nm,0.9s,baz=98,slow=7.9,SNR=4.9
FINES LR LR 19 36 13.6
comp=Z,136nm,18.2s,baz=312,slow=41
FINES FINESS Array B 86.74 332 P **P** **18 50 05.8 +0.3**
FINES *PP **pP** **18 50 14.0 -0.3**
FINES FINESS Array B 86.74 332 P **P** **18 50 05.8 +0.3**
FINES pP **pP** **18 50 14.0 -0.3**
STHS Stebnicka Huta 86.75 320 *eP* **P** **18 50 07.4 +1.5**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 86.75 320 *eP* **P** **18 50 07.4 +1.5**
STHS *epP* **pP** **18 50 14.7 0.0**
KAF Kangasniemi 86.81 333 *eP* P 18 49 59.1 -6.7
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 86.81 333 *ep* P 18 49 59.1 -6.7
comp=Z,4.5nm,0.6s
KAF Kangasniemi 86.81 333 *ep* P 18 49 59.1 -6.7
comp=Z,4.5nm,0.6s
KECS Kecovo 87.08 319 *eP* **P** **18 50 07.8 +0.3**
KECS pmax pmax
comp=Z,1.0nm,0.9s
KECS Kecovo 87.08 319 *eP* **P** **18 50 07.8 +0.3**
KECS *epP* **pP** **18 50 16.5 +0.2**
OJC Ojcow 87.81 321 *eP* P 18 50 19.5 +8.5
OJC Ojcow 87.81 321 *eP* P 18 50 19.5 +8.5
VYHS Vyhne 88.16 319 *eP* **P** **18 50 13.5 +0.8**
VYHS pmax pmax
comp=Z,89nm,3.5s
VYHS Vyhne 88.16 319 *eP* **P** **18 50 13.5 +0.8**
VYHS *epP* **pP** **18 50 22.2 +0.6**
ARCES ARCESS Array B 89.08 340 P **P** **18 50 17.2 +0.6**
comp=Z,5.5nm,0.7s,baz=26,slow=8.8,SNR=9.0
ARCES LR LR 19 34 22.4
comp=Z,350nm,18.1s,baz=271,slow=38
ARCES ARCESS Array B 89.08 340 P **P** **18 50 17.2 +0.6**
ARCES ARCESS Array B 89.08 340 P **P** **18 50 17.2 +0.6**
DPC Dobruska-Polom 90.04 320 *eP* **P** **18 50 22.9 +1.4**
DPC *e*PP **pP** **18 50 30.9 +0.5**
DPC Dobruska-Polom 90.04 320 *eP* **P** **18 50 22.9 +1.4**
DPC *epP* **pP** **18 50 30.9 +0.5**
UPC Upice 90.25 320 *eP* **P** **18 50 23.8 +1.4**
UPC *e*PP **pP** **18 50 31.8 +0.5**
UPC Upice 90.25 320 *eP* **P** **18 50 23.8 +1.4**
UPC *epP* **pP** **18 50 31.8 +0.5**
SNAA Sanae 90.26 198 *e* **P** **18 50 24.6 +2.4**
SNAA Sanae 90.26 198 *eP* **P** **18 50 19.2 -3.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	**Sanae**	**90.26**	**198**	*e*P	**P**	**18 50 19.2**	**-3.0**
	comp=Z,3.8nm,0.9s						
GERES	**GERESS Array B**	**91.58**	**319**	P	**P**	**18 50 29.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=90,slow=4.7,SNR=12						
GERES				pP	**pP**	**18 50 38.0**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=90,slow=3.7,SNR=12						
GERES	**GERESS Array B**	**91.58**	**319**	P	**P**	**18 50 29.2**	**+0.4**
GERES				*PP	**pP**	**18 50 38.0**	**+0.3**
GERES	**GERESS Array B**	**91.58**	**319**	P	**P**	**18 50 29.2**	**+0.4**
GERES				pP	**pP**	**18 50 38.0**	**+0.3**
BRG	**Berggiesshubel**	**91.60**	**321**	*e*P	P	18 50 38.1	+9.4
	comp=Z,11nm,1.2s						
BRG	**Berggiesshubel**	**91.60**	**321**	*e*P	P	18 50 38.1	+9.4
BRG				pmax	pmax		
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**91.69**	**319**	*e*P	**P**	**18 50 29.9**	**+0.7**
KHC				*e**PP	**pP**	**18 50 38.3**	**+0.2**
KHC	**Kasperske Hory**	**91.69**	**319**	*e*P	**P**	**18 50 29.9**	**+0.7**
KHC				*e*pP	**pP**	**18 50 38.3**	**+0.2**
VNA2	**Neumayer--Watz**	**91.88**	**198**	*e*	**P**	**18 50 32.7**	**+3.1**
NOA	**NORSAR Array B**	**93.77**	**331**	LR	LR	19 42 47.4	
	comp=Z,80nm,18.1s,baz=180,slow=42						
ILAR	**Eielson Array**	**103.19**	**24**	Pdiff	**Pdif**	**18 51 21.8**	**+1.0**
	comp=Z,1.1nm,1.2s,baz=237,slow=8.5,SNR=4.0						
ILAR				PP	PP	18 55 27.0	-8.7
	comp=Z,1.0nm,1.0s,baz=300,slow=7.2,SNR=6.0						
ILAR	**Eielson Array**	**103.19**	**24**	P	**Pdif**	**18 51 21.8**	**+1.0**
ILAR	**Eielson Array**	**103.19**	**24**	Pdif	**Pdif**	**18 51 21.8**	**+1.0**
ILAR				PP	PP	18 55 27.0	-8.7
TBI	**Tubuai**	**105.92**	**116**	*e*LR	LR	19 26 33.3	
	comp=Z,306nm,25.5s						
PPT2	**Papeete2**	**106.92**	**110**	*e*LR	LR	19 27 06.4	
	comp=Z,133nm,23.0s						
YKA	**Yellowknife Ar**	**116.28**	**18**	PKP	**PKPdf**	**18 56 04.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=349,slow=1.9,SNR=6.1						
YKA	**Yellowknife Ar**	**116.28**	**18**	PKIKP	**PKPdf**	**18 56 04.3**	**-0.5**
YKA	**Yellowknife Ar**	**116.28**	**18**	PKP	**PKPdf**	**18 56 04.3**	**-0.5**
FFC	**Flin Flon**	**126.41**	**16**	*i* PKIKP	**PKPdf**	**18 56 25.2**	**+0.7**
C14A	**Swan Lake**	**127.41**	**29**	⇑P	**PKPdf**	**18 56 27.0**	**+0.2**
	baz=127						
B15A	**Bradely Ranch,**	**127.59**	**28**	⇑P	**PKPdf**	**18 56 27.4**	**+0.3**
	baz=127						
C15A	**Salmond Ranch,**	**127.95**	**28**	⇑P	**PKPdf**	**18 56 28.1**	**+0.2**
	baz=128						
E13A	**Victor**	**128.10**	**31**	⇓P	**PKPdf**	**18 56 28.4**	**+0.2**
	baz=128						
B17A	**L&G Farms, Che**	**128.41**	**27**	⇑P	**PKPdf**	**18 56 29.1**	**+0.4**
	baz=128						
E14A	**Clinton**	**128.47**	**30**	⇑P	**PKPdf**	**18 56 29.5**	**+0.5**
	baz=128						
A19A	**Klindworth Far**	**128.83**	**25**	⇑P	**PKPdf**	**18 56 29.5**	**0.0**
	baz=129						
D16A	**Dana Ranch, Ca**	**128.99**	**28**	⇑P	**PKPdf**	**18 56 30.3**	**+0.4**
	baz=129						
H12A	**Diamond D Ranc**	**129.02**	**33**	⇑P	**PKPdf**	**18 56 30.2**	**+0.1**
	baz=129						
E16A	**East Helena**	**129.28**	**29**	⇑P	**PKPdf**	**18 56 31.3**	**+0.9**
	baz=129						
A21A	**Bergtoll Ranch**	**129.52**	**24**	⇑P	**PKPdf**	**18 56 31.7**	**+1.0**
	baz=129						
D18A	**Linhart Farms,**	**129.68**	**27**	⇑P	**PKPdf**	**18 56 31.8**	**+0.7**
	baz=130						
G15A	**Dillon**	**129.84**	**31**	⇓P	**PKPdf**	**18 56 32.9**	**+1.2**
	baz=130						
BOZ	**Bozeman (W)**	**129.94**	**30**	*e*PKIKP	**PKPdf**	**18 56 32.9**	**+1.1**
BOZ	**Bozeman (W)**	**129.94**	**30**	*e*PKPdf	**PKPdf**	**18 56 32.9**	**+1.1**
C20A	**Veseth Ranch,**	**130.08**	**25**	⇓P	**PKPdf**	**18 56 32.8**	**+1.0**
	baz=130						
G16A	**Moss Hill, Enn**	**130.15**	**30**	⇓P	**PKPdf**	**18 56 33.3**	**+1.1**
	baz=130						
NVAR	**Mina Array Bea**	**130.65**	**41**	PKP	**PKPdf**	**18 56 34.0**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=265,slow=1.9,SNR=11						
NVAR				SKPbc	**SKPab**	**18 59 56.5**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=271,slow=4.3,SNR=8.7						
NVAR	**Mina Array Bea**	**130.65**	**41**	PKP	**PKPdf**	**18 56 34.0**	**+0.6**
NVAR				SKPbc	**SKPab**	**18 59 56.5**	**+0.9**
K14A	**Jones Ranch, D**	**131.26**	**34**	⇑P	**PKPdf**	**18 56 35.9**	**+1.6**
	baz=131						
D22A	**Cohagen**	**131.29**	**25**	⇑P	**PKPdf**	**18 56 35.6**	**+1.5**
	baz=131						
ULM	**Lac du Bonnet**	**132.07**	**15**	PKP	**PKPdf**	**18 56 36.0**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=24,slow=2.3,SNR=4.0						
ULM	**Lac du Bonnet**	**132.07**	**15**	PKIKP	**PKPdf**	**18 56 36.1**	**+0.6**
ULM	**Lac du Bonnet**	**132.07**	**15**	PKP	**PKPdf**	**18 56 36.0**	**+0.6**
M15A	**Larsen Ranch,**	**132.38**	**34**	⇓P	**PKPdf**	**18 56 37.6**	**+1.2**
	baz=132						
PDAR	**Pinedale Array**	**133.04**	**31**	PKP	**PKPdf**	**18 56 39.0**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=163,slow=1.5,SNR=4.7						
PDAR	**Pinedale Array**	**133.04**	**31**	PKP	**PKPdf**	**18 56 39.0**	**+1.2**
S16A	**Weppner Ranch,**	**135.32**	**38**	⇑P	**PKPdf**	**18 56 43.5**	**+1.3**
	baz=135						
R17A	**Hanksville Air**	**135.40**	**36**	⇑P	**PKPdf**	**18 56 43.8**	**+1.6**
	baz=135						
N21A	**Black Mountain**	**135.54**	**31**	⇓P	**PKPdf**	**18 56 43.7**	**+1.1**
	baz=135						
U15A	**North Rim**	**135.70**	**40**	⇑P	**PKPdf**	**18 56 44.7**	**+1.6**
	baz=136						
Q19A	**Hogan Spring (**	**135.87**	**35**	⇑P	**PKPdf**	**18 56 44.3**	**+1.2**
	baz=136						
Z13A	**Yuma Proving G**	**136.69**	**44**	⇑P	**PKPdf**	**18 56 46.1**	**+1.5**
	baz=136						
224A	**Cornudas Mount**	**142.78**	**39**	⇑P	**PKPdf**	**18 56 53.3**	**-2.6**
	baz=143						
Y27A	**Causey**	**142.93**	**35**	⇑P	**PKPdf**	**18 56 53.7**	**-2.4**
	baz=143						
MNTX	**Cornudas Mount**	**143.12**	**39**	*e*PKPdf	PKPbc	18 56 53.8	+0.6
Z27A	**Tatum**	**143.31**	**35**	⇑P	PKPbc	18 56 54.8	+1.0
	baz=143						
SFIN	**Scholer Farm**	**143.39**	**11**	⇓P	PKPbc	18 56 54.6	+1.0
	baz=143						
325A	**Bean Ranch, Si**	**143.60**	**39**	⇓P	PKPbc	18 56 55.0	+0.2
	baz=143						
226A	**Malaga, Loving**	**143.67**	**38**	⇑P	PKPbc	18 56 55.8	+0.9
	baz=144						
425A	**Indio Mountain**	**143.98**	**40**	⇑P	PKPbc	18 56 56.6	+0.7
	baz=144						
326A	**Caldwell Ranch**	**144.26**	**39**	⇓P	PKPbc	18 56 57.2	+0.5
	baz=144						
WMOK	**Wichita Mounta**	**144.58**	**29**	*e*PKIKP	**PKPab**	**18 56 57.1**	**-0.2**
WMOK	**Wichita Mounta**	**144.58**	**29**	*e*PKPdf	**PKPab**	**18 56 57.1**	**-0.2**
BLO	**Bloomington**	**144.66**	**10**	*e*PKIKP	**PKPab**	**18 56 57.0**	**-0.4**
BLO	**Bloomington**	**144.66**	**10**	*e*PKPdf	**PKPab**	**18 56 57.0**	**-0.4**
426A	**McDonald Obser**	**144.67**	**39**	⇓P	PKPbc	18 56 58.7	+0.5
	baz=144						
OLIL	**Olney**	**144.77**	**13**	*e*PKPdf	PKPbc	18 56 57.9	0.0
328A	**Wristen Ranch,**	**144.93**	**37**	⇑P	**PKPdf**	**18 56 59.2**	**-0.4**
	baz=145						
TUL1	**Tulsa**	**144.93**	**24**	⇓P	**PKPab**	**18 56 58.4**	**-0.1**
	baz=145						
427A	**Hayter Ranch,**	**144.94**	**38**	⇓P	**PKPdf**	**18 56 59.6**	**-0.1**
	baz=145						
526A	**Mary Lane Ranc**	**145.04**	**40**	⇑P	**PKPdf**	**18 57 00.2**	**+0.3**
	baz=145						
527A	**Woodward Ranch**	**145.29**	**40**	⇑P	**PKPdf**	**18 57 01.0**	**+0.6**
	baz=145						
626A	**Big Bend Ranch**	**145.35**	**41**	⇓P	**PKPdf**	**18 57 00.9**	**+0.5**
	baz=145						
428A	**Kincaid Ranch,**	**145.47**	**38**	⇓P	**PKPab**	**18 57 01.9**	**+1.1**
	baz=145						
SIUC	**Southern Illin**	**145.48**	**15**	*e*PKPdf	**PKPbc**	**18 56 59.6**	**-0.7**
USIN	**University of**	**145.60**	**12**	*e*PKPdf	**PKPdf**	**18 56 59.9**	**-0.6**
WCI	**Wyandotte Cave**	**145.62**	**10**	*e*PKIKP	**PKPdf**	**18 56 59.9**	**-0.6**
WCI	**Wyandotte Cave**	**145.62**	**10**	*e*PKPdf	**PKPdf**	**18 56 59.9**	**-0.6**
528A	**Cox Ranch, San**	**145.80**	**39**	⇓P	**PKPab**	**18 57 02.6**	**+0.6**
	baz=146						
TXAR	**Lajitas Array**	**145.80**	**41**	PKPbc	**PKPab**	**18 57 02.5**	**+0.4**
	comp=Z,17nm,0.7s,baz=256,slow=1.1,SNR=225						
TXAR				pPKPbc	pPKPbc	18 57 11.0	+0.2
	comp=Z,13nm,0.7s,baz=8.5,slow=1.8,SNR=20						
TXAR	**Lajitas Array**	**145.80**	**41**	PKIKP	**PKPab**	**18 57 02.5**	**+0.4**
TXAR						18 57 11.0	
TXAR	**Lajitas Array**	**145.80**	**41**	PKPbc	**PKPab**	**18 57 02.5**	**+0.4**
TXAR				pPKPbc	pPKPbc	18 57 11.0	+0.2
627A	**Terlingua Ranc**	**145.90**	**40**	⇓P	**PKPab**	**18 57 02.9**	**+0.4**
	baz=146						
628A	**Black Gap, Mar**	**146.20**	**40**	⇓P	**PKPab**	**18 57 03.8**	**+0.3**
	baz=146						
MIAR	**Mount Ida**	**147.01**	**23**	*e*PKP2	**PKPbc**	**18 57 04.9**	**0.0**
MIAR	**Mount Ida**	**147.01**	**23**	*e*PKPbc	**PKPbc**	**18 57 04.9**	**0.0**
UALR	**University of**	**147.26**	**21**	*e*PKPbc	**PKPbc**	**18 57 05.5**	**-0.1**
WVT	**Waverly**	**147.33**	**14**	*e*PKP2	**PKPbc**	**18 57 05.3**	**-0.5**
WVT	**Waverly**	**147.33**	**14**	*e*PKPbc	**PKPbc**	**18 57 05.3**	**-0.5**
JCT	**Junction City**	**147.36**	**35**	*e*PKP2	**PKPdf**	**18 57 04.8**	**+1.1**
JCT	**Junction City**	**147.36**	**35**	*e*PKPdf	**PKPdf**	**18 57 04.8**	**+1.1**
JCT	**Junction City**	**147.36**	**35**	⇑P	**PKPdf**	**18 57 04.3**	**+0.6**
	baz=147						
TZTN	**Tazewell**	**147.69**	**7**	*e*PKPbc	**PKPbc**	**18 57 06.5**	**-0.3**
PLAL	**Pickwick Lake**	**148.36**	**15**	*e*PKPbc	**PKPbc**	**18 57 07.6**	**-1.0**
TKL	**Tuckaleechee C**	**148.53**	**8**	*e*PKP2	**PKPbc**	**18 57 08.8**	**-0.2**
TKL	**Tuckaleechee C**	**148.53**	**8**	*e*PKPbc	**PKPbc**	**18 57 08.8**	**-0.2**
SWET	**Sewanee**	**148.61**	**11**	*e*PKPbc	**PKPbc**	**18 57 08.1**	**-1.2**
CPCT	**Cooper Cave**	**148.63**	**9**	*e*PKPbc	**PKPbc**	**18 57 09.1**	**-0.2**
NATX	**Nacogdoches**	**148.97**	**27**	*e*PKPbc	**PKPbc**	**18 57 10.8**	**+0.5**
KMSC	**Kings Mountain**	**149.29**	**4**	⇑P	**PKPbc**	**18 57 10.7**	**-0.3**
	baz=149						
HKT	**Hockley**	**149.91**	**30**	*e*PKHKP	**PKPbc**	**18 57 10.3**	**-2.3**
HKT	**Hockley**	**149.91**	**30**	*e*PKPbc	**PKPbc**	**18 57 10.3**	**-2.3**
JSC	**Jenkinsville**	**150.15**	**4**	*e*PKP2	**PKPbc**	**18 57 13.4**	**+0.3**
JSC	**Jenkinsville**	**150.15**	**4**	*e*PKPbc	**PKPbc**	**18 57 13.4**	**+0.3**
LRAL	**Lakeview Retre**	**150.48**	**14**	*e*PKPbc	**PKPbc**	**18 57 13.0**	**-0.9**
LVC	**Limon Verde**	**151.48**	**199**	*e*PKPab	**PKPab**	**18 57 26.4**	**+1.4**
SIV	**San Ignacio**	**153.20**	**221**	PKPbc	**PKPbc**	**18 57 21.7**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=135,slow=4.3,SNR=2.8						
SIV	**San Ignacio**	**153.20**	**221**	PKPbc	**PKPbc**	**18 57 21.7**	**+1.1**

IDC 01 18:54:35.2±1.6**,18°.91S**×**176°.07E,h0**km**,mb3.8**/4**, mb1 4.0**/5**,mb1mx3.8**/17**,mbtmp3.9**/5**,ML3.6**/1**,MS3.8**/4**, Ms1 3.9**/4**,ms1mx3.5**/21**,Error ellipse: s-maj=37.1km s-min=34.9km az=58.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.56**	**249**	*e*LR	LR	18 59 07.3	
	1µm,26.1s						
URZ	**Urewera**	**19.31**	**178**	P	P	18 59 02.9	+1.1
	0.2nm,0.3s,baz=348,slow=12,SNR=2.3						
URZ				LR	LR	19 04 49.8	
	comp=Z,247nm,18.4s,baz=193,slow=32						
RAR	**Rarotonga**	**22.80**	**100**	LR	LR	19 06 06.4	
	comp=Z,160nm,21.2s,baz=308,slow=30						
TBI	**Tubuai**	**32.40**	**104**	*e*LQ	LQ	19 07 56.6	
	582nm,28.5s						
TBI				*e*LR	LR	19 09 27.8	
	242nm,26.0s						
PPT2	**Papeete2**	**32.62**	**93**	*e*LR	LR	19 09 38.4	
	343nm,25.0s						
WRA	**Warramunga Arr**	**39.30**	**261**	P	P	19 02 05.7	-0.6
	0.7nm,0.7s,baz=94,slow=8.3,SNR=3.0						
ASAR	**Alice Springs**	**39.47**	**256**	P	P	19 02 08.0	+0.3
	1.0nm,0.7s,baz=87,slow=8.9,SNR=24						
QSPA	**South Pole Qui**	**71.15**	**180**	P	P	19 05 54.9	-0.7
	3.2nm,1.2s,baz=18,slow=4.0,SNR=3.8						
KSRS	**Korea Array**	**72.08**	**321**	LR	LR	19 31 09.9	
	comp=Z,38nm,21.3s,baz=250,slow=30						
ILAR	**Eielson Array**	**88.12**	**15**	P	P	19 07 27.5	+0.2
	0.4nm,0.9s,baz=212,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**90.98**	**59**	LR	LR	19 40 19.8	
	comp=Z,162nm,19.4s,baz=15,slow=30						

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*IDC **01** 18:55:20.4±1.6,21°.28N×94°.28E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/24,mbtmp3.6/4,ML3.8/1,Error ellipse: s-maj=37.4km s-min=25.5km az=51.0*

ISC 01 18:55:29.6±1.2**,21°.0N**±0°.2×**94°.5E**±0°.1**,h97**km**,n16, σ2s36**/22**,mb3.1**/3**,1C,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.85**	**120**	Pn	**Pn**	**18 56 39.4**	**-1.0**
	0.9nm,0.3s,baz=299,slow=13,SNR=68						
CMAR				Sn	Sn	18 57 42.8	+7.4
	0.1nm,0.3s,baz=290,slow=16,SNR=4.3						
SHL	**Shillong**	**5.18**	**333**	⇑*i*P	**Pn**	**18 56 48.0**	**+3.1**
SHL				*e*S	**Sn**	**18 57 42.0**	**-1.5**
ODAN	**Odare**	**8.77**	**313**	*e*P	**Pn**	**18 57 36.2**	**+2.4**
	12nm,0.2s						
ODAN				*e*S	**Sn**	**18 59 08.3**	**-2.8**
TAPN	**Taplejung**	**8.89**	**317**	*e*P	**Pn**	**18 57 38.0**	**+2.5**
	34nm,0.3s						
TAPN				*e*S	**Sn**	**18 59 11.7**	**-2.3**
RAMN	**Ramite**	**9.38**	**311**	*e*P	**Pn**	**18 57 44.8**	**+2.7**
	11nm,0.2s						
JIRN	**Jiri**	**10.10**	**313**	*e*P	**Pn**	**18 57 54.8**	**+2.7**
GUN	**Gumba**	**10.47**	**313**	*e*P	**Pn**	**18 57 59.4**	**+2.3**
PKI	**Pulchoki**	**10.60**	**310**	*e*P	**Pn**	**18 58 01.3**	**+2.6**
	19nm,0.5s						
KKN	**Kakani**	**10.82**	**311**	*e*P	**Pn**	**18 58 03.8**	**+2.1**
DMN	**Daman**	**10.84**	**309**	*e*P	**Pn**	**18 58 04.5**	**+2.6**
	6.9nm,0.3s						
GKN	**Gorkha**	**11.40**	**310**	*e*P	**Pn**	**18 58 11.6**	**+2.1**
	16nm,0.3s						
GKN				*e*S	**Sn**	**19 00 12.7**	**-2.3**
KOLN	**Koldanda**	**12.04**	**306**	*e*P	**Pn**	**18 58 20.4**	**+2.4**
KOLN				*e*S	**Sn**	**19 00 28.5**	**-2.0**
DANN	**Dangsing**	**12.23**	**309**	*e*P	**Pn**	**18 58 23.3**	**+2.6**
	6.6nm,0.2s						
DANN				*e*S	**Sn**	**19 00 33.8**	**-1.6**
MKAR	**Makanchi Array**	**27.62**	**342**	P	**P**	**19 01 07.1**	**-0.8**
	0.1nm,0.3s,baz=144,slow=9.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**33.75**	**350**	P	**P**	**19 02 01.0**	**-0.7**
	0.5nm,0.3s,baz=162,slow=8.1,SNR=5.9						
GERES	**GERESS Array B**	**68.56**	**316**	P	**P**	**19 06 22.0**	**+0.1**
	0.2nm,0.7s,baz=82,slow=7.0,SNR=8.7						

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*IDC **01** 18:58:21.8±10.0,18°.90S×169°.55E,h241km±92km, mb3.5/11,mb1 3.7/11,mb1mx3.6/16,mbtmp3.5/11,MS3.7/1, Ms1 3.7/1,ms1mx2.6/14,Error ellipse: s-maj=44.8km s-min=30.8km az=128.0*

ISC 01 18:58:22.8±1.2**,18°.8S**±0°.2×**169°.5E**±0°.2**,h246**km**,n15, σ1s10**/15**,mb3.7**/11**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.35**	**220**	*e*P	**Pn**	**18 59 30.8**	**+0.1**
NOUC	**Port Laguerre**	**4.46**	**221**	*e*P	**Pn**	**18 59 32.9**	**+1.0**
CTA	**Charters Tower**	**21.93**	**263**	P	**P**	**19 02 58.3**	**+1.7**
	1.5nm,0.5s,baz=100,slow=6.1,SNR=3.6						
STKA	**Stephens Creek**	**28.29**	**237**	P	**P**	**19 03 53.3**	**-0.4**
	2.9nm,0.6s,baz=60,slow=10,SNR=8.2						
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**19 04 35.0**	**-1.3**
	0.4nm,0.3s,baz=96,slow=8.6,SNR=5.5						
WRA				LR	LR	19 16 45.2	
	comp=Z,117nm,19.7s,baz=215,slow=33						
ASAR	**Alice Springs**	**33.45**	**255**	P	**P**	**19 04 38.1**	**-0.9**
	7.4nm,0.6s,baz=81,slow=9.0,SNR=131						
FITZ	**Fitzroy Crossi**	**41.51**	**264**	P	**P**	**19 05 45.7**	**-0.7**
	3.1nm,0.9s,baz=106,slow=15,SNR=3.6						
MJAR	**Matsushiro Arr**	**62.42**	**332**	P	**P**	**19 08 19.2**	**-0.7**
	0.8nm,0.5s,baz=139,slow=1.9,SNR=5.6						
PETK	**Petropavlovsk-**	**72.28**	**353**	P	**P**	**19 09 22.6**	**+1.5**
	3.6nm,0.7s,baz=156,slow=7.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P	**P**	**19 09 58.4**	**+1.1**
	0.3nm,0.7s,baz=123,slow=4.8,SNR=3.6						
SONM	**Songino Array**	**86.96**	**323**	P	**P**	**19 10 40.9**	**+0.7**
	0.6nm,0.5s,baz=144,slow=2.8,SNR=4.5						
NVAR	**Mina Array Bea**	**88.32**	**48**	P	**P**	**19 10 47.5**	**+0.5**
	1.1nm,0.9s,baz=224,slow=8.3,SNR=6.1						
ILAR	**Eielson Array**	**89.70**	**17**	P	**P**	**19 10 51.0**	**-1.6**
	0.6nm,0.8s,baz=232,slow=5.5,SNR=6.5						
GERES	**GERESS Array B**	**144.16**	**332**	PKP	**PKPab**	**19 17 27.2**	**-0.5**
	1.0nm,0.6s,baz=30,slow=4.5,SNR=14						
DAVOX	**Davos/Dischmat**	**147.40**	**334**	PKPbc	**PKPbc**	**19 17 37.3**	**-0.5**
	3.5nm,0.6s,baz=282,slow=0.6,SNR=12						

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*DDA **01** 19:01:55.0,37°.02N×29°.15E,h23km,ML4.1*

*IDC **01** 19:01:54.1±1.3,36°.95N×29°.08E,h0km,mb3.7/3, mb1 3.6/6,mb1mx3.4/26,mbtmp3.6/6,ML3.5/3,Error ellipse: s-maj=28.4km s-min=22.1km az=135.0*

*CSEM **01** 19:01:56.3±0.1,37°.09N×29°.16E,h2km,MD3.5,Error ellipse: s-maj=2.3km s-min=1.8km az=3.0*

*ISCJB **01** 19:01:56.2±0.5,37°.08N±0°.02×29°.14E±0°.02,h8km±4km, mb3.5/3,Error ellipse: s-maj=3.0km s-min=2.9km az=158.4*

*ISK **01** 19:01:56.1,37°.06N×29°.12E,h14km,MD3.5,ML3.4*

*THE **01** 19:01:57.6,37°.07N×29°.16E,h0km,ML3.4/4,Error ellipse: s-maj=1.1km s-min=0.6km az=158.0*

ISC 01 19:01:56.6±1.0**,37°.07N**±0°.02×**29°.14E**±0°.02**,h10**km±7km**, n155,σ1s13**/194**,mb3.4**/3**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.30**	**73**	PG	**Pg**	**19 02 03.3**	**+0.7**
GLHS				SG	**Sg**	**19 02 08.7**	**+2.0**
GLHS	**Glhisar (BURDU**	**0.30**	**73**	*i* Pg	**Pg**	**19 02 03.3**	**+0.7**
GOLH	**Golhisar**	**0.38**	**64**	*i* P	**Pg**	**19 02 03.4**	**-0.7**
GOLH				*i* S	**Sg**	**19 02 09.5**	**+0.5**
GOLH	**Golhisar**	**0.38**	**64**	*i* P	**Pg**	**19 02 03.4**	**-0.7**
GOLH				*i* S	**Sg**	**19 02 09.5**	**+0.5**
TURN	**Turunc**	**0.47**	**245**	*i* P	Pg	19 02 09.9	+4.1
TURN				*i* S	Sg	19 02 20.9	+8.8
TURN	**Turunc**	**0.47**	**245**	*i* P	Pg	19 02 09.9	+4.1
DNZL	**Cakiroluk**	**0.62**	**353**	*i* P	**Pg**	**19 02 09.1**	**+0.4**
DNZL				*i* S	**Sb**	**19 02 19.6**	**+1.1**
DNZL	**Cakiroluk**	**0.62**	**353**	*i* P	**Pg**	**19 02 09.1**	**+0.4**
DNZL				*i* S	**Sb**	**19 02 19.6**	**+1.1**
DENT	**Denizli**	**0.69**	**353**	*e*PG	**Pg**	**19 02 09.2**	**-0.7**
DENT	**Denizli**	**0.69**	**353**	*e*Pg	**Pg**	**19 02 09.2**	**-0.7**
YER	**Yerkesik**	**0.69**	**276**	*e*PG	**Pg**	**19 02 10.0**	**0.0**
YER	**Yerkesik**	**0.69**	**276**	*e*Pg	**Pg**	**19 02 10.0**	**0.0**
ELL	**Elmali**	**0.69**	**117**	*e*PG	**Pg**	**19 02 07.9**	**-2.2**
ELL				*e*SG	**Sg**	**19 02 19.5**	**+0.3**
ELL	**Elmali**	**0.69**	**117**	*e*Pg	**Pg**	**19 02 07.9**	**-2.2**
ELL				*e*Sg	**Sg**	**19 02 19.5**	**+0.3**
AKAS	**Kas**	**0.92**	**156**	*i* P	**Pg**	**19 02 12.2**	**-2.1**
AKAS				*i* S	**Sb**	**19 02 28.6**	**+1.7**
AKAS	**Kas**	**0.92**	**156**	*i* P	**Pg**	**19 02 12.2**	**-2.1**
AKAS				*i* S	**Sb**	**19 02 28.6**	**+1.7**
KORT	**Korkueli**	**0.97**	**94**	*i* P	**Pg**	**19 02 13.3**	**-2.0**
KORT				*i* S	**Sn**	**19 02 31.1**	**+0.9**
KORT	**Korkueli**	**0.97**	**94**	*i* P	**Pg**	**19 02 13.3**	**-2.0**
KORT				*i* S	**Sn**	**19 02 31.1**	**+0.9**
KSL	**Kastellorizon**	**0.99**	**159**	*e*P	**Pg**	**19 02 13.9**	**-1.7**
AYDN	**Tasoluk**	**1.17**	**301**	*i* P	**Pg**	**19 02 18.2**	**-0.8**
AYDN				*i* S	**Sg**	**19 02 32.9**	**-1.2**
AYDN	**Tasoluk**	**1.17**	**301**	*i* P	**Pg**	**19 02 18.2**	**-0.8**
AYDN				*i* S	**Sg**	**19 02 32.9**	**-1.2**
ARG	**Arkhangelos**	**1.18**	**224**	*e*P	**Pg**	**19 02 17.2**	**-2.1**
ARG	**Arkhangelos**	**1.18**	**224**	*e*Pn	**Pg**	**19 02 17.2**	**-2.1**
ARG				*e*Sn	**Sn**	**19 02 37.5**	**+2.3**
BCK	**Bucak**	**1.22**	**71**	*e*PN	**Pg**	**19 02 19.3**	**-0.7**
BCK	**Bucak**	**1.22**	**71**	*e*Pn	**Pg**	**19 02 19.3**	**-0.7**
ANTB	**Antalya**	**1.22**	**98**	*e*PN	**Pb**	**19 02 19.8**	**0.0**
ANTB	**Antalya**	**1.22**	**98**	*e*Pn	**Pb**	**19 02 19.8**	**0.0**
KHAL	**Karahalli**	**1.33**	**12**	*i* P	**Pg**	**19 02 20.4**	**-1.7**
KHAL				*i* S	**Sn**	**19 02 41.1**	**+2.1**
KHAL	**Karahalli**	**1.33**	**12**	*i* P	**Pg**	**19 02 20.4**	**-1.7**
KHAL				*i* S	**Sn**	**19 02 41.1**	**+2.1**
ISP	**Isparta**	**1.33**	**55**	*e*PN	**Pg**	**19 02 21.5**	**-0.7**
ISP	**Isparta**	**1.33**	**55**	P	**Pg**	**19 02 21.5**	**-0.7**
ISP				S	**Sn**	**19 02 41.1**	**+2.0**
ISP	**Isparta**	**1.33**	**55**	P	**Pg**	**19 02 21.5**	**-0.7**
ISP				S	**Sn**	**19 02 41.1**	**+2.0**
BODT	**Bodrum**	**1.46**	**270**	*e*PN	**Pn**	**19 02 23.3**	**+0.2**
BODT	**Bodrum**	**1.46**	**270**	*e*Pn	**Pn**	**19 02 23.3**	**+0.2**
KULA	**Kula-Manisa**	**1.49**	**345**	*e*PN	**Pn**	**19 02 23.6**	**+0.1**
KULA	**Kula-Manisa**	**1.49**	**345**	*e*Pn	**Pn**	**19 02 23.6**	**+0.1**
NIS1	**Nisyros Isl.**	**1.64**	**254**	P	**Pn**	**19 02 26.6**	**+1.1**
NIS1				S	**Sb**	**19 02 48.7**	**+1.0**
NIS1	**Nisyros Isl.**	**1.64**	**254**	P	**Pn**	**19 02 26.6**	**+1.1**
NIS1				S	**Sb**	**19 02 48.7**	**+1.0**
GCAM	**G?zelcaml?**	**1.64**	**293**	*i* P	**Pn**	**19 02 25.9**	**+0.4**
GCAM				*i* S	**Sn**	**19 02 46.0**	**-0.7**
GCAM	**G?zelcaml?**	**1.64**	**293**	*i* P	**Pn**	**19 02 25.9**	**+0.4**
GCAM				*i* S	**Sn**	**19 02 46.0**	**-0.7**
SHUT	**Suhut-Afyon**	**1.85**	**37**	*e*PN	**Pn**	**19 02 28.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.85**	**37**	*e*Pn	**Pn**	**19 02 28.8**	**+0.3**
SMG	**Samos**	**1.94**	**290**	*e*P	**Pn**	**19 02 30.7**	**+1.1**
SMG	**Samos**	**1.94**	**290**	*e*Pb	**Pn**	**19 02 30.7**	**+1.1**
DEMI	**Demirci**	**2.00**	**350**	*i* P	**Pn**	**19 02 30.8**	**+0.4**
DEMI				*i* S	**Sn**	**19 02 57.0**	**+1.5**
DEMI	**Demirci**	**2.00**	**350**	*i* P	**Pn**	**19 02 30.8**	**+0.4**
DEMI				*i* S	**Sn**	**19 02 57.0**	**+1.5**
GDZ	**Gediz**	**2.03**	**7**	*i* P	**Pn**	**19 02 31.1**	**+0.1**
GDZ				*i* S	**Sn**	**19 02 57.5**	**+1.0**
GDZ	**Gediz**	**2.03**	**7**	*i* P	**Pn**	**19 02 31.1**	**+0.1**
GDZ				*i* S	**Sn**	**19 02 57.5**	**+1.0**
AKHS	**Akhisar**	**2.09**	**330**	*i* P	**Pn**	**19 02 31.8**	**+0.2**
AKHS				*i* S	**Sn**	**19 02 58.6**	**+1.0**
AKHS	**Akhisar**	**2.09**	**330**	*i* P	**Pn**	**19 02 31.8**	**+0.2**
AKHS				*i* S	**Sn**	**19 02 58.6**	**+1.0**
AKS	**Akhisar**	**2.09**	**330**	*e*PN	**Pn**	**19 02 31.6**	**0.0**
AKS	**Akhisar**	**2.09**	**330**	*e*Pn	**Pn**	**19 02 31.6**	**0.0**
BLCB	**Balcova**	**2.12**	**309**	*e*PN	**Pn**	**19 02 32.1**	**+0.1**
BLCB	**Balcova**	**2.12**	**309**	*e*Pn	**Pn**	**19 02 32.1**	**+0.1**
ALT	**Altintas**	**2.12**	**21**	*e*PN	**Pn**	**19 02 32.4**	**+0.2**
ALT	**Altintas**	**2.12**	**21**	*e*Pn	**Pn**	**19 02 32.4**	**+0.2**
BOLV	**Bolvadin**	**2.18**	**40**	*i* P	**Pn**	**19 02 34.7**	**+1.7**
BOLV	**Bolvadin**	**2.18**	**40**	*i* P	**Pn**	**19 02 34.7**	**+1.7**
KARP	**Karpathos**	**2.21**	**227**	P	**Pn**	**19 02 34.1**	**+0.8**
KARP				S	**Sn**	**19 03 02.4**	**+1.8**
KARP	**Karpathos**	**2.21**	**227**	*e*P	**Pn**	**19 02 34.3**	**+1.0**
KARP	**Karpathos**	**2.21**	**227**	*e*Pn	**Pn**	**19 02 34.3**	**+1.0**
KARP				*e*Sn	**Sn**	**19 03 02.6**	**+2.0**
URLA	**Izmir**	**2.39**	**303**	*i* P	**Pn**	**19 02 36.5**	**+0.6**
URLA	**Izmir**	**2.39**	**303**	*i* P	**Pn**	**19 02 36.5**	**+0.6**
DURS	**Dursunbey**	**2.58**	**348**	*i* P	**Pn**	**19 02 39.1**	**+0.6**
DURS				*e*S	**Sn**	**19 03 09.2**	**-0.7**
DURS	**Dursunbey**	**2.58**	**348**	*i* P	**Pn**	**19 02 39.1**	**+0.6**
DURS				*e*S	**Sn**	**19 03 09.2**	**-0.7**
HDMB	**Hadim**	**2.68**	**91**	*e*PN	**Pn**	**19 02 40.9**	**+0.9**
HDMB	**Hadim**	**2.68**	**91**	*e*Pn	**Pn**	**19 02 40.9**	**+0.9**
KONT	**Konya--Tatoy**	**2.71**	**70**	*e*PN	**Pn**	**19 02 41.5**	**+1.4**
KONT	**Konya--Tatoy**	**2.71**	**70**	*e*Pn	**Pn**	**19 02 41.5**	**+1.4**
BALB	**Balikesir**	**2.75**	**339**	*e*PN	**Pn**	**19 02 41.3**	**+0.6**
BALB	**Balikesir**	**2.75**	**339**	*e*Pn	**Pn**	**19 02 41.3**	**+0.6**
KDHN	**Kadinhani**	**2.77**	**58**	*i* P	**Pn**	**19 02 42.7**	**+1.7**
KDHN	**Kadinhani**	**2.77**	**58**	*i* P	**Pn**	**19 02 42.7**	**+1.7**
CHOS	**Chios island**	**2.78**	**299**	P	**Pn**	**19 02 41.9**	**+0.7**
CHOS				S	**Sn**	**19 03 16.8**	**+2.1**
CHOS	**Chios island**	**2.78**	**299**	P	**Pn**	**19 02 41.9**	**+0.7**
CHOS				S	**Sn**	**19 03 16.8**	**+2.1**
ESKT	**Eskisehir**	**2.79**	**28**	*e*PN	**Pn**	**19 02 41.5**	**+0.1**
ESKT	**Eskisehir**	**2.79**	**28**	*e*Pn	**Pn**	**19 02 41.5**	**+0.1**
LADK	**Ladik-KONYA**	**2.80**	**65**	*e*PN	**Pn**	**19 02 42.1**	**+0.6**
LADK	**Ladik-KONYA**	**2.80**	**65**	*e*Pn	**Pn**	**19 02 42.1**	**+0.6**
APE	**Apeiranthos**	**2.89**	**271**	*e*PN	**Pn**	**19 02 43.0**	**+0.4**
APE	**Apeiranthos**	**2.89**	**271**	P	**Pn**	**19 02 44.1**	**+1.4**
APE				S	**Sn**	**19 03 19.7**	**+2.3**
APE	**Apeiranthos**	**2.89**	**271**	*e*P	**Pn**	**19 02 44.2**	**+1.6**
APE	**Apeiranthos**	**2.89**	**271**	*e*Pn	**Pn**	**19 02 44.0**	**+1.4**
APE				*e*Sn	**Sn**	**19 03 19.3**	**+1.9**
APE				S	**Sn**	**19 03 19.7**	**+2.3**
BALY	**Balya**	**2.92**	**336**	*i* P	**Pn**	**19 02 43.8**	**+0.7**
BALY				*i* S	**Sn**	**19 03 18.0**	**-0.3**
BALY	**Balya**	**2.92**	**336**	*i* P	**Pn**	**19 02 43.8**	**+0.7**
BALY				*i* S	**Sn**	**19 03 18.0**	**-0.3**
SVRH	**Sivrihisar-ESK**	**3.02**	**38**	*e*PN	**Pn**	**19 02 44.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.02**	**38**	*e*Pn	**Pn**	**19 02 44.8**	**+0.2**
THR1	**Thera Island**	**3.04**	**258**	P	**Pn**	**19 02 45.9**	**+1.2**
THR1	**Thera Island**	**3.04**	**258**	P	**Pn**	**19 02 45.9**	**+1.2**
ERMK	**Ermenek**	**3.06**	**97**	*i* P	**Pb**	**19 02 49.5**	**-1.7**
ERMK				*i* S	**Sb**	**19 03 28.0**	**-0.5**
ERMK	**Ermenek**	**3.06**	**97**	*i* P	**Pb**	**19 02 49.5**	**-1.7**
ZKR	**Zakros**	**3.07**	**231**	*e*Pn	**Pn**	**19 02 46.8**	**+1.7**
ZKR				*e*Sn	**Sn**	**19 03 24.4**	**+2.6**
PRK	**Paraskevi**	**3.13**	**315**	*e*Pn	**Pn**	**19 02 46.9**	**+0.9**
CAVI	**Cavuskoy**	**3.17**	**10**	*e*PN	**Pn**	**19 02 46.9**	**+0.3**
CAVI	**Cavuskoy**	**3.17**	**10**	*e*Pn	**Pn**	**19 02 46.9**	**+0.3**
GONE	**Gonen-Balikesi**	**3.18**	**339**	*e*PN	**Pn**	**19 02 47.2**	**+0.5**
GONE	**Gonen-Balikesi**	**3.18**	**339**	*e*Pn	**Pn**	**19 02 47.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**3.30**	**357**	*e*PN	**Pn**	**19 02 49.3**	**+1.1**
MDNY	**Mudanya-Bursa**	**3.30**	**357**	*e*Pn	**Pn**	**19 02 49.3**	**+1.1**
GEMT	**Gemlik**	**3.36**	**1**	*e*PN	**Pn**	**19 02 49.6**	**+0.5**
GEMT	**Gemlik**	**3.36**	**1**	*e*Pn	**Pn**	**19 02 49.6**	**+0.5**
NPS	**Neapolis**	**3.38**	**239**	P	**Pn**	**19 02 50.3**	**+0.9**
NPS	**Neapolis**	**3.38**	**239**	*e*P	**Pn**	**19 02 50.3**	**+0.9**
NPS	**Neapolis**	**3.38**	**239**	*e*Pn	**Pn**	**19 02 50.5**	**+1.1**
NPS				*e*Sn	**Sn**	**19 03 30.5**	**+1.0**
ADVT	**Abdulvahap**	**3.39**	**8**	*e*PN	**Pn**	**19 02 49.1**	**-0.4**
ADVT	**Abdulvahap**	**3.39**	**8**	*e*Pn	**Pn**	**19 02 49.1**	**-0.4**
ARMT	**Armutlu**	**3.50**	**357**	*e*PN	**Pn**	**19 02 51.7**	**+0.7**
ARMT	**Armutlu**	**3.50**	**357**	*e*Pn	**Pn**	**19 02 51.7**	**+0.7**
GULT	**Gulveren**	**3.52**	**17**	*e*PN	**Pn**	**19 02 52.0**	**+0.6**
GULT	**Gulveren**	**3.52**	**17**	*e*Pn	**Pn**	**19 02 52.0**	**+0.6**
LEF	**Lefka**	**3.61**	**122**	*e*PN	**Pn**	**19 02 52.5**	**0.0**
LEF	**Lefka**	**3.61**	**122**	*e*Pn	**Pn**	**19 02 52.5**	**0.0**
KRBG	**Karabiga-Canak**	**3.62**	**337**	*e*PN	**Pn**	**19 02 53.1**	**+0.5**
KRBG	**Karabiga-Canak**	**3.62**	**337**	*e*Pn	**Pn**	**19 02 53.1**	**+0.5**
MDUB	**Mudurnu**	**3.76**	**25**	*e*PN	**Pn**	**19 02 55.2**	**+0.6**
MDUB	**Mudurnu**	**3.76**	**25**	*e*Pn	**Pn**	**19 02 55.2**	**+0.6**
HRT	**Hereke**	**3.77**	**6**	*e*PN	**Pn**	**19 02 55.8**	**+1.0**
HRT	**Hereke**	**3.77**	**6**	*e*Pn	**Pn**	**19 02 55.8**	**+1.0**
LPK	**Lapseki**	**3.79**	**331**	*e*PN	**Pn**	**19 02 55.8**	**+0.8**
LPK	**Lapseki**	**3.79**	**331**	*e*Pn	**Pn**	**19 02 55.8**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**3.92**	**329**	*e*PN	**Pn**	**19 02 57.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**3.92**	**329**	*e*Pn	**Pn**	**19 02 57.6**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.92**	**338**	*e*PN	**Pn**	**19 02 57.4**	**+0.5**
RKY	**Sarkoy-Tekirda**	**3.92**	**338**	*e*Pn	**Pn**	**19 02 57.4**	**+0.5**
LFK	**Lefkose**	**3.98**	**115**	*e*PN	**Pn**	**19 02 58.7**	**+1.0**
LFK	**Lefkose**	**3.98**	**115**	*e*Pn	**Pn**	**19 02 58.7**	**+1.0**
CSS	**Prodhromos**	**4.00**	**121**	*e*PN	**Pn**	**19 02 59.1**	**+1.2**
CSS	**Prodhromos**	**4.00**	**121**	P	**Pn**	**19 02 58.6**	**+0.7**
CSS	**Prodhromos**	**4.00**	**121**	P	**Pn**	**19 02 58.6**	**+0.7**
CSS	**Prodhromos**	**4.00**	**121**	*e*Pn	**Pn**	**19 02 59.1**	**+1.2**
SIVA	**Sivas**	**4.06**	**241**	*e*Pn	**Pn**	**19 02 59.5**	**+0.7**
CTKS	**Kestanelik-??a**	**4.19**	**353**	*e*PN	**Pn**	**19 03 01.4**	**+0.9**
CTKS	**Kestanelik-??a**	**4.19**	**353**	*e*Pn	**Pn**	**19 03 01.4**	**+0.9**
LIA	**Limnos Island**	**4.20**	**313**	*e*P	**Pn**	**19 03 01.6**	**+1.0**
LIA	**Limnos Island**	**4.20**	**313**	*e*Pn	**Pn**	**19 03 01.1**	**+0.5**
PTL	**Penteli**	**4.30**	**285**	*e*Pn	**Pn**	**19 03 02.3**	**+0.2**
MERS	**Mersin**	**4.31**	**91**	*e*PN	**Pn**	**19 03 03.0**	**+0.7**
MERS	**Mersin**	**4.31**	**91**	*e*Pn	**Pn**	**19 03 03.0**	**+0.7**
VLY	**Voula,Athens**	**4.32**	**282**	*e*Pn	**Pn**	**19 03 03.1**	**+0.7**
VAM	**Vamos**	**4.33**	**249**	*e*Pn	**Pn**	**19 03 03.5**	**+1.1**
ENEZ	**Enez**	**4.34**	**328**	*e*PN	**Pn**	**19 03 03.3**	**+0.8**
ENEZ	**Enez**	**4.34**	**328**	*e*Pn	**Pn**	**19 03 03.3**	**+0.8**
BRTR	**Keskin Array B**	**4.42**	**52**	Pn	**Pn**	**19 03 05.5**	**+1.7**
	1.2nm,0.3s,baz=238,slow=17,SNR=63						
ALN	**Alexandroupoli**	**4.52**	**329**	*e*Pn	**Pn**	**19 03 05.6**	**+0.6**
NAIG	**Nisos Aigina**	**4.55**	**280**	*e*Pn	Pn	19 03 02.6	-2.9
VIL1	**Vilia, Western**	**4.74**	**285**	*e*Pn	**Pn**	**19 03 10.0**	**+1.9**
KYTH	**Kithira**	**4.97**	**263**	*e*Pn	**Pn**	**19 03 13.5**	**+2.2**
VLI	**Veliai**	**4.99**	**268**	*e*Pn	**Pn**	**19 03 13.3**	**+1.9**
AGG	**Agios Georgios**	**5.72**	**292**	*e*Pn	**Pn**	**19 03 22.6**	**+1.1**
NVR	**Nevrokopi**	**5.92**	**318**	*e*Pn	**Pn**	**19 03 25.0**	**+0.7**
MMAI	**Mount Meron Ar**	**6.54**	**126**	Pn	**Pn**	**19 03 32.0**	**-0.9**
	4.7nm,0.3s,baz=306,slow=12,SNR=25						
MLR	**Muntele Rosu**	**8.75**	**345**	Pn	**Pn**	**19 04 05.2**	**+2.0**
	0.1nm,0.3s,baz=180,slow=16,SNR=3.4						
AKTO	**Aktyubinsk**	**24.59**	**48**	P	**P**	**19 07 16.2**	**-0.4**
	0.7nm,0.8s,baz=243,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**34.20**	**233**	P	**P**	**19 08 40.4**	**-1.9**
	1.5nm,0.5s,baz=36,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**40.03**	**59**	P	**P**	**19 09 31.0**	**-0.7**
	0.2nm,0.5s,baz=275,slow=7.6,SNR=5.8						

MAN 01 19:27:28, 19.°86N×119.°90E, h7km, mb5.0, ML3.9, MS4.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.67**	**156**	⇑*i*P	Pn	19 27 56.8	-0.9
ABRA	**Dolores**	**2.33**	**161**	*e*P	Pn	19 28 08.2	+1.4
ABRA				*e*S	Sn	19 28 15.1	-21
CAUP	**Cauayan**	**3.43**	**148**	*e*P	Pn	19 28 24.9	+3.0
CAUP				*e*S	Sn	19 28 39.3	-24

IDC 01 19:42:41.8±42.0**, 29.°60S×177.°24W, h0km, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/15**, mbtmp3.7**/3**, Error ellipse: s-maj=767.6km s-min=174.0km az=97.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.30**	**256**	P	P	19 49 38.8	0.0
	2.8nm,1.0s,baz=84,slow=9.2,SNR=2.6						
ASAR	**Alice Springs**	**43.81**	**266**	P	P	19 50 49.6	-0.2
	0.6nm,0.9s,baz=105,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**44.73**	**271**	P	P	19 50 57.0	-0.2
	0.4nm,0.3s,baz=110,slow=8.1,SNR=7.9						

*IDC **01** 19:59:46.1±0.9, 30.°68N×83.°21E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/28, mbtmp3.8/15, ML3.2/2, Error ellipse: s-maj=27.9km s-min=16.1km az=53.0*
*ISCJB **01** 19:59:46.8±0.4, 30.°78N±0.°05×83.°43E±0.°04, h11km, mb3.8/12, Error ellipse: s-maj=7.7km s-min=5.0km az=163.6*
*NDI **01** 19:59:48.5±3.5, 31.°36N×83.°40E, h10km, ML3.2*
ISC 01 19:59:48.9±0.6**, 30.°88N**±0.°07×**83.°43E**±0.°05**, h11km, n23, σ1.°18**/28**, mb3.8**/12**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.08**	**245**	*e*P	**Pb**	**20 00 42.9**	**-0.8**
PTH				*e*S	**Sb**	**20 01 22.1**	**+0.7**
DDI	**Dehra Dun**	**4.66**	**265**	*e*P	**Pn**	**20 01 01.0**	**+1.7**
DDI				*e*x	**Sg**	**20 02 20.0**	**+1.3**
AGRA	**Agra**	**6.02**	**234**	*e*S	**Sn**	**20 02 27.5**	**+0.8**
AGRA				AML	AML	20 02 29.2	
	comp=N,95nm,0.4s						
AGRA				AML	AML	20 02 31.2	
	comp=E,69nm,0.3s						
SONA	**Sohna**	**6.11**	**246**	*e*x	P	20 01 18.8	
SONA				*e*S	**Sn**	**20 02 28.2**	**-0.9**
SONA				AML	AML	20 03 13.0	
	comp=N,26nm,0.7s						
SONA				AML	AML	20 03 13.2	
	comp=E,24nm,0.4s						
KUDL	**Kundal**	**6.63**	**248**	*e*P	**Pn**	**20 01 28.0**	**+1.8**
KUDL				*e*S	**Sn**	**20 02 41.7**	**-0.2**
KUDL				AML	AML	20 03 30.4	
	comp=E,12nm,0.7s						
KUDL				AML	AML	20 03 31.7	
	comp=N,15nm,0.3s						
KHET	**Khetri**	**7.21**	**249**	*e*P	**Pn**	**20 01 34.8**	**+0.6**
KHET				*e*S	**Sn**	**20 02 53.9**	**-2.2**
KHET				AML	AML	20 03 42.4	
	comp=E,8.5nm,0.7s						
KHET				AML	AML	20 03 42.5	
	comp=N,8.2nm,0.7s						
SHL	**Shillong**	**9.14**	**123**	*e*P	**Pn**	**20 02 03.0**	**+2.1**
SHL				*e*S	**Sn**	**20 03 43.0**	**-0.9**
POO	**Poona**	**15.05**	**217**	*e*x	P	20 03 19.0	-8.0
MKAR	**Makanchi Array**	**15.92**	**357**	Pn	**Pn**	**20 03 33.0**	**+0.2**
	comp=N,0.0nm,0.3s,baz=182,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**18.73**	**128**	P	**P**	**20 04 06.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=304,slow=11,SNR=13						
KURK	**Kurchatov**	**20.14**	**351**	P	**P**	**20 04 22.1**	**-0.7**
	comp=N,6.8nm,0.9s,baz=174,slow=9.8,SNR=56						
ZALV	**Zalesovo Beam**	**23.08**	**2**	P	**P**	**20 04 55.4**	**+1.0**
	comp=N,1.0nm,0.8s,baz=187,slow=9.0,SNR=7.1						
BVAR	**Borovoye Array**	**24.09**	**340**	P	**P**	**20 05 04.3**	**0.0**
	comp=N,2.0nm,0.9s,baz=143,slow=9.9,SNR=8.0						
SONM	**Songino Array**	**24.40**	**40**	P	**P**	**20 05 08.1**	**+0.8**
	comp=N,1.5nm,0.8s,baz=229,slow=10.0,SNR=14						
SONM				PcP	**PcP**	**20 08 46.1**	**-0.2**
	comp=N,0.3nm,0.7s,baz=243,slow=2.9,SNR=3.5						
KSRS	**Korea Array**	**37.13**	**68**	P	**P**	**20 07 00.5**	**+1.0**
	comp=N,1.0nm,0.6s,baz=278,slow=9.8,SNR=3.9						
FINES	**FINESS Array B**	**47.88**	**327**	P	**P**	**20 08 25.8**	**-0.8**
	comp=N,2.1nm,0.8s,baz=125,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**50.31**	**337**	P	**P**	**20 08 45.6**	**+0.5**
	comp=N,9.3nm,1.0s,baz=103,slow=9.0,SNR=4.9						
NOA	**NORSAR Array B**	**54.98**	**326**	P	**P**	**20 09 17.9**	**-1.9**
	comp=N,1.4nm,0.9s,baz=90,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**70.31**	**129**	P	**P**	**20 11 01.7**	**-1.0**
	comp=N,0.8nm,0.5s,baz=326,slow=6.2,SNR=7.1						
ASAR	**Alice Springs**	**72.67**	**132**	P	**P**	**20 11 16.2**	**-0.7**
	comp=N,0.6nm,1.0s,baz=313,slow=6.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.36**	**277**	P	**P**	**20 11 37.0**	**-1.6**
	comp=N,0.9nm,0.9s,baz=45,slow=4.8,SNR=3.9						
ILAR	**Eielson Array**	**76.94**	**20**	P	**P**	**20 11 41.5**	**+0.5**
	comp=N,0.7nm,0.8s,baz=283,slow=4.7,SNR=8.2						
YKA	**Yellowknife Ar**	**85.83**	**8**	P	**P**	**20 12 27.9**	**-0.2**
	comp=N,0.5nm,0.5s,baz=340,slow=5.2,SNR=8.7						

*ISCJB **01** 20:40:57.6±0.4, 24.°88N±0.°03×122.°22E±0.°02, h120km±3km, mb3.4/5, Error ellipse: s-maj=4.8km s-min=3.1km az=161.0*
*TAP **01** 20:40:58.0, 24.°90N×122.°23E, h117km, ML4.2, C*
*JMA **01** 20:40:58.1±0.2, 24.°98N×122.°24E, h112km, M2.9*
*IDC **01** 20:41:22.9±17.0, 25.°45N×123.°05E, h418km±253km, mb2.7/5, mb1 2.9/6, mb1mx2.7/24, mbtmp2.8/6, Error ellipse: s-maj=187.4km s-min=16.4km az=60.0*
ISC 01 20:40:57.8±0.8**, 24.°89N**±0.°04×**122.°22E**±0.°03**, h118km**±5km**, n63, σ0.°73**/118**, mb3.5**/5**, 24D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**299**	⇓*i*P	**Pn**	**20 41 14.7**	**+0.4**
	baz=289						
TWB1				S	**Sn**	**20 41 26.3**	**-0.5**
	baz=289						
NWF	**Wu-fen Shan**	**0.44**	**294**	*i* P	**Pn**	**20 41 15.6**	**+0.3**
	baz=285						
NWF				*i* S	**Sn**	**20 41 28.5**	**0.0**
	baz=285						
TWC	**Suao**	**0.44**	**231**	⇓*i*P	**Pn**	**20 41 15.4**	**+0.2**
	baz=232						
TWC				*e*S	**Sn**	**20 41 27.0**	**-1.3**
	baz=232						
ILA	**Ilan**	**0.45**	**254**	P	**Pn**	**20 41 15.5**	**+0.3**
	baz=260						
ILA				*e*S	**Sn**	**20 41 28.5**	**+0.2**
	baz=260						
TWE	**Neicheng**	**0.53**	**252**	⇓*i*P	**Pn**	**20 41 16.0**	**+0.3**
	baz=254						
TWE				*e*S	**Sn**	**20 41 29.2**	**0.0**
	baz=254						
TWA	**Mucha**	**0.59**	**279**	⇓*i*P	**Pn**	**20 41 16.4**	**+0.2**
	baz=271						
TWA				S	**Sn**	**20 41 29.5**	**-0.5**
	baz=271						
ENA	**Nanau**	**0.64**	**224**	⇓*i*P	**Pn**	**20 41 17.2**	**+0.7**
	baz=217						
ENA				*e*S	**Sn**	**20 41 31.1**	**+0.5**
	baz=217						
ENTT	**Nioudou**	**0.65**	**248**	⇓*i*P	**Pn**	**20 41 17.1**	**+0.5**
	baz=246						
ENTT				*e*S	**Sn**	**20 41 31.3**	**+0.6**
	baz=246						
TAP1	**Taipei**	**0.65**	**283**	⇓*i*P	**Pn**	**20 41 16.6**	**0.0**
	baz=278						
TAP1				*e*S	**Sn**	**20 41 29.9**	**-0.8**
	baz=278						
TWY	**Chenhua**	**0.68**	**304**	P	**Pn**	**20 41 17.2**	**+0.4**
	baz=298						
TWY				S	**Sn**	**20 41 31.4**	**+0.1**
	baz=298						
EHP	**Heping Village**	**0.72**	**217**	*e*P	**Pn**	**20 41 19.1**	**+1.8**
	baz=211						
TWS1	**Kuangyinshan**	**0.76**	**286**	⇓*i*P	**Pn**	**20 41 17.9**	**+0.4**
	baz=289						
TWS1				*e*S	**Sn**	**20 41 32.4**	**+0.1**
	baz=289						
NSK	**Sanguang**	**0.81**	**255**	⇓*i*P	**Pn**	**20 41 18.5**	**+0.5**
	baz=254						
NSK				S	**Sn**	**20 41 32.9**	**-0.4**
	baz=254						
YOJ	**Yonaguni jima**	**0.83**	**121**	P	**Pn**	**20 41 18.3**	**+0.2**
YOJ				S	**Sn**	**20 41 33.6**	**+0.2**
NNS	**Nan Shan**	**0.89**	**240**	⇓*i*P	**Pn**	**20 41 19.6**	**+0.7**
	baz=245						
NNS				*e*S	**Sn**	**20 41 35.0**	**+0.4**
	baz=245						
NCU	**National Centr**	**0.94**	**275**	P	**Pn**	**20 41 19.8**	**+0.7**
	baz=265						
NCU				*e*S	**Sn**	**20 41 35.8**	**+0.6**
	baz=265						
TWD	**Chiawan**	**0.99**	**215**	⇓*i*P	**Pn**	**20 41 19.7**	**+0.2**
	baz=212						
TWD				*e*S	**Sn**	**20 41 35.8**	**-0.2**
	baz=212						
HWA	**Hwalien**	**1.07**	**212**	P	**Pn**	**20 41 20.9**	**+0.5**
	baz=205						
HWA				*e*S	**Sn**	**20 41 38.3**	**+0.9**
	baz=205						
NSTT	**Nanjuang**	**1.14**	**257**	⇓*i*P	**Pn**	**20 41 21.6**	**+0.5**
	baz=249						
NSTT				S	**Sn**	**20 41 38.5**	**-0.3**
	baz=249						
HSN	**Hsinchu**	**1.14**	**266**	⇓*i*P	**Pn**	**20 41 21.4**	**+0.3**
	baz=267						
HSN				*i* S	**Sn**	**20 41 38.4**	**-0.4**
	baz=267						
TWT	**Tachien**	**1.15**	**237**	⇓*i*P	**Pn**	**20 41 22.7**	**+1.3**
	baz=229						
TWT				S	**Sn**	**20 41 39.9**	**+0.7**
	baz=229						
WHF	**Hehuan Shan**	**1.15**	**230**	⇓*i*P	**Pn**	**20 41 22.3**	**+0.6**
	baz=228						
WHF				S	**Sn**	**20 41 39.5**	**-0.1**
	baz=228						
ESL	**Shilin**	**1.29**	**214**	⇓*i*P	**Pn**	**20 41 22.3**	**-0.5**
	baz=219						
ESL				*e*S	**Sn**	**20 41 41.3**	**-0.4**
	baz=219						
NSY	**Sanyi**	**1.41**	**251**	⇓*i*P	**Pn**	**20 41 25.0**	**+0.9**
	baz=249						
NSY				S	**Sn**	**20 41 44.0**	**-0.1**
	baz=249						
TWQ1	**Liyutan**	**1.43**	**248**	⇓*i*P	**Pn**	**20 41 24.9**	**+0.6**
	baz=247						
TWQ1				S	**Sn**	**20 41 44.3**	**-0.1**
	baz=247						
IRIF	**Iriomote-Funau**	**1.48**	**112**	P	**Pn**	**20 41 24.9**	**+0.1**
IRIF				S	**Sn**	**20 41 45.6**	**+0.2**
SMLT	**Sun Moon Lake**	**1.57**	**231**	⇓*i*P	**Pn**	**20 41 27.2**	**+1.1**
	baz=225						
SMLT				S	**Sn**	**20 41 48.0**	**+0.4**
	baz=225						
TYC	**Yuchr**	**1.59**	**232**	⇓*i*P	**Pn**	**20 41 27.1**	**+1.0**
	baz=237						
TYC				S	**Sn**	**20 41 48.4**	**+0.7**
	baz=237						
TCU	**Taichung**	**1.59**	**243**	⇓*i*P	**Pn**	**20 41 27.1**	**+0.9**
	baz=248						
TCU				*e*S	**Sn**	**20 41 47.7**	**-0.1**
	baz=248						
EHY	**Hungye**	**1.60**	**211**	*e*P	**Pn**	**20 41 26.0**	**-0.4**
	baz=209						
EHY				*e*S	**Sn**	**20 41 47.2**	**-0.9**
	baz=209						
HATJ	**Hateruma jima**	**1.66**	**120**	P	**Pn**	**20 41 27.8**	**+0.8**
HATJ				*e*S	**Sn**	**20 41 50.5**	**+1.2**
WNT	**Mingjian**	**1.73**	**235**	⇓*i*P	**Pn**	**20 41 28.8**	**+1.0**
	baz=242						
WNT				*e*S	**Sn**	**20 41 51.4**	**+0.7**
	baz=242						
JKRS	**Kuro-shima**	**1.75**	**111**	P	**Pn**	**20 41 28.6**	**+0.5**
JKRS				*e*S	**Sn**	**20 41 51.9**	**+0.7**
JIJ	**Ishigaki jima**	**1.82**	**106**	P	**Pn**	**20 41 29.3**	**+0.3**
JIJ				S	**Sn**	**20 41 52.6**	**-0.2**
CHN5	**Tsauling**	**1.91**	**228**	⇓*i*P	**Pn**	**20 41 31.1**	**+0.9**
	baz=225						
CHN5				*e*S	**Sn**	**20 41 55.4**	**+0.5**
	baz=225						
WGK	**Gukeng**	**1.93**	**232**	*e*P	**Pn**	**20 41 31.4**	**+1.1**
	baz=229						
WGK				*e*S	**Sn**	**20 41 56.0**	**+0.8**
	baz=229						
ELDTW	**Lidau**	**2.02**	**213**	*e*P	**Pn**	**20 41 31.5**	**0.0**
	baz=207						
ELDTW				*e*S	**Sn**	**20 41 57.5**	**+0.2**
	baz=207						
WTCT	**Ta-ch'eng**	**2.04**	**240**	*e*P	**Pn**	**20 41 32.0**	**+0.3**
	baz=238						
WTCT				*e*S	**Sn**	**20 41 57.2**	**-0.4**
	baz=238						
CHN4	**Tsaushan**	**2.14**	**225**	*e*P	**Pn**	**20 41 33.9**	**+1.0**
	baz=220						
CHN4				*e*S	**Sn**	**20 42 00.5**	**+0.7**
	baz=220						
CHY	**Chiayi**	**2.15**	**230**	P	**Pn**	**20 41 33.8**	**+0.7**
	baz=228						
CHY				*e*S	**Sn**	**20 42 00.3**	**+0.3**
	baz=228						
STYT	**Tauyuan**	**2.18**	**218**	P	**Pn**	**20 41 34.7**	**+1.2**
	baz=214						
STYT				*e*S	**Sn**	**20 42 01.8**	**+0.9**
	baz=214						
WTP	**Ta-pu**	**2.20**	**222**	P	**Pn**	**20 41 34.4**	**+0.6**
	baz=230						
WTP				*e*S	**Sn**	**20 42 02.1**	**+0.8**
	baz=230						
WSF	**Szhu**	**2.21**	**236**	*e*P	**Pn**	**20 41 34.5**	**+0.6**
	baz=225						
WSF				*e*S	**Sn**	**20 42 01.8**	**+0.3**
	baz=225						
JTJ	**Tarama**	**2.27**	**96**	P	**Pn**	**20 41 35.5**	**+1.0**
JTJ				*e*S	**Sn**	**20 42 02.8**	**+0.1**
CHN1	**Nanshi**	**2.30**	**223**	⇓P	**Pn**	**20 41 35.5**	**+0.6**
	baz=227						
CHN1				S	**Sn**	**20 42 03.6**	**+0.1**
	baz=227						
TWG	**Pinlang**	**2.31**	**207**	*e*P	**Pn**	**20 41 34.4**	**-0.8**
	baz=205						
TWG				*e*S	**Sn**	**20 42 02.2**	**-1.7**
	baz=205						
SGST	**Jiashian**	**2.34**	**220**	P	**Pn**	**20 41 36.5**	**+0.9**
	baz=225						
SGST				S	**Sn**	**20 42 04.3**	**-0.2**
	baz=225						
CHN8	**Yiju**	**2.40**	**231**	*e*P	**Pn**	**20 41 36.3**	**+0.1**
	baz=226						
CHN8				*e*S	**Sn**	**20 42 04.8**	**-0.9**
	baz=226						
CHN3	**Shinhua**	**2.48**	**224**	*e*P	**Pn**	**20 41 39.2**	**+1.9**
	baz=219						
CHN3				*e*S	**Sn**	**20 42 08.0**	**+0.4**
	baz=219						
SCLT	**Jiali**	**2.52**	**228**	*e*P	**Pn**	**20 41 38.4**	**+0.6**
	baz=223						
SCLT				*e*S	**Sn**	**20 42 09.0**	**+0.4**
	baz=223						
ECL	**Taimali**	**2.56**	**207**	*e*P	**Pn**	**20 41 37.4**	**-1.0**
	baz=205						
ECL				*e*S	**Sn**	**20 42 07.9**	**-1.6**
	baz=205						
SSD	**Sandimen**	**2.58**	**215**	*e*P	**Pn**	**20 41 39.6**	**+1.0**
	baz=209						
SSD				*e*S	**Sn**	**20 42 10.2**	**+0.2**
	baz=209						
TWM1	**Shoushan**	**2.64**	**219**	*e*P	**Pn**	**20 41 40.5**	**+1.2**
	baz=223						
TWM1				*e*S	**Sn**	**20 42 11.4**	**+0.1**
	baz=223						
PNG	**Penghu**	**2.77**	**242**	*e*P	**Pn**	**20 41 40.4**	**-0.7**
	baz=231						
PNG				*e*S	**Sn**	**20 42 12.1**	**-2.1**
	baz=231						
EAST	**Anshuo**	**2.80**	**207**	*e*P	**Pn**	**20 41 41.3**	**-0.1**
	baz=204						
EAST				*e*S	**Sn**	**20 42 15.2**	**+0.2**
	baz=204						
SCZT	**Fangliau**	**2.91**	**211**	*e*P	**Pn**	**20 41 43.8**	**+1.0**
	baz=214						
SCZT				*e*S	**Sn**	**20 42 17.4**	**-0.2**
	baz=214						
KNM	**Kinmen**	**3.48**	**263**	*e*P	**Pn**	**20 41 51.6**	**+1.2**
	baz=264						
KNM				*e*S	**Sn**	**20 42 32.4**	**+1.4**
	baz=264						
KSRS	**Korea Array**	**13.44**	**20**	P	**P**	**20 44 08.4**	**-0.3**
	0.4nm,0.3s,baz=202,slow=12,SNR=14						
SONM	**Songino Array**	**26.11**	**335**	P	**P**	**20 46 20.6**	**-0.1**
	0.2nm,0.5s,baz=155,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**20 48 08.2**	**-0.3**
	0.1nm,0.3s,baz=98,slow=9.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.18**	**326**	P	P	20 48 19.3	-2.9
	0.2nm,0.2s,baz=103,slow=6.5,SNR=2.5						
WRA	**Warramunga Arr**	**46.10**	**164**	P	**P**	**20 49 09.5**	**-0.7**
	1.5nm,0.8s,baz=348,slow=8.7,SNR=5.9						
ASAR	**Alice Springs**	**49.58**	**166**	P	**P**	**20 49 37.2**	**+0.2**
	0.8nm,0.8s,baz=342,slow=7.3,SNR=6.0						

*ISCJB **01** 20:45:34.1±0.5, 39.°23N±0.°01×26.°03E±0.°02, h9km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=40.4*
*CSEM **01** 20:45:34.9±0.1, 39.°22N×26.°04E, h10km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.7km az=10.0*
*DDA **01** 20:45:34.4, 39.°25N×26.°09E, h25km, MD3.5*
*THE **01** 20:45:34.9, 39.°22N×26.°05E, h7km, ML3.4/10, Error ellipse: s-maj=0.9km s-min=0.3km az=97.0*
*ISK **01** 20:45:34.3, 39.°24N×26.°06E, h14km, ML3.6*
*ATH **01** 20:45:34.2, 39.°26N×26.°12E, h21km, MD3.5/11*
*SOF **01** 20:45:38.1, 39.°51N×26.°05E, h18km, MD3.2*
ISC 01 20:45:35.0±0.9**, 39.°24N**±0.°02×**26.°04E**±0.°02**, h8km**±8km**, n235, σ0.°74**/277**, 6C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.18**	**87**	P	**Pg**	**20 45 38.5**	**-0.1**
PRK				S	**Sg**	**20 45 41.3**	**+0.1**
PRK	**Paraskevi**	**0.18**	**87**	*e*PB	**Pg**	**20 45 38.6**	**-0.1**
PRK				*e*SB	**Sg**	**20 45 41.5**	**+0.3**
PRK	**Paraskevi**	**0.18**	**87**	*e*Pb	**Pg**	**20 45 38.6**	**-0.1**
PRK				S	**Sg**	**20 45 41.3**	**+0.1**
AYVA	**Ayvalik**	**0.51**	**82**	*i* P	**Pg**	**20 45 44.4**	**-0.4**
AYVA				*i* S	**Sg**	**20 45 51.4**	**-0.1**
AYVA	**Ayvalik**	**0.51**	**82**	*i* P	**Pg**	**20 45 44.4**	**-0.4**
AYVA				*i* S	**Sg**	**20 45 51.4**	**-0.1**
BOZC	**Bozcaada**	**0.60**	**1**	*i* P	**Pg**	**20 45 46.4**	**-0.3**
BOZC				*i* S	**Sg**	**20 45 55.2**	**+0.6**
EZN	**Ezine**	**0.63**	**20**	PG	**Pg**	**20 45 46.6**	**-0.6**
EZN				SG	**Sb**	**20 45 56.8**	**-0.4**
EZN	**Ezine**	**0.63**	**20**	*i* Pg	**Pg**	**20 45 46.6**	**-0.6**
EZN				*i* Sg	**Sb**	**20 45 56.8**	**-0.4**
CHOS	**Chios island**	**0.85**	**179**	P	**Pg**	**20 45 50.6**	**-0.7**
CHOS				S	**Sg**	**20 46 02.8**	**+0.5**
CHOS	**Chios island**	**0.85**	**179**	*e*PN	**Pg**	**20 45 50.9**	**-0.4**
CHOS				*e*SN	**Sb**	**20 46 03.6**	**0.0**
CHOS	**Chios island**	**0.85**	**179**	P	**Pg**	**20 45 50.6**	**-0.7**
CHOS	**Chios island**	**0.85**	**179**	*e*Pn	**Pg**	**20 45 50.9**	**-0.4**
CHOS				S	**Sg**	**20 46 02.8**	**+0.5**
CHOS				*e*Sn	**Sb**	**20 46 03.6**	**0.0**
LIA	**Limnos Island**	**0.94**	**315**	P	**Pg**	**20 45 52.9**	**-0.1**
LIA				S	**Sb**	**20 46 06.5**	**+0.4**
LIA	**Limnos Island**	**0.94**	**315**	*e*PN	**Pg**	**20 45 53.0**	**-0.1**
LIA				*e*SN	**Sb**	**20 46 05.9**	**-0.2**
LIA	**Limnos Island**	**0.94**	**315**	P	**Pg**	**20 45 52.9**	**-0.1**
LIA				*e*Sn	**Sb**	**20 46 05.9**	**-0.2**
LIA				S	**Sb**	**20 46 06.5**	**+0.4**
URLA	**Izmir**	**0.98**	**153**	*i* P	**Pg**	**20 45 53.4**	**-0.3**
URLA				*i* S	**Sg**	**20 46 06.8**	**+0.4**
URLA	**Izmir**	**0.98**	**153**	*i* P	**Pg**	**20 45 53.4**	**-0.3**
URLA				*i* S	**Sg**	**20 46 06.8**	**+0.4**
BLCB	**Balcova**	**1.15**	**137**	*e*PN	**Pg**	**20 45 56.9**	**-0.2**
BLCB	**Balcova**	**1.15**	**137**	*e*Pn	**Pg**	**20 45 56.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.21**	**16**	*e*PN	**Pb**	**20 45 57.3**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.21**	**16**	*e*Pn	**Pb**	**20 45 57.3**	**-0.8**
LPK	**Lapseki**	**1.26**	**26**	*e*PN	**Pn**	**20 45 58.2**	**-0.8**
LPK	**Lapseki**	**1.26**	**26**	*e*Pn	**Pn**	**20 45 58.2**	**-0.8**
BALY	**Balya**	**1.32**	**67**	*i* P	**Pn**	**20 45 58.8**	**-1.0**
BALY				*i* S	**Sb**	**20 46 16.5**	**-0.7**
BALY	**Balya**	**1.32**	**67**	*i* P	**Pn**	**20 45 58.8**	**-1.0**
BALY				*i* S	**Sb**	**20 46 16.5**	**-0.7**
AKHS	**Akhisar**	**1.43**	**104**	*i* P	**Pn**	**20 46 00.3**	**-0.9**
AKHS				*i* S	**Sg**	**20 46 22.2**	**+1.4**
AKHS	**Akhisar**	**1.43**	**104**	*i* P	**Pn**	**20 46 00.3**	**-0.9**
AKHS				*i* S	**Sg**	**20 46 22.2**	**+1.4**
AKS	**Akhisar**	**1.43**	**104**	*e*PN	**Pn**	**20 46 01.1**	**-0.1**
AKS	**Akhisar**	**1.43**	**104**	*e*Pn	**Pn**	**20 46 01.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.48**	**14**	*e*PN	**Pn**	**20 46 01.3**	**-0.6**
ERIK	**Erikli-Kesan**	**1.48**	**14**	*e*Pn	**Pn**	**20 46 01.3**	**-0.6**
BALB	**Balikesir**	**1.48**	**74**	*e*PN	**Pn**	**20 46 01.3**	**-0.6**
BALB	**Balikesir**	**1.48**	**74**	*e*Pn	**Pn**	**20 46 01.3**	**-0.6**
ENEZ	**Enez**	**1.50**	**3**	*e*PN	**Pn**	**20 46 01.7**	**-0.5**
ENEZ	**Enez**	**1.50**	**3**	*e*Pn	**Pn**	**20 46 01.7**	**-0.5**
GONE	**Gonen-Balikesi**	**1.51**	**57**	*e*PN	**Pn**	**20 46 01.6**	**-0.7**
GONE	**Gonen-Balikesi**	**1.51**	**57**	*e*Pn	**Pn**	**20 46 01.6**	**-0.7**
KRBG	**Karabiga-Canak**	**1.51**	**40**	*e*PN	**Pn**	**20 46 01.5**	**-0.8**
KRBG	**Karabiga-Canak**	**1.51**	**40**	*e*Pn	**Pn**	**20 46 01.5**	**-0.8**
SMG	**Samos**	**1.65**	**157**	*e*PN	**Pn**	**20 46 04.3**	**0.0**
SMG	**Samos**	**1.65**	**157**	*e*Pn	**Pn**	**20 46 04.3**	**0.0**
ALN	**Alexandroupoli**	**1.66**	**0**	P	**Pn**	**20 46 03.6**	**-0.8**
ALN				S	**Sn**	**20 46 25.8**	**-0.1**
ALN	**Alexandroupoli**	**1.66**	**0**	*e*PN	**Pn**	**20 46 03.7**	**-0.7**
ALN				*e*SN	**Sn**	**20 46 24.9**	**-1.0**
ALN	**Alexandroupoli**	**1.66**	**0**	*e*Pn	**Pn**	**20 46 03.7**	**-0.7**
ALN				*e*Sn	**Sn**	**20 46 24.9**	**-1.0**
ALN				S	**Sn**	**20 46 25.8**	**-0.1**
AOS	**Alonnisos**	**1.68**	**268**	P	**Pn**	**20 46 04.1**	**-0.6**
AOS				S	**Sb**	**20 46 26.8**	**-0.7**
AOS	**Alonnisos**	**1.68**	**268**	P	**Pn**	**20 46 04.1**	**-0.6**
AOS				S	**Sb**	**20 46 26.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	*e*PN	**Pn**	**20 46 04.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	*e*Pn	**Pn**	**20 46 04.4**	**-0.5**
SART	**Tekirdag**	**1.69**	**31**	*i* P	**Pn**	**20 46 04.2**	**-0.8**
SART				*i* S	**Sg**	**20 46 29.0**	**-0.5**
SART	**Tekirdag**	**1.69**	**31**	*i* P	**Pn**	**20 46 04.2**	**-0.8**
SART				*i* S	**Sg**	**20 46 29.0**	**-0.5**
MRMA	**Marmari**	**1.75**	**228**	P	**Pn**	**20 46 04.5**	**-1.2**
MRMA	**Marmari**	**1.75**	**228**	P	**Pn**	**20 46 04.5**	**-1.2**
GCAM	**G?zelcaml?**	**1.80**	**148**	*i* P	**Pb**	**20 46 07.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.80**	**148**	*i* P	**Pb**	**20 46 07.6**	**-0.5**
MFT	**Murefte**	**1.82**	**31**	*e*PN	**Pn**	**20 46 06.4**	**-0.3**
MFT	**Murefte**	**1.82**	**31**	*e*Pn	**Pn**	**20 46 06.4**	**-0.3**
BNT	**Bandirma**	**1.83**	**52**	*e*PN	**Pn**	**20 46 05.7**	**-1.1**
BNT	**Bandirma**	**1.83**	**52**	*e*Pn	**Pn**	**20 46 05.7**	**-1.1**
ERET	**Eretria**	**1.92**	**246**	P	**Pn**	**20 46 06.9**	**-1.1**
ERET	**Eretria**	**1.92**	**246**	P	**Pn**	**20 46 06.9**	**-1.1**
DURS	**Dursunbey**	**1.92**	**78**	*i* P	**Pn**	**20 46 07.3**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DURS	Dursunbey	1.92	78	*i* P	Pn	20 46 07.3	-0.8
OUR	Ouranopolis	1.93	305	P	Pn	20 46 07.7	-0.4
OUR	Ouranopolis	1.93	305	P	Pn	20 46 07.7	-0.4
RDO	Rodhopi	1.95	349	P	Pn	20 46 07.6	-0.8
RDO				S	Sn	20 46 33.1	+0.1
RDO	Rodhopi	1.95	349	*e*PN	Pn	20 46 08.4	0.0
RDO	Rodhopi	1.95	349	P	Pn	20 46 07.6	-0.8
RDO	Rodhopi	1.95	349	*e*Pn	Pn	20 46 08.4	0.0
RDO				S	Sn	20 46 33.1	+0.1
PAIG	Paliouri	1.95	291	P	Pn	20 46 07.5	-0.9
PAIG				S	Sn	20 46 33.7	+0.6
PAIG	Paliouri	1.95	291	P	Pn	20 46 07.5	-0.9
PAIG				S	Sn	20 46 33.7	+0.6
SKIA	Skiathos	2.00	269	P	Pn	20 46 08.3	-0.8
SKIA	Skiathos	2.00	269	P	Pn	20 46 08.3	-0.8
PTL	Penteli	2.08	236	P	Pn	20 46 09.0	-1.2
PTL	Penteli	2.08	236	P	Pn	20 46 09.0	-1.2
DEMI	Demirci	2.09	94	*i* P	Pn	20 46 09.8	-0.6
DEMI	Demirci	2.09	94	*i* P	Pn	20 46 09.8	-0.6
TKR	Tekirdag	2.09	33	*e*PN	Pn	20 46 10.0	-0.4
TKR	Tekirdag	2.09	33	*e*Pn	Pn	20 46 10.0	-0.4
KAVA	Kavala	2.11	327	P	Pn	20 46 10.1	-0.5
KAVA				S	Sn	20 46 37.0	-0.1
KAVA	Kavala	2.11	327	P	Pn	20 46 10.1	-0.5
KAVA				S	Sn	20 46 37.0	-0.1
AYDN	Tasoluk	2.13	137	*i* P	Pn	20 46 10.2	-0.8
AYDN	Tasoluk	2.13	137	*i* P	Pn	20 46 10.2	-0.8
KULA	Kula-Manisa	2.17	109	*e*PN	Pn	20 46 11.1	-0.4
KULA	Kula-Manisa	2.17	109	*e*Pn	Pn	20 46 11.1	-0.4
NEO	Neokhori	2.19	273	P	Pn	20 46 10.9	-0.8
NEO				S	Sn	20 46 38.9	-0.1
NEO	Neokhori	2.19	273	P	Pn	20 46 10.9	-0.8
NEO				S	Sn	20 46 38.9	-0.1
APE	Apeiranthos	2.20	191	*e*PN	Pn	20 46 11.7	-0.2
APE	Apeiranthos	2.20	191	P	Pn	20 46 10.9	-1.0
APE				S	Sn	20 46 38.7	-0.6
APE	Apeiranthos	2.20	191	*e*PB	Pn	20 46 11.9	0.0
APE	Apeiranthos	2.20	191	⇓*i*P	Pn	20 46 11.7	-0.2
APE	Apeiranthos	2.20	191	S		20 46 38.7	
APE	Apeiranthos	2.20	191	P	Pn	20 46 10.9	-1.0
APE	Apeiranthos	2.20	191	*e*Pn	Pn	20 46 11.7	-0.2
APE				S	Sn	20 46 38.7	-0.6
XOR	Xorichti	2.21	274	P	Pn	20 46 11.3	-0.8
XOR				S	Sn	20 46 39.7	0.0
XOR	Xorichti	2.21	274	P	Pn	20 46 11.3	-0.8
XOR				S	Sn	20 46 39.7	0.0
SMIA	Simia	2.23	262	P	Pn	20 46 11.6	-0.7
SMIA	Simia	2.23	262	P	Pn	20 46 11.6	-0.7
VLY	Voula,Athens	2.24	233	P	Pn	20 46 11.3	-1.1
VLY	Voula,Athens	2.24	233	P	Pn	20 46 11.3	-1.1
CRLT	Corlu	2.29	34	*e*PN	Pn	20 46 12.7	-0.5
CRLT	Corlu	2.29	34	*e*Pn	Pn	20 46 12.7	-0.5
PLG	Polygyros	2.30	300	P	Pn	20 46 12.6	-0.7
PLG	Polygyros	2.30	300	*e*PN	Pn	20 46 13.2	-0.1
PLG	Polygyros	2.30	300	P	Pn	20 46 12.6	-0.7
PLG	Polygyros	2.30	300	*e*Pn	Pn	20 46 13.2	-0.1
BODT	Bodrum	2.39	155	*e*PN	Pn	20 46 14.0	-0.5
BODT	Bodrum	2.39	155	*e*Pn	Pn	20 46 14.0	-0.5
LKR	Lokris	2.44	257	*e*PN	Pn	20 46 15.4	+0.2
LKR	Lokris	2.44	257	*e*Pn	Pn	20 46 15.4	+0.2
KDZ	Kurdzhali	2.46	349	*i* P	Pn	20 46 14.9	-0.5
KDZ	Kurdzhali	2.46	349	*i* P	Pn	20 46 14.9	-0.5
MDNY	Mudanya-Bursa	2.46	62	*e*PN	Pn	20 46 15.3	-0.2
MDNY	Mudanya-Bursa	2.46	62	*e*Pn	Pn	20 46 15.3	-0.2
ARMT	Armutlu	2.54	58	*e*PN	Pn	20 46 15.8	-0.7
ARMT	Armutlu	2.54	58	*e*Pn	Pn	20 46 15.9	-0.7
SLVT	Silivri	2.59	39	*e*PN	Pn	20 46 16.9	-0.3
SLVT	Silivri	2.59	39	*e*Pn	Pn	20 46 16.9	-0.3
SOH	Sokhos	2.60	308	P	Pn	20 46 16.8	-0.6
SOH	Sokhos	2.60	308	P	Pn	20 46 16.8	-0.6
HORT	Hortiatis	2.64	302	P	Pn	20 46 17.8	-0.2
HORT	Hortiatis	2.64	302	P	Pn	20 46 17.8	-0.2
RZN	Rozhen	2.65	338	*i* P	Pn	20 46 18.5	+0.3
RZN	Rozhen	2.65	338	*i* P	Pn	20 46 18.5	+0.3
SRS	Serrai	2.66	316	P	Pn	20 46 17.6	-0.5
SRS	Serrai	2.66	316	P	Pn	20 46 17.6	-0.5
EDRB	Edirne	2.66	11	*e*PN	Pn	20 46 17.7	-0.5
EDRB	Edirne	2.66	11	*e*Pn	Pn	20 46 17.7	-0.5
NVR	Nevrokopi	2.69	322	*e*PB	Pn	20 46 19.5	+0.9
NVR	Nevrokopi	2.69	322	*e*Pb	Pn	20 46 19.5	+0.9
GEMT	Gemlik	2.70	63	*e*PN	Pn	20 46 18.2	-0.6
GEMT	Gemlik	2.70	63	*e*Pn	Pn	20 46 18.2	-0.6
YER	Yerkesik	2.74	139	*e*PN	Pn	20 46 19.0	-0.3
YER	Yerkesik	2.74	139	*e*Pn	Pn	20 46 19.0	-0.3
CTKS	Kestanelik-??a	2.75	43	*e*PN	Pn	20 46 18.8	-0.6
CTKS	Kestanelik-??a	2.75	43	*e*Pn	Pn	20 46 18.8	-0.6
DENT	Denizli	2.77	121	*e*PN	Pn	20 46 19.4	-0.3
DENT	Denizli	2.77	121	*e*Pn	Pn	20 46 19.5	-0.3
DID	Didima	2.80	233	P	Pn	20 46 18.9	-1.2
DID	Didima	2.80	233	P	Pn	20 46 18.9	-1.2
DNZL	Cakiroluk	2.82	122	*i* P	Pn	20 46 21.3	+0.8
DNZL	Cakiroluk	2.82	122	*i* P	Pn	20 46 21.3	+0.8
CTYL	Yal??k??y-??at	2.82	37	*e*PN	Pn	20 46 19.8	-0.5
CTYL	Yal??k??y-??at	2.82	37	*e*Pn	Pn	20 46 19.8	-0.5
THR2	Thira island,	2.83	190	P	Pn	20 46 19.4	-1.0
THR2	Thira island,	2.83	190	P	Pn	20 46 19.4	-1.0
KHAL	Karahalli	2.83	107	*i* P	Pn	20 46 20.8	+0.2
KHAL	Karahalli	2.83	107	*i* P	Pn	20 46 20.8	+0.2
DIM	Dimitrovgrad	2.84	352	*i* P	Pn	20 46 20.4	-0.2
DIM	Dimitrovgrad	2.84	352	*i* P	Pn	20 46 20.4	-0.2
BGKT	Bogazkoy	2.85	46	*e*PN	Pn	20 46 20.9	+0.1
BGKT	Bogazkoy	2.85	46	*e*Pn	Pn	20 46 20.9	+0.1
BUY	Buyukada	2.86	55	*i* P	Pn	20 46 20.0	-0.9
BUY	Buyukada	2.86	55	*i* P	Pn	20 46 20.0	-0.9
DSF	Desfina	2.87	254	P	Pn	20 46 20.1	-1.0
DSF	Desfina	2.87	254	P	Pn	20 46 20.1	-1.0
YLV	Yalova	2.89	62	*e*PN	Pn	20 46 21.3	-0.1
YLV	Yalova	2.89	62	*e*Pn	Pn	20 46 21.3	-0.1
AGG	Agios Georgios	2.89	267	P	Pn	20 46 21.0	-0.4
AGG	Agios Georgios	2.89	267	P	Pn	20 46 21.0	-0.4
MMB	Musomiste	2.94	324	*i* P	Pn	20 46 21.7	-0.4
MMB	Musomiste	2.94	324	*i* P	Pn	20 46 21.7	-0.4
ISK	Istanbul-Kandi	2.95	51	*e*PN	Pn	20 46 21.7	-0.4
ISK	Istanbul-Kandi	2.95	51	*e*Pn	Pn	20 46 21.7	-0.4
PLD	Plovdiv	3.04	341	*i* P	Pn	20 46 24.2	+0.8
PLD	Plovdiv	3.04	341	*i* P	Pn	20 46 24.2	+0.8
KLYT	Kilyos	3.06	48	*e*PN	Pn	20 46 23.0	-0.6
KLYT	Kilyos	3.06	48	*e*Pn	Pn	20 46 23.0	-0.6
CAVI	Cavuskoy	3.09	71	*e*PN	Pn	20 46 24.0	0.0
CAVI	Cavuskoy	3.09	71	*e*Pn	Pn	20 46 24.0	0.0
ADVT	Abdulvahap	3.09	66	*e*PN	Pn	20 46 24.8	+0.8
ADVT	Abdulvahap	3.09	66	*e*Pn	Pn	20 46 24.8	+0.8
THL	Klokotos Trika	3.14	277	*e*PN	Pn	20 46 25.8	+1.1
THL	Klokotos Trika	3.14	277	*e*Pn	Pn	20 46 25.8	+1.1
ALT	Altintas	3.17	92	*e*PN	Pn	20 46 25.1	-0.2
ALT	Altintas	3.17	92	*e*Pn	Pn	20 46 25.1	-0.2
GUR	Goura	3.18	247	P	Pn	20 46 24.7	-0.7
GUR	Goura	3.18	247	P	Pn	20 46 24.7	-0.7
HRT	Hereke	3.20	59	*e*PN	Pn	20 46 25.4	-0.3
HRT	Hereke	3.20	59	*e*Pn	Pn	20 46 25.4	-0.3
SILT	Sile	3.36	54	*e*PN	Pn	20 46 27.5	-0.3
SILT	Sile	3.36	54	*e*Pn	Pn	20 46 27.5	-0.3
VAY	Valandovo	3.38	309	*i* Pn	Pn	20 46 28.7	+0.8
VAY				*i* Sn	Sg	20 47 23.6	+0.3
VAY	Valandovo	3.38	309	*i* Pn	Pn	20 46 29.2	+1.2
GLHS	Glhisar (BURDU	3.42	126	*e*PN	Pn	20 46 29.1	+0.3
GLHS	Glhisar (BURDU	3.42	126	*e*Pn	Pn	20 46 29.1	+0.3
KKB	Krupnik	3.46	320	*i* P	Pn	20 46 30.4	+1.2
KKB	Krupnik	3.46	320	*i* P	Pn	20 46 30.4	+1.2
BORA	Eskisehir	3.47	78	*i* P	Pn	20 46 29.3	-0.1
BORA	Eskisehir	3.47	78	*i* P	Pn	20 46 29.3	-0.1
VLI	Veliai	3.51	225	*e*PN	Pn	20 46 29.9	0.0
VLI	Veliai	3.51	225	*e*Pn	Pn	20 46 29.9	0.0
SHUT	Suhut-Afyon	3.58	100	*e*PN	Pn	20 46 30.6	-0.3
SHUT	Suhut-Afyon	3.58	100	*e*Pn	Pn	20 46 30.7	-0.3
GULT	Gulveren	3.65	69	*e*PN	Pn	20 46 31.7	-0.1
GULT	Gulveren	3.65	69	*e*Pn	Pn	20 46 31.7	-0.1
ESKT	Eskisehir	3.74	84	*e*PN	Pn	20 46 32.8	-0.3
ESKT	Eskisehir	3.74	84	*e*Pn	Pn	20 46 32.8	-0.3
ISP	Isparta	3.79	110	*e*PN	Pn	20 46 34.2	+0.4
ISP	Isparta	3.79	110	*e*Pn	Pn	20 46 34.2	+0.4
KYTH	Kithira	3.79	220	P	Pn	20 46 32.7	-1.1
KYTH	Kithira	3.79	220	P	Pn	20 46 32.7	-1.1
VTS	Vitosha	3.98	328	⇑*i*P	Pn	20 46 37.0	+0.6
VTS	Vitosha	3.98	328	*i* P	Pn	20 46 37.1	+0.6
VTS	Vitosha	3.98	328	*i* P	Pn	20 46 37.1	+0.6
VTS				S	Sn	20 47 22.0	-1.4
BCK	Bucak	3.99	115	*e*PN	Pn	20 46 37.0	+0.5
BCK	Bucak	3.99	115	*e*Pn	Pn	20 46 37.0	+0.5
MDUB	Mudurnu	4.16	71	*e*PN	Pn	20 46 39.4	+0.6
MDUB	Mudurnu	4.16	71	*e*Pn	Pn	20 46 39.4	+0.6
KRUS	Krusevo	4.24	302	*i* Pn	Pn	20 46 40.6	+0.6
KRUS	Krusevo	4.24	302	*i* Pn	Pn	20 46 40.6	+0.6
SVRH	Sivrihisar-ESK	4.25	85	*e*PN	Pn	20 46 40.2	0.0
SVRH	Sivrihisar-ESK	4.25	85	*e*Pn	Pn	20 46 40.2	0.0
MPEP	Malo Peshtene	4.47	338	*i* P	Pn	20 46 44.7	+1.7
BARS	Barje	4.80	320	*i* Pn	Pn	20 46 48.3	+0.8
KONT	Konya--Tatoy	5.12	103	*e*PN	Pn	20 46 52.9	+0.9
KONT	Konya--Tatoy	5.12	103	*e*Pn	Pn	20 46 52.9	+0.9
SELS	Selova	5.44	319	*e*Pn	Pn	20 46 55.1	-1.3
SAFT	Safranbolu	5.46	66	*e*PN	Pn	20 46 57.3	+0.6
SAFT	Safranbolu	5.46	66	*e*Pn	Pn	20 46 57.3	+0.6
HDMB	Hadim	5.57	112	*e*PN	Pn	20 46 59.5	+1.2
HDMB	Hadim	5.57	112	*e*Pn	Pn	20 46 59.5	+1.2
GRUS	Gruza	6.13	321	⇑*i*Pn	Pn	20 47 06.6	+0.8
VOIR		6.24	354	⇑*i*P	Pn	20 47 07.5	+0.1
VOIR		6.24	354	⇑*i*P	Pn	20 47 07.5	+0.1
MLR	Muntele Rosu	6.25	359	⇓*i*P	Pn	20 47 08.9	+1.3
MLR	Muntele Rosu	6.25	359	⇓*i*P	Pn	20 47 08.9	+1.3
PLOR	Plostina	6.63	4	⇓*i*P	Pn	20 47 14.6	+1.9
PLOR	Plostina	6.63	4	⇓*i*P	Pn	20 47 14.6	+1.9
VRI	Vrincioaia	6.65	4	⇑*i*P	Pn	20 47 15.8	+2.9
CORM	Corum	6.69	79	*e*PN	Pn	20 47 15.3	+1.6
CORM	Corum	6.69	79	*e*Pn	Pn	20 47 15.3	+1.6
BZS	Buzias	7.17	334	⇑*i*P	Pn	20 47 22.7	+2.6
DRGR		7.94	343	⇓*i*P	Pn	20 47 39.6	+8.9
BURAR	Bucovina Array	8.40	356	⇓*i*P	Pn	20 47 39.1	+2.1
BURAR	Bucovina Array	8.40	356	⇓*i*P	Pn	20 47 39.1	+2.1

JMA ***01*** *20:47:54.9±0.3, 32°.72N×142°.43E, h1km, M3.8*
IDC ***01*** *20:47:57.6±4.6, 31°.97N×141°.16E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=169.8km s-min=23.4km az=70.0*
ISC 01 20:47:54.4±2.7**, 32°.5N**±0°.1×**142°.2E**±0°.1**, h1**km±16km**, n17, σ1s.16**/22**, mb3.6**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.15	289	P	Pb	20 48 33.9	-0.2
JHJ2				*e*S	Sg	20 49 02.1	-1.4
BSO1	Boso 1	2.44	335	P	Pn	20 48 34.2	-0.7
BSO1				*e*S	Sn	20 49 04.7	-0.4
BSO2	Boso 2	2.61	332	*e*S	Sn	20 49 08.0	-1.7
BSO3	Boso 3	2.76	329	P	Pn	20 48 39.7	+0.2
BSO3				*e*S	Sn	20 49 12.5	-0.8
BSO4	Boso 4	2.99	328	*e*S	Sn	20 49 20.6	+1.3
JOD2	Odawara 2	3.84	318	P	Pn	20 48 55.6	+0.9
JOD2				*e*S	Sn	20 49 38.0	-2.5
JHU	Hanno	4.19	325	P	Pn	20 49 00.1	+0.6
JHU				*e*S	Sn	20 49 48.0	-1.0
JYN	Shimob	4.33	316	P	Pn	20 49 03.5	+2.1
JYN				*e*S	Sn	20 49 53.7	+1.3
JHO	Hitachi	4.38	342	P	Pn	20 49 00.6	-1.4
JRY	Ryogami san	4.51	323	P	Pn	20 49 04.8	+0.9
JRY				*e*S	Sn	20 49 57.0	0.0
JAG	Ashikaga	4.59	331	P	Pn	20 49 05.0	+0.1
JNY	Yasuok	4.66	310	P	Pn	20 49 08.7	+2.7
MJAR	Matsushiro Arr	5.27	322	Pn	Pn	20 49 15.4	+1.1
	1.0nm,0.3s,baz=154,slow=11,SNR=16						
MJAR				Sn	Sn	20 50 15.2	-0.5
	0.6nm,0.3s,baz=118,slow=12,SNR=4.6						
SONM	Songino Array	31.09	310	P	P	20 54 15.2	+0.9
	0.5nm,0.8s,baz=123,slow=11,SNR=3.4						
MKAR	Makanchi Array	47.25	306	P	P	20 56 29.1	0.0
	0.5nm,1.0s,baz=99,slow=7.4,SNR=2.5						
KURK	Kurchatov	49.38	311	P	P	20 56 45.7	+0.2
	0.7nm,0.6s,baz=86,slow=7.4,SNR=9.4						
WRA	Warramunga Arr	52.64	189	P	P	20 57 08.8	-1.4
	0.3nm,0.4s,baz=5.6,slow=7.7,SNR=9.7						

MOS ***01*** *20:50:24.2±1.8, 47°.92N×153°.99E, h33km, mb4.2/9, Error ellipse: s-maj=17.9km s-min=14.3km az=145.4*
NEIC ***01*** *20:50:31.9±1.2, 47°.87N×153°.72E, h86km±11km, mb4.8/8, Error ellipse: s-maj=15.6km s-min=8.4km az=142.0*
IDC ***01*** *20:50:32.8±2.5, 47°.85N×153°.55E, h93km±23km, mb3.5/13, mb1 3.6/17, mb1mx3.5/29, mbtmp3.5/17, Error ellipse: s-maj=18.2km s-min=14.7km az=142.0*
ISCJB ***01*** *20:50:33.8±0.6, 47°.9N±0°.1×153°.6E±0°.1, h117km, mb4.0/21, Error ellipse: s-maj=16.5km s-min=9.8km az=148.5*
ISC 01 20:50:35.6±0.7**, 48°.0N**±0°.1×**153°.5E**±0°.1**, h117**km**, n79, σ1s.50**/80**, mb3.9**/21**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.77	26	P	Pn	20 51 55.9	-2.8
	0.3nm,0.3s,baz=173,slow=11,SNR=14						
PETK	Petropavlovsk-	5.77	26	PN	Pn	20 51 55.9	-2.8
PETK	Petropavlovsk-	5.77	26	P	Pn	20 51 55.9	-2.8
YUK	Yuzh-Kuril'sk	6.63	236	⇓*i*PN	Pn	20 52 15.4	+5.0
YUK				pmax	pmax		
	comp=E,91nm,1.1s						
YUK				pmax	pmax		
	comp=Z,145nm,1.1s						
YUK				pmax	pmax		
	comp=N,61nm,0.6s						
YUK				pmax	pmax		
	comp=Z,51nm,2.2s						
YSS	Yuzh-Sakhalins	7.36	266	⇑*e*PN	Pn	20 52 19.9	-0.3
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
ASAJ	Asahikawa	8.52	247	P	Pn	20 52 33.0	-2.9
	comp=Z,1.4nm,0.3s,baz=112,slow=15,SNR=10						
ASAJ	Asahikawa	8.52	247	PN	Pn	20 52 33.0	-2.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.52	247	P	Pn	20 52 33.0	-2.9
USRK	Ussuriysk Arra	15.38	264	P	Pn	20 54 06.3	+0.3
	comp=Z,0.3nm,0.3s,baz=73,slow=12,SNR=11						
MJAR	Matsushiro Arr	16.06	230	P	Pn	20 54 14.1	-0.6
	comp=Z,0.2nm,0.3s,baz=22,slow=9.4,SNR=5.8						
MJAR	Matsushiro Arr	16.06	230	P	Pn	20 54 14.1	-0.6
MJAR	Matsushiro Arr	16.06	230	P	Pn	20 54 14.1	-0.6
KSRS	Korea Array	21.45	250	P	P	20 55 13.1	-1.2
	comp=Z,1.7nm,1.0s,baz=61,slow=10,SNR=4.2						
KSRS	Korea Array	21.45	250	P	P	20 55 13.1	-1.2
KSRS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSAR	Wonju Array Be	21.48	250	P	P	20 55 13.1	-1.5
KSAR	Wonju Array Be	21.48	250	P	P	20 55 13.1	-1.5
INK	Inuvik	40.46	33	*e*P	P	20 58 00.2	-1.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	40.46	33	*e*P	P	20 58 00.2	-1.8
	comp=Z,3.4nm,0.7s						
ZALV	Zalesovo Beam	42.10	305	P	P	20 58 15.6	0.0
	comp=Z,0.4nm,0.5s,baz=69,slow=7.0,SNR=4.1						
ZALV				PcP	PcP	21 00 06.3	-1.7
	comp=Z,0.6nm,0.6s,baz=56,slow=3.7,SNR=4.4						
ZALV	Zalesovo Beam	42.10	305	*e*P	P	20 58 18.0	+2.3
ZALV	Zalesovo Beam	42.10	305	P	P	20 58 15.6	0.0
ZALV				PcP	PcP	21 00 06.3	-1.7
MKAR	Makanchi Array	46.61	296	P	P	20 58 52.3	+0.6
	comp=Z,0.7nm,0.7s,baz=72,slow=7.9,SNR=9.9						
MKAR	Makanchi Array	46.61	296	P	P	20 58 52.3	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	46.61	296	P	P	20 58 52.3	+0.6
KURK	Kurchatov	46.90	303	P	P	20 58 55.0	+1.2
	comp=Z,2.2nm,0.6s,baz=69,slow=8.3,SNR=24						
KURK	Kurchatov	46.90	303	P	P	20 58 55.0	+1.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	46.90	303	P	P	20 58 55.0	+1.2
BVAR	Borovoye Array	50.27	309	P	P	20 59 20.1	+0.5
	comp=Z,0.5nm,0.5s,baz=52,slow=7.8,SNR=6.2						
BVAR	Borovoye Array	50.27	309	P	P	20 59 20.1	+0.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	50.27	309	P	P	20 59 20.1	+0.5
CMAR	Chiang Mai Arr	52.93	256	P	P	20 59 38.9	-0.8
	comp=Z,1.1nm,0.8s,baz=34,slow=7.7,SNR=7.3						
CMAR	Chiang Mai Arr	52.93	256	P	P	20 59 38.9	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	52.93	256	P	P	20 59 38.9	-0.8
TAPN	Taplejung	54.30	273	*e*P	P	20 59 51.4	+1.4
TAPN	Taplejung	54.30	273	*e*P	P	20 59 51.4	+1.4
ODAN	Odare	54.83	272	*e*P	P	20 59 55.7	+1.9
ODAN	Odare	54.83	272	*e*P	P	20 59 55.7	+1.9
JIRN	Jiri	55.11	274	*e*P	P	20 59 56.7	+0.7
	comp=Z,4.5nm,0.4s						
JIRN	Jiri	55.11	274	*e*P	P	20 59 56.7	+0.7
	comp=Z,4.5nm,0.4s						
GUN	Gumba	55.16	274	*e*P	P	20 59 57.2	+0.9
	comp=Z,4.5nm,0.4s						
GUN	Gumba	55.16	274	*e*P	P	20 59 57.2	+0.9
	comp=Z,4.5nm,0.4s						
RAMN	Ramite	55.30	273	*e*P	P	20 59 58.2	+1.0
	comp=Z,4.7nm,0.4s						
RAMN	Ramite	55.30	273	*e*P	P	20 59 58.2	+1.0
	comp=Z,4.7nm,0.4s						
KKN	Kakani	55.64	275	*e*P	P	21 00 01.1	+1.5
	comp=Z,3.2nm,0.5s						
KKN	Kakani	55.64	275	*e*P	P	21 00 01.1	+1.5
KKN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKN	Kakani	55.64	275	*e*P	P	21 00 01.1	+1.5
	comp=Z,3.2nm,0.5s						
DMN	Daman	55.87	275	*e*P	P	21 00 02.7	+1.4
	comp=Z,4.8nm,0.5s						
DMN	Daman	55.87	275	*e*P	P	21 00 02.7	+1.4
	comp=Z,4.8nm,0.5s						
GKN	Gorkha	55.93	275	*e*P	P	21 00 02.7	+1.1
	comp=Z,4.9nm,0.4s						
GKN	Gorkha	55.93	275	*e*P	P	21 00 02.7	+1.1
	comp=Z,4.9nm,0.4s						
DANN	Dangsing	56.29	276	*e*P	P	21 00 05.7	+1.4
DANN	Dangsing	56.29	276	*e*P	P	21 00 05.7	+1.4
KOLN	Koldanda	56.78	276	*e*P	P	21 00 08.8	+1.2
	comp=Z,2.1nm,0.4s						
KOLN	Koldanda	56.78	276	*e*P	P	21 00 08.8	+1.2
	comp=Z,2.1nm,0.4s						
NVAR	Mina Array Bea	61.63	63	P	P	21 00 41.9	+1.0
	comp=Z,0.3nm,0.6s,baz=330,slow=5.2,SNR=3.4						
NVAR	Mina Array Bea	61.63	63	P	P	21 00 41.9	+1.0
FINES	FINESS Array B	63.02	335	P	P	21 00 50.2	+0.7
	comp=Z,1.4nm,0.6s,baz=33,slow=7.6,SNR=13						
FINES	FINESS Array B	63.02	335	P	P	21 00 50.2	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	63.02	335	P	P	21 00 50.2	+0.7
WRA	Warramunga Arr	69.78	199	P	P	21 01 31.3	-1.7
	comp=Z,0.4nm,0.7s,baz=23,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	69.78	199	P	P	21 01 31.3	-1.7
WRA	Warramunga Arr	69.78	199	P	P	21 01 31.3	-1.7
AKASG	Malin Array Be	70.65	326	P	P	21 01 39.2	+1.2
	comp=Z,0.9nm,0.5s,baz=34,slow=6.0,SNR=4.4						
AKASG	Malin Array Be	70.65	326	P	P	21 01 39.2	+1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	70.65	326	P	P	21 01 39.2	+1.2
ASAR	Alice Springs	73.48	199	P	P	21 01 54.9	-0.2
	comp=Z,0.6nm,0.6s,baz=15,slow=5.7,SNR=10						
ASAR	Alice Springs	73.48	199	P	P	21 01 54.9	-0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	73.48	199	P	P	21 01 54.9	-0.2
TXAR	Lajitas Array	76.65	61	P	P	21 02 14.2	+0.6
	comp=Z,0.6nm,0.7s,baz=308,slow=4.4,SNR=10						
TXAR	Lajitas Array	76.65	61	P	P	21 02 14.2	+0.6
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	76.65	61	P	P	21 02 14.2	+0.6
BRTR	Keskin Array B	77.66	317	P	P	21 02 21.2	+2.1
	comp=Z,0.4nm,0.5s,baz=20,slow=3.9,SNR=4.5						
BRTR	Keskin Array B	77.66	317	P	P	21 02 21.3	+2.1
BRTR	Keskin Array B	77.66	317	P	P	21 02 21.2	+2.1
CPUP	Villa Florida	147.61	59	PKPbc	PKPdf	21 10 03.5	+0.3
	comp=Z,0.2nm,0.3s,baz=0.0,slow=2.0,SNR=2.8						
CPUP	Villa Florida	147.61	59	PKIKP	PKPdf	21 10 03.5	+0.3
CPUP	Villa Florida	147.61	59	PKPbc	PKPdf	21 10 03.5	+0.3
VNA2	Neumayer--Watz	155.28	195	*e*	PKPdf	21 10 16.1	+2.7
VNA3	Neumayer Olymp	155.37	193	*e*	PKPdf	21 10 17.5	+3.9

JMA ***01*** *21:00:05.9±0.1, 24°.44N×122°.95E, h81km±1km, M2.4*
ISCJB ***01*** *21:00:05.9±0.6, 24°.29N±0°.04×122°.90E±0°.02, h73km±7km, Error ellipse: s-maj=6.8km s-min=3.3km az=179.6*
TAP ***01*** *21:00:06.0, 24°.28N×122°.89E, h76km±1km, ML3.2, C*
ISC 01 21:00:06.2±1.5**, 24°.28N**±0°.05×**122°.91E**±0°.03**, h74**km±12km**, n35, σ0s.89**/67**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.20	28	P	Pn	21 00 17.5	+0.2
YOJ				S	Sn	21 00 26.0	+0.6
IRIF	Iriomote-Funau	0.75	86	P	Pn	21 00 21.8	-0.2
IRIF				S	Sn	21 00 33.7	+0.1
HATJ	Hateruma jima	0.85	105	P	Pn	21 00 23.6	+0.5
HATJ				*e*S	Sn	21 00 36.9	+1.3
JKRS	Kuro-shima	1.01	92	P	Pn	21 00 25.1	+0.1
JKRS				*e*S	Sn	21 00 39.7	+0.7
TWC	Suao	1.02	289	P	Pn	21 00 24.7	-0.4
	baz=296						
TWC				S	Sn	21 00 38.4	-0.8
	baz=296						
ENA	Nanau	1.07	278	*e*P	Pn	21 00 25.7	-0.1
	baz=277						
ENA				*e*S	Sn	21 00 40.1	-0.4
	baz=277						
JIJ	Ishigaki jima	1.13	86	P	Pn	21 00 26.1	-0.4
JIJ				S	Sn	21 00 40.9	-0.8
ILA	Ilan	1.16	295	P	Pn	21 00 27.0	+0.1
	baz=293						
ILA				*e*S	Sn	21 00 42.6	+0.2
	baz=293						
TWE	Neicheng	1.21	291	*e*P	Pn	21 00 27.4	-0.1
	baz=298						
TWE				*e*S	Sn	21 00 43.0	-0.6
	baz=298						
TWD	Chiawan	1.21	261	*i* P	Pn	21 00 27.2	-0.4
	baz=250						
TWD				S	Sn	21 00 42.7	-0.9
	baz=250						
ENTT	Nioudou	1.27	286	P	Pn	21 00 28.8	+0.4
	baz=293						
ENTT				*e*S	Sn	21 00 45.0	0.0
	baz=293						
NWF	Wu-fen Shan	1.29	308	*e*P	Pn	21 00 28.8	+0.1
	baz=306						
NWF				*e*S	Sn	21 00 43.7	-1.8
	baz=306						
NNS	Nan Shan	1.41	277	*e*P	Pn	21 00 30.2	-0.1
	baz=267						
NNS				*e*S	Sn	21 00 47.7	-0.6
	baz=267						
ESL	Shilin	1.43	251	*e*P	Pn	21 00 29.5	-0.8
	baz=243						
ESL				*e*S	Sn	21 00 47.9	-0.6
	baz=243						
NSK	Sanguang	1.47	286	*e*P	Pn	21 00 30.9	0.0
	baz=276						
NSK				*e*S	Sn	21 00 49.5	0.0
	baz=276						
WHF	Hehuan Shan	1.51	265	P	Pn	21 00 31.5	-0.3
	baz=254						
WHF				S	Sn	21 00 50.4	-0.7
	baz=254						
TWS1	Kuangyinshan	1.58	301	*e*P	Pn	21 00 32.1	-0.2
	baz=300						
TWT	Tachien	1.58	269	*e*P	Pn	21 00 33.4	+0.8
	baz=267						
TWT				*e*S	Sn	21 00 52.7	+0.3
	baz=267						
EHY	Hungye	1.64	242	*e*P	Pn	21 00 32.8	-0.4
	baz=250						
EHY				*e*S	Sn	21 00 52.6	-1.0
	baz=250						
JTJ	Tarama	1.67	77	P	Pn	21 00 33.2	-0.4
JTJ				*e*S	Sn	21 00 53.6	-0.7
NSTT	Nanjuang	1.77	282	*e*P	Pn	21 00 35.2	+0.3
	baz=289						
NSTT				*e*S	Sn	21 00 56.9	+0.2
	baz=289						
SMLT	Sun Moon Lake	1.88	258	*e*P	Pn	21 00 37.0	+0.6
	baz=256						
SMLT				*e*S	Sn	21 00 59.5	+0.1
	baz=256						
TYC	Yuchr	1.91	259	*e*P	Pn	21 00 37.2	+0.4
	baz=252						
TYC				*e*S	Sn	21 01 00.3	+0.3
	baz=252						
TWQ1	Liyutan	1.95	272	*e*P	Pn	21 00 38.9	+1.6
	baz=271						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=236	**2.05**	**238**	*e*P	**Pn**	**21 00 38.2**	**-0.5**
ELDTW	baz=236			*e*S	**Sn**	**21 01 02.4**	**-1.0**
CHN5	**Tsauling** baz=250	**2.15**	**252**	P	**Pn**	**21 00 41.3**	**+1.2**
CHN5	baz=250			*e*S	**Sn**	**21 01 06.4**	**+0.5**
TWG	**Pinlang** baz=237	**2.23**	**230**	*e*P	**Pn**	**21 00 40.5**	**-0.5**
TWG	baz=237			*e*S	**Sn**	**21 01 06.0**	**-1.6**
STYT	**Tauyuan** baz=235	**2.26**	**241**	*e*P	**Pn**	**21 00 42.2**	**+0.6**
STYT	baz=235			*e*S	**Sn**	**21 01 08.8**	**+0.2**
CHN4	**Tsaushan** baz=245	**2.31**	**247**	*e*P	**Pn**	**21 00 43.9**	**+1.7**
CHN4	baz=245			*e*S	**Sn**	**21 01 11.1**	**+1.3**
WTP	**Ta-pu** baz=250	**2.34**	**244**	*e*P	**Pn**	**21 00 43.5**	**+0.8**
WTP	baz=250			*e*S	**Sn**	**21 01 11.4**	**+0.9**
CHN1	**Nanshi** baz=252	**2.44**	**244**	*e*P	**Pn**	**21 00 45.5**	**+1.5**
CHN1	baz=252			*e*S	**Sn**	**21 01 13.5**	**+0.7**
SGST	**Jiashian** baz=246	**2.44**	**241**	*e*P	**Pn**	**21 00 45.8**	**+1.8**
SGST	baz=246			*e*S	**Sn**	**21 01 13.9**	**+1.0**
ECL	**Taimali** baz=233	**2.46**	**227**	*e*P	**Pn**	**21 00 43.3**	**-0.8**
ECL	baz=233			*e*S	**Sn**	**21 01 09.8**	**-3.3**
SSD	**Sandimen** baz=227	**2.59**	**234**	*e*P	**Pn**	**21 00 46.7**	**+0.8**
SSD	baz=227			*e*S	**Sn**	**21 01 16.9**	**+0.5**
EAST	**Anshuo** baz=230	**2.68**	**225**	*e*P	**Pn**	**21 00 47.1**	**-0.1**

*ISK **01** 21:04:53.9, 39°.27N×26°.26E, h5km, MD2.9*
*THE **01** 21:04:54.5, 39°.23N×26°.04E, h6km±1km, ML2.4/3, Error ellipse: s-maj=1.5km s-min=0.5km az=112.0*
*ATH **01** 21:04:54.5, 39°.38N×26°.21E, h16km±1km, MD3.1/4*
*CSEM **01** 21:04:54.2±0.1, 39°.23N×26°.07E, h10km, MD3.1, Error ellipse: s-maj=4.0km s-min=2.9km az=79.0*
*ISCJB **01** 21:04:54.2±0.7, 39°.25N±0°.02×26°.08E±0°.04, h9km±5km, Error ellipse: s-maj=5.6km s-min=4.1km az=173.9*
ISC 01 21:04:54.5±0.9**, 39°.25N**±0°.02×**26°.07E**±0°.03**, h13**km±6km**, n47,** σ**0s.61**/68**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.15**	**92**	P	**Pg**	**21 04 58.0**	**-0.2**
PRK				S	**Sg**	**21 05 00.8**	**+0.1**
PRK	**Paraskevi**	**0.15**	**92**	*e*PB	**Pg**	**21 04 58.0**	**-0.2**
PRK				*e*SB	**Sg**	**21 05 01.5**	**+0.8**
PRK	**Paraskevi**	**0.15**	**92**	P	**Pg**	**21 04 58.0**	**-0.2**
PRK				S	**Sg**	**21 05 00.8**	**+0.1**
PRK				*e*Sb		21 05 01.5	
EZN	**Ezine**	**0.60**	**19**	*e*PG	**Pg**	**21 05 06.0**	**-0.3**
EZN				*e*SG	**Sb**	**21 05 15.0**	**-0.4**
EZN	**Ezine**	**0.60**	**19**	*e*Pg	**Pg**	**21 05 06.0**	**-0.3**
EZN				*e*Sg	**Sb**	**21 05 15.0**	**-0.4**
CHOS	**Chios island**	**0.86**	**181**	P	**Pg**	**21 05 10.3**	**-0.9**
CHOS				S	**Sg**	**21 05 23.0**	**+0.5**
CHOS	**Chios island**	**0.86**	**181**	P	**Pg**	**21 05 10.3**	**-0.9**
CHOS				S	**Sg**	**21 05 23.0**	**+0.5**
LIA	**Limnos Island**	**0.94**	**313**	P	**Pg**	**21 05 12.5**	**-0.1**
LIA				S	**Sb**	**21 05 25.4**	**+0.3**
LIA	**Limnos Island**	**0.94**	**313**	*e*PN	**Pg**	**21 05 12.6**	**-0.1**
LIA				*e*SN	**Sb**	**21 05 25.4**	**+0.3**
LIA	**Limnos Island**	**0.94**	**313**	P	**Pg**	**21 05 12.5**	**-0.1**
LIA				S	**Sb**	**21 05 25.4**	**+0.3**
BLCB	**Balcova**	**1.15**	**139**	*e*PG	**Pb**	**21 05 15.6**	**-0.7**
BLCB				*e*SG	**Sb**	**21 05 31.3**	**+0.2**
BLCB	**Balcova**	**1.15**	**139**	*e*Pg	**Pb**	**21 05 15.6**	**-0.7**
BLCB				*e*Sg	**Sb**	**21 05 31.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.19**	**15**	*e*PN	**Pn**	**21 05 16.7**	**-0.1**
GELI				*e*SN	**Sn**	**21 05 32.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.19**	**15**	*e*Pn	**Pn**	**21 05 16.7**	**-0.1**
GELI				*e*Sn	**Sn**	**21 05 32.9**	**+0.1**
LPK	**Lapseki**	**1.24**	**25**	*e*PN	**Pn**	**21 05 16.9**	**-0.7**
LPK	**Lapseki**	**1.24**	**25**	*e*Pn	**Pn**	**21 05 16.9**	**-0.7**
BALB	**Balikesir**	**1.45**	**74**	*e*PN	**Pn**	**21 05 19.9**	**-0.6**
BALB	**Balikesir**	**1.45**	**74**	*e*Pn	**Pn**	**21 05 19.9**	**-0.6**
ERIK	**Erikli-Kesan**	**1.46**	**13**	*e*PN	**Pb**	**21 05 21.2**	**-0.3**
ERIK	**Erikli-Kesan**	**1.46**	**13**	*e*Pn	**Pb**	**21 05 21.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.48**	**57**	*e*PN	**Pn**	**21 05 21.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.48**	**57**	*e*Pn	**Pn**	**21 05 21.1**	**+0.3**
KRBG	**Karabiga-Canak**	**1.48**	**39**	*e*PN	**Pn**	**21 05 20.8**	**0.0**
KRBG	**Karabiga-Canak**	**1.48**	**39**	*e*Pn	**Pn**	**21 05 20.8**	**0.0**
ENEZ	**Enez**	**1.48**	**2**	*e*PN	**Pg**	**21 05 22.4**	**-0.6**
ENEZ	**Enez**	**1.48**	**2**	*e*Pn	**Pg**	**21 05 22.4**	**-0.6**
ALN	**Alexandroupoli**	**1.64**	**359**	P	**Pn**	**21 05 23.1**	**0.0**
ALN				S	**Sb**	**21 05 45.1**	**-0.2**
ALN	**Alexandroupoli**	**1.64**	**359**	P	**Pn**	**21 05 23.1**	**0.0**
ALN				S	**Sb**	**21 05 45.1**	**-0.2**
SMG	**Samos**	**1.66**	**158**	*e*PN	**Pb**	**21 05 25.8**	**+0.9**
SMG				*e*SN	**Sg**	**21 05 49.7**	**+2.0**
RKY	**Sarkoy-Tekirda**	**1.67**	**30**	*e*PN	**Pb**	**21 05 24.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.67**	**30**	*e*Pn	**Pb**	**21 05 24.6**	**-0.5**
AOS	**Alonnisos**	**1.71**	**268**	P	**Pn**	**21 05 23.6**	**-0.4**
AOS				S	**Sn**	**21 05 45.9**	**+0.2**
AOS	**Alonnisos**	**1.71**	**268**	P	**Pn**	**21 05 23.6**	**-0.4**
AOS				S	**Sn**	**21 05 45.9**	**+0.2**
MFT	**Murefte**	**1.79**	**31**	*e*PN	**Pb**	**21 05 26.3**	**-1.0**
MFT	**Murefte**	**1.79**	**31**	*e*Pn	**Pb**	**21 05 26.3**	**-1.0**
RDO	**Rodhopi**	**1.94**	**348**	*e*PN	**Pn**	**21 05 27.4**	**+0.3**
RDO				*e*SN	**Sn**	**21 05 51.8**	**+0.5**
RDO	**Rodhopi**	**1.94**	**348**	*e*Pn	**Pn**	**21 05 27.4**	**+0.3**
RDO				*e*Sn	**Sn**	**21 05 51.8**	**+0.5**
APE	**Apeiranthos**	**2.22**	**191**	*e*PN	**Pb**	**21 05 33.8**	**-0.8**
APE	**Apeiranthos**	**2.22**	**191**	*e*Pn	**Pb**	**21 05 33.8**	**-0.8**
CRLT	**Corlu**	**2.27**	**34**	*e*PN	**Pn**	**21 05 31.8**	**+0.1**
CRLT	**Corlu**	**2.27**	**34**	*e*Pn	**Pn**	**21 05 31.8**	**+0.1**
ARMT	**Armutlu**	**2.51**	**58**	*e*PN	**Pn**	**21 05 35.9**	**+0.8**
ARMT	**Armutlu**	**2.51**	**58**	*e*Pn	**Pn**	**21 05 35.9**	**+0.8**
EDRB	**Edirne**	**2.64**	**11**	*e*PN	**Pn**	**21 05 38.5**	**+1.6**
EDRB	**Edirne**	**2.64**	**11**	*e*Pn	**Pn**	**21 05 38.5**	**+1.6**
CTKS	**Kestanelik-??a**	**2.72**	**42**	*e*PN	**Pn**	**21 05 38.4**	**+0.5**
CTKS	**Kestanelik-??a**	**2.72**	**42**	*e*Pn	**Pn**	**21 05 38.4**	**+0.5**

TAP 01 21:20:49.0, 22°.94N×120°.54E, h18km, ML3.0, 2C-4D, A, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGST	**Jiashian** baz=17	**0.14**	**15**	*i* P	Pb	21 20 53.9	+0.7
SGST	baz=17			S	Sg	21 20 57.7	+1.8
SGST	**Jiashian** baz=161	**0.14**	**15**	⇑*i*P	Pb	21 20 53.9	+0.7
SGST	baz=161			S	Sg	21 20 57.7	+1.8
TWM1	**Shoushan** baz=222	**0.16**	**223**	⇓*i*P	Pb	21 20 54.6	+1.0
TWM1	baz=222			*e*S	Sb	21 20 59.0	+2.4
SSD	**Sandimen** baz=150	**0.21**	**158**	⇓*i*P	Pb	21 20 54.8	+0.4
SSD	baz=150			S	Sb	21 20 58.9	+0.9
SGLT	**Jiouru** baz=186	**0.22**	**193**	*e*P	Pb	21 20 55.5	+1.0
CHN1	**Nanshi** baz=356	**0.24**	**356**	*e*S	Sb	21 21 00.4	+1.6
STYT	**Tauyuan** baz=43	**0.29**	**42**	⇑*i*P	Pb	21 20 56.4	+0.5
STYT	baz=43			S	Sb	21 21 01.7	+1.2
SCLT	**Jiali** baz=307	**0.40**	**306**	P	Pb	21 20 58.1	+0.6
SCLT	baz=307			*e*S	Sb	21 21 04.6	+1.3
SCLT	**Jiali** baz=255	**0.40**	**306**	*e*S	Sb	21 21 04.2	+0.9
KAU	**Kaohsiung** baz=222	**0.43**	**210**	*e*P	Pn	21 20 59.8	-0.6
ELDTW	**Lidau** baz=60	**0.50**	**61**	P	Pb	21 20 60.0	+0.5
ELDTW	baz=60			*e*S	Sb	21 21 07.2	+0.7
TWG	**Pinlang** baz=103	**0.50**	**104**	⇓*i*P	Pb	21 21 00.2	+0.9
TWG	baz=103			*e*S	Sn	21 21 08.1	-1.5
CHN8	**Yiju** baz=324	**0.50**	**323**	*e*P	Pg	21 20 59.2	0.0
ECL	**Taimali** baz=134	**0.51**	**132**	⇓*i*P	Pb	21 20 59.9	+0.4
SCZT	**Fangliau** baz=172	**0.57**	**173**	P	Pb	21 21 01.0	+0.4
TTN	**Taitung** baz=108	**0.59**	**109**	*e*P	Pn	21 21 02.8	+0.3
TTN	baz=108			*e*S	Sn	21 21 10.7	-0.9
TWP	**Hsiaoliuchiu** baz=195	**0.62**	**196**	*e*P	Pn	21 21 03.9	+1.0
EAST	**Anshuo** baz=148	**0.62**	**153**	P	Pb	21 21 02.0	+0.5
EAST	baz=148			*e*S	Sn	21 21 11.4	-1.3
CHN5	**Tsauling** baz=10.0	**0.66**	**11**	*e*P	Pg	21 21 02.7	+0.5
CHN5	baz=10.0			*e*S	Sn	21 21 13.0	-0.7
TAW	**Tawu** baz=146	**0.67**	**151**	*e*P	Pg	21 21 02.8	+0.6
TAW	baz=146			*e*S	Sn	21 21 12.8	-0.9
WGK	**Gukeng** baz=2.0	**0.74**	**1**	*e*P	Pn	21 21 04.4	-0.2
EHY	**Hungye** baz=51	**0.91**	**52**	*e*P	Pg	21 21 06.8	0.0
EHY	baz=51			*e*S	Sg	21 21 18.7	0.0
HEN	**Hengchun** baz=168	**0.95**	**169**	*e*P	Pn	21 21 08.4	+0.9
TWK1	**Hengchun** baz=166	**1.02**	**166**	*e*P	Pg	21 21 08.8	-0.1
TWK1	baz=166			*e*S	Sn	21 21 23.7	+1.2
PNG	**Penghu** baz=306	**1.10**	**304**	*e*P	Pb	21 21 07.8	-1.7
ESL	**Shilin** baz=43	**1.19**	**43**	*e*P	Pb	21 21 11.4	+0.3
ESL	baz=43			*e*S	Sg	21 21 27.8	+0.2
WHF	**Hehuan Shan** baz=18	**1.37**	**29**	*e*P	Pn	21 21 12.6	-1.2
WHF	baz=18			*e*S	Sb	21 21 33.2	+1.0
TWD	**Chiawan** baz=40	**1.49**	**40**	*e*P	Pb	21 21 15.9	-0.2
NNS	**Nan Shan** baz=13	**1.67**	**27**	*e*P	Pn	21 21 17.7	+0.1
NSK	**Sanguang** baz=24	**1.88**	**23**	*e*P	Pn	21 21 19.9	-0.5
ENTT	**Nioudou** baz=15	**1.93**	**29**	*e*P	Pn	21 21 21.1	+0.1
TWE	**Neicheng** baz=14	**2.05**	**30**	*e*P	Pb	21 21 24.4	-1.3

TAP 01 21:20:50.0, 23°.25N×120°.53E, h15km, ML2.8, 3C-2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi** baz=181	**0.07**	**182**	⇑*i*P	Pg	21 20 53.5	+0.5
CHN1	baz=181			S	Sg	21 20 55.8	+0.9
CHN1	**Nanshi** baz=356	**0.07**	**182**	*e*P	Sg	21 20 55.6	+0.7
WTP	**Ta-pu** baz=95	**0.08**	**94**	⇑*i*P	Pg	21 20 53.8	+0.7
WTP	baz=95			*e*S	Sg	21 20 56.5	+1.4
CHN4	**Tsaushan** baz=30	**0.11**	**30**	⇑*i*P	Pb	21 20 53.8	-0.2
CHN4	baz=30			S	Sb	21 20 56.2	-0.3
CHN3	**Shinhua** baz=315	**0.23**	**221**	P	Pb	21 20 55.6	-0.3
CHN3	baz=315			*e*S	Sb	21 21 00.6	+0.7
CHN3	**Shinhua** baz=220	**0.23**	**221**	⇓P	Pb	21 20 55.6	-0.3
CHN3	baz=220			*e*S	Sb	21 21 00.5	+0.6
CHY	**Chiayi** baz=339	**0.26**	**338**	*i* P	Pb	21 20 56.2	-0.2
CHY	baz=339			*i* S	Sb	21 21 00.7	-0.1
CHN8	**Yiju** baz=288	**0.31**	**288**	*i* P	Pb	21 20 57.0	-0.2
CHN8	baz=288			*e*S	Sb	21 21 02.4	+0.3
SCLT	**Jiali** baz=255	**0.32**	**256**	*e*P	Pb	21 20 57.3	-0.1
TAI1	**Yung-k'ang** baz=231	**0.35**	**233**	*e*P	Pb	21 20 57.5	-0.3
CHN5	**Tsauling** baz=21	**0.37**	**22**	⇓*i*P	Pb	21 20 58.3	-0.1
CHN5	baz=21			*e*S	Sb	21 21 05.0	+0.9
WGK	**Gukeng** baz=4.0	**0.43**	**4**	*e*P	Pb	21 20 59.9	+0.6
WSF	**Szhu** baz=324	**0.48**	**324**	*e*P	Pb	21 21 00.7	+0.6
WSF	baz=324			*e*S	Sb	21 21 07.4	+0.5
WNT	**Mingjian** baz=13	**0.64**	**13**	*e*P	Pb	21 21 03.0	+0.1
SMLT	**Sun Moon Lake** baz=28	**0.71**	**28**	*e*P	Pb	21 21 04.8	+0.5
TYC	**Yuchr** baz=25	**0.71**	**25**	*e*P	Pb	21 21 04.8	+0.6
TYC	baz=25			*e*S	Sb	21 21 15.0	+1.2

*ISK **01** 21:27:49.7, 39°.25N×26°.04E, h5km, MD3.3*
*THE **01** 21:27:50.4, 39°.23N×26°.04E, h3km±1km, ML3.1/2, Error ellipse: s-maj=1.2km s-min=0.4km az=122.0*
*ATH **01** 21:27:50.0, 39°.28N×26°.14E, h21km±1km, MD3.4/5*
*CSEM **01** 21:27:50.3±0.2, 39°.24N×25°.98E, h5km, MD3.4, Error ellipse: s-maj=3.7km s-min=3.6km az=36.0*
*ISCJB **01** 21:27:50.1±0.7, 39°.23N±0°.02×26°.03E±0°.03, h7km±5km, Error ellipse: s-maj=4.1km s-min=3.8km az=154.5*
ISC 01 21:27:50.1±1.2**, 39°.26N**±0°.02×**26°.00E**±0°.02**, h1**km±11km**, n88,** σ**0s.63**/111**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.21**	**92**	P	**Pg**	**21 27 54.0**	**-0.1**
PRK				S	**Sg**	**21 27 56.8**	**-0.1**
PRK	**Paraskevi**	**0.21**	**92**	*e*PB	**Pg**	**21 27 54.1**	**-0.1**
PRK				*e*SB	**Sg**	**21 27 57.3**	**+0.4**
PRK	**Paraskevi**	**0.21**	**92**	*e*Pb	**Pg**	**21 27 54.1**	**-0.1**
PRK				S	**Sg**	**21 27 56.8**	**-0.1**
PRK				*e*Sb		21 27 57.3	
EZN	**Ezine**	**0.62**	**24**	*e*PG	**Pg**	**21 28 01.6**	**-0.4**
EZN	**Ezine**	**0.62**	**24**	*e*Pg	**Pg**	**21 28 01.6**	**-0.4**
CHOS	**Chios island**	**0.87**	**177**	P	**Pg**	**21 28 06.3**	**-0.4**
CHOS				S	**Sg**	**21 28 18.6**	**+0.7**
CHOS	**Chios island**	**0.87**	**177**	*e*PB	**Pg**	**21 28 06.5**	**-0.2**
CHOS				*e*SN	**Sb**	**21 28 20.0**	**-0.2**
CHOS	**Chios island**	**0.87**	**177**	*e*Pb	**Pg**	**21 28 06.5**	**-0.2**
CHOS				S	**Sg**	**21 28 18.6**	**+0.7**
CHOS				*e*Sn	**Sb**	**21 28 20.0**	**-0.2**
LIA	**Limnos Island**	**0.90**	**316**	P	**Pb**	**21 28 08.5**	**0.0**
LIA				S	**Sb**	**21 28 21.6**	**+0.6**
LIA	**Limnos Island**	**0.90**	**316**	*e*PN	**Pb**	**21 28 08.7**	**+0.2**
LIA				*e*SN	**Sb**	**21 28 21.9**	**+0.9**
LIA	**Limnos Island**	**0.90**	**316**	*e*Pn	**Pb**	**21 28 08.7**	**+0.2**
LIA				S	**Sb**	**21 28 21.6**	**+0.6**
LIA				*e*Sn	**Sb**	**21 28 21.9**	**+0.9**
BLCB	**Balcova**	**1.19**	**137**	*e*PN	**Pg**	**21 28 12.5**	**-0.4**
BLCB				*e*SN	**Sg**	**21 28 28.2**	**-0.1**
BLCB	**Balcova**	**1.19**	**137**	*e*Pn	**Pg**	**21 28 12.5**	**-0.4**
BLCB				*e*Sn	**Sg**	**21 28 28.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.20**	**18**	*e*PN	**Pg**	**21 28 13.3**	**+0.3**
GELI				*e*SN	**Sn**	**21 28 30.4**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.20**	**18**	*e*Pn	**Pg**	**21 28 13.4**	**+0.3**
GELI				*e*Sn	**Sn**	**21 28 30.4**	**-0.6**
LPK	**Lapseki**	**1.26**	**27**	*e*PN	**Pg**	**21 28 13.8**	**-0.5**
LPK				*e*SN	**Sb**	**21 28 31.6**	**+0.2**
LPK	**Lapseki**	**1.26**	**27**	*e*Pn	**Pg**	**21 28 13.8**	**-0.5**
LPK				*e*Sn	**Sb**	**21 28 31.6**	**+0.2**
AKS	**Akhisar**	**1.46**	**104**	*e*PN	**Pn**	**21 28 16.9**	**-0.8**
AKS	**Akhisar**	**1.46**	**104**	*e*Pn	**Pn**	**21 28 16.9**	**-0.8**
ERIK	**Erikli-Kesan**	**1.47**	**15**	*e*PN	**Pn**	**21 28 17.6**	**-0.1**
ERIK				*e*SN	**Sb**	**21 28 36.8**	**-0.6**
ERIK	**Erikli-Kesan**	**1.47**	**15**	*e*Pn	**Pn**	**21 28 17.6**	**-0.1**
ERIK				*e*Sn	**Sb**	**21 28 36.8**	**-0.6**
ENEZ	**Enez**	**1.48**	**5**	*e*PN	**Pn**	**21 28 17.3**	**-0.7**
ENEZ	**Enez**	**1.48**	**5**	*e*Pn	**Pn**	**21 28 17.3**	**-0.7**
BALB	**Balikesir**	**1.51**	**75**	*e*PN	**Pn**	**21 28 17.2**	**-1.1**
BALB	**Balikesir**	**1.51**	**75**	*e*Pn	**Pn**	**21 28 17.2**	**-1.1**
KRBG	**Karabiga-Canak**	**1.51**	**41**	*e*PN	**Pn**	**21 28 17.1**	**-1.3**
KRBG	**Karabiga-Canak**	**1.51**	**41**	*e*Pn	**Pn**	**21 28 17.1**	**-1.3**
GONE	**Gonen-Balikesi**	**1.52**	**58**	*e*PN	**Pn**	**21 28 17.4**	**-1.0**
GONE	**Gonen-Balikesi**	**1.52**	**58**	*e*Pn	**Pn**	**21 28 17.5**	**-1.0**
ALN	**Alexandroupoli**	**1.64**	**1**	P	**Pn**	**21 28 19.2**	**-0.8**
ALN				S	**Sn**	**21 28 41.7**	**-0.2**
ALN	**Alexandroupoli**	**1.64**	**1**	*e*PN	**Pn**	**21 28 19.3**	**-0.8**
ALN	**Alexandroupoli**	**1.64**	**1**	*e*Pn	**Pn**	**21 28 19.3**	**-0.8**
ALN				S	**Sn**	**21 28 41.7**	**-0.2**
AOS	**Alonnisos**	**1.65**	**268**	P	**Pn**	**21 28 19.7**	**-0.5**
AOS				S	**Sg**	**21 28 42.7**	**-0.3**
AOS	**Alonnisos**	**1.65**	**268**	P	**Pn**	**21 28 19.7**	**-0.5**
AOS				S	**Sg**	**21 28 42.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.69**	**32**	*e*PN	**Pn**	**21 28 20.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.69**	**32**	*e*Pn	**Pn**	**21 28 20.1**	**-0.8**
MFT	**Murefte**	**1.82**	**32**	*e*PN	**Pn**	**21 28 23.2**	**+0.6**
MFT	**Murefte**	**1.82**	**32**	*e*Pn	**Pn**	**21 28 23.2**	**+0.6**
BNT	**Bandirma**	**1.84**	**53**	*e*PN	**Pn**	**21 28 21.9**	**-1.0**
BNT	**Bandirma**	**1.84**	**53**	*e*Pn	**Pn**	**21 28 21.9**	**-1.0**
PAIG	**Paliouri**	**1.91**	**291**	P	**Pn**	**21 28 23.3**	**-0.6**
PAIG	**Paliouri**	**1.91**	**291**	P	**Pn**	**21 28 23.3**	**-0.6**
RDO	**Rodhopi**	**1.92**	**350**	P	**Pn**	**21 28 23.5**	**-0.5**
RDO	**Rodhopi**	**1.92**	**350**	*e*PN	**Pn**	**21 28 24.0**	**0.0**
RDO	**Rodhopi**	**1.92**	**350**	P	**Pn**	**21 28 23.5**	**-0.5**
RDO	**Rodhopi**	**1.92**	**350**	*e*Pn	**Pn**	**21 28 24.0**	**0.0**
KAVA	**Kavala**	**2.08**	**327**	P	**Pn**	**21 28 25.8**	**-0.3**
KAVA	**Kavala**	**2.08**	**327**	P	**Pn**	**21 28 25.8**	**-0.3**
TKR	**Tekirdag**	**2.10**	**34**	*e*PN	**Pn**	**21 28 26.2**	**-0.1**
TKR	**Tekirdag**	**2.10**	**34**	*e*Pn	**Pn**	**21 28 26.3**	**-0.1**
XOR	**Xorichti**	**2.18**	**274**	P	**Pn**	**21 28 26.9**	**-0.7**
XOR	**Xorichti**	**2.18**	**274**	P	**Pn**	**21 28 26.9**	**-0.7**
KULA	**Kula-Manisa**	**2.21**	**109**	*e*PN	**Pn**	**21 28 27.7**	**-0.2**
KULA	**Kula-Manisa**	**2.21**	**109**	*e*Pn	**Pn**	**21 28 27.7**	**-0.2**
APE	**Apeiranthos**	**2.21**	**190**	*e*PN	**Pn**	**21 28 27.9**	**-0.1**
APE	**Apeiranthos**	**2.21**	**190**	*e*Pn	**Pn**	**21 28 27.9**	**-0.1**
CRLT	**Corlu**	**2.30**	**35**	*e*PN	**Pn**	**21 28 29.6**	**+0.5**
CRLT	**Corlu**	**2.30**	**35**	*e*Pn	**Pn**	**21 28 29.6**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.48**	**62**	*e*PN	**Pn**	**21 28 32.6**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.48**	**62**	*e*Pn	**Pn**	**21 28 32.6**	**+0.9**
ARMT	**Armutlu**	**2.56**	**58**	*e*PN	**Pn**	**21 28 33.1**	**+0.3**
ARMT	**Armutlu**	**2.56**	**58**	*e*Pn	**Pn**	**21 28 33.1**	**+0.3**
SLVT	**Silivri**	**2.60**	**40**	*e*PN	**Pn**	**21 28 33.9**	**+0.6**
SLVT	**Silivri**	**2.60**	**40**	*e*Pn	**Pn**	**21 28 33.9**	**+0.6**
EDRB	**Edirne**	**2.65**	**12**	*e*PN	**Pn**	**21 28 34.4**	**+0.4**
EDRB	**Edirne**	**2.65**	**12**	*e*Pn	**Pn**	**21 28 34.4**	**+0.4**
GEMT	**Gemlik**	**2.72**	**63**	*e*PN	**Pn**	**21 28 35.2**	**+0.2**
GEMT	**Gemlik**	**2.72**	**63**	*e*Pn	**Pn**	**21 28 35.2**	**+0.2**
CTKS	**Kestanelik-??a**	**2.76**	**43**	*e*PN	**Pn**	**21 28 36.0**	**+0.6**
CTKS	**Kestanelik-??a**	**2.76**	**43**	*e*Pn	**Pn**	**21 28 36.0**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.82**	**38**	*e*PN	**Pn**	**21 28 36.8**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.82**	**38**	*e*Pn	**Pn**	**21 28 36.8**	**+0.4**
BGKT	**Bogazkoy**	**2.87**	**47**	*e*PN	**Pn**	**21 28 37.6**	**+0.7**
BGKT	**Bogazkoy**	**2.87**	**47**	*e*Pn	**Pn**	**21 28 37.7**	**+0.7**
ISK	**Istanbul-Kandi**	**2.96**	**51**	*e*PN	**Pn**	**21 28 39.0**	**+0.7**
ISK	**Istanbul-Kandi**	**2.96**	**51**	*e*Pn	**Pn**	**21 28 39.0**	**+0.7**
KLYT	**Kilyos**	**3.07**	**48**	*e*PN	**Pn**	**21 28 40.6**	**+0.9**
KLYT	**Kilyos**	**3.07**	**48**	*e*Pn	**Pn**	**21 28 40.6**	**+0.9**
THL	**Klokotos Trika**	**3.10**	**277**	*e*PN	**Pn**	**21 28 41.2**	**+1.0**
THL	**Klokotos Trika**	**3.10**	**277**	*e*Pn	**Pn**	**21 28 41.2**	**+1.0**
ALT	**Altintas**	**3.20**	**92**	*e*PN	**Pn**	**21 28 42.5**	**+0.8**
ALT	**Altintas**	**3.20**	**92**	*e*Pn	**Pn**	**21 28 42.5**	**+0.8**
HRT	**Hereke**	**3.22**	**60**	*e*PN	**Pn**	**21 28 42.7**	**+0.8**
HRT	**Hereke**	**3.22**	**60**	*e*Pn	**Pn**	**21 28 42.7**	**+0.8**
GULT	**Gulveren**	**3.67**	**70**	*e*PN	**Pn**	**21 28 49.2**	**+1.1**
GULT	**Gulveren**	**3.67**	**70**	*e*Pn	**Pn**	**21 28 49.2**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.29**	**86**	*e*PN	**Pn**	**21 28 57.7**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.29**	**86**	*e*Pn	**Pn**	**21 28 57.7**	**+1.1**

*ATH **01** 21:31:47.3, 39°.28N×26°.14E, h20km±1km, MD3.4/7*
*ISK **01** 21:31:47.2, 39°.25N×26°.04E, h10km, MD3.3*
*ISCJB **01** 21:31:47.8±0.6, 39°.24N±0°.02×26°.06E±0°.03, h11km±4km, Error ellipse: s-maj=3.8km s-min=3.1km az=157.0*
*CSEM **01** 21:31:48.0±0.1, 39°.23N×26°.04E, h8km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.5km az=75.0*
*THE **01** 21:31:48.0, 39°.23N×26°.04E, h5km±1km, ML2.8/7, Error ellipse: s-maj=1.1km s-min=0.4km az=96.0*
*SOF **01** 21:31:53.9, 39°.82N×25°.99E, h2km, MD2.9*
ISC 01 21:31:48.3±1.0**, 39°.24N**±0°.02×**26°.04E**±0°.02**, h7**km±8km**, n118,** σ**0s.73**/146**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.18**	**88**	P	**Pg**	**21 31 51.6**	**-0.3**
PRK				S	**Sg**	**21 31 54.4**	**0.0**
PRK	**Paraskevi**	**0.18**	**88**	*e*PB	**Pg**	**21 31 51.6**	**-0.3**
PRK				*e*SB	**Sg**	**21 31 53.9**	**-0.5**
PRK	**Paraskevi**	**0.18**	**88**	P	**Pg**	**21 31 51.6**	**-0.3**
PRK				*e*Sb	**Sg**	**21 31 53.9**	**-0.5**
PRK				S		21 31 54.4	
EZN	**Ezine**	**0.63**	**20**	PG	**Pg**	**21 31 60.0**	**-0.4**
EZN				SG	**Sg**	**21 32 09.1**	**+0.6**
EZN	**Ezine**	**0.63**	**20**	*i* Pg	**Pg**	**21 32 00.0**	**-0.4**
EZN				*i* Sg	**Sg**	**21 32 09.1**	**+0.6**
CHOS	**Chios island**	**0.85**	**179**	P	**Pg**	**21 32 03.8**	**-0.8**
CHOS				S	**Sg**	**21 32 16.4**	**+0.7**
CHOS	**Chios island**	**0.85**	**179**	*e*PN	**Pg**	**21 32 04.0**	**-0.6**
CHOS				*e*SN	**Sb**	**21 32 17.1**	**0.0**
CHOS	**Chios island**	**0.85**	**179**	P	**Pg**	**21 32 03.8**	**-0.8**
CHOS				S	**Sg**	**21 32 16.4**	**+0.7**
CHOS				*e*Sn	**Sb**	**21 32 17.1**	**0.0**
LIA	**Limnos Island**	**0.94**	**315**	P	**Pg**	**21 32 06.1**	**-0.1**
LIA				S	**Sb**	**21 32 19.1**	**-0.3**
LIA	**Limnos Island**	**0.94**	**315**	*e*PN	**Pg**	**21 32 06.2**	**-0.1**
LIA				*e*SN	**Sb**	**21 32 18.9**	**-0.5**
LIA	**Limnos Island**	**0.94**	**315**	P	**Pg**	**21 32 06.1**	**-0.1**
LIA				S	**Sb**	**21 32 19.1**	**-0.3**
BLCB	**Balcova**	**1.16**	**137**	*e*PN	**Pg**	**21 32 09.9**	**-0.6**
BLCB				*e*SN	**Sb**	**21 32 25.9**	**+0.1**
BLCB	**Balcova**	**1.16**	**137**	*e*Pn	**Pg**	**21 32 09.9**	**-0.6**
BLCB				*e*Sn	**Sb**	**21 32 25.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.20**	**16**	*e*PN	**Pg**	**21 32 10.5**	**-0.9**
GELI				*e*SN	**Sg**	**21 32 26.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.20**	**16**	*e*Pn	**Pg**	**21 32 10.5**	**-0.9**
GELI				*e*Sn	**Sg**	**21 32 26.6**	**-0.4**
LPK	**Lapseki**	**1.26**	**26**	*e*PN	**Pn**	**21 32 11.4**	**-0.9**
LPK	**Lapseki**	**1.26**	**26**	*e*Pn	**Pn**	**21 32 11.4**	**-0.9**
AKS	**Akhisar**	**1.43**	**104**	*e*PN	**Pn**	**21 32 14.2**	**-0.4**
AKS	**Akhisar**	**1.43**	**104**	*e*Pn	**Pn**	**21 32 14.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.48**	**14**	*e*PN	**Pn**	**21 32 14.8**	**-0.4**
ERIK	**Erikli-Kesan**	**1.48**	**14**	*e*Pn	**Pn**	**21 32 14.8**	**-0.4**
BALB	**Balikesir**	**1.48**	**74**	*e*PN	**Pn**	**21 32 14.5**	**-0.8**
BALB	**Balikesir**	**1.48**	**74**	*e*Pn	**Pn**	**21 32 14.5**	**-0.8**
ENEZ	**Enez**	**1.50**	**3**	*e*PN	**Pn**	**21 32 14.9**	**-0.7**
ENEZ	**Enez**	**1.50**	**3**	*e*Pn	**Pn**	**21 32 14.9**	**-0.7**
GONE	**Gonen-Balikesi**	**1.50**	**57**	*e*PN	**Pn**	**21 32 14.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.50**	**57**	*e*Pn	**Pn**	**21 32 14.9**	**-0.8**
KRBG	**Karabiga-Canak**	**1.50**	**40**	*e*PN	**Pn**	**21 32 14.7**	**-1.0**
KRBG	**Karabiga-Canak**	**1.50**	**40**	*e*Pn	**Pn**	**21 32 14.7**	**-1.0**
SMG	**Samos**	**1.65**	**158**	*e*PN	**Pn**	**21 32 17.2**	**-0.5**
SMG	**Samos**	**1.65**	**158**	*e*Pn	**Pn**	**21 32 17.2**	**-0.5**
ALN	**Alexandroupoli**	**1.66**	**0**	P	**Pn**	**21 32 16.8**	**-0.9**
ALN				S	**Sn**	**21 32 38.9**	**-0.4**
ALN	**Alexandroupoli**	**1.66**	**0**	*e*PN	**Pn**	**21 32 16.8**	**-0.9**
ALN				*e*SN	**Sn**	**21 32 37.8**	**-1.5**
ALN	**Alexandroupoli**	**1.66**	**0**	P	**Pn**	**21 32 16.8**	**-0.9**
ALN				*e*Sn	**Sn**	**21 32 37.8**	**-1.5**
ALN				S	**Sn**	**21 32 38.9**	**-0.4**
AOS	**Alonnisos**	**1.68**	**268**	P	**Pn**	**21 32 17.3**	**-0.8**
AOS				S	**Sn**	**21 32 40.1**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	1.68	268	P	Pn	21 32 17.3	-0.8
AOS				S	Sn	21 32 40.1	+0.2
RKY	Sarkoy-Tekirda	1.69	31	ePN	Pn	21 32 17.3	-1.0
RKY	Sarkoy-Tekirda	1.69	31	ePn	Pn	21 32 17.3	-1.0
MFT	Murefte	1.81	31	ePN	Pn	21 32 19.1	-0.9
MFT	Murefte	1.81	31	ePn	Pn	21 32 19.2	-0.9
BNT	Bandirma	1.83	52	ePN	Pn	21 32 19.0	-1.1
BNT	Bandirma	1.83	52	ePn	Pn	21 32 19.0	-1.1
OUR	Ouranopolis	1.93	305	P	Pn	21 32 20.7	-0.8
OUR	Ouranopolis	1.93	305	P	Pn	21 32 20.7	-0.8
RDO	Rodhopi	1.94	349	P	Pn	21 32 21.0	-0.7
RDO				S	Sn	21 32 46.2	-0.2
RDO	Rodhopi	1.94	349	ePN	Pn	21 32 21.6	-0.1
RDO	Rodhopi	1.94	349	P	Pn	21 32 21.0	-0.7
RDO	Rodhopi	1.94	349	ePn	Pn	21 32 21.6	-0.1
RDO				S	Sn	21 32 46.2	-0.2
PAIG	Paliouri	1.95	291	P	Pn	21 32 20.8	-1.0
PAIG				S	Sn	21 32 46.1	-0.4
PAIG	Paliouri	1.95	291	P	Pn	21 32 20.8	-1.0
PAIG				S	Sn	21 32 46.1	-0.4
TKR	Tekirdag	2.09	33	ePN	Pn	21 32 23.3	-0.4
TKR	Tekirdag	2.09	33	ePn	Pn	21 32 23.3	-0.4
KULA	Kula-Manisa	2.17	109	ePN	Pn	21 32 24.3	-0.6
KULA	Kula-Manisa	2.17	109	ePn	Pn	21 32 24.3	-0.6
APE	Apeiranthos	2.20	191	ePN	Pn	21 32 24.8	-0.5
APE	Apeiranthos	2.20	191	P	Pn	21 32 24.4	-0.9
APE				S	Sn	21 32 52.5	-0.3
APE	Apeiranthos	2.20	191	P	Pn	21 32 24.4	-0.9
APE	Apeiranthos	2.20	191	ePn	Pn	21 32 24.8	-0.5
APE				S	Sn	21 32 52.5	-0.3
XOR	Xorichti	2.21	274	P	Pn	21 32 24.3	-1.2
XOR	Xorichti	2.21	274	P	Pn	21 32 24.3	-1.2
CRLT	Corlu	2.29	34	ePN	Pn	21 32 26.3	-0.2
CRLT	Corlu	2.29	34	ePn	Pn	21 32 26.3	-0.2
KDZ	Kurdzhali	2.46	349	i P	Pn	21 32 29.1	+0.3
KDZ	Kurdzhali	2.46	349	i P	Pn	21 32 29.1	+0.3
MDNY	Mudanya-Bursa	2.46	62	ePN	Pn	21 32 29.2	+0.4
MDNY	Mudanya-Bursa	2.46	62	ePn	Pn	21 32 29.2	+0.4
ARMT	Armutlu	2.54	58	ePN	Pn	21 32 28.9	-1.0
ARMT	Armutlu	2.54	58	ePn	Pn	21 32 28.9	-1.0
SLVT	Silivri	2.59	39	ePN	Pn	21 32 29.6	-1.0
SLVT	Silivri	2.59	39	ePn	Pn	21 32 29.6	-1.0
RZN	Rozhen	2.65	338	i P	Pn	21 32 31.7	+0.1
RZN	Rozhen	2.65	338	i P	Pn	21 32 31.7	+0.1
EDRB	Edirne	2.66	11	ePN	Pn	21 32 30.4	-1.1
EDRB	Edirne	2.66	11	ePn	Pn	21 32 30.4	-1.1
NVR	Nevrokopi	2.69	322	ePN	Pn	21 32 32.5	+0.5
NVR	Nevrokopi	2.69	322	ePn	Pn	21 32 32.5	+0.5
GEMT	Gemlik	2.70	63	ePN	Pn	21 32 32.1	0.0
GEMT	Gemlik	2.70	63	ePn	Pn	21 32 32.1	0.0
YER	Yerkesik	2.74	139	ePN	Pn	21 32 32.9	+0.1
YER	Yerkesik	2.74	139	ePn	Pn	21 32 32.9	+0.1
CTKS	Kestanelik-??a	2.75	43	ePN	Pn	21 32 31.5	-1.2
CTKS	Kestanelik-??a	2.75	43	ePn	Pn	21 32 31.5	-1.2
CTYL	Yal??k??y-??at	2.82	37	ePN	Pn	21 32 33.0	-0.7
CTYL	Yal??k??y-??at	2.82	37	ePn	Pn	21 32 33.0	-0.7
THR2	Thira island,	2.83	190	P	Pn	21 32 32.5	-1.4
THR2	Thira island,	2.83	190	P	Pn	21 32 32.5	-1.4
BGKT	Bogazkoy	2.85	46	ePN	Pn	21 32 33.2	-1.0
BGKT	Bogazkoy	2.85	46	ePn	Pn	21 32 33.2	-1.0
YLV	Yalova	2.88	62	ePN	Pn	21 32 34.8	+0.1
YLV	Yalova	2.88	62	ePn	Pn	21 32 34.8	+0.1
MMB	Musomiste	2.94	324	i P	Pn	21 32 36.2	+0.8
MMB	Musomiste	2.94	324	i P	Pn	21 32 36.2	+0.8
ISK	Istanbul-Kandi	2.94	51	ePN	Pn	21 32 35.5	+0.1
ISK	Istanbul-Kandi	2.94	51	ePn	Pn	21 32 35.5	+0.1
KLYT	Kilyos	3.05	48	ePN	Pn	21 32 37.1	+0.2
KLYT	Kilyos	3.05	48	ePn	Pn	21 32 37.1	+0.2
ADVT	Abdulvahap	3.08	66	ePN	Pn	21 32 37.9	+0.5
ADVT	Abdulvahap	3.08	66	ePn	Pn	21 32 37.9	+0.5
THL	Klokotos Trika	3.14	277	ePN	Pn	21 32 39.0	+0.9
THL	Klokotos Trika	3.14	277	ePn	Pn	21 32 39.0	+0.9
ALT	Altintas	3.17	92	ePN	Pn	21 32 38.7	+0.1
ALT	Altintas	3.17	92	ePn	Pn	21 32 38.7	+0.1
HRT	Hereke	3.20	59	ePN	Pn	21 32 39.5	+0.5
HRT	Hereke	3.20	59	ePn	Pn	21 32 39.5	+0.5
JMB	Yambol	3.25	7	i Pg	Pb	21 32 47.5	+1.2
JMB	Yambol	3.25	7	i Pg	Pb	21 32 47.5	+1.2
SILT	Sile	3.35	54	ePN	Pn	21 32 41.6	+0.5
SILT	Sile	3.35	54	ePn	Pn	21 32 41.6	+0.5
SHUT	Suhut-Afyon	3.58	100	ePN	Pn	21 32 45.3	+0.9
SHUT	Suhut-Afyon	3.58	100	ePn	Pn	21 32 45.3	+0.9
GULT	Gulveren	3.64	69	ePN	Pn	21 32 45.6	+0.4
GULT	Gulveren	3.64	69	ePn	Pn	21 32 45.6	+0.4
VTS	Vitosha	3.98	328	i P	Pn	21 32 51.1	+1.3
VTS	Vitosha	3.98	328	i P	Pn	21 32 51.1	+1.3
MDUB	Mudurnu	4.15	71	ePN	Pn	21 32 53.3	+1.1
MDUB	Mudurnu	4.15	71	ePn	Pn	21 32 53.3	+1.1
SVRH	Sivrihisar-ESK	4.25	85	ePN	Pn	21 32 54.6	+1.0
SVRH	Sivrihisar-ESK	4.25	85	ePn	Pn	21 32 54.6	+1.0

MEX 01 21:47:03.3±0.4**, 18°.54N×103°.41W, h27**^{km}±38^{km}**, MD3.5, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.25	165	i P	Pb	21 47 08.7	-1.1
MMIG				eS	Sb	21 47 12.1	-2.2
R15V		0.83	320	i P	Pb	21 47 15.8	-3.4
R15V				eS	Sb	21 47 27.4	-2.7
EZ5V		0.95	349	i P	Pn	21 47 18.1	-3.2
EZ5V				eS	Sb	21 47 30.7	-3.4

*NNC **01** 21:49:18.2±5.7, 43°.32N×46°.36E, h0^{km}, mb3.5, mpv3.6, Error ellipse: s-maj=99.5km s-min=21.6km az=165.0*
*CSEM **01** 21:49:23.0±0.2, 43°.19N×46°.10E, h5^{km}, mb4.2, Error ellipse: s-maj=7.5km s-min=2.4km az=21.0*
*MOS **01** 21:49:23.3±2.0, 43°.24N×46°.13E, h18^{km}, mb4.2/1, Error ellipse: s-maj=9.7km s-min=5.6km az=34.3*
ISC 01 21:49:22.6±1.0**, 43°.25N**±0°.03×**46°.17E**±0°.02**, h13**^{km}±8^{km}**, n62, σ1^{s}09**/106**, 9C-8D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRO	Groznyy	0.32	283	⇑ i PG	Pg	21 49 28.7	-0.4
GRO	Groznyy	0.32	283	i Pg	Pg	21 49 28.7	-0.4
DLMR	Dylym	0.38	118	ePG	Pb	21 49 31.2	0.0
DLMR				eS	Sg	21 49 36.0	+0.6
DLMR	comp=Z,147nm,0.3s			pmax	pmax		
DLMR	Dylym comp=Z,147nm,0.3s	0.38	118	ePg	Pb	21 49 31.2	0.0
DLMR				eSg	Sg	21 49 36.0	+0.6
DBC	Dubki	0.53	115	i PG	Pg	21 49 32.8	-0.3
DBC				i S	Sg	21 49 40.5	+0.3
DBC	Dubki	0.53	115	i Pg	Pg	21 49 32.8	-0.3
DBC				i Sg	Sg	21 49 40.5	+0.3
BTLR	Botlikh	0.59	176	ePG	Pg	21 49 33.2	-0.9
BTLR				eS	Sg	21 49 41.2	-0.7
BTLR	comp=Z,269nm,0.3s			pmax	pmax		
BTLR	Botlikh comp=Z,269nm,0.3s	0.59	176	ePg	Pg	21 49 33.2	-0.9
BTLR				eSg	Sg	21 49 41.2	-0.7
KRNR	Karanay	0.68	128	⇓ i PG	Pg	21 49 36.5	+0.5
KRNR				i S	Sg	21 49 45.5	+0.5
KRNR	comp=Z,132nm,0.2s			pmax	pmax		
KRNR	Karanay comp=Z,132nm,0.2s	0.68	128	i Pg	Pg	21 49 36.5	+0.5
KRNR				i Sg	Sg	21 49 45.5	+0.5
UNCR	Uncukul	0.70	139	⇑ i PG	Pg	21 49 35.0	-1.3
UNCR				eS	Sg	21 49 45.0	-0.6
UNCR	comp=Z,135nm,0.2s			pmax	pmax		
UNCR	Uncukul comp=Z,135nm,0.2s	0.70	139	i Pg	Pg	21 49 35.0	-1.3
UNCR				eSg	Sg	21 49 45.0	-0.6
BUJR	Buynaksk	0.81	121	ePG	Pb	21 49 39.2	+0.7
BUJR				eS	Sb	21 49 50.5	+1.2
BUJR	comp=Z,134nm,0.2s			pmax	pmax		
BUJR	Buynaksk comp=Z,134nm,0.2s	0.81	121	ePg	Pb	21 49 39.2	+0.7
BUJR				eSg	Sb	21 49 50.5	+1.2
XNZR	Khunzakh	0.81	151	ePG	Pg	21 49 37.8	-0.5
XNZR				eS	Sg	21 49 48.5	-0.4
XNZR	comp=Z,165nm,0.2s			pmax	pmax		
XNZR	Khunzakh comp=Z,165nm,0.2s	0.81	151	ePg	Pg	21 49 37.8	-0.5
XNZR				eSg	Sg	21 49 48.5	-0.4
ARKR	Arakani	0.88	137	PG	Pg	21 49 40.0	+0.3
ARKR				eS	Sb	21 49 53.0	+1.5
ARKR	comp=Z,76nm,0.2s			pmax	pmax		
ARKR	Arakani comp=Z,76nm,0.2s	0.88	137	Pg	Pg	21 49 40.0	+0.3
ARKR				eSg	Sb	21 49 53.0	+1.5
SNJR	Sundja	1.01	260	⇓ i PG	Pg	21 49 42.2	0.0
SNJR				i S	Sn	21 49 56.7	+0.1
SNJR	Sundja	1.01	260	i Pg	Pg	21 49 42.2	0.0
MAK	Makhachkala	1.02	106c	i PG	Pn	21 49 43.1	+0.6
MAK				i		21 49 59.4	
MAK	comp=Z,26nm,0.1s			pmax	pmax		
MAK	comp=E,1.0nm,0.7s			smax	smax		
MAK	comp=N,1.0nm,0.4s			smax	smax		
MAK	comp=Z,1.0nm,0.5s			smax	smax		
MAK	Makhachkala comp=Z,26nm,0.1s	1.02	106	i Pg	Pn	21 49 43.1	+0.6
TRKR	Terskaya	1.15	295	⇓ i PG	Pg	21 49 44.8	0.0
TRKR				i S	Sn	21 50 01.7	+1.7
TRKR	Terskaya	1.15	295	i Pg	Pg	21 49 44.8	0.0
TRKR				i Sg	Sn	21 50 01.7	+1.7
MNSR	Manas	1.26	115	ePG	Pg	21 49 48.5	+1.7
MNSR				i S	Sg	21 50 06.2	+3.0
MNSR	comp=Z,123nm,0.3s			pmax	pmax		
MNSR	Manas comp=Z,123nm,0.3s	1.26	115	ePg	Pg	21 49 48.5	+1.7
MNSR				i Sg	Sg	21 50 06.2	+3.0
KMKR	Kumukh	1.31	148	ePG	Pn	21 49 47.0	+0.2
KMKR				eS	Sg	21 50 05.5	+0.6
KMKR	comp=Z,126nm,0.4s			pmax	pmax		
KMKR	Kumukh comp=Z,126nm,0.4s	1.31	148	ePg	Pn	21 49 47.0	+0.2
KMKR				eSg	Sg	21 50 05.5	+0.6
KMSR	Komsomolskaya	1.38	276	⇓ i PG	Pb	21 49 48.3	+0.1
KMSR				eS	Sg	21 50 08.0	+1.0
KMSR	Komsomolskaya	1.38	276	i Pg	Pb	21 49 48.3	+0.1
KMSR				eSg	Sg	21 50 08.0	+1.0
ARNR	Ardon	1.39	268	⇓ i PG	Pn	21 49 48.3	+0.7
ARNR				eS	Sg	21 50 07.9	+0.6
ARNR	Ardon	1.39	268	i Pg	Pn	21 49 48.3	+0.7
ARNR				eSg	Sg	21 50 07.9	+0.6
LACR	Lac	1.44	254	⇑ i PG	Pn	21 49 47.7	-0.8
LACR				i S	Sn	21 50 07.7	+0.4
LACR	Lac	1.44	254	i Pg	Pn	21 49 47.7	-0.8
LACR				i Sg	Sn	21 50 07.7	+0.4
PRTR	Priterechnaya	1.47	291	ePG	Pb	21 49 49.8	+0.1
PRTR				eS	Sg	21 50 10.7	+0.9
PRTR	Priterechnaya	1.47	291	ePg	Pb	21 49 49.8	+0.1
PRTR				eSg	Sg	21 50 10.7	+0.9
URKR	Urkarakh	1.53	135	ePG	Pg	21 49 52.0	0.0
URKR				eS	Sg	21 50 12.4	+0.6
URKR	comp=Z,60nm,0.2s			pmax	pmax		
URKR	Urkarakh comp=Z,60nm,0.2s	1.53	135	ePg	Pg	21 49 52.0	0.0
URKR				eSg	Sg	21 50 12.4	+0.6
KORR	Kora	1.55	265	ePG	Pn	21 49 50.8	+0.9
KORR				eS	Sg	21 50 12.1	-0.4
KORR	Kora	1.55	265	ePg	Pn	21 49 50.8	+0.9
KORR				eSg	Sg	21 50 12.1	-0.4
LSNR	Lesken	1.72	272	⇓ i PN	Pb	21 49 53.8	-0.3
LSNR				i S	Sb	21 50 17.1	+1.4
LSNR	Lesken	1.72	272	i Pn	Pb	21 49 53.8	-0.3
LSNR				i Sg	Sb	21 50 17.1	+1.4
ZEI	Tsey	1.74	255	ePN	Pn	21 49 52.7	+0.1
ZEI				eS	Sn	21 50 15.8	+1.1
ZEI	Tsey	1.74	255	ePn	Pn	21 49 52.7	+0.1
ZEI				eSg	Sn	21 50 15.8	+1.1
TBLG	Delisi	1.85	215	ePN	Pn	21 49 55.6	+1.6
TBLG				eS	Sb	21 50 20.8	+1.5
TBLG	Delisi	1.85	215	P	Pn	21 49 55.6	+1.6
TBLG				S	Sb	21 50 20.8	+1.5
TBLG	Delisi	1.85	215	ePn	Pn	21 49 55.6	+1.6
TBLG				S	Sb	21 50 20.8	+1.5
DIGR	Digorskoe uzhe	1.93	260	⇑ i PN	Pn	21 49 55.7	+0.4
DIGR	Digorskoe uzhe	1.93	260	i Pn	Pn	21 49 55.7	+0.4
GOR	Gori	1.98	231	P	Pb	21 49 58.2	-0.3
GOR				S	Sb	21 50 24.5	+1.5
DRN	Derbent	2.00	127	PN	Pg	21 50 01.5	+0.4
DRN	comp=Z,46nm,0.3s			pmax	pmax		
ONI	Oni	2.10	253	P	Pn	21 49 58.3	+0.7
ONI				S	Sb	21 50 28.4	+1.7
KSMR	Kasumkent	2.19	138	ePN	Pg	21 50 05.0	+0.4
KSMR				eS	Sg	21 50 34.0	+1.0
KSMR	Kasumkent	2.19	138	eSb	Sb	21 50 34.0	+4.7
KIV	Kislovodsk comp=Z,21nm,0.6s	2.63	287	⇓Pn	Pn	21 50 03.6	-1.2
KIV	comp=Z,98nm,0.6s			⇑Lg	Lg	21 50 44.0	
KIV	Kislovodsk	2.63	287c	i PN	Pn	21 50 03.6	-1.2
KIV				e		21 50 15.2	
KIV	comp=Z,6.0nm,0.6s			pmax	pmax		
KIV	Kislovodsk comp=Z,21nm,0.6s	2.63	287	Pn	Pn	21 50 03.6	-1.2
KIV	Kislovodsk	2.63	287	ePg	Pg	21 50 15.2	+2.2
KIV	comp=Z,98nm,0.6s			Lg	Lg	21 50 44.0	
AKH	Akhalkalaki	2.71	228	P	Pb	21 50 10.7	-0.2
AKH				S	Sb	21 50 44.4	+0.3
AKTO	Aktyubinsk comp=Z,0.3nm,0.9s	10.83	44	⇑Pn	Pn	21 51 52.8	-4.4
AKTO	comp=Z,0.3nm,0.6s			⇓Sn	Sn	21 53 51.0	-7.1
AKTO	Aktyubinsk comp=Z,0.3nm,0.9s	10.83	44	Pn	Pn	21 51 52.8	-4.4
AKTO	comp=Z,0.3nm,0.6s			Sn	Sn	21 53 51.0	-7.1
AB31	Akbulak array comp=Z,0.7nm,0.6s,baz=238,slow=12,SNR=23	11.26	53	Pn	Pn	21 52 00.8	-2.3
AB31	comp=Z,0.3nm,0.2s,baz=240,slow=28,SNR=7.0			⇑Sn	Sn	21 54 04.2	-4.5

*NDI **01** 21:56:56.1±9.3, 28°.97N×76°.95E, h10^{km}, ML2.0*
IDC 01 21:56:12.8±1.5**, 31°.65N×79°.86E, h0**^{km}**, mb3.3**/4**, mb1 3.4**/5**, mb1mx3.2**/26**, mbtmp3.3**/5**, ML2.5**/1**, Error ellipse: s-maj=31.2km s-min=30.2km az=151.0, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDI	Dehra Dun	2.04	230	ex	Pg	21 56 57.0	+5.1
DDI				ex	Sg	21 57 29.5	+11
SDNR	Sundarnagar	2.47	267	eP	Pb	21 56 59.0	+0.8
SDNR				eS	Sg	21 57 37.6	+5.3
NDI	New Delhi	3.74	218	eS	Pn	21 57 08.5	-3.3
RTK	Rohtak	3.96	230	eP	Pn	21 57 03.9	-11
RTK	comp=Z,68nm,0.1s			AML	AML	21 57 12.6	
SONA	Sohna	4.16	216	eP	Pn	21 57 10.6	-7.0
SONA				eS	Pb	21 57 21.5	-5.4
KUDL	Kundal	4.56	221	eP	Pn	21 57 13.5	-10
KUDL				eS	Pn	21 57 27.9	+4.9
KUDL	comp=N,14nm,0.1s			AML	AML	21 57 31.0	
KUDL	comp=E,11nm,0.2s			AML	AML	21 57 31.7	
AGRA	Agra	4.71	201	eS	Pg	21 57 53.3	+10
AGRA	comp=E,47nm,0.4s			AML	AML	21 58 00.9	
AGRA	comp=N,44nm,0.3s			AML	AML	21 58 01.3	
KHET	Khetri	5.01	226	eS	Pb	21 57 39.3	-2.1
KHET	comp=N,16nm,0.1s			AML	AML	21 57 43.3	
KHET	comp=E,14nm,0.2s			AML	AML	21 57 43.5	
MKAR	Makanchi Array comp=E,0.0nm,0.3s,baz=199,slow=14,SNR=3.5	15.24	6	Pn	Pn	21 59 46.3	-3.0
CMAR	Chiang Mai Arr comp=E,0.7nm,0.8s,baz=307,slow=9.3,SNR=6.4	21.67	123	P	P	22 01 05.2	0.0
ZALV	Zalesovo Beam comp=E,1.2nm,0.6s,baz=194,slow=10,SNR=10	22.57	8	P	P	22 01 14.9	+0.4
SONM	Songino Array comp=E,0.3nm,0.6s,baz=257,slow=9.8,SNR=2.2	25.85	44	P	P	22 01 46.0	-0.1
TORD	Torodi Ar. Bea comp=E,0.2nm,0.7s,baz=59,slow=4.9,SNR=3.0	73.24	275	P	P	22 07 46.3	0.0

*CSEM **01** 22:08:32.7±0.3, 39°.25N×26°.01E, h4^{km}±3^{km}, MD2.9, Error ellipse: s-maj=6.3km s-min=4.8km az=41.0*
*ISCJB **01** 22:08:33.0±0.7, 39°.25N±0°.03×26°.04E±0°.04, h7^{km}±4^{km}, Error ellipse: s-maj=5.4km s-min=3.7km az=145.3*
*THE **01** 22:08:33.2, 39°.23N×26°.03E, h6^{km}±1^{km}, ML2.6/4, Error ellipse: s-maj=1.6km s-min=0.5km az=134.0*
*ATH **01** 22:08:33.3, 39°.39N×26°.21E, h15^{km}±1^{km}, MD2.9/4*
*DDA **01** 22:08:33.3, 39°.27N×26°.16E, h7^{km}, MD2.7*
ISC 01 22:08:33.5±0.9**, 39°.26N**±0°.02×**26°.09E**±0°.03**, h14**^{km}±5^{km}**, n30, σ0^{s}61**/59**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.14	94	P	Pg	22 08 36.7	-0.6
PRK				S	Sg	22 08 39.9	+0.2
PRK	Paraskevi	0.14	94	ePB	Pg	22 08 36.9	-0.4
PRK				eSB	Sg	22 08 40.0	+0.2
PRK	Paraskevi	0.14	94	P	Pg	22 08 36.7	-0.6
PRK				S	Sg	22 08 39.9	+0.2
AYVA	Ayvalik	0.47	83	i P	Pg	22 08 42.7	-0.2
AYVA				i S	Sg	22 08 50.1	+0.9
AYVA	Ayvalik	0.47	83	i P	Pg	22 08 42.7	-0.2
AYVA				i S	Sg	22 08 50.1	+0.9
BOZC	Bozcaada	0.59	357	i P	Pg	22 08 44.7	-0.4
BOZC				i S	Sb	22 08 53.7	0.0
CHOS	Chios island	0.87	182	P	Pg	22 08 49.0	-1.4
CHOS				S	Sb	22 09 01.5	-0.4
CHOS	Chios island	0.87	182	P	Pg	22 08 49.0	-1.4
CHOS				S	Sb	22 09 01.5	-0.4
LIA	Limnos Island	0.95	313	P	Pg	22 08 51.2	-0.7
LIA				S	Sg	22 09 04.2	-0.1
LIA	Limnos Island	0.95	313	ePN	Pg	22 08 51.5	-0.4
LIA				eSN	Sg	22 09 04.2	-0.1
LIA	Limnos Island	0.95	313	P	Pg	22 08 51.2	-0.7
LIA	Limnos Island	0.95	313	ePn	Pg	22 08 51.5	-0.4
LIA				eSn	Sg	22 09 04.2	-0.1
URLA	Izmir	0.98	156	i P	Pg	22 08 51.6	-0.9
URLA				i S	Sb	22 09 05.1	+0.1
URLA	Izmir	0.98	156	i P	Pg	22 08 51.6	-0.9
URLA				i S	Sb	22 09 05.1	+0.1
BALY	Balya	1.28	67	i P	Pb	22 08 57.5	+0.1
BALY				i S	Sg	22 09 15.1	+0.2
BALY	Balya	1.28	67	i P	Pb	22 08 57.5	+0.1
BALY				i S	Sg	22 09 15.1	+0.2
AKHS	Akhisar	1.40	105	i P	Pn	22 08 58.6	+0.1
AKHS				i S	Sg	22 09 18.7	+0.1
AKHS	Akhisar	1.40	105	i P	Pn	22 08 58.6	+0.1
AKHS				i S	Sg	22 09 18.7	+0.1
ALN	Alexandroupoli	1.64	359	P	Pn	22 09 01.9	0.0
ALN				S	Sb	22 09 23.9	-0.1
ALN	Alexandroupoli	1.64	359	P	Pn	22 09 01.9	0.0
ALN				S	Sb	22 09 23.9	-0.1
SMG	Samos	1.65	159	ePN	Pg	22 09 05.8	+0.5
SMG				eSN	Sg	22 09 28.2	+1.5
SART	Tekirdag	1.66	30	i P	Pn	22 09 02.7	+0.4
SART				i S	Sg	22 09 26.8	-0.2
SART	Tekirdag	1.66	30	i P	Pn	22 09 02.7	+0.4
SART				i S	Sg	22 09 26.8	-0.2
DURS	Dursunbey	1.88	79	i P	Pn	22 09 05.8	+0.5
DURS				i S	Sb	22 09 30.3	-0.8
DURS	Dursunbey	1.88	79	i P	Pn	22 09 05.8	+0.5
DURS				i S	Sb	22 09 30.3	-0.8
RDO	Rodhopi	1.94	348	ePN	Pn	22 09 06.8	+0.8
RDO				eSN	Sn	22 09 30.2	+0.2
RDO	Rodhopi	1.94	348	ePn	Pn	22 09 06.8	+0.8
RDO				eSn	Sn	22 09 30.2	+0.2
DEMI	Demirci	2.06	95	eP	Pb	22 09 11.5	+0.8
DEMI				i S	Sg	22 09 39.2	-0.5
DEMI	Demirci	2.06	95	eP	Pb	22 09 11.5	+0.8
DEMI				i S	Sg	22 09 39.2	-0.5
GDZ	Gediz	2.64	93	eP	Pg	22 09 22.4	-1.8
GDZ				i S	Sg	22 09 58.5	0.0

*CSEM **01** 22:17:55.4±0.3, 76°.67N×17°.29E, h10^{km}, ML3.8, Error ellipse: s-maj=12.1km s-min=4.9km az=63.0*
*IDC **01** 22:17:59.2±0.6, 76°.98N×18°.81E, h0^{km}, mb3.6/9, mb1 3.8/13, mb1mx3.6/27, mbtmp3.6/13, ML3.4/4, Error ellipse: s-maj=18.2km s-min=6.2km az=71.0*
*NAO **01** 22:17:59.5±1.8, 76°.95N×18°.26E, h16^{km}±17^{km}, ML3.7*
*BER **01** 22:18:02.6, 77°.01N×18°.56E, h15^{km}, MD3.0, ML3.8, ML3.7(NAO)*
ISC 01 22:17:58.4±1.3**, 76°.95N**±0°.04×**18°.37E**±0°.07**, h1**^{km}±9^{km}**, n37, σ1^{s}41**/44**, mb3.5**/9**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar baz=151,slow=22	1.30	342	Pg	Pb	22 18 23.7	0.0
SPA0	baz=165,slow=28			Lg	Lg	22 18 40.5	
SPA0	Spitsbergen Ar baz=151,slow=19,SNR=90	1.30	342	Pg	Pb	22 18 23.7	0.0
SPA0	baz=165,slow=27			Lg	Lg	22 18 40.5	
SPITS	Spitsbergen Ar baz=150,slow=19,SNR=4196	1.30	342	Pg	Pg	22 18 23.5	+0.1
SPITS	baz=153,slow=35,SNR=19			Lg	Lg	22 18 42.0	
HOPEN	Hopen	1.60	103	eP	Pn	22 18 26.9	-0.8
HOPEN				eS	Sb	22 18 49.0	-0.3
HOPEN	comp=Z,2μm,0.4s			AML	AML	22 18 51.9	
HOPEN	Hopen SNR=55	1.60	103	eP	Pn	22 18 26.9	-0.8
HOPEN	comp=Z,2μm,0.4s,SNR=55			eS	Sb	22 18 49.0	-0.3
KBS	Kingsbay	2.40	329	Pn	Pn	22 18 38.5	-0.2
KBS				Pg	Pg	22 18 44.1	-0.2
KBS				Lg	Lg	22 19 14.2	
KBS	Kingsbay	2.40	329	eP	Pn	22 18 38.4	-0.4
KBS				ePg	Pg	22 18 44.0	-0.2
KBS				eSg	Sg	22 19 15.0	-0.3
KBS	comp=Z,2μm,0.4s			AML	AML	22 19 22.4	
KBS	Kingsbay	2.40	329	Pn	Pn	22 18 38.5	-0.2
KBS	Kingsbay SNR=90	2.40	329	ePg	Pg	22 18 44.0	-0.2
KBS				Lg	Lg	22 19 14.2	
KBS	comp=Z,2μm,0.4s,SNR=90			eSg	Sg	22 19 15.0	-0.3
BJO	Bjornoya	2.47	175	ePg	Pg	22 18 45.7	0.0
BJO				eSg	Sg	22 19 18.1	+0.4
BJO	comp=Z,636nm,0.5s			AML	AML	22 19 22.6	
BJO	Bjornoya SNR=90	2.47	175	ePg	Pg	22 18 45.7	0.0
BJO	comp=Z,636nm,0.5s,SNR=90			eSg	Sg	22 19 18.1	+0.4
TRO	Tromso	7.37	178	eP	Pn	22 19 48.2	+1.4
TRO				eS	Sn	22 21 07.2	-3.7
TRO	Tromso SNR=51	7.37	178	eP	Pn	22 19 48.2	+1.4
TRO	SNR=47			eS	Sn	22 21 07.2	-3.7
KEV	Kevo comp=Z,7.8nm,0.6s	7.64	157	ep	Pn	22 19 54.0	+3.4
KEV	Kevo comp=Z,7.8nm,0.6s	7.64	157	ep	Pn	22 19 54.0	+3.4
ARA0	ARCESS Array S baz=350,slow=12	7.73	161	Pn	Pn	22 19 51.0	-0.9
ARA0	baz=2.7,slow=22			Sn	Sn	22 21 11.5	-8.4
ARA0	ARCESS Array S baz=350,slow=12,SNR=195	7.73	161	Pn	Pn	22 19 51.0	-0.9
ARA0	baz=2.7,slow=19,SNR=7.9			Sn	Sn	22 21 11.5	-8.4
ARCES	ARCESS Array B comp=Z,1.5nm,0.3s,baz=352,slow=12,SNR=47	7.73	161	Pn	Pn	22 19 51.3	-0.6
ARCES	comp=Z,4.3nm,0.3s,baz=0.5,slow=13,SNR=14			Sn	Sn	22 21 11.4	-8.5
SUMG	Summit comp=Z,8.3nm,1.0s	14.97	283	i P	P	22 21 42.3	+5.4
KAF	Kangasniemi	15.14	166	ep	Pn	22 21 31.5	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.8nm,0.3s						
KAF	**Kangasniemi**	**15.14**	**166**	ep	**Pn**	**22 21 31.5**	**-1.6**
	comp=Z,0.8nm,0.3s						
KAF	**Kangasniemi**	**15.14**	**166**	eP	**Pn**	**22 21 31.5**	**-1.6**
	comp=Z,0.8nm,0.3s						
FIA0	**FINESS Array S**	**15.80**	**166**	P	**Pn**	**22 21 39.0**	**-2.7**
	slow=14						
FIA0	**FINESS Array S**	**15.80**	**166**	P	**Pn**	**22 21 39.0**	**-2.7**
	slow=12,SNR=5.7						
FINES	**FINESS Array B**	**15.80**	**166**	Pn	**Pn**	**22 21 38.8**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=4.1,slow=13,SNR=9.3						
FINES				Sn	Sn	22 24 27.9	-9.1
	comp=Z,0.7nm,0.3s,baz=358,slow=23,SNR=6.7						
NOA	**NORSAR Array B**	**16.17**	**193**	Pn	**Pn**	**22 21 46.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=7.3,slow=12,SNR=2.7						
HFS	**Hagfors**	**16.98**	**188**	P	**P**	**22 21 59.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=10,slow=9.0,SNR=7.2						
GERES	**GERESS Array B**	**28.27**	**187**	P	**P**	**22 23 53.4**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=16,slow=9.9,SNR=3.8						
SCHQ	**Schefferville**	**36.36**	**283**	P	**P**	**22 25 03.5**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=9.8,slow=7.7,SNR=4.6						
ILAR	**Eielson Array**	**38.21**	**350**	P	**P**	**22 25 19.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=0.7,slow=6.5,SNR=12						
ESDC	**Sonseca Array**	**38.61**	**208**	P	**P**	**22 25 24.4**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=7.1,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**39.09**	**102**	P	**P**	**22 25 27.1**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=344,slow=7.2,SNR=11						
SONM	**Songino Array**	**43.54**	**78**	P	**P**	**22 26 04.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=339,slow=7.7,SNR=2.5						
USRK	**Ussuriysk Arra**	**52.33**	**56**	P	**P**	**22 27 10.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=1.2,slow=8.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**64.40**	**198**	P	**P**	**22 28 38.4**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=355,slow=7.4,SNR=7.4						
TXAR	**Lajitas Array**	**68.32**	**307**	P	**P**	**22 29 00.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.2,SNR=4.8						
ASAR	**Alice Springs**	**118.59**	**70**	PKP	**PKPdf**	**22 36 46.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=0.9,slow=1.6,SNR=5.9						

*NNC **01** 22:27:33.4±2.8, 39.67N×73.55E, h0^{km}±15^{km}, mb3.5, mpv3.2, Error ellipse: s-maj=27.1km s-min=11.0km az=4.0*
ISC 01 22:27:37.1±3.0**, 39.9N**±0.2×**73.91E**±0.09**, h10^{km}, n10, σ1.53**/18**, 6C-2D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.21**	**356**	P	**Pn**	**22 28 15.3**	**+1.1**
	SNR=43						
AML				P	**Pn**	**22 28 15.3**	**+1.1**
	SNR=43						
UCH	**Uchtor**	**2.34**	**11**	P	**Sg**	**22 28 52.4**	**0.0**
	SNR=14						
UCH				P	**Sg**	**22 28 52.4**	**0.0**
	SNR=14						
KZA	**Kyzart**	**2.37**	**25**	P	**Pn**	**22 28 17.3**	**+0.8**
	SNR=12						
KZA				P	**Pn**	**22 28 17.3**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**2.73**	**358**	P	**Pn**	**22 28 24.1**	**+2.9**
	SNR=12						
EKS2				P	**Pn**	**22 28 24.1**	**+2.9**
	SNR=12						
AAK	**Ala-Archa**	**2.74**	**9**	P	**Pb**	**22 28 24.9**	**-1.4**
	SNR=25						
AAK				P	**Pb**	**22 28 24.9**	**-1.4**
	SNR=25						
KBK	**Karagaybulak**	**2.84**	**16**	P	**Pn**	**22 28 24.3**	**+1.6**
	SNR=21						
KBK				P	**Pn**	**22 28 24.3**	**+1.6**
	SNR=21						
TKM2	**Tokmak 2**	**3.25**	**22**	⇑Pn	**Pn**	**22 28 29.4**	**+1.1**
	2.3nm,0.3s						
TKM2				⇑Sn	**Sb**	**22 29 14.0**	**-0.7**
	7.9nm,0.5s						
KNDC	**Almaty**	**4.01**	**34**	⇓Pn	Pn	22 28 42.1	+3.5
	6.1nm,0.5s						
KNDC				⇑Sn	**Sb**	**22 29 35.1**	**-1.2**
KK31	**Karatay Array**	**4.07**	**322**	Pn	**Pn**	**22 28 38.1**	**-1.4**
	0.7nm,0.3s,baz=127,slow=12,SNR=38						
KK31				⇑Pg	**Pb**	**22 28 48.9**	**0.0**
	2.3nm,0.4s,baz=143,slow=15,SNR=12						
KK31				⇑Sn	**Sn**	**22 29 27.8**	**+0.6**
	3.1nm,0.3s,baz=145,slow=24,SNR=5.8						
KK31				⇑Lg	Lg	22 29 44.0	
	13nm,0.5s,baz=244,slow=52,SNR=9.7						
AB31	**Akbulak array**	**13.62**	**318**	⇓P	Pn	22 30 45.1	-5.1
	0.2nm,0.4s,baz=126,slow=14,SNR=14						

*THE **01** 22:32:21.9, 39.23N×26.03E, h5^{km}±1^{km}, ML2.5/5, Error ellipse: s-maj=1.5km s-min=0.5km az=116.0*
*DDA **01** 22:32:21.3, 39.25N×26.04E, h28^{km}, MD3.0*
*CSEM **01** 22:32:21.8±0.2, 39.24N×26.01E, h5^{km}, MD3.1, Error ellipse: s-maj=3.8km s-min=2.9km az=75.0*
*ISCJB **01** 22:32:21.7±0.6, 39.24N±0.02×26.03E±0.03, h7^{km}±4^{km}, Error ellipse: s-maj=4.5km s-min=3.5km az=159.1*
*ISK **01** 22:32:21.0, 39.25N×26.02E, h4^{km}, MD3.1*
ISC 01 22:32:21.7±1.1**, 39.25N**±0.02×**26.03E**±0.03**, h7^{km}**±9^{km}**, n75, σ0.73**/98**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.19**	**90**	P	**Pg**	**22 32 25.5**	**0.0**
PRK				S	**Sg**	**22 32 28.3**	**+0.2**
PRK	**Paraskevi**	**0.19**	**90**	P	**Pg**	**22 32 25.5**	**0.0**
PRK				S	**Sg**	**22 32 28.3**	**+0.2**
AYVA	**Ayvalik**	**0.52**	**83**	iP	**Pg**	**22 32 31.5**	**-0.2**
AYVA	**Ayvalik**	**0.52**	**83**	iP	**Pg**	**22 32 31.5**	**-0.2**
BOZC	**Bozcaada**	**0.59**	**2**	iP	**Pg**	**22 32 33.5**	**+0.3**
BOZC				iS	**Sb**	**22 32 42.4**	**-0.7**
EZN	**Ezine**	**0.62**	**22**	PG	**Pg**	**22 32 33.8**	**+0.1**
EZN				SG	**Sb**	**22 32 43.4**	**-0.6**
EZN	**Ezine**	**0.62**	**22**	iPg	**Pg**	**22 32 33.8**	**+0.1**
EZN				iSg	**Sb**	**22 32 43.4**	**-0.6**
CHOS	**Chios island**	**0.86**	**178**	P	**Pg**	**22 32 37.7**	**-0.5**
CHOS				S	**Sb**	**22 32 50.1**	**-0.7**
CHOS	**Chios island**	**0.86**	**178**	P	**Pg**	**22 32 37.7**	**-0.5**
CHOS				S	**Sb**	**22 32 50.1**	**-0.7**
LIA	**Limnos Island**	**0.92**	**315**	P	**Pb**	**22 32 39.9**	**-0.1**
LIA				S	**Sb**	**22 32 52.8**	**+0.3**
LIA	**Limnos Island**	**0.92**	**315**	P	**Pb**	**22 32 39.9**	**-0.1**
LIA				S	**Sb**	**22 32 52.8**	**+0.3**
URLA	**Izmir**	**0.99**	**153**	iP	**Pg**	**22 32 40.2**	**-0.5**
URLA				iS	**Sb**	**22 32 54.2**	**-0.3**
URLA	**Izmir**	**0.99**	**153**	iP	**Pg**	**22 32 40.2**	**-0.5**
URLA				iS	**Sb**	**22 32 54.2**	**-0.3**
BLCB	**Balcova**	**1.17**	**137**	ePN	**Pg**	**22 32 43.8**	**-0.3**
BLCB	**Balcova**	**1.17**	**137**	ePn	**Pg**	**22 32 43.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.20**	**17**	ePN	**Pg**	**22 32 44.2**	**-0.5**
GELI				eSN	**Sn**	**22 33 01.6**	**0.0**
GELI	**Tayfur-Gelibol**	**1.20**	**17**	ePn	**Pg**	**22 32 44.3**	**-0.5**
GELI				eSn	**Sn**	**22 33 01.6**	**0.0**
LPK	**Lapseki**	**1.26**	**26**	ePN	**Pg**	**22 32 45.3**	**-0.6**
LPK	**Lapseki**	**1.26**	**26**	ePn	**Pg**	**22 32 45.3**	**-0.6**
BALY	**Balya**	**1.33**	**68**	iP	**Pn**	**22 32 45.7**	**-1.0**
BALY				iS	**Sg**	**22 33 03.8**	**-0.6**
AKS	**Akhisar**	**1.44**	**104**	ePN	**Pb**	**22 32 49.1**	**+0.2**
AKS	**Akhisar**	**1.44**	**104**	ePn	**Pb**	**22 32 49.1**	**+0.2**
AKHS	**Akhisar**	**1.44**	**104**	iP	**Pn**	**22 32 47.5**	**-0.8**
AKHS				iS	**Sg**	**22 33 08.3**	**+0.3**
AKHS	**Akhisar**	**1.44**	**104**	iP	**Pn**	**22 32 47.5**	**-0.8**
AKHS				iS	**Sg**	**22 33 08.3**	**+0.3**
ERIK	**Erikli-Kesan**	**1.47**	**15**	ePN	**Pn**	**22 32 48.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.47**	**15**	ePn	**Pn**	**22 32 48.9**	**+0.2**
BALB	**Balikesir**	**1.49**	**74**	ePN	**Pn**	**22 32 49.2**	**+0.3**
BALB	**Balikesir**	**1.49**	**74**	ePn	**Pn**	**22 32 49.2**	**+0.3**
ENEZ	**Enez**	**1.49**	**4**	ePN	**Pn**	**22 32 49.5**	**+0.5**
ENEZ	**Enez**	**1.49**	**4**	ePn	**Pn**	**22 32 49.5**	**+0.5**
KRBG	**Karabiga-Canak**	**1.51**	**40**	ePN	**Pn**	**22 32 48.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.51**	**40**	ePn	**Pn**	**22 32 48.6**	**-0.6**
GONE	**Gonen-Balikesi**	**1.51**	**58**	ePN	**Pn**	**22 32 48.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.51**	**58**	ePn	**Pn**	**22 32 48.9**	**-0.3**
ALN	**Alexandroupoli**	**1.65**	**1**	P	**Pn**	**22 32 50.6**	**-0.5**
ALN				S	**Sn**	**22 33 12.7**	**+0.1**
ALN	**Alexandroupoli**	**1.65**	**1**	P	**Pn**	**22 32 50.6**	**-0.5**
ALN				S	**Sn**	**22 33 12.7**	**+0.1**
AOS	**Alonnisos**	**1.67**	**268**	P	**Pn**	**22 32 51.1**	**-0.3**
AOS				S	**Sn**	**22 33 13.6**	**+0.5**
AOS	**Alonnisos**	**1.67**	**268**	P	**Pn**	**22 32 51.1**	**-0.3**
AOS				S	**Sn**	**22 33 13.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	ePN	**Pn**	**22 32 52.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.69**	**31**	ePn	**Pn**	**22 32 52.2**	**+0.4**
SART	**Tekirdag**	**1.69**	**31**	iP	**Pn**	**22 32 51.2**	**-0.6**
SART				iS	**Sn**	**22 33 13.6**	**-0.2**
MFT	**Murefte**	**1.82**	**32**	ePN	**Pn**	**22 32 54.2**	**+0.7**
MFT	**Murefte**	**1.82**	**32**	ePn	**Pn**	**22 32 54.2**	**+0.7**
DURS	**Dursunbey**	**1.93**	**79**	iP	**Pn**	**22 32 54.5**	**-0.6**
DURS				iS	**Sn**	**22 33 18.9**	**-0.8**
RDO	**Rodhopi**	**1.93**	**349**	P	**Pn**	**22 32 54.9**	**-0.1**
RDO	**Rodhopi**	**1.93**	**349**	P	**Pn**	**22 32 54.9**	**-0.1**
DEMI	**Demirci**	**2.10**	**95**	iP	**Pn**	**22 32 57.9**	**+0.5**
DEMI	**Demirci**	**2.10**	**95**	iP	**Pn**	**22 32 57.9**	**+0.5**
KULA	**Kula-Manisa**	**2.18**	**109**	ePN	**Pn**	**22 32 59.4**	**+0.8**
KULA	**Kula-Manisa**	**2.18**	**109**	ePn	**Pn**	**22 32 59.4**	**+0.8**
APE	**Apeiranthos**	**2.21**	**190**	ePN	**Pn**	**22 32 59.9**	**+1.0**
APE	**Apeiranthos**	**2.21**	**190**	ePn	**Pn**	**22 32 59.9**	**+1.0**
CRLT	**Corlu**	**2.29**	**34**	ePN	**Pn**	**22 33 00.7**	**+0.7**
CRLT	**Corlu**	**2.29**	**34**	ePn	**Pn**	**22 33 00.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.47**	**62**	ePN	**Pn**	**22 33 02.9**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.47**	**62**	ePn	**Pn**	**22 33 02.9**	**+0.5**
ARMT	**Armutlu**	**2.55**	**58**	ePN	**Pn**	**22 33 04.3**	**+0.8**
ARMT	**Armutlu**	**2.55**	**58**	ePn	**Pn**	**22 33 04.3**	**+0.8**
ULDT	**Uludag**	**2.56**	**69**	iP	**Pn**	**22 33 03.6**	**-0.3**
SLVT	**Silivri**	**2.59**	**39**	ePN	**Pn**	**22 33 05.1**	**+1.0**
SLVT	**Silivri**	**2.59**	**39**	ePn	**Pn**	**22 33 05.1**	**+1.0**
EDRB	**Edirne**	**2.66**	**12**	ePN	**Pn**	**22 33 05.6**	**+0.6**
EDRB	**Edirne**	**2.66**	**12**	ePn	**Pn**	**22 33 05.6**	**+0.6**
GDZ	**Gediz**	**2.69**	**92**	eP	**Pn**	**22 33 07.8**	**+2.2**
GDZ				iS	**Sg**	**22 33 47.0**	**-1.2**
GDZ	**Gediz**	**2.69**	**92**	eP	**Pn**	**22 33 07.8**	**+2.2**
GEMT	**Gemlik**	**2.71**	**63**	ePN	**Pn**	**22 33 07.0**	**+1.3**
GEMT	**Gemlik**	**2.71**	**63**	ePn	**Pn**	**22 33 07.0**	**+1.3**
CTKS	**Kestanelik-??a**	**2.75**	**43**	ePN	**Pn**	**22 33 07.5**	**+1.3**
CTKS	**Kestanelik-??a**	**2.75**	**43**	ePn	**Pn**	**22 33 07.5**	**+1.3**
CTYL	**Yal??k??y-??at**	**2.82**	**37**	ePN	**Pn**	**22 33 08.0**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.82**	**37**	ePn	**Pn**	**22 33 08.0**	**+0.8**
BGKT	**Bogazkoy**	**2.86**	**47**	ePN	**Pn**	**22 33 09.1**	**+1.4**
BGKT	**Bogazkoy**	**2.86**	**47**	ePn	**Pn**	**22 33 09.1**	**+1.4**
GULT	**Gulveren**	**3.65**	**70**	ePN	**Pn**	**22 33 20.1**	**+1.4**
GULT	**Gulveren**	**3.65**	**70**	ePn	**Pn**	**22 33 20.2**	**+1.4**

*CSEM **01** 22:39:13.5±0.3, 34.23N×26.43E, h10^{km}, MD3.5, Error ellipse: s-maj=11.5km s-min=7.4km az=65.0*
*ATH **01** 22:39:14.9, 34.39N×26.29E, h21^{km}±4^{km}, MD3.5/8*
*ISCJB **01** 22:39:14.1±0.5, 34.15N±0.04×26.41E±0.08, h33^{km}, Error ellipse: s-maj=9.0km s-min=5.5km az=172.0*
ISC 01 22:39:15.0±1.0**, 34.30N**±0.04×**26.35E**±0.05**, h33^{km}, n21, σ1.73**/26**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.81**	**353**	ePN	**Pn**	**22 39 28.8**	**-1.5**
ZKR				eSN	**Sn**	**22 39 39.2**	**-2.0**
NPS	**Neapolis**	**1.13**	**328**	ePN	**Pn**	**22 39 35.0**	**+0.4**
NPS				eSN	**Sn**	**22 39 47.8**	**-1.2**
NPS	**Neapolis**	**1.13**	**328**	ePn	**Pn**	**22 39 35.0**	**+0.4**
KARP	**Karpathos**	**1.41**	**28**	ePN	**Pb**	**22 39 40.1**	**-0.7**
KARP				eSN	**Sb**	**22 40 00.3**	**+1.9**
KARP	**Karpathos**	**1.41**	**28**	ePn	**Pb**	**22 39 40.1**	**-0.7**
KARP				eSn	**Sb**	**22 40 00.3**	**+1.9**
SIVA	**Sivas**	**1.45**	**300**	ePN	**Pb**	**22 39 41.6**	**+0.1**
SIVA	**Sivas**	**1.45**	**300**	ePn	**Pb**	**22 39 41.6**	**+0.1**
VAM	**Vamos**	**2.08**	**303**	ePN	**Pb**	**22 39 50.2**	**-1.9**
VAM	**Vamos**	**2.08**	**303**	ePn	**Pb**	**22 39 50.2**	**-1.9**
ARG	**Arkhangelos**	**2.40**	**37**	ePN	**Pn**	**22 39 53.9**	**+1.9**
ARG	**Arkhangelos**	**2.40**	**37**	ePn	**Pn**	**22 39 53.9**	**+1.9**
APE	**Apeiranthos**	**2.84**	**347**	ePN	**Pn**	**22 40 00.3**	**+2.2**
APE	**Apeiranthos**	**2.84**	**347**	ePn	**Pn**	**22 40 00.3**	**+2.2**
KYTH	**Kithira**	**3.35**	**307**	ePN	**Pn**	**22 40 07.6**	**+2.5**
KYTH	**Kithira**	**3.35**	**307**	ePn	**Pn**	**22 40 07.6**	**+2.5**
VLI	**Veliai**	**3.68**	**312**	ePN	**Pn**	**22 40 11.3**	**+1.7**
VLI	**Veliai**	**3.68**	**312**	ePn	**Pn**	**22 40 11.3**	**+1.7**
SWA2		**5.10**	**189**	P	**Pn**	**22 40 30.6**	**+1.4**
SWA2				S	**Sn**	**22 41 25.0**	**-2.0**
GLL	**Jalalah**	**6.55**	**135**	P	**Pn**	**22 40 48.0**	**-1.2**
SUZ		**7.08**	**127**	P	**Pn**	**22 40 54.6**	**-1.7**
HFRF	**Wahat Farafira**	**7.33**	**166**	P	**Pn**	**22 41 00.2**	**+0.4**

*IDC **01** 23:03:18.2±2.0, 12.75N×88.77W, h0^{km}, mb3.4/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.5/6, ML3.1/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/24, Error ellipse: s-maj=60.8km s-min=39.6km az=52.0*
*NEIC **01** 23:03:30.0, 13.05N×89.41W, h26^{km}, MD3.8(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
*CASC **01** 23:03:31.4±1.6, 13.10N×89.38W, h33^{km}±3^{km}, MD3.7, ML3.9*
*ISCJB **01** 23:03:31.1±1.2, 13.2N±0.1×89.37W±0.05, h72^{km}±7^{km}, mb3.6/3, Error ellipse: s-maj=23.3km s-min=5.2km az=17.1*
ISC 01 23:03:31.3±1.4**, 13.2N**±0.1×**89.33W**±0.05**, h69^{km}**±8^{km}**, n36, σ1.50**/46**, mb3.5**/3**, 2C-4D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.48**	**11**	iP	**Pn**	**23 03 43.4**	**-0.5**
SNET				⇓iP	**Pn**	**23 03 43.5**	**-0.5**
SNET				eS	**Sn**	**23 03 52.9**	**-0.3**
SNET				AML	AML	23 03 54.8	
	comp=Z,5μm,0.3s						
LFRS	**El Faro**	**0.49**	**32**	⇓iP	**Pn**	**23 03 43.7**	**-0.3**
BOQS	**Boqueron**	**0.53**	**5**	⇑iP	**Pn**	**23 03 44.2**	**-0.3**
BOQS				eS	**Sn**	**23 03 54.3**	**+0.2**
LBRS	**Las Brisas**	**0.59**	**28**	⇓iP	**Pn**	**23 03 45.4**	**+0.3**
SNVI	**San Vicente**	**0.62**	**50**	iP	**Pn**	**23 03 44.5**	**-0.9**
SNVI				eS	**Sn**	**23 03 56.9**	**+1.1**
SBLS	**San Blas**	**0.69**	**335**	⇓iP	**Pn**	**23 03 45.7**	**-0.6**
SNJE	**San Jose**	**0.71**	**338**	iP	**Pn**	**23 03 46.0**	**-0.5**
SNJE				eS	**Sn**	**23 03 58.2**	**+0.7**
RTR	**El Retiro**	**0.75**	**336**	iP	**Pn**	**23 03 46.6**	**-0.2**
RTR				eS	**Sn**	**23 03 59.3**	**+0.9**
VSM	**San Miguel**	**1.05**	**78**	iP	**Pn**	**23 03 51.5**	**+0.9**
VSM				eS	**Sn**	**23 04 06.3**	**+1.4**
BLLM	**Bellamira**	**1.08**	**77**	⇑iP	**Pn**	**23 03 51.7**	**+0.9**
BLLM				eS	**Sn**	**23 04 06.9**	**+1.4**
CAHU	**Cacacuatique**	**1.22**	**63**	eP	**Pn**	**23 03 53.5**	**+0.8**
CAHU				eS	**Sn**	**23 04 11.2**	**+2.4**
CNCH	**Conchagua**	**1.46**	**87**	iP	**Pn**	**23 03 56.5**	**+0.8**
CNCH				eS	**Sn**	**23 04 16.0**	**+1.9**
IXG	**Ixpaco**	**1.46**	**311**	eP	**Pn**	**23 03 56.0**	**+0.2**
IXG				eS	**Sn**	**23 04 14.5**	**+0.2**
NBG	**Las Nubes**	**1.69**	**324**	eP	**Pn**	**23 04 01.4**	**+2.4**
NBG				eS	**Sn**	**23 04 24.3**	**+4.3**
FUG	**Fuego 3**	**1.92**	**310**	eP	**Pn**	**23 04 03.0**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.17**	**67**	ePn	**Pn**	**23 04 06.0**	**+0.9**
CMIG	**Matias Romero**	**6.61**	**306**	Pn	**Pn**	**23 05 06.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=112,slow=14,SNR=4.5						
CMIG				LR	LR	23 08 08.3	
	comp=Z,43nm,21.9s,baz=176,slow=40						
CMIG	**Matias Romero**	**6.61**	**306**	Pn	**Pn**	**23 05 06.5**	**+0.7**
TEIG	**Tepich**	**7.05**	**8**	Pn	**Pn**	**23 05 09.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=112,slow=19,SNR=2.3						
TEIG				LR	LR	23 07 36.0	
	comp=Z,80nm,19.4s,baz=24,slow=35						
TEIG	**Tepich**	**7.05**	**8**	ePn	**Pn**	**23 05 13.0**	**+1.2**
TXAR	**Lajitas Array**	**20.85**	**323**	P	**P**	**23 08 09.2**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=139,slow=9.7,SNR=12						
TXAR	**Lajitas Array**	**20.85**	**323**	P	**P**	**23 08 09.2**	**+1.6**
TKL	**Tuckaleechee C**	**22.91**	**12**	LR	LR	23 17 51.1	
	comp=Z,175nm,18.0s,baz=359,slow=38						
SADO	**Sadowa**	**32.63**	**14**	LR	LR	23 26 28.6	
	comp=Z,185nm,19.7s,baz=62,slow=42						
PDAR	**Pinedale Array**	**34.26**	**333**	P	**P**	**23 10 11.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=134,slow=10,SNR=3.0						
PDAR	**Pinedale Array**	**34.26**	**333**	P	**P**	**23 10 11.5**	**+0.5**
NVAR	**Mina Array Bea**	**35.94**	**320**	P	**P**	**23 10 27.7**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=147,slow=8.8,SNR=4.6						
NVAR				PcP	**PcP**	**23 12 49.2**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=141,slow=5.8,SNR=4.2						
NVAR	**Mina Array Bea**	**35.94**	**320**	P	**P**	**23 10 27.7**	**+2.2**
NVAR				PcP	**PcP**	**23 12 49.2**	**-1.9**
YKA	**Yellowknife Ar**	**52.41**	**346**	P	**P**	**23 12 35.4**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=143,slow=7.7,SNR=16						
YKA	**Yellowknife Ar**	**52.41**	**346**	P	**P**	**23 12 35.5**	**-0.9**
VNA3	**Neumayer Olymp**	**99.11**	**161**	e	pP	23 17 20.2	-3.3
VNA2	**Neumayer--Watz**	**99.76**	**161**	e	pP	23 17 23.2	-3.2
SONM	**Songino Array**	**117.64**	**348**	PKP	**PKPdf**	**23 22 07.2**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=108,slow=3.2,SNR=3.6						
SONM	**Songino Array**	**117.64**	**348**	PKP	**PKPdf**	**23 22 07.2**	**-2.6**
CMAR	**Chiang Mai Arr**	**147.50**	**345**	PKPbc	**PKPbc**	**23 23 07.2**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=348,slow=3.6,SNR=6.1						
CMAR	**Chiang Mai Arr**	**147.50**	**345**	PKPbc	**PKPbc**	**23 23 07.2**	**-1.2**

IDC 01 23:06:42.7±8.1**, 17.11S**×**177.64W, h0^{km}, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/16**, mbtmp3.6**/3**, Error ellipse: s-maj=358.9km s-min=38.3km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.51**	**259**	P	P	23 15 03.9	-0.5
	0.3nm,0.3s,baz=92,slow=7.1,SNR=4.8						
ASAR	**Alice Springs**	**45.72**	**253**	P	P	23 15 06.2	+0.1
	1.2nm,0.6s,baz=88,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**84.95**	**13**	P	P	23 19 19.4	+0.1
	0.3nm,0.4s,baz=216,slow=4.9,SNR=4.3						

*IDC **01** 23:09:58.2±1.4, 24.05S×66.73W, h184^{km}±13^{km}, mb3.6/7, mb1 3.7/12, mb1mx3.6/17, mbtmp3.5/12, Error ellipse: s-maj=18.6km s-min=12.3km az=81.0*
*ISCJB **01** 23:09:58.5±0.6, 24.08S±0.04×66.74W±0.07, h197^{km}±7^{km}, mb3.7/7, Error ellipse: s-maj=10.1km s-min=6.6km az=176.8*
*NEIC **01** 23:09:59.4±0.4, 24.06S×66.66W, h195^{km}±5^{km}, mb4.3/1, Error ellipse: s-maj=8.1km s-min=6.4km az=76.0*
*GUC **01** 23:10:02.5±0.4, 23.98S×66.70W, h48^{km}±999^{km}, ML4.9*
ISC 01 23:09:58.7±0.8**, 24.06S**±0.05×**66.70W**±0.07**, h188^{km}**±8^{km}**, n48, σ1.26**/60**, mb3.9**/7**, 4C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.49**	**305**	ePn	**Pn**	**23 10 44.0**	**+1.9**
LVC				eSn	**Sn**	**23 11 16.6**	**+0.8**
CEN1	**Los Morros**	**3.28**	**281**	⇓eP	Pn	23 10 54.4	+3.1
CEN1				iS	**Sn**	**23 11 32.9**	**+0.7**
CEN1				AML	AML	23 11 36.7	
	comp=N,1μm,0.4s						
MACH	**Maria Elena**	**3.37**	**303**	eP	**Pn**	**23 10 53.8**	**+1.2**
MACH				iS	**Sn**	**23 11 33.3**	**-1.3**
MACH	**Maria Elena**	**3.37**	**303**	eP	**Pn**	**23 10 53.8**	**+1.2**
MACH				iS	**Sn**	**23 11 33.3**	**-1.3**
ANCH	**Antofagasta**	**3.42**	**276**	⇑iP	**Pn**	**23 10 54.6**	**+1.7**
ANCH				iS	**Sn**	**23 11 34.0**	**-1.1**
ANCH	**Antofagasta**	**3.42**	**276**	⇑iP	**Pn**	**23 10 54.6**	**+1.7**
ANCH				iS	**Sn**	**23 11 34.0**	**-1.1**
ANCH				AML	AML	23 11 37.5	
	comp=E,2μm,0.5s						
MECH	**Mejillones**	**3.57**	**285**	⇑iP	**Pn**	**23 10 56.4**	**+1.7**
MECH				iS	**Sn**	**23 11 37.7**	**-0.7**
MECH	**Mejillones**	**3.57**	**285**	⇑iP	**Pn**	**23 10 56.4**	**+1.7**
MECH				iS	**Sn**	**23 11 37.7**	**-0.7**
MECH				AML	AML	23 11 42.7	
	comp=N,2μm,0.3s						
CDCH	**Caldera**	**4.78**	**230**	iP	**Pn**	**23 11 10.1**	**+0.2**
CDCH				iS	**Sn**	**23 12 04.6**	**-1.4**
CDCH	**Caldera**	**4.78**	**230**	iP	**Pn**	**23 11 10.1**	**+0.2**
CDCH				iS	**Sn**	**23 12 04.6**	**-1.4**
CFAA	**Coronel Fontan**	**7.64**	**190**	P	**Pn**	**23 11 48.0**	**+0.7**
	comp=N,0.4nm,0.3s,baz=14,slow=12,SNR=47						
CFAA				S	**Sn**	**23 13 09.9**	**-3.4**
	comp=N,0.6nm,0.3s,baz=278,slow=23,SNR=13						
CFAA	**Coronel Fontan**	**7.64**	**190**	P	**Pn**	**23 11 48.0**	**+0.7**
CFAA				S	**Sn**	**23 13 09.9**	**-3.4**
LPAZ	**La Paz**	**7.85**	**350**	P	**Pn**	**23 11 51.5**	**+0.8**
	comp=N,4.8nm,0.3s,baz=172,slow=7.8,SNR=57						
LPAZ				S	**Sn**	**23 13 17.3**	**-2.1**
	comp=N,0.5nm,0.3s,baz=293,slow=13,SNR=3.2						
LPAZ	**La Paz**	**7.85**	**350**	P	**Pn**	**23 11 51.5**	**+0.8**
LPAZ				S	**Sn**	**23 13 17.3**	**-2.1**
CPUP	**Villa Florida**	**8.78**	**107**	P	**Pn**	**23 12 02.7**	**+0.5**
	comp=N,0.8nm,0.3s,baz=265,slow=11,SNR=10						
CPUP	**Villa Florida**	**8.78**	**107**	P	**Pn**	**23 12 02.7**	**+0.5**
SIV	**San Ignacio**	**9.61**	**34**	P	**Pn**	**23 12 13.0**	**-0.2**
	comp=N,1.5nm,0.3s,baz=225,slow=13,SNR=36						
SIV	**San Ignacio**	**9.61**	**34**	P	**Pn**	**23 12 13.0**	**-0.2**
TRQA	**Tornquist**	**14.52**	**165**	eP	**Pn**	**23 13 14.9**	**-0.6**
	comp=N,7.1nm,0.6s						
PLCA	**Paso Flores**	**16.93**	**190**	P	**Pn**	**23 13 45.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=149,slow=19,SNR=3.5						
PLCA	**Paso Flores**	**16.93**	**190**	P	**Pn**	**23 13 45.1**	**+0.3**
VNA3	**Neumayer Olymp**	**57.01**	**161**	e	**P**	**23 19 26.8**	**+2.4**
VNA2	**Neumayer--Watz**	**57.57**	**160**	e	P	23 19 31.4	+3.1
	baz=285,slow=7.7						
SNAA	**Sanae**	**59.20**	**161**	e	**P**	**23 19 41.9**	**+2.3**
TXAR	**Lajitas Array**	**63.89**	**324**	P	**P**	**23 20 10.5**	**-1.1**
	comp=N,0.4nm,0.7s,baz=148,slow=6.8,SNR=7.3						
TXAR	**Lajitas Array**	**63.89**	**324**	P	**P**	**23 20 10.5**	**-1.1**
DBIC	**Dimbokro**	**67.56**	**71**	P	**P**	**23 20 35.0**	**-0.3**
	comp=N,5.8nm,1.1s,baz=234,slow=12,SNR=4.7						
DBIC	**Dimbokro**	**67.56**	**71**	P	**P**	**23 20 35.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	**P**	**23 21 27.4**	**-0.1**
	comp=N,1.3nm,0.4s,baz=258,slow=5.9,SNR=43						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	**P**	**23 21 27.4**	**-0.1**
PDAR	**Pinedale Array**	**77.34**	**329**	P	**P**	**23 21 33.5**	**+0.7**
	comp=N,0.4nm,0.5s,baz=132,slow=7.9,SNR=5.3						
PDAR	**Pinedale Array**	**77.34**	**329**	P	**P**	**23 21 33.5**	**+0.7**
ULM	**Lac du Bonnet**	**78.37**	**341**	P	**P**	**23 21 37.5**	**-0.4**
	comp=N,2.2nm,0.6s,baz=146,slow=8.3,SNR=4.5						
ULM	**Lac du Bonnet**	**78.37**	**341**	P	**P**	**23 21 37.5**	**-0.4**
BOSA	**Boshof**	**80.46**	**117**	P	**P**	**23 21 50.3**	**+0.2**
	comp=N,2.2nm,0.9s,baz=268,slow=22,SNR=3.6						
BOSA	**Boshof**	**80.46**	**117**	P	**P**	**23 21 50.3**	**+0.2**
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**23 22 56.3**	**+0.4**
	comp=N,0.5nm,0.6s,baz=131,slow=4.4,SNR=11						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**23 22 56.4**	**+0.4**
ASAR	**Alice Springs**	**128.51**	**204**	PKP	**PKPdf**	**23 28 43.7**	**-0.2**
	comp=N,0.5nm,0.7s,baz=156,slow=2.7,SNR=5.5						
ASAR	**Alice Springs**	**128.51**	**204**	PKP	**PKPdf**	**23 28 43.7**	**-0.2**
WRA	**Warramunga Arr**	**131.69**	**207**	PKP	**PKPdf**	**23 28 51.0**	**+1.0**
	comp=N,0.3nm,0.4s,baz=169,slow=1.9,SNR=6.9						
WRA	**Warramunga Arr**	**131.69**	**207**	PKP	**PKPdf**	**23 28 51.0**	**+1.0**
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP	**PKPdf**	**23 29 08.7**	**-1.5**
	comp=N,0.5nm,0.4s,baz=300,slow=4.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP	**PKPdf**	**23 29 08.7**	**-1.5**
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPbc**	**23 29 16.6**	**-0.8**
	comp=N,0.9nm,0.6s,baz=300,slow=3.4,SNR=14						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPbc**	**23 29 16.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**165.50**	**110**	PKPab	**PKPab**	**23 30 40.9**	**0.0**
	comp=N,0.5nm,0.7s,baz=251,slow=5.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**165.50**	**110**	PKPab	**PKPab**	**23 30 40.9**	**0.0**

IDC 01 23:21:59.9±1.3**, 16.22S**×**172.33W, h0^{km}, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.8**/19**, mbtmp3.9**/5**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx3.2**/23**, Error ellipse: s-maj=55.6km s-min=24.9km az=132.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.84**	**201**	P	P	23 27 14.8	0.0
	3.1nm,0.5s,baz=314,slow=1.3,SNR=4.5						
HNR	**Honiara**	**27.84**	**281**	LR	LR	23 37 15.4	
	comp=Z,144nm,19.5s,baz=49,slow=33						
WRA	**Warramunga Arr**	**50.66**	**257**	P	P	23 31 01.6	+0.1
	0.7nm,0.4s,baz=97,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**50.84**	**253**	P	P	23 31 02.5	-0.2
	2.5nm,0.8s,baz=87,slow=8.5,SNR=18						
NVAR	**Mina Array Bea**	**74.25**	**41**	P	P	23 33 39.4	+0.1
	0.4nm,0.6s,baz=224,slow=12,SNR=4.0						
USRK	**Ussuriysk Arra**	**78.65**	**323**	LR	LR	00 06 50.5	
	comp=Z,34nm,18.8s,baz=337,slow=34						
ILAR	**Eielson Array**	**83.05**	**11**	P	P	23 34 26.6	-0.2
	0.3nm,0.7s,baz=219,slow=5.5,SNR=6.7						

*DDA **01** 23:44:05.8, 36.00N×28.34E, h7^{km}, ML3.4*
*ISK **01** 23:44:06.3, 36.01N×28.29E, h18^{km}, ML2.4*
*ATH **01** 23:44:08.4, 36.08N×28.36E, h35^{km}±3^{km}, MD3.1/4*
*CSEM **01** 23:44:08.6±0.4, 36.07N×28.39E, h20^{km}, MD3.1, Error ellipse: s-maj=9.5km s-min=6.3km az=163.0*
*ISCJB **01** 23:44:08.9±0.7, 36.08N±0.04×28.38E±0.04, h25^{km}±5^{km}, Error ellipse: s-maj=7.5km s-min=5.5km az=163.6*
ISC 01 23:44:09.5±1.0**, 36.11N**±0.04×**28.38E**±0.03**, h31^{km}**±7^{km}**, n28, σ1.11**/44**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.23**	**298**	ePB	**Pb**	**23 44 16.0**	**-0.2**
ARG				eSB	**Sb**	**23 44 21.2**	**+0.5**
ARG	**Arkhangelos**	**0.23**	**298**	ePb	**Pb**	**23 44 16.0**	**-0.2**
ARG				eSb	**Sb**	**23 44 21.2**	**+0.5**
TURN	**Turunc**	**0.78**	**13**	iP	**Pb**	**23 44 22.7**	**-2.0**

TURN				i S	Sb	23 44 33.1	-1.9
TURN	Turunc	0.78	13	i P	Pb	23 44 22.7	-2.0
TURN				i S	Sb	23 44 33.1	-1.9
AKAS	Kas	1.00	82	i P	Pn	23 44 27.0	-0.6
AKAS				i S	Sn	23 44 41.1	+0.4
AKAS	Kas	1.00	82	i P	Pn	23 44 27.0	-0.6
AKAS				i S	Sn	23 44 41.1	+0.4
YER	Yerkesik	1.03	356	ePN	Pb	23 44 28.3	-0.5
YER				eSN	Sn	23 44 43.1	+1.8
YER	Yerkesik	1.03	356	ePn	Pb	23 44 28.3	-0.5
YER				eSn	Sn	23 44 43.1	+1.8
KARP	Karpathos	1.14	241	ePB	Pn	23 44 28.5	-0.9
KARP				eSN	Sn	23 44 44.6	+0.6
KARP	Karpathos	1.14	241	ePb	Pn	23 44 28.5	-0.9
KARP				eSn	Sn	23 44 44.6	+0.6
BODT	Bodrum	1.28	318	ePN	Pn	23 44 30.1	-1.3
BODT				eSN	Sn	23 44 47.9	+0.3
BODT	Bodrum	1.28	318	ePn	Pn	23 44 30.1	-1.3
BODT				eSn	Sn	23 44 47.9	+0.3
GLHS	Glhisar (BURDU	1.38	40	ePN	Pn	23 44 32.4	-0.4
GLHS	Glhisar (BURDU	1.38	40	ePn	Pn	23 44 32.4	-0.4
ELL	Elmali	1.39	62	ePN	Pn	23 44 33.0	0.0
ELL	Elmali	1.39	62	ePn	Pn	23 44 33.0	0.0
GOLH	Golhisar	1.47	40	i P	Pb	23 44 35.2	-1.2
GOLH				i S	Sb	23 44 57.4	+2.6
GOLH	Golhisar	1.47	40	i P	Pb	23 44 35.2	-1.2
GOLH				i S	Sb	23 44 57.4	+2.6
AYDN	Tasoluk	1.60	346	i P	Pn	23 44 36.3	+0.5
AYDN				i S	Sb	23 44 58.0	-0.4
AYDN	Tasoluk	1.60	346	i P	Pn	23 44 36.3	+0.5
AYDN				i S	Sb	23 44 58.0	-0.4
DNZL	Cakiroluk	1.67	19	i P	Pb	23 44 39.4	-0.3
DNZL	Cakiroluk	1.67	19	i P	Pb	23 44 39.4	-0.3
KORT	Korkueli	1.82	60	i P	Pn	23 44 39.5	+0.6
KORT	Korkueli	1.82	60	i P	Pn	23 44 39.5	+0.6
SMG	Samos	2.02	323	ePN	Pn	23 44 42.3	+0.8
SMG	Samos	2.02	323	ePn	Pn	23 44 42.3	+0.8
NPS	Neapolis	2.41	250	ePN	Pn	23 44 47.3	+0.5
NPS	Neapolis	2.41	250	ePn	Pn	23 44 47.3	+0.5

*SKO **01** 23:46:49.0, 38°.94N×26°.80E, h94^{km}*
*ATH **01** 23:46:51.6, 39°.26N×26°.08E, h21^{km}, ML3.4*
*ISCJB **01** 23:46:51.9±0.5, 39°.24N±0°.01×26°.02E±0°.02, h9^{km}±3^{km}, Error ellipse: s-maj=2.4km s-min=2.2km az=29.0*
*CSEM **01** 23:46:52.2±0.1, 39°.24N×26°.03E, h5^{km}, ML3.4, Error ellipse: s-maj=2.0km s-min=1.8km az=176.0*
*ISK **01** 23:46:52.6, 39°.25N×26°.09E, h14^{km}, ML3.6*
*THE **01** 23:46:52.8, 39°.21N×26°.04E, h6^{km}±1^{km}, ML3.5/9, Error ellipse: s-maj=1.1km s-min=0.4km az=100.0*
*DDA **01** 23:46:52, 39°.25N×26°.06E, h26^{km}, MD3.5*
*SOF **01** 23:46:56.6, 39°.70N×26°.01E, h3^{km}, MD3.4*
ISC 01 23:46:52.9±0.9, **39°.23N**±0°.02×**26°.05E**±0°.02, **h11**^{km}±6^{km}, **n249, σ0^{s}78**/299, **9C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.18	84	P	Pg	23 46 56.4	-0.3
PRK				S	Sg	23 46 59.3	-0.1
PRK	Paraskevi	0.18	84	ePB	Pg	23 46 56.4	-0.3
PRK				eSB	Sg	23 46 59.5	+0.1
PRK	Paraskevi	0.18	84	P	Pg	23 46 56.4	-0.3
PRK				S	Sg	23 46 59.3	-0.1
AYVA	Ayvalik	0.51	81	i P	Pg	23 47 02.2	-0.6
AYVA				i S	Sg	23 47 09.9	+0.4
AYVA	Ayvalik	0.51	81	i P	Pg	23 47 02.2	-0.6
AYVA				i S	Sg	23 47 09.9	+0.4
BOZC	Bozcaada	0.61	1	i P	Pg	23 47 04.3	-0.5
BOZC				i S	Sg	23 47 13.1	+0.2
EZN	Ezine	0.64	20	ePG	Pg	23 47 04.7	-0.5
EZN				eSG	Sb	23 47 14.1	-0.8
EZN	Ezine	0.64	20	ePg	Pg	23 47 04.7	-0.5
EZN				eSg	Sb	23 47 14.1	-0.8
CHOS	Chios island	0.84	180	P	Pg	23 47 08.5	-0.6
CHOS				S	Sb	23 47 20.6	-0.3
CHOS	Chios island	0.84	180	ePN	Pg	23 47 08.7	-0.4
CHOS				eSN	Sn	23 47 21.7	-1.5
CHOS	Chios island	0.84	180	P	Pg	23 47 08.5	-0.6
CHOS				S	Sb	23 47 20.6	-0.3
CHOS				eSn	Sn	23 47 21.7	-1.5
LIA	Limnos Island	0.94	315	P	Pb	23 47 10.8	-0.5
LIA				S	Sg	23 47 24.0	+0.6
LIA	Limnos Island	0.94	315	ePN	Pb	23 47 11.0	-0.3
LIA				eSN	Sb	23 47 23.3	-0.6
LIA	Limnos Island	0.94	315	ePn	Pb	23 47 11.0	-0.3
LIA				eSn	Sb	23 47 23.3	-0.6
LIA				S	Sg	23 47 24.0	+0.6
URLA	Izmir	0.97	153	i P	Pb	23 47 11.1	-0.6
URLA				i S	Sn	23 47 25.0	-1.2
URLA	Izmir	0.97	153	i P	Pb	23 47 11.1	-0.6
URLA				i S	Sn	23 47 25.0	-1.2
BLCB	Balcova	1.15	137	ePN	Pg	23 47 14.8	-0.1
BLCB	Balcova	1.15	137	ePn	Pg	23 47 14.8	-0.1
GELI	Tayfur-Gelibol	1.21	16	ePN	Pb	23 47 15.3	-0.6
GELI	Tayfur-Gelibol	1.21	16	ePn	Pb	23 47 15.3	-0.6
LPK	Lapseki	1.27	25	ePN	Pb	23 47 16.1	-0.7
LPK				eSN	Sg	23 47 33.6	-0.2
LPK	Lapseki	1.27	25	ePn	Pb	23 47 16.1	-0.7
LPK				eSn	Sg	23 47 33.6	-0.2
BALY	Balya	1.32	67	i P	Pn	23 47 16.7	-0.7
BALY				i S	Sn	23 47 34.2	-0.8
BALY	Balya	1.32	67	i P	Pn	23 47 16.7	-0.7
BALY				i S	Sn	23 47 34.2	-0.8
AKS	Akhisar	1.42	104	ePN	Pn	23 47 18.1	-0.6
AKS	Akhisar	1.42	104	ePn	Pn	23 47 18.1	-0.6
AKHS	Akhisar	1.42	104	i P	Pn	23 47 18.2	-0.5
AKHS				i S	Sg	23 47 38.1	-0.5
AKHS	Akhisar	1.42	104	i P	Pn	23 47 18.2	-0.5
AKHS				i S	Sg	23 47 38.1	-0.5
BALB	Balikesir	1.48	73	ePN	Pn	23 47 18.9	-0.6
BALB	Balikesir	1.48	73	ePn	Pn	23 47 18.9	-0.6
ERIK	Erikli-Kesan	1.48	14	ePN	Pn	23 47 19.2	-0.4
ERIK	Erikli-Kesan	1.48	14	ePn	Pn	23 47 19.2	-0.4
GONE	Gonen-Balikesi	1.51	57	ePN	Pn	23 47 19.6	-0.3
GONE	Gonen-Balikesi	1.51	57	ePn	Pn	23 47 19.6	-0.3
ENEZ	Enez	1.51	3	ePN	Pn	23 47 19.7	-0.2
ENEZ	Enez	1.51	3	ePn	Pn	23 47 19.7	-0.2
KRBG	Karabiga-Canak	1.51	39	ePN	Pn	23 47 19.4	-0.5
KRBG	Karabiga-Canak	1.51	39	ePn	Pn	23 47 19.4	-0.5
SMG	Samos	1.64	157	ePN	Pn	23 47 21.8	+0.1
SMG				eSN	Sb	23 47 43.8	0.0
SMG	Samos	1.64	157	ePn	Pn	23 47 21.8	+0.1
SMG				eSn	Sb	23 47 43.8	0.0
ALN	Alexandroupoli	1.67	360	P	Pn	23 47 21.5	-0.5
ALN				S	Sb	23 47 44.0	-0.7
ALN	Alexandroupoli	1.67	360	ePN	Pn	23 47 21.6	-0.5
ALN				eSN	Sn	23 47 42.4	-1.1
ALN	Alexandroupoli	1.67	360	ePn	Pn	23 47 21.6	-0.5
ALN				eSn	Sn	23 47 42.4	-1.1
ALN				S	Sb	23 47 44.0	-0.7
AOS	Alonnisos	1.68	269	P	Pn	23 47 21.7	-0.6
AOS				S	Sb	23 47 44.4	-0.7
AOS	Alonnisos	1.68	269	P	Pn	23 47 21.7	-0.6
AOS				S	Sb	23 47 44.4	-0.7
RKY	Sarkoy-Tekirda	1.70	30	ePN	Pn	23 47 22.0	-0.5
RKY	Sarkoy-Tekirda	1.70	30	ePn	Pn	23 47 22.0	-0.5
SART	Tekirdag	1.70	30	i P	Pn	23 47 22.0	-0.6
SART				i S	Sg	23 47 46.3	-1.3
SART	Tekirdag	1.70	30	i P	Pn	23 47 22.0	-0.6
SART				i S	Sg	23 47 46.3	-1.3
GCAM	G?zelcaml?	1.79	148	eP	Pb	23 47 26.2	+0.5
GCAM	G?zelcaml?	1.79	148	eP	Pb	23 47 26.2	+0.5
MFT	Murefte	1.82	31	ePN	Pn	23 47 24.0	-0.3
MFT	Murefte	1.82	31	ePn	Pn	23 47 24.0	-0.3
BNT	Bandirma	1.83	51	ePN	Pn	23 47 24.0	-0.4
BNT	Bandirma	1.83	51	ePn	Pn	23 47 24.0	-0.4
DURS	Dursunbey	1.92	78	i P	Pn	23 47 25.0	-0.6
DURS	Dursunbey	1.92	78	i P	Pn	23 47 25.0	-0.6
OUR	Ouranopolis	1.94	305	P	Pn	23 47 25.5	-0.3
OUR	Ouranopolis	1.94	305	P	Pn	23 47 25.5	-0.3
RDO	Rodhopi	1.96	349	P	Pn	23 47 25.9	-0.1
RDO				S	Sn	23 47 50.6	0.0
RDO	Rodhopi	1.96	349	P	Pn	23 47 25.9	-0.1
RDO				S	Sn	23 47 50.6	0.0
PAIG	Paliouri	1.96	292	P	Pn	23 47 25.5	-0.6
PAIG				S	Sn	23 47 51.0	+0.4
PAIG	Paliouri	1.96	292	P	Pn	23 47 25.5	-0.6
PAIG				S	Sn	23 47 51.0	+0.4
MRKA	Markates	1.99	256	P	Pn	23 47 25.8	-0.7
MRKA	Markates	1.99	256	P	Pn	23 47 25.8	-0.7
SKIA	Skiathos	2.00	269	P	Pn	23 47 26.1	-0.6
SKIA	Skiathos	2.00	269	P	Pn	23 47 26.1	-0.6
PTL	Penteli	2.07	236	P	Pn	23 47 26.7	-1.0
PTL	Penteli	2.07	236	ePN	Pn	23 47 26.5	-1.2
PTL	Penteli	2.07	236	P	Pn	23 47 26.7	-1.0
DEMI	Demirci	2.08	94	i P	Pn	23 47 27.7	-0.2
DEMI				i S	Sb	23 47 55.5	-1.3
DEMI	Demirci	2.08	94	i P	Pn	23 47 27.7	-0.2
DEMI				i S	Sb	23 47 55.5	-1.3
TKR	Tekirdag	2.10	33	ePN	Pn	23 47 27.6	-0.4
TKR	Tekirdag	2.10	33	ePn	Pn	23 47 27.6	-0.4
KAVA	Kavala	2.12	327	P	Pn	23 47 27.9	-0.4
KAVA	Kavala	2.12	327	P	Pn	23 47 27.9	-0.4
AYDN	Tasoluk	2.13	137	i P	Pn	23 47 27.7	-0.8
AYDN				i S	Sg	23 48 01.7	+0.4
AYDN	Tasoluk	2.13	137	i P	Pn	23 47 27.7	-0.8
KULA	Kula-Manisa	2.16	108	ePN	Pn	23 47 29.3	+0.3
KULA	Kula-Manisa	2.16	108	ePn	Pn	23 47 29.3	+0.3
NEO	Neokhori	2.19	273	ePN	Pn	23 47 28.6	-0.7
NEO	Neokhori	2.19	273	ePN	Pn	23 47 28.6	-0.7
NEO	Neokhori	2.19	273	ePn	Pn	23 47 28.6	-0.7
APE	Apeiranthos	2.19	191	ePN	Pn	23 47 29.6	+0.2
APE	Apeiranthos	2.19	191	P	Pn	23 47 28.7	-0.7
APE				S	Sn	23 47 56.6	+0.1
APE	Apeiranthos	2.19	191	ePB	Pn	23 47 28.9	-0.5
APE	Apeiranthos	2.19	191	P	Pn	23 47 28.7	-0.7
APE	Apeiranthos	2.19	191	ePn	Pn	23 47 29.6	+0.2
APE				S	Sn	23 47 56.6	+0.1
ATH	Athens Observa	2.21	236	ePN	Pn	23 47 30.0	+0.4
ATH	Athens Observa	2.21	236	ePn	Pn	23 47 30.0	+0.4
XOR	Xorichti	2.22	274	P	Pn	23 47 28.9	-0.8
XOR	Xorichti	2.22	274	P	Pn	23 47 28.9	-0.8
SMIA	Simia	2.24	262	P	Pn	23 47 29.6	-0.3
SMIA	Simia	2.24	262	P	Pn	23 47 29.6	-0.3
VLY	Voula,Athens	2.24	233	P	Pn	23 47 28.8	-1.1
VLY	Voula,Athens	2.24	233	ePN	Pn	23 47 28.9	-1.0
VLY	Voula,Athens	2.24	233	ePn	Pn	23 47 28.9	-1.0
CRLT	Corlu	2.30	34	ePN	Pn	23 47 30.2	-0.6
CRLT	Corlu	2.30	34	ePn	Pn	23 47 30.2	-0.6
PLG	Polygyros	2.31	301	ePN	Pn	23 47 30.5	-0.4
PLG	Polygyros	2.31	301	ePn	Pn	23 47 30.5	-0.4
BODT	Bodrum	2.38	155	ePN	Pn	23 47 33.2	+1.3
BODT	Bodrum	2.38	155	ePn	Pn	23 47 33.2	+1.3
LKR	Lokris	2.44	257	ePN	Pn	23 47 33.0	+0.2
LKR	Lokris	2.44	257	ePN	Pn	23 47 33.0	+0.2
LKR	Lokris	2.44	257	ePn	Pn	23 47 33.0	+0.2
MDNY	Mudanya-Bursa	2.47	62	ePN	Pn	23 47 33.0	0.0
MDNY	Mudanya-Bursa	2.47	62	ePn	Pn	23 47 33.0	0.0
KDZ	Kurdzhali	2.47	349	i P	Pn	23 47 32.9	-0.2
KDZ	Kurdzhali	2.47	349	i P	Pn	23 47 32.9	-0.2
ARMT	Armutlu	2.54	57	ePN	Pn	23 47 34.0	-0.2
ARMT	Armutlu	2.54	57	ePn	Pn	23 47 34.0	-0.2
SLVT	Silivri	2.60	39	ePN	Pn	23 47 34.1	-0.8
SLVT	Silivri	2.60	39	ePn	Pn	23 47 34.1	-0.8
SOH	Sokhos	2.61	308	P	Pn	23 47 35.0	-0.1
SOH	Sokhos	2.61	308	ePN	Pn	23 47 35.2	+0.1
SOH				eSN	Sn	23 48 05.3	-1.5
SOH	Sokhos	2.61	308	P	Pn	23 47 35.0	-0.1
SOH				eSn	Sn	23 48 05.3	-1.5
HORT	Hortiatis	2.65	302	P	Pn	23 47 35.4	-0.2
HORT	Hortiatis	2.65	302	P	Pn	23 47 35.4	-0.2
ELBA	Catalca	2.65	43	eP	Pn	23 47 34.5	-1.1
ELBA	Catalca	2.65	43	eP	Pn	23 47 34.5	-1.1
SRS	Serrai	2.66	316	P	Pn	23 47 35.6	-0.2
SRS				S	Sn	23 48 08.8	+0.7
SRS	Serrai	2.66	316	P	Pn	23 47 35.6	-0.2
SRS				S	Sn	23 48 08.8	+0.7
EDRB	Edirne	2.67	11	ePN	Pn	23 47 35.2	-0.7
EDRB	Edirne	2.67	11	ePn	Pn	23 47 35.2	-0.7
GDZ	Gediz	2.67	92	i P	Pn	23 47 36.0	-0.1
GDZ	Gediz	2.67	92	i P	Pn	23 47 36.0	-0.1
LTK	Loutraki	2.69	244	ePN	Pn	23 47 35.5	-0.7
LTK	Loutraki	2.69	244	ePn	Pn	23 47 35.5	-0.7
GEMT	Gemlik	2.70	63	ePN	Pn	23 47 36.3	-0.1
GEMT	Gemlik	2.70	63	ePn	Pn	23 47 36.3	-0.1
YER	Yerkesik	2.73	139	ePN	Pn	23 47 37.8	+1.0
YER	Yerkesik	2.73	139	ePn	Pn	23 47 37.8	+1.0
CTKS	Kestanelik-??a	2.75	42	ePN	Pn	23 47 36.6	-0.4
CTKS	Kestanelik-??a	2.75	42	ePn	Pn	23 47 36.6	-0.4
DENT	Denizli	2.77	121	ePN	Pn	23 47 38.4	+1.1
DENT	Denizli	2.77	121	ePn	Pn	23 47 38.4	+1.1
DID	Didima	2.80	233	P	Pn	23 47 36.6	-1.1
DID	Didima	2.80	233	ePN	Pn	23 47 36.6	-1.1
DID	Didima	2.80	233	P	Pn	23 47 36.6	-1.1
THR2	Thira island,	2.82	190	P	Pn	23 47 37.0	-0.9
THR2	Thira island,	2.82	190	P	Pn	23 47 37.0	-0.9
CTYL	Yal??k??y-??at	2.82	37	ePN	Pn	23 47 37.6	-0.4
CTYL	Yal??k??y-??at	2.82	37	ePn	Pn	23 47 37.6	-0.4
DIM	Dimitrovgrad	2.85	352	i P	Pn	23 47 38.2	-0.1
DIM	Dimitrovgrad	2.85	352	i P	Pn	23 47 38.2	-0.1
BGKT	Bogazkoy	2.86	46	ePN	Pn	23 47 37.9	-0.5
BGKT	Bogazkoy	2.86	46	ePn	Pn	23 47 37.9	-0.5
BUY	Buyukada	2.86	54	i P	Pn	23 47 37.9	-0.6
BUY				i S	Sn	23 48 14.8	+1.8
BUY	Buyukada	2.86	54	i P	Pn	23 47 37.9	-0.6
BUY				i S	Sn	23 48 14.8	+1.8
DSF	Desfina	2.87	255	P	Pn	23 47 38.0	-0.6
DSF	Desfina	2.87	255	P	Pn	23 47 38.0	-0.6
YLV	Yalova	2.89	61	ePN	Pn	23 47 39.3	+0.4
YLV	Yalova	2.89	61	ePn	Pn	23 47 39.3	+0.4
AGG	Agios Georgios	2.90	267	P	Pn	23 47 38.7	-0.3
AGG	Agios Georgios	2.90	267	ePN	Pn	23 47 38.9	-0.1
AGG	Agios Georgios	2.90	267	P	Pn	23 47 38.7	-0.3
MMB	Musomiste	2.95	324	i P	Pn	23 47 39.4	-0.4
MMB	Musomiste	2.95	324	i P	Pn	23 47 39.4	-0.4
ISK	Istanbul-Kandi	2.95	51	ePN	Pn	23 47 39.8	+0.1
ISK	Istanbul-Kandi	2.95	51	ePn	Pn	23 47 39.8	+0.1
PLD	Plovdiv	3.05	341	i P	Pn	23 47 41.9	+0.8
PLD				i Pg	Pb	23 47 49.0	+1.8
PLD	Plovdiv	3.05	341	i P	Pn	23 47 41.9	+0.8
KLYT	Kilyos	3.06	48	ePN	Pn	23 47 40.9	-0.3
KLYT	Kilyos	3.06	48	ePn	Pn	23 47 40.9	-0.3
CAVI	Cavuskoy	3.09	70	ePN	Pn	23 47 42.2	+0.6
CAVI	Cavuskoy	3.09	70	ePn	Pn	23 47 42.2	+0.6
ADVT	Abdulvahap	3.09	66	ePN	Pn	23 47 41.9	+0.3
ADVT	Abdulvahap	3.09	66	ePn	Pn	23 47 41.9	+0.3
THL	Klokotos Trika	3.14	277	ePN	Pn	23 47 43.5	+1.2
THL	Klokotos Trika	3.14	277	ePn	Pn	23 47 43.5	+1.2
ALT	Altintas	3.17	92	ePN	Pn	23 47 42.8	0.0
ALT	Altintas	3.17	92	i P	Pn	23 47 36.7	-6.1
ALT	Altintas	3.17	92	ePn	Pn	23 47 42.8	0.0
GUR	Goura	3.18	247	P	Pn	23 47 42.7	-0.2
GUR	Goura	3.18	247	ePN	Pn	23 47 42.6	-0.3
GUR	Goura	3.18	247	P	Pn	23 47 42.7	-0.2
HRT	Hereke	3.20	59	ePN	Pn	23 47 43.0	-0.3
HRT	Hereke	3.20	59	ePn	Pn	23 47 43.0	-0.3
JMB	Yambol	3.26	7	P	Pn	23 47 44.3	+0.3
JMB	Yambol	3.26	7	i P	Pn	23 47 44.4	+0.4
JMB				i Pg	Pb	23 47 52.5	+1.7
JMB	Yambol	3.26	7	P	Pn	23 47 44.3	+0.3
EVR	Evrytania	3.31	266	ePN	Pn	23 47 46.3	+1.5
EVR	Evrytania	3.31	266	ePn	Pn	23 47 46.3	+1.5
EFP	Efpalio	3.33	257	ePN	Pn	23 47 45.1	+0.2
EFP	Efpalio	3.33	257	ePn	Pn	23 47 45.1	+0.2
SILT	Sile	3.36	54	ePN	Pn	23 47 45.5	+0.1
SILT	Sile	3.36	54	ePn	Pn	23 47 45.5	+0.1
VAY	Valandovo	3.38	309	i Pn	Pn	23 47 45.4	-0.3
VAY				i Sn	Sn	23 48 24.3	-1.5
VAY	Valandovo	3.38	309	i Pn	Pn	23 47 45.8	+0.1
VAY				i Sn	Sn	23 48 24.7	-1.1
ARG	Arkhangelos	3.43	151	ePN	Pn	23 47 46.5	+0.2
ARG	Arkhangelos	3.43	151	ePn	Pn	23 47 46.5	+0.2
KZN	Kozani	3.47	289	ePN	Pn	23 47 48.3	+1.4
KZN	Kozani	3.47	289	ePn	Pn	23 47 48.3	+1.4
KKB	Krupnik	3.47	320	i P	Pn	23 47 48.3	+1.4
KKB	Krupnik	3.47	320	i P	Pn	23 47 48.3	+1.4
VLI	Veliai	3.51	225	ePN	Pn	23 47 47.7	+0.3
VLI	Veliai	3.51	225	ePn	Pn	23 47 47.7	+0.3
SHUT	Suhut-Afyon	3.58	99	ePN	Pn	23 47 49.0	+0.5
SHUT	Suhut-Afyon	3.58	99	ePn	Pn	23 47 49.0	+0.5
SPNC	Sapanca-Adapaz	3.58	65	ePN	Pn	23 47 49.0	+0.5
SPNC	Sapanca-Adapaz	3.58	65	ePn	Pn	23 47 49.0	+0.5
GULT	Gulveren	3.65	69	ePN	Pn	23 47 49.8	+0.4
GULT	Gulveren	3.65	69	ePn	Pn	23 47 49.8	+0.4
ESKT	Eskisehir	3.73	84	ePN	Pn	23 47 51.0	+0.4
ESKT	Eskisehir	3.73	84	ePn	Pn	23 47 51.0	+0.4
ITM	Ithomi	3.83	239	ePN	Pn	23 47 51.9	0.0
ITM	Ithomi	3.83	239	ePn	Pn	23 47 51.9	0.0
VTS	Vitosha	3.99	328	⇑i P	Pn	23 47 55.3	+1.1
VTS	Vitosha	3.99	328	i P	Pn	23 47 54.6	+0.4
VTS	Vitosha	3.99	328	i P	Pn	23 47 54.6	+0.4
PVL	Pavlikeni	4.02	353	i P	Pn	23 47 53.8	-0.6
PVL	Pavlikeni	4.02	353	i P	Pn	23 47 53.8	-0.6
SZH	Strazhica	4.04	359	i P	Pn	23 47 54.6	-0.1
SZH	Strazhica	4.04	359	i P	Pn	23 47 54.6	-0.1
PRD	Provadia	4.10	14	i P	Pn	23 47 55.0	-0.5
PRD	Provadia	4.10	14	i P	Pn	23 47 55.0	-0.5
MDUB	Mudurnu	4.16	71	ePN	Pn	23 47 57.1	+0.7
MDUB	Mudurnu	4.16	71	ePn	Pn	23 47 57.1	+0.7
KRUS	Krusevo	4.25	302	i Pn	Pn	23 47 58.3	+0.6
KRUS	Krusevo	4.25	302	i Pn	Pn	23 47 58.2	+0.6
SVRH	Sivrihisar-ESK	4.25	85	ePN	Pn	23 47 58.4	+0.7
SVRH	Sivrihisar-ESK	4.25	85	ePn	Pn	23 47 58.4	+0.7
MPEP	Malo Peshtene	4.47	338	i P	Pn	23 48 01.3	+0.6
LADK	Ladik-KONYA	5.05	100	ePN	Pn	23 48 09.8	+1.1
LADK	Ladik-KONYA	5.05	100	ePn	Pn	23 48 09.8	+1.1
KONT	Konya--Tatoy	5.11	103	ePN	Pn	23 48 10.9	+1.4
KONT	Konya--Tatoy	5.11	103	ePn	Pn	23 48 10.9	+1.4
SAFT	Safranbolu	5.46	66	ePN	Pn	23 48 15.2	+0.9
SAFT	Safranbolu	5.46	66	ePn	Pn	23 48 15.2	+0.9
HDMB	Hadim	5.56	112	ePN	Pn	23 48 18.2	+2.4
HDMB	Hadim	5.56	112	ePn	Pn	23 48 18.2	+2.4
VOIR		6.25	354	⇑i P	Pn	23 48 25.0	-0.1
VOIR		6.25	354	⇑i P	Pn	23 48 25.0	-0.1
MLR	Muntele Rosu	6.26	359	⇑i P	Pn	23 48 26.7	+1.4
MLR	Muntele Rosu	6.26	359	⇑i P	Pn	23 48 26.7	+1.4
PLOR	Plostina	6.63	4	⇓i P	Pn	23 48 32.0	+1.6
PLOR	Plostina	6.63	4	⇓i P	Pn	23 48 32.0	+1.6
VRI	Vrincioaia	6.65	4	⇑i P	Pn	23 48 32.4	+1.8
VRI	Vrincioaia	6.65	4	⇑i P	Pn	23 48 32.4	+1.8
CORM	Corum	6.69	79	ePN	Pn	23 48 32.5	+1.3
CORM	Corum	6.69	79	ePn	Pn	23 48 32.5	+1.3
BZS	Buzias	7.17	334	⇑i P	Pn	23 48 38.2	+0.5
BZS	Buzias	7.17	334	⇑i P	Pn	23 48 38.2	+0.5
CSS	Prodhromos	7.21	124	ePN	Pn	23 48 41.2	+2.9
TESR		7.29	3	⇓i P	Pn	23 48 41.2	+1.8
TESR		7.29	3	⇓i P	Pn	23 48 41.2	+1.8
DRGR		7.94	343	⇓i P	Pn	23 48 55.8	+7.4
BURAR	Bucovina Array	8.40	356	⇓i P	Pn	23 48 57.1	+2.4

JMA 01 23:49:52.8±0.2, **41°.96N**×**142°.34E**, **h68**^{km}±3^{km}, **M2.4, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.44	44	P	Pn	23 50 04.2	-0.7
JNBK				eS	Sn	23 50 13.2	-0.5
JEM	Erimo	0.61	84	P	Pn	23 50 06.8	+0.3
JEM				eS	Sn	23 50 16.9	+0.2
JBT2	Biratori 2	0.82	1	P	Pn	23 50 08.7	-0.2
JKB	Kayabe	0.98	266	P	Pn	23 50 10.7	-0.2
JKB				eS	Sn	23 50 23.7	-0.6
JCH	Churui	1.00	49	P	Pn	23 50 11.6	+0.4
JCH				eS	Sn	23 50 25.6	+0.7
JNB	Noboribetsu	1.09	298	P	Pn	23 50 11.8	-0.5
JNB				eS	Sn	23 50 26.0	-0.9
JEW	Eniwo	1.10	323	P	Pn	23 50 12.6	+0.2
JEW				eS	Sn	23 50 27.3	+0.2
JOT	Ohata	1.13	240	P	Pn	23 50 12.9	+0.1
JOT				eS	Sn	23 50 27.5	-0.2
JFR	Furan	1.22	9	P	Pn	23 50 13.8	-0.2
JOB	Onbets	1.45	49	P	Pn	23 50 18.3	+1.3
JSR	Shiriuchi	1.50	254	P	Pn	23 50 17.9	+0.2
JSR				eS	Sn	23 50 36.6	+0.2
JAR	Ashorobuto	1.70	38	P	Pn	23 50 21.4	+1.0
JAR				eS	Sn	23 50 42.6	+1.3
JANG	Nango	1.70	202	P	Pn	23 50 21.2	+0.8
JANG				eS	Sn	23 50 41.9	+0.6
JHR	Hokuryu	1.84	346	P	Pn	23 50 23.8	+1.6

WEL 01 23:56:32.7±0.2, **40°.31S**×**176°.63E**, **h17**^{km}±1^{km}, **ML3.6**/21, **1C-5D, Error ellipse: s-maj=2.0km s-min=1.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	Porangahau	0.04	5	⇓P*	Pg	23 56 35.2	-0.6
PRHZ				eS*	Sg	23 56 37.6	-0.2
PRHZ				S*		23 56 38.0	
WPHZ	Waipukurau	0.28	329	⇓P*	Pg	23 56 38.9	0.0
PXZ	Pawanui	0.33	33	⇑P*	Pg	23 56 39.5	-0.2
DVHZ	Dannevirke	0.35	271	⇓P*	Pg	23 56 40.2	+0.1
BFZ	Birch Farm	0.47	218	⇓P*	Pg	23 56 42.4	+0.1
PNHZ	Pukenui	0.51	320	⇓P*	Pg	23 56 42.9	-0.1
KAHZ	Kahuranaki	0.55	20	P*	Pg	23 56 43.7	0.0
TSZ	Takapari Road	0.57	296	P*	Pg	23 56 43.6	-0.5
POWZ	Post Office Ro	0.66	262	P*	Pg	23 56 45.8	0.0
MCHZ	McNeill Hill	0.86	3	P*	Pb	23 56 48.7	-0.7
MRZ	Mangatainoka R	0.88	246	P*	Pb	23 56 48.4	-1.2
BHHZ	Black Hill Sta	0.93	332	P*	Pb	23 56 49.5	-1.0
HOWZ	Holdsworth Sta	1.03	235	P*	Pb	23 56 50.3	-2.0
MOVZ	Moawhango	1.12	323	P*	Pn	23 56 53.2	-0.7
BKZ	Black Stump Fm	1.15	355	PN	Pn	23 56 52.4	-1.8
MTW	Mount Morrison	1.21	225	P*	Pn	23 56 52.0	-2.9
OGWZ	Otaki Gorge	1.22	245	P*	Pn	23 56 53.1	-2.0
OTVZ	Oturere	1.36	327	PN	Pn	23 56 57.6	+0.3
WAZ	Wanganui	1.38	293	PN	Pn	23 56 57.5	+0.2
NGZ	Ngauruhoe	1.38	325	PN	Pn	23 56 57.4	-0.1
WPVZ	Whakapapa	1.38	322	PN	Pn	23 56 57.8	+0.3
KIW	Kapiti Island	1.42	247	P*	Pn	23 56 55.9	-1.9
KRVZ	Karewarewa	1.43	327	PN	Pn	23 56 58.5	+0.4
WTVZ	West Tongariro	1.44	326	PN	Pn	23 56 58.4	+0.2
KNZ	Kokohu	1.52	32	PN	Pn	23 56 56.0	-3.1
TWVZ	Taurewa	1.54	323	PN	Pn	23 56 58.2	-1.4
TCW	Tory Channel	2.00	242	PN	Pn	23 57 03.0	-2.8
BSWZ	Blackbirch Sta	2.51	235	PN	Pn	23 57 09.5	-3.4
NNZ	Nelson	2.63	249	PN	Pn	23 57 12.3	-2.2
QRZ	Quartz Range	3.17	259	PN	Pn	23 57 19.9	-2.0
THZ	Tophouse	3.17	242	PN	Pn	23 57 18.3	-3.6

*GEN **01** 23:57:55.7, 43°.48N×10°.20E, h4^{km}, ML2.5*
*ROM **01** 23:57:55.1±0.3, 43°.45N×10°.20E, h8^{km}±9^{km}, Md2.4/11, Ml2.4/5, Error ellipse: s-maj=8.5km s-min=3.1km az=32.0*
*ISCJB **01** 23:57:55.4±0.5, 43°.46N±0°.03×10°.13E±0°.04, h23^{km}±4^{km}, Error ellipse: s-maj=5.6km s-min=4.0km az=154.7*
*CSEM **01** 23:57:55.5±0.2, 43°.47N×10°.17E, h10^{km}, ML2.5/18, Error ellipse: s-maj=4.8km s-min=2.8km az=159.0*
*LDG **01** 23:57:57.1±0.2, 43°.30N×10°.13E, h10^{km}, Ml2.3/18, Error ellipse: s-maj=3.9km s-min=2.6km az=101.0*
*PRU **01** 23:58:03.7, 43°.92N×10°.51E, h0^{km}*
ISC 01 23:57:55.0±1.0, **43°.42N**±0°.04×**10°.19E**±0°.03, **h20**^{km}±4^{km}, **n62, σ1^{s}32**/114, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROG	Isola di Gorgo	0.22	272	Pg	Pg	23 58 00.3	-0.1
GROG				Sg	Sg	23 58 03.9	-0.1
GROG	Isola di Gorgo	0.22	272	Pg	Pg	23 58 00.3	-0.1
GROG				Sg	Sg	23 58 03.9	-0.1
MAIM	Mastiano	0.54	24	Pg	Pg	23 58 05.1	-0.9
MAIM				Sg	Sg	23 58 12.0	-1.4
	200nm,0.4s						
MAIM	Mastiano	0.54	24	Pg	Pg	23 58 05.1	-0.9
MAIM				S	Sg	23 58 11.1	-2.3
MAIM				Sg	Sg	23 58 12.0	-1.4
	200nm,0.4s						
CRDM	Cardoso	0.65	19	P	Pb	23 58 06.7	-0.9
CRDM				S	Sb	23 58 14.2	-2.0
BDI	Bagni Di Lucca	0.71	25	Pg	Pb	23 58 08.1	-0.7
BDI				Sg	Sb	23 58 17.5	-0.6
	273nm,0.2s						
BDI	Bagni Di Lucca	0.71	25	Pg	Pb	23 58 08.1	-0.7
BDI				Sg	Sb	23 58 17.5	-0.6
	273nm,0.2s						
CSNT	Castellina Chi	0.81	86	Pg	Pb	23 58 10.4	0.0
CSNT				Sg	Sg	23 58 21.5	-0.1
	40nm,0.4s						
CSNT	Castellina Chi	0.81	86	Pg	Pb	23 58 10.4	0.0
CSNT				Sg	Sg	23 58 21.5	-0.1
	40nm,0.4s						
GSCL	Gusciola	0.98	17	Pg	Pb	23 58 13.5	+0.2
GSCL				Sg	Sb	23 58 26.2	+0.4
	53nm,0.3s						
GSCL	Gusciola	0.98	17	Pg	Pb	23 58 13.5	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCL				Sg	Sb	23 58 26.2	+0.4
	53nm,0.3s						
CODM	Codolo	1.00	346	P	Pb	23 58 13.1	-0.7
CODM				S	Sb	23 58 25.1	-1.5
ERBM	Eremo	1.01	9	Pg	Pn	23 58 14.5	+0.3
ERBM				Sg	Sg	23 58 27.9	-0.3
ERBM	Eremo	1.01	9	Pg	Pn	23 58 14.5	+0.3
ERBM				Sg	Sg	23 58 27.9	-0.3
SEI	Scarperia	1.06	53	Pg	Pb	23 58 14.6	-0.1
	119nm,0.2s						
SEI	Scarperia	1.06	53	Pg	Pb	23 58 14.6	-0.1
	119nm,0.2s						
GRAM	Graiana	1.08	355	P	Pb	23 58 14.8	-0.2
GRAM				S	Sb	23 58 27.5	-1.2
ZCCA	Zocca	1.09	31	Pg	Pg	23 58 16.8	+0.5
	103nm,1.0s						
ZCCA	Zocca	1.09	31	Pg	Pg	23 58 16.8	+0.5
	103nm,1.0s						
SC2M	Scurtabo	1.09	335	Pg	Pb	23 58 15.4	+0.1
SC2M				Sg	Sn	23 58 30.1	+0.2
	128nm,0.6s						
SC2M	Scurtabo	1.09	335	P	Pb	23 58 15.0	-0.3
SC2M	Scurtabo	1.09	335	Pg	Pb	23 58 15.4	+0.1
SC2M				S	Sb	23 58 27.8	-1.4
SC2M				Sg	Sn	23 58 30.1	+0.2
	128nm,0.6s						
VMG	Vicchio	1.12	61	Pg	Pb	23 58 16.3	+0.5
	18nm,0.2s						
VMG	Vicchio	1.12	61	Pg	Pb	23 58 16.3	+0.5
	18nm,0.2s						
SBF	Sospel	2.05	284	*e*Pn	Pn	23 58 29.8	+1.4
SBF				*e*Sn	Sn	23 58 53.6	+0.2
	23nm,0.6s						
SBF	Sospel	2.05	284	*e*Pn	Pn	23 58 29.8	+1.4
SBF				*e*Sn	Sn	23 58 53.6	+0.2
	11nm,0.6s						
ROVR	Roverˆ¤ Verone	2.32	16	Pg	Pn	23 58 33.1	+0.9
ROVR	Roverˆ¤ Verone	2.32	16	Pg	Pn	23 58 33.1	+0.9
LMR	La Mourre	2.68	269	*e*Pn	Pn	23 58 38.1	+1.0
LMR				*e*Sn	Sn	23 59 08.0	-1.0
	6.2nm,0.5s						
LMR	La Mourre	2.68	269	*e*Pn	Pn	23 58 38.1	+1.0
LMR				*e*Sn	Sn	23 59 08.0	-1.0
	3.1nm,0.5s						
MBDF	Montbardon	2.79	299	*e*Pn	Pn	23 58 39.7	+1.0
MBDF				*e*Sn	Sn	23 59 12.5	+0.7
	11nm,0.8s						
MBDF	Montbardon	2.79	299	*e*Pn	Pn	23 58 39.7	+1.0
MBDF				*e*Sn	Sn	23 59 12.5	+0.7
	5.7nm,0.8s						
LPG	La Plagne	3.22	311	*e*Pn	Pn	23 58 46.8	+2.0
LPG				*e*Sn	Sn	23 59 23.8	+1.1
	1.8nm,0.6s						
LPG	La Plagne	3.22	311	*e*Pn	Pn	23 58 46.8	+2.0
LPG				*e*Sn	Sn	23 59 23.8	+1.1
	0.9nm,0.6s						
LPL	La Plagne	3.24	311	*e*Pn	Pn	23 58 47.2	+2.2
LPL				*e*Sn	Sn	23 59 23.9	+0.8
	1.2nm,0.3s						
LPL	La Plagne	3.24	311	*e*Pn	Pn	23 58 47.2	+2.2
LPL				*e*Sn	Sn	23 59 23.9	+0.8
	0.6nm,0.3s						
SMRF	Simiane la Rot	3.39	281	*e*Pn	Pn	23 58 47.8	+0.9
SMRF				*e*Sn	Sn	23 59 25.8	-0.7
	3.0nm,0.5s						
SMRF	Simiane la Rot	3.39	281	*e*Pn	Pn	23 58 47.8	+0.9
SMRF				*e*Sn	Sn	23 59 25.8	-0.7
	1.5nm,0.5s						
ORIF	Oris-en-Rattie	3.44	297	*e*Pn	Pn	23 58 49.0	+1.4
ORIF				*e*Sn	Sn	23 59 27.8	-0.1
	2.5nm,0.3s						
ORIF	Oris-en-Rattie	3.44	297	*e*Pn	Pn	23 58 49.0	+1.4
ORIF				*e*Sn	Sn	23 59 27.8	-0.1
	1.2nm,0.3s						
VIVF	Saint-Julien-l	4.22	292	*e*Pn	Pn	23 58 59.8	+1.5
VIVF				*e*Sn	Sn	23 59 46.0	-1.0
	0.7nm,0.3s						
VIVF	Saint-Julien-l	4.22	292	*e*Pn	Pn	23 58 59.8	+1.5
VIVF				*e*Sn	Sn	23 59 46.0	-1.0
	0.3nm,0.3s						
CABF	La Chapelle	4.32	319	*e*Pn	Pn	23 59 01.8	+2.2
CABF				*e*Sn	Sn	23 59 50.0	+0.6
	2.5nm,0.6s						
CABF	La Chapelle	4.32	319	*e*Pn	Pn	23 59 01.8	+2.2
CABF				*e*Sn	Sn	23 59 50.0	+0.6
	1.2nm,0.6s						
LASF	Ste Croix	4.63	280	*e*Pn	Pn	23 59 04.5	+0.6
LASF				*e*Sn	Sn	23 59 55.3	-1.8
	0.7nm,0.5s						
LASF	Ste Croix	4.63	280	*e*Pn	Pn	23 59 04.5	+0.6
LASF				*e*Sn	Sn	23 59 55.3	-1.8
	0.3nm,0.5s						
HINF	Hinteralfeld	4.98	333	*e*Pn	Pn	23 59 11.3	+2.6
HINF				*e*Sn	Sn	00 00 06.6	+0.9
	3.4nm,0.6s						
HINF	Hinteralfeld	4.98	333	*e*Pn	Pn	23 59 11.3	+2.6
HINF				*e*Sn	Sn	00 00 06.6	+0.9
	1.7nm,0.6s						
HAU	Haudompre	5.32	331	*e*Pn	Pn	23 59 15.5	+2.2
HAU				*e*Sn	Sn	00 00 14.5	+0.5
	2.7nm,0.6s						
HAU	Haudompre	5.32	331	*e*Pn	Pn	23 59 15.5	+2.2
HAU				*e*Sn	Sn	00 00 14.5	+0.5
	1.4nm,0.6s						
CDF	Champ du Feu	5.39	339	*e*Pn	Pn	23 59 16.4	+2.0
CDF				*e*Sn	Sn	00 00 16.8	+0.9
	2.3nm,0.6s						
CDF	Champ du Feu	5.39	339	*e*Pn	Pn	23 59 16.4	+2.0
CDF				*e*Sn	Sn	00 00 16.8	+0.9
	1.1nm,0.6s						
SMF	Signal de Mont	5.54	308	*e*Pn	Pn	23 59 18.6	+2.3
SMF				*e*Sn	Sn	00 00 18.2	-1.1
	0.2nm,0.2s						
SMF	Signal de Mont	5.54	308	*e*Pn	Pn	23 59 18.6	+2.3
SMF				*e*Sn	Sn	00 00 18.2	-1.1
	0.1nm,0.2s						
LOR	Lormes	5.89	313	*e*Pn	Pn	23 59 22.9	+1.7
LOR				*e*Sn	Sn	00 00 27.1	-1.0
	0.5nm,0.4s						
LOR	Lormes	5.89	313	*e*Pn	Pn	23 59 22.9	+1.7
LOR				*e*Sn	Sn	00 00 27.1	-1.0
	0.2nm,0.4s						
SSF	Saint Saulge	5.96	310	*e*Pn	Pn	23 59 24.1	+2.0
SSF				*e*Sn	Sn	00 00 28.5	-1.3
	0.1nm,0.2s						
SSF	Saint Saulge	5.96	310	*e*Pn	Pn	23 59 24.1	+2.0
SSF				*e*Sn	Sn	00 00 28.5	-1.3
	0.1nm,0.2s						
CAF	Calviac	6.03	287	*e*Pn	Pn	23 59 24.1	+0.9
CAF				*e*Sn	Sn	00 00 29.1	-2.5
	0.9nm,0.4s						
CAF	Calviac	6.03	287	*e*Pn	Pn	23 59 24.1	+0.9
KHC	Kasperske Hory	6.18	21	*e*PN	Pn	23 59 27.5	+2.4
KHC				*e*SN	Sn	00 00 31.1	-4.1
KHC	Kasperske Hory	6.18	21	Pn	Pn	23 59 27.5	+2.4

*ATH **01** 23:59:56.8, 39°.27N×26°.11E, h22^{km}±1^{km}, MD3.3/9*
*THE **01** 23:59:57.9, 39°.23N×26°.06E, h9^{km}±1^{km}, ML2.7/2, Error ellipse: s-maj=1.4km s-min=0.5km az=111.0*
*ISK **01** 23:59:57.4, 39°.25N×26°.01E, h16^{km}, MD3.0*
*DDA **01** 23:59:57.2, 39°.24N×26°.07E, h26^{km}, MD2.8*
*ISCJB **01** 23:59:57.2±0.6, 39°.23N±0°.02×26°.04E±0°.03, h10^{km}±4^{km}, Error ellipse: s-maj=3.7km s-min=3.2km az=138.8*
*CSEM **01** 23:59:58.1±0.1, 39°.24N×26°.04E, h15^{km}, MD3.3, Error ellipse: s-maj=2.6km s-min=2.5km az=40.0*
ISC 01 23:59:57.7±0.9**, 39°.24N**±0°.02×**26°.06E**±0°.02**, h12**^{km}±6^{km}**, n93,** σ**0^{s}60**/126**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.17	88	P	Pg	00 00 01.3	-0.3
PRK				S	Sg	00 00 04.1	-0.1
PRK	Paraskevi	0.17	88	*e*PB	Pg	00 00 01.4	-0.2
PRK				*e*SB	Sg	00 00 04.4	+0.2
PRK	Paraskevi	0.17	88	*e*Pb	Pg	00 00 01.4	-0.2
PRK				*e*Sb	Sg	00 00 04.4	+0.2
AYVA	Ayvalik	0.50	82	*i* P	Pg	00 00 07.2	-0.3
AYVA				*i* S	Sg	00 00 14.5	+0.4
AYVA	Ayvalik	0.50	82	*i* P	Pg	00 00 07.2	-0.3
AYVA				*i* S	Sg	00 00 14.5	+0.4
BOZC	Bozcaada	0.60	360	*i* P	Pg	00 00 09.4	-0.1
BOZC				*i* S	Sg	00 00 18.1	+0.7
EZN	Ezine	0.62	19	PG	Pg	00 00 09.8	-0.1
EZN				SG	Sb	00 00 19.6	+0.4
EZN	Ezine	0.62	19	*i* Pg	Pg	00 00 09.8	-0.1
EZN				*i* Sg	Sb	00 00 19.6	+0.4
CHOS	Chios island	0.85	180	P	Pb	00 00 13.6	-0.9
CHOS	Chios island	0.85	180	*e*PN	Pb	00 00 13.6	-0.9
CHOS				*e*SN	Sb	00 00 26.9	+1.1
CHOS	Chios island	0.85	180	*e*Pn	Pb	00 00 13.6	-0.9
CHOS				*e*Sn	Sb	00 00 26.9	+1.1
LIA	Limnos Island	0.94	315	P	Pb	00 00 16.0	0.0
LIA				S	Sg	00 00 29.3	+1.1
LIA	Limnos Island	0.94	315	*e*PN	Pb	00 00 16.0	0.0
LIA				*e*SN	Sb	00 00 28.4	0.0
LIA	Limnos Island	0.94	315	*e*Pn	Pb	00 00 16.0	0.0
LIA				*e*Sn	Sb	00 00 28.4	0.0
LIA				S	Sg	00 00 29.3	+1.1
URLA	Izmir	0.97	154	*i* P	Pb	00 00 16.4	-0.1
URLA				*i* S	Sb	00 00 28.9	-0.4
URLA	Izmir	0.97	154	*i* P	Pb	00 00 16.4	-0.1
URLA				*i* S	Sb	00 00 28.9	-0.4
BLCB	Balcova	1.15	138	*e*PN	Pg	00 00 19.9	+0.1
BLCB				*e*SN	Sg	00 00 35.2	+0.4
BLCB	Balcova	1.15	138	*e*Pn	Pg	00 00 19.9	+0.1
BLCB				*e*Sn	Sg	00 00 35.2	+0.4
GELI	Tayfur-Gelibol	1.20	15	*e*PN	Pn	00 00 20.3	0.0
GELI	Tayfur-Gelibol	1.20	15	*e*Pn	Pn	00 00 20.3	0.0
LPK	Lapseki	1.25	25	*e*PN	Pn	00 00 20.9	-0.2
LPK				*e*SN	Sn	00 00 38.0	+0.2
LPK	Lapseki	1.25	25	*e*Pn	Pn	00 00 20.9	-0.2
LPK				*e*Sn	Sn	00 00 38.1	+0.2
BALY	Balya	1.31	67	*i* P	Pn	00 00 21.9	0.0
BALY				*i* S	Sg	00 00 39.6	-0.3
BALY	Balya	1.31	67	*i* P	Pn	00 00 21.9	0.0
BALY				*i* S	Sg	00 00 39.6	-0.3
AKS	Akhisar	1.41	104	*e*PN	Pb	00 00 24.0	0.0
AKS	Akhisar	1.41	104	*e*Pn	Pb	00 00 24.0	0.0
AKHS	Akhisar	1.42	104	*i* P	Pn	00 00 23.3	0.0
AKHS				*i* S	Sn	00 00 40.6	-1.2
AKHS	Akhisar	1.42	104	*i* P	Pn	00 00 23.3	0.0
AKHS				*i* S	Sn	00 00 40.6	-1.2
BALB	Balikesir	1.47	74	*e*PN	Pb	00 00 24.7	-0.2
BALB	Balikesir	1.47	74	*e*Pn	Pb	00 00 24.7	-0.2
ERIK	Erikli-Kesan	1.47	14	*e*PN	Pn	00 00 24.4	+0.3
ERIK	Erikli-Kesan	1.47	14	*e*Pn	Pn	00 00 24.4	+0.3
GONE	Gonen-Balikesi	1.49	57	*e*PN	Pb	00 00 25.0	-0.4
GONE	Gonen-Balikesi	1.49	57	*e*Pn	Pb	00 00 25.0	-0.4
ENEZ	Enez	1.50	3	*e*PN	Pn	00 00 23.9	-0.5
ENEZ	Enez	1.50	3	*e*Pn	Pn	00 00 23.9	-0.5
KRBG	Karabiga-Canak	1.50	39	*e*PN	Pn	00 00 24.2	-0.2
KRBG	Karabiga-Canak	1.50	39	*e*Pn	Pn	00 00 24.2	-0.2
SMG	Samos	1.65	158	*e*PN	Pn	00 00 27.2	+0.8
SMG	Samos	1.65	158	*e*Pn	Pn	00 00 27.2	+0.8
ALN	Alexandroupoli	1.66	360	P	Pn	00 00 26.4	-0.2
ALN				S	Sn	00 00 47.7	-0.1
ALN	Alexandroupoli	1.66	360	*e*PN	Pn	00 00 25.8	-0.8
ALN				*e*SN	Sn	00 00 47.5	-0.3
ALN	Alexandroupoli	1.66	360	*e*Pn	Pn	00 00 25.8	-0.8
ALN	Alexandroupoli	1.66	360	P	Pn	00 00 26.4	-0.2
ALN				*e*Sn	Sn	00 00 47.5	-0.3
RKY	Sarkoy-Tekirda	1.68	30	*e*PN	Pn	00 00 26.8	-0.2
RKY	Sarkoy-Tekirda	1.68	30	*e*Pn	Pn	00 00 26.8	-0.2
SART	Tekirdag	1.69	30	*i* P	Pn	00 00 27.1	0.0
SART				*i* S	Sg	00 00 51.5	-0.5
SART	Tekirdag	1.69	30	*i* P	Pn	00 00 27.1	0.0
AOS	Alonnisos	1.69	268	P	Pn	00 00 27.0	-0.1
AOS				S	Sb	00 00 49.6	-0.4
AOS	Alonnisos	1.69	268	P	Pn	00 00 27.0	-0.1
AOS				S	Sb	00 00 49.6	-0.4
MFT	Murefte	1.81	31	*e*PN	Pn	00 00 28.8	0.0
MFT	Murefte	1.81	31	*e*Pn	Pn	00 00 28.8	0.0
DURS	Dursunbey	1.91	78	*i* P	Pn	00 00 29.9	-0.2
DURS				*i* S	Sn	00 00 54.0	-0.1
DURS	Dursunbey	1.91	78	*i* P	Pn	00 00 29.9	-0.2
DURS				*i* S	Sn	00 00 54.0	-0.1
RDO	Rodhopi	1.95	348	*e*PN	Pn	00 00 31.1	+0.6
RDO	Rodhopi	1.95	348	*e*Pn	Pn	00 00 31.1	+0.6
DEMI	Demirci	2.08	95	*i* P	Pn	00 00 32.8	+0.4
DEMI	Demirci	2.08	95	*i* P	Pn	00 00 32.8	+0.4
KULA	Kula-Manisa	2.16	109	*e*PN	Pn	00 00 34.6	+1.0
KULA	Kula-Manisa	2.16	109	*e*Pn	Pn	00 00 34.6	+1.0
APE	Apeiranthos	2.21	191	*e*PN	Pn	00 00 35.3	+1.1
APE	Apeiranthos	2.21	191	*e*PN	Pn	00 00 34.6	+0.4
APE	Apeiranthos	2.21	191	*e*Pn	Pn	00 00 34.6	+0.4
CRLT	Corlu	2.28	34	*e*PN	Pn	00 00 35.1	-0.1
CRLT	Corlu	2.28	34	*e*Pn	Pn	00 00 35.1	-0.1
PLG	Polygyros	2.31	300	*e*PN	Pn	00 00 35.9	+0.3
PLG	Polygyros	2.31	300	*e*Pn	Pn	00 00 35.9	+0.3
MDNY	Mudanya-Bursa	2.45	62	*e*PN	Pn	00 00 38.6	+1.1
MDNY	Mudanya-Bursa	2.45	62	*e*Pn	Pn	00 00 38.6	+1.1
ARMT	Armutlu	2.53	58	*e*PN	Pn	00 00 39.6	+1.0
ARMT	Armutlu	2.53	58	*e*Pn	Pn	00 00 39.7	+1.0
SOH	Sokhos	2.61	308	*e*PN	Pn	00 00 39.5	-0.2
SOH	Sokhos	2.61	308	*e*Pn	Pn	00 00 39.5	-0.2
EDRB	Edirne	2.66	11	*e*PN	Pn	00 00 39.9	-0.4
EDRB	Edirne	2.66	11	*e*Pn	Pn	00 00 39.9	-0.4
GDZ	Gediz	2.67	92	*i* P	Pg	00 00 48.4	-0.4
GDZ				*i* S	Sg	00 01 23.4	0.0
GEMT	Gemlik	2.69	63	*e*PN	Pn	00 00 41.8	+1.0
GEMT	Gemlik	2.69	63	*e*Pn	Pn	00 00 41.8	+1.0
NVR	Nevrokopi	2.69	322	*e*PB	Pn	00 00 42.1	+1.2
NVR	Nevrokopi	2.69	322	*e*Pb	Pn	00 00 42.1	+1.2
CTKS	Kestanelik-??a	2.74	42	*e*PN	Pn	00 00 41.8	+0.4
CTKS	Kestanelik-??a	2.74	42	*e*Pn	Pn	00 00 41.8	+0.4
CTYL	Yal??k??y-??at	2.81	37	*e*PN	Pn	00 00 43.1	+0.7
CTYL	Yal??k??y-??at	2.81	37	*e*Pn	Pn	00 00 43.1	+0.7
AGG	Agios Georgios	2.91	267	*e*PN	Pn	00 00 43.8	0.0
AGG	Agios Georgios	2.91	267	*e*Pn	Pn	00 00 43.8	0.0
THL	Klokotos Trika	3.15	277	*e*PN	Pn	00 00 47.2	+0.1
THL	Klokotos Trika	3.15	277	*e*Pn	Pn	00 00 47.2	+0.1
EVR	Evrytania	3.32	266	*e*PN	Pn	00 00 46.8	-2.8
VLI	Veliai	3.52	225	*e*PN	Pn	00 00 52.7	+0.5
VLI	Veliai	3.52	225	*e*Pn	Pn	00 00 52.7	+0.5
GULT	Gulveren	3.63	69	*e*PN	Pn	00 00 55.1	+1.3
GULT	Gulveren	3.63	69	*e*Pn	Pn	00 00 55.1	+1.3

*JMA **02** 00:01:00.5±0.3, 45°.58N×142°.48E, h311^{km}±2^{km}, M3.2*
*IDC **02** 00:01:00.9±1.2, 45°.79N×142°.41E, h295^{km}±22^{km}, mb3.1/6, mb1 3.3/9, mb1mx2.9/26, mbtmp3.1/9, Error ellipse: s-maj=36.1km s-min=17.9km az=170.0*
*ISCJB **02** 00:01:00.3±0.5, 45°.54N±0°.08×142°.6E±0°.1, h310^{km}±6^{km}, mb3.4/6, Error ellipse: s-maj=12.2km s-min=11.2km az=26.0*
ISC 02 00:01:00.8±0.7**, 45°.48N**±0°.08×**142°.52E**±0°.07**, h309**^{km}±7^{km}**, n25,** σ**1^{s}32**/30**, mb3.2**/6**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.47	249	P	Pn	00 01 40.5	+0.2
JWK2				*e*S	S	00 02 11.1	-0.7
JRR	Rishiri	0.92	248	P	Pn	00 01 41.8	0.0
JSS	Shosan	1.18	204	P	Pn	00 01 43.7	+0.6
ASAJ	Asahikawa	1.37	178	P	Pn	00 01 45.0	+0.8
	7.8nm,0.3s,baz=350,slow=6.1,SNR=31						
ASAJ	Asahikawa	1.37	178	P	Pn	00 01 44.9	+0.8
JMP	Maruseppu	1.59	158	P	Pn	00 01 46.2	+0.6
JKK2	Kamakawa 2	1.62	174	P	Pn	00 01 46.7	+1.0
JTKR	Abashiri--Toko	1.81	146	P	Pn	00 01 48.0	+1.0
JFR	Furan	2.32	179	P	Pn	00 01 51.8	+0.7
JAR	Ashorobuto	2.36	157	P	Pn	00 01 52.7	+1.3
JAR				*e*S	S	00 02 34.0	+2.2
JEW	Eniwo	2.75	197	P	Pn	00 01 56.2	+1.3
JCH	Churui	2.93	168	P	Pn	00 01 56.1	-0.5
JCH				*e*S	S	00 02 38.3	-2.9
JAK	Akkeshi	2.94	147	*e*S	S	00 02 39.6	-1.6
NEM2	Nemuro 2	3.13	131	*e*S	S	00 02 42.4	-2.2
JNBK	Urakawa-nobuka	3.21	177	P	Pn	00 02 00.0	+0.7
JNBK				*e*S	S	00 02 45.7	-0.4
JKB	Kayabe	3.75	197	P	Pn	00 02 05.2	+0.3
JKB				*e*S	S	00 02 55.3	-0.9
USRK	Ussuriysk Arra	7.59	264	P	Pn	00 02 49.3	-0.1
	0.8nm,0.3s,baz=72,slow=13,SNR=23						
MJAR	Matsushiro Arr	9.51	202	P	P	00 03 14.9	-1.8
	0.3nm,0.3s,baz=7.1,slow=14,SNR=4.1						
KSRS	Korea Array	13.56	239	P	Pn	00 04 04.0	+2.2
	0.1nm,0.3s,baz=41,slow=14,SNR=3.1						
SONM	Songino Array	24.77	289	P	P	00 05 54.6	-0.5
	0.7nm,0.5s,baz=78,slow=8.6,SNR=7.8						
ILAR	Eielson Array	42.07	37	P	P	00 08 21.8	-0.8
	0.4nm,0.6s,baz=279,slow=8.2,SNR=11						
RES	Resolute Bay	54.23	16	P	P	00 09 53.6	-1.1
	1.3nm,0.5s,baz=313,slow=6.0,SNR=6.0						
FINES	FINESS Array B	61.79	331	P	P	00 10 46.4	-0.5
	6.3nm,1.1s,baz=46,slow=8.3,SNR=3.7						
NVAR	Mina Array Bea	69.40	56	P	P	00 11 37.5	+1.5
	0.2nm,0.5s,baz=283,slow=5.5,SNR=4.0						
TXAR	Lajitas Array	84.35	53	P	P	00 13 00.2	+1.3
	0.3nm,0.8s,baz=289,slow=2.8,SNR=3.5						

IDC 02 00:01:06.3±1.8**, 54°.04S**×**11°.28E, h0**^{km}**, mb4.0**/2**, mb1 4.1**/2**, mb1mx3.6**/13**, mbtmp4.0**/2**, Error ellipse: s-maj=75.7km s-min=46.0km az=96.0, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	27.39	27	P	P	00 06 53.4	0.0
	1.9nm,0.8s,baz=210,slow=9.4,SNR=5.4						
ASAR	Alice Springs	88.23	129	P	P	00 13 59.4	0.0
	0.9nm,0.8s,baz=201,slow=4.0,SNR=7.0						
YKA	Yellowknife Ar	151.14	309	PKPbc	PKPbc	00 20 59.6	-0.3
	0.4nm,0.8s,baz=104,slow=2.2,SNR=4.6						

*IDC **02** 01:06:10.0±1.8, 59°.12N×154°.00W, h92^{km}±29^{km}, mb3.0/2, mb1 3.1/4, mb1mx2.9/25, mbtmp2.9/4, Error ellipse: s-maj=36.2km s-min=14.8km az=103.0*
*ISCJB **02** 01:06:10.1±0.4, 58°.98N±0°.03×153°.83W±0°.07, h118^{km}±4^{km}, mb3.2/2, Error ellipse: s-maj=6.3km s-min=4.5km az=30.1*
*NEIC **02** 01:06:12.6, 58°.96N×153°.88W, h107^{km}, MG3.1(AEIC), After AEIC.*
ISC 02 01:06:11.1±0.8**, 59°.00N**±0°.03×**153°.87W**±0°.04**, h115**^{km}±6^{km}**, n63,** σ**0^{s}90**/77**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSS	Fourpeaked Sta	0.22	156	P	Pn	01 06 27.0	-0.1
FOSS				S	Sn	01 06 39.1	-0.1
MCNL	McNeil River	0.30	307	P	Pn	01 06 27.3	-0.1
MCNL				S	Sn	01 06 38.2	-1.5
FOPK	Fourpeaked Vol	0.32	140	P	Pn	01 06 27.2	-0.3
AUW	Augustine West	0.42	29	P	Pn	01 06 28.5	+0.5
AUNW	Augustine NWes	0.43	28	P	Pn	01 06 28.5	+0.5
AUE	Augustine Isla	0.44	35	P	Pn	01 06 28.6	+0.6
KAPH	Katmai Pasha	0.48	212	P	Pn	01 06 28.2	-0.1
KAPH				S	Sn	01 06 40.7	-0.7
OPT	Oil Point	0.73	26	P	Pn	01 06 30.9	+0.7
OPT				S	Sn	01 06 43.9	-0.7
KAKN	Katmai Knife C	0.94	222	P	Pn	01 06 31.9	-0.3
KAKN				S	Sn	01 06 46.8	-1.2
KCE	Katmai Mt Cerb	1.03	223	P	Pn	01 06 33.4	+0.5
KABU	Katmai Buttres	1.04	226	P	Pn	01 06 33.0	-0.1
KABU				S	Sn	01 06 49.2	-0.6
ILW	Iliamna West	1.13	19	P	Pn	01 06 34.5	+0.4
ILW				S	Sn	01 06 51.4	-0.2
KELA	Mount Kelaz	1.13	241	P	Pn	01 06 33.7	-0.3
INE	Iliamna NE	1.14	21	P	Pn	01 06 34.9	+0.7
KDAK	Kodiak Island	1.40	151	P	Pn	01 06 37.5	+0.6
	48nm,0.3s,baz=337,slow=8.8,SNR=270						
KDAK				S	Sn	01 06 55.8	-0.7
	102nm,0.3s,baz=53,slow=20,SNR=41						
KDAK	Kodiak Island	1.40	151	P	Pn	01 06 37.5	+0.6
KDAK				S	Sn	01 06 56.4	0.0
KDAK	Kodiak Island	1.40	151	Pn	Pn	01 06 36.0	-0.9
	1μm,0.3s						
RSO	Redoubt South	1.57	21	P	Pn	01 06 39.8	+0.6
RDN	Redoubt North	1.62	20	P	Pn	01 06 40.4	+0.8
BRLK	Bradley Lake	1.71	62	P	Pn	01 06 40.5	-0.1
OHAK	Old Harbor	1.81	170	P	Pn	01 06 41.2	-0.6
OHAK				S	Sn	01 07 03.5	-1.8
PLK1	Peulik 1	1.88	231	P	Pn	01 06 42.9	+0.2
BKG	Blockade Glaci	2.23	20	P	Pn	01 06 47.9	+0.7
SVW2	Sparrevohn	2.27	338	*e*P	Pn	01 06 47.8	+0.1
CKL	Chakachamna La	2.33	19	P	Pn	01 06 49.3	+0.8
SLKM	Skilak Lake	2.38	49	P	Pn	01 06 49.1	-0.1
SEW	Seward	2.51	62	P	Pn	01 06 50.7	+0.1
SEW				S	Sn	01 07 19.5	-1.5
STLK	Strandline Lak	2.70	21	P	Pn	01 06 54.0	+0.7
SUA	Susitna One	2.92	31	P	Pn	01 06 57.1	+1.0
SUA				S	Sn	01 07 31.1	+0.2
RC01	Rabbit Creek A	2.95	43	P	Pn	01 06 56.8	+0.4
SKT	Skwentna	3.21	20	P	Pn	01 07 00.2	+0.4
PMR	Palmer	3.51	40	P	Pn	01 07 03.4	-0.4
MID	Middleton Isla	3.89	80	*e*P	Pn	01 07 09.5	+0.6
PPLA	Purkeypile	3.99	11	P	Pn	01 07 11.8	+1.3
TT01	Tatalina	4.06	346	P	Pn	01 07 11.7	+0.5
SCM	Sheep Creek Mo	4.31	46	P	Pn	01 07 14.7	+0.1
DIV	Divide	4.58	59	P	Pn	01 07 18.4	+0.2
KLU	Klutina	4.68	54	P	Pn	01 07 19.5	0.0
TRF	Thorofare Moun	4.79	20	P	Pn	01 07 21.2	+0.1
GOAT	Goat Mountain	4.88	67	P	Pn	01 07 22.4	+0.1
RND	Reindeer	5.04	27	P	Pn	01 07 24.4	-0.1
BMRM	Bremner River	5.05	63	P	Pn	01 07 24.6	0.0
DHY	Denali Highway	5.16	35	P	Pn	01 07 25.7	-0.4
NICHA	Nichawak Mount	5.18	72	P	Pn	01 07 26.8	+0.6
MCK	McKinley	5.31	24	P	Pn	01 07 28.0	+0.1
BERG	Berg Lake	5.33	70	P	Pn	01 07 28.4	+0.1
PAX	Paxson	5.70	42	P	Pn	01 07 33.0	-0.4
BARK	Barkley Ridge	5.93	71	P	Pn	01 07 37.0	+0.6
ISLE	Juniper Island	6.04	70	P	Pn	01 07 38.2	+0.3
BALM	Baldy	6.13	66	P	Pn	01 07 39.3	+0.2
BAGL	Bagley Icefiel	6.14	71	P	Pn	01 07 40.1	+1.0
CCB	Clear Creek Bu	6.35	24	P	Pn	01 07 40.8	-1.1
ILAR	Eielson Array	6.66	27	P	Pn	01 07 45.2	-1.0
	0.7nm,0.3s,baz=216,slow=14,SNR=78						
ILAR				S	Sn	01 08 57.0	-3.6
	1.3nm,0.3s,baz=214,slow=22,SNR=10						
ILAR	Eielson Array	6.66	27	P	Pn	01 07 45.2	-1.0
ILAR				S	Sn	01 08 57.0	-3.6
SIT	Sitka	10.02	93	*e*P	Pn	01 08 31.7	+0.1
	40nm,1.2s						
DLBC	Dease Lake	12.39	82	P	Pn	01 09 08.0	+4.7
	0.9nm,0.3s,baz=240,slow=12,SNR=16						
DLBC				S	Sn	01 11 19.2	-0.1
	0.2nm,0.3s,baz=168,slow=20,SNR=4.2						
DLBC	Dease Lake	12.39	82	P	Pn	01 09 08.0	+4.7
DLBC				S	Sn	01 11 19.2	-0.1
YKA	Yellowknife Ar	19.29	63	P	P	01 10 27.7	+1.2
	0.1nm,0.3s,baz=276,slow=9.7,SNR=4.1						
YKA	Yellowknife Ar	19.29	63	P	P	01 10 27.7	+1.2
SONM	Songino Array	55.02	306	P	P	01 15 31.5	+1.1
	0.2nm,0.4s,baz=58,slow=8.4,SNR=3.5						
SONM	Songino Array	55.02	306	P	P	01 15 31.5	+1.1
MKAR	Makanchi Array	64.93	321	P	P	01 16 37.5	-0.5
	0.1nm,0.5s,baz=30,slow=6.3,SNR=2.6						
MKAR	Makanchi Array	64.93	321	P	P	01 16 37.5	-0.5

*NIED **02** 01:39:00, 21°.40N×120°.30E, h59^{km}, Mw4.7 Best double couple: M$_0$1.28000×10^{16} NP1:φ$_s$311.00000°, δ82.00000°, λ98.00000°. NP2:φ$_s$85.00000°, δ11.00000°, λ45.00000°.*
*MOS **02** 01:39:48.4±0.9, 21°.50N×119°.91E, h33^{km}, mb4.8/28, MS4.2/4, Error ellipse: s-maj=10.3km s-min=6.4km az=120.1*
*IDC **02** 01:39:50.1±0.5, 21°.45N×119°.84E, h32^{km}±3^{km}, mb3.9/22, mb1 4.0/24, mb1mx4.0/31, mbtmp3.9/24, ML3.4/2, MS3.9/18, Ms1 4.0/18, ms1mx3.8/34, Error ellipse: s-maj=18.6km s-min=10.7km az=72.0*
*TAP **02** 01:39:51.6, 21°.65N×119°.91E, h65^{km}, ML5.1, C*
*NEIC **02** 01:39:51.3±0.5, 21°.51N×119°.94E, h42^{km}±4^{km}, mb4.6/21, Error ellipse: s-maj=4.9km s-min=4.0km az=87.0*
NEIC Felt at Kao-hsiung. Recorded [2 TAP] in P'eng-hu and T'ai-nan; [1 TAP] in Chia-i, Kao-hsiung, P'ing-tung and T'ai-tung.
*BJI **02** 01:39:51.2, 21°.69N×119°.77E, h45^{km}, mB4.6/18, mb4.4/37, ML4.6/7, Ms4.4/32, Ms7 4.3/34*
*ISCJB **02** 01:39:51.0±0.3, 21°.56N±0°.02×119°.95E±0°.02, h57^{km}±3^{km}, mb4.4/58, MS4.0/26, Error ellipse: s-maj=3.8km s-min=3.1km az=36.1*
*JMA **02** 01:39:53.0±0.2, 21°.38N×120°.31E, h64^{km}, M4.8*
ISC 02 01:39:51.1±0.3**, 21°.50N**±0°.03×**119°.91E**±0°.03**, h41**^{km}±2^{km}**, h41**^{km}**:pP-P, n279,** σ**1^{s}29**/412**, mb4.5**/58**, MS4.0**/26**, 3C-27D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	Hengchun	0.92	57	⇓P	Pn	01 40 08.8	+1.2

	baz=73						
HEN				eS	Sn	01 40 21.6	+1.9
	baz=73						
TWP	**Hsiaoliuchiu**	**0.94**	**27**	P	**Pn**	**01 40 08.2**	**+0.3**
	baz=25						
TWP				eS	**Sn**	**01 40 21.3**	**+1.1**
	baz=25						
TWK1	**Hengchun**	**0.94**	**62**	⇓iP	**Pn**	**01 40 08.9**	**+1.0**
	baz=71						
TWK1				S	**Sn**	**01 40 21.8**	**+1.6**
	baz=71						
SCZT	**Fangliau**	**1.09**	**37**	⇓iP	**Pn**	**01 40 10.1**	**+0.2**
	baz=43						
SCZT				eS	**Sn**	**01 40 23.6**	**-0.3**
	baz=43						
KAU	**Kaohsiung**	**1.13**	**19**	⇓P	**Pn**	**01 40 10.7**	**+0.3**
	baz=22						
KAU				eS	**Sn**	**01 40 25.6**	**+0.9**
	baz=22						
EAST	**Anshuo**	**1.24**	**45**	⇓iP	**Pn**	**01 40 12.4**	**+0.4**
	baz=42						
EAST				eS	**Sn**	**01 40 27.2**	**-0.3**
	baz=42						
TAW	**Tawu**	**1.25**	**47**	⇓iP	**Pn**	**01 40 12.6**	**+0.5**
	baz=42						
TAW				eS	**Sn**	**01 40 27.5**	**-0.3**
	baz=42						
SGLT	**Jiouru**	**1.33**	**24**	⇓P	**Pn**	**01 40 14.2**	**+1.0**
	baz=37						
TWM1	**Shoushan**	**1.40**	**20**	⇓iP	**Pn**	**01 40 14.8**	**+0.6**
	baz=15						
TWM1				eS	**Sn**	**01 40 32.9**	**+1.4**
	baz=15						
SSD	**Sandimen**	**1.41**	**28**	⇓iP	**Pn**	**01 40 14.2**	**-0.1**
	baz=32						
SSD				eS	**Sn**	**01 40 31.2**	**-0.5**
	baz=32						
ECL	**Taimali**	**1.46**	**41**	⇓iP	**Pn**	**01 40 15.2**	**+0.2**
	baz=46						
ECL				eS	**Sn**	**01 40 31.4**	**-1.5**
	baz=46						
TAI1	**Yung-k'ang**	**1.56**	**11**	⇓eP	**Pn**	**01 40 16.3**	**-0.1**
	baz=12						
TAI1				eS	**Sn**	**01 40 34.7**	**-0.7**
	baz=12						
LAY	**Lan-yu**	**1.62**	**70**	eP	**Pn**	**01 40 16.8**	**-0.4**
	baz=66						
LAY				eS	**Sn**	**01 40 35.1**	**-1.8**
	baz=66						
CHN3	**Shinhua**	**1.62**	**15**	P	**Pn**	**01 40 17.6**	**+0.4**
	baz=6.0						
CHN3				eS	**Sn**	**01 40 37.2**	**+0.2**
	baz=6.0						
SCLT	**Jiali**	**1.69**	**9**	P	**Pn**	**01 40 17.9**	**-0.2**
	baz=10.0						
SCLT				eS	**Sn**	**01 40 37.5**	**-1.1**
	baz=10.0						
SGST	**Jiashian**	**1.69**	**22**	⇓P	**Pn**	**01 40 18.4**	**+0.2**
	baz=24						
SGST				eS	**Sn**	**01 40 38.0**	**-0.8**
	baz=24						
TTN	**Taitung**	**1.70**	**42**	eP	**Pn**	**01 40 19.1**	**+0.9**
	baz=46						
TTN				eS	**Sn**	**01 40 39.5**	**+0.8**
	baz=46						
TWG	**Pinlang**	**1.70**	**39**	P	**Pn**	**01 40 18.8**	**+0.5**
	baz=47						
TWG				eS	**Sn**	**01 40 38.4**	**-0.5**
	baz=47						
TWG	**Pinlang**	**1.70**	**39**	ePn	**Pn**	**01 40 18.6**	**+0.3**
TWG				eSn	**Sn**	**01 40 38.5**	**-0.4**
WDGT	**Dungji**	**1.77**	**353**	eP	**Pn**	**01 40 17.6**	**-1.6**
	baz=352						
WDGT				eS	**Sn**	**01 40 37.1**	**-3.4**
	baz=352						
CHN1	**Nanshi**	**1.77**	**19**	⇓iP	**Pn**	**01 40 19.2**	**-0.1**
	baz=30						
CHN1				S	**Sn**	**01 40 39.5**	**-1.1**
	baz=30						
STYT	**Tauyuan**	**1.83**	**25**	eP	**Pn**	**01 40 19.7**	**-0.4**
	baz=28						
STYT				eS	**Sn**	**01 40 41.8**	**-0.4**
	baz=28						
WTP	**Ta-pu**	**1.86**	**20**	⇓P	**Pn**	**01 40 20.1**	**-0.3**
	baz=22						
WTP				eS	**Sn**	**01 40 41.4**	**-1.4**
	baz=22						
CHN8	**Yiju**	**1.86**	**9**	eP	**Pn**	**01 40 19.8**	**-0.7**
	baz=10.0						
CHN8				eS	**Sn**	**01 40 41.5**	**-1.2**
	baz=10.0						
TPUB	**Ta-pu**	**1.91**	**20**	ePn	**Pn**	**01 40 20.6**	**-0.7**
TPUB				eSn	**Sn**	**01 40 42.8**	**-1.3**
CHN4	**Tsaushan**	**1.95**	**19**	⇓iP	**Pn**	**01 40 21.4**	**-0.3**
	baz=28						
CHN4				eS	**Sn**	**01 40 43.6**	**-1.3**
	baz=28						
ELDTW	**Lidau**	**1.97**	**31**	⇓iP	**Pn**	**01 40 22.4**	**+0.3**
	baz=25						
ELDTW				eS	**Sn**	**01 40 44.4**	**-1.2**
	baz=25						
CHY	**Chiayi**	**2.04**	**13**	P	**Pn**	**01 40 22.6**	**-0.5**
	baz=24						
CHY				eS	**Sn**	**01 40 44.5**	**-2.8**
	baz=24						
PNG	**Penghu**	**2.08**	**351**	⇑P	**Pn**	**01 40 21.8**	**-1.8**
	baz=351						
PNG				eS	**Sn**	**01 40 44.5**	**-3.8**
	baz=351						
WSF	**Szhu**	**2.15**	**8**	eP	**Pn**	**01 40 23.6**	**-0.8**
	baz=360						
WSF				eS	**Sn**	**01 40 47.6**	**-2.2**
	baz=360						
ALS	**Alishan**	**2.17**	**22**	⇓eP	**Pn**	**01 40 25.8**	**+0.8**
	baz=24						
YUS	**Yu-Shan**	**2.20**	**26**	⇓eP	**Pn**	**01 40 26.5**	**+0.9**
	baz=28						
YUS				eS	**Sn**	**01 40 51.4**	**-0.6**
	baz=28						
CHN5	**Tsauling**	**2.21**	**19**	⇓iP	**Pn**	**01 40 24.9**	**-0.4**
	baz=12						
CHN5				eS	**Sn**	**01 40 50.1**	**-1.3**
	baz=12						
WGK	**Gukeng**	**2.26**	**15**	eP	**Pn**	**01 40 25.8**	**-0.2**
	baz=17						
WGK				eS	**Sn**	**01 40 51.5**	**-1.1**
	baz=17						
YULB	**Yu-li**	**2.28**	**34**	ePn	**Pn**	**01 40 26.4**	**+0.1**
YULB				eSn	**Sn**	**01 40 52.2**	**-0.9**
WTCT	**Ta-ch'eng**	**2.38**	**8**	eP	**Pn**	**01 40 26.9**	**-0.6**
	baz=1.0						
WTCT				eS	**Sn**	**01 40 53.6**	**-1.9**
	baz=1.0						
EHY	**Hungye**	**2.39**	**33**	P	**Pn**	**01 40 28.5**	**+0.7**
	baz=35						
EHY				eS	**Sn**	**01 40 55.8**	**0.0**
	baz=35						
SSLB	**Suanglung**	**2.47**	**23**	ePn	**Pn**	**01 40 28.5**	**-0.4**
SSLB				eSn	**Sn**	**01 40 57.7**	**-0.3**
WNT	**Mingjian**	**2.47**	**17**	eP	**Pn**	**01 40 28.6**	**-0.4**
	baz=10.0						
WNT				eS	**Sn**	**01 40 56.0**	**-1.9**
	baz=10.0						
SMLT	**Sun Moon Lake**	**2.54**	**21**	⇓P	**Pn**	**01 40 29.8**	**-0.1**
	baz=29						
SMLT				eS	**Sn**	**01 40 58.4**	**-1.4**
	baz=29						
TYC	**Yuchr**	**2.55**	**20**	⇓iP	**Pn**	**01 40 29.9**	**0.0**
	baz=28						
TYC				eS	**Sn**	**01 40 58.8**	**-1.0**
	baz=28						
ESL	**Shilin**	**2.70**	**31**	eP	**Pn**	**01 40 32.3**	**+0.3**
	baz=26						
ESL				eS	**Sn**	**01 41 02.9**	**-0.6**
	baz=26						
TCU	**Taichung**	**2.73**	**15**	eP	**Pn**	**01 40 32.4**	**0.0**
	baz=5.0						
TCU				eS	**Sn**	**01 41 02.9**	**-1.3**
	baz=5.0						
WHF	**Hehuan Shan**	**2.92**	**25**	P	**Pn**	**01 40 35.5**	**+0.2**
	baz=27						
WHF				eS	**Sn**	**01 41 09.5**	**+0.1**
	baz=27						
HWA	**Hwalien**	**2.92**	**32**	eP	**Pn**	**01 40 34.9**	**-0.1**
	baz=25						
HWA				eS	**Sn**	**01 41 09.2**	**+0.3**
	baz=25						
TWQ1	**Liyutan**	**2.94**	**16**	eP	**Pn**	**01 40 35.7**	**+0.3**

	baz=17						
TWQ1				eS	**Sn**	**01 41 08.5**	**-1.0**
	baz=17						
TWT	**Tachien**	**2.98**	**23**	eP	**Pn**	**01 40 36.0**	**-0.1**
	baz=24						
TWT				eS	**Sn**	**01 41 09.6**	**-1.1**
	baz=24						
TWD	**Chiawan**	**3.00**	**31**	P	**Pn**	**01 40 36.7**	**+0.6**
	baz=33						
TWD				eS	**Sn**	**01 41 11.0**	**0.0**
	baz=33						
NSY	**Sanyi**	**3.01**	**15**	eP	**Pn**	**01 40 36.5**	**+0.3**
	baz=16						
NSY				eS	**Sn**	**01 41 10.7**	**-0.4**
	baz=16						
NACB	**Ninganchiao**	**3.08**	**30**	ePn	**Pn**	**01 40 37.6**	**+0.4**
NACB				eSn	**Sn**	**01 41 12.0**	**-1.0**
KNM	**Kinmen**	**3.21**	**335**	eP	**Pn**	**01 40 37.4**	**-1.6**
	baz=332						
NNS	**Nan Shan**	**3.22**	**24**	eP	**Pn**	**01 40 39.9**	**+0.5**
	baz=26						
NNS				eS	**Sn**	**01 41 15.9**	**-0.7**
	baz=26						
NSTT	**Nanjuang**	**3.28**	**18**	⇑iP	**Pn**	**01 40 39.7**	**-0.2**
	baz=19						
NSTT				eS	**Sn**	**01 41 16.5**	**-1.1**
	baz=19						
ENA	**Nanau**	**3.37**	**30**	eP	**Pn**	**01 40 41.7**	**+0.5**
	baz=41						
ENA				eS	**Sn**	**01 41 18.9**	**-1.1**
	baz=41						
HSN	**Hsinchu**	**3.43**	**16**	eP	**Pn**	**01 40 43.4**	**+1.4**
	baz=18						
NSK	**Sanguang**	**3.43**	**23**	eP	**Pn**	**01 40 42.1**	**-0.1**
	baz=13						
NSK				eS	**Sn**	**01 41 20.6**	**-1.0**
	baz=13						
YHNB	**Yeheng**	**3.43**	**23**	ePn	**Pn**	**01 40 42.1**	**0.0**
YHNB				eSn	**Sn**	**01 41 22.0**	**+0.3**
ENTT	**Nioudou**	**3.48**	**26**	eP	**Pn**	**01 40 43.8**	**+1.0**
	baz=15						
ENTT				eS	**Sn**	**01 41 23.1**	**+0.4**
	baz=15						
TWC	**Suao**	**3.58**	**30**	eP	**Pn**	**01 40 45.4**	**+1.3**
	baz=40						
TWC				eS	**Sn**	**01 41 24.3**	**-0.7**
	baz=40						
TWE	**Neicheng**	**3.59**	**26**	eP	**Pn**	**01 40 45.9**	**+1.6**
	baz=21						
TWE				eS	**Sn**	**01 41 25.2**	**-0.2**
	baz=21						
SIPP	**Brgy, Tapao**	**3.59**	**172**	⇓eP	**Pn**	**01 40 45.2**	**+0.9**
SIPP				i S	**Sn**	**01 41 24.1**	**-1.5**
QZH	**Quanzhou**	**3.63**	**341**	⇓iP	**Pn**	**01 40 42.4**	**-2.5**
QZH				S	**Sn**	**01 41 21.1**	**-5.4**
QZH				smax	smax		
	comp=N,1μm,0.8s						
QZH				smax	smax		
	comp=E,2μm,1.0s						
QZH				LR	LR		
	comp=Z,3μm,13.9s						
NCU	**National Centr**	**3.65**	**19**	eP	**Pn**	**01 40 43.6**	**-1.4**
	baz=20						
NCU				eS	**Sn**	**01 41 23.0**	**-3.9**
	baz=20						
TATO	**Taipei**	**3.75**	**22**	ePn	**Pn**	**01 40 46.3**	**-0.2**
TWA	**Mucha**	**3.79**	**24**	eP	**Pn**	**01 40 47.6**	**+0.6**
	baz=25						
TWA				eS	**Sn**	**01 41 29.2**	**-1.2**
	baz=25						
TAP1	**Taipei**	**3.82**	**23**	eP	**Pn**	**01 40 46.2**	**-1.2**
	baz=24						
TWS1	**Kuangyinshan**	**3.84**	**21**	eP	**Pn**	**01 40 47.7**	**-0.1**
	baz=11						
TWS1				eS	**Sn**	**01 41 29.8**	**-1.9**
	baz=11						
NWF	**Wu-fen Shan**	**3.95**	**25**	P	**Pn**	**01 40 49.6**	**+0.3**
	baz=16						
NWF				eS	**Sn**	**01 41 33.0**	**-1.5**
	baz=16						
TWB1	**Santiao Chiao**	**3.98**	**28**	eP	**Pn**	**01 40 50.5**	**+0.9**
	baz=38						
TWB1				eS	**Sn**	**01 41 33.6**	**-1.5**
	baz=38						
TWY	**Chenhua**	**4.07**	**22**	eP	**Pn**	**01 40 49.9**	**-0.9**
	baz=13						
YOJ	**Yonaguni jima**	**4.11**	**44**	eP	**Pn**	**01 40 51.2**	**-0.1**
	baz=36						
YOJ				eS	**Sn**	**01 41 37.5**	**-0.6**
	baz=36						
YOJ	**Yonaguni jima**	**4.11**	**44**	P	**Pn**	**01 40 52.6**	**+1.3**
YOJ				eS	**Sn**	**01 41 38.4**	**+0.2**
HATJ	**Hateruma jima**	**4.41**	**54**	P	**Pn**	**01 40 55.9**	**+0.5**
HATJ				eS	**Sn**	**01 41 44.2**	**-1.3**
IRIF	**Iriomote-Funau**	**4.51**	**51**	P	**Pn**	**01 40 57.8**	**+0.9**
IRIF				eS	**Sn**	**01 41 46.9**	**-1.3**
JKRS	**Kuro-shima**	**4.66**	**53**	P	**Pn**	**01 40 59.7**	**+0.7**
JKRS				eS	**Sn**	**01 41 50.5**	**-1.3**
JIJ	**Ishigaki jima**	**4.83**	**53**	P	**Pn**	**01 41 01.8**	**+0.5**
JIJ				eS	**Sn**	**01 41 53.3**	**-2.8**
JTJ	**Tarama**	**5.41**	**54**	P	**Pn**	**01 41 09.6**	**+0.4**
JTJ				eS	**Sn**	**01 42 08.6**	**-1.7**
JMJ	**Miyako jima 2**	**5.95**	**55**	eS	**Sn**	**01 42 22.0**	**-1.7**
JOGS	**Gusukube**	**6.01**	**56**	P	**Pn**	**01 41 18.2**	**+0.7**
GZH	**Guangzhou**	**6.28**	**286**	P	Pn	01 41 17.9	-3.3
GZH				S	Sn	01 42 22.1	-10
GZH				smax	smax		
	comp=N,690nm,0.7s						
GZH				smax	smax		
	comp=E,740nm,0.7s						
JKE	**Kume jima 2**	**7.92**	**51**	P	**Pn**	**01 41 43.2**	**-0.5**
QIZ	**Qiongzhong**	**9.76**	**257**	P	**Pn**	**01 42 09.7**	**+0.7**
QIZ				S	**Sn**	**01 44 00.7**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,36nm,1.2s						
QIZ				LR	LR		
	comp=N,1μm,13.4s						
QIZ				LR	LR		
	comp=E,910nm,16.3s						
QIZ				LR	LR		
	comp=Z,3μm,14.4s						
WHN	**Wuhan**	**10.30**	**332**	⇓P	**Pn**	**01 42 14.2**	**-2.1**
WHN				LR	LR		
	comp=N,3μm,15.2s						
WHN				LR	LR		
	comp=E,2μm,14.7s						
WHN				LR	LR		
	comp=Z,3μm,12.8s						
NJ2	**Nanjing**	**10.55**	**355**	eP	**Pn**	**01 42 19.8**	**+0.1**
NJ2				S	**Sn**	**01 44 19.5**	**+2.9**
NJ2				LR	LR		
	comp=N,700nm,6.8s						
NJ2				LR	LR		
	comp=E,770nm,6.5s						
NJ2				LR	LR		
	comp=Z,600nm,5.1s						
ENH	**Enshi**	**12.81**	**315**	ePn	**Pn**	**01 42 49.6**	**-1.1**
	comp=Z,11nm,0.7s						
GYA	**Guiyang**	**13.07**	**295**	P	**Pn**	**01 42 57.3**	**+2.9**
GYA				pP	**P**	**01 43 04.6**	**+0.8**
GYA				S	**Sn**	**01 45 22.4**	**+3.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DAV	**Davao City (W)**	**15.36**	**158**	LR	LR	01 50 05.1	
	comp=Z,533nm,18.3s,baz=353,slow=40						
KKM	**Kota Kinabalu**	**15.78**	**194**	ePn	**P**	**01 43 32.4**	**-1.5**
XAN	**Xi'an**	**15.81**	**324**	P	**Pn**	**01 43 29.9**	**-1.0**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XAN				LR	LR		
	comp=N,400nm,16.2s						
XAN				LR	LR		
	comp=E,200nm,13.8s						
XAN				LR	LR		
	comp=Z,300nm,14.4s						
KMI	**Kunming**	**16.18**	**286**	P	**P**	**01 43 37.5**	**-1.0**
KMI				S	**Sn**	**01 46 36.1**	**+1.8**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,4.0s						
KMI				LR	LR		
	comp=N,440nm,13.0s						
KMI				LR	LR		
	comp=E,620nm,12.8s						
KMI				LR	LR		

	comp=Z,610nm,18.5s						
CD2	**Chengdu**	**17.24**	**306**	P	**P**	**01 43 50.5**	**+0.5**
CD2				pP	**pP**	**01 43 59.9**	**-0.2**
CD2				sP	**sP**	**01 44 06.5**	**+1.2**
CD2				S	**Sn**	**01 46 59.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				pmax	pmax		
	comp=Z,230nm,8.3s						
CD2				LR	LR		
	comp=N,1μm,14.3s						
CD2				LR	LR		
	comp=Z,2μm,13.7s						
KSAR	**Wonju Array Be**	**17.33**	**22**	P	**Pn**	**01 43 48.8**	**-1.0**
KSAR	**Wonju Array Be**	**17.33**	**22**	P	**Pn**	**01 43 48.8**	**-1.0**
KSRS	**Korea Array**	**17.35**	**22**	P	**Pn**	**01 43 48.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=198,slow=12,SNR=3.8						
KSRS				LR	LR	01 51 27.5	
	comp=Z,168nm,19.1s,baz=186,slow=40						
BJI	**Beijing**	**18.75**	**351**	P	**Pn**	**01 44 08.1**	**+0.8**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,110nm,3.3s						
BJI				LR	LR		
	comp=N,470nm,19.2s						
BJI				LR	LR		
	comp=E,310nm,16.4s						
BJI				LR	LR		
	comp=Z,200nm,20.4s						
CHTO	**Chiang Mai**	**19.86**	**266**	eP	**Pn**	**01 44 19.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**19.86**	**266**	eP	**Pn**	**01 44 19.8**	**-0.9**
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.93**	**265**	P	**P**	**01 44 20.2**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=74,slow=9.2,SNR=30						
CMAR	**Chiang Mai Arr**	**19.93**	**265**	P	**P**	**01 44 20.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.93**	**265**	P	**P**	**01 44 20.2**	**+0.6**
LZH	**Lanzhou**	**20.19**	**320**	eP	Pn	01 44 24.5	-0.2
LZH				pP	pP	01 44 34.4	+1.8
LZH				sP	sP	01 44 39.9	+2.1
LZH				PP	**PnPn**	**01 44 45.4**	**+5.4**
LZH				eS	S	01 47 59.0	-8.0
LZH				sS	Sn	01 48 15.4	+4.2
LZH				SS		01 48 30.0	
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.7s						
LZH				LR	LR		
	comp=Z,870nm,12.0s						
SNY	**Shenyang**	**20.50**	**8**	⇓P	Pn	01 44 29.9	+1.9
SNY				sP	sP	01 44 45.4	+4.5
SNY				ScS	**ScS**	**01 55 55.6**	**+3.3**
SNY				pmax	pmax		
	comp=Z,14nm,0.4s						
SNY				pmax	pmax		
	comp=Z,120nm,5.9s						
SNY				LR	LR		
	comp=N,460nm,13.8s						
SNY				LR	LR		
	comp=E,380nm,9.3s						
SNY				LR	LR		
	comp=Z,520nm,12.7s						
HHC	**Hu-ho-hao-te**	**20.55**	**342**	eP	**P**	**01 44 27.2**	**+1.0**
HHC				pP	**pP**	**01 44 38.0**	**+1.6**
HHC				sP	**sP**	**01 44 44.1**	**+2.5**
HHC				PP	**PnPn**	**01 44 50.0**	**+5.2**
HHC				S	**S**	**01 48 13.9**	**0.0**
HHC				sS	**sS**	**01 48 26.6**	**-3.6**
HHC				PcP	**PcP**	**01 48 36.7**	**+0.4**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.7s						
HHC				LR	LR		
	comp=N,760nm,11.8s						
HHC				LR	LR		
	comp=E,450nm,12.5s						
HHC				LR	LR		
	comp=Z,550nm,12.4s						
CBIJ	**Chichi jima**	**21.04**	**70**	LR	LR	01 51 26.5	
	comp=Z,358nm,18.2s,baz=233,slow=33						
MAJO	**Matsushiro**	**21.87**	**43**	eP	**P**	**01 44 40.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,18nm,1.2s						
MAJO	**Matsushiro**	**21.87**	**43**	eP	**P**	**01 44 40.6**	**+0.2**
	comp=Z,18nm,1.2s						
MAT	**Matsushiro**	**21.87**	**43**	P	**P**	**01 44 41.1**	**+0.7**
MAT				S	**S**	**01 48 37.6**	**-2.2**
MJAR	**Matsushiro Arr**	**21.87**	**43**	P	**P**	**01 44 41.4**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=237,slow=9.5,SNR=6.1						
MJAR				LR	LR	01 53 41.8	
	comp=Z,194nm,21.1s,baz=235,slow=38						
MJAR	**Matsushiro Arr**	**21.87**	**43**	P	**P**	**01 44 41.4**	**+1.0**
MJAR	**Matsushiro Arr**	**21.87**	**43**	P	**P**	**01 44 41.4**	**+1.0**
KSM	**Kuching**	**21.99**	**206**	eP	**P**	**01 44 41.8**	**-0.1**
	comp=Z,32nm,1.1s						
CN2	**Changchun**	**22.71**	**10**	eP	P	01 45 00.2	+11
CN2				eS	**S**	**01 48 59.2**	**+4.3**
CN2				LR	LR		
	comp=N,500nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
MDJ	**Mudanjiang**	**24.41**	**17**	P	**P**	**01 45 06.4**	**+0.8**
MDJ				pP	**pP**	**01 45 16.9**	**+0.1**
MDJ				sP	**sP**	**01 45 21.6**	**-0.1**
MDJ				S	**S**	**01 49 24.7**	**+2.2**
MDJ				sS	**sS**	**01 49 42.7**	**+1.7**
MDJ				ScP	**ScP**	**01 52 18.8**	**-0.7**
MDJ				PcS	**PcS**	**01 52 23.6**	**-0.1**
MDJ				ScS	**ScS**	**01 56 06.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
MDJ				LR	LR		
	comp=N,160nm,5.9s						
MDJ				LR	LR		
	comp=E,120nm,5.9s						
MDJ				LR	LR		
	comp=Z,290nm,5.9s						
USRK	**Ussuriysk Arra**	**24.76**	**21**	P	**P**	**01 45 10.8**	**+2.0**
	comp=Z,4.2nm,0.7s,baz=208,slow=8.3,SNR=9.4						
USRK				LR	LR	01 55 35.1	
	comp=Z,120nm,19.0s,baz=105,slow=38						
GTA	**Gaotai**	**24.78**	**321**	eP	**P**	**01 45 09.5**	**+0.3**
GTA				pP	**pP**	**01 45 22.1**	**+1.7**
GTA				sP	**sP**	**01 45 27.0**	**+1.7**
GTA				S	**S**	**01 49 29.6**	**+0.6**
GTA				pmax	pmax		
	comp=Z,15nm,1.5s						
GTA				pmax	pmax		
	comp=Z,91nm,5.7s						
GTA				LR	LR		
	comp=N,340nm,12.3s						
GTA				LR	LR		
	comp=E,460nm,14.7s						
GTA				LR	LR		
	comp=Z,680nm,13.8s						
IPM	**Ipoh**	**24.94**	**230**	eP	**P**	**01 45 10.4**	**-0.3**
	comp=Z,22nm,1.0s						
GUMO	**Guam**	**25.04**	**104**	LR	LR	01 52 43.5	
	comp=Z,334nm,20.3s,baz=271,slow=31						
SHL	**Shillong**	**25.99**	**284**	eP	**P**	**01 45 20.0**	**-0.4**
LSA	**Lhasa**	**27.14**	**293**	P	**P**	**01 45 31.6**	**+0.6**
LSA	**Lhasa**	**27.14**	**293**	eP	**P**	**01 45 32.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**27.14**	**293**	eP	**P**	**01 45 32.0**	**+1.0**
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**28.27**	**342**	eP	**P**	**01 45 40.2**	**-0.4**
ULN				e*PP	**pP**	**01 45 52.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.27**	**342**	eP	**P**	**01 45 40.2**	**-0.4**
	comp=Z,3.8nm,0.9s						
ULN				epP	**pP**	**01 45 52.8**	**+1.0**
SONM	**Songino Array**	**28.44**	**341**	P	**P**	**01 45 40.7**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=153,slow=9.6,SNR=4.4						
SONM				LR	LR	01 58 00.9	
	comp=Z,247nm,19.4s,baz=194,slow=38						
SONM	**Songino Array**	**28.44**	**341**	P	**P**	**01 45 40.7**	**-1.4**
SONM	**Songino Array**	**28.44**	**341**	P	**P**	**01 45 40.7**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAJ	Asahikawa	29.36	35	LR	LR	01 58 44.4	
	comp=Z,352nm,19.3s,baz=258,slow=38						
HABR	Khabarovsk	29.52	21	*e*P	P	01 45 50.1	-1.4
HABR				*e**PP	pP	01 45 59.8	-2.9
HABR				*e*PPP	PP	01 46 52.3	-6.3
HABR				*e*S	S	01 50 41.2	-2.1
HABR				*e**SS	sS	01 50 57.7	-4.3
HABR				*e*		01 52 39.3	
HABR				pmax	pmax		
	comp=Z,55nm,2.1s						
HABR				pmax	pmax		
	comp=E,79nm,2.1s						
HABR				pmax	pmax		
	comp=N,39nm,2.1s						
HABR				MLR	MLR		
	comp=Z,82nm,16.0s						
TAPN	Taplejung	29.84	288	*e*P	P	01 45 55.2	+0.3
	comp=Z,18nm,0.9s						
TAPN	Taplejung	29.84	288	*e*P	P	01 45 55.2	+0.3
ODAN	Odare	30.09	287	*e*P	P	01 45 57.1	0.0
ODAN	Odare	30.09	287	*e*P	P	01 45 57.1	0.0
RAMN	Ramite	30.80	287	*e*P	P	01 46 03.8	+0.4
	comp=Z,26nm,0.7s						
RAMN	Ramite	30.80	287	*e*P	P	01 46 03.8	+0.4
JIRN	Jiri	31.20	288	*e*P	P	01 46 07.7	+0.6
	comp=Z,20nm,0.6s						
JIRN	Jiri	31.20	288	*e*P	P	01 46 07.7	+0.6
GUN	Gumba	31.50	289	*e*P	P	01 46 10.0	+0.4
	comp=Z,21nm,0.6s						
GUN	Gumba	31.50	289	*e*P	P	01 46 10.0	+0.4
ZAK	Zakamensk	31.66	340	*e*P	pP	01 46 23.4	+1.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PKI	Pulchoki	31.89	288	*e*P	P	01 46 12.9	-0.2
PKI	Pulchoki	31.89	288	*e*P	P	01 46 12.9	-0.2
PKI	Pulchoki	31.89	288	*e*P	P	01 46 12.9	-0.2
KKN	Kakani	32.02	288	*e*P	P	01 46 14.0	-0.1
KKN	Kakani	32.02	288	*e*P	P	01 46 14.0	-0.1
KKN	Kakani	32.02	288	*e*P	P	01 46 14.0	-0.1
DMN	Daman	32.16	288	*e*P	P	01 46 15.4	0.0
DMN	Daman	32.16	288	*e*P	P	01 46 15.4	0.0
GKN	Gorkha	32.60	289	*e*P	P	01 46 18.7	-0.4
	comp=Z,19nm,0.6s						
GKN	Gorkha	32.60	289	*e*P	P	01 46 18.7	-0.4
DANN	Dangsing	33.39	289	*e*P	P	01 46 26.1	-0.1
	comp=Z,20nm,0.6s						
DANN	Dangsing	33.39	289	*e*P	P	01 46 26.1	-0.1
WMQ	Urumqi	34.74	317	P	P	01 46 37.8	+0.4
WMQ				pP	pP	01 46 49.9	+1.2
WMQ				sP	sP	01 46 55.4	+1.7
WMQ				PP	PP	01 47 56.1	-0.6
WMQ				S	S	01 52 04.4	-0.6
WMQ				pmax	pmax		
	comp=Z,11nm,1.2s						
WMQ				LR	LR		
	comp=N,200nm,16.0s						
WMQ				LR	LR		
	comp=E,130nm,18.6s						
WMQ				LR	LR		
	comp=Z,210nm,17.7s						
DDI	Dehra Dun	38.48	292	*e*x	P	01 47 10.5	+1.1
HYB	Hyderabad	39.12	271	*i* P	P	01 47 14.0	-0.9
MK31	Makanchi Array	39.51	319	*e*P	P	01 47 17.7	-0.1
MK31				*e**PP	pP	01 47 31.3	+2.1
MK31	Makanchi Array	39.51	319	*e*P	P	01 47 17.7	-0.1
MK31				*e*pP	pP	01 47 31.3	+2.1
MKAR	Makanchi Array	39.51	319	P	P	01 47 18.0	+0.3
	comp=Z,4.3nm,0.6s,baz=115,slow=9.2,SNR=82						
MKAR				PcP	PcP	01 49 25.1	+0.2
	comp=Z,1.3nm,0.7s,baz=94,slow=5.1,SNR=4.6						
MKAR				LR	LR	02 05 05.1	
	comp=Z,199nm,18.5s,baz=261,slow=38						
MKAR	Makanchi Array	39.51	319	*ce*P	P	01 47 18.0	+0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	39.51	319	*e*P	P	01 47 18.1	+0.3
MKAR				PcP	PcP	01 49 25.1	+0.2
PMG	Port Moresby	40.73	136	*e*P	P	01 47 27.7	-0.5
PMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PMG	Port Moresby	40.73	136	*e*P	P	01 47 27.7	-0.5
	comp=Z,6.5nm,0.9s						
YAK	Yakutsk	41.06	7	*e*P	P	01 47 30.2	-0.2
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK	Yakutsk	41.06	7	*e*P	P	01 47 30.2	-0.2
	comp=Z,11nm,0.6s						
ZAA0	Zalesovo Array	41.90	329	*e*P	P	01 47 36.6	-0.7
ZALV	Zalesovo Beam	41.90	329	P	P	01 47 36.9	-0.4
	comp=Z,1.9nm,0.6s,baz=120,slow=8.1,SNR=17						
ZALV				PcP	PcP	01 49 31.6	-0.7
	comp=Z,1.8nm,0.5s,baz=105,slow=4.3,SNR=7.6						
ZALV				LR	LR	02 06 53.4	
	comp=Z,80nm,20.6s,baz=249,slow=39						
ZALV	Zalesovo Beam	41.90	329	P	P	01 47 36.9	-0.4
ZALV						01 49 31.7	
ZALV	Zalesovo Beam	41.90	329	P	P	01 47 36.9	-0.4
ZALV				PcP	PcP	01 49 31.6	-0.7
TKM2	Tokmak 2	42.55	311	*e*P	P	01 47 44.1	+1.0
TKM2				pmax	pmax		
	comp=Z,21nm,1.5s						
TKM2	Tokmak 2	42.55	311	*e*P	P	01 47 44.1	+1.0
	comp=Z,21nm,1.5s						
PETK	Petropavlovsk-	42.74	33	LR	LR	02 03 52.9	
	comp=Z,255nm,21.5s,baz=218,slow=34						
NVS	Novosibirsk	43.17	330	*e*P	P	01 47 44.4	-3.3
AAK	Ala-Archa	43.25	310	*d i*P	P	01 47 48.9	+0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AAK	Ala-Archa	43.25	310	*e*P	P	01 47 50.1	+1.3
	comp=Z,13nm,0.8s						
AAK				*e*pP	pP	01 48 03.0	+2.7
KURK	Kurchatov	43.44	322	P	P	01 47 49.9	0.0
	comp=Z,2.8nm,0.7s,baz=123,slow=7.7,SNR=23						
KURK				PcP	PcP	01 49 36.9	-0.7
	comp=Z,1.0nm,0.6s,baz=115,slow=3.5,SNR=5.7						
KURK	Kurchatov	43.44	322	*e*P	P	01 47 50.1	+0.2
KURK				*e**PP	pP	01 48 03.2	+1.8
KURK						01 49 36.9	
KURK				pmax	pmax		
	comp=Z,40nm,1.9s						
KURK	Kurchatov	43.44	322	*e*P	P	01 47 50.1	+0.2
	comp=Z,40nm,1.9s						
KURK				*e*pP	pP	01 48 03.2	+1.8
KURK				PcP	PcP	01 49 36.9	-0.7
WRAB	Tennant Creek	43.53	160	*e*P	P	01 47 50.8	-0.1
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s						
WRAB	Tennant Creek	43.53	160	*e*P	P	01 47 50.8	-0.1
	comp=Z,15nm,0.6s						
WRA	Warramunga Arr	43.54	160	P	P	01 47 50.5	-0.5
	comp=Z,1.8nm,0.7s,baz=343,slow=9.1,SNR=8.5						
WRA				pP	pP	01 47 58.9	-3.6
	comp=Z,8.3nm,0.4s,baz=342,slow=9.2,SNR=34						
WRA	Warramunga Arr	43.54	160	P	P	01 47 50.5	-0.5
WRA				*PP	pP	01 47 58.9	-3.6
WRA	Warramunga Arr	43.54	160	P	P	01 47 50.5	-0.5
WRA				pP	pP	01 47 58.9	-3.6
WB2	Warramunga Arr	43.54	160	*e*P	P	01 47 50.6	-0.5
WB2				*e*pP	pP	01 47 59.7	-2.9
EKS2	Erkin-Say	43.77	310	*e*P	P	01 47 54.4	+1.5
EKS2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EKS2	Erkin-Say	43.77	310	*e*P	P	01 47 54.4	+1.5
	comp=Z,5.9nm,1.0s						
KK31	Karatay Array	46.21	310	P	P	01 48 12.8	+0.7
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	Karatay Array	46.21	310	*e*P	P	01 48 13.1	+0.9
KKAR				*e**PP	pP	01 48 23.3	-0.5
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	Karatay Array	46.21	310	*e*P	P	01 48 13.1	+0.9
	comp=Z,6.5nm,0.7s						
KKAR				*e*pP	pP	01 48 23.3	-0.5
KBL	Kabul	46.30	298	*e*P	P	01 48 13.9	+0.7
KBL				*e**PP	pP	01 48 27.8	+3.0
KBL				pmax	pmax		
	comp=Z,13nm,0.9s						
KBL	Kabul	46.30	298	*e*P	P	01 48 13.9	+0.7
	comp=Z,13nm,0.9s						
KBL				*e*pP	pP	01 48 27.8	+3.0
AS31	Alice Springs	46.91	162	*e*P	P	01 48 17.7	0.0
ASAR	Alice Springs	46.92	162	P	P	01 48 17.9	+0.1
	comp=Z,1.4nm,0.6s,baz=345,slow=7.2,SNR=15						
ASAR				pP	pP	01 48 27.8	-1.6
	comp=Z,5.9nm,0.3s,baz=346,slow=6.7,SNR=32						
ASAR	Alice Springs	46.92	162	P	P	01 48 17.9	+0.1
ASAR				*PP	pP	01 48 27.8	-1.6
ASAR	Alice Springs	46.92	162	P	P	01 48 17.9	+0.1
ASAR				pP	pP	01 48 27.8	-1.6
VOSK	Vostochnaya	48.60	322	P	P	01 48 29.9	-0.6
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CTA	Charters Tower	48.70	146	P	P	01 48 31.9	+0.2
	comp=Z,1.4nm,0.5s,baz=335,slow=11,SNR=4.0						
CTA	Charters Tower	48.70	146	P	P	01 48 31.9	+0.2
CTA	Charters Tower	48.70	146	P	P	01 48 31.9	+0.2
BVAR	Borovoye Array	49.04	323	P	P	01 48 34.1	+0.3
	comp=Z,1.5nm,0.5s,baz=111,slow=7.6,SNR=21						
BVAR				PcP	PcP	01 49 57.3	+0.1
	comp=Z,2.7nm,0.7s,baz=118,slow=3.6,SNR=9.8						
BVAR				LR	LR	02 11 14.7	
	comp=Z,89nm,19.2s,baz=260,slow=38						
BVAR	Borovoye Array	49.04	323	P	P	01 48 34.1	+0.3
BVAR						01 49 57.3	
BVAR	Borovoye Array	49.04	323	P	P	01 48 34.1	+0.3
BVAR				PcP	PcP	01 49 57.3	+0.1
BRVK	Borovoye	49.11	323	*e*P	P	01 48 34.7	+0.3
BRVK				*e**PP	pP	01 48 45.4	-0.7
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRVK	Borovoye	49.11	323	*e*P	P	01 48 34.7	+0.3
	comp=Z,7.6nm,1.1s						
BRVK				*e*pP	pP	01 48 45.4	-0.7
ZRNK	Zerenda	49.80	322	P	P	01 48 39.4	-0.3
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
AB31	Akbulak array	54.50	316	P	P	01 49 14.4	-0.3
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	Akbulak array	54.50	316	*e*P	P	01 49 14.2	-0.5
BILL	Bilibino	54.60	20	*e*P	P	01 49 15.2	+0.1
BILL				*e*		01 49 29.3	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s						
BILL	Bilibino	54.60	20	*e*P	P	01 49 14.4	-0.7
	comp=Z,7.6nm,1.0s						
SVE	Sverdlovsk	55.53	325	*e*P	pP	01 49 36.4	+2.6
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
SVE				MLR	MLR		
	comp=Z,251nm,15.0s						
AKTO	Aktyubinsk	55.90	317	P	P	01 49 24.6	-0.1
	comp=Z,1.3nm,0.6s,baz=84,slow=13,SNR=11						
AKTO				LR	LR	02 15 00.7	
	comp=Z,136nm,18.2s,baz=283,slow=38						
AKTO	Aktyubinsk	55.90	317	P	P	01 49 24.6	-0.1
AKTO	Aktyubinsk	55.90	317	P	P	01 49 24.6	-0.1
ARU	Arti	56.56	324	*d i*P	P	01 49 28.0	-1.3
ARU				S	S	01 57 17.7	-0.3
ARU				SS	SS	02 01 03.1	-2.5
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
STKA	Stephens Creek	56.99	158	P	P	01 49 32.2	-0.4
	comp=Z,3.2nm,1.0s,baz=279,slow=7.9,SNR=3.6						
STKA	Stephens Creek	56.99	158	P	P	01 49 32.2	-0.4
STKA	Stephens Creek	56.99	158	P	P	01 49 32.2	-0.4
MAK	Makhachkala	62.99	308	*e*P	P	01 50 13.4	-0.4
MAK				MLR	MLR		
	comp=Z,110nm,7.0s						
GNI	Garni	65.37	305	LR	LR	02 23 48.7	
	comp=Z,85nm,18.4s,baz=72,slow=40						
KIV	Kislovodsk	66.37	310	*e*P	P	01 50 37.6	+1.6
KIV				*e*		01 51 05.4	
KIV				*e*S	S	01 59 24.9	+1.8
KIV				*e*SS	SS	02 03 37.1	-2.7
KIV				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
KIV	Kislovodsk	66.37	310	*e*P	P	01 50 36.7	+0.7
	comp=Z,28nm,1.5s						
KIV				*e*pP	pP	01 50 49.2	+1.1
OBN	Obninsk	68.88	322	P	P	01 50 51.0	-0.4
OBN				*e*S	S	01 59 50.0	-2.5
OBN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
KDAK	Kodiak Island	70.77	35	P	P	01 51 05.2	+2.2
	comp=Z,8.7nm,0.9s,baz=332,slow=7.5,SNR=4.9						
KDAK	Kodiak Island	70.77	35	P	P	01 51 05.2	+2.2
KDAK	Kodiak Island	70.77	35	P	P	01 51 05.2	+2.2
MCK	McKinley	71.46	28	*e*P	P	01 51 07.3	+0.2
MCK				pmax	pmax		
	comp=Z,13nm,1.3s						
MCK	McKinley	71.46	28	*e*P	P	01 51 07.3	+0.2
	comp=Z,13nm,1.3s						
PMR	Palmer	71.79	30	*e*P	P	01 51 08.6	-0.4
PMR	Palmer	71.79	30	*e*P	P	01 51 08.6	-0.4
SPITS	Spitsbergen Ar	71.84	348	P	P	01 51 09.8	+0.6
	comp=Z,3.2nm,0.6s,baz=112,slow=1.3,SNR=5.2						
SPITS	Spitsbergen Ar	71.84	348	P	P	01 51 09.8	+0.6
SPITS	Spitsbergen Ar	71.84	348	P	P	01 51 09.8	+0.6
ILAR	Eielson Array	72.13	27	P	P	01 51 10.7	-0.4
	comp=Z,0.4nm,0.6s,baz=274,slow=5.0,SNR=6.0						
ILAR				sP	sP	01 51 26.1	-1.9
	comp=Z,1.2nm,0.6s,baz=287,slow=6.2,SNR=9.9						
ILAR				LR	LR	02 26 13.9	
	comp=Z,122nm,19.0s,baz=316,slow=39						
ILAR	Eielson Array	72.13	27	P	P	01 51 10.7	-0.4
ILAR				*SP	sP	01 51 26.1	-1.9
ILAR	Eielson Array	72.13	27	P	P	01 51 10.7	-0.4
ILAR				sP	sP	01 51 26.1	-1.9
BRTR	Keskin Array B	73.82	307	P	P	01 51 21.7	-0.1
	comp=Z,1.1nm,1.0s,baz=27,slow=3.0,SNR=4.3						
BRTR				LR	LR	02 25 13.2	
	comp=Z,45nm,21.5s,baz=76,slow=37						
BRTR	Keskin Array B	73.82	307	P	P	01 51 21.7	-0.1
BRTR	Keskin Array B	73.82	307	P	P	01 51 21.7	-0.1
INK	Inuvik	76.14	22	*e*P	P	01 51 34.9	+0.5
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	76.14	22	*e*P	P	01 51 34.9	+0.5
	comp=Z,3.2nm,0.8s						
SUW	Suwalki	76.72	323	*e*P	P	01 51 37.0	-0.9
SUW	Suwalki	76.72	323	*e*P	P	01 51 37.0	-0.9
HFS	Hagfors	79.32	331	P	P	01 51 52.2	0.0
	comp=Z,1.8nm,0.6s,baz=120,slow=8.5,SNR=3.0						
HFS	Hagfors	79.32	331	P	P	01 51 52.3	0.0
HFS	Hagfors	79.32	331	P	P	01 51 52.2	0.0
NOA	NORSAR Array B	80.03	332	P	P	01 51 55.7	-0.5
	comp=Z,1.1nm,0.8s,baz=64,slow=5.3,SNR=3.6						
NOA				LR	LR	02 30 30.3	
	comp=Z,205nm,19.5s,baz=290,slow=38						
NOA	NORSAR Array B	80.03	332	P	P	01 51 55.7	-0.5
NOA	NORSAR Array B	80.03	332	P	P	01 51 55.7	-0.5
RES	Resolute Bay	81.48	9	*e*P	P	01 52 03.8	+0.2
RES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RES	Resolute Bay	81.48	9	*e*P	P	01 52 03.8	+0.2
	comp=Z,5.4nm,0.8s						
VRAC	Vranov	82.23	320	P	P	01 52 07.7	-0.4
	comp=Z,1.7nm,0.7s,baz=97,slow=6.0,SNR=4.3						
VRAC	Vranov	82.23	320	P	P	01 52 07.7	-0.4
VRAC	Vranov	82.23	320	P	P	01 52 07.7	-0.4
BRG	Berggiesshubel	83.13	322	*e*P	P	01 52 12.8	+0.1
	comp=Z,23nm,1.8s						
BRG	Berggiesshubel	83.13	322	*e*P	P	01 52 12.8	+0.1
BRG				pmax	pmax		
	comp=Z,23nm,1.8s						
GERES	GERESS Array B	84.15	320	P	P	01 52 18.4	+0.3
	comp=Z,0.8nm,0.8s,baz=72,slow=4.3,SNR=9.0						
GERES	GERESS Array B	84.15	320	P	P	01 52 18.4	+0.3
GERES	GERESS Array B	84.15	320	P	P	01 52 18.4	+0.3
YKA	Yellowknife Ar	85.89	22	P	P	01 52 26.2	-0.1
	comp=Z,0.9nm,0.8s,baz=319,slow=5.0,SNR=7.5						
YKA				pP	pP	01 52 37.2	-1.6
	comp=Z,1.5nm,0.8s,baz=315,slow=4.8,SNR=4.6						
YKA				sP	sP	01 52 41.3	-2.2
	comp=Z,1.4nm,0.7s,baz=312,slow=5.0,SNR=8.4						
YKA	Yellowknife Ar	85.89	22	P	P	01 52 26.3	-0.1
YKA				*PP	pP	01 52 37.3	-1.6
YKA				*SP	sP	01 52 41.3	-2.2
YKA	Yellowknife Ar	85.89	22	P	P	01 52 26.2	-0.1
YKA				pP	pP	01 52 37.2	-1.6
YKA				sP	sP	01 52 41.3	-2.2
DAVOX	Davos/Dischmat	87.39	320	P	P	01 52 33.8	-0.5
	comp=Z,0.8nm,0.5s,baz=4.3,slow=2.0,SNR=4.5						
DAVOX	Davos/Dischmat	87.39	320	P	P	01 52 33.8	-0.5
DAVOX	Davos/Dischmat	87.39	320	P	P	01 52 33.8	-0.5
CABF	La Chapelle	89.73	321	*e*P	P	01 52 43.3	-2.0
LPG	La Plagne	89.92	320	*e*P	P	01 52 45.9	-0.5
	comp=Z,12nm,1.0s						
LPL	La Plagne	89.92	320	*e*P	P	01 52 45.5	-0.8
	comp=Z,5.1nm,0.8s						
LOR	Lormes	90.67	322	*e*P	P	01 52 48.8	-0.7
	comp=Z,8.0nm,1.0s						
ORIF	Oris-en-Rattie	90.75	320	*e*P	P	01 52 49.9	-0.1
	comp=Z,5.1nm,0.9s						
TXAR	Lajitas Array	114.30	41	PKP	PKPdf	01 58 27.1	+0.1
	comp=Z,0.2nm,0.8s,baz=64,slow=2.1,SNR=2.7						
TXAR	Lajitas Array	114.30	41	PKIKP	PKPdf	01 58 27.1	+0.1
TXAR	Lajitas Array	114.30	41	PKP	PKPdf	01 58 27.1	+0.1
ROSC	El Rosal	150.32	30	PKPbc	PKPbc	01 59 40.1	+0.7
	comp=Z,1.1nm,0.3s,baz=250,slow=3.0,SNR=2.3						
ROSC	El Rosal	150.32	30	PKPbc	PKPbc	01 59 40.1	+0.7
RCBR	Riachuelo	151.87	300	*e*PKPbc	PKPbc	01 59 42.4	-0.1
PLCA	Paso Flores	158.87	158	PKPab	PKPab	02 00 19.9	-0.9
	comp=Z,1.8nm,0.9s,baz=227,slow=7.2,SNR=2.7						
PLCA	Paso Flores	158.87	158	PKP2	PKPab	02 00 19.9	-0.9
PLCA	Paso Flores	158.87	158	PKPab	PKPab	02 00 19.9	-0.9
CPUP	Villa Florida	174.57	207	PKPab	PKPab	02 01 30.2	+0.1
	comp=Z,2.1nm,0.9s,baz=158,slow=5.4,SNR=3.7						
CPUP	Villa Florida	174.57	207	PKP2	PKPab	02 01 30.2	+0.1
CPUP	Villa Florida	174.57	207	PKPab	PKPab	02 01 30.2	+0.1

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*IDC **02** 01:45:46.5±0.8, 2.°75S×126.°64E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML4.5/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/28, Error ellipse: s-maj=45.8km s-min=9.8km az=64.0*

*DJA **02** 01:45:49, 2.°46S×126.°83E, h7km, MLv4.3/12*

*ISCJB **02** 01:45:50.3±0.4, 2.°64S±0.°06×126.°78E±0.°06, h41km, mb4.0/9, MS3.6/3, Error ellipse: s-maj=11.1km s-min=5.9km az=136.8*

*NEIC **02** 01:45:55.1±2.0, 2.°76S×126.°76E, h70km±21km, mb4.5/2, Error ellipse: s-maj=19.4km s-min=6.3km az=225.0*

ISC 02 01:45:52.6±0.7, **2.°67S**±0.°08×**126.°77E**±0.°08, **h41km, n41, σ0.s98**/40, **mb4.1**/9, **MS3.6**/3, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.66	150	P	Pn	01 46 04.1	-1.4
AAI	Ambon	1.75	125	P	Pn	01 46 21.4	+0.9
LBMI	Labuha	2.15	20	P	Pn	01 46 23.3	-2.7
MSAI	Masohi	2.26	107	P	Pn	01 46 28.2	+0.7
LUWI	Luwuk	4.31	292	P	Pn	01 46 54.4	-1.3
GTOI	Gorontalo	4.99	311	P	Pn	01 47 05.9	+0.9
MRSI	Marisa	5.75	303	P	Pn	01 47 14.5	-1.0
	56nm,0.8s,919nm0.2nm						
BKSI	Bulukumba	7.13	248	P	Pn	01 47 38.8	+4.3
	31nm,1.1s,0.1nm						
KAPI	Kappang	7.38	251	*e*Pn	Pn	01 47 39.8	+1.9
FITZ	Fitzroy Crossi	15.38	184	Pn	P	01 49 31.6	+0.7
	0.2nm,0.3s,baz=350,slow=12,SNR=6.8						
FITZ	Fitzroy Crossi	15.38	184	*e*P	P	01 49 32.1	+1.2
FITZ	Fitzroy Crossi	15.38	184	Pn	P	01 49 31.6	+0.7
WRAB	Tennant Creek	18.69	157	*e*P	P	01 50 06.5	-1.1
	26nm,1.0s						
WRA	Warramunga Arr	18.69	157	P	P	01 50 06.9	-0.8
	1.7nm,0.3s,baz=337,slow=12,SNR=19						
WRA				S	S	01 53 37.0	-1.6
	0.2nm,0.3s,baz=333,slow=21,SNR=3.6						
WRA	Warramunga Arr	18.69	157	P	P	01 50 06.9	-0.8
WRA				S	S	01 53 37.0	-1.6
WB2	Warramunga Arr	18.70	157	*e*P	P	01 50 06.8	-0.9
COEN	Coen	19.71	126	*e*P	P	01 50 17.9	-0.9
	96nm,0.4s						
PMG	Port Moresby	21.34	109	P	P	01 50 36.7	+0.2
	7.8nm,0.8s,baz=276,slow=10,SNR=3.4						
PMG	Port Moresby	21.34	109	P	P	01 50 36.7	+0.2
AS31	Alice Springs	21.99	162	*e*P	P	01 50 42.3	-1.0
ASAR	Alice Springs	21.99	162	P	P	01 50 43.0	-0.3
	5.4nm,0.6s,baz=342,slow=11,SNR=32						
ASAR				S	S	01 54 45.5	+1.6
	1.0nm,0.8s,baz=348,slow=24,SNR=4.3						
ASAR	Alice Springs	21.99	162	P	P	01 50 43.0	-0.3
ASAR				S	S	01 54 45.5	+1.6
CTA	Charters Tower	25.72	134	P	P	01 51 19.9	+0.5
	1.5nm,0.3s,baz=309,slow=11,SNR=2.9						
CTA	Charters Tower	25.72	134	P	P	01 51 19.9	+0.5
STKA	Stephens Creek	32.23	156	P	P	01 52 16.5	-0.7
	3.5nm,0.9s,baz=326,slow=11,SNR=4.7						
STKA	Stephens Creek	32.23	156	*e*P	P	01 52 16.5	-0.7
STKA	Stephens Creek	32.23	156	P	P	01 52 16.5	-0.7
CMAR	Chiang Mai Arr	34.51	309	P	P	01 52 37.9	+0.6
	0.8nm,0.5s,baz=140,slow=7.1,SNR=4.6						
CMAR	Chiang Mai Arr	34.51	309	P	P	01 52 37.9	+0.6
KSRS	Korea Array	39.93	1	LR	LR	02 08 40.3	
	comp=Z,35nm,19.9s,baz=215,slow=34						
MJAR	Matsushiro Arr	40.44	14	LR	LR	02 09 32.5	
	comp=Z,70nm,18.1s,baz=155,slow=35						
SONM	Songino Array	53.36	343	P	P	01 55 08.3	+0.2
	0.8nm,0.8s,baz=165,slow=7.4,SNR=3.1						
SONM	Songino Array	53.36	343	P	P	01 55 08.3	+0.2
MK31	Makanchi Array	62.86	327	*e*P	P	01 56 14.2	-0.3
MKAR	Makanchi Array	62.86	327	P	P	01 56 14.2	-0.3
	1.1nm,0.8s,baz=130,slow=7.3,SNR=12						
MKAR	Makanchi Array	62.86	327	P	P	01 56 14.2	-0.3
ZALV	Zalesovo Beam	66.31	334	P	P	01 56 35.7	-1.0
	0.4nm,0.6s,baz=86,slow=7.4,SNR=2.6						
ZALV	Zalesovo Beam	66.31	334	P	P	01 56 35.7	-1.0
KURK	Kurchatov	67.17	329	P	P	01 56 41.6	-0.7
	1.2nm,0.8s,baz=129,slow=5.5,SNR=14						
KURK	Kurchatov	67.17	329	*e*P	P	01 56 41.3	-1.0
	10nm,1.2s						
BOSA	Boshof	98.81	241	LR	LR	02 35 59.4	
	comp=Z,53nm,19.6s,baz=346,slow=30						

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*IDC **02** 01:56:41.0±1.4, 6.°80N×92.°18E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, Error ellipse: s-maj=54.1km s-min=19.8km az=59.0*

*ISCJB **02** 01:56:42.9±0.9, 6.°8N±0.°1×92.°3E±0.°1, h23km, mb3.9/11, Error ellipse: s-maj=21.1km s-min=13.4km az=150.5*

*NEIC **02** 01:56:46.2±0.6, 6.°81N×92.°22E, h35km, mb4.1/4, Error ellipse: s-maj=14.6km s-min=10.3km az=66.0*

ISC 02 01:56:44.7±1.2, **6.°8N**±0.°1×**92.°3E**±0.°2, **h23km, n33, σ1.s55**/30, **mb3.9**/11, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.32	29	Pn	Pn	01 59 53.3	+0.8
	0.1nm,0.3s,baz=230,slow=14,SNR=13						
CMAR	Chiang Mai Arr	13.32	29	Pn	Pn	01 59 53.3	+0.8
CHTO	Chiang Mai	13.63	28	*e*P	Pn	01 59 57.0	+0.2
	4.7nm,1.1s						
ODAN	Odare	20.53	347	*e*P	Pn	02 01 24.0	-0.1
ODAN	Odare	20.53	347	*e*P	Pn	02 01 24.0	-0.1
RAMN	Ramite	20.80	346	*e*P	P	02 01 28.6	+3.9
	9.7nm,0.5s						
RAMN	Ramite	20.80	346	*e*P	P	02 01 28.6	+3.9
TAPN	Taplejung	20.94	349	*e*P	P	02 01 26.0	-0.3
	9.4nm,0.7s						
TAPN	Taplejung	20.94	349	*e*P	P	02 01 26.0	-0.3
JIRN	Jiri	21.58	345	*e*P	P	02 01 35.8	+2.5
	12nm,0.7s						
JIRN	Jiri	21.58	345	*e*P	P	02 01 35.8	+2.5
GUN	Gumba	21.90	345	*e*P	P	02 01 38.7	+2.0
	10nm,0.6s						
GUN	Gumba	21.90	345	*e*P	P	02 01 38.7	+2.0
LSA	Lhasa	22.85	357	*e*P	P	02 01 46.8	-0.2
	2.8nm,0.3s						
AAK	Ala-Archa	39.04	339	*e*P	P	02 04 09.4	-0.6
	4.8nm,0.7s						
EKS2	Erkin-Say	39.32	338	*e*P	P	02 04 12.6	+0.3
	1.7nm,0.8s						
MK31	Makanchi Array	40.81	349	*e*P	P	02 04 23.3	-1.1
MKAR	Makanchi Array	40.81	349	P	P	02 04 23.3	-1.1
	1.2nm,0.5s,baz=167,slow=8.8,SNR=31						
MKAR	Makanchi Array	40.81	349	P	P	02 04 23.3	-1.1
SONM	Songino Array	42.67	14	P	P	02 04 38.3	-1.4
	0.5nm,0.9s,baz=195,slow=10,SNR=3.5						
SONM	Songino Array	42.67	14	P	P	02 04 38.3	-1.4
KURK	Kurchatov	45.28	348	P	P	02 04 59.5	-0.9
	1.5nm,0.6s,baz=172,slow=7.2,SNR=26						
KURK	Kurchatov	45.28	348	P	P	02 04 59.5	-0.9
ZALV	Zalesovo Beam	47.45	354	P	P	02 05 16.6	-0.8

	0.5nm,0.4s,baz=172,slow=7.5,SNR=6.1						
ZALV	Zalesovo Beam	47.45	354	P	P	02 05 16.6	-0.8
WRA	Warramunga Arr	49.15	124	P	P	02 05 31.5	+0.4
	0.4nm,0.3s,baz=306,slow=8.4,SNR=6.7						
WRA	Warramunga Arr	49.15	124	P	P	02 05 31.5	+0.4
ABKAR	Akbulak array	50.35	333	eP	P	02 05 39.2	-0.6
	1.3nm,0.8s						
ASAR	Alice Springs	50.65	128	P	P	02 05 43.2	+0.7
	1.2nm,0.8s,baz=312,slow=7.9,SNR=12						
ASAR	Alice Springs	50.65	128	P	P	02 05 43.2	+0.7
GERES	GERESS Array B	77.43	318	P	P	02 08 38.0	-0.3
	0.8nm,0.8s,baz=90,slow=5.9,SNR=5.1						
GERES	GERESS Array B	77.43	318	P	P	02 08 38.0	-0.3
DZM	Mont Dzumac	78.01	114	eLR	LR	02 08 39.5	
	225nm,23.6s						

*ATH **02** 02:04:43.3, 38.°16N×20.°28E, h4km±1km, MD3.4/9*
*ISCJB **02** 02:04:44.7±0.5, 38.°22N±0.°02×20.°27E±0.°02, h16km±4km, mb3.8/8, Error ellipse: s-maj=3.7km s-min=2.2km az=6.1*
*ROM **02** 02:04:45.3±0.6, 38.°14N×20.°28E, h10km, Ml3.4/8, Error ellipse: s-maj=9.5km s-min=5.2km az=156.0*
*CSEM **02** 02:04:46.5±0.1, 38.°25N×20.°32E, h20km, ML4.1/5, Error ellipse: s-maj=4.6km s-min=2.8km az=9.0*
*THE **02** 02:04:46.3, 38.°29N×20.°45E, h0km±1km, ML3.4/10, Error ellipse: s-maj=2.0km s-min=0.6km az=245.0*
*NEIC **02** 02:04:49.8±0.9, 38.°34N×20.°23E, h62km±11km, mb4.0/3, Error ellipse: s-maj=11.9km s-min=6.9km az=158.0*
*IDC **02** 02:04:50.2±2.5, 38.°39N×20.°25E, h63km±26km, mb3.5/7, mb1 3.4/14, mb1mx3.3/32, mbtmp3.3/14, ML2.8/5, Error ellipse: s-maj=23.6km s-min=14.6km az=154.0*
ISC 02 02:04:44.4±0.9, **38.°22N**±0.°02×**20.°31E**±0.°02, **h11**km±6km, **n204**, σ1s**31**/263, **mb3.9**/8, **2C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	101	P	Pg	02 04 49.1	-0.1
VLS				S	Sg	02 04 52.1	-0.3
VLS	Valsamata	0.23	101	ePG	Pg	02 04 49.1	-0.1
VLS				eSG	Sg	02 04 52.2	-0.2
VLS	Valsamata	0.23	101	ePg	Pg	02 04 49.1	-0.1
VLS				eSg	Sg	02 04 52.2	-0.2
KFL	Anninata	0.40	106	P	Pg	02 04 52.1	-0.1
KFL				S	Sg	02 04 57.8	+0.3
LKD2	Lefkada island	0.63	26	P	Pg	02 04 55.6	-1.1
LKD2				S	Sg	02 05 04.1	-0.9
RLS	Riolos of Patr	0.93	100	P	Pg	02 05 01.2	-1.1
RLS	Riolos of Patr	0.93	100	ePG	Pg	02 05 01.2	-1.1
RLS				eSG	Sg	02 05 13.1	-1.3
RLS	Riolos of Patr	0.93	100	ePg	Pg	02 05 01.2	-1.1
RLS				eSg	Sg	02 05 13.1	-1.3
RGA	Parga	1.10	2	P	Pg	02 05 05.7	+0.1
RGA				S	Sn	02 05 21.0	0.0
RGA	Parga	1.10	2	P	Pg	02 05 05.7	+0.1
RGA				S	Sn	02 05 21.0	0.0
UPR	University Cam	1.17	86	P	Pb	02 05 05.8	-0.8
UPR	University Cam	1.17	86	ePB	Pb	02 05 05.8	-0.8
UPR				eSB	Sn	02 05 22.4	-0.1
UPR	University Cam	1.17	86	P	Pb	02 05 05.8	-0.8
UPR				eSb	Sn	02 05 22.4	-0.1
EFP	Efpalio	1.27	80	P	Pn	02 05 06.9	-1.2
EFP				S	Sn	02 05 25.1	-0.1
EFP	Efpalio	1.27	80	ePB	Pn	02 05 06.8	-1.3
EFP				eSB	Sg	02 05 25.6	+0.2
EFP	Efpalio	1.27	80	P	Pn	02 05 06.9	-1.2
EFP				S	Sn	02 05 25.1	-0.1
EFP				eSb	Sg	02 05 25.6	+0.2
IGT	Igoumenitsa	1.31	1	P	Pb	02 05 08.9	-0.1
IGT				S	Sg	02 05 28.0	+1.4
IGT	Igoumenitsa	1.31	1	P	Pb	02 05 08.9	-0.1
IGT				S	Sg	02 05 28.0	+1.4
LAKA	Lakka	1.32	89	P	Pn	02 05 07.8	-0.9
LAKA				S	Sb	02 05 26.1	+0.1
LAKA	Lakka	1.32	89	P	Pn	02 05 07.8	-0.9
LAKA				S	Sb	02 05 26.1	+0.1
EVR	Evrytania	1.37	59	P	Pn	02 05 09.5	0.0
EVR	Evrytania	1.37	59	ePB	Pb	02 05 09.9	-0.2
EVR	Evrytania	1.37	59	P	Pn	02 05 09.5	0.0
EVR	Evrytania	1.37	59	ePb	Pb	02 05 09.9	-0.2
KALE	Kalithea	1.45	83	P	Pb	02 05 11.3	-0.2
KALE				S	Sb	02 05 30.7	+0.7
KALE	Kalithea	1.45	83	P	Pb	02 05 11.3	-0.2
KALE				S	Sb	02 05 30.7	+0.7
KEK	Kerkira	1.54	345	Pg	Pb	02 05 13.3	+0.3
KEK	Kerkira	1.54	345	P	Pb	02 05 13.3	+0.3
KEK	Kerkira	1.54	345	ePB	Pb	02 05 13.2	+0.3
KEK	Kerkira	1.54	345	ePb	Pb	02 05 13.2	+0.3
GUR	Goura	1.63	99	P	Pn	02 05 13.2	+0.1
GUR				S	Sb	02 05 35.5	+0.3
GUR	Goura	1.63	99	ePN	Pn	02 05 13.1	0.0
GUR	Goura	1.63	99	P	Pn	02 05 13.2	+0.1
GUR				S	Sb	02 05 35.5	+0.3
MAKR	Makrakomi, Fth	1.63	60	P	Pn	02 05 13.8	+0.7
MAKR	Makrakomi, Fth	1.63	60	P	Pn	02 05 13.8	+0.7
ITM	Ithomi	1.65	128	P	Pb	02 05 14.8	-0.1
ITM	Ithomi	1.65	128	ePB	Pb	02 05 14.5	-0.3
ITM	Ithomi	1.65	128	ePb	Pb	02 05 14.5	-0.3
ITM	Ithomi	1.65	128	P	Pb	02 05 14.8	-0.1
PYL	PYLOS	1.75	139	P	Pb	02 05 15.9	-0.5
PYL	PYLOS	1.75	139	ePB	Pb	02 05 15.8	-0.6
PYL	PYLOS	1.75	139	P	Pb	02 05 15.9	-0.5
DSF	Desfina	1.76	83	P	Pb	02 05 16.1	-0.6
DSF				S	Sb	02 05 38.5	-0.2
DSF	Desfina	1.76	83	P	Pb	02 05 16.1	-0.6
DSF				S	Sb	02 05 38.5	-0.2
AGG	Agios Georgios	1.78	63	P	Pn	02 05 15.8	+0.7
AGG				S	Sb	02 05 38.6	-0.7
AGG	Agios Georgios	1.78	63	P	Pn	02 05 15.8	+0.7
AGG				S	Sb	02 05 38.6	-0.7
VLX	Vlachokerasia	1.85	117	P	Pb	02 05 18.1	-0.1
VLX				S	Sb	02 05 42.5	+1.1
VLX	Vlachokerasia	1.85	117	P	Pb	02 05 18.1	-0.1
THAL	Thalero	1.87	95	P	Pb	02 05 17.9	-0.6
THAL	Thalero	1.87	95	P	Pb	02 05 17.9	-0.6
THL	Klokotos Trika	1.89	44	ePG	Pb	02 05 19.4	+0.5
THL	Klokotos Trika	1.89	44	ePg	Pb	02 05 19.4	+0.5
LTK	Loutraki	2.11	95	P	Pn	02 05 20.9	+1.3
LTK	Loutraki	2.11	95	ePN	Pn	02 05 21.1	+1.5
LTK	Loutraki	2.11	95	P	Pn	02 05 20.9	+1.3
LKR	Lokris	2.16	78	ePN	Pb	02 05 22.9	-0.6
LKR	Lokris	2.16	78	ePn	Pb	02 05 22.9	-0.6
ATAL	Atalanti	2.18	77	P	Pn	02 05 21.1	+0.5
ATAL				S	Sn	02 05 48.7	+1.0
ATAL	Atalanti	2.18	77	P	Pn	02 05 21.1	+0.5
ATAL				S	Sn	02 05 48.7	+1.0
NEST	Nestorio	2.27	14	P	Pb	02 05 23.8	-1.6
NEST	Nestorio	2.27	14	P	Pb	02 05 23.8	-1.6
KZN	Kozani	2.37	28	P	Pn	02 05 25.1	+1.8
KZN				S	Sn	02 05 53.7	+1.2
KZN	Kozani	2.37	28	P	Pn	02 05 25.1	+1.8
KZN				S	Sn	02 05 53.7	+1.2
DIDY	Didyma	2.42	107	P	Pn	02 05 26.0	+2.1
DIDY	Didyma	2.42	107	P	Pn	02 05 26.0	+2.1
DID	Didima	2.43	106	P	Pn	02 05 25.2	+1.2
DID	Didima	2.43	106	ePN	Pn	02 05 26.0	+2.0
DID	Didima	2.43	106	P	Pn	02 05 25.2	+1.2
NEO	Neokhori	2.52	64	P	Pn	02 05 26.0	+0.6
NEO	Neokhori	2.52	64	P	Pn	02 05 26.0	+0.6
XOR	Xorichti	2.53	62	P	Pn	02 05 26.0	+0.6
XOR	Xorichti	2.53	62	P	Pn	02 05 26.0	+0.6
NAIG	Nisos Aigina	2.56	99	ePN	Pn	02 05 27.8	+2.0
NAIG	Nisos Aigina	2.56	99	ePn	Pn	02 05 27.8	+2.0
VLI	Veliai	2.57	125	P	Pb	02 05 28.9	-1.7
VLI	Veliai	2.57	125	P	Pb	02 05 28.9	-1.7
MRKA	Markates	2.62	78	P	Pn	02 05 28.1	+1.4
MRKA	Markates	2.62	78	P	Pn	02 05 28.1	+1.4
SKIA	Skiathos	2.65	68	P	Pn	02 05 28.5	+1.5
SKIA	Skiathos	2.65	68	P	Pn	02 05 28.5	+1.5
FNA	Florina	2.69	18	P	Pn	02 05 29.1	+1.4
FNA	Florina	2.69	18	P	Pn	02 05 29.1	+1.4
ATH	Athens Observa	2.70	94	P	Pn	02 05 30.1	+2.4
ATH	Athens Observa	2.70	94	P	Pn	02 05 30.1	+2.4
VLY	Voula,Athens	2.78	97	P	Pn	02 05 29.9	+1.1
VLY	Voula,Athens	2.78	97	ePN	Pn	02 05 30.2	+1.4
VLY	Voula,Athens	2.78	97	P	Pn	02 05 29.9	+1.1
VLY	Voula,Athens	2.78	97	ePn	Pn	02 05 30.2	+1.4
PTL	Penteli	2.81	92	P	Pn	02 05 30.4	+1.1
PTL	Penteli	2.81	92	ePN	Pn	02 05 30.5	+1.1
PTL	Penteli	2.81	92	P	Pn	02 05 30.4	+1.1
BIA	Bitola	2.90	15	i Pn	Pn	02 05 31.6	+0.9
BIA	Bitola	2.90	15	i Pn	Pn	02 05 31.5	+0.9
KYTH	Kithira	2.91	131	P	Pb	02 05 33.9	-2.5
KYTH	Kithira	2.91	131	P	Pb	02 05 33.9	-2.5
AOS	Alonnisos	2.95	70	P	Pn	02 05 31.8	+0.6
AOS	Alonnisos	2.95	70	P	Pn	02 05 31.8	+0.6
PIPA	Pietrapaola	3.00	296	Pg	Pn	02 05 35.0	+3.0
	110nm,0.5s						
PIPA	Pietrapaola	3.00	296	Pg	Pn	02 05 35.0	+3.0
	110nm,0.5s						
PLAC	Placanica	3.05	276	Pg	Pn	02 05 34.2	+1.6
	38nm,0.5s						
PLAC	Placanica	3.05	276	Pg	Pn	02 05 34.2	+1.6
	38nm,0.5s						
GRI	Girifalco	3.11	282	Pg	Pn	02 05 35.3	+1.9
GRI				Sg	Sn	02 06 11.7	+1.2
	773nm,3.9s						
GRI	Girifalco	3.11	282	Pg	Pn	02 05 35.3	+1.9
GRI				Sg	Sn	02 06 11.7	+1.2
	773nm,3.9s						
PAIG	Paliouri	3.13	56	P	Pn	02 05 34.4	+0.8
PAIG				S	Sn	02 06 12.6	+1.6
PAIG	Paliouri	3.13	56	P	Pn	02 05 34.4	+0.8
PAIG				S	Sn	02 06 12.6	+1.6
GRG	Griva	3.18	30	P	Pn	02 05 34.7	+0.4
GRG	Griva	3.18	30	P	Pn	02 05 34.7	+0.4
HORT	Hortiatis	3.21	41	P	Pn	02 05 36.6	+1.7
HORT	Hortiatis	3.21	41	P	Pn	02 05 36.6	+1.7
KRUS	Krusevo	3.23	13	i Pn	Pn	02 05 35.3	+0.2
KRUS	Krusevo	3.23	13	i Pn	Pn	02 05 35.3	+0.2
PLG	Polygyros	3.25	48	P	Pn	02 05 36.2	+0.9
PLG	Polygyros	3.25	48	P	Pn	02 05 36.2	+0.9
TAR1	Taranto	3.29	315	ePn	Pn	02 05 38.2	+2.4
TAR1				eSn	Sn	02 06 15.9	+1.1
SOI	Samo	3.35	269	Pg	Pn	02 05 38.1	+1.3
SOI				Sg	Sn	02 06 16.2	-0.4
SOI	Samo	3.35	269	Pg	Pn	02 05 38.1	+1.3
SOI				Sg	Sn	02 06 16.2	-0.4
CARO	Carolei	3.36	289	Pg	Pn	02 05 39.4	+2.5
CARO				Sg	Sn	02 06 18.0	+1.3
	54nm,0.5s						
CARO	Carolei	3.36	289	Pg	Pn	02 05 39.4	+2.5
CARO				Sg	Sn	02 06 18.0	+1.3
	54nm,0.5s						
MPAZ	Palizzi	3.40	267	Pg	Pn	02 05 39.6	+2.2
MPAZ				Sg	Sn	02 06 17.7	-0.1
MPAZ	Palizzi	3.40	267	Pg	Pn	02 05 39.6	+2.2
MPAZ				Sg	Sn	02 06 17.7	-0.1
PE1	Pezze di Greco	3.41	320	ePn	Pn	02 05 38.2	+0.7
CEL	Celeste	3.48	272	Pg	Pn	02 05 40.0	+1.5
	161nm,0.6s						
CEL	Celeste	3.48	272	ePn	Pn	02 05 39.9	+1.4
CEL				eSn	Sn	02 06 20.1	+0.5
CEL	Celeste	3.48	272	Pg	Pn	02 05 40.0	+1.5
	161nm,0.6s						
CEL				eSn	Sn	02 06 20.1	+0.5
JOPP	Joppolo	3.49	278	Pg	Pn	02 05 40.5	+1.8
JOPP				Sg	Sn	02 06 20.2	+0.1
	32nm,0.6s						
JOPP	Joppolo	3.49	278	Pg	Pn	02 05 40.5	+1.8
JOPP				Sg	Sn	02 06 20.2	+0.1
	32nm,0.6s						
SOH	Sokhos	3.51	41	P	Pn	02 05 39.8	+0.9
SOH				S	Sn	02 06 22.0	+1.6
SOH	Sokhos	3.51	41	P	Pn	02 05 39.8	+0.9
SOH				S	Sn	02 06 22.0	+1.6
VAY	Valandovo	3.55	29	ePn	Pb	02 05 44.1	-3.2
VAY	Valandovo	3.55	29	ePn	Pb	02 05 44.5	-2.8
MSRU	Castanea	3.78	272	Pg	Pn	02 05 43.7	+1.1
MSRU				Sg	Sn	02 06 25.7	-1.3
	133nm,0.5s						
MSRU	Castanea	3.78	272	Pg	Pn	02 05 43.7	+1.1
MSRU				Sg	Sn	02 06 25.7	-1.3
	133nm,0.5s						
SRS	Serrai	3.85	40	P	Pn	02 05 44.3	+0.8
SRS	Serrai	3.85	40	P	Pn	02 05 44.3	+0.8
BAI	Bari	3.91	319	ePn	Pn	02 05 44.8	+0.4
MILZ	Milazzo	4.00	272	Pg	Pn	02 05 46.8	+1.3
MILZ				Sg	Sn	02 06 31.4	-0.9
	151nm,0.5s						
MILZ	Milazzo	4.00	272	Pg	Pn	02 05 46.8	+1.3
MILZ				Sg	Sn	02 06 31.4	-0.9
	151nm,0.5s						
VAM	Vamos	4.20	131	P	Pn	02 05 51.1	+2.7
VAM	Vamos	4.20	131	P	Pn	02 05 51.1	+2.7
CDT	Castel del Mon	4.23	314	ePn	Pn	02 05 50.1	+1.4
KAVA	Kavala	4.27	48	P	Pn	02 05 50.2	+0.9
KAVA	Kavala	4.27	48	P	Pn	02 05 50.2	+0.9
HCRL	Carlentini	4.28	259	Pg	Pn	02 05 49.2	-0.3
HCRL				Sg	Sn	02 06 37.0	-2.5
HCRL	Carlentini	4.28	259	Pg	Pn	02 05 49.2	-0.3
HCRL				Sg	Sn	02 06 37.0	-2.5
BARS	Barje	4.73	14	⇑iPn	Pn	02 05 55.7	0.0
FG5	Orsara di Pugl	4.94	310	Pg	Pn	02 06 01.2	+2.6
FG5	Orsara di Pugl	4.94	310	Pg	Pn	02 06 01.2	+2.6
IVAS	Ivanjica	5.35	359	ePn	Pn	02 06 04.3	0.0
DIVS	Divibare	5.88	358	⇑iPn	Pn	02 06 10.8	-0.7
AQU	L'Aquila	6.70	310	ePn	Pn	02 06 24.4	+1.6
AQU	L'Aquila	6.70	310	ePn	Pn	02 06 24.4	+1.6
NVLJ	Novalja	7.54	329	ePn	Pn	02 06 34.1	-0.1
NVLJ				Sn	Sn	02 07 55.3	-4.3
MLR	Muntele Rosu	8.39	28	P	Pn	02 06 48.3	+2.2
	0.0nm,0.3s,baz=225,slow=13,SNR=5.0						
MLR	Muntele Rosu	8.39	28	P	Pn	02 06 48.3	+2.2
MLR	Muntele Rosu	8.39	28	P	Pn	02 06 48.3	+2.2
KEST	Kesra	9.12	258	P	Pn	02 06 58.0	+2.1
	0.0nm,0.3s,baz=71,slow=18,SNR=3.4						
KEST				S	Sn	02 08 39.5	+0.9
	0.1nm,0.3s,baz=118,slow=15,SNR=5.6						
KEST	Kesra	9.12	258	P	Pn	02 06 58.0	+2.1
KEST				S	Sn	02 08 39.5	+0.9
KEST	Kesra	9.12	258	P	Pn	02 06 58.0	+2.1
KEST				S	Sn	02 08 39.5	+0.9
SOKA	Soboth	9.30	337	⇓iPn	Pn	02 06 57.5	-1.0
SOKA	Soboth	9.30	337	Pn	Pn	02 06 57.5	-1.0
BRTR	Keskin Array B	10.49	78	P	Pn	02 07 18.2	+3.3
	0.0nm,0.3s,baz=270,slow=12,SNR=3.6						
BRTR	Keskin Array B	10.49	78	P	Pn	02 07 18.1	+3.3
BRTR	Keskin Array B	10.49	78	P	Pn	02 07 18.1	+3.3
DAVOX	Davos/Dischmat	11.50	321	P	Pn	02 07 31.1	+2.5
	0.1nm,0.3s,baz=152,slow=18,SNR=3.3						
DAVOX				S	Sn	02 09 35.3	-1.7
	0.1nm,0.3s,baz=317,slow=24,SNR=3.4						
DAVOX	Davos/Dischmat	11.50	321	P	Pn	02 07 31.1	+2.5
DAVOX				S	Sn	02 09 35.3	-1.7
DAVOX	Davos/Dischmat	11.50	321	P	Pn	02 07 31.1	+2.5
DAVOX				S	Sn	02 09 35.3	-1.7
GERES	GERESS Array B	11.65	338	P	Pn	02 07 29.3	-1.3
	0.1nm,0.3s,baz=166,slow=14,SNR=6.4						
GERES	GERESS Array B	11.65	338	P	Pn	02 07 29.3	-1.3
GERES	GERESS Array B	11.65	338	P	Pn	02 07 29.3	-1.3
KHC	Kasperske Hory	11.94	338	eP	Pn	02 07 35.0	+0.5
KHC	Kasperske Hory	11.94	338	P	Pn	02 07 35.0	+0.5
CART	Cartagena	16.83	274	eP	Pn	02 08 39.7	-0.3
	16nm,0.9s						
ESDC	Sonseca Array	18.92	282	P	Pn	02 09 05.8	-0.1
	0.2nm,0.3s,baz=90,slow=6.9,SNR=5.2						
ESDC	Sonseca Array	18.92	282	P	Pn	02 09 05.8	-0.1
ESDC	Sonseca Array	18.92	282	P	Pn	02 09 05.8	-0.1
GNI	Garni	19.03	77	P	Pn	02 09 08.4	+1.2
	0.3nm,0.3s,baz=304,slow=7.3,SNR=4.3						
GNI	Garni	19.03	77	P	Pn	02 09 08.4	+1.2
GNI	Garni	19.03	77	P	Pn	02 09 08.4	+1.2
TAM	Tamanrasset	19.93	224	eP	P	02 09 16.8	+0.4
	1.1nm,0.9s						
TAM	Tamanrasset	19.93	224	eP	P	02 09 16.8	+0.4
	1.0nm,0.9s						
FINES	FINESS Array B	23.53	7	P	P	02 09 52.9	-1.3
	2.7nm,0.7s,baz=176,slow=9.1,SNR=6.9						
FINES	FINESS Array B	23.53	7	P	P	02 09 52.9	-1.3
FINES	FINESS Array B	23.53	7	P	P	02 09 52.9	-1.3
NOA	NORSAR Array B	23.54	349	P	P	02 09 54.0	-0.5
	1.3nm,0.7s,baz=161,slow=11,SNR=3.1						
NOA	NORSAR Array B	23.54	349	P	P	02 09 54.0	-0.5
NOA	NORSAR Array B	23.54	349	P	P	02 09 54.0	-0.5
TORD	Torodi Ar. Bea	29.96	219	P	P	02 10 54.0	+1.2
	0.9nm,0.9s,baz=32,slow=9.3,SNR=6.2						
TORD	Torodi Ar. Bea	29.96	219	P	P	02 10 54.0	+1.2
TORD	Torodi Ar. Bea	29.96	219	P	P	02 10 54.0	+1.2
AAK	Ala-Archa	40.90	66	eP	P	02 12 26.2	-0.5
	5.6nm,0.9s						
AAK	Ala-Archa	40.90	66	eP	P	02 12 26.2	-0.5
	5.6nm,0.9s						
KURK	Kurchatov	42.39	53	P	P	02 12 36.1	-2.4
	0.3nm,0.6s,baz=280,slow=9.2,SNR=4.3						
KURK	Kurchatov	42.39	53	P	P	02 12 36.1	-2.4
MK31	Makanchi Array	45.42	58	eP	P	02 13 01.4	-1.6
MK31	Makanchi Array	45.42	58	eP	P	02 13 01.5	-1.6
MKAR	Makanchi Array	45.42	58	P	P	02 13 01.5	-1.6
	0.5nm,0.4s,baz=273,slow=7.6,SNR=18						
MKAR	Makanchi Array	45.42	58	P	P	02 13 01.5	-1.6
MKAR	Makanchi Array	45.42	58	P	P	02 13 01.5	-1.6
ZALV	Zalesovo Beam	45.79	48	P	P	02 13 04.8	-1.0
	2.2nm,0.5s,baz=273,slow=8.5,SNR=17						
ZALV	Zalesovo Beam	45.79	48	P	P	02 13 04.8	-1.0
ZALV	Zalesovo Beam	45.79	48	P	P	02 13 04.8	-1.0
CMAR	Chiang Mai Arr	70.05	82	P	P	02 15 55.8	-0.8
	0.7nm,0.5s,baz=300,slow=7.2,SNR=3.4						
CMAR	Chiang Mai Arr	70.05	82	P	P	02 15 55.8	-0.8
CMAR	Chiang Mai Arr	70.05	82	P	P	02 15 55.8	-0.8

*ISK **02** 02:14:44.4, 39.°69N×38.°76E, h9km, MD2.9*
*ISCJB **02** 02:14:44.9±0.7, 39.°68N±0.°03×38.°78E±0.°06, h5km±7km, Error ellipse: s-maj=7.3km s-min=5.3km az=174.9*
*CSEM **02** 02:14:45.2±0.3, 39.°67N×38.°74E, h10km, MD2.9, Error ellipse: s-maj=8.0km s-min=5.6km az=102.0*
*DDA **02** 02:14:46.2, 39.°57N×38.°65E, h7km, MD3.2*
ISC 02 02:14:45.6±1.0, **39.°66N**±0.°03×**38.°72E**±0.°03, **h14**km±9km, **n24**, σ1s**13**/33, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILIC	ilic-Erzincan	0.24	209	PG	Pg	02 14 50.6	-0.3
ILIC				SG	Sg	02 14 54.4	0.0
ILIC	ilic-Erzincan	0.24	209	i Pg	Pg	02 14 50.6	-0.3
ILIC				i Sg	Sg	02 14 54.4	0.0
SUSE	Susehri	0.68	324	eS	Sb	02 15 08.5	-0.1
SUSE	Susehri	0.68	324	eS	Sb	02 15 08.5	-0.1
PTK	Pertek	0.93	146	ePG	Pg	02 15 03.6	0.0
PTK				eSG	Sg	02 15 16.2	+0.4
PTK	Pertek	0.93	146	ePg	Pg	02 15 03.6	0.0
PTK				eSg	Sg	02 15 16.2	+0.4
GUMT	Gumushane	0.99	36	ePG	Pb	02 15 02.6	-1.9
GUMT	Gumushane	0.99	36	ePg	Pb	02 15 02.7	-1.9
ELZG	Elazig	1.18	170	eP	Pn	02 15 06.8	-1.1
ELZG				eS	Sb	02 15 22.9	-0.2
ELZG	Elazig	1.18	170	eP	Pn	02 15 06.8	-1.1
ELZG				eS	Sb	02 15 22.9	-0.2
RSDY	Resadiye-TOKAT	1.30	305	ePN	Pb	02 15 10.1	+0.3
RSDY	Resadiye-TOKAT	1.30	305	ePn	Pb	02 15 10.1	+0.3
BAYT	Ayd˜–ntepe-Bay	1.31	56	ePN	Pn	02 15 09.0	-0.7
BAYT	Ayd˜–ntepe-Bay	1.31	56	ePn	Pn	02 15 09.0	-0.7
MYA	Malataya	1.35	190	ePN	Pn	02 15 09.9	-0.2
MYA	Malataya	1.35	190	ePn	Pn	02 15 09.9	-0.2
SVRC	Sivrice-ELAZID	1.36	160	ePN	Pb	02 15 10.9	0.0
SVRC	Sivrice-ELAZID	1.36	160	ePn	Pb	02 15 10.9	0.0
MALT	Malatya	1.37	190	ePN	Pn	02 15 10.4	+0.1
MALT	Malatya	1.37	190	ePn	Pn	02 15 10.4	+0.1
KOPT	Kop Dagi	1.42	75	eP	Pg	02 15 13.0	+0.2
KOPT				eS	Sg	02 15 36.0	+4.8
KOPT	Kop Dagi	1.42	75	eP	Pg	02 15 13.0	+0.2
AKCD	Akcadag	1.50	205	eP	Pn	02 15 12.4	+0.2
AKCD				eS	Sg	02 15 35.0	+1.1
AKCD	Akcadag	1.50	205	eP	Pn	02 15 12.4	+0.2
AKCD				eS	Sg	02 15 35.0	+1.1

*IDC **02** 02:52:13.0±0.8, 1.°66S×122.°16E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, MS3.4/3, Ms1 3.4/3, ms1mx2.8/28, Error ellipse: s-maj=107.5km s-min=15.8km az=60.0*
*DJA **02** 02:52:14, 2.°25S×121.°14E, h10km, MLv4.6/11*
*NEIC **02** 02:52:17.8±0.5, 2.°27S×121.°18E, h35km, mb4.3/5, Error ellipse: s-maj=23.0km s-min=9.5km az=70.0*
*ISCJB **02** 02:52:17.9±0.5, 2.°19S±0.°05×121.°20E±0.°08, h53km, mb4.0/13, MS3.5/2, Error ellipse: s-maj=11.5km s-min=6.7km az=18.8*
ISC 02 02:52:19.5±0.7, **2.°19S**±0.°05×**121.°26E**±0.°09, **h53**km, **n35**, σ1s**03**/29, **mb4.1**/13, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.67	239	P	Pn	02 52 41.1	-5.3
LUWI	Luwuk	1.89	53	P	Pn	02 52 49.8	+0.4
SPSI	Sidrap Palu	2.31	220	P	Pn	02 52 51.5	-3.6
MJSI	Majene	2.65	239	P	Pn	02 52 58.6	-1.1
MRSI	Marisa	2.73	14	P	Pn	02 52 58.9	-2.0
KAPI	Kappang	3.18	208	ePn	Pn	02 53 03.3	-3.8
KAPI				eSn	Sn	02 53 46.3	+2.4
KAPI	Kappang	3.18	208	P	Pn	02 53 06.6	-0.5
GTOI	Gorontalo	3.31	32	P	Pn	02 53 10.2	+1.4
BKSI	Bulukumba	3.31	200	P	Pn	02 53 09.4	+0.5
FITZ	Fitzroy Crossi	16.39	165	LR	LR	03 03 24.2	
	comp=Z,101nm,19.1s,baz=353,slow=40						
WRA	Warramunga Arr	21.79	145	P	P	02 57 06.7	-0.5
	3.4nm,0.9s,baz=322,slow=11,SNR=11						
WRA	Warramunga Arr	21.79	145	P	P	02 57 06.7	-0.5
ASAR	Alice Springs	24.61	151	P	P	02 57 35.5	+0.4
	2.9nm,0.9s,baz=324,slow=7.4,SNR=21						
ASAR	Alice Springs	24.61	151	P	P	02 57 35.5	+0.4
CMAR	Chiang Mai Arr	30.05	314	P	P	02 58 27.9	+4.0
	1.3nm,0.9s,baz=129,slow=7.1,SNR=5.1						
CMAR	Chiang Mai Arr	30.05	314	P	P	02 58 27.9	+4.0
CHTO	Chiang Mai	30.29	315	P	P	02 58 28.0	+2.0
STKA	Stephens Creek	35.21	149	P	P	02 59 09.0	+0.2
	4.5nm,1.0s,baz=322,slow=9.5,SNR=5.4						
STKA				LR	LR	03 15 40.8	
	comp=Z,106nm,19.8s,baz=202,slow=40						
STKA	Stephens Creek	35.21	149	P	P	02 59 09.0	+0.2
ULN	Ulaanbaatar	51.37	348	eP	P	03 01 19.3	+0.3
	1.9nm,0.8s						
SONM	Songino Array	51.48	347	P	P	03 01 19.4	-0.4
	0.3nm,0.4s,baz=152,slow=6.5,SNR=2.9						
SONM	Songino Array	51.48	347	P	P	03 01 19.4	-0.4
MK31	Makanchi Array	59.59	330	eP	P	03 02 20.3	+2.4
MKAR	Makanchi Array	59.59	330	P	P	03 02 18.4	+0.5
	1.2nm,0.8s,baz=135,slow=7.8,SNR=11						
MKAR	Makanchi Array	59.59	330	P	P	03 02 18.4	+0.5
EKS2	Erkin-Say	61.80	322	eP	P	03 02 34.0	+0.9
	3.7nm,1.0s						
ZALV	Zalesovo Beam	63.60	337	P	P	03 02 44.7	-0.1
	0.9nm,0.8s,baz=131,slow=6.5,SNR=4.3						
ZALV	Zalesovo Beam	63.60	337	P	P	03 02 44.7	-0.1
KURK	Kurchatov	64.02	331	P	P	03 02 47.8	+0.3
	1.3nm,1.0s,baz=140,slow=6.0,SNR=7.2						
KURK	Kurchatov	64.02	331	eP	P	03 02 47.6	0.0
	3.2nm,1.0s						
BVAR	Borovoye Array	69.47	330	P	P	03 03 22.2	-0.1
	0.6nm,0.7s,baz=119,slow=5.2,SNR=4.5						
BVAR	Borovoye Array	69.47	330	P	P	03 03 22.2	-0.1
BRVK	Borovoye	69.54	330	eP	P	03 03 22.8	+0.1
	3.4nm,1.1s						
ABKAR	Akbulak array	73.40	323	eP	P	03 03 45.1	-0.9
	3.8nm,1.2s						
ATD	Arta Tunnel	79.09	282	LR	LR	03 34 27.1	
	comp=Z,21nm,20.5s,baz=223,slow=32						

*IDC **02** 03:00:27.0±0.8, 15.°89N×147.°28E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.1/28, mbtmp4.1/19, ML3.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=25.5km s-min=15.9km az=99.0*
*ISCJB **02** 03:00:30.0±0.6, 15.°88N±0.°06×147.°2E±0.°1, h30km, mb4.1/23, MS2.8/1, Error ellipse: s-maj=15.8km s-min=7.5km az=20.5*
*NEIC **02** 03:00:32.4±0.5, 15.°88N×147.°17E, h35km, mb4.5/5, Error ellipse: s-maj=16.3km s-min=8.6km az=95.0*
ISC 02 03:00:31.9±0.7, **15.°86N**±0.°08×**147.°2E**±0.°1, **h30**km, **n46**, σ**0s95**/47, **mb4.2**/23, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.16	225	Pn	Pn	03 01 18.9	-0.7
	13nm,0.3s,baz=342,slow=8.3,SNR=4.6						
GUMO				Sn	Sn	03 01 55.9	-0.3
	18nm,0.3s,baz=29,slow=23,SNR=6.4						
GUMO				LR	LR	03 01 57.8	
	comp=Z,158nm,20.0s,baz=180,slow=28						
GUMO	Guam	3.16	225	Pn	Pn	03 01 18.9	-0.7
GUMO				Sn	Sn	03 01 56.0	-0.3
MJAR	Matsushiro Arr	22.08	341	P	P	03 05 22.6	-1.9
	1.6nm,0.5s,baz=168,slow=10.0,SNR=10						
MJAR	Matsushiro Arr	22.08	341	P	P	03 05 22.6	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG	**Port Moresby**	**25.10**	**180**	*e*P	**P**	**03 05 54.7**	**+0.6**
	11nm,0.9s						
KSRS	**Korea Array**	**27.42**	**325**	LR	LR	03 16 51.1	
	comp=Z,29nm,20.1s,baz=175,slow=36						
USRK	**Ussuriysk Arra**	**31.04**	**339**	P	**P**	**03 06 47.8**	**+0.9**
	1.1nm,0.6s,baz=140,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**37.74**	**200**	P	**P**	**03 07 44.1**	**-1.2**
	0.2nm,0.3s,baz=24,slow=8.6,SNR=4.5						
WRA	**Warramunga Arr**	**37.74**	**200**	P	**P**	**03 07 44.0**	**-1.2**
ASAR	**Alice Springs**	**41.36**	**199**	P	**P**	**03 08 16.4**	**+1.1**
	0.2nm,0.5s,baz=36,slow=6.9,SNR=4.4						
ASAR	**Alice Springs**	**41.36**	**199**	P	**P**	**03 08 16.4**	**+1.1**
ULN	**Ulaanbaatar**	**45.85**	**323**	*e*P	**P**	**03 08 50.9**	**-0.6**
	3.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**46.03**	**280**	P	**P**	**03 08 54.6**	**+1.5**
	1.0nm,0.8s,baz=69,slow=6.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**46.03**	**280**	P	**P**	**03 08 54.6**	**+1.5**
SONM	**Songino Array**	**46.22**	**322**	P	**P**	**03 08 54.7**	**+0.3**
	1.2nm,0.6s,baz=134,slow=7.7,SNR=6.7						
SONM	**Songino Array**	**46.22**	**322**	P	**P**	**03 08 54.7**	**+0.3**
STKA	**Stephens Creek**	**47.76**	**186**	P	**P**	**03 09 06.3**	**0.0**
	1.9nm,0.8s,baz=338,slow=5.4,SNR=2.9						
STKA	**Stephens Creek**	**47.76**	**186**	P	**P**	**03 09 06.3**	**0.0**
KDAK	**Kodiak Island**	**60.98**	**32**	P	**P**	**03 10 42.4**	**+0.3**
	5.5nm,0.7s,baz=231,slow=8.4,SNR=6.8						
KDAK	**Kodiak Island**	**60.98**	**32**	P	**P**	**03 10 42.4**	**+0.3**
ZALV	**Zalesovo Beam**	**61.10**	**323**	P	**P**	**03 10 42.7**	**-0.4**
	0.9nm,0.4s,baz=104,slow=7.5,SNR=8.5						
ZALV	**Zalesovo Beam**	**61.10**	**323**	P	**P**	**03 10 42.7**	**-0.4**
MK31	**Makanchi Array**	**61.43**	**315**	*e*P	**P**	**03 10 46.0**	**+0.5**
MKAR	**Makanchi Array**	**61.43**	**315**	P	**P**	**03 10 46.2**	**+0.7**
	1.2nm,0.5s,baz=89,slow=8.3,SNR=24						
MKAR	**Makanchi Array**	**61.43**	**315**	P	**P**	**03 10 46.2**	**+0.7**
KURK	**Kurchatov**	**64.31**	**319**	P	**P**	**03 11 04.8**	**+0.3**
	8.9nm,0.6s,baz=96,slow=7.5,SNR=161						
KURK	**Kurchatov**	**64.31**	**319**	*e*P	**P**	**03 11 04.1**	**-0.4**
	9.7nm,1.0s						
ILAR	**Eielson Array**	**65.58**	**25**	P	**P**	**03 11 10.6**	**-2.0**
	0.6nm,0.8s,baz=251,slow=6.0,SNR=8.5						
ILAR	**Eielson Array**	**65.58**	**25**	P	**P**	**03 11 10.6**	**-2.0**
BVAR	**Borovoye Array**	**69.54**	**321**	P	**P**	**03 11 37.8**	**+0.1**
	1.5nm,0.5s,baz=99,slow=7.1,SNR=14						
BVAR	**Borovoye Array**	**69.54**	**321**	P	**P**	**03 11 37.8**	**+0.1**
BRVK	**Borovoye**	**69.61**	**321**	*e*P	**P**	**03 11 38.1**	**-0.1**
	3.4nm,0.9s						
KKAR	**Karatay Array**	**69.65**	**311**	*e*P	**P**	**03 11 38.6**	**0.0**
	4.4nm,0.9s						
ABKAR	**Akbulak array**	**76.36**	**318**	*e*P	**P**	**03 12 17.7**	**-0.5**
	4.8nm,0.9s						
AKTO	**Aktyubinsk**	**77.40**	**319**	P	**P**	**03 12 23.3**	**-0.8**
	0.9nm,0.6s,baz=105,slow=8.6,SNR=5.0						
AKTO	**Aktyubinsk**	**77.40**	**319**	P	**P**	**03 12 23.3**	**-0.8**
YKA	**Yellowknife Ar**	**79.83**	**28**	P	**P**	**03 12 36.7**	**-0.5**
	0.4nm,0.6s,baz=284,slow=5.5,SNR=6.0						
YKA	**Yellowknife Ar**	**79.83**	**28**	P	**P**	**03 12 36.7**	**-0.5**
SPITS	**Spitsbergen Ar**	**82.18**	**351**	P	**P**	**03 12 51.2**	**+1.8**
	2.4nm,0.7s,baz=52,slow=7.6,SNR=2.8						
SPITS	**Spitsbergen Ar**	**82.18**	**351**	P	**P**	**03 12 51.2**	**+1.8**
ARCES	**ARCESS Array B**	**85.61**	**343**	P	**P**	**03 13 07.6**	**+0.5**
	5.0nm,0.8s,baz=69,slow=6.6,SNR=9.3						
ARCES	**ARCESS Array B**	**85.61**	**343**	P	**P**	**03 13 07.6**	**+0.5**
FINES	**FINESS Array B**	**90.03**	**336**	P	**P**	**03 13 27.5**	**-1.0**
	11nm,1.2s,baz=94,slow=5.7,SNR=4.8						
FINES	**FINESS Array B**	**90.03**	**336**	P	**P**	**03 13 27.5**	**-1.0**
DBIC	**Dimbokro**	**144.37**	**307**	PKP	**PKPdf**	**03 20 06.6**	**+0.4**
	1.4nm,0.8s,baz=50,slow=4.0,SNR=4.7						
DBIC	**Dimbokro**	**144.37**	**307**	PKP	**PKPdf**	**03 20 06.6**	**+0.4**

*HLW **02** 03:05:30.6, 36°.97N×26°.70E, h33km±22km, Md0.0, Ml3.7*
*ISCJB **02** 03:05:34.4±0.3, 36°.54N±0°.03×26°.76E±0°.03, h154km±3km, mb3.4/5, Error ellipse: s-maj=4.4km s-min=3.3km az=16.1*
*CSEM **02** 03:05:35.8±0.2, 36°.52N×26°.76E, h145km±3km, ML3.1/6, Error ellipse: s-maj=4.7km s-min=3.2km az=34.0*
*IDC **02** 03:05:35.7±2.1, 36°.46N×26°.86E, h165km±23km, mb3.1/5, mb1 3.2/9, mb1mx3.1/28, mbtmp3.2/9, Error ellipse: s-maj=19.5km s-min=15.3km az=142.0*
*DDA **02** 03:05:37.7, 36°.34N×27°.20E, h8km, MD3.7, ML3.9*
*THE **02** 03:05:39.1, 36°.58N×26°.70E, h146km±3km, ML3.1/6, Error ellipse: s-maj=3.2km s-min=0.9km az=101.0*
ISC 02 03:05:35.0±0.7**, 36°.53N**±0°.04×**26°.78E**±0°.03**, h151**km±6km**, n87, σ1s.34**/114**, mb3.4**/5**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.33**	**77**	P	**Pn**	**03 05 57.3**	**+1.5**
NIS1				S	**Sn**	**03 06 10.3**	**-1.4**
NIS1	**Nisyros Isl.**	**0.33**	**77**	P	**Pn**	**03 05 57.3**	**+1.5**
NIS1				S	**Sn**	**03 06 10.3**	**-1.4**
KARP	**Karpathos**	**1.03**	**162**	P	**Pn**	**03 06 01.6**	**+1.4**
KARP				S	**Sn**	**03 06 18.6**	**-0.8**
KARP	**Karpathos**	**1.03**	**162**	P	**Pn**	**03 06 01.6**	**+1.4**
KARP				S	**Sn**	**03 06 18.6**	**-0.8**
THR2	**Thira island,**	**1.08**	**266**	P	**Pn**	**03 06 01.8**	**+1.2**
THR2	**Thira island,**	**1.08**	**266**	P	**Pn**	**03 06 01.8**	**+1.2**
ARG	**Arkhangelos**	**1.13**	**105**	P	**Pn**	**03 06 02.9**	**+1.9**
ARG	**Arkhangelos**	**1.13**	**105**	P	**Pn**	**03 06 02.9**	**+1.9**
APE	**Apeiranthos**	**1.14**	**299**	P	**Pn**	**03 06 02.0**	**+0.9**
APE				S	**Sn**	**03 06 19.0**	**-2.1**
APE	**Apeiranthos**	**1.14**	**299**	P	**Pn**	**03 06 02.0**	**+0.9**
APE				S	**Sn**	**03 06 19.0**	**-2.1**
GCAM	**G?zelcaml?**	**1.23**	**17**	*e*P	Pn	03 05 57.6	-4.3
GCAM	**G?zelcaml?**	**1.23**	**17**	*e*P	Pn	03 05 57.6	-4.3
AYDN	**Tasoluk**	**1.44**	**38**	*i* P	**Pn**	**03 06 04.9**	**+0.9**
AYDN				*i* S	**Sn**	**03 06 25.9**	**-0.4**
AYDN	**Tasoluk**	**1.44**	**38**	*i* P	**Pn**	**03 06 04.9**	**+0.9**
AYDN				*i* S	**Sn**	**03 06 25.9**	**-0.4**
ZKR	**Zakros**	**1.48**	**198**	P	**Pn**	**03 06 06.3**	**+1.8**
ZKR				S	**Sn**	**03 06 27.4**	**+0.4**
ZKR	**Zakros**	**1.48**	**198**	P	**Pn**	**03 06 06.3**	**+1.8**
ZKR				S	**Sn**	**03 06 27.4**	**+0.4**
TURN	**Turunc**	**1.51**	**76**	*i* P	**Pn**	**03 06 02.6**	**-2.1**
TURN				*i* S	Sn	03 06 19.6	-7.8
TURN	**Turunc**	**1.51**	**76**	*i* P	**Pn**	**03 06 02.6**	**-2.1**
NPS	**Neapolis**	**1.58**	**217**	P	**Pn**	**03 06 06.5**	**+1.0**
NPS	**Neapolis**	**1.58**	**217**	P	**Pn**	**03 06 06.5**	**+1.0**
CHOS	**Chios island**	**1.94**	**343**	P	**Pn**	**03 06 09.5**	**-0.1**
CHOS	**Chios island**	**1.94**	**343**	P	**Pn**	**03 06 09.5**	**-0.1**
DNZL	**Cakiroluk**	**2.15**	**57**	*i* P	**Pn**	**03 06 13.7**	**+1.5**
DNZL				*i* S	**Sn**	**03 06 41.3**	**+0.5**
DNZL	**Cakiroluk**	**2.15**	**57**	*i* P	**Pn**	**03 06 13.7**	**+1.5**
DNZL				*i* S	**Sn**	**03 06 41.3**	**+0.5**
SIVA	**Sivas**	**2.20**	**227**	P	**Pn**	**03 06 14.2**	**+1.7**
SIVA				S	**Sn**	**03 06 41.6**	**+0.3**
SIVA	**Sivas**	**2.20**	**227**	P	**Pn**	**03 06 14.2**	**+1.7**
SIVA				S	**Sn**	**03 06 41.6**	**+0.3**
AKAS	**Kas**	**2.30**	**96**	*i* P	**Pn**	**03 06 14.8**	**+0.9**
AKAS				*i* S	**Sn**	**03 06 42.4**	**-1.4**
AKAS	**Kas**	**2.30**	**96**	*i* P	**Pn**	**03 06 14.8**	**+0.9**
AKAS				*i* S	**Sn**	**03 06 42.4**	**-1.4**
GOLH	**Golhisar**	**2.34**	**72**	*i* P	**Pn**	**03 06 15.5**	**+1.1**
GOLH				*i* S	**Sn**	**03 06 43.5**	**-1.1**
GOLH	**Golhisar**	**2.34**	**72**	*i* P	**Pn**	**03 06 15.5**	**+1.1**
VAM	**Vamos**	**2.37**	**243**	P	**Pn**	**03 06 15.3**	**+0.7**
VAM	**Vamos**	**2.37**	**243**	P	**Pn**	**03 06 15.3**	**+0.7**
MRMA	**Marmari**	**2.45**	**309**	P	**Pn**	**03 06 16.0**	**+0.5**
MRMA	**Marmari**	**2.45**	**309**	P	**Pn**	**03 06 16.0**	**+0.5**
VLY	**Voula,Athens**	**2.72**	**300**	P	**Pn**	**03 06 19.6**	**+0.7**
VLY	**Voula,Athens**	**2.72**	**300**	P	**Pn**	**03 06 19.6**	**+0.7**
KORT	**Korkueli**	**2.91**	**80**	*i* P	**Pn**	**03 06 22.6**	**+1.2**
KORT				*i* S	**Sn**	**03 06 57.5**	**+0.3**
KORT	**Korkueli**	**2.91**	**80**	*i* P	**Pn**	**03 06 22.6**	**+1.2**
DID	**Didima**	**3.00**	**290**	P	**Pn**	**03 06 22.8**	**+0.5**
DID				S	**Sn**	**03 06 57.6**	**-1.4**
DID	**Didima**	**3.00**	**290**	P	**Pn**	**03 06 22.8**	**+0.5**
DID				S	**Sn**	**03 06 57.6**	**-1.4**
KYTH	**Kithira**	**3.03**	**266**	P	**Pn**	**03 06 23.2**	**+0.5**
KYTH	**Kithira**	**3.03**	**266**	P	**Pn**	**03 06 23.2**	**+0.5**
VLI	**Veliai**	**3.09**	**275**	P	**Pn**	**03 06 23.6**	**0.0**
VLI	**Veliai**	**3.09**	**275**	P	**Pn**	**03 06 23.6**	**0.0**
LTK	**Loutraki**	**3.38**	**297**	P	**Pn**	**03 06 28.1**	**+0.8**
LTK	**Loutraki**	**3.38**	**297**	P	**Pn**	**03 06 28.1**	**+0.8**
THAL	**Thalero**	**3.61**	**296**	P	**Pn**	**03 06 31.2**	**+1.1**
THAL				S	**Sn**	**03 07 11.1**	**-1.9**
THAL	**Thalero**	**3.61**	**296**	P	**Pn**	**03 06 31.2**	**+1.1**
VLX	**Vlachokerasia**	**3.62**	**285**	P	**Pn**	**03 06 30.6**	**+0.2**
VLX				S	**Sn**	**03 07 11.4**	**-2.0**
VLX	**Vlachokerasia**	**3.62**	**285**	P	**Pn**	**03 06 30.6**	**+0.2**
GUR	**Goura**	**3.81**	**293**	P	**Pn**	**03 06 33.8**	**+1.0**
GUR	**Goura**	**3.81**	**293**	P	**Pn**	**03 06 33.8**	**+1.0**
DSF	**Desfina**	**3.87**	**300**	P	**Pn**	**03 06 34.2**	**+0.6**
DSF				S	**Sn**	**03 07 16.9**	**-2.2**
DSF	**Desfina**	**3.87**	**300**	P	**Pn**	**03 06 34.2**	**+0.6**
KALE	**Kalithea**	**4.13**	**298**	P	**Pn**	**03 06 38.0**	**+1.0**
KALE				S	**Sn**	**03 07 22.8**	**-2.4**
KALE	**Kalithea**	**4.13**	**298**	P	**Pn**	**03 06 38.0**	**+1.0**
EFP	**Efpalio**	**4.31**	**298**	P	**Pn**	**03 06 40.4**	**+1.1**
EFP	**Efpalio**	**4.31**	**298**	P	**Pn**	**03 06 40.4**	**+1.1**
AGG	**Agios Georgios**	**4.31**	**307**	P	**Pn**	**03 06 40.3**	**+0.9**
AGG				S	**Sn**	**03 07 26.8**	**-2.7**
AGG	**Agios Georgios**	**4.31**	**307**	P	**Pn**	**03 06 40.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**4.44**	**305**	P	**Pn**	**03 06 42.5**	**+1.5**
MAKR	**Makrakomi, Fth**	**4.44**	**305**	P	**Pn**	**03 06 42.5**	**+1.5**
RLS	**Riolos of Patr**	**4.50**	**291**	P	**Pn**	**03 06 43.7**	**+1.9**
RLS	**Riolos of Patr**	**4.50**	**291**	P	**Pn**	**03 06 43.7**	**+1.9**
SLUM		**5.19**	**195**	P	**Pn**	**03 06 50.2**	**-0.7**
HMAT	**Matruh**	**5.42**	**177**	P	**Pn**	**03 06 54.1**	**0.0**
HMAT				S	**Sn**	**03 07 54.5**	**-1.4**
BRTR	**Keskin Array B**	**6.28**	**57**	P	**Pn**	**03 07 05.9**	**+0.4**
	0.1nm,0.3s,baz=236,slow=17,SNR=5.4						
BRTR				S	**Sn**	**03 08 17.7**	**+1.3**
	0.0nm,0.3s,baz=219,slow=28,SNR=3.2						
SWA2		**7.35**	**189**	P	**Pn**	**03 07 19.4**	**-0.3**
MMAI	**Mount Meron Ar**	**7.92**	**114**	P	**Pn**	**03 07 26.5**	**-0.8**
	5.0nm,0.3s,baz=310,slow=12,SNR=39						
MMAI				S	**Sn**	**03 08 52.3**	**-3.3**
	2.9nm,0.3s,baz=306,slow=25,SNR=7.2						
HHAG	**Hagoal**	**7.93**	**144**	P	**Pn**	**03 07 27.9**	**+0.4**
HSAF	**As Saff**	**7.97**	**148**	P	**Pn**	**03 07 28.1**	**+0.1**
AWBH		**8.38**	**167**	P	**Pn**	**03 07 34.1**	**+0.7**
SUZ		**8.38**	**141**	P	**Pn**	**03 07 33.6**	**+0.2**
ASF	**Jabal al Asfar**	**9.43**	**114**	P	**Pn**	**03 07 48.6**	**+1.1**
	0.3nm,0.3s,baz=195,slow=16,SNR=6.7						
HFRF	**Wahat Farafira**	**9.44**	**172**	P	**Pn**	**03 07 49.1**	**+1.5**
GRB	**Gharib**	**9.67**	**147**	P	**Pn**	**03 07 51.9**	**+1.2**
EIL	**Elat**	**9.68**	**133**	P	**Pn**	**03 07 51.4**	**+0.6**
	0.8nm,0.3s,baz=339,slow=14,SNR=26						
EIL				S	**Sn**	**03 09 34.3**	**-3.8**
	1.9nm,0.3s,baz=344,slow=17,SNR=9.5						
HKAT	**Jabal Katrina**	**10.04**	**141**	P	**Pn**	**03 07 56.3**	**+0.6**
HDK1	**Dakhla**	**11.18**	**168**	P	**Pn**	**03 08 12.8**	**+2.2**
NVLJ	**Novalja**	**12.09**	**315**	P	**Pn**	**03 08 20.5**	**-1.7**
AKASG	**Malin Array Be**	**14.28**	**6**	P	**Pn**	**03 08 51.5**	**+1.4**
	1.9nm,0.3s,baz=194,slow=11,SNR=12						
DAVOX	**Davos/Dischmat**	**16.23**	**314**	P	**P**	**03 09 18.2**	**+3.5**
	0.1nm,0.3s,baz=150,slow=14,SNR=3.3						
ESDC	**Sonseca Array**	**24.33**	**287**	P	**P**	**03 10 38.0**	**-0.8**
	0.1nm,0.4s,baz=84,slow=9.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**32.37**	**230**	P	**P**	**03 11 50.4**	**+0.1**
	0.2nm,0.4s,baz=37,slow=8.3,SNR=4.6						
KURK	**Kurchatov**	**39.30**	**52**	P	**P**	**03 12 47.6**	**-1.3**
	0.9nm,0.6s,baz=271,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**41.93**	**58**	P	**P**	**03 13 10.0**	**-0.6**
	0.5nm,0.5s,baz=272,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**43.11**	**47**	P	**P**	**03 13 18.4**	**-1.6**
	0.7nm,0.3s,baz=270,slow=9.2,SNR=5.8						

*ISCJB **02** 03:40:16.1±1.1, 11°.38N±0°.05×61°.75W±0°.04, h93km±11km, Error ellipse: s-maj=8.5km s-min=7.2km az=6.5*
*FUNV **02** 03:40:17.4, 11°.43N×61°.66W, h58km, MW2.6*
*TRN **02** 03:40:18.9, 11°.46N×61°.57W, h80km, MD2.9*
ISC 02 03:40:15.7±2.0**, 11°.40N**±0°.06×**61°.74W**±0°.05**, h100**km±16km**, n11, σ1s.37**/20**, 1C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.76**	**6**	*e*P	**Pn**	**03 40 35.1**	**+1.3**
GRW				*e*S	**Sn**	**03 40 46.5**	**-0.8**
TRN	**Trinidad (W)**	**0.82**	**156**	*e*P	**Pn**	**03 40 35.9**	**+1.7**
TRN				*e*S	**Sn**	**03 40 47.9**	**-0.2**
GUIV	**Guiria**	**0.89**	**213**	⇑*e*P	**Pn**	**03 40 34.3**	**-0.6**
GUIV				*e*S	**Sn**	**03 40 47.4**	**-1.9**
TBH	**Brigand Hill**	**1.12**	**144**	*e*P	**Pn**	**03 40 39.4**	**+1.9**
TBH				*e*S	**Sn**	**03 40 55.0**	**+1.1**
TOSP	**Speyside**	**1.18**	**95**	*e*P	**Pn**	**03 40 37.8**	**-0.3**
TOSP				*e*S	**Sn**	**03 40 52.8**	**-2.3**
ITEV	**Isla Los Testi**	**1.37**	**268**	⇓*e*P	**Pn**	**03 40 40.7**	**+0.4**
ITEV				*e*S	**Sn**	**03 40 58.2**	**-0.7**
CRUV	**Carupano**	**1.64**	**244**	*e*P	**Pn**	**03 40 44.1**	**+0.5**
CRUV				*e*S	**Sn**	**03 41 04.3**	**-0.6**
GUNV	**Guanoco**	**1.71**	**224**	*e*P	**Pn**	**03 40 45.4**	**+0.9**
GUNV				*e*S	**Sn**	**03 41 06.5**	**+0.1**
PCRV	**Puerto La Cruz**	**3.10**	**247**	*e*P	**Pn**	**03 41 04.0**	**+1.3**
RIOV	**Rio Grande**	**3.31**	**181**	*e*P	**Pn**	**03 41 06.9**	**+1.2**
RIOV				*e*S	**Sn**	**03 41 41.9**	**-2.3**
LUEV	**Luepa**	**5.53**	**177**	*e*P	**Pn**	**03 41 35.9**	**+0.1**

IDC 02 03:50:11.8±2.0**, 30°.93S**×**176°.68W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/16**, mbtmp3.9**/3**, Error ellipse: s-maj=75.4km s-min=44.0km az=12.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.92**	**213**	Sn	Sn	03 54 01.0	-2.3
	0.6nm,0.3s,baz=137,slow=22,SNR=5.8						
CTA	**Charters Tower**	**35.01**	**279**	P	P	03 57 07.6	+1.4
	1.0nm,0.3s,baz=118,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**44.22**	**267**	P	P	03 58 22.2	-0.8
	0.4nm,0.4s,baz=108,slow=7.8,SNR=7.3						
WRA	**Warramunga Arr**	**45.26**	**272**	P	P	03 58 30.8	-0.6
	1.0nm,0.3s,baz=112,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**146.03**	**341**	PKPbc	PKPdf	04 09 51.9	-0.2
	0.8nm,0.5s,baz=15,slow=5.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**162.24**	**175**	PKPab	PKPab	04 11 02.6	-0.1
	0.2nm,0.7s,baz=194,slow=4.9,SNR=3.0						

*ISK **02** 04:27:17.4, 39°.38N×26°.13E, h7km, MD3.1*
*CSEM **02** 04:27:18.3±0.2, 39°.37N×26°.17E, h5km, MD3.3, Error ellipse: s-maj=4.4km s-min=3.2km az=74.0*
*ISCJB **02** 04:27:18.4±0.6, 39°.38N±0°.02×26°.21E±0°.03, h5km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=158.7*
*ATH **02** 04:27:19.0, 39°.41N×26°.31E, h15km±2km, MD3.3/7*
*DDA **02** 04:27:19.2, 39°.42N×26°.29E, h7km, MD3.0*
ISC 02 04:27:19.7±0.8**, 39°.39N**±0°.02×**26°.27E**±0°.02**, h13**km±6km**, n83, σ0s.91**/111**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.15**	**179**	*e*PB	**Pg**	**04 27 23.0**	**-0.3**
PRK				*e*SB	**Sg**	**04 27 26.1**	**+0.3**
PRK	**Paraskevi**	**0.15**	**179**	*e*Pb	**Pg**	**04 27 23.0**	**-0.3**
PRK				*e*Sb	**Sg**	**04 27 26.1**	**+0.3**
AYVA	**Ayvalik**	**0.34**	**104**	*i* P	**Pg**	**04 27 25.8**	**-0.7**
AYVA				*i* S	**Sg**	**04 27 30.8**	**-0.4**
AYVA	**Ayvalik**	**0.34**	**104**	*i* P	**Pg**	**04 27 25.8**	**-0.7**
AYVA				*i* S	**Sg**	**04 27 30.8**	**-0.4**
EZN	**Ezine**	**0.44**	**6**	PG	**Pg**	**04 27 27.5**	**-0.8**
EZN				SG	**Sg**	**04 27 34.0**	**-0.2**
EZN	**Ezine**	**0.44**	**6**	*i* Pg	**Pg**	**04 27 27.5**	**-0.8**
EZN				*i* Sg	**Sg**	**04 27 34.0**	**-0.2**
BOZC	**Bozcaada**	**0.48**	**340**	*i* P	**Pg**	**04 27 28.9**	**-0.3**
BOZC				*i* S	**Sg**	**04 27 35.5**	**0.0**
LIA	**Limnos Island**	**0.98**	**301**	*e*PN	**Pb**	**04 27 38.2**	**-0.2**
LIA				*e*SN	**Sb**	**04 27 51.9**	**+0.7**
LIA	**Limnos Island**	**0.98**	**301**	*e*Pn	**Pb**	**04 27 38.2**	**-0.2**
LIA				*e*Sn	**Sb**	**04 27 51.9**	**+0.7**
CHOS	**Chios island**	**1.02**	**189**	*e*PN	**Pb**	**04 27 39.1**	**0.0**
CHOS				*e*SN	**Sb**	**04 27 53.3**	**+0.9**
CHOS	**Chios island**	**1.02**	**189**	*e*Pn	**Pb**	**04 27 39.1**	**0.0**
CHOS				*e*Sn	**Sb**	**04 27 53.3**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.02**	**9**	*e*PG	**Pg**	**04 27 38.4**	**-0.9**
GELI				*e*SG	**Sb**	**04 27 52.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.02**	**9**	*e*Pg	**Pg**	**04 27 38.4**	**-0.9**
GELI				*e*Sg	**Sb**	**04 27 52.4**	**0.0**
LPK	**Lapseki**	**1.05**	**21**	*e*PN	**Pg**	**04 27 38.7**	**-1.2**
LPK				*e*SN	**Sn**	**04 27 55.2**	**+0.6**
LPK	**Lapseki**	**1.05**	**21**	*e*Pn	**Pg**	**04 27 38.7**	**-1.2**
LPK				*e*Sn	**Sn**	**04 27 55.2**	**+0.6**
URLA	**Izmir**	**1.06**	**166**	*i* P	**Pb**	**04 27 39.7**	**-0.2**
URLA				*i* S	**Sb**	**04 27 54.5**	**+0.9**
URLA	**Izmir**	**1.06**	**166**	*i* P	**Pb**	**04 27 39.7**	**-0.2**
URLA				*i* S	**Sb**	**04 27 54.5**	**+0.9**
BALY	**Balya**	**1.10**	**71**	*i* P	**Pg**	**04 27 39.8**	**-1.1**
BALY				*i* S	**Sb**	**04 27 55.3**	**+0.4**
BALY	**Balya**	**1.10**	**71**	*i* P	**Pg**	**04 27 39.8**	**-1.1**
BALY				*i* S	**Sb**	**04 27 55.3**	**+0.4**
BLCB	**Balcova**	**1.17**	**149**	*e*PN	**Pg**	**04 27 41.3**	**-0.9**
BLCB	**Balcova**	**1.17**	**149**	*e*Pn	**Pg**	**04 27 41.3**	**-0.9**
BALB	**Balikesir**	**1.27**	**78**	*e*PN	**Pb**	**04 27 43.8**	**+0.4**
BALB	**Balikesir**	**1.27**	**78**	*e*Pn	**Pb**	**04 27 43.8**	**+0.4**
GONE	**Gonen-Balikesi**	**1.27**	**59**	*e*PN	**Pn**	**04 27 42.8**	**-0.4**
GONE	**Gonen-Balikesi**	**1.27**	**59**	*e*Pn	**Pn**	**04 27 42.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.28**	**38**	*e*PN	**Pn**	**04 27 42.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.28**	**38**	*e*Pn	**Pn**	**04 27 42.6**	**-0.6**
ERIK	**Erikli-Kesan**	**1.29**	**8**	*e*PN	**Pn**	**04 27 43.0**	**-0.4**
ERIK	**Erikli-Kesan**	**1.29**	**8**	*e*Pn	**Pn**	**04 27 43.0**	**-0.4**
AKHS	**Akhisar**	**1.31**	**113**	*i* P	**Pn**	**04 27 43.3**	**-0.3**
AKHS				*i* S	**Sn**	**04 28 01.8**	**+0.9**
AKHS	**Akhisar**	**1.31**	**113**	*i* P	**Pn**	**04 27 43.3**	**-0.3**
AKHS				*i* S	**Sn**	**04 28 01.8**	**+0.9**
AKS	**Akhisar**	**1.31**	**113**	*e*PN	**Pn**	**04 27 43.3**	**-0.3**
AKS	**Akhisar**	**1.31**	**113**	*e*Pn	**Pn**	**04 27 43.3**	**-0.3**
ENEZ	**Enez**	**1.35**	**356**	*e*PN	**Pn**	**04 27 43.5**	**-0.6**
ENEZ	**Enez**	**1.35**	**356**	*e*Pn	**Pn**	**04 27 43.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.47**	**28**	*e*PN	**Pn**	**04 27 46.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.47**	**28**	*e*Pn	**Pn**	**04 27 46.2**	**+0.3**
ALN	**Alexandroupoli**	**1.51**	**354**	*e*PN	**Pb**	**04 27 47.4**	**-0.2**
ALN				*e*SN	**Sg**	**04 28 07.6**	**-0.8**
ALN	**Alexandroupoli**	**1.51**	**354**	*e*Pn	**Pb**	**04 27 47.4**	**-0.2**
ALN				*e*Sn	**Sg**	**04 28 07.6**	**-0.8**
BNT	**Bandirma**	**1.60**	**52**	*e*PN	**Pn**	**04 27 48.1**	**+0.6**
BNT	**Bandirma**	**1.60**	**52**	*e*Pn	**Pn**	**04 27 48.1**	**+0.6**
MFT	**Murefte**	**1.60**	**29**	*e*PN	**Pn**	**04 27 48.2**	**+0.6**
MFT	**Murefte**	**1.60**	**29**	*e*Pn	**Pn**	**04 27 48.2**	**+0.6**
DURS	**Dursunbey**	**1.72**	**82**	*i* P	**Pn**	**04 27 49.5**	**+0.2**
DURS				*i* S	**Sn**	**04 28 10.8**	**-0.4**
DURS	**Dursunbey**	**1.72**	**82**	*i* P	**Pn**	**04 27 49.5**	**+0.2**
DURS				*i* S	**Sn**	**04 28 10.8**	**-0.4**
SMG	**Samos**	**1.74**	**165**	*e*PB	**Pn**	**04 27 49.6**	**+0.1**
SMG				*e*SN	**Sg**	**04 28 15.5**	**-0.1**
SMG	**Samos**	**1.74**	**165**	*e*Pb	**Pn**	**04 27 49.6**	**+0.1**
RDO	**Rodhopi**	**1.84**	**343**	*e*PB	**Pn**	**04 27 50.8**	**-0.1**
RDO	**Rodhopi**	**1.84**	**343**	*e*Pb	**Pn**	**04 27 50.8**	**-0.1**
DEMI	**Demirci**	**1.93**	**100**	*i* P	**Pg**	**04 27 55.5**	**-1.3**
DEMI				*i* S	**Sb**	**04 28 18.4**	**-0.5**
DEMI	**Demirci**	**1.93**	**100**	*i* P	**Pg**	**04 27 55.5**	**-1.3**
DEMI				*i* S	**Sb**	**04 28 18.4**	**-0.5**
KULA	**Kula-Manisa**	**2.06**	**114**	*e*PN	**Pn**	**04 27 54.4**	**+0.3**
KULA	**Kula-Manisa**	**2.06**	**114**	*e*Pn	**Pn**	**04 27 54.4**	**+0.3**
CRLT	**Corlu**	**2.07**	**32**	*e*PN	**Pn**	**04 27 55.3**	**+1.3**
CRLT	**Corlu**	**2.07**	**32**	*e*Pn	**Pn**	**04 27 55.3**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.24**	**63**	*e*PN	**Pn**	**04 27 57.9**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.24**	**63**	*e*Pn	**Pn**	**04 27 57.9**	**+1.5**
PLG	**Polygyros**	**2.38**	**295**	*e*PB	**Pn**	**04 27 59.8**	**+1.4**
PLG	**Polygyros**	**2.38**	**295**	*e*Pb	**Pn**	**04 27 59.8**	**+1.4**
APE	**Apeiranthos**	**2.39**	**194**	*e*PN	**Pn**	**04 27 56.9**	**-1.6**
APE	**Apeiranthos**	**2.39**	**194**	*e*Pn	**Pn**	**04 27 56.9**	**-1.6**
BODT	**Bodrum**	**2.47**	**160**	*e*PN	**Pn**	**04 27 58.7**	**-0.8**
BODT	**Bodrum**	**2.47**	**160**	*e*Pn	**Pn**	**04 27 58.7**	**-0.8**
GEMT	**Gemlik**	**2.48**	**64**	*e*PN	**Pn**	**04 28 01.4**	**+1.7**
GEMT	**Gemlik**	**2.48**	**64**	*e*Pn	**Pn**	**04 28 01.4**	**+1.7**
EDRB	**Edirne**	**2.48**	**8**	*e*PN	**Pn**	**04 27 59.8**	**+0.1**
EDRB	**Edirne**	**2.48**	**8**	*e*Pn	**Pn**	**04 27 59.8**	**+0.1**
CTKS	**Kestanelik-??a**	**2.52**	**42**	*e*PN	**Pn**	**04 28 01.4**	**+1.2**
CTKS	**Kestanelik-??a**	**2.52**	**42**	*e*Pn	**Pn**	**04 28 01.4**	**+1.2**
CTYL	**Yal??k??y-??at**	**2.59**	**36**	*e*PN	**Pn**	**04 28 02.2**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.59**	**36**	*e*Pn	**Pn**	**04 28 02.2**	**+1.0**
BGKT	**Bogazkoy**	**2.62**	**46**	*e*PN	**Pn**	**04 28 03.0**	**+1.4**
BGKT	**Bogazkoy**	**2.62**	**46**	*e*Pn	**Pn**	**04 28 03.0**	**+1.4**
YLV	**Yalova**	**2.66**	**63**	*e*PN	**Pn**	**04 28 04.0**	**+1.8**
YLV	**Yalova**	**2.66**	**63**	*e*Pn	**Pn**	**04 28 04.0**	**+1.8**
NVR	**Nevrokopi**	**2.68**	**318**	*e*PN	**Pn**	**04 28 03.2**	**+0.6**
NVR	**Nevrokopi**	**2.68**	**318**	*e*Pn	**Pn**	**04 28 03.2**	**+0.6**
CAVI	**Cavuskoy**	**2.87**	**72**	*e*PN	**Pn**	**04 28 06.6**	**+1.5**
CAVI	**Cavuskoy**	**2.87**	**72**	*e*Pn	**Pn**	**04 28 06.6**	**+1.5**
ALT	**Altintas**	**3.00**	**95**	*e*PN	**Pn**	**04 28 08.5**	**+1.5**
ALT	**Altintas**	**3.00**	**95**	*e*Pn	**Pn**	**04 28 08.5**	**+1.5**
GULT	**Gulveren**	**3.43**	**71**	*e*PN	**Pn**	**04 28 15.2**	**+2.4**
GULT	**Gulveren**	**3.43**	**71**	*e*Pn	**Pn**	**04 28 15.2**	**+2.4**

*IDC **02** 04:36:56.6±3.4, 35°.74N×71°.52E, h0km, mb3.7/4, mb1 3.6/8, mb1mx3.4/30, mbtmp3.5/8, ML3.0/4, Error ellipse: s-maj=68.6km s-min=26.6km az=137.0*
*ISCJB **02** 04:37:11.9±0.4, 36°.55N±0°.03×71°.39E±0°.07, h114km, mb3.7/3, Error ellipse: s-maj=7.9km s-min=4.3km az=163.4*
*NEIC **02** 04:37:13.2±0.8, 36°.45N×71°.34E, h132km±13km, mb4.0/5, Error ellipse: s-maj=11.4km s-min=6.1km az=61.0*
*NNC **02** 04:37:21.0±8.1, 37°.24N×69°.66E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=75.8km s-min=52.2km az=136.0*
ISC 02 04:37:13.1±0.7**, 36°.50N**±0°.05×**71°.25E**±0°.08**, h114**km**, n47, σ1s.93**/50**, mb3.8**/3**, 1C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.66**	**223**	*e*Pn	**Pn**	**04 37 55.9**	**+1.0**
KBL				*e*Sn	**Sn**	**04 38 25.7**	**-1.4**
CEP	**Cherat**	**2.73**	**168**	⇓P	**Pn**	**04 37 56.9**	**+1.2**
CEP				S	**Sn**	**04 38 30.0**	**+1.5**
CHCP	**Chirah Chowk**	**3.28**	**149**	P	**Pn**	**04 38 05.1**	**+2.1**
THW	**Thamme Wali**	**3.72**	**174**	P	**Pn**	**04 38 09.3**	**+0.5**
EKS2	**Erkin-Say**	**6.45**	**17**	*e*Pn	**Pn**	**04 38 47.4**	**+1.8**
	3.1nm,0.6s						
AAK	**Ala-Archa**	**6.62**	**21**	*e*Pn	**Pn**	**04 38 49.6**	**+1.8**
	32nm,0.6s						
KK31	**Karatay Array**	**6.62**	**355**	P	**Pn**	**04 38 48.8**	**+1.0**
	1.9nm,0.2s,baz=182,slow=13,SNR=143						
KK31				⇓S	**Sn**	**04 39 59.0**	**-2.7**
	2.9nm,0.3s,baz=189,slow=24						
KKAR	**Karatay Array**	**6.62**	**355**	*e*Pn	**Pn**	**04 38 48.3**	**+0.6**
	7.3nm,0.4s						
MK31	**Makanchi Array**	**13.17**	**35**	*e*Pn	**Pn**	**04 40 14.2**	**-1.5**
MKAR	**Makanchi Array**	**13.17**	**35**	Pn	**Pn**	**04 40 12.4**	**-3.2**
	0.0nm,0.3s,baz=210,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**13.17**	**35**	Pn	**Pn**	**04 40 12.4**	**-3.2**
DANN	**Dangsing**	**13.32**	**124**	*e*P	**Pn**	**04 40 16.0**	**-2.0**
DANN	**Dangsing**	**13.32**	**124**	*e*P	**Pn**	**04 40 16.0**	**-2.0**
KOLN	**Koldanda**	**13.60**	**126**	*e*P	**Pn**	**04 40 18.6**	**-2.9**
KOLN	**Koldanda**	**13.60**	**126**	*e*P	**Pn**	**04 40 18.6**	**-2.9**
GKN	**Gorkha**	**14.14**	**123**	*e*P	**Pn**	**04 40 26.8**	**-1.5**
GKN	**Gorkha**	**14.14**	**123**	*e*P	**Pn**	**04 40 26.8**	**-1.5**
KKN	**Kakani**	**14.71**	**122**	*e*P	**Pn**	**04 40 33.9**	**-1.8**
KKN	**Kakani**	**14.71**	**122**	*e*P	**Pn**	**04 40 33.9**	**-1.8**
PKI	**Pulchoki**	**14.94**	**123**	*e*P	**Pn**	**04 40 36.1**	**-2.6**
PKI	**Pulchoki**	**14.94**	**123**	*e*P	**Pn**	**04 40 36.1**	**-2.6**
GUN	**Gumba**	**15.04**	**121**	*e*P	**Pn**	**04 40 39.2**	**-0.9**
GUN	**Gumba**	**15.04**	**121**	*e*P	**Pn**	**04 40 39.2**	**-0.9**
KURK	**Kurchatov**	**15.16**	**18**	Pn	**Pn**	**04 40 38.3**	**-2.7**
	0.0nm,0.3s,baz=211,slow=12,SNR=3.4						
KURK	**Kurchatov**	**15.16**	**18**	Pn	**Pn**	**04 40 38.3**	**-2.7**
AB31	**Akbulak array**	**15.18**	**331**	P	**Pn**	**04 40 40.1**	**-1.1**
	2.3nm,0.7s,baz=149,slow=13,SNR=43						
ABKAR	**Akbulak array**	**15.18**	**331**	*e*P	**Pn**	**04 40 39.7**	**-1.5**
	2.0nm,0.5s						
JIRN	**Jiri**	**15.42**	**121**	*e*P	**Pn**	**04 40 43.3**	**-1.4**
	13nm,0.6s						
JIRN	**Jiri**	**15.42**	**121**	*e*P	**Pn**	**04 40 43.3**	**-1.4**
	13nm,0.6s						
RAMN	**Ramite**	**16.15**	**122**	*e*P	**Pn**	**04 40 50.6**	**-3.1**
	7.4nm,0.6s						
RAMN	**Ramite**	**16.15**	**122**	*e*P	**Pn**	**04 40 50.6**	**-3.1**
	7.4nm,0.6s						
BVAR	**Borovoye Array**	**16.53**	**358**	P	**Pn**	**04 40 58.3**	**+0.4**
	0.1nm,0.3s,baz=159,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**16.53**	**358**	P	**Pn**	**04 40 58.3**	**+0.4**
BRVK	**Borovoye**	**16.57**	**358**	*e*P	**Pn**	**04 40 57.5**	**-0.9**
	3.8nm,1.1s						
TAPN	**Taplejung**	**16.67**	**119**	*e*P	**Pn**	**04 40 59.5**	**-0.7**
	25nm,0.7s						
TAPN	**Taplejung**	**16.67**	**119**	*e*P	**Pn**	**04 40 59.5**	**-0.7**
	25nm,0.7s						
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**P**	**04 41 03.7**	**+1.3**
	0.2nm,0.3s,baz=139,slow=14,SNR=12						
AKTO	**Aktyubinsk**	**16.88**	**330**	⇑P	**P**	**04 41 03.7**	**+1.3**
	0.8nm,0.9s						
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**P**	**04 41 03.7**	**+1.3**
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**04 41 34.8**	**+0.2**
	1.4nm,0.7s,baz=221,slow=10,SNR=8.2						
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**04 41 34.8**	**+0.2**
HFS	**Hagfors**	**43.19**	**322**	P	**P**	**04 45 05.0**	**+2.7**
	3.3nm,0.9s,baz=91,slow=14,SNR=4.5						
HFS	**Hagfors**	**43.19**	**322**	P	**P**	**04 45 05.0**	**+2.7**
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**04 45 15.1**	**+2.3**
	1.4nm,0.7s,baz=96,slow=7.8,SNR=4.4						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**04 45 15.1**	**+2.3**
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**04 47 46.1**	**-1.0**
	0.2nm,0.5s,baz=56,slow=5.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**04 47 46.1**	**-1.0**

MOS ***02*** *05:05:18.5±1.6, 55°.38N×166°.36E, h31km, mb4.1/5, Error ellipse: s-maj=14.4km s-min=13.9km az=107.1*
ISCJB ***02*** *05:05:18.5±0.8, 55°.31N±0°.05×166°.31E±0°.06, h28km±5km, mb3.7/6, Error ellipse: s-maj=8.8km s-min=5.6km az=175.8*
KRSC ***02*** *05:05:18.1±1.1, 55°.34N×166°.21E, h20km±20km, ML4.2*
IDC ***02*** *05:05:21.5±5.4, 55°.49N×166°.33E, h33km±47km, mb3.6/6, mb1 3.9/8, mb1mx3.5/28, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=28.9km s-min=13.3km az=3.0*
ISC 02 05:05:17.7±1.8, 55°.40N±0°.06×166°.41E±0°.05, h13km±12km, n39, σ1s59/54, mb3.8/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.31	232	PN	Pb	05 05 23.9	-1.3
BKI	Bering	0.31	232	i P	Pb	05 05 23.9	-1.3
BKI				i S	Sb	05 05 28.6	+0.2
KBTR	Krutoberegovo	2.18	293	PN	Pn	05 05 52.0	-1.7
KBTR				S	Sn	05 06 16.6	-3.9
KBTR	Krutoberegovo	2.18	293	P	Pn	05 05 52.0	-1.7
KBTR				eS	Sn	05 06 16.6	-3.9
SMKR	Semkarok	3.02	295	P	Pn	05 06 05.2	-0.1
SMKR				eS	Sn	05 06 39.0	-2.3
BDR	Baidarnaya	3.15	294	P	Pn	05 06 07.9	+0.9
BDR				eS	Sn	05 06 43.4	-1.1
SRKR	Sorokina	3.20	295	P	Pn	05 06 07.7	0.0
KLY	Klyuchi	3.37	288	PN	Pn	05 06 10.6	+0.6
KLY	Klyuchi	3.37	288	P	Pn	05 06 10.6	+0.6
KMNR	Kamenistaya	3.52	278	eP	Pn	05 06 13.5	+1.3
KMNR				eS	Sn	05 06 53.6	-0.1
TUMR	Tumrok	3.58	271	eP	Pn	05 06 14.2	+1.2
TUMR				eS	Sn	05 06 55.4	+0.3
KOZR	Kozyr	3.74	283	PN	Pn	05 06 16.8	+1.7
KOZR				S	Sn	05 06 59.3	+0.3
KOZ	Kozyrevsk	3.75	283	P	Pn	05 06 16.8	+1.5
KOZ				eS	Sn	05 06 59.3	0.0
ESO	Esso	4.40	280	PN	Pn	05 06 25.0	+0.9
ESO	Esso	4.40	280	P	Pn	05 06 25.0	+0.9
NLC	Nalytchevo	4.70	245	S	Sn	05 07 21.6	-1.0
FX1	Attu Island--F	4.71	120	Pn	Pn	05 06 29.5	+1.2
	3.1nm,0.3s,baz=256,slow=14,SNR=2.7						
FX1				Sn	Sn	05 07 20.2	-2.5
	3.9nm,0.3s,baz=56,slow=21,SNR=3.8						
FX1	Attu Island--F	4.71	120	PN	Pn	05 06 29.5	+1.2
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SDLR	Sedlovina	4.89	247	eP	Pn	05 06 31.5	+0.5
SDLR				eS	Sn	05 07 24.2	-3.2
AVH	Avacha	4.97	248	eP	Pn	05 06 33.0	+0.9
AVH				S	Sn	05 07 26.4	-3.0
KOK	Koryaka	5.01	248	eP	Pn	05 06 33.3	+0.7
KOK				S	Sn	05 07 27.7	-2.7
PET	Petropavlovsk	5.13	246	ePN	Pn	05 06 34.5	+0.3
PET				pmax	pmax		
	comp=Z,16nm,0.5s						
PET	Petropavlovsk	5.13	246	P	Pn	05 06 34.7	+0.5
PET				eS	Sn	05 07 29.9	-3.4
PETK	Petropavlovsk-	5.59	249	Pn	Pn	05 06 41.1	+0.5
	comp=Z,4.5nm,0.3s,baz=78,slow=17,SNR=47						
PETK				Sn	Sn	05 07 47.3	+2.6
	comp=Z,1.9nm,0.3s,baz=70,slow=13,SNR=8.1						
PETK	Petropavlovsk-	5.59	249	PN	Pn	05 06 41.1	+0.5
PETK						05 07 47.3	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
BILL	Bilibino	12.69	360	PN	Pn	05 08 17.0	-0.6
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR	Eielson Array	24.53	49	P	P	05 10 37.0	+0.4
	comp=Z,2.8nm,0.8s,baz=257,slow=8.8,SNR=27						
ILAR	Eielson Array	24.53	49	P	P	05 10 37.0	+0.4
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	26.90	237	P	P	05 10 60.0	+1.7
	comp=Z,1.5nm,0.7s,baz=24,slow=6.6,SNR=4.0						
MJAR	Matsushiro Arr	26.90	237	P	P	05 11 00.0	+1.7
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	29.74	41	P	P	05 11 24.4	+1.1
	comp=Z,0.8nm,0.5s,baz=272,slow=6.3,SNR=2.9						
INK	Inuvik	29.74	41	P	P	05 11 24.4	+1.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	36.96	284	P	P	05 12 26.8	+0.3
	comp=Z,0.4nm,0.6s,baz=55,slow=7.6,SNR=2.3						
SONM	Songino Array	36.96	284	P	P	05 12 26.8	+0.3
KURK	Kurchatov	49.61	303	i P	P	05 14 08.6	+0.3
KURK				pmax	pmax		
	comp=Z,12nm,3.5s						
MKAR	Makanchi Array	50.44	298	P	P	05 14 14.0	-0.7
	comp=Z,0.4nm,0.5s,baz=52,slow=5.8,SNR=10						
MKAR	Makanchi Array	50.44	298	P	P	05 14 14.0	-0.7
TXAR	Lajitas Array	66.36	72	P	P	05 16 07.2	+1.0
	comp=Z,1.0nm,0.8s,baz=303,slow=4.3,SNR=11						
TXAR	Lajitas Array	66.36	72	P	P	05 16 07.2	+1.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

NEIC ***02*** *05:10:54.0, 44°.55N×110°.35W, h0km, ML2.5(SLC), After SLC.*
ISC 02 05:10:54.6±1.1, 44°.55N±0°.02×110°.35W±0°.02, h3km±10km, n45, σ0s51/49, 19C-17D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	Lake	0.04	297	ePg	Pg	05 10 55.5	-0.3
H17A	Grant Village	0.22	228	⇑P	Pg	05 10 59.5	+0.6
	baz=0.2,SNR=38						
H17A				⇓S	Sg	05 11 02.5	+0.6
	baz=0.2						
YNR	Norris Junctio	0.29	306	ePg	Pg	05 11 00.6	+0.2
YFT	Old Faithful	0.36	255	ePg	Pb	05 11 02.5	-1.4
YMR	Madison River	0.46	286	ePg	Pg	05 11 04.0	+0.5
H18A	Shoshone NF, C	0.50	75	⇑P	Pg	05 11 04.5	+0.2
	baz=0.5,SNR=83						
FLWY	Flagg Ranch	0.53	209	ePg	Pg	05 11 05.2	+0.4
I17A	Pilgrim Ck.	0.65	195	⇑P	Pg	05 11 07.4	+0.4
	baz=0.6,SNR=12						
I17A				⇓S	Sg	05 11 15.6	+0.2
	baz=0.6						
H16A	Russell Place,	0.66	284	⇓P	Pb	05 11 08.1	-0.8
	baz=0.7,SNR=14						
G17A	Pierce Place,	0.82	340	⇑P	Pb	05 11 11.6	-0.1
	baz=0.8						
QLMT	Earthquake Lak	0.82	291	ePg	Pg	05 11 10.6	+0.1
MOOW	Moose Ponds	0.85	200	ePg	Pg	05 11 11.1	+0.2
I18A	Diamond G Ranc	0.93	156	⇑P	Pg	05 11 12.3	0.0
	baz=0.9,SNR=37						
I18A				⇓S	Sg	05 11 24.6	+0.2
	baz=0.9						
G18A	Lazy EL Ranch,	0.95	35	⇑P	Pb	05 11 13.3	-0.5
	baz=1.0						
G18A				⇓S	Sb	05 11 26.4	-0.5
	baz=1.0						
LOHW	Long Hollow	0.95	191	ePn	Pb	05 11 14.0	+0.1
RLMT	Red Lodge	0.96	53	ePg	Pg	05 11 13.3	+0.3
H19A	Powell	0.98	82	⇑P	Pb	05 11 13.8	-0.5
	baz=1.0,SNR=26						
I19A	Meeteetse	1.09	117	⇑P	Pg	05 11 15.4	-0.2
	baz=1.1,SNR=22						
I19A				⇑S	Sg	05 11 29.9	+0.1
	baz=1.1						
SNOW	Snow King Moun	1.12	195	ePg	Pg	05 11 16.2	+0.1
G16A	Moss Hill, Enn	1.24	304	⇑P	Pn	05 11 19.2	+0.2
	baz=1.2						
GCMT	Greycliff	1.33	21	ePn	Pb	05 11 20.6	+0.2
J18A	Kendall Valley	1.35	170	⇓P	Pb	05 11 20.6	-0.1
	baz=1.4,SNR=13						
J18A				⇑S	Sg	05 11 38.0	-0.1
	baz=1.4						
F17A	Fitzpatrick Pl	1.38	351	⇑P	Pb	05 11 21.6	+0.5
	baz=1.4,SNR=44						
BOZ	Bozeman (W)	1.43	321	ePn	Pn	05 11 21.1	-0.5
F18A	Big Timber	1.43	18	⇓P	Pb	05 11 22.2	+0.3
	baz=1.4,SNR=30						
F16A	Kennard Place,	1.54	324	⇑P	Pg	05 11 23.9	-0.1
	baz=1.5,SNR=11						
J19A	Crowheart	1.58	143	⇑Pb	Pb	05 11 24.3	-0.3
	baz=1.6,SNR=14						
J19A				⇓S	Sn	05 11 45.2	+0.3
	baz=1.6						
F19A	Roth Farm, Mol	1.64	37	⇓Pb	Pg	05 11 25.9	-0.2
	baz=1.6,SNR=17						
G20A	Bridger	1.66	65	⇓Pb	Pg	05 11 26.0	-0.4
	baz=1.7,SNR=55						
H20A	Greybull	1.68	91	⇑P	Pn	05 11 25.2	+0.2
	baz=1.7,SNR=36						
H20A				⇓S	Sb	05 11 47.6	-0.2
	baz=1.7						
I20A	Worland	1.70	110	⇓Pb	Pb	05 11 26.1	-0.5
	baz=1.7,SNR=25						
I20A				⇑S	Sn	05 11 48.0	+0.3
	baz=1.7						
DLMT	Dillon	1.79	298	ePn	Pb	05 11 27.2	-1.0
MCMT	McKenzie Canyo	1.81	280	ePg	Pg	05 11 29.5	+0.2
PD01	Pinedale Array	1.85	162	ePg	Pb	05 11 28.9	-0.4
PD02	Pinedale Array	1.85	162	ePg	Pb	05 11 28.9	-0.4
PD02				eSg	Sb	05 11 52.8	-0.2
LRM	Limekiln Ridge	1.96	311	ePg	Pb	05 11 31.0	-0.1
J20A	Shoshoni	2.02	125	⇓Sb	Sb	05 11 58.2	+0.3
	baz=2.0						
K19A	Absolon Red Bu	2.04	147	⇓Sb	Sb	05 11 58.9	+0.4
	baz=2.0						
E18A	Harlowton	2.04	8	⇓P	Pb	05 11 31.6	-0.9
	baz=2.0,SNR=7.4						
E19A	Rath Farm, Rou	2.21	29	⇓Sb	Sb	05 12 05.4	+2.2
	baz=2.2						
I21A	Big Trails, Te	2.32	107	⇓P	Pb	05 11 36.6	-0.5
	baz=2.3,SNR=8.2						
K20A	Yellowstone Ra	2.38	142	⇑Sb	Sb	05 12 09.2	+0.9
	baz=2.4						
J21A	Lysite	2.41	119	⇑Sb	Sb	05 12 09.1	-0.2
	baz=2.4						
L19A	Farson	2.55	163	⇑Sb	Sb	05 12 15.2	+2.0
	baz=2.5						
EGMT	Eagleton	3.50	6	ePg	Pb	05 11 58.8	+1.5

MAN ***02*** *05:16:39, 7°.96N×126°.65E, h73km, mb4.6, ML3.5, MS3.4*
ISCJB ***02*** *05:16:40.2±1.2, 8°.00N±0°.06×126°.6E±0°.1, h80km±11km, mb3.9/11, Error ellipse: s-maj=17.6km s-min=8.3km az=161.9*
NEIC ***02*** *05:16:44.0±1.9, 7°.95N×126°.37E, h98km±17km, mb4.1/2, Error ellipse: s-maj=36.0km s-min=10.7km az=70.0*
NEIC Felt [II PIVS] at Bislig.
IDC ***02*** *05:16:44.2±2.3, 7°.99N×126°.52E, h99km±21km, mb3.7/10, mb1 3.9/10, mb1mx3.7/19, mbtmp3.7/10, MS3.3/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=36.8km s-min=13.6km az=74.0*
ISC 02 05:16:41.4±1.6, 8°.03N±0°.06×126°.6E±0°.1, h73km±14km, n37, σ1s16/42, mb4.0/11, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.14	200	eP	Pn	05 16 59.0	-2.9
MATI				eS	Sn	05 17 05.6	-12
BUTP	Butuan	1.37	313	eP	Pn	05 17 04.2	-0.7
DAV	Davao City (W)	1.42	228	P	Pn	05 17 06.8	+1.3
	57nm,0.3s,baz=320,slow=5.5,SNR=7.7						
DAV				S	Sn	05 17 26.3	+2.8
	157nm,0.3s,baz=248,slow=17,SNR=8.4						
DAV	Davao City (W)	1.42	228	ePn	Pn	05 17 06.4	+0.9
DAV				eSn	Sn	05 17 26.4	+2.8
BUKP	Musuan	1.57	265	eP	Pn	05 17 06.5	-1.0
KCP	Kidapawan	1.84	237	⇓eP	Pn	05 17 10.4	-0.8
KCP				eS	Sn	05 17 32.5	-1.2
CGP	Cagayan de Oro	1.97	282	⇓eP	Pn	05 17 11.7	-1.1
CGP				eS	Sn	05 17 36.0	-0.7
CTBH	Cotabato--PC H	2.51	251	⇓iP	Pn	05 17 18.4	-1.6
MSLP	Maasin	2.73	320	eP	Pn	05 17 23.6	+0.5
TBP	Tagbilaran	3.20	301	eP	Pn	05 17 29.2	-0.2
TBP				eS	Sn	05 18 06.9	+0.3
PAGZ	Pagadian	3.23	267	eP	Pn	05 17 29.4	-0.5
FITZ	Fitzroy Crossi	25.99	182	P	P	05 22 07.5	0.0
	2.0nm,0.6s,baz=345,slow=4.6,SNR=8.6						
FITZ	Fitzroy Crossi	25.99	182	eP	P	05 22 07.6	0.0
	23nm,1.4s						
WRA	Warramunga Arr	28.81	165	P	P	05 22 31.8	-1.1
	0.4nm,0.3s,baz=351,slow=9.5,SNR=3.0						
WRA	Warramunga Arr	28.81	165	P	P	05 22 31.8	-1.1
CMAR	Chiang Mai Arr	28.84	294	P	P	05 22 39.1	+5.9
	1.4nm,0.8s,baz=114,slow=8.8,SNR=6.4						
CMAR				LR	LR	05 35 04.9	
	comp=Z,50nm,18.6s,baz=180,slow=38						
CMAR	Chiang Mai Arr	28.84	294	P	P	05 22 39.1	+5.9
ASAR	Alice Springs	32.29	167	P	P	05 23 03.5	0.0
	0.5nm,0.3s,baz=341,slow=7.4,SNR=19						
ASAR	Alice Springs	32.29	167	P	P	05 23 03.5	0.0
USRK	Ussuriysk Arra	36.33	7	P	P	05 23 39.0	+0.8
	2.1nm,0.7s,baz=157,slow=7.3,SNR=4.9						
STKA	Stephens Creek	42.18	161	P	P	05 24 26.9	-0.1
	1.7nm,0.6s,baz=334,slow=12,SNR=5.5						
STKA	Stephens Creek	42.18	161	eP	P	05 24 27.3	+0.2
	0.9nm,1.0s						
MK31	Makanchi Array	54.03	324	eP	P	05 25 57.6	-0.7
MKAR	Makanchi Array	54.03	324	P	P	05 25 58.0	-0.4
	2.0nm,0.6s,baz=122,slow=6.0,SNR=25						
MKAR				PcP	PcP	05 27 02.8	+0.2
	0.5nm,0.7s,baz=118,slow=3.5,SNR=3.7						
MKAR	Makanchi Array	54.03	324	P	P	05 25 58.0	-0.4
MKAR				PcP	PcP	05 27 02.8	+0.2
ZALV	Zalesovo Beam	56.76	332	P	P	05 26 16.1	-1.6
	0.9nm,0.6s,baz=124,slow=7.8,SNR=6.7						
ZALV	Zalesovo Beam	56.76	332	P	P	05 26 16.1	-1.6
ILAR	Eielson Array	81.28	26	P	P	05 28 49.8	+0.3
	0.3nm,0.5s,baz=254,slow=4.5,SNR=8.8						
ILAR	Eielson Array	81.28	26	P	P	05 28 49.8	+0.3
FINES	FINESS Array B	88.02	332	P	P	05 29 22.4	-1.1
	7.0nm,1.0s,baz=70,slow=6.3,SNR=8.2						
FINES	FINESS Array B	88.02	332	P	P	05 29 22.4	-1.1
YKA	Yellowknife Ar	95.64	24	P	P	05 29 59.7	+1.0
	0.4nm,0.7s,baz=305,slow=4.8,SNR=5.2						
YKA	Yellowknife Ar	95.64	24	P	P	05 29 59.7	+1.0
TXAR	Lajitas Array	118.99	50	PKP	PKPdf	05 35 23.7	+1.1
	0.2nm,0.6s,baz=357,slow=3.2,SNR=5.0						
TXAR	Lajitas Array	118.99	50	PKP	PKPdf	05 35 23.7	+1.1
TORD	Torodi Ar. Bea	121.42	291	PKP	PKPdf	05 35 26.9	-0.6
	0.5nm,0.9s,baz=32,slow=3.4,SNR=3.3						
TORD	Torodi Ar. Bea	121.42	291	PKP	PKPdf	05 35 26.9	-0.6

MEX 02 06:09:29.1±0.3, 18°.16N×103°.47W, h3km±27km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.17	41	i P	Pg	06 09 32.4	-0.2
MMIG				eS	Sg	06 09 34.8	0.0
R15V		1.12	334	i P	Pg	06 09 47.9	-2.9
R15V				eS	Sg	06 10 02.4	-2.9
EZ5V		1.32	354	i P	Pn	06 09 50.9	-3.9
EZ5V				eS	Sg	06 10 08.0	-4.3

UCR ***02*** *06:18:00.7, 8°.31N×82°.74W, h21km, MD3.6*
UPA ***02*** *06:18:02.5, 8°.35N×82°.79W, h26km, MD3.7*
CASC 02 06:18:02.5±1.3, 8°.36N×82°.82W, h28km±3km, MD3.6, 4C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.45	310	⇑iP	Pb	06 18 11.3	-0.8
ACR				eS	Sb	06 18 19.1	+0.4
BRU2	Volcan	0.45	17	⇓iP	Pb	06 18 12.5	+0.2
BRU2				i S	Sn	06 18 20.3	-0.4
BRU	Baru	0.51	30	eP	Pb	06 18 08.4	-5.2
BRU				i S	Sb	06 18 14.7	-6.5
CNI	Changuinola	1.09	16	eP	Pn	06 18 08.5	-14
BUS	Buena Vista	1.51	322	⇑eP	Pn	06 18 27.7	-0.6
BUS				⇓eP	Pb	06 18 27.9	-2.5
QCR	Quepos	1.70	309	⇓eP	Pn	06 18 30.4	0.0
QCR				i P	Pb	06 18 30.5	-2.6
QCR				eS	Sn	06 18 52.1	+0.9
QCR				i S	Sb	06 18 52.7	-1.4
URSC	Urasca	1.75	327	⇑eP	Pn	06 18 31.6	+0.3
URSC				⇓iP	Pb	06 18 31.8	-2.3
URSC				eS	Sn	06 18 53.6	+0.9
URSC				i S	Sb	06 18 54.4	-1.4
SJS	Escuela Geolog	1.99	322	eP	Pn	06 18 34.6	+0.1
JCR	Jicaral	2.70	303	eP	Pb	06 18 49.6	-0.8
PTP	Ponta Puerca	19.39	58	⇑iP	x	06 18 08.4	
PTP				i S	x	06 18 12.2	

TRN 02 06:24:41.1, 17°.47N×61°.81W, h31km, MD3.5, M3.4(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.43	186	eP	Pn	06 24 52.4	+1.2
BPA				eS	Sb	06 24 60.0	+3.0
MBRV		0.75	209	i P	Pb	06 24 57.6	+1.8
MBWH		0.81	207	i P	Pb	06 24 57.8	+0.9
MBWH				i S	Sb	06 25 10.3	+2.7
MBGB		0.84	208	i P	Pb	06 24 58.2	+1.0
MBGB				i S	Sb	06 25 10.8	+2.6
SKI	Saint Kitts	0.90	261	eP	Pb	06 24 58.4	+0.2
SKI				eS	Sb	06 25 12.3	+2.4
SEG	Port Louis	1.10	165	eP	Pb	06 25 03.0	+1.2
LZG	Guadaloupe-1	1.32	178	eP	Pb	06 25 04.5	-0.9
LZG				eS	Sb	06 25 22.2	+0.1
BCG	Bois Riant Cap	1.39	172	eP	Pn	06 25 05.5	+1.0
SCG	Saint Claude	1.44	175	eP	Pb	06 25 06.6	-0.9

CSEM ***02*** *06:36:00.1±0.5, 34°.24N×36°.33E, h29km±3km, ML2.8, Error ellipse: s-maj=16.3km s-min=10.7km az=100.0*
GRAL 02 06:36:02.6±0.3, 34°.17N×36°.30E, h16km±8km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	0.12	53	eP	Pg	06 36 06.0	-0.3
FKH				eS	Sg	06 36 08.5	-0.3
FKH	Fakeheh	0.12	53	eP	Pg	06 36 06.0	-0.4
FKH				eS	Sg	06 36 08.5	-0.3
HWQ	Hawqa	0.31	290	eP	Pg	06 36 08.6	-0.7
HWQ				eS	Sg	06 36 13.2	-0.7
HWQ	Hawqa	0.31	290	eP	Pg	06 36 08.6	-0.7
HWQ				eS	Sg	06 36 13.2	-0.7
BHL	Bhannes	0.60	243	eP	Pg	06 36 13.5	-1.0
BHL	Bhannes	0.60	243	eP	Pg	06 36 13.5	-1.0
RCY	Rachaya	0.78	210	eP	Pg	06 36 16.2	-1.7

ISK ***02*** *06:37:21.3, 38°.71N×31°.07E, h5km, MD2.8*
DDA ***02*** *06:37:21.9, 38°.72N×31°.03E, h11km, MD2.8*
CSEM ***02*** *06:37:21.8±0.1, 38°.70N×31°.07E, h5km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.8km az=24.0*
ISCJB ***02*** *06:37:21.4±0.6, 38°.70N±0°.03×31°.08E±0°.04, h2km±7km, Error ellipse: s-maj=5.0km s-min=4.7km az=0.4*
ISC 02 06:37:22.0±1.1, 38°.71N±0°.03×31°.07E±0°.03, h7km±11km, n28, σ0s53/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.43	249	ePG	Pg	06 37 30.4	0.0
SHUT				eSG	Sg	06 37 36.4	+0.3
SHUT	Suhut-Afyon	0.43	249	ePg	Pg	06 37 30.4	0.0
SHUT				eSg	Sg	06 37 36.4	+0.3
SVRH	Sivrihisar-ESK	0.82	26	ePG	Pg	06 37 36.7	-1.0
SVRH				eSG	Sb	06 37 49.3	-0.5
SVRH	Sivrihisar-ESK	0.82	26	ePg	Pg	06 37 36.7	-1.0
SVRH				eSg	Sb	06 37 49.3	-0.5
ESKT	Eskisehir	0.83	348	ePG	Pg	06 37 38.0	+0.1
ESKT				eSG	Sg	06 37 49.5	+0.8
ESKT	Eskisehir	0.83	348	ePg	Pg	06 37 38.1	+0.1
ESKT				eSg	Sg	06 37 49.5	+0.8
SEYT	Eskypehyr	0.83	348	i P	Pg	06 37 38.0	+0.2
SEYT				i S	Sg	06 37 48.8	+0.1
SEYT	Eskypehyr	0.83	348	i P	Pg	06 37 38.0	+0.1
KDHN	Kadinhani	0.84	103	i P	Pg	06 37 38.4	+0.2
KDHN				i S	Sg	06 37 49.2	0.0
KDHN	Kadinhani	0.84	103	i P	Pg	06 37 38.4	+0.2
KDHN				i S	Sg	06 37 49.2	0.0
ISP	Isparta	0.98	206	ePG	Pg	06 37 40.7	-0.2
ISP	Isparta	0.98	206	ePg	Pg	06 37 40.7	-0.2
LADK	Ladik-KONYA	1.14	116	ePN	Pg	06 37 43.6	-0.3
LADK	Ladik-KONYA	1.14	116	ePn	Pg	06 37 43.6	-0.3
BORA	Eskisehir	1.26	338	i P	Pn	06 37 46.2	+0.1
BORA				i S	Sg	06 38 02.6	0.0
BORA	Eskisehir	1.26	338	i P	Pb	06 37 46.2	+0.1
KONT	Konya--Tatoy	1.27	126	ePN	Pg	06 37 46.0	-0.4
KONT	Konya--Tatoy	1.27	126	ePn	Pg	06 37 46.0	-0.4
KHAL	Karahalli	1.28	255	i P	Pn	06 37 45.7	-0.6
KHAL				i S	Sn	06 38 04.4	+0.6
KHAL	Karahalli	1.28	255	i P	Pn	06 37 45.7	-0.6
KHAL				i S	Sn	06 38 04.4	+0.6
GDZ	Gediz	1.29	287	i P	Pn	06 37 45.4	-1.2
GDZ				i S	Sg	06 38 03.1	-0.5
GDZ	Gediz	1.29	287	i P	Pn	06 37 45.4	-1.2
CAVI	Cavuskoy	1.77	328	ePN	Pn	06 37 53.3	+0.3
CAVI	Cavuskoy	1.77	328	ePn	Pn	06 37 53.3	+0.3
GULT	Gulveren	1.77	346	ePN	Pn	06 37 53.7	+0.6
GULT	Gulveren	1.77	346	ePn	Pn	06 37 53.7	+0.6
HDMB	Hadim	2.07	147	ePN	Pn	06 37 57.6	+0.3
HDMB	Hadim	2.07	147	ePn	Pn	06 37 57.6	+0.3

ISK ***02*** *06:38:57.7, 39°.69N×38°.73E, h9km, MD2.9*
CSEM ***02*** *06:38:58.2±0.2, 39°.68N×38°.73E, h10km, MD2.9, Error ellipse: s-maj=5.0km s-min=2.7km az=109.0*
DDA ***02*** *06:38:58.1, 39°.64N×38°.78E, h7km, MD2.9*
ISCJB ***02*** *06:38:58.4±0.5, 39°.67N±0°.03×38°.77E±0°.05, h6km±6km, Error ellipse: s-maj=6.2km s-min=4.2km az=20.2*
ISC 02 06:38:58.4±1.1, 39°.67N±0°.03×38°.77E±0°.03, h8km±11km, n26, σ0s47/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	ilic-Erzincan	0.27	215	PG	Pg	06 39 03.5	-0.3
ILIC				SG	Sg	06 39 07.8	+0.4
ILIC	ilic-Erzincan	0.27	215	i Pg	Pg	06 39 03.5	-0.3
ILIC				i Sg	Sg	06 39 07.8	+0.4
KEMA	Kemaliye	0.46	208	i P	Pg	06 39 06.6	-0.6
KEMA				i S	Sg	06 39 13.6	+0.4
KEMA	Kemaliye	0.46	208	i P	Pg	06 39 06.6	-0.6
KEMA				i S	Sg	06 39 13.6	+0.4
KELT	Kelkit	0.61	38	i P	Pg	06 39 10.2	0.0
KELT				i S	Sb	06 39 19.9	-0.4
KELT	Kelkit	0.61	38	i P	Pg	06 39 10.2	0.0
KELT				i S	Sb	06 39 19.9	-0.4
SUSE	Susehri	0.69	321	i P	Pg	06 39 11.4	-0.4
SUSE				i S	Sb	06 39 23.2	+0.6
SUSE	Susehri	0.69	321	i P	Pg	06 39 11.4	-0.4
SUSE				i S	Sb	06 39 23.2	+0.6
ERZN	Erzincan	0.74	96	ePG	Pg	06 39 12.9	+0.2
PTK	Pertek	0.92	148	ePG	Pb	06 39 16.6	-0.1
PTK				eSG	Sb	06 39 29.8	+0.6
PTK	Pertek	0.92	148	ePg	Pb	06 39 16.6	-0.1
PTK				eSg	Sb	06 39 29.8	+0.6
GUMT	Gumushane	0.96	35	ePG	Pg	06 39 16.7	-0.1
GUMT	Gumushane	0.96	35	ePg	Pg	06 39 16.7	-0.1
DARE	Darende-Malaty	1.04	226	ePN	Pn	06 39 25.2	+5.8
ELZG	Elazig	1.18	172	i P	Pg	06 39 20.4	-0.8
ELZG				i S	Sg	06 39 36.9	+0.4
ELZG	Elazig	1.18	172	i P	Pg	06 39 20.4	-0.8
ELZG				i S	Sg	06 39 36.9	+0.4
BAYT	Ayd˜–ntepe-Bay	1.28	55	ePN	Pn	06 39 22.6	-0.2
BAYT	Ayd˜–ntepe-Bay	1.28	55	ePn	Pn	06 39 22.6	-0.2
SVRC	Sivrice-ELAZID	1.36	162	ePN	Pn	06 39 23.8	-0.1
SVRC	Sivrice-ELAZID	1.36	162	ePn	Pn	06 39 23.8	-0.1
MALT	Malatya	1.38	191	ePN	Pn	06 39 23.8	-0.4
MALT	Malatya	1.38	191	ePn	Pn	06 39 23.8	-0.4
AKCD	Akcadag	1.52	206	i P	Pb	06 39 26.7	-0.4
AKCD				i S	Sb	06 39 47.2	+0.6
AKCD	Akcadag	1.52	206	i S		06 39 47.2	
AKCD	Akcadag	1.52	206	i P	Pb	06 39 26.7	-0.4
SARI	SarD1z-Kayseri	1.89	239	ePN	Pg	06 39 35.8	+1.1

WEL 02 06:40:55.0±0.3, 37°.84S×176°.16E, h197km±3km, ML3.5/8, Error ellipse: s-maj=4.8km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.86	119	PN	Pn	06 41 23.5	-0.1
URZ				SN	Sn	06 41 45.1	-0.5
MWZ	Matawai	1.19	115	PN	Pn	06 41 26.0	+0.1
MWZ				SN	Sn	06 41 50.2	+0.3
KNZ	Kokohu	1.68	135	PN	Pn	06 41 30.1	+0.1
KNZ				SN	Sn	06 41 55.9	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PUZ	Puketiti	1.68	99	PN	Pn	06 41 29.8	-0.2
PUZ				SN	Sn	06 41 56.9	-0.5
MXZ	Matakaoa Point	1.73	81	PN	Pn	06 41 30.6	+0.1
CKHZ	Cape Kidnapper	1.95	159	SN	Sn	06 42 00.9	-1.4
KAHZ	Kahuranaki	2.03	164	PN	Pn	06 41 33.5	-0.1
PXZ	Pawanui	2.26	166	PN	Pn	06 41 35.2	-0.7
DVHZ	Dannevirke	2.46	180	PN	Pn	06 41 36.9	-1.3
MRZ	Mangatainoka R	2.85	189	PN	Pn	06 41 40.7	-2.1
KIW	Kapiti Island	3.17	197	PN	Pn	06 41 43.9	-2.6
TCW	Tory Channel	3.67	203	PN	Pn	06 41 49.5	-3.0
MQZ	McQueen's Vall	6.44	203	SN	Sn	06 43 31.6	-10

*MDD **02** 06:54:52.1±2.8, 42°.66N×11°.11W, h0km, mbLg1.9/2, Error ellipse: s-maj=24.2km s-min=19.2km az=91.0, PRXIMO*
*INMG **02** 06:54:53.2±1.0, 42°.70N×11°.61W, h10km, ML1.5, Error ellipse: s-maj=13.1km s-min=9.4km az=93.0*
CSEM 02 06:54:52.0±0.7, 42°.60N×11°.11W, h10km, ML1.9, Error ellipse: s-maj=13.2km s-min=10.8km az=105.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	1.61	77	P	Pn	06 55 19.3	-1.2
	0.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	06 55 40.3	-1.0
	1.8nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	1.61	77	P	Pn	06 55 19.3	-1.2
	0.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	06 55 40.3	-1.0
	1.8nm,0.1s,SNR=7.9						
PGAV	Gavieira, Arco	2.20	106	ePn	Pn	06 55 29.8	+1.0
PGAV				eSn	Sn	06 55 56.3	+0.1
PGAV				A	A	06 55 57.4	
	3.1nm,0.5s						
PGAV	Gavieira, Arco	2.20	106	ePn	Pn	06 55 29.8	+1.0
PGAV				eSn	Sn	06 55 56.3	+0.1
	3.1nm,0.5s						
ELOB	Lobios	2.38	107	P	Pn	06 55 32.1	+0.9
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 56 01.0	+0.5
	1.6nm,0.1s,SNR=7.9						
ELOB	Lobios	2.38	107	P	Pn	06 55 32.1	+0.9
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 56 01.0	+0.5
	1.6nm,0.1s,SNR=7.9						
PCAB	Cabril	2.46	110	eSn	Sn	06 56 02.7	+0.3
PCAB				A	A	06 56 04.7	
	1.5nm,0.1s						
PCAB	Cabril	2.46	110	S	Sn	06 56 02.7	+0.3
	0.8nm,0.1s						
PCAB	Cabril	2.46	110	S	Sn	06 56 02.7	+0.3
	0.8nm,0.1s						
POLO	Lamas de Olo	2.76	115	eSn	Sn	06 56 10.1	+0.2
POLO	Lamas de Olo	2.76	115	eSn	Sn	06 56 10.1	+0.2
EPON	Pontenova	3.00	75	P	Pn	06 55 39.6	0.0
	0.1nm,0.1s,SNR=7.9						
EPON				S	Sn	06 56 14.8	-0.7
	0.9nm,0.2s,SNR=7.9						
EPON	Pontenova	3.00	75	P	Pn	06 55 39.6	0.0
	0.1nm,0.1s,SNR=7.9						
EPON				S	Sn	06 56 14.8	-0.8
	0.9nm,0.2s,SNR=7.9						
PVIS	Viseu	3.06	127	ePn	Pn	06 55 40.4	-0.1
PVIS				eSn	Sn	06 56 15.8	-1.4
PVIS	Viseu	3.06	127	P	Pn	06 55 40.4	-0.1
PVIS				S	Sn	06 56 15.8	-1.4
PVIS	Viseu	3.06	127	P	Pn	06 55 40.4	-0.1
PVIS				S	Sn	06 56 15.8	-1.4
ECAL	Calabor	3.31	100	P	Pn	06 55 45.2	+1.2
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	06 56 23.7	+0.2
	0.4nm,0.2s,SNR=7.9						
ECAL	Calabor	3.31	100	P	Pn	06 55 45.2	+1.2
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	06 56 23.7	+0.2
	0.4nm,0.2s,SNR=7.9						
MVO	Moncorvo	3.37	114	ePn	Pn	06 55 44.9	+0.1
MVO				eSn	Sn	06 56 23.7	-1.2
MVO	Moncorvo	3.37	114	ePn	Pn	06 55 44.9	+0.1
MVO				eSn	Sn	06 56 23.7	-1.2
EARI	Arriondas	4.39	79	P	Pn	06 55 58.7	-0.1
	0.1nm,0.1s,SNR=7.9						
EARI	Arriondas	4.39	79	P	Pn	06 55 58.7	0.0
	0.1nm,0.1s,SNR=7.9						

*MDD **02** 06:55:03.8±2.1, 36°.23N×10°.26W, h0km, mbLg2.2/14, Error ellipse: s-maj=21.8km s-min=16.1km az=122.0, PRXIMO*
*INMG **02** 06:55:04.8±1.0, 36°.09N×10°.47W, h31km, ML2.0, Error ellipse: s-maj=6.2km s-min=4.7km az=84.0*
CSEM 02 06:55:04.1±0.6, 36°.38N×10°.34W, h10km, ML2.8/4, Error ellipse: s-maj=11.4km s-min=8.8km az=93.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.43	58	eP	Pb	06 55 30.5	-0.4
PFVI				eS	Sg	06 55 50.0	-0.2
PFVI				A	A	06 55 51.4	
	14nm,0.2s						
PFVI	Vila Bisbo	1.43	58	eP	Pb	06 55 30.5	-0.4
PFVI				eS	Sg	06 55 50.0	-0.2
	14nm,0.2s						
MORF	Marmelete	1.64	55	ePn	Pn	06 55 33.5	+0.4
MORF				eSn	Sb	06 55 55.2	-0.2
MORF				A	A	06 55 56.6	
	11nm,0.2s						
MORF	Marmelete	1.64	55	P	Pn	06 55 33.5	+0.4
MORF				S	Sb	06 55 55.2	-0.2
	11nm,0.2s						
MORF	Marmelete	1.64	55	P	Pn	06 55 33.5	+0.4
MORF				S	Sb	06 55 55.2	-0.2
	11nm,0.2s						
PTEO	Sao Teotonio	1.74	47	ePn	Pn	06 55 35.1	+0.7
PTEO				eSn	Sb	06 55 58.1	0.0
PTEO				A	A	06 55 58.9	
	6.8nm,0.4s						
PTEO	Sao Teotonio	1.74	47	P	Pn	06 55 35.1	+0.7
PTEO				S	Sb	06 55 58.1	0.0
	3.4nm,0.4s						
PTEO	Sao Teotonio	1.74	47	P	Pn	06 55 35.1	+0.7
PTEO				S	Sb	06 55 58.1	0.0
	3.4nm,0.4s						
PBDV	Barranco-do-Ve	2.12	65	ePn	Pn	06 55 39.7	+0.1
PBDV				eSn	Sn	06 56 05.4	-0.6
PBDV				A	A	06 56 12.3	
	6.0nm,0.7s						
PBDV	Barranco-do-Ve	2.12	65	P	Pn	06 55 39.7	+0.1
PBDV				S	Sn	06 56 05.4	-0.6
	6.0nm,0.7s						
PBDV	Barranco-do-Ve	2.12	65	P	Pn	06 55 39.7	+0.1
PBDV				S	Sn	06 56 05.4	-0.6
	6.0nm,0.7s						
PCVE	Castro Verde	2.23	55	ePn	Pn	06 55 41.9	+0.8
PCVE				eSn	Sn	06 56 09.7	+1.0
PCVE				A	A	06 56 11.6	
	4.8nm,0.4s						
PCVE	Castro Verde	2.23	55	P	Pn	06 55 41.9	+0.8
PCVE				S	Sn	06 56 09.7	+1.0
	4.8nm,0.4s						
PCVE	Castro Verde	2.23	55	P	Pn	06 55 41.9	+0.8
PCVE				S	Sn	06 56 09.7	+1.0
	4.8nm,0.4s						
PNCL	Nicolau / Gran	2.26	39	ePn	Pn	06 55 42.3	+0.8
PNCL				eSn	Sn	06 56 10.7	+1.4
PNCL				A	A	06 56 13.8	
	8.6nm,0.2s						
PNCL	Nicolau / Gran	2.26	39	ePn	Pn	06 55 42.3	+0.8
PNCL				eSn	Sn	06 56 10.7	+1.4
	8.6nm,0.2s						
PVAQ	Vaqueiros	2.34	63	ePn	Pn	06 55 43.0	+0.4
PVAQ				eSn	Sn	06 56 10.7	-0.7
PVAQ				A	A	06 56 11.9	
	9.6nm,0.1s						
PVAQ	Vaqueiros	2.34	63	P	Pn	06 55 43.0	+0.4
PVAQ				S	Sn	06 56 10.7	-0.7
	9.6nm,0.1s						
PVAQ	Vaqueiros	2.34	63	P	Pn	06 55 43.0	+0.4
PVAQ				S	Sn	06 56 10.7	-0.7
	9.6nm,0.1s						
PBEJ	Beja	2.57	49	eSn	Sn	06 56 17.4	+0.2
PBEJ				A	A	06 56 18.5	
	3.8nm,0.5s						
PBEJ	Beja	2.57	49	S	Sn	06 56 17.4	+0.2
	1.9nm,0.5s						
PBEJ	Beja	2.57	49	S	Sn	06 56 17.4	+0.2
	1.9nm,0.5s						
PMAFR	Mafra	2.71	18	ePn	Pn	06 55 48.3	+0.6
PMAFR				eSn	Sn	06 56 21.8	+1.2
PMAFR				A	A	06 56 25.8	
	12nm,0.6s						
PMAFR	Mafra	2.71	18	ePn	Pn	06 55 48.3	+0.6
PMAFR				eSn	Sn	06 56 21.8	+1.2
	12nm,0.6s						
EVO	Evora	2.84	40	eSn	Sn	06 56 24.3	+0.5
EVO				A	A	06 56 24.9	
	10.0nm,0.1s						
EVO	Evora	2.84	40	S	Sn	06 56 24.3	+0.5
	10.0nm,0.1s						
EVO	Evora	2.84	40	S	Sn	06 56 24.3	+0.5
	10.0nm,0.1s						
PMTG	Montargil	3.17	31	ePn	Pn	06 55 54.5	+0.5
PMTG				eSn	Sn	06 56 32.3	+0.4
PMTG				A	A	06 56 33.3	
	3.7nm,0.7s						
PBAR	Barrancos	3.19	55	eSn	Sn	06 56 32.3	0.0
PBAR				A	A	06 56 36.0	
	2.4nm,0.5s						
PBAR	Barrancos	3.19	55	S	Sn	06 56 32.3	0.0
	2.4nm,0.5s						
PBAR	Barrancos	3.19	55	S	Sn	06 56 32.3	0.0
	2.4nm,0.5s						
EMIN	Mina Concepcio	3.24	64	P	Pn	06 55 53.4	-1.6
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 56 32.4	-1.4
	1.1nm,0.1s,SNR=7.7						
EMIN	Mina Concepcio	3.24	64	P	Pn	06 55 53.4	-1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 56 32.4	-1.4
	1.1nm,0.1s,SNR=7.7						
PESTR	Estremoz	3.31	40	eSn	Sn	06 56 35.3	-0.1
PESTR	Estremoz	3.31	40	S	Sn	06 56 35.3	-0.1
PESTR	Estremoz	3.31	40	S	Sn	06 56 35.3	-0.1
EBAD	Badajoz	3.55	47	P	Pn	06 55 58.3	-1.0
	0.4nm,0.1s,SNR=4.0						
EBAD				S	Sn	06 56 41.2	-0.2
	2.0nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.55	47	P	Pn	06 55 58.3	-1.0
	0.4nm,0.1s,SNR=4.0						
EBAD				S	Sn	06 56 41.2	-0.2
	2.0nm,0.1s,SNR=7.9						
PMRV	Marv??o	3.84	37	ePn	Pn	06 56 04.2	+1.0
PMRV				eSn	Sn	06 56 48.3	-0.1
PMRV				A	A	06 56 51.0	
	2.0nm,0.3s						
PMRV	Marv??o	3.84	37	P	Pn	06 56 04.2	+1.0
PMRV				S	Sn	06 56 48.3	-0.1
	2.0nm,0.3s						
PMRV	Marv??o	3.84	37	P	Pn	06 56 04.2	+1.0
PMRV				S	Sn	06 56 48.3	-0.1
	2.0nm,0.3s						
PCBR	Castelo Branco	4.13	32	eSn	Sn	06 56 55.5	-0.1
PCBR	Castelo Branco	4.13	32	S	Sn	06 56 55.5	-0.1
PCBR	Castelo Branco	4.13	32	S	Sn	06 56 55.5	-0.1
PVIS	Viseu	4.74	23	eSn	Sn	06 57 10.6	-0.1
PVIS				A	A	06 57 13.4	
	1.8nm,0.3s						
PVIS	Viseu	4.74	23	S	Sn	06 57 10.6	-0.1
	0.9nm,0.3s						
PVIS	Viseu	4.74	23	S	Sn	06 57 10.6	-0.1
	0.9nm,0.3s						
EADA	Adamuz	4.93	67	P	Pn	06 56 16.7	-1.6
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	06 57 11.9	-3.6
	2.0nm,0.1s,SNR=7.9						
EADA	Adamuz	4.93	67	P	Pn	06 56 16.7	-1.6
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	06 57 11.9	-3.6
	2.0nm,0.1s,SNR=7.9						
EPLA	Plasencia	4.98	41	P	Pn	06 56 18.1	-0.9
	0.1nm,0.1s,SNR=4.0						
EPLA				S	Sn	06 57 16.2	-0.4
	1.1nm,0.1s,SNR=7.9						
EPLA	Plasencia	4.98	41	P	Pn	06 56 18.1	-0.9
	0.1nm,0.1s,SNR=4.0						
EPLA				S	Sn	06 57 16.2	-0.5
	1.1nm,0.1s,SNR=7.9						
POLO	Lamas de Olo	5.37	21	eSn	Sn	06 57 24.7	-1.7
POLO	Lamas de Olo	5.37	21	eSn	Sn	06 57 24.7	-1.7
MVO	Moncorvo	5.43	27	eSn	Sn	06 57 26.4	-1.6
MVO	Moncorvo	5.43	27	eSn	Sn	06 57 26.4	-1.6
ELOB	Lobios	5.76	17	S	Sn	06 57 33.7	-2.4
	0.3nm,0.1s,SNR=7.9						
ELOB	Lobios	5.76	17	S	Sn	06 57 33.7	-2.3
	0.3nm,0.1s,SNR=7.9						
PGAV	Gavieira, Arco	5.81	15	eSn	Sn	06 57 35.9	-1.3
PGAV				A	A	06 57 46.1	
	2.0nm,0.8s						
PGAV	Gavieira, Arco	5.81	15	eSn	Sn	06 57 35.9	-1.3
	2.0nm,0.8s						
ECAL	Calabor	6.22	26	S	Sn	06 57 45.4	-1.9
	1.3nm,0.4s,SNR=7.9						
ECAL	Calabor	6.22	26	S	Sn	06 57 45.4	-2.0
	1.3nm,0.4s,SNR=7.9						
ETOB	Tobarra	7.34	69	S	Sn	06 58 10.0	-5.0
	0.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	7.34	69	S	Sn	06 58 10.0	-5.0
	0.4nm,0.2s,SNR=7.9						

KRSC 02 06:56:54.6±0.1, 51°.89N×158°.90E, h149km±68km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.59	336	eP	Pn	06 57 17.4	+1.1
RUS				i S	Sn	06 57 35.3	+2.4
GRL	Gorelyy	0.84	323	P	Pn	06 57 20.0	+1.9
PET	Petropavlovsk	1.15	353	eP	Pn	06 57 21.7	+1.2
PET				i S	Sn	06 57 41.1	+0.7
AVH	Avacha	1.38	356	P	Pn	06 57 24.5	+1.6
SDLR	Sedlovina	1.39	360	eP	Pn	06 57 24.4	+1.3
SDLR				S	Sn	06 57 45.4	+0.5
SPN	Mys Shipunski	1.39	29	S		06 57 46.7	
KOK	Koryaka	1.41	354	eP	Pn	06 57 24.5	+1.2
KOK				eS	Sn	06 57 45.5	+0.2

*IDC **02** 07:08:39.5±0.7, 58°.79S×25°.30W, h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/15, mbtmp4.1/8, MS3.9/9, Ms1 3.8/9, ms1mx3.7/20, Error ellipse: s-maj=25.7km s-min=22.3km az=166.0*
*NEIC **02** 07:08:40.9±0.4, 58°.78S×25°.25W, h10km, mb4.7/3, Error ellipse: s-maj=13.4km s-min=10.5km az=53.0*
*ISCJB **02** 07:08:40.7±0.6, 58°.80S±0°.08×25°.2W±0°.2, h18km, mb4.0/8, MS3.9/9, Error ellipse: s-maj=17.6km s-min=10.0km az=151.5*
ISC 02 07:08:42.2±0.6, 58°.9S±0°.1×25°.2W±0°.1, h18km, n40, σ1s.44/32, mb4.2/8, MS3.9/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.70	156	eP	Pn	07 11 57.7	+2.5
VNA3	Neumayer Olymp	13.89	159	eP	Pn	07 11 59.7	+1.8
VNA3				e		07 14 21.0	
VNA2	Neumayer--Watz	14.10	156	eP	Pn	07 12 03.0	+2.3
	baz=320,slow=12						
SNAA	Sanae	15.65	154	eP	P	07 12 23.3	-2.3
SNAA				e		07 15 05.5	
SNAA	Sanae	15.65	154	eP	Pn	07 12 22.9	+1.3
	12nm,0.3s						
SNAA				eS	Sn	07 15 09.5	-4.8
USHA	Ushuaia	23.68	261	P	P	07 13 52.9	+0.5
	4.3nm,0.7s,baz=24,slow=11,SNR=5.1						
USHA				LR	LR	07 21 05.5	
	comp=Z,251nm,19.4s,baz=307,slow=32						
USHA	Ushuaia	23.68	261	P	P	07 13 52.9	+0.5
QSPA	South Pole Qui	31.30	180	P	P	07 15 02.9	+1.8
	2.4nm,0.5s,baz=208,slow=2.9,SNR=7.6						
QSPA				LR	LR	07 27 18.7	
	comp=Z,192nm,20.1s,baz=15,slow=36						
QSPA	South Pole Qui	31.30	180	eP	P	07 15 03.3	+2.3
	12nm,1.2s						
PLCA	Paso Flores	33.65	282	LR	LR	07 27 39.9	
	comp=Z,116nm,20.3s,baz=100,slow=34						
CPUP	Villa Florida	39.55	311	LR	LR	07 28 59.7	
	comp=Z,98nm,19.2s,baz=160,slow=31						
CFAA	Coronel Fontan	39.73	294	P	P	07 16 12.4	-1.1
	0.2nm,0.6s,baz=154,slow=8.4,SNR=5.6						
CFAA				PcP	PcP	07 18 18.9	-0.7
	0.3nm,1.0s,baz=25,slow=1.4,SNR=2.3						
CFAA	Coronel Fontan	39.73	294	P	P	07 16 12.4	-1.1
CFAA				PcP	PcP	07 18 18.9	-0.7
BOSA	Boshof	45.74	71	P	P	07 17 02.7	+0.4
	2.2nm,0.9s,baz=228,slow=5.1,SNR=4.4						
BOSA				LR	LR	07 32 40.6	
	comp=Z,136nm,18.8s,baz=348,slow=32						
BOSA	Boshof	45.74	71	P	P	07 17 02.7	+0.4
LPAZ	La Paz	52.94	305	P	P	07 17 56.9	-1.1
	1.1nm,0.8s,baz=180,slow=9.1,SNR=4.7						
LPAZ	La Paz	52.94	305	eP	P	07 17 56.7	-1.3
	23nm,1.8s						
DBIC	Dimbokro	67.39	22	P	P	07 19 35.3	-1.0
	2.8nm,0.9s,baz=153,slow=2.3,SNR=3.1						
DBIC	Dimbokro	67.39	22	P	P	07 19 35.3	-1.0
BBTS	Babate	73.67	9	LR	LR	07 45 17.9	
	comp=Z,85nm,19.8s,baz=199,slow=30						
TORD	Torodi Ar. Bea	75.08	27	P	P	07 20 23.2	+0.5
	4.6nm,0.8s,baz=195,slow=6.7,SNR=26						
TORD	Torodi Ar. Bea	75.08	27	P	P	07 20 23.2	+0.5
NWAO	Narrogin (SRO)	83.27	149	LR	LR	07 54 47.7	
	comp=Z,96nm,21.9s,baz=302,slow=33						
MDT	Midelt	93.00	17	LR	LR	07 57 20.8	
	comp=Z,58nm,19.1s,baz=218,slow=32						
CMIG	Matias Romero	94.47	296	LR	LR	07 56 31.0	
	comp=Z,56nm,20.0s,baz=351,slow=30						
ASAR	Alice Springs	95.89	161	P	P	07 22 07.9	+0.2
	0.2nm,0.6s,baz=170,slow=4.2,SNR=4.5						
ASAR	Alice Springs	95.89	161	P	P	07 22 07.9	+0.2
PDAR	Pinedale Array	122.77	299	PKP	PKPdf	07 27 34.5	-1.8
	1.1nm,1.1s,baz=140,slow=7.1,SNR=3.4						
PDAR	Pinedale Array	122.77	299	PKP	PKPdf	07 27 34.5	-1.8
NVAR	Mina Array Bea	123.48	290	PKP	PKPdf	07 27 38.1	+0.3
	0.6nm,0.6s,baz=146,slow=3.3,SNR=5.1						
NVAR	Mina Array Bea	123.48	290	PKP	PKPdf	07 27 38.1	+0.3
FINES	FINESS Array B	126.43	28	PKP	PKPdf	07 27 42.1	-0.2
	2.0nm,0.9s,baz=289,slow=4.3,SNR=3.0						
FINES	FINESS Array B	126.43	28	PKP	PKPdf	07 27 42.1	-0.2
YKA	Yellowknife Ar	139.03	315	PKP	PKPdf	07 28 06.1	+0.2
	2.1nm,0.7s,baz=127,slow=2.4,SNR=22						
YKA	Yellowknife Ar	139.03	315	PKP	PKPdf	07 28 06.1	+0.2
SONM	Songino Array	149.72	90	PKPbc	PKPbc	07 28 30.1	+0.2
	1.9nm,0.9s,baz=172,slow=1.0,SNR=6.3						
SONM	Songino Array	149.72	90	PKPbc	PKPbc	07 28 30.1	+0.2
DOT	Dot Lake	151.29	306	ePKPbc	PKPbc	07 28 33.0	0.0
ILAR	Eielson Array	152.81	307	PKPbc	PKPbc	07 28 35.8	-0.6
	5.2nm,0.9s,baz=152,slow=1.7,SNR=41						
ILAR	Eielson Array	152.81	307	PKPbc	PKPbc	07 28 35.8	-0.6

IDC 02 07:29:31.4±5.5, 7°.61S×156°.05E, h116km±62km, mb3.6/5, mb1 3.6/6, mb1mx3.5/16, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.2/23, Error ellipse: s-maj=51.7km s-min=26.4km az=139.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.25	115	P	Pn	07 30 34.4	+0.1
	9.4nm,0.3s,baz=254,slow=4.3,SNR=4.5						
HNR				S	Sn	07 31 23.6	+0.5
	24nm,0.3s,baz=276,slow=14,SNR=4.3						
HNR				LR	LR	07 32 04.0	
	comp=Z,208nm,20.2s,baz=27,slow=36						
WRA	Warramunga Arr	24.35	238	P	P	07 34 38.8	+0.1
	0.5nm,0.3s,baz=64,slow=9.9,SNR=4.8						
ASAR	Alice Springs	26.57	231	P	P	07 34 58.6	-0.2
	0.2nm,0.7s,baz=61,slow=9.7,SNR=3.3						
SONM	Songino Array	70.42	327	P	P	07 40 33.6	+0.4
	1.6nm,0.7s,baz=140,slow=6.0,SNR=6.0						
MKAR	Makanchi Array	84.56	318	P	P	07 41 52.0	+0.3
	5.6nm,0.8s,baz=105,slow=5.7,SNR=39						
ZALV	Zalesovo Beam	85.28	326	P	P	07 41 54.3	-0.8
	2.7nm,0.6s,baz=110,slow=5.9,SNR=21						
TORD	Torodi Ar. Bea	154.20	284	PKPbc	PKPbc	07 49 19.1	+0.3
	0.4nm,0.8s,baz=69,slow=2.5,SNR=2.4						

*NIED **02** 07:42:00, 32°.80N×138°.50E, h360km, Mw5.1 Best double couple: M0 4.77000×10^16 NP1:φs34.00000°, δ84.00000°, λ-89.00000°. NP2:φs206.00000°, δ6.00000°, λ-98.00000°.*
*JMA **02** 07:42:49.3±0.3, 32°.75N×138°.47E, h345km±3km, M5.2*
JMA Felt I J1.
*BJI **02** 07:42:49.8, 32°.77N×138°.17E, h320km, mB4.8/31, mb5.3/56*
*SZGRF **02** 07:42:49.4, 32°.50N×139°.00E, h333km, mb5.2, Southeast of Honshu, Japan*
*MOS **02** 07:42:49.4±0.9, 32°.68N×138°.06E, h308km, mb5.1/87, Error ellipse: s-maj=7.5km s-min=3.9km az=108.3*
*BGS **02** 07:42:50.0±2.2, 31°.85N×137°.16E, h333km, mb4.8*
*ISCJB **02** 07:42:51.7±0.2, 32°.71N±0°.02×138°.07E±0°.02, h326km±1km, mb4.9/267, Error ellipse: s-maj=3.5km s-min=2.3km az=162.3*
*TEH **02** 07:42:52.0, 32°.66N×138°.07E, h316km, ML4.9*
*IDC **02** 07:42:52.2±0.5, 32°.67N×138°.12E, h323km±4km, mb4.6/50, mb1 4.7/55, mb1mx4.7/55, mbtmp4.6/55, Error ellipse: s-maj=7.4km s-min=5.5km az=82.0*
*DJA **02** 07:42:52, 32°.54N×138°.15E, h326km, mb5.2/17*
*NEIC **02** 07:42:53.1±0.1, 32°.66N×138°.04E, mb4.9/121, MW5.1(NIED), Error ellipse: s-maj=3.4km s-min=2.9km az=129.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Kanagawa, Tochigi and Tokyo.
ISC 02 07:42:52.1±0.2, 32°.75N±0°.03×138°.20E±0°.03, h322km±1km, h322km:pP-P, n1246, σ1s.12/1453, mb5.1/266, 239C-259D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	1.13	333	P	Pn	07 43 35.7	+0.6
TK01				eS	S	07 44 11.2	+1.8
TK02	Tokai 2	1.25	343	P	Pn	07 43 36.5	+0.8
TK02				eS	S	07 44 13.2	+2.6
TTO3	TONANKAI O.B.S	1.30	329	⇑P	Pn	07 43 37.0	+0.9
TTO3				eS	S	07 44 14.0	+2.8
TTO4	TONANKAI O.B.S	1.37	336	⇑P	Pn	07 43 37.1	+0.7
TTO2	TONANKAI O.B.S	1.39	315	⇑P	Pn	07 43 37.7	+1.3
JHJ2	Mitsune	1.41	75	⇓P	Pn	07 43 35.6	-1.3
JHJ2				eS	S	07 44 12.2	-0.5
TK03	Tokai 3	1.42	352	P	Pn	07 43 37.6	+0.8
TK03				eS	S	07 44 15.3	+2.7
TTO1	TONANKAI O.B.S	1.47	307	⇑P	Pn	07 43 38.0	+1.1
JKO	Kozu shima	1.63	28	P	Pn	07 43 38.0	-0.3
JKO				eS	S	07 44 15.1	0.0
JSG	Sagara	1.92	360	⇑P	Pn	07 43 41.0	+0.8
JIZS	Izushimoda	2.04	16	⇓P	Pn	07 43 41.0	-0.1
JIE	Ise	2.06	323	⇑P	Pn	07 43 41.9	+0.7
JIE				eS	S	07 44 20.8	+0.2
JAA	Atsumi	2.07	335	⇑P	Pn	07 43 42.0	+0.7
JAA				S	S	07 44 21.1	+0.4
HMMJ	Hamamatsu 2	2.14	349	⇑P	Pn	07 43 42.2	+0.3
JKN2	Miekihoku	2.19	313	⇑P	Pn	07 43 42.7	+0.4
JIM2	Oshima 3	2.21	27	⇓P	Pn	07 43 41.2	-1.3
JWZ	Kozaga	2.23	291	⇑P	Pn	07 43 42.7	+0.1
JYZW	Yoshizawa	2.27	350	P	Pn	07 43 43.2	+0.3
SHZ3	Shizuoka 3	2.31	0	⇑P	Pn	07 43 43.6	+0.3
TSUJ	Tsu 2	2.45	323	⇑P	Pn	07 43 45.2	+0.8
JOD2	Odawara 2	2.61	16	⇓P	Pn	07 43 45.3	-0.5
JOD2				eS	S	07 44 27.5	-1.4
JNY	Yasuok	2.62	354	⇑P	Pn	07 43 46.4	+0.5
JWM	Minabe	2.62	295	⇑P	Pn	07 43 46.4	+0.5
JWY	Kouya	2.62	305	⇑P	Pn	07 43 47.0	+1.0
JAO	Obara	2.63	343	⇑P	Pn	07 43 46.6	+0.6
JYN	Shimob	2.75	6	⇑P	Pn	07 43 47.3	+0.1
BSO3	Boso 3	2.81	43	⇓P	Pn	07 43 44.6	-2.7
JEG	Eigenji	2.81	328	⇑P	Pn	07 43 48.7	+1.0
JHE	Heguri	2.83	313	⇑P	Pn	07 43 48.5	+0.7
JGF	Kuroka	2.93	346	⇑P	Pn	07 43 49.0	+0.3
BSO1	Boso 1	2.99	50	P	Pn	07 43 45.8	-2.9
BSO1				eS	S	07 44 29.8	-4.3
JNT	Takato	3.12	359	⇑P	Pn	07 43 51.0	+0.4
JGM	Miyama	3.19	338	⇑P	Pn	07 43 51.8	+0.6
JAJ2	Tsuna	3.23	302	⇑P	Pn	07 43 52.3	+0.7
JAI	Aioi	3.31	289	P	Pn	07 43 53.0	+0.6
JRY	Ryogami san	3.31	10	⇑P	Pn	07 43 52.0	-0.4

JRY eS **S** 07 44 39.2 -1.5
JFM Mihama 3.32 327 ⇑P **Pn** 07 43 53.3 +0.8
JMIK Miki 3.33 309 ⇑P **Pn** 07 43 53.2 +0.7
JWT Wachi 3.43 318 ⇑P **Pn** 07 43 54.3 +0.7
MRT2 Murotomisaki 2 3.46 282 ⇑P **Pn** 07 43 54.4 +0.4
JGN Niukaw 3.54 348 ⇑P **Pn** 07 43 54.9 +0.2
JKS Kasai 3.57 309 ⇑P **Pn** 07 43 55.6 +0.6
JNG Nsakai 3.65 359 ⇑P **Pn** 07 43 55.8 -0.1
JMN Monobe 3.75 286 ⇑P **Pn** 07 43 57.7 +0.8
MJAR Matsushiro Arr 3.78 0 P **Pn** 07 43 56.7 -0.5
326nm,0.3s,baz=175,slow=12,SNR=2771
MJAR S **S** 07 44 49.5 0.0
32nm,0.3s,baz=171,slow=17,SNR=6.2
MJAR Matsushiro Arr 3.78 0 P **Pn** 07 43 56.7 -0.5
MJAR S **S** 07 44 49.5 0.0
MJAR pmax pmax
comp=Z,326nm,0.3s
MJAR smax smax
comp=N,32nm,0.3s
MJAR Matsushiro Arr 3.78 0 P **Pn** 07 43 56.7 -0.5
MJAR S **S** 07 44 49.5 0.0
MAJO Matsushiro 3.78 0 eP **Pn** 07 43 57.0 -0.2
MAJO eS **S** 07 44 49.8 +0.3
MAJO Matsushiro 3.78 0 ePn **Pn** 07 43 57.0 -0.2
MAJO eS **S** 07 44 49.8 +0.3
MAT Matsushiro 3.78 0 ⇑P **Pn** 07 43 56.9 -0.3
MAT S **S** 07 44 49.0 -0.4
MAT Matsushiro 3.78 0 P **Pn** 07 43 56.9 -0.3
MAT eS **S** 07 44 49.1 -0.4
JAG Ashikaga 3.81 15 ⇑P **Pn** 07 43 55.3 -2.1
JAG eS **S** 07 44 44.4 -5.5
JGK Kuni 3.82 5 ⇑P **Pn** 07 43 56.9 -0.7
JKG Kaga 3.84 337 ⇑P **Pn** 07 43 58.2 +0.5
JKY Yasaka 3.85 319 P **Pn** 07 43 58.4 +0.5
JTT Ttatey 3.91 350 ⇑P **Pn** 07 43 59.0 +0.5
JJS Sakaide 3.91 296 ⇑P **Pn** 07 43 59.2 +0.6
JKSM Kasumi 4.07 315 ⇑P **Pn** 07 44 00.9 +0.7
JJH Hakui 4.32 345 ⇑P **Pn** 07 44 03.5 +0.6
JJN Nakama 4.34 360 ⇑P **Pn** 07 44 02.9 -0.2
JKU Kubokawa 4.35 279 ⇑P **Pn** 07 44 04.0 +0.7
JET Tanbara 4.43 285 ⇑P **Pn** 07 44 05.0 +0.8
JSB Shiboa 4.44 18 P **Pn** 07 44 02.2 -2.0
JKR Kurayoshi 4.48 307 ⇑P **Pn** 07 44 05.4 +0.7
JHK Hiroka 4.54 8 ⇑P **Pn** 07 44 03.6 -1.6
JTO Tosashimizu 4.55 273 ⇑P **Pn** 07 44 05.9 +0.4
JJG Jouge 4.61 296 ⇑P **Pn** 07 44 06.9 +0.8
UWA2 Uwa jima 2 4.71 277 ⇑P **Pn** 07 44 08.0 +0.7
JHS Saijyo 4.79 299 ⇑P **Pn** 07 44 09.1 +1.0
JHS eS **S** 07 45 11.4 +2.1
JFY Yanaizu 4.80 14 ⇑P **Pn** 07 44 06.3 -2.0
JNA Nagahama 4.87 281 ⇑P **Pn** 07 44 10.0 +1.0
JHM Kurahashi 4.94 288 ⇑P **Pn** 07 44 10.7 +0.9
JFT Otama 5.07 20 ⇑P **Pn** 07 44 09.0 -2.2
JNM Ikuma 5.09 304 ⇑P **Pn** 07 44 12.3 +0.9
JHT Toyohira 5.18 293 ⇑P **Pn** 07 44 13.1 +0.5
SAI Saigo 5.29 312 ⇑P **Pn** 07 44 14.2 +0.5
JGT Gotsu 5.38 297 P **Pn** 07 44 15.5 +0.7
JKD Kudamatsu 5.45 286 ⇑P **Pn** 07 44 16.7 +1.1
JHIK Hikimi 5.52 290 ⇑P **Pn** 07 44 17.1 +0.6
JMM Marumori 5.53 22 ⇑P **Pn** 07 44 14.1 -2.3
JYS Shirataka 5.67 15 ⇑P **Pn** 07 44 16.5 -1.6
JOU Okura 5.95 19 ⇑P **Pn** 07 44 19.6 -1.8
JYA Atsumi 5.96 12 P **Pn** 07 44 19.9 -1.5
JNU Nakatsue 6.17 275 ePn **Pn** 07 44 24.9 +0.9
JIU2 Izumi 2 6.23 270 ⇑P **Pn** 07 44 26.1 +1.3
JYK Kaneyama 6.40 15 ⇑P **Pn** 07 44 24.9 -1.7
CBIJ Chichi jima 6.61 147 P Pn 07 44 23.2 -6.1
comp=N,221nm,0.3s,baz=283,slow=23,SNR=17
CBIJ S S 07 45 36.5 -12
comp=N,2μm,0.3s,baz=281,slow=23,SNR=38
CBIJ Chichi jima 6.61 147 P Pn 07 44 23.2 -6.1
CBIJ S S 07 45 36.5 -12
JMK Ichinoseki 6.65 21 ⇑P **Pn** 07 44 27.4 -2.2
JOM Ohasama 7.16 20 ⇑P **Pn** 07 44 33.6 -2.1
KSRS Korea Array 9.64 302 P **P** 07 45 07.3 -1.2
comp=N,21nm,0.3s,baz=112,slow=12,SNR=277
KSRS S **S** 07 46 56.9 +2.1
baz=124,slow=20,SNR=2.2
KSRS ScP **ScP** 07 53 48.3 -0.5
comp=N,0.4nm,0.3s,baz=141,slow=1.2,SNR=16
KSRS Korea Array 9.64 302 P **P** 07 45 07.4 -1.2
KSRS S **S** 07 46 56.9 +2.1
KSRS pmax pmax
comp=Z,21nm,0.3s
KSAR Wonju Array Be 9.66 302 P **P** 07 45 07.4 -1.5
KSAR S **S** 07 46 56.9 +1.6
KSAR Wonju Array Be 9.66 302 P **P** 07 45 07.3 -1.5
KSAR S **S** 07 46 56.9 +1.6
KSAR ScP **ScP** 07 53 48.3 -0.6
ERM Erimo 10.05 22 eP **Pn** 07 45 08.7 -1.8
ERM eS S 07 46 55.3 -8.6
ERM pmax pmax
comp=Z,123nm,0.7s
ERM Erimo 10.05 22 ePn **Pn** 07 45 08.7 -1.8
comp=Z,123nm,0.7s
ERM eS S 07 46 55.3 -8.6
JOW Kunigami 10.44 238 P **Pn** 07 45 16.0 +0.4
comp=Z,60nm,0.3s,baz=68,slow=8.5,SNR=49
JOW Kunigami 10.44 238 ePn **Pn** 07 45 15.9 +0.4
INCN Inchon 10.58 300 ePn **P** 07 45 18.7 -0.5
INCN Inchon 10.58 300 P **P** 07 45 19.0 -0.1
SNR=10
ASAJ Asahikawa 11.86 16 P **Pn** 07 45 30.9 -1.4
comp=Z,16nm,0.3s,baz=227,slow=14,SNR=64
ASAJ S **S** 07 47 40.9 -3.6
comp=Z,5.7nm,0.3s,baz=102,slow=32,SNR=8.4
ASAJ Asahikawa 11.86 16 P **Pn** 07 45 31.0 -1.4
ASAJ S **S** 07 47 40.9 -3.6
ASAJ pmax pmax
comp=Z,16nm,0.3s
ASAJ smax smax
comp=N,6.0nm,0.3s
ASAJ Asahikawa 11.86 16 ePn **Pn** 07 45 31.0 -1.4
ASAJ eSn S 07 47 36.1 -8.4
ASAJ S S 07 47 40.9 -3.6
USRK Ussuriysk Arra 12.41 339 P **Pn** 07 45 38.9 -0.2
comp=N,15nm,0.3s,baz=145,slow=8.0,SNR=160
USRK S **S** 07 47 56.1 -0.5
baz=103,slow=6.1,SNR=2.3
YUK Yuzh-Kuril'sk 12.76 26 *c* iP **Pn** 07 45 42.4 -0.8
YUK *i* S **S** 07 47 59.6 -4.5
YUK pmax pmax
comp=E,117nm,0.5s
YUK pmax pmax
comp=Z,335nm,0.5s
YUK pmax pmax
comp=N,239nm,0.3s
YUK MLR MLR
comp=N,370nm,14.0s
YUK MLR MLR
comp=E,412nm,14.0s
YUK MLR MLR
comp=Z,249nm,14.0s
MDJ Mudanjiang 13.61 333 P **P** 07 45 52.7 +0.1
MDJ S **S** 07 48 18.9 -3.3
MDJ PcP **PcP** 07 50 52.4 +0.3
MDJ ScP **ScP** 07 53 55.2 +0.8
MDJ PcS **PcS** 07 54 26.9 +0.1
MDJ ScS **ScS** 07 57 32.6 +1.2
MDJ pmax pmax
comp=Z,65nm,0.8s
MDJ pmax pmax
comp=Z,180nm,5.1s
MDJ Mudanjiang 13.61 333 P **P** 07 45 52.7 +0.1
MDJ S **S** 07 48 18.9 -3.3
MDJ PcP **PcP** 07 50 52.4 +0.3
MDJ ScP **ScP** 07 53 55.2 +0.8
MDJ PcS **PcS** 07 54 26.9 +0.1
MDJ ScS **ScS** 07 57 32.6 +1.2
MDJ pmax pmax
comp=Z,65nm,0.8s
MDJ pmax pmax
comp=Z,180nm,5.1s
MDJ Mudanjiang 13.61 333 ePn **P** 07 45 52.6 +0.1
comp=Z,54nm,0.8s
KUR Kuril'sk 14.54 28 ⇑*i* iP Pn 07 46 09.0 +4.8
KUR *i* S **S** 07 48 45.0 +3.9
KUR pmax pmax
comp=Z,470nm,0.9s
KUR smax smax
comp=N,330nm,0.9s
KUR smax smax
comp=E,240nm,0.8s
YSS Yuzh-Sakhalins 14.61 12 ⇓*i* iP **Pn** 07 46 05.8 +0.8
YSS eS **S** 07 48 41.8 -0.6
YSS pmax pmax
comp=Z,430nm,0.3s
YSS smax smax
comp=N,190nm,0.9s
YSS smax smax
comp=E,190nm,0.9s
YSS smax smax
comp=N,1μm,5.0s
YSS smax smax
comp=E,1μm,5.0s
YSS Yuzh-Sakhalins 14.61 12 ePn **Pn** 07 46 05.2 +0.2
SNY Shenyang 14.73 312 ⇓P **P** 07 46 05.1 +0.1
SNY sP 07 47 21.5
SNY S S 07 48 35.2 -10
SNY ScS **ScS** 07 57 33.4 -0.8
SNY pmax pmax
comp=Z,74nm,1.0s
SNY pmax pmax
comp=Z,280nm,3.7s
SNY LR LR
comp=N,280nm,5.5s
SNY LR LR
comp=E,340nm,4.5s
SNY LR LR
comp=Z,320nm,5.9s
SNY Shenyang 14.73 312 ⇓P **P** 07 46 05.1 +0.1
SNY sP 07 47 21.5
SNY S S 07 48 35.2 -10
SNY ScS **ScS** 07 57 33.4 -0.8
SNY pmax pmax
comp=Z,74nm,1.0s
SNY pmax pmax
comp=Z,280nm,3.7s
SNY LR LR
comp=N,280nm,5.5s
SNY LR LR
comp=E,340nm,4.5s
SNY LR LR
comp=Z,320nm,5.9s
DL2 Dalian 14.77 299 P **P** 07 46 05.6 +0.2
DL2 sP 07 47 22.5
DL2 eS **S** 07 48 47.0 +1.1
DL2 pmax pmax
comp=Z,40nm,1.3s
DL2 pmax pmax
comp=Z,200nm,9.3s
DL2 Dalian 14.77 299 P **P** 07 46 05.6 +0.2
DL2 sP 07 47 22.5
DL2 eS **S** 07 48 47.0 +1.1
DL2 pmax pmax
comp=Z,40nm,1.3s
DL2 pmax pmax
comp=Z,200nm,9.3s
CN2 Changchun 14.88 322 ⇑P **P** 07 46 05.8 -0.8
CN2 eS **S** 07 48 42.5 -5.4
CN2 ScP **ScP** 07 53 55.8 -0.8
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 LR LR
comp=N,300nm,11.0s
CN2 LR LR
comp=E,500nm,11.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 Changchun 14.88 322 ⇑P **P** 07 46 05.8 -0.8
CN2 eS **S** 07 48 42.5 -5.4
CN2 ScP **ScP** 07 53 55.8 -0.8
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 LR LR
comp=N,300nm,11.0s
CN2 LR LR
comp=E,500nm,11.0s
CN2 LR LR
comp=Z,400nm,14.0s
HABR Khabarovsk 15.88 352 eP **P** 07 46 17.2 -0.2
HABR eS **S** 07 49 09.9 +2.1
HABR pmax pmax
comp=E,27nm,1.3s
HABR pmax pmax
comp=Z,110nm,0.8s
HABR pmax pmax
comp=N,92nm,1.3s
HABR MLR MLR
comp=Z,72nm,15.0s
NJ2 Nanjing 16.36 273 eP **P** 07 46 22.1 -0.7
NJ2 sP sP 07 47 41.7 -9.4
NJ2 S **S** 07 49 16.0 -1.7
NJ2 PcP **PcP** 07 50 59.5 +3.2
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,670nm,4.3s
NJ2 LR LR
comp=N,270nm,8.6s
NJ2 LR LR
comp=E,400nm,6.9s
NJ2 LR LR
comp=Z,630nm,6.5s
NJ2 Nanjing 16.36 273 eP **P** 07 46 22.1 -0.7
NJ2 sP sP 07 47 41.7 -9.4
NJ2 S **S** 07 49 16.0 -1.7
NJ2 PcP **PcP** 07 50 59.5 +3.2
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,670nm,4.3s
NJ2 LR LR
comp=N,270nm,8.6s
NJ2 LR LR
comp=E,400nm,6.9s
NJ2 LR LR
comp=Z,630nm,6.5s
YHNB Yeheng 16.80 246 eP **P** 07 46 25.9 -1.8
comp=Z,122nm,1.2s
NACB Ninganchiao 16.90 244 eP **P** 07 46 26.1 -2.7
comp=Z,98nm,1.2s
YULB Yu-li 17.57 242 eP **P** 07 46 33.6 -2.5
comp=Z,52nm,1.0s
SSLB Suanglung 17.60 244 eP **P** 07 46 35.2 -1.2
comp=Z,107nm,0.7s
TWG Pinlang 18.08 241 eP **P** 07 46 39.5 -1.9
comp=Z,100nm,0.6s
TPUB Ta-pu 18.12 243 eP **P** 07 46 40.1 -1.8
comp=Z,129nm,1.1s
BJT Baijiatuan 19.14 299 eP **P** 07 46 51.7 -0.8
BJT pmax pmax
comp=Z,1μm,0.4s
BJT Baijiatuau 19.14 299 eP **P** 07 46 51.7 -0.8
comp=Z,1μm,0.4s
BJI Beijing 19.14 299 P **P** 07 46 51.8 -0.7
BJI sP **sP** 07 48 21.6 -0.3
BJI S **S** 07 50 11.1 -0.7
BJI ScS **ScS** 07 57 48.0 +0.7
GUMO Guam 20.02 161 P **P** 07 47 00.4 -1.7
comp=Z,20nm,0.3s,baz=187,slow=7.3,SNR=25
GUMO Guam 20.02 161 P **P** 07 47 00.4 -1.7
GUMO pmax pmax
comp=Z,20nm,0.3s
GUMO Guam 20.02 161 eP **P** 07 46 59.8 -2.3
comp=Z,315nm,0.9s
WHN Wuhan 20.42 270 ⇓P **P** 07 47 04.3 -1.5
WHN S **S** 07 50 31.4 -2.6
WHN pmax pmax
comp=Z,480nm,0.8s
HIA Hailar 21.50 326 eP **P** 07 47 14.9 -0.8
HIA pmax pmax
comp=Z,248nm,0.9s
HIA Hailar 21.50 326 eP **P** 07 47 14.9 -0.8
comp=Z,248nm,0.9s
HHC Hu-ho-hao-te 22.75 298 ⇓P **P** 07 47 27.1 -0.1
HHC sP **sP** 07 49 00.9 -0.6
HHC S **S** 07 51 11.8 +0.3
HHC ScP **ScP** 07 54 16.6 +2.1
HHC PcS **PcS** 07 54 47.8 +0.6
HHC pmax pmax
comp=Z,250nm,0.9s
HHC pmax pmax
comp=Z,240nm,6.5s
BTO Baotou 23.85 297 eP **P** 07 47 36.9 -0.3
BTO pmax pmax
comp=Z,180nm,1.0s
XAN Xi'an 24.45 281 P **P** 07 47 41.5 -1.1
XAN pmax pmax
comp=Z,48nm,0.8s
XAN pmax pmax
comp=Z,77nm,5.9s
XAN LR LR
comp=N,180nm,7.7s
XAN LR LR
comp=Z,68nm,6.9s
ENH Enshi 24.57 272 eP **P** 07 47 42.2 -1.6
comp=Z,115nm,0.7s
PETK Petropavlovsk- 24.70 29 P **P** 07 47 46.0 +1.4
comp=Z,4.9nm,0.5s,baz=221,slow=6.9,SNR=21
PETK Petropavlovsk- 24.70 29 P **P** 07 47 46.1 +1.4
PETK pmax pmax
comp=Z,5.0nm,0.5s
PETK Petropavlovsk- 24.70 29 P **P** 07 47 46.0 +1.4
CLNS Chul'man 25.77 343 eP **P** 07 47 55.3 +1.1
CLNS e*PP **pP** 07 48 47.9 -4.7
CLNS e 07 51 12.2
CLNS eS **S** 07 52 01.3 +2.5
CLNS pmax pmax
comp=Z,183nm,0.9s
CLNS pmax pmax
comp=N,111nm,0.9s
CLNS pmax pmax
comp=E,28nm,0.8s
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax smax
comp=N,112nm,11.5s
CLNS smax smax
comp=E,199nm,12.7s
ULN Ulaanbaatar 27.91 312 eP **P** 07 48 14.6 +1.2
ULN pmax pmax
comp=Z,187nm,0.8s
ULN Ulaanbaatar 27.91 312 eP **P** 07 48 14.6 +1.2
comp=Z,187nm,0.8s
ULN Ulaanbaatar 27.91 312 P **P** 07 48 14.8 +1.5
SNR=67
ULN Ulaanbaatar 27.91 312 P **P** 07 48 14.1 +0.7
comp=Z,262nm,0.9s,comp=Z,3μm
GYA Guiyang 28.06 265 P **P** 07 48 14.3 -0.6
GYA pP **pP** 07 49 15.0 -0.7
GYA sP **sP** 07 49 51.5 -1.8
GYA PcP **PcP** 07 51 22.4 +2.0
GYA S **S** 07 52 35.9 +0.3
GYA sS sS 07 54 20.2 -6.7
GYA ScP **ScP** 07 54 31.0 +0.9
GYA PcS **PcS** 07 55 03.8 +0.6
GYA ScS **ScS** 07 58 23.5 0.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
SONM Songino Array 28.31 312 P **P** 07 48 17.7 +0.9
comp=Z,134nm,0.8s,baz=114,slow=8.4,SNR=390
SONM pP **pP** 07 49 19.2 +1.5
comp=Z,37nm,0.9s,baz=118,slow=10.0,SNR=3.7
SONM PcP **PcP** 07 51 20.8 +0.2
comp=Z,4.5nm,0.5s,baz=126,slow=2.0,SNR=11
SONM ScP **ScP** 07 54 30.3 -0.2
comp=Z,8.2nm,0.9s,baz=118,slow=3.4,SNR=10
SONM Songino Array 28.31 312 P **P** 07 48 17.8 +0.9
SONM *PP **pP** 07 49 19.2 +1.5
SONM 07 51 20.8
SONM Songino Array 28.31 312 P **P** 07 48 17.8 +0.9
SONM pP **pP** 07 49 19.2 +1.5
SONM PcP **PcP** 07 51 20.8 +0.2
SONM ScP **ScP** 07 54 30.3 -0.2
LZH Lanzhou 28.45 286 eP **P** 07 48 17.7 -0.6
LZH pP **pP** 07 49 17.0 -2.1
LZH sP sP 07 49 51.5 -5.3
LZH PcP **PcP** 07 51 22.3 +1.0
LZH eS **S** 07 52 44.2 +2.6
LZH sS **ScP** 07 54 24.1 -7.1
LZH pmax pmax
comp=Z,79nm,1.0s
LZH pmax pmax
comp=Z,260nm,5.5s
CD2 Chengdu 29.25 276 P **P** 07 48 24.6 -0.7
CD2 pP **pP** 07 49 24.8 -1.5
CD2 sP **sP** 07 50 01.3 -2.6
CD2 PcP **PcP** 07 51 24.0 +0.8
CD2 S **S** 07 52 52.2 -1.8
CD2 sS **ScP** 07 54 39.5 +5.8
CD2 ScS **ScS** 07 58 27.2 -1.6
CD2 pmax pmax
comp=Z,230nm,1.0s
CD2 pmax pmax
comp=Z,260nm,6.9s
YAK Yakutsk 29.80 352 *d* iP **P** 07 48 29.4 -0.2
YAK e*PP **pP** 07 49 27.2 -3.6
YAK e 07 51 23.3
YAK eS **S** 07 53 01.7 0.0
YAK pmax pmax
comp=Z,153nm,0.8s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=N,66nm,1.1s
YAK pmax pmax
comp=Z,59nm,2.0s
YAK pmax pmax
comp=E,25nm,1.0s
YAK pmax pmax
comp=N,55nm,1.7s
YAK smax smax
comp=N,193nm,2.0s
YAK smax smax
comp=E,124nm,2.7s
YAK Yakutsk 29.80 352 eP **P** 07 48 29.6 0.0
comp=E,215nm,0.7s
BOD Bodaibo 29.98 334 ⇑*i* iP **P** 07 48 30.8 -0.5
BOD pmax pmax
comp=Z,29nm,1.1s
ZAK Zakamensk 31.13 315 eP **P** 07 48 42.0 +0.4
ZAK pmax pmax
comp=Z,83nm,1.1s
IRK Irkutsk 31.29 319 eP **P** 07 48 43.0 +0.2
IRK pmax pmax
comp=Z,130nm,1.6s
TLY Talaya 31.41 317 eP **P** 07 48 43.2 -0.7
TLY pmax pmax
comp=Z,93nm,0.8s
TLY MLR MLR
comp=Z,156nm,14.0s
TLY Talaya 31.41 317 eP **P** 07 48 45.3 +1.4
comp=Z,90nm,0.7s
TLY Talaya 31.41 317 P **P** 07 48 45.6 +1.7
SNR=35
SEY Seymchan 31.51 12 ⇑eP **P** 07 48 45.0 +0.5
GTA Gaotai 31.55 293 ⇓*i* iP **P** 07 48 45.0 -0.4
GTA pP **pP** 07 49 43.1 -3.8
GTA PP **PnPn** 07 50 05.3 +0.6
GTA PcP **PcP** 07 51 29.8 +0.5
GTA S **S** 07 53 28.0 -1.8
GTA ScP **ScP** 07 54 41.3 +0.1
GTA PcS **PcS** 07 55 14.2 -0.1
GTA ScS **ScS** 07 58 38.9 -1.1
GTA pmax pmax
comp=Z,81nm,0.7s
GTA pmax pmax
comp=Z,230nm,3.8s
GTA LR LR
comp=N,190nm,12.4s
GTA LR LR
comp=E,230nm,15.2s
GTA LR LR
comp=Z,190nm,14.7s
KMI Kunming 31.84 265 P **P** 07 48 48.3 +0.1
KMI pP **pP** 07 49 49.8 0.0
KMI PcP **PcP** 07 51 30.7 +0.3
KMI S **S** 07 53 33.9 -0.8
KMI pmax pmax
comp=Z,12nm,0.7s
KMI pmax pmax
comp=N,130nm,8.0s
KMI LR LR
comp=N,230nm,11.0s
KMI LR LR
comp=E,200nm,10.7s
KMI LR LR

comp=Z,130nm,11.5s
MOY Mondy 32.94 316 *e*P P 07 48 57.6 +0.4
MOY pmax pmax
comp=Z,71nm,1.6s
MYLDM Lahad Datu 33.02 218 P P 07 48 59.0 +0.8
MYLDM Lahad Datu 33.02 218 P P 07 49 00.7 +2.5
comp=Z,52nm,0.7s
KKM Kota Kinabalu 33.55 222 *e*P P 07 49 01.2 -1.7
comp=Z,18nm,0.7s
KKM Kota Kinabalu 33.55 222 P P 07 49 02.2 -0.6
TSM Tawau 34.10 218 P P 07 49 07.3 -0.1
GTOI Gorontalo 35.00 207 P P 07 49 13.6 -1.5
comp=Z,47nm,1.0s,comp=Z,588nm
MRSI Marisa 35.57 209 P ScP 07 54 56.4 +0.8
BTM Bintulu 37.66 224 P P 07 49 36.6 -0.8
CHTO Chiang Mai 37.75 258 *e*P P 07 49 37.2 -1.0
CHTO pmax pmax
comp=Z,57nm,0.8s
CHTO Chiang Mai 37.75 258 *e*P P 07 49 37.2 -1.0
comp=Z,57nm,0.8s
CHTO Chiang Mai 37.75 258 P P 07 49 37.5 -0.7
SNR=9.7
CHTO Chiang Mai 37.75 258 P P 07 49 37.5 -0.7
comp=Z,103nm,1.0s,comp=Z,1µm
CM31 Chiang Mai Arr 37.93 258 *e*P P 07 49 39.1 -0.6
comp=Z,37nm,0.7s
CMAR Chiang Mai Arr 37.93 258 P P 07 49 39.0 -0.7
comp=Z,29nm,0.7s,baz=50,slow=7.4,SNR=127
CMAR PcP PcP 07 51 48.9 +0.7
comp=Z,6.6nm,0.7s,baz=14,slow=1.5,SNR=9.2
CMAR ScP ScP 07 55 05.6 +1.2
comp=Z,4.5nm,0.9s,baz=35,slow=2.9,SNR=10
CMAR Chiang Mai Arr 37.93 258 P P 07 49 39.0 -0.7
CMAR 07 51 48.9
CMAR 07 55 05.6
CMAR pmax pmax
comp=Z,29nm,0.7s
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR pmax pmax
comp=N,5.0nm,0.9s
CMAR Chiang Mai Arr 37.93 258 P P 07 49 39.0 -0.7
CMAR PcP PcP 07 51 48.9 +0.7
CMAR ScP ScP 07 55 05.6 +1.2
SBUM Sibu 38.77 224 P P 07 49 46.1 -0.5
BILL Bilibino 38.87 16*d* *i*P P 07 49 47.6 +0.8
BILL *e* 07 51 25.6
BILL *e* 07 51 51.3
BILL *e*S S 07 55 22.1 +2.3
BILL pmax pmax
comp=Z,177nm,0.9s
BILL Bilibino 38.87 16 *e*P P 07 49 47.9 +1.1
comp=Z,142nm,0.7s
TTSI Tana Toraja 39.63 210 P ScP 07 55 12.4 +1.5
LSA Lhasa 40.09 279 P P 07 49 57.9 0.0
LSA Lhasa 40.09 279 *e*P P 07 49 58.2 +0.3
LSA pmax pmax
comp=Z,107nm,0.7s
LSA Lhasa 40.09 279 *e*P P 07 49 58.2 +0.3
comp=Z,108nm,0.7s
WMQ Urumqi 40.59 301 P P 07 50 01.0 -0.2
WMQ pP pP 07 51 05.1 -0.3
WMQ sP sP 07 51 41.0 -1.1
WMQ pmax pmax
comp=Z,210nm,0.6s
KSM Kuching 40.69 226 *e*P P 07 50 01.2 -1.0
comp=Z,201nm,1.4s
KSM Kuching 40.69 226 P P 07 50 02.1 -0.2
KSM Kuching 40.69 226 P P 07 50 01.9 -0.4
comp=Z,98nm,0.6s,comp=Z,1µm
SHL Shillong 40.82 272 *e*P P 07 50 02.5 -1.0
STKI Sintang 41.12 223 P P 07 50 05.7 -0.1
comp=Z,86nm,0.7s
BBKI Banjar Baru 42.28 216 P P 07 50 14.3 -0.8
comp=Z,82nm,0.8s,comp=Z,3µm
PMG Port Moresby 42.78 167*c* *i*P P 07 50 17.6 -1.4
PMG pmax pmax
comp=Z,49nm,0.8s
PMG Port Moresby 42.78 167 *e*P P 07 50 17.7 -1.4
ZAA0 Zalesovo Array 42.99 316 *e*P P 07 50 19.7 -0.6
ZALV Zalesovo Beam 42.99 316 P P 07 50 19.8 -0.5
comp=Z,21nm,0.3s,baz=117,slow=8.6,SNR=130
ZALV PcP PcP 07 52 03.5 -0.5
comp=Z,34nm,0.6s,baz=109,slow=3.0,SNR=19
ZALV ScP ScP 07 55 22.7 -1.0
comp=Z,5.7nm,0.6s,baz=113,slow=3.9,SNR=7.0
ZALV Zalesovo Beam 42.99 316 P P 07 50 19.8 -0.5
ZALV 07 52 03.5
ZALV pmax pmax
comp=Z,21nm,0.3s
ZALV pmax pmax
comp=Z,34nm,0.6s
ZALV pmax pmax
comp=N,6.0nm,0.6s
ZALV Zalesovo Beam 42.99 316 P P 07 50 19.8 -0.5
ZALV PcP PcP 07 52 03.5 -0.5
ZALV ScP ScP 07 55 22.7 -1.0
TAPN Taplejung 43.70 277 ⇓ *i*P P 07 50 26.4 -0.3
comp=N,276nm,0.4s
GAMB Gambell 43.74 30 *e*P P 07 50 27.2 +1.2
comp=N,10.0nm,0.9s
NVS Novosibirsk 44.02 317 ⇓ *i*P P 07 50 27.2 -1.2
NVS *i* 07 52 05.1
NVS *e*S S 07 56 33.3 -2.2
NVS *i* 07 59 48.1
NVS pmax pmax
comp=Z,64nm,1.0s
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=E,41nm,1.0s
NVS smax smax
comp=N,5.0nm,1.1s
NVS smax smax
comp=E,23nm,1.9s
ODAN Odare 44.14 276 ⇓ *i*P P 07 50 29.7 -0.4
comp=E,538nm,0.5s
ODAN Odare 44.14 276 ⇓ *i*P P 07 50 29.7 -0.4
MK31 Makanchi Array 44.30 305 *e*P P 07 50 31.0 +0.2
MK31 pmax pmax
comp=Z,72nm,0.4s
MK31 Makanchi Array 44.30 305 *e*P P 07 50 31.0 +0.2
MKAR Makanchi Array 44.30 305 P P 07 50 31.0 +0.2
comp=Z,87nm,0.4s,baz=88,slow=9.2,SNR=1950
MKAR PcP PcP 07 52 08.7 0.0
comp=Z,8.9nm,0.6s,baz=84,slow=4.5,SNR=3.6
MKAR ScP ScP 07 55 28.4 -0.9
comp=Z,4.6nm,0.7s,baz=85,slow=5.6,SNR=5.5
MKAR Makanchi Array 44.30 305 P P 07 50 31.0 +0.2
MKAR 07 52 08.7
MKAR pmax pmax
comp=Z,87nm,0.4s
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR pmax pmax
comp=N,5.0nm,0.7s
MKAR Makanchi Array 44.30 305 *e*P P 07 50 30.9 +0.2
MKAR PcP PcP 07 52 08.7 0.0
MKAR ScP ScP 07 55 28.4 -0.9
KULM Kulim 44.39 240 *e*P P 07 50 31.4 -0.5
comp=N,45nm,0.7s
KULM Kulim 44.39 240 P P 07 50 31.6 -0.2
KULM Kulim 44.39 240 P P 07 50 31.6 -0.2
comp=N,81nm,1.2s
MYKOM Kota Tinggi 44.59 233 P P 07 50 33.4 -0.1
IPM Ipoh 44.67 239 *e*P P 07 50 32.9 -1.1
comp=N,111nm,0.8s
IPM Ipoh 44.67 239 P P 07 50 32.9 -1.1
IPM Ipoh 44.67 239 P P 07 50 32.6 -1.5
comp=N,152nm,0.8s,comp=N,1µm
RAMN Ramite 44.77 277 ⇓ *i*P P 07 50 34.7 -0.3
comp=N,1µm,0.7s
RAMN Ramite 44.77 277 ⇓ *i*P P 07 50 34.7 -0.3
KGM Kluang 44.79 234 P P 07 50 34.9 -0.1
JIRN Jiri 44.87 278 ⇓ *i*P P 07 50 36.2 +0.3
JIRN Jiri 44.87 278 ⇓ *i*P P 07 50 36.2 +0.3
GUN Gumba 45.05 278 ⇓ *i*P P 07 50 37.3 0.0
comp=N,997nm,0.7s
GUN Gumba 45.05 278 ⇓ *i*P P 07 50 37.3 0.0
PKI Pulchoki 45.55 278 ⇓ *i*P P 07 50 40.8 -0.4
comp=N,442nm,0.7s
PKI Pulchoki 45.55 278 ⇓ *i*P P 07 50 40.8 -0.4
PKI Pulchoki 45.55 278 ⇓ *i*P P 07 50 40.8 -0.4
KKN Kakani 45.59 278 ⇓ *i*P P 07 50 41.1 -0.2
comp=N,750nm,0.8s
KKN Kakani 45.59 278 ⇓ *i*P P 07 50 41.1 -0.2
KKN Kakani 45.59 278 ⇓ *i*P P 07 50 41.1 -0.2
TPI Tanjungpandan 45.64 225 P P 07 50 40.9 -0.7
comp=N,126nm,0.8s,comp=N,1µm
DMN Daman 45.79 278 ⇓ *i*P P 07 50 42.7 -0.3
DMN Daman 45.79 278 ⇓ *i*P P 07 50 42.7 -0.3
TNA Tin City 45.87 28 *e*P P 07 50 45.6 +2.9
comp=N,17nm,0.8s
GKN Gorkha 46.05 279 ⇓ *i*P P 07 50 44.7 -0.2
comp=N,726nm,0.7s
GKN Gorkha 46.05 279 ⇓ *i*P P 07 50 44.7 -0.2
PPBI Pangkal Pinang 46.10 227 P P 07 50 44.8 -0.3
comp=N,58nm,1.1s,comp=N,1µm
KURK Kurchatov 46.62 311 P P 07 50 48.8 0.0
comp=N,259nm,0.7s,baz=91,slow=6.8,SNR=846
KURK ScP ScP 07 55 38.8 0.0
comp=N,2.1nm,0.6s,baz=90,slow=5.1,SNR=5.8
KURK Kurchatov 46.62 311 ⇓ *e*P P 07 50 47.1 -1.6
KURK pmax pmax
comp=Z,490nm,1.0s
KURK Kurchatov 46.62 311 *e*P P 07 50 48.2 -0.4
comp=Z,335nm,0.8s
KURK ScP ScP 07 55 38.8 0.0
KURK Kurchatov 46.62 311 P P 07 50 48.7 0.0
SNR=82
DANN Dangsing 46.66 280 ⇓ *i*P P 07 50 50.0 +0.2
comp=Z,451nm,0.4s
COEN Coen 46.69 173 *e*P P 07 50 48.5 -1.1
comp=Z,259nm,0.7s
HNR Honiara 46.80 150 P P 07 50 50.7 +0.3
comp=Z,105nm,0.7s,baz=224,slow=3.9,SNR=5.8
HNR Honiara 46.80 150 P P 07 50 50.7 +0.3
HNR pmax pmax
comp=Z,105nm,0.7s
HNR Honiara 46.80 150 *e*P P 07 50 50.8 +0.3
comp=Z,149nm,0.9s
KOLN Koldanda 46.99 279 ⇓ *i*P P 07 50 52.2 0.0
KOLN Koldanda 46.99 279 ⇓ *i*P P 07 50 52.2 0.0
PSI Prapat 47.34 239 P P 07 50 53.9 -1.0
comp=Z,46nm,0.7s,baz=21,slow=7.4,SNR=15
PSI PcP PcP 07 52 20.3 +0.3
comp=Z,27nm,1.0s,baz=21,slow=2.2,SNR=5.5
PSI Prapat 47.34 239 P P 07 50 53.9 -1.0
PSI 07 52 20.3
PSI pmax pmax
comp=Z,46nm,0.7s
PSI pmax pmax
comp=Z,27nm,1.0s
PSI Prapat 47.34 239 P P 07 50 53.9 -1.0
PSI PcP PcP 07 52 20.3 +0.3
SJI Sawahan 47.48 217 P P 07 50 56.1 +0.3
comp=Z,46nm,0.5s,comp=Z,4µm
BKNI Bangkinang 47.58 235 P P 07 50 56.2 -0.3
comp=Z,282nm,0.9s,comp=Z,3µm
MNSI Mandailing Nat 48.26 237 P P 07 51 00.0 -1.7
comp=Z,68nm,0.9s
PPI Padang Panjang 48.58 235 P P 07 51 03.9 -0.2
ULHL Ulahol 49.09 300 P P 07 51 08.2 +0.2
SNR=28
ULHL P P 07 51 08.2 +0.2
SNR=28
TKM2 Tokmak 2 49.45 301 P P 07 51 11.0 +0.4
SNR=51
TKM2 P P 07 51 11.0 +0.4
SNR=51
TKM2 Tokmak 2 49.45 301 *i* P P 07 51 11.0 +0.4
TKM2 Tokmak 2 49.45 301 *e*P P 07 51 11.0 +0.4
comp=Z,66nm,0.6s
KSH Kashi 49.84 296 ⇓ *i*P P 07 51 17.1 +3.6
KSH *e*pP pP 07 52 24.0 +3.5
KSH *e*PcP PcP 07 52 32.2 +3.4
KSH *es*P sP 07 52 58.5 +2.1
KSH *e*PP PP 07 53 17.2 +5.6
KSH *e*ScP ScP 07 55 55.9 +3.0
KSH *e*PcS PcS 07 56 28.1 +1.8
KSH *e*S S 07 58 00.8 +2.8
KSH *es*S sS 07 59 59.7 +2.3
KSH *e*ScS ScS 08 00 31.6 +1.4
KSH *e*SS SS 08 01 38.6 +3.7
KSH pmax pmax
comp=Z,100nm,0.5s
KSH LR LR
comp=N,120nm,5.9s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,110nm,6.6s
KZA Kyzart 49.85 300 P P 07 51 15.0 +1.1
SNR=24
KZA P P 07 51 15.0 +1.1
SNR=24
KBK Karagaybulak 49.96 301 P P 07 51 14.8 +0.4
SNR=97
KBK P P 07 51 14.8 +0.4
SNR=97
CHMS Chumysh 50.04 301 P P 07 51 15.0 +0.2
SNR=29
CHMS P P 07 51 15.0 +0.2
SNR=29
FRU Bishkek 50.17 301 *e*P P 07 51 16.0 +0.2
FRU *e* 07 52 24.0
FRU pmax pmax
comp=Z,200nm,1.6s
USP Ospenovka 50.17 301 P P 07 51 15.9 +0.1
SNR=43
USP P P 07 51 15.9 +0.1
SNR=43
AAK Ala-Archa 50.30 301 P P 07 51 16.9 0.0
SNR=9.7
AAK P P 07 51 16.9 0.0
SNR=9.7
AAK Ala-Archa 50.30 301*d* *i*P P 07 51 16.8 0.0
AAK pmax pmax
comp=Z,153nm,0.6s
AAK Ala-Archa 50.30 301 *e*P P 07 51 16.5 -0.4
comp=Z,338nm,0.6s
AAK Ala-Archa 50.30 301 P P 07 51 17.1 +0.2
SNR=21
UCH Uchtor 50.36 300 P P 07 51 18.6 +0.9
SNR=12
UCH P P 07 51 18.6 +0.9
SNR=12
TTA Tatalina 50.44 33 *e*P P 07 51 18.1 +0.6
TTA pmax pmax
comp=Z,24nm,1.5s
TTA Tatalina 50.44 33 *e*P P 07 51 18.1 +0.6
comp=Z,24nm,1.5s
EKS2 Erkin-Say 50.81 301 P P 07 51 20.7 0.0
SNR=5.8
EKS2 P P 07 51 20.7 0.0
SNR=5.8
EKS2 Erkin-Say 50.81 301 *e*P P 07 51 20.6 0.0
EKS2 pmax pmax
comp=Z,48nm,0.9s
EKS2 Erkin-Say 50.81 301 *e*P P 07 51 20.6 0.0
comp=Z,48nm,0.9s
AML Almayashu 50.98 300 P P 07 51 23.0 +0.8
SNR=110
AML P P 07 51 23.0 +0.8
SNR=110
SDNR Sundarnagar 51.22 286 *e*P P 07 51 24.1 +0.4
BVA0 Borovoye Array 51.59 314 *i*P P 07 51 25.7 -0.3
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
BVAR Borovoye Array 51.59 314 P P 07 51 25.8 -0.2
comp=Z,33nm,0.5s,baz=100,slow=8.9,SNR=188
BVAR PcP PcP 07 52 34.7 -0.1
comp=Z,26nm,0.6s,baz=100,slow=4.1,SNR=10.0
BVAR ScP ScP 07 55 59.5 -0.5
comp=Z,4.6nm,0.7s,baz=98,slow=4.5,SNR=4.7
BVAR Borovoye Array 51.59 314 P P 07 51 25.8 -0.2
BVAR 07 52 34.7
BVAR pmax pmax
comp=Z,33nm,0.5s
BVAR pmax pmax
comp=Z,26nm,0.6s
BVAR pmax pmax
comp=N,5.0nm,0.7s
BVAR Borovoye Array 51.59 314 P P 07 51 25.8 -0.2
BVAR PcP PcP 07 52 34.7 -0.1
BVAR ScP ScP 07 55 59.5 -0.5
BRVK Borovoye 51.65 315*d* *i*P P 07 51 26.2 -0.3
BRVK pmax pmax
comp=Z,96nm,1.1s
BRVK Borovoye 51.65 315 *e*P P 07 51 26.4 -0.1
comp=Z,98nm,1.1s
BRVK Borovoye 51.65 315 P P 07 51 26.5 0.0
SNR=26
PONG Pong 51.90 287 *ex* x 07 52 25.0
RSO Redoubt South 51.90 36 *e*P P 07 51 29.5 +1.1
FITZ Fitzroy Crossi 51.98 195 P P 07 51 28.3 -1.0
comp=Z,6.6nm,0.6s,baz=22,slow=7.3,SNR=27
FITZ Fitzroy Crossi 51.98 195 ⇑ *i*P P 07 51 28.2 -1.0
FITZ Fitzroy Crossi 51.98 195 *e*P P 07 51 27.9 -1.3
comp=Z,7.2nm,0.6s
KDAK Kodiak Island 52.06 39 P P 07 51 30.2 +0.8
comp=Z,21nm,0.6s,baz=295,slow=5.0,SNR=21
KDAK Kodiak Island 52.06 39 *i*P P 07 51 30.7 +1.3
KDAK Kodiak Island 52.06 39 P P 07 51 30.2 +0.8
PPLA Purkeypile 52.19 33 *e*P P 07 51 32.2 +1.8
comp=Z,13nm,0.5s
WRAB Tennant Creek 52.52 185 *e*P P 07 51 31.0 -2.2
WRAB Tennant Creek 52.52 185 *e*P P 07 51 31.0 -2.2
WB2 Warramunga Arr 52.53 185 *e*P P 07 51 31.3 -1.9
WRA Warramunga Arr 52.53 185 P P 07 51 31.6 -1.6
comp=Z,21nm,0.5s,baz=0.8,slow=7.7,SNR=110
WRA pP pP 07 52 43.2 +2.1
comp=Z,13nm,0.9s,baz=2.4,slow=7.8,SNR=3.1
WRA ScP ScP 07 56 03.4 -1.0
comp=Z,2.4nm,0.7s,baz=4.5,slow=4.7,SNR=5.6
WRA Warramunga Arr 52.53 185 P P 07 51 31.7 -1.6
WRA *PP pP 07 52 43.2 +2.1
WRA pmax pmax
comp=Z,21nm,0.5s
WRA pmax pmax
comp=Z,13nm,0.9s
WRA pmax pmax
comp=N,2.0nm,0.7s
WRA Warramunga Arr 52.53 185 P P 07 51 31.6 -1.6
WRA pP pP 07 52 43.2 +2.1
WRA ScP ScP 07 56 03.4 -1.0
TRF Thorofare Moun 53.05 32 *e*P P 07 51 38.4 +1.6
comp=N,5.9nm,0.5s
KK31 Karatay Array 53.06 302 *i* P P 07 51 37.0 0.0
KK31 pmax pmax
comp=Z,80nm,0.3s
KKAR Karatay Array 53.06 302 *e*P P 07 51 37.1 +0.1
KKAR pmax pmax
comp=Z,150nm,0.4s
KKAR Karatay Array 53.06 302 *e*P P 07 51 37.1 +0.1
comp=Z,150nm,0.4s
CTA Charters Tower 53.10 171 P P 07 51 36.5 -0.9
comp=Z,41nm,0.8s,baz=352,slow=7.8,SNR=73
CTA pP pP 07 52 49.5 +4.0
comp=Z,9.5nm,0.3s,baz=340,slow=6.9,SNR=2.3
CTA Charters Tower 53.10 171 ⇑ *i*P P 07 51 36.3 -1.1
CTA Charters Tower 53.10 171 P P 07 51 36.5 -0.9
CTA pmax pmax
comp=Z,41nm,0.8s
CTA pmax pmax
comp=Z,10.0nm,0.3s
CTA Charters Tower 53.10 171 P P 07 51 36.5 -0.9
CTA pP pP 07 52 49.5 +4.0
CTAO Charters Tower 53.10 171 *e*P P 07 51 36.5 -0.9
CTAO pmax pmax
comp=Z,42nm,0.7s
CTAO Charters Tower 53.10 171 *e*P P 07 51 36.5 -0.9
comp=Z,42nm,0.7s
COLD Coldfoot 53.16 27 *e*P P 07 51 37.9 +0.6
comp=Z,26nm,1.6s
RC01 Rabbit Creek A 53.37 35 *e*P P 07 51 39.2 +0.4
comp=Z,13nm,0.9s
SEW Seward 53.56 36 *e*P P 07 51 40.9 +0.7
comp=Z,361nm,2.3s
PMR Palmer 53.63 35 *e*P P 07 51 41.0 +0.3
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 53.63 35 *e*P P 07 51 41.0 +0.3
comp=Z,18nm,1.0s
MCK McKinley 53.65 32 *e*P P 07 51 42.0 +1.1
MCK pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 53.65 32 *e*P P 07 51 42.0 +1.1
comp=Z,14nm,0.8s
BHPL Bhopal 53.87 276 *e*P P 07 51 41.9 -1.2
BHPL AMb AMB 07 51 43.8
comp=Z,156nm,1.0s
SML Sawmill 54.00 34 *e*P P 07 51 43.8 +0.3
SML pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 54.00 34 *e*P P 07 51 43.8 +0.3
comp=Z,6.1nm,1.0s
COLA College 54.10 30 *e*P P 07 51 45.2 +1.2
COLA pmax pmax
comp=Z,15nm,0.6s
COLA College 54.10 30 *e*P P 07 51 45.2 +1.2
comp=Z,15nm,0.6s
ILAR Eielson Array 54.52 31 P P 07 51 47.1 +0.1
comp=Z,9.3nm,0.7s,baz=273,slow=5.6,SNR=92
ILAR Eielson Array 54.52 31 P P 07 51 47.1 +0.1
ILAR pmax pmax
comp=Z,9.0nm,0.7s
ILAR Eielson Array 54.52 31 P P 07 51 47.1 +0.1
PAX Paxson 55.25 33 *e*P P 07 51 53.7 +1.3
PAX pmax pmax
comp=Z,9.0nm,0.6s
PAX Paxson 55.25 33 *e*P P 07 51 53.7 +1.3
comp=Z,8.9nm,0.6s
DIV Divide 55.28 35 *e*P P 07 51 53.8 +1.2
comp=Z,17nm,0.8s
HYB Hyderabad 55.48 269 ⇓ *i*P P 07 51 53.0 -1.6
HYB *e*PcP PcP 07 52 50.0 -0.4
HYB *e*pP pP 07 53 06.0 +2.7
DOT Dot Lake 55.83 32 *e*P P 07 51 57.0 +0.7
comp=Z,7.2nm,0.7s
BMRM Bremner River 55.87 35 *e*P P 07 51 58.3 +1.6
comp=Z,24nm,0.6s
MENT Mentasta 56.05 33 *e*P P 07 51 59.8 +1.8
MDRS Chennai 56.17 264 *e*P P 07 51 58.0 -1.4
MDRS AMb AMB 07 51 58.2
comp=Z,70nm,0.1s
AS31 Alice Springs 56.25 185 *e*P P 07 51 58.3 -1.5
ASAR Alice Springs 56.25 185 P P 07 51 58.5 -1.3
comp=Z,17nm,0.6s,baz=14,slow=12,SNR=179
ASAR pP pP 07 53 11.6 +2.8
comp=Z,4.3nm,0.8s,baz=360,slow=5.3,SNR=2.7
ASAR ScP ScP 07 56 20.5 -0.2
comp=Z,3.4nm,0.7s,baz=9.7,slow=4.7,SNR=5.9
ASAR Alice Springs 56.25 185 P P 07 51 58.5 -1.3
ASAR pmax pmax
comp=Z,17nm,0.6s
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR pmax pmax
comp=N,3.0nm,0.7s
ASAR Alice Springs 56.25 185 P P 07 51 58.5 -1.3
ASAR pP pP 07 53 11.6 +2.8
ASAR ScP ScP 07 56 20.5 -0.2
MBWA Marble Bar 56.44 201 *e*P P 07 51 59.4 -1.7
comp=N,9.1nm,0.6s
KBL Kabul 56.54 292 *e*P P 07 52 01.7 -0.4
KBL pmax pmax
comp=Z,89nm,0.7s
KBL Kabul 56.54 292 *e*P P 07 52 01.7 -0.4
comp=Z,89nm,0.7s
SVE Sverdlovsk 56.66 320*c* *i*P P 07 52 02.5 +0.2
SVE *e* 07 53 12.1
SVE *e*S S 07 59 33.6 +5.0
SVE pmax pmax
comp=Z,105nm,0.9s
EGAK Eagle 56.96 30 *e*P P 07 52 04.8 +0.6
comp=Z,10nm,0.6s
DAWY Dawson 57.82 31 *e*P P 07 52 11.0 +0.7
ARU Arti 57.87 320*d* *i*P P 07 52 10.2 -0.4
ARU 07 52 56.9
ARU *e**PP pP 07 53 18.1 -1.8
ARU *e* 07 54 19.1
ARU S S 07 59 45.3 +1.1
ARU 08 01 22.8
ARU SS SS 08 03 38.5 -1.7
ARU pmax pmax
comp=Z,127nm,1.0s
ARU Arti 57.87 320 *e*P P 07 52 09.7 -0.9
comp=Z,102nm,0.8s
AB31 Akbulak array 58.73 311 *i*P P 07 52 16.5 -0.2
AB31 pmax pmax
comp=Z,46nm,0.4s
ABKAR Akbulak array 58.73 311 *e*P P 07 52 16.5 -0.2
comp=Z,82nm,0.6s
POO Poona 58.92 273 *e*P P 07 52 18.0 -0.6
EIDS Eidsvold 59.09 166 *e*P P 07 52 18.3 -1.0

comp=Z,20nm,0.8s
INK Inuvik 59.39 26 P **P 07 52 21.5 +0.7**
comp=Z,12nm,0.5s,baz=303,slow=6.5,SNR=40
INK Inuvik 59.39 26 P **P 07 52 21.5 +0.7**
INK pmax pmax
comp=Z,12nm,0.5s
INK Inuvik 59.39 26 *e*P **P 07 52 21.3 +0.5**
comp=Z,15nm,0.6s
AKTO Aktyubinsk 59.61 313 P **P 07 52 22.1 -0.6**
comp=Z,63nm,0.7s,baz=86,slow=7.3,SNR=117
AKTO Aktyubinsk 59.61 313 P **P 07 52 22.1 -0.6**
AKTO pmax pmax
comp=Z,63nm,0.7s
AKTO Aktyubinsk 59.61 313 P **P 07 52 22.1 -0.6**
BHJ Bhuj 60.34 280 *e*P **P 07 52 25.2 -2.8**
BHJ AMb AMB 07 52 34.4
comp=Z,37nm,1.1s
NOUC Port Laguerre 60.80 150 *e*P **P 07 52 29.9 -1.0**
DZM Mont Dzumac 60.83 150 *e*P **P 07 52 30.8 -0.5**
DZM Mont Dzumac 60.83 150 *e*P **P 07 52 32.0 +0.8**
comp=Z,101nm,1.1s
IMYA Miami 62.74 297 *e*P **P 07 52 44.3 +0.3**
MSVF Nonsavu 63.03 137 *e*P **P 07 52 47.6 +1.8**
MSVF pmax pmax
comp=Z,30nm,1.3s
MSVF Nonsavu 63.03 137 *e*P **P 07 52 47.6 +1.8**
comp=Z,30nm,1.3s
ISRO Mashad 63.23 297 *e*P **P 07 52 47.4 +0.3**
IPAY Payeh 63.53 298 *e*P **P 07 52 49.3 +0.1**
HOPEN Hopen 63.55 346 *e*P **P 07 52 49.2 +0.9**
DLBC Dease Lake 63.63 36 P **P 07 52 51.2 +2.0**
comp=Z,4.6nm,0.9s,baz=314,slow=7.6,SNR=5.8
DLBC Dease Lake 63.63 36 P **P 07 52 51.2 +2.0**
IKRD Kardeh 63.76 298 *e*P P 07 52 46.3 -4.4
FORT Forrest 63.91 190⇑ *i*P **P 07 52 50.5 -0.7**
FORT Forrest 63.91 190 *e*P **P 07 52 50.6 -0.6**
comp=Z,63nm,0.7s
ISFR Sfrayin 64.04 299 *e*P **P 07 52 52.8 +0.2**
ARMA Armidale 64.10 167 *e*P **P 07 52 51.9 -0.7**
comp=Z,13nm,0.7s
SPA0 Spitsbergen Ar 64.20 349 *e*P **P 07 52 52.9 +0.3**
SPITS Spitsbergen Ar 64.20 349 P **P 07 52 52.9 +0.3**
comp=Z,27nm,0.6s,baz=97,slow=6.1,SNR=86
SPITS Spitsbergen Ar 64.20 349 P **P 07 52 52.9 +0.3**
SPITS pmax pmax
comp=Z,27nm,0.6s
SPITS Spitsbergen Ar 64.20 349 P **P 07 52 52.9 +0.3**
SPB4 Spitsbergen Ar 64.20 349 *e*P **P 07 52 53.0 +0.4**
STKA Stephens Creek 64.36 177 P **P 07 52 53.6 -0.6**
comp=Z,32nm,0.7s,baz=345,slow=7.1,SNR=72
STKA Stephens Creek 64.36 177⇑ *i*P **P 07 52 53.5 -0.6**
STKA Stephens Creek 64.36 177 P **P 07 52 53.6 -0.6**
STKA pmax pmax
comp=Z,32nm,0.7s
STKA Stephens Creek 64.36 177 *e*P **P 07 52 53.6 -0.6**
comp=Z,7.5nm,0.8s
KBS Kingsbay 64.41 350 *e*P **P 07 52 54.9 +0.9**
KBS AMB AMB 07 52 55.6
comp=Z,56nm,0.8s
KBS Kingsbay 64.41 350 *e*P **P 07 52 54.8 +0.9**
KBS pmax pmax
comp=Z,45nm,0.7s
KBS Kingsbay 64.41 350 *e*P **P 07 52 54.8 +0.9**
comp=Z,45nm,0.7s
IKOO Kooshah 65.11 294 *e*P **P 07 52 59.5 0.0**
ITEG Tejag 65.11 294 *e*P **P 07 52 59.6 +0.2**
BBOO Buckleboo 65.24 182 *e*P **P 07 52 59.3 -0.5**
comp=Z,527nm,0.8s
KEV Kevo 66.50 339 *e*P **P 07 53 06.3 -1.0**
KEV pmax pmax
comp=Z,24nm,0.6s
KEV Kevo 66.50 339 *e*p **P 07 53 06.3 -1.0**
comp=Z,24nm,0.6s
KEV Kevo 66.50 339 *e*p **P 07 53 06.3 -1.0**
comp=Z,24nm,0.6s
KLBR Kellerberrin 66.85 199 *e*P **P 07 53 08.4 -1.6**
comp=Z,15nm,0.9s
ARCES ARCESS Array B 67.06 339 P **P 07 53 11.1 +0.2**
comp=Z,52nm,0.7s,baz=71,slow=8.9,SNR=204
ARCES ARCESS Array B 67.06 339 P **P 07 53 11.1 +0.2**
ARCES pmax pmax
comp=Z,52nm,0.7s
ARCES ARCESS Array B 67.06 339 P **P 07 53 11.1 +0.2**
ARE0 ARCESS Array S 67.06 339 *e*P **P 07 53 11.2 +0.3**
ARE0 ARCESS Array S 67.06 339 *e*P **P 07 53 11.0 +0.1**
RES Resolute Bay 67.38 13 P **P 07 53 13.5 +0.7**
comp=Z,47nm,0.6s,baz=311,slow=6.6,SNR=95
RES Resolute Bay 67.38 13 P **P 07 53 13.5 +0.7**
RES pmax pmax
comp=Z,47nm,0.6s
RES Resolute Bay 67.38 13 *e*P **P 07 53 13.4 +0.7**
comp=Z,54nm,0.7s
IANJ Anjilo 67.70 299 *e*P **P 07 53 16.2 +0.5**
ISHM Shahmirzad 68.01 299 *e*P **P 07 53 18.6 +0.9**
IBAF Bafgh 68.11 294 *e*P **P 07 53 18.2 0.0**
NWAO Narrogin (SRO) 68.25 199 P **P 07 53 17.9 -0.7**
comp=Z,18nm,0.5s,baz=18,slow=6.2,SNR=23
NWAO pP **pP 07 54 33.4 +2.8**
comp=Z,20nm,1.1s,baz=8.5,slow=10,SNR=3.1
NWAO Narrogin (SRO) 68.25 199 P **P 07 53 18.0 -0.7**
NWAO pmax pmax
comp=Z,19nm,0.5s
NWAO pmax pmax
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 68.25 199 *e*P **P 07 53 17.9 -0.7**
comp=Z,15nm,0.6s
NWAO pP **pP 07 54 33.4 +2.8**
ILAS Lasjerd 68.44 299 *e*P **P 07 53 20.9 +0.6**
IFIR Firoozkooh 68.48 299 *e*P **P 07 53 21.3 +0.7**
JOF Joensuu 68.49 332 *e*P **P 07 53 18.6 -1.1**
JOF pmax pmax
comp=Z,44nm,0.5s
JOF Joensuu 68.49 332 *e*p **P 07 53 18.6 -1.1**
comp=Z,44nm,0.5s
JOF Joensuu 68.49 332 *e*p **P 07 53 18.6 -1.1**
comp=Z,44nm,0.5s
CNB Canberra Magne 68.52 170 *e*P **P 07 53 20.2 -0.1**
ICHK Chekchek 68.71 295 *e*P **P 07 53 21.8 -0.2**
YKA Yellowknife Ar 68.83 28 P **P 07 53 22.1 +0.3**
comp=Z,5.4nm,0.5s,baz=300,slow=6.0,SNR=60
YKA pP **pP 07 54 36.8 +3.0**
comp=Z,1.6nm,0.7s,baz=295,slow=6.1,SNR=2.5
YKA Yellowknife Ar 68.83 28 P **P 07 53 22.1 +0.3**
YKA *PP **pP 07 54 36.8 +3.0**
YKA pmax pmax
comp=Z,5.0nm,0.5s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 68.83 28 P **P 07 53 22.1 +0.3**
YKA pP **pP 07 54 36.9 +3.0**
TRO Tromso 68.89 341 *e*P **P 07 53 23.0 +0.9**
TRO AMB AMB 07 53 24.3
comp=Z,38nm,0.9s
IDMV Damavand 69.04 299 *e*P **P 07 53 24.3 +0.3**
VRHR Novokhopersk 69.08 318 *e*P **P 07 53 21.9 -1.7**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,130nm,0.6s
MOS Moscow 69.11 323 *e*P **P 07 53 23.4 -0.3**
MOS *e* 07 54 36.9
MOS pmax pmax
comp=Z,89nm,1.2s
MOS pmax pmax
comp=Z,171nm,1.4s
WBK Wadi Bani Khal 69.43 284 P **P 07 53 26.8 +0.5**
SNR=20
DAG Danmarks Havn 69.79 354 *i*P **P 07 53 27.8 +0.3**
DAG pmax pmax
comp=Z,30nm,0.8s
DAG Danmarks Havn 69.79 354 *i*P **P 07 53 27.8 +0.3**
comp=Z,295nm,0.8s
IR3 Iran Long-Peri 69.82 300 *e*P **P 07 53 28.9 +0.4**
OBN Obninsk 69.94 323 *d i*P **P 07 53 28.2 -0.5**
OBN pmax pmax
comp=Z,50nm,1.0s
OBN Obninsk 69.94 323 *e*P **P 07 53 28.4 -0.3**
comp=Z,46nm,0.8s
SMDO Samad 69.97 285 P **P 07 53 29.8 +0.1**
SNR=21
IZEF Zefreh 70.00 297 *e*P **P 07 53 30.4 +0.5**
BANOM Banah 70.06 288 P **P 07 53 30.8 +0.8**
SNR=8.5

JMDO Jabal Madar 70.25 284 P **P 07 53 30.9 -0.4**
SNR=18
TOO Toolangi 70.29 174 *e*P **P 07 53 31.0 0.0**
HOQ Hoqain 70.33 286 P **P 07 53 31.9 +0.2**
SNR=27
VSR Storozhevoye 70.40 319 *e*P **P 07 53 31.2 -0.4**
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,30nm,0.6s
VSR pmax pmax
comp=Z,110nm,0.6s
IGAR Gharneh 70.43 296 *e*P **P 07 53 32.4 0.0**
HATD Hatta, Dubai 70.70 288 P **P 07 53 34.0 +0.1**
SNR=19
BSY Bisya 70.81 285 P **P 07 53 34.9 +0.3**
SNR=32
IPAR Pars 70.83 294 *e*P **P 07 53 35.4 +0.5**
ASHO Ashiyiah 70.83 287 P **P 07 53 35.0 +0.3**
SNR=18
KAF Kangasniemi 70.89 333 *e*P **P 07 53 32.5 -1.8**
KAF pmax pmax
comp=Z,29nm,0.4s
KAF Kangasniemi 70.89 333 *e*p **P 07 53 32.5 -1.8**
comp=Z,28nm,0.4s
KAF Kangasniemi 70.89 333 *e*p **P 07 53 32.5 -1.8**
comp=Z,28nm,0.4s
ISRV Sarvestan 70.98 293 *e*P **P 07 53 36.2 +0.3**
NAZ Nazwa, Dubai 71.00 288 P **P 07 53 35.9 +0.2**
SNR=6.3
STEI Steigen 71.02 340 *e*P **P 07 53 35.1 +0.1**
STEI AMB AMB 07 53 35.8
comp=Z,74nm,0.9s
ARQ Araqi 71.08 286 P **P 07 53 36.4 +0.1**
SNR=44
IPIR Pirpir 71.17 297 *e*P **P 07 53 37.7 +0.7**
ISRB Sarab 71.18 303 *e*P **P 07 53 36.7 -0.1**
FINES FINESS Array B 71.35 332 P **P 07 53 36.7 -0.4**
comp=Z,41nm,0.5s,baz=65,slow=5.3,SNR=484
FINES pP **pP 07 54 51.0 +1.4**
comp=Z,9.1nm,0.8s,baz=80,slow=10,SNR=2.1
FINES FINESS Array B 71.35 332 P **P 07 53 36.7 -0.4**
FINES *PP **pP 07 54 51.0 +1.4**
FINES pmax pmax
comp=Z,41nm,0.5s
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 71.35 332 P **P 07 53 36.7 -0.4**
FINES pP **pP 07 54 51.0 +1.4**
IHRS Heris 71.39 304 *e*P **P 07 53 38.3 +0.2**
TBLG Delisi 71.40 308 P **P 07 53 37.9 +0.1**
TBLG Delisi 71.40 308 P **P 07 53 37.9 +0.1**
ASUD Al Ashush, Dub 71.44 288 P **P 07 53 38.7 +0.5**
SNR=7.5
ZEI Tsey 71.47 309 *e*P **P 07 53 37.2 -1.3**
ZEI pmax pmax
comp=Z,73nm,1.0s
GOR Gori 71.70 308 P **P 07 53 40.3 +0.7**
KIV Kislovodsk 71.70 311 *d i*P **P 07 53 39.9 +0.3**
KIV *e*PP **pP 07 54 52.4 +0.1**
KIV *e* 07 56 22.3
KIV *e*S **S 08 02 30.3 -2.3**
KIV pmax pmax
comp=Z,190nm,0.9s
KIV Kislovodsk 71.70 311 *e*P **P 07 53 40.0 +0.4**
comp=Z,157nm,0.8s
KIV Kislovodsk 71.70 311 P **P 07 53 40.4 +0.8**
SNR=16
IBST Bostanabad 71.78 303 *e*P **P 07 53 39.5 -0.9**
ONI Oni 71.85 309 P **P 07 53 41.0 +0.5**
A05A Maple Falls 71.85 43 ⇓P **P 07 53 40.8 +0.6**
baz=72
GNI Garni 72.13 306 P **P 07 53 43.4 +1.1**
comp=Z,34nm,0.5s,baz=334,slow=2.1,SNR=25
GNI Garni 72.13 306 *e*P **P 07 53 43.3 +0.9**
GNI pmax pmax
comp=Z,70nm,0.8s
GNI Garni 72.13 306 *e*P **P 07 53 43.2 +0.9**
comp=Z,70nm,0.8s
IAZR Azarshahr 72.43 304 *e*P **P 07 53 44.7 +0.4**
FLOS Flostrand 72.64 340 *e*P **P 07 53 44.3 -0.3**
FLOS AMB AMB 07 53 56.9
comp=Z,179nm,1.8s
STOK Stokkvaagen 72.75 340 *e*P **P 07 53 44.9 -0.2**
VSU Vasula 72.78 329 *d i*P **P 07 53 45.4 -0.1**
VSU pmax pmax
comp=Z,98nm,0.8s
IKOM Komasi 72.98 300 *e*P **P 07 53 46.6 -0.8**
ILIN Lien 73.03 301 *e*P **P 07 53 47.3 -0.5**
CLDR Caldiran 73.17 306 *e*P **P 07 53 49.4 +0.9**
IVIS Veis 73.30 300 *e*P **P 07 53 48.4 -0.8**
IDHR Dehrash 73.55 301 *e*P **P 07 53 50.2 -0.6**
ETW Entiat 73.56 44 *e*P **P 07 53 52.6 +2.2**
AGRB Hanur-Agry 73.59 307 *e*P **P 07 53 51.6 +0.8**
BCA Borcka 73.59 309 *e*P **P 07 53 50.9 +0.2**
IGHG Ghaleghazi 73.60 300 *e*P **P 07 53 50.1 -1.0**
NSS Namsos 74.33 339 *e*P **P 07 53 52.9 -1.4**
EZM Erzurum 74.52 308 *e*P **P 07 53 57.4 +1.0**
MICGM Minsk 74.53 325 *e*P **P 07 53 55.0 -0.7**
MNK Minsk 74.56 325 *e*P **P 07 53 55.0 -0.9**
MNK *e* 07 56 47.0
ANN Anapa 74.57 313 *e*P P 07 53 51.0 -5.1
ANN *e* 07 54 09.5
ANN *e*PP pP 07 55 02.6 -6.8
ANN *e*S S 08 02 56.9 -7.5
ANN *e*SS **SS 08 07 57.3 -0.8**
ANN pmax pmax
comp=Z,292nm,1.5s
IZAR Zarasai 74.57 327 *e*P **P 07 53 56.4 +0.4**
IZAR AMB AMB 07 53 57.2
comp=Z,28nm,0.8s
C09A Chrisman Ranch 74.64 43 ⇓P **P 07 53 57.4 +0.9**
baz=75
ISAL Salakas 74.73 327 *e*P **P 07 53 57.3 +0.5**
ISAL AMB AMB 07 53 58.1
comp=Z,40nm,0.6s
IIGN Ignalina 74.82 327 *e*P **P 07 53 57.8 +0.4**
IIGN AMB AMB 07 53 58.5
comp=Z,28nm,0.6s
NACGM Naroch 74.82 326 *e* **P 07 53 55.0 -2.4**
SUMG Summit 74.93 359 ⇓ *i*P **P 07 53 59.6 +1.4**
SUMG pmax pmax
comp=Z,60nm,0.7s
SUMG Summit 74.93 359 *e*P **P 07 53 59.3 +1.1**
comp=Z,72nm,0.6s
SUMG Summit 74.93 359 ⇓ *i*P **P 07 53 59.6 +1.4**
comp=Z,60nm,0.7s
UMR Umm Al-Rimmam 75.05 296 *e*P **P 07 53 58.5 -0.6**
UMR AMb AMB 07 53 59.3
comp=Z,264nm,0.7s
BAYT Ayd¯–ntepe-Bay 75.09 309 *e*P **P 07 54 00.1 +0.7**
KBD Kabd 75.25 295 *e*P **P 07 53 60.0 -0.3**
KBD AMb AMB 07 54 00.6
comp=Z,265nm,0.7s
QRN Al-Qurain 75.29 295 *e*P **P 07 53 60.0 -0.6**
QRN AMb AMB 07 54 00.7
comp=Z,341nm,0.7s
OUZ Omahuta 75.33 151 *e*P **P 07 54 01.9 +1.5**
comp=Z,16nm,0.8s
E09A Wood Farm, Sta 75.40 44 ⇓P **P 07 54 01.9 +1.0**
baz=75
BNGB Bing¶ll 75.44 307 *e*P **P 07 54 02.2 +0.8**
NAY Al-Naaiem 75.56 296 *e*P **P 07 54 01.6 -0.5**
NAY AMb AMB 07 54 02.2
comp=Z,272nm,0.7s
K05A Summer Lake 75.73 48 ⇓P **P 07 54 02.6 -0.4**
baz=76
RBK Rabkut 75.81 282 P **P 07 54 02.9 -0.8**
SNR=30
I07A Izee 75.88 47⇑P **P 07 54 03.7 0.0**
baz=76
AKASG Malin Array Be 76.04 322 P **P 07 54 03.9 -0.4**
comp=Z,48nm,0.4s,baz=51,slow=5.4,SNR=350
AKASG Malin Array Be 76.04 322 P **P 07 54 03.9 -0.4**
AKASG pmax pmax
comp=Z,48nm,0.4s
AKASG Malin Array Be 76.04 322 P **P 07 54 03.9 -0.4**
AKBB Malin Array Si 76.04 322 *e*P **P 07 54 02.9 -1.4**
AKBB Malin Array Si 76.04 322 *e*P **P 07 54 02.9 -1.4**
KIEV Kiev 76.05 322 *d i*P **P 07 54 03.8 -0.5**
KIEV Kiev 76.05 322 *e*P **P 07 54 03.9 -0.5**
comp=Z,102nm,0.6s
SCO Scoresbysund 76.07 353 ⇓ *i*P **P 07 54 05.3 +1.2**
SCO pmax pmax
comp=Z,40nm,0.8s

SCO Scoresbysund 76.07 353 ⇓ *i*P **P 07 54 05.3 +1.2**
comp=Z,40nm,0.8s
F10A Beach Ranch, E 76.23 44⇑P **P 07 54 06.2 +0.6**
baz=76
PTK Pertek 76.35 307 *e*P **P 07 54 07.7 +1.1**
WALA Waterton Lakes 76.39 40 *e*P **P 07 54 07.5 +0.9**
comp=Z,0.2nm,0.7s
SIM Simferopol' 76.50 315 *d e*P **P 07 54 07.9 +0.9**
SIM pmax pmax
comp=Z,57nm,0.6s
BSMT Bassoo Peak 76.59 41 *e*P **P 07 54 08.9 +1.2**
comp=Z,5.2nm,0.7s
ILIC ilic-Erzincan 76.61 308 *e*P **P 07 54 09.1 +1.1**
ABTO Aybut 76.64 282 P **P 07 54 07.8 -0.5**
SNR=32
SVRC Sivrice-ELAZID 76.67 307 *e*P **P 07 54 09.2 +0.8**
A14A Double T Ranch 76.71 40⇑P **P 07 54 09.3 +1.0**
baz=77,SNR=5.1
BMO Blue Mountains 76.79 45 *e*P **P 07 54 09.8 +1.0**
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 76.79 45 *e*P **P 07 54 09.8 +1.0**
comp=Z,5.4nm,1.0s
HFS Hagfors 76.87 335 P **P 07 54 08.2 -0.6**
comp=Z,52nm,0.4s,baz=90,slow=4.4,SNR=269
HFS PP **PP 07 57 03.2 -2.8**
comp=Z,6.4nm,0.7s,baz=15,slow=6.2,SNR=3.7
HFS Hagfors 76.87 335 P **P 07 54 08.2 -0.6**
HFS 07 57 03.2
HFS pmax pmax
comp=Z,52nm,0.4s
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 76.87 335 P **P 07 54 08.2 -0.6**
HFS PP **PP 07 57 03.2 -2.8**
J08A Circle Bar Ran 76.90 47⇑P **P 07 54 10.5 +1.1**
baz=77
RSDY Resadiye-TOKAT 76.93 310 *e*P **P 07 54 10.2 +0.7**
SUW Suwalki 77.04 327 *e*P **P 07 54 09.4 -0.4**
SUW Suwalki 77.04 327 *e*P **P 07 54 09.4 -0.4**
SUW Suwalki 77.04 327 *e*P **P 07 54 09.4 -0.4**
comp=Z,57nm,0.5s
DOMB Dombas 77.04 338 *e*P **P 07 54 09.8 0.0**
A15A Johnson Ranch, 77.08 40⇑P **P 07 54 11.1 +0.8**
baz=77,SNR=14
NOA NORSAR Array B 77.08 336 P **P 07 54 09.5 -0.5**
comp=Z,58nm,0.7s,baz=45,slow=5.6,SNR=211
NOA PP **PP 07 57 06.7 -1.1**
comp=Z,4.3nm,0.7s,baz=46,slow=8.5,SNR=5.2
NOA NORSAR Array B 77.08 336 P **P 07 54 09.5 -0.5**
NOA 07 57 06.7
NOA pmax pmax
comp=Z,58nm,0.7s
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 77.08 336 P **P 07 54 09.5 -0.5**
NOA PP **PP 07 57 06.7 -1.1**
MOL Molde 77.11 339 *e*P P 07 54 00.2 -10
MOL AMB AMB 07 54 01.1
comp=Z,28nm,0.8s
B14A Marquette Ranc 77.14 40 ⇓P **P 07 54 11.6 +0.9**
baz=77
NC602 NORSAR Array S 77.19 336 *e*P **P 07 54 09.8 -0.8**
C14A Swan Lake 77.22 41 ⇓P **P 07 54 11.8 +0.7**
baz=77
MALT Malatya 77.30 307 *e*P **P 07 54 13.0 +1.3**
NAO01 NORSAR Array S 77.33 336 *e*P **P 07 54 10.7 -0.6**
comp=Z,25nm,0.7s
DARE Darende-Malaty 77.38 308 *e*P **P 07 54 15.2 +3.1**
KVT Kavak 77.39 311 *e*P **P 07 54 12.2 +0.1**
URFA Urfa 77.49 306 *e*P **P 07 54 12.4 -0.3**
B15A Bradely Ranch, 77.55 40 ⇓P **P 07 54 14.0 +1.1**
baz=78,SNR=9.4
A16A West Butte Ran 77.70 39⇑P **P 07 54 14.5 +0.8**
baz=78
C15A Salmond Ranch, 77.84 41⇑P **P 07 54 15.8 +1.2**
baz=78,SNR=13
B16A M & M Farms, S 77.96 40⇑P **P 07 54 16.0 +0.9**
baz=78,SNR=12
F13A Darby 78.01 43 ⇓P **P 07 54 15.9 +0.4**
baz=78
OSL Oslo 78.05 336 *e*P **P 07 54 14.9 -0.4**
E14A Clinton 78.13 42 ⇓P **P 07 54 16.6 +0.3**
baz=78
A17A Triple J Farms 78.18 39 ⇓P **P 07 54 17.2 +0.8**
baz=78,SNR=10
SARI SarD1z-Kayseri 78.25 308 *e*P **P 07 54 19.9 +2.8**
C16A Fuhringer Ranc 78.30 40 ⇓P **P 07 54 18.0 +1.0**
baz=78,SNR=9.8
H12A Diamond D Ranc 78.41 44⇑P **P 07 54 18.8 +1.0**
baz=78,SNR=7.1
G13A Cobalt 78.47 44⇑P **P 07 54 18.2 +0.1**
baz=78
MFID Camas Ranch 78.48 46 *e*P **P 07 54 19.3 +1.2**
comp=Z,6.2nm,0.9s
MFID Camas Ranch 78.48 46 ⇓P **P 07 54 18.8 +0.7**
baz=78
B17A L&G Farms, Che 78.52 40 ⇓P **P 07 54 19.2 +1.1**
baz=78,SNR=20
CMB Columbia Colle 78.54 52 *e*P **P 07 54 18.7 +0.2**
CMB pmax pmax
comp=Z,3.0nm,0.6s
CMB Columbia Colle 78.54 52 *e*P **P 07 54 18.7 +0.2**
comp=Z,2.9nm,0.6s
F14A Wisdom 78.55 43 ⇓P **P 07 54 18.9 +0.3**
baz=78
E15A Deer Lodge 78.61 42 ⇓P **P 07 54 19.6 +0.8**
baz=78,SNR=6.4
FOO Floro 78.62 339 *e*P **P 07 54 17.5 -0.8**
A18A Metzger Ranch, 78.64 39⇑P **P 07 54 19.6 +0.8**
baz=79,SNR=12
KONO Kongsberg 78.65 336 *e*p **P 07 54 17.9 -0.6**
I12A Atlanta 78.68 45⇑P **P 07 54 19.7 +0.4**
baz=79
GAZ Gaziantep 78.72 307 *e*P **P 07 54 20.5 +1.0**
BNN Bunyan 78.72 309 *e*P **P 07 54 20.3 +0.8**
FFC Flin Flon 78.73 31 *i*P **P 07 54 19.6 +0.5**
KMRS Kahramanmaras 78.75 307 *e*P **P 07 54 20.0 +0.4**
H13A Challis 78.76 44 ⇓P **P 07 54 20.5 +0.9**
baz=79,SNR=12
D16A Dana Ranch, Ca 78.86 41⇑P **P 07 54 19.9 -0.3**
baz=79
C17A Wharram Farm, 78.93 40 ⇓P **P 07 54 20.9 +0.4**
baz=79
B18A Beardsley Farm 79.00 39 ⇓P **P 07 54 21.8 +1.0**
baz=79,SNR=17
LEOM Leova 79.02 319⇑P **P 07 54 20.8 0.0**
LEOM Leova 79.02 319⇑ *i*P **P 07 54 20.8 0.0**
F15A Butte 79.03 42⇑P **P 07 54 22.2 +1.0**
baz=79,SNR=15
LRM Limekiln Ridge 79.07 42 *e*P **P 07 54 22.7 +1.3**
E16A East Helena 79.08 41⇑P **P 07 54 21.9 +0.6**
baz=79
I13A Wildhorse Cree 79.21 45⇑P **P 07 54 23.7 +1.5**
baz=79,SNR=9.8
A19A Klindworth Far 79.22 38⇑P **P 07 54 22.9 +1.0**
baz=79,SNR=6.1
EGMT Eagleton 79.24 39 *e*P **P 07 54 23.1 +1.1**
comp=Z,10.0nm,0.6s
EGMT Eagleton 79.24 39⇑P **P 07 54 22.9 +0.8**
baz=79,SNR=9.4
LVV L'vov 79.24 323 *e*P **P 07 54 21.7 -0.2**
HLID Hailey 79.24 45 *e*P **P 07 54 23.4 +1.1**
comp=Z,3.8nm,0.8s
HLID Hailey 79.24 45 ⇓P **P 07 54 23.6 +1.3**
baz=79,SNR=7.5
H14A Leadore 79.25 44 ⇓P **P 07 54 23.0 +0.7**
baz=79
D17A Six Diamond Ra 79.26 40 ⇓P **P 07 54 23.2 +0.9**
baz=79,SNR=8.5
URZ Urewera 79.39 150 P **P 07 54 21.2 -1.4**
comp=Z,8.0nm,0.6s,baz=320,slow=5.3,SNR=6.1
URZ Urewera 79.39 150 *e*P **P 07 54 20.9 -1.8**
comp=Z,5.6nm,0.5s
B19A Brinkman Farms 79.40 39⇑P **P 07 54 23.9 +1.0**
baz=79,SNR=6.4
G15A Dillon 79.43 43 ⇓P **P 07 54 24.3 +1.0**
baz=79,SNR=10
ODD1 Odda 79.43 337 *e*P **P 07 54 21.8 -1.0**
ODD1 AMB AMB 07 54 24.3
comp=Z,37nm,1.5s
ASK Askoy 79.44 338 *e*P **P 07 54 21.9 -0.9**
RUND Rundenannen 79.45 338 *e*P **P 07 54 22.0 -0.8**
RUND AMB AMB 07 54 25.0
comp=Z,93nm,1.5s
J13A Cove Ranch, Pi 79.48 45 ⇓P **P 07 54 25.1 +1.5**

baz=79,SNR=8.4
KOZT Kozan 79.48 308 *e*P P 07 54 24.2 +0.8
BEL Belsk 79.54 326 *e*P P 07 54 23.9 +0.5
BEL Belsk 79.54 326 *e*P P 07 54 23.9 +0.5
F16A Kennard Place, 79.56 42 ⇑P P 07 54 24.9 +1.1
baz=80,SNR=7.2
E17A Martinsdale 79.58 41 ⇓P P 07 54 25.3 +1.2
baz=80,SNR=7.3
I14A Mackay 79.60 44 ⇑P P 07 54 25.8 +1.6
baz=80,SNR=17
H15A Lima 79.66 43 ⇑P P 07 54 24.2 -0.4
baz=80
BR131 Keskin Array S 79.67 311 *e*P P 07 54 24.7 +0.1
comp=Z,44nm,0.7s
BRTR Keskin Array B 79.67 311 P P 07 54 24.7 +0.1
comp=Z,56nm,0.7s,baz=108,slow=4.5,SNR=218
BRTR Keskin Array B 79.67 311 P P 07 54 24.7 +0.1
BRTR pmax pmax
comp=Z,56nm,0.7s
BRTR Keskin Array B 79.67 311 P P 07 54 24.7 +0.1
A20A Cobblestone Ra 79.67 38 ⇓P P 07 54 25.2 +0.8
baz=80
NVAR Mina Array Bea 79.70 51 P P 07 54 25.8 +0.9
comp=Z,2.3nm,0.6s,baz=284,slow=5.1,SNR=18
NVAR Mina Array Bea 79.70 51 P P 07 54 25.8 +0.9
D18A Linhart Farms, 79.71 40 ⇓P P 07 54 25.8 +1.1
baz=80,SNR=8.6
G16A Moss Hill, Enn 79.78 42 ⇑P P 07 54 26.1 +0.9
baz=80
C19A Slack Wire Ran 79.79 39 ⇑P P 07 54 26.2 +1.2
baz=80,SNR=12
TESR 79.89 319⇑*i*P P 07 54 26.5 +1.0
J14A Carey 79.91 45 ⇓P P 07 54 26.7 +0.8
baz=80
BSD Bornholm Skovb 79.92 331⇓*i*P P 07 54 24.8 -0.6
BSD pmax pmax
comp=Z,34nm,0.8s
BSD Bornholm Skovb 79.92 331⇓*i*P P 07 54 24.8 -0.6
comp=Z,34nm,0.8s
BUR08 Bucovina Ar. S 79.98 321 *e*P P 07 54 26.2 +0.2
BURAR Bucovina Array 79.99 321 ⇑P P 07 54 26.6 +0.5
BURAR Bucovina Array 79.99 321⇑*i*P P 07 54 26.6 +0.5
KWP Kalwaria Pacla 80.02 323 *e*P P 07 54 26.6 +0.4
KWP Kalwaria Pacla 80.02 323 ⇑P P 07 54 27.0 +0.9
KWP Kalwaria Pacla 80.02 323⇑*i*P P 07 54 27.0 +0.9
F17A Fitzpatrick Pl 80.02 41 ⇓P P 07 54 27.5 +1.1
baz=80,SNR=5.7
E18A Harlowton 80.04 41 ⇓P P 07 54 27.6 +1.2
baz=80,SNR=16
PETR 80.04 318⇑*i*P P 07 54 27.9 +1.7
A21A Bergtoll Ranch 80.12 37 ⇑P P 07 54 27.5 +0.8
baz=80,SNR=15
TIRR Tirgusor 80.12 317 ⇓P P 07 54 26.8 +0.1
TIRR Tirgusor 80.12 317⇓*i*P P 07 54 26.8 +0.1
GKP Gorka Klasztor 80.21 328 *e*P P 07 54 27.0 0.0
GKP Gorka Klasztor 80.21 328 *e*P P 07 54 27.0 0.0
D19A Cripps Ranch, 80.23 40 ⇓P P 07 54 28.5 +1.1
baz=80,SNR=19
VRI Vrincioaia 80.23 319 ⇑P P 07 54 28.1 +0.7
VRI Vrincioaia 80.23 319⇑*i*P P 07 54 28.0 +0.7
PLOR Plostina 80.28 319 ⇑P P 07 54 28.1 +0.5
PLOR Plostina 80.28 319⇑*i*P P 07 54 28.1 +0.5
G17A Pierce Place, 80.33 42 ⇓P P 07 54 29.0 +0.9
baz=80
SFJD Kangerlussuaq 80.34 4 *i*P P 07 54 27.7 +0.3
SFJD pmax pmax
comp=Z,26nm,0.7s
SFJD Kangerlussuaq 80.34 4 *i*P P 07 54 27.7 +0.3
comp=Z,26nm,0.7s
ELK Elko 80.35 48 P P 07 54 30.2 +1.8
comp=Z,3.9nm,0.7s,baz=310,slow=7.4,SNR=11
ELK Elko 80.35 48 P P 07 54 30.2 +1.8
ELK pmax pmax
comp=Z,4.0nm,0.7s
ELK Elko 80.35 48 P P 07 54 30.1 +1.8
C20A Veseth Ranch, 80.36 39 ⇓P P 07 54 29.1 +1.1
baz=80,SNR=7.0
H16A Russell Place, 80.42 43 ⇑P P 07 54 30.2 +1.6
baz=80
B21A Ellsworth Farm 80.42 38 ⇓P P 07 54 29.0 +0.7
baz=80,SNR=6.5
SNART Snartemo 80.45 336 *e*P P 07 54 28.0 -0.2
SNART AMB AMB 07 54 29.1
comp=Z,39nm,1.0s
J15A Blackfoot 80.50 44 ⇑P P 07 54 30.4 +1.4
baz=80
COP Copenhagen 80.51 332 *i*P P 07 54 28.3 -0.2
COP pmax pmax
comp=Z,32nm,0.9s
COP Copenhagen 80.51 332 *i*P P 07 54 28.3 -0.2
comp=Z,32nm,0.9s
F18A Big Timber 80.55 41 ⇑P P 07 54 30.1 +1.0
baz=80,SNR=12
K14A Jones Ranch, D 80.57 45 ⇓P P 07 54 31.2 +1.8
baz=80
A22A Carney Farms, 80.63 37 ⇑P P 07 54 29.8 +0.4
baz=80
GCMT Greycliff 80.64 41 *e*P P 07 54 30.2 +0.6
comp=Z,5.7nm,0.8s
D20A Manuel Ranch, 80.67 39 ⇑P P 07 54 30.6 +0.9
baz=81,SNR=19
KOLS Kolonicke sedl 80.69 323 *e*P P 07 54 29.8 +0.1
KOLS pmax pmax
comp=Z,18nm,1.2s
KOLS Kolonicke sedl 80.69 323 *e*P P 07 54 29.8 +0.1
E19A Rath Farm, Rou 80.72 40 ⇓P P 07 54 30.8 +0.8
baz=81,SNR=21
FKH Fakeheh 80.85 305 *e*P P 07 54 31.2 +0.3
BMR Baia Mare 80.86 322 P P 07 54 31.5 +0.9
BMR Baia Mare 80.86 322⇑*i*P P 07 54 31.4 +0.9
UZH Uzhgorod 80.87 323⇑*i*P P 07 54 30.4 -0.2
UZH *e* 07 59 33.4
UZH *e* 08 04 54.2
STHS Stebnicka Huta 80.89 324 *e*P P 07 54 31.1 +0.4
STHS pmax pmax
comp=Z,20nm,0.9s
STHS Stebnicka Huta 80.89 324 *e*P P 07 54 31.1 +0.4
MLR Muntele Rosu 80.90 319 P P 07 54 31.1 +0.1
comp=Z,2.2nm,0.6s,baz=350,slow=11,SNR=20
MLR Muntele Rosu 80.90 319 ⇑P P 07 54 31.1 +0.1
MLR Muntele Rosu 80.90 319 P P 07 54 31.1 +0.1
MLR Muntele Rosu 80.90 319⇑*i*P P 07 54 31.1 +0.1
F19A Roth Farm, Mol 81.00 41 ⇑P P 07 54 32.3 +0.7
baz=81,SNR=5.3
B22A Reddig Ranch S 81.03 37 ⇑P P 07 54 32.3 +0.8
baz=81
E20A Meyer Farm, Mu 81.04 40 ⇓P P 07 54 32.7 +1.1
baz=81,SNR=16
TRPA Tarpa 81.07 322⇓*i*P P 07 54 32.4 +0.8
TRPA Tarpa 81.07 322⇓*e* P 07 54 32.2 +0.6
OJC Ojcow 81.07 325 *e*P P 07 54 31.8 +0.1
OJC *e*PcP PcP 07 54 35.3 -1.7
OJC Ojcow 81.07 325 *e*P P 07 54 31.8 +0.1
CRVS Cervenica-Dubn 81.12 323 *e*P P 07 54 32.1 +0.2
CRVS pmax pmax
comp=Z,19nm,0.9s
CRVS Cervenica-Dubn 81.12 323 *e*P P 07 54 32.1 +0.2
HWQ Hawqa 81.16 305 *e*P P 07 54 32.2 -0.3
MUD Monsted U'grnd 81.18 334 *i*P P 07 54 30.7 -1.3
MUD pmax pmax
comp=Z,27nm,0.9s
MUD Monsted U'grnd 81.18 334 *i*P P 07 54 30.7 -1.3
comp=Z,27nm,0.9s
BSC Santa Cruz Isl 81.25 55 ⇓P P 07 54 34.1 +1.1
baz=81
HVU Hansel Valley 81.26 46 *e*P P 07 54 34.6 +1.6
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU Hansel Valley 81.26 46 *e*P P 07 54 34.6 +1.6
comp=Z,9.3nm,0.8s
I17A Pilgrim Ck. 81.27 43 ⇑P P 07 54 34.9 +1.8
baz=81
D21A La Casta Ranch 81.30 39 ⇑P P 07 54 33.7 +0.8
baz=81
H18A Shoshone NF, C 81.33 42 ⇑P P 07 54 34.2 +0.8
baz=81
K16A Soda Springs 81.34 44 ⇑P P 07 54 35.4 +2.0
baz=81,SNR=7.4
NIE Niedzica 81.35 324 *e*P P 07 54 33.8 +0.6
NIE Niedzica 81.35 324 *e*P P 07 54 33.8 +0.6
L15A Malad City 81.36 45 ⇓P P 07 54 34.7 +1.1
baz=81,SNR=8.4
VOIR 81.42 319 ⇑P P 07 54 34.1 +0.4
VOIR 81.42 319⇑*i*P P 07 54 34.1 +0.4
B23A Brockton 81.44 37 ⇓P P 07 54 34.3 +0.6
baz=81
C22A Vida 81.44 38 ⇓P P 07 54 33.9 +0.2
baz=81
BORG Borgarnes 81.50 351 P P 07 54 35.3 +1.8
comp=Z,38nm,0.9s,baz=296,slow=3.8,SNR=6.1
BORG Borgarnes 81.50 351 P P 07 54 35.3 +1.8
BORG pmax pmax
comp=Z,38nm,0.9s
BORG Borgarnes 81.50 351 *e*P P 07 54 35.6 +2.0
comp=Z,48nm,0.9s
R11A Troy Canyon, C 81.51 50 ⇓P P 07 54 35.4 +1.0
baz=82,SNR=10
FRB Frobisher Bay 81.51 12 P P 07 54 33.9 +0.3
comp=Z,47nm,0.6s,baz=341,slow=5.7,SNR=26
FRB Frobisher Bay 81.51 12 P P 07 54 33.9 +0.3
FRB pmax pmax
comp=Z,47nm,0.6s
FRB Frobisher Bay 81.51 12 P P 07 54 33.9 +0.3
E21A Keefer Ranch, 81.59 39 ⇑P P 07 54 35.4 +0.9
baz=82
MUKL Al Mukalla 81.62 282 *e*P P 07 54 34.8 -0.3
MUKL AMb AMB 07 54 35.4
comp=Z,65nm,0.7s
A24A Westby 81.63 36 ⇓P P 07 54 35.4 +0.7
baz=82
M15A Larsen Ranch, 81.64 46 ⇓P P 07 54 36.2 +1.2
baz=82
ASF Jabal al Asfar 81.65 303 P P 07 54 35.4 +0.3
comp=Z,26nm,0.6s,baz=279,slow=3.9,SNR=42
ASF Jabal al Asfar 81.65 303 P P 07 54 35.4 +0.3
ASF pmax pmax
comp=Z,27nm,0.6s
ASF Jabal al Asfar 81.65 303 P P 07 54 35.4 +0.3
D22A Cohagen 81.67 38 ⇑P P 07 54 35.8 +0.9
baz=82,SNR=8.2
H19A Powell 81.71 42 ⇓P P 07 54 36.8 +1.5
baz=82,SNR=5.7
FURC Furnace Creek, 81.75 52 ⇑P P 07 54 36.2 +0.8
baz=82
C23A Lambert 81.77 38 ⇓P P 07 54 35.9 +0.5
baz=82
K17A Gardner Place, 81.78 44 ⇑P P 07 54 36.4 +0.6
baz=82
G20A Bridger 81.80 41 ⇑P P 07 54 36.0 +0.3
baz=82
DGMT Dagmar 81.83 37 ⇑P P 07 54 36.4 +0.7
baz=82
DRGR 81.83 321 ⇓P P 07 54 36.0 +0.2
DRGR 81.83 321⇓*i*P P 07 54 36.0 +0.2
KECS Kecovo 81.88 323 *e*P P 07 54 36.0 +0.1
KECS pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 81.88 323 *e*P P 07 54 36.0 +0.1
EDW2 Edwards Air Fo 81.89 54 ⇑P P 07 54 37.2 +0.9
baz=82
F21A Absaloka Mine, 82.02 40 ⇑P P 07 54 37.5 +0.7
baz=82,SNR=7.9
J18A Kendall Valley 82.03 43 ⇑P P 07 54 38.5 +1.4
baz=82,SNR=13
PHNC Paralimni 82.06 307 P P 07 54 36.6 -0.5
comp=Z,6.1nm,0.1s
HWUT Hardware Ranch 82.09 45 *e*P P 07 54 38.6 +1.2
comp=Z,20nm,1.3s
I19A Meeteetse 82.10 42 ⇓P P 07 54 38.0 +0.6
baz=82
OKC Ostrava-Krasne 82.12 326⇓*i*P P 07 54 37.2 +0.1
OKC Ostrava-Krasne 82.12 326⇓*i*P P 07 54 37.2 +0.1
D23A Lindsay 82.17 38 ⇑P P 07 54 37.8 +0.4
baz=82
DUG Dugway 82.18 47 *e*P P 07 54 38.9 +1.1
DUG pmax pmax
comp=Z,20nm,1.2s
DUG Dugway 82.18 47 *e*P P 07 54 38.9 +1.1
comp=Z,20nm,1.2s
DUG Dugway 82.18 47 ⇓P P 07 54 39.1 +1.3
baz=82,SNR=13
LIKS Likavka 82.19 325 *e*P P 07 54 38.1 +0.6
LIKS pmax pmax
comp=Z,31nm,1.0s
LIKS Likavka 82.19 325 *e*P P 07 54 38.1 +0.6
L17A Cokeville 82.20 45 ⇓P P 07 54 38.5 +0.6
baz=82
M16A Huntsville 82.23 46 ⇓P P 07 54 39.2 +1.1
baz=82
MMAI Mount Meron Ar 82.23 304 P P 07 54 38.5 +0.4
comp=Z,19nm,0.5s,baz=51,slow=6.6,SNR=37
MMAI Mount Meron Ar 82.23 304 P P 07 54 38.5 +0.4
E22A Miles City 82.25 39 ⇓P P 07 54 38.8 +0.9
baz=82,SNR=9.3
RUE Ruedersdorf 82.26 329 *e*P P 07 54 37.9 +0.2
comp=Z,78nm,1.0s
SZH Strazhica 82.27 317 *e*P P 07 54 37.4 -0.6
KSP Ksiaz 82.30 327 *e*P P 07 54 38.2 +0.2
KSP Ksiaz 82.30 327⇓*i*P P 07 54 38.2 +0.2
KSP *e* 07 57 49.7
C24A Savage 82.33 37 ⇓P P 07 54 38.3 0.0
baz=82
G21A Lodge Grass 82.35 40 ⇑P P 07 54 39.3 +0.7
baz=82,SNR=5.4
K18A Toltan Ranch, 82.36 44 ⇓P P 07 54 40.5 +1.7
baz=82,SNR=5.5
H20A Greybull 82.38 41 ⇓P P 07 54 39.9 +1.2
baz=82,SNR=9.3
GSC Goldstone 82.45 53 ⇓P P 07 54 39.3 +0.1
baz=82
MORC Moravsky Berou 82.45 326 ⇓P P 07 54 39.1 +0.2
MORC Moravsky Berou 82.45 326 *e*P P 07 54 38.8 -0.1
comp=Z,48nm,0.9s
MORC Moravsky Berou 82.45 326⇓*i*P P 07 54 39.1 +0.2
F22A Rosebud 82.51 40 ⇓P P 07 54 39.5 +0.2
baz=82
MAMC Mammari 82.51 307 P P 07 54 39.2 -0.2
PD01 Pinedale Array 82.55 43 *e*P P 07 54 39.3 -0.4
J19A Crowheart 82.55 43 ⇓P P 07 54 40.9 +1.2
baz=82,SNR=15
PSZ Piszkesteto 82.55 323 ⇑P P 07 54 39.8 +0.4
PSZ Piszkesteto 82.55 323 *e*P P 07 54 39.3 -0.2
comp=Z,39nm,0.9s
PSZ Piszkesteto 82.55 323⇑*i*P P 07 54 39.8 +0.4
PSZ Piszkesteto 82.55 323⇓*e* P 07 54 39.6 +0.2
E23A Ismay 82.55 39 ⇑P P 07 54 40.4 +1.0
baz=82
PD02 Pinedale Array 82.55 43 *e*P P 07 54 39.9 +0.2
CSS Prodhromos 82.56 307 *e*P P 07 54 39.3 -0.4
comp=Z,96nm,0.6s
BW06 Boulder Array 82.56 43 *e*P P 07 54 40.1 +0.2
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 82.56 43 P P 07 54 40.2 +0.4
comp=Z,3.0nm,0.7s,baz=287,slow=2.3,SNR=29
PDAR pP pP 07 55 57.1 +2.4
comp=Z,1.6nm,0.8s,baz=318,slow=2.0,SNR=3.2
PDAR Pinedale Array 82.56 43 P P 07 54 40.2 +0.4
PDAR pP pP 07 55 57.1 +2.4
KRLC Kraliky 82.60 326⇓*i*P P 07 54 39.7 +0.1
KRLC *e*pP pP 07 56 03.1 +8.6
DPC Dobruska-Polom 82.63 327⇓*i*P P 07 54 40.2 +0.5
DPC *e**PP pP 07 55 56.7 +2.1
DPC Dobruska-Polom 82.63 327⇓*i*P P 07 54 40.2 +0.5
DPC *e*pP pP 07 55 56.7 +2.1
I20A Worland 82.64 42 ⇑P P 07 54 41.2 +1.1
baz=83,SNR=5.8
D24A Glendive 82.66 38 ⇓P P 07 54 40.9 +0.9
baz=83
UPC Upice 82.66 327⇓*i*P P 07 54 40.0 +0.1
UPC Upice 82.66 327⇓*i*P P 07 54 40.0 +0.1
UPC *e*pP pP 07 56 03.8 +9.1
VYHS Vyhne 82.69 324 *e*P P 07 54 40.5 +0.4
VYHS pmax pmax
comp=Z,21nm,0.7s
VYHS Vyhne 82.69 324 *e*P P 07 54 40.5 +0.4
M17A Scullys Gap (B 82.71 45 ⇑P P 07 54 41.3 +0.7
baz=83
ISP Isparta 82.75 310 ⇓P P 07 54 40.4 -0.3
ISP Isparta 82.75 310 *e*P P 07 54 40.1 -0.6
comp=Z,31nm,0.8s
ISP Isparta 82.75 310⇓*i*P P 07 54 40.3 -0.4
L18A Fontenelle, Gr 82.81 44 ⇑P P 07 54 41.7 +0.7
baz=83
H21A Big Horn, Sher 82.82 41 ⇓P P 07 54 41.7 +0.7
baz=83,SNR=5.2
KOLL Kolacno 82.85 324 *e*P P 07 54 41.4 +0.6
KOLL Kolacno 82.85 324 *e*P P 07 54 41.4 +0.6
G22A Birney 82.85 40 ⇓P P 07 54 41.5 +0.4
baz=83
N17A Moffit Pass 82.93 45 ⇑P P 07 54 42.3 +0.5
baz=83
ALFC Alevga 82.94 307 P P 07 54 40.8 -0.8
comp=Z,3.5nm,0.6s
K19A Absolon Red Bu 82.94 43 ⇑P P 07 54 41.8 +0.1
baz=83
TUQ Turquoise Moun 82.96 52 ⇓P P 07 54 42.6 +0.7
baz=83
O16A Springville 82.97 46 ⇑P P 07 54 42.8 +0.8
baz=83
DAU Daniels Canyon 83.00 46 *e*P P 07 54 43.2 +1.0
DAU pmax pmax
comp=Z,9.0nm,0.7s
DAU Daniels Canyon 83.00 46 *e*P P 07 54 43.2 +1.0
comp=Z,9.2nm,0.7s
F23A Volborg 83.00 39 ⇑P P 07 54 42.5 +0.7
baz=83
MPU Maple Canyon 83.01 47 *e*P P 07 54 43.1 +1.0
comp=Z,16nm,1.1s
E24A Baker 83.03 38 ⇑P P 07 54 41.9 0.0
baz=83
HEC Hector,Ludlow 83.04 53 ⇓P P 07 54 42.6 +0.4
baz=83
J20A Shoshoni 83.05 42 ⇓P P 07 54 43.2 +1.0
baz=83
M18A Lyman 83.09 45 ⇓P P 07 54 43.3 +0.8
baz=83,SNR=5.7
L19A Farson 83.09 44 ⇑P P 07 54 43.6 +1.1
baz=83,SNR=9.4
MURC Murrieta 83.15 54 ⇓P P 07 54 44.5 +1.7
baz=83
BZS Buzias 83.17 321 ⇓P P 07 54 42.3 -0.3
BZS Buzias 83.17 321⇓*i*P P 07 54 42.3 -0.3
I21A Big Trails, Te 83.20 42 ⇑P P 07 54 43.6 +0.6
baz=83
ARUT Antelope Range 83.21 49 *e*P P 07 54 45.0 +1.9
ARUT pmax pmax
comp=Z,5.0nm,0.7s
ARUT Antelope Range 83.21 49 *e*P P 07 54 45.0 +1.9
comp=Z,4.6nm,0.7s
H22A Clearmont 83.22 41 ⇓P P 07 54 43.2 +0.2
baz=83
VRAC Vranov 83.22 326 P P 07 54 43.0 +0.3
comp=Z,35nm,0.5s,baz=46,slow=4.0,SNR=68
VRAC Vranov 83.22 326 ⇓P P 07 54 43.1 +0.3
VRAC Vranov 83.22 326 P P 07 54 43.0 +0.3
VRAC Vranov 83.22 326⇓*i*P P 07 54 43.1 +0.3
DIM Dimitrovgrad 83.26 316 *e*P P 07 54 43.0 0.0
PPCY Paphos 83.26 307 P P 07 54 42.6 -0.6
PVCC Panska Ves 83.30 328⇓*i*P P 07 54 43.4 +0.3
PVCC Panska Ves 83.30 328⇓*i*P P 07 54 43.4 +0.3
BRG Berggiesshubel 83.34 328⇓*i*P P 07 54 43.1 -0.2
comp=Z,44nm,0.7s
BRG *e* 07 57 57.4
comp=Z,7.1nm,1.1s
BRG Berggiesshubel 83.34 328 *e*P P 07 54 43.1 -0.2
comp=Z,31nm,0.6s
BRG Berggiesshubel 83.34 328⇓*i*P P 07 54 43.1 -0.2
BRG *e* 07 57 57.4
BRG pmax pmax
comp=Z,44nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,1.1s
G23A Biddle 83.35 40 ⇑P P 07 54 43.8 +0.2
baz=83
SMOL Smolenice 83.37 325 *e*P P 07 54 44.4 +0.9
SMOL Smolenice 83.37 325 *e*P P 07 54 44.4 +0.9
J21A Lysite 83.41 42 ⇑P P 07 54 44.8 +0.7
baz=83,SNR=6.1
F24A Ekalaka 83.43 39 ⇓P P 07 54 44.4 +0.4
baz=83
CLL Collm 83.44 329 *e*P P 07 54 43.4 -0.4
comp=Z,51nm,0.5s
CLL Collm 83.44 329⇓*i*P P 07 54 43.4 -0.4
CLL pmax pmax
comp=Z,120nm,1.2s
CLL Collm 83.44 329⇓*i*P P 07 54 43.4 -0.4
comp=Z,120nm,1.2s
CLL *i* pP pP 07 56 02.7 +3.9
CLL *e*PP PP 07 57 59.0 -1.2
O17A Robinson Place 83.44 46 ⇓P P 07 54 45.3 +0.9
baz=83
KDZ Kurdzhali 83.57 316 *e*P P 07 54 45.3 +0.6
MSU Marysvale 83.58 48 *e*P P 07 54 46.8 +1.7
MSU pmax pmax
comp=Z,5.0nm,0.8s
MSU Marysvale 83.58 48 *e*P P 07 54 46.8 +1.7
comp=Z,5.0nm,0.8s
M19A Rock Springs 83.58 44 ⇑P P 07 54 45.5 +0.5
baz=84
I22A 9 Mile Ranch, 83.60 41 ⇑P P 07 54 45.7 +0.8
baz=84,SNR=8.4
N18A Larsen Ranch, 83.60 45 ⇑P P 07 54 45.8 +0.7
baz=84
PFO Pinyon Flat Ob 83.65 54 *e*P P 07 54 46.2 +0.8
PFO pmax pmax
comp=Z,4.0nm,0.7s
PFO Pinyon Flat Ob 83.65 54 *e*P P 07 54 46.2 +0.8
comp=Z,4.4nm,0.7s
PFO Pinyon Flat Ob 83.65 54 ⇓P P 07 54 46.2 +0.8
baz=84
ALN Alexandroupoli 83.67 315 *e*P P 07 54 45.0 -0.1
R15A Junction 83.69 48 ⇑P P 07 54 47.3 +1.7
baz=84,SNR=8.2
PRU Pruhonice 83.70 327⇓*i*P P 07 54 45.0 -0.1
PRU *e**PP pP 07 56 01.6 +1.4
PRU Pruhonice 83.70 327⇓*i*P P 07 54 45.0 -0.1
PRU *e*pP pP 07 56 01.6 +1.4
BELC Belle Mtn. Jos 83.74 54 ⇑P P 07 54 46.1 +0.3
baz=84
L20A Wamsutter 83.74 43 ⇓P P 07 54 46.5 +0.7
baz=84
TREC Trest 83.75 326⇓*i*P P 07 54 45.4 0.0
TREC Trest 83.75 326⇓*i*P P 07 54 45.4 0.0
G24A Alzada 83.79 39 ⇓P P 07 54 45.9 0.0
baz=84
RDO Rodhopi 83.82 315 *e*P P 07 54 45.5 -0.4
O18A Roosevelt 83.84 46 ⇓P P 07 54 47.8 +1.5
baz=84,SNR=7.9
P17A Butcher Ranch, 83.88 47 ⇑P P 07 54 47.7 +1.2
baz=84,SNR=8.3
J22A Midwest 83.91 41 ⇑P P 07 54 47.1 +0.6
baz=84,SNR=13
N19A John Jarvie Ra 83.95 45 ⇓P P 07 54 47.4 +0.6
baz=84
Q16A Castle Valley 83.96 47 ⇓P P 07 54 47.7 +0.8
baz=84
RZN Rozhen 83.96 316 *e*P P 07 54 47.2 +0.4
K21A Alcova 83.97 42 ⇓P P 07 54 47.6 +0.6
baz=84,SNR=7.2
MONP Monument Peak 84.09 55 ⇓P P 07 54 48.5 +0.8
baz=84
P18A Preston Nutter 84.09 46 ⇓P P 07 54 49.1 +1.4
baz=84,SNR=13
H24A Dirks Ranch, A 84.10 40 ⇓P P 07 54 47.7 +0.3
baz=84
M20A Sweetwater, Wa 84.16 44 ⇓P P 07 54 48.9 +1.0
baz=84
CLZ Clausthal 84.17 330 *e*P P 07 54 47.5 0.0
comp=Z,24nm,0.6s
CLZ Clausthal 84.17 330 *e*P P 07 54 47.5 0.0
CLZ pmax pmax
comp=Z,24nm,0.6s
IRM Iron Mountain 84.22 53 ⇑P P 07 54 48.3 +0.2
baz=84
SRU San Rafael 84.24 47 *e*P P 07 54 49.4 +1.1
SRU pmax pmax
comp=Z,12nm,0.5s
SRU San Rafael 84.24 47 *e*P P 07 54 49.4 +1.1
comp=Z,12nm,0.5s
VTS Vitosha 84.25 318 ⇓P P 07 54 48.2 0.0
VTS Vitosha 84.25 318⇓*i*P P 07 54 48.2 0.0
VTS Vitosha 84.25 318 *e*P P 07 54 48.0 -0.2
BC3 Big Chuckawall 84.31 54 ⇓P P 07 54 49.0 +0.3
baz=84
TANN Tannenbergstha 84.32 329 *e*P P 07 54 47.9 -0.4
comp=Z,9.0nm,0.8s
L21A Rawlins 84.33 43 ⇑P P 07 54 49.8 +1.1
baz=84
PKSM Moragy 84.33 323 ⇓P P 07 54 47.8 -0.5
PKSM Moragy 84.33 323⇓*i*P P 07 54 47.8 -0.5
PKSM Moragy 84.33 323⇓*e*PKiKP P 07 54 47.6 -0.7
KSL Kastellorizon 84.35 310 *e*P P 07 54 47.5 -1.1
O19A Miners Draw (B 84.35 45 ⇓P P 07 54 49.3 +0.5
baz=84
SOP Sopron 84.36 325⇓*e*PKiKP P 07 54 48.4 -0.1
K22A Casper 84.37 42 ⇑P P 07 54 49.3 +0.4
baz=84

S16A **Weppner Ranch,** 84.42 48 ⇓P P 07 54 49.8 +0.6
baz=84
EIL **Elat** 84.43 302 P P 07 54 48.9 -0.3
comp=Z,43nm,0.8s,baz=350,slow=2.8,SNR=16
EIL **Elat** 84.43 302 P P 07 54 48.9 -0.3
J23A **Dilts Ranch, B** 84.43 41 ⇑P P 07 54 49.7 +0.6
baz=84
DVTC **Desert V Tower** 84.44 55 ⇑P P 07 54 49.7 +0.4
baz=84
NKC **Novy Kostel** 84.46 328 ⇓*i*P P 07 54 48.6 -0.4
NKC **Novy Kostel** 84.46 328 ⇓*i*P P 07 54 48.6 -0.4
Q18A **Rafter H Ranch** 84.48 47 ⇑P P 07 54 49.6 +0.2
baz=84
W13A **Hualapai Mount** 84.51 52 ⇑P P 07 54 50.3 +0.6
baz=84
MDND **Maddock** 84.52 35 ⇓P P 07 54 49.5 +0.3
baz=84
MOX **Moxa** 84.52 329 *e*P P 07 54 48.9 -0.4
comp=Z,8.0nm,0.7s
MOX **Moxa** 84.52 329 *e*P P 07 54 48.9 -0.4
MOX pmax pmax
comp=Z,8.0nm,0.7s
ULM **Lac du Bonnet** 84.52 31 P P 07 54 49.2 0.0
comp=Z,5.5nm,0.4s,baz=306,slow=5.4,SNR=22
ULM **Lac du Bonnet** 84.52 31 P P 07 54 49.3 0.0
ULM pmax pmax
comp=Z,6.0nm,0.4s
ULM **Lac du Bonnet** 84.52 31 *e*P P 07 54 48.9 -0.3
comp=Z,6.1nm,0.6s
N20A **Spence Gulch,** 84.53 44 ⇑P P 07 54 50.9 +1.1
baz=84,SNR=10
CONA **Conrad Observa** 84.53 325 *i* P P 07 54 49.4 -0.1
comp=Z,25nm,0.8s
CONA **Conrad Observa** 84.53 325 *i* PcP P 07 54 49.4 -0.1
comp=Z,25nm,0.8s,SNR=28
R17A **Hanksville Air** 84.55 47 ⇓P P 07 54 50.8 +1.0
baz=84,SNR=9.7
PRK **Paraskevi** 84.55 314 *e*P P 07 54 50.0 +0.4
M21A **Separation Pea** 84.56 43 ⇓P P 07 54 50.7 +0.7
baz=84,SNR=6.0
NVR **Nevrokopi** 84.67 316 *e*P P 07 54 49.5 -0.7
KHC **Kasperske Hory** 84.75 327 ⇓*i*P P 07 54 50.0 -0.4
KHC **Kasperske Hory** 84.75 327 *e*P P 07 54 50.1 -0.4
comp=Z,24nm,0.8s
KHC **Kasperske Hory** 84.75 327 ⇓*i*P P 07 54 50.0 -0.4
KHC *e*pP **pP** 07 56 09.8 +4.1
U15A **North Rim** 84.76 50 ⇑P P 07 54 52.3 +1.3
baz=85,SNR=13
KKB **Krupnik** 84.79 317 *e*P P 07 54 50.6 -0.2
RSSD **Black Hills** 84.79 40 *e*P P 07 54 51.2 +0.2
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD **Black Hills** 84.79 40 *e*P P 07 54 51.2 +0.2
comp=Z,4.0nm,0.6s
LIA **Limnos Island** 84.81 315 *e*P P 07 54 50.5 -0.3
P19A **Cripple Cowboy** 84.85 46 ⇓P P 07 54 52.5 +1.1
baz=85,SNR=13
IBBN **Ibbenburen** 84.87 332 *e*P P 07 54 50.6 -0.3
comp=Z,47nm,0.4s
Y12C **Blythe** 84.88 53 ⇑P P 07 54 52.6 +1.2
baz=85
GEC2 **GERESS Array S** 84.90 327 *e*P P 07 54 50.6 -0.7
comp=Z,10.0nm,0.5s
GEC2 **GERESS Array S** 84.90 327 *e*P P 07 54 50.6 -0.7
GEC2 pmax pmax
comp=Z,10.0nm,0.5s
GERES **GERESS Array B** 84.90 327 P P 07 54 50.5 -0.7
comp=Z,14nm,0.7s,baz=41,slow=5.2,SNR=137
GERES **GERESS Array B** 84.90 327 P P 07 54 50.5 -0.7
GERES pmax pmax
comp=Z,14nm,0.7s
GERES **GERESS Array B** 84.90 327 P P 07 54 50.5 -0.7
ROTZ **Rotzenmuhle** 84.91 328 *e*P P 07 54 51.1 -0.1
comp=Z,9.0nm,0.9s
J24A **Dixon Ranch, L** 84.97 41 ⇓P P 07 54 51.9 +0.1
baz=85
S17A **Black Ridge (B** 84.97 48 ⇑P P 07 54 52.5 +0.6
baz=85
KAC **Achnashellach** 84.98 341 *e*P P 07 54 49.6 -1.7
KAC **Achnashellach** 84.98 341 P P 07 54 49.6 -1.7
O20A **White River Ci** 84.98 45 ⇑P P 07 54 52.4 +0.4
baz=85
N21A **Black Mountain** 85.01 44 ⇑P P 07 54 52.9 +0.7
baz=85
WET **Wettzell** 85.06 327 *e*P P 07 54 51.4 -0.6
comp=Z,4.0nm,0.8s
WET **Wettzell** 85.06 327 *e*P P 07 54 51.4 -0.6
WET pmax pmax
comp=Z,4.0nm,0.8s
LBOS 85.06 283 ⇓*e*P P 07 54 53.0 +0.2
LBOS AMb AMB 07 54 53.7
comp=Z,48nm,0.8s
R18A **Canyonlands Na** 85.07 47 ⇑P P 07 54 53.2 +0.8
baz=85,SNR=9.7
GLA **Glamis** 85.08 54 ⇑P P 07 54 53.1 +0.7
baz=85
Q19A **Hogan Spring (** 85.11 46 ⇑P P 07 54 52.9 +0.4
baz=85
M22A **Cedar Creek Ra** 85.14 43 ⇑P P 07 54 53.3 +0.5
baz=85
SMG **Samos** 85.15 312 *e*P P 07 54 51.0 -1.6
KPL **Plockton** 85.21 341 *e*P P 07 54 52.3 -0.1
KPL AMB AMB 07 55 03.7
comp=Z,143nm,4.4s
KPL **Plockton** 85.21 341 P P 07 54 52.3 -0.1
KPL AMB AMB 07 55 03.7
comp=Z,143nm,4.4s
CHOS **Chios island** 85.22 313 *e*P P 07 54 53.0 0.0
SOH **Sokhos** 85.30 316 *e*P P 07 54 52.0 -1.4
MOA **Molln** 85.35 326 *i* P P 07 54 53.0 -0.4
comp=Z,6.9nm,0.6s
MOA **Molln** 85.35 326 *i* P P 07 54 53.0 -0.4
comp=Z,6.9nm,0.6s,SNR=9.0
T17A **Navajo Res., N** 85.36 49 ⇑P P 07 54 54.6 +0.7
baz=85
O21A **Pagoda** 85.39 44 ⇓P P 07 54 54.4 +0.3
baz=85
GRF **Grafenberg Arr** 85.40 329 *e*P P 07 54 54.4 +0.8
comp=Z,15nm,0.6s
GRF **Grafenberg Arr** 85.40 329 *e*P P 07 54 54.4 +0.8
GRF pmax pmax
comp=Z,15nm,0.6s
GRFO **Grafenberg** 85.40 329 *e*P P 07 54 53.9 +0.3
GRFO pmax pmax
comp=Z,18nm,0.8s
GRFO **Grafenberg** 85.40 329 *e*P P 07 54 53.9 +0.3
comp=Z,18nm,0.8s
S18A **Hurst Farm, Bl** 85.44 48 ⇑P P 07 54 54.7 +0.3
baz=85
R19A **Curley Farm, L** 85.52 47 ⇓P P 07 54 55.8 +1.1
baz=86,SNR=6.6
PLG **Polygyros** 85.53 316 *e*P P 07 54 53.0 -1.5
ESY **Stoneypath** 85.57 339 *e*P P 07 54 53.7 -0.6
ESY **Stoneypath** 85.57 339 P P 07 54 53.7 -0.6
M23A **Laramie** 85.59 43 ⇓P P 07 54 55.6 +0.6
baz=86
N22A **Wattenberg Ran** 85.60 43 ⇓P P 07 54 56.1 +0.9
baz=86
PV10 **Paradox Valley** 85.60 47 *e*P P 07 54 57.0 +1.9
comp=Z,250nm,0.8s
PV04 **Paradox Valley** 85.67 47 *e*P P 07 54 57.8 +2.4
U16A **Tuba City** 85.67 49 ⇑P P 07 54 55.9 +0.5
baz=86
Q20A **Ridgley Place,** 85.69 46 ⇑P P 07 54 56.7 +1.2
baz=86,SNR=8.4
U17A **Shonto** 85.69 49 ⇑P P 07 54 56.8 +1.2
baz=86,SNR=9.6
Y14A **Wickenburg** 85.78 52 ⇓P P 07 54 56.5 +0.6
baz=86
Z13A **Yuma Proving G** 85.79 53 ⇓P P 07 54 56.4 +0.6
baz=86
SOKA **Soboth** 85.81 325 ⇑*i*P P 07 54 54.9 -0.9
comp=Z,12nm,0.5s
SOKA **Soboth** 85.81 325 ⇑*i*P P 07 54 54.8 -0.9
comp=Z,12nm,0.5s
EBL **Broad Law** 85.82 339 *e*P P 07 54 55.2 -0.3
EBL **Broad Law** 85.82 339 P P 07 54 55.2 -0.3
N23A **Red Feather La** 85.84 43 ⇓P P 07 54 56.9 +0.7
baz=86
P21A **Newcastle** 85.84 45 ⇑P P 07 54 57.0 +0.7
baz=86
EAB **Aberfoyle** 85.84 340 *e*P P 07 54 55.1 -0.5
EAB **Aberfoyle** 85.84 340 P P 07 54 55.1 -0.5
T18A **Mexican Hat** 85.86 48 ⇑P P 07 54 57.0 +0.8
baz=86
EAU **Auchinoon** 85.88 339 *e*P P 07 54 55.4 -0.4

EAU **Auchinoon** 85.88 339 P P 07 54 55.4 -0.4
K25A **Mack Ranch, Ha** 85.88 41 ⇑P P 07 54 57.1 +0.8
baz=86
WUAZ **Wupatki** 85.90 50 ⇑P P 07 54 57.5 +1.0
baz=86
S19A **Harvey Farm, M** 85.94 47 ⇑P P 07 54 57.6 +0.9
baz=86
O22A **Kremmling** 85.96 44 ⇓P P 07 54 57.8 +0.9
baz=86,SNR=6.4
113A **Mohawk Valley,** 85.97 53 ⇓P P 07 54 57.4 +0.7
baz=86
PV01 **Paradox Valley** 86.04 47 *e*P P 07 54 58.6 +1.3
comp=Z,546nm,0.9s
M24A **Cheyenne** 86.10 42 ⇓P P 07 54 58.8 +1.3
baz=86
RJOB **Jochberg** 86.12 327 *e*P P 07 54 56.7 -0.5
comp=Z,10.0nm,0.6s
R20A **Redvale** 86.12 46 ⇑P P 07 54 59.0 +1.4
baz=86,SNR=6.2
TNS **Taunus Mts** 86.19 330 *e*P P 07 54 56.4 -1.1
comp=Z,4.0nm,0.5s
TNS **Taunus Mts** 86.19 330 *e*P P 07 54 56.4 -1.1
TNS pmax pmax
comp=Z,4.0nm,0.5s
K26A **Motz Farm, Whi** 86.20 40 ⇑P P 07 54 58.5 +0.7
baz=86
P22A **Eagle** 86.20 45 ⇓P P 07 54 59.5 +1.5
baz=86,SNR=12
Q21A **Lamborn Mesa,** 86.20 46 ⇓P P 07 54 59.3 +1.3
baz=86
PGBU **Glenifferbraes** 86.21 340 *e*P P 07 54 57.3 0.0
PGBU AMB AMB 07 54 57.6
comp=Z,127nm,2.7s
PGBU **Glenifferbraes** 86.21 340 P P 07 54 57.3 0.0
PGBU AMB AMB 07 54 57.6
comp=Z,127nm,2.7s
V17A **Tonalea, Kykot** 86.21 50 ⇓P P 07 54 59.2 +1.2
baz=86
LIT **Litokhoron** 86.27 316 *e*P P 07 54 56.5 -1.6
O23A **Lake Granby, G** 86.30 44 ⇓P P 07 54 59.9 +1.3
baz=86,SNR=6.8
TRBA **At Turbah** 86.33 283 ⇓*e*P P 07 54 59.2 +0.2
KBA **Koelnbreinsper** 86.33 326 *i* P P 07 54 58.0 -0.4
KBA pmax pmax
comp=Z,7.0nm,0.5s
KBA **Koelnbreinsper** 86.33 326 *i* P P 07 54 58.0 -0.4
comp=Z,7.3nm,0.5s
KBA **Koelnbreinsper** 86.33 326 *i* PcP P 07 54 58.0 -0.4
comp=Z,7.3nm,0.5s,SNR=12
S20A **Disappointment** 86.36 47 ⇓P P 07 54 59.6 +0.7
baz=86
APE **Apeiranthos** 86.36 312 ⇓P P 07 54 56.5 -2.1
APE **Apeiranthos** 86.36 312 ⇓*i*P P 07 54 56.5 -2.1
N24A **Carr** 86.49 43 ⇑P P 07 55 00.5 +1.2
baz=86
TOD **Tromm** 86.50 330 *e*P P 07 54 57.3 -1.7
TOD **Tromm** 86.50 330 *e*P P 07 54 57.3 -1.7
R21A **Cimarron** 86.52 46 ⇑P P 07 55 00.6 +1.1
baz=86
MYKA **Terra Mystica** 86.52 325 ⇑*i*P P 07 54 57.7 -1.5
comp=Z,7.8nm,0.6s
MYKA **Terra Mystica** 86.52 325 ⇑*i*P P 07 54 57.7 -1.5
comp=Z,7.8nm,0.6s
VISS **Visnje** 86.53 324 *i* P P 07 54 58.0 -1.2
X16A **Lo Mia Camp, P** 86.53 51 ⇑P P 07 55 01.0 +1.4
baz=86
BOJS **Bojanci** 86.53 324 *i* P P 07 54 58.4 -0.8
114A **Black Gap (USA** 86.58 53 ⇓P P 07 55 00.8 +1.2
baz=86
T19A **Bellabito** 86.58 48 ⇓P P 07 55 00.5 +0.7
baz=86
Q22A **Crested Butte,** 86.58 45 ⇓P P 07 55 01.3 +1.4
baz=86,SNR=8.7
CRNS **Crni Vrh** 86.61 325 *i* P P 07 54 57.9 -1.7
MVCO **Mesa Verde** 86.67 47 ⇓P P 07 55 01.5 +1.2
baz=87
L26A **Underwood Farm** 86.70 41 ⇑P P 07 55 01.2 +1.0
baz=87
V18A **Ganado** 86.70 49 ⇓P P 07 55 01.4 +0.9
baz=87
K27A **Flueckinger Fa** 86.71 40 ⇓P P 07 55 01.1 +0.9
baz=87
ISCO **Idaho Springs** 86.74 44 *e*P P 07 55 02.0 +1.3
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO **Idaho Springs** 86.74 44 *e*P P 07 55 02.0 +1.3
comp=Z,10.0nm,1.2s
ISCO **Idaho Springs** 86.74 44 ⇓P P 07 55 01.7 +1.0
baz=87
U19A **Dine' College,** 86.80 48 ⇓P P 07 55 02.3 +1.3
baz=87
S21A **Coal Bank Pass** 86.82 47 ⇑P P 07 55 02.3 +1.2
baz=87
JAVS **Javornik** 86.84 325 *i* P P 07 54 59.1 -1.6
KESW **Keswick, Cumbr** 86.84 339 *e*P P 07 54 58.2 -2.3
KESW AMB AMB 07 55 09.7
comp=Z,102nm,3.6s
KESW **Keswick, Cumbr** 86.84 339 P P 07 54 58.2 -2.3
KESW AMB AMB 07 55 09.7
comp=Z,102nm,3.6s
O24A **Longmont** 86.85 43 ⇓P P 07 55 02.2 +1.2
baz=87
MEM **Membach** 86.88 332 P P 07 54 60.0 -0.8
ABTA **Abfaltersbach** 86.97 326 ⇓*i*P P 07 54 59.6 -1.8
comp=Z,24nm,1.1s
ABTA **Abfaltersbach** 86.97 326 ⇓*i*P P 07 54 59.6 -1.8
comp=Z,24nm,1.1s,SNR=17
WATA **Walderalm** 86.97 327 ⇓*i*P P 07 55 00.2 -1.2
WATA pmax pmax
comp=Z,7.0nm,0.5s
WATA **Walderalm** 86.97 327 ⇓*i*P P 07 55 00.2 -1.2
comp=Z,7.1nm,0.5s
WATA **Walderalm** 86.97 327 ⇓*i*P P 07 55 00.2 -1.2
comp=Z,7.1nm,0.5s
WTTA **Wattenberg** 87.00 327 *i* P P 07 55 00.6 -1.0
WTTA pmax pmax
comp=Z,12nm,0.6s
WTTA **Wattenberg** 87.00 327 *i* P P 07 55 00.6 -1.0
comp=Z,12nm,0.6s
WTTA **Wattenberg** 87.00 327 *i* P P 07 55 00.6 -1.0
comp=Z,12nm,0.6s,SNR=17
R22A **Saguache, Gunn** 87.08 46 ⇓P P 07 55 03.5 +1.1
baz=87
GAL1 **Galloway** 87.09 340 *e*P P 07 55 00.8 -0.8
GAL1 AMB AMB 07 55 06.1
comp=Z,109nm,4.6s
GAL1 **Galloway** 87.09 340 P P 07 55 00.8 -0.8
GAL1 AMB AMB 07 55 06.1
comp=Z,109nm,4.6s
RUP **Ruppelstein** 87.16 331 *e*P P 07 55 00.5 -1.6
RUP **Ruppelstein** 87.16 331 *e*P P 07 55 00.5 -1.6
MOTA **Moosalm** 87.18 327 *i* P P 07 55 01.4 -1.1
MOTA pmax pmax
comp=Z,9.0nm,0.5s
MOTA **Moosalm** 87.18 327 *i* P P 07 55 01.4 -1.1
comp=Z,8.8nm,0.5s
MOTA **Moosalm** 87.18 327 *i* P P 07 55 01.4 -1.1
comp=Z,8.8nm,0.5s,SNR=16
BRSD **Miller** 87.23 37 ⇑P P 07 55 03.0 +0.4
baz=87
RETA **Reutte** 87.23 327 *i* P P 07 55 01.8 -0.8
comp=Z,13nm,0.5s
RETA **Reutte** 87.23 327 *i* PcP P 07 55 01.8 -0.8
comp=Z,13nm,0.5s,SNR=22
BCLA **Clavier** 87.31 332 P P 07 55 01.5 -1.3
P24A **Kohler Place,** 87.34 44 ⇓P P 07 55 04.1 +0.7
baz=87
S22A **4UR Ranch, Cre** 87.35 46 ⇓P P 07 55 04.2 +0.6
baz=87
O25A **Wiggins** 87.40 43 ⇑P P 07 55 04.4 +0.8
baz=87
W19A **Sanders** 87.43 49 ⇑P P 07 55 04.4 +0.5
baz=87
X18A **Snowflake** 87.43 50 ⇓P P 07 55 04.2 +0.3
baz=87
WLF **Walferdange** 87.56 331 P P 07 55 03.5 -0.5
WLF **Walferdange** 87.56 331 *e*P P 07 55 03.5 -0.5
comp=Z,5.0nm,0.8s
Q24A **Divide** 87.56 44 ⇑P P 07 55 04.3 -0.3
baz=88
V20A **Brimhall** 87.58 48 ⇓P P 07 55 04.9 +0.2
baz=88
FETA **Feichten** 87.60 327 *i* P P 07 55 03.5 -0.9
comp=Z,17nm,0.6s
FETA **Feichten** 87.60 327 *i* PcP P 07 55 03.5 -0.9
comp=Z,17nm,0.6s,SNR=32
SNF **Seneffe** 87.64 333 P P 07 55 03.4 -0.9

R23A **Moffat** 87.67 45 ⇑P P 07 55 05.1 0.0
baz=88
BFO **Black Forest** 87.68 329 *e*P P 07 55 03.7 -0.9
comp=Z,8.0nm,0.6s
BFO *e*pP **pP** 07 56 21.8 +1.4
BFO **Black Forest** 87.68 329 *e*P P 07 55 03.7 -0.9
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO **Black Forest** 87.68 329 *e*P P 07 55 03.5 -1.0
comp=Z,8.8nm,0.6s
P25A **Willow Gulch B** 87.77 43 ⇑P P 07 55 05.4 0.0
baz=88
O26A **Horse Wrangler** 87.78 42 ⇓P P 07 55 05.5 +0.2
baz=88
T22A **Edith** 87.78 47 ⇑P P 07 55 06.1 +0.6
baz=88
DAVA **Damuels** 87.78 328 *i* P P 07 55 04.7 -0.6
comp=Z,28nm,0.6s
DAVA **Damuels** 87.78 328 *i* PcP P 07 55 04.7 -0.6
comp=Z,28nm,0.6s,SNR=11
N27A **Anderson Farm,** 87.83 42 ⇓P P 07 55 06.0 +0.4
baz=88
Y18A **Canyon Day Jun** 87.84 51 ⇑P P 07 55 06.8 +0.9
baz=88
DOU **Dourbes** 87.84 332 P P 07 55 04.5 -0.8
X19A **St. Johns** 87.92 50 ⇑P P 07 55 07.0 +0.7
baz=88
W20A **Ramah** 87.98 49 ⇓P P 07 55 07.4 +0.8
baz=88
BAIF **Baives** 88.03 332 *e*P P 07 55 05.2 -0.9
comp=Z,5.4nm,0.6s
CDF **Champ du Feu** 88.07 330 *e*P P 07 55 05.6 -0.9
R24A **Sanders Place,** 88.07 45 ⇓P P 07 55 08.2 +1.3
baz=88
V21A **Milan** 88.09 48 ⇑P P 07 55 07.9 +0.8
baz=88
SDCO **Great Sand Dun** 88.15 45 *e*P P 07 55 08.2 +0.9
comp=Z,1.4nm,0.7s
DAVOX **Davos/Dischmat** 88.16 327 P P 07 55 06.4 -0.7
comp=Z,30nm,0.5s,baz=31,slow=2.4,SNR=99
DAVOX PP **PP** 07 58 37.9 -0.6
comp=Z,2.7nm,0.8s,baz=124,slow=1.5,SNR=3.4
DAVOX **Davos/Dischmat** 88.16 327 P P 07 55 06.4 -0.7
DAVOX 07 58 37.9
DAVOX **Davos/Dischmat** 88.16 327 P P 07 55 06.4 -0.7
DAVOX PP **PP** 07 58 37.9 -0.6
P26A **Davis Ranch, A** 88.21 43 ⇓P P 07 55 08.1 +0.6
baz=88
ECH **Echery** 88.27 330 *e*P P 07 55 06.7 -0.6
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH **Echery** 88.27 330 *e*P P 07 55 06.7 -0.6
comp=Z,7.5nm,0.9s
ECH **Echery** 88.27 330 *e*P P 07 55 06.8 -0.6
ATD **Arta Tunnel** 88.29 283 P P 07 55 08.8 +0.8
comp=Z,27nm,1.1s,baz=118,slow=23,SNR=3.6
ATD **Arta Tunnel** 88.29 283 P P 07 55 08.8 +0.8
T23A **Casias Ranch,** 88.29 46 ⇓P P 07 55 09.3 +1.2
baz=88
FOEL **Foel Wylfa** 88.32 338 *e*P P 07 55 05.6 -1.9
FOEL **Foel Wylfa** 88.32 338 P P 07 55 05.6 -1.9
X20A **Quemado** 88.35 49 ⇓P P 07 55 10.1 +1.8
baz=88
S24A **Houchin Ranch,** 88.39 45 ⇓P P 07 55 09.9 +1.3
baz=88
YLL **Llanberis** 88.41 338 *e*P P 07 55 07.3 -0.6
YLL **Llanberis** 88.41 338 P P 07 55 07.3 -0.6
MOF **Molkenrain** 88.56 329 *e*P P 07 55 08.1 -0.7
MOF **Molkenrain** 88.56 329 *e*P P 07 55 08.1 -0.7
MOF **Molkenrain** 88.56 329 *e*P P 07 55 08.1 -0.7
PAGF **Fort de Pagny** 88.60 331 *e*P P 07 55 08.3 -0.6
comp=Z,7.6nm,0.7s
R25A **Fountain Ranch** 88.61 44 ⇑P P 07 55 10.0 +0.7
baz=88
YRE **Yr Eifl** 88.63 338 *e*P P 07 55 08.2 -0.7
YRE **Yr Eifl** 88.63 338 P P 07 55 08.2 -0.7
TUE **Stuetta** 88.64 327 *e*P P 07 55 08.4 -1.0
comp=Z,16nm,0.6s
U23A **El Rito** 88.66 47 ⇓P P 07 55 10.6 +0.9
baz=89
HINF **Hinteralfeld** 88.71 330 *e*P P 07 55 08.1 -1.4
comp=Z,16nm,0.8s
HAU **Haudompre** 88.77 330 *e*P P 07 55 08.5 -1.2
Y20A **Horse Springs,** 88.83 50 ⇑P P 07 55 11.6 +1.1
baz=89
T24A **Torres, Weston** 88.86 46 ⇑P P 07 55 12.2 +1.5
baz=89
X21A **Alamocita Cree** 88.87 49 ⇓P P 07 55 11.9 +1.2
baz=89
ECSD **EROS Data Cent** 88.92 36 *e*P P 07 55 10.3 -0.1
comp=Z,8.6nm,1.0s
218A **Dragoon** 88.95 52 ⇑P P 07 55 12.0 +0.9
baz=89
DLF **Lyons Farm** 88.99 340 ⇓*i*P P 07 55 10.2 -0.3
KSCO **Kaye Shedlock'** 89.00 43 ⇓P P 07 55 11.7 +0.6
baz=89
R26A **Arlington** 89.00 44 ⇓P P 07 55 11.8 +0.7
baz=89
MCH1 **Michaelchurch** 89.02 337 *e*P P 07 55 10.2 -0.6
MCH1 AMB AMB 07 55 14.4
comp=Z,70nm,4.9s
MCH1 **Michaelchurch** 89.02 337 P P 07 55 10.2 -0.6
MCH1 AMB AMB 07 55 14.4
comp=Z,70nm,4.9s
U24A **Moreno Valley** 89.16 46 ⇑P P 07 55 13.6 +1.5
baz=89
SFTF **Sexfontaines** 89.16 331 *e*P P 07 55 10.7 -0.8
comp=Z,50nm,1.0s
Z20A **Nine Sixteen R** 89.19 50 ⇓P P 07 55 13.2 +1.0
baz=89
T25A **Trinidad** 89.20 45 ⇑P P 07 55 13.1 +0.9
baz=89
HGH **Gray Hill** 89.26 337 *e*P P 07 55 10.6 -1.2
HGH **Gray Hill** 89.26 337 P P 07 55 10.6 -1.2
ANMO **Albuquerque** 89.39 48 P P 07 55 14.9 +1.9
comp=Z,1.8nm,0.8s,baz=327,slow=2.8,SNR=6.2
ANMO **Albuquerque** 89.39 48 P P 07 55 15.0 +1.9
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO **Albuquerque** 89.39 48 *e*P P 07 55 14.3 +1.2
comp=Z,1.9nm,0.8s
R27A **Eads** 89.39 43 ⇓P P 07 55 12.7 -0.2
baz=89
W23A **Werner Place,** 89.44 48 ⇓P P 07 55 13.9 +0.6
baz=89
V24A **Rampart Ranch,** 89.61 47 ⇑P P 07 55 15.1 +0.9
baz=90
SPMN **St. Paul** 89.64 33 ⇑P P 07 55 14.5 +0.7
baz=90
Z21A **St. Cloud Mine** 89.67 50 ⇓P P 07 55 15.4 +0.9
baz=90
U25A **Circle Dot Ran** 89.69 46 ⇓P P 07 55 14.7 +0.2
baz=90
Y22A **Socorro** 89.72 49 ⇓P P 07 55 14.7 +0.1
baz=90
W24A **Lazy 6 Ranch,** 89.87 47 ⇓P P 07 55 16.5 +1.2
baz=90
V25A **Rancho No Teng** 89.94 46 ⇑P P 07 55 16.6 +0.9
baz=90
CABF **La Chapelle** 89.97 329 *e*P P 07 55 14.5 -0.9
comp=Z,22nm,0.8s
220A **Playas Peak, P** 90.00 51 ⇓P P 07 55 17.5 +1.5
baz=90
U26A **Atchley Ranch,** 90.10 45 ⇓P P 07 55 17.4 +1.1
baz=90
SCHQ **Schefferville** 90.15 14 P P 07 55 16.2 +0.3
comp=Z,1.9nm,0.4s,baz=250,slow=9.2,SNR=9.1
SCHQ **Schefferville** 90.15 14 P P 07 55 16.2 +0.3
Y23A **Lovelace Mesa,** 90.30 48 ⇓P P 07 55 18.0 +0.7
baz=90
320A **Kipp Ranch, An** 90.36 52 ⇑P P 07 55 18.0 +0.4
baz=90
LOR **Lormes** 90.39 331 *e*P P 07 55 16.3 -1.0
comp=Z,11nm,0.6s
LOR *e*pP **pP** 07 56 30.9 -2.5
W25A **X Bar L Ranch,** 90.44 47 ⇑P P 07 55 18.7 +0.7
baz=90
RSL **Roselend** 90.46 328 *e*P P 07 55 17.6 -0.2
RSL **Roselend** 90.46 328 *e*P P 07 55 17.6 -0.2
RSL **Roselend** 90.46 328 *e*P P 07 55 17.6 -0.2
LPL **La Plagne** 90.54 328 *e*P P 07 55 17.5 -0.8
comp=Z,33nm,0.6s
LPG **La Plagne** 90.55 328 *e*P P 07 55 17.7 -0.7
comp=Z,42nm,0.6s
Y24A **Capitan** 90.69 48 ⇓P P 07 55 19.6 +0.4
baz=91
SSF **Saint Saulge** 90.70 331 *e*P P 07 55 17.9 -0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,16nm,0.8s						
222A	Williams Famil	90.81	50	⇓P	P	07 55 20.7	+1.0
	baz=91						
FLN	La Foliniere	90.86	334	eP	P	07 55 18.5	-0.9
	comp=Z,18nm,0.6s						
LDF	La Druitiere	90.87	334	eP	P	07 55 18.2	-1.2
	comp=Z,18nm,0.5s						
BNI	Bardonecchia	90.93	328	eP	P	07 55 18.9	-1.0
BNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNI	Bardonecchia	90.93	328	eP	P	07 55 18.9	-1.0
	comp=Z,9.8nm,0.6s						
AVF	Avril sur Loir	90.98	331	eP	P	07 55 19.2	-0.8
	comp=Z,39nm,0.7s						
X26A	CR and CF Fran	91.29	47	⇑P	P	07 55 22.7	+0.9
	baz=91						
GRR	Gorron	91.31	334	eP	P	07 55 20.9	-0.6
	comp=Z,75nm,0.7s						
BGF	Bois d'Agland	91.38	331	eP	P	07 55 21.0	-0.8
	comp=Z,13nm,0.7s						
ORIF	Oris-en-Rattie	91.39	328	eP	P	07 55 21.0	-1.0
	comp=Z,18nm,0.6s						
ORIF				epP	pP	07 56 35.8	-2.4
W27A	Bowe Ranch, En	91.40	46	⇑P	P	07 55 23.6	+1.3
	baz=91						
SBF	Sospel	91.50	327	eP	P	07 55 20.8	-1.7
PLDF	La Plantade	91.53	330	eP	P	07 55 22.0	-0.6
PLDF	La Plantade	91.53	330	eP	P	07 55 22.0	-0.6
PLDF	La Plantade	91.53	330	eP	P	07 55 22.0	-0.6
Z25A	Roswell	91.56	48	⇑P	P	07 55 24.3	+1.1
	baz=92						
SSB	Saint Sauveur	91.69	329	eP	P	07 55 22.4	-1.0
SSB				pmax	pmax		
	comp=Z,12nm,0.6s						
SSB	Saint Sauveur	91.69	329	eP	P	07 55 22.4	-1.0
	comp=Z,12nm,0.6s						
224A	Cornudas Mount	91.84	50	⇓P	P	07 55 25.3	+0.9
	baz=92						
VIVF	Saint-Julien-l	91.96	329	eP	P	07 55 23.8	-0.8
	comp=Z,40nm,0.7s						
125A	Gardner Draw,	92.01	49	⇓P	P	07 55 26.0	+0.8
	baz=92						
Z26A	Caprock	92.03	48	⇓P	P	07 55 26.0	+0.8
	baz=92						
SGMF	Saint Gilles	92.04	335	eP	P	07 55 25.4	+0.6
	comp=Z,54nm,0.8s						
Y27A	Causey	92.13	47	⇓P	P	07 55 26.1	+0.4
	baz=92						
ROSF	Rostrenen	92.22	335	eP	P	07 55 25.3	-0.4
	comp=Z,150nm,1.4s						
SMRF	Simiane la Rot	92.26	328	eP	P	07 55 25.0	-1.0
	comp=Z,9.5nm,0.7s						
225A	Deer Hill, Car	92.27	49	⇑P	P	07 55 26.9	+0.4
	baz=92						
LBL	Lubilhac	92.28	330	eP	P	07 55 25.7	-0.4
LBL	Lubilhac	92.28	330	eP	P	07 55 25.7	-0.4
LBL	Lubilhac	92.28	330	eP	P	07 55 25.7	-0.4
324A	Moseley Ranch,	92.28	50	⇑P	P	07 55 27.1	+0.6
	baz=92						
MSTX	Muleshoe	92.31	47	⇓P	P	07 55 26.8	+0.3
	baz=92						
AMTX	Amarillo	92.36	45	eP	P	07 55 27.7	+1.0
	comp=Z,16nm,0.8s						
126A	Clayton Basin,	92.42	48	⇓P	P	07 55 27.6	+0.5
	baz=92						
Z27A	Tatum	92.48	47	⇓P	P	07 55 27.8	+0.5
	baz=92						
MFF	Saint Martin d	92.53	333	eP	P	07 55 26.9	-0.2
	comp=Z,53nm,0.7s						
QUIF	Quistinic	92.54	335	eP	P	07 55 26.5	-0.6
	comp=Z,19nm,0.8s						
325A	Bean Ranch, Si	92.66	50	⇑P	P	07 55 29.2	+0.9
	baz=93						
226A	Malaga, Loving	92.76	49	⇑P	P	07 55 29.5	+0.9
	baz=93						
127A	Arkansas Junct	92.82	48	⇓P	P	07 55 29.1	+0.2
	baz=93						
RJF	Les Rejaudoux	92.94	331	eP	P	07 55 28.7	-0.3
	comp=Z,45nm,0.7s						
LASF	Ste Croix	92.94	329	eP	P	07 55 28.3	-0.8
	comp=Z,31nm,0.8s						
CAF	Calviac	93.02	330	eP	P	07 55 29.4	-0.1
	comp=Z,29nm,0.7s						
425A	Indio Mountain	93.03	50	⇑P	P	07 55 31.2	+1.2
	baz=93						
227A	Bennet, Jal	93.30	48	⇑P	P	07 55 31.7	+0.7
	baz=93						
MRIV	Mauritius Mete	93.32	248	eP	P	07 55 29.8	-1.4
326A	Caldwell Ranch	93.33	49	⇓P	P	07 55 31.8	+0.5
	baz=93						
426A	McDonald Obser	93.73	50	⇑P	P	07 55 33.7	+0.5
	baz=94						
427A	Hayter Ranch,	94.01	49	⇑P	P	07 55 34.7	+0.4
	baz=94						
328A	Wristen Ranch,	94.03	49	⇑P	P	07 55 34.9	+0.5
	baz=94						
526A	Mary Lane Ranc	94.09	50	⇓P	P	07 55 35.5	+0.7
	baz=94						
MTLF	Montolieu	94.24	329	eP	P	07 55 34.3	-0.7
	comp=Z,21nm,1.1s						
527A	Woodward Ranch	94.34	50	⇓P	P	07 55 36.6	+0.7
	baz=94						
626A	Big Bend Ranch	94.40	51	⇓P	P	07 55 37.2	+1.0
	baz=94						
428A	Kincaid Ranch,	94.55	49	⇑P	P	07 55 37.7	+0.9
	baz=94						
TXAR	Lajitas Array	94.85	51	P	P	07 55 39.2	+1.0
	comp=Z,2.5nm,0.6s,baz=295,slow=2.5,SNR=54						
TXAR				pP	pP	07 56 54.7	+0.2
	comp=Z,1.3nm,0.6s,baz=304,slow=2.9,SNR=3.2						
TXAR				PKKPbc	PKKPbc	08 12 33.2	+1.2
	comp=Z,0.1nm,0.4s,baz=149,slow=6.4,SNR=14						
TXAR	Lajitas Array	94.85	51	P	P	07 55 39.2	+1.0
TXAR				*PP	pP	07 56 54.7	+0.2
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	94.85	51	P	P	07 55 39.2	+1.0
TXAR				pP	pP	07 56 54.7	+0.2
TXAR				PKKPbc	PKKPbc	08 12 33.2	+1.2
528A	Cox Ranch, San	94.86	49	⇑P	P	07 55 38.9	+0.6
	baz=95						
627A	Terlingua Ranc	94.95	50	⇓P	P	07 55 39.3	+0.6
	baz=95						
TUL1	Tulsa	95.03	41	⇓P	P	07 55 39.2	+0.4
	baz=95						
EPF	Esparros	95.28	330	eP	P	07 55 38.4	-1.5
ETSF	Etsaut	95.76	331	eP	P	07 55 41.8	-0.3
	comp=Z,8.9nm,0.6s						
KEST	Kesra	96.72	320	P	P	07 55 46.3	-0.3
	comp=Z,1.0nm,0.8s,baz=338,slow=3.8,SNR=4.0						
KEST	Kesra	96.72	320	P	P	07 55 46.3	-0.3
ESDC	Sonseca Array	99.86	331	P	Pdif	07 55 59.3	-1.2
	comp=Z,0.8nm,0.5s,baz=27,slow=3.3,SNR=5.7						
ESDC	Sonseca Array	99.86	331	P	Pdif	07 55 59.3	-1.2
MDT	Midelt	105.95	328	Pdiff	Pdif	07 56 27.0	-0.8
	comp=Z,1.4nm,0.8s,baz=18,slow=9.6,SNR=3.5						
MDT	Midelt	105.95	328	Pdif	Pdif	07 56 27.0	-0.8
TORD	Torodi Ar. Bea	118.28	310	PKP	PKPdf	08 01 00.8	-1.2
	comp=Z,4.0nm,0.5s,baz=51,slow=1.4,SNR=50						
TORD				SKP	SKPdf	08 04 04.9	-1.3
	comp=Z,1.6nm,0.9s,baz=25,slow=1.4,SNR=3.6						
TORD	Torodi Ar. Bea	118.28	310	PKP	PKPdf	08 01 00.8	-1.2
TORD				SKP	SKPdf	08 04 04.9	-1.3
MSKU	Masuku	119.58	289	PKP	PKPdf	08 01 03.6	-0.9
	comp=Z,15nm,0.7s,baz=352,slow=23,SNR=3.8						
MSKU	Masuku	119.58	289	PKP	PKPdf	08 01 03.6	-0.9
LBTB	Lobatse	121.35	259	PKP	PKPdf	08 01 07.7	+0.1
	comp=Z,11nm,0.7s,baz=127,slow=1.7,SNR=24						
LBTB	Lobatse	121.35	259	ePKIKP	PKPdf	08 01 07.5	-0.1
LBTB	Lobatse	121.35	259	ePKPdf	PKPdf	08 01 07.5	-0.1
LBTB				PKP	PKPdf	08 01 07.7	+0.1
QSPA	South Pole Qui	122.50	180	PKP	PKPdf	08 01 08.5	-0.1
	comp=Z,1.4nm,0.5s,baz=304,slow=1.9,SNR=5.4						
QSPA				SKP	SKPdf	08 04 12.6	0.0
	comp=Z,3.1nm,0.7s,baz=292,slow=1.5,SNR=3.6						
QSPA	South Pole Qui	122.50	180	ePKPdf	PKPdf	08 01 08.2	-0.4
QSPA				PKP	PKPdf	08 01 08.5	-0.1
QSPA				SKP	SKPdf	08 04 12.6	0.0
BOSA	Boshof	123.05	255	PKP	PKPdf	08 01 10.9	0.0
	comp=Z,7.6nm,0.7s,baz=100,slow=1.7,SNR=22						
BOSA	Boshof	123.05	255	ePKIKP	PKPdf	08 01 10.8	0.0
BOSA	Boshof	123.05	255	ePKPdf	PKPdf	08 01 10.8	0.0
DBIC	Dimbokro	127.36	311	PKP	PKPdf	08 01 19.0	-0.4
	comp=Z,5.8nm,0.4s,baz=354,slow=3.3,SNR=28						
DBIC				PP	PP	08 03 23.2	+0.3
	comp=Z,4.0nm,0.7s,baz=38,slow=4.2,SNR=4.1						
DBIC	Dimbokro	127.36	311	PKIKP	PKPdf	08 01 19.0	-0.4
DBIC						08 03 23.3	
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DBIC	Dimbokro	127.36	311	PKP	PKPdf	08 01 19.0	-0.4
DBIC				PP	PP	08 03 23.2	+0.3
LIC	Lamto	127.81	311	⇑iPKIKP	PKPdf	08 01 20.0	-0.2
	comp=Z,13nm,0.5s						
SUR	Sutherland	127.95	252	PKP	PKPdf	08 01 21.1	+0.9
	comp=Z,5.0nm,0.8s,baz=270,slow=14,SNR=2.9						
SUR	Sutherland	127.95	252	PKP	PKPdf	08 01 21.1	+0.9
SDV	Santo Domingo	130.30	39	ePKPdf	PKPdf	08 01 24.9	-0.3
ROSC	El Rosal	131.50	46	PKP	PKPdf	08 01 27.4	-0.4
	comp=Z,1.7nm,0.5s,baz=111,slow=15,SNR=3.2						
ROSC	El Rosal	131.50	46	PKP	PKPdf	08 01 27.4	-0.4
NNA	Nana	141.83	65	PKhKP	PKPpre	08 01 42.5	
	comp=Z,5.9nm,0.9s,baz=86,slow=2.5,SNR=2.9						
NNA	Nana	141.83	65	i PKIKP	PKPdf	08 01 46.5	+0.2
NNA	Nana	141.83	65	PKPpre	PKPpre	08 01 42.5	
PMSA	Palmer Station	145.16	164	PKPbc	PKPdf	08 01 50.1	-0.3
	comp=Z,14nm,0.8s,baz=138,slow=2.0,SNR=3.6						
PMSA	Palmer Station	145.16	164	PKPbc	PKPdf	08 01 50.1	-0.3
SAML	Samuel	149.14	45	ePKPdf	PKPdf	08 01 58.8	+0.1
SAML				ePKPbc	PKPbc	08 02 02.8	-0.4
SAML				ePKPab	PKPab	08 02 08.4	-0.2
USHA	Ushuaia	151.04	148	PKPbc	PKPbc	08 02 07.4	+0.9
	comp=Z,15nm,0.9s,baz=174,slow=5.1,SNR=9.6						
USHA	Ushuaia	151.04	148	PKPbc	PKPbc	08 02 07.4	+0.9
LPAZ	La Paz	151.09	62	PKPbc	PKPbc	08 02 09.0	+0.5
	comp=Z,10.0nm,0.8s,baz=348,slow=4.0,SNR=33						
LPAZ				PKPab	PKPab	08 02 16.2	-1.3
	comp=Z,7.4nm,0.7s,baz=227,slow=2.4,SNR=11						
LPAZ				pPKPbc	pPKPbc	08 03 28.8	+0.4
	comp=Z,8.4nm,0.8s,baz=8.0,slow=5.0,SNR=6.5						
LPAZ	La Paz	151.09	62	ePKIKP	PKPbc	08 02 08.3	-0.3
LPAZ						08 02 16.3	
LPAZ						08 03 28.8	
LPAZ	La Paz	151.09	62	ePKPbc	PKPbc	08 02 08.3	-0.3
LPAZ				PKPab	PKPab	08 02 16.2	-1.3
LPAZ				pPKPbc	pPKPbc	08 03 28.8	+0.4
RCBR	Riachuelo	152.65	347	PKP	PKPdf	08 02 04.3	+0.2
	comp=Z,2.2nm,0.9s,baz=25,slow=18,SNR=4.5						
RCBR				PKPbc	PKPbc	08 02 11.2	-0.2
	comp=Z,15nm,0.7s,baz=238,slow=1.2,SNR=14						
RCBR				PKPab	PKPab	08 02 22.9	-0.4
	comp=Z,13nm,0.7s,baz=10.0,slow=4.4,SNR=8.4						
RCBR	Riachuelo	152.65	347	PKP	PKPdf	08 02 04.3	+0.2
RCBR				PKPbc	PKPbc	08 02 11.2	-0.2
RCBR				PKPab	PKPab	08 02 22.9	-0.4
LVC	Limon Verde	154.02	74	ePKPab	PKPab	08 02 30.7	+1.3
PLCA	Paso Flores	155.70	117	PKPab	PKPab	08 02 36.4	+0.5
	comp=Z,4.1nm,0.8s,baz=254,slow=5.7,SNR=8.5						
PLCA				pPKPab	pPKPab	08 03 53.4	+0.5
	comp=Z,3.4nm,0.9s,baz=261,slow=2.4,SNR=3.3						
PLCA	Paso Flores	155.70	117	ePKP2	PKPab	08 02 36.3	+0.4
PLCA	Paso Flores	155.70	117	ePKPab	PKPab	08 02 36.3	+0.4
PLCA				pPKPab	pPKPab	08 03 53.4	+0.5
SIV	San Ignacio	155.85	51	PKP	PKPdf	08 02 09.7	+1.2
	comp=Z,1.3nm,0.8s,baz=113,slow=2.7,SNR=5.6						
SIV				PKPbc	PKPab	08 02 18.1	-19
	comp=Z,1.6nm,0.8s,baz=248,slow=1.3,SNR=6.3						
SIV				PKPab	PKPab	08 02 36.8	-0.2
	comp=Z,1.9nm,0.6s,baz=12,slow=7.0,SNR=7.9						
SIV				pPKPab	pPKPab	08 03 54.3	+0.4
	comp=Z,3.1nm,0.9s,baz=350,slow=2.2,SNR=4.4						
SIV	San Ignacio	155.85	51	PKP	PKPdf	08 02 09.7	+1.2
SIV				PKPbc	PKPab	08 02 18.1	-19
SIV				PKPab	PKPab	08 02 36.8	-0.2
SIV				pPKPab	pPKPab	08 03 54.3	+0.4
CFAA	Coronel Fontan	157.61	94	PKPab	PKPab	08 02 45.0	+0.6
	comp=Z,0.9nm,0.7s,baz=266,slow=3.6,SNR=15						
CFAA				pPKPab	pPKPab	08 04 01.7	+0.4
	comp=Z,0.4nm,0.8s,baz=257,slow=5.3,SNR=3.0						
CFAA	Coronel Fontan	157.61	94	PKPab	PKPab	08 02 45.0	+0.6
CFAA				pPKPab	pPKPab	08 04 01.7	+0.4

*ISCJB **02** 07:54:35.4±0.3, 6°.16S±0°.06×113°.91E±0°.08, h550km, mb4.0/15, Error ellipse: s-maj=10.6km s-min=6.7km az=155.3*
*IDC **02** 07:54:36.9±0.8, 6°.11S×113°.95E, h550km±9km, mb3.4/14, mb1 3.5/15, mb1mx3.4/22, mbtmp3.4/15, Error ellipse: s-maj=23.7km s-min=8.4km az=61.0*
*DJA **02** 07:54:36, 6°.65S×113°.91E, h557km, MLv4.0/16*
ISC 02 07:54:36.7±0.5, **6°.16S**±0°.07×**113°.89E**±0°.07, **h550**km, **n46**, σ**1s.24**/51, **mb3.9**/15, **Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMMI	Kalianget	0.88	175	P	P	07 55 42.7	-0.1
KMMI	Kalianget	0.88	175	P	S	07 56 40.0	+3.6
	151nm,1.4s						
BLJI	Banyuglugur	1.60	191	P	P	07 55 44.0	-0.8
GMJI	Gumukmas	2.14	192	P	P	07 55 45.6	-1.5
JAGI	Jajag, Banyuwa	2.31	174	P	P	07 55 45.7	-2.2
JAGI	Jajag, Banyuwa	2.31	174	P	S	07 56 50.1	+4.3
	150nm,0.8s						
KRKI	Karangkates	2.44	216	P	P	07 55 47.5	-1.1
SJI	Sawahan	2.62	233	P	P	07 55 48.4	-1.3
KHKI	Kahang-Kahang	2.77	142	P	P	07 55 48.5	-1.9
KHKI	Kahang-Kahang	2.77	142	P	S	07 56 48.8	-1.5
PWJI	Pagerwojo	2.77	228	P	P	07 55 48.8	-1.6
BBKI	Banjar Baru	2.85	20	P	P	07 55 49.9	-1.0
IGBI	Denpasar	2.92	155	P	S	07 56 51.6	-0.3
	145nm,0.7s,12μm						
PCJI	Pacitan	3.36	233	P	P	07 55 52.9	-1.2
UGM	Wanagama	3.77	242	P	P	07 55 57.5	+0.5
PLKI	Palangkaraya	3.91	1	P	P	07 55 57.6	-0.4
PBKI	Pangkalan Bun	4.09	327	P	P	07 55 59.3	0.0
BJII	Banjamegara	4.31	254	P	P	07 56 02.5	+1.4
CISI	Cisompet, Garu	6.19	257	P	P	07 56 15.6	-1.6
	151nm,0.7s,2μm1.8nm						
LEM	Lembang	6.27	264	P	S	07 57 40.9	+0.1
STKI	Sintang	6.64	339	P	P	07 56 21.9	+0.5
	219nm,0.7s,1.2nm						
STKI	Sintang	6.64	339	P	P	07 56 21.9	+0.5
	219nm,0.7s,1.2nm						
TPI	Tanjungpandan	7.08	298	P	P	07 56 25.2	-0.3
	108nm,1.1s,996nm0.4nm						
CGJI	Cibinong	8.16	266	P	S	07 58 12.9	-1.0
KSM	Kuching	8.39	335	P	P	07 56 38.7	+0.3
	82nm,0.9s,621nm						
FITZ	Fitzroy Crossi	16.50	137	P	P	07 58 00.1	-0.9
	1.3nm,0.3s,baz=326,slow=4.7,SNR=32						
FITZ	Fitzroy Crossi	16.50	137	eP	P	07 58 00.1	-0.9
WRA	Warramunga Arr	24.13	126	P	P	07 59 09.5	-0.4
	5.2nm,0.3s,baz=299,slow=11,SNR=26						
WRA				ScP	ScP	08 05 18.3	-0.5
	0.4nm,0.6s,baz=331,slow=2.1,SNR=2.1						
KLBR	Kellerberrin	25.55	172	eP	P	07 59 22.6	+0.2
	9.2nm,0.6s						
ASAR	Alice Springs	25.95	134	P	P	07 59 25.6	-0.4
	4.8nm,0.4s,baz=305,slow=8.0,SNR=84						
ASAR				ScP	ScP	08 05 24.1	+0.1
	0.6nm,0.4s,baz=317,slow=2.5,SNR=9.2						
NWAO	Narrogin (SRO)	26.81	174	P	P	07 59 33.7	+0.3
	2.7nm,0.3s,baz=56,slow=8.5,SNR=5.7						
FORT	Forrest	27.87	153	eP	P	07 59 43.1	+0.4
CMAR	Chiang Mai Arr	28.56	329	P	P	07 59 49.6	+0.7
	2.3nm,0.9s,baz=154,slow=7.1,SNR=8.4						
CTA	Charters Tower	34.33	117	P	P	08 00 38.6	+0.5
	2.9nm,0.9s,baz=290,slow=10,SNR=3.6						
STKA	Stephens Creek	36.39	138	P	P	08 00 55.5	+0.4
	7.5nm,0.5s,baz=310,slow=7.6,SNR=38						
STKA	Stephens Creek	36.39	138	eP	P	08 00 55.0	-0.1
ARMA	Armidale	42.87	129	eP	P	08 01 49.1	+1.9
KSRS	Korea Array	45.33	16	P	P	08 02 06.6	+0.7
	2.1nm,0.8s,baz=199,slow=7.2,SNR=4.7						
MJAR	Matsushiro Arr	48.21	26	P	P	08 02 26.1	-1.5
	2.1nm,0.7s,baz=206,slow=9.1,SNR=6.6						
USRK	Ussuriysk Arra	52.73	16	P	P	08 03 00.5	+0.1
	5.1nm,0.7s,baz=193,slow=3.4,SNR=10.0						
SONM	Songino Array	54.17	354	P	P	08 03 10.6	-0.2
	2.9nm,0.4s,baz=174,slow=8.9,SNR=16						
MKAR	Makanchi Array	59.71	335	P	P	08 03 48.3	-0.3
	1.2nm,0.3s,baz=145,slow=7.1,SNR=34						
MKAR				pP	pP	08 05 38.0	+1.0
	1.1nm,0.9s,baz=139,slow=9.4,SNR=3.9						
KURK	Kurchatov	64.30	336	P	P	08 04 17.8	-0.4
	0.2nm,0.3s,baz=162,slow=8.6,SNR=3.3						
KURK				pP	pP	08 06 08.8	0.0
	0.1nm,0.3s,baz=101,slow=10,SNR=3.2						
ZALV	Zalesovo Beam	64.68	341	P	P	08 04 19.3	-1.3
	1.0nm,0.3s,baz=146,slow=4.8,SNR=8.6						
ZALV				pP	pP	08 06 10.4	-1.0
	0.3nm,0.5s,baz=182,slow=10,SNR=2.2						
BVAR	Borovoye Array	69.47	334	P	P	08 04 50.1	+0.1
	0.5nm,0.5s,baz=151,slow=9.5,SNR=5.1						
CPUP	Villa Florida	146.59	194	PKPbc	PKPbc	08 13 17.9	+0.4
	0.9nm,0.5s,baz=47,slow=3.3,SNR=5.1						

CASC 02 08:03:06.4±2.0, **11°.92N**×**86°.88W**, **h96**km±16km, **MD3.8**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.60	17	eP	Pn	08 03 22.9	+0.1
CNGN				eS	Sn	08 03 36.6	+1.7
CNCH	Conchagua	1.64	326	eP	Pn	08 03 34.4	+0.1
GBS2	Las Lilas	1.77	127	i S	Sn	08 03 58.9	+0.5
GBS3	Finca Las Imˆ¡	1.80	129	i P	Pn	08 03 37.4	+1.1
LAPC	Finca la Perla	1.83	129	i P	Pn	08 03 37.3	+0.7
LAPC				i S	Sn	08 04 00.5	+0.8
BLLM	Bellamira	2.01	319	eP	Pn	08 03 39.7	+0.6
MESS	Mesas	2.03	125	i P	Pn	08 03 38.9	-0.4
COLC	Colonia	2.07	127	i P	Pn	08 03 40.1	+0.3
COLC				i S	Sn	08 04 06.0	+0.8
CUI	Cuipilapa	2.10	127	i P	Pn	08 03 40.1	-0.1
CUI				i S	Sn	08 04 07.0	+0.9
TGUH	Tegucigalpa,Un	2.16	350	eP	Pn	08 03 39.8	-1.1
AMAS	Alto Masis	2.27	125	i S	Sn	08 04 09.8	-0.2
JCR	Jicaral	2.69	140	eP	Pn	08 03 49.4	+1.2
JCR				eS	Sn	08 04 20.4	+0.2
BOQS	Boqueron	2.95	308	eP	Pn	08 03 53.3	+1.5
SBLS	San Blas	3.28	306	eP	Pn	08 03 57.2	+1.1
SBLS				eS	Sn	08 04 35.1	+0.5
QCR	Quepos	3.65	133	eP	Pn	08 04 01.6	+0.8
URSC	Urasca	3.69	124	eP	Pn	08 04 03.9	+2.3
URSC				eS	Sn	08 04 46.9	+2.7
BUS	Buena Vista	3.87	127	eP	Pn	08 04 05.3	+1.0

IDC 02 08:08:03.0±1.9, **55°.51N**×**166°.42E**, **h0**km, **mb3.5**/4, **mb1 3.7**/5, **mb1mx3.4**/27, **mbtmp3.5**/5, **ML3.6**/1, **Error ellipse: s-maj=67.8km s-min=23.6km az=170.0, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.64	248	Pn	Pn	08 09 27.5	-0.6
	1.8nm,0.3s,baz=78,slow=17,SNR=14						
ILAR	Eielson Array	24.45	49	P	P	08 13 22.9	-0.3
	1.1nm,1.0s,baz=259,slow=8.7,SNR=8.1						
KURK	Kurchatov	49.55	303	P	P	08 16 55.9	+0.6
	0.7nm,0.8s,baz=54,slow=7.7,SNR=4.3						
MKAR	Makanchi Array	50.39	297	P	P	08 17 01.9	+0.2
	0.5nm,0.8s,baz=46,slow=6.9,SNR=3.8						
TXAR	Lajitas Array	66.32	72	P	P	08 18 53.5	+0.2
	0.2nm,0.6s,baz=297,slow=5.2,SNR=6.1						

*CSEM **02** 08:23:43.4±0.5, 40°.32N×25°.71E, h2km, ML1.9, Error ellipse: s-maj=8.8km s-min=6.1km az=86.0*
*ISCJB **02** 08:23:43.9±1.4, 40°.38N±0°.04×25°.7E±0°.1, h3km±7km, Error ellipse: s-maj=13.6km s-min=6.4km az=10.1*
*DDA **02** 08:23:44.4, 40°.39N×25°.82E, h7km, MD2.8*
*ISK **02** 08:23:45.3, 40°.38N×25°.86E, h10km, ML1.9*
ISC 02 08:23:44.5±1.9, **40°.36N**±0°.04×**25°.79E**±0°.08, **h11**km±11km, **n21**, σ**0s.43**/30, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENEZ	Enez	0.47	36	ePG	Pg	08 23 53.9	+0.1
ENEZ				eSG	Sg	08 24 00.8	+0.7
ENEZ	Enez	0.47	36	ePg	Pg	08 23 53.9	+0.1
ENEZ				eSg	Sg	08 24 00.8	+0.7
GELI	Tayfur-Gelibol	0.53	85	ePG	Pb	08 23 55.3	-0.5
GELI	Tayfur-Gelibol	0.53	85	ePg	Pb	08 23 55.3	-0.5
BOZC	Bozcaada	0.55	158	i P	Pb	08 23 56.2	0.0
BOZC				i S	Sb	08 24 04.1	0.0
ERIK	Erikli-Kesan	0.64	60	ePG	Pg	08 23 56.8	-0.1
ERIK				eSG	Sg	08 24 05.4	+0.1
ERIK	Erikli-Kesan	0.64	60	ePg	Pg	08 23 56.8	-0.1
ERIK				eSg	Sg	08 24 05.4	+0.1
LPK	Lapseki	0.74	88	ePG	Pg	08 23 59.0	+0.1
LPK	Lapseki	0.74	88	ePg	Pg	08 23 59.0	+0.1
RKY	Sarkoy-Tekirda	1.11	72	ePG	Pn	08 24 05.8	-0.3
RKY	Sarkoy-Tekirda	1.11	72	ePg	Pn	08 24 05.8	-0.3
SART	Tekirdag	1.11	72	i P	Pb	08 24 05.3	-0.5
SART				i S	Sn	08 24 22.3	+0.9
SART	Tekirdag	1.11	72	i P	Pb	08 24 05.3	-0.5
SART				i S	Sn	08 24 22.3	+0.9
KRBG	Karabiga-Canak	1.16	88	ePN	Pg	08 24 06.6	-0.1
KRBG	Karabiga-Canak	1.16	88	ePn	Pg	08 24 06.6	-0.1
GONE	Gonen-Balikesi	1.49	101	ePN	Pb	08 24 12.2	+0.1
GONE	Gonen-Balikesi	1.49	101	ePn	Pb	08 24 12.2	+0.1
BALY	Balya	1.54	113	i P	Pb	08 24 12.5	-0.5
BALY				i S	Sg	08 24 33.9	0.0
BALY	Balya	1.54	113	i P	Pb	08 24 12.5	-0.5
BALY				i S	Sg	08 24 33.9	0.0
EDRB	Edirne	1.66	26	ePN	Pb	08 24 14.5	-0.6
EDRB	Edirne	1.66	26	ePn	Pb	08 24 14.5	-0.6

*IDC **02** 08:31:36.6±0.8, 34°.70S×107°.31W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/13, mbtmp4.2/9, MS4.3/16, Ms1 4.3/16, ms1mx4.1/26, Error ellipse: s-maj=23.6km s-min=22.5km az=100.0*
*ISCJB **02** 08:31:36.9±0.5, 34°.86S±0°.10×107°.3W±0°.1, h10km, mb4.2/15, MS4.3/15, Error ellipse: s-maj=14.7km s-min=13.1km az=38.4*
*NEIC **02** 08:31:38.6±0.5, 34°.80S×107°.33W, h10km, mb4.5/8, Error ellipse: s-maj=14.3km s-min=13.7km az=155.0*
ISC 02 08:31:38.3±0.7, **34°.8S**±0°.1×**107°.3W**±0°.1, **h10**km, **n49**, σ**1s.10**/33, **mb4.3**/15, **MS4.4**/15, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	7.84	347	LR	LR	08 35 45.1	
	comp=Z,2μm,19.1s,baz=337,slow=32						
RKT	Rikitea	26.78	288	eLQ	LQ	08 42 47.7	
	540nm,29.5s						
PLCA	Paso Flores	29.49	113	P	P	08 37 43.1	+0.3
	0.9nm,0.5s,baz=262,slow=11,SNR=3.7						
PLCA				LR	LR	08 45 14.3	
	comp=Z,60nm,20.6s,baz=89,slow=28						
PLCA	Paso Flores	29.49	113	eP	P	08 37 43.0	+0.3
	22nm,1.5s						
CFAA	Coronel Fontan	32.70	96	P	P	08 38 10.2	-0.8
	0.2nm,0.5s,baz=253,slow=6.7,SNR=6.7						
CFAA				LR	LR	08 47 58.4	
	comp=Z,50nm,19.9s,baz=257,slow=30						
CFAA	Coronel Fontan	32.70	96	P	P	08 38 10.2	-0.8
USHA	Ushuaia	33.48	139	LR	LR	08 48 38.5	
	comp=Z,2μm,19.1s,baz=259,slow=30						
LVC	Limon Verde	35.58	80	eP	P	08 38 37.9	+1.6
	4.5nm,0.8s						
NNA	Nana	35.76	58	LR	LR	08 49 53.0	
	comp=Z,670nm,19.4s,baz=312,slow=31						
ATAH	Atahualpa	38.27	51	LR	LR	08 50 11.5	
	comp=Z,2μm,21.0s,baz=223,slow=29						
TBI	Tubuai	38.33	276	eLQ	LQ	08 47 39.0	
	985nm,30.0s						
TBI				eLR	LR	08 49 16.9	
	339nm,23.2s						
LPAZ	La Paz	39.54	72	P	P	08 39 12.0	+1.7
	0.9nm,0.7s,baz=227,slow=5.3,SNR=6.3						
LPAZ				LR	LR	08 51 46.4	
	comp=Z,308nm,20.5s,baz=23,slow=31						
LPAZ	La Paz	39.54	72	eP	P	08 39 11.9	+1.5
	8.6nm,1.3s						
TAOE	Nuku Hiva Isla	39.64	303	eS	S	08 45 16.7	+2.8
	242nm,30.7s						
TAOE				eLR	LR	08 50 07.8	
	714nm,26.6s						
PPT2	Papeete2	41.29	283	eLQ	LQ	08 48 50.1	
	1μm,28.5s						
CPUP	Villa Florida	43.47	93	LR	LR	08 54 28.5	
	comp=Z,168nm,19.9s,baz=235,slow=32						
SIV	San Ignacio	45.32	78	P	P	08 39 57.0	+0.3
	1.1nm,0.6s,baz=242,slow=5.3,SNR=9.4						
SIV				LR	LR	08 55 39.3	

comp=Z,158nm,21.6s,slow=32
SIV San Ignacio 45.32 78 P P 08 39 57.0 +0.3
SAML Samuel 47.81 68 eP P 08 40 16.2 0.0
5.9nm,1.2s
JTS JuntasAbangare 49.58 29 LR LR 08 56 20.1
comp=Z,730nm,20.1s,baz=195,slow=30
ROSC El Rosal 50.18 45 P **P 08 40 34.8 0.0**
6.1nm,0.7s,baz=107,slow=20,SNR=7.7
ROSC LR LR 08 58 31.5
comp=Z,304nm,18.6s,baz=210,slow=32
ROSC El Rosal 50.18 45 eP **P 08 40 36.8 +2.0**
CMIG Matias Romero 52.93 15 LR LR 08 57 54.9
comp=Z,247nm,18.2s,baz=160,slow=30
QSPA South Pole Qui 55.41 180 P **P 08 41 13.2 +0.5**
0.9nm,0.3s,baz=85,slow=7.7,SNR=3.9
QSPA South Pole Qui 55.41 180 eP **P 08 41 13.7 +1.1**
2.1nm,0.7s
TEIG Tepich 57.62 21 LR LR 09 01 08.4
comp=Z,299nm,20.4s,baz=160,slow=31
URZ Urewera 59.24 243 LR LR 09 01 30.6
comp=Z,367nm,19.7s,baz=129,slow=30
VNA3 Neumayer Olymp 59.86 158 e **P 08 41 42.6 -1.1**
VNA2 Neumayer--Watz 60.66 158 e P 08 41 44.0 -5.2
baz=257,slow=5.7
SNAA Sanae 61.72 160 e **P 08 41 55.3 -1.1**
SNAA Sanae 61.72 160 eP **P 08 41 55.4 -0.9**
2.8nm,0.9s
TXAR Lajitas Array 63.87 4 P **P 08 42 10.8 -0.4**
0.8nm,0.9s,baz=186,slow=10,SNR=7.1
TXAR Lajitas Array 63.87 4 P **P 08 42 10.8 -0.4**
TKL Tuckaleechee C 73.45 20 LR LR 09 10 13.7
comp=Z,319nm,18.8s,baz=63,slow=32
NVAR Mina Array Bea 73.57 351 P **P 08 43 11.3 -0.3**
2.3nm,1.0s,baz=183,slow=7.2,SNR=12
NVAR Mina Array Bea 73.57 351 P **P 08 43 11.3 -0.3**
DZM Mont Dzumac 74.81 254 eLR LR 09 05 59.6
417nm,24.0s
PDAR Pinedale Array 77.22 358 P **P 08 43 31.2 -1.3**
3.3nm,1.1s,baz=142,slow=7.5,SNR=11
PDAR Pinedale Array 77.22 358 P **P 08 43 31.2 -1.3**
PD02 Pinedale Array 77.23 358 eP **P 08 43 32.6 0.0**
HLID Hailey 78.25 355 eP **P 08 43 39.8 +1.6**
7.2nm,1.1s
STKA Stephens Creek 87.35 233 P **P 08 44 26.0 +0.2**
3.5nm,1.0s,baz=162,slow=6.4,SNR=4.1
STKA LR LR 09 15 51.5
comp=Z,300nm,19.2s,baz=117,slow=30
STKA Stephens Creek 87.35 233 eP **P 08 44 26.6 +0.8**
3.9nm,1.3s
ASAR Alice Springs 97.87 234 P **P 08 45 14.7 +0.1**
0.2nm,0.7s,baz=124,slow=5.7,SNR=3.0
ASAR Alice Springs 97.87 234 P **P 08 45 14.7 +0.1**
AKASG Malin Array Be 144.90 50 PKP **PKPab 08 51 11.9 -2.3**
1.2nm,0.5s,baz=285,slow=3.7,SNR=12
AKASG Malin Array Be 144.90 50 PKP **PKPab 08 51 11.9 -2.3**
CMAR Chiang Mai Arr 151.58 242 PKPbc **PKPbc 08 51 33.9 +0.6**
1.3nm,0.7s,baz=227,slow=0.8,SNR=7.2
CMAR Chiang Mai Arr 151.58 242 PKPbc **PKPbc 08 51 33.9 +0.6**

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*IDC **02** 08:35:56.5±2.9, 19°.56S×168°.43E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, Error ellipse: s-maj=108.2km s-min=33.8km az=147.0*
*ISCJB **02** 08:35:59.1±1.5, 19°.69S±0°.09×168°.3E±0°.2, h25km, mb4.1/6, Error ellipse: s-maj=31.0km s-min=7.6km az=20.0*
*NOU **02** 08:35:59.2±0.9, 19°.41S×168°.25E, h10km±999km, MD2.7, ML3.2*
*NEIC **02** 08:36:01.4±3.6, 19°.76S×168°.47E, h36km±34km, mb4.5/2, Error ellipse: s-maj=45.2km s-min=24.5km az=164.0*
ISC 02 08:36:00.0±1.8, **19°.8S**±0°.2×**168°.5E**±0°.3, **h25km, n21,** σ**0.70**/23, **mb4.2**/6, **Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DZM Mont Dzumac 2.97 220 eP **Pn 08 36 45.4 -0.2**
DZM eS **Sn 08 37 20.0 -0.5**
DZM AMP 08 37 26.1
comp=Z,641nm,0.4s
DZM Mont Dzumac 2.97 220 ePn **Pn 08 36 46.0 +0.3**
PLUM Mont Dore 3.02 215 eS 08 37 21.2
NORM Noumea 3.07 217 eP **Pn 08 36 47.6 +0.7**
NORM eS **Sn 08 37 22.4 -0.4**
NOUC Port Laguerre 3.08 221 eP **Pn 08 36 46.7 -0.3**
NOUC eS **Sn 08 37 22.9 -0.2**
NOUC AMP 08 37 36.1
comp=Z,38nm,3.4s
CTA Charters Tower 20.91 265 P **P 08 40 41.5 +0.7**
comp=Z,4.7nm,0.9s,baz=79,slow=10,SNR=6.4
CTA Charters Tower 20.91 265 P **P 08 40 41.5 +0.7**
CTAO Charters Tower 20.91 265 eP **P 08 40 41.3 +0.5**
comp=Z,8.1nm,1.0s
STKA Stephens Creek 26.96 238 P **P 08 41 40.6 +0.9**
comp=Z,1.4nm,0.8s,baz=54,slow=14,SNR=3.2
STKA Stephens Creek 26.96 238 P **P 08 41 40.6 +0.9**
WB2 Warramunga Arr 32.08 264 eP **P 08 42 24.2 -1.0**
WRAB Tennant Creek 32.08 264 eP **P 08 42 24.1 -1.1**
comp=Z,24nm,1.6s
WRA Warramunga Arr 32.09 264 P **P 08 42 24.2 -1.1**
comp=Z,1.0nm,0.3s,baz=82,slow=6.3,SNR=14
WRA Warramunga Arr 32.09 264 P **P 08 42 24.2 -1.1**
AS31 Alice Springs 32.31 257 eP **P 08 42 26.8 -0.5**
ASAR Alice Springs 32.31 257 P **P 08 42 27.1 -0.2**
comp=Z,1.5nm,0.5s,baz=84,slow=8.5,SNR=43
ASAR Alice Springs 32.31 257 P **P 08 42 27.1 -0.2**
FITZ Fitzroy Crossi 40.49 265 P **P 08 43 37.5 +0.3**
comp=Z,3.9nm,0.8s,baz=137,slow=8.2,SNR=4.9
FITZ Fitzroy Crossi 40.49 265 eP **P 08 43 37.5 +0.3**
ILAR Eielson Array 90.96 18 P **P 08 49 01.1 -0.2**
comp=Z,0.5nm,1.1s,baz=248,slow=5.3,SNR=4.6
ILAR Eielson Array 90.96 18 P **P 08 49 01.1 -0.2**

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*IDC **02** 08:46:56.5±0.6, 43°.06N×84°.85E, h0km, mb4.0/14, mb1 4.1/20, mb1mx4.0/31, mbtmp3.9/20, ML3.7/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=19.5km s-min=9.9km az=49.0*
*BJI **02** 08:46:57.9, 42°.90N×84°.75E, h14km, mb4.4/4, ML4.1/11, Ms3.7/2, Ms7 3.6/2*
*ISCJB **02** 08:46:57.3±0.3, 43°.30N±0°.03×84°.77E±0°.04, h10km, mb4.0/19, MS3.7/2, Error ellipse: s-maj=4.9km s-min=3.9km az=39.6*
*NEIC **02** 08:47:00.5±2.2, 43°.13N×84°.82E, h25km±17km, mb4.2/3, Error ellipse: s-maj=9.6km s-min=6.5km az=177.0*
*MOS **02** 08:47:00.6±1.2, 43°.27N×84°.87E, h33km, mb4.3/13, Error ellipse: s-maj=11.4km s-min=6.9km az=115.7*
*NNC **02** 08:47:05.6±6.7, 43°.44N×84°.05E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=69.6km s-min=28.7km az=141.0*
ISC 02 08:46:59.4±0.5, **43°.12N**±0°.05×**84°.85E**±0°.04, **h10km, n125,** σ**1.65**/83, **mb4.0**/19, **6C-4D, Northern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WMQ Urumqi 2.19 70 Pg **Pb 08 47 40.4 +1.3**
WMQ Sg **Sg 08 48 12.0 +2.3**
WMQ smax smax
comp=N,1μm,0.5s
WMQ smax smax
comp=E,1μm,0.7s
MK31 Makanchi Array 4.09 335 ⇑Pn **Pn 08 48 02.4 +0.3**
comp=E,2.6nm,0.3s,baz=156,slow=14,SNR=695
MK31 ⇓Pg **Pb 08 48 12.7 +1.1**
comp=E,14nm,0.3s,baz=154,slow=17,SNR=57
MK31 ⇓Lg Lg 08 49 05.7
comp=E,91nm,0.5s,baz=160,slow=28
MK31 Makanchi Array 4.09 335 P **Pn 08 48 02.4 +0.3**
MK31 pmax pmax
comp=Z,6.0nm,0.3s
MK31 pmax pmax
comp=Z,28nm,0.3s
MK31 pmax pmax
comp=Z,45nm,0.3s
MK31 Makanchi Array 4.09 335 ePn **Pn 08 48 02.6 +0.5**
MK31 ePg **Pb 08 48 12.9 +1.3**
MK31 eSg **Sb 08 49 05.8 +4.6**
MKAR Makanchi Array 4.09 335 Pn **Pn 08 48 02.6 +0.6**
comp=Z,4.1nm,0.3s,baz=155,slow=14,SNR=126
MKAR Pg **Pb 08 48 12.2 +0.6**
comp=Z,17nm,0.3s,baz=154,slow=17,SNR=57
MKAR LR LR 08 49 59.0
comp=Z,99nm,20.2s,baz=166,slow=44
MKAR Makanchi Array 4.09 335 P **Pn 08 48 02.7 +0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.3s
MKAR pmax pmax
comp=Z,17nm,0.3s
MKAR MLR MLR
comp=Z,99nm,20.2s
MKAR Makanchi Array 4.09 335 Pn **Pn 08 48 02.6 +0.6**
MKAR Pg **Pb 08 48 12.2 +0.6**
TKM2 Tokmak 2 6.79 271 eP **Pn 08 48 38.7 -0.5**
TKM2 Tokmak 2 6.79 271 ePn **Pn 08 48 38.7 -0.5**
TKM2 eS **Sb 08 50 22.8 +4.1**
KSH Kashi 7.59 245 P Pn 08 48 55.7 +5.5
KSH smax smax
comp=N,30nm,0.7s
KSH smax smax
comp=E,51nm,1.1s
AAK Ala-Archa 7.62 270 eP Pn 08 48 49.4 -1.3
AAK Ala-Archa 7.62 270 ePn Pn 08 48 49.4 -1.3
EKS2 Erkin-Say 8.14 271 eP **Pn 08 48 57.9 +0.1**
EKS2 Erkin-Say 8.14 271 ePn **Pn 08 48 57.9 +0.1**
KURBB Kurchatov Arra 8.66 332 Pn Pn 08 49 03.3 -1.4
comp=E,1.1nm,0.7s
KURK Kurchatov 8.71 333 Pn Pn 08 49 03.4 -2.0
comp=E,0.3nm,0.3s,baz=147,slow=12,SNR=30
KURK Sn **Sn 08 50 42.4 -1.1**
comp=E,0.5nm,0.3s,baz=134,slow=24,SNR=8.7
KURK Lg Lg 08 51 29.3
comp=E,0.9nm,0.3s,baz=144,slow=30,SNR=7.2
KURK Kurchatov 8.71 333 ⇑Pn Pn 08 49 04.1 -1.2
comp=E,3.2nm,0.6s
KURK Kurchatov 8.71 333c iP Pn 08 49 04.4 -0.9
KURK Kurchatov 8.71 333 ePn Pn 08 49 03.8 -1.5
KURK Sn **Sn 08 50 42.4 -1.1**
KURK Lg Lg 08 51 29.3
KK31 Karatay Array 10.49 275 Pn Pn 08 49 28.2 -1.6
comp=E,4.4nm,1.0s,baz=76,slow=14,SNR=19
KK31 Karatay Array 10.49 275 i P Pn 08 49 28.2 -1.6
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 10.49 275 eP **Pn 08 49 29.2 -0.6**
KKAR Karatay Array 10.49 275 ePn **Pn 08 49 29.2 -0.6**
ZAA0 Zalesovo Array 10.83 360 ePn Pn 08 49 32.9 -1.6
ZAA0 eSn Sn 08 51 26.6 -9.1
ZALV Zalesovo Beam 10.83 360 Pn Pn 08 49 33.3 -1.2
comp=Z,1.6nm,0.3s,baz=183,slow=13,SNR=23
ZALV Sn **Sn 08 51 33.6 -2.1**
comp=Z,2.5nm,0.3s,baz=162,slow=29,SNR=9.0
ZALV Lg Lg 08 52 40.2
comp=Z,0.4nm,0.3s,baz=196,slow=26,SNR=2.4
ZALV LR LR 08 54 22.7
comp=Z,45nm,19.1s,baz=63,slow=41
ZALV Zalesovo Beam 10.83 360 P Pn 08 49 33.3 -1.2
ZALV 08 51 33.6
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV smax smax
comp=N,3.0nm,0.3s
ZALV MLR MLR
comp=Z,45nm,19.2s
ZALV Zalesovo Beam 10.83 360 Pn Pn 08 49 33.3 -1.2
ZALV Sn **Sn 08 51 33.6 -2.1**
ZALV Lg Lg 08 52 40.2
GTA Gaotai 11.86 103 eP **Pn 08 49 48.8 +0.2**
GTA pP 08 49 54.2
GTA sP 08 49 58.1
GTA S Sn 08 51 53.3 -7.7
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA LR LR
comp=N,160nm,9.5s
GTA LR LR
comp=E,210nm,9.5s
GTA LR LR
comp=Z,250nm,10.9s
VOSK Vostochnaya 13.35 321 ⇑Pn Pn 08 50 06.7 -2.1
comp=Z,6.2nm,1.1s
BVA0 Borovoye Array 13.81 321 Pn Pn 08 50 13.0 -2.2
comp=Z,0.6nm,0.8s,baz=128,slow=15,SNR=12
BVAR Borovoye Array 13.81 321 Pn Pn 08 50 13.2 -2.0
comp=Z,0.5nm,0.3s,baz=130,slow=14,SNR=13
BVAR Lg Lg 08 54 15.4
comp=Z,0.3nm,0.3s,baz=86,slow=25,SNR=5.7
BVAR Borovoye Array 13.81 321 P Pn 08 50 13.2 -2.0
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 13.81 321 Pn Pn 08 50 13.2 -2.0
BVAR Lg Lg 08 54 15.4
BRVK Borovoye 13.89 321 ⇓Pn Pn 08 50 14.3 -1.9
comp=Z,4.4nm,0.7s
BRVK Borovoye 13.89 321 eP Pn 08 50 14.6 -1.5
BRVK Borovoye 13.89 321 ePn Pn 08 50 14.6 -1.5
ZRNK Zerenda 14.43 318 ⇓Pn Pn 08 50 20.2 -3.4
comp=Z,4.4nm,0.6s
DANN Dangsing 14.77 184 eP **P 08 50 34.9 +0.2**
comp=Z,5.6nm,0.3s
DANN Dangsing 14.77 184 eP **P 08 50 34.9 +0.2**
KBL Kabul 14.99 240 eP Pn 08 50 35.9 +4.4
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 14.99 240 eP Pn 08 50 35.9 +4.4
comp=Z,16nm,1.2s
GUN Gumba 15.20 177 eP **Pn 08 50 38.9 +4.4**
comp=Z,25nm,0.7s
GUN Gumba 15.20 177 eP **Pn 08 50 38.9 +4.4**
KKN Kakani 15.30 179 eP **Pn 08 50 39.3 +3.6**
comp=Z,13nm,0.5s
KKN Kakani 15.30 179 eP **Pn 08 50 39.3 +3.6**
KKN Kakani 15.30 179 eP **Pn 08 50 39.3 +3.6**
KOLN Koldanda 15.35 184 eP **Pn 08 50 38.9 +2.6**
comp=Z,6.4nm,0.4s
JIRN Jiri 15.47 176 eP **Pn 08 50 40.0 +2.0**
comp=Z,14nm,0.6s
JIRN Jiri 15.47 176 eP **Pn 08 50 40.0 +2.0**
DMN Daman 15.48 179 eP **Pn 08 50 40.1 +2.0**
DMN Daman 15.48 179 eP **Pn 08 50 40.1 +2.0**
SONM Songino Array 15.81 65 Pn **Pn 08 50 41.5 -0.7**
comp=Z,0.2nm,0.3s,baz=257,slow=13,SNR=7.6
SONM Songino Array 15.81 65 P **Pn 08 50 41.5 -0.7**
SONM Songino Array 15.81 65 Pn **Pn 08 50 41.5 -0.7**
TAPN Taplejung 15.91 171 eP **Pn 08 50 41.7 -2.0**
comp=Z,15nm,0.7s
TAPN Taplejung 15.91 171 eP **Pn 08 50 41.7 -2.0**
RAMN Ramite 16.20 174 eP **Pn 08 50 44.6 -2.8**
comp=Z,14nm,0.7s
RAMN Ramite 16.20 174 eP **Pn 08 50 44.6 -2.8**
ULN Ulaanbaatar 16.26 65 eP **Pn 08 50 48.1 +0.2**
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 16.26 65 eP **Pn 08 50 48.1 +0.2**
comp=Z,12nm,1.3s
AB31 Akbulak array 18.26 298 Pn **Pn 08 51 10.2 -2.5**
comp=Z,1.4nm,0.7s,baz=96,slow=8.8,SNR=19
ABKAR Akbulak array 18.26 298 eP Pn 08 51 09.2 -3.5
comp=Z,4.3nm,0.1s
AKTO Aktyubinsk 19.70 301 P **P 08 51 28.8 0.0**
comp=Z,0.1nm,0.3s,baz=78,slow=15,SNR=5.6
AKTO Aktyubinsk 19.70 301 ⇑Pn **P 08 51 31.4 +2.7**
comp=Z,1.1nm,1.4s
AKTO Aktyubinsk 19.70 301 P **P 08 51 28.8 0.0**
AKTO Aktyubinsk 19.70 301 P **P 08 51 28.8 0.0**
SVE Sverdlovsk 20.60 320 eP **P 08 51 39.5 +1.1**
SVE pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 21.41 318c iP **P 08 51 48.1 +1.0**
ARU e 08 52 07.8
ARU S **S 08 55 44.6 +0.2**
ARU SS Sn 08 56 05.0 +13
ARU pmax pmax
comp=Z,13nm,1.7s
ARU Arti 21.41 318 eP **P 08 51 46.3 -0.8**
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 27.33 150 P **P 08 52 43.2 -1.3**
comp=Z,1.8nm,0.8s,baz=323,slow=9.3,SNR=8.6
CMAR Chiang Mai Arr 27.33 150 P **P 08 52 43.2 -1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 27.33 150 P **P 08 52 43.2 -1.3**
KSAR Wonju Array Be 33.04 85 P **P 08 53 35.1 +0.2**
KSAR Wonju Array Be 33.04 85 P **P 08 53 35.0 +0.2**
KSRS Korea Array 33.06 85 P **P 08 53 35.0 0.0**
comp=Z,3.2nm,0.6s,baz=287,slow=8.6,SNR=9.3
KSRS Korea Array 33.06 85 P **P 08 53 35.1 0.0**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
USRK Ussuriysk Arra 33.76 72 LR LR 09 10 03.7
comp=Z,57nm,18.8s,baz=144,slow=41
JOF Joensuu 36.41 322 eP **P 08 54 03.1 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 36.41 322 ep **P 08 54 03.1 -0.6**
comp=Z,3.6nm,0.4s
JOF Joensuu 36.41 322 ep **P 08 54 03.1 -0.6**
comp=Z,3.6nm,0.4s
AKASG Malin Array Be 37.95 301 P **P 08 54 17.1 +0.2**
comp=Z,1.0nm,0.5s,baz=63,slow=8.6,SNR=3.7
AKASG Malin Array Be 37.95 301 P **P 08 54 17.1 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 37.95 301 P **P 08 54 17.1 +0.2**
BRTR Keskin Array B 38.06 283 P **P 08 54 17.4 -0.8**
comp=Z,0.9nm,0.6s,baz=103,slow=7.8,SNR=2.3
BRTR Keskin Array B 38.06 283 P **P 08 54 17.4 -0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 38.06 283 P **P 08 54 17.4 -0.8**
KAF Kangasniemi 38.67 320 eP P 08 54 20.5 -2.3
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 38.67 320 ep P 08 54 20.5 -2.3
comp=Z,1.9nm,0.6s
KAF Kangasniemi 38.67 320 ep P 08 54 20.5 -2.3
comp=Z,1.9nm,0.6s
FINES FINESS Array B 38.77 319 P P 08 54 22.3 -1.3
comp=Z,2.9nm,0.8s,baz=104,slow=8.0,SNR=7.5
FINES FINESS Array B 38.77 319 P P 08 54 22.3 -1.3
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 38.77 319 P P 08 54 22.3 -1.3
KEV Kevo 39.27 332 eP P 08 54 26.2 -1.6
KEV pmax pmax
comp=Z,6.0nm,0.9s
KEV Kevo 39.27 332 ep P 08 54 26.2 -1.6
comp=Z,6.1nm,0.9s
KEV Kevo 39.27 332 ep P 08 54 26.2 -1.6
comp=Z,6.1nm,0.9s
ARCES ARCESS Array B 39.74 332 P **P 08 54 31.1 -0.7**
comp=Z,26nm,1.2s,baz=82,slow=8.7,SNR=8.0
ARCES ARCESS Array B 39.74 332 P **P 08 54 31.1 -0.7**
ARCES pmax pmax
comp=Z,27nm,1.3s
ARCES ARCESS Array B 39.74 332 P **P 08 54 31.1 -0.7**
MJAR Matsushiro Arr 40.91 81 P P 08 54 40.5 -1.3
comp=Z,2.2nm,0.8s,baz=296,slow=9.9,SNR=4.7
MJAR Matsushiro Arr 40.91 81 P P 08 54 40.5 -1.3
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 40.91 81 P P 08 54 40.5 -1.3
NOA NORSAR Array B 45.94 319 P **P 08 55 21.3 -0.8**
comp=Z,0.9nm,0.4s,baz=77,slow=7.8,SNR=5.4
NOA NORSAR Array B 45.94 319 P **P 08 55 21.3 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 45.94 319 P **P 08 55 21.3 -0.8**
GERES GERESS Array B 48.12 303 P **P 08 55 38.7 -0.6**
comp=Z,0.1nm,0.4s,baz=94,slow=9.9,SNR=2.4
GERES GERESS Array B 48.12 303 P **P 08 55 38.7 -0.6**
GERES GERESS Array B 48.12 303 P **P 08 55 38.7 -0.6**
LPG La Plagne 53.82 301 eP **P 08 56 21.7 -0.8**
comp=Z,14nm,0.9s
LPL La Plagne 53.82 302 eP **P 08 56 21.7 -0.8**
ORIF Oris-en-Rattie 54.63 301 eP **P 08 56 27.4 -0.8**
ILAR Eielson Array 65.10 22 P P 08 57 38.0 -1.7
comp=Z,0.4nm,0.8s,baz=308,slow=4.4,SNR=4.1
ILAR Eielson Array 65.10 22 P P 08 57 38.0 -1.7
ILAR Eielson Array 65.10 22 P P 08 57 38.0 -1.7
INK Inuvik 65.24 15 LR LR 09 30 26.1
comp=Z,108nm,20.6s,baz=132,slow=40
YKA Yellowknife Ar 73.58 9 P P 08 58 30.6 -1.6
comp=Z,0.4nm,0.5s,baz=338,slow=6.0,SNR=4.0
YKA Yellowknife Ar 73.58 9 P P 08 58 30.6 -1.6
YKA Yellowknife Ar 73.58 9 P P 08 58 30.6 -1.6
TORD Torodi Ar. Bea 76.18 275 P P 08 58 44.9 -3.1
comp=Z,0.7nm,0.4s,baz=37,slow=4.9,SNR=11
TORD Torodi Ar. Bea 76.18 275 P P 08 58 44.9 -3.1
WRA Warramunga Arr 77.50 133 P P 08 58 53.8 -1.4
comp=Z,2.8nm,0.6s,baz=332,slow=5.7,SNR=15
WRA Warramunga Arr 77.50 133 P P 08 58 53.8 -1.4
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 77.50 133 P P 08 58 53.8 -1.4
ASAR Alice Springs 80.32 135 P P 08 59 09.1 -1.7
comp=Z,1.0nm,0.8s,baz=330,slow=5.3,SNR=10.0
ASAR Alice Springs 80.32 135 P P 08 59 09.1 -1.7
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 80.32 135 P P 08 59 09.1 -1.7

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*IDC **02** 08:47:23.3±3.5, 17°.46N×101°.29W, h42km±10km, mb3.3/3, mb1 3.6/6, mb1mx3.4/23, mbtmp3.3/6, ML3.3/3, Error ellipse: s-maj=82.5km s-min=30.7km az=28.0*
*ISCJB **02** 08:47:23.5±0.6, 17°.71N±0°.07×101°.12W±0°.04, h46km±8km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.4km az=177.8*
*NEIC **02** 08:47:25.6, 17°.73N×101°.15W, h42km, MD4.0(MEX), After MEX.*
*MEX **02** 08:47:25.6±0.6, 17°.73N×101°.15W, h42km±14km, MD4.0*
ISC 02 08:47:24.5±0.8, **17°.69N**±0°.05×**101°.12W**±0°.04, **h42km**±9km, **h41km:pP-P, n24,** σ**1.05**/44, **mb3.7**/3, **Near coast of Guerrero**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ZIIG Zihuatanejo 0.34 255 i P **Pn 08 47 32.4 -0.9**
ZIIG i S **Sn 08 47 39.0 -0.5**
ZIIG Zihuatanejo 0.34 255 i P **Pn 08 47 32.4 -0.9**
ZIIG i S **Sn 08 47 39.0 -0.5**
CAIG El Cayaco 1.04 128 i P **Pn 08 47 42.7 +0.1**
CAIG eS **Sn 08 47 55.2 -0.8**
CAIG El Cayaco 1.04 128 i P **Pn 08 47 42.7 +0.1**
CAIG eS **Sn 08 47 55.2 -0.8**
MEIG Mezcala 1.45 81 i P **Pn 08 47 48.2 -0.2**
MEIG eS **Sn 08 48 06.0 -0.2**
MEIG Mezcala 1.45 81 i P **Pn 08 47 48.2 -0.2**
MEIG eS **Sn 08 48 06.0 -0.2**
PLIG Platanillo 1.69 65 i P **Pn 08 47 51.6 -0.1**
PLIG eS **Sn 08 48 11.1 -1.1**
PLIG Platanillo 1.69 65 i P **Pn 08 47 51.6 -0.1**
PLIG eS **Sn 08 48 11.1 -1.1**
YAIG Yautepec 2.27 59 i P **Pn 08 47 59.1 -0.7**
YAIG eS **Sn 08 48 25.8 -0.9**
YAIG Yautepec 2.27 59 i P **Pn 08 47 59.1 -0.7**
YAIG eS **Sn 08 48 25.8 -0.9**
UNM Universidad Na 2.46 48 i P **Pn 08 48 02.1 -0.3**
UNM eS **Sn 08 48 29.8 -1.6**
UNM Universidad Na 2.46 48 i P **Pn 08 48 02.1 -0.3**
UNM eS **Sn 08 48 29.8 -1.6**
CMIG Matias Romero 5.99 95 P **Pn 08 48 51.8 +1.2**
2.5nm,0.3s,baz=274,slow=9.6,SNR=126
CMIG S **Sn 08 49 55.7 -2.3**
1.3nm,0.3s,baz=270,slow=20,SNR=2.9
CMIG Matias Romero 5.99 95 P **Pn 08 48 51.8 +1.2**
CMIG S **Sn 08 49 55.7 -2.3**
TXAR Lajitas Array 11.82 349 P **Pn 08 50 13.3 +2.7**
0.0nm,0.3s,baz=171,slow=14,SNR=4.7
TXAR Lajitas Array 11.82 349 P **Pn 08 50 13.3 +2.7**
ANMO Albuquerque 17.83 346 P **Pn 08 51 29.9 +0.1**
0.1nm,0.3s,baz=149,slow=16,SNR=3.5
ANMO Albuquerque 17.83 346 P **Pn 08 51 29.9 +0.1**
NVAR Mina Array Bea 25.54 327 P **P 08 52 49.5 -0.1**
1.7nm,0.7s,baz=149,slow=12,SNR=13
NVAR pP **pP 08 53 01.7 +0.8**
1.2nm,0.6s,baz=156,slow=11,SNR=6.9
NVAR Mina Array Bea 25.54 327 P **P 08 52 49.5 -0.1**
NVAR pP **pP 08 53 01.7 +0.8**
PDAR Pinedale Array 26.00 346 P **P 08 52 53.7 -0.1**
0.8nm,1.0s,baz=141,slow=9.6,SNR=4.2
PDAR pP **pP 08 53 05.3 +0.3**
0.8nm,0.9s,baz=149,slow=6.9,SNR=4.4
PDAR Pinedale Array 26.00 346 P **P 08 52 53.7 -0.1**
PDAR pP **pP 08 53 05.3 +0.3**
ILAR Eielson Array 56.09 338 P **P 08 56 58.9 -0.4**
1.3nm,1.4s,baz=101,slow=8.4,SNR=3.2
ILAR pP **pP 08 57 10.3 -0.9**
0.4nm,0.8s,baz=149,slow=8.2,SNR=4.9
ILAR Eielson Array 56.09 338 P **P 08 56 58.9 -0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR				pP	**pP**	**08 57 10.3**	**-0.9**

MEX 02 08:49:18.4±0.8**,17°.60N×101°.13W,h16**km±23km**,MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**272**	*i* P	Pg	08 49 23.9	-1.2
ZIIG				*i* S	Sg	08 49 29.3	-0.3
CAIG	**El Cayaco**	**0.99**	**123**	*i* P	Pb	08 49 34.5	-2.7
CAIG				*e*S	Sb	08 49 45.4	-4.7
MEIG	**Mezcala**	**1.48**	**77**	*i* P	Pn	08 49 40.4	-4.2
MEIG				*i* S	Sn	08 49 58.3	-5.4
PLIG	**Platanillo**	**1.74**	**63**	*i* P	Pn	08 49 44.5	-3.7
PLIG				*e*S	Sn	08 50 05.5	-4.7
YAIG	**Yautepec**	**2.33**	**57**	*i* P	Pn	08 49 51.0	-5.4
YAIG				*i* S	Sn	08 50 20.6	-4.3
UNM	**Universidad Na**	**2.53**	**47**	*i* P	Pn	08 49 56.5	-2.8
UNM				*e*S	Sn	08 50 26.6	-3.5
PPM	**Popocatepetl**	**2.79**	**58**	*i* P	Pg	08 50 18.9	+6.2
PPM				*e*S	Sn	08 50 32.5	-4.6

*MOS **02** 08:51:22.6±1.0, 18°.99S×174°.83W, h38km, mb5.2/23, Error ellipse: s-maj=12.6km s-min=9.8km az=153.9*

*IDC **02** 08:51:24.7±3.0, 19°.16S×174°.80W, h59km±26km, mb4.6/27, mb1 4.8/28, mb1mx4.7/29, mbtmp4.6/28, ML5.7/1, MS4.2/5, Ms1 4.2/5, ms1mx3.9/18, Error ellipse: s-maj=15.9km s-min=11.7km az=168.0*

*ISCJB **02** 08:51:33.6±0.1, 19°.25S±0°.04×174°.91W±0°.04, h150km, mb4.7/95, Error ellipse: s-maj=7.0km s-min=3.7km az=147.1*

*NEIC **02** 08:51:34.8±1.6, 19°.19S×174°.91W, h150km±14km, mb4.8/58, Error ellipse: s-maj=9.6km s-min=6.0km az=149.0*

NEIC Felt at Neiafu and Pangai.

*BJI **02** 08:51:34.2, 19°.30S×174°.90W, h155km, mB5.0/11, mb4.9/19*

ISC 02 08:51:35.1±0.5**,19°.30S**±0°.06×**174°.90W**±0°.05**, h154**km±4km**,h153**km**:pP-P,n644,**σ**0ˢ93**/662**,mb4.8**/94**, 160C-190D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.87**	**282**	*e*Pn	**Pn**	**08 53 15.2**	**+1.6**
RAR	**Rarotonga**	**14.32**	**100**	P	Pn	08 54 42.5	-8.4
	34nm,0.3s,baz=246,slow=8.4,SNR=67						
RAR				S	Sn	08 57 06.6	-23
	5.0nm,0.3s,baz=0.0,slow=20,SNR=4.7						
RAR	**Rarotonga**	**14.32**	**100**	*e*P	Pn	08 54 43.3	-7.7
RAR				pmax	pmax		
	comp=Z,406nm,0.9s						
RAR	**Rarotonga**	**14.32**	**100**	*e*Pn	Pn	08 54 43.3	-7.7
	comp=Z,406nm,0.9s						
RAR				S	Sn	08 57 06.6	-23
DZM	**Mont Dzumac**	**17.68**	**258**	*e*P	**Pn**	**08 55 34.3**	**+2.2**
	comp=Z,180nm,1.1s						
DZM				*e*LR	LR	09 00 10.0	
	comp=Z,1μm,33.2s						
DZM	**Mont Dzumac**	**17.68**	**258**	*e*P	**Pn**	**08 55 31.6**	**-0.5**
DZM	**Mont Dzumac**	**17.68**	**258**	*e*P	**Pn**	**08 55 34.3**	**+2.2**
	comp=Z,53nm,0.7s						
NOUC	**Port Laguerre**	**17.81**	**258**	*e*P	**Pn**	**08 55 34.9**	**+1.3**
PUZ	**Puketiti**	**19.64**	**196**	PN	**P**	**08 55 51.5**	**-0.4**
PUZ				SN	S	08 59 14.0	-11
URZ	**Urewera**	**20.13**	**199**	P	**P**	**08 55 56.1**	**-1.0**
	comp=Z,22nm,0.4s,baz=2.1,slow=4.0,SNR=73						
URZ				S	**S**	**08 59 31.3**	**-3.6**
	comp=Z,4.1nm,0.6s,baz=190,slow=18,SNR=4.6						
URZ	**Urewera**	**20.13**	**199**	*e*P	**P**	**08 55 55.9**	**-1.3**
	comp=Z,45nm,0.9s						
URZ				*e*S	**S**	**08 59 30.6**	**-4.2**
URZ	**Urewera**	**20.13**	**199**	PN	**P**	**08 55 55.0**	**-2.1**
URZ				SN	**S**	**08 59 34.9**	**+0.1**
TOZ	**Tahuroa Road**	**20.19**	**203**	PN	**P**	**08 55 58.5**	**+0.8**
PXZ	**Pawanui**	**21.85**	**197**	PN	**P**	**08 56 13.3**	**-2.1**
PXZ				SN	**S**	**09 00 02.6**	**-3.8**
TARA	**Tarawa**	**23.76**	**328**	*e*P	P	08 56 42.5	+8.8
	comp=Z,21nm,0.7s						
TBI	**Tubuai**	**24.02**	**104**	*e*P	**P**	**08 56 35.6**	**-0.4**
	comp=Z,190nm,1.0s						
TBI				*e*LR	LR	09 02 14.2	
	comp=Z,676nm,34.5s						
NNZ	**Nelson**	**24.04**	**202**	PN	**P**	**08 56 35.7**	**-0.2**
PAE	**Paea**	**24.06**	**90**	*e*P	**P**	**08 56 33.3**	**-3.1**
	comp=Z,34nm,1.1s						
PPT2	**Papeete2**	**24.07**	**90**	*e*P	**P**	**08 56 33.9**	**-2.7**
	comp=Z,159nm,1.3s						
PPT2				*e*LR	LR	09 02 08.0	
	comp=Z,1μm,32.0s						
TIAR	**Tiarei**	**24.30**	**90**	*e*P	**P**	**08 56 35.7**	**-2.8**
	comp=Z,255nm,1.0s						
THZ	**Tophouse**	**24.68**	**202**	PN	**P**	**08 56 42.0**	**+0.1**
PMOR	**Pomariorio Ree**	**26.14**	**85**	*e*P	**P**	**08 56 52.2**	**-3.0**
	comp=Z,234nm,1.2s						
EIDS	**Eidsvold**	**31.99**	**253**	*e*P	**P**	**08 57 46.9**	**-0.1**
	comp=Z,8.0nm,0.6s						
ARMA	**Armidale**	**32.22**	**243**	*e*P	**P**	**08 57 49.8**	**+0.8**
ARMA				*e*pP	**pP**	**08 58 18.2**	**-3.4**
TAOE	**Nuku Hiva Isla**	**35.20**	**78**	*e*LR	LR	09 07 09.6	
	comp=Z,526nm,31.9s						
CTA	**Charters Tower**	**36.53**	**262**	P	**P**	**08 58 26.4**	**+0.2**
	comp=Z,134nm,0.9s,baz=93,slow=10,SNR=90						
CTA	**Charters Tower**	**36.53**	**262**	*e*P	**P**	**08 58 26.2**	**0.0**
CTA				*e*pP	**pP**	**08 58 55.0**	**-4.3**
CTA	**Charters Tower**	**36.53**	**262**	P	**P**	**08 58 26.4**	**+0.2**
CTA	**Charters Tower**	**36.53**	**262**	P	**P**	**08 58 26.4**	**+0.2**
CTAO	**Charters Tower**	**36.53**	**262**	*e*P	**P**	**08 58 25.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,92nm,0.7s						
CTAO	**Charters Tower**	**36.53**	**262**	*e*P	**P**	**08 58 25.8**	**-0.4**
	comp=Z,92nm,0.7s						
CTAO				*e*		08 58 55.0	
RKT	**Rikitea**	**37.33**	**103**	*e*P	**P**	**08 58 32.5**	**-0.4**
	comp=Z,95nm,1.0s						
RKT				*e*LR	LR	09 08 06.0	
	comp=Z,550nm,35.8s						
PMG	**Port Moresby**	**37.98**	**280**	P	**P**	**08 58 38.5**	**+0.1**
	comp=Z,40nm,1.0s,baz=82,slow=6.9,SNR=20						
PMG	**Port Moresby**	**37.98**	**280**	P	**P**	**08 58 38.5**	**+0.1**
PMG				pmax	pmax		
	comp=Z,40nm,1.0s						
PMG	**Port Moresby**	**37.98**	**280**	*e*P	**P**	**08 58 38.1**	**-0.2**
	comp=Z,40nm,0.9s						
COEN	**Coen**	**40.45**	**271**	*e*P	**P**	**08 58 59.0**	**+0.1**
	comp=Z,118nm,0.8s						
STKA	**Stephens Creek**	**40.94**	**243**	P	**P**	**08 59 01.5**	**-1.3**
	comp=Z,5.2nm,0.7s,baz=94,slow=9.3,SNR=15						
STKA	**Stephens Creek**	**40.94**	**243**	*e*P	**P**	**08 59 02.5**	**-0.2**
STKA	**Stephens Creek**	**40.94**	**243**	*e*P	**P**	**08 59 02.6**	**-0.2**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
STKA	**Stephens Creek**	**40.94**	**243**	*e*P	**P**	**08 59 02.6**	**-0.2**
	comp=Z,4.0nm,1.3s						
BBOO	**Buckleboo**	**45.69**	**243**	*e*P	**P**	**08 59 40.2**	**-0.6**
	comp=Z,241nm,0.8s						
AS31	**Alice Springs**	**47.64**	**255**	*e*P	**P**	**08 59 55.7**	**-0.5**
ASAR	**Alice Springs**	**47.64**	**255**	P	**P**	**08 59 55.5**	**-0.6**
	comp=Z,71nm,0.7s,baz=84,slow=8.3,SNR=212						
ASAR				ScP	ScP	09 05 13.4	+10
	comp=Z,0.8nm,0.8s,baz=105,slow=5.1,SNR=4.6						
ASAR				S	**S**	**09 06 42.2**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=92,slow=16,SNR=9.4						
ASAR	**Alice Springs**	**47.64**	**255**	P	**P**	**08 59 55.6**	**-0.6**
ASAR				S	**S**	**09 06 42.3**	**+1.8**
ASAR	**Alice Springs**	**47.64**	**255**	P	**P**	**08 59 55.5**	**-0.6**
ASAR				ScP	ScP	09 05 13.4	+10
ASAR				S	**S**	**09 06 42.2**	**+1.8**
WB2	**Warramunga Arr**	**47.66**	**260**	*e*P	**P**	**08 59 55.4**	**-1.0**
WRAB	**Tennant Creek**	**47.66**	**260**	*e*P	**P**	**08 59 54.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,18nm,0.3s						
WRAB	**Tennant Creek**	**47.66**	**260**	*e*P	**P**	**08 59 54.8**	**-1.5**
	comp=Z,18nm,0.3s						
WRA	**Warramunga Arr**	**47.67**	**260**	P	**P**	**08 59 55.7**	**-0.7**
	comp=Z,17nm,0.5s,baz=97,slow=8.8,SNR=105						
WRA				S	**S**	**09 06 42.6**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=94,slow=16,SNR=4.3						
WRA	**Warramunga Arr**	**47.67**	**260**	P	**P**	**08 59 55.7**	**-0.7**
WRA				S	**S**	**09 06 42.6**	**+1.7**
WRA	**Warramunga Arr**	**47.67**	**260**	P	**P**	**08 59 55.7**	**-0.7**
WRA				S	**S**	**09 06 42.6**	**+1.7**
FORT	**Forrest**	**52.45**	**246**	*e*P	**P**	**09 00 31.4**	**-0.9**
FORT	**Forrest**	**52.45**	**246**	*e*P	**P**	**09 00 30.8**	**-1.5**
	comp=Z,56nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.09**	**261**	P	**P**	**09 00 59.0**	**+0.2**
	comp=Z,11nm,0.6s,baz=135,slow=6.4,SNR=32						
FITZ	**Fitzroy Crossi**	**56.09**	**261**	⇑*i*P	**P**	**09 00 58.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**56.09**	**261**	*e*P	**P**	**09 00 58.5**	**-0.2**
	comp=Z,13nm,0.7s						
SBA	**Scott Base**	**59.27**	**184**	*e*P	P	09 01 24.2	+4.2
SBA				pmax	pmax		
	comp=Z,13nm,0.7s						
SBA	**Scott Base**	**59.27**	**184**	*e*P	P	09 01 24.1	+4.2
	comp=Z,13nm,0.7s						
MBWA	**Marble Bar**	**60.97**	**256**	*e*P	**P**	**09 01 31.8**	**-0.7**
	comp=Z,18nm,0.6s						
KLBR	**Kellerberrin**	**61.21**	**244**	*e*P	**P**	**09 01 33.5**	**-0.5**
	comp=Z,16nm,0.8s						
QSPA	**South Pole Qui**	**70.77**	**180**	*e*P	**P**	**09 02 36.4**	**+1.9**
	comp=Z,25nm,0.8s						
QSPA				*e*		09 03 04.8	
MJAR	**Matsushiro Arr**	**71.03**	**322**	P	**P**	**09 02 35.5**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=155,slow=6.1,SNR=15						
MJAR	**Matsushiro Arr**	**71.03**	**322**	P	**P**	**09 02 35.6**	**-0.9**
MJAR	**Matsushiro Arr**	**71.03**	**322**	P	**P**	**09 02 35.5**	**-0.9**
MAT	**Matsushiro**	**71.04**	**322**	P	**P**	**09 02 35.7**	**-0.7**
SCI	**San Clemente I**	**74.81**	**46**	⇓P	**P**	**09 02 58.3**	**-0.5**
	baz=75						
PKM	**Peak Mountain**	**75.09**	**44**	⇓P	**P**	**09 03 00.4**	**-0.1**
	baz=75						
BLG	**Laguna Peak**	**75.12**	**45**	⇓P	**P**	**09 03 00.0**	**-0.5**
	baz=75						
CIS	**Catalina Islan**	**75.16**	**46**	⇑P	**P**	**09 03 00.2**	**-0.6**
	baz=75						
SMMC	**Simmler**	**75.22**	**44**	⇓P	**P**	**09 03 01.1**	**0.0**
	baz=75						
DECC	**Green Verdugo**	**75.70**	**46**	⇑P	**P**	**09 03 03.5**	**-0.3**
	baz=76						
ARVC	**Arvin**	**75.88**	**45**	⇑P	**P**	**09 03 04.2**	**-0.6**
	baz=76,SNR=5.6						
PETK	**Petropavlovsk-**	**75.91**	**343**	P	**P**	**09 03 04.2**	**-0.3**
	comp=Z,7.2nm,0.7s,baz=159,slow=9.2,SNR=6.3						
PETK				LR	LR	09 30 10.9	
	comp=Z,176nm,20.1s,baz=288,slow=31						
PETK	**Petropavlovsk-**	**75.91**	**343**	P	**P**	**09 03 04.2**	**-0.3**
PETK	**Petropavlovsk-**	**75.91**	**343**	P	**P**	**09 03 04.2**	**-0.3**
MURC	**Murrieta**	**76.09**	**47**	⇓P	**P**	**09 03 05.6**	**-0.5**
	baz=76,SNR=5.2						
VES	**Vestal, Richgr**	**76.13**	**44**	⇓P	**P**	**09 03 05.5**	**-0.7**
	baz=76,SNR=16						
BFSC	**Mount Baldy Ra**	**76.14**	**46**	⇓P	**P**	**09 03 05.6**	**-0.9**
	baz=76,SNR=8.9						
MONP	**Monument Peak**	**76.23**	**48**	⇓P	**P**	**09 03 06.6**	**-0.5**
	baz=76,SNR=9.1						
EDW2	**Edwards Air Fo**	**76.29**	**45**	⇓P	**P**	**09 03 06.7**	**-0.5**
	baz=76,SNR=26						
RCTC	**Rector, Farmer**	**76.31**	**43**	⇓P	**P**	**09 03 06.4**	**-0.7**
	baz=76						
ISA	**Isabella**	**76.43**	**44**	⇓P	**P**	**09 03 07.5**	**-0.5**
	baz=76,SNR=17						
PFO	**Pinyon Flat Ob**	**76.61**	**47**	*e*P	**P**	**09 03 08.2**	**-0.9**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PFO	**Pinyon Flat Ob**	**76.61**	**47**	*e*P	**P**	**09 03 08.2**	**-0.9**
	comp=Z,10nm,1.4s						
PFO	**Pinyon Flat Ob**	**76.61**	**47**	⇑P	**P**	**09 03 08.4**	**-0.7**
	baz=77,SNR=7.4						
CMB	**Columbia Colle**	**76.62**	**41**	*e*P	**P**	**09 03 07.6**	**-1.4**
CMB				pmax	pmax		
	comp=Z,11nm,0.8s						
CMB	**Columbia Colle**	**76.62**	**41**	*e*P	**P**	**09 03 07.6**	**-1.4**
	comp=Z,11nm,0.8s						
BBRC	**Big Bear Solar**	**76.66**	**46**	⇓P	**P**	**09 03 08.9**	**-0.7**
	baz=77						
SWSC	**Sam W. Stewart**	**76.70**	**48**	⇓P	**P**	**09 03 09.1**	**-0.4**
	baz=77						
LRMC	**Laurel Mountai**	**76.84**	**45**	⇑P	**P**	**09 03 10.2**	**-0.1**
	baz=77						
WDC	**Whiskeytown Da**	**76.91**	**38**	*e*P	**P**	**09 03 09.7**	**-0.8**
WDC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WDC	**Whiskeytown Da**	**76.91**	**38**	*e*P	**P**	**09 03 09.7**	**-0.8**
	comp=Z,4.9nm,0.8s						
RRX	**Edison Barstow**	**76.96**	**46**	⇓P	**P**	**09 03 10.7**	**-0.2**
	baz=77						
CWC	**Cottonwood Cre**	**77.14**	**44**	⇑P	**P**	**09 03 11.5**	**-0.6**
	baz=77						
BELC	**Belle Mtn. Jos**	**77.15**	**47**	⇓P	**P**	**09 03 11.6**	**-0.5**
	baz=77,SNR=17						
MPMC	**Manual Prospec**	**77.31**	**44**	⇑P	**P**	**09 03 12.5**	**-0.5**
	baz=77,SNR=26						
GSC	**Goldstone**	**77.33**	**45**	⇓P	**P**	**09 03 12.3**	**-0.7**
	baz=77,SNR=11						
BC3	**Big Chuckawall**	**77.33**	**47**	⇑P	**P**	**09 03 12.6**	**-0.5**
	baz=77,SNR=10						
MLAC	**Mammoth Lakes**	**77.35**	**42**	⇓P	**P**	**09 03 13.3**	**0.0**
	baz=78						
HEC	**Hector,Ludlow**	**77.38**	**46**	⇓P	**P**	**09 03 12.7**	**-0.6**
	baz=78,SNR=5.5						
TIN	**Tinemaha**	**77.40**	**43**	⇓P	**P**	**09 03 13.3**	**-0.2**
	baz=78,SNR=6.6						
GLA	**Glamis**	**77.44**	**48**	⇑P	**P**	**09 03 13.8**	**+0.1**
	baz=78						
WCN	**Washoe City**	**77.78**	**41**	⇓P	**P**	**09 03 15.2**	**-0.4**
	baz=78,SNR=5.5						
IRM	**Iron Mountain**	**77.82**	**47**	⇑P	**P**	**09 03 15.5**	**-0.2**
	baz=78,SNR=13						
GRAC	**Grapevine Rang**	**77.93**	**44**	⇓P	**P**	**09 03 16.0**	**-0.2**
	baz=78,SNR=7.5						
FURC	**Furnace Creek,**	**77.96**	**44**	⇓P	**P**	**09 03 15.8**	**-0.5**
	baz=78,SNR=6.6						
KSRS	**Korea Array**	**77.97**	**317**	P	**P**	**09 03 17.6**	**+1.3**
	comp=Z,4.4nm,0.7s,baz=130,slow=6.7,SNR=14						
KSRS	**Korea Array**	**77.97**	**317**	P	**P**	**09 03 17.7**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSAR	**Wonju Array Be**	**77.99**	**317**	P	**P**	**09 03 17.7**	**+1.2**
KSAR	**Wonju Array Be**	**77.99**	**317**	P	**P**	**09 03 17.6**	**+1.2**
TUQ	**Turquoise Moun**	**78.00**	**46**	⇑P	**P**	**09 03 16.2**	**-0.7**
	baz=78,SNR=8.7						
SHOC	**Shoshone**	**78.02**	**45**	⇑P	**P**	**09 03 16.2**	**-0.6**
	baz=78,SNR=8.1						
Y12C	**Blythe**	**78.03**	**48**	⇑P	**P**	**09 03 16.5**	**-0.3**
	baz=78,SNR=11						
113A	**Mohawk Valley,**	**78.04**	**49**	⇑P	**P**	**09 03 16.5**	**-0.3**
	baz=78,SNR=22						
NVAR	**Mina Array Bea**	**78.17**	**42**	P	**P**	**09 03 17.1**	**-0.6**
	comp=Z,12nm,0.7s,baz=224,slow=9.4,SNR=93						
NVAR				LR	LR	09 29 57.8	
	comp=Z,152nm,20.4s,baz=122,slow=30						
NVAR	**Mina Array Bea**	**78.17**	**42**	P	**P**	**09 03 17.1**	**-0.6**
214A	**Organ Pipe Nat**	**78.30**	**50**	⇓P	**P**	**09 03 18.2**	**-0.3**
	baz=78,SNR=10						
Z13A	**Yuma Proving G**	**78.35**	**49**	⇓P	**P**	**09 03 18.4**	**-0.2**
	baz=78,SNR=26						
NEE2	**Needles Airpor**	**78.52**	**47**	⇓P	**P**	**09 03 19.5**	**0.0**
	baz=79						
PDMCI	**Parker Dam,Lak**	**78.60**	**47**	⇑P	**P**	**09 03 19.8**	**-0.1**
	baz=79,SNR=8.6						
114A	**Black Gap (USA**	**78.66**	**49**	⇓P	**P**	**09 03 20.2**	**-0.2**
	baz=79,SNR=11						
Z14A	**Wintersburg**	**78.94**	**49**	⇓P	**P**	**09 03 21.9**	**+0.1**
	baz=79,SNR=8.7						
KDAK	**Kodiak Island**	**79.01**	**12**	*i* P	**P**	**09 03 22.0**	**+0.4**
Y14A	**Wickenburg**	**79.20**	**48**	⇓P	**P**	**09 03 23.2**	**-0.1**
	baz=79,SNR=25						
W13A	**Hualapai Mount**	**79.20**	**47**	⇑P	**P**	**09 03 23.3**	**-0.3**
	baz=79,SNR=12						
K05A	**Summer Lake**	**79.22**	**37**	⇑P	**P**	**09 03 23.0**	**-0.4**
	baz=79						
USRK	**Ussuriysk Arra**	**79.65**	**324**	P	**P**	**09 03 27.2**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=76,slow=3.8,SNR=4.0						
R11A	**Troy Canyon, C**	**79.86**	**43**	⇓P	**P**	**09 03 26.3**	**-0.6**
	baz=80						
TUC	**Tucson**	**79.95**	**51**	*e*P	**P**	**09 03 27.7**	**+0.2**
TUC				pmax	pmax		
	comp=Z,16nm,0.8s						
TUC	**Tucson**	**79.95**	**51**	*e*P	**P**	**09 03 27.7**	**+0.2**
	comp=Z,16nm,0.8s						
318A	**Bisbee**	**80.10**	**52**	⇓P	**P**	**09 03 28.6**	**+0.2**
	baz=80,SNR=15						
218A	**Dragoon**	**80.33**	**51**	⇓P	**P**	**09 03 29.9**	**+0.3**
	baz=80,SNR=20						
WVOR	**Wild Horse Val**	**80.36**	**39**	*e*P	**P**	**09 03 28.9**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s						
WVOR	**Wild Horse Val**	**80.36**	**39**	*e*P	**P**	**09 03 28.9**	**-0.5**
	comp=Z,11nm,1.0s						
X16A	**Lo Mia Camp, P**	**80.55**	**49**	⇓P	**P**	**09 03 31.1**	**+0.4**
	baz=81,SNR=27						
319A	**Douglas**	**80.60**	**52**	⇓P	**P**	**09 03 31.4**	**+0.4**
	baz=81,SNR=19						
Y17A	**Roosevelt**	**80.61**	**49**	⇑P	**P**	**09 03 31.2**	**+0.2**
	baz=81,SNR=11						
R13A	**O'Grain Ranch,**	**80.82**	**44**	⇓P	**P**	**09 03 32.3**	**+0.1**
	baz=81						
I07A	**Izee**	**80.86**	**37**	⇑P	**P**	**09 03 32.1**	**0.0**
	baz=81						
G06A	**Carlson Farm,**	**80.95**	**36**	⇑P	**P**	**09 03 31.9**	**-0.5**
	baz=81						
ARUT	**Antelope Range**	**80.96**	**45**	*e*P	**P**	**09 03 32.6**	**-0.2**
ARUT				pmax	pmax		
	comp=Z,14nm,0.9s						
ARUT	**Antelope Range**	**80.96**	**45**	*e*P	**P**	**09 03 32.6**	**-0.2**
	comp=Z,14nm,0.9s						
J08A	**Circle Bar Ran**	**81.01**	**38**	⇑P	**P**	**09 03 32.8**	**-0.1**
	baz=81						
U15A	**North Rim**	**81.01**	**46**	⇓P	**P**	**09 03 33.5**	**+0.3**
	baz=81,SNR=28						
320A	**Kipp Ranch, An**	**81.14**	**53**	⇑P	**P**	**09 03 34.7**	**+0.8**
	baz=81,SNR=19						
WUAZ	**Wupatki**	**81.17**	**48**	*e*P	**P**	**09 03 34.1**	**+0.2**
	comp=Z,16nm,1.2s						
WUAZ	**Wupatki**	**81.17**	**48**	⇓P	**P**	**09 03 34.1**	**+0.2**
	baz=81,SNR=12						
Y18A	**Canyon Day Jun**	**81.23**	**50**	⇓P	**P**	**09 03 34.8**	**+0.5**
	baz=81,SNR=24						
119A	**Ashpeak Ranch,**	**81.26**	**51**	⇑P	**P**	**09 03 35.1**	**+0.6**
	baz=81,SNR=11						
W17A	**Winslow**	**81.41**	**48**	⇑P	**P**	**09 03 35.8**	**+0.6**
	baz=82						
220A	**Playas Peak, P**	**81.42**	**52**	⇓P	**P**	**09 03 35.9**	**+0.5**
	baz=82,SNR=18						
Z19A	**T-Link Ranch,**	**81.55**	**50**	⇓P	**P**	**09 03 36.4**	**+0.4**
	baz=82						
V17A	**Tonalea, Kykot**	**81.63**	**48**	⇑P	**P**	**09 03 36.7**	**+0.3**
	baz=82						
120A	**U Bar Ranch, L**	**81.65**	**51**	⇑P	**P**	**09 03 37.1**	**+0.5**
	baz=82,SNR=9.0						
U16A	**Tuba City**	**81.66**	**47**	⇑P	**P**	**09 03 37.0**	**+0.5**
	baz=82,SNR=20						
X18A	**Snowflake**	**81.67**	**49**	⇓P	**P**	**09 03 36.9**	**+0.3**
	baz=82,SNR=8.7						
Y19A	**Nutrioso**	**81.89**	**50**	⇑P	**P**	**09 03 38.5**	**+0.6**
	baz=82,SNR=21						
Z20A	**Nine Sixteen R**	**81.95**	**51**	⇓P	**P**	**09 03 38.7**	**+0.6**
	baz=82,SNR=17						
R15A	**Junction**	**81.96**	**45**	⇓P	**P**	**09 03 38.7**	**+0.5**
	baz=82						
221A	**Mesquite Ranch**	**82.03**	**52**	⇓P	**P**	**09 03 39.2**	**+0.6**
	baz=82						
X19A	**St. Johns**	**82.09**	**49**	⇑P	**P**	**09 03 39.4**	**+0.5**
	baz=82,SNR=22						
S16A	**Weppner Ranch,**	**82.16**	**46**	⇓P	**P**	**09 03 39.2**	**0.0**
	baz=82,SNR=10						
MSU	**Marysvale**	**82.19**	**45**	*e*P	**P**	**09 03 39.9**	**+0.5**
MSU				pmax	pmax		
	comp=Z,12nm,0.9s						
MSU	**Marysvale**	**82.19**	**45**	*e*P	**P**	**09 03 39.9**	**+0.5**
	comp=Z,12nm,0.9s						
U17A	**Shonto**	**82.22**	**47**	⇓P	**P**	**09 03 40.0**	**+0.5**
	baz=82,SNR=11						
121A	**Cookes Peak, D**	**82.27**	**52**	⇑P	**P**	**09 03 40.4**	**+0.6**
	baz=82,SNR=14						
V18A	**Ganado**	**82.28**	**48**	⇑P	**P**	**09 03 40.2**	**+0.3**
	baz=82,SNR=23						
T17A	**Navajo Res., N**	**82.33**	**47**	⇑P	**P**	**09 03 40.5**	**+0.5**
	baz=82,SNR=13						
W19A	**Sanders**	**82.36**	**49**	⇑P	**P**	**09 03 40.6**	**+0.3**
	baz=82,SNR=11						
Y20A	**Horse Springs,**	**82.50**	**50**	⇓P	**P**	**09 03 41.9**	**+0.8**
	baz=83,SNR=19						
MFID	**Camas Ranch**	**82.60**	**39**	⇑P	**P**	**09 03 40.6**	**-0.6**
	baz=83,SNR=5.6						
ETW	**Entiat**	**82.61**	**34**	*e*P	**P**	**09 03 40.1**	**-1.0**
	comp=Z,20nm,1.1s						
ETW				*e*		09 04 06.6	
S17A	**Black Ridge (B**	**82.66**	**46**	⇑P	**P**	**09 03 41.3**	**-0.3**
	baz=83,SNR=12						
DUG	**Dugway**	**82.67**	**43**	⇓P	**P**	**09 03 41.2**	**-0.5**
	baz=83,SNR=6.2						
P15A	**Leamington**	**82.69**	**44**	⇓P	**P**	**09 03 41.5**	**-0.3**
	baz=83,SNR=5.2						
X20A	**Quemado**	**82.72**	**50**	⇑P	**P**	**09 03 42.9**	**+0.7**
	baz=83,SNR=15						
Z21A	**St. Cloud Mine**	**82.72**	**51**	⇓P	**P**	**09 03 43.1**	**+0.9**
	baz=83,SNR=18						
V19A	**Window Rock**	**82.90**	**48**	⇓P	**P**	**09 03 43.4**	**+0.3**
	baz=83						
122A	**Conniff Cattle**	**82.93**	**52**	⇓P	**P**	**09 03 44.3**	**+1.0**
	baz=83,SNR=8.2						
O15A	**The Old Anders**	**82.94**	**43**	⇑P	**P**	**09 03 43.8**	**+0.7**
	baz=83						
W20A	**Ramah**	**83.00**	**49**	⇓P	**P**	**09 03 44.3**	**+0.7**
	baz=83,SNR=28						
T18A	**Mexican Hat**	**83.04**	**47**	⇑P	**P**	**09 03 44.2**	**+0.5**
	baz=83,SNR=71						
Y21A	**Point of Rocks**	**83.06**	**50**	⇓P	**P**	**09 03 44.8**	**+0.9**
	baz=83,SNR=16						
Q16A	**Castle Valley**	**83.07**	**45**	⇓P	**P**	**09 03 44.2**	**+0.3**
	baz=83,SNR=7.6						
U19A	**Dine' College,**	**83.08**	**48**	⇑P	**P**	**09 03 44.4**	**+0.4**
	baz=83,SNR=28						
E09A	**Wood Farm, Sta**	**83.11**	**36**	⇑P	**P**	**09 03 43.2**	**-0.3**
	baz=83						
P16A	**Fountain Green**	**83.11**	**44**	⇑P	**P**	**09 03 44.1**	**0.0**
	baz=83						
R17A	**Hanksville Air**	**83.12**	**45**	⇑P	**P**	**09 03 44.0**	**0.0**
	baz=83,SNR=15						
CN2	**Changchun**	**83.17**	**321**	*e*P	**P**	**09 03 44.8**	**+0.8**
X21A	**Alamocita Cree**	**83.19**	**50**	⇑P	**P**	**09 03 45.1**	**+0.5**
	baz=83,SNR=6.8						
Z22A	**Elephant Butte**	**83.22**	**51**	⇓P	**P**	**09 03 45.2**	**+0.5**
	baz=83,SNR=20						
I12A	**Atlanta**	**83.23**	**39**	⇑P	**P**	**09 03 44.4**	**-0.2**
	baz=83,SNR=14						
S18A	**Hurst Farm, Bl**	**83.23**	**46**	⇓P	**P**	**09 03 44.5**	**-0.3**
	baz=83,SNR=5.4						
TMUT	**Trail Mountain**	**83.24**	**44**	*e*P	**P**	**09 03 45.5**	**+0.6**
	comp=Z,34nm,1.0s						
F10A	**Beach Ranch, E**	**83.29**	**36**	⇑P	**P**	**09 03 43.8**	**-0.9**
	baz=83,SNR=10						
V20A	**Brimhall**	**83.36**	**49**	⇓P	**P**	**09 03 45.5**	**+0.1**
	baz=84,SNR=7.1						
T19A	**Beclabito**	**83.47**	**47**	⇓P	**P**	**09 03 46.1**	**+0.2**
	baz=84,SNR=19						
324A	**Moseley Ranch,**	**83.49**	**54**	⇓P	**P**	**09 03 46.2**	**+0.1**
	baz=84,SNR=20						
USHA	**Ushuaia**	**83.50**	**146**	P	**P**	**09 03 46.7**	**+1.1**
	comp=Z,15nm,0.9s,baz=243,slow=5.5,SNR=8.3						
USHA	**Ushuaia**	**83.50**	**146**	P	**P**	**09 03 46.7**	**+1.1**
O16A	**Springville**	**83.53**	**44**	⇓P	**P**	**09 03 46.5**	**+0.4**
	baz=84,SNR=9.7						
HLID	**Hailey**	**83.53**	**40**	*e*P	**P**	**09 03 45.6**	**-0.5**
	comp=Z,18nm,0.9s						
HLID	**Hailey**	**83.53**	**40**	⇑P	**P**	**09 03 46.0**	**-0.1**
	baz=84,SNR=27						
Y22A	**Socorro**	**83.54**	**51**	⇓P	**P**	**09 03 46.8**	**+0.4**
	baz=84,SNR=5.5						
HVU	**Hansel Valley**	**83.55**	**42**	*e*P	**P**	**09 03 46.1**	**-0.1**
HVU				pmax	pmax		
	comp=Z,14nm,0.8s						
HVU	**Hansel Valley**	**83.55**	**42**	*e*P	**P**	**09 03 46.1**	**-0.1**
	comp=Z,14nm,0.8s						
425A	**Indio Mountain**	**83.58**	**54**	⇑P	**P**	**09 03 47.0**	**+0.4**
	baz=84,SNR=22						
J13A	**Cove Ranch, Pi**	**83.58**	**40**	⇑P	**P**	**09 03 46.3**	**0.0**
	baz=84,SNR=29						
M15A	**Larsen Ranch,**	**83.59**	**42**	⇑P	**P**	**09 03 46.0**	**-0.3**
	baz=84,SNR=9.7						
U20A	**Newcomb**	**83.60**	**48**	⇑P	**P**	**09 03 46.9**	**+0.3**
	baz=84,SNR=12						
SRU	**San Rafael**	**83.60**	**45**	*e*P	**P**	**09 03 46.5**	**0.0**
SRU				pmax	pmax		
	comp=Z,26nm,0.8s						
SRU	**San Rafael**	**83.60**	**45**	*e*P	**P**	**09 03 46.5**	**0.0**
	comp=Z,26nm,0.8s						
W21A	**San Fidel**	**83.61**	**50**	⇑P	**P**	**09 03 47.2**	**+0.5**
	baz=84,SNR=6.4						
LAZ	**Ladron**	**83.64**	**50**	*e*P	**P**	**09 03 47.2**	**+0.4**
	comp=Z,1.6nm,0.7s						
LENM	**Lemitar**	**83.64**	**51**	*e*P	**P**	**09 03 47.1**	**+0.2**
	comp=Z,10nm,1.1s						
P17A	**Butcher Ranch,**	**83.64**	**44**	⇓P	**P**	**09 03 47.4**	**+0.7**
	baz=84,SNR=6.9						
R18A	**Canyonlands Na**	**83.66**	**46**	⇓P	**P**	**09 03 46.8**	**0.0**

baz=84,SNR=18
MNTX Cornudas Mount 83.69 53 eP P 09 03 46.8 -0.2
comp=Z,21nm,1.1s
626A Big Bend Ranch 83.69 56 ⇑P P 09 03 47.4 +0.3
baz=84,SNR=13
K14A Jones Ranch, D 83.72 41 ⇑P P 09 03 46.8 -0.2
baz=84,SNR=13
224A Cornudas Mount 83.75 53 ⇑P P 09 03 47.9 +0.5
baz=84,SNR=21
Z23A Rita Site, Whi 83.77 52 ⇓P P 09 03 47.9 +0.5
baz=84,SNR=6.0
JLU Jordanelle 83.77 43 eP P 09 03 46.5 -0.9
comp=Z,7.9nm,0.8s
X22A Bernardo 83.78 50 ⇓P P 09 03 48.5 +1.0
baz=84,SNR=9.6
C09A Chrisman Ranch 83.82 34 ⇑P P 09 03 46.9 -0.4
baz=84
H12A Diamond D Ranc 83.83 39 ⇑P P 09 03 46.8 -0.8
baz=84,SNR=13
S19A Harvey Farm, M 83.85 47 ⇑P P 09 03 47.9 0.0
baz=84,SNR=20
325A Bean Ranch, Si 83.85 54 ⇑P P 09 03 48.0 0.0
baz=84,SNR=19
Q18A Rafter H Ranch 83.86 45 ⇑P P 09 03 47.6 -0.2
baz=84,SNR=26
BNM Barren Site 83.89 51 eP P 09 03 48.4 +0.2
comp=Z,6.1nm,0.7s
I13A Wildhorse Cree 83.91 39 ⇑P P 09 03 47.7 -0.3
baz=84,SNR=9.9
L15A Malad City 83.92 42 ⇑P P 09 03 47.6 -0.5
baz=84,SNR=14
N16A Rees Ranch, Co 83.93 43 ⇓P P 09 03 48.1 -0.1
baz=84,SNR=10
J14A Carey 83.94 40 ⇓P P 09 03 48.6 +0.4
baz=84
526A Mary Lane Ranc 83.94 55 ⇑P P 09 03 48.7 +0.2
baz=84,SNR=12
V21A Milan 83.95 49 ⇑P P 09 03 48.8 +0.4
baz=84,SNR=22
TXAR Lajitas Array 83.96 56 P P 09 03 48.8 +0.3
comp=Z,8.2nm,1.1s,baz=212,slow=4.4,SNR=49
TXAR Lajitas Array 83.96 56 P P 09 03 48.8 +0.3
TXAR Lajitas Array 83.96 56 P P 09 03 48.8 +0.3
LPM Los Pinos Moun 83.96 51 eP P 09 03 48.7 +0.2
comp=Z,28nm,1.4s
O17A Robinson Place 84.02 44 ⇑P P 09 03 48.9 +0.2
baz=84,SNR=51
MVCO Mesa Verde 84.02 47 ⇑P P 09 03 48.9 0.0
baz=84
M16A Huntsville 84.03 43 ⇓P P 09 03 48.3 -0.3
baz=84
R19A Curley Farm, L 84.04 46 ⇓P P 09 03 48.6 -0.2
baz=84,SNR=20
P18A Preston Nutter 84.05 45 ⇑P P 09 03 49.0 0.0
baz=84
W22A Albuquerque 84.15 50 ⇓P P 09 03 50.3 +0.9
baz=84,SNR=9.3
H13A Challis 84.19 39 ⇑P P 09 03 49.0 -0.4
baz=84,SNR=14
K15A Arbon 84.20 41 ⇑P P 09 03 49.1 -0.4
baz=84,SNR=7.8
Y23A Lovelace Mesa, 84.21 51 ⇓P P 09 03 50.0 +0.2
baz=84,SNR=14
HWUT Hardware Ranch 84.23 42 eP P 09 03 48.9 -0.8
comp=Z,10nm,0.8s
627A Terlingua Ranc 84.23 56 ⇓P P 09 03 50.3 +0.5
baz=84,SNR=19
PV10 Paradox Valley 84.23 46 eP P 09 03 49.3 -0.6
comp=Z,328nm,0.8s
U21A Nageezi 84.23 48 ⇑P P 09 03 50.4 +0.5
baz=84,SNR=31
426A McDonald Obser 84.26 55 ⇓P P 09 03 50.5 +0.4
baz=84,SNR=18
225A Deer Hill, Car 84.30 53 ⇓P P 09 03 50.8 +0.6
baz=84,SNR=20
I14A Mackay 84.31 40 ⇓P P 09 03 50.0 0.0
baz=84,SNR=11
PV04 Paradox Valley 84.33 46 eP P 09 03 49.4 -0.9
N17A Moffit Pass 84.35 43 ⇑P P 09 03 50.2 -0.2
baz=84,SNR=10
527A Woodward Ranch 84.35 56 ⇓P P 09 03 50.6 +0.1
baz=84,SNR=14
Q19A Hogan Spring (84.37 46 ⇓P P 09 03 50.2 -0.2
baz=84,SNR=17
ANMO Albuquerque 84.39 50 P P 09 03 50.9 +0.3
comp=Z,19nm,1.1s,baz=228,slow=5.8,SNR=71
ANMO Albuquerque 84.39 50 P P 09 03 50.9 +0.3
ANMO pmax pmax
comp=Z,19nm,1.1s
ANMO Albuquerque 84.39 50 eP P 09 03 50.5 -0.2
comp=Z,20nm,1.0s
X23A Hourglass Bar 84.41 51 ⇑P P 09 03 51.0 +0.2
baz=84,SNR=12
S20A Disappointment 84.42 47 ⇓P P 09 03 50.8 0.0
baz=84,SNR=9.2
PV01 Paradox Valley 84.43 47 eP P 09 03 50.3 -0.5
comp=Z,1μm,0.8s
Z24A Sheeppen Canyo 84.44 52 ⇑P P 09 03 51.3 +0.4
baz=84,SNR=12
G13A Cobalt 84.50 38 ⇓P P 09 03 50.3 -0.6
baz=85,SNR=7.6
V22A San Miguel Ran 84.52 49 ⇑P P 09 03 51.2 -0.1
baz=85,SNR=5.2
L16A Fish Haven 84.53 42 ⇓P P 09 03 50.5 -0.7
baz=85,SNR=5.5
O18A Roosevelt 84.54 44 ⇑P P 09 03 51.1 -0.1
baz=85,SNR=9.8
326A Caldwell Ranch 84.58 54 ⇓P P 09 03 51.6 +0.1
baz=85,SNR=5.6
R20A Redvale 84.59 47 ⇓P P 09 03 51.4 -0.3
baz=85,SNR=10
T21A Navajo Lake 84.59 48 ⇑P P 09 03 51.9 +0.3
baz=85,SNR=6.4
628A Black Gap, Mar 84.64 56 ⇑P P 09 03 52.1 +0.3
baz=85,SNR=15
J15A Blackfoot 84.64 40 ⇓P P 09 03 52.0 +0.4
baz=85,SNR=20
Y24A Capitan 84.66 51 ⇑P P 09 03 52.4 +0.3
baz=85,SNR=40
125A Gardner Draw, 84.67 53 ⇓P P 09 03 52.3 +0.3
baz=85,SNR=9.0
TRF Thorofare Moun 84.70 11 eP P 09 03 49.4 -2.1
comp=Z,88nm,2.1s
W23A Werner Place, 84.71 50 ⇓P P 09 03 52.4 +0.1
baz=85,SNR=15
M17A Scullys Gap (B 84.73 43 ⇑P P 09 03 51.5 -0.8
baz=85,SNR=7.8
S21A Coal Bank Pass 84.74 47 ⇓P P 09 03 52.4 -0.1
baz=85,SNR=16
H14A Leadore 84.74 39 ⇑P P 09 03 52.2 0.0
baz=85
TNA Tin City 84.76 3 eP P 09 03 52.0 +0.5
comp=Z,5.8nm,0.7s
U22A Llaves 84.78 49 ⇓P P 09 03 52.6 0.0
baz=85
226A Malaga, Loving 84.82 54 ⇑P P 09 03 53.1 +0.3
baz=85,SNR=12
427A Hayter Ranch, 84.83 55 ⇓P P 09 03 53.3 +0.5
baz=85,SNR=23
F13A Darby 84.83 38 ⇓P P 09 03 51.7 -0.8
baz=85,SNR=10
P19A Cripple Cowboy 84.90 45 ⇓P P 09 03 52.7 -0.4
baz=85,SNR=8.3
Z25A Roswell 84.90 52 ⇓P P 09 03 53.8 +0.6
baz=85,SNR=20
L17A Cokeville 84.92 42 ⇑P P 09 03 52.2 -1.0
baz=85
I15A Monteview 84.94 40 ⇓P P 09 03 53.2 +0.1
baz=85,SNR=5.3
X24A Lazy VL Ranch, 84.95 51 ⇑P P 09 03 53.5 -0.1
baz=85,SNR=15
V23A Ortiz Mt. (NFS 84.96 50 ⇑P P 09 03 54.2 +0.7
baz=85,SNR=19
528A Cox Ranch, San 85.00 56 ⇑P P 09 03 54.2 +0.4
baz=85
Q20A Ridgley Place, 85.02 46 ⇑P P 09 03 53.7 0.0
baz=85,SNR=9.6
G14A Jackson 85.03 39 ⇑P P 09 03 53.5 -0.2
baz=85
T22A Edith 85.05 48 ⇓P P 09 03 53.7 -0.2
baz=85,SNR=7.3
CLNB Carlsbad 85.08 54 eP P 09 03 54.1 +0.1
comp=Z,4.4nm,1.0s
M18A Lyman 85.09 43 ⇓P P 09 03 53.5 -0.5
baz=85,SNR=26
N18A Larsen Ranch, 85.12 44 ⇑P P 09 03 53.6 -0.6
baz=85,SNR=6.4
AHID Auburn Hatcher 85.13 42 eP P 09 03 53.6 -0.6
comp=Z,27nm,1.1s
O19A Miners Draw (B 85.14 44 ⇓P P 09 03 53.8 -0.5
baz=85,SNR=9.3
126A Clayton Basin, 85.14 53 ⇓P P 09 03 54.4 +0.1
baz=85,SNR=9.9
MCMT McKenzie Canyo 85.17 39 eP P 09 03 53.9 -0.4
comp=Z,8.8nm,1.0s
H15A Lima 85.18 39 ⇓P P 09 03 54.3 0.0
baz=85,SNR=11
Y25A Mesa, Roswell 85.21 52 ⇑P P 09 03 54.9 +0.2
baz=85,SNR=21
U23A El Rito 85.22 49 ⇓P P 09 03 55.2 +0.3
baz=85,SNR=13
P20A De Beque 85.23 45 ⇓P P 09 03 54.4 -0.4
baz=85,SNR=18
K17A Gardner Place, 85.24 42 ⇓P P 09 03 54.6 -0.1
baz=85,SNR=18
R21A Cimarron 85.25 47 ⇓P P 09 03 55.1 +0.2
baz=85,SNR=20
W24A Lazy 6 Ranch, 85.27 50 ⇓P P 09 03 55.1 0.0
baz=85,SNR=11
E13A Victor 85.28 37 ⇑P P 09 03 53.6 -1.1
baz=85,SNR=8.1
428A Kincaid Ranch, 85.33 55 ⇓P P 09 03 55.8 +0.5
baz=85,SNR=12
L18A Fontenelle, Gr 85.37 43 ⇓P P 09 03 54.8 -0.6
baz=86,SNR=6.2
N19A John Jarvie Ra 85.40 44 ⇑P P 09 03 54.9 -0.7
baz=86,SNR=6.9
F14A Wisdom 85.40 38 ⇓P P 09 03 55.0 -0.4
baz=86
227A Bennet, Jal 85.42 54 ⇑P P 09 03 55.7 0.0
baz=86
CPRX Cap Rock 85.43 53 eP P 09 03 55.6 -0.2
comp=Z,38nm,0.8s
S22A 4UR Ranch, Cre 85.44 48 ⇓P P 09 03 56.2 +0.2
baz=86,SNR=16
Z26A Caprock 85.45 53 ⇓P P 09 03 56.1 +0.2
baz=86,SNR=51
Q21A Lamborn Mesa, 85.45 46 ⇓P P 09 03 55.9 +0.1
baz=86,SNR=9.9
I16A Newdale 85.48 40 ⇓P P 09 03 56.3 +0.4
baz=86
X25A Clemmons Ranch 85.50 51 ⇑P P 09 03 56.1 0.0
baz=86,SNR=12
328A Wristen Ranch, 85.51 55 ⇑P P 09 03 56.2 0.0
baz=86,SNR=14
G15A Dillon 85.57 39 ⇓P P 09 03 56.1 -0.2
baz=86,SNR=17
V24A Rampart Ranch, 85.61 50 ⇓P P 09 03 56.9 +0.2
baz=86,SNR=10
O20A White River Ci 85.64 45 ⇓P P 09 03 56.4 -0.4
baz=86,SNR=5.4
127A Arkansas Junct 85.66 53 ⇓P P 09 03 57.1 +0.1
baz=86
T23A Casias Ranch, 85.67 48 ⇑P P 09 03 57.0 -0.1
baz=86
E14A Clinton 85.67 38 ⇑P P 09 03 55.9 -0.8
baz=86,SNR=7.6
SNOW Snow King Moun 85.71 41 eP P 09 03 56.6 -0.5
comp=Z,20nm,0.9s
M19A Rock Springs 85.72 43 ⇑P P 09 03 56.5 -0.7
baz=86,SNR=5.6
R22A Saguache, Gunn 85.73 47 ⇑P P 09 03 57.7 +0.3
baz=86,SNR=6.0
K18A Toltan Ranch, 85.73 42 ⇑P P 09 03 57.0 -0.2
baz=86,SNR=14
BSMT Bassoo Peak 85.75 36 eP P 09 03 55.5 -1.6
comp=Z,8.5nm,0.9s
DLBC Dease Lake 85.83 22 P P 09 03 55.8 -1.3
comp=Z,3.9nm,0.9s,baz=203,slow=7.9,SNR=5.1
DLBC Dease Lake 85.83 22 P P 09 03 55.8 -1.3
Y26A Elida 85.86 52 ⇑P P 09 03 57.9 0.0
baz=86,SNR=5.6
P21A Newcastle 85.87 46 ⇑P P 09 03 57.8 -0.2
baz=86
IPM Ipoh 85.89 276 eP P 09 03 59.5 +1.1
comp=Z,14nm,0.6s
L19A Farson 85.89 43 ⇑P P 09 03 57.6 -0.4
baz=86,SNR=14
SEY Seymchan 85.91 346 ceP P 09 03 59.7 +2.4
Q22A Crested Butte, 85.92 47 ⇓P P 09 03 58.1 -0.2
baz=86,SNR=12
F15A Butte 85.93 38 ⇑P P 09 03 57.5 -0.6
baz=86
W25A X Bar L Ranch, 85.96 51 ⇑P P 09 03 58.2 -0.2
baz=86,SNR=12
N20A Spence Gulch, 85.97 44 ⇑P P 09 03 58.2 -0.2
baz=86,SNR=10
G16A Moss Hill, Enn 86.01 39 ⇑P P 09 03 58.2 -0.2
baz=86
QLMT Earthquake Lak 86.02 40 eP P 09 03 58.7 +0.1
comp=Z,1.4nm,1.0s
SMCO Snowmass 86.03 46 eP P 09 03 58.3 -0.7
comp=Z,12nm,0.8s
J18A Kendall Valley 86.04 42 ⇑P P 09 03 58.4 -0.3
baz=86,SNR=24
Z27A Tatum 86.04 53 ⇓P P 09 03 58.6 -0.2
baz=86,SNR=11
I17A Pigrim Ck. 86.06 41 ⇓P P 09 03 58.8 0.0
baz=86
H16A Russell Place, 86.06 40 ⇓P P 09 03 58.9 +0.1
baz=86,SNR=6.4
PD01 Pinedale Array 86.09 42 eP P 09 03 57.9 -1.1
PDAR Pinedale Array 86.10 42 P P 09 03 58.1 -0.9
comp=Z,5.9nm,0.9s,baz=210,slow=3.6,SNR=38
PDAR LR LR 09 34 16.6
comp=Z,131nm,20.4s,baz=170,slow=30
PDAR Pinedale Array 86.10 42 P P 09 03 58.1 -0.9
PD02 Pinedale Array 86.10 42 eP P 09 03 57.9 -1.2
DOT Dot Lake 86.11 13 eP P 09 03 57.4 -0.9
comp=Z,1.9nm,0.7s
V25A Rancho No Teng 86.13 50 ⇓P P 09 03 59.0 -0.3
baz=86,SNR=5.4
E15A Deer Lodge 86.16 38 ⇑P P 09 03 58.6 -0.5
baz=86
O21A Pagoda 86.19 45 ⇓P P 09 03 59.4 -0.1
baz=86
Y27A Causey 86.33 52 ⇑P P 09 04 00.3 +0.1
baz=86,SNR=18
BOZ Bozeman (W) 86.34 39 eP P 09 03 59.6 -0.4
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 86.34 39 eP P 09 03 59.6 -0.4
comp=Z,6.8nm,0.7s
M20A Sweetwater, Wa 86.34 44 ⇓P P 09 04 00.2 -0.1
baz=86
R23A Moffat 86.35 48 ⇓P P 09 04 00.4 -0.1
baz=86
SDCO Great Sand Dun 86.37 48 eP P 09 03 59.8 -0.8
comp=Z,4.0nm,1.0s
P22A Eagle 86.38 46 ⇑P P 09 04 00.1 -0.3
baz=86,SNR=8.3
T24A Torres, Weston 86.38 49 ⇓P P 09 04 00.4 -0.2
baz=86
F16A Kennard Place, 86.41 39 ⇑P P 09 04 00.1 -0.2
baz=86
W26A Owens Ranch, T 86.42 51 ⇓P P 09 04 00.8 +0.2
baz=86
I18A Diamond G Ranc 86.42 41 ⇓P P 09 04 00.3 -0.2
baz=86
N21A Black Mountain 86.43 45 ⇓P P 09 04 00.5 -0.2
baz=86,SNR=6.0
COLA College 86.44 11 eP P 09 03 58.5 -1.3
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 86.44 11 eP P 09 03 58.5 -1.3
comp=Z,12nm,0.8s
L20A Wamsutter 86.50 43 ⇓P P 09 04 01.0 +0.1
baz=87
CMIG Matias Romero 86.52 71 P P 09 04 01.4 +0.1
comp=Z,8.4nm,0.9s,baz=282,slow=3.0,SNR=8.3
CMIG Matias Romero 86.52 71 P P 09 04 01.4 +0.1
ILAR Eielson Array 86.53 12 P P 09 03 58.9 -1.4
comp=Z,2.5nm,0.7s,baz=227,slow=6.1,SNR=85
ILAR Eielson Array 86.53 12 P P 09 03 58.9 -1.4
ILAR Eielson Array 86.53 12 P P 09 03 58.9 -1.4
S24A Houchin Ranch, 86.53 48 ⇑P P 09 04 01.6 +0.3
baz=87
U25A Circle Dot Ran 86.54 50 ⇑P P 09 04 01.0 -0.2
baz=87
MSTX Muleshoe 86.66 52 ⇑P P 09 04 01.9 +0.1
baz=87,SNR=16
J19A Crowheart 86.67 42 ⇓P P 09 04 01.4 -0.4
baz=87
X27A F and S Farms, 86.71 52 ⇓P P 09 04 02.2 +0.1
baz=87,SNR=6.4
E16A East Helena 86.78 38 ⇓P P 09 04 01.6 -0.5
baz=87
O22A Kremmling 86.79 46 ⇑P P 09 04 02.1 -0.5
baz=87,SNR=7.3
T25A Trinidad 86.87 49 ⇓P P 09 04 02.6 -0.3
baz=87
B14A Marquette Ranc 86.87 36 ⇑P P 09 04 01.7 -0.8
baz=87,SNR=6.5
R24A Sanders Place, 86.87 48 ⇓P P 09 04 02.7 -0.1
baz=87
WALA Waterton Lakes 86.91 35 eP P 09 04 01.4 -1.3
comp=Z,0.3nm,0.8s
C15A Salmond Ranch, 86.92 37 ⇑P P 09 04 02.1 -0.6
baz=87
W27A Bowe Ranch, En 86.92 51 ⇓P P 09 04 02.7 -0.3
baz=87,SNR=6.9
M21A Separation Pea 86.94 44 ⇑P P 09 04 02.4 -0.7
baz=87,SNR=7.6
U26A Atchley Ranch, 87.01 50 ⇑P P 09 04 03.2 -0.4
baz=87
F17A Fitzpatrick Pl 87.05 39 ⇑P P 09 04 03.4 -0.1
baz=87
S25A Robets Cordova 87.09 48 ⇓P P 09 04 03.6 -0.3
baz=87
L21A Rawlins 87.11 44 ⇓P P 09 04 03.5 -0.5
baz=87
D16A Dana Ranch, Ca 87.12 38 ⇓P P 09 04 03.0 -0.8
baz=87
BJI Beijing 87.12 314 P P 09 04 05.8 +2.1
BJI S S 09 14 25.9 -4.2
BJI sS sS 09 15 41.9 +4.8
BJI pmax pmax
comp=Z,12nm,1.2s
BJI pmax pmax
comp=Z,52nm,5.3s
A14A Double T Ranch 87.13 35 ⇓P P 09 04 03.0 -0.7
baz=87,SNR=14
N22A Watterberg Ran 87.16 45 ⇓P P 09 04 04.0 -0.3
baz=87,SNR=9.5
Q24A Divide 87.18 47 ⇓P P 09 04 04.2 -0.3
baz=87
O23A Lake Granby, G 87.24 46 ⇑P P 09 04 03.7 -0.9
baz=87,SNR=5.7
B15A Bradely Ranch, 87.24 36 ⇑P P 09 04 03.0 -1.2
baz=87,SNR=6.1
ISCO Idaho Springs 87.25 46 ⇓P P 09 04 04.2 -0.6
baz=87
J20A Shoshoni 87.33 42 ⇓P P 09 04 04.3 -0.6
baz=87
M22A Cedar Creek Ra 87.35 44 ⇓P P 09 04 04.4 -0.8
baz=88
R25A Fountain Ranch 87.41 48 ⇑P P 09 04 04.9 -0.4
baz=88
C16A Fuhringer Ranc 87.42 37 ⇑P P 09 04 04.2 -0.9
baz=88,SNR=6.1
H19A Powell 87.43 41 ⇑P P 09 04 05.3 0.0
baz=88
JCT Junction City 87.48 57 eP P 09 04 05.4 -0.4
JCT pmax pmax
comp=Z,12nm,1.2s
JCT Junction City 87.48 57 eP P 09 04 05.4 -0.4
comp=Z,12nm,1.2s
JCT Junction City 87.48 57 ⇓P P 09 04 05.8 +0.1
baz=88
A15A Johnson Ranch, 87.51 36 ⇓P P 09 04 04.6 -0.9
baz=88,SNR=7.5
DAWY Dawson 87.53 15 eP P 09 04 04.5 -0.7
I20A Worland 87.60 42 ⇓P P 09 04 05.5 -0.6
baz=88
F18A Big Timber 87.61 39 ⇓P P 09 04 05.9 -0.2
baz=88
D17A Six Diamond Ra 87.69 38 ⇑P P 09 04 06.3 -0.2
baz=88,SNR=5.6
J21A Lysite 87.73 42 ⇓P P 09 04 06.5 -0.3
baz=88
S26A Kim 87.75 49 ⇓P P 09 04 06.7 -0.3
baz=88
O24A Longmont 87.77 46 ⇑P P 09 04 07.2 +0.2
baz=88
Q25A Bedland, Calha 87.78 47 ⇑P P 09 04 06.8 -0.4
baz=88
ENH Enshi 87.81 303 eP P 09 04 08.9 +1.6
comp=Z,15nm,0.9s
E18A Harlowton 87.83 39 ⇓P P 09 04 07.1 -0.1
baz=88
C17A Wharram Farm, 87.89 38 ⇑P P 09 04 07.0 -0.4
baz=88,SNR=11
H20A Greybull 87.94 41 ⇓P P 09 04 06.9 -0.8
baz=88
PLCA Paso Flores 87.95 133 P P 09 04 09.1 +1.1
comp=Z,6.0nm,1.0s,baz=223,slow=3.7,SNR=9.4
PLCA LR LR 09 36 11.3
comp=Z,104nm,18.8s,baz=237,slow=30
PLCA Paso Flores 87.95 133 P P 09 04 09.1 +1.1
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 87.95 133 eP P 09 04 08.8 +0.9
comp=Z,9.8nm,1.3s
M23A Laramie 87.96 45 ⇑P P 09 04 07.5 -0.5
baz=88
T27A Campo 88.04 50 ⇑P P 09 04 07.7 -0.7
baz=88
F19A Roth Farm, Mol 88.05 40 ⇑P P 09 04 07.6 -0.5
baz=88
I21A Big Trails, Te 88.06 42 ⇑P P 09 04 07.7 -0.6
baz=88
R26A Arlington 88.07 48 ⇑P P 09 04 07.8 -0.7
baz=88,SNR=6.3
P25A Willow Gulch B 88.11 47 ⇓P P 09 04 08.1 -0.6
baz=88
A16A West Butte Ran 88.12 36 ⇑P P 09 04 08.0 -0.5
baz=88
BILL Bilibino 88.17 353 ⇓eP P 09 04 07.3 -0.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
B17A L&G Farms, Che 88.22 37 ⇓P P 09 04 08.2 -0.6
baz=88,SNR=5.7
N24A Carr 88.22 46 ⇓P P 09 04 09.1 -0.1
baz=88
D18A Linhart Farms, 88.22 38 ⇑P P 09 04 08.8 -0.1
baz=88
Q26A Hugo 88.30 48 ⇓P P 09 04 09.0 -0.6
baz=88
J22A Midwest 88.38 43 ⇓P P 09 04 09.2 -0.6
baz=88
E19A Rath Farm, Rou 88.45 39 ⇓P P 09 04 09.7 -0.3
baz=89
T28A Walsh 88.51 50 ⇑P P 09 04 09.8 -0.7
baz=89
SYO Syowa Base 88.51 192 ⇑eP P 09 04 09.7 -0.2
R27A Eads 88.52 49 ⇓P P 09 04 09.8 -0.8
baz=89
I22A 9 Mile Ranch, 88.61 42 ⇑P P 09 04 10.8 -0.1
baz=89
H21A Big Horn, Sher 88.61 41 ⇑P P 09 04 10.6 -0.2
baz=89
GYA Guiyang 88.62 299 P P 09 04 11.0 -0.3
GYA pP pP 09 04 55.3 +5.2
GYA PP PP 09 07 44.4 +2.1
GYA SKS SKSac 09 14 21.3 -5.3
GYA S S 09 14 40.2 -5.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
A17A Triple J Farms 88.62 36 ⇓P P 09 04 10.4 -0.4
baz=89,SNR=10.0
P26A Davis Ranch, A 88.70 47 ⇓P P 09 04 11.0 -0.5
baz=89
D19A Cripps Ranch, 88.75 39 ⇓P P 09 04 11.4 0.0
baz=89
B18A Beardsley Farm 88.86 37 ⇓P P 09 04 11.5 -0.3
baz=89
E20A Meyer Farm, Mu 88.86 39 ⇑P P 09 04 11.8 -0.1
baz=89
C19A Slack Wire Ran 88.94 38 ⇓P P 09 04 12.2 -0.1
baz=89
A18A Metzger Ranch, 89.09 37 ⇓P P 09 04 12.3 -0.6
baz=89,SNR=5.9
SNAA Sanae 89.10 177 e P 09 04 14.7 +2.0
SNAA Sanae 89.10 177 eP P 09 04 14.3 +1.6
SNAA pmax pmax
comp=Z,4.0nm,0.8s
SNAA Sanae 89.10 177 eP P 09 04 14.2 +1.6
comp=Z,4.2nm,0.8s
D20A Manuel Ranch, 89.15 39 ⇓P P 09 04 13.3 +0.1
baz=89,SNR=5.7
G22A Birney 89.36 41 ⇑P P 09 04 13.6 -0.7
baz=90

E21A	Keefer Ranch,	89.52	40	⇑P	P	09 04 15.2	+0.3
	baz=90						
C20A	Veseth Ranch,	89.54	38	⇓P	P	09 04 15.1	0.0
	baz=90						
VNA2	Neumayer--Watz	89.59	176	e	P	09 04 17.7	+2.8
A19A	Klindworth Far	89.72	37	⇑P	P	09 04 15.5	-0.4
	baz=90						
VNA1	Neumayer--Stat	89.80	176	e	P	09 04 19.1	+3.2
N27A	Anderson Farm,	89.80	46	⇓P	P	09 04 16.6	+0.1
	baz=90						
D21A	La Casta Ranch	89.82	39	⇓P	P	09 04 16.9	+0.5
	baz=90						
G23A	Biddle	89.92	41	⇓P	P	09 04 17.0	+0.1
	baz=90						
F23A	Volborg	90.15	41	⇓P	P	09 04 17.6	-0.4
	baz=90,SNR=5.7						
E22A	Miles City	90.15	40	⇓P	P	09 04 17.9	0.0
	baz=90						
A20A	Cobblestone Ra	90.16	37	⇑P	P	09 04 17.7	-0.2
	baz=90,SNR=6.1						
H24A	Dirks Ranch, A	90.23	42	⇑P	P	09 04 17.6	-0.8
	baz=90,SNR=7.0						
RSSD	Black Hills	90.28	43	eP	P	09 04 17.4	-1.4
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RSSD	Black Hills	90.28	43	eP	P	09 04 17.4	-1.4
	comp=Z,6.5nm,0.9s						
D22A	Cohagen	90.35	39	⇓P	P	09 04 19.1	+0.2
	baz=90,SNR=5.3						
E23A	Ismay	90.57	40	⇑P	P	09 04 19.5	-0.4
	baz=91						
G24A	Alzada	90.58	42	⇓P	P	09 04 19.9	-0.1
	baz=91						
HHC	Hu-ho-hao-te	90.63	313	eP	P	09 04 18.9	-1.5
HHC				pP	pP	09 05 04.2	+5.0
HHC				sP	sP	09 05 21.2	+5.9
HHC				PP	PP	09 07 58.8	+0.8
HHC				S	SKKSac	09 14 56.3	+3.8
HHC				sS	sS	09 16 13.6	+2.9
HHC				SS	SS	09 21 06.9	-2.1
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.9s						
HHC				LR	LR		
	comp=N,110nm,17.7s						
HHC				LR	LR		
	comp=E,330nm,15.4s						
HHC				LR	LR		
	comp=Z,190nm,18.0s						
A21A	Bergtoll Ranch	90.79	38	⇓P	P	09 04 20.7	-0.1
	baz=91						
F24A	Ekalaka	90.80	41	⇑P	P	09 04 20.9	-0.1
	baz=91						
C22A	Vida	90.81	39	⇓P	P	09 04 21.1	+0.1
	baz=91						
K27A	Flueckinger Fa	90.83	45	⇑P	P	09 04 21.0	-0.3
	baz=91						
D23A	Lindsay	90.95	40	⇓P	P	09 04 21.8	+0.2
	baz=91						
B22A	Reddig Ranch S	91.00	39	⇓P	P	09 04 22.0	+0.1
	baz=91						
E24A	Baker	91.21	41	⇑P	P	09 04 23.1	+0.2
	baz=91						
C23A	Lambert	91.25	39	⇓P	P	09 04 23.4	+0.4
	baz=91,SNR=7.8						
KMI	Kunming	91.43	296	P	P	09 04 24.6	0.0
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
B23A	Brockton	91.67	39	⇓P	P	09 04 25.3	+0.3
	baz=92						
DGMT	Dagmar	92.15	39	⇓P	P	09 04 27.3	+0.2
	baz=92						
INK	Inuvik	92.38	14	P	P	09 04 26.5	-1.1
	comp=Z,3.2nm,0.9s,baz=209,slow=10,SNR=6.0						
INK	Inuvik	92.38	14	P	P	09 04 26.5	-1.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	92.38	14	eP	P	09 04 25.9	-1.7
	comp=Z,6.9nm,1.1s						
A24A	Westby	92.47	39	⇑P	P	09 04 28.8	+0.2
	baz=93						
CMAR	Chiang Mai Arr	92.49	289	P	P	09 04 31.0	+1.7
	comp=Z,5.6nm,1.0s,baz=102,slow=3.2,SNR=13						
CMAR	Chiang Mai Arr	92.49	289	P	P	09 04 31.0	+1.7
CMAR	Chiang Mai Arr	92.49	289	P	P	09 04 31.0	+1.7
CHTO	Chiang Mai	92.60	289	eP	P	09 04 32.0	+2.2
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	Chiang Mai	92.60	289	eP	P	09 04 32.0	+2.2
	comp=Z,4.0nm,0.8s						
CD2	Chengdu	92.62	302	P	P	09 04 29.4	-0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUL1	Tulsa	92.69	53	⇓P	P	09 04 30.1	+0.2
	baz=93						
BGNE	Belgrade	93.07	47	⇑P	P	09 04 32.2	+0.6
	baz=93						
JTS	JuntasAbangare	93.29	80	P	P	09 04 33.4	+0.3
	comp=Z,9.6nm,0.9s,baz=348,slow=3.9,SNR=5.3						
JTS	JuntasAbangare	93.29	80	P	P	09 04 33.4	+0.3
JTS	JuntasAbangare	93.29	80	P	P	09 04 33.4	+0.3
CFAA	Coronel Fontan	93.42	125	P	P	09 04 34.4	+0.9
	comp=Z,1.6nm,0.9s,baz=254,slow=4.2,SNR=27						
CFAA	Coronel Fontan	93.42	125	P	P	09 04 34.4	+0.9
ATAH	Atahualpa	93.76	99	P	P	09 04 38.3	+2.5
	comp=Z,3.6nm,0.5s,baz=186,slow=9.2,SNR=3.5						
ATAH	Atahualpa	93.76	99	P	P	09 04 38.3	+2.5
YKA	Yellowknife Ar	94.22	24	P	P	09 04 35.5	-0.7
	comp=Z,1.6nm,0.8s,baz=238,slow=4.5,SNR=17						
YKA	Yellowknife Ar	94.22	24	P	P	09 04 35.6	-0.7
YKA	Yellowknife Ar	94.22	24	P	P	09 04 35.5	-0.7
LZH	Lanzhou	94.38	307	eP	P	09 04 38.0	+0.1
LZH				pP	pP	09 05 17.0	+0.2
LZH				sP	sP	09 05 33.5	+0.7
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LVC	Limon Verde	96.59	117	eP	P	09 04 50.9	+2.5
	comp=Z,2.8nm,0.7s						
ULM	Lac du Bonnet	97.84	40	P	P	09 04 51.3	-1.7
	comp=Z,2.6nm,0.7s,baz=309,slow=4.1,SNR=5.8						
ULM	Lac du Bonnet	97.84	40	P	P	09 04 51.3	-1.7
ULM	Lac du Bonnet	97.84	40	P	P	09 04 51.3	-1.7
GTA	Gaotai	98.49	309	eP	Pdif	09 04 59.2	+2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LPAZ	La Paz	99.79	111	P	Pdif	09 05 05.2	+1.9
	comp=Z,0.9nm,0.7s,baz=230,slow=5.1,SNR=4.9						
LPAZ				LR	LR	09 42 53.6	
	comp=Z,85nm,19.0s,baz=76,slow=31						
LPAZ	La Paz	99.79	111	P	Pdif	09 05 05.2	+1.9
LPAZ	La Paz	99.79	111	P	Pdif	09 05 05.2	+1.9
ZALV	Zalesovo Beam	111.39	321	PKiKP	PKiKP	09 09 49.9	-0.8
	comp=Z,0.4nm,0.5s,baz=5.7,slow=2.9,SNR=3.2						
ZALV	Zalesovo Beam	111.39	321	PKIKP	PKiKP	09 09 49.9	-0.8
ZALV	Zalesovo Beam	111.39	321	PKiKP	PKiKP	09 09 49.9	-0.8
MKAR	Makanchi Array	112.50	314	PKKPbc	PKKPbc	09 20 43.3	-0.8
	comp=Z,0.8nm,0.7s,baz=287,slow=3.5,SNR=7.3						
MKAR				PKKPab	PKKPab	09 20 50.5	+0.1
	comp=Z,0.7nm,0.7s,baz=262,slow=4.4,SNR=5.2						
MKAR	Makanchi Array	112.50	314	PKKPbc	PKKPbc	09 20 43.3	-0.8
MKAR				PKKPab	PKKPab	09 20 50.5	+0.1
ARCES	ARCESS Array B	128.24	351	PKP	PKPdf	09 10 22.4	-0.1
	comp=Z,3.1nm,0.5s,baz=35,slow=1.4,SNR=16						
ARCES	ARCESS Array B	128.24	351	PKIKP	PKPdf	09 10 22.5	-0.1
ARCES	ARCESS Array B	128.24	351	PKP	PKPdf	09 10 22.4	-0.1
BOSA	Boshof	128.54	203	PKP	PKPdf	09 10 26.3	+1.6
	comp=Z,2.4nm,0.9s,baz=163,slow=18,SNR=3.8						
BOSA	Boshof	128.54	203	PKIKP	PKPdf	09 10 26.3	+1.6
BOSA	Boshof	128.54	203	PKP	PKPdf	09 10 26.3	+1.6
JOF	Joensuu	132.84	344	ePKIKP	PKPdf	09 10 31.8	+0.4
JOF	Joensuu	132.84	344	epkp	PKPdf	09 10 31.8	+0.4
JOF	Joensuu	132.84	344	epkp	PKPdf	09 10 31.8	+0.4
KAF	Kangasniemi	134.75	346	ePKIKP	PKPdf	09 10 35.4	+0.3
KAF	Kangasniemi	134.75	346	epkp	PKPdf	09 10 35.4	+0.3
KAF	Kangasniemi	134.75	346	epkp	PKPdf	09 10 35.4	+0.3
FINES	FINESS Array B	135.39	346	PKP	PKPdf	09 10 36.7	+0.4
	comp=Z,2.3nm,0.6s,baz=8.2,slow=1.5,SNR=8.6						
FINES	FINESS Array B	135.39	346	PKIKP	PKPdf	09 10 36.7	+0.4
FINES	FINESS Array B	135.39	346	PKP	PKPdf	09 10 36.7	+0.4
IZAR	Zarasai	140.27	341	eP	PKPpre	09 10 32.1	
ISAL	Salakas	140.46	341	eP	PKPpre	09 10 34.0	
IIGN	Ignalina	140.61	341	eP	PKPpre	09 10 30.9	
AKASG	Malin Array Be	143.29	334	PKhKP	PKPpre	09 10 48.0	
	comp=Z,0.6nm,0.4s,baz=40,slow=4.5,SNR=4.6						
AKASG				PKP	PKPdf	09 10 51.1	+0.1
	comp=Z,1.3nm,0.5s,baz=36,slow=3.3,SNR=5.3						
AKASG	Malin Array Be	143.29	334	PKHKP	PKPpre	09 10 48.0	
AKASG						09 10 51.1	
AKASG	Malin Array Be	143.29	334	PKPpre	PKPpre	09 10 48.0	
AKASG				PKP	PKPdf	09 10 51.1	+0.1
KWP	Kalwaria Pacla	146.61	339	ePKP	PKPbc	09 10 58.9	+0.3
KWP	Kalwaria Pacla	146.61	339	ePKIKP	PKPbc	09 10 58.9	+0.3
KWP	Kalwaria Pacla	146.61	339	ePKPdf	PKPbc	09 10 58.9	+0.3
OJC	Ojcow	147.00	343	ePKP	PKPdf	09 10 58.4	+1.0
OJC	Ojcow	147.00	343	ePKIKP	PKPdf	09 10 58.4	+1.0
STHS	Stebnicka Huta	147.28	340	ePKP2	PKPab	09 11 02.9	+0.3
STHS	Stebnicka Huta	147.28	340	ePKP	PKPab	09 11 02.9	+0.3
KSP	Ksiaz	147.30	347	ePKPbc	PKPbc	09 11 01.1	+0.6
KSP	Ksiaz	147.30	347	ePKP2	PKPbc	09 11 01.0	+0.6
BUR08	Bucovina Ar. S	147.33	335	ePKPdf	PKPbc	09 11 00.7	-0.1
BURAR	Bucovina Array	147.35	334	⇓iP	PKPbc	09 11 01.6	+0.8
KOLS	Kolonicke sedl	147.36	339	ePKP2	PKPbc	09 11 01.0	+0.3
KOLS	Kolonicke sedl	147.36	339	ePKP	PKPbc	09 11 01.0	+0.3
CLL	Collm	147.46	351	i PKP2	PKPbc	09 11 01.4	+0.6
CLL				pmax	pmax		
	comp=Z,14nm,1.0s						
CLL	Collm	147.46	351	i PKPbc	PKPbc	09 11 01.4	+0.6
	comp=Z,14nm,1.0s						
CLL				i PKPab	PKiKP	09 11 02.9	0.0
	comp=Z,14nm,0.9s						
CLL				i (PKiKP)		09 11 04.4	
CLL				e		09 11 09.0	
CLL				e		09 11 30.0	
NIE	Niedzica	147.56	341	ePKP	PKPbc	09 11 02.3	+1.1
NIE	Niedzica	147.56	341	ePKP2	PKPbc	09 11 02.3	+1.1
UZH	Uzhgorod	147.61	339	ePKP2	PKPab	09 11 03.0	-0.9
CRVS	Cervenica-Dubn	147.66	340	ePKP2	PKPab	09 11 03.1	-1.0
CRVS	Cervenica-Dubn	147.66	340	ePKP	PKPab	09 11 03.1	-1.0
UPC	Upice	147.67	347	ePKP2	PKPbc	09 11 02.0	+0.5
UPC	Upice	147.67	347	ePKPbc	PKPbc	09 11 02.0	+0.5
UPC				epPKP	pPKPdf	09 11 35.4	-3.8
BRG	Berggiesshubel	147.72	349	i PKP	PKPbc	09 11 01.8	+0.2
	comp=Z,5.1nm,0.7s						
BRG				e		09 11 04.5	
	comp=Z,4.3nm,0.8s						
BRG				e		09 11 31.8	
	comp=Z,8.1nm,1.2s						
BRG	Berggiesshubel	147.72	349	i PKP2	PKPbc	09 11 01.8	+0.2
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DPC	Dobruska-Polom	147.75	346	ePKP2	PKPbc	09 11 02.5	+0.8
DPC	Dobruska-Polom	147.75	346	ePKPbc	PKPbc	09 11 02.5	+0.8
DPC				ex	x	09 11 17.6	
DPC				ex	x	09 11 32.4	
OKC	Ostrava-Krasne	147.79	344	ePKP2	PKPbc	09 11 02.2	+0.4
OKC	Ostrava-Krasne	147.79	344	ePKPbc	PKPbc	09 11 02.2	+0.4
KRLC	Kraliky	147.91	346	ePKPbc	PKPbc	09 11 02.9	+0.7
PVCC	Panska Ves	147.94	349	ePKP2	PKPbc	09 11 02.7	+0.5
PVCC	Panska Ves	147.94	349	ePKPbc	PKPbc	09 11 02.7	+0.5
TRPA	Tarpa	147.95	338	⇓iP	PKPbc	09 11 03.0	+0.8
MORC	Moravsky Berou	148.00	345	ePKP2	PKPbc	09 11 03.2	+0.8
MORC	Moravsky Berou	148.00	345	ePKPbc	PKPbc	09 11 03.2	+0.8
MORC	Moravsky Berou	148.00	345	⇑iP	PKPbc	09 11 02.9	+0.5
BR131	Keskin Array S	148.11	316	ePKPbc	PKPbc	09 11 03.3	+0.1
BRTR	Keskin Array B	148.11	316	PKPbc	PKPbc	09 11 03.7	+0.5
	comp=Z,3.4nm,0.7s,baz=129,slow=3.5,SNR=14						
BRTR	Keskin Array B	148.11	316	PKP2	PKPbc	09 11 03.7	+0.5
BRTR	Keskin Array B	148.11	316	PKPbc	PKPbc	09 11 03.7	+0.5
KECS	Kecovo	148.34	340	ePKIKP	PKPbc	09 11 03.0	-0.3
KECS	Kecovo	148.34	340	ePKP	PKPbc	09 11 03.0	-0.3
PRU	Pruhonice	148.47	348	ePKP2	PKPbc	09 11 04.3	+0.8
PRU	Pruhonice	148.47	348	ePKPbc	PKPbc	09 11 04.3	+0.8
PRU				ex	x	09 11 35.1	
BEBN	Eben Emael	148.57	359	PKPab	PKPab	09 11 06.7	-0.9
NKC	Novy Kostel	148.58	351	ePKP2	PKPbc	09 11 04.7	+0.8
NKC	Novy Kostel	148.58	351	ePKPbc	PKPbc	09 11 04.7	+0.8
MLR	Muntele Rosu	148.69	331	⇓iP	PKPbc	09 11 04.5	0.0
MEM	Membach	148.75	359	PKPbc	PKPbc	09 11 05.1	+0.9
VYHS	Vyhne	148.83	342	ePKP2	PKPbc	09 11 05.2	+0.7
VYHS	Vyhne	148.83	342	ePKP	PKPbc	09 11 05.1	+0.6
SNF	Seneffe	148.85	1	PKPab	PKPbc	09 11 04.4	0.0
KOLL	Kolacno	148.87	343	ePKP2	PKPbc	09 11 05.3	+0.7
KOLL	Kolacno	148.87	343	ePKP	PKPbc	09 11 05.3	+0.7
TREC	Trest	148.93	347	ePKIKP	PKPbc	09 11 04.8	0.0
TREC	Trest	148.93	347	ePKPbc	PKPbc	09 11 04.8	0.0
BCLA	Clavier	148.95	360	PKPab	PKPab	09 11 08.2	-1.0
DRGR		149.01	336	⇓iP	PKPbc	09 11 05.9	+0.8
VOIR		149.14	332	⇓iP	PKPab	09 11 09.5	-0.8
SULR		149.16	330	⇑iP	PKPdf	09 10 51.3	-10
DOU	Dourbes	149.27	1	PKPbc	PKPbc	09 11 05.9	+0.4
GRF	Grafenberg Arr	149.28	352	epPKPbc	PKPbc	09 11 06.5	+0.9
KHC	Kasperske Hory	149.47	349	ePKP2	PKPbc	09 11 06.8	+0.7
KHC	Kasperske Hory	149.47	349	ePKPbc	PKPbc	09 11 06.4	+0.2
KHC	Kasperske Hory	149.47	349	ePKPbc	PKPbc	09 11 06.8	+0.7
WLF	Walferdange	149.69	359	PKPbc	PKPbc	09 11 07.0	+0.4
WLF	Walferdange	149.69	359	ePKPbc	PKPbc	09 11 06.6	0.0
GERES	GERESS Array B	149.72	349	PKP	PKPdf	09 11 02.4	+0.4
	comp=Z,3.3nm,0.6s,baz=52,slow=2.2,SNR=3.5						
GERES				PKPbc	PKPbc	09 11 06.8	-0.1
	comp=Z,3.4nm,0.6s,baz=20,slow=3.1,SNR=36						
GERES	GERESS Array B	149.72	349	PKIKP	PKPdf	09 11 02.4	+0.4
GERES						09 11 06.8	
GERES	GERESS Array B	149.72	349	PKP	PKPdf	09 11 02.4	+0.4
GERES				PKPbc	PKPbc	09 11 06.8	-0.1
BZS	Buzias	150.41	336	⇓iP	PKPbc	09 11 06.0	-2.5
MOA	Molln	150.56	347	⇓iPKiKP	PKPbc	09 11 08.8	0.0
	comp=Z,3.8nm,0.6s						
BFO	Black Forest	150.92	356	ePKIKP	PKPdf	09 11 03.8	0.0
BFO				e		09 11 09.5	
BFO				e		09 11 18.2	
BFO	Black Forest	150.92	356	ePKPdf	PKPdf	09 11 03.8	0.0
BFO				ePKPbc	PKPbc	09 11 09.5	-0.2
BFO				ePKPab	PKPab	09 11 18.2	+0.8
PKSM	Moragy	150.93	340	⇓iP	PKPbc	09 11 10.7	+1.0
KBA	Koelnbreinsper	151.48	348	⇑iPKiKP	PKPbc	09 11 10.7	-0.4
	comp=Z,11nm,0.7s						
SOKA	Soboth	151.50	346	⇑iPKiKP	PKPbc	09 11 11.3	+0.2
	comp=Z,6.3nm,0.9s						
WATA	Walderalm	151.54	351	⇓iPKiKP	PKPbc	09 11 11.1	-0.2
	comp=Z,4.9nm,0.5s						
WTTA	Wattenberg	151.60	351	⇓iPKiKP	PKPbc	09 11 11.4	0.0
	comp=Z,15nm,0.5s						
MYKA	Terra Mystica	151.85	347	⇑iPKPbc	PKPbc	09 11 11.3	-0.6
	comp=Z,6.6nm,0.6s						
ABTA	Abfaltersbach	151.96	349	⇑iPKPbc	PKPbc	09 11 10.9	-1.2
	comp=Z,10nm,0.6s						
FETA	Feichten	151.97	352	⇑iPKiKP	PKPbc	09 11 12.3	0.0
	comp=Z,12nm,0.9s						
VNDS	Vrh nad Dolski	152.12	346	i PKPdf	PKPbc	09 11 12.4	0.0
CRNS	Crni Vrh	152.24	346	i PKPdf	PKPbc	09 11 12.5	-0.2
VISS	Visnje	152.37	345	i PKPdf	PKPbc	09 11 13.4	+0.4
JAVS	Javornik	152.46	346	i PKPdf	PKPbc	09 11 14.8	+1.5
BOJS	Bojanci	152.55	344	i PKPdf	PKPbc	09 11 14.2	+0.9
TUE	Stuetta	152.68	354	ePKPbc	PKPbc	09 11 13.7	-0.2
ESDC	Sonseca Array	158.24	19	PKPab	PKPab	09 11 48.9	0.0
	comp=Z,0.5nm,0.6s,baz=347,slow=2.6,SNR=6.4						
ESDC	Sonseca Array	158.24	19	PKPab	PKPab	09 11 48.9	0.0
DBIC	Dimbokro	164.14	141	PKPab	PKPab	09 12 15.5	+0.2
	comp=Z,7.7nm,0.8s,baz=210,slow=4.5,SNR=9.4						
DBIC	Dimbokro	164.14	141	PKP2	PKPab	09 12 15.5	+0.2
DBIC	Dimbokro	164.14	141	PKPab	PKPab	09 12 15.5	+0.2
TORD	Torodi Ar. Bea	173.06	151	PKP	PKPdf	09 11 26.4	-0.5
	comp=Z,1.4nm,0.8s,baz=306,slow=0.6,SNR=9.4						
TORD				PKPab	PKPab	09 12 54.7	+0.1
	comp=Z,4.3nm,0.9s,baz=247,slow=3.8,SNR=14						
TORD				PP	PP	09 16 43.9	-1.4
	comp=Z,0.8nm,0.9s,baz=188,slow=4.4,SNR=4.2						
TORD	Torodi Ar. Bea	173.06	151	PKP	PKPdf	09 11 26.4	-0.5
TORD				PKPab	PKPab	09 12 54.7	+0.1
TORD				PP	PP	09 16 43.9	-1.4

IDC 02 08:52:51.0±1.6**, 18°.04S**×**66°.83W, h285**km±13km**, mb3.4**/4**, mb1 3.4**/6**, mb1mx3.2**/18**, mbtmp3.4**/6**, Error ellipse: s-maj=34.1km s-min=15.7km az=4.0, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.14	324	P	Pn	08 53 38.0	-0.6
	61nm,0.3s,baz=122,slow=4.7,SNR=1281						
LPAZ				S	S	08 54 12.8	-3.4
	4.9nm,0.3s,baz=15,slow=23,SNR=12						
SIV	San Ignacio	5.87	71	P	Pn	08 54 19.8	+1.2
	5.1nm,0.3s,baz=272,slow=10,SNR=177						
SIV				S	S	08 55 28.0	-0.9
	0.7nm,0.3s,baz=291,slow=17,SNR=3.4						
NNA	Nana	11.39	300	P	Pn	08 55 27.2	+0.6
	1.0nm,0.3s,baz=107,slow=14,SNR=6.2						
NNA				S	S	08 57 24.6	-9.4
	2.1nm,0.3s,baz=218,slow=16,SNR=5.9						
CFAA	Coronel Fontan	13.57	185	P	Pn	08 55 52.5	-0.5
	0.0nm,0.3s,baz=358,slow=11,SNR=11						
CFAA				S	S	08 58 14.0	-9.0
	0.1nm,0.3s,baz=228,slow=16,SNR=7.9						
RCBR	Riachuelo	32.53	72	P	P	08 58 57.8	+1.7
	6.6nm,1.0s,baz=211,slow=22,SNR=4.1						
TXAR	Lajitas Array	59.01	322	P	P	09 02 21.5	-0.1
	0.3nm,0.9s,baz=139,slow=7.3,SNR=4.1						
DBIC	Dimbokro	65.88	74	P	P	09 03 05.3	-1.8
	1.8nm,0.6s,baz=225,slow=8.6,SNR=4.9						
TORD	Torodi Ar. Bea	74.35	70	P	P	09 03 58.5	+0.3
	2.2nm,0.6s,baz=253,slow=5.2,SNR=14						

IDC 02 09:08:16.7±8.2**, 15°.99S**×**177°.46W, h415**km±91km**, mb3.4**/10**, mb1 3.7**/10**, mb1mx3.5**/18**, mbtmp3.4**/10**, Error ellipse: s-maj=44.9km s-min=20.7km az=165.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.70	191	P	P	09 12 43.7	-0.9
	6.1nm,0.8s,baz=298,slow=13,SNR=3.9						
STKA	Stephens Creek	40.37	239	P	P	09 15 16.1	-0.6
	2.6nm,0.9s,baz=51,slow=6.5,SNR=3.0						
WRA	Warramunga Arr	45.91	258	P	P	09 16 00.5	-0.1
	1.5nm,0.7s,baz=89,slow=7.9,SNR=9.6						
ASAR	Alice Springs	46.21	252	P	P	09 16 03.5	+0.6
	8.4nm,0.6s,baz=85,slow=7.9,SNR=163						
NVAR	Mina Array Bea	77.41	44	P	P	09 19 28.0	+0.1
	1.7nm,0.7s,baz=226,slow=8.2,SNR=14						
ILAR	Eielson Array	83.82	13	P	P	09 19 59.2	-1.4
	1.2nm,0.5s,baz=223,slow=5.2,SNR=42						
ANMO	Albuquerque	84.19	51	P	P	09 20 04.2	+0.8
	0.6nm,0.5s,baz=206,slow=6.7,SNR=6.4						
TXAR	Lajitas Array	84.20	57	P	P	09 20 05.0	+1.5
	1.5nm,0.8s,baz=223,slow=6.9,SNR=18						
PDAR	Pinedale Array	85.33	43	P	P	09 20 08.2	-0.7
	0.3nm,0.5s,baz=217,slow=4.1,SNR=4.6						
YKA	Yellowknife Ar	92.21	24	P	P	09 20 39.5	-0.8
	0.5nm,0.8s,baz=256,slow=4.5,SNR=5.1						
ARCES	ARCESS Array B	124.59	350	PKP	PKPdf	09 26 26.2	-0.9
	10nm,1.1s,baz=27,slow=5.7,SNR=4.7						
BRTR	Keskin Array B	144.04	317	PKP	PKPab	09 27 03.3	0.0
	2.7nm,0.8s,baz=114,slow=3.1,SNR=11						
GERES	GERESS Array B	145.98	347	PKPbc	PKPbc	09 27 08.3	-0.5
	0.7nm,0.6s,baz=20,slow=4.3,SNR=7.1						

JMA 02 09:33:52.4±0.2**, 31°.94N**×**140°.84E, h27**km**, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.45	324	P	Pn	09 34 17.5	+0.6
JHJ2				eS	Sb	09 34 36.7	-0.2
BSO2	Boso 2	2.81	359	eS	Sn	09 35 08.9	+1.1
BSO3	Boso 3	2.87	355	eS	Sn	09 35 08.7	-0.7
BSO4	Boso 4	3.07	352	P	Pn	09 34 40.5	+1.5
BSO4				eS	Sn	09 35 16.1	+1.3
JOD2	Odawara 2	3.62	337	P	Pn	09 34 49.0	+2.2
JOD2				eS	Sn	09 35 30.4	+1.7
JYN	Shimob	4.03	332	P	Pn	09 34 56.5	+4.0
JHU	Hanno	4.11	342	P	Pn	09 34 55.7	+2.2
JHU				eS	Sn	09 35 39.7	-1.0
JRY	Ryogami san	4.37	339	P	Pn	09 35 00.1	+3.0
JAG	Ashikaga	4.62	346	P	Pn	09 35 01.8	+1.4
JAG				eS	Sn	09 35 53.3	+0.1
JHO	Hitachi	4.67	357	P	Pn	09 35 03.6	+2.5

*DDA **02** 10:07:07.5, 38°.27N×38°.12E, h7km, MD2.8*
ISC 02 10:07:05.5±2.5**, 38°.2N**±0°.2×**38°.05E**±0°.08**, h23**km±10km**, n4, σ1s.37**/8**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.17	326	i P	Pb	10 07 11.1	+0.4
AKCD				i S	Sb	10 07 14.0	-0.4
MALT	Malatya	0.34	62	ePG	Pn	10 07 15.3	+2.2
MALT				eSG	Sb	10 07 18.8	+0.5
MYA	Malataya	0.34	60	ePG	Pb	10 07 13.2	+0.1
MYA				eSG	Sb	10 07 17.3	-1.1
KEMA	Kemaliye	1.17	17	eP	Pn	10 07 25.8	-0.6
KEMA				i S	Sb	10 07 42.4	+0.6

IDC 02 10:20:14.8±6.4**, 5°.66S**×**152°.14E, h44**km±55km**, mb3.4**/4**, mb1 3.7**/5**, mb1mx3.4**/17**, mbtmp3.5**/5**, ML2.8**/1**, Error ellipse: s-maj=114.7km s-min=32.2km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.18	233	P	Pn	10 21 44.1	+0.4
	1.3nm,0.3s,baz=16,slow=11,SNR=7.6						
PMG				S	Sn	10 22 53.0	-0.1
	3.2nm,0.3s,baz=260,slow=20,SNR=9.3						
WRA	Warramunga Arr	22.39	229	P	P	10 25 10.1	+0.4
	0.3nm,0.3s,baz=59,slow=8.8,SNR=4.2						
ASAR	Alice Springs	25.07	223	P	P	10 25 35.8	+0.3
	1.9nm,0.9s,baz=52,slow=9.3,SNR=15						
FITZ	Fitzroy Crossi	28.67	242	P	P	10 26 07.5	-0.3
	1.9nm,0.9s,baz=54,slow=13,SNR=6.0						
ILAR	Eielson Array	83.20	22	P	P	10 32 36.0	-0.2
	0.6nm,0.7s,baz=250,slow=5.3,SNR=13						

IDC 02 10:51:01.7±3.5**, 4°.04S**×**100°.61E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.5**/20**, mbtmp3.6**/5**, Error ellipse: s-maj=145.5km s-min=25.5km az=58.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.41	356	P	P	10 56 02.4	+0.2
	1.1nm,0.8s,baz=189,slow=9.6,SNR=5.7						
ASAR	Alice Springs	37.59	124	P	P	10 58 18.6	+0.3
	0.2nm,0.5s,baz=299,slow=7.7,SNR=6.7						
SONM	Songino Array	51.90	5	P	P	11 00 12.2	-0.1
	0.9nm,0.8s,baz=183,slow=8.7,SNR=5.6						
MKAR	Makanchi Array	53.14	344	P	P	11 00 22.1	+0.7
	0.9nm,0.7s,baz=141,slow=8.7,SNR=8.9						
ZALV	Zalesovo Beam	59.27	349	P	P	11 01 04.2	-0.7
	0.6nm,0.5s,baz=177,slow=2.7,SNR=5.0						
TXAR	Lajitas Array	145.90	40	PKPbc	PKPdf	11 10 42.1	-1.3
	0.4nm,0.8s,baz=279,slow=1.0,SNR=5.0						

*IDC **02** 10:54:49.3±1.1, 6°.50S×128°.47E, h0km, mb4.0/4, mb1 4.6/7, mb1mx4.4/13, mbtmp4.3/7, ML4.7/3, MS3.2/3, Ms1 3.2/3, ms1mx3.0/17, Error ellipse: s-maj=46.2km s-min=21.2km az=82.0*
*ISCJB **02** 10:54:49.2±0.4, 6°.56S±0°.04×128°.37E±0°.06, h10km, mb4.4/11, MS3.3/2, Error ellipse: s-maj=8.5km s-min=5.4km az=169.0*
*NEIC **02** 10:54:51.3±0.5, 6°.56S×128°.43E, h15km, mb4.6/5, Error ellipse: s-maj=12.7km s-min=7.9km az=67.0*
*DJA **02** 10:54:52, 6°.50S×128°.38E, h10km, mb5.1/15*
ISC 02 10:54:52.2±0.6**, 6°.66S**±0°.05×**128°.30E**±0°.06**, h10**km**, n56, σ2s.06**/56**, mb4.3**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	4.52	77	P	Pn	10 56 02.2	+1.4
FAKI	Fak Fak	5.41	47	P	Pn	10 56 10.0	-2.9
	140nm,0.7s,2μm0.8nm						
MMRI	Maumere	6.33	251	P	Pn	10 56 32.0	+6.4
	492nm,0.9s,3μm1.6nm						
TNTI	Ternate	7.44	353	P	Pn	10 56 38.3	-2.5
	204nm,0.8s,2μm0.7nm						
KAPI	Kappang	8.66	280	ePn	Pn	10 56 57.2	-0.5
	117nm,0.4s						
KAPI				eSn	Sn	10 58 33.7	-1.8
KAPI	Kappang	8.66	280	P	Pn	10 56 58.1	+0.4
	151nm,0.7s,2μm0.5nm						
MNI	Manado	8.76	337	P	Pn	10 56 57.8	-1.2
	330nm,0.7s,3μm1.0nm						
GTOI	Gorontalo	8.96	324	P	Pn	10 57 05.5	+3.7

70nm,0.7s,762nm0.3nm
BAKI Biak 9.49 55 P Pn 10 57 08.7 -0.3
150nm,0.8s,1μm
FITZ Fitzroy Crossi 11.67 193 Pn Pn 10 57 38.8 -0.1
3.4nm,0.3s,baz=30,slow=11,SNR=68
FITZ Sn Sn 10 59 48.1 -1.3
2.7nm,0.3s,baz=110,slow=19,SNR=5.2
FITZ LR LR 11 02 31.9
comp=Z,71nm,21.9s,baz=9.0,slow=39
FITZ Fitzroy Crossi 11.67 193 eP Pn 10 57 38.6 -0.3
FITZ eS Sn 10 59 48.0 -1.3
FITZ Fitzroy Crossi 11.67 193 ePn Pn 10 57 38.9 0.0
FITZ eSn Sn 10 59 42.8 -6.5
FITZ Sn Sn 10 59 48.1 -1.3
WRAB Tennant Creek 14.45 157 ePn Pn 10 58 14.8 -2.0
WRAB eSn Sn 11 00 42.8 -14
WRA Warramunga Arr 14.45 157 Pn Pn 10 58 15.2 -1.7
3.8nm,0.3s,baz=341,slow=12,SNR=30
WRA Sn Sn 11 00 52.2 -5.2
2.7nm,0.3s,baz=336,slow=20,SNR=8.3
WRA Warramunga Arr 14.45 157 Pn Pn 10 58 15.2 -1.7
WRA Sn Sn 11 00 52.2 -5.2
WB2 Warramunga Arr 14.46 157 ePn Pn 10 58 15.4 -1.6
COEN Coen 16.32 118 eP Pn 10 58 39.3 -2.4
COEN Coen 16.32 118 ePn Pn 10 58 39.3 -2.4
316nm,0.8s
COEN eSn Sn 11 01 28.3 -15
MBWA Marble Bar 16.64 209 eP Pn 10 58 45.5 -0.1
MBWA eS Sn 11 01 40.3 -10
MBWA Marble Bar 16.64 209 ePn Pn 10 58 45.4 -0.1
16nm,0.9s
MBWA eSn Sn 11 01 40.1 -10
AS31 Alice Springs 17.75 163 eP Pn 10 58 59.4 -0.2
AS31 eS Sn 11 02 04.1 -14
ASAR Alice Springs 17.75 163 P Pn 10 58 59.4 -0.2
3.6nm,0.3s,baz=329,slow=9.2,SNR=116
ASAR S Sn 11 02 16.5 -1.1
0.6nm,0.3s,baz=324,slow=18,SNR=6.0
ASAR Alice Springs 17.75 163 P Pn 10 58 59.4 -0.2
ASAR S Sn 11 02 16.5 -1.1
PMG Port Moresby 18.87 100 P Pn 10 59 14.7 +1.3
1.9nm,0.3s,baz=279,slow=13,SNR=26
PMG Port Moresby 18.87 100 P Pn 10 59 14.7 +1.3
KSM Kuching 19.69 294 eP P 10 59 23.8 +2.0
19nm,1.2s
LEM Lembang 20.54 268 P P 10 59 42.9 +12
MEEK Meekatharra 21.91 204 eP P 10 59 48.0 +2.3
MEEK eS S 11 03 46.0 -1.9
CTA Charters Tower 21.95 129 P P 10 59 48.5 +2.3
13nm,0.9s,baz=309,slow=12,SNR=16
CTA Charters Tower 21.95 129 eP P 10 59 48.8 +2.6
CTA Charters Tower 21.95 129 P P 10 59 48.5 +2.3
CTAO Charters Tower 21.95 129 eP P 10 59 49.2 +3.0
22nm,1.1s
FORT Forrest 24.00 181 P P 11 00 04.9 -2.3
33nm,0.6s
QLP Quilpie 24.96 144 eP P 11 00 19.9 +3.9
MORW Morawa 25.12 206 eP P 11 00 19.5 +2.1
BBOO Buckleboo 27.01 166 eP P 11 00 36.6 +2.2
BBOO Buckleboo 27.01 166 eP P 11 00 36.0 +1.5
156nm,0.6s
STKA Stephens Creek 28.00 155 P P 11 00 45.5 +2.1
4.6nm,0.6s,baz=326,slow=9.2,SNR=12
STKA LR LR 11 11 45.0
comp=Z,101nm,18.5s,baz=199,slow=36
STKA Stephens Creek 28.00 155 eP P 11 00 45.4 +2.1
STKA Stephens Creek 28.00 155 P P 11 00 45.5 +2.1
NWAO Narrogin (SRO) 28.09 200 P P 11 00 47.7 +3.5
2.6nm,0.5s,baz=72,slow=9.6,SNR=4.8
NWAO LR LR 11 11 57.4
comp=Z,57nm,21.9s,baz=239,slow=36
NWAO Narrogin (SRO) 28.09 200 eP P 11 00 44.7 +0.5
ARPS Mount Arapiles 32.42 159 eP P 11 01 25.5 +3.1
18nm,0.5s
CMAR Chiang Mai Arr 38.23 311 P P 11 02 11.2 -1.5
1.7nm,0.8s,baz=126,slow=7.2,SNR=9.0
CMAR Chiang Mai Arr 38.23 311 P P 11 02 11.2 -1.5
KSAR Wonju Array Be 43.87 360 P P 11 02 56.9 -1.9
KSRS Korea Array 43.88 360 P P 11 02 56.9 -2.0
1.3nm,0.9s,baz=179,slow=9.5,SNR=4.3
MJAR Matsushiro Arr 43.96 12 P P 11 02 56.1 -3.5
6.0nm,1.1s,baz=192,slow=9.1,SNR=5.9
MJAR Matsushiro Arr 43.96 12 P P 11 02 56.1 -3.5
USRK Ussuriysk Arra 50.73 3 P P 11 03 54.3 +2.1
2.0nm,0.8s,baz=177,slow=7.4,SNR=3.5
ILAR Eielson Array 93.76 25 P P 11 08 06.2 -2.9
1.0nm,1.0s,baz=242,slow=6.1,SNR=4.5
ILAR Eielson Array 93.76 25 P P 11 08 06.2 -2.9
CPUP Villa Florida 146.76 171 PKPbc PKPdf 11 14 34.8 +1.2
0.9nm,0.5s,baz=198,slow=3.2,SNR=2.7
CPUP Villa Florida 146.76 171 PKPbc PKPdf 11 14 34.8 +1.2
LPAZ La Paz 152.00 145 PKPab PKPab 11 14 59.7 +1.1
1.7nm,0.6s,baz=212,slow=4.9,SNR=8.4
LPAZ La Paz 152.00 145 PKPab PKPab 11 14 59.7 +1.1

*NEIC **02** 10:58:13.1, 18.°76N×65.°42W, h16km, MD2.6(RSPR), After RSPR.*
RSPR 02 10:58:13.1, 18.°76N×65.°42W, h17km±3km, MD2.6/6, 15C-3D, Puerto Rico region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STVI Saint Thomas 0.60 133⇑eP Pg 10 58 23.9 -1.1
STVI Saint Thomas 0.60 133 eS Sg 10 58 32.1 -0.9
STVI Saint Thomas 0.60 133⇑eP Pg 10 58 23.9 -1.1
STVI eS Sg 10 58 32.1 -0.9
STVI Saint Thomas 0.60 133⇑eP Pg 10 58 23.9 -1.1
STVI eS Sg 10 58 32.6 -0.4
CBYP Canovanas 0.64 221⇑eP Pg 10 58 24.4 -1.5
CBYP Canovanas 0.64 221 eS Sg 10 58 33.2 -1.3
CBYP Canovanas 0.64 221⇑eP Pg 10 58 24.4 -1.5
CBYP eS Sg 10 58 33.2 -1.3
CBYP Canovanas 0.64 221⇑eP Pg 10 58 24.4 -1.5
CBYP eS Sg 10 58 33.2 -1.3
MTP Monte Pirata 0.67 191⇑eP Pg 10 58 24.9 -1.5
MTP Monte Pirata 0.67 191 eS Sg 10 58 34.1 -1.2
MTP Monte Pirata 0.67 191⇑eP Pg 10 58 24.9 -1.5
MTP eS Sg 10 58 34.1 -1.2
MTP Monte Pirata 0.67 191⇑eP Pg 10 58 24.9 -1.5
MTP eS Sg 10 58 34.1 -1.2
HUMP Col San Antoni 0.74 214⇓eP Pb 10 58 25.9 -1.8
HUMP Col San Antoni 0.74 214 eS Sg 10 58 35.0 -2.5
HUMP Col San Antoni 0.74 214⇓eP Pb 10 58 25.9 -1.8
HUMP eS Sg 10 58 35.0 -2.5
HUMP Col San Antoni 0.74 214⇓eP Pb 10 58 25.9 -1.8
HUMP eS Sg 10 58 35.1 -2.4
TBVI Tortola 0.83 114⇑eP Pb 10 58 27.4 -1.8
TBVI eS Sb 10 58 38.0 -2.1
TBVI Tortola 0.83 114⇑eP Pb 10 58 27.4 -1.8
TBVI eS Sb 10 58 38.0 -2.1
TBVI Tortola 0.83 114⇑eP Pb 10 58 27.4 -1.8
TBVI eS Sb 10 58 38.1 -2.0
CPD Cerro la Pandu 0.86 213⇑eP Pb 10 58 27.4 -2.4
CPD Cerro la Pandu 0.86 213 eS Sb 10 58 39.0 -2.1
CPD Cerro la Pandu 0.86 213⇑eP Pb 10 58 27.4 -2.4
CPD eS Sb 10 58 39.0 -2.1
CPD Cerro la Pandu 0.86 213⇑eP Pb 10 58 27.4 -2.4
CPD eS Sb 10 58 39.4 -1.7

*MOS **02** 11:00:09.5±0.8, 31.°88N×104.°30E, h27km, mb4.7/35, Error ellipse: s-maj=8.6km s-min=5.9km az=106.7*
*ISCJB **02** 11:00:09.0±1.1, 31.°88N±0.°03×104.°27E±0.°03, h24km±8km, mb4.5/59, MS3.7/16, Error ellipse: s-maj=4.9km s-min=4.2km az=156.1*
*NEIC **02** 11:00:10.6±0.2, 31.°90N×104.°19E, mb4.7/20, Error ellipse: s-maj=4.6km s-min=4.0km az=163.0*
*IDC **02** 11:00:10.5±0.6, 31.°92N×104.°31E, h19km±3km, mb4.3/27, mb1 4.4/29, mb1mx4.4/34, mbtmp4.3/29, ML4.0/2, MS3.5/11, Ms1 3.5/11, ms1mx3.4/29, Error ellipse: s-maj=16.5km s-min=9.6km az=48.0*
*BJI **02** 11:00:11.6, 31.°92N×104.°21E, h30km, mB4.6/7, mb4.6/18, ML4.5/17, Ms4.3/16, Ms7 4.1/17*
ISC 02 11:00:10.4±0.4**, 31.°89N**±0.°04×**104.°32E**±0.°04**, h19**km±1km**, h18**km**:pP-P, n211,** σ1**.**°17/243**, mb4.6**/59**, MS3.6**/16**, 14C-4D, Sichuan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CD2 Chengdu 1.09 206 Pg Pn 11 00 31.0 +0.3
CD2 Sg Sn 11 00 45.8 +0.5
CD2 smax smax
comp=N,38μm,0.5s
CD2 smax smax
comp=E,28μm,0.7s
LZH Lanzhou 4.21 355 ePn Pn 11 01 16.0 +2.3
LZH Pg Pb 11 01 24.9 +1.0
LZH Sn Sn 11 02 06.1 +3.7
LZH Sg Sb 11 02 15.4 +1.0
LZH smax smax
comp=N,990nm,1.0s
LZH smax smax
comp=E,840nm,0.9s
LZH LR LR
comp=N,3μm,7.7s
LZH LR LR
comp=E,1μm,5.1s
LZH LR LR
comp=Z,3μm,8.1s
XAN Xi'an 4.42 60 Pn Pn 11 01 17.3 +0.8
XAN Sn Sn 11 02 05.6 -1.9
XAN Sg Sg 11 02 29.0 -3.3
XAN smax smax
comp=N,1μm,1.1s
XAN smax smax
comp=E,610nm,0.9s
XAN LR LR
comp=N,1μm,6.3s
XAN LR LR
comp=E,560nm,7.3s
XAN LR LR
comp=Z,580nm,9.2s
ENH Enshi 4.71 109 ePn Pn 11 01 22.9 +2.3
ENH eSg Sg 11 02 42.7 +0.9
KMI Kunming 6.88 192 Pn Pn 11 01 55.4 +4.8
KMI Sn Sn 11 03 06.7 -1.9
KMI LR LR
comp=N,1μm,9.5s
KMI LR LR
comp=E,1μm,7.8s
GTA Gaotai 8.35 335 eP Pn 11 02 11.4 +0.8
GTA pP Pb 11 02 15.6 -19
GTA S Sn 11 03 43.6 -0.9
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=N,700nm,10.5s
GTA LR LR
comp=E,590nm,13.3s
GTA LR LR
comp=Z,880nm,14.5s
WHN Wuhan 8.69 96 P Pn 11 02 14.5 -0.7
WHN S Sn 11 03 39.8 -13
WHN LR LR
comp=N,3μm,4.4s
WHN LR LR
comp=E,2μm,2.4s
WHN LR LR
comp=Z,3μm,8.3s
BTO Baotou 9.84 26 eP Pn 11 02 29.0 -1.9
BTO S Sn 11 04 46.8 +26
BTO LR LR
comp=N,540nm,9.6s
BTO LR LR
comp=E,300nm,8.6s
HHC Hu-ho-hao-te 10.67 31 eP Pn 11 02 43.3 +0.9
HHC PP 11 02 51.5
HHC S Sn 11 04 43.8 +2.4
HHC SS 11 04 57.1
HHC pmax pmax
comp=Z,16nm,0.9s
HHC LR LR
comp=N,1μm,9.1s
HHC LR LR
comp=E,730nm,5.9s
HHC LR LR
comp=Z,1μm,8.0s
LSA Lhasa 11.54 263 P Pn 11 02 55.8 +1.2
LSA S Sn 11 05 12.3 +9.1
LSA LR LR
comp=Z,600nm,15.4s
LSA Lhasa 11.54 263 eP Pn 11 02 56.6 +2.0
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 11.54 263 ePn Pn 11 02 56.6 +2.0
comp=Z,6.9nm,0.6s
NJ2 Nanjing 12.34 85 eP Pn 11 03 07.3 +2.2
NJ2 S Sn 11 05 24.3 +2.1
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=N,490nm,5.4s
NJ2 LR LR
comp=E,1μm,14.3s
NJ2 LR LR
comp=Z,1μm,12.4s
CHTO Chiang Mai 13.89 202 eP Pn 11 03 27.8 +1.3
CHTO pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 13.89 202 ePn Pn 11 03 27.8 +1.3
comp=Z,9.8nm,0.6s
CM31 Chiang Mai Arr 14.23 201 ePn Pn 11 03 32.1 +1.1
comp=Z,9.3nm,0.6s
CMAR Chiang Mai Arr 14.23 201 Pn Pn 11 03 31.9 +0.8
comp=Z,0.4nm,0.3s,baz=9.9,slow=11,SNR=30
CMAR LR LR 11 10 10.2
comp=Z,52nm,18.9s,baz=20,slow=42
CMAR Chiang Mai Arr 14.23 201 P Pn 11 03 31.9 +0.8
CMAR MLR MLR
comp=Z,52nm,18.9s
CMAR Chiang Mai Arr 14.23 201 Pn Pn 11 03 31.9 +0.8
TAPN Taplejung 15.14 257 eP Pn 11 03 41.3 -2.3
comp=Z,64nm,1.0s
TAPN Taplejung 15.14 257 eP Pn 11 03 41.3 -2.3
comp=Z,64nm,1.0s
ODAN Odare 15.59 256 eP Pn 11 03 47.0 -2.4
comp=Z,131nm,1.1s
ODAN Odare 15.59 256 eP Pn 11 03 47.0 -2.4
comp=Z,131nm,1.1s
SONM Songino Array 16.00 5 Pn Pn 11 03 54.3 -0.2
comp=Z,0.2nm,0.3s,baz=185,slow=8.9,SNR=32
SONM LR LR 11 10 38.8
comp=Z,399nm,18.9s,baz=177,slow=39
SONM Songino Array 16.00 5 P Pn 11 03 54.3 -0.2
SONM MLR MLR
comp=Z,399nm,18.9s
SONM Songino Array 16.00 5 Pn Pn 11 03 54.3 -0.2
ULN Ulaanbaatar 16.09 7 eP Pn 11 03 55.8 +0.1
ULN pmax pmax
comp=Z,21nm,1.1s
ULN Ulaanbaatar 16.09 7 ePn Pn 11 03 55.8 +0.1
comp=Z,20nm,1.1s
RAMN Ramite 16.20 257 eP Pn 11 03 55.7 -1.7
comp=Z,38nm,0.7s
RAMN Ramite 16.20 257 eP Pn 11 03 55.7 -1.7
comp=Z,38nm,0.7s
JIRN Jiri 16.30 260 eP Pn 11 03 57.5 -1.2
comp=Z,49nm,0.8s
JIRN Jiri 16.30 260 eP Pn 11 03 57.5 -1.2
comp=Z,49nm,0.8s
GUN Gumba 16.48 261 eP Pn 11 03 58.5 -2.4
comp=Z,74nm,0.8s
GUN Gumba 16.48 261 eP Pn 11 03 58.5 -2.4
comp=Z,74nm,0.8s
PKI Pulchoki 16.98 260 eP Pn 11 04 05.1 -2.2
comp=Z,55nm,0.8s
PKI Pulchoki 16.98 260 eP Pn 11 04 05.1 -2.2
PKI pmax pmax
comp=Z,55nm,0.8s
PKI Pulchoki 16.98 260 eP Pn 11 04 05.1 -2.2
comp=Z,55nm,0.8s
KKN Kakani 17.02 261 eP Pn 11 04 06.0 -1.6
comp=Z,37nm,0.7s
KKN Kakani 17.02 261 eP Pn 11 04 06.0 -1.6
KKN pmax pmax
comp=Z,37nm,0.7s
KKN Kakani 17.02 261 eP Pn 11 04 06.0 -1.6
comp=Z,37nm,0.7s
DMN Daman 17.22 261 eP Pn 11 04 07.8 -2.4
comp=Z,42nm,0.7s
DMN Daman 17.22 261 eP Pn 11 04 07.8 -2.4
comp=Z,42nm,0.7s
GKN Gorkha 17.49 262 eP Pn 11 04 12.1 -1.4
comp=Z,28nm,0.6s
GKN Gorkha 17.49 262 eP Pn 11 04 12.1 -1.4
comp=Z,28nm,0.6s
DANN Dangsing 18.13 264 eP Pn 11 04 18.9 -2.7
comp=Z,22nm,0.5s
DANN Dangsing 18.13 264 eP Pn 11 04 18.9 -2.7
comp=Z,22nm,0.5s
SNY Shenyang 18.29 52 ⇑P Pn 11 04 21.4 -1.6
SNY S Sn 11 07 39.0 -7.7
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,190nm,5.4s
SNY LR LR
comp=N,140nm,6.9s
SNY LR LR
comp=E,360nm,5.0s
SNY LR LR
comp=Z,340nm,11.2s
KOLN Koldanda 18.44 262 eP P 11 04 22.1 -3.0
comp=Z,29nm,0.6s
KOLN Koldanda 18.44 262 eP P 11 04 22.1 -3.0
ZAK Zakamensk 18.49 358⇓iP Pn 11 04 26.2 +0.6
ZAK pmax pmax
comp=Z,10.0nm,1.0s
TLY Talaya 19.78 359 eP Pn 11 04 41.3 +0.3
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY MLR MLR
comp=Z,296nm,13.0s
MOY Mondy 19.91 354 eP Pn 11 04 42.5 -0.2
KSAR Wonju Array Be 20.14 68 P Pn 11 04 45.1 -0.2
KSAR Wonju Array Be 20.14 68 P Pn 11 04 45.1 -0.2
KSRS Korea Array 20.17 68 P Pn 11 04 45.1 -0.5
comp=Z,22nm,0.7s,baz=256,slow=10,SNR=52
KSRS LR LR 11 13 30.2
comp=Z,97nm,18.1s,baz=2.8,slow=40
KSRS Korea Array 20.17 68 P Pn 11 04 45.1 -0.5
KSRS pmax pmax
comp=Z,22nm,0.7s
KSRS MLR MLR
comp=Z,97nm,18.1s
IRK Irkutsk 20.34 360 eP Pn 11 04 47.0 -0.6
IRK pmax pmax
comp=Z,65nm,1.2s
CN2 Changchun 20.42 48 ⇑P Pn 11 04 48.6 0.0
CN2 esP sP 11 05 01.7 +7.5
CN2 eS S 11 08 30.3 -4.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,300nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,300nm,11.0s
MK31 Makanchi Array 22.52 318 eP P 11 05 09.0 0.0
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 22.52 318 eP P 11 05 08.8 -0.2
MKAR Makanchi Array 22.52 318 P P 11 05 09.6 +0.6
comp=Z,7.6nm,0.7s,baz=114,slow=12,SNR=76
MKAR LR LR 11 14 43.7
comp=Z,163nm,18.9s,baz=354,slow=39
MKAR Makanchi Array 22.52 318 P P 11 05 09.6 +0.6
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR MLR MLR
comp=Z,163nm,19.0s
MKAR Makanchi Array 22.52 318 P P 11 05 09.6 +0.6
MDJ Mudanjiang 23.45 50 P P 11 05 19.8 +1.2
MDJ pmax pmax
comp=Z,44nm,1.2s
MDJ Mudanjiang 23.45 50 eP P 11 05 19.9 +1.3
comp=Z,46nm,1.0s
USRK Ussuriysk Arra 24.90 53 P P 11 05 33.1 +1.1
comp=Z,27nm,0.8s,baz=250,slow=10,SNR=40
USRK LR LR 11 16 27.7
comp=Z,134nm,18.4s,baz=228,slow=39
AAK Ala-Archa 25.92 303 i P P 11 05 43.0 +1.4
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK MLR MLR
comp=Z,267nm,18.0s
ZALV Zalesovo Beam 26.10 333 P P 11 05 42.9 0.0
comp=Z,10nm,0.8s,baz=131,slow=9.4,SNR=56
ZALV LR LR 11 16 41.9
comp=Z,92nm,18.9s,baz=81,slow=38
ZALV Zalesovo Beam 26.10 333 P P 11 05 42.9 0.0
ZALV pmax pmax
comp=Z,10.0nm,0.8s
ZALV MLR MLR
comp=Z,92nm,18.9s
ZALV Zalesovo Beam 26.10 333 P P 11 05 42.9 0.0
KURK Kurchatov 26.73 322 P P 11 05 48.9 +0.3
comp=Z,8.4nm,0.9s,baz=129,slow=8.8,SNR=72
KURK LR LR 11 17 09.5
comp=Z,137nm,19.8s,baz=140,slow=38
KURK Kurchatov 26.73 322d iP P 11 05 49.3 +0.7
KURK pmax pmax
comp=Z,15nm,1.2s
KURK MLR MLR
comp=Z,214nm,19.0s
KURK Kurchatov 26.73 322 P P 11 05 48.9 +0.3
KLR Kul'dur 26.88 42 eP P 11 05 49.2 -0.8
KLR MLR MLR
comp=E,500nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
NVS Novosibirsk 27.38 333 eP P 11 05 51.6 -2.8
MJAR Matsushiro Arr 28.31 71 P P 11 06 02.7 -0.3
comp=Z,0.9nm,0.6s,baz=275,slow=11,SNR=6.5
MJAR LR LR 11 15 56.6
comp=Z,72nm,21.6s,baz=40,slow=33
MJAR Matsushiro Arr 28.31 71 P P 11 06 02.7 -0.3
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR MLR MLR
comp=Z,72nm,21.6s
MJAR Matsushiro Arr 28.31 71 P P 11 06 02.7 -0.3
BVAR Borovoye Array 32.30 321 P P 11 06 38.3 +0.3
comp=Z,1.4nm,0.7s,baz=117,slow=9.5,SNR=11
BVAR PcP PcP 11 09 25.2 -0.5
comp=Z,0.6nm,0.5s,baz=126,slow=2.5,SNR=4.6
BVAR LR LR 11 20 38.9
comp=Z,94nm,20.0s,baz=256,slow=38
BVAR Borovoye Array 32.30 321 P P 11 06 38.3 +0.3
BVAR 11 09 25.2
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR MLR MLR
comp=Z,94nm,20.0s
BVAR Borovoye Array 32.30 321 P P 11 06 38.3 +0.3
BVAR PcP PcP 11 09 25.2 -0.5
BRVK Borovoye 32.37 321⇑eP P 11 06 39.3 +0.7
BRVK pmax pmax
comp=Z,5.0nm,1.2s
BRVK MLR MLR
comp=Z,64nm,15.0s
SVE Sverdlovsk 38.98 323⇑iP P 11 07 36.4 +1.1
SVE eS S 11 13 38.9 +5.9
SVE pmax pmax
comp=Z,21nm,1.1s
ARU Arti 39.93 322c iP P 11 07 43.6 +0.4
ARU e 11 09 14.4
ARU PPP PcP 11 09 39.7 -8.6
ARU S S 11 13 48.1 +0.9
ARU SS SS 11 16 38.6 -5.2
ARU pmax pmax
comp=Z,26nm,1.0s
GUMO Guam 41.30 107 LR LR 11 23 09.1
comp=Z,74nm,19.4s,baz=260,slow=33
PETK Petropavlovsk- 43.50 45 P P 11 08 12.7 +0.3
comp=Z,2.3nm,0.6s,baz=206,slow=9.2,SNR=4.1
PETK Petropavlovsk- 43.50 45 P P 11 08 12.7 +0.3
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK Petropavlovsk- 43.50 45 P P 11 08 12.7 +0.3
KIV Kislovodsk 49.04 303 i P P 11 08 56.2 -0.1
KIV e 11 10 21.2
KIV eSS SS 11 19 30.3 -0.6
KIV pmax pmax
comp=Z,15nm,1.3s
KIV MLR MLR
comp=Z,100nm,17.0s
VRHR Novokhopersk 49.15 312 eP P 11 08 55.1 -1.8
VRHR pmax pmax
comp=N,8.0nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL	Bilibino	50.39	26⇑	eP	P	11 09 06.2	+0.2
BILL				eSS	SS	11 19 50.8	-0.6
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s						
VSR	Storozhevoye	50.69	312	eP	P	11 09 07.9	-0.7
VSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,1.0nm,0.3s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.6s						
OBN	Obninsk	52.02	318⇑	eP	P	11 09 18.8	+0.3
OBN				e		11 10 30.2	
OBN				eS	S	11 16 39.0	-1.9
OBN				pmax	pmax		
	comp=Z,48nm,2.5s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
ANN	Anapa	52.63	305	e*PP	P	11 09 23.2	0.0
ANN				e		11 10 29.0	
ANN				pmax	pmax		
	comp=Z,141nm,1.3s						
FITZ	Fitzroy Crossi	53.75	155	P	P	11 09 31.3	-0.3
	comp=Z,2.4nm,0.8s,baz=34,slow=7.3,SNR=3.1						
FITZ	Fitzroy Crossi	53.75	155	P	P	11 09 31.3	-0.3
JOF	Joensuu	54.47	327	eP	P	11 09 35.7	-0.6
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JOF	Joensuu	54.47	327	ep	P	11 09 35.7	-0.6
	comp=Z,4.4nm,0.7s						
JOF	Joensuu	54.47	327	ep	P	11 09 35.7	-0.6
	comp=Z,4.4nm,0.7s						
ASF	Jabal al Asfar	56.25	290	P	P	11 09 50.1	+0.3
	comp=Z,1.6nm,0.4s,baz=0.9,slow=5.1,SNR=3.9						
ASF				pP	pP	11 09 56.4	+0.6
	comp=Z,3.9nm,0.8s,baz=332,slow=6.5,SNR=4.2						
ASF	Jabal al Asfar	56.25	290	P	P	11 09 50.1	+0.3
ASF				*PP	pP	11 09 56.4	+0.6
ASF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASF	Jabal al Asfar	56.25	290	P	P	11 09 50.1	+0.3
ASF				pP	pP	11 09 56.4	+0.6
BRTR	Keskin Array B	56.52	299	P	P	11 09 51.5	-0.2
	comp=Z,1.5nm,0.8s,baz=100,slow=8.1,SNR=7.4						
BRTR				pP	pP	11 09 57.2	-0.5
	comp=Z,1.8nm,0.7s,baz=102,slow=7.5,SNR=7.7						
BRTR	Keskin Array B	56.52	299	P	P	11 09 51.5	-0.2
BRTR				*PP	pP	11 09 57.2	-0.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	56.52	299	P	P	11 09 51.5	-0.2
BRTR				pP	pP	11 09 57.2	-0.5
ARCES	ARCESS Array B	56.62	336	P	P	11 09 50.6	-1.2
	comp=Z,4.2nm,0.9s,baz=64,slow=6.9,SNR=4.4						
ARCES				LR	LR	11 36 32.2	
	comp=Z,62nm,19.6s,baz=155,slow=39						
ARCES	ARCESS Array B	56.62	336	P	P	11 09 50.6	-1.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,62nm,19.6s						
ARCES	ARCESS Array B	56.62	336	P	P	11 09 50.6	-1.2
KAF	Kangasniemi	56.84	327	eP	P	11 09 51.8	-1.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	Kangasniemi	56.84	327	ep	P	11 09 51.8	-1.6
	comp=Z,2.7nm,0.6s						
KAF	Kangasniemi	56.84	327	ep	P	11 09 51.8	-1.6
	comp=Z,2.7nm,0.6s						
AKASG	Malin Array Be	56.98	313	P	P	11 09 53.9	-0.7
	comp=Z,2.2nm,0.5s,baz=69,slow=6.9,SNR=6.0						
AKASG				pP	pP	11 10 00.0	-0.6
	comp=Z,1.8nm,0.5s,baz=67,slow=7.3,SNR=5.8						
AKASG	Malin Array Be	56.98	313	P	P	11 09 53.9	-0.7
AKASG				*PP	pP	11 10 00.0	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	56.98	313	P	P	11 09 53.9	-0.7
AKASG				pP	pP	11 10 00.0	-0.6
FINES	FINESS Array B	57.02	326	P	P	11 09 54.5	-0.1
	comp=Z,7.9nm,0.7s,baz=79,slow=6.8,SNR=19						
FINES				pP	pP	11 10 00.3	-0.3
	comp=Z,2.6nm,0.4s,baz=76,slow=7.0,SNR=3.1						
FINES	FINESS Array B	57.02	326	P	P	11 09 54.6	-0.1
FINES				*PP	pP	11 10 00.4	-0.3
FINES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	FINESS Array B	57.02	326	P	P	11 09 54.5	-0.1
FINES				pP	pP	11 10 00.3	-0.3
PMG	Port Moresby	57.98	128	P	P	11 10 03.1	+1.0
	comp=Z,4.7nm,1.1s,baz=280,slow=6.1,SNR=3.5						
PMG	Port Moresby	57.98	128	P	P	11 10 03.1	+1.0
PMG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PMG	Port Moresby	57.98	128	P	P	11 10 03.1	+1.0
COEN	Coen	58.86	135	eP	P	11 10 08.9	+0.7
WRAB	Tennant Creek	59.02	147	eP	P	11 10 09.5	+0.3
WRAB				e*SP	sP	11 10 17.9	+0.5
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WRAB	Tennant Creek	59.02	147	eP	P	11 10 09.5	+0.3
	comp=Z,16nm,0.8s						
WRAB				epP	pP	11 10 15.4	+0.2
WRAB				esP	sP	11 10 17.9	+0.5
WRA	Warramunga Arr	59.02	147	P	P	11 10 09.7	+0.5
	comp=Z,11nm,0.7s,baz=341,slow=7.7,SNR=36						
WRA				pP	pP	11 10 15.3	+0.1
	comp=Z,6.4nm,0.6s,baz=339,slow=7.5,SNR=13						
WRA	Warramunga Arr	59.02	147	P	P	11 10 09.7	+0.5
WRA				*PP	pP	11 10 15.3	+0.1
WRA				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	Warramunga Arr	59.02	147	P	P	11 10 09.7	+0.5
WRA				pP	pP	11 10 15.3	+0.1
WB2	Warramunga Arr	59.03	147	eP	P	11 10 09.3	0.0
WB2				epP	pP	11 10 15.4	+0.1
WB2				esP	sP	11 10 18.1	+0.6
UZH	Uzhgorod	61.86	312	eP	P	11 10 25.0	-3.3
UZH				e		11 10 34.6	
AS31	Alice Springs	62.07	149	eP	P	11 10 29.9	-0.1
ASAR	Alice Springs	62.07	149	P	P	11 10 30.4	+0.4
	comp=Z,3.3nm,0.7s,baz=336,slow=6.6,SNR=34						
ASAR	Alice Springs	62.07	149	P	P	11 10 30.4	+0.4
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	62.07	149	P	P	11 10 30.4	+0.4
STHS	Stebnicka Huta	62.28	313	eP	P	11 10 25.0	-6.2
STHS	Stebnicka Huta	62.28	313	eP	P	11 10 25.0	-6.2
CRVS	Cervenica-Dubn	62.30	312	eP	P	11 10 25.5	-5.8
CRVS	Cervenica-Dubn	62.30	312	eP	P	11 10 25.5	-5.8
VYHS	Vyhne	64.08	312	eP	P	11 10 43.5	+0.4
VYHS	Vyhne	64.08	312	eP	P	11 10 43.5	+0.4
NOA	NORSAR Array B	64.10	327	P	P	11 10 41.9	-1.1
	comp=Z,3.2nm,0.7s,baz=72,slow=6.8,SNR=12						
NOA	NORSAR Array B	64.10	327	P	P	11 10 41.9	-1.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	NORSAR Array B	64.10	327	P	P	11 10 41.9	-1.1
DPC	Dobruska-Polom	65.00	315	eP	P	11 10 49.8	+0.7
DPC				e		11 10 55.9	
DPC	Dobruska-Polom	65.00	315	eP	P	11 10 49.8	+0.7
DPC				epP	pP	11 10 55.9	+0.7
UPC	Upice	65.13	315	eP	P	11 10 50.1	+0.2
UPC	Upice	65.13	315	eP	P	11 10 50.1	+0.2
CTA	Charters Tower	65.46	136	P	P	11 10 52.8	+0.4
	comp=Z,1.6nm,0.6s,baz=328,slow=7.0,SNR=5.9						
CTA	Charters Tower	65.46	136	eP	P	11 10 53.0	+0.6
CTA	Charters Tower	65.46	136	P	P	11 10 52.8	+0.4
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTA	Charters Tower	65.46	136	P	P	11 10 52.8	+0.4
CSNA	Conrad Observa	66.14	313⇓	iP	P	11 10 57.0	+0.3
	comp=Z,3.2nm,1.0s						
CSNA	Conrad Observa	66.14	313⇓	iP	P	11 10 57.0	+0.3
	comp=Z,3.2nm,1.0s						
PRU	Pruhonice	66.19	315	eP	P	11 10 57.3	+0.5
PRU	Pruhonice	66.19	315	eP	P	11 10 57.3	+0.5
BRG	Berggiesshubel	66.22	316	iP	P	11 10 57.0	0.0
	comp=Z,3.0nm,0.8s						
BRG	Berggiesshubel	66.22	316	iP	P	11 10 57.0	0.0
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	Collm	66.61	317	eP	P	11 10 59.0	-0.4
CLL	Collm	66.61	317	eP	P	11 10 59.0	-0.4
KHC	Kasperske Hory	67.10	315	eP	P	11 11 08.5	+5.9
KHC	Kasperske Hory	67.10	315	epP	P	11 11 08.5	+5.9
GERES	GERESS Array B	67.13	314	P	P	11 11 03.3	+0.3
	comp=Z,1.8nm,0.8s,baz=94,slow=4.0,SNR=11						
GERES				pP	pP	11 11 09.0	0.0
	comp=Z,1.2nm,0.6s,baz=72,slow=5.7,SNR=5.8						
GERES	GERESS Array B	67.13	314	P	P	11 11 03.3	+0.3
GERES				*PP	pP	11 11 09.0	0.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	67.13	314	P	P	11 11 03.3	+0.3
GERES				pP	pP	11 11 09.0	0.0
SOKA	Soboth	67.14	312⇑	iP	P	11 11 02.8	-0.2
	comp=Z,5.9nm,1.1s						
SOKA	Soboth	67.14	312⇑	iP	P	11 11 02.8	-0.2
	comp=Z,5.9nm,1.1s						
PPLA	Purkeypile	67.89	29	eP	P	11 11 07.5	0.0
	comp=Z,4.1nm,0.7s						
COLA	College	68.64	26	eP	P	11 11 11.9	-0.1
COLA				e*PP	pP	11 11 18.9	+0.8
COLA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
COLA	College	68.64	26	eP	P	11 11 11.9	-0.1
	comp=Z,8.6nm,1.1s						
COLA				epP	pP	11 11 18.9	+0.8
WTTA	Wattenberg	69.03	313⇑	iP	P	11 11 14.5	-0.5
WTTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WTTA	Wattenberg	69.03	313⇑	iP	P	11 11 14.5	-0.5
	comp=Z,4.3nm,0.9s						
WTTA	Wattenberg	69.03	313⇑	iP	P	11 11 14.5	-0.5
	comp=Z,4.3nm,0.9s						
ILAR	Eielson Array	69.05	26	P	P	11 11 13.5	-1.1
	comp=Z,1.6nm,0.9s,baz=288,slow=5.6,SNR=11						
ILAR	Eielson Array	69.05	26	P	P	11 11 13.5	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	69.05	26	P	P	11 11 13.5	-1.1
QLP	Quilpie	69.50	142	eP	P	11 11 17.8	0.0
FETA	Feichten	69.70	313⇑	iP	P	11 11 18.6	-0.5
	comp=Z,8.6nm,1.0s						
FETA	Feichten	69.70	313⇑	iP	P	11 11 18.6	-0.5
	comp=Z,8.6nm,1.0s						
CDF	Champ du Feu	71.18	316	eP	P	11 11 27.4	-0.7
	comp=Z,8.9nm,0.8s						
KMBO	Kilima Mbogo	71.27	256	eP	P	11 11 28.2	-1.1
KMBO				e*PP	pP	11 11 35.5	+0.1
KMBO				e*SP	sP	11 11 37.9	+0.3
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMBO	Kilima Mbogo	71.27	256	eP	P	11 11 28.2	-1.1
	comp=Z,2.9nm,0.7s						
KMBO				epP	pP	11 11 35.5	+0.1
KMBO				esP	sP	11 11 37.9	+0.3
INK	Inuvik	71.35	19	P	P	11 11 28.3	-0.3
	comp=Z,5.8nm,0.7s,baz=340,slow=5.3,SNR=10						
INK	Inuvik	71.35	19	P	P	11 11 28.3	-0.3
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	Inuvik	71.35	19	P	P	11 11 28.3	-0.3
HINF	Hinteralfeld	71.71	315	eP	P	11 11 30.3	-0.9
PAGF	Fort de Pagny	72.03	316	eP	P	11 11 32.8	-0.3
BAIF	Baives	72.20	318	eP	P	11 11 33.7	-0.3
STKA	Stephens Creek	72.57	147	P	P	11 11 36.1	-0.2
	comp=Z,4.7nm,0.9s,baz=338,slow=4.0,SNR=8.1						
STKA	Stephens Creek	72.57	147	eP	P	11 11 36.0	-0.3
STKA	Stephens Creek	72.57	147	P	P	11 11 36.1	-0.2
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	72.57	147	P	P	11 11 36.1	-0.2
LPG	La Plagne	72.85	313	eP	P	11 11 38.3	-0.1
	comp=Z,23nm,0.8s						
LPL	La Plagne	72.85	313	eP	P	11 11 38.2	-0.1
	comp=Z,21nm,0.8s						
ORIF	Oris-en-Rattie	73.67	313	eP	P	11 11 42.5	-0.5
	comp=Z,13nm,0.9s						
SSF	Saint Saulge	74.06	316	eP	P	11 11 44.1	-1.0
CMSA	Cobar Meteorol	74.25	144	eP	P	11 11 47.0	+0.8
AVF	Avril sur Loir	74.29	316	eP	P	11 11 45.7	-0.7
	comp=Z,15nm,1.0s						
VIVF	Saint-Julien-l	74.45	313	eP	P	11 11 46.8	-0.6
LASF	Ste Croix	75.34	313	eP	P	11 11 51.6	-1.0
	comp=Z,26nm,1.2s						
GRR	Gorron	75.91	318	eP	P	11 11 55.1	-0.6
	comp=Z,30nm,0.9s						
CAF	Calviac	76.01	314	eP	P	11 11 56.3	-0.2
	comp=Z,9.7nm,0.9s						
RJF	Les Rejaudoux	76.15	315	eP	P	11 11 56.3	-0.9
	comp=Z,13nm,1.0s						
MFF	Saint Martin d	76.45	317	eP	P	11 11 58.4	-0.5
MTLF	Montolieu	76.74	313	eP	P	11 12 00.1	-0.5
	comp=Z,23nm,1.3s						
YKA	Yellowknife Ar	80.89	17	P	P	11 12 22.7	-0.3
	comp=Z,2.1nm,0.6s,baz=331,slow=5.2,SNR=14						
YKA	Yellowknife Ar	80.89	17	P	P	11 12 22.7	-0.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	80.89	17	P	P	11 12 22.7	-0.3
ESDC	Sonseca Array	82.63	312	P	P	11 12 32.9	+0.3
	comp=Z,0.3nm,0.4s,baz=57,slow=6.1,SNR=3.7						
ESDC	Sonseca Array	82.63	312	P	P	11 12 32.9	+0.3
SCHQ	Schefferville	93.30	355	P	P	11 13 23.2	-0.6
	comp=Z,3.5nm,0.8s,baz=33,slow=3.7,SNR=4.6						
SCHQ	Schefferville	93.30	355	P	P	11 13 23.2	-0.6
TORD	Torodi Ar. Bea	93.57	288	P	P	11 13 26.4	+0.6
	comp=Z,1.0nm,1.0s,baz=61,slow=3.6,SNR=2.4						
TORD	Torodi Ar. Bea	93.57	288	P	P	11 13 26.4	+0.6

ISK ***02*** *11:19:58.1, 39°.41N×28°.13E, h12km, ML2.2*
DDA ***02*** *11:19:58.3, 39°.47N×28°.17E, h7km, MD2.9*
CSEM ***02*** *11:19:58.6±0.1, 39°.44N×28°.16E, h8km, MD2.9, Error ellipse: s-maj=4.7km s-min=2.4km az=48.0*
ISCJB ***02*** *11:19:58.6±0.5, 39°.45N±0°.04×28°.16E±0°.04, h6km±6km, Error ellipse: s-maj=7.2km s-min=4.4km az=39.1*
ISC 02 11:19:58.8±0.9**, 39°.45N**±0°.03×**28°.17E**±0°.03**, h14**km±8km**, n26, σ0s.52**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DURS	Dursunbey	0.28	57	iP	Pg	11 20 04.1	-0.6
DURS				iS	Sg	11 20 08.6	-0.1
DURS	Dursunbey	0.28	57	iP	Pg	11 20 04.1	-0.6
DURS				iS	Sg	11 20 08.6	-0.1
BALB	Balikesir	0.30	310	ePG	Pg	11 20 04.7	-0.3
BALB				eSG	Sg	11 20 10.1	+1.0
BALB	Balikesir	0.30	310	ePg	Pg	11 20 04.7	-0.3
BALB				eSg	Sg	11 20 10.1	+1.0
BALY	Balya	0.52	304	iP	Pg	11 20 08.2	-0.8
BALY				iS	Sg	11 20 15.8	-0.1
BALY	Balya	0.52	304	iP	Pg	11 20 08.2	-0.8
BALY				iS	Sg	11 20 15.8	-0.1
DEMI	Demirci	0.59	134	iP	Pg	11 20 10.1	-0.3
DEMI				iS	Sb	11 20 19.2	+0.1
DEMI	Demirci	0.59	134	iP	Pg	11 20 10.0	-0.3
DEMI				iS	Sb	11 20 19.2	+0.1
GONE	Gonen-Balikesi	0.70	328	ePG	Pg	11 20 11.8	-0.7
GONE	Gonen-Balikesi	0.70	328	ePg	Pg	11 20 11.8	-0.7
KCTX	Karacabey (Bur	0.83	10	ePG	Pb	11 20 15.3	+0.3
KCTX	Karacabey (Bur	0.83	10	ePg	Pb	11 20 15.3	+0.3
MANT	Manisa	1.00	162	iP	Pb	11 20 18.2	+0.1
MANT				iS	Sn	11 20 32.3	-0.4
MANT	Manisa	1.00	162	iP	Pb	11 20 18.2	+0.1
MANT				iS	Sn	11 20 32.3	-0.4
KULA	Kula-Manisa	1.01	158	ePG	Pg	11 20 17.6	-0.7
KULA	Kula-Manisa	1.01	158	ePg	Pg	11 20 17.6	-0.7
GDZ	Gediz	1.08	109	iP	Pb	11 20 19.3	0.0
GDZ				iS	Sb	11 20 33.9	+0.6
GDZ	Gediz	1.08	109	iP	Pb	11 20 19.3	0.0
GDZ				iS	Sb	11 20 33.9	+0.6
KRBG	Karabiga-Canak	1.16	325	ePN	Pg	11 20 20.4	-0.8
KRBG	Karabiga-Canak	1.16	325	ePn	Pg	11 20 20.4	-0.8
YLV	Yalova	1.45	39	ePN	Pb	11 20 25.6	0.0
YLV	Yalova	1.45	39	ePn	Pb	11 20 25.6	0.0
CAVI	Cavuskoy	1.49	59	ePN	Pb	11 20 26.4	+0.1
CAVI	Cavuskoy	1.49	59	ePn	Pb	11 20 26.4	+0.1
ALT	Altintas	1.56	104	ePN	Pn	11 20 26.7	+0.5
ALT	Altintas	1.56	104	ePn	Pn	11 20 26.7	+0.5

CSEM ***02*** *11:41:35.4±1.6, 36°.83N×27°.79E, h2km, MD3.0, Error ellipse: s-maj=28.4km s-min=13.8km az=43.0*
DDA ***02*** *11:41:38.7, 37°.03N×27°.79E, h7km, MD3.0*
ISC 02 11:41:31.3±5.3**, 36°.7N**±0°.2×**27°.6E**±0°.2**, h5**km±28km**, n9, σ1s.52**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.43	323	ePG	Pn	11 41 49.9	+5.6
YER	Yerkesik	0.66	51	ePG	Pb	11 41 46.0	+0.6
YER				eSG	Sg	11 41 52.0	-0.6
YER	Yerkesik	0.66	51	ePg	Pb	11 41 46.0	+0.6
YER				eSg	Sg	11 41 52.1	-0.6
TURN	Turunc	0.79	78	iP	Pb	11 41 47.3	-0.3
TURN				iS	Sg	11 41 54.5	-2.2
TURN	Turunc	0.79	78	iP	Pb	11 41 47.3	-0.3
TURN				iS	Sg	11 41 54.5	-2.2
AYDN	Tasoluk	0.96	12	iP	Pn	11 41 51.3	-0.3
AYDN				iS	Sg	11 41 59.9	-2.3
AYDN	Tasoluk	0.96	12	iP	Pn	11 41 51.3	-0.3
AYDN				iS	Sg	11 41 59.9	-2.3
DNZL	Cakiroluk	1.49	49	eP	Pg	11 42 01.4	+1.6
DNZL				iS	Sg	11 42 18.7	-0.4
DNZL	Cakiroluk	1.49	49	eP	Pg	11 42 01.4	+1.6
DNZL				iS	Sg	11 42 18.7	-0.4

CASC 02 11:53:46.4±6.2**, 9°.61N×82°.60W, h10**km±86km**, MD3.7, 1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.82	187⇓	iP	Pb	11 54 02.7	-0.2
BRU2				eS	Sn	11 54 15.5	-1.0
ACR	Cerro Adams	1.11	211⇓	iP	Pg	11 54 07.8	0.0
ACR				eS	Sn	11 54 22.9	-0.5
BUS	Buena Vista	1.15	267	eP	Pb	11 54 07.5	-1.4
URSC	Urasca	1.19	281⇑	iP	Pb	11 54 07.6	-1.6
URSC				eS	Sb	11 54 22.5	-2.3
URSC				eS	Sg	11 54 23.7	-1.4
QCR	Quepos	1.56	263	eP	Pn	11 54 13.7	-0.4
QCR				eP	Pb	11 54 13.8	-1.5
PTP	Ponta Puerca	18.56	61⇓	eP	x	11 54 13.0	
PTP				eS	x	11 54 34.4	

ISK ***02*** *12:33:12.7, 37°.84N×29°.15E, h5km, ML2.0*
DDA ***02*** *12:33:13, 37°.89N×29°.20E, h7km, MD2.6*
CSEM ***02*** *12:33:13.3±0.2, 37°.87N×29°.15E, h5km, ML2.0, Error ellipse: s-maj=5.1km s-min=4.2km az=107.0*
ISCJB ***02*** *12:33:13.3±0.6, 37°.87N±0°.03×29°.15E±0°.04, h4km±7km, Error ellipse: s-maj=5.8km s-min=4.8km az=175.2*
ISC 02 12:33:13.2±1.1**, 37°.87N**±0°.02×**29°.15E**±0°.03**, h6**km±10km**, n18, σ0s.82**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.15	219	ePG	Pg	12 33 16.9	+0.6
DENT	Denizli	0.15	219	ePg	Pg	12 33 16.9	+0.6
DNZL	Cakiroluk	0.20	205	iP	Pg	12 33 18.2	+1.0
DNZL	Cakiroluk	0.20	205	iP	Pg	12 33 18.2	+1.0
KHAL	Karahalli	0.56	28	iP	Pg	12 33 24.0	-0.1
KHAL				iS	Sg	12 33 31.2	-0.3
KHAL	Karahalli	0.56	28	iP	Pg	12 33 24.0	-0.1
KHAL				iS	Sg	12 33 31.2	-0.3
GOLH	Golhisar	0.71	153	iP	Pb	12 33 27.3	-0.8
GOLH				iS	Sb	12 33 38.0	-0.1
GOLH	Golhisar	0.71	153	iP	Pb	12 33 27.3	-0.8
GOLH				iS	Sb	12 33 38.0	-0.1
KULA	Kula-Manisa	0.75	329	ePG	Pg	12 33 27.9	+0.3
KULA				eSG	Sb	12 33 39.8	+0.5
KULA	Kula-Manisa	0.75	329	ePg	Pg	12 33 27.9	+0.3
MANT	Manisa	0.78	323	iP	Pb	12 33 28.6	-0.6
MANT				iS	Sb	12 33 40.0	-0.2
MANT	Manisa	0.78	323	iP	Pb	12 33 28.6	-0.6
MANT				iS	Sb	12 33 40.0	-0.2
YER	Yerkesik	1.01	224	ePG	Pg	12 33 31.5	-1.1
YER	Yerkesik	1.01	224	ePg	Pg	12 33 31.5	-1.1
AYDN	Tasoluk	1.03	259	iP	Pb	12 33 33.1	-0.4
AYDN				iS	Sg	12 33 46.6	+0.2
AYDN	Tasoluk	1.03	259	iP	Pb	12 33 33.1	-0.4
AYDN				iS	Sg	12 33 46.6	+0.2
SHUT	Suhut-Afyon	1.29	58	ePN	Pn	12 33 37.4	-0.5
SHUT				eSN	Sn	12 33 57.7	+2.0
SHUT	Suhut-Afyon	1.29	58	ePn	Pn	12 33 37.4	-0.5
SHUT				eSn	Sn	12 33 57.7	+2.0

ISCJB ***02*** *12:36:03.2±0.4, 52°.55N±0°.04×179°.22W±0°.03, h252km±3km, mb4.3/120, Error ellipse: s-maj=6.3km s-min=2.8km az=5.0*
MOS ***02*** *12:36:03.4±0.8, 52°.57N×179°.24W, h254km, mb4.4/48, Error ellipse: s-maj=8.7km s-min=6.3km az=68.5*
BJI ***02*** *12:36:03.9, 53°.02N×179°.70W, h249km, mB4.6/7, mb4.4/18*
NEIC ***02*** *12:36:04.6±0.3, 52°.53N×179°.23W, h254km±3km, mb4.6/72, Error ellipse: s-maj=5.3km s-min=2.8km az=174.0*
IDC ***02*** *12:36:05.3±0.6, 52°.62N×179°.28W, h260km±4km, mb4.0/29, mb1 4.2/32, mb1mx4.2/34, mbtmp4.1/32, Error ellipse: s-maj=11.4km s-min=6.3km az=167.0*
ISC 02 12:36:04.5±0.4**, 52°.55N**±0°.07×**179°.28W**±0°.03**, h257**km±2km**, h256**km**:pP-P, n715, σ1s.03**/809**, mb4.3**/121**, 204C-180D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOKL	Mount Kliuchef	3.12	92	P	Pn	12 36 57.6	-1.1
ATKA	Atka Island	3.14	94	P	Pn	12 36 56.4	-2.4
ATKA				S	S	12 37 37.1	-4.7
KOFP	Korovin Flat P	3.19	93	P	Pn	12 36 58.5	-0.9
SMY	Shemya	4.04	275	P	Pn	12 37 08.1	-0.8
SMY				S	S	12 37 58.4	-1.7
SMY	Shemya	4.04	275	P	Pn	12 37 08.1	-0.8
SMY				S	S	12 37 58.4	-1.7
FX1	Attu Island--F	4.60	277	P	Pn	12 37 14.8	-0.8
	72nm,0.3s,baz=69,slow=3.2,SNR=153						
FX1				S	S	12 38 08.2	-4.2
	207nm,0.3s,baz=163,slow=19,SNR=40						
FX1	Attu Island--F	4.60	277	eP	Pn	12 37 14.9	-0.8
FX1				S	S	12 38 08.2	-4.2
FX1	Attu Island--F	4.60	277	ePn	Pn	12 37 14.8	-0.8
FX1				S	S	12 38 08.2	-4.2
OKFG	Magazine Ridge	6.92	78	P	Pn	12 37 45.0	+0.8
MSOM	Makushin Julie	7.52	75	P	Pn	12 37 52.1	+0.5
MSOM	Makushin Julie	7.52	75	P	Pn	12 37 52.1	+0.5
MREP	Makushin Rep't	7.64	76	P	Pn	12 37 52.9	-0.3
UNV	Unalaska Valle	7.79	75	ePn	Pn	12 37 54.9	0.0
UNV				S	S	12 39 19.9	-4.1
UNV				eS	S	12 39 23.5	-0.5
SDPT	Sand Point	11.43	68	eP	Pn	12 38 38.5	-2.1
GAMB	Gambell	11.93	16	ePn	P	12 38 48.2	-1.4
	62nm,1.1s						
CHGN	Chignik	12.70	65	eP	Pn	12 38 55.4	-0.9
PET	Petropavlovsk	13.36	281	eP	Pn	12 39 04.2	-0.1
PET				pmax	pmax		
	comp=Z,79nm,1.0s						
PET	Petropavlovsk	13.36	281	ePn	P	12 39 06.9	+1.4
PEA0B	Petropavlovsk-	13.92	281	ePn	P	12 39 13.2	+1.5
PETK	Petropavlovsk-	13.92	281	P	P	12 39 12.9	+1.1
	comp=Z,5.7nm,0.3s,baz=89,slow=15,SNR=71						
PETK	Petropavlovsk-	13.92	281	P	P	12 39 12.9	+1.1
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK	Petropavlovsk-	13.92	281	P	P	12 39 12.9	+1.1
TNA	Tin City	14.26	19	ePn	P	12 39 16.6	+1.2
	comp=Z,26nm,0.8s						
SVW2	Sparrevohn	15.46	47	eP	Pn	12 39 30.9	+1.3

comp=Z,18nm,0.6s
OHAK Old Harbor 15.62 62 *e*P **P 12 39 28.8 -1.6**
comp=Z,19nm,0.3s
KDAK Kodiak Island 16.07 60 P **P 12 39 34.9 -0.5**
comp=Z,7.2nm,0.3s,baz=41,slow=13,SNR=50
KDAK S **S 12 42 24.1 -6.4**
comp=Z,1.2nm,0.3s,baz=342,slow=20,SNR=6.8
KDAK Kodiak Island 16.07 60 *e*P **P 12 39 35.4 +0.1**
KDAK S **S 12 42 24.1 -6.4**
KDAK pmax pmax
comp=Z,43nm,0.6s
KDAK Kodiak Island 16.07 60 *e*P **P 12 39 35.4 +0.1**
comp=Z,43nm,0.6s
KDAK S **S 12 42 24.1 -6.4**
TTA Tatalina 16.09 41 *e*P **Pn 12 39 37.1 0.0**
TTA Tatalina 16.09 41 *e*P **Pn 12 39 37.1 0.0**
RSO Redoubt South 16.55 51 *e*P **Pn 12 39 42.8 +0.2**
BILL Bilibino 17.02 341 *c i*P **Pn 12 39 47.7 -0.2**
BILL *e* 12 42 55.0
BILL pmax pmax
comp=Z,81nm,1.3s
BILL MLR MLR
comp=Z,100nm,13.0s
BILL Bilibino 17.02 341 *e*P **P 12 39 46.1 +0.5**
comp=Z,46nm,0.8s
PPLA Purkeypile 17.64 43 *e*P **Pn 12 39 54.5 -0.9**
comp=Z,75nm,0.7s
SLKM Skilak Lake 17.77 52 *e*P **P 12 39 54.8 +0.9**
SLKM Skilak Lake 17.77 52 *e*P **P 12 39 54.8 +0.9**
SEW Seward 18.06 54 *e*P **P 12 39 57.8 +0.8**
comp=Z,60nm,0.6s
RC01 Rabbit Creek A 18.14 50 *e*P **P 12 39 58.4 +0.5**
comp=Z,68nm,1.1s
SEY Seymchan 18.18 316⇑ *e*P **Pn 12 40 00.6 -0.9**
PMR Palmer 18.56 49 *e*P **P 12 40 02.9 +0.6**
PMR pmax pmax
comp=Z,32nm,0.7s
PMR Palmer 18.56 49 *e*P **P 12 40 02.9 +0.6**
comp=Z,32nm,0.7s
TRF Thorofare Moun 18.66 43 *e*P **P 12 40 04.1 +0.6**
comp=Z,317nm,2.0s
SML Sawmill 18.98 49 *e*P **P 12 40 06.7 -0.2**
SML pmax pmax
comp=Z,16nm,0.7s
SML Sawmill 18.98 49 *e*P **P 12 40 06.7 -0.2**
comp=Z,16nm,0.7s
MCK McKinley 19.32 43 *e*P **P 12 40 10.0 -0.5**
MCK pmax pmax
comp=Z,75nm,0.9s
MCK McKinley 19.32 43 *e*P **P 12 40 10.0 -0.5**
comp=Z,75nm,0.9s
DIV Divide 20.03 51 *e*P **P 12 40 17.8 -0.4**
comp=Z,67nm,0.7s
COLA College 20.19 40 *e*P **P 12 40 19.2 -0.4**
COLA pmax pmax
comp=Z,68nm,0.9s
COLA College 20.19 40 *e*P **P 12 40 19.2 -0.4**
comp=Z,68nm,0.9s
COLD Coldfoot 20.41 33 *e*P **P 12 40 22.5 +0.4**
comp=Z,28nm,0.8s
RAGM Ragged Mountai 20.45 54 *e*P **P 12 40 23.6 +1.0**
comp=Z,264nm,0.8s
ILAR Eielson Array 20.53 41 P **P 12 40 21.4 -2.0**
comp=Z,19nm,0.8s,baz=247,slow=9.4,SNR=106
ILAR ScP **ScP 12 47 32.0 -2.1**
comp=Z,1.3nm,0.6s,baz=280,slow=3.5,SNR=4.8
ILAR Eielson Array 20.53 41 P **P 12 40 21.4 -2.0**
ILAR pmax pmax
comp=Z,19nm,0.8s
ILAR pmax pmax
comp=N,1,0nm,0.6s
ILAR Eielson Array 20.53 41 P **P 12 40 21.4 -2.0**
ILAR ScP **ScP 12 47 32.0 -2.1**
BMRM Bremner River 20.57 52 *e*P **P 12 40 23.7 -0.2**
comp=N,89nm,1.0s
PAX Paxson 20.57 46 *e*P **P 12 40 23.7 -0.2**
PAX pmax pmax
comp=Z,36nm,0.7s
PAX Paxson 20.57 46 *e*P **P 12 40 23.7 -0.2**
comp=Z,36nm,0.7s
MENT Mentasta 21.34 47 *e*P **P 12 40 32.4 +0.9**
DOT Dot Lake 21.36 45 *e*P **P 12 40 30.9 -0.8**
comp=Z,20nm,0.7s
EGAK Eagle 22.87 43 *e*P **P 12 40 45.8 +0.3**
comp=Z,166nm,0.9s
PNL Peninsula 23.05 56 *e*P **P 12 40 47.5 +0.3**
comp=Z,79nm,0.7s
DAWY Dawson 23.47 45 *e*P **P 12 40 51.5 +0.6**
ASAJ Asahikawa 26.45 267 P **P 12 41 18.4 +0.6**
comp=Z,8.8nm,0.6s,baz=72,slow=9.6,SNR=9.1
ASAJ Asahikawa 26.45 267 P **P 12 41 18.5 +0.6**
ASAJ pmax pmax
comp=Z,9.0nm,0.6s
ASAJ Asahikawa 26.45 267 P **P 12 41 18.4 +0.6**
INK Inuvik 26.68 36 P **P 12 41 19.3 -0.3**
comp=Z,22nm,0.5s,baz=269,slow=7.0,SNR=67
INK PcP **PcP 12 44 34.6 -1.0**
comp=Z,3.3nm,0.7s,baz=307,slow=2.6,SNR=3.5
INK ScP **ScP 12 47 48.6 -2.0**
comp=Z,1.4nm,0.7s,baz=269,slow=4.8,SNR=3.9
INK Inuvik 26.68 36 P **P 12 41 19.3 -0.3**
INK 12 44 34.6
INK pmax pmax
comp=Z,22nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.7s
INK pmax pmax
comp=N,1.0nm,0.7s
INK Inuvik 26.68 36 P **P 12 41 19.3 -0.3**
INK PcP **PcP 12 44 34.6 -1.0**
INK ScP **ScP 12 47 48.6 -2.0**
DLBC Dease Lake 27.98 58 P **P 12 41 33.1 +1.8**
comp=N,12nm,0.6s,baz=286,slow=9.2,SNR=46
DLBC Dease Lake 27.98 58 *e*P **P 12 41 33.2 +1.9**
HABR Khabarovsk 28.95 280 P **P 12 41 40.4 +0.5**
HABR *e**PP **pP 12 42 29.9 -0.3**
HABR *e**SP **sP 12 42 58.8 -1.2**
HABR *e* 12 44 42.3
HABR *e*S **S 12 46 13.2 +2.1**
HABR *e**SS **sS 12 47 43.1 +1.2**
HABR *e* 12 51 53.8
HABR pmax pmax
comp=Z,124nm,2.8s
HABR pmax pmax
comp=E,120nm,3.0s
HABR pmax pmax
comp=N,38nm,1.7s
HABR MLR MLR
comp=Z,76nm,17.0s
USRK Ussuriysk Arra 32.86 275 P **P 12 42 13.8 -0.4**
comp=Z,1.5nm,0.5s,baz=59,slow=10,SNR=8.7
MAJO Matsushiro 33.70 259 *e*P **P 12 42 21.0 -0.5**
MAJO pmax pmax
comp=Z,15nm,0.6s
MAJO Matsushiro 33.70 259 *e*P **P 12 42 21.0 -0.5**
comp=Z,15nm,0.6s
MAT Matsushiro 33.70 259 P **P 12 42 22.5 +1.0**
MJAR Matsushiro Arr 33.70 259 P **P 12 42 22.6 +1.0**
comp=Z,5.7nm,0.7s,baz=43,slow=6.1,SNR=32
MJAR PcP **PcP 12 44 54.1 -0.6**
comp=Z,0.9nm,0.5s,baz=42,slow=1.3,SNR=4.2
MJAR Matsushiro Arr 33.70 259 P **P 12 42 22.6 +1.0**
MJAR 12 44 54.1
MJAR pmax pmax
comp=Z,6.0nm,0.7s
MJAR pmax pmax
comp=Z,1.0nm,0.5s
MJAR Matsushiro Arr 33.70 259 P **P 12 42 22.6 +1.0**
MJAR PcP **PcP 12 44 54.1 -0.6**
YKA Yellowknife Ar 34.65 48 P **P 12 42 30.1 +0.8**
comp=Z,19nm,0.6s,baz=281,slow=8.1,SNR=190
YKA pP **pP 12 43 20.9 +0.3**
comp=Z,2.8nm,0.8s,baz=307,slow=3.8,SNR=2.7
YKA PcP **PcP 12 44 56.8 -0.1**
comp=Z,1.8nm,0.4s,baz=286,slow=3.2,SNR=16
YKA ScP **ScP 12 48 15.9 -1.3**
comp=Z,0.7nm,0.4s,baz=285,slow=3.2,SNR=9.4
YKA Yellowknife Ar 34.65 48 P **P 12 42 30.1 +0.8**
YKA *PP **pP 12 43 20.9 +0.3**
YKA 12 44 56.8
YKA pmax pmax
comp=Z,19nm,0.6s
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA pmax pmax
comp=N,1.0nm,0.4s
YKA Yellowknife Ar 34.65 48 P **P 12 42 30.1 +0.8**
YKA pP **pP 12 43 20.9 +0.3**
YKA PcP **PcP 12 44 56.8 -0.1**
YKA ScP **ScP 12 48 15.9 -1.3**
A05A Maple Falls 35.53 72⇑ P **P 12 42 37.5 +0.5**
baz=35
LON Longmire 36.80 75 *e*P **P 12 42 49.1 +1.3**
LON pmax pmax
comp=Z,129nm,2.5s
LON Longmire 36.80 75 *e*P **P 12 42 49.1 +1.3**
comp=Z,129nm,2.5s
CN2 Changchun 37.05 279 *e*P **P 12 42 50.9 +1.0**
CN2 *e*S **S 12 48 17.1 +1.2**
CN2 sS **sS 12 49 48.9 +0.3**
ETW Entiat 37.23 73 *e*P **P 12 42 52.0 +0.5**
OD2 Odessa Site #2 38.29 73 *e*P **P 12 43 00.2 0.0**
G06A Carlson Farm, 38.29 77 ⇓P **P 12 43 00.8 +0.5**
baz=38
RSW Rattlesnake Hi 38.29 75 *e*P **P 12 43 01.1 +0.8**
HAWA Hanford 38.33 75 *e*P **P 12 43 00.8 +0.3**
comp=Z,16nm,0.7s
C09A Chrisman Ranch 38.33 72⇑ P **P 12 43 00.3 -0.3**
baz=38,SNR=7.9
NEW Newport 38.77 71 *e*P **P 12 43 03.9 -0.3**
NEW pmax pmax
comp=Z,20nm,0.8s
NEW Newport 38.77 71 *e*P **P 12 43 03.9 -0.3**
comp=Z,20nm,0.8s
RES Resolute Bay 38.80 25 *e*P **P 12 43 05.0 +1.0**
RES pmax pmax
comp=Z,32nm,1.0s
RES Resolute Bay 38.80 25 *e*P **P 12 43 05.0 +1.0**
comp=Z,32nm,1.0s
E09A Wood Farm, Sta 39.08 74⇑ P **P 12 43 06.6 -0.1**
baz=39,SNR=7.1
KSRS Korea Array 39.34 269 P **P 12 43 10.3 +1.4**
comp=Z,5.7nm,0.7s,baz=56,slow=7.9,SNR=18
KSRS Korea Array 39.34 269 P **P 12 43 10.3 +1.4**
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KSAR Wonju Array Be 39.37 269 P **P 12 43 10.3 +1.1**
KSAR Wonju Array Be 39.37 269 P **P 12 43 10.3 +1.1**
K05A Summer Lake 39.54 80⇑ P **P 12 43 11.8 +1.0**
baz=39
I07A Izee 39.60 78⇑ P **P 12 43 11.9 +0.7**
baz=39
WDC Whiskeytown Da 39.81 84 *e*P **P 12 43 14.4 +1.6**
WDC Whiskeytown Da 39.81 84 *e*P **P 12 43 14.4 +1.6**
F10A Beach Ranch, E 39.90 74⇑ P **P 12 43 14.0 +0.4**
baz=40
WALA Waterton Lakes 40.19 68 *e*P **P 12 43 15.8 -0.2**
comp=Z,1.3nm,1.0s
BSMT Bassoo Peak 40.32 70 *e*P **P 12 43 17.0 -0.1**
HOPS Hopland 40.45 87 *e*P **P 12 43 19.1 +1.0**
comp=Z,14nm,0.4s
BMO Blue Mountains 40.47 75 *e*P **P 12 43 16.8 -1.5**
comp=Z,9.8nm,1.0s
BMO *e*pP **pP 12 44 12.5 +1.5**
A14A Double T Ranch 40.52 68 ⇓P **P 12 43 18.5 -0.1**
baz=40,SNR=28
J08A Circle Bar Ran 40.62 78⇑ P **P 12 43 20.0 +0.4**
baz=40
JTMT Jette 40.66 70 *e*P **P 12 43 19.7 -0.2**
YBMT Yellow Bay 40.76 70 *e*P **P 12 43 20.7 +0.1**
comp=Z,5.3nm,0.8s
A15A Johnson Ranch, 40.90 67⇑ P **P 12 43 21.3 -0.4**
baz=41
B14A Marquette Ranc 40.92 68 ⇓P **P 12 43 21.7 -0.3**
baz=41,SNR=21
SWMT Swartz Lake 40.95 70 *e*P **P 12 43 22.0 -0.2**
WVOR Wild Horse Val 41.06 79 *e*P **P 12 43 23.6 +0.5**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 41.06 79 *e*P **P 12 43 23.6 +0.5**
comp=Z,7.3nm,0.9s
B15A Bradely Ranch, 41.35 68⇑ P **P 12 43 24.9 -0.5**
baz=41,SNR=20
MSO Missoula 41.35 71 *e*P **P 12 43 24.7 -0.7**
comp=Z,8.3nm,0.8s
E13A Victor 41.42 71⇑ P **P 12 43 25.5 -0.5**
baz=41,SNR=10.0
A16A West Butte Ran 41.56 67⇑ P **P 12 43 26.4 -0.7**
baz=41
C15A Salmond Ranch, 41.61 69 ⇓P **P 12 43 27.7 +0.2**
baz=41,SNR=42
F13A Darby 41.70 72 ⇓P **P 12 43 27.8 -0.4**
baz=42,SNR=7.2
B16A M & M Farms, S 41.78 68⇑ P **P 12 43 28.3 -0.5**
baz=42
E14A Clinton 41.84 71 ⇓P **P 12 43 29.0 -0.4**
baz=42,SNR=8.4
A17A Triple J Farms 42.06 66⇑ P **P 12 43 30.5 -0.6**
baz=42,SNR=8.4
C16A Fuhringer Ranc 42.08 68⇑ P **P 12 43 30.9 -0.4**
baz=42,SNR=11
H12A Diamond D Ranc 42.09 74 ⇓P **P 12 43 31.0 -0.4**
baz=42
G13A Cobalt 42.15 73 ⇓P **P 12 43 31.5 -0.3**
baz=42,SNR=18
MFID Camas Ranch 42.17 76 ⇓P **P 12 43 32.1 0.0**
baz=42
F14A Wisdom 42.24 72⇑ P **P 12 43 32.5 -0.2**
baz=42
WCN Washoe City 42.28 84 *e*P **P 12 43 34.0 +0.9**
WCN pmax pmax
comp=Z,14nm,0.8s
WCN Washoe City 42.28 84 *e*P **P 12 43 34.0 +0.9**
comp=Z,14nm,0.8s
WCN Washoe City 42.28 84 ⇓P **P 12 43 33.9 +0.8**
baz=42
E15A Deer Lodge 42.32 71⇑ P **P 12 43 32.8 -0.5**
baz=42,SNR=19
B17A L&G Farms, Che 42.35 67⇑ P **P 12 43 32.8 -0.6**
baz=42,SNR=12
I12A Atlanta 42.36 75⇑ P **P 12 43 33.6 -0.1**
baz=42,SNR=14
H13A Challis 42.43 74 ⇓P **P 12 43 33.7 -0.5**
baz=42,SNR=6.8
G14A Jackson 42.51 73 ⇓P **P 12 43 34.1 -0.8**
baz=42
A18A Metzger Ranch, 42.55 66 ⇓P **P 12 43 34.1 -0.9**
baz=42,SNR=6.6
D16A Dana Ranch, Ca 42.62 69 ⇓P **P 12 43 34.9 -0.7**
baz=42,SNR=5.6
CMB Columbia Colle 42.69 86 *e*P **P 12 43 36.5 +0.2**
CMB pmax pmax
comp=Z,28nm,1.4s
CMB Columbia Colle 42.69 86 *e*P **P 12 43 36.5 +0.2**
comp=Z,28nm,1.4s
C17A Wharram Farm, 42.73 68⇑ P **P 12 43 36.1 -0.4**
baz=42,SNR=15
F15A Butte 42.73 71⇑ P **P 12 43 36.2 -0.5**
baz=42
LRM Limekiln Ridge 42.77 71 *e*P **P 12 43 36.6 -0.4**
E16A East Helena 42.82 70 ⇓P **P 12 43 36.8 -0.5**
baz=43,SNR=11
B18A Beardsley Farm 42.87 67⇑ P **P 12 43 37.1 -0.5**
baz=43,SNR=17
I13A Wildhorse Cree 42.89 75 ⇓P **P 12 43 37.8 -0.1**
baz=43,SNR=15
HLID Hailey 42.92 75 *e*P **P 12 43 38.3 +0.1**
comp=Z,11nm,1.0s
HLID *e*pP **pP 12 44 35.4 +4.0**
HLID Hailey 42.92 75 ⇓P **P 12 43 38.1 0.0**
baz=43,SNR=18
H14A Leadore 42.92 73 ⇓P **P 12 43 37.8 -0.4**
baz=43,SNR=13
D17A Big Diamond Ra 43.04 69 ⇓P **P 12 43 38.6 -0.4**
baz=43,SNR=8.3
EGMT Eagleton 43.09 67 *e*P **P 12 43 38.7 -0.6**
comp=Z,17nm,0.8s
EGMT Eagleton 43.09 67⇑ P **P 12 43 39.1 -0.2**
baz=43,SNR=11
MCMT McKenzie Canyo 43.10 73 *e*P **P 12 43 39.2 -0.5**
comp=Z,3.4nm,0.3s
BMN Battle Mountai 43.12 81 *e*P **P 12 43 40.7 +1.0**
BMN pmax pmax
comp=Z,10.0nm,0.7s
BMN Battle Mountai 43.12 81 *e*P **P 12 43 40.7 +1.0**
comp=Z,9.6nm,0.7s
G15A Dillon 43.12 72⇑ P **P 12 43 39.0 -0.7**
baz=43,SNR=12
J13A Cove Ranch, Pi 43.16 75⇑ P **P 12 43 40.2 +0.2**
baz=43,SNR=21
A19A Klindworth Far 43.16 65 ⇓P **P 12 43 39.3 -0.6**
baz=43,SNR=13
F16A Kennard Place, 43.27 71⇑ P **P 12 43 40.8 0.0**
baz=43,SNR=7.8
I14A Mackay 43.27 74 ⇓P **P 12 43 41.2 +0.2**
baz=43,SNR=12
B19A Brinkman Farms 43.30 66 ⇓P **P 12 43 40.6 -0.4**
baz=43,SNR=12
E17A Martinsdale 43.33 70 ⇓P **P 12 43 41.3 0.0**
baz=43,SNR=9.0
H15A Lima 43.34 73 ⇓P **P 12 43 40.9 -0.6**
baz=43,SNR=7.0
G16A Moss Hill, Enn 43.48 72 ⇓P **P 12 43 42.3 -0.3**
baz=43,SNR=7.2
D18A Linhart Farms, 43.52 68⇑ P **P 12 43 42.9 +0.1**
baz=43,SNR=9.5
J14A Carey 43.59 75 ⇓P **P 12 43 43.6 +0.2**
baz=43,SNR=8.4
A20A Cobblestone Ra 43.64 65 ⇓P **P 12 43 43.2 -0.5**
baz=43,SNR=14
C19A Slack Wire Ran 43.64 67 ⇓P **P 12 43 43.6 -0.2**
baz=43,SNR=27
FFC Flin Flon 43.70 55 *i* P **P 12 43 44.1 +0.1**
FFC Flin Flon 43.70 55 *e*P **P 12 43 43.7 -0.3**
comp=Z,11nm,0.6s
NVAR Mina Array Bea 43.71 84 P **P 12 43 45.4 +0.8**
comp=Z,9.3nm,0.6s,baz=296,slow=7.3,SNR=61
NVAR pP **pP 12 44 37.1 -0.9**
comp=Z,3.7nm,0.9s,baz=291,slow=7.4,SNR=3.1
NVAR PcP **PcP 12 45 27.0 +0.5**
comp=Z,1.8nm,0.7s,baz=297,slow=4.0,SNR=3.5
NVAR ScP **ScP 12 48 52.2 -0.8**
comp=Z,0.9nm,0.7s,baz=312,slow=4.7,SNR=5.3
NVAR Mina Array Bea 43.71 84 P **P 12 43 45.4 +0.8**
NVAR pP **pP 12 44 37.1 -0.9**
NVAR PcP **PcP 12 45 27.0 +0.5**
NVAR ScP **ScP 12 48 52.2 -0.8**
F17A Fitzpatrick Pl 43.76 70⇑ P **P 12 43 44.5 -0.2**
baz=44
E18A Harlowton 43.81 69⇑ P **P 12 43 45.2 +0.1**
baz=44,SNR=13
B20A Solberg Farm, 43.83 66⇑ P **P 12 43 44.7 -0.4**
baz=44,SNR=6.5
G17A Pierce Place, 44.04 71⇑ P **P 12 43 46.9 -0.1**
baz=44
D19A Cripps Ranch, 44.06 68 ⇓P **P 12 43 46.9 -0.1**
baz=44,SNR=12
H16A Russell Place, 44.11 72 ⇓P **P 12 43 47.3 -0.4**
baz=44,SNR=6.9
ELK Elko 44.12 79 *e*P **P 12 43 48.2 +0.5**
ELK *e**PP **pP 12 44 45.3 +4.0**
ELK pmax pmax
comp=Z,192nm,3.0s
ELK Elko 44.12 79 *e*P **P 12 43 48.2 +0.5**
comp=Z,192nm,3.0s
ELK *e*pP **pP 12 44 45.3 +4.0**
A21A Bergtoll Ranch 44.13 64⇑ P **P 12 43 47.0 -0.5**
baz=44,SNR=11
J15A Blackfoot 44.18 74 ⇓P **P 12 43 48.0 -0.2**
baz=44
C20A Veseth Ranch, 44.24 66⇑ P **P 12 43 48.2 -0.2**
baz=44,SNR=12
MTUM Tungsten Hills 44.24 85 *e*P **P 12 43 49.9 +1.2**
K14A Jones Ranch, D 44.25 76⇑ P **P 12 43 49.2 +0.5**
baz=44
F18A Big Timber 44.30 70 ⇓P **P 12 43 48.7 -0.2**
baz=44,SNR=5.5
YNR Norris Junctio 44.43 71 *e*P **P 12 43 51.3 +1.1**
comp=Z,18nm,1.1s
I16A Newdale 44.45 73 ⇓P **P 12 43 50.5 +0.2**
baz=44
YFT Old Faithful 44.49 72 *e*P **P 12 43 52.2 +1.5**
comp=Z,14nm,0.6s
RCTC Rector, Farmer 44.51 87⇑ P **P 12 43 51.4 +0.9**
baz=44
E19A Rath Farm, Rou 44.51 68⇑ P **P 12 43 50.4 -0.2**
baz=44,SNR=5.7
D20A Manuel Ranch, 44.52 67⇑ P **P 12 43 50.6 0.0**
baz=44
L14A Malta 44.52 76 ⇓P **P 12 43 51.0 +0.1**
baz=44,SNR=5.9
K15A Arbon 44.55 75⇑ P **P 12 43 51.5 +0.4**
baz=44,SNR=6.3
TIN Tinemaha 44.64 85 ⇓P **P 12 43 52.6 +0.8**
baz=44,SNR=8.7
H17A Grant Village 44.68 72 ⇓P **P 12 43 53.1 +0.9**
baz=44
A22A Carney Farms, 44.68 64 ⇓P **P 12 43 51.6 -0.3**
baz=44,SNR=16
SMMC Simmler 44.70 88 ⇓P **P 12 43 53.4 +1.2**
baz=44
F19A Roth Farm, Mol 44.77 69⇑ P **P 12 43 52.3 -0.3**
baz=45,SNR=8.3
FLWY Flagg Ranch 44.79 72 *e*P **P 12 43 53.7 +0.7**
comp=Z,33nm,1.2s
E20A Meyer Farm, Mu 44.85 68 ⇓P **P 12 43 53.2 -0.1**
baz=45,SNR=12
VES Vestal, Richgr 44.91 87 ⇓P **P 12 43 54.3 +0.5**
baz=45,SNR=31
HVU Hansel Valley 44.95 76 *e*P **P 12 43 54.5 +0.3**
HVU *e**PP **pP 12 44 51.6 +3.7**
HVU pmax pmax
comp=Z,11nm,0.5s
HVU Hansel Valley 44.95 76 *e*P **P 12 43 54.5 +0.3**
comp=Z,11nm,0.5s
HVU *e*pP **pP 12 44 51.6 +3.7**
I17A Pilgrim Ck. 44.96 72 ⇓P **P 12 43 55.2 +0.8**
baz=45
MOOW Moose Ponds 44.96 73 *e*P **P 12 43 54.5 +0.1**
comp=Z,45nm,2.7s
B22A Reddig Ranch S 45.03 65⇑ P **P 12 43 54.6 0.0**
baz=45
H18A Shoshone NF, C 45.04 71 ⇓P **P 12 43 54.9 -0.1**
baz=45
L15A Malad City 45.05 76⇑ P **P 12 43 55.3 +0.4**
baz=45,SNR=10
PKM Peak Mountain 45.09 89⇑ P **P 12 43 56.6 +1.2**
baz=45,SNR=5.2
CWC Cottonwood Cre 45.13 86⇑ P **P 12 43 56.3 +0.7**
baz=45,SNR=5.4
D21A La Casta Ranch 45.17 67⇑ P **P 12 43 55.8 0.0**
baz=45,SNR=8.9
GRAC Grapevine Rang 45.20 85⇑ P **P 12 43 57.1 +1.0**
baz=45
F20A Billings 45.25 69 ⇓P **P 12 43 56.4 -0.1**
baz=45,SNR=5.3
A23A Redstone 45.27 63⇑ P **P 12 43 56.5 0.0**
baz=45
M15A Larsen Ranch, 45.34 76 ⇓P **P 12 43 57.4 +0.2**
baz=45,SNR=5.9
ISA Isabella 45.40 87⇑ P **P 12 43 57.7 0.0**
baz=45,SNR=13
C22A Vida 45.40 65 ⇓P **P 12 43 57.1 -0.4**
baz=45,SNR=7.1
R11A Troy Canyon, C 45.41 82 ⇓P **P 12 43 58.1 +0.2**
baz=45,SNR=37
E21A Keefer Ranch, 45.43 67⇑ P **P 12 43 58.0 +0.3**
baz=45
H19A Powell 45.43 71 ⇓P **P 12 43 57.9 0.0**
baz=45,SNR=10
K17A Gardner Place, 45.46 74 ⇓P **P 12 43 58.0 -0.2**
baz=45
SBC Santa Barbara 45.46 89 ⇓P **P 12 43 59.2 +1.2**
baz=45
B23A Brockton 45.49 64 ⇓P **P 12 43 57.9 -0.3**
baz=45,SNR=9.1
I18A Diamond G Ranc 45.53 72 ⇓P **P 12 43 59.1 +0.3**
baz=45
ARVC Arvin 45.54 88 ⇓P **P 12 43 59.0 +0.4**
baz=45
G20A Bridger 45.55 69⇑ P **P 12 43 58.4 -0.5**
baz=45,SNR=11
D22A Cohagen 45.58 66 ⇓P **P 12 43 58.7 -0.2**
baz=45,SNR=12
L16A Fish Haven 45.60 75⇑ P **P 12 43 59.8 +0.4**
baz=45
J18A Kendall Valley 45.70 73 ⇓P **P 12 44 00.1 -0.1**
baz=46,SNR=7.4
MPMC Manual Prospec 45.74 86⇑ P **P 12 44 01.0 +0.5**
baz=46,SNR=20
C23A Lambert 45.76 65⇑ P **P 12 44 00.3 0.0**
baz=46,SNR=15
A24A Westby 45.77 63⇑ P **P 12 43 60.0 -0.4**
baz=46,SNR=11
HWUT Hardware Ranch 45.77 76 *e*P **P 12 44 01.1 +0.4**
comp=Z,20nm,1.6s
I19A Meeteetse 45.80 71⇑ P **P 12 44 00.7 -0.2**
baz=46,SNR=5.6
F21A Absaloka Mine, 45.82 68⇑ P **P 12 44 00.5 -0.3**

baz=46,SNR=7.0
FURC Furnace Creek, 45.85 85 ⇓P **P** **12 44 01.8 +0.8**
baz=46,SNR=15
SONM Songino Array 45.86 295 P **P** **12 44 01.2 0.0**
comp=Z,0.6nm,0.3s,baz=53,slow=5.8,SNR=8.3
SONM pP **pP** **12 44 55.6 +0.4**
comp=Z,1.1nm,0.7s,baz=62,slow=8.4,SNR=3.4
SONM ScP **ScP** **12 49 00.6 -1.0**
comp=Z,2.2nm,0.9s,baz=52,slow=2.7,SNR=7.1
SONM Songino Array 45.86 295 P **P** **12 44 01.2 0.0**
SONM *PP **pP** **12 44 55.6 +0.4**
SONM 12 49 00.6
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=N,2.0nm,0.9s
SONM Songino Array 45.86 295 P **P** **12 44 01.2 0.0**
SONM pP **pP** **12 44 55.6 +0.4**
SONM ScP **ScP** **12 49 00.6 -1.0**
L17A Cokeville 45.88 75 ⇑P **P** **12 44 01.4 -0.1**
baz=46,SNR=6.4
DUG Dugway 45.91 78 *eP* **P** **12 44 02.0 +0.3**
DUG *e*PP **pP** **12 44 53.9 -1.8**
DUG pmax pmax
comp=Z,14nm,0.6s
DUG Dugway 45.91 78 *eP* **P** **12 44 02.0 +0.3**
comp=Z,14nm,0.6s
DUG *ep*P **pP** **12 44 53.9 -1.8**
DUG Dugway 45.91 78 ⇓P **P** **12 44 02.1 +0.3**
baz=46,SNR=30
M16A Huntsville 45.91 76 ⇓P **P** **12 44 01.9 +0.1**
baz=46,SNR=18
DGMT Dagmar 45.92 64 *eP* **P** **12 44 01.9 +0.3**
comp=Z,14nm,0.8s
DGMT Dagmar 45.92 64 ⇓P **P** **12 44 01.4 -0.1**
baz=46
LRMC Laurel Mountai 46.00 86 ⇑P **P** **12 44 02.9 +0.4**
baz=46,SNR=10.0
K18A Toltan Ranch, 46.04 73 ⇑P **P** **12 44 03.0 +0.3**
baz=46,SNR=19
O15A The Old Anders 46.06 78 ⇓P **P** **12 44 03.5 +0.6**
baz=46
BLG Laguna Peak 46.08 89 ⇑P **P** **12 44 03.4 +0.5**
baz=46
D23A Lindsay 46.11 66 ⇓P **P** **12 44 03.1 +0.1**
baz=46,SNR=7.3
H20A Greybull 46.11 70 ⇓P **P** **12 44 02.8 -0.4**
baz=46
E22A Miles City 46.12 67 ⇑P **P** **12 44 03.1 0.0**
baz=46,SNR=11
G21A Lodge Grass 46.12 69 ⇓P **P** **12 44 02.6 -0.7**
baz=46
EDW2 Edwards Air Fo 46.22 87 ⇓P **P** **12 44 04.3 +0.3**
baz=46,SNR=10
PD02 Pinedale Array 46.23 73 *eP* **P** **12 44 03.9 -0.4**
PD02 *ep*P **pP** **12 45 01.0 +2.7**
J19A Crowheart 46.23 72 ⇑P **P** **12 44 04.3 +0.1**
baz=46,SNR=9.2
BW06 Boulder Array 46.24 73 *eP* **P** **12 44 04.0 -0.4**
comp=Z,16nm,0.5s
PDAR Pinedale Array 46.24 73 P **P** **12 44 04.0 -0.3**
comp=Z,14nm,0.4s,baz=309,slow=4.3,SNR=46
PDAR pP **pP** **12 45 00.1 +1.6**
comp=Z,3.1nm,0.8s,baz=302,slow=3.8,SNR=3.7
PDAR ScP **ScP** **12 49 01.9 -1.6**
comp=Z,1.0nm,0.9s,baz=118,slow=1.3,SNR=3.9
PDAR Pinedale Array 46.24 73 P **P** **12 44 04.0 -0.3**
PDAR pP **pP** **12 45 00.1 +1.6**
PDAR ScP **ScP** **12 49 01.9 -1.6**
C24A Savage 46.34 65 ⇑P **P** **12 44 04.8 0.0**
baz=46
F22A Rosebud 46.34 68 ⇑P **P** **12 44 04.4 -0.5**
baz=46,SNR=8.3
I20A Worland 46.36 71 ⇑P **P** **12 44 04.9 -0.2**
baz=46,SNR=7.5
M17A Scullys Gap (B 46.39 75 ⇑P **P** **12 44 05.1 -0.4**
baz=46,SNR=5.1
DECC Green Verdugo 46.43 88 ⇑P **P** **12 44 06.1 +0.4**
baz=46
E23A Ismay 46.45 66 ⇑P **P** **12 44 05.8 +0.1**
baz=46
L18A Fontenelle, Gr 46.48 74 ⇓P **P** **12 44 06.0 -0.2**
baz=46,SNR=12
R13A O'Grain Ranch, 46.49 81 ⇑P **P** **12 44 06.7 +0.4**
baz=46,SNR=6.5
H21A Big Horn, Sher 46.57 69 ⇑P **P** **12 44 06.6 -0.2**
baz=46
SHOC Shoshone 46.58 85 ⇑P **P** **12 44 07.7 +0.9**
baz=46,SNR=34
N17A Moffit Pass 46.62 76 ⇓P **P** **12 44 07.1 -0.3**
baz=46
P15A Leamington 46.62 78 ⇓P **P** **12 44 07.5 +0.3**
baz=46,SNR=11
K19A Absolon Red Bu 46.62 73 ⇑P **P** **12 44 06.7 -0.6**
baz=46,SNR=9.5
D24A Glendive 46.63 65 ⇑P **P** **12 44 07.2 +0.1**
baz=46,SNR=5.7
G22A Birney 46.65 68 ⇓P **P** **12 44 06.8 -0.5**
baz=46,SNR=6.0
GSC Goldstone 46.66 86 ⇑P **P** **12 44 08.2 +0.7**
baz=46,SNR=52
O16A Springville 46.68 77 ⇑P **P** **12 44 07.9 +0.2**
baz=46,SNR=16
MPU Maple Canyon 46.72 77 *eP* **P** **12 44 08.6 +0.5**
comp=Z,7.0nm,0.5s
L19A Farson 46.77 74 ⇑P **P** **12 44 07.8 -0.6**
baz=47,SNR=7.6
M18A Lyman 46.77 75 ⇓P **P** **12 44 08.0 -0.4**
baz=47,SNR=9.2
RRX Edison Barstow 46.82 86 ⇑P **P** **12 44 09.5 +0.9**
baz=47
BFSC Mount Baldy Ra 46.85 88 ⇑P **P** **12 44 09.6 +0.6**
baz=47,SNR=20
F23A Volborg 46.85 67 ⇑P **P** **12 44 08.5 -0.4**
baz=47,SNR=11
I21A Big Trails, Te 46.92 70 ⇑P **P** **12 44 08.9 -0.6**
baz=47,SNR=8.4
CIS Catalina Islan 46.96 89 ⇓P **P** **12 44 09.6 -0.2**
baz=47
P16A Fountain Green 46.97 78 ⇑P **P** **12 44 10.3 +0.3**
baz=47
E24A Baker 46.97 66 ⇓P **P** **12 44 09.8 +0.1**
baz=47
H22A Clearmont 46.99 69 ⇓P **P** **12 44 09.5 -0.5**
baz=47,SNR=7.2
ARUT Antelope Range 47.06 81 *eP* **P** **12 44 10.8 +0.1**
ARUT *e*PP **pP** **12 45 02.8 -2.1**
ARUT pmax pmax
comp=Z,5.0nm,0.4s
ARUT Antelope Range 47.06 81 *eP* **P** **12 44 10.8 +0.1**
comp=Z,4.6nm,0.4s
ARUT *ep*P **pP** **12 45 02.8 -2.1**
HHC Hu-ho-hao-te 47.09 285 *eP* **P** **12 44 09.0 -1.8**
HHC pP **pP** **12 45 03.4 -1.6**
HHC sP **sP** **12 45 31.9 -1.8**
HHC PP PP 12 46 03.0 -0.8
HHC S **S** **12 50 40.8 -2.0**
HHC sS **sS** **12 52 15.3 -3.6**
HHC ScS **ScS** **12 53 34.7 -2.2**
HHC SS SS 12 54 06.2 -6.8
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,98nm,6.3s
HHC LR LR
comp=N,200nm,16.4s
HHC LR LR
comp=E,240nm,15.5s
HHC LR LR
comp=Z,160nm,16.4s
TUQ Turquoise Moun 47.10 85 ⇑P **P** **12 44 11.3 +0.4**
baz=47,SNR=7.9
J21A Lysite 47.12 71 ⇑P **P** **12 44 10.8 -0.3**
baz=47
O17A Robinson Place 47.14 77 ⇑P **P** **12 44 11.4 0.0**
baz=47
SCI San Clemente I 47.16 90 ⇓P **P** **12 44 11.8 +0.5**
baz=47
G23A Biddle 47.17 68 ⇓P **P** **12 44 10.7 -0.6**
baz=47,SNR=5.0
M19A Rock Springs 47.26 74 ⇑P **P** **12 44 11.7 -0.5**
baz=47
HEC Hector,Ludlow 47.26 86 ⇓P **P** **12 44 12.5 +0.3**
baz=47,SNR=7.3
CCUT Cedar City 47.26 81 *eP* **P** **12 44 12.9 +0.6**
comp=Z,6.2nm,0.6s
CCUT *ep*P **pP** **12 45 10.5 +3.9**
BBRC Big Bear Solar 47.28 87 ⇑P **P** **12 44 13.1 +0.6**
baz=47,SNR=14
F24A Ekalaka 47.32 67 ⇑P **P** **12 44 12.1 -0.3**
baz=47
I22A 9 Mile Ranch, 47.34 70 ⇓P **P** **12 44 12.6 -0.1**
baz=47,SNR=7.1
MSU Marysvale 47.36 79 *eP* **P** **12 44 13.8 +0.8**
MSU Marysvale 47.36 79 *eP* **P** **12 44 13.8 +0.8**
L20A Wamsutter 47.42 73 ⇓P **P** **12 44 13.1 -0.4**
baz=47
TMUT Trail Mountain 47.43 78 *eP* **P** **12 44 14.4 +0.7**
comp=Z,18nm,0.7s
TMUT *ep*P **pP** **12 45 11.9 +3.9**
R15A Junction 47.49 80 ⇑P **P** **12 44 14.7 +0.7**
baz=47,SNR=9.9
O18A Roosevelt 47.53 76 ⇓P **P** **12 44 14.5 +0.2**
baz=47
MURC Murrieta 47.56 88 ⇓P **P** **12 44 15.0 +0.6**
baz=47,SNR=7.7
P17A Butcher Ranch, 47.60 77 ⇑P **P** **12 44 15.0 +0.2**
baz=47,SNR=5.2
N19A John Jarvie Ra 47.63 75 ⇑P **P** **12 44 14.5 -0.5**
baz=47,SNR=11
J22A Midwest 47.63 70 ⇓P **P** **12 44 14.6 -0.4**
baz=47,SNR=14
G24A Alzada 47.64 67 ⇑P **P** **12 44 14.1 -0.8**
baz=47,SNR=6.9
K21A Alcova 47.67 72 ⇓P **P** **12 44 14.6 -0.7**
baz=48
Q16A Castle Valley 47.70 78 ⇓P **P** **12 44 16.0 +0.5**
baz=48,SNR=13
M20A Sweetwater, Wa 47.83 74 ⇓P **P** **12 44 16.3 -0.3**
baz=48,SNR=8.4
I23A Meade Ranch, G 47.88 69 ⇓P **P** **12 44 16.6 -0.2**
baz=48
H24A Dirks Ranch, A 47.92 68 ⇑P **P** **12 44 16.2 -0.9**
baz=48,SNR=6.4
SRU San Rafael 47.96 78 *eP* **P** **12 44 18.1 +0.5**
SRU pmax pmax
comp=Z,21nm,0.5s
SRU San Rafael 47.96 78 *eP* **P** **12 44 18.1 +0.5**
comp=Z,21nm,0.5s
PFO Pinyon Flat Ob 48.01 87 *eP* **P** **12 44 18.3 +0.3**
PFO Pinyon Flat Ob 48.01 87 *eP* **P** **12 44 18.2 +0.3**
PFO Pinyon Flat Ob 48.01 87 ⇑P **P** **12 44 18.1 +0.2**
baz=48,SNR=6.8
L21A Rawlins 48.02 73 ⇓P **P** **12 44 17.5 -0.5**
baz=48,SNR=5.6
BELC Belle Mtn. Jos 48.02 87 ⇑P **P** **12 44 18.2 +0.1**
baz=48,SNR=32
O19A Miners Draw (B 48.03 75 ⇑P **P** **12 44 18.2 +0.1**
baz=48,SNR=19
K22A Casper 48.08 71 ⇑P **P** **12 44 17.9 -0.5**
baz=48
Q18A Raft H Ranch 48.20 77 ⇑P **P** **12 44 19.5 +0.1**
baz=48,SNR=36
N20A Spence Gulch, 48.20 74 ⇓P **P** **12 44 19.5 0.0**
baz=48,SNR=13
S16A Weppner Ranch, 48.22 80 ⇓P **P** **12 44 20.2 +0.7**
baz=48,SNR=18
M21A Separation Pea 48.24 73 ⇑P **P** **12 44 19.2 -0.5**
baz=48
R17A Hanksville Air 48.29 78 ⇓P **P** **12 44 20.0 -0.1**
baz=48,SNR=9.9
IRM Iron Mountain 48.43 86 ⇑P **P** **12 44 21.3 +0.3**
baz=48,SNR=19
MONP Monument Peak 48.52 88 ⇓P **P** **12 44 22.2 +0.2**
baz=48,SNR=10
P19A Cripple Cowboy 48.54 76 ⇓P **P** **12 44 22.0 0.0**
baz=48,SNR=13
W13A Hualapai Mount 48.57 84 ⇓P **P** **12 44 22.4 +0.1**
baz=48,SNR=14
BC3 Big Chuckawall 48.59 87 ⇓P **P** **12 44 22.3 -0.1**
baz=48,SNR=19
RSSD Black Hills 48.59 68 *eP* **P** **12 44 21.5 -0.9**
RSSD Black Hills 48.59 68 *eP* **P** **12 44 21.5 -0.9**
KBS Kingsbay 48.61 357 *c i*P **P** **12 44 23.2 +1.5**
KBS pmax pmax
comp=Z,12nm,0.6s
KBS Kingsbay 48.61 357 *eP* **P** **12 44 22.7 +0.9**
comp=Z,26nm,0.7s
U15A North Rim 48.65 81 ⇓P **P** **12 44 23.7 +0.8**
baz=48,SNR=62
O20A Wit River Ci 48.66 75 ⇑P **P** **12 44 22.5 -0.4**
baz=48,SNR=16
N21A Black Mountain 48.69 74 ⇑P **P** **12 44 22.6 -0.5**
baz=48,SNR=5.6
J24A Dixon Ranch, L 48.73 69 ⇓P **P** **12 44 22.7 -0.5**
baz=48
S17A Black Ridge (B 48.75 79 ⇓P **P** **12 44 23.6 +0.1**
baz=49,SNR=31
MDND Maddock 48.78 62 ⇑P **P** **12 44 23.6 +0.1**
baz=49
R18A Canyonlands Na 48.80 78 ⇓P **P** **12 44 23.4 -0.6**
baz=49,SNR=25
Q19A Hogan Spring (48.81 77 ⇓P **P** **12 44 23.6 -0.4**
baz=49,SNR=20
M22A Cedar Creek Ra 48.82 73 ⇑P **P** **12 44 24.0 -0.2**
baz=49
SWSC Sam W. Stewart 48.87 87 ⇑P **P** **12 44 24.5 +0.2**
baz=49
L23A Garrett 48.89 71 ⇓P **P** **12 44 24.2 -0.5**
baz=49,SNR=5.3
PDMCI Parker Dam,Lak 48.95 85 ⇓P **P** **12 44 25.1 +0.2**
baz=49,SNR=6.9
P20A De Beque 48.98 76 ⇓P **P** **12 44 24.8 -0.5**
baz=49,SNR=11
O21A Pagoda 49.06 74 ⇓P **P** **12 44 25.4 -0.6**
baz=49,SNR=7.5
Y12C Blythe 49.09 86 ⇓P **P** **12 44 26.2 +0.2**
baz=49,SNR=14
T17A Navajo Res., N 49.17 80 ⇑P **P** **12 44 26.4 -0.3**
baz=49,SNR=23
SPB4 Spitsbergen Ar 49.18 356 *eP* **P** **12 44 26.8 +0.8**
S18A Hurst Farm, Bl 49.20 79 ⇓P **P** **12 44 26.9 -0.2**
baz=49,SNR=25
R19A Curley Farm, L 49.24 78 ⇑P **P** **12 44 27.1 -0.2**
baz=49,SNR=15
N22A Wattenberg Ran 49.28 73 ⇑P **P** **12 44 27.4 -0.3**
baz=49
M23A Laramie 49.28 72 ⇓P **P** **12 44 27.2 -0.4**
baz=49
ULM Lac du Bonnet 49.29 57 P **P** **12 44 26.8 -0.5**
comp=Z,9.1nm,0.4s,baz=304,slow=9.4,SNR=24
ULM Lac du Bonnet 49.29 57 P **P** **12 44 26.8 -0.5**
ULM pmax pmax
comp=Z,9.0nm,0.4s
ULM Lac du Bonnet 49.29 57 P **P** **12 44 26.8 -0.5**
GLA Glamis 49.38 87 ⇓P **P** **12 44 28.7 +0.5**
baz=49,SNR=12
Q20A Ridgley Place, 49.39 76 ⇑P **P** **12 44 27.8 -0.6**
baz=49,SNR=7.5
PV04 Paradox Valley 49.39 77 *eP* **P** **12 44 28.3 -0.1**
PV04 *ep*P **pP** **12 45 26.2 +3.0**
U17A Shonto 49.52 80 ⇓P **P** **12 44 29.4 0.0**
baz=49,SNR=20
P21A Newcastle 49.52 75 ⇓P **P** **12 44 29.3 -0.1**
baz=49,SNR=7.7
U16A Tuba City 49.54 81 ⇑P **P** **12 44 29.8 +0.3**
baz=49,SNR=7.4
T18A Mexican Hat 49.63 79 ⇑P **P** **12 44 29.7 -0.5**
baz=49,SNR=24
O22A Kremmling 49.64 74 ⇑P **P** **12 44 30.2 -0.2**
baz=49
S19A Harvey Farm, M 49.67 78 ⇓P **P** **12 44 30.5 -0.1**
baz=50,SNR=35
PV01 Paradox Valley 49.76 77 *eP* **P** **12 44 31.0 -0.2**
comp=Z,919nm,0.4s
PV01 *ep*P **pP** **12 45 24.4 -1.7**
WUAZ Wupatki 49.81 82 *eP* **P** **12 44 32.3 +0.7**
comp=Z,13nm,0.5s
WUAZ Wupatki 49.81 82 ⇑P **P** **12 44 32.1 +0.5**
baz=50,SNR=20
R20A Redvale 49.84 77 ⇓P **P** **12 44 31.5 -0.3**
baz=50,SNR=12
P22A Eagle 49.88 75 ⇓P **P** **12 44 32.0 -0.1**
baz=50
Y14A Wickenburg 49.89 84 ⇓P **P** **12 44 32.5 +0.4**
baz=50,SNR=17
Q21A Lamborn Mesa, 49.89 76 ⇑P **P** **12 44 32.0 -0.2**
baz=50,SNR=7.2
O23A Lake Granby, G 49.98 73 ⇑P **P** **12 44 33.0 0.0**
baz=50
Z13A Yuma Proving G 49.99 86 ⇑P **P** **12 44 33.2 +0.4**
baz=50,SNR=15
SMCO Snowmass 50.02 75 *eP* **P** **12 44 33.2 -0.2**
comp=Z,3.7nm,0.4s
S20A Disappointment 50.08 77 ⇓P **P** **12 44 33.6 -0.2**
baz=50,SNR=25
V17A Tonalea, Kykot 50.09 81 ⇑P **P** **12 44 34.3 +0.6**
baz=50,SNR=18
N24A Carr 50.18 72 ⇑P **P** **12 44 34.2 -0.1**
baz=50
R21A Cimarron 50.21 76 ⇓P **P** **12 44 34.7 +0.1**
baz=50,SNR=8.0
113A Mohawk Valley, 50.22 86 ⇓P **P** **12 44 34.7 +0.3**
baz=50,SNR=6.2
Q22A Crested Butte, 50.27 75 ⇑P **P** **12 44 35.0 -0.1**
baz=50,SNR=6.4
M25A Palm-Egli Farm 50.27 71 ⇓P **P** **12 44 35.1 +0.2**
baz=50
Z14A Wintersburg 50.31 85 ⇓P **P** **12 44 35.4 +0.2**
baz=50
T19A Beclabito 50.35 79 ⇓P **P** **12 44 35.7 +0.1**
baz=50,SNR=49
DAG Danmarks Havn 50.36 6 *i*P **P** **12 44 33.9 -1.0**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 50.36 6 *i*P **P** **12 44 33.9 -1.0**
comp=Z,25nm,0.7s
MVCO Mesa Verde 50.41 78 *eP* **P** **12 44 36.0 -0.1**
comp=Z,7.7nm,0.6s
MVCO Mesa Verde 50.41 78 ⇓P **P** **12 44 36.2 0.0**
baz=50,SNR=8.7
ISCO Idaho Springs 50.42 74 *eP* **P** **12 44 37.0 +0.7**
ISCO pmax pmax
comp=Z,9.0nm,1.2s
ISCO Idaho Springs 50.42 74 *eP* **P** **12 44 37.0 +0.7**
comp=Z,9.1nm,1.2s
ISCO Idaho Springs 50.42 74 ⇑P **P** **12 44 36.1 -0.1**
baz=50,SNR=5.8
AGMN Agassiz Nation 50.49 59 *eP* **P** **12 44 35.8 -0.5**
comp=Z,1.1nm,0.8s
W17A Winslow 50.50 82 ⇑P **P** **12 44 37.0 +0.2**
baz=50
K27A Flueckinger Fa 50.50 69 ⇓P **P** **12 44 36.2 -0.4**
baz=50
O24A Longmont 50.52 73 ⇑P **P** **12 44 37.2 +0.3**
baz=50
S21A Coal Bank Pass 50.53 77 ⇓P **P** **12 44 37.4 +0.2**
baz=50,SNR=16
V18A Ganado 50.55 80 ⇑P **P** **12 44 37.3 +0.2**
baz=50,SNR=12
P23A Jefferson 50.56 74 ⇓P **P** **12 44 38.0 +0.6**
baz=50
U19A Dine' College, 50.59 79 ⇑P **P** **12 44 37.5 0.0**
baz=50,SNR=15
R22A Saguache, Gunn 50.77 76 ⇑P **P** **12 44 39.2 +0.3**
baz=51,SNR=6.1
U20A Newcomb 50.95 79 ⇑P **P** **12 44 40.3 +0.2**
baz=51
S22A 4UR Ranch, Cre 51.05 76 ⇓P **P** **12 44 41.4 +0.5**
baz=51,SNR=8.5
W18A Petrified Fore 51.06 81 ⇑P **P** **12 44 41.4 +0.5**
baz=51,SNR=5.2
V19A Window Rock 51.08 80 ⇑P **P** **12 44 41.6 +0.4**
baz=51,SNR=7.1
T21A Navajo Lake 51.13 78 ⇓P **P** **12 44 42.0 +0.6**
baz=51
Q24A Divide 51.24 74 ⇓P **P** **12 44 42.4 0.0**
baz=51
BRSD Miller 51.24 65 ⇑P **P** **12 44 42.0 0.0**
baz=51
W19A Sanders 51.28 81 ⇑P **P** **12 44 43.2 +0.7**
baz=51,SNR=13
X18A Snowflake 51.34 82 ⇑P **P** **12 44 43.6 +0.6**
baz=51,SNR=35
R23A Moffat 51.35 75 ⇑P **P** **12 44 43.2 +0.1**
baz=51
Y17A Roosevelt 51.36 83 ⇑P **P** **12 44 43.9 +0.8**
baz=51,SNR=38
214A Organ Pipe Nat 51.37 86 ⇓P **P** **12 44 43.5 +0.5**
baz=51,SNR=12
V20A Brimhall 51.37 79 ⇑P **P** **12 44 43.6 +0.4**
baz=51,SNR=6.4
U21A Nageezi 51.43 78 ⇑P **P** **12 44 44.0 +0.3**
baz=51,SNR=13
TARA Tarawa 51.43 190 *eP* **P** **12 44 45.2 +1.6**
TARA *ep*P PcP 12 45 47.0 -7.1
P25A Willow Gulch B 51.45 73 ⇓P **P** **12 44 44.4 +0.6**
baz=51,SNR=6.8
O26A Horse Wrangler 51.47 72 ⇓P **P** **12 44 43.8 0.0**
baz=51
T22A Edith 51.49 77 ⇑P **P** **12 44 44.7 +0.5**
baz=51,SNR=16
N27A Anderson Farm, 51.55 71 ⇑P **P** **12 44 44.9 +0.5**
baz=51
R24A Sanders Place, 51.74 75 ⇓P **P** **12 44 46.2 +0.2**
baz=52
Y18A Canyon Day Jun 51.80 82 ⇓P **P** **12 44 47.0 +0.6**
baz=52,SNR=13
Q25A Bedland, Calha 51.80 74 ⇓P **P** **12 44 46.6 +0.2**
baz=52,SNR=6.6
X19A St. Johns 51.80 81 ⇓P **P** **12 44 47.0 +0.6**
baz=52,SNR=14
W20A Ramah 51.80 80 ⇓P **P** **12 44 46.7 +0.2**
baz=52,SNR=9.5
SDCO Great Sand Dun 51.83 75 *eP* **P** **12 44 47.0 +0.2**
V21A Milan 51.86 79 ⇑P **P** **12 44 47.0 +0.1**
baz=52,SNR=17
Z17A San Carlos Hig 51.86 83 ⇓P **P** **12 44 47.5 +0.8**
baz=52
P26A Davis Ranch, A 51.90 72 ⇓P **P** **12 44 47.3 +0.3**
baz=52,SNR=6.7
U22A Llaves 51.95 78 ⇑P **P** **12 44 47.9 +0.4**
baz=52,SNR=12
T23A Casias Ranch, 51.99 77 ⇑P **P** **12 44 48.4 +0.5**
baz=52
S24A Houchin Ranch, 52.08 75 ⇓P **P** **12 44 49.2 +0.6**
baz=52,SNR=6.2
Y19A Nutrioso 52.15 82 ⇓P **P** **12 44 49.9 +0.9**
baz=52
X20A Quemado 52.20 81 ⇓P **P** **12 44 50.1 +0.7**
baz=52,SNR=16
Q26A Hugo 52.22 73 ⇑P **P** **12 44 49.9 +0.5**
baz=52
V22A San Miguel Ran 52.23 78 ⇑P **P** **12 44 49.6 +0.1**
baz=52,SNR=5.9
SUMG Summit 52.23 14 ⇑*i*P **P** **12 44 50.2 +1.0**
SUMG *i* 12 45 48.8
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 52.23 14 *eP* **P** **12 44 49.3 +0.1**
SUMG Summit 52.23 14 ⇑*i*P **P** **12 44 50.2 +1.0**
comp=Z,17nm,1.1s
SUMG *i* 12 45 48.8
Z18A Geronimo 52.27 83 ⇓P **P** **12 44 50.5 +0.8**
baz=52,SNR=5.6
R25A Fountain Ranch 52.28 74 ⇓P **P** **12 44 50.1 +0.3**
baz=52,SNR=11
TUC Tucson 52.35 84 *eP* **P** **12 44 51.0 +0.6**
TUC Tucson 52.35 84 *eP* **P** **12 44 51.0 +0.6**
U23A El Rito 52.37 77 ⇑P **P** **12 44 51.2 +0.6**
baz=52,SNR=15
S25A Robets Cordova 52.52 75 ⇓P **P** **12 44 52.0 +0.3**
baz=52
T24A Torres, Weston 52.55 76 ⇑P **P** **12 44 52.6 +0.6**
baz=52,SNR=11
Z19A T-Link Ranch, 52.60 82 ⇑P **P** **12 44 53.2 +1.0**
baz=52
R26A Arlington 52.67 74 ⇑P **P** **12 44 53.1 +0.4**
baz=52,SNR=9.0
KSCO Kaye Shedlock' 52.68 72 ⇑P **P** **12 44 53.5 +0.8**
baz=52
X21A Alamocita Cree 52.70 80 ⇑P **P** **12 44 54.0 +0.9**
baz=52,SNR=24
Y20A Horse Springs, 52.71 81 ⇓P **P** **12 44 54.1 +1.0**
baz=52,SNR=17
V23A Ortiz Mt. (NFS 52.77 78 ⇓P **P** **12 44 54.5 +0.9**
baz=53,SNR=9.6
W22A Albuquerque 52.82 79 ⇓P **P** **12 44 54.8 +0.9**
baz=53
U24A Moreno Valley 52.86 77 ⇑P **P** **12 44 54.9 +0.6**
baz=53
T25A Trinidad 52.88 75 ⇑P **P** **12 44 54.6 +0.3**
baz=53,SNR=9.4
119A Ashpeak Ranch, 52.94 83 ⇓P **P** **12 44 55.3 +0.6**
baz=53,SNR=12
EYMN Ely 52.98 57 *eP* **P** **12 44 54.6 0.0**
comp=Z,22nm,0.8s
ECSD EROS Data Cent 52.98 64 *eP* **P** **12 44 53.3 -1.4**
comp=Z,6.5nm,0.6s
ZALV Zalesovo Beam 53.01 313 PcP **PcP** **12 46 00.1 +0.5**
comp=Z,1.3nm,0.7s,baz=38,slow=3.6,SNR=9.0

ZALV ScP **ScP** **12 49 30.8 -1.1**
comp=Z,1.3nm,0.7s,baz=33,slow=5.7,SNR=9.1
ZALV Zalesovo Beam 53.01 313 PcP **PcP** **12 46 00.1 +0.5**
ZALV ScP **ScP** **12 49 30.8 -1.1**
218A Dragoon 53.04 84 ⇓P **P** **12 44 56.2 +0.7**
baz=53,SNR=17
R27A Eads 53.06 73 ⇑P **P** **12 44 55.8 +0.3**
baz=53,SNR=8.6
Y21A Point of Rocks 53.06 80 ⇓P **P** **12 44 56.5 +0.8**
baz=53,SNR=5.8
S26A Kim 53.11 74 ⇓P **P** **12 44 55.8 -0.1**
baz=53,SNR=11
X22A Bernardo 53.12 80 ⇓P **P** **12 44 57.3 +1.3**
baz=53,SNR=9.4
Z20A Nine Sixteen R 53.13 82 ⇓P **P** **12 44 56.7 +0.6**
baz=53,SNR=12
W23A Werner Place, 53.19 78 ⇑P **P** **12 44 56.9 +0.4**
baz=53,SNR=6.1
V24A Rampart Ranch, 53.33 77 ⇓P **P** **12 44 58.3 +0.7**
baz=53,SNR=7.6
U25A Circle Dot Ran 53.38 76 ⇑P **P** **12 44 58.3 +0.3**
baz=53,SNR=14
318A Bisbee 53.45 84 ⇑P **P** **12 44 58.8 +0.4**
baz=53,SNR=10.0
Y22D IRIS PASSCAL I 53.47 80 ⇓P **P** **12 44 59.4 +0.9**
baz=53
120A U Bar Ranch, L 53.49 82 ⇑P **P** **12 44 59.5 +0.8**
baz=53,SNR=13
Y22A Socorro 53.54 80 ⇓P **P** **12 44 59.9 +0.8**
baz=53,SNR=17
Z21A St. Cloud Mine 53.55 81 ⇓P **P** **12 44 60.0 +0.8**
baz=53,SNR=7.8
X23A Hourglass Bar 53.56 79 ⇑P **P** **12 44 59.8 +0.5**
baz=53
BNM Barren Site 53.60 80 *eP* **P** **12 45 00.2 +0.6**
comp=Z,3.1nm,0.5s
W24A Lazy 6 Ranch, 53.60 78 ⇑P **P** **12 44 59.9 +0.4**
baz=53,SNR=9.3
V25A Rancho No Teng 53.64 77 ⇓P **P** **12 45 00.2 +0.4**
baz=53,SNR=7.8
U26A Atchley Ranch, 53.78 76 ⇑P **P** **12 45 01.2 +0.3**
baz=54,SNR=13
319A Douglas 53.92 84 ⇑P **P** **12 45 02.4 +0.6**
baz=54,SNR=9.1
T27A Campo 53.93 74 ⇓P **P** **12 45 01.8 -0.1**
baz=54
220A Playas Peak, P 54.01 83 ⇑P **P** **12 45 03.1 +0.7**
baz=54,SNR=50
Z22A Elephant Butte 54.01 81 ⇑P **P** **12 45 03.1 +0.6**
baz=54,SNR=5.8
SPMN St. Paul 54.07 61 ⇓P **P** **12 45 02.8 +0.3**
baz=54,SNR=6.5
Y23A Lovelace Mesa, 54.09 79 ⇑P **P** **12 45 03.7 +0.6**
baz=54,SNR=24
W25A X Bar L Ranch, 54.16 77 ⇑P **P** **12 45 03.9 +0.4**
baz=54,SNR=15
T28A Walsh 54.25 74 ⇓P **P** **12 45 04.3 +0.2**
baz=54,SNR=11
122A Conniff Cattle 54.38 81 ⇓P **P** **12 45 06.3 +1.2**
baz=54,SNR=7.1
221A Mesquite Ranch 54.39 82 ⇑P **P** **12 45 06.0 +0.8**
baz=54
320A Kipp Ranch, An 54.41 83 ⇓P **P** **12 45 06.1 +0.8**
baz=54,SNR=14
Z23A Rita Site, Whi 54.45 80 ⇑P **P** **12 45 06.2 +0.7**
baz=54
Y24A Capitan 54.47 79 ⇓P **P** **12 45 06.4 +0.7**
baz=54,SNR=23
CBKS Cedar Bluff 54.49 71 *eP* **P** **12 45 05.8 +0.1**
CBKS Cedar Bluff 54.49 71 *eP* **P** **12 45 05.8 +0.1**
X25A Clemmons Ranch 54.51 78 ⇑P **P** **12 45 06.6 +0.5**
baz=54,SNR=5.3
W26A Owens Ranch, T 54.66 77 ⇑P **P** **12 45 07.4 +0.4**
baz=54
SFJD Kangerlussuaq 54.67 22 *i* P **P** **12 45 06.6 +0.1**
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 54.67 22 *i* P **P** **12 45 06.6 +0.1**
comp=Z,7.7nm,0.9s
GTA Gaotai 54.86 291 *eP* **P** **12 45 05.6 -2.9**
GTA pP **PcP** **12 46 06.3 -0.9**
GTA sP **sP** **12 46 28.6 -4.1**
GTA ScP **ScP** **12 49 39.6 -0.8**
GTA pmax pmax
comp=Z,2.0nm,0.9s
123A Bell Site, Whi 54.87 81 ⇓P **P** **12 45 08.1 -0.4**
baz=55
Y25A Mesa, Roswell 54.91 78 ⇑P **P** **12 45 09.1 +0.2**
baz=55,SNR=8.4
Z24A Sheeppen Canyo 54.92 79 ⇑P **P** **12 45 09.5 +0.4**
baz=55,SNR=7.8
X26A CR and CF Fran 55.01 77 ⇓P **P** **12 45 09.7 +0.1**
baz=55,SNR=5.9
W27A Bowe Ranch, En 55.09 76 ⇓P **P** **12 45 10.2 0.0**
baz=55
Z25A Roswell 55.34 79 ⇑P **P** **12 45 12.1 +0.2**
baz=55
Y26A Elida 55.43 78 ⇑P **P** **12 45 12.6 0.0**
baz=55
224A Cornudas Mount 55.70 81 ⇑P **P** **12 45 14.8 +0.3**
baz=56,SNR=6.9
Z26A Caprock 55.79 78 ⇑P **P** **12 45 15.3 +0.1**
baz=56,SNR=8.0
125A Gardner Draw, 55.81 79 ⇑P **P** **12 45 15.3 0.0**
baz=56,SNR=7.3
Y27A Causey 55.85 77 ⇑P **P** **12 45 15.6 0.0**
baz=56,SNR=14
MSTX Muleshoe 56.03 77 ⇓P **P** **12 45 16.6 -0.2**
baz=56,SNR=8.8
AMTX Amarillo 56.04 75 *eP* **P** **12 45 16.8 0.0**
MNTX Cornudas Mount 56.05 81 *eP* **P** **12 45 17.3 +0.5**
comp=Z,6.4nm,0.7s
SCIA State Center 56.07 64 *eP* **P** **12 45 16.8 0.0**
comp=Z,17nm,0.6s
KSU1 Kansas State U 56.08 68 *eP* **P** **12 45 16.4 -0.6**
comp=Z,39nm,1.4s
225A Deer Hill, Car 56.10 80 ⇓P **P** **12 45 17.8 +0.4**
baz=56,SNR=5.7
324A Moseley Ranch, 56.17 81 ⇓P **P** **12 45 17.7 -0.2**
baz=56
SCO Scoresbysund 56.19 9 *i* P **P** **12 45 18.0 +0.8**
SCO pmax pmax
comp=Z,5.0nm,0.7s
SCO Scoresbysund 56.19 9 *i* P **P** **12 45 18.0 +0.8**
comp=Z,5.2nm,0.7s
126A Clayton Basin, 56.20 79 ⇓P **P** **12 45 18.0 0.0**
baz=56,SNR=5.2
Z27A Tatum 56.22 78 ⇓P **P** **12 45 18.0 -0.2**
baz=56,SNR=6.1
KEV Kevo 56.51 349 *eP* **P** **12 45 19.4 0.0**
KEV Kevo 56.51 349 *ep* **P** **12 45 19.4 0.0**
KEV Kevo 56.51 349 *ep* **P** **12 45 19.4 0.0**
325A Bean Ranch, Si 56.53 81 ⇑P **P** **12 45 20.6 +0.2**
baz=56,SNR=11
226A Malaga, Loving 56.57 80 ⇑P **P** **12 45 20.7 +0.2**
baz=56,SNR=5.7
ARCES ARCESS Array B 56.88 350 P **P** **12 45 22.3 +0.2**
comp=Z,4.6nm,0.4s,baz=23,slow=8.1,SNR=36
ARCES ARCESS Array B 56.88 350 P **P** **12 45 22.3 +0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARCES ARCESS Array B 56.88 350 P **P** **12 45 22.3 +0.2**
425A Indio Mountain 56.94 81 ⇓P **P** **12 45 23.6 +0.4**
baz=57,SNR=11
JFWS Jewell Farm 56.99 61 *eP* **P** **12 45 22.5 -0.8**
JFWS pmax pmax
comp=Z,21nm,0.8s
JFWS Jewell Farm 56.99 61 *eP* **P** **12 45 22.5 -0.8**
comp=Z,20nm,0.8s
227A Bennet, Jal 57.09 79 ⇓P **P** **12 45 24.5 +0.3**
baz=57
326A Caldwell Ranch 57.17 80 ⇓P **P** **12 45 25.0 +0.2**
baz=57,SNR=20
426A McDonald Obser 57.60 81 ⇑P **P** **12 45 27.7 -0.3**
baz=57,SNR=11
328A Wristen Ranch, 57.82 79 ⇑P **P** **12 45 29.2 -0.1**
baz=58,SNR=9.4
WMOK Wichita Mounta 57.85 74 *eP* **P** **12 45 29.3 -0.1**
WMOK Wichita Mounta 57.85 74 *eP* **P** **12 45 29.3 -0.1**
427A Hayter Ranch, 57.85 80 ⇑P **P** **12 45 29.4 -0.1**
baz=58,SNR=5.8
526A Mary Lane Ranc 58.00 81 ⇓P **P** **12 45 30.8 +0.2**
baz=58,SNR=19
KURK Kurchatov 58.00 313 P **P** **12 45 30.6 +0.5**
comp=Z,0.3nm,0.3s,baz=55,slow=8.0,SNR=7.7
KURK ScP **ScP** **12 49 53.2 -0.7**
comp=Z,1.0nm,0.7s,baz=42,slow=4.5,SNR=9.3
KURK Kurchatov 58.00 313 P **P** **12 45 30.6 +0.5**
KURK pmax pmax
comp=N,1.0nm,0.7s
KURK Kurchatov 58.00 313 P **P** **12 45 30.6 +0.5**
KURK ScP **ScP** **12 49 53.2 -0.7**
527A Woodward Ranch 58.22 81 ⇓P **P** **12 45 32.3 +0.1**
baz=58
626A Big Bend Ranch 58.33 82 ⇓P **P** **12 45 33.1 +0.2**
baz=58,SNR=18
428A Kincaid Ranch, 58.37 80 ⇓P **P** **12 45 33.6 +0.5**
baz=58,SNR=20
CD2 Chengdu 58.45 281 P **P** **12 45 34.2 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 58.46 302 *eP* **P** **12 45 34.6 +1.1**
528A Cox Ranch, San 58.71 80 ⇑P **P** **12 45 35.8 +0.3**
baz=58,SNR=16
TUL1 Tulsa 58.76 71 ⇑P **P** **12 45 35.5 -0.1**
baz=58
TXAR Lajitas Array 58.77 82 P **P** **12 45 36.2 +0.3**
comp=Z,8.8nm,0.6s,baz=305,slow=5.6,SNR=407
TXAR pP **pP** **12 46 35.1 +2.4**
comp=Z,0.9nm,0.5s,baz=327,slow=6.0,SNR=2.0
TXAR ScP **ScP** **12 49 57.0 -0.8**
comp=Z,0.3nm,0.6s,baz=276,slow=3.3,SNR=5.3
TXAR Lajitas Array 58.77 82 P **P** **12 45 36.2 +0.3**
TXAR *PP **pP** **12 46 35.1 +2.4**
TXAR pmax pmax
comp=Z,9.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 58.77 82 P **P** **12 45 36.2 +0.3**
TXAR pP **pP** **12 46 35.1 +2.4**
TXAR ScP **ScP** **12 49 57.0 -0.8**
627A Terlingua Ranc 58.85 81 ⇓P **P** **12 45 36.6 +0.1**
baz=59,SNR=11
MKAR Makanchi Array 59.07 308 P **P** **12 45 36.8 -0.8**
comp=Z,0.2nm,0.3s,baz=48,slow=6.6,SNR=13
MKAR pP **pP** **12 46 34.6 +0.1**
comp=Z,0.4nm,0.6s,baz=48,slow=5.6,SNR=2.1
MKAR Makanchi Array 59.07 308 P **P** **12 45 36.8 -0.8**
MKAR *PP **pP** **12 46 34.6 +0.1**
MKAR Makanchi Array 59.07 308 P **P** **12 45 36.8 -0.8**
MKAR pP **pP** **12 46 34.6 +0.1**
628A Black Gap, Mar 59.13 81 ⇓P **P** **12 45 38.4 +0.1**
baz=59,SNR=15
SCHQ Schefferville 59.27 38 P **P** **12 45 39.1 +0.3**
comp=Z,8.6nm,0.5s,baz=309,slow=10,SNR=36
SCHQ Schefferville 59.27 38 P **P** **12 45 39.1 +0.3**
BVAR Borovoye Array 59.80 319 P **P** **12 45 42.9 +0.5**
comp=Z,2.3nm,0.4s,baz=57,slow=5.9,SNR=15
BVAR pP **pP** **12 46 40.1 +0.7**
comp=Z,1.5nm,0.6s,baz=52,slow=9.6,SNR=2.2
BVAR Borovoye Array 59.80 319 P **P** **12 45 42.9 +0.5**
BVAR *PP **pP** **12 46 40.1 +0.7**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 59.80 319 P **P** **12 45 42.9 +0.5**
BVAR pP **pP** **12 46 40.1 +0.7**
GYA Guiyang 59.91 275 *eP* **P** **12 45 44.5 +0.8**
GYA pP **pP** **12 46 41.0 +0.2**
GYA sP **sP** **12 47 08.6 -0.1**
GYA PP **PP** **12 48 01.4 +2.5**
GYA ScP **ScP** **12 50 03.8 +0.9**
GYA PcS **PcS** **12 50 31.2 +1.1**
GYA S **S** **12 53 35.3 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
JCT Junction City 60.27 78 *eP* **P** **12 45 45.5 -0.5**
JCT Junction City 60.27 78 *eP* **P** **12 45 45.5 -0.5**
JCT Junction City 60.27 78 ⇓P **P** **12 45 45.6 -0.4**
baz=60,SNR=6.0
SFIN Scholer Farm 60.45 61 ⇓P **P** **12 45 47.2 +0.2**
baz=60
MIAR Mount Ida 61.01 70 *eP* **P** **12 45 50.5 -0.3**
MIAR Mount Ida 61.01 70 *eP* **P** **12 45 50.5 -0.3**
OLIL Olney 61.08 63 *eP* **P** **12 45 50.6 -0.6**
JOF Joensuu 62.38 345 *eP* **P** **12 45 58.7 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 62.38 345 *ep* **P** **12 45 58.7 -0.8**
comp=Z,4.8nm,0.5s
JOF Joensuu 62.38 345 *ep* **P** **12 45 58.7 -0.8**
comp=Z,4.8nm,0.5s
WVT Waverly 63.11 65 *eP* **P** **12 46 04.4 -0.3**
WVT pmax pmax
comp=Z,9.0nm,1.0s
WVT Waverly 63.11 65 *eP* **P** **12 46 04.4 -0.3**
comp=Z,9.0nm,1.0s
KMI Kunming 63.28 277 P **P** **12 46 07.1 +0.8**
KMI pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 63.90 347 *eP* **P** **12 46 08.4 -1.1**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 63.90 347 *ep* **P** **12 46 08.4 -1.1**
comp=Z,6.2nm,0.6s
KAF Kangasniemi 63.90 347 *ep* **P** **12 46 08.4 -1.1**
comp=Z,6.2nm,0.6s
FINES FINESS Array B 64.57 347 P **P** **12 46 13.8 +0.1**
comp=Z,6.8nm,0.9s,baz=19,slow=6.0,SNR=17
FINES FINESS Array B 64.57 347 P **P** **12 46 13.9 +0.1**
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 64.57 347 P **P** **12 46 13.8 +0.1**
SWET Sewanee 64.82 65 *eP* **P** **12 46 15.3 -0.6**
SSPA Standing Stone 65.04 55 *eP* **P** **12 46 16.9 -0.3**
comp=Z,1.1nm,0.8s
CPCT Cooper Cave 65.42 63 *eP* **P** **12 46 19.4 -0.3**
NOA NORSAR Array B 66.45 354 P **P** **12 46 26.5 +0.6**
comp=Z,4.7nm,0.7s,baz=5.8,slow=6.2,SNR=16
NOA NORSAR Array B 66.45 354 P **P** **12 46 26.5 +0.6**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 66.45 354 P **P** **12 46 26.5 +0.6**
AKTO Aktyubinsk 66.56 324 P **P** **12 46 27.4 +0.8**
comp=Z,3.6nm,0.5s,baz=49,slow=9.5,SNR=22
AKTO Aktyubinsk 66.56 324 P **P** **12 46 27.5 +0.8**
AKTO pmax pmax
comp=Z,4.0nm,0.5s
AKTO Aktyubinsk 66.56 324 P **P** **12 46 27.4 +0.8**
ABKAR Akbulak array 66.82 322 *eP* **P** **12 46 29.1 +0.8**
comp=Z,0.8nm,0.4s
KKAR Karatay Array 67.37 312 *eP* **P** **12 46 32.0 0.0**
KKAR *eP **pP** **12 47 34.7 +4.3**
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 67.37 312 *eP* **P** **12 46 32.0 0.0**
comp=Z,0.7nm,0.7s
KKAR epP **pP** **12 47 34.7 +4.3**
JSC Jenkinsville 68.07 62 *eP* **P** **12 46 36.3 -0.1**
JSC Jenkinsville 68.07 62 *eP* **P** **12 46 36.3 -0.1**
OBN Obninsk 68.67 339⇑ *eP* **P** **12 46 40.5 +0.8**
OBN *eP **pP** 12 47 44.3 +6.0
OBN pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 70.60 275 P **P** **12 46 52.7 +0.6**
comp=Z,2.0nm,0.7s,baz=26,slow=7.0,SNR=13
CMAR Chiang Mai Arr 70.60 275 P **P** **12 46 52.7 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 70.60 275 P **P** **12 46 52.7 +0.6**
AKASG Malin Array Be 74.34 342 P **P** **12 47 13.5 0.0**
comp=Z,4.9nm,0.6s,baz=19,slow=6.3,SNR=8.6
AKASG Malin Array Be 74.34 342 *ce*P **P** **12 47 13.8 +0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 74.34 342 P **P** **12 47 13.5 0.0**
KIEV Kiev 74.35 342 *eP* **P** **12 47 13.8 +0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 74.35 342 *eP* **P** **12 47 13.8 +0.2**
comp=Z,5.3nm,0.9s
CLL Collm 76.00 352 *eP* **P** **12 47 23.0 0.0**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 76.00 352 *eP* **P** **12 47 23.0 0.0**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 76.34 351 *e*(P) **P** **12 47 24.9 0.0**
comp=Z,2.1nm,0.8s
BRG Berggiesshubel 76.34 351 *eP* **P** **12 47 24.9 0.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 76.92 346 *eP* **P** **12 47 29.6 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 76.92 346 *eP* **P** **12 47 29.6 +1.4**
KIV Kislovodsk 77.30 330 *eP* **P** **12 47 31.9 +1.4**
KIV pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 77.39 346 *eP* **P** **12 47 31.6 +0.8**
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 77.39 346 *eP* **P** **12 47 31.6 +0.8**
BAIF Baives 77.72 358 *eP* **P** **12 47 33.4 +0.8**
comp=Z,16nm,0.9s
TRPA Tarpa 77.98 345⇑ *iP* **P** **12 47 35.3 +1.3**
BUR08 Bucovina Ar. S 78.02 343 *eP* **P** **12 47 35.4 +1.0**
BURAR Bucovina Array 78.04 343 ⇑P **P** **12 47 35.7 +1.2**
BURAR Bucovina Array 78.04 343⇑ *iP* **P** **12 47 35.7 +1.2**
KHC Kasperske Hory 78.11 351 *eP* **P** **12 47 36.0 +1.2**
KHC Kasperske Hory 78.11 351 *eP* **P** **12 47 36.0 +1.2**
VYHS Vyhne 78.16 348 *eP* **P** **12 47 35.6 +0.6**
VYHS pmax pmax
comp=Z,14nm,2.1s
VYHS Vyhne 78.16 348 *eP* **P** **12 47 35.6 +0.6**
CTA Charters Tower 78.30 213 P **P** **12 47 36.2 +0.1**
comp=Z,2.9nm,0.5s,baz=11,slow=7.7,SNR=5.2
CTA Charters Tower 78.30 213 P **P** **12 47 36.2 +0.1**
CTA pmax pmax
comp=Z,3.0nm,0.5s
CTA Charters Tower 78.30 213 P **P** **12 47 36.2 +0.1**
GERES GERESS Array B 78.38 351 P **P** **12 47 36.7 +0.4**
comp=Z,1.4nm,0.6s,baz=27,slow=5.5,SNR=13
GERES GERESS Array B 78.38 351 P **P** **12 47 36.7 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.38 351 P **P** **12 47 36.7 +0.4**
FLN La Foliniere 79.06 1 *eP* **P** **12 47 40.1 +0.2**
CONA Conrad Observa 79.07 350⇑ *iP* **P** **12 47 40.9 +0.8**
comp=Z,3.3nm,0.7s
CONA Conrad Observa 79.07 350⇑ *iP* **P** **12 47 40.9 +0.8**
comp=Z,3.3nm,0.7s
PAGF Fort de Pagny 79.18 357 *eP* **P** **12 47 41.6 +1.0**
comp=Z,3.9nm,0.6s
LDF La Druitiere 79.23 1 *eP* **P** **12 47 40.9 +0.1**
comp=Z,13nm,0.5s
CDF Champ du Feu 79.26 356 *eP* **P** **12 47 41.4 +0.3**
comp=Z,4.2nm,0.6s
DRGR 79.26 345⇑ *iP* **P** **12 47 42.1 +1.0**
DRGR 79.26 345⇑ *iP* **P** **12 47 42.1 +1.0**
GRR Gorron 79.43 1 *eP* **P** **12 47 42.2 +0.3**
SGMF Saint Gilles 79.53 2 *eP* **P** **12 47 44.0 +1.5**
comp=Z,16nm,0.5s
SFTF Sexfontaines 79.55 357 *eP* **P** **12 47 43.3 +0.7**
comp=Z,21nm,0.7s
HAU Haudompre 79.70 356 *eP* **P** **12 47 43.7 +0.2**
MLR Muntele Rosu 79.96 342 ⇓P **P** **12 47 47.4 +2.4**
MLR Muntele Rosu 79.96 342 ⇓*i*P **P** **12 47 47.3 +2.3**
VOIR 80.18 343 ⇑P **P** **12 47 47.0 +0.9**
VOIR 80.18 343⇑ *iP* **P** **12 47 47.0 +0.9**
SOKA Soboth 80.39 350⇑ *iP* **P** **12 47 48.0 +0.8**
comp=Z,12nm,1.3s
SOKA Soboth 80.39 350⇑ *iP* **P** **12 47 48.0 +0.8**
comp=Z,12nm,1.3s
TIRR Tirgusor 80.47 340 ⇑P **P** **12 47 48.8 +1.3**
TIRR Tirgusor 80.47 340⇑ *iP* **P** **12 47 48.8 +1.3**
LOR Lormes 80.52 358 *eP* **P** **12 47 48.3 +0.5**
comp=Z,13nm,0.9s
BZS Buzias 80.58 345 ⇑P **P** **12 47 49.0 +0.9**
BZS Buzias 80.58 345⇑ *iP* **P** **12 47 49.0 +0.9**
SSF Saint Saulge 80.74 358 *eP* **P** **12 47 49.4 +0.5**
comp=Z,6.7nm,0.7s
AVF Avril sur Loir 81.01 358 *eP* **P** **12 47 50.9 +0.6**
CABF La Chapelle 81.11 356 *eP* **P** **12 47 51.6 +0.6**
MFF Saint Martin d 81.22 1 *eP* **P** **12 47 52.1 +0.6**
BGF Bois d'Agland 81.25 359 *eP* **P** **12 47 52.2 +0.6**
RJF Les Rejaudoux 82.52 359 *eP* **P** **12 47 58.8 +0.5**
WRA Warramunga Arr 82.66 223 P **P** **12 47 59.5 +0.3**
comp=Z,4.1nm,0.6s,baz=32,slow=5.6,SNR=21
WRA Warramunga Arr 82.66 223 P **P** **12 47 59.5 +0.3**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 82.66 223 P **P** **12 47 59.5 +0.3**
ORIF Oris-en-Rattie 82.81 356 *eP* **P** **12 48 00.2 +0.3**
comp=Z,2.9nm,0.5s
CAF Calviac 82.89 359 *eP* **P** **12 48 01.1 +0.9**
VIVF Saint-Julien-l 82.91 357 *eP* **P** **12 48 01.0 +0.7**
VTS Vitosha 83.26 343 ⇑P **P** **12 48 03.0 +0.7**
VTS Vitosha 83.26 343⇑ *iP* **P** **12 48 03.0 +0.7**
LASF Ste Croix 83.71 358 *eP* **P** **12 48 05.2 +0.8**
comp=Z,34nm,1.3s
BRTR Keskin Array B 83.75 335 P **P** **12 48 05.7 +0.9**
comp=Z,2.9nm,0.7s,baz=24,slow=2.4,SNR=12
BRTR Keskin Array B 83.75 335 *ceP* **P** **12 48 05.5 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 83.75 335 P **P** **12 48 05.7 +0.9**
SMRF Simiane la Rot 83.76 356 *eP* **P** **12 48 05.2 +0.6**
comp=Z,33nm,1.2s
SBF Sospel 83.79 355 *eP* **P** **12 48 05.1 +0.3**
MTLF Montolieu 84.48 359 *eP* **P** **12 48 08.9 +0.7**
comp=Z,19nm,1.1s
SJPF Ste Jean 84.70 1 *eP* **P** **12 48 09.9 +0.6**
comp=Z,4.8nm,0.6s
EPF Esparros 84.80 0 *eP* **P** **12 48 09.8 -0.1**
comp=Z,6.7nm,0.8s
ETSF Etsaut 84.92 1 *eP* **P** **12 48 11.5 +1.0**
comp=Z,6.8nm,0.6s
FITZ Fitzroy Crossi 84.96 232 P **P** **12 48 11.7 +1.0**
comp=Z,2.5nm,0.5s,baz=14,slow=7.4,SNR=19
FITZ Fitzroy Crossi 84.96 232 P **P** **12 48 11.7 +1.0**
AS31 Alice Springs 86.15 222 *eP* **P** **12 48 17.8 +1.2**
ASAR Alice Springs 86.16 222 P **P** **12 48 17.7 +1.1**
comp=Z,6.4nm,0.8s,baz=23,slow=5.1,SNR=74
ASAR Alice Springs 86.16 222 P **P** **12 48 17.7 +1.1**
ASAR pmax pmax
comp=Z,6.0nm,0.8s
ASAR Alice Springs 86.16 222 P **P** **12 48 17.7 +1.1**
ESDC Sonseca Array 88.06 4 P **P** **12 48 25.4 -0.4**
comp=Z,0.6nm,0.4s,baz=347,slow=3.9,SNR=6.9
ESDC Sonseca Array 88.06 4 P **P** **12 48 25.4 -0.4**
STKA Stephens Creek 90.75 212 P **P** **12 48 38.6 +0.6**
comp=Z,1.3nm,0.6s,baz=353,slow=5.7,SNR=6.5
STKA Stephens Creek 90.75 212 P **P** **12 48 38.6 +0.6**
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 90.75 212 P **P** **12 48 38.6 +0.6**
TORD Torodi Ar. Bea 114.57 359 PKP PKPdf 12 54 12.9 -1.3
comp=Z,0.4nm,0.4s,baz=355,slow=2.2,SNR=8.8
TORD PKKPab **PKKPab** **13 04 59.6 -3.1**
comp=Z,0.7nm,0.6s,baz=188,slow=2.6,SNR=6.1
TORD Torodi Ar. Bea 114.57 359 PKP PKPdf 12 54 12.9 -1.3
TORD PKKPab **PKKPab** **13 04 59.6 -3.1**
DBIC Dimbokro 120.82 6 PKP **PKPdf** **12 54 25.2 -0.9**
comp=Z,2.8nm,0.4s,baz=344,slow=2.3,SNR=19
DBIC Dimbokro 120.82 6 PKIKP **PKPdf** **12 54 25.3 -0.9**
DBIC pmax pmax
comp=Z,3.0nm,0.4s
DBIC Dimbokro 120.82 6 PKP **PKPdf** **12 54 25.2 -0.9**
CPUP Villa Florida 129.75 82 PKP **PKPdf** **12 54 42.0 -0.8**
comp=Z,1.0nm,0.6s,baz=207,slow=2.3,SNR=4.2
CPUP SKPbc SKPab 12 57 36.6 -3.6
comp=Z,1.9nm,0.7s,baz=260,slow=4.4,SNR=6.0
CPUP Villa Florida 129.75 82 PKIKP **PKPdf** **12 54 42.0 -0.8**
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP pmax pmax
comp=N,2.0nm,0.7s
CPUP Villa Florida 129.75 82 PKP **PKPdf** **12 54 42.0 -0.8**
CPUP SKPbc SKPab 12 57 36.6 -3.6
PLCA Paso Flores 131.59 106 PKP **PKPdf** **12 54 46.2 +0.2**
comp=N,2.0nm,0.8s,baz=251,slow=3.6,SNR=3.3
PLCA SKPbc **SKPbc** **12 57 46.6 -0.3**
comp=N,2.1nm,0.6s,baz=316,slow=4.5,SNR=7.6
PLCA Paso Flores 131.59 106 PKIKP **PKPdf** **12 54 46.2 +0.2**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA pmax pmax
comp=N,2.0nm,0.6s
PLCA Paso Flores 131.59 106 PKP **PKPdf** **12 54 46.2 +0.2**
PLCA SKPbc **SKPbc** **12 57 46.6 -0.3**
BOSA Boshof 149.96 313 PKPbc **PKPbc** **12 55 24.1 -0.1**
comp=N,4.7nm,0.6s,baz=16,slow=1.6,SNR=11
BOSA Boshof 149.96 313 PKHKP **PKPbc** **12 55 24.2 -0.1**
BOSA pmax pmax
comp=Z,5.0nm,0.6s
BOSA Boshof 149.96 313 PKPbc **PKPbc** **12 55 24.1 -0.1**

*IDC **02** 12:49:03.6±0.7, 51°.06N×160°.70E, h0km, mb3.6/12, mb1 3.9/14, mb1mx3.7/29, mbtmp3.7/14, ML3.8/2, Error ellipse: s-maj=20.9km s-min=10.3km az=172.0*
*MOS **02** 12:49:05.5±0.8, 51°.04N×160°.92E, h35km, mb4.3/1, Error ellipse: s-maj=28.1km s-min=13.5km az=96.0*
*KRSC **02** 12:49:06.3±0.5, 51°.19N×160°.77E, h42km±41km, ML4.2*
*ISCJB **02** 12:49:06.8±1.2, 51°.10N±0°.07×160°.77E±0°.07, h33km±10km, mb3.6/12, Error ellipse: s-maj=11.6km s-min=7.4km az=17.1*
ISC 02 12:49:05.8±1.6**, 51°.09N**±0°.09×**160°.74E**±0°.06**, h15**km±9km**, n38,** σ1s.**13**/47**, mb3.7**/12**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.93**	**315**	PN	**Pn**	**12 49 37.1**	**-1.0**
RUS				S	**Sn**	**12 50 00.2**	**-1.9**
RUS	**Russkaya**	**1.93**	**315**	P	**Pn**	**12 49 37.1**	**-1.0**
RUS				*e*S	**Sn**	**12 50 00.2**	**-1.9**
SPN	**Mys Shipunski**	**2.06**	**348**	S	**Sn**	**12 50 02.7**	**-2.6**
GRL	**Gorelyy**	**2.21**	**313**	P	**Pn**	**12 49 41.9**	**-0.2**
GRL				S	**Sn**	**12 50 08.2**	**-1.0**
PET	**Petropavlovsk**	**2.33**	**327**	*e*PN	**Pn**	**12 49 44.1**	**+0.6**
PET				*e*S	**Sn**	**12 50 10.2**	**-1.6**
PET				smax	smax		
	comp=N,203nm,0.5s						
PET				smax	smax		
	comp=E,95nm,0.5s						
PET	**Petropavlovsk**	**2.33**	**327**	P	**Pn**	**12 49 43.7**	**+0.2**
PET				S	**Sn**	**12 50 10.3**	**-1.6**
SDLR	**Sedlovina**	**2.47**	**333**	P	**Pn**	**12 49 45.9**	**+0.2**
SDLR				*e*S	**Sn**	**12 50 14.1**	**-1.6**
AVH	**Avacha**	**2.50**	**331**	P	**Pn**	**12 49 47.4**	**+1.3**
AVH				*e*S	**Sn**	**12 50 17.2**	**+0.8**
KOK	**Koryaka**	**2.56**	**330**	P	**Pn**	**12 49 48.1**	**+1.3**
KOK				S	**Sn**	**12 50 17.7**	**0.0**
MIPR	**Malaya Ipel'ka**	**2.75**	**297**	P	**Pn**	**12 49 50.0**	**+0.7**
MIPR				S	**Sn**	**12 50 21.3**	**-1.0**
PETK	**Petropavlovsk-**	**2.76**	**318**	Pn	**Pn**	**12 49 50.2**	**+0.7**
	comp=E,4.7nm,0.3s,baz=121,slow=19,SNR=50						
PETK				Sn	**Sn**	**12 50 22.9**	**+0.4**
	comp=E,16nm,0.3s,baz=126,slow=20,SNR=15						
PETK	**Petropavlovsk-**	**2.76**	**318**	PN	**Pn**	**12 49 50.2**	**+0.7**
PETK						12 50 22.9	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,16nm,0.3s						
SKR	**Severo-Kuril's**	**2.95**	**264**	*e*PN	Pg	12 50 11.6	+9.2
TUMR	**Tumrok**	**4.22**	**355**	P	**Pn**	**12 50 09.8**	**+0.1**
KMNR	**Kamenistaya**	**4.69**	**357**	P	**Pn**	**12 50 18.6**	**+2.5**
ESO	**Esso**	**5.00**	**347**	PN	**Pn**	**12 50 21.6**	**+1.4**
ESO	**Esso**	**5.00**	**347**	P	**Pn**	**12 50 21.6**	**+1.4**
BKI	**Bering**	**5.19**	**35**	PN	**Pn**	**12 50 22.1**	**-0.7**
BKI	**Bering**	**5.19**	**35**	P	**Pn**	**12 50 22.1**	**-0.7**
SRDR	**Sredinnyy**	**5.27**	**354**	P	**Pn**	**12 50 25.1**	**+1.0**
KBTR	**Krutoberegovo**	**5.28**	**13**	PN	**Pn**	**12 50 23.9**	**-0.2**
KBTR	**Krutoberegovo**	**5.28**	**13**	P	**Pn**	**12 50 23.9**	**-0.2**
FX1	**Attu Island--F**	**7.88**	**72**	Pn	**Pn**	**12 50 58.5**	**-1.3**
	comp=N,9.0nm,0.3s,baz=264,slow=23,SNR=14						
FX1				Sn	Sn	12 52 22.2	-6.5
	comp=N,3.4nm,0.3s,baz=108,slow=20,SNR=4.9						
FX1	**Attu Island--F**	**7.88**	**72**	PN	**Pn**	**12 50 58.6**	**-1.3**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
BILL	**Bilibino**	**17.22**	**7**	*e*P	**pP**	**12 53 10.9**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**29.98**	**43**	P	**P**	**12 55 13.1**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=248,slow=7.4,SNR=6.2						
ILAR	**Eielson Array**	**29.98**	**43**	P	**P**	**12 55 13.1**	**-0.3**
SONM	**Songino Array**	**34.80**	**286**	P	**P**	**12 55 55.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=48,slow=8.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**44.22**	**305**	P	**P**	**12 57 13.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=45,slow=6.7,SNR=2.8						
YKA	**Yellowknife Ar**	**44.39**	**41**	P	**P**	**12 57 15.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=284,slow=8.3,SNR=2.9						
KURK	**Kurchatov**	**49.15**	**304**	P	**P**	**12 57 53.2**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=60,slow=7.5,SNR=8.7						
MKAR	**Makanchi Array**	**49.41**	**298**	P	**P**	**12 57 54.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=63,slow=7.7,SNR=7.2						
BVAR	**Borovoye Array**	**51.96**	**310**	P	**P**	**12 58 13.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=50,slow=7.9,SNR=6.1						
NVAR	**Mina Array Bea**	**56.07**	**69**	P	**P**	**12 58 46.4**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=309,slow=5.7,SNR=3.5						
PDAR	**Pinedale Array**	**58.17**	**60**	P	**P**	**12 59 00.5**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=319,slow=2.6,SNR=3.5						
TXAR	**Lajitas Array**	**71.06**	**67**	P	**P**	**13 00 24.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=316,slow=5.0,SNR=5.2						
WRA	**Warramunga Arr**	**74.44**	**206**	P	**P**	**13 00 42.1**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=20,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**78.10**	**205**	P	**P**	**13 01 04.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=15,slow=5.2,SNR=14						

*ISCJB **02** 12:51:13.6±0.7, 33°.01S±0°.07×139°.11E±0°.06, h10km, Error ellipse: s-maj=10.4km s-min=5.9km az=20.9*
*IDC **02** 12:51:23.1±5.9, 32°.10S×139°.15E, h0km, mb1 3.0/3, mb1mx3.0/12, mbtmp2.8/3, ML3.0/3, Error ellipse: s-maj=85.3km s-min=18.6km az=18.0*
ISC 02 12:51:14.0±0.9**, 32°.88S**±0°.07×**139°.09E**±0°.05**, h10**km**, n8,** σ2s.**37**/13**, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.34**	**65**	Pn	**Pg**	**12 51 58.9**	**-0.1**
	3.1nm,0.3s,baz=242,slow=14,SNR=63						
STKA				Lg	Lg	12 52 29.9	
	9.6nm,0.3s,baz=292,slow=19,SNR=4.9						
STKA	**Stephens Creek**	**2.34**	**65**	*e*P	**Pg**	**12 51 58.1**	**-0.8**
STKA				*e*S	**Sg**	**12 52 29.8**	**+0.5**
BBOO	**Buckleboo**	**2.55**	**271**	*e*P	**Pn**	**12 51 55.5**	**0.0**
BBOO				*e*S	**Sn**	**12 52 28.5**	**+1.8**
ARPS	**Mount Arapiles**	**4.49**	**151**	*e*P	**Pn**	**12 52 22.6**	**+0.4**
ARPS				*e*S	**Sn**	**12 53 11.2**	**-3.3**
	9.5nm,0.2s						
CMSA	**Cobar Meteorol**	**5.75**	**78**	*e*P	Pn	12 52 43.0	+3.5
CMSA				*e*S	**Sn**	**12 53 47.6**	**+2.1**
TOO	**Toolangi**	**7.02**	**134**	*e*P	**Pn**	**12 52 58.1**	**+1.1**
TOO				*e*S	**Sn**	**12 54 17.0**	**+0.1**
ASAR	**Alice Springs**	**10.25**	**332**	Pn	**Pn**	**12 53 44.4**	**+3.1**
	0.1nm,0.3s,baz=176,slow=8.7,SNR=13						
ASAR				Sn	**Sn**	**12 55 31.4**	**-5.0**
	0.1nm,0.3s,baz=152,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**13.56**	**341**	Pn	**Pn**	**12 54 25.6**	**-1.1**
	0.1nm,0.3s,baz=159,slow=13,SNR=3.2						

*IDC **02** 12:51:51.0±1.1, 31°.79N×104°.62E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, Error ellipse: s-maj=179.1km s-min=19.0km az=56.0*
*ISCJB **02** 12:51:51.1±0.7, 31°.50N±0°.07×104°.22E±0°.09, h14km, mb3.4/5, Error ellipse: s-maj=13.9km s-min=6.0km az=40.2*
ISC 02 12:51:52.3±0.8**, 31°.58N**±0°.06×**104°.16E**±0°.07**, h14**km**, n9,** σ1s.**76**/13**, mb3.4**/5**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.76**	**207**	Pg	**Pg**	**12 52 05.0**	**-2.0**
CD2				Sg	**Sg**	**12 52 15.1**	**-1.9**
CD2				smax	smax		
	comp=N,2μm,0.9s						
CD2				SMZ			
	comp=N,2μm,0.6s						
LZH	**Lanzhou**	**4.50**	**357**	*e*Pg	Pg	12 53 27.1	+8.6
LZH				Sg	**Sg**	**12 54 14.3**	**-2.5**
LZH				smax	smax		
	comp=N,21nm,0.5s						
LZH				smax	smax		
	comp=E,53nm,0.8s						
XAN	**Xi'an**	**4.70**	**57**	Pn	**Pn**	**12 53 04.1**	**+1.3**
XAN				Pg	**Pg**	**12 53 20.5**	**-1.7**
XAN				Sn	**Sn**	**12 53 57.7**	**+0.6**
XAN				Sg	**Sg**	**12 54 20.9**	**-2.2**
XAN				smax	smax		
	comp=N,74nm,0.9s						
XAN				smax	smax		
	comp=E,40nm,0.9s						
CMAR	**Chiang Mai Arr**	**13.90**	**201**	Pn	**P**	**12 55 17.9**	**+0.8**
	comp=E,0.1nm,0.3s,baz=6.1,slow=9.6,SNR=5.0						
MKAR	**Makanchi Array**	**22.65**	**318**	P	**P**	**12 56 54.0**	**+1.0**
	comp=E,0.8nm,0.6s,baz=120,slow=13,SNR=7.7						
ZALV	**Zalesovo Beam**	**26.31**	**334**	P	**P**	**12 57 28.5**	**+1.1**
	comp=E,1.2nm,0.8s,baz=140,slow=7.4,SNR=7.0						
KURK	**Kurchatov**	**26.89**	**323**	P	**P**	**12 57 34.3**	**+1.7**
	comp=E,0.9nm,1.0s,baz=129,slow=9.4,SNR=6.3						
WRA	**Warramunga Arr**	**58.84**	**146**	P	**P**	**13 01 50.7**	**+0.1**
	comp=E,0.3nm,0.8s,baz=339,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**61.88**	**149**	P	**P**	**13 02 12.6**	**+1.3**
	comp=E,0.2nm,0.6s,baz=339,slow=7.0,SNR=3.4						

*IDC **02** 13:23:39.9±0.8, 32°.27N×105°.17E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/27, mbtmp3.6/11, ML3.5/1, Error ellipse: s-maj=39.5km s-min=16.0km az=63.0*
*ISCJB **02** 13:23:40.5±0.5, 32°.12N±0°.04×105°.05E±0°.08, h14km, mb3.7/9, Error ellipse: s-maj=9.7km s-min=5.6km az=24.0*
*BJI **02** 13:23:41.6, 32°.20N×105°.18E, h10km, ML3.4/16, Ms3.5/3, Ms7 3.2/4*
ISC 02 13:23:42.1±0.6**, 32°.14N**±0°.05×**105°.23E**±0°.06**, h14**km**, n15,** σ1s.**49**/22**, mb3.8**/9**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.76**	**226**	Pg	**Pn**	**13 24 12.1**	**-0.1**
CD2				Sg	**Sb**	**13 24 35.9**	**-0.2**
CD2				smax	smax		
	comp=N,1μm,0.7s						
CD2				smax	smax		
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**3.63**	**58**	Pn	**Pn**	**13 24 40.1**	**+2.1**
XAN				Sn	**Sn**	**13 25 17.2**	**-3.5**
XAN				Sg	**Sg**	**13 25 36.6**	**-2.1**
XAN				smax	smax		
	comp=N,140nm,0.5s						
XAN				smax	smax		
	comp=E,84nm,0.7s						
LZH	**Lanzhou**	**4.10**	**344**	*e*Pn	**Pn**	**13 24 45.3**	**+0.8**
LZH				Pg	**Pb**	**13 24 54.3**	**+0.2**
LZH				Sn	**Sn**	**13 25 33.3**	**+1.0**
LZH				Sg	**Sb**	**13 25 43.9**	**+0.3**
LZH				smax	smax		
	comp=N,130nm,0.9s						
LZH				smax	smax		
	comp=E,260nm,0.8s						
LZH				LR	LR		
	comp=N,490nm,7.2s						
LZH				LR	LR		
	comp=E,270nm,7.7s						
LZH				LR	LR		
	comp=Z,240nm,8.2s						
CMAR	**Chiang Mai Arr**	**14.76**	**204**	Pn	**Pn**	**13 27 10.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=15,slow=13,SNR=3.6						
SONM	**Songino Array**	**15.70**	**3**	Pn	**Pn**	**13 27 22.8**	**-0.1**
	baz=185,slow=14,SNR=2.7						
KSRS	**Korea Array**	**19.36**	**68**	P	**Pn**	**13 28 11.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=255,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**22.86**	**316**	P	**P**	**13 28 43.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=119,slow=10,SNR=8.0						
ZALV	**Zalesovo Beam**	**26.23**	**332**	P	**P**	**13 29 14.5**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=142,slow=7.3,SNR=5.9						
KURK	**Kurchatov**	**27.01**	**321**	P	**P**	**13 29 22.3**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=132,slow=7.9,SNR=10						
KURK				PcP	**PcP**	**13 32 43.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=114,slow=2.1,SNR=8.6						
WRA	**Warramunga Arr**	**58.82**	**148**	P	**P**	**13 33 41.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=340,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**61.90**	**150**	P	**P**	**13 34 02.5**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=329,slow=6.4,SNR=24						
NOA	**NORSAR Array B**	**64.30**	**327**	P	**P**	**13 34 16.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=72,slow=6.7,SNR=2.8						
ILAR	**Eielson Array**	**68.48**	**26**	P	**P**	**13 34 42.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=284,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**72.37**	**148**	P	**P**	**13 35 08.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=310,slow=8.9,SNR=3.6						
YKA	**Yellowknife Ar**	**80.42**	**18**	P	**P**	**13 35 52.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=327,slow=4.9,SNR=6.6						

MEX 02 13:30:20.5±1.0**, 18°.87N**×**98°.84W, h5**km**, MD3.7, Central Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAIG	**Yautepec**	**0.21**	**268**	*i* P	Pg	13 30 23.9	-1.0
YAIG				*i* S	Sg	13 30 28.1	+0.2
PPM	**Popocatepetl**	**0.28**	**46**	*i* P	Pg	13 30 25.3	-1.4
PPM				*i* S	Sg	13 30 30.3	-0.6
MZVM		**0.49**	**311**	*i* P	Pg	13 30 30.1	+0.3
MZVM				*i* S	Sg	13 30 35.6	-0.6
UNM	**Universidad Na**	**0.56**	**325**	*e*S	Sg	13 30 37.8	-1.3
PBIG	**Penon de los B**	**0.61**	**338**	*i* P	Pg	13 29 55.5	-37
PBIG				*e*S	Sg	13 30 34.9	-5.4
SZVM	**Salazar**	**0.68**	**312**	*i* P	Pg	13 30 32.0	-2.1
SZVM				*e*S	Sg	13 30 41.9	-1.5
IIO	**Organos**	**0.73**	**9**	*i* P	Pg	13 30 33.9	-1.1
IIO				*i* S	Sg	13 30 43.1	-1.6
PTVM	**Pico Tres Padr**	**0.76**	**340**	*i* P	Pg	13 30 35.3	-0.3
PTVM				*i* S	Sg	13 30 45.0	-0.7
UTMO	**Huajuapan**	**1.43**	**136**	*i* P	Pn	13 30 45.1	-2.3
UTMO				*i* S	Sb	13 31 01.6	-5.0
UTMO				*e*S	Sn	13 31 03.3	-3.5
DEIG	**Demacu**	**1.44**	**353**	*i* P	Pn	13 30 43.3	-4.3
DEIG				*i* S	Sb	13 31 02.5	-4.4
TPIG	**Tehuac#an**	**1.47**	**107**	*i* P	Pn	13 30 44.8	-3.2
TPIG				*e*S	Sn	13 31 04.1	-3.7

*DDA **02** 13:46:54.7, 37°.65N×36°.11E, h7km, MD2.8*
*CSEM **02** 13:46:55.6±0.3, 37°.70N×36°.04E, h8km, MD2.8, Error ellipse: s-maj=7.9km s-min=6.1km az=148.0*
*ISK **02** 13:46:55.0, 37°.68N×36°.11E, h8km, ML1.9*
*ISCJB **02** 13:46:55.5±0.7, 37°.64N±0°.05×36°.12E±0°.04, h8km±7km, Error ellipse: s-maj=7.8km s-min=4.6km az=166.2*
ISC 02 13:46:55.6±0.9**, 37°.65N**±0°.04×**36°.11E**±0°.04**, h15**km±9km**, n20,** σ0s.**74**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.28**	**234**	*e*PG	**Pg**	**13 47 01.6**	**0.0**
KOZT				*e*SG	**Sg**	**13 47 06.1**	**+0.4**
KOZT	**Kozan**	**0.28**	**234**	*e*Pg	**Pg**	**13 47 01.6**	**0.0**
KOZT				*e*Sg	**Sg**	**13 47 06.1**	**+0.4**
KMRS	**Kahramanmaras**	**0.64**	**102**	*e*PG	**Pg**	**13 47 07.9**	**-0.4**
KMRS				*e*SG	**Sb**	**13 47 18.0**	**+0.7**
KMRS	**Kahramanmaras**	**0.64**	**102**	*e*Pg	**Pg**	**13 47 07.9**	**-0.4**
KMRS				*e*Sg	**Sb**	**13 47 18.0**	**+0.7**
CEYT	**Ceyhan**	**0.70**	**205**	*e*PG	**Pg**	**13 47 09.2**	**-0.1**
CEYT	**Ceyhan**	**0.70**	**205**	*e*Pg	**Pg**	**13 47 09.2**	**-0.1**
GAZ	**Gaziantep**	**0.99**	**118**	*e*PG	**Pg**	**13 47 14.9**	**0.0**
GAZ	**Gaziantep**	**0.99**	**118**	*e*Pg	**Pg**	**13 47 14.9**	**0.0**
PINB	**Pinarbasi**	**1.05**	**12**	*i* P	**Pg**	**13 47 15.7**	**-0.4**
PINB				*i* S	**Sg**	**13 47 30.0**	**0.0**
PINB	**Pinarbasi**	**1.05**	**12**	*i* P	**Pg**	**13 47 15.7**	**-0.4**
PINB				*i* S	**Sg**	**13 47 30.0**	**0.0**
GULE	**Gulek**	**1.12**	**252**	*i* P	**Pb**	**13 47 15.5**	**-1.3**
GULE				*i* S	**Sn**	**13 47 32.3**	**+0.1**
GULE	**Gulek**	**1.12**	**252**	*i* P	**Pb**	**13 47 15.5**	**-1.3**
GULE				*i* S	**Sn**	**13 47 32.3**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.13**	**24**	*e*PG	Pb	13 47 10.3	-6.7
GZT	**Gaziantep**	**1.19**	**104**	*i* P	**Pn**	**13 47 17.8**	**0.0**
GZT				*i* S	**Sb**	**13 47 31.2**	**-2.1**
BNN	**Bunyan**	**1.22**	**350**	*e*PN	**Pb**	**13 47 18.1**	**-0.4**
BNN	**Bunyan**	**1.22**	**350**	*e*Pn	**Pb**	**13 47 18.2**	**-0.4**
AKCD	**Akcadag**	**1.57**	**65**	*i* P	**Pg**	**13 47 25.4**	**-0.5**
AKCD				*i* S	**Sb**	**13 47 45.1**	**+0.9**
AKCD	**Akcadag**	**1.57**	**65**	*i* P	**Pg**	**13 47 25.4**	**-0.5**
AKCD				*i* S	**Sb**	**13 47 45.1**	**+0.9**
MALT	**Malatya**	**1.95**	**69**	*e*PN	**Pn**	**13 47 29.3**	**+1.1**
MALT	**Malatya**	**1.95**	**69**	*e*Pn	**Pn**	**13 47 29.3**	**+1.1**

*NEIC **02** 13:56:35.8, 45°.41S×167°.02E, h56km, ML4.0(WEL), After WEL.*
WEL 02 13:56:35.9±0.1**, 45°.41S**×**167°.03E, h55**km±1km**, ML4.0**/16**, 2C-1D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.11**	**127**	⇓PN	Pn	13 56 44.3	-0.1
DCZ				SN	Sn	13 56 49.8	-0.6
DCZ	**Deep Cove**	**0.11**	**127**	Pn	Pn	13 56 43.9	-0.5
DCZ				Sn	Sn	13 56 49.8	-0.6
PYZ	**Puysegur Point**	**0.80**	**198**	PN	Pn	13 56 50.9	-0.2
PYZ				SN	Sn	13 57 02.4	+0.1
PYZ	**Puysegur Point**	**0.80**	**198**	Pn	Pn	13 56 50.9	-0.2
WHZ	**Wether Hill Ro**	**0.81**	**127**	PN	Pn	13 56 51.0	-0.2
WHZ				SN	Sn	13 57 02.4	-0.2
WHZ	**Wether Hill Ro**	**0.81**	**127**	Pn	Pn	13 56 51.0	-0.2
MLZ	**Mavora Lakes**	**0.81**	**86**	PN	Pn	13 56 50.5	-0.9
MLZ				SN	Sn	13 57 01.8	-0.8
MLZ	**Mavora Lakes**	**0.81**	**86**	Pn	Pn	13 56 50.5	-0.9
MLZ				Sn	Sn	13 57 01.9	-0.8
MSZ	**Milford Sound**	**0.97**	**41**	PN	Pn	13 56 53.2	-0.3
MSZ				SN	Sn	13 57 07.0	+0.6
MSZ	**Milford Sound**	**0.97**	**41**	Pn	Pn	13 56 53.2	-0.2
WKZ	**Wanaka**	**1.52**	**68**	PN	Pn	13 57 00.8	-0.1
WKZ	**Wanaka**	**1.52**	**68**	Pn	Pn	13 57 00.8	-0.1
APZ	**The Paps**	**1.57**	**155**	PN	Pn	13 57 01.0	-0.5
APZ	**The Paps**	**1.57**	**155**	Pn	Pn	13 57 01.1	-0.5
EAZ	**Earnscleugh**	**1.62**	**85**	PN	Pn	13 57 01.7	-0.4
EAZ	**Earnscleugh**	**1.62**	**85**	Pn	Pn	13 57 01.7	-0.4
JCZ	**Jackson Bay**	**1.82**	**43**	PN	Pn	13 57 04.6	-0.4
JCZ	**Jackson Bay**	**1.82**	**43**	Pn	Pn	13 57 04.6	-0.4
SYZ	**Scrubby Hill**	**1.86**	**128**	PN	Pn	13 57 04.8	-0.5
SYZ	**Scrubby Hill**	**1.86**	**128**	Pn	Pn	13 57 04.8	-0.5
TUZ	**Tuapeka**	**1.91**	**108**	PN	Pn	13 57 05.2	-0.7
TUZ	**Tuapeka**	**1.91**	**108**	Pn	Pn	13 57 05.2	-0.7
LBZ	**Lake Benmore**	**2.47**	**67**	PN	Pn	13 57 12.3	-1.4
LBZ	**Lake Benmore**	**2.47**	**67**	Pn	Pn	13 57 12.3	-1.4
ODZ	**Otahua Downs**	**2.58**	**83**	⇑PN	Pn	13 57 13.9	-1.3
ODZ	**Otahua Downs**	**2.58**	**83**	⇑Pn	Pn	13 57 13.9	-1.3
FOZ	**Fox Glacier**	**2.65**	**47**	PN	Pn	13 57 16.0	-0.2
FOZ	**Fox Glacier**	**2.65**	**47**	Pn	Pn	13 57 16.0	-0.2
RPZ	**Rata Peaks**	**3.34**	**61**	PN	Pn	13 57 23.4	-2.2
RPZ	**Rata Peaks**	**3.34**	**61**	Pn	Pn	13 57 23.4	-2.2
WVZ	**Waitaha Valley**	**3.54**	**50**	PN	Pn	13 57 26.2	-2.2
WVZ	**Waitaha Valley**	**3.54**	**50**	Pn	Pn	13 57 26.2	-2.2
MQZ	**McQueen's Vall**	**4.37**	**69**	PN	Pn	13 57 36.9	-2.7
MQZ				SN	Sn	13 58 22.8	-6.4
MQZ	**McQueen's Vall**	**4.37**	**69**	Pn	Pn	13 57 36.9	-2.7
MQZ				Sn	Sn	13 58 22.8	-6.4
CRLZ	**Canterbury Las**	**4.40**	**67**	PN	Pn	13 57 37.4	-2.8
CRLZ	**Canterbury Las**	**4.40**	**67**	Pn	Pn	13 57 37.4	-2.8
LTZ	**Lake Taylor**	**4.60**	**57**	PN	Pn	13 57 39.7	-3.3
LTZ	**Lake Taylor**	**4.60**	**57**	Pn	Pn	13 57 39.7	-3.3
DSZ	**Denniston Nort**	**5.04**	**45**	PN	Pn	13 57 47.5	-1.5
DSZ	**Denniston Nort**	**5.04**	**45**	Pn	Pn	13 57 47.5	-1.5
THZ	**Tophouse**	**5.61**	**52**	PN	Pn	13 57 53.2	-3.6
THZ	**Tophouse**	**5.61**	**52**	Pn	Pn	13 57 53.2	-3.6
QRZ	**Quartz Range**	**6.10**	**43**	PN	Pn	13 58 02.0	-1.4
QRZ	**Quartz Range**	**6.10**	**43**	Pn	Pn	13 58 01.9	-1.5

*SZGRF **02** 14:16:55.8, 57°.27N×153°.89W, h67km, mb5.4, Kodiak Island, Alaska, United States, region*
*MOS **02** 14:17:05.2±0.9, 58°.42N×152°.44W, h10km, mb5.5/97, MS4.0/7, Error ellipse: s-maj=7.9km s-min=3.4km az=89.9*
*ISCJB **02** 14:17:12.6±0.2, 58°.56N±0°.01×152°.17W±0°.02, h62km±1km, mb5.2/333, Error ellipse: s-maj=2.7km s-min=1.6km az=34.1*
*IDC **02** 14:17:13.1±0.3, 58°.41N×152°.23W, h59km±3km, mb4.9/28, mb1 5.0/31, mb1mx5.0/32, mbtmp4.9/31, MS4.0/24, Ms1 4.1/24, ms1mx3.9/40, Error ellipse: s-maj=8.2km s-min=5.8km az=103.0*
*NEIC **02** 14:17:13.5, 58°.38N×151°.93W, h66km, mb5.2/178, ML5.4(PMR), ML5.1(AEIC), MW5.1(USGS), After AEIC.*
NEIC Felt [III] at Kodiak and [II] at Homer and Port Lions. Also felt at Anchor Point and Kenai.
*BGS **02** 14:17:13.4±1.8, 58°.44N×152°.60W, h67km, mb4.9*
*BJI **02** 14:17:15.3, 59°.30N×153°.09W, h53km, mB5.2/30, mb5.2/49, Ms5.0/31, Ms7 4.6/32*
ISC 02 14:17:13.0±0.2**, 58°.45N**±0°.03×**152°.08W**±0°.02**, h58**km±1km**, h58**km**:pP-P, n1320,** σ1s.**50**/1875**, mb5.2**/333**, MS4.1**/40**, 441C-483D, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.72**	**202**	P	**Pn**	**14 17 27.9**	**+0.6**
	24μm,0.3s,baz=39,slow=11						
KDAK				S	**Sn**	**14 17 38.2**	**+0.3**
	19μm,0.3s,baz=274,slow=19,SNR=72						
KDAK	**Kodiak Island**	**0.72**	**202**	P	**Pn**	**14 17 27.9**	**+0.6**
KDAK				S	**Sn**	**14 17 38.5**	**+0.6**
KDAK	**Kodiak Island**	**0.72**	**202**	P	**Pn**	**14 17 27.9**	**+0.6**
KDAK				S	**Sn**	**14 17 38.5**	**+0.6**
KDAK	**Kodiak Island**	**0.72**	**202**	Pn	**Pn**	**14 17 27.0**	**-0.3**
	1338μm,0.4s						
FOPK	**Fourpeaked Vol**	**0.79**	**293**	P	**Pn**	**14 17 29.5**	**+1.2**
AUI	**Augustine Isla**	**1.13**	**322**	P	**Pn**	**14 17 34.6**	**+2.0**
AUE	**Augustine Isla**	**1.13**	**324**	P	**Pn**	**14 17 34.8**	**+2.2**
AUL	**Augustine Lava**	**1.17**	**324**	P	**Pn**	**14 17 35.1**	**+2.0**
AUL				S	**Sn**	**14 17 51.7**	**+3.5**
AUW	**Augustine West**	**1.17**	**322**	P	**Pn**	**14 17 35.0**	**+1.9**
AUNW	**Augustine NWes**	**1.18**	**323**	P	**Pn**	**14 17 35.3**	**+2.0**
KAPH	**Katmai Pasha**	**1.20**	**278**	P	**Pn**	**14 17 35.0**	**+1.4**
OPT	**Oil Point**	**1.34**	**334**	P	**Pn**	**14 17 37.3**	**+1.8**
OHAK	**Old Harbor**	**1.39**	**208**	P	**Pn**	**14 17 35.4**	**-0.7**
OHAK				S	**Sn**	**14 17 52.0**	**-1.4**
KAKN	**Katmai Knife C**	**1.58**	**266**	P	**Pn**	**14 17 39.5**	**+0.8**
KAKN				S	**Sn**	**14 17 59.9**	**+1.7**
KCE	**Katmai Mt Cerb**	**1.65**	**264**	P	**Pn**	**14 17 40.9**	**+1.3**
INE	**Iliamna NE**	**1.69**	**343**	P	**Pn**	**14 17 41.5**	**+1.2**
KABU	**Katmai Buttres**	**1.70**	**265**	P	**Pn**	**14 17 41.4**	**+1.1**
ILW	**Iliamna West**	**1.70**	**342**	P	**Pn**	**14 17 41.7**	**+1.2**
KELA	**Mount Kelaz**	**1.93**	**271**	P	**Pn**	**14 17 44.1**	**+0.7**
RED	**Redoubt Volcan**	**2.00**	**350**	P	**Pn**	**14 17 45.7**	**+1.2**
RSO	**Redoubt South**	**2.05**	**351**	P	**Pn**	**14 17 46.4**	**+1.3**
RDN	**Redoubt North**	**2.10**	**351**	P	**Pn**	**14 17 46.9**	**+1.1**
SEW	**Seward**	**2.14**	**38**	P	**Pn**	**14 17 46.5**	**+0.3**
SEW				S	**Sn**	**14 18 09.5**	**-2.0**
SLKM	**Skilak Lake**	**2.27**	**24**	P	**Pn**	**14 17 48.6**	**+0.5**
SLKM	**Skilak Lake**	**2.27**	**24**	P	**Pn**	**14 17 48.6**	**+0.5**
PLWL	**Peulik Whale M**	**2.29**	**262**	P	**Pn**	**14 17 48.9**	**+0.6**
PLK1	**Peulik 1**	**2.49**	**257**	P	**Pn**	**14 17 51.7**	**+0.7**
BKG	**Blockade Glaci**	**2.63**	**358**	P	**Pn**	**14 17 53.8**	**+0.8**
CKL	**Chakachamna La**	**2.76**	**357**	P	**Pn**	**14 17 55.8**	**+1.0**
FIB	**Fire Island**	**2.89**	**19**	P	**Pn**	**14 17 57.7**	**+1.3**
FIB	**Fire Island**	**2.89**	**19**	P	**Pn**	**14 17 57.7**	**+1.3**
RC01	**Rabbit Creek A**	**2.90**	**23**	P	**Pn**	**14 17 57.0**	**+0.4**
SPNW	**Spurr Northwes**	**2.92**	**355**	P	**Pn**	**14 17 58.3**	**+1.4**
STLK	**Strandline Lak**	**3.06**	**2**	P	**Pn**	**14 17 59.9**	**+1.1**
SUA	**Susitna One**	**3.10**	**12**	P	**Pn**	**14 18 00.0**	**+0.6**
MID	**Middleton Isla**	**3.13**	**69**	P	**Pn**	**14 17 59.8**	**+0.1**
MID				S	**Sn**	**14 18 33.7**	**-2.1**
MID	**Middleton Isla**	**3.13**	**69**	P	**Pn**	**14 17 59.8**	**+0.1**
MID				S	**Sn**	**14 18 33.7**	**-2.1**
SVW2	**Sparrevohn**	**3.19**	**328**	*e*P	**Pn**	**14 18 01.5**	**+0.9**
PMR	**Palmer**	**3.48**	**24**	P	**Pn**	**14 18 04.7**	**+0.2**
PMR	**Palmer**	**3.48**	**24**	P	**Pn**	**14 18 04.7**	**+0.2**
SKT	**Skwentna**	**3.55**	**4**	P	**Pn**	**14 18 06.1**	**+0.6**
ANNE	**Aniakchak Nort**	**3.56**	**247**	P	**Pn**	**14 18 05.8**	**+0.1**
ANNW	**Aniakchak Nort**	**3.61**	**248**	P	**Pn**	**14 18 07.4**	**+1.0**
FID	**Port Fidalgo**	**3.66**	**49**	P	**Pn**	**14 18 06.7**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.85**	**54**	P	**Pn**	**14 18 09.8**	**+0.2**
SML	**Sawmill**	**3.85**	**27**	P	**Pn**	**14 18 10.0**	**+0.3**
SML	**Sawmill**	**3.85**	**27**	P	**Pn**	**14 18 10.0**	**+0.3**
VLZ	**Valdez**	**3.96**	**45**	P	**Pn**	**14 18 11.6**	**+0.5**
CHGN	**Chignik**	**4.05**	**241**	*e*P	**Pn**	**14 18 11.6**	**-0.7**
SCM	**Sheep Creek Mo**	**4.14**	**33**	P	**Pn**	**14 18 14.4**	**+0.8**
SCM	**Sheep Creek Mo**	**4.14**	**33**	P	**Pn**	**14 18 14.4**	**+0.8**
DIV	**Divide**	**4.17**	**47**	P	**Pn**	**14 18 14.5**	**+0.5**
KAIM	**Kayak Island**	**4.21**	**66**	P	**Pn**	**14 18 15.3**	**+0.8**
GOAT	**Goat Mountain**	**4.31**	**57**	P	**Pn**	**14 18 16.7**	**+0.8**
KLU	**Klutina**	**4.34**	**43**	P	**Pn**	**14 18 17.1**	**+0.7**
VNHG	**Veniaminof 1**	**4.44**	**243**	P	**Pn**	**14 18 19.6**	**+1.8**
PPLA	**Purkeypile**	**4.46**	**359**	P	**Pn**	**14 18 18.6**	**+0.5**
VNSG	**Veniaminof 6**	**4.46**	**241**	P	**Pn**	**14 18 19.1**	**+1.1**
NICHA	**Nichawak Mount**	**4.52**	**63**	P	**Pn**	**14 18 19.3**	**+0.5**
BMRM	**Bremner River**	**4.55**	**53**	P	**Pn**	**14 18 19.5**	**+0.3**
VNFG	**Veniaminof 2**	**4.59**	**245**	P	**Pn**	**14 18 19.3**	**-0.5**
BERG	**Berg Lake**	**4.70**	**62**	P	**Pn**	**14 18 21.5**	**+0.3**
GRIN	**Grindle Hills**	**4.84**	**64**	P	**Pn**	**14 18 23.5**	**+0.3**
TT01	**Tatalina**	**4.87**	**338**	P	**Pn**	**14 18 24.1**	**+0.5**
TTA	**Tatalina**	**4.89**	**338**	*e*P	**Pn**	**14 18 24.2**	**+0.3**
TTA	**Tatalina**	**4.89**	**338**	*e*P	**Pn**	**14 18 24.2**	**+0.3**
KHIT	**Khitrov Hills**	**4.93**	**62**	P	**Pn**	**14 18 24.7**	**+0.3**
TRF	**Thorofare Moun**	**5.09**	**9**	P	**Pn**	**14 18 27.3**	**+0.5**
KULT	**Kultieth River**	**5.12**	**65**	P	**Pn**	**14 18 27.1**	**+0.1**
DHY	**Denali Highway**	**5.18**	**24**	P	**Pn**	**14 18 28.4**	**+0.5**

RND Reindeer 5.21 16 P Pn 14 18 28.5 +0.2
RND Reindeer 5.21 16 P Pn 14 18 28.5 +0.2
BARK Barkley Ridge 5.27 64 P Pn 14 18 29.7 +0.5
ISLE Juniper Island 5.41 62 P Pn 14 18 31.5 +0.5
BAGL Bagley Icefiel 5.49 64 P Pn 14 18 32.7 +0.7
MCK McKinley 5.51 15 P Pn 14 18 32.6 +0.2
MCK McKinley 5.51 15 P Pn 14 18 32.6 +0.2
SDPT Sand Point 5.55 240 P Pn 14 18 32.8 -0.1
BALM Baldy 5.56 58 P Pn 14 18 33.6 +0.5
BALM Baldy 5.56 58 P Pn 14 18 33.6 +0.5
PAX Paxson 5.57 33 P Pn 14 18 33.7 +0.4
PAX Paxson 5.57 33 P Pn 14 18 33.6 +0.4
MENT Mentasta 6.09 39 eP Pn 14 18 40.7 +0.5
DOT Dot Lake 6.50 33 ePn Pn 14 18 46.7 +0.8
YKU2 Yakutat 6.50 75 eP Pn 14 18 46.9 +1.0
PNL Peninsula 6.65 74⇓ ePn Pn 14 18 48.1 +0.1
4µm,0.8s
PNL eSn Sn 14 19 57.9 -4.5
COLA College 6.75 16⇓ eP Pn 14 18 48.7 -0.5
COLA e 14 20 03.4
COLA pmax pmax
comp=Z,1µm,0.8s
COLA College 6.75 16⇓ ePn Pn 14 18 48.7 -0.5
comp=Z,1µm,0.8s
COLA eSn Sn 14 20 03.4 -1.1
ILAR Eielson Array 6.80 19 P Pn 14 18 50.0 +0.1
comp=Z,101nm,0.3s,baz=204,slow=14,SNR=851
ILAR S Sn 14 20 03.8 -2.1
comp=Z,47nm,0.3s,baz=204,slow=24,SNR=5.6
ILAR LR LR 14 21 56.9
comp=Z,2µm,21.6s,baz=19,slow=41
ILAR Eielson Array 6.80 19 P Pn 14 18 50.1 +0.1
ILAR S Sn 14 20 03.8 -2.1
ILAR Eielson Array 6.80 19 P Pn 14 18 50.0 +0.1
ILAR S Sn 14 20 03.8 -2.1
EGAK Eagle 8.20 35 ePn Pn 14 19 09.2 +0.2
DAWY Dawson 8.30 42 ePn Pn 14 19 11.0 +0.5
SKAG Skagway 8.71 76 eP Pn 14 19 16.8 +0.7
AKUT Akutan 8.75 246 ePn Pn 14 19 16.7 +0.1
COLD Coldfoot 8.85 5 ePn Pn 14 19 16.7 -1.2
SIT Sitka 9.06 92 eP Pn 14 19 18.7 -2.2
SIT pmax pmax
comp=Z,110nm,0.3s
SIT Sitka 9.06 92 eP Pn 14 19 18.7 -2.2
comp=Z,110nm,0.3s
UNV Unalaska Valle 9.27 246 ePn Pn 14 19 22.5 -1.3
TNA Tin City 10.28 320 ePn Pn 14 19 39.9 +2.5
TNA eSn Sn 14 21 29.7 -1.2
CRAG Craig 10.76 98 ePn Pn 14 19 40.6 -3.5
WRAK Wrangell Islan 10.82 92 ePn Pn 14 19 43.3 -1.6
GAMB Gambell 10.86 308 ePn Pn 14 19 47.3 +1.9
DLBC Dease Lake 11.54 81 P Pn 14 19 55.9 +1.1
comp=Z,102nm,0.3s,baz=261,slow=11,SNR=367
DLBC S Sn 14 21 58.0 -4.0
comp=Z,7.2nm,0.3s,baz=100,slow=17,SNR=4.2
DLBC LR LR 14 24 19.8
comp=Z,828nm,21.5s,baz=285,slow=37
DLBC Dease Lake 11.54 81 ePn Pn 14 19 55.4 +0.6
DLBC S Sn 14 21 58.0 -4.0
DIB Dawson Inlet, 12.19 107 P Pn 14 20 00.6 -3.0
SNR=774
DIB S Sn 14 22 08.1 -10
INK Inuvik 12.85 32 P Pn 14 20 12.5 +0.1
comp=Z,4.1nm,0.3s,baz=232,slow=12,SNR=134
INK LR LR 14 25 38.1
comp=Z,970nm,20.0s,baz=222,slow=39
INK Inuvik 12.85 32 eP Pn 14 20 11.7 -0.7
INK Inuvik 12.85 32 ePn Pn 14 20 11.7 -0.7
BBB Bella Bella 14.96 104 P Pn 14 20 40.5 -0.2
comp=Z,0.9nm,0.3s,baz=294,slow=11,SNR=10.0
BBB S Sn 14 23 20.8 -4.3
comp=Z,0.9nm,0.3s,baz=225,slow=19,SNR=6.5
BBB LR LR 14 25 35.7
comp=Z,491nm,18.8s,baz=258,slow=33
BBB Bella Bella 14.96 104 P Pn 14 20 40.5 -0.2
BBB S Sn 14 23 20.8 -4.3
YKA Yellowknife Ar 18.71 62 P Pn 14 21 27.3 0.0
comp=Z,2.2nm,0.3s,baz=272,slow=11,SNR=282
YKA P3KPbc 14 56 18.1
baz=92,slow=5.0,SNR=4.8
YKA Yellowknife Ar 18.71 62 P Pn 14 21 27.3 0.0
YKA Yellowknife Ar 18.71 62 P Pn 14 21 27.3 0.0
YKA e 14 56 18.1
A05A Maple Falls 19.95 105 ⇑P Pn 14 21 42.0 0.0
baz=20
A05A ⇑P Pn 14 21 42.0 0.0
baz=20
NLWA Neilton Lookou 20.13 111 eP Pn 14 21 43.8 -0.4
comp=Z,141nm,1.1s
FX1 Attu Island--F 20.21 269 P P 14 21 41.7 -1.1
comp=Z,91nm,0.6s,baz=240,slow=7.4,SNR=19
FX1 Attu Island--F 20.21 269 P P 14 21 41.7 -1.1
FX1 Attu Island--F 20.21 269 P P 14 21 41.7 -1.1
CMW Cultus Mountai 20.30 107 P Pn 14 21 46.1 -0.3
GNW Green Mountain 20.52 109 eP Pn 14 21 48.6 -0.2
comp=Z,93nm,1.1s
RPW Rockport 20.59 106 eP P 14 21 48.3 +1.3
comp=Z,63nm,1.3s
BILL Bilibino 20.62 315 c iP P 14 21 46.8 -0.2
BILL e 14 22 11.2
BILL 14 25 53.2
BILL pmax pmax
comp=Z,69nm,1.0s
BILL MLR MLR
comp=Z,500nm,18.0s
BILL Bilibino 20.62 315 eP P 14 21 46.7 -0.3
comp=Z,166nm,1.0s
RMW Rattlesnake Mo 21.10 108 P P 14 21 54.8 +2.3
RMW Rattlesnake Mo 21.10 108 P P 14 21 54.8 +2.3
NLW Nelson Butte 21.43 105 P P 14 21 58.1 +2.1
LON Longmire 21.59 110 eP P 14 21 59.3 +1.7
LON pmax pmax
comp=Z,229nm,1.6s
LON Longmire 21.59 110 eP P 14 21 59.3 +1.7
comp=Z,229nm,1.6s
HEBO Mount Hebo 21.74 115 eP P 14 22 02.0 +2.7
comp=Z,149nm,0.9s
WTV Waterville 21.88 105 P P 14 22 02.7 +2.0
C09A Chrisman Ranch 22.66 103 ⇓P P 14 22 10.5 +1.4
baz=22,SNR=7.8
C09A ⇓P P 14 22 10.5 +1.4
baz=22,SNR=7.8
OD2 Odessa Site #2 22.71 105 eP P 14 22 09.9 +0.3
comp=Z,122nm,1.1s
RSW Rattlesnake Hi 22.94 107 eP P 14 22 13.3 +1.3
comp=Z,80nm,1.2s
NEW Newport 22.96 101 eP P 14 22 13.5 +1.3
NEW pmax pmax
comp=Z,107nm,1.1s
NEW Newport 22.96 101 eP P 14 22 13.5 +1.3
comp=Z,106nm,1.1s
HAWA Hanford 22.97 107 eP P 14 22 12.9 +0.7
comp=Z,283nm,1.8s
G06A Carlson Farm, 23.24 111 ⇑P P 14 22 16.7 +1.8
baz=23
G06A ⇑P P 14 22 16.7 +1.8
baz=23
E09A Wood Farm, Sta 23.59 106 ⇓P P 14 22 19.9 +1.7
baz=23
E09A ⇓P P 14 22 19.9 +1.7
baz=23
LNOR Lincton Mounta 23.96 107 eP P 14 22 22.9 +1.3
LNOR pmax pmax
comp=Z,25nm,1.1s
LNOR Lincton Mounta 23.96 107 eP P 14 22 22.9 +1.3
comp=Z,25nm,1.1s
HUMO Hull Mountain 24.10 118 eP P 14 22 25.5 +2.6
comp=Z,92nm,0.9s
WALA Waterton Lakes 24.13 96 eP P 14 22 24.2 +1.0
comp=Z,2.3nm,1.1s
F10A Beach Ranch, E 24.42 105 ⇓P P 14 22 27.5 +1.7
baz=24
F10A ⇓P P 14 22 27.5 +1.7
baz=24
BSMT Bassoo Peak 24.43 99 eP P 14 22 27.1 +1.0
comp=Z,38nm,0.9s
A14A Double T Ranch 24.44 96 ⇓P P 14 22 27.3 +1.2
baz=24,SNR=40
A14A ⇓P P 14 22 27.3 +1.2
baz=24,SNR=40
I07A Izee 24.63 111 ⇓P P 14 22 29.5 +1.7
baz=24,SNR=23
I07A ⇓P P 14 22 29.5 +1.7
baz=24,SNR=23
JTMT Jette 24.76 99 eP P 14 22 30.3 +1.4
comp=Z,46nm,1.0s
A15A Johnson Ranch, 24.80 95 ⇓P P 14 22 30.0 +0.8
baz=25,SNR=24
A15A ⇓P P 14 22 30.0 +0.8
baz=25,SNR=24
YBMT Yellow Bay 24.82 99 eP P 14 22 30.9 +1.3
comp=Z,56nm,1.0s
B14A Marquette Ranc 24.89 97 ⇓P P 14 22 31.2 +1.0
baz=25,SNR=111
B14A ⇓P P 14 22 31.2 +1.0
baz=25,SNR=111
YBH Yreka Blue Hor 24.90 119 eP P 14 22 33.1 +2.9
YBH pmax pmax
comp=Z,79nm,0.9s
YBH Yreka Blue Hor 24.90 119 eP P 14 22 33.1 +2.9
comp=Z,79nm,0.9s
K05A Summer Lake 24.98 115 ⇓P P 14 22 33.5 +2.4
baz=25,SNR=13
K05A ⇓P P 14 22 33.5 +2.4
baz=25,SNR=13
SWMT Swartz Lake 25.06 99 eP P 14 22 32.6 +1.0
comp=Z,62nm,0.9s
BMO Blue Mountains 25.16 107 eP P 14 22 34.0 +1.4
comp=Z,49nm,1.3s
B15A Bradely Ranch, 25.30 96 ⇑P P 14 22 34.5 +0.7
baz=25,SNR=66
B15A ⇑P P 14 22 34.5 +0.7
baz=25,SNR=66
A16A West Butte Ran 25.41 94 ⇓P P 14 22 35.5 +0.7
baz=25
A16A ⇓P P 14 22 35.5 +0.7
baz=25
MSO Missoula 25.53 100 eP P 14 22 37.0 +1.0
comp=Z,101nm,1.5s
C15A Salmond Ranch, 25.61 97 ⇓P P 14 22 37.9 +1.2
baz=25,SNR=37
C15A ⇓P P 14 22 37.9 +1.2
baz=25,SNR=37
E13A Victor 25.66 101 ⇑P P 14 22 38.1 +1.0
baz=26,SNR=34
E13A ⇑P P 14 22 38.1 +1.0
baz=26,SNR=34
J08A Circle Bar Ran 25.67 111 ⇓P P 14 22 38.8 +1.6
baz=26,SNR=5.6
J08A ⇓P P 14 22 38.8 +1.6
baz=26,SNR=5.6
B16A M & M Farms, S 25.68 95 ⇑P P 14 22 37.9 +0.6
baz=26
B16A ⇑P P 14 22 37.9 +0.6
baz=26
A17A Triple J Farms 25.88 93 ⇑P P 14 22 39.8 +0.7
baz=26,SNR=11
A17A ⇑P P 14 22 39.8 +0.7
baz=26,SNR=11
MOD Modoc 25.89 116 eP P 14 22 41.4 +2.1
comp=Z,42nm,1.1s
WDC Whiskeytown Da 25.89 121 eP P 14 22 41.4 +2.3
WDC pmax pmax
comp=Z,59nm,1.0s
WDC Whiskeytown Da 25.89 121 eP P 14 22 41.4 +2.3
comp=Z,59nm,1.0s
F13A Darby 26.02 103 ⇓P P 14 22 41.7 +1.3
baz=26,SNR=47
F13A ⇓P P 14 22 41.7 +1.3
baz=26,SNR=47
C16A Fuhringer Ranc 26.04 96 ⇓P P 14 22 41.4 +0.8
baz=26,SNR=8.3
C16A ⇓P P 14 22 41.4 +0.8
baz=26,SNR=8.3
B17A L&G Farms, Che 26.23 95 ⇓P P 14 22 42.8 +0.6
baz=26,SNR=9.7
B17A ⇓P P 14 22 42.8 +0.6
baz=26,SNR=9.7
WVOR Wild Horse Val 26.28 113 eP P 14 22 44.4 +1.6
WVOR pmax pmax
comp=Z,45nm,1.3s
WVOR Wild Horse Val 26.28 113 eP P 14 22 44.4 +1.6
comp=Z,45nm,1.3s
A18A Metzger Ranch, 26.35 93 ⇑P P 14 22 43.8 +0.5
baz=26,SNR=7.6
A18A ⇑P P 14 22 43.8 +0.5
baz=26,SNR=7.6
RES Resolute Bay 26.39 30 P P 14 22 44.2 +0.9
comp=Z,30nm,0.6s,baz=255,slow=11,SNR=75
RES Resolute Bay 26.39 30 eP P 14 22 44.0 +0.7
RES pmax pmax
comp=Z,58nm,0.8s
RES Resolute Bay 26.39 30 eP P 14 22 44.0 +0.7
comp=Z,58nm,0.8s
E15A Deer Lodge 26.47 100 ⇓P P 14 22 45.6 +1.1
baz=26,SNR=13
E15A ⇓P P 14 22 45.6 +1.1
baz=26,SNR=13
F14A Wisdom 26.50 101 ⇑P P 14 22 46.5 +1.6
baz=26
F14A ⇑P P 14 22 46.5 +1.6
baz=26
G13A Cobalt 26.55 104 ⇑P P 14 22 46.9 +1.7
baz=26,SNR=49
G13A ⇑P P 14 22 46.9 +1.7
baz=26,SNR=49
H12A Diamond D Ranc 26.61 105 ⇑P P 14 22 47.1 +1.3
baz=26,SNR=20
H12A ⇑P P 14 22 47.1 +1.3
baz=26,SNR=20
D16A Dana Ranch, Ca 26.64 98 ⇑P P 14 22 46.9 +1.0
baz=26,SNR=42
D16A ⇑P P 14 22 46.9 +1.0
baz=26,SNR=42
C17A Wharram Farm, 26.66 96 ⇓P P 14 22 46.6 +0.5
baz=26,SNR=13
C17A ⇓P P 14 22 46.6 +0.5
baz=26,SNR=13
B18A Beardsley Farm 26.70 93 ⇓P P 14 22 47.3 +0.8
baz=26,SNR=19
B18A ⇓P P 14 22 47.3 +0.8
baz=26,SNR=19
SEY Seymchan 26.81 303 ⇓eP P 14 22 46.8 -0.4
G14A Jackson 26.84 102 ⇓P P 14 22 49.3 +1.3
baz=27,SNR=6.0
G14A ⇓P P 14 22 49.3 +1.3
baz=27,SNR=6.0
E16A East Helena 26.90 98 ⇑P P 14 22 49.7 +1.4
baz=27,SNR=56
E16A ⇑P P 14 22 49.7 +1.4
baz=27,SNR=56
H13A Challis 26.91 104 ⇑P P 14 22 49.9 +1.4
baz=27,SNR=56
H13A ⇑P P 14 22 49.9 +1.4
baz=27,SNR=56
A19A Klindworth Far 26.92 92 ⇓P P 14 22 49.4 +1.0
baz=27,SNR=20
A19A ⇓P P 14 22 49.4 +1.0
baz=27,SNR=20
F15A Butte 26.94 100 ⇓P P 14 22 49.9 +1.1
baz=27,SNR=20
F15A ⇓P P 14 22 49.9 +1.1
baz=27,SNR=20
MFID Camas Ranch 26.94 108 eP P 14 22 50.0 +1.3
comp=Z,30nm,1.1s
MFID Camas Ranch 26.94 108 ⇓P P 14 22 50.0 +1.3
baz=27,SNR=19
MFID ⇓P P 14 22 50.0 +1.3
baz=27,SNR=19
EGMT Eagleton 26.95 94 eP P 14 22 49.4 +0.7
comp=Z,61nm,0.9s
EGMT e 14 23 05.5
EGMT Eagleton 26.95 94 ⇓P P 14 22 49.3 +0.6
baz=27,SNR=19
EGMT ⇓P P 14 22 49.3 +0.6
baz=27,SNR=19
LRM Limekiln Ridge 26.97 100 eP P 14 22 49.7 +0.6
comp=Z,125nm,0.9s
D17A Six Diamond Ra 27.01 96 ⇓P P 14 22 50.0 +0.7
baz=27,SNR=13
D17A ⇓P P 14 22 50.0 +0.7
baz=27,SNR=13
I12A Atlanta 27.01 107 ⇑P P 14 22 50.8 +1.4
baz=27,SNR=19
I12A ⇑P P 14 22 50.8 +1.4
baz=27,SNR=19
B19A Brinkman Farms 27.11 93 ⇓P P 14 22 51.2 +1.1
baz=27,SNR=43
B19A ⇓P P 14 22 51.2 +1.1
baz=27,SNR=43
DLMT Dillon 27.21 101 eP P 14 22 52.3 +1.2
comp=Z,44nm,1.4s
FFC Flin Flon 27.31 76 P P 14 22 52.3 +0.5
FFC pmax pmax
comp=Z,48nm,1.0s
FFC Flin Flon 27.31 76 P P 14 22 52.3 +0.5
comp=Z,48nm,1.0s
H14A Leadore 27.33 103 ⇓P P 14 22 53.6 +1.4
baz=27,SNR=21
H14A ⇓P P 14 22 53.6 +1.4
baz=27,SNR=21
E17A Martinsdale 27.37 98 ⇑P P 14 22 54.2 +1.6
baz=27,SNR=20
E17A ⇑P P 14 22 54.2 +1.6
baz=27,SNR=20
A20A Cobblestone Ra 27.38 91 ⇓P P 14 22 53.4 +0.9
baz=27,SNR=22
A20A ⇓P P 14 22 53.4 +0.9
baz=27,SNR=22
G15A Dillon 27.40 102 ⇑P P 14 22 54.1 +1.2
baz=27,SNR=28
G15A ⇑P P 14 22 54.1 +1.2
baz=27,SNR=28
F16A Kennard Place, 27.42 100 ⇓P P 14 22 54.4 +1.4
baz=27
F16A ⇓P P 14 22 54.4 +1.4
baz=27
I13A Wildhorse Cree 27.44 105 ⇑P P 14 22 54.6 +1.4
baz=27,SNR=18
I13A ⇑P P 14 22 54.6 +1.4
baz=27,SNR=18
MCMT McKenzie Canyo 27.44 102 eP P 14 22 54.5 +1.2
comp=Z,21nm,1.2s
D18A Linhart Farms, 27.45 96 ⇓P P 14 22 54.6 +1.4
baz=27,SNR=12
D18A ⇓P P 14 22 54.6 +1.4
baz=27,SNR=12
C19A Slack Wire Ran 27.50 94 ⇓P P 14 22 55.0 +1.4
baz=27,SNR=38
C19A ⇓P P 14 22 55.0 +1.4
baz=27,SNR=38
HLID Hailey 27.54 106 eP P 14 22 55.1 +1.0
comp=Z,17nm,1.0s
HLID Hailey 27.54 106 ⇑P P 14 22 55.7 +1.5
baz=27,SNR=22
HLID ⇑P P 14 22 55.7 +1.5
baz=27,SNR=22
B20A Solberg Farm, 27.60 92 ⇓P P 14 22 55.4 +0.9
baz=27,SNR=13
B20A ⇓P P 14 22 55.4 +0.9
baz=27,SNR=13
H15A Lima 27.70 103 ⇓P P 14 22 56.9 +1.3
baz=28,SNR=19
H15A ⇓P P 14 22 56.9 +1.3
baz=28,SNR=19
G16A Moss Hill, Enn 27.71 101 ⇑P P 14 22 57.2 +1.6
baz=28
G16A ⇑P P 14 22 57.2 +1.6
baz=28
PET Petropavlovsk 27.73 280 eP P 14 22 56.2 +0.7
PET eS S 14 27 31.8 -1.7
PET pmax pmax
comp=Z,145nm,1.3s
PET MLR MLR
comp=Z,500nm,22.0s
PET Petropavlovsk 27.73 280 eP P 14 22 55.2 -0.3
comp=Z,187nm,1.1s
I14A Mackay 27.77 105 ⇓P P 14 22 58.0 +1.8
baz=28,SNR=45
I14A ⇓P P 14 22 58.0 +1.8
baz=28,SNR=45
J13A Cove Ranch, Pi 27.78 106 ⇑P P 14 22 57.8 +1.5
baz=28,SNR=15
J13A ⇑P P 14 22 57.8 +1.5
baz=28,SNR=15
E18A Harlowton 27.80 97 ⇓P P 14 22 58.4 +2.1
baz=28,SNR=22
E18A ⇓P P 14 22 58.4 +2.1
baz=28,SNR=22
A21A Bergtoll Ranch 27.84 90 ⇑P P 14 22 58.1 +1.5
baz=28,SNR=13
A21A ⇑P P 14 22 58.1 +1.5
baz=28,SNR=13
F17A Fitzpatrick Pl 27.84 98 ⇑P P 14 22 58.7 +1.9
baz=28,SNR=43
F17A ⇑P P 14 22 58.7 +1.9
baz=28,SNR=43
D19A Cripps Ranch, 27.95 95 ⇓P P 14 22 58.8 +1.2
baz=28,SNR=19
D19A ⇓P P 14 22 58.8 +1.2
baz=28,SNR=19
C20A Veseth Ranch, 28.06 93 ⇑P P 14 22 59.9 +1.3
baz=28,SNR=28
C20A ⇑P P 14 22 59.9 +1.3
baz=28,SNR=28
B21A Ellsworth Farm 28.13 91 ⇓P P 14 23 00.3 +1.0
baz=28
B21A ⇓P P 14 23 00.3 +1.0
baz=28
PEA0B Petropavlovsk- 28.18 281 eP P 14 22 58.6 -0.9
PETK Petropavlovsk- 28.18 281 P P 14 22 58.5 -1.1
comp=Z,101nm,0.6s,baz=85,slow=11,SNR=55
PETK Petropavlovsk- 28.18 281 P P 14 22 58.5 -1.1
PETK Petropavlovsk- 28.18 281 P P 14 22 58.5 -1.1
WCN Washoe City 28.19 119 eP P 14 23 01.9 +1.9
WCN pmax pmax
comp=Z,37nm,1.0s
WCN Washoe City 28.19 119 eP P 14 23 01.9 +1.9
comp=Z,37nm,1.0s
WCN Washoe City 28.19 119 ⇑P P 14 23 02.0 +1.9
baz=28,SNR=6.9
WCN ⇑P P 14 23 02.0 +1.9
baz=28,SNR=6.9
G17A Pierce Place, 28.20 100 ⇑P P 14 23 01.7 +1.7
baz=28
G17A ⇑P P 14 23 01.7 +1.7
baz=28
I15A Monteview 28.21 103 ⇑P P 14 23 01.9 +1.9
baz=28
I15A ⇑P P 14 23 01.9 +1.9
baz=28
F18A Big Timber 28.34 98 ⇓P P 14 23 03.5 +2.4
baz=28,SNR=63
F18A ⇓P P 14 23 03.5 +2.4
baz=28,SNR=63
H16A Russell Place, 28.35 101 ⇓P P 14 23 03.3 +1.8
baz=28
H16A ⇓P P 14 23 03.3 +1.8
baz=28
A22A Carney Farms, 28.37 89 ⇑P P 14 23 02.6 +1.3
baz=28,SNR=5.9
A22A ⇑P P 14 23 02.6 +1.3
baz=28,SNR=5.9
D20A Manuel Ranch, 28.39 94 ⇓P P 14 23 03.0 +1.5
baz=28,SNR=18
D20A ⇓P P 14 23 03.0 +1.5
baz=28,SNR=18
GCMT Greycliff 28.44 98 eP P 14 23 04.4 +2.3
comp=Z,84nm,1.0s
E19A Rath Farm, Rou 28.45 96 ⇓P P 14 23 03.9 +1.7
baz=28,SNR=25
E19A ⇓P P 14 23 03.9 +1.7
baz=28,SNR=25
BMN Battle Mountai 28.50 114 eP P 14 23 04.5 +1.9
BMN pmax pmax
comp=Z,25nm,1.1s
BMN Battle Mountai 28.50 114 eP P 14 23 04.5 +1.9
comp=Z,25nm,1.1s
YNR Norris Junctio 28.64 100 eP P 14 23 06.5 +2.5
comp=Z,50nm,1.2s
J15A Blackfoot 28.66 104 ⇓P P 14 23 06.1 +2.0
baz=28,SNR=19
J15A ⇓P P 14 23 06.1 +2.0
baz=28,SNR=19
YFT Old Faithful 28.74 101 eP P 14 23 07.7 +2.8
comp=Z,63nm,1.2s
B22A Reddig Ranch S 28.75 90 ⇑P P 14 23 06.1 +1.4
baz=29
B22A ⇑P P 14 23 06.1 +1.4
baz=29
E20A Meyer Farm, Mu 28.77 95 ⇓P P 14 23 06.5 +1.6
baz=29,SNR=6.8
E20A ⇓P P 14 23 06.5 +1.6
baz=29,SNR=6.8
F19A Roth Farm, Mol 28.77 97 ⇓P P 14 23 06.9 +1.9
baz=29,SNR=45
F19A ⇓P P 14 23 06.9 +1.9
baz=29,SNR=45
G18A Lazy EL Ranch, 28.81 98 ⇓P P 14 23 07.1 +1.7
baz=29
G18A ⇓P P 14 23 07.1 +1.7

baz=29
I16A Newdale 28.81 102 ⇑P P 14 23 07.5 +2.1
baz=29
I16A ⇑P P 14 23 07.5 +2.1
baz=29
K14A Jones Ranch, D 28.90 106 ⇓P P 14 23 08.7 +2.5
baz=29,SNR=8.9
K14A ⇓P P 14 23 08.7 +2.5
baz=29,SNR=8.9
H17A Grant Village 28.91 101 ⇑P P 14 23 09.3 +2.9
baz=29
H17A ⇑P P 14 23 09.3 +2.9
baz=29
CMB Columbia Colle 28.93 121 eP P 14 23 08.1 +1.7
CMB pmax pmax
comp=Z,38nm,1.4s
CMB Columbia Colle 28.93 121 eP P 14 23 08.1 +1.7
A23A Redstone 28.93 88 ⇓P P 14 23 08.4 +2.1
baz=29
A23A ⇓P P 14 23 08.4 +2.1
baz=29
D21A La Casta Ranch 29.00 93 ⇑P P 14 23 08.3 +1.4
baz=29,SNR=9.2
D21A ⇑P P 14 23 08.3 +1.4
baz=29,SNR=9.2
FLWY Flagg Ranch 29.07 101 eP P 14 23 10.3 +2.6
comp=Z,102nm,0.9s
RLMT Red Lodge 29.09 98 eP P 14 23 09.1 +1.1
K15A Arbon 29.13 105 ⇓P P 14 23 10.7 +2.4
baz=29,SNR=11
K15A ⇓P P 14 23 10.7 +2.4
baz=29,SNR=11
C22A Vida 29.15 91 ⇓P P 14 23 09.3 +1.0
baz=29,SNR=10.0
C22A ⇓P P 14 23 09.3 +1.0
baz=29,SNR=10.0
DCID1 Drake Creek 29.16 103 eP P 14 23 11.2 +2.7
comp=Z,62nm,1.3s
B23A Brockton 29.18 89 ⇑P P 14 23 09.6 +1.1
baz=29,SNR=6.5
B23A ⇑P P 14 23 09.6 +1.1
baz=29,SNR=6.5
H18A Shoshone NF, C 29.19 99 ⇑P P 14 23 10.7 +1.8
baz=29,SNR=8.0
H18A ⇑P P 14 23 10.7 +1.8
baz=29,SNR=8.0
F20A Billings 29.22 96 ⇓P P 14 23 10.8 +1.8
baz=29,SNR=25
F20A ⇓P P 14 23 10.8 +1.8
baz=29,SNR=25
L14A Malta 29.25 107 ⇑P P 14 23 11.6 +2.4
baz=29,SNR=6.2
L14A ⇑P P 14 23 11.6 +2.4
baz=29,SNR=6.2
I17A Pilgrim Ck. 29.25 101 ⇓P P 14 23 12.1 +2.7
baz=29,SNR=12
I17A ⇓P P 14 23 12.1 +2.7
baz=29,SNR=12
RRI2 Red Ridge 29.27 103 eP P 14 23 11.2 +1.6
comp=Z,20nm,1.0s
MOOW Moose Ponds 29.28 102 eP P 14 23 11.5 +1.8
comp=Z,34nm,1.3s
E21A Keefer Ranch, 29.30 94 ⇓P P 14 23 11.2 +1.6
baz=29,SNR=5.8
E21A ⇓P P 14 23 11.2 +1.6
baz=29,SNR=5.8
D22A Cohagen 29.38 92 ⇓P P 14 23 11.9 +1.6
baz=29,SNR=28
D22A ⇓P P 14 23 11.9 +1.6
baz=29,SNR=28
A24A Westby 29.42 88 ⇑P P 14 23 12.0 +1.4
baz=29
A24A ⇑P P 14 23 12.0 +1.4
baz=29
LOHW Long Hollow 29.45 102 eP P 14 23 13.1 +1.9
comp=Z,67nm,1.2s
SNOW Snow King Moun 29.48 102 eP P 14 23 13.7 +2.3
comp=Z,32nm,0.9s
C23A Lambert 29.48 90 ⇓P P 14 23 12.7 +1.5
baz=29,SNR=17
C23A ⇓P P 14 23 12.7 +1.5
baz=29,SNR=17
H19A Powell 29.55 99 ⇑P P 14 23 14.2 +2.3
baz=29,SNR=17
H19A ⇑P P 14 23 14.2 +2.3
baz=29,SNR=17
NVAR Mina Array Bea 29.57 118 P P 14 23 14.0 +1.8
comp=Z,29nm,0.8s,baz=306,slow=8.3,SNR=112
NVAR PcP PcP 14 26 16.9 +1.1
comp=Z,1.6nm,0.6s,baz=308,slow=3.3,SNR=3.4
NVAR ScP ScP 14 29 51.6 -0.6
comp=Z,0.9nm,0.9s,baz=208,slow=1.7,SNR=2.3
NVAR LR LR 14 34 04.0
comp=Z,300nm,19.7s,baz=208,slow=34
NVAR Mina Array Bea 29.57 118 P P 14 23 14.0 +1.8
NVAR PcP PcP 14 26 16.9 +1.1
NVAR ScP ScP 14 29 51.6 -0.6
G20A Bridger 29.58 97 ⇓P P 14 23 13.7 +1.5
baz=29,SNR=5.2
G20A ⇓P P 14 23 13.7 +1.5
baz=29,SNR=5.2
DGMT Dagmar 29.59 89 ⇑P P 14 23 14.2 +2.0
baz=29
DGMT ⇑P P 14 23 14.2 +2.0
baz=29
L15A Malad City 29.70 106 ⇓P P 14 23 15.7 +2.4
baz=30,SNR=25
L15A ⇓P P 14 23 15.7 +2.4
baz=30,SNR=25
F21A Absaloka Mine, 29.74 95 ⇑P P 14 23 15.4 +1.9
baz=30
F21A ⇑P P 14 23 15.4 +1.9
baz=30
I18A Diamond G Ranc 29.79 101 ⇑P P 14 23 16.6 +2.4
baz=30,SNR=9.7
I18A ⇑P P 14 23 16.6 +2.4
baz=30,SNR=9.7
D23A Lindsay 29.87 91 ⇓P P 14 23 16.6 +1.9
baz=30,SNR=26
D23A ⇓P P 14 23 16.6 +1.9
baz=30,SNR=26
K17A Gardner Place, 29.90 103 ⇓P P 14 23 16.8 +1.7
baz=30
K17A ⇓P P 14 23 16.8 +1.7
baz=30
E22A Miles City 29.95 93 ⇑P P 14 23 17.1 +1.7
baz=30,SNR=13
E22A ⇑P P 14 23 17.1 +1.7
baz=30,SNR=13
MLAC Mammoth Lakes 29.97 119 ⇑P P 14 23 18.6 +2.8
baz=30
MLAC ⇑P P 14 23 18.6 +2.8
baz=30
I19A Meeteetse 29.98 100 ⇑P P 14 23 17.8 +1.9
baz=30,SNR=14
I19A ⇑P P 14 23 17.8 +1.9
baz=30,SNR=14
J18A Kendall Valley 30.03 102 ⇑P P 14 23 18.1 +1.7
baz=30,SNR=38
J18A ⇑P P 14 23 18.1 +1.7
baz=30,SNR=38
C24A Savage 30.06 90 ⇑P P 14 23 18.0 +1.8
baz=30,SNR=7.1
C24A ⇑P P 14 23 18.0 +1.8
baz=30,SNR=7.1
M15A Larsen Ranch, 30.07 107 ⇓P P 14 23 18.5 +2.0
baz=30,SNR=12
M15A ⇓P P 14 23 18.5 +2.0
baz=30,SNR=12
G21A Lodge Grass 30.10 96 ⇓P P 14 23 18.3 +1.6
baz=30,SNR=8.5
G21A ⇓P P 14 23 18.3 +1.6
baz=30,SNR=8.5
L16A Fish Haven 30.17 105 ⇑P P 14 23 19.5 +2.0
baz=30,SNR=15
L16A ⇑P P 14 23 19.5 +2.0
baz=30,SNR=15
H20A Greybull 30.19 98 ⇑P P 14 23 19.1 +1.6
baz=30,SNR=21
H20A ⇑P P 14 23 19.1 +1.6
baz=30,SNR=21
F22A Rosebud 30.23 94 ⇓P P 14 23 19.2 +1.4
baz=30,SNR=12
F22A ⇓P P 14 23 19.2 +1.4
baz=30,SNR=12
E23A Ismay 30.25 93 ⇑P P 14 23 19.9 +1.9
baz=30
E23A ⇑P P 14 23 19.9 +1.9
baz=30
D24A Glendive 30.37 91 ⇓P P 14 23 21.1 +2.1
baz=30,SNR=18
D24A ⇓P P 14 23 21.1 +2.1
baz=30,SNR=18
L17A Cokeville 30.39 104 ⇓P P 14 23 21.3 +1.8
baz=30
L17A ⇓P P 14 23 21.3 +1.8
baz=30
HWUT Hardware Ranch 30.41 106 eP P 14 23 21.4 +1.8
comp=Z,60nm,1.1s
K18A Toltan Ranch, 30.43 103 ⇓P P 14 23 21.7 +1.8
baz=30,SNR=14
K18A ⇓P P 14 23 21.7 +1.8
baz=30,SNR=14
I20A Worland 30.49 99 ⇓P P 14 23 22.1 +1.9
baz=30,SNR=15
I20A ⇓P P 14 23 22.1 +1.9
baz=30,SNR=15
J19A Crowheart 30.49 101 ⇑P P 14 23 22.4 +2.1
baz=30,SNR=12
J19A ⇑P P 14 23 22.4 +2.1
baz=30,SNR=12
PD01 Pinedale Array 30.57 102 eP P 14 23 22.2 +1.1
PD02 Pinedale Array 30.57 102 eP P 14 23 22.4 +1.3
G22A Birney 30.58 95 ⇑P P 14 23 22.7 +1.7
baz=30,SNR=14
G22A ⇑P P 14 23 22.7 +1.7
baz=30,SNR=14
PDAR Pinedale Array 30.59 102 P P 14 23 22.6 +1.4
comp=Z,16nm,0.9s,baz=316,slow=5.0,SNR=114
PDAR P3KPbc 14 55 25.3
comp=Z,1.0nm,0.8s,baz=152,slow=6.6,SNR=5.8
PDAR Pinedale Array 30.59 102 P P 14 23 22.6 +1.4
PDAR e 14 55 25.3
M16A Huntsville 30.59 106 ⇑P P 14 23 23.0 +1.8
baz=30,SNR=25
M16A ⇑P P 14 23 23.0 +1.8
baz=30,SNR=25
H21A Big Horn, Sher 30.59 97 ⇑P P 14 23 22.6 +1.5
baz=30,SNR=8.2
H21A ⇑P P 14 23 22.6 +1.5
baz=30,SNR=8.2
F23A Volborg 30.71 94 ⇑P P 14 23 23.8 +1.7
baz=30,SNR=19
F23A ⇑P P 14 23 23.8 +1.7
baz=30,SNR=19
TIN Tinemaha 30.72 119 ⇓P P 14 23 24.8 +2.6
baz=30,SNR=7.3
TIN ⇓P P 14 23 24.8 +2.6
baz=30,SNR=7.3
E24A Baker 30.74 92 ⇑P P 14 23 24.3 +2.0
baz=30,SNR=8.3
E24A ⇑P P 14 23 24.3 +2.0
baz=30,SNR=8.3
DUG Dugway 30.84 109 eP P 14 23 25.1 +1.8
DUG pmax pmax
comp=Z,16nm,0.9s
DUG Dugway 30.84 109 eP P 14 23 25.1 +1.8
comp=Z,16nm,0.9s
DUG Dugway 30.84 109 ⇑P P 14 23 24.9 +1.6
baz=31,SNR=23
DUG ⇑P P 14 23 24.9 +1.6
baz=31,SNR=23
RCTC Rector, Farmer 30.87 121 ⇓P P 14 23 25.4 +2.0
baz=31,SNR=7.2
RCTC ⇓P P 14 23 25.4 +2.0
baz=31,SNR=7.2
K19A Absolon Red Bu 30.91 101 ⇑P P 14 23 25.3 +1.3
baz=31
K19A ⇑P P 14 23 25.3 +1.3
baz=31
R11A Troy Canyon, C 30.91 114 ⇑P P 14 23 25.8 +1.7
baz=31,SNR=62
R11A ⇑P P 14 23 25.8 +1.7
baz=31,SNR=62
J20A Shoshoni 30.93 100 ⇓P P 14 23 26.4 +2.2
baz=31
J20A ⇓P P 14 23 26.4 +2.2
baz=31
O15A The Old Anders 30.94 108 ⇓P P 14 23 26.1 +1.9
baz=31
O15A ⇓P P 14 23 26.1 +1.9
baz=31
L18A Fontenelle, Gr 30.95 104 ⇑P P 14 23 25.9 +1.5
baz=31,SNR=5.2
L18A ⇑P P 14 23 25.9 +1.5
baz=31,SNR=5.2
M17A Scullys Gap (B 30.96 105 ⇓P P 14 23 26.0 +1.5
baz=31
M17A ⇓P P 14 23 26.0 +1.5
baz=31
H22A Clearmont 30.97 96 ⇓P P 14 23 26.2 +1.7
baz=31,SNR=8.3
H22A ⇓P P 14 23 26.2 +1.7
baz=31,SNR=8.3
N16A Rees Ranch, Co 31.00 107 ⇑P P 14 23 26.8 +1.9
baz=31,SNR=6.4
N16A ⇑P P 14 23 26.8 +1.9
baz=31,SNR=6.4
I21A Big Trails, Te 31.02 98 ⇑P P 14 23 26.2 +1.3
baz=31,SNR=34
I21A ⇑P P 14 23 26.2 +1.3
baz=31,SNR=34
G23A Biddle 31.07 95 ⇑P P 14 23 26.8 +1.6
baz=31,SNR=15
G23A ⇑P P 14 23 26.8 +1.6
baz=31,SNR=15
F24A Ekalaka 31.13 93 ⇑P P 14 23 27.8 +1.9
baz=31,SNR=35
F24A ⇑P P 14 23 27.8 +1.9
baz=31,SNR=35
GRAC Grapevine Rang 31.16 118 ⇓P P 14 23 29.0 +2.9
baz=31,SNR=23
GRAC ⇓P P 14 23 29.0 +2.9
baz=31,SNR=23
L19A Farson 31.17 103 ⇓P P 14 23 27.5 +1.2
baz=31,SNR=16
L19A ⇓P P 14 23 27.5 +1.2
baz=31,SNR=16
N17A Moffit Pass 31.27 106 ⇓P P 14 23 28.8 +1.5
baz=31,SNR=5.8
N17A ⇓P P 14 23 28.8 +1.5
baz=31,SNR=5.8
J21A Lysite 31.27 99 ⇑P P 14 23 28.9 +1.7
baz=31,SNR=31
J21A ⇑P P 14 23 28.9 +1.7
baz=31,SNR=31
CWC Cottonwood Cre 31.29 120 ⇑P P 14 23 29.6 +2.2
baz=31,SNR=9.4
CWC ⇑P P 14 23 29.6 +2.2
baz=31,SNR=9.4
K20A Yellowstone Ra 31.29 101 ⇑P P 14 23 28.4 +1.0
baz=31,SNR=6.0
K20A ⇑P P 14 23 28.4 +1.0
baz=31,SNR=6.0
M18A Lyman 31.30 104 ⇑P P 14 23 28.5 +1.0
baz=31,SNR=5.2
M18A ⇑P P 14 23 28.5 +1.0
baz=31,SNR=5.2
VES Vestal, Richgr 31.33 122 ⇑P P 14 23 29.2 +1.7
baz=31,SNR=16
VES ⇑P P 14 23 29.2 +1.7
baz=31,SNR=16
SMMC Simmler 31.37 123 ⇓P P 14 23 30.5 +2.5
baz=31
SMMC ⇓P P 14 23 30.5 +2.5
baz=31
I22A 9 Mile Ranch, 31.39 97 ⇑P P 14 23 29.8 +1.7
baz=31,SNR=30
I22A ⇑P P 14 23 29.8 +1.7
baz=31,SNR=30
DAU Daniels Canyon 31.45 107 eP P 14 23 28.7 -0.2
DAU pmax pmax
comp=Z,46nm,1.5s
DAU Daniels Canyon 31.45 107 eP P 14 23 28.7 -0.2
comp=Z,46nm,1.5s
O16A Springville 31.48 107 ⇓P P 14 23 30.6 +1.5
baz=31,SNR=16
O16A ⇓P P 14 23 30.6 +1.5
baz=31,SNR=16
G24A Alzada 31.49 93 ⇓P P 14 23 30.5 +1.5
baz=31,SNR=15
G24A ⇓P P 14 23 30.5 +1.5
baz=31,SNR=15
H23A Clabaugh Cattl 31.49 95 ⇓P P 14 23 30.5 +1.4
baz=31
H23A ⇓P P 14 23 30.5 +1.4
baz=31
MPU Maple Canyon 31.56 108 eP P 14 23 30.9 +1.1
comp=Z,16nm,0.9s
P15A Leamington 31.58 109 ⇓P P 14 23 31.3 +1.5
baz=31,SNR=7.3
P15A ⇓P P 14 23 31.3 +1.5
baz=31,SNR=7.3
M19A Rock Springs 31.71 103 ⇓P P 14 23 32.0 +0.9
baz=32,SNR=30
M19A ⇓P P 14 23 32.0 +0.9
baz=32,SNR=30
J22A Midwest 31.72 98 ⇑P P 14 23 32.5 +1.4
baz=32,SNR=24
J22A ⇑P P 14 23 32.5 +1.4
baz=32,SNR=24
ISA Isabella 31.75 121 ⇑P P 14 23 33.1 +1.8
baz=32,SNR=24
ISA ⇑P P 14 23 33.1 +1.8
baz=32,SNR=24
L20A Wamsutter 31.76 102 ⇑P P 14 23 32.7 +1.1
baz=32,SNR=26
L20A ⇑P P 14 23 32.7 +1.1
baz=32,SNR=26
PKM Peak Mountain 31.80 124 ⇓P P 14 23 34.6 +2.7
baz=32,SNR=15
PKM ⇓P P 14 23 34.6 +2.7
baz=32,SNR=15
H24A Dirks Ranch, A 31.81 94 ⇓P P 14 23 32.9 +1.1
baz=32,SNR=25
H24A ⇓P P 14 23 32.9 +1.1
baz=32,SNR=25
FURC Furnace Creek, 31.83 118 ⇑P P 14 23 34.3 +2.5
baz=32,SNR=28
FURC ⇑P P 14 23 34.3 +2.5
baz=32,SNR=28
R13A O'Grain Ranch, 31.83 113 ⇓P P 14 23 34.0 +1.9
baz=32,SNR=18
R13A ⇓P P 14 23 34.0 +1.9
baz=32,SNR=18
P16A Fountain Green 31.86 108 ⇑P P 14 23 34.2 +1.9
baz=32,SNR=5.1
P16A ⇑P P 14 23 34.2 +1.9
baz=32,SNR=5.1
MPMC Manual Prospec 31.87 119 ⇓P P 14 23 34.6 +2.1
baz=32,SNR=32
MPMC ⇓P P 14 23 34.6 +2.1
baz=32,SNR=32
I23A Meade Ranch, G 31.87 96 ⇑P P 14 23 34.0 +1.5
baz=32
I23A ⇑P P 14 23 34.0 +1.5
baz=32
K21A Alcova 31.87 100 ⇑P P 14 23 33.6 +1.1
baz=32,SNR=31
K21A ⇑P P 14 23 33.6 +1.1
baz=32,SNR=31
O17A Robinson Place 31.88 107 ⇑P P 14 23 34.5 +1.9
baz=32,SNR=17
O17A ⇑P P 14 23 34.5 +1.9
baz=32,SNR=17
ARVC Arvin 32.04 122 ⇑P P 14 23 35.2 +1.4
baz=32,SNR=6.5
ARVC ⇑P P 14 23 35.2 +1.4
baz=32,SNR=6.5
N19A John Jarvie Ra 32.15 104 ⇑P P 14 23 36.1 +1.2
baz=32,SNR=36
N19A ⇑P P 14 23 36.1 +1.2
baz=32,SNR=36
O18A Roosevelt 32.19 106 ⇑P P 14 23 37.7 +2.4
baz=32,SNR=6.7
O18A ⇑P P 14 23 37.7 +2.4
baz=32,SNR=6.7
J23A Dilts Ranch, B 32.21 97 ⇑P P 14 23 36.9 +1.5
baz=32
J23A ⇑P P 14 23 36.9 +1.5
baz=32
M20A Sweetwater, Wa 32.21 102 ⇓P P 14 23 37.2 +1.7
baz=32,SNR=47
M20A ⇓P P 14 23 37.2 +1.7
baz=32,SNR=47
SBC Santa Barbara 32.23 124 ⇑P P 14 23 37.9 +2.5
baz=32
SBC ⇑P P 14 23 37.9 +2.5
baz=32
K22A Casper 32.24 99 ⇑P P 14 23 36.9 +1.3
baz=32,SNR=13
K22A ⇑P P 14 23 36.9 +1.3
baz=32,SNR=13
LRMC Laurel Mountai 32.26 120 ⇑P P 14 23 37.8 +2.0
baz=32,SNR=6.4
LRMC ⇑P P 14 23 37.8 +2.0
baz=32,SNR=6.4
L21A Rawlins 32.29 101 ⇓P P 14 23 37.3 +1.1
baz=32,SNR=12
L21A ⇓P P 14 23 37.3 +1.1
baz=32,SNR=12
TMUT Trail Mountain 32.32 108 eP P 14 23 37.7 +1.2
comp=Z,24nm,0.9s
I24A Kuemmerle Ranc 32.38 96 ⇑P P 14 23 38.2 +1.4
baz=32,SNR=18
I24A ⇑P P 14 23 38.2 +1.4
baz=32,SNR=18
MDND Maddock 32.39 86 ⇑P P 14 23 38.0 +1.3
baz=32,SNR=6.4
MDND ⇑P P 14 23 38.0 +1.3
baz=32,SNR=6.4
ARUT Antelope Range 32.39 113 eP P 14 23 38.4 +1.3
ARUT pmax pmax
comp=Z,38nm,1.1s
ARUT Antelope Range 32.39 113 eP P 14 23 38.4 +1.3
comp=Z,38nm,1.1s
P17A Butcher Ranch, 32.42 108 ⇑P P 14 23 39.1 +1.8
baz=32,SNR=6.7
P17A ⇑P P 14 23 39.1 +1.8
baz=32,SNR=6.7
MSU Marysvale 32.44 110 eP P 14 23 39.5 +1.9
MSU pmax pmax
comp=Z,36nm,1.1s
MSU Marysvale 32.44 110 eP P 14 23 39.5 +1.9
comp=Z,36nm,1.1s
ALE Alert 32.48 14 P P 14 23 37.0 -0.2
comp=Z,641nm,0.9s,SNR=52
RSSD Black Hills 32.51 95 ⇑iP P 14 23 39.9 +1.8
RSSD pmax pmax
comp=Z,96nm,0.9s
RSSD Black Hills 32.51 95 ⇑iP P 14 23 39.9 +1.8
comp=Z,96nm,0.9s
P18A Preston Nutter 32.55 107 ⇑P P 14 23 40.5 +1.9
baz=32,SNR=8.1
P18A ⇑P P 14 23 40.5 +1.9
baz=32,SNR=8.1
M21A Separation Pea 32.55 101 ⇑P P 14 23 39.8 +1.3
baz=32,SNR=64
M21A ⇑P P 14 23 39.8 +1.3
baz=32,SNR=64
SHOC Shoshone 32.56 118 ⇓P P 14 23 40.7 +2.3
baz=32,SNR=14
SHOC ⇓P P 14 23 40.7 +2.3
baz=32,SNR=14
O19A Miners Draw (B 32.61 105 ⇑P P 14 23 40.7 +1.7
baz=32,SNR=7.5
O19A ⇑P P 14 23 40.7 +1.7
baz=32,SNR=7.5
EDW2 Edwards Air Fo 32.62 121 ⇑P P 14 23 40.4 +1.4
baz=32,SNR=16
EDW2 ⇑P P 14 23 40.4 +1.4
baz=32,SNR=16
Q16A Castle Valley 32.63 109 ⇑P P 14 23 41.3 +2.1
baz=32,SNR=25
Q16A ⇑P P 14 23 41.3 +2.1
baz=32,SNR=25
R15A Junction 32.63 111 ⇑P P 14 23 41.6 +2.5
baz=32,SNR=9.0
R15A ⇑P P 14 23 41.6 +2.5
baz=32,SNR=9.0
K23A Bowen Ranch, D 32.63 98 ⇓P P 14 23 40.4 +1.3
baz=32,SNR=12
K23A ⇓P P 14 23 40.4 +1.3
baz=32,SNR=12
BSC Santa Cruz Isl 32.64 124 ⇑P P 14 23 41.3 +2.2
baz=32
BSC ⇑P P 14 23 41.3 +2.2
baz=32
N20A Spence Gulch, 32.66 103 ⇓P P 14 23 41.4 +1.9
baz=32,SNR=52
N20A ⇓P P 14 23 41.4 +1.9
baz=32,SNR=52
L22A Ellis Ranch, M 32.73 100 ⇓P P 14 23 42.1 +2.1

baz=32,SNR=14
L22A ⇓P P 14 23 42.1 +2.1
baz=32,SNR=14
J24A Dixon Ranch, L 32.73 96 ⇓P P 14 23 41.3 +1.4
baz=32
J24A ⇓P P 14 23 41.3 +1.4
baz=32
BLG Laguna Peak 32.80 123 ⇓P P 14 23 42.4 +2.0
baz=33,SNR=5.9
BLG ⇓P P 14 23 42.4 +2.0
baz=33,SNR=5.9
SRU San Rafael 32.80 108⇗ *e*P P 14 23 42.3 +1.6
SRU pmax pmax
comp=Z,110nm,1.1s
SRU San Rafael 32.80 108⇗ *e*P P 14 23 42.3 +1.6
comp=Z,110nm,1.1s
SRU *es*P **sP** 14 24 05.6 +3.6
GSC Goldstone 32.81 119 ⇑P P 14 23 42.7 +2.0
baz=33,SNR=28
GSC ⇑P P 14 23 42.7 +2.0
baz=33,SNR=28
ULM Lac du Bonnet 32.87 79 P P 14 23 41.6 +0.7
comp=Z,28nm,1.3s,baz=308,slow=11,SNR=10
ULM LR LR 14 37 28.4
ULM P3KPbc 14 55 17.9
comp=Z,1.3nm,0.5s,baz=20,slow=3.0,SNR=2.9
ULM Lac du Bonnet 32.87 79 *e*P P 14 23 40.8 0.0
ULM pmax pmax
comp=Z,11nm,0.8s
ULM Lac du Bonnet 32.87 79 *e*P P 14 23 40.8 0.0
comp=Z,11nm,0.8s
DECC Green Verdugo 33.00 122 ⇑P P 14 23 44.2 +2.0
baz=33
DECC ⇑P P 14 23 44.2 +2.0
baz=33
Q18A Rafter H Ranch 33.01 107 ⇑P P 14 23 44.1 +1.7
baz=33,SNR=16
Q18A ⇑P P 14 23 44.1 +1.7
baz=33,SNR=16
L23A Garrett 33.05 99 ⇑P P 14 23 44.3 +1.5
baz=33,SNR=65
L23A ⇑P P 14 23 44.3 +1.5
baz=33,SNR=65
RRX Edison Barstow 33.07 120 ⇓P P 14 23 45.0 +2.2
baz=33
RRX ⇓P P 14 23 45.0 +2.2
baz=33
K24A Anderson Ranch 33.08 97 ⇓P P 14 23 43.7 +0.7
baz=33,SNR=7.0
K24A ⇓P P 14 23 43.7 +0.7
baz=33,SNR=7.0
N21A Black Mountain 33.09 103 ⇑P P 14 23 44.6 +1.4
baz=33,SNR=20
N21A ⇑P P 14 23 44.6 +1.4
baz=33,SNR=20
M22A Cedar Creek Ra 33.10 101 ⇓P P 14 23 44.6 +1.3
baz=33,SNR=20
M22A ⇓P P 14 23 44.6 +1.3
baz=33,SNR=20
TUQ Turquoise Moun 33.11 118 ⇓P P 14 23 45.4 +2.2
baz=33,SNR=6.9
TUQ ⇓P P 14 23 45.4 +2.2
baz=33,SNR=6.9
O20A White River Ci 33.19 104 ⇓P P 14 23 45.7 +1.7
baz=33,SNR=18
O20A ⇓P P 14 23 45.7 +1.7
baz=33,SNR=18
P19A Cripple Cowboy 33.19 105 ⇓P P 14 23 45.9 +1.8
baz=33,SNR=19
P19A ⇓P P 14 23 45.9 +1.8
baz=33,SNR=19
R17A Hanksville Air 33.24 109 ⇑P P 14 23 46.0 +1.6
baz=33,SNR=19
R17A ⇑P P 14 23 46.0 +1.6
baz=33,SNR=19
BFSC Mount Baldy Ra 33.31 121 ⇓P P 14 23 47.2 +2.2
baz=33,SNR=47
BFSC ⇓P P 14 23 47.2 +2.2
baz=33,SNR=47
S16A Weppner Ranch, 33.35 111 ⇑P P 14 23 47.7 +2.3
baz=33,SNR=32
S16A ⇑P P 14 23 47.7 +2.3
baz=33,SNR=32
HEC Hector,Ludlow 33.42 119 ⇓P P 14 23 47.8 +1.8
baz=33,SNR=24
HEC ⇓P P 14 23 47.8 +1.8
baz=33,SNR=24
FMP Fort Macarthur 33.47 123 ⇑P P 14 23 48.1 +1.8
baz=33
FMP ⇑P P 14 23 48.1 +1.8
baz=33
L24A Wheatland 33.50 98 ⇓P P 14 23 48.2 +1.6
baz=33,SNR=14
L24A ⇓P P 14 23 48.2 +1.6
baz=33,SNR=14
M23A Laramie 33.50 100 ⇑P P 14 23 48.4 +1.6
baz=33
M23A ⇑P P 14 23 48.4 +1.6
baz=33
O21A Pagoda 33.52 103 ⇓P P 14 23 48.4 +1.5
baz=33,SNR=16
O21A ⇓P P 14 23 48.4 +1.5
baz=33,SNR=16
Q19A Hogan Spring (33.56 107 ⇓P P 14 23 48.5 +1.4
baz=33,SNR=33
Q19A ⇓P P 14 23 48.5 +1.4
baz=33,SNR=33
P20A De Beque 33.59 105 ⇓P P 14 23 48.8 +1.3
baz=33,SNR=9.1
P20A ⇓P P 14 23 48.8 +1.3
baz=33,SNR=9.1
N22A Wattenberg Ran 33.61 101 ⇑P P 14 23 49.5 +1.8
baz=33,SNR=9.6
N22A ⇑P P 14 23 49.5 +1.8
baz=33,SNR=9.6
BBRC Big Bear Solar 33.62 121 ⇓P P 14 23 49.8 +1.9
baz=34
BBRC ⇓P P 14 23 49.8 +1.9
baz=34
K25A Mack Ranch, Ha 33.65 97 ⇑P P 14 23 49.4 +1.5
baz=33
K25A ⇑P P 14 23 49.4 +1.5
baz=33
R18A Canyonlands Na 33.67 108 ⇑P P 14 23 49.2 +1.0
baz=34,SNR=19
R18A ⇑P P 14 23 49.2 +1.0
baz=34,SNR=19
CIS Catalina Islan 33.68 123 ⇓P P 14 23 49.7 +1.5
baz=34,SNR=6.8
CIS ⇓P P 14 23 49.7 +1.5
baz=34,SNR=6.8
PHWY Pilot Hill 33.76 100 *e*P P 14 23 49.5 +0.5
comp=Z,10nm,0.9s
N23A Red Feather La 33.80 101 ⇓P P 14 23 50.9 +1.4
baz=34
N23A ⇓P P 14 23 50.9 +1.4
baz=34
S17A Black Ridge (B 33.81 110 ⇑P P 14 23 51.2 +1.9
baz=34,SNR=45
S17A ⇑P P 14 23 51.2 +1.9
baz=34,SNR=45
K26A Motz Farm, Whi 33.95 96 ⇑P P 14 23 51.4 +1.0
baz=34,SNR=6.2
K26A ⇑P P 14 23 51.4 +1.0
baz=34,SNR=6.2
M24A Cheyenne 33.97 99 ⇓P P 14 23 52.4 +1.6
baz=34,SNR=7.8
M24A ⇓P P 14 23 52.4 +1.6
baz=34,SNR=7.8
SCI San Clemente I 33.98 124 ⇑P P 14 23 52.8 +2.1
baz=34,SNR=7.1
SCI ⇑P P 14 23 52.8 +2.1
baz=34,SNR=7.1
U15A North Rim 34.03 113 ⇑P P 14 23 53.5 +2.0
baz=34,SNR=27
U15A ⇑P P 14 23 53.5 +2.0
baz=34,SNR=27
O22A Kremmling 34.03 102 ⇓P P 14 23 52.9 +1.4
baz=34,SNR=11
O22A ⇓P P 14 23 52.9 +1.4
baz=34,SNR=11
P21A Newcastle 34.05 104 ⇓P P 14 23 53.3 +1.8
baz=34,SNR=24
P21A ⇓P P 14 23 53.3 +1.8
baz=34,SNR=24
Q20A Ridgley Place, 34.05 106 ⇓P P 14 23 52.4 +1.0
baz=34,SNR=18
Q20A ⇓P P 14 23 52.4 +1.0
baz=34,SNR=18
MURC Murrieta 34.05 122 ⇓P P 14 23 52.9 +1.6
baz=34,SNR=5.3
MURC ⇓P P 14 23 52.9 +1.6
baz=34,SNR=5.3
AGMN Agassiz Nation 34.06 82 *e*P P 14 23 51.6 +0.3
comp=Z,16nm,0.9s
R19A Curley Farm, L 34.07 107 ⇓P P 14 23 52.9 +1.2
baz=34,SNR=21
R19A ⇓P P 14 23 52.9 +1.2
baz=34,SNR=21
S18A Hurst Farm, Bl 34.16 109 ⇓P P 14 23 53.9 +1.3
baz=34,SNR=21
S18A ⇓P P 14 23 53.9 +1.3
baz=34,SNR=21
PV04 Paradox Valley 34.17 107 *e*P P 14 23 53.8 +1.3
BELC Belle Mtn. Jos 34.26 120 ⇑P P 14 23 55.1 +1.8
baz=34,SNR=24
BELC ⇑P P 14 23 55.1 +1.8
baz=34,SNR=24
NEE2 Needles Airpor 34.26 117 ⇓P P 14 23 55.1 +2.0
baz=34,SNR=6.2
NEE2 ⇓P P 14 23 55.1 +2.0
baz=34,SNR=6.2
T17A Navajo Res., N 34.30 110 ⇑P P 14 23 54.9 +1.1
baz=34,SNR=18
T17A ⇑P P 14 23 54.9 +1.1
baz=34,SNR=18
O23A Lake Granby, G 34.32 102 ⇑P P 14 23 56.2 +2.2
baz=34,SNR=19
O23A ⇑P P 14 23 56.2 +2.2
baz=34,SNR=19
W13A Hualapai Mount 34.34 116 ⇑P P 14 23 56.2 +2.1
baz=34,SNR=22
W13A ⇑P P 14 23 56.2 +2.1
baz=34,SNR=22
P22A Eagle 34.35 103 ⇑P P 14 23 55.7 +1.6
baz=34,SNR=21
P22A ⇑P P 14 23 55.7 +1.6
baz=34,SNR=21
PFO Pinyon Flat Ob 34.38 121 *e*P P 14 23 55.4 +1.1
PFO pmax pmax
comp=Z,47nm,1.5s
PFO Pinyon Flat Ob 34.38 121 *e*P P 14 23 55.4 +1.1
comp=Z,47nm,1.5s
PFO *es*P **sP** 14 24 19.3 +3.6
PFO Pinyon Flat Ob 34.38 121 P P 14 23 55.8 +1.5
comp=Z,106nm,1.0s,SNR=8.6
PFO Pinyon Flat Ob 34.38 121 ⇓P P 14 23 55.9 +1.5
baz=34,SNR=16
PFO ⇓P P 14 23 55.9 +1.5
baz=34,SNR=16
M25A Palm-Egli Farm 34.39 98 ⇑P P 14 23 56.6 +2.2
baz=34,SNR=24
M25A ⇑P P 14 23 56.6 +2.2
baz=34,SNR=24
N24A Carr 34.40 100 ⇓P P 14 23 56.3 +1.7
baz=34
N24A ⇓P P 14 23 56.3 +1.7
baz=34
K27A Flueckinger Fa 34.44 95 ⇑P P 14 23 55.9 +1.2
baz=34,SNR=7.6
K27A ⇑P P 14 23 55.9 +1.2
baz=34,SNR=7.6
L26A Underwood Farm 34.47 97 ⇓P P 14 23 56.2 +1.2
baz=34
L26A ⇓P P 14 23 56.2 +1.2
baz=34
Q21A Lamborn Mesa, 34.50 105 ⇑P P 14 23 56.7 +1.3
baz=34,SNR=8.9
Q21A ⇑P P 14 23 56.7 +1.3
baz=34,SNR=8.9
IRM Iron Mountain 34.52 118 ⇓P P 14 23 57.7 +2.3
baz=34,SNR=42
IRM ⇓P P 14 23 57.7 +2.3
baz=34,SNR=42
PV01 Paradox Valley 34.53 107 *e*P P 14 23 57.1 +1.4
comp=Z,6μm,1.3s
S19A Harvey Farm, M 34.55 108 ⇑P P 14 23 57.0 +1.1
baz=34,SNR=22
S19A ⇑P P 14 23 57.0 +1.1
baz=34,SNR=22
SMCO Snowmass 34.55 104 *e*P P 14 23 56.6 +0.5
comp=Z,16nm,1.0s
R20A Redvale 34.59 106 ⇑P P 14 23 57.9 +1.7
baz=34,SNR=23
R20A ⇑P P 14 23 57.9 +1.7
baz=34,SNR=23
T18A Mexican Hat 34.66 109 ⇓P P 14 23 57.8 +1.1
baz=34,SNR=37
T18A ⇓P P 14 23 57.8 +1.1
baz=34,SNR=37
U17A Shonto 34.69 111 ⇑P P 14 23 58.3 +1.3
baz=34,SNR=12
U17A ⇑P P 14 23 58.3 +1.3
baz=34,SNR=12
ISCO Idaho Springs 34.78 102 *e*P P 14 23 59.8 +1.8
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO Idaho Springs 34.78 102 *e*P P 14 23 59.8 +1.8
comp=Z,9.4nm,0.9s
ISCO Idaho Springs 34.78 102 ⇓P P 14 23 59.6 +1.7
baz=35,SNR=5.6
ISCO ⇓P P 14 23 59.6 +1.7
baz=35,SNR=5.6
BC3 Big Chuckawall 34.80 119 ⇑P P 14 23 59.5 +1.6
baz=35,SNR=15
BC3 ⇑P P 14 23 59.5 +1.6
baz=35,SNR=15
Q22A Crested Butte, 34.82 104 ⇓P P 14 23 59.7 +1.4
baz=35,SNR=9.0
Q22A ⇓P P 14 23 59.7 +1.4
baz=35,SNR=9.0
O24A Longmont 34.82 101 ⇑P P 14 24 00.1 +2.0
baz=35
O24A ⇑P P 14 24 00.1 +2.0
baz=35
U16A Tuba City 34.82 112 ⇓P P 14 23 59.8 +1.6
baz=35,SNR=16
U16A ⇓P P 14 23 59.8 +1.6
baz=35,SNR=16
N25A Grover 34.83 99 ⇓P P 14 23 60.0 +1.8
baz=35
N25A ⇓P P 14 23 60.0 +1.8
baz=35
M26A McRoberts Ranc 34.84 97 ⇓P P 14 23 59.7 +1.5
baz=35
M26A ⇓P P 14 23 59.7 +1.5
baz=35
R21A Cimarron 34.87 105 ⇓P P 14 24 00.1 +1.4
baz=35,SNR=16
R21A ⇓P P 14 24 00.1 +1.4
baz=35,SNR=16
PDMCI Parker Dam,Lak 34.87 117 ⇓P P 14 24 00.2 +1.8
baz=35,SNR=8.9
PDMCI ⇓P P 14 24 00.2 +1.8
baz=35,SNR=8.9
S20A Disappointment 34.87 107 ⇑P P 14 24 00.2 +1.5
baz=35,SNR=30
S20A ⇑P P 14 24 00.2 +1.5
baz=35,SNR=30
BRSD Miller 34.96 90 ⇓P P 14 24 00.1 +1.0
baz=35
BRSD ⇓P P 14 24 00.1 +1.0
baz=35
P23A Jefferson 34.98 102 ⇓P P 14 24 02.0 +2.2
baz=35,SNR=11
P23A ⇓P P 14 24 02.0 +2.2
baz=35,SNR=11
MONP Monument Peak 35.00 121 ⇑P P 14 24 01.9 +2.1
baz=35,SNR=34
MONP ⇑P P 14 24 01.9 +2.1
baz=35,SNR=34
Y12C Blythe 35.15 118 ⇑P P 14 24 02.9 +2.1
baz=35,SNR=26
Y12C ⇑P P 14 24 02.9 +2.1
baz=35,SNR=26
WUAZ Wupatki 35.20 113⇑ *i*P P 14 24 03.3 +1.8
comp=Z,53nm,1.0s
WUAZ Wupatki 35.20 113 ⇓P P 14 24 03.6 +2.1
baz=35,SNR=40
WUAZ ⇓P P 14 24 03.6 +2.1
baz=35,SNR=40
SWSC Sam W. Stewart 35.24 120 ⇑P P 14 24 03.4 +1.9
baz=35,SNR=10
SWSC ⇑P P 14 24 03.4 +1.9
baz=35,SNR=10
N26A Koester Ranch, 35.26 98 ⇓P P 14 24 04.0 +2.1
baz=35
N26A ⇓P P 14 24 04.0 +2.1
baz=35
MVCO Mesa Verde 35.28 108 *e*P P 14 24 03.0 +0.8
comp=Z,15nm,0.9s
MVCO Mesa Verde 35.28 108 ⇓P P 14 24 03.5 +1.3
baz=35,SNR=13
MVCO ⇓P P 14 24 03.5 +1.3
baz=35,SNR=13
S21A Coal Bank Pass 35.29 106 ⇑P P 14 24 04.0 +1.7
baz=35,SNR=45
S21A ⇑P P 14 24 04.0 +1.7
baz=35,SNR=45
T19A Beclabito 35.32 109 ⇑P P 14 23 03.8 +1.3
baz=35,SNR=28
T19A ⇑P P 14 23 03.8 +1.3
baz=35,SNR=28
O25A Wiggins 35.32 100 ⇑P P 14 24 04.3 +1.9
baz=35
O25A ⇑P P 14 24 04.3 +1.9
baz=35
DVTC Desert V Tower 35.34 121 ⇑P P 14 24 04.5 +1.9
baz=35,SNR=12
DVTC ⇑P P 14 24 04.5 +1.9
baz=35,SNR=12
Q23A Hartsel 35.34 103 ⇓P P 14 24 04.6 +1.8
baz=35
Q23A ⇓P P 14 24 04.6 +1.8
baz=35
P24A Kohler Place, 35.36 101 ⇓P P 14 24 04.7 +2.0
baz=35
P24A ⇓P P 14 24 04.7 +2.0
baz=35
R22A Saguache, Gunn 35.38 105 ⇑P P 14 24 05.1 +1.9
baz=35,SNR=6.0
R22A ⇑P P 14 24 05.1 +1.9
baz=35,SNR=6.0
V17A Tonalea, Kykot 35.40 112 ⇓P P 14 24 05.4 +2.2
baz=35,SNR=64
V17A ⇓P P 14 24 05.4 +2.2
baz=35,SNR=64
GLA Glamis 35.59 119 ⇑P P 14 24 06.6 +2.0
baz=35,SNR=23
GLA ⇑P P 14 24 06.6 +2.0
baz=35,SNR=23
N27A Anderson Farm, 35.64 98 ⇓P P 14 24 06.8 +1.7
baz=35,SNR=26
N27A ⇓P P 14 24 06.8 +1.7
baz=35,SNR=26
O26A Horse Wrangler 35.65 99 ⇓P P 14 24 07.0 +1.8
baz=35,SNR=10
O26A ⇓P P 14 24 07.0 +1.8
baz=35,SNR=10
Q24A Divide 35.65 102 ⇓P P 14 24 07.2 +1.8
baz=35,SNR=13
Q24A ⇓P P 14 24 07.2 +1.8
baz=35,SNR=13
U19A Dine' College, 35.65 109 ⇓P P 14 24 06.7 +1.3
baz=36,SNR=5.1
U19A ⇓P P 14 24 06.7 +1.3
baz=36,SNR=5.1
Y14A Wickenburg 35.70 116 ⇓P P 14 24 07.6 +2.0
baz=36,SNR=31
Y14A ⇓P P 14 24 07.6 +2.0
baz=36,SNR=31
S22A 4UR Ranch, Cre 35.71 105 ⇑P P 14 24 08.1 +2.2
baz=36,SNR=13
S22A ⇑P P 14 24 08.1 +2.2
baz=36,SNR=13
P25A Willow Gulch B 35.74 101 ⇑P P 14 24 08.4 +2.4
baz=36,SNR=28
P25A ⇑P P 14 24 08.4 +2.4
baz=36,SNR=28
V18A Ganado 35.75 111 ⇓P P 14 24 08.1 +1.9
baz=36,SNR=17
V18A ⇓P P 14 24 08.1 +1.9
baz=36,SNR=17
OGNE Ogallala 35.80 97 *e*P P 14 24 07.8 +1.4
comp=Z,50nm,1.0s
W17A Winslow 35.88 112 ⇓P P 14 24 09.1 +1.9
baz=36,SNR=8.1
W17A ⇓P P 14 24 09.1 +1.9
baz=36,SNR=8.1
R23A Moffat 35.88 104 ⇑P P 14 24 09.6 +2.2
baz=36,SNR=15
R23A ⇑P P 14 24 09.6 +2.2
baz=36,SNR=15
U20A Newcomb 35.92 109 ⇓P P 14 24 09.5 +1.9
baz=36,SNR=8.7
U20A ⇓P P 14 24 09.5 +1.9
baz=36,SNR=8.7
T21A Navajo Lake 35.94 107 ⇑P P 14 24 09.6 +1.8
baz=36,SNR=5.3
T21A ⇑P P 14 24 09.6 +1.8
baz=36,SNR=5.3
Z13A Yuma Proving G 36.01 118 ⇓P P 14 24 09.9 +1.8
baz=36,SNR=16
Z13A ⇓P P 14 24 09.9 +1.8
baz=36,SNR=16
O27A Beecher Island 36.12 98 ⇓P P 14 24 10.8 +1.6
baz=36,SNR=5.0
O27A ⇓P P 14 24 10.8 +1.6
baz=36,SNR=5.0
P26A Davis Ranch, A 36.13 100 ⇓P P 14 24 11.1 +1.8
baz=36,SNR=20
P26A ⇓P P 14 24 11.1 +1.8
baz=36,SNR=20
Q25A Bedland, Calha 36.15 101 ⇓P P 14 24 11.5 +1.9
baz=36,SNR=18
Q25A ⇓P P 14 24 11.5 +1.9
baz=36,SNR=18
S23A Nye Farm, Mont 36.16 105 ⇑P P 14 24 12.0 +2.3
baz=36
S23A ⇑P P 14 24 12.0 +2.3
baz=36
V19A Window Rock 36.19 110 ⇓P P 14 24 11.7 +1.8
baz=36,SNR=11
V19A ⇓P P 14 24 11.7 +1.8
baz=36,SNR=11
Z14A Wintersburg 36.20 117 ⇑P P 14 24 11.9 +2.0
baz=36,SNR=16
Z14A ⇑P P 14 24 11.9 +2.0
baz=36,SNR=16
R24A Sanders Place, 36.22 103 ⇑P P 14 24 12.4 +2.2
baz=36,SNR=15
R24A ⇑P P 14 24 12.4 +2.2
baz=36,SNR=15
T22A Edith 36.24 106 ⇓P P 14 24 12.8 +2.4
baz=36,SNR=43
T22A ⇓P P 14 24 12.8 +2.4
baz=36,SNR=43
113A Mohawk Valley, 36.31 118 ⇑P P 14 24 12.5 +1.7
baz=36,SNR=25
113A ⇑P P 14 24 12.5 +1.7
baz=36,SNR=25
U21A Nageezi 36.31 108 ⇓P P 14 24 13.0 +1.9
baz=36,SNR=24
U21A ⇓P P 14 24 13.0 +1.9
baz=36,SNR=24
W18A Petrified Fore 36.32 111 ⇓P P 14 24 12.8 +1.7
baz=36,SNR=7.1
W18A ⇓P P 14 24 12.8 +1.7
baz=36,SNR=7.1
V20A Brimhall 36.41 109 ⇓P P 14 24 13.6 +1.8
baz=36,SNR=16
V20A ⇓P P 14 24 13.6 +1.8
baz=36,SNR=16
W19A Sanders 36.50 111 ⇑P P 14 24 14.7 +2.2
baz=36,SNR=19
W19A ⇑P P 14 24 14.7 +2.2
baz=36,SNR=19
Q26A Hugo 36.52 101 ⇑P P 14 24 14.6 +2.0
baz=36,SNR=14
Q26A ⇑P P 14 24 14.6 +2.0
baz=36,SNR=14
EYMN Ely 36.55 80 *e*P P 14 24 12.9 +0.2
comp=Z,27nm,0.8s
EYMN *ep*P **pP** 14 24 27.3 -0.1
S24A Houchin Ranch, 36.62 104 ⇑P P 14 24 16.0 +2.3
baz=36,SNR=26
S24A ⇑P P 14 24 16.0 +2.3
baz=36,SNR=26
T23A Casias Ranch, 36.66 105 ⇑P P 14 24 16.0 +1.9
baz=36,SNR=5.3
T23A ⇑P P 14 24 16.0 +1.9
baz=36,SNR=5.3
ECSD EROS Data Cent 36.67 89 *e*P P 14 24 14.0 +0.3

comp=Z,20nm,1.0s
X18A Snowflake 36.69 112 ⇑P **P 14 24 16.3 +2.1**
baz=36,SNR=30
X18A ⇑P **P 14 24 16.3 +2.1**
baz=36,SNR=30
R25A Fountain Ranch 36.70 102 ⇓P **P 14 24 16.4 +2.1**
baz=36,SNR=40
R25A ⇓P **P 14 24 16.4 +2.1**
baz=36,SNR=40
U22A Llaves 36.76 107 ⇑P **P 14 24 16.9 +2.1**
baz=37,SNR=9.6
U22A ⇑P **P 14 24 16.9 +2.1**
baz=37,SNR=9.6
YAK Yakutsk 36.80 310*c i*P **P 14 24 13.7 -0.9**
YAK *e* 14 25 40.1
YAK *e*S **S 14 29 53.4 -0.8**
YAK pmax pmax
comp=Z,94nm,1.0s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,31nm,1.6s
YAK pmax pmax
comp=E,53nm,1.6s
YAK smax smax
comp=N,82nm,2.5s
YAK smax smax
comp=E,85nm,1.8s
YAK Yakutsk 36.80 310 *e*P **P 14 24 13.6 -1.0**
comp=E,122nm,0.7s
YAK *e*pP **pP 14 24 29.9 +0.6**
V21A Milan 36.81 108 ⇓P **P 14 24 17.3 +2.0**
baz=37,SNR=28
V21A ⇓P **P 14 24 17.3 +2.0**
baz=37,SNR=28
KSCO Kaye Shedlock' 36.91 100 ⇓P **P 14 24 17.9 +2.0**
baz=37,SNR=14
KSCO ⇓P **P 14 24 17.9 +2.0**
baz=37,SNR=14
W20A Ramah 36.92 110 ⇑P **P 14 24 18.0 +1.8**
baz=37,SNR=53
W20A ⇑P **P 14 24 18.0 +1.8**
baz=37,SNR=53
Y17A Roosevelt 36.93 114 ⇑P **P 14 24 18.4 +2.3**
baz=37,SNR=15
Y17A ⇑P **P 14 24 18.4 +2.3**
baz=37,SNR=15
S25A Robets Cordova 37.00 103 ⇑P **P 14 24 18.7 +1.9**
baz=37,SNR=13
S25A ⇑P **P 14 24 18.7 +1.9**
baz=37,SNR=13
R26A Arlington 37.02 101 ⇓P **P 14 24 18.6 +1.7**
baz=37,SNR=21
R26A ⇓P **P 14 24 18.6 +1.7**
baz=37,SNR=21
V22A San Miguel Ran 37.09 107 ⇑P **P 14 24 19.5 +1.9**
baz=37,SNR=32
V22A ⇑P **P 14 24 19.5 +1.9**
baz=37,SNR=32
X19A St. Johns 37.09 111 ⇑P **P 14 24 19.6 +1.9**
baz=37,SNR=9.9
X19A ⇑P **P 14 24 19.6 +1.9**
baz=37,SNR=9.9
U23A El Rito 37.13 106 ⇓P **P 14 24 20.2 +2.3**
baz=37,SNR=46
U23A ⇓P **P 14 24 20.2 +2.3**
baz=37,SNR=46
T24A Torres, Weston 37.13 104 ⇑P **P 14 24 20.5 +2.5**
baz=37,SNR=16
T24A ⇑P **P 14 24 20.5 +2.5**
baz=37,SNR=16
Y18A Canyon Day Jun 37.26 113 ⇓P **P 14 24 21.5 +2.5**
baz=37,SNR=47
Y18A ⇓P **P 14 24 21.5 +2.5**
baz=37,SNR=47
W21A San Fidel 37.35 109 ⇓P **P 14 24 21.4 +1.5**
baz=37,SNR=9.0
W21A ⇓P **P 14 24 21.4 +1.5**
baz=37,SNR=9.0
R27A Eads 37.37 101 ⇓P **P 14 24 21.7 +1.8**
baz=37,SNR=28
R27A ⇓P **P 14 24 21.7 +1.8**
baz=37,SNR=28
X20A Quemado 37.39 110 ⇑P **P 14 24 22.2 +2.0**
baz=37,SNR=14
X20A ⇑P **P 14 24 22.2 +2.0**
baz=37,SNR=14
T25A Trinidad 37.41 103 ⇑P **P 14 24 22.2 +1.9**
baz=37,SNR=10
T25A ⇑P **P 14 24 22.2 +1.9**
baz=37,SNR=10
214A Organ Pipe Nat 37.43 118 ⇓P **P 14 24 22.3 +2.0**
baz=37,SNR=19
214A ⇓P **P 14 24 22.3 +2.0**
baz=37,SNR=19
Z17A San Carlos Hig 37.44 114 ⇓P **P 14 24 22.7 +2.3**
baz=37,SNR=12
Z17A ⇓P **P 14 24 22.7 +2.3**
baz=37,SNR=12
Y19A Nutrioso 37.49 112 ⇓P **P 14 24 23.6 +2.5**
baz=37,SNR=26
Y19A ⇓P **P 14 24 23.6 +2.5**
baz=37,SNR=26
BGNE Belgrade 37.50 93 ⇓P **P 14 24 22.2 +1.4**
baz=37,SNR=33
BGNE ⇓P **P 14 24 22.2 +1.4**
baz=37,SNR=33
S26A Kim 37.52 102 ⇓P **P 14 24 23.1 +2.0**
baz=37,SNR=29
S26A ⇓P **P 14 24 23.1 +2.0**
baz=37,SNR=29
U24A Moreno Valley 37.53 105 ⇑P **P 14 24 23.8 +2.4**
baz=37
U24A ⇑P **P 14 24 23.8 +2.4**
baz=37
V23A Ortiz Mt. (NFS 37.59 107 ⇓P **P 14 24 24.4 +2.6**
baz=37,SNR=8.6
V23A ⇓P **P 14 24 24.4 +2.6**
baz=37,SNR=8.6
SPMN St. Paul 37.66 84 ⇓P **P 14 24 23.3 +1.2**
baz=37,SNR=7.5
SPMN ⇓P **P 14 24 23.3 +1.2**
baz=37,SNR=7.5
S27A Las Animas 37.77 101 ⇓P **P 14 24 25.1 +1.9**
baz=38
S27A ⇓P **P 14 24 25.1 +1.9**
baz=38
W22A Albuquerque 37.78 108 ⇓P **P 14 24 25.7 +2.3**
baz=38
W22A ⇓P **P 14 24 25.7 +2.3**
baz=38
X21A Alamocita Cree 37.82 110 ⇓P **P 14 24 26.0 +2.2**
baz=38,SNR=53
X21A ⇓P **P 14 24 26.0 +2.2**
baz=38,SNR=53
Z18A Geronimo 37.82 114 ⇓P **P 14 24 26.0 +2.4**
baz=38,SNR=11
Z18A ⇓P **P 14 24 26.0 +2.4**
baz=38,SNR=11
Y20A Horse Springs, 37.96 111 ⇑P **P 14 24 27.4 +2.4**
baz=38,SNR=18
Y20A ⇑P **P 14 24 27.4 +2.4**
baz=38,SNR=18
U25A Circle Dot Ran 37.98 104 ⇓P **P 14 24 27.1 +2.0**
baz=38,SNR=19
U25A ⇓P **P 14 24 27.1 +2.0**
baz=38,SNR=19
Z19A T-Link Ranch, 38.02 112 ⇓P **P 14 24 27.9 +2.5**
baz=38,SNR=13
Z19A ⇓P **P 14 24 27.9 +2.5**
baz=38,SNR=13
V24A Rampart Ranch, 38.06 106 ⇓P **P 14 24 28.1 +2.3**
baz=38,SNR=15
V24A ⇓P **P 14 24 28.1 +2.3**
baz=38,SNR=15
W23A Werner Place, 38.07 107 ⇑P **P 14 24 28.0 +2.2**
baz=38,SNR=10
W23A ⇑P **P 14 24 28.0 +2.2**
baz=38,SNR=10
ANMO Albuquerque 38.08 108 P **P 14 24 27.6 +1.6**
comp=E,2.9nm,0.5s,baz=325,slow=10,SNR=22
ANMO LR LR 14 38 28.1
comp=E,182nm,21.1s,baz=323,slow=33
ANMO Albuquerque 38.08 108 P **P 14 24 27.6 +1.6**

ANMO Albuquerque 38.08 108 P **P 14 24 27.6 +1.6**
TUC Tucson 38.09 115 *e*P **P 14 24 27.7 +1.7**
TUC pmax pmax
comp=Z,32nm,1.4s
TUC Tucson 38.09 115 *e*P **P 14 24 27.7 +1.7**
comp=Z,32nm,1.4s
X22A Bernardo 38.16 109 ⇓P **P 14 24 29.0 +2.5**
baz=38,SNR=7.6
X22A ⇓P **P 14 24 29.0 +2.5**
baz=38,SNR=7.6
Y21A Point of Rocks 38.22 110 ⇑P **P 14 24 29.8 +2.5**
baz=38,SNR=11
Y21A ⇑P **P 14 24 29.8 +2.5**
baz=38,SNR=11
V25A Rancho No Teng 38.31 105 ⇑P **P 14 24 30.0 +2.1**
baz=38,SNR=16
V25A ⇑P **P 14 24 30.0 +2.1**
baz=38,SNR=16
U26A Atchley Ranch, 38.32 104 ⇑P **P 14 24 29.9 +1.9**
baz=38,SNR=10
U26A ⇑P **P 14 24 29.9 +1.9**
baz=38,SNR=10
T27A Campo 38.34 102 ⇓P **P 14 24 30.0 +2.0**
baz=38,SNR=21
T27A ⇓P **P 14 24 30.0 +2.0**
baz=38,SNR=21
W24A Lazy 6 Ranch, 38.40 106 ⇑P **P 14 24 30.8 +2.1**
baz=38,SNR=15
W24A ⇑P **P 14 24 30.8 +2.1**
baz=38,SNR=15
119A Ashpeak Ranch, 38.43 113 ⇑P **P 14 24 31.3 +2.4**
baz=38,SNR=49
119A ⇑P **P 14 24 31.3 +2.4**
baz=38,SNR=49
LENM Lemitar 38.45 109 *e*P **P 14 24 30.6 +1.6**
comp=Z,5.7nm,0.6s
Z20A Nine Sixteen R 38.49 112 ⇓P **P 14 24 31.8 +2.4**
baz=38,SNR=36
Z20A ⇓P **P 14 24 31.8 +2.4**
baz=38,SNR=36
LPM Los Pinos Moun 38.50 109 *e*P **P 14 24 31.3 +1.8**
comp=Z,19nm,1.3s
X23A Hourglass Bar 38.51 108 ⇓P **P 14 24 31.4 +1.8**
baz=38,SNR=6.0
X23A ⇓P **P 14 24 31.4 +1.8**
baz=38,SNR=6.0
Y22D IRIS PASSCAL I 38.54 109 ⇓P **P 14 24 32.2 +2.4**
baz=38
Y22D ⇓P **P 14 24 32.2 +2.4**
baz=38
CBKS Cedar Bluff 38.56 97 *e*P **P 14 24 31.0 +1.2**
CBKS pmax pmax
comp=Z,102nm,1.4s
CBKS Cedar Bluff 38.56 97 *e*P **P 14 24 31.0 +1.2**
comp=Z,102nm,1.4s
T28A Walsh 38.60 101 ⇓P **P 14 24 32.1 +1.9**
baz=38,SNR=15
T28A ⇓P **P 14 24 32.1 +1.9**
baz=38,SNR=15
BNM Barren Site 38.63 109 *e*P **P 14 24 32.3 +1.6**
comp=Z,42nm,1.6s
Y22A Socorro 38.63 109 ⇑P **P 14 24 32.6 +2.0**
baz=38,SNR=14
Y22A ⇑P **P 14 24 32.6 +2.0**
baz=38,SNR=14
218A Dragoon 38.73 115 ⇓P **P 14 24 33.6 +2.3**
baz=39,SNR=28
218A ⇓P **P 14 24 33.6 +2.3**
baz=39,SNR=28
Z21A St. Cloud Mine 38.79 111 ⇓P **P 14 24 34.2 +2.3**
baz=39,SNR=22
Z21A ⇓P **P 14 24 34.2 +2.3**
baz=39,SNR=22
W25A X Bar L Ranch, 38.87 105 ⇑P **P 14 24 34.5 +1.9**
baz=39,SNR=15
W25A ⇑P **P 14 24 34.5 +1.9**
baz=39,SNR=15
X24A Lazy VL Ranch, 38.90 107 ⇑P **P 14 24 34.8 +2.0**
baz=39,SNR=6.3
X24A ⇑P **P 14 24 34.8 +2.0**
baz=39,SNR=6.3
120A U Bar Ranch, L 38.94 112 ⇓P **P 14 24 35.3 +2.2**
baz=39,SNR=9.6
120A ⇓P **P 14 24 35.3 +2.2**
baz=39,SNR=9.6
Y23A Lovelace Mesa, 39.09 108 ⇓P **P 14 24 36.5 +2.0**
baz=39,SNR=26
Y23A ⇓P **P 14 24 36.5 +2.0**
baz=39,SNR=26
Z22A Elephant Butte 39.18 110 ⇑P **P 14 24 37.4 +2.3**
baz=39,SNR=36
Z22A ⇑P **P 14 24 37.4 +2.3**
baz=39,SNR=36
318A Bisbee 39.19 115 ⇑P **P 14 24 37.5 +2.2**
baz=39,SNR=38
318A ⇑P **P 14 24 37.5 +2.2**
baz=39,SNR=38
X25A Clemmons Ranch 39.31 106 ⇑P **P 14 24 38.4 +2.1**
baz=39
X25A ⇑P **P 14 24 38.4 +2.1**
baz=39
W26A Owens Ranch, T 39.33 105 ⇑P **P 14 24 38.4 +2.0**
baz=39,SNR=9.6
W26A ⇑P **P 14 24 38.4 +2.0**
baz=39,SNR=9.6
121A Cookes Peak, D 39.36 112 ⇑P **P 14 24 38.9 +2.3**
baz=39,SNR=36
121A ⇑P **P 14 24 38.9 +2.3**
baz=39,SNR=36
Y24A Capitan 39.40 108 ⇑P **P 14 24 39.0 +1.9**
baz=39,SNR=23
Y24A ⇑P **P 14 24 39.0 +1.9**
baz=39,SNR=23
220A Playas Peak, P 39.51 113 ⇑P **P 14 24 39.8 +1.9**
baz=39,SNR=34
220A ⇑P **P 14 24 39.8 +1.9**
baz=39,SNR=34
Z23A Rita Site, Whi 39.54 109 ⇓P **P 14 24 40.1 +2.0**
baz=39,SNR=7.6
Z23A ⇓P **P 14 24 40.1 +2.0**
baz=39,SNR=7.6
YSS Yuzh-Sakhalins 39.56 283⇑*e*P **P 14 24 40.9 +3.0**
YSS pmax pmax
comp=Z,110nm,0.9s
YSS Yuzh-Sakhalins 39.56 283 P **P 14 24 37.2 -0.8**
comp=Z,108nm,0.8s
319A Douglas 39.58 114 ⇑P **P 14 24 40.5 +2.0**
baz=39
319A ⇑P **P 14 24 40.5 +2.0**
baz=39
122A Conniff Cattle 39.61 111 ⇑P **P 14 24 41.3 +2.6**
baz=39
122A ⇑P **P 14 24 41.3 +2.6**
baz=39
W27A Bowe Ranch, En 39.70 104 ⇓P **P 14 24 41.0 +1.6**
baz=40
W27A ⇓P **P 14 24 41.0 +1.6**
baz=40
X26A CR and CF Fran 39.73 105 ⇑P **P 14 24 41.4 +1.7**
baz=40,SNR=8.2
X26A ⇑P **P 14 24 41.4 +1.7**
baz=40,SNR=8.2
SCIA State Center 39.74 88 *e*P **P 14 24 39.3 -0.2**
comp=Z,45nm,1.1s
SCIA *e*pP **pP 14 24 55.3 +0.9**
Y25A Mesa, Roswell 39.78 107 ⇓P **P 14 24 41.8 +1.7**
baz=40,SNR=37
Y25A ⇓P **P 14 24 41.8 +1.7**
baz=40,SNR=37
221A Mesquite Ranch 39.79 112 ⇑P **P 14 24 42.4 +2.2**
baz=40
221A ⇑P **P 14 24 42.4 +2.2**
baz=40
Z24A Sheeppen Canyo 39.91 108 ⇑P **P 14 24 43.2 +1.9**
baz=40,SNR=24
Z24A ⇑P **P 14 24 43.2 +1.9**
baz=40,SNR=24
YUK Yuzh-Kuril'sk 39.92 277*c i*P **P 14 24 41.9 +0.9**
YUK *i* S **S 14 30 41.2 -0.4**
YUK *i* SS **SS 14 33 29.9 -10**
YUK pmax pmax
comp=Z,336nm,6.6s
YUK MLR MLR
comp=N,417nm,18.0s
YUK MLR MLR
comp=E,660nm,18.0s
YUK MLR MLR
comp=Z,368nm,18.0s

320A Kipp Ranch, An 39.98 113 ⇑P **P 14 24 43.9 +2.1**
baz=40,SNR=14
320A ⇑P **P 14 24 43.9 +2.1**
baz=40,SNR=14
KSU1 Kansas State U 39.98 94 *e*P **P 14 24 42.2 +0.6**
comp=Z,67nm,1.0s
X27A F and S Farms, 40.01 105 ⇑P **P 14 24 43.6 +1.6**
baz=40,SNR=5.2
X27A ⇑P **P 14 24 43.6 +1.6**
baz=40,SNR=5.2
123A Bell Site, Whi 40.03 110 ⇓P **P 14 24 44.1 +2.0**
baz=40
123A ⇓P **P 14 24 44.1 +2.0**
baz=40
Y26A Elida 40.22 106 ⇑P **P 14 24 45.3 +1.6**
baz=40
Y26A ⇑P **P 14 24 45.3 +1.6**
baz=40
Z25A Roswell 40.28 108 ⇑P **P 14 24 45.8 +1.6**
baz=40,SNR=12
Z25A ⇑P **P 14 24 45.8 +1.6**
baz=40,SNR=12
AMTX Amarillo 40.55 103 *e*P **P 14 24 47.5 +1.1**
comp=Z,73nm,1.2s
Y27A Causey 40.58 105 ⇓P **P 14 24 48.2 +1.4**
baz=40,SNR=24
Y27A ⇓P **P 14 24 48.2 +1.4**
baz=40,SNR=24
JFWS Jewell Farm 40.58 85 *e*P **P 14 24 45.8 -0.7**
JFWS pmax pmax
comp=Z,43nm,1.2s
JFWS Jewell Farm 40.58 85 *e*P **P 14 24 45.8 -0.7**
comp=Z,43nm,1.2s
JFWS *e*pP **pP 14 25 02.4 +1.0**
Z26A Caprock 40.66 107 ⇑P **P 14 24 48.5 +1.2**
baz=40,SNR=15
Z26A ⇑P **P 14 24 48.5 +1.2**
baz=40,SNR=15
MSTX Muleshoe 40.71 105 ⇓P **P 14 24 49.1 +1.3**
baz=40,SNR=18
MSTX ⇓P **P 14 24 49.1 +1.3**
baz=40,SNR=18
125A Gardner Draw, 40.81 108 ⇓P **P 14 24 50.2 +1.6**
baz=41,SNR=31
125A ⇓P **P 14 24 50.2 +1.6**
baz=41,SNR=31
224A Cornudas Mount 40.84 110 ⇑P **P 14 24 50.6 +1.6**
baz=41,SNR=16
224A ⇑P **P 14 24 50.6 +1.6**
baz=41,SNR=16
CPRX Cap Rock 40.90 107 *e*P **P 14 24 50.7 +1.3**
comp=Z,7.8nm,0.7s
Z27A Tatum 41.01 106 ⇓P **P 14 24 51.3 +1.1**
baz=41,SNR=11
Z27A ⇓P **P 14 24 51.3 +1.1**
baz=41,SNR=11
126A Clayton Basin, 41.13 107 ⇑P **P 14 24 52.7 +1.4**
baz=41
126A ⇑P **P 14 24 52.7 +1.4**
baz=41
225A Deer Hill, Car 41.16 109 ⇓P **P 14 24 53.1 +1.5**
baz=41,SNR=12
225A ⇓P **P 14 24 53.1 +1.5**
baz=41,SNR=12
MNTX Cornudas Mount 41.22 110 *e*P **P 14 24 51.6 -0.3**
comp=Z,22nm,0.9s
GDL2 Guadalupe Moun 41.32 108 *e*P **P 14 24 54.4 +1.6**
comp=Z,91nm,1.4s
324A Moseley Ranch, 41.38 110 ⇓P **P 14 24 54.8 +1.5**
baz=41,SNR=23
324A ⇓P **P 14 24 54.8 +1.5**
baz=41,SNR=23
127A Arkansas Junct 41.44 107 ⇑P **P 14 24 54.9 +1.1**
baz=41
127A ⇑P **P 14 24 54.9 +1.1**
baz=41
CLNB Carlsbad 41.51 108 *e*P **P 14 24 55.4 +1.1**
comp=Z,1.3nm,0.5s
226A Malaga, Loving 41.56 108 ⇑P **P 14 24 56.3 +1.6**
baz=41,SNR=15
226A ⇑P **P 14 24 56.3 +1.6**
baz=41,SNR=15
ASAJ Asahikawa 41.57 279 P **P 14 24 53.5 -1.0**
comp=Z,22nm,0.5s,baz=45,slow=4.3,SNR=9.4
ASAJ LR LR 14 41 17.0
comp=Z,223nm,19.3s,baz=28,slow=35
ASAJ Asahikawa 41.57 279 *e*P **P 14 24 53.8 -0.8**
comp=Z,41nm,1.3s
SUMG Summit 41.61 25 ⇓*i*P **P 14 24 56.1 +1.0**
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG Summit 41.61 25 *e*P **P 14 24 55.9 +0.9**
comp=Z,162nm,1.0s
SUMG Summit 41.61 25 ⇓*i*P **P 14 24 56.1 +1.0**
comp=Z,106nm,0.9s
325A Bean Ranch, Si 41.69 110 ⇑P **P 14 24 57.4 +1.5**
baz=42,SNR=23
325A ⇑P **P 14 24 57.4 +1.5**
baz=42,SNR=23
CLNS Chul'man 41.78 305 *e*P **P 14 24 53.9 -2.3**
CLNS *e*'PP pP 14 24 59.6 -11
CLNS *e*PPP PPP 14 26 57.2
CLNS *e*S **S 14 31 05.9 -3.1**
CLNS *e*SSS SSS 14 34 04.4
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,2.0nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,1.3s
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS smax smax
comp=E,301nm,14.2s
CLNS smax smax
comp=N,116nm,12.3s
CLNS MLR MLR
comp=N,125nm,13.0s
CLNS MLR MLR
comp=Z,145nm,13.0s
DAG Danmarks Havn 41.88 15 ⇓*i*P **P 14 24 57.1 +0.4**
DAG pmax pmax
comp=Z,160nm,0.8s
DAG Danmarks Havn 41.88 15 ⇓*i*P **P 14 24 57.1 +0.4**
comp=Z,2μm,0.8s
227A Bennet, Jal 42.01 107 ⇓P **P 14 24 59.8 +1.4**
baz=42,SNR=5.3
227A ⇓P **P 14 24 59.8 +1.4**
baz=42,SNR=5.3
WMOK Wichita Mounta 42.16 100 *e*P **P 14 25 00.6 +1.1**
WMOK pmax pmax
comp=Z,54nm,1.0s
WMOK Wichita Mounta 42.16 100 *e*P **P 14 25 00.6 +1.1**
comp=Z,54nm,1.0s
425A Indio Mountain 42.16 110 ⇓P **P 14 25 01.8 +2.1**
baz=42,SNR=35
425A ⇓P **P 14 25 01.8 +2.1**
baz=42,SNR=35
SFJD Kangerlussuaq 42.17 35 ⇓*i*P **P 14 25 00.5 +1.3**
SFJD pmax pmax
comp=Z,54nm,0.8s
SFJD Kangerlussuaq 42.17 35 *e*P **P 14 25 00.2 +1.1**
comp=Z,96nm,1.0s
SFJD Kangerlussuaq 42.17 35 ⇓*i*P **P 14 25 00.5 +1.3**
comp=Z,54nm,0.9s
326A Caldwell Ranch 42.23 109 ⇑P **P 14 25 01.8 +1.6**
baz=42,SNR=20
326A ⇑P **P 14 25 01.8 +1.6**
baz=42,SNR=20
327A Balmorhea Ranc 42.43 108 ⇓P **P 14 25 03.3 +1.5**
baz=42
327A ⇓P **P 14 25 03.3 +1.5**
baz=42
HABR Khabarovsk 42.44 290*ce*P **P 14 25 01.0 -0.6**
HABR *e* 14 26 53.0
HABR *e*PPP PPP 14 27 11.6
HABR *e*S **S 14 31 18.1 -0.7**
HABR *e*SS **SS 14 34 29.0 -0.3**
HABR *e* 14 34 56.0
HABR *e*SSS SSS 14 35 04.4
HABR pmax pmax
comp=Z,216nm,1.3s
HABR pmax pmax
comp=E,119nm,1.3s
HABR pmax pmax

HABR MLR MLR
comp=N,39nm,1.3s

KBS Kingsbay 42.53 5 *d* iP **P 14 25 03.3 +1.3**
KBS pmax pmax
comp=Z,128nm,1.0s

KBS Kingsbay 42.53 5 *e*P **P 14 25 03.2 +1.2**
comp=Z,84nm,0.8s

426A McDonald Obser 42.73 109 ⇑P **P 14 25 06.0 +1.6**
comp=Z,232nm,19.0s
426A ⇑P **P 14 25 06.0 +1.6**
baz=42,SNR=16

ERM Erimo 42.76 277 *e*P **P 14 25 03.2 -1.0**
ERM pmax pmax
comp=Z,87nm,0.8s

ERM Erimo 42.76 277 *e*P **P 14 25 03.2 -1.0**
comp=Z,87nm,0.8s

ERM Erimo 42.76 277 P **P 14 25 04.1 -0.1**
comp=Z,629nm,1.0s,SNR=14

328A Wristen Ranch, 42.76 107 ⇓P **P 14 25 05.3 +0.9**
baz=43
328A ⇓P **P 14 25 05.3 +0.9**
baz=43

HDIL Hopedale 42.77 86 *e*P **P 14 25 03.5 -0.8**
comp=Z,50nm,0.8s

TUL1 Tulsa 42.81 96 ⇓P **P 14 25 05.3 +0.6**
baz=43,SNR=6.3
TUL1 ⇓P **P 14 25 05.3 +0.6**
baz=43,SNR=6.3

427A Hayter Ranch, 42.89 108 ⇑P **P 14 25 06.9 +1.3**
baz=43,SNR=12
427A ⇑P **P 14 25 06.9 +1.3**
baz=43,SNR=12

526A Mary Lane Ranc 43.20 110 ⇑P **P 14 25 09.9 +1.8**
baz=43,SNR=13
526A ⇑P **P 14 25 09.9 +1.8**
baz=43,SNR=13

428A Kincaid Ranch, 43.35 108 ⇑P **P 14 25 11.0 +1.7**
baz=43,SNR=42
428A ⇑P **P 14 25 11.0 +1.7**
baz=43,SNR=42

527A Woodward Ranch 43.36 109 ⇓P **P 14 25 10.8 +1.4**
baz=43,SNR=12
527A ⇓P **P 14 25 10.8 +1.4**
baz=43,SNR=12

SPB4 Spitsbergen Ar 43.44 3 *e*P **P 14 25 09.0 -0.3**
SPITS Spitsbergen Ar 43.44 3 P **P 14 25 09.3 -0.1**
comp=Z,66nm,0.6s,baz=353,slow=6.5,SNR=117

SPITS Spitsbergen Ar 43.44 3 P **P 14 25 09.3 -0.1**
SPITS Spitsbergen Ar 43.44 3 P **P 14 25 09.3 -0.1**
KLR Kul'dur 43.55 293 ⇓ *i* e P **P 14 25 07.7 -2.9**
KLR 14 25 08.0
KLR pmax pmax
comp=E,52nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s

626A Big Bend Ranch 43.59 110 ⇓P **P 14 25 12.7 +1.5**
baz=43,SNR=10
626A ⇓P **P 14 25 12.7 +1.5**
baz=43,SNR=10

528A Cox Ranch, San 43.76 108 ⇓P **P 14 25 14.2 +1.6**
baz=44,SNR=30
528A ⇓P **P 14 25 14.2 +1.6**
baz=44,SNR=30

TXAR Lajitas Array 44.00 110 P **P 14 25 15.9 +1.4**
comp=Z,8.2nm,0.9s,baz=327,slow=6.5,SNR=87
TXAR LR LR 14 41 19.2
comp=Z,270nm,21.4s,baz=195,slow=33

TXAR Lajitas Array 44.00 110 P **P 14 25 15.9 +1.4**
TXAR Lajitas Array 44.00 110 P **P 14 25 15.9 +1.4**
SCHQ Schefferville 44.03 56 P **P 14 25 14.1 -0.3**
comp=Z,4.3nm,0.3s,baz=322,slow=10,SNR=20
SCHQ LR LR 14 45 58.0
comp=Z,301nm,20.1s,baz=78,slow=39

SCHQ Schefferville 44.03 56 P **P 14 25 14.1 -0.3**
627A Terlingua Ranc 44.04 110 ⇓P **P 14 25 16.3 +1.4**
baz=44,SNR=18
627A ⇓P **P 14 25 16.3 +1.4**
baz=44,SNR=18

SFIN Scholer Farm 44.05 85 ⇑P **P 14 25 15.6 +1.0**
baz=44
SFIN ⇑P **P 14 25 15.6 +1.0**
baz=44

628A Black Gap, Mar 44.26 109 ⇑P **P 14 25 17.9 +1.3**
baz=44,SNR=39
628A ⇑P **P 14 25 17.9 +1.3**
baz=44,SNR=39

OLIL Olney 44.73 87 *e*P **P 14 25 20.2 +0.1**
comp=Z,78nm,0.9s

JCT Junction City 45.01 105 *e*P **P 14 25 23.3 +0.8**
JCT pmax pmax
comp=Z,106nm,0.9s

JCT Junction City 45.01 105 *e*P **P 14 25 23.2 +0.8**
comp=Z,106nm,0.9s
JCT epP **pP 14 25 39.1 +1.6**
JCT Junction City 45.01 105 ⇑P **P 14 25 23.5 +1.1**
baz=45,SNR=41
JCT ⇑P **P 14 25 23.5 +1.1**
baz=45,SNR=41

MIAR Mount Ida 45.02 96 *e*P **P 14 25 22.7 +0.2**
MIAR pmax pmax
comp=Z,55nm,1.1s

MIAR Mount Ida 45.02 96 *e*P **P 14 25 22.6 +0.2**
comp=Z,55nm,1.1s
MIAR epP **pP 14 25 38.0 +0.5**
BLO Bloomington 45.23 85 *e*P **P 14 25 24.8 +0.7**
BLO pmax pmax
comp=Z,13nm,0.8s

BLO Bloomington 45.23 85 *e*P **P 14 25 24.8 +0.7**
comp=Z,13nm,0.8s

UALR University of 45.48 94 *e*P **P 14 25 25.9 -0.3**
comp=Z,18nm,1.1s

USIN University of 45.53 87 *e*P **P 14 25 26.4 0.0**
comp=Z,44nm,1.0s

BOD Bodaibo 45.63 312 ⇓ *i*P **P 14 25 25.9 -1.1**
BOD pmax pmax
comp=Z,30nm,0.7s

WCI Wyandotte Cave 46.05 86 *e*P **P 14 25 30.3 -0.3**
WCI pmax pmax
comp=Z,24nm,0.9s

WCI Wyandotte Cave 46.05 86 *e*P **P 14 25 30.3 -0.3**
comp=Z,24nm,0.9s
WCI epP **pP 14 25 45.6 -0.1**
ACSO Alum Creek Sta 46.30 82 *e*P **P 14 25 30.6 -1.9**
comp=Z,21nm,0.8s

SCO Scoresbysund 46.59 21 *i* P **P 14 25 35.4 +1.1**
SCO pmax pmax
comp=Z,25nm,1.2s

SCO Scoresbysund 46.59 21 *i* P **P 14 25 35.4 +1.1**
comp=Z,25nm,1.2s

NATX Nacogdoches 46.63 99 P **P 14 25 36.1 +1.0**
comp=Z,50nm,1.0s

WVT Waverly 46.82 89 *e*P **P 14 25 36.7 +0.1**
WVT pmax pmax
comp=Z,25nm,0.9s

WVT Waverly 46.82 89 *e*P **P 14 25 36.7 +0.1**
comp=Z,25nm,0.9s
WVT epP **pP 14 25 52.0 +0.2**
USRK Ussuriysk Arra 46.92 287 P **P 14 25 35.9 -1.4**
comp=Z,27nm,0.8s,baz=44,slow=7.8,SNR=42
USRK PP **PP 14 27 26.6 -1.4**
comp=Z,3.5nm,0.6s,baz=32,slow=5.7,SNR=6.2
USRK LR LR 14 45 13.8
comp=Z,142nm,20.3s,baz=14,slow=36

HKT Hockley 47.46 102 *e*P **P 14 25 43.2 +1.6**
HKT pmax pmax
comp=Z,65nm,1.4s

HKT Hockley 47.46 102 *e*P **P 14 25 43.2 +1.6**
comp=Z,64nm,1.4s

PLAL Pickwick Lake 47.57 90 *e*P **P 14 25 43.0 +0.6**
comp=Z,97nm,0.6s

MDJ Mudanjiang 47.83 289 P **P 14 25 42.8 -1.5**
MDJ pmax pmax
comp=Z,42nm,1.1s
MDJ pmax pmax
comp=Z,96nm,4.3s

MDJ Mudanjiang 47.83 289 *e*P **P 14 25 43.3 -1.1**
comp=Z,33nm,0.8s

VBMS Vicksburg 48.43 95 *e*P **P 14 25 50.1 +1.0**
VBMS epP **pP 14 26 05.3 +1.0**
SWET Sewanee 48.52 88 *e*P **P 14 25 49.9 0.0**
comp=Z,42nm,0.8s
SWET epP **pP 14 26 04.4 -0.6**
SSPA Standing Stone 48.64 77 *e*P **P 14 25 51.0 +0.4**
comp=Z,46nm,1.1s

TZTN Tazewell 48.76 85 *e*P **P 14 25 52.2 +0.6**
comp=Z,35nm,1.0s

HIA Hailar 49.18 300 *e*P **P 14 25 53.9 -0.8**
HIA pmax pmax
comp=Z,30nm,0.9s

HIA Hailar 49.18 300 *e*P **P 14 25 53.9 -0.8**
comp=Z,30nm,0.9s

TKL Tuckaleechee C 49.31 86 *e*P **P 14 25 56.1 +0.2**
TKL Tuckaleechee C 49.31 86 *e*P **P 14 25 56.0 +0.2**
MAJO Matsushiro 49.38 276 *e*P **P 14 25 55.9 -0.4**
MAJO pmax pmax
comp=Z,74nm,1.0s

MAJO Matsushiro 49.38 276 *e*P **P 14 25 55.9 -0.4**
comp=Z,74nm,1.0s
MAJO epP **pP 14 26 11.8 +0.2**
MAT Matsushiro 49.38 276 P **P 14 25 56.1 -0.3**
MAT S **S 14 32 58.6 -0.1**
MJAR Matsushiro Arr 49.38 276 P **P 14 25 56.0 -0.4**
comp=Z,19nm,0.9s,baz=31,slow=6.3,SNR=25
MJAR LR LR 14 45 27.6
comp=Z,216nm,20.5s,baz=355,slow=34

MJAR Matsushiro Arr 49.38 276 P **P 14 25 56.0 -0.4**
MJAR Matsushiro Arr 49.38 276 P **P 14 25 56.0 -0.4**
LRAL Lakeview Retre 49.64 91 *e*P **P 14 25 58.1 -0.2**
comp=Z,24nm,1.0s
BLA Blacksburg 49.88 82 *e*P **P 14 26 00.2 0.0**
BLA pmax pmax
comp=Z,24nm,0.8s

BLA Blacksburg 49.88 82 *e*P **P 14 26 00.2 0.0**
comp=Z,24nm,0.8s
CIT Chita 49.91 306 *e*P **P 14 26 01.1 +0.9**
CIT pmax pmax
comp=Z,177nm,1.7s

CN2 Changchun 50.46 291 ⇑P **P 14 26 03.8 -0.7**
CN2 epP **pP 14 26 19.4 -0.3**
CN2 esP **sP 14 26 26.5 +0.1**
CN2 eS **S 14 33 10.0 -3.6**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 LR LR
comp=Z,200nm,14.0s

GOGA Godfrey 51.20 88 *e*P **P 14 26 10.1 0.0**
GOGA pmax pmax
comp=Z,13nm,0.8s

GOGA Godfrey 51.20 88 *e*P **P 14 26 10.1 0.0**
comp=Z,13nm,0.8s
TRO Tromso 52.05 4 *e*P **P 14 26 17.3 +1.4**
KEV Kevo 52.09 0 *e*P **P 14 26 15.4 -0.8**
KEV pmax pmax
comp=Z,37nm,0.7s

KEV Kevo 52.09 0 *e*p **P 14 26 15.4 -0.8**
comp=Z,37nm,0.7s

KEV Kevo 52.09 0 *e*p **P 14 26 15.4 -0.8**
comp=Z,37nm,0.7s

ARCES ARCESS Array B 52.30 1 P **P 14 26 17.5 -0.4**
comp=Z,20nm,0.4s,baz=7.0,slow=8.2,SNR=138
ARCES pP **pP 14 26 33.3 +0.1**
comp=Z,16nm,0.7s,baz=0.6,slow=8.1,SNR=4.8
ARCES LR LR 14 51 18.3
comp=Z,99nm,21.0s,baz=289,slow=39

ARCES ARCESS Array B 52.30 1 P **P 14 26 17.5 -0.4**
ARCES ARCESS Array B 52.30 1 P **P 14 26 17.5 -0.4**
ARCES pP **pP 14 26 33.3 +0.1**
ARE0 ARCESS Array S 52.30 1 *e*P **P 14 26 17.6 -0.3**
ARE0 ARCESS Array S 52.30 1 *e*P **P 14 26 17.5 -0.3**
IRK Irkutsk 53.52 312 *e*P **P 14 26 26.5 -0.6**
IRK pmax pmax
comp=Z,46nm,2.0s

STEI Steigen 53.58 6 *e*P **P 14 26 27.2 0.0**
LVZ Lovozero 53.86 357 *d* iP **P 14 26 29.4 0.0**
LVZ pmax pmax
comp=Z,111nm,1.0s

LVZ Lovozero 53.86 357 P **P 14 26 29.9 +0.5**
comp=Z,683nm,0.9s,SNR=9.5

KSRS Korea Array 54.00 284 P **P 14 26 31.2 +0.4**
comp=Z,71nm,0.8s,baz=39,slow=7.2,SNR=75
KSRS LR LR 14 49 08.7
comp=Z,116nm,20.5s,baz=50,slow=36

KSAR Wonju Array Be 54.03 284 P **P 14 26 31.2 +0.2**
KSAR Wonju Array Be 54.03 284 P **P 14 26 31.2 +0.2**
TLY Talaya 54.20 312 *e*P **P 14 26 32.1 0.0**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,211nm,19.0s

TLY Talaya 54.20 312 *e*P **P 14 26 32.1 0.0**
comp=Z,15nm,1.0s

APA Apatity 54.22 357 ⇑ *i*P **P 14 26 31.8 -0.1**
APA MLR MLR
comp=Z,1.0nm,14.0s

INCN Inchon 54.63 285 *e*P **P 14 26 35.2 -0.2**
comp=Z,82nm,0.8s

STOK Stokkvaagen 55.03 7 *e*P **P 14 26 38.5 +0.8**
MOY Mondy 55.24 314 *e*P **P 14 26 40.6 +0.9**
ZAK Zakamensk 55.36 311 ⇓ *i*P **P 14 26 40.4 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s

ULN Ulaanbaatar 55.80 307 *e*P **P 14 26 43.6 -0.2**
ULN pmax pmax
comp=Z,31nm,0.9s

ULN Ulaanbaatar 55.80 307 *e*P **P 14 26 43.6 -0.2**
comp=Z,31nm,0.9s

JNU Nakatsue 55.84 279 *e*P **P 14 26 43.1 -1.1**
comp=Z,11nm,0.8s

SONM Songino Array 56.10 307 P **P 14 26 46.4 +0.5**
comp=Z,23nm,0.6s,baz=42,slow=7.0,SNR=69
SONM pP **pP 14 27 03.0 +1.6**
comp=Z,64nm,1.0s,baz=39,slow=7.7,SNR=14
SONM S **S 14 34 31.5 +1.3**
comp=Z,1.3nm,0.9s,baz=62,slow=10,SNR=4.0
SONM LR LR 14 50 42.5
comp=Z,231nm,20.9s,baz=46,slow=36

SONM Songino Array 56.10 307 P **P 14 26 46.4 +0.5**
SONM S **S 14 34 31.5 +1.3**
SONM Songino Array 56.10 307 P **P 14 26 46.4 +0.5**
SONM pP **pP 14 27 03.0 +1.6**
SONM S **S 14 34 31.5 +1.3**
NSS Namsos 56.74 8 *e*P **P 14 26 49.1 -1.0**
BJI Beijing 57.81 295 P **P 14 27 02.0 +4.1**
BJI S **S 14 34 53.8 +1.2**
BJI pmax pmax
comp=Z,85nm,0.5s
BJI pmax pmax
comp=Z,120nm,5.0s
BJI LR LR
comp=N,250nm,12.3s
BJI LR LR
comp=E,410nm,18.1s
BJI LR LR
comp=Z,150nm,21.3s

BJT Baijiatuau 57.83 295 P **P 14 26 57.8 -0.3**
BJT pmax pmax
comp=Z,56nm,0.4s

BJT Baijiatuau 57.83 295 P **P 14 26 57.8 -0.3**
comp=Z,56nm,0.4s

MOL Molde 58.29 11 *e*P P 14 26 52.5 -8.4
MOL AMB AMB 14 26 55.4
comp=Z,103nm,1.9s

CMIG Matias Romero 58.61 110 P **P 14 27 03.7 -0.1**
comp=Z,12nm,0.9s,baz=332,slow=7.7,SNR=11

CMIG Matias Romero 58.61 110 P **P 14 27 03.7 -0.1**
NVS Novosibirsk 58.61 326 ⇑ *i*P **P 14 27 01.2 -2.1**
NVS *e*PPP PPP 14 30 35.5
NVS eS **S 14 34 57.6 -5.1**
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.7s
NVS pmax pmax
comp=Z,32nm,0.7s
NVS smax smax
comp=N,10.0nm,2.0s
NVS smax smax
comp=E,17nm,2.0s

ZAA0 Zalesovo Array 58.91 325 *e*P **P 14 27 04.9 -0.5**
ZALV Zalesovo Beam 58.91 325 P **P 14 27 05.0 -0.4**
comp=E,43nm,0.7s,baz=29,slow=7.2,SNR=220
ZALV LR LR 14 56 43.0
comp=E,128nm,18.3s,baz=218,slow=40

ZALV Zalesovo Beam 58.91 325 P **P 14 27 05.0 -0.4**
ZALV Zalesovo Beam 58.91 325 P **P 14 27 05.0 -0.4**
JOF Joensuu 58.93 358 *e*P **P 14 27 05.8 +0.4**
JOF Joensuu 58.93 358 *e*p **P 14 27 05.8 +0.4**
JOF Joensuu 58.93 358 *e*p **P 14 27 05.8 +0.4**
TEIG Tepich 59.31 102 *e*P **P 14 27 08.2 -0.5**
comp=E,48nm,1.4s
TEIG epP **pP 14 27 24.9 +0.7**
TEIG esP **sP 14 27 32.5 +1.6**
HHC Hu-ho-hao-te 59.33 299 *e*P **P 14 27 08.7 0.0**
HHC pP **pP 14 27 21.4 -2.9**
HHC sP **sP 14 27 26.9 -4.0**
HHC PcP **PcP 14 27 57.3 +1.2**
HHC PP **PP 14 29 21.4 +1.6**
HHC ScP **ScP 14 31 52.2 +0.7**
HHC S **S 14 35 10.5 -2.2**
HHC sS sS 14 35 32.6 -6.4
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,230nm,6.0s
HHC LR LR
comp=N,330nm,15.0s
HHC LR LR
comp=E,330nm,15.4s
HHC LR LR
comp=Z,250nm,15.5s

LRW Lerwick 59.57 16 *e*P **P 14 27 09.8 0.0**
LRW AMB AMB 14 27 20.6
comp=Z,92nm,5.3s

LRW Lerwick 59.57 16 P **P 14 27 09.8 0.0**
LRW AMB AMB 14 27 20.6
comp=Z,92nm,5.3s

KAF Kangasniemi 59.76 1 *e*P **P 14 27 10.6 -0.5**
KAF pmax pmax
comp=Z,33nm,0.5s

KAF Kangasniemi 59.76 1 *e*p **P 14 27 10.6 -0.5**
comp=Z,33nm,0.5s

KAF Kangasniemi 59.76 1 *e*p **P 14 27 10.6 -0.5**
comp=Z,33nm,0.5s

ASK Askoy 60.07 13 *e*P **P 14 27 12.5 -0.8**
NOA NORSAR Array B 60.13 9 P **P 14 27 13.7 -0.1**
comp=Z,31nm,0.9s,baz=350,slow=6.7,SNR=57
NOA pP **pP 14 27 30.9 +1.4**
comp=Z,22nm,0.9s,baz=350,slow=6.7,SNR=12
NOA LR LR 14 50 56.0
comp=Z,119nm,19.8s,baz=0.0,slow=34

NOA NORSAR Array B 60.13 9 P **P 14 27 13.7 -0.1**
NOA NORSAR Array B 60.13 9 P **P 14 27 13.7 -0.1**
NOA pP **pP 14 27 30.9 +1.4**
SOKR Solikamsk 60.15 344 *d* iP **P 14 27 12.0 -1.8**
SOKR pmax pmax
comp=Z,100nm,1.3s

RUND Rundenannen 60.16 13 *e*P **P 14 27 13.2 -0.8**
RUND AMB AMB 14 27 14.6
comp=Z,122nm,1.4s

RUND *e*pP **pP 14 27 31.1 +1.5**
BER Bergen 60.19 13 *e*P **P 14 27 13.2 -0.9**
NAO01 NORSAR Array S 60.30 10 *e*P **P 14 27 14.9 0.0**
comp=Z,23nm,0.8s
NAO01 epP **pP 14 27 31.6 +1.1**
FINES FINESS Array B 60.43 1 P **P 14 27 15.6 -0.1**
comp=Z,82nm,0.8s,baz=3.8,slow=8.4,SNR=131
FINES pP **pP 14 27 33.0 +1.7**
comp=Z,34nm,0.8s,baz=359,slow=8.3,SNR=6.2

FINES FINESS Array B 60.43 1 P **P 14 27 15.6 -0.1**
FINES FINESS Array B 60.43 1 P **P 14 27 15.6 -0.1**
FINES pP **pP 14 27 33.0 +1.7**
NC602 NORSAR Array S 60.46 9 *e*P **P 14 27 16.2 +0.2**
ODD1 Odda 60.79 12 *e*P **P 14 27 17.5 -0.8**
ODD1 AMB AMB 14 27 18.7
comp=Z,57nm,1.4s

ODD1 *e*pP **pP 14 27 36.3 +2.4**
ODD1 *e*sP **sP 14 27 43.7 +3.2**
OSL Oslo 61.18 10 *e*P **P 14 27 21.3 +0.5**
MVH1 Achvaich 61.20 19 *e*P **P 14 27 21.0 0.0**
MVH1 Achvaich 61.20 19 P **P 14 27 21.0 0.0**
HFS Hagfors 61.23 8 LR LR 14 55 15.7
comp=Z,86nm,18.9s,baz=59,slow=37

KONO Kongsberg 61.36 10 *e*P **P 14 27 22.7 +0.7**
KONO AMB AMB 14 27 23.9
comp=Z,82nm,1.4s

KONO *e*pP **pP 14 27 38.3 +0.5**
KONO *e*sP **sP 14 27 47.9 +3.5**
KONO Kongsberg 61.36 10 *e*P **P 14 27 22.7 +0.7**
KONO pmax pmax
comp=Z,76nm,1.2s

KONO Kongsberg 61.36 10 *e*P **P 14 27 22.7 +0.7**
comp=Z,76nm,1.2s

KPL Plockton 61.50 20 *e*P **P 14 27 23.2 +0.2**
KPL AMB AMB 14 27 27.1
comp=Z,122nm,4.2s

KPL Plockton 61.50 20 P **P 14 27 23.2 +0.2**
KPL AMB AMB 14 27 27.1
comp=Z,122nm,4.2s

MDO Dochfour 61.63 19 *e*P **P 14 27 23.8 -0.2**
MDO Dochfour 61.63 19 P **P 14 27 23.8 -0.2**
MCD Coleburn Disti 61.68 18 *e*P **P 14 27 23.7 -0.6**
MCD Coleburn Disti 61.68 18 P **P 14 27 23.7 -0.6**
PUL Pulkovo 62.11 359 ⇑ *e*P **P 14 27 27.8 +0.8**
PUL pmax pmax
comp=Z,193nm,1.2s

SVE Sverdlovsk 62.14 340 ⇑ *i*P **P 14 27 27.1 -0.2**
SVE pmax pmax
comp=Z,77nm,1.0s

JOW Kunigami 62.20 276 *e*P **P 14 27 28.4 +0.2**
comp=Z,36nm,0.9s

SNART Snartemo 62.40 12 *e*P **P 14 27 29.7 +0.6**
SNART AMB AMB 14 27 30.9
comp=Z,62nm,1.3s

HOMB Homborsund 62.61 11 *e*P **P 14 27 31.5 +1.1**
HOMB esP **sP 14 27 56.2 +3.5**
EAB Aberfoyle 62.82 20 *e*P **P 14 27 31.9 0.0**
EAB Aberfoyle 62.82 20 P **P 14 27 31.9 0.0**
ARU Arti 62.87 341 *d* iP **P 14 27 31.4 -0.9**
ARU 14 28 08.2
ARU 14 29 46.7
ARU S **S 14 35 57.5 +0.6**
ARU SS **SS 14 40 06.2 +4.5**
ARU pmax pmax
comp=Z,68nm,0.8s

ARU Arti 62.87 341 *e*P **P 14 27 31.4 -0.9**
comp=Z,54nm,0.8s

ARU Arti 62.87 341 P **P 14 27 31.9 -0.3**
comp=Z,447nm,0.8s,SNR=19

PGBU Glenifferbraes 63.16 20 *e*P **P 14 27 33.7 -0.4**
PGBU AMB AMB 14 27 38.1
comp=Z,115nm,2.6s

PGBU Glenifferbraes 63.16 20 P **P 14 27 33.7 -0.4**
PGBU AMB AMB 14 27 38.1
comp=Z,115nm,2.6s

EDI Edinburgh 63.28 19 *e*P **P 14 27 35.3 +0.4**
EDI AMB AMB 14 27 36.4
comp=Z,54nm,2.1s

EDI Edinburgh 63.28 19 P **P 14 27 35.3 +0.4**
EDI AMB AMB 14 27 36.4
comp=Z,54nm,2.1s

EAU Auchinoon 63.30 19 *e*P **P 14 27 35.5 +0.4**
EAU Auchinoon 63.30 19 P **P 14 27 35.5 +0.4**
ESY Stoneypath 63.38 19 *e*P **P 14 27 34.8 -0.8**
ESY Stoneypath 63.38 19 P **P 14 27 34.8 -0.8**
VSU Vasula 63.43 1 *d* iP **P 14 27 36.1 +0.3**
VSU pmax pmax
comp=Z,381nm,1.2s

EBL Broad Law 63.44 19 *e*P **P 14 27 36.2 +0.2**
EBL Broad Law 63.44 19 P **P 14 27 36.2 +0.2**
KURK Kurchatov 63.58 327 *d* iP **P 14 27 36.4 -0.6**
KURK pmax pmax
comp=Z,28nm,0.7s

KURK Kurchatov 63.58 327 *e*P **P 14 27 36.4 -0.6**
comp=Z,28nm,0.8s
KURK eS S 14 35 59.7 -6.2
KURK Kurchatov 63.58 327 P **P 14 27 36.2 -0.8**
comp=Z,223nm,0.8s,SNR=21

BRVK Borovoye 63.66 333 *d* iP **P 14 27 37.0 -0.5**
BRVK pmax pmax
comp=Z,64nm,0.8s

BRVK Borovoye 63.66 333 *e*P **P 14 27 36.9 -0.6**
comp=Z,54nm,0.8s

BRVK Borovoye 63.66 333 P **P 14 27 37.0 -0.5**
comp=Z,451nm,0.6s,SNR=40

BVA0 Borovoye Array 63.66 333 *i* P **P 14 27 37.0 -0.6**
BVA0 pmax pmax
comp=Z,12nm,0.8s

ESK Eskdalemuir 63.85 19 AMB AMB 14 27 38.5
comp=Z,94nm,3.4s
ESK *e*P **P 14 27 38.6 -0.1**
ESK Eskdalemuir 63.85 19 AMB AMB 14 27 38.5
comp=Z,94nm,3.4s

ESK Eskdalemuir 63.85 19 P **P 14 27 38.6 -0.1**
ESK Eskdalemuir 63.85 19 P **P 14 27 39.7 +1.0**
comp=Z,211nm,1.0s,SNR=5.0

GAL1 Galloway 64.01 20 *e*P **P** **14 27 39.6 -0.2**
GAL1 AMB AMB 14 27 40.5
comp=Z,62nm,1.2s
GAL1 Galloway 64.01 20 P **P** **14 27 39.6 -0.2**
GAL1 AMB AMB 14 27 40.5
comp=Z,62nm,1.2s
ZRNK Zerenda 64.06 334 P **P** **14 27 39.7 -0.4**
ZRNK pmax pmax
comp=Z,97nm,0.9s
XAL Allendale 64.46 19 *e*P **P** **14 27 42.5 -0.2**
XAL Allendale 64.46 19 P **P** **14 27 42.5 -0.2**
MUD Monsted U'grnd 64.46 11 *i* P **P** **14 27 44.0 +1.3**
MUD pmax pmax
comp=Z,26nm,0.9s
MUD Monsted U'grnd 64.46 11 *i* P **P** **14 27 44.0 +1.3**
comp=Z,26nm,0.9s
KESW Keswick, Cumbr 64.56 19 *e*P **P** **14 27 43.6 +0.2**
KESW AMB AMB 14 27 48.7
comp=Z,48nm,2.0s
KESW Keswick, Cumbr 64.56 19 P **P** **14 27 43.6 +0.2**
KESW AMB AMB 14 27 48.7
comp=Z,48nm,2.0s
COP Copenhagen 65.53 10 *i* P **P** **14 27 50.9 +1.3**
COP pmax pmax
comp=Z,38nm,0.9s
COP Copenhagen 65.53 10 *i* P **P** **14 27 50.9 +1.3**
comp=Z,38nm,0.9s
GTA Gaotai 65.72 306 P **P** **14 27 51.3 0.0**
GTA pP **pP** **14 28 04.5 -2.6**
GTA sP **sP** **14 28 09.8 -3.9**
GTA S **S** **14 36 31.8 -1.0**
GTA sS sS 14 36 53.3 -6.2
GTA ScS **SKSac** **14 37 40.8 -0.8**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,140nm,6.2s
GTA LR LR
comp=N,280nm,26.6s
GTA LR LR
comp=E,290nm,26.1s
GTA LR LR
comp=Z,240nm,28.0s
MOS Moscow 65.89 354 *e*P **P** **14 27 51.9 -0.1**
MOS pmax pmax
comp=Z,64nm,1.0s
MOS pmax pmax
comp=Z,67nm,1.0s
MK31 Makanchi Array 65.94 322 *i* P **P** **14 27 51.7 -0.8**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 65.94 322 *e*P **P** **14 27 51.3 -1.2**
MKAR Makanchi Array 65.94 322 P **P** **14 27 51.6 -0.9**
comp=Z,11nm,0.8s,baz=46,slow=6.7,SNR=102
MKAR S **S** **14 36 38.9 +3.7**
comp=Z,1.1nm,0.8s,baz=45,slow=17,SNR=6.4
MKAR LR LR 14 56 28.3
comp=Z,177nm,21.9s,baz=2.3,slow=36
MKAR Makanchi Array 65.94 322 P **P** **14 27 51.6 -0.9**
MKAR S **S** **14 36 38.9 +3.7**
MKAR Makanchi Array 65.94 322 P **P** **14 27 51.6 -0.9**
MKAR S **S** **14 36 38.9 +3.7**
XAN Xi'an 66.07 296 P **P** **14 27 53.0 -0.5**
XAN sP sP 14 28 09.2 -6.7
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN LR LR
comp=N,150nm,23.8s
XAN LR LR
comp=Z,64nm,21.1s
IZAR Zarasai 66.14 1 *e*P **P** **14 27 54.4 +0.8**
IZAR AMB AMB 14 27 55.4
comp=Z,41nm,0.8s
FOEL Foel Wylfa 66.17 20 *e*P **P** **14 27 54.1 +0.2**
FOEL AMB AMB 14 28 02.7
comp=Z,65nm,4.1s
FOEL Foel Wylfa 66.17 20 P **P** **14 27 54.1 +0.2**
FOEL AMB AMB 14 28 02.7
comp=Z,65nm,4.1s
BSD Bornholm Skovb 66.30 8 *e*P **P** **14 27 54.8 +0.2**
BSD pmax pmax
comp=Z,41nm,0.8s
BSD Bornholm Skovb 66.30 8 *i* P **P** **14 27 54.8 +0.2**
comp=Z,41nm,0.8s
WHN Wuhan 66.31 290 ⇓P **P** **14 27 55.0 0.0**
WHN LR LR
comp=Z,930nm,13.1s
ISAL Salakas 66.32 1 *e*P **P** **14 27 55.5 +0.8**
ISAL AMB AMB 14 27 56.6
comp=Z,44nm,1.0s
IIGN Ignalina 66.54 1 *e*P **P** **14 27 56.9 +0.8**
IIGN AMB AMB 14 27 58.0
comp=Z,32nm,1.1s
OBN Obninsk 66.57 355 *d i*P **P** **14 27 56.0 -0.3**
OBN *e* 14 28 23.9
OBN *e* 14 30 19.8
OBN pmax pmax
comp=Z,81nm,0.7s
OBN MLR MLR
comp=Z,100nm,20.0s
OBN Obninsk 66.57 355 *e*P **P** **14 27 55.8 -0.5**
comp=Z,96nm,0.8s
OBN Obninsk 66.57 355 P **P** **14 27 56.2 -0.1**
comp=Z,630nm,1.0s,SNR=8.1
WMQ Urumqi 66.71 317 P **P** **14 27 57.3 -0.2**
WMQ pP **pP** **14 28 11.3 -2.1**
WMQ sP **sP** **14 28 16.3 -3.6**
WMQ S **S** **14 36 43.6 -1.1**
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,270nm,5.1s
WMQ LR LR
comp=N,250nm,26.0s
WMQ LR LR
comp=E,310nm,28.0s
WMQ LR LR
comp=Z,150nm,23.0s
LZH Lanzhou 66.72 301 *e*P **P** **14 27 57.0 -0.8**
LZH pP **pP** **14 28 10.8 -2.9**
LZH sP **sP** **14 28 15.8 -4.4**
LZH *e*PP **PP** **14 30 25.0 +0.2**
LZH pmax pmax
comp=Z,24nm,1.4s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=N,350nm,15.7s
LZH LR LR
comp=E,380nm,16.0s
LZH LR LR
comp=Z,400nm,18.0s
NACGM Naroch 67.00 1 *e* **P** **14 27 57.0 -2.0**
MCH1 Michaelchurch 67.06 20 *e*P **P** **14 27 59.3 -0.2**
MCH1 AMB AMB 14 28 10.3
comp=Z,58nm,2.0s
MCH1 Michaelchurch 67.06 20 P **P** **14 27 59.3 -0.2**
MCH1 AMB AMB 14 28 10.3
comp=Z,58nm,2.0s
MICGM Minsk 67.40 0 *e*P **P** **14 28 02.0 +0.4**
MNK Minsk 67.40 0 *e*P **P** **14 28 02.0 +0.4**
MNK pmax pmax
comp=Z,450nm,1.0s
SUW Suwalki 67.83 3 *e*P **P** **14 28 04.4 +0.1**
SUW Suwalki 67.83 3 *e*P **P** **14 28 04.4 +0.1**
SUW Suwalki 67.83 3 *e*P **P** **14 28 03.9 -0.3**
comp=Z,167nm,0.8s
GKP Gorka Klasztor 68.30 7 *e*P **P** **14 28 08.2 +1.0**
GKP Gorka Klasztor 68.30 7 *e*P **P** **14 28 08.2 +1.0**
IBBN Ibbenburen 68.38 13 *e*P **P** **14 28 08.7 +0.9**
comp=Z,49nm,1.0s
SSLB Suanglung 68.49 281 *e*P **P** **14 28 07.0 -1.9**
comp=Z,57nm,0.9s
AKTO Aktyubinsk 68.71 340 LR LR 15 01 04.7
comp=Z,93nm,18.1s,baz=196,slow=38
RUE Ruedersdorf 68.83 9 *e*P **P** **14 28 11.2 +0.7**
comp=Z,79nm,0.8s
ENH Enshi 68.90 293 *e*P **P** **14 28 10.8 -0.7**
comp=Z,25nm,0.8s
ENH *e*pP **pP** **14 28 27.8 +0.4**
TPUB Ta-pu 69.06 280 *e*P **P** **14 28 11.7 -0.8**
comp=Z,63nm,1.0s
CLZ Clausthal 69.14 12 *e*P **P** **14 28 13.7 +1.1**
comp=Z,75nm,1.0s
CLZ Clausthal 69.14 12 *e*P **P** **14 28 13.7 +1.1**
CLZ pmax pmax
comp=Z,75nm,1.0s
BUG Bochum--Univer 69.18 14 *e*P **P** **14 28 13.2 +0.5**
comp=Z,61nm,1.0s
AB31 Akbulak array 69.48 338 *i* P **P** **14 28 14.2 -0.5**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
ABKAR Akbulak array 69.48 338 ⇓*i*P **P** **14 28 14.2 -0.4**
comp=Z,41nm,0.8s
BEBN Eben Emael 69.60 15 XP sP 14 28 37.2 -0.7
SNF Seneffe 69.69 16 P **P** **14 28 16.9 +1.0**
comp=Z,11nm,1.5s
MEM Membach 69.83 15 P **P** **14 28 17.2 +0.4**
MEM E 14 28 25.6
MEM AP **pP** **14 28 34.9 +2.1**
comp=Z,11nm,0.8s
BEL Belsk 69.92 5 *e*P **P** **14 28 18.1 +0.8**
BEL Belsk 69.92 5 *e*P **P** **14 28 18.1 +0.8**
BCLA Clavier 69.92 15 P **P** **14 28 17.9 +0.5**
comp=Z,18nm,1.6s
BCLA AP **pP** **14 28 35.4 +2.0**
CLL Collm 69.92 10 *e*P **P** **14 28 17.4 +0.1**
comp=Z,34nm,1.0s
CLL Collm 69.92 10 ⇓*i*P **P** **14 28 17.7 +0.4**
CLL *i* 14 28 35.5
CLL *e*S **S** **14 37 18.0 -4.4**
CLL pmax pmax
comp=Z,36nm,1.0s
CLL Collm 69.92 10 ⇓*i*P **P** **14 28 17.7 +0.4**
comp=Z,36nm,1.0s
CLL *e* 14 28 33.0
CLL *i* pP **pP** **14 28 35.5 +2.2**
CLL *e*PP **PP** **14 30 54.0 +2.2**
CLL *e*S **S** **14 37 18.0 -4.4**
CLL *e*ScS **ScS** **14 38 16.0 +2.0**
CLL *e*SS SS 14 41 42.0 -9.0
CLL *e*SSS SSS 14 45 30.0
UBBA Unterbreizbach 70.11 12 *e*P **P** **14 28 19.8 +1.5**
comp=Z,24nm,1.4s
BAIF Baives 70.12 16 *e*P **P** **14 28 18.5 0.0**
comp=Z,90nm,1.3s
DOU Dourbes 70.14 16 P **P** **14 28 19.1 +0.4**
comp=Z,14nm,1.4s
DOU AP **pP** **14 28 34.0 -0.6**
VRHR Novokhopersk 70.24 351 *e*P **P** **14 28 17.4 -1.9**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 70.31 353 *e*P **P** **14 28 19.2 -0.5**
VSR *e**SP sP 14 28 36.8 -5.4
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR pmax pmax
comp=E,2.0nm,0.4s
VSR pmax pmax
comp=Z,20nm,0.4s
BRG Berggiesshubel 70.44 9 *i* P **P** **14 28 20.7 +0.2**
comp=Z,51nm,1.1s
BRG *i* pP **pP** **14 28 38.8 +2.4**
comp=Z,52nm,1.4s
BRG *e* 14 28 46.5
comp=Z,19nm,0.8s
BRG Berggiesshubel 70.44 9 *e*P **P** **14 28 20.9 +0.4**
comp=Z,48nm,1.1s
BRG *e*pP **pP** **14 28 38.9 +2.4**
BRG Berggiesshubel 70.44 9 *i* P **P** **14 28 20.7 +0.2**
BRG *e* 14 28 46.5
BRG pmax pmax
comp=Z,51nm,1.1s
BRG pmax pmax
comp=Z,52nm,1.4s
BRG pmax pmax
comp=Z,19nm,0.8s
MOX Moxa 70.45 11 *e*P **P** **14 28 21.0 +0.4**
comp=Z,56nm,1.0s
MOX Moxa 70.45 11 *e*P **P** **14 28 21.0 +0.4**
MOX pmax pmax
comp=Z,56nm,1.0s
TNS Taunus Mts 70.52 13 *e*P **P** **14 28 21.8 +0.7**
comp=Z,43nm,1.2s
TNS Taunus Mts 70.52 13 *e*P **P** **14 28 21.8 +0.7**
TNS pmax pmax
comp=Z,43nm,1.2s
ROSF Rostrenen 70.52 22 *e*P **P** **14 28 20.8 -0.2**
comp=Z,168nm,1.5s
FLN La Foliniere 70.62 19 *e*P **P** **14 28 21.1 -0.6**
comp=Z,45nm,1.0s
FLN *e*R
comp=Z,192nm,19.2s
KSP Ksiaz 70.65 8 *e*P **P** **14 28 22.8 +0.9**
KSP Ksiaz 70.65 8 ⇓*i*P **P** **14 28 22.6 +0.8**
KSP *e**PP **pP** **14 28 39.2 +1.4**
SGMF Saint Gilles 70.73 21 *e*P **P** **14 28 23.2 +0.9**
comp=Z,66nm,1.1s
TANN Tannenbergstha 70.76 10 *e*P **P** **14 28 23.2 +0.7**
comp=Z,32nm,1.1s
WLF Walferdange 70.77 15 P **P** **14 28 22.7 +0.1**
comp=Z,31nm,1.4s
WLF XP **sP** **14 28 42.2 -2.9**
WLF Walferdange 70.77 15 *e*P **P** **14 28 23.8 +1.2**
comp=Z,30nm,1.1s
WLF Walferdange 70.77 15 *e*P **P** **14 28 23.5 +0.9**
WLF *e**PP **PcP** **14 28 41.8 -1.2**
WLF pmax pmax
comp=Z,56nm,1.3s
WLF Walferdange 70.77 15 *e*P **P** **14 28 23.5 +0.9**
comp=Z,56nm,1.3s
WLF *e*pP **PcP** **14 28 41.8 -1.2**
PVCC Panska Ves 70.83 9 ⇓*i*P **P** **14 28 23.9 +1.0**
PVCC *e**PP **PcP** **14 28 41.1 -2.2**
PVCC Panska Ves 70.83 9 ⇓*i*P **P** **14 28 23.9 +1.0**
PVCC *e*pP **PcP** **14 28 41.1 -2.2**
LDF La Druitiere 70.85 19 *e*P **P** **14 28 22.2 -0.8**
comp=Z,81nm,0.5s
RUP Ruppelstein 70.86 14 *e*P **P** **14 28 22.9 -0.2**
RUP Ruppelstein 70.86 14 *e*P **P** **14 28 22.9 -0.2**
GRR Gorron 70.92 20 *e*P **P** **14 28 23.2 -0.3**
comp=Z,58nm,1.0s
NKC Novy Kostel 70.94 10 ⇓*i*P **P** **14 28 24.5 +0.9**
NKC *e**PP **pP** **14 28 41.5 +1.9**
NKC Novy Kostel 70.94 10 ⇓*i*P **P** **14 28 24.5 +0.9**
NKC *e*pP **pP** **14 28 41.5 +1.9**
QUIF Quistinic 70.94 22 *e*P **P** **14 28 23.3 -0.3**
comp=Z,107nm,1.3s
UPC Upice 70.96 8 ⇓*i*P **P** **14 28 24.5 +0.8**
UPC *e**PP **PcP** **14 28 42.0 -1.8**
UPC Upice 70.96 8 ⇓*i*P **P** **14 28 24.5 +0.8**
UPC *e*pP **PcP** **14 28 42.0 -1.8**
CD2 Chengdu 71.08 298 P **P** **14 28 25.0 +0.2**
CD2 pP **pP** **14 28 39.6 -1.2**
CD2 sP **sP** **14 28 45.6 -1.7**
CD2 PP **PP** **14 31 04.3 +1.8**
CD2 S **S** **14 37 34.4 -2.2**
CD2 sS **SKiKP** **14 37 59.0 -1.2**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,140nm,5.7s
CD2 LR LR
comp=N,420nm,8.3s
CD2 LR LR
comp=Z,360nm,6.5s
DPC Dobruska-Polom 71.14 8 ⇓*i*P **P** **14 28 26.0 +1.1**
DPC *e**PP **PcP** **14 28 43.6 -1.1**
DPC Dobruska-Polom 71.14 8 ⇓*i*P **P** **14 28 26.0 +1.1**
DPC *e*pP **PcP** **14 28 43.6 -1.1**
TOD Tromm 71.17 13 *e*P **P** **14 28 24.4 -0.6**
TOD Tromm 71.17 13 *e*P **P** **14 28 24.4 -0.6**
AKASG Malin Array Be 71.20 359 P **P** **14 28 24.6 -0.5**
comp=Z,81nm,0.8s,baz=2.8,slow=6.1,SNR=159
AKASG Malin Array Be 71.20 359 P **P** **14 28 24.6 -0.5**
AKASG Malin Array Be 71.20 359 P **P** **14 28 24.6 -0.5**
AKBB Malin Array Si 71.20 359 ⇑*i*P **P** **14 28 24.1 -1.0**
AKBB *e**PP **pP** **14 28 41.6 +0.5**
AKBB Malin Array Si 71.20 359 ⇑*i*P **P** **14 28 24.1 -1.0**
AKBB *e*pP **pP** **14 28 41.6 +0.5**
KIEV Kiev 71.21 359 *d i*P **P** **14 28 24.9 -0.3**
KIEV Kiev 71.21 359 ⇓*i*P **P** **14 28 24.8 -0.4**
comp=Z,71nm,0.8s
PRA Prague 71.27 9 ⇓P **P** **14 28 26.0 +0.4**
PRA pP **pP** **14 28 43.0 +1.4**
GRF Grafenberg Arr 71.35 11 *e*P **P** **14 28 27.0 +0.9**
comp=Z,39nm,1.0s
GRF Grafenberg Arr 71.35 11 *e*P **P** **14 28 27.0 +0.9**
GRF pmax pmax
comp=Z,39nm,1.0s
GRFO Grafenberg 71.35 11 *e*P **P** **14 28 26.8 +0.7**
GRFO pmax pmax
comp=Z,26nm,0.9s
GRFO Grafenberg 71.35 11 *e*P **P** **14 28 26.8 +0.7**
comp=Z,26nm,0.9s
PRU Pruhonice 71.36 9 ⇓*i*P **P** **14 28 26.9 +0.8**
PRU *e**PP **PcP** **14 28 44.5 -1.0**
PRU Pruhonice 71.36 9 ⇓*i*P **P** **14 28 26.9 +0.8**
PRU *e*pP **PcP** **14 28 44.5 -1.0**
ROTZ Rotzenmuhle 71.37 11 *e*P **P** **14 28 27.2 +1.0**
comp=Z,39nm,1.0s
KRLC Kraliky 71.45 8 ⇓*i*P **P** **14 28 27.7 +1.0**
KRLC *e*pP **PcP** **14 28 45.2 -0.8**
OJC Ojcow 71.48 5 *e*P **P** **14 28 27.2 +0.3**
OJC Ojcow 71.48 5 *e*P **P** **14 28 27.2 +0.3**
USP Ospenovka 71.52 326 P **P** **14 28 27.5 +0.2**
SNR=17
USP P **P** **14 28 27.5 +0.2**
SNR=17
LANF Langenberg 71.66 14 *e*P **P** **14 28 28.7 +0.7**
LANF Langenberg 71.66 14 *e*P **P** **14 28 28.7 +0.7**
LANF Langenberg 71.66 14 *e*P **P** **14 28 28.7 +0.7**
CHMS Chumysh 71.69 326 P **P** **14 28 28.7 +0.4**
SNR=16
CHMS P **P** **14 28 28.7 +0.4**
SNR=16
OKC Ostrava-Krasne 71.77 7 ⇓*i*P **P** **14 28 29.4 +0.8**
OKC *e**PP **PcP** **14 28 47.0 -0.3**
OKC MLR MLR
comp=Z,400nm,10.3s
OKC Ostrava-Krasne 71.77 7 ⇓*i*P **P** **14 28 29.4 +0.8**
OKC *e*pP **PcP** **14 28 47.0 -0.3**
OKC AMS AMS 14 51 00.0
comp=Z,400nm,10.3s
MORC Moravsky Berou 71.80 7 ⇑P **P** **14 28 30.0 +1.2**
MORC Moravsky Berou 71.80 7 *e*P **P** **14 28 29.1 +0.3**
comp=Z,38nm,1.2s
MORC *e* 14 28 46.6
MORC Moravsky Berou 71.80 7 ⇑*i*P **P** **14 28 30.0 +1.2**
PAGF Fort de Pagny 71.80 15 *e*P **P** **14 28 29.0 +0.2**
comp=Z,51nm,1.3s
KBK Karagaybulak 71.95 325 P **P** **14 28 30.4 +0.4**
SNR=16
KBK P **P** **14 28 30.4 +0.4**
SNR=16
STU Stuttgart 72.03 13 *e*P **P** **14 28 30.9 +0.7**
comp=Z,52nm,1.5s
STU Stuttgart 72.03 13 *e*P **P** **14 28 30.6 +0.4**
STU pmax pmax
comp=Z,15nm,0.8s
STU Stuttgart 72.03 13 *e*P **P** **14 28 30.6 +0.4**
comp=Z,16nm,0.8s
LVV L'vov 72.04 3 *c i*P **P** **14 28 30.4 +0.2**
SFTF Sexfontaines 72.05 16 *e*P **P** **14 28 30.0 -0.3**
comp=Z,66nm,1.0s
WET Wettzell 72.06 10 *e*P **P** **14 28 31.2 +0.9**
comp=Z,35nm,1.3s
WET Wettzell 72.06 10 *e*P **P** **14 28 31.2 +0.9**
WET pmax pmax
comp=Z,35nm,1.3s
AAK Ala-Archa 72.10 326 P **P** **14 28 31.2 +0.3**
SNR=15
AAK P **P** **14 28 31.2 +0.3**
SNR=15
AAK Ala-Archa 72.10 326 *d i*P **P** **14 28 30.7 -0.2**
AAK Ala-Archa 72.10 326 *e*P **P** **14 28 30.3 -0.6**
comp=Z,44nm,0.8s
AAK Ala-Archa 72.10 326 P **P** **14 28 31.0 +0.1**
comp=Z,78nm,0.7s,SNR=14
TREC Trest 72.13 9 ⇓*i*P **P** **14 28 31.3 +0.5**
TREC *e**PP **PcP** **14 28 49.1 +0.3**
TREC Trest 72.13 9 ⇓*i*P **P** **14 28 31.3 +0.5**
TREC *e*pP **PcP** **14 28 49.1 +0.3**
KHC Kasperske Hory 72.13 10 ⇓*i*P **P** **14 28 31.9 +1.1**
KHC *e**PP **PcP** **14 28 49.4 +0.5**
KHC MLR MLR
comp=Z,300nm,10.8s
KHC Kasperske Hory 72.13 10 *e*P **P** **14 28 31.7 +0.9**
comp=Z,39nm,1.0s
KHC Kasperske Hory 72.13 10 ⇓*i*P **P** **14 28 31.9 +1.1**
KHC *e*pP **PcP** **14 28 49.4 +0.5**
KHC AMS AMS 14 51 10.0
comp=Z,300nm,10.8s
CDF Champ du Feu 72.15 14 *e*P **P** **14 28 30.9 -0.1**
comp=Z,66nm,1.2s
THEF They Montfort 72.16 15 *e*P **P** **14 28 31.7 +0.7**
THEF They Montfort 72.16 15 *e*P **P** **14 28 31.7 +0.7**
THEF They Montfort 72.16 15 *e*P **P** **14 28 31.7 +0.7**
KWP Kalwaria Pacla 72.19 4 *e*P **P** **14 28 32.0 +0.8**
KWP Kalwaria Pacla 72.19 4 ⇑P **P** **14 28 32.4 +1.3**
KWP Kalwaria Pacla 72.19 4 *e*P **P** **14 28 31.8 +0.7**
comp=Z,116nm,1.0s
KWP Kalwaria Pacla 72.19 4 ⇑*i*P **P** **14 28 32.3 +1.2**
VRAC Vranov 72.20 8 ⇓P **P** **14 28 32.4 +1.2**
VRAC Vranov 72.20 8 ⇓*i*P **P** **14 28 32.4 +1.2**
EKS2 Erkin-Say 72.29 326 P **P** **14 28 32.3 +0.4**
SNR=32
EKS2 P **P** **14 28 32.3 +0.4**
SNR=32
EKS2 Erkin-Say 72.29 326 ⇓*e*P **P** **14 28 32.2 +0.2**
EKS2 pmax pmax
comp=Z,18nm,0.8s
EKS2 Erkin-Say 72.29 326 ⇓*e*P **P** **14 28 32.2 +0.2**
comp=Z,18nm,0.8s
NIE Niedzica 72.31 5 *e*P **P** **14 28 32.8 +0.9**
NIE Niedzica 72.31 5 *e*P **P** **14 28 32.8 +0.9**
ECH Echery 72.33 14 *e*P **P** **14 28 32.5 +0.5**
ECH pmax pmax
comp=Z,21nm,0.8s
ECH Echery 72.33 14 *e*P **P** **14 28 32.5 +0.5**
comp=Z,21nm,0.8s
ECH Echery 72.33 14 *e*P **P** **14 28 32.2 +0.2**
STHS Stebnicka Huta 72.35 5 *e*P **P** **14 28 33.7 +1.6**
STHS pmax pmax
comp=Z,63nm,0.8s
STHS Stebnicka Huta 72.35 5 *e*P **P** **14 28 33.7 +1.6**
STHS *e*pP **PcP** **14 28 51.2 +1.4**
BFO Black Forest 72.36 14 *e*P **P** **14 28 32.6 +0.4**
comp=Z,24nm,1.1s
BFO Black Forest 72.36 14 *e*P **P** **14 28 32.7 +0.5**
BFO pmax pmax
comp=Z,23nm,1.1s
BFO Black Forest 72.36 14 *e*P **P** **14 28 32.7 +0.5**
comp=Z,23nm,1.1s
BFO Black Forest 72.36 14 P **P** **14 28 32.9 +0.7**
comp=Z,109nm,1.0s,SNR=8.0
KZA Kyzart 72.39 325 P **P** **14 28 33.2 +0.2**
SNR=8.6
KZA P **P** **14 28 33.2 +0.2**
SNR=8.6
HAU Haudompre 72.42 15 *e*P **P** **14 28 32.3 -0.3**
comp=Z,45nm,0.9s
HAU *e*R
comp=Z,214nm,22.5s
GEC2 GERESS Array S 72.43 10 *e*P **P** **14 28 33.1 +0.4**
comp=Z,19nm,1.0s
GEC2 GERESS Array S 72.43 10 *e*P **P** **14 28 33.1 +0.4**
GEC2 pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 72.43 10 P **P** **14 28 33.0 +0.4**
comp=Z,8.4nm,0.8s,baz=353,slow=4.9,SNR=66
GERES GERESS Array B 72.43 10 P **P** **14 28 33.0 +0.4**
GERES GERESS Array B 72.43 10 P **P** **14 28 33.0 +0.4**
LIKS Likavka 72.61 6 *e*P **P** **14 28 35.3 +1.7**
LIKS pmax pmax
comp=Z,41nm,0.8s
LIKS Likavka 72.61 6 *e*P **P** **14 28 35.3 +1.7**
SPAK Spaichingen-Ko 72.64 13 *e*P **P** **14 28 33.3 -0.6**
HINF Hinteralfeld 72.68 15 *e*P **P** **14 28 33.8 -0.3**
comp=Z,41nm,1.1s
MOF Molkenrain 72.68 15 *e*P **P** **14 28 34.5 +0.3**
MOF Molkenrain 72.68 15 *e*P **P** **14 28 34.5 +0.3**
MOF Molkenrain 72.68 15 *e*P **P** **14 28 34.5 +0.3**
FELD Feldberg im Sc 72.77 14 *e*P **P** **14 28 35.0 +0.2**
MFF Saint Martin d 72.77 20 *e*P **P** **14 28 34.3 -0.3**
comp=Z,114nm,1.1s
LOR Lormes 72.79 17 *e*P **P** **14 28 34.4 -0.3**
comp=Z,51nm,0.8s
LOR *e*R
comp=Z,209nm,19.2s

AML Almayashu 72.80 326 P **P** **14 28 35.6 +0.3**
SNR=20
AML P **P** **14 28 35.6 +0.3**
SNR=20
KK31 Karatay Array 72.80 329 *i* P **P** **14 28 34.2 -0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 72.80 329 *e*P **P** **14 28 34.2 -0.7**
KKAR pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 72.80 329 *e*P **P** **14 28 34.2 -0.7**
comp=Z,6.8nm,0.5s
FUR Furstenfeldbru 72.86 12 *e*P **P** **14 28 35.6 +0.4**
comp=Z,49nm,1.1s
FUR Furstenfeldbru 72.86 12 *e*P **P** **14 28 35.6 +0.4**
FUR pmax pmax
comp=Z,49nm,1.1s
CRVS Cervenica-Dubn 72.88 4 *e*P **P** **14 28 36.4 +1.2**
CRVS pmax pmax
comp=Z,30nm,1.2s
CRVS Cervenica-Dubn 72.88 4 *e*P **P** **14 28 36.4 +1.2**
CRVS *e*pP **PcP** **14 28 55.9 +3.9**
KOLS Kolonicke sedl 72.88 4 *e*P **P** **14 28 36.5 +1.3**
KOLS pmax pmax
comp=Z,36nm,0.9s
KOLS Kolonicke sedl 72.88 4 *e*P **P** **14 28 36.5 +1.3**
SSF Saint Saulge 72.93 17 *e*P **P** **14 28 35.2 -0.4**
comp=Z,114nm,1.0s
KOLL Kolacno 73.04 7 *e*P **P** **14 28 37.4 +1.2**
KOLL *e* 14 28 51.9
KOLL Kolacno 73.04 7 *e*P **P** **14 28 37.3 +1.1**
KOLL *e*pP **pP** **14 28 51.9 -0.4**
SMOL Smolenice 73.05 7 *e*P **P** **14 28 37.8 +1.6**
SMOL Smolenice 73.05 7 *e*P **P** **14 28 37.8 +1.6**
BBS Basel-Blauen 73.11 14 *e*P **P** **14 28 36.3 -0.4**
BBS Basel-Blauen 73.11 14 *e*P **P** **14 28 36.3 -0.4**
LOMF Lomont 73.13 15 *e*P **P** **14 28 37.6 +0.8**
LOMF Lomont 73.13 15 *e*P **P** **14 28 37.6 +0.8**
LOMF Lomont 73.13 15 *e*P **P** **14 28 37.6 +0.8**
VYHS Vyhne 73.15 6 *e*P **P** **14 28 37.7 +0.8**
VYHS *e* 14 28 55.3
VYHS pmax pmax
comp=Z,32nm,1.1s
VYHS Vyhne 73.15 6 *e*P **P** **14 28 37.7 +0.8**
VYHS *e*pP **PcP** **14 28 55.3 +2.1**
AVF Avril sur Loir 73.17 17 *e*P **P** **14 28 36.4 -0.6**
comp=Z,66nm,0.8s
UZH Uzhgorod 73.18 4⇑*i*P **P** **14 28 37.4 +0.4**
UZH *e* 14 28 43.4
KECS Kecovo 73.25 5 *e*P **P** **14 28 38.5 +1.1**
KECS pmax pmax
comp=Z,27nm,0.9s
KECS Kecovo 73.25 5 *e*P **P** **14 28 38.5 +1.1**
KECS *e*pP **PcP** **14 28 58.3 +4.7**
BGF Bois d'Agland 73.32 18 *e*P **P** **14 28 37.3 -0.6**
comp=Z,77nm,1.0s
SMF Signal de Mont 73.39 17 *e*P **P** **14 28 38.7 +0.4**
comp=Z,107nm,1.2s
RJOB Jochberg 73.44 11 *e*P **P** **14 28 39.0 +0.4**
comp=Z,31nm,1.0s
GYA Guiyang 73.44 293⇑*i*P **P** **14 28 42.0 +3.0**
GYA pP **pP** **14 28 55.8 +0.7**
GYA sP **sP** **14 29 01.4 -0.2**
GYA PP **PP** **14 31 27.0 +4.1**
GYA S **SKiKP** **14 38 05.7 +1.7**
GYA sS **sS** **14 38 27.9 -3.2**
GYA SKS **SKSac** **14 38 39.0 -1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,530nm,18.7s
GYA LR LR
comp=E,490nm,19.8s
GYA LR LR
comp=Z,540nm,18.0s
MOA Molln 73.46 10⇓*i*P **P** **14 28 39.5 +0.8**
comp=Z,22nm,1.4s
MOA Molln 73.46 10⇓*i*P **P** **14 28 39.5 +0.8**
comp=Z,22nm,1.4s,SNR=6.3
RETA Reutte 73.48 12⇓*i*P **P** **14 28 39.6 +0.7**
comp=Z,19nm,1.4s
RETA Reutte 73.48 12⇓*i*P **P** **14 28 39.6 +0.7**
comp=Z,19nm,1.4s
CONA Conrad Observa 73.52 8 *i*P **P** **14 28 40.1 +1.0**
comp=Z,55nm,1.3s
CONA Conrad Observa 73.52 8 *i*P **P** **14 28 40.1 +1.0**
comp=Z,55nm,1.3s,SNR=38
DAVA Damuels 73.58 13⇑*i*P **P** **14 28 40.6 +1.1**
comp=Z,22nm,1.2s
DAVA Damuels 73.58 13⇑*i*P **P** **14 28 40.6 +1.1**
comp=Z,22nm,1.2s
MOTA Moosalm 73.66 12 *i*P **P** **14 28 40.7 +0.7**
MOTA pmax pmax
comp=Z,34nm,1.2s
MOTA Moosalm 73.66 12 *i*P **P** **14 28 40.7 +0.7**
comp=Z,34nm,1.2s
MOTA Moosalm 73.66 12 *i*P **P** **14 28 40.7 +0.7**
comp=Z,34nm,1.2s,SNR=12
TRPA Tarpa 73.69 4⇑*i*P **P** **14 28 41.3 +1.4**
TRPA Tarpa 73.69 4⇓*e* **P** **14 28 40.8 +0.9**
WATA Walderalm 73.72 12⇓*i*P **P** **14 28 41.1 +0.7**
WATA pmax pmax
comp=Z,39nm,1.1s
WATA Walderalm 73.72 12⇓*i*P **P** **14 28 41.1 +0.7**
comp=Z,39nm,1.1s
WATA Walderalm 73.72 12⇓*i*P **P** **14 28 41.1 +0.7**
comp=Z,39nm,1.1s,SNR=15
CABF La Chapelle 73.75 15 *e*P **P** **14 28 40.5 0.0**
comp=Z,35nm,0.8s
PSZ Piszkesteto 73.79 6⇑P **P** **14 28 42.2 +1.5**
PSZ Piszkesteto 73.79 6 *e*P **P** **14 28 41.7 +1.0**
comp=Z,69nm,1.0s
PSZ Piszkesteto 73.79 6⇑*i*P **P** **14 28 42.2 +1.5**
PSZ Piszkesteto 73.79 6⇓*e*df **P** **14 28 41.9 +1.2**
WTTA Wattenberg 73.79 11 *i*P **P** **14 28 41.8 +0.9**
WTTA pmax pmax
comp=Z,73nm,1.5s
WTTA Wattenberg 73.79 11 *i*P **P** **14 28 41.8 +0.9**
comp=Z,72nm,1.5s
WTTA Wattenberg 73.79 11 *i*P **P** **14 28 41.8 +0.9**
comp=Z,72nm,1.5s,SNR=24
SOP Sopron 73.81 8⇓*e*P **P** **14 28 41.8 +1.1**
FETA Feichten 73.93 12⇑*i*P **P** **14 28 42.4 +0.8**
comp=Z,34nm,1.2s
FETA Feichten 73.93 12⇑*i*P **P** **14 28 42.4 +0.8**
comp=Z,34nm,1.2s,SNR=18
PYM Petit Puy Mans 74.13 18 *e*P **P** **14 28 43.3 +0.6**
PYM Petit Puy Mans 74.13 18 *e*P **P** **14 28 43.3 +0.6**
PYM Petit Puy Mans 74.13 18 *e*P **P** **14 28 43.3 +0.6**
KBA Koelnbreinsper 74.14 10 *i*P **P** **14 28 44.1 +1.2**
KBA pmax pmax
comp=Z,84nm,1.3s
KBA Koelnbreinsper 74.14 10 *i*P **P** **14 28 44.1 +1.2**
comp=Z,84nm,1.3s
KBA Koelnbreinsper 74.14 10 *i*P **P** **14 28 44.1 +1.2**
comp=Z,84nm,1.3s,SNR=40
ARSA Arzberg 74.16 9 *i*P **P** **14 28 43.7 +0.9**
comp=Z,21nm,0.9s
ARSA Arzberg 74.16 9 *i*P **P** **14 28 43.7 +0.9**
comp=Z,21nm,0.9s,SNR=14
BMR Baia Mare 74.17 3 P **P** **14 28 43.9 +1.1**
PKSG 74.23 7⇓*e* **P** **14 28 44.3 +1.2**
OG35 Corcelles 74.24 16 *e*P **P** **14 28 43.7 +0.4**
BUR08 Bucovina Ar. S 74.24 2 *e*P **P** **14 28 43.9 +0.5**
BURAR Bucovina Array 74.27 2⇑P **P** **14 28 44.3 +0.8**
BURAR Bucovina Array 74.27 2⇑*i*P **P** **14 28 44.3 +0.8**
RJF Les Rejaudoux 74.32 19 *e*P **P** **14 28 43.0 -0.7**
comp=Z,44nm,1.2s
RJF *e*R
comp=Z,227nm,19.2s
TUE Stuetta 74.32 13 *e*P **P** **14 28 44.6 +0.6**
comp=Z,18nm,0.8s
KSH Kashi 74.50 323 *e*P **P** **14 28 48.1 +3.1**
KSH *e*pP **pP** **14 29 01.3 +0.1**
KSH *e*PcP **pwP** **14 29 03.1 +1.9**
KSH *e*sP **sP** **14 29 06.4 -1.2**
KSH *e*PP **PP** **14 31 36.0 +4.6**
KSH *e*S **S** **14 38 15.4 0.0**
KSH *e*sS **sS** **14 38 39.0 -3.7**
KSH *e*SKS **SKSac** **14 38 47.1 -0.9**
KSH *e*ScS **ScS** **14 38 51.4 +0.3**
KSH *e*SS **SS** **14 43 05.1 +3.3**
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,140nm,4.5s
KSH LR LR
comp=N,160nm,5.5s
KSH LR LR
comp=E,180nm,6.2s
KSH LR LR
comp=Z,84nm,4.7s
MYKA Terra Mystica 74.62 10⇑*i*P **P** **14 28 45.4 -0.1**
comp=Z,17nm,1.1s
MYKA Terra Mystica 74.62 10⇑*i*P **P** **14 28 45.4 -0.1**
comp=Z,17nm,1.1s
LBL Lubilhac 74.67 18 *e*P **P** **14 28 46.3 +0.4**
LBL Lubilhac 74.67 18 *e*P **P** **14 28 46.3 +0.4**
LBL Lubilhac 74.67 18 *e*P **P** **14 28 46.3 +0.4**
SOKA Soboth 74.69 9⇓*i*P **P** **14 28 46.4 +0.4**
comp=Z,55nm,1.3s
SOKA Soboth 74.69 9⇓*i*P **P** **14 28 46.4 +0.4**
comp=Z,55nm,1.3s
IAS Iasi 74.72 0 P **P** **14 28 47.4 +1.4**
RSL Roselend 74.73 15 *e*P **P** **14 28 48.1 +1.8**
RSL Roselend 74.73 15 *e*P **P** **14 28 48.1 +1.8**
RSL Roselend 74.73 15 *e*P **P** **14 28 48.1 +1.8**
CAF Calviac 74.78 19 *e*P **P** **14 28 46.0 -0.4**
comp=Z,45nm,1.0s
PKSN Nyarlorinc 74.80 6⇑*e* **P** **14 28 48.6 +2.1**
OBKA Obir 74.82 10 *i*P **P** **14 28 47.5 +0.8**
comp=Z,81nm,1.0s
OBKA Obir 74.82 10 *i*P **P** **14 28 47.5 +0.8**
comp=Z,81nm,1.0s,SNR=50
SSB Saint Sauveur 74.83 17 *e*P **P** **14 28 47.1 +0.4**
SSB pmax pmax
comp=Z,114nm,2.0s
SSB Saint Sauveur 74.83 17 *e*P **P** **14 28 47.1 +0.4**
comp=Z,114nm,2.0s
KIS Kishinev 74.91 359⇑*i*P **P** **14 28 48.0 +0.9**
KIS *i* 14 29 05.0
KIS pmax pmax
comp=Z,180nm,1.5s
KIS Kishinev 74.91 359⇑*i*UNK 14 28 48.0
KIS XM 14 28 48.5
comp=Z,200nm,1.5s
KIS *e*L L 14 48 20.0
LPL La Plagne 74.92 15 *e*P **P** **14 28 48.2 +0.7**
comp=Z,20nm,0.8s
LPG La Plagne 74.94 15 *e*P **P** **14 28 48.4 +0.7**
comp=Z,79nm,1.3s
DRGR 75.03 4⇑P **P** **14 28 48.7 +0.8**
DRGR 75.03 4⇑*i*P **P** **14 28 48.7 +0.8**
CRNS Crni Vrh 75.22 10 *i*P **P** **14 28 48.8 -0.1**
CRNS *i* 14 29 07.3
VIVF Saint-Julien-l 75.26 17 *e*P **P** **14 28 49.1 -0.1**
comp=Z,41nm,0.8s
BNI Bardonecchia 75.36 15 *e*P **P** **14 28 51.5 +1.5**
BNI pmax pmax
comp=Z,19nm,0.8s
BNI Bardonecchia 75.36 15 *e*P **P** **14 28 51.5 +1.5**
comp=Z,19nm,0.8s
ORIF Oris-en-Rattie 75.38 16 *e*P **P** **14 28 50.0 0.0**
comp=Z,26nm,1.0s
ORIF *e*R
comp=Z,127nm,18.8s
JAVS Javornik 75.39 10 *i*P **P** **14 28 49.8 -0.2**
JAVS *i* 14 29 07.6
TESR 75.39 1⇓*i*P **P** **14 28 51.1 +1.2**
PKSM Moragy 75.42 7⇑P **P** **14 28 50.8 +0.8**
PKSM Moragy 75.42 7⇑*i*P **P** **14 28 50.8 +0.8**
PKSM Moragy 75.42 7⇓*e* **P** **14 28 50.5 +0.5**
LEOM Leova 75.44 360⇑P **P** **14 28 50.6 +0.4**
LEOM Leova 75.44 360⇑*i*P **P** **14 28 50.5 +0.4**
VISS Visnje 75.55 9 *i*P **P** **14 28 50.8 0.0**
VISS *i* 14 29 08.8
RHK3 Tenkes 75.72 7⇓*e* **P** **14 28 52.3 +0.5**
PCAB Cabril 75.81 27 *e*P **P** **14 28 54.1 +1.7**
comp=Z,38nm,1.5s
BOJS Bojanci 75.88 9 *i*P **P** **14 28 53.0 +0.3**
BOJS *i* 14 29 11.2
LASF Ste Croix 75.90 18 *e*P **P** **14 28 53.1 +0.2**
comp=Z,63nm,1.4s
PBRG Braganca 76.02 26 *e*P **P** **14 28 55.5 +1.9**
comp=Z,29nm,2.2s
BZS Buzias 76.16 5⇓P **P** **14 28 54.8 +0.5**
BZS Buzias 76.16 5⇓*i*P **P** **14 28 54.8 +0.5**
POLO Lamas de Olo 76.18 27 *e*P **P** **14 28 55.3 +0.7**
comp=Z,19nm,1.4s
PETR 76.19 0⇑*i*P **P** **14 28 55.8 +1.4**
SMRF Simiane la Rot 76.26 16 *e*P **P** **14 28 55.5 +0.6**
comp=Z,49nm,1.0s
ETSF Etsaut 76.27 21 *e*P **P** **14 28 55.3 +0.3**
comp=Z,40nm,0.8s
PVRL Vila Real 76.29 27 *e*P **P** **14 28 56.6 +1.4**
comp=Z,52nm,1.4s
EPF Esparros 76.31 20 *e*P **P** **14 28 54.4 -0.8**
comp=Z,15nm,1.0s
MTLF Montolieu 76.34 19 *e*P **P** **14 28 55.2 -0.2**
comp=Z,70nm,1.1s
MLR Muntele Rosu 76.41 1⇑P **P** **14 28 56.9 +1.0**
MLR Muntele Rosu 76.41 1⇑*i*P **P** **14 28 56.9 +1.0**
KMI Kunming 76.45 296 P P 14 28 59.9 +3.4
KMI pP pP 14 29 12.1 -0.6
KMI S **S** **14 38 40.6 +3.1**
KMI LR LR
comp=N,310nm,14.1s
KMI LR LR
comp=E,250nm,14.9s
KMI LR LR
comp=Z,230nm,22.5s
VOIR 76.45 2⇑P **P** **14 28 56.9 +0.9**
VOIR 76.45 2⇑*i*P **P** **14 28 56.9 +0.9**
TOUF Mont Tournerai 76.46 15 *e*P **P** **14 28 57.1 +0.8**
TOUF Mont Tournerai 76.46 15 *e*P **P** **14 28 57.1 +0.8**
TOUF Mont Tournerai 76.46 15 *e*P **P** **14 28 57.1 +0.8**
AUTN L'Aution 76.50 15 *e*P **P** **14 28 57.4 +0.8**
AUTN L'Aution 76.50 15 *e*P **P** **14 28 57.4 +0.8**
AUTN L'Aution 76.50 15 *e*P **P** **14 28 57.4 +0.8**
SAOF Saorge 76.53 15 *e*P **P** **14 28 57.4 +0.9**
SAOF Saorge 76.53 15 *e*P **P** **14 28 57.4 +0.9**
SAOF Saorge 76.53 15 *e*P **P** **14 28 57.4 +0.9**
MVO Moncorvo 76.56 26 *e*P **P** **14 28 56.9 +0.2**
comp=Z,41nm,1.2s
SBF Sospel 76.64 15 *e*P **P** **14 28 56.9 -0.2**
comp=Z,75nm,0.9s
CALN Calern 76.67 16 *e*P **P** **14 28 57.7 +0.3**
CALN Calern 76.67 16 *e*P **P** **14 28 57.7 +0.3**
CALN Calern 76.67 16 *e*P **P** **14 28 57.7 +0.3**
NVLJ Novalja 76.78 10 P **P** **14 28 55.9 -1.9**
PVIS Viseu 76.78 27 *e*P **P** **14 28 59.4 +1.5**
comp=Z,28nm,1.6s
MTE Manteigas 77.17 27 *e*P **P** **14 29 00.9 +0.8**
comp=Z,73nm,1.3s
MTE Manteigas 77.17 27 *e*P **P** **14 29 00.8 +0.6**
comp=Z,32nm,1.0s
KIV Kislovodsk 77.22 349*d*P **P** **14 29 00.5 +0.1**
KIV pmax pmax
comp=Z,28nm,0.6s
KIV Kislovodsk 77.22 349 *e*P **P** **14 29 00.6 +0.1**
comp=Z,26nm,0.6s
KIV Kislovodsk 77.22 349 P **P** **14 29 00.1 -0.3**
comp=Z,268nm,0.7s,SNR=6.8
SULR 77.22 1⇑*i*P **P** **14 28 59.0 -1.3**
TIRR Tirgusor 77.45 360⇓P **P** **14 29 02.1 +0.6**
TIRR Tirgusor 77.45 360⇓*i*P **P** **14 29 02.1 +0.6**
LSA Lhasa 77.69 307 P **P** **14 29 04.9 +1.2**
LSA Lhasa 77.69 307 *e*P **P** **14 29 04.7 +1.0**
LSA *e**PP **pP** **14 29 21.1 +1.2**
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 77.69 307 *e*P **P** **14 29 04.7 +1.0**
comp=Z,23nm,0.6s
LSA *e*pP **pP** **14 29 21.1 +1.2**
PCBR Castelo Branco 77.71 27 *e*P **P** **14 29 03.9 +0.8**
comp=Z,26nm,1.1s
HNR Honiara 77.95 229 LR LR 14 58 31.1
comp=Z,151nm,21.2s,baz=21,slow=32
SDV Santo Domingo 78.00 93 *e*P **P** **14 29 04.6 -0.7**
comp=Z,7.9nm,0.8s
PMAFR Mafra 78.10 29 *e*P **P** **14 29 06.5 +1.2**
comp=Z,115nm,1.2s
QIZ Qiongzhong 78.12 287 P **P** **14 29 07.7 +2.0**
QIZ pP **pP** **14 29 21.3 -0.6**
QIZ sP **sP** **14 29 24.0 -4.3**
QIZ S **S** **14 38 54.9 -0.5**
QIZ pmax pmax
comp=Z,300nm,5.6s
PMTG Montargil 78.26 28 *e*P **P** **14 29 06.3 +0.2**
comp=Z,27nm,1.0s
ZEI Tsey 78.27 348 *e*P **P** **14 29 05.8 -0.6**
ZEI pmax pmax
comp=Z,24nm,1.1s
PLE Pljevlja 78.33 6⇓*i*P **P** **14 29 07.4 +0.8**
UPM Unac-Piva 78.43 7⇓*i*P **P** **14 29 07.3 0.0**
PESTR Estremoz 78.61 28 *e*P **P** **14 29 08.7 +0.6**
comp=Z,21nm,1.4s
SZH Strazhica 78.63 1 *e*P **P** **14 29 08.3 +0.2**
ESDC Sonseca Array 78.68 25 P **P** **14 29 09.2 +0.7**
comp=Z,10nm,0.8s,baz=340,slow=5.3,SNR=53
ESDC PP **PP** **14 32 03.6 -2.8**
comp=Z,3.9nm,0.9s,baz=339,slow=8.5,SNR=3.8
ESDC Sonseca Array 78.68 25 P **P** **14 29 09.2 +0.7**
ESDC PP **PP** **14 32 03.6 -2.8**
ESLA Sonseca Array 78.68 25 *e*P **P** **14 29 09.3 +0.8**
comp=Z,3.2nm,0.9s
BRY Bratogost 78.71 7⇓*i*P **P** **14 29 08.6 -0.1**
PRD Provadia 78.71 0 *e*P **P** **14 29 09.2 +0.7**
PAB San Pablo 78.72 25 *e*P **P** **14 29 09.1 +0.3**
PAB pmax pmax
comp=Z,13nm,1.1s
PAB San Pablo 78.72 25 *e*P **P** **14 29 09.1 +0.3**
comp=Z,13nm,1.1s
IVA Berane 78.82 6⇓*i*P **P** **14 29 09.3 0.0**
EVO Evora 78.82 28 *e*P **P** **14 29 09.8 +0.6**
comp=Z,36nm,1.8s
EVO Evora 78.82 28 *e*P **P** **14 29 09.4 +0.2**
comp=Z,63nm,1.3s
EVO *e*R
comp=Z,190nm,21.5s
NKY Niksic 78.83 7⇓*i*P **P** **14 29 09.3 0.0**
AQU L'Aquila 78.83 11⇑P **P** **14 29 10.3 +1.0**
AQU L'Aquila 78.83 11 *e*P **P** **14 29 09.8 +0.4**
comp=Z,36nm,1.0s
AQU L'Aquila 78.83 11⇑*i*P **P** **14 29 10.3 +1.0**
PNCL Nicolau / Gran 79.09 29 *e*P **P** **14 29 11.8 +1.1**
comp=Z,55nm,1.1s
PVY Plav 79.10 6⇓*i*P **P** **14 29 09.5 -1.4**
HCY Herceg Novi 79.16 7⇓*i*P **P** **14 29 10.3 -0.7**
TTG Podgorica 79.22 7 *e*P **P** **14 29 10.8 -0.5**
VTS Vitosha 79.24 4 *e*P **P** **14 29 11.5 -0.2**
BUM Brajici-Budva 79.33 7⇓*i*P **P** **14 29 11.0 -1.0**
PBEJ Beja 79.34 28 *e*P **P** **14 29 12.9 +0.8**
comp=Z,21nm,1.9s
PBAR Barrancos 79.40 27 *e*P **P** **14 29 13.2 +0.8**
comp=Z,38nm,1.4s
PCVE Castro Verde 79.67 28 *e*P **P** **14 29 15.1 +1.2**
comp=Z,29nm,2.0s
ULC Ulcinj 79.69 7⇓*i*P **P** **14 29 14.2 +0.3**
MORF Marmelete 79.82 29 *e*P **P** **14 29 16.3 +1.5**
comp=Z,41nm,1.5s
DIM Dimitrovgrad 79.84 2 *e*P **P** **14 29 15.7 +1.0**
PFVI Vila Bisbo 79.94 29 *e*P **P** **14 29 16.6 +1.2**
comp=Z,102nm,1.6s
PVAQ Vaqueiros 79.97 28 *e*P **P** **14 29 16.4 +0.9**
comp=Z,37nm,1.5s
PBDV Barranco-do-Ve 80.06 28 *e*P **P** **14 29 18.3 +2.2**
comp=Z,50nm,1.5s
KDZ Kurdzhali 80.24 2 *e*P **P** **14 29 17.5 +0.6**
MMB Musomiste 80.26 3 *e*P **P** **14 29 17.7 +0.6**
NVR Nevrokopi 80.50 3 P **P** **14 29 18.9 +0.6**
NVR Nevrokopi 80.50 3 P **P** **14 29 18.9 +0.6**
NVR Nevrokopi 80.50 3 *e*P **P** **14 29 19.0 +0.6**
KNT Kendrikon 80.66 4 P **P** **14 29 20.1 +0.9**
KNT Kendrikon 80.66 4 P **P** **14 29 20.1 +0.9**
KNT Kendrikon 80.66 4 P **P** **14 29 20.1 +0.9**
ABKT Ailbek 80.71 336 P **P** **14 29 20.2 +0.6**
comp=Z,155nm,0.8s,SNR=13
SRS Serrai 80.73 3 P **P** **14 29 19.7 +0.2**
SRS Serrai 80.73 3 P **P** **14 29 19.7 +0.2**
SRS Serrai 80.73 3 P **P** **14 29 19.7 +0.2**
RDO Rodhopi 80.74 2 P **P** **14 29 20.4 +0.9**
RDO Rodhopi 80.74 2 P **P** **14 29 20.4 +0.9**
RDO Rodhopi 80.74 2 *e*P **P** **14 29 20.5 +0.9**
GNI Garni 80.76 347 LR LR 15 06 20.3
comp=Z,91nm,21.6s,baz=197,slow=36
GNI Garni 80.76 347*d*P **P** **14 29 21.2 +1.3**
GNI Garni 80.76 347 *e*P **P** **14 29 21.5 +1.6**
comp=Z,41nm,1.0s
GRG Griva 80.85 4 P **P** **14 29 21.1 +0.9**
GRG Griva 80.85 4 P **P** **14 29 21.1 +0.9**
GRG Griva 80.85 4 P **P** **14 29 21.1 +0.9**
KAVA Kavala 80.87 3 P **P** **14 29 19.6 -0.7**
KAVA Kavala 80.87 3 P **P** **14 29 19.6 -0.7**
FNA Florina 80.97 5 P **P** **14 29 21.0 +0.1**
FNA Florina 80.97 5 P **P** **14 29 21.0 +0.1**
FNA Florina 80.97 5 P **P** **14 29 21.0 +0.1**
ALN Alexandroupoli 81.00 1 *e*P **P** **14 29 21.5 +0.6**
SOH Sokhos 81.02 4 P **P** **14 29 22.0 +0.9**
SOH Sokhos 81.02 4 P **P** **14 29 22.0 +0.9**
SOH Sokhos 81.02 4 P **P** **14 29 22.0 +0.9**
SOH Sokhos 81.02 4 *e*P **P** **14 29 22.0 +0.9**
KBL Kabul 81.19 327 *e*P **P** **14 29 20.9 -1.5**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 81.19 327 *e*P **P** **14 29 20.9 -1.5**
comp=Z,13nm,0.8s
OTAV Otavalo 81.27 104 *e*P **P** **14 29 22.9 -0.4**
comp=Z,2.1nm,0.6s
OTAV *e*pP **pP** **14 29 39.9 +0.3**
GUN Gumba 81.42 311 *e*P **P** **14 29 24.2 +0.4**
comp=Z,68nm,0.9s
GUN Gumba 81.42 311 *e*P **P** **14 29 24.2 +0.4**
comp=Z,68nm,0.9s
PLG Polygyros 81.47 3 *e*P **P** **14 29 24.0 +0.5**
JIRN Jiri 81.52 310 *e*P **P** **14 29 25.0 +0.6**
comp=Z,54nm,0.4s
JIRN Jiri 81.52 310 *e*P **P** **14 29 25.0 +0.6**
comp=Z,54nm,0.4s
LIT Litokhoron 81.70 4 P **P** **14 29 25.0 +0.3**
LIT Litokhoron 81.70 4 P **P** **14 29 25.0 +0.3**
LIT Litokhoron 81.70 4 P **P** **14 29 25.0 +0.3**
LIT Litokhoron 81.70 4 *e*P **P** **14 29 25.0 +0.3**
KKN Kakani 81.76 311 *e*P **P** **14 29 25.8 +0.3**
KKN Kakani 81.76 311 *e*P **P** **14 29 25.8 +0.3**
KKN Kakani 81.76 311 *e*P **P** **14 29 25.8 +0.3**
GKN Gorkha 81.83 312 *e*P **P** **14 29 25.9 +0.1**
comp=Z,60nm,1.0s
GKN Gorkha 81.83 312 *e*P **P** **14 29 25.9 +0.1**
comp=Z,60nm,1.0s
DANN Dangsing 81.86 313 *e*P **P** **14 29 26.7 +0.6**
comp=Z,147nm,1.0s
DANN Dangsing 81.86 313 *e*P **P** **14 29 26.7 +0.6**
comp=Z,147nm,1.0s
PKI Pulchoki 81.91 311 *e*P **P** **14 29 26.4 0.0**
comp=Z,34nm,0.8s
PKI Pulchoki 81.91 311 *e*P **P** **14 29 26.4 0.0**
PKI pmax pmax
comp=Z,35nm,0.8s
PKI Pulchoki 81.91 311 *e*P **P** **14 29 26.4 0.0**
comp=Z,34nm,0.8s
LIA Limnos Island 81.98 2 *e*P P 14 29 17.5 -8.7
DMN Daman 81.99 311 *e*P **P** **14 29 27.2 +0.4**
comp=Z,42nm,0.8s
DMN Daman 81.99 311 *e*P **P** **14 29 27.2 +0.4**
comp=Z,42nm,0.8s
BRTR Keskin Array B 82.07 356 P **P** **14 29 26.9 +0.1**
comp=Z,19nm,0.9s,baz=16,slow=2.5,SNR=3.7
BRTR pP **pP** **14 29 44.4 +1.2**
comp=Z,15nm,0.9s,baz=16,slow=2.3,SNR=8.6
BRTR LR LR 15 11 22.2
comp=Z,49nm,18.7s,baz=146,slow=40
BRTR Keskin Array B 82.07 356 P **P** **14 29 26.9 +0.1**
BRTR Keskin Array B 82.07 356 P **P** **14 29 26.9 +0.1**
BRTR pP **pP** **14 29 44.4 +1.2**
JAN Janina 82.07 6 *e*P **P** **14 29 27.5 +0.8**
THL Klokotos Trika 82.22 5 *e*P **P** **14 29 27.0 -0.4**
TIP Timpagrande 82.28 9 *e*P **P** **14 29 27.0 -0.8**
comp=Z,20nm,0.9s
TIP *e*pP **pP** **14 29 45.8 +1.6**
KOLN Koldanda 82.44 312 *e*P **P** **14 29 29.3 +0.3**
comp=Z,23nm,0.6s
KOLN Koldanda 82.44 312 *e*P **P** **14 29 29.3 +0.3**
comp=Z,23nm,0.6s
AGG Agios Georgios 82.77 4 P **P** **14 29 30.2 -0.2**
AGG Agios Georgios 82.77 4 P **P** **14 29 30.2 -0.2**
AGG Agios Georgios 82.77 4 P **P** **14 29 30.2 -0.2**
CEL Celeste 83.12 10 *e*P **P** **14 29 30.5 -1.7**
comp=Z,22nm,0.9s
CEL *e*pP **pP** **14 29 49.1 +0.6**
PMG Port Moresby 83.38 240 *i*P P 14 29 38.5 +4.9
CHTO Chiang Mai 83.64 296 *e*P **P** **14 29 34.0 -1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHTO				*e*		14 29 40.1	
CHTO				pmax	pmax		
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**83.64**	**296**	*e*P	**P**	**14 29 34.0**	**-1.1**
	comp=Z,14nm,0.8s						
CHTO				*e*PcP	**PcP**	**14 29 40.1**	**+0.9**
CHTO				*e*pP	**pP**	**14 29 51.6**	**+0.1**
CM31	**Chiang Mai Arr**	**83.95**	**295**	*e*P	**P**	**14 29 36.4**	**-0.2**
	comp=Z,51nm,1.0s						
CM31				*e*pP	**pP**	**14 29 53.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**83.95**	**295**	P	**P**	**14 29 36.1**	**-0.5**
	comp=Z,8.0nm,0.8s,baz=19,slow=5.5,SNR=59						
CMAR				pP	**pP**	**14 29 53.2**	**+0.1**
	comp=Z,31nm,0.9s,baz=17,slow=5.6,SNR=19						
CMAR				LR	LR	15 08 53.1	
	comp=Z,98nm,20.1s,baz=259,slow=37						
CMAR	**Chiang Mai Arr**	**83.95**	**295**	P	**P**	**14 29 36.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**83.95**	**295**	P	**P**	**14 29 36.1**	**-0.5**
CMAR				pP	**pP**	**14 29 53.2**	**+0.1**
KEST	**Kesra**	**84.89**	**15**	P	**P**	**14 29 42.0**	**+0.7**
	comp=Z,17nm,0.9s,baz=304,slow=4.5,SNR=42						
KEST	**Kesra**	**84.89**	**15**	*e*P	**P**	**14 29 41.3**	**0.0**
CSS	**Prodhromos**	**86.83**	**356**	*e*P	**P**	**14 29 50.8**	**0.0**
	comp=Z,9.9nm,0.8s						
BHPL	**Bhopal**	**88.87**	**316**	*e*P	**P**	**14 29 59.7**	**-1.0**
BHPL				AMb	AMB	14 30 00.3	
	comp=Z,9.5nm,0.8s						
COEN	**Coen**	**89.20**	**241**	P	**P**	**14 30 01.8**	**-0.4**
	comp=Z,86nm,0.8s						
COEN				*e*pP	**pP**	**14 30 18.8**	**+0.1**
BHJ	**Bhuj**	**91.54**	**322**	*e*x	P	14 30 09.7	-3.5
BHJ				AMb	AMB	14 30 22.0	
	comp=Z,22nm,0.8s						
VIS	**Vishakhapatnam**	**91.56**	**308**	*e*P	**P**	**14 30 14.7**	**+1.4**
CTAO	**Charters Tower**	**93.21**	**236**	*e*P	**P**	**14 30 20.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**93.21**	**236**	*e*P	**P**	**14 30 20.4**	**-0.2**
	comp=Z,13nm,0.8s						
CTAO				*i*		14 30 33.4	
HYB	**Hyderabad**	**93.75**	**312**	*i* P	**P**	**14 30 23.0**	**-0.4**
HYB				*e*pP	**pP**	**14 30 44.0**	**+4.0**
POO	**Poona**	**94.49**	**317**	*e*P	**P**	**14 30 27.1**	**+0.2**
POO				AMb	AMB	14 30 45.2	
	comp=Z,22nm,1.3s						
SAML	**Samuel**	**96.97**	**96**	*e*P	**P**	**14 30 35.6**	**-2.5**
	comp=Z,3.5nm,1.0s						
MDRS	**Chennai**	**97.01**	**309**	*e*P	**P**	**14 30 38.6**	**+0.3**
MDRS				*e*x	x	14 32 45.2	
WRA	**Warramunga Arr**	**98.55**	**246**	P	**P**	**14 30 44.3**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=35,slow=5.8,SNR=2.7						
WRA	**Warramunga Arr**	**98.55**	**246**	P	**P**	**14 30 44.3**	**-0.6**
WRA	**Warramunga Arr**	**98.55**	**246**	P	**P**	**14 30 44.3**	**-0.6**
ASAR	**Alice Springs**	**101.94**	**244**	P	**Pdif**	**14 31 00.5**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=41,slow=4.1,SNR=3.1						
ASAR	**Alice Springs**	**101.94**	**244**	P	**Pdif**	**14 31 00.5**	**+0.5**
ASAR	**Alice Springs**	**101.94**	**244**	P	**Pdif**	**14 31 00.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**105.50**	**27**	PP	PP	14 35 33.4	-4.2
	comp=Z,0.7nm,0.8s,baz=331,slow=5.6,SNR=3.0						
TORD				PKKPbc	**PKKPab**	**14 47 09.6**	**-3.7**
	comp=Z,0.7nm,0.8s,baz=144,slow=1.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**105.50**	**27**	PP	PP	14 35 33.4	-4.2
TORD				PKKPbc	**PKKPab**	**14 47 09.6**	**-3.7**
CPUP	**Villa Florida**	**114.48**	**101**	PKKPbc	PKKPbc	14 46 41.6	+19
	comp=Z,1.9nm,0.8s,baz=63,slow=5.4,SNR=4.4						
KMBO	**Kilima Mbogo**	**122.37**	**349**	PKIKP	**PKPdf**	**14 36 02.4**	**+0.7**
KMBO	**Kilima Mbogo**	**122.37**	**349**	PKP	**PKPdf**	**14 36 02.4**	**+0.7**
DRV	**Dumont d'Urvil**	**134.54**	**211**	PP	PP	14 38 46.0	-11
DRV				SKS	SKSdf	14 43 02.0	-26
LBTB	**Lobatse**	**146.55**	**4**	*e*PKP2	**PKPbc**	**14 36 48.0**	**+0.5**
LBTB	**Lobatse**	**146.55**	**4**	*e*PKPab	**PKPbc**	**14 36 48.0**	**+0.5**
QSPA	**South Pole Qui**	**148.25**	**180**	PKPbc	**PKPbc**	**14 36 50.8**	**0.0**
	comp=Z,5.2nm,0.7s,baz=56,slow=0.8,SNR=8.5						
QSPA	**South Pole Qui**	**148.25**	**180**	*e*PKPbc	**PKPbc**	**14 36 50.4**	**-0.4**
BOSA	**Boshof**	**150.11**	**5**	PKPbc	**PKPbc**	**14 36 56.6**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=5.3,slow=3.9,SNR=9.0						
BOSA	**Boshof**	**150.11**	**5**	PKIKP	**PKPdf**	**14 36 51.5**	**-0.2**
BOSA				*e*		14 36 56.6	
BOSA				*e*		14 37 03.2	
BOSA	**Boshof**	**150.11**	**5**	PKPdf	**PKPdf**	**14 36 51.5**	**-0.2**
BOSA				*e*PKPbc	**PKPbc**	**14 36 56.5**	**-0.2**
BOSA				*e*PKPab	**PKPab**	**14 37 03.2**	**+0.4**
VNA2	**Neumayer--Watz**	**160.80**	**145**	*e*	PKPab	14 37 56.2	+8.9

*SKO **02** 14:42:44.7, 38.°16N×24.°23E, h0km*
*DDA **02** 14:42:48.9, 38.°73N×23.°15E, h7km, MD3.5*
*ATH **02** 14:42:53.7, 38.°78N×23.°49E, h23km, ML4.6*
*ISCJB **02** 14:42:54.0±0.4, 38.°77N±0.°01×23.°46E±0.°02, h14km±3km, mb4.0/19, Error ellipse: s-maj=2.1km s-min=2.0km az=135.9*
*CSEM **02** 14:42:54.0±0.1, 38.°76N×23.°45E, h8km, ML4.4/10, Error ellipse: s-maj=2.9km s-min=2.2km az=84.0*
*THE **02** 14:42:54.5, 38.°76N×23.°44E, h10km, ML4.4/10, Error ellipse: s-maj=0.5km s-min=0.3km az=124.0*
*IDC **02** 14:43:00.0±1.7, 38.°75N×23.°44E, h52km±16km, mb3.7/16, mb1 3.8/24, mb1mx3.7/35, mbtmp3.7/24, ML3.4/8, MS3.1/3, Ms1 3.1/3, ms1mx2.7/40, Error ellipse: s-maj=13.7km s-min=11.8km az=130.0*

ISC 02 14:42:54.7±0.8**, 38.°77N**±0.°01×**23.°44E**±0.°02**, h11**km±6km**, n259,** σ**0.s98**/304**, mb4.1**/19**, 10C-4D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.13**	**117**	P	**Pg**	**14 42 57.7**	**-0.1**
MRKA	**Markates**	**0.13**	**117**	P	**Pg**	**14 42 57.7**	**-0.1**
ATAL	**Atalanti**	**0.34**	**258**	P	**Pg**	**14 43 01.0**	**-0.4**
ATAL	**Atalanti**	**0.34**	**258**	P	**Pg**	**14 43 01.0**	**-0.4**
LKR	**Lokris**	**0.36**	**252**	P	**Pg**	**14 43 01.7**	**-0.2**
LKR	**Lokris**	**0.36**	**252**	*e*PB	**Pg**	**14 43 01.9**	**0.0**
LKR				*e*SB	**Sb**	**14 43 08.7**	**-0.2**
LKR	**Lokris**	**0.36**	**252**	*e*Pb	**Pg**	**14 43 01.9**	**0.0**
LKR				*e*Sb	**Sb**	**14 43 08.7**	**-0.2**
SKIA	**Skiathos**	**0.40**	**3**	P	**Pg**	**14 43 02.7**	**0.0**
SKIA	**Skiathos**	**0.40**	**3**	P	**Pg**	**14 43 02.7**	**0.0**
ERET	**Eretria**	**0.43**	**138**	P	**Pg**	**14 43 02.8**	**-0.4**
ERET				S	**Sg**	**14 43 09.3**	**+0.4**
ERET	**Eretria**	**0.43**	**138**	P	**Pg**	**14 43 02.8**	**-0.4**
ERET				S	**Sg**	**14 43 09.3**	**+0.4**
AOS	**Alonnisos**	**0.53**	**40**	P	**Pg**	**14 43 04.3**	**-0.8**
AOS				S	**Sg**	**14 43 11.9**	**-0.2**
AOS	**Alonnisos**	**0.53**	**40**	P	**Pg**	**14 43 04.3**	**-0.8**
AOS				S	**Sg**	**14 43 11.9**	**-0.2**
NEO	**Neokhori**	**0.57**	**343**	P	**Pg**	**14 43 05.4**	**-0.4**
NEO	**Neokhori**	**0.57**	**343**	*e*PN	**Pg**	**14 43 05.6**	**-0.2**
NEO				*e*SN	**Sg**	**14 43 13.6**	**+0.3**
NEO	**Neokhori**	**0.57**	**343**	P	**Pg**	**14 43 05.4**	**-0.4**
NEO				*e*Sn	**Sg**	**14 43 13.6**	**+0.3**
VIL1	**Vilia, Western**	**0.61**	**189**	*e*PB	**Pg**	**14 43 05.7**	**-0.8**
VIL1				*e*SN	**Sb**	**14 43 15.4**	**-0.6**
VIL1	**Vilia, Western**	**0.61**	**189**	*e*Pb	**Pg**	**14 43 05.7**	**-0.8**
VIL1				*e*Sn	**Sb**	**14 43 15.4**	**-0.6**
XOR	**Xorichti**	**0.63**	**342**	P	**Pg**	**14 43 06.5**	**-0.5**
XOR				S	**Sg**	**14 43 15.7**	**+0.4**
XOR	**Xorichti**	**0.63**	**342**	P	**Pg**	**14 43 06.5**	**-0.5**
XOR				S	**Sg**	**14 43 15.7**	**+0.4**
PTL	**Penteli**	**0.79**	**155**	P	**Pg**	**14 43 09.1**	**-0.9**
PTL	**Penteli**	**0.79**	**155**	*e*PN	**Pg**	**14 43 09.0**	**-0.9**
PTL				*e*SN	**Sg**	**14 43 19.1**	**-1.1**
PTL	**Penteli**	**0.79**	**155**	P	**Pg**	**14 43 09.1**	**-0.9**
PTL				*e*Sn	**Sg**	**14 43 19.1**	**-1.1**
ATH	**Athens Observa**	**0.82**	**165**	P	**Pg**	**14 43 09.9**	**-0.6**
ATH	**Athens Observa**	**0.82**	**165**	*e*PN	**Pg**	**14 43 09.9**	**-0.6**
ATH				*e*SN	**Sg**	**14 43 20.7**	**-0.5**
ATH	**Athens Observa**	**0.82**	**165**	P	**Pg**	**14 43 09.9**	**-0.6**
ATH				*e*Sn	**Sg**	**14 43 20.7**	**-0.5**
LTK	**Loutraki**	**0.83**	**207**	P	**Pg**	**14 43 09.7**	**-1.0**
LTK	**Loutraki**	**0.83**	**207**	*e*PN	**Pg**	**14 43 09.9**	**-0.8**
LTK				*e*SN	**Sb**	**14 43 22.3**	**-0.1**
LTK	**Loutraki**	**0.83**	**207**	P	**Pg**	**14 43 09.7**	**-1.0**
LTK				*e*Sn	**Sb**	**14 43 22.3**	**-0.1**
AGG	**Agios Georgios**	**0.90**	**287**	P	**Pg**	**14 43 11.3**	**-0.8**
AGG				S	**Sb**	**14 43 24.5**	**-0.1**
AGG	**Agios Georgios**	**0.90**	**287**	*e*PN	**Pg**	**14 43 11.1**	**-1.0**
AGG				*e*SN	**Sb**	**14 43 24.3**	**-0.3**
AGG	**Agios Georgios**	**0.90**	**287**	P	**Pg**	**14 43 11.3**	**-0.8**
AGG				S	**Sb**	**14 43 24.5**	**-0.1**
THAL	**Thalero**	**0.95**	**220**	P	**Pg**	**14 43 12.1**	**-0.9**
THAL	**Thalero**	**0.95**	**220**	P	**Pg**	**14 43 12.1**	**-0.9**
VLY	**Voula,Athens**	**0.95**	**163**	P	**Pg**	**14 43 12.1**	**-1.0**
VLY	**Voula,Athens**	**0.95**	**163**	*e*PN	**Pg**	**14 43 12.2**	**-0.9**
VLY				*e*SN	**Sb**	**14 43 25.7**	**-0.2**
VLY	**Voula,Athens**	**0.95**	**163**	P	**Pg**	**14 43 12.1**	**-1.0**
VLY				*e*Sn	**Sb**	**14 43 25.7**	**-0.2**
NAIG	**Nisos Aigina**	**1.01**	**178**	*e*PN	**Pb**	**14 43 12.9**	**-1.3**
NAIG	**Nisos Aigina**	**1.01**	**178**	*e*Pn	**Pb**	**14 43 12.9**	**-1.3**
MRMA	**Marmari**	**1.02**	**133**	P	**Pb**	**14 43 13.1**	**-1.4**
MRMA	**Marmari**	**1.02**	**133**	P	**Pb**	**14 43 13.1**	**-1.4**
KALE	**Kalithea**	**1.09**	**250**	P	**Pb**	**14 43 14.7**	**-0.9**
KALE				S	**Sg**	**14 43 30.3**	**+0.6**
KALE	**Kalithea**	**1.09**	**250**	P	**Pb**	**14 43 14.7**	**-0.9**
KALE				S	**Sg**	**14 43 30.3**	**+0.6**
PAIG	**Paliouri**	**1.18**	**9**	P	**Pb**	**14 43 15.9**	**-1.2**
PAIG				S	**Sn**	**14 43 33.3**	**+0.1**
PAIG	**Paliouri**	**1.18**	**9**	P	**Pb**	**14 43 15.9**	**-1.2**
PAIG				S	**Sn**	**14 43 33.3**	**+0.1**
GUR	**Goura**	**1.20**	**227**	P	**Pn**	**14 43 16.7**	**-0.8**
GUR				S	**Sg**	**14 43 33.4**	**+0.1**
GUR	**Goura**	**1.20**	**227**	*e*PN	**Pn**	**14 43 16.9**	**-0.6**
GUR				*e*SN	**Sn**	**14 43 33.8**	**-0.1**
GUR	**Goura**	**1.20**	**227**	*e*Pn	**Pn**	**14 43 16.9**	**-0.6**
GUR				S	**Sg**	**14 43 33.4**	**+0.1**
GUR				*e*Sn	**Sn**	**14 43 33.8**	**-0.1**
EVR	**Evrytania**	**1.28**	**277**	*e*PN	**Pb**	**14 43 18.9**	**-0.1**
EVR				*e*SN	**Sg**	**14 43 37.1**	**+1.0**
EVR	**Evrytania**	**1.28**	**277**	*e*Pn	**Pb**	**14 43 18.9**	**-0.1**
EVR				*e*Sn	**Sg**	**14 43 37.1**	**+1.0**
DIDY	**Didyma**	**1.30**	**188**	P	**Pn**	**14 43 17.7**	**-1.3**
DIDY	**Didyma**	**1.30**	**188**	P	**Pn**	**14 43 17.7**	**-1.3**
THL	**Klokotos Trika**	**1.37**	**306**	P	**Pn**	**14 43 18.9**	**-0.9**
THL				S	**Sg**	**14 43 38.2**	**-0.5**
THL	**Klokotos Trika**	**1.37**	**306**	*e*PN	**Pn**	**14 43 19.2**	**-0.6**
THL				*e*SN	**Sg**	**14 43 38.4**	**-0.3**
THL	**Klokotos Trika**	**1.37**	**306**	P	**Pn**	**14 43 18.9**	**-0.9**
THL	**Klokotos Trika**	**1.37**	**306**	*e*Pn	**Pn**	**14 43 19.2**	**-0.6**
THL				S	**Sg**	**14 43 38.2**	**-0.5**
UPR	**University Cam**	**1.38**	**250**	*e*PN	**Pb**	**14 43 20.5**	**-0.1**
UPR				*e*SN	**Sg**	**14 43 39.4**	**+0.2**
UPR	**University Cam**	**1.38**	**250**	*e*Pn	**Pb**	**14 43 20.5**	**-0.1**
UPR				*e*Sn	**Sg**	**14 43 39.4**	**+0.2**
LIT	**Litokhoron**	**1.52**	**331**	P	**Pn**	**14 43 21.1**	**-0.9**
LIT	**Litokhoron**	**1.52**	**331**	*e*PN	**Pn**	**14 43 21.2**	**-0.8**
LIT	**Litokhoron**	**1.52**	**331**	*e*Pn	**Pn**	**14 43 21.2**	**-0.8**
PLG	**Polygyros**	**1.61**	**0**	P	**Pn**	**14 43 22.0**	**-1.1**
PLG	**Polygyros**	**1.61**	**0**	*e*PN	**Pn**	**14 43 22.1**	**-1.1**
PLG				*e*SN	**Sn**	**14 43 42.8**	**-1.1**
PLG	**Polygyros**	**1.61**	**0**	*e*Pn	**Pn**	**14 43 22.1**	**-1.1**
PLG				*e*Sn	**Sn**	**14 43 42.8**	**-1.1**
OUR	**Ouranopolis**	**1.62**	**15**	P	**Pn**	**14 43 22.4**	**-0.9**
OUR	**Ouranopolis**	**1.62**	**15**	P	**Pn**	**14 43 22.4**	**-0.9**
VLX	**Vlachokerasia**	**1.62**	**211**	P	**Pn**	**14 43 22.3**	**-1.1**
VLX				S	**Sn**	**14 43 43.9**	**-0.5**
VLX	**Vlachokerasia**	**1.62**	**211**	*e*PN	**Pn**	**14 43 23.5**	**+0.1**
VLX	**Vlachokerasia**	**1.62**	**211**	P	**Pn**	**14 43 22.3**	**-1.1**
VLX	**Vlachokerasia**	**1.62**	**211**	*e*Pn	**Pn**	**14 43 23.5**	**+0.1**
VLX				S	**Sn**	**14 43 43.9**	**-0.5**
RLS	**Riolos of Patr**	**1.70**	**246**	*e*PN	**Pn**	**14 43 25.0**	**+0.6**
RLS				*e*SN	**Sb**	**14 43 47.3**	**-0.2**
RLS	**Riolos of Patr**	**1.70**	**246**	*e*Pn	**Pn**	**14 43 25.0**	**+0.6**
RLS				*e*Sn	**Sb**	**14 43 47.3**	**-0.2**
LIA	**Limnos Island**	**1.76**	**50**	P	**Pn**	**14 43 24.0**	**-1.2**
LIA				S	**Sn**	**14 43 47.2**	**-0.5**
LIA	**Limnos Island**	**1.76**	**50**	*e*PN	**Pn**	**14 43 24.1**	**-1.2**
LIA				*e*SN	**Sn**	**14 43 47.2**	**-0.5**
LIA	**Limnos Island**	**1.76**	**50**	P	**Pn**	**14 43 24.0**	**-1.2**
LIA				S	**Sn**	**14 43 47.2**	**-0.5**
HORT	**Hortiatis**	**1.85**	**352**	P	**Pn**	**14 43 25.7**	**-0.8**
HORT				S	**Sn**	**14 43 49.7**	**-0.3**
HORT	**Hortiatis**	**1.85**	**352**	P	**Pn**	**14 43 25.7**	**-0.8**
HORT				S	**Sn**	**14 43 49.7**	**-0.3**
ITM	**Ithomi**	**1.98**	**218**	*e*PN	**Pn**	**14 43 29.2**	**+0.9**
ITM	**Ithomi**	**1.98**	**218**	*e*Pn	**Pn**	**14 43 29.2**	**+0.9**
KZN	**Kozani**	**2.01**	**321**	*e*PN	**Pn**	**14 43 28.7**	**0.0**
KZN	**Kozani**	**2.01**	**321**	*e*Pn	**Pn**	**14 43 28.7**	**0.0**
SOH	**Sokhos**	**2.06**	**358**	P	**Pn**	**14 43 28.8**	**-0.5**
SOH	**Sokhos**	**2.06**	**358**	*e*PB	**Pn**	**14 43 28.4**	**-0.9**
SOH	**Sokhos**	**2.06**	**358**	*e*Pb	**Pn**	**14 43 28.4**	**-0.9**
SOH	**Sokhos**	**2.06**	**358**	P	**Pn**	**14 43 28.8**	**-0.5**
VLI	**Veliai**	**2.08**	**191**	*e*PB	**Pn**	**14 43 29.5**	**-0.1**
VLI	**Veliai**	**2.08**	**191**	*e*Pb	**Pn**	**14 43 29.5**	**-0.1**
CHOS	**Chios island**	**2.08**	**100**	*e*PN	**Pn**	**14 43 29.3**	**-0.4**
CHOS	**Chios island**	**2.08**	**100**	*e*Pn	**Pn**	**14 43 29.3**	**-0.4**
JAN	**Janina**	**2.20**	**295**	*e*PB	**Pn**	**14 43 31.6**	**+0.3**
JAN	**Janina**	**2.20**	**295**	*e*Pb	**Pn**	**14 43 31.6**	**+0.3**
PRK	**Paraskevi**	**2.26**	**77**	*e*PN	**Pn**	**14 43 31.2**	**-0.8**
PRK	**Paraskevi**	**2.26**	**77**	*e*Pn	**Pn**	**14 43 31.2**	**-0.8**
BOZC	**Bozcaada**	**2.29**	**61**	*i* P	**Pn**	**14 43 32.5**	**0.0**
BOZC				*i* S	**Sn**	**14 44 02.5**	**+1.7**
PYL	**PYLOS**	**2.30**	**216**	*e*PB	**Pn**	**14 43 33.9**	**+1.3**
PYL	**PYLOS**	**2.30**	**216**	*e*Pb	**Pn**	**14 43 33.9**	**+1.3**
VLS	**Valsamata**	**2.31**	**256**	*e*PB	**Pn**	**14 43 34.1**	**+1.3**
VLS	**Valsamata**	**2.31**	**256**	*e*Pb	**Pn**	**14 43 34.1**	**+1.3**
GRG	**Griva**	**2.33**	**340**	P	**Pn**	**14 43 32.3**	**-0.8**
GRG	**Griva**	**2.33**	**340**	P	**Pn**	**14 43 32.3**	**-0.8**
SRS	**Serrai**	**2.35**	**3**	P	**Pn**	**14 43 32.6**	**-0.8**
SRS	**Serrai**	**2.35**	**3**	P	**Pn**	**14 43 32.6**	**-0.8**
APE	**Apeiranthos**	**2.37**	**135**	*e*PN	**Pn**	**14 43 33.0**	**-0.6**
APE	**Apeiranthos**	**2.37**	**135**	P	**Pn**	**14 43 32.9**	**-0.7**
APE				S	**Sn**	**14 44 02.7**	**0.0**
APE	**Apeiranthos**	**2.37**	**135**	⇑*i*P	**Pn**	**14 43 33.1**	**-0.5**
APE	**Apeiranthos**	**2.37**	**135**	P	**Pn**	**14 43 32.9**	**-0.7**
KNT	**Kendrikon**	**2.43**	**350**	P	**Pn**	**14 43 34.4**	**0.0**
KNT	**Kendrikon**	**2.43**	**350**	P	**Pn**	**14 43 34.4**	**0.0**
EZN	**Ezine**	**2.48**	**64**	*e*P	**Pn**	**14 43 34.5**	**-0.5**
KYTH	**Kithira**	**2.50**	**188**	*e*PN	**Pn**	**14 43 35.5**	**+0.1**
KYTH	**Kithira**	**2.50**	**188**	*e*Pn	**Pn**	**14 43 35.5**	**+0.1**
URLA	**Izmir**	**2.51**	**98**	*i* P	**Pn**	**14 43 35.9**	**+0.4**
URLA	**Izmir**	**2.51**	**98**	*i* P	**Pn**	**14 43 35.9**	**+0.4**
AYVA	**Ayvalik**	**2.59**	**77**	*e*P	**Pn**	**14 43 38.0**	**+1.4**
AYVA	**Ayvalik**	**2.59**	**77**	*e*P	**Pn**	**14 43 38.0**	**+1.4**
NVR	**Nevrokopi**	**2.60**	**7**	P	**Pn**	**14 43 36.0**	**-0.8**
NVR	**Nevrokopi**	**2.60**	**7**	*e*PN	**Pn**	**14 43 36.0**	**-0.8**
NVR	**Nevrokopi**	**2.60**	**7**	P	**Pn**	**14 43 36.0**	**-0.8**
VAY	**Valandovo**	**2.64**	**346**	*i* Pn	**Pn**	**14 43 37.0**	**-0.3**
VAY	**Valandovo**	**2.64**	**346**	*i* Pn	**Pn**	**14 43 37.4**	**+0.1**
BIA	**Bitola**	**2.78**	**325**	*e*Pn	**Pb**	**14 43 43.2**	**-1.2**
BIA	**Bitola**	**2.78**	**325**	*e*Pn	**Pb**	**14 43 43.2**	**-1.2**
BLCB	**Balcova**	**2.85**	**97**	*e*P	**Pn**	**14 43 40.7**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.86**	**54**	*e*P	**Pn**	**14 43 39.4**	**-0.9**
ENEZ	**Enez**	**2.87**	**46**	*e*P	**Pn**	**14 43 39.4**	**-1.1**
RDO	**Rodhopi**	**2.87**	**33**	*e*PN	**Pn**	**14 43 38.9**	**-1.6**
RDO	**Rodhopi**	**2.87**	**33**	*e*Pn	**Pn**	**14 43 38.9**	**-1.6**
SMG	**Samos**	**2.88**	**110**	*e*PN	**Pn**	**14 43 40.4**	**-0.1**
SMG	**Samos**	**2.88**	**110**	*e*Pn	**Pn**	**14 43 40.4**	**-0.1**
SRN	**Sarande**	**2.89**	**294**	*i* PN	**Pn**	**14 43 42.8**	**+2.1**
SRN	**Sarande**	**2.89**	**294**	*i* Pn	**Pn**	**14 43 42.8**	**+2.1**
ALN	**Alexandroupoli**	**2.92**	**42**	*e*PN	**Pn**	**14 43 40.0**	**-1.2**
ALN	**Alexandroupoli**	**2.92**	**42**	*e*Pn	**Pn**	**14 43 40.0**	**-1.2**
KEK	**Kerkira**	**2.98**	**290**	*e*PN	**Pn**	**14 43 43.0**	**+1.0**
KEK	**Kerkira**	**2.98**	**290**	*e*Pn	**Pn**	**14 43 43.0**	**+1.0**
LPK	**Lapseki**	**3.03**	**57**	*e*P	**Pn**	**14 43 41.8**	**-0.9**
ERIK	**Erikli-Kesan**	**3.04**	**50**	*e*P	**Pn**	**14 43 41.9**	**-0.9**
KRUS	**Krusevo**	**3.10**	**328**	*i* Pn	**Pn**	**14 43 43.6**	**-0.1**
KRUS	**Krusevo**	**3.10**	**328**	*i* Pn	**Pn**	**14 43 43.6**	**-0.1**
BALY	**Balya**	**3.39**	**72**	*i* P	**Pn**	**14 43 48.7**	**+1.1**
BALY				*e*S	**Sb**	**14 44 38.4**	**+2.4**
BALY	**Balya**	**3.39**	**72**	*i* P	**Pn**	**14 43 48.7**	**+1.1**
KRBG	**Karabiga-Canak**	**3.40**	**60**	*e*P	**Pn**	**14 43 47.4**	**-0.3**
VAM	**Vamos**	**3.41**	**170**	*e*PN	**Pn**	**14 43 48.1**	**+0.3**
VAM	**Vamos**	**3.41**	**170**	*e*Pn	**Pn**	**14 43 48.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**3.46**	**55**	*e*P	**Pn**	**14 43 48.2**	**-0.5**
SART	**Tekirdag**	**3.46**	**55**	*i* P	**Pn**	**14 43 48.4**	**-0.3**
SART	**Tekirdag**	**3.46**	**55**	*i* P	**Pn**	**14 43 48.4**	**-0.3**
BODT	**Bodrum**	**3.50**	**118**	*e*P	**Pn**	**14 43 49.2**	**0.0**
GONE	**Gonen-Balikesi**	**3.53**	**67**	*e*P	**Pn**	**14 43 49.7**	**+0.2**
SKO	**Skopje**	**3.55**	**335**	*i* Pn	Pb	14 43 53.7	-3.8
SKO	**Skopje**	**3.55**	**335**	*i* Pn	Pb	14 43 54.2	-3.4
BALB	**Balikesir**	**3.56**	**74**	*e*P	**Pn**	**14 43 50.5**	**+0.6**
MFT	**Murefte**	**3.58**	**54**	*e*P	**Pn**	**14 43 50.0**	**-0.3**
AYDN	**Tasoluk**	**3.67**	**106**	*e*P	**Pn**	**14 43 53.5**	**+2.1**
AYDN	**Tasoluk**	**3.67**	**106**	*e*P	**Pn**	**14 43 53.5**	**+2.1**
PHP	**Peshkopia**	**3.71**	**323**	*i* PN	**Pn**	**14 43 50.6**	**-1.5**
PHP	**Peshkopia**	**3.71**	**323**	*i* Pn	**Pn**	**14 43 50.6**	**-1.5**
EDC	**Edincik**	**3.77**	**64**	*e*P	**Pn**	**14 43 52.9**	**+0.1**
BNT	**Bandirma**	**3.81**	**64**	*e*P	**Pn**	**14 43 53.1**	**-0.2**
VTS	**Vitosha**	**3.83**	**357**	⇓*i*P	**Pn**	**14 43 54.6**	**+0.8**
VTS	**Vitosha**	**3.83**	**357**	⇓*i*P	**Pn**	**14 43 54.6**	**+0.8**
TKR	**Tekirdag**	**3.85**	**54**	*e*P	**Pn**	**14 43 53.9**	**-0.1**
SIVA	**Sivas**	**3.90**	**163**	*e*PN	**Pn**	**14 43 56.0**	**+1.4**
SIVA	**Sivas**	**3.90**	**163**	*e*Pn	**Pn**	**14 43 56.0**	**+1.4**
EDRB	**Edirne**	**3.98**	**38**	*e*P	**Pn**	**14 43 54.2**	**-1.5**
DURS	**Dursunbey**	**4.00**	**76**	*i* P	**Pn**	**14 43 55.7**	**-0.4**
DURS	**Dursunbey**	**4.00**	**76**	*i* P	**Pn**	**14 43 55.7**	**-0.4**
KCTX	**Karacabey (Bur**	**4.09**	**67**	*e*P	**Pn**	**14 43 57.6**	**+0.4**
KULA	**Kula-Manisa**	**4.09**	**92**	*e*P	**Pn**	**14 43 58.2**	**+0.8**
YER	**Yerkesik**	**4.16**	**112**	*e*P	**Pn**	**14 43 59.0**	**+0.7**
PUK	**Puka**	**4.25**	**322**	*i* PN	**Pn**	**14 43 59.6**	**+0.1**
PUK	**Puka**	**4.25**	**322**	*i* Pn	**Pn**	**14 43 59.6**	**+0.1**
ZKR	**Zakros**	**4.27**	**148**	*e*PN	**Pn**	**14 43 59.5**	**-0.2**
ZKR	**Zakros**	**4.27**	**148**	*e*Pn	**Pn**	**14 43 59.5**	**-0.2**
XRY	**Khrisi**	**4.28**	**154**	*e*PN	**Pn**	**14 44 00.7**	**+0.8**
XRY	**Khrisi**	**4.28**	**154**	*e*Pn	**Pn**	**14 44 00.7**	**+0.8**
KARP	**Karpathos**	**4.38**	**136**	*e*PN	**Pn**	**14 44 01.8**	**+0.6**
KARP	**Karpathos**	**4.38**	**136**	*e*Pn	**Pn**	**14 44 01.8**	**+0.6**
SLVT	**Silivri**	**4.41**	**55**	*e*P	**Pn**	**14 44 01.4**	**-0.3**
BCI	**Bajram Curri**	**4.42**	**326**	*i* PN	**Pn**	**14 44 01.4**	**-0.4**
BCI	**Bajram Curri**	**4.42**	**326**	*i* Pn	**Pn**	**14 44 01.4**	**-0.4**
CTYL	**Yal??k??y-??at**	**4.60**	**52**	*e*P	**Pn**	**14 44 04.0**	**-0.2**
CTKS	**Kestanelik-??a**	**4.61**	**56**	*e*P	**Pn**	**14 44 04.5**	**+0.2**
BGKT	**Bogazkoy**	**4.75**	**58**	*e*P	**Pn**	**14 44 06.4**	**+0.1**
ISK	**Istanbul-Kandi**	**4.89**	**60**	*e*P	**Pn**	**14 44 08.8**	**+0.5**
YLV	**Yalova**	**4.92**	**67**	*e*P	**Pn**	**14 44 09.8**	**+1.1**
KLYT	**Kilyos**	**4.97**	**58**	*e*P	**Pn**	**14 44 09.6**	**+0.4**
PE1	**Pezze di Greco**	**5.06**	**296**	*e*Pn	Pn	14 44 14.5	+3.9
TAR1	**Taranto**	**5.07**	**292**	*e*Pn	Pn	14 44 14.2	+3.6
ADVT	**Abdulvahap**	**5.14**	**69**	*e*P	**Pn**	**14 44 13.0**	**+1.3**
CAVI	**Cavuskoy**	**5.16**	**72**	*e*P	**Pn**	**14 44 13.3**	**+1.4**
ALT	**Altintas**	**5.21**	**85**	*e*P	**Pn**	**14 44 14.0**	**+1.2**
HRT	**Hereke**	**5.22**	**65**	*e*P	**Pn**	**14 44 14.2**	**+1.4**
SILT	**Sile**	**5.33**	**61**	*e*P	**Pn**	**14 44 14.9**	**+0.6**
BAI	**Bari**	**5.56**	**297**	*e*Pn	**Pn**	**14 44 18.5**	**+1.1**
GULT	**Gulveren**	**5.71**	**71**	*e*P	**Pn**	**14 44 20.9**	**+1.3**
SVRH	**Sivrihisar-ESK**	**6.32**	**81**	*e*P	**Pn**	**14 44 29.6**	**+1.5**
VOIR		**6.77**	**10**	⇑*i*P	**Pn**	**14 44 34.5**	**+0.3**
VOIR		**6.77**	**10**	⇑*i*P	**Pn**	**14 44 34.5**	**+0.3**
MLR	**Muntele Rosu**	**6.97**	**15**	P	Pn	14 44 41.2	+4.2
	0.5nm,0.3s,baz=152,slow=17,SNR=11						
MLR				S	**Sn**	**14 45 59.1**	**+2.8**
	0.6nm,0.3s,baz=220,slow=18,SNR=3.9						
MLR				LR	LR	14 47 49.9	
	comp=Z,110nm,19.0s,baz=321,slow=42						
MLR	**Muntele Rosu**	**6.97**	**15**	⇑*i*P	Pn	14 44 41.7	+4.7
BZS	**Buzias**	**6.98**	**349**	⇑*i*P	**Pn**	**14 44 37.6**	**+0.7**
BZS	**Buzias**	**6.98**	**349**	⇑*i*P	**Pn**	**14 44 37.6**	**+0.7**
BRTR	**Keskin Array B**	**7.97**	**80**	P	**Pn**	**14 44 51.9**	**+1.2**
	1.3nm,0.3s,baz=257,slow=14,SNR=24						
DRGR		**8.04**	**356**	⇑*i*P	**Pn**	**14 44 53.0**	**+1.5**
DRGR		**8.04**	**356**	⇑*i*P	**Pn**	**14 44 53.0**	**+1.5**
TESR		**8.09**	**16**	⇓*i*P	Pn	14 44 55.5	+3.3
PKSM	**Moragy**	**8.24**	**336**	⇓*i*P	Pn	14 44 57.6	+3.4
NVLJ	**Novalja**	**8.64**	**315**	*e*Pn	**Pn**	**14 44 58.9**	**-0.7**
NVLJ				Sn	**Sn**	**14 46 34.6**	**-2.5**
NVLJ	**Novalja**	**8.64**	**315**	*e*Pn	**Pn**	**14 44 58.9**	**-0.7**
NVLJ				Sn	**Sn**	**14 46 34.5**	**-2.5**
BURAR	**Bucovina Array**	**8.94**	**8**	⇑*i*P	**Pn**	**14 45 04.2**	**+0.3**
BURAR	**Bucovina Array**	**8.94**	**8**	⇑*i*P	**Pn**	**14 45 04.2**	**+0.3**
BOJS	**Bojanci**	**9.07**	**321**	*i* Pn	**Pn**	**14 45 05.3**	**-0.3**
BOJS				*i* Sn	**Sn**	**14 46 45.8**	**-1.9**
BOJS	**Bojanci**	**9.07**	**321**	Pn	**Pn**	**14 45 05.3**	**-0.3**
BOJS				*i* Sn	**Sn**	**14 46 45.8**	**-1.9**
JAVS	**Javornik**	**9.94**	**319**	*i* Pn	**Pn**	**14 45 18.9**	**+1.3**
JAVS				*i* Sn	**Sn**	**14 47 09.4**	**+0.2**
JAVS	**Javornik**	**9.94**	**319**	*i* Pn	**Pn**	**14 45 18.9**	**+1.3**
JAVS				*i* Sn	**Sn**	**14 47 09.4**	**+0.2**
KECS	**Kecovo**	**9.95**	**349**	*e*PN	Pn	14 45 13.4	-4.2
KECS				*e*		14 45 20.8	
CRNS	**Crni Vrh**	**9.97**	**320**	*i* Pn	**Pn**	**14 45 20.1**	**+2.1**
CRNS				*i* Sn	**Sn**	**14 47 11.0**	**+1.2**
CRVS	**Cervenica-Dubn**	**10.23**	**353**	*e*PN	Pn	14 45 18.1	-3.4
CRVS				*e*		14 45 26.0	
VYHS	**Vyhne**	**10.28**	**343**	*e*PN	**Pn**	**14 45 19.3**	**-2.9**
VYHS				*e*		14 45 25.9	
VYHS	**Vyhne**	**10.28**	**343**	*e*Pn	**Pn**	**14 45 19.3**	**-2.9**
STHS	**Stebnicka Huta**	**10.77**	**352**	*e*PN	**Pn**	**14 45 26.6**	**-2.2**
STHS	**Stebnicka Huta**	**10.77**	**352**	*e*Pn	**Pn**	**14 45 26.6**	**-2.2**
MMAI	**Mount Meron Ar**	**11.27**	**117**	P	**Pn**	**14 45 38.5**	**+2.7**
	0.4nm,0.3s,baz=295,slow=14,SNR=3.4						
KEST	**Kesra**	**11.63**	**259**	P	Pn	14 45 45.0	+4.1
	0.1nm,0.3s,baz=315,slow=4.4,SNR=3.5						
GERES	**GERESS Array B**	**12.28**	**328**	P	Pn	14 45 52.7	+3.2
	0.1nm,0.3s,baz=142,slow=12,SNR=3.9						
GERES				LR	LR	14 49 55.3	
	comp=Z,97nm,21.4s,baz=16,slow=34						
KHC	**Kasperske Hory**	**12.55**	**329**	*e*P	Pn	14 45 57.0	+3.7
KHC				*e*x	x	14 48 29.0	
AKASG	**Malin Array Be**	**12.62**	**17**	P	**Pn**	**14 45 56.4**	**+2.3**
	0.4nm,0.3s,baz=203,slow=14,SNR=3.4						
DAVOX	**Davos/Dischmat**	**12.77**	**313**	P	**Pn**	**14 45 58.2**	**+1.8**
	0.2nm,0.3s,baz=356,slow=19,SNR=2.4						
DAVOX				LR	LR	14 50 57.1	
	comp=Z,106nm,20.4s,baz=276,slow=37						
EIL	**Elat**	**13.14**	**130**	P	**Pn**	**14 46 03.4**	**+2.0**
	0.3nm,0.3s,baz=335,slow=16,SNR=3.9						
ORIF	**Oris-en-Rattie**	**14.45**	**301**	*e*P	**Pn**	**14 46 17.9**	**-1.4**
LOR	**Lormes**	**16.62**	**307**	*e*P	**Pn**	**14 46 45.2**	**-2.4**
	29nm,1.3s						
MTLF	**Montolieu**	**16.64**	**293**	*e*P	**Pn**	**14 46 46.2**	**-1.7**
	35nm,1.5s						
SSF	**Saint Saulge**	**16.76**	**306**	*e*P	**Pn**	**14 46 47.8**	**-1.6**
	36nm,1.6s						
ETSF	**Etsaut**	**18.61**	**290**	*e*P	**P**	**14 47 11.8**	**-0.3**
MFF	**Saint Martin d**	**18.98**	**302**	*e*P	**Pn**	**14 47 16.5**	**-0.3**
LDF	**La Druitiere**	**19.60**	**308**	*e*P	**P**	**14 47 22.3**	**-0.6**
	8.0nm,0.8s						
GRR	**Gorron**	**19.99**	**307**	*e*P	**P**	**14 47 26.7**	**-0.4**
ESDC	**Sonseca Array**	**21.23**	**281**	P	**P**	**14 47 41.0**	**+0.3**
	4.4nm,0.5s,baz=75,slow=12,SNR=15						
ROSF	**Rostrenen**	**21.50**	**305**	*e*P	**P**	**14 47 44.4**	**+0.9**
	157nm,1.5s						
HFS	**Hagfors**	**22.26**	**347**	P	**P**	**14 47 52.2**	**+0.7**
	2.6nm,0.5s,baz=164,slow=7.3,SNR=9.8						
FINES	**FINESS Array B**	**22.76**	**3**	P	**P**	**14 47 58.9**	**+2.0**
	4.1nm,1.0s,baz=153,slow=9.4,SNR=6.8						
NOA	**NORSAR Array B**	**23.57**	**345**	P	**P**	**14 48 04.8**	**-0.4**
	2.5nm,0.6s,baz=151,slow=9.2,SNR=12						
AKTO	**Aktyubinsk**	**27.00**	**53**	P	**P**	**14 48 36.5**	**0.0**
	1.0nm,0.5s,baz=272,slow=11,SNR=7.4						
TORD	**Torodi Ar. Bea**	**31.98**	**223**	P	**P**	**14 49 20.4**	**-0.5**
	3.6nm,0.5s,baz=32,slow=9.4,SNR=19						
DBIC	**Dimbokro**	**40.91**	**226**	P	**P**	**14 50 38.0**	**+0.7**
	4.0nm,0.7s,baz=23,slow=7.7,SNR=8.9						
LIC	**Lamto**	**41.38**	**226**	*e*P	P	14 50 45.8	+4.8
	6.2nm,0.3s						
MKAR	**Makanchi Array**	**43.04**	**59**	P	**P**	**14 50 54.3**	**0.0**
	0.3nm,0.4s,baz=273,slow=8.7,SNR=9.8						
ZALV	**Zalesovo Beam**	**43.59**	**49**	P	**P**	**14 50 58.0**	**-0.6**
	2.8nm,0.5s,baz=268,slow=8.9,SNR=15						
GTA	**Gaotai**	**57.52**	**63**	*e*P	P	14 52 36.9	-7.4
GTA				pP	pP	14 52 44.2	-3.5
GTA				sP	sP	14 52 48.0	-1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**58.30**	**52**	P	**P**	**14 52 49.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=294,slow=7.7,SNR=4.9						
SCHQ	**Schefferville**	**59.57**	**318**	P	**P**	**14 52 58.8**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=281,slow=16,SNR=6.0						
LBTB	**Lobatse**	**63.48**	**178**	P	**P**	**14 53 24.6**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=284,slow=4.2,SNR=2.4						
CMAR	**Chiang Mai Arr**	**67.54**	**84**	P	**P**	**14 53 52.0**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=295,slow=8.6,SNR=4.2						
CN2	**Changchun**	**71.80**	**48**	*e*P	**P**	**14 54 18.8**	**+1.5**
YKA	**Yellowknife Ar**	**73.60**	**341**	P	**P**	**14 54 26.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=28,slow=5.0,SNR=7.8						
ILAR	**Eielson Array**	**76.52**	**356**	P	**P**	**14 54 43.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=334,slow=4.1,SNR=6.4						
KSRS	**Korea Array**	**77.17**	**52**	P	**P**	**14 54 49.9**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=316,slow=4.7,SNR=8.1						
ASAR	**Alice Springs**	**119.97**	**97**	PKP	**PKPdf**	**15 01 43.6**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=310,slow=1.5,SNR=7.8						

*IDC **02** 14:42:59.5±1.3, 30.°90S×178.°18W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.1/17, mbtmp4.3/5, ML3.3/1, Error ellipse: s-maj=34.5km s-min=29.4km az=47.0*
*ISCJB **02** 14:43:09.3±1.8, 31.°37S±0.°08×178.°9W±0.°3, h46km, mb4.3/4, Error ellipse: s-maj=33.7km s-min=11.5km az=0.4*

ISC 02 14:43:08.9±1.4**, 31.°3S**±0.°1×**178.°8W**±0.°2**, h46**km**, n16,** σ**2.s44**/14**, mb4.3**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.20**	**199**	*e*PN	**Pn**	**14 44 53.4**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PUZ				SN	Sn	14 46 10.3	-1.6
CNGZ	Carnagh Statio	7.60	198	ePN	Pn	14 45 00.1	+3.2
MWZ	Matawai	7.66	203	ePN	Pn	14 45 00.5	+2.6
URZ	Urewera	7.74	205	Pn	Pn	14 45 01.0	+2.1
	0.4nm,0.3s,baz=100,slow=22,SNR=15						
URZ				Sn	Sn	14 46 26.9	+1.8
	2.9nm,0.3s,baz=155,slow=19,SNR=8.9						
URZ	Urewera	7.74	205	PN	Pn	14 45 02.3	+3.4
URZ				SN	Sn	14 46 26.1	+0.9
TCW	Tory Channel	11.38	208	SN	Sn	14 47 49.0	-5.5
QRZ	Quartz Range	11.84	214	ePN	Pn	14 45 59.3	+4.3
THZ	Tophouse	12.41	210	ePN	Pn	14 46 03.7	+0.8
MQZ	McQueen's Vall	14.13	206	SN	Sn	14 48 49.6	-12
STKA	Stephens Creek	33.66	258	P	P	14 49 47.2	+1.8
	3.1nm,0.8s,baz=106,slow=10,SNR=14						
ASAR	Alice Springs	42.43	268	P	P	14 51 00.0	+0.6
	3.0nm,0.5s,baz=105,slow=7.9,SNR=100						
WRA	Warramunga Arr	43.50	273	P	P	14 51 08.4	+0.4
	7.2nm,0.5s,baz=112,slow=7.9,SNR=64						
QSPA	South Pole Qui	58.82	180	P	P	14 53 02.6	+0.2
	1.5nm,0.5s,baz=288,slow=2.3,SNR=2.4						
FINES	FINESS Array B	145.75	339	PKPbc	PKPdf	15 02 38.9	-2.7
	9.3nm,1.1s,baz=44,slow=3.6,SNR=11						
HFS	Hagfors	149.98	348	PKPbc	PKPdf	15 02 49.9	+1.2
	3.5nm,0.9s,baz=70,slow=4.7,SNR=4.5						
TORD	Torodi Ar. Bea	161.93	181	PKPab	PKPab	15 03 49.5	-2.1
	0.2nm,0.5s,baz=158,slow=3.8,SNR=2.4						

*DDA **02** 14:44:21.0, 37.44N×35.45E, h7km, MD2.6*

ISC 02 14:44:12.8±4.6**, 36.9N**±0.4×**35.8E**±0.2**, h12km, n4, σ0.98**/5**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GULE	Gulek	0.85	295	i P	Pn	14 44 31.8	+1.0
GULE				i S	Sb	14 44 41.2	0.0
SHUT	Suhut-Afyon	4.43	293	eP	Pn	14 45 19.2	-0.7
ESKT	Eskisehir	4.64	305	eP	Pn	14 45 22.1	-0.7
MDUB	Mudurnu	5.02	316	eP	Pn	14 45 28.1	+0.2

*MDD **02** 14:44:53.1±3.3, 32.15N×8.01W, h0km, mb3.5/5, Error ellipse: s-maj=52.8km s-min=29.2km az=95.0, PRXIMO*
*INMG **02** 14:44:55.0±0.8, 32.08N×8.03W, h31km, ML2.2, Error ellipse: s-maj=18.6km s-min=6.4km az=86.0*
*CSEM **02** 14:44:57.4±0.4, 32.45N×7.89W, h10km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=7.7km az=91.0*

ISC 02 14:44:57.0±4.3**, 32.4N**±0.2×**7.9W**±0.1**, h10km, n26, σ0.56**/49**, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	4.76	351	ePn	Pn	14 46 08.7	-0.1
PFVI				eSn	Sn	14 47 03.8	-0.2
PFVI				A	A	14 47 07.8	
	4.0nm,0.4s						
PFVI	Vila Bisbo	4.76	351	P	Pn	14 46 07.8	-0.9
	0.6nm,0.2s,SNR=7.9						
PFVI				S	Sn	14 47 03.5	-0.5
	0.9nm,0.2s,SNR=7.9						
PFVI	Vila Bisbo	4.76	351	P	Pn	14 46 07.8	-0.9
	0.6nm,0.2s,SNR=7.9						
PFVI	Vila Bisbo	4.76	351	ePn	Pn	14 46 08.7	-0.1
PFVI				S	Sn	14 47 03.5	-0.5
	0.9nm,0.2s,SNR=7.9						
PFVI				eSn	Sn	14 47 03.8	-0.2
	4.0nm,0.4s						
PBDV	Barranco-do-Ve	4.80	359	ePn	Pn	14 46 09.5	+0.1
PBDV	Barranco-do-Ve	4.80	359	P	Pn	14 46 09.5	+0.1
PBDV	Barranco-do-Ve	4.80	359	P	Pn	14 46 09.5	+0.1
PVAQ	Vaqueiros	4.96	1	ePn	Pn	14 46 11.9	+0.3
PVAQ				eSn	Sn	14 47 09.2	+0.2
PVAQ				A	A	14 47 10.9	
	2.2nm,0.3s						
PVAQ	Vaqueiros	4.96	1	P	Pn	14 46 11.9	+0.3
PVAQ				S	Sn	14 47 09.2	+0.2
	2.2nm,0.3s						
PVAQ	Vaqueiros	4.96	1	P	Pn	14 46 11.9	+0.3
PVAQ				S	Sn	14 47 09.2	+0.2
	2.2nm,0.3s						
EGRO	El Granado	5.10	3	P	Pn	14 46 13.9	+0.4
	0.9nm,0.3s,SNR=5.6						
EGRO				S	Sn	14 47 12.3	-0.1
	1.0nm,0.2s,SNR=7.9						
EGRO	El Granado	5.10	3	P	Pn	14 46 13.9	+0.4
	0.9nm,0.3s,SNR=5.6						
EGRO				S	Sn	14 47 12.4	-0.1
	1.0nm,0.2s,SNR=7.9						
PCVE	Castro Verde	5.19	358	ePn	Pn	14 46 14.8	+0.1
PCVE				eSn	Sn	14 47 15.6	+0.9
PCVE				A	A	14 47 19.5	
	2.2nm,0.7s						
PCVE	Castro Verde	5.19	358	P	Pn	14 46 14.8	+0.1
PCVE				S	Sn	14 47 15.6	+0.9
	2.2nm,0.7s						
PCVE	Castro Verde	5.19	358	P	Pn	14 46 14.8	+0.1
PCVE				S	Sn	14 47 15.6	+0.9
	2.2nm,0.7s						
EMIN	Mina Concepcio	5.41	10	P	Pn	14 46 17.7	-0.1
	0.6nm,0.3s,SNR=7.9						
EMIN				S	Sn	14 47 19.6	-0.6
	0.6nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.41	10	P	Pn	14 46 17.7	-0.1
	0.6nm,0.3s,SNR=7.9						
EMIN				S	Sn	14 47 19.6	-0.6
	0.6nm,0.2s,SNR=7.9						
PNCL	Nicolau / Gran	5.70	355	ePn	Pn	14 46 22.2	+0.6
PNCL				eSn	Sn	14 47 26.4	-0.7
PNCL				A	A	14 47 37.8	
	1.8nm,0.7s						
PNCL	Nicolau / Gran	5.70	355	ePn	Pn	14 46 22.2	+0.6
PNCL				eSn	Sn	14 47 26.4	-0.7
	1.8nm,0.7s						
PBAR	Barrancos	5.77	7	ePn	Pn	14 46 23.4	+0.7
PBAR				eSn	Sn	14 47 29.7	+0.7
PBAR				A	A	14 47 32.6	
	1.1nm,0.4s						
PBAR	Barrancos	5.77	7	P	Pn	14 46 23.4	+0.7
PBAR				S	Sn	14 47 29.7	+0.7
	1.1nm,0.4s						
PBAR	Barrancos	5.77	7	P	Pn	14 46 23.4	+0.7
PBAR				S	Sn	14 47 29.7	+0.7
	1.1nm,0.4s						
EADA	Adamuz	6.32	24	P	Pn	14 46 30.8	+0.5
	0.6nm,0.2s,SNR=4.7						
EADA				S	Sn	14 47 41.5	-1.1
	0.5nm,0.2s						
EADA	Adamuz	6.32	24	P	Pn	14 46 30.8	+0.5
	0.6nm,0.2s,SNR=4.7						
EADA				S	Sn	14 47 41.5	-1.1
	0.5nm,0.2s						
EBAD	Badajoz	6.35	6	P	Pn	14 46 30.4	-0.3
	0.2nm,0.3s,SNR=7.9						
EBAD				S	Sn	14 47 42.8	-0.4
	0.5nm,0.2s,SNR=7.9						
EBAD	Badajoz	6.35	6	P	Pn	14 46 30.4	-0.3
	0.2nm,0.3s,SNR=7.9						
EBAD				S	Sn	14 47 42.8	-0.4
	0.5nm,0.2s,SNR=7.9						

*CSEM **02** 14:48:03.3, 38.78N×23.45E, h26km, ML3.5, After ATH*

ATH 02 14:48:03.3, 38.78N×23.45E, h26km, ML3.5, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.38	250	ePB	Pb	14 48 11.0	-0.5
LKR				eSB	Sb	14 48 17.4	+0.2
LKR	Lokris	0.38	250	ePb	Pb	14 48 11.0	-0.5
LKR				eSb	Sb	14 48 17.4	+0.2
NEO	Neokhori	0.56	342	ePN	Pb	14 48 15.0	+0.4
NEO				eSN	Sb	14 48 22.9	+0.7
NEO	Neokhori	0.56	342	ePn	Pb	14 48 15.0	+0.4
NEO				eSn	Sb	14 48 22.9	+0.7
VIL1	Vilia, Western	0.62	189	ePB	Pb	14 48 15.2	-0.5
VIL1				eSN	Sn	14 48 24.9	-0.8
VIL1	Vilia, Western	0.62	189	ePb	Pb	14 48 15.2	-0.5
VIL1				eSn	Sn	14 48 24.9	-0.8
PTL	Penteli	0.80	156	ePN	Pn	14 48 18.9	0.0
PTL				eSN	Sn	14 48 29.9	-0.1
PTL	Penteli	0.80	156	ePn	Pn	14 48 18.9	0.0
PTL				eSn	Sn	14 48 29.9	-0.1
ATH	Athens Observa	0.83	165	ePN	Pn	14 48 19.6	+0.3
ATH				eSN	Sn	14 48 31.8	+1.0
ATH	Athens Observa	0.83	165	ePn	Pn	14 48 19.6	+0.3
ATH				eSn	Sn	14 48 31.8	+1.0
LTK	Loutraki	0.85	207	ePB	Pb	14 48 19.1	-0.3
LTK				eSN	Sn	14 48 32.1	+0.9
LTK	Loutraki	0.85	207	ePb	Pb	14 48 19.1	-0.3
LTK				eSn	Sn	14 48 32.1	+0.9
AGG	Agios Georgios	0.91	286	ePN	Pb	14 48 20.5	0.0
AGG				eSN	Sn	14 48 33.8	+1.1
AGG	Agios Georgios	0.91	286	ePn	Pb	14 48 20.5	0.0
AGG				eSn	Sn	14 48 33.8	+1.1
VLY	Voula,Athens	0.96	164	ePN	Pb	14 48 22.0	+0.6
VLY	Voula,Athens	0.96	164	ePn	Pb	14 48 22.0	+0.6
NAIG	Nisos Aigina	1.02	178	ePN	Pb	14 48 22.8	+0.5
NAIG	Nisos Aigina	1.02	178	ePn	Pb	14 48 22.8	+0.5
GUR	Goura	1.21	226	ePN	Pb	14 48 26.3	+0.6
GUR				eSN	Sb	14 48 42.8	+1.7
GUR	Goura	1.21	226	ePn	Pb	14 48 26.3	+0.6
GUR				eSn	Sb	14 48 42.8	+1.7
EVR	Evrytania	1.29	277	ePN	Pb	14 48 28.3	+1.3
EVR	Evrytania	1.29	277	ePn	Pb	14 48 28.3	+1.3
THL	Klokotos Trika	1.36	306	ePN	Pb	14 48 28.6	+0.5
THL	Klokotos Trika	1.36	306	ePn	Pb	14 48 28.6	+0.5
LIT	Litokhoron	1.51	331	ePN	Pb	14 48 30.7	-0.1
LIT	Litokhoron	1.51	331	ePn	Pb	14 48 30.7	-0.1
PLG	Polygyros	1.59	360	ePN	Pb	14 48 31.6	-0.5
PLG	Polygyros	1.59	360	ePn	Pb	14 48 31.6	-0.5
RLS	Riolos of Patr	1.72	246	ePN	Pb	14 48 34.6	+0.4
RLS	Riolos of Patr	1.72	246	ePn	Pb	14 48 34.6	+0.4
LIA	Limnos Island	1.75	50	ePB	Pb	14 48 33.6	-1.1
LIA	Limnos Island	1.75	50	ePb	Pb	14 48 33.6	-1.1
ITM	Ithomi	2.00	217	ePB	Pb	14 48 38.2	-0.8
ITM	Ithomi	2.00	217	ePb	Pb	14 48 38.2	-0.8
SOH	Sokhos	2.04	358	ePN	Pn	14 48 37.9	+1.8
SOH	Sokhos	2.04	358	ePn	Pn	14 48 37.9	+1.8
CHOS	Chios island	2.08	100	ePB	Pb	14 48 38.9	-1.6
CHOS	Chios island	2.08	100	ePb	Pb	14 48 38.9	-1.6
APE	Apeiranthos	2.37	135	ePN	Pn	14 48 42.6	+2.0
APE	Apeiranthos	2.37	135	ePn	Pn	14 48 42.6	+2.0
KYTH	Kithira	2.52	188	ePN	Pn	14 48 44.7	+2.1
KYTH	Kithira	2.52	188	ePn	Pn	14 48 44.7	+2.1

*TRN **02** 14:53:34.2, 18.86N×65.09W, h34km, MD3.0(RSPR)*
*NEIC **02** 14:53:35.9, 18.98N×65.08W, h25km, MD3.0(RSPR), After RSPR.*

RSPR 02 14:53:35.9, 18.98N×65.08W, h25km±28km**, MD3.0**/3**, 6C-6D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.64	169	⇑eP	Pb	14 53 47.1	-1.3
STVI	Saint Thomas	0.64	169	eS	Sb	14 53 56.0	-1.0
STVI	Saint Thomas	0.64	169	⇑eP	Pb	14 53 47.1	-1.3
STVI				eS	Sb	14 53 56.0	-1.0
STVI	Saint Thomas	0.64	169	⇑eP	Pb	14 53 47.1	-1.3
STVI				eS	Sb	14 53 56.0	-1.0
TBVI	Tortola	0.72	142	eS	Sb	14 53 57.1	-2.0
TBVI	Tortola	0.72	142	eS	Sb	14 53 57.1	-2.0
MTP	Monte Pirata	0.99	207	⇑eP	Pn	14 53 52.3	-1.9
MTP	Monte Pirata	0.99	207	eS	Sb	14 54 04.2	-2.8
MTP	Monte Pirata	0.99	207	⇑eP	Pn	14 53 52.3	-1.9
MTP				eS	Sb	14 54 04.2	-2.8
MTP	Monte Pirata	0.99	207	⇑eP	Pn	14 53 52.3	-1.9
MTP				eS	Sb	14 54 04.2	-2.8
CBYP	Canovanas	1.02	226	⇓eP	Pn	14 53 51.8	-2.8
CBYP	Canovanas	1.02	226	eS	Sb	14 54 04.7	-3.3
CBYP	Canovanas	1.02	226	⇓eP	Pn	14 53 51.8	-2.8
CBYP				eS	Sb	14 54 04.7	-3.3
CBYP	Canovanas	1.02	226	⇓eP	Pn	14 53 51.8	-2.8
CBYP				eS	Sb	14 54 04.7	-3.3
HUMP	Col San Antoni	1.11	221	⇓eP	Pn	14 53 53.9	-1.9
HUMP	Col San Antoni	1.11	221	eS	Sn	14 54 07.8	-2.6
HUMP	Col San Antoni	1.11	221	⇓eP	Pn	14 53 53.9	-1.9
HUMP				eS	Sn	14 54 07.8	-2.6
HUMP	Col San Antoni	1.11	221	⇓eP	Pn	14 53 53.9	-1.9
HUMP				eS	Sn	14 54 07.8	-2.6

*NEIC **02** 14:58:28.9, 39.20S×177.91E, h58km, ML4.1(WEL), After WEL.*

WEL 02 14:58:29.6±0.2**, 39.16S×177.83E, h55km**±1km**, ML4.0**/15**, 4C-4D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	0.06	87	PN	Pn	14 58 38.1	+0.1
MHGZ	Mahia Peninsul	0.06	87	Pn	Pn	14 58 38.1	+0.1
KNZ	Kokohu	0.18	318	⇑PN	Pn	14 58 38.0	-0.4
KNZ				SN	Sn	14 58 43.9	-0.8
KNZ	Kokohu	0.18	318	⇑Pn	Pn	14 58 38.0	-0.4
KNZ				Sn	Sn	14 58 43.9	-0.8
PRGZ	Paritu Road	0.24	10	PN	Pn	14 58 38.6	-0.2
PRGZ				SN	Sn	14 58 45.7	+0.3
PRGZ	Paritu Road	0.24	10	Pn	Pn	14 58 38.6	-0.2
PRGZ				Sn	Sn	14 58 45.7	+0.3
RAHZ	Arahi	0.63	292	PN	Pn	14 58 42.8	0.0
RAHZ	Arahi	0.63	292	Pn	Pn	14 58 42.8	0.0
CNGZ	Carnagh Statio	0.73	24	PN	Pn	14 58 44.2	+0.3
CNGZ	Carnagh Statio	0.73	24	Pn	Pn	14 58 44.2	+0.3
CKHZ	Cape Kidnapper	0.77	229	PN	Pn	14 58 44.3	-0.2
CKHZ				SN	Sn	14 58 56.0	+0.6
CKHZ	Cape Kidnapper	0.77	229	Pn	Pn	14 58 44.3	-0.2
NMHZ	Naumai	0.80	274	PN	Pn	14 58 45.1	+0.2
NMHZ	Naumai	0.80	274	Pn	Pn	14 58 45.1	+0.2
MWZ	Matawai	0.85	344	⇓PN	Pn	14 58 45.3	-0.3
MWZ				SN	Sn	14 58 56.1	-1.3
MWZ	Matawai	0.85	344	⇓Pn	Pn	14 58 45.4	-0.3
MCHZ	McNeill Hill	0.93	252	PN	Pn	14 58 46.7	+0.2
MCHZ	McNeill Hill	0.93	252	Pn	Pn	14 58 46.8	+0.2
KAHZ	Kahuranaki	0.98	229	PN	Pn	14 58 46.8	-0.4
KAHZ	Kahuranaki	0.98	229	Pn	Pn	14 58 46.8	-0.4
BKZ	Black Stump Fm	1.04	269	⇑PN	Pn	14 58 48.0	-0.1
BKZ				SN	Sn	14 59 01.0	-0.8
BKZ	Black Stump Fm	1.04	269	⇑Pn	Pn	14 58 48.0	-0.1
URZ	Urewera	1.06	328	PN	Pn	14 58 47.9	-0.3
URZ	Urewera	1.06	328	Pn	Pn	14 58 47.9	-0.3
PUZ	Puketiti	1.13	17	⇓PN	Pn	14 58 48.7	-0.5
PUZ	Puketiti	1.13	17	⇓Pn	Pn	14 58 48.7	-0.5
PXZ	Pawanui	1.15	220	PN	Pn	14 58 48.5	-1.0
PXZ	Pawanui	1.15	220	Pn	Pn	14 58 48.5	-1.0
PRRZ	Plateau Road	1.30	300	PN	Pn	14 58 51.3	-0.2
PRRZ	Plateau Road	1.30	300	Pn	Pn	14 58 51.3	-0.2
ALRZ	Allen Road	1.31	297	PN	Pn	14 58 51.4	-0.1
ALRZ	Allen Road	1.31	297	Pn	Pn	14 58 51.4	-0.1
RRRZ	Republican Roa	1.31	308	PN	Pn	14 58 51.5	-0.2
RRRZ	Republican Roa	1.31	308	Pn	Pn	14 58 51.5	-0.2
EDRZ	Edgecumbe	1.35	320	PN	Pn	14 58 51.1	-1.2
EDRZ	Edgecumbe	1.35	320	Pn	Pn	14 58 51.1	-1.2
HATZ	Hinemaiaia	1.38	280	PN	Pn	14 58 52.7	+0.1
HATZ	Hinemaiaia	1.38	280	Pn	Pn	14 58 52.7	+0.1
TARZ	Mount Tarawera	1.39	311	PN	Pn	14 58 52.7	-0.1
TARZ	Mount Tarawera	1.39	311	Pn	Pn	14 58 52.8	0.0
WPHZ	Waipukurau	1.41	229	PN	Pn	14 58 52.2	-0.8
WPHZ	Waipukurau	1.41	229	Pn	Pn	14 58 52.2	-0.7
BHHZ	Black Hill Sta	1.41	256	PN	Pn	14 58 52.9	-0.2
BHHZ	Black Hill Sta	1.41	256	Pn	Pn	14 58 52.9	-0.2
HRRZ	Handcock Road	1.43	302	PN	Pn	14 58 53.0	-0.3
HRRZ	Handcock Road	1.43	302	Pn	Pn	14 58 53.0	-0.3
PRHZ	Porangahau	1.44	219	PN	Pn	14 58 52.1	-1.3
PRHZ	Porangahau	1.44	219	Pn	Pn	14 58 52.1	-1.3
PNHZ	Pukenui	1.47	239	PN	Pn	14 58 53.1	-0.8
PNHZ	Pukenui	1.47	239	Pn	Pn	14 58 53.1	-0.8
MARZ	Manawahe	1.48	322	PN	Pn	14 58 53.9	-0.1
MARZ	Manawahe	1.48	322	Pn	Pn	14 58 53.9	-0.1
WHTZ	Whakaora	1.54	288	PN	Pn	14 58 55.0	+0.1
WHTZ	Whakaora	1.54	288	Pn	Pn	14 58 55.0	+0.1
RITZ	Rihia Road	1.55	276	PN	Pn	14 58 55.2	+0.4
RITZ	Rihia Road	1.55	276	Pn	Pn	14 58 55.2	+0.4
OMRZ	Omania	1.55	312	PN	Pn	14 58 54.5	-0.5
OMRZ	Omania	1.55	312	Pn	Pn	14 58 54.5	-0.5
UTU	Utuhina	1.61	307	PN	Pn	14 58 55.8	+0.1
UTU	Utuhina	1.61	307	Pn	Pn	14 58 55.9	+0.1
UTU				Sn	Sn	14 59 16.5	+1.0
RATZ	Rangitukua	1.63	280	PN	Pn	14 58 56.0	0.0
RATZ	Rangitukua	1.63	280	Pn	Pn	14 58 56.0	0.0
MOVZ	Moawhango	1.63	261	PN	Pn	14 58 56.3	+0.3
MXZ	Matakaoa Point	1.63	13	PN	Pn	14 58 55.6	-0.3
MXZ	Matakaoa Point	1.63	13	Pn	Pn	14 58 55.6	-0.3
OPRZ	Ohinepanea	1.65	322	PN	Pn	14 58 55.4	-0.8
OPRZ	Ohinepanea	1.65	322	Pn	Pn	14 58 55.4	-0.8
KATZ	Kakaramea	1.67	276	PN	Pn	14 58 56.8	+0.1
KATZ	Kakaramea	1.67	276	Pn	Pn	14 58 56.8	+0.1
OTVZ	Oturere	1.69	269	PN	Pn	14 58 56.8	-0.1
OTVZ	Oturere	1.69	269	Pn	Pn	14 58 56.8	-0.1
WATZ	Wairara	1.70	285	PN	Pn	14 58 56.7	-0.2
WATZ	Wairara	1.70	285	Pn	Pn	14 58 56.7	-0.2
WIZ	White Island	1.70	343	PN	Pn	14 58 56.2	-0.7
WIZ	White Island	1.70	343	Pn	Pn	14 58 56.2	-0.7
TSZ	Takapari Road	1.70	237	PN	Pn	14 58 56.0	-1.0
TSZ	Takapari Road	1.70	237	Pn	Pn	14 58 56.0	-1.0
KRVZ	Karewarewa	1.71	271	PN	Pn	14 58 57.1	0.0
KRVZ	Karewarewa	1.71	271	Pn	Pn	14 58 57.1	0.0
DVHZ	Dannevirke	1.72	228	PN	Pn	14 58 56.0	-1.2
DVHZ	Dannevirke	1.72	228	Pn	Pn	14 58 56.0	-1.2
NGZ	Ngauruhoe	1.73	269	PN	Pn	14 58 57.7	+0.1
NGZ	Ngauruhoe	1.73	269	Pn	Pn	14 58 57.7	+0.1
WNVZ	Wahianoa	1.74	264	PN	Pn	14 58 57.8	+0.1
WNVZ	Wahianoa	1.74	264	Pn	Pn	14 58 57.8	+0.1
WTVZ	West Tongariro	1.75	271	PN	Pn	14 58 57.8	+0.1
WTVZ	West Tongariro	1.75	271	Pn	Pn	14 58 57.8	+0.1
FWVZ	Far West T-bar	1.77	266	PN	Pn	14 58 58.1	-0.1
FWVZ	Far West T-bar	1.77	266	Pn	Pn	14 58 58.1	-0.1
WPVZ	Whakapapa	1.78	268	PN	Pn	14 58 58.3	+0.1
WPVZ	Whakapapa	1.78	268	Pn	Pn	14 58 58.3	+0.2
MTVZ	Mangateitei	1.85	262	PN	Pn	14 58 59.0	0.0
MTVZ	Mangateitei	1.85	262	Pn	Pn	14 58 59.0	+0.1
TWVZ	Taurewa	1.86	272	PN	Pn	14 58 58.9	-0.3
TWVZ	Taurewa	1.86	272	Pn	Pn	14 58 58.9	-0.3
BFZ	Birch Farm	1.95	218	PN	Pn	14 58 58.4	-1.9
BFZ	Birch Farm	1.95	218	Pn	Pn	14 58 58.4	-1.9
POWZ	Post Office Ro	2.01	232	PN	Pn	14 59 00.1	-1.1
POWZ	Post Office Ro	2.01	232	Pn	Pn	14 59 00.1	-1.1
TIWZ	Tintock	2.20	222	PN	Pn	14 59 02.3	-1.6
TIWZ	Tintock	2.20	222	Pn	Pn	14 59 02.3	-1.5
WAZ	Wanganui	2.28	254	PN	Pn	14 59 05.5	+0.6
WAZ	Wanganui	2.28	254	Pn	Pn	14 59 05.5	+0.6
MRZ	Mangatainoka R	2.29	228	PN	Pn	14 59 03.4	-1.6
MRZ	Mangatainoka R	2.29	228	Pn	Pn	14 59 03.4	-1.6
TOZ	Tahuroa Road	2.32	307	PN	Pn	14 59 04.6	-0.7
TOZ	Tahuroa Road	2.32	307	Pn	Pn	14 59 04.6	-0.7
VRZ	Vera Road	2.39	270	PN	Pn	14 59 06.4	+0.1
VRZ	Vera Road	2.39	270	Pn	Pn	14 59 06.3	+0.1
HIZ	Hauiti	2.41	284	PN	Pn	14 59 06.7	+0.1
HIZ	Hauiti	2.41	284	Pn	Pn	14 59 06.7	+0.1
HOWZ	Holdsworth Sta	2.49	225	PN	Pn	14 59 05.6	-2.1
HOWZ	Holdsworth Sta	2.49	225	Pn	Pn	14 59 05.6	-2.1
OGWZ	Otaki Gorge	2.63	230	PN	Pn	14 59 07.8	-1.8
OGWZ	Otaki Gorge	2.63	230	Pn	Pn	14 59 07.8	-1.8
RAEZ	Rainy Point	2.67	266	PN	Pn	14 59 10.9	+0.7
RAEZ	Rainy Point	2.67	266	Pn	Pn	14 59 10.9	+0.7
MHEZ	Mangahewa	2.73	271	PN	Pn	14 59 12.2	+1.3
MHEZ	Mangahewa	2.73	271	Pn	Pn	14 59 12.2	+1.3
KIW	Kapiti Island	2.82	232	PN	Pn	14 59 10.3	-1.8
KIW	Kapiti Island	2.82	232	Pn	Pn	14 59 10.3	-1.8
CAW	Cannon Point	2.88	227	PN	Pn	14 59 10.6	-2.4
CAW	Cannon Point	2.88	227	Pn	Pn	14 59 10.6	-2.4
NEZ	North Egmont	2.91	267	PN	Pn	14 59 14.4	+0.9
NEZ	North Egmont	2.91	267	Pn	Pn	14 59 14.4	+0.9
KUZ	Kuaotunu	2.93	325	PN	Pn	14 59 12.4	-1.2
MKAZ	Moumakai	2.93	313	PN	Pn	14 59 14.0	+0.3
MKAZ	Moumakai	2.93	313	Pn	Pn	14 59 14.0	+0.3
PLWZ	Palliser	3.11	218	PN	Pn	14 59 12.7	-3.5
OTAZ	Otara	3.18	313	PN	Pn	14 59 17.9	+0.8
OTAZ	Otara	3.18	313	Pn	Pn	14 59 17.9	+0.8
SNZO	South Karori	3.22	227	PN	Pn	14 59 14.8	-2.8
SNZO	South Karori	3.22	227	Pn	Pn	14 59 14.8	-2.8
MTAZ	Motutapu	3.31	315	PN	Pn	14 59 19.6	+0.8
MTAZ	Motutapu	3.31	315	Pn	Pn	14 59 19.6	+0.8
TCW	Tory Channel	3.41	232	PN	Pn	14 59 17.5	-2.7
TCW	Tory Channel	3.41	232	Pn	Pn	14 59 17.6	-2.7
DUWZ	D'Urville Isla	3.42	240	PN	Pn	14 59 18.6	-1.9
DUWZ	D'Urville Isla	3.42	240	Pn	Pn	14 59 18.6	-1.9
BSWZ	Blackbirch Sta	3.96	229	PN	Pn	14 59 24.5	-3.2
BSWZ	Blackbirch Sta	3.96	229	Pn	Pn	14 59 24.6	-3.2
NNZ	Nelson	3.98	237	PN	Pn	14 59 25.7	-2.4
NNZ	Nelson	3.98	237	Pn	Pn	14 59 25.7	-2.4
WCZ	Waipu Caves	4.24	318	PN	Pn	14 59 31.9	+0.2
WCZ	Waipu Caves	4.24	318	Pn	Pn	14 59 31.9	+0.2
QRZ	Quartz Range	4.40	246	PN	Pn	14 59 29.5	-4.4
QRZ	Quartz Range	4.40	246	Pn	Pn	14 59 29.5	-4.4
THZ	Tophouse	4.57	234	PN	Pn	14 59 32.9	-3.4
THZ	Tophouse	4.57	234	Pn	Pn	14 59 32.9	-3.4
KHZ	Kahutara	4.61	224	PN	Pn	14 59 32.5	-4.1
KHZ	Kahutara	4.61	224	Pn	Pn	14 59 32.5	-4.1
LTZ	Lake Taylor	5.55	228	PN	Pn	14 59 45.5	-4.2
LTZ	Lake Taylor	5.55	228	Pn	Pn	14 59 45.5	-4.2
CRLZ	Canterbury Las	5.90	220	PN	Pn	14 59 50.0	-4.4
CRLZ	Canterbury Las	5.90	220	Pn	Pn	14 59 50.0	-4.4
MQZ	McQueen's Vall	5.99	219	PN	Pn	14 59 50.9	-4.5
MQZ				SN	Sn	15 00 53.8	-8.8
MQZ	McQueen's Vall	5.99	219	Pn	Pn	14 59 50.9	-4.5
MQZ				Sn	Sn	15 00 53.9	-8.8
CTZ	Chatham Island	6.19	139	PN	Pn	14 59 58.8	+0.5
CTZ	Chatham Island	6.19	139	Pn	Pn	14 59 58.8	+0.5
RPZ	Rata Peaks	6.83	226	PN	Pn	15 00 04.0	-3.2
RPZ	Rata Peaks	6.83	226	Pn	Pn	15 00 04.0	-3.2
ODZ	Otahua Downs	7.95	220	PN	Pn	15 00 17.9	-4.4
ODZ	Otahua Downs	7.95	220	Pn	Pn	15 00 17.9	-4.4
TUZ	Tuapeka	9.09	219	PN	Pn	15 00 34.2	-3.8
TUZ	Tuapeka	9.09	219	Pn	Pn	15 00 34.2	-3.8
SYZ	Scrubby Hill	9.75	218	PN	Pn	15 00 44.2	-2.8
SYZ	Scrubby Hill	9.75	218	Pn	Pn	15 00 44.2	-2.8

*ISK **02** 15:00:38.6, 40.18N×30.00E, h12km, ML1.6*
*ISCJB **02** 15:00:38.9±0.5, 40.20N±0.04×30.05E±0.04, h3km±6km, Error ellipse: s-maj=7.6km s-min=4.1km az=20.2*
*DDA **02** 15:00:39.2, 40.14N×30.01E, h7km, MD2.8*
*CSEM **02** 15:00:39.2±0.2, 40.20N×30.03E, h5km, ML1.6, Error ellipse: s-maj=5.1km s-min=3.7km az=30.0*

ISC 02 15:00:39.1±0.9**, 40.18N**±0.03×**30.02E**±0.02**, h10km**±7km**, n32, σ0.44**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAVI	Cavuskoy	0.13	278	PG	Pg	15 00 42.1	0.0
CAVI				SG	Sg	15 00 44.6	+0.3
CAVI	Cavuskoy	0.13	278	i Pg	Pg	15 00 42.1	0.0
CAVI				i Sg	Sg	15 00 44.6	+0.3
ADVT	Abdulvahap	0.33	320	ePG	Pg	15 00 45.8	+0.2
ADVT	Abdulvahap	0.33	320	ePg	Pg	15 00 45.8	+0.2
BORA	Eskisehir	0.45	132	i P	Pg	15 00 47.5	-0.4
BORA				i S	Sg	15 00 53.5	-0.4
BORA	Eskisehir	0.45	132	i P	Pg	15 00 47.5	-0.4
BORA				i S	Sg	15 00 53.5	-0.4
GULT	Gulveren	0.46	57	ePG	Pg	15 00 48.5	+0.5
GULT	Gulveren	0.46	57	ePg	Pg	15 00 48.5	+0.5
YLV	Yalova	0.62	308	ePG	Pb	15 00 51.6	-0.5
YLV	Yalova	0.62	308	ePg	Pb	15 00 51.6	-0.5
HRT	Hereke	0.69	338	ePG	Pg	15 00 52.0	-0.4
HRT	Hereke	0.69	338	ePg	Pg	15 00 52.0	-0.4
SEYT	Eskypehyr	0.92	136	i P	Pb	15 00 57.3	0.0
SEYT				i S	Sb	15 01 10.3	+0.6
SEYT	Eskypehyr	0.92	136	i P	Pb	15 00 57.3	0.0
SEYT				i S	Sb	15 01 10.3	+0.6
MDUB	Mudurnu	0.95	72	ePG	Pg	15 00 57.3	0.0
MDUB	Mudurnu	0.95	72	ePg	Pg	15 00 57.3	0.0
SILT	Sile	1.01	344	ePG	Pg	15 00 57.9	-0.6
SILT	Sile	1.01	344	ePg	Pg	15 00 57.9	-0.6
ALT	Altintas	1.13	176	ePN	Pb	15 01 00.5	-0.3
ALT	Altintas	1.13	176	ePn	Pb	15 01 00.5	-0.3
KCTX	Karacabey (Bur	1.27	274	ePN	Pn	15 01 02.6	-0.4
KCTX	Karacabey (Bur	1.27	274	ePn	Pn	15 01 02.6	-0.4
DURS	Dursunbey	1.32	244	i P	Pn	15 01 03.3	-0.4
DURS				i S	Sn	15 01 22.5	+1.1
DURS	Dursunbey	1.32	244	i P	Pn	15 01 03.3	-0.4
DURS				i S	Sn	15 01 22.5	+1.1
SVRH	Sivrihisar-ESK	1.37	122	ePN	Pn	15 01 04.2	-0.2
SVRH	Sivrihisar-ESK	1.37	122	ePn	Pn	15 01 04.2	-0.2
DEMI	Demirci	1.52	222	i P	Pg	15 01 08.1	-0.1
DEMI				i S	Sg	15 01 27.5	-0.4
DEMI	Demirci	1.52	222	i P	Pg	15 01 08.1	-0.1
DEMI				i S	Sg	15 01 27.5	-0.4
BOLV	Bolvadin	1.63	153	i P	Pg	15 01 10.3	-0.1
BOLV				i S	Sb	15 01 29.9	-0.2
BOLV	Bolvadin	1.63	153	i P	Pg	15 01 10.3	-0.1
BOLV				i S	Sb	15 01 29.9	-0.2
BALY	Balya	1.89	257	i P	Pb	15 01 13.8	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BALY				*i* S	Sb	15 01 38.1	+0.5
BALY	Balya	1.89	257	*i* P	Pb	15 01 13.8	0.0
BALY				*i* S	Sb	15 01 38.1	+0.5

IDC 02 15:07:38.6±1.3**, 39°.91N×29°.67W, h0km, mb3.6**/11**, mb1 3.7**/12**, mb1mx3.7**/27**, mbtmp3.5**/12**, MS3.6**/8**, Ms1 3.6**/8**, ms1mx3.3**/30**, Error ellipse: s-maj=39.2km s-min=19.3km az=9.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	19.74	82	P	P	15 12 08.8	-1.1
	0.3nm,0.3s,baz=283,slow=13,SNR=3.8						
BBTS	Babate	27.66	152	LR	LR	15 23 55.4	
	comp=Z,72nm,18.6s,baz=265,slow=35						
DAVOX	Davos/Dischmat	29.32	63	LR	LR	15 25 10.7	
	comp=Z,61nm,18.1s,baz=262,slow=36						
GERES	GERESS Array B	31.88	59	P	P	15 14 05.1	-0.4
	0.3nm,0.7s,baz=278,slow=11,SNR=2.8						
GERES				LR	LR	15 25 20.8	
	comp=Z,42nm,19.3s,baz=115,slow=33						
NOA	NORSAR Array B	32.72	36	LR	LR	15 25 49.0	
	comp=Z,47nm,18.2s,baz=0.0,slow=33						
TORD	Torodi Ar. Bea	38.35	125	P	P	15 15 00.9	-0.5
	0.7nm,0.8s,baz=329,slow=4.9,SNR=4.5						
TORD				LR	LR	15 28 27.9	
	comp=Z,73nm,19.8s,baz=220,slow=33						
AKASG	Malin Array Be	41.76	55	P	P	15 15 28.2	-1.2
	1.8nm,0.8s,baz=273,slow=9.0,SNR=4.3						
ULM	Lac du Bonnet	46.43	306	LR	LR	15 33 30.1	
	comp=Z,175nm,21.0s,baz=81,slow=33						
BRTR	Keskin Array B	47.68	69	P	P	15 16 17.6	+0.6
	0.7nm,0.9s,baz=286,slow=10,SNR=2.5						
ROSC	El Rosal	53.21	241	LR	LR	15 34 26.9	
	comp=Z,81nm,20.9s,baz=17,slow=30						
YKA	Yellowknife Ar	53.31	325	P	P	15 16 58.7	-0.2
	0.2nm,0.6s,baz=76,slow=7.1,SNR=3.2						
PDAR	Pinedale Array	57.87	301	P	P	15 17 32.2	-0.3
	0.6nm,0.7s,baz=84,slow=9.2,SNR=3.5						
TXAR	Lajitas Array	60.23	285	P	P	15 17 49.3	+0.5
	0.5nm,0.8s,baz=74,slow=7.5,SNR=4.9						
TXAR				LR	LR	15 45 53.0	
	comp=Z,98nm,19.8s,baz=270,slow=38						
ILAR	Eielson Array	64.75	335	P	P	15 18 16.5	-1.8
	0.2nm,0.7s,baz=40,slow=7.1,SNR=3.0						
ZALV	Zalesovo Beam	70.91	35	P	P	15 18 58.1	+0.8
	1.3nm,0.9s,baz=296,slow=7.8,SNR=8.3						
MKAR	Makanchi Array	74.53	41	P	P	15 19 19.9	+0.8
	1.9nm,0.8s,baz=319,slow=5.3,SNR=15						
SONM	Songino Array	84.31	28	P	P	15 20 12.7	+0.3
	0.5nm,0.7s,baz=318,slow=1.9,SNR=3.1						

IDC ***02*** *15:10:27.6±1.0, 19°.99S×66°.21E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, MS4.1/18, Ms1 4.1/18, ms1mx3.9/36, Error ellipse: s-maj=32.5km s-min=26.0km az=57.0*
ISCJB ***02*** *15:10:27.9±0.8, 20°.0S±0°.1×66°.3E±0°.2, h16km, mb4.0/11, MS4.1/17, Error ellipse: s-maj=25.3km s-min=17.3km az=141.2*
NEIC ***02*** *15:10:28.8±0.6, 20°.02S×66°.22E, h10km, mb4.6/4, Error ellipse: s-maj=20.4km s-min=14.0km az=48.0*
ISC 02 15:10:29.9±0.9**, 19°.9S**±0°.2×**66°.3E**±0°.2**, h16km, n38, σ0s.62**/21**, mb4.2**/11**, MS4.2**/17**, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	18.05	271	LR	LR	15 19 46.4	
	comp=Z,1μm,21.7s,baz=126,slow=31						
LBTB	Lobatse	37.80	255	LR	LR	15 31 45.8	
	comp=Z,306nm,18.1s,baz=76,slow=34						
BOSA	Boshof	38.20	249	LR	LR	15 30 45.1	
	comp=Z,253nm,19.6s,baz=166,slow=32						
ATD	Arta Tunnel	38.83	322	LR	LR	15 33 07.5	
	comp=Z,63nm,20.7s,baz=358,slow=35						
SUR	Sutherland	42.34	244	LR	LR	15 32 44.5	
	comp=Z,416nm,18.5s,baz=21,slow=32						
NWAO	Narrogin (SRO)	47.05	117	LR	LR	15 34 17.5	
	comp=Z,237nm,18.6s,baz=237,slow=30						
CMAR	Chiang Mai Arr	49.84	42	P	P	15 19 24.6	+2.1
	0.5nm,0.7s,baz=234,slow=7.8,SNR=4.6						
CMAR				LR	LR	15 39 45.0	
	comp=Z,276nm,18.1s,baz=234,slow=35						
CMAR	Chiang Mai Arr	49.84	42	P	P	15 19 24.6	+2.1
FITZ	Fitzroy Crossi	55.93	99	LR	LR	15 39 30.7	
	comp=Z,123nm,21.5s,baz=266,slow=31						
FITZ	Fitzroy Crossi	55.93	99	*e*P	P	15 20 06.9	-0.7
	3.7nm,1.0s						
ASAR	Alice Springs	62.41	107	P	P	15 20 52.5	0.0
	2.1nm,0.7s,baz=267,slow=5.9,SNR=34						
ASAR	Alice Springs	62.41	107	P	P	15 20 52.5	0.0
AS31	Alice Springs	62.41	107	*e*P	P	15 20 52.2	-0.3
WRA	Warramunga Arr	63.57	103	P	P	15 21 00.6	+0.3
	2.9nm,1.0s,baz=258,slow=5.3,SNR=8.7						
WRA	Warramunga Arr	63.57	103	P	P	15 21 00.6	+0.3
WB2	Warramunga Arr	63.58	103	*e*P	P	15 20 59.0	-1.3
WRAB	Tennant Creek	63.58	103	*e*P	P	15 21 00.4	+0.1
	16nm,1.4s						
BRTR	Keskin Array B	66.70	333	LR	LR	15 47 30.0	
	comp=Z,71nm,18.8s,baz=97,slow=33						
STKA	Stephens Creek	67.63	117	LR	LR	15 46 16.2	
	comp=Z,241nm,21.3s,baz=110,slow=32						
MKAR	Makanchi Array	67.97	12	P	P	15 21 29.2	+1.2
	0.4nm,0.8s,baz=212,slow=5.1,SNR=3.5						
MKAR	Makanchi Array	67.97	12	P	P	15 21 29.2	+1.2
QSPA	South Pole Qui	70.18	180	P	P	15 21 42.3	+0.6
	5.2nm,1.0s,baz=234,slow=2.3,SNR=4.0						
QSPA	South Pole Qui	70.18	180	*e*P	P	15 21 41.8	0.0
	10.0nm,1.1s						
KURK	Kurchatov	71.18	8	*e*P	P	15 21 47.0	-0.6
	2.1nm,1.0s						
TORD	Torodi Ar. Bea	71.50	292	P	P	15 21 50.4	0.0
	0.4nm,1.0s,baz=123,slow=5.3,SNR=3.2						
TORD				LR	LR	15 50 31.2	
	comp=Z,123nm,19.8s,baz=10.0,slow=34						
TORD	Torodi Ar. Bea	71.50	292	P	P	15 21 50.4	0.0
CTA	Charters Tower	74.39	106	LR	LR	15 51 36.1	
	comp=Z,229nm,20.0s,baz=102,slow=33						
DBIC	Dimbokro	74.72	283	LR	LR	15 52 18.9	
	comp=Z,165nm,18.5s,baz=85,slow=34						
ZALV	Zalesovo Beam	75.29	11	P	P	15 22 11.7	-0.2
	0.4nm,0.5s,baz=203,slow=6.6,SNR=3.7						
ZALV				LR	LR	15 54 57.3	
	comp=Z,68nm,18.5s,baz=223,slow=35						
ZALV	Zalesovo Beam	75.29	11	P	P	15 22 11.7	-0.2
JOW	Kunigami	75.98	54	LR	LR	15 50 24.0	
	comp=Z,99nm,21.4s,baz=87,slow=32						
SONM	Songino Array	76.46	27	P	P	15 22 19.0	+0.1
	0.2nm,0.4s,baz=222,slow=3.9,SNR=2.3						
SONM	Songino Array	76.46	27	P	P	15 22 19.0	+0.1
KEST	Kesra	77.23	316	LR	LR	15 58 09.4	
	comp=Z,49nm,21.6s,baz=133,slow=37						
KSRS	Korea Array	81.37	45	LR	LR	15 56 30.0	
	comp=Z,140nm,18.1s,baz=216,slow=34						
MJAR	Matsushiro Arr	88.07	50	LR	LR	16 01 50.1	
	comp=Z,141nm,19.1s,baz=40,slow=35						
ULM	Lac du Bonnet	146.58	339	PKPbc	PKPab	15 30 10.9	-0.6
	1.6nm,0.5s,baz=124,slow=3.6,SNR=3.2						
ULM	Lac du Bonnet	146.58	339	PKPbc	PKPab	15 30 10.9	-0.6

IDC ***02*** *15:14:59.2±0.7, 20°.10S×66°.25E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, Error ellipse: s-maj=24.8km s-min=21.0km az=4.0*
NEIC ***02*** *15:15:00.9±0.5, 20°.04S×66°.22E, h10km, mb4.7/4, Error ellipse: s-maj=18.3km s-min=15.2km az=161.0*
ISCJB ***02*** *15:15:00.0±0.6, 20°.1S±0°.1×66°.3E±0°.1, h16km, mb4.1/14, Error ellipse: s-maj=19.7km s-min=16.3km az=163.9*
ISC 02 15:15:01.9±0.7**, 20°.1S**±0°.2×**66°.2E**±0°.1**, h16km, n30, σ0s.98**/32**, mb4.3**/14**, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBTB	Lobatse	37.76	255	P	P	15 22 18.6	+1.2
	2.9nm,0.8s,baz=104,slow=10,SNR=3.6						
LBTB	Lobatse	37.76	255	P	P	15 22 18.6	+1.2
CMAR	Chiang Mai Arr	49.97	42	P	P	15 23 56.5	+1.0
	1.2nm,0.8s,baz=240,slow=8.5,SNR=5.9						
CMAR	Chiang Mai Arr	49.97	42	P	P	15 23 56.5	+1.0
CHTO	Chiang Mai	50.23	42	*e*P	P	15 23 58.0	+0.5
	17nm,1.8s						
ASAR	Alice Springs	62.37	107	P	P	15 25 24.5	+0.3
	2.4nm,0.8s,baz=273,slow=6.1,SNR=7.3						
ASAR	Alice Springs	62.37	107	P	P	15 25 24.5	+0.3
WRA	Warramunga Arr	63.54	103	P	P	15 25 32.2	+0.2
	2.3nm,0.9s,baz=262,slow=5.8,SNR=3.5						
WRA	Warramunga Arr	63.54	103	P	P	15 25 32.2	+0.2
BRTR	Keskin Array B	66.84	333	P	P	15 25 53.6	+0.5
	1.0nm,0.9s,baz=172,slow=8.0,SNR=3.6						
BRTR	Keskin Array B	66.84	333	P	P	15 25 53.6	+0.5
MKAR	Makanchi Array	68.13	12	P	P	15 25 60.0	-1.0
	0.7nm,0.8s,baz=212,slow=6.7,SNR=5.7						
MKAR	Makanchi Array	68.13	12	P	P	15 25 60.0	-1.0
QSPA	South Pole Qui	70.02	180	P	P	15 26 11.3	-1.4
	0.8nm,0.3s,baz=287,slow=6.2,SNR=3.1						
QSPA	South Pole Qui	70.02	180	P	P	15 26 12.5	-0.2
	7.1nm,1.1s						
QSPA				*e*		15 26 19.8	
KURK	Kurchatov	71.34	8	*e*P	P	15 26 18.1	-2.5
	3.4nm,1.2s						
TORD	Torodi Ar. Bea	71.56	292	P	P	15 26 22.1	-0.6
	0.8nm,1.0s,baz=122,slow=5.2,SNR=4.9						
TORD	Torodi Ar. Bea	71.56	292	P	P	15 26 22.1	-0.6
DBIC	Dimbokro	74.75	283	P	P	15 26 42.4	+0.7
	3.2nm,0.8s,baz=131,slow=7.0,SNR=3.6						
DBIC	Dimbokro	74.75	283	*e*P	P	15 26 41.1	-0.5
	12nm,1.2s						
ZALV	Zalesovo Beam	75.45	11	P	P	15 26 43.9	-0.9
	1.6nm,0.7s,baz=197,slow=5.6,SNR=9.5						
ZALV	Zalesovo Beam	75.45	11	P	P	15 26 43.9	-0.9
SONM	Songino Array	76.61	27	P	P	15 26 52.4	+0.6
	0.6nm,0.8s,baz=229,slow=5.1,SNR=4.7						
SONM	Songino Array	76.61	27	P	P	15 26 52.4	+0.6
AKASG	Malin Array Be	77.66	337	P	P	15 26 58.1	+0.8
	2.8nm,0.8s,baz=138,slow=4.9,SNR=4.9						
AKASG	Malin Array Be	77.66	337	P	P	15 26 58.1	+0.8
ULM	Lac du Bonnet	146.73	339	PKPbc	PKPbc	15 34 41.7	-1.2
	4.4nm,0.8s,baz=30,slow=5.5,SNR=5.0						
ULM	Lac du Bonnet	146.73	339	PKPbc	PKPbc	15 34 41.7	-1.2
TXAR	Lajitas Array	167.02	317	PKP	PKPdf	15 35 08.3	+0.7
	0.2nm,0.7s,baz=39,slow=5.9,SNR=2.9						
TXAR				PKPab	PKPab	15 36 10.3	-1.0
	0.4nm,0.8s,baz=57,slow=4.6,SNR=4.4						
TXAR	Lajitas Array	167.02	317	PKP	PKPdf	15 35 08.3	+0.7
TXAR				PKPab	PKPab	15 36 10.3	-1.0

BJI ***02*** *15:18:18.5, 6°.68S×124°.59E, h588km, mB4.7/5, mb4.3/11*
ISCJB ***02*** *15:18:20.7±0.3, 6°.93S±0°.04×124°.41E±0°.05, h633km±4km, mb4.2/26, Error ellipse: s-maj=7.8km s-min=4.9km az=156.4*
DJA ***02*** *15:18:20, 7°.02S×124°.40E, h632km, mb4.8/12*
NEIC ***02*** *15:18:21.2±0.4, 6°.89S×124°.44E, h618km±5km, mb4.2/10, Error ellipse: s-maj=9.9km s-min=5.1km az=62.0*
IDC ***02*** *15:18:21.6±1.0, 6°.97S×124°.47E, h624km±13km, mb3.5/13, mb1 3.5/16, mb1mx3.5/20, mbtmp3.5/16, Error ellipse: s-maj=17.1km s-min=7.4km az=72.0*
ISC 02 15:18:21.5±0.6**, 6°.99S**±0°.05×**124°.41E**±0°.08**, h625km**±7km**, n112, σ0s.98**/124**, mb4.2**/26**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSI	Bau Bau	2.36	309	P	P	15 19 40.9	+1.3
MMRI	Maumere	2.71	233	P	P	15 19 40.8	-0.4
BKSI	Bulukumba	4.57	291	P	P	15 19 52.4	-0.4
WSI	Waingapu	4.86	236	P	P	15 19 53.4	-1.5
AAI	Ambon	4.99	49	P	P	15 19 54.7	-1.3
	297nm,0.5s,4μm1.3nm						
KAPI	Kappang	5.03	293	*i* Pn	P	15 19 55.5	-0.7
KAPI	Kappang	5.03	293	P	P	15 19 55.7	-0.5
SPSI	Sidrap Palu	5.51	303	P	P	15 19 59.3	-0.7
	110nm,0.7s,1μm0.4nm						
MSAI	Masohi	5.77	51	P	P	15 20 01.6	-0.6
	44nm,0.6s,1μm0.3nm						
TTSI	Tana Toraja	6.02	310	P	P	15 20 12.6	+8.4
LBMI	Labuha	7.02	26	P	P	15 20 12.2	-0.7
	298nm,0.7s,3μm1.3nm						
KMSI	Cibinong	7.52	357	P	P	15 20 17.0	-0.4
	543nm,0.9s,4μm2.3nm						
GTOI	Gorontalo	7.70	349	P	P	15 20 19.2	+0.2
	249nm,0.8s,3μm0.8nm						
MRSI	Marisa	7.81	342	P	P	15 20 18.6	-1.5
	69nm,0.8s,0.3nm						
TNTI	Ternate	8.25	21	P	P	15 20 22.1	-2.1
	158nm,0.8s,2μm0.6nm						
MTNI	Mataram	8.33	258	P	P	15 20 23.8	-1.0
	77nm,0.9s,0.4nm						
TLE	Tual	8.38	81	P	P	15 20 27.4	+2.0
	259nm,0.9s,0.8nm						
MNI	Manado	8.39	3	P	P	15 20 24.8	-0.6
	116nm,0.9s,0.3nm						
FAKI	Fak Fak	8.79	63	P	P	15 20 29.4	+0.1
	358nm,0.7s,4μm1.4nm						
FITZ	Fitzroy Crossi	11.11	174	P	P	15 20 51.9	+0.2
	5.7nm,0.3s,baz=15,slow=9.4,SNR=141						
FITZ				S	S	15 22 52.0	-2.8
	0.3nm,0.3s,baz=298,slow=20,SNR=8.7						
FITZ	Fitzroy Crossi	11.11	174	*e*P	P	15 20 51.9	+0.2
FITZ	Fitzroy Crossi	11.11	174⇓	*e*P	P	15 20 51.6	-0.1
	10nm,0.3s						
FITZ				S	S	15 22 52.0	-2.8
SJI	Sawahan	12.56	266	P	P	15 21 10.3	+4.4
	41nm,0.8s,5μm						
BAKI	Biak	13.01	64	P	P	15 21 13.0	+2.9
	84nm,0.9s						
MBWA	Marble Bar	14.80	197	*e*P	P	15 21 27.5	+0.6
MBWA	Marble Bar	14.80	197	*e*P	P	15 21 27.7	+0.8
	84nm,1.0s						
WRAB	Tennant Creek	16.08	144	*e*P	P	15 21 39.2	+0.6
	3.3nm,0.7s						
WRA	Warramunga Arr	16.08	144	P	P	15 21 39.9	+1.3
	1.1nm,0.3s,baz=333,slow=8.8,SNR=24						
WRA				S	S	15 24 18.4	-0.6
	0.4nm,0.3s,baz=326,slow=15,SNR=8.1						
WRA	Warramunga Arr	16.08	144	P	P	15 21 39.9	+1.3
WRA				S	S	15 24 18.4	-0.6
CISI	Cisompet, Garu	16.47	267	P	P	15 21 42.4	+0.1
	132nm,1.1s						
LEM	Lembang	16.67	270	P	P	15 21 46.0	+1.7
	56nm,0.9s						
AS31	Alice Springs	18.93	152	*e*P	P	15 22 05.5	+0.9
ASAR	Alice Springs	18.93	152	P	P	15 22 05.7	+1.1
	0.5nm,0.3s,baz=334,slow=8.8,SNR=29						
ASAR				S	S	15 25 01.5	-3.4
	0.1nm,0.3s,baz=345,slow=17,SNR=2.7						
ASAR				PcP	PcP	15 25 58.9	+0.1
	0.1nm,0.3s,baz=354,slow=1.4,SNR=4.4						
ASAR				ScP	ScP	15 28 36.6	-0.1
	0.1nm,0.3s,baz=349,slow=2.1,SNR=6.6						
ASAR	Alice Springs	18.93	152	P	P	15 22 05.7	+1.1
ASAR				S	S	15 25 01.5	-3.4
ASAR				PcP	PcP	15 25 58.9	+0.1
ASAR				ScP	ScP	15 28 36.6	-0.1
COEN	Coen	19.70	112	*e*P	P	15 22 11.1	-0.5
MEEK	Meekatharra	20.31	195	*e*P	P	15 22 17.7	+0.8
PMG	Port Moresby	22.64	98	P	P	15 22 37.8	0.0
	4.3nm,0.6s,baz=254,slow=18,SNR=3.5						
PMG	Port Moresby	22.64	98	P	P	15 22 37.8	0.0
MORW	Morawa	23.34	199	*e*P	P	15 22 44.6	+0.7
FORT	Forrest	23.92	172	*e*P	P	15 22 50.2	+1.3
CTA	Charters Tower	24.87	124	P	P	15 22 58.3	+0.8
	3.2nm,0.8s,baz=296,slow=7.9,SNR=4.1						
CTA	Charters Tower	24.87	124	P	P	15 22 58.3	+0.8
CTAO	Charters Tower	24.87	124	*e*P	P	15 22 57.6	+0.2
	4.2nm,0.8s						
KLBR	Kellerberrin	25.26	193	*e*P	P	15 23 01.6	+0.9
	20nm,0.8s						
MNSI	Mandailing Nat	25.95	286	P	P	15 23 06.7	-0.4
	26nm,0.9s						
NWAO	Narrogin (SRO)	26.66	194	P	P	15 23 14.0	+1.0
	16nm,0.6s,baz=26,slow=8.0,SNR=11						
NWAO	Narrogin (SRO)	26.66	194	P	P	15 23 14.0	+1.0
QLP	Quilpie	27.12	138	*e*P	P	15 23 18.6	+1.5
PSI	Prapat	27.23	290	P	P	15 23 18.8	+0.4
	22nm,0.9s						
BBOO	Buckleboo	27.88	159	*e*P	P	15 23 24.5	+0.8
STKA	Stephens Creek	29.50	149	P	P	15 23 38.2	+0.6
	3.8nm,0.6s,baz=331,slow=9.7,SNR=16						
STKA				S	S	15 27 50.2	0.0
	1.6nm,0.6s,baz=30,slow=16,SNR=4.3						
STKA	Stephens Creek	29.50	149	*e*P	P	15 23 38.9	+1.3
STKA	Stephens Creek	29.50	149	P	P	15 23 38.2	+0.6
STKA				S	S	15 27 50.2	0.0
CMSA	Cobar Meteorol	31.49	144	*e*P	P	15 23 56.3	+1.7
CMAR	Chiang Mai Arr	35.64	316	P	P	15 24 29.6	+0.2
	1.8nm,0.7s,baz=145,slow=6.6,SNR=16						
CMAR				PcP	PcP	15 26 40.6	+0.7
	1.4nm,0.9s,baz=181,slow=2.8,SNR=7.8						
CMAR				ScP	ScP	15 29 28.4	+0.6
	0.8nm,0.8s,baz=180,slow=2.3,SNR=6.2						
CMAR	Chiang Mai Arr	35.64	316	P	P	15 24 29.6	+0.2
CMAR				PcP	PcP	15 26 40.6	+0.7
CMAR				ScP	ScP	15 29 28.4	+0.6
XAN	Xi'an	43.36	341	P	P	15 25 29.6	-1.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSAR	Wonju Array Be	44.32	4	P	P	15 25 38.1	+0.2
KSAR				PcP	PcP	15 27 08.2	+0.2
KSRS	Korea Array	44.33	4	P	P	15 25 38.1	+0.1
	comp=Z,5.2nm,0.7s,baz=180,slow=9.2,SNR=23						
KSRS				PcP	PcP	15 27 08.2	+0.2
	comp=Z,1.5nm,0.7s,baz=186,slow=3.6,SNR=4.3						
MJAR	Matsushiro Arr	45.19	16	P	P	15 25 43.8	-1.0
	comp=Z,7.7nm,0.7s,baz=192,slow=9.4,SNR=29						
MJAR	Matsushiro Arr	45.19	16	P	P	15 25 43.8	-1.0
LSA	Lhasa	48.50	320	*e*P	P	15 26 10.4	+0.3
	comp=Z,5.7nm,0.6s						
ODAN	Odare	49.18	315	*e*P	P	15 26 15.2	+0.3
	comp=Z,16nm,0.6s						
ODAN	Odare	49.18	315	*e*P	P	15 26 15.2	+0.3
TAPN	Taplejung	49.25	315	*e*P	P	15 26 15.9	+0.4
	comp=Z,12nm,0.4s						
RAMN	Ramite	49.79	314	*e*P	P	15 26 20.1	+0.7
	comp=Z,49nm,0.8s						
RAMN	Ramite	49.79	314	*e*P	P	15 26 20.1	+0.7
JIRN	Jiri	50.51	315	*e*P	P	15 26 25.1	+0.4
	comp=Z,11nm,0.5s						
JIRN	Jiri	50.51	315	*e*P	P	15 26 25.1	+0.4
GUN	Gumba	50.88	315	*e*P	P	15 26 27.6	+0.2
	comp=Z,24nm,0.5s						
GUN	Gumba	50.88	315	*e*P	P	15 26 27.6	+0.2
PKI	Pulchoki	51.01	314	*e*P	P	15 26 28.2	-0.1
	comp=Z,19nm,0.5s						
PKI	Pulchoki	51.01	314	*e*P	P	15 26 28.2	-0.1
KKN	Kakani	51.23	314	*e*P	P	15 26 30.1	+0.3
	comp=Z,11nm,0.5s						
KKN	Kakani	51.23	314	*e*P	P	15 26 30.1	+0.3
DMN	Daman	51.25	314	*e*P	P	15 26 30.2	+0.3
DMN	Daman	51.25	314	*e*P	P	15 26 30.2	+0.3
USRK	Ussuriysk Arra	51.41	7	P	P	15 26 30.4	0.0
	comp=Z,7.6nm,0.7s,baz=190,slow=6.5,SNR=16						
GTA	Gaotai	51.48	336	*e*P	P	15 26 31.9	+0.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDJ	Mudanjiang	51.58	5	P	P	15 26 31.7	+0.1
MDJ				pmax	pmax		
	comp=Z,23nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.0s						
GKN	Gorkha	51.82	314	*e*P	P	15 26 34.1	+0.2
	comp=Z,18nm,0.3s						
KOLN	Koldanda	52.43	313	*e*P	P	15 26 38.7	+0.4
	comp=Z,11nm,0.3s						
DANN	Dangsing	52.65	314	*e*P	P	15 26 40.2	+0.2
DANN	Dangsing	52.65	314	*e*P	P	15 26 40.2	+0.2
ULN	Ulaanbaatar	56.73	346	*e*P	P	15 27 07.4	-0.3
	comp=Z,4.0nm,0.8s						
SONM	Songino Array	56.86	346	P	P	15 27 08.4	-0.2
	comp=Z,2.3nm,0.5s,baz=164,slow=8.6,SNR=18						
SONM	Songino Array	56.86	346	P	P	15 27 08.4	-0.2
MK31	Makanchi Array	65.29	330	*e*P	P	15 28 03.5	+0.1
MKAR	Makanchi Array	65.29	330	P	P	15 28 03.7	+0.3
	comp=Z,6.3nm,0.6s,baz=126,slow=6.7,SNR=83						
MKAR	Makanchi Array	65.29	330	P	P	15 28 03.7	+0.3
PETK	Petropavlovsk-	66.18	21	P	P	15 28 09.3	+0.5
	comp=Z,6.4nm,0.6s,baz=254,slow=10,SNR=15						
PETK	Petropavlovsk-	66.18	21	P	P	15 28 09.3	+0.5
YAK	Yakutsk	68.93	3	*e*P	P	15 28 25.0	-0.3
	comp=Z,14nm,0.8s						
ZAA0	Zalesovo Array	69.22	336	*e*P	P	15 28 26.3	-0.9
ZALV	Zalesovo Beam	69.22	336	P	P	15 28 26.6	-0.6
	comp=Z,6.5nm,0.3s,baz=137,slow=5.1,SNR=49						
ZALV	Zalesovo Beam	69.22	336	P	P	15 28 26.6	-0.6
KURK	Kurchatov	69.71	331	*e*P	P	15 28 30.3	+0.2
	comp=Z,14nm,0.6s						
BRVK	Borovoye	75.24	330	*e*P	P	15 29 01.8	0.0
	comp=Z,10nm,1.1s						
ABKAR	Akbulak array	79.10	323	*e*P	P	15 29 22.1	-0.6
	comp=Z,1.2nm,0.6s						
QSPA	South Pole Qui	82.99	180	P	P	15 29 43.0	+0.5
	comp=Z,1.0nm,0.5s,baz=252,slow=3.2,SNR=2.9						
QSPA	South Pole Qui	82.99	180	P	P	15 29 43.0	+0.5
ILAR	Eielson Array	95.71	26	P	P	15 30 39.3	-2.3
	comp=Z,0.3nm,0.8s,baz=272,slow=6.0,SNR=4.2						
ILAR	Eielson Array	95.71	26	P	P	15 30 39.3	-2.3
TORD	Torodi Ar. Bea	123.36	281	PKP	PKPdf	15 36 09.5	-0.5
	comp=Z,1.0nm,0.8s,baz=138,slow=1.4,SNR=4.9						
TORD				pPKP	pPKPdf	15 38 34.7	+1.3
	comp=Z,0.5nm,0.9s,baz=81,slow=2.0,SNR=3.0						
TORD				SKP		15 38 47.3	
	comp=Z,0.7nm,0.8s,baz=53,slow=0.5,SNR=3.7						
TORD	Torodi Ar. Bea	123.36	281	PKP	PKPdf	15 36 09.5	-0.5
TORD				pPKP	pPKPdf	15 38 34.7	+1.3
TORD				SKP		15 38 47.3	
TXAR	Lajitas Array	129.64	58	SKPbc	SKPab	15 38 47.6	+0.7
	comp=Z,1.0nm,0.9s,baz=268,slow=3.3,SNR=7.5						
TXAR	Lajitas Array	129.64	58	SKPbc	SKPab	15 38 47.6	+0.7
DBIC	Dimbokro	129.65	273	SKPbc	SKPab	15 38 48.5	+1.3
	comp=Z,4.0nm,0.9s,baz=76,slow=5.1,SNR=4.2						
DBIC	Dimbokro	129.65	273	SKPbc	SKPab	15 38 48.5	+1.3
JSC	Jenkinsville	143.96	38	*e*PKPdf	PKPab	15 36 47.6	0.0
CPUP	Villa Florida	146.84	177	PKPbc	PKPbc	15 36 57.0	+1.2
	comp=Z,0.4nm,0.3s,baz=256,slow=8.3,SNR=4.2						
CPUP	Villa Florida	146.84	177	PKPbc	PKPbc	15 36 57.0	+1.2

IDC 02 15:33:41.9±2.1**, 7°.03S×128°.82E, h0km, mb3.1**/1**, mb1 3.7**/4**, mb1mx3.5**/15**, mbtmp3.5**/4**, ML3.7**/2**, Error ellipse: s-maj=97.1km s-min=27.4km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.43	195	Pn	Pn	15 36 25.7	-0.8
	0.1nm,0.3s,baz=11,slow=16,SNR=3.6						
FITZ				Sn	Sn	15 38 22.8	-12
	0.8nm,0.3s,baz=96,slow=19,SNR=5.6						
WRA	Warramunga Arr	13.91	158	Pn	Pn	15 37 01.1	+0.6
	0.7nm,0.3s,baz=334,slow=15,SNR=11						
WRA				Sn	Sn	15 39 23.9	-12
	0.4nm,0.3s,baz=336,slow=22,SNR=3.5						
ASAR	Alice Springs	17.25	164	P	Pn	15 37 44.5	+0.1
	0.2nm,0.3s,baz=344,slow=11,SNR=19						
ASAR				S	Sn	15 40 47.6	-10
	0.2nm,0.3s,baz=336,slow=27,SNR=4.8						
MKAR	Makanchi Array	67.61	327	P	P	15 44 40.6	0.0
	0.1nm,0.4s,baz=137,slow=6.9,SNR=3.4						

DDA ***02*** *15:41:18.0, 37°.88N×29°.21E, h7km, MD2.6*
ISK ***02*** *15:41:18.8, 37°.86N×29°.16E, h8km, MD2.8*
CSEM ***02*** *15:41:18.5±0.2, 37°.89N×29°.19E, h2km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.2km az=93.0*
ISC 02 15:41:18.7±0.9**, 37°.89N**±0°.02×**29°.17E**±0°.03**, h10km**±9km**, n28, σ0s.86**/45**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.17	219	*e*PG	Pg	15 41 22.3	-0.2
DENT	Denizli	0.17	219	*e*Pg	Pg	15 41 22.3	-0.2
DNZL	Cakiroluk	0.22	207	*i* P	Pg	15 41 23.6	+0.2
DNZL				*i* S	Sg	15 41 26.6	0.0
DNZL	Cakiroluk	0.22	207	*i* P	Pg	15 41 23.6	+0.2
DNZL				*i* S	Sg	15 41 26.6	0.0
KHAL	Karahalli	0.55	28	*i* P	Pg	15 41 28.0	-1.4
KHAL				*i* S	Sg	15 41 36.3	-0.3
KHAL	Karahalli	0.55	28	*i* P	Pg	15 41 28.0	-1.4
KHAL				*i* S	Sg	15 41 36.3	-0.3
GOLH	Golhisar	0.72	154	*i* P	Pg	15 41 31.0	-1.7
GOLH				*i* S	Sg	15 41 42.4	+0.3
GOLH	Golhisar	0.72	154	*i* P	Pg	15 41 31.0	-1.7
GOLH				*i* S	Sg	15 41 42.4	+0.3
KULA	Kula-Manisa	0.74	328	*e*PG	Pg	15 41 33.4	+0.2
KULA				*e*SG	Sb	15 41 45.6	+1.5
KULA	Kula-Manisa	0.74	328	*e*Pg	Pg	15 41 33.4	+0.2
MANT	Manisa	0.77	322	*i* P	Pg	15 41 33.6	-0.1
MANT				*i* S	Sb	15 41 44.6	-0.4
MANT	Manisa	0.77	322	*i* P	Pg	15 41 33.6	-0.1
MANT				*i* S	Sb	15 41 44.6	-0.4
GLHS	Glhisar (BURDU	0.77	160	*e*PG	Pb	15 41 34.2	-0.1
GLHS	Glhisar (BURDU	0.77	160	*e*Pg	Pb	15 41 34.2	-0.1

YER	**Yerkesik**	**1.03**	**224**	*e*PG	**Pg**	**15 41 35.5**	**-3.0**
YER				*e*SG	**Pg**	**15 41 37.9**	**-0.6**
YER				*e*PG	**Pg**	**15 41 38.0**	**-0.6**
YER	**Yerkesik**	**1.03**	**224**	*e*Pg	**Pg**	**15 41 38.0**	**-0.6**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pb**	**15 41 39.2**	**+0.2**
AYDN				*i* S	**Sb**	**15 41 53.7**	**+0.9**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pb**	**15 41 39.2**	**+0.2**
AYDN				*i* S	**Sb**	**15 41 53.7**	**+0.9**
DEMI	**Demirci**	**1.21**	**343**	*i* P	**Pg**	**15 41 41.2**	**-0.8**
DEMI				*i* S	**Sg**	**15 41 57.3**	**-0.4**
DEMI	**Demirci**	**1.21**	**343**	*i* P	**Pg**	**15 41 41.2**	**-0.8**
DEMI				*i* S	**Sg**	**15 41 57.3**	**-0.4**
SHUT	**Suhut-Afyon**	**1.27**	**58**	*e*PN	**Pg**	**15 41 43.7**	**+0.5**
SHUT	**Suhut-Afyon**	**1.27**	**58**	*e*Pn	**Pg**	**15 41 43.7**	**+0.5**
ELL	**Elmali**	**1.28**	**152**	*e*PN	**Pg**	**15 41 43.5**	**+0.2**
ELL	**Elmali**	**1.28**	**152**	*e*Pn	**Pg**	**15 41 43.5**	**+0.2**
ALT	**Altintas**	**1.38**	**32**	*e*PN	**Pg**	**15 41 44.9**	**-0.4**
ALT	**Altintas**	**1.38**	**32**	*e*Pn	**Pg**	**15 41 44.9**	**-0.4**
BOLV	**Bolvadin**	**1.63**	**59**	*i* P	**Pb**	**15 41 48.7**	**-0.2**
BOLV				*i* S	**Sg**	**15 42 12.4**	**+1.3**
BOLV	**Bolvadin**	**1.63**	**59**	*i* P	**Pb**	**15 41 48.7**	**-0.2**
BOLV				*i* S	**Sg**	**15 42 12.4**	**+1.3**

DDA ***02*** *15:43:00.2, 36°.18N×41°.19E, h21km, MD3.7*
ISK ***02*** *15:43:02.1, 36°.29N×41°.26E, h4km, ML3.8*
CSEM ***02*** *15:43:04.3±0.2, 36°.22N×41°.35E, h20km, MD3.7, Error ellipse: s-maj=5.9km s-min=3.2km az=21.0*
TEH ***02*** *15:43:06.7, 36°.17N×41°.54E, h18km, ML3.8*
ISC 02 15:43:01.9±2.5**, 36°.23N**±0°.04×**41°.35E**±0°.03**, h1**km±17km**, n73, σ1s.13**/91**, Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**1.18**	**337**	*i* P	Pn	15 43 22.6	-3.0
MARD				*i* S	**Sb**	**15 43 39.0**	**-1.9**
SIRN	**S˜–rnak**	**1.53**	**34**	*i* P	**Pn**	**15 43 30.2**	**-0.2**
SIRN				*i* S	**Sg**	**15 43 53.5**	**+2.4**
SIRN	**S˜–rnak**	**1.53**	**34**	*i* P	**Pn**	**15 43 30.2**	**-0.2**
BEST	**Besiri**	**1.66**	**358**	*i* P	**Pn**	**15 43 31.6**	**-0.6**
BEST				*i* S	**Sb**	**15 43 55.0**	**+0.1**
DIYA	**Diyarbakir**	**1.96**	**330**	*i* P	**Pn**	**15 43 35.0**	**-1.3**
DIYA				*i* S	**Sn**	**15 44 00.8**	**-0.7**
DIYA	**Diyarbakir**	**1.96**	**330**	*i* P	**Pn**	**15 43 35.0**	**-1.3**
DIYA				*i* S	**Sn**	**15 44 00.8**	**-0.7**
CUKT	**Cukurca**	**2.08**	**60**	*e*PN	**Pn**	**15 43 38.8**	**+0.7**
CUKT	**Cukurca**	**2.08**	**60**	*e*Pn	**Pn**	**15 43 38.8**	**+0.7**
HAKT	**HAKKARI**	**2.31**	**54**	*i* P	**Pn**	**15 43 41.6**	**+0.3**
HAKT				*i* S	**Sn**	**15 44 08.8**	**-1.8**
HAKT	**HAKKARI**	**2.31**	**54**	*i* P	**Pn**	**15 43 41.6**	**+0.3**
HAKT				*i* S	**Sn**	**15 44 08.8**	**-1.8**
URFA	**Urfa**	**2.36**	**302**	*e*PN	**Pn**	**15 43 40.4**	**-1.5**
URFA				*e*SN	**Sn**	**15 44 09.9**	**-1.6**
URFA	**Urfa**	**2.36**	**302**	*e*Pn	**Pn**	**15 43 40.4**	**-1.5**
URFA				*e*Sn	**Sn**	**15 44 09.9**	**-1.6**
TATV	**Tatvan**	**2.39**	**18**	*i* P	**Pn**	**15 43 41.8**	**-0.6**
TATV				*i* S	**Sb**	**15 44 18.0**	**+2.1**
TATV	**Tatvan**	**2.39**	**18**	*i* P	**Pn**	**15 43 41.8**	**-0.6**
BNGL	**BINGOL**	**2.72**	**357**	*i* P	**Pn**	**15 43 46.5**	**-0.5**
BNGL				*i* S	**Sb**	**15 44 27.5**	**+2.0**
BINT	**Bingol**	**2.73**	**346**	*e*Pn	**Pn**	**15 43 47.6**	**+0.6**
ATAB	**Bozova**	**2.74**	**298**	*i* P	**Pn**	**15 43 48.4**	**+1.3**
ATAB				*i* S	**Sn**	**15 44 20.7**	**-0.2**
ATAB	**Bozova**	**2.74**	**298**	*i* P	**Pn**	**15 43 48.4**	**+1.3**
ATAB				*i* S	**Sn**	**15 44 20.7**	**-0.2**
BNGB	**Bingˆ¶l**	**2.81**	**349**	*e*PN	**Pn**	**15 43 47.6**	**-0.5**
VANB	**Van**	**2.87**	**34**	*e*PN	**Pn**	**15 43 50.0**	**+1.1**
VANB	**Van**	**2.87**	**34**	*e*Pn	**Pn**	**15 43 50.0**	**+1.1**
VRTB	**Varto-Mus**	**2.93**	**2**	*e*PN	**Pn**	**15 43 50.0**	**+0.2**
VRTB	**Varto-Mus**	**2.93**	**2**	*e*Pn	**Pn**	**15 43 50.0**	**+0.2**
ELZG	**Elazig**	**2.94**	**321**	*i* P	**Pn**	**15 43 51.1**	**+1.1**
ELZG				*i* S	**Sb**	**15 44 31.1**	**-0.8**
ELZG	**Elazig**	**2.94**	**321**	*i* P	**Pn**	**15 43 51.1**	**+1.1**
PTK	**Pertek**	**3.08**	**330**	*e*PN	**Pn**	**15 43 52.4**	**+0.5**
PTK	**Pertek**	**3.08**	**330**	*e*Pn	**Pn**	**15 43 52.4**	**+0.5**
MALT	**Malatya**	**3.12**	**313**	*e*PN	**Pn**	**15 43 52.8**	**+0.4**
MALT	**Malatya**	**3.12**	**313**	*e*Pn	**Pn**	**15 43 52.8**	**+0.4**
MYA	**Malataya**	**3.13**	**313**	*e*PN	**Pn**	**15 43 52.4**	**-0.1**
MYA	**Malataya**	**3.13**	**313**	*e*Pn	**Pn**	**15 43 52.4**	**-0.1**
GZT	**Gaziantep**	**3.24**	**291**	*i* P	**Pn**	**15 43 51.5**	**-2.6**
GZT				*i* S	**Sn**	**15 44 36.2**	**+2.9**
AKCD	**Akcadag**	**3.42**	**308**	*i* P	**Pn**	**15 43 55.6**	**-1.0**
AKCD				*i* S	**Sb**	**15 44 44.9**	**-0.8**
AKCD	**Akcadag**	**3.42**	**308**	*i* P	**Pn**	**15 43 55.6**	**-1.0**
GAZ	**Gaziantep**	**3.45**	**287**	*e*PN	**Pn**	**15 43 57.3**	**+0.4**
GAZ	**Gaziantep**	**3.45**	**287**	*e*Pn	**Pn**	**15 43 57.3**	**+0.4**
KUZU	**Kuzuini**	**3.48**	**280**	*e*P	Pn	15 43 53.9	-3.4
KUZU				*i* S	**Sn**	**15 44 42.4**	**+3.2**
CLDR	**Caldiran**	**3.55**	**34**	*e*PN	**Pn**	**15 43 60.0**	**+1.6**
CLDR	**Caldiran**	**3.55**	**34**	*e*Pn	**Pn**	**15 44 00.0**	**+1.6**
AGRB	**Hanur-Agry**	**3.59**	**21**	*e*PN	**Pn**	**15 43 59.7**	**+0.8**
AGRB	**Hanur-Agry**	**3.59**	**21**	*e*Pn	**Pn**	**15 43 59.7**	**+0.8**
EZM	**Erzurum**	**3.67**	**0**	*e*PN	**Pn**	**15 44 00.2**	**+0.1**
EZM	**Erzurum**	**3.67**	**0**	*e*Pn	**Pn**	**15 44 00.2**	**+0.1**
KMRS	**Kahramanmaras**	**3.79**	**291**	*e*PN	**Pn**	**15 44 02.1**	**+0.7**
KMRS	**Kahramanmaras**	**3.79**	**291**	*e*Pn	**Pn**	**15 44 02.1**	**+0.7**
KOPT	**Kop Dagi**	**3.84**	**350**	*i* P	**Pn**	**15 44 01.7**	**-0.7**
KOPT	**Kop Dagi**	**3.84**	**350**	*i* P	**Pn**	**15 44 01.7**	**-0.7**
EZC	**Erzincan**	**3.85**	**336**	*e*PN	**Pn**	**15 44 02.4**	**-0.1**
EZC	**Erzincan**	**3.85**	**336**	*e*Pn	**Pn**	**15 44 02.4**	**-0.1**
BHD	**Baghdad**	**3.87**	**139**	*e*Pn	**Pn**	**15 44 02.0**	**-0.5**
BHD				*e*Sn	**Sn**	**15 44 48.0**	**-0.5**
BHD	**Baghdad**	**3.87**	**139**	*e*Pn	**Pn**	**15 44 02.0**	**-0.5**
BHD				*e*Sn	**Sn**	**15 44 48.0**	**-0.5**
IAZR	**Azarshahr**	**3.98**	**67**	*e*Pn	**Pn**	**15 44 05.3**	**+0.9**
IAZR				*e*		15 45 25.8	
	comp=Z,2μm,0.2s						
IAZR	**Azarshahr**	**3.98**	**67**	*e*Pn	**Pn**	**15 44 05.3**	**+0.9**
IDHR	**Dehrash**	**4.39**	**109**	*e*Pn	**Pn**	**15 44 10.0**	**+0.1**
IDHR				*e*		15 44 11.6	
	comp=Z,3μm,0.1s						
IDHR	**Dehrash**	**4.39**	**109**	*e*Pn	**Pn**	**15 44 10.0**	**+0.1**
SARI	**SarD1z-Kayseri**	**4.43**	**305**	*e*PN	**Pn**	**15 44 12.1**	**+1.6**
CEYT	**Ceyhan**	**4.57**	**281**	*e*PN	**Pn**	**15 44 13.4**	**+1.2**
CEYT	**Ceyhan**	**4.57**	**281**	*e*Pn	**Pn**	**15 44 13.4**	**+1.2**
KOZT	**Kozan**	**4.60**	**287**	*e*PN	**Pn**	**15 44 13.4**	**+0.8**
KOZT	**Kozan**	**4.60**	**287**	*e*Pn	**Pn**	**15 44 13.4**	**+0.8**
IGHG	**Ghaleghazi**	**4.67**	**112**	*e*Pn	**Pn**	**15 44 13.9**	**+0.1**
IGHG				*e*		15 45 57.3	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**4.67**	**112**	*e*Pn	**Pn**	**15 44 13.9**	**+0.1**
ILIN	**Lien**	**4.76**	**104**	*e*Pn	**Pn**	**15 44 15.3**	**+0.3**
ILIN				*e*		15 44 16.4	
	comp=Z,1μm,0.1s						
ILIN	**Lien**	**4.76**	**104**	*e*Pn	**Pn**	**15 44 15.3**	**+0.3**
IVIS	**Veis**	**4.81**	**109**	*e*Pn	**Pn**	**15 44 15.3**	**-0.2**
IVIS				*e*		15 45 46.1	
	comp=Z,482nm,0.2s						
IVIS	**Veis**	**4.81**	**109**	*e*Pn	**Pn**	**15 44 15.3**	**-0.2**
DAGI	**Agillar**	**4.86**	**5**	*i* P	**Pn**	**15 44 16.3**	**0.0**
IHRS	**Heris**	**5.00**	**64**	*e*Pn	**Pn**	**15 44 18.8**	**+0.5**
IHRS				*e*		15 44 47.2	
	comp=Z,174nm,0.2s						
IHRS				*e*Sg	**Sg**	**15 45 39.1**	**-3.4**
IHRS	**Heris**	**5.00**	**64**	*e*Pn	**Pn**	**15 44 18.8**	**+0.5**
BNN	**Bunyan**	**5.09**	**303**	*e*PN	**Pn**	**15 44 20.1**	**+0.6**
BNN	**Bunyan**	**5.09**	**303**	*e*Pn	**Pn**	**15 44 20.2**	**+0.6**
IKOM	**Komasi**	**5.45**	**110**	*e*Pn	**Pn**	**15 44 23.9**	**-0.5**
IKOM				*e*		15 44 26.2	
	comp=Z,460nm,0.1s						
IKOM	**Komasi**	**5.45**	**110**	*e*Pn	**Pn**	**15 44 23.9**	**-0.5**

IDC ***02*** *15:47:08.0±1.6, 37°.62N×96°.08E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/26, mbtmp3.4/5, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=49.7km s-min=25.0km az=52.0*
ISC 02 15:47:07.0±1.5**, 37°.6N**±0°.2×**96°.27E**±0°.09**, h10**km**, n9, σ3s.02**/7**, mb3.5**/3**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.32**	**56**	Pn	**Pg**	**15 48 09.2**	**-1.5**
GTA				Pg	Px	15 48 18.0	
GTA				Sn	**Sg**	**15 48 54.1**	**+0.4**
GTA				Sg	Sx	15 49 06.9	
GTA				smax	smax		
	comp=N,28nm,0.9s						
GTA				smax	smax		
	comp=E,18nm,1.0s						
LZH	**Lanzhou**	**6.26**	**102**	*e*P	**Pn**	**15 48 37.0**	**-2.6**
LZH				pP	Pb	15 48 41.5	-15
LZH				sP		15 48 44.2	
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
SONM	**Songino Array**	**12.64**	**33**	Pn	Pn	15 50 14.4	+7.5
	comp=Z,0.6nm,0.3s,baz=217,slow=15,SNR=12						
MKAR	**Makanchi Array**	**13.83**	**316**	Pn	**Pn**	**15 50 20.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=11						
MKAR				Sn	Sn	15 52 45.9	-11
	comp=Z,0.1nm,0.3s,baz=128,slow=17,SNR=3.3						
ZALV	**Zalesovo Beam**	**18.16**	**338**	P	**Pn**	**15 51 19.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=3.8						
KSRS	**Korea Array**	**25.05**	**81**	P	**P**	**15 52 35.3**	**+4.0**
	comp=Z,1.6nm,0.8s,baz=272,slow=9.4,SNR=4.8						
USRK	**Ussuriysk Arra**	**27.65**	**65**	LR	LR	16 03 37.1	
	comp=Z,99nm,20.4s,baz=224,slow=36						
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**15 58 00.6**	**+2.7**
	comp=Z,0.2nm,0.6s,baz=305,slow=4.8,SNR=4.2						
ASAR	**Alice Springs**	**70.47**	**144**	P	P	15 58 25.1	+3.3
	comp=Z,0.2nm,0.5s,baz=326,slow=5.6,SNR=9.8						

IDC ***02*** *16:06:38.9±2.2, 7°.69N×72°.62W, h189km±22km, mb3.3/6, mb1 3.6/7, mb1mx3.3/22, mbtmp3.3/7, Error ellipse: s-maj=29.6km s-min=19.8km az=65.0*
FUNV ***02*** *16:06:39.0, 7°.73N×72°.90W, h8km, MW3.5*
ISC 02 16:06:38.7±0.8**, 7°.90N**±0°.08×**72°.83W**±0°.07**, h160**km**, n22, σ1s.86**/25**, mb3.5**/6**, 1C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**1.72**	**57**⇓	*e*P	**Pn**	**16 07 11.6**	**+0.2**
VIGV				*e*S	**Sn**	**16 07 34.4**	**-2.2**
SOCV	**Socops**	**1.99**	**79**	*e*S	**Sn**	**16 07 39.5**	**-2.3**
VIRV	**Villa del Rosa**	**2.62**	**9**⇓	*e*P	**Pn**	**16 07 23.3**	**+1.5**
VIRV				*e*S	**Sn**	**16 07 56.0**	**+0.6**
QARV	**Quebrada Arrib**	**3.23**	**45**⇓	*i*P	**Pn**	**16 07 32.0**	**+2.6**
ROSC	**El Rosal**	**3.37**	**206**	P	**Pn**	**16 07 33.3**	**+1.7**
	7.6nm,0.3s,baz=79,slow=5.2,SNR=12						
ROSC				S	**Sn**	**16 08 13.3**	**+0.8**
	17nm,0.3s,baz=94,slow=22,SNR=6.0						
CURV	**Curarigua**	**3.53**	**53**⇓	*e*P	**Pn**	**16 07 35.0**	**+1.7**
SANV	**Sanarito**	**3.62**	**64**⇓	*e*P	**Pn**	**16 07 36.3**	**+1.8**
DABV	**Dabajuro**	**3.70**	**36**⇑	*e*P	**Pn**	**16 07 37.7**	**+2.3**
SIQV	**Siquisique**	**4.04**	**47**	*e*P	**Pn**	**16 07 41.7**	**+1.8**
TEPV	**Terepaima**	**4.14**	**60**	*e*P	**Pn**	**16 07 43.0**	**+1.9**
MAPV	**Macapo**	**4.73**	**66**	*e*P	**Pn**	**16 07 50.4**	**+1.7**
MONV	**Montecano**	**4.92**	**35**	*e*P	**Pn**	**16 07 53.4**	**+2.2**
BIRV	**Birongo**	**6.96**	**68**	*e*P	**Pn**	**16 08 21.1**	**+2.8**
PCRV	**Puerto La Cruz**	**8.40**	**74**	*e*P	**Pn**	**16 08 40.3**	**+2.8**
TKL	**Tuckaleechee C**	**29.39**	**342**	P	**P**	**16 12 26.6**	**-0.4**
	4.7nm,0.5s,baz=133,slow=19,SNR=6.7						
TXAR	**Lajitas Array**	**35.98**	**310**	P	**P**	**16 13 24.1**	**-0.4**
	0.5nm,0.4s,baz=123,slow=9.3,SNR=15						
TXAR				PcP	**PcP**	**16 15 47.3**	**-0.4**
	0.2nm,0.6s,baz=157,slow=7.8,SNR=4.1						
PDAR	**Pinedale Array**	**47.39**	**323**	P	**P**	**16 14 56.3**	**-0.9**
	0.6nm,0.8s,baz=112,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**62.36**	**340**	P	**P**	**16 16 43.0**	**-1.0**
	0.8nm,0.5s,baz=131,slow=7.1,SNR=11						
TORD	**Torodi Ar. Bea**	**73.24**	**79**	P	P	16 17 48.9	-4.1
	0.3nm,0.4s,baz=277,slow=7.1,SNR=6.4						
ILAR	**Eielson Array**	**76.12**	**335**	P	**P**	**16 18 07.4**	**-1.3**
	0.4nm,0.8s,baz=83,slow=3.8,SNR=4.1						
ASAR	**Alice Springs**	**149.96**	**235**	PKPbc	**PKPdf**	**16 26 06.6**	**+0.5**
	0.2nm,0.5s,baz=125,slow=2.3,SNR=5.9						
WRA	**Warramunga Arr**	**151.10**	**243**	PKPbc	**PKPdf**	**16 26 10.7**	**+2.9**
	0.6nm,0.3s,baz=102,slow=2.4,SNR=5.1						

ISCJB ***02*** *16:35:47.9±0.5, 22°.71S±0°.05×68°.65W±0°.05, h109km±4km, mb3.8/5, Error ellipse: s-maj=8.2km s-min=7.8km az=171.4*
IDC ***02*** *16:35:49.5±0.9, 22°.87S×68°.48W, h109km±7km, mb3.6/5, mb1 3.7/7, mb1mx3.6/13, mbtmp3.5/7, Error ellipse: s-maj=25.9km s-min=18.0km az=78.0*
GUC ***02*** *16:35:50.0±0.5, 22°.73S×68°.80W, h90km±2km, ML4.4*
ISC 02 16:35:48.3±0.7**, 22°.77S**±0°.06×**68°.65W**±0°.05**, h102**km±5km**, n24, σ1s.40**/33**, mb3.8**/4**, 4C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.28**	**302**	*e*P	**Pn**	**16 36 03.8**	**+0.4**
LVC				*i* S	**Sn**	**16 36 13.8**	**-0.9**
LVC				AML	AML	16 36 15.8	
	comp=E,16μm,0.5s						
SPCH	**San Pedro de A**	**0.44**	**109**⇓	*i*P	**Pn**	**16 36 06.0**	**+1.7**
SPCH				*i* S	**Sn**	**16 36 18.6**	**+2.3**
SPCH				AML	AML	16 36 19.1	
	comp=N,14μm,0.2s						
PB04	**Plate Boundary**	**0.92**	**303**⇑	*i*P	Pn	16 36 14.3	+6.3
PB04				*i* S	Sn	16 36 32.5	+10
PB04				AML	AML	16 36 37.8	
	comp=N,4μm,0.5s						
PB09	**Plate Boundary**	**1.11**	**330**⇑	*i*P	**Pn**	**16 36 10.6**	**+0.3**
PB09				*i* S	**Sn**	**16 36 26.1**	**-0.8**
PB09				AML	AML	16 36 28.3	
	comp=N,29μm,0.4s						
MACH	**Maria Elena**	**1.17**	**299**	*e*P	**Pn**	**16 36 11.0**	**0.0**
MACH				*i* S	**Sn**	**16 36 26.7**	**-1.5**
PB07	**Plate Boundary**	**1.54**	**312**⇑	*i*P	**Pn**	**16 36 15.3**	**-0.1**
PB07				*i* S	**Sn**	**16 36 34.7**	**-1.2**
PB07				AML	AML	16 36 36.3	
	comp=E,6μm,0.6s						
CEN1	**Los Morros**	**1.56**	**246**	*e*P	**Pn**	**16 36 17.5**	**+2.0**
CEN1				*i* S	**Sn**	**16 36 38.8**	**+2.6**
CEN1				AML	AML	16 36 45.2	
	comp=N,4μm,0.6s						
MECH	**Mejillones**	**1.69**	**258**	*e*P	**Pn**	**16 36 17.0**	**0.0**
MECH				*i* S	**Sn**	**16 36 37.6**	**-1.3**
MECH				AML	AML	16 36 47.7	
	comp=E,6μm,0.5s						
ANCH	**Antofagasta**	**1.86**	**240**⇑	*i*P	**Pn**	**16 36 21.2**	**+2.1**
ANCH				*e*S	**Sn**	**16 36 43.8**	**+1.1**
ANCH				AML	AML	16 36 51.5	
	comp=N,4μm,0.4s						
PB01	**Plate Boundary**	**1.88**	**335**	*e*P	**Pn**	**16 36 19.5**	**-0.1**
PB01				*e*S	**Sn**	**16 36 42.6**	**-0.8**
PB01				AML	AML	16 36 44.0	
	comp=E,7μm,0.4s						
PSGC	**Pisagua**	**3.44**	**336**	AML	AML	16 37 32.1	
	comp=E,861nm,0.3s						
LPAZ	**La Paz**	**6.46**	**4**	P	**Pn**	**16 37 22.4**	**+0.9**
	comp=E,0.9nm,0.3s,baz=182,slow=10,SNR=13						
CFAA	**Coronel Fontan**	**8.81**	**178**	P	**Pn**	**16 37 51.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=352,slow=12,SNR=10.0						
CFAA				S	**Sn**	**16 39 27.3**	**-3.2**
	comp=E,0.1nm,0.3s,baz=354,slow=18,SNR=1.8						
SIV	**San Ignacio**	**9.82**	**48**	P	Pn	16 38 03.2	-3.4
	comp=E,2.9nm,0.3s,baz=240,slow=11,SNR=38						
SIV				S	Sn	16 39 44.5	-11
	comp=E,0.7nm,0.3s,baz=303,slow=20,SNR=5.6						
CPUP	**Villa Florida**	**10.90**	**111**	P	**Pn**	**16 38 19.8**	**-1.4**
	comp=E,0.2nm,0.3s,baz=279,slow=18,SNR=2.1						
DBIC	**Dimbokro**	**68.87**	**73**	P	**P**	**16 46 41.8**	**-0.7**
	comp=E,2.4nm,0.9s,baz=41,slow=1.1,SNR=5.4						
PDAR	**Pinedale Array**	**75.32**	**330**	P	**P**	**16 47 21.3**	**+0.7**
	comp=E,0.2nm,0.4s,baz=131,slow=6.9,SNR=4.2						
NVAR	**Mina Array Bea**	**76.63**	**322**	P	**P**	**16 47 29.6**	**+1.5**
	comp=E,0.3nm,0.3s,baz=191,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.56**	**70**	P	**P**	**16 47 33.7**	**+0.2**
	comp=E,1.0nm,0.3s,baz=260,slow=6.1,SNR=16						
TORD				pP	**pP**	**16 47 59.9**	**+0.1**
	comp=E,1.6nm,0.5s,baz=254,slow=5.2,SNR=5.5						
YKA	**Yellowknife Ar**	**92.45**	**340**	P	**PcP**	**16 48 47.1**	**-0.7**
	comp=E,0.9nm,0.7s,baz=134,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**128.90**	**207**	PKP	**PKiKP**	**16 54 45.9**	**+0.5**
	comp=E,0.5nm,0.8s,baz=152,slow=0.9,SNR=6.6						
WRA	**Warramunga Arr**	**131.98**	**210**	PKP	**PKiKP**	**16 54 52.5**	**+0.8**
	comp=E,0.5nm,0.7s,baz=174,slow=1.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**142.99**	**26**	PKP	**PKPdf**	**16 55 08.1**	**-1.6**
	comp=E,0.4nm,0.4s,baz=321,slow=3.7,SNR=3.0						
ZALV				pPKP	**pPKPdf**	**16 55 39.4**	**+1.6**
	comp=E,0.5nm,0.6s,baz=309,slow=1.8,SNR=2.5						
MKAR	**Makanchi Array**	**146.50**	**37**	PKPbc	**PKPab**	**16 55 18.2**	**-0.5**
	comp=E,1.4nm,0.8s,baz=316,slow=2.2,SNR=9.1						
MKAR				pPKPbc	pPKPbc	16 55 48.4	+3.0
	comp=E,0.9nm,0.8s,baz=299,slow=5.4,SNR=3.8						

IDC 02 16:42:49.0±0.9**, 11°.91N**×**143°.31E, h0**km**, mb3.6**/7**, mb1 3.8**/8**, mb1mx3.6**/23**, mbtmp3.5**/8**, ML3.0**/1**, Error ellipse: s-maj=31.5km s-min=18.8km az=112.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.26**	**42**	Pn	Pn	16 43 28.8	+1.1
	4.1nm,0.3s,baz=198,slow=20,SNR=8.8						
GUMO				Sn	Sn	16 43 55.3	-1.0
	12nm,0.3s,baz=232,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**32.86**	**196**	P	P	16 49 24.2	-0.7
	0.3nm,0.6s,baz=20,slow=9.8,SNR=3.5						
ASAR	**Alice Springs**	**36.53**	**195**	P	P	16 49 56.9	+0.3
	0.2nm,0.5s,baz=23,slow=12,SNR=4.2						
SONM	**Songino Array**	**47.26**	**327**	P	P	16 51 24.3	+0.1
	0.1nm,0.3s,baz=118,slow=5.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**62.12**	**325**	P	P	16 53 11.8	0.0
	0.5nm,0.5s,baz=99,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**70.31**	**322**	P	P	16 54 04.5	+0.1
	0.4nm,0.5s,baz=107,slow=7.4,SNR=6.3						
ILAR	**Eielson Array**	**70.73**	**25**	P	P	16 54 06.0	-0.8
	0.5nm,0.5s,baz=251,slow=6.0,SNR=17						
NVAR	**Mina Array Bea**	**89.15**	**51**	P	P	16 55 48.1	+0.8
	0.7nm,0.8s,baz=259,slow=7.0,SNR=3.3						

CSEM ***02*** *16:52:29.3±0.2, 76°.97N×18°.33E, h2km, ML3.3, Error ellipse: s-maj=8.6km s-min=3.2km az=68.0*
NAO ***02*** *16:52:31.6±2.2, 77°.06N×18°.59E, h26km±34km, ML3.3*
BER ***02*** *16:52:33.6, 77°.03N×18°.67E, h18km, MD2.8, ML3.2, ML3.3(NAO)*
ISC 02 16:52:30.7±2.4**, 77°.04N**±0°.04×**18°.61E**±0°.07**, h9**km±19km**, n22, σ1s.05**/33**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.69**	**269**	*e*P	**Pb**	**16 52 45.1**	**+0.2**
HSP				*e*S	**Sb**	**16 52 54.2**	**-0.3**
SPA0	**Spitsbergen Ar**	**1.24**	**338**	Pg	**Pn**	**16 52 55.0**	**+0.8**
	baz=154,slow=22						
SPA0				Sg	**Sb**	**16 53 09.7**	**-0.7**
	baz=151,slow=22						
SPA0	**Spitsbergen Ar**	**1.24**	**338**	Pg	**Pn**	**16 52 55.0**	**+0.8**
	baz=154,slow=20,SNR=9.3						
SPA0				Sg	**Sb**	**16 53 09.7**	**-0.7**
	baz=151,slow=21,SNR=93						
SPA0				Lg	Lg	16 53 09.7	
	baz=151,slow=20,SNR=4.3						
HOPEN	**Hopen**	**1.57**	**107**	*e*P	**Pn**	**16 52 58.3**	**-0.3**
HOPEN				*e*S	**Sn**	**16 53 18.4**	**-0.6**
HOPEN				AML	AML	16 53 22.9	
	comp=Z,592nm,0.5s						
HOPEN	**Hopen**	**1.57**	**107**	*e*P	**Pn**	**16 52 58.3**	**-0.3**
	SNR=55						
HOPEN				*e*S	**Sn**	**16 53 18.4**	**-0.6**
	comp=Z,592nm,0.5s,SNR=55						
KBS	**Kingsbay**	**2.35**	**327**	Pn	**Pn**	**16 53 09.7**	**+0.3**
KBS				Pg	**Pb**	**16 53 14.2**	**+1.0**
KBS				Lg	Lg	16 53 45.6	
KBS	**Kingsbay**	**2.35**	**327**	Pn	**Pn**	**16 53 09.7**	**+0.3**
KBS				Pg	**Pb**	**16 53 14.2**	**+1.0**
KBS				Sg	**Sg**	**16 53 45.6**	**-0.5**
KBS				AML	AML	16 53 53.6	
	comp=Z,417nm,0.5s						
KBS	**Kingsbay**	**2.35**	**327**	Pn	**Pn**	**16 53 09.7**	**+0.3**
KBS	**Kingsbay**	**2.35**	**327**	Pg	**Pb**	**16 53 14.2**	**+1.0**
KBS				Sg	**Sg**	**16 53 45.6**	**-0.5**
	comp=Z,417nm,0.5s,SNR=92						
KBS				Lg	Lg	16 53 45.6	
BJO	**Bjornoya**	**2.56**	**176**	*e*Pg	**Pb**	**16 53 17.0**	**+0.4**
BJO				*e*Sg	**Sb**	**16 53 49.3**	**+1.2**
BJO				AML	AML	16 53 54.1	
	comp=Z,161nm,0.3s						
BJO	**Bjornoya**	**2.56**	**176**	*e*Pg	**Pb**	**16 53 17.0**	**+0.4**
	SNR=91						
BJO				*e*Sg	**Sb**	**16 53 49.3**	**+1.2**
	comp=Z,161nm,0.3s,SNR=91						
KEV	**Kevo**	**7.70**	**158**	*e*p	**Pn**	**16 54 22.9**	**+0.2**
	comp=Z,4.8nm,0.7s						
KEV	**Kevo**	**7.70**	**158**	*e*p	**Pn**	**16 54 22.9**	**+0.2**
	comp=Z,4.8nm,0.7s						
ARA0	**ARCESS Array S**	**7.79**	**162**	Pn	**Pn**	**16 54 23.1**	**-1.1**
	baz=354,slow=12						
ARA0				Sn	Sn	16 55 42.9	-9.4
	baz=2.4,slow=22						
ARA0	**ARCESS Array S**	**7.79**	**162**	Pn	**Pn**	**16 54 23.0**	**-1.1**
	baz=354,slow=12,SNR=5.7						
JOF	**Joensuu**	**14.77**	**157**	*e*p	**P**	**16 56 06.8**	**+1.3**
JOF	**Joensuu**	**14.77**	**157**	*e*p	**P**	**16 56 06.8**	**+1.3**
JOF	**Joensuu**	**14.77**	**157**	*e*P	**P**	**16 56 06.8**	**+1.3**
FIA0	**FINESS Array S**	**15.87**	**167**	P	**Pn**	**16 56 13.0**	**-0.9**
	baz=348,slow=14						
FIA0	**FINESS Array S**	**15.87**	**167**	Pn	**Pn**	**16 56 13.0**	**-0.9**
	baz=348,slow=13,SNR=55						
NB2	**NORSAR Subarra**	**16.27**	**193**	P	**Pn**	**16 56 16.6**	**-2.5**
	baz=3.8,slow=12						
NB2	**NORSAR Subarra**	**16.27**	**193**	Pn	**Pn**	**16 56 16.6**	**-2.5**
	baz=3.8,slow=12,SNR=55						

DJA ***02*** *16:54:41, 2°.62S×121°.73E, h10km, MLv3.9/16*
IDC 02 16:54:45.0±1.6**, 1°.83S**×**122°.03E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/17**, mbtmp3.3**/3**, Error ellipse: s-maj=395.2km s-min=27.3km az=60.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**147**	P	P	16 59 38.1	+0.7
	0.8nm,0.8s,baz=324,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**24.57**	**153**	P	P	17 00 06.4	-0.5
	0.7nm,0.9s,baz=335,slow=7.6,SNR=5.7						
MKAR	**Makanchi Array**	**59.66**	**329**	P	P	17 04 51.1	0.0
	0.4nm,0.7s,baz=132,slow=8.4,SNR=4.9						

IDC ***02*** *17:31:09.8±1.9, 37°.93N×21°.46E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=128.6km s-min=27.5km az=141.0*
ISCJB ***02*** *17:31:18.6±0.4, 36°.09N±0°.03×23°.34E±0°.05, h83km±6km, mb3.3/3, Error ellipse: s-maj=6.9km s-min=3.8km az=153.6*
CSEM ***02*** *17:31:19.5±0.2, 36°.07N×23°.32E, h75km±5km, ML3.2, Error ellipse: s-maj=5.9km s-min=2.9km az=63.0*
ATH ***02*** *17:31:19.5, 36°.16N×23°.36E, h64km±3km, ML3.2*
THE ***02*** *17:31:21.1, 36°.16N×23°.38E, h58km±2km, ML3.3/6, Error ellipse: s-maj=2.2km s-min=0.4km az=231.0*
ISC 02 17:31:19.3±0.8**, 36°.14N**±0°.04×**23°.35E**±0°.04**, h64**km±8km**, n92, σ1s.48**/123**, mb3.6**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.29**	**300**	P	**Pn**	**17 31 30.7**	**+1.0**
KYTH	**Kithira**	**0.29**	**300**	*e*P	**Pn**	**17 31 30.8**	**+1.0**
KYTH	**Kithira**	**0.29**	**300**	*e*P	**Pn**	**17 31 30.8**	**+1.0**
VLI	**Veliai**	**0.67**	**330**	P	**Pn**	**17 31 34.5**	**+1.2**
VLI				S	**Sn**	**17 31 44.9**	**+1.2**
VLI	**Veliai**	**0.67**	**330**	*e*P	**Pn**	**17 31 34.6**	**+1.2**
VLI				*e*S	**Sn**	**17 31 44.4**	**+0.7**
VLI	**Veliai**	**0.67**	**330**	*e*P	**Pn**	**17 31 34.6**	**+1.2**
VLI				S	**Sn**	**17 31 44.9**	**+1.2**
VAM	**Vamos**	**1.01**	**136**	P	**Pn**	**17 31 38.9**	**+1.3**
VAM				S	**Sn**	**17 31 52.6**	**+1.5**
VAM	**Vamos**	**1.01**	**136**	*e*P	**Pn**	**17 31 38.9**	**+1.3**
VAM				*e*S	**Sn**	**17 31 52.6**	**+1.5**
VAM	**Vamos**	**1.01**	**136**	*e*P	**Pn**	**17 31 38.9**	**+1.3**
VAM				*e*S	**Sn**	**17 31 52.6**	**+1.5**
DIDY	**Didyma**	**1.34**	**355**	P	**Pn**	**17 31 43.0**	**+1.0**
DIDY	**Didyma**	**1.34**	**355**	P	**Pn**	**17 31 43.0**	**+1.0**
VLX	**Vlachokerasia**	**1.46**	**328**	P	**Pn**	**17 31 44.8**	**+1.2**
VLX				S	**Sn**	**17 32 03.3**	**+1.5**
VLX	**Vlachokerasia**	**1.46**	**328**	*e*P	**Pn**	**17 31 45.2**	**+1.6**
VLX				*e*S	**Sn**	**17 32 03.2**	**+1.5**
VLX	**Vlachokerasia**	**1.46**	**328**	*e*P	**Pn**	**17 31 45.2**	**+1.6**
VLX				S	**Sn**	**17 32 03.3**	**+1.5**
PYL	**PYLOS**	**1.50**	**301**	P	**Pn**	**17 31 44.8**	**+0.8**
PYL				S	**Sn**	**17 32 05.1**	**+2.4**
PYL	**PYLOS**	**1.50**	**301**	*e*P	**Pn**	**17 31 44.8**	**+0.8**
PYL				*e*S	**Sn**	**17 32 04.1**	**+1.4**
PYL	**PYLOS**	**1.50**	**301**	*e*P	**Pn**	**17 31 44.8**	**+0.8**
PYL				S	**Sn**	**17 32 05.1**	**+2.4**
ITM	**Ithomi**	**1.54**	**313**	P	**Pn**	**17 31 46.5**	**+1.8**
ITM				S	**Sn**	**17 32 05.5**	**+1.7**
ITM	**Ithomi**	**1.54**	**313**	*e*P	**Pn**	**17 31 46.5**	**+1.8**
ITM	**Ithomi**	**1.54**	**313**	*e*P	**Pn**	**17 31 46.5**	**+1.8**
ITM				S	**Sn**	**17 32 05.5**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NAIG	Nisos Aigina	1.62	4	eP	Pn	17 31 47.1	+1.4
NAIG	Nisos Aigina	1.62	4	eP	Pn	17 31 47.1	+1.4
SIVA	Sivas	1.63	133	P	Pn	17 31 47.4	+1.6
SIVA	Sivas	1.63	133	eP	Pn	17 31 48.6	+2.8
SIVA	Sivas	1.63	133	P	Pn	17 31 47.4	+1.6
THR2	Thira island,	1.71	79	P	Pn	17 31 48.2	+1.3
THR2	Thira island,	1.71	79	P	Pn	17 31 48.2	+1.3
THR1	Thera Island	1.72	82	P	Pn	17 31 48.5	+1.4
THR1	Thera Island	1.72	82	P	Pn	17 31 48.5	+1.4
VLY	Voula,Athens	1.75	12	P	Pn	17 31 48.5	+1.1
VLY	Voula,Athens	1.75	12	eP	Pn	17 31 48.5	+1.1
VLY				eS	Sn	17 32 09.3	+0.6
VLY	Voula,Athens	1.75	12	eP	Pn	17 31 48.5	+1.1
VLY				eS	Sn	17 32 09.3	+0.6
ATH	Athens Observa	1.85	9	eP	Pn	17 31 49.5	+0.7
ATH				eS	Sn	17 32 12.2	+1.0
ATH	Athens Observa	1.85	9	eP	Pn	17 31 49.5	+0.7
ATH				eS	Sn	17 32 12.3	+1.0
LTK	Loutraki	1.91	351	P	Pn	17 31 50.9	+1.4
LTK	Loutraki	1.91	351	eP	Pn	17 31 51.0	+1.4
LTK				eS	Sn	17 32 13.3	+0.8
LTK	Loutraki	1.91	351	eP	Pn	17 31 51.0	+1.4
LTK				eS	Sn	17 32 13.3	+0.8
PTL	Penteli	1.95	12	P	Pn	17 31 51.3	+1.1
PTL				S	Sn	17 32 14.5	+0.8
PTL	Penteli	1.95	12	eP	Pn	17 31 51.3	+1.1
PTL	Penteli	1.95	12	eP	Pn	17 31 51.3	+1.1
PTL				S	Sn	17 32 14.5	+0.8
GUR	Goura	1.97	336	P	Pn	17 31 51.8	+1.4
GUR				S	Sn	17 32 15.8	+1.7
GUR	Goura	1.97	336	eP	Pn	17 31 51.9	+1.4
GUR	Goura	1.97	336	eP	Pn	17 31 51.9	+1.4
GUR				S	Sn	17 32 15.8	+1.7
THAL	Thalero	1.97	344	P	Pn	17 31 52.0	+1.6
THAL	Thalero	1.97	344	P	Pn	17 31 52.0	+1.6
APE	Apeiranthos	1.99	61	P	Pn	17 31 51.8	+1.1
APE	Apeiranthos	1.99	61	eP	Pn	17 31 51.8	+1.1
APE	Apeiranthos	1.99	61	eP	Pn	17 31 51.8	+1.1
VIL1	Vilia, Western	2.02	360	eP	Pn	17 31 52.4	+1.3
VIL1	Vilia, Western	2.02	360	eP	Pn	17 31 52.4	+1.3
NPS	Neapolis	2.04	115	P	Pn	17 31 52.9	+1.6
NPS	Neapolis	2.04	115	eP	Pn	17 31 52.8	+1.5
NPS	Neapolis	2.04	115	eP	Pn	17 31 52.8	+1.5
MRMA	Marmari	2.09	23	P	Pn	17 31 53.3	+1.3
MRMA	Marmari	2.09	23	P	Pn	17 31 53.3	+1.3
ERET	Eretria	2.33	9	P	Pn	17 31 56.8	+1.5
ERET				S	Sn	17 32 24.2	+1.3
ERET	Eretria	2.33	9	P	Pn	17 31 56.8	+1.5
ERET				S	Sn	17 32 24.2	+1.3
DSF	Desfina	2.36	344	P	Pn	17 31 57.3	+1.5
DSF				S	Sn	17 32 25.2	+1.5
DSF	Desfina	2.36	344	P	Pn	17 31 57.3	+1.5
DSF				S	Sn	17 32 25.2	+1.5
RLS	Riolos of Patr	2.44	322	eP	Pn	17 31 59.0	+2.3
RLS	Riolos of Patr	2.44	322	eP	Pn	17 31 59.0	+2.3
LKR	Lokris	2.52	354	P	Pn	17 31 59.3	+1.4
LKR	Lokris	2.52	354	eP	Pn	17 31 59.3	+1.4
LKR	Lokris	2.52	354	eP	Pn	17 31 59.3	+1.4
ZKR	Zakros	2.55	113	eP	Pn	17 32 00.5	+2.2
ZKR	Zakros	2.55	113	eP	Pn	17 32 00.5	+2.2
MRKA	Markates	2.57	4	P	Pn	17 32 00.2	+1.6
MRKA				S	Sn	17 32 30.2	+1.5
MRKA	Markates	2.57	4	P	Pn	17 32 00.2	+1.6
MRKA				S	Sn	17 32 30.2	+1.5
SMIA	Simia	2.74	358	P	Pn	17 32 02.6	+1.7
SMIA	Simia	2.74	358	P	Pn	17 32 02.6	+1.7
AGG	Agios Georgios	2.99	345	P	Pn	17 32 06.1	+1.8
AGG	Agios Georgios	2.99	345	eP	Pn	17 32 06.3	+2.0
AGG	Agios Georgios	2.99	345	P	Pn	17 32 06.1	+1.8
EVR	Evrytania	3.03	337	eP	Pn	17 32 06.5	+1.6
EVR	Evrytania	3.03	337	eP	Pn	17 32 06.5	+1.6
SMG	Samos	3.21	60	eP	Pn	17 32 08.6	+1.4
SMG	Samos	3.21	60	eP	Pn	17 32 08.6	+1.4
XOR	Xorichti	3.23	358	P	Pn	17 32 09.1	+1.6
XOR				S	Sn	17 32 46.7	+2.0
XOR	Xorichti	3.23	358	P	Pn	17 32 09.1	+1.6
XOR				S	Sn	17 32 46.7	+2.0
PLG	Polygyros	4.23	1	eP	Pn	17 32 22.6	+1.4
PLG	Polygyros	4.23	1	eP	Pn	17 32 22.6	+1.4
SLUM		4.89	161	P	Pn	17 32 28.6	-1.6
SWA2		7.10	165	P	Pn	17 32 59.2	-1.3
BRTR	Keskin Array B 0.0nm,0.3s,baz=250,slow=16,SNR=2.8	8.88	63	Pn	Pn	17 33 31.7	+6.7
AWBH		9.10	147	P	Pn	17 33 26.3	-1.6
HFRF	Wahat Farafira	9.91	153	P	Pn	17 33 36.9	-2.0
SUZ		10.14	126	P	Pn	17 33 40.8	-1.3
NVLJ	Novalja	10.61	325	i Pn	Pn	17 33 46.5	-1.9
NVLJ				Sn	Sn	17 35 36.3	-9.1
HDK1	Dakhla	11.77	152	P	Pn	17 34 03.1	-1.3
TORD	Torodi Ar. Bea 0.1nm,0.4s,baz=39,slow=7.5,SNR=2.5	30.05	226	P	P	17 37 23.1	+0.7
MKAR	Makanchi Array 0.5nm,0.5s,baz=268,slow=7.9,SNR=17	44.48	57	P	P	17 39 24.1	0.0
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=268,slow=7.9,SNR=4.8	45.40	47	P	P	17 39 30.1	-1.2

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*IDC **02** 17:42:03.4±1.2, 6°.18N×60°.53E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, MS3.7/13, Ms1 3.7/13, ms1mx3.6/24, Error ellipse: s-maj=33.8km s-min=23.2km az=30.0*

*ISCJB **02** 17:42:04.4±0.5, 6°.2N±0°.1×60°.55E±0°.10, h15km, mb4.0/16, MS3.8/12, Error ellipse: s-maj=17.3km s-min=10.2km az=139.9*

*NEIC **02** 17:42:05.2±0.4, 6°.21N×60°.54E, h10km, mb4.6/7, Error ellipse: s-maj=13.8km s-min=8.5km az=136.0*

ISC 02 17:42:06.1±0.7**, 6°.2N**±0°.1×**60°.5E**±0°.1**, h15**km**, n34, σ0ˢ.69**/27**, mb4.0**/16**, MS3.7**/12**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	Arta Tunnel comp=Z,165nm,20.7s,baz=289,slow=34	18.25	288	LR	LR	17 52 17.5	
HYB	Hyderabad	20.83	56	i P	P	17 46 47.5	+0.1
KMBO	Kilima Mbogo 28nm,1.5s	24.36	253	eP	P	17 47 24.6	+0.5
OPO	Ambohidratompo comp=Z,253nm,19.6s,baz=41,slow=30	27.93	208	LR	LR	17 56 06.7	
LSA	Lhasa 7.1nm,1.4s	37.11	47	eP	P	17 49 17.4	+0.6
EKS2	Erkin-Say 6.9nm,1.2s	38.13	16	eP	P	17 49 26.2	+1.3
TKM2	Tokmak 2	38.90	18	P	P	17 49 30.2	-1.1
CMAR	Chiang Mai Arr 1.0nm,0.9s,baz=266,slow=8.4,SNR=7.4	39.34	68	P	P	17 49 35.7	+0.5
CMAR	comp=Z,92nm,19.6s,baz=315,slow=33			LR	LR	18 03 42.6	
CMAR	Chiang Mai Arr	39.34	68	P	P	17 49 35.7	+0.5
BRTR	Keskin Array B 0.5nm,0.8s,baz=140,slow=11,SNR=3.6	41.20	328	P	P	17 49 50.9	+0.3
BRTR	comp=Z,75nm,18.6s,baz=50,slow=37			LR	LR	18 07 36.1	
BRTR	Keskin Array B	41.20	328	P	P	17 49 50.9	+0.3
MKAR	Makanchi Array 0.4nm,0.8s,baz=193,slow=5.6,SNR=3.3	44.55	21	P	P	17 50 17.6	+0.2
MKAR	comp=Z,96nm,21.4s,baz=175,slow=37			LR	LR	18 09 17.4	
MKAR	Makanchi Array	44.55	21	P	P	17 50 17.6	+0.2
LBTB	Lobatse 12nm,1.2s	46.04	226	P	P	17 50 29.3	-0.3
KURK	Kurchatov 10nm,1.6s	46.85	16	eP	P	17 50 35.5	+0.1
BOSA	Boshof comp=Z,125nm,19.2s,baz=35,slow=34	48.53	223	LR	LR	18 09 16.1	
BOSA	Boshof 21nm,1.5s	48.53	223	P	P	17 50 48.3	-0.7
TSUM	Tsumeb 8.9nm,1.2s	49.27	238	eP	P	17 50 55.6	+0.7
AKASG	Malin Array Be 0.4nm,0.5s,baz=120,slow=6.8,SNR=4.3	51.45	335	P	P	17 51 09.2	-1.4
AKASG	comp=Z,54nm,21.6s,baz=260,slow=39			LR	LR	18 15 15.3	
AKASG	Malin Array Be	51.45	335	P	P	17 51 09.2	-1.4
ZALV	Zalesovo Beam 0.6nm,0.7s,baz=224,slow=6.2,SNR=5.8	51.50	18	P	P	17 51 10.6	-0.4
ZALV	comp=Z,49nm,19.0s,baz=246,slow=38			LR	LR	18 14 31.3	
ZALV	Zalesovo Beam	51.50	18	P	P	17 51 10.6	-0.4
SONM	Songino Array 0.9nm,0.9s,baz=234,slow=6.4,SNR=6.8	56.90	35	P	P	17 51 50.6	-0.1
SONM	Songino Array	56.90	35	P	P	17 51 50.6	-0.1
TORD	Torodi Ar. Bea 1.1nm,1.0s,baz=124,slow=7.4,SNR=4.1	58.30	282	P	P	17 52 01.3	+0.4
TORD	comp=Z,106nm,18.1s,baz=330,slow=37			LR	LR	18 17 58.2	
TORD	Torodi Ar. Bea	58.30	282	P	P	17 52 01.3	+0.4
DBIC	Dimbokro comp=Z,116nm,18.3s,baz=266,slow=35	64.93	274	LR	LR	18 19 40.6	
NOA	NORSAR Array B comp=Z,31nm,18.9s,baz=180,slow=35	65.83	336	LR	LR	18 20 04.5	
ARCES	ARCESS Array B comp=Z,44nm,18.1s,baz=149,slow=38	67.22	347	LR	LR	18 24 38.2	
KSRS	Korea Array comp=Z,82nm,18.9s,baz=109,slow=36	68.32	52	LR	LR	18 23 39.3	
WRA	Warramunga Arr 1.3nm,1.1s,baz=291,slow=4.9,SNR=4.7	77.04	112	P	P	17 53 58.4	-0.8
WRA	Warramunga Arr	77.04	112	P	P	17 53 58.4	-0.8
ASAR	Alice Springs 1.5nm,1.0s,baz=291,slow=5.5,SNR=6.5	77.42	116	P	P	17 54 01.0	-0.3
ASAR	Alice Springs	77.42	116	P	P	17 54 01.0	-0.3

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*IDC **02** 17:44:35.2±0.9, 10°.88S×165°.12E, h49km±6km, mb3.7/12, mb1 3.8/12, mb1mx3.7/19, mbtmp3.7/12, MS3.5/4, Ms1 3.4/4, ms1mx3.0/24, Error ellipse: s-maj=21.0km s-min=16.6km az=170.0*

*NEIC **02** 17:44:36.1±1.0, 10°.79S×165°.09E, h54km±8km, mb4.5/4, Error ellipse: s-maj=15.5km s-min=14.1km az=143.0*

ISC 02 17:44:36.1±0.9**, 10°.70S**±0°.08×**165°.05E**±0°.09**, h50**km±7km**, h50**km**:pP-P, n40, σ1ˢ.04**/44**, mb4.1**/15**, MS3.3**/4**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara 58nm,0.3s,baz=156,slow=2.2,SNR=48	5.18	284	P	Pn	17 45 52.6	+1.5
HNR	47nm,0.3s,baz=186,slow=10,SNR=4.5			S	Sn	17 46 51.9	+2.2
HNR	Honiara	5.18	284	P	Pn	17 45 52.6	+1.5
HNR				eSn	Sn	17 46 47.8	-1.9
DZM	Mont Dzumac 27nm,0.2s	11.38	173	ePn	Pn	17 47 19.6	+3.5
DZM	7.2nm,0.3s			eSn	Sn	17 49 22.0	0.0
DZM	202nm,25.9s			eLR	LR	17 49 59.1	
DZM	Mont Dzumac	11.38	173	eP	Pn	17 47 19.7	+3.5
NOUC	Port Laguerre	11.40	174	eP	Pn	17 47 20.4	+4.1
NOUC				eS	Sn	17 49 23.1	+0.8
CTA	Charters Tower 6.8nm,1.1s,baz=60,slow=16,SNR=3.2	20.37	240	P	P	17 49 08.7	0.0
CTA	comp=Z,82nm,18.1s,baz=50,slow=31			LR	LR	17 54 57.4	
CTA	Charters Tower	20.37	240	P	P	17 49 08.7	0.0
COEN	Coen 24nm,0.7s	21.61	259	P	P	17 49 23.1	+1.0
URZ	Urewera 5.2nm,0.9s,baz=315,slow=4.3,SNR=1.8	29.50	160	P	P	17 50 32.1	-3.4
URZ	Urewera	29.50	160	P	P	17 50 32.1	-3.4
STKA	Stephens Creek 4.5nm,1.2s,baz=6.1,slow=15,SNR=5.2	30.23	222	P	P	17 50 40.6	-1.5
STKA	comp=Z,93nm,18.1s,baz=26,slow=34			LR	LR	18 01 25.0	
STKA	Stephens Creek	30.23	222	P	P	17 50 40.6	-1.5
WRA	Warramunga Arr 0.2nm,0.4s,baz=79,slow=8.6,SNR=3.6	30.96	249	P	P	17 50 47.1	-1.6
WRA	0.3nm,0.5s,baz=88,slow=5.3,SNR=8.1			PcP	PcP	17 53 43.7	-0.6
WRA	Warramunga Arr	30.96	249	P	P	17 50 47.1	-1.6
WRA				PcP	PcP	17 53 43.7	-0.6
GUMO	Guam comp=Z,52nm,19.7s,baz=316,slow=33	31.36	320	LR	LR	18 01 53.7	
ASAR	Alice Springs 0.3nm,0.6s,baz=64,slow=10,SNR=10	32.34	242	P	P	17 50 59.8	-1.1
ASAR	0.3nm,0.6s,baz=81,slow=2.6,SNR=5.1			PcP	PcP	17 53 47.4	-0.5
ASAR	Alice Springs	32.34	242	P	P	17 50 59.8	-1.1
ASAR				PcP	PcP	17 53 47.4	-0.5
FITZ	Fitzroy Crossi 3.8nm,1.1s,baz=45,slow=4.3,SNR=3.2	38.81	254	P	P	17 51 56.1	-0.3
FITZ	comp=Z,92nm,20.6s,baz=68,slow=35			LR	LR	18 07 22.1	
FITZ	Fitzroy Crossi	38.81	254	P	P	17 51 56.1	-0.3
PPT2	Papeete2 68nm,22.5s	44.44	104	eLR	LR	18 05 15.0	
TBI	Tubuai 72nm,25.2s	45.09	112	eLR	LR	18 05 29.9	
VNDA	Vanda 3.4nm,0.9s	66.83	181	eP	P	17 55 23.7	+1.6
CMAR	Chiang Mai Arr 1.0nm,0.7s,baz=127,slow=5.0,SNR=8.5	71.35	294	P	P	17 55 51.9	+0.6
CMAR	0.7nm,0.7s,baz=123,slow=4.5,SNR=5.0			pP	pP	17 56 06.2	+0.7
CMAR	Chiang Mai Arr	71.35	294	P	P	17 55 51.9	+0.6
CMAR				pP	pP	17 56 06.2	+0.7
ULN	Ulaanbaatar 4.5nm,1.2s	77.62	324	eP	P	17 56 27.1	-0.1
SONM	Songino Array 1.0nm,0.8s,baz=146,slow=7.8,SNR=8.3	77.99	324	P	P	17 56 29.0	-0.2
SONM	Songino Array	77.99	324	P	P	17 56 29.0	-0.2
QSPA	South Pole Qui 9.7nm,1.1s	79.30	180	eP	P	17 56 37.0	+0.9
ILAR	Eielson Array 0.4nm,0.7s,baz=234,slow=5.3,SNR=11	83.41	19	P	P	17 56 57.9	+0.3
ILAR	Eielson Array	83.41	19	P	P	17 56 57.9	+0.3
MKAR	Makanchi Array 0.9nm,0.7s,baz=95,slow=6.7,SNR=9.5	92.81	317	P	P	17 57 42.9	-0.4
MKAR	0.8nm,0.8s,baz=98,slow=6.2,SNR=4.7			pP	pP	17 57 57.4	-0.7
MKAR	Makanchi Array	92.81	317	P	P	17 57 42.9	-0.4
MKAR				pP	pP	17 57 57.4	-0.7
ZALV	Zalesovo Beam 0.1nm,0.2s,baz=120,slow=5.2,SNR=3.5	92.88	324	P	P	17 57 42.2	-1.2
ZALV	0.2nm,0.3s,baz=90,slow=4.9,SNR=2.8			pP	pP	17 57 56.6	-1.6
ZALV	Zalesovo Beam	92.88	324	P	P	17 57 42.2	-1.2
ZALV				pP	pP	17 57 56.6	-1.6
PDAR	Pinedale Array 0.4nm,0.7s,baz=275,slow=4.4,SNR=2.8	93.82	47	P	P	17 57 48.9	+0.5
PDAR	Pinedale Array	93.82	47	P	P	17 57 48.9	+0.5
KEST	Kesra 1.2nm,0.8s,baz=254,slow=20,SNR=4.0	146.73	322	PKPbc	PKPbc	18 04 13.0	0.0
KEST	2.1nm,0.9s,baz=49,slow=4.5,SNR=4.5			pPKPbc	pPKPbc	18 04 27.2	-0.9
KEST	Kesra	146.73	322	PKPbc	PKPbc	18 04 13.0	0.0
KEST				pPKPbc	pPKPbc	18 04 27.2	-0.9
ESDC	Sonseca Array 0.5nm,0.7s,baz=6.7,slow=4.4,SNR=3.8	149.54	343	pPKPbc	pPKPbc	18 04 36.2	+0.6
ESDC	Sonseca Array	149.54	343	pPKPbc	pPKPbc	18 04 36.2	+0.6

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*IDC **02** 17:49:14.4±1.8, 2°.04N×126°.25E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/16, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/24, Error ellipse: s-maj=175.1km s-min=22.1km az=65.0*

*NEIC **02** 17:49:18.6±0.5, 2°.15N×126°.57E, h35km, mb4.0/6, Error ellipse: s-maj=17.6km s-min=7.6km az=61.0*

ISC 02 17:49:19.8±0.8**, 2°.1N**±0°.1×**126°.4E**±0°.2**, h47**km**, n17, σ0ˢ.81**/16**, mb3.9**/8**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSM	Kuching 9.9nm,1.1s	16.05	268	P	P	17 53 04.5	-0.7
WRAB	Tennant Creek 3.8nm,1.0s	23.22	161	eP	P	17 54 23.4	+0.4
WRA	Warramunga Arr 0.9nm,0.4s,baz=339,slow=11,SNR=12	23.23	161	P	P	17 54 23.3	+0.3
WRA	Warramunga Arr	23.23	161	P	P	17 54 23.3	+0.3
WB2	Warramunga Arr	23.23	161	eP	P	17 54 22.8	-0.3
ASAR	Alice Springs 0.1nm,0.5s,baz=342,slow=8.6,SNR=4.9	26.61	164	P	P	17 54 55.0	+1.1
ASAR	Alice Springs	26.61	164	P	P	17 54 55.0	+1.1
CTAO	Charters Tower 7.2nm,1.0s	29.42	139	P	P	17 55 18.7	-0.4
STKA	Stephens Creek 1.3nm,0.9s,baz=332,slow=17,SNR=4.7	36.72	158	P	P	17 56 23.5	+0.9
STKA	Stephens Creek 0.5nm,0.8s	36.72	158	eP	P	17 56 21.3	-1.3
ULN	Ulaanbaatar	48.59	343	P	P	17 57 59.3	+0.5
SONM	Songino Array comp=Z,73nm,19.2s,baz=207,slow=36	48.76	342	LR	LR	18 18 25.6	
MK31	Makanchi Array	58.71	326	eP	P	17 59 13.1	+0.3
MKAR	Makanchi Array 0.5nm,0.4s,baz=122,slow=7.4,SNR=15	58.71	326	P	P	17 59 13.7	+0.9
MKAR	Makanchi Array	58.71	326	P	P	17 59 13.7	+0.9
YAK	Yakutsk 3.5nm,0.6s	59.88	2	P	P	17 59 19.6	-0.8
KURK	Kurchatov 1.0nm,0.6s	62.95	328	eP	P	17 59 41.3	-0.1

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*BER **02** 18:05:55.6±2.1, 80°.40N×3°.71W, h10km, MD2.7*

*ISCJB **02** 18:05:56.5±3.1, 80°.2N±0°.3×2°.3W±0°.4, h10km, Error ellipse: s-maj=45.5km s-min=7.1km az=171.7*

ISC 02 18:05:57.9±4.7**, 80°.2N**±0°.5×**2°.18W**±0°.09**, h10**km**, n4, σ1ˢ.24**/7**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.86	109	eP	Pn	18 06 43.4	-0.1
KBS				eS	Sn	18 07 17.9	0.0
SPA0	Spitsbergen Ar	4.02	111	eP	Pn	18 06 59.8	+0.4
SPA0				i		18 07 01.2	
SPA0				eS	Sn	18 07 47.8	+1.4
DAG	Danmarks Havn	4.74	232	i P	Pn	18 07 09.1	-0.2
DAG				i		18 07 15.3	
DAG				eS	Sn	18 08 04.9	+0.8
HOPEN	Hopen	6.55	110	eS	Sn	18 08 46.9	-1.9

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*IDC **02** 18:32:48.1±1.7, 44°.62N×109°.84W, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/25, mbtmp3.2/3, ML3.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/24, Error ellipse: s-maj=29.7km s-min=9.3km az=75.0*

*NEIC **02** 18:32:49.0, 44°.55N×110°.36W, h5km, ML3.5(SLC), ML3.3(BUT), After SLC.*

ISC 02 18:32:49.0±1.1**, 44°.54N**±0°.02×**110°.36W**±0°.02**, h1**km±9km**, n111, σ1ˢ.10**/122**, 37C-32D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKWY	Lake	0.04	307	⇑ i Pg	Pg	18 32 49.6	-0.2
H17A	Grant Village baz=0.2	0.21	227	⇑P	Pg	18 32 53.7	+0.6
H17A	baz=0.2			⇓S	Sg	18 32 57.2	+1.2
YNR	Norris Junctio	0.29	307	⇑ i Pg	Pg	18 32 54.7	+0.2
YFT	Old Faithful	0.35	255	⇑ i Pg	Pg	18 32 56.4	+0.6
YMR	Madison River	0.45	286	⇑ePg	Pg	18 32 58.3	+0.6
H18A	Shoshone NF, C baz=0.5,SNR=377	0.51	75	⇓P	Pg	18 32 58.9	+0.1
FLWY	Flagg Ranch	0.52	208	⇑ePg	Pg	18 32 59.5	+0.5
I17A	Pilgrim Ck. baz=0.6	0.64	194	⇓P	Pg	18 33 01.8	+0.5
I17A	baz=0.6			⇓S	Sg	18 33 10.8	+1.1
H16A	Russell Place, baz=0.7,SNR=28	0.66	285	⇑P	Pg	18 33 01.8	+0.3
QLMT	Earthquake Lak	0.82	291	ePg	Pg	18 33 04.4	-0.3
G17A	Pierce Place, baz=0.8,SNR=27	0.82	341	⇑P	Pg	18 33 05.1	+0.3
MOOW	Moose Ponds	0.84	199	ePg	Pg	18 33 05.2	+0.1
MOOW				eSg	Sg	18 33 16.5	+0.5
I18A	Diamond G Ranc baz=0.9	0.93	155	⇑P	Pg	18 33 06.9	+0.1
I18A	baz=0.9			⇓S	Sg	18 33 19.3	+0.5
LOHW	Long Hollow	0.95	191	⇑ePg	Pg	18 33 07.0	-0.2
G18A	Lazy EL Ranch, baz=1.0,SNR=186	0.96	36	⇑P	Pg	18 33 07.8	+0.5
RLMT	Red Lodge	0.97	53	ePg	Pg	18 33 07.1	-0.5
H19A	Powell baz=1.0,SNR=144	0.99	82	P	Pg	18 33 08.1	+0.1
I16A	Newdale baz=1.1	1.05	231	⇑P	Pg	18 33 09.6	+0.4
I19A	Meeteetse baz=1.1	1.10	117	⇓P	Pg	18 33 09.8	-0.4
I19A	baz=1.1			⇓S	Sg	18 33 25.2	+0.8
SNOW	Snow King Moun	1.12	195	ePg	Pg	18 33 10.5	+0.1
SNOW				eSg	Sb	18 33 26.6	+0.2
DCID1	Drake Creek	1.12	212	ePg	Pb	18 33 11.1	-0.2
G16A	Moss Hill, Enn baz=1.2,SNR=17	1.23	304	⇑P	Pg	18 33 12.5	-0.1
GCMT	Greycliff	1.34	21	ePn	Pb	18 33 14.6	-0.4
J18A	Kendall Valley baz=1.4	1.35	169	⇓P	Pn	18 33 14.5	-0.8
J18A	baz=1.4			⇑S	Sb	18 33 32.6	-0.6
F17A	Fitzpatrick Pl baz=1.4,SNR=68	1.38	351	⇑P	Pg	18 33 15.9	+0.5
RRI2	Red Ridge	1.38	210	ePn	Pn	18 33 15.2	-0.5
BOZ	Bozeman (W)	1.42	321	ePn	Pn	18 33 14.6	-1.6
BOZ				eSn	Sb	18 33 32.7	-2.5
F18A	Big Timber baz=1.4,SNR=216	1.44	18	P	Pg	18 33 16.7	+0.2
F16A	Kennard Place, baz=1.5,SNR=20	1.53	325	⇓P	Pb	18 33 17.9	-0.4
J19A	Crowheart baz=1.6,SNR=36	1.59	143	Pb	Pb	18 33 18.9	-0.3
J19A	baz=1.6			⇓S	Sb	18 33 39.7	-0.2
I15A	Monteview baz=1.6,SNR=5.2	1.62	251	⇓P	Pn	18 33 19.0	+0.2
H15A	Lima baz=1.6,SNR=49	1.64	273	⇓Pb	Pb	18 33 20.1	+0.1
G15A	Dillon baz=1.6,SNR=54	1.64	293	⇑P	Pb	18 33 19.4	-0.8
F19A	Roth Farm, Mol baz=1.6,SNR=84	1.65	37	⇓Pb	Pb	18 33 19.9	-0.4
G20A	Bridger baz=1.7,SNR=55	1.67	65	⇑P	Pn	18 33 19.6	+0.1
H20A	Greybull baz=1.7,SNR=76	1.69	91	P	Pn	18 33 19.8	+0.1
H20A	baz=1.7			⇓S	Sb	18 33 42.3	-0.4
I20A	Worland baz=1.7,SNR=208	1.71	110	⇑P	Pn	18 33 19.8	-0.2
I20A	baz=1.7			⇓S	Sb	18 33 43.3	0.0
DLMT	Dillon	1.79	298	ePn	Pb	18 33 22.5	-0.1
MCMT	McKenzie Canyo	1.80	280	ePn	Pb	18 33 22.7	-0.2
K17A	Gardner Place, baz=1.8,SNR=7.4	1.84	193	⇓Pb	Pb	18 33 23.2	-0.3
PD01	Pinedale Array	1.85	162	ePn	Pn	18 33 22.7	+0.6
PD01				eSn	Sb	18 33 47.0	-0.6
PD02	Pinedale Array	1.86	162	ePn	Pn	18 33 22.8	+0.6
PD02				eSn	Sn	18 33 45.8	-0.5
AHID	Auburn Hatcher	1.86	197	ePn	Pn	18 33 22.8	+0.7
BW06	Boulder Array	1.87	162	ePn	Pn	18 33 23.0	+0.7
BW06				eSn	Sn	18 33 46.3	-0.3
PDAR	Pinedale Array 53nm,0.3s,baz=359,slow=16,SNR=1668	1.87	162	Pg	Pb	18 33 23.6	-0.5
PDAR	28nm,0.3s,baz=353,slow=30,SNR=15			Lg	Lg	18 33 46.9	
PDAR	Pinedale Array	1.87	162	Pg	Pb	18 33 23.6	-0.5
PDAR				Lg	Lg	18 33 46.9	
J15A	Blackfoot baz=1.9	1.88	233	⇑P	Pb	18 33 23.2	-1.0
K18A	Toltan Ranch, baz=1.9	1.92	173	⇓Pg	Pb	18 33 25.5	+0.6
E17A	Martinsdale baz=1.9	1.95	350	⇑Pg	Pg	18 33 26.6	+0.2
LRM	Limekiln Ridge	1.96	312	ePn	Pb	18 33 25.0	-0.6
LRM				eSn	Sn	18 33 49.1	+0.2
F15A	Butte baz=2.0,SNR=97	1.99	311	⇓Pb	Pg	18 33 26.7	-0.4
F15A	baz=2.0			⇑S	Sb	18 33 51.0	-0.5
F20A	Billings baz=2.0	2.01	50	⇑Pb	Pb	18 33 26.1	-0.3
J20A	Shoshoni baz=2.0,SNR=68	2.03	125	⇑Pb	Pb	18 33 26.3	-0.5
K19A	Absolon Red Bu baz=2.0,SNR=81	2.04	147	⇓P	Pb	18 33 25.9	-1.0
K19A	baz=2.0			⇑Sb	Sg	18 33 54.2	-0.3
E18A	Harlowton baz=2.0,SNR=224	2.05	9	⇑P	Pb	18 33 26.2	-0.9
E18A	baz=2.0			⇑Sb	Sg	18 33 54.8	0.0
H14A	Leadore baz=2.1,SNR=25	2.15	273	⇓Pb	Pb	18 33 28.7	-0.1
E16A	East Helena baz=2.2	2.19	336	⇓Pb	Pb	18 33 30.0	+0.4
E19A	Rath Farm, Rou baz=2.2	2.21	29	⇑Pb	Pb	18 33 29.6	-0.2
E19A	baz=2.2			⇑Sb	Sg	18 34 00.0	-0.1
I21A	Big Trails, Te	2.32	107	P	Pb	18 33 30.1	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=2.3,SNR=131						
G21A	**Lodge Grass**	**2.34**	**72**	⇓Pb	**Pb**	**18 33 31.8**	**-0.3**
	baz=2.3						
K20A	**Yellowstone Ra**	**2.39**	**141**	⇓Pb	**Pb**	**18 33 32.8**	**-0.1**
	baz=2.4						
K20A				⇓Sb	**Sg**	**18 34 04.7**	**-1.0**
	baz=2.4						
J21A	**Lysite**	**2.42**	**119**	⇑Pb	**Pb**	**18 33 33.0**	**-0.4**
	baz=2.4						
L19A	**Farson**	**2.55**	**163**	⇑P	**Pb**	**18 33 33.6**	**-2.1**
	baz=2.6,SNR=59						
L19A				⇑Sb	**Sb**	**18 34 09.2**	**+1.7**
	baz=2.6						
J14A	**Carey**	**2.59**	**243**	⇑P	**Pb**	**18 33 34.3**	**-2.0**
	baz=2.6,SNR=13						
D17A	**Six Diamond Ra**	**2.62**	**355**	⇓P	**Pn**	**18 33 33.4**	**+0.8**
	baz=2.6,SNR=18						
L18A	**Fontenelle, Gr**	**2.63**	**175**	⇓S		18 34 06.7	
	baz=2.6						
L16A	**Fish Haven**	**2.65**	**198**	⇓P	**Pn**	**18 33 34.4**	**+1.4**
	baz=2.7						
D18A	**Linhart Farms,**	**2.68**	**8**	⇓Sb	Sb	18 34 12.6	+1.1
	baz=2.7						
H13A	**Challis**	**2.79**	**272**	⇑P	**Pn**	**18 33 36.7**	**+1.9**
	baz=2.8						
D19A	**Cripps Ranch,**	**2.82**	**21**	⇓P	**Pn**	**18 33 36.8**	**+1.6**
	baz=2.8						
K21A	**Alcova**	**2.96**	**129**	⇑Sb	Sb	18 34 20.8	+1.2
	baz=3.0						
E21A	**Keefer Ranch,**	**3.05**	**48**	⇓Sb	Sb	18 34 23.5	+1.5
	baz=3.0						
HWUT	**Hardware Ranch**	**3.06**	**197**	*e*Pn	**Pn**	**18 33 40.6**	**+1.9**
HLID	**Hailey**	**3.08**	**253**	*e*Pn	**Pn**	**18 33 41.0**	**+2.0**
HLID				*e*Sn	**Sb**	**18 34 19.3**	**-3.6**
C17A	**Wharram Farm,**	**3.10**	**355**	⇓Sb	Sb	18 34 26.3	+2.7
	baz=3.1						
CHMT	**Chamberlain Mo**	**3.12**	**321**	*e*Pn	**Pn**	**18 33 40.8**	**+1.3**
M18A	**Lyman**	**3.12**	**176**	⇑Sb	Sb	18 34 26.6	+2.2
	baz=3.1						
HVU	**Hansel Valley**	**3.28**	**213**	*e*Pn	**Pn**	**18 33 44.2**	**+2.6**
SLMT	**Seeley Lake**	**3.48**	**322**	*e*Pn	**Pn**	**18 33 46.0**	**+1.7**
EGMT	**Eagleton**	**3.51**	**7**	*e*Pn	**Pn**	**18 33 44.4**	**-0.3**
N19A	**John Jarvie Ra**	**3.75**	**166**	⇑P	**Pn**	**18 33 48.4**	**+0.3**
	baz=3.8,SNR=8.3						
SWMT	**Swartz Lake**	**3.90**	**321**	*e*Pn	**Pn**	**18 33 51.4**	**+1.2**
MFID	**Camas Ranch**	**4.11**	**256**	*e*Pn	**Pn**	**18 33 49.8**	**-3.1**
H24A	**Dirks Ranch, A**	**4.15**	**85**	⇑P	**Pn**	**18 33 54.3**	**+0.8**
	baz=4.1,SNR=17						
I24A	**Kuemmerle Ranc**	**4.18**	**97**	⇓P	**Pn**	**18 33 55.4**	**+1.5**
	baz=4.2,SNR=6.0						
YBMT	**Yellow Bay**	**4.18**	**324**	*e*Pn	**Pn**	**18 33 51.9**	**-2.1**
DAU	**Daniels Canyon**	**4.18**	**189**	*e*Pn	**Pn**	**18 33 54.2**	**0.0**
JTMT	**Jette**	**4.21**	**321**	*e*Pn	**Pn**	**18 33 55.5**	**+1.1**
BLMT	**Blacktail Moun**	**4.44**	**323**	*e*Pn	**Pn**	**18 33 59.9**	**+2.2**
BSMT	**Bassoo Peak**	**4.52**	**319**	*e*Pn	**Pn**	**18 34 01.2**	**+2.6**
RSSD	**Black Hills**	**4.56**	**93**	*e*Pn	**Pn**	**18 33 59.6**	**+0.4**
DUG	**Dugway**	**4.71**	**204**	*e*Pn	Pn	18 34 04.1	+2.8
PHWY	**Pilot Hill**	**4.84**	**130**	*e*Pn	**Pn**	**18 34 04.3**	**+1.0**
WALA	**Waterton Lakes**	**5.13**	**333**	*e*Pn	**Pn**	**18 34 04.7**	**-2.4**
	0.9nm,1.1s						
ELK	**Elko**	**5.23**	**225**	*e*Pn	**Pn**	**18 34 08.2**	**-0.3**
ELK				*e*Pb	**Pb**	**18 34 18.9**	**-2.5**
ELK				*e*Pg	Pg	18 34 26.0	-3.2
TMUT	**Trail Mountain**	**5.28**	**187**	*e*Pn	**Pn**	**18 34 09.8**	**+0.5**
SRU	**San Rafael**	**5.43**	**181**	*e*Pn	**Pn**	**18 34 11.4**	**+0.2**
ISCO	**Idaho Springs**	**5.91**	**142**	*e*Pn	**Pn**	**18 34 18.3**	**+0.4**
SMCO	**Snowmass**	**5.93**	**154**	Pn	**Pn**	**18 34 18.1**	**-0.1**
MSU	**Marysvale**	**6.18**	**193**	*e*Pn	Pn	18 34 17.8	-3.7
PV10	**Paradox Valley**	**6.24**	**170**	*e*Pn	Pn	18 34 25.2	+2.8
	746nm,0.7s						
OGNE	**Ogallala**	**7.11**	**118**	*e*Pn	**Pn**	**18 34 34.7**	**+0.6**
MVCO	**Mesa Verde**	**7.46**	**168**	*e*Pn	**Pn**	**18 34 40.0**	**+0.9**
SDCO	**Great Sand Dun**	**7.71**	**150**	*e*Pn	**Pn**	**18 34 44.2**	**+1.5**
	1.7nm,0.7s						
NVAR	**Mina Array Bea**	**8.53**	**227**	Pn	Pn	18 34 60.0	+6.1
	0.1nm,0.3s,baz=45,slow=15,SNR=2.9						
NVAR	**Mina Array Bea**	**8.53**	**227**	Pn	Pn	18 34 60.0	+6.1
ANMO	**Albuquerque**	**10.04**	**161**	LR	LR	18 39 39.6	
	comp=Z,56nm,21.2s,baz=210,slow=41						
YKA	**Yellowknife Ar**	**18.15**	**354**	P	**Pn**	**18 37 00.1**	**-1.9**
	0.1nm,0.3s,baz=168,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**18.15**	**354**	P	**Pn**	**18 37 00.1**	**-1.9**
ILAR	**Eielson Array**	**28.61**	**328**	P	**P**	**18 38 48.3**	**+1.8**
	0.4nm,0.8s,baz=129,slow=8.2,SNR=6.3						
ILAR	**Eielson Array**	**28.61**	**328**	P	**P**	**18 38 48.3**	**+1.8**

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*NEIC **02** 18:48:21.0, 44.°55N×110.°35W, h1km, ML2.8(SLC), After SLC.*

ISC 02 18:48:21.5±0.9**, 44.°55N**±0.°02×**110.°36W**±0.°02**, h3**km±8km**, n50,** σ**0.s90**/70**, 22C-19D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.04**	**300**	*e*Pg	**Pg**	**18 48 22.2**	**-0.5**
LKWY				*e*Sg	**Sg**	**18 48 23.7**	**+0.3**
H17A	**Grant Village**	**0.22**	**226**	P	**Pg**	**18 48 26.5**	**+0.7**
	baz=0.2,SNR=41						
H17A				⇓S	**Sg**	**18 48 29.8**	**+1.1**
	baz=0.2						
YNR	**Norris Junctio**	**0.29**	**306**	*e*Pg	**Pg**	**18 48 27.2**	**0.0**
YNR				*e*Sg	**Sg**	**18 48 30.6**	**-0.3**
YFT	**Old Faithful**	**0.36**	**255**	*e*Pg	**Pg**	**18 48 29.0**	**+0.6**
YFT				*e*Sg	**Sb**	**18 48 36.2**	**-0.6**
YMR	**Madison River**	**0.45**	**286**	*e*Pg	**Pg**	**18 48 30.9**	**+0.6**
H18A	**Shoshone NF, C**	**0.51**	**75**	P	**Pg**	**18 48 31.8**	**+0.4**
	baz=0.5,SNR=98						
H18A				⇑S	**Sg**	**18 48 39.1**	**+1.1**
	baz=0.5						
FLWY	**Flagg Ranch**	**0.53**	**208**	*e*Pg	**Pg**	**18 48 31.8**	**+0.2**
I17A	**Pilgrim Ck.**	**0.65**	**194**	⇓P	**Pg**	**18 48 34.6**	**+0.7**
	baz=0.7,SNR=21						
H16A	**Russell Place,**	**0.66**	**284**	⇓P	**Pg**	**18 48 34.6**	**+0.4**
	baz=0.7,SNR=7.4						
H16A				⇑S	**Sg**	**18 48 43.8**	**+1.1**
	baz=0.7						
G17A	**Pierce Place,**	**0.82**	**341**	⇓P	**Pb**	**18 48 38.9**	**+0.3**
	baz=0.8						
G17A				⇑S	**Sb**	**18 48 50.1**	**0.0**
	baz=0.8						
MOOW	**Moose Ponds**	**0.85**	**200**	*e*Pg	**Pg**	**18 48 37.5**	**-0.2**
I18A	**Diamond G Ranc**	**0.93**	**155**	⇑P	**Pg**	**18 48 39.5**	**+0.1**
	baz=0.9,SNR=52						
I18A				⇑S	**Sg**	**18 48 51.8**	**+0.4**
	baz=0.9						
LOHW	**Long Hollow**	**0.95**	**191**	*e*Pg	**Pb**	**18 48 40.4**	**-0.4**
G18A	**Lazy EL Ranch,**	**0.95**	**36**	P	**Pb**	**18 48 40.7**	**-0.1**
	baz=0.9,SNR=37						
G18A				⇓S	**Sb**	**18 48 53.5**	**-0.4**
	baz=0.9						
RLMT	**Red Lodge**	**0.96**	**53**	*e*Pg	**Pg**	**18 48 39.4**	**-0.6**
H19A	**Powell**	**0.99**	**82**	⇓P	**Pb**	**18 48 40.6**	**-0.7**
	baz=1.0,SNR=40						
I19A	**Meeteetse**	**1.10**	**117**	P	**Pg**	**18 48 42.6**	**-0.1**
	baz=1.1,SNR=12						
I19A				⇓S	**Sg**	**18 48 57.0**	**0.0**
	baz=1.1						
SNOW	**Snow King Moun**	**1.12**	**195**	*e*Pg	**Pb**	**18 48 43.3**	**-0.4**
G16A	**Moss Hill, Enn**	**1.24**	**304**	⇓P	**Pn**	**18 48 45.8**	**-0.2**
	baz=1.2						
GCMT	**Greycliff**	**1.34**	**21**	*e*Pn	**Pb**	**18 48 47.5**	**+0.2**
J18A	**Kendall Valley**	**1.36**	**170**	⇑P	**Pg**	**18 48 47.1**	**-0.4**
	baz=1.4,SNR=17						
J18A				⇑S	**Sg**	**18 49 05.5**	**+0.4**
	baz=1.4						
F17A	**Fitzpatrick Pl**	**1.38**	**351**	⇓P	**Pb**	**18 48 48.4**	**+0.4**
	baz=1.4,SNR=6.4						
BOZ	**Bozeman (W)**	**1.42**	**321**	*e*Pn	**Pn**	**18 48 45.6**	**-2.9**
F18A	**Big Timber**	**1.43**	**18**	⇑P	**Pb**	**18 48 49.1**	**+0.1**
	baz=1.4,SNR=26						
F18A				⇓S	**Sn**	**18 49 10.0**	**+2.0**
	baz=1.4						
F16A	**Kennard Place,**	**1.53**	**324**	⇑P	**Pb**	**18 48 50.3**	**-0.3**
	baz=1.5,SNR=6.5						
F16A				⇑S	**Sg**	**18 49 12.5**	**+1.8**
	baz=1.5						
J19A	**Crowheart**	**1.59**	**143**	⇓S		18 49 12.4	
	baz=1.6						
H15A	**Lima**	**1.64**	**273**	⇑Pg	**Pg**	**18 48 53.4**	**+0.5**
	baz=1.6						
G15A	**Dillon**	**1.64**	**293**	⇑P	**Pb**	**18 48 51.9**	**-0.6**
	baz=1.6,SNR=10						
F19A	**Roth Farm, Mol**	**1.64**	**37**	⇑P	**Pb**	**18 48 52.3**	**-0.3**
	baz=1.6,SNR=12						
F19A				⇓Sg	**Sg**	**18 49 16.6**	**+2.3**
	baz=1.6						
G20A	**Bridger**	**1.66**	**65**	⇓Pb	**Pg**	**18 48 53.1**	**-0.4**
	baz=1.7,SNR=16						
H20A	**Greybull**	**1.69**	**91**	⇓P	**Pn**	**18 48 52.2**	**+0.2**
	baz=1.7,SNR=26						
H20A				⇓S	**Sb**	**18 49 14.9**	**-0.1**
	baz=1.7						
I20A	**Worland**	**1.71**	**110**	⇓P	**Pn**	**18 48 52.6**	**+0.3**
	baz=1.7,SNR=23						
I20A				⇑S	**Sb**	**18 49 15.4**	**-0.2**
	baz=1.7						
DLMT	**Dillon**	**1.79**	**298**	*e*Pn	**Pn**	**18 48 53.7**	**+0.2**
MCMT	**McKenzie Canyo**	**1.80**	**280**	*e*Pn	**Pb**	**18 48 55.2**	**-0.1**
PD01	**Pinedale Array**	**1.86**	**162**	*e*Pn	**Pb**	**18 48 55.8**	**-0.5**
PD01				*e*Sn	**Sb**	**18 49 20.4**	**+0.5**
PD02	**Pinedale Array**	**1.86**	**162**	*e*Pn	**Pb**	**18 48 55.6**	**-0.6**
PD02				*e*Sg	**Sn**	**18 49 18.5**	**-0.2**
PD02				*e*Sn	**Sb**	**18 49 18.8**	**-1.2**
AHID	**Auburn Hatcher**	**1.86**	**197**	*e*Pn	**Pb**	**18 48 56.3**	**0.0**
E17A	**Martinsdale**	**1.95**	**350**	⇑Pg	**Pg**	**18 48 59.5**	**+0.6**
	baz=1.9						
LRM	**Limekiln Ridge**	**1.96**	**311**	*e*Pn	**Pg**	**18 48 58.4**	**-0.6**
F15A	**Butte**	**1.99**	**311**	⇑Pb	**Pg**	**18 48 59.2**	**-0.5**
	baz=2.0						
F15A				⇑Sb	**Sg**	**18 49 26.5**	**+1.1**
	baz=2.0						
J20A	**Shoshoni**	**2.03**	**125**	⇓Pb	**Pb**	**18 48 59.0**	**-0.1**
	baz=2.0						
J20A				⇓Sb	**Sg**	**18 49 25.8**	**-0.9**
	baz=2.0						
K19A	**Absolon Red Bu**	**2.04**	**147**	⇓Pb	**Pb**	**18 48 59.3**	**-0.1**
	baz=2.0						
E18A	**Harlowton**	**2.04**	**9**	⇑P	**Pb**	**18 48 58.8**	**-0.6**
	baz=2.0						
I14A	**Mackay**	**2.31**	**256**	⇑Pb	**Pb**	**18 49 04.1**	**+0.1**
	baz=2.3						
I21A	**Big Trails, Te**	**2.32**	**107**	⇑P	**Pb**	**18 49 02.4**	**-1.7**
	baz=2.3						
I21A				⇑S	**Sn**	**18 49 31.1**	**+1.1**
	baz=2.3						
G21A	**Lodge Grass**	**2.34**	**72**	⇑Pb	**Pb**	**18 49 04.6**	**+0.2**
	baz=2.3						
CHMT	**Chamberlain Mo**	**3.12**	**320**	*e*Pn	Pn	18 49 05.0	-6.9
EGMT	**Eagleton**	**3.50**	**7**	*e*Pn	**Pn**	**18 49 15.1**	**-1.9**
SWMT	**Swartz Lake**	**3.90**	**321**	*e*Pn	**Pn**	**18 49 20.8**	**-1.7**
RSSD	**Black Hills**	**4.55**	**93**	*e*Pg	**Pb**	**18 49 44.9**	**+2.7**

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*BJI **02** 18:51:26.5, 22.°30N×143.°70E, h10km, mB4.9/6, mb4.7/13, Ms4.3/2, Ms7 4.1/2*

*MOS **02** 18:51:34.9±0.8, 22.°31N×143.°68E, h92km, mb4.4/21, Error ellipse: s-maj=15.5km s-min=6.9km az=112.1*

*ISCJB **02** 18:51:36.0±1.2, 22.°34N±0.°05×143.°73E±0.°09, h103km±10km, mb4.2/40, Error ellipse: s-maj=13.5km s-min=8.2km az=173.8*

*IDC **02** 18:51:37.4±0.9, 22.°32N×143.°68E, h99km±7km, mb3.8/15, mb1 3.9/16, mb1mx3.9/24, mbtmp3.8/16, MS2.9/3, Ms1 2.9/3, ms1mx2.5/43, Error ellipse: s-maj=20.5km s-min=12.3km az=80.0*

*NEIC **02** 18:51:37.3±0.3, 22.°35N×143.°68E, mb4.4/20, Error ellipse: s-maj=10.1km s-min=5.2km az=81.0*

*JMA **02** 18:51:43.1±0.2, 23.°08N×144.°52E, h127km, M4.8*

ISC 02 18:51:37.6±0.7**, 22.°36N**±0.°06×**143.°7E**±0.°1**, h100**km±5km**, h100**km**:pP-P, n144,** σ**0.s92**/157**, mb4.3**/40**, 4C-2D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.47**	**342**	P	**Pn**	**18 52 45.4**	**+2.3**
JHHJ				*e*S	**Sn**	**18 53 33.5**	**-0.4**
CBIJ	**Chichi jima**	**4.91**	**344**	S	**Sn**	**18 53 44.6**	**-0.1**
	65nm,0.3s,baz=288,slow=23,SNR=14						
CBIJ	**Chichi jima**	**4.91**	**344**	P	**Pn**	**18 52 50.5**	**+1.4**
CBIJ				*e*S	**Sn**	**18 53 42.8**	**-1.9**
GUMO	**Guam**	**8.79**	**172**	LR	LR	18 56 06.4	
	comp=Z,72nm,20.5s,baz=216,slow=31						
JOD2	**Odawara 2**	**13.47**	**344**	P	**Pn**	**18 54 44.2**	**-0.4**
JOD2				*e*S	**Sn**	**18 57 06.9**	**-5.9**
JHU	**Hanno**	**13.98**	**345**	P	**Pn**	**18 54 50.1**	**-1.1**
JHU				*e*S	Sn	18 57 15.8	-9.3
JYT	**Yasato**	**14.15**	**348**	*e*S	Sn	18 57 20.7	-8.5
JRY	**Ryogami san**	**14.23**	**344**	P	**Pn**	**18 54 54.3**	**-0.2**
JAG	**Ashikaga**	**14.49**	**346**	P	**Pn**	**18 54 56.7**	**-1.0**
JOW	**Kunigami**	**14.70**	**291**	LR	LR	18 59 32.5	
	comp=Z,62nm,20.0s,baz=169,slow=32						
MJAR	**Matsushiro Arr**	**14.91**	**343**	P	**Pn**	**18 55 02.1**	**-1.0**
	0.8nm,0.3s,baz=160,slow=10,SNR=9.9						
MJAR	**Matsushiro Arr**	**14.91**	**343**	P	**Pn**	**18 55 02.1**	**-1.0**
MJAR	**Matsushiro Arr**	**14.91**	**343**	P	**Pn**	**18 55 02.1**	**-1.0**
MAJO	**Matsushiro**	**14.91**	**343**	*e*P	**Pn**	**18 55 02.2**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**14.91**	**343**	*e*Pn	**Pn**	**18 55 02.2**	**-0.9**
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**14.91**	**343**	P	**Pn**	**18 55 04.0**	**+0.9**
JSJ	**Shimokoshiki**	**15.51**	**310**	P	P	18 55 18.2	+5.3
JMK	**Ichinoseki**	**16.67**	**353**	P	**P**	**18 55 26.7**	**+1.0**
KSRS	**Korea Array**	**20.28**	**321**	P	**P**	**18 56 05.2**	**+0.1**
	comp=Z,15nm,0.5s,baz=147,slow=8.6,SNR=45						
KSRS				LR	LR	19 02 56.8	
	comp=Z,27nm,19.8s,baz=60,slow=33						
KSAR	**Wonju Array Be**	**20.29**	**321**	P	**P**	**18 56 05.3**	**0.0**
KSAR	**Wonju Array Be**	**20.29**	**321**	P	**P**	**18 56 05.2**	**0.0**
USRK	**Ussuriysk Arra**	**23.82**	**339**	P	**P**	**18 56 43.1**	**+1.9**
	comp=Z,5.7nm,0.6s,baz=150,slow=11,SNR=15						
YSS	**Yuzh-Sakhalins**	**24.55**	**358**	P	**P**	**18 56 48.8**	**+1.1**
YSS				pmax	pmax		
	comp=Z,19nm,0.9s						
YSS	**Yuzh-Sakhalins**	**24.55**	**358**	P	**P**	**18 56 48.8**	**+1.1**
	comp=Z,19nm,0.9s						
MDJ	**Mudanjiang**	**25.05**	**336**	P	**P**	**18 56 50.4**	**-2.0**
	comp=Z,9.1nm,1.0s						
KLR	**Kul'dur**	**28.44**	**343**	*e*P	**P**	**18 57 23.1**	**+0.4**
PMG	**Port Moresby**	**31.75**	**173**	*e*P	**P**	**18 57 51.6**	**-0.7**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PMG	**Port Moresby**	**31.75**	**173**	*e*P	**P**	**18 57 51.6**	**-0.7**
	comp=Z,4.3nm,0.7s						
HIA	**Hailar**	**32.86**	**331**	*e*P	**P**	**18 58 01.5**	**-0.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**32.86**	**331**	*e*P	**P**	**18 58 01.5**	**-0.2**
	comp=Z,4.6nm,0.8s						
COEN	**Coen**	**36.09**	**181**	*e*P	**P**	**18 58 30.0**	**+0.1**
	comp=Z,25nm,0.7s						
ULN	**Ulaanbaatar**	**38.75**	**320**	*e*P	**P**	**18 58 52.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**38.75**	**320**	*e*P	**P**	**18 58 52.6**	**+0.4**
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**18 58 56.1**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=133,slow=7.5,SNR=18						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**18 58 56.1**	**+0.8**
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**18 58 56.1**	**+0.8**
YAK	**Yakutsk**	**40.80**	**350**	*e*P	**P**	**18 59 09.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK	**Yakutsk**	**40.80**	**350**	*e*P	**P**	**18 59 09.0**	**+0.3**
	comp=Z,8.7nm,0.8s						
GTA	**Gaotai**	**40.87**	**305**	*e*P	**P**	**18 59 11.4**	**+1.5**
GTA				pP	pP	18 59 17.2	-16
GTA				sP	sP	18 59 20.7	-24
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**42.00**	**273**	P	**P**	**18 59 19.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=57,slow=9.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**42.00**	**273**	P	**P**	**18 59 19.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**42.00**	**273**	P	**P**	**18 59 19.9**	**+0.7**
ZAK	**Zakamensk**	**42.11**	**322**	*e*P	**P**	**18 59 20.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CTAO	**Charters Tower**	**42.26**	**176**	*e*P	**P**	**18 59 21.0**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**42.26**	**176**	*e*P	**P**	**18 59 21.0**	**-0.2**
	comp=Z,6.9nm,0.7s						
WRAB	**Tennant Creek**	**43.01**	**193**	*e*P	**P**	**18 59 27.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**43.01**	**193**	*e*P	**P**	**18 59 27.0**	**-0.2**
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**18 59 27.2**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=17,slow=9.0,SNR=40						
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**18 59 27.2**	**-0.1**
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**18 59 27.2**	**-0.1**
ASAR	**Alice Springs**	**46.73**	**192**	P	**P**	**18 59 56.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=14,slow=9.7,SNR=25						
ASAR	**Alice Springs**	**46.73**	**192**	P	**P**	**18 59 56.4**	**-0.3**
ASAR	**Alice Springs**	**46.73**	**192**	P	**P**	**18 59 56.4**	**-0.3**
LSA	**Lhasa**	**47.44**	**290**	*e*P	**P**	**19 00 04.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LSA	**Lhasa**	**47.44**	**290**	*e*P	**P**	**19 00 04.1**	**+1.3**
	comp=Z,3.3nm,0.6s						
BILL	**Bilibino**	**47.78**	**11**	⇑*e*P	**P**	**19 00 06.0**	**+1.7**
BILL				*e*		19 01 28.5	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
BILL	**Bilibino**	**47.78**	**11**	*e*P	**P**	**19 00 05.4**	**+1.0**
	comp=Z,3.1nm,0.7s						
MBWA	**Marble Bar**	**49.16**	**210**	P	**P**	**19 00 15.2**	**-0.3**
	comp=Z,5.9nm,1.0s						
TAPN	**Taplejung**	**50.68**	**288**	*e*P	**P**	**19 00 27.9**	**+0.5**
	comp=Z,8.6nm,0.8s						
TAPN	**Taplejung**	**50.68**	**288**	*e*P	**P**	**19 00 27.9**	**+0.5**
ODAN	**Odare**	**51.03**	**287**	*e*P	**P**	**19 00 30.4**	**+0.4**
	comp=Z,8.3nm,0.6s						
ODAN	**Odare**	**51.03**	**287**	*e*P	**P**	**19 00 30.4**	**+0.4**
RAMN	**Ramite**	**51.72**	**287**	*e*P	**P**	**19 00 35.2**	**+0.1**
	comp=Z,4.5nm,0.5s						
RAMN	**Ramite**	**51.72**	**287**	*e*P	**P**	**19 00 35.2**	**+0.1**
JIRN	**Jiri**	**51.98**	**288**	*e*P	**P**	**19 00 38.0**	**+0.8**
	comp=Z,15nm,0.6s						
JIRN	**Jiri**	**51.98**	**288**	*e*P	**P**	**19 00 38.0**	**+0.8**
GUN	**Gumba**	**52.22**	**289**	*e*P	**P**	**19 00 39.6**	**+0.7**
GUN	**Gumba**	**52.22**	**289**	*e*P	**P**	**19 00 39.6**	**+0.7**
PKI	**Pulchoki**	**52.68**	**288**	*e*P	**P**	**19 00 42.3**	**0.0**
PKI	**Pulchoki**	**52.68**	**288**	*e*P	**P**	**19 00 42.3**	**0.0**
PKI	**Pulchoki**	**52.68**	**288**	*e*P	**P**	**19 00 42.3**	**0.0**
KKN	**Kakani**	**52.76**	**289**	*e*P	**P**	**19 00 43.1**	**+0.3**
KKN	**Kakani**	**52.76**	**289**	*e*P	**P**	**19 00 43.1**	**+0.3**
KKN	**Kakani**	**52.76**	**289**	*e*P	**P**	**19 00 43.1**	**+0.3**
GKN	**Gorkha**	**53.30**	**289**	*e*P	**P**	**19 00 47.0**	**+0.4**
	comp=Z,18nm,1.1s						
GKN	**Gorkha**	**53.30**	**289**	*e*P	**P**	**19 00 47.0**	**+0.4**
STKA	**Stephens Creek**	**53.96**	**182**	P	**P**	**19 00 49.8**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=17,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**53.96**	**182**	P	**P**	**19 00 49.8**	**-1.3**
STKA	**Stephens Creek**	**53.96**	**182**	P	**P**	**19 00 49.8**	**-1.3**
ZALV	**Zalesovo Beam**	**53.98**	**321**	P	**P**	**19 00 50.8**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=109,slow=7.8,SNR=23						
ZALV				pP	**pP**	**19 01 14.6**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=101,slow=7.7,SNR=4.0						
ZALV				PcP	**PcP**	**19 01 53.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=128,slow=4.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**53.98**	**321**	P	**P**	**19 00 50.8**	**-0.2**
ZALV				*PP	**pP**	**19 01 14.6**	**-0.8**
ZALV						19 01 53.9	
ZALV	**Zalesovo Beam**	**53.98**	**321**	P	**P**	**19 00 50.8**	**-0.2**
ZALV				pP	**pP**	**19 01 14.6**	**-0.8**
ZALV				PcP	**PcP**	**19 01 53.9**	**-1.0**
DANN	**Dangsing**	**54.01**	**290**	*e*P	**P**	**19 00 53.0**	**+1.0**
	comp=Z,41nm,0.6s						
DANN	**Dangsing**	**54.01**	**290**	*e*P	**P**	**19 00 53.0**	**+1.0**
KOLN	**Koldanda**	**54.24**	**289**	*e*P	**P**	**19 00 53.8**	**+0.2**
	comp=Z,12nm,0.7s						
KOLN	**Koldanda**	**54.24**	**289**	*e*P	**P**	**19 00 53.8**	**+0.2**
MK31	**Makanchi Array**	**54.59**	**312**	*e*P	**P**	**19 00 56.0**	**+0.4**
MK31	**Makanchi Array**	**54.59**	**312**	*e*P	**P**	**19 00 56.0**	**+0.4**
MKAR	**Makanchi Array**	**54.59**	**312**	P	**P**	**19 00 56.1**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=93,slow=8.7,SNR=44						
MKAR				pP	**pP**	**19 01 20.5**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=91,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**54.59**	**312**	P	**P**	**19 00 56.2**	**+0.5**
MKAR				*PP	**pP**	**19 01 20.5**	**+0.5**
MKAR	**Makanchi Array**	**54.59**	**312**	P	**P**	**19 00 56.1**	**+0.5**
MKAR				pP	**pP**	**19 01 20.5**	**+0.5**
KURK	**Kurchatov**	**57.31**	**317**	*d i*P	**P**	**19 01 15.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURK	**Kurchatov**	**57.31**	**317**	*e*P	**P**	**19 01 15.0**	**+0.2**
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**59.31**	**308**	*e*P	**P**	**19 01 30.2**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TKM2	**Tokmak 2**	**59.31**	**308**	*e*P	**P**	**19 01 30.2**	**+1.0**
	comp=Z,1.2nm,0.6s						
AAK	**Ala-Archa**	**60.13**	**307**	*e*P	**P**	**19 01 35.4**	**+0.5**
AAK	**Ala-Archa**	**60.13**	**307**	*e*P	**P**	**19 01 35.4**	**+0.5**
SML	**Sawmill**	**60.16**	**31**	*e*P	**P**	**19 01 33.6**	**-0.9**
SML	**Sawmill**	**60.16**	**31**	*e*P	**P**	**19 01 33.6**	**-0.9**
MCK	**McKinley**	**60.19**	**28**	P	**P**	**19 01 35.6**	**+0.9**
MCK	**McKinley**	**60.19**	**28**	P	**P**	**19 01 35.6**	**+0.9**
ILAR	**Eielson Array**	**61.24**	**27**	P	**P**	**19 01 41.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=262,slow=5.5,SNR=12						
ILAR				pP	**pP**	**19 02 06.3**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=256,slow=5.5,SNR=3.3						
ILAR	**Eielson Array**	**61.24**	**27**	P	**P**	**19 01 41.5**	**-0.2**
ILAR				*PP	**pP**	**19 02 06.4**	**-0.2**
ILAR	**Eielson Array**	**61.24**	**27**	P	**P**	**19 01 41.5**	**-0.2**
ILAR				pP	**pP**	**19 02 06.3**	**-0.2**
BRVK	**Borovoye**	**62.54**	**319**	*c e*P	**P**	**19 01 51.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,14nm,1.7s						
BRVK	**Borovoye**	**62.54**	**319**	*e*P	**P**	**19 01 50.8**	**+0.2**
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**63.01**	**308**	*e*P	**P**	**19 01 54.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**63.01**	**308**	*e*P	**P**	**19 01 54.0**	**0.0**
	comp=Z,1.9nm,0.8s						
KBL	**Kabul**	**65.42**	**299**	*e*P	**P**	**19 02 09.2**	**-0.9**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBL	**Kabul**	**65.42**	**299**	*e*P	**P**	**19 02 09.2**	**-0.9**
	comp=Z,5.6nm,0.8s						
SVE	**Sverdlovsk**	**67.82**	**324**	⇓*i*P	**P**	**19 02 25.5**	**+0.9**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**69.01**	**324**	*c i*P	**P**	**19 02 32.2**	**+0.1**
ARU				*e*		19 05 04.3	
ARU				S	**S**	**19 11 29.1**	**+0.3**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
ARU	**Arti**	**69.01**	**324**	*e*P	**P**	**19 02 31.8**	**-0.3**
	comp=Z,18nm,1.6s						
ABKAR	**Akbulak array**	**69.40**	**316**	*e*P	**P**	**19 02 34.6**	**0.0**
	comp=Z,1.2nm,0.6s						
ABKAR				*e*PcP	**pP**	**19 02 59.1**	**-0.9**
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**19 03 12.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=293,slow=5.8,SNR=6.9						
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**19 03 12.3**	**+0.8**
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**19 03 12.3**	**+0.8**
RES	**Resolute Bay**	**76.33**	**13**	P	**P**	**19 03 15.4**	**+0.3**
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RES	**Resolute Bay**	**76.33**	**13**	P	**P**	**19 03 15.4**	**+0.3**
	comp=Z,2.8nm,1.0s						
ARCES	**ARCESS Array B**	**78.44**	**342**	P	**P**	**19 03 27.5**	**+0.5**
	comp=Z,12nm,1.0s,baz=54,slow=6.2,SNR=6.0						
ARCES	**ARCESS Array B**	**78.44**	**342**	P	**P**	**19 03 27.5**	**+0.5**
ARCES	**ARCESS Array B**	**78.44**	**342**	P	**P**	**19 03 27.5**	**+0.5**
JOF	**Joensuu**	**79.92**	**335**	*e*P	**P**	**19 03 34.1**	**-1.0**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JOF	**Joensuu**	**79.92**	**335**	*e*p	**P**	**19 03 34.1**	**-1.0**
	comp=Z,5.1nm,0.6s						
JOF	**Joensuu**	**79.92**	**335**	*e*p	**P**	**19 03 34.1**	**-1.0**
	comp=Z,5.1nm,0.6s						
OBN	**Obninsk**	**81.20**	**326**	*e*P	**P**	**19 03 42.7**	**+0.6**
OBN				*e**PP	**pP**	**19 04 09.3**	**+1.2**
OBN				*e*		19 06 49.5	
OBN				*e*SS	SS	19 19 02.9	+2.6
OBN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KIV	**Kislovodsk**	**82.29**	**314**	*e*P	**P**	**19 03 47.5**	**-0.7**
KIV				*e*		19 06 58.6	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.4s						
FINES	**FINESS Array B**	**82.79**	**335**	P	**P**	**19 03 49.3**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=56,slow=4.7,SNR=13						
FINES	**FINESS Array B**	**82.79**	**335**	P	**P**	**19 03 49.3**	**-1.0**
FINES	**FINESS Array B**	**82.79**	**335**	P	**P**	**19 03 49.3**	**-1.0**
AKASG	**Malin Array Be**	**87.24**	**325**	P	**P**	**19 04 11.4**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=49,slow=5.1,SNR=6.6						
AKASG	**Malin Array Be**	**87.24**	**325**	*c e*P	**P**	**19 04 11.6**	**-1.2**

AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	87.24	325	P	P	19 04 11.4	-1.3
BRTR	Keskin Array B	90.22	314	P	P	19 04 26.1	-1.2
	comp=Z,0.6nm,0.7s,baz=80,slow=3.9,SNR=3.2						
BRTR	Keskin Array B	90.22	314	P	P	19 04 26.1	-1.2
BRTR	Keskin Array B	90.22	314	P	P	19 04 26.1	-1.2
TORD	Torodi Ar. Bea	128.68	310	PKP	PKPdf	19 10 33.6	-0.3
	comp=Z,0.1nm,0.4s,baz=57,slow=2.3,SNR=4.0						
TORD	Torodi Ar. Bea	128.68	310	PKP	PKPdf	19 10 33.6	-0.3
PLCA	Paso Flores	145.84	130	PKPbc	PKPab	19 11 05.8	-0.2
	comp=Z,3.1nm,0.8s,baz=281,slow=3.0,SNR=7.0						
PLCA	Paso Flores	145.84	130	PKP2	PKPab	19 11 05.8	-0.2
PLCA	Paso Flores	145.84	130	PKPbc	PKPab	19 11 05.8	-0.2
LPAZ	La Paz	149.42	84	PKPbc	PKPbc	19 11 17.3	+0.8
	comp=Z,1.0nm,0.5s,baz=8.2,slow=2.5,SNR=3.7						
LPAZ	La Paz	149.42	84	PKP2	PKPbc	19 11 17.3	+0.8
LPAZ	La Paz	149.42	84	PKPbc	PKPbc	19 11 17.3	+0.8

*IDC **02** 19:00:46.2±1.9, 43°.60N×105°.37W, h0km, mb3.8/2, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.4/4, Error ellipse: s-maj=52.2km s-min=8.0km az=151.0*
*ISCJB **02** 19:00:46.8±0.2, 43°.76N±0°.01×105°.28W±0°.02, h0km, mb3.8/2, Error ellipse: s-maj=2.4km s-min=1.9km az=166.4*
*NEIC **02** 19:00:47.6±0.5, 43°.74N×105°.24W, h0km, ML3.0, Error ellipse: s-maj=7.0km s-min=6.0km az=141.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 02 19:00:47.2±0.6, **43°.75N**±0°.02×**105°.27W**±0°.02, **h0km, n126, σ0s.92**/142, **42C-54D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.26	327	⇓P	Pg	19 00 53.2	+1.1
	baz=0.3,SNR=155						
I23A				⇑S	Sg	19 00 56.3	+0.8
	baz=0.3						
J23A	Dilts Ranch, B	0.40	211	P	Pg	19 00 55.5	+0.6
	baz=0.4,SNR=54						
J23A				⇑S	Sg	19 01 00.4	+0.4
	baz=0.4						
I24A	Kuemmerle Ranc	0.48	76	P	Pb	19 00 57.6	-1.1
	baz=0.5,SNR=66						
I24A				⇑S	Sb	19 01 04.0	-2.3
	baz=0.5						
J24A	Dixon Ranch, L	0.61	133	⇓P	Pb	19 00 59.6	-1.2
	baz=0.6						
H23A	Clabaugh Cattl	0.82	353	⇑P	Pg	19 01 03.1	+0.1
	baz=0.8,SNR=30						
I22A	9 Mile Ranch,	0.89	280	⇑P	Pg	19 01 04.1	-0.2
	baz=0.9,SNR=288						
I22A				⇓S	Sg	19 01 16.8	+0.9
	baz=0.9						
J22A	Midwest	0.94	250	⇑P	Pg	19 01 04.6	-0.7
	baz=1.0,SNR=27						
RSSD	Black Hills	0.97	67	eP	Pb	19 01 06.3	-0.8
K24A	Anderson Ranch	1.07	162	⇑P	Pg	19 01 08.1	+0.3
	baz=1.1,SNR=11						
K24A				⇓S	Sb	19 01 23.5	+0.1
	baz=1.1						
H24A	Dirks Ranch, A	1.13	27	P	Pg	19 01 08.6	-0.3
	baz=1.1,SNR=168						
H22A	Clearmont	1.15	318	⇑P	Pg	19 01 09.1	-0.2
	baz=1.2,SNR=31						
K22A	Casper	1.43	220	⇓P	Pn	19 01 13.4	-1.1
	baz=1.4,SNR=28						
G23A	Biddle	1.46	357	⇑P	Pn	19 01 14.3	-0.6
	baz=1.5,SNR=64						
I21A	Big Trails, Te	1.47	273	⇓P	Pn	19 01 13.5	-1.6
	baz=1.5,SNR=212						
I21A				⇑S	Sg	19 01 34.6	+0.2
	baz=1.5						
K25A	Mack Ranch, Ha	1.53	137	⇑Pb	Pg	19 01 16.8	+0.3
	baz=1.5,SNR=36						
H21A	Big Horn, Sher	1.55	305	⇓P	Pn	19 01 16.1	-0.2
	baz=1.6,SNR=67						
H21A				⇓S	Sg	19 01 37.7	+0.7
	baz=1.6						
J21A	Lysite	1.63	257	⇑P	Pn	19 01 16.4	-1.0
	baz=1.6,SNR=33						
J21A				⇓S	Sn	19 01 39.4	+0.2
	baz=1.6						
G22A	Birney	1.65	334	⇑P	Pn	19 01 17.8	+0.2
	baz=1.7,SNR=144						
L23A	Garrett	1.66	191	⇑P	Pn	19 01 17.6	-0.2
	baz=1.7,SNR=203						
L23A				⇓S	Sb	19 01 40.6	+0.2
	baz=1.7						
G24A	Alzada	1.70	21	⇓P	Pb	19 01 18.8	-0.6
	baz=1.7,SNR=24						
L24A	Wheatland	1.72	172	⇑P	Pn	19 01 18.8	+0.2
	baz=1.7						
L24A				⇑S	Sg	19 01 42.4	-0.1
	baz=1.7						
K21A	Alcova	1.83	233	⇑P	Pn	19 01 20.2	+0.1
	baz=1.8,SNR=45						
K21A				⇓S	Sn	19 01 44.8	+0.7
	baz=1.8						
K26A	Motz Farm, Whi	1.85	124	⇓Pb	Pg	19 01 22.3	-0.4
	baz=1.8,SNR=28						
L25A	Engebretsen Ra	1.85	148	⇑Pb	Pb	19 01 22.0	-0.1
	baz=1.8,SNR=41						
L22A	Ellis Ranch, M	1.92	207	⇑P	Pn	19 01 21.8	+0.5
	baz=1.9,SNR=15						
L22A				⇑S	Sb	19 01 47.2	-0.5
	baz=1.9						
F23A	Volborg	1.98	357	⇑P	Pn	19 01 22.6	+0.5
	baz=2.0,SNR=87						
G21A	Lodge Grass	2.03	318	⇓P	Pn	19 01 23.0	+0.2
	baz=2.0,SNR=63						
I20A	Worland	2.08	277	⇓P	Pn	19 01 24.0	+0.5
	baz=2.1,SNR=120						
I20A				⇓S	Sn	19 01 51.2	+1.1
	baz=2.1						
J20A	Shoshoni	2.08	260	⇓Pb	Pb	19 01 25.4	-0.6
	baz=2.1,SNR=48						
J20A				⇓Sb	Sb	19 01 53.5	+1.0
	baz=2.1						
H20A	Greybull	2.10	292	⇑P	Pn	19 01 23.7	0.0
	baz=2.1,SNR=60						
H20A				⇓S	Sn	19 01 51.9	+1.2
	baz=2.1						
F22A	Rosebud	2.15	341	⇓P	Pn	19 01 24.4	-0.1
	baz=2.2,SNR=62						
F22A				⇓Sb	Sb	19 01 55.4	+1.0
	baz=2.2						
F24A	Ekalaka	2.18	15	⇑Pb	Pb	19 01 27.0	-0.6
	baz=2.2,SNR=31						
M23A	Laramie	2.30	188	⇑Pb	Pb	19 01 28.4	-1.3
	baz=2.3,SNR=19						
M23A				⇑Sb	Sb	19 01 58.9	+0.1
	baz=2.3						
M24A	Cheyenne	2.30	172	⇓Pb	Pb	19 01 29.7	0.0
	baz=2.3,SNR=74						
L26A	Underwood Farm	2.35	136	⇓Pb	Pb	19 01 30.2	-0.2
	baz=2.3						
L21A	Rawlins	2.36	222	⇓P	Pn	19 01 28.1	+0.7
	baz=2.4,SNR=18						
PHWY	Pilot Hill	2.45	183	eP	Pn	19 01 25.1	-3.6
F21A	Absaloka Mine,	2.46	328	⇓P	Pn	19 01 28.2	-0.5
	baz=2.5						
G20A	Bridger	2.57	306	⇓P	Pn	19 01 29.9	-0.4
	baz=2.6,SNR=106						
I19A	Meeteetse	2.71	277	⇑P	Pn	19 01 32.9	+0.7
	baz=2.7,SNR=24						
K19A	Absolon Red Bu	2.77	252	⇓P	Pn	19 01 33.7	+0.7
	baz=2.8,SNR=187						
H19A	Powell	2.83	290	⇑P	Pn	19 01 34.1	+0.3
	baz=2.8,SNR=25						
N23A	Red Feather La	2.89	190	⇓P	Pn	19 01 36.1	+1.3
	baz=2.9,SNR=19						
F20A	Billings	2.90	316	⇓P	Pn	19 01 34.4	-0.4
	baz=2.9,SNR=20						
RLMT	Red Lodge	3.18	297	eP	Pn	19 01 39.0	+0.3
PDAR	Pinedale Array	3.28	254	Pn	Pn	19 01 41.0	+0.8
	4.9nm,0.3s,baz=71,slow=15,SNR=54						
PDAR				Pg	Pb	19 01 45.4	-1.1
	12nm,0.3s,baz=69,slow=18,SNR=67						
PDAR				Lg	Lg	19 02 27.0	
	16nm,0.3s,baz=67,slow=29,SNR=10						
PDAR	Pinedale Array	3.28	254	Pn	Pn	19 01 41.0	+0.8
PDAR				Pg	Pb	19 01 45.4	-1.1
PDAR				Lg	Lg	19 02 27.0	
BW06	Boulder Array	3.28	254	eP	Pn	19 01 41.2	+1.0
PD02	Pinedale Array	3.28	254	eP	Pn	19 01 37.8	-2.4
H18A	Shoshone NF, C	3.29	288	⇑P	Pn	19 01 40.1	-0.2
	baz=3.3,SNR=12						
PD01	Pinedale Array	3.30	254	eP	Pn	19 01 41.3	+1.0
F19A	Roth Farm, Mol	3.36	310	⇓P	Pn	19 01 41.5	+0.4
	baz=3.4,SNR=60						
F19A				⇓S	Sn	19 02 22.0	+0.3
	baz=3.4						
N21A	Black Mountain	3.42	210	⇑P	Pn	19 01 43.4	+1.4
	baz=3.4,SNR=13						
E20A	Meyer Farm, Mu	3.42	325	P	Pn	19 01 41.1	-0.8
	baz=3.4,SNR=14						
L19A	Farson	3.42	243	⇓P	Pn	19 01 43.7	+1.7
	baz=3.4,SNR=6.8						
D23A	Lindsay	3.43	1	⇑P	Pn	19 01 42.5	+0.5
	baz=3.4,SNR=37						
D24A	Glendive	3.44	11	⇓P	Pn	19 01 43.4	+1.4
	baz=3.4						
G18A	Lazy EL Ranch,	3.45	299	P	Pn	19 01 42.8	+0.4
	baz=3.5,SNR=45						
D22A	Cohagen	3.46	350	⇓P	Pn	19 01 42.8	+0.4
	baz=3.5						
N20A	Spence Gulch,	3.66	218	⇓P	Pn	19 01 46.1	+0.8
	baz=3.7,SNR=6.7						
E19A	Rath Farm, Rou	3.68	319	⇓P	Pn	19 01 45.1	-0.4
	baz=3.7,SNR=12						
OGNE	Ogallala	3.69	138	eP	Pn	19 01 47.2	+1.6
O22A	Kremmling	3.71	195	⇑P	Pn	19 01 47.2	+1.2
	baz=3.7,SNR=7.0						
GCMT	Greycliff	3.74	305	eP	Pn	19 01 46.6	+0.3
F18A	Big Timber	3.83	306	⇓P	Pn	19 01 48.1	+0.5
	baz=3.8,SNR=48						
C24A	Savage	3.83	9	⇓P	Pn	19 01 48.7	+1.2
	baz=3.8						
LOHW	Long Hollow	3.87	270	eP	Pn	19 01 49.9	+1.7
D20A	Manuel Ranch,	3.91	330	⇓P	Pn	19 01 48.2	-0.4
	baz=3.9,SNR=48						
ISCO	Idaho Springs	3.95	184	eP	Pn	19 01 49.4	0.0
ISCO	Idaho Springs	3.95	184	⇑P	Pn	19 01 50.7	+1.3
	baz=4.0,SNR=6.0						
MOOW	Moose Ponds	3.97	272	eP	Pb	19 01 55.3	-2.8
SNOW	Snow King Moun	3.99	268	eP	Pb	19 01 55.1	-3.5
C22A	Vida	4.02	354	⇓P	Pn	19 01 51.3	+1.1
	baz=4.0						
C23A	Lambert	4.06	1	⇑P	Pn	19 01 51.9	+1.2
	baz=4.1						
N19A	John Jarvie Ra	4.06	227	⇓P	Pn	19 01 51.1	+0.3
	baz=4.1,SNR=7.9						
O27A	Beecher Island	4.12	149	⇓P	Pn	19 01 52.1	+0.7
	baz=4.1						
G17A	Pierce Place,	4.22	294	⇑P	Pn	19 01 53.3	+0.4
	baz=4.2,SNR=5.7						
O20A	White River Ci	4.23	213	⇓P	Pn	19 01 54.0	+0.8
	baz=4.2						
E18A	Harlowton	4.33	312	⇓P	Pn	19 01 54.8	+0.4
	baz=4.3,SNR=23						
RRI2	Red Ridge	4.42	267	eP	Pn	19 01 57.9	+2.1
P26A	Davis Ranch, A	4.42	160	⇓P	Pn	19 01 56.7	+0.9
	baz=4.4						
O19A	Miners Draw (B	4.48	221	⇑P	Pn	19 01 57.1	+0.6
	baz=4.5,SNR=5.7						
B23A	Brockton	4.72	2	⇓P	Pn	19 02 00.8	+1.0
	baz=4.7						
SMCO	Snowmass	4.74	196	eP	Pn	19 02 05.6	+5.3
DGMT	Dagmar	4.79	9	ePn	Pn	19 02 01.0	+0.4
C19A	Slack Wire Ran	4.79	328	⇑P	Pn	19 02 00.8	+0.1
	baz=4.8						
E17A	Martinsdale	4.80	306	⇑P	Pn	19 02 01.6	+0.7
	baz=4.8						
BOZ	Bozeman (W)	4.92	295	eP	Pn	19 02 01.8	-0.7
Q26A	Hugo	4.99	164	⇑P	Pn	19 02 04.2	+0.6
	baz=5.0						
HWUT	Hardware Ranch	5.11	247	eP	Pn	19 02 05.9	+0.7
	7.9nm,0.4s						
D17A	Six Diamond Ra	5.11	314	⇑P	Pn	19 02 05.2	0.0
	baz=5.1,SNR=30						
KSCO	Kaye Shedlock'	5.13	156	⇓P	Pn	19 02 06.0	+0.5
	baz=5.1						
A22A	Carney Farms,	5.27	355	⇑P	Pn	19 02 07.8	+0.5
	baz=5.3						
EGMT	Eagleton	5.30	325	ePn	Pn	19 02 07.8	0.0
	27nm,0.6s						
EGMT	Eagleton	5.30	325	⇑P	Pn	19 02 08.0	+0.3
	baz=5.3						
O17A	Robinson Place	5.40	231	⇓P	Pn	19 02 10.7	+1.4
	baz=5.4,SNR=6.1						
L15A	Malad City	5.51	254	⇓P	Pn	19 02 11.2	+0.5
	baz=5.5,SNR=11						
MCMT	McKenzie Canyo	5.55	284	Pn	Pn	19 02 14.1	+2.8
	2.6nm,0.4s						
P18A	Preston Nutter	5.55	224	⇓P	Pn	19 02 12.0	+0.7
	baz=5.6,SNR=12						
JLU	Jordanelle	5.56	238	eP	Pn	19 02 12.0	+0.6
	7.6nm,0.4s						
HVU	Hansel Valley	5.86	253	eP	Pn	19 02 14.6	-0.9
	6.9nm,0.6s						
Q18A	Rafter H Ranch	5.90	220	⇓P	Pn	19 02 16.3	+0.2
	baz=5.9,SNR=6.0						
SDCO	Great Sand Dun	6.00	182	eP	Pn	19 02 19.4	+2.0
	2.2nm,0.7s						
PV04	Paradox Valley	6.01	208	eP	Pn	19 02 18.4	+0.8
SRU	San Rafael	6.08	222	eP	Pn	19 02 18.2	-0.4
	11nm,0.4s						
PV01	Paradox Valley	6.14	205	eP	Pn	19 02 20.7	+1.4
	588nm,0.7s						
ECSD	EROS Data Cent	6.27	87	ePn	Pn	19 02 20.9	-0.1
	6.3nm,0.4s						
TMUT	Trail Mountain	6.29	227	eP	Pn	19 02 22.2	+0.6
	8.9nm,0.5s						
Q16A	Castle Valley	6.55	225	⇑P	Pn	19 02 25.5	+0.4
	baz=6.6,SNR=6.1						
DUG	Dugway	6.65	240	eP	Pn	19 02 25.0	-1.3
	3.3nm,0.4s						
DUG	Dugway	6.65	240	⇓P	Pn	19 02 26.4	+0.1
	baz=6.6,SNR=10						
MVCO	Mesa Verde	6.97	202	eP	Pn	19 02 34.1	+3.3
	4.7nm,0.6s						
SWMT	Swartz Lake	7.18	305	ePn	Pn	19 02 33.6	0.0
	2.5nm,0.4s						
B14A	Marquette Ranc	7.23	312	⇓P	Pn	19 02 33.4	-0.8
	baz=7.2,SNR=44						
MSU	Marysvale	7.38	227	eP	Pn	19 02 37.8	+1.3
	4.9nm,0.6s						
A14A	Double T Ranch	7.69	316	⇓P	Pn	19 02 39.2	-1.3
	baz=7.7,SNR=12						
ULM	Lac du Bonnet	9.13	41	Pn	Pn	19 02 59.6	-0.6
	1.2nm,0.3s,baz=234,slow=11,SNR=8.2						
ULM				Pg		19 03 31.0	
	1.3nm,0.3s,baz=224,slow=16,SNR=6.8						
ULM				Lg	Lg	19 05 31.0	
	0.6nm,0.3s,baz=131,slow=21,SNR=3.4						
ULM	Lac du Bonnet	9.13	41	Pn	Pn	19 02 59.6	-0.6
ULM				Pg		19 03 31.0	
ULM				Lg	Lg	19 05 31.0	
NVAR	Mina Array Bea	11.17	246	Pn	Pn	19 03 30.0	+1.6
	0.2nm,0.3s,baz=53,slow=14,SNR=3.0						
NVAR	Mina Array Bea	11.17	246	Pn	Pn	19 03 30.0	+1.6
YKA	Yellowknife Ar	19.56	347	P	Pn	19 05 17.4	-0.2
	0.1nm,0.3s,baz=164,slow=12,SNR=4.7						
YKA	Yellowknife Ar	19.56	347	P	Pn	19 05 17.4	-0.2
ZALV	Zalesovo Beam	82.30	354	P	P	19 13 09.5	-0.8
	0.3nm,0.5s,baz=1.0,slow=6.5,SNR=3.6						
ZALV	Zalesovo Beam	82.30	354	P	P	19 13 09.5	-0.8
MKAR	Makanchi Array	89.60	355	P	P	19 13 46.4	-0.2
	0.6nm,0.8s,baz=15,slow=5.0,SNR=4.8						
MKAR	Makanchi Array	89.60	355	P	P	19 13 46.4	-0.2

*DJA **02** 19:02:32, 3°.45N×97°.35E, h84km, MLv2.9/5*
IDC 02 19:02:18.6±2.6, **1°.75N×96°.37E, h0km, mb3.5**/6, **mb1 3.6**/7, **mb1mx3.5**/23, **mbtmp3.5**/7, **ML3.5**/1, **Error ellipse: s-maj=105.9km s-min=20.6km az=59.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.80	8	Pn	Pn	19 06 16.3	+0.8
	0.1nm,0.3s,baz=198,slow=11,SNR=12						
WRA	Warramunga Arr	43.03	122	P	P	19 10 20.9	+0.6
	0.6nm,0.6s,baz=302,slow=8.9,SNR=4.5						
ASAR	Alice Springs	44.39	127	P	P	19 10 30.7	-0.6
	0.2nm,0.9s,baz=302,slow=9.5,SNR=3.1						
MKAR	Makanchi Array	46.52	347	P	P	19 10 47.5	-0.3
	0.8nm,0.7s,baz=166,slow=8.1,SNR=11						
SONM	Songino Array	46.73	9	P	P	19 10 48.9	-0.6
	0.2nm,0.4s,baz=184,slow=6.5,SNR=4.8						
KURK	Kurchatov	51.06	346	P	P	19 11 22.7	+0.2
	0.3nm,0.6s,baz=155,slow=7.1,SNR=3.7						
ZALV	Zalesovo Beam	52.90	351	P	P	19 11 35.7	-0.6
	1.0nm,0.6s,baz=181,slow=5.6,SNR=6.8						

IDC 02 19:08:18.0±18.0, **18°.24S×178°.16W, h538km**±169km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.1**/16, **mbtmp3.4**/4, **Error ellipse: s-maj=142.2km s-min=39.7km az=102.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.68	242	P	P	19 14 55.8	0.0
	3.8nm,0.9s,baz=107,slow=12,SNR=8.3						
WRA	Warramunga Arr	44.80	260	P	P	19 15 44.0	-0.4
	1.9nm,0.4s,baz=98,slow=6.7,SNR=80						
ASAR	Alice Springs	44.93	255	P	P	19 15 45.2	-0.1
	11nm,0.5s,baz=88,slow=9.3,SNR=347						
ASAR				PcP	PcP	19 17 14.7	-0.7
	0.4nm,0.5s,baz=106,slow=3.9,SNR=4.9						
MJAR	Matsushiro Arr	68.31	323	P	P	19 18 25.5	-0.1
	0.8nm,0.5s,baz=144,slow=5.5,SNR=7.3						
BRTR	Keskin Array B	145.18	315	PKPbc	PKPdf	19 26 55.0	+0.1
	0.6nm,0.5s,baz=96,slow=2.5,SNR=5.9						
MMAI	Mount Meron Ar	146.52	303	PKPbc	PKPbc	19 26 59.5	-0.2
	0.5nm,0.5s,baz=74,slow=7.4,SNR=4.4						
GERES	GERESS Array B	147.99	345	PKPbc	PKPbc	19 27 02.1	-1.0
	0.3nm,0.5s,baz=48,slow=2.0,SNR=3.8						

*IDC **02** 19:10:32.4±1.0, 30°.52N×67°.33E, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.8/29, mbtmp3.8/14, MS3.5/1, Ms1 3.5/1, ms1mx2.5/50, Error ellipse: s-maj=23.1km s-min=19.5km az=16.0*
*ISCJB **02** 19:10:32.7±0.7, 30°.5N±0°.1×67°.46E±0°.08, h14km, mb3.7/13, MS3.5/1, Error ellipse: s-maj=17.9km s-min=7.0km az=27.4*
ISC 02 19:10:34.4±0.9, **30°.6N**±0°.1×**67°.45E**±0°.10, **h14km, n26, σ1s.15**/26, **mb3.8**/13, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DANN	Dangsing	14.38	95	eP	Pn	19 13 56.1	-1.8
	29nm,0.7s						
KOLN	Koldanda	14.38	97	eP	Pn	19 13 57.8	-0.1
	8.3nm,0.4s						
GKN	Gorkha	15.21	95	eP	Pn	19 14 07.1	-2.0
	12nm,0.5s						
DMN	Daman	15.71	96	eP	Pn	19 14 15.7	0.0
	4.1nm,0.4s						
KKN	Kakani	15.82	96	eP	Pn	19 14 15.6	-1.4
	6.5nm,0.4s						
PKI	Pulchoki	15.98	96	eP	Pn	19 14 18.2	-1.0
	7.2nm,0.5s						
GUN	Gumba	16.30	95	eP	Pn	19 14 20.9	-2.5
	44nm,0.7s						
JIRN	Jiri	16.63	95	eP	Pn	19 14 26.8	-0.8
	15nm,0.4s						
RAMN	Ramite	17.17	97	eP	P	19 14 34.7	-1.2
	11nm,0.4s						
ODAN	Odare	17.87	97	eP	P	19 14 44.6	+1.0
	17nm,0.8s						
TAPN	Taplejung	18.01	95	eP	P	19 14 45.3	+0.1
	20nm,1.0s						
MKAR	Makanchi Array	19.88	31	P	Pn	19 15 05.4	-1.5
	0.8nm,0.3s,baz=211,slow=10,SNR=54						
AKTO	Aktyubinsk	21.09	343	P	P	19 15 19.1	+0.8
	1.2nm,0.7s,baz=149,slow=6.6,SNR=4.6						
KURK	Kurchatov	21.81	19	P	P	19 15 24.8	-1.3
	3.0nm,0.8s,baz=208,slow=9.9,SNR=17						
BVAR	Borovoye Array	22.57	5	P	P	19 15 34.5	+0.4
	2.1nm,0.6s,baz=163,slow=11,SNR=9.9						
ZALV	Zalesovo Beam	26.54	23	P	P	19 16 11.7	+0.1
	3.4nm,0.5s,baz=223,slow=10,SNR=23						
CMAR	Chiang Mai Arr	30.97	106	P	P	19 16 52.6	+1.1
	0.1nm,0.3s,baz=294,slow=11,SNR=3.3						
SONM	Songino Array	34.33	49	P	P	19 17 22.1	+1.3
	0.1nm,0.4s,baz=257,slow=8.6,SNR=2.2						
FINES	FINESS Array B	41.01	331	P	P	19 18 16.8	-0.1
	5.6nm,1.2s,baz=96,slow=12,SNR=4.0						
FINES				LR	LR	19 38 22.5	
	comp=Z,65nm,19.5s,baz=137,slow=41						
GERES	GERESS Array B	44.22	310	P	P	19 18 42.9	-0.3
	0.3nm,0.6s,baz=103,slow=5.8,SNR=3.8						
ARCES	ARCESS Array B	45.65	341	P	P	19 18 54.0	-0.2
	5.9nm,0.9s,baz=119,slow=7.5,SNR=5.3						
ESDC	Sonseca Array	57.74	300	P	P	19 20 24.6	-0.5
	0.4nm,0.6s,baz=62,slow=7.0,SNR=4.8						
TORD	Torodi Ar. Bea	62.65	270	P	P	19 20 57.9	-1.1
	0.7nm,0.7s,baz=57,slow=6.9,SNR=5.1						
INK	Inuvik	80.22	8	P	P	19 22 45.2	+1.1
	baz=16,slow=4.1						
ASAR	Alice Springs	83.44	122	P	P	19 23 02.4	+0.5
	0.2nm,0.6s,baz=311,slow=5.2,SNR=6.1						
YKA	Yellowknife Ar	87.27	1	P	P	19 23 21.0	+0.7
	1.4nm,0.8s,baz=349,slow=4.9,SNR=14						

*JMA **02** 19:40:43.7±0.4, 45°.55N×142°.87E, h326km±3km, M3.4*
*ISCJB **02** 19:40:43.0±0.4, 45°.57N±0°.04×142°.9E±0°.1, h327km±4km, mb2.9/6, Error ellipse: s-maj=11.5km s-min=6.9km az=178.7*
*IDC **02** 19:40:44.2±1.1, 45°.64N×142°.82E, h322km±23km, mb2.9/6, mb1 3.1/9, mb1mx2.9/27, mbtmp2.9/9, Error ellipse: s-maj=42.7km s-min=14.6km az=164.0*
*SKHL **02** 19:40:45.2±0.5, 45°.72N×142°.98E, h313km±22km, mb4.1/2, msh4.7/2*
ISC 02 19:40:43.6±0.8, **45°.52N**±0°.05×**142°.89E**±0°.08, **h323km**±7km, **n30, σ1s.05**/37, **mb3.0**/6, **1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	0.73	254	P	Pn	19 41 26.0	+0.6
JWK2				eS	S	19 41 58.3	-0.5
JRR	Rishiri	1.18	252	P	Pn	19 41 27.6	+0.3
JSS	Shosan	1.34	214	P	Pn	19 41 29.0	+0.8
ASAJ	Asahikawa	1.42	189	P	Pn	19 41 29.6	+1.0
	8.6nm,0.3s,baz=5.2,slow=4.4,SNR=65						
ASAJ	Asahikawa	1.42	189	P	Pn	19 41 29.5	+0.8
YSS	Yuzh-Sakhalins	1.44	356	⇓iP	Pn	19 41 29.0	+0.5
YSS				iS	S	19 42 03.0	-1.5
YSS				A	A	19 42 03.9	
	90nm,1.0s						
YSS				A	A	19 42 03.9	
	60nm,1.0s						
JYG	Yagishiri	1.51	224	P	Pn	19 41 29.8	+0.7
JKK2	Kamakawa 2	1.65	184	P	Pn	19 41 31.1	+1.0
JTKR	Abashiri--Toko	1.71	155	P	Pn	19 41 31.6	+1.2
JTKR				eS	S	19 42 08.5	+0.7
JHR	Hokuryu	1.96	205	P	Pn	19 41 33.1	+0.9
JAR	Ashorobuto	2.31	164	P	Pn	19 41 36.1	+1.1
JAR				eS	S	19 42 16.3	+0.3
JFR	Furan	2.37	185	P	Pn	19 41 36.3	+0.9
JAK	Akkeshi	2.84	152	P	Pn	19 41 39.7	+0.2
JAK				eS	S	19 42 22.6	-1.7
JEW	Eniwo	2.87	202	P	Pn	19 41 41.1	+1.2
JCH	Churui	2.92	173	P	Pn	19 41 39.8	-0.6
JCH				eS	S	19 42 21.9	-3.9
JNBK	Urakawa-nobuka	3.24	182	P	Pn	19 41 43.7	+0.3
JNBK				eS	S	19 42 31.3	0.0
UGL	Uglegorsk	3.60	351	eP	Pn	19 41 47.0	+0.2
UGL				AMB	AMB	19 41 47.5	
	51nm,0.6s						
UGL				eS	S	19 42 36.5	-1.0
UGL				A	A	19 42 38.0	
	224nm,1.0s						
JKB	Kayabe	3.87	201	P	Pn	19 41 49.8	0.0
JOSM	Okushiri--Mats	4.23	217	P	Pn	19 41 53.7	+0.1
JOT	Ohata	4.35	199	P	Pn	19 41 54.5	-0.4
JOT				eS	S	19 42 47.2	-5.0
USRK	Ussuriysk Arra	7.85	264	P	Pn	19 42 36.1	+0.6
	0.4nm,0.3s,baz=72,slow=14,SNR=6.7						
MJAR	Matsushiro Arr	9.64	203	P	Pn	19 42 59.0	+1.7
	1.2nm,0.3s,baz=10,slow=4.3,SNR=24						
EKMR	Ekimchan	9.95	323	eP	Pn	19 42 56.5	-4.4
EKMR				AMB	AMB	19 42 57.7	
	4.0nm,0.6s						
PETK	Petropavlovsk-	12.27	46	P	Pn	19 43 29.1	+0.2
	0.1nm,0.3s,baz=232,slow=30,SNR=2.8						
SONM	Songino Array	25.00	289	P	P	19 45 39.5	+0.5
	0.9nm,0.6s,baz=80,slow=8.9,SNR=6.9						
MKAR	Makanchi Array	41.08	294	P	P	19 47 56.2	-0.2
	0.2nm,0.7s,baz=82,slow=10,SNR=3.8						
ILAR	Eielson Array	41.89	37	P	P	19 48 02.5	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.3nm,0.6s,baz=259,slow=5.8,SNR=6.1						
KURK	**Kurchatov**	**42.01**	**301**	P	**P**	**19 48 03.7**	**-0.2**
	0.4nm,0.7s,baz=72,slow=9.0,SNR=3.8						
INK	**Inuvik**	**46.42**	**31**	P	**P**	**19 48 37.9**	**-0.4**
	0.9nm,0.3s,baz=216,slow=9.4,SNR=8.5						
YKA	**Yellowknife Ar**	**56.00**	**33**	P	**P**	**19 49 49.4**	**+0.5**
	0.7nm,0.5s,baz=304,slow=6.6,SNR=8.2						

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*NEIC **02** 19:40:53.0, 44.55N×110.37W, h0km, ML3.2(SLC), ML2.8(BUT), After SLC.*

ISC 02 19:40:53.9±0.9**, 44.54N**±0.02×**110.36W**±0.02**, h4**km±7km**,**
n65, σ0.96/76**, 22C-14D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKWY	**Lake**	**0.04**	**316**	*e*Pg	**Pg**	**19 40 54.6**	**-0.7**
LKWY				*e*Sg	**Sg**	**19 40 56.2**	**-0.1**
H17A	**Grant Village**	**0.21**	**228**	P	**Pg**	**19 40 58.8**	**+0.7**
	baz=0.2,SNR=126						
H17A				⇓S	**Sg**	**19 41 02.0**	**+1.2**
	baz=0.2						
YNR	**Norris Junctio**	**0.29**	**308**	*e*Pg	**Pg**	**19 40 59.6**	**0.0**
YFT	**Old Faithful**	**0.35**	**256**	*e*Pg	**Pg**	**19 41 01.2**	**+0.5**
YMR	**Madison River**	**0.45**	**287**	*e*Pg	**Pb**	**19 41 03.2**	**-1.3**
FLWY	**Flagg Ranch**	**0.51**	**208**	*e*Pg	**Pb**	**19 41 04.7**	**-1.0**
H18A	**Shoshone NF, C**	**0.52**	**74**	⇓P	**Pg**	**19 41 04.1**	**+0.2**
	baz=0.5,SNR=99						
I17A	**Pilgrim Ck.**	**0.63**	**194**	⇓Pb	**Pb**	**19 41 06.9**	**-0.7**
	baz=0.6						
H16A	**Russell Place,**	**0.66**	**285**	⇑P	**Pb**	**19 41 06.9**	**-1.2**
	baz=0.6,SNR=38						
QLMT	**Earthquake Lak**	**0.82**	**292**	*e*Pg	**Pb**	**19 41 09.6**	**-1.2**
G17A	**Pierce Place,**	**0.83**	**341**	⇓P	**Pb**	**19 41 10.5**	**-0.5**
	baz=0.8,SNR=13						
MOOW	**Moose Ponds**	**0.83**	**200**	*e*Pg	**Pb**	**19 41 10.2**	**-0.8**
I18A	**Diamond G Ranc**	**0.92**	**155**	⇑P	**Pg**	**19 41 11.9**	**+0.3**
	baz=0.9,SNR=195						
I18A				⇓S	**Sg**	**19 41 24.4**	**+0.8**
	baz=0.9						
LOHW	**Long Hollow**	**0.94**	**191**	*e*Pg	**Pg**	**19 41 11.8**	**-0.1**
G18A	**Lazy EL Ranch,**	**0.96**	**36**	⇑P	**Pb**	**19 41 13.0**	**-0.3**
	baz=1.0,SNR=71						
RLMT	**Red Lodge**	**0.97**	**53**	*e*Pg	**Pg**	**19 41 11.7**	**-0.9**
H19A	**Powell**	**0.99**	**82**	P	**Pb**	**19 41 13.2**	**-0.5**
	baz=1.0,SNR=71						
I19A	**Meeteetse**	**1.10**	**116**	P	**Pg**	**19 41 15.0**	**0.0**
	baz=1.1,SNR=61						
I19A				⇑S	**Sb**	**19 41 30.3**	**-0.1**
	baz=1.1						
SNOW	**Snow King Moun**	**1.11**	**195**	*e*Pg	**Pn**	**19 41 16.1**	**-0.4**
DCID1	**Drake Creek**	**1.11**	**213**	*e*Pg	**Pb**	**19 41 15.4**	**-0.4**
G16A	**Moss Hill, Enn**	**1.24**	**305**	⇑P	**Pn**	**19 41 17.9**	**-0.2**
	baz=1.2,SNR=10						
J18A	**Kendall Valley**	**1.35**	**169**	⇑Pg	**Pn**	**19 41 19.6**	**-0.1**
	baz=1.4,SNR=55						
J18A				⇑S	**Sg**	**19 41 37.6**	**+0.4**
	baz=1.4						
GCMT	**Greycliff**	**1.35**	**21**	*e*Pg	**Pb**	**19 41 19.4**	**-0.5**
RRI2	**Red Ridge**	**1.38**	**211**	*e*Pg	**Pb**	**19 41 20.7**	**+0.4**
F17A	**Fitzpatrick Pl**	**1.39**	**351**	⇓Pg	**Pb**	**19 41 21.4**	**+0.9**
	baz=1.4,SNR=22						
BOZ	**Bozeman (W)**	**1.43**	**321**	*e*Pg	**Pn**	**19 41 19.8**	**-1.0**
F18A	**Big Timber**	**1.44**	**18**	⇑Pb	**Pb**	**19 41 21.6**	**+0.2**
	baz=1.4,SNR=114						
F16A	**Kennard Place,**	**1.54**	**325**	⇓Pg	**Pg**	**19 41 23.9**	**+0.5**
	baz=1.5,SNR=11						
F16A				⇑Sg	**Sn**	**19 41 45.7**	**+3.0**
	baz=1.5						
J19A	**Crowheart**	**1.58**	**143**	⇓Pg	**Pg**	**19 41 24.0**	**-0.2**
	baz=1.6						
G15A	**Dillon**	**1.64**	**293**	⇓Pb	**Pg**	**19 41 25.0**	**-0.4**
	baz=1.6,SNR=25						
G15A				⇓Sg	**Sg**	**19 41 49.0**	**+2.4**
	baz=1.6						
F19A	**Roth Farm, Mol**	**1.66**	**37**	⇑Pb	**Pg**	**19 41 24.8**	**-0.8**
	baz=1.6,SNR=20						
G20A	**Bridger**	**1.67**	**65**	⇑Pb	**Pb**	**19 41 24.8**	**-0.5**
	baz=1.7,SNR=31						
H20A	**Greybull**	**1.69**	**91**	Pb	**Pb**	**19 41 24.9**	**-0.8**
	baz=1.7,SNR=56						
H20A				⇑Sb	**Sb**	**19 41 47.5**	**+0.3**
	baz=1.7						
I20A	**Worland**	**1.71**	**109**	⇓Pb	**Pb**	**19 41 25.2**	**-0.7**
	baz=1.7,SNR=104						
I20A				⇓Sb	**Sb**	**19 41 48.0**	**+0.3**
	baz=1.7						
DLMT	**Dillon**	**1.79**	**298**	*e*Pg	**Pg**	**19 41 27.1**	**-1.1**
MCMT	**McKenzie Canyo**	**1.80**	**280**	*e*Pn	**Pb**	**19 41 26.8**	**-0.8**
K17A	**Gardner Place,**	**1.83**	**193**	⇑Pg	**Pg**	**19 41 28.7**	**-0.3**
	baz=1.8						
PD01	**Pinedale Array**	**1.85**	**162**	*e*Pg	**Pb**	**19 41 27.9**	**-0.4**
PD01				*e*Sn	**Sg**	**19 41 52.9**	**-0.3**
PD02	**Pinedale Array**	**1.85**	**162**	*e*Pn	**Pb**	**19 41 27.8**	**-0.6**
PD02				*e*Sn	**Sn**	**19 41 50.8**	**+0.3**
AHID	**Auburn Hatcher**	**1.85**	**197**	*e*Pn	**Pn**	**19 41 27.0**	**+0.5**
BW06	**Boulder Array**	**1.86**	**162**	*e*Pn	**Pb**	**19 41 28.2**	**-0.4**
BW06				*e*Sn	**Sn**	**19 41 48.2**	**-2.6**
J15A	**Blackfoot**	**1.88**	**234**	⇑Pb	**Pb**	**19 41 28.7**	**-0.2**
	baz=1.9						
E17A	**Martinsdale**	**1.96**	**350**	⇑Pg	**Pg**	**19 41 31.8**	**+0.3**
	baz=1.9						
LRM	**Limekiln Ridge**	**1.96**	**312**	*e*Pn	**Pb**	**19 41 30.0**	**-0.3**
LRM				*e*Sn	**Sb**	**19 41 53.9**	**-1.3**
F15A	**Butte**	**2.00**	**312**	⇓Pb	**Pg**	**19 41 31.2**	**-0.9**
	baz=2.0						
F20A	**Billings**	**2.01**	**50**	⇑Pb	**Pg**	**19 41 31.3**	**-1.2**
	baz=2.0						
J20A	**Shoshoni**	**2.02**	**125**	⇑Pb	**Pb**	**19 41 31.3**	**0.0**
	baz=2.0						
J20A				⇑Sb	**Sb**	**19 41 57.2**	**+0.3**
	baz=2.0						
K19A	**Absolon Red Bu**	**2.03**	**147**	⇑Pb	**Pb**	**19 41 31.1**	**-0.4**
	baz=2.0						
E18A	**Harlowton**	**2.06**	**9**	⇑Pb	**Pb**	**19 41 31.4**	**-0.4**
	baz=2.0,SNR=45						
E19A	**Rath Farm, Rou**	**2.22**	**29**	⇓Pb	**Pb**	**19 41 34.7**	**0.0**
	baz=2.2						
I14A	**Mackay**	**2.30**	**256**	⇑Pb	**Pb**	**19 41 35.8**	**-0.3**
	baz=2.3						
D17A	**Six Diamond Ra**	**2.63**	**355**	⇑P	**Pn**	**19 41 38.2**	**+1.0**
	baz=2.6,SNR=11						
HWUT	**Hardware Ranch**	**3.06**	**197**	*e*P	**Pn**	**19 41 45.8**	**+2.6**
HLID	**Hailey**	**3.08**	**253**	*e*Pn	**Pn**	**19 41 43.0**	**-0.4**
CHMT	**Chamberlain Mo**	**3.12**	**321**	*e*Pn	**Pn**	**19 41 44.2**	**+0.1**
HVU	**Hansel Valley**	**3.27**	**214**	*e*Pn	**Pn**	**19 41 45.8**	**-0.3**
SLMT	**Seeley Lake**	**3.48**	**322**	*e*Pn	Pn	19 41 44.3	-4.7
SWMT	**Swartz Lake**	**3.91**	**321**	*e*Pg	**Pg**	**19 42 07.6**	**-1.2**
JLU	**Jordanelle**	**4.01**	**192**	*e*Pg	**Pb**	**19 42 05.8**	**+0.6**
MFID	**Camas Ranch**	**4.10**	**256**	Pn	Pb	19 42 01.7	-5.1
DAU	**Daniels Canyon**	**4.17**	**189**	*e*Pg	**Pg**	**19 42 12.4**	**-1.5**
RSSD	**Black Hills**	**4.56**	**93**	Pn	**Pn**	**19 42 04.3**	**+0.5**
SRU	**San Rafael**	**5.42**	**181**	*e*Pn	**Pn**	**19 42 16.5**	**+0.8**
	3.5nm,0.6s						
PV04	**Paradox Valley**	**6.23**	**169**	*e*Pg	**Pg**	**19 42 50.7**	**-2.6**
PV01	**Paradox Valley**	**6.54**	**168**	*e*Pg	Pg	19 42 55.1	-4.0
	295nm,0.6s						

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*SZGRF **02** 19:42:23.0, 0.40S×26.70W, h10km, mb5.2, MS4.9, Central Mid-Atlantic Ridge*

*IDC **02** 19:42:24.8±0.5, 0.79N×27.02W, h0km, mb4.5/26, mb1 4.6/28, mb1mx4.6/32, mbtmp4.5/28, ML5.1/2, MS5.0/34, Ms1 5.0/34, ms1mx5.0/42, Error ellipse: s-maj=18.2km s-min=11.3km az=142.0*

*ISCJB **02** 19:42:25.4±0.2, 0.68N±0.05×26.74W±0.03, h10km, mb4.9/158, MS5.1/217, Error ellipse: s-maj=6.9km s-min=3.3km az=159.7*

*NEIC **02** 19:42:27.2±0.3, 0.62N×26.66W, h10km, mb5.1/72, MS5.2/160, MW5.6, MW5.6, Error ellipse: s-maj=10.5km s-min=6.2km az=157.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}0.87; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.17; $M_{\theta\phi}$-2.98; $M_{\phi r}$-0.21; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s91.00000°, δ87.00000°, λ-178.00000°. NP2:ϕ_s0.00000°, δ88.00000°, λ-3.00000°. Principal axes: T 2.5500, Plg1.0000°, Azm45.0000°; N 0.8900, Plg86.0000°, Azm153.0000°; P -3.4300, Plg3.0000°, Azm315.0000°;*

*MOS **02** 19:42:27.3±1.3, 0.90N×26.52W, h10km, mb5.0/58, MS5.0/52 Error ellipse: s-maj=11.4km s-min=5.3km az=60.9*

*NEIC **02** 19:42:37.8±0.0, 1.03N×26.84W, h10km, Moment Tensor Solution. s159 Moment tensor: Scale 10^{17}Nm; M_{rr}0.06; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-0.36; $M_{r\theta}$-2.23; $M_{\theta\phi}$-2.76; $M_{\phi r}$0.31; Best double couple: $M_0$3.60000×10^{17} NP1:ϕ_s267.00000°, δ87.00000°, λ142.00000°. NP2:ϕ_s359.00000°, δ52.00000°, λ4.00000°. Principal axes: T 3.7600, Plg28.0000°, Azm215.0000°; N -0.4100, Plg51.0000°, Azm82.0000°; P -3.3600, Plg23.0000°, Azm319.0000°;*

ISC 02 19:42:28.3±0.6**, 0.64N**±0.06×**26.84W**±0.06**, h18**km±3km**,**
n702, σ1.43/823**, mb5.0**/159**, MS5.1**/218**, 205C-219D,**
Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.09**	**235**	Pn	Pn	19 45 02.4	-3.9
	19nm,0.3s,baz=39,slow=16,SNR=25						
RCBR				Sn	Sn	19 46 57.2	-13
	1.3nm,0.3s,baz=54,slow=14,SNR=3.1						
RCBR				LR	LR	19 48 15.4	
	comp=Z,17μm,21.4s,baz=38,slow=32						
RCBR				T	T	19 56 02.8	
	2.1nm,0.3s,baz=99,slow=22,SNR=4.1						
RCBR	**Riachuelo**	**11.09**	**235**	*e*Pn	Pn	19 45 01.7	-4.5
RCBR				*e*Sn	Sn	19 46 57.0	-13
RCBR				Sn	Sn	19 46 57.2	-13
RCBR				TT		19 56 02.8	
SACV	**Santiago Islan**	**14.60**	**12**	*e*Pn	Pn	19 45 48.4	-5.9
SACV				*e*Sn	Sn	19 48 12.1	-24
SACV	**Santiago Islan**	**14.60**	**12**	Pn	Pn	19 45 49.9	-4.3
	1μm,0.7s,SNR=25						
BBTS	**Babate**	**17.27**	**36**	P	**Pn**	**19 46 26.2**	**-2.5**
	5.7nm,0.3s,baz=256,slow=1.7,SNR=13						
BBTS				LR	LR	19 51 42.9	
	comp=Z,8μm,19.0s,baz=28,slow=32						
BBTS	**Babate**	**17.27**	**36**	P	**Pn**	**19 46 26.2**	**-2.5**
LIC	**Lamto**	**22.46**	**75**	*e*P	**P**	**19 47 26.8**	**0.0**
	174nm,1.1s						
LIC				*e*R			
	5μm,19.0s						
DBIC	**Dimbokro**	**22.73**	**74**	P	**P**	**19 47 29.6**	**-0.1**
	51nm,0.9s,baz=240,slow=12,SNR=28						
DBIC				LR	LR	19 53 57.4	
	comp=Z,5μm,19.2s,baz=239,slow=30						
DBIC	**Dimbokro**	**22.73**	**74**	⇓*i*P	**P**	**19 47 30.0**	**+0.3**
DBIC	**Dimbokro**	**22.73**	**74**	*e*P	**P**	**19 47 27.8**	**-1.9**
DBIC				*e*		19 51 30.2	
DBIC				pmax	pmax		
	comp=Z,73nm,1.0s						
DBIC	**Dimbokro**	**22.73**	**74**	*e*P	**P**	**19 47 27.8**	**-1.9**
	comp=Z,73nm,1.0s						
DBIC				*e*Sn	S	19 51 30.1	-7.7
SHEL	**Horse Pasture**	**26.57**	**129**	PFAKE		19 48 20.0	+14
SHEL				LR	LR		
	comp=Z,2μm,19.0s						
TORD	**Torodi Ar. Bea**	**30.88**	**65**	P	**P**	**19 48 43.9**	**-0.2**
	comp=Z,35nm,0.7s,baz=253,slow=8.5,SNR=96						
TORD				LR	LR	19 59 01.2	
	comp=Z,4μm,21.4s,baz=240,slow=32						
TORD	**Torodi Ar. Bea**	**30.88**	**65**	P	**P**	**19 48 43.9**	**-0.2**
SPB	**Sao Paulo**	**31.31**	**218**	PFAKE		19 49 00.0	+12
SPB				LR	LR		
	comp=Z,5μm,19.0s						
BBGH	**Gun Hill**	**34.71**	**292**	PFAKE		19 49 30.0	+12
BBGH				LR	LR		
	comp=Z,2μm,19.0s						
PSMA	**Santa Maria**	**36.21**	**2**	*e*T	T	20 27 01.7	
PSMN	**Pico do Norte,**	**36.23**	**2**	*e*T	T	20 27 07.3	
GRGR	**Grenville**	**36.37**	**290**	PFAKE		19 49 50.0	+18
GRGR				LR	LR		
	comp=Z,660nm,20.0s						
FDF	**Fort de France**	**36.69**	**294**	PFAKE		19 49 50.0	+15
FDF				LR	LR		
	comp=Z,652nm,20.0s						
CMLA	**Cha da Macela**	**36.97**	**2**	*e*LR	LR	19 58 26.3	
CMLA				*e*T	T	20 27 44.3	
BART	**Pico Bartolome**	**36.99**	**2**	*e*T	T	20 27 43.8	
SAML	**Samuel**	**37.43**	**254**	*e*P	**P**	**19 49 40.6**	**-0.4**
	comp=Z,46nm,1.5s						
SAML				LR	LR		
	comp=Z,1μm,22.0s						
SIV	**San Ignacio**	**37.62**	**242**	P	**P**	**19 49 40.0**	**-2.5**
	comp=Z,3.3nm,0.8s,baz=95,slow=11,SNR=12						
SIV				LR	LR	20 04 27.9	
	comp=Z,3μm,18.9s,slow=35						
SIV	**San Ignacio**	**37.62**	**242**	P	**P**	**19 49 40.0**	**-2.5**
RTC	**Rabat Centre**	**38.10**	**27**	PFAKE		19 50 00.0	+14
RTC				LR	LR		
	comp=Z,4μm,19.0s						
ANWB	**Willy Bob**	**38.30**	**298**	*e*P	P	19 49 52.2	+4.0
ANWB				LR	LR		
	comp=Z,1μm,20.0s						
TAM	**Tamanrasset**	**38.40**	**53**	*e*P	**P**	**19 49 48.9**	**-0.3**
TAM				pmax	pmax		
	comp=Z,29nm,1.2s						
TAM				MLR	MLR		
	comp=Z,6μm,19.0s						
TAM	**Tamanrasset**	**38.40**	**53**	*e*P	**P**	**19 49 48.9**	**-0.3**
	comp=Z,29nm,1.2s						
TAM				LR	LR		
	comp=Z,6μm,19.0s						
CPUP	**Villa Florida**	**39.79**	**225**	P	**P**	**19 49 59.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=50,slow=12,SNR=3.9						
CPUP				LR	LR	20 06 09.2	
	comp=Z,7μm,18.8s,baz=46,slow=36						
CPUP	**Villa Florida**	**39.79**	**225**	P	**P**	**19 49 59.0**	**-1.6**
CPUP				MLR	MLR		
	comp=Z,7μm,18.8s						
CPUP	**Villa Florida**	**39.79**	**225**	P	**P**	**19 49 59.0**	**-1.6**
PFVI	**Vila Bisbo**	**39.95**	**23**	*e*LR	LR	20 00 46.9	
	comp=Z,2μm,18.0s						
MORF	**Marmelete**	**40.17**	**23**	*e*P	**P**	**19 50 03.4**	**-0.3**
	comp=Z,87nm,1.4s						
MORF				*e*S	**S**	**19 56 11.2**	**+1.5**
MORF				*e*LR	LR	20 01 28.1	
	comp=Z,2μm,20.0s						
MORF	**Marmelete**	**40.17**	**23**	*e*P	**P**	**19 50 03.4**	**-0.3**
MORF				*e*S	**S**	**19 56 10.9**	**+1.2**
PBDV	**Barranco-do-Ve**	**40.40**	**24**	*e*P	**P**	**19 50 04.7**	**-0.8**
	comp=Z,54nm,1.4s						
PBDV				*e*S	S	19 56 20.1	+7.0
PBDV				*e*LR	LR	20 01 12.2	
	comp=Z,2μm,18.0s						
SFS	**San Fernando**	**40.46**	**26**	PFAKE		19 50 20.0	+14
SFS				LR	LR		
	comp=Z,4μm,20.0s						
MSKU	**Masuku**	**40.51**	**93**	P	**P**	**19 50 08.0**	**+1.2**
	comp=Z,13nm,0.7s,baz=254,slow=16,SNR=5.5						
MSKU				LR	LR	20 04 02.7	
	comp=Z,830nm,18.3s,baz=275,slow=32						
MSKU	**Masuku**	**40.51**	**93**	P	**P**	**19 50 08.0**	**+1.2**
PVAQ	**Vaqueiros**	**40.62**	**24**	*e*P	**P**	**19 50 07.2**	**-0.1**
	comp=Z,58nm,1.9s						
PVAQ				*e*S	**S**	**19 56 20.0**	**+3.6**
PVAQ				*e*LR	LR	20 01 00.0	
	comp=Z,1μm,20.0s						
PCVE	**Castro Verde**	**40.69**	**23**	*e*P	**P**	**19 50 07.7**	**-0.2**
	comp=Z,62nm,1.5s						
PCVE				*e*S	S	19 56 24.0	+6.6
PCVE				*e*LR	LR	20 01 23.5	
	comp=Z,2μm,20.0s						
PNCL	**Nicolau / Gran**	**40.92**	**22**	*e*P	**P**	**19 50 09.2**	**-0.6**
	comp=Z,36nm,1.4s						
PNCL				*e*S	**S**	**19 56 19.3**	**-1.5**
PNCL				*e*LR	LR	20 01 05.2	
	comp=Z,3μm,18.0s						
LIS	**Lisbon**	**41.23**	**21**	*e*P	**P**	**19 50 12.3**	**0.0**
LIS				AMb	AMB	19 50 17.9	
	comp=Z,63nm,1.5s						
LIS				*e*S	**S**	**19 56 27.7**	**+2.4**
LIS	**Lisbon**	**41.23**	**21**	*e*P	**P**	**19 50 12.2**	**0.0**
LIS				*e*S	**S**	**19 56 27.6**	**+2.4**
PMAFR	**Mafra**	**41.39**	**21**	*e*S	S	19 56 34.2	+6.4
PMAFR				*e*LR	LR	20 01 43.8	
	comp=Z,2μm,20.0s						
EVO	**Evora**	**41.49**	**22**	*e*P	**P**	**19 50 14.4**	**0.0**
	comp=Z,39nm,1.9s						
EVO	**Evora**	**41.49**	**22**	*e*P	**P**	**19 50 13.0**	**-1.4**
	comp=Z,44nm,1.4s						
EVO				*e*R			
	comp=Z,3μm,20.0s						
PBAR	**Barrancos**	**41.56**	**24**	*e*S	**S**	**19 56 31.3**	**+1.0**
PBAR				*e*LR	LR	20 01 35.7	
	comp=Z,2μm,18.0s						
PMTG	**Montargil**	**41.88**	**22**	*e*P	**P**	**19 50 18.6**	**+1.0**
	comp=Z,28nm,1.8s						
PMTG				*e*LR	LR	20 02 00.6	
	comp=Z,2μm,20.0s						
PESTR	**Estremoz**	**41.94**	**23**	*e*S	**S**	**19 56 40.8**	**+4.9**
PESTR				*e*LR	LR	20 02 06.8	
	comp=Z,3μm,18.0s						
HUMP	**Col San Antoni**	**42.08**	**297**	*e*P	**P**	**19 50 21.8**	**+2.3**
	comp=Z,21nm,0.9s						
PMRV	**Marv??o**	**42.50**	**22**	*e*P	**P**	**19 50 23.0**	**+0.2**
	comp=Z,55nm,1.7s						
PMRV				*e*S	**S**	**19 56 45.7**	**+1.4**
PMRV				*e*LR	LR	20 02 21.1	
	comp=Z,2μm,20.0s						
CELP	**Cerrillos**	**42.71**	**296**	*e*P	**P**	**19 50 27.3**	**+2.6**
LRS	**Lares**	**43.02**	**296**	*e*P	**P**	**19 50 28.7**	**+1.4**
MTE	**Manteigas**	**43.29**	**22**	*e*S	**S**	**19 56 57.1**	**+1.2**
MTE				*e*LR	LR	20 02 36.6	
	comp=Z,2μm,20.0s						
MTE	**Manteigas**	**43.29**	**22**	PFAKE		19 50 40.0	+11
MTE				LR	LR		
	comp=Z,2μm,20.0s						
AGPR	**Aguadilla, PR**	**43.31**	**297**	P	**P**	**19 50 31.1**	**+1.4**
PAB	**San Pablo**	**43.84**	**25**	*e*P	**P**	**19 50 32.4**	**-1.2**
PAB				pmax	pmax		
	comp=Z,36nm,1.6s						
PAB				MLR	MLR		
	comp=Z,1μm,20.0s						
PAB	**San Pablo**	**43.84**	**25**	*e*P	**P**	**19 50 32.4**	**-1.2**
	comp=Z,36nm,1.6s						
PAB				LR	LR		
	comp=Z,1μm,20.0s						
POLO	**Lamas de Olo**	**44.06**	**21**	*e*P	**P**	**19 50 35.8**	**+0.4**
	comp=Z,19nm,1.6s						
POLO				*e*LR	LR	20 02 27.9	
	comp=Z,913nm,16.0s						
LPAZ	**La Paz**	**44.07**	**246**	P	**P**	**19 50 34.7**	**-1.8**
	comp=Z,9.2nm,0.9s,baz=76,slow=7.9,SNR=19						
LPAZ				LR	LR	20 08 33.5	
	comp=Z,4μm,18.0s,baz=69,slow=36						
LPAZ	**La Paz**	**44.07**	**246**	P	**P**	**19 50 34.7**	**-1.8**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,4μm,18.0s						
LPAZ	**La Paz**	**44.07**	**246**	*e*P	**P**	**19 50 34.7**	**-1.8**
	comp=Z,20nm,1.1s						
ESDC	**Sonseca Array**	**44.11**	**26**	P	**P**	**19 50 34.0**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=220,slow=9.2,SNR=22						
ESDC				LR	LR	20 08 42.1	
	comp=Z,747nm,20.3s,baz=220,slow=36						
ESDC	**Sonseca Array**	**44.11**	**26**	P	**P**	**19 50 34.0**	**-1.8**
ESLA	**Sonseca Array**	**44.11**	**26**	*e*P	**P**	**19 50 34.9**	**-0.8**
	comp=Z,16nm,1.5s						
ESLA				LR	LR		
	comp=Z,6μm,21.0s						
MVO	**Moncorvo**	**44.15**	**22**	*e*S	**S**	**19 57 06.9**	**-1.6**
MVO				*e*LR	LR	20 02 33.9	
	comp=Z,1μm,20.0s						
SDV	**Santo Domingo**	**44.36**	**282**	*e*P	P	19 50 34.9	-3.5
	comp=Z,24nm,1.3s						
SDV				LR	LR		
	comp=Z,321nm,22.0s						
PGAV	**Gavieira, Arco**	**44.42**	**20**	*e*S	**S**	**19 57 14.8**	**+2.4**
PGAV				*e*LR	LR	20 02 46.2	
	comp=Z,2μm,18.0s						
PBRG	**Braganca**	**44.82**	**21**	*e*S	**S**	**19 57 23.7**	**+5.6**
PBRG				*e*LR	LR	20 03 24.5	
	comp=Z,2μm,20.0s						
LVC	**Limon Verde**	**47.02**	**238**	*e*P	**P**	**19 50 56.6**	**-2.8**
	comp=Z,38nm,1.7s						
LVC				LR	LR		
	comp=Z,1μm,20.0s						
SDDR	**Presa de Saban**	**47.23**	**295**	*e*P	**P**	**19 50 58.0**	**-2.8**
SDDR				LR	LR		
	comp=Z,907nm,20.0s						
ROSC	**El Rosal**	**47.61**	**276**	LR	LR	20 09 06.4	
	comp=Z,2μm,19.2s,baz=120,slow=34						
BBSR	**BB Station**	**47.63**	**315**	PFAKE		19 51 20.0	+16
BBSR				LR	LR		
	comp=Z,2μm,22.0s						
TSUM	**Tsumeb**	**47.83**	**117**	PFAKE		19 51 20.0	+14
TSUM				LR	LR		
	comp=Z,2μm,22.0s						
SJPF	**Ste Jean**	**48.10**	**25**	*e*P	**P**	**19 51 06.5**	**-0.7**
	comp=Z,24nm,0.9s						
ETSF	**Etsaut**	**48.22**	**26**	*e*P	**P**	**19 51 07.5**	**-0.6**
	comp=Z,109nm,1.6s						
KEST	**Kesra**	**48.47**	**40**	P	**P**	**19 51 08.6**	**-1.6**
	comp=Z,2.8nm,1.1s,baz=147,slow=12,SNR=3.0						
KEST				LR	LR	20 11 36.8	
	comp=Z,2μm,19.3s,baz=338,slow=36						
KEST	**Kesra**	**48.47**	**40**	P	**P**	**19 51 08.6**	**-1.6**
EPF	**Esparros**	**48.72**	**26**	*e*P	**P**	**19 51 11.5**	**-0.5**
	comp=Z,129nm,1.8s						
SALF	**Salau**	**48.89**	**27**	*e*P	**P**	**19 51 14.9**	**+1.6**
SALF	**Salau**	**48.89**	**27**	*e*P	**P**	**19 51 14.9**	**+1.6**
MLS	**Moulis**	**49.00**	**27**	*e*P	**P**	**19 51 15.7**	**+1.6**
MLS	**Moulis**	**49.00**	**27**	*e*P	**P**	**19 51 15.7**	**+1.6**
MTLF	**Montolieu**	**49.82**	**28**	*e*P	**P**	**19 51 19.4**	**-0.9**
	comp=Z,13nm,0.9s						
TRQA	**Tornquist**	**50.30**	**216**	*e*P	**P**	**19 51 23.1**	**-1.0**
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
CFAA	**Coronel Fontan**	**50.63**	**227**	P	**P**	**19 51 25.2**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=73,slow=8.6,SNR=3.7						
CFAA				LR	LR	20 13 04.5	
	comp=Z,697nm,19.1s,baz=54,slow=36						
CFAA	**Coronel Fontan**	**50.63**	**227**	P	**P**	**19 51 25.2**	**-1.5**
VSL	**Villasalto**	**50.86**	**36**	PFAKE		19 51 40.0	+12
VSL				LR	LR		
	comp=Z,2μm,19.0s						
GTBY	**Guantanamo Bay**	**50.95**	**295**	PFAKE		19 51 40.0	+11
GTBY				LR	LR		
	comp=Z,916nm,20.0s						
CAF	**Calviac**	**50.98**	**26**	*e*P	**P**	**19 51 27.7**	**-1.4**
	comp=Z,40nm,1.2s						
RJF	**Les Rejaudoux**	**51.04**	**26**	*e*P	**P**	**19 51 28.2**	**-1.3**
	comp=Z,64nm,1.6s						
RJF				*e*R			
	comp=Z,2μm,20.2s						
LASF	**Ste Croix**	**51.15**	**28**	*e*P	**P**	**19 51 29.3**	**-1.1**
NNA	**Nana**	**51.20**	**254**	*e*P	**P**	**19 51 29.8**	**-1.4**
NNA				MLR	MLR		
	comp=Z,1μm,19.0s						
NNA	**Nana**	**51.20**	**254**	*e*P	**P**	**19 51 29.8**	**-1.4**
NNA				LR	LR		
	comp=Z,1μm,19.0s						
LCO	**Las Campanas**	**51.23**	**231**	PFAKE		19 51 40.0	+8.4
LCO				LR	LR		
	comp=Z,3μm,20.0s						
MFF	**Saint Martin d**	**51.40**	**23**	*e*P	**P**	**19 51 31.3**	**-0.8**
	comp=Z,60nm,1.3s						
OTAV	**Otavalo**	**51.61**	**270**	*e*P	**P**	**19 51 37.0**	**+2.2**
	comp=Z,17nm,1.2s						
OTAV				LR	LR		
	comp=Z,690nm,20.0s						
LBL	**Lubilhac**	**51.74**	**27**	*e*P	**P**	**19 51 34.8**	**-0.1**
LBL	**Lubilhac**	**51.74**	**27**	*e*P	**P**	**19 51 34.8**	**-0.1**
LBL	**Lubilhac**	**51.74**	**27**	*e*P	**P**	**19 51 34.8**	**-0.1**
SGMF	**Saint Gilles**	**51.88**	**20**	*e*P	**P**	**19 51 34.6**	**-1.1**
	comp=Z,74nm,1.2s						
SMRF	**Simiane la Rot**	**51.90**	**29**	*e*P	**P**	**19 51 35.5**	**-0.5**
KOMG	**Komaggas**	**51.95**	**130**	*e*P	**P**	**19 51 34.5**	**-2.1**
KOMG				AMB	AMB	19 51 50.3	
	comp=Z,37nm,2.6s						
WDD	**Wield Dalam**	**51.98**	**43**	PFAKE		19 51 50.0	+13
WDD				LR	LR		
	comp=Z,9μm,20.0s						
ATAH	**Atahualpa**	**52.00**	**260**	P	P	19 51 41.2	+3.4
	comp=Z,4.8nm,0.6s,baz=258,slow=9.2,SNR=5.2						
ATAH	**Atahualpa**	**52.00**	**260**	P	P	19 51 41.2	+3.4
VIVF	**Saint-Julien-l**	**52.12**	**28**	*e*P	**P**	**19 51 36.8**	**-0.8**
	comp=Z,44nm,1.4s						
SSB	**Saint Sauveur**	**52.37**	**28**	PFAKE		19 51 50.0	+10
SSB				LR	LR		
	comp=Z,2μm,20.0s						
BGF	**Bois d'Agland**	**52.60**	**25**	*e*P	**P**	**19 51 40.2**	**-0.9**
	comp=Z,36nm,1.2s						
GRR	**Gorron**	**52.60**	**22**	*e*P	**P**	**19 51 39.8**	**-1.3**
	comp=Z,70nm,1.2s						
MVIF	**Mont Vial**	**52.63**	**31**	*e*P	**P**	**19 51 40.2**	**-1.4**
MVIF	**Mont Vial**	**52.63**	**31**	*e*P	**P**	**19 51 40.2**	**-1.4**
MVIF	**Mont Vial**	**52.63**	**31**	*e*P	**P**	**19 51 40.2**	**-1.4**
MTDJ	**Mount Denham**	**52.74**	**292**	PFAKE		19 52 00.0	+17
MTDJ				LR	LR		
	comp=Z,914nm,22.0s						
ORIF	**Oris-en-Rattie**	**52.74**	**29**	*e*P	**P**	**19 51 42.1**	**-0.2**
	comp=Z,37nm,1.2s						

ORIF eR
comp=Z,2µm,20.8s
TOUF Mont Tournerai 52.76 31 *e*P **P 19 51 44.3 +1.7**
TOUF Mont Tournerai 52.76 31 *e*P **P 19 51 44.3 +1.7**
TOUF Mont Tournerai 52.76 31 *e*P **P 19 51 44.3 +1.7**
AVF Avril sur Loir 53.00 26 *e*P **P 19 51 42.7 -1.3**
LDF La Druitiere 53.04 22 *e*P **P 19 51 42.8 -1.6**
comp=Z,6.0nm,0.8s
FLN La Foliniere 53.05 22 *e*P **P 19 51 43.0 -1.4**
FLN eR
comp=Z,1µm,19.2s
BNI Bardonecchia 53.22 29 *e*P **P 19 51 46.4 +0.5**
BNI pmax pmax
comp=Z,16nm,1.0s
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 53.22 29 *e*P **P 19 51 46.4 +0.5**
comp=Z,16nm,1.0s
BNI LR LR
comp=Z,2µm,19.0s
SSF Saint Saulge 53.27 26 *e*P **P 19 51 44.9 -1.2**
comp=Z,57nm,1.7s
BCIP Isla Barro Col 53.42 281 *e*P **P 19 51 49.9 +2.2**
BCIP LR LR
comp=Z,707nm,22.0s
LPG La Plagne 53.58 29 *e*P **P 19 51 48.4 -0.3**
comp=Z,25nm,1.1s
LOR Lormes 53.59 26 *e*P **P 19 51 47.6 -0.8**
comp=Z,52nm,1.5s
LOR eR
comp=Z,3µm,20.0s
LPL La Plagne 53.59 29 *e*P **P 19 51 48.3 -0.4**
comp=Z,43nm,1.4s
CABF La Chapelle 54.09 28 *e*P **P 19 51 51.1 -1.1**
comp=Z,94nm,1.5s
CEL Celeste 54.20 41 PFAKE 19 52 00.0 +6.9
CEL LR LR
comp=Z,5µm,19.0s
CVNA Calvinia 54.46 130 *e*P **P 19 51 57.1 +1.9**
CVNA AMB AMB 19 52 06.8
comp=Z,56nm,1.7s
SFTF Sexfontaines 54.82 26 *e*P **P 19 51 56.4 -0.9**
comp=Z,122nm,1.9s
LOMF Lomont 54.97 27 *e*P **P 19 51 57.9 -0.7**
LOMF Lomont 54.97 27 *e*P **P 19 51 57.9 -0.7**
LOMF Lomont 54.97 27 *e*P **P 19 51 57.9 -0.7**
AQU L'Aquila 55.03 36 PFAKE 19 52 10.0 +11
AQU LR LR
comp=Z,1µm,19.0s
CUC Castrocucco 55.11 39 PFAKE 19 52 10.0 +10
CUC LR LR
comp=Z,1µm,21.0s
HAU Haudompre 55.24 27 *e*P **P 19 51 59.2 -1.3**
comp=Z,68nm,1.3s
HAU eR
comp=Z,2µm,20.5s
TIP Timpagrande 55.27 41 *e*P **P 19 51 59.9 -0.9**
comp=Z,68nm,1.8s
TIP LR LR
comp=Z,3µm,21.0s
HINF Hinteralfeld 55.33 27 *e*P **P 19 51 59.6 -1.5**
comp=Z,65nm,1.6s
PAGF Fort de Pagny 55.38 26 *e*P **P 19 52 00.5 -0.9**
TUE Stuetta 55.55 30 *e*P **P 19 52 01.7 -1.2**
comp=Z,8.8nm,1.1s
TUE LR LR
comp=Z,1µm,19.0s
SUR Sutherland 55.66 131 LR LR 20 10 32.8
comp=Z,843nm,21.8s,baz=304,slow=30
SUR Sutherland 55.66 131 *e*P **P 19 52 04.3 +0.3**
SUR AMB AMB 19 52 11.6
comp=Z,34nm,2.5s
SUR Sutherland 55.66 131 *e*P P 19 51 57.1 -6.9
comp=Z,42nm,1.3s
ECH Echery 55.76 27 *e*P P 19 51 57.7 -6.5
ECH *e* 19 52 02.0
ECH pmax pmax
comp=Z,16nm,1.1s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 55.76 27 *e*P P 19 51 57.7 -6.5
comp=Z,16nm,1.1s
ECH *e*P **P 19 52 02.0 -2.2**
ECH LR LR
comp=Z,2µm,20.0s
ECH Echery 55.76 27 *e*P **P 19 52 02.0 -2.2**
FELD Feldberg im Sc 55.90 28 *e*P **P 19 52 04.6 -0.7**
BAIF Baives 55.91 24 *e*P **P 19 52 02.5 -2.6**
comp=Z,47nm,1.4s
CDF Champ du Feu 55.96 27 *e*P **P 19 52 04.3 -1.4**
comp=Z,52nm,1.4s
DAVOX Davos/Dischmat 56.02 30 P **P 19 52 05.4 -0.9**
comp=Z,8.5nm,0.9s,baz=219,slow=7.6,SNR=8.3
DAVOX Davos/Dischmat 56.02 30 P **P 19 52 05.4 -0.9**
DAVOX Davos/Dischmat 56.02 30 P **P 19 52 05.4 -0.9**
DAVA Damuels 56.38 29⇑ *i*P **P 19 52 06.9 -1.9**
comp=Z,33nm,1.2s
DAVA Damuels 56.38 29⇑ *i*P **P 19 52 06.9 -1.9**
comp=Z,33nm,1.2s
BFO Black Forest 56.38 27 *e*P P 19 52 03.5 -5.1
BFO pmax pmax
comp=Z,25nm,1.5s
BFO MLR MLR
comp=Z,1µm,20.0s
BFO Black Forest 56.38 27 *e*P P 19 52 03.5 -5.1
comp=Z,25nm,1.5s
BFO LR LR
comp=Z,1µm,20.0s
WLF Walferdange 56.40 25 PFAKE 19 52 20.0 +11
WLF LR LR
comp=Z,3µm,19.0s
SPAK Spaichingen-Ko 56.43 28 *e*P **P 19 52 07.2 -1.8**
FETA Feichten 56.61 30⇑ *i*P **P 19 52 09.0 -1.5**
comp=Z,21nm,1.3s
FETA Feichten 56.61 30⇑ *i*P **P 19 52 09.0 -1.5**
comp=Z,21nm,1.3s
LBTB Lobatse 56.74 121 P **P 19 52 12.4 +0.8**
comp=Z,5.6nm,0.9s,baz=312,slow=6.1,SNR=6.1
LBTB Lobatse 56.74 121 *e*P **P 19 52 12.5 +0.8**
LBTB AMB AMB 19 52 22.5
comp=Z,34nm,1.5s
LBTB Lobatse 56.74 121 P **P 19 52 12.4 +0.8**
LBTB pmax pmax
comp=Z,6.0nm,0.9s
LBTB Lobatse 56.74 121 P **P 19 52 12.4 +0.8**
LBTB LR LR
comp=Z,2µm,20.0s
RUP Ruppelstein 56.82 26 *e*P **P 19 52 11.1 -0.6**
RUP Ruppelstein 56.82 26 *e*P **P 19 52 11.1 -0.6**
RETA Reutte 56.95 30⇑ *i*P **P 19 52 10.4 -2.3**
comp=Z,17nm,1.4s
RETA Reutte 56.95 30⇑ *i*P **P 19 52 10.4 -2.3**
comp=Z,17nm,1.4s
PLCA Paso Flores 57.17 219 LR LR 20 16 24.7
comp=Z,2µm,18.8s,baz=48,slow=36
WTTA Wattenberg 57.23 30⇑ *i*P **P 19 52 13.2 -1.7**
WTTA pmax pmax
comp=Z,17nm,1.2s
WTTA Wattenberg 57.23 30⇑ *i*P **P 19 52 13.2 -1.7**
comp=Z,17nm,1.2s
WTTA Wattenberg 57.23 30⇑ *i*P **P 19 52 13.2 -1.7**
comp=Z,17nm,1.2s
TRI Trieste 57.33 33 PFAKE 19 52 30.0 +15
TRI LR LR
comp=Z,1µm,19.0s
ABTA Abfaltersbach 57.34 31⇓ *i*P **P 19 52 15.2 -0.3**
comp=Z,25nm,1.2s
ABTA Abfaltersbach 57.34 31⇓ *i*P **P 19 52 15.2 -0.3**
comp=Z,25nm,1.2s
TOD Tromm 57.52 27 *e*P **P 19 52 15.9 -0.8**
TOD Tromm 57.52 27 *e*P **P 19 52 15.9 -0.8**
MBAR Mbarara 57.59 91 *e*P **P 19 52 20.9 +2.9**
MBAR Mbarara 57.59 91 PFAKE 19 52 30.0 +12
MBAR LR LR
comp=Z,1µm,21.0s
JAVS Javornik 57.61 33 *i*P **P 19 52 17.2 -0.2**
BOSA Boshof 57.67 125 P **P 19 52 18.3 +0.1**
comp=Z,4.7nm,0.8s,baz=315,slow=11,SNR=7.2
BOSA LR LR 20 12 09.5
comp=Z,2µm,21.6s,baz=260,slow=31
BOSA Boshof 57.67 125 *e*P **P 19 52 19.1 +0.8**
BOSA AMB AMB 19 52 28.5
comp=Z,24nm,2.2s
BOSA Boshof 57.67 125 P **P 19 52 18.3 +0.1**
BOSA pmax pmax
comp=Z,5.0nm,0.8s
BOSA MLR MLR
comp=Z,2µm,21.6s
BOSA Boshof 57.67 125 *e*P **P 19 52 18.3 +0.1**
comp=Z,188nm,2.8s
CRNS Crni Vrh 57.83 33 *i*P **P 19 52 18.9 -0.1**
MYKA Terra Mystica 57.85 32⇑ *i*P **P 19 52 19.6 +0.5**
comp=Z,20nm,1.4s
MYKA Terra Mystica 57.85 32⇑ *i*P **P 19 52 19.7 +0.5**
comp=Z,20nm,1.4s
VISS Visnje 57.98 33 *i*P **P 19 52 21.1 +1.2**
BOJS Bojanci 58.02 34 *i*P **P 19 52 21.4 +1.2**
PKME Peaks-Kenny Pk 58.07 326 PFAKE 19 52 30.0 +9.4
PKME LR LR
comp=Z,820nm,20.0s
TIR Tirane 58.43 40 PFAKE 19 52 30.0 +6.8
TIR LR LR
comp=Z,4µm,19.0s
JTS JuntasAbangare 58.55 282 PFAKE 19 52 40.0 +15
JTS LR LR
comp=Z,539nm,22.0s
CNNC Cliffs of the 58.61 312 PFAKE 19 52 40.0 +15
CNNC LR LR
comp=Z,2µm,22.0s
SOKA Soboth 58.62 33⇑ *i*P **P 19 52 24.1 -0.5**
comp=Z,14nm,1.3s
SOKA Soboth 58.62 33⇑ *i*P **P 19 52 24.1 -0.5**
comp=Z,14nm,1.3s
GRFO Grafenberg 58.69 28 *e*P **P 19 52 22.8 -2.0**
GRFO pmax pmax
comp=Z,47nm,1.6s
GRFO Grafenberg 58.69 28 *e*P **P 19 52 22.8 -2.0**
comp=Z,47nm,1.6s
GRF Grafenberg Arr 58.69 28 *e*P **P 19 52 24.5 -0.4**
comp=Z,28nm,1.3s
GRF *e*L L 20 15 16.4
comp=Z,938nm,20.4s
GRF Grafenberg Arr 58.69 28 *e*P **P 19 52 24.5 -0.4**
GRF pmax pmax
comp=Z,28nm,1.3s
GRF MLR MLR
comp=Z,900nm,20.4s
PRYS Parys 58.85 122 *e*P **P 19 52 24.5 -2.1**
PRYS AMB AMB 19 52 36.9
comp=Z,28nm,2.2s
HNH Hanover 58.91 323 *e*P **P 19 52 27.5 +1.1**
LBNH Lisbon 59.00 324 PFAKE 19 52 40.0 +13
LBNH LR LR
comp=Z,2µm,22.0s
SLR Silverton 59.27 121 *e*P **P 19 52 27.0 -2.5**
SLR AMB AMB 19 52 38.7
comp=Z,35nm,4.7s
GERES GERESS Array B 59.32 30 P **P 19 52 28.4 -0.9**
comp=Z,6.8nm,1.0s,baz=224,slow=5.6,SNR=25
GERES LR LR 20 15 27.1
comp=Z,1µm,20.7s,baz=237,slow=33
GERES GERESS Array B 59.32 30 P **P 19 52 28.4 -0.9**
GERES pmax pmax
comp=Z,7.0nm,1.0s
GERES MLR MLR
comp=Z,1µm,20.7s
GERES GERESS Array B 59.32 30 P **P 19 52 28.4 -0.9**
ERPM east rand prop 59.42 121 *e*P P 19 52 37.5 +6.9
ERPM AMB AMB 19 52 41.7
comp=Z,31nm,2.1s
KHC Kasperske Hory 59.45 30 *e*P **P 19 52 29.5 -0.6**
KHC Kasperske Hory 59.45 30 *e*P **P 19 52 29.5 -0.6**
CBN Corbin 59.50 315 PFAKE 19 52 40.0 +9.3
CBN LR LR
comp=Z,1µm,19.0s
NHSC New Hope 59.53 309 PFAKE 19 52 40.0 +9.1
NHSC LR LR
comp=Z,1µm,21.0s
NKC Novy Kostel 59.64 28 *e*P **P 19 52 30.8 -0.6**
NKC *e**PP **pP 19 52 40.0 +2.8**
NKC *e*S S 20 00 48.9 +7.9
NKC MLR MLR
comp=Z,1µm,16.2s
NKC Novy Kostel 59.64 28 *e*P **P 19 52 30.8 -0.6**
NKC *ex* x 19 52 40.0
NKC *e*S S 20 00 48.9 +7.9
NKC AMS AMS 20 17 30.0
comp=Z,1µm,16.2s
MSNA Messina 59.88 116 *e*P P 19 52 39.8 +6.1
MSNA AMB AMB 19 52 52.4
comp=Z,36nm,2.1s
BINY Binghamton 60.44 320 PFAKE 19 52 50.0 +13
BINY LR LR
comp=Z,2µm,21.0s
PRU Pruhonice 60.48 29 *e*P **P 19 52 36.3 -0.9**
PRU *e**PP **pP 19 52 45.1 +2.2**
PRU *e*S **S 20 00 55.6 +3.8**
PRU MLR MLR
comp=Z,1µm,16.5s
PRU Pruhonice 60.48 29 *e*P **P 19 52 36.3 -0.9**
PRU *ex* x 19 52 45.1
PRU *e*S **S 20 00 55.6 +3.8**
PRU AMS AMS 20 16 50.0
comp=Z,1µm,16.5s
TREC Trest 60.51 30 *e*P **P 19 52 36.2 -1.2**
TREC *e**PP **pP 19 52 44.5 +1.4**
TREC *e*S **S 20 00 50.9 -1.3**
TREC MLR MLR
comp=Z,900nm,15.8s
TREC Trest 60.51 30 *e*P **P 19 52 36.2 -1.2**
TREC *ex* x 19 52 44.5
TREC *e*S **S 20 00 50.9 -1.3**
TREC AMS AMS 20 18 40.0
comp=Z,900nm,15.8s
CLL Collm 60.63 27 *i*P **P 19 52 38.7 +0.6**
CLL *e* 19 52 46.0
CLL *e*S **S 20 00 55.0 +1.4**
CLL pmax pmax
comp=Z,38nm,1.8s
CLL MLR MLR
comp=Z,900nm,20.0s
CLL Collm 60.63 27 *i*P **P 19 52 38.7 +0.6**
comp=Z,38nm,1.8s
CLL *e* 19 52 46.0
CLL *e**PP **PP 19 54 51.0 -0.9**
CLL *e*PPP PPP 19 56 24.0
CLL *e*S **S 20 00 55.0 +1.4**
CLL comp=N,800nm,27.7s *e*S **S 20 00 55.0 +1.4**
CLL comp=E,800nm,26.0s *e* 20 03 48.0
CLL *e*SS **SS 20 04 48.0 -4.3**
CLL *e*SSS SSS 20 07 29.0
CLL Lm MLR 20 16 00.0
CLL comp=N,900nm,21.0s Lm MLR 20 16 00.0
CLL comp=E,400nm,19.5s Lm MLR 20 16 00.0
comp=Z,900nm,20.0s
BRG Berggiesshubel 60.78 28 *e*P **P 19 52 39.5 +0.4**
comp=Z,16nm,1.4s
BRG *e* 19 53 05.4
comp=Z,18nm,1.4s
BRG PPP PPP 19 56 35.0
BRG S S 20 01 06.0 +10
BRG comp=Z,1µm,15.2s
BRG comp=N,570nm,12.0s
BRG comp=E,680nm,12.0s
BRG Berggiesshubel 60.78 28 *e*P **P 19 52 39.5 +0.4**
BRG S S 20 01 06.0 +10
BRG pmax pmax
comp=Z,16nm,1.4s
BRG pmax pmax
comp=Z,18nm,1.5s
BRG MLR MLR
comp=Z,1µm,15.2s
BRG MLR MLR
comp=N,570nm,12.0s
BRG MLR MLR
comp=E,680nm,12.0s
LONY Lake Ozonia 60.80 323 PFAKE 19 52 50.0 +11
LONY LR LR
comp=Z,2µm,22.0s
PVCC Panska Ves 60.85 29 *e*P **P 19 52 39.1 -0.6**
PVCC *e**PP **pP 19 52 47.3 +1.9**
PVCC MLR MLR
comp=Z,1µm,21.2s
PVCC Panska Ves 60.85 29 *e*P **P 19 52 39.1 -0.6**
PVCC *ex* x 19 52 47.3
PVCC AMS AMS 20 18 40.0
comp=Z,1µm,21.2s
SMOL Smolenice 61.03 32 *e*P **P 19 52 42.0 +1.0**
SMOL Smolenice 61.03 32 *e*P **P 19 52 42.0 +1.0**
VRAC Vranov 61.08 31 P **P 19 52 39.7 -1.6**
comp=Z,4.0nm,0.8s,baz=235,slow=9.0,SNR=4.8
VRAC Vranov 61.08 31⇓ P **P 19 52 39.7 -1.6**
VRAC Vranov 61.08 31 P **P 19 52 39.7 -1.6**
VRAC Vranov 61.08 31⇓ P **P 19 52 39.7 -1.6**
VTS Vitosha 61.21 40⇑ P **P 19 52 44.3 +1.8**
VTS Vitosha 61.21 40⇑ *i*P **P 19 52 44.3 +1.8**
TGUH Tegucigalpa,Un 61.22 286 PFAKE 19 53 00.0 +17
TGUH LR LR
comp=Z,472nm,21.0s
BLA Blacksburg 61.28 313 PFAKE 19 53 00.0 +17
BLA LR LR
comp=Z,2µm,20.0s
UPC Upice 61.54 30 *e*P **P 19 52 44.0 -0.4**
UPC Upice 61.54 30 *e*P **P 19 52 44.0 -0.4**
UPC *ex* x 19 52 53.5
DPC Dobruska-Polom 61.59 30 *e*P **P 19 52 43.4 -1.4**
DPC *e*S **S 20 01 09.2 +3.1**
DPC MLR MLR
comp=Z,900nm,17.4s
DPC Dobruska-Polom 61.59 30 *e*P **P 19 52 43.5 -1.4**
comp=Z,157nm,2.7s
DPC Dobruska-Polom 61.59 30 *e*P **P 19 52 43.4 -1.4**
DPC *ex* x 19 52 53.1
DPC *e*S **S 20 01 09.2 +3.1**
DPC AMS AMS 20 17 30.0
comp=Z,900nm,17.4s
KRLC Kraliky 61.65 30 *e*P **P 19 52 45.4 +0.2**
BZS Buzias 61.75 37⇓ P **P 19 52 47.1 +1.2**
BZS Buzias 61.75 37⇓ *i*P **P 19 52 47.1 +1.2**
VYHS Vyhne 61.77 33 *e*P **P 19 52 45.1 -0.9**
VYHS pmax pmax
comp=Z,40nm,2.4s
VYHS Vyhne 61.77 33 *e*P **P 19 52 45.1 -0.9**
MORC Moravsky Berou 61.86 31⇓ P **P 19 52 46.2 -0.4**
MORC Moravsky Berou 61.86 31 *e*P **P 19 52 46.2 -0.4**
comp=Z,73nm,2.1s
MORC Moravsky Berou 61.86 31⇓ *i*P **P 19 52 46.2 -0.4**
KSP Ksiaz 61.89 29 *e*P **P 19 52 45.8 -0.9**
KSP *e*S **S 20 01 14.0 +4.3**
KSP MLR MLR
comp=Z,3µm,20.0s
PSZ Piszkesteto 62.02 34⇓ P **P 19 52 48.0 +0.2**
PSZ Piszkesteto 62.02 34 *e*P **P 19 52 46.6 -1.1**
comp=Z,355nm,2.9s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 62.02 34⇓ *i*P **P 19 52 48.0 +0.2**
OKC Ostrava-Krasne 62.21 31 *e*P **P 19 52 48.7 -0.1**
OKC *e**PP **pP 19 52 57.1 +2.5**
OKC *e*S **S 20 01 18.0 +4.3**
OKC MLR MLR
comp=Z,700nm,14.5s
OKC Ostrava-Krasne 62.21 31 *e*P **P 19 52 48.7 -0.1**
OKC *ex* x 19 52 57.1
OKC *e*S **S 20 01 18.0 +4.3**
OKC AMS AMS 20 21 30.0
comp=Z,700nm,14.5s
GOGA Godfrey 62.22 308 PFAKE 19 53 00.0 +11
GOGA LR LR
comp=Z,1µm,22.0s
DRGR 63.02 36⇓ P **P 19 52 54.2 -0.2**
DRGR 63.02 36⇓ *i*P **P 19 52 54.2 -0.2**
ERPA Erie 63.03 318 PFAKE 19 53 10.0 +15
ERPA LR LR
comp=Z,2µm,19.0s
AKAS Kas 63.04 49 *i*P **P 19 52 52.9 -2.0**
TEIG Tepich 63.08 292 *e*P **P 19 52 57.4 +2.2**
comp=Z,28nm,1.3s
TEIG LR LR
comp=Z,419nm,22.0s
SCHQ Schefferville 63.12 335 LR LR 20 14 02.9
comp=Z,1µm,20.6s,baz=281,slow=30
TKL Tuckaleechee C 63.21 310 P **P 19 52 56.3 +0.4**
comp=Z,6.9nm,1.0s,baz=180,slow=13,SNR=5.2
TKL Tuckaleechee C 63.21 310 P **P 19 52 56.3 +0.4**
TKL pmax pmax
comp=Z,7.0nm,1.0s
TKL Tuckaleechee C 63.21 310 P **P 19 52 56.3 +0.4**
OJC Ojcow 63.29 32 *e*P **P 19 52 56.7 +0.6**
OJC Ojcow 63.29 32 *e*P **P 19 52 56.7 +0.6**
OJC Ojcow 63.29 32 *e*P **P 19 52 55.9 -0.2**
comp=Z,212nm,2.8s
CRVS Cervenica-Dubn 63.44 33 *e*P **P 19 52 58.0 +0.9**
CRVS pmax pmax
comp=Z,11nm,1.5s
CRVS Cervenica-Dubn 63.44 33 *e*P **P 19 52 58.0 +0.9**
STHS Stebnicka Huta 63.60 33 *e*P **P 19 53 00.8 +2.6**
STHS Stebnicka Huta 63.60 33 *e*P **P 19 53 00.8 +2.6**
CPCT Cooper Cave 63.72 310 *e*P **P 19 53 00.1 +0.9**
VOIR 63.75 38⇓ P **P 19 52 59.0 -0.3**
VOIR 63.75 38⇓ *i*P **P 19 52 59.0 -0.3**
UZH Uzhgorod 63.75 34 *e*P **P 19 53 01.0 +1.9**
UZH *e* 19 53 03.4
UZH *e* 19 53 28.6
UZH *e*S **S 20 01 33.2 +0.1**
UZH *e* 20 01 58.8
UZH *e* 20 02 50.0
UZH *e* 20 05 35.4
UZH *e* 20 08 25.6
UZH MLR MLR
comp=N,520nm,20.0s
UZH MLR MLR
comp=E,800nm,20.0s
UZH MLR MLR
comp=Z,80nm,20.0s
KORT Korkueli 63.87 49 *i*P **P 19 53 02.2 +1.8**
BORG Borgarnes 64.09 3 LR LR 20 13 21.3
comp=Z,456nm,20.1s,baz=359,slow=29
KMBO Kilima Mbogo 64.11 92 *e*P P 19 53 07.0 +4.4
KMBO Kilima Mbogo 64.11 92 *e*P **P 19 53 04.8 +2.3**
KMBO pmax pmax
comp=Z,16nm,1.4s
KMBO MLR MLR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 64.11 92 *e*P **P 19 53 04.8 +2.3**
comp=Z,16nm,1.4s
KMBO LR LR
comp=Z,1µm,19.0s
SULR 64.15 39⇓ *i*P **P 19 53 01.4 -0.4**
ISP Isparta 64.29 48 PFAKE 19 53 10.0 +6.9
ISP LR LR
comp=Z,948nm,20.0s
ACSO Alum Creek Sta 64.31 315 *e*P **P 19 53 05.7 +2.7**
comp=Z,48nm,1.5s
ACSO LR LR
comp=Z,2µm,22.0s
MLR Muntele Rosu 64.33 38 P **P 19 53 01.4 -1.8**
comp=Z,1.6nm,0.8s,baz=202,slow=9.1,SNR=8.7
MLR Muntele Rosu 64.33 38⇓ P **P 19 53 02.9 -0.3**
MLR Muntele Rosu 64.33 38 P **P 19 53 01.4 -1.8**
MLR Muntele Rosu 64.33 38⇓ *i*P **P 19 53 02.9 -0.3**
BRAL Brewton 64.40 304 PFAKE 19 53 20.0 +16
BRAL LR LR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 64.52 33 PFAKE 19 53 20.0 +16
KWP LR LR
comp=Z,2µm,19.0s
SWET Sewanee 64.73 309 *e*P **P 19 53 08.2 +2.3**
comp=Z,29nm,1.1s
LRAL Lakeview Retre 64.92 306 PFAKE 19 53 20.0 +13
LRAL LR LR
comp=Z,2µm,22.0s
USHA Ushuaia 64.93 205 LR LR 20 17 30.6
comp=Z,2µm,19.7s,baz=41,slow=32
SEYT Eskypehyr 65.14 46 *i*P **P 19 53 07.9 -0.7**
TESR 65.24 38⇓ *i*P **P 19 53 08.9 0.0**
KONO Kongsberg 65.29 19 PFAKE 19 53 20.0 +11
KONO LR LR
comp=Z,1µm,19.0s
LVV L'vov 65.35 34 *e*P **P 19 53 08.4 -1.2**
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=E,700nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s
CSS Prodhromos 65.49 52 *e*P **P 19 53 10.0 -0.9**
comp=Z,57nm,1.6s

CSS LR LR
comp=Z,2μm,22.0s
AAM Ann Arbor 65.58 317 PFAKE 19 53 20.0 +8.8
AAM LR LR
comp=Z,1μm,19.0s
PLAL Pickwick Lake 66.33 308 *e*P **P 19 53 18.2 +2.0**
comp=Z,26nm,1.3s
PLAL LR LR
comp=Z,1μm,22.0s
WVT Waverly 66.48 309 *e*P **P 19 53 16.5 -0.7**
WVT pmax pmax
comp=Z,17nm,1.1s
WVT Waverly 66.48 309 *e*P **P 19 53 16.5 -0.7**
comp=Z,17nm,1.1s
MMAI Mount Meron Ar 66.59 54 P **P 19 53 18.2 +0.2**
comp=Z,8.4nm,1.1s,baz=253,slow=13,SNR=6.5
MMAI Mount Meron Ar 66.59 54 P **P 19 53 18.2 +0.2**
NOA NORSAR Array B 66.87 19 P **P 19 53 17.2 -2.0**
comp=Z,1.7nm,0.8s,baz=221,slow=6.4,SNR=4.2
NOA LR LR 20 22 32.0
comp=Z,764nm,19.2s,baz=220,slow=36
NOA NORSAR Array B 66.87 19 P **P 19 53 17.2 -2.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,765nm,19.2s
NOA NORSAR Array B 66.87 19 P **P 19 53 17.2 -2.0**
HFS Hagfors 67.05 21 P **P 19 53 19.5 -0.8**
comp=Z,2.4nm,0.7s,baz=212,slow=19,SNR=5.1
HFS LR LR 20 17 44.5
comp=Z,882nm,21.4s,baz=229,slow=32
HFS Hagfors 67.05 21 P **P 19 53 19.5 -0.8**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,882nm,21.4s
HFS Hagfors 67.05 21 P **P 19 53 19.5 -0.8**
SUW Suwalki 67.17 29 *e*P **P 19 53 20.8 -0.3**
SUW pmax pmax
comp=Z,33nm,1.0s
SUW Suwalki 67.17 29 *e*P **P 19 53 20.8 -0.3**
comp=Z,33nm,1.0s
GLMI Grayling 67.22 319 PFAKE 19 53 30.0 +8.3
GLMI LR LR
comp=Z,1μm,20.0s
BR131 Keskin Array S 67.23 47 *e*P **P 19 53 21.1 -1.0**
comp=Z,8.2nm,0.9s
BR131 LR LR
comp=Z,1μm,21.0s
BRTR Keskin Array B 67.23 47 P **P 19 53 21.6 -0.4**
comp=Z,4.0nm,1.0s,baz=231,slow=8.2,SNR=9.7
BRTR LR LR 20 23 37.1
comp=Z,2μm,21.9s,baz=50,slow=37
BRTR Keskin Array B 67.23 47 P **P 19 53 21.7 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR MLR MLR
comp=Z,2μm,22.0s
BRTR Keskin Array B 67.23 47 P **P 19 53 21.6 -0.4**
GULE Gulek 67.31 50 *i* P **P 19 53 22.8 +0.2**
OLIL Olney 67.49 312 *e*P **P 19 53 26.4 +2.9**
comp=Z,47nm,1.3s
VBMS Vicksburg 67.56 305 PFAKE 19 53 40.0 +16
VBMS LR LR
comp=Z,2μm,21.0s
CDAG Cicekdag 67.73 47 *i* P **P 19 53 24.1 -1.1**
SIUC Southern Illin 68.01 311 *e*P P 19 53 35.4 +8.6
comp=Z,19nm,0.9s
SFJD Kangerlussuaq 68.30 350 *e*P P 19 53 31.1 +3.1
SFJD pmax pmax
comp=Z,9.0nm,1.1s
SFJD Kangerlussuaq 68.30 350 *i* P P 19 53 31.1 +3.1
comp=Z,8.6nm,1.1s
KIEV Kiev 68.67 34‖ *e*P **P 19 53 30.2 -0.5**
KIEV Kiev 68.67 34 *e*P **P 19 53 29.5 -1.2**
comp=Z,68nm,1.7s
KIEV LR LR
comp=Z,870nm,22.0s
AKASG Malin Array Be 68.69 34 P **P 19 53 29.1 -1.7**
comp=Z,8.5nm,0.7s,baz=241,slow=7.0,SNR=20
AKASG LR LR 20 25 14.8
comp=Z,792nm,20.0s,baz=250,slow=37
AKASG Malin Array Be 68.69 34 P **P 19 53 29.1 -1.7**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG MLR MLR
comp=Z,792nm,20.0s
AKASG Malin Array Be 68.69 34 P **P 19 53 29.1 -1.7**
KUZU Kuzuini 68.92 51 *i* P **P 19 53 33.0 +0.3**
HDIL Hopedale 68.93 314 PFAKE 19 53 50.0 +17
HDIL LR LR
comp=Z,2μm,22.0s
NACGM Naroch 69.42 30 *e* **P 19 53 33.0 -2.2**
GZT Gaziantep 69.46 50 *i* P **P 19 53 36.9 +0.8**
MNK Minsk 69.75 30 *e*P **P 19 53 36.0 -1.3**
MICGM Minsk 69.77 30 *e*P **P 19 53 36.0 -1.4**
SCO Scoresbysund 69.81 2 *i* P P 19 53 41.5 +4.2
SCO pmax pmax
comp=Z,7.0nm,1.1s
SCO Scoresbysund 69.81 2 *i* P P 19 53 41.5 +4.2
comp=Z,6.9nm,1.1s
AKCD Akcadag 69.99 49 *i* P **P 19 53 41.6 +2.3**
MALT Malatya 70.37 49 PFAKE 19 53 50.0 +8.4
MALT LR LR
comp=Z,33nm,21.0s
MIAR Mount Ida 70.59 306 *e*P **P 19 53 44.1 +1.2**
MIAR MLR MLR
comp=Z,2μm,22.0s
MIAR Mount Ida 70.59 306 *e*P **P 19 53 44.1 +1.2**
MIAR LR LR
comp=Z,2μm,22.0s
COWI Conover 70.65 319 PFAKE 19 54 00.0 +17
COWI LR LR
comp=Z,956nm,19.0s
PMSA Palmer Station 70.65 196 PFAKE 19 53 50.0 +7.4
PMSA LR LR
comp=Z,815nm,20.0s
KEMA Kemaliye 70.68 48 *i* P **P 19 53 42.0 -1.5**
NATX Nacogdoches 70.89 303 PFAKE 19 54 00.0 +15
NATX LR LR
comp=Z,2μm,20.0s
SCIA State Center 72.16 314 PFAKE 19 54 10.0 +18
SCIA LR LR
comp=Z,2μm,22.0s
SUMG Summit 72.21 356 *i* P **P 19 53 54.5 +2.1**
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 72.21 356 *e*P **P 19 53 49.6 -2.8**
comp=Z,20nm,1.0s
SUMG Summit 72.21 356 *i* P **P 19 53 54.5 +2.1**
comp=Z,14nm,1.0s
VNA1 Neumayer--Stat 72.21 174 *e* P 19 53 57.3 +5.4
VNA1 *e* 19 54 09.6
VNA2 Neumayer--Watz 72.57 173 *e* P 19 53 58.5 +4.4
VNA2 *e* 19 54 10.1
FINES FINESS Array B 72.58 24 P **P 19 53 54.3 0.0**
comp=Z,10nm,0.9s,baz=271,slow=7.0,SNR=12
FINES LR LR 20 22 14.4
comp=Z,1μm,20.2s,baz=245,slow=33
FINES FINESS Array B 72.58 24 P **P 19 53 54.3 0.0**
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES MLR MLR
comp=Z,1μm,20.2s
FINES FINESS Array B 72.58 24 P **P 19 53 54.3 0.0**
VNA3 Neumayer Olymp 72.62 174 *e* P 19 53 58.3 +3.9
TUL1 Tulsa 72.67 307‖P **P 19 53 54.2 -1.2**
baz=73
TUL1 ‖P **P 19 53 54.2 -1.2**
baz=73
TUL1 ‖P **P 19 53 54.2 -1.2**
baz=73
EYMN Ely 72.79 320 PFAKE 19 54 10.0 +14
EYMN LR LR
comp=Z,941nm,20.0s
KVTX Kingsville 72.94 299 PFAKE 19 54 10.0 +13
KVTX LR LR
comp=Z,620nm,19.0s
SNAA Sanae 73.83 172 *e* P 19 54 05.1 +3.5
SNAA *e* 19 54 16.3
SNAA Sanae 73.83 172 *e*P **P 19 54 03.5 +1.9**
SNAA Sanae 73.83 172 *e*P **P 19 54 03.5 +1.9**
SNAA pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 73.83 172 *e*P **P 19 54 03.5 +1.9**
comp=Z,5.3nm,0.9s

KSU1 Kansas State U 73.98 311 PFAKE 19 54 20.0 +17
KSU1 LR LR
comp=Z,535nm,20.0s
BHD Baghdad 74.00 56 *e*P P 19 53 55.0 -8.2
BHD *i* PcP pP 19 54 10.0 +0.9
BHD *e*PPP PPP 19 58 44.0
BHD *i* S SKiKP 20 03 22.0 -9.4
HAKT HAKKARI 74.26 51 *i* P **P 19 54 04.2 -0.8**
OBN Obninsk 74.56 32‖ *e*P **P 19 54 06.0 -0.1**
OBN *e* 19 54 18.0
OBN *e* 19 56 51.4
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,800nm,17.0s
OBN Obninsk 74.56 32 PFAKE 19 54 20.0 +14
OBN LR LR
comp=Z,1μm,19.0s
VSR Storozhevoye 74.67 37 *e*P **P 19 54 05.5 -1.3**
VSR *e**SP **sP 19 54 11.3 -3.5**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,2μm,24.0s
VSR MLR MLR
comp=N,300nm,12.0s
VSR MLR MLR
comp=E,960nm,24.0s
WMOK Wichita Mounta 74.84 306 *e*P **P 19 54 10.8 +2.6**
WMOK pmax pmax
comp=Z,61nm,2.5s
WMOK MLR MLR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 74.84 306 *e*P **P 19 54 10.8 +2.6**
comp=Z,61nm,2.5s
WMOK LR LR
comp=Z,1μm,19.0s
KIV Kislovodsk 74.92 44*c* *i*P **P 19 54 09.6 +1.0**
KIV *e* 19 54 18.7
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,500nm,20.0s
KIV Kislovodsk 74.92 44 *e*P **P 19 54 09.6 +1.0**
comp=Z,28nm,1.1s
KIV LR LR
comp=Z,540nm,19.0s
JCT Junction City 75.02 301 *e*P P 19 54 06.1 -3.3
JCT pmax pmax
comp=Z,22nm,1.1s
JCT MLR MLR
comp=Z,794nm,20.0s
JCT Junction City 75.02 301 *e*P P 19 54 06.1 -3.3
comp=Z,22nm,1.1s
JCT LR LR
comp=Z,794nm,20.0s
JCT Junction City 75.02 301 ⇑P **P 19 54 07.7 -1.6**
baz=75
JCT ⇑P **P 19 54 07.7 -1.6**
baz=75
JCT ⇑P **P 19 54 07.7 -1.6**
baz=75
ECSD EROS Data Cent 75.04 315 *e*P **P 19 54 10.7 +1.5**
comp=Z,155nm,3.0s
ECSD LR LR
comp=Z,1μm,20.0s
ABPO Ambohimpanom 75.16 110 PFAKE 19 54 20.0 +9.5
ABPO LR LR
comp=Z,730nm,21.0s
MOS Moscow 75.35 32 *e*P **P 19 54 11.1 +0.5**
MOS *e* 19 54 20.2
MOS pmax pmax
comp=Z,72nm,1.7s
MOS pmax pmax
comp=Z,200nm,2.2s
JOF Joensuu 75.45 24 *e*P **P 19 54 09.7 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 75.45 24 *ep* **P 19 54 09.7 -1.3**
comp=Z,4.4nm,0.9s
JOF Joensuu 75.45 24 *ep* **P 19 54 09.7 -1.3**
comp=Z,4.4nm,0.9s
ZEI Tsey 75.50 46 *e*P **P 19 54 11.4 -0.7**
ZEI pmax pmax
comp=Z,28nm,1.8s
GNI Garni 75.57 49*c* *i*P **P 19 54 13.8 +1.3**
GNI pmax pmax
comp=Z,14nm,1.2s
GNI MLR MLR
comp=Z,573nm,23.0s
GNI Garni 75.57 49 PFAKE 19 54 20.0 +7.5
GNI LR LR
comp=Z,556nm,21.0s
AGMN Agassiz Nation 75.69 320 PFAKE 19 54 30.0 +17
AGMN LR LR
comp=Z,591nm,19.0s
VRHR Novokhopersk 76.11 37 *e*P **P 19 54 15.2 +0.1**
VRHR *e**SP **sP 19 54 20.2 -2.9**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.9s
DAG Danmarks Havn 76.19 2 *e*P P 19 54 19.3 +4.2
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 76.19 2 *i* P P 19 54 19.3 +4.2
comp=Z,56nm,0.9s
ULM Lac du Bonnet 76.22 322 P **P 19 54 16.2 +0.4**
comp=Z,4.9nm,0.9s,baz=104,slow=4.9,SNR=5.5
ULM LR LR 20 22 18.0
comp=Z,1μm,19.7s,baz=274,slow=32
ULM Lac du Bonnet 76.22 322 P **P 19 54 16.2 +0.4**
ULM pmax pmax
comp=Z,5.0nm,0.9s
ULM MLR MLR
comp=Z,1μm,19.7s
ULM Lac du Bonnet 76.22 322 P **P 19 54 16.2 +0.4**
CBKS Cedar Bluff 76.31 310 PFAKE 19 54 30.0 +13
CBKS LR LR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 76.99 17 LR LR 20 23 31.9
comp=Z,1μm,19.3s,baz=240,slow=32
AMTX Amarillo 77.22 306 *e*P P 19 54 26.1 +4.3
comp=Z,63nm,2.1s
AMTX LR LR
comp=Z,2μm,22.0s
428A Kincaid Ranch, 77.52 301 ⇑P **P 19 54 22.5 -1.1**
baz=78
428A ⇑P **P 19 54 22.5 -1.1**
baz=78
428A ⇑P **P 19 54 22.5 -1.1**
baz=78
528A Cox Ranch, San 77.54 301 ⇑P **P 19 54 23.1 -0.7**
baz=78
528A ⇑P **P 19 54 23.1 -0.7**
baz=78
528A ⇑P **P 19 54 23.1 -0.7**
baz=78
KEV Kevo 77.55 17 PFAKE 19 54 30.0 +7.2
KEV LR LR
comp=Z,2μm,22.0s
628A Black Gap, Mar 77.55 300 ⇓P **P 19 54 23.2 -0.6**
baz=78
628A ⇓P **P 19 54 23.2 -0.6**
baz=78
628A ⇓P **P 19 54 23.2 -0.6**
baz=78
328A Wristen Ranch, 77.70 302 ⇓P **P 19 54 24.4 -0.2**
baz=78
328A ⇓P **P 19 54 24.4 -0.2**
baz=78
328A ⇓P **P 19 54 24.4 -0.2**
baz=78
T28A Walsh 77.89 308 ⇓P **P 19 54 24.9 -0.7**
baz=78
T28A ⇓P **P 19 54 24.9 -0.7**
baz=78
T28A ⇓P **P 19 54 24.9 -0.7**
baz=78
627A Terlingua Ranc 77.98 300 ⇑P **P 19 54 24.8 -1.4**
baz=78

627A ⇑P **P 19 54 24.8 -1.4**
baz=78
627A ⇑P **P 19 54 24.8 -1.4**
baz=78
MSTX Muleshoe 77.99 304 ⇑P **P 19 54 25.1 -1.0**
baz=78
MSTX ⇑P **P 19 54 25.1 -1.0**
baz=78
MSTX ⇑P **P 19 54 25.1 -1.0**
baz=78
MAK Makhachkala 78.14 46 *e*P P 19 54 21.6 -5.0
MAK *e* 19 54 32.8
MAK *e* 19 57 19.9
MAK *e*PPP PPP 19 59 08.5
MAK *e*S S 20 04 11.5 -8.9
MAK *e* 20 04 39.7
MAK pmax pmax
comp=Z,68nm,1.4s
427A Hayter Ranch, 78.14 301 ⇓P **P 19 54 25.2 -1.9**
baz=78
427A ⇓P **P 19 54 25.2 -1.9**
baz=78
427A ⇓P **P 19 54 25.2 -1.9**
baz=78
TXAR Lajitas Array 78.21 300 P **P 19 54 25.8 -1.7**
comp=Z,1.6nm,0.8s,baz=127,slow=5.8,SNR=11
TXAR LR LR 20 24 50.9
comp=Z,597nm,21.8s,baz=0.0,slow=33
TXAR Lajitas Array 78.21 300 P **P 19 54 25.8 -1.7**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR MLR MLR
comp=Z,597nm,21.8s
TXAR Lajitas Array 78.21 300 P **P 19 54 25.8 -1.7**
Z27A Tatum 78.27 304 ⇑P **P 19 54 25.6 -2.2**
baz=78,SNR=7.5
Z27A ⇑P **P 19 54 25.6 -2.2**
baz=78,SNR=7.5
Z27A ⇑P **P 19 54 25.6 -2.2**
baz=78,SNR=7.5
Y27A Causey 78.30 304 ⇑P **P 19 54 25.9 -2.1**
baz=78,SNR=5.5
Y27A ⇑P **P 19 54 25.9 -2.1**
baz=78,SNR=5.5
Y27A ⇑P **P 19 54 25.9 -2.1**
baz=78,SNR=5.5
T27A Campo 78.36 308 ⇓P **P 19 54 26.5 -1.7**
baz=78
T27A ⇓P **P 19 54 26.5 -1.7**
baz=78
T27A ⇓P **P 19 54 26.5 -1.7**
baz=78
OGNE Ogallala 78.42 312 PFAKE 19 54 40.0 +12
OGNE LR LR
comp=Z,1μm,20.0s
APA Apatity 78.43 20‖ *i*P **P 19 54 30.0 +2.3**
APA *i* S S 20 04 30.0 +7.4
R27A Eads 78.60 309 ⇓P **P 19 54 27.8 -1.7**
baz=79
R27A ⇓P **P 19 54 27.8 -1.7**
baz=79
R27A ⇓P **P 19 54 27.8 -1.7**
baz=79
626A Big Bend Ranch 78.64 300 ⇓P **P 19 54 27.5 -2.4**
baz=79,SNR=5.9
626A ⇓P **P 19 54 27.5 -2.4**
baz=79,SNR=5.9
626A ⇓P **P 19 54 27.5 -2.4**
baz=79,SNR=5.9
526A Mary Lane Ranc 78.65 300 ⇑P **P 19 54 28.1 -1.8**
baz=79,SNR=8.5
526A ⇑P **P 19 54 28.1 -1.8**
baz=79,SNR=8.5
526A ⇑P **P 19 54 28.1 -1.8**
baz=79,SNR=8.5
426A McDonald Obser 78.66 301 ⇑P **P 19 54 28.7 -1.4**
baz=79,SNR=9.3
426A ⇑P **P 19 54 28.7 -1.4**
baz=79,SNR=9.3
426A ⇑P **P 19 54 28.7 -1.4**
baz=79,SNR=9.3
326A Caldwell Ranch 78.69 302 ⇓P **P 19 54 28.8 -1.3**
baz=79,SNR=5.3
326A ⇓P **P 19 54 28.8 -1.3**
baz=79,SNR=5.3
326A ⇓P **P 19 54 28.8 -1.3**
baz=79,SNR=5.3
226A Malaga, Loving 78.87 302 ⇑P **P 19 54 30.3 -0.8**
baz=79
226A ⇑P **P 19 54 30.3 -0.8**
baz=79
226A ⇑P **P 19 54 30.3 -0.8**
baz=79
Z26A Caprock 78.90 304 ⇓P **P 19 54 30.1 -1.2**
baz=79
Z26A ⇓P **P 19 54 30.1 -1.2**
baz=79
Z26A ⇓P **P 19 54 30.1 -1.2**
baz=79
LVZ Lovozero 79.00 20 PFAKE 19 54 40.0 +9.0
LVZ LR LR
comp=Z,2μm,20.0s
S26A Kim 79.03 308 ⇑P **P 19 54 30.5 -1.4**
baz=79
S26A ⇑P **P 19 54 30.5 -1.4**
baz=79
S26A ⇑P **P 19 54 30.5 -1.4**
baz=79
U26A Atchley Ranch, 79.09 307 ⇓P **P 19 54 30.9 -1.4**
baz=79
U26A ⇓P **P 19 54 30.9 -1.4**
baz=79
U26A ⇓P **P 19 54 30.9 -1.4**
baz=79
R26A Arlington 79.10 309 ⇑P **P 19 54 31.1 -1.2**
baz=79
R26A ⇑P **P 19 54 31.1 -1.2**
baz=79
R26A ⇑P **P 19 54 31.1 -1.2**
baz=79
GDL2 Guadalupe Moun 79.11 303 *e*P P 19 54 35.7 +3.3
O26A Horse Wrangler 79.27 311 ⇓P **P 19 54 32.6 -0.6**
baz=79
O26A ⇓P **P 19 54 32.6 -0.6**
baz=79
O26A ⇓P **P 19 54 32.6 -0.6**
baz=79
125A Gardner Draw, 79.40 303 ⇑P **P 19 54 31.9 -2.1**
baz=80
125A ⇑P **P 19 54 31.9 -2.1**
baz=80
125A ⇑P **P 19 54 31.9 -2.1**
baz=80
425A Indio Mountain 79.49 301 ⇑P **P 19 54 32.7 -1.9**
baz=80,SNR=11
425A ⇑P **P 19 54 32.7 -1.9**
baz=80,SNR=11
425A ⇑P **P 19 54 32.7 -1.9**
baz=80,SNR=11
325A Bean Ranch, Si 79.54 302 ⇓P **P 19 54 32.3 -2.5**
baz=80,SNR=6.8
325A ⇓P **P 19 54 32.3 -2.5**
baz=80,SNR=6.8
325A ⇓P **P 19 54 32.3 -2.5**
baz=80,SNR=6.8
U25A Circle Dot Ran 79.62 307 ⇑P **P 19 54 34.0 -1.2**
baz=80
U25A ⇑P **P 19 54 34.0 -1.2**
baz=80
U25A ⇑P **P 19 54 34.0 -1.2**
baz=80
O25A Wiggins 79.87 311 ⇑P **P 19 54 35.5 -0.9**
baz=80
O25A ⇑P **P 19 54 35.5 -0.9**
baz=80
O25A ⇑P **P 19 54 35.5 -0.9**
baz=80
MNTX Cornudas Mount 79.92 302 PFAKE 19 54 50.0 +13
MNTX LR LR
comp=Z,663nm,19.0s
324A Moseley Ranch, 79.98 302 ⇓P **P 19 54 35.7 -1.5**
baz=80
324A ⇓P **P 19 54 35.7 -1.5**
baz=80
324A ⇓P **P 19 54 35.7 -1.5**
baz=80
224A Cornudas Mount 80.07 302 ⇓P **P 19 54 35.2 -2.5**
baz=80,SNR=6.6

224A				⇓P		P	19 54 35.2	-2.5	
	baz=80,SNR=6.6								
224A				⇓P		P	19 54 35.2	-2.5	
	baz=80,SNR=6.6								
Y24A	**Capitan**	**80.18**	**304**	⇓P		P	19 54 35.9	-2.5	
	baz=80								
Y24A				⇓P		P	19 54 35.9	-2.5	
	baz=80								
Y24A				⇓P		P	19 54 35.9	-2.5	
	baz=80								
T24A	**Torres, Weston**	**80.21**	**307**	⇓P		P	19 54 36.8	-1.7	
	baz=80								
T24A				⇓P		P	19 54 36.8	-1.7	
	baz=80								
T24A				⇓P		P	19 54 36.8	-1.7	
	baz=80								
W24A	**Lazy 6 Ranch,**	**80.29**	**305**	⇓P		P	19 54 36.6	-2.4	
	baz=80,SNR=6.2								
W24A				⇓P		P	19 54 36.6	-2.4	
	baz=80,SNR=6.2								
W24A				⇓P		P	19 54 36.6	-2.4	
	baz=80,SNR=6.2								
R24A	**Sanders Place,**	**80.39**	**309**	⇓P		P	19 54 40.0	+0.6	
	baz=81								
R24A				⇓P		P	19 54 40.0	+0.6	
	baz=81								
R24A				⇓P		P	19 54 40.0	+0.6	
	baz=81								
S24A	**Houchin Ranch,**	**80.41**	**308**	⇑P		P	19 54 40.5	+0.9	
	baz=81								
S24A				⇑P		P	19 54 40.5	+0.9	
	baz=81								
S24A				⇑P		P	19 54 40.5	+0.9	
	baz=81								
Q24A	**Divide**	**80.51**	**309**	⇑P		P	19 54 40.0	-0.1	
	baz=81								
Q24A				⇑P		P	19 54 40.0	-0.1	
	baz=81								
Q24A				⇑P		P	19 54 40.0	-0.1	
	baz=81								
M24A	**Cheyenne**	**80.58**	**312**	⇑P		P	19 54 41.2	+0.9	
	baz=81								
M24A				⇑P		P	19 54 41.2	+0.9	
	baz=81								
M24A				⇑P		P	19 54 41.2	+0.9	
	baz=81								
SDCO	**Great Sand Dun**	**80.64**	**308**	*e*P		P	19 54 43.8	+2.9	
	comp=Z,16nm,1.4s								
SDCO				LR		LR			
	comp=Z,656nm,21.0s								
Y23A	**Lovelace Mesa,**	**80.69**	**304**	⇑P		P	19 54 41.6	+0.5	
	baz=81								
Y23A				⇑P		P	19 54 41.6	+0.5	
	baz=81								
Y23A				⇑P		P	19 54 41.6	+0.5	
	baz=81								
KBS	**Kingsbay**	**80.71**	**7**	PFAKE			19 54 50.0	+10	
KBS				LR		LR			
	comp=Z,843nm,20.0s								
FFC	**Flin Flon**	**80.92**	**325**	*i* P		P	19 54 44.1	+2.5	
FFC	**Flin Flon**	**80.92**	**325**	*e*P		P	19 54 44.0	+2.5	
	comp=Z,21nm,1.4s								
FFC				LR		LR			
	comp=Z,2µm,21.0s								
R23A	**Moffat**	**80.95**	**308**	⇑P		P	19 54 42.6	+0.1	
	baz=81								
R23A				⇑P		P	19 54 42.6	+0.1	
	baz=81								
R23A				⇑P		P	19 54 42.6	+0.1	
	baz=81								
ISCO	**Idaho Springs**	**80.97**	**310**	*e*P		P	19 54 47.1	+4.5	
ISCO				pmax		pmax			
	comp=Z,15nm,1.5s								
ISCO				MLR		MLR			
	comp=Z,1µm,21.0s								
ISCO	**Idaho Springs**	**80.97**	**310**	*e*P		P	19 54 47.1	+4.5	
	comp=Z,15nm,1.5s								
ISCO				LR		LR			
	comp=Z,1µm,21.0s								
ISCO	**Idaho Springs**	**80.97**	**310**	⇓P		P	19 54 42.3	-0.3	
	baz=81								
ISCO				⇓P		P	19 54 42.3	-0.3	
	baz=81								
ISCO				⇓P		P	19 54 42.3	-0.3	
	baz=81								
ANMO	**Albuquerque**	**81.12**	**305**	P		P	19 54 45.5	+2.2	
	comp=Z,4.2nm,1.1s,baz=124,slow=7.3,SNR=7.4								
ANMO	**Albuquerque**	**81.12**	**305**	P		P	19 54 45.5	+2.2	
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ANMO	**Albuquerque**	**81.12**	**305**	P		P	19 54 45.5	+2.2	
ANMO				LR		LR			
	comp=Z,1µm,20.0s								
DGMT	**Dagmar**	**81.15**	**319**	PFAKE			19 55 00.0	+17	
DGMT				LR		LR			
	comp=Z,1µm,22.0s								
BNM	**Barren Site**	**81.19**	**304**	*e*P		P	19 54 46.2	+2.4	
Z22A	**Elephant Butte**	**81.39**	**303**	⇓P		P	19 54 43.4	-1.3	
	baz=82,SNR=6.4								
Z22A				⇓P		P	19 54 43.4	-1.3	
	baz=82,SNR=6.4								
Z22A				⇓P		P	19 54 43.4	-1.3	
	baz=82,SNR=6.4								
U22A	**Llaves**	**81.58**	**307**	⇑P		P	19 54 46.3	+0.5	
	baz=82								
U22A				⇑P		P	19 54 46.3	+0.5	
	baz=82								
U22A				⇑P		P	19 54 46.3	+0.5	
	baz=82								
V22A	**San Miguel Ran**	**81.58**	**306**	⇑P		P	19 54 45.5	-0.3	
	baz=82,SNR=7.7								
V22A				⇑P		P	19 54 45.5	-0.3	
	baz=82,SNR=7.7								
V22A				⇑P		P	19 54 45.5	-0.3	
	baz=82,SNR=7.7								
LAZ	**Ladron**	**81.63**	**305**	*e*P		P	19 54 50.2	+4.2	
	comp=Z,6.3nm,1.3s								
T22A	**Edith**	**81.68**	**307**	⇓P		P	19 54 47.0	+0.7	
	baz=82,SNR=7.0								
T22A				⇓P		P	19 54 47.0	+0.7	
	baz=82,SNR=7.0								
T22A				⇓P		P	19 54 47.0	+0.7	
	baz=82,SNR=7.0								
S22A	**4UR Ranch, Cre**	**81.69**	**308**	⇑P		P	19 54 45.9	-0.5	
	baz=82,SNR=6.6								
S22A				⇑P		P	19 54 45.9	-0.5	
	baz=82,SNR=6.6								
S22A				⇑P		P	19 54 45.9	-0.5	
	baz=82,SNR=6.6								
O22A	**Kremmling**	**81.72**	**310**	⇑P		P	19 54 46.4	-0.2	
	baz=82								
O22A				⇑P		P	19 54 46.4	-0.2	
	baz=82								
O22A				⇑P		P	19 54 46.4	-0.2	
	baz=82								
SMCO	**Snowmass**	**81.95**	**309**	*e*P		P	19 54 53.7	+5.8	
	comp=Z,14nm,1.1s								
121A	**Cookes Peak, D**	**82.02**	**303**	⇓P		P	19 54 48.0	-0.1	
	baz=82								
121A				⇓P		P	19 54 48.0	-0.1	
	baz=82								
121A				⇓P		P	19 54 48.0	-0.1	
	baz=82								
Y21A	**Point of Rocks**	**82.04**	**304**	⇑P		P	19 54 47.5	-0.8	
	baz=82								
Y21A				⇑P		P	19 54 47.5	-0.8	
	baz=82								
Y21A				⇑P		P	19 54 47.5	-0.8	
	baz=82								
W21A	**San Fidel**	**82.11**	**305**	⇓P		P	19 54 47.9	-0.7	
	baz=82								
W21A				⇓P		P	19 54 47.9	-0.7	
	baz=82								
W21A				⇓P		P	19 54 47.9	-0.7	
	baz=82								
G22A	**Birney**	**82.12**	**315**	⇓P		P	19 54 47.9	-0.3	
	baz=82								
G22A				⇓P		P	19 54 47.9	-0.3	
	baz=82								
G22A				⇓P		P	19 54 47.9	-0.3	
	baz=82								
X21A	**Alamocita Cree**	**82.17**	**305**	⇓P		P	19 54 48.2	-0.7	
	baz=82,SNR=8.0								
X21A				⇓P		P	19 54 48.2	-0.7	
	baz=82,SNR=8.0								
X21A				⇓P		P	19 54 48.2	-0.7	
	baz=82,SNR=8.0								
U21A	**Nageezi**	**82.23**	**307**	⇑P		P	19 54 48.1	-1.1	
	baz=82,SNR=7.9								
U21A				⇑P		P	19 54 48.1	-1.1	
	baz=82,SNR=7.9								
U21A				⇑P		P	19 54 48.1	-1.1	
	baz=82,SNR=7.9								
D22A	**Cohagen**	**82.28**	**317**	⇑P		P	19 54 48.9	-0.1	
	baz=82								
D22A				⇑P		P	19 54 48.9	-0.1	
	baz=82								
D22A				⇑P		P	19 54 48.9	-0.1	
	baz=82								
R21A	**Cimarron**	**82.32**	**308**	⇑P		P	19 54 49.7	0.0	
	baz=82								
R21A				⇑P		P	19 54 49.7	0.0	
	baz=82								
R21A				⇑P		P	19 54 49.7	0.0	
	baz=82								
MSEY	**Mahe Island**	**82.40**	**95**	PFAKE			19 55 00.0	+10	
MSEY				LR		LR			
	comp=Z,689nm,19.0s								
S21A	**Coal Bank Pass**	**82.44**	**308**	⇓P		P	19 54 49.5	-0.9	
	baz=83,SNR=9.5								
S21A				⇓P		P	19 54 49.5	-0.9	
	baz=83,SNR=9.5								
S21A				⇓P		P	19 54 49.5	-0.9	
	baz=83,SNR=9.5								
L21A	**Rawlins**	**82.53**	**312**	⇑P		P	19 54 50.2	-0.5	
	baz=83								
L21A				⇑P		P	19 54 50.2	-0.5	
	baz=83								
L21A				⇑P		P	19 54 50.2	-0.5	
	baz=83								
320A	**Kipp Ranch, An**	**82.57**	**301**	⇓P		P	19 54 50.4	-0.6	
	baz=83								
320A				⇓P		P	19 54 50.4	-0.6	
	baz=83								
320A				⇓P		P	19 54 50.4	-0.6	
	baz=83								
220A	**Playas Peak, P**	**82.60**	**302**	⇓P		P	19 54 50.4	-0.7	
	baz=83								
220A				⇓P		P	19 54 50.4	-0.7	
	baz=83								
220A				⇓P		P	19 54 50.4	-0.7	
	baz=83								
Y20A	**Horse Springs,**	**82.62**	**304**	⇑P		P	19 54 50.2	-1.1	
	baz=83								
Y20A				⇑P		P	19 54 50.2	-1.1	
	baz=83								
Y20A				⇑P		P	19 54 50.2	-1.1	
	baz=83								
I21A	**Big Trails, Te**	**82.67**	**314**	⇑P		P	19 54 50.1	-1.2	
	baz=83								
I21A				⇑P		P	19 54 50.1	-1.2	
	baz=83								
I21A				⇑P		P	19 54 50.1	-1.2	
	baz=83								
120A	**U Bar Ranch, L**	**82.73**	**303**	⇑P		P	19 54 51.1	-0.8	
	baz=83								
120A				⇑P		P	19 54 51.1	-0.8	
	baz=83								
120A				⇑P		P	19 54 51.1	-0.8	
	baz=83								
Z20A	**Nine Sixteen R**	**82.74**	**303**	⇑P		P	19 54 51.8	0.0	
	baz=83,SNR=5.0								
Z20A				⇑P		P	19 54 51.8	0.0	
	baz=83,SNR=5.0								
Z20A				⇑P		P	19 54 51.8	0.0	
	baz=83,SNR=5.0								
X20A	**Quemado**	**82.76**	**305**	⇓P		P	19 54 51.6	-0.5	
	baz=83,SNR=7.6								
X20A				⇓P		P	19 54 51.6	-0.5	
	baz=83,SNR=7.6								
X20A				⇓P		P	19 54 51.6	-0.5	
	baz=83,SNR=7.6								
W20A	**Ramah**	**82.81**	**305**	⇑P		P	19 54 51.2	-1.1	
	baz=83,SNR=7.7								
W20A				⇑P		P	19 54 51.2	-1.1	
	baz=83,SNR=7.7								
W20A				⇑P		P	19 54 51.2	-1.1	
	baz=83,SNR=7.7								
V20A	**Brimhall**	**82.83**	**306**	⇑P		P	19 54 52.3	-0.1	
	baz=83								
V20A				⇑P		P	19 54 52.3	-0.1	
	baz=83								
V20A				⇑P		P	19 54 52.3	-0.1	
	baz=83								
S20A	**Disappointment**	**82.91**	**308**	⇓P		P	19 54 52.1	-0.7	
	baz=83,SNR=5.1								
S20A				⇓P		P	19 54 52.1	-0.7	
	baz=83,SNR=5.1								
S20A				⇓P		P	19 54 52.1	-0.7	
	baz=83,SNR=5.1								
U20A	**Newcomb**	**82.92**	**306**	⇑P		P	19 54 51.9	-0.8	
	baz=83,SNR=5.3								
U20A				⇑P		P	19 54 51.9	-0.8	
	baz=83,SNR=5.3								
U20A				⇑P		P	19 54 51.9	-0.8	
	baz=83,SNR=5.3								
Q20A	**Ridgley Place,**	**82.95**	**309**	⇓P		P	19 54 53.0	+0.2	
	baz=83								
Q20A				⇓P		P	19 54 53.0	+0.2	
	baz=83								
Q20A				⇓P		P	19 54 53.0	+0.2	
	baz=83								
R20A	**Redvale**	**82.95**	**308**	⇑P		P	19 54 53.2	+0.3	
	baz=83								
R20A				⇑P		P	19 54 53.2	+0.3	
	baz=83								
R20A				⇑P		P	19 54 53.2	+0.3	
	baz=83								
MVCO	**Mesa Verde**	**82.97**	**307**	*e*P		P	19 54 55.0	+2.0	
	comp=Z,24nm,1.4s								
MVCO				LR		LR			
	comp=Z,930nm,21.0s								
MVCO	**Mesa Verde**	**82.97**	**307**	⇑P		P	19 54 53.0	0.0	
	baz=83								
MVCO				⇑P		P	19 54 53.0	0.0	
	baz=83								
MVCO				⇑P		P	19 54 53.0	0.0	
	baz=83								
A21A	**Bergtoll Ranch**	**83.01**	**319**	⇑P		P	19 54 53.1	+0.3	
	baz=83								
A21A				⇑P		P	19 54 53.1	+0.3	
	baz=83								
A21A				⇑P		P	19 54 53.1	+0.3	
	baz=83								
O20A	**White River Ci**	**83.01**	**310**	⇑P		P	19 54 53.2	0.0	
	baz=83								
O20A				⇑P		P	19 54 53.2	0.0	
	baz=83								
O20A				⇑P		P	19 54 53.2	0.0	
	baz=83								
N20A	**Spence Gulch,**	**83.09**	**311**	⇓P		P	19 54 53.8	+0.2	
	baz=83								
N20A				⇓P		P	19 54 53.8	+0.2	
	baz=83								
N20A				⇓P		P	19 54 53.8	+0.2	
	baz=83								
M20A	**Sweetwater, Wa**	**83.09**	**312**	⇑P		P	19 54 53.7	+0.1	
	baz=83								
M20A				⇑P		P	19 54 53.7	+0.1	
	baz=83								
M20A				⇑P		P	19 54 53.7	+0.1	
	baz=83								
PV01	**Paradox Valley**	**83.10**	**308**	*e*P		P	19 54 57.9	+4.2	
	comp=Z,895nm,1.3s								
ALE	**Alert**	**83.23**	**356**	P		P	19 54 57.6	+4.4	
	comp=Z,86nm,1.1s,SNR=5.8								
H20A	**Greybull**	**83.24**	**315**	⇓P		P	19 54 54.5	+0.4	
	baz=83								
H20A				⇓P		P	19 54 54.5	+0.4	
	baz=83								
H20A				⇓P		P	19 54 54.5	+0.4	
	baz=83								
I20A	**Worland**	**83.28**	**314**	⇓P		P	19 54 54.7	+0.4	
	baz=83								
I20A				⇓P		P	19 54 54.7	+0.4	
	baz=83								
I20A				⇓P		P	19 54 54.7	+0.4	
	baz=83								
Y19A	**Nutrioso**	**83.35**	**304**	⇑P		P	19 54 54.7	-0.4	
	baz=84,SNR=7.8								
Y19A				⇑P		P	19 54 54.7	-0.4	
	baz=84,SNR=7.8								
Y19A				⇑P		P	19 54 54.7	-0.4	
	baz=84,SNR=7.8								
T19A	**Beclabito**	**83.36**	**307**	⇑P		P	19 54 54.2	-0.8	
	baz=84								
T19A				⇑P		P	19 54 54.2	-0.8	
	baz=84								
T19A				⇑P		P	19 54 54.2	-0.8	
	baz=84								
PV04	**Paradox Valley**	**83.38**	**308**	*e*P		P	19 55 03.6	+8.5	
X19A	**St. Johns**	**83.41**	**304**	⇑P		P	19 54 54.3	-1.1	
	baz=84,SNR=6.4								
X19A				⇑P		P	19 54 54.3	-1.1	
	baz=84,SNR=6.4								
X19A				⇑P		P	19 54 54.3	-1.1	
	baz=84,SNR=6.4								
G20A	**Bridger**	**83.47**	**315**	⇓P		P	19 54 54.2	-1.1	
	baz=84								
G20A				⇓P		P	19 54 54.2	-1.1	
	baz=84								
G20A				⇓P		P	19 54 54.2	-1.1	
	baz=84								
S19A	**Harvey Farm, M**	**83.51**	**308**	⇓P		P	19 54 55.0	-0.9	
	baz=84,SNR=5.8								
S19A				⇓P		P	19 54 55.0	-0.9	
	baz=84,SNR=5.8								
S19A				⇓P		P	19 54 55.0	-0.9	
	baz=84,SNR=5.8								
E20A	**Meyer Farm, Mu**	**83.54**	**317**	⇓P		P	19 54 55.2	-0.3	
	baz=84								
E20A				⇓P		P	19 54 55.2	-0.3	
	baz=84								
E20A				⇓P		P	19 54 55.2	-0.3	
	baz=84								
D20A	**Manuel Ranch,**	**83.60**	**317**	⇓P		P	19 54 56.3	+0.4	
	baz=84								
D20A				⇓P		P	19 54 56.3	+0.4	
	baz=84								
D20A				⇓P		P	19 54 56.3	+0.4	
	baz=84								
R19A	**Curley Farm, L**	**83.65**	**308**	⇑P		P	19 54 55.8	-0.8	
	baz=84,SNR=7.4								
R19A				⇑P		P	19 54 55.8	-0.8	
	baz=84,SNR=7.4								
R19A				⇑P		P	19 54 55.8	-0.8	
	baz=84,SNR=7.4								
RES	**Resolute Bay**	**83.69**	**346**	*e*P		P	19 54 56.1	+0.5	
RES				pmax		pmax			
	comp=Z,22nm,1.1s								
RES	**Resolute Bay**	**83.69**	**346**	*e*P		P	19 54 56.1	+0.5	
	comp=Z,22nm,1.1s								
Q19A	**Hogan Spring (**	**83.70**	**309**	⇓P		P	19 54 55.8	-0.9	
	baz=84,SNR=7.3								
Q19A				⇓P		P	19 54 55.8	-0.9	
	baz=84,SNR=7.3								
Q19A				⇓P		P	19 54 55.8	-0.9	
	baz=84,SNR=7.3								
X18A	**Snowflake**	**83.96**	**304**	⇓P		P	19 54 57.4	-0.7	
	baz=84,SNR=6.4								
X18A				⇓P		P	19 54 57.4	-0.7	
	baz=84,SNR=6.4								
X18A				⇓P		P	19 54 57.4	-0.7	
	baz=84,SNR=6.4								
F19A	**Roth Farm, Mol**	**84.04**	**316**	⇓P		P	19 54 57.7	-0.5	
	baz=84								
F19A				⇓P		P	19 54 57.7	-0.5	
	baz=84								
F19A				⇓P		P	19 54 57.7	-0.5	
	baz=84								
T18A	**Mexican Hat**	**84.06**	**307**	⇓P		P	19 54 57.9	-0.6	
	baz=84,SNR=6.7								
T18A				⇓P		P	19 54 57.9	-0.6	
	baz=84,SNR=6.7								
T18A				⇓P		P	19 54 57.9	-0.6	
	baz=84,SNR=6.7								
R18A	**Canyonlands Na**	**84.16**	**308**	⇑P		P	19 54 59.9	+0.9	
	baz=84								
R18A				⇑P		P	19 54 59.9	+0.9	
	baz=84								
R18A				⇑P		P	19 54 59.9	+0.9	
	baz=84								
RLMT	**Red Lodge**	**84.20**	**315**	P		P	19 55 00.5	+1.4	
	comp=Z,11nm,1.1s								
RLMT				LR		LR			
	comp=Z,1µm,20.0s								
PDAR	**Pinedale Array**	**84.22**	**313**	P		P	19 54 58.7	-0.6	
	comp=Z,4.7nm,0.6s,baz=357,slow=16,SNR=53								
PDAR				LR		LR	20 27 10.2		
	comp=Z,1µm,21.4s,baz=106,slow=32								
PDAR	**Pinedale Array**	**84.22**	**313**	P		P	19 54 58.7	-0.6	
BW06	**Boulder Array**	**84.22**	**313**	*e*P		P	19 55 01.2	+1.8	
	comp=Z,4.6nm,0.6s								
BW06				LR		LR			
	comp=Z,2µm,20.0s								
TUC	**Tucson**	**84.54**	**302**	*e*P		P	19 55 05.2	+4.2	
TUC				pmax		pmax			
	comp=Z,41nm,2.2s								
TUC				MLR		MLR			
	comp=Z,1µm,21.0s								
TUC	**Tucson**	**84.54**	**302**	*e*P		P	19 55 05.2	+4.2	
	comp=Z,41nm,2.2s								
TUC				LR		LR			
	comp=Z,1µm,21.0s								
X17A	**Forest Lakes**	**84.65**	**304**	⇑P		P	19 55 01.7	-0.1	
	baz=85								
X17A				⇑P		P	19 55 01.7	-0.1	
	baz=85								
X17A				⇑P		P	19 55 01.7	-0.1	
	baz=85								
Y17A	**Roosevelt**	**84.65**	**304**	⇑P		P	19 55 01.5	-0.1	
	baz=85,SNR=6.0								
Y17A				⇑P		P	19 55 01.5	-0.1	
	baz=85,SNR=6.0								
Y17A				⇑P		P	19 55 01.5	-0.1	
	baz=85,SNR=6.0								
V17A	**Tonalea, Kykot**	**84.71**	**306**	⇓P		P	19 55 01.7	-0.2	
	baz=85,SNR=8.6								
V17A				⇓P		P	19 55 01.7	-0.2	
	baz=85,SNR=8.6								
V17A				⇓P		P	19 55 01.7	-0.2	
	baz=85,SNR=8.6								
E18A	**Harlowton**	**84.77**	**317**	⇓P		P	19 55 01.3	-0.6	
	baz=85								
E18A				⇓P		P	19 55 01.3	-0.6	
	baz=85								
E18A				⇓P		P	19 55 01.3	-0.6	
	baz=85								
EGMT	**Eagleton**	**84.78**	**318**	PFAKE			19 55 10.0	+8.1	
EGMT				LR		LR			
	comp=Z,1µm,19.0s								
T17A	**Navajo Res., N**	**84.79**	**307**	⇑P		P	19 55 02.7	+0.4	
	baz=85,SNR=8.6								
T17A				⇑P		P	19 55 02.7	+0.4	
	baz=85,SNR=8.6								
T17A				⇑P		P	19 55 02.7	+0.4	
	baz=85,SNR=8.6								
S17A	**Black Ridge (B**	**84.83**	**308**	⇓P		P	19 55 02.3	-0.1	
	baz=85,SNR=11								
S17A				⇓P		P	19 55 02.3	-0.1	
	baz=85,SNR=11								
S17A				⇓P		P	19 55 02.3	-0.1	
	baz=85,SNR=11								
O17A	**Robinson Place**	**84.92**	**310**	⇓P		P	19 55 03.4	+0.4	
	baz=85								
O17A				⇓P		P	19 55 03.4	+0.4	
	baz=85								
O17A				⇓P		P	19 55 03.4	+0.4	
	baz=85								
LKWY	**Lake**	**84.96**	**315**	PFAKE			19 55 20.0	+17	
LKWY				LR		LR			
	comp=Z,1µm,19.0s								
U16A	**Tuba City**	**85.01**	**306**	⇓P		P	19 55 02.9	-0.5	
	baz=85,SNR=5.3								
U16A				⇓P		P	19 55 02.9	-0.5	
	baz=85,SNR=5.3								
U16A				⇓P		P	19 55 02.9	-0.5	
	baz=85,SNR=5.3								
WUAZ	**Wupatki**	**85.18**	**305**	*e*P		P	19 55 02.0	-2.2	
	comp=Z,16nm,1.0s								
WUAZ				LR		LR			
	comp=Z,1µm,21.0s								
WUAZ	**Wupatki**	**85.18**	**305**	⇓P		P	19 55 04.8	+0.5	
	baz=85,SNR=7.0								
WUAZ				⇓P		P	19 55 04.8	+0.5	
	baz=85,SNR=7.0								
WUAZ				⇓P		P	19 55 04.8	+0.5	
	baz=85,SNR=7.0								
AHID	**Auburn Hatcher**	**85.35**	**313**	PFAKE			19 55 20.0	+15	
AHID				LR		LR			
	comp=Z,2µm,22.0s								
E17A	**Martinsdale**	**85.41**	**316**	⇓P		P	19 55 05.4	+0.2	
	baz=86								
E17A				⇓P		P	19 55 05.4	+0.2	

baz=86
E17A ⇓P P 19 55 05.4 +0.2
baz=86
S16A Weppner Ranch, 85.46 308 ⇓P P 19 55 05.7 +0.1
baz=86
S16A ⇓P P 19 55 05.7 +0.1
baz=86
S16A ⇓P P 19 55 05.7 +0.1
baz=86
HWUT Hardware Ranch 85.63 312 *e*P P 19 55 05.0 -1.4
comp=Z,10nm,0.9s
HWUT LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 85.90 316 PFAKE 19 55 20.0 +12
BOZ LR LR
comp=Z,994nm,21.0s
D16A Dana Ranch, Ca 85.92 317 ⇑P P 19 55 07.4 -0.2
baz=86,SNR=7.7
D16A ⇑P P 19 55 07.4 -0.2
baz=86,SNR=7.7
D16A ⇑P P 19 55 07.4 -0.2
baz=86,SNR=7.7
MSU Marysvale 85.95 308 *e*P P 19 55 09.0 +0.8
MSU Marysvale 85.95 308 *e*P P 19 55 08.9 +0.8
MVU Marysvale 85.98 308 PFAKE 19 55 20.0 +12
MVU LR LR
comp=Z,879nm,22.0s
E16A East Helena 85.98 316 ⇓P P 19 55 08.2 +0.3
baz=86
E16A ⇓P P 19 55 08.2 +0.3
baz=86
E16A ⇓P P 19 55 08.2 +0.3
baz=86
G16A Moss Hill, Enn 86.00 315 ⇑P P 19 55 08.7 +0.6
baz=86
G16A ⇑P P 19 55 08.7 +0.6
baz=86
G16A ⇑P P 19 55 08.7 +0.6
baz=86
C16A Fuhringer Ranc 86.10 318 ⇓P P 19 55 08.5 0.0
baz=86
C16A ⇓P P 19 55 08.5 0.0
baz=86
C16A ⇓P P 19 55 08.5 0.0
baz=86
SOKR Solikamsk 86.22 30 *e*P P 19 55 09.0 +0.4
SOKR S S 20 05 37.6 -5.1
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,710nm,16.0s
AKTO Aktyubinsk 86.23 40 P P 19 55 08.3 -0.6
comp=Z,4.5nm,0.7s,baz=255,slow=4.3,SNR=20
AKTO LR LR 20 34 40.7
comp=Z,645nm,19.8s,baz=331,slow=36
AKTO Aktyubinsk 86.23 40 P P 19 55 08.4 -0.6
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO MLR MLR
comp=Z,645nm,19.8s
AKTO Aktyubinsk 86.23 40 P P 19 55 08.3 -0.6
L15A Malad City 86.26 312 ⇑P P 19 55 08.7 -0.8
baz=86,SNR=7.2
L15A ⇑P P 19 55 08.7 -0.8
baz=86,SNR=7.2
L15A ⇑P P 19 55 08.7 -0.8
baz=86,SNR=7.2
LRM Limekiln Ridge 86.48 316 *e*P P 19 55 10.8 +0.2
DUG Dugway 86.51 310 *e*P P 19 55 11.1 +0.3
DUG pmax pmax
comp=Z,15nm,1.2s
DUG MLR MLR
comp=Z,1μm,22.0s
DUG Dugway 86.51 310 *e*P P 19 55 11.1 +0.3
comp=Z,16nm,1.2s
DUG LR LR
comp=Z,1μm,22.0s
DUG Dugway 86.51 310 ⇓P P 19 55 10.4 -0.4
baz=87,SNR=7.8
DUG ⇓P P 19 55 10.4 -0.4
baz=87,SNR=7.8
DUG ⇓P P 19 55 10.4 -0.4
baz=87,SNR=7.8
F15A Butte 86.51 316 ⇑P P 19 55 10.3 -0.4
baz=87,SNR=6.5
F15A ⇑P P 19 55 10.3 -0.4
baz=87,SNR=6.5
F15A ⇑P P 19 55 10.3 -0.4
baz=87,SNR=6.5
HVU Hansel Valley 86.54 312 *e*P P 19 55 15.2 +4.3
HVU pmax pmax
comp=Z,15nm,1.1s
HVU Hansel Valley 86.54 312 *e*P P 19 55 15.2 +4.3
comp=Z,15nm,1.1s
E15A Deer Lodge 86.64 316 ⇓P P 19 55 10.2 -1.0
baz=87
E15A ⇓P P 19 55 10.2 -1.0
baz=87
E15A ⇓P P 19 55 10.2 -1.0
baz=87
B15A Bradely Ranch, 86.67 318 ⇓P P 19 55 10.6 -0.7
baz=87,SNR=5.4
B15A ⇓P P 19 55 10.6 -0.7
baz=87,SNR=5.4
B15A ⇓P P 19 55 10.6 -0.7
baz=87,SNR=5.4
C15A Salmond Ranch, 86.68 318 ⇓P P 19 55 10.2 -1.2
baz=87,SNR=5.8
C15A ⇓P P 19 55 10.2 -1.2
baz=87,SNR=5.8
C15A ⇓P P 19 55 10.2 -1.2
baz=87,SNR=5.8
MCMT McKenzie Canyo 86.72 315 P P 19 55 13.5 +1.7
comp=Z,6.0nm,1.1s
A15A Johnson Ranch, 86.82 319 ⇑P P 19 55 11.4 -0.6
baz=87,SNR=8.3
A15A ⇑P P 19 55 11.4 -0.6
baz=87,SNR=8.3
A15A ⇑P P 19 55 11.4 -0.6
baz=87,SNR=8.3
CCUT Cedar City 86.85 307 *e*P P 19 55 17.8 +5.2
comp=Z,14nm,1.1s
ARU Arti 86.92 34*c i*P P 19 55 13.7 +1.5
ARU 19 58 32.4
ARU S S 20 05 39.9 -10
ARU PS 20 06 46.8
ARU SS **SS 20 11 32.7 +0.5**
ARU pmax pmax
comp=Z,21nm,2.5s
ARU MLR MLR
comp=Z,729nm,18.0s
ARU Arti 86.92 34 *e*P P 19 55 12.3 +0.1
comp=Z,16nm,1.2s
ARU LR LR
comp=Z,855nm,20.0s
Z13A Yuma Proving G 86.99 303 ⇓P P 19 55 13.1 0.0
baz=87
Z13A ⇓P P 19 55 13.1 0.0
baz=87
Z13A ⇓P P 19 55 13.1 0.0
baz=87
I14A Mackay 87.12 314 ⇑P P 19 55 13.3 -0.4
baz=87
I14A ⇑P P 19 55 13.3 -0.4
baz=87
I14A ⇑P P 19 55 13.3 -0.4
baz=87
J14A Carey 87.14 313 ⇓P P 19 55 14.0 +0.2
baz=87
J14A ⇓P P 19 55 14.0 +0.2
baz=87
J14A ⇓P P 19 55 14.0 +0.2
baz=87
W13A Hualapai Mount 87.22 305 ⇑P P 19 55 14.9 +0.5
baz=87
W13A ⇑P P 19 55 14.9 +0.5
baz=87
W13A ⇑P P 19 55 14.9 +0.5
baz=87
SLMT Seeley Lake 87.26 317 P P 19 55 15.4 +1.1
comp=Z,10.0nm,1.1s
A14A Double T Ranch 87.27 319 ⇑P P 19 55 13.7 -0.5
baz=87,SNR=12
A14A ⇑P P 19 55 13.7 -0.5
baz=87,SNR=12
A14A ⇑P P 19 55 13.7 -0.5
baz=87,SNR=12
R13A O'Grain Ranch, 87.35 308 ⇓P P 19 55 15.8 +0.9
baz=88
R13A ⇓P P 19 55 15.8 +0.9
baz=88
R13A ⇓P P 19 55 15.8 +0.9
baz=88
ABKAR Akbulak array 87.42 41 *e*P P 19 55 15.0 +0.2
I13A Wildhorse Cree 87.60 314 ⇑P P 19 55 16.7 +0.7
baz=88
I13A ⇑P P 19 55 16.7 +0.7
baz=88
I13A ⇑P P 19 55 16.7 +0.7
baz=88
SWMT Swartz Lake 87.61 317 *e*P P 19 55 18.6 +2.7
J13A Cove Ranch, Pi 87.62 313 ⇓P P 19 55 16.9 +0.8
baz=88
J13A ⇓P P 19 55 16.9 +0.8
baz=88
J13A ⇓P P 19 55 16.9 +0.8
baz=88
G13A Cobalt 87.71 315 ⇓P P 19 55 16.5 0.0
baz=88,SNR=8.3
G13A ⇓P P 19 55 16.5 0.0
baz=88,SNR=8.3
G13A ⇓P P 19 55 16.5 0.0
baz=88,SNR=8.3
H13A Challis 87.71 314 ⇓P P 19 55 17.0 +0.5
baz=88
H13A ⇓P P 19 55 17.0 +0.5
baz=88
H13A ⇓P P 19 55 17.0 +0.5
baz=88
F13A Darby 87.79 316 ⇓P P 19 55 17.6 +0.8
baz=88
F13A ⇓P P 19 55 17.6 +0.8
baz=88
F13A ⇓P P 19 55 17.6 +0.8
baz=88
HLID Hailey 87.80 313 *e*P P 19 55 21.4 +4.4
comp=Z,18nm,1.6s
HLID LR LR
comp=Z,2μm,22.0s
HLID Hailey 87.80 313 ⇑P P 19 55 17.6 +0.6
baz=88
HLID ⇑P P 19 55 17.6 +0.6
baz=88
HLID ⇑P P 19 55 17.6 +0.6
baz=88
SVE Sverdlovsk 88.09 33 *e*P P 19 55 19.0 +1.2
SVE *e* 19 58 50.0
SVE *e*S **SKSac 20 05 40.4 -5.1**
SVE pmax pmax
comp=Z,12nm,1.2s
SVE MLR MLR
comp=Z,1μm,22.0s
H12A Diamond D Ranc 88.14 314 ⇓P P 19 55 18.8 +0.2
baz=88,SNR=7.7
H12A ⇓P P 19 55 18.8 +0.2
baz=88,SNR=7.7
H12A ⇓P P 19 55 18.8 +0.2
baz=88,SNR=7.7
BSMT Bassoo Peak 88.15 318 *e*P P 19 55 23.9 +5.4
IRM Iron Mountain 88.25 304 ⇓P P 19 55 20.5 +1.4
baz=88
IRM ⇓P P 19 55 20.5 +1.4
baz=88
IRM ⇓P P 19 55 20.5 +1.4
baz=88
ELK Elko 88.37 311 *e*P P 19 55 24.4 +4.6
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 88.37 311 *e*P P 19 55 24.4 +4.6
comp=Z,4.3nm,1.0s
YKA Yellowknife Ar 88.40 332 P P 19 55 17.5 -1.6
comp=Z,1.6nm,0.8s,baz=94,slow=5.1,SNR=8.6
YKA Yellowknife Ar 88.40 332 P P 19 55 17.6 -1.6
YKA Yellowknife Ar 88.40 332 P P 19 55 17.6 -1.6
R11A Troy Canyon, C 88.62 308 ⇑P P 19 55 21.4 +0.4
baz=89
R11A ⇑P P 19 55 21.4 +0.4
baz=89
R11A ⇑P P 19 55 21.4 +0.4
baz=89
HEC Hector,Ludlow 89.22 305 ⇑P P 19 55 23.5 -0.2
baz=89
HEC ⇑P P 19 55 23.5 -0.2
baz=89
HEC ⇑P P 19 55 23.5 -0.2
baz=89
PFO Pinyon Flat Ob 89.33 303 *e*P P 19 55 29.2 +4.8
PFO pmax pmax
comp=Z,12nm,1.5s
PFO MLR MLR
comp=Z,742nm,19.0s
PFO Pinyon Flat Ob 89.33 303 *e*P P 19 55 29.2 +4.8
comp=Z,12nm,1.5s
PFO LR LR
comp=Z,742nm,19.0s
GSC Goldstone 89.61 305 *e*P P 19 55 27.5 +1.9
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone 89.61 305 *e*P P 19 55 27.5 +1.9
comp=Z,8.1nm,1.1s
NEW Newport 89.72 318 PFAKE 19 55 40.0 +14
NEW LR LR
comp=Z,882nm,21.0s
BMN Battle Mountai 89.88 310 PFAKE 19 55 40.0 +13
BMN LR LR
comp=Z,540nm,21.0s
BMO Blue Mountains 89.89 315 PFAKE 19 55 40.0 +13
BMO LR LR
comp=Z,1μm,21.0s
DAC Darwin (Calif) 90.24 306 PFAKE 19 55 40.0 +11
DAC LR LR
comp=Z,932nm,22.0s
QSPA South Pole Qui 90.70 180 *e*P P 19 55 31.0 +1.0
comp=Z,32nm,1.3s
QSPA LR LR
comp=Z,393nm,20.0s
NVAR Mina Array Bea 90.76 308 P P 19 55 32.6 +1.6
comp=Z,2.9nm,1.0s,baz=112,slow=3.5,SNR=7.9
NVAR LR LR 20 34 42.0
comp=Z,417nm,18.2s,baz=268,slow=35
NVAR Mina Array Bea 90.76 308 P P 19 55 32.6 +1.6
WVOR Wild Horse Val 90.91 312 PFAKE 19 55 40.0 +8.5
WVOR LR LR
comp=Z,1μm,21.0s
BRVK Borovoye 93.79 37 *i* P P 19 55 46.1 +1.7
BRVK pmax pmax
comp=Z,5.0nm,1.5s
BRVK MLR MLR
comp=Z,640nm,19.0s
BRVK Borovoye 93.79 37 PFAKE 19 56 00.0 +16
BRVK LR LR
comp=Z,856nm,20.0s
BVAR Borovoye Array 93.86 37 P P 19 55 45.3 +0.5
comp=Z,0.5nm,0.8s,baz=315,slow=3.1,SNR=3.6
BVAR LR LR 20 38 09.7
comp=Z,621nm,18.0s,baz=285,slow=36
BVAR Borovoye Array 93.86 37 P P 19 55 45.3 +0.5
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR MLR MLR
comp=Z,621nm,18.0s
BVAR Borovoye Array 93.86 37 P P 19 55 45.3 +0.5
NLWA Neilton Lookou 94.31 317 PFAKE 19 56 00.0 +13
NLWA LR LR
comp=Z,904nm,19.0s
INK Inuvik 95.54 339 P P 19 55 53.6 +1.6
comp=Z,4.3nm,1.0s,baz=54,slow=5.9,SNR=7.4
INK LR LR 20 34 35.7
comp=Z,575nm,20.3s,baz=90,slow=33
INK Inuvik 95.54 339 P P 19 55 53.7 +1.6
INK pmax pmax
comp=Z,4.0nm,1.0s
INK MLR MLR
comp=Z,575nm,20.3s
INK Inuvik 95.54 339 P P 19 55 53.6 +1.6
DLBC Dease Lake 96.35 329 LR LR 20 36 58.7
comp=Z,711nm,18.2s,baz=325,slow=34
EKS2 Erkin-Say 97.38 47 PFAKE 19 56 10.0 +8.7
EKS2 LR LR
comp=Z,567nm,19.0s
AAK Ala-Archa 97.91 47 PFAKE 19 56 10.0 +6.3
AAK LR LR
comp=Z,597nm,19.0s
WRAK Wrangell Islan 98.01 327 PFAKE 19 56 10.0 +6.4
WRAK LR LR
comp=Z,812nm,19.0s
TKM2 Tokmak 2 98.67 47 PFAKE 19 56 20.0 +13
TKM2 LR LR
comp=Z,617nm,20.0s
KURK Kurchatov 99.26 38 P **Pdif 19 56 08.0 -1.3**
comp=Z,0.7nm,0.8s,baz=279,slow=5.8,SNR=4.9
KURK LR LR 20 41 27.5
comp=Z,416nm,19.9s,baz=280,slow=36
KURK Kurchatov 99.26 38 P **Pdif 19 56 08.0 -1.3**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK MLR MLR
comp=Z,416nm,19.9s
KURK Kurchatov 99.26 38 P **Pdif 19 56 08.0 -1.3**
DGAR Diego Garcia 99.30 97 PFAKE 19 56 20.0 +10
DGAR LR LR
comp=Z,1μm,19.0s
EGAK Eagle 99.58 337 PFAKE 19 56 20.0 +10
EGAK LR LR
comp=Z,774nm,20.0s
ILAR Eielson Array 101.81 338 P **Pdif 19 56 22.4 +2.1**
comp=Z,0.9nm,1.1s,baz=46,slow=3.9,SNR=4.2
ILAR Eielson Array 101.81 338 P **Pdif 19 56 22.4 +2.1**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 101.81 338 P **Pdif 19 56 22.4 +2.1**
COLA College 102.12 338 PFAKE 19 56 30.0 +8.3
COLA LR LR
comp=Z,506nm,20.0s
SBA Scott Base 102.51 183 PFAKE 19 56 30.0 +6.8
SBA LR LR
comp=Z,330nm,20.0s
VNDA Vanda 103.05 182 P **Pdif 19 56 28.2 +2.6**
VNDA pmax pmax
comp=Z,39nm,2.4s
VNDA MLR MLR
comp=Z,342nm,21.0s
VNDA Vanda 103.05 182 Pdif **Pdif 19 56 28.2 +2.6**
comp=Z,38nm,2.4s
VNDA LR LR
comp=Z,342nm,21.0s
RKT Rikitea 106.91 246 *e*SS SS 20 16 16.5 +0.4
comp=Z,144nm,26.2s
RKT *e*LQ LQ 20 27 09.3
comp=Z,564nm,31.8s
RKT *e*LR LR 20 32 07.5
comp=Z,541nm,24.5s
WMQ Urumqi 107.03 44 *e*Pdif **Pdif 19 56 45.6 +1.5**
WMQ PP **PP 20 01 14.8 +4.4**
WMQ SS SS 20 16 17.6 +1.0
WMQ AMB AMB
comp=Z,47nm,11.2s
WMQ LR LR
comp=N,880nm,32.0s
WMQ LR LR
comp=E,1μm,30.0s
WMQ LR LR
comp=Z,1μm,28.6s
KDAK Kodiak Island 107.67 333 PFAKE 20 01 10.0
KDAK LR LR
comp=Z,1μm,20.0s
CASY Casey 107.92 163 PFAKE 20 01 10.0
CASY LR LR
comp=Z,742nm,21.0s
BILL Bilibino 110.86 355 PFAKE 20 01 10.0
BILL LR LR
comp=Z,522nm,20.0s
TAOE Nuku Hiva Isla 113.12 261 *e*LR LR 20 34 59.9
comp=Z,390nm,25.6s
TLY Talaya 113.30 31 PFAKE 20 01 20.0
TLY LR LR
comp=Z,1μm,20.0s
DRV Dumont d'Urvil 113.45 174 PP **PP 20 01 52.0 -3.6**
DRV Dumont d'Urvil 113.45 174 SS SS 20 17 16.0 -24
LSA Lhasa 113.76 57 PFAKE 20 01 20.0
LSA LR LR
comp=Z,478nm,19.0s
YAK Yakutsk 115.00 12 PFAKE 20 01 20.0 +12
YAK LR LR
comp=Z,526nm,20.0s
SONM Songino Array 116.96 33 PKP **PKPdf 20 01 12.1 -0.4**
comp=Z,0.3nm,0.6s,baz=331,slow=4.4,SNR=2.5
SONM Songino Array 116.96 33 PKIKP **PKPdf 20 01 12.1 -0.4**
SONM Songino Array 116.96 33 PKP **PKPdf 20 01 12.1 -0.4**
ULN Ulaanbaatar 117.30 33 PFAKE 20 01 20.0 +6.8
ULN LR LR
comp=Z,1μm,22.0s
TBI Tubuai 119.98 243 *e*SS SS 20 19 09.8 +0.8
comp=Z,243nm,35.0s
TBI *e*LQ LQ 20 33 05.3
comp=Z,625nm,38.5s
TBI *e*LR LR 20 38 01.6
comp=Z,489nm,28.2s
PPT2 Papeete2 121.27 250 *e*SS SS 20 19 30.4 +4.4
comp=Z,257nm,29.5s
PPT2 *e*LQ LQ 20 33 16.1
comp=Z,2μm,30.5s
PPT2 *e*LR LR 20 38 44.7
comp=Z,458nm,22.5s
LZH Lanzhou 121.44 46 PKP **PKPdf 20 01 25.0 +3.5**
LZH PP **PP 20 03 00.2 +7.6**
LZH SS SS 20 19 31.2 +4.4
LZH AMB AMB
comp=Z,170nm,8.2s
LZH LR LR
comp=N,550nm,18.0s
LZH LR LR
comp=E,380nm,18.2s
LZH LR LR
comp=Z,800nm,20.1s
HIA Hailar 122.58 25 PFAKE 20 01 30.0 +6.9
HIA LR LR
comp=Z,1μm,22.0s
COCO West Island 122.98 104 PFAKE 20 01 40.0 +15
COCO LR LR
comp=Z,298nm,21.0s
CHTO Chiang Mai 123.39 67 PFAKE 20 01 40.0 +15
CHTO LR LR
comp=Z,370nm,19.0s
CMAR Chiang Mai Arr 123.47 67 PKP **PKPdf 20 01 26.3 +0.7**
comp=Z,1.2nm,1.0s,baz=300,slow=4.1,SNR=3.1
CMAR Chiang Mai Arr 123.47 67 PKIKP **PKPdf 20 01 26.3 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 123.47 67 PKP **PKPdf 20 01 26.3 +0.7**
CD2 Chengdu 123.62 52 PKP **PKPdf 20 01 24.7 -1.0**
CD2 PP **PP 20 03 10.4 +3.0**
CD2 PKS **PKSdf 20 05 00.2 -2.3**
CD2 SKS **SKSdf 20 08 34.2 -3.0**
CD2 SKKS **SKKSac 20 10 01.2 -5.0**
CD2 SS **SS 20 19 53.7 -1.0**
CD2 AMB AMB
comp=Z,190nm,5.7s
CD2 LR LR
comp=N,610nm,10.7s
CD2 LR LR
comp=Z,530nm,16.1s
HHC Hu-ho-hao-te 124.06 37 *e*PKP **PKPdf 20 01 26.0 -0.3**
HHC PP **PP 20 03 14.6 +4.7**
HHC PKS **PKSdf 20 05 01.9 -1.1**
HHC SKS **SKSdf 20 08 37.5 -0.3**
HHC SKKS **SKKSac 20 10 06.0 -2.7**
HHC SS **SS 20 20 03.6 +4.2**
HHC AMB AMB
comp=Z,110nm,6.3s
HHC LR LR
comp=N,600nm,21.7s
HHC LR LR
comp=E,590nm,22.7s
HHC LR LR
comp=Z,800nm,22.4s
KMI Kunming 124.95 58 PKP **PKPdf 20 01 27.2 -1.4**
KMI sPKP 20 01 31.6
KMI PP **PP 20 03 18.6 +1.7**
KMI SKKS 20 10 11.9
KMI SS **SS 20 20 10.2 -2.2**
KMI AMB AMB
comp=Z,170nm,6.8s
KMI LR LR
comp=N,290nm,18.4s
KMI LR LR
comp=E,380nm,17.1s
KMI LR LR
comp=Z,480nm,23.0s
KULM Kulim 127.23 83 PFAKE 20 01 40.0 +7.0
KULM LR LR

comp=Z,413nm,19.0s
BJI Beijing 127.31 36 PKP **PKPdf 20 01 29.9 -2.5**
BJI SS SS 20 20 39.8 0.0
BJI LR LR
comp=N,290nm,23.6s
BJI LR LR
comp=E,520nm,23.6s
BJI LR LR
comp=Z,500nm,47.3s
BJT Baijiatuau 127.32 36 PFAKE 20 01 40.0 +7.6
BJT LR LR
comp=Z,923nm,19.0s
GYA Guiyang 127.75 55 Pdif **Pdif 19 58 15.0 -1.7**
GYA PKP **PKPdf 20 01 31.4 -2.4**
GYA PP **PP 20 03 36.8 +1.6**
GYA PKS **PKSdf 20 05 06.4 -4.2**
GYA SKKS 20 10 27.6
GYA SS **SS 20 20 45.3 -1.7**
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,130nm,21.7s
GYA LR LR
comp=E,120nm,22.8s
GYA LR LR
comp=Z,140nm,21.0s
ENH Enshi 128.33 50 PFAKE 20 01 50.0 +15
ENH LR LR
comp=Z,332nm,21.0s
MDJ Mudanjiang 130.31 22 PFAKE 20 01 50.0 +12
MDJ LR LR
comp=Z,493nm,19.0s
WHN Wuhan 131.81 47 PKP **PKPdf 20 01 37.2 -4.0**
WHN LR LR
comp=Z,1μm,19.5s
NWAO Narrogin (SRO) 133.39 137 PFAKE 20 02 00.0 +16
NWAO LR LR
comp=Z,503nm,20.0s
NJ2 Nanjing 134.07 42 *e*PKP **PKPdf 20 01 43.8 -1.6**
NJ2 SKS **SKSdf 20 08 57.0 +0.8**
NJ2 AMB AMB
comp=Z,250nm,6.4s
NJ2 LR LR
comp=N,630nm,29.0s
NJ2 LR LR
comp=E,570nm,26.3s
NJ2 LR LR
comp=Z,580nm,26.9s
INCN Inchon 134.83 30 PFAKE 20 02 00.0 +13
INCN LR LR
comp=Z,748nm,20.0s
SNZO South Karori 135.06 203 PFAKE 20 02 00.0 +13
SNZO LR LR
comp=Z,642nm,20.0s
KSM Kuching 137.10 87 PFAKE 20 02 00.0 +8.4
KSM LR LR
comp=Z,452nm,21.0s
TAU Tasmania Unive 137.59 174 PFAKE 20 02 00.0 +8.3
TAU LR LR
comp=Z,553nm,22.0s
JOHN Johnston Islan 139.37 297 PFAKE 20 02 10.0 +14
JOHN LR LR
comp=Z,9μm,19.0s
YHNB Yeheng 140.24 49 PFAKE 20 02 10.0 +13
YHNB LR LR
comp=Z,647nm,21.0s
RAO Raoul Island 140.37 221 PFAKE 20 02 10.0 +13
RAO LR LR
comp=Z,1μm,22.0s
MAJO Matsushiro 140.49 19 PFAKE 20 02 10.0 +13
MAJO LR LR
comp=Z,562nm,22.0s
MBWA Marble Bar 141.53 124 PFAKE 20 02 10.0 +11
MBWA LR LR
comp=Z,773nm,22.0s
KKM Kota Kinabalu 142.53 79 PFAKE 20 02 10.0 +8.4
KKM LR LR
comp=Z,687nm,19.0s
CAN Canberra 145.27 174 *e*PKP2 **PKPdf 20 02 05.8 0.0**
CAN MLR MLR
comp=Z,597nm,21.0s
CAN Canberra 145.27 174 *e*PKPdf **PKPdf 20 02 05.8 0.0**
CAN LR LR
comp=Z,597nm,21.0s
KAPI Kappang 146.36 98 PFAKE 20 02 20.0 +10
KAPI LR LR
comp=Z,427nm,22.0s
STKA Stephens Creek 147.06 162 PKPbc **PKPbc 20 02 11.1 +0.3**
comp=Z,1.9nm,0.7s,baz=249,slow=2.2,SNR=3.6
STKA Stephens Creek 147.06 162 *e*P **PKPab 20 02 16.7 +4.4**
STKA Stephens Creek 147.06 162 PKP2 **PKPbc 20 02 11.1 +0.3**
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 147.06 162 PKPbc **PKPbc 20 02 11.1 +0.3**
FITZ Fitzroy Crossi 147.87 124 PKPbc **PKPbc 20 02 14.2 +0.8**
comp=Z,3.1nm,0.9s,baz=297,slow=4.5,SNR=3.7
FITZ Fitzroy Crossi 147.87 124 *e*P **PKPab 20 02 15.2 -0.7**
FITZ Fitzroy Crossi 147.87 124 PKPbc **PKPbc 20 02 14.2 +0.8**
MSVF Nonsavu 150.21 234 *e*PKIKP **PKPdf 20 02 14.3 -0.1**
MSVF *e* 20 02 27.2
MSVF MLR MLR
comp=Z,896nm,19.0s
MSVF Nonsavu 150.21 234 *e*PKPdf **PKPdf 20 02 14.3 -0.1**
MSVF *e*PKPab **PKPab 20 02 27.2 +1.7**
MSVF LR LR
comp=Z,896nm,19.0s
ASAR Alice Springs 150.45 142 PKPbc **PKPbc 20 02 20.8 +0.9**
comp=Z,1.4nm,0.6s,baz=198,slow=1.9,SNR=22
ASAR Alice Springs 150.45 142 PKIKP **PKPbc 20 02 20.8 +0.9**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 150.45 142 PKPbc **PKPbc 20 02 20.8 +0.9**
AS31 Alice Springs 150.45 142 *e*PKPbc **PKPbc 20 02 20.6 +0.7**
FUNA Funafuti 152.91 252 PFAKE 20 02 30.0 +4.3
FUNA LR LR
comp=Z,8μm,19.0s
WRA Warramunga Arr 153.40 137 PKPbc **PKPbc 20 02 27.0 +0.3**
comp=Z,2.5nm,1.1s,baz=250,slow=2.2,SNR=6.9
WRA Warramunga Arr 153.40 137 PKIKP **PKPbc 20 02 27.0 +0.3**
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 153.40 137 PKPbc **PKPbc 20 02 27.0 +0.3**
WRAB Tennant Creek 153.41 137 PFAKE 20 02 30.0 +3.3
WRAB LR LR
comp=Z,764nm,20.0s
DZM Mont Dzumac 155.07 210 *e*LR LR 20 54 20.4
comp=Z,731nm,22.2s
CTAO Charters Tower 159.52 161 PFAKE 20 02 40.0 +13
CTAO LR LR
comp=Z,468nm,21.0s
TARA Tarawa 160.14 276 PFAKE 20 02 40.0 +12
TARA LR LR
comp=Z,68nm,21.0s
HNR Honiara 168.96 217 PFAKE 20 02 50.0 +14
HNR LR LR
comp=Z,798nm,21.0s
PMG Port Moresby 169.44 146 PFAKE 20 02 50.0 +14
PMG LR LR
comp=Z,522nm,22.0s

MAN 02 19:48:57,11°.39N×121°.80E,h24km,mb4.5,ML3.3,MS3.2, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUYO	**Cuyo Island**	**0.93**	**235**	*e*P	Pb	19 49 14.4	-0.1
RCP	**Roxas**	**0.94**	**79**	*e*P	Pb	19 49 14.6	-0.2
GUIM	**Jordan**	**1.08**	**134**	*e*P	Pb	19 49 17.9	+0.8
GUIM				*e*S	Sn	19 49 31.5	+0.6
BUSP	**Coron**	**1.68**	**292**	*e*P	Pn	19 49 25.8	+0.8

IDC ***02*** *19:48:58.2±2.8, 82°.66N×7°.17W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.5/29, mbtmp3.8/8, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/40, Error ellipse: s-maj=51.0km s-min=32.8km az=119.0*

ISCJB ***02*** *19:48:58.5±1.4, 82°.4N±0°.1×7°.4W±0°.8, h10km, mb3.6/7, Error ellipse: s-maj=22.4km s-min=9.7km az=144.5*

ISC 02 19:49:00.1±1.6, 82°.4N±0°.2×6°.86W±0°.08, h10km, n13, σ2°.34/15, mb3.6/7, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**5.71**	**125**	Pn	**Pn**	**19 50 24.9**	**+0.2**
	baz=2.3,slow=9.7,SNR=219						
SPITS				Sn	**Sn**	**19 51 26.5**	**-3.7**
	baz=16,slow=15,SNR=1.9						
DAG	**Danmarks Havn**	**6.02**	**207**	*i* P	**Pn**	**19 50 31.6**	**+2.7**
DAG				*i* S	**Sn**	**19 51 37.3**	**-0.4**
SUMG	**Summit**	**11.70**	**231**	*i* P	**Pn**	**19 51 46.1**	**-0.9**
SUMG				*i* S	**Sn**	**19 53 52.2**	**-5.4**
ARCES	**ARCESS Array B**	**14.68**	**132**	Pn	**Pn**	**19 52 27.9**	**+0.5**
	0.3nm,0.3s,baz=352,slow=12,SNR=9.0						
ARCES				LR	LR	19 57 40.4	
	comp=Z,96nm,18.4s,baz=358,slow=35						
NOA	**NORSAR Array B**	**21.96**	**156**	P	**P**	**19 53 56.9**	**+3.4**
	1.4nm,0.8s,baz=347,slow=8.2,SNR=2.9						
KAF	**Kangasniemi**	**22.00**	**137**	*e*P	**P**	**19 53 54.5**	**+0.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**22.00**	**137**	*e*p	**P**	**19 53 54.5**	**+0.6**
	comp=Z,3.4nm,0.7s						
KAF	**Kangasniemi**	**22.00**	**137**	*e*p	**P**	**19 53 54.5**	**+0.6**
	comp=Z,3.4nm,0.7s						
VRAC	**Vranov**	**33.97**	**152**	P	**P**	**19 55 44.2**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=139,slow=11,SNR=3.2						
GERES	**GERESS Array B**	**34.26**	**156**	P	P	19 55 49.3	+3.5
	comp=Z,0.7nm,0.8s,baz=9.7,slow=7.0,SNR=4.5						
KURK	**Kurchatov**	**39.49**	**85**	P	**P**	**19 56 30.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=334,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**43.83**	**83**	P	**P**	**19 57 05.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=4.6,slow=7.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**69.36**	**171**	P	**P**	**20 00 08.2**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=6.0,slow=5.8,SNR=4.5						

TAP 02 19:52:11.6, 21°.31N×121°.84E, h183km, ML3.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.78**	**340**	*e*P	Pn	19 52 37.3	-0.9
	baz=344						
LAY				*e*S	Sn	19 52 56.9	-1.9
	baz=344						
TWK1	**Hengchun**	**1.15**	**303**	*i* P	Pn	19 52 41.2	+0.5
	baz=304						
TWK1				*i* S	Sn	19 53 03.0	-0.4
	baz=304						
HEN	**Hengchun**	**1.24**	**304**	P	Pn	19 52 42.2	+0.7
	baz=305						
HEN				S	Sn	19 53 04.2	-0.4
	baz=305						
EAST	**Anshuo**	**1.41**	**319**	P	Pn	19 52 42.9	-0.2
	baz=317						
EAST				*e*S	Sn	19 53 06.0	-1.5
	baz=317						
ECL	**Taimali**	**1.52**	**327**	P	Pn	19 52 43.2	-0.8
	baz=325						
ECL				*e*S	Sn	19 53 07.1	-2.2
	baz=325						
SCZT	**Fangliau**	**1.55**	**313**	P	Pn	19 52 44.5	+0.2
	baz=317						
SCZT				S	Sn	19 53 08.5	-1.2
	baz=317						
TWG	**Pinlang**	**1.67**	**335**	P	Pn	19 52 44.9	-0.6
	baz=329						
TWG				S	Sn	19 53 09.7	-2.1
	baz=329						
TWP	**Hsiaoliuchiu**	**1.72**	**307**	*e*P	Pn	19 52 46.9	+0.9
	baz=307						
TWP				*e*S	Sn	19 53 14.9	+2.2
	baz=307						
SSD	**Sandimen**	**1.82**	**322**	*i* P	Pn	19 52 47.3	+0.3
	baz=328						
SSD				S	Sn	19 53 12.8	-1.7
	baz=328						
TWM1	**Shoushan**	**2.00**	**319**	P	Pn	19 52 50.6	+1.7
	baz=326						
TWM1				*e*S	Sn	19 53 18.7	+0.7
	baz=326						
ELDTW	**Lidau**	**2.02**	**338**	P	Pn	19 52 49.9	+0.6
	baz=339						
ELDTW				*e*S	Sn	19 53 15.7	-3.0
	baz=339						
STYT	**Tauyuan**	**2.10**	**332**	*e*P	Pn	19 52 48.5	-1.6
	baz=328						
STYT				*e*S	Sn	19 53 19.2	-0.9
	baz=328						
SGST	**Jiashian**	**2.12**	**327**	*e*P	Pn	19 52 52.0	+1.9
	baz=327						
SGST				*e*S	Sn	19 53 19.6	-0.7
	baz=327						
CHN1	**Nanshi**	**2.23**	**327**	P	Pn	19 52 52.0	+0.6
	baz=332						
CHN1				S	Sn	19 53 21.8	-0.7
	baz=332						
WTP	**Ta-pu**	**2.24**	**330**	*e*P	Pn	19 52 52.1	+0.5
	baz=330						
WTP				*e*S	Sn	19 53 22.1	-0.7
	baz=330						
EHY	**Hungye**	**2.24**	**348**	*e*S		19 53 21.5	
	baz=340						
YUS	**Yu-Shan**	**2.32**	**339**	*e*S		19 53 26.1	
	baz=333						
CHN4	**Tsaushan**	**2.34**	**331**	*e*P	Pn	19 52 52.7	+0.1
	baz=331						
CHN4				*e*S	Sn	19 53 24.0	-0.7
	baz=331						
SCLT	**Jiali**	**2.40**	**321**	*e*S		19 53 26.5	
	baz=321						
CHN5	**Tsauling**	**2.52**	**335**	P	Pn	19 52 54.7	-0.1
	baz=335						
CHN5				*e*S	Sn	19 53 27.8	-0.8
	baz=335						
WGK	**Gukeng**	**2.65**	**334**	*e*S		19 53 30.6	
	baz=334						
SMLT	**Sun Moon Lake**	**2.71**	**341**	*e*S		19 53 32.7	
	baz=336						
TYC	**Yuchr**	**2.74**	**341**	*e*P	Pn	19 52 57.7	+0.4
	baz=335						
TYC				*e*S	Sn	19 53 30.6	-2.4
	baz=335						
WNT	**Mingjian**	**2.77**	**338**	*e*S		19 53 33.4	
	baz=337						
NNS	**Nan Shan**	**3.15**	**352**	*e*S		19 53 41.6	
	baz=352						
ENTT	**Nioudou**	**3.33**	**356**	*e*P	Pn	19 53 05.0	+0.7
	baz=356						

IDC 02 19:57:08.6±8.9, 21°.91S×178°.09W, h414km±91km, mb3.1/7, mb1 3.5/7, mb1mx3.3/15, mbtmp3.1/7, Error ellipse: s-maj=65.1km s-min=31.1km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.14**	**258**	P	P	20 04 38.8	+0.1
	1.4nm,0.7s,baz=94,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**44.34**	**263**	P	P	20 04 39.7	-0.6
	0.5nm,0.3s,baz=95,slow=7.9,SNR=24						
MJAR	**Matsushiro Arr**	**71.30**	**324**	P	P	20 07 44.1	-0.6
	0.6nm,0.6s,baz=167,slow=6.8,SNR=4.2						
TXAR	**Lajitas Array**	**87.88**	**57**	P	P	20 09 12.9	0.0
	0.2nm,0.6s,baz=193,slow=5.1,SNR=4.0						
ILAR	**Eielson Array**	**89.70**	**13**	P	P	20 09 20.9	+0.4
	0.5nm,0.5s,baz=220,slow=5.6,SNR=13						
PDAR	**Pinedale Array**	**90.04**	**43**	P	P	20 09 22.9	0.0
	0.6nm,0.8s,baz=204,slow=2.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**90.51**	**290**	P	P	20 09 27.1	+1.7
	0.7nm,0.8s,baz=97,slow=1.9,SNR=4.9						
AKASG	**Malin Array Be**	**144.20**	**330**	PKP	PKPbc	20 15 54.3	-0.7
	0.8nm,0.4s,baz=44,slow=4.1,SNR=4.6						
BRTR	**Keskin Array B**	**147.71**	**311**	PKPbc	PKPbc	20 16 05.0	-0.7
	0.5nm,0.7s,baz=33,slow=3.4,SNR=2.8						
GERES	**GERESS Array B**	**151.53**	**344**	PKPbc	PKPbc	20 16 13.5	-1.0
	0.2nm,0.5s,baz=40,slow=2.3,SNR=3.7						

DJA ***02*** *20:01:56, 1°.32N×126°.27E, h30km, MLv3.7/3*

IDC 02 20:01:49.1±1.0, 1°.22N×125°.86E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=104.5km s-min=15.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.20**	**181**	P	Pn	20 06 16.4	+0.8
	0.2nm,0.3s,baz=14,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**22.62**	**159**	P	P	20 06 51.1	-0.7
	1.6nm,0.3s,baz=335,slow=11,SNR=38						
ASAR	**Alice Springs**	**25.95**	**163**	P	P	20 07 23.7	+0.2
	0.5nm,0.5s,baz=344,slow=8.1,SNR=10						
ASAR				PcP	PcP	20 10 51.9	-0.5
	0.4nm,0.6s,baz=341,slow=2.3,SNR=5.4						
STKA	**Stephens Creek**	**36.14**	**157**	P	P	20 08 52.5	-0.7
	1.3nm,0.7s,baz=326,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**59.13**	**327**	P	P	20 11 51.4	-0.2
	0.4nm,0.3s,baz=120,slow=7.6,SNR=22						
ZALV	**Zalesovo Beam**	**62.43**	**334**	P	P	20 12 14.0	+0.1
	0.4nm,0.4s,baz=138,slow=6.8,SNR=3.5						
KURK	**Kurchatov**	**63.39**	**329**	P	P	20 12 20.4	0.0
	0.9nm,0.6s,baz=129,slow=6.1,SNR=16						

ISCJB ***02*** *20:14:29.5±0.2, 0°.75N±0°.05×26°.98W±0°.03, h10km, mb4.8/155, MS5.0/191, Error ellipse: s-maj=7.6km s-min=3.1km az=159.0*

MOS ***02*** *20:14:29.4±1.1, 0°.83N×27°.08W, h10km, mb5.0/55, MS4.8/41, Error ellipse: s-maj=11.1km s-min=5.1km az=57.7*

IDC ***02*** *20:14:29.6±0.4, 0°.77N×27°.02W, h0km, mb4.5/34, mb1 4.6/35, mb1mx4.6/36, mbtmp4.5/35, ML5.4/2, MS4.9/30, Ms1 4.9/30, ms1mx4.8/35, Error ellipse: s-maj=15.1km s-min=9.8km az=144.0*

NEIC ***02*** *20:14:30.6±0.2, 0°.79N×27°.12W, h10km, mb5.1/72, MS5.0/143, MW5.5, Error ellipse: s-maj=7.2km s-min=4.3km az=151.0*

SZGRF ***02*** *20:14:30.4, 0°.00S×26°.59W, h10km, mb5.2, MS4.7, Central Mid-Atlantic Ridge*

BJI ***02*** *20:14:31.4, 0°.80N×27°.10W, h10km, mB5.7/10, Ms5.5/9, Ms7 5.2/10*

NEIC ***02*** *20:14:35.4±0.0, 0°.65N×26°.80W, h10km, Moment Tensor Solution. s163 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20; $M_{\theta\theta}$0.15; $M_{\phi\phi}$0.05; $M_{r\theta}$-0.02; $M_{\theta\phi}$-1.74; $M_{\phi r}$-0.91; Best double couple: M_o2.00000×10^{17} NP1:ϕ_s358.00000°, δ86.00000°, λ-27.00000°. NP2:ϕ_s90.00000°, δ62.00000°, λ-174.00000°. Principal axes: T 2.0200, Plg16.0000°, Azm47.0000°; N -0.1100, Plg61.0000°, Azm170.0000°; P -1.9200, Plg22.0000°, Azm310.0000°;*

ISC 02 20:14:30.7±0.3, 0°.70N±0°.07×27°.08W±0°.06, h10km, h9km: pP-P, n746, σ1°.02/1055, mb4.9/155, MS5.0/191, 378C-306D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.94**	**234**	Pn	**Pn**	**20 17 07.0**	**-0.5**
	47nm,0.3s,baz=44,slow=16,SNR=103						
RCBR				Sn	**Sn**	**20 19 07.2**	**-3.0**
	4.8nm,0.3s,baz=294,slow=20,SNR=3.8						
RCBR				LR	LR	20 20 17.8	
	comp=Z,12μm,21.2s,baz=34,slow=32						
RCBR	**Riachuelo**	**10.94**	**234**	*e*Pn	**Pn**	**20 17 05.5**	**-2.0**
	296nm,0.9s						
RCBR				Pn	Pn	20 17 07.0	-0.5
RCBR				*e*Sn	Sn	20 18 54.3	-16
RCBR				Sn	Sn	20 19 07.2	-3.0
SACV	**Santiago Islan**	**14.58**	**13**	*e*Pn	Pn	20 17 52.9	-4.4
	250nm,0.6s						
SACV				*e*Sn	Sn	20 20 14.7	-25
SACV	**Santiago Islan**	**14.58**	**13**	Pn	Pn	20 17 53.6	-3.7
	3μm,0.5s,SNR=31						
BBTS	**Babate**	**17.35**	**36**	Pn	**Pn**	**20 18 30.6**	**-2.6**
	7.9nm,0.3s,baz=11,slow=0.4,SNR=9.7						
BBTS				LR	LR	20 23 47.7	
	comp=Z,4μm,18.9s,baz=225,slow=32						
BBTS	**Babate**	**17.35**	**36**	Pn	**Pn**	**20 18 30.6**	**-2.6**
LIC	**Lamto**	**22.67**	**76**	*i* P	**P**	**20 19 31.8**	**-0.8**
	104nm,1.2s						
LIC				*e*R			
	3μm,19.2s						
DBIC	**Dimbokro**	**22.94**	**75**	P	**P**	**20 19 34.5**	**-1.0**
	57nm,1.1s,baz=241,slow=11,SNR=29						
DBIC				LR	LR	20 26 02.3	
	comp=Z,3μm,18.5s,baz=240,slow=30						
DBIC	**Dimbokro**	**22.94**	**75**	*i* P	**P**	**20 19 34.3**	**-1.1**
DBIC						20 19 34.5	
DBIC				pmax	pmax		
	comp=Z,40nm,0.8s						
DBIC	**Dimbokro**	**22.94**	**75**	*i* P	**P**	**20 19 34.3**	**-1.1**
	comp=Z,40nm,0.8s						
DBIC				P	**P**	**20 19 34.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**31.07**	**65**	P	**P**	**20 20 49.1**	**-0.2**
	comp=Z,32nm,0.8s,baz=252,slow=9.2,SNR=162						
TORD				LR	LR	20 31 06.2	
	comp=Z,3μm,21.1s,baz=240,slow=32						
TORD	**Torodi Ar. Bea**	**31.07**	**65**	P	**P**	**20 20 49.1**	**-0.2**
SPB	**Sao Paulo**	**31.22**	**218**	PFAKE		20 21 00.0	+9.5
SPB				LR	LR		
	comp=Z,2μm,20.0s						
BBGH	**Gun Hill**	**34.47**	**292**	PFAKE		20 21 30.0	+11
BBGH				LR	LR		
	comp=Z,2μm,22.0s						
GRGR	**Grenville**	**36.13**	**290**	PFAKE		20 21 40.0	+6.6
GRGR				LR	LR		
	comp=Z,518nm,21.0s						
FDF	**Fort de France**	**36.44**	**294**	PFAKE		20 21 50.0	+14
FDF				LR	LR		
	comp=Z,744nm,19.0s						
CMLA	**Cha da Macela**	**36.91**	**2**	*e*LQ	LQ	20 29 38.5	
CMLA				*e*LR	LR	20 31 17.5	
SAML	**Samuel**	**37.22**	**254**	*e*P	**P**	**20 21 43.5**	**+0.7**
	comp=Z,32nm,1.3s						
SAML				*e*PP	PP	20 23 07.1	-0.6
SAML				LR	LR		
	comp=Z,1μm,22.0s						
SIV	**San Ignacio**	**37.44**	**242**	P	**P**	**20 21 46.5**	**+1.9**
	comp=Z,11nm,0.9s,baz=88,slow=9.5,SNR=19						
SIV	**San Ignacio**	**37.44**	**242**	P	**P**	**20 21 46.5**	**+1.9**
ANWB	**Willy Bob**	**38.06**	**298**	PFAKE		20 22 00.0	+10
ANWB				LR	LR		
	comp=Z,902nm,22.0s						
RTC	**Rabat Centre**	**38.15**	**28**	PFAKE		20 22 00.0	+10
RTC				LR	LR		
	comp=Z,2μm,20.0s						
TAM	**Tamanrasset**	**38.55**	**53**	*i* P	**P**	**20 21 54.5**	**+0.5**
TAM				pmax	pmax		
	comp=Z,40nm,1.4s						
TAM				MLR	MLR		
	comp=Z,3μm,19.0s						
TAM	**Tamanrasset**	**38.55**	**53**	*i* P	**P**	**20 21 54.5**	**+0.5**
	comp=Z,40nm,1.4s						
TAM				*e*pP	PP	20 23 14.7	-7.7
TAM				LR	LR		
	comp=Z,3μm,19.0s						
CPUP	**Villa Florida**	**39.67**	**225**	P	**P**	**20 22 04.6**	**+1.5**
	comp=Z,11nm,1.1s,baz=31,slow=7.9,SNR=9.4						
CPUP				LR	LR	20 38 20.8	
	comp=Z,5μm,18.1s,baz=43,slow=36						
CPUP	**Villa Florida**	**39.67**	**225**	*e*P	**P**	**20 22 04.3**	**+1.2**
CPUP						20 22 04.6	
CPUP				pmax	pmax		
	comp=Z,85nm,1.3s						
CPUP	**Villa Florida**	**39.67**	**225**	*e*P	**P**	**20 22 04.3**	**+1.2**
	comp=Z,85nm,1.3s						
CPUP				P	**P**	**20 22 04.6**	**+1.5**
MORF	**Marmelete**	**40.20**	**23**	*e*P	**P**	**20 22 06.8**	**-0.7**
	comp=Z,58nm,1.4s						
SFS	**San Fernando**	**40.50**	**26**	PFAKE		20 22 20.0	+10
SFS				LR	LR		
	comp=Z,2μm,21.0s						
PVAQ	**Vaqueiros**	**40.66**	**24**	*e*P	**P**	**20 22 11.4**	**+0.2**
	comp=Z,39nm,2.2s						
PVAQ				*e*LR	LR	20 33 33.5	
	comp=Z,816nm,18.0s						
PCVE	**Castro Verde**	**40.72**	**23**	*e*P	**P**	**20 22 12.6**	**+0.8**
	comp=Z,35nm,1.8s						
MSKU	**Masuku**	**40.75**	**93**	P	**P**	**20 22 11.6**	**-0.9**
	comp=Z,23nm,0.9s,baz=269,slow=10.0,SNR=6.6						
MSKU	**Masuku**	**40.75**	**93**	P	**P**	**20 22 11.6**	**-0.9**
MSKU				LR	LR		
	comp=Z,1.0nm,19.0s						
PBEJ	**Beja**	**41.13**	**23**	*e*P	**P**	**20 22 15.7**	**+0.6**
	comp=Z,18nm,1.3s						
EVO	**Evora**	**41.51**	**23**	*e*P	**P**	**20 22 19.3**	**+1.0**
	comp=Z,23nm,1.2s						
EVO	**Evora**	**41.51**	**23**	*i* P	**P**	**20 22 18.2**	**-0.1**
	comp=Z,25nm,1.0s						
EVO				*e*R			
	comp=Z,2μm,20.8s						
MTP	**Monte Pirata**	**41.55**	**297**	*e*P	**P**	**20 22 17.0**	**-1.9**
	comp=Z,72nm,1.2s						
PMTG	**Montargil**	**41.90**	**22**	*e*P	**P**	**20 22 19.5**	**-1.9**
	comp=Z,31nm,1.8s						

PESTR Estremoz 41.97 23 *e*P P 20 22 22.6 +0.6
comp=Z,20nm,1.8s
CELP Cerrillos 42.46 296 *e*P P 20 22 25.4 -0.9
PMRV Marv??o 42.53 23 *e*P P 20 22 27.5 +0.9
comp=Z,39nm,1.7s
PMRV *e*LQ LQ 20 32 15.0
PMRV *e*LR LR 20 34 31.0
comp=Z,1µm,18.0s
LRS Lares 42.77 296 *e*P P 20 22 28.2 -0.7
PCBR Castelo Branco 42.85 22 *e*P P 20 22 30.1 +0.9
comp=Z,18nm,1.3s
CRPR Cabo Rojo, PR 42.92 296 *e*P P 20 22 29.5 -0.5
MTE Manteigas 43.32 22 *e*LQ LQ 20 32 31.3
MTE *e*LR LR 20 34 24.2
comp=Z,1µm,20.0s
MTE Manteigas 43.32 22 PFAKE 20 22 40.0 +7.0
MTE LR LR
comp=Z,1µm,20.0s
PAB San Pablo 43.88 26 *e*P P 20 22 36.4 -1.2
PAB pmax pmax
comp=Z,6.0nm,0.9s
PAB MLR MLR
comp=Z,595nm,20.0s
PAB San Pablo 43.88 26 *e*P P 20 22 36.4 -1.2
comp=Z,5.5nm,0.9s
PAB LR LR
comp=Z,595nm,20.0s
LPAZ La Paz 43.88 245 P P 20 22 39.5 +0.9
comp=Z,36nm,1.0s,baz=60,slow=6.7,SNR=65
LPAZ LR LR 20 40 35.9
comp=Z,3µm,18.3s,baz=248,slow=36
LPAZ La Paz 43.88 245⇑*i*P P 20 22 39.0 +0.4
LPAZ 20 22 39.5
LPAZ pmax pmax
comp=Z,61nm,1.2s
LPAZ La Paz 43.88 245⇑*i*P P 20 22 39.0 +0.4
comp=Z,61nm,1.2s
LPAZ P P 20 22 39.5 +0.9
SDV Santo Domingo 44.12 282 *e*P P 20 22 40.0 0.0
comp=Z,39nm,1.4s
SDV LR LR
comp=Z,278nm,20.0s
ESDC Sonseca Array 44.15 26 P P 20 22 40.0 +0.3
comp=Z,1.7nm,0.6s,baz=222,slow=9.1,SNR=24
ESDC LR LR 20 38 16.2
comp=Z,596nm,18.9s,baz=205,slow=32
ESDC Sonseca Array 44.15 26 P P 20 22 40.0 +0.3
ESLA Sonseca Array 44.15 26⇑*e*P P 20 22 39.9 +0.2
comp=Z,25nm,1.8s
ESLA LR LR
comp=Z,5µm,20.0s
MVO Moncorvo 44.17 22 *e*LR LR 20 34 48.1
comp=Z,824nm,18.0s
PGAV Gavieira, Arco 44.44 20 *e*LR LR 20 34 38.2
comp=Z,1µm,18.0s
LVC Limon Verde 46.86 238 *e*P P 20 23 01.0 -0.8
comp=Z,63nm,1.4s
LVC LR LR
comp=Z,1µm,20.0s
SDDR Presa de Saban 46.99 296 *e*P P 20 23 01.8 -0.7
comp=Z,34nm,1.2s
SDDR LR LR
comp=Z,588nm,20.0s
ROSC El Rosal 47.36 276 P P 20 23 06.5 +0.6
comp=Z,4.3nm,0.4s,baz=99,slow=21,SNR=9.8
ROSC LR LR 20 41 08.3
comp=Z,2µm,18.1s,baz=136,slow=34
ROSC El Rosal 47.36 276 P P 20 23 06.5 +0.6
TSUM Tsumeb 48.08 117 PFAKE 20 23 20.0 +8.9
TSUM LR LR
comp=Z,921nm,20.0s
SJPF Ste Jean 48.14 25 *e*P P 20 23 12.1 +1.0
comp=Z,25nm,0.9s
ETSF Etsaut 48.26 26 *e*P P 20 23 13.0 +0.9
KEST Kesra 48.57 40 P P 20 23 14.0 -0.5
comp=Z,1.9nm,0.8s,baz=198,slow=6.9,SNR=5.4
KEST LR LR 20 45 09.4
comp=Z,821nm,18.2s,baz=342,slow=38
KEST Kesra 48.57 40 *e*P P 20 23 12.7 -1.9
KEST P P 20 23 14.0 -0.5
EPF Esparros 48.76 27 *e*P P 20 23 16.9 +1.0
MTLF Montolieu 49.87 28 *e*P P 20 23 24.3 0.0
comp=Z,44nm,1.6s
TRQA Tornquist 50.22 216 *e*P P 20 23 26.7 -0.4
comp=Z,46nm,1.5s
TRQA LR LR
comp=Z,1µm,19.0s
CFAA Coronel Fontan 50.51 227 P P 20 23 29.2 -0.2
comp=Z,1.4nm,1.0s,baz=81,slow=6.0,SNR=11
CFAA Coronel Fontan 50.51 227 P P 20 23 29.2 -0.2
GTBY Guantanamo Bay 50.71 295 PFAKE 20 23 40.0 +8.9
GTBY LR LR
comp=Z,667nm,22.0s
VSL Villasalto 50.95 36 PFAKE 20 23 40.0 +7.5
VSL LR LR
comp=Z,1µm,21.0s
NNA Nana 50.99 254 PFAKE 20 23 50.0 +17
NNA LR LR
comp=Z,1µm,19.0s
CAF Calviac 51.02 26 *e*P P 20 23 33.3 +0.3
comp=Z,26nm,1.1s
RJF Les Rejaudoux 51.08 26 *e*P P 20 23 33.3 -0.1
comp=Z,34nm,1.2s
RJF *e*R
comp=Z,1µm,21.5s
LCO Las Campanas 51.09 231 *e*P P 20 23 33.7 -0.4
comp=Z,58nm,1.4s
LCO LR LR
comp=Z,2µm,20.0s
LASF Ste Croix 51.20 28 *e*P P 20 23 34.6 +0.2
comp=Z,75nm,1.4s
OTAV Otavalo 51.37 270 *e*P P 20 23 36.6 -0.1
comp=Z,37nm,1.4s
OTAV LR LR
comp=Z,523nm,20.0s
MFF Saint Martin d 51.43 24⇑*i*P P 20 23 35.9 -0.1
comp=Z,60nm,1.1s
ROSF Rostrenen 51.72 20⇑*i*P P 20 23 38.5 +0.4
comp=Z,131nm,1.3s
LBL Lubilhac 51.79 27 *e*P P 20 23 40.2 +1.4
LBL Lubilhac 51.79 27 *e*P P 20 23 40.2 +1.4
LBL Lubilhac 51.79 27 *e*P P 20 23 40.2 +1.4
SGMF Saint Gilles 51.90 21 *e*P P 20 23 40.0 +0.5
comp=Z,281nm,1.8s
WDD Wield Dalam 52.09 43 PFAKE 20 23 50.0 +8.9
WDD LR LR
comp=Z,5µm,20.0s
VIVF Saint-Julien-l 52.17 28 *e*P P 20 23 42.1 +0.5
comp=Z,47nm,1.3s
SSB Saint Sauveur 52.42 28 PFAKE 20 24 00.0 +16
SSB LR LR
comp=Z,916nm,19.0s
MTDJ Mount Denham 52.49 292 PFAKE 20 24 00.0 +15
MTDJ LR LR
comp=Z,578nm,20.0s
PLDF La Plantade 52.52 27 *e*P P 20 23 45.1 +0.8
PLDF La Plantade 52.52 27 *e*P P 20 23 45.1 +0.8
PLDF La Plantade 52.52 27 *e*P P 20 23 45.1 +0.8
GRR Gorron 52.62 22 *e*P P 20 23 45.1 +0.2
BGF Bois d'Agland 52.64 26 *e*P P 20 23 45.6 +0.6
comp=Z,50nm,1.1s
MVIF Mont Vial 52.69 31 *e*P P 20 23 46.0 +0.3
MVIF Mont Vial 52.69 31 *e*P P 20 23 46.0 +0.3
MVIF Mont Vial 52.69 31 *e*P P 20 23 46.0 +0.3
ORIF Oris-en-Rattie 52.79 29⇑*i*P P 20 23 47.3 +1.0
comp=Z,93nm,1.9s
ORIF *e*R
comp=Z,1µm,20.2s
SBF Sospel 52.81 31 *e*P P 20 23 46.8 +0.3
comp=Z,61nm,1.1s
TOUF Mont Tournerai 52.82 31 *e*P P 20 23 47.3 +0.6
TOUF Mont Tournerai 52.82 31 *e*P P 20 23 47.3 +0.6
TOUF Mont Tournerai 52.82 31 *e*P P 20 23 47.3 +0.6
SAOF Saorge 52.96 31 *e*P P 20 23 48.2 +0.7
SAOF Saorge 52.96 31 *e*P P 20 23 48.2 +0.7
SAOF Saorge 52.96 31 *e*P P 20 23 48.2 +0.7
AVF Avril sur Loir 53.04 26 *e*P P 20 23 48.7 +0.7
LDF La Druitiere 53.07 22 *e*P P 20 23 48.2 0.0
comp=Z,11nm,0.9s
FLN La Foliniere 53.07 22 *e*P P 20 23 48.3 +0.1
FLN *e*R
comp=Z,831nm,18.8s
BCIP Isla Barro Col 53.17 281 PFAKE 20 24 00.0 +10
BCIP LR LR
comp=Z,578nm,21.0s
BNI Bardonecchia 53.28 29 *e*P P 20 23 49.1 -0.9
BNI pmax pmax
comp=Z,21nm,1.0s
BNI MLR MLR
comp=Z,1µm,19.0s
BNI Bardonecchia 53.28 29 *e*P P 20 23 49.1 -0.9
comp=Z,21nm,1.0s
BNI LR LR
comp=Z,1µm,19.0s
SSF Saint Saulge 53.31 26 *e*P P 20 23 49.2 -0.8
comp=Z,28nm,1.4s
LOR Lormes 53.63 26⇑*i*P P 20 23 52.7 +0.4
comp=Z,58nm,1.5s
LOR *e*R
comp=Z,2µm,20.2s
LPG La Plagne 53.64 29 *e*P P 20 23 53.7 +0.9
comp=Z,21nm,1.0s
LPL La Plagne 53.64 29 *e*P P 20 23 53.6 +0.9
comp=Z,23nm,1.1s
CABF La Chapelle 54.13 28 *e*P P 20 23 56.5 +0.3
comp=Z,50nm,1.2s
CEL Celeste 54.30 41 *e*P P 20 23 58.0 +0.5
comp=Z,20nm,1.0s
CEL LR LR
comp=Z,3µm,19.0s
SFTF Sexfontaines 54.86 26 *e*P P 20 24 01.5 +0.2
LOMF Lomont 55.02 28 *e*P P 20 24 02.9 +0.3
LOMF Lomont 55.02 28 *e*P P 20 24 02.9 +0.3
LOMF Lomont 55.02 28 *e*P P 20 24 02.9 +0.3
AQU L'Aquila 55.11 36 *e*P P 20 24 01.5 -1.8
AQU pmax pmax
comp=Z,14nm,0.9s
AQU MLR MLR
comp=Z,827nm,20.0s
AQU L'Aquila 55.11 36 *e*P P 20 24 01.5 -1.8
comp=Z,14nm,0.9s
AQU LR LR
comp=Z,827nm,20.0s
CUC Castrocucco 55.21 40 PFAKE 20 24 20.0 +16
CUC LR LR
comp=Z,862nm,21.0s
HAU Haudompre 55.29 27 *e*P P 20 24 04.6 +0.2
comp=Z,73nm,1.0s
HAU *e*R
comp=Z,1µm,21.0s
TIP Timpagrande 55.37 41 PFAKE 20 24 20.0 +15
TIP LR LR
comp=Z,2µm,20.0s
HINF Hinteralfeld 55.38 27 *e*P P 20 24 05.0 -0.1
comp=Z,70nm,1.6s
PAGF Fort de Pagny 55.42 26 *e*P P 20 24 05.9 +0.6
comp=Z,11nm,1.2s
MOF Molkenrain 55.53 27 *e*P P 20 24 05.9 -0.3
MOF Molkenrain 55.53 27 *e*P P 20 24 05.9 -0.3
MOF Molkenrain 55.53 27 *e*P P 20 24 05.9 -0.3
TUE Stuetta 55.60 30 *e*P P 20 24 06.1 -0.8
comp=Z,10nm,1.1s
TUE LR LR
comp=Z,783nm,20.0s
ECH Echery 55.81 27 *e*P P 20 24 07.2 -0.9
ECH pmax pmax
comp=Z,12nm,0.9s
ECH MLR MLR
comp=Z,1µm,20.0s
ECH Echery 55.81 27 *e*P P 20 24 07.2 -0.9
comp=Z,12nm,0.9s
ECH LR LR
comp=Z,1µm,20.0s
SUR Sutherland 55.89 131 P P 20 24 10.1 +0.9
comp=Z,14nm,1.0s,baz=344,slow=5.1,SNR=5.8
SUR Sutherland 55.89 131 *e*P P 20 24 09.3 +0.1
comp=Z,25nm,0.9s
SUR LR LR
comp=Z,760nm,20.0s
BAIF Baives 55.94 24 *e*P P 20 24 08.8 -0.2
comp=Z,26nm,1.0s
FELD Feldberg im Sc 55.95 28 *e*P P 20 24 09.2 -0.1
CDF Champ du Feu 56.01 27 *e*P P 20 24 09.6 0.0
comp=Z,28nm,1.0s
DAVOX Davos/Dischmat 56.08 30 P P 20 24 09.6 -0.7
comp=Z,8.2nm,1.0s,baz=230,slow=6.3,SNR=17
DAVOX Davos/Dischmat 56.08 30 P P 20 24 09.6 -0.7
DAVOX Davos/Dischmat 56.08 30 P P 20 24 09.6 -0.7
DOU Dourbes 56.12 24 XP 20 24 16.9
comp=Z,6.6nm,1.4s
BFO Black Forest 56.43 28 *e*P P 20 24 12.6 0.0
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO MLR MLR
comp=Z,863nm,20.0s
BFO Black Forest 56.43 28 *e*P P 20 24 12.6 0.0
comp=Z,9.2nm,1.0s
BFO LR LR
comp=Z,863nm,20.0s
WLF Walferdange 56.44 25 PFAKE 20 24 20.0 +7.4
WLF LR LR
comp=Z,2µm,19.0s
SPAK Spaichingen-Ko 56.48 28 *e*P P 20 24 14.6 +1.6
FETA Feichten 56.67 30 *i*P P 20 24 14.1 -0.4
comp=Z,16nm,0.9s
FETA Feichten 56.67 30 *i*P P 20 24 14.1 -0.4
comp=Z,16nm,0.9s,SNR=5.4
RUP Ruppelstein 56.86 26 *e*P P 20 24 15.9 +0.2
RUP Ruppelstein 56.86 26 *e*P P 20 24 15.9 +0.2
LBTB Lobatse 56.98 121 P P 20 24 16.8 -0.2
comp=Z,11nm,1.1s,baz=224,slow=7.0,SNR=5.3
LBTB Lobatse 56.98 121 P P 20 24 16.8 -0.2
LBTB pmax pmax
comp=Z,11nm,1.1s
LBTB Lobatse 56.98 121 *e*P P 20 24 15.8 -1.2
comp=Z,33nm,1.2s
LBTB LR LR
comp=Z,1µm,19.0s
RETA Reutte 57.01 30⇑*i*P P 20 24 16.1 -0.7
comp=Z,19nm,1.4s
RETA Reutte 57.01 30⇑*i*P P 20 24 16.1 -0.7
comp=Z,19nm,1.4s,SNR=6.7
PLCA Paso Flores 57.08 219 P P 20 24 18.6 +1.2
comp=Z,7.4nm,1.2s,baz=28,slow=5.7,SNR=5.0
PLCA LR LR 20 48 27.3
comp=Z,2µm,18.6s,baz=47,slow=36
PLCA Paso Flores 57.08 219 P P 20 24 18.6 +1.2
PLCA pmax pmax
comp=Z,7.0nm,1.2s
PLCA MLR MLR
comp=Z,2µm,18.6s
PLCA Paso Flores 57.08 219 *e*P P 20 24 18.3 +0.8
comp=Z,23nm,1.4s
MOTA Moosalm 57.08 30⇓*i*P P 20 24 16.9 -0.5
MOTA pmax pmax
comp=Z,9.0nm,1.0s
MOTA Moosalm 57.08 30⇓*i*P P 20 24 16.9 -0.5
comp=Z,9.2nm,1.0s
MOTA Moosalm 57.08 30⇓*i*P P 20 24 16.9 -0.5
comp=Z,9.2nm,1.0s,SNR=6.2
MEM Membach 57.10 24 P P 20 24 18.6 +1.4
HGN Heimansgroeve 57.18 24 *e*P P 20 24 18.2 +0.4
comp=Z,32nm,1.3s
WTTA Wattenberg 57.29 30⇓*i*P P 20 24 18.2 -0.7
WTTA pmax pmax
comp=Z,18nm,1.3s
WTTA Wattenberg 57.29 30⇓*i*P P 20 24 18.2 -0.7
comp=Z,18nm,1.3s
WTTA Wattenberg 57.29 30⇓*i*P P 20 24 18.2 -0.7
comp=Z,18nm,1.3s,SNR=6.0
WATA Walderalm 57.31 30⇑*i*P P 20 24 18.3 -0.7
WATA pmax pmax
comp=Z,26nm,1.7s
WATA Walderalm 57.31 30⇑*i*P P 20 24 18.3 -0.7
comp=Z,26nm,1.7s
WATA Walderalm 57.31 30⇑*i*P P 20 24 18.3 -0.7
comp=Z,26nm,1.7s
TRI Trieste 57.40 33 PFAKE 20 24 30.0 +11
TRI LR LR
comp=Z,564nm,20.0s
ABTA Abfaltersbach 57.40 31 *i*P P 20 24 19.8 +0.2
comp=Z,33nm,1.5s
ABTA Abfaltersbach 57.40 31 *i*P P 20 24 19.8 +0.2
comp=Z,33nm,1.5s,SNR=14
VLS Valsamata 57.44 44 *e*P P 20 24 28.0 +8.1
TOD Tromm 57.56 27 *e*P P 20 24 20.6 0.0
TOD Tromm 57.56 27 *e*P P 20 24 20.6 0.0
PYL PYLOS 57.65 46 *e*P P 20 24 27.0 +5.6
JAVS Javornik 57.68 33 *i*P P 20 24 22.3 +0.7
BOSA Boshof 57.90 125 P P 20 24 23.2 -0.2
comp=Z,8.3nm,0.8s,baz=296,slow=7.8,SNR=12
BOSA LR LR 20 44 25.3
comp=Z,1µm,21.1s,baz=329,slow=31
BOSA Boshof 57.90 125 P P 20 24 23.3 -0.2
BOSA pmax pmax
comp=Z,8.0nm,0.8s
BOSA MLR MLR
comp=Z,1µm,21.2s
BOSA Boshof 57.90 125 P P 20 24 23.2 -0.2
CRNS Crni Vrh 57.90 33 *i*P P 20 24 23.2 +0.1
ITM Ithomi 57.91 45 *e*P P 20 24 32.0 +8.7
RLS Riolos of Patr 57.99 44 *e*P P 20 24 33.0 +9.2
VISS Visnje 58.05 33 *i*P P 20 24 21.9 -2.1
BOJS Bojanci 58.09 34 *i*P P 20 24 25.1 +0.7
JTS JuntasAbangare 58.30 282 PFAKE 20 24 40.0 +14
JTS LR LR
comp=Z,453nm,22.0s
CNNC Cliffs of the 58.39 312 PFAKE 20 24 40.0 +13
CNNC LR LR
comp=Z,1µm,21.0s
VLI Veliai 58.43 46 *e*P P 20 24 28.5 +1.6
WTSB Winterswijk 58.45 24 *e*P P 20 24 27.1 +0.4
comp=Z,54nm,1.4s
EFP Efpalio 58.47 44 *e*P P 20 24 28.5 +1.4
TIR Tirane 58.53 40 PFAKE 20 24 40.0 +12
TIR LR LR
comp=Z,2µm,19.0s
GUR Goura 58.55 45 *e*P P 20 24 30.5 +2.7
EVR Evrytania 58.63 44 *e*P P 20 24 33.0 +4.6
SOKA Soboth 58.69 33⇑*i*P P 20 24 28.7 +0.1
comp=Z,21nm,1.6s
SOKA Soboth 58.69 33⇑*i*P P 20 24 28.7 +0.1
comp=Z,21nm,1.6s
GRFO Grafenberg 58.74 28 *e*P P 20 24 28.2 -0.6
GRFO pmax pmax
comp=Z,28nm,1.5s
GRFO Grafenberg 58.74 28 *e*P P 20 24 28.2 -0.6
comp=Z,28nm,1.5s
GRF Grafenberg Arr 58.74 28 *e*P P 20 24 29.0 +0.2
comp=Z,40nm,1.6s
GRF *e*L L 20 47 20.9
comp=Z,590nm,20.7s
GRF Grafenberg Arr 58.74 28 *e*P P 20 24 29.0 +0.2
GRF pmax pmax
comp=Z,40nm,1.6s
GRF MLR MLR
comp=Z,600nm,20.7s
VAM Vamos 58.80 48 *e*P P 20 24 41.0 +11
MOA Molln 59.02 31⇑*i*P P 20 24 30.1 -0.7
comp=Z,11nm,1.0s
MOA Molln 59.02 31⇑*i*P P 20 24 30.1 -0.7
comp=Z,11nm,1.0s
LTK Loutraki 59.03 45 *e*P P 20 24 33.0 +1.9
AGG Agios Georgios 59.04 44 *e*P P 20 24 32.5 +1.4
THL Klokotos Trika 59.08 43 *e*P P 20 24 32.0 +0.7
CBN Corbin 59.28 315 PFAKE 20 24 40.0 +7.2
CBN LR LR
comp=Z,692nm,19.0s
NHSC New Hope 59.30 309 PFAKE 20 24 40.0 +7.0
NHSC LR LR
comp=Z,1µm,20.0s
LKR Lokris 59.33 44 *e*P P 20 24 33.5 +0.4
VIL1 Vilia, Western 59.34 45 *e*P P 20 24 33.5 +0.2
GERES GERESS Array B 59.38 30 P P 20 24 33.1 -0.2
comp=Z,4.4nm,0.8s,baz=224,slow=5.6,SNR=36
GERES LR LR 20 47 31.6
comp=Z,661nm,20.4s,baz=236,slow=33
GERES GERESS Array B 59.38 30 P P 20 24 33.2 -0.2
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES MLR MLR
comp=Z,661nm,20.4s
GERES GERESS Array B 59.38 30 P P 20 24 33.1 -0.2
KHC Kasperske Hory 59.50 30 *e*P P 20 24 34.0 -0.2
KHC *e* 20 24 41.5
KHC Kasperske Hory 59.50 30⇑*e*P P 20 24 34.0 -0.2
KHC *e*pP pP 20 24 41.5 +4.1
VLY Voula,Athens 59.54 45 *e*P P 20 24 30.5 -4.1
LIT Litokhoron 59.65 43 *e*P P 20 24 36.0 +0.6
PTL Penteli 59.67 45 *e*P P 20 24 44.0 +8.4
NKC Novy Kostel 59.69 28 *e*P P 20 24 36.0 +0.6
NKC *e**PP pP 20 24 42.5 +3.9
NKC MLR MLR
comp=Z,700nm,16.0s
NKC Novy Kostel 59.69 28⇑*e*P P 20 24 36.0 +0.6
NKC *e*pP pP 20 24 42.5 +3.9
NKC AMS AMS 20 48 10.0
comp=Z,700nm,16.0s
NEO Neokhori 59.78 44 *e*P P 20 24 37.0 +0.7
SOP Sopron 60.13 33⇑*e* P 20 24 38.7 +0.2
PRU Pruhonice 60.54 29⇑*i*P P 20 24 40.8 -0.4
PRU *e**PP pP 20 24 48.1 +3.7
PRU MLR MLR
comp=Z,700nm,16.8s
PRU Pruhonice 60.54 29⇑*i*P P 20 24 40.8 -0.4
PRU *e*pP pP 20 24 48.1 +3.7
PRU AMS AMS 20 48 40.0
comp=Z,700nm,16.8s
TREC Trest 60.57 31 *i*P P 20 24 40.9 -0.6
TREC *e**PP pP 20 24 48.3 +3.6
TREC MLR MLR
comp=Z,700nm,22.8s
TREC Trest 60.57 31⇑*i*P P 20 24 40.9 -0.6
TREC *e*pP pP 20 24 48.3 +3.6
TREC AMS AMS 20 47 00.0
comp=Z,700nm,22.8s
LONY Lake Ozonia 60.60 323 PFAKE 20 24 50.0 +8.2
LONY LR LR
comp=Z,2µm,22.0s
CLL Collm 60.68 28 *e*P P 20 24 41.0 -1.1
CLL *e*S S 20 33 08.0 +9.3
CLL pmax pmax
comp=Z,41nm,1.9s
CLL MLR MLR
comp=Z,600nm,19.5s
CLL Collm 60.68 28 *e*P P 20 24 41.0 -1.1
comp=Z,41nm,1.9s
CLL *e* 20 24 51.0
CLL *e*S S 20 33 08.0 +9.3
comp=N,600nm,28.5s
CLL *e*S S 20 33 08.0 +9.3
comp=E,500nm,26.5s
CLL *e*SSS 20 39 37.0
CLL Lm MLR 20 49 00.0
comp=N,500nm,20.4s
CLL Lm MLR 20 49 00.0
comp=E,300nm,18.2s
CLL Lm MLR 20 49 00.0
comp=Z,600nm,19.5s
BRG Berggiesshubel 60.83 28 *i*P P 20 24 43.7 +0.6
comp=Z,26nm,1.6s
BRG *e* 20 24 52.1
comp=Z,23nm,1.4s
BRG *e* 20 25 09.5
comp=Z,13nm,1.3s
BRG S S 20 33 10.0 +9.4
BRG
comp=Z,824nm,16.0s
BRG
comp=N,408nm,15.5s
BRG
comp=E,457nm,15.5s
BRG Berggiesshubel 60.83 28 *i*P P 20 24 43.7 +0.6
BRG *e* 20 24 52.1
BRG S S 20 33 10.0 +9.4
BRG pmax pmax
comp=Z,27nm,1.7s
BRG pmax pmax
comp=Z,23nm,1.4s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=Z,824nm,16.0s
BRG MLR MLR
comp=N,408nm,15.5s
BRG MLR MLR
comp=E,457nm,15.5s
PVCC Panska Ves 60.90 29 *i*P P 20 24 43.6 -0.1
PVCC *e**PP pP 20 24 51.2 +4.3
PVCC MLR MLR
comp=Z,700nm,16.9s
PVCC Panska Ves 60.90 29⇑*i*P P 20 24 43.6 -0.1
PVCC *e*pP pP 20 24 51.2 +4.3
PVCC AMS AMS 20 48 50.0
comp=Z,700nm,16.9s
TGUH Tegucigalpa,Un 60.97 286 PFAKE 20 25 00.0 +15
TGUH LR LR
comp=Z,380nm,21.0s

BLA Blacksburg 61.06 313 PFAKE 20 25 00.0 +15
BLA LR
comp=Z,971nm,19.0s
VRAC Vranov 61.14 31 P **P 20 24 44.6 -0.7**
comp=Z,1.8nm,0.6s,baz=232,slow=7.2,SNR=7.5
VRAC LR LR 20 51 00.7
comp=Z,505nm,19.3s,baz=172,slow=36
VRAC Vranov 61.14 31 ⇑P **P 20 24 45.1 -0.3**
VRAC Vranov 61.14 31 P **P 20 24 44.6 -0.7**
VRAC Vranov 61.14 31 ⇑*i*P **P 20 24 45.1 -0.3**
VTS Vitosha 61.31 40 ⇓P **P 20 24 48.9 +2.1**
VTS Vitosha 61.31 40 ⇓*i*P **P 20 24 48.9 +2.1**
BUD Budapest 61.36 34 ⇓*e* **P 20 24 47.8 +0.9**
UPC Upice 61.60 30 *i* P **P 20 24 48.6 +0.2**
UPC *e**PP **pP 20 24 55.8 +4.2**
UPC Upice 61.60 30 ⇑*i*P **P 20 24 48.6 +0.2**
UPC *ep*P **pP 20 24 55.8 +4.2**
DPC Dobruska-Polom 61.65 30 ⇑*i*P **P 20 24 48.9 +0.1**
DPC *e**PP **pP 20 24 56.0 +3.9**
DPC MLR MLR
comp=Z,500nm,18.2s
DPC Dobruska-Polom 61.65 30 ⇑*i*P **P 20 24 48.9 +0.1**
DPC *ep*P **pP 20 24 56.0 +3.9**
DPC AMS AMS 20 49 30.0
comp=Z,500nm,18.2s
KRLC Kraliky 61.71 30 ⇑*i*P **P 20 24 49.5 +0.3**
KRLC *ep*P **pP 20 24 56.8 +4.3**
RUE Ruedersdorf 61.82 27 *e*P **P 20 24 48.6 -1.2**
comp=Z,40nm,1.0s
BZS Buzias 61.84 37 ⇑P **P 20 24 50.5 +0.4**
BZS Buzias 61.84 37 ⇑*i*P **P 20 24 50.5 +0.4**
VYHS Vyhne 61.84 33 *e*P **P 20 24 50.0 -0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 61.84 33 *e*P **P 20 24 50.0 -0.1**
MORC Moravsky Berou 61.92 31 ⇑P **P 20 24 50.8 +0.2**
MORC Moravsky Berou 61.92 31 *e*P **P 20 24 50.5 -0.1**
comp=Z,7.2nm,1.0s
MORC Moravsky Berou 61.92 31 ⇑*i*P **P 20 24 50.8 +0.2**
GOGA Godfrey 61.99 308 PFAKE 20 25 00.0 +8.6
GOGA LR LR
comp=Z,1μm,21.0s
PSZ Piszkesteto 62.09 34 ⇑P **P 20 24 52.5 +0.6**
PSZ Piszkesteto 62.09 34 *e*P **P 20 24 51.6 -0.3**
comp=Z,24nm,1.1s
PSZ LR LR
comp=Z,699nm,20.0s
PSZ Piszkesteto 62.09 34 ⇑*i*P **P 20 24 52.5 +0.6**
PSZ Piszkesteto 62.09 34 ⇑*e*P **P 20 24 52.6 +0.6**
OKC Ostrava-Krasne 62.27 31 *i* P **P 20 24 52.5 -0.4**
OKC *e**PP **pP 20 25 00.2 +4.0**
OKC Ostrava-Krasne 62.27 31 ⇑*i*P **P 20 24 52.5 -0.4**
OKC *ep*P **pP 20 25 00.2 +4.0**
KECS Kecovo 62.74 34 *e*P **P 20 24 57.2 +1.1**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 62.74 34 *e*P **P 20 24 57.2 +1.1**
KECS *e*SKPDF 20 59 46.6
ERPA Erie 62.82 318 PFAKE 20 25 10.0 +13
ERPA LR LR
comp=Z,853nm,19.0s
TEIG Tepich 62.83 292 PFAKE 20 25 10.0 +13
TEIG LR LR
comp=Z,271nm,21.0s
SCHQ Schefferville 62.95 335 P **P 20 24 57.0 -0.4**
comp=Z,5.3nm,0.9s,baz=108,slow=9.6,SNR=3.4
SCHQ LR LR 20 47 40.5
comp=Z,862nm,20.0s,baz=279,slow=32
SCHQ Schefferville 62.95 335 P **P 20 24 57.0 -0.4**
DRGR 63.10 36 ⇑P **P 20 24 58.9 +0.3**
DRGR 63.10 36 ⇑*i*P **P 20 24 58.8 +0.2**
OJC Ojcow 63.36 32 *e*P **P 20 25 00.8 +0.6**
OJC Ojcow 63.36 32 *e*P **P 20 25 00.8 +0.6**
CPCT Cooper Cave 63.49 310 *e*P **P 20 25 01.0 -0.3**
CRVS Cervenica-Dubn 63.51 34 *e*P **P 20 25 01.7 +0.5**
CRVS pmax pmax
comp=Z,8.0nm,1.4s
CRVS Cervenica-Dubn 63.51 34 *e*P **P 20 25 01.7 +0.5**
STHS Stebnicka Huta 63.67 33 *e*P P 20 25 13.3 +11
STHS Stebnicka Huta 63.67 33 *e* P 20 25 13.3 +11
TRPA Tarpa 63.70 35 ⇓*i*P **P 20 25 02.4 0.0**
TRPA Tarpa 63.70 35 ⇓*e*P **P 20 25 02.5 0.0**
UZH Uzhgorod 63.83 34 *e*P **P 20 25 05.8 +2.5**
UZH *e* 20 25 09.6
VOIR 63.84 38 ⇓P **P 20 25 03.5 -0.1**
VOIR 63.84 38 ⇓*i*P **P 20 25 03.5 -0.1**
KOLS Kolonicke sedl 63.98 34 *e*P **P 20 25 04.8 +0.5**
KOLS pmax pmax
comp=Z,14nm,1.7s
KOLS Kolonicke sedl 63.98 34 *e*P **P 20 25 04.8 +0.5**
ACSO Alum Creek Sta 64.09 315 PFAKE 20 25 20.0 +15
ACSO LR LR
comp=Z,1μm,19.0s
BRAL Brewton 64.17 304 PFAKE 20 25 20.0 +14
BRAL LR LR
comp=Z,2μm,21.0s
SULR 64.24 39 ⇓*i*P **P 20 25 04.2 -1.9**
KMBO Kilima Mbogo 64.35 92 P **P 20 25 07.1 -0.6**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO MLR MLR
comp=Z,585nm,19.0s
KMBO Kilima Mbogo 64.35 92 P **P 20 25 07.1 -0.6**
comp=Z,9.3nm,1.1s
KMBO LR LR
comp=Z,585nm,19.0s
ISP Isparta 64.42 48 PFAKE 20 25 20.0 +12
ISP LR LR
comp=Z,538nm,21.0s
MLR Muntele Rosu 64.42 39 P **P 20 25 07.2 -0.3**
comp=Z,1.4nm,0.9s,baz=150,slow=2.5,SNR=8.5
MLR LR LR 20 53 56.9
comp=Z,411nm,20.3s,baz=305,slow=37
MLR Muntele Rosu 64.42 39 ⇓P **P 20 25 07.8 +0.4**
MLR Muntele Rosu 64.42 39 P **P 20 25 07.2 -0.3**
MLR Muntele Rosu 64.42 39 ⇓*i*P **P 20 25 07.8 +0.4**
KWP Kalwaria Pacla 64.59 33 PFAKE 20 25 20.0 +12
KWP LR LR
comp=Z,729nm,19.0s
LRAL Lakeview Retre 64.68 306 *e*P **P 20 25 07.6 -1.6**
comp=Z,14nm,1.3s
LRAL LR LR
comp=Z,1μm,20.0s
BURAR Bucovina Array 64.99 36 ⇓P P 20 25 19.4 +8.3
BURAR Bucovina Array 64.99 36 ⇓*i*P P 20 25 19.4 +8.3
KONO Kongsberg 65.31 20 PFAKE 20 25 20.0 +7.3
KONO LR LR
comp=Z,936nm,21.0s
TESR 65.33 38 ⇑*i*P **P 20 25 15.5 +2.3**
LVV L'vov 65.42 34 *e*P **P 20 25 13.4 -0.3**
EIL Elat 65.53 58 LR LR 20 54 24.0
comp=Z,1μm,18.5s,baz=264,slow=37
CSS Prodhromos 65.64 52 PFAKE 20 25 30.0 +15
CSS LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 66.11 308 *e*P **P 20 25 16.4 -2.0**
comp=Z,13nm,1.2s
PLAL LR LR
comp=Z,1μm,21.0s
WVT Waverly 66.25 309 *e*P **P 20 25 17.3 -2.1**
WVT pmax pmax
comp=Z,19nm,1.3s
WVT Waverly 66.25 309 *e*P **P 20 25 17.3 -2.1**
comp=Z,18nm,1.3s
MMAI Mount Meron Ar 66.75 54 P **P 20 25 22.3 -0.4**
comp=Z,5.2nm,0.9s,baz=244,slow=8.9,SNR=4.8
MMAI LR LR 20 56 21.9
comp=Z,595nm,19.4s,baz=235,slow=38
MMAI Mount Meron Ar 66.75 54 P **P 20 25 22.3 -0.4**
NOA NORSAR Array B 66.88 19 P **P 20 25 23.3 +0.4**
comp=Z,0.5nm,0.8s,baz=322,slow=22,SNR=4.4
NOA LR LR 20 50 49.5
comp=Z,471nm,18.1s,baz=220,slow=33
NOA NORSAR Array B 66.88 19 P **P 20 25 23.3 +0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,471nm,18.1s
NOA NORSAR Array B 66.88 19 P **P 20 25 23.3 +0.4**
SFIN Scholer Farm 67.07 314 ⇑P **P 20 25 24.7 +0.3**
baz=67
SFIN ⇑P **P 20 25 24.7 +0.3**
baz=67
SFIN ⇑P **P 20 25 24.7 +0.3**
baz=67
HFS Hagfors 67.07 21 P **P 20 25 25.3 +1.2**
comp=Z,1.9nm,0.7s,baz=152,slow=6.4,SNR=3.3
HFS LR LR 20 51 30.2
comp=Z,732nm,18.7s,baz=233,slow=33
HFS Hagfors 67.07 21 P **P 20 25 25.3 +1.2**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,733nm,18.7s
HFS Hagfors 67.07 21 P **P 20 25 25.3 +1.2**
OLIL Olney 67.26 312 P **P 20 25 25.0 -0.7**
comp=Z,58nm,1.1s
VBMS Vicksburg 67.33 305 PFAKE 20 25 40.0 +14
VBMS LR LR
comp=Z,1μm,19.0s
BRTR Keskin Array B 67.36 47 P **P 20 25 26.6 +0.1**
comp=Z,3.5nm,0.9s,baz=235,slow=5.7,SNR=16
BRTR PP **PP 20 27 51.0 -4.1**
comp=Z,1.6nm,0.8s,baz=241,slow=5.2,SNR=3.6
BRTR LR LR 20 56 03.5
comp=Z,612nm,20.2s,baz=50,slow=37
BRTR Keskin Array B 67.36 47 P **P 20 25 26.6 +0.1**
BRTR 20 27 51.0
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,612nm,20.2s
BRTR Keskin Array B 67.36 47 P **P 20 25 26.6 +0.1**
BRTR PP **PP 20 27 51.0 -4.1**
BR131 Keskin Array S 67.36 47 *e*P **P 20 25 25.2 -1.3**
comp=Z,2.2nm,0.7s
BR131 LR LR
comp=Z,1μm,22.0s
ASF Jabal al Asfar 67.76 55 P **P 20 25 29.3 +0.2**
comp=Z,7.6nm,1.2s,baz=174,slow=2.6,SNR=7.5
ASF LR LR 20 55 40.9
comp=Z,292nm,21.1s,baz=290,slow=36
ASF Jabal al Asfar 67.76 55 P **P 20 25 29.3 +0.2**
ASF pmax pmax
comp=Z,8.0nm,1.2s
ASF MLR MLR
comp=Z,292nm,21.1s
ASF Jabal al Asfar 67.76 55 P **P 20 25 29.3 +0.2**
SIUC Southern Illin 67.79 311 *e*P **P 20 25 27.7 -1.4**
comp=Z,35nm,1.1s
HDIL Hopedale 68.71 314 PFAKE 20 25 50.0 +15
HDIL LR LR
comp=Z,2μm,19.0s
KIEV Kiev 68.75 35 *c i*P **P 20 25 34.7 -0.1**
KIEV Kiev 68.75 35 *e*P **P 20 25 34.2 -0.6**
comp=Z,16nm,0.8s
KIEV LR LR
comp=Z,468nm,20.0s
AKASG Malin Array Be 68.76 35 P **P 20 25 34.6 -0.2**
comp=Z,11nm,0.8s,baz=240,slow=6.9,SNR=25
AKASG LR LR 20 57 09.9
comp=Z,512nm,19.5s,baz=210,slow=37
AKASG Malin Array Be 68.76 35 P **P 20 25 34.7 -0.2**
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG MLR MLR
comp=Z,513nm,19.5s
AKASG Malin Array Be 68.76 35 P **P 20 25 34.6 -0.2**
UALR University of 69.43 307 *e*P **P 20 25 37.6 -1.8**
comp=Z,25nm,1.0s
NACGM Naroch 69.48 30 *e* **P 20 25 37.0 -2.2**
SCO Scoresbysund 69.74 2 *i* P **P 20 25 40.8 +0.2**
SCO pmax pmax
comp=Z,4.0nm,1.1s
SCO Scoresbysund 69.74 2 *i* P **P 20 25 40.8 +0.2**
comp=Z,3.8nm,1.1s
MIAR Mount Ida 70.36 307 P **P 20 25 43.9 -1.2**
MIAR MLR MLR
comp=Z,716nm,19.0s
MIAR Mount Ida 70.36 307 P **P 20 25 43.9 -1.2**
MIAR LR LR
comp=Z,716nm,19.0s
COWI Conover 70.44 319 PFAKE 20 26 00.0 +15
COWI LR LR
comp=Z,926nm,20.0s
MALT Malatya 70.51 49 PFAKE 20 26 00.0 +14
MALT LR LR
comp=Z,29nm,22.0s
NATX Nacogdoches 70.66 303 *e*P P 20 25 42.7 -4.3
NATX LR LR
comp=Z,1μm,20.0s
HKT Hockley 71.31 301 *e*P **P 20 25 50.6 -0.3**
HKT pmax pmax
comp=Z,28nm,1.5s
HKT Hockley 71.31 301 *e*P **P 20 25 50.6 -0.3**
comp=Z,28nm,1.5s
SCIA State Center 71.94 314 PFAKE 20 26 10.0 +15
SCIA LR LR
comp=Z,1μm,20.0s
SUMG Summit 72.12 356 *e*P **P 20 25 56.1 +0.6**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 72.12 356 *e*P **P 20 25 54.7 -0.8**
comp=Z,37nm,1.5s
SUMG Summit 72.12 356 *i* P **P 20 25 56.1 +0.6**
comp=Z,7.7nm,0.9s
VNA1 Neumayer--Stat 72.30 174 *e* P 20 26 02.2 +6.1
TUL1 Tulsa 72.44 307 ⇑P **P 20 25 57.5 -0.2**
baz=72
TUL1 ⇑P **P 20 25 57.5 -0.2**
baz=72
TUL1 ⇑P **P 20 25 57.5 -0.2**
baz=72
SPMN St. Paul 72.59 318 ⇓P **P 20 25 58.2 -0.2**
baz=73
SPMN ⇓P **P 20 25 58.2 -0.2**
baz=73
SPMN ⇓P **P 20 25 58.2 -0.2**
baz=73
FINES FINESS Array B 72.61 24 P **P 20 25 59.0 +0.9**
comp=Z,5.1nm,0.7s,baz=235,slow=6.7,SNR=14
FINES LR LR 20 54 49.0
comp=Z,856nm,19.5s,baz=250,slow=33
FINES FINESS Array B 72.61 24 P **P 20 25 59.0 +0.9**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES MLR MLR
comp=Z,857nm,19.5s
FINES FINESS Array B 72.61 24 P **P 20 25 59.0 +0.9**
VNA2 Neumayer--Watz 72.66 173 *e* P 20 26 03.2 +4.9
KVTX Kingsville 72.70 299 PFAKE 20 26 10.0 +11
KVTX LR LR
comp=Z,491nm,20.0s
VNA3 Neumayer Olymp 72.72 174 *e* P 20 26 05.6 +7.0
KAF Kangasniemi 73.07 23 *e*P **P 20 26 00.6 -0.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 73.07 23 *ep* **P 20 26 00.6 -0.2**
comp=Z,3.7nm,0.7s
KAF Kangasniemi 73.07 23 *ep* **P 20 26 00.6 -0.2**
comp=Z,3.7nm,0.7s
KSU1 Kansas State U 73.75 311 PFAKE 20 26 20.0 +15
KSU1 LR LR
comp=Z,1μm,19.0s
SNAA Sanae 73.93 172 *e* P 20 26 09.3 +3.5
SNAA Sanae 73.93 172 *e*P P 20 26 08.5 +2.7
SNAA pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 73.93 172 *e*P P 20 26 08.4 +2.7
comp=Z,4.6nm,0.9s
WMOK Wichita Mounta 74.61 306 PFAKE 20 26 20.0 +9.5
WMOK LR LR
comp=Z,972nm,21.0s
OBN Obninsk 74.63 32 *i* P **P 20 26 10.4 +0.3**
OBN *e* 20 26 23.6
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk 74.63 32 PFAKE 20 26 20.0 +10
OBN LR LR
comp=Z,698nm,19.0s
VSR Storozhevoye 74.76 37 *e*P **P 20 26 10.3 -0.7**
VSR *e**SP **sP 20 26 18.3 +2.8**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,860nm,20.0s
VSR MLR MLR
comp=E,720nm,20.0s
VSR MLR MLR
comp=Z,930nm,20.0s
JCT Junction City 74.78 301 *e*P **P 20 26 10.4 -1.3**
JCT pmax pmax
comp=Z,28nm,1.0s
JCT MLR MLR
comp=Z,591nm,19.0s
JCT Junction City 74.78 301 *e*P **P 20 26 10.3 -1.3**
comp=Z,28nm,1.0s
JCT LR LR
comp=Z,591nm,19.0s
JCT Junction City 74.78 301 ⇑P **P 20 26 11.6 0.0**
baz=75
JCT ⇑P **P 20 26 11.6 0.0**
baz=75
JCT ⇑P **P 20 26 11.6 0.0**
baz=75
ECSD EROS Data Cent 74.82 315 PFAKE 20 26 20.0 +8.4
ECSD LR LR
comp=Z,954nm,21.0s
KIV Kislovodsk 75.03 45 *c i*P **P 20 26 13.4 +0.5**
KIV *e* 20 26 26.7
KIV pmax pmax
comp=Z,32nm,1.2s
KIV MLR MLR
comp=Z,300nm,19.0s
KIV Kislovodsk 75.03 45 PFAKE 20 26 20.0 +7.1
KIV LR LR
comp=Z,416nm,21.0s
ABPO Ambohimpanom 75.41 110 PFAKE 20 26 30.0 +14
ABPO LR LR
comp=Z,733nm,21.0s
MOS Moscow 75.42 32 *e*P **P 20 26 15.7 +1.0**
MOS *e* 20 26 26.8
MOS pmax pmax
comp=Z,46nm,1.0s
JOF Joensuu 75.48 24 *e*P **P 20 26 14.9 0.0**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 75.48 24 *ep* **P 20 26 14.9 0.0**
comp=Z,4.2nm,0.7s
JOF Joensuu 75.48 24 *ep* **P 20 26 14.9 0.0**
comp=Z,4.2nm,0.7s
AGMN Agassiz Nation 75.48 320 PFAKE 20 26 30.0 +15
AGMN LR LR
comp=Z,630nm,19.0s
ZEI Tsey 75.62 46 *e*P **P 20 26 16.1 -0.4**
ZEI pmax pmax
comp=Z,21nm,1.8s
GNI Garni 75.70 49 P **P 20 26 17.8 +0.9**
comp=Z,1.3nm,0.4s,baz=11,slow=23,SNR=4.5
GNI Garni 75.70 49 *ce*P **P 20 26 17.7 +0.9**
GNI pmax pmax
comp=Z,25nm,1.5s
GNI MLR MLR
comp=Z,286nm,18.0s
GNI Garni 75.70 49 P **P 20 26 17.8 +0.9**
GNI LR LR
comp=Z,404nm,21.0s
ULM Lac du Bonnet 76.02 322 P **P 20 26 20.9 +2.7**
comp=Z,7.7nm,1.1s,baz=123,slow=3.1,SNR=5.6
ULM LR LR 20 54 10.4
comp=Z,859nm,21.2s,baz=259,slow=31
ULM Lac du Bonnet 76.02 322 P **P 20 26 21.0 +2.7**
ULM pmax pmax
comp=Z,8.0nm,1.1s
ULM MLR MLR
comp=Z,859nm,21.2s
ULM Lac du Bonnet 76.02 322 P **P 20 26 20.9 +2.7**
CBKS Cedar Bluff 76.09 310 PFAKE 20 26 30.0 +11
CBKS LR LR
comp=Z,805nm,19.0s
DAG Danmarks Havn 76.13 2 *e*P **P 20 26 18.7 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 76.13 2 *i* P **P 20 26 18.7 +0.3**
comp=Z,37nm,0.8s
VRHR Novokhopersk 76.20 37 *e*P **P 20 26 19.3 0.0**
VRHR pmax pmax
comp=Z,20nm,1.4s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
AMTX Amarillo 76.98 306 PFAKE 20 26 40.0 +16
AMTX LR LR
comp=Z,851nm,19.0s
ARCES ARCESS Array B 76.99 17 LR LR 20 55 46.5
comp=Z,730nm,20.4s,baz=240,slow=32
428A Kincaid Ranch, 77.28 301 ⇑P **P 20 26 26.2 +0.3**
baz=77,SNR=9.0
428A ⇑P **P 20 26 26.2 +0.3**
baz=77,SNR=9.0
428A ⇑P **P 20 26 26.2 +0.3**
baz=77,SNR=9.0
528A Cox Ranch, San 77.30 301 ⇑P **P 20 26 26.1 0.0**
baz=77
528A ⇑P **P 20 26 26.1 0.0**
baz=77
528A ⇑P **P 20 26 26.1 0.0**
baz=77
628A Black Gap, Mar 77.31 300 ⇑P **P 20 26 25.9 -0.2**
baz=77
628A ⇑P **P 20 26 25.9 -0.2**
baz=77
628A ⇑P **P 20 26 25.9 -0.2**
baz=77
328A Wristen Ranch, 77.46 302 ⇓P **P 20 26 26.9 0.0**
baz=77
328A ⇓P **P 20 26 26.9 0.0**
baz=77
328A ⇓P **P 20 26 26.9 0.0**
baz=77
KEV Kevo 77.55 17 PFAKE 20 26 40.0 +14
KEV LR LR
comp=Z,1μm,22.0s
T28A Walsh 77.66 308 ⇓P **P 20 26 28.1 +0.1**
baz=78
T28A ⇓P **P 20 26 28.1 +0.1**
baz=78
T28A ⇓P **P 20 26 28.1 +0.1**
baz=78
627A Terlingua Ranc 77.74 300 ⇑P **P 20 26 28.7 +0.1**
baz=78
627A ⇑P **P 20 26 28.7 +0.1**
baz=78
627A ⇑P **P 20 26 28.7 +0.1**
baz=78
MSTX Muleshoe 77.75 305 ⇑P **P 20 26 28.8 +0.2**
baz=78
MSTX ⇑P **P 20 26 28.8 +0.2**
baz=78
MSTX ⇑P **P 20 26 28.8 +0.2**
baz=78
427A Hayter Ranch, 77.90 301 ⇑P **P 20 26 29.6 +0.2**
baz=78,SNR=6.2
427A ⇑P **P 20 26 29.6 +0.2**
baz=78,SNR=6.2
427A ⇑P **P 20 26 29.6 +0.2**
baz=78,SNR=6.2
TXAR Lajitas Array 77.97 300 P **P 20 26 30.0 +0.2**
comp=Z,4.2nm,0.9s,baz=123,slow=6.7,SNR=29
TXAR LR LR 20 56 30.3
comp=Z,370nm,21.1s,baz=0.0,slow=32
TXAR Lajitas Array 77.97 300 P **P 20 26 30.0 +0.2**
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR MLR MLR
comp=Z,370nm,21.2s
TXAR Lajitas Array 77.97 300 P **P 20 26 30.0 +0.2**
Z27A Tatum 78.04 304 ⇑P **P 20 26 30.0 -0.2**
baz=78,SNR=14
Z27A ⇑P **P 20 26 30.0 -0.2**
baz=78,SNR=14
Z27A ⇑P **P 20 26 30.0 -0.2**
baz=78,SNR=14
Y27A Causey 78.06 304 ⇑P **P 20 26 30.5 +0.2**
baz=78
Y27A ⇑P **P 20 26 30.5 +0.2**
baz=78
Y27A ⇑P **P 20 26 30.5 +0.2**

baz=78
T27A Campo 78.13 308 ⇑P **P** **20 26 30.6 0.0**
baz=78
T27A ⇑P **P** **20 26 30.6 0.0**
baz=78
T27A ⇑P **P** **20 26 30.6 0.0**
baz=78
W27A Bowe Ranch, En 78.13 306 ⇑P **P** **20 26 31.0 +0.3**
baz=78
W27A ⇑P **P** **20 26 31.0 +0.3**
baz=78
W27A ⇑P **P** **20 26 31.0 +0.3**
baz=78
OGNE Ogallala 78.19 312 PFAKE 20 26 40.0 +9.2
OGNE LR LR
comp=Z,810nm,20.0s
KSCO Kaye Shedlock' 78.34 310 ⇓P **P** **20 26 32.3 +0.5**
baz=78
KSCO ⇓P **P** **20 26 32.3 +0.5**
baz=78
KSCO ⇓P **P** **20 26 32.3 +0.5**
baz=78
R27A Eads 78.37 309 ⇑P **P** **20 26 32.0 +0.1**
baz=78
R27A ⇑P **P** **20 26 32.0 +0.1**
baz=78
R27A ⇑P **P** **20 26 32.0 +0.1**
baz=78
626A Big Bend Ranch 78.40 300 ⇑P **P** **20 26 32.5 +0.3**
baz=78,SNR=9.4
626A ⇑P **P** **20 26 32.5 +0.3**
baz=78,SNR=9.4
626A ⇑P **P** **20 26 32.5 +0.3**
baz=78,SNR=9.4
526A Mary Lane Ranc 78.41 300 ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=7.5
526A ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=7.5
526A ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=7.5
426A McDonald Obser 78.42 301 ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=14
426A ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=14
426A ⇑P **P** **20 26 32.7 +0.3**
baz=78,SNR=14
326A Caldwell Ranch 78.45 302 ⇓P **P** **20 26 33.1 +0.7**
baz=78,SNR=7.6
326A ⇓P **P** **20 26 33.1 +0.7**
baz=78,SNR=7.6
326A ⇓P **P** **20 26 33.1 +0.7**
baz=78,SNR=7.6
CLNB Carlsbad 78.47 303 *e*P P 20 26 25.5 -7.1
comp=Z,4.0nm,0.9s
Y26A Elida 78.62 304 ⇓P **P** **20 26 33.9 +0.5**
baz=79
Y26A ⇓P **P** **20 26 33.9 +0.5**
baz=79
Y26A ⇓P **P** **20 26 33.9 +0.5**
baz=79
226A Malaga, Loving 78.63 302 ⇓P **P** **20 26 33.9 +0.5**
baz=79
226A ⇓P **P** **20 26 33.9 +0.5**
baz=79
226A ⇓P **P** **20 26 33.9 +0.5**
baz=79
Z26A Caprock 78.67 304 ⇑P **P** **20 26 33.8 +0.2**
baz=79
Z26A ⇑P **P** **20 26 33.8 +0.2**
baz=79
Z26A ⇑P **P** **20 26 33.8 +0.2**
baz=79
X26A CR and CF Fran 78.68 305 ⇓P **P** **20 26 33.9 +0.2**
baz=79
X26A ⇓P **P** **20 26 33.9 +0.2**
baz=79
X26A ⇓P **P** **20 26 33.9 +0.2**
baz=79
W26A Owens Ranch, T 78.71 306 ⇑P **P** **20 26 33.9 +0.1**
baz=79
W26A ⇑P **P** **20 26 33.9 +0.1**
baz=79
W26A ⇑P **P** **20 26 33.9 +0.1**
baz=79
S26A Kim 78.80 308 ⇑P **P** **20 26 34.0 -0.3**
baz=79
S26A ⇑P **P** **20 26 34.0 -0.3**
baz=79
S26A ⇑P **P** **20 26 34.0 -0.3**
baz=79
U26A Atchley Ranch, 78.86 307 ⇓P **P** **20 26 34.2 -0.5**
baz=79
U26A ⇓P **P** **20 26 34.2 -0.5**
baz=79
U26A ⇓P **P** **20 26 34.2 -0.5**
baz=79
GDL2 Guadalupe Moun 78.87 303 *e*P **P** **20 26 35.2 +0.5**
comp=Z,59nm,1.5s
R26A Arlington 78.88 309 ⇓P **P** **20 26 34.6 -0.1**
baz=79
R26A ⇓P **P** **20 26 34.6 -0.1**
baz=79
R26A ⇓P **P** **20 26 34.6 -0.1**
baz=79
LVZ Lovozero 79.02 20 PFAKE 20 26 50.0 +15
LVZ LR LR
comp=Z,1μm,19.0s
125A Gardner Draw, 79.17 303 ⇓P **P** **20 26 35.9 -0.5**
baz=79,SNR=8.6
125A ⇓P **P** **20 26 35.9 -0.5**
baz=79,SNR=8.6
125A ⇓P **P** **20 26 35.9 -0.5**
baz=79,SNR=8.6
225A Deer Hill, Car 79.25 302 ⇓P **P** **20 26 36.8 -0.2**
baz=79
225A ⇓P **P** **20 26 36.8 -0.2**
baz=79
225A ⇓P **P** **20 26 36.8 -0.2**
baz=79
425A Indio Mountain 79.25 301 ⇓P **P** **20 26 37.2 +0.2**
baz=79,SNR=23
425A ⇓P **P** **20 26 37.2 +0.2**
baz=79,SNR=23
425A ⇓P **P** **20 26 37.2 +0.2**
baz=79,SNR=23
Z25A Roswell 79.28 304 ⇑P **P** **20 26 37.1 0.0**
baz=79
Z25A ⇑P **P** **20 26 37.1 0.0**
baz=79
Z25A ⇑P **P** **20 26 37.1 0.0**
baz=79
W25A X Bar L Ranch, 79.29 306 ⇑P **P** **20 26 36.7 -0.3**
baz=79
W25A ⇑P **P** **20 26 36.7 -0.3**
baz=79
W25A ⇑P **P** **20 26 36.7 -0.3**
baz=79
325A Bean Ranch, Si 79.30 302 ⇓P **P** **20 26 37.2 -0.1**
baz=79,SNR=13
325A ⇓P **P** **20 26 37.2 -0.1**
baz=79,SNR=13
325A ⇓P **P** **20 26 37.2 -0.1**
baz=79,SNR=13
K26A Motz Farm, Whi 79.32 313 ⇑P **P** **20 26 37.4 +0.4**
baz=79
K26A ⇑P **P** **20 26 37.4 +0.4**
baz=79
K26A ⇑P **P** **20 26 37.4 +0.4**
baz=79
Y25A Mesa, Roswell 79.33 304 ⇑P **P** **20 26 37.3 0.0**
baz=79
Y25A ⇑P **P** **20 26 37.3 0.0**
baz=79
Y25A ⇑P **P** **20 26 37.3 0.0**
baz=79
X25A Clemmons Ranch 79.38 305 ⇑P **P** **20 26 37.6 0.0**
baz=79
X25A ⇑P **P** **20 26 37.6 0.0**
baz=79
X25A ⇑P **P** **20 26 37.6 0.0**
baz=79
U25A Circle Dot Ran 79.39 307 ⇑P **P** **20 26 37.6 0.0**
baz=79
U25A ⇑P **P** **20 26 37.6 0.0**
baz=79
U25A ⇑P **P** **20 26 37.6 0.0**
baz=79
T25A Trinidad 79.48 308 ⇑P **P** **20 26 38.5 +0.3**
baz=79
T25A ⇑P **P** **20 26 38.5 +0.3**
baz=79
T25A ⇑P **P** **20 26 38.5 +0.3**
baz=79
V25A Rancho No Teng 79.49 306 ⇓P **P** **20 26 38.3 +0.1**
baz=79
V25A ⇓P **P** **20 26 38.3 +0.1**
baz=79
V25A ⇓P **P** **20 26 38.3 +0.1**
baz=79
R25A Fountain Ranch 79.51 309 ⇑P **P** **20 26 38.2 0.0**
baz=79
R25A ⇑P **P** **20 26 38.2 0.0**
baz=79
R25A ⇑P **P** **20 26 38.2 0.0**
baz=79
S25A Robets Cordova 79.56 308 ⇑P **P** **20 26 38.7 +0.1**
baz=80
S25A ⇑P **P** **20 26 38.7 +0.1**
baz=80
S25A ⇑P **P** **20 26 38.7 +0.1**
baz=80
MNTX Cornudas Mount 79.68 302 PFAKE 20 26 50.0 +11
MNTX LR LR
comp=Z,443nm,19.0s
324A Moseley Ranch, 79.74 302 ⇓P **P** **20 26 39.1 -0.5**
baz=80,SNR=6.8
324A ⇓P **P** **20 26 39.1 -0.5**
baz=80,SNR=6.8
324A ⇓P **P** **20 26 39.1 -0.5**
baz=80,SNR=6.8
M25A Palm-Egli Farm 79.78 312 ⇓P **P** **20 26 40.0 +0.4**
baz=80
M25A ⇓P **P** **20 26 40.0 +0.4**
baz=80
M25A ⇓P **P** **20 26 40.0 +0.4**
baz=80
Z24A Sheeppen Canyo 79.83 304 ⇑P **P** **20 26 40.1 0.0**
baz=80
Z24A ⇑P **P** **20 26 40.1 0.0**
baz=80
Z24A ⇑P **P** **20 26 40.1 0.0**
baz=80
224A Cornudas Mount 79.83 302 ⇓P **P** **20 26 39.9 -0.2**
baz=80,SNR=9.8
224A ⇓P **P** **20 26 39.9 -0.2**
baz=80,SNR=9.8
224A ⇓P **P** **20 26 39.9 -0.2**
baz=80,SNR=9.8
Y24A Capitan 79.95 304 ⇓P **P** **20 26 40.9 +0.2**
baz=80
Y24A ⇓P **P** **20 26 40.9 +0.2**
baz=80
Y24A ⇓P **P** **20 26 40.9 +0.2**
baz=80
T24A Torres, Weston 79.98 307 ⇑P **P** **20 26 41.5 +0.5**
baz=80
T24A ⇑P **P** **20 26 41.5 +0.5**
baz=80
T24A ⇑P **P** **20 26 41.5 +0.5**
baz=80
V24A Rampart Ranch, 80.00 306 ⇑P **P** **20 26 41.6 +0.5**
baz=80
V24A ⇑P **P** **20 26 41.6 +0.5**
baz=80
V24A ⇑P **P** **20 26 41.6 +0.5**
baz=80
X24A Lazy VL Ranch, 80.01 305 ⇓P **P** **20 26 41.3 +0.2**
baz=80
X24A ⇓P **P** **20 26 41.3 +0.2**
baz=80
X24A ⇓P **P** **20 26 41.3 +0.2**
baz=80
W24A Lazy 6 Ranch, 80.06 305 ⇑P **P** **20 26 41.6 +0.3**
baz=80,SNR=6.4
W24A ⇑P **P** **20 26 41.6 +0.3**
baz=80,SNR=6.4
W24A ⇑P **P** **20 26 41.6 +0.3**
baz=80,SNR=6.4
R24A Sanders Place, 80.16 309 ⇑P **P** **20 26 42.4 +0.6**
baz=80
R24A ⇑P **P** **20 26 42.4 +0.6**
baz=80
R24A ⇑P **P** **20 26 42.4 +0.6**
baz=80
S24A Houchin Ranch, 80.18 308 ⇓P **P** **20 26 42.4 +0.4**
baz=80
S24A ⇓P **P** **20 26 42.4 +0.4**
baz=80
S24A ⇓P **P** **20 26 42.4 +0.4**
baz=80
Q24A Divide 80.28 309 ⇓P **P** **20 26 43.1 +0.5**
baz=80
Q24A ⇓P **P** **20 26 43.1 +0.5**
baz=80
Q24A ⇓P **P** **20 26 43.1 +0.5**
baz=80
N24A Carr 80.31 311 ⇓P **P** **20 26 43.2 +0.7**
baz=80
N24A ⇓P **P** **20 26 43.2 +0.7**
baz=80
N24A ⇓P **P** **20 26 43.2 +0.7**
baz=80
M24A Cheyenne 80.36 312 ⇓P **P** **20 26 43.3 +0.6**
baz=80
M24A ⇓P **P** **20 26 43.3 +0.6**
baz=80
M24A ⇓P **P** **20 26 43.3 +0.6**
baz=80
SDCO Great Sand Dun 80.42 308 *e*P **P** **20 26 41.6 -1.7**
comp=Z,22nm,1.4s
SDCO LR LR
comp=Z,655nm,22.0s
Y23A Lovelace Mesa, 80.46 304 ⇑P **P** **20 26 44.2 +0.7**
baz=80
Y23A ⇑P **P** **20 26 44.2 +0.7**
baz=80
Y23A ⇑P **P** **20 26 44.2 +0.7**
baz=80
Z23A Rita Site, Whi 80.54 303 ⇓P **P** **20 26 44.6 +0.8**
baz=80
Z23A ⇓P **P** **20 26 44.6 +0.8**
baz=80
Z23A ⇓P **P** **20 26 44.6 +0.8**
baz=80
X23A Hourglass Bar 80.63 305 ⇓P **P** **20 26 44.9 +0.4**
baz=81
X23A ⇓P **P** **20 26 44.9 +0.4**
baz=81
X23A ⇓P **P** **20 26 44.9 +0.4**
baz=81
W23A Werner Place, 80.66 305 ⇓P **P** **20 26 44.5 -0.1**
baz=81
W23A ⇓P **P** **20 26 44.5 -0.1**
baz=81
W23A ⇓P **P** **20 26 44.5 -0.1**
baz=81
KBS Kingsbay 80.67 7 PFAKE 20 26 50.0 +6.6
KBS LR LR
comp=Z,388nm,20.0s
R23A Moffat 80.72 308 ⇑P **P** **20 26 45.3 +0.4**
baz=81
R23A ⇑P **P** **20 26 45.3 +0.4**
baz=81
R23A ⇑P **P** **20 26 45.3 +0.4**
baz=81
FFC Flin Flon 80.73 325 PFAKE 20 27 00.0 +16
FFC LR LR
comp=Z,585nm,20.0s
ISCO Idaho Springs 80.74 310 *e*P **P** **20 26 46.8 +1.8**
ISCO pmax pmax
comp=Z,33nm,1.8s
ISCO MLR MLR
comp=Z,813nm,22.0s
ISCO Idaho Springs 80.74 310 *e*P **P** **20 26 46.8 +1.8**
comp=Z,33nm,1.8s
ISCO LR LR
comp=Z,813nm,22.0s
ISCO Idaho Springs 80.74 310 ⇓P **P** **20 26 45.2 +0.1**
baz=81
ISCO ⇓P **P** **20 26 45.2 +0.1**
baz=81
ISCO ⇓P **P** **20 26 45.2 +0.1**
baz=81
V23A Ortiz Mt. (NFS 80.75 306 ⇑P **P** **20 26 45.4 +0.4**
baz=81
V23A ⇑P **P** **20 26 45.4 +0.4**
baz=81
V23A ⇑P **P** **20 26 45.4 +0.4**
baz=81
U23A El Rito 80.81 307 ⇓P **P** **20 26 45.8 +0.4**
baz=81
U23A ⇓P **P** **20 26 45.8 +0.4**
baz=81
U23A ⇓P **P** **20 26 45.8 +0.4**
baz=81
ANMO Albuquerque 80.89 305 P **P** **20 26 46.7 +0.9**
comp=Z,3.1nm,1.1s,baz=134,slow=9.5,SNR=5.8
ANMO LR LR 20 57 27.7
comp=Z,988nm,20.6s,baz=277,slow=32
ANMO Albuquerque 80.89 305 *e*P **P** **20 26 45.7 -0.1**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 80.89 305 *e*P **P** **20 26 45.7 -0.1**
comp=Z,2.8nm,1.1s
DGMT Dagmar 80.94 319 PFAKE 20 27 00.0 +14
DGMT LR LR
comp=Z,744nm,20.0s
LPM Los Pinos Moun 80.97 304 *e*P **P** **20 26 46.3 +0.1**
comp=Z,8.4nm,1.2s
O23A Lake Granby, G 81.02 310 ⇑P **P** **20 26 47.1 +0.6**
baz=81
O23A ⇑P **P** **20 26 47.1 +0.6**
baz=81
O23A ⇑P **P** **20 26 47.1 +0.6**
baz=81
Z22A Elephant Butte 81.15 303 ⇓P **P** **20 26 47.4 +0.2**
baz=81,SNR=7.9
Z22A ⇓P **P** **20 26 47.4 +0.2**
baz=81,SNR=7.9
Z22A ⇓P **P** **20 26 47.4 +0.2**
baz=81,SNR=7.9
Y22A Socorro 81.21 304 ⇓P **P** **20 26 47.7 +0.2**
baz=81
Y22A ⇓P **P** **20 26 47.7 +0.2**
baz=81
Y22A ⇓P **P** **20 26 47.7 +0.2**
baz=81
U22A Llaves 81.35 307 ⇑P **P** **20 26 49.4 +1.2**
baz=81
U22A ⇑P **P** **20 26 49.4 +1.2**
baz=81
U22A ⇑P **P** **20 26 49.4 +1.2**
baz=81
V22A San Miguel Ran 81.35 306 ⇑P **P** **20 26 48.8 +0.5**
baz=81,SNR=6.7
V22A ⇑P **P** **20 26 48.8 +0.5**
baz=81,SNR=6.7
V22A ⇑P **P** **20 26 48.8 +0.5**
baz=81,SNR=6.7
LAZ Ladron 81.40 305 *e*P **P** **20 26 48.6 +0.1**
comp=Z,4.1nm,1.4s
T22A Edith 81.45 307 ⇑P **P** **20 26 49.3 +0.5**
baz=81
T22A ⇑P **P** **20 26 49.3 +0.5**
baz=81
T22A ⇑P **P** **20 26 49.3 +0.5**
baz=81
R22A Saguache, Gunn 81.45 308 ⇓P **P** **20 26 49.6 +0.7**
baz=81
R22A ⇓P **P** **20 26 49.6 +0.7**
baz=81
R22A ⇓P **P** **20 26 49.6 +0.7**
baz=81
S22A 4UR Ranch, Cre 81.46 308 ⇑P **P** **20 26 49.4 +0.5**
baz=81
S22A ⇑P **P** **20 26 49.4 +0.5**
baz=81
S22A ⇑P **P** **20 26 49.4 +0.5**
baz=81
O22A Kremmling 81.50 310 ⇑P **P** **20 26 49.2 +0.1**
baz=81
O22A ⇑P **P** **20 26 49.2 +0.1**
baz=81
O22A ⇑P **P** **20 26 49.2 +0.1**
baz=81
P22A Eagle 81.60 310 ⇑P **P** **20 26 49.3 -0.2**
baz=82
P22A ⇑P **P** **20 26 49.3 -0.2**
baz=82
P22A ⇑P **P** **20 26 49.3 -0.2**
baz=82
L22A Ellis Ranch, M 81.62 312 ⇓P **P** **20 26 50.1 +0.5**
baz=82
L22A ⇓P **P** **20 26 50.1 +0.5**
baz=82
L22A ⇓P **P** **20 26 50.1 +0.5**
baz=82
Q22A Crested Butte, 81.64 309 ⇑P **P** **20 26 50.2 +0.3**
baz=82
Q22A ⇑P **P** **20 26 50.2 +0.3**
baz=82
Q22A ⇑P **P** **20 26 50.2 +0.3**
baz=82
M22A Cedar Creek Ra 81.67 312 ⇓P **P** **20 26 50.7 +0.8**
baz=82
M22A ⇓P **P** **20 26 50.7 +0.8**
baz=82
M22A ⇓P **P** **20 26 50.7 +0.8**
baz=82
121A Cookes Peak, D 81.78 303 ⇓P **P** **20 26 51.1 +0.5**
baz=82
121A ⇓P **P** **20 26 51.1 +0.5**
baz=82
121A ⇓P **P** **20 26 51.1 +0.5**
baz=82
Y21A Point of Rocks 81.81 304 ⇓P **P** **20 26 51.5 +0.7**
baz=82
Y21A ⇓P **P** **20 26 51.5 +0.7**
baz=82
Y21A ⇓P **P** **20 26 51.5 +0.7**
baz=82
W21A San Fidel 81.88 305 ⇑P **P** **20 26 51.8 +0.8**
baz=82
W21A ⇑P **P** **20 26 51.8 +0.8**
baz=82
W21A ⇑P **P** **20 26 51.8 +0.8**
baz=82
X21A Alamocita Cree 81.94 305 ⇓P **P** **20 26 51.7 +0.4**
baz=82,SNR=5.9
X21A ⇓P **P** **20 26 51.7 +0.4**
baz=82,SNR=5.9
X21A ⇓P **P** **20 26 51.7 +0.4**
baz=82,SNR=5.9
T21A Navajo Lake 81.95 307 ⇑P **P** **20 26 51.8 +0.4**
baz=82
T21A ⇑P **P** **20 26 51.8 +0.4**
baz=82
T21A ⇑P **P** **20 26 51.8 +0.4**
baz=82
U21A Nageezi 82.00 307 ⇑P **P** **20 26 52.3 +0.6**
baz=82,SNR=5.1
U21A ⇑P **P** **20 26 52.3 +0.6**
baz=82,SNR=5.1
U21A ⇑P **P** **20 26 52.3 +0.6**
baz=82,SNR=5.1
D22A Cohagen 82.07 317 ⇓P **P** **20 26 52.0 +0.4**
baz=82
D22A ⇓P **P** **20 26 52.0 +0.4**
baz=82
D22A ⇓P **P** **20 26 52.0 +0.4**
baz=82
P21A Newcastle 82.12 310 ⇓P **P** **20 26 52.9 +0.7**
baz=82
P21A ⇓P **P** **20 26 52.9 +0.7**
baz=82
P21A ⇓P **P** **20 26 52.9 +0.7**
baz=82
Q21A Lamborn Mesa, 82.15 309 ⇓P **P** **20 26 52.7 +0.4**
baz=82
Q21A ⇓P **P** **20 26 52.7 +0.4**
baz=82
Q21A ⇓P **P** **20 26 52.7 +0.4**
baz=82
S21A Coal Bank Pass 82.21 308 ⇑P **P** **20 26 53.8 +0.9**
baz=82,SNR=6.6
S21A ⇑P **P** **20 26 53.8 +0.9**
baz=82,SNR=6.6
S21A ⇑P **P** **20 26 53.8 +0.9**
baz=82,SNR=6.6
N21A Black Mountain 82.30 311 ⇓P **P** **20 26 54.1 +0.9**
baz=82
N21A ⇓P **P** **20 26 54.1 +0.9**
baz=82
N21A ⇓P **P** **20 26 54.1 +0.9**

baz=82
L21A Rawlins 82.31 312 ⇑P **P** **20 26 53.9 +0.8**
baz=82
L21A ⇑P **P** **20 26 53.9 +0.8**
baz=82
L21A ⇑P **P** **20 26 53.9 +0.8**
baz=82
320A Kipp Ranch, An 82.33 301 ⇑P **P** **20 26 54.2 +0.8**
baz=82
320A ⇑P **P** **20 26 54.2 +0.8**
baz=82
320A ⇑P **P** **20 26 54.2 +0.8**
baz=82
220A Playas Peak, P 82.36 302 ⇓P **P** **20 26 54.3 +0.7**
baz=82
220A ⇓P **P** **20 26 54.3 +0.7**
baz=82
220A ⇓P **P** **20 26 54.3 +0.7**
baz=82
Y20A Horse Springs, 82.38 304 ⇑P **P** **20 26 54.1 +0.3**
baz=82
Y20A ⇑P **P** **20 26 54.1 +0.3**
baz=82
Y20A ⇑P **P** **20 26 54.1 +0.3**
baz=82
I21A Big Trails, Te 82.45 314 ⇑P **P** **20 26 54.5 +0.7**
baz=82
I21A ⇑P **P** **20 26 54.5 +0.7**
baz=82
I21A ⇑P **P** **20 26 54.5 +0.7**
baz=82
SYO Syowa Base 82.45 161⇑*ep*P **P** **20 26 54.2 +1.2**
120A U Bar Ranch, L 82.50 303 ⇑P **P** **20 26 54.3 0.0**
baz=82
120A ⇑P **P** **20 26 54.3 0.0**
baz=82
120A ⇑P **P** **20 26 54.3 0.0**
baz=82
Z20A Nine Sixteen R 82.50 303 ⇑P **P** **20 26 54.7 +0.4**
baz=82
Z20A ⇑P **P** **20 26 54.7 +0.4**
baz=82
Z20A ⇑P **P** **20 26 54.7 +0.4**
baz=82
J21A Lysite 82.51 313 ⇓P **P** **20 26 54.9 +0.8**
baz=82
J21A ⇓P **P** **20 26 54.9 +0.8**
baz=82
J21A ⇓P **P** **20 26 54.9 +0.8**
baz=82
X20A Quemado 82.53 305 ⇑P **P** **20 26 55.5 +1.0**
baz=82
X20A ⇑P **P** **20 26 55.5 +1.0**
baz=82
X20A ⇑P **P** **20 26 55.5 +1.0**
baz=82
W20A Ramah 82.58 305 ⇑P **P** **20 26 55.5 +0.7**
baz=82,SNR=5.7
W20A ⇑P **P** **20 26 55.5 +0.7**
baz=82,SNR=5.7
W20A ⇑P **P** **20 26 55.5 +0.7**
baz=82,SNR=5.7
V20A Brimhall 82.60 306 ⇑P **P** **20 26 55.0 +0.2**
baz=82
V20A ⇑P **P** **20 26 55.0 +0.2**
baz=82
V20A ⇑P **P** **20 26 55.0 +0.2**
baz=82
MSEY Mahe Island 82.64 95 PFAKE 20 27 10.0 +15
MSEY LR LR
comp=Z,493nm,19.0s
S20A Disappointment 82.68 308 ⇑P **P** **20 26 56.1 +0.9**
baz=83
S20A ⇑P **P** **20 26 56.1 +0.9**
baz=83
S20A ⇑P **P** **20 26 56.1 +0.9**
baz=83
U20A Newcomb 82.69 306 ⇑P **P** **20 26 55.7 +0.5**
baz=83
U20A ⇑P **P** **20 26 55.7 +0.5**
baz=83
U20A ⇑P **P** **20 26 55.7 +0.5**
baz=83
Q20A Ridgley Place, 82.72 309 ⇓P **P** **20 26 55.8 +0.5**
baz=83
Q20A ⇓P **P** **20 26 55.8 +0.5**
baz=83
Q20A ⇓P **P** **20 26 55.8 +0.5**
baz=83
R20A Redvale 82.72 308 ⇓P **P** **20 26 56.1 +0.7**
baz=83
R20A ⇓P **P** **20 26 56.1 +0.7**
baz=83
R20A ⇓P **P** **20 26 56.1 +0.7**
baz=83
MVCO Mesa Verde 82.74 307 *e*P **P** **20 26 55.9 +0.4**
comp=Z,36nm,1.5s
MVCO LR LR
comp=Z,582nm,20.0s
MVCO Mesa Verde 82.74 307 ⇑P **P** **20 26 56.2 +0.6**
baz=83
MVCO ⇑P **P** **20 26 56.2 +0.6**
baz=83
MVCO ⇑P **P** **20 26 56.2 +0.6**
baz=83
O20A White River Ci 82.78 310 ⇓P **P** **20 26 56.3 +0.6**
baz=83
O20A ⇓P **P** **20 26 56.3 +0.6**
baz=83
O20A ⇓P **P** **20 26 56.3 +0.6**
baz=83
M20A Sweetwater, Wa 82.87 312 ⇑P **P** **20 26 56.6 +0.5**
baz=83
M20A ⇑P **P** **20 26 56.6 +0.5**
baz=83
M20A ⇑P **P** **20 26 56.6 +0.5**
baz=83
I20A Worland 83.06 314 ⇓P **P** **20 26 57.3 +0.4**
baz=83
I20A ⇓P **P** **20 26 57.3 +0.4**
baz=83
I20A ⇓P **P** **20 26 57.3 +0.4**
baz=83
V19A Window Rock 83.06 306 ⇑P **P** **20 26 57.9 +0.6**
baz=83
V19A ⇑P **P** **20 26 57.9 +0.6**
baz=83
V19A ⇑P **P** **20 26 57.9 +0.6**
baz=83
119A Ashpeak Ranch, 83.08 303 ⇓P **P** **20 26 58.2 +0.9**
baz=83
119A ⇓P **P** **20 26 58.2 +0.9**
baz=83
119A ⇓P **P** **20 26 58.2 +0.9**
baz=83
Y19A Nutrioso 83.11 304 ⇓P **P** **20 26 58.5 +0.9**
baz=83,SNR=7.0
Y19A ⇓P **P** **20 26 58.5 +0.9**
baz=83,SNR=7.0
Y19A ⇓P **P** **20 26 58.5 +0.9**
baz=83,SNR=7.0
T19A Beclabito 83.13 307 ⇑P **P** **20 26 58.2 +0.7**
baz=83
T19A ⇑P **P** **20 26 58.2 +0.7**
baz=83
T19A ⇑P **P** **20 26 58.2 +0.7**
baz=83
X19A St. Johns 83.17 304 ⇓P **P** **20 26 58.3 +0.5**
baz=83
X19A ⇓P **P** **20 26 58.3 +0.5**
baz=83
X19A ⇓P **P** **20 26 58.3 +0.5**
baz=83
U19A Dine' College, 83.23 306 ⇑P **P** **20 26 58.7 +0.6**
baz=83
U19A ⇑P **P** **20 26 58.7 +0.6**
baz=83
U19A ⇑P **P** **20 26 58.7 +0.6**
baz=83
S19A Harvey Farm, M 83.28 308 ⇑P **P** **20 26 58.6 +0.3**
baz=83
S19A ⇑P **P** **20 26 58.6 +0.3**
baz=83
S19A ⇑P **P** **20 26 58.6 +0.3**
baz=83
W19A Sanders 83.30 305 ⇑P **P** **20 26 58.7 +0.3**
baz=83
W19A ⇑P **P** **20 26 58.7 +0.3**
baz=83
W19A ⇑P **P** **20 26 58.7 +0.3**
baz=83
D20A Manuel Ranch, 83.39 317 ⇓P **P** **20 26 59.6 +1.1**
baz=83
D20A ⇓P **P** **20 26 59.6 +1.1**
baz=83
D20A ⇓P **P** **20 26 59.6 +1.1**
baz=83
R19A Curley Farm, L 83.42 308 ⇓P **P** **20 26 59.8 +0.8**
baz=83
R19A ⇓P **P** **20 26 59.8 +0.8**
baz=83
R19A ⇓P **P** **20 26 59.8 +0.8**
baz=83
O19A Miners Draw (B 83.47 310 ⇓P **P** **20 26 59.9 +0.8**
baz=83
O19A ⇓P **P** **20 26 59.9 +0.8**
baz=83
O19A ⇓P **P** **20 26 59.9 +0.8**
baz=83
Q19A Hogan Spring (83.47 309 ⇓P **P** **20 26 60.0 +0.8**
baz=83
Q19A ⇓P **P** **20 26 60.0 +0.8**
baz=83
Q19A ⇓P **P** **20 26 60.0 +0.8**
baz=83
318A Bisbee 83.58 301 ⇑P **P** **20 27 00.4 +0.5**
baz=84
318A ⇑P **P** **20 27 00.4 +0.5**
baz=84
318A ⇑P **P** **20 27 00.4 +0.5**
baz=84
218A Dragoon 83.66 302 ⇓P **P** **20 27 01.2 +0.9**
baz=84
218A ⇓P **P** **20 27 01.2 +0.9**
baz=84
218A ⇓P **P** **20 27 01.2 +0.9**
baz=84
I19A Meeteetse 83.69 314 ⇓P **P** **20 27 01.1 +0.8**
baz=84
I19A ⇓P **P** **20 27 01.1 +0.8**
baz=84
I19A ⇓P **P** **20 27 01.1 +0.8**
baz=84
X18A Snowflake 83.72 304 ⇓P **P** **20 27 01.0 +0.4**
baz=84
X18A ⇓P **P** **20 27 01.0 +0.4**
baz=84
X18A ⇓P **P** **20 27 01.0 +0.4**
baz=84
H19A Powell 83.74 315 ⇓P **P** **20 27 01.1 +0.6**
baz=84
H19A ⇓P **P** **20 27 01.1 +0.6**
baz=84
H19A ⇓P **P** **20 27 01.1 +0.6**
baz=84
Y18A Canyon Day Jun 83.75 304 ⇑P **P** **20 27 01.3 +0.5**
baz=84
Y18A ⇑P **P** **20 27 01.3 +0.5**
baz=84
Y18A ⇑P **P** **20 27 01.3 +0.5**
baz=84
E19A Rath Farm, Rou 83.77 317 ⇑P **P** **20 27 01.1 +0.6**
baz=84
E19A ⇑P **P** **20 27 01.1 +0.6**
baz=84
E19A ⇑P **P** **20 27 01.1 +0.6**
baz=84
V18A Ganado 83.78 306 ⇓P **P** **20 27 01.4 +0.5**
baz=84
V18A ⇓P **P** **20 27 01.4 +0.5**
baz=84
V18A ⇓P **P** **20 27 01.4 +0.5**
baz=84
L19A Farson 83.79 312 ⇑P **P** **20 27 01.2 +0.4**
baz=84
L19A ⇑P **P** **20 27 01.2 +0.4**
baz=84
L19A ⇑P **P** **20 27 01.2 +0.4**
baz=84
F19A Roth Farm, Mol 83.82 316 ⇓P **P** **20 27 01.3 +0.6**
baz=84
F19A ⇓P **P** **20 27 01.3 +0.6**
baz=84
F19A ⇓P **P** **20 27 01.3 +0.6**
baz=84
T18A Mexican Hat 83.83 307 ⇑P **P** **20 27 01.8 +0.8**
baz=84
T18A ⇑P **P** **20 27 01.8 +0.8**
baz=84
T18A ⇑P **P** **20 27 01.8 +0.8**
baz=84
R18A Canyonlands Na 83.93 308 ⇓P **P** **20 27 01.8 +0.2**
baz=84
R18A ⇓P **P** **20 27 01.8 +0.2**
baz=84
R18A ⇓P **P** **20 27 01.8 +0.2**
baz=84
S18A Hurst Farm, Bl 83.96 308 ⇓P **P** **20 27 01.8 0.0**
baz=84
S18A ⇓P **P** **20 27 01.8 0.0**
baz=84
S18A ⇓P **P** **20 27 01.8 0.0**
baz=84
RLMT Red Lodge 83.98 315 *e*P **P** **20 27 01.4 -0.4**
comp=Z,9.8nm,0.9s
A19A Klindworth Far 83.99 319 ⇓P **P** **20 27 02.2 +0.7**
baz=84
A19A ⇓P **P** **20 27 02.2 +0.7**
baz=84
A19A ⇓P **P** **20 27 02.2 +0.7**
baz=84
BW06 Boulder Array 84.00 313 PFAKE 20 27 10.0 +8.1
BW06 LR LR
comp=Z,2μm,22.0s
PDAR Pinedale Array 84.00 313 P **P** **20 27 03.1 +1.2**
comp=Z,1.2nm,0.9s,baz=112,slow=7.2,SNR=3.7
PDAR LR LR 20 59 22.1
comp=Z,724nm,19.6s,baz=107,slow=32
PDAR Pinedale Array 84.00 313 P **P** **20 27 03.1 +1.2**
B19A Brinkman Farms 84.07 319 ⇑P **P** **20 27 02.6 +0.7**
baz=84
B19A ⇑P **P** **20 27 02.6 +0.7**
baz=84
B19A ⇑P **P** **20 27 02.6 +0.7**
baz=84
H18A Shoshone NF, C 84.23 315 ⇑P **P** **20 27 02.6 -0.4**
baz=84
H18A ⇑P **P** **20 27 02.6 -0.4**
baz=84
H18A ⇑P **P** **20 27 02.6 -0.4**
baz=84
TUC Tucson 84.30 302 *e*P **P** **20 27 03.0 -0.5**
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC MLR MLR
comp=Z,615nm,20.0s
TUC Tucson 84.30 302 *e*P **P** **20 27 03.0 -0.5**
comp=Z,6.8nm,0.9s
TUC LR LR
comp=Z,615nm,20.0s
F18A Big Timber 84.36 316 ⇑P **P** **20 27 04.1 +0.5**
baz=84
F18A ⇑P **P** **20 27 04.1 +0.5**
baz=84
F18A ⇑P **P** **20 27 04.1 +0.5**
baz=84
W17A Winslow 84.38 305 ⇑P **P** **20 27 05.0 +1.1**
baz=84
W17A ⇑P **P** **20 27 05.0 +1.1**
baz=84
W17A ⇑P **P** **20 27 05.0 +1.1**
baz=84
Y17A Roosevelt 84.42 304 ⇑P **P** **20 27 04.8 +0.8**
baz=84
Y17A ⇑P **P** **20 27 04.8 +0.8**
baz=84
Y17A ⇑P **P** **20 27 04.8 +0.8**
baz=84
U17A Shonto 84.42 307 ⇑P **P** **20 27 05.1 +0.9**
baz=84
U17A ⇑P **P** **20 27 05.1 +0.9**
baz=84
U17A ⇑P **P** **20 27 05.1 +0.9**
baz=84
SRU San Rafael 84.47 309 *e*P **P** **20 27 04.5 +0.2**
SRU pmax pmax
comp=Z,26nm,1.5s
SRU San Rafael 84.47 309 *e*P **P** **20 27 04.5 +0.2**
comp=Z,26nm,1.5s
V17A Tonalea, Kykot 84.48 306 ⇓P **P** **20 27 04.6 +0.2**
baz=84,SNR=7.2
V17A ⇓P **P** **20 27 04.6 +0.2**
baz=84,SNR=7.2
V17A ⇓P **P** **20 27 04.6 +0.2**
baz=84,SNR=7.2
E18A Harlowton 84.56 317 ⇑P **P** **20 27 05.3 +0.8**
baz=84
E18A ⇑P **P** **20 27 05.3 +0.8**
baz=84
E18A ⇑P **P** **20 27 05.3 +0.8**
baz=84
T17A Navajo Res., N 84.56 307 ⇑P **P** **20 27 05.6 +0.8**
baz=84
T17A ⇑P **P** **20 27 05.6 +0.8**
baz=84
T17A ⇑P **P** **20 27 05.6 +0.8**
baz=84
R17A Hanksville Air 84.57 308 ⇓P **P** **20 27 05.4 +0.6**
baz=84
R17A ⇓P **P** **20 27 05.4 +0.6**
baz=84
R17A ⇓P **P** **20 27 05.4 +0.6**
baz=84
S17A Black Ridge (B 84.59 308 ⇑P **P** **20 27 05.4 +0.5**
baz=84,SNR=7.2
S17A ⇑P **P** **20 27 05.4 +0.5**
baz=84,SNR=7.2
S17A ⇑P **P** **20 27 05.4 +0.5**
baz=84,SNR=7.2
O17A Robinson Place 84.70 310 ⇑P **P** **20 27 05.5 0.0**
baz=85
O17A ⇑P **P** **20 27 05.5 0.0**
baz=85
O17A ⇑P **P** **20 27 05.5 0.0**
baz=85
M17A Scullys Gap (B 84.72 311 ⇓P **P** **20 27 05.5 -0.1**
baz=85
M17A ⇓P **P** **20 27 05.5 -0.1**
baz=85
M17A ⇓P **P** **20 27 05.5 -0.1**
baz=85
LKWY Lake 84.74 315 PFAKE 20 27 20.0 +14
LKWY LR LR
comp=Z,2μm,21.0s
U16A Tuba City 84.78 306 ⇑P **P** **20 27 06.8 +0.9**
baz=85,SNR=6.9
U16A ⇑P **P** **20 27 06.8 +0.9**
baz=85,SNR=6.9
U16A ⇑P **P** **20 27 06.8 +0.9**
baz=85,SNR=6.9
LOHW Long Hollow 84.82 314 *e*P **P** **20 27 03.3 -2.7**
comp=Z,21nm,1.4s
MOOW Moose Ponds 84.93 314 *e*P **P** **20 27 05.6 -1.0**
WUAZ Wupatki 84.94 305 *e*P **P** **20 27 07.5 +0.7**
comp=Z,4.2nm,1.1s
WUAZ LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 84.94 305 ⇓P **P** **20 27 07.4 +0.7**
baz=85
WUAZ ⇓P **P** **20 27 07.4 +0.7**
baz=85
WUAZ ⇓P **P** **20 27 07.4 +0.7**
baz=85
AHID Auburn Hatcher 85.13 313 PFAKE 20 27 20.0 +12
AHID LR LR
comp=Z,1μm,22.0s
D17A Six Diamond Ra 85.13 317 ⇑P **P** **20 27 08.0 +0.6**
baz=85
D17A ⇑P **P** **20 27 08.0 +0.6**
baz=85
D17A ⇑P **P** **20 27 08.0 +0.6**
baz=85
E17A Martinsdale 85.20 316 ⇓P **P** **20 27 08.6 +0.8**
baz=85
E17A ⇓P **P** **20 27 08.6 +0.8**
baz=85
E17A ⇓P **P** **20 27 08.6 +0.8**
baz=85
S16A Weppner Ranch, 85.23 308 ⇓P **P** **20 27 08.6 +0.4**
baz=85
S16A ⇓P **P** **20 27 08.6 +0.4**
baz=85
S16A ⇓P **P** **20 27 08.6 +0.4**
baz=85
O16A Springville 85.28 310 ⇑P **P** **20 27 09.0 +0.6**
baz=85
O16A ⇑P **P** **20 27 09.0 +0.6**
baz=85
O16A ⇑P **P** **20 27 09.0 +0.6**
baz=85
B17A L&G Farms, Che 85.29 318 ⇓P **P** **20 27 08.8 +0.8**
baz=85
B17A ⇓P **P** **20 27 08.8 +0.8**
baz=85
B17A ⇓P **P** **20 27 08.8 +0.8**
baz=85
H16A Russell Place, 85.36 315 ⇓P **P** **20 27 09.4 +0.7**
baz=85
H16A ⇓P **P** **20 27 09.4 +0.7**
baz=85
H16A ⇓P **P** **20 27 09.4 +0.7**
baz=85
HWUT Hardware Ranch 85.41 312 *e*P **P** **20 27 08.7 -0.2**
HWUT LR LR
comp=Z,917nm,21.0s
D16A Dana Ranch, Ca 85.71 317 ⇓P **P** **20 27 10.3 0.0**
baz=86
D16A ⇓P **P** **20 27 10.3 0.0**
baz=86
D16A ⇓P **P** **20 27 10.3 0.0**
baz=86
MSU Marysvale 85.72 308 *e*P **P** **20 27 11.5 +0.8**
MSU pmax pmax
comp=Z,9.0nm,0.9s
MSU Marysvale 85.72 308 *e*P **P** **20 27 11.5 +0.8**
comp=Z,8.7nm,0.9s
U15A North Rim 85.73 306 ⇑P **P** **20 27 10.5 -0.4**
baz=86
U15A ⇑P **P** **20 27 10.5 -0.4**
baz=86
U15A ⇑P **P** **20 27 10.5 -0.4**
baz=86
MVU Marysvale 85.75 308 PFAKE 20 27 20.0 +9.2
MVU LR LR
comp=Z,831nm,22.0s
G16A Moss Hill, Enn 85.78 315 ⇑P **P** **20 27 11.3 +0.5**
baz=86
G16A ⇑P **P** **20 27 11.3 +0.5**
baz=86
G16A ⇑P **P** **20 27 11.3 +0.5**
baz=86
R15A Junction 85.79 308 ⇑P **P** **20 27 11.9 +0.9**
baz=86
R15A ⇑P **P** **20 27 11.9 +0.9**
baz=86
R15A ⇑P **P** **20 27 11.9 +0.9**
baz=86
P15A Leamington 85.85 309 ⇑P **P** **20 27 11.5 +0.3**
baz=86
P15A ⇑P **P** **20 27 11.5 +0.3**
baz=86
P15A ⇑P **P** **20 27 11.5 +0.3**
baz=86
214A Organ Pipe Nat 86.01 302 ⇓P **P** **20 27 12.6 +0.6**
baz=86
214A ⇓P **P** **20 27 12.6 +0.6**
baz=86
214A ⇓P **P** **20 27 12.6 +0.6**
baz=86
L15A Malad City 86.04 312 ⇓P **P** **20 27 12.3 +0.2**
baz=86
L15A ⇓P **P** **20 27 12.3 +0.2**
baz=86
L15A ⇓P **P** **20 27 12.3 +0.2**
baz=86
M15A Larsen Ranch, 86.06 311 ⇓P **P** **20 27 11.8 -0.3**
baz=86
M15A ⇓P **P** **20 27 11.8 -0.3**
baz=86
M15A ⇓P **P** **20 27 11.8 -0.3**
baz=86
Z14A Wintersburg 86.16 303 ⇑P **P** **20 27 13.5 +0.8**
baz=86
Z14A ⇑P **P** **20 27 13.5 +0.8**

Z14A baz=86 ⇑P P **20 27 13.5 +0.8**
Y14A Wickenburg 86.23 304 baz=86 ⇑P P **20 27 13.8 +0.8**
Y14A baz=86 ⇑P P **20 27 13.8 +0.8**
Y14A baz=86 ⇑P P **20 27 13.8 +0.8**
G15A Dillon 86.26 315 baz=86,SNR=5.1 ⇓P P **20 27 13.9 +0.8**
G15A baz=86,SNR=5.1 ⇓P P **20 27 13.9 +0.8**
G15A baz=86,SNR=5.1 ⇓P P **20 27 13.9 +0.8**
SOKR Solikamsk 86.28 30 *e*P P **20 27 14.2 +1.6**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,540nm,20.0s
DUG Dugway 86.28 310 PFAKE 20 27 20.0 +6.7
DUG LR LR
comp=Z,729nm,22.0s
DUG Dugway 86.28 310 baz=86,SNR=7.5 ⇑P P **20 27 13.8 +0.5**
DUG baz=86,SNR=7.5 ⇑P P **20 27 13.8 +0.5**
DUG baz=86,SNR=7.5 ⇑P P **20 27 13.8 +0.5**
F15A Butte 86.30 316 baz=86 ⇓P P **20 27 13.6 +0.2**
F15A baz=86 ⇓P P **20 27 13.6 +0.2**
F15A baz=86 ⇓P P **20 27 13.6 +0.2**
HVU Hansel Valley 86.32 312 *e*P P **20 27 12.3 -1.2**
HVU pmax pmax
comp=Z,10.0nm,1.3s
HVU Hansel Valley 86.32 312 *e*P P **20 27 12.2 -1.2**
comp=Z,9.6nm,1.3s
AKTO Aktyubinsk 86.33 40 P P **20 27 14.2 +1.2**
comp=Z,5.4nm,0.8s,baz=259,slow=4.0,SNR=22
AKTO Aktyubinsk 86.33 40 P P **20 27 14.3 +1.2**
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 86.33 40 P P **20 27 14.2 +1.2**
H15A Lima 86.34 314 baz=86 ⇑P P **20 27 13.4 -0.1**
H15A baz=86 ⇑P P **20 27 13.4 -0.1**
H15A baz=86 ⇑P P **20 27 13.4 -0.1**
DLMT Dillon 86.35 315 comp=Z,6.9nm,1.0s P P **20 27 14.5 +1.0**
B15A Bradely Ranch, 86.47 318 baz=86 ⇑P P **20 27 14.1 +0.2**
B15A baz=86 ⇑P P **20 27 14.1 +0.2**
B15A baz=86 ⇑P P **20 27 14.1 +0.2**
C15A Salmond Ranch, 86.47 318 baz=86,SNR=5.1 ⇑P P **20 27 14.4 +0.4**
C15A baz=86,SNR=5.1 ⇑P P **20 27 14.4 +0.4**
C15A baz=86,SNR=5.1 ⇑P P **20 27 14.4 +0.4**
A15A Johnson Ranch, 86.61 319 baz=86 ⇑P P **20 27 15.0 +0.3**
A15A baz=86 ⇑P P **20 27 15.0 +0.3**
A15A baz=86 ⇑P P **20 27 15.0 +0.3**
K14A Jones Ranch, D 86.65 312 baz=87,SNR=5.5 ⇑P P **20 27 15.1 0.0**
K14A baz=87,SNR=5.5 ⇑P P **20 27 15.1 0.0**
K14A baz=87,SNR=5.5 ⇑P P **20 27 15.1 0.0**
Z13A Yuma Proving G 86.75 303 baz=87 ⇑P P **20 27 16.1 +0.5**
Z13A baz=87 ⇑P P **20 27 16.1 +0.5**
Z13A baz=87 ⇑P P **20 27 16.1 +0.5**
I14A Mackay 86.90 314 baz=87 ⇓P P **20 27 16.4 +0.1**
I14A baz=87 ⇓P P **20 27 16.4 +0.1**
I14A baz=87 ⇓P P **20 27 16.4 +0.1**
J14A Carey 86.92 313 baz=87 ⇓P P **20 27 16.9 +0.5**
J14A baz=87 ⇓P P **20 27 16.9 +0.5**
J14A baz=87 ⇓P P **20 27 16.9 +0.5**
W13A Hualapai Mount 86.98 305 baz=87 ⇓P P **20 27 17.4 +0.4**
W13A baz=87 ⇓P P **20 27 17.4 +0.4**
W13A baz=87 ⇓P P **20 27 17.4 +0.4**
ARU Arti 87.00 34 *c i*P P **20 27 17.4 +1.2**
ARU S S 20 37 43.8 -11
ARU SS **SS** **20 43 37.0 -0.6**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU MLR MLR
comp=Z,547nm,20.0s
ARU Arti 87.00 34 *e*P P **20 27 16.6 +0.4**
ARU comp=Z,7.5nm,0.8s LR LR
comp=Z,641nm,19.0s
A14A Double T Ranch 87.07 319 baz=87 ⇓P P **20 27 17.1 +0.1**
A14A baz=87 ⇓P P **20 27 17.1 +0.1**
A14A baz=87 ⇓P P **20 27 17.1 +0.1**
R13A O'Grain Ranch, 87.12 308 baz=87,SNR=6.5 ⇑P P **20 27 17.9 +0.4**
R13A baz=87,SNR=6.5 ⇑P P **20 27 17.9 +0.4**
R13A baz=87,SNR=6.5 ⇑P P **20 27 17.9 +0.4**
PDMCI Parker Dam,Lak 87.18 304 baz=87 ⇓P P **20 27 18.4 +0.9**
PDMCI baz=87 ⇓P P **20 27 18.4 +0.9**
PDMCI baz=87 ⇓P P **20 27 18.4 +0.9**
I13A Wildhorse Cree 87.38 314 baz=87 ⇓P P **20 27 19.3 +0.7**
I13A baz=87 ⇓P P **20 27 19.3 +0.7**
I13A baz=87 ⇓P P **20 27 19.3 +0.7**
SWMT Swartz Lake 87.40 317 comp=Z,9.5nm,1.2s P P **20 27 17.0 -1.6**
J13A Cove Ranch, Pi 87.41 313 baz=87,SNR=6.4 ⇑P P **20 27 19.0 +0.3**
J13A baz=87,SNR=6.4 ⇑P P **20 27 19.0 +0.3**
J13A baz=87,SNR=6.4 ⇑P P **20 27 19.0 +0.3**
Y12C Blythe 87.49 304 baz=87 ⇓P P **20 27 20.1 +0.9**
Y12C baz=87 ⇓P P **20 27 20.1 +0.9**
Y12C baz=87 ⇓P P **20 27 20.1 +0.9**
G13A Cobalt 87.49 315 baz=87 ⇑P P **20 27 19.8 +0.7**
G13A baz=87 ⇑P P **20 27 19.8 +0.7**
G13A baz=87 ⇑P P **20 27 19.8 +0.7**
H13A Challis 87.49 314 baz=87 ⇑P P **20 27 19.5 +0.4**
H13A baz=87 ⇑P P **20 27 19.5 +0.4**
H13A baz=87 ⇑P P **20 27 19.5 +0.4**
ABKAR Akbulak array 87.52 41 comp=Z,4.8nm,0.7s *e*P P **20 27 19.7 +0.8**
ABKAR *e* 20 27 27.7
F13A Darby 87.58 316 baz=88 ⇓P P **20 27 20.3 +0.8**

F13A baz=88 ⇓P P **20 27 20.3 +0.8**
F13A baz=88 ⇓P P **20 27 20.3 +0.8**
HLID Hailey 87.58 313 comp=Z,49nm,1.8s *e*P P **20 27 19.7 +0.1**
HLID LR LR
comp=Z,1μm,22.0s
HLID Hailey 87.58 313 baz=88 ⇓P P **20 27 20.0 +0.3**
HLID baz=88 ⇓P P **20 27 20.0 +0.3**
HLID baz=88 ⇓P P **20 27 20.0 +0.3**
GLA Glamis 87.73 303 baz=88 ⇓P P **20 27 21.5 +1.1**
GLA baz=88 ⇓P P **20 27 21.5 +1.1**
GLA baz=88 ⇓P P **20 27 21.5 +1.1**
H12A Diamond D Ranc 87.92 314 baz=88 ⇓P P **20 27 21.1 -0.1**
H12A baz=88 ⇓P P **20 27 21.1 -0.1**
H12A baz=88 ⇓P P **20 27 21.1 -0.1**
IRM Iron Mountain 88.01 304 baz=88 ⇑P P **20 27 21.9 +0.2**
IRM baz=88 ⇑P P **20 27 21.9 +0.2**
IRM baz=88 ⇑P P **20 27 21.9 +0.2**
I12A Atlanta 88.11 314 baz=88 ⇓P P **20 27 22.7 +0.6**
I12A baz=88 ⇓P P **20 27 22.7 +0.6**
I12A baz=88 ⇓P P **20 27 22.7 +0.6**
ELK Elko 88.15 311 P P **20 27 20.4 -2.0**
ELK Elko 88.15 311 P P **20 27 20.4 -2.0**
SVE Sverdlovsk 88.16 33 *e*P P **20 27 23.2 +1.4**
SVE pmax pmax
comp=Z,12nm,1.1s
YKA Yellowknife Ar 88.23 332 comp=Z,0.6nm,0.8s,baz=95,slow=5.3,SNR=5.7 P P **20 27 20.5 -1.5**
YKA Yellowknife Ar 88.23 332 P P **20 27 20.5 -1.5**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 88.23 332 P P **20 27 20.5 -1.5**
BC3 Big Chuckawall 88.26 303 baz=88 ⇑P P **20 27 23.6 +0.6**
BC3 baz=88 ⇑P P **20 27 23.6 +0.6**
BC3 baz=88 ⇑P P **20 27 23.6 +0.6**
R11A Troy Canyon, C 88.39 308 baz=88 ⇑P P **20 27 24.1 +0.5**
R11A baz=88 ⇑P P **20 27 24.1 +0.5**
R11A baz=88 ⇑P P **20 27 24.1 +0.5**
BELC Belle Mtn. Jos 88.71 304 baz=89 ⇓P P **20 27 25.5 +0.3**
BELC baz=89 ⇓P P **20 27 25.5 +0.3**
BELC baz=89 ⇓P P **20 27 25.5 +0.3**
HEC Hector,Ludlow 88.99 305 baz=89 ⇑P P **20 27 27.2 +0.8**
HEC baz=89 ⇑P P **20 27 27.2 +0.8**
HEC baz=89 ⇑P P **20 27 27.2 +0.8**
MONP Monument Peak 89.07 303 baz=89 ⇓P P **20 27 27.2 +0.2**
MONP baz=89 ⇓P P **20 27 27.2 +0.2**
MONP baz=89 ⇓P P **20 27 27.2 +0.2**
PFO Pinyon Flat Ob 89.09 303 PFO comp=Z,21nm,1.7s P pmax P pmax **20 27 24.7 -2.2**
PFO comp=Z,609nm,21.0s MLR MLR
PFO Pinyon Flat Ob 89.09 303 comp=Z,21nm,1.7s P P **20 27 24.7 -2.2**
PFO comp=Z,609nm,21.0s LR LR
GSC Goldstone 89.38 305 baz=89 ⇓P P **20 27 28.8 +0.7**
GSC baz=89 ⇓P P **20 27 28.8 +0.7**
GSC baz=89 ⇓P P **20 27 28.8 +0.7**
FURC Furnace Creek, 89.41 306 baz=89 ⇓P P **20 27 28.9 +0.7**
FURC baz=89 ⇓P P **20 27 28.9 +0.7**
FURC baz=89 ⇓P P **20 27 28.9 +0.7**
NEW Newport 89.51 318 NEW comp=Z,740nm,19.0s PFAKE LR LR **20 27 40.0 +12**
BMN Battle Mountai 89.66 310 BMN comp=Z,777nm,22.0s PFAKE LR LR **20 27 40.0 +11**
BMO Blue Mountains 89.67 315 BMO comp=Z,682nm,22.0s PFAKE LR LR **20 27 40.0 +11**
MURC Murrieta 89.72 303 baz=90 ⇓P P **20 27 30.4 +0.7**
MURC baz=90 ⇓P P **20 27 30.4 +0.7**
MURC baz=90 ⇓P P **20 27 30.4 +0.7**
MPMC Manual Prospec 89.92 306 baz=90 ⇑P P **20 27 31.1 +0.3**
MPMC baz=90 ⇑P P **20 27 31.1 +0.3**
MPMC baz=90 ⇑P P **20 27 31.1 +0.3**
DAC Darwin (Calif) 90.00 306 DAC comp=Z,798nm,22.0s PFAKE LR LR **20 27 40.0 +8.8**
EDW2 Edwards Air Fo 90.35 305 baz=90 ⇑P P **20 27 32.9 +0.2**
EDW2 baz=90 ⇑P P **20 27 32.9 +0.2**
EDW2 baz=90 ⇑P P **20 27 32.9 +0.2**
NVAR Mina Array Bea 90.53 308 comp=Z,1.9nm,0.9s,baz=96,slow=4.2,SNR=5.5 P P **20 27 37.8 +4.1**
NVAR LR LR 21 02 09.2
comp=Z,486nm,21.2s,baz=197,slow=32
NVAR Mina Array Bea 90.53 308 P P 20 27 37.8 +4.1
WVOR Wild Horse Val 90.68 312 WVOR comp=Z,831nm,19.0s PFAKE LR LR 20 27 40.0 +5.8
ISA Isabella 90.73 305 ISA comp=Z,15nm,1.2s *e*P pmax P pmax **20 27 35.9 +1.4**
ISA Isabella 90.73 305 comp=Z,15nm,1.2s *e*P P **20 27 35.9 +1.4**
ISA Isabella 90.73 305 baz=91 ⇓P P **20 27 35.6 +1.2**
ISA baz=91 ⇓P P **20 27 35.6 +1.2**
ISA baz=91 ⇓P P **20 27 35.6 +1.2**
QSPA South Pole Qui 90.77 180 comp=Z,24nm,1.1s *e*P P **20 27 33.6 -0.4**
QSPA comp=Z,324nm,21.0s LR LR
SCI San Clemente I 90.86 303 baz=91 ⇓P P **20 27 36.1 +1.1**
SCI baz=91 ⇓P P **20 27 36.1 +1.1**
SCI baz=91 ⇓P P **20 27 36.1 +1.1**
BRVK Borovoye 93.88 37 BRVK comp=Z,9.0nm,2.5s ⇑ *e*P pmax P pmax **20 27 50.4 +1.9**
BRVK comp=Z,452nm,19.0s MLR MLR
BRVK Borovoye 93.88 37 BRVK comp=Z,606nm,19.0s PFAKE LR LR **20 28 00.0 +12**
BVAR Borovoye Array 93.94 37 P P **20 27 48.0 -0.8**

comp=Z,0.5nm,0.8s,baz=308,slow=5.1,SNR=3.5
BVAR LR LR 21 10 13.7
comp=Z,399nm,18.1s,baz=306,slow=36
BVAR Borovoye Array 93.94 37 BVAR comp=Z,1.0nm,0.8s P pmax P pmax **20 27 48.0 -0.8**
BVAR comp=Z,399nm,18.1s MLR MLR
BVAR Borovoye Array 93.94 37 P P **20 27 48.0 -0.8**
NLWA Neilton Lookou 94.09 317 NLWA comp=Z,625nm,19.0s PFAKE LR LR 20 28 00.0 +10
INK Inuvik 95.39 339 comp=Z,0.7nm,0.6s,baz=102,slow=5.3,SNR=2.2 P P **20 27 53.8 -1.3**
INK Inuvik 95.39 339 INK comp=Z,1.0nm,0.6s P pmax P pmax **20 27 53.8 -1.3**
INK Inuvik 95.39 339 P P **20 27 53.8 -1.3**
EKS2 Erkin-Say 97.51 47 EKS2 comp=Z,368nm,22.0s PFAKE LR LR 20 28 20.0 +14
WRAK Wrangell Islan 97.83 327 WRAK comp=Z,495nm,22.0s PFAKE LR LR 20 28 20.0 +14
AAK Ala-Archa 98.03 47 AAK comp=Z,11nm,1.1s *e*P pmax P pmax **20 28 06.8 -1.1**
AAK comp=Z,393nm,19.0s MLR MLR
AAK Ala-Archa 98.03 47 *e*P P **20 28 06.8 -1.1**
AAK comp=Z,393nm,19.0s LR LR
TKM2 Tokmak 2 98.79 46 TKM2 comp=Z,379nm,19.0s PFAKE LR LR 20 28 20.0 +8.6
KURK Kurchatov 99.36 38 KURK comp=Z,339nm,21.0s PFAKE LR LR 20 28 20.0 +6.6
EGAK Eagle 99.43 337 EGAK comp=Z,511nm,20.0s PFAKE LR LR 20 28 20.0 +6.6
COLA College 101.97 338 COLA comp=Z,383nm,19.0s PFAKE LR LR 20 28 40.0 +15
ZALV Zalesovo Beam 102.16 34 comp=Z,0.2nm,0.4s,baz=292,slow=4.7,SNR=4.1 PP PP 20 32 41.9 +4.6
ZALV Zalesovo Beam 102.16 34 SBA Scott Base 102.57 183 PP PP 20 32 41.9 +4.6
SBA comp=Z,319nm,19.0s PFAKE LR LR 20 28 40.0 +13
MKAR Makanchi Array 102.65 42 comp=Z,0.5nm,0.9s,baz=289,slow=3.7,SNR=3.7 PP PP 20 32 40.5 -0.9
MKAR Makanchi Array 102.65 42 PP PP 20 32 40.5 -0.9
VNDA Vanda 103.11 182 VNDA comp=Z,255nm,21.0s PFAKE LR LR 20 28 40.0 +10
WMQ Urumqi 107.15 43 WMQ comp=Z,76nm,1.1s *e*P pmax P pmax **Pdif 20 28 47.4 -0.9**
WMQ comp=Z,490nm,5.6s pmax pmax
WMQ comp=N,630nm,26.2s LR LR
WMQ comp=E,650nm,29.0s LR LR
WMQ comp=Z,760nm,26.3s LR LR
KDAK Kodiak Island 107.50 333 KDAK comp=Z,879nm,21.0s PFAKE LR LR 20 33 10.0
CASY Casey 108.06 163 CASY comp=Z,370nm,22.0s PFAKE LR LR 20 33 10.0
BILL Bilibino 110.77 355 BILL comp=Z,349nm,19.0s PFAKE LR LR 20 33 10.0
TLY Talaya 113.36 31 TLY comp=Z,618nm,20.0s PFAKE LR LR 20 33 20.0
DRV Dumont d'Urvil 113.54 174 SS SS 20 49 01.0 -45
LSA Lhasa 113.92 57 LSA comp=Z,267nm,20.0s PFAKE LR LR 20 33 20.0
YAK Yakutsk 114.99 12 YAK comp=Z,306nm,20.0s PFAKE LR LR 20 33 20.0 +8.2
SONM Songino Array 117.03 33 comp=Z,0.4nm,0.7s,baz=147,slow=2.9,SNR=3.6 PKP **PKPdf** **20 33 17.1 +0.8**
SONM Songino Array 117.03 33 PKIKP **PKPdf** **20 33 17.1 +0.8**
SONM Songino Array 117.03 33 PKP **PKPdf** **20 33 17.1 +0.8**
GTA Gaotai 117.21 44 *e*PKP **PKPdf** **20 33 22.0 +5.1**
ULN Ulaanbaatar 117.37 33 ULN comp=Z,792nm,21.0s PFAKE LR LR 20 33 30.0 +13
LZH Lanzhou 121.56 46 LZH PKP **PKPdf** **20 33 26.5 +1.1**
LZH sPKP 20 33 31.2
LZH PP **PP** **20 35 01.8 +4.8**
LZH SKKS 20 41 52.0
LZH AMB AMB
LZH comp=Z,150nm,8.5s LR LR
LZH comp=N,540nm,18.1s LR LR
LZH comp=E,380nm,17.8s LR LR
LZH comp=Z,680nm,20.2s LR LR
HIA Hailar 122.61 25 HIA comp=Z,617nm,21.0s PFAKE LR LR 20 33 40.0 +13
COCO West Island 123.23 104 COCO comp=Z,850nm,19.0s PFAKE LR LR 20 33 40.0 +11
CHTO Chiang Mai 123.58 67 CHTO comp=Z,246nm,20.0s PFAKE LR LR 20 33 40.0 +10
CMAR Chiang Mai Arr 123.66 67 comp=Z,0.8nm,0.9s,baz=265,slow=3.3,SNR=3.8 PKP **PKPdf** **20 33 29.7 0.0**
CMAR Chiang Mai Arr 123.66 67 CMAR comp=Z,1.0nm,0.9s PKIKP **PKPdf** pmax pmax **20 33 29.7 0.0**
CMAR Chiang Mai Arr 123.66 67 PKP **PKPdf** **20 33 29.7 0.0**
CD2 Chengdu 123.76 51 CD2 PKP **PKPdf** **20 33 28.2 -1.5**
CD2 PP **PP** **20 35 15.0 +3.0**
CD2 PKS **PKSdf** **20 37 03.6 -2.9**
CD2 SKS **SKSdf** **20 40 37.6 -4.5**
CD2 SKKS **SKKSac** **20 42 05.8 -5.9**
CD2 SS **SS** **20 51 59.4 -1.6**
CD2 AMB AMB
CD2 comp=Z,370nm,5.9s LR LR
CD2 comp=N,420nm,7.1s LR LR
CD2 comp=Z,460nm,13.1s LR LR
HHC Hu-ho-hao-te 124.15 37 HHC *e*PKP **PKPdf** **20 33 28.9 -1.3**
HHC PP **PP** **20 35 17.3 +3.2**
HHC PKS **PKSdf** **20 37 04.1 -2.8**
HHC SKS **SKSdf** **20 40 39.3 -3.3**
HHC SKKS **SKKSac** **20 42 09.6 -4.3**
HHC SS **SS** **20 52 07.6 +2.6**
HHC AMB AMB
HHC comp=Z,120nm,7.4s LR LR
HHC comp=N,450nm,22.5s LR LR
HHC comp=E,250nm,21.7s LR LR
HHC comp=Z,600nm,21.2s LR LR
KMI Kunming 125.12 58 KMI PKP **PKPdf** **20 33 30.4 -2.3**
KMI sPKP 20 33 35.5
KMI PP **PP** **20 35 24.6 +3.0**
KMI SKKS 20 42 17.8
KMI SS **SS** **20 52 16.3 -2.7**
KMI AMB AMB
KMI comp=Z,230nm,5.1s LR LR
KMI comp=N,250nm,18.4s LR LR
KMI comp=E,270nm,20.3s LR LR
KMI comp=Z,210nm,24.2s LR LR
BJT Baijiatuau 127.40 35 BJT comp=Z,538nm,20.0s PFAKE LR LR 20 33 50.0 +14
KULM Kulim 127.46 83 PFAKE 20 33 50.0 +13

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM				LR	LR		
	comp=Z,312nm,22.0s						
GYA	Guiyang	127.90	55	Pdif	Pdif	20 30 19.0	-2.1
GYA				PKP	PKPdf	20 33 35.4	-2.4
GYA				PP	PP	20 35 41.8	+1.9
GYA				PKS	PKSdf	20 37 11.0	-3.7
GYA				SKKS		20 42 30.5	
GYA				SS	SS	20 52 51.9	-1.5
GYA				AMB	AMB		
	comp=Z,120nm,7.6s						
GYA				LR	LR		
	comp=N,130nm,21.8s						
GYA				LR	LR		
	comp=E,120nm,22.6s						
GYA				LR	LR		
	comp=Z,140nm,21.4s						
ENH	Enshi	128.46	49	PFAKE		20 33 50.0	+11
ENH				LR	LR		
	comp=Z,312nm,19.0s						
MDJ	Mudanjiang	130.33	22	PFAKE		20 33 50.0	+8.3
MDJ				LR	LR		
	comp=Z,396nm,21.0s						
NWAO	Narrogin (SRO)	133.60	137	PFAKE		20 34 00.0	+12
NWAO				LR	LR		
	comp=Z,386nm,19.0s						
NJ2	Nanjing	134.18	42	ePKP	PKPdf	20 33 43.1	-6.3
NJ2				pPKP	PKiKP	20 33 50.2	-0.5
NJ2				PP	PP	20 36 17.0	-2.7
NJ2				SKS	SKSdf	20 40 57.5	-3.5
NJ2				AMB	AMB		
	comp=Z,270nm,5.6s						
NJ2				LR	LR		
	comp=N,830nm,21.8s						
NJ2				LR	LR		
	comp=E,520nm,21.4s						
NJ2				LR	LR		
	comp=Z,1μm,21.5s						
INCN	Inchon	134.89	30	PFAKE		20 34 00.0	+9.4
INCN				LR	LR		
	comp=Z,349nm,22.0s						
KSM	Kuching	137.33	87	PFAKE		20 34 10.0	+14
KSM				LR	LR		
	comp=Z,361nm,21.0s						
JOHN	Johnston Islan	139.12	297	PFAKE		20 34 10.0	+11
JOHN				LR	LR		
	comp=Z,9μm,19.0s						
YHNB	Yeheng	140.37	48	PFAKE		20 34 10.0	+8.9
YHNB				LR	LR		
	comp=Z,725nm,22.0s						
MBWA	Marble Bar	141.76	124	PFAKE		20 34 20.0	+16
MBWA				LR	LR		
	comp=Z,565nm,20.0s						
KKM	Kota Kinabalu	142.75	79	PFAKE		20 34 20.0	+14
KKM				LR	LR		
	comp=Z,379nm,22.0s						
CAN	Canberra	145.37	174	ePKIKP	PKPdf	20 34 11.4	+1.7
CAN				MLR	MLR		
	comp=Z,289nm,19.0s						
CAN	Canberra	145.37	174	ePKPdf	PKPdf	20 34 11.4	+1.7
CAN				LR	LR		
	comp=Z,289nm,19.0s						
CNB	Canberra Magne	145.41	175	eP	PKPdf	20 34 12.9	+3.2
KAPI	Kappang	146.60	98	PFAKE		20 34 20.0	+5.2
KAPI				LR	LR		
	comp=Z,380nm,21.0s						
STKA	Stephens Creek	147.20	162	PKPbc	PKPab	20 34 15.9	-0.6
	comp=Z,5.5nm,0.9s,baz=153,slow=3.1,SNR=8.5						
STKA	Stephens Creek	147.20	162	eP	PKPab	20 34 18.7	+2.2
STKA	Stephens Creek	147.20	162	PKP2	PKPab	20 34 15.9	-0.6
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	Stephens Creek	147.20	162	PKPbc	PKPab	20 34 15.9	-0.6
FITZ	Fitzroy Crossi	148.10	124	PKPbc	PKPbc	20 34 18.5	+0.8
	comp=Z,2.8nm,0.7s,baz=184,slow=7.5,SNR=6.8						
FITZ	Fitzroy Crossi	148.10	124	eP	PKPab	20 34 21.7	+1.2
FITZ	Fitzroy Crossi	148.10	124	ePKPbc	PKPbc	20 34 17.8	0.0
CMSA	Cobar Meteorol	148.58	168	eP	PKPab	20 34 24.2	+2.2
ASAR	Alice Springs	150.65	142	PKPbc	PKPbc	20 34 24.6	+0.6
	comp=Z,5.1nm,0.9s,baz=202,slow=1.9,SNR=41						
ASAR	Alice Springs	150.65	142	PKIKP	PKPbc	20 34 24.7	+0.6
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAR	Alice Springs	150.65	142	PKPbc	PKPbc	20 34 24.6	+0.6
AS31	Alice Springs	150.65	142	ePKPdf	PKPdf	20 34 18.7	0.0
AS31				ePKPbc	PKiKP	20 34 24.7	-0.1
FUNA	Funafuti	152.70	253	PFAKE		20 34 30.0	+1.0
FUNA				LR	LR		
	comp=Z,6μm,19.0s						
WRA	Warramunga Arr	153.61	138	PKPbc	PKPbc	20 34 31.0	+0.2
	comp=Z,2.0nm,1.0s,baz=228,slow=1.6,SNR=6.6						
WRA	Warramunga Arr	153.61	138	PKIKP	PKPbc	20 34 31.0	+0.2
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	153.61	138	PKPbc	PKPbc	20 34 31.0	+0.2
WRAB	Tennant Creek	153.62	138	PFAKE		20 34 30.0	-0.9
WRAB				LR	LR		
	comp=Z,696nm,22.0s						
CTAO	Charters Tower	159.66	162	PFAKE		20 34 40.0	+9.1
CTAO				LR	LR		
	comp=Z,410nm,21.0s						
TARA	Tarawa	159.90	276	PFAKE		20 34 40.0	+8.7
TARA				LR	LR		
	comp=Z,71nm,22.0s						
HNR	Honiara	168.86	219	PFAKE		20 34 50.0	+11
HNR				LR	LR		
	comp=Z,567nm,20.0s						
PMG	Port Moresby	169.62	147	PFAKE		20 34 50.0	+10
PMG				LR	LR		
	comp=Z,471nm,21.0s						

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*NEIC **02** 20:15:39.0, 44°.53N×110°.37W, h3^{km}, ML3.1(SLC), ML3.0(BUT), After SLC.*

ISC 02 20:15:39.1±0.9**, 44°.52N**±0°.02×**110°.35W**±0°.02**, h0**^{km}±8^{km}**, n86, σ0.86**/92**, 27C-26D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKWY	Lake	0.06	317	ePg	Pg	20 15 40.3	0.0
LKWY				eSg	Sg	20 15 41.4	+0.4
H17A	Grant Village	0.21	232	⇑P	Pg	20 15 43.3	+0.2
	baz=0.2,SNR=467						
H17A				⇑S	Sg	20 15 46.3	+0.5
	baz=0.2						
YNR	Norris Junctio	0.31	309	ePg	Pg	20 15 45.0	0.0
YNR				eSg	Sg	20 15 49.6	+0.6
YFT	Old Faithful	0.36	259	ePg	Pg	20 15 46.3	+0.3
YMR	Madison River	0.47	288	ePg	Pg	20 15 48.8	+0.7
FLWY	Flagg Ranch	0.51	210	ePg	Pg	20 15 49.5	+0.7
FLWY				eSg	Sg	20 15 57.0	+1.5
H18A	Shoshone NF, C	0.51	72	P	Pg	20 15 49.2	+0.3
	baz=0.5,SNR=77						
I17A	Pilgrim Ck.	0.63	195	⇑P	Pg	20 15 51.5	+0.4
	baz=0.6,SNR=132						
H16A	Russell Place,	0.67	286	⇓P	Pg	20 15 52.0	0.0
	baz=0.7,SNR=10						
MOOW	Moose Ponds	0.83	201	ePg	Pg	20 15 54.9	-0.1
QLMT	Earthquake Lak	0.83	292	ePg	Pg	20 15 55.5	+0.4
G17A	Pierce Place,	0.84	341	⇑P	Pb	20 15 56.3	-0.5
	baz=0.8						
I18A	Diamond G Ranc	0.91	155	P	Pg	20 15 56.5	0.0
	baz=0.9,SNR=308						
I18A				⇓S	Sg	20 16 09.3	+1.1
	baz=0.9						
LOHW	Long Hollow	0.93	192	ePg	Pg	20 15 57.0	0.0
LOHW				eSg	Sg	20 16 08.4	-0.6
G18A	Lazy EL Ranch,	0.97	35	⇓P	Pg	20 15 57.9	+0.1
	baz=1.0,SNR=51						
RLMT	Red Lodge	0.97	52	ePg	Pg	20 15 57.7	-0.1
H19A	Powell	0.98	81	⇓P	Pg	20 15 58.2	+0.2
	baz=1.0,SNR=82						
H19A				⇑S	Sb	20 16 12.3	-0.4
	baz=1.0						
I16A	Newdale	1.05	232	⇓P	Pb	20 15 60.0	-0.2
	baz=1.0						
I19A	Meeteetse	1.09	116	⇓P	Pg	20 15 59.7	-0.2
	baz=1.1,SNR=67						
I19A				⇑S	Sg	20 16 14.7	+0.7
	baz=1.1						
SNOW	Snow King Moun	1.10	196	ePg	Pg	20 16 00.6	+0.4
DCID1	Drake Creek	1.11	213	ePg	Pg	20 15 59.5	-0.9
G16A	Moss Hill, Enn	1.25	305	⇓P	Pb	20 16 03.2	-0.6
	baz=1.2						
J18A	Kendall Valley	1.33	170	⇑P	Pn	20 16 04.5	-0.8
	baz=1.3,SNR=56						
J18A				⇑S	Sg	20 16 21.8	-0.2
	baz=1.3						
GCMT	Greycliff	1.35	20	ePn	Pn	20 16 03.0	-2.5
RRI2	Red Ridge	1.37	211	ePn	Pn	20 16 05.3	-0.5
F17A	Fitzpatrick Pl	1.40	351	⇓P	Pg	20 16 06.6	+0.6
	baz=1.4						
BOZ	Bozeman (W)	1.45	321	ePn	Pn	20 16 04.4	-2.3
F18A	Big Timber	1.45	18	⇓P	Pb	20 16 06.8	-0.3
	baz=1.5,SNR=48						
F16A	Kennard Place,	1.55	325	⇓P	Pb	20 16 08.3	-0.5
	baz=1.5						
J19A	Crowheart	1.57	143	⇑P	Pn	20 16 07.9	-0.5
	baz=1.6,SNR=29						
J19A				⇑S	Sn	20 16 29.2	-0.3
	baz=1.6						
I15A	Monteview	1.62	252	⇑Pb	Pb	20 16 09.8	-0.3
	baz=1.6						
H15A	Lima	1.65	274	⇓Pg	Pg	20 16 10.8	+0.1
	baz=1.6						
G15A	Dillon	1.66	294	⇓Pb	Pg	20 16 10.6	-0.2
	baz=1.6,SNR=27						
F19A	Roth Farm, Mol	1.66	36	⇑P	Pn	20 16 09.5	-0.1
	baz=1.7,SNR=16						
F19A				⇑S	Sb	20 16 32.0	-0.1
	baz=1.7						
G20A	Bridger	1.67	65	⇑P	Pn	20 16 09.4	-0.4
	baz=1.7,SNR=65						
H20A	Greybull	1.68	90	⇑P	Pn	20 16 09.7	-0.1
	baz=1.7,SNR=34						
H20A				⇓S	Sb	20 16 32.5	-0.3
	baz=1.7						
I20A	Worland	1.69	109	⇑P	Pn	20 16 09.9	-0.2
	baz=1.7,SNR=86						
I20A				⇑S	Sn	20 16 32.8	+0.2
	baz=1.7						
DLMT	Dillon	1.81	298	ePn	Pn	20 16 11.7	+0.1
MCMT	McKenzie Canyo	1.81	281	ePn	Pg	20 16 13.7	-0.2
K17A	Gardner Place,	1.82	193	⇓Pb	Pb	20 16 12.9	-0.6
	baz=1.8						
PD01	Pinedale Array	1.83	162	ePn	Pb	20 16 12.9	-0.7
PD01				eSn	Sb	20 16 36.6	-0.6
PD02	Pinedale Array	1.83	162	ePn	Pb	20 16 12.9	-0.8
PD02				eSn	Sn	20 16 36.4	+0.3
AHID	Auburn Hatcher	1.84	198	ePn	Pb	20 16 12.8	-1.0
BW06	Boulder Array	1.85	162	ePn	Pn	20 16 12.9	+0.6
BW06				eSn	Sn	20 16 36.5	+0.1
J15A	Blackfoot	1.88	234	⇓Pb	Pb	20 16 14.3	-0.1
	baz=1.9						
K18A	Toltan Ranch,	1.90	173	⇓Pg	Pb	20 16 15.3	+0.5
	baz=1.9						
E17A	Martinsdale	1.97	350	⇑Pb	Pb	20 16 15.9	-0.1
	baz=2.0						
LRM	Limekiln Ridge	1.98	312	Pn	Pn	20 16 13.9	-0.2
J20A	Shoshoni	2.01	125	⇑Pb	Pb	20 16 16.2	-0.5
	baz=2.0						
F15A	Butte	2.01	312	⇓Pb	Pb	20 16 16.6	-0.1
	baz=2.0						
F20A	Billings	2.01	50	⇓Pb	Pb	20 16 16.3	-0.4
	baz=2.0						
K19A	Absolon Red Bu	2.02	147	⇓Pb	Pb	20 16 15.9	-0.9
	baz=2.0						
E18A	Harlowton	2.06	8	⇓Pb	Pb	20 16 17.3	-0.3
	baz=2.1						
H14A	Leadore	2.16	274	⇓Pb	Pb	20 16 18.8	-0.5
	baz=2.1						
E16A	East Helena	2.22	336	⇑Pg	Pg	20 16 21.8	+0.2
	baz=2.2						
E19A	Rath Farm, Rou	2.23	29	⇓P	Pb	20 16 19.0	-1.3
	baz=2.2						
I21A	Big Trails, Te	2.31	107	⇑P	Pn	20 16 19.9	+1.3
	baz=2.3						
I21A				⇑S	Sn	20 16 49.0	+1.2
	baz=2.3						
I14A	Mackay	2.31	256	⇓Pb	Pb	20 16 21.4	-0.4
	baz=2.3						
G21A	Lodge Grass	2.34	71	⇑Pb	Pb	20 16 21.9	-0.3
	baz=2.3						
G21A				⇓Sb	Sb	20 16 53.0	+1.3
	baz=2.3						
H21A	Big Horn, Sher	2.36	86	⇑Sb	Sb	20 16 53.6	+1.0
	baz=2.4						
K20A	Yellowstone Ra	2.37	141	⇓Sb	Sb	20 16 54.0	+1.2
	baz=2.4						
L19A	Farson	2.53	163	⇑Sb	Sb	20 16 59.4	+1.9
	baz=2.5						
L18A	Fontenelle, Gr	2.61	175	⇑Sb	Sb	20 17 01.7	+1.9
	baz=2.6						
F21A	Absaloka Mine,	2.62	59	⇑Sb	Sb	20 17 01.2	+1.2
	baz=2.6						
I22A	9 Mile Ranch,	2.85	101	⇓Sb	Sb	20 17 06.9	+0.3
	baz=2.9						
HWUT	Hardware Ranch	3.05	197	P	Pn	20 16 28.1	-0.7
HLID	Hailey	3.09	253	ePn	Pn	20 16 31.5	+2.2
HLID				S	Sg	20 17 17.2	-1.1
CHMT	Chamberlain Mo	3.14	321	ePn	Pn	20 16 29.2	-0.9
HVU	Hansel Valley	3.27	214	ePn	Pn	20 16 33.9	+2.1
SLMT	Seeley Lake	3.50	322	ePn	Pn	20 16 37.5	+2.6
EGMT	Eagleton	3.52	6	P	Pb	20 16 38.5	-3.9
SWMT	Swartz Lake	3.92	321	ePn	Pn	20 16 43.6	+2.8
JLU	Jordanelle	4.00	192	P	Pn	20 16 45.2	+3.3
MFID	Camas Ranch	4.11	256	P	Pn	20 16 45.7	+2.4
DAU	Daniels Canyon	4.16	190	P	Pb	20 16 49.3	-4.2
RSSD	Black Hills	4.54	93	ePn	Pn	20 16 50.1	+0.8
MPU	Maple Canyon	4.61	192	Pn	Pn	20 16 45.4	-4.7
DUG	Dugway	4.70	204	ePn	Pn	20 16 47.6	-3.7
SRU	San Rafael	5.41	181	Pn	Pn	20 17 00.8	-0.4
	22nm,0.6s						
DGMT	Dagmar	5.80	45	ePn	Pn	20 17 00.0	-6.4
	37nm,0.8s						
ISCO	Idaho Springs	5.88	142	ePn	Pn	20 17 07.7	-0.2
	12nm,0.7s						
SMCO	Snowmass	5.91	154	ePn	Pn	20 17 09.7	+1.5
	14nm,0.6s						
PV04	Paradox Valley	6.22	169	ePn	Pn	20 17 11.1	-1.3
PV01	Paradox Valley	6.52	168	Pn	Pn	20 17 17.1	+0.5
PV01				ePg	Pg	20 17 41.8	-2.3
OGNE	Ogallala	7.09	117	ePn	Pn	20 17 25.1	+0.9
	41nm,0.8s						
MVCO	Mesa Verde	7.44	169	ePn	Pn	20 17 27.9	-1.2
	7.6nm,0.6s						

IDC 02 20:18:47.6±7.2**, 6°.74S**×**125°.50E, h514**^{km}±104^{km}**, mb2.5**/1**, mb1 2.8**/4**, mb1mx2.6**/17**, mbtmp2.6**/4**, Error ellipse: s-maj=124.8km s-min=38.5km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.30	179	P	P	20 21 17.8	-0.9
	0.3nm,0.3s,baz=14,slow=10,SNR=13						
WRA	Warramunga Arr	15.68	148	P	P	20 22 04.7	-0.1
	0.2nm,0.3s,baz=326,slow=11,SNR=17						
ASAR	Alice Springs	18.67	155	P	P	20 22 33.9	+0.4
	0.3nm,0.3s,baz=331,slow=7.8,SNR=21						
MKAR	Makanchi Array	65.63	329	P	P	20 28 40.6	0.0
	0.2nm,0.7s,baz=125,slow=5.6,SNR=5.4						

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*CSEM **02** 20:22:22.9±0.3, 38°.15N×21°.36E, h2^{km}, ML2.1/5, Error ellipse: s-maj=10.4km s-min=5.6km az=168.0*
*THE **02** 20:22:22.2, 38°.09N×21°.37E, h19^{km}, ML2.1/5, Error ellipse: s-maj=1.2km s-min=0.3km az=173.0*
*ATH **02** 20:22:23.5, 38°.10N×21°.21E, h21^{km}, MD3.0/8*

ISC 02 20:22:22.8±1.0**, 38°.11N**±0°.03×**21°.33E**±0°.02**, h15**^{km}±9^{km}**, n35, σ1.62**/59**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.12	117	P	Pb	20 22 25.8	-1.1
RLS				S	Sb	20 22 28.6	-1.0
RLS	Riolos of Patr	0.12	117	P	Pb	20 22 25.8	-1.1
RLS				S	Sb	20 22 28.6	-1.0
UPR	University Cam	0.40	65	ePB	Pb	20 22 33.0	+1.4
UPR				eSB	Sn	20 22 40.8	-0.6
UPR	University Cam	0.40	65	ePb	Pb	20 22 33.0	+1.4
UPR				eSb	Sn	20 22 40.8	-0.6
KFL	Anninata	0.43	270	P	Pg	20 22 31.4	+0.1
KFL				S	Sg	20 22 38.3	+1.2
KFL	Anninata	0.43	270	P	Pg	20 22 31.4	+0.1
KFL				S	Sg	20 22 38.3	+1.2
LAKA	Lakka	0.53	76	P	Pg	20 22 32.0	-1.2
LAKA				S	Sg	20 22 39.8	-0.5
LAKA	Lakka	0.53	76	P	Pg	20 22 32.0	-1.2
LAKA				S	Sg	20 22 39.8	-0.5
EFP	Efpalio	0.55	55	P	Pg	20 22 32.5	-1.2
EFP				S	Sg	20 22 41.1	0.0
EFP	Efpalio	0.55	55	P	Pg	20 22 32.5	-1.2
EFP				S	Sg	20 22 41.1	0.0
VLS	Valsamata	0.58	277	P	Pg	20 22 33.9	-0.4
VLS	Valsamata	0.58	277	ePB	Pg	20 22 33.8	-0.5
VLS	Valsamata	0.58	277	ePb	Pg	20 22 33.8	-0.5
TRIZ	Trizonia	0.64	66	P	Pb	20 22 33.9	-1.8
TRIZ	Trizonia	0.64	66	P	Pb	20 22 33.9	-1.8
KALE	Kalithea	0.70	66	P	Pb	20 22 34.8	-1.9
KALE				S	Sb	20 22 44.9	-1.3
KALE	Kalithea	0.70	66	P	Pb	20 22 34.8	-1.9
KALE				S	Sb	20 22 44.9	-1.3
GUR	Goura	0.82	102	P	Pb	20 22 36.8	-2.1
GUR				S	Sb	20 22 48.5	-1.3
GUR	Goura	0.82	102	P	Pb	20 22 36.8	-2.1
GUR				S	Sb	20 22 48.5	-1.3
EVR	Evrytania	0.89	25	ePN	Pn	20 22 41.3	+0.4
EVR				eSN	Sn	20 22 54.7	+1.1
EVR	Evrytania	0.89	25	ePn	Pn	20 22 41.3	+0.4
EVR				eSn	Sn	20 22 54.7	+1.1
DSF	Desfina	0.99	72	P	Pb	20 22 39.6	-2.1
DSF				S	Sb	20 22 53.6	-1.0
DSF	Desfina	0.99	72	P	Pb	20 22 39.6	-2.1
DSF				S	Sb	20 22 53.6	-1.0
ITM	Ithomi	1.05	153	ePN	Pg	20 22 44.2	+1.2
ITM	Ithomi	1.05	153	ePn	Pg	20 22 44.2	+1.2
AGG	Agios Georgios	1.20	41	ePN	Pg	20 22 47.5	+1.5
AGG				eSN	Sg	20 23 04.8	+3.2
AGG	Agios Georgios	1.20	41	ePn	Pg	20 22 47.5	+1.5
AGG				eSn	Sg	20 23 04.8	+3.2
LTK	Loutraki	1.30	93	ePN	Pg	20 22 49.5	+1.7
LTK				eSN	Sg	20 23 09.1	+4.4
LTK	Loutraki	1.30	93	ePn	Pg	20 22 49.5	+1.7
LTK				eSn	Sg	20 23 09.1	+4.4
LKR	Lokris	1.42	67	ePN	Pg	20 22 51.5	+1.4
LKR	Lokris	1.42	67	ePn	Pg	20 22 51.5	+1.4
DID	Didima	1.63	111	ePN	Pg	20 22 54.0	-0.1
DID				eSN	Sg	20 23 16.8	+1.5
DID	Didima	1.63	111	ePn	Pg	20 22 54.0	-0.1
DID				eSn	Sg	20 23 16.8	+1.5
VLY	Voula,Athens	1.97	97	ePN	Pb	20 22 59.0	+0.7
VLY	Voula,Athens	1.97	97	ePn	Pb	20 22 59.0	+0.7

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*NEIC **02** 20:33:53.0, 44°.55N×110°.34W, h1^{km}, ML2.7(SLC), After SLC.*

ISC 02 20:33:53.8±1.0**, 44°.53N**±0°.02×**110°.33W**±0°.02**, h5**^{km}±10^{km}**, n41, σ0.70**/51**, 12C-17D, Yellowstone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKWY	Lake	0.06	301	ePg	Pg	20 33 54.7	-0.8
H17A	Grant Village	0.23	232	P	Pg	20 33 58.8	+0.5
	baz=0.2,SNR=30						
H17A				⇓S	Sg	20 34 02.9	+1.6
	baz=0.2						
YNR	Norris Junctio	0.31	306	ePg	Pg	20 34 00.1	+0.1
YFT	Old Faithful	0.37	257	ePg	Pg	20 34 02.0	+0.9
YFT				eSg	Sg	20 34 07.4	+1.3
YMR	Madison River	0.48	287	ePg	Pb	20 34 04.0	-0.8
H18A	Shoshone NF, C	0.49	73	⇓P	Pb	20 34 04.8	-0.4
	baz=0.5,SNR=51						
FLWY	Flagg Ranch	0.52	211	ePg	Pb	20 34 05.2	-0.4
I17A	Pilgrim Ck.	0.64	196	⇓P	Pb	20 34 07.4	-0.2
	baz=0.7,SNR=8.5						
H16A	Russell Place,	0.68	285	⇑P	Pb	20 34 07.9	-0.4
	baz=0.7,SNR=8.2						
MOOW	Moose Ponds	0.84	201	ePg	Pg	20 34 10.6	+0.7
QLMT	Earthquake Lak	0.84	291	ePg	Pg	20 34 10.1	+0.1
I18A	Diamond G Ranc	0.91	156	⇓P	Pg	20 34 12.0	+0.8
	baz=0.9,SNR=57						
LOHW	Long Hollow	0.94	192	ePg	Pg	20 34 12.1	+0.2
G18A	Lazy EL Ranch,	0.95	34	⇓P	Pn	20 34 13.5	-0.6
	baz=0.9						
RLMT	Red Lodge	0.96	52	ePg	Pb	20 34 13.1	0.0
RLMT				eSg	Sg	20 34 24.4	-0.2
H19A	Powell	0.97	81	⇑P	Pb	20 34 13.5	+0.4
	baz=1.0,SNR=37						
I19A	Meeteetse	1.08	117	⇓P	Pg	20 34 15.1	+0.6
	baz=1.1,SNR=14						
I19A				⇑S	Sb	20 34 29.8	+0.3
	baz=1.1						
SNOW	Snow King Moun	1.11	196	ePg	Pb	20 34 15.7	0.0
DCID1	Drake Creek	1.12	214	ePg	Pg	20 34 15.2	-0.1
G16A	Moss Hill, Enn	1.26	304	⇓P	Pg	20 34 18.8	+0.8
	baz=1.2						
J18A	Kendall Valley	1.34	170	⇓P	Pg	20 34 20.3	+0.8
	baz=1.4,SNR=11						
J18A				⇓S	Sg	20 34 37.7	+0.8
	baz=1.4						
GCMT	Greycliff	1.34	20	ePg	Pg	20 34 19.9	+0.4
RRI2	Red Ridge	1.39	212	ePn	Pn	20 34 18.2	-1.9
F17A	Fitzpatrick Pl	1.39	350	⇑P	Pg	20 34 21.7	+1.2
	baz=1.4,SNR=9.8						
F18A	Big Timber	1.44	17	⇓P	Pg	20 34 22.1	+0.7
	baz=1.4,SNR=12						
BOZ	Bozeman (W)	1.45	321	ePg	Pb	20 34 21.0	-0.4
J19A	Crowheart	1.57	144	⇑S	Sg	20 34 44.5	+0.3
	baz=1.6						
F19A	Roth Farm, Mol	1.64	36	⇑P	Pb	20 34 25.0	+0.4
	baz=1.6,SNR=5.3						
G20A	Bridger	1.65	65	⇓Pb	Pg	20 34 26.0	+0.5
	baz=1.6,SNR=18						
H15A	Lima	1.66	274	⇑Pb	Pg	20 34 26.1	+0.5
	baz=1.6						
H20A	Greybull	1.67	91	⇓P	Pb	20 34 24.7	-0.3
	baz=1.7,SNR=24						
H20A				⇑S	Sg	20 34 48.0	+0.6
	baz=1.7						
I20A	Worland	1.68	110	⇓P	Pb	20 34 25.1	-0.2
	baz=1.7,SNR=32						
I20A				⇑S	Sg	20 34 48.1	+0.2
	baz=1.7						
PD01	Pinedale Array	1.84	163	ePn	Pb	20 34 28.3	+0.2
PD01				eSn	Sn	20 34 50.4	+0.4
PD02	Pinedale Array	1.84	162	ePn	Pb	20 34 28.2	+0.2
PD02				eSn	Sb	20 34 52.6	+1.1
E17A	Martinsdale	1.96	349	⇓Pb	Pg	20 34 32.0	+0.5
	baz=1.9,SNR=22						
LRM	Limekiln Ridge	1.98	311	ePn	Pb	20 34 31.1	+0.6
J20A	Shoshoni	2.00	125	⇑Sb	Sg	20 34 58.2	0.0
	baz=2.0						
F15A	Butte	2.01	311	⇓Pb	Pg	20 34 32.4	0.0
	baz=2.0,SNR=8.5						
K19A	Absolon Red Bu	2.02	147	⇑Sb	Sg	20 34 58.4	-0.2
	baz=2.0						
I21A	Big Trails, Te	2.30	107	⇓P	Pb	20 34 34.7	-1.2
	baz=2.3,SNR=17						
I21A				⇓S	Sb	20 35 04.1	-0.6
	baz=2.3						
K20A	Yellowstone Ra	2.37	142	⇑Sb	Sg	20 35 09.0	-0.8
	baz=2.4						

IDC 02 20:34:11.9±2.0**, 0°.56S**×**133°.00E, h0**^{km}**, mb3.7**/3**, mb1 3.8**/5**, mb1mx3.5**/17**, mbtmp3.7**/5**, ML3.5**/2**, Error ellipse: s-maj=88.3km s-min=23.4km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.87	202	P	P	20 38 33.4	-0.6
	0.1nm,0.3s,baz=18,slow=13,SNR=2.6						
WRA	Warramunga Arr	19.31	176	P	P	20 38 39.0	+0.3
	0.2nm,0.3s,baz=355,slow=11,SNR=10						
ASAR	Alice Springs	22.99	178	P	P	20 39 19.1	+0.6
	1.8nm,0.6s,baz=357,slow=12,SNR=23						
STKA	Stephens Creek	32.19	166	P	P	20 40 41.0	-0.7
	1.4nm,0.6s,baz=6.1,slow=9.5,SNR=3.3						
MKAR	Makanchi Array	64.66	324	P	P	20 44 51.6	0.0
	0.3nm,0.8s,baz=109,slow=8.2,SNR=2.8						

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*MOS **02** 20:37:11.9±1.0, 11°.32S×166°.29E, h53^{km}, mb5.5/42, Error ellipse: s-maj=8.4km s-min=7.0km az=94.1*
*DJA **02** 20:37:14, 11°.61S×166°.61E, h48^{km}, mb5.4/96*
*IDC **02** 20:37:15.3±2.1, 11°.40S×166°.42E, h75^{km}±17^{km}, mb4.7/19, mb1 4.8/21, mb1mx4.8/21, mbtmp4.7/21, MS4.4/8, Ms1 4.4/8, ms1mx4.1/26, Error ellipse: s-maj=14.6km s-min=12.3km az=92.0*
*ISCJB **02** 20:37:15.2±1.0, 11°.41S±0°.03×166°.24E±0°.03, h84^{km}±9^{km}, mb5.2/132, Error ellipse: s-maj=5.5km s-min=4.6km*

az=8.5
*NEIC **02** 20:37:17.6±0.1, 11°.41S×166°.34E, mb5.2/89, Error ellipse: s-maj=4.9km s-min=3.8km az=136.0*
*BJI **02** 20:37:19.7, 10°.65S×166°.24E, h97km, mB5.3/31, mb5.3/55*
ISC 02 20:37:17.8±0.3**, 11°.46S**±0°.04×**166°.41E**±0°.04**, h101**km±1km**,**
h100km:pP-P, n715, σ**1s.22**/825**, mb5.2**/131**, 131C-94D,**
Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.67	287	P	Pn	20 38 52.2	-1.0
	34nm,0.3s,baz=163,slow=4.8,SNR=51						
HNR				S	Sn	20 40 04.5	-3.4
	20nm,0.3s,baz=72,slow=20,SNR=2.3						
HNR	Honiara	6.67	287	⇓iP	Pn	20 38 51.9	-1.3
HNR				S	Sn	20 40 04.5	-3.4
HNR	Honiara	6.67	287	⇓iPn	Pn	20 38 51.9	-1.3
HNR				P		20 38 52.2	
HNR				S	Sn	20 40 04.5	-3.4
HNR				eSn	Sn	20 40 09.3	+1.4
DZM	Mont Dzumac	10.55	180	ePn	Pn	20 39 47.6	+1.5
	93nm,0.3s						
DZM				eSn	Sn	20 41 40.4	-2.0
	40nm,0.3s						
DZM				eLR	LR	20 42 15.8	
	3µm,28.1s						
DZM	Mont Dzumac	10.55	180	⇑ePn	Pn	20 39 47.3	+1.2
	64nm,0.4s						
DZM				eSn	Sn	20 41 41.1	-1.3
NOUC	Port Laguerre	10.58	181	eP	Pn	20 39 46.5	+0.1
NOUC				eS	Sn	20 41 38.4	-4.5
PLUM	Mont Dore	10.76	179	eP	Pn	20 39 48.8	0.0
MSVF	Nonsavu	12.87	120	eP	P	20 40 23.1	-0.8
MSVF	Nonsavu	12.87	120	ePn	P	20 40 23.1	-0.8
MSVF	Nonsavu	12.87	120	P	P	20 40 22.3	-1.7
	1µm,0.9s,SNR=14						
FUNA	Funafuti	12.92	78	Pn	Pn	20 40 17.3	-0.4
	123nm,0.9s						
PMG	Port Moresby	19.05	274	P	P	20 41 33.0	+0.8
	0.3nm,0.3s,baz=92,slow=7.6,SNR=20						
PMG	Port Moresby	19.05	274	⇓iP	P	20 41 32.3	+0.1
PMG				pmax	pmax		
	comp=Z,69nm,0.9s						
PMG	Port Moresby	19.05	274	⇓iP	P	20 41 32.3	+0.1
	comp=Z,68nm,0.9s						
PMG				P	P	20 41 33.0	+0.8
EIDS	Eidsvold	20.05	224	⇓iP	Pn	20 41 44.5	-1.2
	comp=Z,60nm,0.7s						
KWAJ	Kwajalein Atol	20.16	3	eP	P	20 41 43.9	-0.4
KWAJ				pmax	pmax		
	comp=Z,187nm,0.8s						
KWAJ	Kwajalein Atol	20.16	3	eP	P	20 41 43.9	-0.4
	comp=Z,187nm,0.8s						
CTA	Charters Tower	21.19	244	P	P	20 41 56.1	+0.7
	comp=Z,33nm,0.8s,baz=73,slow=12,SNR=45						
CTA				LR	LR	20 48 33.8	
	comp=Z,395nm,19.6s,baz=46,slow=32						
CTA	Charters Tower	21.19	244	⇓iP	P	20 41 56.1	+0.7
CTA				eS	S	20 45 46.6	+1.0
CTA	Charters Tower	21.19	244	P	P	20 41 56.1	+0.7
CTA	Charters Tower	21.19	244	P	P	20 41 56.1	+0.7
CTAO	Charters Tower	21.19	244	⇓iP	P	20 41 55.8	+0.4
CTAO				pmax	pmax		
	comp=Z,40nm,0.9s						
CTAO	Charters Tower	21.19	244	⇓iP	P	20 41 55.8	+0.4
	comp=Z,40nm,0.9s						
COEN	Coen	22.80	261	⇓iP	P	20 42 11.3	-1.0
	comp=Z,1µm,1.8s						
COEN				epP	pP	20 42 30.1	-2.1
ARMA	Armidale	23.33	214	eP	P	20 42 18.2	+0.9
ARMA				ePCP	PcP	20 46 03.2	+1.7
ARMA	Armidale	23.33	214	eP	P	20 42 18.5	+1.2
	comp=Z,108nm,1.3s						
OUZ	Omahuta	24.54	166	eP	P	20 42 29.7	+1.7
	comp=Z,36nm,0.8s						
JAY	Jayapura	27.00	287	P	P	20 42 52.1	+1.5
	comp=Z,37nm,1.0s,comp=Z,5µm						
CNB	Canberra Magne	28.35	210	eP	P	20 43 03.5	+1.1
CNB				ePCP	PcP	20 46 14.1	+1.2
URZ	Urewera	28.35	162	P	P	20 43 02.6	+0.3
	comp=Z,64nm,1.0s,baz=357,slow=5.4,SNR=20						
URZ	Urewera	28.35	162	eP	P	20 43 02.4	0.0
	comp=Z,58nm,0.9s						
URZ				P	P	20 43 02.6	+0.3
URZ				eS	S	20 47 42.5	+0.9
URZ	Urewera	28.35	162	PN	P	20 43 02.3	0.0
SMPI	Sarmi	29.05	287	P	P	20 43 13.3	+4.5
	comp=Z,65nm,1.2s						
MRZ	Mangatainoka R	30.19	166	PN	P	20 43 18.5	-0.1
STKA	Stephens Creek	30.60	225	P	P	20 43 22.7	+0.4
	comp=Z,14nm,0.8s,baz=30,slow=9.1,SNR=19						
STKA				PcP	PcP	20 46 19.3	+0.6
	comp=Z,37nm,1.0s,baz=63,slow=3.6,SNR=12						
STKA				LR	LR	20 56 01.1	
	comp=Z,445nm,18.1s,baz=147,slow=37						
STKA	Stephens Creek	30.60	225	eP	P	20 43 23.0	+0.7
STKA				esP	sP	20 43 58.9	+2.4
STKA				ePCP	PcP	20 46 19.2	+0.6
STKA				ePCS	PcS	20 50 00.9	-1.7
STKA	Stephens Creek	30.60	225	P	P	20 43 22.7	+0.4
STKA						20 46 19.3	
STKA	Stephens Creek	30.60	225	P	P	20 43 22.7	+0.4
STKA				PcP	PcP	20 46 19.3	+0.6
THZ	Tophouse	30.72	170	PN	P	20 43 24.0	+0.8
KHZ	Kahutara	31.46	170	eP	P	20 43 29.5	-0.2
	comp=Z,127nm,0.7s						
WRAB	Tennant Creek	31.95	251	eP	P	20 43 33.3	-1.0
WRAB				e*PP	pP	20 43 58.5	+1.6
WRAB				e		20 46 23.0	
WRAB				pmax	pmax		
	comp=Z,20nm,1.0s						
WRAB	Tennant Creek	31.95	251	eP	P	20 43 33.3	-1.0
	comp=Z,20nm,1.0s						
WRAB				epP	pP	20 43 58.5	+1.6
WRAB				esP	sP	20 44 09.6	+1.0
WRAB				ePcP	PcP	20 46 23.0	+0.5
WRA	Warramunga Arr	31.96	251	P	P	20 43 33.8	-0.6
	comp=Z,3.9nm,0.7s,baz=80,slow=9.1,SNR=18						
WRA				PcP	PcP	20 46 23.0	+0.5
	comp=Z,20nm,0.8s,baz=77,slow=3.0,SNR=25						
WRA				ScP	ScP	20 50 00.5	+3.4
	comp=Z,3.5nm,1.0s,baz=75,slow=3.4,SNR=6.5						
WRA				PKiKP	PKiKP	20 53 49.9	-1.1
	comp=Z,1.7nm,0.8s,baz=360,slow=0.2,SNR=8.9						
WRA	Warramunga Arr	31.96	251	P	P	20 43 33.8	-0.6
WRA						20 46 23.0	
WRA	Warramunga Arr	31.96	251	P	P	20 43 33.8	-0.6
WRA				PcP	PcP	20 46 23.0	+0.5
WRA				ScP	ScP	20 50 00.5	+3.4
WRA				PKiKP	PKiKP	20 53 49.9	-1.1
TOO	Toolangi	32.07	212	eP	P	20 43 36.2	+1.0
TOO				ePCP	PcP	20 46 23.5	+1.0
RPZ	Rata Peaks	32.39	174	P	P	20 43 39.1	+1.2
	comp=Z,154nm,0.8s,baz=328,slow=1.3,SNR=50						
RPZ	Rata Peaks	32.39	174	eP	P	20 43 38.2	+0.3
	comp=Z,172nm,0.8s						
RPZ				P	P	20 43 39.1	+1.2
AS31	Alice Springs	33.20	244	eP	P	20 43 44.4	-0.8
AS31				ePcP	PcP	20 46 25.8	-0.1
AS31				eScP	ScP	20 50 02.9	+1.6
ASAR	Alice Springs	33.20	244	P	P	20 43 44.5	-0.8
	comp=Z,4.6nm,0.8s,baz=69,slow=10.0,SNR=39						
ASAR				PcP	PcP	20 46 26.3	+0.4
	comp=Z,26nm,0.9s,baz=80,slow=2.8,SNR=33						
ASAR				ScP	ScP	20 50 05.2	+4.0
	comp=Z,5.6nm,0.8s,baz=78,slow=3.5,SNR=15						
ASAR				PKiKP	PKiKP	20 53 50.8	-1.0
	comp=Z,0.4nm,0.7s,baz=107,slow=2.0,SNR=4.8						
ASAR	Alice Springs	33.20	244	P	P	20 43 44.5	-0.8
ASAR						20 46 26.3	
ASAR	Alice Springs	33.20	244	P	P	20 43 44.5	-0.8
ASAR				PcP	PcP	20 46 26.3	+0.4
ASAR				ScP	ScP	20 50 05.2	+4.0
ASAR				PKiKP	PKiKP	20 53 50.8	-1.0
ODZ	Otahua Downs	33.66	175	eP	P	20 43 49.3	+0.4
	comp=Z,266nm,1.0s						
BBOO	Buckleboo	35.03	228	eP	P	20 44 02.2	+1.3
	comp=Z,4µm,2.3s						
MOO	Moorlands	35.12	205	eP	P	20 44 02.7	+1.1
TAU	Tasmania Unive	35.46	204	eP	P	20 44 03.6	-0.8
TAU				pmax	pmax		
	comp=Z,255nm,1.7s						
TAU	Tasmania Unive	35.46	204	eP	P	20 44 03.6	-0.8
	comp=Z,255nm,1.7s						
TAU				eP	P	20 44 04.5	0.0
XMAS	Kiritimati	38.35	72	eP	P	20 44 31.1	+1.8
	comp=Z,100nm,1.0s						
FITZ	Fitzroy Crossi	39.91	256	eP	P	20 44 43.6	+1.3
FITZ				ePCP	PcP	20 46 47.0	+0.9
FITZ	Fitzroy Crossi	39.91	256	eP	P	20 44 42.7	+0.5
	comp=Z,13nm,0.8s						
FITZ				ePcP	PcP	20 46 46.8	+0.7
LBMI	Labuha	40.10	283	P	P	20 44 49.3	+5.4
	comp=Z,61nm,1.1s,comp=Z,1µm						
FORT	Forrest	40.35	236	eP	P	20 44 46.1	+0.4
FORT				ePCP	PcP	20 46 47.7	+0.4
FORT	Forrest	40.35	236	eP	P	20 44 47.7	+2.0
	comp=Z,34nm,0.9s						
PPT2	Papeete2	42.96	103	eLR	LR	20 57 19.6	
	comp=Z,2µm,32.5s						
TBI	Tubuai	43.57	112	eLR	LR	20 57 32.8	
	comp=Z,2µm,31.5s						
DAV	Davao City (W)	44.60	292	eP	P	20 45 13.4	-7.0
	comp=Z,265nm,0.4s						
MBWA	Marble Bar	45.69	252	eP	P	20 45 29.1	+0.1
	comp=Z,23nm,1.0s						
MBWA				epP	pP	20 45 51.2	-1.4
MBWA				ePcP	PcP	20 47 05.2	-0.3
KAPI	Kappang	46.58	274	eP	P	20 45 35.2	-0.8
	comp=Z,100nm,1.3s						
KAPI				epP	pP	20 45 57.8	-2.0
KAPI				ePcP	PcP	20 47 08.2	-0.6
KAPI	Kappang	46.58	274	P	P	20 45 36.8	+0.8
	comp=Z,28nm,1.2s,comp=Z,974nm						
KLBR	Kellerberrin	49.04	238	eP	P	20 45 54.4	-0.5
	comp=Z,35nm,0.9s						
KLBR				ePCP	PcP	20 47 17.4	+0.1
NWAO	Narrogin (SRO)	49.78	236	eP	P	20 45 59.9	-0.5
NWAO				pmax	pmax		
	comp=Z,51nm,1.0s						
NWAO	Narrogin (SRO)	49.78	236	eP	P	20 45 59.9	-0.5
	comp=Z,51nm,1.0s						
TAOE	Nuku Hiva Isla	52.61	92	eLR	LR	21 01 39.2	
	comp=Z,720nm,29.2s						
JOW	Kunigami	53.11	316	eP	P	20 46 24.1	-1.1
	comp=Z,29nm,0.8s						
MJAR	Matsushiro Arr	54.64	332	P	P	20 46 35.0	-1.3
	comp=Z,19nm,0.9s,baz=169,slow=8.6,SNR=30						
MJAR	Matsushiro Arr	54.64	332	P	P	20 46 35.0	-1.3
MJAR	Matsushiro Arr	54.64	332	P	P	20 46 35.0	-1.3
MAJO	Matsushiro	54.64	332	eP	P	20 46 35.7	-0.6
MAJO				pmax	pmax		
	comp=Z,33nm,1.0s						
MAJO	Matsushiro	54.64	332	eP	P	20 46 35.7	-0.6
	comp=Z,33nm,1.0s						
MAT	Matsushiro	54.64	332	P	P	20 46 35.0	-1.3
MAT				eS	S	20 54 07.6	-1.0
SBUM	Sibu	55.62	281	P	P	20 46 45.0	+1.3
	comp=Z,29nm,1.3s						
JNU	Nakatsue	55.80	324	eP	P	20 46 44.5	-0.1
	comp=Z,27nm,1.0s						
NACB	Ninganchiao	56.31	309	eP	P	20 46 48.1	-0.3
	comp=Z,28nm,0.8s						
TPUB	Ta-pu	56.57	308	eP	P	20 46 49.4	-0.9
	comp=Z,132nm,1.2s						
YHNB	Yeheng	56.75	310	eP	P	20 46 51.0	-0.6
	comp=Z,49nm,0.8s						
RKT	Rikitea	56.83	110	eLR	LR	21 03 39.7	
	comp=Z,1µm,30.5s						
KSM	Kuching	57.22	279	eP	P	20 46 54.6	-0.5
	comp=Z,27nm,1.1s						
KSM				epP	pP	20 47 17.9	-1.8
KSM	Kuching	57.22	279	P	P	20 46 55.7	+0.6
	comp=Z,22nm,0.9s						
YUK	Yuzh-Kuril'sk	58.31	343	c iP	P	20 47 03.1	+1.0
YUK				iS	S	20 55 04.8	+8.2
ASAJ	Asahikawa	59.40	340	LR	LR	21 08 50.5	
	comp=Z,695nm,21.0s,baz=312,slow=32						
KSRS	Korea Array	60.59	325	P	P	20 47 18.0	+0.1
	comp=Z,7.5nm,0.7s,baz=136,slow=7.3,SNR=32						
KSRS				PcP	PcP	20 48 02.5	+1.2
	comp=Z,7.2nm,0.8s,baz=139,slow=5.2,SNR=8.1						
KSAR	Wonju Array Be	60.60	325	P	P	20 47 18.0	0.0
KSAR						20 48 02.6	
KSAR	Wonju Array Be	60.60	325	P	P	20 47 18.0	0.0
KSAR				PcP	PcP	20 48 02.5	+1.1
SSE	Sheshan	60.60	316	P	P	20 47 17.8	-0.3
SSE				pmax	pmax		
	comp=Z,46nm,0.8s						
SSE				pmax	pmax		
	comp=Z,110nm,3.8s						
YSS	Yuzh-Sakhalins	61.88	342	⇑eP	P	20 47 27.3	+0.9
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS	Yuzh-Sakhalins	61.88	342	eP	P	20 47 25.6	-0.8
	comp=Z,88nm,1.1s						
NJ2	Nanjing	62.77	315	eP	P	20 47 33.2	+0.5
NJ2				pP	pP	20 47 59.9	+2.2
NJ2				sP	sP	20 48 11.6	+2.9
NJ2				S	S	20 55 52.5	-1.6
NJ2				pmax	pmax		
	comp=Z,80nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.0s						
NJ2				LR	LR		
	comp=N,830nm,21.8s						
NJ2				LR	LR		
	comp=E,520nm,21.4s						
NJ2				LR	LR		
	comp=Z,1µm,21.5s						
QIZ	Qiongzhong	63.45	298	P	P	20 47 36.6	-0.9
QIZ				pP	pP	20 48 01.0	-1.5
QIZ				S	S	20 56 05.3	+2.3
QIZ				pmax	pmax		
	comp=Z,440nm,7.3s						
USRK	Ussuriysk Arra	63.61	333	P	P	20 47 38.9	+0.9
	comp=Z,35nm,1.1s,baz=140,slow=5.9,SNR=26						
FX1	Attu Island--F	64.34	5	eP	P	20 47 42.5	-0.1
FX1	Attu Island--F	64.34	5	eP	P	20 47 42.5	-0.1
PETK	Petropavlovsk-	64.74	354	P	P	20 47 45.7	+0.5
	comp=Z,17nm,0.8s,baz=161,slow=9.8,SNR=12						
PETK				LR	LR	21 12 47.2	
	comp=Z,232nm,19.0s,baz=37,slow=33						
PETK	Petropavlovsk-	64.74	354	P	P	20 47 45.7	+0.5
PETK	Petropavlovsk-	64.74	354	P	P	20 47 45.7	+0.5
MDJ	Mudanjiang	65.02	332	P	P	20 47 47.2	0.0
MDJ				pmax	pmax		
	comp=Z,29nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.5s						
MDJ	Mudanjiang	65.02	332	eP	P	20 47 47.6	+0.4
	comp=Z,29nm,1.1s						
WHN	Wuhan	65.16	311	⇑P	P	20 47 48.1	-0.2
HABR	Khabarovsk	65.81	338	c eP	P	20 47 52.3	+0.1
HABR				e*PP	pP	20 48 15.6	-1.8
HABR				e		20 48 21.2	
HABR						20 50 18.2	
HABR				PPP	PPP	20 51 51.8	
HABR				eS	S	20 56 31.0	+0.1
HABR				eS	pS	20 56 59.5	-0.8
HABR				e*SS	sS	20 57 14.6	+0.5
HABR				e		20 57 36.9	
HABR				SS	SS	21 00 48.3	+0.5
HABR				pmax	pmax		
	comp=Z,84nm,1.8s						
HABR				pmax	pmax		
	comp=N,18nm,1.0s						
HABR				pmax	pmax		
	comp=E,53nm,2.1s						
HABR				MLR	MLR		
	comp=Z,223nm,16.0s						
SNY	Shenyang	66.04	326	⇑P	P	20 47 53.0	-0.8
SNY				S	S	20 56 34.3	+0.4
SNY				ScS	SKSac	20 57 35.4	-5.1
SNY				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SNY				pmax	pmax		
	comp=Z,210nm,3.5s						
SNY				LR	LR		
	comp=N,440nm,13.1s						
SNY				LR	LR		
	comp=E,320nm,10.5s						
SNY				LR	LR		
	comp=Z,210nm,6.3s						
VNDA	Vanda	66.09	181	eP	P	20 47 54.4	+0.8
VNDA				pmax	pmax		
	comp=Z,135nm,1.4s						
VNDA	Vanda	66.09	181	eP	P	20 47 54.4	+0.8
	comp=Z,135nm,1.4s						
CASY	Casey	66.23	201	eP	P	20 47 54.9	+0.2
CASY	Casey	66.23	201	⇑iP	P	20 47 54.7	0.0
	comp=Z,58nm,1.2s						
SBA	Scott Base	66.39	180	eP	P	20 47 56.7	+1.2
SBA				pmax	pmax		
	comp=Z,125nm,0.9s						
SBA	Scott Base	66.39	180	eP	P	20 47 56.7	+1.2
	comp=Z,125nm,0.9s						
CN2	Changchun	66.43	329	eP	P	20 47 56.2	-0.1
CN2				epP	pP	20 48 20.7	-0.8
CN2				esP	sP	20 48 31.7	-0.8
CN2				eS	S	20 56 38.1	-0.5
CN2				pmax	pmax		
	comp=Z,50nm,1.0s						
IPM	Ipoh	66.94	280	⇑iP	P	20 48 00.4	+0.2
	comp=Z,65nm,1.0s						
IPM				epP	pP	20 48 24.4	-1.0
IPM	Ipoh	66.94	280	P	P	20 48 01.0	+0.8
	comp=Z,72nm,1.4s						
KULM	Kulim	67.50	281	P	P	20 48 03.3	-0.4
	comp=Z,26nm,1.1s						
KLR	Kul'dur	67.70	336	eP	P	20 48 02.2	-2.0
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,85nm,1.6s						
PSI	Prapat	68.58	278	P	P	20 48 10.0	-0.6
	comp=Z,50nm,1.1s						
ENH	Enshi	68.67	309	eP	P	20 48 10.0	-0.7
	comp=Z,88nm,1.0s						
GYA	Guiyang	69.19	304	⇑iP	P	20 48 15.9	+1.8
GYA				pP	pP	20 48 41.0	+1.5
GYA				sP	sP	20 48 53.4	+2.9
GYA				PP	PP	20 50 51.7	+3.3
GYA				ScP		20 52 31.9	
GYA				PcS		20 52 43.0	
GYA				S	S	20 57 12.5	0.0
GYA				sS	SKiKP	20 57 52.9	-1.9
GYA				SKS	SKSac	20 58 02.3	-3.1
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.9s						
GYA				LR	LR		
	comp=N,630nm,19.8s						
GYA				LR	LR		
	comp=E,520nm,20.6s						
GYA				LR	LR		
	comp=Z,740nm,18.4s						
BJT	Baijiatuau	69.21	321	eP	P	20 48 13.7	0.0
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	Baijiatuau	69.21	321	eP	P	20 48 13.7	0.0
	comp=Z,25nm,0.8s						
BJI	Beijing	69.22	321	P	P	20 48 14.0	+0.2
BJI				pP	PcP	20 48 37.2	+0.3
BJI				sP	sP	20 48 46.7	-3.4
BJI				pmax	pmax		
	comp=Z,48nm,1.0s						
BJI				pmax	pmax		
	comp=Z,240nm,3.6s						
XAN	Xi'an	70.88	312	P	P	20 48 24.6	+0.4
XAN				S	S	20 57 28.8	-3.1
XAN				pmax	pmax		
	comp=Z,21nm,1.2s						
XAN				LR	LR		
	comp=N,310nm,19.8s						
XAN				LR	LR		
	comp=Z,87nm,22.5s						
KMI	Kunming	71.90	301	P	P	20 48 32.0	+1.3
KMI				pP	pP	20 48 58.0	+1.7
KMI				sP	sP	20 49 10.3	+3.1
KMI				PP	PP	20 51 14.1	+2.3
KMI				S	S	20 57 44.4	+0.2
KMI				sS	ScS	20 58 28.4	+0.4
KMI				pmax	pmax		
	comp=Z,55nm,1.3s						
KMI				pmax	pmax		
	comp=Z,140nm,3.1s						
KMI				LR	LR		
	comp=N,230nm,13.7s						
KMI				LR	LR		
	comp=E,190nm,12.1s						
KMI				LR	LR		
	comp=Z,200nm,15.3s						
HHC	Hu-ho-hao-te	72.57	319	eP	P	20 48 34.8	+0.5
HHC				PcP	PcP	20 48 52.1	+0.8
HHC				pP	pP	20 49 00.0	+0.1
HHC				sP	sP	20 49 10.2	-0.6
HHC				PP	PP	20 51 19.6	+2.4
HHC				S	S	20 57 50.6	-0.5
HHC				sS	ScS	20 58 32.8	+0.3
HHC				pmax	pmax		
	comp=Z,40nm,1.2s						
HHC				pmax	pmax		
	comp=Z,240nm,5.5s						
HHC				LR	LR		
	comp=N,250nm,15.3s						
HHC				LR	LR		
	comp=E,380nm,16.7s						
HHC				LR	LR		
	comp=Z,430nm,16.7s						
CM31	Chiang Mai Arr	72.88	293	⇑iP	P	20 48 37.2	+0.8
	comp=Z,35nm,1.0s						
CMAR	Chiang Mai Arr	72.88	293	P	P	20 48 37.6	+1.2
	comp=Z,22nm,0.9s,baz=115,slow=4.3,SNR=101						
CMAR	Chiang Mai Arr	72.88	293	P	P	20 48 37.6	+1.2
CMAR	Chiang Mai Arr	72.88	293	P	P	20 48 37.6	+1.2
CHTO	Chiang Mai	72.99	294	eP	P	20 48 37.6	+0.5
CHTO				pmax	pmax		
	comp=Z,69nm,1.3s						
CHTO	Chiang Mai	72.99	294	eP	P	20 48 37.6	+0.5
	comp=Z,68nm,1.3s						
CHTO	Chiang Mai	72.99	294	P	P	20 48 38.0	+0.9
	comp=Z,48nm,1.4s,comp=Z,841nm						
HIA	Hailar	73.05	330	eP	P	20 48 37.0	+0.1
HIA				pmax	pmax		
	comp=Z,67nm,1.2s						
HIA	Hailar	73.05	330	eP	P	20 48 37.0	+0.1
	comp=Z,67nm,1.2s						
CD2	Chengdu	73.38	307	P	P	20 48 39.7	+0.5
CD2				pP	pP	20 49 06.8	+2.0
CD2				sP	sP	20 49 18.2	+2.5
CD2				PP	PP	20 51 27.3	+3.2
CD2				S	S	20 57 59.6	-0.9
CD2				sS	sS	20 58 45.4	+1.0
CD2				pmax	pmax		
	comp=Z,110nm,1.2s						
CD2				pmax	pmax		
	comp=Z,150nm,5.7s						
CD2				LR	LR		
	comp=E,550nm,6.0s						
CD2				LR	LR		
	comp=Z,360nm,13.7s						
BTO	Baotou	73.43	319	eP	P	20 48 39.8	+0.4
SEY	Seymchan	74.96	353	⇓eP	P	20 48 47.9	+0.3
LZH	Lanzhou	75.52	312	eP	P	20 48 53.4	+1.8
LZH				PcP	PcP	20 49 08.1	+3.9
LZH				pP	pP	20 49 19.3	+1.9
LZH				eS	S	20 58 24.1	-0.4
LZH				sS	sS	20 59 08.2	-0.4
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,5.1s						
LZH				LR	LR		
	comp=N,570nm,16.5s						
LZH				LR	LR		
	comp=E,560nm,15.5s						
LZH				LR	LR		
	comp=Z,690nm,16.8s						
CLNS	Chul'man	76.20	338	eP	P	20 48 54.9	0.0
CLNS				e		20 49 15.6	
CLNS				e*SS	S	20 58 54.4	+24
CLNS				e		20 59 24.5	
CLNS				pmax	pmax		
	comp=Z,39nm,1.0s						
CLNS				pmax	pmax		
	comp=N,31nm,1.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.9s						

GAMB **Gambell** 76.86 10⇑ *i*P P 20 48 58.7 +0.3
comp=N,34nm,0.9s
GAMB *ep*P **pP** 20 49 19.9 -4.3
CIT Chita 77.85 330 *e*P P 20 49 04.5 +0.3
CIT *e* 20 49 12.3
CIT *e* 20 49 26.9
CIT pmax pmax
comp=Z,257nm,1.4s
QSPA South Pole Qui 78.55 180⇑ *i*P P 20 49 08.2 +0.1
comp=Z,177nm,1.1s
YAK Yakutsk 78.68 343 *e*P P 20 49 06.8 -1.7
YAK *e* 20 49 30.5
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,61nm,1.6s
YAK pmax pmax
comp=N,22nm,1.3s
YAK Yakutsk 78.68 343⇑ *i*P P 20 49 08.1 -0.4
comp=N,44nm,0.8s
YAK *ep*P **pP** 20 49 33.3 -1.1
RSO Redoubt South 78.69 19 *e*P P 20 49 07.6 -1.3
comp=N,84nm,1.0s
ULN Ulaanbaatar 79.02 324⇑ *i*P P 20 49 11.5 +0.6
ULN pmax pmax
comp=Z,84nm,1.0s
ULN Ulaanbaatar 79.02 324⇑ *i*P P 20 49 11.5 +0.6
comp=Z,84nm,1.0s
ULN Ulaanbaatar 79.02 324 P P 20 49 11.3 +0.4
comp=Z,92nm,1.1s,comp=Z,948nm
TNA Tin City 79.16 11 *e*P P 20 49 12.1 +1.1
comp=Z,8.9nm,1.1s
BILL Bilibino 79.29 360 *c i*P P 20 49 11.8 0.0
BILL *e* 20 52 12.6
BILL *e*SS SS 21 04 12.5 -0.3
BILL pmax pmax
comp=Z,60nm,1.0s
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 79.29 360⇑ *i*P P 20 49 11.8 0.0
comp=Z,45nm,0.9s
BILL *ep*P **pP** 20 49 33.9 -3.8
SONM Songino Array 79.39 324 P P 20 49 13.4 +0.5
comp=Z,31nm,1.0s,baz=130,slow=3.6,SNR=113
SONM PKKPbc **PKKPbc** 21 08 02.2 -2.1
comp=Z,0.6nm,0.8s,baz=306,slow=3.5,SNR=4.6
SONM PKPPKP P'P'df 21 16 16.5 +11
comp=Z,0.6nm,1.0s,baz=270,slow=1.5,SNR=3.8
SONM LR LR 21 26 01.8
comp=Z,763nm,18.9s,baz=212,slow=37
SONM Songino Array 79.39 324 P P 20 49 13.4 +0.5
SONM Songino Array 79.39 324 P P 20 49 13.4 +0.5
SONM PKKPbc **PKKPbc** 21 08 02.2 -2.1
SONM P'P' 21 16 16.5
SLKM Skilak Lake 79.57 20 *e*P P 20 49 13.0 -0.4
SLKM Skilak Lake 79.57 20 *e*P P 20 49 13.0 -0.4
TTA Tatalina 79.63 16 *e*P P 20 49 14.3 +0.5
TTA Tatalina 79.63 16 *e*P P 20 49 14.3 +0.5
RPN Rapa Nui 79.80 116 LR LR 21 17 48.7
comp=Z,139nm,21.4s,baz=76,slow=30
GTA Gaotai 79.82 314 ⇑P P 20 49 16.9 +1.5
GTA pP **pP** 20 49 43.6 +2.2
GTA sP **sP** 20 49 54.2 +2.0
GTA S **S** 20 59 13.2 +2.6
GTA SKS **SKSac** 20 59 21.3 -2.2
GTA sS **sS** 20 59 55.5 +0.3
GTA pmax pmax
comp=Z,93nm,1.1s
GTA pmax pmax
comp=Z,710nm,4.5s
GTA LR LR
comp=N,330nm,24.7s
GTA LR LR
comp=E,330nm,23.3s
GTA LR LR
comp=Z,500nm,27.6s
RC01 Rabbit Creek A 80.15 20 *e*P P 20 49 17.1 +0.5
comp=Z,20nm,1.0s
PMR Palmer 80.72 20 *e*P P 20 49 19.7 +0.2
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 80.72 20 *e*P P 20 49 19.7 +0.2
comp=Z,21nm,1.0s
SML Sawmill 81.14 20 *e*P P 20 49 22.3 +0.4
SML pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 81.14 20 *e*P P 20 49 22.3 +0.4
comp=Z,10.0nm,1.0s
BOD Bodaibo 81.18 335⇓ *i*P P 20 49 21.5 -0.6
BOD pmax pmax
comp=Z,24nm,1.3s
SHL Shillong 81.29 298 *e*P P 20 49 26.5 +2.9
DIV Divide 81.55 21 *e*P P 20 49 24.3 +0.2
comp=Z,41nm,0.9s
TRF Thorofare Moun 81.71 18 *e*P P 20 49 23.9 -1.1
comp=Z,17nm,0.8s
MCK McKinley 82.33 18 *e*P P 20 49 28.0 0.0
MCK pmax pmax
comp=Z,24nm,1.0s
MCK McKinley 82.33 18 *e*P P 20 49 28.0 0.0
comp=Z,24nm,1.0s
ZAK Zakamensk 82.42 325⇑ *i*P P 20 49 29.1 +0.2
ZAK *e* 20 49 52.9
ZAK pmax pmax
comp=Z,36nm,1.0s
IRK Irkutsk 82.76 327 *e*P P 20 49 28.5 -2.0
IRK pmax pmax
comp=Z,56nm,1.1s
TLY Talaya 82.83 326 *e*P P 20 49 29.9 -1.0
TLY pmax pmax
comp=Z,47nm,0.9s
TLY Talaya 82.83 326⇑ *i*P P 20 49 30.9 0.0
comp=Z,49nm,0.9s
TLY Talaya 82.83 326 P P 20 49 31.4 +0.5
comp=Z,327nm,0.8s,SNR=6.8
LSA Lhasa 83.13 302 P P 20 49 34.3 +0.8
LSA Lhasa 83.13 302 *e*P P 20 49 33.9 +0.4
LSA pmax pmax
comp=Z,40nm,1.2s
LSA Lhasa 83.13 302 *e*P P 20 49 33.9 +0.4
comp=Z,40nm,1.2s
WDC Whiskeytown Da 83.42 46 *e*P P 20 49 35.8 +1.6
WDC pmax pmax
comp=Z,34nm,1.6s
WDC Whiskeytown Da 83.42 46 *e*P P 20 49 35.8 +1.6
comp=Z,34nm,1.6s
COLA College 83.47 18 *e*P P 20 49 33.3 -0.6
COLA pmax pmax
comp=Z,27nm,0.8s
COLA College 83.47 18 *e*P P 20 49 33.3 -0.6
comp=Z,27nm,0.8s
MENT Mentasta 83.48 21 *e*P P 20 49 34.5 +0.4
ILAR Eielson Array 83.70 18 P P 20 49 34.5 -0.5
comp=Z,18nm,1.1s,baz=222,slow=6.2,SNR=65
ILAR PKKP **PKKPbc** 21 07 51.2 -3.8
comp=Z,1.2nm,0.8s,baz=338,slow=0.7,SNR=6.4
ILAR PKPPKP **P'P'df** 21 15 53.9 -2.1
comp=Z,0.6nm,0.9s,baz=338,slow=2.8,SNR=5.4
ILAR Eielson Array 83.70 18 P P 20 49 34.5 -0.5
ILAR Eielson Array 83.70 18 P P 20 49 34.5 -0.5
ILAR PKKP **PKKPbc** 21 07 51.2 -3.8
ILAR P'P' 21 15 53.9
YBH Yreka Blue Hor 83.72 45 *e*P P 20 49 37.6 +1.8
YBH pmax pmax
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 83.72 45 *e*P P 20 49 37.6 +1.8
comp=Z,15nm,1.0s
DOT Dot Lake 83.84 20 *e*P P 20 49 36.0 +0.1
comp=Z,24nm,0.9s
HUMO Hull Mountain 83.86 44 *e*P P 20 49 37.7 +1.3
comp=Z,32nm,1.2s
BLG Laguna Peak 83.86 54 ⇑P P 20 49 37.7 +1.1
baz=84
SCI San Clemente I 83.93 55 ⇑P P 20 49 37.8 +0.8
baz=84
CMB Columbia Colle 84.11 49 *e*P P 20 49 37.9 +0.1
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 84.11 49 *e*P P 20 49 37.9 +0.1
comp=Z,9.9nm,0.9s
MOY Mondy 84.29 325 *e*P P 20 49 38.8 +0.3
MOY pmax pmax
comp=Z,54nm,2.4s
COLD Coldfoot 84.52 16 *e*P P 20 49 40.3 +1.1
comp=Z,7.4nm,0.9s
MWC Mount Wilson 84.69 54 *e*P P 20 49 41.2 +0.2
MWC pmax pmax
comp=Z,15nm,0.9s
MWC Mount Wilson 84.69 54 *e*P P 20 49 41.2 +0.2
comp=Z,16nm,0.9s
ISA Isabella 84.81 52 *e*P P 20 49 41.7 +0.3
ISA pmax pmax
comp=Z,13nm,1.1s
ISA Isabella 84.81 52 *e*P P 20 49 41.7 +0.3
comp=Z,13nm,1.1s
ISA Isabella 84.81 52 ⇑P P 20 49 42.8 +1.4
baz=85
EDW2 Edwards Air Fo 84.94 53 ⇓P P 20 49 43.1 +1.0
baz=85
WCN Washoe City 84.99 48 ⇓P P 20 49 43.8 +1.4
baz=85
BFSC Mount Baldy Ra 85.01 54 ⇓P P 20 49 43.7 +1.1
baz=85
MURC Murrieta 85.19 54 ⇑P P 20 49 44.5 +1.1
baz=85
MTUM Tungsten Hills 85.26 51 *e*P P 20 49 45.5 +1.7
K05A Summer Lake 85.33 45 ⇑P P 20 49 45.4 +1.4
baz=86
BAR Barrett 85.35 56 *e*P P 20 49 49.5 +5.4
comp=Z,7.0nm,0.8s
MOD Modoc 85.46 46 *e*P P 20 49 44.0 -0.7
comp=Z,54nm,1.8s
EGAK Eagle 85.54 20 *e*P P 20 49 44.6 +0.3
comp=Z,34nm,0.8s
MONP Monument Peak 85.61 55 ⇑P P 20 49 46.3 +0.6
baz=86,SNR=7.6
MPMC Manual Prospec 85.69 52 ⇓P P 20 49 46.8 +0.8
baz=86
DAWY Dawson 85.70 21 *e*P P 20 49 45.3 +0.1
PFO Pinyon Flat Ob 85.79 55 ⇑P P 20 49 47.6 +1.2
baz=86
NVAR Mina Array Bea 85.79 50 P P 20 49 47.8 +1.4
comp=Z,5.4nm,0.8s,baz=235,slow=7.4,SNR=18
NVAR PKPPKP **P'P'df** 21 15 53.1 -1.3
comp=Z,0.6nm,0.7s,baz=108,slow=3.3,SNR=3.8
NVAR LR LR 21 18 06.3
comp=Z,292nm,21.7s,baz=292,slow=28
NVAR Mina Array Bea 85.79 50 P P 20 49 47.8 +1.4
NVAR P'P' 21 15 53.1
DVTC Desert V Tower 85.80 56 ⇑P P 20 49 47.4 +0.9
baz=86
GSC Goldstone 86.00 53 *e*P P 20 49 48.2 +0.8
GSC pmax pmax
comp=Z,29nm,1.6s
GSC Goldstone 86.00 53 *e*P P 20 49 48.2 +0.8
comp=Z,28nm,1.6s
GSC Goldstone 86.00 53 ⇓P P 20 49 48.6 +1.2
baz=86
GRAC Grapevine Rang 86.06 51 ⇑P P 20 49 48.8 +1.2
baz=86
SWSC Sam W. Stewart 86.13 55 ⇓P P 20 49 48.9 +1.0
baz=86
HEC Hector,Ludlow 86.23 54 ⇑P P 20 49 49.1 +0.5
baz=86,SNR=6.7
BELC Belle Mtn. Jos 86.26 54 ⇓P P 20 49 49.9 +1.1
baz=86,SNR=12
FURC Furnace Creek, 86.30 52 ⇓P P 20 49 50.1 +1.5
baz=86
BC3 Big Chuckawall 86.60 55 ⇑P P 20 49 51.6 +1.2
baz=87,SNR=8.7
TUQ Turquoise Moun 86.73 53 ⇓P P 20 49 52.2 +1.2
baz=87
I07A Izee 86.74 44 ⇑P P 20 49 51.9 +1.1
baz=87
GLA Glamis 86.94 56 *e*P P 20 49 53.4 +1.4
GLA pmax pmax
comp=Z,17nm,0.8s
GLA Glamis 86.94 56 *e*P P 20 49 53.4 +1.4
comp=Z,17nm,0.8s
GLA Glamis 86.94 56 ⇓P P 20 49 53.6 +1.6
baz=87
IRM Iron Mountain 86.98 54 ⇑P P 20 49 53.5 +1.3
baz=87,SNR=11
J08A Circle Bar Ran 87.21 45 ⇓P P 20 49 54.4 +1.3
baz=87
LDFC Landfair 87.27 54 *e*P P 20 49 54.8 +1.2
Y12C Blythe 87.37 55 ⇓P P 20 49 55.6 +1.6
baz=88
HAWA Hanford 87.48 42 *e*P P 20 49 55.2 +1.0
comp=Z,12nm,1.0s
113A Mohawk Valley, 87.73 56 ⇑P P 20 49 56.9 +1.2
baz=88
R11A Troy Canyon, C 87.81 50 ⇑P P 20 49 57.0 +0.8
baz=88,SNR=12
PDMCI Parker Dam,Lak 87.83 55 ⇑P P 20 49 57.5 +1.3
baz=88,SNR=7.0
Z13A Yuma Proving G 87.93 56 ⇑P P 20 49 57.8 +1.1
baz=88,SNR=11
W13A Hualapai Mount 88.24 54 ⇓P P 20 49 59.1 +0.8
baz=88,SNR=8.1
214A Organ Pipe Nat 88.30 57 ⇑P P 20 49 59.8 +1.3
baz=88
OD2 Odessa Site #2 88.34 41 P P 20 49 58.2 -0.1
comp=Z,5.7nm,0.7s
E09A Wood Farm, Sta 88.43 42 ⇓P P 20 49 59.8 +1.1
baz=89
BMO Blue Mountains 88.47 44 *e*P P 20 50 00.2 +1.1
BMO pmax pmax
comp=Z,38nm,1.9s
BMO Blue Mountains 88.47 44 *e*P P 20 50 00.2 +1.1
comp=Z,38nm,1.9s
Z14A Wintersburg 88.55 56 ⇓P P 20 50 01.3 +1.8
baz=89
Y14A Wickenburg 88.64 55 ⇓P P 20 50 01.3 +1.2
baz=89
ELK Elko 88.73 48 *e*P P 20 50 01.6 +1.0
ELK pmax pmax
comp=Z,17nm,1.4s
ELK Elko 88.73 48 *e*P P 20 50 01.6 +1.0
comp=Z,17nm,1.4s
ELK *ep*P **pP** 20 50 28.4 +1.4
C09A Chrisman Ranch 88.75 41 ⇑P P 20 50 01.1 +0.9
baz=89
F10A Beach Ranch, E 88.87 43 ⇑P P 20 50 01.7 +0.8
baz=89
R13A O'Grain Ranch, 88.98 51 ⇓P P 20 50 03.0 +1.2
baz=89,SNR=13
MFID Camas Ranch 89.07 45 *e*P P 20 50 02.5 +0.5
comp=Z,5.9nm,0.8s
MFID Camas Ranch 89.07 45 ⇓P P 20 50 03.0 +1.1
baz=89
CCUT Cedar City 89.28 52 *e*P P 20 50 04.4 +1.1
comp=Z,14nm,1.1s
CCUT *ep*P **pP** 20 50 31.6 +1.9
ARUT Antelope Range 89.29 51 *e*P P 20 50 04.4 +1.2
ARUT pmax pmax
comp=Z,18nm,1.0s
ARUT Antelope Range 89.29 51 *e*P P 20 50 04.4 +1.2
comp=Z,18nm,1.0s
I12A Atlanta 89.66 45 ⇑P P 20 50 05.9 +1.1
baz=90,SNR=6.7
U15A North Rim 89.83 53 ⇑P P 20 50 07.3 +1.4
baz=90,SNR=16
WMQ Urumqi 89.85 315 P P 20 50 05.5 0.0
WMQ pP **pP** 20 50 31.4 -0.6
WMQ sP **sP** 20 50 41.9 -0.8
WMQ LR LR
comp=N,380nm,22.8s
WMQ LR LR
comp=E,320nm,22.8s
WMQ LR LR
comp=Z,410nm,19.4s
TUC Tucson 90.06 57 *e*P P 20 50 08.1 +1.3
TUC *e*PP **pP** 20 50 33.6 +0.3
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 90.06 57 *e*P P 20 50 08.1 +1.3
comp=Z,5.1nm,0.9s
TUC *ep*P **pP** 20 50 33.6 +0.3
H12A Diamond D Ranc 90.06 45 ⇑P P 20 50 07.5 +0.9
baz=90,SNR=7.5
INK Inuvik 90.08 19 PKKPbc PKKPbc 21 07 36.0 -3.5
comp=Z,0.7nm,0.6s,baz=46,slow=5.9,SNR=6.4
INK Inuvik 90.08 19 PKKPbc PKKPbc 21 07 36.0 -3.5
HLID Hailey 90.10 46 *e*P P 20 50 07.6 +0.8
comp=Z,8.5nm,1.0s
HLID Hailey 90.10 46 ⇑P P 20 50 08.1 +1.2
baz=90,SNR=8.5
J13A Cove Ranch, Pi 90.22 46 ⇓P P 20 50 08.4 +1.0
baz=90,SNR=7.5
R15A Junction 90.28 51 ⇑P P 20 50 09.3 +1.5
baz=90
Y17A Roosevelt 90.33 56 ⇑P P 20 50 09.3 +1.2
baz=90
WUAZ Wupatki 90.33 54 *e*P P 20 50 09.2 +1.1
comp=Z,54nm,1.9s
WUAZ *ep*P **pP** 20 50 35.4 +0.8
WUAZ Wupatki 90.33 54 ⇓P P 20 50 09.0 +0.9
baz=90,SNR=6.7
DUG Dugway 90.37 49 *e*P P 20 50 08.7 +0.6
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway 90.37 49 *e*P P 20 50 08.7 +0.6
comp=Z,8.6nm,0.8s
DUG Dugway 90.37 49 ⇑P P 20 50 09.5 +1.3
baz=90
I13A Wildhorse Cree 90.40 45 ⇑P P 20 50 09.6 +1.3
baz=90,SNR=15
MSU Marysvale 90.43 51 *e*P P 20 50 09.0 +0.4
MSU Marysvale 90.43 51 *e*P P 20 50 08.9 +0.4
MSU *ep*P **pP** 20 50 35.7 +0.6
H13A Challis 90.48 45 ⇑P P 20 50 09.8 +1.3
baz=91,SNR=10
X17A Forest Lakes 90.51 55 ⇓P P 20 50 09.7 +0.7
baz=91
318A Bisbee 90.52 58 ⇑P P 20 50 10.1 +1.1
baz=91
L14A Malta 90.53 47 ⇓P P 20 50 10.2 +1.4
baz=91,SNR=5.8
218A Dragoon 90.59 58 ⇑P P 20 50 10.6 +1.2
baz=91
P15A Leamington 90.61 50 ⇑P P 20 50 10.5 +1.2
baz=91
G13A Cobalt 90.63 44 ⇓P P 20 50 10.2 +0.9
baz=91,SNR=12
O15A The Old Anders 90.65 49 ⇓P P 20 50 11.0 +1.5
baz=91
U16A Tuba City 90.67 53 ⇑P P 20 50 11.5 +1.8
baz=91
S16A Weppner Ranch, 90.69 52 ⇑P P 20 50 11.0 +1.3
baz=91,SNR=5.5
K14A Jones Ranch, D 90.70 47 ⇓P P 20 50 11.0 +1.4
baz=91,SNR=7.2
F13A Darby 90.75 43 ⇑P P 20 50 10.5 +0.7
baz=91,SNR=22
W17A Winslow 90.76 54 ⇓P P 20 50 11.7 +1.7
baz=91
HVU Hansel Valley 90.80 48 *e*P P 20 50 11.2 +1.1
HVU *e**PP **pP** 20 50 37.2 +0.6
HVU pmax pmax
comp=Z,17nm,0.9s
HVU Hansel Valley 90.80 48 *e*P P 20 50 11.2 +1.1
comp=Z,17nm,0.9s
HVU *ep*P **pP** 20 50 37.2 +0.6
V17A Tonalea, Kykot 90.82 54 ⇑P P 20 50 11.5 +1.2
baz=91
I14A Mackay 90.87 45 ⇑P P 20 50 11.8 +1.3
baz=91,SNR=8.9
M15A Larsen Ranch, 90.96 48 ⇑P P 20 50 12.4 +1.6
baz=91
Y18A Canyon Day Jun 91.00 56 ⇑P P 20 50 12.8 +1.5
baz=91
BSMT Bassoo Peak 91.01 41 *e*P P 20 50 11.2 +0.2
E13A Victor 91.02 43 ⇓P P 20 50 12.1 +1.1
baz=91
P16A Fountain Green 91.09 50 ⇓P P 20 50 13.3 +1.7
baz=91
319A Douglas 91.09 58 ⇓P P 20 50 13.1 +1.5
baz=91
H14A Leadore 91.10 45 ⇓P P 20 50 12.6 +1.1
baz=91,SNR=7.0
T17A Navajo Res., N 91.13 53 ⇑P P 20 50 12.9 +1.1
baz=91,SNR=5.9
L15A Malad City 91.14 47 ⇓P P 20 50 12.6 +0.9
baz=91,SNR=6.0
U17A Shonto 91.15 53 ⇓P P 20 50 13.0 +1.1
baz=91
G14A Jackson 91.20 44 ⇑P P 20 50 13.2 +1.2
baz=91
K15A Arbon 91.20 47 ⇑P P 20 50 13.4 +1.5
baz=91
MPU Maple Canyon 91.20 50 *e*P P 20 50 12.8 +0.7
comp=Z,16nm,1.3s
X18A Snowflake 91.24 55 ⇑P P 20 50 13.6 +1.2
baz=91
S17A Black Ridge (B 91.28 52 ⇑P P 20 50 13.0 +0.6
baz=91,SNR=6.1
Q16A Castle Valley 91.29 51 ⇑P P 20 50 14.2 +1.7
baz=91
JTMT Jette 91.31 42 P P 20 50 12.1 -0.3
O16A Springville 91.35 49 ⇓P P 20 50 14.3 +1.6
baz=92
HYB Hyderabad 91.36 287 *i* P P 20 50 11.5 -1.6
HYB *e* 20 50 33.0
HYB *e*S S 20 59 56.0 -68
119A Ashpeak Ranch, 91.38 57 ⇓P P 20 50 14.5 +1.5
baz=92
J15A Blackfoot 91.45 46 ⇑P P 20 50 14.9 +1.9
baz=92
E14A Clinton 91.48 43 ⇑P P 20 50 14.2 +1.0
baz=92
JLU Jordanelle 91.48 49 *e*P P 20 50 14.7 +1.3
comp=Z,23nm,1.5s
V18A Ganado 91.52 54 ⇑P P 20 50 14.9 +1.2
baz=92
R17A Hanksville Air 91.53 51 ⇓P P 20 50 14.8 +1.3
baz=92
N16A Rees Ranch, Co 91.56 49 ⇓P P 20 50 15.4 +1.7
baz=92
SYO Syowa Base 91.58 197⇑ *e*X P 20 50 10.2 -2.8
H15A Lima 91.60 45 ⇓P P 20 50 14.9 +1.1
baz=92,SNR=10
Y19A Nutrioso 91.68 56 ⇑P P 20 50 15.7 +1.2
baz=92
320A Kipp Ranch, An 91.71 59 ⇓P P 20 50 16.1 +1.6
baz=92
X19A St. Johns 91.75 55 ⇑P P 20 50 16.4 +1.7
baz=92
CHMT Chamberlain Mo 91.77 43 *e*P P 20 50 14.5 -0.1
comp=Z,5.3nm,1.0s
CHMT *ep*P **pP** 20 50 40.7 -0.4
DLMT Dillon 91.82 44 *e*P P 20 50 15.4 +0.6
comp=Z,12nm,0.9s
G15A Dillon 91.84 44 ⇑P P 20 50 16.1 +1.2
baz=92
120A U Bar Ranch, L 91.88 57 ⇑P P 20 50 16.5 +1.2
baz=92
T18A Mexican Hat 91.88 53 ⇓P P 20 50 16.4 +1.2
baz=92
S18A Hurst Farm, Bl 91.91 52 ⇑P P 20 50 16.7 +1.2
baz=92
O17A Robinson Place 91.92 50 ⇑P P 20 50 16.7 +1.3
baz=92
F15A Butte 92.01 44 ⇓P P 20 50 16.8 +1.1
baz=92,SNR=5.6
Z20A Nine Sixteen R 92.04 57 ⇓P P 20 50 17.4 +1.3
baz=92
E15A Deer Lodge 92.05 43 ⇓P P 20 50 16.7 +0.9
baz=92,SNR=5.7
B14A Marquette Ranc 92.12 41 ⇓P P 20 50 16.7 +0.6
baz=92,SNR=12
R18A Canyonlands Na 92.14 51 ⇑P P 20 50 17.8 +1.3
baz=92
A14A Double T Ranch 92.19 41 ⇑P P 20 50 17.6 +1.2
baz=92
U19A Dine' College, 92.22 54 ⇑P P 20 50 18.2 +1.3
baz=92
V19A Window Rock 92.22 54 ⇑P P 20 50 18.4 +1.4
baz=92
M17A Scullys Gap (B 92.26 48 ⇓P P 20 50 17.8 +0.8
baz=92
G16A Moss Hill, Enn 92.33 44 ⇑P P 20 50 18.1 +1.0
baz=92
Y20A Horse Springs, 92.38 56 ⇓P P 20 50 18.7 +1.0
baz=92
C15A Salmond Ranch, 92.41 42 ⇓P P 20 50 18.2 +0.8
baz=92,SNR=14
X20A Quemado 92.42 55 ⇑P P 20 50 19.2 +1.4
baz=92
O18A Roosevelt 92.47 50 ⇑P P 20 50 19.3 +1.4
baz=93
T19A Beclabito 92.48 53 ⇓P P 20 50 19.4 +1.4
baz=93
W20A Ramah 92.53 55 ⇓P P 20 50 19.7 +1.3
baz=93
B15A Bradely Ranch, 92.57 41 ⇑P P 20 50 18.6 +0.5
baz=93
121A Cookes Peak, D 92.58 57 ⇓P P 20 50 20.1 +1.5
baz=93
F16A Kennard Place, 92.58 44 ⇑P P 20 50 19.5 +1.3
baz=93,SNR=5.7

S19A **Harvey Farm, M** 92.59 52 ⇓P P 20 50 19.8 +1.2
baz=93
H16A **Russell Place,** 92.59 45 ⇓P P 20 50 19.9 +1.5
baz=93
A15A **Johnson Ranch,** 92.63 41 ⇓P P 20 50 19.0 +0.6
baz=93,SNR=5.4
MOOW **Moose Ponds** 92.72 46 *e*P P 20 50 22.4 +3.3
comp=Z,42nm,2.3s
L18A **Fontenelle, Gr** 92.82 48 ⇑P P 20 50 21.9 +2.3
baz=93
D16A **Dana Ranch, Ca** 92.93 43 ⇑P P 20 50 21.1 +1.3
baz=93
X21A **Alamocita Cree** 92.97 56 ⇓P P 20 50 21.7 +1.2
baz=93
Y21A **Point of Rocks** 92.97 56 ⇓P P 20 50 22.0 +1.6
baz=93
C16A **Fuhringer Ranc** 92.98 42 ⇑P P 20 50 20.7 +0.7
baz=93
J18A **Kendall Valley** 93.12 47 ⇑P P 20 50 21.7 +0.8
baz=93
B16A **M & M Farms, S** 93.15 41 ⇑P P 20 50 21.6 +0.9
baz=93
PD01 **Pinedale Array** 93.33 47 *e*P P 20 50 21.6 -0.4
PD02 **Pinedale Array** 93.35 47 *e*P P 20 50 21.5 -0.4
PDAR **Pinedale Array** 93.35 47 P P 20 50 22.4 +0.5
comp=Z,1.8nm,0.9s,baz=236,slow=2.5,SNR=12
PDAR **Pinedale Array** 93.35 47 P P 20 50 22.4 +0.5
L19A **Farson** 93.35 48 ⇓P P 20 50 22.9 +0.9
baz=94
I18A **Diamond G Ranc** 93.37 46 ⇓P P 20 50 23.2 +1.2
baz=94
M19A **Rock Springs** 93.37 48 ⇑P P 20 50 23.0 +0.9
baz=94
Z22A **Elephant Butte** 93.40 57 ⇓P P 20 50 23.1 +0.8
baz=94
U21A **Nageezi** 93.47 54 ⇑P P 20 50 23.8 +1.1
baz=94
Q20A **Ridgley Place,** 93.49 51 ⇓P P 20 50 23.5 +0.9
baz=94
P20A **De Beque** 93.53 51 ⇑P P 20 50 24.1 +1.3
baz=94
D17A **Six Diamond Ra** 93.53 43 ⇑P P 20 50 23.5 +0.9
baz=94
C17A **Wharram Farm,** 93.59 42 ⇑P P 20 50 23.7 +1.0
baz=94
S21A **Coal Bank Pass** 93.61 52 ⇓P P 20 50 24.2 +0.8
baz=94
T21A **Navajo Lake** 93.68 53 ⇑P P 20 50 24.5 +0.9
baz=94
B17A **L&G Farms, Che** 93.71 42 ⇑P P 20 50 24.4 +1.1
baz=94
K19A **Absolon Red Bu** 93.88 47 ⇑P P 20 50 25.5 +1.2
baz=94
F18A **Big Timber** 93.91 44 ⇑P P 20 50 25.6 +1.2
baz=94
E18A **Harlowton** 93.92 43 ⇓P P 20 50 25.7 +1.4
baz=94
ANMO **Albuquerque** 94.14 55 PKKPbc PKKPbc 21 07 28.4 +0.5
comp=Z,0.7nm,0.5s,baz=304,slow=3.9,SNR=4.3
ANMO **Albuquerque** 94.14 55 PKKPbc PKKPbc 21 07 28.4 +0.5
T22A **Edith** 94.18 53 ⇓P P 20 50 27.2 +1.2
baz=94
MK31 **Makanchi Array** 94.27 317 ⇑*i*P P 20 50 26.0 +0.1
MK31 **Makanchi Array** 94.27 317 ⇑*i*P P 20 50 26.0 +0.1
MKAR **Makanchi Array** 94.27 317 P P 20 50 26.1 +0.3
comp=Z,67nm,0.8s,baz=100,slow=6.2,SNR=459
MKAR PKiKP **PKiKP** 20 55 08.6 -0.6
comp=Z,0.7nm,0.7s,baz=244,slow=0.1,SNR=3.9
MKAR PKKPbc **PKKPdf** 21 07 25.2 -1.9
comp=Z,1.1nm,0.7s,baz=283,slow=2.8,SNR=12
MKAR **Makanchi Array** 94.27 317 *e*P P 20 50 25.9 0.0
MKAR **Makanchi Array** 94.27 317 *e*P P 20 50 25.9 0.0
MKAR PKiKP **PKiKP** 20 55 08.6 -0.6
MKAR PKKPbc **PKKPdf** 21 07 25.2 -1.9
ZALV **Zalesovo Beam** 94.27 324 P P 20 50 24.6 -1.0
comp=Z,26nm,0.8s,baz=112,slow=4.6,SNR=126
ZALV PKKPbc **PKKPbc** 21 07 29.1 +1.0
comp=Z,0.5nm,0.5s,baz=308,slow=2.5,SNR=4.2
ZALV **Zalesovo Beam** 94.27 324 P P 20 50 24.7 -1.0
ZALV **Zalesovo Beam** 94.27 324 P P 20 50 24.6 -1.0
ZALV PKKPbc **PKKPbc** 21 07 29.1 +1.0
Y23A **Lovelace Mesa,** 94.28 56 ⇑P P 20 50 27.0 +0.6
baz=94
324A **Moseley Ranch,** 94.29 59 ⇓P P 20 50 27.0 +0.6
baz=94
224A **Cornudas Mount** 94.37 58 ⇑P P 20 50 27.4 +0.6
baz=94
B18A **Beardsley Farm** 94.40 42 ⇓P P 20 50 27.3 +0.8
baz=94
Q22A **Crested Butte,** 94.53 51 ⇑P P 20 50 28.8 +1.2
baz=95
425A **Indio Mountain** 94.58 60 ⇑P P 20 50 29.1 +1.3
baz=95
U23A **El Rito** 94.61 54 ⇑P P 20 50 28.9 +1.0
baz=95
E19A **Rath Farm, Rou** 94.66 44 ⇑P P 20 50 29.1 +1.4
baz=95
325A **Bean Ranch, Si** 94.70 59 ⇑P P 20 50 29.3 +0.9
baz=95
Y24A **Capitan** 94.78 57 ⇑P P 20 50 29.7 +0.9
baz=95
W24A **Lazy 6 Ranch,** 95.04 55 ⇑P P 20 50 30.3 +0.5
baz=95
YKA **Yellowknife Ar** 95.04 27 P P 20 50 27.9 -1.0
comp=Z,1.8nm,0.7s,baz=255,slow=4.7,SNR=29
YKA PKKPbc PKKPdf 21 07 20.5 -5.6
comp=Z,0.7nm,0.8s,baz=67,slow=2.7,SNR=5.0
YKA **Yellowknife Ar** 95.04 27 P P 20 50 27.9 -1.0
YKA **Yellowknife Ar** 95.04 27 P P 20 50 27.9 -1.0
YKA PKKPbc PKKPdf 21 07 20.5 -5.6
O22A **Kremmling** 95.05 50 ⇓P P 20 50 31.1 +1.2
baz=95
A19A **Klindworth Far** 95.18 41 ⇓P P 20 50 30.6 +0.6
baz=95
NVS **Novosibirsk** 95.38 325 ⇑*i*P P 20 50 28.5 -2.1
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,11nm,1.4s
NVS pmax pmax
comp=Z,29nm,1.4s
TXAR **Lajitas Array** 95.45 61 P P 20 50 32.5 +0.7
comp=Z,1.0nm,0.7s,baz=225,slow=5.5,SNR=14
TXAR PKKPbc **PKKPdf** 21 07 24.9 +0.4
comp=Z,0.7nm,0.6s,baz=107,slow=4.2,SNR=9.9
TXAR LR LR 21 30 20.4
comp=Z,170nm,19.1s,baz=5.0,slow=33
TXAR **Lajitas Array** 95.45 61 P P 20 50 32.5 +0.7
TXAR **Lajitas Array** 95.45 61 P P 20 50 32.5 +0.7
TXAR PKKPbc **PKKPdf** 21 07 24.9 +0.4
S24A **Houchin Ranch,** 95.62 53 ⇑P P 20 50 33.3 +0.7
baz=96
T24A **Torres, Weston** 95.65 53 ⇑P P 20 50 33.7 +1.0
baz=96
V25A **Rancho No Teng** 95.78 55 ⇓P P 20 50 34.1 +0.8
baz=96
Z26A **Caprock** 95.86 57 ⇑P P 20 50 33.6 0.0
baz=96
427A **Hayter Ranch,** 95.94 60 ⇓P P 20 50 34.3 +0.3
baz=96
POO **Poona** 95.97 288 *e*P P 20 50 33.5 -0.7
628A **Black Gap, Mar** 96.15 61 ⇑P P 20 50 35.3 +0.5
baz=96
S25A **Robets Cordova** 96.23 53 ⇓P P 20 50 36.0 +0.7
baz=96
A21A **Bergtoll Ranch** 96.37 41 ⇑P P 20 50 36.5 +1.2
baz=96
SNAA **Sanae** 96.75 183 *e* P 20 50 36.7 -0.1
SNAA **Sanae** 96.75 183 *e*P P 20 50 35.9 -0.8
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA **Sanae** 96.75 183 *e*P P 20 50 35.9 -0.8
comp=Z,3.7nm,1.0s
KURK **Kurchatov** 97.38 320 P P 20 50 39.0 -0.8
comp=Z,3.4nm,0.7s,baz=98,slow=3.6,SNR=42
KURK PKiKP **PKiKP** 20 55 13.8 -0.5
comp=Z,0.9nm,0.8s,baz=100,slow=1.7,SNR=6.9
KURK PKKPbc **PKKPbc** 21 07 17.3 -2.3
comp=Z,0.9nm,0.8s,baz=272,slow=3.3,SNR=7.9
KURK **Kurchatov** 97.38 320 *e*P P 20 50 38.2 -1.6
KURK pmax pmax
comp=Z,19nm,1.2s
KURK **Kurchatov** 97.38 320 *e*P P 20 50 38.2 -1.6
comp=Z,19nm,1.2s
KURK PKiKP **PKiKP** 20 55 13.8 -0.5
KURK PKKPbc **PKKPbc** 21 07 17.3 -2.3
VNA3 **Neumayer Olymp** 97.45 181 *e* Pdif 20 50 40.2 +0.3
KSH **Kashi** 97.52 309 *e*P Pdif 20 50 42.7 +1.7
KSH *e*pP pP 20 51 08.7 +1.2
KSH *e*sP sP 20 51 19.3 +1.1
KSH *e*PP **PP** **20 54 43.9 +4.2**
KSH *e*SKS **SKSac** **21 01 09.9 +0.5**
KSH *e*S **S** **21 01 53.3 -4.3**
KSH *e*sS sS 21 02 41.4 -2.2
KSH *e*SS **SS** **21 08 41.7 +2.3**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,130nm,5.5s
KSH LR LR
comp=N,200nm,7.3s
KSH LR LR
comp=E,200nm,5.8s
KSH LR LR
comp=Z,190nm,9.4s
VNA2 **Neumayer--Watz** 97.70 182 *e* Pdif 20 50 41.7 +0.7
TKM2 **Tokmak 2** 98.29 312 P Pdif 20 50 44.5 +0.1
SNR=7.3
TKM2 P Pdif 20 50 44.5 +0.1
SNR=7.3
TKM2 **Tokmak 2** 98.29 312 *i*P Pdif 20 50 44.5 0.0
TKM2 **Tokmak 2** 98.29 312 *e*P **P** **20 50 43.2 -1.2**
comp=Z,5.1nm,0.9s
KBK **Karagaybulak** 98.73 312 P Pdif 20 50 46.6 +0.2
SNR=5.7
KBK P Pdif 20 50 46.6 +0.2
SNR=5.7
CHMS **Chumysh** 98.92 312 P Pdif 20 50 47.1 +0.1
SNR=10.0
CHMS P Pdif 20 50 47.1 +0.1
SNR=10.0
AAK **Ala-Archa** 99.06 312 P **Pdif** **20 50 48.1 +0.3**
SNR=6.2
AAK P **Pdif** **20 50 48.1 +0.3**
SNR=6.2
AAK **Ala-Archa** 99.06 312 *i*P **Pdif** **20 50 48.1 +0.3**
AAK **Ala-Archa** 99.06 312 *e*P **Pdif** **20 50 47.2 -0.6**
comp=Z,25nm,0.9s
USP **Ospenovka** 99.13 312 P **Pdif** **20 50 48.0 0.0**
SNR=7.3
USP P **Pdif** **20 50 48.0 0.0**
SNR=7.3
AML **Almayashu** 99.59 311 P **Pdif** **20 50 50.8 +0.3**
SNR=13
AML P **Pdif** **20 50 50.8 +0.3**
SNR=13
EKS2 **Erkin-Say** 99.59 312 P **Pdif** **20 50 49.7 -0.5**
SNR=5.5
EKS2 P **Pdif** **20 50 49.7 -0.5**
SNR=5.5
EKS2 **Erkin-Say** 99.59 312 *e*P **Pdif** **20 50 48.6 -1.5**
EKS2 pmax pmax
comp=Z,6.0nm,1.0s
EKS2 **Erkin-Say** 99.59 312 *e*Pdif **Pdif** **20 50 48.6 -1.5**
comp=Z,5.5nm,1.0s
FFC **Flin Flon** 100.18 36 *i*P **Pdif** **20 50 52.8 +0.5**
KKAR **Karatay Array** 102.02 312 *e*P **Pdif** **20 50 59.9 -0.9**
KKAR **Karatay Array** 102.02 312 *e*Pn **Pdif** **20 50 59.9 -0.9**
KBL **Kabul** 102.43 303 *e*P **Pdif** **20 51 02.0 -1.1**
KBL **Kabul** 102.43 303 *e*Pdif **Pdif** **20 51 02.0 -1.1**
BVAR **Borovoye Array** 102.68 322 P **Pdif** **20 51 03.0 -0.4**
comp=Z,4.2nm,0.8s,baz=94,slow=5.9,SNR=24
BVAR PKiKP **PKiKP** **20 55 23.4 -0.5**
comp=Z,1.1nm,0.6s,baz=106,slow=3.1,SNR=4.1
BVAR **Borovoye Array** 102.68 322 P **Pdif** **20 51 03.0 -0.4**
BVAR *i* 20 55 23.4
BVAR **Borovoye Array** 102.68 322 P **Pdif** **20 51 03.0 -0.4**
BVAR PKiKP **PKiKP** **20 55 23.4 -0.5**
BRVK **Borovoye** 102.74 322 *c i*P **Pdif** **20 51 02.7 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BRVK **Borovoye** 102.74 322 *e*Pdif **Pdif** **20 51 02.5 -1.2**
ULM **Lac du Bonnet** 103.64 41 PKKPbc PKKPbc 21 07 00.5 -1.1
comp=Z,2.2nm,0.8s,baz=350,slow=6.1,SNR=3.5
ULM **Lac du Bonnet** 103.64 41 PKKPbc PKKPbc 21 07 00.5 -1.1
ARU **Arti** 109.33 326 *e*PKPdf 20 55 33.9
AKTO **Aktyubinsk** 110.47 320 PKiKP **PKiKP** **20 55 38.5 +0.2**
comp=Z,1.3nm,0.6s,baz=66,slow=1.3,SNR=4.0
AKTO **Aktyubinsk** 110.47 320 PKIKP 20 55 38.6
AKTO **Aktyubinsk** 110.47 320 PKiKP **PKiKP** **20 55 38.5 +0.2**
KEV **Kevo** 116.37 345 *e*PKIKP **PKPdf** **20 55 48.3 -0.7**
KEV **Kevo** 116.37 345 *e*p **PKPdf** **20 55 48.3 -0.7**
KEV **Kevo** 116.37 345 *e*p **PKPdf** **20 55 48.3 -0.7**
ARCES **ARCESS Array B** 116.90 346 PKP **PKPdf** **20 55 50.0 -0.1**
comp=Z,13nm,0.7s,baz=77,slow=2.1,SNR=31
ARCES **ARCESS Array B** 116.90 346 PKIKP **PKPdf** **20 55 50.1 -0.1**
ARCES **ARCESS Array B** 116.90 346 PKP **PKPdf** **20 55 50.0 -0.1**
LPAZ **La Paz** 119.41 116 PKP **PKPdf** **20 55 57.0 -0.2**
comp=Z,1.2nm,0.7s,baz=318,slow=3.7,SNR=4.9
LPAZ PKKPbc **PKKPbc** **21 06 10.1 +0.8**
comp=Z,2.3nm,0.8s,baz=40,slow=3.5,SNR=8.9
LPAZ **La Paz** 119.41 116 PKIKP **PKPdf** **20 55 57.0 -0.2**
LPAZ **La Paz** 119.41 116 PKP **PKPdf** **20 55 57.0 -0.2**
LPAZ *e*PKPdf **PKiKP** **20 55 57.5 +0.2**
LPAZ PKKPbc **PKKPbc** **21 06 10.1 +0.8**
JOF **Joensuu** 119.56 338 *e*PKIKP PKPdf 20 55 47.4 -8.0
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF **Joensuu** 119.56 338 *e*p PKPdf 20 55 47.4 -8.0
comp=Z,2.0nm,0.5s
JOF **Joensuu** 119.56 338 *e*p PKPdf 20 55 47.4 -8.0
comp=Z,2.0nm,0.5s
SCHQ **Schefferville** 120.03 32 PKKPbc PKKPbc 21 06 06.0 -1.3
comp=Z,4.9nm,0.9s,baz=186,slow=4.3,SNR=4.2
SCHQ **Schefferville** 120.03 32 PKKPbc PKKPbc 21 06 06.0 -1.3
QRN **Al-Qurain** 120.34 297 *e*P **PKPdf** **20 55 58.5 +0.6**
QRN AMb AMB 20 55 59.2
comp=Z,172nm,1.3s
VRHR **Novokhopersk** 120.39 323 *e*PKIKP **PKPdf** **20 55 57.0 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,0.8s
UMR **Umm Al-Rimmam** 120.47 298 *e*P **PKPdf** **20 55 58.2 0.0**
RDF **Al-Radifah** 120.65 297 *e*P **PKPdf** **20 55 59.2 +0.7**
RDF AMb AMB 20 56 00.2
comp=Z,101nm,1.3s
MOS **Moscow** 120.67 329 *e*P **Pdif** **20 52 25.0 +1.6**
MIB **Mutribah** 120.78 298 *e*P **PKPdf** **20 55 58.8 +0.1**
MIB AMb AMB 20 55 59.9
comp=Z,36nm,1.0s
GNI **Garni** 121.42 310 PKP **PKPdf** **20 55 59.4 -0.5**
comp=Z,7.6nm,0.8s,baz=254,slow=2.5,SNR=5.4
GNI **Garni** 121.42 310 *i* PKIKP **PKPdf** **20 56 00.4 +0.5**
GNI **Garni** 121.42 310 PKP **PKPdf** **20 55 59.5 -0.5**
GNI *e*PKPdf **PKiKP** **20 55 59.7 -0.3**
ZEI **Tsey** 121.44 313 *i* PKIKP **PKPdf** **20 55 59.5 -0.4**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
OBN **Obninsk** 121.50 329 ⇑*i*PKIKP **PKPdf** **20 55 59.2 -0.1**
OBN *e*PS **PS** **21 07 25.9 -0.5**
OBN pmax pmax
comp=Z,28nm,1.2s
VSR **Storozhevoye** 121.78 324 *e*PKIKP **PKPdf** **20 55 59.7 -0.3**
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
PUL **Pulkovo** 121.85 336 ⇑*i*PKIKP **PKPdf** **20 56 00.5 +0.7**
PUL pmax pmax
comp=Z,20nm,0.5s
KAF **Kangasniemi** 121.86 339 *e*PKIKP **PKPdf** **20 55 57.9 -1.9**
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF **Kangasniemi** 121.86 339 *e*p **PKPdf** **20 55 57.9 -1.9**
comp=Z,9.9nm,0.8s,baz=21,slow=4.0,SNR=17
KAF **Kangasniemi** 121.86 339 *e*p **PKPdf** **20 55 57.9 -1.9**
comp=Z,10nm,0.7s
KIV **Kislovodsk** 121.98 315 *e*PKIKP **PKPdf** **20 56 04.5 +3.7**
KIV *e* 20 57 32.4
KIV *e*PS **PS** **21 07 30.5 -1.1**
KIV *e*SS SS 21 14 05.7 -0.8
KIV pmax pmax
comp=Z,7.0nm,1.0s
FINES **FINESS Array B** 122.39 339 PKP **PKPdf** **20 56 00.7 -0.1**
comp=Z,9.9nm,0.8s,baz=21,slow=4.0,SNR=17
FINES **FINESS Array B** 122.39 339 PKIKP **PKPdf** **20 56 00.7 -0.1**
FINES **FINESS Array B** 122.39 339 PKP **PKPdf** **20 56 00.7 -0.1**
CPUP **Villa Florida** 123.26 132 PKKPbc PKKPbc 21 05 53.8 -0.4
comp=Z,0.6nm,0.4s,baz=164,slow=5.9,SNR=4.1
CPUP **Villa Florida** 123.26 132 PKKPbc PKKPbc 21 05 53.8 -0.4
SDV **Santo Domingo** 123.86 87 *e*PKPdf **PKPdf** **20 56 04.8 -0.5**
VSU **Vasula** 124.11 336 *i* PKIKP **PKPdf** **20 56 04.7 +0.5**
BOSA **Boshof** 125.26 222 PKP **PKPdf** **20 56 08.2 +0.6**
comp=Z,9.2nm,0.6s,baz=110,slow=2.8,SNR=29
BOSA **Boshof** 125.26 222 *e*PKIKP **PKPdf** **20 56 07.7 +0.1**
BOSA **Boshof** 125.26 222 *e*PKPdf **PKPdf** **20 56 07.7 +0.1**
BOSA PKP **PKPdf** **20 56 08.2 +0.6**
ANN **Anapa** 125.29 317 *i* PKIKP PKPdf 20 55 57.6 -9.3
ANN pmax pmax
comp=Z,116nm,1.8s
SUR **Sutherland** 125.40 216 *e*PKPdf **PKPdf** **20 56 08.2 +0.3**
IZAR **Zarasai** 126.05 333 ⇓*e*P **PKPdf** **20 56 09.0 +1.0**
IZAR AMB AMB 20 56 10.1
comp=Z,8.8nm,1.0s
ISAL **Salakas** 126.21 333 *e*P **PKPdf** **20 56 09.4 +1.0**
ISAL AMB AMB 20 56 10.3
comp=Z,13nm,0.9s
IIGN **Ignalina** 126.31 333 *e*P **PKPdf** **20 56 09.5 +1.0**
IIGN AMB AMB 20 56 10.6
comp=Z,15nm,1.0s
SAML **Samuel** 126.67 110 *e*PKPdf **PKPdf** **20 56 09.4 -1.1**
NOA **NORSAR Array B** 127.27 345 PKP **PKPdf** **20 56 10.2 -0.1**
comp=Z,8.0nm,0.8s,baz=34,slow=2.0,SNR=21
NOA **NORSAR Array B** 127.27 345 PKIKP **PKPdf** **20 56 10.2 -0.1**
NOA **NORSAR Array B** 127.27 345 PKP **PKPdf** **20 56 10.2 -0.1**
LBTB **Lobatse** 127.33 226 *e*PKIKP **PKPdf** **20 56 12.2 +0.6**
LBTB **Lobatse** 127.33 226 *e*PKPdf **PKPdf** **20 56 12.2 +0.6**
HFS **Hagfors** 127.37 343 PKP **PKPdf** **20 56 10.5 +0.1**
comp=Z,12nm,0.9s,baz=90,slow=1.5,SNR=8.3
HFS **Hagfors** 127.37 343 PKIKP **PKPdf** **20 56 10.5 +0.1**
HFS **Hagfors** 127.37 343 PKP **PKPdf** **20 56 10.5 +0.1**
AKASG **Malin Array Be** 127.57 327 PKP **PKPdf** **20 56 11.0 -0.1**
comp=Z,5.7nm,0.9s,baz=58,slow=1.7,SNR=17
AKASG PP **PP** **20 58 11.7 -1.0**
comp=Z,0.9nm,0.7s,baz=51,slow=9.2,SNR=4.0
AKASG **Malin Array Be** 127.57 327 PKIKP **PKPdf** **20 56 11.0 -0.1**
AKASG 20 58 11.7
AKASG **Malin Array Be** 127.57 327 PKP **PKPdf** **20 56 11.0 -0.1**
AKASG PP **PP** **20 58 11.7 -1.0**
KIEV **Kiev** 127.58 327 *d i* PKIKP **PKPdf** **20 56 11.3 +0.2**
KIEV **Kiev** 127.58 327 *e*PKPdf **PKPdf** **20 56 10.4 -0.7**
KMBO **Kilima Mbogo** 127.96 259 *e*PKIKP **PKPdf** **20 56 14.2 +0.9**
KMBO **Kilima Mbogo** 127.96 259 *e*PKPdf **PKPdf** **20 56 14.2 +0.9**
SUW **Suwalki** 128.52 333 *e*PKP **PKPdf** **20 56 08.7 -4.1**
SUW **Suwalki** 128.52 333 *e*PKIKP **PKPdf** **20 56 08.7 -4.1**
SUW **Suwalki** 128.52 333 *e*PKPdf **PKPdf** **20 56 08.7 -4.1**
ASF **Jabal al Asfar** 129.32 302 PKP **PKPdf** **20 56 15.8 +0.6**
comp=Z,5.0nm,0.8s,baz=326,slow=1.9,SNR=10
ASF **Jabal al Asfar** 129.32 302 PKIKP **PKPdf** **20 56 15.8 +0.6**
ASF **Jabal al Asfar** 129.32 302 PKP **PKPdf** **20 56 15.8 +0.6**
BR131 **Keskin Array S** 129.73 313 *e*PKPdf **PKPdf** **20 56 15.1 -0.7**
BRTR **Keskin Array B** 129.73 313 PKP **PKPdf** **20 56 15.7 -0.1**
comp=Z,2.8nm,0.8s,baz=131,slow=3.8,SNR=13
BRTR PP **PP** **20 58 25.9 -1.7**
comp=Z,2.1nm,1.0s,baz=129,slow=7.0,SNR=4.3
BRTR **Keskin Array B** 129.73 313 PKIKP **PKPdf** **20 56 15.7 -0.1**
BRTR 20 58 25.9
BRTR **Keskin Array B** 129.73 313 PKP **PKPdf** **20 56 15.7 -0.1**
BRTR PP **PP** **20 58 25.9 -1.7**
MMAI **Mount Meron Ar** 130.36 304 PKP **PKPdf** **20 56 19.1 +2.0**
comp=Z,7.3nm,0.8s,baz=75,slow=7.8,SNR=12
MMAI **Mount Meron Ar** 130.36 304 PKP **PKPdf** **20 56 19.1 +2.0**
BEL **Belsk** 131.06 332 *e*PKP **PKPdf** **20 56 19.3 +1.6**
BEL **Belsk** 131.06 332 *e*PKIKP **PKPdf** **20 56 19.3 +1.6**
EIL **Elat** 131.46 300 PKP **PKPdf** **20 56 20.2 +1.0**
comp=Z,11nm,0.8s,baz=319,slow=3.8,SNR=11
EIL **Elat** 131.46 300 PKP **PKPdf** **20 56 20.2 +1.0**
BURAR **Bucovina Array** 131.47 326 ⇓PKIKP **PKPdf** **20 56 20.4 +1.6**
BURAR **Bucovina Array** 131.47 326 ⇓*i*P **PKPdf** **20 56 20.4 +1.6**
MLR **Muntele Rosu** 132.24 323 ⇓PKIKP **PKPdf** **20 56 19.0 -1.3**
MLR **Muntele Rosu** 132.24 323 ⇓*i*P **PKPdf** **20 56 19.0 -1.3**
KOLS **Kolonicke sedl** 132.25 329 *e*PKIKP **PKPdf** **20 56 22.4 +2.3**
KOLS **Kolonicke sedl** 132.25 329 *e*PKP **PKPdf** **20 56 22.4 +2.3**
STHS **Stebnicka Huta** 132.46 330 *e*PKIKP **PKPdf** **20 56 21.2 +0.7**
STHS **Stebnicka Huta** 132.46 330 *e*PKP **PKPdf** **20 56 21.2 +0.7**
TRPA **Tarpa** 132.61 328 ⇑*i*P **PKPdf** **20 56 21.6 +0.9**
OJC **Ojcow** 132.62 331 *e*PKPdf **PKPdf** **20 56 21.3 +0.6**
OJC **Ojcow** 132.62 331 *e*PKIKP **PKPdf** **20 56 21.4 +0.7**
OJC **Ojcow** 132.62 331 *e*PKPdf **PKPdf** **20 56 21.4 +0.7**
CRVS **Cervenica-Dubn** 132.68 329 *e*PKIKP **PKPdf** **20 56 21.5 +0.6**
CRVS **Cervenica-Dubn** 132.68 329 *e*PKP **PKPdf** **20 56 21.5 +0.6**
CRVS *e*SKPDF 20 59 44.0
NIE **Niedzica** 132.91 330 *e*PKPdf **PKPdf** **20 56 22.8 +1.4**
NIE **Niedzica** 132.91 330 *e*PKIKP **PKPdf** **20 56 22.8 +1.4**
OKC **Ostrava-Krasne** 133.65 332 *e*PKIKP **PKPdf** **20 56 22.4 -0.3**
OKC **Ostrava-Krasne** 133.65 332 *e*PKPdf **PKPdf** **20 56 22.4 -0.3**
KSP **Ksiaz** 133.75 334 *e*PKP **PKPdf** **20 56 23.7 +0.9**
KSP **Ksiaz** 133.75 334 *e*PKIKP **PKPdf** **20 56 23.7 +0.9**
MORC **Moravsky Berou** 133.97 332 ⇓PKIKP **PKPdf** **20 56 24.2 +0.8**
MORC **Moravsky Berou** 133.97 332 *e*PKPdf **PKPdf** **20 56 23.6 +0.3**
MORC **Moravsky Berou** 133.97 332 ⇓*i*P **PKPdf** **20 56 24.2 +0.8**
KRLC **Kraliky** 134.10 333 *e*PKPdf **PKPdf** **20 56 23.7 +0.1**
DPC **Dobruska-Polom** 134.10 334 *e*PKIKP **PKPdf** **20 56 24.3 +0.7**
DPC **Dobruska-Polom** 134.10 334 *e*PKPdf **PKPdf** **20 56 24.3 +0.7**
DPC *e*SKP 20 59 49.5
PSZ **Piszkesteto** 134.11 329 ⇑PKIKP **PKPdf** **20 56 25.0 +1.3**
PSZ **Piszkesteto** 134.11 329 ⇑*i*P **PKPdf** **20 56 25.0 +1.3**
UPC **Upice** 134.12 334 *e*PKIKP **PKPdf** **20 56 24.9 +1.3**
UPC **Upice** 134.12 334 *e*PKPdf **PKPdf** **20 56 24.9 +1.3**
VYHS **Vyhne** 134.25 330 *e*PKIKP **PKPdf** **20 56 23.9 0.0**
VYHS **Vyhne** 134.25 330 *e*PKP **PKPdf** **20 56 23.9 0.0**
VYHS *e*SKPDF 20 59 49.5
KOLL **Kolacno** 134.41 330 *e*PKIKP **PKPdf** **20 56 25.3 +1.1**
KOLL **Kolacno** 134.41 330 *e*PKP **PKPdf** **20 56 25.2 +1.1**
BZS **Buzias** 134.65 325 ⇑PKIKP **PKPdf** **20 56 24.7 0.0**
BZS **Buzias** 134.65 325 ⇑*i*P **PKPdf** **20 56 24.7 0.0**
BRG **Berggiesshubel** 134.71 336 *e*PKP PKPpre 20 56 14.0
comp=Z,4.6nm,1.1s
BRG *i* 20 56 25.1
comp=Z,12nm,0.9s
BRG **Berggiesshubel** 134.71 336 *e*PKHKP PKPpre 20 56 14.0
BRG *i* 20 56 25.1
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,0.9s
VRAC **Vranov** 134.74 332 PKP **PKPdf** **20 56 25.3 +0.5**
comp=Z,4.7nm,0.9s,baz=22,slow=2.8,SNR=5.9
VRAC **Vranov** 134.74 332 ⇓PKIKP **PKPdf** **20 56 25.6 +0.8**
VRAC **Vranov** 134.74 332 PKP **PKPdf** **20 56 25.3 +0.5**
VRAC **Vranov** 134.74 332 ⇓*i*P **PKPdf** **20 56 25.6 +0.8**
CLL **Collm** 134.74 337 *i* PKIKP **PKPdf** **20 56 24.9 +0.2**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL **Collm** 134.74 337 *i* PKPdf **PKPdf** **20 56 24.9 +0.2**
comp=Z,11nm,0.9s
CLL *e*SKPdf **SKPab** **20 59 48.0 -1.5**
CLL *e*PKSdf **PKSdf** **20 59 59.0 -1.8**
CLL *e*PSPS 21 17 38.0
PRU **Pruhonice** 135.14 334 *e*PKIKP **PKPdf** **20 56 26.1 +0.6**
PRU **Pruhonice** 135.14 334 *e*PKPdf **PKPdf** **20 56 26.1 +0.6**
TREC **Trest** 135.25 333 *e*PKIKP **PKPdf** **20 56 26.3 +0.6**
TREC **Trest** 135.25 333 *e*PKPdf **PKPdf** **20 56 26.3 +0.6**
VTS **Vitosha** 135.47 321 ⇑PKIKP **PKPdf** **20 56 27.0 +0.5**
VTS **Vitosha** 135.47 321 ⇑*i*P **PKPdf** **20 56 27.0 +0.5**
NKC **Novy Kostel** 135.81 336 *e*PKIKP **PKPdf** **20 56 27.3 +0.6**
NKC **Novy Kostel** 135.81 336 *e*PKPdf **PKPdf** **20 56 27.3 +0.6**
PKSM **Moragy** 135.88 328 ⇓PKIKP **PKPdf** **20 56 27.5 +0.6**
PKSM **Moragy** 135.88 328 ⇓*i*P **PKPdf** **20 56 27.5 +0.6**
CONA **Conrad Observa** 136.07 332 ⇑*i*P **PKPdf** **20 56 27.6 +0.2**
CONA **Conrad Observa** 136.07 332 ⇑*i*PKPdf **PKPdf** **20 56 27.5 +0.2**
comp=Z,7.2nm,0.7s
KHC **Kasperske Hory** 136.20 334 *e*PKHKP PKPpre 20 56 17.0
KHC *e* 20 56 29.5
KHC *e* 20 56 52.5
KHC **Kasperske Hory** 136.20 334 *e*PKPdf **PKPdf** **20 56 29.5 +2.0**
KHC *e*pPKP **pPKPdf** **20 56 52.5 -2.7**
GERES **GERESS Array B** 136.36 334 PKhKP PKPpre 20 56 17.2
comp=Z,0.9nm,0.8s,baz=48,slow=2.0,SNR=7.8
GERES PKP **PKPdf** **20 56 28.4 +0.5**
comp=Z,4.6nm,0.7s,baz=48,slow=2.0,SNR=26
GERES **GERESS Array B** 136.36 334 PKHKP PKPpre 20 56 17.2
GERES 20 56 28.4
GERES **GERESS Array B** 136.36 334 PKPpre PKPpre 20 56 17.2
GERES PKP **PKPdf** **20 56 28.4 +0.5**
SOKA **Soboth** 137.37 331 ⇑*i*P **PKPdf** **20 56 29.7 -0.1**
SOKA **Soboth** 137.37 331 ⇑*i*PKPdf **PKPdf** **20 56 29.7 -0.1**
comp=Z,11nm,1.2s
BEBN **Eben Emael** 137.72 342 PKP **PKPdf** **20 56 30.4 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEM	Membach	137.78	341	PKP	PKPdf	20 56 31.1	+0.7
STU	Stuttgart	138.24	337	ePKIKP	PKPdf	20 56 32.1	+0.8
STU	Stuttgart	138.24	337	ePKPdf	PKPdf	20 56 32.1	+0.8
SNF	Seneffe	138.39	343	PKP	PKPdf	20 56 31.3	-0.2
WLF	Walferdange	138.56	341	PKP	PKPdf	20 56 30.2	-1.6
LANF	Langenberg	138.58	339	PKIKP	PKPdf	20 56 33.4	+1.5
LANF	Langenberg	138.58	339	PKP	PKPdf	20 56 33.4	+1.5
LANF	Langenberg	138.58	339	PKP	PKPdf	20 56 33.4	+1.5
MOTA	Moosalm	138.63	335	⇓iPKIKP	PKPdf	20 56 32.4	+0.2
MOTA	Moosalm	138.63	335	⇓iP	PKPdf	20 56 32.4	+0.2
MOTA	Moosalm	138.63	335	⇓iPKPdf	PKPdf	20 56 32.4	+0.2
	comp=Z,11nm,0.9s						
DOU	Dourbes	138.66	342	PKP	PKPdf	20 56 30.4	-1.6
SPAK	Spaichingen-Ko	138.95	337	PKP	PKPdf	20 56 34.0	+1.3
FETA	Feichten	139.04	335	⇑iP	PKPdf	20 56 33.8	+0.8
FETA	Feichten	139.04	335	⇑iPKiKP	PKPdf	20 56 33.8	+0.8
	comp=Z,16nm,1.0s						
FELD	Feldberg im Sc	139.43	338	PKP	PKPdf	20 56 36.4	+2.7
DAVOX	Davos/Dischmat	139.59	335	PKhKP	PKPpre	20 56 26.4	
	comp=Z,3.3nm,0.6s,baz=219,slow=11,SNR=10						
DAVOX				PKP	PKPdf	20 56 34.9	+0.8
	comp=Z,16nm,0.8s,baz=341,slow=2.4,SNR=20						
DAVOX	Davos/Dischmat	139.59	335	PKHKP	PKPpre	20 56 26.4	
DAVOX						20 56 34.9	
DAVOX	Davos/Dischmat	139.59	335	PKPpre	PKPpre	20 56 26.4	
DAVOX				PKP	PKPdf	20 56 34.9	+0.8
BBS	Basel-Blauen	139.96	338	PKIKP	PKPdf	20 56 36.0	+1.5
BBS	Basel-Blauen	139.96	338	PKP	PKPdf	20 56 36.0	+1.5
TUE	Stuetta	140.05	335	ePKPpre	PKPpre	20 56 26.2	
BNI	Bardonecchia	142.29	336	ePKIKP	PKPpre	20 56 35.1	
BNI	Bardonecchia	142.29	336	ePKPpre	PKPpre	20 56 35.1	
PLDF	La Plantade	142.62	340	PKIKP	PKPdf	20 56 36.3	-3.1
PLDF	La Plantade	142.62	340	PKP	PKPdf	20 56 36.3	-3.1
PLDF	La Plantade	142.62	340	PKP	PKPdf	20 56 36.3	-3.1
SAOF	Saorge	142.81	334	PKHKP	PKPpre	20 56 35.6	
SAOF	Saorge	142.81	334	PKP	PKPpre	20 56 35.6	
SAOF	Saorge	142.81	334	PKP	PKPpre	20 56 35.6	
TOUF	Mont Tournerai	142.91	335	PKHKP	PKPpre	20 56 35.8	
TOUF	Mont Tournerai	142.91	335	PKP	PKPpre	20 56 35.8	
MVIF	Mont Vial	143.05	335	PKHKP	PKPpre	20 56 36.4	
MVIF	Mont Vial	143.05	335	PKP	PKPpre	20 56 36.4	
MVIF	Mont Vial	143.05	335	PKP	PKPpre	20 56 36.4	
LBL	Lubilhac	143.39	340	PKIKP	PKPbc	20 56 39.3	+1.2
LBL	Lubilhac	143.39	340	PKP	PKPbc	20 56 39.3	+1.2
LBL	Lubilhac	143.39	340	PKP	PKPbc	20 56 39.3	+1.2
OSPF	L'Ospedale	143.90	331	PKP	PKPbc	20 56 39.6	-0.2
OSPF	L'Ospedale	143.90	331	PKP	PKPbc	20 56 39.6	-0.2
VSL	Villasalto	145.43	328	ePKPdf	PKPbc	20 56 44.5	0.0
LRDF	Laroque-de-Fa	145.65	339	PKP	PKPab	20 56 45.9	+0.4
LRDF	Laroque-de-Fa	145.65	339	PKP	PKPab	20 56 45.9	+0.4
SJAF	Saint Jean de	145.92	338	PKP	PKPbc	20 56 46.1	+0.2
SJAF	Saint Jean de	145.92	338	PKP	PKPbc	20 56 46.1	+0.2
FILF	Fillols	145.97	338	PKP	PKPab	20 56 46.5	-0.2
FILF	Fillols	145.97	338	PKP	PKPab	20 56 46.6	-0.2
CARF	Carcanieres	146.00	339	PKP	PKPbc	20 56 46.2	-0.1
CARF	Carcanieres	146.00	339	PKP	PKPbc	20 56 46.2	-0.1
MLS	Moulis	146.12	341	PKP	PKPbc	20 56 46.8	+0.3
MLS	Moulis	146.12	341	PKP	PKPbc	20 56 46.8	+0.3
VALF	Valcebollere	146.30	339	PKP	PKPab	20 56 48.0	-0.2
VALF	Valcebollere	146.30	339	PKP	PKPab	20 56 48.0	-0.2
LABF	Labassere	146.37	342	PKP	PKPab	20 56 48.3	0.0
LABF	Labassere	146.37	342	PKP	PKPab	20 56 48.3	0.0
REYF	Montagne du Re	146.49	342	PKP	PKPbc	20 56 47.9	+0.2
REYF	Montagne du Re	146.49	342	PKP	PKPbc	20 56 47.9	+0.2
RESF	Ens	146.50	341	PKP	PKPab	20 56 49.1	+0.2
RESF	Ens	146.50	341	PKP	PKPab	20 56 49.1	+0.2
KEST	Kesra	148.14	323	PKPbc	PKPbc	20 56 53.2	+0.7
	comp=Z,29nm,0.9s,baz=309,slow=0.7,SNR=66						
KEST	Kesra	148.14	323	ePKPdf	PKPdf	20 56 49.8	+0.6
KEST				ePKPbc	PKPbc	20 56 53.1	+0.7
CMAH	Djebel Manchou	148.59	326	P	PKPbc	20 56 53.5	-0.1
CAEH	'Ain El Ouahch	148.78	327	P	PKPbc	20 56 55.0	+1.0
ABSA	Djebel Ababsia	148.82	326	P	PKPbc	20 56 54.3	+0.1
CKFL	Kef-Lekhel	149.14	327	P	PKPbc	20 56 55.7	+0.6
PBRG	Braganca	149.18	350	ePKPbc	PKPbc	20 56 55.3	+0.4
PGAV	Gavieira, Arco	149.26	352	ePKPbc	PKPbc	20 56 55.8	+0.6
CASM	Ain Smara	149.37	327	P	PKPbc	20 56 56.0	+0.5
CTEI	Djebel Teioual	149.56	327	P	PKPbc	20 56 56.7	+0.6
POLO	Lamas de Olo	149.77	351	ePKPbc	PKPbc	20 56 57.3	+0.9
MVO	Moncorvo	149.85	350	ePKPbc	PKPbc	20 56 57.3	+0.7
PVRL	Vila Real	149.86	351	ePKPbc	PKPbc	20 56 57.4	+0.8
SET	Setif	149.98	328	P	PKPbc	20 56 57.0	-0.1
CKHR	Kef el Ahmar	150.06	328	P	PKPbc	20 56 58.0	+0.6
PVIS	Viseu	150.43	351	ePKPbc	PKPbc	20 56 58.6	+0.6
ESDC	Sonseca Array	150.63	345	PKP	PKPdf	20 56 53.6	+0.7
	comp=Z,1.6nm,0.8s,baz=7.2,slow=2.4,SNR=11						
ESDC				PKPbc	PKiKP	20 56 58.9	-0.3
	comp=Z,13nm,0.8s,baz=15,slow=2.5,SNR=66						
ESDC	Sonseca Array	150.63	345	PKP	PKPdf	20 56 53.6	+0.7
ESDC				PKPbc	PKiKP	20 56 58.9	-0.3
ESLA	Sonseca Array	150.63	345	ePKPdf	PKPdf	20 56 53.0	0.0
ESLA				ePKPpre	PKPbc	20 56 58.5	0.0
MTE	Manteigas	150.69	351	ePKPbc	PKPbc	20 56 59.5	+0.9
MTE	Manteigas	150.69	351	ePKPbc	PKPbc	20 56 58.9	+0.2
PAB	San Pablo	150.85	345	ePKIKP	PKPbc	20 56 59.3	+0.3
PAB	San Pablo	150.85	345	ePKPbc	PKPbc	20 56 59.3	+0.3
PCBR	Castelo Branco	151.22	350	ePKPdf	PKPdf	20 56 54.8	+1.0
PCBR	Castelo Branco	151.22	350	ePKPbc	PKPbc	20 57 00.0	+0.2
PTOM	Tomar	151.58	352	ePKPbc	PKPbc	20 57 01.1	+0.5
PMRV	Marv??o	151.61	350	ePKPdf	PKPdf	20 56 55.1	+0.7
PMRV	Marv??o	151.61	350	ePKPbc	PKPbc	20 57 01.3	+0.6
SHEL	Horse Pasture	151.67	196	ePKIKP	PKPbc	20 57 01.8	+0.3
SHEL	Horse Pasture	151.67	196	ePKPbc	PKPbc	20 57 01.8	+0.3
PMTG	Montargil	152.09	351	ePKPbc	PKPbc	20 57 02.1	+0.3
PESTR	Estremoz	152.19	350	ePKPbc	PKPbc	20 57 02.5	+0.5
PESTR	Estremoz	152.19	350	ePKPab	PKPab	20 57 13.1	+1.2
EVO	Evora	152.59	350	ePKPbc	PKPbc	20 57 03.4	+0.5
EVO	Evora	152.59	350	ePKPab	PKPab	20 57 14.8	+1.2
PBAR	Barrancos	152.76	349	ePKPbc	PKPbc	20 57 03.9	+0.6
PBEJ	Beja	153.05	350	ePKPbc	PKPbc	20 57 04.8	+0.8
PBEJ	Beja	153.05	350	ePKPab	PKPab	20 57 17.5	+1.9
PNCL	Nicolau / Gran	153.08	351	ePKPbc	PKPbc	20 57 04.2	+0.2
PCVE	Castro Verde	153.47	350	ePKPbc	PKPbc	20 57 05.7	+0.8
PVAQ	Vaqueiros	153.63	349	ePKPbc	PKPbc	20 57 06.3	+1.1
TAM	Tamanrasset	158.57	304	ePKIKP	PKPdf	20 57 04.7	+0.1
TAM				e		20 57 39.9	
TAM	Tamanrasset	158.57	304	ePKPdf	PKPdf	20 57 04.7	+0.1
TAM				ePKPab	PKPab	20 57 39.9	-0.2
TORD	Torodi Ar. Bea	164.97	278	PKP	PKPdf	20 57 11.2	0.0
	comp=Z,8.3nm,0.9s,baz=0.6,slow=1.6,SNR=40						
TORD				PKPab	PKPab	20 58 08.5	+0.3
	comp=Z,7.7nm,1.0s,baz=83,slow=4.5,SNR=13						
TORD	Torodi Ar. Bea	164.97	278	PKP	PKPdf	20 57 11.2	0.0
TORD				PKPab	PKPab	20 58 08.5	+0.3
DBIC	Dimbokro	170.15	242	PKP	PKPdf	20 57 14.8	0.0
	comp=Z,11nm,1.0s,baz=149,slow=0.7,SNR=9.4						
DBIC				PKPab	PKPab	20 58 31.6	+0.6
	comp=Z,17nm,1.0s,baz=140,slow=4.0,SNR=12						
DBIC	Dimbokro	170.15	242	PKIKP	PKPdf	20 57 14.8	0.0
DBIC						20 58 31.6	
DBIC	Dimbokro	170.15	242	PKP	PKPdf	20 57 14.8	0.0
DBIC				PKPab	PKPab	20 58 31.6	+0.6

MEX 02 20:37:37.3±0.3**, 17°.71N**×**100°.48W, h76**km±10km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.94	264	iP	Pn	20 37 54.0	-1.4
ZIIG				eS	Sn	20 38 07.4	-1.6
PLIG	Platanillo	1.15	54	iP	Pn	20 37 56.9	-1.3
PLIG				eS	Sn	20 38 11.3	-2.5
MMIG	Aquila	2.79	282	iP	Pn	20 38 18.2	-1.6
MMIG				eS	Sn	20 38 50.6	-1.8
EZ5V		3.45	301	iP	Pn	20 38 28.4	-0.7
EZ5V				eS	Sn	20 39 07.4	-1.6
R15V		3.63	294	iP	Pn	20 38 31.2	-0.1
R15V				eS	Sn	20 39 11.6	-1.4

CASC 02 20:42:39.8±1.3**, 13°.86N**×**91°.67W, h2**km±12km**, MD3.5, 1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.45	4	⇑eP	Pb	20 42 49.8	-0.7
FUG	Fuego 3	0.99	54	eP	Pg	20 42 58.0	-1.1
PCG	Pacaya	1.16	63	eS	Sn	20 43 18.3	-1.7
IXG	Ixpaco	1.22	75	eP	Pg	20 43 03.3	-0.1
IXG				eS	Sn	20 43 21.5	+0.1
NBG	Las Nubes	1.47	61	eP	Pn	20 43 07.1	-0.7
RBDL	Robledal	1.94	82	eP	Pn	20 43 13.8	-0.2
RBDL				eS	Sb	20 43 40.5	-0.5
SBLS	San Blas	1.99	90	eP	Pn	20 43 14.3	-0.5
SNJE	San Jose	2.00	90	eP	Pn	20 43 15.0	0.0
SNJE				eS	Sb	20 43 42.0	-0.9
BOQS	Boqueron	2.32	93	eS	Sn	20 43 50.1	+1.3
LFRS	El Faro	2.54	95	eP	Pn	20 43 22.1	-0.3
LFRS				eS	Sn	20 43 54.4	+0.4
SNVI	San Vicente	2.76	95	eS	Sn	20 44 01.0	+1.6

*IDC **02** 21:12:55.3±1.1, 30°.19S×72°.14W, h0km, mb4.0/4, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, ML3.7/4, MS3.2/2, Ms1 3.3/2, ms1mx3.0/19, Error ellipse: s-maj=37.6km s-min=25.4km az=49.0*
*ISCJB **02** 21:12:55.9±1.7, 30°.18S±0°.03×72°.22W±0°.09, h16km±11km, mb4.0/5, Error ellipse: s-maj=12.5km s-min=5.6km az=179.1*
*NEIC **02** 21:12:56.0, 30°.12S×72°.19W, h26km, mb4.2/1, ML4.1(GUC), After GUC.*
*GUC **02** 21:12:56.2±0.9, 30°.13S×72°.20W, h26km±6km, MD4.3, ML4.1*
ISC 02 21:12:58.1±3.1**, 30°.15S**±0°.04×**72°.02W**±0°.07**, h16**km±19km**, n46,** σ**1s.20**/60**, mb4.1**/5**, 4C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.71	70	iP	Px	21 14 22.9	
LSCH				iS	Sx	21 14 34.2	
OVCH	Ovalle	0.84	123	eP	Pb	21 13 13.7	-0.7
OVCH				iS	Sn	21 13 27.0	-0.3
OVCH	Ovalle	0.84	123	eP	Pb	21 13 13.7	-0.7
OVCH				iS	Sn	21 13 27.0	-0.3
OVCH				AML	AML	21 13 31.1	
	comp=N,5μm,0.3s						
TLL	Tololo Astrono	1.05	91	⇓iP	Pb	21 13 18.2	+0.2
TLL				iS	Sn	21 13 34.5	+1.6
TLL	Tololo Astrono	1.05	91	⇓iP	Pb	21 13 18.2	+0.2
TLL				iS	Sn	21 13 34.5	+1.6
TLL				AML	AML	21 13 41.6	
	comp=E,2μm,0.5s						
CMCH	Combarbala	1.34	140	⇓iP	Pn	21 13 21.6	-0.7
CMCH				iS	Sb	21 13 40.5	+0.5
CMCH	Combarbala	1.34	140	⇓iP	Pn	21 13 21.6	-0.7
CMCH				iS	Sb	21 13 40.5	+0.5
CMCH				AML	AML	21 13 49.2	
	comp=E,9μm,0.6s						
LCO	Las Campanas	1.61	46	ePn	Pn	21 13 25.8	-0.4
LCO				eSn	Sn	21 13 47.3	+0.5
LCO	Las Campanas	1.61	46	⇑iP	Pn	21 13 25.7	-0.4
LCO				iS	Sb	21 13 48.1	+0.1
LCO				AML	AML	21 13 59.2	
	comp=N,2μm,0.5s						
CHNG	Los Chungos	1.78	166	⇑iP	Pn	21 13 26.4	-1.7
CHNG				iS	Sn	21 13 50.2	-0.3
CHNG	Los Chungos	1.78	166	⇑iP	Pn	21 13 26.4	-1.7
CHNG				iS	Sn	21 13 50.2	-0.3
CHNG				AML	AML	21 14 01.4	
	comp=E,825nm,0.7s						
ROCH	El Roble	2.94	163	AML	AML	21 14 44.6	
	comp=E,586nm,0.5s						
PEL	Peldehue	3.19	159	AML	AML	21 14 48.0	
	comp=E,955nm,0.6s						
CLCH	Cerro Calan	3.47	159	eP	Pn	21 13 51.2	-0.3
CLCH				iS	Sn	21 14 32.8	+0.4
CLCH				AML	AML	21 14 52.7	
	comp=E,948nm,0.7s						
FCH	Farellones	3.49	156	⇑iP	Pn	21 13 49.7	-2.3
FCH				iS	Sn	21 14 32.0	-1.2
FCH				AML	AML	21 14 56.4	
	comp=E,219nm,0.5s						
CFAA	Coronel Fontan	3.56	115	Pn	Pn	21 13 54.7	+2.0
	comp=E,1.0nm,0.3s,baz=299,slow=12,SNR=35						
CFAA				Sn	Sb	21 14 42.5	-1.1
	comp=E,1.3nm,0.3s,baz=34,slow=19,SNR=8.4						
CFAA	Coronel Fontan	3.56	115	Pn	Pn	21 13 54.7	+2.0
CFAA				Sn	Sb	21 14 42.5	-1.1
LMEL	Las Melosas	4.00	158	iP	Pn	21 13 59.2	+0.4
LMEL				iS	Sn	21 14 46.8	+1.5
LMEL	Las Melosas	4.00	158	iP	Pn	21 13 59.2	+0.4
LMEL				iS	Sn	21 14 46.8	+1.5
LVC	Limon Verde	8.01	21	ePn	Pn	21 14 50.1	-3.9
LVC				eSn	Sn	21 16 20.3	-4.1
PLCA	Paso Flores	10.63	174	Pn	Pn	21 15 28.7	-1.0
	comp=E,0.2nm,0.3s,baz=349,slow=14,SNR=5.3						
PLCA	Paso Flores	10.63	174	ePn	Pn	21 15 28.8	-1.0
TRQA	Tornquist	11.46	136	ePn	Pn	21 15 41.1	0.0
LPAZ	La Paz	14.25	15	Pn	Pn	21 16 21.2	+1.4
	comp=E,0.3nm,0.3s,baz=180,slow=7.8,SNR=16						
LPAZ				LR	LR	21 21 36.1	
	comp=E,70nm,18.2s,baz=42,slow=36						
LPAZ	La Paz	14.25	15	ePn	Pn	21 16 21.3	+1.4
	comp=E,4.3nm,0.8s						
SIV	San Ignacio	17.30	38	P	Pn	21 16 59.5	+0.4
	comp=E,0.2nm,0.3s,baz=240,slow=13,SNR=9.6						
SIV				LR	LR	21 23 14.6	
	comp=E,98nm,20.4s,slow=36						
SIV	San Ignacio	17.30	38	P	Pn	21 16 59.5	+0.4
VNA3	Neumayer Olymp	52.92	159	e	P	21 22 14.6	+1.6
VNA2	Neumayer--Watz	53.56	158	e	P	21 22 19.3	+1.6
	baz=287,slow=8.6						
SNAA	Sanae	55.15	159	e	P	21 22 30.2	+0.9
SNAA	Sanae	55.15	159	eP	P	21 22 30.2	+0.9
	comp=E,2.5nm,0.9s						
CPCT	Cooper Cave	66.31	349	eP	P	21 23 35.1	-10
TXAR	Lajitas Array	66.41	330	P	P	21 23 46.4	-0.1
	comp=E,0.7nm,0.9s,baz=142,slow=6.3,SNR=6.8						
TXAR	Lajitas Array	66.41	330	P	P	21 23 46.4	-0.1
DBIC	Dimbokro	73.96	72	P	P	21 24 32.4	-0.6
	comp=E,1.5nm,0.8s,baz=198,slow=6.8,SNR=4.0						
DBIC	Dimbokro	73.96	72	eP	P	21 24 30.4	-2.7
PDAR	Pinedale Array	80.35	333	P	P	21 25 08.2	-0.3
	comp=E,0.5nm,0.8s,baz=131,slow=4.1,SNR=3.6						
PDAR	Pinedale Array	80.35	333	P	P	21 25 08.2	-0.3
TORD	Torodi Ar. Bea	82.90	70	P	P	21 25 22.3	-0.1
	comp=E,2.5nm,0.7s,baz=257,slow=4.9,SNR=18						
TORD	Torodi Ar. Bea	82.90	70	P	P	21 25 22.3	-0.1
ZALV	Zalesovo Beam	150.91	29	PKPbc	PKPbc	21 32 49.5	0.0
	comp=E,3.3nm,0.7s,baz=306,slow=2.9,SNR=21						
ZALV				PKPab	PKPab	21 32 58.4	+1.6
	comp=E,1.2nm,0.5s,baz=304,slow=3.3,SNR=6.3						
ZALV	Zalesovo Beam	150.91	29	PKPbc	PKPbc	21 32 49.5	0.0
ZALV				PKPab	PKPab	21 32 58.4	+1.6
MKAR	Makanchi Array	154.08	43	PKPbc	PKPbc	21 32 56.7	-0.1
	comp=E,0.1nm,0.4s,baz=357,slow=3.2,SNR=2.5						
MKAR	Makanchi Array	154.08	43	PKPbc	PKPbc	21 32 56.7	-0.1
SONM	Songino Array	162.30	4	PKPab	PKPab	21 33 45.2	-0.8
	comp=E,0.6nm,0.9s,baz=356,slow=2.1,SNR=3.6						
SONM	Songino Array	162.30	4	PKPab	PKPab	21 33 45.2	-0.8

IDC 02 21:53:17.2±4.5**, 6°.89S**×**155°.12E, h0**km**, mb3.5**/5**, mb1 3.6**/5**, mb1mx3.4**/16**, mbtmp3.5**/5**, Error ellipse: s-maj=133.1km s-min=35.8km az=118.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.98	235	P	P	21 58 34.1	+0.5
	0.3nm,0.5s,baz=60,slow=9.8,SNR=3.3						
SONM	Songino Array	69.31	327	P	P	22 04 28.3	+1.6
	0.3nm,0.8s,baz=116,slow=5.4,SNR=3.0						
MKAR	Makanchi Array	83.41	319	P	P	22 05 46.5	-0.1
	1.0nm,0.8s,baz=102,slow=6.4,SNR=7.8						
ZALV	Zalesovo Beam	84.16	326	P	P	22 05 48.7	-1.5
	0.5nm,0.5s,baz=123,slow=5.2,SNR=4.4						
KURK	Kurchatov	86.83	322	P	P	22 06 02.8	-0.8
	0.1nm,0.4s,baz=83,slow=7.6,SNR=3.1						

*ISCJB **02** 21:56:38.8±1.5, 36°.5N±0°.1×70°.0E±0°.2, h213km, mb2.7/1, Error ellipse: s-maj=30.6km s-min=7.9km az=151.1*
*IDC **02** 21:56:41.3±18.0, 36°.67N×70°.10E, h197km±136km, mb3.0/2, mb1 2.9/6, mb1mx2.7/29, mbtmp2.9/6, MS3.3/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=154.5km s-min=44.2km az=14.0*
ISC 02 21:56:39.9±2.3**, 36°.5N**±0°.2×**70°.0E**±0°.3**, h213**km**, n16,** σ**1s.05**/15**, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.58	3	⇓P	Pn	21 58 14.6	-0.2
	0.8nm,0.3s,baz=176,slow=14,SNR=51						
KK31				⇑S		21 59 25.0	
	8.4nm,0.7s,baz=178,slow=17						
MKAR	Makanchi Array	13.75	38	P	P	21 59 46.8	-1.3
	0.3nm,0.3s,baz=212,slow=13,SNR=22						
GKN	Gorkha	15.00	120	eP	Pn	22 00 01.4	-0.5
	6.1nm,0.5s						
KURK	Kurchatov	15.48	21	P	P	22 00 04.8	-2.2
	0.1nm,0.3s,baz=210,slow=11,SNR=9.6						
DMN	Daman	15.57	121	eP	P	22 00 07.8	-0.8
	2.5nm,0.3s						
KKN	Kakani	15.58	120	eP	P	22 00 08.2	-0.5
	11nm,0.5s						
PKI	Pulchoki	15.81	120	eP	P	22 00 11.3	0.0
	4.5nm,0.4s						
GUN	Gumba	15.93	118	eP	P	22 00 13.2	+0.5
	4.9nm,0.4s						
JIRN	Jiri	16.30	118	eP	P	22 00 16.9	+0.1
	10nm,0.5s						
AKTO	Aktyubinsk	16.37	332	P	Pn	22 00 18.1	+0.2
	0.2nm,0.3s,baz=137,slow=10,SNR=5.2						
BVAR	Borovoye Array	16.50	1	P	Pn	22 00 20.3	+0.8
	0.2nm,0.3s,baz=158,slow=9.8,SNR=6.4						
TAPN	Taplejung	17.57	116	eP	P	22 00 31.9	+1.3
	3.0nm,0.4s						
ODAN	Odare	17.64	118	eP	Pn	22 00 32.9	-0.4
	7.1nm,0.6s						
ZALV	Zalesovo Beam	20.24	26	P	P	22 00 59.0	+0.3
	2.5nm,0.5s,baz=217,slow=11,SNR=16						
SONM	Songino Array	28.98	56	P	P	22 02 21.4	+1.6
	0.1nm,0.5s,baz=262,slow=8.3,SNR=3.9						
CMAR	Chiang Mai Arr	31.18	117	LR	LR	22 18 28.9	
	comp=Z,50nm,20.3s,baz=105,slow=42						

*DDA **02** 22:09:34.9, 38°.41N×39°.09E, h17km, MD2.9*
*ISK **02** 22:09:35.2, 38°.44N×39°.06E, h9km, MD2.8*
*CSEM **02** 22:09:35.5±0.3, 38°.44N×39°.07E, h1km, MD2.9, Error ellipse: s-maj=5.5km s-min=5.1km az=144.0, Mining explosion.*
*ISCJB **02** 22:09:35.3±0.4, 38°.41N±0°.03×39°.08E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=3.1km az=13.5*
ISC 02 22:09:35.1±0.8**, 38°.43N**±0°.03×**39°.09E**±0°.02**, h0**km**, n28,** σ**0s.97**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.11	313	iP	Pg	22 09 38.7	+1.5
ELZG				iS	Sg	22 09 40.7	+2.1
ELZG	Elazig	0.11	313	iP	Pg	22 09 38.7	+1.5
ELZG				iS	Sg	22 09 40.7	+2.1
PTK	Pertek	0.53	27	ePG	Pg	22 09 45.4	+0.2
PTK				eSG	Sb	22 09 54.2	-1.4
PTK	Pertek	0.53	27	ePg	Pg	22 09 45.4	+0.2
PTK				eSg	Sb	22 09 54.2	-1.4
MYA	Malataya	0.53	259	ePG	Pg	22 09 45.7	+0.5
MYA				eSG	Sg	22 09 53.5	+1.4
MYA	Malataya	0.53	259	ePg	Pg	22 09 45.7	+0.5
MYA				eSg	Sg	22 09 53.5	+1.4
MALT	Malatya	0.53	258	ePG	Pg	22 09 45.5	+0.2
MALT	Malatya	0.53	258	ePg	Pg	22 09 45.5	+0.2
AKCD	Akcadag	0.92	262	iP	Pg	22 09 52.8	0.0
AKCD				iS	Sb	22 10 05.7	-1.3
AKCD	Akcadag	0.92	262	iP	Pg	22 09 52.8	0.0
AKCD				iS	Sb	22 10 05.7	-1.3
DIYA	Diyarbakir	0.96	121	iP	Pb	22 09 54.4	-0.3
DIYA				iS	Sb	22 10 07.4	-0.5
DIYA	Diyarbakir	0.96	121	iP	Pb	22 09 54.4	-0.3
DIYA				iS	Sb	22 10 07.4	-0.5
KEMA	Kemaliye	0.96	331	iP	Pb	22 09 53.8	-0.9
KEMA				iS	Sb	22 10 07.0	-1.0
KEMA	Kemaliye	0.96	331	iP	Pb	22 09 53.8	-0.9
KEMA				iS	Sb	22 10 07.0	-1.0
URFA	Urfa	1.00	192	ePG	Pb	22 09 55.5	+0.1
URFA	Urfa	1.00	192	ePg	Pb	22 09 55.5	+0.1
ILIC	ilic-Erzincan	1.10	339	ePN	Pg	22 09 55.9	-0.4
ILIC	ilic-Erzincan	1.10	339	ePn	Pg	22 09 55.9	-0.4
BINT	Bingol	1.19	67	ePn	Pn	22 10 01.0	+1.9
BNGB	Bingˆ¶l	1.37	65	ePN	Pg	22 10 01.0	-0.4
GZT	Gaziantep	1.61	229	iP	Pg	22 10 06.6	+0.7
GZT				iS	Sn	22 10 25.3	-1.2
MARD	Mardin	1.74	129	iP	Pn	22 10 06.9	+0.2
MARD				iS	Sn	22 10 28.6	-1.1
BEST	Besiri	1.80	107	iP	Pn	22 10 08.2	+0.6
BEST				iS	Sn	22 10 31.7	+0.5
GAZ	Gaziantep	1.94	230	ePN	Pn	22 10 09.4	0.0
GAZ	Gaziantep	1.94	230	ePn	Pn	22 10 09.4	0.0
KMRS	Kahramanmaras	1.96	243	ePN	Pn	22 10 09.5	-0.1
KMRS	Kahramanmaras	1.96	243	ePn	Pn	22 10 09.5	-0.1
KUZU	Kuzuini	2.29	225	iP	Pg	22 10 20.1	+1.0
KUZU				iS	Sg	22 10 47.9	-0.9

*IDC **02** 22:21:13.9±0.9, 28°.35S×67°.99W, h0km, mb4.5/3, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML3.9/3, MS3.0/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=33.5km s-min=23.4km az=130.0*
*ISCJB **02** 22:21:17.2±2.1, 28°.37S±0°.04×67°.58W±0°.04, h24km±18km, mb4.4/3, Error ellipse: s-maj=7.7km s-min=6.2km az=160.1*
*GUC **02** 22:21:18.7±0.5, 28°.38S×67°.92W, h0km±8km, ML4.1*
*NEIC **02** 22:21:20.5±0.7, 28°.32S×67°.68W, h42km±8km, MG4.1(GUC), Error ellipse: s-maj=9.7km s-min=8.1km az=109.0*
NEIC Felt [IV] at Tinogasta.
ISC 02 22:21:20.3±1.1**, 28°.34S**±0°.05×**67°.64W**±0°.07**, h37**km±1km**, n39,** σ**1s.19**/55**, mb4.4**/3**, 2C-3D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	2.59	291	⇓iP	Pn	22 22 00.1	+0.3
CPCH				eS	Sn	22 22 31.2	+1.3
CPCH	Copiapo	2.59	291	⇓iP	Pn	22 22 00.1	+0.3
CPCH				eS	Sn	22 22 31.2	+1.3
CPCH				AML	AML	22 22 32.6	
	comp=N,3μm,0.1s						
LCO	Las Campanas	2.77	255	ePn	Pn	22 22 01.2	-1.3
LCO				eSn	Sn	22 22 33.7	-1.1
LCO	Las Campanas	2.77	255	⇓iP	Pn	22 22 02.1	-0.3
LCO				iS	Sn	22 22 35.5	+0.7
LCO				AML	AML	22 22 40.6	
	comp=E,707nm,0.5s						
CDCH	Caldera	3.09	293	eP	Pn	22 22 06.6	+0.1
CDCH				iS	Sn	22 22 43.8	+1.6
CDCH	Caldera	3.09	293	eP	Pn	22 22 06.6	+0.1
CDCH				iS	Sn	22 22 43.8	+1.6
CDCH				AML	AML	22 22 48.0	
	comp=N,411nm,0.3s						
CFAA	Coronel Fontan	3.30	189	Pn	Pn	22 22 11.7	+2.2
	comp=N,3.1nm,0.3s,baz=356,slow=14,SNR=157						
CFAA				Sn	Sn	22 22 54.2	+6.7
	comp=N,25nm,0.3s,baz=87,slow=18,SNR=11						
CFAA	Coronel Fontan	3.30	189	Pn	Pn	22 22 11.7	+2.2
CFAA				Sn	Sn	22 22 54.2	+6.7
TLL	Tololo Astrono	3.31	236	eP	Pn	22 22 10.4	+0.5
TLL				iS	Sn	22 22 49.8	+1.7
TLL	Tololo Astrono	3.31	236	eP	Pn	22 22 10.4	+0.5
TLL				iS	Sn	22 22 49.8	+1.7
TLL				AML	AML	22 23 00.3	
	comp=N,609nm,0.4s						
CMCH	Combarbala	4.07	225	eP	Pn	22 22 20.7	+0.6
CMCH				iS	Sn	22 23 07.7	+1.3
CMCH	Combarbala	4.07	225	eP	Pn	22 22 20.7	+0.6
CMCH				eP	Pn	22 22 20.7	+0.6
CMCH				iS	Sn	22 23 07.7	+1.3
CMCH				iS	Sn	22 23 07.7	+1.3
CHNG	Los Chungos	4.87	222	⇑iP	Pn	22 22 30.3	-0.7
CHNG				eS	Sn	22 23 25.4	-0.6
CHNG	Los Chungos	4.87	222	⇑iP	Pn	22 22 30.3	-0.7
CHNG				eS	Sn	22 23 25.4	-0.6
LVC	Limon Verde	5.81	348	ePn	Pn	22 22 45.3	+1.1
LVC				eLg	Lg	22 24 24.8	
CPUP	Villa Florida	9.38	80	Pn	Pn	22 23 33.5	+0.5
	comp=N,2.2nm,0.3s,baz=246,slow=12,SNR=13						
CPUP				Lg	Lg	22 26 24.1	
	comp=N,8.1nm,0.3s,baz=161,slow=18,SNR=5.4						
CPUP	Villa Florida	9.38	80	Pn	Pn	22 23 33.5	+0.5
CPUP				Lg	Lg	22 26 24.1	
TRQA	Tornquist	10.79	155	ePn	Pn	22 23 52.9	+0.7
TRQA				eSn	Sn	22 25 49.4	-2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ	**La Paz**	**12.00**	**358**	LR	LR	22 28 46.5	
	comp=N,56nm,20.9s,baz=41,slow=38						
PLCA	**Paso Flores**	**12.60**	**190**	Pn	**Pn**	**22 24 15.8**	**-1.2**
	comp=N,0.1nm,0.3s,baz=67,slow=4.8,SNR=3.3						
PLCA				Lg	Lg	22 27 49.7	
	comp=N,0.2nm,0.3s,baz=168,slow=20,SNR=2.8						
PLCA				LR	LR	22 29 15.1	
	comp=N,92nm,18.2s,baz=306,slow=38						
PLCA	**Paso Flores**	**12.60**	**190**	Pn	**Pn**	**22 24 15.8**	**-1.2**
PLCA				Lg	Lg	22 27 49.7	
SIV	**San Ignacio**	**13.70**	**28**	Pn	**Pn**	**22 24 30.3**	**-1.9**
	comp=N,0.1nm,0.3s,baz=243,slow=18,SNR=2.5						
SIV	**San Ignacio**	**13.70**	**28**	Pn	**Pn**	**22 24 30.3**	**-1.9**
DBIC	**Dimbokro**	**69.76**	**70**	P	**P**	**22 32 27.4**	**+0.3**
	comp=N,4.7nm,1.1s,baz=212,slow=9.5,SNR=5.0						
DBIC	**Dimbokro**	**69.76**	**70**	P	**P**	**22 32 27.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**78.68**	**68**	P	**P**	**22 33 19.8**	**+0.7**
	comp=N,6.3nm,0.8s,baz=271,slow=6.0,SNR=40						
TORD	**Torodi Ar. Bea**	**78.68**	**68**	P	**P**	**22 33 19.8**	**+0.7**
BOSA	**Boshof**	**79.29**	**117**	P	**P**	**22 33 23.9**	**+1.4**
	comp=N,2.9nm,0.8s,baz=223,slow=6.4,SNR=5.6						
BOSA	**Boshof**	**79.29**	**117**	P	**P**	**22 33 23.9**	**+1.4**
ASAR	**Alice Springs**	**124.28**	**204**	PKP	**PKPdf**	**22 40 13.9**	**-1.9**
	comp=N,0.4nm,0.9s,baz=161,slow=3.9,SNR=3.0						
ASAR	**Alice Springs**	**124.28**	**204**	PKP	**PKPdf**	**22 40 13.9**	**-1.9**
WRA	**Warramunga Arr**	**127.51**	**206**	PKP	**PKPdf**	**22 40 20.4**	**-1.7**
	comp=N,0.6nm,0.8s,baz=162,slow=1.7,SNR=5.7						
WRA	**Warramunga Arr**	**127.51**	**206**	PKP	**PKPdf**	**22 40 20.4**	**-1.7**
ZALV	**Zalesovo Beam**	**147.44**	**31**	PKPbc	**PKPbc**	**22 40 59.6**	**-0.2**
	comp=N,2.4nm,0.4s,baz=301,slow=3.4,SNR=26						
ZALV	**Zalesovo Beam**	**147.44**	**31**	PKPbc	**PKPbc**	**22 40 59.6**	**-0.2**
MKAR	**Makanchi Array**	**150.14**	**44**	PKPbc	**PKPbc**	**22 41 07.2**	**+0.2**
	comp=N,1.8nm,0.7s,baz=315,slow=2.5,SNR=19						
MKAR				PKPab	**PKPab**	**22 41 13.6**	**+0.5**
	comp=N,2.8nm,0.8s,baz=312,slow=3.3,SNR=17						
MKAR	**Makanchi Array**	**150.14**	**44**	PKPbc	**PKPbc**	**22 41 07.2**	**+0.2**
MKAR				PKPab	**PKPab**	**22 41 13.6**	**+0.5**
SONM	**Songino Array**	**159.99**	**12**	PKPab	**PKPab**	**22 41 54.8**	**-0.2**
	comp=N,0.4nm,0.6s,baz=352,slow=3.3,SNR=3.3						
SONM	**Songino Array**	**159.99**	**12**	PKPab	**PKPab**	**22 41 54.8**	**-0.2**

MEX 02 22:33:17.9±0.4**, 15°.61N×93°.52W, h66**km±8km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.30**	**72**	*i* P	Pn	22 33 27.3	-1.4
PCIG				*e*S	Sn	22 33 35.3	-1.3
TGIG		**1.22**	**18**	*i* P	Pn	22 33 37.9	-1.3
TGIG				*e*S	Sn	22 33 52.5	-2.6
THIG		**1.40**	**120**	*i* P	Pn	22 33 40.0	-1.4
THIG				*e*S	Sn	22 33 56.9	-2.1
CCIG	**Comitan**	**1.49**	**63**	*i* P	Pn	22 33 40.7	-2.2
CCIG				*e*S	Sn	22 33 59.2	-2.4
CMIG	**Matias Romero**	**1.97**	**319**	*i* P	Pn	22 33 47.8	-1.3
CMIG				*e*S	Sn	22 34 10.1	-2.7

*IDC **02** 22:43:49.9±1.4, 44°.47N×10°.73E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.3/26, mbtmp3.2/6, ML3.2/4, Error ellipse: s-maj=21.4km s-min=12.2km az=120.0*
*GEN **02** 22:43:52.8, 44°.50N×10°.43E, h25km, ML2.7*
*ROM **02** 22:43:53.3±0.1, 44°.51N×10°.36E, h24km±2km, Ml2.9/33, Error ellipse: s-maj=2.8km s-min=1.8km az=83.0*
*ISCJB **02** 22:43:53.3±0.2, 44°.54N±0°.02×10°.36E±0°.02, h29km±2km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.3km az=168.0*
*CSEM **02** 22:43:53.4±0.1, 44°.53N×10°.39E, h20km, ML3.2/17, Error ellipse: s-maj=2.5km s-min=2.1km az=13.0*
*LDG **02** 22:43:54.3±0.1, 44°.60N×10°.52E, h20km, Ml3.1/26, Error ellipse: s-maj=3.6km s-min=2.4km az=25.0*
*PRU **02** 22:43:56.1, 44°.56N×10°.63E, h33km*

ISC 02 22:43:53.3±0.8**, 44°.52N**±0°.02×**10°.40E**±0°.02**, h24**km±4km**, n201, σ1°.42**/275**, 4C-3D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.10**	**173**	Pg	**Pb**	**22 43 57.6**	**-0.4**
ERBM				Sg	**Sb**	**22 44 01.7**	**+0.6**
	8μm,0.3s						
ERBM	**Eremo**	**0.10**	**173**	Pg	**Pb**	**22 43 57.6**	**-0.4**
ERBM				Sg	**Sb**	**22 44 01.7**	**+0.6**
	8μm,0.3s						
GSCL	**Gusciola**	**0.22**	**141**	Pg	**Pb**	**22 43 58.4**	**-0.8**
GSCL	**Gusciola**	**0.22**	**141**	Pg	**Pb**	**22 43 58.4**	**-0.8**
GRAM	**Graiana**	**0.24**	**263**	P	**Pb**	**22 43 59.1**	**-0.3**
PRMA	**PARMA**	**0.25**	**346**	Pg	**Pb**	**22 43 59.2**	**-0.3**
PRMA				Sg	**Sb**	**22 44 05.1**	**+1.4**
	2μm,0.5s						
PRMA	**PARMA**	**0.25**	**346**	Pg	**Pb**	**22 43 59.2**	**-0.3**
PRMA				Sg	**Sb**	**22 44 05.1**	**+1.4**
	2μm,0.5s						
NOVE	**Novellara**	**0.36**	**40**	Pg	**Pb**	**22 44 00.1**	**-1.0**
NOVE				Sg	**Sb**	**22 44 08.1**	**+1.7**
	3μm,0.4s						
NOVE	**Novellara**	**0.36**	**40**	Pg	**Pb**	**22 44 00.1**	**-1.0**
NOVE				Sg	**Sb**	**22 44 08.1**	**+1.7**
	3μm,0.4s						
CODM	**Codolo**	**0.41**	**252**	P	**Pb**	**22 44 01.5**	**-0.5**
CODM				S	**Sb**	**22 44 07.7**	**-0.3**
ZCCA	**Zocca**	**0.45**	**112**	Pg	**Pb**	**22 44 02.9**	**+0.2**
	446nm,0.7s						
ZCCA	**Zocca**	**0.45**	**112**	Pg	**Pb**	**22 44 02.9**	**+0.2**
	446nm,0.7s						
BDI	**Bagni Di Lucca**	**0.48**	**163**	Pg	**Pb**	**22 44 01.9**	**-1.3**
BDI				Sg	**Sb**	**22 44 10.6**	**+0.7**
	920nm,0.3s						
BDI	**Bagni Di Lucca**	**0.48**	**163**	Pg	**Pb**	**22 44 01.9**	**-1.3**
BDI				Sg	**Sb**	**22 44 10.6**	**+0.7**
	920nm,0.3s						
CRDM	**Cardoso**	**0.50**	**173**	P	**Pb**	**22 44 02.3**	**-1.2**
CRDM				S	**Sb**	**22 44 08.8**	**-1.6**
RAVA	**Ravarino**	**0.57**	**65**	Pg	**Pn**	**22 44 05.1**	**-0.8**
RAVA				Sg	**Sn**	**22 44 15.3**	**+0.9**
	2μm,0.5s						
RAVA	**Ravarino**	**0.57**	**65**	Pg	**Pn**	**22 44 05.1**	**-0.8**
MAIM	**Mastiano**	**0.61**	**174**	Pg	**Pb**	**22 44 05.0**	**-0.4**
MAIM				Sg	**Sb**	**22 44 14.9**	**+1.3**
	326nm,0.8s						
MAIM	**Mastiano**	**0.61**	**174**	P	**Pb**	**22 44 04.4**	**-1.0**
MAIM	**Mastiano**	**0.61**	**174**	Pg	**Pb**	**22 44 05.0**	**-0.4**
MAIM				S	**Sb**	**22 44 12.1**	**-1.5**
MAIM				Sg	**Sb**	**22 44 14.9**	**+1.3**
	326nm,0.8s						
SC2M	**Scurtabo**	**0.63**	**259**	Pg	**Pb**	**22 44 05.6**	**-0.1**
	545nm,0.4s						
SC2M	**Scurtabo**	**0.63**	**259**	P	**Pb**	**22 44 05.2**	**-0.5**
SC2M	**Scurtabo**	**0.63**	**259**	Pg	**Pb**	**22 44 05.6**	**-0.1**
	545nm,0.4s						
SC2M				S	**Sb**	**22 44 13.8**	**-0.3**
FNVD	**Fontana Vidola**	**0.63**	**124**	Pg	**Pb**	**22 44 05.7**	**0.0**
FNVD	**Fontana Vidola**	**0.63**	**124**	Pg	**Pb**	**22 44 05.7**	**0.0**
SBPO	**S.Benedetto Po**	**0.65**	**35**	Pg	**Pn**	**22 44 06.3**	**-0.7**
SBPO				Sg	**Sn**	**22 44 17.7**	**+1.3**
	709nm,0.2s						
SBPO	**S.Benedetto Po**	**0.65**	**35**	Pg	**Pn**	**22 44 06.3**	**-0.7**
BOB	**Bobbio (Coli)**	**0.72**	**290**	Pg	**Pb**	**22 44 08.2**	**+1.0**
	273nm,0.6s						
BOB	**Bobbio (Coli)**	**0.72**	**290**	Pg	**Pb**	**22 44 08.2**	**+1.0**
	273nm,0.6s						
MTRZ	**Monterenzio**	**0.78**	**100**	Pg	**Pn**	**22 44 10.2**	**+1.3**
	439nm,0.5s						
MTRZ	**Monterenzio**	**0.78**	**100**	Pg	**Pn**	**22 44 10.2**	**+1.3**
	439nm,0.5s						
FIU	**Minerbio Fiu**	**0.79**	**81**	Pg	**Pn**	**22 44 09.4**	**+0.5**
	3μm,0.6s						
FIU	**Minerbio Fiu**	**0.79**	**81**	Pg	**Pn**	**22 44 09.4**	**+0.5**
	3μm,0.6s						
SEI	**Scarperia**	**0.83**	**124**	Pg	**Pb**	**22 44 09.7**	**+0.6**
	358nm,0.3s						
SEI	**Scarperia**	**0.83**	**124**	Pg	**Pb**	**22 44 09.7**	**+0.6**
	358nm,0.3s						
CRMI	**Carmignano**	**0.84**	**150**	Pg	**Pn**	**22 44 09.4**	**-0.3**
	177nm,0.7s						
CRMI	**Carmignano**	**0.84**	**150**	Pg	**Pn**	**22 44 09.4**	**-0.3**
	177nm,0.7s						
VMG	**Vicchio**	**1.00**	**124**	Pg	**Pb**	**22 44 12.4**	**+0.5**
	106nm,0.4s						
VMG	**Vicchio**	**1.00**	**124**	Pg	**Pb**	**22 44 12.4**	**+0.5**
	106nm,0.4s						
CMPO	**Campotto Po**	**1.01**	**86**	Pg	**Pb**	**22 44 13.3**	**+1.2**
	576nm,0.7s						
CMPO	**Campotto Po**	**1.01**	**86**	Pg	**Pb**	**22 44 13.3**	**+1.2**
	576nm,0.7s						
SALO	**Salr**	**1.10**	**5**	Pg	**Pn**	**22 44 13.3**	**0.0**
SALO				Sg	**Sb**	**22 44 29.7**	**+2.1**
	1μm,0.2s						
SALO	**Salr**	**1.10**	**5**	Pg	**Pn**	**22 44 13.3**	**0.0**
SALO				Sg	**Sb**	**22 44 29.7**	**+2.1**
	1μm,0.2s						
GROG	**Isola di Gorgo**	**1.16**	**199**	Pg	**Pn**	**22 44 14.0**	**0.0**
	120nm,0.8s						
GROG	**Isola di Gorgo**	**1.16**	**199**	Pg	**Pn**	**22 44 14.0**	**0.0**
	120nm,0.8s						
SFI	**Santa Sofia**	**1.21**	**120**	Pg	**Pb**	**22 44 16.6**	**+1.0**
	139nm,1.1s						
SFI	**Santa Sofia**	**1.21**	**120**	Pg	**Pb**	**22 44 16.6**	**+1.0**
	139nm,1.1s						
ROVR	**Roverˆ¤ Verone**	**1.22**	**23**	Pg	**Pn**	**22 44 14.6**	**-0.4**
ROVR				Sg	**Sb**	**22 44 31.9**	**+0.7**
	2μm,0.3s						
ROVR	**Roverˆ¤ Verone**	**1.22**	**23**	Pg	**Pn**	**22 44 14.6**	**-0.4**
ROVR				Sg	**Sb**	**22 44 31.9**	**+0.7**
	2μm,0.3s						
CSNT	**Castellina Chi**	**1.23**	**148**	Pg	**Pn**	**22 44 15.1**	**0.0**
	88nm,0.5s						
CSNT	**Castellina Chi**	**1.23**	**148**	Pg	**Pn**	**22 44 15.1**	**0.0**
	88nm,0.5s						
ASQU	**Asqua**	**1.24**	**125**	Pg	**Pb**	**22 44 17.0**	**+1.0**
	58nm,0.4s						
ASQU	**Asqua**	**1.24**	**125**	Pg	**Pb**	**22 44 17.0**	**+1.0**
	58nm,0.4s						
MDI	**Monti di Nese**	**1.34**	**339**	Pg	**Pn**	**22 44 16.9**	**+0.2**
MDI				Sg	**Sb**	**22 44 35.0**	**+0.3**
	262nm,0.3s						
MDI	**Monti di Nese**	**1.34**	**339**	Pg	**Pn**	**22 44 16.9**	**+0.2**
MDI				Sg	**Sb**	**22 44 35.0**	**+0.3**
	262nm,0.3s						
MABI	**Malga Bissina**	**1.54**	**3**	Pg	**Pn**	**22 44 19.4**	**0.0**
	169nm,0.3s						
MABI	**Malga Bissina**	**1.54**	**3**	Pg	**Pn**	**22 44 19.4**	**0.0**
	169nm,0.3s						
PARC	**Parchiule**	**1.59**	**123**	Pg	**Pb**	**22 44 22.1**	**+0.1**
	47nm,0.6s						
PARC	**Parchiule**	**1.59**	**123**	Pg	**Pb**	**22 44 22.1**	**+0.1**
	47nm,0.6s						
RSM	**Repubblica di**	**1.59**	**111**	Pg	**Pb**	**22 44 22.6**	**+0.6**
	137nm,1.3s						
RSM	**Repubblica di**	**1.59**	**111**	Pg	**Pb**	**22 44 22.6**	**+0.6**
	137nm,1.3s						
CAFI	**Castiglion Fio**	**1.65**	**136**	Pg	**Pn**	**22 44 21.9**	**+1.1**
CAFI	**Castiglion Fio**	**1.65**	**136**	Pg	**Pn**	**22 44 21.9**	**+1.1**
BADI	**Badiali**	**1.67**	**127**	Pg	**Pb**	**22 44 22.7**	**-0.7**
	59nm,0.7s						
BADI	**Badiali**	**1.67**	**127**	Pg	**Pb**	**22 44 22.7**	**-0.7**
	59nm,0.7s						
CGRP	**Cima Grappa**	**1.68**	**36**	Pg	**Pn**	**22 44 20.5**	**-0.9**
	140nm,0.3s						
CGRP	**Cima Grappa**	**1.68**	**36**	Pg	**Pn**	**22 44 20.5**	**-0.9**
	140nm,0.3s						
MUGIO	**Muggio**	**1.69**	**326**	Pg	**Pn**	**22 44 21.6**	**+0.1**
MUGIO	**Muggio**	**1.69**	**326**	Pg	**Pn**	**22 44 21.6**	**+0.1**
RORO	**Rocca Rossa**	**1.72**	**257**	Pg	**Pn**	**22 44 23.2**	**+1.4**
	49nm,0.3s						
RORO	**Rocca Rossa**	**1.72**	**257**	Pg	**Pn**	**22 44 23.2**	**+1.4**
	49nm,0.3s						
CTI	**Castel Tesino**	**1.76**	**30**	Pg	**Pn**	**22 44 22.0**	**-0.5**
CTI	**Castel Tesino**	**1.76**	**30**	Pg	**Pn**	**22 44 22.0**	**-0.5**
PIEI	**Pieia**	**1.83**	**122**	Pg	**Pb**	**22 44 26.0**	**-0.1**
	223nm,2.0s						
PIEI	**Pieia**	**1.83**	**122**	Pg	**Pb**	**22 44 26.0**	**-0.1**
	223nm,2.0s						
IMI	**Imperia**	**1.90**	**252**	Pg	**Pn**	**22 44 25.1**	**+0.8**
	64nm,0.5s						
IMI	**Imperia**	**1.90**	**252**	Pg	**Pn**	**22 44 25.1**	**+0.8**
	64nm,0.5s						
BERNI	**Berninapass**	**1.91**	**352**	Pg	**Pn**	**22 44 25.4**	**+0.8**
BERNI	**Berninapass**	**1.91**	**352**	Pg	**Pn**	**22 44 25.4**	**+0.8**
BRMO	**Bormio**	**1.95**	**360**	Pg	**Pn**	**22 44 26.2**	**+1.1**
	50nm,0.5s						
BRMO	**Bormio**	**1.95**	**360**	Pg	**Pn**	**22 44 26.2**	**+1.1**
	50nm,0.5s						
MGAB	**Montegabbione**	**2.03**	**142**	Pg	**Pn**	**22 44 27.3**	**+1.2**
	63nm,1.1s						
MGAB	**Montegabbione**	**2.03**	**142**	Pg	**Pn**	**22 44 27.3**	**+1.2**
	63nm,1.1s						
APPI	**Appiano**	**2.04**	**16**	Pg	**Pn**	**22 44 26.8**	**+0.5**
APPI	**Appiano**	**2.04**	**16**	Pg	**Pn**	**22 44 26.8**	**+0.5**
TUE	**Stuetta**	**2.08**	**340**	Pg	**Pn**	**22 44 27.9**	**+0.9**
	62nm,0.3s						
TUE	**Stuetta**	**2.08**	**340**	Pg	**Pn**	**22 44 27.9**	**+0.9**
	62nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**2.10**	**358**	Pg	**Pn**	**22 44 28.6**	**+1.4**
FUORN	**Ofenpass-Fuorn**	**2.10**	**358**	Pg	**Pn**	**22 44 28.6**	**+1.4**
AGOR	**Agordo**	**2.11**	**33**	Pg	**Pn**	**22 44 27.1**	**0.0**
	61nm,0.4s						
SAOF	**Saorge**	**2.11**	**256**	P	**Pn**	**22 44 28.6**	**+1.5**
SAOF				S	**Sn**	**22 44 55.4**	**+2.8**
TRAV	**Traversella**	**2.12**	**299**	Pg	**Pn**	**22 44 27.1**	**-0.3**
TRAV	**Traversella**	**2.12**	**299**	Pg	**Pn**	**22 44 27.1**	**-0.3**
AUTN	**L'Aution**	**2.20**	**257**	P	**Pn**	**22 44 30.9**	**+2.4**
AUTN				S	**Sb**	**22 44 58.9**	**-0.4**
STV	**Sant Anna di V**	**2.22**	**264**	Pg	**Pn**	**22 44 30.1**	**+1.4**
STV	**Sant Anna di V**	**2.22**	**264**	Pg	**Pn**	**22 44 30.1**	**+1.4**
SBF	**Sospel**	**2.23**	**254**	*e*Pn	**Pn**	**22 44 29.5**	**+0.7**
SBF				*e*Sn	**Sn**	**22 44 57.0**	**+1.4**
	66nm,0.3s						
SBF	**Sospel**	**2.23**	**254**	*e*Pn	**Pn**	**22 44 29.5**	**+0.7**
SBF				*e*Sn	**Sn**	**22 44 57.0**	**+1.4**
	33nm,0.3s						
DOI	**San Damiano**	**2.25**	**271**	Pg	**Pn**	**22 44 30.7**	**+1.5**
DOI	**San Damiano**	**2.25**	**271**	Pg	**Pn**	**22 44 30.7**	**+1.5**
FUSIO	**Fusio**	**2.29**	**328**	Pg	**Pn**	**22 44 30.1**	**+0.5**
FUSIO	**Fusio**	**2.29**	**328**	Pg	**Pn**	**22 44 30.1**	**+0.5**
DAVOX	**Davos/Dischmat**	**2.29**	**351**	Pn	**Pn**	**22 44 31.5**	**+1.7**
	5.0nm,0.3s,baz=32,slow=17,SNR=90						
DAVOX				Sn	**Sb**	**22 45 00.6**	**-1.3**
	6.1nm,0.3s,baz=153,slow=22,SNR=12						
DAVOX				Lg	Lg	22 45 05.6	
	8.5nm,0.3s,baz=328,slow=23,SNR=10						
DAVOX	**Davos/Dischmat**	**2.29**	**351**	Pg	**Pn**	**22 44 31.4**	**+1.7**
DAVOX	**Davos/Dischmat**	**2.29**	**351**	Pg	**Pn**	**22 44 31.4**	**+1.7**
TOUF	**Mont Tournerai**	**2.32**	**258**	P	**Pn**	**22 44 32.1**	**+2.0**
PZZ	**Stroppo**	**2.35**	**271**	Pg	**Pn**	**22 44 31.9**	**+1.4**
	50nm,0.5s						
PZZ	**Stroppo**	**2.35**	**271**	Pg	**Pn**	**22 44 31.9**	**+1.4**
	50nm,0.5s						
MVIF	**Mont Vial**	**2.42**	**256**	P	**Pn**	**22 44 33.7**	**+2.3**
OG22	**Abries**	**2.48**	**278**	P	**Pn**	**22 44 34.3**	**+1.9**
FETA	**Feichten**	**2.51**	**5⇑**	*i*Pn	**Pn**	**22 44 34.9**	**+2.1**
FETA	**Feichten**	**2.51**	**5**	Pn	**Pn**	**22 44 34.9**	**+2.1**
MBDF	**Montbardon**	**2.60**	**276**	*e*Pn	**Pn**	**22 44 34.3**	**+0.4**
MBDF				*e*Sn	**Sn**	**22 45 03.8**	**-1.0**
	33nm,0.6s						
MBDF	**Montbardon**	**2.60**	**276**	*e*Pn	**Pn**	**22 44 34.3**	**+0.4**
MBDF				*e*Sn	**Sn**	**22 45 03.8**	**-1.0**
	16nm,0.6s						
CALN	**Calern**	**2.64**	**254**	P	**Pn**	**22 44 36.7**	**+2.2**
ABTA	**Abfaltersbach**	**2.67**	**33⇓**	*e*Pn	**Pn**	**22 44 35.7**	**+0.7**
	SNR=8.5						
ABTA	**Abfaltersbach**	**2.67**	**33**	Pn	**Pn**	**22 44 35.7**	**+0.7**
	SNR=8.5						
SKDS	**Skadanscina**	**2.76**	**67**	*i* Pn	**Pn**	**22 44 34.7**	**-1.4**
SKDS				*i* Sn	**Sn**	**22 45 05.5**	**-3.1**
SKDS							
	comp=Z,33nm,0.2s						
SKDS	**Skadanscina**	**2.76**	**67**	Pn	**Pn**	**22 44 34.7**	**-1.4**
SKDS				*i* Sn	**Sn**	**22 45 05.6**	**-3.1**
	comp=Z,33nm,0.2s						
LPG	**La Plagne**	**2.76**	**292**	*e*Pn	**Pn**	**22 44 36.3**	**0.0**
LPG				*e*Sn	**Sn**	**22 45 07.2**	**-1.9**
	comp=Z,32nm,0.7s						
LPG	**La Plagne**	**2.76**	**292**	*e*Pn	**Pn**	**22 44 36.3**	**0.0**
LPG				*e*Sn	**Sn**	**22 45 07.2**	**-1.9**
	comp=Z,16nm,0.7s						
LPL	**La Plagne**	**2.78**	**292**	*e*Pn	**Pn**	**22 44 36.9**	**+0.4**
LPL				*e*Sn	**Sn**	**22 45 07.9**	**-1.6**
	comp=Z,24nm,0.5s						
LPL	**La Plagne**	**2.78**	**292**	*e*Pn	**Pn**	**22 44 36.9**	**+0.4**
LPL				*e*Sn	**Sn**	**22 45 07.9**	**-1.6**
	comp=Z,12nm,0.5s						
MOTA	**Moosalm**	**2.87**	**10⇑**	*e*Pn	**Pn**	**22 44 39.8**	**+2.1**
	SNR=24						
MOTA	**Moosalm**	**2.87**	**10**	Pn	**Pn**	**22 44 39.8**	**+2.1**
	SNR=24						
WTTA	**Wattenberg**	**2.88**	**17⇓**	*e*Pn	**Pn**	**22 44 39.3**	**+1.5**
	SNR=42						
WTTA	**Wattenberg**	**2.88**	**17**	Pn	**Pn**	**22 44 39.3**	**+1.5**
	SNR=42						
VOY	**Vojsko**	**2.89**	**57**	*e*Pn	**Pn**	**22 44 37.1**	**-0.9**
VOY				*e*Sn	**Sn**	**22 45 09.2**	**-2.8**
RSL	**Roselend**	**2.91**	**295**	P	**Pn**	**22 44 39.7**	**+1.4**
WATA	**Walderalm**	**2.93**	**16⇑**	*e*Pn	**Pn**	**22 44 40.3**	**+1.8**
	SNR=19						
WATA	**Walderalm**	**2.93**	**16**	Pn	**Pn**	**22 44 40.3**	**+1.8**
	SNR=19						
JAVS	**Javornik**	**2.93**	**61**	*i* Pn	**Pn**	**22 44 37.4**	**-1.1**
JAVS				*i* Sn	**Sn**	**22 45 10.7**	**-2.3**
JAVS							
	comp=Z,20nm,0.2s						
JAVS	**Javornik**	**2.93**	**61**	*i* Pn	**Pn**	**22 44 37.4**	**-1.1**
JAVS				*i* Sn	**Sn**	**22 45 10.7**	**-2.3**
	comp=Z,20nm,0.2s						
RETA	**Reutte**	**2.98**	**5**	*e*Pn	**Pn**	**22 44 40.8**	**+1.7**
	SNR=19						
RETA	**Reutte**	**2.98**	**5**	Pn	**Pn**	**22 44 40.8**	**+1.7**
	SNR=19						
LMR	**La Mourre**	**3.05**	**248**	*e*Pn	**Pn**	**22 44 40.3**	**+0.3**
LMR				*e*Sn	**Sn**	**22 45 16.1**	**+0.4**
	comp=Z,38nm,0.3s						
LMR	**La Mourre**	**3.05**	**248**	*e*Pn	**Pn**	**22 44 40.3**	**+0.3**
LMR				*e*Sn	**Sn**	**22 45 16.1**	**+0.4**
	comp=Z,19nm,0.3s						
MYKA	**Terra Mystica**	**3.10**	**46⇑**	*i*Pn	**Pn**	**22 44 41.3**	**+0.5**
MYKA	**Terra Mystica**	**3.10**	**46**	Pn	**Pn**	**22 44 41.3**	**+0.5**
NVLJ	**Novalja**	**3.20**	**88**	*i* Pn	**Pn**	**22 44 42.1**	**0.0**
NVLJ				Sn	**Sn**	**22 45 17.2**	**-2.3**
NVLJ	**Novalja**	**3.20**	**88**	*i* Pn	**Pn**	**22 44 42.0**	**0.0**
NVLJ				Sn	**Sn**	**22 45 17.1**	**-2.3**
ORIF	**Oris-en-Rattie**	**3.24**	**279**	*e*Pn	**Pn**	**22 44 44.7**	**+1.9**
ORIF				*e*Sn	**Sn**	**22 45 18.8**	**-1.9**
	comp=Z,28nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.24**	**279**	*e*Pn	**Pn**	**22 44 44.7**	**+1.9**
ORIF				*e*Sn	**Sn**	**22 45 18.8**	**-1.9**
	comp=Z,14nm,0.6s						
KBA	**Koelnbreinsper**	**3.28**	**38⇓**	*i*Pn	**Pn**	**22 44 44.0**	**+0.6**
KBA	**Koelnbreinsper**	**3.28**	**38**	Pn	**Pn**	**22 44 44.0**	**+0.6**
GBRS	**Gornja Briga**	**3.29**	**71**	*i* Pn	**Pn**	**22 44 42.4**	**-0.9**
VISS	**Visnje**	**3.39**	**66**	*i* Pn	**Pn**	**22 44 44.2**	**-0.6**
VISS				*i* Sn	**Sn**	**22 45 22.2**	**-2.0**
VISS							
	comp=Z,19nm,0.2s						
VISS	**Visnje**	**3.39**	**66**	*i* Pn	**Pn**	**22 44 44.2**	**-0.6**
VISS				*i* Sn	**Sn**	**22 45 22.2**	**-2.0**
	comp=Z,19nm,0.2s						
SMRF	**Simiane la Rot**	**3.51**	**263**	*e*Pn	**Pn**	**22 44 48.5**	**+2.2**
SMRF				*e*Sn	**Sn**	**22 45 26.6**	**-0.5**
	comp=Z,8.5nm,0.4s						
SMRF	**Simiane la Rot**	**3.51**	**263**	*e*Pn	**Pn**	**22 44 48.5**	**+2.2**
SMRF				*e*Sn	**Sn**	**22 45 26.6**	**-0.5**
	comp=Z,4.2nm,0.4s						
BBS	**Basel-Blauen**	**3.56**	**327**	P	**Pn**	**22 44 47.4**	**+0.3**
CABF	**La Chapelle**	**3.68**	**306**	*e*Pn	**Pn**	**22 44 49.8**	**+1.1**
CABF				*e*Sn	Sn	22 45 25.6	-5.7
	comp=Z,13nm,0.5s						
CABF	**La Chapelle**	**3.68**	**306**	*e*Pn	**Pn**	**22 44 49.8**	**+1.1**
LOMF	**Lomont**	**3.77**	**320**	P	**Pn**	**22 44 50.7**	**+0.7**
MOF	**Molkenrain**	**4.03**	**327**	P	**Pn**	**22 44 54.0**	**+0.5**
VIVF	**Saint-Julien-l**	**4.09**	**277**	*e*Pn	**Pn**	**22 44 55.3**	**+0.9**
VIVF				*e*Sn	**Sn**	**22 45 39.1**	**-2.5**
	comp=Z,3.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.09**	**277**	*e*Pn	**Pn**	**22 44 55.3**	**+0.9**
VIVF				*e*Sn	**Sn**	**22 45 39.1**	**-2.5**
	comp=Z,1.7nm,0.3s						
HINF	**Hinteralfeld**	**4.11**	**324**	*e*Pn	**Pn**	**22 44 54.4**	**-0.3**
HINF				*e*Sn	**Sn**	**22 45 39.0**	**-3.0**
	comp=Z,16nm,0.3s						
HINF	**Hinteralfeld**	**4.11**	**324**	*e*Pn	**Pn**	**22 44 54.4**	**-0.3**
HINF				*e*Sn	**Sn**	**22 45 39.0**	**-3.0**
	comp=Z,8.1nm,0.3s						
ECH	**Echery**	**4.32**	**330**	P	**Pn**	**22 44 58.1**	**+0.6**
CDF	**Champ du Feu**	**4.45**	**332**	*e*Pn	**Pn**	**22 44 58.9**	**-0.4**
CDF				*e*Sn	Sn	22 45 43.9	-6.4
	comp=Z,13nm,0.4s						
CDF	**Champ du Feu**	**4.45**	**332**	*e*Pn	**Pn**	**22 44 58.9**	**-0.4**
HAU	**Haudompre**	**4.47**	**323**	*e*Pn	**Pn**	**22 44 59.8**	**+0.2**
HAU				*e*Sn	**Sn**	**22 45 47.5**	**-3.4**
	comp=Z,52nm,0.5s						
HAU	**Haudompre**	**4.47**	**323**	*e*Pn	**Pn**	**22 44 59.8**	**+0.2**
HAU				*e*Sn	**Sn**	**22 45 47.5**	**-3.4**
	comp=Z,26nm,0.5s						
LASF	**Ste Croix**	**4.71**	**267**	*e*Pn	**Pn**	**22 45 03.8**	**+0.9**
LASF				*e*Sn	**Sn**	**22 45 55.3**	**-1.6**
	comp=Z,6.3nm,0.6s						
LASF	**Ste Croix**	**4.71**	**267**	*e*Pn	**Pn**	**22 45 03.8**	**+0.9**
LASF				*e*Sn	**Sn**	**22 45 55.3**	**-1.6**
	comp=Z,3.2nm,0.6s						
GERES	**GERESS Array B**	**4.88**	**27**	Pn	**Pn**	**22 45 04.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=44						
GERES				Sn	**Sn**	**22 45 58.0**	**-3.1**
	comp=Z,2.5nm,0.3s,baz=201,slow=23,SNR=14						
GERES				Lg	Lg	22 46 24.4	
	comp=Z,1.3nm,0.3s,baz=209,slow=30,SNR=3.9						
SMF	**Signal de Mont**	**5.07**	**297**	*e*Pn	**Pn**	**22 45 07.8**	**0.0**
SMF				*e*Sn	Sn	22 45 59.8	-5.7
	comp=Z,7.8nm,0.4s						
SMF	**Signal de Mont**	**5.07**	**297**	*e*Pn	**Pn**	**22 45 07.8**	**0.0**
KHC	**Kasperske Hory**	**5.10**	**24**	*e*PN	**Pn**	**22 45 08.5**	**+0.3**
KHC				*e*x	x	22 45 14.5	
KHC				*e*x	x	22 45 28.5	
KHC				*e*SN	**Sn**	**22 46 05.5**	**-0.9**
KHC				*e*x	x	22 46 19.5	
KHC				*e*x	x	22 46 38.0	
KHC	**Kasperske Hory**	**5.10**	**24**	Pn	**Pn**	**22 45 08.5**	**+0.3**
KHC				Sn	**Sn**	**22 46 05.5**	**-0.9**
PAGF	**Fort de Pagny**	**5.16**	**323**	*e*Pn	**Pn**	**22 45 09.5**	**+0.5**
PAGF				*e*Sn	Sn	22 46 01.6	-6.2
	comp=Z,6.3nm,0.8s						
PAGF	**Fort de Pagny**	**5.16**	**323**	*e*Pn	**Pn**	**22 45 09.5**	**+0.5**
SFTF	**Sexfontaines**	**5.23**	**317**	*e*Pn	**Pn**	**22 45 10.3**	**+0.4**
SFTF				*e*Sn	**Sn**	**22 46 03.8**	**-5.6**
	comp=Z,4.1nm,0.4s						
SFTF	**Sexfontaines**	**5.23**	**317**	*e*Pn	**Pn**	**22 45 10.3**	**+0.4**
LOR	**Lormes**	**5.33**	**303**	*e*Pn	**Pn**	**22 45 11.5**	**+0.2**
LOR				*e*Sn	**Sn**	**22 46 11.1**	**-0.8**
	comp=Z,16nm,0.4s						
LOR	**Lormes**	**5.33**	**303**	*e*Pn	**Pn**	**22 45 11.5**	**+0.2**
LOR				*e*Sn	**Sn**	**22 46 11.1**	**-0.8**
	comp=Z,8.1nm,0.4s						
AVF	**Avril sur Loir**	**5.43**	**297**	*e*Pn	**Pn**	**22 45 12.4**	**-0.3**
AVF				*e*Sn	**Sn**	**22 46 12.2**	**-2.3**
	comp=Z,1.7nm,0.5s						
AVF	**Avril sur Loir**	**5.43**	**297**	*e*Pn	**Pn**	**22 45 12.4**	**-0.3**
AVF				*e*Sn	**Sn**	**22 46 12.2**	**-2.3**
	comp=Z,0.9nm,0.5s						
SSF	**Saint Saulge**	**5.45**	**300**	*e*Pn	**Pn**	**22 45 12.8**	**-0.1**
SSF				*e*Sn	**Sn**	**22 46 11.7**	**-3.1**
	comp=Z,7.2nm,0.4s						
SSF	**Saint Saulge**	**5.45**	**300**	*e*Pn	**Pn**	**22 45 12.8**	**-0.1**
BGF	**Bois d'Agland**	**5.68**	**294**	*e*Pn	**Pn**	**22 45 16.4**	**+0.2**
BGF				*e*Sn	**Sn**	**22 46 17.4**	**-3.2**
	comp=Z,11nm,0.5s						
BGF	**Bois d'Agland**	**5.68**	**294**	*e*Pn	**Pn**	**22 45 16.4**	**+0.2**
NKC	**Novy Kostel**	**5.88**	**13**	*e*SN	**Sn**	**22 46 21.5**	**-4.0**
CAF	**Calviac**	**5.95**	**277**	*e*Pn	**Pn**	**22 45 20.5**	**+0.6**
CAF				*e*Sn	**Sn**	**22 46 26.9**	**-0.4**
	comp=Z,0.9nm,0.4s						
CAF	**Calviac**	**5.95**	**277**	*e*Pn	**Pn**	**22 45 20.5**	**+0.6**
CAF				*e*Sn	**Sn**	**22 46 26.9**	**-0.4**
	comp=Z,0.4nm,0.4s						
MTLF	**Montolieu**	**6.02**	**262**	*e*Pn	**Pn**	**22 45 22.2**	**+1.3**
MTLF				*e*Sn	**Sn**	**22 46 27.3**	**-1.8**
	comp=Z,5.0nm,0.6s						
MTLF	**Montolieu**	**6.02**	**262**	*e*Pn	**Pn**	**22 45 22.2**	**+1.3**
MTLF				*e*Sn	**Sn**	**22 46 27.3**	**-1.8**
	comp=Z,2.5nm,0.6s						
HYF	**Humbligny**	**6.07**	**300**	*e*Pn	**Pn**	**22 45 21.6**	**+0.1**
HYF				*e*Sn	Sn	22 46 24.0	-6.2
HYF	**Humbligny**	**6.07**	**300**	*e*Pn	**Pn**	**22 45 21.6**	**+0.1**
PRU	**Pruhonice**	**6.15**	**26**	*e*PN	**Pn**	**22 45 22.8**	**+0.2**
PRU				*e*SN	**Sn**	**22 46 28.6**	**-3.6**
PRU	**Pruhonice**	**6.15**	**26**	Pn	**Pn**	**22 45 22.8**	**+0.2**
VRAC	**Vranov**	**6.40**	**39**	Pn	**Pn**	**22 45 24.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=244,slow=16,SNR=4.4						
VRAC				Sn	**Sn**	**22 46 34.6**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=293,slow=13,SNR=5.0						
VRAC				Lg	Lg	22 47 13.1	
	comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=2.2						
CLL	**Collm**	**7.01**	**14**	*e*Pn	**Pn**	**22 45 34.0**	**-0.4**
CLL				*e*Pg	Pb	22 46 03.0	+8.7
CLL				*e*Sn	**Sn**	**22 46 50.0**	**-3.3**
CLL				*e*Sg	Sb	22 47 35.0	+18

KRLC	Kraliky	7.05	36	eSN	Sn	22 46 49.3	-5.0
EPF	Esparros	7.43	262	ePn	Pn	22 45 41.1	+0.9
EPF				eSn	Sn	22 47 00.2	-3.6
	comp=Z,0.6nm,0.3s						
EPF	Esparros	7.43	262	ePn	Pn	22 45 41.1	+0.9
KEST	Kesra	8.82	186	Pn	Pn	22 46 02.1	+2.8
	comp=Z,0.1nm,0.3s,baz=73,slow=8.0,SNR=5.1						
ESDC	Sonseca Array	11.71	251	Pn	Pn	22 46 41.4	+2.4
	comp=Z,0.1nm,0.3s,baz=65,slow=15,SNR=4.1						
TORD	Torodi Ar. Bea	32.14	196	P	P	22 50 18.6	-0.3
	comp=Z,0.2nm,0.6s,baz=6.1,slow=10,SNR=2.9						
YKA	Yellowknife Ar	64.63	335	P	P	22 54 29.1	+0.7
	comp=Z,0.2nm,0.5s,baz=46,slow=6.8,SNR=4.5						

*NIED **02** 23:10:00, 29°.30N×130°.00E, h44km, Mw3.9 Best double couple: $M_0$9.39000×10^14 NP1:ϕ_s35.00000°, δ58.00000°, λ108.00000°. NP2:ϕ_s184.00000°, δ36.00000°, λ64.00000°.*
*JMA **02** 23:10:11.7, 29°.33N×130°.04E, h50km±2km, M3.7*
JMA Felt I J1.
*ISCJB **02** 23:10:11.7±0.5, 29°.35N±0°.04×130°.0E±0°.1, h58km±5km, mb3.6/6, Error ellipse: s-maj=15.5km s-min=4.3km az=18.1*
*IDC **02** 23:10:14.3±2.0, 29°.37N×129°.92E, h65km±21km, mb3.3/6, mb1 3.6/9, mb1mx3.3/26, mbtmp3.4/9, Error ellipse: s-maj=28.1km s-min=13.0km az=102.0*
ISC 02 23:10:12.5±1.0**, 29°.36N**±0°.05×**129°.9E**±0°.1**, h49**km±10km**, n20,** σ1s**12**/28**, mb3.6**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.48	354	P	Pn	23 10 23.4	-0.1
JNN				S	Sn	23 10 31.6	+0.3
JAM	Amami Oshima	0.99	197	P	Pn	23 10 29.5	-0.5
JAM				eS	Sn	23 10 41.6	-1.3
JKC	Kuchinoerabu	1.12	12	P	Pn	23 10 31.8	0.0
JKC				S	Sn	23 10 46.1	0.0
JTN	Tanegashima 3	1.58	35	P	Pn	23 10 37.9	-0.1
JTK	Tokunoshima	1.79	209	P	Pn	23 10 40.8	-0.2
JTK				eS	Sn	23 11 01.7	-0.8
JTSR	Tashiro 2	1.99	25	P	Pn	23 10 44.2	+0.4
JTSR				S	Sn	23 11 07.0	-0.5
JSU	Suzuyama	2.19	12	P	Pn	23 10 46.7	+0.3
JSU				S	Sn	23 11 11.7	-0.6
JSJ	Shimokoshiki	2.32	355	P	Pn	23 10 48.9	+0.7
JSJ				eS	Sn	23 11 16.3	+0.8
JNAR	Kushima--Naru	2.45	28	P	Pn	23 10 51.4	+1.4
JOW	Kunigami	2.91	211	P	Pn	23 10 57.5	+1.2
	12nm,0.3s,baz=79,slow=12,SNR=11						
JOW				S	Sn	23 11 32.6	+2.4
	8.1nm,0.3s,baz=78,slow=26,SNR=5.2						
KSRS	Korea Array	8.24	349	P	Pn	23 12 12.8	+3.3
	0.1nm,0.3s,baz=166,slow=14,SNR=7.7						
MJAR	Matsushiro Arr	9.98	42	P	Pn	23 12 34.7	+1.5
	0.3nm,0.3s,baz=241,slow=14,SNR=4.5						
SONM	Songino Array	25.89	322	P	P	23 15 39.2	-0.6
	0.6nm,0.7s,baz=143,slow=10,SNR=5.7						
CMAR	Chiang Mai Arr	30.25	256	PcP	PcP	23 19 19.9	+1.1
	0.8nm,0.8s,baz=54,slow=0.8,SNR=5.4						
KURK	Kurchatov	43.66	314	P	P	23 18 12.8	+0.6
	0.7nm,0.8s,baz=99,slow=9.1,SNR=5.3						
USP	Ospenovka	45.98	303	P	P	23 18 28.7	-2.2
	SNR=18						
USP				P	P	23 18 28.7	-2.2
	SNR=18						
WRA	Warramunga Arr	49.20	175	P	P	23 18 55.3	-0.6
	0.5nm,0.7s,baz=353,slow=8.3,SNR=5.2						
ASAR	Alice Springs	52.86	175	P	P	23 19 24.6	+1.2
	0.7nm,0.6s,baz=7.0,slow=14,SNR=7.3						
ILAR	Eielson Array	60.98	29	P	P	23 20 19.8	-0.6
	0.5nm,0.9s,baz=299,slow=8.6,SNR=5.6						
YKA	Yellowknife Ar	75.06	26	P	P	23 21 49.0	+0.3
	1.0nm,0.7s,baz=301,slow=5.8,SNR=10.0						

*IDC **02** 23:16:23.4±1.3, 35°.69N×70°.58E, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.5/29, mbtmp3.8/7, ML3.6/4, Error ellipse: s-maj=32.6km s-min=24.0km az=121.0*
*ISCJB **02** 23:16:39.4±0.6, 36°.22N±0°.04×70°.8E±0°.1, h204km, mb3.2/2, Error ellipse: s-maj=12.8km s-min=5.1km az=163.0*
*NNC **02** 23:16:40.6±8.9, 36°.84N×70°.29E, h0km, mb4.4, mpv3.9, Error ellipse: s-maj=88.0km s-min=71.9km az=58.0*
ISC 02 23:16:39.7±1.0**, 36°.21N**±0°.07×**70°.8E**±0°.1**, h204**km**, n23,** σ1s**76**/30**, 1C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.55	158	⇓P	Pn	23 17 24.3	-0.3
CEP				S	S	23 17 57.0	-2.0
CHCP	Chirah Chowk	3.26	141	P	Pn	23 17 33.4	+0.7
THW	Thamme Wali	3.49	167	⇓P	Pn	23 17 36.0	+0.5
SARP	Sargodha	4.55	159	P	Pn	23 17 49.1	+0.5
DLH	Dalhousie	5.63	129	eP	Pn	23 18 04.0	+1.5
DLH				eS	S	23 19 07.0	-0.6
AML	Almayashu	6.33	20	P	Pn	23 18 09.8	-1.8
	SNR=84						
AML				P	Pn	23 18 09.8	-1.8
	SNR=84						
KZA	Kyzart	6.81	29	P	Pn	23 18 18.3	+0.5
	SNR=10						
KZA				P	Pn	23 18 18.3	+0.5
	SNR=10						
EKS2	Erkin-Say	6.85	19	P	Pn	23 18 18.5	+0.4
	SNR=15						
EKS2				P	Pn	23 18 18.5	+0.4
	SNR=15						
KK31	Karatay Array	6.89	358	⇓P	Pn	23 18 16.1	-2.4
	4.3nm,0.3s,baz=184,slow=13,SNR=333						
KK31				⇓S	S	23 19 27.4	-9.5
	13nm,0.5s,baz=184,slow=20						
SDNR	Sundarnagar	6.96	131	eP	S	23 19 36.0	-2.7
AAK	Ala-Archa	7.03	23	P	Pn	23 18 20.1	-0.3
	SNR=7.1						
AAK				P	Pn	23 18 20.1	-0.3
	SNR=7.1						
KBK	Karagaybulak	7.20	25	P	Pn	23 18 24.0	+1.4
	SNR=6.4						
KBK				P	Pn	23 18 24.0	+1.4
	SNR=6.4						
CHMS	Chumysh	7.44	23	P	Pn	23 18 25.9	+0.2
	SNR=6.9						
CHMS				P	Pn	23 18 25.9	+0.2
	SNR=6.9						
TKM2	Tokmak 2	7.67	28	P	Pn	23 18 29.6	+0.9
	SNR=11						
TKM2				P	Pn	23 18 29.6	+0.9
	SNR=11						
TKM2	Tokmak 2	7.67	28	⇑P	Pn	23 18 27.4	-1.3
	3.5nm,0.6s						
MKAR	Makanchi Array	13.63	36	Pn	P	23 19 46.6	-0.4
	0.1nm,0.3s,baz=226,slow=15,SNR=8.2						
AB31	Akbulak array	15.26	332	P	P	23 20 06.5	+1.5
	4.1nm,0.3s,baz=151,slow=13,SNR=334						
KURK	Kurchatov	15.56	19	Pn	Pn	23 20 07.1	-1.3
	0.0nm,0.3s,baz=209,slow=12,SNR=6.2						
BVAR	Borovoye Array	16.82	359	P	Pn	23 20 26.0	+2.5
	0.3nm,0.3s,baz=172,slow=13,SNR=11						
AKTO	Aktyubinsk	16.95	331	P	Pn	23 20 27.7	+2.7
	0.9nm,0.3s,baz=129,slow=14,SNR=28						
AKTO				S	S	23 23 24.2	-5.6
	0.1nm,0.3s,baz=311,slow=20,SNR=4.4						
ZALV	Zalesovo Beam	20.25	24	P	Pn	23 21 04.7	+0.5
	11nm,0.5s,baz=219,slow=10,SNR=78						
TORD	Torodi Ar. Bea	65.54	269	P	P	23 27 07.8	+6.1
	0.4nm,0.4s,baz=52,slow=6.1,SNR=9.2						
WRA	Warramunga Arr	81.98	122	P	P	23 28 44.8	+7.8
	0.2nm,0.5s,baz=327,slow=4.9,SNR=4.3						

IDC 02 23:18:42.2±1.7**, 5°.60S**×**147°.34E, h174**km±19km**, mb3.4**/4**, mb1 3.6**/6**, mb1mx3.3**/16**, mbtmp3.4**/6**, Error ellipse: s-maj=40.4km s-min=11.9km az=114.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.78	183	P	Pn	23 19 41.6	+1.2
	12nm,0.3s,baz=22,slow=5.5,SNR=31						
PMG				S	Sn	23 20 25.5	-0.4
	7.0nm,0.3s,baz=3.0,slow=22,SNR=10						
WRA	Warramunga Arr	19.06	220	P	P	23 22 52.5	+1.1
	0.5nm,0.3s,baz=45,slow=10,SNR=17						
WRA				S	S	23 26 16.9	-1.6
	0.1nm,0.3s,baz=48,slow=18,SNR=3.6						
ASAR	Alice Springs	22.14	214	P	P	23 23 25.3	+1.3
	2.1nm,0.4s,baz=48,slow=8.2,SNR=47						
ASAR				S	S	23 27 17.4	+2.0
	2.1nm,0.8s,baz=31,slow=23,SNR=12						
FITZ	Fitzroy Crossi	24.57	238	P	P	23 23 46.3	+0.1
	4.2nm,0.5s,baz=81,slow=6.4,SNR=15						
MKAR	Makanchi Array	77.41	320	P	P	23 30 18.0	-0.1
	0.2nm,0.6s,baz=106,slow=7.8,SNR=3.7						
ILAR	Eielson Array	84.98	23	P	P	23 30 57.0	-0.7
	0.4nm,0.6s,baz=257,slow=5.2,SNR=6.3						
TORD	Torodi Ar. Bea	145.32	285	PKPbc	PKPdf	23 37 59.5	-0.8
	0.4nm,0.7s,baz=89,slow=3.2,SNR=3.9						

IDC 02 23:39:37.4±8.3**, 2°.40S**×**142°.35E, h0**km**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.3**/14**, mbtmp3.4**/3**, ML3.5**/1**, Error ellipse: s-maj=307.2km s-min=29.7km az=91.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.11	204	P	P	23 44 01.1	-0.9
	0.2nm,0.3s,baz=22,slow=12,SNR=4.8						
ASAR	Alice Springs	22.66	200	P	P	23 44 41.0	+0.5
	0.7nm,0.7s,baz=31,slow=10,SNR=9.7						
MKAR	Makanchi Array	71.79	321	P	P	23 51 01.9	0.0
	0.3nm,0.8s,baz=109,slow=6.1,SNR=2.3						

FUNV 02 23:50:07.0, 6°.82N×73°.14W, h167km, MW3.6, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.32	38	⇑iP	Pn	23 50 35.7	-0.8
CAPV				eS	Sn	23 50 57.1	-2.2
VIGV	El Vigia	2.67	41	eS	Sn	23 51 21.6	-3.8
SOCV	Socops	2.69	57	⇑iP	Pn	23 50 50.4	-0.9
SOCV				eS	Sn	23 51 22.4	-3.4
ELOV	Elorza	3.64	87	⇑eP	Pn	23 51 01.9	-1.2
VIRV	Villa del Rosa	3.73	11	⇓iP	Pn	23 51 02.4	-1.9
VIRV				eS	Sn	23 51 44.7	-4.4
SANV	Sanarito	4.45	53	⇓eP	Pn	23 51 12.0	-1.8
CURV	Curarigua	4.47	45	eP	Pn	23 51 12.5	-1.4
DABV	Dabajuro	4.77	31	eP	Pn	23 51 16.7	-1.0
TEPV	Terepaima	5.00	51	⇑iP	Pn	23 51 19.4	-1.5
SIQV	Siquisique	5.03	41	eP	Pn	23 51 18.9	-2.4
BAUV	El Baul	5.47	67	eP	Pn	23 51 24.6	-2.4
MAPV	Macapo	5.52	57	eP	Pn	23 51 25.9	-1.7
MONV	Montecano	5.99	31	eP	Pn	23 51 32.1	-1.6
TURV	Turiamo	6.36	55	eP	Pn	23 51 37.0	-1.7
CUPV	Cœpira	7.95	66	eP	Pn	23 51 57.6	-2.3

IDC 02 23:55:58.8±2.8**, 31°.42S**×**177°.94W, h0**km**, mb4.0**/4**, mb1 4.1**/5**, mb1mx3.9**/17**, mbtmp4.0**/5**, ML3.4**/1**, Error ellipse: s-maj=62.1km s-min=41.9km az=127.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.95	209	Pn	Pn	23 57 55.0	-0.5
	0.5nm,0.3s,baz=342,slow=19,SNR=3.5						
URZ				Sn	Sn	23 59 18.8	-7.3
	1.8nm,0.3s,baz=142,slow=17,SNR=6.2						
CTA	Charters Tower	34.02	281	P	P	00 02 44.9	+0.2
	2.4nm,0.7s,baz=130,slow=7.9,SNR=4.2						
STKA	Stephens Creek	34.31	258	P	P	00 02 47.9	+0.9
	1.1nm,0.9s,baz=117,slow=9.0,SNR=2.7						
ASAR	Alice Springs	43.11	268	P	P	00 04 00.3	-0.8
	0.7nm,0.4s,baz=106,slow=7.3,SNR=12						
WRA	Warramunga Arr	44.20	273	P	P	00 04 09.6	-0.2
	1.2nm,0.3s,baz=112,slow=8.0,SNR=12						
FINES	FINESS Array B	146.11	339	PKPbc	PKPdf	00 15 39.3	+0.2
	5.3nm,0.9s,baz=66,slow=4.7,SNR=20						

*UPP **03** 00:19:41.7, 67°.86N×20°.20E, h0km, ML1.9, Mining explosion.*
*CSEM **03** 00:19:42.6±0.3, 67°.79N×20°.45E, h2km, ML1.3, Error ellipse: s-maj=8.1km s-min=7.2km az=42.0, Mining explosion.*
*ISCJB **03** 00:19:42.1±0.6, 67°.80N±0°.03×20°.50E±0°.09, h0km, Error ellipse: s-maj=5.8km s-min=4.2km az=139.0*
*HEL **03** 00:19:43.0±0.3, 67°.84N×20°.24E, h0km, ML1.7, ML1.9(UPP), ML1.7(BER), Explosion*
*BER **03** 00:19:47.6±2.8, 67°.90N×20°.37E, h0km, ML1.7, Suspected explosion*
ISC 03 00:19:43.3±0.8**, 67°.85N**±0°.02×**20°.25E**±0°.02**, h0**km**, n36,** σ1s**45**/53**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	18	i P	Pg	00 19 44.1	-1.3
KUA				i S	Sg	00 19 45.8	-1.0
KUA	Kurravaara	0.11	18	P	Pg	00 19 44.1	-1.3
KUA				S	Sg	00 19 45.8	-1.0
KUA	Kurravaara	0.11	18	P	Pg	00 19 46.7	+1.3
KUA				S	Sg	00 19 48.4	+1.6
LANU	Lannavaara	0.69	72	eP	Pg	00 19 54.9	-1.6
	baz=261						
LANU				eS	Sb	00 20 06.9	-1.3
LANU	Lannavaara	0.69	72	P	Pg	00 19 55.1	-1.4
LANU	Lannavaara	0.69	72	P	Pg	00 19 54.8	-1.6
LANU				S	Sb	00 20 06.9	-1.3
DUNU	Dundret	0.74	170	i P	Pg	00 19 55.6	-1.9
DUNU	Dundret	0.74	170	P	Pg	00 19 55.6	-1.9
DUNU	Dundret	0.74	170	P	Pg	00 19 55.5	-2.0
MASU	Masugnsbyn	0.78	120	i P	Pg	00 19 57.1	-1.1
MASU	Masugnsbyn	0.78	120	P	Pg	00 19 57.1	-1.1
MASU	Masugnsbyn	0.78	120	P	Pg	00 19 57.1	-1.1
SALU	Saltoluokta	0.82	236	i P	Pg	00 19 57.0	-1.9
SALU	Saltoluokta	0.82	236	P	Pg	00 19 57.0	-1.9
SALU	Saltoluokta	0.82	236	P	Pg	00 19 57.0	-1.9
KIF	Kilpisjarvi	1.18	10	eP	Pg	00 20 04.5	-1.3
KIF				eSB	Sb	00 20 21.3	-1.0
KIF				MSG		00 20 21.3	
	comp=Z,10nm,0.4s						
KIF				eRG	Rg	00 20 27.0	
KIF	Kilpisjarvi	1.18	10	P	Pg	00 20 04.5	-1.3
KIF				Sb	Sb	00 20 21.3	-1.0
	comp=Z,10nm,0.4s						
HEF	Hetta	1.40	65	eP	Pg	00 20 07.7	-2.3
HEF				eSN	Sn	00 20 32.9	+3.8
HEF				MSG		00 20 32.9	
	comp=Z,5.7nm,0.1s						
HEF	Hetta	1.40	65	P	Pg	00 20 07.7	-2.3
HEF				Sn	Sn	00 20 32.9	+3.8
	comp=Z,5.7nm,0.1s						
TRO	Tromso	1.85	346	eP	Pn	00 20 16.4	+0.1
TRO				eS	Sb	00 20 41.5	-0.2
TRO				AML	AML	00 20 46.3	
	comp=Z,18nm,0.5s						
TRO	Tromso	1.85	346	eP	Pn	00 20 16.4	+0.1
TRO				eS	Sb	00 20 41.5	-0.2
TRO				AML	AML	00 20 46.3	
	comp=Z,18nm,0.5s						
TRO	Tromso	1.85	346	P	Pn	00 20 16.3	0.0
TRO				S	Sb	00 20 41.5	-0.2
	comp=Z,18nm,0.5s						
STEI	Steigen	1.90	275	eP	Pb	00 20 19.0	+0.2
STEI				eS	Sg	00 20 44.6	+0.4
STEI				AML	AML	00 20 48.3	
	comp=Z,9.9nm,0.5s						
STEI	Steigen	1.90	275	eP	Pb	00 20 19.0	+0.2
STEI				eS	Sg	00 20 44.6	+0.4
STEI				AML	AML	00 20 48.3	
	comp=Z,9.9nm,0.5s						
STEI	Steigen	1.90	275	P	Pb	00 20 18.9	+0.2
STEI				S	Sg	00 20 44.6	+0.4
	comp=Z,9.9nm,0.5s						
ARA0	ARCESS Array S	2.56	46	eP	Pn	00 20 26.4	+0.4
	baz=227						
ARA0	ARCESS Array S	2.56	46	P	Pn	00 20 26.4	+0.4
ARE0	ARCESS Array S	2.56	46	eP	Pb	00 20 28.5	-1.6
ARE0	ARCESS Array S	2.56	46	eP	Pb	00 20 28.5	-1.6
ARE0	ARCESS Array S	2.56	46	eP	Pb	00 20 28.5	-1.6
	SNR=50						
RNF	Rovaniemi	2.57	116	ePB	Pn	00 20 26.7	+0.6
RNF				eSG	Sb	00 21 02.4	+0.2
RNF				MSG		00 21 02.4	
	comp=Z,2.2nm,0.1s						
RNF	Rovaniemi	2.57	116	Pb	Pn	00 20 26.7	+0.6
RNF				Sg	Sb	00 21 02.4	+0.2
	comp=Z,2.2nm,0.1s						
KEV	Kevo	3.11	49	eSG	Sb	00 21 18.5	+0.6
KEV				MSG		00 21 18.5	
	comp=Z,4.4nm,0.4s						
KEV	Kevo	3.11	49	Sg	Sb	00 21 18.5	+0.6
	comp=Z,4.4nm,0.4s						
OUL	Oulu	3.58	138	eSG	Sb	00 21 32.9	+1.5
OUL				MSG		00 21 32.9	
	comp=Z,0.6nm,0.4s						
OUL	Oulu	3.58	138	Sg	Sb	00 21 32.9	+1.5
	comp=Z,0.6nm,0.4s						

IDC 03 00:35:53.9±6.0**, 30°.41S**×**178°.51W, h0**km**, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.5**/14**, mbtmp3.3**/2**, Error ellipse: s-maj=236.5km s-min=59.5km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.66	267	P	P	00 43 51.9	-0.7
	0.3nm,0.8s,baz=106,slow=6.6,SNR=3.9						
WRA	Warramunga Arr	43.65	272	P	P	00 44 00.9	+0.3
	0.2nm,0.3s,baz=113,slow=8.0,SNR=4.1						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	00 55 31.0	-0.7
	11nm,1.2s,baz=54,slow=3.3,SNR=4.5						

TRN 03 00:36:11.4, 17°.17N×62°.34W, h24km, MD3.7, M3.8(FDF), 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.41	293	⇑iP	Pn	00 36 22.4	+0.6
SKI				eS	Sn	00 36 28.8	+0.1
BPA	Boggy Peak	0.48	105	eP	Pn	00 36 23.9	+1.0
BPA				eS	Sn	00 36 31.1	+0.6
SEG	Port Louis	1.11	134	⇑iP	Pb	00 36 32.7	+0.8
LZG	Guadaloupe-1	1.16	152	⇑iP	Pb	00 36 33.0	+0.1
BCG	Bois Riant Cap	1.28	147	eP	Pb	00 36 35.3	+0.2
SCG	Saint Claude	1.30	151	eP	Pb	00 36 35.5	+0.2
PHG	Guadaloupe-2	1.33	150	eP	Pb	00 36 36.3	+0.4
TBG	Guadaloupe-3	1.47	153	eP	Pb	00 36 37.9	-0.2
DEG	La Desirade	1.50	125	eP	Pb	00 36 38.5	-0.1
DEG				eS	Sb	00 36 58.0	+0.7
MGG	Marie-Galante	1.59	142	eP	Pb	00 36 40.2	+0.1
DVCT	Vielle Casse P	1.79	150	eP	Pb	00 36 43.4	-0.2
DVCT				eS	Sb	00 37 08.5	+2.9
DWS	Wesley	1.88	148	eP	Pb	00 36 46.0	+0.9
DWS				eS	Sb	00 37 09.3	+1.2

*ISCJB **03** 00:48:19.3±0.6, 5°.67N±0°.08×125°.6E±0°.2, h200km, mb3.2/9, Error ellipse: s-maj=24.8km s-min=9.1km az=166.4*
*IDC **03** 00:48:20.8±0.8, 5°.67N×125°.62E, h194km±8km, mb3.1/9, mb1 3.2/9, mb1mx3.2/21, mbtmp3.1/9, Error ellipse: s-maj=47.7km s-min=11.0km az=72.0*
ISC 03 00:48:21.1±0.7**, 5°.8N**±0°.1×**125°.8E**±0°.2**, h200**km**, n15,** σ1s**13**/16**, mb3.3**/9**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.86	292	⇑iP	Pn	00 48 45.3	-4.9
GSPH				i S	Sn	00 49 04.3	-8.2
MATI	Mati	1.28	23	eP	Pn	00 48 51.3	-1.7
DAV	Davao City (W)	1.31	352	P	Pn	00 48 53.4	+0.2
	79nm,0.3s,baz=225,slow=2.9,SNR=3.6						
DAV				S	Sn	00 49 18.2	-0.1
	163nm,0.3s,baz=325,slow=23,SNR=8.2						
BUKP	Musuan	2.21	342	eP	Pn	00 49 01.1	-0.8
BUKP				eS	Sn	00 49 26.7	-7.2
PAGZ	Pagadian	3.14	312	eP	Pn	00 49 11.3	-1.1
FITZ	Fitzroy Crossi	23.71	180	P	P	00 53 14.4	-0.7
	1.5nm,0.5s,baz=354,slow=11,SNR=7.2						
WRA	Warramunga Arr	26.90	162	P	P	00 53 42.8	-1.1
	0.4nm,1.0s,baz=341,slow=8.0,SNR=2.2						
ASAR	Alice Springs	30.31	165	P	P	00 54 13.3	-0.7
	0.4nm,0.8s,baz=348,slow=7.5,SNR=5.0						
ASAR				PcP	PcP	00 57 10.4	+1.0
	0.4nm,0.4s,baz=347,slow=2.6,SNR=7.1						
STKA	Stephens Creek	40.36	159	P	P	00 55 39.8	+0.3
	2.0nm,1.0s,baz=326,slow=11,SNR=3.7						
SONM	Songino Array	45.07	342	P	P	00 56 16.3	-1.0
	0.3nm,0.8s,baz=143,slow=7.1,SNR=2.7						
MKAR	Makanchi Array	55.34	325	P	P	00 57 35.5	+1.3
	0.6nm,0.4s,baz=114,slow=7.7,SNR=19						
ZALV	Zalesovo Beam	58.35	333	P	P	00 57 54.0	-1.1
	0.2nm,0.3s,baz=146,slow=6.2,SNR=2.1						
KURK	Kurchatov	59.52	327	P	P	00 58 04.0	+0.8
	0.3nm,0.5s,baz=126,slow=6.5,SNR=7.6						
ILAR	Eielson Array	83.70	26	P	P	01 00 29.1	+1.9
	0.3nm,0.5s,baz=266,slow=5.1,SNR=6.1						
TORD	Torodi Ar. Bea	121.35	289	PKP	PKPdf	01 06 52.1	+0.6
	0.2nm,0.7s,baz=87,slow=1.5,SNR=6.6						

MEX 03 01:12:21.5±0.5**, 17°.23N**×**99°.89W, h57**km±6km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.36	175	i P	Pn	01 12 30.5	-1.4
ACX				eS	Sn	01 12 37.5	-1.8
CAIG	El Cayaco	0.40	244	i P	Pn	01 12 30.7	-1.5
CAIG				i S	Sn	01 12 38.4	-1.5
MEIG	Mezcala	0.74	20	i P	Pn	01 12 35.1	-1.2
MEIG				i S	Sn	01 12 44.9	-2.1
ZIIG	Zihuatanejo	1.55	284	i P	Pn	01 12 44.8	-2.0
ZIIG				i S	Sn	01 13 04.0	-1.9

*MOS **03** 01:28:43.1±1.7, 51°.80N×158°.97E, h30km, mb4.2/1, Error ellipse: s-maj=51.2km s-min=12.7km az=83.9*
*KRSC **03** 01:28:43.1±1.2, 51°.80N×158°.97E, h30km±30km, ML4.0*
ISC 03 01:28:41.0±2.7**, 51°.7N**±0°.1×**158°.93E**±0°.06**, h25**km±16km**, n19,** σ0s**70**/27**, 1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.79	341	PN	Pn	01 28 57.0	+0.4
RUS				S	Sn	01 29 07.0	-0.6
RUS	Russkaya	0.79	341	i P	Pn	01 28 57.0	+0.4
RUS				i S	Sn	01 29 07.0	-0.6
GRL	Gorelyy	1.02	329	i P	Pn	01 29 00.6	+0.8
GRL				i S	Sn	01 29 13.2	-0.1
PET	Petropavlovsk	1.35	353	⇓iPN	Pn	01 29 05.5	+1.2
PET				eS	Sb	01 29 22.1	-0.4
PET				pmax	pmax		
	comp=Z,238nm,0.4s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET	Petropavlovsk	1.35	353	i P	Pn	01 29 05.4	+1.2
PET				i S	Sb	01 29 21.9	-0.6
MIPR	Malaya Ipel'ka	1.47	295	i P	Pn	01 29 06.2	+0.3
NLC	Nalytchevo	1.51	9	PN	Pn	01 29 07.0	+0.6
NLC				S	Sn	01 29 24.7	-0.6
NLC	Nalytchevo	1.51	9	P	Pn	01 29 07.0	+0.6
NLC				i S	Sn	01 29 24.7	-0.6
SPN	Mys Shipunski	1.57	25	PN	Pb	01 29 09.7	+0.4
SPN				S	Sb	01 29 29.3	+0.6
SPN	Mys Shipunski	1.57	25	eP	Pb	01 29 09.7	+0.4
SPN				i S	Sb	01 29 29.3	+0.6
AVH	Avacha	1.59	356	i P	Pb	01 29 09.4	-0.3
AVH				i S	Sb	01 29 28.6	-0.8
SDLR	Sedlovina	1.60	359	i P	Pn	01 29 08.9	+1.2
SDLR				i S	Sn	01 29 27.7	+0.1
KOK	Koryaka	1.62	354	i P	Pb	01 29 09.9	-0.4
KOK				i S	Sb	01 29 29.6	-0.7
ESO	Esso	4.25	358	PN	Pn	01 29 47.5	+3.4
ESO	Esso	4.25	358	P	Pn	01 29 47.5	+3.4
KBTR	Krutoberegovo	5.08	25	PN	Pn	01 29 59.1	+3.6
KBTR	Krutoberegovo	5.08	25	P	Pn	01 29 59.1	+3.6
BKI	Bering	5.49	47	PN	Pn	01 30 00.4	-0.6
BKI	Bering	5.49	47	P	Pn	01 30 00.4	-0.6

*IDC **03** 01:42:17.3±1.7, 27°.60N×52°.51E, h0km, mb3.7/12, mb1 3.7/13, mb1mx3.6/28, mbtmp3.7/13, ML3.4/1, Error ellipse: s-maj=39.3km s-min=19.4km az=157.0*

*CSEM **03** 01:42:18.2, 27.°66N×52.°45E, h16km, ML3.2, After THR*
*ISCJB **03** 01:42:18.1±0.9, 27.°7N±0.°1×52.°45E±0.°08, h14km, mb3.6/12, Error ellipse: s-maj=16.3km s-min=9.7km az=167.4*
ISC 03 01:42:20.0±1.0**, 27.°7N**±0.°1×**52.°51E**±0.°08**, h14**km**, n19,** σ**0.°96**/19**, mb3.6**/12**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.75	34	ePg	Pg	01 42 33.2	-1.4
BNDS	Bandar-Abbas	3.26	94	ePn	Pn	01 43 11.7	+0.8
KRBR	Kerman	4.38	57	ePn	Pn	01 43 27.3	+0.9
NASN	Na'in	5.12	3	ePn	Pn	01 43 37.0	+0.4
TABS	Tabas	7.16	33	ePn	Pn	01 44 04.9	+0.5
GNI	Garni	14.01	335	Pn	P	01 45 48.6	+2.5
	0.4nm,0.3s,baz=153,slow=16,SNR=5.1						
BRTR	Keskin Array B	19.73	312	P	Pn	01 46 50.5	-0.4
	0.1nm,0.3s,baz=130,slow=13,SNR=5.7						
AKTO	Aktyubinsk	23.12	9	P	P	01 47 27.0	+1.6
	0.5nm,0.5s,baz=188,slow=19,SNR=3.6						
BVAR	Borovoye Array	28.60	23	P	P	01 48 15.4	-0.2
	0.3nm,0.6s,baz=219,slow=6.9,SNR=3.6						
AKASG	Malin Array Be	29.01	329	P	P	01 48 18.4	-0.8
	0.5nm,0.4s,baz=123,slow=7.1,SNR=3.7						
MKAR	Makanchi Array	30.17	43	P	P	01 48 29.9	+0.2
	0.2nm,0.5s,baz=229,slow=9.4,SNR=4.2						
KURK	Kurchatov	30.36	34	P	P	01 48 30.6	-0.6
	0.5nm,0.5s,baz=234,slow=8.6,SNR=7.8						
ZALV	Zalesovo Beam	35.35	33	P	P	01 49 14.3	-0.4
	1.6nm,0.4s,baz=242,slow=9.6,SNR=13						
FINES	FINESS Array B	38.12	340	P	P	01 49 38.0	-0.2
	3.0nm,0.9s,baz=143,slow=6.7,SNR=8.0						
HFS	Hagfors	41.77	332	P	P	01 50 08.2	-0.4
	2.1nm,0.5s,baz=123,slow=10,SNR=7.5						
NOA	NORSAR Array B	43.30	332	P	P	01 50 20.7	-0.3
	0.9nm,0.6s,baz=121,slow=8.4,SNR=3.1						
SONM	Songino Array	46.09	49	P	P	01 50 43.2	-0.5
	0.2nm,0.6s,baz=276,slow=8.8,SNR=2.6						
TORD	Torodi Ar. Bea	49.44	264	P	P	01 51 09.6	-0.3
	0.3nm,0.5s,baz=62,slow=8.0,SNR=5.1						
DBIC	Dimbokro	58.10	260	P	P	01 52 12.8	-0.5
	1.1nm,0.5s,baz=66,slow=10.0,SNR=3.5						

*IDC **03** 01:43:53.4±1.0, 15.°78N×83.°19W, h0km, mb3.6/6, mb1 4.0/8, mb1mx3.8/22, mbtmp3.7/8, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/27, Error ellipse: s-maj=25.9km s-min=20.7km az=81.0*
*ISCJB **03** 01:43:54.5±1.6, 16.°1N±0.°2×83.°08W±0.°07, h10km, mb3.4/6, Error ellipse: s-maj=34.8km s-min=8.4km az=10.0*
ISC 03 01:43:56.4±1.6**, 16.°1N**±0.°2×**83.°2W**±0.°1**, h10**km**, n17,** σ**0.°94**/10**, mb3.4**/6**, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	5.99	197	Pg	Pb	01 45 39.2	-1.9
	0.8nm,0.3s,baz=238,slow=15,SNR=3.8						
JTS				Lg	Lg	01 46 54.2	
	4.4nm,0.3s,baz=343,slow=19,SNR=3.6						
JTS				LR	LR	01 47 56.5	
	comp=Z,128nm,19.0s,baz=4.0,slow=42						
BBJ	Bamboo Saint A	6.09	67	i P	Pn	01 45 26.0	-0.6
STH	Stony Hill	6.39	71	i P	Pn	01 45 29.5	-1.3
TEIG	Tepich	6.40	311	Pn	Pn	01 45 30.7	-0.1
	3.6nm,0.3s,baz=146,slow=4.3,SNR=24						
TEIG				Sn	Sn	01 46 42.4	-1.5
	1.6nm,0.3s,baz=43,slow=21,SNR=7.0						
TEIG				LR	LR	01 47 48.5	
	comp=Z,113nm,19.4s,baz=31,slow=36						
HOJ	Hope	6.43	72	i P	Pn	01 45 29.7	-1.6
GWJ	Greenwich	6.47	71	i P	Pn	01 45 30.9	-1.0
CMJ	Castle Mountai	6.81	71	i P	Pn	01 45 35.5	-1.0
CMIG	Matias Romero	11.29	277	LR	LR	01 50 59.9	
	comp=Z,206nm,19.7s,baz=110,slow=38						
TKL	Tuckaleechee C	19.53	358	P	P	01 48 25.2	+1.0
	0.1nm,0.3s,baz=143,slow=15,SNR=2.1						
TXAR	Lajitas Array	23.03	309	P	P	01 49 02.4	+0.4
	0.5nm,0.9s,baz=138,slow=11,SNR=5.8						
PDAR	Pinedale Array	34.90	325	P	P	01 50 49.6	+1.1
	0.7nm,1.1s,baz=131,slow=9.7,SNR=3.0						
NVAR	Mina Array Bea	38.04	313	P	P	01 51 13.4	-1.9
	0.5nm,0.7s,baz=119,slow=7.3,SNR=3.1						
ILAR	Eielson Array	64.49	335	P	P	01 54 33.4	+0.3
	0.9nm,0.6s,baz=106,slow=4.5,SNR=19						
ESDC	Sonseca Array	71.71	53	P	P	01 55 19.0	0.0
	0.1nm,0.4s,baz=278,slow=6.3,SNR=5.0						
TORD	Torodi Ar. Bea	81.59	79	P	P	01 56 13.8	-1.4
	0.5nm,0.7s,baz=288,slow=4.6,SNR=4.8						
ASAR	Alice Springs	144.41	252	PKP	PKPab	02 03 31.9	-0.1
	0.0nm,0.3s,baz=105,slow=3.7,SNR=10						
CMAR	Chiang Mai Arr	145.64	356	PKPbc	PKPdf	02 03 35.1	-1.0
	0.5nm,0.3s,baz=347,slow=3.7,SNR=5.6						

*ISK **03** 01:53:18.6, 37.°16N×30.°45E, h7km, MD3.4*
*DDA **03** 01:53:18.0, 37.°13N×30.°55E, h7km, MD3.3*
*CSEM **03** 01:53:19.2±0.1, 37.°16N×30.°46E, h2km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.6km az=60.0*
*ISCJB **03** 01:53:19.1±0.6, 37.°16N±0.°02×30.°48E±0.°03, h5km±5km, Error ellipse: s-maj=4.5km s-min=4.2km az=170.3*
ISC 03 01:53:19.9±1.1**, 37.°14N**±0.°02×**30.°46E**±0.°03**, h5**km±10km**, n82,** σ**1.°11**/99**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.28	147	PG	Pg	01 53 24.7	-0.7
ANTB				eSG	Sg	01 53 30.6	+1.5
ANTB	Antalya	0.28	147	i Pg	Pg	01 53 24.7	-0.7
ANTB				eSg	Sg	01 53 30.6	+1.5
BCK	Bucak	0.34	17	PG	Pg	01 53 25.1	-1.4
BCK				eSG	Sg	01 53 30.9	-0.1
BCK	Bucak	0.34	17	i Pg	Pg	01 53 25.1	-1.4
BCK				eSg	Sg	01 53 30.9	-0.1
ELL	Elmali	0.59	229	ePG	Pg	01 53 29.8	-1.5
ELL	Elmali	0.59	229	ePg	Pg	01 53 29.8	-1.5
ISP	Isparta	0.69	4	ePG	Pg	01 53 32.0	-1.1
ISP	Isparta	0.69	4	ePg	Pg	01 53 32.0	-1.1
GOLH	Golhisar	0.73	278	i P	Pg	01 53 32.7	-1.2
GOLH				i S	Sb	01 53 45.7	+0.3
GOLH	Golhisar	0.73	278	i P	Pg	01 53 32.7	-1.2
GOLH				i S	Sb	01 53 45.7	+0.3
GLHS	Glhisar (BURDU	0.77	272	ePG	Pg	01 53 34.5	-0.2
GLHS	Glhisar (BURDU	0.77	272	ePg	Pg	01 53 34.5	-0.2
AKAS	Kas	1.14	218	i P	Pg	01 53 41.1	-0.6
AKAS				i S	Sn	01 53 56.8	-1.8
AKAS	Kas	1.14	218	i P	Pg	01 53 41.1	-0.6
AKAS				i S	Sn	01 53 56.8	-1.8
DNZL	Cakiroluk	1.25	296	i P	Pn	01 53 43.3	-1.0
DNZL				i S	Sn	01 54 04.1	+2.5
DNZL	Cakiroluk	1.25	296	i P	Pn	01 53 43.3	-1.0
DENT	Denizli	1.29	299	ePN	Pn	01 53 43.0	-1.6
DENT	Denizli	1.29	299	ePn	Pn	01 53 43.0	-1.6
SHUT	Suhut-Afyon	1.41	3	ePN	Pn	01 53 45.1	-1.3
SHUT	Suhut-Afyon	1.41	3	ePn	Pn	01 53 45.1	-1.3
KHAL	Karahalli	1.45	328	i P	Pn	01 53 45.7	-1.2
KHAL				i S	Sg	01 54 08.6	+2.1
KHAL	Karahalli	1.45	328	i P	Pn	01 53 45.7	-1.2
KHAL				i S	Sg	01 54 08.6	+2.1
BOLV	Bolvadin	1.62	14	i P	Pn	01 53 48.9	-0.4
BOLV				i S	Sg	01 54 13.6	+1.5
BOLV	Bolvadin	1.62	14	i P	Pn	01 53 48.9	-0.4
BOLV				i S	Sg	01 54 13.6	+1.5
HDMB	Hadim	1.63	96	ePN	Pn	01 53 48.1	-1.3
HDMB	Hadim	1.63	96	ePn	Pn	01 53 48.1	-1.3
KONT	Konya--Tatoy	1.71	61	ePN	Pn	01 53 49.8	-0.6
KONT	Konya--Tatoy	1.71	61	ePn	Pn	01 53 49.8	-0.6
YER	Yerkesik	1.74	271	ePN	Pb	01 53 52.2	-0.2
YER	Yerkesik	1.74	271	ePn	Pb	01 53 52.2	-0.2
LADK	Ladik-KONYA	1.84	54	ePN	Pn	01 53 51.9	-0.4
LADK	Ladik-KONYA	1.84	54	ePn	Pn	01 53 51.9	-0.4
ALT	Altintas	1.93	352	ePN	Pn	01 53 52.2	-1.3
ALT	Altintas	1.93	352	ePn	Pn	01 53 52.2	-1.3
KULA	Kula-Manisa	1.98	314	ePN	Pn	01 53 53.3	-0.9
KULA	Kula-Manisa	1.98	314	ePn	Pn	01 53 53.3	-0.9
MANT	Manisa	2.02	312	i P	Pn	01 53 55.0	+0.1
MANT				eS	Sb	01 54 23.5	+0.6
MANT	Manisa	2.02	312	i P	Pn	01 53 55.0	+0.1
MANT				eS	Sb	01 54 23.5	+0.6
GDZ	Gediz	2.10	339	i P	Pn	01 53 55.1	-0.7
GDZ				i S	Sg	01 54 33.1	+5.8
GDZ	Gediz	2.10	339	i P	Pn	01 53 55.1	-0.7
DEMI	Demirci	2.35	325	i P	Pn	01 53 57.7	-1.5
DEMI				i S	Sg	01 54 34.3	-1.0
DEMI	Demirci	2.35	325	i P	Pn	01 53 57.7	-1.5
ESKT	Eskisehir	2.40	7	ePN	Pn	01 53 59.1	-0.8
ESKT	Eskisehir	2.40	7	ePn	Pn	01 53 59.1	-0.8
SVRH	Sivrihisar-ESK	2.45	20	ePN	Pn	01 53 59.6	-1.0
SVRH	Sivrihisar-ESK	2.45	20	ePn	Pn	01 53 59.7	-1.0
BODT	Bodrum	2.52	269	ePN	Pn	01 54 00.9	-0.6
BODT	Bodrum	2.52	269	ePn	Pn	01 54 00.9	-0.6
AKS	Akhisar	2.72	311	ePN	Pn	01 54 03.8	-0.4
AKS	Akhisar	2.72	311	ePn	Pn	01 54 03.8	-0.4
LEF	Lefka	2.81	135	ePN	Pn	01 54 05.5	0.0
LEF	Lefka	2.81	135	ePn	Pn	01 54 05.5	0.0
BLCB	Balcova	2.98	296	ePN	Pn	01 54 07.4	-0.4
BLCB	Balcova	2.98	296	ePn	Pn	01 54 07.4	-0.4
AFSR	Af¯ar-Bala (A	3.09	41	ePN	Pn	01 54 08.6	-0.7
AFSR	Af¯ar-Bala (A	3.09	41	ePn	Pn	01 54 08.6	-0.7
LFK	Lefkose	3.10	126	ePN	Pn	01 54 09.7	+0.2
LFK	Lefkose	3.10	126	ePn	Pn	01 54 09.7	+0.2
CSS	Prodhromos	3.18	132	ePN	Pn	01 54 11.3	+0.7
CSS	Prodhromos	3.18	132	ePn	Pn	01 54 11.3	+0.7
BALB	Balikesir	3.22	322	ePN	Pn	01 54 10.8	-0.3
BALB	Balikesir	3.22	322	ePn	Pn	01 54 10.8	-0.3
MERS	Mersin	3.26	94	ePN	Pn	01 54 12.0	+0.3
MERS	Mersin	3.26	94	ePn	Pn	01 54 12.0	+0.3
LOD	Lodumlu	3.29	33	ePN	Pn	01 54 11.9	-0.2
LOD	Lodumlu	3.29	33	ePn	Pn	01 54 11.9	-0.2
GULT	Gulveren	3.29	1	ePN	Pn	01 54 11.7	-0.4
GULT	Gulveren	3.29	1	ePn	Pn	01 54 11.7	-0.4
ADVT	Abdulvahap	3.34	350	ePN	Pn	01 54 12.4	-0.3
ADVT	Abdulvahap	3.34	350	ePn	Pn	01 54 12.4	-0.3
MDUB	Mudurnu	3.38	10	ePN	Pn	01 54 13.1	-0.3
MDUB	Mudurnu	3.38	10	ePn	Pn	01 54 13.1	-0.3
MDNY	Mudanya-Bursa	3.45	340	ePN	Pn	01 54 14.1	-0.2
MDNY	Mudanya-Bursa	3.45	340	ePn	Pn	01 54 14.1	-0.2
YLV	Yalova	3.53	346	ePN	Pn	01 54 15.5	+0.1
YLV	Yalova	3.53	346	ePn	Pn	01 54 15.5	+0.1
KCTX	Karacabey (Bur	3.53	333	ePN	Pn	01 54 15.3	-0.1
KCTX	Karacabey (Bur	3.53	333	ePn	Pn	01 54 15.3	-0.1
SPNC	Sapanca-Adapaz	3.54	358	ePN	Pn	01 54 15.5	-0.1
SPNC	Sapanca-Adapaz	3.54	358	ePn	Pn	01 54 15.5	-0.1
GONE	Gonen-Balikesi	3.63	324	ePN	Pn	01 54 16.2	-0.5
GONE	Gonen-Balikesi	3.63	324	ePn	Pn	01 54 16.2	-0.5

IDC 03 02:24:28.7±3.8**, 29.°95N**×**94.°08E, h0**km**, mb3.5**/4**, mb1 3.6**/5**, mb1mx3.4**/24**, mbtmp3.5**/5**, Error ellipse: s-maj=83.7km s-min=42.8km az=128.0, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.78	205	eP	Pg	02 26 04.0	+3.7
SHL				eS	Sg	02 27 02.0	-0.3
MKAR	Makanchi Array	19.16	335	P	P	02 28 53.8	+0.3
	0.1nm,0.3s,baz=146,slow=13,SNR=7.2						
SONM	Songino Array	20.22	25	P	P	02 29 05.2	-0.1
	0.3nm,0.5s,baz=217,slow=8.4,SNR=3.1						
ZALV	Zalesovo Beam	24.91	347	P	P	02 29 53.7	+0.5
	0.6nm,0.5s,baz=163,slow=7.8,SNR=4.5						
FINES	FINESS Array B	53.72	326	P	P	02 33 51.3	-0.9
	0.8nm,0.7s,baz=90,slow=8.2,SNR=4.6						
TORD	Torodi Ar. Bea	85.58	283	P	P	02 37 09.7	+0.2
	0.5nm,0.7s,baz=62,slow=4.4,SNR=6.6						

*IDC **03** 02:29:58.8±2.7, 7.°36S×129.°05E, h148km±26km, mb3.4/5, mb1 3.7/9, mb1mx3.5/17, mbtmp3.6/9, Error ellipse: s-maj=34.2km s-min=16.1km az=68.0*
ISC 03 02:30:00.8±1.7**, 7.°6S**±0.°1×**129.°5E**±0.°1**, h131**km**, n17,** σ**1.°95**/18**, mb3.7**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.04	199	P	Pn	02 32 35.0	-0.1
	4.0nm,0.3s,baz=32,slow=11,SNR=88						
FITZ				S	Sn	02 34 37.6	+0.7
	3.8nm,0.3s,baz=168,slow=15,SNR=4.9						
FITZ	Fitzroy Crossi	11.04	199	eP	Pn	02 32 34.7	-0.4
	19nm,0.3s						
FITZ				eS	Sn	02 34 34.7	-2.1
WRA	Warramunga Arr	13.11	159	P	Pn	02 33 02.9	+0.7
	2.2nm,0.3s,baz=337,slow=12,SNR=29						
WRA				S	Sn	02 35 25.3	-1.7
	5.2nm,0.3s,baz=339,slow=19,SNR=15						
COEN	Coen	14.86	116	eP	Pn	02 33 24.0	-0.5
	41nm,0.4s						
COEN				eS	Sn	02 36 00.5	-8.7
MBWA	Marble Bar	16.39	214	eP	P	02 33 44.6	+0.7
MBWA				eS	Sn	02 36 39.3	-6.7
ASAR	Alice Springs	16.49	165	P	P	02 33 46.2	+1.2
	1.0nm,0.3s,baz=340,slow=9.6,SNR=45						
ASAR				S	Sn	02 36 47.8	-0.6
	0.8nm,0.3s,baz=346,slow=26,SNR=6.1						
ASAR				ScP	ScP	02 41 44.9	-6.2
	0.1nm,0.3s,baz=352,slow=1.9,SNR=4.8						
PMG	Port Moresby	17.60	97	P	Pn	02 33 58.5	+0.4
	1.1nm,0.3s,baz=311,slow=7.9,SNR=4.0						
FORT	Forrest	23.05	183	eP	P	02 34 56.5	+1.7
	10nm,0.5s						
QLP	Quilpie	23.50	145	eP	P	02 35 00.0	+1.0
MORW	Morawa	24.78	209	eP	P	02 35 11.9	+1.3
	21nm,0.5s						
BBOO	Buckleboo	25.78	167	eP	P	02 35 20.5	+0.9
	18nm,1.0s						
STKA	Stephens Creek	26.63	156	P	P	02 35 27.9	+0.6
	1.2nm,0.5s,baz=334,slow=11,SNR=10						
STKA	Stephens Creek	26.63	156	eP	P	02 35 28.3	+1.0
	2.2nm,1.4s						
SONM	Songino Array	58.88	342	P	P	02 39 39.5	-6.5
	0.1nm,0.3s,baz=154,slow=5.5,SNR=2.7						
MKAR	Makanchi Array	68.47	327	P	P	02 40 42.3	-6.5
	0.6nm,0.4s,baz=114,slow=8.2,SNR=18						
ZALV	Zalesovo Beam	71.92	334	P	P	02 41 03.1	-6.5
	0.5nm,0.5s,baz=150,slow=7.1,SNR=3.2						
KURK	Kurchatov	72.78	329	P	P	02 41 07.9	-7.0
	0.4nm,0.4s,baz=128,slow=4.9,SNR=9.7						

*ISCJB **03** 02:35:19.9±0.4, 51.°55N±0.°06×175.°32W±0.°05, h47km, mb4.0/22, MS3.4/1, Error ellipse: s-maj=9.6km s-min=4.0km az=162.2*
*NEIC **03** 02:35:21.0, 51.°61N×175.°28W, h28km, mb3.9/13, ML4.0(AEIC), After AEIC.*
*IDC **03** 02:35:23.5±3.0, 51.°72N×175.°33W, h67km±26km, mb3.6/14, mb1 3.8/18, mb1mx3.7/29, mbtmp3.7/18, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=25.0km s-min=12.3km az=171.0*
ISC 03 02:35:21.6±0.6**, 51.°61N**±0.°09×**175.°27W**±0.°05**, h47**km**, n66,** σ**1.°34**/74**, mb3.9**/22**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.89	48	P	Pn	02 35 36.5	-1.3
ATKA				S	Sn	02 35 48.5	-1.1
KOWE	Korovin West	0.98	39	P	Pn	02 35 39.4	+0.3
KOFP	Korovin Flat P	0.98	47	P	Pn	02 35 39.0	0.0
KOKV	Korovin Volcan	1.02	42	P	Pn	02 35 40.0	+0.5
KOKV				S	Sn	02 35 53.9	+1.2
OKWR	Okmok West Rim	4.69	64	P	Pn	02 36 32.1	+2.3
OKTU	Okmok Mt. Tuli	4.76	65	P	Pn	02 36 32.5	+1.7
MSOM	Makushin Julie	5.52	63	P	Pn	02 36 43.0	+1.9
MSW	Makushin Switc	5.65	63	P	Pn	02 36 45.2	+2.3
MSW				S	Sn	02 37 48.1	+1.7
UNV	Unalaska Valle	5.78	64	P	Pn	02 36 47.3	+2.6
UNV				S	Sn	02 37 53.7	+4.1
SPIA	Saint Paul Isl	6.30	26	P	Pn	02 36 54.1	+2.2
FX1	Attu Island--F	7.21	285	P	Pn	02 37 05.4	+1.1
	5.2nm,0.3s,baz=94,slow=5.6,SNR=6.6						
FX1				S	Sn	02 38 28.2	+3.3
	0.9nm,0.3s,baz=90,slow=19,SNR=2.2						
FX1	Attu Island--F	7.21	285	P	Pn	02 37 05.4	+1.1
FX1				S	Sn	02 38 28.2	+3.3
GAMB	Gambell	12.35	7	ePn	Pn	02 38 15.6	+1.2
	3.9nm,0.6s						
KDAK	Kodiak Island	14.46	56	P	Pn	02 38 42.5	-0.6
	0.3nm,0.3s,baz=234,slow=17,SNR=11						
KDAK	Kodiak Island	14.46	56	P	Pn	02 38 42.5	-0.6
TNA	Tin City	14.49	12	ePn	P	02 38 47.0	-2.1
	2.3nm,0.5s						
PETK	Petropavlovsk-	16.55	286	P	P	02 39 11.0	-1.0
	0.2nm,0.3s,baz=99,slow=13,SNR=3.9						
PETK				LR	LR	02 44 54.6	
	comp=Z,84nm,20.9s,baz=272,slow=35						
PETK	Petropavlovsk-	16.55	286	P	P	02 39 11.0	-1.0
SEW	Seward	16.71	49	ePn	Pn	02 39 11.3	-0.7
RC01	Rabbit Creek A	16.93	46	ePn	P	02 39 16.4	+0.1
MCK	McKinley	18.42	39	eP	Pn	02 39 33.2	+0.1
	4.0nm,0.6s						
BILL	Bilibino	18.77	338	eP	Pn	02 39 37.7	+0.5
	3.6nm,0.5s						
COLA	College	19.39	36	eP	Pn	02 39 44.0	-0.7
	3.3nm,0.6s						
ILAR	Eielson Array	19.70	37	P	P	02 39 44.9	-1.7
	0.5nm,0.3s,baz=231,slow=9.0,SNR=47						
ILAR	Eielson Array	19.70	37	P	P	02 39 44.9	-1.7
DOT	Dot Lake	20.35	42	eP	P	02 39 53.3	-0.4
	3.8nm,0.8s						
EGAK	Eagle	21.94	40	eP	P	02 40 10.2	-0.5
	7.4nm,0.4s						
USRK	Ussuriysk Arra	35.44	279	P	P	02 42 11.3	-1.6
	1.8nm,0.5s,baz=56,slow=9.6,SNR=10						
HLID	Hailey	40.75	77	eP	P	02 42 58.6	+0.7
	1.6nm,0.9s						
MCMT	McKenzie Canyo	41.00	74	eP	P	02 43 00.2	+0.2
	1.1nm,0.5s						
BOZ	Bozeman (W)	41.29	72	eP	P	02 43 02.7	+0.4
	0.8nm,0.5s						
KSRS	Korea Array	41.83	273	P	P	02 43 06.7	+0.1
	1.6nm,0.8s,baz=62,slow=8.4,SNR=4.0						
KSAR	Wonju Array Be	41.87	273	P	P	02 43 06.7	-0.2
PD01	Pinedale Array	44.11	75	eP	P	02 43 25.6	+0.3
BW06	Boulder Array	44.13	75	eP	P	02 43 25.9	+0.5
	2.7nm,0.7s						
PDAR	Pinedale Array	44.13	75	P	P	02 43 26.2	+0.8
	3.3nm,0.7s,baz=304,slow=4.1,SNR=28						
PDAR	Pinedale Array	44.13	75	P	P	02 43 26.2	+0.8
ULM	Lac du Bonnet	47.70	59	P	P	02 43 52.9	-0.2
	1.0nm,0.4s,baz=291,slow=8.6,SNR=3.3						
ULM	Lac du Bonnet	47.70	59	P	P	02 43 52.9	-0.2
SONM	Songino Array	48.50	298	P	P	02 43 57.6	-2.0
	0.2nm,0.8s,baz=63,slow=6.6,SNR=2.9						
SONM				PcP	PcP	02 45 24.9	0.0
	0.6nm,0.7s,baz=55,slow=3.6,SNR=5.5						
SONM	Songino Array	48.50	298	P	P	02 43 57.6	-2.0
SONM				PcP	PcP	02 45 24.9	0.0
CBKS	Cedar Bluff	52.43	73	eP	P	02 44 29.6	+0.3
	4.2nm,0.6s						
TXAR	Lajitas Array	56.44	84	P	P	02 44 58.3	-0.2
	0.4nm,0.7s,baz=291,slow=5.4,SNR=5.0						
TXAR	Lajitas Array	56.44	84	P	P	02 44 58.3	-0.2
KURK	Kurchatov	60.43	315	P	P	02 45 26.1	+0.2
	1.2nm,0.4s,baz=43,slow=6.7,SNR=34						
KURK				LR	LR	03 11 43.4	
	comp=Z,26nm,20.6s,baz=320,slow=36						
KURK	Kurchatov	60.43	315	eP	P	02 45 25.4	-0.5
	1.8nm,0.4s						
MKAR	Makanchi Array	61.59	310	P	P	02 45 31.4	-2.4
	0.2nm,0.3s,baz=47,slow=6.5,SNR=8.6						
MKAR	Makanchi Array	61.59	310	P	P	02 45 31.4	-2.4
NOA	NORSAR Array B	67.58	357	P	P	02 46 11.9	-0.8
	0.3nm,0.4s,baz=5.8,slow=6.6,SNR=2.9						
NOA	NORSAR Array B	67.58	357	P	P	02 46 11.9	-0.8
EKS2	Erkin-Say	68.69	312	eP	P	02 46 20.4	+0.3
	1.3nm,0.8s						
ABKAR	Akbulak array	69.05	325	eP	P	02 46 22.7	+0.7
	0.4nm,0.4s						
CMAR	Chiang Mai Arr	73.17	279	P	P	02 46 47.8	+0.4
	0.9nm,0.4s,baz=47,slow=6.3,SNR=4.4						
CMAR	Chiang Mai Arr	73.17	279	P	P	02 46 47.8	+0.4
WRA	Warramunga Arr	83.75	227	P	P	02 47 44.2	-1.3
	0.8nm,0.8s,baz=33,slow=5.4,SNR=3.2						
WRA	Warramunga Arr	83.75	227	P	P	02 47 44.2	-1.3
BRTR	Keskin Array B	85.60	338	P	P	02 47 54.6	-0.3
	0.5nm,0.7s,baz=37,slow=4.0,SNR=3.0						
BRTR	Keskin Array B	85.60	338	P	P	02 47 54.6	-0.3
ASAR	Alice Springs	87.18	225	P	P	02 48 02.4	-0.2
	0.9nm,0.8s,baz=27,slow=3.4,SNR=7.6						
ASAR	Alice Springs	87.18	225	P	P	02 48 02.4	-0.2
STKA	Stephens Creek	91.36	216	P	P	02 48 22.0	+0.1
	1.2nm,0.6s,baz=0.0,slow=4.0,SNR=5.4						
STKA	Stephens Creek	91.36	216	P	P	02 48 22.0	+0.1
TORD	Torodi Ar. Bea	115.46	3	PKP	PKPdf	02 53 57.6	-0.7
	0.2nm,0.5s,baz=346,slow=2.0,SNR=13						
TORD	Torodi Ar. Bea	115.46	3	PKP	PKPdf	02 53 57.6	-0.7
BOSA	Boshof	152.36	318	PKPbc	PKPbc	02 55 11.7	-0.5
	2.6nm,0.5s,baz=30,slow=2.7,SNR=18						
BOSA	Boshof	152.36	318	PKPbc	PKPbc	02 55 11.7	-0.5

*IDC **03** 02:59:27.0±5.3, 10.°54S×161.°20E, h42km±42km, mb3.6/7, mb1 3.9/8, mb1mx3.7/16, mbtmp3.7/8, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/21, Error ellipse: s-maj=34.5km s-min=20.1km az=103.0*
*ISCJB **03** 02:59:28.1±0.8, 10.°45S±0.°08×161.°14E±0.°10, h62km, mb3.9/9, Error ellipse: s-maj=15.2km s-min=9.6km az=148.2*
ISC 03 02:59:29.5±1.0**, 10.°51S**±0.°10×**161.°1E**±0.°1**, h62**km**, n18,** σ**1.°78**/16**, mb3.7**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.58	312	P	Pn	02 59 53.8	-1.6
	358nm,0.3s,baz=178,slow=18,SNR=73						
HNR				S	Sn	03 00 13.6	-1.3
	629nm,0.3s,baz=162,slow=20,SNR=13						
DZM	Mont Dzumac	12.57	157	eP	Pn	03 02 27.4	+1.7
DZM				eS	Sn	03 04 39.9	-4.3
CTA	Charters Tower	17.21	235	P	Pn	03 03 26.2	+0.3
	0.4nm,0.3s,baz=64,slow=13,SNR=11						
CTA				LR	LR	03 09 14.3	
	comp=Z,106nm,19.1s,baz=54,slow=34						
CTA	Charters Tower	17.21	235	eP	Pn	03 03 26.2	+0.3
	4.5nm,0.7s						
RMQ	Roma	19.73	215	eP	Pn	03 03 58.7	+2.5
	26nm,0.9s						
QLP	Quilpie	22.59	223	eP	P	03 04 32.4	+7.4
WRA	Warramunga Arr	27.47	247	P	P	03 05 10.7	+0.6
	0.7nm,0.4s,baz=76,slow=8.9,SNR=4.6						
STKA	Stephens Creek	27.91	217	LR	LR	03 16 09.9	
	comp=Z,52nm,19.6s,baz=213,slow=36						
STKA	Stephens Creek	27.91	217	eP	P	03 05 20.9	+7.1
	1.8nm,0.5s						
ASAR	Alice Springs	29.06	240	P	P	03 05 23.6	-0.7
	0.3nm,0.3s,baz=64,slow=10,SNR=10						
BBOO	Buckleboo	32.02	222	eP	P	03 05 51.4	+1.2
	33nm,0.9s						
FITZ	Fitzroy Crossi	35.17	254	P	P	03 06 16.9	-0.8
	2.1nm,0.4s,baz=63,slow=6.6,SNR=13						
FITZ	Fitzroy Crossi	35.17	254	eP	P	03 06 17.5	-0.2
	10nm,1.0s						
USRK	Ussuriysk Arra	60.53	336	LR	LR	03 32 39.7	
	comp=Z,55nm,18.1s,baz=245,slow=33						
SONM	Songino Array	75.60	325	P	P	03 11 09.1	+1.2
	0.5nm,0.6s,baz=138,slow=5.0,SNR=4.7						
ILAR	Eielson Array	84.49	20	P	P	03 11 55.4	+0.1
	0.2nm,0.6s,baz=229,slow=5.2,SNR=6.4						
MKAR	Makanchi Array	90.05	318	P	P	03 12 22.6	0.0
	0.2nm,0.5s,baz=100,slow=5.1,SNR=4.1						
TXAR	Lajitas Array	99.56	62	P	Pdif	03 13 04.3	-2.2
	0.3nm,0.9s,baz=264,slow=2.7,SNR=3.6						

*IDC **03** 03:01:14.7±1.7, 38.°84N×140.°66E, h140km±15km, mb3.5/9, mb1 3.5/11, mb1mx3.4/24, mbtmp3.4/11, Error ellipse: s-maj=24.4km s-min=13.0km az=92.0*
*NEIC **03** 03:01:14.5±0.8, 38.°85N×140.°66E, h139km±7km, mb4.1/3, Error ellipse: s-maj=15.9km s-min=8.6km az=99.0*
*ISCJB **03** 03:01:14.6±0.4, 38.°83N±0.°05×140.°51E±0.°08, h151km±3km, mb3.7/11, Error ellipse: s-maj=11.2km s-min=6.3km az=29.7*
*JMA **03** 03:01:16.6±0.1, 38.°80N×140.°46E, h142km±1km, M3.4*
ISC 03 03:01:15.8±0.7**, 38.°85N**±0.°06×**140.°49E**±0.°07**, h148**km±6km**, n38,** σ**0.°79**/50**, mb3.8**/11**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	Kaneyama	0.12	304	P	Pn	03 01 35.8	+0.1
JYK				S	Sn	03 01 50.1	-0.8
JOU	Okura	0.50	164	P	Pn	03 01 37.1	+0.1
JOU				S	Sn	03 01 52.5	-0.6
JMK	Ichinoseki	0.58	80	P	Pn	03 01 37.5	+0.1
JMK				S	Sn	03 01 53.5	-0.3
JYA	Atsumi	0.66	247	P	Pn	03 01 37.8	0.0
JYA				S	Sn	03 01 53.9	-0.7
JYS	Shirataka	0.71	208	P	Pn	03 01 38.0	-0.2
JYS				eS	Sn	03 01 54.5	-0.8
JIO	Ouri	0.78	120	P	Pn	03 01 38.5	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JIO				S	Sn	03 01 54.7	-1.4
JOM	Ohasama	0.88	45	P	Pn	03 01 40.2	+0.8
JOM				S	Sn	03 01 57.6	+0.1
JMM	Marumori	1.01	166	P	Pn	03 01 40.2	-0.3
JMM				S	Sn	03 01 58.2	-1.1
JAW	Awa shima	1.04	248	P	Pn	03 01 40.7	-0.1
JNS	Sasagawa	1.38	222	P	Pn	03 01 43.7	-0.3
JNS				*e*S	Sn	03 02 04.1	-1.4
JANG	Nango	1.72	27	P	Pn	03 01 48.5	+0.9
JANG				S	Sn	03 02 12.0	0.0
JSD	Sado	1.93	246	P	Pn	03 01 49.5	-0.5
MJAR	Matsushiro Arr	2.93	219	P	Pn	03 02 01.5	-0.7
	0.8nm,0.3s,baz=27,slow=13,SNR=8.6						
MJAR	Matsushiro Arr	2.93	219	P	Pn	03 02 01.5	-0.7
ASAJ	Asahikawa	5.50	16	P	Pn	03 02 33.9	-1.8
	0.5nm,0.3s,baz=70,slow=16,SNR=3.1						
ASAJ				S	Sn	03 03 36.8	-1.3
	0.9nm,0.3s,baz=130,slow=33,SNR=3.1						
ASAJ	Asahikawa	5.50	16	P	Pn	03 02 33.9	-1.8
ASAJ				S	Sn	03 03 36.8	-1.3
USRK	Ussuriysk Arra	8.31	313	P	Pn	03 03 13.5	+0.3
	0.4nm,0.3s,baz=122,slow=14,SNR=4.3						
SONM	Songino Array	26.19	301	P	P	03 06 37.2	+0.7
	0.5nm,0.4s,baz=106,slow=9.0,SNR=6.9						
SONM	Songino Array	26.19	301	P	P	03 06 37.2	+0.7
ZALV	Zalesovo Beam	40.16	311	P	P	03 08 37.9	+0.9
	1.2nm,0.7s,baz=87,slow=7.2,SNR=7.1						
ZALV	Zalesovo Beam	40.16	311	P	P	03 08 37.9	+0.9
MK31	Makanchi Array	42.55	300	*e*P	P	03 08 57.2	+0.5
MKAR	Makanchi Array	42.55	300	P	P	03 08 57.5	+0.9
	2.0nm,0.6s,baz=86,slow=9.7,SNR=24						
MKAR	Makanchi Array	42.55	300	P	P	03 08 57.5	+0.9
KURK	Kurchatov	44.25	307	P	P	03 09 11.2	+1.0
	6.6nm,0.5s,baz=81,slow=8.0,SNR=85						
KURK	Kurchatov	44.25	307	*e*P	P	03 09 10.5	+0.4
	6.8nm,0.8s						
TKM2	Tokmak 2	48.14	297	*e*P	P	03 09 42.0	+1.0
	2.5nm,0.7s						
ABKAR	Akbulak array	56.22	309	*e*P	P	03 10 40.5	+0.3
	0.8nm,0.5s						
WRA	Warramunga Arr	58.77	187	P	P	03 10 57.7	-0.5
	0.5nm,0.4s,baz=2.0,slow=7.3,SNR=4.4						
WRA	Warramunga Arr	58.77	187	P	P	03 10 57.7	-0.5
ASAR	Alice Springs	62.49	187	P	P	03 11 23.8	+0.4
	0.5nm,0.7s,baz=5.1,slow=6.3,SNR=6.1						
ASAR	Alice Springs	62.49	187	P	P	03 11 23.8	+0.4
FINES	FINESS Array B	66.87	332	P	P	03 11 51.2	-0.2
	0.7nm,0.4s,baz=212,slow=36,SNR=4.8						
FINES	FINESS Array B	66.87	332	P	P	03 11 51.2	-0.2
NOA	NORSAR Array B	72.23	337	P	P	03 12 24.9	+0.6
	0.2nm,0.6s,baz=20,slow=5.6,SNR=2.4						
NOA	NORSAR Array B	72.23	337	P	P	03 12 24.9	+0.6
AKASG	Malin Array Be	72.42	322	P	P	03 12 25.0	-0.5
	0.4nm,0.4s,baz=43,slow=6.7,SNR=4.2						
AKASG	Malin Array Be	72.42	322	P	P	03 12 25.0	-0.5

GUC 03 03:11:59.6±0.8, 33°.73S×68°.78W, h11km±4km, MD3.6, ML3.0, 3C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	1.19	264	*e*P	Pb	03 12 21.6	-0.9
LMEL				*i* S	Sg	03 12 38.6	0.0
LMEL				AML	AML	03 12 39.5	
	comp=N,429nm,0.2s						
FCH	Farellones	1.33	287	⇑*i*P	Pn	03 12 24.7	+0.2
FCH				*i* S	Sg	03 12 43.2	+0.1
FCH				AML	AML	03 12 46.3	
	comp=N,214nm,0.6s						
FSR	Penalolen	1.48	279	*e*P	Pn	03 12 26.7	+0.4
FSR				*i* S	Sg	03 12 47.4	-0.1
FSR				AML	AML	03 12 49.3	
	comp=E,253nm,0.4s						
CLCH	Cerro Calan	1.51	282	⇓*i*P	Pb	03 12 27.3	-0.4
CLCH				*i* S	Sg	03 12 48.3	0.0
CLCH				AML	AML	03 12 49.9	
	comp=E,800nm,0.5s						
ANTU	Antumapu	1.56	275	*i* S	Sg	03 12 49.6	-0.2
ANTU				AML	AML	03 12 51.1	
	comp=N,303nm,0.3s						
CACH	El Canelo	1.56	255	⇑*i*P	Pb	03 12 28.6	-0.2
CACH				*i* S	Sg	03 12 50.0	-0.3
CHCH	Chadas Angostu	1.57	262	*e*P	Pb	03 12 28.4	-0.4
CHCH				*e*S	Sg	03 12 50.1	-0.3
PEL	Peldehue	1.70	290	⇑*i*P	Pb	03 12 30.6	-0.4
PEL				*i* S	Sg	03 12 53.8	-0.6
PEL				AML	AML	03 12 56.0	
	comp=N,288nm,1.0s						
RCDM	Rinconada Maip	1.71	277	*e*P	Pb	03 12 30.3	-0.8
RCDM				*i* S	Sg	03 12 54.0	-0.7
RCDM				AML	AML	03 12 54.8	
	comp=N,504nm,0.2s						
ROCH	El Roble	2.02	291	*e*P	Pb	03 12 35.4	-1.2
ROCH				*e*S	Sg	03 13 03.7	-1.3
ROCH				AML	AML	03 13 06.8	
	comp=N,122nm,0.5s						
LNV	Longovilo	2.20	263	*i* S	Sg	03 13 08.6	-1.9

*ISCJB **03** 03:21:11.9±0.5, 22°.06S±0°.03×67°.11W±0°.05, h175km±3km, mb4.1/35, Error ellipse: s-maj=7.2km s-min=4.9km az=167.2*
*NEIC **03** 03:21:12.8±0.5, 22°.02S×66°.98W, h173km±5km, mb4.5/17, Error ellipse: s-maj=7.8km s-min=5.0km az=71.0*
*IDC **03** 03:21:12.1±1.2, 22°.02S×67°.04W, h166km±10km, mb3.9/11, mb1 4.1/18, mb1mx4.1/20, mbtmp4.0/18, Error ellipse: s-maj=14.8km s-min=9.9km az=78.0*
*GUC **03** 03:21:13.9±0.9, 22°.07S×67°.61W, h212km±10km, ML5.2*
*BJI **03** 03:21:14.5, 22°.00S×67°.00W, h172km*
ISC 03 03:21:12.5±0.7, 21°.98S±0°.04×67°.05W±0°.06, h171km±5km, n240, σ1s.10/267, mb4.2/35, 64C-75D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.84	250	⇑*i*Pn	Pn	03 21 48.5	+1.0
LVC				*e*Sn	Sn	03 22 15.3	+0.8
LVC	Limon Verde	1.84	250	⇑*i*P	Pn	03 21 48.5	+1.0
LVC				*i* S	Sn	03 22 15.1	+0.6
PB09	Plate Boundary	2.05	275	⇑*i*P	Pn	03 21 50.7	+1.1
PB09				*e*S	Sn	03 22 18.4	0.0
PB09				AML	AML	03 22 21.6	
	comp=E,8µm,0.4s						
PB04	Plate Boundary	2.28	262	⇑*i*P	Pn	03 21 59.0	+6.8
PB04				*i* S	Sn	03 22 33.1	+10
PB04				AML	AML	03 22 34.4	
	comp=N,6µm,0.2s						
PB01	Plate Boundary	2.46	292	⇑*i*P	Pn	03 21 54.7	+0.5
PB01				*i* S	Sn	03 22 26.2	-0.4
PB01				AML	AML	03 22 27.4	
	comp=N,9µm,0.3s						
MACH	Maria Elena	2.52	265	*e*P	Pn	03 21 55.2	-0.1
MACH				*i* S	Sn	03 22 26.4	-1.9
PB07	Plate Boundary	2.65	275	⇑*i*P	Pn	03 21 56.4	-0.3
PB07				*i* S	Sn	03 22 28.6	-2.3
PB07				AML	AML	03 22 30.6	
	comp=E,8µm,0.7s						
HMBC	Humberstone	3.15	302	⇑*i*P	Pn	03 22 02.3	-0.4
HMBC				*e*S	Sn	03 22 39.5	-2.2
HMBC				AML	AML	03 22 41.0	
	comp=N,7µm,0.6s						
CEN1	Los Morros	3.24	244	*e*P	Pn	03 22 06.8	+3.0
CEN1				*e*S	Sn	03 22 46.5	+2.9
CEN1				AML	AML	03 22 48.7	
	comp=N,4µm,0.5s						
MECH	Mejillones	3.34	250	⇓*i*P	Pn	03 22 04.7	-0.2
MECH				*e*S	Sn	03 22 43.0	-2.8
MECH				AML	AML	03 22 51.0	
	comp=N,6µm,0.4s						
ANCH	Antofagasta	3.54	241	⇓*i*P	Pn	03 22 07.2	-0.2
ANCH				*i* S	Sn	03 22 46.2	-4.0
MNMC	Minimini	3.71	319	⇑*i*P	Pn	03 22 10.7	+0.8
MNMC				*i* S	Sn	03 22 54.4	-0.2
ARCH	Arica	4.62	318	*e*P	Pn	03 22 20.1	-1.2
LPAZ	La Paz	5.75	350	P	Pn	03 22 38.6	+1.8
	comp=N,9.5nm,0.3s,baz=164,slow=7.8,SNR=118						
LPAZ				S	Sn	03 23 44.6	+1.8
	comp=N,5.4nm,0.3s,baz=90,slow=20,SNR=6.7						
LPAZ	La Paz	5.75	350	P	Pn	03 22 38.6	+1.8
LPAZ				S	Sn	03 23 44.6	+1.8
LCO	Las Campanas	7.74	204	⇓*e*Pn	Pn	03 22 58.7	-4.0
	comp=N,45nm,0.4s						
LCO				*e*Sn	Sn	03 24 20.5	-9.2
SIV	San Ignacio	8.21	45	P	Pn	03 23 08.5	-0.2
	comp=N,58nm,0.3s,baz=256,slow=10,SNR=866						
SIV				S	Sn	03 24 36.7	-3.8
	comp=N,2.7nm,0.3s,baz=163,slow=19,SNR=7.8						
SIV	San Ignacio	8.21	45	P	Pn	03 23 08.5	-0.2
SIV				S	Sn	03 24 36.7	-3.8
CFAA	Coronel Fontan	9.65	186	P	Pn	03 23 25.8	-1.8
	comp=N,0.4nm,0.3s,baz=356,slow=13,SNR=54						
CFAA				S	Sn	03 25 06.7	-8.2
	comp=N,2.1nm,0.3s,baz=118,slow=17,SNR=12						
CFAA	Coronel Fontan	9.65	186	P	Pn	03 23 25.8	-1.8
CFAA				S	Sn	03 25 06.7	-8.2
CPUP	Villa Florida	9.87	118	P	Pn	03 23 30.6	+0.1
	comp=N,2.9nm,0.3s,baz=279,slow=12,SNR=32						
CPUP	Villa Florida	9.87	118	*e*Pn	Pn	03 23 29.6	-0.9
SAML	Samuel	13.47	17	*e*Pn	Pn	03 24 17.2	+0.1
SAML				*e*Sn	Sn	03 26 47.2	+0.3
NNA	Nana	13.65	315	P	Pn	03 24 19.0	-0.3
	comp=N,2.6nm,0.3s,baz=162,slow=11,SNR=5.5						
NNA				S	Sn	03 26 46.2	-4.9
	comp=N,2.4nm,0.3s,baz=210,slow=16,SNR=3.8						
NNA	Nana	13.65	315	*e*Pn	P	03 24 23.5	+1.0
	comp=N,72nm,0.9s						
NNA				*e*Sn	Sn	03 26 42.1	-9.0
NNA				S	Sn	03 26 46.2	-4.9
TRQA	Tornquist	16.61	166	*e*P	P	03 24 54.1	-0.9
	comp=N,169nm,2.5s						
ATAH	Atahualpa	18.38	322	P	Pn	03 25 17.1	0.0
	comp=N,0.8nm,0.3s,baz=146,slow=3.6,SNR=14						
ATAH	Atahualpa	18.38	322	P	Pn	03 25 17.1	0.0
PLCA	Paso Flores	18.93	188	P	P	03 25 19.9	-0.4
	comp=N,1.0nm,0.3s,baz=7.4,slow=12,SNR=50						
PLCA	Paso Flores	18.93	188	*e*P	P	03 25 20.0	-0.4
	comp=N,19nm,0.8s						
OTAV	Otavalo	24.72	332	*e*P	P	03 26 19.6	+0.9
	comp=N,2.5nm,0.8s						
USHA	Ushuaia	32.82	181	P	P	03 27 29.8	+0.3
	comp=N,5.1nm,0.7s,baz=354,slow=10,SNR=5.4						
USHA	Ushuaia	32.82	181	P	P	03 27 29.8	+0.3
VNA3	Neumayer Olymp	59.07	161	*e*	P	03 30 56.3	+2.0
VNA1	Neumayer--Stat	59.26	161	*e*	P	03 30 58.0	+2.5
VNA2	Neumayer--Watz	59.63	161	*e*	P	03 31 00.3	+2.2
SWET	Sewanee	59.64	342	*e*P	P	03 30 58.1	-0.4
	comp=N,16nm,0.7s						
JCT	Junction City	60.91	328	*e*P	P	03 31 07.0	-0.4
	comp=N,4.5nm,0.8s						
JCT	Junction City	60.91	328	⇓P	P	03 31 07.6	+0.2
	baz=61						
WVT	Waverly	61.05	341	*e*P	P	03 31 06.5	-1.5
	comp=N,11nm,0.6s						
SNAA	Sanae	61.27	161	*e*	P	03 31 10.5	+1.2
SNAA	Sanae	61.27	161	*e*P	P	03 31 09.9	+0.6
	comp=N,5.0nm,0.7s						
628A	Black Gap, Mar	61.72	325	⇓P	P	03 31 13.1	+0.3
	baz=62						
627A	Terlingua Ranc	61.96	324	⇑P	P	03 31 14.3	-0.2
	baz=62						
TXAR	Lajitas Array	62.02	324	P	P	03 31 14.5	-0.4
	comp=N,0.5nm,0.7s,baz=151,slow=7.1,SNR=7.8						
TXAR	Lajitas Array	62.02	324	P	P	03 31 14.5	-0.4
528A	Cox Ranch, San	62.19	325	⇑P	P	03 31 15.7	-0.3
	baz=62						
626A	Big Bend Ranch	62.45	324	⇓P	P	03 31 17.9	+0.2
	baz=63						
427A	Hayter Ranch,	63.06	325	⇑P	P	03 31 21.6	-0.1
	baz=63						
328A	Wristen Ranch,	63.17	326	⇓P	P	03 31 22.3	-0.1
	baz=64						
426A	McDonald Obser	63.26	325	⇑P	P	03 31 22.9	-0.3
	baz=64						
425A	Indio Mountain	63.87	324	⇓P	P	03 31 27.0	-0.1
	baz=64						
325A	Bean Ranch, Si	64.31	324	⇑P	P	03 31 29.9	-0.1
	baz=65,SNR=6.2						
324A	Moseley Ranch,	64.64	324	⇓P	P	03 31 31.4	-0.8
	baz=65						
MNTX	Cornudas Mount	64.78	324	*e*P	P	03 31 31.9	-1.0
	comp=N,0.9nm,0.7s						
MNTX	Cornudas Mount	64.78	324	⇓P	P	03 31 32.3	-0.6
	baz=65						
MNTX				⇓P	P	03 31 32.3	-0.6
	baz=65						
224A	Cornudas Mount	65.15	324	⇑P	P	03 31 34.9	-0.5
	baz=66						
220A	Playas Peak, P	66.69	322	⇓P	P	03 31 46.0	+0.8
	baz=67						
319A	Douglas	66.73	321	⇑P	P	03 31 46.5	+1.0
	baz=67						
121A	Cookes Peak, D	66.74	323	⇑P	P	03 31 46.9	+1.3
	baz=67						
Z22A	Elephant Butte	66.83	324	⇓P	P	03 31 47.3	+1.1
	baz=67,SNR=6.3						
318A	Bisbee	67.19	321	⇓P	P	03 31 49.3	+0.8
	baz=68						
DBIC	Dimbokro	67.22	72	P	P	03 31 49.0	+0.2
	comp=N,2.2nm,0.6s,baz=180,slow=10,SNR=6.6						
DBIC	Dimbokro	67.22	72	*e*P	P	03 31 48.0	-0.8
	comp=N,2.9nm,0.6s						
Z21A	St. Cloud Mine	67.26	324	⇑P	P	03 31 49.9	+1.0
	baz=68						
W24A	Lazy 6 Ranch,	67.52	327	⇑P	P	03 31 51.3	+0.8
	baz=68						
218A	Dragoon	67.61	321	⇓P	P	03 31 52.2	+1.1
	baz=68						
Z20A	Nine Sixteen R	67.62	323	⇓P	P	03 31 52.4	+1.3
	baz=68						
Y21A	Point of Rocks	67.79	324	⇓P	P	03 31 53.2	+0.9
	baz=68						
CBKS	Cedar Bluff	67.79	333	*e*P	P	03 31 51.6	-0.3
	comp=N,4.9nm,0.4s						
ANMO	Albuquerque	67.86	326	*e*P	P	03 31 52.3	-0.3
	comp=N,1.2nm,0.6s						
Y20A	Horse Springs,	68.10	324	⇑P	P	03 31 55.8	+1.6
	baz=68						
X21A	Alamocita Cree	68.18	324	⇑P	P	03 31 55.9	+1.3
	baz=68						
QSPA	South Pole Qui	68.22	180	P	P	03 31 55.1	+0.7
	comp=N,15nm,0.5s,baz=171,slow=0.9,SNR=46						
QSPA	South Pole Qui	68.22	180	P	P	03 31 55.1	+0.7
TUC	Tucson	68.29	321	*e*P	P	03 31 55.5	+0.3
	comp=N,2.8nm,1.1s						
Y19A	Nutrioso	68.62	323	⇓P	P	03 31 58.9	+1.4
	baz=69						
V22A	San Miguel Ran	68.83	326	⇑P	P	03 31 60.0	+1.2
	baz=69						
S25A	Robets Cordova	68.97	329	⇓P	P	03 32 00.2	+0.7
	baz=69						
214A	Organ Pipe Nat	69.24	319	⇓P	P	03 32 02.1	+1.1
	baz=70						
Y17A	Roosevelt	69.32	322	⇑P	P	03 32 02.9	+1.3
	baz=70						
S24A	Houchin Ranch,	69.33	328	⇓P	P	03 32 03.0	+1.2
	baz=70						
SDCO	Great Sand Dun	69.55	328	*e*P	P	03 32 04.1	+1.0
	comp=N,7.3nm,1.4s						
SDCO	Great Sand Dun	69.55	328	⇑P	P	03 32 04.1	+1.0
	baz=70						
SDCO				⇑P	P	03 32 04.1	+1.0
	baz=70						
V20A	Brimhall	69.56	325	⇑P	P	03 32 04.5	+1.3
	baz=70						
T22A	Edith	69.68	327	⇓P	P	03 32 05.2	+1.3
	baz=70						
U20A	Newcomb	70.03	325	⇑P	P	03 32 07.0	+1.0
	baz=70						
R23A	Moffat	70.06	328	⇓P	P	03 32 07.2	+1.0
	baz=70						
X16A	Lo Mia Camp, P	70.19	322	⇑P	P	03 32 08.1	+1.1
	baz=70						
S21A	Coal Bank Pass	70.63	327	⇓P	P	03 32 11.0	+1.2
	baz=71						
MVCO	Mesa Verde	70.65	326	*e*P	P	03 32 10.8	+1.0
	comp=N,19nm,1.4s						
MVCO	Mesa Verde	70.65	326	⇓P	P	03 32 10.7	+1.0
	baz=71,SNR=5.1						
R21A	Cimarron	71.05	327	⇑P	P	03 32 13.3	+1.2
	baz=71						
Q22A	Crested Butte,	71.11	328	⇓P	P	03 32 13.7	+1.0
	baz=71						
T18A	Mexican Hat	71.32	325	⇓P	P	03 32 14.5	+0.8
	baz=72,SNR=6.0						
R20A	Redvale	71.33	327	⇓P	P	03 32 15.3	+1.4
	baz=72						
S19A	Harvey Farm, M	71.39	326	⇓P	P	03 32 15.0	+0.8
	baz=72,SNR=5.5						
T17A	Navajo Res., N	71.71	324	⇑P	P	03 32 17.8	+1.7
	baz=72						
S18A	Hurst Farm, Bl	71.79	325	⇑P	P	03 32 17.9	+1.2
	baz=72,SNR=5.4						
R19A	Curley Farm, L	71.86	326	⇑P	P	03 32 17.8	+0.8
	baz=72						
P21A	Newcastle	71.89	328	⇓P	P	03 32 18.6	+1.4
	baz=72						
BC3	Big Chuckawall	72.02	319	⇓P	P	03 32 18.9	+1.0
	baz=72						
S17A	Black Ridge (B	72.18	325	⇑P	P	03 32 20.0	+1.2
	baz=72						
M24A	Cheyenne	72.19	331	⇓P	P	03 32 20.4	+1.6
	baz=72						
PHWY	Pilot Hill	72.34	331	*e*P	P	03 32 19.7	-0.2
M23A	Laramie	72.59	331	⇓P	P	03 32 22.0	+0.7
	baz=73						
S16A	Weppner Ranch,	72.67	324	⇑P	P	03 32 22.6	+0.8
	baz=73						
R17A	Hanksville Air	72.71	325	⇓P	P	03 32 23.1	+1.1
	baz=73,SNR=9.1						
P19A	Cripple Cowboy	72.73	327	⇑P	P	03 32 23.4	+1.2
	baz=73						
O20A	White River Ci	72.75	328	⇓P	P	03 32 23.3	+1.1
	baz=73						
SRU	San Rafael	73.13	326	*e*P	P	03 32 25.5	+1.0
	comp=N,6.9nm,0.7s						
O19A	Miners Draw (B	73.31	328	⇓P	P	03 32 26.4	+0.9
	baz=74						
P18A	Preston Nutter	73.37	327	⇓P	P	03 32 27.3	+1.3
	baz=74,SNR=5.2						
M21A	Separation Pea	73.46	330	⇓P	P	03 32 27.4	+1.0
	baz=74						
P17A	Butcher Ranch,	73.51	326	⇓P	P	03 32 27.8	+1.1
	baz=74						
CCUT	Cedar City	73.52	323	*e*P	P	03 32 28.8	+2.0
	comp=N,5.2nm,0.8s						
CCUT				*e*pP	pP	03 33 19.5	+11
L21A	Rawlins	73.75	330	⇓P	P	03 32 28.8	+0.8
	baz=74,SNR=5.6						
RSSD	Black Hills	73.99	333	*e*P	P	03 32 29.8	+0.4
	comp=N,2.6nm,0.8s						
O17A	Robinson Place	74.04	327	⇓P	P	03 32 31.3	+1.5
	baz=74,SNR=7.5						
K21A	Alcova	74.21	330	⇓P	P	03 32 31.9	+1.2
	baz=75,SNR=7.8						
J22A	Midwest	74.48	331	P	P	03 32 32.8	+0.6
	baz=75,SNR=5.4						
M18A	Lyman	74.63	328	⇑P	P	03 32 33.7	+0.5
	baz=75						
N17A	Moffit Pass	74.65	327	⇓P	P	03 32 34.7	+1.3
	baz=75,SNR=13						
JLU	Jordanelle	74.71	326	*e*P	P	03 32 34.6	+0.9
	comp=N,4.5nm,0.8s						
H24A	Dirks Ranch, A	74.71	333	⇓P	P	03 32 33.7	+0.3
	baz=75						
K20A	Yellowstone Ra	74.74	330	⇑P	P	03 32 34.1	+0.4
	baz=75						
I22A	9 Mile Ranch,	74.86	332	⇓P	P	03 32 34.9	+0.6
	baz=75						
J21A	Lysite	74.86	331	⇓P	P	03 32 35.3	+0.9
	baz=75						
L18A	Fontenelle, Gr	74.99	328	⇓P	P	03 32 36.1	+0.9
	baz=75,SNR=6.0						
DUG	Dugway	75.12	325	*e*P	P	03 32 36.8	+0.8
	comp=N,3.0nm,0.9s						
DUG	Dugway	75.12	325	⇑P	P	03 32 37.2	+1.3
	baz=75						
I21A	Big Trails, Te	75.16	331	⇑P	P	03 32 36.5	+0.5
	baz=76,SNR=8.8						
R11A	Troy Canyon, C	75.33	322	⇓P	P	03 32 38.6	+1.4
	baz=76						
BW06	Boulder Array	75.40	329	*e*P	P	03 32 37.7	+0.2
	comp=N,1.1nm,0.6s						
PDAR	Pinedale Array	75.40	329	P	P	03 32 37.6	+0.1
	comp=N,1.1nm,0.6s,baz=132,slow=7.5,SNR=9.8						
PDAR	Pinedale Array	75.40	329	P	P	03 32 37.6	+0.1
SYO	Syowa Base	75.44	159	⇑*e*P	P	03 32 36.4	-0.8
K18A	Toltan Ranch,	75.53	329	⇓P	P	03 32 39.2	+0.9
	baz=76						
L17A	Cokeville	75.53	328	⇓P	P	03 32 39.1	+0.8
	baz=76						
J19A	Crowheart	75.54	330	⇓P	P	03 32 39.0	+0.7
	baz=76,SNR=5.6						
I20A	Worland	75.64	331	⇑P	P	03 32 39.6	+0.8
	baz=76						
H21A	Big Horn, Sher	75.69	332	⇑P	P	03 32 39.3	+0.3
	baz=76						
F23A	Volborg	75.86	333	⇓P	P	03 32 40.3	+0.5
	baz=76,SNR=5.1						
TORD	Torodi Ar. Bea	75.89	69	P	P	03 32 40.6	0.0
	comp=N,3.8nm,0.7s,baz=256,slow=5.6,SNR=103						
TORD	Torodi Ar. Bea	75.89	69	P	P	03 32 40.6	0.0
J18A	Kendall Valley	75.95	329	⇑P	P	03 32 41.3	+0.6
	baz=76,SNR=11						
H20A	Greybull	76.00	331	⇓P	P	03 32 41.1	+0.3
	baz=76						
K17A	Gardner Place,	76.04	328	⇑P	P	03 32 41.8	+0.6
	baz=76						
E24A	Baker	76.09	335	⇑P	P	03 32 42.0	+0.9
	baz=76						
I19A	Meeteetse	76.10	330	⇓P	P	03 32 42.3	+0.8
	baz=76						
L15A	Malad City	76.22	327	⇓P	P	03 32 42.5	+0.4
	baz=76						
F22A	Rosebud	76.26	333	⇓P	P	03 32 42.6	+0.5
	baz=77						
ULM	Lac du Bonnet	76.31	341	P	P	03 32 41.4	-0.8
	comp=N,4.9nm,0.6s,baz=160,slow=8.0,SNR=11						
ULM	Lac du Bonnet	76.31	341	*e*P	P	03 32 41.1	-1.1
	comp=N,4.3nm,0.6s						
SCHQ	Schefferville	76.49	0	P	P	03 32 42.6	-0.6
	comp=N,3.4nm,0.8s,baz=207,slow=9.0,SNR=3.4						
SCHQ	Schefferville	76.49	0	P	P	03 32 42.6	-0.6
LOHW	Long Hollow	76.54	329	*e*P	P	03 32 45.0	+1.0
	comp=N,3.1nm,0.8s						
L14A	Malta	76.68	326	⇑P	P	03 32 45.3	+0.6
	baz=77						
VNDA	Vanda	76.68	190	*e*P	P	03 32 44.5	+0.4
	comp=N,2.9nm,1.1s						
MOOW	Moose Ponds	76.71	329	*e*P	P	03 32 45.3	+0.4
	comp=N,1.5nm,0.7s						
I17A	Pilgrim Ck.	76.75	329	⇓P	P	03 32 46.8	+1.6
	baz=77						
K15A	Arbon	76.79	327	⇓P	P	03 32 46.2	+0.9
	baz=77						
ELK	Elko	76.81	324	*e*P	P	03 32 46.0	+0.4
H18A	Shoshone NF, C	76.90	330	⇓P	P	03 32 46.6	+0.6
	baz=77,SNR=7.9						
NVAR	Mina Array Bea	76.94	321	P	P	03 32 47.3	+0.9
	comp=N,1.3nm,0.8s,baz=155,slow=6.5,SNR=8.2						
NVAR	Mina Array Bea	76.94	321	P	P	03 32 47.3	+0.9
RLMT	Red Lodge	77.06	331	*e*P	P	03 32 47.0	+0.1
	comp=N,3.9nm,0.6s						
RLMT	Red Lodge	77.06	331	P	P	03 32 47.9	+1.0
	baz=77,SNR=5.1						
RLMT				P	P	03 32 47.9	+1.0
	baz=77,SNR=5.1						
J15A	Blackfoot	77.27	328	⇑P	P	03 32 48.8	+0.8
	baz=78						
G18A	Lazy EL Ranch,	77.35	331	⇓P	P	03 32 49.1	+0.7
	baz=78						
C23A	Lambert	77.45	335	⇑P	P	03 32 49.2	+0.5
	baz=78						
F19A	Roth Farm, Mol	77.48	331	⇑P	P	03 32 49.7	+0.6
	baz=78						
E20A	Meyer Farm, Mu	77.63	332	⇑P	P	03 32 50.6	+0.8
	baz=78						
I15A	Monteview	77.73	328	⇑P	P	03 32 52.1	+1.5
	baz=78						
J14A	Carey	77.75	327	⇑P	P	03 32 52.1	+1.5
	baz=78						
GCMT	Greycliff	77.76	331	*e*P	P	03 32 50.5	-0.1
F18A	Big Timber	77.87	331	⇑P	P	03 32 52.0	+0.8
	baz=78						
E19A	Rath Farm, Rou	77.88	332	⇓P	P	03 32 51.8	+0.6
	baz=78						
J13A	Cove Ranch, Pi	78.14	327	⇓P	P	03 32 54.1	+1.3
	baz=78						
I14A	Mackay	78.16	328	⇓P	P	03 32 54.5	+1.5
	baz=78						
F17A	Fitzpatrick Pl	78.29	331	⇓P	P	03 32 54.8	+1.2
	baz=79						
HLID	Hailey	78.38	327	*e*P	P	03 32 55.3	+1.2
	comp=N,5.5nm,0.8s						
HLID	Hailey	78.38	327	⇓P	P	03 32 55.6	+1.4
	baz=79						
I13A	Wildhorse Cree	78.48	327	⇑P	P	03 32 56.2	+1.4
	baz=79						

G15A	**Dillon** baz=79	**78.59**	**329**	⇓P		**P**	**03 32 56.1**	**+0.8**
H14A	**Leadore** baz=79	**78.62**	**328**	⇓P		**P**	**03 32 56.5**	**+1.1**
E17A	**Martinsdale** baz=79	**78.81**	**331**	⇓P		**P**	**03 32 57.2**	**+0.8**
I12A	**Atlanta** baz=79	**78.91**	**327**	⇓P		**P**	**03 32 58.4**	**+1.4**
H13A	**Challis** baz=79	**79.02**	**328**	⇓P		**P**	**03 32 58.9**	**+1.4**
D17A	**Six Diamond Ra** baz=80	**79.25**	**331**	⇓P		**P**	**03 32 59.3**	**+0.5**
H12A	**Diamond D Ranc** baz=80	**79.31**	**327**	⇓P		**P**	**03 33 00.4**	**+1.2**
G13A	**Cobalt** baz=80	**79.39**	**328**	⇑P		**P**	**03 33 01.0**	**+1.5**
D16A	**Dana Ranch, Ca** baz=80,SNR=5.4	**79.55**	**331**	⇑P		**P**	**03 33 01.5**	**+1.1**
B18A	**Beardsley Farm** baz=80	**79.80**	**333**	⇓P		**P**	**03 33 02.2**	**+0.5**
F13A	**Darby** baz=80	**79.94**	**329**	⇑P		**P**	**03 33 03.6**	**+1.1**
C16A	**Fuhringer Ranc** baz=80	**80.21**	**331**	⇑P		**P**	**03 33 04.3**	**+0.4**
E13A	**Victor** baz=81	**80.34**	**329**	⇑P		**P**	**03 33 05.7**	**+1.1**
J08A	**Circle Bar Ran** baz=81	**80.35**	**325**	⇓P		**P**	**03 33 05.5**	**+0.8**
C15A	**Salmond Ranch,** baz=81	**80.58**	**331**	⇑P		**P**	**03 33 06.8**	**+0.9**
A17A	**Triple J Farms** baz=81	**80.62**	**333**	⇑P		**P**	**03 33 06.4**	**+0.4**
B15A	**Bradely Ranch,** baz=81	**80.96**	**331**	⇓P		**P**	**03 33 07.8**	**0.0**
A16A	**West Butte Ran** baz=81	**81.01**	**332**	⇑P		**P**	**03 33 08.7**	**+0.6**
K05A	**Summer Lake** baz=82	**81.26**	**323**	⇑P		**P**	**03 33 11.1**	**+1.4**
F10A	**Beach Ranch, E** baz=82	**81.50**	**327**	⇑P		**P**	**03 33 11.5**	**+0.8**
BSMT	**Bassoo Peak** comp=N,0.8nm,0.5s	**81.64**	**330**	*e*P		**P**	**03 33 12.0**	**+0.5**
BOSA	**Boshof** comp=N,1.9nm,0.4s,baz=259,slow=5.6,SNR=11	**81.69**	**117**	P		**P**	**03 33 12.2**	**-0.2**
BOSA	**Boshof** comp=N,2.6nm,0.5s	**81.69**	**117**	*e*P		**P**	**03 33 12.1**	**-0.3**
C09A	**Chrisman Ranch** baz=84	**83.28**	**328**	⇑P		**P**	**03 33 20.7**	**+0.9**
TAM	**Tamanrasset** comp=N,3.3nm,0.9s	**83.50**	**62**	*e*P		**P**	**03 33 22.5**	**+0.8**
PAB	**San Pablo**	**84.65**	**44**	*e*P		**P**	**03 33 27.9**	**+0.9**
ESDC	**Sonseca Array** comp=N,2.4nm,0.8s,baz=241,slow=4.1,SNR=12	**84.97**	**44**	P		**P**	**03 33 29.0**	**+0.4**
ESDC	**Sonseca Array**	**84.97**	**44**	P		**P**	**03 33 29.0**	**+0.4**
CTAO	**Charters Tower**	**127.02**	**220**	*e*PKPdf		**PKPdf**	**03 39 56.9**	**-0.1**
AS31	**Alice Springs**	**130.26**	**205**	*e*PKPdf		**PKPdf**	**03 40 02.9**	**-0.3**
ASAR	**Alice Springs** comp=N,2.9nm,0.8s,baz=148,slow=2.3,SNR=25	**130.26**	**205**	PKP		**PKPdf**	**03 40 02.6**	**-0.5**
ASAR				SKPbc		**SKPab**	**03 43 08.6**	**-1.7**
ASAR	**Alice Springs** comp=N,0.3nm,0.6s,baz=148,slow=3.1,SNR=5.6	**130.26**	**205**	PKP		**PKPdf**	**03 40 02.6**	**-0.5**
ASAR				SKPbc		**SKPab**	**03 43 08.6**	**-1.7**
ABKAR	**Akbulak array**	**130.31**	**43**	*e*PKPdf		**PKiKP**	**03 40 03.1**	**0.0**
WRA	**Warramunga Arr** comp=N,2.7nm,0.7s,baz=159,slow=1.8,SNR=12	**133.39**	**208**	PKP		**PKPdf**	**03 40 08.6**	**-0.4**
WRA	**Warramunga Arr**	**133.39**	**208**	PKP		**PKPdf**	**03 40 08.7**	**-0.4**
BRVK	**Borovoye**	**135.12**	**35**	*e*PKPdf		**PKPdf**	**03 40 11.8**	**+0.6**
FITZ	**Fitzroy Crossi** comp=N,1.8nm,0.6s,baz=183,slow=6.5,SNR=5.5	**138.28**	**198**	PKP		**PKPdf**	**03 40 17.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**138.28**	**198**	PKP		**PKPdf**	**03 40 17.5**	**-0.7**
KURK	**Kurchatov**	**140.76**	**35**	*e*PKPdf		**PKPdf**	**03 40 22.5**	**+0.9**
EKS2	**Erkin-Say**	**141.44**	**48**	*e*PKPdf		**PKPdf**	**03 40 24.0**	**+0.6**
ZAA0	**Zalesovo Array**	**141.62**	**27**	*e*PKPdf		**PKPdf**	**03 40 23.1**	**0.0**
ZALV	**Zalesovo Beam** comp=N,0.8nm,0.7s,baz=273,slow=2.6,SNR=4.7	**141.62**	**27**	PKhKP	PKPpre	03 40 17.7		
ZALV				PKP		**PKPdf**	**03 40 23.2**	**+0.1**
ZALV	comp=N,1.9nm,0.6s,baz=306,slow=4.1,SNR=11			SKPbc		**SKPbc**	**03 43 43.7**	**-0.6**
ZALV	**Zalesovo Beam** comp=N,0.6nm,0.5s,baz=316,slow=4.1,SNR=3.7	**141.62**	**27**	PKPpre	PKPpre	03 40 17.7		
ZALV				PKP		**PKPdf**	**03 40 23.2**	**+0.1**
ZALV				SKPbc		**SKPbc**	**03 43 43.7**	**-0.6**
AAK	**Ala-Archa**	**141.95**	**48**	*e*PKPdf		**PKPdf**	**03 40 25.0**	**+0.7**
TKM2	**Tokmak 2**	**142.60**	**47**	*e*PKPdf		**PKiKP**	**03 40 27.6**	**-1.1**
MK31	**Makanchi Array**	**144.97**	**38**	*e*PKPdf		**PKPab**	**03 40 29.2**	**+0.1**
MKAR	**Makanchi Array** comp=N,9.2nm,0.8s,baz=319,slow=3.4,SNR=85	**144.97**	**38**	PKPbc		**PKPab**	**03 40 29.2**	**+0.2**
MKAR	**Makanchi Array**	**144.97**	**38**	PKPbc		**PKPab**	**03 40 29.2**	**+0.2**
HYB	**Hyderabad**	**147.34**	**92**	*i* PKP		**PKPbc**	**03 40 36.0**	**-0.8**
WMQ	**Urumqi**	**149.81**	**38**	*e*PKPbc		**PKPdf**	**03 40 37.8**	**+0.4**
USRK	**Ussuriysk Arra** comp=N,1.9nm,0.6s,baz=6.2,slow=1.6,SNR=7.3	**152.82**	**329**	PKPbc		**PKPbc**	**03 40 49.2**	**+0.1**
SONM	**Songino Array** comp=N,0.7nm,0.8s,baz=283,slow=1.3,SNR=5.0	**153.67**	**10**	PKP		**PKPdf**	**03 40 43.2**	**0.0**
SONM				PKPbc		**PKPbc**	**03 40 51.1**	**0.0**
SONM	comp=N,1.4nm,0.8s,baz=320,slow=1.6,SNR=8.3			PKPab		**PKPab**	**03 41 04.8**	**+0.4**
SONM	**Songino Array** comp=N,0.6nm,0.8s,baz=326,slow=5.9,SNR=3.7	**153.67**	**10**	PKP		**PKPdf**	**03 40 43.2**	**0.0**
SONM				PKPbc		**PKPbc**	**03 40 51.1**	**0.0**
SONM				PKPab		**PKPab**	**03 41 04.8**	**+0.4**
CN2	**Changchun**	**155.89**	**337**	*e*PKP		**PKPdf**	**03 40 47.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**161.15**	**3**	*e*PKP		**PKPdf**	**03 40 53.0**	**+0.3**
HHC				pPKP		**PKPab**	**03 41 35.2**	**-1.6**
HHC				sPKP			03 41 53.0	
HHC				PP		PP	03 45 24.7	+5.3
HHC				SKS		**SKSdf**	**03 47 41.1**	**-0.7**
HHC				SKKS		**SKKSac**	**03 51 56.8**	**+4.7**
CD2	**Chengdu**	**167.88**	**41**	PKP		**PKPdf**	**03 40 57.0**	**-1.8**

*ISCJB **03** 03:23:14.3±0.8,32°.15S±0°.05×178°.6W±0°.1, h45km, mb4.6/15, MS3.9/7, Error ellipse: s-maj=16.5km s-min=6.7km az=2.4*
*NEIC **03** 03:23:16.8±3.4,31°.95S×178°.50W, h55km±27km, mb4.6/6, Error ellipse: s-maj=26.8km s-min=13.4km az=220.0*
*IDC **03** 03:23:16.1±6.7,31°.80S×178°.59W, h40km±55km, mb4.2/7, mb1 4.4/8, mb1mx4.1/19, mbtmp4.3/8, ML4.7/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/27, Error ellipse: s-maj=36.5km s-min=22.8km az=43.0*

ISC 03 03:23:16.2±0.7,32°.07S±0°.08×178°.6W±0°.1, h45km, n67, σ2s03/63, mb4.7/15, MS3.9/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.03**	**204**		*e*PN	**Pn**	**03 24 41.7**	**-1.1**
MXZ					SN	Sn	03 25 57.3	+6.8
PUZ	**Puketiti**	**6.51**	**202**		*e*PN	**Pn**	**03 24 49.8**	**+0.4**
PUZ					SN	**Sn**	**03 26 04.8**	**+2.5**
CNGZ	**Carnagh Statio**	**6.90**	**201**		*e*PN	**Pn**	**03 24 55.2**	**+0.4**
MWZ	**Matawai**	**6.99**	**206**		PN	**Pn**	**03 24 55.5**	**-0.6**
URZ	**Urewera** 11nm,0.3s,baz=255,slow=0.9,SNR=50	**7.09**	**208**		P	Pn	03 25 01.1	+3.7
URZ					S	**Sn**	**03 26 21.4**	**+4.9**
URZ	**Urewera** 8.8nm,0.3s,baz=168,slow=22,SNR=8.7	**7.09**	**208**		*e*Pn	**Pn**	**03 24 59.8**	**+2.5**
URZ	23nm,0.3s				*e*Sn	**Sn**	**03 26 20.8**	**+4.3**
URZ	**Urewera**	**7.09**	**208**		PN	**Pn**	**03 24 56.5**	**-0.8**
URZ					SN	**Sn**	**03 26 19.9**	**+3.4**
OUZ	**Omahuta** 21nm,0.7s	**7.19**	**242**		*e*Pn	Pn	03 25 05.9	+7.1
KNZ	**Kokohu**	**7.56**	**202**		*e*PN	**Pn**	**03 25 03.7**	**-0.1**
NMHZ	**Naumai**	**7.93**	**207**		*e*PN	**Pn**	**03 25 08.8**	**-0.2**
NMHZ					SN	**Sn**	**03 26 38.6**	**+1.2**
MCHZ	**McNeill Hill**	**8.27**	**206**		PN	**Pn**	**03 25 14.3**	**+0.7**
KAHZ	**Kahuranaki**	**8.52**	**204**		PN	**Pn**	**03 25 15.7**	**-1.4**
PXZ	**Pawanui**	**8.74**	**203**		PN	Pn	03 25 15.6	-4.3
TSZ	**Takapari Road**	**9.09**	**207**		PN	**Pn**	**03 25 23.1**	**-1.7**
MRZ	**Mangatainoka R**	**9.76**	**207**		PN	**Pn**	**03 25 30.8**	**-3.2**
MRZ					SN	**Sn**	**03 27 17.1**	**-5.0**
THZ	**Tophouse**	**11.80**	**213**		*e*PN	**Pn**	**03 25 59.3**	**-2.6**
THZ					SN	**Sn**	**03 28 06.9**	**-5.3**
KHZ	**Kahutara**	**12.05**	**209**		PN	Pn	03 26 01.0	-4.3
KHZ					SN	**Sn**	**03 28 12.5**	**-5.7**
RPZ	**Rata Peaks** comp=Z,223nm,20.5s,baz=351,slow=37	**14.18**	**212**		LR	LR	03 32 14.8	
DZM	**Mont Dzumac** 759nm,25.4s	**16.58**	**303**		*e*LR	LR	03 31 10.2	
TBI	**Tubuai** 266nm,28.0s	**27.19**	**79**		*e*LR	LR	03 35 53.3	
PPT2	**Papeete2** 213nm,29.2s	**29.94**	**68**		*e*LR	LR	03 36 47.9	
HNR	**Honiara**	**30.02**	**314**		LR	LR	03 39 17.1	
CMSA	**Cobar Meteorol** 30nm,0.8s	**30.23**	**261**		*e*P	**P**	**03 29 25.6**	**+2.9**
QLP	**Quilpie**	**32.71**	**270**		*e*P	**P**	**03 29 46.7**	**+2.1**
CTA	**Charters Tower** 7.4nm,0.7s,baz=138,slow=11	**33.57**	**282**		P	**P**	**03 29 53.7**	**+1.6**
CTA	comp=Z,170nm,18.1s,baz=51,slow=31				LR	LR	03 40 47.9	
CTA	**Charters Tower** 5.7nm,0.6s	**33.57**	**282**		*e*P	**P**	**03 29 54.4**	**+2.3**
CTA	**Charters Tower**	**33.57**	**282**		P	**P**	**03 29 53.7**	**+1.6**
CTAO	**Charters Tower** 4.4nm,0.6s	**33.57**	**282**		*e*P	**P**	**03 29 54.2**	**+2.1**
STKA	**Stephens Creek** 2.1nm,0.7s,baz=81,slow=13,SNR=6.1	**33.60**	**260**		P	**P**	**03 29 54.2**	**+2.0**
STKA	comp=Z,118nm,20.7s,baz=177,slow=33				LR	LR	03 41 49.3	
STKA	**Stephens Creek** 2.3nm,0.9s	**33.60**	**260**		*e*P	**P**	**03 29 54.7**	**+2.4**
STKA	**Stephens Creek**	**33.60**	**260**		P	**P**	**03 29 54.2**	**+2.0**
BBOO	**Buckleboo** 20nm,0.3s	**38.01**	**256**		*e*P	**P**	**03 30 30.8**	**+0.7**
PMG	**Port Moresby** 12nm,1.0s	**38.86**	**298**		*e*P	**P**	**03 30 36.3**	**-1.0**
COEN	**Coen** 61nm,0.9s	**39.24**	**288**		*e*P	**P**	**03 30 41.4**	**+0.9**
COEN	**Coen**	**39.24**	**288**		*e*P	**P**	**03 30 41.1**	**+0.6**
RKT	**Rikitea** 237nm,27.5s	**39.50**	**88**		*e*LR	LR	03 41 30.9	
TAOE	**Nuku Hiva Isla** 187nm,28.1s	**42.48**	**66**		*e*LR	LR	03 42 52.5	
AS31	**Alice Springs**	**42.50**	**269**		*e*P	**P**	**03 31 07.7**	**+0.3**
ASAR	**Alice Springs** 6.6nm,0.6s,baz=107,slow=7.5,SNR=114	**42.50**	**269**		P	**P**	**03 31 07.8**	**+0.5**
ASAR	**Alice Springs**	**42.50**	**269**		P	**P**	**03 31 07.8**	**+0.5**
WB2	**Warramunga Arr**	**43.63**	**274**		*e*P	**P**	**03 31 16.3**	**-0.2**
WRAB	**Tennant Creek** 12nm,0.8s	**43.63**	**274**		*e*P	**P**	**03 31 16.1**	**-0.4**
WRA	**Warramunga Arr** 5.0nm,0.3s,baz=114,slow=7.7,SNR=35	**43.64**	**274**		P	**P**	**03 31 16.8**	**+0.2**
WRA	comp=Z,137nm,20.2s,baz=210,slow=34				LR	LR	03 48 13.8	
WRA	**Warramunga Arr**	**43.64**	**274**		P	**P**	**03 31 16.8**	**+0.2**
VNDA	**Vanda** 3.5nm,0.8s	**46.38**	**186**		*e*P	**P**	**03 31 36.5**	**-1.1**
FITZ	**Fitzroy Crossi** 5.1nm,0.9s,baz=124,slow=8.7,SNR=6.3	**51.83**	**272**		P	**P**	**03 32 19.9**	**-0.2**
FITZ	comp=Z,133nm,18.3s,baz=54,slow=35				LR	LR	03 53 12.2	
FITZ	**Fitzroy Crossi**	**51.83**	**272**		P	**P**	**03 32 19.9**	**-0.2**
KLBR	**Kellerberrin** 28nm,1.1s	**53.30**	**252**		*e*P	**P**	**03 32 30.0**	**-0.8**
QSPA	**South Pole Qui** 2.2nm,0.6s,baz=114,slow=0.5,SNR=2.4	**58.04**	**180**		P	P	03 33 07.5	+3.0
QSPA	**South Pole Qui** 10nm,0.8s	**58.04**	**180**		*e*P	**P**	**03 33 06.8**	**+2.3**
USHA	**Ushuaia** comp=Z,178nm,18.2s,baz=176,slow=32	**74.85**	**146**		LR	LR	04 03 20.5	
SNAA	**Saae** 4.7nm,1.0s	**76.50**	**179**		*e*P	**P**	**03 35 01.2**	**+0.1**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=204,slow=6.5,SNR=4.2	**89.83**	**43**		P	P	**03 36 10.1**	**-0.2**
NVAR	**Mina Array Bea**	**89.83**	**43**		P	**P**	**03 36 10.1**	**-0.2**
PDAR	**Pinedale Array** comp=Z,68nm,19.6s,baz=87,slow=32	**97.72**	**44**		LR	LR	04 15 52.0	
TKM2	**Tokmak 2**	**121.87**	**304**		*e*PKPdf	**PKPdf**	**03 42 05.4**	**-0.1**
BRVK	**Borovoye**	**127.27**	**315**		*e*PKPdf	**PKPdf**	**03 42 13.3**	**-2.0**
FINES	**FINESS Array B** 1.8nm,0.4s,baz=49,slow=4.3,SNR=25	**146.51**	**339**		PKPbc	**PKPdf**	**03 42 49.7**	**-0.6**
FINES	**FINESS Array B**	**146.51**	**339**		PKPbc	**PKPdf**	**03 42 49.7**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,11nm,1.4s,baz=17,slow=2.6	**150.31**	**350**		PKP	**PKPbc**	**03 43 00.3**	**-1.5**
NOA	**NORSAR Array B** comp=Z,3.1nm,1.0s,baz=13,slow=4.2,SNR=3.6	**150.31**	**350**		PKPbc	**PKPbc**	**03 43 00.0**	**-1.8**
NOA	**NORSAR Array B**	**150.31**	**350**		PKPbc	**PKPbc**	**03 43 00.0**	**-1.8**
BRTR	**Keskin Array B** comp=Z,1.8nm,1.1s,baz=107,slow=2.0,SNR=4.1	**152.86**	**295**		PKPbc	**PKPbc**	**03 43 08.7**	**+0.2**
BRTR	**Keskin Array B**	**152.86**	**295**		PKPbc	**PKPbc**	**03 43 08.7**	**+0.2**
DBIC	**Dimbokro**	**154.07**	**166**		*e*PKPbc	**PKPbc**	**03 43 10.8**	**-0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.9s,baz=153,slow=0.7,SNR=3.6	**161.16**	**181**		PKP	**PKPdf**	**03 43 13.4**	**+1.1**
TORD	comp=Z,2.0nm,0.9s,baz=174,slow=3.3,SNR=12				PKPab	**PKPab**	**03 43 56.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**161.16**	**181**		PKP	**PKPdf**	**03 43 13.4**	**+1.1**
TORD					PKPab	**PKPab**	**03 43 56.5**	**+0.9**

*ISK **03** 03:28:41.3, 40°.35N×25°.88E, h12km, MD2.7*
*CSEM **03** 03:28:41.2±0.2, 40°.36N×25°.81E, h10km, MD2.7, Error ellipse: s-maj=5.1km s-min=2.2km az=92.0*
*ISCJB **03** 03:28:41.1±1.4, 40°.36N±0°.03×25°.82E±0°.10, h5km±8km, Error ellipse: s-maj=12.9km s-min=5.1km az=6.3*
*DDA **03** 03:28:42.2, 40°.34N×25°.91E, h7km, MD2.8*

ISC 03 03:28:41.7±1.5, 40°.35N±0°.03×25°.86E±0°.08, h17km±11km, n17, σ0s39/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**30**		*e*PG	**Pg**	**03 28 50.3**	**-0.4**
ENEZ					*e*SG	**Sg**	**03 28 57.5**	**+0.7**
ENEZ	**Enez**	**0.45**	**30**		*e*Pg	**Pg**	**03 28 50.3**	**-0.4**
ENEZ					*e*Sg	**Sg**	**03 28 57.5**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.47**	**84**		*e*PG	**Pg**	**03 28 51.2**	**0.0**
GELI					*e*SG	**Sg**	**03 28 57.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.47**	**84**		*e*Pg	**Pg**	**03 28 51.2**	**0.0**
GELI					*e*Sg	**Sg**	**03 28 57.7**	**+0.1**
BOZC	**Bozcaada**	**0.53**	**164**		*i* P	**Pb**	**03 28 52.4**	**-0.2**
BOZC					*i* S	**Sb**	**03 28 59.8**	**-0.1**
ERIK	**Erikli-Kesan**	**0.59**	**57**		*e*PG	**Pg**	**03 28 52.9**	**-0.5**
ERIK					*e*SG	**Sg**	**03 29 01.3**	**-0.1**
ERIK	**Erikli-Kesan**	**0.59**	**57**		*e*Pg	**Pg**	**03 28 52.9**	**-0.5**
ERIK					*e*Sg	**Sg**	**03 29 01.3**	**-0.1**
EZN	**Ezine**	**0.63**	**145**		*e*PG	**Pb**	**03 28 53.9**	**-0.4**
EZN					*e*SG	**Sb**	**03 29 02.8**	**-0.1**
EZN	**Ezine**	**0.63**	**145**		*e*Pg	**Pb**	**03 28 53.9**	**-0.4**
EZN					*e*Sg	**Sb**	**03 29 02.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.06**	**71**		*e*PG	**Pn**	**03 29 02.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.06**	**71**		*e*Pg	**Pn**	**03 29 02.2**	**+0.3**
AYVA	**Ayvalik**	**1.22**	**148**		*i* P	**Pg**	**03 29 04.9**	**-0.3**
AYVA					*i* S	**Sg**	**03 29 21.8**	**+0.6**
AYVA	**Ayvalik**	**1.22**	**148**		*i* P	**Pg**	**03 29 04.9**	**-0.3**
AYVA					*i* S	**Sg**	**03 29 21.8**	**+0.6**
GONE	**Gonen-Balikesi**	**1.43**	**102**		*e*PN	**Pb**	**03 29 07.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**102**		*e*Pn	**Pb**	**03 29 07.8**	**-0.1**
EDRB	**Edirne**	**1.64**	**24**		*e*PN	**Pn**	**03 29 10.1**	**+0.4**
EDRB	**Edirne**	**1.64**	**24**		*e*Pn	**Pn**	**03 29 10.1**	**+0.4**

*DJA **03** 03:30:04, 2°.60N×128°.19E, h151km, MLv4.0/4*

IDC 03 03:30:00.7±8.4, 2°.66N×128°.60E, h190km±81km, mb3.4/7, mb1 3.6/7, mb1mx3.3/17, mbtmp3.4/7, Error ellipse: s-maj=67.2km s-min=13.9km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.9nm,0.7s,baz=31,slow=11,SNR=3.6	**20.84**	**188**		P	P	03 34 27.7	-0.1
WRA	**Warramunga Arr** 4.6nm,0.6s,baz=345,slow=10,SNR=13	**23.16**	**166**		P	P	03 34 50.3	-0.2
ASAR	**Alice Springs** 0.5nm,0.5s,baz=349,slow=7.4,SNR=9.7	**26.67**	**169**		P	P	03 35 21.9	-0.4
ASAR	0.5nm,0.6s,baz=351,slow=2.6,SNR=8.2				PcP	PcP	03 38 40.8	-0.3
CMAR	**Chiang Mai Arr** 0.6nm,0.2s,baz=90,slow=7.1,SNR=4.3	**33.02**	**300**		P	P	03 36 18.6	+0.4
STKA	**Stephens Creek** 2.4nm,0.4s,baz=339,slow=8.7,SNR=14	**36.50**	**161**		P	P	03 36 48.1	+0.3
SONM	**Songino Array** 0.4nm,0.3s,baz=149,slow=8.1,SNR=6.3	**48.91**	**340**		P	P	03 38 27.7	+0.1
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=116,slow=8.2,SNR=15	**59.49**	**325**		P	P	03 39 43.5	-0.4

*BJI **03** 03:50:11.5, 56°.52N×113°.91E, h7km, mB4.7/18, mb4.4/17, Ms4.5/24, Ms7 4.2/21*
*LDG **03** 03:50:14.6±0.3, 56°.48N×113°.09E, h10km, Mb4.7/14, Ms2.9/1, Error ellipse: s-maj=12.8km s-min=4.0km az=106.0*
*MOS **03** 03:50:14.5±1.1, 56°.20N×113°.51E, h13km, mb4.6/37, Error ellipse: s-maj=7.3km s-min=4.9km az=84.8*
MOS Felt (III-IV) at Severomuisk.
*BYKL **03** 03:50:15.6±0.3, 56°.23N×113°.55E, h9km±4km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane*
Author # FM 15.00 62.00 122.00 16 0 IEC + 142.00 42.00 45.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 333.00 59.00 178.00 29.00 82.00 11.00 IEC + 3.69 3.51 5.68 3.00 3.00 1.41 IEC FELT I=IV-V MSK at Severomuisk.
*ISCJB **03** 03:50:15.8±0.7, 56°.27N±0°.02×113°.38E±0°.04, h18km±5km, mb4.4/80, MS3.7/14, Error ellipse: s-maj=4.2km s-min=3.5km az=149.8*
*NEIC **03** 03:50:16.2±0.2, 56°.25N×113°.41E, h10km, mb4.6/39, Error ellipse: s-maj=6.1km s-min=4.2km az=157.0*
*IDC **03** 03:50:18.9±4.2, 56°.22N×113°.40E, h31km±31km, mb4.0/23, mb1 4.1/26, mb1mx4.1/32, mbtmp4.0/26, ML3.3/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/38, Error ellipse: s-maj=14.8km s-min=11.9km az=27.0*

ISC 03 03:50:16.5±0.4, 56°.20N±0°.03×113°.45E±0°.02, h14km±2km, h13km:pP-P, n287, σ1§46/333, mb4.5/82, MS3.6/14, 36C-19D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.10**	**143**		*e*PG	**Pg**	**03 50 17.0**	**-2.7**
SVKR	**Severomuysk**	**0.10**	**143**	⇑	*i*Pg	**Pg**	**03 50 17.0**	**-2.7**
SVKR					*e*Sg	**Sg**	**03 50 18.4**	**-3.5**
UKT	**Uakit**	**0.72**	**172**	⇑	*i*PG	**Pg**	**03 50 28.8**	**-1.7**
UKT					*e*		03 50 40.1	
UKT	comp=Z,3μm,0.5s				pmax	pmax		
UKT	comp=N,7μm,0.3s				smax	smax		
UKT	**Uakit**	**0.72**	**172**	⇑	*i*Pg	**Pg**	**03 50 28.8**	**-1.7**
UKT	comp=N,3μm,0.5s				Pmax		03 50 30.2	
UKT					*e*Sg	**Sg**	**03 50 40.1**	**+0.2**
UKT	comp=N,7μm,0.6s				Smax		03 50 44.7	
YOA	**Uoyan**	**0.97**	**267**	⇑	*i*PG	**Pb**	**03 50 34.5**	**-0.7**
YOA	**Uoyan**	**0.97**	**267**	⇑	*i*Pg	**Pb**	**03 50 34.4**	**-0.7**
YOA	comp=N,3μm,0.4s				Pmax		03 50 34.8	
YOA					*i* Sg	**Sb**	**03 50 48.0**	**+0.2**
YOA					*e*		03 50 53.6	
YOA	comp=N,19μm,0.7s				max		03 50 57.2	
NLYR	**Nelyaty**	**1.29**	**76**	⇓	*i*PG	**Pn**	**03 50 37.4**	**-2.8**
NLYR					*e*		03 50 54.3	
NLYR	comp=Z,3μm,0.7s				pmax	pmax		
NLYR	comp=N,12μm,1.1s				smax	smax		
NLYR	**Nelyaty**	**1.29**	**76**	⇓	*i*Pg	**Pn**	**03 50 37.3**	**-2.9**
NLYR	comp=N,3μm,0.7s				Pmax		03 50 39.6	
NLYR					*e*Sg	**Sb**	**03 50 54.8**	**-2.2**
NLYR					*e*Sb	**Sg**	**03 50 57.8**	**-0.2**
NLYR	comp=N,12μm,1.0s				max		03 50 58.8	
KMO	**Kumora**	**1.30**	**257**		*e*PG	**Pn**	**03 50 40.1**	**-0.2**
KMO					*e*		03 50 58.5	
KMO	comp=Z,2μm,0.5s				pmax	pmax		
KMO	comp=N,16μm,0.9s				smax	smax		
KMO	**Kumora**	**1.30**	**257**	⇓	*i*Pg	**Pn**	**03 50 40.1**	**-0.2**
KMO					*e*		03 50 44.0	
KMO	comp=N,3μm,0.5s				max		03 50 44.7	
KMO					*i* Sg	**Sg**	**03 50 59.7**	**+1.3**
KMO	comp=N,16μm,0.9s				Smax		03 51 02.3	
KMO					*e*Sb	Sn	03 51 04.6	+7.1
BOD	**Bodaibo**	**1.65**	**10**	⇑	*i*PN	**Pn**	**03 50 44.0**	**-1.1**
BOD					*e*		03 51 04.9	
BOD	comp=Z,4μm,0.6s				pmax	pmax		
BOD	comp=E,9μm,0.7s				smax	smax		
BOD	**Bodaibo**	**1.65**	**10**	⇑	*i*Pg	**Pn**	**03 50 44.1**	**-1.1**
BOD	comp=E,4μm,0.8s				Pmax		03 50 48.4	
BOD					*i* Sg	**Sn**	**03 51 04.8**	**-1.4**
BOD					Smax		03 51 07.7	
YLYR	**Ulyunkhan**	**1.86**	**225**		*e*PN	**Pb**	**03 50 49.8**	**-0.5**
YLYR					*e*		03 50 50.2	
YLYR					*e*		03 51 14.7	
YLYR	comp=Z,33nm,0.1s				pmax	pmax		
YLYR	comp=E,9μm,0.4s				smax	smax		
YLYR	**Ulyunkhan**	**1.86**	**225**		*i* Pg	**Pb**	**03 50 49.8**	**-0.5**
YLYR	comp=E,1μm,0.7s				Pmax		03 50 53.6	
YLYR					*i* Sg	**Sg**	**03 51 15.7**	**-0.5**
YLYR					*e*		03 51 16.9	
YLYR	comp=E,9μm,0.5s				max		03 51 17.4	
NIZ	**Nizh Angarsk**	**2.24**	**261**		*e*PN	**Pn**	**03

KHNR eSg Sb 03 52 08.7 +2.8
MXMB Maximikha 4.01 225 ePn Pn 03 51 20.6 +3.0
MXMB ePg Pb 03 51 28.2 +1.2
MXMB Pmax 03 51 38.5
comp=N,526nm,1.1s
MXMB e 03 51 56.7
MXMB i Sg Sg 03 52 21.3 -3.9
MXMB Smax 03 52 29.9
comp=N,5μm,1.6s
TUP Tupik 4.12 113 ePN Pn 03 51 17.9 -1.2
TUP e 03 51 28.5
TUP eS Sn 03 52 04.1 -2.9
TUP e 03 52 21.6
TUP pmax pmax
comp=Z,341nm,0.7s
TUP smax smax
comp=N,4μm,0.6s
TUP Tupik 4.12 113⇓ iPn Pn 03 51 17.9 -1.2
TUP e 03 51 23.4
TUP ePg Pb 03 51 28.5 -0.3
TUP e 03 51 31.3
TUP e 03 51 36.8
TUP max 03 51 38.5
comp=N,340nm,0.8s
TUP i Sn Sn 03 52 04.1 -2.9
TUP i Sg Sb 03 52 22.0 +3.6
TUP e 03 52 26.4
TUP max 03 52 28.2
comp=N,4μm,0.8s
CIT Chita 4.19 179 ePN Pn 03 51 18.7 -1.3
CIT e 03 51 29.9
CIT eS Sn 03 52 08.8 +0.1
CIT e 03 52 27.2
CIT pmax pmax
comp=Z,960nm,1.2s
CIT smax smax
comp=E,3μm,0.7s
CIT Chita 4.19 179 e Pb 03 51 29.6 -0.4
CIT ePg Pg 03 51 31.2 -5.5
CIT Pmax 03 51 34.0
comp=E,1μm,1.8s
CIT e 03 52 11.7
CIT eSg Sg 03 52 28.0 -2.8
CIT Smax 03 52 32.0
comp=E,3μm,0.7s
OGRR Ongureny 4.24 235 ePN Pn 03 51 21.6 +0.9
OGRR e 03 51 32.6
OGRR e 03 52 27.2
OGRR pmax pmax
comp=Z,371nm,1.8s
OGRR smax smax
comp=E,2μm,1.0s
OGRR Ongureny 4.24 235⇓ iPn Pn 03 51 21.7 +1.0
OGRR ePg Pb 03 51 32.2 +1.4
OGRR e 03 51 34.2
OGRR max 03 51 35.4
comp=E,300nm,1.0s
OGRR eSg Sg 03 52 27.6 -4.9
OGRR Smax 03 52 39.7
comp=E,2μm,1.2s
TRG Tyrgan 5.39 233 ePN Pn 03 51 37.5 +1.0
TRG e 03 51 52.4
TRG eS Sn 03 52 38.2 -0.1
TRG e 03 53 02.0
TRG pmax pmax
comp=Z,87nm,0.6s
TRG smax smax
comp=N,892nm,1.3s
TRG Tyrgan 5.39 233 ePn Pn 03 51 38.0 +1.5
TRG e 03 51 49.5
TRG e 03 51 58.3
TRG max 03 52 23.2
comp=N,70nm,0.7s
TRG eSg Sg 03 53 02.6 -6.7
TRG Smax 03 53 16.2
comp=N,892nm,1.6s
UUDB Ulan-Yde 5.52 221 ePg Pb 03 51 56.5 +3.9
UUDB ePmax 03 51 59.1
comp=N,176nm,1.4s
UUDB e 03 52 26.2
UUDB eSg Sg 03 53 08.3 -5.2
UUDB Smax 03 53 14.8
comp=N,3μm,1.6s
FFNB Fofonovo 5.72 226 eSg Sg 03 53 14.5 -5.5
KAB Kabansk 5.76 227 e Pb 03 51 58.2 +1.4
KAB e 03 52 38.2
KAB eSg Sg 03 53 16.0 -5.4
KAB Smax 03 53 29.1
comp=N,4μm,1.0s
HRMR Khuramsha 5.97 223 ePn Pn 03 51 43.1 -1.4
HRMR ePg Pb 03 52 03.9 +3.5
HRMR Pmax 03 52 14.2
comp=N,300nm,0.7s
HRMR eSg Sg 03 53 22.7 -5.4
HRMR e 03 53 36.3
HRMR max 03 53 37.2
comp=N,5μm,0.9s
IENR Ienga 6.37 85 ePg Pb 03 52 08.1 +1.0
IENR eSg Sb 03 53 31.3 +8.3
CLNS Chul'man 6.37 79 ePg Pb 03 52 07.7 +0.6
CLNS e 03 53 23.0
CLNS eSg Sb 03 53 30.1 +7.1
CLNS e 03 53 37.2
TNDR Tynda 6.46 95 e Pn 03 51 50.1 -1.1
TNDR ⇓ iPg Pb 03 52 10.3 +1.6
TNDR e 03 53 06.3
TNDR e 03 53 19.4
TNDR eSg Sb 03 53 34.2 +8.4
TNDR e 03 53 44.1
KPC Khapcheranga 6.54 186 ePN Pn 03 51 51.4 -0.9
KPC e 03 52 14.6
KPC Khapcheranga 6.54 186 ePn Pn 03 51 51.4 -0.9
KPC e 03 52 00.5
KPC ePg Pb 03 52 14.4 +4.4
KPC Pmax 03 52 20.4
comp=N,121nm,0.5s
KPC e 03 53 19.0
KPC eSg Sg 03 53 40.7 -5.5
KPC e 03 53 53.4
KPC max 03 53 56.5
comp=N,1μm,1.4s
LSTR Listvyanka 6.68 233 e Pg 03 52 31.3 +7.1
LSTR e 03 52 53.1
LSTR max 03 52 54.1
comp=N,44nm,1.5s
LSTR eSg Sg 03 53 42.1 -8.5
LSTR Smax 03 54 01.3
comp=N,551nm,1.7s
IRK Irkutsk 6.68 237 ePG Pb 03 52 17.0 +4.6
IRK e 03 53 43.7
IRK pmax pmax
comp=Z,57nm,0.1s
IRK smax smax
comp=N,2μm,1.1s
IRK Irkutsk 6.68 237 e Sn 03 53 11.9 +1.8
IRK eSg Sg 03 53 43.0 -7.8
IRK Smax 03 53 55.5
comp=N,2μm,1.0s
TLY Talaya 7.34 236 ePN Pn 03 52 06.6 +3.3
TLY e 03 52 29.0
TLY Talaya 7.34 236 ePn Pb 03 52 16.3 -7.4
TLY eSn Sb 03 54 01.3 +10
TLY Talaya 7.34 236 e Pb 03 52 18.2 -5.5
TLY e 03 52 29.2
TLY max 03 52 41.8
comp=N,48nm,1.4s
TLY eSn Sn 03 53 26.6 +0.1
TLY eSg Sg 03 54 03.7 -8.3
TLY Smax 03 54 23.7
comp=N,842nm,1.6s
ARS Arshan 7.77 241 ePG Pb 03 52 35.8 +4.8
ARS eS Sn 03 53 34.8 -2.3
ARS pmax pmax
comp=Z,77nm,0.3s
ARS smax smax
comp=E,2μm,0.9s
ARS Arshan 7.77 241 ePn Pn 03 52 09.9 +0.6
ARS ePg Pb 03 52 36.0 +5.0
ARS Pmax 03 52 43.1
comp=E,89nm,0.8s
ARS eSn Sn 03 53 34.9 -2.2
ARS i Sg Sg 03 54 17.2 -8.5
ARS Smax 03 54 22.3
comp=E,2μm,0.9s
HIA Hailar 7.92 149 ePN Pn 03 52 10.1 -1.2
HIA pmax pmax
comp=Z,44nm,0.6s
HIA Hailar 7.92 149 ePn Pn 03 52 10.1 -1.2
comp=Z,44nm,0.6s
ZAK Zakamensk 8.42 230 ePN Pn 03 52 17.8 -0.4
ZAK e 03 52 49.0
ZAK pmax pmax
comp=Z,21nm,1.1s
ZAK Zakamensk 8.42 230 ePn Pn 03 52 23.3 +5.1
ZAK e 03 52 41.2
ZAK ePg Pb 03 52 48.7 +6.6
ZAK e 03 52 50.9
ZAK max 03 52 55.0
comp=Z,21nm,1.1s
ZAK eSg Sg 03 54 39.7 -6.9
ZAK Smax 03 54 47.2
comp=Z,270nm,1.2s
MOY Mondy 8.63 243 ePN Pn 03 52 21.8 +0.7
MOY e 03 52 53.1
MOY e 03 54 42.5
MOY pmax pmax
comp=Z,53nm,1.4s
MOY smax smax
comp=N,775nm,1.3s
MOY Mondy 8.63 243⇑ iPn Pn 03 52 22.2 +1.1
MOY e 03 52 34.0
MOY max 03 52 39.0
comp=N,52nm,1.0s
MOY ePg Pg 03 52 50.9 -11
MOY eSn Sn 03 54 00.0 +1.7
MOY i Sg Sg 03 54 44.5 -8.8
MOY Smax 03 54 52.4
comp=N,774nm,1.2s
ORL Orlik 8.77 251 ePN Pn 03 52 23.2 +0.3
ORL e 03 52 53.3
ORL e 03 54 48.6
ORL pmax pmax
comp=Z,40nm,1.3s
ORL smax smax
comp=N,585nm,1.3s
ORL Orlik 8.77 251⇓ iPn Pn 03 52 23.1 +0.2
ORL e 03 52 34.1
ORL max 03 52 40.8
comp=N,6.0nm,0.2s
ORL eSn Sn 03 54 01.8 +0.3
ORL e 03 54 21.5
ORL eSg Sg 03 54 49.2 -8.3
ORL Smax 03 55 04.4
comp=N,585nm,1.4s
ULN Ulaanbaatar 9.23 208 eP Pn 03 52 30.8 +1.5
ULN Ulaanbaatar 9.23 208 ePn Pn 03 52 30.8 +1.5
ULN eLg Lg 03 55 09.5
SONM Songino Array 9.43 210 Pn Pn 03 52 33.2 +1.1
comp=N,0.7nm,0.3s,baz=24,slow=13,SNR=16
SONM Lg Lg 03 55 14.9
comp=N,11nm,0.3s,baz=18,slow=29,SNR=11
SONM LR LR 03 56 27.4
comp=N,177nm,18.8s,baz=70,slow=39
SONM Songino Array 9.43 210 P Pn 03 52 33.2 +1.1
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM Songino Array 9.43 210 Pn Pn 03 52 33.2 +1.1
SONM Lg Lg 03 55 14.9
YAK Yakutsk 10.17 48 eP Pn 03 52 40.6 -1.3
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,15nm,0.9s
YAK pmax pmax
comp=N,17nm,0.9s
YAK MLR MLR
comp=Z,253nm,8.0s
YAK Yakutsk 10.17 48 ePn Pn 03 52 38.4 -3.5
YAK eLg Lg 03 55 21.4
KLR Kul'dur 13.08 115 eP Pn 03 53 19.0 -2.8
KLR MLR MLR
comp=N,2μm,9.0s
KLR MLR MLR
comp=E,1μm,9.0s
KLR MLR MLR
comp=E,900nm,8.0s
KLR MLR MLR
comp=Z,2μm,8.0s
CN2 Changchun 14.58 143 eP Pn 03 53 44.5 +2.2
CN2 esP 03 53 50.0
CN2 eS Sn 03 56 27.2 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,12.0s
CN2 LR LR
comp=E,1μm,12.0s
CN2 LR LR
comp=Z,600nm,12.0s
HABR Khabarovsk 15.25 111 P Pn 03 53 47.8 -3.5
HABR e 03 56 36.5
HABR pmax pmax
comp=N,65nm,2.3s
HABR pmax pmax
comp=Z,45nm,1.8s
HABR pmax pmax
comp=E,84nm,1.8s
HHC Hu-ho-hao-te 15.41 185 eP Pn 03 53 54.2 +0.7
HHC pP P 03 53 58.0 -0.1
HHC sP sP 03 54 01.7 -2.0
HHC PP pP 03 54 06.2 +4.3
HHC S Sn 03 56 45.6 +1.6
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,110nm,7.0s
HHC LR LR
comp=N,430nm,6.7s
HHC LR LR
comp=E,570nm,3.9s
HHC LR LR
comp=Z,550nm,6.1s
BJI Beijing 16.27 173 P P 03 54 12.4 +4.9
BJI pmax pmax
comp=Z,14nm,1.0s
BJI LR LR
comp=N,260nm,16.1s
BJI LR LR
comp=E,390nm,9.8s
BJI LR LR
comp=Z,83nm,32.2s
ZAA0 Zalesovo Array 16.50 274 ePn Pn 03 54 05.9 -1.4
ZALV Zalesovo Beam 16.50 274 Pn Pn 03 54 06.7 -0.6
comp=Z,0.3nm,0.3s,baz=65,slow=11,SNR=14
ZALV Lg Lg 03 59 00.5
comp=Z,0.2nm,0.3s,baz=59,slow=25,SNR=2.9
ZALV LR LR 04 00 53.2
comp=Z,52nm,18.5s,baz=328,slow=38
ZALV Zalesovo Beam 16.50 274 P Pn 03 54 06.7 -0.6
ZALV Zalesovo Beam 16.50 274 Pn Pn 03 54 06.7 -0.6
ZALV Lg Lg 03 59 00.5
USRK Ussuriysk Arra 16.82 128 Pn P 03 54 13.4 -0.2
comp=Z,0.2nm,0.3s,baz=287,slow=14,SNR=2.7
USRK Lg Lg 03 59 11.5
comp=Z,0.5nm,0.3s,baz=325,slow=29,SNR=12
NVS Novosibirsk 17.10 278 eP Pn 03 54 12.9 -2.0
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
GTA Gaotai 19.07 214 eP Pn 03 54 44.8 +5.5
GTA pP pP 03 54 48.6 +6.2
GTA sP sP 03 54 50.9 +6.8
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,120nm,3.8s
GTA LR LR
comp=N,560nm,11.9s
GTA LR LR
comp=E,920nm,10.9s
GTA LR LR
comp=Z,470nm,10.0s
KSAR Wonju Array Be 21.12 147 P P 03 55 03.0 +2.3
KSAR Wonju Array Be 21.12 147 P P 03 55 03.0 +2.3
KSAR Lg Lg 04 01 29.9
KSRS Korea Array 21.12 147 P P 03 55 03.0 +2.3
comp=Z,1.3nm,0.6s,baz=341,slow=8.8,SNR=5.2
KSRS Lg Lg 04 01 29.9
comp=Z,2.2nm,0.7s,baz=337,slow=28,SNR=4.8
KSRS LR LR 04 04 17.0
comp=Z,89nm,18.0s,baz=161,slow=40
KSRS Korea Array 21.12 147 P P 03 55 03.0 +2.3
KSRS MLR MLR
comp=Z,89nm,18.0s
LZH Lanzhou 21.15 202 eP P 03 55 03.3 +2.1
LZH pP pP 03 55 07.9 +2.8
LZH sP sP 03 55 10.7 +3.9
LZH eS S 03 58 55.1 -1.0
LZH sS Sn 03 59 04.2 +1.4
LZH SS 03 59 28.2
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.0s
LZH LR LR
comp=N,590nm,10.3s
LZH LR LR
comp=E,890nm,8.6s
LZH LR LR
comp=Z,720nm,10.8s
KURK Kurchatov 21.29 270 P P 03 55 03.8 +1.3
comp=Z,14nm,0.6s,baz=64,slow=12,SNR=43
KURK Lg Lg 04 01 34.2
comp=Z,4.1nm,1.1s,baz=69,slow=33,SNR=6.3
KURK Kurchatov 21.29 270 d iP P 03 55 02.2 -0.2
KURK pmax pmax
comp=Z,37nm,1.7s
KURK MLR MLR
comp=Z,113nm,15.0s
KURK Kurchatov 21.29 270 eP P 03 55 01.7 -0.7
comp=Z,14nm,0.7s
KURK Lg Lg 04 01 34.2
MK31 Makanchi Array 21.39 257 eP P 03 55 04.1 +0.5
MK31 Makanchi Array 21.39 257 eP P 03 55 04.1 +0.5
MKAR Makanchi Array 21.39 257 P P 03 55 04.3 +0.7
comp=Z,12nm,0.8s,baz=54,slow=8.9,SNR=60
MKAR Lg Lg 04 01 37.1
comp=Z,0.7nm,0.9s,baz=44,slow=31,SNR=3.2
MKAR LR LR 04 03 53.1
comp=Z,141nm,21.4s,baz=174,slow=38
MKAR Makanchi Array 21.39 257 eP P 03 55 04.4 +0.8
MKAR Makanchi Array 21.39 257 eP P 03 55 04.4 +0.8
MKAR Lg Lg 04 01 37.1
NJ2 Nanjing 24.43 169 eP P 03 55 34.7 +0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
BVA0 Borovoye Array 24.84 281 i P P 03 55 38.0 -0.2
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 24.84 281 P P 03 55 38.1 -0.1
comp=Z,9.3nm,0.8s,baz=66,slow=8.5,SNR=53
BVAR Borovoye Array 24.84 281 P P 03 55 38.1 -0.1
BVAR pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 24.84 281 P P 03 55 38.1 -0.1
BRVK Borovoye 24.88 281 eP P 03 55 38.6 0.0
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK MLR MLR
comp=Z,59nm,15.0s
BRVK Borovoye 24.88 281 eP P 03 55 38.5 0.0
comp=Z,16nm,0.9s
PETK Petropavlovsk- 25.45 78 P P 03 55 45.2 +1.5
comp=Z,6.0nm,1.0s,baz=300,slow=5.8,SNR=3.2
PETK Petropavlovsk- 25.45 78 P P 03 55 45.2 +1.5
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK Petropavlovsk- 25.45 78 P P 03 55 45.2 +1.5
CD2 Chengdu 26.18 199 P P 03 55 52.7 +2.1
CD2 pP pP 03 55 56.9 +2.2
CD2 sP sP 03 55 59.7 +3.3
CD2 PP PP 03 56 34.7
CD2 S S 04 00 22.7 +0.7
CD2 sS sS 04 00 29.3 +0.5
CD2 SS 04 01 30.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,170nm,6.5s
CD2 LR LR
comp=N,620nm,8.3s
CD2 LR LR
comp=Z,380nm,7.7s
BILL Bilibino 26.44 42⇑ eP P 03 55 52.8 +0.3
BILL e 03 56 31.9
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 26.44 42 eP P 03 55 54.8 +2.2
comp=Z,4.1nm,0.8s
TKM2 Tokmak 2 27.52 257 eP P 03 56 03.0 +0.2
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 27.52 257 eP P 03 56 03.0 +0.2
comp=Z,4.8nm,0.8s
AAK Ala-Archa 28.32 258⇓ eP P 03 56 11.2 +1.4
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK MLR MLR
comp=Z,338nm,16.0s
AAK Ala-Archa 28.32 258 eP P 03 56 11.3 +1.6
comp=Z,15nm,0.7s
EKS2 Erkin-Say 28.69 259 eP P 03 56 15.0 +1.9
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 28.69 259 eP P 03 56 15.0 +1.9
comp=Z,4.0nm,0.8s
ARU Arti 29.76 294 c iP P 03 56 23.0 +0.7
ARU e 03 57 15.9
ARU S S 04 01 19.9 +2.0
ARU SS SS 04 02 48.0 -36
ARU pmax pmax
comp=Z,16nm,2.5s
ARU Arti 29.76 294 eP P 03 56 21.4 -0.9
GYA Guiyang 30.12 192 P P 03 56 27.8 +2.0
GYA PP PP 03 57 26.6 -7.2
GYA S S 04 01 25.6 +1.5
GYA ScP ScP 04 03 08.9 +0.3
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,480nm,17.8s
GYA LR LR
comp=E,420nm,18.6s
GYA LR LR
comp=Z,440nm,17.4s
KKAR Karatay Array 30.20 263 eP P 03 56 27.3 +1.0
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 30.20 263 eP P 03 56 27.2 +1.0
comp=Z,1.4nm,0.7s
KMI Kunming 32.01 199 P P 03 56 46.0 +3.4
KMI pmax pmax
comp=Z,5.0nm,1.9s
AB31 Akbulak array 32.41 281 P P 03 56 44.7 -1.0
ABKAR Akbulak array 32.41 281 eP P 03 56 45.6 -0.1
comp=Z,2.1nm,0.8s
APA Apatity 36.60 321⇑ eP P 03 57 13.0 -8.7
APA MLR MLR
comp=Z,1μm,16.0s
SPITS Spitsbergen Ar 37.14 340 P P 03 57 25.8 -0.4
comp=Z,1.9nm,0.5s,baz=90,slow=5.8,SNR=9.4
SPITS Spitsbergen Ar 37.14 340 P P 03 57 25.8 -0.4
SPITS pmax pmax
comp=Z,2.0nm,0.5s
SPITS Spitsbergen Ar 37.14 340 P P 03 57 25.8 -0.4
KEV Kevo 37.87 326 eP P 03 57 33.3 +0.9
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 37.87 326 ep P 03 57 33.3 +0.9
comp=Z,1.0nm,0.4s
KEV Kevo 37.87 326 ep P 03 57 33.3 +0.9
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 38.44 326 P P 03 57 36.3 -0.9
comp=Z,9.7nm,1.1s,baz=73,slow=9.0,SNR=9.7

ARCES LR LR 04 19 28.7
comp=Z,48nm,18.7s,baz=212,slow=46
ARCES ARCESS Array B 38.44 326 P **P** **03 57 36.3 -0.9**
ARCES pmax pmax
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 38.44 326 P **P**
JOF Joensuu 39.44 314 *eP* **P**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 39.44 314 *ep* **P** **03 57 44.0 -1.7**
comp=Z,3.9nm,0.7s
JOF Joensuu 39.44 314 *ep* **P** **03 57 44.0 -1.7**
comp=Z,3.9nm,0.7s
KAF Kangasniemi 41.85 315 *eP* **P** **03 58 06.5 +1.0**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 41.85 315 *ep* **P** **03 58 06.5 +1.0**
comp=Z,2.9nm,0.7s
KAF Kangasniemi 41.85 315 *ep* **P** **03 58 06.5 +1.0**
comp=Z,2.9nm,0.7s
VSR Storozhevoye 42.28 296 *eP* **P** **03 58 08.3 -0.9**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 42.31 315 P **P** **03 58 08.5 -0.8**
comp=Z,6.9nm,0.6s,baz=57,slow=9.6,SNR=21
FINES FINESS Array B 42.31 315 P **P** **03 58 08.5 -0.8**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 42.31 315 P **P** **03 58 08.5 -0.8**
ILAR Eielson Array 44.84 37 P **P** **03 58 29.6 -0.1**
comp=Z,0.8nm,0.7s,baz=300,slow=8.3,SNR=9.7
ILAR Eielson Array 44.84 37 P **P** **03 58 29.6 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 44.84 37 P **P** **03 58 29.6 -0.1**
KIV Kislovodsk 45.05 286⇓ *eP* **P** **03 58 31.4 -0.3**
KIV *e* 04 00 16.0
KIV *eS* **S** **04 05 10.4 +0.5**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 45.05 286 *eP* **P** **03 58 32.0 +0.3**
comp=Z,17nm,0.8s
INK Inuvik 46.49 28 P **P** **03 58 42.3 -0.3**
comp=Z,1.7nm,0.7s,baz=330,slow=15,SNR=8.5
INK Inuvik 46.49 28 *eP* **P** **03 58 42.6 0.0**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 46.49 28 *eP* **P** **03 58 42.6 0.0**
comp=Z,2.7nm,0.9s
ANN Anapa 47.28 290 *eP* **P** **03 58 48.4 -0.7**
ANN *e**PP **pP** **03 58 52.0 -1.3**
AKASG Malin Array Be 47.49 301 P **P** **03 58 49.6 -1.1**
comp=Z,3.9nm,0.6s,baz=42,slow=8.8,SNR=16
AKASG Malin Array Be 47.49 301 P **P** **03 58 49.6 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 47.49 301 P **P** **03 58 49.6 -1.1**
AKBB Malin Array Si 47.49 301 *eP* **P** **03 58 51.3 +0.7**
AKBB Malin Array Si 47.49 301 *eP* **P** **03 58 51.3 +0.7**
KIEV Kiev 47.50 301 *i* P **P** **03 58 50.1 -0.7**
KIEV Kiev 47.50 301 *eP* **P** **03 58 49.5 -1.3**
comp=Z,120nm,2.7s
RES Resolute Bay 48.03 10 *eP* **P** **03 58 56.2 +1.6**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 48.03 10 *eP* **P** **03 58 56.2 +1.6**
comp=Z,3.1nm,0.9s
NB2 NORSAR Subarra 48.18 320 P **P** **03 58 54.1 -1.9**
comp=Z,5.4nm,0.8s,baz=48,slow=7.9
NOA NORSAR Array B 48.18 320 P **P** **03 58 55.1 -0.9**
comp=Z,3.3nm,0.8s,baz=48,slow=7.6,SNR=8.7
NOA LR LR 04 20 27.8
comp=Z,48nm,19.8s,baz=85,slow=38
NOA NORSAR Array B 48.18 320 P **P** **03 58 55.1 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,48nm,19.8s
NOA NORSAR Array B 48.18 320 P **P** **03 58 55.1 -0.9**
BUR08 Bucovina Ar. S 51.51 300 *eP* **P** **03 59 21.2 -0.2**
BURAR Bucovina Array 51.52 300⇑ *eP* **P** **03 59 21.4 -0.2**
BURAR Bucovina Array 51.52 300⇑ *iP* **P** **03 59 21.4 -0.2**
TESR 51.59 298⇓ *iP* **P** **03 59 23.1 +1.1**
UZH Uzhgorod 52.19 303 *eP* P 03 59 21.6 -4.9
UZH *e* 03 59 29.4
TRPA Tarpa 52.43 302⇑ *iP* **P** **03 59 28.8 +0.6**
MLR Muntele Rosu 52.66 298⇓ *eP* **P** **03 59 30.2 0.0**
MLR Muntele Rosu 52.66 298⇓ *iP* **P** **03 59 30.2 0.0**
BR131 Keskin Array S 52.84 288 *eP* **P** **03 59 32.0 +0.4**
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 52.84 288 P **P** **03 59 31.9 +0.3**
comp=Z,1.4nm,0.7s,baz=61,slow=5.4,SNR=5.1
BRTR Keskin Array B 52.84 288 *ceP* **P** **03 59 33.7 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 52.84 288 P **P** **03 59 31.9 +0.3**
VOIR 53.14 298⇑ *eP* **P** **03 59 35.0 +1.4**
VOIR 53.14 298⇑ *iP* **P** **03 59 35.0 +1.4**
DRGR 53.31 301⇑ *eP* **P** **03 59 35.3 +0.5**
DRGR 53.31 301⇑ *iP* **P** **03 59 35.3 +0.5**
MORC Moravsky Berou 53.55 307⇑ *eP* **P** **03 59 35.2 -1.4**
MORC Moravsky Berou 53.55 307 *eP* **P** **03 59 36.4 -0.2**
comp=Z,3.9nm,0.9s
MORC Moravsky Berou 53.55 307⇑ *iP* **P** **03 59 35.2 -1.4**
DPC Dobruska-Polom 53.68 308 *eP* **P** **03 59 38.1 +0.6**
DPC Dobruska-Polom 53.68 308 *eP* **P** **03 59 38.1 +0.6**
comp=Z,210nm,3.0s
DPC Dobruska-Polom 53.68 308 *eP* **P** **03 59 37.8 +0.3**
VRAC Vranov 54.32 307⇑ *eP* **P** **03 59 42.6 +0.5**
VRAC Vranov 54.32 307⇑ *iP* **P** **03 59 42.6 +0.5**
BRG Berggiesshubel 54.33 310 *eP* **P** **03 59 42.1 -0.1**
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 54.33 310 *eP* **P** **03 59 42.1 -0.1**
BRG pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 54.41 311 *eP* **P** **03 59 41.0 -1.8**
CLL Collm 54.41 311 *eP* **P** **03 59 41.0 -1.8**
CLL LmH 04 20 00.0
comp=N,100nm,19.7s
CLL LmH 04 20 00.0
comp=E,100nm,18.9s
BZS Buzias 54.68 301⇓ *eP* **P** **03 59 45.5 +0.7**
BZS Buzias 54.68 301⇓ *iP* **P** **03 59 45.5 +0.7**
PRU Pruhonice 54.73 309 *eP* **P** **03 59 44.7 -0.3**
PRU Pruhonice 54.73 309 *eP* **P** **03 59 44.7 -0.3**
PKSM Moragy 55.66 303⇑ *eP* **P** **03 59 54.1 +2.3**
PKSM Moragy 55.66 303⇑ *iP* **P** **03 59 54.1 +2.3**
KHC Kasperske Hory 55.78 309 *eP* **P** **03 59 53.0 +0.3**
KHC Kasperske Hory 55.78 309 *eP* **P** **03 59 53.0 +0.3**
YKA Yellowknife Ar 55.88 25 P **P** **03 59 51.9 -1.3**
comp=E,2.0nm,0.7s,baz=330,slow=6.9,SNR=7.9
YKA Yellowknife Ar 55.88 25 P **P** **03 59 51.9 -1.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 55.88 25 P **P** **03 59 51.9 -1.3**
GERES GERESS Array B 55.94 308 P **P** **03 59 53.8 -0.2**
comp=Z,1.5nm,0.8s,baz=48,slow=7.1,SNR=13
GERES LR LR 04 25 24.5
comp=Z,85nm,19.1s,baz=314,slow=38
GERES GERESS Array B 55.94 308 P **P** **03 59 53.8 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,85nm,19.1s
GERES GERESS Array B 55.94 308 P **P** **03 59 53.8 -0.2**
VTS Vitosha 56.12 297⇑ *eP* **P** **03 59 56.4 +1.0**
VTS Vitosha 56.12 297⇑ *iP* **P** **03 59 56.4 +1.0**
GRF Grafenberg Arr 56.38 310 *eP* **P** **03 59 56.9 -0.1**
GRF pmax pmax
comp=Z,2.0nm,0.7s
CSS Prodhromos 56.51 284 *eP* **P** **03 59 57.8 -0.3**
comp=Z,10nm,0.9s
MEM Membach 57.83 314 P **P** **04 00 06.3 -0.8**
CDF Champ du Feu 59.03 312 *eP* **P** **04 00 14.8 -0.9**
comp=Z,6.1nm,0.9s
AQU L'Aquila 61.03 303 *eP* **P** **04 00 29.6 +0.1**
AQU pmax pmax
comp=Z,17nm,0.9s
AQU L'Aquila 61.03 303 *eP* **P** **04 00 29.6 +0.1**
comp=Z,17nm,0.9s
LOR Lormes 61.34 313 *eP* **P** **04 00 30.5 -1.0**
comp=Z,26nm,1.1s
LPL La Plagne 61.53 310 *eP* **P** **04 00 33.2 +0.2**
comp=Z,16nm,1.0s
LPG La Plagne 61.54 310 *eP* **P** **04 00 32.9 -0.3**
comp=Z,16nm,1.0s
SSF Saint Saulge 61.65 313 *eP* **P** **04 00 33.0 -0.5**
comp=Z,15nm,1.1s
LDF La Druitiere 61.85 316 *eP* **P** **04 00 33.5 -1.4**
comp=Z,6.9nm,0.5s
FLN La Foliniere 61.85 317 *eP* **P** **04 00 33.6 -1.2**
comp=Z,18nm,0.8s
TIP Timpagrande 61.89 299 *eP* **P** **04 00 35.0 -0.4**
comp=Z,11nm,1.1s
BNI Bardonecchia 61.93 310 *eP* **P** **04 00 35.3 -0.3**
BNI pmax pmax
comp=Z,6.0nm,0.8s
BNI Bardonecchia 61.93 310 *eP* **P** **04 00 35.3 -0.3**
comp=Z,6.1nm,0.8s
ORIF Oris-en-Rattie 62.38 310 *eP* **P** **04 00 38.4 -0.1**
comp=Z,9.1nm,0.8s
VIVF Saint-Julien-l 62.94 311 *eP* **P** **04 00 41.4 -0.8**
SGMF Saint Gilles 63.06 318 *eP* **P** **04 00 41.9 -1.0**
ROSF Rostrenen 63.26 318 *eP* **P** **04 00 43.7 -0.5**
MFF Saint Martin d 63.49 315 *eP* **P** **04 00 45.1 -0.7**
comp=Z,19nm,0.8s
QUIF Quistinic 63.57 318 *eP* **P** **04 00 45.3 -1.0**
FFC Flin Flon 65.72 22 *eP* **P** **04 00 59.2 -1.0**
FFC pmax pmax
comp=Z,2.0nm,0.6s
FFC Flin Flon 65.72 22 *eP* **P** **04 00 59.1 -1.0**
comp=Z,1.7nm,0.6s
ETSF Etsaut 66.72 313 *eP* **P** **04 01 06.1 -0.8**
comp=Z,8.9nm,0.8s
BSMT Bassoo Peak 68.76 33 *eP* **P** **04 01 20.0 +0.1**
SWMT Swartz Lake 69.31 32 *eP* **P** **04 01 23.5 +0.3**
SCHQ Schefferville 69.33 0 P **P** **04 01 23.3 +0.2**
comp=Z,2.3nm,0.7s,baz=1,9,slow=7.5,SNR=4.4
SCHQ Schefferville 69.33 0 P **P** **04 01 23.3 +0.2**
SLMT Seeley Lake 69.70 32 *eP* **P** **04 01 26.1 +0.4**
CHMT Chamberlain Mo 70.06 32 *eP* **P** **04 01 28.0 0.0**
BMO Blue Mountains 70.65 36 *eP* **P** **04 01 32.4 +1.0**
comp=Z,3.4nm,0.9s
ESDC Sonseca Array 70.81 313 P **P** **04 01 32.6 +0.1**
comp=Z,4.2nm,0.7s,baz=26,slow=6.8,SNR=25
ESDC Sonseca Array 70.81 313 P **P** **04 01 32.6 +0.1**
DLMT Dillon 71.66 32 *eP* **P** **04 01 37.6 0.0**
comp=Z,92nm,2.6s
BOZ Bozeman (W) 71.69 32 *eP* **P** **04 01 37.9 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 71.69 32 *eP* **P** **04 01 37.9 +0.1**
comp=Z,2.6nm,1.0s
MCMT McKenzie Canyo 72.07 33 *eP* **P** **04 01 40.7 +0.4**
comp=Z,2.0nm,1.0s
WVOR Wild Horse Val 72.35 38 *eP* **P** **04 01 41.9 +0.1**
WVOR pmax pmax
comp=Z,6.0nm,1.3s
WVOR Wild Horse Val 72.35 38 *eP* **P** **04 01 41.9 +0.1**
comp=Z,6.1nm,1.3s
HLID Hailey 72.73 34 *eP* **P** **04 01 44.9 +0.8**
comp=Z,4.4nm,1.3s
RLMT Red Lodge 72.85 30 *eP* **P** **04 01 45.1 +0.3**
comp=Z,87nm,2.5s
MOOW Moose Ponds 73.68 32 *eP* **P** **04 01 49.8 0.0**
comp=Z,48nm,2.8s
BW06 Boulder Array 74.93 31 *eP* **P** **04 01 56.3 -0.8**
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 74.93 31 P **P** **04 01 56.4 -0.6**
comp=Z,1.4nm,0.7s,baz=34,slow=1.7,SNR=9.5
PDAR LR LR 04 38 22.1
comp=Z,67nm,18.7s,baz=258,slow=38
PDAR Pinedale Array 74.93 31 P **P** **04 01 56.4 -0.6**
RSSD Black Hills 75.17 27 *eP* **P** **04 01 57.4 -1.0**
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 75.17 27 *eP* **P** **04 01 57.4 -1.0**
comp=Z,6.1nm,1.0s
NVAR Mina Array Bea 76.02 39 P **P** **04 02 02.9 -0.5**
comp=Z,0.9nm,0.7s,baz=314,slow=4.4,SNR=5.7
NVAR Mina Array Bea 76.02 39 P **P** **04 02 02.9 -0.5**
PHWY Pilot Hill 77.43 29 *eP* **P** **04 02 12.6 +1.2**
comp=Z,74nm,3.0s
WRA Warramunga Arr 77.87 160 P **P** **04 02 12.7 -0.8**
comp=Z,2.1nm,0.8s,baz=344,slow=6.2,SNR=8.5
WRA Warramunga Arr 77.87 160 P **P** **04 02 12.7 -0.8**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 77.87 160 P **P** **04 02 12.7 -0.8**
OGNE Ogallala 78.66 27 *eP* **P** **04 02 17.8 -0.2**
comp=Z,11nm,0.8s
ISCO Idaho Springs 78.79 30 *eP* **P** **04 02 19.5 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 78.79 30 *eP* **P** **04 02 19.5 +0.5**
comp=Z,3.2nm,1.0s
SDCO Great Sand Dun 80.74 30 *eP* **P** **04 02 29.6 +0.1**
comp=Z,58nm,2.8s
ASAR Alice Springs 81.42 161 P **P** **04 02 32.1 -0.7**
comp=Z,0.8nm,0.6s,baz=357,slow=5.1,SNR=18
ASAR Alice Springs 81.42 161 P **P** **04 02 32.1 -0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.42 161 P **P** **04 02 32.1 -0.7**
KSU1 Kansas State U 81.69 23 *eP* **P** **04 02 32.6 -1.7**
comp=Z,13nm,0.8s
ANMO Albuquerque 83.06 32 *eP* **P** **04 02 42.2 +0.5**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 83.06 32 *eP* **P** **04 02 42.2 +0.5**
comp=Z,3.1nm,1.1s
KMBO Kilima Mbogo 83.28 258 *eP* **P** **04 02 43.9 +0.9**
KMBO Kilima Mbogo 83.28 258 *eP* **P** **04 02 43.9 +0.9**
SIUC Southern Illin 84.48 18 *eP* **P** **04 02 48.6 -0.1**
comp=Z,15nm,0.8s
WMOK Wichita Mounta 85.35 26 *eP* **P** **04 02 53.5 +0.4**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 85.35 26 *eP* **P** **04 02 53.5 +0.4**
comp=Z,9.1nm,1.0s
WVT Waverly 86.26 17 *eP* **P** **04 02 57.4 -0.1**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT Waverly 86.26 17 *eP* **P** **04 02 57.4 -0.1**
comp=Z,5.2nm,0.8s
TXAR Lajitas Array 89.14 32 P **P** **04 03 11.8 +0.2**
comp=Z,0.3nm,0.6s,baz=355,slow=4.1,SNR=5.2
TXAR Lajitas Array 89.14 32 P **P** **04 03 11.8 +0.2**
TXAR Lajitas Array 89.14 32 P **P** **04 03 11.8 +0.2**
TORD Torodi Ar. Bea 90.82 295 P **P** **04 03 18.6 -0.9**
comp=Z,0.9nm,1.0s,baz=21,slow=3.9,SNR=5.4
TORD Torodi Ar. Bea 90.82 295 P **P** **04 03 18.6 -0.9**
QSPA South Pole Qui 145.96 180 PKPbc **PKPdf** **04 09 53.3 -0.1**
comp=Z,4.0nm,0.6s,baz=312,slow=1.1,SNR=12
QSPA South Pole Qui 145.96 180 PKPbc **PKPdf** **04 09 53.3 -0.1**
LVC Limon Verde 146.41 4 *e*PKPbc **PKPab** **04 09 58.3 +0.3**
CPUP Villa Florida 149.42 344 PKPbc **PKPbc** **04 10 02.8 -2.0**
comp=Z,1.3nm,0.5s,baz=353,slow=2.3,SNR=6.2
CPUP Villa Florida 149.42 344 *e*PKP2 **PKPbc** **04 10 03.3 -1.5**
CPUP Villa Florida 149.42 344 *e*PKPbc **PKPbc** **04 10 03.3 -1.5**
SNAA Sanae 149.88 214 *e* PKPdf 04 09 53.4 -6.4
SNAA Sanae 149.88 214 *e* PKPdf 04 09 53.4 -6.4
SNAA *e* 04 09 54.7
VNA2 Neumayer--Watz 151.32 216 *e* **PKPbc** **04 10 09.0 +1.0**
baz=331,slow=16
VNA2 Neumayer--Watz 151.32 216 *e* **PKPbc** **04 10 09.0 +1.0**
baz=49,slow=3.0
VNA3 Neumayer Olymp 152.06 215 *e* **PKPbc** **04 10 11.0 +1.3**
VNA3 Neumayer Olymp 152.06 215 *e* **PKPbc** **04 10 11.0 +1.3**

ECX ***03*** *03:56:15.6±0.6, 31°.92N×114°.76W, h8km, MD3.1, ML3.2*
ISC 03 03:56:13.7±1.4, 31°.92N±0°.05×114°.77W±0°.03, h2km±11km, n21,σ1°13/34, 13C-9D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YMD	**Yuma Desert**	**0.67**	**17**	*eP*	**Pb**	**03 56 27.9**	**-0.2**
YMD				*eS*	**Sg**	**03 56 36.5**	**+1.3**
COA	**Coachella**	**0.99**	**343**	⇓ *iP*	**Pg**	**03 56 32.2**	**-0.5**
RDX	**Rancho Dawling**	**0.99**	**271**	*eP*	**Pg**	**03 56 33.1**	**+0.3**
RDX				*eS*	**Sg**	**03 56 46.9**	**+1.2**
RDX				⇓ *e*		03 56 47.5	
	comp=E,718nm,0.2s						
RDX				⇓ *e*		03 56 50.9	
	comp=N,210nm,0.6s						
SGL	**Mount Signal**	**1.09**	**312**	*eP*	**Pg**	**03 56 33.9**	**-0.7**
GLA	**Glamis**	**1.14**	**358**	*eP*	**Pg**	**03 56 34.3**	**-1.2**
GLA	**Glamis**	**1.14**	**358**	⇑P	**Pg**	**03 56 34.3**	**-1.2**
	baz=1.1,SNR=20						
GLA				⇑S	**Sg**	**03 56 51.0**	**+0.8**
	baz=1.1						
113A	**Mohawk Valley,**	**1.20**	**45**	⇓P	**Pg**	**03 56 36.2**	**-0.6**
	baz=1.2,SNR=36						
RMX	**La Rumorosa**	**1.30**	**302**	*eP*	**Pg**	**03 56 38.1**	**-0.6**
RMX				*eS*	**Sg**	**03 56 55.8**	**+0.2**
RMX				⇑ *e*		03 56 56.8	
	comp=E,472nm,0.2s						
RMX				⇑ *e*		03 56 56.9	
	comp=N,416nm,0.1s						
DVTC	**Desert V Tower**	**1.35**	**304**	⇑S	**Sg**	**03 56 55.3**	**-1.7**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.58**	**261**	*ePN*	**Pb**	**03 56 43.9**	**+0.3**
ECNX				*ePN*	**Pb**	**03 56 43.9**	**+0.3**
ECNX				*eS*	**Sn**	**03 57 04.3**	**+0.5**
ECNX				*eS*	**Sg**	**03 57 05.0**	**+0.7**
Z13A	**Yuma Proving G**	**1.59**	**36**	⇑P	**Pn**	**03 56 41.9**	**-1.0**
	baz=1.6,SNR=36						
Z13A				⇑S	**Sn**	**03 57 04.8**	**+0.7**
	baz=1.6						
CBX	**Cerro Bola**	**1.65**	**284**	*eP*	**Pn**	**03 56 43.8**	**-0.1**
CBX				*eS*	**Sn**	**03 57 06.6**	**+0.8**
214A	**Organ Pipe Nat**	**1.67**	**88**	⇑P	**Pn**	**03 56 42.6**	**-1.4**
	baz=1.7,SNR=18						
PBX	**Punta Banda**	**1.67**	**265**	*ePN*	**Pb**	**03 56 45.1**	**-0.1**
PBX				*eS*	**Sb**	**03 57 06.9**	**+0.2**
MONP	**Monument Peak**	**1.70**	**305**	⇑Sb	**Sn**	**03 57 06.5**	**-0.5**
	baz=1.6						
114A	**Black Gap (USA**	**1.80**	**62**	⇓P	**Pn**	**03 56 44.8**	**-1.0**
	baz=1.8,SNR=30						
114A				⇓Sb	**Sg**	**03 57 12.5**	**+0.8**
	baz=1.8						
Z14A	**Wintersburg**	**2.11**	**46**	⇑Pg	**Pb**	**03 56 53.7**	**+1.0**
	baz=2.1						
Z14A				⇑Sb	**Sg**	**03 57 21.6**	**0.0**
	baz=2.1						
PFO	**Pinyon Flat Ob**	**2.21**	**320**	⇓Pg	**Pb**	**03 56 54.1**	**-0.3**
	baz=2.1						
IRM	**Iron Mountain**	**2.26**	**352**	⇓Pg	**Pb**	**03 56 55.9**	**+0.6**
	baz=2.2,SNR=20						
Y14A	**Wickenburg**	**2.51**	**36**	⇑Pg	**Pb**	**03 57 00.8**	**+1.3**
	baz=2.5,SNR=26						
Y14A				⇓Sb	**Sg**	**03 57 33.1**	**-1.1**
	baz=2.5						
W13A	**Hualapai Mount**	**3.26**	**13**	⇑Sg	**Sg**	**03 58 02.5**	**+4.0**
	baz=3.2						

IDC 03 04:10:37.2±6.5, 6°.69S×129°.87E, h110km±68km, mb3.5/3, mb1 3.6/7, mb1mx3.4/16, mbtmp3.5/7, Error ellipse: s-maj=43.7km s-min=28.5km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.08**	**200**	P	Pn	04 13 26.7	+1.0
	0.4nm,0.3s,baz=20,slow=13,SNR=6.4						
FITZ				S	Sn	04 15 32.3	-6.3
	0.8nm,0.3s,baz=161,slow=16,SNR=6.3						
WRA	**Warramunga Arr**	**13.87**	**162**	P	Pn	04 13 49.3	+0.1
	0.3nm,0.3s,baz=338,slow=13,SNR=4.5						
WRA				S	Sn	04 16 17.7	-4.5
	0.9nm,0.3s,baz=349,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.32**	**168**	P	Pn	04 14 33.8	+1.5
	0.8nm,0.3s,baz=348,slow=11,SNR=45						
ASAR				S	Sn	04 17 41.3	-4.2
	0.2nm,0.3s,baz=359,slow=26,SNR=4.5						
PMG	**Port Moresby**	**17.33**	**100**	P	P	04 14 31.6	-0.5
	0.8nm,0.3s,baz=257,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**27.35**	**158**	P	P	04 16 11.9	-0.1
	0.7nm,0.5s,baz=331,slow=10,SNR=5.2						
SONM	**Songino Array**	**58.10**	**342**	P	P	04 20 19.9	+0.7
	0.2nm,0.4s,baz=163,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	04 21 23.5	-0.4
	1.0nm,0.4s,baz=116,slow=8.4,SNR=24						

MEX 03 04:23:06.8±0.5, 15°.39N×94°.75W, h25km±21km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.36**	**286**	*i* P	Pn	04 23 28.2	-2.0
HUIG				*eS*	Sn	04 23 43.4	-4.0
PCIG		**1.51**	**78**	*i* P	Pn	04 23 29.4	-2.8
PCIG				*eS*	Sn	04 23 47.0	-4.1
CMIG	**Matias Romero**	**1.69**	**356**	*i* P	Pn	04 23 32.5	-2.3
CMIG				*eS*	Sn	04 23 52.1	-3.6
TGIG		**2.09**	**48**	*i* P	Pn	04 23 38.8	-1.5
TGIG				*eS*	Sn	04 24 02.6	-2.9
VHO	**Vista Hermosa**	**2.53**	**312**	*i* P	Pn	04 23 44.3	-2.3
VHO				*eS*	Sn	04 24 13.1	-3.8
PNIG	**Pinotepa**	**3.40**	**287**	*i* P	Pn	04 23 56.4	-1.9
PNIG				*eS*	Sn	04 24 34.7	-3.1

NEIC ***03*** *04:29:15.9±0.5, 41°.80N×49°.02E, h10km, mb4.5/5, Error ellipse: s-maj=10.7km s-min=6.0km az=176.0*
MOS ***03*** *04:29:20.6±1.7, 42°.12N×49°.32E, h33km, mb4.4/20, Error ellipse: s-maj=5.9km s-min=5.8km az=81.2*
ISCJB ***03*** *04:29:21.9±0.5, 42°.14N±0°.04×49°.29E±0°.03, h64km±5km, mb3.9/26, Error ellipse: s-maj=6.7km s-min=4.2km az=168.5*
CSEM ***03*** *04:29:22.6±0.3, 41°.98N×49°.13E, h68km±3km, mb4.0/14, Error ellipse: s-maj=9.1km s-min=5.4km az=168.0*
IDC ***03*** *04:29:23.5±2.5, 41°.85N×49°.00E, h79km±25km, mb3.7/17, mb1 3.7/21, mb1mx3.6/32, mbtmp3.7/21, MS2.9/5, Ms1 3.0/5, ms1mx2.6/35, Error ellipse: s-maj=17.2km s-min=11.4km az=155.0*
NNC ***03*** *04:29:29.0±2.7, 42°.16N×50°.86E, h0km, mb4.2, Error ellipse: s-maj=22.8km s-min=21.7km az=139.0*
ISC 03 04:29:22.4±0.7, 42°.02N±0°.05×49°.28E±0°.04, h56km±8km, n190,σ1°92/193, mb4.0/26, MS3.0/3, 13C-10D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.71**	**271**	⇓ *i*PG	Pn	**04 29 36.8**	**+0.3**
DRN				S	**Sn**	**04 29 47.0**	**+0.2**
DRN	**Derbent**	**0.71**	**271**	*i* Pg	**Pn**	**04 29 36.8**	**+0.3**
DRN				Sg	**Sn**	**04 29 47.0**	**+0.2**
KSMR	**Kasumkent**	**0.96**	**245**	⇓ *i*PG	Pn	04 29 38.0	-1.8
KSMR				*eS*	**Sn**	**04 29 51.0**	**-1.6**
KSMR				pmax	pmax		
	comp=Z,1μm,0.2s						
KSMR	**Kasumkent**	**0.96**	**245**	*i* Pg	Pn	04 29 38.0	-1.8
	comp=Z,1μm,0.2s						
KSMR				*eSg*	**Sn**	**04 29 51.0**	**-1.6**
AKT	**Akhty**	**1.28**	**246**	*ePG*	**Pn**	**04 29 43.0**	**-1.1**
AKT	**Akhty**	**1.28**	**246**	*ePg*	**Pn**	**04 29 43.0**	**-1.1**
MNSR	**Manas**	**1.34**	**301**	⇓ *i*PG	Pn	**04 29 47.2**	**+2.4**
MNSR				*i* S	**Sn**	**04 30 06.0**	**+4.4**
MNSR				pmax	pmax		
	comp=Z,515nm,0.3s						
MNSR	**Manas**	**1.34**	**301**	*i* Pg	**Pn**	**04 29 47.2**	**+2.4**
	comp=Z,515nm,0.3s						
MAK	**Makhachkala**	**1.62**	**306**	*ePG*	**Pn**	**04 29 50.3**	**+1.8**
MAK				*i*		04 30 13.2	
MAK				pmax	pmax		
	comp=Z,186nm,0.3s						
MAK				smax	smax		
	comp=E,2.0nm,0.4s						
MAK				smax	smax		
	comp=N,4.0nm,0.6s						
MAK	**Makhachkala**	**1.62**	**306**	*ePg*	**Pn**	**04 29 50.3**	**+1.8**
	comp=N,186nm,0.3s						
KMKR	**Kumukh**	**1.63**	**275**	*ePN*	**Pn**	**04 29 50.0**	**+1.1**
KMKR				pmax	pmax		
	comp=Z,315nm,0.4s						
KMKR	**Kumukh**	**1.63**	**275**	*ePn*	**Pn**	**04 29 50.0**	**+1.1**
	comp=Z,315nm,0.4s						
UNCR	**Uncukul**	**1.97**	**291**	*ePN*	**Pn**	**04 29 56.5**	**+3.1**
UNCR				pmax	pmax		
	comp=Z,188nm,0.4s						
DBC	**Dubki**	**2.07**	**300**	*i* PN	**Pn**	**04 29 56.4**	**+1.6**
DBC	**Dubki**	**2.07**	**300**	*i* Pn	**Pn**	**04 29 56.4**	**+1.6**
GNI	**Garni**	**3.91**	**243**	P	Pn	04 30 18.1	-2.0
	comp=Z,8.2nm,0.3s,baz=83,slow=0.9,SNR=40						
GNI	**Garni**	**3.91**	**243**	*ePN*	Pn	04 30 18.0	-2.0
GNI	**Garni**	**3.91**	**243**	*ePn*	Pn	04 30 18.0	-2.0

GNI	**Garni**	**3.91**	**243**	*e*Pn		Pn	04 30 18.0	-2.0
ZEI	**Tsey**	**4.06**	**282**	*e*PN		**Pn**	**04 30 22.0**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZEI	**Tsey**	**4.06**	**282**	*e*Pn		**Pn**	**04 30 22.0**	**-0.1**
	comp=Z,2.0nm,0.6s							
KIV	**Kislovodsk**	**5.21**	**294**	⇓*e*PN		**Pn**	**04 30 37.0**	**-0.8**
KIV				*e*S		**Sn**	**04 31 39.3**	**+2.7**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KIV				MLR	MLR			
	comp=Z,100nm,16.0s							
KIV	**Kislovodsk**	**5.21**	**294**	*e*Pn		**Pn**	**04 30 38.3**	**+0.5**
	comp=Z,50nm,0.6s							
KIV	**Kislovodsk**	**5.21**	**294**	*e*Pn		**Pn**	**04 30 37.0**	**-0.8**
	comp=Z,5.0nm,0.6s							
AKTK	**Aktyubinsk**	**10.36**	**33**	P		**Pn**	**04 31 49.5**	**+1.4**
	comp=Z,2.0nm,0.6s							
AKTO	**Aktyubinsk**	**10.36**	**33**	P		**Pn**	**04 31 49.4**	**+1.3**
AKTO	comp=Z,4.0nm,0.3s,baz=212,slow=10.0,SNR=64			S		**Sn**	**04 33 40.9**	**-1.7**
	comp=Z,8.3nm,0.3s,baz=37,slow=21,SNR=13							
AKTO				LR	LR		04 36 56.3	
	comp=Z,41nm,18.2s,baz=269,slow=43							
AKTO	**Aktyubinsk**	**10.36**	**33**	⇓Pn		**Pn**	**04 31 49.5**	**+1.4**
	comp=Z,1.9nm,0.6s							
AKTO				⇑Sn		**Sn**	**04 33 40.1**	**-2.4**
	comp=Z,5.9nm,0.5s							
AKTO	**Aktyubinsk**	**10.36**	**33**	P		**Pn**	**04 31 49.5**	**+1.4**
AKTO				S		**Sn**	**04 33 40.1**	**-2.4**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKTO				smax	smax			
	comp=N,6.0nm,0.5s							
AKTO	**Aktyubinsk**	**10.36**	**33**	P		**Pn**	**04 31 49.4**	**+1.3**
AKTO				S		**Sn**	**04 33 40.9**	**-1.7**
AKTO	**Aktyubinsk**	**10.36**	**33**	Pn		**Pn**	**04 31 49.5**	**+1.4**
	comp=N,1.9nm,0.6s							
AB31	**Akbulak array**	**10.39**	**42**	Pn		**Pn**	**04 31 49.0**	**+0.5**
	comp=N,2.3nm,0.3s,baz=219,slow=13,SNR=222							
AB31				⇑Sn		**Sn**	**04 33 39.9**	**-3.4**
	comp=N,2.0nm,0.2s,baz=224,slow=22,SNR=8.9							
AB31	**Akbulak array**	**10.39**	**42**	P		**Pn**	**04 31 49.0**	**+0.5**
AB31				S		**Sn**	**04 33 41.8**	**-1.5**
AB31				pmax	pmax			
	comp=Z,7.0nm,0.3s							
AB31				smax	smax			
	comp=N,11nm,0.2s							
AB31	**Akbulak array**	**10.39**	**42**	Pn		**Pn**	**04 31 49.0**	**+0.5**
	comp=N,2.3nm,0.3s,SNR=222							
ABKAR	**Akbulak array**	**10.39**	**42**	*e*Pn		**Pn**	**04 31 48.8**	**+0.3**
	comp=N,7.7nm,0.4s							
ABKAR				*e*Sn		**Sn**	**04 33 40.9**	**-2.4**
ABKAR	**Akbulak array**	**10.39**	**42**	*e*Pn		**Pn**	**04 31 48.8**	**+0.3**
	comp=N,7.7nm,0.4s							
VRHR	**Novokhopersk**	**10.49**	**333**	*e*P		Pn	04 31 53.2	+3.3
VRHR				*e*S		**Sn**	**04 33 45.0**	**-0.8**
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.8s							
VRHR				pmax	pmax			
	comp=E,9.0nm,0.8s							
VRHR				smax	smax			
	comp=E,300nm,2.0s							
VRHR				smax	smax			
	comp=Z,40nm,1.1s							
VRHR				smax	smax			
	comp=N,270nm,2.5s							
VSR	**Storozhevoye**	**11.52**	**326**	*e*P		**Pn**	**04 32 02.2**	**-1.7**
VSR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
VSR				pmax	pmax			
	comp=N,2.0nm,0.3s							
VSR				pmax	pmax			
	comp=E,6.0nm,0.6s							
VSR	**Storozhevoye**	**11.52**	**326**	*e*P		**Pn**	**04 32 02.2**	**-1.7**
	comp=E,2.0nm,0.3s							
BR131	**Keskin Array S**	**12.06**	**264**	*e*Pn		**Pn**	**04 32 12.1**	**+0.5**
BR131	**Keskin Array S**	**12.06**	**264**	*e*Pn		**Pn**	**04 32 12.1**	**+0.5**
BRTR	**Keskin Array B**	**12.06**	**264**	P		**Pn**	**04 32 10.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=81,slow=12,SNR=9.8							
BRTR	**Keskin Array B**	**12.06**	**264**	*ce*P		**Pn**	**04 32 13.8**	**+2.2**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**12.06**	**264**	P		**Pn**	**04 32 10.2**	**-1.4**
BRTR	**Keskin Array B**	**12.06**	**264**	P		**Pn**	**04 32 10.2**	**-1.4**
CSS	**Prodhromos**	**14.33**	**246**	*e*Pn		**Pn**	**04 32 44.4**	**+2.2**
OBN	**Obninsk**	**15.54**	**332**	⇑*e*P		**Pn**	**04 32 57.9**	**+0.3**
OBN				*e*S		**Sn**	**04 35 43.1**	**-5.4**
OBN				pmax	pmax			
	comp=Z,11nm,0.6s							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s							
ARU	**Arti**	**15.62**	**19**	*c i*P		**Pn**	**04 32 57.4**	**-1.3**
ARU				S		**Sn**	**04 35 45.9**	**-4.7**
ARU				pmax	pmax			
	comp=Z,23nm,1.2s							
ARU	**Arti**	**15.62**	**19**	*e*Pn		**Pn**	**04 32 57.3**	**-1.3**
	comp=Z,13nm,0.6s							
ARU				*e*Sn		Sn	04 35 39.4	-11
KK31	**Karatay Array**	**15.68**	**79**	⇓Pn		**Pn**	**04 32 58.8**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=285,slow=14,SNR=32							
KK31				Sn		Sn	04 35 42.8	-10
	comp=Z,17nm,0.8s,baz=273,slow=25,SNR=16							
KK31	**Karatay Array**	**15.68**	**79**	*i* P		**Pn**	**04 32 59.4**	**-0.2**
KK31							04 35 42.7	
KK31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KK31				pmax	pmax			
	comp=Z,5.0nm,0.4s							
KK31	**Karatay Array**	**15.68**	**79**	Pn		**Pn**	**04 32 58.8**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=285,SNR=32							
KKAR	**Karatay Array**	**15.68**	**79**	*e*P		**Pn**	**04 32 59.4**	**-0.2**
KKAR				*e*			04 35 43.6	
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KKAR	**Karatay Array**	**15.68**	**79**	*e*Pn		**Pn**	**04 32 59.4**	**-0.2**
	comp=Z,4.1nm,0.4s							
KKAR				*e*Sn		Sn	04 35 43.6	-8.7
KKAR	**Karatay Array**	**15.68**	**79**	*e*Pn		**Pn**	**04 32 59.4**	**-0.2**
	comp=Z,4.1nm,0.4s							
AKASG	**Malin Array Be**	**16.30**	**309**	P		**Pn**	**04 33 05.4**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=115,slow=12,SNR=10							
AKASG				S		**Sn**	**04 36 07.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=116,slow=23,SNR=4.8							
AKASG	**Malin Array Be**	**16.30**	**309**	P		**Pn**	**04 33 05.5**	**-1.9**
AKASG				S		**Sn**	**04 36 07.0**	**-0.2**
AKASG	**Malin Array Be**	**16.30**	**309**	P		**Pn**	**04 33 05.5**	**-1.9**
AKASG				S		**Sn**	**04 36 07.0**	**-0.2**
AKBB	**Malin Array Si**	**16.30**	**309**	*e*P		**Pn**	**04 33 07.0**	**-0.4**
AKBB	**Malin Array Si**	**16.30**	**309**	*e*Pn		**Pn**	**04 33 07.0**	**-0.4**
AKBB	**Malin Array Si**	**16.30**	**309**	*e*P		**Pn**	**04 33 07.0**	**-0.4**
KIEV	**Kiev**	**16.31**	**309**	*e*P		**Pn**	**04 33 07.6**	**+0.2**
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KIEV	**Kiev**	**16.31**	**309**	*e*Pn		**Pn**	**04 33 07.6**	**+0.2**
	comp=Z,3.6nm,0.4s							
KIEV	**Kiev**	**16.31**	**309**	*e*P		**Pn**	**04 33 07.6**	**+0.2**
	comp=Z,4.0nm,0.4s							
SVE	**Sverdlovsk**	**16.52**	**22**	⇓*e*P		**P**	**04 33 10.0**	**-1.9**
SVE				*e*S		**Sn**	**04 36 06.0**	**-6.4**
SVE				pmax	pmax			
	comp=Z,41nm,0.9s							
ZRNK	**Zerenda**	**17.18**	**44**	⇓Pn		**P**	**04 33 18.2**	**-1.0**
	comp=Z,8.4nm,0.8s							
ZRNK				⇑Sn		**Sn**	**04 36 22.7**	**-5.7**
	comp=Z,9.4nm,0.8s							
ZRNK	**Zerenda**	**17.18**	**44**	Pn		**P**	**04 33 18.2**	**-1.0**
	comp=Z,8.4nm,0.8s							
KBL	**Kabul**	**17.20**	**109**	*e*P		**Pn**	**04 33 20.2**	**+1.3**
KBL				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KBL	**Kabul**	**17.20**	**109**	*e*P		**Pn**	**04 33 20.2**	**+1.3**
	comp=Z,2.6nm,0.6s							
KBL	**Kabul**	**17.20**	**109**	*e*P		**Pn**	**04 33 20.2**	**+1.3**
	comp=Z,2.6nm,0.6s							
BRVK	**Borovoye**	**17.90**	**45**	⇑Pn		**P**	**04 33 27.1**	**0.0**
	comp=Z,18nm,1.1s							
BRVK				⇓Sn		Sn	04 36 38.1	-7.6
	comp=Z,8.0nm,0.6s							
BRVK	**Borovoye**	**17.90**	**45**	*e*P		**P**	**04 33 27.0**	**-0.1**
BRVK				*e*			04 36 40.3	
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BRVK	**Borovoye**	**17.90**	**45**	*e*P		**P**	**04 33 27.0**	**-0.1**
	comp=Z,7.5nm,0.7s							
BRVK				*e*Sn		**Sn**	**04 36 40.3**	**-5.4**
BRVK	**Borovoye**	**17.90**	**45**	*e*P		**P**	**04 33 27.0**	**-0.1**
	comp=Z,7.5nm,0.7s							
BVA0	**Borovoye Array**	**17.94**	**45**	⇑Pn		**P**	**04 33 28.2**	**+0.6**
	comp=Z,1.4nm,1.1s,baz=232,slow=11,SNR=37							
BVA0				Sn		**Sn**	**04 36 40.1**	**-6.6**
	comp=Z,0.9nm,0.6s,baz=239,slow=23,SNR=8.9							
BVA0	**Borovoye Array**	**17.94**	**45**	*i* P		**P**	**04 33 28.1**	**+0.6**
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BVA0	**Borovoye Array**	**17.94**	**45**	*i* P		**P**	**04 33 28.1**	**+0.6**
	comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**17.94**	**45**	P		**P**	**04 33 28.7**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=235,slow=13,SNR=37							
BVAR				S		**Sn**	**04 36 40.3**	**-6.4**
	comp=Z,1.1nm,0.3s,baz=238,slow=24,SNR=7.5							
BVAR				LR	LR		04 42 14.2	
	comp=Z,26nm,21.2s,baz=74,slow=42							
BVAR	**Borovoye Array**	**17.94**	**45**	P		**P**	**04 33 28.7**	**+1.2**
BVAR				S		**Sn**	**04 36 40.3**	**-6.4**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR				smax	smax			
	comp=N,1.0nm,0.3s							
BVAR				MLR	MLR			
	comp=Z,27nm,21.2s							
BVAR	**Borovoye Array**	**17.94**	**45**	P		**P**	**04 33 28.7**	**+1.2**
BVAR				S		**Sn**	**04 36 40.4**	**-6.4**
BVAR	**Borovoye Array**	**17.94**	**45**	P		**P**	**04 33 28.7**	**+1.2**
	comp=Z,1.0nm,0.3s							
BUR08	**Bucovina Ar. S**	**17.95**	**296**	*e*P		**P**	**04 33 25.4**	**-2.4**
BUR08	**Bucovina Ar. S**	**17.95**	**296**	*e*P		**P**	**04 33 25.5**	**-2.4**
VOSK	**Vostochnaya**	**18.11**	**46**	⇑Pn		**Pn**	**04 33 29.1**	**-0.6**
	comp=Z,7.7nm,1.4s							
VOSK				⇑Sn		Sn	04 36 41.1	-10
	comp=Z,5.5nm,0.7s							
EKS2	**Erkin-Say**	**18.11**	**80**	*e*P		**Pn**	**04 33 31.7**	**+1.8**
EKS2				pmax	pmax			
	comp=Z,6.0nm,1.0s							
EKS2	**Erkin-Say**	**18.11**	**80**	*e*P		**Pn**	**04 33 31.7**	**+1.8**
	comp=Z,6.2nm,1.0s							
EKS2	**Erkin-Say**	**18.11**	**80**	*e*P		**Pn**	**04 33 31.7**	**+1.8**
	comp=Z,6.2nm,1.0s							
SOKR	**Solikamsk**	**18.18**	**12**	*e*P		**P**	**04 33 29.0**	**-1.1**
SOKR				S		Sn	04 36 39.0	-13
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SOKR	**Solikamsk**	**18.18**	**12**	*e*P		**P**	**04 33 29.0**	**-1.1**
	comp=Z,10.0nm,0.6s							
AAK	**Ala-Archa**	**18.64**	**80**	⇑*e*P		**Pn**	**04 33 38.8**	**+2.5**
AAK				pmax	pmax			
	comp=Z,16nm,0.8s							
AAK				MLR	MLR			
	comp=Z,76nm,15.0s							
AAK	**Ala-Archa**	**18.64**	**80**	*e*P		**Pn**	**04 33 37.7**	**+1.3**
	comp=Z,19nm,0.6s							
AAK	**Ala-Archa**	**18.64**	**80**	*e*P		**Pn**	**04 33 37.7**	**+1.3**
	comp=Z,19nm,0.6s							
TKM2	**Tokmak 2**	**19.41**	**78**	*e*P		**P**	**04 33 44.5**	**+0.5**
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TKM2	**Tokmak 2**	**19.41**	**78**	*e*P		**P**	**04 33 44.5**	**+0.5**
	comp=Z,3.1nm,0.7s							
TKM2	**Tokmak 2**	**19.41**	**78**	*e*P		**P**	**04 33 44.5**	**+0.5**
	comp=Z,3.1nm,0.7s							
UZH	**Uzhgorod**	**20.03**	**298**	*e*P		**Pn**	**04 33 53.2**	**+0.6**
UZH				*e*			04 34 11.2	
KSH	**Kashi**	**20.34**	**88**	P		**P**	**04 33 53.1**	**-1.0**
KSH				pmax	pmax			
	comp=Z,130nm,4.1s							
PSZ	**Piszkesteto**	**21.53**	**296**	*e*P		**P**	**04 34 08.4**	**+1.7**
PSZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PSZ	**Piszkesteto**	**21.53**	**296**	*e*P		**P**	**04 34 08.4**	**+1.7**
	comp=Z,4.8nm,0.9s							
VSU	**Vasula**	**21.71**	**327**	*i* P		**P**	**04 34 10.5**	**+2.1**
VSU				pmax	pmax			
	comp=Z,67nm,2.0s							
KURK	**Kurchatov**	**21.91**	**57**	P		**P**	**04 34 12.1**	**+1.4**
	comp=Z,10.0nm,0.7s,baz=262,slow=11,SNR=90							
KURK				LR	LR		04 44 10.0	
	comp=Z,51nm,18.0s,baz=325,slow=40							
KURK	**Kurchatov**	**21.91**	**57**	⇑Pn		**P**	**04 34 13.2**	**+2.5**
	comp=Z,19nm,1.0s							
KURK				⇓Sn		**S**	**04 38 11.0**	**+1.6**
	comp=Z,4.6nm,0.8s							
KURK	**Kurchatov**	**21.91**	**57**	*e*P		**P**	**04 34 13.7**	**+3.0**
KURK				*e*S		**S**	**04 38 11.5**	**+2.1**
KURK				pmax	pmax			
	comp=Z,18nm,0.9s							
KURK	**Kurchatov**	**21.91**	**57**	*c i*P		**P**	**04 34 14.1**	**+3.4**
KURK				pmax	pmax			
	comp=Z,21nm,1.0s							
KURK				MLR	MLR			
	comp=Z,54nm,16.0s							
KURK	**Kurchatov**	**21.91**	**57**	*e*P		**P**	**04 34 13.7**	**+3.0**
	comp=Z,18nm,0.9s							
KURK				*e*S		**S**	**04 38 11.5**	**+2.1**
KURK	**Kurchatov**	**21.91**	**57**	Pn		**P**	**04 34 13.2**	**+2.5**
	comp=Z,19nm,1.0s							
KURK	**Kurchatov**	**21.91**	**57**	*e*P		**P**	**04 34 13.7**	**+3.0**
	comp=Z,18nm,0.9s							
KURK				*e*S		**S**	**04 38 11.5**	**+2.1**
JOF	**Joensuu**	**23.46**	**339**	*e*P		**P**	**04 34 24.7**	**-1.7**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.4s							
JOF	**Joensuu**	**23.46**	**339**	*e*p		**P**	**04 34 24.7**	**-1.7**
	comp=Z,3.8nm,0.4s							
JOF	**Joensuu**	**23.46**	**339**	*e*p		**P**	**04 34 24.7**	**-1.7**
	comp=Z,3.8nm,0.4s							
FINES	**FINESS Array B**	**23.94**	**332**	P		**P**	**04 34 30.1**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=137,slow=10,SNR=26							
FINES	**FINESS Array B**	**23.94**	**332**	P		**P**	**04 34 30.1**	**-0.8**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
FINES	**FINESS Array B**	**23.94**	**332**	P		**P**	**04 34 30.1**	**-0.8**
FINES	**FINESS Array B**	**23.94**	**332**	P		**P**	**04 34 30.1**	**-0.8**
	comp=Z,2.0nm,0.4s							
MK31	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.5**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=265,slow=8.3,SNR=71							
MK31	**Makanchi Array**	**23.95**	**67**	*e*P		**P**	**04 34 32.5**	**+1.3**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MK31	**Makanchi Array**	**23.95**	**67**	*e*P		**P**	**04 34 32.5**	**+1.3**
MK31	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.5**	**+1.3**
	comp=Z,1.9nm,0.3s,SNR=71							
MKAR	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.6**	**+1.5**
	comp=Z,5.1nm,0.6s,baz=271,slow=8.2,SNR=49							
MKAR	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.7**	**+1.5**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.6**	**+1.5**
MKAR	**Makanchi Array**	**23.95**	**67**	P		**P**	**04 34 32.7**	**+1.5**
	comp=Z,5.0nm,0.6s							
KAF	**Kangasniemi**	**24.34**	**334**	*e*P		**P**	**04 34 33.9**	**-0.6**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	**24.34**	**334**	*e*p		**P**	**04 34 33.9**	**-0.6**
	comp=Z,2.1nm,0.5s							
KAF	**Kangasniemi**	**24.34**	**334**	*e*p		**P**	**04 34 33.9**	**-0.6**
	comp=Z,2.1nm,0.5s							
KAF	**Kangasniemi**	**24.34**	**334**	*e*P		**P**	**04 34 33.9**	**-0.6**
	comp=Z,2.0nm,0.5s							
NVS	**Novosibirsk**	**25.64**	**48**	*e*P		**P**	**04 34 46.8**	**+0.4**
NVS				pmax	pmax			
	comp=N,2.0nm,0.5s							
NVS				pmax	pmax			
	comp=E,1.0nm,0.5s							
NVS				pmax	pmax			
	comp=Z,4.0nm,0.5s							
NVS	**Novosibirsk**	**25.64**	**48**	*e*P		**P**	**04 34 46.8**	**+0.4**
GERES	**GERESS Array B**	**25.71**	**298**	P		**P**	**04 34 45.7**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.2,SNR=6.2							
GERES	**GERESS Array B**	**25.71**	**298**	P		**P**	**04 34 45.7**	**-1.5**
GERES	**GERESS Array B**	**25.71**	**298**	P		**P**	**04 34 45.7**	**-1.5**
GERES	**GERESS Array B**	**25.71**	**298**	P		**P**	**04 34 45.7**	**-1.5**
ZAA0	**Zalesovo Array**	**26.32**	**51**	*e*P		**P**	**04 34 53.2**	**+0.7**
ZAA0	**Zalesovo Array**	**26.32**	**51**	*e*P		**P**	**04 34 53.2**	**+0.7**
ZALV	**Zalesovo Beam**	**26.32**	**51**	P		**P**	**04 34 53.4**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=259,slow=9.8,SNR=14							
ZALV				LR	LR		04 47 01.8	
	comp=Z,33nm,20.4s,baz=286,slow=40							
ZALV	**Zalesovo Beam**	**26.32**	**51**	P		**P**	**04 34 53.4**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV				MLR	MLR			
	comp=Z,33nm,20.5s							
ZALV	**Zalesovo Beam**	**26.32**	**51**	P		**P**	**04 34 53.4**	**+0.8**
ZALV	**Zalesovo Beam**	**26.32**	**51**	P		**P**	**04 34 53.4**	**+0.8**
	comp=Z,33nm,20.5s							
HFS	**Hagfors**	**28.28**	**322**	P		**P**	**04 35 09.1**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=115,slow=9.2,SNR=40							
HFS	**Hagfors**	**28.28**	**322**	P		**P**	**04 35 09.1**	**-0.9**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**28.28**	**322**	P		**P**	**04 35 09.1**	**-0.9**
HFS	**Hagfors**	**28.28**	**322**	P		**P**	**04 35 09.1**	**-0.9**
	comp=Z,1.0nm,0.3s							
DAVOX	**Davos/Dischmat**	**28.34**	**293**	P		**P**	04 35 07.9	-3.1
	comp=Z,0.5nm,0.4s,baz=331,slow=22,SNR=3.1							
DAVOX	**Davos/Dischmat**	**28.34**	**293**	P		**P**	04 35 07.9	-3.1
DAVOX	**Davos/Dischmat**	**28.34**	**293**	P		**P**	04 35 07.9	-3.1
NB2	**NORSAR Subarra**	**29.76**	**323**	P		**P**	**04 35 21.6**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=112,slow=9.3							
NOA	**NORSAR Array B**	**29.76**	**323**	P		**P**	**04 35 21.7**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=117,slow=8.4,SNR=4.9							
NOA	**NORSAR Array B**	**29.76**	**323**	P		**P**	**04 35 21.7**	**-1.6**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**29.76**	**323**	P		**P**	**04 35 21.7**	**-1.6**
NOA	**NORSAR Array B**	**29.76**	**323**	P		**P**	**04 35 21.7**	**-1.6**
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**30.22**	**344**	P		**P**	**04 35 27.2**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=149,slow=10.0,SNR=5.7							
ARCES				LR	LR		04 49 58.2	
	comp=Z,33nm,18.1s,baz=3.5,slow=41							
ARCES	**ARCESS Array B**	**30.22**	**344**	P		**P**	**04 35 27.2**	**+0.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARCES				MLR	MLR			
	comp=Z,33nm,18.1s							
ARCES	**ARCESS Array B**	**30.22**	**344**	P		**P**	**04 35 27.2**	**+0.1**
ARCES	**ARCESS Array B**	**30.22**	**344**	P		**P**	**04 35 27.2**	**+0.1**
	comp=Z,33nm,18.1s							
KEST	**Kesra**	**31.50**	**272**	P		**P**	**04 35 37.4**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=51,slow=6.5,SNR=2.9							
KEST	**Kesra**	**31.50**	**272**	P		**P**	**04 35 37.4**	**-1.6**
KEST	**Kesra**	**31.50**	**272**	P		**P**	**04 35 37.4**	**-1.6**
SPITS	**Spitsbergen Ar**	**38.60**	**350**	P		**P**	**04 36 40.5**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=160,slow=18,SNR=16							
SPITS	**Spitsbergen Ar**	**38.60**	**350**	P		**P**	**04 36 40.5**	**+1.1**
SPITS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SPITS	**Spitsbergen Ar**	**38.60**	**350**	P		**P**	**04 36 40.5**	**+1.1**
SPITS	**Spitsbergen Ar**	**38.60**	**350**	P		**P**	**04 36 40.5**	**+1.1**
	comp=Z,1.0nm,0.3s							
ESDC	**Sonseca Array**	**39.81**	**285**	P		P	04 36 46.9	-3.1
	comp=Z,0.1nm,0.3s,baz=64,slow=8.7,SNR=4.1							
ESDC	**Sonseca Array**	**39.81**	**285**	P		P	04 36 46.9	-3.1
SONM	**Songino Array**	**40.06**	**62**	P		**P**	**04 36 53.5**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=281,slow=11,SNR=4.4							
SONM	**Songino Array**	**40.06**	**62**	P		**P**	**04 36 53.5**	**+1.5**
SONM	**Songino Array**	**40.06**	**62**	P		**P**	**04 36 53.5**	**+1.5**
SONM	**Songino Array**	**40.06**	**62**	P		**P**	**04 36 53.5**	**+1.5**
ULN	**Ulaanbaatar**	**40.48**	**61**	*e*P		**P**	**04 36 57.3**	**+1.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**40.48**	**61**	*e*P		**P**	**04 36 57.3**	**+1.7**
	comp=Z,1.6nm,0.8s							
ULN	**Ulaanbaatar**	**40.48**	**61**	*e*P		**P**	**04 36 57.3**	**+1.7**
	comp=Z,1.6nm,0.8s							
TAM	**Tamanrasset**	**41.10**	**256**	*e*P		P	04 36 58.6	-2.4
TAM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TAM	**Tamanrasset**	**41.10**	**256**	*e*P		P	04 36 58.6	-2.4
	comp=Z,1.4nm,0.7s							
TAM	**Tamanrasset**	**41.10**	**256**	*e*P		P	04 36 58.6	-2.4
	comp=Z,1.4nm,0.7s							
BOD	**Bodaibo**	**42.81**	**45**	*e*P		**P**	**04 37 14.3**	**+0.1**
BOD	**Bodaibo**	**42.81**	**45**	*e*P		**P**	**04 37 14.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**50.19**	**249**	P		P	04 38 08.8	-3.7
	comp=Z,0.8nm,0.5s,baz=42,slow=7.8,SNR=29							
TORD	**Torodi Ar. Bea**	**50.19**	**249**	P		P	04

MJAR Sn **Sn** **04 48 20.5 +2.7**
MAJO Matsushiro 3.41 303 *e*P **Pn** **04 47 37.7 -0.8**
MAJO Matsushiro 3.41 303 *e*Pn **Pn** **04 47 37.7 -0.8**
MAT Matsushiro 3.41 303 P **Pn** **04 47 37.9 -0.6**
MAT *e*S **Sn** **04 48 16.5 -1.4**
ERM Erimo 7.33 8 *e*P Pn 04 48 27.3 -4.9
ERM Erimo 7.33 8 *e*Pn Pn 04 48 27.3 -4.9
CBIJ Chichi jima 7.64 177 Pn **Pn** **04 48 37.7 +1.0**
CBIJ Sn **Sn** **04 49 58.8 -3.5**
CBIJ Chichi jima 7.64 177 Pn **Pn** **04 48 37.7 +1.0**
CBIJ Sn **Sn** **04 49 58.8 -3.5**
ASAJ Asahikawa 9.37 4 Pn Pn 04 48 56.1 -4.1
comp=N,1.1nm,0.3s,baz=217,slow=11,SNR=5.5
ASAJ Sn **Sn** **04 50 40.1 -4.5**
comp=N,0.4nm,0.3s,baz=25,slow=28,SNR=2.4
ASAJ Asahikawa 9.37 4 P Pn 04 48 56.2 -4.1
ASAJ 04 50 40.1
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.37 4 *e*Pn **Pn** **04 49 02.3 +2.0**
ASAJ Sn **Sn** **04 50 40.1 -4.5**
KSRS Korea Array 11.52 288 Pn **Pn** **04 49 31.6 +1.8**
comp=Z,0.3nm,0.3s,baz=100,slow=14,SNR=6.4
KSRS LR LR 04 54 00.7
comp=Z,172nm,19.6s,baz=263,slow=38
KSRS Korea Array 11.52 288 P **Pn** **04 49 31.6 +1.8**
KSRS MLR MLR
comp=Z,172nm,19.6s
KSAR Wonju Array Be 11.55 287 P **Pn** **04 49 31.6 +1.4**
KSAR Wonju Array Be 11.55 287 Pn **Pn** **04 49 31.6 +1.4**
USRK Ussuriysk Arra 12.07 324 Pn **Pn** **04 49 35.8 -1.4**
comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=7.5
USRK LR LR 04 53 58.4
comp=Z,124nm,18.7s,baz=358,slow=36
YSS Yuzh-Sakhalins 12.21 3 *i*P **Pn** **04 49 36.4 -2.6**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 12.21 3 *e*Pn **Pn** **04 49 36.1 -3.0**
JOW Kunigami 14.03 239 LR LR 04 55 07.4
comp=Z,82nm,20.4s,baz=83,slow=36
HABR Khabarovsk 14.59 342 P **Pn** **04 50 11.6 +0.1**
HABR *e* 04 52 54.4
HABR pmax pmax
comp=N,16nm,1.3s
HABR pmax pmax
comp=Z,34nm,2.0s
HABR pmax pmax
comp=E,44nm,2.4s
HABR MLR MLR
comp=Z,304nm,17.0s
CN2 Changchun 15.52 310 *e*P **Pn** **04 50 24.4 +0.5**
CN2 *es*P **sP** **04 50 38.6 -0.8**
CN2 *e*S **Sn** **04 53 14.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,10.0s
CN2 LR LR
comp=E,500nm,10.0s
CN2 LR LR
comp=Z,400nm,11.0s
NJ2 Nanjing 19.32 268 *e*P **P** **04 51 08.2 -1.9**
NJ2 pmax pmax
comp=Z,10.0nm,1.1s
BJI Beijing 20.98 292 P **P** **04 51 26.4 -1.6**
BJI S **S** **04 55 20.4 +0.2**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI LR LR
comp=N,340nm,16.4s
BJI LR LR
comp=E,300nm,11.7s
BJI LR LR
comp=Z,120nm,14.8s
GUMO Guam 21.26 172 LR LR 04 58 17.1
comp=Z,110nm,18.1s,baz=323,slow=32
PETK Petropavlovsk- 21.55 27 LR LR 04 59 41.1
comp=Z,114nm,18.2s,baz=47,slow=36
HHC Hu-ho-hao-te 24.56 293 *e*P **P** **04 52 03.1 -1.5**
HHC pP **pP** **04 52 12.5 -0.5**
HHC sP **sP** **04 52 16.9 +0.3**
HHC PP PP 04 52 38.9
HHC S **S** **04 56 17.1 -6.6**
HHC sS **sS** **04 56 33.5 -4.0**
HHC SS **SnSn** **04 57 12.2 +2.6**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,130nm,7.8s
HHC LR LR
comp=N,230nm,11.7s
HHC LR LR
comp=E,270nm,12.5s
HHC LR LR
comp=Z,270nm,15.3s
YAK Yakutsk 28.35 348 *e*P **P** **04 52 38.8 +0.4**
YAK pmax pmax
comp=Z,12nm,0.6s
YAK Yakutsk 28.35 348 *e*P **P** **04 52 38.8 +0.4**
comp=Z,12nm,0.6s
ULN Ulaanbaatar 28.92 308 *e*P **P** **04 52 43.6 -0.3**
ULN *e**PP **pP** **04 52 53.7 +1.4**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 28.92 308 *e*P **P** **04 52 43.6 -0.3**
comp=Z,7.8nm,1.2s
ULN *ep*P **pP** **04 52 53.7 +1.4**
SONM Songino Array 29.35 307 P **P** **04 52 47.9 +0.3**
comp=Z,1.7nm,0.8s,baz=102,slow=9.0,SNR=13
SONM PcP **PcP** **04 55 53.7 +0.3**
comp=Z,0.3nm,0.5s,baz=119,slow=2.9,SNR=3.9
SONM LR LR 05 05 13.1
comp=Z,142nm,19.3s,baz=147,slow=38
SONM Songino Array 29.35 307 P **P** **04 52 47.9 +0.3**
SONM 04 55 53.7
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,142nm,19.3s
SONM Songino Array 29.35 307 P **P** **04 52 47.9 +0.3**
SONM PcP **PcP** **04 55 53.7 +0.3**
BOD Bodaibo 29.62 330 *e*P **P** **04 52 48.6 -1.1**
BOD pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 30.81 284 *e*P P 04 53 05.5 +4.8
LZH pP pP 04 53 14.9 +5.7
LZH sP sP 04 53 18.6 +5.9
LZH pmax pmax
comp=Z,14nm,1.2s
GYA Guiyang 31.21 264 *e*P **P** **04 53 03.4 -0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CD2 Chengdu 32.05 274 P **P** **04 53 11.2 -0.3**
CD2 pP **pP** **04 53 21.9 +1.9**
CD2 sP **sP** **04 53 26.6 +3.1**
CD2 PP **PnPn** **04 54 17.4 +0.1**
CD2 S **S** **04 58 17.6 -4.1**
CD2 sS **sS** **04 58 35.8 0.0**
CD2 SS SS 05 00 10.0 -30
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,270nm,8.0s
CD2 LR LR
comp=N,680nm,5.9s
CD2 LR LR
comp=Z,410nm,12.5s
GTA Gaotai 33.57 291 *e*P **P** **04 53 26.4 +1.5**
GTA pP **pP** **04 53 36.3 +2.9**
GTA sP **sP** **04 53 40.6 +3.7**
GTA S **S** **04 58 46.6 +1.1**
GTA sS **sS** **04 59 02.7 +3.2**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,3.8s
GTA LR LR
comp=N,160nm,15.2s
GTA LR LR
comp=E,250nm,15.2s
GTA LR LR
comp=Z,280nm,15.7s
KMI Kunming 34.98 265 P **P** **04 53 38.7 +1.4**
KMI pP pP 04 53 50.8 +5.0
KMI S **S** **04 59 03.3 -4.3**
KMI SS **SnSn** **05 01 20.3 -3.6**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI pmax pmax
comp=Z,120nm,6.5s
KMI LR LR
comp=N,310nm,18.0s
KMI LR LR
comp=E,340nm,15.6s
KMI LR LR
comp=Z,310nm,13.7s
BILL Bilibino 36.13 15 *i*P **P** **04 53 45.9 -0.5**
BILL *e* 04 55 09.0
BILL *es*S **S** **04 59 22.5 -1.4**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,21.0s
BILL Bilibino 36.13 15 *e*P **P** **04 53 46.0 -0.5**
CHTO Chiang Mai 41.07 259 *e*P **P** **04 54 26.8 -1.7**
CHTO *e**PP **pP** **04 54 37.9 +0.8**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 41.07 259 *e*P **P** **04 54 26.8 -1.7**
comp=Z,2.6nm,0.7s
CHTO *ep*P **pP** **04 54 37.9 +0.8**
CMAR Chiang Mai Arr 41.26 258 P **P** **04 54 28.8 -1.2**
comp=Z,2.1nm,0.7s,baz=46,slow=7.7,SNR=9.9
CMAR LR LR 05 13 11.7
comp=Z,55nm,20.2s,baz=263,slow=38
CMAR Chiang Mai Arr 41.26 258 P **P** **04 54 28.8 -1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,55nm,20.2s
CMAR Chiang Mai Arr 41.26 258 P **P** **04 54 28.8 -1.2**
WMQ Urumqi 42.17 299 *e*P **P** **04 54 37.8 +0.6**
WMQ pP **pP** **04 54 47.8 +1.9**
WMQ sP **sP** **04 54 51.8 +2.4**
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ pmax pmax
comp=Z,120nm,5.0s
WMQ LR LR
comp=N,120nm,18.0s
WMQ LR LR
comp=Z,57nm,16.0s
ZAA0 Zalesovo Array 43.69 314 *e*P **P** **04 54 48.4 -0.9**
ZAA0 *ep*PcP **PcP** **04 56 35.0 -1.0**
ZALV Zalesovo Beam 43.69 314 P **P** **04 54 48.5 -0.8**
comp=Z,2.8nm,0.7s,baz=90,slow=6.6,SNR=19
ZALV PcP **PcP** **04 56 35.4 -0.6**
comp=Z,1.9nm,0.6s,baz=105,slow=3.3,SNR=6.5
ZALV LR LR 05 14 14.8
comp=Z,25nm,18.3s,baz=103,slow=38
ZALV Zalesovo Beam 43.69 314 P **P** **04 54 48.5 -0.8**
ZALV 04 56 35.4
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV MLR MLR
comp=Z,25nm,18.3s
ZALV Zalesovo Beam 43.69 314 P **P** **04 54 48.5 -0.8**
ZALV PcP **PcP** **04 56 35.4 -0.6**
NVS Novosibirsk 44.64 315 *e*P **P** **04 54 54.9 -2.0**
NVS pmax pmax
comp=N,1.0nm,0.8s
NVS pmax pmax
comp=E,1.0nm,0.8s
NVS pmax pmax
comp=Z,2.0nm,0.8s
KAPI Kappang 44.67 212 *e*P **P** **04 54 55.6 -1.9**
MK31 Makanchi Array 45.60 304 *e*P **P** **04 55 04.2 -0.6**
MK31 Makanchi Array 45.60 304 *e*P **P** **04 55 04.2 -0.6**
MKAR Makanchi Array 45.60 304 P **P** **04 55 04.1 -0.7**
comp=Z,1.7nm,0.6s,baz=89,slow=10,SNR=16
MKAR Makanchi Array 45.60 304 *e*P **P** **04 55 04.4 -0.4**
MKAR Makanchi Array 45.60 304 *e*P **P** **04 55 04.3 -0.4**
KURK Kurchatov 47.59 310 *d i*P **P** **04 55 19.6 -0.6**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK MLR MLR
comp=Z,139nm,15.0s
KURK Kurchatov 47.59 310 *e*P **P** **04 55 19.1 -1.1**
comp=Z,8.5nm,0.6s
COEN Coen 48.46 178 *e*P **P** **04 55 27.7 +0.5**
COEN *ep*P **pP** **04 55 38.4 +2.3**
KDAK Kodiak Island 48.61 41 P **P** **04 55 29.2 +1.3**
comp=Z,11nm,1.0s,baz=262,slow=14,SNR=2.7
KDAK Kodiak Island 48.61 41 P **P** **04 55 29.3 +1.3**
KDAK pmax pmax
comp=Z,11nm,1.0s
KDAK Kodiak Island 48.61 41 P **P** **04 55 29.2 +1.3**
COLA College 50.86 31 *e*P **P** **04 55 46.5 +1.6**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 50.86 31 *e*P **P** **04 55 46.5 +1.6**
comp=Z,3.7nm,0.8s
TKM2 Tokmak 2 51.00 300 *e*P **P** **04 55 47.0 +0.4**
TKM2 Tokmak 2 51.00 300 *e*P **P** **04 55 47.0 +0.4**
ILAR Eielson Array 51.27 31 P **P** **04 55 48.0 -0.1**
comp=Z,3.8nm,0.9s,baz=267,slow=6.0,SNR=32
ILAR PcP **PcP** **04 57 01.9 -0.9**
comp=Z,0.7nm,0.8s,baz=271,slow=3.4,SNR=5.2
ILAR Eielson Array 51.27 31 P **P** **04 55 48.0 -0.1**
ILAR 04 57 01.9
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 51.27 31 P **P** **04 55 48.0 -0.1**
ILAR PcP **PcP** **04 57 01.9 -0.9**
AAK Ala-Archa 51.85 300 *i* P **P** **04 55 52.7 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK MLR MLR
comp=Z,197nm,17.0s
AAK Ala-Archa 51.85 300 *e*P **P** **04 55 52.2 -0.9**
comp=Z,6.8nm,0.7s
BRVK Borovoye 52.39 314 *e*P **P** **04 55 56.3 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 52.39 314 *e*P **P** **04 55 56.3 -0.3**
comp=Z,4.6nm,0.9s
KKAR Karatay Array 54.54 302 *e*P **P** **04 56 12.4 -0.2**
KKAR Karatay Array 54.54 302 *e*P **P** **04 56 12.4 -0.2**
WRAB Tennant Creek 54.84 189 *e*P **P** **04 56 13.4 -1.5**
WRAB *e**PP **pP** **04 56 25.3 +1.5**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRAB Tennant Creek 54.84 189 *e*P **P** **04 56 13.4 -1.5**
comp=Z,26nm,0.9s
WRAB *ep*P **pP** **04 56 25.3 +1.5**
WB2 Warramunga Arr 54.85 189 *e*P **P** **04 56 13.8 -1.1**
WB2 *ep*P **pP** **04 56 25.4 +1.5**
WRA Warramunga Arr 54.85 189 P **P** **04 56 14.4 -0.5**
comp=Z,11nm,0.8s,baz=6.9,slow=6.7,SNR=65
WRA Warramunga Arr 54.85 189 P **P** **04 56 14.4 -0.5**
WRA pmax pmax
comp=Z,11nm,0.8s
WRA Warramunga Arr 54.85 189 P **P** **04 56 14.4 -0.5**
INK Inuvik 56.28 26 P **P** **04 56 25.4 +0.7**
comp=Z,2.0nm,0.9s,baz=291,slow=8.5,SNR=6.7
INK Inuvik 56.28 26 P **P** **04 56 25.4 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 56.28 26 P **P** **04 56 25.4 +0.7**
SVE Sverdlovsk 57.06 320 *i*P **P** **04 56 30.3 -0.1**
SVE pmax pmax
comp=Z,14nm,0.9s
SVE MLR MLR
comp=Z,257nm,17.0s
ARU Arti 58.27 320 *d i*P **P** **04 56 38.3 -0.6**
ARU 04 58 46.8
ARU S **S** **05 04 40.2 +1.3**
ARU SS **SS** **05 08 32.2 +1.8**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 58.27 320 *e*P **P** **04 56 37.9 -1.0**
comp=Z,10nm,0.7s
ARU *ep*P **pP** **04 56 49.5 +1.7**
AS31 Alice Springs 58.58 188 *e*P **P** **04 56 41.4 0.0**
AS31 *ep*P **pP** **04 56 52.6 +2.3**
ASAR Alice Springs 58.58 188 P **P** **04 56 41.0 -0.4**
comp=Z,1.3nm,0.7s,baz=14,slow=8.6,SNR=13
ASAR Alice Springs 58.58 188 P **P** **04 56 41.0 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 58.58 188 P **P** **04 56 41.0 -0.4**
MBWA Marble Bar 59.42 204 *e*P **P** **04 56 46.4 -0.8**
comp=Z,13nm,0.6s
MBWA *ep*P **pP** **04 56 57.5 +1.3**
ABKAR Akbulak array 59.64 311 *e*P **P** **04 56 46.9 -1.7**
POO Poona 61.78 274 *ex* x 04 57 18.0
RES Resolute Bay 64.73 14 *e*P **P** **04 57 22.3 +0.1**
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 64.73 14 *e*P **P** **04 57 22.3 +0.1**
comp=Z,3.9nm,0.8s
STKA Stephens Creek 66.28 180 P **P** **04 57 33.4 +0.7**
comp=Z,1.5nm,0.8s,baz=0.8,slow=13,SNR=3.7
STKA Stephens Creek 66.28 180 P **P** **04 57 33.4 +0.7**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 66.28 180 *e*P **P** **04 57 32.5 -0.2**
FINES FINESS Array B 70.97 333 P **P** **04 58 00.9 -0.7**
comp=Z,3.8nm,0.8s,baz=76,slow=5.9,SNR=5.9
FINES FINESS Array B 70.97 333 P **P** **04 58 00.9 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 70.97 333 P **P** **04 58 00.9 -0.7**
SUMG Summit 72.96 0 *e*P **P** **04 58 15.2 +1.3**
SUMG Summit 72.96 0 *e*P **P** **04 58 15.2 +1.3**
WVOR Wild Horse Val 73.74 49 *e*P **P** **04 58 19.7 +1.0**
WVOR pmax pmax
comp=Z,3.0nm,1.0s
WVOR Wild Horse Val 73.74 49 *e*P **P** **04 58 19.7 +1.0**
comp=Z,3.0nm,1.0s
FFC Flin Flon 75.46 33 *i*P **P** **04 58 29.4 +1.1**
FFC Flin Flon 75.46 33 *e*P **P** **04 58 28.2 -0.1**
comp=Z,4.7nm,0.9s
HLID Hailey 75.71 47 *e*P **P** **04 58 31.2 +1.0**
comp=Z,1.1nm,0.9s
DLMT Dillon 75.75 44 *e*P **P** **04 58 31.9 +1.5**
NVAR Mina Array Bea 76.12 53 P **P** **04 58 34.0 +1.3**
comp=Z,2.4nm,0.7s,baz=278,slow=6.0,SNR=13
NVAR LR LR 05 29 39.1
comp=Z,93nm,19.3s,baz=202,slow=34
NVAR Mina Array Bea 76.12 53 P **P** **04 58 34.0 +1.3**
BOZ Bozeman (W) 76.14 44 *e*P **P** **04 58 33.3 +0.7**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 76.14 44 *e*P **P** **04 58 33.3 +0.7**
comp=Z,1.8nm,0.9s
AKASG Malin Array Be 76.28 323 P **P** **04 58 32.1 -0.9**
comp=Z,1.7nm,0.6s,baz=47,slow=5.5,SNR=7.9
AKASG Malin Array Be 76.28 323 P **P** **04 58 32.1 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 76.28 323 P **P** **04 58 32.1 -0.9**
KIEV Kiev 76.29 323 *e*P **P** **04 58 32.3 -0.8**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 76.29 323 *e*P **P** **04 58 32.3 -0.8**
comp=Z,2.7nm,0.6s
NB2 NORSAR Subarra 76.40 338 P **P** **04 58 33.0 -0.6**
comp=Z,2.2nm,0.7s,baz=40,slow=5.9
NOA NORSAR Array B 76.40 338 P **P** **04 58 33.4 -0.2**
comp=Z,3.8nm,0.8s,baz=39,slow=5.7,SNR=9.2
NOA NORSAR Array B 76.40 338 P **P** **04 58 33.4 -0.2**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 76.40 338 P **P** **04 58 33.4 -0.2**
ELK Elko 76.80 50 *e*P **P** **04 58 37.1 +0.6**
ELK Elko 76.80 50 *e*P **P** **04 58 37.1 +0.6**
MOOW Moose Ponds 77.77 45 *e*P **P** **04 58 43.2 +1.3**
comp=Z,0.8nm,0.7s
RAR Rarotonga 78.59 126 P **P** **04 58 46.2 -0.1**
comp=Z,9.3nm,0.6s,baz=58,slow=4.1,SNR=2.7
RAR Rarotonga 78.59 126 P **P** **04 58 46.2 -0.1**
RAR pmax pmax
comp=Z,9.0nm,0.6s
RAR Rarotonga 78.59 126 P **P** **04 58 46.2 -0.1**
BW06 Boulder Array 79.05 45 *e*P **P** **04 58 49.5 +0.5**
comp=Z,0.8nm,0.6s
PDAR Pinedale Array 79.05 45 P **P** **04 58 49.4 +0.4**
comp=Z,0.7nm,0.7s,baz=255,slow=3.0,SNR=7.2
PDAR Pinedale Array 79.05 45 P **P** **04 58 49.4 +0.4**
BUR08 Bucovina Ar. S 80.27 322 *e*P **P** **04 58 54.9 -0.4**
BR131 Keskin Array S 80.58 312 *e*P **P** **04 58 56.8 -0.4**
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 80.58 312 P **P** **04 58 57.2 0.0**
comp=Z,1.1nm,0.7s,baz=134,slow=3.3,SNR=6.5
BRTR Keskin Array B 80.58 312 *ce*P **P** **04 58 57.2 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 80.58 312 P **P** **04 58 57.2 0.0**
SRU San Rafael 80.69 49 *e*P **P** **04 58 59.2 +1.3**
SRU San Rafael 80.69 49 *e*P **P** **04 58 59.1 +1.3**
ULM Lac du Bonnet 81.24 33 P **P** **04 59 00.3 0.0**
comp=Z,1.5nm,0.8s,baz=224,slow=6.3,SNR=3.0
ULM Lac du Bonnet 81.24 33 P **P** **04 59 00.3 0.0**
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 81.24 33 P **P** **04 59 00.3 0.0**
CLL Collm 83.22 330 *e*P **P** **04 59 10.0 -0.6**
CLL Collm 83.22 330 *e*P **P** **04 59 10.0 -0.6**
SDCO Great Sand Dun 84.62 47 *e*P **P** **04 59 19.5 +1.1**
comp=Z,4.9nm,1.3s
SDCO *ep*P **pP** **04 59 30.5 +2.8**
KHC Kasperske Hory 84.64 329 *e*P **P** **04 59 18.0 0.0**
KHC *e* 04 59 28.5
KHC Kasperske Hory 84.64 329 *e*P **P** **04 59 18.0 0.0**
KHC *ep*P **pP** **04 59 28.5 +1.2**
GERES GERESS Array B 84.80 329 P **P** **04 59 18.4 -0.5**
comp=Z,1.4nm,0.8s,baz=35,slow=4.9,SNR=12
GERES GERESS Array B 84.80 329 P **P** **04 59 18.4 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 84.80 329 P **P** **04 59 18.4 -0.5**
ANMO Albuquerque 85.82 50 *e*P **P** **04 59 25.5 +1.1**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 85.82 50 *e*P **P** **04 59 25.5 +1.1**
comp=Z,1.9nm,1.0s
SCHQ Schefferville 87.44 16 P **P** **04 59 32.1 +0.4**
comp=Z,5.7nm,1.0s,baz=324,slow=6.3,SNR=3.6
SCHQ Schefferville 87.44 16 P **P** **04 59 32.1 +0.4**
AMTX Amarillo 88.82 47 *e*P **P** **04 59 39.3 +0.5**
WMOK Wichita Mounta 90.66 46 *e*P **P** **04 59 47.5 +0.3**
WMOK pmax pmax
comp=Z,1.0nm,0.8s
WMOK Wichita Mounta 90.66 46 *e*P **P** **04 59 47.5 +0.3**
comp=Z,1.5nm,0.8s
TXAR Lajitas Array 91.27 53 P **P** **04 59 51.1 +0.8**
comp=Z,1.0nm,0.7s,baz=296,slow=3.2,SNR=20
TXAR Lajitas Array 91.27 53 P **P** **04 59 51.1 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 91.27 53 P **P** **04 59 51.1 +0.8**
TORD Torodi Ar. Bea 119.14 314 PKP **PKPdf** **05 05 33.0 -0.9**
comp=Z,0.5nm,1.0s,baz=316,slow=2.0,SNR=3.7
TORD Torodi Ar. Bea 119.14 314 PKP **PKPdf** **05 05 33.0 -0.9**
SAML Samuel 145.61 48 *e*PKPbc **PKPdf** **05 06 22.8 -0.5**
LPAZ La Paz 147.53 63 PKPbc **PKPbc** **05 06 30.1 +0.3**
comp=Z,2.5nm,0.8s,baz=359,slow=8.5,SNR=8.7
LPAZ La Paz 147.53 63 PKP2 **PKPbc** **05 06 30.1 +0.3**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 147.53 63 *e*PKPbc **PKPbc** **05 06 29.6 -0.2**
LVC Limon Verde 150.60 74 *e*PKPbc **PKPbc** **05 06 37.5 +0.5**
LCO Las Campanas 151.91 87 *e*PKPbc **PKPbc** **05 06 40.5 +0.6**

IDC 03 05:50:42.9±2.5,5°.64S×147°.10E,h169km,38km,mb3.3/3,
mb1 3.7/5,mb1mx3.3/15,mbtmp3.5/5,MS3.3/1,Ms1 3.3/1,
ms1mx2.1/19,Error ellipse: s-maj=65.2km
s-min=16.2km az=113.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PMG	**Port Moresby**	**3.74**	**179**	P	Pn	05 51 40.5	+0.1
	32nm,0.3s,baz=46,slow=5.8,SNR=107						

PMG				S	Sn	05 52 24.8	-0.5
	12nm,0.3s,baz=14,slow=23,SNR=3.3						
PMG				LR	LR	05 52 29.7	
	comp=Z,475nm,21.4s,baz=76,slow=28						
WRA	**Warramunga Arr**	**18.87**	**220**	P	P	05 54 51.6	+1.1
	1.3nm,0.3s,baz=43,slow=11,SNR=22						
WRA				S	S	05 58 15.1	-1.0
	0.1nm,0.3s,baz=40,slow=21,SNR=4.5						
ASAR	**Alice Springs**	**21.97**	**214**	P	P	05 55 24.4	+1.0
	3.7nm,0.6s,baz=49,slow=8.5,SNR=66						
FITZ	**Fitzroy Crossi**	**24.34**	**238**	P	P	05 55 46.6	+1.3
	1.0nm,0.3s,baz=64,slow=11,SNR=6.7						
SONM	**Songino Array**	**64.14**	**331**	P	P	06 00 58.8	-0.6
	0.2nm,0.6s,baz=140,slow=7.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.09**	**285**	PKPbc	PKPbc	06 09 59.8	-1.3
	0.3nm,0.4s,baz=64,slow=3.8,SNR=6.0						

NNC 03 05:53:05.6±3.1, 42.59N×65.27E, h0km, mb3.8, mpv3.4, 6C-7D, Error ellipse: s-maj=31.5km s-min=12.3km az=31.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.89**	**81**	Pn	Pn	05 54 10.5	+3.9
	1.6nm,0.2s,baz=269,slow=16,SNR=172						
KK31				⇓Sn	Sb	05 54 58.4	-4.3
	2.5nm,0.2s,baz=259,slow=25						
AB31	**Akbulak array**	**7.63**	**333**	⇑Pn	Pn	05 54 57.8	-0.1
	0.8nm,0.2s,baz=157,slow=14,SNR=130						
AB31				Sn	Sn	05 56 22.6	-2.4
	4.3nm,0.5s,baz=164,slow=15,SNR=6.5						
AB31				⇓Lg	Lg	05 57 12.5	
	16nm,0.7s						
AKTO	**Aktyubinsk**	**9.30**	**330**	⇑Pn	Pn	05 55 20.7	-0.1
	0.3nm,0.8s						
AKTO				⇑Sn	Sn	05 57 03.0	-3.1
	1.3nm,1.1s						
AKTO				⇓Lg	Lg	05 58 04.0	
ZRNK	**Zerenda**	**10.66**	**12**	⇓Pn	Pn	05 55 41.4	+1.9
	1.9nm,0.4s						
ZRNK				⇑Sn	Sn	05 57 39.0	-0.6
	4.1nm,0.6s						
VOSK	**Vostochnaya**	**10.84**	**19**	⇓Pn	Pn	05 55 44.3	+2.4
	1.3nm,0.3s						
VOSK				⇓Sn	Sn	05 57 44.2	+0.3
	2.9nm,0.6s						
BVA0	**Borovoye Array**	**10.99**	**16**	⇓Pn	Pn	05 55 47.7	+3.8
	0.2nm,0.2s,baz=178,slow=7.2,SNR=85						
BVA0				Sn	Sn	05 57 50.3	+2.8
	0.4nm,0.6s,baz=212,slow=23,SNR=7.0						
BRVK	**Borovoye**	**11.00**	**16**	⇑Pn	Pn	05 55 46.3	+2.2
	2.4nm,0.4s						
BRVK				⇑Sn	Sn	05 57 51.0	+3.3
	2.6nm,0.4s						
MK31	**Makanchi Array**	**12.81**	**65**	Pn	Pn	05 56 10.9	+1.9
	1.1nm,0.4s,baz=250,slow=14,SNR=22						

IDC 03 06:03:11.8±9.9, 56.03S×27.76W, h124km±88km, mb3.5/7, mb1 3.6/7, mb1mx3.5/14, mbtmp3.5/7, Error ellipse: s-maj=41.3km s-min=18.8km az=63.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.12**	**160**	*e*P	Pn	06 07 03.4	+0.3
VNA2	**Neumayer--Watz**	**17.33**	**157**	*e*P	Pn	06 07 06.1	+0.4
	baz=309,slow=13						
SNAA	**Sanae**	**18.89**	**156**	*e*P	P	06 07 22.3	0.0
QSPA	**South Pole Qui**	**34.22**	**180**	P	P	06 09 45.7	+0.3
	3.0nm,0.5s,baz=185,slow=1.5,SNR=20						
CPUP	**Villa Florida**	**36.56**	**312**	P	P	06 10 05.2	-0.2
	0.4nm,0.5s,baz=145,slow=8.1,SNR=4.2						
CFAA	**Coronel Fontan**	**37.26**	**294**	P	P	06 10 10.4	-1.0
	0.1nm,0.5s,baz=142,slow=11,SNR=6.1						
SIV	**San Ignacio**	**47.33**	**314**	P	P	06 11 32.9	-0.2
	0.3nm,0.6s,baz=154,slow=13,SNR=3.1						
LPAZ	**La Paz**	**50.10**	**306**	P	P	06 11 55.8	+0.8
	1.2nm,0.7s,baz=193,slow=9.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	P	06 14 29.3	+0.3
	0.4nm,0.5s,baz=200,slow=6.2,SNR=6.4						
ASAR	**Alice Springs**	**99.10**	**163**	P	Pdif	06 16 37.7	-1.2
	0.6nm,0.8s,baz=184,slow=4.2,SNR=6.8						
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	PKPbc	06 22 45.9	+0.1
	0.9nm,0.7s,baz=136,slow=2.4,SNR=16						
SONM	**Songino Array**	**151.05**	**87**	PKPbc	PKPbc	06 22 48.5	-0.8
	1.9nm,0.4s,baz=224,slow=3.7,SNR=25						

IDC 03 06:32:49.1±2.9, 0.09S×96.45E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML4.4/1, Error ellipse: s-maj=110.5km s-min=21.1km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.60**	**7**	P	Pn	06 37 08.6	+0.4
	0.5nm,0.3s,baz=198,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**42.02**	**120**	P	P	06 40 42.3	-0.4
	0.5nm,0.8s,baz=302,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**43.24**	**126**	P	P	06 40 52.6	+0.1
	0.3nm,0.6s,baz=298,slow=8.2,SNR=6.2						
MKAR	**Makanchi Array**	**48.32**	**347**	P	P	06 41 32.4	+0.1
	0.5nm,0.5s,baz=163,slow=9.1,SNR=8.0						
SONM	**Songino Array**	**48.52**	**9**	P	P	06 41 33.5	-0.5
	0.2nm,0.4s,baz=198,slow=8.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**54.71**	**352**	P	P	06 42 19.6	-0.4
	1.6nm,0.4s,baz=174,slow=6.7,SNR=11						
TXAR	**Lajitas Array**	**145.16**	**32**	PKPbc	PKPbc	06 52 28.5	-0.5
	0.2nm,0.4s,baz=200,slow=1.5,SNR=7.1						

WEL 03 06:37:38.3±0.7, 36.89S×178.64W, h33km, ML4.0/4, Error ellipse: s-maj=9.2km s-min=6.0km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.53**	**254**	PN	Pn	06 38 16.4	-0.7
MXZ				SN	Sn	06 38 44.6	-2.1
PUZ	**Puketiti**	**2.74**	**244**	*e*PN	Pn	06 38 19.8	-0.1
PUZ				SN	Sn	06 38 50.6	-1.4
CNGZ	**Carnagh Statio**	**2.97**	**237**	PN	Pn	06 38 23.0	0.0
MWZ	**Matawai**	**3.37**	**243**	PN	Pn	06 38 28.2	-0.5
MWZ				SN	Sn	06 39 05.7	-1.9
KNZ	**Kokohu**	**3.61**	**233**	PN	Pn	06 38 30.8	-1.1
URZ	**Urewera**	**3.65**	**247**	PN	Pn	06 38 32.9	+0.6
URZ				SN	Sn	06 39 12.3	-1.9

*NIED **03** 07:13:00, 37.10N×141.20E, h50km, Mw4.7 Best double couple: M0 1.07000×10^16 NP1:φs22.00000°, δ71.00000°, λ86.00000°. NP2:φs216.00000°, δ19.00000°, λ103.00000°.*
*MOS **03** 07:13:01.1±0.9, 37.06N×141.06E, h38km, mb5.0/57, Error ellipse: s-maj=9.0km s-min=4.6km az=111.0*
*BJI **03** 07:13:02.0, 37.13N×141.17E, h57km, mB5.0/33, mb4.9/50, Ms4.4/37, Ms7 4.0/36*
*ISCJB **03** 07:13:03.0±0.4, 37.09N±0.03×141.17E±0.03, h55km±2km, mb4.8/119, MS3.9/21, Error ellipse: s-maj=5.1km s-min=3.7km az=40.4*
*JMA **03** 07:13:03.5±0.1, 37.06N×141.17E, h51km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs12.00000°, δ71.00000°, λ84.00000°. NP2:φs209.00000°, δ19.00000°, λ106.00000°. Principal axes: T Plg63.0000°, Azm273.0000°; N Plg5.0000°, Azm13.0000°; P Plg26.0000°, Azm106.0000°;*
JMA Felt IV J1.
*IDC **03** 07:13:04.2±0.5, 37.05N×141.01E, h50km±4km, mb4.3/24, mb1 4.4/26, mb1mx4.4/28, mbtmp4.3/26, MS3.8/15, Ms1 3.8/15, ms1mx3.6/45 Error ellipse: s-maj=13.2km s-min=9.7km az=111.0*
*NEIC **03** 07:13:05.1±0.7, 37.13N×141.06E, h58km±6km, mb4.8/33, MW4.6(NIED), Error ellipse: s-maj=6.8km s-min=4.9km az=133.0*
NEIC Felt at Tokyo. Recorded [4 JMA] in Fukushima; [2 JMA] in Ibaraki, Miyagi and Tochigi; [1 JMA] in Chiba, Gumma, Iwate, Niigata, Saitama, Tokyo and Yamagata.
*SZGRF **03** 07:13:06.5, 38.20N×141.38E, h33km, mb4.9, Near east coast of eastern Honshu, Japan*
ISC 03 07:13:04.5±0.3, 37.08N±0.03×141.19E±0.03, h54km±2km, h54km:pP-P, n399, σ1s18/504, mb4.8/119, MS3.9/24,

26C-25D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.31**	**275**	⇓P	Pn	07 13 12.7	-1.5
ONAJ				S	Sn	07 13 19.0	-2.2
JFK	**Kawauchi**	**0.38**	**320**	⇓P	Pn	07 13 13.4	-1.5
JFK				S	Sn	07 13 20.3	-2.0
JHO	**Hitachi**	**0.68**	**227**	⇓P	Pn	07 13 16.4	-1.8
JHO				S	Sn	07 13 25.4	-2.7
JFT	**Otama**	**0.81**	**303**	⇓P	Pn	07 13 19.6	-0.2
JFT				S	Sn	07 13 30.7	-0.4
JMM	**Marumori**	**0.85**	**339**	⇓P	Pn	07 13 19.2	-1.1
JMM				S	Sn	07 13 30.5	-1.5
JFY	**Yanaizu**	**1.23**	**286**	⇓P	Pn	07 13 24.7	-0.7
JFY				*e*S	Sn	07 13 40.3	-0.7
JOU	**Okura**	**1.35**	**342**	⇓P	Pn	07 13 26.3	-0.8
JOU				*e*S	Sn	07 13 42.9	-1.1
JIO	**Ouri**	**1.38**	**5**	⇓P	Pn	07 13 26.2	-1.3
JIO				S	Sn	07 13 42.4	-2.3
JYS	**Shirataka**	**1.45**	**322**	⇓P	Pn	07 13 28.1	-0.3
JYS				*e*S	Sn	07 13 46.6	+0.3
MJAR	**Matsushiro Arr**	**2.45**	**258**	P	Pn	07 13 42.1	+0.1
	116nm,0.3s,baz=83,slow=15,SNR=383						
MJAR				S	Sn	07 14 13.8	+3.0
	119nm,0.3s,baz=58,slow=24,SNR=10						
MJAR	**Matsushiro Arr**	**2.45**	**258**	P	Pn	07 13 42.1	+0.1
MJAR				S	Sn	07 14 13.8	+3.0
MJAR				pmax	pmax		
	comp=Z,116nm,0.3s						
MJAR				smax	smax		
	comp=N,119nm,0.3s						
MJAR	**Matsushiro Arr**	**2.45**	**258**	P	Pn	07 13 42.1	+0.1
MJAR				S	Sn	07 14 13.8	+3.0
MAJO	**Matsushiro**	**2.45**	**258**	*e*P	Pn	07 13 42.5	+0.4
MAJO	**Matsushiro**	**2.45**	**258**	*e*Pn	Pn	07 13 42.5	+0.4
MAT	**Matsushiro**	**2.45**	**258**	P	Pn	07 13 42.4	+0.4
MAT				*e*S	Sn	07 14 13.2	+2.4
ERM	**Erimo**	**5.16**	**17**	*e*P	Pn	07 14 18.2	-1.0
ERM				*e*		07 15 16.8	
ERM				pmax	pmax		
	comp=Z,147nm,0.6s						
ERM	**Erimo**	**5.16**	**17**	*e*Pn	Pn	07 14 18.2	-1.0
	comp=Z,147nm,0.6s						
ERM				*e*Sn	Sn	07 15 16.8	-0.6
ASAJ	**Asahikawa**	**7.11**	**8**	P	Pn	07 14 44.8	-1.1
	comp=Z,15nm,0.3s,baz=219,slow=8.6,SNR=110						
ASAJ				S	Sn	07 16 05.4	+0.1
	comp=Z,7.2nm,0.3s,baz=215,slow=29,SNR=3.1						
ASAJ	**Asahikawa**	**7.11**	**8**	P	Pn	07 14 44.8	-1.1
ASAJ				S	Sn	07 16 05.4	+0.1
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ				smax	smax		
	comp=N,7.0nm,0.3s						
ASAJ	**Asahikawa**	**7.11**	**8**	*e*Pn	Pn	07 14 45.1	-0.8
ASAJ				S	Sn	07 16 05.4	+0.1
YUK	**Yuzh-Kuril'sk**	**7.81**	**26**	*d i*P	Pn	07 14 55.2	-0.2
YUK				*i*		07 16 14.7	
YUK				pmax	pmax		
	comp=E,106nm,0.3s						
YUK				pmax	pmax		
	comp=N,121nm,0.3s						
YUK				pmax	pmax		
	comp=Z,188nm,0.3s						
YUK				pmax	pmax		
	comp=N,3μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
JNU	**Nakatsue**	**9.32**	**248**	*e*Pn	Pn	07 15 18.0	+1.8
VLA	**Vladivostok**	**9.33**	**313**	*e*P	Pn	07 15 18.4	+2.2
YSS	**Yuzh-Sakhalins**	**9.94**	**6**	*e*P	Pn	07 15 24.0	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**9.94**	**6**	*e*Pn	Pn	07 15 22.7	-1.8
USRK	**Ussuriysk Arra**	**9.96**	**318**	P	Pn	07 15 27.0	+2.2
	comp=Z,3.4nm,0.3s,baz=136,slow=15,SNR=84						
USRK				LR	LR	07 19 02.8	
	comp=Z,471nm,18.9s,baz=284,slow=36						
CBIJ	**Chichi jima**	**9.99**	**175**	P	Pn	07 15 22.6	-2.7
CBIJ				S	Sn	07 17 06.2	-10
	comp=Z,41nm,0.3s,baz=319,slow=20,SNR=4.1						
CBIJ	**Chichi jima**	**9.99**	**175**	P	Pn	07 15 22.6	-2.7
CBIJ				S	Sn	07 17 06.2	-10
KSRS	**Korea Array**	**10.58**	**276**	P	Pn	07 15 36.4	+3.1
	comp=Z,1.1nm,0.3s,baz=88,slow=13,SNR=38						
KSRS				LR	LR	07 19 33.0	
	comp=Z,500nm,18.1s,baz=360,slow=37						
KSRS	**Korea Array**	**10.58**	**276**	P	Pn	07 15 36.4	+3.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,500nm,18.1s						
KSAR	**Wonju Array Be**	**10.61**	**276**	P	Pn	07 15 36.4	+2.6
KSAR	**Wonju Array Be**	**10.61**	**276**	P	Pn	07 15 36.4	+2.6
MDJ	**Mudanjiang**	**11.56**	**314**	P	Pn	07 15 49.8	+3.1
MDJ				S	Sn	07 17 52.7	-1.5
MDJ				PcP	PcP	07 21 35.0	+0.7
MDJ				ScP	ScP	07 25 03.3	+1.0
MDJ				ScS	ScS	07 28 38.9	+1.1
MDJ				pmax	pmax		
	comp=Z,53nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,8.7s						
MDJ				LR	LR		
	comp=N,320nm,17.8s						
MDJ				LR	LR		
	comp=E,250nm,18.3s						
MDJ				LR	LR		
	comp=Z,530nm,20.0s						
MDJ	**Mudanjiang**	**11.56**	**314**	*e*Pn	Pn	07 15 50.4	+3.7
	comp=Z,65nm,0.9s						
HABR	**Khabarovsk**	**12.24**	**340**	*e*P	Pn	07 15 59.1	+3.1
HABR				*e*S	Sn	07 18 08.4	-2.4
HABR				pmax	pmax		
	comp=Z,126nm,2.8s						
HABR				pmax	pmax		
	comp=E,142nm,2.8s						
HABR				pmax	pmax		
	comp=N,43nm,1.4s						
HABR				MLR	MLR		
	comp=Z,329nm,18.0s						
CN2	**Changchun**	**13.73**	**304**	*e*P	Pn	07 16 16.1	-0.2
CN2				*es*P		07 16 33.9	
CN2				*e*S	Sn	07 18 46.2	-0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,400nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
KLR	**Kul'dur**	**13.95**	**334**	*e*P	Pn	07 16 20.1	+0.9
JOW	**Kunigami**	**14.96**	**231**	P	P	07 16 36.6	-0.5
	comp=Z,1.7nm,0.3s,baz=55,slow=20,SNR=5.2						
JOW				LR	LR	07 22 12.2	
	comp=Z,216nm,20.5s,baz=113,slow=37						
JOW	**Kunigami**	**14.96**	**231**	P	P	07 16 36.6	-0.5
DL2	**Dalian**	**15.53**	**283**	P	Pn	07 16 40.4	+0.5
DL2				pmax	pmax		
	comp=Z,30nm,0.7s						
NJ2	**Nanjing**	**19.05**	**261**	*e*P	P	07 17 20.4	-1.8
NJ2				pP	pP	07 17 32.8	-1.5
NJ2				sP	sP	07 17 38.8	-2.3
NJ2				S	S	07 20 52.0	-3.5
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,240nm,5.0s						
NJ2				LR	LR		
	comp=N,400nm,26.0s						
NJ2				LR	LR		
	comp=E,1μm,19.2s						
NJ2				LR	LR		
	comp=Z,7μm,24.5s						
PETK	**Petropavlovsk-**	**19.74**	**30**	P	Pn	07 17 31.9	+0.4
	comp=Z,0.2nm,0.3s,baz=213,slow=11,SNR=3.4						
PETK	**Petropavlovsk-**	**19.74**	**30**	P	Pn	07 17 31.9	+0.4
PETK	**Petropavlovsk-**	**19.74**	**30**	P	Pn	07 17 31.9	+0.4
HIA	**Hailar**	**19.74**	**315**	*e*P	P	07 17 26.7	-3.0
HIA				pmax	pmax		
	comp=Z,17nm,1.0s						
HIA	**Hailar**	**19.74**	**315**	*e*P	P	07 17 26.7	-3.0
	comp=Z,17nm,1.0s						
BJI	**Beijing**	**19.76**	**286**	P	P	07 17 28.7	-1.2
BJI				S	S	07 21 04.2	-5.5
BJI				pmax	pmax		
	comp=Z,38nm,0.7s						
BJI				pmax	pmax		
	comp=Z,110nm,4.8s						
BJT	**Baijiatuan**	**19.77**	**286**	*e*P	P	07 17 28.0	-2.0
BJT				pmax	pmax		
	comp=Z,31nm,0.6s						
BJT	**Baijiatuan**	**19.77**	**286**	*e*P	P	07 17 28.0	-2.0
	comp=Z,31nm,0.6s						
CLNS	**Chul'man**	**22.57**	**336**	*e*P	P	07 17 58.1	-2.0
CLNS				*e**PP	pP	07 18 05.1	-7.2
CLNS				*e*PPP	PnPn	07 18 30.4	+5.1
CLNS				*e*		07 21 51.2	
CLNS				*e*S	S	07 22 03.6	+0.1
CLNS				pmax	pmax		
	comp=N,10.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				smax	smax		
	comp=N,101nm,12.2s						
CLNS				smax	smax		
	comp=E,202nm,17.9s						
CLNS				MLR	MLR		
	comp=Z,153nm,14.0s						
CLNS				MLR	MLR		
	comp=N,326nm,15.0s						
CLNS				MLR	MLR		
	comp=E,355nm,13.0s						
WHN	**Wuhan**	**23.18**	**262**	⇓P	P	07 18 04.7	-1.8
WHN				LR	LR		
	comp=Z,830nm,17.1s						
HHC	**Hu-ho-hao-te**	**23.29**	**288**	*e*P	P	07 18 06.5	-1.1
HHC				pP	pP	07 18 20.6	+0.3
HHC				sP	sP	07 18 27.8	+0.8
HHC				PP	PnPn	07 18 40.1	+4.8
HHC				S	S	07 22 11.1	-4.8
HHC				sS	Sn	07 22 32.0	-5.7
HHC				SS	SnSn	07 22 59.2	+4.8
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,6.3s						
HHC				LR	LR		
	comp=N,200nm,8.5s						
HHC				LR	LR		
	comp=E,140nm,8.2s						
HHC				LR	LR		
	comp=Z,100nm,6.9s						
GUMO	**Guam**	**23.62**	**171**	LR	LR	07 26 22.1	
	comp=Z,161nm,21.4s,baz=62,slow=34						
YAK	**Yakutsk**	**25.99**	**348**	*e*P	P	07 18 30.0	-1.8
YAK				*e**PP	pP	07 18 45.5	+0.1
YAK				*e*		07 19 08.9	
YAK				*e*		07 21 57.2	
YAK				*e*S	S	07 22 59.3	+0.9
YAK				*e*		07 29 25.2	
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK				pmax	pmax		
	comp=Z,43nm,1.8s						
YAK				smax	smax		
	comp=E,147nm,3.3s						
YAK				smax	smax		
	comp=N,163nm,3.4s						
YAK	**Yakutsk**	**25.99**	**348**	*e*P	P	07 18 31.4	-0.5
	comp=N,51nm,0.9s						
XAN	**Xi'an**	**26.36**	**273**	P	P	07 18 34.0	-1.6
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SEY	**Seymchan**	**26.78**	**11**	*de*P	P	07 18 40.0	+1.0
ENH	**Enshi**	**27.15**	**265**	*e*P	P	07 18 41.8	-0.9
	comp=Z,33nm,0.7s						
ULN	**Ulaanbaatar**	**27.18**	**304**	*e*P	P	07 18 41.3	-1.7
ULN				pmax	pmax		
	comp=Z,21nm,0.7s						
ULN	**Ulaanbaatar**	**27.18**	**304**	*e*P	P	07 18 41.3	-1.7
	comp=Z,21nm,0.7s						
BOD	**Bodaibo**	**27.40**	**328**	*e*P	P	07 18 43.3	-1.3
BOD				pmax	pmax		
	comp=Z,18nm,0.7s						
SONM	**Songino Array**	**27.61**	**304**	P	P	07 18 45.6	-1.2
	comp=Z,12nm,0.5s,baz=104,slow=8.8,SNR=70						
SONM				PcP	PcP	07 22 03.2	+0.1
	comp=Z,2.0nm,0.6s,baz=133,slow=2.5,SNR=7.3						
SONM				LR	LR	07 29 60.0	
	comp=Z,160nm,18.7s,baz=349,slow=37						
SONM	**Songino Array**	**27.61**	**304**	P	P	07 18 45.6	-1.2
SONM						07 22 03.2	
SONM				pmax	pmax		
	comp=Z,12nm,0.5s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,160nm,18.7s						
SONM	**Songino Array**	**27.61**	**304**	P	P	07 18 45.6	-1.2
SONM				PcP	PcP	07 22 03.2	+0.1
LZH	**Lanzhou**	**29.88**	**280**	*e*P	P	07 19 07.5	+0.4
LZH				pP	pP	07 19 22.5	+1.7
LZH				sP	sP	07 19 30.5	+3.2
LZH				pmax	pmax		
	comp=Z,53nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.6s						
LZH				LR	LR		
	comp=N,150nm,5.1s						
LZH				LR	LR		
	comp=E,260nm,7.7s						
LZH				LR	LR		
	comp=Z,420nm,12.1s						
ZAK	**Zakamensk**	**30.10**	**308**	⇑*i*P	P	07 19 08.3	-0.5
ZAK				*e*		07 22 04.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	**Talaya**	**30.16**	**311**	*e*P	P	07 19 08.9	-0.4
TLY				*e*		07 19 26.8	
TLY				*e*		07 20 05.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,135nm,16.0s						
TLY	**Talaya**	**30.16**	**311**	*e*P	P	07 19 09.1	-0.2
	comp=Z,9.7nm,0.8s						
GYA	**Guiyang**	**31.05**	**260**	P	P	07 19 17.3	-0.1
GYA				pP	pP	07 19 32.4	+1.2
GYA				sP	sP	07 19 40.2	+2.6
GYA				PP	PnPn	07 20 22.7	+2.4
GYA				S	S	07 24 17.9	-1.0
GYA				sS	sS	07 24 41.4	-0.8
GYA				ScP	ScP	07 25 50.0	-0.3
GYA				PcS	PcS	07 25 54.3	-2.2
GYA				SS	SnSn	07 26 03.8	-0.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,580nm,17.8s						
GYA				LR	LR		
	comp=E,470nm,18.6s						
GYA				LR	LR		
	comp=Z,640nm,17.4s						
CD2	**Chengdu**	**31.49**	**270**	P	P	07 19 22.3	+1.1
CD2				pP	pP	07 19 36.3	+1.3
CD2				sP	sP	07 19 43.1	+1.7
CD2				PP	PnPn	07 20 27.3	+1.4
CD2				S	S	07 24 24.2	-1.4
CD2				sS	sS	07 24 48.3	-0.6
CD2				SS	SS	07 26 14.0	-28
CD2				pmax	pmax		

comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.7s
CD2 LR LR
comp=N,340nm,10.7s
CD2 LR LR
comp=Z,300nm,14.9s
MOY Mondy 31.77 310 *e*P **P** **07 19 23.2 -0.4**
GTA Gaotai 32.38 287 *e*P **P** **07 19 28.3 -0.7**
GTA pP **pP** **07 19 43.1 +0.3**
GTA sP **sP** **07 19 50.1 +0.9**
GTA PcP **PcP** **07 22 16.5 +1.0**
GTA S **S** **07 24 41.2 +1.8**
GTA pmax pmax
comp=Z,10.0nm,0.6s
GTA pmax pmax
comp=Z,120nm,3.8s
GTA LR LR
comp=N,170nm,12.8s
GTA LR LR
comp=E,150nm,18.5s
GTA LR LR
comp=Z,200nm,21.4s
DAV Davao City (W) 33.08 209 LR LR 07 31 03.0
comp=Z,145nm,18.8s,baz=63,slow=33
BILL Bilibino 34.04 17 ||*i*P **P** **07 19 42.7 -0.3**
BILL *e* 07 20 59.3
BILL *e*S **S** **07 25 02.8 -1.5**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 34.04 17 *e*P **P** **07 19 42.9 -0.1**
comp=Z,4.8nm,0.9s
BILL *e* 07 19 57.4
KMI Kunming 34.79 261 P **P** **07 19 51.3 +1.1**
KMI pP **pP** **07 20 05.6 +1.5**
KMI PP **PP** **07 21 09.2 -0.6**
KMI S **S** **07 25 14.8 -2.4**
KMI SS **SnSn** **07 27 29.7 -5.1**
KMI pmax pmax
comp=Z,110nm,3.1s
KMI LR LR
comp=N,250nm,15.6s
KMI LR LR
comp=E,360nm,13.9s
KMI LR LR
comp=Z,290nm,19.0s
WMQ Urumqi 40.66 297 P **P** **07 20 39.5 +0.1**
WMQ pP **pP** **07 20 54.8 +1.3**
WMQ sP **sP** **07 21 02.0 +2.2**
WMQ pmax pmax
comp=Z,67nm,0.8s
WMQ pmax pmax
comp=Z,240nm,5.2s
WMQ LR LR
comp=N,65nm,18.1s
WMQ LR LR
comp=Z,140nm,26.2s
TNA Tin City 40.91 30 *e*P **P** **07 20 43.2 +2.2**
comp=Z,12nm,1.1s
TNA *e* 07 20 55.6
CHTO Chiang Mai 41.12 256 *e*P **P** **07 20 43.0 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 41.12 256 *e*P **P** **07 20 43.0 -0.4**
comp=Z,7.6nm,0.8s
CMAR Chiang Mai Arr 41.33 255 P **P** **07 20 45.1 0.0**
comp=Z,2.4nm,0.6s,baz=46,slow=7.8,SNR=12
CMAR PcP **PcP** **07 22 43.7 +1.0**
comp=Z,1.7nm,0.8s,baz=14,slow=2.3,SNR=6.0
CMAR LR LR 07 38 22.9
comp=Z,113nm,18.8s,baz=243,slow=37
CMAR Chiang Mai Arr 41.33 255 P **P** **07 20 45.1 0.0**
CMAR 07 22 43.7
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR MLR MLR
comp=Z,113nm,18.8s
CMAR Chiang Mai Arr 41.33 255 P **P** **07 20 45.1 0.0**
CMAR PcP **PcP** **07 22 43.7 +1.0**
ZAA0 Zalesovo Array 41.75 312 *e*P **P** **07 20 47.8 -0.3**
ZALV Zalesovo Beam 41.75 312 P **P** **07 20 47.8 -0.3**
comp=Z,36nm,0.5s,baz=92,slow=6.9,SNR=191
ZALV PcP **PcP** **07 22 43.1 -0.4**
comp=Z,7.4nm,0.6s,baz=102,slow=3.3,SNR=9.6
ZALV ScP **ScP** **07 26 29.5 +0.4**
comp=Z,1.3nm,0.8s,baz=99,slow=4.8,SNR=4.3
ZALV LR LR 07 38 43.2
comp=Z,90nm,18.8s,baz=83,slow=37
ZALV Zalesovo Beam 41.75 312 P **P** **07 20 47.8 -0.3**
ZALV 07 22 43.1
ZALV pmax pmax
comp=Z,37nm,0.5s
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV pmax pmax
comp=N,1.0nm,0.8s
ZALV MLR MLR
comp=Z,90nm,18.8s
ZALV Zalesovo Beam 41.75 312 P **P** **07 20 47.8 -0.3**
ZALV PcP **PcP** **07 22 43.1 -0.4**
ZALV ScP **ScP** **07 26 29.5 +0.4**
LSA Lhasa 42.02 275 P **P** **07 20 51.2 0.0**
LSA Lhasa 42.02 275 *e*P **P** **07 20 51.0 -0.2**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 42.02 275 *e*P **P** **07 20 51.0 -0.2**
comp=Z,10nm,0.7s
NVS Novosibirsk 42.68 314 *e*P **P** **07 20 54.2 -1.4**
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,24nm,0.9s
NVS pmax pmax
comp=Z,35nm,0.9s
MK31 Makanchi Array 43.94 302 *i*P **P** **07 21 05.8 -0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.5s
MK31 Makanchi Array 43.94 302 *e*P **P** **07 21 05.3 -0.7**
MKAR Makanchi Array 43.94 302 P **P** **07 21 05.6 -0.4**
comp=Z,14nm,0.7s,baz=84,slow=10,SNR=129
MKAR PcP **PcP** **07 22 51.1 +0.1**
comp=Z,2.1nm,0.6s,baz=82,slow=5.3,SNR=3.9
MKAR ScP **ScP** **07 26 39.7 +1.6**
comp=Z,0.5nm,0.8s,baz=61,slow=4.1,SNR=3.1
MKAR LR LR 07 39 59.5
comp=Z,50nm,21.6s,baz=354,slow=37
MKAR Makanchi Array 43.94 302*ce*P **P** **07 21 05.5 -0.5**
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR Makanchi Array 43.94 302 *e*P **P** **07 21 05.7 -0.4**
MKAR PcP **PcP** **07 22 51.1 +0.1**
MKAR ScP **ScP** **07 26 39.7 +1.6**
KSM Kuching 45.45 226 *e*P **P** **07 21 20.1 +1.8**
comp=Z,19nm,0.8s
TAPN Taplejung 45.76 274 *e*P **P** **07 21 21.0 0.0**
comp=Z,20nm,0.4s
KURK Kurchatov 45.76 308 P **P** **07 21 20.2 -0.1**
comp=Z,24nm,0.6s,baz=82,slow=7.9,SNR=210
KURK PcP **PcP** **07 22 56.8 -0.4**
comp=Z,4.0nm,0.6s,baz=88,slow=3.7,SNR=5.0
KURK LR LR 07 41 23.1
comp=Z,154nm,18.3s,baz=85,slow=37
KURK Kurchatov 45.76 308*ce*P **P** **07 21 19.4 -0.9**
KURK pmax pmax
comp=Z,84nm,1.7s
KURK Kurchatov 45.76 308 *e*P **P** **07 21 19.7 -0.6**
comp=Z,34nm,0.8s
KURK PcP **PcP** **07 22 56.8 -0.4**
ODAN Odare 46.23 273 *e*P **P** **07 21 24.6 0.0**
ODAN Odare 46.23 273 *e*P **P** **07 21 24.6 0.0**
RAMN Ramite 46.82 274 *e*P **P** **07 21 29.2 -0.1**
comp=Z,107nm,0.8s
RAMN Ramite 46.82 274 *e*P **P** **07 21 29.2 -0.1**
JIRN Jiri 46.83 275 *e*P **P** **07 21 29.8 +0.3**
comp=Z,82nm,0.7s
JIRN Jiri 46.83 275 *e*P **P** **07 21 29.8 +0.3**
GUN Gumba 46.97 275 *e*P **P** **07 21 30.5 -0.1**
comp=Z,64nm,0.5s
GUN Gumba 46.97 275 *e*P **P** **07 21 30.5 -0.1**
KDAK Kodiak Island 47.19 42 P **P** **07 21 33.1 +1.7**
comp=Z,5.8nm,0.8s,baz=263,slow=18,SNR=5.8
KDAK pP **pP** **07 21 45.6 -0.2**
comp=Z,19nm,1.0s,baz=351,slow=6.0,SNR=3.8
KDAK Kodiak Island 47.19 42*ce*P **P** **07 21 32.5 +1.1**
KDAK Kodiak Island 47.19 42 P **P** **07 21 33.1 +1.7**
KDAK pP **pP** **07 21 45.6 -0.2**
PKI Pulchoki 47.49 275 *e*P **P** **07 21 34.2 -0.4**
comp=Z,24nm,0.6s
PKI Pulchoki 47.49 275 *e*P **P** **07 21 34.2 -0.4**
PKI Pulchoki 47.49 275 *e*P **P** **07 21 34.2 -0.4**
KKN Kakani 47.50 276 *e*P **P** **07 21 34.5 0.0**
comp=Z,64nm,0.6s
KKN Kakani 47.50 276 *e*P **P** **07 21 34.5 0.0**
KKN Kakani 47.50 276 *e*P **P** **07 21 34.5 0.0**
DMN Daman 47.72 276 *e*P **P** **07 21 35.9 -0.4**
comp=Z,21nm,0.6s
DMN Daman 47.72 276 *e*P **P** **07 21 35.9 -0.4**
GKN Gorkha 47.92 276 *e*P **P** **07 21 37.7 0.0**
comp=Z,221nm,1.0s
GKN Gorkha 47.92 276 *e*P **P** **07 21 37.7 0.0**
DANN Dangsing 48.46 277 *e*P **P** **07 21 42.3 +0.2**
comp=Z,166nm,0.8s
DANN Dangsing 48.46 277 *e*P **P** **07 21 42.3 +0.2**
KOLN Koldanda 48.84 277 *e*P **P** **07 21 44.9 0.0**
comp=Z,49nm,0.9s
KOLN Koldanda 48.84 277 *e*P **P** **07 21 44.9 0.0**
TKM2 Tokmak 2 49.45 298 P **P** **07 21 49.7 +0.4**
SNR=26
TKM2 P **P** **07 21 49.7 +0.4**
SNR=26
TKM2 Tokmak 2 49.45 298 *i*P **P** **07 21 49.7 +0.4**
TKM2 Tokmak 2 49.45 298 *e*P **P** **07 21 49.7 +0.4**
comp=Z,16nm,0.8s
HNR Honiara 49.50 155 LR LR 07 39 15.4
comp=Z,123nm,19.6s,baz=338,slow=32
ILAR Eielson Array 49.56 32 P **P** **07 21 50.0 +0.4**
comp=Z,4.6nm,0.7s,baz=266,slow=5.9,SNR=49
ILAR pP **pP** **07 22 04.1 +0.1**
comp=Z,3.5nm,0.8s,baz=258,slow=5.8,SNR=9.7
ILAR Eielson Array 49.56 32 P **P** **07 21 50.0 +0.4**
ILAR *PP **pP** **07 22 04.1 +0.1**
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 49.56 32 P **P** **07 21 50.0 +0.4**
ILAR pP **pP** **07 22 04.1 +0.1**
KZA Kyzart 49.94 297 P **P** **07 21 54.2 +0.9**
SNR=14
KZA P **P** **07 21 54.2 +0.9**
SNR=14
KBK Karagaybulak 49.98 298 P **P** **07 21 53.5 +0.2**
SNR=14
KBK P **P** **07 21 53.5 +0.2**
SNR=14
USP Ospenovka 50.12 299 P **P** **07 21 54.1 -0.1**
SNR=12
USP P **P** **07 21 54.1 -0.1**
SNR=12
KSH Kashi 50.22 294 P P 07 21 58.8 +3.7
KSH *e*pP pP 07 22 14.1 +4.5
KSH *es*P sP 07 22 21.4 +5.5
KSH *e*PcP **PcP** **07 23 16.6 +3.0**
KSH *e*PP PP 07 23 55.8 +5.2
KSH *e*ScP **ScP** **07 27 05.8 +1.0**
KSH *e*PcS **PcS** **07 27 12.5 +1.6**
KSH *e*S **S** **07 29 05.7 +2.2**
KSH *es*S sS 07 29 32.9 +5.1
KSH *e*ScS **ScS** **07 31 40.6 -1.0**
KSH *e*SS **SS** **07 32 37.6 +0.5**
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,76nm,4.0s
KSH LR LR
comp=N,120nm,6.4s
KSH LR LR
comp=E,100nm,5.4s
KSH LR LR
comp=Z,110nm,5.6s
AAK Ala-Archa 50.31 298 P **P** **07 21 55.7 -0.1**
SNR=6.4
AAK P **P** **07 21 55.7 -0.1**
SNR=6.4
AAK Ala-Archa 50.31 298*c i*P **P** **07 21 55.5 -0.3**
AAK Ala-Archa 50.31 298 *e*P **P** **07 21 55.6 -0.3**
comp=Z,47nm,1.2s
BVA0 Borovoye Array 50.41 312 *i*P **P** **07 21 55.5 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.41 312 P **P** **07 21 55.8 -0.4**
comp=Z,13nm,0.6s,baz=75,slow=6.9,SNR=87
BVAR PcP **PcP** **07 23 13.8 -0.1**
comp=Z,10.0nm,0.6s,baz=86,slow=3.6,SNR=11
BVAR ScP **ScP** **07 27 08.4 +3.3**
comp=Z,0.5nm,0.7s,baz=70,slow=4.7,SNR=2.4
BVAR LR LR 07 44 19.9
comp=Z,151nm,18.6s,baz=263,slow=37
BVAR Borovoye Array 50.41 312 P **P** **07 21 55.8 -0.4**
BVAR 07 23 13.8
BVAR pmax pmax
comp=Z,13nm,0.6s
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR pmax pmax
comp=N,1.0nm,0.7s
BVAR MLR MLR
comp=Z,151nm,18.6s
BVAR Borovoye Array 50.41 312 P **P** **07 21 55.8 -0.4**
BVAR PcP **PcP** **07 23 13.8 -0.1**
BVAR ScP **ScP** **07 27 08.4 +3.3**
BRVK Borovoye 50.46 312 *e*P **P** **07 21 56.2 -0.4**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 50.46 312 *e*P **P** **07 21 56.2 -0.4**
comp=Z,19nm,0.8s
COEN Coen 50.79 178 *e*P **P** **07 22 01.5 +2.1**
comp=Z,88nm,1.0s
EKS2 Erkin-Say 50.80 299 P **P** **07 21 59.3 -0.2**
SNR=9.4
EKS2 P **P** **07 21 59.3 -0.2**
SNR=9.4
EKS2 Erkin-Say 50.80 299 *e*P **P** **07 21 59.3 -0.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 50.80 299 *e*P **P** **07 21 59.3 -0.2**
comp=Z,5.6nm,0.6s
AML Almayashu 51.03 298 P **P** **07 22 02.0 +0.5**
SNR=37
AML P **P** **07 22 02.0 +0.5**
SNR=37
KK31 Karatay Array 52.95 300 *i*P **P** **07 22 14.8 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 52.95 300 *e*P **P** **07 22 14.7 -0.6**
KKAR Karatay Array 52.95 300 *e*P **P** **07 22 14.7 -0.6**
INK Inuvik 54.43 27 P **P** **07 22 26.6 +1.0**
comp=Z,3.0nm,0.6s,baz=306,slow=6.5,SNR=35
INK pP **pP** **07 22 40.9 +0.6**
comp=Z,3.1nm,0.8s,baz=312,slow=12,SNR=5.5
INK PcP **PcP** **07 23 29.0 +0.3**
comp=Z,1.7nm,0.6s,baz=297,slow=3.7,SNR=2.0
INK Inuvik 54.43 27 P **P** **07 22 26.7 +1.0**
INK *PP **pP** **07 22 40.9 +0.6**
INK 07 23 29.0
INK pmax pmax
comp=Z,3.0nm,0.6s
INK pmax pmax
comp=Z,3.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 54.43 27 *e*P **P** **07 22 26.3 +0.6**
comp=Z,9.2nm,1.3s
INK PcP **PcP** **07 23 29.0 +0.3**
SVE Sverdlovsk 54.99 319*de*P **P** **07 22 30.1 +0.1**
SVE pmax pmax
comp=Z,59nm,0.9s
SOKR Solikamsk 56.19 322*d i*P **P** **07 22 38.5 +0.1**
SOKR pmax pmax
comp=Z,40nm,1.5s
ARU Arti 56.21 318*c i*P **P** **07 22 38.2 -0.5**
ARU *PP **pP** **07 22 55.2 +1.8**
ARU *e* 07 24 42.6
ARU S **S** **07 30 23.1 -0.9**
ARU SS **SS** **07 34 08.5 -2.0**
ARU pmax pmax
comp=Z,68nm,1.0s
ARU Arti 56.21 318 *e*P **P** **07 22 37.6 -1.0**
comp=Z,57nm,0.9s
FITZ Fitzroy Crossi 56.81 198 *e*P **P** **07 22 42.8 -0.5**
comp=Z,6.5nm,0.6s
FITZ Fitzroy Crossi 56.81 198 *e*P **P** **07 22 42.1 -1.2**
comp=Z,3.1nm,0.5s
WRAB Tennant Creek 57.07 188 *e*P **P** **07 22 44.0 -1.1**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 57.07 188 *e*P **P** **07 22 44.0 -1.1**
comp=Z,11nm,0.8s
WB2 Warramunga Arr 57.08 188 *e*P **P** **07 22 44.1 -1.1**
WB2 *e* 07 22 58.0
WRA Warramunga Arr 57.08 188 P **P** **07 22 44.2 -1.0**
comp=Z,3.3nm,0.5s,baz=6.3,slow=7.4,SNR=14
WRA pP **pP** **07 22 57.8 -2.1**
comp=Z,9.9nm,0.8s,baz=4.6,slow=7.2,SNR=12
WRA Warramunga Arr 57.08 188 P **P** **07 22 44.2 -1.0**
WRA *PP **pP** **07 22 57.8 -2.1**
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 57.08 188 P **P** **07 22 44.2 -1.0**
WRA pP **pP** **07 22 57.8 -2.1**
AB31 Akbulak array 57.77 310 *i*P **P** **07 22 49.3 -0.6**
AB31 pmax pmax
comp=Z,18nm,0.5s
ABKAR Akbulak array 57.77 310 *e*P **P** **07 22 49.3 -0.5**
HYB Hyderabad 58.02 268 *i*P **P** **07 22 51.0 -1.1**
AKTO Aktyubinsk 58.51 312 LR LR 07 49 19.3
comp=Z,119nm,18.6s,baz=70,slow=37
AKTO Aktyubinsk 58.51 312 P **P** **07 22 53.7 -1.3**
AKTO pmax pmax
comp=Z,3.0nm,0.9s
DLBC Dease Lake 58.70 38 P **P** **07 22 58.9 +2.6**
comp=Z,2.3nm,0.8s,baz=286,slow=2.3,SNR=3.9
DLBC Dease Lake 58.70 38 P **P** **07 22 58.9 +2.6**
AS31 Alice Springs 60.80 188 *e*P **P** **07 23 10.5 -0.5**
ASAR Alice Springs 60.81 188 P **P** **07 23 10.4 -0.6**
comp=Z,1.1nm,0.7s,baz=13,slow=10,SNR=21
ASAR pP **pP** **07 23 24.8 -1.1**
comp=Z,5.1nm,0.8s,baz=14,slow=12,SNR=22
ASAR Alice Springs 60.81 188 P **P** **07 23 10.4 -0.6**
ASAR *PP **pP** **07 23 24.8 -1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR Alice Springs 60.81 188 P **P** **07 23 10.4 -0.6**
ASAR pP **pP** **07 23 24.8 -1.1**
POO Poona 61.18 272 *e*P **P** **07 23 13.5 -0.4**
KEV Kevo 63.34 339 *e*P **P** **07 23 25.9 -1.5**
KEV pmax pmax
comp=Z,8.0nm,0.7s
KEV Kevo 63.34 339 *ep* **P** **07 23 25.9 -1.5**
comp=Z,7.6nm,0.7s
KEV Kevo 63.34 339 *ep* **P** **07 23 25.9 -1.5**
comp=Z,7.6nm,0.7s
DZM Mont Dzumac 63.47 154 *e*LR LR 07 42 44.3
comp=Z,105nm,21.4s
ARCES ARCESS Array B 63.89 339 P **P** **07 23 30.8 -0.3**
comp=Z,1.7nm,0.5s,baz=62,slow=8.4,SNR=11
ARCES LR LR 07 57 16.3
comp=Z,85nm,18.2s,baz=169,slow=42
ARCES ARCESS Array B 63.89 339 P **P** **07 23 30.8 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 63.89 339 P **P** **07 23 30.8 -0.3**
DAG Danmarks Havn 65.72 355 *i*P **P** **07 23 43.3 +0.5**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 65.72 355 *i*P **P** **07 23 43.3 +0.5**
comp=Z,33nm,0.8s
JOF Joensuu 65.84 332 *e*P **P** **07 23 41.6 -2.2**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 65.84 332 *ep* **P** **07 23 41.6 -2.2**
comp=Z,4.5nm,0.6s
JOF Joensuu 65.84 332 *ep* **P** **07 23 41.6 -2.2**
comp=Z,4.5nm,0.6s
MOS Moscow 67.11 323 *e*P **P** **07 23 52.2 +0.2**
MOS pmax pmax
comp=Z,52nm,1.1s
VRHR Novokhopersk 67.53 318 *e*P **P** **07 23 52.7 -2.1**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.6s
OBN Obninsk 67.95 323||*e*P **P** **07 23 56.5 -0.9**
OBN *e* 07 26 23.2
OBN pmax pmax
comp=Z,30nm,1.7s
OBN MLR MLR
comp=Z,100nm,17.0s
KAF Kangasniemi 68.19 333 *e*P **P** **07 23 56.7 -2.0**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 68.19 333 *ep* **P** **07 23 56.7 -2.0**
comp=Z,10nm,0.6s
KAF Kangasniemi 68.19 333 *ep* **P** **07 23 56.7 -2.0**
comp=Z,10nm,0.6s
CMSA Cobar Meteorol 68.39 176 *e*P **P** **07 24 00.9 +0.7**
comp=Z,18nm,0.9s
STKA Stephens Creek 68.60 180 P **P** **07 24 01.6 0.0**
comp=Z,2.7nm,0.8s,baz=6.0,slow=7.5,SNR=6.3
STKA Stephens Creek 68.60 180 *e*P **P** **07 24 01.6 0.0**
comp=Z,2.4nm,0.5s
STKA Stephens Creek 68.60 180 *e*P **P** **07 24 01.2 -0.4**
STKA *e* 07 24 15.6
STKA Stephens Creek 68.60 180 P **P** **07 24 01.6 0.0**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 68.60 180 *e*P **P** **07 24 01.2 -0.4**
STKA *e* 07 24 15.6
FORT Forrest 68.61 192 *e*P **P** **07 24 01.6 -0.1**
comp=Z,15nm,0.6s
FINES FINESS Array B 68.69 332 P **P** **07 24 01.6 -0.3**
comp=Z,15nm,0.7s,baz=50,slow=7.4,SNR=31
FINES FINESS Array B 68.69 332 P **P** **07 24 01.6 -0.3**
FINES pmax pmax
comp=Z,15nm,0.7s
FINES FINESS Array B 68.69 332 P **P** **07 24 01.6 -0.3**
VSR Storozhevoye 68.78 319 *e*P **P** **07 24 01.5 -1.1**
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
BBOO Buckleboo 69.69 185 *e*P **P** **07 24 08.1 -0.2**
comp=Z,29nm,0.8s
SUMG Summit 70.64 360 *i*P **P** **07 24 13.6 -0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 70.64 360 *e*P **P** **07 24 12.6 -1.7**
SUMG Summit 70.64 360 *i*P **P** **07 24 13.6 -0.6**
comp=Z,8.7nm,1.0s
ZEI Tsey 70.64 309 *e*P **P** **07 24 12.7 -1.9**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 70.74 311||*e*P **P** **07 24 15.1 +0.1**
KIV *e* 07 26 52.0
KIV *eS* **S** **07 33 26.2 +0.8**
KIV pmax pmax
comp=Z,58nm,1.0s
KIV Kislovodsk 70.74 311 *e*P **P** **07 24 14.9 0.0**
comp=Z,40nm,0.8s
GNI Garni 71.53 307*ce*P **P** **07 24 21.2 +1.3**
GNI pmax pmax
comp=Z,25nm,1.7s
SCO Scoresbysund 72.05 354 *i*P **P** **07 24 22.7 +0.5**
SCO pmax pmax
comp=Z,3.0nm,1.0s
SCO Scoresbysund 72.05 354 *i*P **P** **07 24 22.7 +0.5**
comp=Z,3.1nm,1.0s
IZAR Zarasai 72.27 327 *e*P **P** **07 24 23.7 -0.1**
IZAR AMB AMB 07 24 24.4
comp=Z,6.7nm,0.7s
ISAL Salakas 72.44 327 *e*P **P** **07 24 24.7 -0.1**
ISAL AMB AMB 07 24 26.6
comp=Z,15nm,1.1s
IIGN Ignalina 72.54 327 *e*P **P** **07 24 25.3 -0.1**
IIGN AMB AMB 07 24 27.1
comp=Z,9.9nm,1.2s

FFC	**Flin Flon**	**73.77**	**33**	*i* P		**P**	**07 24 33.6**	**+0.9**
HFS	**Hagfors**	**73.97**	**336**	LR		LR	07 59 22.0	
	comp=Z,182nm,18.1s,baz=72,slow=38							
NB2	**NORSAR Subarra**	**74.08**	**337**	P		**P**	**07 24 34.1**	**-0.4**
	comp=Z,12nm,0.8s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**74.08**	**337**	P		**P**	**07 24 34.0**	**-0.4**
	comp=Z,9.1nm,0.8s,baz=39,slow=5.8,SNR=26							
NOA	**NORSAR Array B**	**74.08**	**337**	P		**P**	**07 24 34.1**	**-0.4**
NOA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NOA	**NORSAR Array B**	**74.08**	**337**	P		**P**	**07 24 34.0**	**-0.4**
AKASG	**Malin Array Be**	**74.15**	**322**	P		**P**	**07 24 34.4**	**-0.6**
	comp=Z,7.3nm,0.4s,baz=47,slow=5.6,SNR=66							
AKASG	**Malin Array Be**	**74.15**	**322**	P		**P**	**07 24 34.4**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.4s							
AKASG	**Malin Array Be**	**74.15**	**322**	P		**P**	**07 24 34.4**	**-0.6**
AKBB	**Malin Array Si**	**74.15**	**322**	*e*P		**P**	**07 24 33.3**	**-1.7**
AKBB	**Malin Array Si**	**74.15**	**322**	*e*P		**P**	**07 24 33.3**	**-1.7**
KIEV	**Kiev**	**74.16**	**322**	*c i*P		**P**	**07 24 34.1**	**-1.0**
KIEV	**Kiev**	**74.16**	**322**	*e*P		**P**	**07 24 33.8**	**-1.2**
	comp=Z,19nm,0.9s							
LRM	**Limekiln Ridge**	**74.24**	**44**	*e*P		**P**	**07 24 37.2**	**+1.2**
EGMT	**Eagleton**	**74.36**	**41**	*e*P		**P**	**07 24 37.0**	**+0.6**
	comp=Z,17nm,1.4s							
EGMT				*e*			07 24 49.8	
DLMT	**Dillon**	**74.44**	**45**	*e*P		**P**	**07 24 37.7**	**+0.7**
	comp=Z,4.5nm,0.8s							
NVAR	**Mina Array Bea**	**75.11**	**53**	P		**P**	**07 24 42.5**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=286,slow=6.1,SNR=9.8							
NVAR				pP		**pP**	**07 24 56.3**	**0.0**
	comp=Z,3.1nm,0.9s,baz=285,slow=6.3,SNR=10							
NVAR	**Mina Array Bea**	**75.11**	**53**	P		**P**	**07 24 42.5**	**+1.4**
NVAR				pP		**pP**	**07 24 56.3**	**0.0**
KBD	**Kabd**	**75.61**	**296**	*e*P		**P**	**07 24 43.2**	**-0.6**
QRN	**Al-Qurain**	**75.69**	**295**	*e*P		**P**	**07 24 43.1**	**-1.1**
QRN				AMb		AMB	07 24 44.2	
	comp=Z,133nm,0.6s							
NAY	**Al-Naaiem**	**75.89**	**296**	*e*P		**P**	**07 24 44.5**	**-0.9**
NAY				AMb		AMB	07 24 45.2	
	comp=Z,53nm,0.5s							
LVV	**L'vov**	**77.24**	**324**	*e*P		**P**	**07 24 53.1**	**+0.4**
BEL	**Belsk**	**77.31**	**327**	*e*P		**P**	**07 24 53.8**	**+0.8**
BEL	**Belsk**	**77.31**	**327**	*e*P		**P**	**07 24 53.8**	**+0.8**
DUG	**Dugway**	**77.47**	**49**	*e*P		**P**	**07 24 54.7**	**+0.4**
DUG				*e*			07 25 09.6	
DUG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DUG	**Dugway**	**77.47**	**49**	*e*P		**P**	**07 24 54.7**	**+0.4**
	comp=Z,2.9nm,0.9s							
DUG				*e*			07 25 09.6	
PD01	**Pinedale Array**	**77.75**	**45**	*e*P		**P**	**07 24 56.1**	**+0.1**
BW06	**Boulder Array**	**77.77**	**45**	*e*P		**P**	**07 24 56.2**	**+0.1**
	comp=Z,1.3nm,0.6s							
PDAR	**Pinedale Array**	**77.77**	**45**	P		**P**	**07 24 56.7**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=285,slow=1.4,SNR=14							
PDAR	**Pinedale Array**	**77.77**	**45**	P		**P**	**07 24 56.7**	**+0.6**
KWP	**Kalwaria Pacla**	**77.99**	**324**	*e*P		**P**	**07 24 57.8**	**+0.9**
KWP	**Kalwaria Pacla**	**77.99**	**324**	⇓P		**P**	**07 24 57.4**	**+0.5**
KWP	**Kalwaria Pacla**	**77.99**	**324**	*e*P		**P**	**07 24 57.3**	**+0.4**
	comp=Z,48nm,1.1s							
KWP	**Kalwaria Pacla**	**77.99**	**324**	⇓*i*P		**P**	**07 24 57.4**	**+0.5**
BUR08	**Bucovina Ar. S**	**78.15**	**322**	*e*P		**P**	**07 24 58.0**	**+0.1**
BURAR	**Bucovina Array**	**78.16**	**322**	⇑P		**P**	**07 24 58.0**	**0.0**
BURAR	**Bucovina Array**	**78.16**	**322**	⇑*i*P		**P**	**07 24 58.0**	**0.0**
TESR		**78.18**	**320**	⇑*i*P		**P**	**07 24 58.5**	**+0.5**
TIRR	**Tirgusor**	**78.62**	**318**	⇓P		**P**	**07 25 00.4**	**0.0**
TIRR	**Tirgusor**	**78.62**	**318**	⇓*i*P		**P**	**07 25 00.4**	**0.0**
KOLS	**Kolonicke sedl**	**78.68**	**324**	*e*P		**P**	**07 25 00.6**	**-0.1**
KOLS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KOLS	**Kolonicke sedl**	**78.68**	**324**	*e*P		**P**	**07 25 00.6**	**-0.1**
BR131	**Keskin Array S**	**78.69**	**311**	*e*P		**P**	**07 25 00.8**	**-0.3**
	comp=Z,4.5nm,0.8s							
BRTR	**Keskin Array B**	**78.69**	**311**	P		**P**	**07 25 01.0**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=91,slow=3.5,SNR=19							
BRTR	**Keskin Array B**	**78.69**	**311**	P		**P**	**07 25 01.0**	**-0.1**
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BRTR	**Keskin Array B**	**78.69**	**311**	P		**P**	**07 25 01.0**	**-0.1**
STHS	**Stebnicka Huta**	**78.82**	**325**	*e*P		**P**	**07 25 02.4**	**+0.9**
STHS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
STHS	**Stebnicka Huta**	**78.82**	**325**	*e*P		**P**	**07 25 02.4**	**+0.9**
UZH	**Uzhgorod**	**78.88**	**324**	*e*P		P	07 25 05.4	+3.6
UZH				*e*			07 25 11.8	
OJC	**Ojcow**	**78.90**	**326**	*e*P		**P**	**07 25 02.1**	**+0.2**
OJC	**Ojcow**	**78.90**	**326**	*e*P		**P**	**07 25 02.1**	**+0.2**
CRVS	**Cervenica-Dubn**	**79.08**	**324**	*e*P		**P**	**07 25 03.0**	**+0.1**
CRVS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**79.08**	**324**	*e*P		**P**	**07 25 03.0**	**+0.1**
TRPA	**Tarpa**	**79.11**	**323**	⇑*i*P		**P**	**07 25 03.1**	**0.0**
MLR	**Muntele Rosu**	**79.23**	**320**	⇓P		**P**	**07 25 03.9**	**-0.1**
MLR	**Muntele Rosu**	**79.23**	**320**	⇓*i*P		**P**	**07 25 03.9**	**-0.1**
ULM	**Lac du Bonnet**	**79.57**	**33**	P		**P**	**07 25 05.7**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=319,slow=5.8,SNR=3.5							
ULM	**Lac du Bonnet**	**79.57**	**33**	P		**P**	**07 25 05.7**	**+0.2**
ULM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ULM	**Lac du Bonnet**	**79.57**	**33**	P		**P**	**07 25 05.7**	**+0.2**
VOIR		**79.73**	**320**	⇑P		**P**	**07 25 06.8**	**+0.2**
VOIR		**79.73**	**320**	⇑*i*P		**P**	**07 25 06.8**	**+0.2**
KECS	**Kecovo**	**79.83**	**324**	*e*P		**P**	**07 25 06.8**	**-0.2**
KECS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KECS	**Kecovo**	**79.83**	**324**	*e*P		**P**	**07 25 06.8**	**-0.2**
OKC	**Ostrava-Krasne**	**79.91**	**327**	*e*P		**P**	**07 25 07.8**	**+0.4**
OKC	**Ostrava-Krasne**	**79.91**	**327**	*e*P		**P**	**07 25 07.8**	**+0.4**
DRGR		**79.97**	**322**	⇑P		**P**	**07 25 07.9**	**0.0**
DRGR		**79.97**	**322**	⇑*i*P		**P**	**07 25 07.8**	**-0.1**
KSP	**Ksiaz**	**79.97**	**328**	*e*P		**P**	**07 25 08.0**	**+0.3**
KSP	**Ksiaz**	**79.97**	**328**	*e*P		**P**	**07 25 08.0**	**+0.3**
MORC	**Moravsky Berou**	**80.22**	**327**	⇓P		**P**	**07 25 09.3**	**+0.2**
MORC	**Moravsky Berou**	**80.22**	**327**	*e*P		**P**	**07 25 08.3**	**-0.8**
	comp=Z,11nm,1.1s							
MORC	**Moravsky Berou**	**80.22**	**327**	⇓*i*P		**P**	**07 25 09.3**	**+0.2**
DPC	**Dobruska-Polom**	**80.32**	**328**	*e*P		**P**	**07 25 10.1**	**+0.4**
DPC	**Dobruska-Polom**	**80.32**	**328**	*e*P		**P**	**07 25 10.1**	**+0.4**
KRLC	**Kraliky**	**80.33**	**327**	*e*P		**P**	**07 25 09.9**	**+0.2**
UPC	**Upice**	**80.34**	**328**	*e*P		**P**	**07 25 09.6**	**-0.1**
UPC				*e*			07 25 17.8	
UPC	**Upice**	**80.34**	**328**	*e*P		**P**	**07 25 09.6**	**-0.1**
UPC				*e*PCP		**PcP**	**07 25 17.8**	**+1.1**
PSZ	**Piszkesteto**	**80.52**	**324**	⇑P		**P**	**07 25 11.2**	**+0.4**
PSZ	**Piszkesteto**	**80.52**	**324**	*e*P		**P**	**07 25 11.0**	**+0.3**
	comp=Z,21nm,1.2s							
PSZ	**Piszkesteto**	**80.52**	**324**	⇑*i*P		**P**	**07 25 11.2**	**+0.4**
VYHS	**Vyhne**	**80.59**	**325**	*e*P		**P**	**07 25 11.1**	**0.0**
VYHS				pmax	pmax			
	comp=Z,8.0nm,1.5s							
VYHS	**Vyhne**	**80.59**	**325**	*e*P		**P**	**07 25 11.1**	**0.0**
KOLL	**Kolacno**	**80.72**	**326**	*e*P		**P**	**07 25 11.2**	**-0.5**
KOLL	**Kolacno**	**80.72**	**326**	*e*P		**P**	**07 25 11.2**	**-0.5**
BRG	**Berggiesshubel**	**80.92**	**329**	*i* P		**P**	**07 25 12.6**	**-0.2**
	comp=Z,11nm,1.1s							
BRG	**Berggiesshubel**	**80.92**	**329**	*e*P		**P**	**07 25 13.0**	**+0.2**
	comp=Z,6.0nm,0.9s							
BRG	**Berggiesshubel**	**80.92**	**329**	*i* P		**P**	**07 25 12.6**	**-0.2**
BRG				pmax	pmax			
	comp=Z,11nm,1.1s							
PVCC	**Panska Ves**	**80.93**	**329**	*e*P		**P**	**07 25 13.2**	**+0.4**
PVCC	**Panska Ves**	**80.93**	**329**	*e*P		**P**	**07 25 13.2**	**+0.4**
CLL	**Collm**	**80.97**	**330**	*e*P		**P**	**07 25 12.9**	**-0.1**
	comp=Z,10.0nm,0.9s							
CLL	**Collm**	**80.97**	**330**	⇑*i*P		**P**	**07 25 12.5**	**-0.5**
CLL				pmax	pmax			
	comp=Z,15nm,0.9s							
CLL	**Collm**	**80.97**	**330**	⇑*i*P		**P**	**07 25 12.5**	**-0.5**
	comp=Z,15nm,0.9s							
CLL				Lm		MLR	08 05 00.0	
	comp=Z,100nm,20.1s							
VRAC	**Vranov**	**80.98**	**327**	⇓P		**P**	**07 25 12.8**	**-0.4**
VRAC	**Vranov**	**80.98**	**327**	⇓*i*P		**P**	**07 25 12.8**	**-0.4**
SMOL	**Smolenice**	**81.21**	**326**	*e*P		**P**	**07 25 15.3**	**+0.9**
SMOL	**Smolenice**	**81.21**	**326**	*e*P		**P**	**07 25 15.3**	**+0.9**
BZS	**Buzias**	**81.34**	**322**	⇑P		**P**	**07 25 14.7**	**-0.4**
BZS	**Buzias**	**81.34**	**322**	⇑*i*P		**P**	**07 25 14.7**	**-0.4**
PRU	**Pruhonice**	**81.35**	**328**	*e*P		**P**	**07 25 15.4**	**+0.3**
PRU				*e*			07 25 29.3	
PRU	**Pruhonice**	**81.35**	**328**	*e*P		**P**	**07 25 15.4**	**+0.3**
PRU				*e*pP		**pP**	**07 25 29.3**	**-1.2**
TREC	**Trest**	**81.47**	**327**	*e*P		**P**	**07 25 16.1**	**+0.3**
TREC	**Trest**	**81.47**	**327**	*e*P		**P**	**07 25 16.1**	**+0.3**
CLZ	**Clausthal**	**81.58**	**332**	*e*P		**P**	**07 25 16.8**	**+0.5**
	comp=Z,9.0nm,1.0s							
CLZ	**Clausthal**	**81.58**	**332**	*e*P		**P**	**07 25 16.8**	**+0.5**
CLZ				pmax	pmax			
	comp=Z,9.0nm,1.0s							
NKC	**Novy Kostel**	**82.02**	**330**	*e*P		**P**	**07 25 18.7**	**0.0**
NKC	**Novy Kostel**	**82.02**	**330**	*e*P		**P**	**07 25 18.7**	**0.0**
MOX	**Moxa**	**82.04**	**330**	*e*P		**P**	**07 25 18.9**	**+0.2**
	comp=Z,4.0nm,1.0s							
MOX	**Moxa**	**82.04**	**330**	*e*P		**P**	**07 25 18.9**	**+0.2**
MOX				pmax	pmax			
	comp=Z,4.0nm,1.0s							
IBBN	**Ibbenburen**	**82.17**	**333**	*e*P		**P**	**07 25 19.4**	**+0.1**
	comp=Z,10.0nm,0.9s							
KHC	**Kasperske Hory**	**82.41**	**328**	*e*P		**P**	**07 25 20.5**	**-0.2**
KHC				*e*			07 25 30.0	
KHC	**Kasperske Hory**	**82.41**	**328**	*e*P		**P**	**07 25 20.5**	**-0.2**
KHC				*ex*		x	07 25 30.0	
ROTZ	**Rotzenmuhle**	**82.48**	**329**	*e*P		**P**	**07 25 21.7**	**+0.6**
	comp=Z,26nm,1.4s							
GEC2	**GERESS Array S**	**82.58**	**328**	*e*P		**P**	**07 25 21.7**	**0.0**
	comp=Z,6.0nm,1.1s							
GEC2				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GERES	**GERESS Array B**	**82.58**	**328**	P		**P**	**07 25 21.2**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=41,slow=5.9,SNR=40							
GERES	**GERESS Array B**	**82.58**	**328**	P		**P**	**07 25 21.3**	**-0.4**
GERES				pmax	pmax			
	comp=Z,4.0nm,0.6s							
GERES	**GERESS Array B**	**82.58**	**328**	P		**P**	**07 25 21.2**	**-0.4**
VTS	**Vitosha**	**82.66**	**319**	⇑P		**P**	**07 25 21.7**	**-0.6**
VTS	**Vitosha**	**82.66**	**319**	⇑*i*P		**P**	**07 25 21.7**	**-0.6**
WET	**Wettzell**	**82.69**	**329**	*e*P		**P**	**07 25 22.6**	**+0.4**
	comp=Z,5.0nm,0.9s							
WET	**Wettzell**	**82.69**	**329**	*e*P		**P**	**07 25 22.6**	**+0.4**
WET				pmax	pmax			
	comp=Z,5.0nm,0.9s							
GRF	**Grafenberg Arr**	**82.94**	**330**	*e*P		**P**	**07 25 24.2**	**+0.8**
	comp=Z,12nm,0.9s							
GRF	**Grafenberg Arr**	**82.94**	**330**	*e*P		**P**	**07 25 24.2**	**+0.8**
GRF				pmax	pmax			
	comp=Z,12nm,0.9s							
GRFO	**Grafenberg**	**82.94**	**330**	*e*P		**P**	**07 25 23.5**	**+0.1**
GRFO				pmax	pmax			
	comp=Z,15nm,1.0s							
GRFO	**Grafenberg**	**82.94**	**330**	*e*P		**P**	**07 25 23.5**	**+0.1**
	comp=Z,15nm,1.0s							
RJOB	**Jochberg**	**83.82**	**328**	*e*P		**P**	**07 25 28.6**	**+0.6**
	comp=Z,8.0nm,1.0s							
FUR	**Furstenfeldbru**	**84.12**	**329**	*e*P		**P**	**07 25 30.0**	**+0.5**
	comp=Z,18nm,0.8s							
FUR	**Furstenfeldbru**	**84.12**	**329**	*e*P		**P**	**07 25 30.0**	**+0.5**
FUR				pmax	pmax			
	comp=Z,18nm,0.8s							
PMOR	**Pomariorio Ree**	**84.36**	**113**	*e*T		T	08 58 31.9	
	comp=Z,13nm,0.2s							
STU	**Stuttgart**	**84.48**	**330**	*e*P		**P**	**07 25 31.6**	**+0.3**
	comp=Z,11nm,0.9s							
ANMO	**Albuquerque**	**84.70**	**50**	*e*P		**P**	**07 25 34.0**	**+1.1**
ANMO				*e*			07 25 48.0	
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ANMO	**Albuquerque**	**84.70**	**50**	*e*P		**P**	**07 25 34.0**	**+1.1**
	comp=Z,1.7nm,1.1s							
ANMO				*e*			07 25 48.0	
PPT2	**Papeete2**	**84.83**	**116**	*e*LR		LR	07 52 26.5	
	comp=Z,174nm,28.0s							
PPT2				*e*T		T	08 59 08.8	
	comp=Z,2.3nm,0.3s							
WLF	**Walferdange**	**84.92**	**333**	*e*P		**P**	**07 25 34.5**	**+1.0**
	comp=Z,7.0nm,1.0s							
BFO	**Black Forest**	**85.18**	**331**	*e*P		**P**	**07 25 34.8**	**0.0**
	comp=Z,12nm,0.9s							
BFO	**Black Forest**	**85.18**	**331**	*e*P		**P**	**07 25 34.8**	**0.0**
BFO				pmax	pmax			
	comp=Z,12nm,0.9s							
BAIF	**Baives**	**85.29**	**334**	*e*P		**P**	**07 25 34.9**	**-0.4**
SCHQ	**Schefferville**	**85.35**	**16**	P		**P**	**07 25 35.9**	**+0.4**
	comp=Z,5.6nm,1.2s,baz=348,slow=9.3,SNR=2.7							
SCHQ	**Schefferville**	**85.35**	**16**	P		**P**	**07 25 35.9**	**+0.4**
CDF	**Champ du Feu**	**85.52**	**331**	*e*P		**P**	**07 25 36.2**	**-0.4**
	comp=Z,20nm,0.9s							
PAGF	**Fort de Pagny**	**85.99**	**332**	*e*P		**P**	**07 25 38.8**	**-0.1**
	comp=Z,8.5nm,0.9s							
MEH	**Mehetia**	**86.10**	**116**	*e*T		T	09 00 44.3	
	comp=Z,69nm,0.3s							
HINF	**Hinteralfeld**	**86.17**	**331**	*e*P		**P**	**07 25 38.9**	**-0.9**
HAU	**Haudompre**	**86.21**	**331**	*e*P		**P**	**07 25 39.2**	**-0.8**
	comp=Z,9.8nm,0.7s							
HAU				*e*R				
	comp=Z,166nm,18.0s							
SFTF	**Sexfontaines**	**86.54**	**332**	*e*P		**P**	**07 25 41.3**	**-0.3**
	comp=Z,48nm,1.1s							
CABF	**La Chapelle**	**87.46**	**331**	*e*P		**P**	**07 25 45.4**	**-0.8**
LOR	**Lormes**	**87.76**	**332**	*e*P		**P**	**07 25 47.1**	**-0.4**
	comp=Z,16nm,1.0s							
LOR				*e*R				
	comp=Z,206nm,18.2s							
FLN	**La Foliniere**	**88.00**	**336**	*e*P		**P**	**07 25 48.2**	**-0.3**
	comp=Z,73nm,1.4s							
FLN				*e*R				
	comp=Z,175nm,18.0s							
SSF	**Saint Saulge**	**88.06**	**333**	*e*P		**P**	**07 25 49.7**	**+0.8**
	comp=Z,12nm,1.0s							
LPL	**La Plagne**	**88.11**	**330**	*e*P		**P**	**07 25 48.8**	**-0.6**
LPG	**La Plagne**	**88.11**	**330**	*e*P		**P**	**07 25 49.0**	**-0.6**
AVF	**Avril sur Loir**	**88.35**	**333**	*e*P		**P**	**07 25 50.0**	**-0.2**
	comp=Z,11nm,0.7s							
GRR	**Gorron**	**88.44**	**336**	*e*P		**P**	**07 25 50.6**	**-0.1**
	comp=Z,45nm,1.2s							
TBI	**Tubuai**	**88.70**	**121**	*e*LR		LR	07 54 16.0	
	comp=Z,124nm,26.5s							
TBI				*e*T		T	09 04 04.8	
	comp=Z,28nm,0.3s							
ORIF	**Oris-en-Rattie**	**88.94**	**330**	*e*P		**P**	**07 25 51.6**	**-1.6**
	comp=Z,9.4nm,1.0s							
ORIF				*e*R				
	comp=Z,109nm,19.2s							
SGMF	**Saint Gilles**	**89.11**	**337**	*e*P		**P**	**07 25 53.7**	**-0.1**
VIVF	**Saint-Julien-l**	**89.47**	**331**	*e*P		**P**	**07 25 55.9**	**+0.3**
MFF	**Saint Martin d**	**89.76**	**334**	*e*P		**P**	**07 25 58.4**	**+1.5**
	comp=Z,38nm,1.2s							
TXAR	**Lajitas Array**	**90.24**	**52**	P		**P**	**07 26 00.1**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=301,slow=3.1,SNR=42							
TXAR				pP		**pP**	**07 26 15.0**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=306,slow=2.8,SNR=5.6							
TXAR	**Lajitas Array**	**90.24**	**52**	P		**P**	**07 26 00.1**	**+0.5**
TXAR				*PP		**pP**	**07 26 15.0**	**-0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**90.24**	**52**	P		**P**	**07 26 00.1**	**+0.5**
TXAR				pP		**pP**	**07 26 15.0**	**-0.3**
RJF	**Les Rejaudoux**	**90.28**	**333**	*e*P		**P**	**07 25 59.5**	**+0.1**
RJF				*e*R				
	comp=Z,133nm,18.8s							
LASF	**Ste Croix**	**90.44**	**331**	*e*P		**P**	**07 25 59.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**117.17**	**315**	PKP		**PKPdf**	**07 31 43.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=9.1,slow=1.8,SNR=11							
TORD	**Torodi Ar. Bea**	**117.17**	**315**	PKP		**PKPdf**	**07 31 43.2**	**-0.9**
DBIC	**Dimbokro**	**126.13**	**317**	PKP		**PKPdf**	**07 32 00.6**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=35,slow=2.5,SNR=6.8							
DBIC	**Dimbokro**	**126.13**	**317**	PKIKP		**PKPdf**	**07 32 00.6**	**-0.7**
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.5s							
DBIC	**Dimbokro**	**126.13**	**317**	PKP		**PKPdf**	**07 32 00.6**	**-0.7**
BOSA	**Boshof**	**126.40**	**259**	PKP		**PKPdf**	**07 32 01.8**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=80,slow=17,SNR=2.9							
BOSA	**Boshof**	**126.40**	**259**	PKIKP		**PKPdf**	**07 32 01.8**	**+0.2**
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BOSA	**Boshof**	**126.40**	**259**	PKP		**PKPdf**	**07 32 01.8**	**+0.2**
LPAZ	**La Paz**	**146.83**	**59**	PKPbc		**PKPbc**	**07 32 42.0**	**+0.1**
	comp=Z,5.6nm,0.5s,baz=3.4,slow=3.8,SNR=24							
LPAZ				*e*PKPbc		pPKPbc	07 32 57.3	-0.6
	comp=Z,4.0nm,0.8s,baz=11,slow=7.4,SNR=4.2							
LPAZ	**La Paz**	**146.83**	**59**	*e*PKP2		**PKPbc**	**07 32 41.6**	**-0.2**
LPAZ	**La Paz**	**146.83**	**59**	*e*PKPdf		**PKPbc**	**07 32 41.6**	**-0.2**
LPAZ				PKPbc		**PKPbc**	**07 32 42.0**	**+0.1**
LPAZ				pPKPbc		pPKPbc	07 32 57.3	-0.6
LVC	**Limon Verde**	**150.33**	**69**	*e*PKPdf		**PKPdf**	**07 32 45.0**	**0.0**
LCO	**Las Campanas**	**152.19**	**83**	*e*PKPbc		**PKPbc**	**07 32 54.5**	**+0.1**

*ISCJB **03** 07:32:34.1±0.8, 22.8°S×0.5×174.26°W×0.09, h22km, mb4.2/6, Error ellipse: s-maj=79.1km s-min=9.5km az=175.4*

*IDC **03** 07:32:35.9×2.2, 22.67°S×174.67°W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, ML4.4/1, Error ellipse: s-maj=91.7km s-min=39.2km az=176.0*

*NEIC **03** 07:32:40.0±0.8, 22.81°S×174.55°W, h35km, mb4.5/2, Error ellipse: s-maj=73.4km s-min=13.8km az=176.0*

ISC 03 07:32:36.4±0.8, 22.7°S±0.5×174.26°W±0.08, h22km, n15, σ1°28/16, mb4.3/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RAR	**Rarotonga**	**13.53**	**87**	Pn		**P**	**P**	**07 35 54.2**	**-1.8**
	1.8nm,0.3s,baz=172,slow=15,SNR=1.6								
RAR				Sn			**Sn**	**07 38 17.7**	**+1.0**
	1.9nm,0.3s,baz=128,slow=9.8,SNR=2.0								
RAR	**Rarotonga**	**13.53**	**87**	*e*Pn		P		07 35 53.2	-2.8
RAR				*e*Sn			**Sn**	**07 38 18.4**	**+1.7**
CTA	**Charters Tower**	**36.78**	**266**	P		P	**P**	**07 39 42.3**	**-0.4**
	4.3nm,0.6s,baz=99,slow=12,SNR=10								
CTA	**Charters Tower**	**36.78**	**266**	P		P	**P**	**07 39 42.3**	**-0.4**
CTAO	**Charters Tower**	**36.78**	**266**	*e*P		P	**P**	**07 39 42.5**	**-0.2**
	3.0nm,0.5s								
PMG	**Port Moresby**	**39.22**	**283**	P		P	**P**	**07 40 04.6**	**+1.2**
	2.4nm,0.4s,baz=153,slow=4.7,SNR=3.2								
PMG	**Port Moresby**	**39.22**	**283**	P		P	**P**	**07 40 04.6**	**+1.2**
STKA	**Stephens Creek**	**40.06**	**247**	P		P	**P**	**07 40 11.3**	**+1.1**
	0.4nm,0.4s,baz=125,slow=12,SNR=2.3								
STKA	**Stephens Creek**	**40.06**	**247**	P		P	**P**	**07 40 11.3**	**+1.1**
ASAR	**Alice Springs**	**47.44**	**258**	P		P	**P**	**07 41 09.2**	**-0.5**
	1.3nm,0.9s,baz=87,slow=8.1,SNR=11								
ASAR	**Alice Springs**	**47.44**	**258**	P		P	**P**	**07 41 09.2**	**-0.5**
WB2	**Warramunga Arr**	**47.76**	**263**	*e*P		P	**P**	**07 41 10.5**	**-1.7**
WRAB	**Tennant Creek**	**47.76**	**263**	*e*P		P	**P**	**07 41 10.8**	**-1.4**
	3.4nm,0.7s								
WRA	**Warramunga Arr**	**47.77**	**263**	P		P	**P**	**07 41 11.1**	**-1.3**
	2.8nm,0.6s,baz=102,slow=8.3,SNR=14								
WRA	**Warramunga Arr**	**47.77**	**263**	P		P	**P**	**07 41 11.1**	**-1.3**

JMA 03 07:33:21.7±0.4, 44.08N×148.03E, h0km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**247**	P		P	Pn	07 33 54.3	+0.3
NEM2				*e*S			Sn	07 34 18.1	+0.5
JRA	**Rausu**	**2.10**	**267**	P		P	Pn	07 33 59.0	+0.9
JNK	**Nakash**	**2.45**	**259**	P		P	Pn	07 34 03.8	+0.9
JNK				*e*S			Sn	07 34 34.6	+1.1
JAK	**Akkeshi**	**2.66**	**247**	P		P	Pn	07 34 06.

ASAR Alice Springs 39.59 161 P P 08 27 19.1 -0.5
0.3nm,0.4s,baz=338,slow=7.8,SNR=17
MKAR Makanchi Array 45.88 323 P P 08 28 09.4 -0.5
0.2nm,0.4s,baz=115,slow=8.3,SNR=3.6
NWAO Narrogin (SRO) 46.87 184 P P 08 28 18.6 +0.9
11nm,1.0s,baz=30,slow=10,SNR=2.8
ZALV Zalesovo Beam 48.84 332 P P 08 28 32.0 -0.4
0.4nm,0.3s,baz=131,slow=7.2,SNR=3.3
KURK Kurchatov 50.02 326 P P 08 28 41.4 0.0
0.6nm,0.5s,baz=123,slow=8.1,SNR=7.2
TXAR Lajitas Array 119.03 45 PKP PKPdf 08 38 33.1 +0.2
0.3nm,0.8s,baz=208,slow=2.9,SNR=3.7

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*DJA **03** 08:22:51,24˚.57S×174˚.90W,h10km,mb5.3/19*
*IDC **03** 08:22:54.2±0.4,25˚.27S×175˚.43W,h0km,mb5.0/22, mb1 5.1/22,mb1mx5.1/22,mbtmp5.0/22,MS4.6/18, Ms1 4.6/18,ms1mx4.5/26,Error ellipse: s-maj=16.1km s-min=10.5km az=165.0*
*BJI **03** 08:22:55.8,24˚.75S×174˚.94W,h14km,mB5.6/23, mb5.3/31,Ms5.2/22,Ms7 4.8/21*
*ISCJB **03** 08:22:57.4±1.3,25˚.29S±0˚.05×175˚.52W±0˚.04, h33km±11km,mb5.3/129,MS4.7/28,Error ellipse: s-maj=8.2km s-min=5.4km az=164.5*
*MOS **03** 08:22:59.1±0.9,25˚.09S×175˚.48W,h33km,mb5.4/57, MS4.6/8,Error ellipse: s-maj=11.7km s-min=8.9km az=78.1*
*NEIC **03** 08:22:59.1±2.1,25˚.39S×175˚.49W,h32km±14km,mb5.4/98, Error ellipse: s-maj=6.7km s-min=4.7km az=154.0*
*BGS **03** 08:23:02.1±5.3,25˚.39S×175˚.49W,h33km,mb5.4(NEIC)*
ISC 03 08:22:58.3±0.4,25˚.41S±0˚.05×175˚.36W±0˚.05,h25km±2km, h24km:pP-P,n834,σ1¶01/1192,mb5.4/127,MS4.7/29, 299C-256D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.45**	**210**	***e*P**		**Pn**	**08 24 04.8**	**+0.5**
RAO				*e*			08 24 56.3	
RAO	**Raoul Island**	**4.45**	**210**	***e*Pn**		**Pn**	**08 24 04.8**	**+0.5**
RAO				*e*Sn		**Sn**	**08 24 56.3**	**+1.0**
MSVF	**Nonsavu**	**9.79**	**320**	***e*P**		**Pn**	**08 25 17.0**	**-0.7**
MSVF	**Nonsavu**	**9.79**	**320**	***e*Pn**		**Pn**	**08 25 17.0**	**-0.7**
MSVF	**Nonsavu**	**9.79**	**320**	Pn		**Pn**	**08 25 17.0**	**-0.7**
	1µm,0.8s,SNR=26							
PUZ	**Puketiti**	**13.74**	**202**	PN		Pn	08 26 03.2	-8.3
PUZ				SN		Sn	08 28 32.0	-11
MWZ	**Matawai**	**14.22**	**203**	SN		Sn	08 28 46.3	-9.0
URZ	**Urewera**	**14.31**	**205**	Pn		Pn	08 26 13.2	-6.2
	0.6nm,0.3s,baz=106,slow=12,SNR=6.4							
URZ				Sn		Sn	08 28 49.5	-7.8
	17nm,0.3s,baz=175,slow=21,SNR=20							
URZ	**Urewera**	**14.31**	**205**	***e*Pn**		**Pn**	**08 26 17.3**	**-2.1**
URZ				*e*Sn		Sn	08 28 49.4	-7.9
URZ	**Urewera**	**14.31**	**205**	SN		Sn	08 28 48.3	-9.0
KNZ	**Kokohu**	**14.79**	**202**	SN		Sn	08 28 59.0	-10
MHGZ	**Mahia Peninsul**	**14.83**	**201**	SN		Sn	08 28 59.7	-10
RAR	**Rarotonga**	**14.91**	**77**	Pn		Pn	08 26 19.0	-8.7
	35nm,0.3s,baz=241,slow=8.1,SNR=60							
RAR				Sn		Sn	08 28 48.6	-24
	21nm,0.3s,baz=63,slow=20,SNR=4.4							
RAR				LR		LR	08 31 21.7	
	comp=Z,2µm,19.4s,baz=279,slow=34							
RAR	**Rarotonga**	**14.91**	**77**	P		Pn	08 26 19.0	-8.7
RAR				pmax		pmax		
	comp=Z,35nm,0.3s							
RAR				MLR		MLR		
	comp=Z,2µm,19.4s							
RAR	**Rarotonga**	**14.91**	**77**	***e*P**		Pn	08 26 18.8	-8.9
RAR				*e*S		Sn	08 28 49.9	-22
NMHZ	**Naumai**	**15.16**	**204**	SN		Sn	08 29 08.0	-10
CKHZ	**Cape Kidnapper**	**15.56**	**202**	SN		Sn	08 29 15.5	-12
BHHZ	**Black Hill Sta**	**15.78**	**205**	***e*PN**		**P**	**08 26 40.9**	**-1.8**
MRZ	**Mangatainoka R**	**16.98**	**204**	SN		Sn	08 29 45.1	-17
DZM	**Mont Dzumac**	**16.99**	**278**	***e*P**		**P**	**08 26 56.0**	**-0.2**
	comp=Z,357nm,1.2s							
DZM				*e*LR		LR	08 30 50.8	
	comp=Z,3µm,25.5s							
DZM	**Mont Dzumac**	**16.99**	**278**	***e*P**		**Pn**	**08 26 54.6**	**+0.1**
DZM	**Mont Dzumac**	**16.99**	**278**	***e*P**		**P**	**08 26 56.6**	**+0.4**
	comp=Z,138nm,1.1s							
NOUC	**Port Laguerre**	**17.11**	**277**	***e*P**		**P**	**08 26 57.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**17.22**	**204**	SN		Sn	08 29 51.9	-16
CAW	**Cannon Point**	**17.56**	**205**	***e*PN**		Pn	08 26 53.3	-8.1
TCW	**Tory Channel**	**17.96**	**206**	SN		Sn	08 30 06.9	-19
NNZ	**Nelson**	**18.33**	**208**	SN		Sn	08 30 18.2	-17
THZ	**Tophouse**	**18.98**	**208**	***e*PN**		P	08 27 08.6	-9.5
THZ				SN		Sn	08 30 32.0	-19
KHZ	**Kahutara**	**19.27**	**206**	***e*P**		P	08 27 15.8	-5.3
	comp=Z,81nm,0.7s							
KHZ				*e*S		Sn	08 30 34.6	-23
KHZ	**Kahutara**	**19.27**	**206**	PN		P	08 27 14.0	-7.1
KHZ				SN		Sn	08 30 38.4	-19
RPZ	**Rata Peaks**	**21.36**	**208**	P		**P**	**08 27 44.4**	**+0.6**
	comp=Z,9.3nm,0.6s,baz=27,slow=6.8,SNR=3.7							
RPZ				S		Sn	08 31 29.5	-19
	comp=Z,6.7nm,0.3s,baz=301,slow=22,SNR=6.8							
RPZ	**Rata Peaks**	**21.36**	**208**	***e*P**		**P**	**08 27 43.0**	**-0.9**
	comp=Z,25nm,0.7s							
TBI	**Tubuai**	**23.67**	**91**	*e*LQ		LQ	08 32 22.1	
	comp=Z,608nm,26.0s							
TBI				*e*LR		LR	08 33 20.9	
	comp=Z,3µm,30.5s,baz=254							
PAE	**Paea**	**25.16**	**77**	***e*P**		**P**	**08 28 23.6**	**+1.8**
	comp=Z,26nm,1.4s							
PPT2	**Papeete2**	**25.19**	**77**	***e*P**		**P**	**08 28 23.7**	**+1.5**
	comp=Z,98nm,1.3s							
PPT2				*e*LQ		LQ	08 33 09.3	
	comp=Z,2µm,25.0s							
PPT2				*e*LR		LR	08 34 00.5	
	comp=Z,4µm,28.0s,baz=250							
HNR	**Honiara**	**28.33**	**300**	LR		LR	08 38 25.1	
	comp=Z,1µm,19.7s,baz=236,slow=33							
EIDS	**Eidsvold**	**30.27**	**263**	***e*P**		**P**	**08 29 07.9**	**+0.3**
	comp=Z,69nm,0.6s							
RMQ	**Roma**	**32.22**	**260**	***e*P**		**P**	**08 29 25.2**	**+0.4**
	comp=Z,78nm,0.8s							
RMQ				*e*pP		pP	08 29 39.0	+6.9
YNG	**Young**	**32.52**	**246**	***e*P**		**P**	**08 29 28.2**	**+0.9**
	comp=Z,3.8nm,0.6s							
YNG				*e*pP		pP	08 29 43.1	+8.4
CTA	**Charters Tower**	**35.71**	**271**	P		**P**	**08 29 54.6**	**-0.6**
	baz=102,slow=12							
CTA				S		**S**	**08 35 35.5**	**+4.9**
	comp=Z,1.6nm,0.7s,baz=105,slow=15,SNR=2.0							
CTA				LR		LR	08 42 51.2	
	comp=Z,1µm,20.2s,baz=142,slow=34							
CTA	**Charters Tower**	**35.71**	**271**	***e*P**		**P**	**08 29 53.7**	**-1.4**
	comp=Z,12nm,0.6s							
CTA				*e*pP		pP	08 30 09.5	+7.0
CTA				*e*S		**S**	**08 35 27.0**	**-3.7**
CTA	**Charters Tower**	**35.71**	**271**	P		**P**	**08 29 54.6**	**-0.6**
CTA				S		**S**	**08 35 35.6**	**+4.9**
CTA				smax		smax		
	comp=N,2.0nm,0.7s							
CTA	**Charters Tower**	**35.71**	**271**	P		**P**	**08 29 54.6**	**-0.6**
CTA				S		**S**	**08 35 35.5**	**+4.9**
CTAO	**Charters Tower**	**35.71**	**271**	***e*P**		**P**	**08 29 53.1**	**-2.1**
CTAO				pmax		pmax		
	comp=Z,27nm,0.5s							
CTAO	**Charters Tower**	**35.71**	**271**	***e*P**		**P**	**08 29 53.0**	**-2.1**
	comp=Z,27nm,0.5s							
QLP	**Quilpie**	**36.23**	**259**	***e*P**		**P**	**08 29 58.9**	**-0.6**
QLP				*e*pP		pP	08 30 13.0	+6.0
RKT	**Rikitea**	**36.80**	**95**	*e*LR		LR	08 39 25.1	
	comp=Z,1µm,30.8s,baz=260							
TAOE	**Nuku Hiva Isla**	**37.30**	**70**	*e*S		**S**	**08 35 56.5**	**+1.2**
	comp=Z,360nm,24.9s							
TAOE				*e*LR		LR	08 39 34.6	
	comp=Z,914nm,20.5s							
STKA	**Stephens Creek**	**38.13**	**250**	P		**P**	**08 30 15.2**	**-0.4**
	comp=Z,6.8nm,0.7s,baz=94,slow=8.3,SNR=16							
STKA				PcP		**PcP**	**08 32 31.1**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=72,slow=3.2,SNR=3.7							
STKA				S		S	08 36 22.4	+15
	comp=Z,1.4nm,1.0s,baz=66,slow=20,SNR=1.9							
STKA				LR		LR	08 44 05.2	
	comp=Z,1µm,21.1s,baz=79,slow=33							
STKA	**Stephens Creek**	**38.13**	**250**	***e*P**		**P**	**08 30 15.1**	**-0.5**
	comp=Z,18nm,1.9s							
STKA	**Stephens Creek**	**38.13**	**250**	P		**P**	**08 30 15.2**	**-0.4**
STKA							08 32 31.1	
STKA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
STKA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
STKA	**Stephens Creek**	**38.13**	**250**	***e*P**		**P**	**08 30 15.3**	**-0.4**
	comp=Z,17nm,1.8s							
STKA				PcP		**PcP**	**08 32 31.1**	**+0.8**
STKA				S		S	08 36 22.4	+15
PMG	**Port Moresby**	**38.97**	**287**	P		**P**	**08 30 20.7**	**-2.1**
	comp=Z,38nm,0.7s,baz=109,slow=4.6,SNR=18							
PMG	**Port Moresby**	**38.97**	**287**	***de*P**		**P**	**08 30 20.9**	**-1.9**
PMG				pmax		pmax		
	comp=Z,42nm,0.7s							
PMG	**Port Moresby**	**38.97**	**287**	***e*P**		**P**	**08 30 21.0**	**-1.8**
	comp=Z,43nm,0.8s							
COEN	**Coen**	**40.52**	**278**	***e*P**		**P**	**08 30 34.6**	**-1.1**
	comp=Z,131nm,0.9s							
BBOO	**Buckleboo**	**42.78**	**248**	***e*P**		**P**	**08 30 52.8**	**-1.3**
	comp=Z,75nm,0.8s							
BBOO	**Buckleboo**	**42.78**	**248**	***e*P**		**P**	**08 30 53.2**	**-0.9**
	comp=Z,255nm,0.9s							
AS31	**Alice Springs**	**45.96**	**261**	***e*P**		**P**	**08 31 18.4**	**-1.3**
ASAR	**Alice Springs**	**45.96**	**261**	P		**P**	**08 31 18.1**	**-1.6**
	comp=Z,17nm,0.8s,baz=90,slow=6.6,SNR=93							
ASAR				PcP		**PcP**	**08 32 56.5**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=119,slow=3.9,SNR=5.9							
ASAR				S		**S**	**08 38 04.4**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=104,slow=19,SNR=9.0							
ASAR	**Alice Springs**	**45.96**	**261**	P		**P**	**08 31 18.1**	**-1.6**
ASAR							08 32 56.5	
ASAR				S		**S**	**08 38 04.4**	**+1.0**
ASAR				pmax		pmax		
	comp=Z,17nm,0.8s							
ASAR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
ASAR				smax		smax		
	comp=N,3.0nm,0.9s							
ASAR	**Alice Springs**	**45.96**	**261**	P		**P**	**08 31 18.1**	**-1.6**
ASAR				PcP		**PcP**	**08 32 56.5**	**+0.1**
ASAR				S		**S**	**08 38 04.4**	**+1.0**
WB2	**Warramunga Arr**	**46.51**	**266**	***e*P**		**P**	**08 31 21.8**	**-2.2**
WRAB	**Tennant Creek**	**46.51**	**266**	***e*P**		**P**	**08 31 21.6**	**-2.4**
WRAB				pmax		pmax		
	comp=Z,17nm,0.9s							
WRAB	**Tennant Creek**	**46.51**	**266**	***e*P**		**P**	**08 31 21.6**	**-2.4**
	comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**46.51**	**266**	P		**P**	**08 31 22.5**	**-1.5**
	comp=Z,104nm,0.6s,SNR=8.6							
WRA	**Warramunga Arr**	**46.52**	**266**	P		**P**	**08 31 22.2**	**-1.9**
	comp=Z,11nm,0.5s,baz=103,slow=8.0,SNR=64							
WRA				PcP		**PcP**	**08 32 58.3**	**0.0**
	comp=Z,5.0nm,0.8s,baz=100,slow=3.6,SNR=5.6							
WRA				S		**S**	**08 38 12.6**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=102,slow=14,SNR=6.6							
WRA				LR		LR	08 49 58.4	
	comp=Z,960nm,20.4s,baz=100,slow=35							
WRA	**Warramunga Arr**	**46.52**	**266**	P		**P**	**08 31 22.2**	**-1.9**
WRA							08 32 58.3	
WRA				S		**S**	**08 38 12.6**	**+1.3**
WRA				pmax		pmax		
	comp=Z,11nm,0.5s							
WRA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
WRA				smax		smax		
	comp=N,3.0nm,0.8s							
WRA	**Warramunga Arr**	**46.52**	**266**	P		**P**	**08 31 22.2**	**-1.9**
WRA				PcP		**PcP**	**08 32 58.3**	**0.0**
WRA				S		**S**	**08 38 12.6**	**+1.3**
DRV	**Dumont d'Urvil**	**49.62**	**202**	P		P	08 31 56.0	+8.6
DRV				S		**S**	**08 38 49.0**	**-5.0**
DRV				SS		SS	08 42 18.0	-8.0
DRV				L		L	08 44 00.0	
DRV				R			08 48 00.0	
FORT	**Forrest**	**49.76**	**250**	***e*P**		**P**	**08 31 48.4**	**-0.6**
	comp=N,56nm,0.6s							
FORT	**Forrest**	**49.76**	**250**	***e*P**		**P**	**08 31 48.0**	**-1.0**
	comp=N,69nm,0.7s							
SBA	**Scott Base**	**53.18**	**185**	***e*P**		P	08 32 18.4	+4.6
SBA				pmax		pmax		
	comp=Z,43nm,1.0s							
SBA	**Scott Base**	**53.18**	**185**	***e*P**		P	08 32 18.4	+4.6
	comp=Z,43nm,1.0s							
VNDA	**Vanda**	**53.28**	**186**	***e*P**		P	08 32 18.9	+4.3
VNDA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VNDA	**Vanda**	**53.28**	**186**	***e*P**		P	08 32 18.9	+4.3
	comp=Z,10nm,0.9s							
GUMO	**Guam**	**54.81**	**310**	LR		LR	08 53 42.0	
	comp=Z,290nm,20.0s,baz=338,slow=34							
FITZ	**Fitzroy Crossi**	**54.91**	**265**	P		**P**	**08 32 26.5**	**-0.9**
	comp=Z,7.3nm,0.6s,baz=133,slow=3.9,SNR=23							
FITZ				LR		LR	08 54 55.7	
	comp=Z,573nm,20.2s,baz=101,slow=35							
FITZ	**Fitzroy Crossi**	**54.91**	**265**	***e*P**		**P**	**08 32 26.5**	**-0.9**
	comp=Z,15nm,0.7s							
FITZ				*epP*		**pP**	**08 32 39.1**	**+4.0**
FITZ	**Fitzroy Crossi**	**54.91**	**265**	***e*P**		**P**	**08 32 26.7**	**-0.7**
	comp=Z,14nm,0.8s							
NWAO	**Narrogin (SRO)**	**58.46**	**246**	LR		LR	08 58 55.5	
	comp=Z,543nm,19.2s,baz=85,slow=37							
QSPA	**South Pole Qui**	**64.68**	**180**	P		**P**	**08 33 35.9**	**+1.8**
	comp=Z,43nm,0.9s,baz=34,slow=1.4,SNR=176							
QSPA	**South Pole Qui**	**64.68**	**180**	***e*P**		**P**	**08 33 36.0**	**+2.0**
	comp=Z,43nm,0.8s							
JOW	**Kunigami**	**75.17**	**310**	LR		LR	09 04 20.4	
	comp=Z,214nm,21.1s,baz=137,slow=33							
JOW	**Kunigami**	**75.17**	**310**	***e*P**		**P**	**08 34 39.0**	**+0.2**
	comp=Z,17nm,0.8s							
MJAR	**Matsushiro Arr**	**75.58**	**323**	P		**P**	**08 34 40.1**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=161,slow=5.9,SNR=23							
MJAR				LR		LR	09 06 12.7	
	comp=Z,226nm,18.1s,baz=135,slow=34							
MJAR	**Matsushiro Arr**	**75.58**	**323**	P		**P**	**08 34 40.1**	**-0.9**
MJAR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
MJAR	**Matsushiro Arr**	**75.58**	**323**	P		**P**	**08 34 40.1**	**-0.9**
MAT	**Matsushiro**	**75.58**	**323**	P		**P**	**08 34 40.1**	**-0.9**
MAT				*e*S		**S**	**08 44 20.0**	**-0.5**
KSM	**Kuching**	**76.51**	**278**	***e*P**		**P**	**08 34 47.2**	**+0.4**
	comp=Z,17nm,0.8s							
JNU	**Nakatsue**	**77.49**	**316**	***e*P**		**P**	**08 34 51.1**	**-0.8**
	comp=Z,4.3nm,0.7s							
NACB	**Ninganchiao**	**78.42**	**304**	***e*P**		**P**	**08 34 56.9**	**-0.4**
TPUB	**Ta-pu**	**78.67**	**303**	***e*P**		**P**	**08 34 57.4**	**-1.3**
	comp=Z,88nm,0.8s							
SSLB	**Sungtung**	**78.69**	**303**	***e*P**		**P**	**08 34 56.9**	**-1.9**
	comp=Z,55nm,0.9s							
ASAJ	**Asahikawa**	**79.18**	**331**	P		**P**	**08 35 01.4**	**+0.5**
	comp=Z,9.5nm,0.7s,baz=158,slow=5.4,SNR=5.6							
ASAJ	**Asahikawa**	**79.18**	**331**	P		**P**	**08 35 01.5**	**+0.5**
ASAJ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ASAJ	**Asahikawa**	**79.18**	**331**	P		**P**	**08 35 01.4**	**+0.5**
PKM	**Peak Mountain**	**79.77**	**44**	⇑P		**P**	**08 35 05.0**	**+0.4**
	baz=80							
PKM				⇑P		**P**	**08 35 05.0**	**+0.4**
	baz=80							
SMMC	**Simmler**	**79.93**	**43**	⇓P		**P**	**08 35 06.5**	**+1.2**
	baz=80							
SMMC				⇓P		**P**	**08 35 06.5**	**+1.2**
	baz=80							
PASC	**Pasadena Art C**	**80.34**	**45**	***e*P**		**P**	**08 35 08.2**	**+0.7**
	comp=Z,79nm,1.0s							
MWC	**Mount Wilson**	**80.45**	**45**	***e*P**		**P**	**08 35 08.2**	**-0.2**
MWC				pmax		pmax		
	comp=Z,22nm,1.0s							
MWC	**Mount Wilson**	**80.45**	**45**	***e*P**		**P**	**08 35 08.2**	**-0.2**
	comp=Z,22nm,1.0s							
ARVC	**Arvin**	**80.54**	**44**	⇓P		**P**	**08 35 09.3**	**+0.7**
	baz=81							
ARVC				⇓P		**P**	**08 35 09.3**	**+0.7**
	baz=81							
MURC	**Murrieta**	**80.61**	**46**	⇑P		**P**	**08 35 09.8**	**+0.7**
	baz=81							
MURC				⇑P		**P**	**08 35 09.8**	**+0.7**
	baz=81							
MONP	**Monument Peak**	**80.68**	**47**	⇓P		**P**	**08 35 10.1**	**+0.4**
	baz=81							
MONP				⇓P		**P**	**08 35 10.1**	**+0.4**
	baz=81							
BFSC	**Mount Baldy Ra**	**80.72**	**45**	⇓P		**P**	**08 35 09.7**	**0.0**
	baz=81							
BFSC				⇓P		**P**	**08 35 09.7**	**0.0**
	baz=81							
DVTC	**Desert V Tower**	**80.75**	**47**	⇓P		**P**	**08 35 10.6**	**+0.7**
	baz=81							
DVTC				⇓P		**P**	**08 35 10.6**	**+0.7**
	baz=81							
VES	**Vestal, Richgr**	**80.84**	**43**	⇑P		**P**	**08 35 10.6**	**+0.5**
	baz=81							
VES				⇑P		**P**	**08 35 10.6**	**+0.5**
	baz=81							
EDW2	**Edwards Air Fo**	**80.91**	**45**	⇑P		**P**	**08 35 11.4**	**+0.8**
	baz=81							
EDW2				⇑P		**P**	**08 35 11.4**	**+0.8**
	baz=81							
PFO	**Pinyon Flat Ob**	**81.10**	**46**	***e*P**		**P**	**08 35 12.1**	**+0.3**
PFO				pmax		pmax		
	comp=Z,30nm,1.3s							
PFO	**Pinyon Flat Ob**	**81.10**	**46**	***e*P**		**P**	**08 35 12.1**	**+0.3**
	comp=Z,30nm,1.3s							
PFO	**Pinyon Flat Ob**	**81.10**	**46**	P		**P**	**08 35 11.9**	**+0.1**
	comp=Z,78nm,1.2s,SNR=5.9							
PFO	**Pinyon Flat Ob**	**81.10**	**46**	⇑P		**P**	**08 35 12.3**	**+0.6**
	baz=81							
PFO				⇑P		**P**	**08 35 12.3**	**+0.6**
	baz=81							
ISA	**Isabella**	**81.11**	**44**	***e*P**		**P**	**08 35 12.1**	**+0.4**
ISA				pmax		pmax		
	comp=Z,45nm,1.1s							
ISA	**Isabella**	**81.11**	**44**	***e*P**		**P**	**08 35 12.1**	**+0.4**
	comp=Z,45nm,1.1s							
ISA	**Isabella**	**81.11**	**44**	⇑P		**P**	**08 35 12.9**	**+1.2**
	baz=81							
ISA				⇑P		**P**	**08 35 12.9**	**+1.2**
	baz=81							
QZH	**Quanzhou**	**81.12**	**303**	⇓*i*P		P	08 35 17.7	+5.8
QZH				S		**S**	**08 45 19.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**81.35**	**332**	⇓*i*P		**P**	**08 35 13.0**	**+0.4**
YSS				*e*			08 35 26.8	
YSS				pmax		pmax		
	comp=Z,90nm,1.0s							
YSS	**Yuzh-Sakhalins**	**81.35**	**332**	***e*P**		**P**	**08 35 12.8**	**+0.2**
	comp=Z,73nm,0.9s							
LRMC	**Laurel Mountai**	**81.48**	**44**	⇓P		**P**	**08 35 14.3**	**+0.6**
	baz=82							
LRMC				⇓P		**P**	**08 35 14.3**	**+0.6**
	baz=82							
CMB	**Columbia Colle**	**81.49**	**41**	***e*P**		**P**	**08 35 13.3**	**-0.3**
CMB				pmax		pmax		
	comp=Z,40nm,1.3s							
CMB	**Columbia Colle**	**81.49**	**41**	***e*P**		**P**	**08 35 13.3**	**-0.3**
	comp=Z,40nm,1.3s							
PEA0B	**Petropavlovsk-**	**81.63**	**344**	***e*P**		**P**	**08 35 12.3**	**-1.6**
PETK	**Petropavlovsk-**	**81.63**	**344**	P		**P**	**08 35 13.1**	**-0.8**
	comp=Z,19nm,0.7s,baz=155,slow=0.7,SNR=35							
PETK				LR		LR	09 10 49.7	
	comp=Z,316nm,18.6s,baz=172,slow=35							
PETK	**Petropavlovsk-**	**81.63**	**344**	P		**P**	**08 35 13.1**	**-0.8**
PETK				pmax		pmax		
	comp=Z,19nm,0.7s							
PETK				MLR		MLR		
	comp=Z,316nm,18.6s							
PETK	**Petropavlovsk-**	**81.63**	**344**	P		**P**	**08 35 13.1**	**-0.8**
BELC	**Belle Mtn. Jos**	**81.64**	**46**	⇑P		**P**	**08 35 15.2**	**+0.5**
	baz=82							
BELC				⇑P		**P**	**08 35 15.2**	**+0.5**
	baz=82							
OHCM	**Honcut**	**81.72**	**39**	***e*P**		**P**	**08 35 10.5**	**+0.3**
BC3	**Big Chuckawall**	**81.79**	**47**	⇑P		**P**	**08 35 16.1**	**+0.7**
	baz=82							
BC3				⇑P		**P**	**08 35 16.1**	**+0.7**
	baz=82							
GLA	**Glamis**	**81.84**	**48**	***e*P**		**P**	**08 35 16.4**	**+0.8**
GLA				pmax		pmax		
	comp=Z,54nm,1.5s							
GLA	**Glamis**	**81.84**	**48**	***e*P**		**P**	**08 35 16.4**	**+0.8**
	comp=Z,54nm,1.5s							
CWC	**Cottonwood Cre**	**81.85**	**43**	⇑P		**P**	**08 35 16.3**	**+0.6**
	baz=82							
CWC				⇑P		**P**	**08 35 16.3**	**+0.6**
	baz=82							
GSC	**Goldstone**	**81.93**	**45**	***e*P**		**P**	**08 35 15.7**	**-0.3**
GSC				pmax		pmax		
	comp=Z,31nm,1.1s							
GSC	**Goldstone**	**81.93**	**45**	***e*P**		**P**	**08 35 15.7**	**-0.3**
	comp=Z,31nm,1.1s							
GSC	**Goldstone**	**81.93**	**45**	⇑P		**P**	**08 35 16.8**	**+0.7**
	baz=82							
GSC				⇑P		**P**	**08 35 16.8**	**+0.7**
	baz=82							
HEC	**Hector,Ludlow**	**81.94**	**45**	⇑P		**P**	**08 35 16.6**	**+0.5**
	baz=82							
HEC				⇑P		**P**	**08 35 16.6**	**+0.5**
	baz=82							
WDC	**Whiskeytown Da**	**81.97**	**38**	***e*P**		**P**	**08 35 16.0**	**0.0**
WDC				pmax		pmax		
	comp=Z,61nm,1.4s							
WDC	**Whiskeytown Da**	**81.97**	**38**	***e*P**		**P**	**08 35 16.0**	**0.0**
	comp=Z,61nm,1.4s							
MPMC	**Manual Prospec**	**81.97**	**44**	⇓P		**P**	**08 35 16.9**	**+0.5**
	baz=82							
MPMC				⇓P		**P**	**08 35 16.9**	**+0.5**
	baz=82							
MTUM	**Tungsten Hills**	**82.14**	**42**	***e*P**		**P**	**08 35 18.1**	**+0.8**
MLAC	**Mammoth Lakes**	**82.15**	**42**	⇓P		**P**	**08 35 18.2**	**+0.8**
	baz=82							
MLAC				⇓P		**P**	**08 35 18.2**	**+0.8**
	baz=82							

comp=Z,72nm,1.0s
NVAR Mina Array Bea 82.99 42 P **P 08 35 21.6 -0.1**
comp=Z,16nm,0.7s,baz=223,slow=9.0,SNR=106
NVAR PKKPbc **PKKPbc 08 53 45.6 +0.2**
comp=Z,0.3nm,0.4s,baz=64,slow=4.1,SNR=4.6
NVAR PKPPKP P'P'df 09 01 52.1 +6.0
comp=Z,0.9nm,0.9s,baz=69,slow=3.0,SNR=5.1
NVAR LR LR 09 06 28.3
comp=Z,828nm,18.7s,baz=205,slow=32
NVAR Mina Array Bea 82.99 42 P **P 08 35 21.6 -0.1**
NVAR PKKPbc **PKKPbc 08 53 45.6 +0.2**
NVAR P'P' 09 01 52.1
NEE2 Needles Airpor 83.01 46 ⇑P **P 08 35 22.4 +0.8**
baz=83
NEE2 ⇑P **P 08 35 22.4 +0.8**
baz=83
SNAA Sanae 83.04 178 *e* **P 08 35 22.6 +1.3**
SNAA *e* 08 35 36.8
SNAA Sanae 83.04 178 *e*P **P 08 35 22.6 +1.3**
SNAA pmax pmax
comp=Z,15nm,0.8s
SNAA Sanae 83.04 178 *e*P **P 08 35 22.6 +1.3**
comp=Z,15nm,0.8s
PDMCI Parker Dam,Lak 83.05 47 ⇑P **P 08 35 22.8 +1.0**
baz=83
PDMCI ⇑P **P 08 35 22.8 +1.0**
baz=83
VNA3 Neumayer Olymp 83.09 175 *e* **P 08 35 23.3 +1.8**
HUMO Hull Mountain 83.14 36 *e*P **P 08 35 23.3 +1.2**
comp=Z,72nm,1.4s
Z14A Wintersburg 83.29 48 ⇑P **P 08 35 24.1 +1.1**
baz=84
Z14A ⇑P **P 08 35 24.1 +1.1**
baz=84
VNA2 Neumayer--Watz 83.56 176 *e* **P 08 35 26.1 +2.2**
VNA2 *e* 08 35 40.1
Y14A Wickenburg 83.59 48 ⇓P **P 08 35 25.4 +0.7**
baz=84
Y14A ⇓P **P 08 35 25.4 +0.7**
baz=84
VLA Vladivostok 83.67 324⇑*i*P **P 08 35 24.3 -0.5**
VLA *e* 08 38 35.0
VLA *e*S **S 08 45 41.9 -3.8**
VLA pmax pmax
comp=Z,23nm,0.7s
W13A Hualapai Mount 83.69 46 ⇓P **P 08 35 26.2 +0.8**
baz=84
W13A ⇓P **P 08 35 26.2 +0.8**
baz=84
VNA1 Neumayer--Stat 83.77 176 *e* **P 08 35 27.7 +2.7**
VNA1 *e* 08 35 41.8
MAIT Maitri 83.95 182 *e*P **P 08 35 27.8 +1.9**
NVL N'lazarevskaya 83.96 182 *e*P P 08 35 30.2 +4.3
NVL pmax pmax
comp=Z,16nm,0.8s
MOD Modoc 84.10 38 *e*P **P 08 35 27.2 -0.1**
comp=Z,61nm,1.4s
TUC Tucson 84.16 50 *e*P **P 08 35 27.8 +0.2**
TUC pmax pmax
comp=Z,15nm,0.9s
TUC Tucson 84.16 50 *e*P **P 08 35 27.8 +0.2**
comp=Z,15nm,0.9s
PLCA Paso Flores 84.16 132 P **P 08 35 28.4 +0.7**
comp=Z,5.7nm,0.9s,baz=234,slow=7.3,SNR=11
PLCA LR LR 09 05 45.6
comp=Z,179nm,19.2s,baz=259,slow=30
PLCA Paso Flores 84.16 132 P **P 08 35 28.4 +0.7**
PLCA pmax pmax
comp=Z,6.0nm,0.9s
PLCA Paso Flores 84.16 132 *e*P **P 08 35 28.2 +0.5**
comp=Z,27nm,1.4s
318A Bisbee 84.22 51 P **P 08 35 28.8 +0.7**
baz=84,SNR=15
318A P **P 08 35 28.8 +0.7**
baz=84,SNR=15
K05A Summer Lake 84.33 37 ⇑P **P 08 35 29.3 +0.9**
baz=85
K05A ⇑P **P 08 35 29.3 +0.9**
baz=85
USRK Uesuriysk Arra 84.36 325 P **P 08 35 28.5 +0.2**
comp=Z,15nm,0.9s,baz=103,slow=3.2,SNR=19
218A Dragoon 84.48 51 P **P 08 35 30.0 +0.6**
baz=85,SNR=27
218A P **P 08 35 30.0 +0.6**
baz=85,SNR=27
R11A Troy Canyon, C 84.59 43 ⇓P **P 08 35 30.2 +0.3**
baz=85
R11A ⇓P **P 08 35 30.2 +0.3**
baz=85
319A Douglas 84.69 52 ⇓P **P 08 35 30.9 +0.4**
baz=85,SNR=13
319A ⇓P **P 08 35 30.9 +0.4**
baz=85,SNR=13
NJ2 Nanjing 84.86 309 *e*P **P 08 35 32.1 +1.0**
NJ2 pmax pmax
comp=Z,20nm,0.9s
Y17A Roosevelt 84.91 49 ⇑P **P 08 35 32.4 +0.9**
baz=85
Y17A ⇑P **P 08 35 32.4 +0.9**
baz=85
BMN Battle Mountai 84.91 41 *e*P **P 08 35 31.6 +0.2**
BMN pmax pmax
comp=Z,63nm,1.4s
BMN Battle Mountai 84.91 41 *e*P **P 08 35 31.6 +0.2**
comp=Z,63nm,1.4s
X16A Lo Mia Camp, P 84.92 48 ⇓P **P 08 35 32.3 +0.7**
baz=85
X16A ⇓P **P 08 35 32.3 +0.7**
baz=85
KDAK Kodiak Island 85.05 12 P **P 08 35 31.7 +0.3**
comp=Z,9.6nm,0.7s,baz=65,slow=4.9,SNR=6.8
KDAK Kodiak Island 85.05 12*ce*P **P 08 35 31.3 0.0**
KDAK Kodiak Island 85.05 12 P **P 08 35 31.7 +0.3**
QIZ Qiongzhong 85.06 294 P **P 08 35 32.3 -0.1**
QIZ S **S 08 45 59.7 -1.0**
Z18A Geronimo 85.12 50 ⇑P **P 08 35 33.6 +1.1**
baz=85
Z18A ⇑P **P 08 35 33.6 +1.1**
baz=85
320A Kipp Ranch, An 85.20 52 P **P 08 35 33.9 +0.9**
baz=86,SNR=19
320A P **P 08 35 33.9 +0.9**
baz=86,SNR=19
X17A Forest Lakes 85.30 49 ⇓P **P 08 35 34.7 +1.1**
baz=86
X17A ⇓P **P 08 35 34.7 +1.1**
baz=86
119A Ashpeak Ranch, 85.45 51 P **P 08 35 35.3 +1.1**
baz=86,SNR=12
119A P **P 08 35 35.3 +1.1**
baz=86,SNR=12
R13A O'Grain Ranch, 85.49 44 ⇑P **P 08 35 35.0 +0.6**
baz=86
R13A ⇑P **P 08 35 35.0 +0.6**
baz=86
CCUT Cedar City 85.50 45 *e*P **P 08 35 34.9 +0.4**
comp=Z,34nm,1.0s
Y18A Canyon Day Jun 85.51 49 ⇑P **P 08 35 35.3 +0.8**
baz=86,SNR=44
Y18A ⇑P **P 08 35 35.3 +0.8**
baz=86,SNR=44
220A Playas Peak, P 85.52 52 P **P 08 35 35.5 +1.0**
baz=86,SNR=30
220A P **P 08 35 35.5 +1.0**
baz=86,SNR=30
U15A North Rim 85.52 46 ⇑P **P 08 35 35.4 +0.7**
baz=86
U15A ⇑P **P 08 35 35.4 +0.7**
baz=86
ARUT Antelope Range 85.59 45 *e*P **P 08 35 34.8 -0.1**
ARUT pmax pmax
comp=Z,37nm,1.2s
ARUT Antelope Range 85.59 45 *e*P **P 08 35 34.8 -0.1**
comp=Z,37nm,1.2s
WUAZ Wupatki 85.60 47 *e*P **P 08 35 35.6 +0.6**
comp=Z,39nm,1.1s
WUAZ Wupatki 85.60 47 ⇑P **P 08 35 35.8 +0.9**
baz=86
WUAZ ⇑P **P 08 35 35.8 +0.9**
baz=86
VIPM Ingram Point 85.67 36 P **P 08 35 35.4 +0.3**
VIPM Ingram Point 85.67 36 P **P 08 35 35.4 +0.3**
Z19A T-Link Ranch, 85.77 50 ⇑P **P 08 35 36.6 +0.8**
baz=86,SNR=5.5
Z19A ⇑P **P 08 35 36.6 +0.8**
baz=86,SNR=5.5
120A U Bar Ranch, L 85.80 51 ⇑P **P 08 35 36.7 +0.7**
baz=86,SNR=18
120A ⇑P **P 08 35 36.7 +0.7**
baz=86,SNR=18
LVP Lakeview Peak 85.81 34 P **P 08 35 36.1 +0.4**
HABR Khabarovsk 85.89 329*ce*P **P 08 35 34.0 -1.8**
HABR *e**SP **sP 08 35 49.0 +2.3**
HABR *e* 08 38 53.4
HABR *e*PPP PPP 08 40 47.0
HABR *e*S **SKSac 08 45 56.6 -3.1**
HABR *e*S **S 08 46 10.2 +2.7**
HABR *e*SS **SS 08 51 43.5 -2.5**
HABR *e*SSS SSS 08 55 15.5
HABR pmax pmax
comp=Z,191nm,2.7s
HABR pmax pmax
comp=N,48nm,2.7s
HABR pmax pmax
comp=E,105nm,2.7s
HABR MLR MLR
comp=Z,198nm,21.0s
MDJ Mudanjiang 85.91 324 P **P 08 35 36.8 +0.8**
MDJ pP **pP 08 35 43.8 -0.3**
MDJ sP **sP 08 35 46.4 -0.5**
MDJ PP **PP 08 38 57.1 +0.8**
MDJ S **S 08 46 10.7 +2.8**
MDJ sS **sS 08 46 22.1 +0.9**
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,140nm,4.5s
MDJ LR LR
comp=N,210nm,20.8s
MDJ LR LR
comp=E,270nm,18.6s
MDJ LR LR
comp=Z,310nm,15.3s
MDJ Mudanjiang 85.91 324 *e*P **P 08 35 35.8 -0.2**
comp=Z,13nm,1.0s
I07A Izee 85.99 37 ⇓P **P 08 35 37.4 +0.8**
baz=86,SNR=7.5
I07A ⇓P **P 08 35 37.4 +0.8**
baz=86,SNR=7.5
X18A Snowflake 85.99 49 ⇓P **P 08 35 38.0 +1.1**
baz=86,SNR=9.4
X18A ⇓P **P 08 35 38.0 +1.1**
baz=86,SNR=9.4
NLWA Neilton Lookou 86.02 32 *e*P **P 08 35 36.6 +0.1**
comp=Z,35nm,1.1s
V17A Tonalea, Kykot 86.04 48 ⇑P **P 08 35 37.6 +0.5**
baz=86
V17A ⇑P **P 08 35 37.6 +0.5**
baz=86
J08A Circle Bar Ran 86.08 38 ⇓P **P 08 35 37.5 +0.4**
baz=86
J08A ⇓P **P 08 35 37.5 +0.4**
baz=86
221A Mesquite Ranch 86.11 52 ⇑P **P 08 35 38.6 +1.1**
baz=86,SNR=5.8
221A ⇑P **P 08 35 38.6 +1.1**
baz=86,SNR=5.8
U16A Tuba City 86.12 47 ⇓P **P 08 35 38.1 +0.6**
baz=86
U16A ⇓P **P 08 35 38.1 +0.6**
baz=86
Z20A Nine Sixteen R 86.14 51 ⇓P **P 08 35 38.3 +0.7**
baz=86,SNR=18
Z20A ⇓P **P 08 35 38.3 +0.7**
baz=86,SNR=18
Y19A Nutrioso 86.15 50 ⇓P **P 08 35 38.4 +0.6**
baz=86,SNR=29
Y19A ⇓P **P 08 35 38.4 +0.6**
baz=86,SNR=29
IPM Ipoh 86.15 277 *e*P **P 08 35 38.5 +0.5**
comp=Z,89nm,1.4s
IPM Ipoh 86.15 277 P **P 08 35 40.0 +2.0**
comp=Z,42nm,1.1s
ELK Elko 86.28 41 *e*P **P 08 35 38.3 0.0**
ELK Elko 86.28 41 *e*P **P 08 35 38.3 0.0**
X19A St. Johns 86.39 49 ⇑P **P 08 35 39.8 +0.9**
baz=87,SNR=8.0
X19A ⇑P **P 08 35 39.8 +0.9**
baz=87,SNR=8.0
121A Cookes Peak, D 86.39 51 ⇑P **P 08 35 39.6 +0.7**
baz=87,SNR=17
121A ⇑P **P 08 35 39.6 +0.7**
baz=87,SNR=17
R15A Junction 86.58 45 ⇓P **P 08 35 40.5 +0.7**
baz=87
R15A ⇓P **P 08 35 40.5 +0.7**
baz=87
LON Longmire 86.58 34 *e*P **P 08 35 38.7 -0.7**
LON pmax pmax
comp=Z,34nm,1.7s
LON Longmire 86.58 34 *e*P **P 08 35 38.7 -0.7**
comp=Z,34nm,1.7s
222A Williams Famil 86.64 52 ⇓P **P 08 35 40.5 +0.4**
baz=87,SNR=18
222A ⇓P **P 08 35 40.5 +0.4**
baz=87,SNR=18
GNW Green Mountain 86.64 33 *e*P **P 08 35 39.7 +0.1**
comp=Z,16nm,1.2s
V18A Ganado 86.67 48 ⇑P **P 08 35 40.8 +0.5**
baz=87,SNR=33
V18A ⇑P **P 08 35 40.8 +0.5**
baz=87,SNR=33
U17A Shonto 86.69 47 ⇓P **P 08 35 41.1 +0.8**
baz=87
U17A ⇓P **P 08 35 41.1 +0.8**
baz=87
W19A Sanders 86.70 49 ⇓P **P 08 35 40.9 +0.5**
baz=87,SNR=14
W19A ⇓P **P 08 35 40.9 +0.5**
baz=87,SNR=14
Y20A Horse Springs, 86.73 50 ⇑P **P 08 35 41.3 +0.7**
baz=87,SNR=29
Y20A ⇑P **P 08 35 41.3 +0.7**
baz=87,SNR=29
S16A Weppner Ranch, 86.73 45 ⇓P **P 08 35 41.1 +0.6**
baz=87
S16A ⇓P **P 08 35 41.1 +0.6**
baz=87
MSU Marysvale 86.82 45 *e*P **P 08 35 41.7 +0.7**
MSU Marysvale 86.82 45 *e*P **P 08 35 41.7 +0.7**
T17A Navajo Res., N 86.83 46 ⇑P **P 08 35 41.8 +0.8**
baz=87
T17A ⇑P **P 08 35 41.8 +0.8**
baz=87
KULM Kulim 86.83 277 *e*P **P 08 35 42.3 +1.0**
comp=Z,26nm,0.9s
KULM Kulim 86.83 277 P **P 08 35 44.1 +2.8**
comp=Z,32nm,1.3s
Z21A St. Cloud Mine 86.89 51 P **P 08 35 42.8 +1.4**
baz=87,SNR=17
Z21A P **P 08 35 42.8 +1.4**
baz=87,SNR=17
X20A Quemado 86.99 49 ⇑P **P 08 35 42.6 +0.7**
baz=87,SNR=32
X20A ⇑P **P 08 35 42.6 +0.7**
baz=87,SNR=32
RMW Rattlesnake Mo 87.07 33 P **P 08 35 42.1 +0.3**
RMW Rattlesnake Mo 87.07 33 P **P 08 35 42.1 +0.3**
S17A Black Ridge (B 87.19 46 ⇑P **P 08 35 43.0 +0.3**
baz=88
S17A ⇑P **P 08 35 43.0 +0.3**
baz=88
Y21A Point of Rocks 87.27 50 ⇓P **P 08 35 44.0 +0.7**
baz=88,SNR=32
Y21A ⇓P **P 08 35 44.0 +0.7**
baz=88,SNR=32
WHN Wuhan 87.28 306 *e*P **P 08 35 44.6 +1.5**
W20A Ramah 87.31 49 ⇓P **P 08 35 44.2 +0.8**
baz=88,SNR=41
W20A ⇓P **P 08 35 44.2 +0.8**
baz=88,SNR=41
PSI Prapat 87.32 274 P **P 08 35 43.8 -0.1**
comp=Z,61nm,1.3s
Z22A Elephant Butte 87.36 51 P **P 08 35 44.2 +0.6**
baz=88,SNR=18
Z22A P **P 08 35 44.2 +0.6**
baz=88,SNR=18
P15A Leamington 87.38 44 ⇓P **P 08 35 44.3 +0.8**
baz=88
P15A ⇓P **P 08 35 44.3 +0.8**
baz=88
DUG Dugway 87.42 43 *e*P **P 08 35 43.8 +0.1**
DUG pmax pmax
comp=Z,17nm,1.5s
DUG Dugway 87.42 43 *e*P **P 08 35 43.8 +0.1**
comp=Z,17nm,1.5s
X21A Alamocita Cree 87.43 50 ⇑P **P 08 35 44.6 +0.6**
baz=88,SNR=21
X21A ⇑P **P 08 35 44.6 +0.6**
baz=88,SNR=21
324A Moseley Ranch, 87.45 53 P **P 08 35 43.6 -0.5**
baz=88,SNR=38
324A P **P 08 35 43.6 -0.5**
baz=88,SNR=38
626A Big Bend Ranch 87.47 56 ⇓P **P 08 35 44.2 0.0**
baz=88,SNR=35
626A ⇓P **P 08 35 44.2 0.0**
baz=88,SNR=35
RSW Rattlesnake Hi 87.47 35 *e*P **P 08 35 44.2 +0.5**
425A Indio Mountain 87.47 54 ⇓P **P 08 35 44.3 +0.1**
baz=88,SNR=29
425A ⇓P **P 08 35 44.3 +0.1**
baz=88,SNR=29
U19A Dine' College, 87.48 48 ⇑P **P 08 35 44.7 +0.5**
baz=88,SNR=24
U19A ⇑P **P 08 35 44.7 +0.5**
baz=88,SNR=24
HAWA Hanford 87.50 35 *e*P **P 08 35 44.2 +0.4**
comp=Z,72nm,1.8s
T18A Mexican Hat 87.52 47 ⇑P **P 08 35 44.6 +0.4**
baz=88
T18A ⇑P **P 08 35 44.6 +0.4**
baz=88
CMW Cultus Mountai 87.58 32 P **P 08 35 45.0 +0.8**
MFID Camas Ranch 87.60 39 ⇑P **P 08 35 44.6 +0.2**
baz=88,SNR=8.3
MFID ⇑P **P 08 35 44.6 +0.2**
baz=88,SNR=8.3
CN2 Changchun 87.65 322 ⇑P **P 08 35 45.0 +0.5**
CN2 *e*sP **sP 08 35 54.4 -1.1**
CN2 *e*S **S 08 46 25.3 +0.5**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,400nm,21.0s
MNTX Cornudas Mount 87.66 53 *e*P **P 08 35 44.0 -1.0**
comp=Z,20nm,1.1s
MNTX Cornudas Mount 87.66 53 ⇓P **P 08 35 44.8 -0.1**
baz=88,SNR=32
MNTX ⇓P **P 08 35 44.8 -0.1**
baz=88,SNR=32
MNTX ⇓P **P 08 35 44.8 -0.1**
baz=88,SNR=32
BMO Blue Mountains 87.68 37 *e*P **P 08 35 44.2 -0.6**
BMO pmax pmax
comp=Z,34nm,1.9s
BMO Blue Mountains 87.68 37 *e*P **P 08 35 44.2 -0.6**
comp=Z,34nm,1.9s
Q16A Castle Valley 87.70 45 ⇑P **P 08 35 45.4 +0.3**
baz=88
Q16A ⇑P **P 08 35 45.4 +0.3**
baz=88
R17A Hanksville Air 87.70 45 ⇑P **P 08 35 45.7 +0.6**
baz=88
R17A ⇑P **P 08 35 45.7 +0.6**
baz=88
TXAR Lajitas Array 87.70 56 P **P 08 35 44.9 -0.4**
comp=Z,13nm,0.9s,baz=213,slow=6.9,SNR=118
TXAR PKKPbc **PKKPbc 08 53 34.4 +1.0**
comp=Z,0.3nm,0.6s,baz=60,slow=3.6,SNR=6.1
TXAR PKPPKP **P'P'df 09 01 41.0 +2.1**
comp=Z,0.2nm,0.8s,baz=21,slow=7.9,SNR=4.0
TXAR LR LR 09 08 21.9
comp=Z,427nm,18.4s,baz=55,slow=31
TXAR Lajitas Array 87.70 56 P **P 08 35 44.9 -0.4**
TXAR pmax pmax
comp=Z,13nm,0.9s
TXAR Lajitas Array 87.70 56 P **P 08 35 44.9 -0.4**
TXAR PKKPbc **PKKPbc 08 53 34.4 +1.0**
TXAR P'P' 09 01 41.0
V20A Brimhall 87.71 48 ⇑P **P 08 35 45.8 +0.5**
baz=88,SNR=6.8
V20A ⇑P **P 08 35 45.8 +0.5**
baz=88,SNR=6.8
Y22A Socorro 87.72 51 ⇓P **P 08 35 46.0 +0.6**
baz=88,SNR=23
Y22A ⇓P **P 08 35 46.0 +0.6**
baz=88,SNR=23
224A Cornudas Mount 87.76 53 ⇑P **P 08 35 46.0 +0.5**
baz=88
224A ⇑P **P 08 35 46.0 +0.5**
baz=88
526A Mary Lane Ranc 87.76 55 ⇓P **P 08 35 45.6 0.0**
baz=88,SNR=34
526A ⇓P **P 08 35 45.6 0.0**
baz=88,SNR=34
325A Bean Ranch, Si 87.79 54 P **P 08 35 45.4 -0.4**
baz=88,SNR=17
325A P **P 08 35 45.4 -0.4**
baz=88,SNR=17
P16A Fountain Green 87.79 44 ⇑P **P 08 35 46.1 +0.6**
baz=88
P16A ⇑P **P 08 35 46.1 +0.6**
baz=88
LNOR Lincton Mounta 87.81 36 *e*P **P 08 35 46.3 +0.9**
LNOR pmax pmax
comp=Z,17nm,1.4s
LNOR Lincton Mounta 87.81 36 *e*P **P 08 35 46.3 +0.9**
comp=Z,17nm,1.4s
LENM Lemitar 87.84 50 *e*P **P 08 35 46.9 +0.9**
LAZ Ladron 87.85 50 *e*P **P 08 35 47.0 +1.0**
comp=Z,30nm,1.4s
Z23A Rita Site, Whi 87.88 52 ⇑P **P 08 35 46.7 +0.6**
baz=88,SNR=9.7
Z23A ⇑P **P 08 35 46.7 +0.6**
baz=88,SNR=9.7
W21A San Fidel 87.89 49 ⇓P **P 08 35 46.8 +0.6**
baz=88,SNR=7.4
W21A ⇓P **P 08 35 46.8 +0.6**
baz=88,SNR=7.4
TMUT Trail Mountain 87.89 44 *e*P **P 08 35 46.8 +0.5**
comp=Z,42nm,1.0s
ETW Entiat 87.90 34 *e*P **P 08 35 45.6 -0.2**
T19A Beclabito 87.91 47 ⇓P **P 08 35 46.5 +0.3**
baz=88,SNR=12
T19A ⇓P **P 08 35 46.5 +0.3**
baz=88,SNR=12
KLR Kul'dur 87.97 328 *e*P **P 08 35 42.8 -3.1**
627A Terlingua Ranc 87.97 56 ⇑P **P 08 35 46.6 0.0**
baz=88,SNR=29
627A ⇑P **P 08 35 46.6 0.0**
baz=88,SNR=29
U20A Newcomb 87.99 48 ⇑P **P 08 35 47.3 +0.7**
baz=88,SNR=11
U20A ⇑P **P 08 35 47.3 +0.7**
baz=88,SNR=11
X22A Bernardo 88.00 50 ⇓P **P 08 35 47.2 +0.5**
baz=88,SNR=9.7
X22A ⇓P **P 08 35 47.2 +0.5**
baz=88,SNR=9.7
BNM Barren Site 88.08 51 *e*P **P 08 35 46.9 -0.2**
comp=Z,40nm,1.4s
426A McDonald Obser 88.12 55 P **P 08 35 47.8 +0.4**
baz=88,SNR=27
426A P **P 08 35 47.8 +0.4**
baz=88,SNR=27
LPM Los Pinos Moun 88.16 51 *e*P **P 08 35 48.2 +0.8**
527A Woodward Ranch 88.16 55 P **P 08 35 47.7 +0.2**
baz=88,SNR=28
527A P **P 08 35 47.7 +0.2**
baz=88,SNR=28
R18A Canyonlands Na 88.21 46 ⇓P **P 08 35 48.2 +0.5**
baz=88
R18A ⇓P **P 08 35 48.2 +0.5**
baz=88
NLW Nelson Butte 88.22 33 P **P 08 35 47.4 +0.1**
SRU San Rafael 88.22 45 *e*P **P 08 35 47.5 -0.2**
SRU pmax pmax
comp=Z,27nm,1.1s
SRU San Rafael 88.22 45 *e*P **P 08 35 47.5 -0.2**
comp=Z,27nm,1.1s
I12A Atlanta 88.23 39 ⇑P **P 08 35 47.4 -0.2**
baz=88

I12A ⇑P P 08 35 47.4 -0.2
baz=88
O16A Springville 88.24 43 ⇑P P 08 35 48.2 +0.5
baz=88
O16A ⇑P P 08 35 48.2 +0.5
baz=88
V21A Milan 88.27 49 ⇓P P 08 35 48.8 +0.8
baz=88,SNR=5.8
V21A ⇓P P 08 35 48.8 +0.8
baz=88,SNR=5.8
225A Deer Hill, Car 88.28 53 ⇑P P 08 35 48.0 -0.1
baz=88,SNR=8.4
225A ⇑P P 08 35 48.0 -0.1
baz=88,SNR=8.4
P17A Butcher Ranch, 88.29 44 ⇓P P 08 35 48.7 +0.7
baz=89
P17A ⇓P P 08 35 48.7 +0.7
baz=89
E09A Wood Farm, Sta 88.31 36 ⇓P P 08 35 47.6 0.0
baz=89,SNR=11
E09A ⇓P P 08 35 47.6 0.0
baz=89,SNR=11
S19A Harvey Farm, M 88.34 47 ⇓P P 08 35 48.4 +0.1
baz=89,SNR=11
S19A ⇓P P 08 35 48.4 +0.1
baz=89,SNR=11
Y23A Lovelace Mesa, 88.36 51 ⇓P P 08 35 48.4 0.0
baz=89,SNR=25
Y23A ⇓P P 08 35 48.4 0.0
baz=89,SNR=25
628A Black Gap, Mar 88.37 56 P P 08 35 48.2 -0.2
baz=89,SNR=19
628A P P 08 35 48.2 -0.2
baz=89,SNR=19
HVU Hansel Valley 88.39 42 eP P 08 35 47.9 -0.4
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU Hansel Valley 88.39 42 eP P 08 35 47.9 -0.4
comp=Z,6.6nm,0.8s
W22A Albuquerque 88.40 50 ⇓P P 08 35 48.6 0.0
baz=89,SNR=8.3
W22A ⇓P P 08 35 48.6 0.0
baz=89,SNR=8.3
F10A Beach Ranch, E 88.44 36 P P 08 35 47.6 -0.8
baz=89,SNR=11
F10A P P 08 35 47.6 -0.8
baz=89,SNR=11
Q18A Rafter H Ranch 88.47 45 ⇑P P 08 35 48.7 0.0
baz=89
Q18A ⇑P P 08 35 48.7 0.0
baz=89
MVCO Mesa Verde 88.47 47 eP P 08 35 49.0 +0.1
comp=Z,5.0nm,0.7s
326A Caldwell Ranch 88.49 54 ⇑P P 08 35 48.7 -0.2
baz=89,SNR=5.1
326A ⇑P P 08 35 48.7 -0.2
baz=89,SNR=5.1
HLID Hailey 88.50 39 eP P 08 35 48.7 -0.1
comp=Z,5.9nm,0.9s
HLID Hailey 88.50 39 ⇓P P 08 35 49.2 +0.4
baz=89,SNR=11
HLID ⇓P P 08 35 49.2 +0.4
baz=89,SNR=11
Z24A Sheeppen Canyo 88.53 52 ⇓P P 08 35 49.6 +0.3
baz=89,SNR=8.6
Z24A ⇓P P 08 35 49.6 +0.3
baz=89,SNR=8.6
J13A Cove Ranch, Pi 88.54 40 ⇑P P 08 35 49.5 +0.5
baz=89,SNR=9.2
J13A ⇑P P 08 35 49.5 +0.5
baz=89,SNR=9.2
R19A Curley Farm, L 88.57 46 ⇑P P 08 35 49.5 +0.1
baz=89,SNR=8.9
R19A ⇑P P 08 35 49.5 +0.1
baz=89,SNR=8.9
OD2 Odessa Site #2 88.58 35 eP P 08 35 48.8 -0.1
U21A Nageezi 88.60 48 ⇓P P 08 35 49.9 +0.4
baz=89,SNR=47
U21A ⇓P P 08 35 49.9 +0.4
baz=89,SNR=47
ANMO Albuquerque 88.62 50 P P 08 35 49.5 -0.2
comp=Z,18nm,0.8s,baz=213,slow=5.1,SNR=87
ANMO Albuquerque 88.62 50 eP P 08 35 49.1 -0.5
ANMO pmax pmax
comp=Z,26nm,0.9s
ANMO Albuquerque 88.62 50 eP P 08 35 49.1 -0.5
comp=Z,26nm,0.9s
GDL2 Guadalupe Moun 88.66 53 eP P 08 35 50.3 +0.5
RC01 Rabbit Creek A 88.67 12 eP P 08 35 49.0 0.0
comp=Z,47nm,0.9s
427A Hayter Ranch, 88.67 55 ⇑P P 08 35 49.9 0.0
baz=89,SNR=25
427A ⇑P P 08 35 49.9 0.0
baz=89,SNR=25
N16A Rees Ranch, Co 88.67 43 ⇑P P 08 35 50.5 +0.7
baz=89
N16A ⇑P P 08 35 50.5 +0.7
baz=89
125A Gardner Draw, 88.69 53 P P 08 35 50.1 +0.2
baz=89,SNR=9.5
125A P P 08 35 50.1 +0.2
baz=89,SNR=9.5
P18A Preston Nutter 88.69 44 ⇑P P 08 35 50.3 +0.3
baz=89
P18A ⇑P P 08 35 50.3 +0.3
baz=89
O17A Robinson Place 88.71 44 ⇑P P 08 35 50.7 +0.8
baz=89
O17A ⇑P P 08 35 50.7 +0.8
baz=89
L15A Malad City 88.75 42 P P 08 35 50.1 +0.1
baz=89,SNR=9.5
L15A P P 08 35 50.1 +0.1
baz=89,SNR=9.5
226A Malaga, Loving 88.78 54 P P 08 35 50.5 +0.1
baz=89,SNR=5.7
226A P P 08 35 50.5 +0.1
baz=89,SNR=5.7
528A Cox Ranch, San 88.78 56 ⇓P P 08 35 50.7 +0.3
baz=89
528A ⇓P P 08 35 50.7 +0.3
baz=89
Y24A Capitan 88.79 51 ⇓P P 08 35 50.6 +0.1
baz=89,SNR=32
Y24A ⇓P P 08 35 50.6 +0.1
baz=89,SNR=32
V22A San Miguel Ran 88.83 49 ⇑P P 08 35 51.3 +0.6
baz=89,SNR=8.5
V22A ⇑P P 08 35 51.3 +0.6
baz=89,SNR=8.5
J14A Carey 88.87 40 ⇑P P 08 35 51.2 +0.6
baz=89
J14A ⇑P P 08 35 51.2 +0.6
baz=89
I13A Wildhorse Cree 88.88 39 ⇑P P 08 35 51.1 +0.5
baz=89
I13A ⇑P P 08 35 51.1 +0.5
baz=89
S20A Disappointment 88.90 47 P P 08 35 51.4 +0.4
baz=89,SNR=9.4
S20A P P 08 35 51.4 +0.4
baz=89,SNR=9.4
GAMB Gambell 88.93 2 eP P 08 35 50.0 0.0
comp=Z,24nm,0.9s
Q19A Hogan Spring (88.94 45 P P 08 35 51.1 +0.2
baz=89,SNR=10
Q19A P P 08 35 51.1 +0.2
baz=89,SNR=10
W23A Werner Place, 88.95 50 ⇑P P 08 35 51.5 +0.3
baz=89,SNR=8.7
W23A ⇑P P 08 35 51.5 +0.3
baz=89,SNR=8.7
Z25A Roswell 88.97 52 P P 08 35 51.6 +0.4
baz=89,SNR=12
Z25A P P 08 35 51.6 +0.4
baz=89,SNR=12
T21A Navajo Lake 88.99 48 P P 08 35 52.1 +0.7
baz=89,SNR=12
T21A P P 08 35 52.1 +0.7
baz=89,SNR=12
C09A Chrisman Ranch 89.08 34 ⇓P P 08 35 51.5 +0.3
baz=89
C09A ⇓P P 08 35 51.5 +0.3
baz=89
N17A Moffit Pass 89.08 43 P P 08 35 52.2 +0.4
baz=89,SNR=10
N17A P P 08 35 52.2 +0.4
baz=89,SNR=10

R20A Redvale 89.09 46 ⇑P P 08 35 51.9 +0.1
baz=89,SNR=7.1
R20A ⇑P P 08 35 51.9 +0.1
baz=89,SNR=7.1
U22A Llaves 89.12 49 ⇑P P 08 35 52.0 0.0
baz=89
U22A ⇑P P 08 35 52.0 0.0
baz=89
X24A Lazy VL Ranch, 89.13 51 ⇓P P 08 35 52.0 -0.1
baz=89,SNR=17
X24A ⇓P P 08 35 52.0 -0.1
baz=89,SNR=17
428A Kincaid Ranch, 89.14 55 ⇓P P 08 35 52.5 +0.4
baz=89,SNR=8.1
428A ⇓P P 08 35 52.5 +0.4
baz=89,SNR=8.1
S21A Coal Bank Pass 89.19 47 ⇑P P 08 35 52.9 +0.5
baz=90,SNR=19
S21A ⇑P P 08 35 52.9 +0.5
baz=90,SNR=19
H13A Challis 89.20 39 ⇑P P 08 35 52.4 +0.3
baz=90,SNR=8.4
H13A ⇑P P 08 35 52.4 +0.3
baz=90,SNR=8.4
V23A Ortiz Mt. (NFS 89.24 50 ⇑P P 08 35 53.2 +0.6
baz=90,SNR=18
V23A ⇑P P 08 35 53.2 +0.6
baz=90,SNR=18
PMR Palmer 89.25 12 eP P 08 35 51.0 -0.6
PMR pmax pmax
comp=Z,68nm,1.0s
PMR Palmer 89.25 12 eP P 08 35 51.0 -0.6
comp=Z,68nm,1.0s
I14A Mackay 89.27 40 ⇓P P 08 35 53.4 +0.9
baz=90
I14A ⇓P P 08 35 53.4 +0.9
baz=90
Y25A Mesa, Roswell 89.32 52 ⇑P P 08 35 52.6 -0.3
baz=90,SNR=15
Y25A ⇑P P 08 35 52.6 -0.3
baz=90,SNR=15
TTA Tatalina 89.37 9 eP P 08 35 51.8 -0.5
TTA Tatalina 89.37 9 eP P 08 35 51.8 -0.5
F12A Elk City 89.38 37 ⇓P P 08 35 53.1 +0.3
baz=90
F12A ⇓P P 08 35 53.1 +0.3
baz=90
T22A Edith 89.43 48 ⇑P P 08 35 53.9 +0.4
baz=90,SNR=9.4
T22A ⇑P P 08 35 53.9 +0.4
baz=90,SNR=9.4
CPRX Cap Rock 89.45 53 eP P 08 35 53.5 0.0
comp=Z,11nm,1.1s
M17A Scullys Gap (B 89.49 43 ⇑P P 08 35 52.8 -0.8
baz=90,SNR=13
M17A ⇑P P 08 35 52.8 -0.8
baz=90,SNR=13
W24A Lazy 6 Ranch, 89.49 50 P P 08 35 53.8 0.0
baz=90,SNR=19
W24A P P 08 35 53.8 0.0
baz=90,SNR=19
Z26A Caprock 89.49 53 ⇓P P 08 35 53.6 0.0
baz=90,SNR=10
Z26A ⇓P P 08 35 53.6 0.0
baz=90,SNR=10
DIV Divide 89.51 14 eP P 08 35 53.1 +0.1
comp=Z,62nm,0.9s
G13A Cobalt 89.54 38 ⇑P P 08 35 53.9 +0.3
baz=90,SNR=12
G13A ⇑P P 08 35 53.9 +0.3
baz=90,SNR=12
U23A El Rito 89.54 49 ⇓P P 08 35 54.4 +0.4
baz=90,SNR=14
U23A ⇓P P 08 35 54.4 +0.4
baz=90,SNR=14
J15A Blackfoot 89.55 40 ⇑P P 08 35 54.3 +0.6
baz=90,SNR=12
J15A ⇑P P 08 35 54.3 +0.6
baz=90,SNR=12
Q20A Ridgley Place, 89.56 46 ⇓P P 08 35 54.1 +0.1
baz=90,SNR=13
Q20A ⇓P P 08 35 54.1 +0.1
baz=90,SNR=13
BMRM Bremner River 89.62 14 eP P 08 35 53.5 -0.1
comp=Z,68nm,0.8s
L17A Cokeville 89.72 42 ⇓P P 08 35 54.1 -0.5
baz=90,SNR=5.5
L17A ⇓P P 08 35 54.1 -0.5
baz=90,SNR=5.5
R21A Cimarron 89.73 47 ⇓P P 08 35 55.3 +0.4
baz=90,SNR=27
R21A ⇓P P 08 35 55.3 +0.4
baz=90,SNR=27
H14A Leadore 89.74 39 P P 08 35 55.0 +0.4
baz=90,SNR=15
H14A P P 08 35 55.0 +0.4
baz=90,SNR=15
O19A Miners Draw (B 89.78 44 ⇑P P 08 35 54.8 -0.1
baz=90,SNR=6.2
O19A ⇑P P 08 35 54.8 -0.1
baz=90,SNR=6.2
P20A De Beque 89.81 45 ⇑P P 08 35 55.2 +0.1
baz=90,SNR=7.4
P20A ⇑P P 08 35 55.2 +0.1
baz=90,SNR=7.4
N18A Larsen Ranch, 89.82 44 ⇓P P 08 35 55.3 +0.2
baz=90,SNR=6.1
N18A ⇓P P 08 35 55.3 +0.2
baz=90,SNR=6.1
M18A Lyman 89.83 43 ⇓P P 08 35 55.3 +0.1
baz=90,SNR=16
M18A ⇓P P 08 35 55.3 +0.1
baz=90,SNR=16
V24A Rampart Ranch, 89.86 50 ⇓P P 08 35 55.6 +0.1
baz=90,SNR=13
V24A ⇓P P 08 35 55.6 +0.1
baz=90,SNR=13
S22A 4UR Ranch, Cre 89.87 48 ⇑P P 08 35 55.9 +0.3
baz=90,SNR=28
S22A ⇑P P 08 35 55.9 +0.3
baz=90,SNR=28
I15A Monteview 89.88 40 ⇓P P 08 35 56.0 +0.8
baz=90
I15A ⇓P P 08 35 56.0 +0.8
baz=90
PPLA Purkeypile 89.92 10 eP P 08 35 53.8 -1.1
comp=Z,51nm,1.6s
Y26A Elida 89.94 52 ⇑P P 08 35 56.0 +0.2
baz=90
Y26A ⇑P P 08 35 56.0 +0.2
baz=90
AHID Auburn Hatcher 89.97 42 eP P 08 35 54.2 -1.6
comp=Z,22nm,0.4s
Q21A Lamborn Mesa, 89.97 46 P P 08 35 56.2 +0.4
baz=90,SNR=8.0
Q21A P P 08 35 56.2 +0.4
baz=90,SNR=8.0
T23A Casias Ranch, 90.02 48 ⇑P P 08 35 56.5 +0.2
baz=90,SNR=8.1
T23A ⇑P P 08 35 56.5 +0.2
baz=90,SNR=8.1
G14A Jackson 90.06 39 ⇑P P 08 35 56.8 +0.6
baz=90,SNR=6.0
G14A ⇑P P 08 35 56.8 +0.6
baz=90,SNR=6.0
Z27A Tatum 90.06 53 ⇑P P 08 35 56.5 +0.1
baz=90,SNR=8.2
Z27A ⇑P P 08 35 56.5 +0.1
baz=90,SNR=8.2
K17A Gardner Place, 90.07 42 ⇑P P 08 35 56.0 -0.3
baz=90,SNR=23
K17A ⇑P P 08 35 56.0 -0.3
baz=90,SNR=23
L18A Fontenelle, Gr 90.13 43 ⇑P P 08 35 56.6 0.0
baz=90
L18A ⇑P P 08 35 56.6 0.0
baz=90
H15A Lima 90.15 39 ⇑P P 08 35 57.4 +0.8
baz=90,SNR=17
H15A ⇑P P 08 35 57.4 +0.8
baz=90,SNR=17
W25A X Bar L Ranch, 90.15 51 ⇓P P 08 35 57.1 +0.4
baz=90,SNR=35
W25A ⇓P P 08 35 57.1 +0.4
baz=90,SNR=35
RRI2 Red Ridge 90.18 41 eP P 08 35 57.7 +0.9
comp=Z,53nm,1.8s
R22A Saguache, Gunn 90.18 47 ⇓P P 08 35 57.6 +0.5
baz=90,SNR=19
R22A ⇓P P 08 35 57.6 +0.5
baz=90,SNR=19
O20A White River Ci 90.25 45 ⇑P P 08 35 57.0 -0.1
baz=90,SNR=5.1
O20A ⇑P P 08 35 57.0 -0.1
baz=90,SNR=5.1
X26A CR and CF Fran 90.27 52 ⇑P P 08 35 57.0 -0.3
baz=90,SNR=6.9
X26A ⇑P P 08 35 57.0 -0.3
baz=90,SNR=6.9
V25A Rancho No Teng 90.37 50 ⇓P P 08 35 57.9 +0.1
baz=91,SNR=32
V25A ⇓P P 08 35 57.9 +0.1
baz=91,SNR=32
I16A Newdale 90.39 40 ⇑P P 08 35 58.9 +1.2
baz=91,SNR=13
I16A ⇑P P 08 35 58.9 +1.2
baz=91,SNR=13
Y27A Causey 90.39 52 P P 08 35 57.8 -0.1
baz=91,SNR=12
Y27A P P 08 35 57.8 -0.1
baz=91,SNR=12
Q22A Crested Butte, 90.42 47 ⇑P P 08 35 58.6 +0.4
baz=91,SNR=17
Q22A ⇑P P 08 35 58.6 +0.4
baz=91,SNR=17
P21A Newcastle 90.43 46 ⇑P P 08 35 58.5 +0.4
baz=91,SNR=5.2
P21A ⇑P P 08 35 58.5 +0.4
baz=91,SNR=5.2
F14A Wisdom 90.46 38 ⇓P P 08 35 58.3 +0.4
baz=91,SNR=10
F14A ⇓P P 08 35 58.3 +0.4
baz=91,SNR=10
K18A Toltan Ranch, 90.53 42 ⇓P P 08 35 58.9 +0.4
baz=91,SNR=26
K18A ⇓P P 08 35 58.9 +0.4
baz=91,SNR=26
G15A Dillon 90.57 39 ⇓P P 08 35 59.3 +0.8
baz=91,SNR=28
G15A ⇓P P 08 35 59.3 +0.8
baz=91,SNR=28
W26A Owens Ranch, T 90.58 51 ⇓P P 08 35 58.6 -0.2
baz=91,SNR=6.5
W26A ⇓P P 08 35 58.6 -0.2
baz=91,SNR=6.5
SNOW Snow King Moun 90.58 41 eP P 08 35 58.7 0.0
DLMT Dillon 90.62 39 eP P 08 35 59.2 +0.5
comp=Z,25nm,1.1s
N20A Spence Gulch, 90.62 44 ⇑P P 08 35 58.9 0.0
baz=91,SNR=6.2
N20A ⇑P P 08 35 58.9 0.0
baz=91,SNR=6.2
L19A Farson 90.65 43 ⇑P P 08 35 59.2 +0.2
baz=91
L19A ⇑P P 08 35 59.2 +0.2
baz=91
MSTX Muleshoe 90.71 52 ⇑P P 08 35 59.1 -0.3
baz=91,SNR=8.3
MSTX ⇑P P 08 35 59.1 -0.3
baz=91,SNR=8.3
MOOW Moose Ponds 90.75 41 eP P 08 35 58.6 -0.8
comp=Z,32nm,1.7s
E14A Clinton 90.75 38 ⇑P P 08 35 58.7 -0.6
baz=91,SNR=15
E14A ⇑P P 08 35 58.7 -0.6
baz=91,SNR=15
TRF Thorofare Moun 90.75 11 eP P 08 35 57.9 -1.0
comp=Z,37nm,0.8s
LOHW Long Hollow 90.75 41 eP P 08 35 59.3 -0.1
comp=Z,33nm,1.5s
SDCO Great Sand Dun 90.76 48 eP P 08 35 59.5 -0.2
SDCO epP pP 08 36 12.8 +5.0
SDCO Great Sand Dun 90.76 48 ⇑P P 08 35 59.9 +0.2
baz=91,SNR=13
SDCO ⇑P P 08 35 59.9 +0.2
baz=91,SNR=13
SDCO ⇑P P 08 35 59.9 +0.2
baz=91,SNR=13
SDCO ⇑P P 08 35 59.9 +0.2
baz=91,SNR=13
SKAG Skagway 90.76 19 eP P 08 35 59.5 +0.8
comp=Z,108nm,1.7s
ENH Enshi 90.78 303 eP P 08 36 00.1 +0.5
comp=Z,17nm,0.6s
R23A Moffat 90.78 48 P P 08 36 00.0 +0.2
baz=91,SNR=11
R23A P P 08 36 00.0 +0.2
baz=91,SNR=11
U25A Circle Dot Ran 90.80 50 ⇑P P 08 36 00.1 +0.2
baz=91,SNR=22
U25A ⇑P P 08 36 00.1 +0.2
baz=91,SNR=22
X27A F and S Farms, 90.82 52 ⇓P P 08 35 59.9 0.0
baz=91,SNR=14
X27A ⇓P P 08 35 59.9 0.0
baz=91,SNR=14
TNA Tin City 90.86 3 eP P 08 35 59.5 +0.4
comp=Z,34nm,1.1s
J18A Kendall Valley 90.88 42 ⇓P P 08 36 00.2 +0.1
baz=91,SNR=23
J18A ⇓P P 08 36 00.2 +0.1
baz=91,SNR=23
S24A Houchin Ranch, 90.90 48 ⇑P P 08 36 01.2 +0.8
baz=91,SNR=8.3
S24A ⇑P P 08 36 01.2 +0.8
baz=91,SNR=8.3
BW06 Boulder Array 90.90 42 eP P 08 35 59.6 -0.6
comp=Z,11nm,1.2s
BW06 Boulder Array 90.90 42 ⇓P P 08 35 59.8 -0.4
baz=91,SNR=9.1
BW06 ⇓P P 08 35 59.8 -0.4
baz=91,SNR=9.1
BW06 ⇓P P 08 35 59.8 -0.4
baz=91,SNR=9.1
PDAR Pinedale Array 90.90 42 P P 08 35 59.2 -1.0
comp=Z,3.4nm,0.9s,baz=204,slow=3.3,SNR=25
PDAR PKKPbc PKKPbc 08 53 25.9 -0.3
comp=Z,0.8nm,0.7s,baz=88,slow=4.0,SNR=6.4
PDAR LR LR 09 11 23.2
comp=Z,387nm,18.3s,baz=252,slow=32
PDAR Pinedale Array 90.90 42 P P 08 35 59.2 -1.0
PDAR PKKPbc PKKPbc 08 53 25.9 -0.3
P22A Eagle 90.91 46 ⇑P P 08 36 00.5 +0.2
baz=91
P22A ⇑P P 08 36 00.5 +0.2
baz=91
BSMT Bassoo Peak 90.93 36 eP P 08 35 59.7 -0.4
I17A Pilgrim Ck. 90.95 41 P P 08 36 01.2 +0.9
baz=91,SNR=10.0
I17A P P 08 36 01.2 +0.9
baz=91,SNR=10.0
F15A Butte 90.96 38 P P 08 36 00.6 +0.3
baz=91,SNR=11
F15A P P 08 36 00.6 +0.3
baz=91,SNR=11
FLWY Flagg Ranch 90.97 41 eP P 08 36 01.3 +0.8
comp=Z,43nm,1.3s
QLMT Earthquake Lak 90.98 40 eP P 08 36 01.4 +1.0
LRM Limekiln Ridge 90.98 39 eP P 08 36 00.6 +0.1
G16A Moss Hill, Enn 90.99 39 P P 08 36 01.0 +0.5
baz=91,SNR=12
G16A P P 08 36 01.0 +0.5
baz=91,SNR=12
H16A Russell Place, 91.01 40 ⇑P P 08 36 01.1 +0.5
baz=91,SNR=9.7
H16A ⇑P P 08 36 01.1 +0.5
baz=91,SNR=9.7
N21A Black Mountain 91.06 45 P P 08 36 01.2 +0.3
baz=91,SNR=12
N21A P P 08 36 01.2 +0.3
baz=91,SNR=12
W27A Bowe Ranch, En 91.06 51 ⇓P P 08 36 01.1 +0.2
baz=91,SNR=9.0
W27A ⇓P P 08 36 01.1 +0.2
baz=91,SNR=9.0
BJI Beijing 91.06 314 P P 08 36 01.0 +0.4
BJI S S 08 47 01.1 +4.2
BJI pmax pmax
comp=Z,16nm,0.8s
BJI pmax pmax
comp=Z,140nm,6.6s
BJI LR LR
comp=N,210nm,20.6s
BJI LR LR

BJI LR LR
comp=E,330nm,15.2s
comp=Z,160nm,21.3s
YFT Old Faithful 91.10 40 *e*P **P 08 36 02.3 +1.2**
comp=Z,6.7nm,0.8s
SWMT Swartz Lake 91.14 37 *e*P **P 08 36 00.2 -0.8**
GYA Guiyang 91.16 299 ⇓P **P 08 36 02.0 +0.4**
GYA pP **pP 08 36 07.9 -1.8**
GYA PP **PP 08 39 40.4 +1.5**
GYA S **S 08 46 55.8 -2.9**
GYA SS **SS 08 53 04.5 +0.7**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.0s
GYA LR LR
comp=N,980nm,22.8s
GYA LR LR
comp=E,870nm,23.6s
GYA LR LR
comp=Z,940nm,21.4s
JCT Junction City 91.18 57 *e*P **P 08 36 01.1 -0.4**
JCT pmax pmax
comp=Z,36nm,1.4s
JCT Junction City 91.18 57 *e*P **P 08 36 01.1 -0.4**
comp=Z,36nm,1.4s
JCT Junction City 91.18 57 ⇑P **P 08 36 01.4 -0.1**
baz=91
JCT ⇑P **P 08 36 01.4 -0.1**
baz=91
T25A Trinidad 91.18 49 ⇑P **P 08 36 01.8 +0.2**
baz=92,SNR=8.2
T25A ⇑P **P 08 36 01.8 +0.2**
baz=92,SNR=8.2
PAX Paxson 91.22 13 *e*P **P 08 36 00.3 -0.7**
PAX Paxson 91.22 13 *e*P **P 08 36 00.3 -0.7**
E15A Deer Lodge 91.23 38 ⇑P **P 08 36 01.7 +0.2**
baz=92,SNR=17
E15A ⇑P **P 08 36 01.7 +0.2**
baz=92,SNR=17
MCK McKinley 91.25 11 *e*P **P 08 36 01.0 0.0**
MCK pmax pmax
comp=Z,32nm,0.9s
MCK McKinley 91.25 11 *e*P **P 08 36 01.0 0.0**
comp=Z,32nm,0.9s
U26A Atchley Ranch, 91.26 50 ⇑P **P 08 36 02.1 +0.1**
baz=92,SNR=18
U26A ⇑P **P 08 36 02.1 +0.1**
baz=92,SNR=18
R24A Sanders Place, 91.28 48 P **P 08 36 02.0 0.0**
baz=92,SNR=12
R24A P **P 08 36 02.0 0.0**
baz=92,SNR=12
BOZ Bozeman (W) 91.34 39 *e*P **P 08 36 01.4 -0.6**
BOZ pmax pmax
comp=Z,28nm,1.0s
BOZ Bozeman (W) 91.34 39 *e*P **P 08 36 01.4 -0.6**
comp=Z,28nm,1.0s
BOZ Bozeman (W) 91.34 39 ⇑P **P 08 36 02.7 +0.7**
baz=92,SNR=36
BOZ ⇑P **P 08 36 02.7 +0.7**
baz=92,SNR=36
BOZ ⇑P **P 08 36 02.7 +0.7**
baz=92,SNR=36
BOZ ⇑P **P 08 36 02.7 +0.7**
baz=92,SNR=36
YNR Norris Junctio 91.35 40 *e*P **P 08 36 04.0 +1.8**
comp=Z,48nm,1.7s
O22A Kremmling 91.36 46 ⇓P **P 08 36 02.7 +0.3**
baz=92,SNR=13
O22A ⇓P **P 08 36 02.7 +0.3**
baz=92,SNR=13
K19A Absolon Red Bu 91.37 42 ⇓P **P 08 36 02.7 +0.5**
baz=92
K19A ⇓P **P 08 36 02.7 +0.5**
baz=92
P23A Jefferson 91.40 47 ⇓P **P 08 36 03.3 +0.6**
baz=92,SNR=5.9
P23A ⇓P **P 08 36 03.3 +0.6**
baz=92,SNR=5.9
F16A Kennard Place, 91.42 39 P **P 08 36 03.0 +0.7**
baz=92,SNR=14
F16A P **P 08 36 03.0 +0.7**
baz=92,SNR=14
S25A Robets Cordova 91.44 49 ⇑P **P 08 36 03.0 +0.2**
baz=92,SNR=16
S25A ⇑P **P 08 36 03.0 +0.2**
baz=92,SNR=16
J19A Crowheart 91.49 42 ⇑P **P 08 36 03.0 +0.2**
baz=92,SNR=8.8
J19A ⇑P **P 08 36 03.0 +0.2**
baz=92,SNR=8.8
MENT Mentasta 91.57 14 *e*P **P 08 36 02.0 -0.5**
K20A Yellowstone Ra 91.58 43 ⇓P **P 08 36 02.7 -0.6**
baz=92,SNR=7.6
K20A ⇓P **P 08 36 02.7 -0.6**
baz=92,SNR=7.6
M21A Separation Pea 91.62 44 ⇑P **P 08 36 03.2 -0.3**
baz=92,SNR=5.3
M21A ⇑P **P 08 36 03.2 -0.3**
baz=92,SNR=5.3
G17A Pierce Place, 91.66 40 ⇓P **P 08 36 04.5 +1.0**
baz=92,SNR=6.1
G17A ⇓P **P 08 36 04.5 +1.0**
baz=92,SNR=6.1
SEY Seymchan 91.70 346 *e*P **P 08 36 03.6 +0.6**
RWWY Rawlins 91.76 44 *e*P **P 08 36 04.7 +0.5**
comp=Z,9.5nm,0.6s
N22A Wattenberg Ran 91.76 45 ⇑P **P 08 36 04.4 +0.1**
baz=92,SNR=6.7
N22A ⇑P **P 08 36 04.4 +0.1**
baz=92,SNR=6.7
ISCO Idaho Springs 91.77 46 *e*P **P 08 36 03.6 -0.8**
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO Idaho Springs 91.77 46 *e*P **P 08 36 03.6 -0.8**
comp=Z,8.9nm,1.3s
ISCO Idaho Springs 91.77 46 ⇓P **P 08 36 04.5 +0.1**
baz=92,SNR=6.5
ISCO ⇓P **P 08 36 04.5 +0.1**
baz=92,SNR=6.5
O23A Lake Granby, G 91.79 46 ⇑P **P 08 36 05.3 +0.9**
baz=92,SNR=10
O23A ⇑P **P 08 36 05.3 +0.9**
baz=92,SNR=10
E16A East Helena 91.83 38 ⇑P **P 08 36 04.4 +0.2**
baz=92,SNR=13
E16A ⇑P **P 08 36 04.4 +0.2**
baz=92,SNR=13
H18A Shoshone NF, C 91.92 41 P **P 08 36 05.3 +0.5**
baz=92,SNR=8.1
H18A P **P 08 36 05.3 +0.5**
baz=92,SNR=8.1
I19A Meeteetse 91.95 41 ⇓P **P 08 36 05.1 +0.1**
baz=92,SNR=13
I19A ⇓P **P 08 36 05.1 +0.1**
baz=92,SNR=13
M22A Cedar Creek Ra 91.99 45 ⇓P **P 08 36 05.2 -0.1**
baz=92,SNR=6.1
M22A ⇓P **P 08 36 05.2 -0.1**
baz=92,SNR=6.1
B14A Marquette Ranc 92.04 36 ⇓P **P 08 36 04.4 -0.8**
baz=92,SNR=36
B14A ⇓P **P 08 36 04.4 -0.8**
baz=92,SNR=36
F17A Fitzpatrick Pl 92.04 39 P **P 08 36 06.2 +0.9**
baz=92,SNR=12
F17A P **P 08 36 06.2 +0.9**
baz=92,SNR=12
C15A Salmond Ranch, 92.05 37 ⇑P **P 08 36 05.0 -0.3**
baz=92,SNR=13
C15A ⇑P **P 08 36 05.0 -0.3**
baz=92,SNR=13
S26A Kim 92.07 49 ⇓P **P 08 36 05.5 -0.1**
baz=92,SNR=16
S26A ⇓P **P 08 36 05.5 -0.1**
baz=92,SNR=16
DOT Dot Lake 92.12 13 *e*P **P 08 36 04.8 -0.3**
comp=Z,9.4nm,0.8s
J20A Shoshoni 92.12 42 ⇓P **P 08 36 06.1 +0.3**
baz=92,SNR=17
J20A ⇓P **P 08 36 06.1 +0.3**
baz=92,SNR=17
WALA Waterton Lakes 92.13 35 *e*P **P 08 36 04.9 -0.7**
comp=Z,1.3nm,1.4s
N23A Red Feather La 92.14 45 ⇑P **P 08 36 06.3 +0.3**
baz=92,SNR=5.7
N23A ⇑P **P 08 36 06.3 +0.3**
baz=92,SNR=5.7
D16A Dana Ranch, Ca 92.19 38 P **P 08 36 05.8 -0.1**
baz=92,SNR=17
D16A P **P 08 36 05.8 -0.1**
baz=92,SNR=17
Q25A Bedland, Calha 92.21 48 ⇓P **P 08 36 06.5 +0.1**
baz=92,SNR=6.9
Q25A ⇓P **P 08 36 06.5 +0.1**
baz=92,SNR=6.9
K21A Alcova 92.24 43 P **P 08 36 06.1 -0.3**
baz=92,SNR=11
K21A P **P 08 36 06.1 -0.3**
baz=92,SNR=11
E17A Martinsdale 92.25 39 ⇑P **P 08 36 06.8 +0.6**
baz=92,SNR=7.3
E17A ⇑P **P 08 36 06.8 +0.6**
baz=92,SNR=7.3
O24A Longmont 92.29 46 ⇑P **P 08 36 07.1 +0.5**
baz=93,SNR=8.8
O24A ⇑P **P 08 36 07.1 +0.5**
baz=93,SNR=8.8
T27A Campo 92.31 50 ⇑P **P 08 36 06.4 -0.3**
baz=93
T27A ⇑P **P 08 36 06.4 -0.3**
baz=93
H19A Powell 92.31 41 ⇑P **P 08 36 07.2 +0.7**
baz=93,SNR=10
H19A ⇑P **P 08 36 07.2 +0.7**
baz=93,SNR=10
A14A Double T Ranch 92.33 36 P **P 08 36 06.7 +0.1**
baz=93,SNR=23
A14A P **P 08 36 06.7 +0.1**
baz=93,SNR=23
G18A Lazy EL Ranch, 92.34 40 ⇓P **P 08 36 07.2 +0.5**
baz=93,SNR=12
G18A ⇓P **P 08 36 07.2 +0.5**
baz=93,SNR=12
RLMT Red Lodge 92.40 40 *e*P **P 08 36 07.0 0.0**
comp=Z,16nm,1.1s
RLMT Red Lodge 92.40 40 ⇓P **P 08 36 07.5 +0.5**
baz=93,SNR=8.6
RLMT ⇓P **P 08 36 07.5 +0.5**
baz=93,SNR=8.6
RLMT ⇓P **P 08 36 07.5 +0.5**
baz=93,SNR=8.6
RLMT ⇓P **P 08 36 07.5 +0.5**
baz=93,SNR=8.6
I20A Worland 92.43 42 ⇑P **P 08 36 07.3 +0.2**
baz=93,SNR=7.6
I20A ⇑P **P 08 36 07.3 +0.2**
baz=93,SNR=7.6
L22A Ellis Ranch, M 92.43 44 ⇑P **P 08 36 07.6 +0.3**
baz=93
L22A ⇑P **P 08 36 07.6 +0.3**
baz=93
R26A Arlington 92.44 48 ⇑P **P 08 36 07.1 -0.1**
baz=93,SNR=9.8
R26A ⇑P **P 08 36 07.1 -0.1**
baz=93,SNR=9.8
J21A Lysite 92.51 43 ⇓P **P 08 36 08.2 +0.6**
baz=93,SNR=14
J21A ⇓P **P 08 36 08.2 +0.6**
baz=93,SNR=14
C16A Fuhringer Ranc 92.53 37 ⇓P **P 08 36 07.2 -0.2**
baz=93,SNR=15
C16A ⇓P **P 08 36 07.2 -0.2**
baz=93,SNR=15
ILAR Eielson Array 92.57 12 P **P 08 36 05.7 -1.4**
comp=Z,11nm,0.7s,baz=221,slow=5.1,SNR=154
PP **PP 08 39 49.2 +0.1**
ILAR
comp=Z,0.5nm,1.1s,baz=203,slow=8.8,SNR=3.3
LR LR 09 15 51.4
ILAR
comp=Z,220nm,18.9s,baz=157,slow=34
ILAR Eielson Array 92.57 12 P **P 08 36 05.7 -1.4**
ILAR 08 39 49.2
ILAR pmax pmax
comp=Z,11nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR MLR MLR
comp=Z,220nm,18.9s
ILAR Eielson Array 92.57 12 P **P 08 36 05.7 -1.4**
ILAR PP **PP 08 39 49.2 +0.1**
M23A Laramie 92.58 45 ⇑P **P 08 36 08.2 +0.2**
baz=93,SNR=5.1
M23A ⇑P **P 08 36 08.2 +0.2**
baz=93,SNR=5.1
F18A Big Timber 92.58 40 ⇓P **P 08 36 08.4 +0.7**
baz=93,SNR=10
F18A ⇓P **P 08 36 08.4 +0.7**
baz=93,SNR=10
A15A Johnson Ranch, 92.70 36 P **P 08 36 08.0 -0.2**
baz=93,SNR=15
A15A P **P 08 36 08.0 -0.2**
baz=93,SNR=15
Q26A Hugo 92.70 48 P **P 08 36 08.4 -0.1**
baz=93,SNR=5.7
Q26A P **P 08 36 08.4 -0.1**
baz=93,SNR=5.7
K22A Casper 92.70 44 ⇓P **P 08 36 08.6 +0.1**
baz=93,SNR=6.1
K22A ⇓P **P 08 36 08.6 +0.1**
baz=93,SNR=6.1
D17A Six Diamond Ra 92.74 38 ⇑P **P 08 36 09.0 +0.5**
baz=93,SNR=35
D17A ⇑P **P 08 36 09.0 +0.5**
baz=93,SNR=35
T28A Walsh 92.75 50 P **P 08 36 08.5 -0.2**
baz=93,SNR=5.2
T28A P **P 08 36 08.5 -0.2**
baz=93,SNR=5.2
H20A Greybull 92.80 41 ⇑P **P 08 36 08.8 0.0**
baz=93
H20A ⇑P **P 08 36 08.8 0.0**
baz=93
E18A Harlowton 92.84 39 ⇓P **P 08 36 09.8 +0.8**
baz=93,SNR=11
E18A ⇓P **P 08 36 09.8 +0.8**
baz=93,SNR=11
I21A Big Trails, Te 92.86 42 ⇓P **P 08 36 09.3 +0.2**
baz=93,SNR=14
I21A ⇓P **P 08 36 09.3 +0.2**
baz=93,SNR=14
R27A Eads 92.87 49 ⇑P **P 08 36 09.3 0.0**
baz=93,SNR=9.9
R27A ⇑P **P 08 36 09.3 0.0**
baz=93,SNR=9.9
B16A M & M Farms, S 92.91 37 ⇓P **P 08 36 07.9 -1.2**
baz=93,SNR=15
B16A ⇓P **P 08 36 07.9 -1.2**
baz=93,SNR=15
O25A Wiggins 92.91 47 ⇓P **P 08 36 09.4 -0.1**
baz=93
O25A ⇓P **P 08 36 09.4 -0.1**
baz=93
L23A Garrett 92.94 44 P **P 08 36 09.2 -0.4**
baz=93,SNR=11
L23A P **P 08 36 09.2 -0.4**
baz=93,SNR=11
C17A Wharram Farm, 92.98 38 ⇑P **P 08 36 09.1 -0.4**
baz=93,SNR=26
C17A ⇑P **P 08 36 09.1 -0.4**
baz=93,SNR=26
F19A Roth Farm, Mol 93.00 40 ⇓P **P 08 36 09.5 -0.2**
baz=93,SNR=14
F19A ⇓P **P 08 36 09.5 -0.2**
baz=93,SNR=14
XAN Xi'an 93.01 306 P **P 08 36 10.4 +0.5**
XAN pP **pP 08 36 19.0 +1.0**
XAN S S 08 47 21.9 +7.1
XAN pmax pmax
comp=Z,2.0nm,1.0s
XAN pmax pmax
comp=Z,27nm,5.7s
XAN LR LR
comp=N,120nm,15.1s
XAN LR LR
comp=Z,57nm,17.5s
J22A Midwest 93.14 43 ⇑P **P 08 36 10.4 0.0**
baz=93,SNR=10.0
J22A ⇑P **P 08 36 10.4 0.0**
baz=93,SNR=10.0
M24A Cheyenne 93.16 45 ⇓P **P 08 36 11.3 +0.7**
baz=93,SNR=5.7
M24A ⇓P **P 08 36 11.3 +0.7**
baz=93,SNR=5.7
D18A Linhart Farms, 93.26 38 ⇓P **P 08 36 11.9 +1.1**
baz=94,SNR=5.9
D18A ⇓P **P 08 36 11.9 +1.1**
baz=94,SNR=5.9
B17A L&G Farms, Che 93.34 37 ⇓P **P 08 36 11.0 -0.1**
baz=94,SNR=11
B17A ⇓P **P 08 36 11.0 -0.1**
baz=94,SNR=11
KSCO Kaye Shedlock' 93.35 48 ⇓P **P 08 36 11.9 +0.4**
baz=94,SNR=5.6
KSCO ⇓P **P 08 36 11.9 +0.4**
baz=94,SNR=5.6
L24A Wheatland 93.39 45 ⇓P **P 08 36 12.7 +1.1**
baz=94
L24A ⇓P **P 08 36 12.7 +1.1**
baz=94
I22A 9 Mile Ranch, 93.39 42 ⇓P **P 08 36 12.0 +0.5**
baz=94,SNR=8.1
I22A ⇓P **P 08 36 12.0 +0.5**
baz=94,SNR=8.1
E19A Rath Farm, Rou 93.43 39 ⇑P **P 08 36 12.0 +0.5**
baz=94,SNR=9.8
E19A ⇑P **P 08 36 12.0 +0.5**
baz=94,SNR=9.8
F20A Billings 93.43 40 ⇑P **P 08 36 12.2 +0.6**
baz=94,SNR=7.0
F20A ⇑P **P 08 36 12.2 +0.6**
baz=94,SNR=7.0
H21A Big Horn, Sher 93.45 42 P **P 08 36 12.1 +0.3**
baz=94,SNR=5.8
H21A P **P 08 36 12.1 +0.3**
baz=94,SNR=5.8
DAWY Dawson 93.52 15 *e*P **P 08 36 11.4 -0.2**
KMI Kunming 93.71 296 P **P 08 36 14.0 +0.4**
KMI pP **pP 08 36 20.0 -1.6**
KMI sP **sP 08 36 21.7 -2.8**
KMI PP **PP 08 40 02.1 +2.9**
KMI S **S 08 47 20.2 -1.5**
KMI sS **ScS 08 47 28.6 +5.4**
KMI SS **SS 08 53 42.0 +1.3**
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI pmax pmax
comp=Z,84nm,4.0s
KMI LR LR
comp=N,250nm,16.4s
KMI LR LR
comp=E,300nm,16.4s
KMI LR LR
comp=Z,310nm,11.2s
EGAK Eagle 93.73 14 *e*P **P 08 36 12.6 +0.2**
comp=Z,15nm,0.8s
EGMT Eagleton 93.76 38 *e*P **P 08 36 12.1 -1.0**
comp=Z,31nm,1.4s
EGMT Eagleton 93.76 38 ⇓P **P 08 36 13.3 +0.2**
baz=94,SNR=6.3
EGMT ⇓P **P 08 36 13.3 +0.2**
baz=94,SNR=6.3
A17A Triple J Farms 93.77 37 ⇑P **P 08 36 13.5 +0.5**
baz=94,SNR=10
A17A ⇑P **P 08 36 13.5 +0.5**
baz=94,SNR=10
D19A Cripps Ranch, 93.77 39 ⇑P **P 08 36 13.7 +0.6**
baz=94,SNR=9.7
D19A ⇑P **P 08 36 13.7 +0.6**
baz=94,SNR=9.7
E20A Meyer Farm, Mu 93.83 40 ⇑P **P 08 36 13.8 +0.4**
baz=94,SNR=9.3
E20A ⇑P **P 08 36 13.8 +0.4**
baz=94,SNR=9.3
B18A Beardsley Farm 93.95 37 ⇓P **P 08 36 14.1 +0.2**
baz=94,SNR=9.7
B18A ⇓P **P 08 36 14.1 +0.2**
baz=94,SNR=9.7
WMOK Wichita Mounta 93.97 53 *e*P **P 08 36 14.0 -0.3**
WMOK pmax pmax
comp=Z,3.0nm,0.7s
WMOK Wichita Mounta 93.97 53 *e*P **P 08 36 14.0 -0.3**
comp=Z,3.1nm,0.7s
HKT Hockley 93.97 59 *e*P **P 08 36 14.2 -0.1**
HKT pmax pmax
comp=Z,14nm,1.5s
HKT Hockley 93.97 59 *e*P **P 08 36 14.2 -0.1**
comp=Z,14nm,1.5s
C19A Slack Wire Ran 93.99 38 P **P 08 36 14.9 +0.8**
baz=94,SNR=17
C19A P **P 08 36 14.9 +0.8**
baz=94,SNR=17
CM31 Chiang Mai Arr 94.01 288 *e*P **P 08 36 17.2 +2.4**
comp=Z,3.2nm,0.5s
CMAR Chiang Mai Arr 94.01 288 P **P 08 36 15.9 +1.1**
comp=Z,11nm,0.9s,baz=126,slow=3.1,SNR=28
CMAR Chiang Mai Arr 94.01 288 P **P 08 36 15.9 +1.1**
CMAR pmax pmax
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 94.01 288 P **P 08 36 15.9 +1.1**
O27A Beecher Island 94.04 47 ⇓P **P 08 36 14.9 +0.4**
baz=94
O27A ⇓P **P 08 36 14.9 +0.4**
baz=94
D20A Manuel Ranch, 94.15 39 ⇓P **P 08 36 15.5 +0.6**
baz=94,SNR=14
D20A ⇓P **P 08 36 15.5 +0.6**
baz=94,SNR=14
CHTO Chiang Mai 94.16 289 *e*P **P 08 36 16.4 +0.9**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 94.16 289 *e*P **P 08 36 16.4 +0.9**
comp=Z,15nm,0.8s
CHTO Chiang Mai 94.16 289 P **P 08 36 17.6 +2.1**
BILL Bilibino 94.16 353 ⇓*e*P **P 08 36 13.2 -1.1**
BILL pmax pmax
comp=Z,19nm,0.8s
BILL MLR MLR
comp=Z,500nm,21.0s
BILL Bilibino 94.16 353 *e*P **P 08 36 13.6 -0.7**
comp=Z,17nm,0.8s
A18A Metzger Ranch, 94.22 37 ⇑P **P 08 36 15.5 +0.4**
baz=94,SNR=15
A18A ⇑P **P 08 36 15.5 +0.4**
baz=94,SNR=15
LVC Limon Verde 94.22 117 *e*P **P 08 36 17.1 +1.0**
comp=Z,9.8nm,0.9s
J24A Dixon Ranch, L 94.22 44 ⇓P **P 08 36 16.1 +0.7**
baz=94
J24A ⇓P **P 08 36 16.1 +0.7**
baz=94
B19A Brinkman Farms 94.45 38 ⇑P **P 08 36 16.6 +0.4**
baz=95,SNR=9.4
B19A ⇑P **P 08 36 16.6 +0.4**
baz=95,SNR=9.4
E21A Keefer Ranch, 94.46 40 P **P 08 36 17.4 +1.1**
baz=95,SNR=5.2
E21A P **P 08 36 17.4 +1.1**
baz=95,SNR=5.2
HHC Hu-ho-hao-te 94.49 313 *e*P **P 08 36 18.1 +1.5**
HHC pP **pP 08 36 22.9 -1.8**
HHC sP **sP 08 36 25.4 -2.2**
HHC PP **PP 08 40 09.3 +4.5**
HHC S **S 08 47 27.8 +0.1**
HHC sS sS 08 47 35.2 -5.9
HHC SS **SS 08 53 54.5 +3.4**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,170nm,7.3s
HHC LR LR
comp=N,210nm,13.2s
HHC LR LR
comp=E,190nm,14.5s
HHC LR LR
comp=Z,190nm,17.1s
C20A Veseth Ranch, 94.57 39 ⇓P **P 08 36 17.3 +0.6**
baz=95,SNR=9.9
C20A ⇓P **P 08 36 17.3 +0.6**
baz=95,SNR=9.9
K26A Motz Farm, Whi 94.84 45 ⇑P **P 08 36 18.6 +0.4**
baz=95
K26A ⇑P **P 08 36 18.6 +0.4**
baz=95
B20A Solberg Farm, 94.95 38 P **P 08 36 18.8 +0.3**
baz=95,SNR=6.9
B20A P **P 08 36 18.8 +0.3**
baz=95,SNR=6.9
F23A Volborg 95.01 41 ⇑P **P 08 36 19.0 +0.1**
baz=95
F23A ⇑P **P 08 36 19.0 +0.1**
baz=95
RSSD Black Hills 95.02 43 *e*P **P 08 36 18.1 -1.0**

RSSD pmax pmax
comp=Z,21nm,1.0s
RSSD Black Hills 95.02 43 *e*P **P 08 36 18.1 -1.0**
comp=Z,21nm,1.0s
H24A Dirks Ranch, A 95.02 42 ⇓P **P 08 36 18.7 -0.3**
baz=95
H24A ⇓P **P 08 36 18.7 -0.3**
baz=95
A20A Cobblestone Ra 95.25 38 P **P 08 36 20.1 +0.2**
baz=96,SNR=7.6
A20A P **P 08 36 20.1 +0.2**
baz=96,SNR=7.6
D22A Cohagen 95.31 40 P **P 08 36 21.0 +0.8**
baz=96,SNR=8.0
D22A P **P 08 36 21.0 +0.8**
baz=96,SNR=8.0
K27A Flueckinger Fa 95.44 45 ⇓P **P 08 36 21.5 +0.6**
baz=96
K27A ⇓P **P 08 36 21.5 +0.6**
baz=96
CD2 Chengdu 95.45 302 P **P 08 36 22.2 +1.0**
CD2 pP **pP 08 36 27.6 -1.7**
CD2 sP **sP 08 36 30.0 -2.1**
CD2 PP **PP 08 40 15.4 +3.0**
CD2 S **S 08 47 34.8 -1.5**
CD2 sS sS 08 47 43.9 -5.8
CD2 SS **SS 08 54 06.8 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.1s
CD2 LR LR
comp=N,440nm,6.5s
CD2 LR LR
comp=Z,250nm,9.5s
E23A Ismay 95.48 41 ⇓P **P 08 36 21.8 +0.9**
baz=96
E23A ⇓P **P 08 36 21.8 +0.9**
baz=96
A21A Bertgoll Ranch 95.86 38 ⇑P **P 08 36 23.1 +0.5**
baz=96
A21A ⇑P **P 08 36 23.1 +0.5**
baz=96
D23A Lindsay 95.89 40 ⇑P **P 08 36 23.7 +0.9**
baz=96
D23A ⇑P **P 08 36 23.7 +0.9**
baz=96
B22A Reddig Ranch S 96.02 39 ⇓P **P 08 36 24.2 +0.8**
baz=96
B22A ⇓P **P 08 36 24.2 +0.8**
baz=96
E24A Baker 96.10 41 ⇑P **P 08 36 24.4 +0.6**
baz=96
E24A ⇑P **P 08 36 24.4 +0.6**
baz=96
C23A Lambert 96.22 40 ⇑P **P 08 36 25.2 +0.9**
baz=96
C23A ⇑P **P 08 36 25.2 +0.9**
baz=96
D24A Glendive 96.37 41 ⇓P **P 08 36 26.0 +1.0**
baz=97
D24A ⇓P **P 08 36 26.0 +1.0**
baz=97
C24A Savage 96.53 40 ⇓P **P 08 36 26.3 +0.7**
baz=97
C24A ⇓P **P 08 36 26.3 +0.7**
baz=97
DGMT Dagmar 97.14 39 *e*P Pdif 08 36 29.3 +0.8
comp=Z,14nm,1.0s
DGMT Dagmar 97.14 39 ⇓P Pdif 08 36 29.6 +1.1
baz=97
DGMT ⇓P Pdif 08 36 29.6 +1.1
baz=97
LZH Lanzhou 97.65 306 *e*P **P 08 36 31.2 0.0**
LZH pP **pP 08 36 37.1 -2.2**
LZH sP **sP 08 36 39.5 -2.7**
LZH pmax pmax
comp=Z,14nm,1.2s
LPAZ La Paz 97.95 112 P Pdif 08 36 34.2 +0.5
comp=Z,1.4nm,0.8s,baz=190,slow=6.0,SNR=4.0
LPAZ LR LR 09 13 27.6
comp=Z,195nm,18.9s,baz=234,slow=31
LPAZ La Paz 97.95 112 P Pdif 08 36 34.2 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 97.95 112 P Pdif 08 36 34.2 +0.5
INK Inuvik 98.38 15 P **P 08 36 32.1 -1.3**
comp=Z,5.0nm,0.9s,baz=225,slow=3.5,SNR=17
INK Inuvik 98.38 15 P **P 08 36 32.1 -1.3**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 98.38 15 *e*P **P 08 36 32.1 -1.3**
comp=Z,5.9nm,1.0s
SONM Songino Array 101.02 318 P **Pdif 08 36 45.7 -0.2**
comp=Z,0.9nm,1.1s,baz=126,slow=2.5,SNR=2.9
SONM PP **PP 08 40 53.1 -1.7**
comp=Z,0.6nm,0.8s,baz=119,slow=8.4,SNR=2.8
SONM PKKPbc **PKKPbc 08 52 58.1 -0.6**
comp=Z,0.2nm,0.6s,baz=305,slow=4.0,SNR=3.5
SONM Songino Array 101.02 318 P **Pdif 08 36 45.7 -0.2**
SONM 08 40 53.1
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 101.02 318 P **Pdif 08 36 45.7 -0.2**
SONM PP **PP 08 40 53.1 -1.7**
SONM PKKPbc **PKKPbc 08 52 58.1 -0.6**
GTA Gaotai 101.93 308 *e*P **Pdif 08 36 57.5 +7.3**
GTA pP pP 08 37 03.6 +5.1
GTA sP 08 37 06.7
GTA pmax pmax
comp=Z,5.0nm,0.3s
HDIL Hopedale 103.25 51 *e*Pdif **Pdif 08 36 51.6 -4.2**
WMQ Urumqi 111.94 309 *e*PKP **PKiKP 08 41 31.0 -0.4**
WMQ LR LR
comp=N,83nm,20.1s
WMQ LR LR
comp=E,85nm,28.4s
WMQ LR LR
comp=Z,100nm,28.4s
ZALV Zalesovo Beam 115.81 320 PKP **PKPdf 08 41 36.7 -1.6**
comp=Z,2.6nm,0.7s,baz=181,slow=0.6,SNR=16
ZALV Zalesovo Beam 115.81 320 PKIKP **PKPdf 08 41 36.7 -1.6**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 115.81 320 PKP **PKPdf 08 41 36.7 -1.6**
MK31 Makanchi Array 116.29 312 *e*PKIKP **PKPdf 08 41 37.9 -1.7**
MK31 Makanchi Array 116.29 312 *e*PKPdf **PKPdf 08 41 37.9 -1.7**
MKAR Makanchi Array 116.29 312 PKP **PKPdf 08 41 37.9 -1.7**
comp=Z,1.9nm,0.6s,baz=228,slow=1.3,SNR=16
MKAR PKKPbc **PKKPbc 08 52 09.2 -0.4**
comp=Z,0.5nm,0.7s,baz=289,slow=3.7,SNR=3.5
MKAR Makanchi Array 116.29 312 PKIKP **PKPdf 08 41 37.9 -1.7**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 116.29 312 PKP **PKPdf 08 41 37.9 -1.7**
MKAR PKKPbc **PKKPbc 08 52 09.2 -0.4**
NVS Novosibirsk 116.84 321 *e*P **Pdif 08 37 54.2 -1.7**
KURK Kurchatov 119.21 316 PKP **PKPdf 08 41 43.2 -1.7**
comp=Z,3.9nm,0.7s,baz=100,slow=1.9,SNR=32
KURK PKKPbc **PKKPab 08 51 58.8 0.0**
comp=Z,0.3nm,0.7s,baz=270,slow=4.7,SNR=4.5
KURK Kurchatov 119.21 316 PKIKP **PKPdf 08 41 43.3 -1.7**
KURK Kurchatov 119.21 316 PKP **PKPdf 08 41 43.2 -1.7**
KURK *e*PKPdf **PiKiKP 08 41 43.6 -1.4**
KURK PKKPbc **PKKPab 08 51 58.8 0.0**
TKM2 Tokmak 2 120.42 306 *e*PKIKP **PKPdf 08 41 46.3 -1.6**
TKM2 Tokmak 2 120.42 306 *e*PKPdf **PKPdf 08 41 46.3 -1.6**
AAK Ala-Archa 121.19 306 *e*PKIKP **PKPdf 08 41 47.8 -1.5**
AAK Ala-Archa 121.19 306 *e*PKPdf **PKPdf 08 41 47.8 -1.5**
BOSA Boshof 122.75 202 PKP **PKPdf 08 41 53.1 +0.3**
comp=Z,13nm,1.0s,baz=119,slow=2.0,SNR=13
BOSA Boshof 122.75 202 PKIKP **PKPdf 08 41 53.1 +0.3**
BOSA pmax pmax
comp=Z,13nm,1.0s
BOSA Boshof 122.75 202 PKP **PKPdf 08 41 53.1 +0.3**
BOSA *e*PKPdf **PiKiKP 08 41 54.0 +1.0**
KKAR Karatay Array 124.15 306 *e*PKIKP **PKPdf 08 41 53.4 -1.4**
KKAR Karatay Array 124.15 306 *e*PKPdf **PKPdf 08 41 53.4 -1.4**
KBL Kabul 124.29 296 *e*PKIKP **PKPdf 08 41 55.3 -0.3**
KBL Kabul 124.29 296 *e*PKPdf **PKPdf 08 41 55.3 -0.3**
BVAR Borovoye Array 124.36 318 PKP **PKPdf 08 41 53.8 -1.0**
comp=Z,4.6nm,0.7s,baz=92,slow=1.6,SNR=24
BVAR Borovoye Array 124.36 318 PKIKP **PKPdf 08 41 53.8 -1.0**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 124.36 318 PKP **PKPdf 08 41 53.8 -1.0**
BRVK Borovoye 124.43 318 *i* PKIKP **PKPdf 08 41 54.9 0.0**
BRVK pmax pmax
comp=Z,14nm,2.5s
ARU Arti 130.59 324 *i* PKIKP **PKPdf 08 42 06.7 +0.1**
ARU 08 44 20.6
ARU SS SS 09 01 46.5 -2.3
ARU Arti 130.59 324 *e*PKPdf **PKPdf 08 42 06.0 -0.5**
AKTO Aktyubinsk 132.31 316 PKP **PKPdf 08 42 08.9 -1.1**
comp=Z,2.2nm,0.7s,baz=77,slow=2.7,SNR=9.9
AKTO Aktyubinsk 132.31 316 PKIKP **PKPdf 08 42 08.9 -1.1**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 132.31 316 PKP **PKPdf 08 42 08.9 -1.1**
ARCES ARCESS Array B 134.16 350 PKP **PKPdf 08 42 12.5 -0.5**
comp=Z,10.0nm,0.8s,baz=36,slow=2.3,SNR=11
ARCES ARCESS Array B 134.16 350 PKIKP **PKPdf 08 42 12.5 -0.5**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 134.16 350 PKP **PKPdf 08 42 12.5 -0.5**
JOF Joensuu 138.53 342 *e*PKIKP **PKPdf 08 42 20.8 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 138.53 342 *e*pkp **PKPdf 08 42 20.8 -0.4**
comp=Z,6.4nm,0.6s
JOF Joensuu 138.53 342 *e*pkp **PKPdf 08 42 20.8 -0.4**
comp=Z,6.4nm,0.6s
KMBO Kilima Mbogo 138.88 235 *e*PKIKP **PKPdf 08 42 25.1 +1.3**
KMBO Kilima Mbogo 138.88 235 *e*PKPdf **PKPdf 08 42 25.1 +1.3**
KAF Kangasniemi 140.52 344 *e*PKHKP PKPpre 08 42 15.2
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 140.52 344 *e*pkp PKPpre 08 42 15.2
comp=Z,3.2nm,0.6s
KAF Kangasniemi 140.52 344 *e*pkp PKPpre 08 42 15.2
comp=Z,3.2nm,0.6s
FINES FINESS Array B 141.15 344 PKhKP PKPpre 08 42 18.7
comp=Z,2.1nm,0.8s,baz=354,slow=5.7,SNR=6.1
FINES FINESS Array B 141.15 344 PKHKP PKPpre 08 42 18.7
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 141.15 344 PKPpre PKPpre 08 42 18.7
OBN Obninsk 142.21 330*c* *i* PKIKP **PKPdf 08 42 25.3 -2.8**
OBN *e* 08 49 26.4
OBN pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 143.17 324 *e*PKIKP PKPab 08 42 26.0 +0.4
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.6s
GNI Garni 143.54 304*d* *i* PKIKP **PKPdf 08 42 32.2 +1.0**
GNI pmax pmax
comp=Z,21nm,1.7s
ZEI Tsey 143.55 308 *e*PKIKP PKPdf 08 42 37.6 +6.4
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 144.05 311 ⇑ *i* PKIKP PKPbc 08 42 29.9 0.0
KIV pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 144.05 311 *e*PKPdf **PKPab 08 42 29.2 -0.1**
NB2 NORSAR Subarra 144.10 355 PKP **PKPab 08 42 28.2 -0.8**
comp=Z,16nm,0.8s,baz=7.0,slow=3.4
NB2 NORSAR Subarra 144.10 355 PKP **PKPab 08 42 28.2 -0.8**
baz=7.0,slow=3.4
NOA NORSAR Array B 144.10 355 PKhKP PKPpre 08 42 27.5
comp=Z,13nm,0.8s,baz=4.9,slow=2.2,SNR=26
NOA NORSAR Array B 144.10 355 PKHKP PKPpre 08 42 27.5
NOA pmax pmax
comp=Z,13nm,0.9s
NOA NORSAR Array B 144.10 355 PKPpre PKPpre 08 42 27.4
NC602 NORSAR Array S 144.37 354 *e*P **PKPab 08 42 29.0 -0.9**
HFS Hagfors 144.73 352 PKP **PKPab 08 42 29.7 -1.5**
comp=Z,37nm,0.7s,baz=66,slow=3.6,SNR=84
HFS Hagfors 144.73 352 PKIKP **PKPab 08 42 29.7 -1.5**
HFS pmax pmax
comp=Z,37nm,0.7s
HFS Hagfors 144.73 352 PKP **PKPab 08 42 29.7 -1.5**
HAKT HAKKARI 144.79 300 *i* P PKPbc 08 42 32.7 0.0
RUND Rundenannen 145.01 359 *e*P **PKPbc 08 42 30.8 -1.5**
RUND *e* 08 42 44.7
BER Bergen 145.04 359 *e*P **PKPbc 08 42 30.9 -1.4**
LRW Lerwick 145.06 5 *e*P **PKPbc 08 42 31.3 -1.0**
LRW Lerwick 145.06 5 P **PKPbc 08 42 31.3 -1.0**
DAGI Agillar 145.43 306 *i* P **PKPbc 08 42 32.7 -1.7**
ODD1 Odda 145.49 358 *e*P **PKPdf 08 42 31.9 -1.9**
DBOC Borcka 145.53 307 *i* P **PKPab 08 42 35.9 +1.0**
DDEM Demirkent 145.59 306 *i* P PKPdf 08 42 28.4 -6.3
KONO Kongsberg 145.60 356 *e*P **PKPdf 08 42 33.5 -0.5**
KONO Kongsberg 145.60 356 *e*PKIKP **PKPdf 08 42 33.2 -0.7**
KONO Kongsberg 145.60 356 *e*PKPdf **PKPdf 08 42 33.2 -0.7**
HOMI Horasan 145.69 304 *i* P **PKPdf 08 42 32.7 -2.4**
IZAR Zarasai 145.83 338 *e*P **PKPdf 08 42 33.8 -0.7**
IZAR AMB AMB 08 42 50.6
comp=Z,38nm,1.1s
ISAL Salakas 146.01 338 *e*P **PKPdf 08 42 34.4 -0.4**
ISAL AMB AMB 08 42 51.3
comp=Z,31nm,1.2s
IIGN Ignalina 146.16 338 *e*P **PKPdf 08 42 35.2 +0.2**
IIGN AMB AMB 08 42 51.8
comp=Z,30nm,1.4s
MICGM Minsk 146.24 336‖ *e*P **PKPbc 08 42 36.0 -0.3**
MNK Minsk 146.25 336‖ *e*PKP2 **PKPbc 08 42 36.0 -0.3**
MNK pmax pmax
comp=Z,250nm,1.5s
NACGM Naroch 146.32 337 *e* **PKPdf 08 42 32.0 -3.3**
MVH1 Achvaich 146.91 9 *e*P **PKPdf 08 42 37.1 +1.0**
MVH1 Achvaich 146.91 9 P **PKPdf 08 42 37.1 +1.0**
SNART Snartemo 147.04 358 *e*P **PKPbc 08 42 38.1 -0.4**
MARD Mardin 147.13 300 *i* P **PKPdf 08 42 32.7 -4.8**
KAC Achnashellach 147.15 10 *e*P **PKPdf 08 42 36.2 -0.4**
KAC Achnashellach 147.15 10 P **PKPdf 08 42 36.2 -0.4**
ANN Anapa 147.24 315 *i* PKP2 **PKPbc 08 42 39.4 -0.1**
ANN pmax pmax
comp=Z,54nm,1.0s
MDO Dochfour 147.35 9 *e*P **PKPdf 08 42 37.9 +0.9**
MDO Dochfour 147.35 9 P **PKPdf 08 42 37.9 +0.9**
MCD Coleburn Disti 147.36 8 *e*P **PKPdf 08 42 38.1 +1.2**
MCD Coleburn Disti 147.36 8 P **PKPdf 08 42 38.1 +1.2**
KELT Kelkit 147.62 306 *i* P **PKPbc 08 42 40.9 -0.1**
ELZG Elazig 148.26 303 *i* P **PKPab 08 42 44.4 -1.4**
SUW Suwalki 148.27 339 *e*PKP **PKPbc 08 42 41.8 -0.1**
SUW *e* 08 42 45.1
SUW *e* 08 42 59.0
SUW Suwalki 148.27 339 *e*PKP2 **PKPbc 08 42 41.8 -0.1**
AKASG Malin Array Be 148.46 330 PKPbc **PKPbc 08 42 41.3 -1.2**
comp=Z,5.1nm,0.6s,baz=40,slow=2.8,SNR=17
AKASG Malin Array Be 148.46 330 PKP2 **PKPbc 08 42 41.3 -1.2**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 148.46 330 PKPbc **PKPbc 08 42 41.3 -1.2**
AKBB Malin Array Si 148.46 330 *e*PKIKP **PKPdf 08 42 39.4 +0.4**
AKBB Malin Array Si 148.46 330 *e*PKPdf **PKPdf 08 42 39.4 +0.4**
KIEV Kiev 148.47 330*d* *i* PKP2 **PKPbc 08 42 41.4 -1.2**
KIEV Kiev 148.47 330 *e*PKPdf **PKPbc 08 42 41.1 -1.5**
EAB Aberfoyle 148.56 10 *e*P **PKPbc 08 42 42.3 -0.4**
EAB Aberfoyle 148.56 10 P **PKPbc 08 42 42.3 -0.4**
PGBU Glenifferbraes 148.90 10 *e*P **PKPdf 08 42 41.3 +1.7**
PGBU Glenifferbraes 148.90 10 P **PKPdf 08 42 41.3 +1.7**
EDI Edinburgh 148.99 9 *e*P **PKPbc 08 42 42.4 -1.3**
EDI Edinburgh 148.99 9 P **PKPbc 08 42 42.4 -1.3**
ESY Stoneypath 149.06 8 *e*P **PKPbc 08 42 43.2 -0.8**
ESY Stoneypath 149.06 8 P **PKPbc 08 42 43.2 -0.8**
AKCD Akcadag 149.12 303 *i* P **PKPdf 08 42 38.0 -2.7**
EBL Broad Law 149.15 8 *e*P **PKPbc 08 42 43.4 -0.8**
EBL Broad Law 149.15 8 P **PKPbc 08 42 43.4 -0.8**
SIM Simferopol' 149.26 317 *i* PKP2 **PKPbc 08 42 46.8 +2.0**
SIM pmax pmax
comp=Z,28nm,0.8s
SIM MLR MLR
comp=Z,200nm,19.5s
SCER sogukcermik 149.27 306 *i* P **PKPdf 08 42 40.1 -0.7**
ERBA Erbaa 149.28 308 *i* P **PKPdf 08 42 41.2 +0.5**
ESK Eskdalemuir 149.57 9 *e*P **PKPbc 08 42 45.4 +0.2**
ESK Eskdalemuir 149.57 9 P **PKPbc 08 42 45.4 +0.2**
GAL1 Galloway 149.78 11 *e*P **PKPdf 08 42 41.7 +0.7**
GAL1 Galloway 149.78 11 P **PKPdf 08 42 41.7 +0.7**
XAL Allendale 150.15 8 *e*P **PKPdf 08 42 41.5 -0.1**
XAL Allendale 150.15 8 P **PKPdf 08 42 41.5 -0.1**
PINB Pinarbasi 150.16 304 *i* P **PKPdf 08 42 41.2 -1.3**
XDE Dent Fell 150.32 10 *e*P **PKPbc 08 42 46.2 -0.9**
XDE Dent Fell 150.32 10 P **PKPbc 08 42 46.2 -0.9**
GKP Gorka Klasztor 150.61 345 *e*PKP **PKPbc 08 42 48.4 +0.6**
GKP Gorka Klasztor 150.61 345 *e*PKIKP **PKPbc 08 42 48.4 +0.6**
BEL Belsk 150.88 339 *e*PKP **PKPbc 08 42 48.7 +0.2**
BEL Belsk 150.88 339 *e*PKIKP **PKPbc 08 42 48.7 +0.2**
WME Myndd Eilian 151.25 11 *e*P **PKPbc 08 42 47.5 -1.8**
WME Myndd Eilian 151.25 11 P **PKPbc 08 42 47.5 -1.8**
AVNT Avonos 151.28 305 *i* P **PKPdf 08 42 44.4 +0.3**
CDAG Cicekdag 151.35 307 *i* P **PKPbc 08 42 49.8 -0.4**
LVV L'vov 151.36 333 *e*PKIKP **PKPbc 08 42 49.3 -0.4**
GULE Gulek 151.79 302 *i* P **PKPbc 08 42 54.0 +2.7**
BR131 Keskin Array S 151.84 308 *e*PKPbc **PKPbc 08 42 50.2 -1.2**
BRTR Keskin Array B 151.84 308 PKPbc **PKPbc 08 42 50.5 -0.9**
comp=Z,7.1nm,0.9s,baz=126,slow=2.5,SNR=26
BRTR Keskin Array B 151.84 308 PKIKP **PKPbc 08 42 50.5 -0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 151.84 308 PKPbc **PKPbc 08 42 50.5 -0.9**
FOEL Foel Wylfa 151.93 10 *e*P **PKPbc 08 42 48.7 -2.2**
FOEL Foel Wylfa 151.93 10 P **PKPbc 08 42 48.7 -2.2**
KWP Kalwaria Pacla 152.04 335 *e*PKP **PKPbc 08 42 51.2 0.0**
KWP Kalwaria Pacla 152.04 335 *e*PKIKP **PKPbc 08 42 50.4 -0.8**
KWP Kalwaria Pacla 152.04 335 *e*PKPbc **PKPbc 08 42 50.4 -0.8**
KWP Kalwaria Pacla 152.04 335 ‖ *i*P **PKPbc 08 42 51.2 0.0**
RUE Ruedersdorf 152.09 348 *e*PKPbc **PKPbc 08 42 50.8 -0.4**
BUR08 Bucovina Ar. S 152.50 329 *e*PKPbc **PKPbc 08 42 53.0 +0.5**
BURAR Bucovina Array 152.51 329 ⇑ *i*P **PKPbc 08 42 53.7 +1.2**
TESR 152.59 326 ⇑ *i*P **PKPbc 08 42 53.4 +0.8**
OJC Ojcow 152.60 339 *e*PKP **PKPbc 08 42 51.9 -0.6**
OJC *ep*PKP **PKPab 08 43 06.6 +3.6**
OJC Ojcow 152.60 339 *e*PKIKP **PKPbc 08 42 51.9 -0.6**
OJC *e* 08 43 06.6
KOLS Kolonicke sedl 152.77 334 *e*PKIKP **PKPdf 08 42 46.3 +0.5**
KOLS *e* 08 42 53.8
KOLS *e* 08 43 03.4
KOLS Kolonicke sedl 152.77 334 *e*PKP **PKPdf 08 42 46.3 +0.5**
KOLS *e* 08 42 53.8
KOLS *e* 08 43 03.4
STHS Stebnicka Huta 152.77 336 *e*PKIKP **PKPbc 08 42 53.0 +0.1**
STHS *e* 08 43 04.9
STHS Stebnicka Huta 152.77 336 *e*PKP **PKPbc 08 42 53.0 +0.1**
STHS *e* 08 43 04.9
MCH1 Michaelchurch 152.82 10 *e*P **PKPbc 08 42 50.4 -2.5**
MCH1 Michaelchurch 152.82 10 P **PKPbc 08 42 50.4 -2.5**
UZH Uzhgorod 153.00 334 *e*PKIKP **PKPbc 08 42 52.0 -1.4**
UZH *e* 08 43 00.6
KSP Ksiaz 153.07 344 *e*PKP **PKPbc 08 42 53.7 +0.2**
KSP Ksiaz 153.07 344 *e*PKIKP **PKPab 08 43 03.8 -1.1**
NIE Niedzica 153.10 337 *e*PKP **PKPbc 08 42 53.7 0.0**
NIE Niedzica 153.10 337 *e*PKIKP **PKPbc 08 42 53.7 0.0**
CRVS Cervenica-Dubn 153.11 335 *e*PKIKP **PKPdf 08 42 46.1 -0.2**
CRVS *e* 08 42 54.1
CRVS Cervenica-Dubn 153.11 335 *e*PKP **PKPdf 08 42 46.1 -0.2**
CRVS *e* 08 42 54.1
CRVS *e* 08 43 04.9
TRPA Tarpa 153.30 333 *e* PKPab 08 43 00.5 -5.5
CLL Collm 153.36 348 *i* PKIKP **PKPbc 08 42 53.7 -0.4**
CLL *i* 08 43 05.2
CLL pmax pmax
comp=Z,19nm,1.0s
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,200nm,18.3s
CLL Collm 153.36 348 *i* PKPbc **PKPbc 08 42 53.7 -0.4**
comp=Z,19nm,1.0s
CLL *es*PKPdf **sPKPdf 08 43 00.0 +2.3**
CLL *i* PKPab **PKPab 08 43 05.2 -0.9**
comp=Z,21nm,1.0s
CLL *i* sPKPbc **sPKPbc 08 43 08.4 +3.2**
CLL *i* sPKPab **sPKPab 08 43 19.0 +1.9**
CLL LmV 09 53 00.0
comp=Z,200nm,18.3s
UPC Upice 153.45 344 *e*PKIKP **PKPbc 08 42 54.4 0.0**
UPC *e* 08 43 06.5
UPC Upice 153.45 344⇑ *e*PKP **PKPbc 08 42 54.4 0.0**
UPC *e*PKPAB **PKPab 08 43 06.5 -0.1**
UPC *ep*PKP pPKPdf 08 43 19.1 +24
OKC Ostrava-Krasne 153.45 340 *e*PKP2 **PKPab 08 43 06.9 +0.3**
OKC Ostrava-Krasne 153.45 340 *e*PKPAB **PKPab 08 43 06.9 +0.3**
OKC *ep*PKP pPKPdf 08 43 19.5 +24
DPC Dobruska-Polom 153.51 343 *e*PKP2 **PKPab 08 43 06.5 -0.4**
DPC Dobruska-Polom 153.51 343 *e*PKPAB **PKPab 08 43 06.5 -0.4**
DPC *ep*PKP pPKPdf 08 43 20.2 +25
BRG Berggiesshubel 153.59 347 *e*PKP **PKPdf 08 42 47.0 +0.1**
comp=Z,20nm,1.7s
BRG *i* 08 42 54.6
comp=Z,14nm,0.8s
BRG *e* 08 43 06.6
comp=Z,15nm,0.9s
BRG *e* 08 43 20.7
comp=Z,20nm,0.8s
BRG Berggiesshubel 153.59 347 *e*PKIKP **PKPdf 08 42 47.0 +0.1**
BRG *i* 08 42 54.6
BRG *e* 08 43 06.6
BRG pmax pmax
comp=Z,20nm,1.7s
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,15nm,0.9s
BRG pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 153.64 325 PKPbc **PKPbc 08 42 55.4 +0.3**
comp=Z,0.4nm,0.5s,baz=47,slow=5.0,SNR=3.4
MLR Muntele Rosu 153.64 325 PKIKP **PKPbc 08 42 55.4 +0.3**
MLR Muntele Rosu 153.64 325 PKPbc **PKPbc 08 42 55.4 +0.3**
MLR Muntele Rosu 153.64 325‖ *i*P **PKPbc 08 42 56.0 +0.9**
KRLC Kraliky 153.64 342⇑ *e*PKP **PKPbc 08 42 54.7 -0.1**
KRLC *e*PKPAB **PKPab 08 43 06.7 -0.7**
KRLC *ep*PKP pPKPdf 08 43 20.0 +25
MORC Moravsky Berou 153.69 341 *e*PKIKP **PKPbc 08 42 54.9 -0.1**
MORC *e* 08 43 06.9
MORC Moravsky Berou 153.69 341 *e*PKPbc **PKPbc 08 42 54.9 -0.1**
MORC *e*PKPab **PKPab 08 43 06.9 -0.8**
MORC Moravsky Berou 153.69 341⇑ *i*P **PKPbc 08 42 55.2 +0.2**
PVCC Panska Ves 153.78 346 *e*PKIKP **PKPbc 08 42 55.0 0.0**
PVCC *e* 08 43 07.9
PVCC Panska Ves 153.78 346‖ *e*PKP **PKPbc 08 42 55.0 0.0**
PVCC *e*PKPAB **PKPab 08 43 07.9 0.0**
PVCC *ep*PKP pPKPdf 08 43 21.1 +26
KECS Kecovo 153.82 336 *e*PKIKP **PKPbc 08 42 55.7 +0.5**
KECS *e* 08 43 07.4
KECS Kecovo 153.82 336 *e*PKP **PKPbc 08 42 55.7 +0.5**
KECS *e* 08 43 07.4
KECS *e* 08 43 22.4
VOIR 154.13 326‖ *i*P **PKPbc 08 42 55.1 -1.0**
PRU Pruhonice 154.29 345 *e*PKIKP **PKPbc 08 42 56.2 0.0**
PRU *e* 08 43 10.0
PRU Pruhonice 154.29 345⇑ *e*PKP **PKPbc 08 42 56.2 0.0**
PRU *e*PKPAB **PKPab 08 43 10.0 -0.1**
PRU *ep*PKP pPKPdf 08 43 22.3 +26
VRAC Vranov 154.38 342⇑ *i*P PKPab 08 43 04.2 -6.4
VYHS Vyhne 154.40 338 *e*PKIKP **PKPdf 08 42 48.1 0.0**
VYHS *e* 08 42 56.8
VYHS *e* 08 43 10.0
VYHS Vyhne 154.40 338 *e*PKP **PKPdf 08 42 48.1 0.0**
VYHS *e* 08 42 56.8
VYHS *e* 08 43 10.0
VYHS *e* 08 43 24.7
KOLL Kolacno 154.47 338 *e*PKIKP **PKPbc 08 42 56.8 +0.2**
KOLL *e* 08 43 10.5
KOLL Kolacno 154.47 338 *e*PKP **PKPbc 08 42 56.8 +0.2**
KOLL *e* 08 43 10.5
NKC Novy Kostel 154.49 348 *e*PKIKP **PKPbc 08 42 56.7 +0.1**
NKC *e* 08 43 09.8
NKC Novy Kostel 154.49 348⇑ *e*PKP **PKPbc 08 42 56.7 +0.1**
NKC *e*PKPAB **PKPab 08 43 09.8 -1.2**
NKC *ep*PKP PKiKP 08 43 24.6 +28
PSZ Piszkesteto 154.51 336‖ *e* **PKPab 08 43 11.7 +0.4**
TREC Trest 154.70 343 *e*PKP2 **PKPab 08 43 11.4 -0.5**
TREC Trest 154.70 343 *e*PKPAB **PKPab 08 43 11.4 -0.5**
MEM Membach 154.82 358 PKPab **PKPab 08 43 13.4 +1.1**
SMOL Smolenice 154.84 340 *e*PKP2 **PKPab 08 43 13.3 +0.7**
SMOL Smolenice 154.84 340 *e*PKP **PKPab 08 43 13.3 +0.7**
SNF Seneffe 154.94 1 PKPab **PKPab 08 43 12.1 -0.8**
BCLA Clavier 155.03 359 PKPab **PKPab 08 43 12.6 -0.6**
BCLA APKPab 08 43 18.5

KHC	**Kasperske Hory**	**155.31**	**346**	*e*PKIKP	PKPdf	08 42 58.4	+9.0
KHC				*e*		08 43 14.4	
KHC	**Kasperske Hory**	**155.31**	**346**⇑	*e*PKP	PKPdf	08 42 58.4	+9.0
KHC				*e*PKPAB	**PKPab**	**08 43 14.4**	**-0.2**
KHC				*e*pPKP	pPKPdf	08 43 28.0	+30
DOU	**Dourbes**	**155.35**	**0**	PKPab	**PKPab**	**08 43 14.2**	**-0.4**
GERES	**GERESS Array B**	**155.55**	**345**	PKP	**PKPdf**	**08 42 49.0**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=119,slow=8.0,SNR=5.2						
GERES				PKPab	**PKPab**	**08 43 12.6**	**-3.1**
	comp=Z,1.3nm,0.6s,baz=26,slow=2.5,SNR=9.2						
GERES	**GERESS Array B**	**155.55**	**345**	PKIKP	**PKPdf**	**08 42 49.0**	**-0.9**
GERES						08 43 12.6	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**155.55**	**345**	PKP	**PKPdf**	**08 42 49.0**	**-0.9**
GERES				PKPab	**PKPab**	**08 43 12.6**	**-3.1**
WLF	**Walferdange**	**155.76**	**358**	PKPab	**PKPab**	**08 43 16.1**	**-0.3**
DAVOX	**Davos/Dischmat**	**158.27**	**350**	PKPab	**PKPab**	**08 43 27.1**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=323,slow=4.5,SNR=7.9						
DAVOX	**Davos/Dischmat**	**158.27**	**350**	PKP2	**PKPab**	**08 43 27.1**	**-0.4**
DAVOX	**Davos/Dischmat**	**158.27**	**350**	PKPab	**PKPab**	**08 43 27.1**	**-0.4**
DBIC	**Dimbokro**	**159.27**	**152**	PKPab	**PKPab**	**08 43 32.2**	**-0.3**
	comp=Z,7.9nm,0.7s,baz=189,slow=6.0,SNR=10.0						
DBIC	**Dimbokro**	**159.27**	**152**	PKP2	**PKPab**	**08 43 32.2**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
DBIC	**Dimbokro**	**159.27**	**152**	PKPab	**PKPab**	**08 43 32.2**	**-0.3**
ESDC	**Sonseca Array**	**164.05**	**25**	PKP	**PKPdf**	**08 43 00.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=336,slow=2.6,SNR=8.2						
ESDC				PKPab	**PKPab**	**08 43 51.7**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=321,slow=4.2,SNR=13						
ESDC				PP	**PP**	**08 47 36.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=340,slow=7.0,SNR=3.3						
ESDC	**Sonseca Array**	**164.05**	**25**	PKP	**PKPdf**	**08 43 00.1**	**+0.4**
ESDC				PKPab	**PKPab**	**08 43 51.7**	**-1.1**
ESDC				PP	**PP**	**08 47 36.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**167.49**	**167**	PKP	**PKPdf**	**08 43 02.4**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=348,slow=0.9,SNR=11						
TORD				PKPab	**PKPab**	**08 44 08.7**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=191,slow=4.0,SNR=16						
TORD				PP	**PP**	**08 47 56.9**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=255,slow=5.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**167.49**	**167**	PKP	**PKPdf**	**08 43 02.4**	**-0.7**
TORD				PKPab	**PKPab**	**08 44 08.7**	**+0.3**
TORD				PP	**PP**	**08 47 56.9**	**+1.5**

*NEIC **03** 08:35:01.2, 15°.59N×94°.59W, h41km, MD4.0(MEX), After MEX.*

MEX 03 08:35:01.2±0.3, **15°.59N**×**94°.59W, h43**km±30km**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.32**	**85**	*i* P	Pn	08 35 21.6	-1.6
PCIG				*e*S	Sn	08 35 37.6	-2.1
PCIG		**1.32**	**85**	*i* P	Pn	08 35 21.6	-1.6
PCIG				*e*S	Sn	08 35 37.6	-2.1
HUIG	**Huatulco**	**1.47**	**277**	*i* P	Pn	08 35 24.0	-1.3
HUIG				*e*S	Sn	08 35 40.3	-3.1
HUIG	**Huatulco**	**1.47**	**277**	*i* P	Pn	08 35 24.0	-1.3
HUIG				*e*S	Sn	08 35 40.3	-3.1
CMIG	**Matias Romero**	**1.52**	**349**	*i* P	Pn	08 35 24.3	-1.6
CMIG				*e*S	Sn	08 35 42.4	-2.1
CMIG	**Matias Romero**	**1.52**	**349**	*i* P	Pn	08 35 24.3	-1.6
CMIG				*e*S	Sn	08 35 42.4	-2.1
TGIG		**1.84**	**50**	*i* P	Pn	08 35 28.7	-1.7
TGIG				*e*S	Sn	08 35 50.3	-2.2
TGIG		**1.84**	**50**	*i* P	Pn	08 35 28.7	-1.7
TGIG				*e*S	Sn	08 35 50.3	-2.2
VHO	**Vista Hermosa**	**2.53**	**306**	*i* P	Pn	08 35 38.9	-1.2
VHO				*e*S	Sn	08 36 07.9	-2.0
VHO	**Vista Hermosa**	**2.53**	**306**	*i* P	Pn	08 35 38.9	-1.2
VHO				*e*S	Sn	08 36 07.9	-2.0
PNIG	**Pinotepa**	**3.50**	**284**	*i* P	Pn	08 35 51.6	-1.5
PNIG				*e*S	Sn	08 36 31.6	-1.7
PNIG	**Pinotepa**	**3.50**	**284**	*i* P	Pn	08 35 51.6	-1.5
PNIG				*e*S	Sn	08 36 31.6	-1.7

*IDC **03** 08:50:58.2±1.0, 37°.09N×96°.83E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.6/28, mbtmp3.7/11, ML3.9/4, Error ellipse: s-maj=34.5km s-min=17.4km az=51.0*
*NEIC **03** 08:51:00.0±0.6, 37°.17N×96°.79E, h10km, mb4.0/7, Error ellipse: s-maj=12.4km s-min=9.6km az=223.0*
*BJI **03** 08:51:01.2, 37°.36N×96°.62E, h26km, ML3.7/7, Ms3.6/3, Ms7 3.2/3*

ISC 03 08:51:02.4±0.8, **37°.28N**±0°.08×**96°.47E**±0°.06, **h10**km**, n32,** σ1°.53/22**, mb3.8/9, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.38**	**50**	Pn	**Pn**	**08 51 54.3**	**-1.0**
GTA				Pg	**Pb**	**08 52 01.8**	**-0.6**
GTA				Sn	**Sn**	**08 52 36.3**	**+0.7**
GTA				Sg	**Sb**	**08 52 46.0**	**+2.3**
GTA				smax	smax		
	comp=N,54nm,0.8s						
GTA				smax	smax		
	comp=E,76nm,0.7s						
GTA				LR	LR		
	comp=N,360nm,5.0s						
GTA				LR	LR		
	comp=E,320nm,5.0s						
GTA				LR	LR		
	comp=Z,330nm,10.9s						
LZH	**Lanzhou**	**6.04**	**99**	*e*Pg	**Pb**	**08 52 50.0**	**+2.1**
LZH				Sg	**Sb**	**08 54 00.4**	**0.0**
LZH				smax	smax		
	comp=N,75nm,1.0s						
LZH				smax	smax		
	comp=E,180nm,1.1s						
LZH				LR	LR		
	comp=N,340nm,7.3s						
LZH				LR	LR		
	comp=E,170nm,4.8s						
LZH				LR	LR		
	comp=Z,370nm,8.0s						
LSA	**Lhasa**	**8.77**	**212**	*e*Pn	**Pn**	**08 53 09.4**	**-0.2**
	comp=Z,4.4nm,0.8s						
SONM	**Songino Array**	**12.82**	**32**	Pn	Pn	08 54 02.7	-2.1
	comp=Z,1.3nm,0.3s,baz=213,slow=15,SNR=32						
SONM	**Songino Array**	**12.82**	**32**	Pn	Pn	08 54 02.7	-2.1
MK31	**Makanchi Array**	**14.17**	**317**	*e*Pn	**Pn**	**08 54 23.3**	**+0.2**
MKAR	**Makanchi Array**	**14.17**	**317**	Pn	Pn	08 54 21.6	-1.4
	comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=13						
MKAR				Sn	Sn	08 56 58.6	-1.6
	comp=Z,0.2nm,0.3s,baz=128,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**14.17**	**317**	Pn	Pn	08 54 21.6	-1.4
MKAR				Sn	Sn	08 56 58.6	-1.6
TKM2	**Tokmak 2**	**16.92**	**296**	*e*P	**Pn**	**08 54 59.1**	**-0.3**
	comp=Z,7.3nm,0.8s						
AAK	**Ala-Archa**	**17.66**	**294**	*e*P	**Pn**	**08 55 09.3**	**+0.8**
	comp=Z,69nm,1.5s						
ZAA0	**Zalesovo Array**	**18.51**	**338**	*e*P	**P**	**08 55 20.1**	**+1.5**
ZALV	**Zalesovo Beam**	**18.51**	**338**	P	**P**	**08 55 18.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=147,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**18.51**	**338**	P	**P**	**08 55 18.9**	**+0.4**
KURK	**Kurchatov**	**18.51**	**322**	P	**P**	**08 55 18.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=136,slow=11,SNR=6.2						
KURK	**Kurchatov**	**18.51**	**322**	*e*P	**P**	**08 55 19.8**	**+1.1**
	comp=Z,16nm,1.6s						
KKAR	**Karatay Array**	**20.62**	**294**	*e*P	**P**	**08 55 43.1**	**+1.3**
	comp=Z,5.2nm,0.8s						
BVAR	**Borovoye Array**	**24.02**	**319**	P	**P**	**08 56 18.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=123,slow=7.6,SNR=5.6						
BVAR	**Borovoye Array**	**24.02**	**319**	P	**P**	**08 56 18.7**	**+1.5**
BRVK	**Borovoye**	**24.09**	**319**	*e*P	**P**	**08 56 19.3**	**+1.5**
	comp=Z,1.3nm,0.7s						
KSAR	**Wonju Array Be**	**24.91**	**80**	P	**P**	**08 56 21.2**	**-4.3**
KSRS	**Korea Array**	**24.94**	**80**	P	P	08 56 21.2	-4.5
	comp=Z,6.3nm,0.7s,baz=277,slow=9.4,SNR=23						
FINES	**FINESS Array B**	**48.88**	**323**	P	**P**	**08 59 47.1**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=103,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**48.88**	**323**	P	**P**	**08 59 47.1**	**-0.8**
ILAR	**Eielson Array**	**66.94**	**25**	P	P	09 01 51.5	-3.2
	comp=Z,0.3nm,0.8s,baz=300,slow=5.2,SNR=3.9						
ILAR	**Eielson Array**	**66.94**	**25**	P	P	09 01 51.5	-3.2
WRA	**Warramunga Arr**	**67.18**	**141**	P	P	09 01 51.9	-4.8
	comp=Z,0.4nm,0.6s,baz=342,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**67.18**	**141**	P	P	09 01 51.9	-4.8
INK	**Inuvik**	**68.33**	**18**	*e*P	P	09 02 00.7	-2.6
	comp=Z,4.8nm,1.3s						
ASAR	**Alice Springs**	**70.13**	**144**	P	P	09 02 10.9	-4.1
	comp=Z,0.5nm,0.8s,baz=333,slow=6.5,SNR=8.1						
ASAR	**Alice Springs**	**70.13**	**144**	P	P	09 02 10.9	-4.1
STKA	**Stephens Creek**	**80.69**	**142**	P	P	09 03 10.7	-4.8
	comp=Z,0.9nm,0.7s,baz=342,slow=6.4,SNR=3.4						
STKA	**Stephens Creek**	**80.69**	**142**	*e*P	P	09 03 10.8	-4.8
	comp=Z,2.9nm,1.7s						

*ISCJB **03** 08:55:02.9±1.0, 34°.61N×0°.04×24°.89E±0°.03, h2km±5km, mb3.6/6, MS3.0/1, Error ellipse: s-maj=7.2km s-min=4.1km az=3.0*
*IDC **03** 08:55:03.8±1.2, 34°.57N×24°.89E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.6/29, mbtmp3.6/11, ML4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.1/44, Error ellipse: s-maj=29.0km s-min=20.6km az=144.0*
*ATH **03** 08:55:05.4, 34°.73N×24°.87E, h6km±1km, MD3.5/17*
*THE **03** 08:55:06.1, 34°.80N×24°.83E, h0km±2km, ML3.1/1, Error ellipse: s-maj=3.9km s-min=1.4km az=178.0*
*CSEM **03** 08:55:06.5±0.7, 34°.78N×24°.90E, h1km, ML3.1/1, Error ellipse: s-maj=15.0km s-min=6.0km az=4.0*

ISC 03 08:55:05.8±1.2, **34°.75N**±0°.04×**24°.87E**±0°.02, **h7**km±8km**, n61,** σ1°.46/83**, mb3.7/6, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.27**	**350**	P	**Pg**	**08 55 11.0**	**-0.1**
SIVA	**Sivas**	**0.27**	**350**	*e*PG	**Pg**	**08 55 11.1**	**-0.1**
SIVA				*e*SG	**Sg**	**08 55 15.6**	**+0.7**
SIVA	**Sivas**	**0.27**	**350**	*e*Pg	**Pg**	**08 55 11.1**	**-0.1**
SIVA				*e*Sg	**Sg**	**08 55 15.6**	**+0.7**
GVD	**Gavdhos**	**0.65**	**278**	P	**Pg**	**08 55 18.1**	**-0.2**
GVD				S	**Sg**	**08 55 27.6**	**+0.8**
GVD	**Gavdhos**	**0.65**	**278**	*e*PB	**Pg**	**08 55 18.1**	**-0.2**
GVD				*e*SB	**Sg**	**08 55 26.6**	**-0.2**
GVD	**Gavdhos**	**0.65**	**278**	P	**Pg**	**08 55 18.1**	**-0.2**
GVD				*e*Sb	**Sg**	**08 55 26.6**	**-0.8**
GVD				S	**Sg**	**08 55 27.6**	**+0.8**
XRY	**Khrisi**	**0.69**	**79**	*e*PB	**Pg**	**08 55 18.9**	**-0.2**
XRY	**Khrisi**	**0.69**	**79**	*e*Pb	**Pg**	**08 55 18.9**	**-0.2**
NPS	**Neapolis**	**0.80**	**50**	P	**Pg**	**08 55 20.3**	**-0.8**
NPS				S	**Sb**	**08 55 33.1**	**0.0**
NPS	**Neapolis**	**0.80**	**50**	*e*PB	**Pg**	**08 55 20.0**	**-1.1**
NPS				*e*SB	**Sg**	**08 55 31.8**	**+0.3**
NPS	**Neapolis**	**0.80**	**50**	*e*Pb	**Pg**	**08 55 20.0**	**-1.1**
NPS	**Neapolis**	**0.80**	**50**	P	**Pg**	**08 55 20.3**	**-0.8**
NPS				*e*Sb	**Sg**	**08 55 31.8**	**+0.3**
NPS				S	**Sb**	**08 55 33.1**	**0.0**
VAM	**Vamos**	**0.86**	**320**	P	**Pg**	**08 55 20.9**	**-1.4**
VAM				S	**Sg**	**08 55 34.2**	**+0.8**
VAM	**Vamos**	**0.86**	**320**	*e*PG	**Pg**	**08 55 21.6**	**-0.7**
VAM				*e*SB	**Sg**	**08 55 34.5**	**+1.1**
VAM	**Vamos**	**0.86**	**320**	P	**Pg**	**08 55 20.9**	**-1.4**
VAM	**Vamos**	**0.86**	**320**	*e*Pg	**Pg**	**08 55 21.6**	**-0.7**
VAM				S	**Sg**	**08 55 34.2**	**+0.8**
VAM				*e*Sb	**Sg**	**08 55 34.5**	**+1.1**
ZKR	**Zakros**	**1.17**	**71**	P	**Pg**	**08 55 27.7**	**-0.5**
ZKR				S	**Sn**	**08 55 45.8**	**+1.0**
ZKR	**Zakros**	**1.17**	**71**	*e*PB	**Pg**	**08 55 27.6**	**-0.6**
ZKR				*e*SB	**Sb**	**08 55 43.4**	**-0.3**
ZKR	**Zakros**	**1.17**	**71**	P	**Pg**	**08 55 27.7**	**-0.5**
ZKR				*e*Sb	**Sb**	**08 55 43.4**	**-0.3**
THR6	**Thira Island,**	**1.66**	**15**	P	**Pn**	**08 55 35.5**	**+0.1**
THR6	**Thira Island,**	**1.66**	**15**	P	**Pn**	**08 55 35.5**	**+0.1**
THR2	**Thira island,**	**1.76**	**15**	P	**Pn**	**08 55 35.6**	**-1.1**
THR2	**Thira island,**	**1.76**	**15**	P	**Pn**	**08 55 35.6**	**-1.1**
KARP	**Karpathos**	**2.04**	**66**	P	**Pb**	**08 55 42.9**	**-0.3**
KARP	**Karpathos**	**2.04**	**66**	P	**Pb**	**08 55 42.9**	**-0.3**
KYTH	**Kithira**	**2.14**	**316**	*e*PN	**Pb**	**08 55 44.3**	**-0.6**
KYTH	**Kithira**	**2.14**	**316**	*e*Pn	**Pb**	**08 55 44.3**	**-0.6**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**08 55 44.6**	**-0.7**
APE				S	**Sn**	**08 56 15.1**	**+0.3**
APE	**Apeiranthos**	**2.38**	**13**	*e*PN	**Pb**	**08 55 47.7**	**-1.3**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**08 55 44.6**	**-0.7**
APE	**Apeiranthos**	**2.38**	**13**	*e*Pn	**Pb**	**08 55 47.7**	**-1.3**
APE				S	**Sn**	**08 56 15.1**	**+0.3**
VLI	**Veliai**	**2.52**	**322**	*e*PB	**Pn**	**08 55 48.6**	**+1.4**
VLI				*e*SN	**Sb**	**08 56 21.3**	**-1.3**
VLI	**Veliai**	**2.52**	**322**	*e*Pb	**Pn**	**08 55 48.6**	**+1.4**
VLI				*e*Sn	**Sb**	**08 56 21.3**	**-1.3**
ARG	**Arkhangelos**	**3.03**	**60**	*e*PN	**Pn**	**08 55 57.0**	**+2.7**
ARG				*e*SN	**Sn**	**08 56 33.6**	**+2.7**
ARG	**Arkhangelos**	**3.03**	**60**	*e*Pn	**Pn**	**08 55 57.0**	**+2.7**
ARG				*e*Sn	**Sn**	**08 56 33.6**	**+2.7**
DID	**Didima**	**3.05**	**335**	*e*PN	**Pn**	**08 55 56.0**	**+1.4**
DID	**Didima**	**3.05**	**335**	*e*Pn	**Pn**	**08 55 56.0**	**+1.4**
VLX	**Vlachokerasia**	**3.30**	**323**	*e*PN	**Pn**	**08 56 00.1**	**+2.0**
VLX	**Vlachokerasia**	**3.30**	**323**	*e*Pn	**Pn**	**08 56 00.1**	**+2.0**
SMG	**Samos**	**3.35**	**28**	*e*PB	**Pn**	**08 56 01.8**	**+3.1**
SMG	**Samos**	**3.35**	**28**	*e*Pb	**Pn**	**08 56 01.8**	**+3.1**
ITM	**Ithomi**	**3.40**	**316**	*e*PB	**Pn**	**08 56 02.5**	**+3.1**
ITM	**Ithomi**	**3.40**	**316**	*e*Pb	**Pn**	**08 56 02.5**	**+3.1**
LTK	**Loutraki**	**3.61**	**335**	*e*PN	**Pn**	**08 56 03.9**	**+1.7**
LTK	**Loutraki**	**3.61**	**335**	*e*Pn	**Pn**	**08 56 03.9**	**+1.7**
GUR	**Goura**	**3.78**	**328**	*e*PN	**Pn**	**08 56 07.7**	**+3.1**
GUR	**Goura**	**3.78**	**328**	*e*Pn	**Pn**	**08 56 07.7**	**+3.1**
AGG	**Agios Georgios**	**4.73**	**335**	*e*PN	**Pn**	**08 56 20.4**	**+2.8**
AGG	**Agios Georgios**	**4.73**	**335**	*e*Pn	**Pn**	**08 56 20.4**	**+2.8**
BRTR	**Keskin Array B**	**8.57**	**52**	Pn	**Pn**	**08 57 10.0**	**-0.6**
	0.1nm,0.3s,baz=227,slow=15,SNR=2.3						
MMAI	**Mount Meron Ar**	**8.93**	**98**	Pn	**Pn**	**08 57 15.1**	**-0.2**
	1.8nm,0.3s,baz=274,slow=12,SNR=6.4						
MMAI				Sn	Sn	08 58 48.7	-7.5
	0.6nm,0.3s,baz=281,slow=31,SNR=2.4						
EIL	**Elat**	**9.93**	**118**	Pn	**Pn**	**08 57 26.3**	**-2.6**
	1.3nm,0.3s,baz=306,slow=15,SNR=7.9						
EIL				Sn	Sn	08 59 12.2	-8.4
	0.6nm,0.3s,baz=312,slow=11,SNR=2.8						
AKASG	**Malin Array Be**	**16.26**	**10**	Pn	**Pn**	**08 58 55.9**	**+1.3**
	0.9nm,0.3s,baz=203,slow=11,SNR=5.9						
GERES	**GERESS Array B**	**16.34**	**333**	Pn	**P**	**08 58 57.9**	**-0.8**
	0.2nm,0.3s,baz=146,slow=12,SNR=8.0						
ATD	**Arta Tunnel**	**28.32**	**140**	LR		09 14 27.8	
	comp=Z,32nm,18.1s,baz=320,slow=41						
AKTO	**Aktyubinsk**	**28.70**	**47**	P	**P**	**09 01 03.9**	**+0.4**
	0.6nm,0.5s,baz=248,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**30.04**	**230**	P	**P**	**09 01 13.8**	**-1.8**
	0.7nm,0.4s,baz=32,slow=9.0,SNR=21						
KURK	**Kurchatov**	**41.62**	**51**	P	**P**	**09 02 53.9**	**-0.5**
	0.3nm,0.4s,baz=272,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**09 03 14.7**	**-0.8**
	0.6nm,0.4s,baz=268,slow=7.8,SNR=16						
ZALV	**Zalesovo Beam**	**45.46**	**46**	P	**P**	**09 03 24.7**	**-0.7**
	0.4nm,0.4s,baz=271,slow=8.8,SNR=4.0						
SONM	**Songino Array**	**59.93**	**50**	P	**P**	**09 05 12.4**	**-0.3**
	0.1nm,0.3s,baz=291,slow=9.2,SNR=3.3						

*CSEM **03** 08:59:07.1±0.4, 43°.83N×8°.09E, h10km, ML1.1, Error ellipse: s-maj=7.1km s-min=2.8km az=170.0*

GEN 03 08:59:06.8, 43°.79N×**8°.14E, h6**km**, ML1.1, Corsica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMI	**Imperia**	**0.22**	**304**	P	Pg	08 59 11.3	+0.1
IMI				S	Sg	08 59 14.6	+0.4
RORO	**Rocca Rossa**	**0.33**	**350**	P	Pg	08 59 13.2	0.0
RORO				S	Sg	08 59 17.6	+0.1
STV	**Sant Anna di V**	**0.74**	**308**	P	Pg	08 59 20.9	-0.3
STV				S	Sg	08 59 30.4	-0.6
PCP	**Piancastagn**	**0.81**	**21**	P	Pg	08 59 21.8	-0.6
PCP				S	Sg	08 59 31.9	-1.0
PZZ	**Stroppo**	**1.03**	**314**	P	Pg	08 59 25.9	-0.9
PZZ				S	Sg	08 59 38.9	-1.4

*VIE **03** 09:01:23.7±0.2, 46°.10N×13°.65E, h12km±1km, mb2.4/10, ML2.8/12, Error ellipse: s-maj=1.7km s-min=1.5km az=8.0*
11 km SSW of Tolmin
*CSEM **03** 09:01:23.8±0.1, 46°.10N×13°.65E, h12km, ML3.2/22, Error ellipse: s-maj=2.2km s-min=1.3km az=16.0*
*ISCJB **03** 09:01:23.5±0.2, 46°.08N±0°.01×13°.65E±0°.01, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.5km az=19.4*
*LJU **03** 09:01:23.4, 46°.09N×13°.65E, h17km, ML2.6*
*ROM **03** 09:01:23.0±0.3, 46°.12N×13°.74E, h10km±2km, Md2.9/11, Ml2.7/9, Error ellipse: s-maj=3.7km s-min=2.5km az=77.0*
*PRU **03** 09:01:25.4, 46°.13N×13°.65E, h10km*

ISC 03 09:01:24.4±0.7, **46°.10N**±0°.01×**13°.65E**±0°.01, **h13**km±3km**,**

n145, σ0°.68/251**, 31C-27D, Austria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRE	**Drenchia**	**0.07**	**357**	⇓*i* Pg	**Pg**	**09 01 26.9**	**-0.4**
DRE				*i* Sg	**Sg**	**09 01 28.9**	**-0.4**
DRE	**Drenchia**	**0.07**	**357**	*i* Pg	**Pg**	**09 01 26.9**	**-0.4**
DRE				*i* Sg	**Sg**	**09 01 28.9**	**-0.4**
SABO	**M.te Sabotino**	**0.12**	**196**	⇑*i* Pg	**Pg**	**09 01 27.2**	**-0.6**
SABO				*i* Sg	**Sg**	**09 01 29.5**	**-0.5**
SABO	**M.te Sabotino**	**0.12**	**196**	⇑*i* Pg	**Pg**	**09 01 27.2**	**-0.6**
SABO				Sg	**Sg**	**09 01 29.6**	**-0.5**
	8μm,0.4s						
SABO	**M.te Sabotino**	**0.12**	**196**	⇑*i* Pg	**Pg**	**09 01 27.2**	**-0.6**
SABO				*e*Sg	**Sb**	**09 01 31.2**	**-0.2**
SABO	**M.te Sabotino**	**0.12**	**196**	Sg	**Sg**	**09 01 29.6**	**-0.5**
	8μm,0.4s						
CADS	**Cadrg**	**0.14**	**25**	⇓*i* Pg	**Pg**	**09 01 27.9**	**-0.2**
CADS				*i* Sg	**Sg**	**09 01 30.9**	**+0.3**
CADS							
	comp=Z,1μm,0.2s						
CADS	**Cadrg**	**0.14**	**25**	⇓*i* Pg	**Pg**	**09 01 27.9**	**-0.2**
CADS				*i* Sg	**Sg**	**09 01 30.9**	**+0.3**
	comp=Z,1μm,0.2s						
ROBS	**Robic**	**0.17**	**326**	⇓*i* Pg	**Pg**	**09 01 28.1**	**-0.4**
ROBS				*i* Sg	**Sg**	**09 01 31.2**	**-0.1**
ROBS							
	comp=Z,647nm,0.3s						
ROBS	**Robic**	**0.17**	**326**	⇓*i* Pg	**Pg**	**09 01 28.1**	**-0.4**
ROBS				*i* Sg	**Sg**	**09 01 31.2**	**-0.1**
	comp=Z,647nm,0.3s						
VOJS	**Vojsko**	**0.18**	**112**	⇑*i* Pg	**Pg**	**09 01 28.3**	**-0.3**
VOJS				*i* Sg	**Sg**	**09 01 31.7**	**+0.2**
VOJS							
	comp=Z,660nm,0.1s						
VOJS	**Vojsko**	**0.18**	**112**	⇑*i* Pg	**Pg**	**09 01 28.3**	**-0.3**
VOJS				*i* Sg	**Sg**	**09 01 31.7**	**+0.2**
	comp=Z,660nm,0.1s						
COLI	**Coloredo**	**0.19**	**280**	⇓*i* Pg	**Pg**	**09 01 28.4**	**-0.3**
COLI				*i* Sg	**Sg**	**09 01 31.9**	**+0.2**
COLI	**Coloredo**	**0.19**	**280**	*i* Pg	**Pg**	**09 01 28.4**	**-0.3**
COLI				*i* Sg	**Sg**	**09 01 31.9**	**+0.2**
VINO	**Villanova**	**0.30**	**302**	⇓*e*Pg	**Pg**	**09 01 29.9**	**-0.7**
VINO				*e*Sg	**Sg**	**09 01 34.6**	**-0.2**
VINO	**Villanova**	**0.30**	**302**	Pg	**Pg**	**09 01 29.9**	**-0.7**
VINO				Sg	**Sg**	**09 01 34.8**	**0.0**
	comp=Z,345nm,0.5s						
VINO	**Villanova**	**0.30**	**302**	Pg	**Pg**	**09 01 29.9**	**-0.7**
VINO				*e*Sg	**Sg**	**09 01 34.6**	**-0.2**
BAD	**Bernadia**	**0.31**	**296**	⇓*e*Pg	**Pg**	**09 01 30.1**	**-0.8**
BAD				*e*Sg	**Sg**	**09 01 35.3**	**0.0**
BAD	**Bernadia**	**0.31**	**296**	*e*Pg	**Pg**	**09 01 30.1**	**-0.8**
BAD				*e*Sg	**Sb**	**09 01 36.7**	**-0.2**
GORS	**Gorjuse**	**0.33**	**48**	⇓*i* Pg	**Pg**	**09 01 30.7**	**-0.4**
GORS				*i* Sg	**Sg**	**09 01 36.4**	**+0.8**
GORS							
	comp=Z,108nm,0.1s						
GORS	**Gorjuse**	**0.33**	**48**	⇓*i* Pg	**Pg**	**09 01 30.7**	**-0.4**
GORS				*i* Sg	**Sg**	**09 01 36.4**	**+0.8**
	comp=Z,108nm,0.1s						
JAVS	**Javornik**	**0.35**	**125**	⇑*i* Pg	**Pg**	**09 01 30.9**	**-0.7**
JAVS				*i* Sg	**Sg**	**09 01 36.7**	**+0.2**
JAVS							
	comp=Z,142nm,0.1s						
JAVS	**Javornik**	**0.35**	**125**	⇑*i* Pg	**Pg**	**09 01 31.0**	**-0.7**
JAVS				*i* Sg	**Sg**	**09 01 36.7**	**+0.2**
	comp=Z,142nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.37**	**326**	Pg	**Pg**	**09 01 31.1**	**-0.8**
PTCC				Sg	**Sg**

FVI	**Forni Avoltri**	**0.78**	**310**	Pg		**Pg**	**09 01 38.6**	**-1.0**
	comp=Z,79nm,0.6s							
FVI	**Forni Avoltri**	**0.78**	**310**	Pg		**Pg**	**09 01 38.6**	**-1.0**
	comp=Z,79nm,0.6s							
POLC	**Polcenigo**	**0.80**	**265**⇓	*e*Pg		**Pb**	**09 01 40.2**	**0.0**
CSMI	**Casera Mimoias**	**0.81**	**301**⇑	*e*Pg		**Pg**	**09 01 39.9**	**-0.2**
CSMI				*e*Sg		**Sb**	**09 01 51.6**	**+0.4**
CSMI	**Casera Mimoias**	**0.81**	**301**	*e*Pg		**Pg**	**09 01 39.9**	**-0.2**
CSMI				*e*Sg		**Sb**	**09 01 51.6**	**+0.4**
CAE	**Caneva**	**0.85**	**264**⇓	*e*Pg		**Pg**	**09 01 40.9**	**+0.1**
CAE				*e*Sg		**Sb**	**09 01 53.0**	**+0.7**
CAE	**Caneva**	**0.85**	**264**	*e*Pg		**Pg**	**09 01 40.9**	**+0.1**
CAE				*e*Sg		**Sb**	**09 01 53.0**	**+0.7**
CIMO	**Cimolais**	**0.86**	**285**⇑	*e*Pg		**Pg**	**09 01 40.2**	**-1.0**
CIMO	**Cimolais**	**0.86**	**285**	*e*Pg		**Pg**	**09 01 40.2**	**-1.0**
VISS	**Visnje**	**0.88**	**109**	*i* Pg		**Pg**	**09 01 40.5**	**-1.0**
VISS				*i* Sg		**Sg**	**09 01 53.1**	**+0.1**
VISS	**Visnje**	**0.88**	**109**	*i* Pg		**Pg**	**09 01 40.5**	**-1.0**
VISS				*i* Sg		**Sg**	**09 01 53.1**	**+0.1**
CSO	**Casso**	**0.94**	**281**⇑	*e*Pg		**Pb**	**09 01 41.3**	**-1.2**
CSO	**Casso**	**0.94**	**281**	*e*Pg		**Pb**	**09 01 41.3**	**-1.2**
PDKS	**Podkum**	**0.94**	**92**	*i* Pg		**Pb**	**09 01 42.1**	**-0.4**
PDKS				*i* Sg		**Sb**	**09 01 55.5**	**+0.5**
PDKS								
	comp=Z,61nm,0.1s							
PDKS	**Podkum**	**0.94**	**92**	*i* Pg		**Pb**	**09 01 42.1**	**-0.4**
PDKS				*i* Sg		**Sb**	**09 01 55.5**	**+0.5**
	comp=Z,61nm,0.1s							
GBRS	**Gornja Briga**	**0.99**	**125**	*i* Pg		**Pb**	**09 01 42.8**	**-0.6**
	comp=Z,100nm,0.1s							
KBA	**Koelnbreinsper**	**1.00**	**348**⇑	*e*Pg		**Pb**	**09 01 43.3**	**-0.4**
	SNR=17							
KBA				⇑*i*Sg		**Sb**	**09 01 57.2**	**+0.3**
	comp=Z,73nm,0.3s							
KBA	**Koelnbreinsper**	**1.00**	**348**	Pg		**Pb**	**09 01 43.3**	**-0.4**
	SNR=17							
KBA				Sg		**Sb**	**09 01 57.2**	**+0.3**
	comp=Z,73nm,0.3s							
ABTA	**Abfaltersbach**	**1.02**	**310**⇑	*e*Pg		**Pb**	**09 01 43.7**	**-0.3**
	SNR=34							
ABTA				⇑*i*Sg		**Sb**	**09 01 57.4**	**+0.2**
	comp=Z,17nm,0.3s							
ABTA	**Abfaltersbach**	**1.02**	**310**	Pg		**Pb**	**09 01 43.7**	**-0.3**
	SNR=34							
ABTA				Sg		**Sb**	**09 01 57.4**	**+0.2**
	comp=Z,17nm,0.3s							
VARN	**Col Varnada, M**	**1.08**	**265**⇓	*e*Pg		**Pb**	**09 01 44.2**	**-0.8**
VARN				*e*Sg		**Sn**	**09 02 00.2**	**+0.1**
VARN	**Col Varnada, M**	**1.08**	**265**	*e*Pg		**Pb**	**09 01 44.2**	**-0.8**
VARN				*e*Sg		**Sn**	**09 02 00.2**	**+0.1**
MTLO	**Montello**	**1.12**	**256**	*e*Pg		**Pg**	**09 01 46.1**	**+0.1**
MTLO	**Montello**	**1.12**	**256**	*e*Pg		**Pg**	**09 01 46.1**	**+0.1**
SOKA	**Soboth**	**1.12**	**58**⇑	*i* Pg		**Pb**	**09 01 45.1**	**-0.6**
SOKA				⇑*i*Sg		**Sb**	**09 02 00.2**	**0.0**
	comp=Z,20nm,0.3s							
SOKA	**Soboth**	**1.12**	**58**	Pg		**Pb**	**09 01 45.1**	**-0.6**
SOKA				Sg		**Sb**	**09 02 00.2**	**0.0**
	comp=Z,20nm,0.3s							
AGOR	**Agordo**	**1.13**	**280**	*e*Pg		**Pg**	**09 01 46.4**	**+0.2**
AGOR				*e*Sg		**Sn**	**09 02 02.3**	**+1.1**
AGOR	**Agordo**	**1.13**	**280**	Pg		**Pg**	**09 01 46.3**	**+0.2**
AGOR				Sg		**Sn**	**09 02 02.6**	**+1.3**
AGOR	**Agordo**	**1.13**	**280**	*e*Pg		**Pg**	**09 01 46.4**	**+0.2**
AGOR				*e*Sg		**Sn**	**09 02 02.3**	**+1.1**
LEGS	**Legarje**	**1.17**	**97**	*i* Pg		**Pn**	**09 01 46.3**	**-0.2**
LEGS				*e*Sg		**Sg**	**09 02 02.1**	**-0.1**
LEGS	**Legarje**	**1.17**	**97**	*i* Pg		**Pn**	**09 01 46.3**	**-0.2**
LEGS				*e*Sg		**Sg**	**09 02 02.1**	**-0.1**
DOBS	**Dobrina**	**1.27**	**87**	*i* Pg		**Pb**	**09 01 48.2**	**+0.1**
DOBS								
	comp=Z,52nm,0.1s							
DOBS	**Dobrina**	**1.27**	**87**	*i* Pg		**Pb**	**09 01 48.2**	**+0.1**
	comp=Z,52nm,0.1s							
BOJS	**Bojanci**	**1.27**	**117**	*i* Pg		**Pn**	**09 01 47.8**	**0.0**
BOJS				*i* Sg		**Sn**	**09 02 04.8**	**+0.1**
BOJS								
	comp=Z,49nm,0.1s							
BOJS	**Bojanci**	**1.27**	**117**	*i* Pg		**Pn**	**09 01 47.8**	**0.0**
BOJS				*i* Sg		**Sn**	**09 02 04.8**	**+0.1**
	comp=Z,49nm,0.1s							
CESS	**Cesta pri Krsk**	**1.27**	**95**	*i* Pg		**Pb**	**09 01 48.2**	**0.0**
CESS				*i* Sg		**Sg**	**09 02 06.7**	**+1.4**
CESS								
	comp=Z,45nm,0.1s							
CESS	**Cesta pri Krsk**	**1.27**	**95**	*i* Pg		**Pb**	**09 01 48.2**	**0.0**
CESS				*i* Sg		**Sg**	**09 02 06.7**	**+1.4**
	comp=Z,45nm,0.1s							
CGRP	**Cima Grappa**	**1.31**	**261**⇑	*e*Pg		**Pn**	**09 01 48.4**	**-0.1**
CGRP				*e*Sg		**Sn**	**09 02 06.4**	**+0.5**
CGRP	**Cima Grappa**	**1.31**	**261**	Pg		**Pn**	**09 01 48.5**	**-0.1**
CGRP				Sg		**Sg**	**09 02 06.7**	**+0.1**
CGRP	**Cima Grappa**	**1.31**	**261**⇑	*e*Pg		**Pn**	**09 01 48.4**	**-0.1**
CGRP				*e*Sg		**Sn**	**09 02 06.4**	**+0.5**
GROS	**Grobnik**	**1.33**	**74**	*i* Pg		**Pn**	**09 01 48.8**	**0.0**
GROS	**Grobnik**	**1.33**	**74**	*i* Pg		**Pn**	**09 01 48.8**	**0.0**
RISI	**Rein**	**1.38**	**309**	*e*Pg		**Pn**	**09 01 49.9**	**+0.4**
GOLS	**Golise**	**1.38**	**93**	*i* Pg		**Pb**	**09 01 50.0**	**0.0**
GOLS				*i* Sg		**Sg**	**09 02 09.7**	**+0.9**
GOLS								
	comp=Z,42nm,0.2s							
GOLS	**Golise**	**1.38**	**93**	*i* Pg		**Pb**	**09 01 50.0**	**0.0**
GOLS				*i* Sg		**Sg**	**09 02 09.7**	**+0.9**
	comp=Z,42nm,0.2s							
CTI	**Castel Tesino**	**1.39**	**269**	Pg		**Pn**	**09 01 49.8**	**+0.2**
CTI				Sg		**Sb**	**09 02 08.8**	**+0.8**
	comp=Z,153nm,0.5s							
CTI	**Castel Tesino**	**1.39**	**269**	Pg		**Pn**	**09 01 49.8**	**+0.2**
CTI				Sg		**Sb**	**09 02 08.8**	**+0.8**
	comp=Z,153nm,0.5s							
GCIS	**Gornji Cirnik**	**1.40**	**99**	*i* Pg		**Pb**	**09 01 50.4**	**0.0**
GCIS								
	comp=Z,29nm,0.1s							
GCIS	**Gornji Cirnik**	**1.40**	**99**	*i* Pg		**Pb**	**09 01 50.4**	**0.0**
	comp=Z,29nm,0.1s							
KOSI	**Kohlern**	**1.62**	**284**⇑	*e*Pg		**Pb**	**09 01 53.8**	**-0.4**
KOSI				*e*Sg		**Sg**	**09 02 16.4**	**-0.1**
PANI	**Panarotta**	**1.63**	**269**⇓	*e*Pg		**Pn**	**09 01 53.1**	**+0.2**
APPI	**Appiano**	**1.72**	**284**	Pg		**Pn**	**09 01 55.1**	**+1.0**
APPI	**Appiano**	**1.72**	**284**	Pg		**Pn**	**09 01 55.1**	**+1.0**
ABSI	**Aberstueckl**	**1.73**	**292**⇑	*e*Pn		**Pn**	**09 01 55.4**	**+1.1**
ABSI				*e*Sn		**Sg**	**09 02 19.6**	**-0.5**
DDS	**Dosso del Somm**	**1.73**	**264**	*e*Pg		**Pb**	**09 01 55.8**	**-0.3**
DDS	**Dosso del Somm**	**1.73**	**264**	*e*Pg		**Pb**	**09 01 55.8**	**-0.3**
ROSI	**Rosskopf**	**1.75**	**299**⇑	*e*Pn		**Pb**	**09 01 56.2**	**-0.3**
ROSI				*e*Sn		**Sg**	**09 02 20.5**	**-0.3**
NVLJ	**Novalja**	**1.76**	**150**	*e*Pn		**Pn**	**09 01 55.0**	**+0.4**
NVLJ				Sn		**Sb**	**09 02 19.8**	**+1.3**
NVLJ	**Novalja**	**1.76**	**150**	*e*Pn		**Pn**	**09 01 54.9**	**+0.4**
NVLJ				Sn		**Sb**	**09 02 19.7**	**+1.3**
MOA	**Molln**	**1.80**	**13**⇓	*i*Pn		**Pn**	**09 01 55.0**	**-0.2**
MOA				⇑*i*Sn		**Sn**	**09 02 18.3**	**+0.4**
MOA	**Molln**	**1.80**	**13**	Pn		**Pn**	**09 01 55.0**	**-0.2**
MOA				Sn		**Sn**	**09 02 18.3**	**+0.4**
WTTA	**Wattenberg**	**1.81**	**311**⇓	*e*Pn		**Pn**	**09 01 56.6**	**+1.2**
	SNR=18							
WTTA				⇓*i*Sn		**Sn**	**09 02 18.0**	**-0.3**
WTTA	**Wattenberg**	**1.81**	**311**	Pn		**Pn**	**09 01 56.6**	**+1.2**
	SNR=18							
WTTA				Sn		**Sn**	**09 02 18.0**	**-0.3**
ROVR	**Rover¯¤ Verone**	**1.86**	**257**	Pg		**Pn**	**09 01 56.5**	**+0.5**
ROVR	**Rover¯¤ Verone**	**1.86**	**257**	Pg		**Pn**	**09 01 56.5**	**+0.5**
WATA	**Walderalm**	**1.89**	**312**⇓	*e*Pn		**Pn**	**09 01 55.9**	**-0.5**
	SNR=12							
WATA				⇑*i*Sn		**Sn**	**09 02 20.1**	**-0.1**
WATA	**Walderalm**	**1.89**	**312**	Pn		**Pn**	**09 01 55.9**	**-0.5**
	SNR=12							
WATA				Sn		**Sn**	**09 02 20.1**	**-0.1**
MOTA	**Moosalm**	**2.15**	**306**⇓	*e*Pn		**Pn**	**09 01 59.5**	**-0.5**
	SNR=9.8							
MOTA				⇑*i*Sn		**Sn**	**09 02 26.9**	**+0.3**
MOTA				⇑*i*Sg		**Sg**	**09 02 34.1**	**+0.6**
	comp=Z,22nm,0.6s							
MOTA	**Moosalm**	**2.15**	**306**	Pn		**Pn**	**09 01 59.5**	**-0.5**
	SNR=9.8							
MOTA				Sn		**Sn**	**09 02 26.9**	**+0.3**
MOTA				Sg		**Sg**	**09 02 34.1**	**+0.6**
	comp=Z,22nm,0.6s							
MOSI	**Grossmontoni**	**2.21**	**285**	*e*Pn		**Pn**	**09 02 01.9**	**+1.0**
KHC	**Kasperske Hory**	**3.03**	**359**	*e*Pn		**Pn**	**09 02 13.0**	**+0.9**
KHC				*e*PG		**Pb**	**09 02 19.3**	**+1.0**
KHC				*e*SN		**Sn**	**09 02 50.5**	**+2.2**
KHC				*e*SG		**Sg**	**09 03 00.7**	**-1.1**
	comp=Z,12nm,0.6s							
KHC	**Kasperske Hory**	**3.03**	**359**	Pn		**Pn**	**09 02 13.0**	**+0.9**
KHC	**Kasperske Hory**	**3.03**	**359**	Pg		**Pb**	**09 02 19.3**	**+1.0**
KHC				Sg		**Sg**	**09 03 00.7**	**-1.1**
	comp=Z,12nm,0.6s							
PRU	**Pruhonice**	**3.94**	**8**	*e*PG		Pg	09 02 36.2	-3.6
PRU				*e*SG		**Sg**	**09 03 29.2**	**-1.6**
	comp=Z,12nm,0.9s							
PRU	**Pruhonice**	**3.94**	**8**	Pg		Pg	09 02 36.2	-3.6
PRU				Sg		**Sg**	**09 03 29.2**	**-1.6**
	comp=Z,12nm,0.9s							
NKC	**Novy Kostel**	**4.21**	**349**	*e*SG		**Sg**	**09 03 37.5**	**-2.1**
	comp=Z,12nm,1.0s							
NKC	**Novy Kostel**	**4.21**	**349**	Sg		**Sg**	**09 03 37.5**	**-2.1**
	comp=Z,12nm,1.0s							
DPC	**Dobruska-Polom**	**4.61**	**22**	*e*SG		**Sg**	**09 03 50.9**	**-1.6**
	comp=Z,7.5nm,0.9s							
DPC	**Dobruska-Polom**	**4.61**	**22**	Sg		**Sg**	**09 03 50.9**	**-1.6**
	comp=Z,7.5nm,0.9s							
UPC	**Upice**	**4.69**	**19**	*e*SG		**Sg**	**09 03 53.1**	**-1.6**
UPC	**Upice**	**4.69**	**19**	Sg		**Sg**	**09 03 53.1**	**-1.6**
BRG	**Berggiesshubel**	**4.78**	**2**	SG		**Sg**	**09 03 57.9**	**+0.1**
	comp=Z,1.7nm,0.5s							
CLL	**Collm**	**5.23**	**356**	*e*Sg		**Sg**	**09 04 11.0**	**-1.2**

IDC 03 09:02:39.2±10.0, 19°33'S×177°65'W, h374km±108km, mb3.3/9, mb1 3.6/9, mb1mx3.4/15, mbtmp3.3/9, Error ellipse: s-maj=42.4km s-min=29.0km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**243**	P	P	09 09 28.1	+0.1
	1.2nn,0.3s,baz=83,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**45.09**	**261**	P	P	09 10 19.5	-0.7
	2.2nn,0.3s,baz=98,slow=6.4,SNR=46						
ASAR	**Alice Springs**	**45.11**	**256**	P	P	09 10 20.1	-0.2
	8.2nn,0.6s,baz=89,slow=8.3,SNR=86						
MJAR	**Matsushiro Arr**	**69.47**	**323**	P	P	09 13 08.7	+0.3
	1.1nn,0.6s,baz=161,slow=6.7,SNR=5.9						
PETK	**Petropavlovsk-**	**75.23**	**345**	P	P	09 13 41.9	+0.3
	1.2nn,0.6s,baz=139,slow=8.0,SNR=7.4						
NVAR	**Mina Array Bea**	**79.95**	**43**	P	P	09 14 08.8	+0.6
	0.5nn,0.6s,baz=218,slow=9.1,SNR=5.0						
TXAR	**Lajitas Array**	**86.15**	**57**	P	P	09 14 40.2	+0.6
	0.5nn,0.7s,baz=217,slow=5.9,SNR=6.6						
ILAR	**Eielson Array**	**87.11**	**13**	P	P	09 14 41.9	-1.3
	0.2nn,0.4s,baz=217,slow=5.0,SNR=14						
PDAR	**Pinedale Array**	**87.89**	**43**	P	P	09 14 46.7	-1.0
	0.4nn,0.9s,baz=242,slow=1.9,SNR=3.1						
BRTR	**Keskin Array B**	**146.28**	**314**	PKPbc	PKPbc	09 21 36.5	-0.5
	1.0nn,0.7s,baz=106,slow=3.1,SNR=5.2						
GERES	**GERESS Array B**	**149.16**	**345**	PKPbc	PKPbc	09 21 43.8	-0.4
	0.2nn,0.4s,baz=355,slow=2.3,SNR=4.1						

IDC 03 09:08:41.0±4.8, 28°74S×177°91W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.7/3, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/13, Error ellipse: s-maj=93.5km s-min=55.5km az=85.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**9.84**	**198**	*e*PN	Pn	09 11 01.5	-2.3
PUZ				SN	Sn	09 12 36.0	-19
CNGZ	**Carnagh Statio**	**10.24**	**197**	*e*PN	Pn	09 11 08.0	-1.3
MWZ	**Matawai**	**10.30**	**200**	*e*PN	Pn	09 11 07.4	-2.7
URZ	**Urewera**	**10.36**	**202**	Pn	Pn	09 11 10.7	-0.2
	1.0nn,0.3s,baz=342,slow=20,SNR=9.0						
URZ				Sn	Sn	09 12 51.2	-16
	1.3nn,0.3s,baz=140,slow=20,SNR=9.8						
URZ				LR	LR	09 14 23.5	
	comp=Z,404nm,18.4s,baz=56,slow=33						
URZ	**Urewera**	**10.36**	**202**	*e*PN	Pn	09 11 09.6	-1.3
TCW	**Tory Channel**	**13.98**	**205**	SN		09 14 12.0	
THZ	**Tophouse**	**14.99**	**208**	PN	Pn	09 12 07.3	-7.0
MQZ	**McQueen's Vall**	**16.75**	**204**	SN		09 15 11.3	
ASAR	**Alice Springs**	**43.30**	**265**	P	P	09 16 44.6	-0.2
	0.3nn,0.5s,baz=104,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**44.14**	**270**	P	P	09 16 51.6	0.0
	0.2nn,0.4s,baz=109,slow=7.9,SNR=3.3						
FINES	**FINESS Array B**	**143.62**	**341**	PKP	PKPdf	09 28 16.6	-0.6
	1.4nn,0.7s,baz=82,slow=2.1,SNR=4.0						

*IDC **03** 09:15:49.0±4.4, 14°27'N×90°55'W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/20, mbtmp3.4/4, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=158.6km s-min=53.3km az=29.0*

*NEIC **03** 09:16:00.8, 13°93'N×91°74'W, h61km, MD4.0(MEX), After MEX.*

*MEX **03** 09:16:00.8±0.4, 13°93'N×91°74'W, h61km±17km, MD4.0*

ISC 03 09:15:58.0±3.7, 13°9N±0°2×91°6W±0°1, h54km±24km, n18, σ1°11/28, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.20**	**327**	*i* P	**Pn**	**09 16 18.6**	**+0.2**
THIG				*e*S	**Sn**	**09 16 32.8**	**-0.9**
THIG		**1.20**	**327**	*i* P	**Pn**	**09 16 18.6**	**+0.2**
THIG				*e*S	**Sn**	**09 16 32.8**	**-0.9**
PCIG		**2.39**	**319**	*i* P	**Pn**	**09 16 35.1**	**+0.5**
PCIG				*e*S	**Sn**	**09 17 00.9**	**-1.8**
PCIG		**2.39**	**319**	*i* P	**Pn**	**09 16 35.1**	**+0.5**
PCIG				*e*S	**Sn**	**09 17 00.9**	**-1.8**
CCIG	**Comitan**	**2.43**	**347**	*i* P	**Pn**	**09 16 36.0**	**+0.7**
CCIG				*e*S	**Sn**	**09 17 04.2**	**+0.3**
CCIG	**Comitan**	**2.43**	**347**	*i* P	**Pn**	**09 16 36.0**	**+0.7**
CCIG				*e*S	**Sn**	**09 17 04.2**	**+0.3**
TGIG		**3.22**	**333**	*i* P	**Pn**	**09 16 46.2**	**+0.1**
TGIG				*e*S	**Sn**	**09 17 22.9**	**-0.4**
TGIG		**3.22**	**333**	*i* P	**Pn**	**09 16 46.2**	**+0.1**
TGIG				*e*S	**Sn**	**09 17 22.9**	**-0.4**
CMIG	**Matias Romero**	**4.49**	**315**	Pn	**Pn**	**09 17 04.5**	**+1.1**
	4.4nn,0.3s,baz=126,slow=8.9,SNR=67						
CMIG				Sn	**Sn**	**09 17 55.1**	**+0.7**
	3.6nn,0.3s,baz=90,slow=16,SNR=70						
CMIG				LR	LR	09 19 23.2	
	comp=Z,189nm,19.5s,baz=127,slow=43						
CMIG	**Matias Romero**	**4.49**	**315**	Pn	**Pn**	**09 17 04.5**	**+1.1**
CMIG				Sn	**Sn**	**09 17 55.1**	**+0.7**
TXAR	**Lajitas Array**	**19.00**	**326**	P	**Pn**	**09 20 16.4**	**-0.1**
	0.0nn,0.3s,baz=147,slow=11,SNR=5.8						
TXAR	**Lajitas Array**	**19.00**	**326**	P	**Pn**	**09 20 16.4**	**-0.1**
NVAR	**Mina Array Bea**	**34.00**	**321**	P	**P**	**09 22 38.9**	**+2.0**
	0.4nn,0.6s,baz=122,slow=9.7,SNR=5.0						
NVAR	**Mina Array Bea**	**34.00**	**321**	P	**P**	**09 22 38.9**	**+2.0**
ILAR	**Eielson Array**	**63.09**	**337**	P	**P**	**09 26 17.6**	**-1.9**
	0.2nn,0.6s,baz=109,slow=5.4,SNR=8.3						
ILAR	**Eielson Array**	**63.09**	**337**	P	**P**	**09 26 17.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**146.21**	**342**	PKPbc	**PKPdf**	**09 35 31.8**	**-0.4**
	0.5nn,0.4s,baz=331,slow=2.7,SNR=5.9						
CMAR	**Chiang Mai Arr**	**146.21**	**342**	PKPbc	**PKPdf**	**09 35 31.8**	**-0.4**

IDC 03 09:19:53.8±4.7, 5°64S×131°54E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=341.3km s-min=30.8km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.47**	**169**	Pn	Pn	09 23 20.2	+0.1
	0.1nn,0.3s,baz=351,slow=13,SNR=4.1						
WRA				Sn	Sn	09 25 47.7	-14
	0.5nn,0.3s,baz=333,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**18.07**	**173**	P	Pn	09 24 06.3	-0.1
	0.2nn,0.3s,baz=343,slow=9.1,SNR=14						
ASAR				S	Sn	09 27 17.9	-11
	0.1nn,0.3s,baz=327,slow=16,SNR=4.2						
MKAR	**Makanchi Array**	**67.95**	**326**	P	P	09 30 54.6	0.0
	0.4nn,0.3s,baz=116,slow=6.7,SNR=8.9						

KRSC 03 09:22:57.2±0.6, 52°70N×163°21E, h40km±40km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.97**	**283**	P	Pn	09 23 29.6	+1.5
SPN				*i* S	Sn	09 23 52.8	+1.3
MKZ	**Mys Kozlova**	**2.06**	**335**	P	Pn	09 23 31.4	+2.2
MKZ				*i* S	Sn	09 23 55.8	+2.2
SDLR	**Sedlovina**	**2.68**	**284**	*e*P	Pn	09 23 40.4	+2.5
SDLR				*i* S	Sn	09 24 11.4	+2.2
AVH	**Avacha**	**2.76**	**284**	P	Pn	09 23 41.8	+2.8
AVH				*i* S	Sn	09 24 13.6	+2.4
PET	**Petropavlovsk**	**2.78**	**279**	P	Pn	09 23 41.0	+1.8
PET				*i* S	Sn	09 24 12.3	+0.8
KOK	**Koryaka**	**2.83**	**284**	*e*P	Pn	09 23 42.6	+2.6
KOK				*e*S	Sn	09 24 14.8	+1.9
RUS	**Russkaya**	**2.88**	**267**	*e*P	Pn	09 23 42.1	+1.6
RUS				*i* S	Sn	09 24 14.4	+0.5
BKI	**Bering**	**2.99**	**32**	*e*P	Pn	09 23 42.0	-0.1
BKI				*i* S	Sn	09 24 14.6	-2.0
GRL	**Gorelyy**	**3.13**	**269**	P	Pn	09 23 46.9	+2.7
TUMR	**Tumrok**	**3.16**	**326**	P	Pn	09 23 48.7	+4.2
KBTR	**Krutoberegovo**	**3.52**	**356**	P	Pn	09 23 50.9	+1.5
KBTR				*i* S	Sn	09 24 30.7	+1.0
KMNR	**Kamenistaya**	**3.52**	**332**	P	Pn	09 23 53.4	+3.9
KMNR				*i* S	Sn	09 24 33.6	+3.6
MIPR	**Malaya Ipel'ka**	**3.97**	**266**	P	Pn	09 23 56.8	+1.3
MIPR				*i* S	Sn	09 24 41.5	+0.8
SMKR	**Semkarok**	**4.02**	**346**	P	Pn	09 24 00.1	+3.8
SMKR				*i* S	Sn	09 24 44.8	+2.6
BDR	**Baidarnaya**	**4.05**	**344**	P	Pn	09 24 00.3	+3.6
BDR				*i* S	Sn	09 24 45.2	+2.3
SRKR	**Sorokina**	**4.14**	**344**	P	Pn	09 24 00.7	+2.8
SRDR	**Sredinnyy**	**4.16**	**332**	P	Pn	09 24 01.6	+3.4
ESO	**Esso**	**4.17**	**323**	*e*P	Pn	09 24 02.0	+3.7
ESO				*i* S	Sn	09 24 48.4	+2.6

IDC 03 09:32:49.9±2.3, 25°30N×60°59E, h0km, mb3.7/9, mb1 3.7/9, mb1mx3.5/27, mbtmp3.7/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/39, Error ellipse: s-maj=54.4km s-min=24.2km az=154.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**25.18**	**356**	P	P	09 38 17.0	+0.1
	0.8nn,0.5s,baz=180,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**27.55**	**33**	P	P	09 38 38.6	+0.2
	0.2nn,0.6s,baz=226,slow=9.0,SNR=2.2						
BVAR	**Borovoye Array**	**28.66**	**12**	P	P	09 38 48.6	+0.3
	0.3nn,0.7s,baz=190,slow=5.6,SNR=2.4						
KURK	**Kurchatov**	**28.93**	**24**	P	P	09 38 50.0	-0.6
	0.3nn,0.6s,baz=223,slow=8.3,SNR=5.4						
KURK				LR	LR	09 50 35.3	
	comp=Z,66nm,18.4s,baz=90,slow=37						
ZALV	**Zalesovo Beam**	**33.83**	**26**	P	P	09 39 33.6	-0.1
	0.9nn,0.5s,baz=235,slow=10.0,SNR=6.2						
FINES	**FINESS Array B**	**43.02**	**336**	P	P	09 40 51.3	+0.3
	2.3nn,0.9s,baz=151,slow=8.9,SNR=4.5						
GERES	**GERESS Array B**	**43.31**	**315**	P	P	09 40 52.5	-1.2
	0.3nn,0.5s,baz=90,slow=7.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**56.53**	**269**	P	P	09 42 35.0	+0.5
	0.3nn,0.6s,baz=63,slow=6.7,SNR=3.4						
PETK	**Petropavlovsk-**	**74.24**	**38**	P	P	09 44 28.2	-0.5
	5.2nn,0.9s,baz=315,slow=3.1,SNR=3.5						

*DJA **03** 09:42:00, 2°48S×139°03E, h74km, MLv3.4/3*

IDC 03 09:42:06.1±3.8, 2°98S×136°19E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/13, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=165.7km s-min=30.9km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.95**	**186**	Pn	Pn	09 46 05.7	+0.8
	0.1nn,0.3s,baz=4.9,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**20.68**	**186**	P	P	09 46 47.5

EVR	**Evrytania**	**1.20**	**27**	P	**Pn**	**10 10 42.0**	**-0.7**
EVR				S	**Sb**	**10 10 57.7**	**-0.6**
EVR	**Evrytania**	**1.20**	**27**	*e*PN	**Pb**	**10 10 42.9**	**-0.1**
EVR				*e*SN	**Sg**	**10 11 00.1**	**+0.5**
EVR	**Evrytania**	**1.20**	**27**	P	**Pn**	**10 10 42.0**	**-0.7**
EVR	**Evrytania**	**1.20**	**27**	*e*Pn	**Pb**	**10 10 42.9**	**-0.1**
EVR				S	**Sb**	**10 10 57.7**	**-0.6**
EVR				*e*Sn	**Sg**	**10 11 00.1**	**+0.5**
DSF	**Desfina**	**1.26**	**63**	P	**Pn**	**10 10 42.4**	**-1.0**
DSF				S	**Sb**	**10 10 59.1**	**-0.7**
DSF	**Desfina**	**1.26**	**63**	P	**Pn**	**10 10 42.4**	**-1.0**
DSF				S	**Sb**	**10 10 59.1**	**-0.7**
LTK	**Loutraki**	**1.48**	**83**	*e*PN	**Pg**	**10 10 48.3**	**-0.9**
LTK	**Loutraki**	**1.48**	**83**	*e*Pn	**Pg**	**10 10 48.3**	**-0.9**
AGG	**Agios Georgios**	**1.52**	**39**	*e*PN	**Pg**	**10 10 49.8**	**-0.1**
AGG				*e*SN	**Sg**	**10 11 10.6**	**+1.0**
AGG	**Agios Georgios**	**1.52**	**39**	*e*Pn	**Pg**	**10 10 49.8**	**-0.1**
AGG				*e*Sn	**Sg**	**10 11 10.6**	**+1.0**
LKR	**Lokris**	**1.69**	**61**	*e*PN	**Pb**	**10 10 51.0**	**-0.3**
LKR				*e*SN	**Sg**	**10 11 13.8**	**-1.4**
LKR	**Lokris**	**1.69**	**61**	*e*Pn	**Pb**	**10 10 51.0**	**-0.3**
LKR				*e*Sn	**Sg**	**10 11 13.8**	**-1.4**
DID	**Didima**	**1.73**	**101**	*e*PN	**Pb**	**10 10 52.5**	**+0.6**
DID	**Didima**	**1.73**	**101**	*e*Pn	**Pb**	**10 10 52.5**	**+0.6**
VIL1	**Vilia, Western**	**1.79**	**79**	*e*PN	**Pb**	**10 10 53.6**	**+0.7**
VIL1				*e*SN	**Sb**	**10 11 16.0**	**+1.0**
VIL1	**Vilia, Western**	**1.79**	**79**	*e*Pn	**Pb**	**10 10 53.6**	**+0.7**
VIL1				*e*Sn	**Sb**	**10 11 16.0**	**+1.0**
VLI	**Veliai**	**1.85**	**127**	*e*PN	**Pb**	**10 10 54.5**	**+0.6**
VLI	**Veliai**	**1.85**	**127**	*e*Pn	**Pb**	**10 10 54.5**	**+0.6**
THL	**Klokotos Trika**	**1.86**	**22**	*e*PN	**Pb**	**10 10 54.8**	**+0.7**
THL				*e*SN	**Sb**	**10 11 17.9**	**+0.9**
THL	**Klokotos Trika**	**1.86**	**22**	*e*Pn	**Pb**	**10 10 54.8**	**+0.7**
THL				*e*Sn	**Sb**	**10 11 17.9**	**+0.9**
NAIG	**Nisos Aigina**	**1.89**	**92**	*e*PN	**Pb**	**10 10 55.4**	**+0.7**
NAIG	**Nisos Aigina**	**1.89**	**92**	*e*Pn	**Pb**	**10 10 55.4**	**+0.7**
ATH	**Athens Observa**	**2.07**	**86**	*e*PB	**Pb**	**10 10 56.4**	**-1.3**
ATH				*e*SN	**Sb**	**10 11 24.4**	**+1.3**
ATH	**Athens Observa**	**2.07**	**86**	*e*Pb	**Pb**	**10 10 56.4**	**-1.3**
ATH				*e*Sn	**Sb**	**10 11 24.4**	**+1.3**
VLY	**Voula,Athens**	**2.13**	**89**	*e*PN	**Pb**	**10 10 58.1**	**-0.6**
VLY				*e*SN	**Sb**	**10 11 24.8**	**-0.1**
VLY	**Voula,Athens**	**2.13**	**89**	*e*Pn	**Pb**	**10 10 58.1**	**-0.6**
VLY				*e*Sn	**Sb**	**10 11 24.8**	**-0.1**
PTL	**Penteli**	**2.19**	**84**	*e*PN	**Pb**	**10 10 59.2**	**-0.6**
PTL				*e*SN	**Sb**	**10 11 25.6**	**-1.1**
PTL	**Penteli**	**2.19**	**84**	*e*Pn	**Pb**	**10 10 59.2**	**-0.6**
PTL				*e*Sn	**Sb**	**10 11 25.6**	**-1.1**
KYTH	**Kithira**	**2.20**	**135**	*e*PN	**Pb**	**10 10 58.9**	**-1.0**
KYTH	**Kithira**	**2.20**	**135**	*e*Pn	**Pb**	**10 10 58.9**	**-1.0**
NEO	**Neokhori**	**2.21**	**48**	*e*PN	**Pb**	**10 10 58.9**	**-1.2**
NEO				*e*SN	**Sb**	**10 11 27.6**	**+0.4**
NEO	**Neokhori**	**2.21**	**48**	*e*Pn	**Pb**	**10 10 58.9**	**-1.2**
NEO				*e*Sn	**Sb**	**10 11 27.6**	**+0.4**
APE	**Apeiranthos**	**3.61**	**101**	*e*PN	**Pn**	**10 11 17.9**	**+2.2**
APE	**Apeiranthos**	**3.61**	**101**	*e*Pn	**Pn**	**10 11 17.9**	**+2.2**
BRTR	**Keskin Array B**	**9.97**	**75**	Pn	**Pn**	**10 12 46.1**	**+3.0**
	0.1nm,0.3s,baz=264,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**23.82**	**6**	P	**P**	**10 15 31.9**	**-0.5**
	6.2nm,1.1s,baz=167,slow=13,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.07**	**220**	P	**P**	**10 16 29.4**	**+0.4**
	0.3nm,0.5s,baz=30,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**45.08**	**58**	P	**P**	**10 18 35.6**	**0.0**
	0.2nm,0.4s,baz=278,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**45.57**	**48**	P	**P**	**10 18 38.9**	**-0.5**
	0.3nm,0.4s,baz=264,slow=7.6,SNR=2.9						

IDC 03 10:37:44.1±1.5,29°17S×175°73W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.6/16,mbtmp3.7/3,ML3.5/1,Error ellipse: s-maj=48.9km s-min=41.6km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.85**	**211**	Pn	Pn	10 40 19.3	-1.3
	0.4nm,0.3s,baz=86,slow=14,SNR=3.2						
URZ				Sn	Sn	10 42 17.8	-4.9
	1.1nm,0.3s,baz=163,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**45.17**	**265**	P	P	10 46 03.6	+0.6
	0.4nm,0.6s,baz=104,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**46.05**	**270**	P	P	10 46 09.4	-0.5
	0.5nm,0.8s,baz=108,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**118.50**	**310**	PKP	PKPdf	10 56 33.1	-0.5
	0.3nm,0.7s,baz=54,slow=3.7,SNR=2.9						
FINES	**FINESS Array B**	**144.63**	**342**	PKP	PKPab	10 57 20.1	-0.4
	1.6nm,0.8s,baz=50,slow=2.2,SNR=4.9						
AKASG	**Malin Array Be**	**151.46**	**326**	PKPbc	PKPbc	10 57 39.6	0.0
	1.0nm,0.5s,baz=52,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.88**	**171**	PKPab	PKPab	10 58 42.5	+0.3
	0.6nm,0.7s,baz=178,slow=3.5,SNR=4.6						

*IDC **03** 11:00:38.7±0.8,10°91S×161°92E,h0km,mb4.1/11, mb1 4.3/11,mb1mx4.2/17,mbtmp4.1/11,MS3.8/7, Ms1 3.7/7,ms1mx3.4/29,Error ellipse: s-maj=28.9km s-min=19.9km az=123.0*

*BJI **03** 11:00:46.1,11°20S×161°70E,h59km,mB4.9/2,mb4.8/7, Ms4.7/2,Ms7 4.3/2*

*ISCJB **03** 11:00:46.2±2.2,11°00S±0°07×161°8E±0°1,h64km±17km, mb4.4/21,Error ellipse: s-maj=19.9km s-min=10.9km az=2.8*

*NEIC **03** 11:00:47.9±1.7,10°91S×161°87E,h69km±14km,mb4.4/9, Error ellipse: s-maj=14.2km s-min=8.8km az=99.0*

ISC 03 11:00:47.5±0.8,11°06S±0°07×162°04E±0°09,h65km±5km, n52,σ1s23/64,mb4.2/21,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.62**	**308**	Pn	Pn	11 01 23.6	-3.9
	70nm,0.3s,baz=151,slow=6.3,SNR=14						
HNR				Sn	**Sn**	**11 02 02.0**	**+3.8**
	108nm,0.3s,baz=173,slow=21,SNR=13						
HNR	**Honiara**	**2.62**	**308**	*e*Pn	Pn	11 01 24.0	-3.5
HNR				*e*Sn	**Sn**	**11 01 59.3**	**+1.1**
HNR				Sn	Sn	11 02 01.9	+3.8
EIDS	**Eidsvold**	**17.62**	**215**	*e*P	**P**	**11 04 50.3**	**+1.5**
	20nm,1.1s						
CTA	**Charters Tower**	**17.65**	**238**	P	**P**	**11 04 50.3**	**+1.1**
	0.3nm,0.3s,baz=66,slow=12,SNR=10						
CTA				LR	LR	11 11 01.7	
	comp=Z,130nm,18.0s,baz=49,slow=35						
CTA	**Charters Tower**	**17.65**	**238**	*e*P	**P**	**11 04 50.5**	**+1.3**
	6.2nm,0.8s						
CTA	**Charters Tower**	**17.65**	**238**	P	**P**	**11 04 50.3**	**+1.1**
CTAO	**Charters Tower**	**17.65**	**238**	*e*Pn	**Pn**	**11 04 49.1**	**0.0**
	6.0nm,0.8s						
CTAO				*e*S	**Sn**	**11 08 04.3**	**-0.9**
COEN	**Coen**	**18.64**	**259**	P	**P**	**11 04 58.4**	**-1.8**
	73nm,0.9s						
ARMA	**Armidale**	**21.56**	**205**	*e*P	**P**	**11 05 32.3**	**+0.5**
ARMA	**Armidale**	**21.56**	**205**	*e*P	**P**	**11 05 32.2**	**+0.4**
	6.9nm,0.6s						
STKA	**Stephens Creek**	**28.03**	**219**	P	**P**	**11 06 32.9**	**+0.2**
	2.3nm,0.6s,baz=360,slow=8.4,SNR=5.2						
STKA				PcP	**PcP**	**11 09 46.3**	**+0.1**
	1.7nm,0.7s,baz=335,slow=2.1,SNR=4.3						
STKA				LR	LR	11 17 19.7	
	comp=Z,292nm,20.7s,baz=25,slow=36						
STKA	**Stephens Creek**	**28.03**	**219**	*e*P	**P**	**11 06 33.0**	**+0.3**
	2.7nm,0.8s						
STKA	**Stephens Creek**	**28.03**	**219**	P	**P**	**11 06 32.9**	**+0.2**
STKA				PcP	**PcP**	**11 09 46.3**	**+0.1**
WRAB	**Tennant Creek**	**28.07**	**248**	*e*P	**P**	**11 06 31.8**	**-1.4**
	2.8nm,0.8s						
WB2	**Warramunga Arr**	**28.07**	**248**	*e*P	**P**	**11 06 31.4**	**-1.8**
WRA	**Warramunga Arr**	**28.08**	**248**	P	**P**	**11 06 31.7**	**-1.5**
	2.6nm,0.7s,baz=75,slow=9.6,SNR=20						
WRA				PcP	**PcP**	**11 09 46.9**	**+0.3**
	0.6nm,0.8s,baz=78,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**28.08**	**248**	P	**P**	**11 06 31.8**	**-1.5**
WRA				PcP	**PcP**	**11 09 46.9**	**+0.3**
AS31	**Alice Springs**	**29.57**	**241**	*e*P	**P**	**11 06 45.6**	**-0.8**
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**11 06 44.8**	**-1.7**
	2.7nm,0.9s,baz=74,slow=9.4,SNR=24						
ASAR				PcP	**PcP**	**11 09 49.8**	**-0.5**
	0.5nm,0.7s,baz=74,slow=3.3,SNR=3.8						
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**11 06 44.8**	**-1.7**
ASAR				PcP	**PcP**	**11 09 49.8**	**-0.5**
TOO	**Toolangi**	**30.30**	**207**	*e*P	**P**	**11 06 53.2**	**+0.4**
	25nm,0.6s						

SNZO	**South Karori**	**32.13**	**162**	P	**P**	**11 07 09.0**	**+0.3**
	327nm,1.8s							
FITZ	**Fitzroy Crossi**	**35.87**	**254**	P	**P**	**11 07 39.8**	**-1.7**
	6.7nm,0.7s,baz=87,slow=5.8,SNR=26							
FITZ				LR	LR	11 21 51.3		
	comp=Z,90nm,20.4s,baz=157,slow=36							
FITZ	**Fitzroy Crossi**	**35.87**	**254**	*e*P	**P**	**11 07 39.8**	**-1.7**
	11nm,0.6s							
FITZ	**Fitzroy Crossi**	**35.87**	**254**	*e*P	**P**	**11 07 39.8**	**-1.7**
	5.3nm,0.6s							
ASAJ	**Asahikawa**	**57.69**	**344**	LR	LR	11 34 50.8		
	comp=Z,88nm,19.0s,baz=199,slow=36							
KSRS	**Korea Array**	**57.90**	**328**	P	**P**	**11 10 33.2**	**+0.2**	
	1.0nm,0.9s,baz=127,slow=6.4,SNR=4.2							
KSRS				LR	LR	11 33 31.1		
	comp=Z,47nm,18.6s,baz=157,slow=34							
KSAR	**Wonju Array Be**	**57.91**	**329**	P	**P**	**11 10 33.1**	**+0.1**	
NJ2	**Nanjing**	**59.52**	**318**	*e*P	**P**	**11 10 43.8**	**-0.5**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PETK	**Petropavlovsk-**	**64.02**	**357**	LR	LR	11 36 26.2		
	comp=Z,58nm,18.7s,baz=167,slow=34							
GYA	**Guiyang**	**65.45**	**306**	*e*P	**P**	**11 11 25.0**	**+0.9**	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**66.45**	**180**	*e*P	**P**	**11 11 31.0**	**+1.4**	
	comp=Z,3.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**68.80**	**295**	P	**P**	**11 11 44.2**	**-1.2**	
	comp=Z,0.3nm,0.5s,baz=100,slow=5.6,SNR=5.5							
CMAR	**Chiang Mai Arr**	**68.80**	**295**	P	**P**	**11 11 44.2**	**-1.2**	
HHC	**Hu-ho-hao-te**	**69.53**	**321**	*e*P	**P**	**11 11 50.7**	**+1.1**	
HHC				pP	**pP**	**11 12 07.2**	**+0.2**	
HHC				sP	**sP**	**11 12 14.4**	**+0.2**	
HHC				PP	**PP**	**11 14 27.1**	**+2.9**	
HHC				S	**S**	**11 20 53.7**	**+1.0**	
HHC				sS	**sS**	**11 21 20.0**	**-2.1**	
HHC				SS	**SS**	**11 25 21.2**	**-0.5**	
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,78nm,5.2s							
HHC				LR	LR			
	comp=N,150nm,15.1s							
HHC				LR	LR			
	comp=E,190nm,15.0s							
HHC				LR	LR			
	comp=Z,140nm,16.8s							
CD2	**Chengdu**	**69.75**	**309**	P	**P**	**11 11 51.2**	**+0.1**	
LZH	**Lanzhou**	**72.10**	**314**	*e*P	**P**	**11 12 07.5**	**+2.1**	
LZH				pP	**PcP**	**11 12 24.1**	**+0.6**	
LZH				sP	**sP**	**11 12 31.0**	**+0.9**	
LZH				pmax	pmax			
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**11 12 29.9**	**-1.1**	
	comp=Z,0.8nm,0.6s,baz=141,slow=5.0,SNR=6.4							
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**11 12 29.9**	**-1.1**	
QSPA	**South Pole Qui**	**78.94**	**180**	P	**P**	**11 12 45.3**	**+1.3**	
	comp=Z,4.5nm,0.9s,baz=15,slow=1.8,SNR=17							
QSPA	**South Pole Qui**	**78.94**	**180**	*e*P	**P**	**11 12 44.6**	**+0.6**	
	comp=Z,9.6nm,1.3s							
BILL	**Bilibino**	**78.95**	**2**	P	**P**	**11 12 43.4**	**-0.3**	
	comp=Z,6.5nm,1.0s							
ILAR	**Eielson Array**	**84.71**	**20**	P	**P**	**11 13 13.1**	**-1.0**	
	comp=Z,0.9nm,0.7s,baz=247,slow=5.1,SNR=14							
ILAR	**Eielson Array**	**84.71**	**20**	P	**P**	**11 13 13.1**	**-1.0**	
WMQ	**Urumqi**	**86.55**	**316**	*e*P	**P**	**11 13 23.5**	**-0.2**	
NVAR	**Mina Array Bea**	**88.83**	**51**	P	**P**	**11 13 35.6**	**+0.6**	
	comp=Z,0.6nm,0.7s,baz=237,slow=8.2,SNR=5.0							
NVAR	**Mina Array Bea**	**88.83**	**51**	P	**P**	**11 13 35.6**	**+0.6**	
MKAR	**Makanchi Array**	**91.06**	**317**	P	**P**	**11 13 43.9**	**-1.0**	
	comp=Z,0.4nm,0.6s,baz=90,slow=5.6,SNR=6.2							
MKAR	**Makanchi Array**	**91.06**	**317**	P	**P**	**11 13 43.9**	**-1.0**	
INK	**Inuvik**	**91.11**	**20**	LR	LR	11 50 58.6		
	comp=Z,91nm,18.9s,baz=345,slow=33							
TORD	**Torodi Ar. Bea**	**160.67**	**278**	PKP	**PKPdf**	**11 20 40.4**	**-0.7**	
	comp=Z,0.5nm,0.8s,baz=80,slow=1.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**160.67**	**278**	PKP	**PKPdf**	**11 20 40.4**	**-0.7**	

*DJA **03** 11:05:42,2°80N×125°29E,h21km,MLv4.1/5*

IDC 03 11:05:37.6±0.9,2°58N×125°11E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.7/20,mbtmp3.7/8,MS3.3/3,Ms1 3.3/3, ms1mx2.8/27,Error ellipse: s-maj=72.2km s-min=15.4km az=73.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.49**	**6**	LR	LR	11 08 50.2	
	comp=Z,359nm,18.4s,baz=308,slow=43						
FITZ	**Fitzroy Crossi**	**20.56**	**179**	P	P	11 10 16.8	-1.2
	1.3nm,0.6s,baz=349,slow=16,SNR=3.0						
GUMO	**Guam**	**22.39**	**60**	LR	LR	11 18 09.5	
	comp=Z,65nm,19.4s,baz=149,slow=34						
WRA	**Warramunga Arr**	**24.15**	**158**	P	P	11 10 55.2	-0.5
	3.0nm,0.7s,baz=342,slow=10,SNR=20						
JOW	**Kunigami**	**24.30**	**7**	LR	LR	11 20 02.8	
	comp=Z,60nm,19.7s,baz=98,slow=36						
ASAR	**Alice Springs**	**27.46**	**162**	P	P	11 11 26.1	+0.5
	0.5nm,0.5s,baz=340,slow=6.5,SNR=7.7						
KSRS	**Korea Array**	**34.80**	**4**	P	P	11 12 29.6	-0.5
	0.7nm,0.6s,baz=174,slow=9.7,SNR=3.6						
STKA	**Stephens Creek**	**37.68**	**157**	P	P	11 12 55.3	+0.5
	2.3nm,0.8s,baz=334,slow=11,SNR=6.2						
SONM	**Songino Array**	**47.89**	**343**	P	P	11 14 17.3	-0.4
	1.0nm,1.1s,baz=156,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**57.59**	**326**	P	P	11 15 30.0	+0.6
	0.4nm,0.9s,baz=111,slow=7.9,SNR=2.9						
KURK	**Kurchatov**	**61.85**	**328**	P	P	11 15 58.2	-0.4
	0.2nm,0.3s,baz=124,slow=5.3,SNR=4.4						

IDC 03 11:08:57.6±2.5,22°57N×11°49W,h0km,mb3.3/1, mb1 3.7/3,mb1mx3.3/23,mbtmp3.6/3,ML3.8/2,Error ellipse: s-maj=78.3km s-min=34.5km az=78.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.66**	**125**	Pn	Pn	11 12 41.6	+1.9
	0.3nm,0.3s,baz=312,slow=10,SNR=5.5						
TORD				Sn	Sn	11 15 33.0	-1.0
	0.1nm,0.3s,baz=311,slow=20,SNR=3.4						
DBIC	**Dimbokro**	**17.06**	**157**	P	Pn	11 12 56.7	-0.9
	0.5nm,0.3s,baz=323,slow=14,SNR=6.6						
GERES	**GERESS Array B**	**32.96**	**31**	P	P	11 15 33.9	-0.2
	0.3nm,0.4s,baz=213,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**148.09**	**92**	PKPbc	PKPbc	11 28 45.2	-0.8
	0.2nm,0.3s,baz=297,slow=1.7,SNR=8.2						
ASAR	**Alice Springs**	**148.20**	**99**	PKPbc	PKPbc	11 28 45.9	-0.4
	0.3nm,0.4s,baz=291,slow=2.0,SNR=7.8						

IDC 03 11:09:45.6±4.7,1°81N×98°21E,h0km,mb3.6/6,mb1 3.7/6, mb1mx3.5/22,mbtmp3.6/6,MS3.3/1,Ms1 3.3/1, ms1mx2.5/26,Error ellipse: s-maj=256.5km s-min=19.3km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.51**	**123**	P	P	11 17 34.5	-0.5
	0.4nm,0.6s,baz=301,slow=9.4,SNR=4.3						
ASAR	**Alice Springs**	**42.97**	**128**	P	P	11 17 47.1	+0.2
	0.3nm,0.8s,baz=299,slow=7.6,SNR=3.4						
MKAR	**Makanchi Array**	**46.91**	**345**	P	P	11 18 17.8	-0.1
	0.5nm,0.6s,baz=161,slow=9.4,SNR=8.8						
KURK	**Kurchatov**	**51.48**	**344**	P	P	11 18 52.0	-0.8
	0.3nm,0.3s,baz=163,slow=6.8,SNR=3.8						
STKA	**Stephens Creek**	**53.02**	**133**	P	P	11 19 04.5	-0.1
	1.1nm,0.9s,baz=316,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**53.13**	**350**	P	P	11 19 05.2	+0.2
	0.7nm,0.4s,baz=170,slow=6.6,SNR=5.1						
ZALV				LR	LR	11 44 12.4	
	comp=Z,26nm,18.5s,baz=59,slow=39						

*IDC **03** 11:45:17.8±1.2,23°03S×114°57W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.9/12,mbtmp3.7/4,MS3.7/2,Ms1 3.7/2, ms1mx3.3/22,Error ellipse: s-maj=44.9km s-min=39.0km az=38.0*

*ISCJB **03** 11:45:17.6±1.1,23°0S±0°2×114°7W±0°3,h10km,mb4.0/6, MS3.7/2,Error ellipse: s-maj=40.0km s-min=22.1km az=171.6*

*NEIC **03** 11:45:19.1±0.5,23°05S×114°55W,h10km,mb4.5/3,Error ellipse: s-maj=24.5km s-min=16.8km az=90.0*

ISC 03 11:45:19.2±0.9,23°0S±0°2×114°6W±0°2,h10km,n29, σ0s72/23,mb4.1/6,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**18.78**	**266**	*e*LR	LR	11 53 50.7	
	213nm,26.2s						
RKT				*e*T	T	12 08 30.0	
	1.5nm,0.3s						
TAOE	**Nuku Hiva Isla**	**28.28**	**296**	*e*LR	LR	11 58 12.8	
	454nm,26.1s						
PPT2	**Papeete2**	**33.22**	**273**	*e*LR	LR	12 00 12.7	
	152nm,25.8s						
PLCA	**Paso Flores**	**40.86**	**126**	LR	LR	12 05 34.7	
	comp=Z,197nm,21.5s,baz=281,slow=30						
LPAZ	**La Paz**	**44.10**	**90**	P	**P**	**11 53 29.3**	**+0.6**
	1.5nm,0.8s,baz=252,slow=6.4,SNR=4.7						
LPAZ	**La Paz**	**44.10**	**90**	*e*P	**P**	**11 53 28.8**	**+0.1**
	7.1nm,1.3s						
SIV	**San Ignacio**	**50.69**	**92**	LR	LR	12 11 30.9	
	comp=Z,46nm,20.7s,slow=31						
TXAR	**Lajitas Array**	**53.12**	**12**	P	**P**	**11 54 37.8**	**+0.6**
	0.4nm,0.9s,baz=182,slow=7.2,SNR=3.5						
TXAR	**Lajitas Array**	**53.12**	**12**	P	**P**	**11 54 37.8**	**+0.6**
JCT	**Junction City**	**55.07**	**16**	*e*P	**P**	**11 54 51.5**	**+0.2**
	4.3nm,0.8s						
NVAR	**Mina Array Bea**	**61.24**	**357**	P	**P**	**11 55 35.6**	**+0.9**
	1.3nm,0.8s,baz=185,slow=8.6,SNR=6.8						
NVAR	**Mina Array Bea**	**61.24**	**357**	P	**P**	**11 55 35.6**	**+0.9**
PDAR	**Pinedale Array**	**65.64**	**4**	P	**P**	**11 56 03.1**	**-0.6**
	0.8nm,0.7s,baz=164,slow=7.4,SNR=4.6						
PDAR	**Pinedale Array**	**65.64**	**4**	P	**P**	**11 56 03.1**	**-0.6**
QSPA	**South Pole Qui**	**67.11**	**180**	*e*P	**P**	**11 56 13.3**	**+0.4**
	4.8nm,1.0s						
DZM	**Mont Dzumac**	**72.03**	**253**	*e*LR	LR	12 18 30.4	
	90nm,26.6s						
ZALV	**Zalesovo Beam**	**145.84**	**340**	PKPbc	**PKPab**	**12 04 58.9**	**0.0**
	0.5nm,0.3s,baz=19,slow=3.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**145.84**	**340**	PKPbc	**PKPab**	**12 04 58.9**	**0.0**
CMAR	**Chiang Mai Arr**	**148.37**	**268**	PKPbc	**PKPbc**	**12 05 07.3**	**+0.7**
	1.9nm,0.9s,baz=112,slow=0.7,SNR=11						
CMAR	**Chiang Mai Arr**	**148.37**	**268**	PKPbc	**PKPbc**	**12 05 07.3**	**+0.7**
BRTR	**Keskin Array B**	**148.38**	**51**	PKPbc	**PKPbc**	**12 05 05.5**	**-0.8**
	1.4nm,1.0s,baz=321,slow=1.8,SNR=4.3						
BRTR	**Keskin Array B**	**148.38**	**51**	PKPbc	**PKPbc**	**12 05 05.5**	**-0.8**
BVAR	**Borovoye Array**	**149.82**	**354**	PKPbc	**PKPbc**	**12 05 08.9**	**-0.4**
	1.3nm,0.7s,baz=349,slow=2.9,SNR=8.0						
BVAR	**Borovoye Array**	**149.82**	**354**	PKPbc	**PKPbc**	**12 05 08.9**	**-0.4**
KURK	**Kurchatov**	**150.52**	**343**	*e*PKPbc	**PKPbc**	**12 05 10.9**	**-0.1**
AKTO	**Aktyubinsk**	**152.04**	**10**	PKPbc	**PKPbc**	**12 05 13.5**	**-1.1**
	1.1nm,0.7s,baz=342,slow=3.2,SNR=3.6						
AKTO	**Aktyubinsk**	**152.04**	**10**	PKPbc	**PKPbc**	**12 05 13.5**	**-1.1**
MKAR	**Makanchi Array**	**152.68**	**334**	PKPbc	**PKPbc**	**12 05 15.2**	**-0.9**
	0.6nm,0.7s,baz=48,slow=2.1,SNR=6.1						
MKAR	**Makanchi Array**	**152.68**	**334**	PKPbc	**PKPbc**	**12 05 15.2**	**-0.9**

IDC 03 11:46:13.4±5.4,20°49S×68°64W,h130km±31km,mb3.8/2, mb1 3.6/4,mb1mx3.3/14,mbtmp3.5/4,Error ellipse: s-maj=82.9km s-min=33.6km az=51.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.20**	**7**	P	Pn	11 47 16.5	-0.2
	1.6nm,0.3s,baz=184,slow=8.3,SNR=37						
CPUP	**Villa Florida**	**11.90**	**121**	P	Pn	11 48 59.0	0.0
	0.3nm,0.3s,baz=294,slow=16,SNR=4.3						
DBIC	**Dimbokro**	**68.20**	**74**	P	P	11 57 00.3	-0.1
	2.4nm,0.7s,baz=260,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	P	11 57 51.4	+0.2
	1.0nm,0.7s,baz=259,slow=4.7,SNR=14						
SONM	**Songino Array**	**152.42**	**7**	PKPbc	PKPbc	12 05 54.3	-0.1
	baz=339,slow=1.6,SNR=5.8						

*IDC **03** 12:00:08.3±0.7,35°06S×107°63W,h0km,mb4.1/7, mb1

0.2nm,0.3s,baz=125,slow=8.9,SNR=3.7
CMAR PKPab **PKPab 12 20 09.8 -1.9**
0.6nm,0.6s,baz=187,slow=1.8,SNR=4.9
CMAR Chiang Mai Arr 151.24 242 PKPbc **PKPbc 12 20 03.9 +0.1**
CMAR PKPab **PKPab 12 20 09.8 -1.9**
SONM Songino Array 151.72 307 PKPbc **PKPbc 12 20 04.8 +0.6**
1.1nm,0.7s,baz=137,slow=1.8,SNR=8.7
SONM Songino Array 151.72 307 PKPbc **PKPbc 12 20 04.8 +0.6**

*MOS **03** 12:06:41.9±0.6,56°.43N×161°.67E,h70km,mb4.4/1,Error ellipse: s-maj=18.9km s-min=13.7km az=70.8*
*ISCJB **03** 12:06:42.5±0.4,56°.46N±0°.04×161°.65E±0°.06,h74km±3km, mb3.3/7,Error ellipse: s-maj=7.0km s-min=5.1km az=160.3*
*KRSC **03** 12:06:42.4±1.1,56°.44N×161°.61E,h74km±34km,ML4.2*
*IDC **03** 12:06:43.5±2.6,56°.31N×161°.77E,h68km±28km,mb3.1/7, mb1 3.4/10,mb1mx3.2/27,mbtmp3.3/10,Error ellipse: s-maj=24.5km s-min=16.1km az=169.0*
ISC 03 12:06:43.5±0.7,56°.48N±0°.05×161°.64E±0°.03,h69km±6km, n46,σ1§10/64,mb3.2/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.14**	**318**	S	**Sn**	**12 07 02.1**	**+0.6**
BDR	**Baidarnaya**	**0.26**	**291**	*eS*	**Sn**	**12 07 02.8**	**+0.4**
SRKR	**Sorokina**	**0.32**	**304**	*i P*	**Pn**	**12 06 54.6**	**-0.2**
KLY	**Klyuchi**	**0.57**	**254**	*eS*	**Sn**	**12 07 04.5**	**-2.3**
ZLN	**Zelenaya**	**0.66**	**226**	S	**Sn**	**12 07 08.0**	**-0.6**
KBTR	**Krutoberegovo**	**0.71**	**112**	PN	**Pn**	**12 06 58.5**	**+0.1**
KBTR				S	**Sn**	**12 07 11.3**	**+1.9**
KBTR	**Krutoberegovo**	**0.71**	**112**	*i P*	**Pn**	**12 06 58.5**	**+0.1**
KBTR				*eS*	**Sn**	**12 07 11.3**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**0.75**	**225**	*eP*	**Pn**	**12 06 58.1**	**-1.0**
BZGR				*eS*	**Sn**	**12 07 09.7**	**-0.8**
BZWR	**Bezymyannyi-We**	**0.82**	**232**	*i P*	**Pn**	**12 06 59.1**	**-0.8**
BZWR				*eS*	**Sn**	**12 07 11.3**	**-0.7**
BZMR	**Bezymyannaya**	**0.84**	**230**	*i P*	**Pn**	**12 06 59.4**	**-0.8**
BZMR				*eS*	**Sn**	**12 07 12.0**	**-0.4**
KPT	**Kopyto**	**0.94**	**238**	*i P*	**Pn**	**12 07 00.3**	**-1.0**
KPT				*eS*	**Sn**	**12 07 13.7**	**-0.8**
KOZR	**Kozyr**	**1.06**	**248**	PN	**Pn**	**12 07 02.1**	**-0.6**
KOZR				S	**Sn**	**12 07 16.8**	**-0.2**
KMNR	**Kamenistaya**	**1.07**	**228**	*i P*	**Pn**	**12 07 02.3**	**-0.6**
KMNR				*eS*	**Sn**	**12 07 17.3**	**0.0**
KOZ	**Kozyrevsk**	**1.07**	**248**	*i P*	**Pn**	**12 07 02.1**	**-0.8**
KOZ				*eS*	**Sn**	**12 07 16.8**	**-0.5**
SRDR	**Sredinnyy**	**1.08**	**262**	*i P*	**Pn**	**12 07 02.3**	**-0.8**
SRDR				*i S*	**Sn**	**12 07 17.1**	**-0.5**
TUMR	**Tumrok**	**1.46**	**216**	*eP*	**Pn**	**12 07 08.3**	**+0.2**
TUMR				*eS*	**Sn**	**12 07 27.0**	**+0.5**
ESO	**Esso**	**1.73**	**253**	PN	**Pn**	**12 07 10.3**	**-1.3**
ESO	**Esso**	**1.73**	**253**	*i P*	**Pn**	**12 07 10.3**	**-1.3**
BKI	**Bering**	**2.75**	**116**	PN	**Pn**	**12 07 24.4**	**-0.9**
BKI				S	**Sn**	**12 07 55.5**	**-1.9**
BKI	**Bering**	**2.75**	**116**	*i P*	**Pn**	**12 07 24.4**	**-0.9**
BKI				*eS*	**Sn**	**12 07 55.5**	**-1.9**
SDLR	**Sedlovina**	**3.58**	**208**	*eP*	**Pn**	**12 07 37.2**	**+0.5**
SDLR				S	**Sn**	**12 08 18.1**	**+0.3**
AVH	**Avacha**	**3.63**	**209**	*eP*	**Pn**	**12 07 38.8**	**+1.5**
AVH				S	**Sn**	**12 08 19.3**	**+0.4**
KOK	**Koryaka**	**3.63**	**210**	*eP*	**Pn**	**12 07 38.5**	**+1.1**
PET	**Petropavlovsk**	**3.87**	**208**	*ePN*	**Pn**	**12 07 41.3**	**+0.8**
PET				*eS*	**Sn**	**12 08 25.9**	**+1.3**
PET				pmax	pmax		
	comp=Z,55nm,0.6s						
PET				smax	smax		
	comp=N,132nm,0.7s						
PET				smax	smax		
	comp=E,98nm,0.9s						
PET	**Petropavlovsk**	**3.87**	**208**	*eP*	**Pn**	**12 07 40.9**	**+0.4**
PET				*eS*	**Sn**	**12 08 24.2**	**-0.4**
PETK	**Petropavlovsk-**	**4.07**	**216**	P	**Pn**	**12 07 42.9**	**-0.4**
	comp=E,2.3nm,0.3s,baz=64,slow=17,SNR=57						
PETK	**Petropavlovsk-**	**4.07**	**216**	PN	**Pn**	**12 07 42.9**	**-0.4**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MIPR	**Malaya Ipel'ka**	**5.08**	**216**	P	**Pn**	**12 07 57.0**	**-0.1**
FX1	**Attu Island--F**	**7.59**	**114**	P	**Pn**	**12 08 30.9**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=254,slow=8.9,SNR=7.6						
FX1				S	**Sn**	**12 09 51.5**	**-4.1**
	comp=Z,12nm,0.3s,baz=180,slow=22,SNR=9.4						
FX1	**Attu Island--F**	**7.59**	**114**	PN	**Pn**	**12 08 30.9**	**-0.4**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**17.27**	**232**	P	**Pn**	**12 10 38.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=2.3						
ASAJ	**Asahikawa**	**17.27**	**232**	P	**Pn**	**12 10 38.8**	**-1.2**
USRK	**Ussuriysk Arra**	**22.35**	**240**	P	**P**	**12 11 34.9**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=64,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**25.87**	**50**	P	**P**	**12 12 08.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=266,slow=8.9,SNR=3.6						
ILAR	**Eielson Array**	**25.87**	**50**	P	**P**	**12 12 08.8**	**+0.5**
SONM	**Songino Array**	**34.12**	**279**	P	**P**	**12 13 21.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=52,slow=8.3,SNR=3.2						
SONM	**Songino Array**	**34.12**	**279**	P	**P**	**12 13 21.3**	**-0.3**
KURK	**Kurchatov**	**46.76**	**300**	*eP*	**P**	**12 15 05.6**	**+0.1**
MKAR	**Makanchi Array**	**47.55**	**294**	P	**P**	**12 15 13.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=53,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**47.55**	**294**	P	**P**	**12 15 13.7**	**+1.9**
FINES	**FINESS Array B**	**57.37**	**336**	P	**P**	**12 16 25.2**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=32,slow=7.5,SNR=4.6						
FINES	**FINESS Array B**	**57.37**	**336**	P	**P**	**12 16 25.2**	**+1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**79.53**	**206**	P	**P**	**12 18 42.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=12,slow=5.9,SNR=4.6						
WRA	**Warramunga Arr**	**79.53**	**206**	P	**P**	**12 18 42.5**	**-0.1**
ASAR	**Alice Springs**	**83.21**	**205**	P	**P**	**12 19 01.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=13,slow=4.7,SNR=7.6						
ASAR	**Alice Springs**	**83.21**	**205**	P	**P**	**12 19 01.4**	**-0.6**

*DJA **03** 12:13:58,3°.60N×125°.64E,h31km,MLv4.9/12*
*IDC **03** 12:14:02.8±0.5,2°.77N×125°.37E,h0km,mb4.3/23, mb1 4.3/23,mb1mx4.3/28,mbtmp4.3/23,MS3.5/4, Ms1 3.5/4,ms1mx2.9/38,Error ellipse: s-maj=20.3km s-min=10.6km az=75.0*
*ISCJB **03** 12:14:02.7±0.3,2°.80N±0°.04×125°.39E±0°.06,h10km, mb4.4/33,MS3.3/3,Error ellipse: s-maj=8.6km s-min=5.0km az=171.0*
*NEIC **03** 12:14:04.3±0.3,2°.76N×125°.43E,h10km,mb4.4/6,Error ellipse: s-maj=11.6km s-min=6.4km az=82.0*
ISC 03 12:14:04.5±0.4,2°.81N±0°.04×125°.44E±0°.07,h10km,n76, σ1§13/79,mb4.4/33,MS3.4/3,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.88**	**6**	P	**Pb**	**12 14 22.7**	**+0.9**
MNI	**Manado**	**1.48**	**204**	P	**Pb**	**12 14 31.1**	**-1.0**
KMSI	**Cibinong**	**2.66**	**213**	P	**Pg**	**12 14 56.1**	**+0.7**
TNTI	**Ternate**	**2.79**	**136**	P	**Pn**	**12 14 50.4**	**+1.2**
GSPH	**General Santos**	**3.30**	**351**	*eP*	**Pn**	**12 14 53.8**	**-2.5**
LBMI	**Labuha**	**3.99**	**149**	P	Pn	**12 15 08.7**	**+2.9**
MRSI	**Marisa**	**4.20**	**237**	P	**Pn**	**12 15 08.4**	**-0.2**
DAV	**Davao City (W)**	**4.24**	**2**	LR	LR	12 17 15.9	
	comp=Z,765nm,18.4s,baz=218,slow=45						
LUWI	**Luwuk**	**4.66**	**215**	P	Pn	12 15 18.1	+3.1
KAPI	**Kappang**	**9.63**	**216**	Pn	**Pn**	**12 16 22.1**	**-1.1**
KKM	**Kota Kinabalu**	**9.75**	**290**	Pn	**Pn**	**12 16 27.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**20.78**	**179**	P	**P**	**12 18 44.4**	**-1.4**
	5.2nm,0.6s,baz=12,slow=11,SNR=13						
FITZ				LR	LR	12 26 39.6	
	comp=Z,38nm,19.9s,baz=239,slow=36						
FITZ	**Fitzroy Crossi**	**20.78**	**179**	*eP*	**P**	**12 18 44.2**	**-1.6**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.78**	**179**	P	**P**	**12 18 44.4**	**-1.4**
	6.1nm,0.8s						
GUMO	**Guam**	**21.98**	**60**	P	**P**	**12 18 58.1**	**-0.7**
	73nm,0.7s,baz=247,slow=23,SNR=2.4						
GUMO	**Guam**	**21.98**	**60**	P	**P**	**12 18 58.1**	**-0.7**
JOW	**Kunigami**	**24.04**	**6**	P	**P**	**12 19 18.4**	**-1.4**
	17nm,0.9s,baz=156,slow=0.4,SNR=2.8						
JOW				LR	LR	12 28 37.9	
	comp=Z,123nm,19.6s,baz=29,slow=36						
JOW	**Kunigami**	**24.04**	**6**	P	**P**	**12 19 18.4**	**-1.4**
WRAB	**Tennant Creek**	**24.23**	**159**	*eP*	**P**	**12 19 19.9**	**-1.8**
	12nm,0.6s						
WRAB				*eS*	**S**	**12 23 40.7**	**+0.4**
WRA	**Warramunga Arr**	**24.24**	**159**	P	**P**	**12 19 19.8**	**-1.9**
	9.9nm,0.7s,baz=342,slow=10,SNR=60						
WRA	**Warramunga Arr**	**24.24**	**159**	P	**P**	**12 19 19.8**	**-1.9**
WB2	**Warramunga Arr**	**24.24**	**159**	*eP*	**P**	**12 19 20.0**	**-1.8**
WB2				*eS*	**S**	**12 23 39.6**	**-0.9**
MBWA	**Marble Bar**	**24.47**	**193**	*eP*	**P**	**12 19 22.8**	**-1.1**
	6.1nm,1.0s						
PMG	**Port Moresby**	**24.81**	**120**	P	**P**	**12 19 27.5**	**+0.5**
	5.7nm,0.6s,baz=316,slow=9.9,SNR=3.3						
PMG	**Port Moresby**	**24.81**	**120**	P	**P**	**12 19 27.5**	**+0.5**
AS31	**Alice Springs**	**27.57**	**163**	*eP*	**P**	**12 19 51.9**	**0.0**
ASAR	**Alice Springs**	**27.57**	**163**	P	**P**	**12 19 51.8**	**-0.1**
	1.2nm,0.5s,baz=342,slow=6.8,SNR=48						
ASAR	**Alice Springs**	**27.57**	**163**	P	**P**	**12 19 51.8**	**-0.1**
MTSU	**Mount Surprise**	**27.91**	**139**	*eP*	**P**	**12 19 56.6**	**+1.6**
	7.8nm,0.6s						
MEEK	**Meekatharra**	**30.01**	**192**	*eP*	**P**	**12 20 12.4**	**-1.2**
	33nm,1.8s						
CMAR	**Chiang Mai Arr**	**30.26**	**303**	P	**P**	**12 20 17.2**	**+1.3**
	3.5nm,0.9s,baz=109,slow=7.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.26**	**303**	P	**P**	**12 20 17.2**	**+1.3**
CHTO	**Chiang Mai**	**30.43**	**303**	*eP*	**P**	**12 20 19.1**	**+1.7**
	6.0nm,0.8s						
CTA	**Charters Tower**	**30.58**	**139**	P	**P**	**12 20 19.3**	**+0.6**
	2.8nm,0.8s,baz=5.4,slow=12,SNR=2.2						
CTA	**Charters Tower**	**30.58**	**139**	P	**P**	**12 20 19.3**	**+0.6**
FORT	**Forrest**	**33.49**	**176**	*eP*	**P**	**12 20 43.1**	**-1.0**
	19nm,0.5s						
KMBL	**Kambalda**	**34.15**	**185**	*eP*	**P**	**12 20 49.4**	**-0.5**
	46nm,0.8s						
KSAR	**Wonju Array Be**	**34.54**	**3**	P	**P**	**12 20 53.6**	**+0.5**
KSRS	**Korea Array**	**34.56**	**3**	P	**P**	**12 20 53.6**	**+0.4**
	2.6nm,0.8s,baz=179,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**35.58**	**18**	P	**P**	**12 21 01.4**	**-0.8**
	1.7nm,0.8s,baz=208,slow=9.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**35.58**	**18**	P	**P**	**12 21 01.4**	**-0.8**
NWAO	**Narrogin (SRO)**	**36.38**	**192**	P	**P**	**12 21 10.3**	**+1.2**
	61nm,1.5s,baz=12,slow=4.3,SNR=3.5						
NWAO	**Narrogin (SRO)**	**36.38**	**192**	P	**P**	**12 21 10.3**	**+1.2**
BBOO	**Buckleboo**	**36.82**	**165**	*eP*	**P**	**12 21 11.2**	**-1.6**
	38nm,1.1s						
STKA	**Stephens Creek**	**37.75**	**157**	P	**P**	**12 21 19.8**	**-0.9**
	5.5nm,0.8s,baz=338,slow=8.3,SNR=15						
STKA	**Stephens Creek**	**37.75**	**157**	*eP*	**P**	**12 21 20.1**	**-0.6**
	4.1nm,0.6s						
STKA	**Stephens Creek**	**37.75**	**157**	*eP*	**P**	**12 21 20.4**	**-0.3**
ARMA	**Armidale**	**41.43**	**145**	*eP*	**P**	**12 21 52.1**	**+0.5**
USRK	**Ussuriysk Arra**	**41.63**	**7**	P	**P**	**12 21 53.7**	**+0.9**
	7.5nm,0.8s,baz=182,slow=6.6,SNR=13						
ARPS	**Mount Arapiles**	**42.23**	**160**	*eP*	**P**	**12 21 59.6**	**+1.7**
	15nm,1.1s						
ASAJ	**Asahikawa**	**43.85**	**18**	P	**P**	**12 22 12.8**	**+1.9**
	16nm,1.1s,baz=280,slow=13,SNR=3.3						
ASAJ	**Asahikawa**	**43.85**	**18**	P	**P**	**12 22 12.8**	**+1.9**
ULN	**Ulaanbaatar**	**47.61**	**343**	*eP*	**P**	**12 22 41.0**	**+0.2**
	3.0nm,1.0s						
SONM	**Songino Array**	**47.78**	**343**	P	**P**	**12 22 42.1**	**+0.1**
	2.2nm,0.9s,baz=151,slow=9.5,SNR=11						
SONM				PcP	**PcP**	**12 24 10.6**	**-0.4**
	0.8nm,0.8s,baz=165,slow=2.6,SNR=4.3						
SONM	**Songino Array**	**47.78**	**343**	P	**P**	**12 22 42.1**	**+0.1**
SONM				PcP	**PcP**	**12 24 10.6**	**-0.4**
PETK	**Petropavlovsk-**	**56.77**	**23**	P	**P**	**12 23 50.2**	**+1.6**
	3.3nm,0.8s,baz=216,slow=4.5,SNR=4.2						
PETK	**Petropavlovsk-**	**56.77**	**23**	P	**P**	**12 23 50.2**	**+1.6**
MKAR	**Makanchi Array**	**57.59**	**326**	P	**P**	**12 23 53.6**	**-1.1**
	0.4nm,0.5s,baz=121,slow=8.5,SNR=5.8						
MKAR				PcP	**PcP**	**12 24 47.2**	**-0.7**
	0.6nm,0.6s,baz=110,slow=7.2,SNR=3.9						
MKAR				LR	LR	12 49 40.3	
	comp=Z,70nm,19.1s,baz=174,slow=37						
MKAR	**Makanchi Array**	**57.59**	**326**	P	**P**	**12 23 53.6**	**-1.1**
MKAR				PcP	**PcP**	**12 24 47.2**	**-0.7**
YAK	**Yakutsk**	**59.17**	**2**	*eP*	**P**	**12 24 05.5**	**+0.3**
	20nm,0.8s						
ZALV	**Zalesovo Beam**	**60.84**	**334**	P	**P**	**12 24 15.9**	**-0.9**
	0.3nm,0.5s,baz=122,slow=5.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.84**	**334**	P	**P**	**12 24 15.9**	**-0.9**
KURK	**Kurchatov**	**61.84**	**328**	P	**P**	**12 24 23.2**	**-0.5**
	2.0nm,0.8s,baz=125,slow=6.2,SNR=13						
KURK	**Kurchatov**	**61.84**	**328**	P	**P**	**12 24 23.2**	**-0.5**
BVAR	**Borovoye Array**	**67.40**	**328**	P	**P**	**12 24 59.7**	**-0.4**
	0.8nm,0.8s,baz=110,slow=12,SNR=3.9						
BVAR	**Borovoye Array**	**67.40**	**328**	P	**P**	**12 24 59.7**	**-0.4**
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**12 25 36.6**	**-1.3**
	1.0nm,0.6s,baz=98,slow=5.5,SNR=5.7						
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**12 25 36.6**	**-1.3**
KDAK	**Kodiak Island**	**83.35**	**32**	P	**P**	**12 26 32.8**	**+1.1**
	6.2nm,0.9s,baz=301,slow=12,SNR=3.1						
KDAK	**Kodiak Island**	**83.35**	**32**	P	**P**	**12 26 32.8**	**+1.1**
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**12 26 47.6**	**+0.3**
	0.5nm,0.7s,baz=240,slow=5.2,SNR=7.3						
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**12 26 47.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**121.97**	**287**	PKP	**PKPdf**	**12 32 59.7**	**-0.6**
	0.3nm,0.6s,baz=50,slow=2.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.97**	**287**	PKP	**PKPdf**	**12 32 59.7**	**-0.6**
TXAR	**Lajitas Array**	**123.18**	**52**	PKP	**PKPdf**	**12 33 03.4**	**+1.0**
	0.1nm,0.7s,baz=306,slow=3.0,SNR=2.6						
TXAR	**Lajitas Array**	**123.18**	**52**	PKP	**PKPdf**	**12 33 03.4**	**+1.0**

*MAN **03** 12:14:12,6°.35N×123°.59E,h31km,mb4.9,ML3.8,MS3.8*
*IDC **03** 12:14:14.3±4.5,6°.80N×123°.70E,h0km,mb3.7/6, mb1 3.7/6,mb1mx3.5/21,mbtmp3.7/6,Error ellipse: s-maj=113.1km s-min=14.4km az=4.0*
*ISCJB **03** 12:14:16.3±1.0,6°.6N±0°.1×123°.72E±0°.04,h33km,mb3.7/6, Error ellipse: s-maj=18.9km s-min=5.7km az=179.7*
ISC 03 12:14:18.3±1.2,6°.6N±0°.1×123°.70E±0°.05,h35km,n16, σ1§28/17,mb3.8/6,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.79**	**43**	*i P*	Pn	12 14 38.1	+5.2
PAGZ	**Pagadian**	**1.24**	**345**	*eP*	**Pn**	**12 14 37.5**	**-1.6**
PAGZ				*eS*	Sn	12 14 44.8	-10
KCP	**Kidapawan**	**1.42**	**75**	*eP*	Pn	12 14 38.0	-3.8
KCP				*i S*	**Sn**	**12 14 57.3**	**-2.0**
IPIL	**Ipil**	**1.60**	**315**	*eP*	**Pn**	**12 14 43.8**	**-0.3**
ZMPH	**Zamboanga City**	**1.66**	**281**	*i P*	**Pn**	**12 14 44.0**	**-0.9**
ZMPH				*i S*	**Sn**	**12 15 04.9**	**-0.1**
BUKP	**Musuan**	**1.82**	**48**	*eP*	**Pn**	**12 14 46.0**	**-1.3**
DMPH	**Davao City--Mi**	**1.84**	**76**	*eP*	**Pn**	**12 14 45.9**	**-1.6**
DAV	**Davao City (W)**	**1.91**	**77**	Pn	**Pn**	**12 14 48.8**	**+0.4**
	254nm,0.3s,baz=282,slow=3.1,SNR=20						
DAV				Lg	Lg	12 15 13.6	
	90nm,0.3s,baz=146,slow=23,SNR=12						
DAV	**Davao City (W)**	**1.91**	**77**	P	**Pn**	**12 14 49.3**	**+0.9**
CGP	**Cagayan de Oro**	**2.05**	**29**	*i P*	**Pn**	**12 14 48.8**	**-1.5**
CGP				*i S*	**Sn**	**12 15 17.4**	**+2.7**
SONM	**Songino Array**	**43.62**	**343**	P	**P**	**12 22 19.8**	**+0.3**
	0.6nm,0.8s,baz=159,slow=9.8,SNR=4.0						
MKAR	**Makanchi Array**	**53.46**	**326**	P	**P**	**12 23 35.9**	**+0.8**
	0.5nm,0.6s,baz=130,slow=9.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.65**	**334**	P	**P**	**12 23 57.8**	**-0.1**
	0.5nm,0.5s,baz=133,slow=8.1,SNR=3.2						
KURK	**Kurchatov**	**57.68**	**328**	P	**P**	**12 24 05.5**	**+0.2**
	1.4nm,0.8s,baz=126,slow=6.0,SNR=15						
BVAR	**Borovoye Array**	**63.25**	**327**	P	**P**	**12 24 43.5**	**+0.2**
	0.7nm,0.9s,baz=138,slow=7.0,SNR=3.9						
AKTO	**Aktyubinsk**	**69.52**	**322**	P	**P**	**12 25 23.6**	**+0.1**
	0.5nm,0.6s,baz=101,slow=16,SNR=2.7						

*DDA **03** 12:16:05.8,38°.22N×28°.70E,h7km,MD2.9*
*CSEM **03** 12:16:06.0±0.1,38°.21N×28°.67E,h2km,MD2.9,Error ellipse: s-maj=3.4km s-min=2.9km az=78.0*
ISK 03 12:16:05.9,38°.22N×28°.69E,h6km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.30**	**355**	*ePG*	Pg	12 16 12.2	+0.3
KULA				*eSG*	Sg	12 16 16.3	+0.2
KULA	**Kula-Manisa**	**0.30**	**355**	*ePg*	Pg	12 16 12.2	+0.3
KULA				*eSg*	Sg	12 16 16.3	+0.3
DENT	**Denizli**	**0.53**	**150**	*ePG*	Pg	12 16 16.4	+0.1
DENT				*eSG*	Sg	12 16 24.4	+1.1
DENT	**Denizli**	**0.53**	**150**	*ePg*	Pg	12 16 16.4	+0.1
DENT				*eSg*	Sg	12 16 24.4	+1.1
DNZL	**Cakiroluk**	**0.59**	**152**	*i P*	Pg	12 16 18.0	+0.4
DNZL				*i S*	Sb	12 16 27.3	-0.6
DNZL	**Cakiroluk**	**0.59**	**152**	*i P*	Pg	12 16 18.0	+0.4
DNZL				*i S*	Sb	12 16 27.3	-0.5
KHAL	**Karahalli**	**0.65**	**76**	*i P*	Pg	12 16 18.4	-0.2
KHAL				*i S*	Sg	12 16 26.9	-0.1
KHAL	**Karahalli**	**0.65**	**76**	*i P*	Pg	12 16 18.4	-0.1
KHAL				*i S*	Sg	12 16 27.0	-0.1
DEMI	**Demirci**	**0.83**	**1**	*i P*	Pg	12 16 21.5	-0.4
DEMI				*i S*	Sg	12 16 32.5	-0.3
DEMI	**Demirci**	**0.83**	**1**	*i P*	Pg	12 16 21.5	-0.4
DEMI				*i S*	Sg	12 16 32.5	-0.3
AYDN	**Tasoluk**	**0.85**	**230**	*i P*	Pg	12 16 21.8	-0.5
AYDN				*i S*	Sb	12 16 34.3	-0.5
AYDN	**Tasoluk**	**0.85**	**230**	*i P*	Pg	12 16 21.8	-0.5
AYDN				*i S*	Sb	12 16 34.3	-0.6
AKHS	**Akhisar**	**0.96**	**314**	*i P*	Pg	12 16 24.5	+0.2
AKHS				*i S*	Sb	12 16 38.6	+0.8
AKHS	**Akhisar**	**0.96**	**314**	*i P*	Pg	12 16 24.5	+0.2
AKHS				*i S*	Sb	12 16 38.6	+0.7
AKS	**Akhisar**	**0.96**	**314**	*ePG*	Pb	12 16 25.0	+0.1
AKS	**Akhisar**	**0.96**	**314**	*ePg*	Pb	12 16 25.0	+0.1
GDZ	**Gediz**	**1.07**	**35**	*i P*	Pg	12 16 26.3	-0.3
GDZ				*i S*	Sb	12 16 41.6	+0.2
GDZ	**Gediz**	**1.07**	**35**	*i P*	Pg	12 16 26.3	-0.3
GDZ				*i S*	Sb	12 16 41.6	+0.2
YER	**Yerkesik**	**1.13**	**197**	*ePN*	Pg	12 16 27.1	-0.5
YER	**Yerkesik**	**1.13**	**197**	*ePn*	Pg	12 16 27.1	-0.5
GLHS	**Glhisar (BURDU**	**1.23**	**149**	*ePN*	Pn	12 16 30.3	+0.4
GLHS	**Glhisar (BURDU**	**1.23**	**149**	*ePn*	Pn	12 16 30.3	+0.4
GCAM	**G?zelcaml?**	**1.26**	**246**	*i P*	Pn	12 16 28.0	-2.1
GCAM				*i S*	Sb	12 16 46.6	+0.1
GCAM	**G?zelcaml?**	**1.26**	**246**	*i P*	Pn	12 16 28.0	-2.1
GCAM				*i S*	Sb	12 16 46.6	0.0
BLCB	**Balcova**	**1.31**	**278**	*ePN*	Pg	12 16 31.6	+0.5
BLCB	**Balcova**	**1.31**	**278**	*ePn*	Pg	12 16 31.6	+0.6
ALT	**Altintas**	**1.39**	**52**	*ePN*	Pb	12 16 32.3	-0.2
ALT	**Altintas**	**1.39**	**52**	*ePn*	Pb	12 16 32.3	-0.2
DURS	**Dursunbey**	**1.40**	**353**	*i P*	Pn	12 16 31.9	-0.1
DURS				*i S*	Sg	12 16 55.0	+4.0
DURS	**Dursunbey**	**1.40**	**353**	*i P*	Pn	12 16 31.9	-0.2
DURS				*i S*	Sg	12 16 55.0	+4.0
ISP	**Isparta**	**1.50**	**105**	*ePN*	Pg	12 16 34.8	0.0
ISP	**Isparta**	**1.50**	**105**	*ePn*	Pg	12 16 34.8	0.0
SHUT	**Suhut-Afyon**	**1.50**	**76**	*ePN*	Pg	12 16 34.7	-0.1
SHUT	**Suhut-Afyon**	**1.50**	**76**	*ePn*	Pg	12 16 34.7	-0.1
BALB	**Balikesir**	**1.56**	**336**	*ePN*	Pb	12 16 35.0	-0.1
BALB	**Balikesir**	**1.56**	**336**	*ePn*	Pb	12 16 35.0	-0.1
BODT	**Bodrum**	**1.59**	**224**	*ePN*	Pb	12 16 35.3	-0.5
BODT	**Bodrum**	**1.59**	**224**	*ePn*	Pb	12 16 35.3	-0.4
BALY	**Balya**	**1.74**	**332**	*i P*	Pn	12 16 36.8	+0.1
BALY				*i S*	Sg	12 17 02.4	+0.5
BALY	**Balya**	**1.74**	**332**	*i P*	Pn	12 16 36.8	+0.1
BALY				*i S*	Sg	12 17 02.4	+0.5
ELL	**Elmali**	**1.75**	**146**	*ePN*	Pb	12 16 38.5	-0.2
ELL	**Elmali**	**1.75**	**146**	*ePn*	Pb	12 16 38.5	-0.2
GONE	**Gonen-Balikesi**	**1.99**	**337**	*ePN*	Pn	12 16 40.8	+0.7

MKAR	**Makanchi Array**	**56.94**	**328**	P	**P**	**12 46 35.1 -0.4**
MKAR				pP	**pP**	**12 46 45.0 -0.3**
KURK	**Kurchatov**	**61.30**	**330**	P	**P**	**12 47 05.3 -0.3**
	0.6nm,0.9s,baz=127,slow=7.1,SNR=4.2					
KURK				pP	**pP**	**12 47 15.3 -0.2**
	1.0nm,0.7s,baz=128,slow=6.4,SNR=5.7					
KURK	**Kurchatov**	**61.30**	**330**	P	**P**	**12 47 05.3 -0.3**
KURK				pP	**pP**	**12 47 15.3 -0.2**
RPZ	**Rata Peaks**	**62.69**	**142**	P	**P**	**12 47 15.4 +0.2**
	8.5nm,0.8s,baz=112,slow=12,SNR=3.5					
RPZ	**Rata Peaks**	**62.69**	**142**	P	**P**	**12 47 15.4 +0.2**

*NIED **03** 12:39:00.4Z 37.00N× 142.60E, h56km, Mw3.9 Best double couple: M0 8.37000×10^14 NP1:φs55.00000°, δ76.00000°, λ106.00000°. NP2:φs186.00000°, δ21.00000°, λ42.00000°.*
*ISCJB **03** 12:39:27.7±0.3, 42.02N±0.04× 142.57E±0.04, h69km±3km, mb3.7/17, Error ellipse: s-maj=6.5km s-min=4.3km az=154.8*
*JMA **03** 12:39:28.6±0.2, 42.03N× 142.60E, h62km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs46.00000°, δ89.00000°, λ97.00000°. NP2:φs140.00000°, δ7.00000°, λ4.00000°. Principal axes: T Plg45.0000°, Azm323.0000°; N Plg7.0000°, Azm226.0000°; P Plg44.0000°, Azm129.0000°;*
*NEIC **03** 12:39:28.9±0.5, 42.04N× 142.56E, h63km±5km, mb4.3/1 Error ellipse: s-maj=9.0km s-min=6.5km az=140.0*
*IDC **03** 12:39:29.8±2.0, 42.02N× 142.50E, h72km±18km, mb3.5/16, mb1 3.6/20, mb1mx3.6/29, mbtmp3.5/20, Error ellipse: s-maj=17.0km s-min=15.1km az=156.0*

ISC 03 12:39:28.5±0.7, 42.03N±0.05× 142.58E±0.04, h60km±6km, n60, σ0 975/72, mb4.0/17, 1C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.28**	**27**	⇓P	**Pn**	**12 39 38.5**	**0.0**
JNBK				eS	**Sn**	**12 39 46.2**	**+0.4**
ERM	**Erimo**	**0.43**	**91**	ePn	**Pn**	**12 39 40.2**	**+0.4**
ERM				eSn	**Sn**	**12 39 48.1**	**+0.2**
JEM	**Erimo**	**0.43**	**91**	⇑P	**Pn**	**12 39 40.0**	**+0.2**
JEM				eS	**Sn**	**12 39 48.3**	**+0.4**
JBT2	**Biratori 2**	**0.77**	**348**	⇓P	**Pn**	**12 39 43.7**	**+0.1**
JBT2				eS	**Sn**	**12 39 55.5**	**+0.8**
JCH	**Churui**	**0.83**	**44**	⇓P	**Pn**	**12 39 44.4**	**+0.1**
JCH				eS	**Sn**	**12 39 56.2**	**+0.2**
JFR	**Furan**	**1.14**	**1**	⇓P	**Pn**	**12 39 48.3**	**-0.1**
JKB	**Kayabe**	**1.16**	**264**	⇓P	**Pn**	**12 39 48.6**	**0.0**
JKB				eS	**Sn**	**12 40 03.6**	**-0.1**
JEW	**Eniwo**	**1.17**	**315**	P	**Pn**	**12 39 49.1**	**+0.4**
JEW				eS	**Sn**	**12 40 04.4**	**+0.6**
JNB	**Noboribetsu**	**1.23**	**292**	⇓P	**Pn**	**12 39 49.0**	**-0.5**
JNB				eS	**Sn**	**12 40 05.1**	**-0.1**
JOB	**Onbets**	**1.28**	**46**	⇓P	**Pn**	**12 39 51.3**	**+1.1**
JOT	**Ohata**	**1.31**	**241**	P	**Pn**	**12 39 50.8**	**+0.1**
JOT				eS	**Sn**	**12 40 07.3**	**0.0**
JAB	**Ashibetsu**	**1.50**	**350**	⇓P	**Pn**	**12 39 53.7**	**+0.5**
JAR	**Ashorobuto**	**1.54**	**34**	⇓P	**Pn**	**12 39 53.9**	**+0.1**
JAR				eS	**Sn**	**12 40 13.2**	**+0.4**
JYM2	**Yakumo 2**	**1.65**	**274**	⇓P	**Pn**	**12 39 55.3**	**+0.1**
JTM	**Tenmabayashi**	**1.68**	**223**	P	**Pn**	**12 39 56.6**	**+1.0**
JTM				eS	**Sn**	**12 40 17.4**	**+1.3**
ASAJ	**Asahikawa**	**2.09**	**0**	P	**Pn**	**12 40 02.4**	**+1.2**
	45nm,0.3s,baz=219,slow=9.6,SNR=274						
ASAJ	**Asahikawa**	**2.09**	**0**	P	**Pn**	**12 40 02.4**	**+1.2**
MJAR	**Matsushiro Arr**	**6.44**	**213**	P	**Pn**	**12 41 01.8**	**+1.1**
	0.3nm,0.3s,baz=28,slow=12,SNR=7.0						
MJAR	**Matsushiro Arr**	**6.44**	**213**	P	**Pn**	**12 41 01.8**	**+1.1**
USRK	**Ussuriysk Arra**	**8.04**	**289**	P	**Pn**	**12 41 23.4**	**+0.9**
	0.1nm,0.3s,baz=100,slow=15,SNR=3.4						
USRK				S	**Sn**	**12 42 53.6**	**+1.7**
	0.1nm,0.3s,baz=135,slow=40,SNR=2.0						
KSRS	**Korea Array**	**12.17**	**253**	P	**Pn**	**12 42 19.4**	**+0.4**
	0.1nm,0.3s,baz=98,slow=25,SNR=3.2						
KSAR	**Wonju Array Be**	**12.20**	**253**	P	**Pn**	**12 42 19.4**	**-0.1**
PETK	**Petropavlovsk-**	**15.03**	**37**	P	**Pn**	**12 42 56.1**	**-1.1**
	0.2nm,0.3s,baz=213,slow=9.3,SNR=6.5						
PETK	**Petropavlovsk-**	**15.03**	**37**	P	**Pn**	**12 42 56.1**	**-1.1**
SONM	**Songino Array**	**26.10**	**295**	P	**P**	**12 44 56.0**	**-0.6**
	0.5nm,0.5s,baz=79,slow=8.7,SNR=11						
SONM	**Songino Array**	**26.10**	**295**	P	**P**	**12 44 56.0**	**-0.6**
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**12 46 52.2**	**+0.2**
	2.2nm,0.7s,baz=85,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**12 46 52.2**	**+0.2**
MKAR	**Makanchi Array**	**42.41**	**298**	P	**P**	**12 47 16.6**	**-0.3**
	1.0nm,0.8s,baz=82,slow=8.8,SNR=6.6						
MKAR	**Makanchi Array**	**42.41**	**298**	P	**P**	**12 47 16.6**	**-0.3**
KURK	**Kurchatov**	**43.71**	**304**	P	**P**	**12 47 27.7**	**+0.3**
	3.0nm,0.7s,baz=75,slow=8.5,SNR=4.1						
KURK	**Kurchatov**	**43.71**	**304**	P	**P**	**12 47 27.7**	**+0.3**
ILAR	**Eielson Array**	**44.84**	**35**	P	**P**	**12 47 36.2**	**-0.1**
	0.5nm,0.5s,baz=258,slow=5.8,SNR=13						
ILAR	**Eielson Array**	**44.84**	**35**	P	**P**	**12 47 36.2**	**-0.1**
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**12 48 01.2**	**+0.1**
	1.3nm,0.6s,baz=78,slow=10,SNR=5.3						
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**12 48 01.2**	**+0.1**
TKM2	**Tokmak 2**	**48.20**	**295**	eP	**P**	**12 48 03.3**	**+0.2**
	2.6nm,0.7s						
INK	**Inuvik**	**49.56**	**29**	P	**P**	**12 48 12.8**	**0.0**
	0.7nm,0.4s,baz=290,slow=6.4,SNR=11						
INK	**Inuvik**	**49.56**	**29**	P	**P**	**12 48 12.8**	**0.0**
JOF	**Joensuu**	**62.01**	**331**	ep	**P**	**12 49 39.8**	**-2.2**
JOF	**Joensuu**	**62.01**	**331**	ep	**P**	**12 49 39.8**	**-2.2**
WRA	**Warramunga Arr**	**62.12**	**189**	P	**P**	**12 49 42.7**	**-0.5**
	0.3nm,0.9s,baz=6.5,slow=6.5,SNR=3.1						
WRA	**Warramunga Arr**	**62.12**	**189**	P	**P**	**12 49 42.7**	**-0.5**
FINES	**FINESS Array B**	**64.84**	**332**	P	**P**	**12 49 59.9**	**-0.7**
	2.1nm,0.6s,baz=59,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**64.84**	**332**	P	**P**	**12 49 59.9**	**-0.7**
HFS	**Hagfors**	**69.92**	**335**	P	**P**	**12 50 32.3**	**-0.4**
	1.2nm,0.4s,baz=43,slow=6.9,SNR=10.0						
HFS	**Hagfors**	**69.92**	**335**	P	**P**	**12 50 32.3**	**-0.4**
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**12 50 32.3**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**12 50 32.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=37,slow=6.1,SNR=6.0						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**12 50 32.4**	**-0.5**
AKASG	**Malin Array Be**	**70.92**	**322**	P	**P**	**12 50 38.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=46,slow=5.3,SNR=4.0						
AKASG	**Malin Array Be**	**70.92**	**322**	P	**P**	**12 50 38.5**	**-0.5**
NVAR	**Mina Array Bea**	**71.33**	**55**	P	**P**	**12 50 43.3**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=322,slow=6.9,SNR=2.3						
NVAR	**Mina Array Bea**	**71.33**	**55**	P	**P**	**12 50 43.3**	**+1.3**
STKA	**Stephens Creek**	**73.55**	**181**	P	**P**	**12 50 54.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=322,slow=21,SNR=4.1						
STKA	**Stephens Creek**	**73.55**	**181**	P	**P**	**12 50 54.5**	**-0.3**
PDAR	**Pinedale Array**	**73.56**	**47**	P	**P**	**12 50 55.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=240,slow=1.2,SNR=3.5						
PDAR	**Pinedale Array**	**73.56**	**47**	P	**P**	**12 50 55.9**	**+0.6**
TXAR	**Lajitas Array**	**86.39**	**53**	P	**P**	**12 52 05.5**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=311,slow=3.5,SNR=5.0						
TXAR	**Lajitas Array**	**86.39**	**53**	P	**P**	**12 52 05.5**	**+1.0**

IDC 03 12:47:31.7±9.8, 16.77N×145.77E, h325km±103km, mb2.9/10, mb1 3.0/10, mb1mx2.9/23, mbtmp2.9/10, Error ellipse: s-maj=43.2km s-min=14.6km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**25.93**	**326**	P	P	12 52 35.2	+0.1
	1.2nm,0.6s,baz=148,slow=10.0,SNR=6.3						
WRA	**Warramunga Arr**	**38.17**	**198**	P	P	12 54 20.1	-1.0
	0.8nm,0.6s,baz=26,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**41.83**	**196**	P	P	12 54 50.7	-0.2
	0.2nm,0.8s,baz=25,slow=11,SNR=4.9						
SONM	**Songino Array**	**44.70**	**323**	P	P	12 55 14.2	+0.7
	0.1nm,0.5s,baz=136,slow=6.8,SNR=2.5						
STKA	**Stephens Creek**	**48.53**	**185**	P	P	12 55 44.7	+1.7
	1.9nm,0.9s,baz=347,slow=19,SNR=2.8						
ZALV	**Zalesovo Beam**	**59.59**	**323**	P	P	12 57 01.7	-0.2
	0.2nm,0.4s,baz=126,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**59.85**	**315**	P	P	12 57 04.4	+0.5
	0.3nm,0.5s,baz=91,slow=8.3,SNR=7.6						
KURK	**Kurchatov**	**62.75**	**319**	P	P	12 57 22.9	-0.1
	0.9nm,0.4s,baz=96,slow=7.4,SNR=9.8						
ILAR	**Eielson Array**	**65.34**	**26**	P	P	12 57 39.2	-0.3
	0.1nm,0.5s,baz=246,slow=5.6,SNR=3.5						
BVAR	**Borovoye Array**	**68.00**	**321**	P	P	12 57 56.2	-0.3
	0.7nm,0.4s,baz=107,slow=8.7,SNR=8.6						

*ISCJB **03** 12:49:41.4±0.4, 36.57N±0.03× 70.91E±0.07, h188km, mb3.4/5, Error ellipse: s-maj=7.9km s-min=4.2km az=163.6*
*NEIC **03** 12:49:42.7±0.8, 36.54N× 70.98E, h181km±10km, mb4.3/3, Error ellipse: s-maj=11.3km s-min=7.3km az=59.0*
*NNC **03** 12:49:44.7±4.0, 37.29N× 70.38E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=32.2km s-min=31.0km az=106.0*
*IDC **03** 12:49:49.5±6.8, 36.68N× 71.20E, h254km±67km, mb3.1/5, mb1 3.1/10, mb1mx2.9/29, mbtmp3.0/10, Error ellipse: s-maj=38.0km s-min=18.6km az=15.0*

ISC 03 12:49:42.1±0.7, 36.54N±0.05× 70.87E±0.08, h188km, n46, σ1 933/50, mb3.4/5, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.49**	**217**	ePn	**Pn**	**12 50 25.7**	**+0.3**
KBL				eSn	**Sn**	**12 50 55.2**	**-3.8**
CEP	**Cherat**	**2.84**	**162**	⇓P	**Pn**	**12 50 30.0**	**+0.6**
CEP				S	**Sn**	**12 51 04.0**	**-2.3**
CHCP	**Chirah Chowk**	**3.48**	**145**	P	**Pn**	**12 50 37.8**	**+0.8**
THW	**Thamme Wali**	**3.81**	**169**	⇓P	**Pn**	**12 50 41.5**	**+0.4**
KK31	**Karatay Array**	**6.56**	**358**	Pn	**Pn**	**12 51 16.4**	**0.0**
	2.2nm,0.3s,baz=185,slow=13,SNR=151						
KK31				Sn	**Sn**	**12 52 25.9**	**-5.1**
	26nm,0.8s,baz=189,slow=23,SNR=21						
KKAR	**Karatay Array**	**6.56**	**358**	ePn	**Pn**	**12 51 16.3**	**-0.1**
	7.6nm,0.3s						
KKAR				eSn	Sn	12 52 19.7	-11
AAK	**Ala-Archa**	**6.70**	**24**	ePn	**Pn**	**12 51 18.5**	**+0.1**
	9.5nm,0.4s						
AAK				eSn	**Sn**	**12 52 32.2**	**-2.3**
TKM2	**Tokmak 2**	**7.34**	**28**	⇑Pn	**Pn**	**12 51 26.7**	**-0.1**
	2.6nm,0.8s						
TKM2				⇑Sn	**Sn**	**12 52 47.2**	**-2.6**
	2.8nm,0.8s						
MKAR	**Makanchi Array**	**13.32**	**36**	P	**Pn**	**12 52 44.4**	**+0.6**
	0.1nm,0.3s,baz=210,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**13.32**	**36**	P	**Pn**	**12 52 44.4**	**+0.6**
GKN	**Gorkha**	**14.41**	**122**	eP	**Pn**	**12 52 58.2**	**+0.5**
	11nm,0.4s						
GKN	**Gorkha**	**14.41**	**122**	eP	**Pn**	**12 52 58.2**	**+0.5**
	11nm,0.4s						
DMN	**Daman**	**14.98**	**122**	eP	**P**	**12 53 05.6**	**-0.2**
	9.0nm,0.5s						
DMN	**Daman**	**14.98**	**122**	eP	**P**	**12 53 05.6**	**-0.2**
	9.0nm,0.5s						
AB31	**Akbulak array**	**15.00**	**331**	⇓Pn	**Pn**	**12 53 03.9**	**-0.6**
	1.1nm,0.5s,baz=146,slow=12,SNR=28						
AB31				⇑Sn	Sn	12 55 43.9	-8.1
	0.8nm,0.5s,baz=150,slow=26,SNR=7.0						
ABKAR	**Akbulak array**	**15.00**	**331**	eP	**Pn**	**12 53 04.2**	**-0.4**
	1.1nm,0.4s						
PKI	**Pulchoki**	**15.21**	**122**	eP	**P**	**12 53 08.4**	**0.0**
PKI	**Pulchoki**	**15.21**	**122**	eP	**P**	**12 53 08.4**	**0.0**
KURK	**Kurchatov**	**15.23**	**19**	P	**P**	**12 53 07.9**	**0.0**
	0.1nm,0.3s,baz=210,slow=11,SNR=7.1						
KURK	**Kurchatov**	**15.23**	**19**	P	**P**	**12 53 07.9**	**0.0**
GUN	**Gumba**	**15.33**	**120**	eP	**Pn**	**12 53 09.5**	**+0.3**
	5.8nm,0.4s						
JIRN	**Jiri**	**15.70**	**120**	eP	**P**	**12 53 14.2**	**+0.4**
	17nm,0.4s						
VOSK	**Vostochnaya**	**16.18**	**0**	⇑Pn	**P**	**12 53 18.7**	**+0.2**
	1.4nm,0.8s						
RAMN	**Ramite**	**16.43**	**121**	eP	**P**	**12 53 21.6**	**-0.1**
	5.1nm,0.3s						
ZRNK	**Zerenda**	**16.46**	**356**	⇑Pn	**Pn**	**12 53 22.5**	**+0.3**
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**12 53 24.0**	**+1.4**
	0.4nm,0.3s,baz=154,slow=9.4,SNR=6.9						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**12 53 24.0**	**+1.4**
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**Pn**	**12 53 26.2**	**+1.1**
	1.0nm,0.3s,baz=138,slow=12,SNR=33						
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑Pn	**Pn**	**12 53 25.6**	**+0.6**
	0.7nm,0.6s						
AKTO				⇓Sn	**S**	**12 56 29.8**	**+1.3**
	0.3nm,0.9s						
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**Pn**	**12 53 26.2**	**+1.1**
TAPN	**Taplejung**	**16.96**	**118**	eP	**P**	**12 53 27.6**	**0.0**
TAPN	**Taplejung**	**16.96**	**118**	eP	**P**	**12 53 27.6**	**0.0**
ODAN	**Odare**	**17.03**	**120**	eP	**P**	**12 53 28.6**	**+0.2**
ODAN	**Odare**	**17.03**	**120**	eP	**P**	**12 53 28.6**	**+0.2**
ZALV	**Zalesovo Beam**	**19.92**	**25**	P	**P**	**12 54 00.4**	**+1.2**
	0.5nm,0.3s,baz=224,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**19.92**	**25**	P	**P**	**12 54 00.4**	**+1.2**
MMAI	**Mount Meron Ar**	**29.24**	**274**	P	P	12 55 31.1	+4.7
	0.4nm,0.3s,baz=68,slow=7.3,SNR=4.3						
MMAI	**Mount Meron Ar**	**29.24**	**274**	P	P	12 55 31.1	+4.7
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**12 56 37.9**	**+1.5**
	2.4nm,1.0s,baz=114,slow=9.8,SNR=3.2						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**12 56 37.9**	**+1.5**
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**12 57 34.1**	**+1.4**
	0.5nm,0.5s,baz=98,slow=8.0,SNR=2.7						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**12 57 34.1**	**+1.4**
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**13 01 41.1**	**-0.6**
	0.2nm,0.5s,baz=325,slow=4.8,SNR=6.8						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**13 01 41.1**	**-0.6**
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**13 01 52.7**	**-0.5**
	0.4nm,0.6s,baz=305,slow=5.3,SNR=11						
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**13 01 52.7**	**-0.5**

*IDC **03** 13:06:22.7±1.1, 39.46N× 73.64E, h0km, mb3.4/4, mb1 3.4/9, mb1mx3.3/29, mbtmp3.3/9, ML3.3/4, Error ellipse: s-maj=19.5km s-min=16.1km az=73.0*
*ISCJB **03** 13:06:25.5±0.8, 39.71N±0.07× 73.52E±0.08, h29km, mb3.4/4, Error ellipse: s-maj=9.7km s-min=8.3km az=11.4*
*NNC **03** 13:06:26.8±3.7, 39.97N× 73.74E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=30.0km s-min=13.9km az=168.0*

ISC 03 13:06:27.4±1.2, 39.84N±0.09× 73.61E±0.08, h29km, n23, σ1 860/33, mb3.5/4, 5C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.29**	**2**	P	**Pb**	**13 07 06.1**	**-2.2**
	SNR=45						
AML				P	**Pb**	**13 07 06.1**	**-2.2**
	SNR=45						
UCH	**Uchtor**	**2.48**	**16**	P	**Pn**	**13 07 08.2**	**+1.8**
	SNR=25						
UCH				P	**Pn**	**13 07 08.2**	**+1.8**
	SNR=25						
KZA	**Kyzart**	**2.56**	**29**	P	**Pn**	**13 07 07.4**	**+0.1**
	SNR=84						
KZA				P	**Pn**	**13 07 07.4**	**+0.1**
	SNR=84						
EKS2	**Erkin-Say**	**2.82**	**3**	P	**Pb**	**13 07 15.7**	**-1.5**
	SNR=23						
EKS2				P	**Pb**	**13 07 15.7**	**-1.5**
	SNR=23						
AAK	**Ala-Archa**	**2.87**	**13**	P	**Pn**	**13 07 13.6**	**+2.2**
	SNR=55						
AAK				P	**Pn**	**13 07 13.6**	**+2.2**
	SNR=55						
KBK	**Karagaybulak**	**2.99**	**19**	P	**Pn**	**13 07 14.7**	**+1.6**
	SNR=32						
KBK				P	**Pn**	**13 07 14.7**	**+1.6**
	SNR=32						
ULHL	**Ulahol**	**3.12**	**39**	P	**Pn**	**13 07 15.0**	**+0.1**
	SNR=16						
ULHL				P	**Pn**	**13 07 15.0**	**+0.1**
	SNR=16						
CHMS	**Chumysh**	**3.27**	**15**	P	**Pn**	**13 07 18.6**	**+1.8**
	SNR=9.2						
CHMS				P	**Pn**	**13 07 18.6**	**+1.8**
	SNR=9.2						
TKM2	**Tokmak 2**	**3.42**	**25**	P	**Pn**	**13 07 19.9**	**+0.9**
	SNR=15						
TKM2				P	**Pn**	**13 07 19.9**	**+0.9**
	SNR=15						
TKM2	**Tokmak 2**	**3.42**	**25**	⇑Pn	**Pn**	**13 07 19.9**	**+0.9**
	7.2nm,0.5s						
TKM2				⇓Sn	**Sn**	**13 08 00.2**	**+1.5**
	16nm,0.5s						
TKM2				⇑Lg	Lg	13 08 10.0	
	71nm,0.8s						
USP	**Ospenovka**	**3.49**	**11**	P	Pn	13 07 23.4	+3.6
	SNR=17						
USP				P	Pn	13 07 23.4	+3.6
	SNR=17						
KK31	**Karatay Array**	**4.00**	**326**	Pn	Pn	13 07 30.8	+3.9
	0.1nm,0.2s,baz=130,slow=12,SNR=47						
KK31				Pg	Pb	13 07 43.4	+6.1
	1.5nm,0.3s,baz=134,slow=16,SNR=11						
KK31				⇑Sn	**Sb**	**13 08 22.0**	**-3.2**
	13nm,0.5s,baz=168,slow=28,SNR=5.5						
KK31				Lg	Lg	13 08 33.9	
	16nm,0.4s,baz=133,slow=29,SNR=4.9						
MKAR	**Makanchi Array**	**9.39**	**39**	Pn	Pn	13 08 44.0	+3.2
	0.0nm,0.3s,baz=228,slow=9.1,SNR=6.1						
MKAR				Lg	Lg	13 11 17.0	
	0.1nm,0.3s,baz=212,slow=29,SNR=5.0						
KURK	**Kurchatov**	**11.43**	**16**	Pn	**Pn**	**13 09 09.4**	**+0.8**
	0.0nm,0.3s,baz=196,slow=42,SNR=3.6						
KURK				Lg	Lg	13 12 25.8	
	0.1nm,0.3s,baz=192,slow=30,SNR=7.3						
BVAR	**Borovoye Array**	**13.37**	**352**	Pn	**Pn**	**13 09 34.9**	**-0.3**
	0.2nm,0.3s,baz=154,slow=12,SNR=4.6						
BVAR				Lg	Lg	13 13 31.4	
	baz=154,slow=28,SNR=3.7						
AB31	**Akbulak array**	**13.53**	**319**	Pn	**Pn**	**13 09 38.2**	**+0.9**
	0.6nm,0.5s,baz=127,slow=14,SNR=24						
AB31				Sn	**Sn**	**13 12 09.3**	**+2.8**
	0.6nm,0.6s,baz=119,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**15.24**	**319**	Pn	**Pn**	**13 10 01.5**	**+1.0**
	0.1nm,0.3s,baz=112,slow=21,SNR=3.7						
AKTO				Sn	**Sn**	**13 12 49.2**	**+1.0**
	0.0nm,0.3s,baz=0.8,slow=20,SNR=3.1						
AKTO	**Aktyubinsk**	**15.24**	**319**	⇑Pn	**Pn**	**13 10 01.6**	**+1.2**
	0.3nm,1.4s						
AKTO				⇑Sn	**Sn**	**13 12 46.5**	**-1.7**
	0.5nm,1.2s						
ZALV	**Zalesovo Beam**	**16.03**	**25**	Pn	**P**	**13 10 13.4**	**-0.4**
	0.1nm,0.3s,baz=216,slow=8.7,SNR=4.0						
ZALV				Lg	Lg	13 15 03.1	
	0.1nm,0.3s,baz=195,slow=27,SNR=2.9						
SONM	**Songino Array**	**24.82**	**60**	P	**P**	**13 11 49.1**	**+2.0**
	2.0nm,1.3s,baz=70,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**67.85**	**269**	P	**P**	**13 17 22.6**	**-0.6**
	0.1nm,0.3s,baz=42,slow=6.2,SNR=4.1						
WRA	**Warramunga Arr**	**82.08**	**124**	P	P	13 18 43.5	-1.8
	0.3nm,0.6s,baz=321,slow=4.9,SNR=3.5						
ASAR	**Alice Springs**	**84.54**	**127**	P	**P**	**13 18 57.2**	**-0.7**
	0.3nm,0.9s,baz=297,slow=4.1,SNR=3.7						

NDI 03 13:09:55.4±3.0, 30.57N× 79.25E, h10km, ML3.8, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**1.05**	**257**	eP	Pn	13 10 16.2	-0.1
DDI				eS	Sb	13 10 30.0	+0.2
DDI				AML	AML	13 10 32.2	
PTH	**Pithoragarh**	**1.32**	**140**	eP	Pg	13 10 21.1	+0.1
PTH				eS	Sg	13 10 38.3	0.0
SMLA	**Simla**	**1.87**	**288**	eP	Pb	13 10 29.0	-0.7
SMLA				eS	Sn	13 10 52.0	+0.8
SMLA				AML	AML	13 10 54.4	
SMLA				AML	AML	13 10 54.7	
KKR	**Kurukshetra**	**2.18**	**255**	eS	Sn	13 11 00.4	+1.5
KKR				AML	AML	13 11 04.3	
	comp=Z,174nm,0.3s						
AYAN	**Aya Nagar**	**2.78**	**222**	eS	Sn	13 11 12.0	-1.5
KUDL	**Kundal**	**3.41**	**226**	eP	Pn	13 10 47.8	-0.8
KUDL				eS	Sn	13 11 27.4	-1.7
KUDL				AML	AML	13 11 41.1	
	comp=N,43nm,0.4s						

*CSEM **03** 13:17:37.5, 40.25N× 29.99E, h7km, ML1.8, After ISK*
ISK 03 13:17:37.5, 40.25N× 29.99E, h7km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAVI	**Cavuskoy**	**0.12**	**249**	ePg	Pg	13 17 39.7	-0.4
CAVI				eSg	Sg	13 17 43.3	+1.4
CAVI	**Cavuskoy**	**0.12**	**249**	ePG	Pg	13 17 39.7	-0.4
CAVI				eSG	Sg	13 17 43.3	+1.4
ADVT	**Abdulvahap**	**0.27**	**315**	ePG	Pg	13 17 43.5	+0.7
ADVT	**Abdulvahap**	**0.27**	**315**	ePg	Pg	13 17 43.5	+0.7
GULT	**Gulveren**	**0.45**	**65**	ePG	Pg	13 17 46.0	-0.3
GULT				eSG	Sb	13 17 53.8	-1.0
GULT	**Gulveren**	**0.45**	**65**	ePg	Pg	13 17 46.0	-0.3
GULT				eSg	Sb	13 17 53.8

*ISCJB **03** 13:36:49.6±0.5, 57.°99S±0.°08×25.°6W±0.°2, h49km,*
mb4.4/10, MS3.5/7, Error ellipse: s-maj=19.1km
s-min=9.1km az=154.1

ISC 03 13:36:51.6±0.5, **58.°00S**±0.°10×**25.°6W**±0.°1, **h49**km, **n41**, σ0.°65/39, **mb4.4**/10, **MS3.6/7**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.64**	**157**	*eP*	**Pn**	**13 40 15.3**	**-0.1**
VNA3	**Neumayer Olymp**	**14.84**	**160**	*eP*	**Pn**	**13 40 17.6**	**-0.5**
VNA2	**Neumayer--Watz**	**15.04**	**157**	*eP*	**Pn**	**13 40 19.8**	**-0.8**
	baz=319,slow=12						
SNAA	**Sanae**	**16.59**	**155**	*eP*	**Pn**	**13 40 40.2**	**-0.2**
SNAA	**Sanae**	**16.59**	**155**	*e*Pn	**Pn**	**13 40 39.4**	**-1.0**
	22nm,0.9s						
PMSA	**Palmer Station**	**19.38**	**234**	LR	LR	13 47 12.3	
	comp=Z,254nm,19.6s,baz=124,slow=32						
QSPA	**South Pole Qui**	**32.24**	**180**	P	**P**	**13 43 15.5**	**+0.5**
	9.5nm,0.6s,baz=209,slow=3.8,SNR=43						
QSPA	**South Pole Qui**	**32.24**	**180**	P	**P**	**13 43 15.5**	**+0.5**
PLCA	**Paso Flores**	**33.25**	**281**	P	**P**	**13 43 24.0**	**+0.1**
	2.1nm,0.8s,baz=176,slow=6.4,SNR=3.5						
PLCA				LR	LR	13 54 33.6	
	comp=Z,73nm,19.8s,baz=154,slow=32						
PLCA	**Paso Flores**	**33.25**	**281**	P	**P**	**13 43 23.9**	**+0.1**
CFAA	**Coronel Fontan**	**39.16**	**294**	LR	LR	13 59 11.0	
	comp=Z,9.6nm,20.0s,baz=175,slow=34						
VNDA	**Vanda**	**44.66**	**182**	*eP*	**P**	**13 44 58.3**	**-0.2**
	11nm,0.9s						
BOSA	**Boshof**	**45.64**	**72**	LR	LR	14 00 26.1	
	comp=Z,43nm,18.9s,baz=80,slow=31						
LBTB	**Lobatse**	**48.77**	**70**	P	**P**	**13 45 31.2**	**-0.3**
	1.9nm,0.7s,baz=306,slow=3.9,SNR=2.2						
LBTB	**Lobatse**	**48.77**	**70**	P	**P**	**13 45 31.2**	**-0.3**
SIV	**San Ignacio**	**49.57**	**313**	P	**P**	**13 45 36.5**	**-1.1**
	1.0nm,0.5s,baz=215,slow=8.2,SNR=2.6						
SIV				LR	LR	14 05 39.5	
	comp=Z,54nm,18.6s,slow=35						
SIV	**San Ignacio**	**49.57**	**313**	P	**P**	**13 45 36.5**	**-1.1**
LPAZ	**La Paz**	**52.23**	**305**	P	**P**	**13 45 58.2**	**0.0**
	1.4nm,0.7s,baz=107,slow=5.7,SNR=3.9						
LPAZ	**La Paz**	**52.23**	**305**	P	**P**	**13 45 58.2**	**0.0**
SAML	**Samuel**	**56.81**	**314**	*eP*	**P**	**13 46 30.3**	**-0.4**
	5.2nm,1.0s						
DBIC	**Dimbokro**	**66.60**	**22**	P	**P**	**13 47 37.0**	**+0.5**
	6.8nm,0.7s,baz=166,slow=7.3,SNR=14						
DBIC				LR	LR	14 08 56.4	
	comp=Z,74nm,21.4s,baz=348,slow=29						
DBIC	**Dimbokro**	**66.60**	**22**	P	**P**	**13 47 37.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**74.35**	**28**	P	**P**	**13 48 24.3**	**+0.6**
	4.9nm,0.8s,baz=201,slow=6.5,SNR=29						
TORD				LR	LR	14 13 44.7	
	comp=Z,46nm,21.2s,baz=330,slow=30						
TORD	**Torodi Ar. Bea**	**74.35**	**28**	P	**P**	**13 48 24.3**	**+0.6**
RPZ	**Rata Peaks**	**77.70**	**192**	LR	LR	14 21 46.1	
	comp=Z,60nm,18.9s,baz=50,slow=35						
ASAR	**Alice Springs**	**96.85**	**161**	P	**P**	**13 50 16.4**	**-0.7**
	0.7nm,0.9s,baz=180,slow=3.9,SNR=6.5						
ASAR				PP	**PP**	**13 54 12.9**	**+1.1**
	0.4nm,0.9s,baz=178,slow=6.1,SNR=4.1						
ASAR	**Alice Springs**	**96.85**	**161**	P	**P**	**13 50 16.4**	**-0.7**
ASAR				PP	**PP**	**13 54 12.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**123.54**	**110**	PKP	**PKiKP**	**13 55 43.7**	**+0.3**
	0.3nm,0.6s,baz=211,slow=3.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**123.54**	**110**	PKP	**PKiKP**	**13 55 43.7**	**+0.3**
FINES	**FINESS Array B**	**125.70**	**28**	PKP	**PKPdf**	**13 55 45.4**	**-0.5**
	1.6nm,0.9s,baz=267,slow=3.8,SNR=4.0						
FINES	**FINESS Array B**	**125.70**	**28**	PKP	**PKPdf**	**13 55 45.4**	**-0.5**
BVAR	**Borovoye Array**	**135.06**	**58**	PKP	**PKiKP**	**13 56 05.3**	**-0.2**
	0.5nm,0.7s,baz=184,slow=1.2,SNR=3.4						
BVAR	**Borovoye Array**	**135.06**	**58**	PKP	**PKiKP**	**13 56 05.2**	**-0.2**
INK	**Inuvik**	**147.87**	**318**	PKPbc	**PKPbc**	**13 56 28.8**	**-0.6**
	4.7nm,0.8s,baz=103,slow=3.0,SNR=16						
INK	**Inuvik**	**147.87**	**318**	PKPbc	**PKPbc**	**13 56 28.8**	**-0.6**
SONM	**Songino Array**	**149.91**	**89**	PKPbc	**PKPbc**	**13 56 35.2**	**-0.2**
	1.1nm,0.7s,baz=217,slow=3.1,SNR=8.5						
SONM	**Songino Array**	**149.91**	**89**	PKPbc	**PKPbc**	**13 56 35.2**	**-0.2**
ILAR	**Eielson Array**	**152.06**	**309**	PKPbc	**PKPbc**	**13 56 39.6**	**-0.1**
	3.9nm,0.9s,baz=143,slow=2.0,SNR=28						
ILAR	**Eielson Array**	**152.06**	**309**	PKPbc	**PKPbc**	**13 56 39.6**	**-0.1**
KDAK	**Kodiak Island**	**152.45**	**292**	PKPbc	**PKPbc**	**13 56 42.1**	**+1.4**
	4.3nm,0.7s,baz=139,slow=20,SNR=3.9						
KDAK	**Kodiak Island**	**152.45**	**292**	PKPbc	**PKPbc**	**13 56 42.1**	**+1.4**

*NNC **03** 14:16:31.8±2.7, 43.°68N×84.°28E, h0km, mb3.4, mpv3.1,*
Error ellipse: s-maj=27.4km s-min=14.8km az=95.0
*IDC **03** 14:16:42.5±4.2, 44.°45N×84.°02E, h0km, mb1 3.2/4,*
mb1mx3.0/28, mbtmp3.2/4, ML3.0/3, Error ellipse:
s-maj=54.5km s-min=25.7km az=25.0

ISC 03 14:16:36.3±2.6, **43.°7N**±0.°1×**84.°3E**±0.°2, **h32**km, **n8**, σ2.°2**1**/8, **4C-3D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.35**	**336**	Pn	Pn	14 17 29.1	+2.6
	0.8nm,0.2s,baz=152,slow=13,SNR=90						
MK31				⇓Sn	**Sb**	**14 18 13.6**	**-1.8**
	4.0nm,0.3s,baz=152,slow=25,SNR=4.1						
MK31				⇑Lg	Lg	14 18 23.2	
	33nm,0.6s,baz=156,slow=30,SNR=12						
MKAR	**Makanchi Array**	**3.35**	**336**	Pn	Pb	14 17 29.6	-5.5
	1.0nm,0.3s,baz=150,slow=14,SNR=48						
MKAR				Sn	**Sn**	**14 18 02.6**	**-2.6**
	6.0nm,0.3s,baz=159,slow=17,SNR=13						
TKM2	**Tokmak 2**	**6.37**	**266**	⇑Pn	**Pn**	**14 18 08.0**	**0.0**
	2.2nm,0.8s						
TKM2				⇓Lg	Lg	14 19 52.6	
	7.0nm,0.5s						
KURK	**Kurchatov**	**7.96**	**333**	Pn	**Pn**	**14 18 30.4**	**+0.8**
	0.1nm,0.3s,baz=143,slow=13,SNR=6.6						
KURK				Sn	**Sn**	**14 20 00.9**	**+2.4**
	0.2nm,0.3s,baz=127,slow=31,SNR=8.3						
KURK	**Kurchatov**	**7.96**	**333**	⇑Sn	**Sn**	**14 20 01.3**	**+2.8**
	4.5nm,0.7s						
KURK				⇓Lg	Lg	14 20 47.8	
	12nm,0.7s						
KK31	**Karatay Array**	**10.02**	**271**	⇑Lg	Lg	14 21 45.1	
	1.1nm,0.6s,baz=70,slow=26,SNR=4.3						
ZALV	**Zalesovo Beam**	**10.22**	**2**	Pn	**Pn**	**14 19 00.8**	**+0.1**
	0.3nm,0.3s,baz=184,slow=14,SNR=5.8						
ZALV				Sn	**Sn**	**14 20 54.5**	**+0.4**
	0.7nm,0.3s,baz=173,slow=26,SNR=11						
SONM	**Songino Array**	**15.96**	**67**	Pn	P	14 20 26.3	+4.5
	0.1nm,0.3s,baz=258,slow=11,SNR=13						
SONM				Lg	Lg	14 25 08.5	
	0.0nm,0.3s,baz=17,slow=6.2,SNR=2.7						

*ISCJB **03** 14:17:14.5±0.7, 47.°4N±0.°1×152.°6E±0.°1, h128km,*
mb3.5/15, Error ellipse: s-maj=18.7km s-min=8.7km
az=148.0
*IDC **03** 14:17:15.7±2.5, 47.°35N×152.°56E, h124km±22km,*
mb3.4/16, mb1 3.5/19, mb1mx3.4/29, mbtmp3.3/19, Error
ellipse: s-maj=19.3km s-min=13.9km az=145.0

ISC 03 14:17:16.2±0.8, **47.°4N**±0.°1×**152.°6E**±0.°1, **h128**km, **n30**, σ0.°**74**/30, **mb3.5**/15, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.59**	**28**	P	**Pn**	**14 18 49.4**	**-1.0**
	0.4nm,0.3s,baz=197,slow=15,SNR=12						
ASAJ	**Asahikawa**	**7.71**	**248**	P	**Pn**	**14 19 06.0**	**+0.4**
	0.5nm,0.3s,baz=29,slow=18,SNR=4.9						
USRK	**Ussuriysk Arra**	**14.70**	**265**	P	**Pn**	**14 20 36.8**	**-0.8**
	0.2nm,0.3s,baz=61,slow=12,SNR=5.2						
KSRS	**Korea Array**	**20.66**	**250**	P	**P**	**14 21 46.2**	**+0.6**
	0.9nm,0.6s,baz=59,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**36.27**	**39**	P	**P**	**14 24 07.0**	**+0.3**
	0.1nm,0.4s,baz=284,slow=5.5,SNR=2.9						
INK	**Inuvik**	**41.30**	**33**	P	**P**	**14 24 49.6**	**+1.2**
	0.3nm,0.3s,baz=327,slow=2.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**41.93**	**305**	P	**P**	**14 24 53.7**	**-0.1**
	0.2nm,0.4s,baz=77,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**46.32**	**297**	P	**P**	**14 25 27.8**	**-1.0**
	0.1nm,0.3s,baz=59,slow=6.2,SNR=5.5						
BVAR	**Borovoye Array**	**50.16**	**309**	P	**P**	**14 25 57.9**	**-0.3**
	0.3nm,0.3s,baz=51,slow=9.4,SNR=4.1						
TAPN	**Taplejung**	**53.70**	**272**	*eP*	**P**	**14 26 25.9**	**+0.8**
	3.2nm,0.4s						
ODAN	**Odare**	**54.23**	**272**	*eP*	**P**	**14 26 29.7**	**+0.8**
	4.3nm,0.6s						
JIRN	**Jiri**	**54.53**	**274**	*eP*	**P**	**14 26 31.8**	**+0.6**
	6.6nm,0.5s						
GUN	**Gumba**	**54.58**	**274**	*eP*	**P**	**14 26 31.7**	**+0.1**
	2.0nm,0.2s						
RAMN	**Ramite**	**54.71**	**273**	*eP*	**P**	**14 26 32.5**	**+0.1**
	13nm,0.6s						
KKN	**Kakani**	**55.06**	**274**	*eP*	**P**	**14 26 36.0**	**+1.1**
	4.9nm,0.5s						
PKI	**Pulchoki**	**55.12**	**274**	*eP*	**P**	**14 26 35.2**	**-0.2**
	4.1nm,0.5s						
DMN	**Daman**	**55.30**	**274**	*eP*	**P**	**14 26 36.7**	**+0.1**
	6.8nm,0.6s						
GKN	**Gorkha**	**55.36**	**275**	*eP*	**P**	**14 26 37.4**	**+0.4**
	9.2nm,0.7s						
DANN	**Dangsing**	**55.73**	**276**	*eP*	**P**	**14 26 40.4**	**+0.6**
	7.2nm,0.5s						
NVAR	**Mina Array Bea**	**62.46**	**62**	P	**P**	**14 27 26.3**	**+0.4**
	0.3nm,0.4s,baz=296,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**63.29**	**334**	P	**P**	**14 27 30.3**	**-0.4**
	0.9nm,0.4s,baz=42,slow=6.6,SNR=15						
NB2	**NORSAR Subarra**	**67.49**	**341**	P	**P**	**14 27 57.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.49**	**341**	P	**P**	**14 27 58.2**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=27,slow=6.3,SNR=6.8						
WRA	**Warramunga Arr**	**69.01**	**198**	P	**P**	**14 28 05.7**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=10.0,slow=6.6,SNR=2.6						
AKASG	**Malin Array Be**	**70.80**	**326**	P	**P**	**14 28 18.1**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=36,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**72.71**	**198**	P	**P**	**14 28 29.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=16,slow=6.2,SNR=7.8						
TXAR	**Lajitas Array**	**77.49**	**60**	P	**P**	**14 28 57.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=294,slow=4.2,SNR=9.3						
GERES	**GERESS Array B**	**77.71**	**334**	P	**P**	**14 28 58.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=29,slow=6.1,SNR=6.3						
MMAI	**Mount Meron Ar**	**82.11**	**311**	P	**P**	**14 29 23.7**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=42,slow=6.7,SNR=3.7						
EIL	**Elat**	**84.99**	**309**	P	**P**	**14 29 37.8**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=32,slow=9.5,SNR=2.6						

*CSEM **03** 14:19:33.4±0.1, 37.°89N×29.°20E, h10km, MD2.8, Error*
ellipse: s-maj=3.3km s-min=2.8km az=76.0
*DDA **03** 14:19:33.4, 37.°92N×29.°22E, h7km, MD2.8*
*ISK **03** 14:19:33.3, 37.°88N×29.°18E, h13km, MD2.8*
*ISCJB **03** 14:19:33.5±0.5, 37.°89N±0.°02×29.°21E±0.°04, h8km±5km,*
Error ellipse: s-maj=4.8km s-min=4.2km az=178.3

ISC 03 14:19:33.6±1.0, **37.°90N**±0.°02×**29.°23E**±0.°03, **h10**km±8km, **n28**, σ0.°**48**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.21**	**226**	*e*Pg	**Pg**	**14 19 37.5**	**-0.5**
DENT	**Denizli**	**0.21**	**226**	*e*PG	**Pg**	**14 19 37.5**	**-0.5**
DNZL	**Cakiroluk**	**0.25**	**214**	*i* P	**Pg**	**14 19 38.9**	**+0.1**
DNZL				*i* S	**Sg**	**14 19 43.0**	**+0.7**
DNZL	**Cakiroluk**	**0.25**	**214**	*i* P	**Pg**	**14 19 38.9**	**+0.1**
DNZL				*i* S	**Sg**	**14 19 43.0**	**+0.7**
KHAL	**Karahalli**	**0.52**	**24**	*i* P	**Pg**	**14 19 43.1**	**-0.6**
KHAL				*i* S	**Sg**	**14 19 50.9**	**+0.4**
KHAL	**Karahalli**	**0.52**	**24**	*i* P	**Pg**	**14 19 43.1**	**-0.6**
KHAL				*i* S	**Sg**	**14 19 50.9**	**+0.4**
GOLH	**Golhisar**	**0.71**	**158**	*i* P	**Pg**	**14 19 46.3**	**-1.1**
GOLH				*i* S	**Sb**	**14 19 58.4**	**+0.3**
GOLH	**Golhisar**	**0.71**	**158**	*i* P	**Pg**	**14 19 46.3**	**-1.1**
GOLH				*i* S	**Sb**	**14 19 58.3**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**324**	*e*PG	**Pg**	**14 19 48.0**	**-0.2**
KULA				*e*SG	**Sb**	**14 19 59.7**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**324**	*e*Pg	**Pg**	**14 19 48.0**	**-0.2**
KULA				*e*Sg	**Sb**	**14 19 59.7**	**+0.3**
GLHS	**Glhisar (BURDU**	**0.77**	**164**	*e*PG	**Pg**	**14 19 48.1**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.77**	**164**	*e*Pg	**Pg**	**14 19 48.1**	**-0.4**
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**14 19 48.3**	**-0.6**
MANT				*i* S	**Sg**	**14 19 59.6**	**+0.4**
MANT	**Manisa**	**0.79**	**318**	*i* P	**Pg**	**14 19 48.3**	**-0.6**
MANT				*i* S	**Sg**	**14 19 59.6**	**+0.4**
ISP	**Isparta**	**1.03**	**94**	*e*PG	**Pn**	**14 19 54.2**	**0.0**
ISP				*e*SG	**Sn**	**14 20 09.6**	**+0.9**
ISP	**Isparta**	**1.03**	**94**	*e*Pg	**Pn**	**14 19 54.2**	**0.0**
ISP				*e*Sg	**Sn**	**14 20 09.6**	**+0.9**
YER	**Yerkesik**	**1.07**	**225**	*e*PG	**Pb**	**14 19 53.7**	**-0.6**
YER	**Yerkesik**	**1.07**	**225**	*e*Pg	**Pb**	**14 19 53.7**	**-0.6**
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	**Pb**	**14 19 54.5**	**-0.1**
AYDN				*i* S	**Sb**	**14 20 08.4**	**-0.6**
AYDN	**Tasoluk**	**1.09**	**258**	*i* P	**Pb**	**14 19 54.5**	**-0.1**
AYDN				*i* S	**Sb**	**14 20 08.4**	**-0.6**
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pn**	**14 19 56.5**	**-0.2**
DEMI				*i* S	**Sn**	**14 20 13.4**	**+0.2**
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pn**	**14 19 56.5**	**-0.2**
DEMI				*i* S	**Sn**	**14 20 13.4**	**+0.2**
SHUT	**Suhut-Afyon**	**1.23**	**58**	*e*PN	**Pn**	**14 19 57.1**	**+0.1**
SHUT	**Suhut-Afyon**	**1.23**	**58**	*e*Pn	**Pn**	**14 19 57.1**	**+0.1**
ELL	**Elmali**	**1.27**	**154**	*e*PN	**Pn**	**14 19 57.6**	**+0.1**
ELL	**Elmali**	**1.27**	**154**	*e*Pn	**Pn**	**14 19 57.6**	**+0.1**
ALT	**Altintas**	**1.35**	**31**	*e*PN	**Pn**	**14 19 58.7**	**+0.1**
ALT	**Altintas**	**1.35**	**31**	*e*Pn	**Pn**	**14 19 58.7**	**+0.1**

*CSEM **03** 14:46:40.7±0.2, 76.°88N×17.°88E, h10km, ML2.6, Error*
ellipse: s-maj=8.1km s-min=3.3km az=57.0
*NAO **03** 14:46:40.8±1.7, 76.°98N×18.°57E, h9km±10km, ML2.1*
*ISCJB **03** 14:46:41.1±0.7, 76.°98N±0.°04×18.°4E±0.°2, h10km, Error*
ellipse: s-maj=8.3km s-min=4.7km az=153.2
*BER **03** 14:46:45.7±3.2, 77.°06N×18.°61E, h20km±29km, MD2.5,*
ML2.6, ML2.1(NAO)

ISC 03 14:46:40.7±0.9, **76.°91N**±0.°05×**18.°11E**±0.°06, **h10**km, **n12**, σ2.°**02**/22, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.59**	**281**	*e*P	**Pn**	**14 46 56.2**	**+1.1**
HSP				*e*S	**Sn**	**14 47 05.1**	**+0.4**
SPA0	**Spitsbergen Ar**	**1.33**	**344**	Pg	**Pn**	**14 47 05.4**	**+0.1**
	baz=154,slow=22						
SPA0				Lg	Lg	14 47 21.6	
	baz=156,slow=28						
SPA0	**Spitsbergen Ar**	**1.33**	**344**	*e*P	**Pn**	**14 47 05.4**	**+0.1**
SPA0				*e*Sg	**Sg**	**14 47 23.8**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.33**	**344**	*e*P	**Pn**	**14 47 05.4**	**+0.1**
	SNR=131						
SPA0				Lg	Lg	14 47 21.6	
	baz=156,slow=26,SNR=0.6						
SPA0				*e*Sg	**Sg**	**14 47 23.8**	**+0.3**
	SNR=131						
HOPEN	**Hopen**	**1.64**	**101**	*e*P	**Pn**	**14 47 10.8**	**+1.2**
HOPEN				*e*S	**Sn**	**14 47 31.0**	**+0.3**
HOPEN				AML	AML	14 47 36.5	
	comp=Z,236nm,0.3s						
HOPEN	**Hopen**	**1.64**	**101**	*e*P	**Pn**	**14 47 10.8**	**+1.2**
	SNR=128						
HOPEN				*e*S	**Sn**	**14 47 31.0**	**+0.3**
	comp=Z,236nm,0.3s,SNR=128						
KBS	**Kingsbay**	**2.41**	**330**	Pn	**Pn**	**14 47 20.3**	**+0.2**
KBS				Pg	**Pg**	**14 47 25.9**	**-0.9**
KBS				Lg	Lg	14 47 54.5	
KBS	**Kingsbay**	**2.41**	**330**	*e*P	**Pn**	**14 47 20.3**	**+0.2**
KBS				*e*Pg	**Pg**	**14 47 25.7**	**-1.1**
KBS				*e*Sg	**Sb**	**14 47 55.5**	**+1.8**
KBS				AML	AML	14 48 03.5	
	comp=Z,58nm,0.4s						
KBS	**Kingsbay**	**2.41**	**330**	Pn	**Pn**	**14 47 20.3**	**+0.2**
KBS				Lg	Lg	14 47 54.5	
BJO	**Bjornoya**	**2.43**	**173**	*e*Pg	Pg	14 47 30.8	+3.6
BJO				*e*Sg	**Sg**	**14 48 03.3**	**+4.6**
BJO				AML	AML	14 48 07.8	
	comp=Z,34nm,0.4s						
ARA0	**ARCESS Array S**	**7.70**	**160**	Pn	**Pn**	**14 48 32.6**	**-0.1**
ARA0				Sn	**Sn**	**14 49 55.1**	**-4.8**
	slow=16						
ARA0	**ARCESS Array S**	**7.70**	**160**	Pn	**Pn**	**14 48 32.6**	**-0.1**
ARA0				Sn	**Sn**	**14 49 55.1**	**-4.8**
	slow=15						

*SOF **03** 15:06:25.7, 41.°05N×24.°95E, h10km, MD2.9*
*ATH **03** 15:06:25.8, 41.°10N×24.°94E, h21km±4km, MD3.3/6*
*CSEM **03** 15:06:26.5±0.2, 41.°05N×24.°93E, h5km, ML2.5/9, Error*
ellipse: s-maj=3.7km s-min=2.8km az=143.0
*THE **03** 15:06:26.7, 41.°05N×24.°92E, h2km, ML2.5/9, Error ellipse:*
s-maj=0.9km s-min=0.4km az=69.0
*ISCJB **03** 15:06:26.4±0.5, 41.°08N±0.°02×24.°95E±0.°02, h10km±4km,*
Error ellipse: s-maj=4.2km s-min=3.0km az=169.5

ISC 03 15:06:26.6±1.0, **41.°06N**±0.°02×**24.°92E**±0.°02, **h7**km±9km, **n63**, σ0.°**58**/97, **7C-4D**, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAVA	**Kavala**	**0.32**	**258**	P	**Pg**	**15 06 33.0**	**+0.3**
KAVA				S	**Sg**	**15 06 37.3**	**+0.4**
KAVA	**Kavala**	**0.32**	**258**	P	**Pg**	**15 06 33.0**	**+0.3**
KAVA				S	**Sg**	**15 06 37.3**	**+0.4**
RDO	**Rodhopi**	**0.47**	**79**	P	**Pg**	**15 06 35.5**	**-0.2**
RDO				S	**Sg**	**15 06 42.6**	**+0.7**
RDO	**Rodhopi**	**0.47**	**79**	*e*PB	**Pg**	**15 06 35.5**	**-0.2**
RDO				*e*SB	**Sg**	**15 06 41.6**	**-0.3**
RDO	**Rodhopi**	**0.47**	**79**	P	**Pg**	**15 06 35.5**	**-0.2**
RDO				*e*Sb	**Sg**	**15 06 41.6**	**-0.3**
RDO				S	**Sg**	**15 06 42.6**	**+0.7**
RZN	**Rozhen**	**0.65**	**346**	*i* Pg	**Pg**	**15 06 38.4**	**-0.6**
RZN	**Rozhen**	**0.65**	**346**	*i* Pg	**Pg**	**15 06 38.4**	**-0.6**
KDZ	**Kurdzhali**	**0.70**	**32**	*i* Pg	**Pg**	**15 06 38.3**	**-1.7**
KDZ	**Kurdzhali**	**0.70**	**32**	*i* Pg	**Pg**	**15 06 38.3**	**-1.7**
NVR	**Nevrokopi**	**0.85**	**290**	P	**Pg**	**15 06 42.2**	**-0.7**
NVR	**Nevrokopi**	**0.85**	**290**	*e*PN	**Pg**	**15 06 42.1**	**-0.8**
NVR				*e*SN	**Sg**	**15 06 54.1**	**+0.2**
NVR	**Nevrokopi**	**0.85**	**290**	P	**Pg**	**15 06 42.2**	**-0.7**
NVR				*e*Sn	**Sg**	**15 06 54.1**	**+0.2**
ALN	**Alexandroupoli**	**0.87**	**100**	P	**Pg**	**15 06 42.9**	**-0.3**
ALN				S	**Sb**	**15 06 55.6**	**-0.2**
ALN	**Alexandroupoli**	**0.87**	**100**	*e*PN	**Pg**	**15 06 43.0**	**-0.3**
ALN				*e*SN	**Sg**	**15 06 54.9**	**+0.4**
ALN	**Alexandroupoli**	**0.87**	**100**	P	**Pg**	**15 06 42.9**	**-0.3**
ALN				*e*Sn	**Sg**	**15 06 54.9**	**+0.4**
ALN				S	**Sb**	**15 06 55.6**	**-0.2**
SRS	**Serrai**	**1.01**	**274**	P	**Pg**	**15 06 45.3**	**-0.6**
SRS				S	**Sb**	**15 07 00.3**	**+0.5**
SRS	**Serrai**	**1.01**	**274**	P	**Pg**	**15 06 45.3**	**-0.6**
SRS				S	**Sb**	**15 07 00.3**	**+0.5**
OUR	**Ouranopolis**	**1.02**	**225**	P	**Pb**	**15 06 46.3**	**-0.2**
OUR				S	**Sb**	**15 07 00.3**	**+0.2**
OUR	**Ouranopolis**	**1.02**	**225**	P	**Pb**	**15 06 46.3**	**-0.2**
OUR				S	**Sb**	**15 07 00.3**	**+0.2**
MMB	**Musomiste**	**1.04**	**301**	P	**Pg**	**15 06 45.8**	**-0.8**
MMB	**Musomiste**	**1.04**	**301**	P	**Pg**	**15 06 45.8**	**-0.8**
PLD	**Plovdiv**	**1.06**	**351**	P	**Pg**	**15 06 46.6**	**-0.2**
PLD				Pg	**Pn**	**15 06 48.6**	**+0.8**
PLD	**Plovdiv**	**1.06**	**351**	P	**Pg**	**15 06 46.6**	**-0.2**
DIM	**Dimitrovgrad**	**1.09**	**25**	P	**Pg**	**15 06 46.9**	**-0.6**
DIM				Pg	**Pn**	**15 06 48.8**	**+0.5**
DIM	**Dimitrovgrad**	**1.09**	**25**	P	**Pg**	**15 06 46.9**	**-0.6**
LIA	**Limnos Island**	**1.18**	**170**	P	**Pg**	**15 06 48.9**	**-0.2**
LIA				S	**Sn**	**15 07 05.4**	**-0.4**
LIA	**Limnos Island**	**1.18**	**170**	*e*PN	**Pg**	**15 06 49.0**	**-0.2**
LIA				*e*SN	**Sn**	**15 07 05.3**	**-0.5**
LIA	**Limnos Island**	**1.18**	**170**	P	**Pg**	**15 06 48.9**	**-0.2**
LIA				*e*Sn	**Sn**	**15 07 05.3**	**-0.5**
SOH	**Sokhos**	**1.21**	**259**	P	**Pg**	**15 06 49.3**	**-0.5**
SOH				S	**Sn**	**15 07 06.6**	**-0.1**
SOH	**Sokhos**	**1.21**	**259**	*e*PN	**Pg**	**15 06 49.2**	**-0.5**
SOH				*e*SN	**Sn**	**15 07 06.6**	**-0.1**
SOH	**Sokhos**	**1.21**	**259**	P	**Pg**	**15 06 49.3**	**-0.5**
SOH				S	**Sn**	**15 07 06.6**	**-0.1**
PLG	**Polygyros**	**1.31**	**239**	P	**Pn**	**15 06 51.3**	**-0.1**
PLG				S	**Sn**	**15 07 09.8**	**+0.6**
PLG	**Polygyros**	**1.31**	**239**

	comp=E,2.2nm,0.9s,baz=130,slow=8.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.95**	**71**	P	**P**	**15 43 23.2**	**+0.1**
	comp=E,2.8nm,0.6s,baz=275,slow=5.1,SNR=26						
BRTR	**Keskin Array B**	**119.69**	**58**	PKP	**PKPdf**	**15 49 46.6**	**-1.1**
	comp=E,0.4nm,0.5s,baz=228,slow=3.5,SNR=3.3						
ASAR	**Alice Springs**	**121.80**	**209**	PKP	**PKPdf**	**15 49 51.7**	**-0.6**
	comp=E,0.4nm,0.7s,baz=129,slow=2.0,SNR=4.9						
ASAR				pPKP	**pPKPdf**	**15 49 58.7**	**-2.7**
	comp=E,0.3nm,1.0s,baz=145,slow=0.9,SNR=2.0						
WRA	**Warramunga Arr**	**124.88**	**211**	PKP	**PKPdf**	**15 49 57.9**	**-0.4**
	comp=E,0.8nm,0.6s,baz=147,slow=1.5,SNR=11						
WRA				pPKP	**pPKPdf**	**15 50 06.7**	**-0.7**
	comp=E,0.6nm,0.6s,baz=160,slow=1.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**150.08**	**27**	PKP	**PKPdf**	**15 50 43.7**	**+0.9**
	comp=E,11nm,0.8s,baz=312,slow=3.2,SNR=27						
ZALV				PKPbc	**PKiKP**	**15 50 48.5**	**-0.2**
	comp=E,11nm,0.8s,baz=304,slow=3.5,SNR=37						
ZALV				pPKPbc	**pPKPbc**	**15 50 57.5**	**+0.7**
	comp=E,4.7nm,0.8s,baz=307,slow=3.4,SNR=7.2						
MKAR	**Makanchi Array**	**153.52**	**41**	PKPbc	**PKPbc**	**15 50 56.2**	**+0.3**
	comp=E,1.4nm,0.7s,baz=308,slow=1.8,SNR=17						
MKAR				pPKPbc	**pPKPbc**	**15 51 05.4**	**+0.4**
	comp=E,1.3nm,0.8s,baz=322,slow=0.7,SNR=6.1						
MKAR				PKPab	**PKPab**	**15 51 09.5**	**+1.1**
	comp=E,1.2nm,0.8s,baz=321,slow=3.1,SNR=7.7						

JMA 03 16:00:48.6±0.2, 43°57'N×147°54'E, h33km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.32**	**262**	P	Pn	16 01 11.6	+0.9
NEM2				*e*S	Sn	16 01 28.3	+1.1
JRA	**Rausu**	**1.79**	**283**	P	Pn	16 01 18.2	+1.1
JRA				*e*S	Sn	16 01 40.4	+1.7
JNK	**Nakash**	**2.05**	**271**	P	Pn	16 01 21.6	+0.8
JAK	**Akkeshi**	**2.15**	**256**	P	Pn	16 01 23.1	+1.0
JAK				*e*S	Sn	16 01 48.4	+0.7
JTKR	**Abashiri--Toko**	**2.66**	**280**	P	Pn	16 01 30.6	+1.5
JAR	**Ashorobuto**	**2.76**	**266**	P	Pn	16 01 32.1	+1.6
JAR				*e*S	Sn	16 02 04.2	+1.5
JOB	**Onbets**	**2.79**	**257**	P	Pn	16 01 32.2	+1.3
JOB				*e*S	Sn	16 02 04.3	+0.9
JMP	**Maruseppu**	**3.06**	**280**	P	Pn	16 01 36.6	+1.9
JCH	**Churui**	**3.21**	**254**	P	Pn	16 01 37.7	+1.1
JCH				*e*S	Sn	16 02 13.8	+0.1
JKK2	**Kamakawa 2**	**3.49**	**277**	P	Pn	16 01 42.8	+2.3
JFR	**Furan**	**3.63**	**265**	P	Pn	16 01 44.9	+2.4
JNBK	**Urakawa-nobuka**	**3.75**	**252**	P	Pn	16 01 45.5	+1.5

*IDC **03** 16:02:39.8±1.3, 37°.45N×140°.81E, h0km, mb3.4/5, mb1 3.4/7, mb1mx3.3/23, mbtmp3.3/7, ML2.5/2, Error ellipse: s-maj=21.8km s-min=21.3km az=78.0*
*ISCJB **03** 16:02:39.7±1.2, 37°.04N±0°.05×141°.3E±0°.1, h47km±7km, mb3.3/5, Error ellipse: s-maj=15.4km s-min=6.9km az=22.7*
*JMA **03** 16:02:41.1±0.1, 37°.06N×141°.20E, h50km±1km, M3.7*
JMA Felt II J1.

ISC 03 16:02:39.7±2.0, 37°.03N±0°.07×141°.4E±0°.1, h38km±3km, n18, σ1°.00/24, mb3.3/5, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**280**	⇓P	**Pn**	**16 02 50.4**	**+0.8**
ONAJ				S	**Sn**	**16 02 56.9**	**+0.1**
JFK	**Kawauchi**	**0.52**	**311**	⇓P	**Pn**	**16 02 51.1**	**+0.5**
JFK				S	**Sn**	**16 02 58.0**	**-0.2**
JHO	**Hitachi**	**0.76**	**237**	⇓P	**Pn**	**16 02 54.1**	**+0.3**
JHO				S	**Sn**	**16 03 03.5**	**-0.6**
JFT	**Otama**	**0.95**	**301**	⇓P	**Pn**	**16 02 57.5**	**+1.0**
JFT				S	**Sn**	**16 03 08.7**	**-0.2**
JMM	**Marumori**	**0.95**	**332**	⇓P	**Pn**	**16 02 57.0**	**+0.5**
JMM				S	**Sn**	**16 03 08.4**	**-0.5**
JFY	**Yanaizu**	**1.38**	**287**	P	**Pn**	**16 03 02.7**	**+0.4**
JIO	**Ouri**	**1.43**	**360**	⇓P	**Pn**	**16 03 04.0**	**+1.0**
JIO				*e*S	**Sn**	**16 03 20.2**	**-0.3**
JOU	**Okura**	**1.45**	**338**	⇓P	**Pn**	**16 03 04.1**	**+0.8**
JYS	**Shirataka**	**1.57**	**320**	⇓P	**Pn**	**16 03 06.1**	**+1.0**
JYS				S	**Sn**	**16 03 24.9**	**+0.7**
JAG	**Ashikaga**	**1.65**	**249**	⇓P	**Pn**	**16 03 06.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.58**	**260**	Pn	**Pn**	**16 03 18.7**	**-0.2**
	4.5nm,0.3s,baz=84,slow=15,SNR=76						
MJAR				Lg	Lg	16 03 51.3	
	3.7nm,0.3s,baz=67,slow=30,SNR=6.3						
MAT	**Matsushiro**	**2.58**	**260**	P	**Pn**	**16 03 20.3**	**+1.4**
MAT				*e*S	**Sn**	**16 03 50.6**	**+1.7**
USRK	**Ussuriysk Arra**	**10.09**	**318**	Pn	**Pn**	**16 04 58.9**	**-3.0**
	0.1nm,0.3s,baz=140,slow=15,SNR=2.9						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**16 08 24.7**	**-0.1**
	0.2nm,0.4s,baz=98,slow=8.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**16 10 26.4**	**+0.3**
	0.9nm,0.6s,baz=98,slow=8.5,SNR=6.0						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**16 10 44.2**	**+0.2**
	0.2nm,0.5s,baz=85,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**57.05**	**188**	P	P	16 12 29.1	+7.2
	0.2nm,0.6s,baz=0.9,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**60.77**	**188**	P	P	16 12 56.9	+9.2
	0.2nm,0.8s,baz=15,slow=4.0,SNR=4.0						

*IDC **03** 16:12:05.7±2.0, 2°.39S×127°.83E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/17, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=152.7km s-min=25.2km az=67.0*
*DJA **03** 16:12:11, 1°.95S×128°.58E, h14km, MLv3.8/7*

ISC 03 16:12:11.0±1.6, 2°.4S±0°.1×128°.95E±0°.06, h33km, n11, σ2°.24/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.98**	**181**	P	Pb	16 12 36.6	+7.0
AAI	**Ambon**	**1.52**	**210**	P	Pb	**16 12 39.5**	**+0.9**
NLAI	**Namlea**	**2.05**	**245**	P	Pb	**16 12 47.3**	**-0.2**
LBMI	**Labuha**	**2.24**	**320**	P	Pn	16 12 39.1	-6.7
FAKI	**Fak Fak**	**3.34**	**100**	P	Pb	**16 13 09.4**	**-0.2**
BKSI	**Bulukumba**	**9.29**	**251**	P	Pn	**16 14 23.2**	**+0.5**
	49nm,0.7s,548nm						
SPSI	**Sidrap Palu**	**9.30**	**260**	P	**Pn**	**16 14 21.2**	**-1.7**
	29nm,0.9s						
KAPI	**Kappang**	**9.55**	**254**	P	**Pn**	**16 14 25.3**	**-1.0**
WRA	**Warramunga Arr**	**18.25**	**164**	P	**Pn**	**16 16 23.6**	**+1.6**
	0.4nm,0.3s,baz=339,slow=13,SNR=18						
WRA				S	**Sn**	**16 19 41.5**	**-3.4**
	0.1nm,0.3s,baz=339,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**21.72**	**168**	P	**P**	**16 17 02.7**	**+3.1**
	2.4nm,0.5s,baz=347,slow=12,SNR=38						
ASAR				S	**S**	**16 20 55.9**	**-2.5**
	1.6nm,0.9s,baz=346,slow=20,SNR=9.8						
MKAR	**Makanchi Array**	**63.80**	**326**	P	P	16 22 35.4	-4.6
	0.2nm,0.8s,baz=120,slow=5.7,SNR=3.2						

GUC 03 16:29:49.8±0.7, 29°.45S×70°.66W, h86km±5km, ML4.1, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.43**	**355**	⇑*i*P	Pn	16 30 04.5	+0.5
LCO				*i* S	Sn	16 30 15.3	+0.9
LCO				AML	AML	16 30 16.8	
	comp=E,9μm,0.5s						
TLL	**Tololo Astrono**	**0.73**	**190**	⇓*i*P	Pn	16 30 07.4	+0.8
TLL				*i* S	Sn	16 30 20.1	+1.0
TLL				AML	AML	16 30 23.3	
	comp=N,3μm,0.4s						
OVCH	**Ovalle**	**1.25**	**202**	*e*P	Pn	16 30 12.4	+0.2
OVCH				*e*S	Sn	16 30 29.5	+0.4
OVCH				AML	AML	16 30 34.9	
	comp=N,3μm,0.6s						
CPCH	**Copiapo**	**2.10**	**8**	*e*P	Pn	16 30 22.5	-0.7
CPCH				*i* S	Sn	16 30 47.7	-1.0
CPCH				AML	AML	16 30 55.1	
	comp=N,6μm,0.1s						
CHNG	**Los Chungos**	**2.54**	**196**	*e*P	Pn	16 30 28.8	-0.2
CHNG				*e*S	Sn	16 30 59.3	+0.3
PTCH	**Petorca**	**2.82**	**185**	*e*S	Sn	16 31 06.1	+0.1
PTCH				AML	AML	16 31 18.8	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**3.69**	**180**	⇑*i*P	Pn	16 30 45.3	+0.7
PEL				*e*S	Sn	16 31 27.2	+0.1
CLCH	**Cerro Calan**	**3.94**	**178**	*e*P	Pn	16 30 49.4	+1.3
CLCH				*e*S	Sn	16 31 34.1	+0.8

*BJI **03** 16:30:34.3, 8°.26S×128°.89E, h84km, mB5.2/35, mb5.5/60, Ms4.8/41, Ms7 4.4/36*
*TEH **03** 16:30:43.0, 7°.47S×128°.49E, h81km, ML5.5*
*MOS **03** 16:30:46.0±1.0, 7°.36S×128°.39E, h128km, mb5.4/62, Error ellipse: s-maj=10.1km s-min=5.5km az=110.4*
*NEIC **03** 16:30:46.6±0.1, 7°.44S×128°.46E, mb5.4/76, Error ellipse: s-maj=6.4km s-min=4.3km az=61.0*
NEIC Felt at Darwin, Australia.
*ISCJB **03** 16:30:47.8±0.4, 7°.59S±0°.02×128°.46E±0°.02, h154km±3km, mb5.4/157, Error ellipse: s-maj=3.9km s-min=3.7km az=32.6*
*IDC **03** 16:30:48.9±0.6, 7°.42S×128°.42E, h142km±4km, mb5.0/22, mb1 5.0/23, mb1mx5.0/23, mbtmp5.0/23, MS4.2/10, Ms1 4.2/10, ms1mx3.8/34, Error ellipse: s-maj=12.6km s-min=8.0km az=66.0*
*DJA **03** 16:30:48, 7°.73S×128°.53E, h163km, Mw5.4/61*

ISC 03 16:30:47.4±0.3, 7°.51S±0°.03×128°.50E±0°.04, h134km±2km, h134km:pP-P, n871, σ1951/1213, mb5.4/156, 271C-205D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.81**	**355**	P	**Pn**	**16 31 47.0**	**+2.2**
MSAI	**Masohi**	**4.16**	**6**	P	**Pn**	**16 31 52.1**	**+2.7**
NLAI	**Namlea**	**4.47**	**342**	P	**Pn**	**16 31 56.4**	**+2.9**
TLE	**Tual**	**4.61**	**66**	P	**Pn**	**16 31 57.0**	**+1.7**
FAKI	**Fak Fak**	**5.90**	**39**	P	**Pn**	**16 32 12.7**	**+0.1**
	852nm,0.7s,15μm26μm6.1nn						
BBSI	**Bau Bau**	**6.22**	**289**	P	**Pn**	**16 32 19.8**	**+2.8**
	538nm,1.0s,6μm1.8nm						
MMRI	**Maumere**	**6.30**	**259**	P	**Pn**	**16 32 17.9**	**-0.1**
	1μm,0.7s,15μm7.6nm						
LBMI	**Labuha**	**6.90**	**352**	P	**Pn**	**16 32 29.2**	**+3.1**
	2μm,0.9s,20μm7.6nm						
TNTI	**Ternate**	**8.31**	**352**	P	**Pn**	**16 32 47.7**	**+2.7**
	1μm,1.0s,12μm5.5nm						
WSI	**Waingapu**	**8.39**	**255**	P	**Pn**	**16 32 44.3**	**-1.8**
	5μm,0.6s,50μm57nm						
LUWI	**Luwuk**	**8.60**	**318**	P	Pn	16 32 52.2	+3.3
	886nm,1.1s,21μm7.4nm						
BKSI	**Bulukumba**	**8.60**	**284**	P	**Pn**	**16 32 50.0**	**+1.0**
	266nm,0.9s,3μm0.8nm						
KAPI	**Kappang**	**9.04**	**285**	⇑*e*Pn	**Pn**	**16 32 54.8**	**-0.1**
	354nm,1.2s						
KAPI				*e*Sn	**Sn**	**16 34 40.0**	**+4.9**
KAPI	**Kappang**	**9.04**	**285**	P	**Pn**	**16 32 55.4**	**+0.5**
	SNR=30						
KAPI	**Kappang**	**9.04**	**285**	P	**Pn**	**16 32 55.6**	**+0.7**
	223nm,1.3s,2μm						
KMSI	**Cibinong**	**9.21**	**331**	P	Pn	16 33 00.7	+3.5
	3μm,1.2s,37μm						
SPSI	**Sidrap Palu**	**9.37**	**292**	P	**Pn**	**16 33 00.6**	**+1.3**
	126nm,1.2s,2μm						
MNI	**Manado**	**9.62**	**338**	P	Pn	16 33 05.9	+3.3
	4μm,1.3s,43μm						
TTSI	**Tana Toraja**	**9.71**	**297**	P	Pn	16 33 07.2	+3.3
	143nm,1.2s,1μm						
BAKI	**Biak**	**9.85**	**51**	P	**Pn**	**16 33 07.0**	**+1.3**
	2μm,0.7s,11μm						
MJSI	**Majene**	**10.26**	**292**	P	Pn	16 33 14.5	+3.3
	349nm,0.7s,2μm						
MRSI	**Marisa**	**10.29**	**320**	P	Pn	16 33 15.0	+3.4
	592nm,1.2s,6μm						
WAMI	**Wamena**	**10.78**	**71**	P	**Pn**	**16 33 20.9**	**+2.7**
	1μm,0.8s,11μm						
FITZ	**Fitzroy Crossi**	**10.89**	**195**	P	Pn	16 33 15.6	-3.9
	47nm,0.3s,baz=14,slow=11,SNR=326						
FITZ				S	Sn	16 35 08.3	-11
	231nm,0.3s,baz=86,slow=19,SNR=12						
FITZ				LR	LR	16 38 19.8	
	comp=Z,929nm,20.6s,baz=19,slow=41						
FITZ	**Fitzroy Crossi**	**10.89**	**195**	*e*P	**Pn**	**16 33 16.7**	**-2.8**
	3μm,1.2s						
FITZ				*e*S	Sn	16 35 08.6	-11
FITZ	**Fitzroy Crossi**	**10.89**	**195**	⇓*e*P	Pn	16 33 14.7	-4.8
	651nm,0.7s						
FITZ				P		16 33 15.6	
FITZ				*e*Sn	Sn	16 35 05.9	-14
FITZ				S		16 35 08.3	
SGSI	**Sangihe**	**11.51**	**345**	P	**Pn**	**16 33 29.7**	**+1.8**
	5μm,1.0s,40μm						
SMPI	**Sarmi**	**11.56**	**62**	P	**Pn**	**16 33 28.5**	**0.0**
	185nm,0.9s,2μm						
MTNI	**Mataram**	**12.26**	**264**	P	**Pn**	**16 33 35.1**	**-2.5**
	432nm,0.9s,4μm						
KHKI	**Kahang-Kahang**	**12.79**	**265**	P	**Pn**	**16 33 43.0**	**-1.6**
	147nm,0.8s,2μm						
KBKI	**Kotaraja**	**12.97**	**288**	P	**P**	**16 33 52.3**	**+0.1**
	151nm,1.1s,1μm						
JAY	**Jayapura**	**13.13**	**68**	P	**Pn**	**16 33 51.2**	**+2.2**
	170nm,0.7s						
SMKI	**Samarinda**	**13.27**	**301**	P	**P**	**16 33 57.0**	**+1.4**
	634nm,0.9s,11μm						
IGBI	**Denpasar**	**13.28**	**263**	P	**P**	**16 33 56.0**	**+0.3**
	227nm,0.7s,170μm						
WRAB	**Tennant Creek**	**13.59**	**156**	*e*P	Pn	16 33 50.3	-4.4
WRAB				pmax	pmax		
	comp=Z,1μm,0.9s						
WRAB	**Tennant Creek**	**13.59**	**156**	*e*Pn	Pn	16 33 50.3	-4.4
	comp=Z,1μm,0.9s						
WRAB				*e*Sn	Sn	16 36 08.8	-16
WRAB	**Tennant Creek**	**13.59**	**156**	Pn	**Pn**	**16 33 51.8**	**-3.0**
	comp=Z,9μm,0.6s						
WRA	**Warramunga Arr**	**13.59**	**156**	P	Pn	16 33 50.9	-3.9
	comp=Z,104nm,0.3s,baz=342,slow=12,SNR=1103						
WRA				S	Sn	16 36 12.5	-13
	comp=Z,100nm,0.3s,baz=326,slow=23,SNR=12						
WRA	**Warramunga Arr**	**13.59**	**156**	P	Pn	16 33 50.9	-3.9
WRA				pmax	pmax		
	comp=Z,105nm,0.3s						
WRA	**Warramunga Arr**	**13.59**	**156**	P	Pn	16 33 50.9	-3.9
WRA				S	Sn	16 36 12.5	-13
WB2	**Warramunga Arr**	**13.60**	**156**	⇓*e*Pn	Pn	16 33 50.7	-4.2
WB2				*e*S	Sn	16 36 12.4	-13
GSPH	**General Santos**	**13.97**	**345**	⇓*e*P	**Pn**	**16 34 00.5**	**+0.7**
BYJI	**Banyuwangi**	**14.03**	**266**	P	P	16 34 08.0	+4.0
BBKI	**Banjar Baru**	**14.18**	**286**	P	**P**	**16 34 04.8**	**-0.9**
	comp=Z,2μm,0.9s,comp=Z,18μm						
JAGI	**Jajag, Banyuwa**	**14.24**	**265**	P	**P**	**16 34 05.3**	**-1.1**
	comp=Z,212nm,0.7s,comp=Z,3μm						
KMMI	**Kalianget**	**14.42**	**271**	P	**P**	**16 34 08.9**	**+0.5**
	comp=Z,294nm,1.2s,comp=Z,3μm						
MATI	**Mati**	**14.54**	**351**	*e*P	**P**	**16 34 09.1**	**-0.6**
BLJI	**Banyuglugur**	**14.77**	**268**	P	**Pn**	**16 34 09.3**	**-0.5**
	comp=Z,1μm,0.7s,comp=Z,8μm						
DAV	**Davao City (W)**	**14.78**	**349**	P	P	**16 34 12.2**	**-0.1**
	comp=Z,11nm,0.3s,baz=194,slow=12,SNR=15						
DAV	**Davao City (W)**	**14.78**	**349**	P	**P**	**16 34 12.2**	**-0.1**
DAV				*e*Pn	**Pn**	**16 34 12.6**	**+2.7**
DAV				*e*Sn	**Sn**	**16 36 52.3**	**-1.4**
DAV	**Davao City (W)**	**14.78**	**349**	⇓*e*P	**P**	**16 34 12.9**	**+0.6**
DAV	**Davao City (W)**	**14.78**	**349**	⇓S	S	16 37 15.8	+13
DAV	**Davao City (W)**	**14.78**	**349**	P	**P**	**16 34 13.2**	**+0.8**
	SNR=45						
DAV	**Davao City (W)**	**14.78**	**349**	P	**P**	**16 34 14.2**	**+1.9**
	comp=Z,2μm,0.9s,comp=Z,21μm						
DMPH	**Davao City--Mi**	**14.80**	**348**	⇓*e*P	**P**	**16 34 12.0**	**-0.7**
KCP	**Kidapawan**	**14.82**	**347**	⇓*e*P	**P**	**16 34 15.4**	**+2.5**
GMJI	**Gumukmas**	**14.93**	**266**	P	**P**	**16 34 13.6**	**-0.5**
	comp=Z,182nm,0.9s,comp=Z,2μm						
CTBH	**Cotabato--PC H**	**15.24**	**344**	⇓*e*P	**P**	**16 34 16.6**	**-0.8**
BUKP	**Musuan**	**15.67**	**347**	*e*P	**P**	**16 34 23.7**	**+1.4**
COEN	**Coen**	**15.77**	**115**	*e*Pn	**Pn**	**16 34 21.4**	**-0.9**
	comp=Z,129nm,0.8s						
COEN				*e*Sn	Sn	16 37 05.2	-12
TSM	**Tawau**	**15.81**	**318**	P	**P**	**16 34 24.6**	**+0.8**
KRKI	**Karangkates**	**15.91**	**267**	P	**P**	**16 34 24.5**	**-0.4**
	comp=Z,721nm,0.8s						
MBWA	**Marble Bar**	**15.99**	**211**	*e*P	**Pn**	**16 34 23.0**	**-2.0**
MBWA				*e*S	Sn	16 37 05.6	-17
MBWA	**Marble Bar**	**15.99**	**211**	*e*Pn	**Pn**	**16 34 22.9**	**-2.0**
	comp=Z,420nm,0.6s						
MBWA				*e*Sn	Sn	16 37 01.4	-21
MBWA	**Marble Bar**	**15.99**	**211**	P	**Pn**	**16 34 23.5**	**-1.4**
	SNR=42						
MYLDM	**Lahad Datu**	**16.08**	**321**	P	P	**16 34 30.8**	**+4.1**
MYLDM	**Lahad Datu**	**16.08**	**321**	P	**P**	**16 34 30.9**	**+4.1**
	comp=Z,407nm,1.1s,comp=Z,6μm						
PAGZ	**Pagadian**	**16.09**	**341**	*e*P	**P**	**16 34 28.6**	**+1.7**
CGP	**Cagayan de Oro**	**16.31**	**346**	⇑*e*P	**P**	**16 34 32.4**	**+3.1**
PWJI	**Pagerwojo**	**16.55**	**267**	P	**Pn**	**16 34 29.9**	**-1.9**
	comp=Z,274nm,0.9s,comp=Z,3μm						
SJI	**Sawahan**	**16.59**	**268**	P	**Pn**	**16 34 31.1**	**-1.2**
	comp=Z,559nm,0.7s,comp=Z,6μm						
AS31	**Alice Springs**	**16.88**	**163**	*e*Pn	**P**	**16 34 34.0**	**-1.6**
AS31				*e*Sn	Sn	16 37 29.5	-15
ASAR	**Alice Springs**	**16.88**	**163**	P	**P**	**16 34 33.9**	**-1.7**
	comp=Z,27nm,0.3s,baz=332,slow=8.9,SNR=615						
ASAR				S	Sn	16 37 30.4	-14
	comp=Z,25nm,0.3s,baz=340,slow=20,SNR=4.1						
ASAR				P3KP		17 09 54.0	
	comp=Z,0.1nm,0.3s,baz=116,slow=5.7,SNR=4.1						
ASAR				P4KP		17 18 26.9	
	comp=Z,0.1nm,0.3s,baz=334,slow=4.8,SNR=19						
ASAR	**Alice Springs**	**16.88**	**163**	P	**P**	**16 34 33.9**	**-1.7**
ASAR				pmax	pmax		
	comp=Z,27nm,0.3s						
ASAR	**Alice Springs**	**16.88**	**163**	P	**P**	**16 34 33.9**	**-1.7**
ASAR				S	Sn	16 37 30.4	-14
ASAR				PKKKP		17 09 54.0	
ASAR				P4KP		17 18 26.9	
PCJI	**Pacitan**	**17.17**	**267**	P	**P**	**16 34 36.7**	**-2.2**
	comp=Z,626nm,0.7s,comp=Z,6μm						
SDKM	**Sandakan**	**17.26**	**319**	P	**Pn**	**16 34 42.8**	**+2.3**
PBKI	**Pangkalan Bun**	**17.43**	**285**	P	**Pn**	**16 34 43.9**	**+1.5**
	comp=Z,1μm,0.8s,comp=Z,11μmcomp=Z,16μm						
UGM	**Wanagama**	**17.82**	**268**	P	**Pn**	**16 34 47.0**	**-0.1**
	comp=Z,403nm,1.0s						
SMRI	**Semarang**	**17.92**	**270**	P	**P**	**16 34 46.7**	**-0.4**
	comp=Z,161nm,0.7s						
YOGI	**Yogyakarta**	**18.04**	**268**	P	**P**	**16 34 48.9**	**+0.5**
	comp=Z,903nm,0.8s						
KKM	**Kota Kinabalu**	**18.21**	**317**	*e*Pn	**Pn**	**16 34 52.8**	**+1.0**
	comp=Z,208nm,0.9s						
KKM	**Kota Kinabalu**	**18.21**	**317**	P	**Pn**	**16 34 53.6**	**+1.7**
KKM	**Kota Kinabalu**	**18.21**	**317**	P	Pn	**16 34 54.0**	**+2.2**
	comp=Z,310nm,0.9s,comp=Z,4μm						
LLP	**Lapu-Lapu**	**18.28**	**346**	⇑*e*P	**Pn**	**16 34 53.4**	**+0.8**
KDM	**Kudat**	**18.46**	**321**	P	**Pn**	**16 34 56.7**	**+2.0**
PMG	**Port Moresby**	**18.55**	**97**	P	**Pn**	**16 34 56.3**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=284,slow=4.2,SNR=12						
PMG				S	**S**	**16 38 13.2**	**-5.6**
	comp=Z,1.8nm,0.3s,baz=248,slow=19,SNR=6.6						
PMG	**Port Moresby**	**18.55**	**97**	*e*P	**Pn**	**16 34 55.8**	**0.0**
PMG				S	**S**	**16 38 13.2**	**-5.6**
PMG				pmax	pmax		
	comp=Z,171nm,0.8s						
PMG	**Port Moresby**	**18.55**	**97**	*e*Pn	**Pn**	**16 34 55.8**	**0.0**
	comp=Z,171nm,0.8s						
PMG				P	**Pn**	**16 34 56.3**	**+0.5**
PMG				S	**S**	**16 38 13.2**	**-5.6**
STKI	**Sintang**	**18.57**	**293**	P	**Pn**	**16 34 55.7**	**-0.3**
	comp=Z,705nm,0.8s,comp=Z,6μm						
BJII	**Banjamegara**	**18.63**	**269**	P	**P**	**16 34 54.6**	**-0.3**
	comp=Z,177nm,1.0s,comp=Z,2μm						
BTM	**Bintulu**	**18.70**	**304**	P	**Pn**	**16 34 58.8**	**+1.2**
PLP	**Palo**	**18.88**	**349**	⇓*e*P	**Pn**	**16 35 00.0**	**+0.4**
SBUM	**Sibu**	**19.02**	**301**	P	**Pn**	**16 35 01.7**	**+0.4**
SBUM	**Sibu**	**19.02**	**301**	P	**Pn**	**16 35 01.3**	**0.0**
	comp=Z,528nm,1.0s,comp=Z,5μm						
KSM	**Kuching**	**20.22**	**295**	⇑*i*P	**P**	**16 35 12.2**	**+0.1**
	comp=Z,674nm,1.0s						
KSM				*e*S	**S**	**16 38 53.1**	**+1.2**
KSM	**Kuching**	**20.22**	**295**	P	**P**	**16 35 12.6**	**+0.5**
KSM	**Kuching**	**20.22**	**295**	P	**P**	**16 35 12.5**	**+0.4**
	comp=Z,598nm,1.1s,comp=Z,6μm						
CISI	**Cisompet, Garu**	**20.50**	**269**	P	**P**	**16 35 12.6**	**-2.6**
	comp=Z,477nm,1.0s,comp=Z,5μm						
LEM	**Lembang**	**20.73**	**271**	P	**P**	**16 35 15.4**	**-2.3**
	comp=Z,429nm,1.0s,comp=Z,3μm						
CTA	**Charters Tower**	**21.27**	**128**	P	**P**	**16 35 25.8**	**+2.5**
	comp=Z,29nm,0.7s,baz=309,slow=12,SNR=21						
CTA				S	**S**	**16 39 15.0**	**+3.1**
	comp=Z,29nm,1.0s,baz=354,slow=19,SNR=3.8						
CTA				LR	LR	16 44 44.8	
	comp=Z,2μm,18.2s,baz=314,slow=39						
CTA	**Charters Tower**	**21.27**	**128**	*e*P	**P**	**16 35 26.0**	**+2.7**
	comp=Z,87nm,0.8s						
CTA				*e*S	Sn	16 39 33.6	+4.7
CTA	**Charters Tower**	**21.27**	**128**	P	**P**	**16 35 25.8**	**+2.5**
CTA				S	**S**	**16 39 15.0**	**+3.1**
CTA				pmax	pmax		

KRJI	**Kerinci**	**27.46**	**280**	P		**P**	**16 36 21.7**	**+0.4**	
	comp=Z,423nm,0.9s,comp=Z,9µm								
BKNI	**Bangkinang**	**28.47**	**285**	P		**P**	**16 36 30.5**	**+0.4**	
	comp=Z,224nm,1.1s,comp=Z,2µm								
PPI	**Padang Panjang**	**28.88**	**283**	P		**P**	**16 36 31.9**	**-1.9**	
	comp=Z,140nm,0.9s,comp=Z,1µm								
IPM	**Ipoh**	**29.89**	**293**	*e*P		**P**	**16 36 42.4**	**-0.4**	
	comp=Z,157nm,0.8s								
IPM	**Ipoh**	**29.89**	**293**	P		**P**	**16 36 42.5**	**-0.2**	
IPM	**Ipoh**	**29.89**	**293**	P		**P**	**16 36 42.8**	**+0.1**	
	comp=Z,194nm,1.0s								
MNSI	**Mandailing Nat**	**30.00**	**285**	P		**P**	**16 36 41.7**	**-2.0**	
	comp=Z,154nm,0.7s,comp=Z,2µm								
KULM	**Kulim**	**30.56**	**294**	*e*P		**P**	**16 36 48.1**	**-0.5**	
	comp=Z,124nm,0.7s								
KULM	**Kulim**	**30.56**	**294**	P		**P**	**16 36 48.3**	**-0.3**	
KULM	**Kulim**	**30.56**	**294**	P		**P**	**16 36 48.7**	**+0.1**	
	comp=Z,204nm,0.8s,comp=Z,2µm								
TWG	**Pinlang**	**31.01**	**347**	*e*P		P	16 36 49.1	-3.3	
	comp=Z,34nm,0.6s								
HNR	**Honiara**	**31.16**	**96**	P		**P**	**16 36 52.2**	**-1.7**	
	comp=Z,24nm,0.4s,baz=255,slow=20,SNR=7.8								
HNR				ScP		**ScP**	**16 43 17.2**	**+0.5**	
	comp=Z,69nm,0.7s,baz=222,slow=9.1,SNR=3.8								
HNR	**Honiara**	**31.16**	**96**	P		**P**	**16 36 52.2**	**-1.7**	
HNR				pmax	pmax				
	comp=Z,24nm,0.4s								
HNR				pmax	pmax				
	comp=N,69nm,0.7s								
HNR	**Honiara**	**31.16**	**96**	P		P	16 36 50.5	-3.3	
HNR				P		**P**	**16 36 52.2**	**-1.7**	
HNR				ScP		**ScP**	**16 43 17.2**	**+0.5**	
PSI	**Prapat**	**31.24**	**288**	P		**P**	**16 36 53.2**	**-1.5**	
	comp=N,380nm,1.2s,comp=N,4µm								
ARMA	**Armidale**	**31.45**	**139**	*e*P		**P**	**16 36 58.8**	**+2.4**	
ARMA	**Armidale**	**31.45**	**139**	*e*P		**P**	**16 36 58.5**	**+2.1**	
	comp=N,62nm,1.0s								
ARMA				*e*pP		**pP**	**16 37 27.9**	**+2.6**	
YULB	**Yu-li**	**31.51**	**347**	*e*P		**P**	**16 36 54.2**	**-2.7**	
	comp=N,13nm,0.7s								
ARPS	**Mount Arapiles**	**31.56**	**159**⇑	*i*P		**P**	**16 36 59.5**	**+2.4**	
	comp=N,3µm,1.2s								
TPUB	**Ta-pu**	**31.58**	**346**	*e*P		**P**	**16 36 56.1**	**-1.3**	
	comp=N,64nm,0.7s								
TSI	**Tuntungan**	**31.81**	**289**	P		**P**	**16 36 59.5**	**-0.1**	
	comp=N,305nm,1.4s								
SSLB	**Suanglung**	**31.97**	**347**	*e*P		**P**	**16 36 58.8**	**-2.1**	
	comp=N,37nm,0.8s								
QIZ	**Qiongzhong**	**32.15**	**325**	P		**P**	**16 37 03.0**	**+0.5**	
QIZ				S		**S**	**16 42 09.0**	**+3.5**	
QIZ				pmax	pmax				
	comp=Z,36nm,0.9s								
QIZ				pmax	pmax				
	comp=Z,360nm,4.4s								
QIZ				LR	LR				
	comp=Z,710nm,17.9s								
QIZ	**Qiongzhong**	**32.15**	**325**	*e*P		**P**	**16 37 02.7**	**+0.2**	
	comp=Z,44nm,0.9s								
NACB	**Ninganchiao**	**32.21**	**348**	P		**P**	**16 37 00.4**	**-2.5**	
	comp=Z,24nm,0.7s								
YHNB	**Yeheng**	**32.73**	**348**	*e*P		**P**	**16 37 06.7**	**-0.8**	
	comp=Z,70nm,0.7s								
TPTI		**33.03**	**288**	P		**P**	**16 37 09.4**	**-0.9**	
	comp=Z,110nm,1.0s								
CAN	**Canberra**	**33.46**	**149**	*e*P		**P**	**16 37 16.1**	**+2.3**	
CAN				pmax	pmax				
	comp=Z,129nm,0.6s								
CAN	**Canberra**	**33.46**	**149**	*e*P		**P**	**16 37 16.1**	**+2.3**	
	comp=Z,129nm,0.6s								
CAN				*e*ScP		**ScP**	**16 43 23.1**	**-1.1**	
CNB	**Canberra Magne**	**33.65**	**148**	*e*P		**P**	**16 37 17.9**	**+2.5**	
	comp=Z,118nm,0.6s								
TOO	**Toolangi**	**33.66**	**155**	*e*P		P	16 37 18.8	+3.3	
	comp=Z,853nm,0.6s								
TOO				*e*S		**S**	**16 42 33.8**	**+5.2**	
LHMI	**Lhok Sumawe**	**33.93**	**291**	P		**P**	**16 37 19.0**	**+0.9**	
	comp=Z,528nm,0.7s,comp=Z,6µm								
JOW	**Kunigami**	**34.14**	**360**	*e*P		**P**	**16 37 20.5**	**+0.8**	
	comp=Z,41nm,0.8s								
JOW				*e*pP		**pP**	**16 37 49.9**	**+1.0**	
MILA	**Mila**	**34.90**	**150**	*e*P		**P**	**16 37 28.9**	**+2.7**	
	comp=Z,31nm,0.5s								
BSI	**Banda Aceh**	**35.56**	**290**	P		**P**	**16 37 30.6**	**-1.5**	
	comp=Z,115nm,0.8s,comp=Z,1µm								
MOO	**Moorlands**	**38.50**	**158**	*e*P		**P**	**16 37 59.6**	**+3.0**	
	comp=Z,350nm,0.9s								
CM31	**Chiang Mai Arr**	**38.94**	**312**⇑	*e*P		**P**	**16 38 00.9**	**+0.3**	
	comp=Z,38nm,0.8s								
CM31				*e*PcP		**PcP**	**16 40 09.1**	**+0.5**	
CM31				*e*ScP		**ScP**	**16 43 43.8**	**-0.9**	
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P		**P**	**16 38 00.9**	**+0.4**	
	comp=Z,36nm,0.8s,baz=143,slow=6.7,SNR=238								
CMAR				PcP		**PcP**	**16 40 09.5**	**+0.9**	
	comp=Z,16nm,0.9s,baz=162,slow=3.4,SNR=6.7								
CMAR				ScP		**ScP**	**16 43 44.0**	**-0.7**	
	comp=Z,9.8nm,0.8s,baz=159,slow=3.4,SNR=16								
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P		**P**	**16 38 00.9**	**+0.4**	
CMAR							16 40 09.5		
CMAR							16 43 44.0		
CMAR				pmax	pmax				
	comp=Z,36nm,0.8s								
CMAR				pmax	pmax				
	comp=Z,16nm,0.9s								
CMAR				pmax	pmax				
	comp=N,10.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P		**P**	**16 38 00.9**	**+0.4**	
CMAR				PcP		**PcP**	**16 40 09.5**	**+0.9**	
CMAR				ScP		**ScP**	**16 43 44.0**	**-0.7**	
TAU	**Tasmania Unive**	**38.95**	**158**	*e*P		**P**	**16 38 02.8**	**+2.5**	
TAU				pmax	pmax				
	comp=Z,105nm,1.3s								
TAU	**Tasmania Unive**	**38.95**	**158**	*e*P		**P**	**16 38 02.8**	**+2.5**	
	comp=Z,105nm,1.3s								
TAU	**Tasmania Unive**	**38.95**	**158**	P		**P**	**16 38 02.2**	**+1.9**	
	comp=Z,354nm,1.2s,SNR=6.2								
CHTO	**Chiang Mai**	**39.16**	**312**⇑	*i*P		**P**	**16 38 02.3**	**-0.1**	
CHTO				*e*			16 43 43.9		
CHTO				pmax	pmax				
	comp=Z,85nm,1.0s								
CHTO	**Chiang Mai**	**39.16**	**312**⇑	*i*P		**P**	**16 38 02.3**	**-0.1**	
	comp=Z,85nm,1.0s								
CHTO				*e*ScP		**ScP**	**16 43 43.9**	**-1.6**	
CHTO	**Chiang Mai**	**39.16**	**312**	P		**P**	**16 38 03.3**	**+0.9**	
	SNR=21								
CHTO	**Chiang Mai**	**39.16**	**312**	P		**P**	**16 38 02.8**	**+0.4**	
	comp=Z,107nm,1.1s,comp=Z,1µm								
DZM	**Mont Dzumac**	**39.30**	**116**	*e*P		**P**	**16 38 05.4**	**+1.8**	
	comp=Z,31nm,1.0s								
GYA	**Guiyang**	**39.87**	**329**⇑	*i*P		**P**	**16 38 11.2**	**+2.9**	
GYA				pP		pP	16 38 30.0	-8.1	
GYA				sP		sP	16 38 41.9	-11	
GYA				PP		**PnPn**			**+0.2**
GYA				S		S	16 44 09.6	+6.4	
GYA				sS		sS	16 44 45.3	-10	
GYA				pmax	pmax				
	comp=Z,40nm,1.0s								
GYA				pmax	pmax				
	comp=Z,160nm,5.0s								
GYA				LR	LR				
	comp=N,4µm,17.8s								
GYA				LR	LR				
	comp=E,3µm,18.6s								
GYA				LR	LR				
	comp=Z,5µm,17.4s								
WHN	**Wuhan**	**40.20**	**341**	⇓P		**P**	**16 38 11.7**	**+0.9**	
WHN				ScP		**ScP**	**16 43 49.7**	**+0.5**	
WHN				S		**S**	**16 44 07.9**	**+0.1**	
WHN				pmax	pmax				
	comp=Z,120nm,1.1s								
WHN				LR	LR				
	comp=N,600nm,5.0s								
WHN				LR	LR				
	comp=E,1µm,13.7s								
WHN				LR	LR				
	comp=Z,1µm,12.9s								
NJ2	**Nanjing**	**40.41**	**347**	*e*P		**P**	**16 38 13.5**	**+1.1**	
NJ2				pmax	pmax				
	comp=Z,70nm,0.6s								
JNU	**Nakatsue**	**40.47**	**3**	*e*P		**P**	**16 38 13.1**	**0.0**	
	comp=Z,34nm,1.4s								
JNU				*e*pP		**pP**	**16 38 40.4**	**-2.5**	
KMI	**Kunming**	**41.01**	**323**	P		**P**	**16 38 19.3**	**+1.5**	
KMI				pP		pP	16 38 40.7	-7.0	
KMI				sP		sP	16 38 50.0	-13	
KMI				PP		**PnPn**			**16 40 00.1 -0.7**
KMI				S		**S**	**16 44 26.0**	**+5.6**	
KMI				pmax	pmax				
	comp=Z,60nm,1.0s								
KMI				pmax	pmax				
	comp=Z,170nm,3.1s								
KMI				LR	LR				
	comp=N,200nm,11.1s								
KMI				LR	LR				
	comp=E,580nm,12.8s								
KMI				LR	LR				
	comp=Z,450nm,18.5s								
ENH	**Enshi**	**41.77**	**335**	*e*P		**P**	**16 38 23.4**	**-0.3**	
	comp=Z,35nm,0.7s								
ENH				*e*ScP		**ScP**	**16 43 53.8**	**-1.7**	
KSAR	**Wonju Array Be**	**44.73**	**359**	P		**P**	**16 38 47.8**	**+0.6**	
KSAR				*PP		**pP**	**16 39 17.0**	**-0.6**	
KSAR	**Wonju Array Be**	**44.73**	**359**	P		**P**	**16 38 47.8**	**+0.6**	
KSAR				pP		**pP**	**16 39 16.9**	**-0.6**	
KSAR				ScP		**ScP**	**16 44 06.7**	**-0.6**	
KSRS	**Korea Array**	**44.74**	**359**	P		**P**	**16 38 47.8**	**+0.5**	
	comp=Z,10nm,0.5s,baz=176,slow=9.0,SNR=86								
KSRS				pP		**pP**	**16 39 16.9**	**-0.7**	
	comp=Z,10nm,0.7s,baz=174,slow=9.2,SNR=4.3								
KSRS				ScP		**ScP**	**16 44 06.7**	**-0.6**	
	comp=Z,3.6nm,0.8s,baz=187,slow=4.2,SNR=5.4								
KSRS				LR		LR	16 56 18.5		
	comp=Z,209nm,20.1s,baz=178,slow=34								
KSRS	**Korea Array**	**44.74**	**359**	P		**P**	**16 38 47.8**	**+0.5**	
KSRS				*PP		**pP**	**16 39 17.0**	**-0.7**	
KSRS				pmax	pmax				
	comp=Z,11nm,0.5s								
KSRS				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KSRS				pmax	pmax				
	comp=N,4.0nm,0.8s								
KSRS				MLR	MLR				
	comp=Z,209nm,20.1s								
MJAR	**Matsushiro Arr**	**44.76**	**11**	P		**P**	**16 38 46.4**	**-1.2**	
	comp=Z,35nm,0.7s,baz=190,slow=10.0,SNR=172								
MJAR				ScP		**ScP**	**16 44 06.2**	**-1.3**	
	comp=Z,7.3nm,0.7s,baz=191,slow=5.7,SNR=14								
MJAR				LR		LR	16 54 21.3		
	comp=Z,221nm,21.7s,baz=190,slow=32								
MJAR	**Matsushiro Arr**	**44.76**	**11**	P		**P**	**16 38 46.4**	**-1.2**	
MJAR				pmax	pmax				
	comp=Z,35nm,0.7s								
MJAR				pmax	pmax				
	comp=N,7.0nm,0.7s								
MJAR				MLR	MLR				
	comp=Z,221nm,21.7s								
MJAR	**Matsushiro Arr**	**44.76**	**11**	P		**P**	**16 38 46.4**	**-1.2**	
MJAR				ScP		**ScP**	**16 44 06.2**	**-1.3**	
MAJO	**Matsushiro**	**44.76**	**11**	*e*P		**P**	**16 38 46.1**	**-1.5**	
MAJO				*e**PP		**pP**	**16 39 15.2**	**-2.8**	
MAJO				pmax	pmax				
	comp=Z,49nm,0.8s								
MAJO	**Matsushiro**	**44.76**	**11**	*e*P		**P**	**16 38 46.1**	**-1.5**	
	comp=Z,49nm,0.8s								
MAJO				*e*pP		**pP**	**16 39 15.2**	**-2.8**	
MAJO				*e*ScP		**ScP**	**16 44 05.2**	**-2.3**	
MAT	**Matsushiro**	**44.76**	**11**	P		**P**	**16 38 46.4**	**-1.2**	
MAT				*e*S		**S**	**16 45 18.6**	**+4.0**	
INCN	**Inchon**	**44.80**	**358**	*e*P		**P**	**16 38 48.9**	**+1.1**	
	comp=Z,93nm,1.5s								
INCN				*e*pP		**pP**	**16 39 23.2**	**+5.0**	
CD2	**Chengdu**	**44.96**	**329**	P		**P**	**16 38 49.2**	**-0.1**	
CD2				pP		pP	16 39 09.0	-11	
CD2				sP		sP	16 39 18.6	-16	
CD2				PP		**PP**	**16 40 36.5**	**-0.7**	
CD2				S		**S**	**16 45 21.7**	**+4.0**	
CD2				pmax	pmax				
	comp=Z,110nm,0.8s								
CD2				pmax	pmax				
	comp=Z,240nm,3.8s								
CD2				LR	LR				
	comp=N,600nm,8.9s								
CD2				LR	LR				
	comp=Z,570nm,14.3s								
XAN	**Xi'an**	**45.30**	**337**	P		**P**	**16 38 51.7**	**-0.2**	
XAN				pP		pP	16 39 09.7	-13	
XAN				pmax	pmax				
	comp=Z,14nm,0.9s								
XAN				pmax	pmax				
	comp=Z,43nm,5.0s								
XAN				LR	LR				
	comp=N,250nm,19.0s								
XAN				LR	LR				
	comp=E,98nm,17.1s								
XAN				LR	LR				
	comp=Z,75nm,29.0s								
DL2	**Dalian**	**46.62**	**353**	P		**P**	**16 39 02.7**	**+0.6**	
DL2				pmax	pmax				
	comp=Z,30nm,0.7s								
SHL	**Shillong**	**48.47**	**314**⇑	*i*P		**P**	**16 39 17.0**	**+0.1**	
SHL				*ex*		x	16 45 54.0		
BJT									
BJT				pmax	pmax				
	comp=Z,67nm,0.8s								
BJT	**Baijiatuau**	**48.65**	**347**	*e*P		**P**	**16 39 17.8**	**0.0**	
	comp=Z,67nm,0.8s								
BJI	**Beijing**	**48.67**	**347**	P		**P**	**16 39 18.0**	**+0.1**	
BJI				pP		pP	16 39 40.1	-8.6	
BJI				sP		sP	16 39 50.0	-14	
BJI				S		**S**	**16 46 13.3**	**+3.4**	
BJI				sS		sS	16 46 50.5	-13	
BJI				pmax	pmax				
	comp=Z,100nm,1.2s								
BJI				pmax	pmax				
	comp=Z,150nm,6.1s								
BJI				LR	LR				
	comp=N,200nm,25.3s								
BJI				LR	LR				
	comp=E,170nm,18.3s								
LZH	**Lanzhou**	**49.18**	**333**	*e*P		**P**	**16 39 23.1**	**+1.0**	
LZH				PcP		**PcP**	**16 40 45.2**	**+1.8**	
LZH				PP		**PP**	**16 41 18.0**	**+0.8**	
LZH				ScP		**ScP**	**16 44 26.1**	**-0.1**	
LZH				sS		sS	16 47 01.3	-10	
LZH				pmax	pmax				
	comp=Z,70nm,1.1s								
LZH				pmax	pmax				
	comp=Z,220nm,5.7s								
LZH				LR	LR				
	comp=N,260nm,14.1s								
LZH				LR	LR				
	comp=E,240nm,14.5s								
LZH				LR	LR				
	comp=Z,330nm,17.6s								
MSVF	**Nonsavu**	**49.28**	**107**	*e*P		**P**	**16 39 21.9**	**-1.2**	
MSVF				*e**PP		**pP**	**16 39 51.9**	**-2.1**	
MSVF				pmax	pmax				
	comp=Z,29nm,0.9s								
MSVF	**Nonsavu**	**49.28**	**107**	*e*P		**P**	**16 39 21.9**	**-1.2**	
	comp=Z,29nm,0.9s								
MSVF				*e*pP		**pP**	**16 39 51.9**	**-2.1**	
SNY	**Shenyang**	**49.31**	**355**	⇓P		**P**	**16 39 23.0**	**+0.3**	
SNY				pmax	pmax				
	comp=Z,30nm,0.8s								
SNY				pmax	pmax				
	comp=Z,280nm,4.7s								
VLA	**Vladivostok**	**50.49**	**3**⇑	*i*P		**P**	**16 39 31.3**	**-0.3**	
VLA				*e*			16 40 47.1		
VLA				*e*			16 41 28.6		
VLA				S		**S**	**16 46 33.7**	**-1.5**	
VLA				pmax	pmax				
	comp=Z,57nm,0.8s								
HHC	**Hu-ho-hao-te**	**50.59**	**343**	*e*P		**P**	**16 39 33.7**	**+1.1**	
HHC				pP		pP	16 39 52.3	-11	
HHC				sP		sP	16 40 00.9	-18	
HHC				PP		**PP**	**16 41 32.2**	**+2.3**	
HHC				S		**S**	**16 46 36.8**	**-0.1**	
HHC				SS		**SS**	**16 50 13.7**	**+0.6**	
HHC				pmax	pmax				
	comp=Z,33nm,1.0s								
HHC				pmax	pmax				
	comp=Z,150nm,5.4s								
HHC				LR	LR				
	comp=N,220nm,12.3s								
HHC				LR	LR				
	comp=E,230nm,13.0s								
HHC				LR	LR				
	comp=Z,440nm,17.6s								
CN2	**Changchun**	**51.15**	**357**	⇑P		**P**	**16 39 36.9**	**+0.3**	
CN2				*e*sP		sP	16 40 06.6	-16	
CN2				*e*S		**S**	**16 46 48.7**	**+4.4**	
CN2				pmax	pmax				
	comp=Z,30nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,7.0s								
LSA	**Lhasa**	**51.55**	**318**	P		**P**	**16 39 40.8**	**+0.3**	
LSA	**Lhasa**	**51.55**	**318**	*e*P		**P**	**16 39 40.9**	**+0.5**	
LSA				*e**PP		**pP**	**16 40 08.9**	**-2.7**	
LSA				pmax	pmax				
	comp=Z,106nm,1.0s								
LSA	**Lhasa**	**51.55**	**318**	*e*P		**P**	**16 39 40.9**	**+0.5**	
	comp=Z,106nm,1.0s								
LSA				*e*pP		**pP**	**16 40 08.9**	**-2.7**	
USRK	**Ussuriysk Arra**	**51.57**	**3**	P		**P**	**16 39 39.7**	**+0.1**	
	comp=Z,27nm,0.6s,baz=185,slow=6.8,SNR=65								
RPZ	**Rata Peaks**	**51.75**	**141**	*e*P		**P**	**16 39 43.3**	**+2.1**	
	comp=Z,253nm,0.9s								
RPZ				*e*pP		**pP**	**16 40 17.1**	**+4.7**	
MDJ	**Mudanjiang**	**51.90**	**1**	P		**P**	**16 39 43.0**	**+0.9**	
MDJ				pP		pP	16 40 04.0	-9.3	
MDJ				sP		sP	16 40 13.3	-15	
MDJ				PP		**PP**	**16 41 43.7**	**+2.1**	
MDJ				ScS		**ScS**	**16 49 24.6**	**+5.9**	
MDJ				SS		SS	16 50 41.6	+8.2	
MDJ				pmax	pmax				
	comp=Z,34nm,0.9s								
MDJ				pmax	pmax				
	comp=Z,82nm,4.1s								
MDJ				LR	LR				
	comp=N,160nm,12.4s								
MDJ				LR	LR				
	comp=E,280nm,28.6s								
MDJ				LR	LR				
	comp=Z,440nm,33.2s								
MDJ	**Mudanjiang**	**51.90**	**1**	*e*P		**P**	**16 39 41.8**	**-0.3**	
	comp=Z,40nm,0.9s								
MDJ				*e*pP		pP	16 40 07.2	-6.1	
ODAN	**Odare**	**52.48**	**312**⇑	*i*P		**P**	**16 39 46.9**	**-0.2**	
	comp=Z,173nm,0.7s								
ODAN	**Odare**	**52.48**	**312**⇑	*i*P		**P**	**16 39 46.9**	**-0.2**	
TAPN	**Taplejung**	**52.53**	**313**⇑	*i*P		**P**	**16 39 47.4**	**-0.1**	
	comp=Z,261nm,0.9s								
TAPN	**Taplejung**	**52.53**	**313**⇑	*i*P		**P**	**16 39 47.4**	**-0.1**	
KHZ	**Kahutara**	**52.69**	**139**	*e*P		**P**	**16 39 49.6**	**+1.5**	
	comp=Z,106nm,0.9s								
KHZ				*e*pP		pP	16 40 25.4	+6.0	
ASAJ	**Asahikawa**	**52.95**	**13**	P		**P**	**16 39 50.3**	**+0.4**	
	comp=Z,34nm,0.6s,baz=227,slow=10,SNR=34								
ASAJ	**Asahikawa**	**52.95**	**13**	P		**P**	**16 39 50.3**	**+0.4**	
ASAJ				pmax	pmax				
	comp=Z,34nm,0.6s								
ASAJ	**Asahikawa**	**52.95**	**13**	*e*P		**P**	**16 39 50.1**	**+0.2**	
	comp=Z,16nm,0.8s								
ASAJ				P		**P**	**16 39 50.3**	**+0.4**	
SNZO	**South Karori**	**52.96**	**137**	*e*P		**P**	**16 39 50.4**	**+0.3**	
	comp=Z,37nm,0.8s								
RAMN	**Ramite**	**53.12**	**312**⇑	*i*P		**P**	**16 39 51.9**	**+0.1**	
	comp=Z,440nm,0.7s								
RAMN	**Ramite**	**53.12**	**312**⇑	*i*P		**P**	**16 39 51.9**	**+0.1**	
URZ	**Urewera**	**53.40**	**133**	P		**P**	**16 39 54.6**	**+1.2**	
	comp=Z,12nm,0.5s,baz=291,slow=4.0,SNR=14								
URZ	**Urewera**	**53.40**	**133**	*e*P		**P**	**16 39 54.1**	**+0.7**	
	comp=Z,29nm,0.9s								
URZ				P		**P**	**16 39 54.6**	**+1.2**	
GTA	**Gaotai**	**53.72**	**333**⇑	*i*P		**P**	**16 39 56.7**	**+0.9**	
GTA				pP		pP	16 40 18.1	-9.1	
GTA				sP		sP	16 40 27.3	-15	
GTA				ScP		**ScP**	**16 44 46.0**	**+0.2**	
GTA				ScS		**ScS**	**16 49 30.5**	**-1.6**	
GTA				pmax	pmax				
	comp=Z,130nm,0.7s								
GTA				pmax	pmax				
	comp=Z,180nm,6.2s								
GTA				LR	LR				
	comp=N,250nm,15.7s								
GTA				LR	LR				
	comp=E,310nm,15.2s								
GTA				LR	LR				
	comp=Z,260nm,24.2s								
JIRN	**Jiri**	**53.81**	**312**⇑	*i*P		**P**	**16 39 56.8**	**-0.2**	
	comp=Z,133nm,0.7s								
JIRN	**Jiri**	**53.81**	**312**⇑	*i*P		**P**	**16 39 56.8**	**-0.2**	
GUN	**Gumba**	**54.18**	**312**⇑	*i*P		**P**	**16 39 59.5**	**-0.1**	
	comp=Z,277nm,0.7s								
GUN	**Gumba**	**54.18**	**312**⇑	*i*P		**P**	**16 39 59.5**	**-0.1**	
PKI	**Pulchoki**	**54.34**	**312**⇑	*i*P		**P**	**16 40 00.2**	**-0.6**	
	comp=Z,107nm,0.7s								
PKI	**Pulchoki**	**54.34**	**312**⇑	*i*P		**P**	**16 40 00.2**	**-0.6**	
PKI	**Pulchoki**	**54.34**	**312**⇑	*i*P		**P**	**16 40 00.2**	**-0.6**	
KKN	**Kakani**	**54.56**	**312**⇑	*i*P		**P**	**16 40 01.9**	**-0.3**	
	comp=Z,126nm,0.8s								
KKN	**Kakani**	**54.56**	**312**⇑	*i*P		**P**	**16 40 01.9**	**-0.3**	
KKN	**Kakani**	**54.56**	**312**⇑	*i*P		**P**	**16 40 01.9**	**-0.3**	
DMN	**Daman**	**54.59**	**312**⇑	*i*P		**P**	**16 40 02.2**	**-0.3**	
	comp=Z,159nm,0.8s								
DMN	**Daman**	**54.59**	**312**⇑	*i*P		**P**	**16 40 02.2**	**-0.3**	
GKN	**Gorkha**	**55.15**	**312**⇑	*i*P		**P**	**16 40 06.1**	**-0.3**	
	comp=Z,208nm,0.6s								
GKN	**Gorkha**	**55.15**	**312**⇑	*i*P		**P**	**16 40 06.1**	**-0.3**	
HYB	**Hyderabad**	**55.21**	**297**	*i* P		P	16 40 03.5	-3.4	
HYB				*e*pP		pP	16 40 35.0	-3.4	
HYB				*e*sP		sP	16 40 52.0	-1.1	
HYB				*e*PcP		**PcP**	**16 41 06.0**	**-0.3**	
HYB				*e*S		S	16 47 34.0	-6.3	
DGAR	**Diego Garcia**	**55.54**	**266**	*e*P		**P**	**16 40 08.0**	**-1.2**	
DGAR				pmax	pmax				
	comp=Z,99nm,0.7s								
DGAR	**Diego Garcia**	**55.54**	**266**	*e*P		**P**	**16 40 08.0**	**-1.2**	
	comp=Z,99nm,0.7s								
YSS	**Yuzh-Sakhalins**	**55.69**	**12**⇓	*i*P		**P**	**16 40 11.0**	**+1.3**	
YSS				pmax	pmax				
	comp=N,20nm,0.7s								
YSS				pmax	pmax				
	comp=Z,50nm,0.7s								
YSS	**Yuzh-Sakhalins**	**55.69**	**12**	*e*P		**P**	**16 40 09.7**	**0.0**	
	comp=Z,51nm,0.6s								
KOLN	**Koldanda**	**55.80**	**311**⇑	*i*P		**P**	**16 40 11.0**	**-0.1**	
	comp=Z,252nm,0.7s								
KOLN	**Koldanda**	**55.80**	**311**⇑	*i*P		**P**	**16 40

DRV L L 16 54 00.0
DRV R 16 59 00.0
POO Poona 59.78 296 ⇑ *i*P **P 16 40 37.0 -1.9**
comp=N,100nm,1.0s
CIT Chita 60.67 349 *e*P **P 16 40 45.6 +1.3**
CIT *e* 16 41 16.5
CIT pmax pmax
comp=Z,103nm,1.1s
NDI New Delhi 61.12 308 *e*P **P 16 40 45.0 -2.8**
comp=Z,34nm,0.6s
DDI Dehra Dun 61.27 311 *e*P **P 16 40 48.0 -0.8**
ZAK Zakamensk 61.67 342 ⇑ *i*P **P 16 40 51.9 +0.7**
ZAK pmax pmax
comp=Z,27nm,1.1s
SDNR Sundarnagar 62.65 311 *e*P **P 16 40 58.4 +0.4**
TLY Talaya 62.71 343 *e*P **P 16 40 59.0 +1.0**
TLY *e* 16 41 29.4
TLY *e*S **S 16 49 16.2 +0.3**
TLY pmax pmax
comp=Z,46nm,1.0s
TLY Talaya 62.71 343 *e*P **P 16 40 58.9 +1.0**
comp=Z,54nm,1.2s
WMQ Urumqi 63.02 328 P P **16 41 01.3 +1.0**
WMQ pP pP 16 41 23.8 -8.7
WMQ sP sP 16 41 32.9 -14
WMQ S **S 16 49 24.0 +3.8**
WMQ pmax pmax
comp=Z,140nm,0.8s
WMQ pmax pmax
comp=Z,270nm,3.2s
WMQ LR LR
comp=N,300nm,25.6s
WMQ LR LR
comp=E,180nm,24.6s
WMQ LR LR
comp=Z,190nm,20.5s
IRK Irkutsk 63.03 344 *e*P **P 16 41 01.1 +1.1**
IRK pmax pmax
comp=Z,130nm,1.3s
MOY Mondy 63.51 341 *e*P **P 16 41 04.6 +1.3**
MOY pmax pmax
comp=Z,97nm,1.5s
MIR Mirnyy 63.76 195 ⇑ *i*P **P 16 41 05.8 +1.2**
MIR *i* 16 41 41.0
MIR pmax pmax
comp=Z,155nm,1.2s
CLNS Chul'man 64.19 358 *e*P **P 16 41 08.7 +1.1**
CLNS *e* 16 41 42.3
CLNS *e* 16 43 30.2
CLNS *e*PPP PPP 16 45 02.2
CLNS *e*S S 16 49 48.3 +14
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS smax smax
comp=E,281nm,12.8s
CLNS smax smax
comp=N,301nm,15.1s
CLNS MLR MLR
comp=Z,64nm,14.0s
CLNS MLR MLR
comp=N,157nm,13.0s
CLNS MLR MLR
comp=E,288nm,16.0s
PEA0B Petropavlovsk- 65.28 19 *e*P **P 16 41 15.9 +1.2**
PEA0B *e*PcP **PcP 16 41 46.4 +0.4**
PETK Petropavlovsk- 65.28 19 P **P 16 41 15.5 +0.8**
comp=E,14nm,0.7s,baz=180,slow=4.1,SNR=37
PETK pP **pP 16 41 47.0 -0.1**
comp=E,23nm,0.8s,baz=202,slow=6.1,SNR=4.7
PETK Petropavlovsk- 65.28 19 P **P 16 41 15.5 +0.8**
PETK *PP **pP 16 41 47.0 -0.1**
PETK pmax pmax
comp=Z,14nm,0.7s
PETK pmax pmax
comp=Z,23nm,0.9s
PETK Petropavlovsk- 65.28 19 P **P 16 41 15.5 +0.8**
PETK pP **pP 16 41 47.0 -0.1**
BOD Bodaibo 66.17 352 *e*P **P 16 41 20.5 +0.2**
BOD pmax pmax
comp=Z,34nm,1.2s
KSH Kashi 67.40 318 *e*P **P 16 41 29.2 +0.5**
KSH *e*S **S 16 50 12.4 -1.6**
KSH pmax pmax
comp=Z,48nm,1.9s
KSH LR LR
comp=N,90nm,5.8s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,160nm,7.8s
MK31 Makanchi Array 67.85 328 *e*P **P 16 41 31.2 0.0**
MK31 *e* 16 41 56.7
MK31 Makanchi Array 67.85 328 *e*P **P 16 41 31.2 0.0**
MK31 *e*PcP **PcP 16 41 56.7 -0.1**
MKAR Makanchi Array 67.85 328 P **P 16 41 31.6 +0.4**
comp=Z,29nm,0.5s,baz=122,slow=7.4,SNR=547
MKAR PcP **PcP 16 41 56.6 -0.2**
comp=Z,42nm,0.9s,baz=127,slow=7.9,SNR=9.8
MKAR LR LR 17 10 08.4
comp=Z,179nm,19.8s,baz=264,slow=35
MKAR Makanchi Array 67.85 328 P **P 16 41 31.6 +0.4**
MKAR 16 41 56.7
MKAR pmax pmax
comp=Z,29nm,0.5s
MKAR pmax pmax
comp=Z,42nm,0.9s
MKAR MLR MLR
comp=Z,179nm,19.8s
MKAR Makanchi Array 67.85 328 P **P 16 41 31.6 +0.4**
MKAR PcP **PcP 16 41 56.6 -0.2**
KZA Kyzart 69.21 320 P **P 16 41 41.0 +0.8**
SNR=25
KZA P **P 16 41 41.0 +0.8**
SNR=25
YAK Yakutsk 69.34 1 *e*P **P 16 41 40.0 -0.1**
YAK *e* 16 42 03.5
YAK *e* 16 44 14.2
YAK *e*PPP PPP 16 45 54.7
YAK *e*S **S 16 50 31.8 -4.0**
YAK *e* 16 51 25.4
YAK *e*SS **SS 16 55 00.4 -5.3**
YAK pmax pmax
comp=Z,58nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,33nm,1.5s
YAK smax smax
comp=N,103nm,1.5s
YAK smax smax
comp=E,164nm,2.1s
YAK Yakutsk 69.34 1 *e*P **P 16 41 39.9 -0.1**
comp=E,70nm,0.8s
YAK *e* 16 41 50.3
YAK *e*PcP **PcP 16 42 03.8 +1.1**
YAK *e*pP **pP 16 42 11.5 -1.4**
TKM2 Tokmak 2 69.44 321 P **P 16 41 41.6 +0.2**
SNR=40
TKM2 P **P 16 41 41.6 +0.2**
SNR=40
TKM2 Tokmak 2 69.44 321 *i*P **P 16 41 41.6 +0.2**
TKM2 Tokmak 2 69.44 321 *e*P **P 16 41 41.4 -0.1**
comp=E,39nm,1.0s
MRIV Mauritius Mete 69.65 251 *e*P **P 16 41 43.3 +0.4**
KBK Karagaybulak 69.70 321 P **P 16 41 43.8 +0.8**
SNR=16
KBK P **P 16 41 43.8 +0.8**
SNR=16
KBL Kabul 69.96 311 *e*P **P 16 41 44.2 -0.6**
KBL pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 69.96 311 *e*P **P 16 41 44.2 -0.6**
comp=Z,32nm,0.8s
AAK Ala-Arcka 69.98 321 P **P 16 41 45.5 +0.8**
SNR=31
AAK P **P 16 41 45.5 +0.8**
SNR=31
AAK Ala-Archa 69.98 321 *i*P **P 16 41 45.4 +0.8**
AAK pmax pmax
comp=Z,128nm,1.1s
AAK Ala-Archa 69.98 321 *e*P **P 16 41 44.9 +0.3**
comp=Z,172nm,1.0s
AAK Ala-Archa 69.98 321 P **P 16 41 45.0 +0.3**
comp=Z,220nm,1.3s,SNR=28
AAK Ala-Arcka 69.98 321 P **P 16 41 45.8 +1.1**
SNR=20
FRU Bishkek 70.01 321 *e*P **P 16 41 45.0 +0.4**
CHMS Chumysh 70.01 321 P **P 16 41 44.9 +0.2**
SNR=12
CHMS P **P 16 41 44.9 +0.2**
SNR=12
AML Almayashu 70.23 320 P **P 16 41 47.2 +0.8**
SNR=37
AML P **P 16 41 47.2 +0.8**
SNR=37
USP Ospenovka 70.31 321 P **P 16 41 47.1 +0.6**
SNR=62
USP P **P 16 41 47.1 +0.6**
SNR=62
EKS2 Erkin-Say 70.45 320 P **P 16 41 48.5 +1.0**
SNR=29
EKS2 P **P 16 41 48.5 +1.0**
SNR=29
EKS2 Erkin-Say 70.45 320 *e*P **P 16 41 48.0 +0.6**
EKS2 pmax pmax
comp=Z,58nm,1.1s
EKS2 Erkin-Say 70.45 320 *e*P **P 16 41 48.0 +0.6**
comp=Z,58nm,1.1s
RER Riviere de l'E 71.28 250 *e*P **P 16 41 53.6 +0.7**
comp=Z,243nm,0.9s
ZAA0 Zalesovo Array 71.39 334 *e*P **P 16 41 52.0 -0.7**
ZALV Zalesovo Beam 71.39 334 P **P 16 41 52.4 -0.3**
comp=Z,62nm,0.7s,baz=133,slow=5.4,SNR=298
ZALV Zalesovo Beam 71.39 334 P **P 16 41 52.4 -0.3**
ZALV pmax pmax
comp=Z,63nm,0.7s
ZALV Zalesovo Beam 71.39 334 P **P 16 41 52.4 -0.3**
VNDA Vanda 72.12 173 *e*P **P 16 41 57.9 +1.1**
VNDA pmax pmax
comp=Z,36nm,0.8s
VNDA Vanda 72.12 173 *e*P **P 16 41 57.9 +1.1**
comp=Z,36nm,0.8s
KURK Kurchatov 72.19 329 P **P 16 41 57.9 +0.3**
comp=Z,157nm,0.8s,baz=130,slow=5.1,SNR=907
KURK Kurchatov 72.19 329 *e*P **P 16 41 57.4 -0.1**
KURK *e**PP **pP 16 42 28.4 -2.2**
KURK *e*S **S 16 51 07.3 -1.8**
KURK pmax pmax
comp=Z,253nm,0.9s
KURK Kurchatov 72.19 329 *e*P **P 16 41 57.4 -0.1**
comp=Z,253nm,0.9s
KURK P **P 16 41 57.9 +0.3**
KURK *e*pP **pP 16 42 28.4 -2.2**
KURK *e*S **S 16 51 07.3 -1.8**
KURK Kurchatov 72.19 329 P **P 16 41 58.3 +0.8**
SNR=90
KURK Kurchatov 72.19 329 P **P 16 41 58.6 +1.1**
comp=Z,2µm,1.0s
SEY Seymchan 72.59 11 *d**eP **P 16 42 00.8 +1.1**
NVS Novosibirsk 72.68 335 ⇑ *i*P **P 16 41 59.1 -1.3**
NVS *e**PP **pP 16 42 30.0 -3.4**
NVS *e*S S 16 51 07.4 -7.2
NVS pmax pmax
comp=N,60nm,1.4s
NVS pmax pmax
comp=E,75nm,1.4s
NVS pmax pmax
comp=Z,135nm,1.4s
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS smax smax
comp=N,56nm,2.0s
NVS smax smax
comp=E,94nm,2.0s
KK31 Karatay Array 72.75 319 *i*P **P 16 42 00.8 -0.3**
KK31 pmax pmax
comp=Z,70nm,1.3s
KKAR Karatay Array 72.75 319 *e*P **P 16 42 00.7 -0.4**
KKAR pmax pmax
comp=Z,41nm,1.0s
KKAR Karatay Array 72.75 319 *e*P **P 16 42 00.7 -0.4**
comp=Z,41nm,1.0s
SBA Scott Base 73.03 172 *e*P **P 16 42 04.2 +2.1**
SBA pmax pmax
comp=Z,44nm,0.9s
SBA Scott Base 73.03 172 *e*P **P 16 42 04.2 +2.1**
comp=Z,44nm,0.9s
WBK Wadi Bani Khal 74.29 296 P **P 16 42 10.8 +0.3**
SNR=5.2
SMDO Samad 75.22 296 P **P 16 42 16.7 +0.7**
SNR=7.8
BSY Bisya 75.90 296 P **P 16 42 19.9 +0.1**
SNR=6.6
HOQ Hoqain 76.02 296 P **P 16 42 21.0 +0.6**
SNR=6.8
IDAH Dahanechah 76.43 306 *e*P **P 16 42 23.5 +0.6**
IMON Monand 76.74 307 *e*P **P 16 42 25.6 +1.0**
IKOO Kooshah 77.03 306 *e*P **P 16 42 26.3 0.0**
ITEG Tejag 77.38 306 *e*P **P 16 42 28.3 +0.2**
RBK Rabkut 77.45 290 P **P 16 42 27.9 -0.7**
SNR=16
BVA0 Borovoye Array 77.71 328 *i*P **P 16 42 29.2 0.0**
BVA0 pmax pmax
comp=Z,28nm,1.2s
BVAR Borovoye Array 77.71 328 P **P 16 42 29.4 +0.2**
comp=Z,63nm,0.9s,baz=131,slow=6.1,SNR=189
BVAR LR LR 17 16 39.8
comp=Z,94nm,18.2s,baz=328,slow=36
BVAR Borovoye Array 77.71 328 P **P 16 42 29.4 +0.2**
BVAR pmax pmax
comp=Z,63nm,0.9s
BVAR MLR MLR
comp=Z,94nm,18.2s
BVAR Borovoye Array 77.71 328 P **P 16 42 29.4 +0.2**
BRVK Borovoye 77.78 328 *e*P **P 16 42 29.4 -0.2**
BRVK *e**PP **pP 16 43 02.1 -1.0**
BRVK pmax pmax
comp=Z,84nm,0.9s
BRVK Borovoye 77.78 328 *e*P **P 16 42 29.4 -0.2**
comp=Z,84nm,0.9s
BRVK *e*pP **pP 16 43 02.1 -1.0**
BRVK Borovoye 77.78 328 P **P 16 42 29.7 +0.1**
comp=Z,602nm,1.0s,SNR=48
BRVK Borovoye 77.78 328 P **P 16 42 30.2 +0.6**
SNR=36
ABTO Aybut 78.27 289 P **P 16 42 32.5 -0.6**
SNR=7.5
IAKL Akhelmad 78.51 310 *e*P **P 16 42 34.4 0.0**
ISFR Sfrayin 79.23 310 *e*P **P 16 42 38.4 +0.1**
ABPO Ambohimpanom 79.37 252 *e*P **P 16 42 38.8 -0.5**
ABPO pmax pmax
comp=Z,9.0nm,0.8s
ABPO Ambohimpanom 79.37 252 *e*P **P 16 42 38.8 -0.5**
comp=Z,9.1nm,0.8s
ABKT Ailbek 79.41 311 P **P 16 42 39.7 +0.7**
comp=Z,156nm,0.7s,SNR=12
OPO Ambohidratompo 79.44 253 P **P 16 42 39.9 +0.2**
comp=Z,19nm,0.8s,baz=84,slow=3.8,SNR=32
OPO Ambohidratompo 79.44 253 P **P 16 42 39.9 +0.2**
IBAF Bafgh 79.59 304 *e*P **P 16 42 39.3 -1.0**
BILL Bilibino 79.95 14 ⇑ *e*P **P 16 42 43.6 +2.4**
BILL *e**PP **pP 16 43 16.8 +2.0**
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL Bilibino 79.95 14 *e*P **P 16 42 41.2 0.0**
IMEH Mehriz 80.33 304 *e*P **P 16 42 43.2 -1.1**
ISRV Sarvestan 81.09 301 *e*P **P 16 42 46.9 -1.6**
IPAR Pars 81.25 302 *e*P **P 16 42 48.5 -0.8**
IANJ Anjilo 81.95 307 *e*P **P 16 42 52.2 -0.6**
AB31 Akbulak array 81.99 322 P **P 16 42 51.5 -0.9**
AB31 pmax pmax
comp=Z,61nm,1.1s
ABKAR Akbulak array 81.99 322 *e*P **P 16 42 51.9 -0.4**
comp=Z,52nm,0.9s
QSPA South Pole Qui 82.47 180 *e*P **P 16 42 55.1 +0.4**
comp=Z,119nm,0.7s
ISHM Shahmirzad 82.52 308 *e*P **P 16 42 55.6 -0.2**
IZEF Zefreh 82.58 305 *e*P **P 16 42 55.9 -0.3**
SYO Syowa Base 82.64 201 ‖ *i*P **P 16 42 55.4 0.0**
SYO Syowa Base 82.64 201 ‖ *e*PcP **PcP 16 43 01.0 +0.9**
IFIR Firoozkooh 82.91 307 *e*P **P 16 42 57.8 0.0**
IKLH Kolahrood 83.29 305 *e*P **P 16 42 59.5 -0.3**
IDMV Damavand 83.46 307 *e*P **P 16 42 59.6 -1.1**
AKTO Aktyubinsk 83.57 323 P **P 16 43 00.9 +0.4**
comp=Z,60nm,0.9s,baz=105,slow=6.4,SNR=170
AKTO Aktyubinsk 83.57 323 P **P 16 43 00.9 +0.4**
AKTO pmax pmax
comp=Z,60nm,0.9s
AKTO Aktyubinsk 83.57 323 P **P 16 43 00.9 +0.4**
IPIR Pirpir 83.70 304 *e*P **P 16 43 02.0 0.0**
GAMB Gambell 83.96 23 *e*P **P 16 43 03.0 +0.8**
comp=Z,16nm,0.8s
GAMB *e*pP **pP 16 43 33.7 -2.4**
SVE Sverdlovsk 84.44 329 *d**i*P **P 16 43 04.9 +0.1**
SVE pmax pmax
comp=Z,148nm,1.1s
ARU Arti 85.36 328 *c**i*P **P 16 43 09.2 -0.2**
ARU 16 46 26.1
ARU S S 16 53 18.7 -10
ARU pmax pmax
comp=Z,136nm,1.2s
ARU Arti 85.36 328 *e*P **P 16 43 08.7 -0.6**
comp=Z,115nm,1.0s
ARU Arti 85.36 328 P **P 16 43 09.1 -0.3**
comp=Z,572nm,1.1s,SNR=28
UMR Umm Al-Rimmam 85.72 300 *e*P **P 16 43 10.8 -1.0**
UMR AMb AMB 16 43 12.7
comp=Z,62nm,1.0s
NAY Al-Naaiem 86.07 300 *e*P **P 16 43 12.4 -1.2**
NAY AMb AMB 16 43 14.7
comp=Z,57nm,0.9s
MIB Mutribah 86.09 301 *e*P **P 16 43 12.5 -1.1**
MIB AMb AMB 16 43 15.4
comp=Z,97nm,1.5s
TNA Tin City 86.25 22 *e*P **P 16 43 13.0 -0.5**
comp=Z,3.9nm,0.9s
TNA *e*pP **pP 16 43 45.1 -2.5**
SOKR Solikamsk 87.33 331 *d**i*P **P 16 43 18.2 -0.7**
SOKR pmax pmax
comp=Z,60nm,1.5s
IHRS Heris 87.96 309 *e*P **P 16 43 21.7 -1.0**
IMRD Marand 89.06 309 *e*P **P 16 43 27.6 -0.3**
BHD Baghdad 89.19 304 *e*P P 16 43 24.0 -4.3
BHD *e*S **S 16 54 02.0 -4.5**
GNI Garni 90.05 310 *c**e*P **P 16 43 31.3 -1.1**
GNI pmax pmax
comp=Z,37nm,1.6s
GNI Garni 90.05 310 *e*P **P 16 43 29.3 -3.1**
comp=Z,29nm,1.3s
TTA Tatalina 90.11 26 *e*P **P 16 43 31.4 -0.6**
TTA pmax pmax
comp=Z,13nm,0.9s
TTA Tatalina 90.11 26 *e*P **P 16 43 31.4 -0.6**
comp=Z,13nm,0.9s
TBLG Delisi 90.31 312 *e*P **P 16 43 33.6 +0.2**
TBLG Delisi 90.31 312 P **P 16 43 33.6 +0.2**
KDAK Kodiak Island 90.44 32 P **P 16 43 34.7 +1.2**
comp=Z,10nm,0.8s,baz=240,slow=10,SNR=3.8
KDAK PKKPbc **PKKPbc 17 01 02.3 -1.5**
comp=Z,5.7nm,0.8s,baz=27,slow=11,SNR=3.0
KDAK Kodiak Island 90.44 32 P **P 16 43 34.7 +1.2**
KDAK pmax pmax
comp=Z,10.0nm,0.8s
KDAK pmax pmax
comp=Z,6.0nm,0.9s
KDAK Kodiak Island 90.44 32 P **P 16 43 34.7 +1.2**
KDAK PKKPbc **PKKPbc 17 01 02.3 -1.5**
KMBO Kilima Mbogo 91.09 269 *e*P **P 16 43 37.3 -0.6**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 91.09 269 *e*P **P 16 43 37.3 -0.6**
comp=Z,7.2nm,0.9s
ZEI Tsey 91.10 313 *e*P **P 16 43 36.7 -0.6**
ZEI pmax pmax
comp=Z,21nm,1.1s
AKH Akhalkalaki 91.19 311 P **P 16 43 38.7 +1.0**
ONI Oni 91.40 313 P **P 16 43 39.4 +0.9**
NVL N'lazarevskaya 91.43 197 ‖ *i*P P 16 43 42.9 +4.9
NVL pmax pmax
comp=Z,56nm,0.9s
NVL MLR MLR
comp=Z,396nm,21.0s
MAIT Maitri 91.45 197 *e*P **P 16 43 40.7 +2.6**
MAIT *e* 16 44 30.1
KIV Kislovodsk 92.15 314 ⇑ *e*P **P 16 43 43.3 +1.3**
KIV *e**PP **pP 16 44 19.1 +2.8**
KIV *e*S **SKSac 16 54 03.1 +0.2**
KIV pmax pmax
comp=Z,24nm,1.5s
KIV Kislovodsk 92.15 314 P **P 16 43 40.2 -1.8**
PMR Palmer 92.93 28 *e*P **P 16 43 44.2 -0.8**
PMR pmax pmax
comp=Z,21nm,1.2s
PMR Palmer 92.93 28 *e*P **P 16 43 44.2 -0.8**
comp=Z,20nm,1.2s
SML Sawmill 93.34 28 *e*P **P 16 43 46.5 -0.5**
SML pmax pmax
comp=Z,14nm,1.3s
SML Sawmill 93.34 28 *e*P **P 16 43 46.5 -0.5**
comp=Z,14nm,1.3s
MCK McKinley 93.40 26 *e*P **P 16 43 46.0 -1.2**
MCK pmax pmax
comp=Z,24nm,1.2s
MCK McKinley 93.40 26 *e*P **P 16 43 46.0 -1.2**
comp=Z,24nm,1.2s
COLD Coldfoot 93.51 23 *e*P **P 16 43 47.6 -0.1**
comp=Z,5.0nm,0.5s
COLD *e*pP **pP 16 44 20.3 -1.7**
VRHR Novokhopersk 93.83 321 *e*P **P 16 43 47.7 -1.7**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,1.1s
COLA College 94.05 25 *e*P **P 16 43 49.3 -0.8**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 94.05 25 *e*P **P 16 43 49.3 -0.8**
comp=Z,3.1nm,0.8s
ILAR Eielson Array 94.44 25 P **P 16 43 50.4 -1.5**
comp=Z,6.1nm,1.1s,baz=266,slow=4.1,SNR=22
ILAR PKKPbc **PKKPdf 17 00 51.3 -1.3**
comp=Z,2.5nm,0.8s,baz=37,slow=1.6,SNR=21
ILAR PKKPab PKKPbc 17 01 25.6 +32
comp=Z,1.5nm,0.9s,baz=112,slow=1.9,SNR=6.1
ILAR Eielson Array 94.44 25 P **P 16 43 50.4 -1.5**
ILAR 17 01 25.6
ILAR pmax pmax
comp=Z,6.0nm,1.1s
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 94.44 25 P **P 16 43 50.4 -1.5**
ILAR PKKPbc **PKKPdf 17 00 51.3 -1.3**
ILAR PKKPab PKKPbc 17 01 25.6 +32
DIV Divide 94.46 29 *e*P **P 16 43 50.8 -1.3**
comp=Z,40nm,1.3s
SNAA Sanae 94.82 194 *e* **P 16 43 56.2 +2.5**
SNAA Sanae 94.82 194 *e*P **P 16 43 55.6 +1.9**
SNAA Sanae 94.82 194 *e*P **P 16 43 55.6 +1.9**
PAX Paxson 94.83 27 *e*P **P 16 43 53.1 -0.8**
PAX pmax pmax
comp=Z,29nm,1.4s
PAX Paxson 94.83 27 *e*P **P 16 43 53.1 -0.8**
comp=Z,29nm,1.4s
ASF Jabal al Asfar 95.30 302 LR LR 17 29 54.8
comp=Z,55nm,19.6s,baz=160,slow=37
VSR Storozhevoye 95.38 321 *e*P **P 16 43 54.9 -1.6**
VSR *e* 16 54 16.0
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VNA2 Neumayer--Watz 96.39 193 *e* **P 16 44 03.8 +3.0**
MMAI Mount Meron Ar 96.63 302 LR LR 17 28 03.2
comp=Z,68nm,21.8s,baz=215,slow=36
VNA1 Neumayer--Stat 96.79 193 *e* P 16 44 05.8 +3.2
OBN Obninsk 97.21 325 ‖ *e*P **P 16 44 03.5 -1.2**

OBN *e**PP **pP** 16 44 37.5 -1.6
OBN *e*S **SKSac** 16 54 32.0 +2.8
OBN *e*PS **PS** 16 56 53.0 -3.1
OBN *e*SS **SS** 17 01 57.6 +0.4
OBN pmax pmax
comp=Z,47nm,1.2s
OBN **Obninsk** **97.21 325** *e*P **P** 16 44 03.1 -1.5
comp=Z,36nm,1.2s
DAWY **Dawson** **97.63 26** *e*P **P** 16 44 06.4 -0.1
DAWY *e*pP **pP** 16 44 40.4 -0.5
BOSA **Boshof** **97.92 240** P **P** 16 44 08.3 -0.4
comp=Z,10nm,0.8s,baz=100,slow=3.7,SNR=12
BOSA **Boshof** **97.92 240** P **P** 16 44 08.3 -0.4
BOSA pmax pmax
comp=Z,10.0nm,0.8s
BOSA **Boshof** **97.92 240** *e*P **P** 16 44 08.2 -0.5
comp=Z,275nm,2.6s
LBTB **Lobatse** **98.41 243** P Pdif 16 44 11.4 +0.4
comp=Z,18nm,1.0s,baz=147,slow=5.5,SNR=16
LBTB **Lobatse** **98.41 243** P Pdif 16 44 11.4 +0.4
LBTB pmax pmax
comp=Z,18nm,1.0s
LBTB **Lobatse** **98.41 243** *e*P **P** 16 44 10.5 -0.5
comp=Z,30nm,1.1s
BRTR **Keskin Array B** **98.48 309** P **P** 16 44 09.3 -1.6
comp=Z,3.0nm,0.8s,baz=127,slow=3.5,SNR=17
BRTR PP **PP** 16 48 13.8 +0.6
comp=Z,1.7nm,0.8s,baz=128,slow=8.5,SNR=4.7
BRTR **Keskin Array B** **98.48 309** P **P** 16 44 09.4 -1.6
BRTR 16 48 13.8
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** **98.48 309** P **P** 16 44 09.3 -1.6
BRTR PP **PP** 16 48 13.8 +0.6
BR131 **Keskin Array S** **98.48 309** *e*P P 16 44 07.7 -3.3
comp=Z,2.0nm,0.8s
INK **Inuvik** **99.89 22** P **Pdif** **16 44 15.7 -0.7**
comp=Z,1.9nm,0.9s,baz=288,slow=3.9
INK PKKPbc **PKKPbc** **17 00 36.5 -2.3**
comp=Z,1.9nm,0.5s,baz=101,slow=2.8,SNR=3.9
INK PKKPab PKKPdf 17 01 00.2 +17
comp=Z,2.8nm,1.1s,baz=86,slow=7.8,SNR=4.6
INK **Inuvik** **99.89 22** P **Pdif** **16 44 15.7 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK pmax pmax
comp=Z,2.0nm,0.5s
INK pmax pmax
comp=Z,3.0nm,1.1s
INK **Inuvik** **99.89 22** P **Pdif** **16 44 15.7 -0.7**
INK PKKPbc **PKKPbc** **17 00 36.5 -2.3**
INK PKKPab PKKPdf 17 01 00.2 +17
JOF **Joensuu** **99.92 333** *e*P **Pdif** **16 44 13.9 -2.7**
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF **Joensuu** **99.92 333** *e*p **Pdif** **16 44 13.9 -2.7**
comp=Z,5.4nm,0.7s
JOF **Joensuu** **99.92 333** *e*p **Pdif** **16 44 13.9 -2.7**
comp=Z,5.4nm,0.7s
SUR **Sutherland** **100.70 235** P **Pdif** **16 44 21.7 +0.5**
comp=Z,5.7nm,0.8s,baz=170,slow=4.5,SNR=5.5
SUR **Sutherland** **100.70 235** P **Pdif** **16 44 21.7 +0.5**
ARCES **ARCESS Array B** **101.54 340** P **Pdif** **16 44 22.3 -1.4**
comp=Z,13nm,1.1s,baz=97,slow=7.9,SNR=9.1
ARCES PKKPbc **PKKPbc** **17 00 31.5 -2.6**
comp=Z,5.1nm,1.0s,baz=270,slow=2.4,SNR=6.7
ARCES **ARCESS Array B** **101.54 340** P **Pdif** **16 44 22.3 -1.4**
ARCES pmax pmax
comp=Z,13nm,1.1s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES **ARCESS Array B** **101.54 340** P **Pdif** **16 44 22.3 -1.4**
ARCES PKKPbc **PKKPbc** **17 00 31.5 -2.6**
AKASG **Malin Array Be** **101.65 320** P **Pdif** **16 44 23.2 -1.4**
comp=Z,6.4nm,0.9s,baz=76,slow=4.2,SNR=14
AKASG PP **PP** **16 48 35.5 -1.1**
comp=Z,1.4nm,0.6s,baz=82,slow=6.7,SNR=4.6
AKASG **Malin Array Be** **101.65 320** P **Pdif** **16 44 23.2 -1.4**
AKASG 16 48 35.5
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** **101.65 320** P **Pdif** **16 44 23.2 -1.4**
AKASG PP **PP** **16 48 35.5 -1.1**
SPITS **Spitsbergen Ar** **101.78 349** P **Pdif** **16 44 24.4 -0.3**
comp=Z,6.0nm,0.7s,baz=147,slow=8.3,SNR=11
SPITS **Spitsbergen Ar** **101.78 349** P **Pdif** **16 44 24.4 -0.3**
SPITS pmax pmax
comp=Z,6.0nm,0.7s
SPITS **Spitsbergen Ar** **101.78 349** P **Pdif** **16 44 24.4 -0.3**
KAF **Kangasniemi** **102.31 332** *e*P **Pdif** **16 44 25.7 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF **Kangasniemi** **102.31 332** *e*p **Pdif** **16 44 25.7 -1.6**
comp=Z,2.8nm,0.7s
KAF **Kangasniemi** **102.31 332** *e*p **Pdif** **16 44 25.7 -1.6**
comp=Z,2.8nm,0.7s
DLBC **Dease Lake** **102.37 32** PKKPbc PKKPbc 17 00 29.1 -2.3
comp=Z,1.5nm,0.6s,baz=352,slow=11,SNR=4.1
DLBC **Dease Lake** **102.37 32** PKKPbc PKKPbc 17 00 29.1 -2.3
FINES **FINESS Array B** **102.50 331** P **Pdif** **16 44 26.9 -1.2**
comp=Z,3.8nm,0.9s,baz=97,slow=5.6,SNR=4.6
FINES PP **PP** **16 48 41.3 -1.2**
comp=Z,2.3nm,0.8s,baz=101,slow=3.0,SNR=2.3
FINES SKP **SKiKP** **16 52 09.1 -2.5**
comp=Z,1.7nm,0.8s,baz=85,slow=2.1,SNR=3.7
FINES **FINESS Array B** **102.50 331** P **Pdif** **16 44 26.9 -1.2**
FINES 16 48 41.3
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=N,2.0nm,0.8s
FINES **FINESS Array B** **102.50 331** P **Pdif** **16 44 26.9 -1.2**
FINES PP **PP** **16 48 41.3 -1.2**
FINES SKP **SKiKP** **16 52 09.1 -2.5**
IZAR **Zarasai** **103.07 325** *e*P **Pdif** **16 44 30.9 +0.1**
IZAR AMB AMB 16 44 31.9
comp=Z,11nm,1.1s
IIGN **Ignalina** **103.12 325**⇓ *e*P **Pdif** **16 44 31.3 +0.2**
IIGN AMB AMB 16 44 32.3
comp=Z,11nm,1.0s
ISAL **Salakas** **103.16 325** *e*P **Pdif** **16 44 31.6 +0.4**
ISAL AMB AMB 16 44 33.2
comp=Z,5.5nm,1.0s
MLR **Muntele Rosu** **104.12 315** Pdiff **Pdif** **16 44 33.7 -2.2**
baz=50,slow=17
MLR PP **PP** **16 48 54.9 -0.4**
comp=Z,2.4nm,0.9s,baz=49,slow=3.6,SNR=7.8
MLR **Muntele Rosu** **104.12 315** P **Pdif** **16 44 33.7 -2.2**
MLR 16 48 54.9
MLR pmax pmax
comp=Z,2.0nm,0.9s
MLR **Muntele Rosu** **104.12 315** Pdif **Pdif** **16 44 33.7 -2.2**
MLR PP **PP** **16 48 54.9 -0.4**
MLR **Muntele Rosu** **104.12 315**⇑ *i*P PKiKP 16 48 58.4 +6.0
BURAR **Bucovina Array** **104.46 317**⇓ *i*P **PKiKP** **16 48 54.8 +1.9**
BUR08 **Bucovina Ar. S** **104.47 317** *e*P **Pdif** **16 44 37.2 -0.3**
TRPA **Tarpa** **106.21 318**⇑ *i*P PP 16 49 16.8 +6.3
VTS **Vitosha** **106.30 312**⇓ *i*P **PKiKP** **16 48 56.6 +0.1**
CRVS **Cervenica-Dubn** **106.82 319** *i* P **Pdif** **16 44 48.1 +0.4**
CRVS **Cervenica-Dubn** **106.82 319** PDIF **Pdif** **16 44 48.1 +0.4**
STHS **Stebnicka Huta** **106.89 319** *i* P **Pdif** **16 44 50.0 +2.0**
STHS **Stebnicka Huta** **106.89 319** PDIF **Pdif** **16 44 50.0 +2.0**
BZS **Buzias** **107.14 315**⇓ *i*P **PKiKP** **16 48 53.1 -4.7**
RES **Resolute Bay** **108.46 11** PKiKP **PKiKP** **16 48 58.5 -1.0**
comp=Z,1.7nm,0.6s,baz=309,slow=4.3,SNR=5.8
RES **Resolute Bay** **108.46 11** PKiKP **PKiKP** **16 48 58.5 -1.0**
HFS **Hagfors** **108.70 331** Pdiff **Pdif** **16 44 54.3 -1.5**
comp=Z,1.2nm,0.6s,baz=70,slow=4.9,SNR=5.7
HFS **Hagfors** **108.70 331** P **Pdif** **16 44 54.3 -1.5**
HFS pmax pmax
comp=Z,1.0nm,0.6s
HFS **Hagfors** **108.70 331** Pdif **Pdif** **16 44 54.3 -1.5**
MORC **Moravsky Berou** **109.20 320**⇑ *i*P **PKiKP** **16 49 02.6 +1.0**
NOA **NORSAR Array B** **109.55 333** PKiKP **PKiKP** **16 49 00.9 -1.0**
comp=Z,2.4nm,0.8s,baz=46,slow=4.5,SNR=6.0
NOA SKP 16 52 22.4
comp=Z,3.9nm,0.9s,baz=270,slow=3.1,SNR=6.1
NOA **NORSAR Array B** **109.55 333** PKiKP **PKiKP** **16 49 00.9 -1.0**
NOA SKP 16 52 22.4

KRLC **Kraliky** **109.62 321** *e*PKP **PKiKP** **16 49 02.9 +0.5**
DPC **Dobruska-Polom** **109.85 321** *e*PKP **PKiKP** **16 49 03.6 +0.8**
UPC **Upice** **110.01 321** *e*PKP **PKiKP** **16 49 03.7 +0.7**
TREC **Trest** **110.61 320** *e*PKIKP **PKiKP** **16 49 04.6 +0.4**
TREC **Trest** **110.61 320** *e*PKP **PKiKP** **16 49 04.6 +0.4**
PVCC **Panska Ves** **110.90 321** *e*PKIKP **PKiKP** **16 48 59.6 -5.1**
PVCC **Panska Ves** **110.90 321** *e*PKP **PKiKP** **16 48 59.6 -5.1**
PRU **Pruhonice** **111.05 321** *e*PKIKP **PKiKP** **16 49 05.2 +0.2**
PRU **Pruhonice** **111.05 321** *e*PKP **PKiKP** **16 49 05.2 +0.2**
BRG **Berggiesshubel** **111.20 322** *e*P **PKiKP** **16 49 05.8 +0.6**
comp=Z,4.0nm,0.8s
BRG *e* 16 52 27.6
comp=Z,6.1nm,1.0s
BRG **Berggiesshubel** **111.20 322** *e*PKIKP **PKiKP** **16 49 05.8 +0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.0s
CLL **Collm** **111.66 322** *i* PKIKP **PKiKP** **16 49 06.0 -0.1**
CLL *e* 16 49 42.0
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL **Collm** **111.66 322** *e*PKiKP **PKiKP** **16 49 06.0 -0.1**
comp=Z,8.0nm,0.9s
CLL *ep*PKiKP **pPKiKP** **16 49 42.0 0.0**
GERES **GERESS Array B** **111.85 320** PKiKP **PKiKP** **16 49 06.0 -0.7**
comp=Z,3.4nm,0.7s,baz=67,slow=1.4,SNR=30
GERES SKP **SKPdf** **16 52 28.2 -1.7**
comp=Z,2.5nm,0.7s,baz=68,slow=1.7,SNR=9.9
GERES PKKPbc **PKKPbc** **17 00 01.2 -0.3**
comp=Z,0.4nm,0.7s,baz=242,slow=2.9,SNR=5.7
GERES PKKPab **PKKPab** **17 00 10.8 +1.7**
comp=Z,0.9nm,0.9s,baz=258,slow=5.3,SNR=4.9
GERES **GERESS Array B** **111.85 320** *i* PKIKP **PKiKP** **16 49 06.0 -0.7**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=N,3.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES **GERESS Array B** **111.85 320** PKiKP **PKiKP** **16 49 06.0 -0.7**
GERES SKP **SKPdf** **16 52 28.2 -1.7**
GERES PKKPbc **PKKPbc** **17 00 01.2 -0.3**
GERES PKKPab **PKKPab** **17 00 10.8 +1.7**
KHC **Kasperske Hory** **111.86 320** *e*PKIKP **PKiKP** **16 49 05.7 -0.9**
KHC **Kasperske Hory** **111.86 320** *e*PKPdf **PKiKP** **16 49 03.7 -2.9**
KHC **Kasperske Hory** **111.86 320** *e*PKP **PKiKP** **16 49 05.7 -0.9**
F10A **Beach Ranch, E** **112.17 43** ⇑P **PKiKP** **16 49 08.0 +0.6**
baz=112
F10A ⇑P **PKiKP** **16 49 08.0 +0.6**
baz=112
NKC **Novy Kostel** **112.29 321** *e*PKIKP **PKiKP** **16 49 07.3 -0.1**
NKC **Novy Kostel** **112.29 321** *e*PKP **PKiKP** **16 49 07.3 -0.1**
NVAR **Mina Array Bea** **112.78 52** Pdiff **Pdif** **16 45 13.0 -1.7**
comp=Z,0.2nm,0.6s,baz=243,slow=6.0,SNR=2.3
NVAR PKiKP **PKiKP** **16 49 10.4 +1.4**
comp=Z,2.2nm,1.0s,baz=272,slow=3.4,SNR=8.0
NVAR SKP **SKPdf** **16 52 32.8 +0.6**
comp=Z,0.9nm,0.6s,baz=260,slow=3.2,SNR=3.8
NVAR PKKPbc **PKKPbc** **16 59 57.1 -1.1**
comp=Z,1.9nm,0.7s,baz=118,slow=4.0,SNR=13
NVAR PKKPab **PKKPab** **17 00 06.3 +0.9**
comp=Z,3.2nm,0.8s,baz=106,slow=4.9,SNR=11
NVAR **Mina Array Bea** **112.78 52** Pdif **Pdif** **16 45 13.0 -1.7**
NVAR PKiKP **PKiKP** **16 49 10.4 +1.4**
NVAR SKP **SKPdf** **16 52 32.8 +0.6**
NVAR PKKPbc **PKKPbc** **16 59 57.1 -1.1**
NVAR PKKPab **PKKPab** **17 00 06.3 +0.9**
F12A **Elk City** **113.56 43** ⇑P **PKiKP** **16 49 11.2 +1.1**
baz=114
F12A ⇑P **PKiKP** **16 49 11.2 +1.1**
baz=114
WTTA **Wattenberg** **113.59 318**⇑ *i*PKIKP **PKiKP** **16 49 10.2 0.0**
WTTA **Wattenberg** **113.59 318**⇑ *i*P **PKiKP** **16 49 10.2 0.0**
WTTA **Wattenberg** **113.59 318**⇑ *i*PKiKP **PKiKP** **16 49 10.2 0.0**
comp=Z,19nm,0.7s
MFID **Camas Ranch** **113.70 46** ⇓P **PKiKP** **16 49 12.1 +1.6**
baz=114
MFID ⇓P **PKiKP** **16 49 12.1 +1.6**
baz=114
MPMC **Manual Prospec** **113.77 54** ⇑P **PKiKP** **16 49 12.1 +1.2**
baz=114
MPMC ⇑P **PKiKP** **16 49 12.1 +1.2**
baz=114
MOTA **Moosalm** **113.92 319**⇑ *i*PKIKP **PKiKP** **16 49 10.5 -0.3**
MOTA **Moosalm** **113.92 319**⇑ *i*P **PKiKP** **16 49 10.5 -0.3**
MOTA **Moosalm** **113.92 319**⇑ *i*PKiKP **PKiKP** **16 49 10.5 -0.3**
comp=Z,9.3nm,0.8s
SWMT **Swartz Lake** **113.95 41** *e*PKPdf **PKiKP** **16 49 10.6 -0.2**
I12A **Atlanta** **114.11 45** ⇓P PKPdf 16 49 13.0 +1.7
baz=114
I12A ⇓P PKPdf 16 49 13.0 +1.7
baz=114
H12A **Diamond D Ranc** **114.13 44** ⇓P PKPdf 16 49 12.8 +1.5
baz=114
H12A ⇓P PKPdf 16 49 12.8 +1.5
baz=114
FETA **Feichten** **114.26 318**⇑ *i*P PKPdf 16 49 11.3 -0.1
FETA **Feichten** **114.26 318**⇑ *i*PKiKP PKPdf 16 49 11.3 -0.1
comp=Z,4.6nm,0.9s
G13A **Cobalt** **114.42 44** ⇓P PKPdf 16 49 13.9 +2.1
baz=114
G13A ⇓P PKPdf 16 49 13.9 +2.1
baz=114
GSC **Goldstone** **114.43 55** ⇑P PKPdf 16 49 13.7 +1.7
baz=114
GSC ⇑P PKPdf 16 49 13.7 +1.7
baz=114
H13A **Challis** **114.54 44** ⇑P PKPdf 16 49 13.7 +1.6
baz=114
H13A ⇑P PKPdf 16 49 13.7 +1.6
baz=114
HLID **Hailey** **114.67 45** *e*PKPdf PKPdf 16 49 13.6 +1.3
HLID **Hailey** **114.67 45** ⇓P PKPdf 16 49 14.4 +2.0
baz=115
HLID ⇓P PKPdf 16 49 14.4 +2.0
baz=115
DAVA **Damuels** **114.74 319**⇑ *i*P PKPdf 16 49 12.4 0.0
DAVA **Damuels** **114.74 319**⇑ *i*PKiKP PKPdf 16 49 12.4 0.0
comp=Z,13nm,0.8s
C15A **Salmond Ranch,** **114.78 41** ⇓P PKPdf 16 49 13.1 +0.7
baz=115
C15A ⇓P PKPdf 16 49 13.1 +0.7
baz=115
I13A **Wildhorse Cree** **114.80 45** ⇓P PKPdf 16 49 14.6 +1.9
baz=115
I13A ⇓P PKPdf 16 49 14.6 +1.9
baz=115
F14A **Wisdom** **114.82 43** ⇓P PKPdf 16 49 13.4 +0.8
baz=115
F14A ⇓P PKPdf 16 49 13.4 +0.8
baz=115
J13A **Cove Ranch, Pi** **114.88 46** ⇓P PKPdf 16 49 14.5 +1.8
baz=115
J13A ⇓P PKPdf 16 49 14.5 +1.8
baz=115
DAVOX **Davos/Dischmat** **114.88 318** PKP PKPdf 16 49 12.1 -0.6
comp=Z,5.1nm,0.6s,baz=144,slow=15,SNR=9.9
DAVOX SKP **SKPdf** **16 52 34.3 -1.6**
comp=Z,5.2nm,0.9s,baz=150,slow=4.3,SNR=4.8
DAVOX PKKPbc **PKKPbc** **16 59 51.4 0.0**
comp=Z,1.4nm,0.5s,baz=234,slow=14,SNR=2.8
DAVOX **Davos/Dischmat** **114.88 318** PKIKP PKPdf 16 49 12.1 -0.6
DAVOX 16 59 51.4
DAVOX **Davos/Dischmat** **114.88 318** PKP PKPdf 16 49 12.1 -0.6
DAVOX SKP **SKPdf** **16 52 34.3 -1.6**
DAVOX PKKPbc **PKKPbc** **16 59 51.4 0.0**
R11A **Troy Canyon, C** **114.90 51** ⇓P PKPdf 16 49 14.6 +1.6
baz=115
R11A ⇓P PKPdf 16 49 14.6 +1.6
baz=115
MONP **Monument Peak** **115.08 57** ⇓P **PKPdf** **16 49 14.9 +1.4**
baz=115
MONP ⇓P **PKPdf** **16 49 14.9 +1.4**
baz=115
H14A **Leadore** **115.14 44** ⇑P **PKPdf** **16 49 15.0 +1.7**
baz=115
H14A ⇑P **PKPdf** **16 49 15.0 +1.7**
baz=115
B16A **M & M Farms, S** **115.16 40** ⇓P **PKPdf** **16 49 13.3 +0.3**
baz=115
B16A ⇓P **PKPdf** **16 49 13.3 +0.3**
baz=115
I14A **Mackay** **115.26 45** ⇑P **PKPdf** **16 49 15.2 +1.7**
baz=115
I14A ⇑P **PKPdf** **16 49 15.2 +1.7**
baz=115
BELC **Belle Mtn. Jos** **115.28 56** ⇑P **PKPdf** **16 49 15.6 +1.8**
baz=115
BELC ⇑P **PKPdf** **16 49 15.6 +1.8**
baz=115
J14A **Carey** **115.36 45** ⇑P **PKPdf** **16 49 15.1 +1.4**
baz=115
J14A ⇑P **PKPdf** **16 49 15.1 +1.4**
baz=115
F15A **Butte** **115.41 43** ⇓P **PKPdf** **16 49 14.7 +0.9**
baz=115
F15A ⇓P **PKPdf** **16 49 14.7 +0.9**
baz=115
G15A **Dillon** **115.60 43** ⇑P **PKPdf** **16 49 16.2 +2.1**
baz=116
G15A ⇑P **PKPdf** **16 49 16.2 +2.1**
baz=116
A17A **Triple J Farms** **115.62 39** ⇑P **PKPdf** **16 49 14.4 +0.5**
baz=116,SNR=9.7
A17A ⇑P **PKPdf** **16 49 14.4 +0.5**
baz=116,SNR=9.7
H15A **Lima** **115.64 44** ⇓P **PKPdf** **16 49 15.8 +1.6**
baz=116
H15A ⇓P **PKPdf** **16 49 15.8 +1.6**
baz=116
D16A **Dana Ranch, Ca** **115.68 41** ⇑P **PKPdf** **16 49 15.3 +1.1**
baz=116,SNR=6.0
D16A ⇑P **PKPdf** **16 49 15.3 +1.1**
baz=116,SNR=6.0
E16A **East Helena** **115.75 42** ⇑P **PKPdf** **16 49 14.4 +0.1**
baz=116
E16A ⇑P **PKPdf** **16 49 14.4 +0.1**
baz=116
B17A **L&G Farms, Che** **115.77 40** ⇓P **PKPdf** **16 49 14.1 -0.1**
baz=116
B17A ⇓P **PKPdf** **16 49 14.1 -0.1**
baz=116
BC3 **Big Chuckawall** **115.78 56** ⇓P **PKPdf** **16 49 16.1 +1.4**
baz=116
BC3 ⇓P **PKPdf** **16 49 16.1 +1.4**
baz=116
K14A **Jones Ranch, D** **115.80 46** ⇓P **PKPdf** **16 49 16.4 +1.9**
baz=116
K14A ⇓P **PKPdf** **16 49 16.4 +1.9**
baz=116
L14A **Malta** **115.88 47** ⇑P **PKPdf** **16 49 16.2 +1.5**
baz=116
L14A ⇑P **PKPdf** **16 49 16.2 +1.5**
baz=116
C17A **Wharram Farm,** **116.01 40** ⇓P **PKPdf** **16 49 15.2 +0.5**
baz=116,SNR=5.6
C17A ⇓P **PKPdf** **16 49 15.2 +0.5**
baz=116,SNR=5.6
BOZ **Bozeman (W)** **116.04 43** ⇓P **PKPdf** **16 49 15.9 +1.0**
baz=116
BOZ ⇓P **PKPdf** **16 49 15.9 +1.0**
baz=116
BOZ ⇓P **PKPdf** **16 49 15.9 +1.0**
baz=116
BOZ ⇓P **PKPdf** **16 49 15.9 +1.0**
baz=116
G16A **Moss Hill, Enn** **116.04 43** ⇑P **PKPdf** **16 49 16.2 +1.2**
baz=116
G16A ⇑P **PKPdf** **16 49 16.2 +1.2**
baz=116
CDF **Champ du Feu** **116.06 321** *e*PKIKP **PKPdf** **16 49 14.0 -0.8**
comp=Z,6.5nm,0.9s
MEM **Membach** **116.07 323** PKP **PKPdf** **16 49 14.9 +0.4**
J15A **Blackfoot** **116.11 45** ⇓P **PKPdf** **16 49 17.3 +2.2**
baz=116
J15A ⇓P **PKPdf** **16 49 17.3 +2.2**
baz=116
BEBN **Eben Emael** **116.20 324** PKP **PKPdf** **16 49 15.1 +0.3**
D17A **Six Diamond Ra** **116.21 41** ⇓P **PKPdf** **16 49 15.7 +0.5**
baz=116
D17A ⇓P **PKPdf** **16 49 15.7 +0.5**
baz=116
K15A **Arbon** **116.22 46** ⇑P **PKPdf** **16 49 17.5 +2.2**
baz=116
K15A ⇑P **PKPdf** **16 49 17.5 +2.2**
baz=116
WLF **Walferdange** **116.32 322** PKP **PKPdf** **16 49 16.5 +1.4**
B18A **Beardsley Farm** **116.38 39** P **PKPdf** **16 49 16.2 +0.8**
baz=116,SNR=6.2
B18A P **PKPdf** **16 49 16.2 +0.8**
baz=116,SNR=6.2
L15A **Malad City** **116.50 47** ⇑P **PKPdf** **16 49 16.9 +1.0**
baz=116
L15A ⇑P **PKPdf** **16 49 16.9 +1.0**
baz=116
EGMT **Eagleton** **116.52 40** *e*PKPdf **PKPdf** **16 49 15.9 +0.2**
EGMT **Eagleton** **116.52 40** ⇓P **PKPdf** **16 49 16.6 +0.9**
baz=116
EGMT ⇓P **PKPdf** **16 49 16.6 +0.9**
baz=116
HINF **Hinteralfeld** **116.53 320** *e*PKIKP **PKPdf** **16 49 15.0 -0.6**
comp=Z,18nm,0.8s
BCLA **Clavier** **116.56 323** PKP **PKPdf** **16 49 16.2 +0.7**
H16A **Russell Place,** **116.57 44** ⇓P **PKPdf** **16 49 18.0 +1.9**
baz=116
H16A ⇓P **PKPdf** **16 49 18.0 +1.9**
baz=116
F17A **Fitzpatrick Pl** **116.61 42** P **PKPdf** **16 49 17.8 +1.8**
baz=117,SNR=8.3
F17A P **PKPdf** **16 49 17.8 +1.8**
baz=117,SNR=8.3
DUG **Dugway** **116.62 49** ⇓P **PKPdf** **16 49 17.4 +1.2**
baz=117
DUG ⇓P **PKPdf** **16 49 17.4 +1.2**
baz=117
I16A **Newdale** **116.64 44** ⇑P **PKPdf** **16 49 17.3 +1.1**
baz=117
I16A ⇑P **PKPdf** **16 49 17.3 +1.1**
baz=117
HAU **Haudompre** **116.78 320** *e*PKIKP **PKPdf** **16 49 15.9 -0.2**
comp=Z,20nm,0.9s
HAU *e*R
comp=Z,159nm,17.5s
W13A **Hualapai Mount** **116.82 55** ⇓P **PKPdf** **16 49 18.7 +1.8**
baz=117
W13A ⇓P **PKPdf** **16 49 18.7 +1.8**
baz=117
A19A **Klindworth Far** **116.84 38** ⇓P **PKPdf** **16 49 16.9 +0.7**
baz=117
A19A ⇓P **PKPdf** **16 49 16.9 +0.7**
baz=117
E18A **Harlowton** **116.90 41** ⇑P **PKPdf** **16 49 17.0 +0.4**
baz=117
E18A ⇑P **PKPdf** **16 49 17.0 +0.4**
baz=117
C19A **Slack Wire Ran** **117.07 40** ⇑P **PKPdf** **16 49 18.0 +1.3**
baz=117
C19A ⇑P **PKPdf** **16 49 18.0 +1.3**
baz=117
DOU **Dourbes** **117.10 323** PKP **PKPdf** **16 49 17.1 +0.5**
SNF **Seneffe** **117.13 324** PKP **PKPdf** **16 49 17.2 +0.6**
F18A **Big Timber** **117.24 42** ⇑P **PKPdf** **16 49 18.6 +1.4**
baz=117,SNR=7.3
F18A ⇑P **PKPdf** **16 49 18.6 +1.4**
baz=117,SNR=7.3
I17A **Pilgrim Ck.** **117.26 44** ⇓P **PKPdf** **16 49 19.6 +2.2**
baz=117
I17A ⇓P **PKPdf** **16 49 19.6 +2.2**
baz=117
Z13A **Yuma Proving G** **117.33 57** ⇓P **PKPdf** **16 49 19.5 +1.9**
baz=117
Z13A ⇓P **PKPdf** **16 49 19.5 +1.9**
baz=117
LOHW **Long Hollow** **117.33 45** *e*PKPdf **PKPdf** **16 49 17.8 +0.2**
LPG **La Plagne** **117.34 318** *e*PKIKP **PKPdf** **16 49 17.6 0.0**
comp=Z,27nm,1.0s
BAIF **Baives** **117.35 323** *e*PKIKP **PKPdf** **16 49 17.3 +0.2**
comp=Z,12nm,0.8s
LPL **La Plagne** **117.35 318** *e*PKIKP **PKPdf** **16 49 17.4 -0.1**
comp=Z,11nm,0.7s
D19A **Cripps Ranch,** **117.37 40** ⇓P **PKPdf** **16 49 18.2 +0.9**
baz=117
D19A ⇓P **PKPdf** **16 49 18.2 +0.9**
baz=117
CABF **La Chapelle** **117.42 319** *e*PKIKP **PKPdf** **16 49 17.5 0.0**
comp=Z,30nm,0.8s
SFTF **Sexfontaines** **117.53 321** *e*PKIKP **PKPdf** **16 49 17.1 -0.4**
E19A **Rath Farm, Rou** **117.67 41** ⇑P **PKPdf** **16 49 18.8 +0.9**
baz=118
E19A ⇑P **PKPdf** **16 49 18.8 +0.9**
baz=118
C20A **Veseth Ranch,** **117.73 40** P **PKPdf** **16 49 19.1 +1.1**
baz=118,SNR=8.6

C20A P **PKPdf** 16 49 19.1 +1.1
baz=118,SNR=8.6
Y14A **Wickenburg** 117.74 56 ⇑P **PKPdf** 16 49 20.1 +1.7
baz=118
Y14A ⇑P **PKPdf** 16 49 20.1 +1.7
baz=118
F19A **Roth Farm, Mol** 117.77 42 ⇑P **PKPdf** 16 49 19.0 +0.9
baz=118
F19A ⇑P **PKPdf** 16 49 19.0 +0.9
baz=118
RLMT **Red Lodge** 117.79 43 ⇑P **PKPdf** 16 49 20.0 +1.6
baz=118
RLMT ⇑P **PKPdf** 16 49 20.0 +1.6
baz=118
RLMT ⇑P **PKPdf** 16 49 20.0 +1.6
baz=118
RLMT ⇑P **PKPdf** 16 49 20.0 +1.6
baz=118
U15A **North Rim** 117.84 53 ⇑P **PKPdf** 16 49 21.1 +2.2
baz=118
U15A ⇑P **PKPdf** 16 49 21.1 +2.2
baz=118
J18A **Kendall Valley** 117.85 45 ⇓P **PKPdf** 16 49 19.6 +0.9
baz=118
J18A ⇓P **PKPdf** 16 49 19.6 +0.9
baz=118
D20A **Manuel Ranch,** 117.87 40 ⇑P **PKPdf** 16 49 19.2 +0.9
baz=118
D20A ⇑P **PKPdf** 16 49 19.2 +0.9
baz=118
M17A **Scullys Gap (B** 117.88 47 ⇑P **PKPdf** 16 49 19.2 +0.6
baz=118
M17A ⇑P **PKPdf** 16 49 19.2 +0.6
baz=118
A21A **Bergtoll Ranch** 117.93 38 ⇓P **PKPdf** 16 49 18.9 +0.6
baz=118
A21A ⇓P **PKPdf** 16 49 18.9 +0.6
baz=118
KEST **Kesra** 117.94 306 PKP **PKPdf** 16 49 19.1 +0.4
comp=Z,3.4nm,0.8s,baz=79,slow=5.2,SNR=8.2
KEST **Kesra** 117.94 306 PKP **PKPdf** 16 49 19.1 +0.4
114A **Black Gap (USA** 118.04 57 ⇑P **PKPdf** 16 49 19.6 +0.7
baz=118
114A ⇑P **PKPdf** 16 49 19.6 +0.7
baz=118
E20A **Meyer Farm, Mu** 118.08 41 ⇑P **PKPdf** 16 49 19.3 +0.6
baz=118
E20A ⇑P **PKPdf** 16 49 19.3 +0.6
baz=118
ORIF **Oris-en-Rattie** 118.11 317 *e*PKIKP **PKPdf** 16 49 18.7 -0.1
comp=Z,18nm,0.9s
ORIF *e*R
comp=Z,163nm,17.0s
S16A **Weppner Ranch,** 118.11 51 ⇓P **PKPdf** 16 49 20.9 +1.7
baz=118
S16A ⇓P **PKPdf** 16 49 20.9 +1.7
baz=118
H19A **Powell** 118.12 43 ⇑P **PKPdf** 16 49 21.0 +2.0
baz=118
H19A ⇑P **PKPdf** 16 49 21.0 +2.0
baz=118
FFC **Flin Flon** 118.16 30 *i* PKIKP **PKPdf** 16 49 19.6 +1.1
Q16A **Castle Valley** 118.16 50 ⇓P **PKPdf** 16 49 21.2 +2.0
baz=118
Q16A ⇓P **PKPdf** 16 49 21.2 +2.0
baz=118
O17A **Robinson Place** 118.16 48 ⇑P **PKPdf** 16 49 21.6 +2.3
baz=118
O17A ⇑P **PKPdf** 16 49 21.6 +2.3
baz=118
L18A **Fontenelle, Gr** 118.21 46 ⇓P **PKPdf** 16 49 20.5 +1.2
baz=118
L18A ⇓P **PKPdf** 16 49 20.5 +1.2
baz=118
C21A **Desert Coulee** 118.26 39 ⇑P **PKPdf** 16 49 20.1 +1.1
baz=118
C21A ⇑P **PKPdf** 16 49 20.1 +1.1
baz=118
PD01 **Pinedale Array** 118.29 45 *e*PKPdf **PKPdf** 16 49 19.0 -0.5
PD02 **Pinedale Array** 118.30 45 *e*PKPdf **PKPdf** 16 49 19.3 -0.1
BW06 **Boulder Array** 118.31 45 ⇓P **PKPdf** 16 49 20.5 +1.0
baz=118,SNR=7.4
BW06 ⇓P **PKPdf** 16 49 20.5 +1.0
baz=118,SNR=7.4
BW06 ⇓P **PKPdf** 16 49 20.5 +1.0
baz=118,SNR=7.4
BW06 ⇓P **PKPdf** 16 49 20.5 +1.0
baz=118,SNR=7.4
PDAR **Pinedale Array** 118.31 45 PKP **PKPdf** 16 49 20.1 +0.6
comp=Z,3.5nm,0.8s,baz=208,slow=1.3,SNR=24
PDAR pPKP **pPKPdf** 16 49 56.9 +1.5
comp=Z,1.2nm,0.8s,baz=197,slow=0.9,SNR=2.1
PDAR SKP **SKPdf** 16 52 42.1 -0.6
comp=Z,0.8nm,0.6s,baz=242,slow=1.9,SNR=4.3
PDAR PKKPbc **PKKPbc** 16 59 38.4 -0.8
comp=Z,5.3nm,0.7s,baz=115,slow=5.7,SNR=22
PDAR **Pinedale Array** 118.31 45 PKP **PKPdf** 16 49 20.1 +0.6
PDAR pPKP **pPKPdf** 16 49 56.9 +1.5
PDAR SKP **SKPdf** 16 52 42.1 -0.6
PDAR PKKPbc **PKKPbc** 16 59 38.4 -0.8
I19A **Meeteetse** 118.31 44 ⇑P **PKPdf** 16 49 19.8 +0.4
baz=118
I19A ⇑P **PKPdf** 16 49 19.8 +0.4
baz=118
P17A **Butcher Ranch,** 118.35 49 ⇑P **PKPdf** 16 49 20.6 +1.0
baz=118
P17A ⇑P **PKPdf** 16 49 20.6 +1.0
baz=118
G20A **Bridger** 118.46 42 ⇓P **PKPdf** 16 49 20.9 +1.3
baz=118,SNR=13
G20A ⇓P **PKPdf** 16 49 20.9 +1.3
baz=118,SNR=13
J19A **Crowheart** 118.51 45 P **PKPdf** 16 49 21.3 +1.5
baz=118,SNR=9.7
J19A P **PKPdf** 16 49 21.3 +1.5
baz=118,SNR=9.7
LOR **Lormes** 118.62 320 *e*PKIKP **PKPdf** 16 49 19.4 -0.2
comp=Z,26nm,1.1s
LOR *e*R
comp=Z,197nm,22.8s
SMRF **Simiane la Rot** 118.62 316 *e*PKIKP **PKPdf** 16 49 19.9 +0.1
comp=Z,34nm,1.0s
R17A **Hanksville Air** 118.63 50 ⇑P **PKPdf** 16 49 21.3 +1.2
baz=119
R17A ⇑P **PKPdf** 16 49 21.3 +1.2
baz=119
P18A **Preston Nutter** 118.68 49 ⇓P **PKPdf** 16 49 22.0 +1.6
baz=119
P18A ⇓P **PKPdf** 16 49 22.0 +1.6
baz=119
O18A **Roosevelt** 118.69 48 ⇓P **PKPdf** 16 49 21.6 +1.4
baz=119
O18A ⇓P **PKPdf** 16 49 21.6 +1.4
baz=119
N18A **Larsen Ranch,** 118.74 47 ⇑P **PKPdf** 16 49 21.6 +1.3
baz=119
N18A ⇑P **PKPdf** 16 49 21.6 +1.3
baz=119
S17A **Black Ridge (B** 118.74 51 ⇓P **PKPdf** 16 49 21.0 +0.7
baz=119
S17A ⇓P **PKPdf** 16 49 21.0 +0.7
baz=119
WUAZ **Wupatki** 118.76 54 *e*PKPdf **PKPdf** 16 49 21.8 +1.3
WUAZ **Wupatki** 118.76 54 ⇑P **PKPdf** 16 49 22.3 +1.8
baz=119
WUAZ ⇑P **PKPdf** 16 49 22.3 +1.8
baz=119
K19A **Absolon Red Bu** 118.79 45 ⇓P **PKPdf** 16 49 21.2 +0.9
baz=119
K19A ⇓P **PKPdf** 16 49 21.2 +0.9
baz=119
U16A **Tuba City** 118.82 53 ⇑P **PKPdf** 16 49 22.8 +2.2
baz=119
U16A ⇑P **PKPdf** 16 49 22.8 +2.2
baz=119
H20A **Greybull** 118.85 43 ⇑P **PKPdf** 16 49 21.2 +0.9
baz=119,SNR=5.3
H20A ⇑P **PKPdf** 16 49 21.2 +0.9
baz=119,SNR=5.3
T17A **Navajo Res., N** 118.89 52 ⇓P **PKPdf** 16 49 22.8 +2.1
baz=119
T17A ⇓P **PKPdf** 16 49 22.8 +2.1
baz=119
Q18A **Rafter H Ranch** 118.89 49 ⇑P **PKPdf** 16 49 22.3 +1.7
baz=119
Q18A ⇑P **PKPdf** 16 49 22.3 +1.7
baz=119
SSF **Saint Saulge** 118.92 320 *e*PKIKP **PKPdf** 16 49 20.2 0.0
comp=Z,30nm,0.8s
X16A **Lo Mia Camp, P** 118.93 55 ⇓P **PKPdf** 16 49 22.9 +2.1
baz=119
X16A ⇓P **PKPdf** 16 49 22.9 +2.1
baz=119
I20A **Worland** 118.93 44 P **PKPdf** 16 49 21.8 +1.3
baz=119,SNR=13
I20A P **PKPdf** 16 49 21.8 +1.3
baz=119,SNR=13
VIVF **Saint-Julien-l** 118.94 318 *e*PKIKP **PKPdf** 16 49 20.3 -0.1
comp=Z,15nm,0.8s
C22A **Vida** 119.05 39 ⇑P **PKPdf** 16 49 20.6 +0.1
baz=119
C22A ⇑P **PKPdf** 16 49 20.6 +0.1
baz=119
D22A **Cohagen** 119.09 40 ⇑P **PKPdf** 16 49 21.4 +0.8
baz=119,SNR=8.5
D22A ⇑P **PKPdf** 16 49 21.4 +0.8
baz=119,SNR=8.5
AVF **Avril sur Loir** 119.12 320 *e*PKIKP **PKPdf** 16 49 20.2 -0.4
comp=Z,20nm,0.9s
N19A **John Jarvie Ra** 119.12 47 ⇑P **PKPdf** 16 49 20.9 -0.1
baz=119
N19A ⇑P **PKPdf** 16 49 20.9 -0.1
baz=119
G21A **Lodge Grass** 119.13 42 ⇑P **PKPdf** 16 49 21.7 +0.9
baz=119
G21A ⇑P **PKPdf** 16 49 21.7 +0.9
baz=119
J20A **Shoshoni** 119.16 44 ⇑P **PKPdf** 16 49 21.7 +0.7
baz=119,SNR=5.7
J20A ⇑P **PKPdf** 16 49 21.7 +0.7
baz=119,SNR=5.7
K20A **Yellowstone Ra** 119.19 45 P **PKPdf** 16 49 21.8 +0.7
baz=119,SNR=5.9
K20A P **PKPdf** 16 49 21.8 +0.7
baz=119,SNR=5.9
V17A **Tonalea, Kykot** 119.20 53 ⇓P **PKPdf** 16 49 22.4 +1.1
baz=119
V17A ⇓P **PKPdf** 16 49 22.4 +1.1
baz=119
R18A **Canyonlands Na** 119.26 50 ⇑P **PKPdf** 16 49 22.7 +1.3
baz=119
R18A ⇑P **PKPdf** 16 49 22.7 +1.3
baz=119
B23A **Brockton** 119.31 38 ⇓P **PKPdf** 16 49 22.1 +1.1
baz=119
B23A ⇓P **PKPdf** 16 49 22.1 +1.1
baz=119
O19A **Miners Draw (B** 119.33 48 ⇓P **PKPdf** 16 49 22.5 +1.1
baz=119
O19A ⇓P **PKPdf** 16 49 22.5 +1.1
baz=119
S18A **Hurst Farm, Bl** 119.35 51 ⇑P **PKPdf** 16 49 23.0 +1.3
baz=119
S18A ⇑P **PKPdf** 16 49 23.0 +1.3
baz=119
L20A **Wamsutter** 119.40 46 ⇑P **PKPdf** 16 49 22.8 +1.3
baz=119
L20A ⇑P **PKPdf** 16 49 22.8 +1.3
baz=119
C23A **Lambert** 119.46 39 ⇑P **PKPdf** 16 49 22.5 +1.2
baz=119,SNR=8.9
C23A ⇑P **PKPdf** 16 49 22.5 +1.2
baz=119,SNR=8.9
BGF **Bois d'Agland** 119.53 320 *e*PKIKP **PKPdf** 16 49 21.6 +0.2
comp=Z,45nm,0.8s
I21A **Big Trails, Te** 119.55 43 ⇑P **PKPdf** 16 49 21.6 -0.2
baz=120,SNR=12
I21A ⇑P **PKPdf** 16 49 21.6 -0.2
baz=120,SNR=12
Q19A **Hogan Spring (** 119.59 49 ⇑P **PKPdf** 16 49 22.8 +0.9
baz=120,SNR=6.9
Q19A ⇑P **PKPdf** 16 49 22.8 +0.9
baz=120,SNR=6.9
J21A **Lysite** 119.60 44 ⇑P **PKPdf** 16 49 22.4 +0.5
baz=120,SNR=8.3
J21A ⇑P **PKPdf** 16 49 22.4 +0.5
baz=120,SNR=8.3
P19A **Cripple Cowboy** 119.62 49 ⇑P **PKPdf** 16 49 24.0 +1.9
baz=120
P19A ⇑P **PKPdf** 16 49 24.0 +1.9
baz=120
M20A **Sweetwater, Wa** 119.66 46 ⇑P **PKPdf** 16 49 23.4 +1.3
baz=120
M20A ⇑P **PKPdf** 16 49 23.4 +1.3
baz=120
D23A **Lindsay** 119.70 39 ⇑P **PKPdf** 16 49 23.5 +1.7
baz=120
D23A ⇑P **PKPdf** 16 49 23.5 +1.7
baz=120
A24A **Westby** 119.72 37 ⇑P **PKPdf** 16 49 22.6 +0.8
baz=120
A24A ⇑P **PKPdf** 16 49 22.6 +0.8
baz=120
G22A **Birney** 119.73 42 ⇓P **PKPdf** 16 49 22.4 +0.4
baz=120
G22A ⇓P **PKPdf** 16 49 22.4 +0.4
baz=120
LASF **Ste Croix** 119.75 317 *e*PKIKP **PKPdf** 16 49 21.3 -0.6
comp=Z,109nm,1.7s
DGMT **Dagmar** 119.80 38 ⇓P **PKPdf** 16 49 23.1 +1.2
baz=120
DGMT ⇓P **PKPdf** 16 49 23.1 +1.2
baz=120
N20A **Spence Gulch,** 119.80 47 ⇓P **PKPdf** 16 49 24.1 +1.7
baz=120
N20A ⇓P **PKPdf** 16 49 24.1 +1.7
baz=120
V18A **Ganado** 119.86 53 ⇓P **PKPdf** 16 49 24.6 +1.9
baz=120
V18A ⇓P **PKPdf** 16 49 24.6 +1.9
baz=120
H22A **Clearmont** 119.92 42 ⇑P **PKPdf** 16 49 22.7 +0.3
baz=120,SNR=5.1
H22A ⇑P **PKPdf** 16 49 22.7 +0.3
baz=120,SNR=5.1
K21A **Alcova** 119.97 45 P **PKPdf** 16 49 23.5 +0.8
baz=120,SNR=12
K21A P **PKPdf** 16 49 23.5 +0.8
baz=120,SNR=12
S19A **Harvey Farm, M** 120.00 51 ⇑P **PKPdf** 16 49 23.6 +0.7
baz=120
S19A ⇑P **PKPdf** 16 49 23.6 +0.7
baz=120
O20A **White River Ci** 120.02 48 P **PKPdf** 16 49 24.4 +1.6
baz=120,SNR=13
O20A P **PKPdf** 16 49 24.4 +1.6
baz=120,SNR=13
I22A **9 Mile Ranch,** 120.07 43 ⇑P **PKPdf** 16 49 23.4 +0.7
baz=120,SNR=5.3
I22A ⇑P **PKPdf** 16 49 23.4 +0.7
baz=120,SNR=5.3
L21A **Rawlins** 120.10 46 ⇓P **PKPdf** 16 49 23.9 +1.0
baz=120,SNR=9.4
L21A ⇓P **PKPdf** 16 49 23.9 +1.0
baz=120,SNR=9.4
F23A **Volborg** 120.13 41 ⇑P **PKPdf** 16 49 23.2 +0.6
baz=120
F23A ⇑P **PKPdf** 16 49 23.2 +0.6
baz=120
M21A **Separation Pea** 120.21 46 ⇓P **PKPdf** 16 49 23.9 +0.7
baz=120,SNR=9.1
M21A ⇓P **PKPdf** 16 49 23.9 +0.7
baz=120,SNR=9.1
J22A **Midwest** 120.24 44 ⇓P **PKPdf** 16 49 23.5 +0.4
baz=120
J22A ⇓P **PKPdf** 16 49 23.5 +0.4
baz=120
Q20A **Ridgley Place,** 120.31 49 ⇓P **PKPdf** 16 49 25.2 +1.8
baz=120,SNR=6.5
Q20A ⇓P **PKPdf** 16 49 25.2 +1.8
baz=120,SNR=6.5
N21A **Black Mountain** 120.36 47 ⇑P **PKPdf** 16 49 25.0 +1.5
baz=120,SNR=9.9
N21A ⇑P **PKPdf** 16 49 25.0 +1.5
baz=120,SNR=9.9
R20A **Redvale** 120.46 50 P **PKPdf** 16 49 25.6 +1.9
baz=120,SNR=6.2
R20A P **PKPdf** 16 49 25.6 +1.9
baz=120,SNR=6.2
K22A **Casper** 120.47 45 ⇑P **PKPdf** 16 49 24.3 +0.7
baz=120,SNR=6.8
K22A ⇑P **PKPdf** 16 49 24.3 +0.7
baz=120,SNR=6.8
LDF **La Druitiere** 120.53 323 *e*PKIKP **PKPdf** 16 49 23.0 -0.2
comp=Z,5.1nm,0.7s
218A **Dragoon** 120.54 57 ⇑P **PKPdf** 16 49 25.5 +1.5
baz=120
218A ⇑P **PKPdf** 16 49 25.5 +1.5
baz=120
O21A **Pagoda** 120.56 47 P **PKPdf** 16 49 25.4 +1.5
baz=120,SNR=5.4
O21A P **PKPdf** 16 49 25.4 +1.5
baz=120,SNR=5.4
S20A **Disappointment** 120.57 50 ⇓P **PKPdf** 16 49 25.7 +1.7
baz=120,SNR=6.6
S20A ⇓P **PKPdf** 16 49 25.7 +1.7
baz=120,SNR=6.6
MVCO **Mesa Verde** 120.62 51 *e*PKPdf **PKPdf** 16 49 25.0 +0.9
MVCO **Mesa Verde** 120.62 51 ⇓P **PKPdf** 16 49 25.9 +1.8
baz=121,SNR=8.1
MVCO ⇓P **PKPdf** 16 49 25.9 +1.8
baz=121,SNR=8.1
CAF **Calviac** 120.65 318 *e*PKIKP **PKPdf** 16 49 24.1 +0.5
comp=Z,29nm,1.0s
FLN **La Foliniere** 120.67 323 *e*PKIKP **PKPdf** 16 49 23.3 -0.2
comp=Z,30nm,1.0s
FLN *e*R
comp=Z,180nm,21.8s
L22A **Ellis Ranch, M** 120.74 45 ⇑P **PKPdf** 16 49 25.6 +1.4
baz=121
L22A ⇑P **PKPdf** 16 49 25.6 +1.4
baz=121
P21A **Newcastle** 120.78 48 ⇑P **PKPdf** 16 49 25.9 +1.6
baz=121,SNR=5.4
P21A ⇑P **PKPdf** 16 49 25.9 +1.6
baz=121,SNR=5.4
M22A **Cedar Creek Ra** 120.83 46 P **PKPdf** 16 49 25.7 +1.3
baz=121,SNR=5.8
M22A P **PKPdf** 16 49 25.7 +1.3
baz=121,SNR=5.8
RJF **Les Rejaudoux** 120.86 319 *e*PKIKP **PKPdf** 16 49 24.3 +0.3
comp=Z,44nm,1.3s
RJF *e*R
comp=Z,194nm,18.2s
Q21A **Lamborn Mesa,** 120.89 49 ⇓P **PKPdf** 16 49 26.6 +2.0
baz=121,SNR=8.6
Q21A ⇓P **PKPdf** 16 49 26.6 +2.0
baz=121,SNR=8.6
119A **Ashpeak Ranch,** 121.01 56 ⇑P **PKPdf** 16 49 26.3 +1.5
baz=121
119A ⇑P **PKPdf** 16 49 26.3 +1.5
baz=121
S21A **Coal Bank Pass** 121.05 50 P **PKPdf** 16 49 26.6 +1.6
baz=121,SNR=23
S21A P **PKPdf** 16 49 26.6 +1.6
baz=121,SNR=23
H24A **Dirks Ranch, A** 121.06 42 ⇓P **PKPdf** 16 49 25.0 +0.5
baz=121
H24A ⇓P **PKPdf** 16 49 25.0 +0.5
baz=121
K23A **Bowen Ranch, D** 121.06 44 ⇑P **PKPdf** 16 49 25.3 +0.6
baz=121
K23A ⇑P **PKPdf** 16 49 25.3 +0.6
baz=121
MTLF **Montolieu** 121.12 317 *e*PKIKP **PKPdf** 16 49 24.5 -0.1
comp=Z,17nm,0.8s
W20A **Ramah** 121.14 53 ⇑P **PKPdf** 16 49 27.0 +1.8
baz=121,SNR=11
W20A ⇑P **PKPdf** 16 49 27.0 +1.8
baz=121,SNR=11
SMCO **Snowmass** 121.24 48 *e*PKPdf **PKPdf** 16 49 27.4 +1.9
P22A **Eagle** 121.27 48 ⇓P **PKPdf** 16 49 27.4 +2.1
baz=121
P22A ⇓P **PKPdf** 16 49 27.4 +2.1
baz=121
X20A **Quemado** 121.28 54 ⇓P **PKPdf** 16 49 27.4 +2.0
baz=121
X20A ⇓P **PKPdf** 16 49 27.4 +2.0
baz=121
319A **Douglas** 121.30 58 ⇑P **PKPdf** 16 49 26.5 +1.1
baz=121
319A ⇑P **PKPdf** 16 49 26.5 +1.1
baz=121
Q22A **Crested Butte,** 121.38 49 ⇓P **PKPdf** 16 49 27.5 +1.9
baz=121,SNR=7.6
Q22A ⇓P **PKPdf** 16 49 27.5 +1.9
baz=121,SNR=7.6
MFF **Saint Martin d** 121.40 321 *e*PKIKP **PKPdf** 16 49 24.9 -0.1
comp=Z,34nm,0.8s
M23A **Laramie** 121.42 46 ⇓P **PKPdf** 16 49 26.5 +1.0
baz=121
M23A ⇓P **PKPdf** 16 49 26.5 +1.0
baz=121
N23A **Red Feather La** 121.45 46 ⇓P **PKPdf** 16 49 27.4 +1.8
baz=121
N23A ⇓P **PKPdf** 16 49 27.4 +1.8
baz=121
U21A **Nageezi** 121.48 52 ⇑P **PKPdf** 16 49 27.8 +2.0
baz=121,SNR=14
U21A ⇑P **PKPdf** 16 49 27.8 +2.0
baz=121,SNR=14
Z20A **Nine Sixteen R** 121.52 56 ⇓P **PKPdf** 16 49 27.4 +1.6
baz=122
Z20A ⇓P **PKPdf** 16 49 27.4 +1.6
baz=122
120A **U Bar Ranch, L** 121.60 56 ⇓P **PKPdf** 16 49 28.0 +2.0
baz=122
120A ⇓P **PKPdf** 16 49 28.0 +2.0
baz=122
RSSD **Black Hills** 121.64 42 *e*PKIKP **PKPdf** 16 49 25.8 0.0
RSSD *e* 16 50 13.5
RSSD **Black Hills** 121.64 42 *e*PKPdf **PKPdf** 16 49 25.8 0.0
RSSD *e*pPKPdf pPKPdf 16 50 13.5 +12
R22A **Saguache, Gunn** 121.68 50 ⇑P **PKPdf** 16 49 28.1 +1.9
baz=122,SNR=6.0
R22A ⇑P **PKPdf** 16 49 28.1 +1.9
baz=122,SNR=6.0
O23A **Lake Granby, G** 121.69 47 P **PKPdf** 16 49 28.0 +1.8
baz=122,SNR=9.2
O23A P **PKPdf** 16 49 28.0 +1.8
baz=122,SNR=9.2
S22A **4UR Ranch, Cre** 121.76 50 ⇓P **PKPdf** 16 49 28.3 +2.0
baz=122,SNR=13
S22A ⇓P **PKPdf** 16 49 28.3 +2.0
baz=122,SNR=13
220A **Playas Peak, P** 121.83 57 ⇑P **PKPdf** 16 49 28.0 +1.6
baz=122
220A ⇑P **PKPdf** 16 49 28.0 +1.6
baz=122
X21A **Alamocita Cree** 121.87 54 P **PKPdf** 16 49 28.9 +2.3
baz=122,SNR=11
X21A P **PKPdf** 16 49 28.9 +2.3
baz=122,SNR=11
T22A **Edith** 121.91 51 P **PKPdf** 16 49 28.7 +2.1
baz=122,SNR=5.5
T22A P **PKPdf** 16 49 28.7 +2.1
baz=122,SNR=5.5
320A **Kipp Ranch, An** 121.94 58 ⇓P **PKPdf** 16 49 29.1 +2.4
baz=122
320A ⇓P **PKPdf** 16 49 29.1 +2.4
baz=122
P23A **Jefferson** 122.02 48 ⇑P **PKPdf** 16 49 29.1 +2.2
baz=122
P23A ⇑P **PKPdf** 16 49 29.1 +2.2
baz=122
ISCO **Idaho Springs** 122.05 47 ⇑P **PKPdf** 16 49 28.6 +1.8
baz=122
ISCO ⇑P **PKPdf** 16 49 28.6 +1.8
baz=122
M24A **Cheyenne** 122.06 45 ⇓P **PKPdf** 16 49 28.3 +1.6
baz=122
M24A ⇓P **PKPdf** 16 49 28.3 +1.6
baz=122
Y21A **Point of Rocks** 122.06 55 P **PKPdf** 16 49 29.3 +2.3
baz=122,SNR=6.1
Y21A P **PKPdf** 16 49 29.3 +2.3
baz=122,SNR=6.1
U22A **Llaves** 122.12 52 ⇓P **PKPdf** 16 49 29.5 +2.5
baz=122
U22A ⇓P **PKPdf** 16 49 29.5 +2.5
baz=122
SGMF **Saint Gilles** 122.13 323 *e*PKIKP **PKPdf** 16 49 26.0 -0.3
comp=Z,15nm,0.8s
V22A **San Miguel Ran** 122.20 52 ⇑P **PKPdf** 16 49 29.8 +2.6
baz=122,SNR=9.8
V22A ⇑P **PKPdf** 16 49 29.8 +2.6
baz=122,SNR=9.8
121A **Cookes Peak, D** 122.31 56 ⇑P **PKPdf** 16 49 29.1 +1.7
baz=122,SNR=6.6
121A ⇑P **PKPdf** 16 49 29.1 +1.7
baz=122,SNR=6.6
R23A **Moffat** 122.39 49 ⇑P **PKPdf** 16 49 29.2 +1.6
baz=122,SNR=5.5
R23A ⇑P **PKPdf** 16 49 29.2 +1.6
baz=122,SNR=5.5

ROSF	Rostrenen	122.51	324	*e*PKIKP	PKPdf	16 49 26.8	-0.3	
EPF	Esparros	122.52	317	*e*PKIKP	PKPdf	16 49 27.4	+0.1	
	comp=Z,24nm,1.0s							
FRB	Frobisher Bay	122.55	9	PKP	PKPdf	16 49 25.3	-1.3	
	comp=Z,12nm,0.7s,baz=357,slow=3.9,SNR=14							
FRB				PKKPbc	PKKPab	16 59 21.2	-0.4	
	comp=Z,3.9nm,0.8s,baz=54,slow=11,SNR=4.0							
FRB	Frobisher Bay	122.55	9	PKIKP	PKPdf	16 49 25.3	-1.3	
FRB				pmax	pmax			
	comp=Z,12nm,0.7s							
FRB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
FRB	Frobisher Bay	122.55	9	PKP	PKPdf	16 49 25.3	-1.3	
FRB				PKKPbc	PKKPab	16 59 21.2	-0.4	
U23A	El Rito	122.64	51	⇑P	PKPdf	16 49 30.1	+2.0	
	baz=123,SNR=7.7							
U23A				⇑P	PKPdf	16 49 30.1	+2.0	
	baz=123,SNR=7.7							
QUIF	Quistinic	122.65	323	*e*PKIKP	PKPdf	16 49 27.0	-0.3	
	comp=Z,47nm,1.0s							
Y22A	Socorro	122.65	54	⇑P	PKPdf	16 49 29.9	+1.9	
	baz=123,SNR=10.0							
Y22A				⇑P	PKPdf	16 49 29.9	+1.9	
	baz=123,SNR=10.0							
SDCO	Great Sand Dun	122.77	50	⇑P	PKPdf	16 49 30.0	+1.7	
	baz=123							
SDCO				⇑P	PKPdf	16 49 30.0	+1.7	
	baz=123							
SDCO				⇑P	PKPdf	16 49 30.0	+1.7	
	baz=123							
SDCO				⇑P	PKPdf	16 49 30.0	+1.7	
	baz=123							
V23A	Ortiz Mt. (NFS	122.81	52	⇓P	PKPdf	16 49 29.5	+1.2	
	baz=123							
V23A				⇓P	PKPdf	16 49 29.5	+1.2	
	baz=123							
Z22A	Elephant Butte	122.82	55	P	PKPdf	16 49 30.0	+1.6	
	baz=123,SNR=10							
Z22A				P	PKPdf	16 49 30.0	+1.6	
	baz=123,SNR=10							
LPM	Los Pinos Moun	122.83	54	*e*PKPdf	PKPdf	16 49 29.4	+1.0	
BNM	Barren Site	122.87	54	*e*PKPdf	PKPdf	16 49 29.5	+1.0	
R24A	Sanders Place,	122.91	49	⇑P	PKPdf	16 49 30.0	+1.6	
	baz=123							
R24A				⇑P	PKPdf	16 49 30.0	+1.6	
	baz=123							
W23A	Werner Place,	122.99	53	⇑P	PKPdf	16 49 30.9	+2.2	
	baz=123							
W23A				⇑P	PKPdf	16 49 30.9	+2.2	
	baz=123							
S24A	Houchin Ranch,	123.02	50	⇑P	PKPdf	16 49 30.6	+1.8	
	baz=123							
S24A				⇑P	PKPdf	16 49 30.6	+1.8	
	baz=123							
X23A	Hourglass Bar	123.11	53	⇓P	PKPdf	16 49 30.8	+1.9	
	baz=123							
X23A				⇓P	PKPdf	16 49 30.8	+1.9	
	baz=123							
ETSF	Etsaut	123.18	317	*e*PKIKP	PKPdf	16 49 29.4	+0.8	
	comp=Z,24nm,0.9s							
P25A	Willow Gulch B	123.19	47	⇑P	PKPdf	16 49 30.9	+2.0	
	baz=123							
P25A				⇑P	PKPdf	16 49 30.9	+2.0	
	baz=123							
TAM	Tamanrasset	123.23	292	*e*PKIKP	PKPdf	16 49 30.1	+0.7	
TAM	Tamanrasset	123.23	292	*e*PKPdf	PKPdf	16 49 30.1	+0.7	
Y23A	Lovelace Mesa,	123.39	54	⇓P	PKPdf	16 49 30.9	+1.5	
	baz=123,SNR=7.9							
Y23A				⇓P	PKPdf	16 49 30.9	+1.5	
	baz=123,SNR=7.9							
Z23A	Rita Site, Whi	123.41	55	⇓P	PKPdf	16 49 31.3	+1.9	
	baz=123,SNR=5.2							
Z23A				⇓P	PKPdf	16 49 31.3	+1.9	
	baz=123,SNR=5.2							
V24A	Rampart Ranch,	123.53	52	⇑P	PKPdf	16 49 32.1	+2.3	
	baz=124							
V24A				⇑P	PKPdf	16 49 32.1	+2.3	
	baz=124							
SJPF	Ste Jean	123.54	317	*e*PKIKP	PKPdf	16 49 29.9	+0.7	
	comp=Z,45nm,1.3s							
R25A	Fountain Ranch	123.56	49	⇓P	PKPdf	16 49 31.0	+1.4	
	baz=124							
R25A				⇓P	PKPdf	16 49 31.0	+1.4	
	baz=124							
S25A	Robets Cordova	123.60	49	⇑P	PKPdf	16 49 31.2	+1.5	
	baz=124							
S25A				⇑P	PKPdf	16 49 31.2	+1.5	
	baz=124							
ULM	Lac du Bonnet	123.68	33	PKP	PKPdf	16 49 29.2	0.0	
	comp=Z,7.7nm,0.8s,baz=284,slow=3.4,SNR=13							
ULM				PKKPbc	PKKPab	16 59 16.4	-0.7	
	comp=Z,2.9nm,1.0s,baz=128,slow=6.2,SNR=5.1							
ULM	Lac du Bonnet	123.68	33	PKIKP	PKPdf	16 49 29.2	0.0	
ULM				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ULM				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ULM	Lac du Bonnet	123.68	33	PKP	PKPdf	16 49 29.2	0.0	
ULM				PKKPbc	PKKPab	16 59 16.4	-0.7	
P26A	Davis Ranch, A	123.78	47	⇑P	PKPdf	16 49 32.0	+2.0	
	baz=124							
P26A				⇑P	PKPdf	16 49 32.0	+2.0	
	baz=124							
T25A	Trinidad	123.78	50	⇑P	PKPdf	16 49 32.0	+1.9	
	baz=124							
T25A				⇑P	PKPdf	16 49 32.0	+1.9	
	baz=124							
Y24A	Capitan	123.89	54	P	PKPdf	16 49 32.4	+1.9	
	baz=124,SNR=18							
Y24A				P	PKPdf	16 49 32.4	+1.9	
	baz=124,SNR=18							
U25A	Circle Dot Ran	124.00	51	⇑P	PKPdf	16 49 32.2	+1.6	
	baz=124							
U25A				⇑P	PKPdf	16 49 32.2	+1.6	
	baz=124							
V25A	Rancho No Teng	124.01	52	⇑P	PKPdf	16 49 32.3	+1.7	
	baz=124							
V25A				⇑P	PKPdf	16 49 32.3	+1.7	
	baz=124							
Z24A	Sheeppen Canyo	124.10	55	P	PKPdf	16 49 33.0	+2.1	
	baz=124,SNR=12							
Z24A				P	PKPdf	16 49 33.0	+2.1	
	baz=124,SNR=12							
R26A	Arlington	124.13	48	⇓P	PKPdf	16 49 32.6	+2.0	
	baz=124							
R26A				⇓P	PKPdf	16 49 32.6	+2.0	
	baz=124							
W25A	X Bar L Ranch,	124.31	52	⇑P	PKPdf	16 49 32.7	+1.6	
	baz=124							
W25A				⇑P	PKPdf	16 49 32.7	+1.6	
	baz=124							
S26A	Kim	124.33	49	⇓P	PKPdf	16 49 32.8	+1.7	
	baz=124							
S26A				⇓P	PKPdf	16 49 32.8	+1.7	
	baz=124							
324A	Moseley Ranch,	124.46	57	⇓P	PKPdf	16 49 32.8	+1.3	
	baz=124,SNR=10							
324A				⇓P	PKPdf	16 49 32.8	+1.3	
	baz=124,SNR=10							
MNTX	Cornudas Mount	124.48	57	*e*PKPdf	PKPdf	16 49 32.2	+0.8	
MNTX	Cornudas Mount	124.48	57	⇓P	PKPdf	16 49 33.1	+1.7	
	baz=124,SNR=18							
MNTX				⇓P	PKPdf	16 49 33.1	+1.7	
	baz=124,SNR=18							
MNTX				⇓P	PKPdf	16 49 33.1	+1.7	
	baz=124,SNR=18							
MNTX				⇓P	PKPdf	16 49 33.1	+1.7	
	baz=124,SNR=18							
Y25A	Mesa, Roswell	124.48	54	⇑P	PKPdf	16 49 32.9	+1.4	
	baz=124							
Y25A				⇑P	PKPdf	16 49 32.9	+1.4	
	baz=124							
U26A	Atchley Ranch,	124.52	51	⇓P	PKPdf	16 49 33.3	+1.8	
	baz=124							
U26A				⇓P	PKPdf	16 49 33.3	+1.8	
	baz=124							
R27A	Eads	124.61	48	⇑P	PKPdf	16 49 33.2	+1.6	
	baz=125							
R27A				⇑P	PKPdf	16 49 33.2	+1.6	
	baz=125							
Z25A	Roswell	124.63	55	⇑P	PKPdf	16 49 33.4	+1.7	
	baz=125,SNR=5.1							
Z25A				⇑P	PKPdf	16 49 33.4	+1.7	
	baz=125,SNR=5.1							
325A	Bean Ranch, Si	124.90	57	⇓P	PKPdf	16 49 33.8	+1.4	
	baz=125							
325A				⇓P	PKPdf	16 49 33.8	+1.4	
	baz=125							
425A	Indio Mountain	125.02	58	P	PKPdf	16 49 34.1	+1.5	
	baz=125,SNR=7.7							
425A				P	PKPdf	16 49 34.1	+1.5	
	baz=125,SNR=7.7							
T27A	Campo	125.08	50	⇑P	PKPdf	16 49 34.0	+1.5	
	baz=125							
T27A				⇑P	PKPdf	16 49 34.0	+1.5	
	baz=125							
GDL2	Guadalupe Moun	125.20	56	*e*PKPdf	PKPdf	16 49 31.5	-1.4	
GDL2				*e*		16 52 35.7		
W27A	Bowe Ranch, En	125.45	52	⇑P	PKPdf	16 49 34.6	+1.3	
	baz=125							
W27A				⇑P	PKPdf	16 49 34.6	+1.3	
	baz=125							
T28A	Walsh	125.52	49	⇓P	PKPdf	16 49 35.0	+1.6	
	baz=126							
T28A				⇓P	PKPdf	16 49 35.0	+1.6	
	baz=126							
Y27A	Causey	125.72	53	⇓P	PKPdf	16 49 35.2	+1.3	
	baz=126							
Y27A				⇓P	PKPdf	16 49 35.2	+1.3	
	baz=126							
Z27A	Tatum	125.83	54	⇓P	PKPdf	16 49 34.9	+0.9	
	baz=126							
Z27A				⇓P	PKPdf	16 49 34.9	+0.9	
	baz=126							
526A	Mary Lane Ranc	125.94	58	P	PKPdf	16 49 36.0	+1.6	
	baz=126,SNR=6.4							
526A				P	PKPdf	16 49 36.0	+1.6	
	baz=126,SNR=6.4							
527A	Woodward Ranch	126.33	58	⇓P	PKPdf	16 49 35.3	+0.2	
	baz=126,SNR=12							
527A				⇓P	PKPdf	16 49 35.3	+0.2	
	baz=126,SNR=12							
427A	Hayter Ranch,	126.33	57	⇓P	PKPdf	16 49 36.6	+1.5	
	baz=126							
427A				⇓P	PKPdf	16 49 36.6	+1.5	
	baz=126							
TXAR	Lajitas Array	126.47	59	PKhKP	PKPpre	16 49 28.8		
	comp=Z,0.6nm,0.9s,baz=222,slow=1.7,SNR=4.0							
TXAR				PKP	PKiKP	16 49 36.5	+0.6	
	comp=Z,2.4nm,0.9s,baz=232,slow=1.0,SNR=16							
TXAR				SKPbc	SKPbc	16 52 38.3		
	comp=Z,3.4nm,0.9s,baz=278,slow=3.4,SNR=9.9							
TXAR				PKKPbc	PKKPbc	16 59 06.9	-0.9	
	comp=Z,0.7nm,0.7s,baz=118,slow=4.5,SNR=6.2							
TXAR	Lajitas Array	126.47	59	PKIKP	PKPpre	16 49 28.8		
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TXAR				pmax	pmax			
	comp=N,3.0nm,0.9s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	126.47	59	PKPpre	PKPpre	16 49 28.8		
TXAR				PKP	PKiKP	16 49 36.5	+0.6	
TXAR				SKPbc	SKPbc	16 52 38.3		
TXAR				PKKPbc	PKKPbc	16 59 06.9	-0.9	
ECSD	EROS Data Cent	126.64	40	*e*P	PKPdf	16 49 34.7	-0.4	
CBKS	Cedar Bluff	126.66	47	⇓P	PKPdf	16 49 36.5	+1.1	
	baz=127							
CBKS				⇓P	PKPdf	16 49 36.5	+1.1	
	baz=127							
CBKS				⇓P	PKPdf	16 49 36.5	+1.1	
	baz=127							
CBKS				⇓P	PKPdf	16 49 36.5	+1.1	
	baz=127							
627A	Terlingua Ranc	126.68	59	P	PKPdf	16 49 37.2	+1.4	
	baz=127,SNR=8.2							
627A				P	PKPdf	16 49 37.2	+1.4	
	baz=127,SNR=8.2							
328A	Wristen Ranch,	126.69	56	⇓P	PKPdf	16 49 37.1	+1.4	
	baz=127							
328A				⇓P	PKPdf	16 49 37.1	+1.4	
	baz=127							
BGNE	Belgrade	126.70	43	⇓P	PKPdf	16 49 36.7	+1.4	
	baz=127							
BGNE				⇓P	PKPdf	16 49 36.7	+1.4	
	baz=127							
ESDC	Sonseca Array	126.81	315	PKP	PKPdf	16 49 34.8	-0.9	
	comp=Z,4.5nm,0.9s,baz=33,slow=2.9,SNR=19							
ESDC				SKPbc	SKPbc	16 52 39.2		
	comp=Z,1.0nm,0.5s,baz=40,slow=3.7,SNR=6.0							
ESDC	Sonseca Array	126.81	315	PKP	PKPdf	16 49 34.8	-0.9	
ESDC				SKPbc	SKPbc	16 52 39.2		
ESLA	Sonseca Array	126.81	315	*e*PKPdf	PKPdf	16 49 34.7	-1.0	
428A	Kincaid Ranch,	126.96	57	⇑P	PKPdf	16 49 37.8	+1.5	
	baz=127							
428A				⇑P	PKPdf	16 49 37.8	+1.5	
	baz=127							
628A	Black Gap, Mar	127.09	59	⇓P	PKPdf	16 49 37.8	+1.4	
	baz=127,SNR=5.4							
628A				⇓P	PKPdf	16 49 37.8	+1.4	
	baz=127,SNR=5.4							
TORD	Torodi Ar. Bea	127.44	281	PKP	PKPdf	16 49 37.5	+0.1	
	comp=Z,15nm,0.8s,baz=73,slow=1.5,SNR=79							
TORD				pPKP	pPKPdf	16 50 16.9	+3.6	
	comp=Z,3.9nm,0.8s,baz=79,slow=0.7,SNR=2.1							
TORD				SKPbc	SKPbc	16 52 35.0		
	comp=Z,1.1nm,0.7s,baz=75,slow=3.0,SNR=2.1							
TORD				SKPab	SKiKP	16 52 41.6	-20	
	comp=Z,3.6nm,0.7s,baz=97,slow=3.3,SNR=5.1							
TORD				SKP		16 52 58.9		
	comp=Z,3.9nm,0.8s,baz=92,slow=1.4,SNR=3.9							
TORD	Torodi Ar. Bea	127.44	281	PKP	PKPdf	16 49 37.5	+0.1	
TORD				pPKP	pPKPdf	16 50 16.9	+3.6	
TORD				SKPbc	SKPbc	16 52 35.0		
TORD				SKPab	SKiKP	16 52 41.6	-20	
TORD				SKP		16 52 58.9		
MVO	Moncorvo	128.27	318	*e*PKPdf	PKPdf	16 49 39.4	+1.0	
PVRL	Vila Real	128.68	318	*e*PKPdf	PKPdf	16 49 41.0	+1.8	
POLO	Lamas de Olo	128.68	318	*e*PKPdf	PKPdf	16 49 40.8	+1.6	
PGAV	Gavieira, Arco	128.71	319	*e*PKPdf	PKPdf	16 49 40.7	+1.4	
PLCA	Paso Flores	128.89	161	PKP	PKPdf	16 49 40.0	+0.3	
	comp=Z,12nm,0.8s,baz=218,slow=1.3,SNR=23							
PLCA				SKPbc	SKPbc	16 52 46.4		
	comp=Z,8.1nm,0.8s,baz=198,slow=5.4,SNR=8.8							
PLCA	Paso Flores	128.89	161	PKIKP	PKPdf	16 49 40.0	+0.3	
PLCA				pmax	pmax			
	comp=Z,12nm,0.8s							
PLCA				pmax	pmax			
	comp=N,8.0nm,0.8s							
PLCA	Paso Flores	128.89	161	PKP	PKPdf	16 49 40.0	+0.3	
PLCA				*e*PKPdf	PKiKP	16 49 40.5	+0.1	
PLCA				SKPbc	SKPbc	16 52 46.4		
PLCA				*e*		16 52 47.1		
MTE	Manteigas	128.97	317	*e*PKPdf	PKPdf	16 49 41.3	+1.5	
PCBR	Castelo Branco	129.19	316	*e*PKPdf	PKPdf	16 49 41.8	+1.7	
PMRV	Marv??o	129.31	316	*e*PKPdf	PKPdf	16 49 42.4	+2.0	
JCT	Junction City	129.42	57	*e*PKIKP	PKPdf	16 49 41.3	+0.4	
JCT	Junction City	129.42	57	*e*PKPdf	PKPdf	16 49 41.3	+0.4	
JCT	Junction City	129.42	57	⇑P	PKPdf	16 49 42.2	+1.3	
	baz=129							
JCT				⇑P	PKPdf	16 49 42.2	+1.3	
	baz=129							
PBAR	Barrancos	129.62	314	*e*PKPdf	PKPdf	16 49 42.9	+1.9	
EVO	Evora	130.15	315	*e*PKPdf	PKPdf	16 49 44.1	+2.1	
EVO	Evora	130.15	315	*e*PKIKP	PKPdf	16 49 42.0	0.0	
	comp=N,18nm,0.9s							
EVO				*e*R				
	comp=N,251nm,18.5s							
SCHQ	Schefferville	131.24	12	PKP	PKPdf	16 49 43.4	-0.1	
	comp=N,6.0nm,0.7s,baz=267,slow=4.4,SNR=9.5							
SCHQ				SKPbc	SKPbc	16 52 55.2	-1.0	
	comp=N,36nm,0.7s,baz=0.7,slow=4.2,SNR=46							
SCHQ	Schefferville	131.24	12	PKP	PKPdf	16 49 43.4	-0.1	
SCHQ				SKPbc	SKPbc	16 52 55.2	-1.0	
DBIC	Dimbokro	133.72	272	PKhKP	PKPpre	16 49 37.7		
	comp=N,1.6nm,0.6s,baz=72,slow=2.2,SNR=3.9							
DBIC				PKP	PKPdf	16 49 49.5	+0.1	
	comp=N,12nm,0.7s,baz=100,slow=2.3,SNR=19							
DBIC				SKPbc	SKPbc	16 53 04.0	-2.0	
	comp=N,34nm,0.7s,baz=92,slow=3.8,SNR=30							
DBIC	Dimbokro	133.72	272	PKHKP	PKPpre	16 49 37.7		
DBIC						16 49 49.5		
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.6s							
DBIC				pmax	pmax			
	comp=Z,12nm,0.7s							
DBIC				pmax	pmax			
	comp=N,34nm,0.7s							
DBIC	Dimbokro	133.72	272	PKPpre	PKPpre	16 49 37.7		
DBIC				*e*PKPpre	PKPpre	16 49 43.0		
DBIC				*e*PKPdf	PKPdf	16 49 49.3	-0.1	
DBIC				PKP	PKPdf	16 49 49.5	+0.1	
DBIC				*e*SKP		16 53 04.0		
LIC	Lamto	133.86	271	*e*PKIKP	PKPdf	16 49 49.6	-0.1	
	comp=N,44nm,0.8s							
OLIL	Olney	134.71	41	*e*PKPdf	PKPdf	16 49 50.8	+0.2	
OLIL				*e*SKP		16 53 08.0		
SADO	Sadowa	135.79	28	PKP	PKPdf	16 49 51.9	-0.5	
	comp=N,10nm,0.9s,baz=12,slow=7.5,SNR=3.8							
SADO				SKPbc	SKPbc	16 53 10.8	-1.0	
	comp=N,27nm,0.8s,baz=333,slow=3.0,SNR=14							
SADO	Sadowa	135.79	28	PKP	PKPdf	16 49 51.9	-0.5	
SADO				SKPbc	SKPbc	16 53 10.8	-1.0	
WVT	Waverly	136.30	44	*e*PKIKP	PKPdf	16 49 53.3	-0.3	
WVT	Waverly	136.30	44	*e*PKPdf	PKPdf	16 49 53.3	-0.3	
WVT				*e*SKP		16 53 12.3		
PLAL	Pickwick Lake	136.72	46	*e*PKPdf	PKPdf	16 49 53.0	-1.4	
PLAL				*e*SKP		16 53 13.4		
ACSO	Alum Creek Sta	136.97	36	*e*PKPdf	PKPdf	16 49 54.6	-0.2	
LRAL	Lakeview Retre	138.47	47	*e*PKPdf	PKPdf	16 49 57.9	+0.2	
LRAL				*e*SKP		16 53 19.4		
LCO	Las Campanas	139.24	154	*e*PKPpre	PKPpre	16 49 51.4		
LCO				*e*SKP		16 53 21.7		
TKL	Tuckaleechee C	139.30	42	PKP	PKPdf	16 49 59.2	+0.1	
	comp=N,20nm,1.0s,baz=243,slow=2.3,SNR=14							
TKL				SKPbc	SKPbc	16 53 20.9	-1.4	
	comp=N,6.6nm,0.6s,baz=262,slow=7.1,SNR=7.2							
TKL	Tuckaleechee C	139.30	42	PKIKP	PKPdf	16 49 59.2	+0.1	
TKL				pmax	pmax			
	comp=Z,21nm,1.0s							
TKL				pmax	pmax			
	comp=N,7.0nm,0.6s							
TKL	Tuckaleechee C	139.30	42	PKP	PKPdf	16 49 59.2	+0.1	
TKL				*e*PKPdf	PKiKP	16 49 59.3	-2.2	
TKL				*e*SKP		16 53 20.6		
TKL				SKPbc	SKPbc	16 53 20.9	-1.4	
TGUH	Tegucigalpa,Un	144.30	76	*e*PKPdf	PKPbc	16 50 07.1	-0.1	
BBTS	Babate	144.99	285	PKP	PKPbc	16 50 09.2	-0.1	
	comp=N,48nm,0.9s,baz=110,slow=2.3,SNR=9.6							
BBTS				SKPbc	SKPbc	16 53 35.4	-1.6	
	comp=N,23nm,0.6s,baz=53,slow=1.7,SNR=5.0							
BBTS	Babate	144.99	285	PKP	PKPbc	16 50 09.2	-0.1	
BBTS				SKPbc	SKPbc	16 53 35.4	-1.6	
LVC	Limon Verde	145.54	151	*e*PKPdf	PKPab	16 50 13.3	+1.7	
LVC				*e*SKP		16 53 32.2		
CPUP	Villa Florida	145.88	171	PKPbc	PKPbc	16 50 11.7	-0.2	
	comp=N,34nm,0.6s,baz=167,slow=2.2,SNR=90							
CPUP				pPKPbc	pPKPbc	16 50 50.5	+3.2	
	comp=N,14nm,0.7s,baz=223,slow=2.6,SNR=3.0							
CPUP				SKPbc	SKPbc	16 53 38.3	-0.5	
	comp=N,10nm,0.8s,baz=142,slow=0.5,SNR=4.1							
CPUP	Villa Florida	145.88	171	PKP2	PKPbc	16 50 11.7	-0.2	
CPUP						16 53 38.3		
CPUP				pmax	pmax			
	comp=Z,34nm,0.6s							
CPUP				pmax	pmax			
	comp=Z,14nm,0.7s							
CPUP				pmax	pmax			
	comp=N,11nm,0.8s							
CPUP	Villa Florida	145.88	171	PKPbc	PKPbc	16 50 11.7	-0.2	
CPUP				pPKPbc	pPKPbc	16 50 50.5	+3.2	
CPUP				SKPbc	SKPbc	16 53 38.3	-0.5	
JTS	JuntasAbangare	146.85	83	*e*PKP2	PKPbc	16 50 14.4	-0.7	
JTS	JuntasAbangare	146.85	83	*e*PKPdf	PKPbc	16 50 14.3	-0.7	
NNA	Nana	148.21	127	*e*PKIKP	PKPdf	16 50 15.8	+0.5	
NNA				*e*		16 50 20.0		
NNA				*e**SP		16 51 00.7		
NNA	Nana	148.21	127	*e*PKPdf	PKPdf	16 50 15.8	+0.5	
NNA				*e*PKPbc	PKiKP	16 50 20.0	-0.4	
NNA				*es*P		16 51 00.7		
SPB	Sao Paulo	148.83	187	*e*PKPbc	PKPbc	16 50 21.2	+1.1	
CAM4	Nova Friburgo	149.05	196	⇑*i*P	PKPab	16 50 32.5	+7.2	
CAM4				*i*		16 50 34.3		
CAM4				*i*		16 50 37.6		
CAM4				*i*		16 50 42.9		
CAM4				*i*		16 50 52.2		
CAM4				*i*		16 51 06.4		
CAM4				*i*		16 51 16.3		
CAM4				*i*		16 51 19.7		
CAM4				*i*		16 51 44.0		
LPAZ	La Paz	151.19	145	PKP	PKPdf	16 50 22.1	+1.4	
	comp=N,7.5nm,1.1s,baz=229,slow=9.3,SNR=15							
LPAZ				PKPbc	PKiKP	16 50 28.6	+1.4	
	comp=N,44nm,0.8s,baz=196,slow=1.5,SNR=60							
LPAZ				PKPab	PKPab	16 50 36.6	+1.8	
	comp=N,54nm,0.7s,baz=165,slow=2.2,SNR=30							
LPAZ	La Paz	151.19	145	PKIKP	PKPdf	16 50 22.1	+1.4	
LPAZ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
LPAZ				pmax	pmax			
	comp=Z,44nm,0.8s							
LPAZ	La Paz	151.19	145	*e*PKPdf	PKPdf	16 50 22.1	+1.4	
LPAZ				*e*PKPbc	PKiKP	16 50 28.1	+0.9	
LPAZ				PKPbc	PKiKP	16 50 28.6	+1.4	
LPAZ				*e*PKPab	PKPab	16 50 36.6	+1.8	
OTAV	Otavalo	152.18	104	*e*PKPdf	PKPdf	16 50 22.7	+0.6	
RCBR	Riachuelo	159.56	230	PKPab	PKPab	16 51 10.8	+0.7	
	comp=Z,48nm,1.0s,baz=139,slow=3.9,SNR=14							
RCBR	Riachuelo	159.56	230	PKPab	PKPab	16 51 10.8	+0.7	
SAML	Samuel	159.93	144	*e*PKPdf	PKPdf	16 50 32.6	+0.9	
SDV	Santo Domingo	161.01	85	*e*PKPdf	PKPdf	16 50 32.9	-0.2	

NOU ***03*** *16:49:23.7±1.4, 12°.21S×166°.82E, h30km±999km, MD4.4, ML4.1*

ISCJB ***03*** *16:49:24.9±0.8, 12°.44S±0°.03×166°.65E±0°.02, h109km±7km, mb5.5/155, Error ellipse: s-maj=5.2km s-min=4.0km az=9.4*

MOS ***03*** *16:49:24.

comp=Z,597nm,1.0s
FUNA e 16 52 35.5
PMG Port Moresby 19.49 277 P Pn 16 53 45.2 -1.0
comp=Z,2.6nm,0.3s,baz=72,slow=5.3,SNR=25
PMG S **S 16 57 19.6 +1.3**
comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=2.1
PMG Port Moresby 19.49 277⇓ iP P 16 53 44.5 +0.6
PMG eS **S 16 57 18.5 +0.1**
PMG S **S 16 57 19.6 +1.3**
PMG pmax pmax
comp=Z,224nm,1.0s
PMG Port Moresby 19.49 277⇓ iP P 16 53 44.5 +0.6
comp=Z,224nm,1.0s
PMG P **Pn 16 53 45.2 -1.0**
PMG eS **S 16 57 18.5 +0.1**
PMG S **S 16 57 19.6 +1.3**
EIDS Eidsvold 19.59 227⇓ iP Pn 16 53 47.6 +0.4
comp=Z,100nm,0.6s
CTA Charters Tower 21.08 246 P P 16 54 02.5 +1.4
comp=Z,190nm,0.8s,baz=76,slow=12,SNR=153
CTA S **S 16 57 48.3 -1.3**
comp=Z,9.3nm,0.9s,baz=72,slow=19,SNR=2.6
CTA LR LR 17 01 31.7
comp=Z,680nm,18.3s,baz=97,slow=34
CTA Charters Tower 21.08 246 eP P 16 54 02.4 +1.4
comp=Z,143nm,0.9s
CTA eS **S 16 57 49.3 -0.3**
CTA Charters Tower 21.08 246 P P 16 54 02.5 +1.4
CTA S **S 16 57 48.3 -1.3**
CTA pmax pmax
comp=Z,190nm,0.8s
CTA smax smax
comp=N,9.0nm,0.9s
CTA MLR MLR
comp=Z,680nm,18.3s
CTA Charters Tower 21.08 246 P P 16 54 02.5 +1.4
CTA S **S 16 57 48.3 -1.3**
CTAO Charters Tower 21.08 246⇓ iP P 16 54 02.3 +1.3
CTAO Charters Tower 21.08 246⇓ iP P 16 54 02.3 +1.3
ARMA Armidale 22.70 216 eP P 16 54 20.3 +2.3
ARMA Armidale 22.70 216 eP P 16 54 19.0 +1.1
comp=Z,546nm,0.9s
COEN Coen 23.01 264⇓ eP P 16 54 20.7 -0.4
comp=Z,1μm,0.8s
COEN e 16 54 44.8
OUZ Omahuta 23.48 166⇓ eP P 16 54 27.2 +2.1
comp=Z,59nm,0.8s
URZ Urewera 27.29 162 P P 16 55 00.2 +0.7
comp=Z,30nm,0.5s,baz=29,slow=2.0,SNR=32
URZ PcP **PcP 16 58 14.8 -1.7**
comp=Z,19nm,0.8s,baz=334,slow=7.1,SNR=4.1
URZ LR LR 17 04 04.0
comp=Z,511nm,19.6s,baz=333,slow=32
URZ Urewera 27.29 162 P P 16 55 00.2 +0.7
URZ eP **P 16 55 00.5 +1.0**
URZ ePcP **PcP 16 58 14.3 -2.2**
URZ PcP PcP 16 58 14.8 -1.7
JAY Jayapura 27.64 289 P P 16 55 11.2 +8.3
CNB Canberra Magne 27.66 212 eP P 16 55 04.8 +1.8
comp=Z,1μm,0.8s
CNB eS S 16 59 56.5 +19
CAN Canberra 27.86 212⇑ iP P 16 55 05.7 +1.0
CAN pmax pmax
comp=Z,109nm,0.9s
CAN Canberra 27.86 212⇑ iP P 16 55 05.7 +1.0
comp=Z,108nm,0.9s
SNZO South Karori 29.56 168 eP P 16 55 19.8 +0.3
comp=Z,48nm,0.5s
SMPI Sarmi 29.68 288 P P 16 55 21.6 +0.6
comp=Z,144nm,1.1s,comp=Z,2μm
STKA Stephens Creek 30.14 226 P P 16 55 26.6 +1.7
comp=Z,131nm,0.7s,baz=42,slow=7.8,SNR=216
STKA PcP **PcP 16 58 24.1 +0.2**
comp=Z,23nm,0.8s,baz=86,slow=2.9,SNR=3.8
STKA LR LR 17 07 08.7
comp=Z,1μm,18.2s,baz=53,slow=35
STKA Stephens Creek 30.14 226 eP P 16 55 26.6 +1.7
comp=Z,123nm,0.8s
STKA eS **S 17 00 17.9 +2.0**
STKA Stephens Creek 30.14 226 eP P 16 55 26.3 +1.4
STKA e 16 58 24.0
STKA pmax pmax
comp=Z,28nm,0.7s
STKA Stephens Creek 30.14 226 eP P 16 55 26.3 +1.4
comp=Z,28nm,0.7s
STKA P P **16 55 26.6 +1.7**
STKA ePcP **PcP 16 58 23.9 +0.2**
KHZ Kahutara 30.41 170 eP P 16 55 27.3 +0.2
comp=Z,48nm,0.5s
RPZ Rata Peaks 31.35 174 P P 16 55 36.0 +0.6
comp=Z,105nm,0.6s,baz=306,slow=1.5,SNR=50
RPZ PcP **PcP 16 58 27.7 +0.9**
comp=Z,14nm,0.6s,baz=346,slow=4.2,SNR=4.5
RPZ Rata Peaks 31.35 174 P P 16 55 36.0 +0.6
RPZ eP **P 16 55 36.1 +0.7**
RPZ PcP **PcP 16 58 27.7 +0.9**
TOO Toolangi 31.41 214 eP P 16 55 37.7 +1.6
comp=Z,788nm,0.6s
WRAB Tennant Creek 31.96 252⇑ iP P 16 55 40.6 -0.5
WRAB pmax pmax
comp=Z,25nm,0.7s
WRAB Tennant Creek 31.96 252⇑ iP P 16 55 40.6 -0.5
comp=Z,25nm,0.7s
WRAB Tennant Creek 31.96 252 P P 16 55 40.5 -0.5
comp=Z,242nm,0.7s,SNR=17
WB2 Warramunga Arr 31.96 252⇑ iP P 16 55 40.6 -0.4
WRA Warramunga Arr 31.97 252 P P 16 55 40.9 -0.2
comp=Z,25nm,0.7s,baz=85,slow=9.5,SNR=152
WRA S **S 17 00 40.2 -4.6**
comp=Z,0.6nm,0.4s,baz=87,slow=14,SNR=4.0
WRA ScP **ScP 17 02 03.9 +1.3**
comp=Z,5.0nm,0.9s,baz=81,slow=3.5,SNR=7.0
WRA LR LR 17 07 16.4
comp=Z,253nm,18.0s,baz=75,slow=34
WRA Warramunga Arr 31.97 252 P P 16 55 40.9 -0.2
WRA S **S 17 00 40.2 -4.6**
WRA pmax pmax
comp=Z,25nm,0.7s
WRA smax smax
comp=N,1.0nm,0.4s
WRA pmax pmax
comp=N,5.0nm,0.9s
WRA MLR MLR
comp=Z,253nm,18.0s
WRA Warramunga Arr 31.97 252 P P 16 55 40.9 -0.2
WRA S **S 17 00 40.2 -4.6**
WRA ScP **ScP 17 02 03.9 +1.3**
BAKI Biak 32.39 288 P P 16 55 46.7 +1.8
comp=Z,71nm,1.2s
ODZ Otahua Downs 32.63 175 eP P 16 55 45.7 -0.8
comp=Z,67nm,0.5s
AS31 Alice Springs 33.08 246 eP P 16 55 50.3 -0.6
ASAR Alice Springs 33.08 246 P P 16 55 50.5 -0.3
comp=Z,48nm,0.7s,baz=69,slow=9.9,SNR=403
ASAR PcP **PcP 16 58 31.9 -0.1**
comp=Z,11nm,0.8s,baz=85,slow=2.5,SNR=7.5
ASAR ScP **ScP 17 02 07.6 +1.2**
comp=Z,4.4nm,0.9s,baz=73,slow=3.2,SNR=6.3
ASAR P3KPbc 17 27 06.2
comp=Z,0.4nm,0.8s,baz=260,slow=4.1,SNR=8.2
ASAR Alice Springs 33.08 246 P P 16 55 50.6 -0.3
ASAR 16 58 31.9
ASAR pmax pmax
comp=Z,48nm,0.7s
ASAR pmax pmax
comp=Z,11nm,0.8s
ASAR pmax pmax
comp=N,4.0nm,0.9s
ASAR Alice Springs 33.08 246 P P 16 55 50.5 -0.3
ASAR PcP **PcP 16 58 31.9 -0.1**
ASAR ScP **ScP 17 02 07.6 +1.2**
ASAR e 17 27 06.2
RAR Rarotonga 33.13 110 P P 16 55 52.6 +1.4
comp=N,27nm,0.9s,baz=285,slow=8.9,SNR=3.6
RAR Rarotonga 33.13 110 P P 16 55 52.6 +1.4
RAR pmax pmax
comp=Z,27nm,0.9s
RAR Rarotonga 33.13 110 P P 16 55 52.6 +1.4
GUMO Guam 33.79 319 P P 16 55 57.1 +0.2
comp=Z,95nm,0.5s,baz=112,slow=14,SNR=3.9
GUMO LR LR 17 08 00.6
comp=Z,469nm,21.7s,baz=135,slow=33
GUMO Guam 33.79 319 eP P 16 55 56.3 -0.7
GUMO pmax pmax
comp=Z,175nm,0.8s
GUMO Guam 33.79 319 eP P 16 55 56.3 -0.7
comp=Z,175nm,0.8s
GUMO P **P 16 55 57.1 +0.2**
MOO Moorlands 34.36 206 eP P 16 56 03.4 +1.7
comp=Z,949nm,0.7s
BBOO Buckleboo 34.62 229 eP P 16 56 05.0 +1.0
comp=Z,3μm,0.8s
TAU Tasmania Unive 34.69 205 eP P 16 56 06.0 +1.5
TAU pmax pmax
comp=Z,205nm,0.9s
TAU Tasmania Unive 34.69 205 eP P 16 56 06.0 +1.5
comp=Z,205nm,0.9s
TAU Tasmania Unive 34.69 205 P P 16 56 06.9 +2.4
comp=Z,1μm,0.9s,SNR=23
AAI Ambon 39.12 280 P P 16 56 46.1 +3.7
comp=Z,75nm,0.8s,comp=Z,1μm
FITZ Fitzroy Crossi 40.00 257 P P 16 56 50.0 +0.4
comp=Z,62nm,0.9s,baz=89,slow=6.1,SNR=84
FITZ LR LR 17 12 28.6
comp=Z,325nm,18.9s,baz=83,slow=35
FITZ Fitzroy Crossi 40.00 257 eP P 16 56 49.9 +0.2
comp=Z,114nm,1.3s
FITZ Fitzroy Crossi 40.00 257 eP P 16 56 49.9 +0.2
comp=Z,236nm,1.4s
FITZ P **P 16 56 50.0 +0.4**
FORT Forrest 40.07 237 eP P 16 56 51.1 +1.0
comp=Z,568nm,0.6s
FORT Forrest 40.07 237 eP P 16 56 50.8 +0.7
comp=Z,688nm,0.8s
NLAI Namlea 40.30 280 P P 16 56 53.5 +1.4
comp=Z,220nm,1.1s,comp=Z,6μm
LBMI Labuha 40.67 284 P P 16 56 52.6 -2.6
comp=Z,519nm,0.9s,comp=Z,4μm
PPT2 Papeete2 42.40 102 eP P 16 57 11.7 +2.3
comp=Z,76nm,1.3s
PPT2 epP **pP 16 57 37.5 +2.9**
comp=Z,137nm,1.4s
PPT2 eS **S 17 03 21.5 -1.6**
comp=Z,159nm,23.8s
PPT2 eLQ LQ 17 07 17.4
comp=Z,919nm,35.0s
PPT2 eLR LR 17 09 20.2
comp=Z,3μm,32.0s
TBI Tubuai 42.88 111 eS S 17 03 29.3 -0.6
comp=Z,199nm,27.5s
TBI eLQ LQ 17 07 30.2
comp=Z,819nm,30.5s
TBI eLR LR 17 09 25.0
comp=Z,1μm,36.0s
MEH Mehetia 43.84 103 eP P 16 57 23.9 +3.0
comp=Z,159nm,1.3s
MEH epP **pP 16 57 49.1 +2.8**
comp=Z,218nm,1.1s
MNI Manado 43.86 285 P P 16 57 21.9 +0.8
comp=Z,360nm,0.8s,comp=Z,3μm
MMRI Maumere 43.90 270 P P 16 57 21.5 0.0
comp=Z,281nm,1.1s,comp=Z,3μm
PMOR Pomariorio Ree 44.06 99 eP P 16 57 25.3 +2.6
comp=Z,162nm,1.1s
PMOR epP **pP 16 57 51.8 +3.7**
comp=Z,454nm,1.3s
BBSI Bau Bau 44.15 275 P P 16 57 26.8 +3.3
comp=Z,110nm,1.7s,comp=Z,2μm
KMSI Cibinong 44.39 284 P P 16 57 27.2 +1.9
comp=Z,464nm,0.9s,comp=Z,5μm
MATI Mati 44.65 293 eP P 16 57 26.5 -0.9
MATI eS **pP 16 57 53.3 +0.5**
MBWA Marble Bar 45.70 253 eP P 16 57 36.5 +0.9
comp=Z,164nm,0.9s
MBWA epP **pP 16 58 02.5 +1.3**
CBIJ Chichi jima 46.01 329 P P 16 57 38.2 +0.4
comp=Z,124nm,0.5s,baz=278,slow=22,SNR=5.6
CBIJ LR LR 17 15 32.8
comp=Z,267nm,19.1s,baz=3.9,slow=34
CBIJ Chichi jima 46.01 329 P P 16 57 38.2 +0.4
BUKP Musuan 46.12 294 eP P 16 57 40.2 +1.2
CTBH Catabato--PC H 46.57 293⇓ iP P 16 57 43.8 +1.3
KAPI Kappang 46.99 275 eP P 16 57 44.9 -1.0
comp=Z,161nm,1.1s
KAPI ePcP **PcP 16 59 16.9 +0.3**
KAPI Kappang 46.99 275 P P 16 57 46.2 +0.3
SNR=14
KAPI Kappang 46.99 275 P P 16 57 45.7 -0.2
comp=Z,122nm,1.1s,comp=Z,1μm
PAGZ Pagadian 47.61 293 eP P 16 57 52.2 +1.6
PCI Palu 47.91 280 P P 16 57 53.3 +0.3
comp=Z,316nm,0.8s
KLBR Kelleberrin 48.81 239 eP P 16 57 59.7 +0.1
comp=Z,67nm,0.5s
NWAO Narrogin (SRO) 49.52 237 P P 16 58 05.5 +0.6
comp=Z,131nm,0.6s,baz=80,slow=6.4,SNR=145
NWAO LR LR 17 20 34.2
comp=Z,738nm,18.0s,baz=245,slow=38
NWAO Narrogin (SRO) 49.52 237 eP P 16 58 05.0 0.0
NWAO pmax pmax
comp=Z,128nm,0.8s
NWAO Narrogin (SRO) 49.52 237 eP P 16 58 05.0 0.0
comp=Z,128nm,0.8s
NWAO P **P 16 58 05.5 +0.6**
MYLDM Lahad Datu 51.08 287 P P 16 58 20.4 +3.5
MYLDM Lahad Datu 51.08 287 P P 16 58 20.6 +3.6
comp=Z,117nm,1.2s
TGY Tagaytay City 52.53 299 P P 16 58 28.5 +0.7
comp=Z,90nm,0.4s,baz=167,slow=20,SNR=6.1
TGY Tagaytay City 52.53 299 P P 16 58 28.5 +0.7
TGY pmax pmax
comp=Z,90nm,0.4s
TGY Tagaytay City 52.53 299 P P 16 58 28.5 +0.7
KKM Kota Kinabalu 53.51 287 eP P 16 58 35.8 +0.7
comp=Z,229nm,1.0s
KKM Kota Kinabalu 53.51 287 P P 16 58 35.8 +0.7
KKM Kota Kinabalu 53.51 287 P P 16 58 36.8 +1.7
comp=Z,217nm,1.0s
JOW Kunigami 54.07 317 P P 16 58 39.9 +1.1
comp=Z,98nm,0.6s,baz=159,slow=6.6,SNR=42
JOW LR LR 17 18 38.7
comp=Z,115nm,19.4s,baz=312,slow=32
JOW Kunigami 54.07 317 eP P 16 58 40.0 +1.1
comp=Z,106nm,1.0s
MJAR Matsushiro Arr 55.69 332 P P 16 58 50.0 -0.4
comp=Z,50nm,0.7s,baz=171,slow=8.7,SNR=214
MJAR LR LR 17 17 15.5
comp=Z,195nm,21.5s,baz=105,slow=30
MJAR Matsushiro Arr 55.69 332 P P 16 58 50.0 -0.4
MJAR pmax pmax
comp=Z,50nm,0.7s
MJAR MLR MLR
comp=Z,195nm,21.5s
MJAR Matsushiro Arr 55.69 332 P P 16 58 50.0 -0.4
MAJO Matsushiro 55.69 332 eP P 16 58 50.0 -0.3
MAJO pmax pmax
comp=Z,73nm,0.8s
MAJO Matsushiro 55.69 332 eP P 16 58 50.0 -0.3
comp=Z,72nm,0.8s
SBUM Sibu 56.16 282 P P 16 58 55.3 +1.2
SBUM Sibu 56.16 282 P P 16 58 55.5 +1.4
comp=Z,45nm,1.4s
RKT Rikitea 56.16 110 eS S 17 06 34.9 -0.3
comp=Z,325nm,28.5s
RKT eLQ LQ 17 13 05.7
comp=Z,305nm,34.2s
RKT eLR LR 17 15 32.3
comp=Z,969nm,31.8s
JNU Nakatsue 56.81 324 eP P 16 58 59.0 +0.5
comp=Z,55nm,0.8s
JNU epP pP 16 59 31.9 +7.0
TWG Pinlang 56.86 308 eP P 16 58 57.9 -1.0
comp=Z,36nm,0.7s
YULB Yu-li 57.00 309 eP P 16 58 59.1 -0.8
comp=Z,107nm,1.2s
TPUB Ta-pu 57.46 308 eP P 16 59 02.6 -0.6
SSLB Suanglung 57.48 309 eP P 16 59 03.0 -0.3
comp=Z,73nm,0.8s
YHNB Yeheng 57.66 310 eP P 16 59 04.8 +0.3
comp=Z,145nm,0.9s
YHNB epP **pP 16 59 32.2 +1.1**
KSM Kuching 57.72 280 eP P 16 59 04.7 -0.5
KSM epP **pP 16 59 30.6 -1.1**
KSM Kuching 57.72 280 P P 16 59 04.9 -0.3
KSM Kuching 57.72 280 P P 16 59 05.9 +0.8
KSM Kuching 57.72 280 P P 16 59 05.9 +0.8
comp=Z,59nm,1.5s
XMIS Christmas Isla 59.81 265 eP P 16 59 20.2 +0.6
comp=Z,733nm,0.9s
QZH Quanzhou 59.91 309⇓ iP P 16 59 21.3 +1.2
QZH S **S 17 07 24.0 +0.2**
QZH pmax pmax
comp=Z,230nm,1.1s
ASAJ Asahikawa 60.47 340 P P 16 59 24.2 +0.8
comp=Z,27nm,0.5s,baz=233,slow=9.0,SNR=56
ASAJ LR LR 17 23 28.6
comp=Z,233nm,21.0s,baz=172,slow=34
ASAJ Asahikawa 60.47 340 P P 16 59 24.2 +0.8
ASAJ pmax pmax
comp=Z,27nm,0.5s
ASAJ MLR MLR
comp=Z,233nm,21.0s
ASAJ Asahikawa 60.47 340 P P 16 59 24.2 +0.8
KSRS Korea Array 61.61 325 P P 16 59 32.3 +1.0
comp=Z,36nm,0.8s,baz=137,slow=7.3,SNR=147
KSRS LR LR 17 23 18.2
comp=Z,130nm,18.8s,baz=262,slow=33
KSRS Korea Array 61.61 325 P P 16 59 32.3 +1.0
KSRS pmax pmax
comp=Z,36nm,0.8s
KSRS MLR MLR
comp=Z,130nm,18.8s
KSAR Wonju Array Be 61.62 325 P P 16 59 32.3 +0.9
KSAR Wonju Array Be 61.62 325 P P 16 59 32.3 +0.9
INCN Inchon 62.35 325 eP P 16 59 37.0 +0.6
comp=Z,50nm,0.6s
YSS Yuzh-Sakhalins 62.95 342 eP P 16 59 41.2 +1.2
YSS e*PP **pP 17 00 04.9 -2.1**
YSS pmax pmax
comp=Z,105nm,1.4s
YSS Yuzh-Sakhalins 62.95 342 eP P 16 59 41.2 +1.2
comp=Z,105nm,1.4s
YSS epP **pP 17 00 04.9 -2.1**
NJ2 Nanjing 63.73 315 eP P 16 59 40.1 -5.4
NJ2 pmax pmax
comp=Z,20nm,0.8s
VLA Vladivostok 63.86 332⇓ iP P 16 59 47.3 +1.2
VLA e 17 00 19.6
VLA e 17 02 06.4
VLA eS **S 17 08 11.1 -1.8**
VLA pmax pmax
comp=Z,85nm,1.7s
MYKOM Kota Tinggi 64.03 278 P P 16 59 49.4 +1.5
MYKOM Kota Tinggi 64.03 278 P P 16 59 49.4 +1.5
comp=Z,70nm,1.0s
QIZ Qiongzhong 64.23 298 P P 16 59 50.2 +1.1
QIZ S **S 17 08 17.7 -0.7**
QIZ pmax pmax
comp=Z,88nm,0.9s
QIZ LR LR
comp=Z,200nm,28.7s
KGM Kluang 64.61 278 P P 16 59 53.0 +1.3
KGM Kluang 64.61 278 P P 16 59 53.6 +1.9
USRK Ussuriysk Arra 64.66 333 P P 16 59 52.6 +1.3
comp=Z,74nm,0.9s,baz=136,slow=6.2,SNR=67
VNDA Vanda 65.09 181 eP P 16 59 54.8 +1.1
VNDA pmax pmax
comp=Z,232nm,1.3s
VNDA Vanda 65.09 181 eP P 16 59 54.8 +1.1
comp=Z,232nm,1.3s
SBA Scott Base 65.38 180 eP P 16 59 57.9 +2.4
SBA pmax pmax
comp=Z,293nm,0.9s
SBA Scott Base 65.38 180 eP P 16 59 57.9 +2.4
comp=Z,293nm,0.9s
PETK Petropavlovsk- 65.78 354 P P 16 59 59.3 +0.9
comp=Z,8.0nm,0.7s,baz=158,slow=7.1,SNR=12
PETK LR LR 17 24 18.4
comp=Z,122nm,19.1s,baz=164,slow=32
PETK Petropavlovsk- 65.78 354 P P 16 59 59.3 +0.9
PETK pmax pmax
comp=Z,8.0nm,0.7s
PETK MLR MLR
comp=Z,122nm,19.1s
PETK Petropavlovsk- 65.78 354 P P 16 59 59.3 +0.9
MDJ Mudanjiang 66.07 332 P P 17 00 01.5 +1.1
MDJ pP **pP 17 00 26.0 -1.7**
MDJ sP **sP 17 00 38.3 -1.3**
MDJ PP **PP 17 02 23.6 -3.8**
MDJ S S 17 08 32.6 -7.4
MDJ sS sS 17 09 21.3 -5.4
MDJ ScS SKSac 17 09 37.3 -8.9
MDJ pmax pmax
comp=Z,80nm,1.0s
MDJ pmax pmax
comp=Z,170nm,4.4s
MDJ LR LR
comp=N,190nm,22.8s
MDJ LR LR
comp=E,160nm,8.6s
MDJ LR LR
comp=Z,270nm,28.8s
WHN Wuhan 66.08 312⇑ iP P 17 00 01.4 +0.6
WHN pP **pP 17 00 26.1 -1.9**
WHN pmax pmax
comp=Z,150nm,0.7s
WHN LR LR
comp=Z,520nm,17.5s
DL2 Dalian 66.21 323 ⇑P P 17 00 02.5 +1.0
DL2 pmax pmax
comp=Z,140nm,0.8s
HABR Khabarovsk 66.88 338 ceP **P 17 00 05.6 +0.1**
HABR e 17 00 31.8
HABR e*PP **PcP 17 00 33.4 +0.1**
HABR e*SP **sP 17 00 46.7 +2.1**
HABR e 17 02 32.0
HABR ePPP PPP 17 04 09.2
HABR eS **S 17 08 48.3 -1.2**
HABR eS **pS 17 09 21.7 +0.3**
HABR e 17 09 49.2
HABR eSS **SS 17 13 07.4 -2.8**
HABR pmax pmax
comp=Z,217nm,1.5s
HABR pmax pmax
comp=E,57nm,1.0s
HABR pmax pmax
comp=N,88nm,2.0s
HABR MLR MLR
comp=Z,113nm,22.0s
SNY Shenyang 67.07 326 ⇑P P 17 00 07.5 +0.7
SNY pP **pP 17 00 32.2 -1.9**
SNY S **S 17 08 55.4 +3.4**
SNY pmax pmax
comp=Z,49nm,0.9s
SNY pmax pmax
comp=Z,250nm,4.5s
IPM Ipoh 67.45 280 eP P 17 00 10.2 +0.3
comp=Z,172nm,1.0s
IPM epP **PcP 17 00 35.4 -1.2**
IPM Ipoh 67.45 280 P P 17 00 10.8 +0.9
IPM Ipoh 67.45 280 P P 17 00 11.1 +1.2
IPM Ipoh 67.45 280 P P 17 00 10.5 +0.7
IPM Ipoh 67.45 280 P P 17 00 10.6 +0.7
comp=Z,185nm,1.3s,comp=Z,2μm
CN2 Changchun 67.47 329 ⇑P P 17 00 10.6 +1.2
CN2 epP **pP 17 00 41.0 +4.3**
CN2 eS S **17 08 57.1 +0.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
KULM Kulim 68.03 281 eP P 17 00 13.2 -0.2
comp=Z,109nm,1.4s
KULM ePcP **PcP 17 00 38.4 -0.6**
KULM Kulim 68.03 281 P P 17 00 14.2 +0.7
KULM Kulim 68.03 281 P P 17 00 13.9 +0.5
KULM Kulim 68.03 281 P P 17 00 14.1 +0.6
comp=Z,60nm,1.3s
KLR Kul'dur 68.76 336 eP P 17 00 16.2 -1.1
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,270nm,1.8s
PSI Prapat 69.05 278 P P 17 00 19.6 -0.4
comp=Z,115nm,1.2s,comp=Z,1μm
ENH Enshi 69.57 309 eP P 17 00 22.9 +0.1
comp=Z,254nm,0.9s
ENH ePcP **PcP 17 00 46.8 +1.6**
GYA Guiyang 70.04 304⇑ iP P 17 00 27.8 +2.0
GYA pP **pP 17 00 57.4 +4.1**
GYA PP **PP 17 03 06.2 +3.8**
GYA S **S 17 09 28.5 +0.3**
GYA SKS **SKSac 17 10 12.3 -5.0**
GYA SS **SS 17 14 01.0 +0.8**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.4s

GYA LR LR
comp=N,1μm,20.8s
GYA LR LR
comp=E,870nm,21.6s
GYA LR LR
comp=Z,2μm,19.4s
BJT Baijiatuau 70.20 321 *e*P **P 17 00 27.2 +0.8**
BJT pmax pmax
comp=Z,120nm,0.9s
BJT Baijiatuau 70.20 321 *e*P **P 17 00 27.2 +0.8**
comp=Z,120nm,0.9s
BJI Beijing 70.21 321 P **P 17 00 27.2 +0.8**
BJI pP **pP 17 00 52.1 -1.8**
BJI pmax pmax
comp=Z,130nm,0.8s
BJI pmax pmax
comp=Z,330nm,3.8s
BJI LR LR
comp=N,250nm,28.7s
BJI LR LR
comp=E,210nm,27.8s
BJI LR LR
comp=Z,430nm,37.4s
XAN Xi'an 71.81 312 P **P 17 00 37.4 +1.1**
XAN pP **pP 17 01 01.8 -2.1**
XAN S **S 17 09 47.2 -1.1**
XAN pmax pmax
comp=Z,38nm,1.0s
XAN pmax pmax
comp=Z,51nm,7.0s
XAN LR LR
comp=N,150nm,23.8s
MIR Mirnyy 72.18 204⇑ *i*P **P 17 00 38.0 +0.1**
MIR *i* 17 01 02.0
MIR pmax pmax
comp=Z,267nm,1.0s
KMI Kunming 72.71 301⇑P **P 17 00 44.1 +2.0**
KMI PcP **PcP 17 01 00.7 +1.8**
KMI pP **pP 17 01 12.4 +2.7**
KMI sP **sP 17 01 24.8 +3.2**
KMI PP **PP 17 03 29.0 +3.6**
KMI S **S 17 09 54.9 -4.3**
KMI SKS **SKSac 17 10 32.0 -5.8**
KMI sS **sS 17 10 48.3 +1.6**
KMI SS **SS 17 14 41.6 +0.3**
KMI pmax pmax
comp=Z,190nm,0.9s
KMI pmax pmax
comp=Z,380nm,3.1s
KMI LR LR
comp=N,180nm,9.5s
KMI LR LR
comp=E,190nm,13.5s
KMI LR LR
comp=Z,210nm,17.4s
HHC Hu-ho-hao-te 73.56 319 *e*P **P 17 00 48.2 +1.6**
HHC PP **PP 17 03 32.9 +0.7**
HHC S **S 17 10 07.6 -0.4**
HHC pmax pmax
comp=Z,84nm,1.0s
HHC pmax pmax
comp=Z,200nm,7.1s
HHC LR LR
comp=N,240nm,16.2s
HHC LR LR
comp=E,220nm,16.7s
HHC LR LR
comp=Z,310nm,16.1s
CM31 Chiang Mai Arr 73.59 294⇑ *i*P **P 17 00 48.4 +1.3**
comp=Z,66nm,0.7s
CMAR Chiang Mai Arr 73.59 294 P **P 17 00 48.6 +1.5**
comp=Z,70nm,0.7s,baz=126,slow=4.7,SNR=319
CMAR pP **pP 17 01 12.6 -2.2**
comp=Z,28nm,0.8s,baz=129,slow=4.7,SNR=6.1
CMAR PKPPKP P'P'df 17 28 17.1 -6.6
comp=Z,0.3nm,0.7s,baz=289,slow=4.8,SNR=4.5
CMAR Chiang Mai Arr 73.59 294 P **P 17 00 48.7 +1.5**
CMAR *PP **pP 17 01 12.6 -2.2**
CMAR pmax pmax
comp=Z,70nm,0.7s
CMAR pmax pmax
comp=Z,28nm,0.9s
CMAR Chiang Mai Arr 73.59 294 P **P 17 00 48.6 +1.5**
CMAR pP **pP 17 01 12.6 -2.2**
CMAR P'P' 17 28 17.1
CHTO Chiang Mai 73.71 294⇑ *i*P **P 17 00 48.8 +1.0**
CHTO pmax pmax
comp=Z,106nm,1.1s
CHTO Chiang Mai 73.71 294⇑ *i*P **P 17 00 48.8 +1.0**
comp=Z,106nm,1.1s
CHTO Chiang Mai 73.71 294 P **P 17 00 48.7 +1.0**
comp=Z,108nm,1.2s,comp=Z,1μm
HIA Hailar 74.10 330 *e*P **P 17 00 50.1 +0.7**
HIA *e**PP **pP 17 01 16.2 -1.0**
HIA pmax pmax
comp=Z,93nm,0.8s
HIA Hailar 74.10 330 *e*P **P 17 00 50.1 +0.7**
comp=Z,92nm,0.8s
HIA *e*pP **pP 17 01 16.2 -1.0**
CD2 Chengdu 74.26 307 P **P 17 00 52.0 +1.2**
CD2 pP **pP 17 01 21.5 +3.0**
CD2 sP **sP 17 01 34.3 +3.9**
CD2 PP **PP 17 03 41.2 +2.9**
CD2 S **S 17 10 14.8 -1.3**
CD2 SS **SS 17 15 05.2 +0.8**
CD2 pmax pmax
comp=Z,190nm,1.1s
CD2 pmax pmax
comp=Z,270nm,4.0s
CD2 LR LR
comp=N,430nm,6.6s
CD2 LR LR
comp=Z,250nm,8.4s
BTO Baotou 74.42 319 *e*P **P 17 00 52.5 +0.9**
SEY Seymchan 76.00 353*ce*P **P 17 01 00.8 +0.8**
LZH Lanzhou 76.45 312 *e*P **P 17 01 05.7 +2.3**
LZH PcP **PcP 17 01 15.9 +1.2**
LZH pP **pP 17 01 34.2 +2.9**
LZH sP **sP 17 01 48.0 +4.9**
LZH PP **PP 17 03 59.3 +2.5**
LZH *e*S **S 17 10 40.0 -0.4**
LZH sS **sS 17 11 26.3 -2.0**
LZH pmax pmax
comp=Z,72nm,1.2s
LZH pmax pmax
comp=Z,250nm,5.4s
OHAK Old Harbor 76.87 21 *e*P **P 17 01 05.4 +0.4**
comp=Z,21nm,0.9s
CLNS Chul'man 77.27 338 *e*P **P 17 01 08.4 +1.1**
CLNS *e* 17 01 16.8
CLNS *e**PP **pP 17 01 34.5 -0.8**
CLNS *e* 17 04 04.2
CLNS *e*PPP PPP 17 05 54.9
CLNS *e*S S 17 10 37.4 -11
CLNS *e* 17 11 12.5
CLNS pmax pmax
comp=Z,51nm,1.0s
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS smax smax
comp=N,138nm,12.4s
CLNS smax smax
comp=E,371nm,14.3s
QSPA South Pole Qui 77.54 180 P **P 17 01 09.7 +0.7**
comp=E,61nm,0.7s,baz=12,slow=1.3,SNR=304
QSPA PKKPbc **PKKPbc 17 20 11.3 -3.9**
comp=E,1.8nm,0.6s,baz=276,slow=2.2,SNR=18
QSPA South Pole Qui 77.54 180 P **P 17 01 09.7 +0.7**
QSPA *e*P PcP 17 01 09.8 -9.0
QSPA *e*pP **pP 17 01 34.8 -2.1**
QSPA PKKPbc **PKKPbc 17 20 11.3 -3.9**
GAMB Gambell 77.80 10 *e*P **P 17 01 10.5 +0.5**
comp=E,13nm,1.0s
GAMB *e*pP **pP 17 01 38.0 0.0**
CIT Chita 78.89 330 *e*P **P 17 01 17.1 +0.7**
CIT *e* 17 01 42.8
CIT pmax pmax
comp=Z,260nm,1.8s
YAK Yakutsk 79.74 343*c i*P **P 17 01 20.9 +0.2**
YAK *e* 17 01 27.3
YAK *e**PP **pP 17 01 51.1 +2.3**
YAK *e*S **S 17 11 11.4 -2.8**
YAK *e* 17 11 23.3
YAK *e**SS **sS 17 12 05.3 +2.9**
YAK *e*SSS SSS 17 19 50.4
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
YAK smax smax
comp=N,150nm,2.8s
YAK smax smax
comp=E,71nm,2.0s
YAK Yakutsk 79.74 343 *e*P **P 17 01 20.8 +0.1**
YAK *e*pP **pP 17 01 46.9 -1.9**
YAK *e*sP **sP 17 01 59.0 -1.5**
ULN Ulaanbaatar 80.04 324⇑ *i*P **P 17 01 24.0 +1.1**
ULN pmax pmax
comp=Z,110nm,0.8s
ULN Ulaanbaatar 80.04 324⇑ *i*P **P 17 01 24.0 +1.1**
comp=Z,110nm,0.8s
ULN Ulaanbaatar 80.04 324 P **P 17 01 23.7 +0.8**
comp=Z,182nm,0.9s,comp=Z,2μm
BILL Bilibino 80.30 360⇑ *e*P **P 17 01 23.7 +0.1**
BILL *e**PP **pP 17 01 51.5 -0.2**
BILL *e* 17 04 23.7
BILL *e*S **S 17 11 22.5 +2.7**
BILL pmax pmax
comp=Z,35nm,1.1s
BILL Bilibino 80.30 360 *e*P **P 17 01 23.9 +0.3**
BILL *e*pP **pP 17 01 51.2 -0.5**
BILL *e*sP **sP 17 02 02.3 -1.2**
SONM Songino Array 80.40 324 P **P 17 01 25.7 +0.9**
comp=Z,31nm,0.7s,baz=132,slow=5.4,SNR=106
SONM pP **pP 17 01 51.1 -1.8**
comp=Z,21nm,1.0s,baz=140,slow=4.8,SNR=4.0
SONM PKKPbc **PKKPbc 17 20 05.6 -2.9**
comp=Z,1.6nm,0.7s,baz=258,slow=2.4,SNR=14
SONM PKPPKP **P'P'df 17 28 05.2 -4.3**
comp=Z,0.8nm,0.9s,baz=275,slow=2.2,SNR=5.5
SONM LR LR 17 37 00.2
comp=Z,92nm,18.9s,baz=137,slow=36
SONM Songino Array 80.40 324 P **P 17 01 25.7 +0.9**
SONM *PP **pP 17 01 51.1 -1.8**
SONM 17 20 05.6
SONM pmax pmax
comp=Z,31nm,0.7s
SONM pmax pmax
comp=Z,21nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,92nm,18.9s
SONM Songino Array 80.40 324 P **P 17 01 25.7 +0.9**
SONM pP **pP 17 01 51.1 -1.8**
SONM PKKPbc **PKKPbc 17 20 05.6 -2.9**
SONM P'P' 17 28 05.2
TTA Tatalina 80.50 16 *e*P **P 17 01 24.8 -0.1**
TTA pmax pmax
comp=Z,14nm,1.1s
TTA Tatalina 80.50 16 *e*P **P 17 01 24.8 -0.1**
comp=Z,14nm,1.1s
GTA Gaotai 80.76 314⇑ *i*P **P 17 01 28.7 +1.8**
GTA pP **pP 17 01 54.5 -0.6**
GTA sP **sP 17 02 07.1 +0.3**
GTA PP **PP 17 04 31.5 -1.2**
GTA S **S 17 11 28.6 +2.5**
GTA SKS **SKSac 17 11 34.4 -1.2**
GTA sS **sS 17 12 15.1 +0.6**
GTA pmax pmax
comp=Z,100nm,1.0s
GTA pmax pmax
comp=Z,360nm,3.3s
GTA LR LR
comp=N,120nm,15.7s
GTA LR LR
comp=E,190nm,18.0s
GTA LR LR
comp=Z,170nm,20.4s
PMR Palmer 81.55 20 *e*P **P 17 01 30.2 -0.2**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 81.55 20 *e*P **P 17 01 30.2 -0.2**
comp=Z,9.7nm,0.8s
KHMM Horse Mountain 83.14 46 *e*P **P 17 01 41.1 +1.7**
comp=Z,38nm,1.1s
KHMM *e*pP **pP 17 02 11.5 +3.8**
MCK McKinley 83.17 18 *e*P **P 17 01 38.1 -0.8**
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 83.17 18 *e*P **P 17 01 38.0 -0.8**
comp=Z,14nm,0.9s
ZAK Zakamensk 83.44 325 *e*P **P 17 01 41.2 +0.6**
ZAK *e* 17 02 07.9
ZAK pmax pmax
comp=Z,60nm,1.2s
IRK Irkutsk 83.79 327 *e*P **P 17 01 42.1 -0.2**
IRK pmax pmax
comp=Z,106nm,1.4s
TLY Talaya 83.86 326 *e*P **P 17 01 43.2 +0.6**
TLY *e* 17 02 09.3
TLY pmax pmax
comp=Z,87nm,0.9s
TLY Talaya 83.86 326 *e*P **P 17 01 43.2 +0.6**
TLY *e*pP **pP 17 02 10.0 -1.0**
TLY Talaya 83.86 326 P **P 17 01 43.2 +0.6**
comp=Z,566nm,0.9s,SNR=8.0
WDC Whiskeytown Da 83.86 46 *e*P **P 17 01 43.7 +0.8**
WDC *e**PP **pP 17 02 15.4 +4.2**
WDC pmax pmax
comp=Z,114nm,1.6s
WDC Whiskeytown Da 83.86 46 *e*P **P 17 01 43.7 +0.8**
comp=Z,114nm,1.6s
WDC *e*pP **pP 17 02 15.4 +4.2**
LSA Lhasa 83.95 302 P **P 17 01 45.6 +1.3**
LSA pmax pmax
comp=Z,90nm,0.9s
LSA Lhasa 83.95 302 *e*P **P 17 01 45.5 +1.3**
LSA pmax pmax
comp=Z,59nm,0.6s
LSA Lhasa 83.95 302 *e*P **P 17 01 45.5 +1.3**
comp=Z,59nm,0.6s
YBH Yreka Blue Hor 84.18 45 *e*P **P 17 01 45.6 +1.0**
YBH *e**PP **pP 17 02 12.6 -0.3**
YBH pmax pmax
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 84.18 45 *e*P **P 17 01 45.6 +1.0**
comp=Z,23nm,0.8s
YBH *e*pP **pP 17 02 12.6 -0.3**
COLA College 84.33 18 *e*P **P 17 01 43.9 -0.7**
COLA pmax pmax
comp=Z,22nm,0.9s
COLA College 84.33 18 *e*P **P 17 01 43.9 -0.7**
comp=Z,22nm,0.9s
HUMO Hull Mountain 84.34 44 *e*P **P 17 01 46.7 +1.4**
comp=Z,26nm,0.9s
HUMO *e*pP **pP 17 02 15.0 +1.4**
LHEM Herd Peak 84.48 45 P **P 17 01 47.4 +1.1**
CMB Columbia Colle 84.50 49 *e*P **P 17 01 46.4 +0.1**
CMB *e**PP **pP 17 02 15.4 +0.8**
CMB pmax pmax
comp=Z,15nm,0.9s
CMB Columbia Colle 84.50 49 *e*P **P 17 01 46.4 +0.1**
comp=Z,15nm,0.9s
CMB *e*pP **pP 17 02 15.4 +0.8**
ILAR Eielson Array 84.55 18 P **P 17 01 45.4 -0.4**
comp=Z,15nm,0.6s,baz=246,slow=5.2,SNR=91
ILAR PKKP **PKKPdf 17 19 50.9 -0.4**
comp=Z,1.2nm,0.6s,baz=352,slow=2.2,SNR=7.3
ILAR PKKPbc **PKKPbc 17 19 55.0 -4.5**
comp=Z,1.2nm,0.6s,baz=355,slow=2.4,SNR=16
ILAR PKPPKP **P'P'df 17 28 01.2 +0.5**
comp=Z,0.4nm,0.5s,baz=151,slow=2.8,SNR=18
ILAR LR LR 17 33 19.7
comp=Z,175nm,19.4s,baz=324,slow=31
ILAR Eielson Array 84.55 18 P **P 17 01 45.4 -0.4**
ILAR pmax pmax
comp=Z,15nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR MLR MLR
comp=Z,175nm,19.4s
ILAR Eielson Array 84.55 18 P **P 17 01 45.4 -0.4**
ILAR PKKP **PKKPdf 17 19 50.9 -0.4**
ILAR PKKPbc **PKKPbc 17 19 55.0 -4.5**
ILAR P'P' 17 28 01.2
MWC Mount Wilson 85.01 54 *e*P **P 17 01 50.0 +0.9**
MWC *e**PP **pP 17 02 18.4 +0.9**
MWC pmax pmax
comp=Z,19nm,1.0s
MWC Mount Wilson 85.01 54 *e*P **P 17 01 50.0 +0.9**
comp=Z,19nm,1.0s
MWC *e*pP **pP 17 02 18.4 +0.9**
ISA Isabella 85.15 52 *e*P **P 17 01 50.1 +0.5**
ISA *e**PP **pP 17 02 18.5 +0.5**
ISA pmax pmax
comp=Z,7.0nm,0.9s
ISA Isabella 85.15 52 *e*P **P 17 01 50.1 +0.5**
comp=Z,7.2nm,0.9s
ISA *e*pP **pP 17 02 18.5 +0.5**
ISA Isabella 85.15 52⇑P **P 17 01 50.7 +1.1**
baz=85
ISA ⇑P **P 17 01 50.7 +1.1**
baz=85
EDW2 Edwards Air Fo 85.28 53⇑P **P 17 01 51.3 +1.1**
baz=85
EDW2 ⇑P **P 17 01 51.3 +1.1**
baz=85
COLD Coldfoot 85.40 15 *e*P **P 17 01 50.0 0.0**
comp=Z,9.1nm,0.9s
COLD *e*pP **pP 17 02 20.2 +1.8**
WCN Washoe City 85.40 48 *e*P **P 17 01 51.8 +0.9**
WCN *e**PP **pP 17 02 22.3 +3.0**
WCN pmax pmax
comp=Z,21nm,1.2s
WCN Washoe City 85.40 48 *e*P **P 17 01 51.8 +0.9**
comp=Z,21nm,1.2s
WCN *e*pP **pP 17 02 22.3 +3.0**
WCN Washoe City 85.40 48⇓P **P 17 01 52.1 +1.2**
baz=86
WCN ⇓P **P 17 01 52.1 +1.2**
baz=86
LRMC Laurel Mountai 85.70 52⇑P **P 17 01 53.4 +1.1**
baz=86
LRMC ⇑P **P 17 01 53.4 +1.1**
baz=86
K05A Summer Lake 85.80 45⇓P **P 17 01 54.1 +1.2**
baz=86
K05A ⇓P **P 17 01 54.1 +1.2**
baz=86
MONP Monument Peak 85.90 55⇓P **P 17 01 54.6 +1.0**
baz=86
MONP ⇓P **P 17 01 54.6 +1.0**
baz=86
MOD Modoc 85.92 46 *e*P **P 17 01 54.0 +0.6**
comp=Z,16nm,0.9s
MOD *e*pP **pP 17 02 21.9 +0.1**
MPMC Manual Prospec 86.04 52⇓P **P 17 01 55.1 +0.9**
baz=86
MPMC ⇓P **P 17 01 55.1 +0.9**
baz=86
PFO Pinyon Flat Ob 86.09 55 *e*P **P 17 01 54.5 +0.1**
PFO pmax pmax
comp=Z,8.0nm,1.3s
PFO Pinyon Flat Ob 86.09 55 *e*P **P 17 01 54.5 +0.1**
comp=Z,8.2nm,1.3s
PFO Pinyon Flat Ob 86.09 55⇓P **P 17 01 55.3 +0.9**
baz=86
PFO ⇓P **P 17 01 55.3 +0.9**
baz=86
TAPN Taplejung 86.17 299⇑ *i*P **P 17 01 55.7 +0.6**
comp=Z,286nm,1.2s
TAPN Taplejung 86.17 299⇑ *i*P **P 17 01 55.7 +0.6**
NVAR Mina Array Bea 86.18 49 P **P 17 01 55.8 +1.0**
comp=Z,9.3nm,0.8s,baz=234,slow=8.5,SNR=27
NVAR pP **pP 17 02 21.7 -1.6**
comp=Z,3.3nm,0.7s,baz=236,slow=7.5,SNR=2.7
NVAR PKKPbc **PKKPbc 17 19 53.4 -1.1**
comp=Z,0.7nm,0.7s,baz=113,slow=3.7,SNR=5.9
NVAR PKPPKP **P'P'df 17 27 58.1 -1.9**
comp=Z,0.3nm,0.4s,baz=65,slow=15,SNR=4.4
NVAR LR LR 17 33 14.4
comp=Z,383nm,18.7s,baz=90,slow=30
NVAR Mina Array Bea 86.18 49 P **P 17 01 55.8 +1.0**
NVAR pP **pP 17 02 21.7 -1.6**
NVAR PKKPbc **PKKPbc 17 19 53.4 -1.1**
NVAR P'P' 17 27 58.1
ODAN Odare 86.31 298⇑ *i*P **P 17 01 56.5 +0.8**
comp=Z,420nm,0.9s
ODAN Odare 86.31 298⇑ *i*P **P 17 01 56.5 +0.8**
GSC Goldstone 86.33 53 *e*P **P 17 01 54.7 -0.8**
GSC *e**PP **pP 17 02 24.1 +0.2**
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone 86.33 53 *e*P **P 17 01 54.7 -0.8**
comp=Z,7.2nm,1.0s
GSC *e*pP **pP 17 02 24.1 +0.2**
GSC Goldstone 86.33 53⇓P **P 17 01 56.1 +0.7**
baz=86
GSC ⇓P **P 17 01 56.1 +0.7**
baz=86
EGAK Eagle 86.37 20 *e*P **P 17 01 54.8 -0.1**
comp=Z,17nm,0.7s
EGAK *e*pP **pP 17 02 21.6 -1.7**
SWSC Sam W. Stewart 86.42 55⇑P **P 17 01 56.9 +1.1**
baz=86
SWSC ⇑P **P 17 01 56.9 +1.1**
baz=86
HEC Hector,Ludlow 86.56 53⇓P **P 17 01 57.4 +0.8**
baz=87
HEC ⇓P **P 17 01 57.4 +0.8**
baz=87
BELC Belle Mtn. Jos 86.57 54⇑P **P 17 01 57.7 +1.0**
baz=87
BELC ⇑P **P 17 01 57.7 +1.0**
baz=87
VIPM Ingram Point 86.62 43 P **P 17 01 57.6 +0.8**
VIPM Ingram Point 86.62 43 P **P 17 01 57.6 +0.8**
FURC Furnace Creek, 86.65 52⇓P **P 17 01 58.1 +1.3**
baz=87
FURC ⇓P **P 17 01 58.1 +1.3**
baz=87
WPW White Pass 86.82 41 P **P 17 01 58.3 +0.7**
G06A Carlson Farm, 86.88 42⇑P **P 17 01 58.7 +0.8**
baz=87
G06A ⇑P **P 17 01 58.7 +0.8**
baz=87
RAMN Ramite 87.01 298⇑ *i*P **P 17 01 59.7 +0.6**
comp=Z,91nm,0.6s
RAMN Ramite 87.01 298⇑ *i*P **P 17 01 59.7 +0.6**
TUQ Turquoise Moun 87.06 53⇑P **P 17 02 00.0 +1.0**
baz=87
TUQ ⇑P **P 17 02 00.0 +1.0**
baz=87
I07A Izee 87.22 44⇓P **P 17 02 00.9 +1.2**
baz=87
I07A ⇓P **P 17 02 00.9 +1.2**
baz=87
GLA Glamis 87.23 55 *e*P **P 17 01 59.1 -0.7**
GLA *e**PP **pP 17 02 28.2 -0.1**
GLA pmax pmax
comp=Z,16nm,0.8s
GLA Glamis 87.23 55 *e*P **P 17 01 59.1 -0.7**
comp=Z,16nm,0.8s
GLA *e*pP **pP 17 02 28.2 -0.1**
GLA Glamis 87.23 55⇑P **P 17 02 01.3 +1.4**
baz=87
GLA ⇑P **P 17 02 01.3 +1.4**
baz=87
WVOR Wild Horse Val 87.26 46 *e*P **P 17 02 00.6 +0.7**
WVOR *e**PP **pP 17 02 29.9 +1.5**
WVOR pmax pmax
comp=Z,70nm,1.5s
WVOR Wild Horse Val 87.26 46 *e*P **P 17 02 00.6 +0.7**
comp=Z,70nm,1.5s
WVOR *e*pP **pP 17 02 29.9 +1.5**
IRM Iron Mountain 87.29 54⇑P **P 17 02 01.3 +1.2**
baz=87
IRM ⇑P **P 17 02 01.3 +1.2**
baz=87
A05A Maple Falls 87.34 39⇓P **P 17 02 00.7 +0.8**
baz=88

A05A ⇓P P 17 02 00.7 +0.8
baz=88
JIRN Jiri 87.55 299 ⇑*iP* P 17 02 02.6 +0.7
comp=Z,206nm,1.0s
JIRN Jiri 87.55 299 ⇑*iP* P 17 02 02.6 +0.7
LDFC Landfair 87.59 53 *eP* P 17 02 01.6 0.0
LDFC *epP* pP 17 02 32.3 +2.1
Y12C Blythe 87.67 55 ⇓P P 17 02 03.4 +1.5
baz=88
Y12C ⇓P P 17 02 03.4 +1.5
baz=88
J08A Circle Bar Ran 87.68 45 ⇓P P 17 02 02.8 +1.0
baz=88
J08A ⇓P P 17 02 02.8 +1.0
baz=88
GUN Gumba 87.88 299 ⇑*iP* P 17 02 04.0 +0.6
comp=Z,214nm,0.8s
GUN Gumba 87.88 299 ⇑*iP* P 17 02 04.0 +0.6
RSW Rattlesnake Hi 87.97 42 *eP* P 17 02 04.0 +1.0
comp=Z,14nm,0.8s
RSW *epP* pP 17 02 31.8 +0.2
HAWA Hanford 88.00 42 *eP* P 17 02 03.9 +0.8
comp=Z,66nm,1.5s
HAWA *epP* pP 17 02 32.3 +0.5
113A Mohawk Valley, 88.00 56 ⇓P P 17 02 04.9 +1.5
baz=88
113A ⇓P P 17 02 04.9 +1.5
baz=88
REDWA Red Mountain 88.03 42 P P 17 02 04.8 +1.5
PDMCI Parker Dam,Lak 88.13 54 ⇓P P 17 02 05.6 +1.6
baz=88
PDMCI ⇓P P 17 02 05.6 +1.6
baz=88
R11A Troy Canyon, C 88.19 50 ⇓P P 17 02 05.4 +0.9
baz=88
R11A ⇓P P 17 02 05.4 +0.9
baz=88
PKI Pulchoki 88.19 299 ⇑*iP* P 17 02 05.3 +0.4
comp=Z,199nm,0.7s
PKI Pulchoki 88.19 299 ⇑*iP* P 17 02 05.3 +0.4
PKI Pulchoki 88.19 299 ⇑*iP* P 17 02 05.3 +0.4
Z13A Yuma Proving G 88.21 56 ⇓P P 17 02 05.9 +1.5
baz=88
Z13A ⇓P P 17 02 05.9 +1.5
baz=88
KKN Kakani 88.36 299 ⇑*iP* P 17 02 06.1 +0.6
comp=Z,240nm,0.8s
KKN Kakani 88.36 299 ⇑*iP* P 17 02 06.1 +0.6
KKN Kakani 88.36 299 ⇑*iP* P 17 02 06.1 +0.6
DMN Daman 88.46 299 ⇑*iP* P 17 02 06.8 +0.7
comp=Z,553nm,0.7s
DMN Daman 88.46 299 ⇑*iP* P 17 02 06.8 +0.7
W13A Hualapai Mount 88.56 54 ⇓P P 17 02 07.5 +1.1
baz=89
W13A ⇓P P 17 02 07.5 +1.1
baz=89
214A Organ Pipe Nat 88.56 57 ⇓P P 17 02 07.8 +1.7
baz=89
214A ⇓P P 17 02 07.8 +1.7
baz=89
114A Black Gap (USA 88.72 56 ⇓P P 17 02 08.4 +1.5
baz=89
114A ⇓P P 17 02 08.4 +1.5
baz=89
Z14A Wintersburg 88.83 56 ⇑P P 17 02 08.7 +1.4
baz=89
Z14A ⇑P P 17 02 08.7 +1.4
baz=89
OD2 Odessa Site #2 88.88 41 *eP* P 17 02 08.1 +0.8
comp=Z,19nm,1.3s
OD2 *epP* pP 17 02 36.7 +0.8
E09A Wood Farm, Sta 88.95 42 ⇓P P 17 02 08.5 +1.0
baz=89
E09A ⇓P P 17 02 08.5 +1.0
baz=89
BMO Blue Mountains 88.97 44 *eP* P 17 02 08.4 +0.6
BMO *e**PP pP 17 02 37.5 +1.1
BMO pmax pmax
comp=Z,49nm,1.6s
BMO Blue Mountains 88.97 44 *eP* P 17 02 08.4 +0.6
comp=Z,49nm,1.6s
BMO *epP* pP 17 02 37.5 +1.1
GKN Gorkha 88.97 299 ⇑*iP* P 17 02 08.4 +0.1
comp=Z,371nm,0.8s
GKN Gorkha 88.97 299 ⇑*iP* P 17 02 08.4 +0.1
ELK Elko 89.15 48 *eP* P 17 02 09.4 +0.4
ELK *e**PP pP 17 02 38.6 +1.0
ELK Elko 89.15 48 *eP* P 17 02 09.4 +0.4
ELK *epP* pP 17 02 38.6 +1.0
R13A O'Grain Ranch, 89.35 51 ⇑P P 17 02 11.3 +1.3
baz=90
R13A ⇑P P 17 02 11.3 +1.3
baz=90
F10A Beach Ranch, E 89.38 43 ⇓P P 17 02 10.5 +0.8
baz=90
F10A ⇓P P 17 02 10.5 +0.8
baz=90
MFID Camas Ranch 89.53 45 *eP* P 17 02 10.9 +0.3
comp=Z,21nm,0.9s
MFID *epP* pP 17 02 39.6 +0.4
MFID Camas Ranch 89.53 45 ⇓P P 17 02 11.5 +1.0
baz=90
MFID ⇓P P 17 02 11.5 +1.0
baz=90
CCUT Cedar City 89.64 51 *eP* P 17 02 12.4 +1.1
comp=Z,22nm,1.1s
CCUT *epP* pP 17 02 41.0 +1.1
ARUT Antelope Range 89.65 51 *eP* P 17 02 12.5 +1.2
ARUT *e**PP pP 17 02 39.7 -0.2
ARUT pmax pmax
comp=Z,16nm,1.0s
ARUT Antelope Range 89.65 51 *eP* P 17 02 12.5 +1.2
comp=Z,16nm,1.0s
ARUT *epP* pP 17 02 39.7 -0.2
KOLN Koldanda 89.80 298 ⇑*iP* P 17 02 12.1 -0.2
comp=Z,100nm,0.7s
KOLN Koldanda 89.80 298 ⇑*iP* P 17 02 12.1 -0.2
DANN Dangsing 89.80 299 ⇑*iP* P 17 02 12.3 -0.1
comp=Z,239nm,0.7s
DANN Dangsing 89.80 299 ⇑*iP* P 17 02 12.3 -0.1
I12A Atlanta 90.12 45 ⇑P P 17 02 14.5 +1.1
baz=90
I12A ⇑P P 17 02 14.5 +1.1
baz=90
U15A North Rim 90.17 53 ⇑P P 17 02 15.4 +1.5
baz=90
U15A ⇑P P 17 02 15.4 +1.5
baz=90
TUC Tucson 90.31 57 *eP* P 17 02 15.9 +1.5
TUC *e**PP pP 17 02 43.3 +0.3
TUC pmax pmax
comp=Z,46nm,1.5s
TUC Tucson 90.31 57 *eP* P 17 02 15.9 +1.5
comp=Z,46nm,1.5s
TUC *epP* pP 17 02 43.3 +0.3
X16A Lo Mia Camp, P 90.31 55 ⇓P P 17 02 16.1 +1.6
baz=90
X16A ⇓P P 17 02 16.1 +1.6
baz=90
H12A Diamond D Ranc 90.54 44 ⇓P P 17 02 16.1 +0.8
baz=91
H12A ⇓P P 17 02 16.1 +0.8
baz=91
Y17A Roosevelt 90.61 56 ⇓P P 17 02 16.6 +0.9
baz=91
Y17A ⇓P P 17 02 16.6 +0.9
baz=91
F12A Elk City 90.62 43 ⇓P P 17 02 16.2 +0.6
baz=91
F12A ⇓P P 17 02 16.2 +0.6
baz=91
R15A Junction 90.65 51 ⇓P P 17 02 17.6 +1.7
baz=91
R15A ⇓P P 17 02 17.6 +1.7
baz=91
WUAZ Wupatki 90.65 54 *eP* P 17 02 17.3 +1.3
comp=Z,14nm,1.0s
WUAZ *epP* pP 17 02 46.0 +1.4
WUAZ Wupatki 90.65 54 ⇑P P 17 02 17.6 +1.5
baz=91
WUAZ ⇑P P 17 02 17.6 +1.5
baz=91
J13A Cove Ranch, Pi 90.68 46 ⇓P P 17 02 17.3 +1.3
baz=91
J13A ⇓P P 17 02 17.3 +1.3
baz=91
SYO Syowa Base 90.71 197 ⇓*iP* P 17 02 14.4 -1.0

318A Bisbee 90.75 58 ⇓P P 17 02 18.3 +1.7
baz=91
318A ⇓P P 17 02 18.3 +1.7
baz=91
DUG Dugway 90.77 49 *eP* P 17 02 16.8 +0.3
DUG *e**PP pP 17 02 46.5 +1.4
DUG pmax pmax
comp=Z,14nm,0.9s
DUG Dugway 90.77 49 *eP* P 17 02 16.8 +0.3
comp=Z,14nm,0.9s
DUG *epP* pP 17 02 46.5 +1.4
DUG Dugway 90.77 49 ⇑P P 17 02 17.5 +1.1
baz=91
DUG ⇑P P 17 02 17.5 +1.1
baz=91
MSU Marysvale 90.80 51 *eP* P 17 02 18.4 +1.7
MSU *e**PP pP 17 02 47.0 +1.6
MSU pmax pmax
comp=Z,18nm,1.1s
MSU Marysvale 90.80 51 *eP* P 17 02 18.4 +1.7
comp=Z,18nm,1.1s
MSU *epP* pP 17 02 47.0 +1.6
WMQ Urumqi 90.80 315 P P 17 02 18.5 +2.1
WMQ pP pP 17 02 47.6 +2.6
WMQ sP sP 17 02 59.5 +2.8
WMQ pmax pmax
comp=Z,81nm,1.2s
WMQ pmax pmax
comp=Z,310nm,5.0s
218A Dragoon 90.84 58 ⇓P P 17 02 18.7 +1.7
baz=91
218A ⇓P P 17 02 18.7 +1.7
baz=91
I13A Wildhorse Cree 90.86 45 ⇑P P 17 02 18.2 +1.3
baz=91
I13A ⇑P P 17 02 18.2 +1.3
baz=91
H13A Challis 90.95 45 ⇑P P 17 02 18.5 +1.3
baz=91
H13A ⇑P P 17 02 18.5 +1.3
baz=91
L14A Malta 90.96 47 ⇓P P 17 02 18.5 +1.2
baz=91
L14A ⇓P P 17 02 18.5 +1.2
baz=91
P15A Leamington 91.00 50 ⇓P P 17 02 18.8 +1.2
baz=91
P15A ⇓P P 17 02 18.8 +1.2
baz=91
S16A Weppner Ranch, 91.04 52 ⇑P P 17 02 18.8 +1.0
baz=91
S16A ⇑P P 17 02 18.8 +1.0
baz=91
W17A Winslow 91.06 54 ⇓P P 17 02 19.3 +1.4
baz=91
W17A ⇓P P 17 02 19.3 +1.4
baz=91
J14A Carey 91.12 46 ⇑P P 17 02 19.2 +1.2
baz=91
J14A ⇑P P 17 02 19.2 +1.2
baz=91
G13A Cobalt 91.12 44 ⇓P P 17 02 18.8 +0.8
baz=91
G13A ⇓P P 17 02 18.8 +0.8
baz=91
V17A Tonalea, Kykot 91.13 54 ⇑P P 17 02 19.2 +1.0
baz=91
V17A ⇑P P 17 02 19.2 +1.0
baz=91
K14A Jones Ranch, D 91.14 47 ⇑P P 17 02 19.3 +1.2
baz=91
K14A ⇑P P 17 02 19.3 +1.2
baz=91
HVU Hansel Valley 91.22 48 *eP* P 17 02 18.9 +0.4
HVU *e**PP pP 17 02 49.0 +1.8
HVU pmax pmax
comp=Z,26nm,1.1s
HVU Hansel Valley 91.22 48 *eP* P 17 02 18.9 +0.4
comp=Z,26nm,1.1s
HVU *epP* pP 17 02 49.0 +1.8
R16A Teasdale 91.27 51 ⇑P P 17 02 20.4 +1.5
baz=91
R16A ⇑P P 17 02 20.4 +1.5
baz=91
Y18A Canyon Day Jun 91.29 56 ⇑P P 17 02 20.5 +1.5
baz=91
Y18A ⇑P P 17 02 20.5 +1.5
baz=91
I14A Mackay 91.33 45 ⇑P P 17 02 20.5 +1.5
baz=91
I14A ⇑P P 17 02 20.5 +1.5
baz=91
319A Douglas 91.33 58 ⇑P P 17 02 20.8 +1.6
baz=91
319A ⇑P P 17 02 20.8 +1.6
baz=91
M15A Larsen Ranch, 91.38 48 ⇓P P 17 02 20.2 +1.0
baz=92
M15A ⇓P P 17 02 20.2 +1.0
baz=92
T17A Navajo Res., N 91.47 53 ⇓P P 17 02 20.7 +0.9
baz=92
T17A ⇓P P 17 02 20.7 +0.9
baz=92
E13A Victor 91.53 43 ⇑P P 17 02 21.1 +1.4
baz=92
E13A ⇑P P 17 02 21.1 +1.4
baz=92
X18A Snowflake 91.53 55 ⇓P P 17 02 21.6 +1.5
baz=92
X18A ⇓P P 17 02 21.6 +1.5
baz=92
BSMT Bassoo Peak 91.54 41 *eP* P 17 02 20.1 +0.2
comp=Z,15nm,0.9s
BSMT *epP* pP 17 02 48.8 +0.3
L15A Malad City 91.56 47 ⇓P P 17 02 21.1 +1.0
baz=92
L15A ⇓P P 17 02 21.1 +1.0
baz=92
H14A Leadore 91.58 45 ⇓P P 17 02 21.2 +1.1
baz=92
H14A ⇓P P 17 02 21.2 +1.1
baz=92
S17A Black Ridge (B 91.63 52 ⇑P P 17 02 21.2 +0.8
baz=92
S17A ⇑P P 17 02 21.2 +0.8
baz=92
119A Ashpeak Ranch, 91.64 57 ⇑P P 17 02 21.5 +0.8
baz=92
119A ⇑P P 17 02 21.5 +0.8
baz=92
K15A Arbon 91.64 47 ⇓P P 17 02 21.7 +1.3
baz=92
K15A ⇓P P 17 02 21.7 +1.3
baz=92
G14A Jackson 91.68 44 ⇑P P 17 02 21.6 +1.0
baz=92
G14A ⇑P P 17 02 21.6 +1.0
baz=92
Z19A T-Link Ranch, 91.79 56 ⇓P P 17 02 22.5 +1.2
baz=92
Z19A ⇓P P 17 02 22.5 +1.2
baz=92
V18A Ganado 91.83 54 ⇓P P 17 02 22.6 +1.0
baz=92
V18A ⇓P P 17 02 22.6 +1.0
baz=92
R17A Hanksville Air 91.89 51 ⇓P P 17 02 22.7 +1.1
baz=92
R17A ⇓P P 17 02 22.7 +1.1
baz=92
J15A Blackfoot 91.90 46 ⇑P P 17 02 23.3 +1.7
baz=92
J15A ⇑P P 17 02 23.3 +1.7
baz=92
F14A Wisdom 91.90 44 ⇑P P 17 02 22.2 +0.6
baz=92
F14A ⇑P P 17 02 22.2 +0.6
baz=92
Y19A Nutrioso 91.96 56 ⇓P P 17 02 23.2 +1.0
baz=92
Y19A ⇓P P 17 02 23.2 +1.0
baz=92
N16A Rees Ranch, Co 91.96 49 ⇓P P 17 02 23.4 +1.3
baz=92
N16A ⇓P P 17 02 23.4 +1.3
baz=92
MCMT McKenzie Canyo 91.99 45 *eP* P 17 02 23.2 +1.1

comp=Z,2.0nm,0.8s
MCMT *epP* pP 17 02 52.3 +1.6
H15A Lima 92.07 45 ⇓P P 17 02 23.7 +1.3
baz=92
H15A ⇓P P 17 02 23.7 +1.3
baz=92
220A Playas Peak, P 92.08 58 ⇓P P 17 02 24.2 +1.5
baz=92
220A ⇓P P 17 02 24.2 +1.5
baz=92
T18A Mexican Hat 92.22 53 ⇑P P 17 02 24.3 +1.0
baz=92
T18A ⇑P P 17 02 24.3 +1.0
baz=92
L16A Fish Haven 92.25 48 ⇓P P 17 02 24.2 +0.9
baz=92
L16A ⇓P P 17 02 24.2 +0.9
baz=92
S18A Hurst Farm, Bl 92.26 52 ⇑P P 17 02 24.3 +0.8
baz=92
S18A ⇑P P 17 02 24.3 +0.8
baz=92
DLMT Dillon 92.30 44 *eP* P 17 02 24.2 +0.8
comp=Z,12nm,1.0s
DLMT *epP* pP 17 02 53.3 +1.2
G15A Dillon 92.32 44 ⇓P P 17 02 24.6 +1.0
baz=92
G15A ⇓P P 17 02 24.6 +1.0
baz=92
Q18A Rafter H Ranch 92.50 51 ⇓P P 17 02 25.3 +0.9
baz=93
Q18A ⇓P P 17 02 25.3 +0.9
baz=93
F15A Butte 92.50 44 ⇓P P 17 02 24.8 +0.4
baz=93
F15A ⇓P P 17 02 24.8 +0.4
baz=93
R18A Canyonlands Na 92.50 51 ⇓P P 17 02 25.5 +0.9
baz=93
R18A ⇓P P 17 02 25.5 +0.9
baz=93
LRM Limekiln Ridge 92.52 44 *eP* P 17 02 24.5 0.0
comp=Z,50nm,1.1s
LRM *epP* pP 17 02 53.2 0.0
E15A Deer Lodge 92.55 43 ⇑P P 17 02 25.4 +0.9
baz=93
E15A ⇑P P 17 02 25.4 +0.9
baz=93
B14A Marquette Ranc 92.66 41 ⇑P P 17 02 25.4 +0.4
baz=93
B14A ⇑P P 17 02 25.4 +0.4
baz=93
RRI2 Red Ridge 92.67 46 *eP* P 17 02 24.9 -0.4
comp=Z,3.8nm,0.8s
RRI2 *epP* pP 17 02 55.5 +1.5
M17A Scullys Gap (B 92.67 48 ⇑P P 17 02 25.7 +0.4
baz=93
M17A ⇑P P 17 02 25.7 +0.4
baz=93
I16A Newdale 92.69 46 ⇓P P 17 02 26.6 +1.3
baz=93
I16A ⇓P P 17 02 26.6 +1.3
baz=93
221A Mesquite Ranch 92.72 58 ⇓P P 17 02 26.9 +1.3
baz=93
221A ⇓P P 17 02 26.9 +1.3
baz=93
G16A Moss Hill, Enn 92.81 44 ⇑P P 17 02 26.9 +1.1
baz=93
G16A ⇑P P 17 02 26.9 +1.1
baz=93
121A Cookes Peak, D 92.83 57 ⇑P P 17 02 27.2 +1.0
baz=93
121A ⇑P P 17 02 27.2 +1.0
baz=93
W20A Ramah 92.83 55 ⇓P P 17 02 27.0 +0.7
baz=93
W20A ⇓P P 17 02 27.0 +0.7
baz=93
C15A Salmond Ranch, 92.93 42 ⇓P P 17 02 26.8 +0.6
baz=93
C15A ⇓P P 17 02 26.8 +0.6
baz=93
S19A Harvey Farm, M 92.94 52 ⇓P P 17 02 27.4 +0.8
baz=93
S19A ⇓P P 17 02 27.4 +0.8
baz=93
QLMT Earthquake Lak 92.96 45 *eP* P 17 02 28.0 +1.4
comp=Z,0.2nm,0.3s
QLMT *epP* pP 17 02 53.4 -1.8
BOZ Bozeman (W) 93.03 44 ⇓P P 17 02 27.9 +1.1
baz=93
BOZ ⇓P P 17 02 27.9 +1.1
baz=93
BOZ ⇓P P 17 02 27.9 +1.1
baz=93
BOZ ⇓P P 17 02 27.9 +1.1
baz=93
H16A Russell Place, 93.06 45 ⇓P P 17 02 28.3 +1.3
baz=93
H16A ⇓P P 17 02 28.3 +1.3
baz=93
F16A Kennard Place, 93.07 44 ⇑P P 17 02 27.8 +0.9
baz=93
F16A ⇑P P 17 02 27.8 +0.9
baz=93
B15A Bradely Ranch, 93.10 41 ⇓P P 17 02 27.7 +0.7
baz=93
B15A ⇓P P 17 02 27.7 +0.7
baz=93
E16A East Helena 93.23 43 ⇓P P 17 02 28.4 +0.8
baz=93
E16A ⇓P P 17 02 28.4 +0.8
baz=93
Y21A Point of Rocks 93.25 56 ⇑P P 17 02 29.6 +1.4
baz=93
Y21A ⇑P P 17 02 29.6 +1.4
baz=93
Z22A Elephant Butte 93.66 57 ⇑P P 17 02 30.9 +0.9
baz=94
Z22A ⇑P P 17 02 30.9 +0.9
baz=94
B16A M & M Farms, S 93.68 41 ⇑P P 17 02 30.5 +0.9
baz=94
B16A ⇑P P 17 02 30.5 +0.9
baz=94
PD01 Pinedale Array 93.77 47 *eP* P 17 02 29.3 -1.1
PD01 *epP* pP 17 03 01.6 +2.5
BW06 Boulder Array 93.78 47 ⇓P P 17 02 31.4 +1.0
baz=94
BW06 ⇓P P 17 02 31.4 +1.0
baz=94
BW06 ⇓P P 17 02 31.4 +1.0
baz=94
BW06 ⇓P P 17 02 31.4 +1.0
baz=94
PDAR Pinedale Array 93.78 47 P P 17 02 30.2 -0.2
comp=Z,1.1nm,0.6s,baz=201,slow=1.6,SNR=7.7
PDAR PKKPbc **PKKPdf** 17 19 33.4 -1.2
comp=Z,0.9nm,0.7s,baz=99,slow=6.0,SNR=7.5
PDAR LR LR 17 38 44.6
comp=Z,152nm,18.9s,baz=251,slow=32
PDAR Pinedale Array 93.78 47 P P 17 02 30.2 -0.2
PDAR PKKPbc **PKKPdf** 17 19 33.4 -1.2
U21A Nageezi 93.79 54 ⇓P P 17 02 31.7 +1.1
baz=94
U21A ⇓P P 17 02 31.7 +1.1
baz=94
Y22A Socorro 93.81 56 ⇓P P 17 02 31.5 +0.8
baz=94
Y22A ⇓P P 17 02 31.5 +0.8
baz=94
A16A West Butte Ran 93.88 41 ⇓P P 17 02 31.4 +0.9
baz=94
A16A ⇓P P 17 02 31.4 +0.9
baz=94
S21A Coal Bank Pass 93.96 52 ⇓P P 17 02 32.7 +1.2
baz=94
S21A ⇓P P 17 02 32.7 +1.2
baz=94
C17A Wharram Farm, 94.10 42 ⇓P P 17 02 32.4 +0.9
baz=94
C17A ⇓P P 17 02 32.4 +0.9
baz=94
O20A White River Ci 94.15 50 ⇓P P 17 02 32.5 +0.4
baz=94
O20A ⇓P P 17 02 32.5 +0.4
baz=94

B17A L&G Farms, Che 94.24 42 ⇓P **P 17 02 33.0 +0.8**
baz=94
B17A ⇓P **P 17 02 33.0 +0.8**
baz=94
J19A Crowheart 94.26 47 ⇓P **P 17 02 33.3 +0.8**
baz=94
J19A ⇓P **P 17 02 33.3 +0.8**
baz=94
R21A Cimarron 94.29 52 ⇓P **P 17 02 33.9 +1.0**
baz=94
R21A ⇓P **P 17 02 33.9 +1.0**
baz=94
A17A Triple J Farms 94.46 41 ⇓P **P 17 02 33.9 +0.7**
baz=94
A17A ⇓P **P 17 02 33.9 +0.7**
baz=94
324A Moseley Ranch, 94.51 59 ⇑P **P 17 02 34.6 +0.7**
baz=95
324A ⇑P **P 17 02 34.6 +0.7**
baz=95
224A Cornudas Mount 94.61 58 ⇑P **P 17 02 35.4 +1.1**
baz=95
224A ⇑P **P 17 02 35.4 +1.1**
baz=95
S22A 4UR Ranch, Cre 94.72 53 ⇑P **P 17 02 36.0 +1.1**
baz=95
S22A ⇑P **P 17 02 36.0 +1.1**
baz=95
N21A Black Mountain 94.83 49 ⇑P **P 17 02 36.5 +1.3**
baz=95
N21A ⇑P **P 17 02 36.5 +1.3**
baz=95
Q22A Crested Butte, 94.89 51 ⇑P **P 17 02 36.6 +0.9**
baz=95
Q22A ⇑P **P 17 02 36.6 +0.9**
baz=95
SMCO Snowmass 94.91 51 *e*P **P 17 02 36.4 +0.5**
comp=Z,5.2nm,1.1s
325A Bean Ranch, Si 94.92 59 ⇓P **P 17 02 36.4 +0.5**
baz=95
325A ⇓P **P 17 02 36.4 +0.5**
baz=95
P22A Eagle 95.15 51 ⇓P **P 17 02 37.8 +1.0**
baz=95
P22A ⇓P **P 17 02 37.8 +1.0**
baz=95
NVL N'lazarevskaya 95.20 188 *e*P **P 17 02 39.2 +3.1**
NVL pmax pmax
comp=Z,42nm,0.8s
MAIT Maitri 95.21 188 *e*P **P 17 02 37.5 +1.4**
MK31 Makanchi Array 95.24 317⇑ *i*P **P 17 02 37.0 +0.3**
MK31 Makanchi Array 95.24 317⇑ *i*P **P 17 02 37.0 +0.3**
MKAR Makanchi Array 95.24 317 P **P 17 02 37.4 +0.7**
comp=Z,83nm,0.8s,baz=96,slow=6.4,SNR=103
MKAR pP **pP 17 03 02.9 -2.5**
comp=Z,16nm,0.9s,baz=95,slow=6.1,SNR=3.2
MKAR PKKPbc **PKKPbc 17 19 29.2 -2.4**
comp=Z,7.4nm,0.7s,baz=279,slow=3.1,SNR=57
MKAR Makanchi Array 95.24 317 P **P 17 02 37.4 +0.7**
MKAR *PP **pP 17 03 02.9 -2.5**
MKAR pmax pmax
comp=Z,83nm,0.8s
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 95.24 317 P **P 17 02 37.4 +0.7**
MKAR pP **pP 17 03 02.9 -2.5**
MKAR PKKPbc **PKKPbc 17 19 29.2 -2.4**
C19A Slack Wire Ran 95.25 42 ⇑P **P 17 02 37.9 +1.1**
baz=95
C19A ⇑P **P 17 02 37.9 +1.1**
baz=95
626A Big Bend Ranch 95.28 61 ⇓P **P 17 02 37.8 +0.4**
baz=95
626A ⇓P **P 17 02 37.8 +0.4**
baz=95
ZAA0 Zalesovo Array 95.29 324 *e*P **P 17 02 35.8 -0.9**
ZAA0 *ep*P **pP 17 03 01.5 -3.9**
ZALV Zalesovo Beam 95.29 324 P **P 17 02 36.1 -0.6**
comp=Z,26nm,0.8s,baz=112,slow=4.5,SNR=70
ZALV pP **pP 17 03 02.0 -3.4**
comp=Z,9.9nm,0.8s,baz=106,slow=5.3,SNR=4.4
ZALV PKKPbc **PKKPbc 17 19 29.4 -2.4**
comp=Z,2.2nm,0.5s,baz=290,slow=2.8,SNR=14
ZALV LR LR 17 42 22.1
comp=Z,70nm,21.4s,baz=71,slow=33
ZALV Zalesovo Beam 95.29 324 P **P 17 02 36.1 -0.6**
ZALV *PP **pP 17 03 02.0 -3.4**
ZALV pmax pmax
comp=Z,26nm,0.8s
ZALV pmax pmax
comp=Z,10.0nm,0.9s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,70nm,21.5s
ZALV Zalesovo Beam 95.29 324 P **P 17 02 36.1 -0.6**
ZALV pP **pP 17 03 02.0 -3.4**
ZALV PKKPbc **PKKPbc 17 19 29.4 -2.4**
O22A Kremmling 95.43 50 ⇓P **P 17 02 38.8 +0.7**
baz=96
O22A ⇓P **P 17 02 38.8 +0.7**
baz=96
TXAR Lajitas Array 95.63 61 P **P 17 02 40.0 +1.0**
comp=Z,2.2nm,0.7s,baz=226,slow=5.4,SNR=23
TXAR PKKPbc **PKKPbc 17 19 28.4 -1.5**
comp=Z,0.5nm,0.6s,baz=86,slow=5.2,SNR=8.7
TXAR PKPPKP **P'P'df 17 27 40.4 -2.6**
comp=Z,0.2nm,0.8s,baz=198,slow=5.4,SNR=2.3
TXAR LR LR 17 39 13.0
comp=Z,247nm,20.6s,baz=5.0,slow=31
TXAR Lajitas Array 95.63 61 P **P 17 02 40.0 +1.0**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,247nm,20.6s
TXAR Lajitas Array 95.63 61 P **P 17 02 40.0 +1.0**
TXAR PKKPbc **PKKPbc 17 19 28.4 -1.5**
TXAR P'P' 17 27 40.4
SNAA Sanae 95.76 183 *e* **P 17 02 39.6 +0.9**
SNAA *e* 17 07 18.1
SNAA Sanae 95.76 183 *e*P **P 17 02 39.2 +0.5**
SNAA Sanae 95.76 183 *e*P **P 17 02 39.2 +0.5**
627A Terlingua Ranc 95.89 61 ⇑P **P 17 02 40.8 +0.6**
baz=96
627A ⇑P **P 17 02 40.8 +0.6**
baz=96
Z26A Caprock 96.12 57 ⇑P **P 17 02 41.6 +0.4**
baz=96
Z26A ⇑P **P 17 02 41.6 +0.4**
baz=96
NVS Novosibirsk 96.40 325 *e*P **P 17 02 40.2 -1.5**
NVS *e* **pP 17 03 07.5 -2.9**
NVS *eS* **SKSac 17 13 06.7 -1.4**
NVS pmax pmax
comp=Z,47nm,2.0s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,14nm,1.9s
NVS pmax pmax
comp=N,4.0nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.6s
NVS smax smax
comp=N,4.0nm,1.3s
NVS smax smax
comp=E,8.0nm,1.5s
VNA3 Neumayer Olymp 96.45 181 *e* **P 17 02 43.0 +1.2**
VNA3 *e* 17 07 19.4
528A Cox Ranch, San 96.54 61 ⇓P **P 17 02 43.9 +0.8**
baz=97
528A ⇓P **P 17 02 43.9 +0.8**
baz=97
VNA2 Neumayer--Watz 96.71 182 *e* **P 17 02 44.4 +1.5**
VNA2 *e* 17 07 21.9
VNA1 Neumayer--Stat 97.01 182 *e* **P 17 02 46.0 +1.7**
KURK Kurchatov 98.37 320 P **P 17 02 50.4 -0.3**
comp=E,6.5nm,0.7s,baz=101,slow=3.4,SNR=16
KURK PP **PP 17 06 50.8 -1.4**
comp=E,2.1nm,0.8s,baz=97,slow=7.3,SNR=3.1
KURK PKKPbc **PKKPbc 17 19 21.1 -2.1**
comp=E,3.3nm,0.7s,baz=276,slow=2.9,SNR=19
KURK PKPPKP **P'P'df 17 27 36.1 0.0**
comp=E,0.4nm,0.3s,baz=295,slow=2.5,SNR=8.0
KURK Kurchatov 98.37 320 P **P 17 02 50.4 -0.3**
KURK 17 06 50.8
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 98.37 320⇑ *i*P **P 17 02 49.8 -0.9**
comp=Z,16nm,1.3s
KURK PP **PP 17 06 50.8 -1.4**
KURK PKKPbc **PKKPbc 17 19 21.1 -2.1**
KURK P'P' 17 27 36.1
KSH Kashi 98.42 309 *e*P Pdif 17 02 53.0 +1.6
KSH pmax pmax
comp=Z,120nm,4.5s
KSH LR LR
comp=N,99nm,5.0s
KSH LR LR
comp=E,100nm,4.4s
KSH LR LR
comp=Z,150nm,6.1s
TKM2 Tokmak 2 99.22 312⇑ *e*P **Pdif 17 02 54.6 -0.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 99.22 312⇑ *e*P **Pdif 17 02 54.6 -0.4**
comp=Z,6.9nm,0.8s
AAK Ala-Archa 99.98 312 *de*P **Pdif 17 02 58.7 +0.3**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 99.98 312 *e*Pdif **Pdif 17 02 57.5 -0.8**
comp=Z,17nm,0.8s
EKS2 Erkin-Say 100.51 311 *e*P **Pdif 17 03 00.2 -0.4**
EKS2 Erkin-Say 100.51 311 *e*Pdif **Pdif 17 03 00.2 -0.4**
BVAR Borovoye Array 103.68 322 PP PP 17 07 27.2 -5.0
comp=Z,2.0nm,0.8s,baz=99,slow=9.2,SNR=4.3
BVAR PKiKP **PP 17 07 32.8 +0.6**
comp=Z,3.2nm,0.7s,baz=114,slow=1.8,SNR=7.6
BVAR PKKPbc **PKKPbc 17 19 05.8 -2.1**
comp=Z,1.3nm,0.7s,baz=264,slow=3.0,SNR=7.4
BVAR Borovoye Array 103.68 322 PP PP 17 07 27.2 -5.0
BVAR PKiKP **PP 17 07 32.8 +0.6**
BVAR PKKPbc **PKKPbc 17 19 05.8 -2.1**
BRVK Borovoye 103.75 322 *e*P **Pdif 17 03 13.6 -1.0**
BRVK Borovoye 103.75 322 *e*Pdif **Pdif 17 03 13.6 -1.0**
RES Resolute Bay 104.15 16 PKiKP **PKiKP 17 07 32.0 -0.2**
comp=Z,3.3nm,0.7s,baz=202,slow=1.6,SNR=8.4
RES PKKPbc **PKKPbc 17 19 04.5 -2.6**
comp=Z,0.7nm,0.5s,baz=311,slow=1.9,SNR=4.2
RES PKKPab **PKKPab 17 19 23.7 +0.9**
comp=Z,2.8nm,1.0s,baz=97,slow=3.4,SNR=4.3
RES Resolute Bay 104.15 16 PKiKP **PKiKP 17 07 32.0 -0.2**
RES PKKPbc **PKKPbc 17 19 04.5 -2.6**
RES PKKPab **PKKPab 17 19 23.7 +0.9**
ULM Lac du Bonnet 104.17 41 PKiKP **PKiKP 17 07 32.4 -0.6**
comp=Z,3.4nm,0.6s,baz=224,slow=4.5,SNR=7.1
ULM Lac du Bonnet 104.17 41 PKiKP **PKiKP 17 07 32.4 -0.6**
ABKAR Akbulak array 110.32 318 *e*PKPdf **PKiKP 17 07 44.1 -0.3**
ARU Arti 110.36 326 *i*PKiKP **PKiKP 17 07 44.5 +0.2**
ARU 17 08 20.1
ARU SS SS 17 23 36.0 -3.9
ARU Arti 110.36 326 *e*PKPdf **PKiKP 17 07 44.2 -0.1**
AKTO Aktyubinsk 111.45 319 PKiKP **PKiKP 17 07 46.8 +0.2**
comp=Z,7.2nm,0.6s,baz=86,slow=3.4,SNR=33
AKTO PKKPbc **PKKPbc 17 18 40.0 -3.5**
comp=Z,3.8nm,0.9s,baz=268,slow=2.3,SNR=14
AKTO Aktyubinsk 111.45 319 *i*PKiKP **PKiKP 17 07 46.8 +0.2**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 111.45 319 PKiKP **PKiKP 17 07 46.8 +0.2**
AKTO PKKPbc **PKKPbc 17 18 40.0 -3.5**
CFAA Coronel Fontan 111.47 131 PKKPbc PKKPbc 17 18 39.0 -3.7
comp=Z,0.2nm,0.6s,baz=64,slow=1.9,SNR=5.4
CFAA Coronel Fontan 111.47 131 PKKPbc PKKPbc 17 18 39.0 -3.7
NNA Nana 112.37 109 *c*/PKiKP **PKiKP 17 07 53.2 +3.8**
SPA0 Spitsbergen Ar 112.65 354 *e*P **PKiKP 17 07 48.6 +0.4**
SPITS Spitsbergen Ar 112.65 354 PKiKP **PKiKP 17 07 48.5 +0.4**
comp=Z,6.9nm,0.6s,baz=73,slow=6.7,SNR=22
SPITS Spitsbergen Ar 112.65 354 PKiKP **PKiKP 17 07 48.6 +0.4**
SPITS Spitsbergen Ar 112.65 354 PKiKP **PKiKP 17 07 48.5 +0.4**
HOPEN Hopen 112.87 351 *e*P **PKiKP 17 07 49.2 +0.6**
HOPEN AMB AMB 17 07 52.0
comp=Z,90nm,1.8s
DAG Danmarks Havn 115.64 1 *i*PKiKP **PKPdf 17 07 53.3 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 115.64 1 *i*P **PKPdf 17 07 53.3 -0.6**
comp=Z,42nm,0.7s
SADO Sadowa 115.76 46 PKP **PKPdf 17 07 54.4 -0.7**
comp=Z,5.1nm,0.7s,baz=303,slow=2.7,SNR=3.2
SADO Sadowa 115.76 46 PKP **PKPdf 17 07 54.4 -0.7**
FRB Frobisher Bay 116.07 24 PKP **PKPdf 17 07 54.0 -0.9**
comp=Z,5.5nm,0.6s,baz=356,slow=1.4,SNR=14
FRB Frobisher Bay 116.07 24 PKiKP **PKPdf 17 07 54.0 -0.9**
FRB pmax pmax
comp=Z,6.0nm,0.6s
FRB Frobisher Bay 116.07 24 PKP **PKPdf 17 07 54.0 -0.9**
ISHM Shahmirzad 116.18 304 *e*P **PKPdf 17 07 56.9 +0.4**
ISRV Sarvestan 116.53 297 *e*P **PKPdf 17 07 57.7 +0.3**
IPAR Pars 116.59 297 *e*P **PKPdf 17 07 57.2 -0.3**
IFIR Firoozkooh 116.63 304 *e*P **PKPdf 17 07 57.7 +0.4**
IZEF Zefreh 117.12 301 *e*P **PKPdf 17 07 59.0 +0.6**
IGAR Gharneh 117.39 300 *e*P **PKPdf 17 07 59.2 +0.4**
KEV Kevo 117.43 345 *e*PKiKP **PKPdf 17 07 57.3 -0.2**
KEV Kevo 117.43 345 *e*PKPdf **PKPdf 17 07 57.3 -0.2**
KEV Kevo 117.43 345 *ep* **PKPdf 17 07 57.2 -0.2**
comp=Z,14nm,0.6s
KEV Kevo 117.43 345 *ep* **PKPdf 17 07 57.2 -0.2**
comp=Z,14nm,0.6s
IKLH Kolahrood 117.73 301 *e*P **PKPdf 17 07 59.6 +0.1**
ARCES ARCESS Array B 117.96 346 PKP **PKPdf 17 07 58.6 +0.1**
comp=Z,34nm,0.6s,baz=76,slow=2.1,SNR=193
ARCES PKKPbc **PKKPbc 17 18 18.6 -3.0**
comp=Z,11nm,0.8s,baz=238,slow=2.6,SNR=30
ARCES ARCESS Array B 117.96 346 PKiKP **PKPdf 17 07 58.7 +0.1**
ARCES pmax pmax
comp=Z,34nm,0.6s
ARCES pmax pmax
comp=Z,11nm,0.8s
ARCES ARCESS Array B 117.96 346 PKP **PKPdf 17 07 58.6 +0.1**
ARCES PKKPbc **PKKPbc 17 18 18.6 -3.0**
ARE0 ARCESS Array S 117.96 346 *e*P **PKPdf 17 07 59.0 +0.5**
SUMG Summit 118.09 8 *i*PKiKP **PKPdf 17 07 59.9 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 118.09 8 *i*P **PKPdf 17 07 59.9 +0.7**
comp=Z,9.9nm,0.9s
IPIR Pirpir 118.34 300 *e*P **PKPdf 17 08 01.3 +0.5**
LPAZ La Paz 118.66 116 PKP **PKPdf 17 08 01.5 -0.7**
comp=Z,6.1nm,0.9s,baz=222,slow=1.7,SNR=13
LPAZ PKKPbc **PKKPbc 17 18 17.1 -1.3**
comp=Z,4.0nm,0.7s,baz=75,slow=3.4,SNR=8.6
LPAZ La Paz 118.66 116 PKiKP **PKPdf 17 08 01.5 -0.7**
LPAZ pmax pmax
comp=Z,6.0nm,0.9s
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
LPAZ La Paz 118.66 116 *e*PKPdf **PKPdf 17 08 01.2 -0.9**
LPAZ PKP **PKPdf 17 08 01.5 -0.7**
LPAZ PKKPbc **PKKPbc 17 18 17.1 -1.3**
KTK1 Kautokeino 118.89 346 *e*P **PKPdf 17 08 00.2 -0.1**
KTK1 AMB AMB 17 08 05.8
comp=Z,142nm,1.9s
TRO Tromso 119.37 348 *e*P **PKPdf 17 08 02.1 +1.0**
SFJD Kangerlussuaq 120.15 16 *e*PKiKP **PKPdf 17 08 02.6 -0.2**
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 120.15 16 *i*P **PKPdf 17 08 02.6 -0.2**
comp=Z,9.6nm,0.9s
ISRB Sarab 120.48 307 *e*P **PKPdf 17 08 04.2 -0.4**
SCHQ Schefferville 120.69 33 PKP **PKPdf 17 08 04.2 0.0**
comp=Z,9.2nm,0.6s,baz=340,slow=2.7,SNR=20
SCHQ PKKPbc **PKKPab 17 18 10.6 +0.5**
comp=Z,8.2nm,0.7s,baz=65,slow=2.7,SNR=8.5
SCHQ Schefferville 120.69 33 PKP **PKPdf 17 08 04.2 0.0**
SCHQ PKKPbc **PKKPab 17 18 10.6 +0.5**
IHRS Heris 120.89 307 *e*P **PKPdf 17 08 05.5 +0.1**
QRN Al-Qurain 121.10 296 *e*P **PKPdf 17 08 05.7 0.0**
QRN AMb AMB 17 08 07.0
comp=Z,101nm,0.7s
IBST Bostanabad 121.10 307 *e*P **PKPdf 17 08 04.9 -0.9**
UMR Umm Al-Rimmam 121.23 297 *e*P **PKPdf 17 08 06.2 +0.2**
UMR AMb AMB 17 08 08.1
comp=Z,86nm,1.1s
VRHR Novokhopersk 121.40 323 *e*PKIKP **PKPdf 17 08 05.7 +0.1**
VRHR pmax pmax
comp=Z,70nm,0.6s
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,8.0nm,0.6s
STEI Steigen 121.54 348 *e*P **PKPdf 17 08 05.7 +0.3**
MIB Mutribah 121.55 297 *e*P **PKPdf 17 08 06.3 -0.3**
MIB AMb AMB 17 08 08.1
comp=Z,84nm,0.9s
ITBZ Tabriz 121.60 307 *e*P **PKPdf 17 08 06.8 +0.1**
NAY Al-Naaiem 121.66 297 *e*P **PKPdf 17 08 06.7 -0.1**
NAY AMb AMB 17 08 08.6
comp=Z,55nm,1.4s
SCO Scoresbysund 121.77 3 *i*PKIKP **PKPdf 17 08 06.7 +0.9**
SCO pmax pmax
comp=Z,13nm,0.8s
SCO Scoresbysund 121.77 3 *i*P **PKPdf 17 08 06.7 +0.9**
comp=Z,13nm,0.8s
IAZR Azarshahr 121.82 307 *e*P **PKPdf 17 08 07.6 +0.4**
IMRD Marand 121.86 308 *e*P **PKPdf 17 08 07.6 +0.4**
TBLG Delisi 122.01 312 PKIKP **PKPdf 17 08 08.3 +1.1**
TBLG Delisi 122.01 312 P **PKPdf 17 08 08.3 +1.1**
GNI Garni 122.33 310 PKP **PKPdf 17 08 09.6 +1.5**
comp=Z,32nm,0.8s,baz=20,slow=9.5,SNR=17
GNI Garni 122.33 310*c i*PKIKP **PKPdf 17 08 09.0 +1.0**
GNI pmax pmax
comp=Z,46nm,0.8s
GNI Garni 122.33 310 *e*PKPdf **PKPdf 17 08 08.8 +0.8**
GNI PKP **PKPdf 17 08 09.6 +1.5**
CPUP Villa Florida 122.33 132 PKP **PKPdf 17 08 08.1 -0.1**
comp=Z,12nm,0.7s,baz=264,slow=1.2,SNR=34
CPUP PKKPbc **PKKPbc 17 18 04.0 -0.3**
comp=Z,0.7nm,0.5s,baz=36,slow=3.7,SNR=5.5
CPUP PKKP **PKKPdf 17 18 39.2 -0.9**
comp=Z,1.0nm,0.5s,baz=22,slow=7.7,SNR=4.3
CPUP Villa Florida 122.33 132 PKIKP **PKPdf 17 08 08.1 -0.1**
CPUP pmax pmax
comp=Z,12nm,0.7s
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 122.33 132 PKP **PKPdf 17 08 08.1 -0.1**
CPUP PKKPbc **PKKPbc 17 18 04.0 -0.3**
CPUP PKKP **PKKPdf 17 18 39.2 -0.9**
ZEI Tsey 122.38 313 *e*PKIKP **PKPdf 17 08 08.2 +0.1**
ZEI pmax pmax
comp=Z,35nm,1.0s
GOR Gori 122.41 312 P **PKPdf 17 08 09.5 +1.6**
OBN Obninsk 122.53 329⇑ *i*PKIKP **PKPdf 17 08 07.9 +0.2**
OBN *i* 17 08 35.3
OBN pmax pmax
comp=Z,79nm,1.4s
OBN Obninsk 122.53 329 *e*PKPdf **PKPdf 17 08 07.5 -0.2**
ONI Oni 122.74 313 P **PKPdf 17 08 09.1 +0.5**
VSR Storozhevoye 122.80 324 *e*PKIKP **PKPdf 17 08 08.5 +0.2**
VSR pmax pmax
comp=N,1.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,60nm,0.6s
PQI Presque Isle 122.92 42 *e*PKPdf **PKPdf 17 08 08.5 -0.2**
KAF Kangasniemi 122.92 339 *e*PKIKP **PKPdf 17 08 06.7 -1.5**
KAF pmax pmax
comp=Z,26nm,0.6s
KAF Kangasniemi 122.92 339 *ep* **PKPdf 17 08 06.7 -1.5**
comp=Z,26nm,0.6s
KAF Kangasniemi 122.92 339 *ep* **PKPdf 17 08 06.7 -1.5**
comp=Z,26nm,0.6s
KIV Kislovodsk 122.94 315⇑ *i*PKIKP **PKPdf 17 08 09.3 +0.3**
KIV *e* 17 08 35.8
KIV *e* 17 09 51.8
KIV *e*PS **PS 17 19 47.0 +0.3**
KIV pmax pmax
comp=Z,54nm,1.8s
KIV Kislovodsk 122.94 315 *e*PKPdf **PKPdf 17 08 08.8 -0.1**
KIV *e*PP **PP 17 09 46.4 -2.6**
AKH Akhalkalaki 122.99 311 P **PKPdf 17 08 10.8 +1.6**
FLOS Flostrand 123.29 348 *e*P **PKPdf 17 08 09.5 +0.7**
FLOS AMB AMB 17 08 10.6
comp=Z,99nm,1.5s
STOK Stokkvaagen 123.36 348 *e*P **PKPdf 17 08 09.3 +0.3**
FINES FINESS Array B 123.46 339 PKP **PKPdf 17 08 09.7 +0.4**
comp=Z,14nm,0.5s,baz=36,slow=1.8,SNR=96
FINES pPKP **pPKPdf 17 08 36.5 -2.7**
comp=Z,10.0nm,0.8s,baz=333,slow=2.1,SNR=3.4
FINES PKKPbc **PKKPab 17 17 59.3 +1.4**
comp=Z,9.5nm,0.7s,baz=192,slow=3.0,SNR=20
FINES FINESS Array B 123.46 339 PKIKP **PKPdf 17 08 09.7 +0.4**
FINES 17 08 36.5
FINES pmax pmax
comp=Z,14nm,0.5s
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 123.46 339 PKP **PKPdf 17 08 09.7 +0.4**
FINES pPKP **pPKPdf 17 08 36.5 -2.7**
FINES PKKPbc **PKKPab 17 17 59.3 +1.4**
BOSA Boshof 124.74 222 PKP **PKPdf 17 08 13.1 +0.1**
comp=Z,18nm,0.7s,baz=110,slow=1.4,SNR=41
BOSA Boshof 124.74 222 *e*PKIKP **PKPdf 17 08 12.8 -0.2**
BOSA Boshof 124.74 222 *e*PKPdf **PKPdf 17 08 12.8 -0.2**
BOSA PKP **PKPdf 17 08 13.1 +0.1**
SUR Sutherland 124.78 215 *e*PKPdf **PKPdf 17 08 13.0 0.0**
SIV San Ignacio 124.88 120 PKKPbc PKKPbc 17 17 54.8 +0.7
comp=Z,1.0nm,0.7s,baz=141,slow=7.4,SNR=3.7
SIV San Ignacio 124.88 120 PKKPbc PKKPbc 17 17 54.8 +0.7
NSS Namsos 125.14 347 *e*P **PKPdf 17 08 12.0 -0.4**
SAML Samuel 126.00 111 *e*PKPdf **PKPdf 17 08 14.5 -1.0**
ANN Anapa 126.26 317 *i*PKIKP **PKPdf 17 08 14.8 -0.3**
ANN pmax pmax
comp=Z,25nm,0.9s
TBLU Trondheim 126.63 347 *e*P **PKPdf 17 08 14.1 -1.2**
LBTB Lobatse 126.87 225 *e*PKIKP **PKPdf 17 08 16.4 -0.7**
LBTB Lobatse 126.87 225 *e*PKPdf **PKPdf 17 08 16.4 -0.7**
IZAR Zarasai 127.10 333 *e*P **PKPdf 17 08 17.6 +1.2**
IZAR AMB AMB 17 08 19.0
comp=Z,16nm,1.1s
ISAL Salakas 127.27 333 *e*P **PKPdf 17 08 17.9 +1.2**
ISAL AMB AMB 17 08 19.3
comp=Z,9.5nm,1.0s
IIGN Ignalina 127.36 333 *e*P **PKPdf 17 08 18.1 +1.2**
IIGN AMB AMB 17 08 19.5
comp=Z,20nm,0.8s
BORG Borgarnes 127.49 4 PKP **PKPdf 17 08 18.9 +2.0**
comp=Z,26nm,1.0s,baz=315,slow=4.3,SNR=3.8
BORG Borgarnes 127.49 4 PKIKP **PKPdf 17 08 18.9 +2.0**
BORG pmax pmax
comp=Z,26nm,1.0s
BORG Borgarnes 127.49 4 PKP **PKPdf 17 08 18.9 +2.0**
KMBO Kilima Mbogo 128.11 259 *e*PKIKP **PKPdf 17 08 20.9 +1.0**
KMBO Kilima Mbogo 128.11 259 *e*PKPdf **PKPdf 17 08 20.9 +1.0**
NB2 NORSAR Subarra 128.33 345 PKPdf **PKPdf 17 08 18.6 -0.1**
comp=Z,26nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.33 345 PKP **PKPdf 17 08 18.6 -0.1**
baz=31,slow=1.9
NOA NORSAR Array B 128.33 345 PKP **PKPdf 17 08 19.0 +0.3**
comp=Z,19nm,0.9s,baz=32,slow=2.0,SNR=39
NOA pPKP **pPKPdf 17 08 45.7 -2.9**
comp=Z,6.3nm,1.0s,baz=36,slow=1.9,SNR=3.9
NOA NORSAR Array B 128.33 345 PKIKP **PKPdf 17 08 19.0 +0.3**
NOA 17 08 45.7
NOA pmax pmax
comp=Z,19nm,0.9s
NOA pmax pmax
comp=Z,6.0nm,1.0s
NOA NORSAR Array B 128.33 345 PKP **PKPdf 17 08 19.0 +0.3**
NOA pPKP **pPKPdf 17 08 45.7 -2.9**
SIM Simferopol' 128.39 318 *i*PKIKP **PKPdf 17 08 22.1 +2.9**
SIM pmax pmax
comp=Z,35nm,0.8s
HFS Hagfors 128.43 343 PKP **PKPdf 17 08 19.0 +0.1**
comp=Z,13nm,0.7s,baz=90,slow=4.4,SNR=28
HFS PKKPbc PKKPdf 17 17 38.0 -51
comp=Z,1.1nm,0.5s,baz=134,slow=4.3,SNR=5.5
HFS Hagfors 128.43 343 PKIKP **PKPdf 17 08 19.0 +0.1**
HFS pmax pmax

comp=Z,13nm,0.7s
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 128.43 343 PKP **PKPdf** 17 08 19.0 +0.1
HFS PKKPbc PKKPdf 17 17 38.0 -51
AKASG Malin Array Be 128.60 327 PKP **PKPdf** 17 08 19.5 +0.1
comp=Z,15nm,0.9s,baz=62,slow=2.2,SNR=36
AKASG pPKP **pPKPdf** 17 08 46.1 -3.3
comp=Z,7.4nm,0.9s,baz=56,slow=1.7,SNR=4.1
AKASG PP **PP** 17 10 24.0 -2.1
comp=Z,4.3nm,1.1s,baz=54,slow=6.5,SNR=6.0
AKASG SKPbc SKiKP 17 11 30.4 -16
comp=Z,2.6nm,0.7s,baz=46,slow=4.2,SNR=5.4
AKASG Malin Array Be 128.60 327 PKIKP **PKPdf** 17 08 19.5 +0.1
AKASG 17 08 46.1
AKASG 17 10 24.0
AKASG pmax pmax
comp=Z,15nm,0.9s
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKASG pmax pmax
comp=N,3.0nm,0.7s
AKASG Malin Array Be 128.60 327 PKP **PKPdf** 17 08 19.5 +0.1
AKASG pPKP **pPKPdf** 17 08 46.0 -3.3
AKASG PP **PP** 17 10 24.0 -2.1
AKASG SKPbc SKiKP 17 11 30.4 -16
AKBB Malin Array Si 128.60 327 *e*PKIKP **PKPdf** 17 08 18.3 -1.1
AKBB *e* 17 08 45.8
AKBB Malin Array Si 128.60 327 *e*PKPdf **PKPdf** 17 08 18.3 -1.1
AKBB *e*pPKPdf **pPKPdf** 17 08 45.8 -3.5
KIEV Kiev 128.61 327 *d*↓PKIKP **PKPdf** 17 08 19.8 +0.4
KIEV Kiev 128.61 327 *e*PKPdf **PKPdf** 17 08 18.1 -1.4
KIEV *e*pPKPdf **pPKPdf** 17 08 45.4 -4.0
FOO Floro 129.19 349 *e*P **PKPdf** 17 08 19.6 -0.6
SUW Suwalki 129.58 333 *e*P **PKPdf** 17 08 21.4 +0.2
SUW Suwalki 129.58 333 *e*PKIKP **PKPdf** 17 08 21.4 +0.2
KONO Kongsberg 129.94 345 *e*P **PKPdf** 17 08 23.4 +1.6
ASK Askoy 130.19 348 *e*P **PKPdf** 17 08 22.2 +0.1
RUND Rundenannen 130.22 348 *e*P **PKPdf** 17 08 22.6 +0.3
ODD1 Odda 130.41 347 *e*P **PKPdf** 17 08 23.4 +0.7
ODD1 AMB AMB 17 08 24.6
comp=Z,90nm,1.9s
BR131 Keskin Array S 130.66 312 *e*PKPdf **PKPdf** 17 08 23.8 -0.2
BR131 *e*pPKPdf **pPKPdf** 17 08 52.0 -1.8
BR131 *e*PP **PP** 17 10 37.1 -3.1
BR131 *e*SKP 17 11 40.8
BRTR Keskin Array B 130.66 312 PKP **PKPdf** 17 08 24.1 +0.2
comp=Z,6.5nm,0.5s,baz=135,slow=3.9,SNR=60
BRTR pPKP **pPKPdf** 17 08 51.3 -2.5
comp=Z,4.5nm,1.0s,baz=79,slow=7.6,SNR=3.5
BRTR PP **PP** 17 10 37.8 -2.4
comp=Z,5.0nm,0.9s,baz=99,slow=6.4,SNR=7.8
BRTR SKPbc **SKPab** 17 11 39.7 +1.7
comp=Z,12nm,0.9s,baz=64,slow=2.9,SNR=16
BRTR PKKP **PKKPdf** 17 18 23.2 -1.8
comp=Z,0.5nm,0.7s,baz=267,slow=2.5,SNR=3.8
BRTR Keskin Array B 130.66 312 PKIKP **PKPdf** 17 08 24.1 +0.2
BRTR 17 08 51.3
BRTR 17 10 37.8
BRTR pmax pmax
comp=Z,7.0nm,0.5s
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR pmax pmax
comp=N,12nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 130.66 312 PKP **PKPdf** 17 08 24.1 +0.2
BRTR pPKP **pPKPdf** 17 08 51.3 -2.5
BRTR PP **PP** 17 10 37.8 -2.4
BRTR SKPbc **SKPab** 17 11 39.7 +1.7
BRTR PKKP **PKKPdf** 17 18 23.2 -1.8
KIS Kishinev 130.76 323 *e*PKIKP **PKPdf** 17 08 24.5 +0.8
KIS Kishinev 130.76 323 *e*UNK **PKPdf** 17 08 24.5 +0.8
TLCR 131.65 321 ||PKIKP **PKPdf** 17 08 26.7 +1.3
TLCR 131.65 321 ||*i*P **PKPdf** 17 08 26.7 +1.3
SNART Snartemo 131.69 346 *e*P **PKPdf** 17 08 26.9 +1.8
LVV L'vov 131.83 328 *e*PKIKP **PKPdf** 17 08 27.1 +1.5
CFR Carcaliu 132.08 321 ||PKIKP **PKPdf** 17 08 27.6 +1.4
CFR Carcaliu 132.08 321 ||*i*P **PKPdf** 17 08 27.6 +1.4
BEL Belsk 132.11 332 *e*P PKPdf 17 08 35.7 +10
BEL Belsk 132.11 332 *e*PKIKP PKPdf 17 08 35.7 +10
TIRR Tirgusor 132.25 320 ||PKIKP **PKPdf** 17 08 27.6 +1.0
TIRR Tirgusor 132.25 320 ||*i*P **PKPdf** 17 08 27.6 +1.0
TESR 132.28 323 ↑*i*P **PKPdf** 17 08 28.5 +1.9
CSS Prodhromos 132.37 306 *e*PKPdf **PKPdf** 17 08 27.9 +0.7
CSS *e*SKP 17 11 47.2
BUR08 Bucovina Ar. S 132.49 325 *e*PKPdf **PKPdf** 17 08 28.1 +1.0
BUR08 *e*SKP 17 11 48.0
BURAR Bucovina Array 132.50 325 ||PKIKP **PKPdf** 17 08 29.0 +1.9
BURAR Bucovina Array 132.50 325 ||*i*P **PKPdf** 17 08 29.0 +1.9
CVD Cernavoda 132.56 320 ↑↑PKIKP **PKPdf** 17 08 28.3 +1.2
CVD Cernavoda 132.56 320 ↑*i*P **PKPdf** 17 08 28.3 +1.2
GKP Gorka Klasztor 132.62 336 *e*P **PKPdf** 17 08 29.3 +2.3
GKP Gorka Klasztor 132.62 336 *e*PKIKP **PKPdf** 17 08 29.3 +2.3
KWP Kalwaria Pacla 132.62 329 *e*P **PKPdf** 17 08 27.8 +0.7
KWP Kalwaria Pacla 132.62 329 ||PKIKP **PKPdf** 17 08 29.2 +2.0
KWP Kalwaria Pacla 132.62 329 *e*PKPdf **PKPdf** 17 08 27.2 0.0
KWP Kalwaria Pacla 132.62 329 ||*i*P **PKPdf** 17 08 29.2 +2.0
GRER 132.68 322 ||*i*P **PKPdf** 17 08 29.8 +2.4
MUD Monsted U'grnd 132.83 343 *i* PKIKP **PKPdf** 17 08 29.1 +1.9
MUD pmax pmax
comp=Z,14nm,0.8s
MUD Monsted U'grnd 132.83 343 *i* P **PKPdf** 17 08 29.1 +1.9
comp=Z,14nm,0.8s
AMRR Amara 132.85 321 ↑↑PKIKP **PKPdf** 17 08 29.9 +2.2
AMRR Amara 132.85 321 ↑↑*i*P **PKPdf** 17 08 29.9 +2.2
ISR Istrita 133.08 322 ↑↑PKIKP **PKPdf** 17 08 30.5 +2.3
ISR Istrita 133.08 322 ↑↑*i*P **PKPdf** 17 08 30.5 +2.3
MLR Muntele Rosu 133.24 322 PKP **PKPdf** 17 08 28.9 +0.3
comp=Z,4.1nm,0.9s,baz=91,slow=2.9,SNR=19
MLR PKKP **PKKPdf** 17 18 17.0 -3.1
comp=Z,0.5nm,0.8s,baz=338,slow=21,SNR=3.3
MLR Muntele Rosu 133.24 322 PKIKP **PKPdf** 17 08 28.9 +0.3
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 133.24 322 PKP **PKPdf** 17 08 28.9 +0.3
MLR PKKP **PKKPdf** 17 18 17.0 -3.1
MLR Muntele Rosu 133.24 322 ||*i*P **PKPdf** 17 08 29.2 +0.6
KOLS Kolonicke sedl 133.28 328 *e*PKIKP **PKPdf** 17 08 29.7 +1.3
KOLS Kolonicke sedl 133.28 328 *e*PKP **PKPdf** 17 08 29.7 +1.3
KOLS *e*SKPDF 17 11 51.3
DOPR Dopca 133.31 323 ↑↑*i*P **PKPdf** 17 08 30.5 +1.9
BMR Baia Mare 133.41 326 ↑↑PKIKP **PKPdf** 17 08 30.0 +1.3
BMR Baia Mare 133.41 326 ↑↑*i*P **PKPdf** 17 08 30.0 +1.3
SECR 133.41 322 ||*i*P **PKPdf** 17 08 30.7 +1.9
UZH Uzhgorod 133.46 328 *e*PKIKP **PKPdf** 17 08 29.7 +1.0
SULR 133.48 321 ↑*i*P **PKPdf** 17 08 29.0 +0.1
STHS Stebnicka Huta 133.50 329 *e*PKIKP **PKPdf** 17 08 30.5 +1.7
STHS Stebnicka Huta 133.50 329 *e*PKP **PKPdf** 17 08 30.5 +1.7
STHS *e*SKPDF 17 11 52.5
ISP Isparta 133.61 311 ↑↑PKIKP **PKPdf** 17 08 29.2 -0.3
ISP Isparta 133.61 311 ↑↑*i*P **PKPdf** 17 08 29.2 -0.3
TRPA Tarpa 133.65 327 ↑↑*i*P **PKPdf** 17 08 29.8 +0.7
TRPA Tarpa 133.65 327 ↑↑*i*P **SKPbc** 17 11 52.6 +4.7
TRPA Tarpa 133.65 327 ↑↑*e*PKPdf **PKPdf** 17 08 29.7 +0.7
OJC Ojcow 133.67 331 *e*PKPdf **PKPdf** 17 08 30.0 +0.9
OJC *e*PP **PP** 17 10 59.5 +0.9
OJC Ojcow 133.67 331 *e*PKIKP **PKPdf** 17 08 30.0 +0.9
OJC *e* 17 10 59.5
CRVS Cervenica-Dubn 133.72 329 *e*PKIKP **PKPdf** 17 08 30.1 +0.9
CRVS Cervenica-Dubn 133.72 329 *e*PKP **PKPdf** 17 08 30.1 +0.9
CRVS *e*SKPDF 17 11 52.1
VOIR 133.80 323 ↑↑PKIKP **PKPdf** 17 08 31.1 +1.5
VOIR 133.80 323 ↑↑*i*P **PKPdf** 17 08 31.1 +1.5
NIE Niedzica 133.96 330 *e*PKPdf **PKPdf** 17 08 31.6 +1.9
NIE Niedzica 133.96 330 *e*PKIKP **PKPdf** 17 08 31.6 +1.9
HUMR Humele 134.34 322 ↑↑*i*P **PKPdf** 17 08 31.2 +0.7
DRGR 134.36 326 PKIKP **PKPdf** 17 08 31.3 +0.7
DRGR 134.36 326 ||*i*P **PKPdf** 17 08 31.4 +0.8
DRGR 134.36 326 ↑↑*i*P **SKPbc** 17 11 54.5 +4.0
KECS Kecovo 134.48 329 *e*PKIKP **PKPdf** 17 08 32.2 +1.5
KECS Kecovo 134.48 329 *e*PKP **PKPdf** 17 08 32.2 +1.5
KECS *e*SKPDF 17 11 55.6
LOT Lotru 134.55 324 ↑↑*i*P **PKPdf** 17 08 31.5 +0.5
ZIMR 134.56 321 ↑↑PKIKP **PKPdf** 17 08 32.1 +1.1
ZIMR 134.56 321 ↑↑*i*P **PKPdf** 17 08 32.0 +1.1
OKC Ostrava-Krasne 134.70 332 *e*PKIKP **PKPdf** 17 08 31.7 +0.7
OKC Ostrava-Krasne 134.70 332 *e*PKPdf **PKPdf** 17 08 31.7 +0.7
OKC *e*SKP 17 11 55.6
KSP Ksiaz 134.81 334 *e*P **PKPdf** 17 08 34.1 +2.9
KSP Ksiaz 134.81 334 *e*PKP **SKPbc** 17 11 56.2 +4.6
KSP Ksiaz 134.81 334 *e*PKIKP **PKPdf** 17 08 32.3 +1.1
KSP *e* 17 08 58.9
MORC Moravsky Berou 135.02 332 *e*PKIKP **PKPdf** 17 08 32.4 +0.7
MORC *e* 17 09 01.0
MORC Moravsky Berou 135.02 332 *e*PKPdf **PKPdf** 17 08 32.4 +0.7
MORC *e*pPKPdf **pPKPdf** 17 09 01.0 -0.6
MORC *e*SKP 17 11 55.2
MORC Moravsky Berou 135.02 332 ↑↑*i*P **PKPdf** 17 08 32.9 +1.2
MORC Moravsky Berou 135.02 332 ↑↑*i*P **SKPbc** 17 11 57.0 +4.6
GZR Gura Zlata 135.15 324 ↑↑PKIKP **PKPdf** 17 08 32.5 +0.4
GZR Gura Zlata 135.15 324 ↑↑*i*P **PKPdf** 17 08 32.5 +0.4
GZR Gura Zlata 135.15 324 ||*i*P **SKPbc** 17 11 57.6 +4.6
PSZ Piszkesteto 135.15 329 *e*PKIKP **PKPdf** 17 08 32.3 +0.2
PSZ Piszkesteto 135.15 329 *e*PKPdf **PKPdf** 17 08 32.3 +0.2
PSZ *e*SKP 17 11 56.2
PSZ Piszkesteto 135.15 329 ↑↑*i*P **PKPdf** 17 08 33.5 +1.5
PSZ Piszkesteto 135.15 329 ||*e*PKPdf **PKPdf** 17 08 33.0 +1.0
KRLC Kraliky 135.16 333 *e*PKPdf **PKPdf** 17 08 33.1 +1.2
KRLC *e*SKP 17 11 57.1
DPC Dobruska-Polom 135.16 333 *e*PKIKP **PKPdf** 17 08 32.5 +0.6
DPC *e* 17 09 01.0
DPC Dobruska-Polom 135.16 333 *e*PKPdf **PKPdf** 17 08 32.5 +0.6
DPC *e*pPKP **pPKPdf** 17 09 01.0 -0.8
DPC *e*SKP 17 11 56.9
UPC Upice 135.18 334 *e*PKIKP **PKPdf** 17 08 33.1 +1.2
UPC *e* 17 09 01.0
UPC Upice 135.18 334 *e*PKP **PKPdf** 17 08 33.1 +1.2
UPC *e*pPKP **pPKPdf** 17 09 01.0 -0.8
UPC *e*SKP 17 11 57.3
VYHS Vyhne 135.30 330 *e*PKIKP **PKPdf** 17 08 33.0 +0.8
VYHS Vyhne 135.30 330 *e*PKP **PKPdf** 17 08 33.0 +0.8
VYHS *e*SKPDF 17 11 57.7
KOLL Kolacno 135.45 330 *e*PKIKP **PKPdf** 17 08 33.4 +0.9
KOLL Kolacno 135.45 330 *e*PKP **PKPdf** 17 08 33.3 +0.8
KOLL *e*SKPDF 17 11 58.8
BZS Buzias 135.68 325 ↑↑PKIKP **PKPdf** 17 08 33.6 +0.6
BZS Buzias 135.68 325 ↑↑*i*P **PKPdf** 17 08 33.5 +0.6
BZS Buzias 135.68 325 ↑↑*i*P **SKPbc** 17 11 58.2 +3.7
BRG Berggiesshubel 135.77 335 *e*PKP PKPpre 17 08 24.8
comp=Z,2.8nm,0.9s
BRG *i* 17 08 33.9
comp=Z,13nm,1.0s
BRG SKP 17 11 59.2
comp=Z,34nm,1.3s
BRG Berggiesshubel 135.77 335 *e*PKHKP PKPpre 17 08 24.8
BRG *i* 17 08 33.9
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=N,34nm,1.3s
PVCC Panska Ves 135.78 335 *e*PKIKP **PKPdf** 17 08 34.1 +1.1
PVCC *e* 17 09 01.7
PVCC Panska Ves 135.78 335 *e*PKPdf **PKPdf** 17 08 34.1 +1.1
PVCC *e*pPKP **pPKPdf** 17 09 01.7 -1.2
PVCC *e*SKP 17 11 59.2
VRAC Vranov 135.79 332 PKP **PKPdf** 17 08 33.9 +0.8
comp=N,7.5nm,1.0s,baz=87,slow=5.1,SNR=6.0
VRAC SKPbc **SKPab** 17 11 57.9 -1.8
comp=N,6.6nm,0.9s,baz=32,slow=3.4,SNR=6.3
VRAC Vranov 135.79 332 PKIKP **PKPdf** 17 08 33.9 +0.8
VRAC pmax pmax
comp=Z,8.0nm,1.0s
VRAC pmax pmax
comp=N,7.0nm,0.9s
VRAC Vranov 135.79 332 PKP **PKPdf** 17 08 33.9 +0.8
VRAC SKPbc **SKPab** 17 11 57.9 -1.8
VRAC Vranov 135.79 332 ||*i*P **PKPdf** 17 08 34.2 +1.1
VRAC Vranov 135.79 332 ||*i*P **SKPbc** 17 11 59.4 +4.6
CLL Collm 135.80 337 ||*i*PKIKP **PKPdf** 17 08 34.0 +1.0
CLL pmax pmax
comp=Z,21nm,0.6s
CLL Collm 135.80 337 ||*i*PKPdf **PKPdf** 17 08 34.0 +1.0
comp=Z,21nm,0.6s
CLL *i* 17 08 41.3
CLL *i* SKPdf **SKPdf** 17 11 57.4 -0.8
comp=Z,21nm,1.2s
CLL *e*PKSdf **PKSdf** 17 12 07.0 -2.1
PKSN Nyarlorinc 135.83 327 *e*PKPdf **PKPdf** 17 08 35.4 +2.2
BUD Budapest 135.88 329 ||*e*PKPdf **PKPdf** 17 08 34.5 +1.2
BUD Budapest 135.88 329 ||*e*c **SKPbc** 17 11 59.6 +4.5
SMOL Smolenice 135.97 331 *e*PKIKP **PKPdf** 17 08 35.2 +1.8
SMOL Smolenice 135.97 331 *e*PKP **PKPdf** 17 08 35.2 +1.8
SMOL *e*SKPDF 17 12 00.7
PKS7 Kunszentmiklos 136.10 328 *e*PKPdf **PKPdf** 17 08 34.6 +0.9
PRU Pruhonice 136.19 334 *e*PKIKP **PKPdf** 17 08 34.3 +0.5
PRU *e* 17 09 02.7
PRU Pruhonice 136.19 334 *e*PKPdf **PKPdf** 17 08 34.3 +0.5
PRU *e*pPKP **pPKPdf** 17 09 02.7 -1.0
PRU *e*SKP 17 12 00.3
PKSG 136.26 329 *e*PKPdf **PKPdf** 17 08 34.7 +0.7
TREC Trest 136.30 333 *e*PKIKP **PKPdf** 17 08 34.9 +0.8
TREC Trest 136.30 333 *e*PKPdf **PKPdf** 17 08 34.9 +0.8
VTS Vitosha 136.46 320 ||PKIKP **PKPdf** 17 08 35.1 +0.4
VTS Vitosha 136.46 320 ||*i*P **PKPdf** 17 08 35.1 +0.4
PKS9 Tamasi 136.86 328 *e*PKPdf **PKPdf** 17 08 37.1 +2.0
NKC Novy Kostel 136.87 336 *e*PKIKP **PKPdf** 17 08 37.5 +2.4
NKC Novy Kostel 136.87 336 *e*PKPdf **PKPdf** 17 08 37.5 +2.4
NKC *e*SKP 17 12 02.7
PKSM Moragy 136.92 328 PKIKP **PKPdf** 17 08 36.6 +1.4
PKSM Moragy 136.92 328 ||*i*P **PKPdf** 17 08 35.7 +0.5
PKSM Moragy 136.92 328 ||*i*P **SKPbc** 17 12 02.8 +4.5
PKSM Moragy 136.92 328 ||*e*PKPdf **PKPdf** 17 08 36.4 +1.2
PKSM Moragy 136.92 328 ||*e*c **SKPbc** 17 12 02.3 +4.0
SOP Sopron 136.96 331 ||*e*PKPPKPdf **PKPdf** 17 08 35.7 +0.4
SOP Sopron 136.96 331 ||*e* **SKPbc** 17 12 02.8 +4.4
CSNA Conrad Observa 137.12 331 ↑↑*i*P **PKPdf** 17 08 36.0 +0.3
CSNA Conrad Observa 137.12 331 ↑↑*i*PKPdf **PKPdf** 17 08 36.0 +0.3
comp=Z,10nm,0.5s
KHC Kasperske Hory 137.25 334 *e*PKHKP PKPpre 17 08 25.0
KHC *e* 17 08 36.5
KHC *e* 17 09 05.0
KHC Kasperske Hory 137.25 334 *e*PKPpre PKPpre 17 08 26.2
KHC *e*PKPdf **PKPdf** 17 08 36.6 +0.7
KHC *e*pPKPdf pPKPdf 17 09 04.1 -1.7
KHC *e*SKP 17 12 02.8
KHC Kasperske Hory 137.25 334 *e*PKPpre PKPpre 17 08 25.0
KHC *e*PKPdf **PKPdf** 17 08 36.5 +0.7
KHC *e*pPKP pPKPdf 17 09 05.0 -0.8
KHC *e*SKP 17 12 03.5
RHK3 Tenkes 137.33 327 *e*PKPdf **PKPdf** 17 08 36.8 +0.7
WTSB Winterswijk 137.42 342 *e*P **PKPdf** 17 08 36.7 +0.8
comp=Z,40nm,1.0s
GERES GERESS Array B 137.42 334 PKhKP PKPpre 17 08 26.6
comp=Z,1.7nm,0.7s,baz=197,slow=1.4,SNR=15
GERES PKP **PKPdf** 17 08 36.4 +0.2
comp=Z,12nm,0.8s,baz=48,slow=2.0,SNR=37
GERES pPKP pPKPdf 17 09 03.9 -2.3
comp=Z,4.0nm,0.8s,baz=29,slow=3.0,SNR=3.2
GERES SKPbc **SKiKP** 17 12 02.5 -1.8
comp=Z,4.4nm,1.1s,baz=46,slow=3.9,SNR=9.4
GERES PKKPbc 17 17 11.8
comp=Z,0.3nm,0.5s,baz=358,slow=6.7,SNR=4.0
GERES GERESS Array B 137.42 334 PKP **PKKPdf** 17 18 08.6 -3.4
comp=Z,0.2nm,0.8s,baz=232,slow=1.5,SNR=4.3
GERES GERESS Array B 137.42 334 PKHKP PKPpre 17 08 26.6
GERES 17 08 36.4
GERES 17 09 03.9
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,12nm,0.8s
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES pmax pmax
comp=N,4.0nm,1.1s
GERES GERESS Array B 137.42 334 PKPpre PKPpre 17 08 26.6
GERES PKP **PKPdf** 17 08 36.4 +0.2
GERES pPKP pPKPdf 17 09 03.9 -2.3
GERES SKPbc **SKiKP** 17 12 02.5 -1.8
GERES PKKPbc 17 17 11.8
GERES PKKP **PKKPdf** 17 18 08.6 -3.4
APE Apeiranthos 137.56 312 ↑↑PKIKP **PKPdf** 17 08 35.5 -1.3
APE Apeiranthos 137.56 312 ↑↑*i*P **PKPdf** 17 08 35.5 -1.3
BEHE Becsehely 137.70 329 ||*e*PKPPKPdf **PKPdf** 17 08 32.9 -3.8
HGN Heimansgroeve 138.73 342 *e*P **PKPdf** 17 08 38.7 +0.3
comp=N,14nm,1.0s
TOD Tromm 138.76 338 PKIKP **PKPdf** 17 08 39.2 +0.6
TOD Tromm 138.76 338 PKP **PKPdf** 17 08 39.2 +0.6
BEBN Eben Emael 138.78 342 PKP **PKPdf** 17 08 37.3 -1.2
DLF Lyons Farm 138.93 354 *e*P **PKPdf** 17 08 39.0 +0.3
ABH Alteburg 138.97 340 PKP **PKPdf** 17 08 38.6 -0.4
BCLA Clavier 139.23 342 PKP **PKPdf** 17 08 40.1 +0.8
RUP Ruppelstein 139.29 340 PKIKP **PKPdf** 17 08 39.2 -0.4
RUP Ruppelstein 139.29 340 PKP **PKPdf** 17 08 39.2 -0.4
STU Stuttgart 139.31 337 *e*PKIKP **PKPdf** 17 08 40.4 +0.8
STU Stuttgart 139.31 337 *e*PKPdf **PKPdf** 17 08 40.4 +0.8
ABTA Abfaltersbach 139.53 333 ↑↑PKPdf **PKPdf** 17 08 40.3 +0.1
comp=N,13nm,0.7s
WLF Walferdange 139.62 341 E **PKPdf** 17 08 42.1 +2.0
WLF Walferdange 139.62 341 *e*PKHKP PKPpre 17 08 32.7
WLF Walferdange 139.62 341 *e*PKPdf PKPpre 17 08 32.7
WLF *e*SKP 17 12 06.8
LANF Langenberg 139.64 339 PKP **PKPdf** 17 08 43.6 +3.4
DOU Dourbes 139.73 342 PKP **PKPdf** 17 08 40.4 +0.1
FETA Feichten 140.10 334 ↑*i*PKIKP **PKiKP** 17 08 42.8 -0.9
comp=N,36nm,1.1s
FELD Feldberg im Sc 140.49 337 PKP **PKPdf** 17 08 42.9 +0.9
ECH Echery 140.52 338 PKHKP PKPpre 17 08 34.7
ECH Echery 140.52 338 PKP PKPpre 17 08 34.7
ECH Echery 140.52 338 PKP **PKPdf** 17 08 42.7 +0.9
DAVOX Davos/Dischmat 140.65 335 PKhKP PKPpre 17 08 35.5
comp=N,10nm,0.5s,baz=18,slow=3.2,SNR=28
DAVOX SKPbc **SKiKP** 17 12 13.0 +1.8
comp=N,4.8nm,0.7s,baz=48,slow=4.4,SNR=4.8
DAVOX Davos/Dischmat 140.65 335 PKHKP PKPpre 17 08 35.5
DAVOX Davos/Dischmat 140.65 335 PKPpre PKPpre 17 08 35.5
DAVOX SKPbc **SKiKP** 17 12 13.0 +1.8
TUE Stuetta 141.11 335 *e*PKPpre PKPpre 17 08 37.0
TUE *e*PP **PP** 17 11 41.5 -3.6
TUE *e*SKP 17 12 12.1
LOMF Lomont 141.37 338 PKHKP PKPpre 17 08 36.2
LOMF Lomont 141.37 338 PKP PKPpre 17 08 36.2
AQU L'Aquila 142.30 327 ↑↑PKIKP **PKPdf** 17 08 42.7 -2.6
AQU L'Aquila 142.30 327 ↑↑*i*P **PKPdf** 17 08 42.7 -2.6
TIP Timpagrande 142.42 320 *e*PKPpre PKPpre 17 08 41.7
RSL Roselend 142.84 337 PKIKP **PKPdf** 17 08 44.4 -1.9
RSL Roselend 142.84 337 PKP **PKPdf** 17 08 44.4 -1.9
RSL Roselend 142.84 337 PKP **PKPdf** 17 08 44.4 -1.9
OG35 Corcelles 142.94 338 PKP **PKPdf** 17 08 43.7 -2.6
BNI Bardonecchia 143.35 336 *e*PKIKP PKPbc 17 08 45.2 +0.7
BNI Bardonecchia 143.35 336 *e*PKPpre PKPbc 17 08 45.2 +0.7
OG22 Abries 143.43 336 PKP PKPbc 17 08 45.6 +0.8
OG22 Abries 143.43 336 PKP PKPbc 17 08 45.6 +0.8
CEL Celeste 143.51 320 *e*PKPpre PKPbc 17 08 44.6 -0.5
PLDF La Plantade 143.68 340 PKIKP PKPbc 17 08 46.3 +0.9
PLDF La Plantade 143.68 340 PKP PKPbc 17 08 46.3 +0.9
PLDF La Plantade 143.68 340 PKP PKPbc 17 08 46.3 +0.9
SAOF Saorge 143.87 334 PKIKP PKPbc 17 08 46.2 +0.3
SAOF Saorge 143.87 334 PKP PKPbc 17 08 46.2 +0.3
SAOF Saorge 143.87 334 PKP PKPbc 17 08 46.2 +0.3
AUTN L'Aution 143.91 334 PKIKP PKPbc 17 08 46.7 +0.4
AUTN L'Aution 143.91 334 PKP PKPbc 17 08 46.7 +0.4
AUTN L'Aution 143.91 334 PKP PKPbc 17 08 46.7 +0.4
SSB Saint Sauveur 143.96 339 *e*PKIKP PKPbc 17 08 47.1 +0.9
SSB Saint Sauveur 143.96 339 *e*PKPdf **PKPdf** 17 08 47.1 -1.0
TOUF Mont Tournerai 143.97 335 PKIKP PKPbc 17 08 46.9 +0.5
TOUF Mont Tournerai 143.97 335 PKP PKPbc 17 08 46.9 +0.5
TOUF Mont Tournerai 143.97 335 PKP PKPbc 17 08 46.9 +0.5
MVIF Mont Vial 144.11 335 PKIKP PKPbc 17 08 47.3 +0.5
MVIF Mont Vial 144.11 335 PKP PKPbc 17 08 47.3 +0.5
MVIF Mont Vial 144.11 335 PKP PKPbc 17 08 47.3 +0.5
REVF Revere 144.14 334 PKIKP PKPbc 17 08 46.9 +0.1
REVF Revere 144.14 334 PKP PKPbc 17 08 46.9 +0.1
REVF Revere 144.14 334 PKP PKPbc 17 08 46.9 +0.1
OG25 Le Caire 144.16 336 PKP **PKPdf** 17 08 47.7 -0.8
OG25 Le Caire 144.16 336 PKP **PKPdf** 17 08 47.7 -0.8
OCF Saint Nazaire 144.28 337 PKP **PKPdf** 17 08 48.7 0.0
OG26 St.-Nazaire-De 144.28 337 PKP **PKPdf** 17 08 48.7 0.0
CALN Calern 144.34 335 PKIKP PKPbc 17 08 48.0 +0.5
CALN Calern 144.34 335 PKP PKPbc 17 08 48.0 +0.5
CALN Calern 144.34 335 PKP PKPbc 17 08 48.0 +0.5
LBL Lubilhac 144.45 340 PKIKP **PKPdf** 17 08 49.1 +0.1
LBL Lubilhac 144.45 340 PKP **PKPdf** 17 08 49.1 +0.1
LBL Lubilhac 144.45 340 PKP **PKPdf** 17 08 49.1 +0.1
OSPF L'Ospedale 144.94 330 PKP **PKPdf** 17 08 50.2 +0.2
OSPF L'Ospedale 144.94 330 PKP **PKPdf** 17 08 50.2 +0.2
VSL Villasalto 146.47 327 *e*PKPbc **PKPbc** 17 08 54.5 +0.4
VSL *e*pPKPdf **pPKPdf** 17 09 21.4 -1.0
LRDF Laroque-de-Fa 146.71 339 PKP **PKPab** 17 08 55.7 -0.3
LRDF Laroque-de-Fa 146.71 339 PKP **PKPab** 17 08 55.7 -0.3
SJAF Saint Jean de 146.98 338 PKP **PKPbc** 17 08 55.7 +0.3
SJAF Saint Jean de 146.98 338 PKP **PKPbc** 17 08 55.7 +0.3
FILF Fillols 147.03 338 PKP **PKPab** 17 08 56.6 -0.7
FILF Fillols 147.03 338 PKP **PKPab** 17 08 56.6 -0.7
CARF Carcanieres 147.06 339 PKP **PKPbc** 17 08 56.5 +0.7
CARF Carcanieres 147.06 339 PKP **PKPbc** 17 08 56.5 +0.7
MLS Moulis 147.19 340 PKIKP **PKPab** 17 08 56.9 -0.9
MLS Moulis 147.19 340 PKP **PKPab** 17 08 56.9 -0.9
REYF Montagne du Re 147.55 342 PKP **PKPab** 17 08 58.7 -0.7
REYF Montagne du Re 147.55 342 PKP **PKPab** 17 08 58.7 -0.7
RESF Ens 147.56 341 PKP **PKPab** 17 08 58.9 -0.6
RESF Ens 147.56 341 PKP **PKPab** 17 08 58.9 -0.6
VIEF Viey 147.59 342 PKP **PKPab** 17 08 58.7 -0.8
VIEF Viey 147.59 342 PKP **PKPab** 17 08 58.7 -0.8
KEST Kesra 149.15 322 PKPbc **PKPbc** 17 09 02.5 +1.0
comp=N,72nm,0.8s,baz=130,slow=0.8,SNR=122
KEST Kesra 149.15 322 *e*PKPdf **PKPdf** 17 08 57.4 +0.2
KEST PKPbc **PKPbc** 17 09 02.5 +1.0
KEST *e*PKPbc **PKPbc** 17 09 02.5 +1.0
CMAH Djebel Manchou 149.62 326 P **PKPbc** 17 09 03.2 +0.6
CAEH `Ain El Ouahch 149.81 327 P **PKPbc** 17 09 03.8 +0.8
ABSA Djebel Ababsia 149.84 325 P **PKPbc** 17 09 04.2 +1.0
CKFL Kef-Lekhel 150.17 326 P **PKPbc** 17 09 04.8 +0.8
PBRG Braganca 150.23 350 *e*PKPbc **PKPbc** 17 09 04.4 +0.5
PGAV Gavieira, Arco 150.30 353 *e*PKPdf **PKPdf** 17 08 58.9 +0.1
PGAV Gavieira, Arco 150.30 353 *e*PKPbc **PKPbc** 17 09 04.9 +0.8
CASM Ain Smara 150.40 326 P **PKPbc** 17 09 05.4 +1.0
DFRA Djebel Bou Aff 150.51 328 P **PKPbc** 17 09 06.2 +1.4
PCAB Cabril 150.52 352 *e*PKPbc **PKPbc** 17 09 05.8 +1.3
CTEI Djebel Teioual 150.59 326 P **PKPbc** 17 09 06.2 +1.2
ROSA Rosais 150.65 24 *e*PKP **PKPbc** 17 09 06.7 +1.8
SHEL Horse Pasture 150.79 195 *e*PKIKP **PKPdf** 17 09 01.1 +0.9
SHEL *e* 17 09 15.3
SHEL Horse Pasture 150.79 195 *e*PKPdf **PKPdf** 17 09 01.1 +0.9
SHEL *e*PKPbc **PKiKP** 17 09 07.0 +0.5
SHEL *e*PKPab **PKPab** 17 09 15.3 +2.2
POLO Lamas de Olo 150.82 352 *e*PKPdf **PKPdf** 17 09 01.1 +1.5
POLO Lamas de Olo 150.82 352 *e*PKPbc **PKPbc** 17 09 06.5 +1.2
PVRL Vila Real 150.90 351 *e*PKPbc **PKPbc** 17 09 06.5 +1.1
PVRL Vila Real 150.90 351 *e*PKPab **PKPab** 17 09 14.6 +1.6
MVO Moncorvo 150.91 350 *e*PKPdf **PKPdf** 17 09 01.0 +1.3
MVO Moncorvo 150.91 350 *e*PKPbc **PKPbc** 17 09 06.6 +1.1
SET Setif 151.02 328 P **PKPbc** 17 09 08.0 +2.1
RCBR Riachuelo 151.05 128 *e*PKPdf **PKPdf** 17 08 59.8 -0.9
RCBR *e*PKPbc **PKPbc** 17 09 06.2 -0.4
PTO Porto 151.16 353 *e*PKPbc **PKPbc** 17 09 07.2 +1.3
**PVIS Vise

PTOM	Tomar	152.63	352	ePKPbc	PKPbc	17 09 10.3	+0.9
PMRV	Marv??o	152.66	350	ePKPdf	PKPdf	17 09 03.6	+1.2
PMRV	Marv??o	152.66	350	ePKPbc	PKPbc	17 09 10.5	+1.0
CART	Cartagena	152.70	338	ePKPdf	PKPbc	17 09 09.2	-0.3
PMTG	Montargil	153.14	351	ePKPdf	PKPdf	17 09 04.1	+1.1
PMTG	Montargil	153.14	351	ePKPbc	PKPbc	17 09 11.2	+0.7
PESTR	Estremoz	153.24	350	ePKPbc	PKPbc	17 09 11.4	+0.6
PESTR	Estremoz	153.24	350	ePKPab	PKPab	17 09 24.4	+1.6
PSMN	Pico do Norte,	153.37	21	ePKP	PKPbc	17 09 12.5	+1.4
PMAFR	Mafra	153.39	353	ePKPbc	PKPbc	17 09 12.1	+1.0
PMAFR	Mafra	153.39	353	ePKPab	PKPab	17 09 25.0	+1.6
EVO	Evora	153.63	351	ePKPdf	PKPdf	17 09 03.7	-0.1
EVO	Evora	153.63	351	ePKPbc	PKPbc	17 09 12.6	+1.0
EVO	Evora	153.63	351	ePKPab	PKPab	17 09 26.3	+1.9
PBAR	Barrancos	153.81	349	ePKPdf	PKPdf	17 09 05.5	+1.5
PBAR	Barrancos	153.81	349	ePKPbc	PKPbc	17 09 12.9	+0.9
PBAR	Barrancos	153.81	349	ePKPab	PKPab	17 09 26.5	+1.3
PBEJ	Beja	154.10	350	ePKPdf	PKPdf	17 09 05.9	+1.4
PBEJ	Beja	154.10	350	ePKPbc	PKPbc	17 09 13.9	+1.3
PBEJ	Beja	154.10	350	ePKPab	PKPab	17 09 28.3	+1.8
PNCL	Nicolau / Gran	154.12	351	ePKPbc	PKPbc	17 09 13.8	+1.2
PNCL	Nicolau / Gran	154.12	351	ePKPab	PKPab	17 09 28.4	+1.9
PCVE	Castro Verde	154.52	350	ePKPbc	PKPbc	17 09 14.9	+1.4
PCVE	Castro Verde	154.52	350	ePKPab	PKPab	17 09 30.3	+2.1
PVAQ	Vaqueiros	154.69	350	ePKPbc	PKPbc	17 09 15.0	+1.1
PVAQ	Vaqueiros	154.69	350	ePKPab	PKPab	17 09 30.9	+2.0
PTEO	Sao Teotonio	154.71	352	ePKPbc	PKPbc	17 09 15.4	+1.5
PBDV	Barranco-do-Ve	154.88	350	ePKPdf	PKPdf	17 09 07.4	+1.8
PBDV	Barranco-do-Ve	154.88	350	ePKPbc	PKPbc	17 09 15.9	+1.6
PBDV	Barranco-do-Ve	154.88	350	ePKPab	PKPab	17 09 32.0	+2.2
MORF	Marmelete	154.93	351	ePKPab	PKPab	17 09 31.9	+1.8
TAM	Tamanrasset	159.41	302	PKIKP	PKPdf	17 09 12.1	+0.2
TAM	Tamanrasset	159.41	302	PKPdf	PKPdf	17 09 12.1	+0.2
TORD	Torodi Ar. Bea	165.42	274	PKP	PKPdf	17 09 17.6	-0.3
	comp=N,4.4nm,0.8s,baz=63,slow=0.3,SNR=28						
TORD				PKPab	PKPab	17 10 17.1	+0.5
	comp=N,59nm,1.0s,baz=82,slow=4.2,SNR=70						
TORD				PP	PP	17 14 03.4	-0.6
	comp=N,3.5nm,1.0s,baz=80,slow=3.7,SNR=4.3						
TORD	Torodi Ar. Bea	165.42	274	PKP	PKPdf	17 09 17.6	-0.3
TORD				PKPab	PKPab	17 10 17.1	+0.5
TORD				PP	PP	17 14 03.4	-0.6
DBIC	Dimbokro	169.93	236	PKP	PKPdf	17 09 19.8	-1.3
	comp=N,5.2nm,0.8s,baz=100,slow=2.4,SNR=8.6						
DBIC				PKPab	PKPab	17 10 35.5	-0.8
	comp=N,10nm,0.7s,baz=115,slow=5.6,SNR=11						
DBIC	Dimbokro	169.93	236	PKIKP	PKPdf	17 09 19.8	-1.3
DBIC						17 10 35.5	
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBIC	Dimbokro	169.93	236	PKP	PKPdf	17 09 19.8	-1.3
DBIC				PKPab	PKPab	17 10 35.5	-0.8
BBTS	Babate	176.12	55	PKP	PKPdf	17 09 23.9	+0.4
	comp=Z,18nm,0.8s,baz=315,slow=4.3,SNR=2.9						
BBTS	Babate	176.12	55	PKP	PKPdf	17 09 23.9	+0.4

*BJI **03** 16:53:07.9, 6˚.33N×123˚.59E, h610km, mB4.9/16, mb4.6/37*
*ISCJB **03** 16:53:10.0±0.2, 6˚.67N±0˚.04×123˚.64E±0˚.05, h617km±3km, mb4.5/51, Error ellipse: s-maj=8.6km s-min=5.0km az=145.9*
*DJA **03** 16:53:11, 6˚.73N×123˚.68E, h597km, mb4.9/8*
*NEIC **03** 16:53:11.0±0.4, 6˚.65N×123˚.58E, h615km±6km, mb4.5/17, Error ellipse: s-maj=10.4km s-min=5.1km az=58.0*
*IDC **03** 16:53:11.3±0.8, 6˚.62N×123˚.59E, h621km±10km, mb3.8/23, mb1 3.9/25, mb1mx3.8/28, mbtmp3.8/25, Error ellipse: s-maj=17.7km s-min=6.0km az=65.0*
*MAN **03** 16:53:12, 6˚.60N×123˚.27E, h563km, mb5.2, ML4.2, MS4.4*

ISC 03 16:53:10.9±0.5, 6˚.63N±0˚.06×123˚.57E±0˚.08, h612km±5km, n154, σ1°§10/178, mb4.5/50, 1C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.89	49	⇓iP	P	16 54 22.2	-0.8
PAGZ	Pagadian	1.22	351	eP	P	16 54 22.6	-1.2
GSPH	General Santos	1.47	112	⇓eP	P	16 54 23.5	-1.1
IPIL	Ipil	1.52	319	eP	P	16 54 23.3	-1.3
BUKP	Musuan	1.93	50	eP	P	16 54 25.2	-0.9
DMPH	Davao City--Mi	1.97	72	⇓eP	P	16 54 25.3	-0.9
DAV	Davao City (W)	2.04	78	ePn	P	16 54 26.4	-0.1
	35nm,0.3s,baz=256,slow=4.2,SNR=9.6						
DAV	Davao City (W)	2.04	78	eP	P	16 54 26.4	-0.1
MATI	Mati	2.68	83	eP	P	16 54 27.4	-2.0
MYLDM	Lahad Datu	5.25	254	P	P	16 54 47.7	+1.2
MYLDM	Lahad Datu	5.25	254	P	P	16 54 47.5	+1.0
	280nm,1.0s,1.0nm						
MNI	Manado	5.31	166	P	P	16 54 47.0	-0.1
	347nm,0.6s,4µm1.4nm						
KMSI	Cibinong	6.03	176	P	P	16 54 53.3	+0.3
	359nm,0.8s,3µm1.1nm						
TSM	Tawau	6.13	248	P	P	16 54 53.4	-0.5
MRSI	Marisa	6.33	195	P	P	16 54 56.6	+1.0
	46nm,0.7s,556nm0.2nm						
SDKM	Sandakan	6.42	262	P	P	16 54 55.8	-0.6
KDM	Kudat	6.70	273	P	P	16 54 56.8	-2.0
TNTI	Ternate	6.94	147	P	P	16 55 00.6	-0.4
	292nm,0.7s,4µm1.1nm						
KKM	Kota Kinabalu	7.34	266	eP	P	16 55 03.5	-1.2
	99nm,0.4s						
KKM	Kota Kinabalu	7.34	266	P	P	16 55 04.1	-0.6
KKM	Kota Kinabalu	7.34	266	P	P	16 55 04.6	-0.1
	192nm,0.9s,2µm0.7nm						
TGY	Tagaytay City	7.86	341	P	P	16 55 08.4	-1.0
	34nm,0.3s,baz=179,slow=4.1,SNR=6.6						
TGY	Tagaytay City	7.86	341	P	P	16 55 08.4	-1.0
LBMI	Labuha	8.22	151	P	P	16 55 13.0	+0.2
	204nm,0.6s,3µm1.7nm						
BTM	Bintulu	10.99	252	P	P	16 55 40.7	+0.9
SBUM	Sibu	12.05	250	P	P	16 55 52.5	+2.2
FAKI	Fak Fak	12.85	137	P	P	16 55 58.8	+0.7
	65nm,0.7s						
KSM	Kuching	14.19	249	eP	P	16 56 11.2	-0.1
	23nm,0.6s						
KSM	Kuching	14.19	249	P	P	16 56 12.0	+0.7
TLE	Tual	15.24	143	P	P	16 56 24.0	+3.1
TPUB	Ta-pu	16.81	351	eP	P	16 56 35.1	0.0
NACB	Ninganchiao	17.54	354	eP	P	16 56 42.9	+1.1
YHNB	Yeheng	18.06	354	eP	P	16 56 46.2	-0.3
FITZ	Fitzroy Crossi	24.66	175	P	P	16 57 45.5	-0.1
	10.0nm,0.7s,baz=340,slow=5.2,SNR=14						
FITZ				ScP	ScP	17 03 43.1	+0.1
	3.6nm,0.9s,baz=8.5,slow=4.7,SNR=3.8						
FITZ	Fitzroy Crossi	24.66	175	P	P	16 57 45.5	-0.1
FITZ				ScP	ScP	17 03 43.1	+0.1
NJ2	Nanjing	25.67	351	eP	P	16 57 56.1	+1.8
CM31	Chiang Mai Arr	26.72	298	eP	P	16 58 04.3	+0.6
	7.9nm,0.6s						
CMAR	Chiang Mai Arr	26.72	298	P	P	16 58 04.6	+0.9
	9.7nm,0.7s,baz=120,slow=7.4,SNR=88						
CMAR	Chiang Mai Arr	26.72	298	P	P	16 58 04.6	+0.9
CHTO	Chiang Mai	26.86	299	⇓iP	P	16 58 05.7	+0.8
	17nm,0.7s						
ENH	Enshi	26.99	332	eP	P	16 58 06.3	+0.4
	28nm,0.8s						
KMI	Kunming	27.12	315	P	P	16 58 08.9	+1.5
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
COEN	Coen	28.23	136	eP	P	16 58 16.5	-0.4
	comp=Z,126nm,0.4s						
PMG	Port Moresby	28.39	124	P	P	16 58 17.9	-0.5
	comp=Z,12nm,0.7s,baz=337,slow=7.7,SNR=2.7						
PMG	Port Moresby	28.39	124	P	P	16 58 17.9	-0.5
WRAB	Tennant Creek	28.45	158	⇑iP	P	16 58 18.9	+0.1
WRA	Warramunga Arr	28.45	158	P	P	16 58 18.8	0.0
	comp=Z,37nm,0.3s,baz=332,slow=11,SNR=82						
WRA				S	S	17 02 22.1	-2.9
	comp=Z,2.9nm,0.5s,baz=334,slow=15,SNR=8.9						
WRA				ScP	ScP	17 03 53.5	-1.0
	comp=Z,1.9nm,0.5s,baz=343,slow=3.2,SNR=8.9						
WRA	Warramunga Arr	28.45	158	P	P	16 58 18.8	0.0
WRA				S	S	17 02 22.1	-2.9
WRA				ScP	ScP	17 03 53.5	-1.0
XAN	Xi'an	30.46	336	P	P	16 58 36.0	+0.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CD2	Chengdu	30.47	325	P	P	16 58 37.5	+1.5
CD2				PcP	PcP	17 01 16.7	+1.2
CD2				sP	sP	17 01 24.9	+0.5
CD2				PcS	PcS	17 05 00.3	0.0
CD2				ScS	ScS	17 07 59.0	+0.1
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,190nm,5.4s						
KSAR	Wonju Array Be	30.92	7	P	P	16 58 40.5	+0.8
KSRS	Korea Array	30.93	7	P	P	16 58 40.5	+0.7
	comp=Z,0.7nm,0.4s,baz=180,slow=9.3,SNR=7.3						
ASAR	Alice Springs	31.76	162	P	P	16 58 48.1	+1.1
	comp=Z,26nm,0.3s,baz=340,slow=7.1,SNR=108						
ASAR				S	S	17 03 13.9	-1.7
	comp=Z,7.0nm,0.7s,baz=353,slow=23,SNR=15						
ASAR				ScP	ScP	17 04 04.9	-0.5
	comp=Z,1.8nm,0.6s,baz=340,slow=2.6,SNR=6.0						
ASAR	Alice Springs	31.76	162	P	P	16 58 48.1	+1.1
ASAR				S	S	17 03 13.9	-1.7
ASAR				ScP	ScP	17 04 04.9	-0.5
MAT	Matsushiro	32.64	22	P	P	16 58 50.1	-4.2
BJI	Beijing	33.92	350	P	P	16 59 05.2	+0.3
BJI				pmax	pmax		
	comp=Z,19nm,0.7s						
LZH	Lanzhou	34.44	331	eP	P	16 59 11.0	+1.5
LZH				sP	sP	17 01 57.0	-2.6
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,72nm,4.3s						
CTA	Charters Tower	34.68	140	P	P	16 59 12.7	+1.1
	comp=Z,10nm,0.6s,baz=326,slow=11,SNR=8.1						
CTA	Charters Tower	34.68	140	eP	P	16 59 13.1	+1.5
	comp=Z,8.4nm,0.6s						
CTA	Charters Tower	34.68	140	P	P	16 59 12.7	+1.1
CTAO	Charters Tower	34.68	140	eP	P	16 59 12.8	+1.3
	comp=Z,11nm,0.6s						
HHC	Hu-ho-hao-te	35.72	344	eP	P	16 59 22.0	+2.0
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.7s						
CN2	Changchun	37.06	2	eP	P	16 59 33.0	+2.3
USRK	Ussuriysk Arra	38.14	10	P	P	16 59 38.9	-0.6
	comp=Z,1.0nm,0.4s,baz=192,slow=6.8,SNR=5.8						
LSA	Lhasa	38.17	311	eP	P	16 59 42.1	+1.5
	comp=Z,14nm,0.6s						
GTA	Gaotai	39.02	330	⇓P	P	16 59 48.0	+1.2
GTA				pmax	pmax		
	comp=Z,19nm,0.7s						
HNR	Honiara	39.60	113	P	P	16 59 52.3	+0.6
	comp=Z,40nm,0.4s,baz=322,slow=17,SNR=4.0						
HNR	Honiara	39.60	113	P	P	16 59 52.3	+0.6
TAPN	Taplejung	39.78	305	eP	P	16 59 54.0	+0.7
	comp=Z,31nm,0.5s						
TAPN	Taplejung	39.78	305	eP	P	16 59 54.0	+0.7
ODAN	Odare	39.84	305	eP	P	16 59 54.3	+0.6
	comp=Z,44nm,0.7s						
ODAN	Odare	39.84	305	eP	P	16 59 54.3	+0.6
RAMN	Ramite	40.52	304	eP	P	16 59 59.8	+0.6
	comp=Z,33nm,0.6s						
RAMN	Ramite	40.52	304	eP	P	16 59 59.8	+0.6
BBOO	Buckleboo	40.98	164	eP	P	17 00 03.2	+0.8
	comp=Z,237nm,0.6s						
JIRN	Jiri	41.14	305	eP	P	17 00 04.8	+0.7
	comp=Z,31nm,0.5s						
JIRN	Jiri	41.14	305	eP	P	17 00 04.8	+0.7
GUN	Gumba	41.49	305	eP	P	17 00 07.5	+0.6
	comp=Z,36nm,0.4s						
EIDS	Eidsvold	41.56	141	eP	P	17 00 07.7	+0.6
	comp=Z,44nm,0.5s						
PKI	Pulchoki	41.74	305	eP	P	17 00 08.9	+0.1
PKI	Pulchoki	41.74	305	eP	P	17 00 08.9	+0.1
KKN	Kakani	41.93	305	eP	P	17 00 10.4	+0.2
	comp=Z,16nm,0.4s						
STKA	Stephens Creek	41.98	157	P	P	17 00 11.4	+1.2
	comp=Z,22nm,0.5s,baz=331,slow=7.2,SNR=23						
STKA				ScP	ScP	17 04 43.6	-0.1
	comp=Z,1.2nm,0.7s,baz=304,slow=7.3,SNR=2.9						
STKA	Stephens Creek	41.98	157	eP	P	17 00 11.4	+1.2
	comp=Z,12nm,0.4s						
STKA	Stephens Creek	41.98	157	P	P	17 00 11.4	+1.2
STKA				ScP	ScP	17 04 43.6	-0.1
DMN	Daman	42.00	304	eP	P	17 00 11.1	+0.3
DMN	Daman	42.00	304	eP	P	17 00 11.1	+0.3
GKN	Gorkha	42.54	305	eP	P	17 00 15.0	+0.2
	comp=Z,17nm,0.4s						
KOLN	Koldanda	43.30	304	eP	P	17 00 21.6	+0.8
	comp=Z,73nm,0.6s						
KOLN	Koldanda	43.30	304	eP	P	17 00 21.6	+0.8
DANN	Dangsing	43.38	305	eP	P	17 00 22.1	+0.5
	comp=Z,85nm,0.5s						
DANN	Dangsing	43.38	305	eP	P	17 00 22.1	+0.5
ULN	Ulaanbaatar	43.44	344	⇓iP	P	17 00 22.0	+0.5
	comp=Z,22nm,1.3s						
SONM	Songino Array	43.59	343	P	P	17 00 23.0	+0.3
	comp=Z,5.8nm,0.6s,baz=160,slow=8.5,SNR=59						
SONM	Songino Array	43.59	343	P	P	17 00 23.0	+0.3
HYB	Hyderabad	45.21	288	iP	P	17 00 35.0	-0.4
HYB				epP	pP	17 02 21.0	-2.0
HYB				e		17 02 47.0	
HYB				e		17 02 59.0	
ARMA	Armidale	45.62	145	eP	P	17 00 40.4	+2.1
CNB	Canberra Magne	48.28	152	eP	P	17 00 59.7	+1.5
	comp=Z,38nm,0.6s						
WMQ	Urumqi	48.56	326	P	P	17 01 01.8	+1.7
WMQ				pmax	pmax		
	comp=Z,22nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.5s						
DDI	Dehra Dun	48.74	305	ex	P	17 01 02.6	+0.9
DDI				ex	x	17 02 36.3	
MK31	Makanchi Array	53.40	326	⇓iP	P	17 01 35.5	+0.6
MKAR	Makanchi Array	53.40	326	P	P	17 01 35.6	+0.7
	comp=Z,22nm,0.5s,baz=120,slow=8.0,SNR=746						
MKAR				ScP	ScP	17 05 29.6	-2.3
	comp=Z,2.0nm,0.6s,baz=118,slow=5.6,SNR=6.7						
MKAR	Makanchi Array	53.40	326	eP	P	17 01 35.5	+0.7
MKAR				ScP	ScP	17 05 29.6	-2.3
KSH	Kashi	53.78	315	eP	P	17 01 39.8	+1.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,93nm,4.4s						
PETK	Petropavlovsk-	54.03	25	P	P	17 01 38.9	-0.3
	comp=Z,5.7nm,0.9s,baz=206,slow=8.2,SNR=3.4						
PETK	Petropavlovsk-	54.03	25	P	P	17 01 38.9	-0.3
ULHL	Ulahol	54.78	318	P	P	17 01 46.0	+1.1
	SNR=5.1						
ULHL				P	P	17 01 46.0	+1.1
	SNR=5.1						
KZA	Kyzart	55.36	317	P	P	17 01 50.8	+1.6
	SNR=11						
KZA				P	P	17 01 50.8	+1.6
	SNR=11						
TKM2	Tokmak 2	55.50	319	P	P	17 01 50.6	+0.7
	SNR=15						
TKM2				P	P	17 01 50.6	+0.7
	SNR=15						
TKM2	Tokmak 2	55.50	319	⇓iP	P	17 01 50.5	+0.6
KBK	Karagaybulak	55.82	318	P	P	17 01 53.3	+1.3
	SNR=7.5						
KBK				P	P	17 01 53.3	+1.3
	SNR=7.5						
CHMS	Chumysh	56.09	318	P	P	17 01 54.4	+0.6
	SNR=5.4						
CHMS				P	P	17 01 54.4	+0.6
	SNR=5.4						
AAK	Ala-Archa	56.11	318	P	P	17 01 55.1	+1.1
	SNR=5.8						
AAK				P	P	17 01 55.1	+1.1
	SNR=5.8						
AAK	Ala-Archa	56.11	318	eP	P	17 01 54.7	+0.7
	comp=Z,22nm,1.0s						
USP	Ospenovka	56.38	318	P	P	17 01 56.5	+0.8
	SNR=17						
USP				P	P	17 01 56.5	+0.8
	SNR=17						
AML	Almayashu	56.44	317	P	P	17 01 57.9	+1.3
	SNR=14						
AML				P	P	17 01 57.9	+1.3
	SNR=14						
EKS2	Erkin-Say	56.60	318	P	P	17 01 58.6	+1.3
	SNR=9.7						
EKS2				P	P	17 01 58.6	+1.3
	SNR=9.7						
EKS2	Erkin-Say	56.60	318	⇓eP	P	17 01 57.5	+0.1
	comp=Z,13nm,0.8s						
ZAA0	Zalesovo Array	56.60	334	eP	P	17 01 55.9	-1.0
ZALV	Zalesovo Beam	56.60	334	P	P	17 01 56.4	-0.5
	comp=Z,3.0nm,0.4s,baz=124,slow=5.8,SNR=22						
ZALV	Zalesovo Beam	56.60	334	P	P	17 01 56.4	-0.5
KBL	Kabul	57.27	307	⇓iP	P	17 02 02.1	-0.1
	comp=Z,13nm,0.8s						
KURK	Kurchatov	57.62	328	P	P	17 02 04.2	+0.3
	comp=Z,27nm,0.7s,baz=128,slow=6.3,SNR=177						
KURK	Kurchatov	57.62	328	⇓iP	P	17 02 04.2	+0.3
	comp=Z,43nm,0.8s						
KKAR	Karatay Array	58.98	317	⇓iP	P	17 02 13.3	+0.1
	comp=Z,7.7nm,0.6s						
BRVK	Borovoye	63.26	327	⇓iP	P	17 02 40.7	-0.2
	comp=Z,14nm,1.0s						
RPZ	Rata Peaks	65.94	144	P	P	17 02 57.1	-0.7
	comp=Z,5.3nm,0.5s,baz=304,slow=7.3,SNR=5.6						
RPZ	Rata Peaks	65.94	144	P	P	17 02 57.1	-0.7
URZ	Urewera	66.80	136	P	P	17 03 02.6	-0.7
	comp=Z,4.4nm,0.5s,baz=267,slow=11,SNR=6.0						
URZ	Urewera	66.80	136	P	P	17 03 02.6	-0.7
ABKAR	Akbulak array	67.93	321	⇓iP	P	17 03 09.8	-0.2
	comp=Z,6.3nm,0.6s						
ARU	Arti	70.82	328	eP	P	17 03 26.5	-0.5
OBN	Obninsk	82.89	325	eP	P	17 04 31.8	-0.7
JOF	Joensuu	85.18	333	ep	P	17 04 42.6	-0.9
	comp=Z,1.9nm,0.3s						
BR131	Keskin Array S	85.76	309	eP	P	17 04 45.8	-1.3
	comp=Z,0.5nm,0.3s						
BRTR	Keskin Array B	85.76	309	P	P	17 04 46.1	-0.9
	comp=Z,1.3nm,0.4s,baz=132,slow=3.8,SNR=20						
BRTR	Keskin Array B	85.76	309	P	P	17 04 46.1	-0.9
ARCES	ARCESS Array B	86.65	340	P	P	17 04 49.7	-0.8
	comp=Z,23nm,1.2s,baz=59,slow=5.5,SNR=6.4						
ARCES	ARCESS Array B	86.65	340	P	P	17 04 49.7	-0.8
KAF	Kangasniemi	87.58	332	ep	P	17 04 53.5	-1.4
	comp=Z,2.0nm,0.4s						
KAF	Kangasniemi	87.58	332	ep	P	17 04 53.5	-1.4
	comp=Z,2.0nm,0.4s						
KBS	Kingsbay	87.61	350	eP	P	17 04 52.3	-2.5
	comp=Z,14nm,0.9s						
FINES	FINESS Array B	87.80	332	P	P	17 04 55.1	-0.8
	comp=Z,2.4nm,0.5s,baz=64,slow=3.8,SNR=20						
FINES	FINESS Array B	87.80	332	P	P	17 04 55.1	-0.8
MLR	Muntele Rosu	90.64	316	P	P	17 05 09.3	-0.4
	comp=Z,0.2nm,0.6s,baz=148,slow=13,SNR=3.7						
MLR	Muntele Rosu	90.64	316	P	P	17 05 09.3	-0.4
HFS	Hagfors	94.00	332	P	P	17 05 23.3	-1.2
	comp=Z,3.1nm,1.0s,baz=84,slow=4.6,SNR=8.7						
HFS	Hagfors	94.00	332	P	P	17 05 23.3	-1.2
NOA	NORSAR Array B	94.80	333	P	P	17 05 26.3	-1.9
	comp=Z,0.6nm,0.8s,baz=67,slow=4.5,SNR=2.8						
NOA	NORSAR Array B	94.80	333	P	P	17 05 26.3	-1.9
GERES	GERESS Array B	97.87	321	P	Pdif	17 05 41.2	-1.1
	comp=Z,0.2nm,0.5s,baz=39,slow=6.3,SNR=3.5						
GERES	GERESS Array B	97.87	321	P	Pdif	17 05 41.2	-1.1
PLCA	Paso Flores	143.77	162	PKP	PKPbc	17 11 36.8	-0.4
	comp=Z,3.4nm,0.8s,baz=178,slow=6.6,SNR=8.7						
PLCA	Paso Flores	143.77	162	PKP	PKPbc	17 11 36.8	-0.4

IDC 03 17:05:47.7±3.1, 23˚.04N×12˚.48W, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, ML3.4/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/42, Error ellipse: s-maj=104.2km s-min=42.7km az=81.0, Western Sahara

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	16.67	124	Pn	Pn	17 09 42.9	0.0
	0.1nm,0.3s,baz=312,slow=13,SNR=5.5						
ESDC	Sonseca Array	18.09	22	LR	LR	17 17 02.6	
	comp=Z,126nm,21.0s,baz=290,slow=37						
FINES	FINESS Array B	46.57	24	P	P	17 14 16.9	-0.2
	2.1nm,0.9s,baz=232,slow=6.8,SNR=3.4						
TEIG	Tepich	69.76	284	LR	LR	17 44 44.9	
	comp=Z,108nm,19.0s,baz=273,slow=34						
KURK	Kurchatov	73.19	42	P	P	17 17 20.4	0.0
	0.4nm,0.5s,baz=283,slow=6.2,SNR=3.7						
MKAR	Makanchi Array	76.69	45	P	P	17 17 40.9	+0.1
	0.3nm,0.5s,baz=282,slow=4.8,SNR=8.3						
WRA	Warramunga Arr	149.01	91	PKPbc	PKPbc	17 25 36.8	-1.7
	0.3nm,0.8s,baz=287,slow=3.6,SNR=2.7						
ASAR	Alice Springs	149.17	98	PKPbc	PKPbc	17 25 39.5	+0.6
	0.5nm,0.7s,baz=291,slow=2.1,SNR=5.8						

IDC 03 17:08:08.4±5.8, 32˚.69N×73˚.71E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.2/27, mbtmp3.5/5, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/47, 2C-1D, Error ellipse: s-maj=152.4km s-min=31.4km az=129.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	10.32	8	⇑Pn	Pn	17 10 29.9	-8.1
	2.1nm,0.5s						
TKM2				⇑Sn	Px	17 11 24.1	
	5.2nm,0.6s						
KK31	Karatay Array	10.70	347	⇓Pn	Pn	17 10 38.3	-4.6
	0.5nm,0.2s,baz=135,slow=12,SNR=103						
KK31				Sn	Px	17 11 35

LUEV	Luepa	4.87	168	*e*P		Pn	17 14 23.7	-1.0
TURV	Turiamo	5.31	268	*e*P		Pn	17 14 31.5	+1.0
BAUV	El Baul	5.77	253	*e*P		Pn	17 14 36.3	-0.5
TEPV	Terepaima	6.68	265	*e*P		Pn	17 14 48.7	-0.5
SANV	Sanarito	7.08	261	*e*P		Pn	17 14 54.6	-0.1
MONV	Montecano	7.50	281	*e*P		Pn	17 14 60.0	-0.4
SOCV	Socops	8.63	255	*e*P		Pn	17 15 14.3	-1.4
VIGV	El Vigia	8.98	259	*e*P		Pn	17 15 18.5	-2.0
ROSC	El Rosal	13.11	245	LR		LR	17 21 42.8	
	comp=Z,119nm,19.5s,baz=202,slow=39							
SIV	San Ignacio	26.50	177	P		P	17 18 44.8	+2.5
	1.3nm,0.7s,baz=27,slow=14,SNR=3.3							
SIV	San Ignacio	26.50	177	P		P	17 18 44.8	+2.5
CMIG	Matias Romero	32.11	285	P		P	17 19 34.6	+2.4
	2.2nm,0.8s,baz=79,slow=10.0,SNR=4.6							
CMIG	Matias Romero	32.11	285	P		P	17 19 34.6	+2.4
TXAR	Lajitas Array	42.69	302	P		P	17 21 03.0	+1.5
	0.2nm,0.6s,baz=119,slow=9.4,SNR=2.7							
TXAR	Lajitas Array	42.69	302	P		P	17 21 03.0	+1.5
ULM	Lac du Bonnet	48.14	332	P		P	17 21 42.7	-1.3
	1.1nm,0.4s,baz=136,slow=10,SNR=3.4							
ULM	Lac du Bonnet	48.14	332	P		P	17 21 42.7	-1.3
PDAR	Pinedale Array	51.92	317	P		P	17 22 11.2	-1.8
	0.5nm,0.4s,baz=115,slow=10,SNR=11							
PDAR	Pinedale Array	51.92	317	P		P	17 22 11.2	-1.8
DBIC	Dimbokro	57.00	89	*e*P		P	17 22 42.0	-8.0
	1.6nm,0.9s							
TORD	Torodi Ar. Bea	62.66	81	P		P	17 23 29.0	+0.2
	0.4nm,0.5s,baz=284,slow=6.2,SNR=4.8							
TORD	Torodi Ar. Bea	62.66	81	P		P	17 23 29.0	+0.2
ILAR	Eielson Array	78.08	334	P		P	17 25 00.5	-1.3
	0.2nm,0.6s,baz=91,slow=4.8,SNR=6.0							
ILAR	Eielson Array	78.08	334	P		P	17 25 00.5	-1.3
FINES	FINESS Array B	80.03	29	P		P	17 25 12.8	+0.4
	4.1nm,1.1s,baz=272,slow=5.8,SNR=4.2							
FINES	FINESS Array B	80.03	29	P		P	17 25 12.8	+0.4

IDC 03 17:17:45.2±2.4,**3°89N**×126″92E,**h0**km,**mb3.3**/3,
mb1 3.5/3,**mb1mx3.2**/17,**mbtmp3.3**/3,**Error ellipse:**
s-maj=204.6km s-min=25.7km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**163**	P		P	17 23 07.3	-1.6
	0.9nm,0.6s,baz=342,slow=11,SNR=10.0							
ASAR	**Alice Springs**	**28.22**	**166**	P		P	17 23 42.0	+2.0
	0.1nm,0.5s,baz=345,slow=11,SNR=4.8							
MKAR	**Makanchi Array**	**57.54**	**325**	P		P	17 27 36.5	-0.1
	0.2nm,0.5s,baz=117,slow=6.6,SNR=8.3							

*BJI **03** 17:27:14.1,16′.25N×145′.99E,h514km,mB4.8/11,*
mb4.5/23
*ISCJB **03** 17:27:16.8±0.5,16′.28N±0′.04×145′.73E±0′.05,*
h525km±6km,mb4.2/65,Error ellipse: s-maj=8.2km
s-min=5.6km az=171.0
*NEIC **03** 17:27:17.8±0.6,16′.27N×145′.70E,h523km±7km,mb4.2/29,*
Error ellipse: s-maj=7.5km s-min=5.0km az=91.0
*IDC **03** 17:27:18.2±0.6,16′.24N×145′.68E,h527km±6km,mb3.7/21,*
mb1 3.8/23,mb1mx3.7/28,mbtmp3.7/23,Error ellipse:
s-maj=12.5km s-min=6.4km az=91.0

ISC 03 17:27:17.5±0.5,**16′.25N**±0′.05×**145′.70E**±0′.07,**h521**km±4km,
n135,σ**1s27**/169,**mb4.3**/65,**2D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.77**	**197**	P		P	17 28 29.2	+0.4
	37nm,0.3s,baz=43,slow=21,SNR=24							
GUMO				S		S	17 29 26.9	+0.4
	99nm,0.3s,baz=343,slow=19,SNR=11							
GUMO	**Guam**	**2.77**	**197**	P		P	17 28 27.9	-0.8
GUMO				*e*S		S	17 29 24.7	-1.8
GUMO				S		S	17 29 26.9	+0.4
CBIJ	**Chichi jima**	**11.28**	**344**	P		P	17 29 49.5	+1.2
	baz=121,slow=19							
CBIJ	**Chichi jima**	**11.28**	**344**	P		P	17 29 49.5	+1.2
JOW	**Kunigami**	**19.31**	**306**	P		P	17 31 09.4	+0.7
	2.1nm,0.3s,baz=120,slow=16,SNR=14							
JOW	**Kunigami**	**19.31**	**306**	P		P	17 31 09.4	+0.7
MJAR	**Matsushiro Arr**	**21.28**	**343**	P		P	17 31 25.4	-1.1
	1.5nm,0.4s,baz=166,slow=9.0,SNR=22							
MJAR	**Matsushiro Arr**	**21.28**	**343**	P		P	17 31 25.4	-1.1
MAJO	**Matsushiro**	**21.28**	**343**	*e*P		P	17 31 25.9	-0.6
	10nm,0.8s							
MAT	**Matsushiro**	**21.28**	**343**	P		P	17 31 25.9	-0.6
NACB	**Ninganchiao**	**23.93**	**293**	*e*P		P	17 31 50.9	+0.5
YHNB	**Yeheng**	**24.25**	**294**	*e*P		P	17 31 54.5	+1.1
PMG	**Port Moresby**	**25.53**	**177**	P		P	17 32 04.3	-0.4
	11nm,0.6s,baz=343,slow=7.7,SNR=9.8							
PMG	**Port Moresby**	**25.53**	**177**	P		P	17 32 04.3	-0.4
KSRS	**Korea Array**	**26.32**	**327**	P		P	17 32 11.3	-0.1
	1.4nm,0.5s,baz=142,slow=9.1,SNR=15							
KSAR	**Wonju Array Be**	**26.34**	**327**	P		P	17 32 11.3	-0.2
ASAJ	**Asahikawa**	**27.90**	**355**	P		P	17 32 25.9	+0.8
	4.2nm,0.6s,baz=130,slow=7.9,SNR=4.3							
ASAJ	**Asahikawa**	**27.90**	**355**	P		P	17 32 25.9	+0.8
NJ2	**Nanjing**	**29.00**	**308**	*e*P		P	17 32 35.7	+0.8
NJ2				pmax		pmax		
	comp=Z,40nm,0.8s							
KKM	**Kota Kinabalu**	**30.61**	**254**	*e*P		P	17 32 50.1	+0.9
	comp=Z,21nm,0.6s							
MDJ	**Mudanjiang**	**31.38**	**338**	P		P	17 32 52.2	-3.1
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,120nm,5.5s							
CN2	**Changchun**	**32.40**	**332**	*e*P		P	17 33 03.3	-0.7
CN2				*e*S		S	17 37 43.0	+1.7
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
KAPI	**Kappang**	**33.25**	**233**	*e*P		P	17 33 11.1	-0.5
	comp=Z,21nm,1.0s							
MTSU	**Mount Surprise**	**34.20**	**182**	*e*P		P	17 33 20.1	+0.6
	comp=Z,27nm,0.6s							
BJI	**Beijing**	**34.93**	**319**	P		P	17 33 23.8	-1.6
BJI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
CTA	**Charters Tower**	**36.12**	**179**	*e*P		P	17 33 36.7	+1.2
	comp=Z,9.6nm,0.8s							
CTAO	**Charters Tower**	**36.12**	**179**	*e*P		P	17 33 36.7	+1.2
	comp=Z,16nm,0.9s							
GYA	**Guiyang**	**37.62**	**292**	*e*P		P	17 33 48.0	0.0
GYA				pP		pP	17 35 19.8	+0.4
GYA				sP		sP	17 36 17.3	-1.6
GYA				ScP		ScP	17 38 51.0	+0.9
GYA				S		S	17 39 02.7	+2.1
GYA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WRAB	**Tennant Creek**	**37.65**	**198**↓↓	*e*P		P	17 33 48.8	+0.7
	comp=Z,10nm,0.7s							
WRAB				*e*			17 34 55.7	
WB2	**Warramunga Arr**	**37.66**	**198**↓↓	*i*P		P	17 33 49.0	+0.8
WRA	**Warramunga Arr**	**37.66**	**198**	P		P	17 33 49.2	+1.0
	comp=Z,5.2nm,0.3s,baz=19,slow=8.8,SNR=111							
WRA				PcP		PcP	17 35 52.1	0.0
	comp=Z,2.1nm,0.7s,baz=10,slow=3.2,SNR=12							
WRA				S		S	17 38 59.2	-1.7
	comp=Z,1.0nm,0.9s,baz=12,slow=14,SNR=5.1							
WRA	**Warramunga Arr**	**37.66**	**198**	P		P	17 33 49.2	+1.0
WRA				PcP		PcP	17 35 52.1	0.0
WRA				S		S	17 38 59.2	-1.7
KSM	**Kuching**	**37.83**	**251**	*e*P		P	17 33 49.6	-0.1
	comp=Z,19nm,0.6s							
PETK	**Petropavlovsk-**	**37.97**	**12**	P		P	17 33 51.4	+1.1
	comp=Z,1.5nm,0.6s,baz=152,slow=6.4,SNR=7.5							
PETK	**Petropavlovsk-**	**37.97**	**12**	P		P	17 33 51.4	+1.1
HHC	**Hu-ho-hao-te**	**38.34**	**317**	*e*P		P	17 33 54.4	+0.7
HHC				pP		pP	17 35 26.4	+0.9
HHC				PP		PP	17 35 38.0	+0.4
HHC				sP		sP	17 36 23.3	-1.6
HHC				S		S	17 39 14.2	+3.4
HHC				sS		sS	17 41 58.3	-0.9
HHC				SS		SS	17 42 22.2	-7.1
HHC				ScS		ScS	17 43 06.3	+1.8
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,140nm,5.7s							
FITZ	**Fitzroy Crossi**	**39.44**	**211**	P		P	17 34 03.4	+0.8
	comp=Z,2.5nm,0.3s,baz=32,slow=9.7,SNR=48							
FITZ	**Fitzroy Crossi**	**39.44**	**211**	*e*P		P	17 34 03.8	+1.1
	comp=Z,4.1nm,0.2s							
FITZ	**Fitzroy Crossi**	**39.44**	**211**	P		P	17 34 03.4	+0.8
CD2	**Chengdu**	**40.87**	**299**	P		P	17 34 14.6	+0.5
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,160nm,5.3s							
KMI	**Kunming**	**41.01**	**290**	P		P	17 34 15.9	+0.4
KMI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
AS31	**Alice Springs**	**41.31**	**196**	*e*P		P	17 34 18.2	+0.6
AS31				*e*PcP		PcP	17 36 04.4	+0.6
ASAR	**Alice Springs**	**41.31**	**196**	P		P	17 34 18.3	+0.7
	comp=Z,4.0nm,0.6s,baz=20,slow=5.9,SNR=119							
ASAR				PcP		PcP	17 36 03.9	0.0
	comp=Z,1.7nm,0.8s,baz=27,slow=2.8,SNR=9.2							
ASAR				ScP		ScP	17 39 01.8	-2.5
	comp=Z,0.7nm,0.8s,baz=20,slow=3.6,SNR=5.0							
ASAR				S		S	17 39 53.8	-0.5
	comp=Z,1.3nm,0.8s,baz=20,slow=21,SNR=9.8							
ASAR	**Alice Springs**	**41.31**	**196**	P		P	17 34 18.3	+0.7
ASAR				PcP		PcP	17 36 03.9	0.0
ASAR				ScP		ScP	17 39 01.8	-2.5
ASAR				S		S	17 39 53.8	-0.5
EIDS	**Eidsvold**	**41.70**	**173**	*e*P		P	17 34 19.8	-0.8
	comp=Z,95nm,1.8s							
LZH	**Lanzhou**	**42.05**	**306**	*e*P		P	17 34 26.0	+2.5
LZH				pP		pP	17 35 57.2	-0.3
LZH				sP		sP	17 36 54.0	-2.3
LZH				pmax		pmax		
	comp=Z,16nm,1.2s							
DZM	**Mont Dzumac**	**43.17**	**151**	*e*P		P	17 34 33.9	+1.6
	comp=Z,7.5nm,0.4s							
CM31	**Chiang Mai Arr**	**44.59**	**280**	*e*P		P	17 34 44.7	+1.3
	comp=Z,13nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.59**	**280**	P		P	17 34 44.8	+1.4
	comp=Z,7.6nm,0.5s,baz=78,slow=6.4,SNR=76							
CMAR	**Chiang Mai Arr**	**44.59**	**280**	P		P	17 34 44.8	+1.4
ULN	**Ulaanbaatar**	**44.71**	**323**	*e*P		P	17 34 44.6	+0.7
	comp=Z,9.9nm,0.6s							
SONM	**Songino Array**	**45.07**	**323**	P		P	17 34 47.8	+1.0
	comp=Z,2.2nm,0.4s,baz=140,slow=6.8,SNR=52							
SONM				ScP		ScP	17 39 16.2	-3.2
	comp=Z,1.1nm,0.8s,baz=142,slow=3.2,SNR=7.8							
SONM	**Songino Array**	**45.07**	**323**	P		P	17 34 47.8	+1.0
SONM				ScP		ScP	17 39 16.2	-3.2
MBWA	**Marble Bar**	**45.07**	**215**	*e*P		P	17 34 47.3	+0.3
KULM	**Kulim**	**45.48**	**261**	*e*P		P	17 34 49.4	-0.9
GTA	**Gaotai**	**46.07**	**309**	*e*P		P	17 34 55.8	+1.3
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ARMA	**Armidale**	**46.75**	**173**	*e*P		P	17 35 00.6	+0.9
YAK	**Yakutsk**	**47.12**	**350**	*e*P		P	17 35 01.5	-0.4
	comp=Z,12nm,0.6s							
STKA	**Stephens Creek**	**48.01**	**185**	P		P	17 35 09.6	+0.5
	comp=Z,3.0nm,0.5s,baz=347,slow=8.5,SNR=13							
STKA	**Stephens Creek**	**48.01**	**185**	*e*P		P	17 35 09.6	+0.5
	comp=Z,4.4nm,1.0s							
STKA	**Stephens Creek**	**48.01**	**185**	*e*P		P	17 35 09.2	+0.1
	comp=Z,1.1nm,0.7s							
YNG	**Young**	**50.33**	**177**	*e*P		P	17 35 27.5	+1.3
	comp=Z,6.2nm,0.6s							
BILL	**Bilibino**	**53.42**	**9**	*e*P		P	17 35 48.3	+0.3
	comp=Z,5.9nm,1.0s							
TOO	**Toolangi**	**53.53**	**180**	*e*P		P	17 35 50.7	+1.5
	comp=Z,51nm,0.8s							
TAPN	**Taplejung**	**54.55**	**292**	*e*P		P	17 35 57.6	+0.5
	comp=Z,4.7nm,0.3s							
ODAN	**Odare**	**54.85**	**292**	*e*P		P	17 35 59.5	+0.4
	comp=Z,6.8nm,0.5s							
ODAN	**Odare**	**54.85**	**292**	*e*P		P	17 35 59.5	+0.4
RAMN	**Ramite**	**55.55**	**292**	*e*P		P	17 36 04.2	+0.2
	comp=Z,4.8nm,0.5s							
RAMN	**Ramite**	**55.55**	**292**	*e*P		P	17 36 04.2	+0.2
JIRN	**Jiri**	**55.90**	**293**	*e*P		P	17 36 07.2	+0.7
	comp=Z,7.4nm,0.4s							
WMQ	**Urumqi**	**55.93**	**312**	*e*P		P	17 36 07.7	+1.6
GUN	**Gumba**	**56.17**	**293**	*e*P		P	17 36 09.0	+0.6
	comp=Z,7.1nm,0.4s							
PKI	**Pulchoki**	**56.59**	**293**	*e*P		P	17 36 11.3	0.0
	comp=Z,7.1nm,0.5s							
KKN	**Kakani**	**56.70**	**293**	*e*P		P	17 36 12.2	+0.3
DMN	**Daman**	**56.86**	**293**	*e*P		P	17 36 13.1	+0.1
	comp=Z,6.4nm,0.4s							
GKN	**Gorkha**	**57.26**	**293**	*e*P		P	17 36 15.6	-0.1
	comp=Z,6.1nm,0.4s							
DANN	**Dangsing**	**58.02**	**294**	*e*P		P	17 36 21.5	+0.5
KOLN	**Koldanda**	**58.19**	**293**	*e*P		P	17 36 22.0	0.0
	comp=Z,3.7nm,0.4s							
ZALV	**Zalesovo Beam**	**59.96**	**323**	P		P	17 36 33.2	0.0
	comp=Z,1.0nm,0.3s,baz=112,slow=7.4,SNR=12							
ZALV	**Zalesovo Beam**	**59.96**	**323**	P		P	17 36 33.2	0.0
MK31	**Makanchi Array**	**60.17**	**315**	*e*P		P	17 36 35.3	+0.5
MK31				*e*PcP		PcP	17 37 13.5	-0.5
MK31				*e*ScP		ScP	17 40 21.8	-3.1
MKAR	**Makanchi Array**	**60.17**	**315**	P		P	17 36 35.5	+0.8
	comp=Z,4.0nm,0.3s,baz=90,slow=8.5,SNR=214							
MKAR				ScP		ScP	17 40 22.2	-2.7
	comp=Z,1.1nm,0.8s,baz=96,slow=4.9,SNR=8.8							
MKAR				S		S	17 44 06.8	-1.3
	comp=Z,0.2nm,0.8s,baz=94,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**60.17**	**315**	P		P	17 36 35.5	+0.8
MKAR				ScP		ScP	17 40 22.2	-2.7
MKAR				S		S	17 44 06.8	-1.3
KDAK	**Kodiak Island**	**61.40**	**32**	P		P	17 36 44.2	+1.7
	comp=Z,1.9nm,0.3s,baz=282,slow=7.6,SNR=15							
KDAK	**Kodiak Island**	**61.40**	**32**	P		P	17 36 44.2	+1.7
URZ	**Urewera**	**61.71**	**152**	*e*P		P	17 36 44.9	0.0
	comp=Z,11nm,0.6s							
PPLA	**Purkeypile**	**63.06**	**27**	*e*P		P	17 36 54.3	+0.8
	comp=Z,4.2nm,0.5s							
KURK	**Kurchatov**	**63.10**	**319**	*e*P		P	17 36 53.7	-0.1
	comp=Z,3.1nm,0.5s							
SLKM	**Skilak Lake**	**63.29**	**30**	*e*P		P	17 36 54.8	-0.1
PMR	**Palmer**	**64.08**	**29**	*e*P		P	17 36 59.6	-0.2
	comp=Z,6.3nm,0.7s							
SML	**Sawmill**	**64.50**	**29**	*e*P		P	17 37 00.5	-2.1
	comp=Z,3.2nm,0.9s							
TKM2	**Tokmak 2**	**64.61**	**310**	*e*P		P	17 37 03.7	-0.1
	comp=Z,1.6nm,0.9s							
MCK	**McKinley**	**64.71**	**27**	*e*P		P	17 37 03.8	0.0
	comp=Z,1.8nm,0.3s							
COLA	**College**	**65.46**	**25**	*e*P		P	17 37 08.9	+0.5
	comp=Z,1.5nm,0.5s							
ILAR	**Eielson Array**	**65.83**	**26**	P		P	17 37 10.1	-0.8
	comp=Z,3.4nm,0.4s,baz=251,slow=5.7,SNR=130							
ILAR	**Eielson Array**	**65.83**	**26**	P		P	17 37 10.1	-0.8
DOT	**Dot Lake**	**66.81**	**27**	*e*P		P	17 37 17.1	+0.2
	comp=Z,1.8nm,0.5s							
BRVK	**Borovoye**	**68.43**	**321**	*e*P		P	17 37 26.9	-0.1
	comp=Z,6.0nm,0.9s							
INK	**Inuvik**	**71.61**	**23**	*e*P		P	17 37 45.1	-0.5
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**75.06**	**325**	*e*P		P	17 38 04.2	-1.3
	comp=Z,2.7nm,0.6s							
ABKAR	**Akbulak array**	**75.13**	**317**	*e*P		P	17 38 05.7	-0.5
	comp=Z,0.6nm,0.2s							
ABKAR				*e*			17 38 28.0	
RES	**Resolute Bay**	**81.79**	**14**	*e*P		P	17 38 41.8	+0.5
	comp=Z,3.4nm,0.6s							
KEV	**Kevo**	**84.25**	**342**	*ep*		P	17 38 51.2	-2.5
	comp=Z,5.7nm,0.5s							
KEV	**Kevo**	**84.25**	**342**	*ep*		P	17 38 51.2	-2.5
	comp=Z,5.7nm,0.5s							
NVAR	**Mina Array Bea**	**84.64**	**52**	P		P	17 38 57.9	+1.3
	comp=Z,2.4nm,0.6s,baz=267,slow=5.8,SNR=21							
NVAR	**Mina Array Bea**	**84.64**	**52**	P		P	17 38 57.9	+1.3
ARCES	**ARCESS Array B**	**84.81**	**342**	P		P	17 38 56.2	-0.2
	comp=Z,4.9nm,0.6s,baz=76,slow=7.6,SNR=16							
ARCES	**ARCESS Array B**	**84.81**	**342**	P		P	17 38 56.2	-0.2
MFID	**Camas Ranch**	**84.99**	**46**	*e*P		P	17 38 58.9	+0.8
	comp=Z,10nm,1.0s							
JOF	**Joensuu**	**86.23**	**335**	*ep*		P	17 39 02.0	-1.4
	comp=Z,5.2nm,0.5s							
JOF	**Joensuu**	**86.23**	**335**	*ep*		P	17 39 02.0	-1.4
	comp=Z,5.2nm,0.5s							
DUG	**Dugway**	**88.15**	**49**	*e*P		P	17 39 14.2	+1.1
	comp=Z,4.8nm,1.0s							
KAF	**Kangasniemi**	**88.64**	**336**	*ep*		P	17 39 12.6	-2.1
	comp=Z,2.5nm,0.5s							
KAF	**Kangasniemi**	**88.64**	**336**	*ep*		P	17 39 12.6	-2.1
	comp=Z,2.5nm,0.5s							
FINES	**FINESS Array B**	**89.10**	**335**	P		P	17 39 15.3	-1.5
	comp=Z,5.0nm,0.4s,baz=65,slow=4.6,SNR=71							
FINES	**FINESS Array B**	**89.10**	**335**	P		P	17 39 15.3	-1.5
FFC	**Flin Flon**	**89.14**	**32**	*e*P		P	17 39 16.9	-0.3
PDAR	**Pinedale Array**	**89.53**	**45**	P		P	17 39 19.4	-0.1
	comp=Z,0.7nm,0.6s,baz=179,slow=1.4,SNR=7.6							
PDAR	**Pinedale Array**	**89.53**	**45**	P		P	17 39 19.4	-0.1
HFS	**Hagfors**	**94.64**	**338**	P		P	17 39 40.8	-1.6
	comp=Z,1.1nm,0.5s,baz=76,slow=6.1,SNR=7.1							
HFS	**Hagfors**	**94.64**	**338**	P		P	17 39 40.8	-1.6
NOA	**NORSAR Array B**	**94.86**	**340**	P		P	17 39 41.8	-1.6
	comp=Z,0.9nm,0.8s,baz=45,slow=4.5,SNR=2.8							
NOA	**NORSAR Array B**	**94.86**	**340**	P		P	17 39 41.8	-1.6
SNAA	**Sanae**	**121.54**	**191**	*e*		**PKPdf**	17 45 11.4	+0.3
VNA2	**Neumayer--Watz**	**122.97**	**190**	*e*		**PKPdf**	17 45 15.0	+1.2
	baz=220,slow=0.5							
TORD	**Torodi Ar. Bea**	**133.97**	**307**	PKP		**PKPdf**	17 45 35.7	-0.6
	comp=Z,0.5nm,0.6s,baz=49,slow=1.9,SNR=3.8							
TORD				SKPbc		**SKPbc**	17 48 13.5	-3.3
	comp=Z,1.4nm,0.8s,baz=14,slow=2.8,SNR=8.5							
TORD	**Torodi Ar. Bea**	**133.97**	**307**	PKP		**PKPdf**	17 45 35.7	-0.6
TORD				SKPbc		**SKPbc**	17 48 13.5	-3.3
DBIC	**Dimbokro**	**143.02**	**306**	PKhKP		PKPpre	17 45 49.5	
	comp=Z,1.9nm,0.3s,baz=40,slow=4.3,SNR=13							
DBIC	**Dimbokro**	**143.02**	**306**	PKPpre		PKPpre	17 45 49.5	
LCO	**Las Campanas**	**144.23**	**117**	*e*PKPdf		**PKPdf**	17 45 55.1	+0.2
LPAZ	**La Paz**	**147.54**	**95**	PKPbc		**PKPbc**	17 46 03.9	-0.8
	comp=Z,5.3nm,0.7s,baz=326,slow=1.9,SNR=12							
LPAZ	**La Paz**	**147.54**	**95**	PKPbc		**PKPbc**	17 46 03.9	-0.8
SAML	**Samuel**	**150.91**	**79**	*e*PKPbc		**PKPbc**	17 46 12.0	-0.1
SAML				*e*PKPab		**PKPab**	17 46 21.2	-0.7
CPUP	**Villa Florida**	**156.35**	**119**	PKPab		**PKPab**	17 46 45.8	+1.0
	comp=Z,0.7nm,0.5s,baz=286,slow=3.6,SNR=3.7							
CPUP	**Villa Florida**	**156.35**	**119**	PKPab		**PKPab**	17 46 45.8	+1.0

*IDC **03** 17:52:44.8±0.6,4°.94S×144°.95E,h0km,mb4.4/15,*
mb1 4.6/16,mb1mx4.6/17,mbtmp4.5/16,ML4.8/1,MS3.7/10,
Ms1 3.7/10,ms1mx3.5/24,Error ellipse: s-maj=23.5km
s-min=12.6km az=85.0
*BJI **03** 17:52:48.5,4°.87S×145°.03E,h34km,mB5.1/15,mb4.7/26,*
Ms5.0/11,Ms7 4.6/10
*ISCJB **03** 17:52:50.2±0.3,5°.01S±0°.03×145°.09E±0°.05,h54km,*
mb4.7/52,MS3.6/9,Error ellipse: s-maj=7.8km
s-min=4.0km az=169.1
*NEIC **03** 17:52:53.3±1.3,4°.99S×144°.90E,h65km±12km,mb4.6/21,*
Error ellipse: s-maj=9.9km s-min=7.4km az=76.0
*DJA **03** 17:52:54,5°.04S×145°.12E,h83km,mb4.8/23*

ISC 03 17:52:51.9±0.4,**5°.05S**±0°.04×**144°.97E**±0°.07,**h54**km,**n136,**
σ**1s56**/141,**mb4.7**/52,**MS3.7**/10,**2C,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.84**	**154**	Pn		**Pn**	**17 54 03.6**	**+1.3**
	37nm,0.3s,baz=353,slow=6.1,SNR=120							
PMG				Sn		**Sn**	**17 54 56.9**	**-0.3**
	25nm,0.3s,baz=131,slow=22,SNR=12							
PMG	**Port Moresby**	**4.84**	**154**	*e*Pn		**Pn**	**17 54 03.5**	**+1.3**
PMG				Sn		**Sn**	**17 54 56.9**	**-0.3**
JAY	**Jayapura**	**4.95**	**300**	P		Pn	17 54 08.9	+5.1
SMPI	**Sarmi**	**6.95**	**296**	P		Pn	17 54 35.3	+4.1
	120nm,1.1s,1μm0.6nm							
COEN	**Coen**	**9.03**	**191**	*e*P		**Pn**	**17 55 01.9**	**+2.2**
	569nm,0.6s							
COEN	**Coen**	**9.03**	**191**↑↑	*i*Pn		**Pn**	**17 55 02.8**	**+3.1**
	612nm,0.6s							
CTA	**Charters Tower**	**15.00**	**175**	Pn		**P**	**17 56 23.1**	**-2.0**
	1.8nm,0.3s,baz=344,slow=14,SNR=20							
CTA				Sn		**Sn**	**17 59 04.8**	**-1.2**
	0.2nm,0.3s,baz=319,slow=20,SNR=1.8							
CTA	**Charters Tower**	**15.00**	**175**	*e*P		**P**	**17 56 26.3**	**+1.2**
	12nm,0.6s							
CTA	**Charters Tower**	**15.00**	**175**	Pn		**P**	**17 56 23.1**	**-2.0**
CTA				Sn		**Sn**	**17 59 04.8**	**-1.2**
CTAO	**Charters Tower**	**15.00**	**175**	*e*Pn		**P**	**17 56 23.6**	**-1.5**
	21nm,0.7s							
AAI	**Ambon**	**16.79**	**274**	P		**P**	**17 56 47.1**	**+2.2**
	76nm,0.7s							
LBMI	**Labuha**	**17.99**

comp=Z,91nm,19.0s,baz=324,slow=32
KSAR Wonju Array Be 45.17 341 P P 18 01 02.0 -1.4
PSI Prapat 46.66 279 P P 18 01 16.7 +1.0
comp=Z,24nm,1.6s
GYA Guiyang 48.55 312 *e*P **P 18 01 30.0 -0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Arra 50.39 348 P P 18 01 43.0 -0.7
comp=Z,2.3nm,0.7s,baz=174,slow=7.5,SNR=5.9
KMI Kunming 50.82 308 P P 18 01 49.0 +1.4
KMI pmax pmax
comp=Z,9.0nm,1.0s
CM31 Chiang Mai Arr 51.02 299 *e*P **P 18 01 50.2 +1.2**
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 51.02 299 P P 18 01 50.3 +1.3
comp=Z,13nm,0.8s,baz=122,slow=5.9,SNR=93
CMAR Chiang Mai Arr 51.02 299 P P 18 01 50.3 +1.3
CHTO Chiang Mai 51.16 299 *e*P **P 18 01 50.2 +0.2**
comp=Z,16nm,1.2s
CHTO Chiang Mai 51.16 299 P P 18 01 51.0 +1.0
comp=Z,16nm,1.3s
MDJ Mudanjiang 51.33 346 P P 18 01 51.3 +0.5
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,120nm,5.6s
CN2 Changchun 51.72 342 *e*P **P 18 01 56.0 +2.3**
BJI Beijing 52.11 332 P P 18 01 56.7 +0.1
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI pmax pmax
comp=Z,89nm,3.6s
CD2 Chengdu 53.17 315 P P 18 02 05.9 +1.1
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,180nm,4.8s
HHC Hu-ho-hao-te 54.98 329 *e*P **P 18 02 17.9 +0.1**
HHC pP **pP 18 02 28.6 -3.9**
HHC sP sP 18 02 32.6 -6.0
HHC PP PP 18 04 20.7 -0.8
HHC S **S 18 09 55.4 -0.7**
HHC sS sS 18 10 10.8 -10
HHC ScS **ScS 18 12 01.9 -0.7**
HHC SS SS 18 13 37.6 -3.0
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.2s
HHC LR LR
comp=N,130nm,5.5s
HHC LR LR
comp=E,200nm,4.7s
HHC LR LR
comp=Z,140nm,5.4s
LZH Lanzhou 56.18 320 *e*P **P 18 02 27.9 +1.2**
LZH pP pP 18 02 36.0 -5.3
LZH sP sP 18 02 40.0 -7.5
LZH pmax pmax
comp=Z,15nm,1.0s
PETK Petropavlovsk- 58.93 9 P P 18 02 46.4 +1.0
comp=Z,3.3nm,0.7s,baz=170,slow=7.6,SNR=8.9
PETK LR LR 18 24 47.8
comp=Z,68nm,19.4s,baz=257,slow=33
PETK Petropavlovsk- 58.93 9 P P 18 02 46.4 +1.0
GTA Gaotai 60.73 321 *e*P **P 18 02 59.4 +1.2**
GTA pP **pP 18 03 09.5 -3.6**
GTA sP sP 18 03 13.4 -5.8
GTA pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 62.32 332 *e*P **P 18 03 08.9 +0.1**
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 62.32 332 P P 18 03 11.5 +2.7
comp=Z,5.2nm,2.0s
SONM Songino Array 62.60 332 P P 18 03 10.4 -0.3
comp=Z,1.4nm,0.8s,baz=148,slow=7.6,SNR=11
SONM PKP2bc 18 32 21.2
comp=Z,1.6nm,0.9s,baz=289,slow=2.7,SNR=12
SONM Songino Array 62.60 332 P P 18 03 10.4 -0.3
SONM ⇑*e* 18 32 21.2
TAPN Taplejung 63.95 304 *e*P **P 18 03 20.9 +0.7**
TAPN Taplejung 63.95 304 *e*P **P 18 03 20.9 +0.7**
ODAN Odare 64.04 303 *e*P **P 18 03 21.3 +0.6**
comp=Z,20nm,0.8s
ODAN Odare 64.04 303 *e*P **P 18 03 21.3 +0.6**
RAMN Ramite 64.73 303 *e*P **P 18 03 25.7 +0.4**
comp=Z,12nm,0.5s
RAMN Ramite 64.73 303 *e*P **P 18 03 25.7 +0.4**
JIRN Jiri 65.32 303 *e*P **P 18 03 29.8 +0.6**
comp=Z,11nm,0.6s
JIRN Jiri 65.32 303 *e*P **P 18 03 29.8 +0.6**
GUN Gumba 65.66 304 *e*P **P 18 03 32.1 +0.7**
comp=Z,26nm,0.7s
GUN Gumba 65.66 304 *e*P **P 18 03 32.1 +0.7**
PKI Pulchoki 65.94 303 *e*P **P 18 03 33.4 +0.2**
PKI Pulchoki 65.94 303 *e*P **P 18 03 33.4 +0.2**
KKN Kakani 66.12 303 *e*P **P 18 03 34.9 +0.7**
comp=Z,23nm,0.8s
KKN Kakani 66.12 303 *e*P **P 18 03 34.9 +0.7**
DMN Daman 66.20 303 *e*P **P 18 03 35.5 +0.7**
DMN Daman 66.20 303 *e*P **P 18 03 35.5 +0.7**
GKN Gorkha 66.73 303 *e*P **P 18 03 38.5 +0.5**
GKN Gorkha 66.73 303 *e*P **P 18 03 38.5 +0.5**
KOLN Koldanda 67.52 303 *e*P **P 18 03 43.5 +0.4**
comp=Z,11nm,0.7s
KOLN Koldanda 67.52 303 *e*P **P 18 03 43.5 +0.4**
DANN Dangsing 67.57 303 *e*P **P 18 03 43.9 +0.4**
DANN Dangsing 67.57 303 *e*P **P 18 03 43.9 +0.4**
HYB Hyderabad 69.24 291 *i*P **P 18 03 52.0 -1.8**
WMQ Urumqi 70.76 320 P P 18 04 03.2 +0.5
WMQ pP **pP 18 04 13.2 -4.6**
WMQ sP sP 18 04 17.5 -6.4
WMQ pmax pmax
comp=Z,7.0nm,1.2s
WMQ pmax pmax
comp=Z,160nm,5.4s
WMQ LR LR
comp=N,57nm,18.0s
VNDA Vanda 72.98 176 *e*P **P 18 04 16.3 +0.9**
comp=N,16nm,1.1s
SBA Scott Base 73.66 175 *e*P **P 18 04 21.2 +1.9**
comp=N,6.9nm,0.8s
MK31 Makanchi Array 75.49 321 *e*P **P 18 04 30.4 -0.1**
MKAR Makanchi Array 75.49 321 P P 18 04 30.8 +0.3
comp=N,2.5nm,0.8s,baz=99,slow=7.5,SNR=29
MKAR Makanchi Array 75.49 321 P P 18 04 30.8 +0.3
ZAA0 Zalesovo Array 77.14 328 *e*P **P 18 04 38.7 -1.0**
ZALV Zalesovo Beam 77.14 328 P P 18 04 38.6 -1.0
comp=N,4.8nm,0.6s,baz=110,slow=5.6,SNR=35
ZALV Zalesovo Beam 77.14 328 P P 18 04 38.6 -1.0
TKM2 Tokmak 2 78.55 315 *e*P **P 18 04 48.2 +0.1**
comp=N,3.7nm,0.6s
AAK Ala-Archa 79.24 315 *e*P **P 18 04 51.6 -0.2**
comp=N,35nm,1.3s
KURK Kurchatov 79.25 324 *e*P **P 18 04 51.1 -0.3**
comp=N,4.7nm,1.0s
EKS2 Erkin-Say 79.76 315 P P 18 04 53.6 -0.9
comp=N,5.6nm,1.1s
KBL Kabul 81.34 306 *e*P **P 18 05 02.1 -1.2**
comp=N,1.5nm,0.5s
KKAR Karatay Array 82.19 315 *e*P **P 18 05 06.7 -0.6**
comp=N,0.9nm,0.5s
BRVK Borovoye 84.89 324 *e*P **P 18 05 20.7 -0.2**
comp=N,4.2nm,0.8s
QSPA South Pole Qui 84.92 180 P P 18 05 21.3 +0.3
comp=N,30nm,0.7s,baz=338,slow=1.4,SNR=174
QSPA LR LR 18 44 02.8
comp=N,53nm,18.2s,baz=179,slow=36
QSPA South Pole Qui 84.92 180 *e*P **P 18 05 21.1 +0.1**
comp=N,28nm,0.7s
ILAR Eielson Array 85.41 24 P P 18 05 21.9 -1.3
comp=N,2.4nm,0.7s,baz=252,slow=5.0,SNR=33
ILAR Eielson Array 85.41 24 P P 18 05 21.9 -1.3
ABKAR Akbulak array 90.54 319 *e*P **P 18 05 47.4 -0.8**
comp=N,2.1nm,0.6s
INK Inuvik 91.51 22 P P 18 05 50.8 -1.4
comp=N,1.2nm,0.9s,baz=294,slow=4.7,SNR=4.5
INK PP **PP 18 09 26.8 -4.0**
comp=N,1.2nm,0.9s,baz=194,slow=4.5,SNR=3.5
INK Inuvik 91.51 22 P P 18 05 50.8 -1.4
INK PP **PP 18 09 26.8 -4.0**
GERES GERESS Array B 119.98 325 PKP PKPdf 18 11 36.6 -0.1
comp=N,1.0nm,0.6s,baz=76,slow=1.8,SNR=14
GERES PKKPbc **PKKPbc 18 21 46.0 -1.3**
comp=N,0.4nm,0.6s,baz=241,slow=2.7,SNR=4.4
GERES GERESS Array B 119.98 325 PKP PKPdf 18 11 36.6 -0.1
GERES PKKPbc **PKKPbc 18 21 46.0 -1.3**
PLCA Paso Flores 124.01 148 PKP PKPdf 18 11 45.9 +1.1
comp=N,2.9nm,0.6s,baz=215,slow=1.8,SNR=17
PLCA Paso Flores 124.01 148 PKP PKPdf 18 11 45.9 +1.1
LPAZ La Paz 140.99 124 PKhKP PKPpre 18 12 13.8
comp=N,1.8nm,0.5s,baz=225,slow=8.6,SNR=4.8
LPAZ La Paz 140.99 124 PKPpre PKPpre 18 12 13.8
CPUP Villa Florida 142.05 146 PKhKP PKPpre 18 12 13.9
comp=N,1.4nm,0.5s,baz=184,slow=2.7,SNR=6.2
CPUP Villa Florida 142.05 146 PKPpre PKPpre 18 12 13.9
TORD Torodi Ar. Bea 142.90 285 PKhKP PKPpre 18 12 16.2
comp=N,1.4nm,0.5s,baz=86,slow=3.2,SNR=21
TORD Torodi Ar. Bea 142.90 285 PKPpre PKPpre 18 12 16.2
SAML Samuel 148.68 116 *e*PKPbc **PKPbc 18 12 33.9 -0.4**
DBIC Dimbokro 149.95 275 PKPbc PKPbc 18 12 38.0 +0.6
comp=N,18nm,0.8s,baz=75,slow=2.7,SNR=29
DBIC Dimbokro 149.95 275 *e*PKPbc **PKPbc 18 12 37.7 +0.2**

MEX 03 17:59:45.9±0.5, 16.09N×97.57W, h16km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.62**	**299**	*i* P	Pg	17 59 55.5	-2.6
PNIG				*e*S	Sg	18 00 04.1	-2.3
VHO	**Vista Hermosa**	**1.26**	**39**	*i* P	Pn	18 00 05.4	-3.8
VHO				*e*S	Sb	18 00 20.4	-5.4
HUIG	**Huatulco**	**1.44**	**103**	*i* P	Pn	18 00 08.3	-3.0
HUIG				*e*S	Sn	18 00 24.7	-5.2
UTMO	**Huajuapan**	**1.75**	**353**	*i* P	Pn	18 00 13.4	-2.5
UTMO				*e*S	Sn	18 00 32.5	-5.5
CMIG	**Matias Romero**	**2.76**	**68**	*i* P	Pn	18 00 26.4	-3.1
CMIG				*e*S	Sn	18 00 58.6	-3.9

*IDC **03** 18:07:03.7±1.5, 13.45N×119.96E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/19, mbtmp3.2/3, MS3.7/3, Ms1 3.7/3, ms1mx3.1/14, Error ellipse: s-maj=26.8km s-min=14.0km az=131.0*
*ISCJB **03** 18:07:03.9±1.2, 13.39N±0.06×119.81E±0.10, h16km, mb3.3/3, MS3.6/3, Error ellipse: s-maj=14.5km s-min=7.6km az=18.8*
*MAN **03** 18:07:09, 13.41N×120.21E, h31km, mb3.8, ML2.6, MS2.2*
ISC 03 18:07:05.6±1.3, 13.42N±0.07×120.0E±0.1, h16km, n11, σ1°06/10, mb3.3/3, MS3.5/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.18**	**55**	Pg	**Pn**	**18 07 26.9**	**-0.6**
	215nm,0.3s,baz=230,slow=3.7,SNR=30						
TGY				Lg	Lg	18 07 40.5	
	78nm,0.3s,baz=233,slow=20,SNR=22						
TGY	**Tagaytay City**	**1.18**	**55**	⇑*e*P	**Pb**	**18 07 27.3**	**-0.4**
TGY				*i* S	**Sg**	**18 07 44.6**	**+0.9**
BUSP	**Coron**	**1.43**	**170**	*e*P	**Pg**	**18 07 33.8**	**+0.5**
BUSP				*e*S	**Sn**	**18 07 47.7**	**-1.8**
BOAC	**Boac**	**1.85**	**89**	*e*P	**Pn**	**18 07 36.0**	**-0.7**
OTRP	**Odiongan**	**2.28**	**117**	*e*P	**Pn**	**18 07 43.0**	**+0.3**
CBIJ	**Chichi jima**	**24.85**	**53**	LR	LR	18 21 34.6	
	comp=Z,150nm,18.6s,baz=247,slow=35						
WRA	**Warramunga Arr**	**36.06**	**157**	P	**P**	**18 14 06.3**	**-0.3**
	0.3nm,0.6s,baz=336,slow=9.3,SNR=3.7						
SONM	**Songino Array**	**36.12**	**344**	P	**P**	**18 14 07.1**	**0.0**
	0.3nm,0.7s,baz=153,slow=9.7,SNR=2.6						
ASAR	**Alice Springs**	**39.31**	**160**	P	**P**	**18 14 35.7**	**+1.5**
	0.2nm,0.5s,baz=337,slow=6.5,SNR=5.9						
CTA	**Charters Tower**	**42.18**	**142**	LR	LR	18 33 42.2	
	comp=Z,145nm,20.5s,baz=166,slow=38						
ZALV	**Zalesovo Beam**	**48.97**	**333**	LR	LR	18 37 04.5	
	comp=Z,55nm,20.8s,baz=65,slow=37						

*IDC **03** 18:18:19.4±0.9, 0.13S×133.21E, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, ML4.1/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/20, Error ellipse: s-maj=41.6km s-min=16.1km az=72.0*
*NEIC **03** 18:18:24.3±0.5, 0.21S×133.15E, h35km, mb4.3/4, Error ellipse: s-maj=20.3km s-min=7.7km az=74.0*
*DJA **03** 18:18:25, 0.42S×132.93E, h10km, MLv4.6/8*
ISC 03 18:18:25.8±0.9, 0.59S±0.08×132.7E±0.2, h35km, n28, σ2°73/30, mb3.8/8, MS3.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.73**	**201**	P	**Pn**	**18 22 45.7**	**+3.5**
	0.4nm,0.3s,baz=78,slow=3.2,SNR=3.3						
FITZ				S	**Sn**	**18 26 06.1**	**-4.7**
	0.3nm,0.3s,baz=100,slow=19,SNR=5.3						
FITZ				LR	LR	18 29 50.3	
	comp=Z,76nm,21.6s,baz=22,slow=36						
FITZ	**Fitzroy Crossi**	**18.73**	**201**	P	**Pn**	**18 22 45.7**	**+3.5**
FITZ				S	**Sn**	**18 26 06.1**	**-4.7**
WRAB	**Tennant Creek**	**19.30**	**175**	*e*Pn	**Pn**	**18 22 50.0**	**+0.9**
	12nm,0.9s						
WRAB				*e*Sn	Sn	18 26 16.1	-8.7
WRA	**Warramunga Arr**	**19.31**	**175**	P	**Pn**	**18 22 50.3**	**+1.0**
	0.6nm,0.3s,baz=355,slow=11,SNR=33						
WRA				S	**Sn**	**18 26 19.8**	**-5.1**
	0.2nm,0.3s,baz=357,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**19.31**	**175**	P	**Pn**	**18 22 50.3**	**+1.0**
WRA				S	**Sn**	**18 26 19.8**	**-5.1**
WB2	**Warramunga Arr**	**19.31**	**175**	*e*P	**Pn**	**18 22 50.4**	**+1.1**
WB2				*e*S	**Sn**	**18 26 20.8**	**-4.2**
AS31	**Alice Springs**	**22.97**	**177**	*e*P	**P**	**18 23 30.1**	**+2.6**
AS31				*e*S	Sn	18 27 47.1	-5.9
ASAR	**Alice Springs**	**22.98**	**177**	P	**P**	**18 23 29.9**	**+2.4**
	10nm,0.8s,baz=0.3,slow=11,SNR=78						
ASAR				S	**S**	**18 27 36.3**	**+0.6**
	0.6nm,0.9s,baz=360,slow=27,SNR=3.1						
ASAR	**Alice Springs**	**22.98**	**177**	P	**P**	**18 23 29.9**	**+2.4**
ASAR				S	**S**	**18 27 36.3**	**+0.6**
CTA	**Charters Tower**	**23.51**	**146**	P	**P**	**18 23 33.9**	**+1.0**
	2.4nm,0.8s,baz=332,slow=9.2,SNR=3.8						
CTA	**Chrs Tower**	**23.51**	**146**	P	**P**	**18 23 33.9**	**+1.0**
CTAO	**Charters Tower**	**23.51**	**146**	P	**P**	**18 23 31.4**	**-1.5**
	14nm,1.1s						
MBWA	**Marble Bar**	**24.03**	**211**	*e*P	**P**	**18 23 41.6**	**+3.9**
	14nm,1.0s						
JOW	**Kunigami**	**27.58**	**352**	LR	LR	18 33 11.8	
	comp=Z,79nm,18.6s,baz=239,slow=33						
STKA	**Stephens Creek**	**32.25**	**166**	P	**P**	**18 24 52.0**	**+0.9**
	2.7nm,0.5s,baz=331,slow=9.9,SNR=11						
STKA				LR	LR	18 39 39.4	
	comp=Z,123nm,21.8s,baz=200,slow=39						
STKA	**Stephens Creek**	**32.25**	**166**	*e*P	**P**	**18 24 51.1**	**-0.1**
	1.0nm,0.9s						
ENH	**Enshi**	**37.80**	**326**	P	**P**	**18 25 36.4**	**-2.6**
KSRS	**Korea Array**	**38.10**	**354**	LR	LR	18 39 02.8	
	comp=Z,40nm,18.6s,baz=124,slow=33						
CMAR	**Chiang Mai Arr**	**38.16**	**301**	P	**P**	**18 25 43.0**	**+0.7**
	0.8nm,0.9s,baz=124,slow=6.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**38.16**	**301**	P	**P**	**18 25 43.0**	**+0.7**
MK31	**Makanchi Array**	**64.48**	**324**	P	**P**	**18 28 57.0**	**-2.0**
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**18 28 58.4**	**-0.6**
	0.2nm,0.5s,baz=107,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**18 28 58.5**	**-0.6**
ZALV	**Zalesovo Beam**	**67.14**	**332**	P	**P**	**18 29 13.8**	**-2.1**
	0.2nm,0.4s,baz=119,slow=8.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**67.14**	**332**	P	**P**	**18 29 13.8**	**-2.1**
VNDA	**Vanda**	**78.47**	**174**	*e*P	P	18 30 13.2	-10
ILAR	**Eielson Array**	**86.45**	**25**	P	P	18 30 59.6	-5.1
	0.3nm,0.7s,baz=274,slow=5.9,SNR=3.6						
ILAR	**Eielson Array**	**86.45**	**25**	P	P	18 30 59.6	-5.1

*ISCJB **03** 18:21:35.0±0.4, 23.75N±0.02×122.00E±0.02, h24km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=142.3*
*TAP **03** 18:21:36.1, 23.77N×121.93E, h36km, ML3.8, C*
*JMA **03** 18:21:36.7±0.3, 23.71N×122.09E, h32km, M2.8*
ISC 03 18:21:35.5±0.9, 23.75N±0.02×121.96E±0.02, h32km±7km, n66, σ0°84/123, 5C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.39**	**264**	*e*P	**Pb**	**18 21 44.6**	**+0.3**
	baz=253						
TEGC				*e*S	**Sb**	**18 21 51.2**	**+0.8**
	baz=253						
HWA	**Hwalien**	**0.40**	**305**	P	**Pb**	**18 21 44.4**	**-0.1**
	baz=305						
HWA				*e*S	**Sb**	**18 21 50.8**	**+0.1**
	baz=305						
ESF	**Shoufeng Towns**	**0.43**	**287**	P	**Pb**	**18 21 44.8**	**-0.2**
	baz=284						
ESF				S	**Sb**	**18 21 51.5**	**-0.1**
	baz=284						
TWD	**Chiawan**	**0.47**	**315**	⇓*i*P	**Pb**	**18 21 45.3**	**-0.3**
	baz=316						
TWD				S	**Sb**	**18 21 52.1**	**-0.4**
	baz=316						
ESL	**Shilin**	**0.49**	**278**	⇓*i*P	**Pb**	**18 21 45.5**	**-0.3**
	baz=269						
ESL				*e*S	**Sb**	**18 21 52.5**	**-0.5**
	baz=269						
EHP	**Heping Village**	**0.59**	**340**	*e*P	**Pb**	**18 21 47.5**	**-0.1**
	baz=343						
EHY	**Hungye**	**0.63**	**248**	P	**Pb**	**18 21 47.9**	**-0.3**
	baz=258						
EHY				*e*S	**Sb**	**18 21 56.7**	**-0.3**
	baz=258						
ENA	**Nanau**	**0.71**	**343**	⇓P	**Pb**	**18 21 48.9**	**-0.5**
	baz=339						
ENA				S	**Sb**	**18 21 58.5**	**-0.5**
	baz=339						
WHF	**Hehuan Shan**	**0.75**	**302**	⇓*i*P	**Pn**	**18 21 49.6**	**-0.6**
	baz=301						
WHF				*e*S	**Sb**	**18 21 59.4**	**-1.2**
	baz=301						
TWC	**Suao**	**0.86**	**353**	P	**Pn**	**18 21 51.6**	**+0.3**
	baz=355						
TWC				S	**Sb**	**18 22 02.9**	**-0.4**
	baz=355						
NNS	**Nan Shan**	**0.88**	**322**	*e*P	**Pn**	**18 21 51.5**	**-0.2**
	baz=323						
NNS				*e*S	**Sn**	**18 22 02.7**	**-0.7**
	baz=323						
TWT	**Tachien**	**0.88**	**305**	*e*P	**Pn**	**18 21 52.0**	**+0.2**
	baz=304						
TWT				S	**Sn**	**18 22 03.2**	**-0.3**
	baz=304						
ENTT	**Nioudou**	**0.96**	**338**	*e*P	**Pn**	**18 21 52.9**	**+0.1**
	baz=339						
ENTT				*e*S	**Sn**	**18 22 05.2**	**-0.1**
	baz=339						
YUS	**Yu-Shan**	**0.96**	**255**	*e*P	**Pb**	**18 21 54.1**	**+0.2**
	baz=252						
YUS				*e*S	**Sn**	**18 22 05.9**	**-0.1**
	baz=252						
SMLT	**Sun Moon Lake**	**0.98**	**278**	P	**Pn**	**18 21 53.5**	**+0.3**
	baz=283						
SMLT				*e*S	**Sn**	**18 22 05.7**	**-0.2**
	baz=283						
TWE	**Neicheng**	**1.01**	**345**	P	**Pn**	**18 21 53.9**	**+0.5**
	baz=346						
TWE				*e*S	**Sn**	**18 22 06.4**	**0.0**
	baz=346						
TYC	**Yuchr**	**1.02**	**279**	⇑*i*P	**Pn**	**18 21 54.0**	**+0.4**
	baz=284						
TYC				S	**Sn**	**18 22 06.6**	**-0.3**
	baz=284						
ELDTW	**Lidau**	**1.03**	**238**	⇓*i*P	**Pn**	**18 21 53.4**	**-0.4**
	baz=225						
ELDTW				*e*S	**Sn**	**18 22 06.0**	**-1.2**
	baz=225						
ILA	**Ilan**	**1.03**	**349**	*e*P	**Pn**	**18 21 54.1**	**+0.4**
	baz=351						
ILA				*e*S	**Sn**	**18 22 07.6**	**+0.5**
	baz=351						
NSK	**Sanguang**	**1.08**	**329**	⇑P	**Pn**	**18 21 54.6**	**+0.2**
	baz=330						
NSK				S	**Sn**	**18 22 07.7**	**-0.6**
	baz=330						
WNT	**Mingjian**	**1.18**	**277**	*e*P	**Pb**	**18 21 57.2**	**-0.1**
	baz=275						
WNT				*e*S	**Sb**	**18 22 12.2**	**0.0**
	baz=275						
CHN5	**Tsauling**	**1.19**	**263**	⇑P	**Pb**	**18 21 57.2**	**-0.3**
	baz=261						
CHN5				S	**Sn**	**18 22 12.0**	**+1.0**
	baz=261						
YOJ	**Yonaguni jima**	**1.19**	**53**	P	**Pb**	**18 21 56.7**	**-0.8**
YOJ				*e*S	**Sn**	**18 22 10.9**	**-0.1**
TWG	**Pinlang**	**1.23**	**222**	*e*P	**Pn**	**18 21 56.5**	**0.0**
	baz=229						
TWG				*e*S	**Sn**	**18 22 09.4**	**-2.6**
	baz=229						
TTN	**Taitung**	**1.24**	**217**	*e*P	**Pn**	**18 21 57.4**	**+0.9**
	baz=207						
TTN				*e*S	**Sn**	**18 22 12.4**	**+0.2**
	baz=207						
TWQ1	**Liyutan**	**1.24**	**299**	⇑*i*P	**Pb**	**18 21 58.2**	**-0.1**
	baz=298						
TWQ1				*e*S	**Sb**	**18 22 13.7**	**-0.3**
	baz=298						
TCU	**Taichung**	**1.24**	**289**	P	**Pb**	**18 21 58.5**	**+0.2**
	baz=288						
TCU				*e*S	**Sb**	**18 22 14.4**	**+0.3**
	baz=288						
NSTT	**Nanjuang**	**1.24**	**315**	P	**Pb**	**18 21 58.3**	**-0.1**
	baz=315						
NSTT				*e*S	**Sn**	**18 22 12.9**	**+0.7**
	baz=315						
STYT	**Tauyuan**	**1.25**	**243**	*e*P	**Pn**	**18 21 57.6**	**+0.9**
	baz=233						
STYT				*e*S	**Sn**	**18 22 13.3**	**+0.7**
	baz=233						
TWB1	**Santiao Chiao**	**1.26**	**1**	*e*P	**Pn**	**18 21 57.5**	**+0.7**
	baz=3.0						
TWB1				*e*S	**Sn**	**18 22 12.6**	**+0.1**
	baz=3.0						
TWA	**Mucha**	**1.27**	**344**	*e*P	**Pb**	**18 21 58.2**	**-0.7**
	baz=336						
TWA				*e*S	**Sn**	**18 22 13.4**	**+0.3**
	baz=336						
NSY	**Sanyi**	**1.28**	**301**	*e*P	**Pb**	**18 21 58.8**	**-0.3**
	baz=301						
NSY				*e*S	**Sb**	**18 22 15.0**	**-0.3**
	baz=301						
WGK	**Gukeng**	**1.28**	**268**	*e*P	**Pn**	**18 21 58.5**	**+1.4**
	baz=266						
WGK				*e*S	**Sb**	**18 22 15.3**	**0.0**
	baz=266						
CHN4	**Tsaushan**	**1.32**	**253**	*e*P	**Pb**	**18 21 59.4**	**-0.3**
	baz=251						
CHN4				*e*S	**Sb**	**18 22 16.3**	**+0.1**
	baz=251						
NWF	**Wu-fen Shan**	**1.33**	**353**	P	**Pb**	**18 21 59.2**	**-0.6**
	baz=354						
NWF				*e*S	**Sb**	**18 22 16.0**	**-0.6**
	baz=354						
WTP	**Ta-pu**	**1.33**	**248**	*e*P	**Pb**	**18 21 59.5**	**-0.4**
	baz=246						
WTP				*e*S	**Sb**	**18 22 16.4**	**-0.3**
	baz=246						
TAP1	**Taipei**	**1.35**	**343**	*e*P	**Pn**	**18 21 58.7**	**+0.6**
	baz=332						
TAP1				*e*S	**Sn**	**18 22 15.9**	**+1.1**
	baz=332						
HSN	**Hsinchu**	**1.39**	**319**	*e*P	**Pb**	**18 22 00.3**	**-0.5**
	baz=321						
HSN				*e*S	**Sb**	**18 22 18.2**	**0.0**
	baz=321						
NCU	**National Centr**	**1.41**	**330**	*e*P	**Pn**	**18 22 00.0**	**+1.2**
	baz=330						
NCU				*e*S	**Sn**	**18 22 17.7**	**+1.4**
	baz=330						
SGST	**Jiashian**	**1.43**	**243**	P	**Pb**	**18 22 01.3**	**-0.3**
	baz=230						
SGST				*e*S	**Sb**	**18 22 19.7**	**+0.3**
	baz=230						
CHN1	**Nanshi**	**1.43**	**247**	*e*P	**Pb**	**18 22 01.2**	**-0.4**
	baz=245						
CHN1				*e*S	**Sb**	**18 22 19.9**	**+0.4**
	baz=245						
CHY	**Chiayi**	**1.43**	**260**	*e*P	**Pb**	**18 22 01.0**	**-0.6**
	baz=258						
CHY				*e*S	**Sb**	**18 22 19.5**	**0.0**
	baz=258						
TWS1	**Kuangyinshan**	**1.44**	**340**	⇑P	**Pn**	**18 22 00.3**	**+1.0**
	baz=341						
TWS1				*e*S	**Sn**	**18 22 18.2**	**+1.2**
	baz=341						
ECL	**Taimali**	**1.47**	**219**	*e*P	**Pn**	**18 21 58.3**	**-1.5**
	baz=225						
WTCT	**Ta-ch'eng**	**1.54**	**275**	*e*P	**Pb**	**18 22 02.6**	**-0.9**
	baz=273						
WTCT				*e*S	**Sb**	**18 22 22.4**	**-0.3**
	baz=273						
TWY	**Chenhua**	**1.56**	**348**	*e*P	**Pn**	**18 22 01.6**	**+0.7**

baz=334
TWY eS Sn 18 22 21.0 +1.0
baz=334
SSD Sandimen 1.58 231 eP Pn 18 22 02.9 +1.7
baz=225
SSD eS Sn 18 22 22.1 +1.6
baz=225
CHN3 Shinhua 1.61 246 eP Pb 18 22 03.8 -0.8
baz=244
CHN3 eS Sb 18 22 24.6 0.0
baz=244
CHN8 Yiju 1.66 256 eP Pn 18 22 03.7 +1.4
baz=255
CHN8 eS Sn 18 22 24.7 +2.3
baz=255
TWM1 Shoushan 1.69 237 eP Pb 18 22 05.7 -0.3
baz=236
EAST Anshuo 1.70 217 eP Pn 18 22 03.7 +0.8
baz=216
HATJ Hateruma jima 1.71 79 P Pn 18 22 03.7 +0.6
HATJ eS Sn 18 22 23.4 -0.5
IRIF Iriomote-Funau 1.72 70 P Pn 18 22 04.2 +1.1
IRIF eS Sn 18 22 24.8 +0.8
SCLT Jiali 1.72 251 eP Pn 18 22 05.0 +1.9
baz=249
SCLT eS Sb 18 22 27.0 -0.7
baz=249
LAY Lan-yu 1.74 193 eP Pn 18 22 03.3 -0.2
baz=182
TAI1 Yung-k'ang 1.74 247 eP Pb 18 22 05.7 -1.1
baz=245
SCZT Fangliau 1.84 222 eP Pb 18 22 07.3 -1.3
baz=217
SCZT eS Sn 18 22 28.8 +1.7
baz=217
JKRS Kuro-shima 1.94 75 P Pn 18 22 07.4 +1.3
JKRS eS Sn 18 22 30.3 +1.0
JIJ Ishigaki jima 2.09 72 P Pn 18 22 08.5 +0.3
JIJ eS Sn 18 22 32.5 -0.6
TWK1 Hengchun 2.09 211 eP Pn 18 22 08.9 +0.7
baz=202
WDGT Dungji 2.17 258 eP Pn 18 22 10.2 +0.8
baz=256
WDGT eS Sn 18 22 34.0 -1.1
baz=256
PNG Penghu 2.21 266 eP Pn 18 22 10.8 +0.9
baz=264
PNG eS Sn 18 22 36.7 +0.5
baz=264
JTJ Tarama 2.66 70 P Pn 18 22 16.6 +0.6
JTJ eS Sn 18 22 47.4 +0.3
KNM Kinmen 3.29 282 eP Pn 18 22 26.5 +1.7
baz=280
QZH Quanzhou 3.30 292 ⇓*i*Pn Pn 18 22 24.6 -0.2
QZH Sn Sn 18 22 59.7 -3.2
QZH smax smax
comp=N,110nm,0.2s
QZH smax smax
comp=E,40nm,0.4s
JOGS Gusukube 3.30 72 eS Sn 18 23 03.5 +0.4

WEL 03 18:24:25.1±0.1, 44°49S×168°27E, h5km, ML3.5/11, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.30**	**232**	PG	Pg	18 24 32.0	+1.0
MSZ				SG	Sg	18 24 36.3	+1.2
JCZ	**Jackson Bay**	**0.54**	**41**	PG	Pg	18 24 36.2	+0.5
JCZ				SG	Sb	18 24 44.6	-0.9
WKZ	**Wanaka**	**0.64**	**123**	P*	Pg	18 24 37.9	+0.4
MLZ	**Mavora Lakes**	**0.86**	**184**	P*	Pg	18 24 42.0	+0.2
EAZ	**Earnscleugh**	**1.05**	**136**	P*	Pg	18 24 45.0	-0.3
DCZ	**Deep Cove**	**1.27**	**218**	P*	Pg	18 24 48.1	-1.4
LBZ	**Lake Benmore**	**1.38**	**87**	*e*PN	Pg	18 24 51.6	0.0
FOZ	**Fox Glacier**	**1.38**	**49**	PN	Pg	18 24 52.0	+0.5
WHZ	**Wether Hill Ro**	**1.43**	**189**	PN	Pn	18 24 51.1	-0.6
TUZ	**Tuapeka**	**1.76**	**147**	PN	Pn	18 24 56.1	-0.1
ODZ	**Otahua Downs**	**1.78**	**109**	PN	Pn	18 24 57.0	+0.4
SYZ	**Scrubby Hill**	**2.14**	**164**	PN	Pn	18 25 02.2	+0.7
RPZ	**Rata Peaks**	**2.15**	**70**	PN	Pn	18 25 01.7	0.0
WVZ	**Waitaha Valley**	**2.28**	**53**	PN	Pn	18 25 03.1	-0.3
APZ	**The Paps**	**2.35**	**185**	PN	Pn	18 25 05.0	+0.5
DSZ	**Denniston Nort**	**3.77**	**45**	PN	Pn	18 25 23.8	-0.2

IDC 03 18:25:12.9±2.0, 0°38S×133°12E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=94.3km s-min=23.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.08**	**202**	P	P	18 29 36.3	-0.9
	0.1nm,0.3s,baz=22,slow=11,SNR=2.0						
FITZ				S	Sn	18 33 01.0	-11
	0.1nm,0.3s,baz=14,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**19.47**	**177**	P	Pn	18 29 42.2	-0.5
	0.1nm,0.3s,baz=356,slow=12,SNR=4.9						
WRA				S	Sn	18 33 12.1	-10
	0.1nm,0.3s,baz=359,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**23.16**	**178**	P	P	18 30 22.6	+1.4
	1.5nm,0.7s,baz=357,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**32.33**	**166**	P	P	18 31 42.9	-1.1
	0.5nm,0.4s,baz=347,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**64.59**	**324**	P	P	18 35 52.2	0.0
	0.1nm,0.7s,baz=116,slow=6.8,SNR=3.2						

*IDC **03** 18:34:47.8±9.6, 36°.21N×70°.12E, h129km±85km, mb3.3/5, mb1 3.2/9, mb1mx3.0/28, mbtmp3.1/9, Error ellipse: s-maj=54.8km s-min=27.0km az=1.0*
*NNC **03** 18:34:54.5±9.2, 37°.05N×70°.27E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=81.8km s-min=68.4km az=51.0*
*ISCJB **03** 18:34:55.5±0.6, 36°.53N±0°.04×70°.47E±0°.10, h204km, mb4.4/4, Error ellipse: s-maj=11.3km s-min=5.0km az=161.1*

ISC 03 18:34:56.5±0.8, 36°.51N±0°.06×70°.42E±0°.10, h204km, n27, σ1°.22/29, mb3.5/4, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.94**	**155**	⇑P	**Pn**	**18 35 46.9**	**+1.1**
CEP				S	**S**	**18 36 24.0**	**+0.2**
THW	**Thamme Wali**	**3.86**	**163**	⇓P	**Pn**	**18 35 57.3**	**+0.6**
KK31	**Karatay Array**	**6.59**	**1**	P	**Pn**	**18 36 31.3**	**0.0**
	3.0nm,0.3s,baz=179,slow=12,SNR=185						
KK31				⇑Sn	S	18 37 40.2	-6.3
	6.8nm,0.7s,baz=188,slow=23,SNR=5.5						
TKM2	**Tokmak 2**	**7.55**	**30**	⇓Pn	**Pn**	**18 36 44.0**	**+0.1**
	4.0nm,0.6s						
TKM2				⇑Sn	**S**	**18 38 07.3**	**-2.1**
	5.2nm,0.8s						
MK31	**Makanchi Array**	**13.56**	**37**	⇓Pn	**Pn**	**18 38 01.3**	**+0.6**
	0.3nm,0.5s,baz=215,slow=12,SNR=10						
MKAR	**Makanchi Array**	**13.56**	**37**	P	**Pn**	**18 37 59.4**	**-1.4**
	0.0nm,0.3s,baz=216,slow=10,SNR=4.1						
GKN	**Gorkha**	**14.70**	**121**	*e*P	**Pn**	**18 38 14.8**	**-0.3**
	13nm,0.5s						
AB31	**Akbulak array**	**14.86**	**332**	Pn	**P**	**18 38 18.3**	**+1.0**
	0.8nm,0.4s,baz=150,slow=11,SNR=57						
DMN	**Daman**	**15.27**	**121**	*e*P	**Pn**	**18 38 21.2**	**-0.9**
	5.9nm,0.3s						
KKN	**Kakani**	**15.28**	**120**	*e*P	**Pn**	**18 38 21.3**	**-0.9**
	9.3nm,0.4s						
KURK	**Kurchatov**	**15.38**	**20**	P	**Pn**	**18 38 20.5**	**-2.4**
	0.1nm,0.3s,baz=212,slow=8.9,SNR=9.4						
PKI	**Pulchoki**	**15.51**	**121**	*e*P	**Pn**	**18 38 24.4**	**-0.6**
	23nm,0.6s						
GUN	**Gumba**	**15.63**	**119**	*e*P	**P**	**18 38 25.9**	**-0.5**
	8.8nm,0.4s						
JIRN	**Jiri**	**16.00**	**119**	*e*P	**Pn**	**18 38 30.6**	**-0.4**
	29nm,0.6s						
VOSK	**Vostochnaya**	**16.22**	**1**	⇑Pn	**Pn**	**18 38 34.4**	**+1.4**
	1.2nm,0.9s						
ZRNK	**Zerenda**	**16.48**	**357**	⇓Pn	**P**	**18 38 35.6**	**+0.5**
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**16.52**	**360**	P	**P**	**18 38 36.0**	**+0.4**
	0.3nm,0.3s,baz=187,slow=9.0,SNR=8.1						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**P**	**18 38 34.8**	**-1.1**
	0.2nm,0.3s,baz=174,slow=5.9,SNR=5.4						
AKTO	**Aktyubinsk**	**16.55**	**331**	⇓Pn	**Pn**	**18 38 39.6**	**+2.7**
RAMN	**Ramite**	**16.72**	**120**	*e*P	**P**	**18 38 37.7**	**-0.7**
	12nm,0.5s						
TAPN	**Taplejung**	**17.26**	**117**	*e*P	**P**	**18 38 44.5**	**+0.1**
ODAN	**Odare**	**17.33**	**119**	*e*P	**P**	**18 38 44.8**	**-0.2**
	5.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**18 39 14.8**	**+0.4**
	1.1nm,0.3s,baz=217,slow=11,SNR=11						
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**18 40 36.4**	**+1.7**
	0.2nm,0.5s,baz=278,slow=10.0,SNR=3.8						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**18 41 46.6**	**-1.2**
	1.9nm,0.9s,baz=134,slow=12,SNR=3.0						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**18 42 19.1**	**+0.3**
	5.6nm,1.0s,baz=115,slow=10.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	**P**	**18 45 14.3**	**-2.3**
	0.2nm,0.5s,baz=53,slow=5.5,SNR=5.4						

WEL 03 18:51:59.3±0.2, 44°49S×168°28E, h5km, ML3.6/11, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.32**	**233**	PG	Pg	18 52 06.2	+0.7
MSZ				SG	Sg	18 52 10.6	+0.9
JCZ	**Jackson Bay**	**0.53**	**40**	PG	Pg	18 52 10.0	+0.3
JCZ				*e*SG	Sg	18 52 17.8	+1.0
WKZ	**Wanaka**	**0.63**	**124**	P*	Pg	18 52 12.0	+0.6
WKZ				SG	Sg	18 52 20.0	+0.3
MLZ	**Mavora Lakes**	**0.87**	**185**	P*	Pg	18 52 16.1	+0.1
EAZ	**Earnscleugh**	**1.04**	**136**	P*	Pg	18 52 19.1	-0.2
DCZ	**Deep Cove**	**1.28**	**219**	P*	Pn	18 52 22.2	-1.6
LBZ	**Lake Benmore**	**1.36**	**87**	PN	Pg	18 52 25.9	+0.4
FOZ	**Fox Glacier**	**1.37**	**48**	PN	Pg	18 52 26.2	+0.6
WHZ	**Wether Hill Ro**	**1.43**	**189**	PN	Pn	18 52 25.4	-0.5
TUZ	**Tuapeka**	**1.75**	**148**	PN	Pn	18 52 31.0	+0.7
ODZ	**Otahua Downs**	**1.77**	**109**	PN	Pb	18 52 31.9	-0.4
RPZ	**Rata Peaks**	**2.14**	**70**	PN	Pn	18 52 36.5	+0.8
SYZ	**Scrubby Hill**	**2.14**	**164**	PN	Pn	18 52 36.6	+1.0
APZ	**The Paps**	**2.36**	**185**	PN	Pn	18 52 39.9	+1.1
DSZ	**Denniston Nort**	**3.76**	**44**	*e*PN	Pn	18 52 57.2	-0.8
THZ	**Tophouse**	**4.34**	**53**	*e*PN	Pn	18 53 05.6	-0.4
QRZ	**Quartz Range**	**4.81**	**42**	*e*PN	Pn	18 53 12.7	+0.2

*IDC **03** 18:56:17.3±1.6, 40°.50S×174°.71E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.5/14, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=41.9km s-min=23.8km az=143.0*
*ISCJB **03** 18:56:23.7±0.4, 40°.61S±0°.03×174°.88E±0°.05, h72km±5km, mb3.5/2, Error ellipse: s-maj=6.4km s-min=4.1km az=36.7*
*WEL **03** 18:56:25.8±0.1, 40°.56S×174°.86E, h50km±2km, ML3.8/13, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0*

ISC 03 18:56:24.0±1.0, 40°.60S±0°.04×174°.86E±0°.04, h66km±7km, n64, σ1°.02/69, 2C-1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.26**	**171**	⇑PN	**Pn**	**18 56 34.4**	**-0.1**
KIW				SN	**Sn**	**18 56 41.1**	**-1.1**
OGWZ	**Otaki Gorge**	**0.32**	**132**	⇑PN	**Pn**	**18 56 35.2**	**+0.3**
OGWZ				SN	**Sn**	**18 56 42.5**	**-0.3**
CAW	**Cannon Point**	**0.53**	**162**	PN	**Pn**	**18 56 37.9**	**+1.1**
MRZ	**Mangatainoka R**	**0.55**	**97**	⇓PN	**Pn**	**18 56 37.6**	**+0.6**
MRZ				*e*SN	**Sn**	**18 56 45.8**	**-0.8**
HOWZ	**Holdsworth Sta**	**0.58**	**121**	PN	**Pn**	**18 56 38.1**	**+0.7**
WEL	**Wellington**	**0.69**	**186**	PN	**Pn**	**18 56 39.8**	**+1.3**
SNZO	**South Karori**	**0.72**	**189**	PN	**Pn**	**18 56 40.0**	**+1.2**
POWZ	**Post Office Ro**	**0.73**	**74**	PN	**Pn**	**18 56 39.5**	**+0.6**
DUWZ	**D'Urville Isla**	**0.74**	**254**	PN	**Pn**	**18 56 38.7**	**-0.4**
MTW	**Mount Morrison**	**0.74**	**139**	PN	**Pn**	**18 56 40.3**	**+1.2**
TCW	**Tory Channel**	**0.75**	**215**	PN	**Pn**	**18 56 40.1**	**+0.9**
TIWZ	**Tintock**	**0.80**	**103**	PN	**Pn**	**18 56 40.7**	**+0.8**
WAZ	**Wanganui**	**0.85**	**7**	PN	**Pn**	**18 56 40.3**	**-0.2**
TSZ	**Takapari Road**	**1.00**	**58**	PN	**Pn**	**18 56 42.8**	**+0.4**
PLWZ	**Palliser**	**1.01**	**163**	PN	**Pn**	**18 56 44.3**	**+1.7**
DVHZ	**Dannevirke**	**1.04**	**74**	PN	**Pn**	**18 56 43.2**	**+0.3**
BFZ	**Birch Farm**	**1.06**	**95**	PN	**Pn**	**18 56 43.6**	**+0.6**
PNHZ	**Pukenui**	**1.24**	**57**	PN	**Pn**	**18 56 45.6**	**+0.2**
NNZ	**Nelson**	**1.28**	**241**	PN	**Pn**	**18 56 46.9**	**+1.0**
MTVZ	**Mangateitei**	**1.30**	**21**	PN	**Pn**	**18 56 46.8**	**+0.5**
WPHZ	**Waipukurau**	**1.32**	**67**	PN	**Pn**	**18 56 46.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.34**	**213**	PN	**Pn**	**18 56 48.3**	**+1.6**
RAEZ	**Rainy Point**	**1.36**	**345**	PN	**Pn**	**18 56 47.7**	**+0.7**
PKVZ	**Pokaka**	**1.36**	**16**	PN	**Pn**	**18 56 47.1**	**0.0**
MOVZ	**Moawhango**	**1.38**	**30**	PN	**Pn**	**18 56 47.6**	**+0.3**
WNVZ	**Wahianoa**	**1.39**	**24**	PN	**Pn**	**18 56 48.4**	**+0.8**
DFE	**Dawson Falls**	**1.40**	**335**	PN	**Pn**	**18 56 48.3**	**+0.7**
PRHZ	**Porangahau**	**1.40**	**77**	PN	**Pn**	**18 56 48.2**	**+0.8**
TRVZ	**Turoa**	**1.40**	**23**	PN	**Pn**	**18 56 48.4**	**+0.7**
BHHZ	**Black Hill Sta**	**1.45**	**40**	PN	**Pn**	**18 56 48.8**	**+0.6**
FWVZ	**Far West T-bar**	**1.45**	**22**	PN	**Pn**	**18 56 49.0**	**+0.7**
NRZ	**Ngariki Road**	**1.45**	**330**	PN	**Pn**	**18 56 49.2**	**+1.0**
NEZ	**North Egmont**	**1.45**	**336**	PN	**Pn**	**18 56 49.0**	**+0.8**
TUVZ	**Tukino**	**1.47**	**25**	PN	**Pn**	**18 56 49.5**	**+1.0**
VRZ	**Vera Road**	**1.48**	**357**	PN	**Pn**	**18 56 48.3**	**-0.2**
WPVZ	**Whakapapa**	**1.49**	**21**	PN	**Pn**	**18 56 49.5**	**+0.7**
DREZ	**Durham Road**	**1.50**	**340**	PN	**Pn**	**18 56 49.7**	**+0.9**
NWEZ	**Newall Road**	**1.53**	**330**	PN	**Pn**	**18 56 50.0**	**+0.8**
NGZ	**Ngauruhoe**	**1.53**	**22**	PN	**Pn**	**18 56 50.4**	**+1.0**
PKE	**Pukeiti**	**1.56**	**334**	PN	**Pn**	**18 56 50.7**	**+1.1**
OTVZ	**Oturere**	**1.56**	**24**	PN	**Pn**	**18 56 50.9**	**+1.1**
MHEZ	**Mangahewa**	**1.58**	**345**	PN	**Pn**	**18 56 51.2**	**+1.3**
TWVZ	**Taurewa**	**1.59**	**17**	PN	**Pn**	**18 56 51.0**	**+0.9**
KRVZ	**Karewarewa**	**1.62**	**22**	PN	**Pn**	**18 56 51.6**	**+1.0**
PXZ	**Pawanui**	**1.64**	**70**	PN	**Pn**	**18 56 50.6**	**0.0**
KAHZ	**Kahuranaki**	**1.74**	**63**	PN	**Pn**	**18 56 52.1**	**0.0**
QRZ	**Quartz Range**	**1.78**	**262**	PN	**Pn**	**18 56 53.0**	**+0.4**
MCHZ	**McNeill Hill**	**1.83**	**51**	PN	**Pn**	**18 56 53.7**	**+0.5**
THZ	**Tophouse**	**1.88**	**231**	PN	**Pn**	**18 56 55.3**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.95**	**62**	PN	**Pn**	**18 56 54.8**	**0.0**
KHZ	**Kahutara**	**2.07**	**208**	PN	**Pn**	**18 56 57.5**	**+1.1**
HIZ	**Hauiti**	**2.08**	**360**	PN	**Pn**	**18 56 57.6**	**+0.9**
NMHZ	**Naumai**	**2.12**	**46**	PN	**Pn**	**18 56 57.3**	**+0.1**
DSZ	**Denniston Nort**	**2.57**	**243**	PN	**Pn**	**18 57 04.2**	**+0.9**
TOZ	**Tahuroa Road**	**2.91**	**10**	PN	**Pn**	**18 57 08.4**	**+0.5**
URZ	**Urewera**	**2.92**	**37**	Pn	**Pn**	**18 57 06.1**	**-1.9**
	3.8nm,0.3s,baz=226,slow=8.3,SNR=16						
URZ				Sn	**Sn**	**18 57 40.7**	**-1.2**
	4.2nm,0.3s,baz=292,slow=19,SNR=8.3						
MWZ	**Matawai**	**3.06**	**43**	PN	**Pn**	**18 57 08.7**	**-1.4**
MKAZ	**Moumakai**	**3.49**	**4**	PN	**Pn**	**18 57 16.6**	**+0.7**
MQZ	**McQueen's Vall**	**3.51**	**207**	PN	**Pn**	**18 57 14.9**	**-1.2**
RPZ	**Rata Peaks**	**4.20**	**221**	Pn	**Pn**	**18 57 24.6**	**-0.9**
	0.4nm,0.3s,baz=45,slow=8.6,SNR=2.3						
RPZ				Sn	**Sn**	**18 58 09.8**	**-3.6**
	2.9nm,0.3s,baz=350,slow=18,SNR=15						
ODZ	**Otahua Downs**	**5.41**	**213**	PN	**Pn**	**18 57 40.9**	**-1.2**
ASAR	**Alice Springs**	**38.18**	**284**	P	**P**	**19 03 37.3**	**+0.1**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**40.15**	**289**	P	**P**	**19 03 54.0**	**+0.3**
	0.7nm,0.7s,baz=126,slow=8.2,SNR=12						
TORD	**Torodi Ar. Bea**	**152.00**	**194**	PKPbc	**PKPbc**	**19 16 14.0**	**+2.0**
	0.2nm,0.6s,baz=159,slow=5.0,SNR=2.9						

*DJA **03** 19:07:11, 6°.79S×105°.11E, h10km, MLv3.6/8*
IDC 03 19:07:06.6±3.8, 5°.84S×106°.00E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=225.6km s-min=26.8km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.90**	**120**	P	P	19 13 24.6	-0.7
	0.2nm,0.8s,baz=289,slow=9.9,SNR=5.1						
ASAR	**Alice Springs**	**32.17**	**126**	P	P	19 13 36.9	+0.4
	0.1nm,0.3s,baz=296,slow=8.3,SNR=3.4						
STKA	**Stephens Creek**	**42.15**	**132**	P	P	19 15 01.1	0.0
	1.7nm,0.5s,baz=314,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**56.47**	**341**	P	P	19 16 50.2	-0.1
	0.1nm,0.3s,baz=153,slow=8.7,SNR=4.9						

IDC 03 19:11:11.4±26.0, 17°.45S×175°.09W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, MS3.5/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=475.0km s-min=152.6km az=72.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.64**	**260**	P	P	19 18 20.5	+0.5
	1.5nm,0.5s,baz=59,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**41.62**	**241**	P	P	19 19 01.9	+0.4
	0.9nm,0.6s,baz=72,slow=6.4,SNR=4.3						
STKA				LR	LR	19 32 32.1	
	comp=Z,64nm,20.4s,baz=205,slow=31						
WRA	**Warramunga Arr**	**47.82**	**259**	P	P	19 19 50.6	-0.7
	0.9nm,0.5s,baz=97,slow=7.4,SNR=32						
ASAR	**Alice Springs**	**47.95**	**254**	P	P	19 19 51.9	-0.4
	3.8nm,0.5s,baz=87,slow=8.7,SNR=93						

*CSEM **03** 19:11:42.7±0.4, 36°.29N×31°.25E, h10km, Mw3.5, Error ellipse: s-maj=32.7km s-min=8.4km az=41.0*
*ISCJB **03** 19:11:42.5±2.3, 36°.25N±0°.09×31°.28E±0°.1, h13km±15km, Error ellipse: s-maj=20.7km s-min=5.2km az=41.4*
*NIC **03** 19:11:45.0±0.3, 36°.35N×31°.38E, h60km, mb4.1, ML3.6, MW3.5*

ISC 03 19:11:43.9±2.0, 36°.22N±0°.08×31°.19E±0°.06, h15km±15km, n16, σ1°.34/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alevga**	**1.56**	**132**	P	**Pn**	**19 12 09.0**	**-2.2**
	11nm,0.3s						
ALFC				S	**Sn**	**19 12 29.9**	**-1.3**
ALFC	**Alevga**	**1.56**	**132**	P	**Pn**	**19 12 09.0**	**-2.2**
	11nm,0.3s						
ALFC				S	**Sn**	**19 12 29.9**	**-1.3**
PPCY	**Paphos**	**1.63**	**144**	P	**Pn**	**19 12 12.4**	**+0.3**
PPCY				S	**Sn**	**19 12 33.3**	**+0.4**
PPCY	**Paphos**	**1.63**	**144**	P	**Pn**	**19 12 12.4**	**+0.3**
PPCY				S	**Sn**	**19 12 33.3**	**+0.4**
MAMC	**Mammari**	**1.96**	**122**	P	**Pn**	**19 12 15.6**	**-1.0**
MAMC				S	Sn	19 12 35.7	-5.2
MAMC	**Mammari**	**1.96**	**122**	P	**Pn**	**19 12 15.6**	**-1.0**
MAMC				S	Sn	19 12 35.7	-5.2
SZAC	**Souni-Zanaja**	**2.01**	**136**	P	**Pb**	**19 12 19.5**	**-0.7**
SZAC				S	**Sg**	**19 12 48.7**	**+0.1**
SZAC	**Souni-Zanaja**	**2.01**	**136**	P	**Pb**	**19 12 19.5**	**-0.7**
SZAC				S	**Sg**	**19 12 48.7**	**+0.1**
CSS	**Prodhromos**	**2.15**	**125**	P	**Pn**	**19 12 18.3**	**-1.0**
CSS				S	**Sn**	**19 12 44.6**	**-1.1**
CSS	**Prodhromos**	**2.15**	**125**	P	**Pn**	**19 12 18.3**	**-1.0**
CSS				S	**Sn**	**19 12 44.6**	**-1.1**
TURN	**Turunc**	**2.18**	**288**	*i* P	**Pn**	**19 12 19.2**	**-0.4**
TURN				*i* S	**Sn**	**19 12 46.0**	**-0.4**
TURN	**Turunc**	**2.18**	**288**	*i* P	**Pn**	**19 12 19.2**	**-0.4**
TURN				*i* S	**Sn**	**19 12 46.0**	**-0.4**
KHAL	**Karahalli**	**2.54**	**328**	*i* P	**Pn**	**19 12 23.6**	**-1.1**
KHAL				*i* S	**Sn**	**19 12 55.7**	**+0.3**
KHAL	**Karahalli**	**2.54**	**328**	*i* P	**Pn**	**19 12 23.6**	**-1.1**
KHAL				*i* S	**Sn**	**19 12 55.7**	**+0.3**
PHNC	**Paralimni**	**2.62**	**117**	P	**Pb**	**19 12 30.4**	**-0.1**
	5.3nm,0.6s						
PHNC				S	**Sb**	**19 13 05.8**	**+3.4**
PHNC	**Paralimni**	**2.62**	**117**	P	**Pb**	**19 12 30.4**	**-0.1**
	5.3nm,0.6s						
PHNC				S	**Sb**	**19 13 05.8**	**+3.4**

IDC 03 19:15:27.8±2.8, 30°.53N×82°.80E, h0km, mb3.2/4, mb1 3.5/5, mb1mx3.2/25, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=85.0km s-min=27.9km az=74.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.25**	**359**	Pn	P	19 19 20.4	-0.1
	0.0nm,0.3s,baz=186,slow=12,SNR=4.0						
CMAR	**Jiangmai Mai Arr**	**18.95**	**126**	P	Pn	19 19 51.5	+0.4
	0.0nm,0.3s,baz=305,slow=9.5,SNR=4.8						
KURK	**Kurchatov**	**20.41**	**352**	P	P	19 20 05.7	-0.5
	0.6nm,0.7s,baz=172,slow=11,SNR=4.3						
SONM	**Songino Array**	**25.01**	**40**	P	P	19 20 53.2	-0.2
	0.3nm,0.6s,baz=218,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**70.52**	**129**	P	P	19 26 44.8	+0.1
	0.6nm,0.6s,baz=325,slow=6.6,SNR=6.9						
ASAR	**Alice Springs**	**72.84**	**132**	P	P	19 26 58.2	-0.4
	0.5nm,1.1s,baz=310,slow=6.3,SNR=4.8						

*IDC **03** 19:43:48.9±0.3, 0°.49S×132°.76E, h0km, mb5.5/22, mb1 5.5/25, mb1mx5.5/25, mbtmp5.5/25, ML5.1/3, MS7.3/21, Ms1 7.3/21, ms1mx7.1/42, Error ellipse: s-maj=14.3km s-min=6.4km az=79.0*
*NEIC **03** 19:43:50.6±0.1, 0°.41S×132°.89E, h17km, mb6.6/163, ME7.7, MS7.5/176, MW7.6, MW7.4, Error ellipse: s-maj=5.7km s-min=4.6km az=61.0 Broadband fault plane solution: P waves. NP1:ϕs315.00000°, δ80.00000°, λ100.00000°. NP2:ϕs90.00000°, δ14.00000°, λ45.00000°. Principal axes: T Plg54.0000°, Azm237.0000°; N Plg0.0000°, Azm0.0000°; P Plg34.0000°, Azm36.0000°; Moment Tensor Solution. s72 Moment tensor: Scale 10²⁰ Nm; Mrr1.07; Mθθ-1.16; Mϕϕ0.09; Mrθ-0.47; Mθϕ0.70; Mϕr0.38; Best double couple: M₀1.40000×10²⁰ NP1: ϕs304.00000°, δ58.00000°, λ102.00000°. NP2: ϕs102.00000°, δ34.00000°, λ71.00000°. Principal axes: T 1.2300, Plg73.0000°, Azm246.0000°; N 0.3800, Plg10.0000°, Azm117.0000°; P -1.6000, Plg12.0000°, Azm25.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a much larger one about 6 seconds later. Depth and focal mechanism based on the larger event. Energy computed from BB mechanism.*
*NEIC At least four people killed at Manokwari and one killed at Sorong. At least 250 people injured, 840 buildings damaged and power outages in western Papua. Felt [VI] at Manokwari and Sorong and [IV] at Nabire and Ransiki. Also felt on Ambon. A tsunami was recorded with the following wave heights

17µm,1.3s,358µm116nm
MATI Mati 9.76 320 *e*P Pn 19 46 11.0 -3.1
LUWI Luwuk 9.84 267 P **Pn** **19 46 15.8 +0.5**
3µm,1.7s,328µm
GSPH General Santos 10.08 311⇑ *i*P **Pn** **19 46 17.9 -0.7**
DAV Davao City (W) 10.30 317 Pn **Pn** **19 46 22.0 +0.4**
baz=173,slow=3.5,SNR=7.9
DAV Sn **Sn** **19 48 20.4 +4.3**
45nm,0.3s,baz=287,slow=20,SNR=1.6
DAV Davao City (W) 10.30 317 *e*Pn **Pn** **19 46 21.9 +0.4**
4µm,0.8s
DAV *e*Sn **Sn** **19 48 18.2 +2.1**
DAV Sn Sn 19 48 20.4 +4.3
DAV Davao City (W) 10.30 317⇑ *e*P Pn 19 46 31.0 +9.4
DAV Davao City (W) 10.30 317 P Pn 19 46 25.1 +3.5
5µm,0.9s,261µm
DMPH Davao City--Mi 10.36 317 *e*P **Pn** **19 46 22.5 +0.1**
KCP Kidapawan 10.59 315‖ *e*P Pn 19 46 33.4 +7.7
MRSI Marisa 10.71 275 P **Pn** **19 46 29.9 +2.7**
3µm,1.5s,230µm
BBSI Bau Bau 11.16 244 P Pn 19 46 38.5 +5.1
8µm,1.2s,259µm
BUKP Musuan 11.24 318 *e*P **Pn** **19 46 36.4 +1.9**
CTBH Cotabato--PC H 11.35 313‖ *e*P **Pn** **19 46 35.5 -0.4**
CGP Cagayan de Oro 11.90 319‖ *e*P Pn 19 46 52.0 +8.4
PAGZ Pagadian 12.40 312 *e*P P 19 46 56.8 -5.1
ZMPH Zamboanga City 12.88 305‖ *e*P **Pn** **19 46 57.1 +0.2**
IPIL Ipil 12.97 310 *e*P **P** **19 47 05.9 -2.4**
TTSI Tana Toraja 13.02 259 P **Pn** **19 47 01.1 +2.3**
5µm,1.4s,175µm
MMRI Maumere 13.09 232 P Pn 19 47 03.4 +3.6
4µm,1.7s,280µm
SPSI Sidrap Palu 13.27 255 P **Pn** **19 47 05.0 +2.8**
8µm,1.1s,322µm
BKSI Bulukumba 13.34 249 P Pn 19 47 06.5 +3.3
5µm,1.4s,270µm
KAPI Kappang 13.58 251⇑ *e*Pn **Pn** **19 47 07.5 +1.0**
15µm,1.4s
KAPI Kappang 13.58 251 P Pn 19 47 09.7 +3.2
7µm,1.4s,376µm
LLP Lapu-Lapu 13.78 322 *e*P **Pn** **19 47 07.6 -1.6**
PLP Palo 13.87 327‖ *e*P **Pn** **19 47 13.0 +2.5**
MJSI Majene 13.94 257 P P 19 47 15.6 -3.5
6µm,1.2s,303µm
MYLDM Lahad Datu 15.18 292 P **P** **19 47 34.6 +1.6**
MYLDM Lahad Datu 15.18 292 P **P** **19 47 33.0 +0.1**
4µm,1.6s,367µm
WSI Waingapu 15.24 233 P **P** **19 47 34.2 +0.6**
13µm,0.7s,397µm
SMKI Samarinda 15.39 270 P **P** **19 47 38.0 +2.7**
14µm,1.1s,366µm
TSM Tawau 15.48 288 P **Pn** **19 47 33.0 +1.0**
PVCP Virac 16.34 329‖ *e*P **Pn** **19 47 39.2 -3.9**
SDKM Sandakan 16.56 292 P **P** **19 47 48.0 -0.3**
KBKI Kotabaru 16.65 260 P **P** **19 47 49.5 +0.2**
5µm,1.6s,436µm
COEN Coen 16.96 142 *e*Pn Pn 19 47 40.6 -10
12µm,0.9s
COEN *e*Sn **Sn** **19 50 58.4 -0.3**
PMG Port Moresby 16.96 122 Pn **Pn** **19 47 47.7 -3.3**
2.4nm,0.3s,baz=339,slow=7.4,SNR=28
PMG Sn **Sn** **19 51 00.8 +2.1**
1.9nm,0.3s,baz=239,slow=19,SNR=1.4
PMG Port Moresby 16.96 122‖ *e*P Pn 19 47 45.6 -5.4
PMG 19 51 00.8
PMG pmax pmax
comp=Z,6µm,1.4s
PMG Port Moresby 16.96 122⇑ *e*Pn **Pn** 19 47 45.6 -5.4
comp=Z,6µm,1.4s
PMG Pn **Pn** **19 47 47.7 -3.3**
PMG Sn **Sn** **19 51 00.8 +2.1**
PMG *e*Sn **S** **19 51 01.6 -6.5**
KDM Kudat 17.38 295 P 19 48 06.8 +9.4
GQP Guinayangan 17.52 325‖ *e*P **Pn** **19 47 57.6 -0.3**
KKM Kota Kinabalu 17.61 292‖ *e*Pn **Pn** **19 47 58.7 -0.5**
comp=Z,7µm,1.4s
KKM Kota Kinabalu 17.61 292 P **P** **19 48 03.0 +3.0**
KKM Kota Kinabalu 17.61 292 P P 19 48 06.3 +6.3
comp=Z,5µm,0.8s,comp=Z,388µm
BBKI Banjar Baru 17.99 260 P **P** **19 48 06.5 +2.5**
comp=Z,13µm,1.4s
LQP Lukban 18.21 323‖ *e*P **P** **19 48 08.8 +2.1**
MTNI Mataram 18.24 243 P **Pn** **19 48 08.8 +2.0**
comp=Z,8µm,2.0s,comp=Z,829µm
GUMO Guam 18.56 40 P **P** **19 48 09.4 -0.9**
comp=Z,11nm,0.3s,baz=228,slow=5.5,SNR=6.1
GUMO S **S** **19 51 44.2 +3.8**
comp=Z,7.2nm,0.3s,baz=9.0,slow=18,SNR=1.4
GUMO LR LR 19 54 21.4
comp=Z,1020µm,18.8s,baz=215,slow=34
GUMO Guam 18.56 40 *e*P P 19 48 01.1 -9.2
GUMO pmax pmax
comp=Z,6µm,1.2s
GUMO Guam 18.56 40 *e*Pn P 19 48 01.1 -9.2
comp=Z,6µm,1.2s
GUMO P **P** **19 48 09.4 -0.9**
GUMO S **S** **19 51 44.2 +3.8**
TGY Tagaytay City 18.57 322 P **Pn** **19 48 12.7 +1.9**
baz=279,slow=6.2,SNR=6.8
TGY Tagaytay City 18.57 322 P **Pn** **19 48 12.7 +1.9**
TGY Tagaytay City 18.57 322 P **Pn** **19 48 12.7 +1.9**
TGY Tagaytay City 18.57 322‖ *e*P Pn 19 48 24.5 +14
KHKI Kahang-Kahang 18.63 245 P **Pn** **19 48 12.9 +1.3**
comp=Z,7µm,1.1s
FITZ Fitzroy Crossi 18.76 201 P **P** **19 48 10.1 -2.4**
comp=Z,4.5nm,0.3s,baz=28,slow=13,SNR=79
FITZ S **Sn** **19 51 40.1 -2.1**
comp=Z,81nm,0.3s,baz=144,slow=16,SNR=4.6
FITZ Fitzroy Crossi 18.76 201 *e*P **P** **19 48 10.3 -2.1**
comp=Z,6µm,1.3s
FITZ *e*S **Sn** **19 51 38.7 -3.4**
FITZ Fitzroy Crossi 18.76 201 *e*Pn **P** **19 48 09.6 -2.9**
comp=Z,8µm,1.3s
FITZ P **P** **19 48 10.1 -2.4**
FITZ *e*Sn Sn 19 51 34.9 -7.3
FITZ S **Sn** **19 51 40.1 -2.1**
IGBI Denpasar 19.23 244 P **Pn** **19 48 22.8 +3.9**
comp=Z,5µm,1.1s,comp=Z,337µm
WRAB Tennant Creek 19.36 175⇑ *e*P **P** **19 48 16.5 -2.6**
WRAB *e* 19 51 48.0
WRAB pmax pmax
comp=Z,9µm,1.1s
WRAB Tennant Creek 19.36 175⇑ *e*Pn **P** **19 48 16.4 -2.6**
comp=Z,9µm,1.1s
WRAB *e*Sn S 19 51 48.0 -8.6
WRAB Tennant Creek 19.36 175 P **P** **19 48 18.0 -1.1**
comp=Z,15µm,1.1s
WRA Warramunga Arr 19.37 175 P **P** **19 48 16.8 -2.4**
comp=Z,23nm,0.3s,baz=355,slow=12,SNR=315
WRA S S 19 51 47.6 -9.1
comp=Z,28nm,0.3s,baz=356,slow=23,SNR=4.2
WRA Warramunga Arr 19.37 175 P **P** **19 48 16.8 -2.4**
WRA S S 19 51 47.6 -9.1
WRA pmax pmax
comp=Z,23nm,0.3s
WRA smax smax
comp=N,28nm,0.3s
WRA Warramunga Arr 19.37 175 P **P** **19 48 16.8 -2.4**
WRA S S 19 51 47.6 -9.1
WB2 Warramunga Arr 19.37 175⇑ *e*P **P** **19 48 16.2 -3.0**
WB2 *e*S S 19 51 44.9 -12
BALP Baler 19.49 326 *e*P **Pn** **19 48 24.3 +2.4**
BALP *e*S **pP** **19 48 33.3 +4.5**
NBBI Negara 19.53 246 P **Pn** **19 48 26.0 +3.6**
comp=N,16µm,1.4s
KMMI Kalianget 19.68 250 P **Pn** **19 48 27.7 +3.5**
comp=N,10µm,1.7s,comp=N,997µm
BYJI Banyuwangi 19.72 247 P **Pn** **19 48 27.7 +3.1**
comp=N,27µm,1.5s
BTM Bintulu 19.86 281 P **Pn** **19 48 28.6 +2.3**
JAGI Jajag, Banyuwa 20.00 246 P Pn 19 48 28.9 +0.9
comp=N,2µm,0.9s,comp=N,672µm
BLJI Banyuglugur 20.26 249 P Pn 19 48 31.9 +0.9
comp=N,8µm,1.5s,comp=N,780µm
CAUP Cauayan 20.36 329 *e*P **P** **19 48 31.0 +1.1**
BCPH Baguio City Da 20.57 325‖ *i*P Pn 19 48 40.3 +5.5
BCPH *i* S Sn 19 52 27.6 +1.4
GMJI Gumukmas 20.58 248 P Pn 19 48 33.8 -1.0
comp=N,10µm,1.2s,comp=N,585µm
SBUM Sibu 20.59 278 P Pn 19 48 35.8 +0.9
SBUM Sibu 20.59 278 P Pn 19 48 34.6 -0.3
comp=N,13µm,1.1s,comp=N,443µm
BOLP Bolinao 20.95 324 *e*P Pn 19 48 42.9 +3.9
PBKI Pangkalan Bun 21.03 264 P **P** **19 48 39.2 +1.9**
comp=N,12µm,1.2s,comp=N,379µm

STKI Sintang 21.13 272 P **P** **19 48 40.0 +1.6**
comp=N,3µm,1.6s,comp=N,328µm
KRKI Karangkates 21.46 249 P **P** **19 48 46.3 +4.4**
comp=N,9µm,1.9s,comp=N,401µm
ABRA Dolores 21.52 328 *e*P **P** **19 48 43.3 +0.8**
SIPP Brgy, Tapao 21.89 327‖ *e*P **P** **19 48 50.1 +3.8**
SJI Sawahan 21.97 250 P **P** **19 48 48.6 +1.2**
comp=N,3µm,1.6s,comp=N,286µm
PWJI Pagerwojo 22.02 250 P **P** **19 48 48.7 +0.8**
comp=N,5µm,1.5s,comp=N,217µm
PIP Pasuquin 22.13 328‖ *e*P **P** **19 48 50.8 +1.7**
NGJI Ngawi 22.15 252 P **P** **19 48 53.9 +4.6**
KSM Kuching 22.38 275‖ *e*P **P** **19 48 51.7 -0.1**
comp=N,6µm,1.4s
KSM LR LR
comp=Z,956µm,20.0s
KSM Kuching 22.38 275 P **P** **19 48 54.9 +3.1**
KSM Kuching 22.38 275 P **P** **19 48 53.2 +1.4**
comp=Z,4µm,0.8s,comp=Z,298µm
PCJI Pacitan 22.66 250 P **P** **19 48 55.0 +0.2**
comp=Z,5µm,1.9s,comp=Z,228µm
SMRI Semarang 23.03 253 P **P** **19 49 00.7 +2.0**
comp=Z,6µm,1.3s,comp=Z,650µm
ASAR Alice Springs 23.04 177 P **P** **19 48 57.1 -1.5**
comp=Z,292nm,0.8s,baz=357,slow=10,SNR=526
ASAR S **S** **19 53 09.3 +1.8**
comp=Z,141nm,0.7s,baz=354,slow=15,SNR=2.5
ASAR Alice Springs 23.04 177 P **P** **19 48 57.1 -1.5**
ASAR S **S** **19 53 09.3 +1.8**
ASAR pmax pmax
comp=Z,292nm,0.8s
ASAR smax smax
comp=N,141nm,0.7s
ASAR Alice Springs 23.04 177 P **P** **19 48 57.1 -1.5**
ASAR S **S** **19 53 09.3 +1.8**
UGM Wanagama 23.19 251 P **P** **19 49 02.4 +2.1**
comp=N,14µm,1.5s,comp=N,477µm
YOGI Yogyakarta 23.38 251 P **P** **19 49 04.3 +2.1**
comp=N,50µm,1.4s,comp=N,819µm
CTA Charters Tower 23.59 146 P **P** **19 49 02.0 -2.1**
comp=N,322nm,1.0s,baz=326,slow=11,SNR=63
CTA S **S** **19 53 18.1 +1.5**
comp=N,182nm,0.8s,baz=238,slow=19,SNR=1.9
CTA LR LR 19 59 37.7
comp=N,3006µm,19.2s,baz=321,slow=40
CTA Charters Tower 23.59 146 *e*P **P** **19 49 01.9 -2.2**
comp=N,3µm,1.2s
CTA *e*S S 19 53 25.2 +8.6
CTA Charters Tower 23.59 146 P **P** **19 49 02.1 -2.1**
CTA S **S** **19 53 18.1 +1.5**
CTA pmax pmax
comp=Z,322nm,1.0s
CTA smax smax
comp=N,182nm,0.8s
CTA MLR MLR
comp=Z,6µm,19.2s
CTA Charters Tower 23.59 146 P **P** **19 49 02.0 -2.1**
CTA S **S** **19 53 18.1 +1.5**
CTAO Charters Tower 23.59 146‖ *e*P **P** **19 49 00.4 -3.7**
CTAO pmax pmax
comp=Z,5µm,1.1s
CTAO MLR MLR
comp=Z,3145µm,19.0s
CTAO Charters Tower 23.59 146⇑ *e*P **P** **19 49 00.4 -3.7**
comp=Z,5µm,1.1s
CTAO LR LR
comp=Z,3145µm,19.0s
BJII Banjamegara 23.80 253 P **P** **19 49 07.2 +0.9**
comp=Z,12µm,1.9s,comp=Z,404µm
MBWA Marble Bar 24.05 211‖ *e*P **P** **19 49 08.3 -0.1**
comp=Z,76nm,0.6s
MBWA LR LR
comp=Z,1109µm,20.0s
CLJI Cilicap 24.57 252 P P 19 49 19.8 +6.5
comp=Z,9µm,2.4s,comp=Z,314µm
CISI Cisompet, Garu 25.68 254 P **P** **19 49 22.7 -0.7**
comp=Z,9µm,1.4s,comp=Z,228µm
LEM Lembang 25.69 255 P **P** **19 49 24.7 +1.0**
comp=Z,1µm,1.6s,comp=Z,375µm
TWG Pinlang 25.78 335 *e*P **P** **19 49 21.5 -2.6**
comp=Z,337nm,0.9s
YULB Yu-li 26.19 336 *e*P **P** **19 49 28.3 +0.4**
comp=Z,1µm,1.4s
CBJI Citeko 26.35 257 P **P** **19 49 30.0 +0.6**
comp=Z,7µm,0.9s,comp=Z,496µm
TPUB Ta-pu 26.39 335 *e*P **P** **19 49 26.6 -3.1**
comp=Z,751nm,1.0s
TNG Tangerang 26.50 257 P P 19 49 37.3 +6.5
comp=Z,21µm,1.1s,comp=Z,229µm
TNG Tangerang 26.50 257 P P 19 49 37.3 +6.5
comp=Z,6µm,1.6s,comp=Z,376µm
PPBI Pangkal Pinang 26.51 266 P **P** **19 49 35.0 +4.1**
comp=Z,1µm,1.5s,comp=Z,144µm
SSLB Suanglung 26.69 336 *e*P **P** **19 49 31.0 -1.3**
comp=Z,905nm,1.1s
SKJI Sukabumi 26.76 255 P P 19 49 38.3 +5.2
comp=Z,4µm,1.5s,comp=Z,168µm
NACB Ninganchiao 26.78 337 *e*P **P** **19 49 33.5 +0.4**
comp=Z,1µm,1.4s
SBJI Serang 26.99 258 P P 19 49 42.7 +7.5
comp=Z,3µm,1.5s,comp=Z,111µm
YHNB Yeheng 27.31 337 *e*P **P** **19 49 39.1 +1.1**
comp=Z,1µm,1.4s
YHNB LR LR
comp=Z,526µm,22.0s
RBSI Rajabasa 27.32 258 P P 19 49 49.3 +11
CGJI Cibinong 27.52 257 P **P** **19 49 38.5 -1.4**
comp=Z,2µm,1.8s,comp=Z,118µm
JOW Kunigami 27.52 352 P **P** **19 49 37.4 -2.4**
comp=Z,204nm,1.0s,baz=166,slow=8.5,SNR=9.6
JOW S **S** **19 54 24.5 +5.5**
comp=Z,19nm,0.8s,baz=132,slow=14,SNR=3.5
JOW LR LR 19 59 35.4
comp=Z,1150µm,19.9s,baz=164,slow=34
JOW Kunigami 27.52 352 *e*P **P** **19 49 36.4 -3.4**
comp=Z,603nm,1.3s
JOW P **P** **19 49 37.4 -2.4**
JOW S **S** **19 54 24.5 +5.5**
TATO Taipei 27.54 338 *e*P **P** **19 49 36.1 -3.8**
comp=Z,2µm,1.4s
TATO LR LR
comp=Z,452µm,21.0s
KLI Kotabumi 28.04 261 P **P** **19 49 45.4 +0.8**
comp=Z,2µm,1.3s,comp=Z,97µm
XMIS Christmas Isla 28.56 249 *e*P **P** **19 49 52.0 +2.8**
comp=Z,6µm,0.8s
HNR Honiara 28.61 109 P P 19 49 45.3 -4.5
comp=Z,298nm,0.9s,baz=228,slow=3.8,SNR=10
HNR PKKP PKKPdf 20 15 29.9 -6.9
comp=Z,33nm,0.6s,baz=27,slow=4.5,SNR=2.6
HNR Honiara 28.61 109 P P 19 49 45.3 -4.5
HNR pmax pmax
comp=Z,298nm,0.9s
HNR pmax pmax
comp=Z,33nm,0.6s
HNR Honiara 28.61 109 P P 19 49 45.3 -4.5
HNR PKKP PKKPdf 20 15 29.9 -6.9
HNR LR LR
comp=Z,674µm,19.0s
QZH Quanzhou 28.73 333⇑ *i*P **P** **19 49 53.0 +2.4**
QZH S **S** **19 54 34.0 -4.0**
QZH pmax pmax
comp=Z,5µm,2.2s
QZH pmax pmax
comp=Z,141µm,11.4s
QZH LR LR
comp=N,391µm,13.5s
QZH LR LR
comp=E,160µm,10.6s
QZH LR LR
comp=Z,611µm,20.8s
MYKOM Kota Tinggi 28.84 275 P **P** **19 49 53.2 +1.4**
MYKOM Kota Tinggi 28.84 275 P **P** **19 49 54.1 +2.3**
comp=Z,586nm,1.6s,comp=Z,116µm
LWLI Liwa 28.85 261 P **P** **19 49 54.3 +2.3**
comp=Z,2µm,2.2s,comp=Z,108µm
CBIJ Chichi jima 28.97 18 P **P** **19 49 50.0 -2.7**
comp=Z,136nm,0.8s,baz=283,slow=22,SNR=4.9
CBIJ S **S** **19 54 41.0 -0.9**
baz=273,slow=19
CBIJ LR LR 19 58 55.6
comp=Z,547µm,21.1s,baz=175,slow=31
CBIJ Chichi jima 28.97 18 P **P** **19 49 50.0 -2.7**
CBIJ S **S** **19 54 41.0 -0.9**
KGM Kluang 29.39 275 P **P** **19 49 58.0 +1.4**
QIZ Qiongzhong 29.61 312 P **P** **19 49 59.2 +0.6**
QIZ pP **pP** **19 50 07.8 +0.2**
QIZ sP **sP** **19 50 11.8 +0.4**
QIZ S **S** **19 54 54.8 +2.7**
QIZ sS **sS** **19 55 09.4 +2.3**
QIZ LR LR
comp=N,456µm,21.6s
QIZ LR LR
comp=E,107µm,19.3s
QIZ LR LR
comp=Z,380µm,32.0s
QIZ Qiongzhong 29.61 312 *e*P **P** **19 49 57.5 -1.1**
comp=Z,760nm,1.1s
QIZ LR LR
comp=Z,343µm,19.0s
MNAI Manna 29.86 262 P P 19 50 05.8 +5.0
comp=Z,5µm,1.4s,comp=Z,110µm
GZH Guangzhou 30.03 323 P **P** **19 50 08.3 +6.1**
GZH S S 19 55 10.9 +12
GZH pmax pmax
comp=Z,88µm,11.2s
GZH LR LR
comp=N,348µm,15.9s
GZH LR LR
comp=E,146µm,13.2s
GZH LR LR
comp=Z,466µm,15.4s
KSI Kapahiang 30.14 264 P **P** **19 50 03.2 -0.2**
comp=Z,4µm,0.8s,comp=Z,113µm
RGRI Rengat 30.27 270 P P 19 50 13.7 +9.3
comp=Z,5µm,0.9s,comp=Z,82µmcomp=Z,943µm
FORT Forrest 30.39 188 *e*P **P** **19 50 04.8 -0.5**
comp=Z,1µm,0.6s
FORT Forrest 30.39 188⇑ *e*P **P** **19 50 04.8 -0.5**
comp=Z,3µm,0.7s
FORT *e*S **S** **19 55 04.7 +0.6**
FORT *e*ScP ScP 19 56 10.3 -35
EIDS Eidsvold 30.47 146 *e*P **P** **19 50 03.1 -3.0**
comp=Z,142nm,1.0s
KRJI Kerinci 31.17 267 P **P** **19 50 14.1 +1.6**
comp=Z,5µm,1.1s,comp=Z,133µm
BKNI Bangkinang 31.57 271 P **P** **19 50 17.1 +1.1**
comp=Z,3µm,0.9s,comp=Z,89µm
IPM Ipoh 31.94 279 *e*P **P** **19 50 18.2 -1.0**
comp=Z,2µm,1.1s
IPM *e*PcP **PcP** **19 53 14.2 +4.9**
IPM Ipoh 31.94 279 P **P** **19 50 20.0 +0.8**
IPM Ipoh 31.94 279 P **P** **19 50 19.4 +0.2**
comp=Z,3µm,2.4s,comp=Z,85µmcomp=Z,941µm
PPI Padang Panjang 32.20 270 P **P** **19 50 20.9 -0.6**
comp=Z,5µm,1.0s,comp=Z,92µm
BBOO Buckleboo 32.28 175⇑ *e*P **P** **19 50 19.6 -2.3**
comp=Z,2µm,1.4s
BBOO *e*S **S** **19 55 32.7 -0.8**
BBOO *e*ScP ScP 19 56 38.0 -13
STKA Stephens Creek 32.32 166 P **P** **19 50 19.6 -2.7**
comp=Z,300nm,0.7s,baz=338,slow=8.4,SNR=257
STKA S **S** **19 55 35.7 +1.5**
comp=Z,128nm,1.0s,baz=216,slow=19,SNR=1.5
STKA LR LR 20 05 03.8
comp=Z,1044µm,18.1s,baz=339,slow=40
STKA Stephens Creek 32.32 166 *e*P **P** **19 50 19.5 -2.8**
comp=Z,2µm,0.9s
STKA *e*S **S** **19 55 38.4 +4.2**
STKA Stephens Creek 32.32 166⇑ *e*P **P** **19 50 19.6 -2.7**
STKA S **S** **19 55 35.7 +1.5**
STKA Stephens Creek 32.32 166⇑ *e*P **P** **19 50 19.6 -2.7**
comp=Z,2.8nm,1.0s
STKA S **S** **19 55 35.7 +1.5**
KULM Kulim 32.43 281⇑ *e*P **P** **19 50 21.6 -1.9**
comp=Z,1µm,1.1s
KULM LR LR
comp=Z,569µm,21.0s
KULM Kulim 32.43 281 P **P** **19 50 25.1 +1.6**
KULM Kulim 32.43 281 P **P** **19 50 24.5 +1.0**
comp=Z,5µm,1.1s,comp=Z,78µmcomp=Z,931µm
MNSI Mandailing Nat 33.05 272 P **P** **19 50 27.8 -1.1**
comp=Z,2µm,1.3s,comp=Z,63µmcomp=Z,665µm
SSE Sheshan 33.27 342 P **P** **19 50 28.6 -1.9**
SSE pP **pP** **19 50 36.3 -3.3**
SSE sP **sP** **19 50 41.2 -2.2**
SSE S **S** **19 55 49.3 +0.4**
SSE sS **sS** **19 56 05.2 +1.3**
SSE pmax pmax
comp=Z,64µm,12.5s
SSE LR LR
comp=N,196µm,14.7s
SSE LR LR
comp=E,187µm,14.7s
SSE LR LR
comp=Z,176µm,21.2s
PSI Prapat 33.83 276 P **P** **19 50 34.4 -1.4**
comp=Z,871nm,1.4s,comp=Z,87µmcomp=Z,658µm
KLBR Kellerberrin 33.94 203 *e*P **P** **19 50 36.0 -0.4**
comp=Z,2µm,1.0s
TSI Tuntungan 34.25 277 P P 19 50 42.6 +3.2
comp=Z,2µm,1.2s,comp=Z,111µm
ARMA Armidale 34.79 150 *e*P **P** **19 50 41.3 -2.7**
ARMA *e*S **S** **19 56 17.7 +4.9**
ARMA Armidale 34.79 150⇑ *e*P **P** **19 50 40.9 -3.0**
comp=Z,76nm,0.6s
NJ2 Nanjing 34.92 339 *e*P **P** **19 50 43.0 -1.8**
NJ2 pP **pP** **19 50 53.8 -0.2**
NJ2 sP **sP** **19 50 57.9 +0.2**
NJ2 PP **PP** **19 52 04.0 -0.4**
NJ2 S S 19 56 07.0 -7.4
NJ2 sS **sS** **19 56 32.0 +2.6**
NJ2 pmax pmax
comp=Z,83µm,10.8s
NJ2 LR LR
comp=N,611µm,25.5s
NJ2 LR LR
comp=E,1138µm,16.2s
NJ2 LR LR
comp=Z,173µm,20.1s
NWAO Narrogin (SRO) 35.33 203 S **S** **19 56 21.6 +0.9**
comp=Z,360nm,1.0s,baz=354,slow=9.2,SNR=1.8
NWAO Narrogin (SRO) 35.33 203⇑ *e*P **P** **19 50 48.0 -0.4**
NWAO *e* 19 52 13.4
NWAO S **S** **19 56 21.6 +0.9**
NWAO *e*S **S** **19 56 21.9 +1.2**
NWAO pmax pmax
comp=Z,4µm,2.3s
NWAO MLR MLR
comp=Z,738µm,20.0s
NWAO Narrogin (SRO) 35.33 203⇑ *e*P **P** **19 50 48.0 -0.4**
comp=Z,4µm,2.3s
NWAO *e*PP **PP** **19 52 13.4 +4.4**
NWAO S **S** **19 56 21.6 +0.9**
NWAO *e*S **S** **19 56 21.9 +1.2**
NWAO LR LR
comp=Z,738µm,20.0s
WHN Wuhan 35.45 332 P **P** **19 50 48.2 -1.2**
WHN S S 19 56 29.9 +7.3
WHN pmax pmax
comp=Z,92µm,8.8s
WHN LR LR
comp=N,266µm,13.5s
WHN LR LR
comp=E,397µm,13.0s
WHN LR LR
comp=Z,591µm,17.0s
TPTI 35.60 276 P P 19 50 54.3 +3.2
comp=Z,2µm,0.8s,comp=Z,65µm
LHMI Lhok Sumawe 36.06 280 P P 19 50 58.9 +3.9
comp=Z,3µm,1.2s,comp=Z,128µm
KWAJ Kwajalein Atol 36.09 74 *e*P **P** **19 50 54.5 -0.7**
KWAJ pmax pmax
comp=Z,1µm,1.4s
KWAJ Kwajalein Atol 36.09 74 *e*P **P** **19 50 54.5 -0.7**
comp=Z,1µm,1.4s
GYA Guiyang 36.67 319⇑ *i*P **P** **19 50 58.8 -1.4**
GYA pP **pP** **19 51 11.4 +2.1**
GYA sP **sP** **19 51 16.8 +3.7**
GYA PP **PP** **19 52 28.7 +4.7**
GYA S **S** **19 56 38.7 -3.1**
GYA ScP **ScP** **19 57 06.6 -0.8**
GYA SS **SnSn** **19 59 12.3 -1.3**
GYA pmax pmax
comp=Z,100nm,1.0s
GYA pmax pmax
comp=Z,79µm,13.7s
GYA LR LR
comp=N,201µm,17.4s
GYA LR LR
comp=E,271µm,20.8s
GYA LR LR
comp=Z,239µm,20.1s

MJAR	**Matsushiro Arr**	**37.25**	**7**	P	P		19 51 01.5	-3.3	
	comp=Z,18nm,0.9s,baz=188,slow=8.1,SNR=13								
MJAR				PP	**PnPn**		**19 52 32.4**	**+1.6**	
	comp=Z,70nm,1.1s,baz=188,slow=9.2,SNR=2.2								
MJAR				PcP	**PcP**		**19 53 23.9**	**-0.2**	
	comp=Z,24nm,1.0s,baz=203,slow=2.4,SNR=2.1								
MJAR				S	**S**		**19 56 46.6**	**-3.4**	
	comp=Z,3.0nm,1.0s,baz=133,slow=36,SNR=3.0								
MJAR				LR	LR		20 03 31.8		
	comp=Z,517µm,20.6s,baz=180,slow=32								
MJAR				PKPPKP	P'P'df		20 23 40.3	-14	
	comp=Z,2.6nm,1.0s,baz=320,slow=0.5,SNR=4.4								
MJAR	**Matsushiro Arr**	**37.25**	**7**	P	P		19 51 01.5	-3.3	
MJAR							19 52 32.4		
MJAR							19 53 24.0		
MJAR				S	**S**		**19 56 46.6**	**-3.4**	
MJAR				pmax	pmax				
	comp=Z,18nm,0.9s								
MJAR				pmax	pmax				
	comp=Z,70nm,1.1s								
MJAR				smax	smax				
	comp=N,3.0nm,1.0s								
MJAR				MLR	MLR				
	comp=Z,517µm,20.6s								
MJAR	**Matsushiro Arr**	**37.25**	**7**	P	P		19 51 01.5	-3.3	
MJAR				PP	**PnPn**		**19 52 32.4**	**+1.6**	
MJAR				PcP	**PcP**		**19 53 23.9**	**-0.2**	
MJAR				S	**S**		**19 56 46.6**	**-3.4**	
MJAR				P'P'			20 23 40.3		
MAJO	**Matsushiro**	**37.25**	**7**	*e*P	P		19 50 59.9	-4.9	
MAJO				pmax	pmax				
	comp=Z,379nm,1.2s								
MAJO				MLR	MLR				
	comp=Z,556µm,19.0s								
MAJO	**Matsushiro**	**37.25**	**7**	*e*P	P		19 50 59.9	-4.9	
	comp=Z,379nm,1.2s								
MAJO				LR	LR				
	comp=Z,556µm,19.0s								
MAT	**Matsushiro**	**37.25**	**7**	P	P		19 50 59.9	-4.9	
MAT				S	S		19 56 44.0	-6.0	
COCO	**West Island**	**37.32**	**250**	PFAKE			19 51 20.0	+14	
COCO				LR	LR				
	comp=Z,345µm,20.0s								
ENH	**Enshi**	**37.72**	**326**	*e*P	**P**		**19 51 06.8**	**-2.1**	
	comp=Z,40nm,0.4s								
ENH				LR	LR				
	comp=Z,392µm,22.0s								
BSI	**Banda Aceh**	**37.73**	**280**	P	**P**		**19 51 07.6**	**-1.6**	
	comp=Z,4µm,1.4s,comp=Z,71µmcomp=Z,715µm								
CAN	**Canberra**	**37.84**	**158**⇑	*e*P	**P**		**19 51 06.8**	**-3.1**	
CAN				pmax	pmax				
	comp=Z,3µm,1.4s								
CAN				MLR	MLR				
	comp=Z,1629µm,20.0s								
CAN	**Canberra**	**37.84**	**158**⇑	*e*P	**P**		**19 51 06.8**	**-3.1**	
	comp=Z,3µm,1.4s								
CAN				LR	LR				
	comp=Z,1629µm,20.0s								
CNB	**Canberra Magne**	**37.97**	**157**	*e*P	P		19 51 06.0	-5.0	
	comp=Z,6µm,1.5s								
KSAR	**Wonju Array Be**	**38.03**	**354**	P	P		19 51 08.0	-3.3	
KSAR							19 52 46.4		
KSAR							19 53 29.2		
KSAR				S	**S**		**19 57 01.1**	**-0.7**	
KSAR	**Wonju Array Be**	**38.03**	**354**	P	P		19 51 08.0	-3.3	
KSAR				PP	**PnPn**		**19 52 46.4**	**+6.2**	
KSAR				PcP	**PcP**		**19 53 29.1**	**+2.7**	
KSAR				S	**S**		**19 57 01.1**	**-0.7**	
KSAR				P'P'			20 23 37.3		
KSRS	**Korea Array**	**38.04**	**354**	P	P		19 51 08.0	-3.4	
	comp=Z,4.5nm,0.8s,baz=177,slow=11,SNR=13								
KSRS				PP	**PnPn**		**19 52 46.4**	**+6.1**	
	comp=Z,37nm,0.9s,baz=158,slow=6.7,SNR=2.2								
KSRS				PcP	**PcP**		**19 53 29.1**	**+2.7**	
	comp=Z,16nm,0.8s,baz=180,slow=2.9,SNR=2.6								
KSRS				S	**S**		**19 57 01.1**	**-0.8**	
	comp=Z,8.6nm,1.0s,baz=171,slow=8.1,SNR=2.4								
KSRS				LR	LR		20 05 16.7		
	comp=Z,413µm,19.8s,baz=179,slow=34								
KSRS				PKPPKP	P'P'df		20 23 37.3	-16	
	comp=Z,8.5nm,1.1s,baz=326,slow=1.9,SNR=7.5								
KSRS	**Korea Array**	**38.04**	**354**	P	P		19 51 08.0	-3.4	
KSRS							19 52 46.4		
KSRS							19 53 29.2		
KSRS				S	**S**		**19 57 01.1**	**-0.8**	
KSRS				pmax	pmax				
	comp=Z,37nm,0.9s								
KSRS				smax	smax				
	comp=N,9.0nm,1.0s								
KSRS				MLR	MLR				
	comp=Z,413µm,19.8s								
CM31	**Chiang Mai Arr**	**38.08**	**301**⇑	*i*P	**P**		**19 51 10.3**	**-1.8**	
	comp=Z,10.0nm,2.1s								
CM31				LR	LR				
	comp=Z,197µm,20.0s								
CMAR	**Chiang Mai Arr**	**38.08**	**301**	P	**P**		**19 51 10.7**	**-1.4**	
	comp=Z,36nm,0.9s,baz=116,slow=6.7,SNR=147								
CMAR				S	**S**		**19 57 01.5**	**-1.6**	
	comp=Z,5.4nm,0.8s,baz=171,slow=6.2,SNR=2.4								
CMAR				P3KPbc			20 21 29.4		
	comp=Z,13nm,1.1s,baz=289,slow=4.5,SNR=14								
CMAR				PKPPKP	P'P'df		20 23 34.4	-22	
	comp=Z,2.4nm,0.9s,baz=285,slow=3.5,SNR=4.0								
CMAR	**Chiang Mai Arr**	**38.08**	**301**	P	**P**		**19 51 10.7**	**-1.4**	
CMAR				S	**S**		**19 57 01.5**	**-1.6**	
CMAR				pmax	pmax				
	comp=Z,36nm,0.9s								
CMAR				smax	smax				
	comp=N,5.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**38.08**	**301**	P	**P**		**19 51 10.7**	**-1.4**	
CMAR				S	**S**		**19 57 01.5**	**-1.6**	
CMAR				*e*			20 21 29.4		
CMAR				P'P'			20 23 34.4		
INCN	**Inchon**	**38.22**	**352**	*e*P	**P**		**19 51 11.3**	**-1.7**	
	comp=N,486nm,1.3s								
INCN				LR	LR				
	comp=Z,481µm,21.0s								
CHTO	**Chiang Mai**	**38.23**	**302**⇑	*e*P	**P**		**19 51 11.6**	**-1.8**	
CHTO				pmax	pmax				
	comp=Z,581nm,0.8s								
CHTO				MLR	MLR				
	comp=Z,226µm,20.0s								
CHTO	**Chiang Mai**	**38.23**	**302**⇑	*e*P	**P**		**19 51 11.6**	**-1.8**	
	comp=Z,581nm,0.8s								
CHTO				LR	LR				
	comp=Z,226µm,20.0s								
CHTO	**Chiang Mai**	**38.23**	**302**	P	**P**		**19 51 11.8**	**-1.6**	
	comp=Z,1µm,1.6s,comp=Z,74µmcomp=Z,452µm								
KMI	**Kunming**	**38.53**	**314**	P	**P**		**19 51 14.6**	**-1.5**	
KMI				pP	**pP**		**19 51 26.4**	**+1.2**	
KMI				sP	**sP**		**19 51 31.9**	**+2.9**	
KMI				PP	**PnPn**		**19 52 49.3**	**+2.6**	
KMI				PcP	**PcP**		**19 53 27.9**	**-0.7**	
KMI				S	**S**		**19 57 10.7**	**+0.4**	
KMI				ScP	**ScP**		**19 57 13.6**	**-1.0**	
KMI				PcS	**PcS**		**19 57 17.0**	**-1.2**	
KMI				sS	**sS**		**19 57 29.4**	**+4.0**	
KMI				SS	**SnSn**		**19 59 50.5**	**-8.3**	
KMI				ScS	**ScS**		**20 01 22.8**	**-2.4**	
KMI				pmax	pmax				
	comp=Z,220nm,2.0s								
KMI				pmax	pmax				
	comp=Z,77µm,9.9s								
KMI				LR	LR				
	comp=N,243µm,17.7s								
KMI				LR	LR				
	comp=E,227µm,16.7s								
KMI				LR	LR				
	comp=Z,267µm,20.6s								
TOO	**Toolangi**	**38.73**	**164**	*e*P	**P**		**19 51 15.7**	**-1.6**	
	comp=Z,6µm,0.8s								
TOO				*e*PP	PnPn		19 53 00.7	+12	
TOO				*e*S	S		19 57 20.4	+7.8	
WAKE	**Wake Island**	**38.78**	**58**	*e*P	**P**		**19 51 15.6**	**-2.3**	
	comp=Z,2µm,1.4s								
WAKE				LR	LR				
	comp=Z,488µm,21.0s								
NOUC	**Port Laguerre**	**39.20**	**125**	*e*P	**P**		**19 51 19.6**	**-1.8**	
TIA	**Tai'an**	**39.29**	**340**	⇓P	P		19 51 31.1	+9.2	
TIA				PP	PP		19 52 40.4	-12	
TIA				S	**S**		**19 57 24.6**	**+3.7**	
TIA				SS	**SnSn**		**20 00 23.0**	**+6.6**	
TIA				pmax	pmax				
	comp=Z,760nm,1.1s								
TIA				pmax	pmax				
	comp=Z,100µm,12.1s								
TIA				LR	LR				
	comp=N,273µm,29.7s								
TIA				LR	LR				
	comp=E,457µm,19.0s								
TIA				LR	LR				
	comp=Z,193µm,26.1s								
DZM	**Mont Dzumac**	**39.30**	**125**	*e*P	**P**		**19 51 22.3**	**-0.1**	
	comp=Z,1µm,1.2s								
DZM				*e*S	**S**		**19 57 19.2**	**-2.5**	
	comp=Z,475µm,37.0s								
DZM				*e*LR	LR		20 01 56.4		
	comp=Z,1089µm,23.4s								
DZM	**Mont Dzumac**	**39.30**	**125**⇑	*e*P	**P**		**19 51 20.4**	**-2.0**	
	comp=Z,826nm,1.3s								
DL2	**Dalian**	**40.52**	**347**⇓	*i*P	**P**		**19 51 31.9**	**-0.2**	
DL2				S	**S**		**19 57 43.4**	**+4.2**	
DL2				pmax	pmax				
	comp=Z,470nm,1.1s								
DL2				pmax	pmax				
	comp=Z,55µm,9.5s								
DL2				LR	LR				
	comp=N,196µm,18.4s								
DL2				LR	LR				
	comp=E,156µm,19.6s								
DL2				LR	LR				
	comp=Z,251µm,19.2s								
XAN	**Xi'an**	**40.94**	**329**	P	**P**		**19 51 33.1**	**-2.7**	
XAN				pP	**pP**		**19 51 43.8**	**-1.2**	
XAN				PcS	**PcS**		**19 57 22.5**	**-4.4**	
XAN				S	**S**		**19 57 46.9**	**+1.1**	
XAN				SS	**SS**		**20 00 47.1**	**-1.3**	
XAN				pmax	pmax				
	comp=Z,22µm,13.4s								
XAN				LR	LR				
	comp=N,262µm,33.0s								
XAN				LR	LR				
	comp=E,177µm,33.0s								
XAN				LR	LR				
	comp=Z,60µm,18.5s								
CD2	**Chengdu**	**41.57**	**321**	P	**P**		**19 51 39.1**	**-1.9**	
CD2				pP	**pP**		**19 51 49.3**	**-0.9**	
CD2				sP	**sP**		**19 51 53.6**	**-0.3**	
CD2				PP	**PP**		**19 53 19.5**	**+2.1**	
CD2				S	**S**		**19 57 54.0**	**-1.2**	
CD2				sS	**sS**		**19 58 11.1**	**+0.7**	
CD2				SS	**SS**		**20 00 55.3**	**-5.6**	
CD2				pmax	pmax				
	comp=Z,890nm,1.1s								
CD2				pmax	pmax				
	comp=Z,104µm,11.3s								
CD2				LR	LR				
	comp=N,314µm,20.6s								
CD2				LR	LR				
	comp=Z,389µm,15.7s								
TIY	**Taiyuan**	**42.37**	**336**⇑	*e*P	**P**		**19 51 45.6**	**-1.8**	
TIY				pP	**pP**		**19 51 53.3**	**-3.4**	
TIY				S	**S**		**19 58 04.4**	**-2.4**	
TIY				pmax	pmax				
	comp=Z,56µm,9.8s								
TIY				LR	LR				
	comp=N,38µm,14.1s								
TIY				LR	LR				
	comp=E,168µm,15.0s								
TIY				LR	LR				
	comp=Z,240µm,27.4s								
SNY	**Shenyang**	**42.94**	**350**	⇑P	**P**		**19 51 49.7**	**-2.2**	
SNY				pP	**pP**		**19 51 58.8**	**-2.4**	
SNY				sP	**sP**		**19 52 02.0**	**-2.9**	
SNY				S	**S**		**19 58 13.9**	**-1.1**	
SNY				pmax	pmax				
	comp=Z,1µm,1.4s								
SNY				pmax	pmax				
	comp=Z,96µm,9.8s								
SNY				LR	LR				
	comp=N,398µm,18.6s								
SNY				LR	LR				
	comp=E,243µm,21.6s								
SNY				LR	LR				
	comp=Z,348µm,20.1s								
BJT	**Baijiatuau**	**43.05**	**341**	*e*P	**P**		**19 51 50.0**	**-2.8**	
BJT				pmax	pmax				
	comp=Z,2µm,1.1s								
BJT				MLR	MLR				
	comp=Z,266µm,21.0s								
BJT	**Baijiatuau**	**43.05**	**341**	*e*P	**P**		**19 51 50.0**	**-2.8**	
	comp=Z,2µm,1.1s								
BJT				LR	LR				
	comp=Z,266µm,21.0s								
BJI	**Beijing**	**43.07**	**341**	P	**P**		**19 51 50.5**	**-2.5**	
BJI				PP	**PP**		**19 53 37.4**	**+4.0**	
BJI				S	**S**		**19 58 19.9**	**+3.0**	
BJI				pmax	pmax				
	comp=Z,91µm,13.1s								
BJI				LR	LR				
	comp=N,143µm,30.0s								
BJI				LR	LR				
	comp=E,355µm,21.6s								
BJI				LR	LR				
	comp=Z,226µm,29.1s								
ERM	**Erimo**	**43.41**	**11**	*e*P	**P**		**19 51 56.5**	**+0.9**	
ERM				pmax	pmax				
	comp=Z,539nm,1.4s								
ERM				MLR	MLR				
	comp=Z,470µm,19.0s								
ERM	**Erimo**	**43.41**	**11**	*e*P	**P**		**19 51 56.5**	**+0.9**	
	comp=Z,539nm,1.4s								
ERM				LR	LR				
	comp=Z,470µm,19.0s								
VLA	**Vladivostok**	**43.46**	**359**	*d i*P	**P**		**19 51 56.2**	**+0.2**	
VLA				pmax	pmax				
	comp=Z,659nm,1.8s								
VLA				MLR	MLR				
	comp=Z,280µm,18.0s								
MOO	**Moorlands**	**43.74**	**164**	*e*P	**P**		**19 51 58.0**	**-0.4**	
	comp=Z,6µm,1.0s								
MOO				*e*PP	**PcP**		**19 53 48.1**	**+3.2**	
MOO				*e*S	**S**		**19 58 24.7**	**-2.0**	
TAU	**Tasmania Unive**	**44.21**	**164**⇑	*e*P	**P**		**19 52 02.5**	**+0.4**	
TAU				*e*			19 53 46.7		
TAU				pmax	pmax				
	comp=Z,2µm,1.5s								
TAU				MLR	MLR				
	comp=Z,1271µm,20.0s								
TAU	**Tasmania Unive**	**44.21**	**164**⇑	*e*P	**P**		**19 52 02.5**	**+0.4**	
	comp=Z,2µm,1.5s								
TAU				*e*PP	**PcP**		**19 53 46.7**	**+0.2**	
TAU				LR	LR				
	comp=Z,1271µm,20.0s								
TAU	**Tasmania Unive**	**44.21**	**164**	P	**P**		**19 52 04.8**	**+2.7**	
	comp=Z,4µm,1.6s,SNR=11								
USRK	**Ussuriysk Arra**	**44.53**	**359**	P	**P**		**19 52 01.5**	**-3.1**	
	comp=Z,8.0nm,1.0s,baz=191,slow=7.8,SNR=13								
USRK				S	**S**		**19 58 41.3**	**+3.2**	
	comp=Z,5.7nm,0.8s,baz=213,slow=2.6,SNR=2.5								
USRK				LR	LR		20 09 41.5		
	comp=Z,240µm,18.8s,baz=340,slow=35								
CN2	**Changchun**	**44.59**	**353**	⇑P	**P**		**19 52 02.2**	**-3.0**	
CN2				*e*sP	**sP**		**19 52 18.0**	**-0.2**	
CN2				*e*S	**S**		**19 58 36.9**	**-2.2**	
CN2				pmax	pmax				
	comp=Z,66µm,10.0s								
MDJ	**Mudanjiang**	**45.03**	**357**	P	**P**		**19 52 05.6**	**-3.0**	
MDJ				pP	**pP**		**19 52 12.9**	**-5.0**	
MDJ				sP	**sP**		**19 52 16.8**	**-4.8**	
MDJ				PcP	**PcP**		**19 53 46.4**	**-2.8**	
MDJ				ScP	**ScP**		**19 57 39.3**	**-0.4**	
MDJ				S	**S**		**19 58 41.1**	**-4.2**	
MDJ				pmax	pmax				
	comp=Z,66µm,13.0s								
MDJ				LR	LR				
	comp=N,232µm,21.8s								
MDJ				LR	LR				
	comp=E,112µm,21.8s								
MDJ				LR	LR				
	comp=Z,250µm,20.9s								
MDJ	**Mudanjiang**	**45.03**	**357**⇑	*e*P	**P**		**19 52 05.7**	**-3.0**	
	comp=Z,1µm,1.6s								
MDJ				LR	LR				
	comp=Z,259µm,20.0s								
LZH	**Lanzhou**	**45.19**	**327**	*e*P	**P**		**19 52 08.9**	**-1.4**	
LZH				pP	**pP**		**19 52 19.9**	**+0.3**	
LZH				sP	**sP**		**19 52 25.3**	**+2.0**	
LZH				PcP	**PcP**		**19 53 48.8**	**-1.4**	
LZH				PP	**PP**		**19 53 55.4**	**-1.0**	
LZH				*e*S	**S**		**19 58 46.4**	**-2.0**	
LZH				sS	**sS**		**19 59 05.1**	**+1.4**	
LZH				pmax	pmax				
	comp=Z,880nm,1.0s								
LZH				pmax	pmax				
	comp=Z,21µm,5.6s								
LZH				LR	LR				
	comp=N,244µm,19.7s								
LZH				LR	LR				
	comp=E,189µm,14.7s								
LZH				LR	LR				
	comp=Z,256µm,17.2s								
ASAJ	**Asahikawa**	**45.34**	**10**	P	**P**		**19 52 09.1**	**-2.0**	
	comp=Z,10nm,0.9s,baz=252,slow=6.4,SNR=3.6								
ASAJ				S	**S**		**19 58 53.2**	**+3.5**	
	comp=Z,6.5nm,0.8s,baz=186,slow=19,SNR=1.8								
ASAJ				LR	LR		20 10 58.3		
	comp=Z,393µm,20.7s,baz=195,slow=36								
ASAJ	**Asahikawa**	**45.34**	**10**	P	**P**		**19 52 09.1**	**-2.0**	
ASAJ				S	**S**		**19 58 53.3**	**+3.5**	
ASAJ				smax	smax				
	comp=N,7.0nm,0.8s								
ASAJ				MLR	MLR				
	comp=Z,393µm,20.7s								
ASAJ	**Asahikawa**	**45.34**	**10**	P	**P**		**19 52 09.1**	**-2.0**	
ASAJ				⇓*e*P	**P**		**19 52 10.2**	**-0.9**	
ASAJ				S	**S**		**19 58 53.2**	**+3.5**	
HHC	**Hu-ho-hao-te**	**45.41**	**338**	*e*P	**P**		**19 52 10.6**	**-1.2**	
HHC				pP	**pP**		**19 52 21.1**	**0.0**	
HHC				sP	**sP**		**19 52 24.0**	**-0.9**	
HHC				PP	**PP**		**19 53 58.0**	**-0.5**	
HHC				S	**S**		**19 58 49.8**	**-1.4**	
HHC				sS	**sS**		**19 59 05.5**	**-1.0**	
HHC				ScS	**ScS**		**20 02 03.7**	**-2.7**	
HHC				SS	**SS**		**20 02 09.1**	**-6.1**	
HHC				pmax	pmax				
	comp=Z,91µm,9.4s								
HHC				LR	LR				
	comp=N,250µm,18.1s								
HHC				LR	LR				
	comp=E,132µm,19.1s								
HHC				LR	LR				
	comp=Z,323µm,20.4s								
BTO	**Baotou**	**45.81**	**336**	*e*P	**P**		**19 52 16.7**	**+1.7**	
BTO				LR	LR				
	comp=N,28µm,13.1s								
BTO				LR	LR				
	comp=E,59µm,19.6s								
YUK	**Yuzh-Kuril'sk**	**45.92**	**13**	*d i*P	**P**		**19 52 14.0**	**-1.6**	
YUK				*i*			19 54 00.2		
YUK				*i* S	**S**		**19 58 56.5**	**-1.7**	
YUK				*i* SS	**ScS**		**20 02 15.5**	**+6.2**	
YUK				pmax	pmax				
	comp=Z,9µm,2.7s								
YUK				pmax	pmax				
	comp=E,984nm,1.6s								
YUK				pmax	pmax				
	comp=Z,2µm,1.6s								
YUK				pmax	pmax				
	comp=N,1µm,1.6s								
FUNA	**Funafuti**	**47.08**	**101**	*e*P	**P**		**19 52 24.2**	**-1.1**	
	comp=N,5µm,1.7s								
FUNA				LR	LR				
	comp=Z,389µm,19.0s								
SHL	**Shillong**	**47.11**	**306**	*i* P	**P**		**19 52 24.0**	**-1.6**	
SHL				AMb	AMB		19 52 49.2		
	comp=Z,1µm,1.6s								
SHL				*i* x	x		19 59 13.0		
MSVF	**Nonsavu**	**47.83**	**114**	*e*P	**P**		**19 52 28.6**	**-2.5**	
MSVF				pmax	pmax				
	comp=Z,1µm,1.1s								
MSVF				MLR	MLR				
	comp=Z,715µm,21.0s								
MSVF	**Nonsavu**	**47.83**	**114**	*e*P	**P**		**19 52 28.6**	**-2.5**	
	comp=Z,1µm,1.1s								
MSVF				LR	LR				
	comp=Z,715µm,21.0s								
MSVF	**Nonsavu**	**47.83**	**114**	P	**P**		**19 52 30.0**	**-1.1**	
	comp=Z,3µm,1.0s,SNR=28								
YSS	**Yuzh-Sakhalins**	**48.12**	**9**⇓	*e*P	**P**		**19 52 30.0**	**-2.8**	
YSS				*e*			19 53 54.0		
YSS				*e*			19 54 17.0		
YSS				*e*S	S		19 59 22.0	-7.5	
YSS				pmax	pmax				
	comp=N,160nm,0.9s								
YSS				pmax	pmax				
	comp=E,110nm,0.9s								
YSS				pmax	pmax				
	comp=Z,240nm,0.9s								
YSS				pmax	pmax				
	comp=N,35µm,15.0s								
YSS				pmax	pmax				
	comp=Z,54µm,15.0s								
YSS				pmax	pmax				
	comp=E,7µm,14.0s								
YSS				smax	smax				
	comp=N,391µm,20.0s								
YSS				smax	smax				
	comp=E,130µm,18.0s								
YSS				MLR	MLR				
	comp=N,287µm,18.0s								
YSS				MLR	MLR				
	comp=E,118µm,18.0s								
YSS				MLR	MLR				
	comp=Z,340µm,18.0s								
YSS	**Yuzh-Sakhalins**	**48.12**	**9**⇑	*i*P	P		19 52 28.8	-3.9	
	comp=Z,742nm,1.3s								
YSS				LR	LR				
	comp=Z,331µm,20.0s								
CAL	**Calcutta**	**48.81**	**301**	*e*P	**P**		**19 52 36.3**	**-2.3**	
CAL				*ex*	x		19 59 55.4		
HABR	**Khabarovsk**	**48.85**	**2**	*e*P	**P**		**19 52 35.7**	**-2.7**	
HABR				*e**PP	**pP**		**19 52 44.6**	**-3.2**	
HABR				*e**SP	**sP**		**19 52 49.0**	**-2.5**	
HABR				*e*			19 53 59.4		
HABR				*e*			19 54 27.8		
HABR				*e*PPP	PPP		19 55 17.7		
HABR				*e*S	**S**		**19 59 37.0**	**-2.8**	
HABR				*e**SS	**sS**		**19 59 53.3**	**-1.9**	
HABR				*e*			20 02 24.1		
HABR				*e*SS	**SS**		**20 03 08.3**	**-2.5**	
HABR				*e*SSS	SSS		20 04 22.3		
HABR				pmax	pmax				
	comp=E,384nm,1.5s								
HABR				pmax	pmax				
	comp=N,398nm,2.1s								
HABR				pmax	pmax				
	comp=Z,944nm,1.9s								
HABR				pmax	pmax				
	comp=Z,27µm,6.1s								
HABR				MLR	MLR				
	comp=E,232µm,22.0s								
HABR				MLR	MLR				
	comp=N,168µm,18.0s								
HABR				MLR	MLR				
	comp=Z,356µm,22.0s								
KLR	**Kul'dur**	**49.57**	**359**	*e*P	P		19 52 36.8	-7.1	
KLR				*e*			19 59 50.0		
LSA	**Lhasa**	**49.64**	**311**	P	**P**		**19 52 44.1**	**-1.3**	
LSA				S	**S**		**19 59 56.0**	**+3.5**	
LSA				pmax	pmax				
	comp=Z,88µm,14.3s								
LSA				LR	LR				
	comp=N,196µm,46.8s								
LSA				LR	LR				
	comp=E,295µm,43.9s								
LSA				LR	LR				
	comp=Z,182µm,36.1s								
LSA	**Lhasa**	**49.64**	**311**⇑	*e*P	**P**		**19 52 43.7**	**-1.7**	
LSA				pmax	pmax				
	comp=Z,961nm,0.8s								
LSA				MLR	MLR				
	comp=Z,128µm,21.0s								
LSA	**Lhasa**	**49.64**	**311**⇑	*e*P	**P**		**19 52 43.7**	**-1.7**	
	comp=Z,962nm,0.8s								
LSA				LR	LR				
	comp=Z,128µm,21.0s								
GTA	**Gaotai**	**49.80**	**327**	⇑P	**P**		**19 52 44.2**	**-1.8**	
GTA				pP	**pP**		**19 52 55.8**	**+0.4**	
GTA				sP	**sP**		**19 53 00.5**	**+1.4**	
GTA				PP	**PP**		**19 54 40.6**	**-0.3**	
GTA				S	**S**		**19 59 50.3**	**-3.4**	
GTA				sS	**sS**		**20 00 06.4**	**-2.8**	
GTA				SS	**SS**		**20 03 20.7**	**-6.0**	
GTA				pmax	pmax				
	comp=Z,170nm,2.2s								

GTA pmax pmax
comp=Z,94µm,12.0s
GTA LR LR
comp=N,152µm,20.0s
GTA LR LR
comp=E,196µm,18.1s
GTA LR LR
comp=Z,215µm,18.5s
BWNR Bhubaneshwar 50.25 297 *e*P **P 19 52 47.0 -2.6**
HIA Hailar 50.83 349 *e*P **P 19 52 51.0 -2.5**
HIA pmax pmax
comp=Z,7µm,2.8s
HIA MLR MLR
comp=Z,357µm,20.0s
HIA Hailar 50.83 349 *e*P **P 19 52 51.0 -2.5**
comp=Z,7µm,2.8s
HIA LR LR
comp=Z,357µm,20.0s
TAPN Taplejung 51.25 306 *e*P **P 19 52 55.2 -2.2**
comp=Z,4µm,1.2s
TAPN Taplejung 51.25 306 *e*P **P 19 52 55.2 -2.2**
comp=Z,4µm,1.2s
ODAN Odare 51.30 306 *e*P **P 19 52 55.6 -2.1**
comp=Z,2µm,0.9s
ODAN Odare 51.30 306 *e*P **P 19 52 55.6 -2.1**
comp=Z,2µm,0.9s
OUZ Omahuta 51.45 137 *e*P **P 19 52 57.1 -1.3**
comp=Z,1µm,1.3s
OUZ Omahuta 51.45 137 *e*PN P 19 53 01.7 +3.4
RAMN Ramite 51.98 305 *e*P **P 19 53 00.9 -1.9**
comp=Z,2µm,1.0s
RAMN Ramite 51.98 305 *e*P **P 19 53 00.9 -1.9**
comp=Z,2µm,1.0s
WCZ Waipu Caves 52.35 137 *e*PN P 19 53 08.9 +3.8
JIRN Jiri 52.60 306 *e*P **P 19 53 05.6 -2.0**
comp=Z,3µm,1.2s
JIRN Jiri 52.60 306 *e*P **P 19 53 05.6 -2.0**
comp=Z,3µm,1.2s
GUN Gumba 52.96 306 *e*P **P 19 53 07.9 -2.2**
comp=Z,3µm,1.1s
GUN Gumba 52.96 306 *e*P **P 19 53 07.9 -2.2**
comp=Z,3µm,1.1s
ULN Ulaanbaatar 53.08 339 *e*P **P 19 53 08.1 -2.3**
ULN pmax pmax
comp=Z,46nm,1.6s
ULN MLR MLR
comp=Z,170µm,20.0s
ULN Ulaanbaatar 53.08 339 *e*P **P 19 53 08.1 -2.3**
comp=Z,46nm,1.6s
ULN LR LR
comp=Z,170µm,20.0s
PKI Pulchoki 53.20 306 *e*P **P 19 53 09.4 -2.5**
PKI Pulchoki 53.20 306 *e*P **P 19 53 09.4 -2.5**
PKI Pulchoki 53.20 306 *e*P **P 19 53 09.4 -2.5**
SONM Songino Array 53.29 338 P **P 19 53 10.3 -1.7**
comp=Z,10nm,0.9s,baz=146,slow=8.7,SNR=57
SONM S S 20 00 48.3 +6.7
comp=Z,12nm,1.2s,baz=205,slow=6.4,SNR=2.3
SONM PKPPKP P'P'df 20 23 16.3 -18
comp=Z,4.5nm,1.1s,baz=188,slow=0.9,SNR=5.9
SONM PKP2bc 20 23 51.9
comp=Z,7.7nm,1.0s,baz=321,slow=2.0,SNR=5.4
SONM Songino Array 53.29 338 P **P 19 53 10.3 -1.7**
SONM S S 20 00 48.3 +6.7
SONM smax smax
comp=N,12nm,1.2s
SONM Songino Array 53.29 338 P **P 19 53 10.3 -1.7**
SONM S S 20 00 48.3 +6.7
SONM P'P' 20 23 16.3
SONM ⇑*e* 20 23 51.9
KKN Kakani 53.39 306 *e*P **P 19 53 10.9 -2.3**
comp=N,3µm,1.3s
KKN Kakani 53.39 306 *e*P **P 19 53 10.9 -2.3**
KKN pmax pmax
comp=Z,3µm,1.3s
KKN Kakani 53.39 306 *e*P **P 19 53 10.9 -2.3**
comp=Z,3µm,1.3s
DMN Daman 53.46 305 *e*P **P 19 53 11.4 -2.4**
comp=Z,1µm,0.8s
DMN Daman 53.46 305 *e*P **P 19 53 11.4 -2.4**
comp=Z,1µm,0.8s
MDRS Chennai 53.62 287 *e*P **P 19 53 11.9 -2.8**
MDRS AMb AMB 19 54 24.8
comp=Z,1µm,0.2s
JCZ Jackson Bay 53.97 148 *e*PN **P 19 53 15.4 -1.6**
QRZ Quartz Range 53.99 143 PN **P 19 53 16.4 -0.7**
GKN Gorkha 54.00 306 *e*P **P 19 53 15.1 -2.5**
comp=Z,2µm,1.1s
GKN Gorkha 54.00 306 *e*P **P 19 53 15.1 -2.5**
comp=Z,2µm,1.1s
HIZ Hauiti 54.10 139 *e*PN P 19 53 22.3 +4.4
FOZ Fox Glacier 54.12 147 *e*PN **P 19 53 16.7 -1.2**
MLZ Mavora Lakes 54.55 150 *e*PN **P 19 53 22.1 +1.0**
WKZ Wanaka 54.62 149 *e*PN **P 19 53 21.7 +0.1**
NNZ Nelson 54.74 143 PN **P 19 53 23.4 +0.9**
KOLN Koldanda 54.76 305 *e*P **P 19 53 21.2 -1.9**
comp=Z,2µm,0.8s
KOLN Koldanda 54.76 305 *e*P **P 19 53 21.2 -1.9**
comp=Z,2µm,0.8s
CIT Chita 54.77 346 *e*P **P 19 53 21.3 -1.3**
CIT *e* 19 53 28.3
CIT *e* 19 54 18.7
CIT *e* 20 01 01.9
THZ Tophouse 54.79 144 PN **P 19 53 20.5 -2.5**
DANN Dangsing 54.85 306 *e*P **P 19 53 21.7 -2.2**
DANN Dangsing 54.85 306 *e*P **P 19 53 21.7 -2.2**
LBZ Lake Benmore 54.93 148 *e*PN **P 19 53 22.9 -1.0**
RPZ Rata Peaks 54.96 147 S **S 20 01 04.7 +0.6**
comp=Z,31nm,1.2s,baz=36,slow=19,SNR=2.3
RPZ LR LR 20 17 02.2
comp=Z,1009µm,20.2s,baz=307,slow=36
RPZ Rata Peaks 54.96 147 *e*P **P 19 53 21.6 -2.5**
comp=Z,4.8nm,0.4s
RPZ S **S 20 01 04.7 +0.6**
RPZ Rata Peaks 54.96 147 PN **P 19 53 21.8 -2.3**
LTZ Lake Taylor 55.05 145 PN **P 19 53 25.9 +1.1**
RAO Raoul Island 55.10 126 P **P 19 53 25.6 +0.3**
RAO pmax pmax
comp=Z,839nm,1.0s
RAO MLR MLR
comp=Z,240µm,20.0s
RAO Raoul Island 55.10 126 P **P 19 53 25.6 +0.3**
comp=Z,840nm,1.0s
RAO LR LR
comp=Z,240µm,20.0s
TCW Tory Channel 55.28 142 *e*PN **P 19 53 27.5 +1.0**
BHHZ Black Hill Sta 55.43 140 *e*PN **P 19 53 28.7 +1.1**
URZ Urewera 55.46 138 S **S 20 01 13.6 +2.8**
comp=Z,7.2nm,0.7s,baz=333,slow=14,SNR=2.3
URZ LR LR 20 17 11.5
comp=Z,365µm,19.2s,baz=310,slow=36
URZ Urewera 55.46 138⇑*e*P P 19 53 23.6 -4.1
comp=Z,2µm,1.3s
URZ S **S 20 01 13.6 +2.8**
APZ The Paps 55.50 151 *e*PN **P 19 53 30.0 +2.0**
CMWZ Cape Campbell 55.56 143 *e*PN **P 19 53 28.9 +0.4**
KHZ Kahutara 55.56 144 *e*P P 19 53 25.1 -3.3
comp=Z,901nm,1.0s
SNZO South Karori 55.60 142 *e*P **P 19 53 28.0 -0.7**
comp=Z,2µm,1.4s
SNZO LR LR
comp=Z,999µm,22.0s
ODZ Otahua Downs 55.62 148 *e*P **P 19 53 27.9 -0.9**
comp=Z,4µm,1.2s
ODZ Otahua Downs 55.62 148 PN **P 19 53 27.7 -1.0**
TSZ Takapari Road 55.68 140 *e*PN **P 19 53 27.0 -2.3**
TUZ Tuapeka 55.70 149 PN **P 19 53 30.0 +0.6**
MIDW Midway 55.77 55 P **P 19 53 27.7 -2.4**
comp=Z,153nm,0.8s
MIDW LR LR
comp=Z,310µm,22.0s
MRZ Mangatainoka R 55.77 141 PN P 19 53 26.5 -3.5
MWZ Matawai 55.78 138 PN **P 19 53 27.6 -2.5**
MQZ McQueen's Vall 55.85 146 *e*PN **P 19 53 31.8 +1.4**
HOWZ Holdsworth Sta 55.87 141 *e*PN **P 19 53 31.1 +0.4**
HYB Hyderabad 56.10 291 *i* P P 19 53 29.0 -3.7
comp=Z,725nm,1.0s
HYB *e*PP **PP 19 55 36.0 -2.1**
HYB *e* 19 57 00.0
HYB *e*ScP **ScP 19 58 28.0 +0.1**
HYB *e*S **S 20 01 20.0 -0.1**
HYB LR LR 20 10 00.0
comp=Z,370nm,12.0s
PUZ Puketiti 56.13 137 *e*PN **P 19 53 33.1 +0.5**
TRD Trivandrum 56.16 281⇑*i* P P 19 53 38.0 +4.8
TRD *e*S S 20 01 36.0 +15
KNZ Kokohu 56.23 138 *e*PN P 19 53 36.7 +3.5
CNGZ Carnagh Statio 56.31 138 *e*PN **P 19 53 34.9 +1.0**
NGP Nagpur 56.55 296 *e*P **P 19 53 33.5 -2.4**
NGP AMb AMB 19 53 57.1
comp=Z,837nm,0.4s
NGP *e*x x 20 01 32.0
ZAK Zakamensk 56.55 338 *e*P P 19 53 41.8 +6.3
ZAK pmax pmax
comp=Z,338nm,1.4s
PEA0B Petropavlovsk- 57.41 18 *e*P P 19 53 36.4 -5.0
PETK Petropavlovsk- 57.41 18 P P 19 53 37.3 -4.0
comp=Z,24nm,0.9s,baz=189,slow=4.8,SNR=16
PETK S **S 20 01 37.5 +1.3**
comp=Z,12nm,1.1s,baz=214,slow=4.9,SNR=1.8
PETK LR LR 20 14 23.8
comp=Z,238µm,22.0s,baz=215,slow=32
PETK PKPPKP P'P'df 20 23 15.2 -13
comp=Z,6.2nm,0.9s,baz=90,slow=2.9,SNR=4.0
PETK PKP2bc 20 23 49.0
comp=Z,22nm,1.1s,baz=149,slow=3.0,SNR=5.3
PETK Petropavlovsk- 57.41 18 P P 19 53 37.3 -4.0
PETK S **S 20 01 37.5 +1.3**
PETK pmax pmax
comp=Z,24nm,1.0s
PETK smax smax
comp=N,12nm,1.1s
PETK MLR MLR
comp=Z,238µm,22.0s
PETK Petropavlovsk- 57.41 18 P P 19 53 37.3 -4.0
PETK S **S 20 01 37.5 +1.3**
PETK P'P' 20 23 15.2
PETK ⇑*e* 20 23 49.0
TLY Talaya 57.48 339 *e*P **P 19 53 43.9 +2.0**
TLY *e*S **S 20 01 38.8 +1.6**
TLY *e*SS **SS 20 05 23.8 -3.7**
TLY pmax pmax
comp=Z,298nm,1.2s
TLY MLR MLR
comp=Z,181µm,20.0s
TLY Talaya 57.48 339 *e*P **P 19 53 40.7 -1.3**
comp=Z,513nm,1.4s
TLY LR LR
comp=Z,220µm,20.0s
TLY Talaya 57.48 339 P P 19 53 47.2 +5.3
comp=Z,1µm,1.9s,SNR=16
CLNS Chul'man 57.52 355 *e*P P 19 53 45.4 +3.3
CLNS *e* 19 54 36.4
CLNS *e* 19 55 51.5
CLNS *e*S **S 20 01 41.1 +3.5**
CLNS *e* 20 03 20.3
CLNS *e*SS **SS 20 05 26.9 -1.1**
CLNS pmax pmax
comp=Z,350nm,1.5s
CLNS pmax pmax
comp=N,367nm,1.6s
CLNS pmax pmax
comp=E,170nm,1.3s
CLNS pmax pmax
comp=E,143nm,1.7s
CLNS pmax pmax
comp=N,149nm,1.3s
CLNS pmax pmax
comp=Z,120nm,1.4s
CLNS smax smax
comp=N,32µm,12.9s
CLNS smax smax
comp=E,92µm,15.3s
CLNS MLR MLR
comp=E,53µm,16.0s
CLNS MLR MLR
comp=Z,99µm,16.0s
CLNS MLR MLR
comp=N,65µm,17.0s
PET Petropavlovsk 57.63 18*d* *i*P **P 19 53 40.9 -2.0**
PET *e*S **S 20 01 38.4 -0.6**
PET *e*SS **SS 20 05 22.6 -7.0**
PET pmax pmax
comp=Z,66µm,16.6s
PET pmax pmax
comp=Z,64µm,16.3s
PET pmax pmax
comp=Z,1µm,1.3s
PET smax smax
comp=N,232µm,20.2s
PET Petropavlovsk 57.63 18 *e*P P 19 53 37.6 -5.3
comp=N,2µm,1.4s
PET LR LR
comp=Z,209µm,22.0s
IRK Irkutsk 57.72 340 *e*P **P 19 53 42.1 -1.5**
IRK *e*S S 20 01 47.5 +7.1
IRK pmax pmax
comp=Z,2µm,2.1s
MOY Mondy 58.45 337 *e*P **P 19 53 47.0 -1.9**
MOY pmax pmax
comp=Z,3µm,2.7s
JOHN Johnston Islan 59.54 70 *e*P **P 19 53 56.1 -0.8**
comp=Z,1µm,1.1s
JOHN LR LR
comp=Z,455µm,20.0s
WMQ Urumqi 59.58 324 P **P 19 53 54.7 -2.1**
WMQ pP **pP 19 54 04.8 -1.6**
WMQ sP **sP 19 54 08.7 -1.3**
WMQ PcP **PcP 19 54 41.7 -2.2**
WMQ S **S 20 02 01.4 -3.5**
WMQ SKS **ScS 20 03 38.7 -6.3**
WMQ SS **SS 20 05 58.7 -2.2**
WMQ pmax pmax
comp=Z,2µm,1.1s
WMQ pmax pmax
comp=Z,106µm,12.0s
WMQ LR LR
comp=N,215µm,16.0s
WMQ LR LR
comp=E,161µm,19.3s
WMQ LR LR
comp=Z,192µm,18.0s
KAAM Kaadhehdhoo 59.62 271 P P 19 54 05.9 +8.4
comp=Z,1µm,1.4s,comp=Z,56µmcomp=Z,740µm
HMDM Hanimaadhoo 59.73 278 P P 19 54 05.1 +6.9
comp=Z,2µm,1.9s,comp=Z,55µmcomp=Z,610µm
MNCY Minicoy 60.00 280 *e*P **P 19 54 00.0 -0.1**
MNCY *e*x x 19 56 31.0
BOD Bodaibo 60.03 349 *e*P **P 19 53 56.9 -2.6**
BOD pmax pmax
comp=Z,910nm,1.8s
DDI Dehra Dun 60.20 306 *ex* P 19 54 05.6 +4.3
DGAR Diego Garcia 60.34 262 *e*P **P 19 54 01.2 -1.3**
DGAR pmax pmax
comp=Z,878nm,1.1s
DGAR MLR MLR
comp=Z,128µm,20.0s
DGAR Diego Garcia 60.34 262 *e*P **P 19 54 01.2 -1.3**
comp=Z,878nm,1.1s
DGAR LR LR
comp=Z,128µm,20.0s
DGAR Diego Garcia 60.34 262 P **P 19 54 01.5 -1.0**
comp=Z,2µm,0.9s,SNR=5.7
NDI New Delhi 60.35 304 *e*P P 19 53 58.6 -3.7
NDI AMb AMB 19 54 23.3
comp=Z,761nm,1.7s
POO Poona 60.71 292 *e*P **P 19 54 02.5 -2.5**
POO AMb AMB 19 54 26.1
comp=Z,455nm,1.1s
YAK Yakutsk 62.44 358 *e*P **P 19 54 17.7 +2.0**
YAK *e* 19 54 56.6
YAK *e* 19 56 34.5
YAK *i*S **S 20 02 39.4 -1.0**
YAK pmax pmax
comp=Z,1µm,1.1s
YAK pmax pmax
comp=N,789nm,1.2s
YAK pmax pmax
comp=E,276nm,1.1s
YAK pmax pmax
comp=E,302nm,1.9s
YAK pmax pmax
comp=N,1µm,1.8s
YAK pmax pmax
comp=Z,1µm,2.6s
YAK smax smax
comp=E,72µm,13.5s
YAK smax smax
comp=N,135µm,12.8s
YAK Yakutsk 62.44 358 *e*P P 19 54 12.2 -3.5
comp=N,1µm,0.8s
YAK LR LR
comp=Z,238µm,20.0s
BHV Bhavnagar 62.94 295 *ex* P 19 54 23.2 +3.4
SMY Shemya 63.37 27 *e*P **P 19 54 22.0 -0.1**
SMY *e* 19 54 28.1
SMY pmax pmax
comp=Z,1µm,1.4s
SMY MLR MLR
comp=Z,127µm,19.0s
SMY Shemya 63.37 27 *e*P **P 19 54 22.0 -0.1**
comp=Z,1µm,1.4s
SMY *e*P **pP 19 54 28.1 -3.6**
SMY LR LR
comp=Z,127µm,19.0s
MK31 Makanchi Array 64.40 324⇑*e*P **P 19 54 26.7 -2.4**
MK31 Makanchi Array 64.40 324⇑*e*P **P 19 54 26.6 -2.4**
MKAR Makanchi Array 64.40 324 P **P 19 54 26.8 -2.3**
comp=Z,9.0nm,0.6s,baz=116,slow=7.0,SNR=80
MKAR S **S 20 03 11.3 +5.7**
comp=Z,9.4nm,1.1s,baz=103,slow=6.5,SNR=2.8
MKAR PKPPKP P'P'df 20 23 12.7 -5.6
comp=Z,8.4nm,1.1s,baz=14,slow=0.5,SNR=5.4
MKAR Makanchi Array 64.40 324 P **P 19 54 26.8 -2.3**
MKAR S **S 20 03 11.3 +5.7**
MKAR smax smax
comp=N,9.0nm,1.1s
MKAR Makanchi Array 64.40 324 P **P 19 54 26.8 -2.3**
MKAR S **S 20 03 11.3 +5.7**
MKAR P'P' 20 23 12.7
SEY Seymchan 65.02 10 *e*P **P 19 54 30.9 -1.8**
KSH Kashi 65.19 315⇑*i*P **P 19 54 33.7 -0.8**
KSH pP **pP 19 54 43.6 -0.5**
KSH sP **sP 19 54 47.9 +0.1**
KSH PcP **PcP 19 55 06.2 -0.7**
KSH PP **PP 19 56 58.6 +0.4**
KSH ScP 19 59 05.2
KSH PcS 19 59 08.9
KSH S **S 20 03 10.3 -5.5**
KSH sS **sS 20 03 28.6 -3.1**
KSH ScS **SKSac 20 04 22.4 -5.2**
KSH pmax pmax
comp=Z,18µm,4.4s
KSH LR LR
comp=N,75µm,15.4s
KSH LR LR
comp=E,69µm,14.9s
KSH LR LR
comp=Z,81µm,18.7s
AAA Alma-Ata 66.06 319 *i*P **P 19 54 41.0 +1.1**
AAA *i*S **S 20 03 28.0 +1.8**
AAA smax smax
comp=E,111µm,12.1s
AAA MLR MLR
comp=Z,104µm,19.0s
DRV Dumont d'Urvil 66.21 177 PP PP 19 57 13.0 +6.7
DRV S S 20 03 19.0 -8.0
DRV SP SKSac 20 04 12.0 -22
DRV SS SS 20 07 54.0 +11
DRV L L 20 10 00.0
DRV R 20 15 00.0
KZA Kyzart 66.70 317 P **P 19 54 44.4 -0.1**
SNR=15
KZA P **P 19 54 44.4 -0.1**
SNR=15
TKM2 Tokmak 2 66.81 318 P **P 19 54 43.5 -1.4**
SNR=11
TKM2 P **P 19 54 43.5 -1.4**
SNR=11
TKM2 Tokmak 2 66.81 318 *i*P **P 19 54 43.5 -1.4**
TKM2 Tokmak 2 66.81 318 *e*P **P 19 54 42.4 -2.6**
comp=Z,48nm,1.4s
TKM2 LR LR
comp=Z,183µm,21.0s
ZAA0 Zalesovo Array 67.06 332 *e*P P 19 54 42.3 -3.7
ZALV Zalesovo Beam 67.06 332 P P 19 54 42.6 -3.3
comp=Z,10nm,0.6s,baz=115,slow=6.2,SNR=42
ZALV S S 20 03 43.8 +6.1
comp=Z,4.2nm,0.8s,baz=142,slow=5.1,SNR=2.8
ZALV PKPPKP P'P'df 20 23 02.2 -11
comp=Z,5.4nm,1.0s,baz=302,slow=2.8,SNR=4.7
ZALV Zalesovo Beam 67.06 332 P P 19 54 42.7 -3.3
ZALV S S 20 03 43.8 +6.1
ZALV smax smax
comp=N,4.0nm,0.8s
ZALV Zalesovo Beam 67.06 332 P P 19 54 42.6 -3.3
ZALV S S 20 03 43.8 +6.1
ZALV P'P' 20 23 02.2
KBK Karagaybulak 67.14 317 P **P 19 54 45.8 -1.2**
SNR=8.9
KBK P **P 19 54 45.8 -1.2**
SNR=8.9
UCH Uchtor 67.27 317 P **P 19 54 49.4 +1.2**
SNR=14
UCH P **P 19 54 49.4 +1.2**
SNR=14
CHMS Chumysh 67.41 318 P **P 19 54 47.3 -1.2**
SNR=11
CHMS P **P 19 54 47.3 -1.2**
SNR=11
FRU Bishkek 67.43 318 *e*P **P 19 54 47.0 -1.7**
FRU *i* 19 54 58.0
FRU *i* 19 57 23.0
FRU *i*S S 20 03 50.0 +7.2
AAK Ala-Archa 67.44 317 P **P 19 54 47.9 -1.0**
SNR=8.0
AAK P **P 19 54 47.9 -1.0**
SNR=8.0
AAK Ala-Archa 67.44 317⇑*e*P **P 19 54 46.8 -2.1**
AAK pmax pmax
comp=Z,7µm,1.6s
AAK MLR MLR
comp=Z,202µm,21.0s
AAK Ala-Archa 67.44 317⇑*e*P **P 19 54 46.8 -2.1**
comp=Z,7µm,1.6s
AAK *e*PP PP 19 57 25.8 +8.0
AAK *e*S S 20 03 55.9 +13
AAK LR LR
comp=Z,202µm,21.0s
AAK Ala-Archa 67.44 317 P **P 19 54 48.0 -1.0**
comp=Z,917nm,1.7s,SNR=31
USP Ospenovka 67.68 318 P **P 19 54 48.8 -1.5**
SNR=18
USP P **P 19 54 48.8 -1.5**
SNR=18
AML Almayashu 67.79 317 P **P 19 54 51.0 -0.4**
SNR=15
AML P **P 19 54 51.0 -0.4**
SNR=15
EKS2 Erkin-Say 67.94 317 P **P 19 54 51.0 -1.0**
SNR=12
EKS2 P **P 19 54 51.0 -1.0**
SNR=12
EKS2 Erkin-Say 67.94 317⇑*e*P **P 19 54 50.1 -1.9**
EKS2 pmax pmax
comp=Z,749nm,1.6s
EKS2 MLR MLR
comp=Z,155µm,22.0s
EKS2 Erkin-Say 67.94 317⇑*e*P **P 19 54 50.1 -1.9**
comp=Z,749nm,1.6s
EKS2 LR LR
comp=Z,155µm,22.0s
NVS Novosibirsk 68.33 332⇑*i*P **P 19 54 52.5 -1.5**
NVS *e*S **S 20 03 48.8 -4.1**
NVS *e*PS PnS 20 04 39.0 +20
NVS pmax pmax
comp=N,572nm,1.4s
NVS pmax pmax
comp=E,924nm,1.4s
NVS pmax pmax
comp=Z,2µm,1.4s
NVS smax smax
comp=N,464nm,3.1s
NVS smax smax
comp=E,474nm,2.6s
KURK Kurchatov 68.48 326 P **P 19 54 52.5 -2.6**
comp=E,28nm,0.9s,baz=121,slow=5.8,SNR=108
KURK S **S 20 04 00.5 +5.6**
comp=E,10nm,0.9s,baz=119,slow=5.6,SNR=3.1
KURK PKP2bc 20 23 05.2
comp=E,3.9nm,1.0s,baz=292,slow=2.9,SNR=4.4
KURK Kurchatov 68.48 326⇑*e*P **P 19 54 52.1 -3.0**
KURK S **S 20 04 00.5 +5.6**
KURK pmax pmax
comp=Z,2µm,1.1s
KURK MLR MLR
comp=Z,179µm,19.0s

KURK **Kurchatov** 68.48 326⇑ *e*P **P** 19 54 52.1 -3.0
comp=Z,2μm,1.1s
KURK P **P** 19 54 52.5 -2.6
KURK S **S** 20 04 00.5 +5.6
KURK ⇑*e* 20 23 05.2
KURK LR LR
comp=Z,179μm,19.0s
KURK Kurchatov 68.48 326 P **P** 19 54 53.8 -1.3
comp=Z,4μm,1.0s
KBL Kabul 68.75 308⇑ *e*P **P** 19 54 54.6 -2.8
KBL pmax pmax
comp=Z,883nm,1.3s
KBL Kabul 68.75 308⇑ *e*P **P** 19 54 54.5 -2.8
comp=Z,883nm,1.3s
RAR Rarotonga 69.00 112 S **S** 20 04 07.5 +5.5
comp=Z,20nm,1.1s,baz=348,slow=13,SNR=1.8
RAR Rarotonga 69.00 112 *e*P **P** 19 54 57.5 -1.3
RAR pmax pmax
comp=Z,2μm,2.2s
RAR MLR MLR
comp=Z,151μm,21.0s
RAR Rarotonga 69.00 112 *e*P **P** 19 54 57.5 -1.3
comp=Z,2μm,2.2s
RAR S **S** 20 04 07.5 +5.5
RAR LR LR
comp=Z,151μm,21.0s
XMAS Kiritimati 69.99 88 *e*P **P** 19 55 03.4 -1.7
comp=Z,2μm,1.4s
XMAS LR LR
comp=Z,635μm,22.0s
KK31 Karatay Array 70.33 317 *i* P **P** 19 55 05.2 -1.5
KK31 pmax pmax
comp=Z,4μm,2.3s
KKAR Karatay Array 70.33 317⇑ *e*P **P** 19 55 03.8 -2.9
KKAR Karatay Array 70.33 317⇑ *e*P **P** 19 55 03.8 -2.9
comp=Z,30nm,1.2s
HON Honolulu 71.05 67 *e*P **P** 19 55 09.6 -1.8
HON Honolulu 71.05 67 *e*P **P** 19 55 09.6 -1.8
KIP Kipapa 71.05 67 *e*P P 19 55 07.3 -4.2
KIP Kipapa 71.05 67 *e*P **P** 19 55 08.8 -2.6
comp=Z,1μm,1.1s
KIP LR LR
comp=Z,300μm,20.0s
MIR Mirnyy 71.53 196⇑ *i*P **P** 19 55 12.0 -1.4
PAF Port-aux-Franc 71.94 218 *e*P **P** 19 55 17.3 +1.1
PAF pmax pmax
comp=Z,4μm,1.6s
PAF MLR MLR
comp=Z,228μm,22.0s
PAF Port-aux-Franc 71.94 218 *e*P **P** 19 55 17.3 +1.1
comp=Z,4μm,1.6s
PAF LR LR
comp=Z,228μm,22.0s
NIKO Nikolski 72.04 33 P P 19 55 08.4 -8.4
comp=Z,2μm,1.6s
BILL Bilibino 72.27 13⇑ *e*P **P** 19 55 17.0 -0.9
BILL *e*SS SS 20 09 19.5 +2.7
BILL pmax pmax
comp=Z,45nm,1.7s
BILL Bilibino 72.27 13 *e*P P 19 55 14.0 -3.9
comp=Z,369nm,1.2s
BILL LR LR
comp=Z,209μm,22.0s
PUH Pauahi 73.39 70 *e*P **P** 19 55 22.5 -3.1
STCH Steam Cracks 73.47 70 *e*P P 19 55 20.6 -5.5
VOSK Vostochnaya 73.63 326 P **P** 19 55 25.5 -0.8
VOSK pmax pmax
comp=Z,19μm,5.0s
UNV Unalaska Vale 73.69 33 *e*P **P** 19 55 23.5 -3.0
comp=Z,979nm,1.3s
BVA0 Borovoye Array 74.08 326 *i* P **P** 19 55 27.9 -1.0
BVA0 pmax pmax
comp=Z,3μm,4.0s
BVAR Borovoye Array 74.08 326 P **P** 19 55 26.2 -2.7
comp=Z,71nm,1.0s,baz=120,slow=7.6,SNR=119
BVAR PKKPbc PKKPbc 20 15 10.3 +7.9
comp=Z,4.0nm,0.9s,baz=90,slow=1.6,SNR=4.7
BVAR PKPPKP **P'P'df** 20 23 01.9 +0.3
comp=Z,3.1nm,1.0s,baz=107,slow=2.0,SNR=4.5
BVAR Borovoye Array 74.08 326 P **P** 19 55 26.2 -2.7
BVAR Borovoye Array 74.08 326 P **P** 19 55 26.2 -2.7
BVAR PKKPbc PKKPbc 20 15 10.3 +7.9
BVAR P'P' 20 23 01.9
BRVK Borovoye 74.15 326 *ce*P **P** 19 55 27.0 -2.3
BRVK pmax pmax
comp=Z,100nm,0.8s
BRVK MLR MLR
comp=Z,146μm,23.0s
BRVK Borovoye 74.15 326 *e*P **P** 19 55 26.6 -2.6
comp=Z,1μm,0.9s
BRVK LR LR
comp=Z,164μm,21.0s
BRVK Borovoye 74.15 326 P **P** 19 55 27.0 -2.3
comp=Z,3μm,1.0s,SNR=53
AKUT Akutan 74.20 33 *e*P **P** 19 55 30.2 +0.7
comp=Z,2μm,1.4s
AKUT *e*P P 19 55 33.6 +4.1
AKUT LR LR
comp=Z,287μm,22.0s
ZRNK Zerenda 74.83 326 P **P** 19 55 31.2 -2.0
ZRNK pmax pmax
comp=Z,20μm,5.0s
FALS False Pass 75.75 32 *e*P **P** 19 55 35.5 -2.9
comp=Z,1μm,1.2s
MRIV Mauritius Mete 75.85 249 *e*P **P** 19 55 36.8 -3.1
GAMB Gambell 75.99 22 *e*P P 19 55 36.2 -3.4
comp=Z,640nm,1.4s
MSEY Mahe Island 77.12 265 *e*P **P** 19 55 45.7 -1.5
MSEY pmax pmax
comp=Z,1μm,1.8s
MSEY MLR MLR
comp=Z,223μm,22.0s
MSEY Mahe Island 77.12 265 *e*P **P** 19 55 45.7 -1.5
comp=Z,1μm,1.8s
MSEY LR LR
comp=Z,223μm,22.0s
SDPT Sand Point 77.50 33 *e*P P 19 55 41.9 -6.4
comp=Z,358nm,1.1s
SDPT P **P** 19 55 45.9 -2.4
SDPT LR LR
comp=Z,173μm,22.0s
RER Riviere de l'E 77.55 249 *e*P **P** 19 55 48.6 -0.8
comp=Z,832nm,1.1s
RER LR LR
comp=Z,152μm,22.0s
ABKT Ailbek 78.11 309 P **P** 19 55 51.3 -0.9
comp=Z,2μm,1.3s,SNR=52
PPT2 Papeete2 78.23 108 *e*P P 19 55 56.6 +3.3
comp=Z,637nm,1.2s
PPT2 *e*S **S** 20 05 43.1 -3.6
comp=Z,654μm,28.5s
PPT2 *e*SS **SS** 20 10 46.0 -3.5
comp=Z,240μm,28.0s
PPT2 *e*LQ LQ 20 16 41.1
comp=Z,1455μm,34.5s
PPT2 *e*LR LR 20 20 01.6
comp=Z,580μm,30.8s
PAE Paea 78.23 108 *e*P P 19 55 56.3 +3.1
comp=Z,74nm,1.0s
TNA Tin City 78.29 21 *e*P P 19 55 48.8 -3.7
comp=Z,6μm,1.3s
TIAR Tiarei 78.45 108 *e*P P 19 55 57.6 +3.2
comp=Z,646nm,1.2s
VNDA Vanda 78.54 174 *e*P **P** 19 55 51.4 -2.3
VNDA Vanda 78.54 174 *e*P **P** 19 55 51.4 -2.3
comp=Z,52nm,1.0s
VNDA LR LR
comp=Z,757μm,22.0s
TBI Tubuai 78.72 114 *e*P P 19 55 59.0 +3.2
comp=Z,2μm,1.5s
TBI *e*S **S** 20 05 48.3 -3.3
comp=Z,192μm,31.5s
TBI *e*SS **SS** 20 10 53.3 -3.1
comp=Z,223μm,31.2s
TBI *e*LQ LQ 20 16 57.3
comp=Z,576μm,38.5s
TBI *e*LR LR 20 20 17.5
comp=Z,381μm,34.2s
CHGN Chignik 78.91 32 *e*P **P** 19 55 55.1 -1.0
CHGN *e*P PcP 19 55 59.2 -5.5
AB31 Akbulak array 79.14 320 *i* P P 19 55 54.4 -3.2
AB31 pmax pmax
comp=Z,748nm,0.9s
ABKAR Akbulak array 79.14 320 *e*P P 19 55 54.4 -3.2
comp=Z,14nm,1.1s
SBA Scott Base 79.38 173 *e*P **P** 19 55 55.3 -3.1
SBA pmax pmax
comp=Z,700nm,1.8s
SBA MLR MLR
comp=Z,320μm,22.0s
SBA Scott Base 79.38 173 *e*P **P** 19 55 55.3 -3.1
comp=Z,700nm,1.8s
SBA LR LR
comp=Z,320μm,22.0s
MEH Mehetia 79.68 108 *e*P **P** 19 56 03.9 +2.7
comp=Z,598nm,1.2s
PMOR Pomariorio Ree 79.72 105 *e*P P 19 56 04.7 +3.3
comp=Z,2μm,1.4s
AKTO Aktyubinsk 80.62 321 P **P** 19 56 03.7 -1.9
comp=Z,50nm,1.0s,baz=93,slow=6.7,SNR=27
AKTO S **S** 20 06 14.6 +3.9
comp=Z,4.5nm,0.8s,baz=229,slow=20,SNR=2.4
AKTO PKKPbc **PKKPbc** 20 14 50.2 +2.4
comp=Z,3.6nm,0.8s,baz=222,slow=4.5,SNR=2.6
AKTO PKPPKP **P'P'df** 20 22 51.2 +1.0
comp=Z,5.6nm,1.1s,baz=302,slow=3.3,SNR=3.8
AKTO Aktyubinsk 80.62 321 P **P** 19 56 03.7 -1.9
AKTO S **S** 20 06 14.6 +3.9
AKTO 20 14 50.3
AKTO pmax pmax
comp=Z,50nm,1.0s
AKTO smax smax
comp=N,5.0nm,0.8s
AKTO Aktyubinsk 80.62 321 P **P** 19 56 03.7 -1.9
AKTO S **S** 20 06 14.6 +3.9
AKTO PKKPbc **PKKPbc** 20 14 50.2 +2.4
AKTO P'P' 20 22 51.2
SVE Sverdlovsk 80.64 328⇓ *e*P **P** 19 56 04.2 -1.3
SVE *e* 19 59 12.2
SVE *e*S **S** 20 06 11.3 +0.6
SVE *e*SS **SS** 20 11 22.3 -1.5
SVE pmax pmax
comp=Z,61μm,12.6s
SVE pmax pmax
comp=Z,1μm,1.6s
SVE smax smax
comp=E,87μm,16.8s
SVE smax smax
comp=N,67μm,17.0s
SVE MLR MLR
comp=Z,89μm,19.0s
ARU Arti 81.65 327 *d i*P P 19 56 07.4 -3.5
ARU *e* 19 59 20.4
ARU S **S** 20 06 17.9 -3.3
ARU pmax pmax
comp=Z,61nm,1.2s
ARU pmax pmax
comp=Z,60μm,13.3s
ARU Arti 81.65 327 *e*P P 19 56 07.7 -3.2
comp=Z,852nm,1.1s
ARU LR LR
comp=Z,108μm,20.0s
ARU Arti 81.65 327 P P 19 56 07.4 -3.5
comp=Z,4μm,0.9s,SNR=16
SVW2 Sparrevohn 81.74 28 *e*P **P** 19 56 12.0 +0.7
comp=Z,144nm,1.8s
SVW2 LR LR
comp=Z,167μm,23.0s
OHAK Old Harbor 81.88 32 *e*P P 19 56 08.5 -3.5
comp=Z,420nm,1.1s
OHAK *e*P **PcP** 19 56 18.0 +0.4
OHAK LR LR
comp=Z,235μm,20.0s
TTA Tatalina 82.07 26 *e*P **P** 19 56 10.1 -3.0
TTA Tatalina 82.07 26 *e*P **P** 19 56 10.1 -3.0
KDAK Kodiak Island 82.38 31 P **P** 19 56 14.0 -0.7
comp=Z,100nm,1.0s,baz=217,slow=1.0,SNR=21
KDAK S **S** 20 06 34.0 +5.4
comp=Z,12nm,1.0s,baz=241,slow=6.8,SNR=3.9
KDAK LR LR 20 29 43.8
comp=Z,154μm,21.5s,baz=248,slow=34
KDAK Kodiak Island 82.38 31 *e*P **P** 19 56 11.8 -2.9
KDAK *e* 19 59 17.1
KDAK pmax pmax
comp=Z,999nm,1.1s
KDAK Kodiak Island 82.38 31 *e*P **P** 19 56 11.8 -2.9
comp=Z,999nm,1.1s
KDAK P **P** 19 56 14.0 -0.7
KDAK *e*PP PP 19 59 17.1 -6.7
KDAK S **S** 20 06 34.0 +5.4
KDAK Kodiak Island 82.38 31 P **P** 19 56 17.0 +2.3
comp=Z,2μm,1.4s,SNR=5.5
RSO Redoubt South 82.92 29 *e*P P 19 56 13.6 -4.1
comp=Z,759nm,1.0s
SOKR Solikamsk 83.29 330 *c i*P **P** 19 56 16.6 -2.7
SOKR S **S** 20 06 39.9 +2.2
SOKR SS **SS** 20 12 07.3 +4.4
SOKR pmax pmax
comp=Z,210nm,0.9s
PPLA Purkeypile 83.75 26 *e*P P 19 56 18.2 -3.7
comp=Z,4.6nm,0.6s
SLKM Skilak Lake 84.15 29 *e*P P 19 56 18.9 -5.0
SLKM Skilak Lake 84.15 29 *e*P P 19 56 18.9 -5.0
SEW Seward 84.45 29 *e*P P 19 56 21.7 -3.5
comp=Z,947nm,1.3s
RC01 Rabbit Creek A 84.50 28 *e*P P 19 56 21.3 -4.2
comp=Z,149nm,0.5s
TRF Thorofare Moun 84.72 26 *e*P P 19 56 21.6 -5.3
comp=Z,7.4nm,1.1s
PMR Palmer 84.88 28 *e*P P 19 56 22.4 -5.0
PMR pmax pmax
comp=Z,2μm,1.7s
PMR Palmer 84.88 28 *e*P P 19 56 22.4 -5.0
comp=Z,2μm,1.7s
SML Sawmill 85.30 28 *e*P P 19 56 25.2 -4.4
SML pmax pmax
comp=Z,364nm,1.3s
SML Sawmill 85.30 28 *e*P P 19 56 25.2 -4.4
comp=Z,364nm,1.3s
MCK McKinley 85.37 26 *e*P P 19 56 25.5 -4.4
MCK McKinley 85.37 26 *e*P P 19 56 25.5 -4.4
comp=Z,6.2nm,0.6s
ABPO Ambohimpanom 85.45 251 *e*P **P** 19 56 30.3 -1.2
ABPO pmax pmax
comp=Z,232nm,1.0s
ABPO MLR MLR
comp=Z,212μm,22.0s
ABPO Ambohimpanom 85.45 251 *e*P **P** 19 56 30.3 -1.2
comp=Z,232nm,1.0s
ABPO LR LR
comp=Z,212μm,22.0s
ABPO Ambohimpanom 85.45 251 P **P** 19 56 33.1 +1.6
comp=Z,198nm,0.8s,SNR=6.2
OPO Ambohidratompo 85.48 252 LR LR 20 29 44.0
comp=Z,175μm,21.7s,baz=110,slow=32
COLD Coldfoot 85.54 22 *e*P **P** 19 56 28.2 -2.4
comp=Z,230nm,1.0s
QRN Al-Qurain 85.58 299 *e*P **P** 19 56 29.2 -2.5
QRN AMb AMB 19 56 51.6
comp=Z,2μm,1.2s
KBD Kabd 85.80 299 *e*P **P** 19 56 30.4 -2.3
KBD AMb AMB 19 56 50.7
comp=Z,625nm,1.6s
MID Middleton Isla 85.89 30 P P 19 56 22.9 -10
MID Middleton Isla 85.89 30 P P 19 56 22.9 -10
RDF Al-Radifah 85.92 299 *e*P **P** 19 56 31.0 -2.4
RDF AMb AMB 19 56 45.2
comp=Z,612nm,1.0s
COLA College 86.03 25 *e*P P 19 56 28.0 -5.1
COLA pmax pmax
comp=Z,569nm,1.4s
COLA MLR MLR
comp=Z,103μm,22.0s
COLA College 86.03 25 *e*P P 19 56 28.0 -5.1
comp=Z,569nm,1.4s
COLA LR LR
comp=Z,103μm,22.0s
MIB Mutribah 86.14 300 *e*P **P** 19 56 32.3 -2.1
MIB AMb AMB 19 56 45.6
comp=Z,888nm,1.2s
NAY Al-Naaiem 86.20 299 *e*P **P** 19 56 32.3 -2.5
NAY AMb AMB 19 56 50.2
comp=Z,593nm,0.8s
DIV Divide 86.41 29 *e*P P 19 56 31.3 -3.8
comp=Z,2μm,1.3s
ILAR Eielson Array 86.42 25 P P 19 56 30.4 -4.7
comp=Z,4.6nm,0.7s,baz=255,slow=4.7,SNR=48
ILAR S S 20 07 02.8 -6.0
comp=Z,1.8nm,0.9s,baz=321,slow=1.3,SNR=1.9
ILAR PKKPbc **PKKPbc** 20 14 32.6 -2.2
comp=Z,3.5nm,1.1s,baz=30,slow=0.4,SNR=4.1
ILAR PKPPKP **P'P'df** 20 22 37.4 -1.4
comp=Z,4.0nm,1.0s,baz=74,slow=0.5,SNR=5.8
ILAR LR LR 20 36 47.8
comp=Z,91μm,18.6s,baz=251,slow=37
ILAR Eielson Array 86.42 25 P P 19 56 30.4 -4.7
ILAR S S 20 07 02.8 -6.0
ILAR smax smax
comp=N,2.0nm,0.9s
ILAR Eielson Array 86.42 25 P P 19 56 30.4 -4.7
ILAR S S 20 07 02.8 -6.0
ILAR PKKPbc **PKKPbc** 20 14 32.6 -2.2
ILAR P'P' 20 22 37.4
MAK Makhachkala 86.76 313 *e*P **P** 19 56 37.2 0.0
MAK *i* 20 00 07.5
MAK *e*S **SKSac** 20 07 00.7 -1.3
MAK *e*SS **SS** 20 12 59.8 +4.9
MAK pmax pmax
comp=Z,14μm,2.8s
MAK pmax pmax
comp=Z,1μm,1.3s
MAK pmax pmax
comp=N,659nm,1.0s
MAK pmax pmax
comp=E,1μm,1.3s
MAK smax smax
comp=N,136μm,12.3s
MAK smax smax
comp=E,61μm,11.9s
PAX Paxson 86.79 27 *e*P P 19 56 33.4 -3.6
PAX pmax pmax
comp=Z,1μm,1.6s
PAX Paxson 86.79 27 *e*P P 19 56 33.4 -3.6
comp=Z,1μm,1.6s
BMRM Bremner River 86.95 29 *e*P P 19 56 33.4 -4.4
comp=Z,1μm,1.4s
TAOE Nuku Hiva Isla 87.20 99 *e*P **P** 19 56 42.2 +2.1
comp=Z,439nm,1.2s
TAOE *e*S **S** 20 07 13.1 -5.3
comp=Z,306μm,31.1s
TAOE *e*SS **SS** 20 12 56.1 -6.8
comp=Z,232μm,27.9s
TAOE *e*LQ LQ 20 20 26.1
comp=Z,408μm,34.3s
TAOE *e*LR LR 20 24 09.8
comp=Z,506μm,22.9s,baz=275
BDHA Al Bayda' 87.25 284 *e*P P 19 56 44.6 +4.2
DOT Dot Lake 87.50 26 *e*P **P** 19 56 37.2 -3.1
comp=Z,165nm,1.3s
LBOS 87.55 284⇑ *e*P **P** 19 56 44.8 +2.9
LBOS AMb AMB 19 56 45.8
comp=Z,753nm,1.8s
LBOS *i* S **S** 20 07 16.9 -5.3
MENT Mentasta 87.58 27 *e*P P 19 56 35.4 -5.4
MENT *e*P **PcP** 19 56 44.1 +1.4
ADEN Aden 87.79 283 *e*P P 19 56 46.7 +3.9
DHBB Dhamar BB 88.40 284⇑ *e*P P 19 56 49.8 +3.8
DHBB AMb AMB 19 56 52.3
comp=Z,14μm,2.7s
DHBB *i* S S 20 07 21.2 -9.0
TRBA At Turbah 88.65 283 *e*P P 19 56 51.5 +4.4
GNI Garni 88.70 310 P **P** 19 56 48.2 +1.4
comp=Z,18nm,1.0s,baz=326,slow=3.6,SNR=5.3
GNI S **S** 20 07 29.3 -2.6
comp=Z,7.6nm,0.8s,baz=192,slow=20,SNR=5.5
GNI Garni 88.70 310 *e*P **P** 19 56 46.2 -0.6
GNI Garni 88.70 310 *i* P **P** 19 56 48.3 +1.5
GNI pmax pmax
comp=Z,48nm,1.2s
GNI Garni 88.70 310 P P 19 56 41.3 -5.5
comp=Z,1μm,1.5s
GNI P **P** 19 56 48.2 +1.4
GNI S **S** 20 07 29.4 -2.6
GNI LR LR
comp=Z,99μm,22.0s
TBLG Delisi 88.75 312 P P 19 56 51.0 +4.2
TBLG Delisi 88.75 312 P P 19 56 50.8 +4.0
BHD Baghdad 88.80 303 *i* P P 19 56 42.0 -5.1
UDYN Al 'Udayn 88.80 284 *e*P **P** 19 56 50.7 +3.0
EGAK Eagle 88.86 25 *e*P P 19 56 42.0 -4.7
comp=Z,64nm,1.2s
EGAK LR LR
comp=Z,163μm,21.0s
HAJJ Hajjah 89.18 286⇑ *e*P **P** 19 56 52.3 +2.8
GOR Gori 89.23 312 P P 19 56 52.4 +3.4
CLDR Caldiran 89.31 309 *e*P **P** 19 56 50.9 +1.2
ZEI Tsey 89.40 313 *e*P **P** 19 56 50.8 +0.7
ZEI pmax pmax
comp=Z,403nm,1.8s
QSPA South Pole Qui 89.41 180 S **SKSac** 20 07 21.2 +3.9
comp=Z,7.2nm,0.9s,baz=0.0,slow=20,SNR=1.9
QSPA South Pole Qui 89.41 180 *e*P **P** 19 56 46.8 -2.6
comp=Z,28nm,1.2s
QSPA S **SKSac** 20 07 21.2 +3.9
QSPA LR LR
comp=Z,862μm,20.0s
PNL Peninsula 89.44 30 *e*P P 19 56 45.5 -4.1
comp=Z,321nm,1.0s
CUKT Cukurca 89.51 307 *e*P **P** 19 56 49.5 -1.1
DAWY Dawson 89.59 26 *e*P P 19 56 45.9 -4.4
DAWY *e*PP PP 20 00 13.8 -8.2
AKH Akhalkalaki 89.67 311 P **P** 19 56 53.5 +2.2
VANB Van 89.71 308 *e*P **P** 19 56 54.4 +2.9
ONI Oni 89.72 312 P **P** 19 56 53.1 +1.7
ATD Arta Tunnel 89.86 281 LR LR 20 35 17.5
comp=Z,85μm,21.5s,baz=260,slow=34
KARS Kars 89.98 310 *e*P **P** 19 56 55.1 +2.4
AGRB Hanur-Agry 90.03 309 *e*P P 19 56 56.5 +3.4
KIV Kislovodsk 90.30 314⇓ *e*P **P** 19 56 52.4 -1.7
KIV *e*S **SKSac** 20 07 23.9 +0.5
KIV *i* PS PS 20 08 47.1 -10
KIV pmax pmax
comp=Z,94nm,2.5s
KIV Kislovodsk 90.30 314 *e*P **P** 19 56 51.4 -2.7
comp=Z,198nm,1.4s
KIV LR LR
comp=Z,89μm,21.0s
KIV Kislovodsk 90.30 314 P **P** 19 56 56.0 +1.9
comp=Z,304nm,1.4s,SNR=5.7
SYO Syowa Base 90.59 201⇑ *e*P P 19 56 51.4 -3.3
SYO Syowa Base 90.59 201⇓ *i*pP **P** 19 56 56.8 +2.1
VRHR Novokhopersk 91.02 321 *e*P **P** 19 56 56.0 -1.1
VRHR *e* 20 00 30.8
VRHR *e*S **S** 20 07 48.3 -4.3
VRHR *e*SP **SP** 20 08 56.5 -3.6
VRHR *e*PS **PnS** 20 09 05.2 +0.3
VRHR *e*SSS SSS 20 17 32.6
VRHR pmax pmax
comp=N,70nm,1.2s
VRHR pmax pmax
comp=E,110nm,1.2s
VRHR pmax pmax
comp=Z,130nm,1.2s
VRHR pmax pmax
comp=Z,13μm,6.2s
VRHR pmax pmax
comp=N,700nm,3.1s
VRHR pmax pmax
comp=E,1μm,2.1s
VRHR smax smax
comp=N,27μm,7.5s
VRHR smax smax
comp=E,9μm,7.5s
VRHR smax smax
comp=Z,4μm,7.5s
BCA Borcka 91.08 311 *e*P **P** 19 56 58.9 +1.2
VRTB Varto-Mus 91.22 309 *e*P **P** 19 56 58.9 +0.3
EZM Erzurum 91.29 310 *e*P **P** 19 57 01.2 +2.2
SKAG Skagway 91.51 31 *e*P **P** 19 56 58.4 -0.8
comp=Z,256nm,1.4s
SKAG *e*P **PcP** 19 57 04.0 +3.9
SKAG LR LR
comp=Z,154μm,21.0s
SIT Sitka 91.57 33 *e*P **P** 19 56 56.3 -3.2
SIT *e* 19 57 13.0
SIT pmax pmax
comp=Z,3μm,2.5s
SIT MLR MLR
comp=Z,143μm,23.0s
SIT Sitka 91.57 33 *e*P **P** 19 56 56.3 -3.2
comp=Z,3μm,2.5s
SIT *e*P **pP** 19 57 13.0 +3.5
SIT LR LR
comp=Z,143μm,23.0s
PZAR Pazar-Rize 91.63 311 *e*P **P** 19 57 02.0 +1.9
BNGB Bing ¶‖ 91.83 309 *e*P **P** 19 57 00.3 -1.0
INK Inuvik 91.93 22 P P 19 56 57.0 -3.9

INK comp=Z,6.0nm,1.0s,baz=268,slow=4.7,SNR=8.1 PP **PP** **20 00 44.1 +3.8**
INK comp=Z,40nm,1.3s,baz=261,slow=7.6,SNR=4.3 S **SKSac** **20 07 26.6 -4.8**
INK comp=Z,5.8nm,1.1s,baz=238,slow=8.8,SNR=2.1 PKKPbc **PKKPbc** **20 14 19.9 -1.3**
INK comp=Z,8.8nm,0.8s,baz=86,slow=1.9,SNR=4.3 PKPPKP **P'P'df** **20 22 30.3 +1.9**
INK **Inuvik** **91.93 22** *e*P P 19 56 55.8 -5.1
INK comp=Z,5.4nm,1.1s,baz=100,slow=3.3,SNR=3.8 20 00 44.1
INK S **SKSac** **20 07 26.6 -4.8**
INK 20 14 19.9
INK **Inuvik** **91.93 22** *e*P P 19 56 55.8 -5.1
INK comp=Z,20nm,1.1s P **P** **19 56 57.0 -3.9**
INK PP **PP** **20 00 44.1 +3.8**
INK S **SKSac** **20 07 26.6 -4.8**
INK PKKPbc **PKKPbc** **20 14 19.9 -1.3**
INK P'P' 20 22 30.3
RKT **Rikitea** **92.03 113** *e*P P 19 57 06.2 +3.8
RKT comp=Z,389nm,1.3s **Rikitea** **92.03 113** *e*PP PP 20 00 40.7 -1.7
RKT comp=Z,19μm,31.2s *e*SKSac **SKSac** **20 07 34.1 +0.3**
RKT comp=Z,59μm,26.2s *e*S **S** **20 08 01.1 -1.8**
RKT comp=Z,171μm,33.0s *e*SP **SP** **20 09 08.7 -3.9**
RKT comp=Z,101μm,31.0s *e*SS **SS** **20 14 09.2 -3.1**
RKT comp=Z,217μm,29.8s *e*LR LR 20 26 26.2
RKT comp=Z,330μm,27.0s
BAYT **Ayd¯–ntepe-Bay** **92.22 310** *e*P **P** **19 57 02.0 -1.1**
DIYA **Diyarbakir** **92.28 308** *i*P P **19 57 01.0 -2.4**
SOC **Sochi** **92.46 313***c i*P P 19 57 07.8 +3.8
SOC *e* 20 08 01.4
SOC *e*PS **PS** **20 09 13.2 -7.5**
SOC *e*SS SS 20 14 12.2 -5.3
SOC comp=Z,260nm,2.5s pmax pmax
SOC comp=Z,29μm,13.4s pmax pmax
KTUT **Trabzon** **92.49 311** *e*P **P** **19 57 04.1 0.0**
VOR **Voronezh** **92.53 322** *e*P **P** **19 57 03.0 -1.1**
VOR pmax pmax
comp=Z,600nm,3.0s
ERZN **Erzincan** **92.56 309** *e*P P 19 57 08.6 +3.9
VSR **Storozhevoye** **92.57 321** *e*P **P** **19 57 05.6 +1.3**
VSR *e* 20 00 51.3
VSR *e*S **S** **20 08 03.1 -3.4**
VSR pmax pmax
comp=Z,2μm,2.4s
VSR pmax pmax
comp=N,50nm,0.8s
VSR pmax pmax
comp=E,170nm,1.2s
VSR pmax pmax
comp=Z,170nm,1.2s
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,60nm,0.8s
VSR pmax pmax
comp=N,2μm,5.8s
VSR pmax pmax
comp=E,6μm,5.8s
VSR pmax pmax
comp=Z,12μm,5.8s
VSR smax smax
comp=N,16μm,6.1s
VSR smax smax
comp=E,5μm,6.1s
VSR smax smax
comp=Z,3μm,6.1s
GUMT **Gumushane** **92.72 310** *e*P **P** **19 57 04.8 -0.6**
PTK **Pertek** **92.83 309** *e*P **P** **19 57 06.6 +0.5**
CRAG **Craig** **92.86 35** P **P** **19 57 02.5 -3.1**
comp=Z,329nm,1.4s
ELZG **Elazig** **93.16 308** *i*P P 19 57 04.3 -3.2
WRAK **Wrangell Islan** **93.24 34** *e*P P 19 57 03.4 -3.8
WRAK comp=Z,139nm,1.0s LR LR
comp=Z,163μm,20.0s
MOS **Moscow** **93.25 326** *e*P **P** **19 57 07.0 -0.3**
MOS *e* 20 00 53.7
MOS *e*S **SKSac** **20 07 39.8 +0.6**
MOS *e*PS **PS** **20 09 31.2 +2.3**
MOS *e*SSS SSS 20 18 08.0
MOS pmax pmax
comp=Z,133nm,1.0s
MOS MLR MLR
comp=E,130μm,20.0s
MOS MLR MLR
comp=Z,140μm,20.0s
ILIC **ilic-Erzincan** **93.45 309** *e*P **P** **19 57 10.0 +1.2**
LVZ **Lovozero** **93.49 338** *e*P **P** **19 57 09.1 +0.9**
LVZ pmax pmax
comp=Z,66nm,1.2s
LVZ **Lovozero** **93.49 338** *e*P **P** **19 57 06.0 -2.2**
comp=Z,135nm,1.1s
LVZ LR LR
comp=Z,147μm,21.0s
KEMA **Kemaliye** **93.52 309** *i*P P 19 57 03.2 -5.9
MALT **Malatya** **93.61 308** *e*P P 19 57 14.6 +5.0
MALT **Malatya** **93.61 308** PFAKE 19 57 20.0 +10
MALT LR LR
comp=Z,1μm,22.0s
OBN **Obninsk** **93.89 325**⇑ *e*P P 19 57 06.8 -3.5
OBN *e* 20 00 51.2
OBN *e*S **SKSac** **20 07 45.1 +2.3**
OBN *e*SS **SS** **20 14 41.2 +3.9**
OBN pmax pmax
comp=Z,36nm,1.0s
OBN **Obninsk** **93.89 325** *e*P P 19 57 06.5 -3.8
comp=Z,190nm,1.0s
OBN LR LR
comp=Z,124μm,22.0s
APA **Apatity** **94.00 338**⇑ *i*P **P** **19 57 11.8 +1.3**
APA *i* 20 07 43.0
APA *i*S **S** **20 08 16.0 -2.5**
APA *i*PS **PS** **20 09 33.0 -3.8**
APA *i*SS **SS** **20 14 37.0 -1.3**
APA pmax pmax
comp=Z,110nm,1.2s
APA MLR MLR
comp=Z,90μm,21.0s
AKCD **Akcadag** **94.00 308** *i*P P 19 57 07.7 -3.7
ANN **Anapa** **94.05 315** *e*P **P** **19 57 08.8 -2.4**
ANN *e* 20 01 06.3
ANN *e* 20 07 38.7
DLBC **Dease Lake** **94.32 32** PP PP 20 01 03.0 +3.6
comp=Z,11nm,1.0s,baz=271,slow=7.1,SNR=4.7
DLBC S **SKSac** **20 07 51.0 +5.8**
comp=Z,1.7nm,0.8s,baz=97,slow=18,SNR=3.7
DLBC **Dease Lake** **94.32 32** *e*P P 19 57 07.5 -4.8
DLBC *e*PP PP 20 00 49.8 -10
DLBC PP **PP** **20 01 03.0 +3.6**
DLBC S **SKSac** **20 07 51.0 +5.8**
RSDY **Resadiye-TOKAT** **94.36 310** *e*P **P** **19 57 10.7 -2.2**
HOPEN **Hopen** **94.58 347** *e*P **P** **19 57 13.4 +0.4**
HOPEN *e*PP **PP** **20 01 02.9 +2.0**
HOPEN *i* 20 09 43.7
HOPEN AMS AMS 20 41 48.9
comp=Z,127μm,21.6s
GAZ **Gaziantep** **94.62 307** *e*P **P** **19 57 16.3 +2.1**
KMRS **Kahramanmaras** **94.85 307** *e*P **P** **19 57 16.6 +1.5**
SARI **SarD1z-Kayseri** **94.94 309** *e*P **P** **19 57 15.2 -0.5**
ASF **Jabal al Asfar** **95.11 302** P **P** **19 57 13.9 -2.7**
comp=Z,1.0nm,0.4s,baz=101,slow=0.3,SNR=3.9
ASF PKKPbc PKKPdf 20 14 17.6 +5.7
comp=Z,6.6nm,1.1s,baz=238,slow=4.3,SNR=3.0
ASF PKPPKP **P'P'df** **20 22 27.7 +3.0**
comp=Z,2.0nm,0.7s,baz=90,slow=5.6,SNR=3.5
ASF LR LR 20 39 53.0
comp=Z,37μm,21.6s,baz=137,slow=35
ASF **Jabal al Asfar** **95.11 302** P **P** **19 57 13.9 -2.7**
ASF **Jabal al Asfar** **95.11 302** P **P** **19 57 13.9 -2.7**
ASF PKKPbc PKKPdf 20 14 17.6 +5.7
ASF P'P' 20 22 27.7
PINB **Pinarbasi** **95.18 309** *i*P P 19 57 11.0 -5.9
KMBO **Kilima Mbogo** **95.34 269** *e*P **P** **19 57 17.3 -0.9**
KMBO pmax pmax
comp=Z,694nm,1.9s

KMBO MLR MLR
comp=Z,253μm,22.0s
KMBO **Kilima Mbogo** **95.34 269** *e*P **P** **19 57 17.2 -0.9**
comp=Z,694nm,1.9s
KMBO LR LR
comp=Z,253μm,22.0s
YAYL **Yayladag** **95.57 306** *i*P **P** **19 57 15.5 -3.1**
BNN **Bunyan** **95.60 309** *e*P **P** **19 57 20.5 +1.8**
JOF **Joensuu** **95.61 333** *e*P P 19 57 13.7 -4.3
JOF pmax pmax
comp=Z,33nm,0.7s
JOF **Joensuu** **95.61 333** *e*p P 19 57 13.7 -4.3
comp=Z,33nm,0.7s
JOF **Joensuu** **95.61 333** *e*p P 19 57 13.7 -4.3
comp=Z,33nm,0.7s
KOZT **Kozan** **95.70 307** *e*P **P** **19 57 18.4 -0.7**
SPA0 **Spitsbergen Ar** **95.74 349** *e*P **P** **19 57 16.2 -2.2**
SPA0 *e*PP **PP** **20 01 10.2 +0.2**
SPA0 *i* 20 09 59.5
SPITS **Spitsbergen Ar** **95.74 349** P **P** **19 57 15.9 -2.5**
comp=Z,45nm,1.1s,baz=94,slow=7.8,SNR=7.0
SPITS LR LR 20 41 37.9
comp=Z,138μm,21.2s,baz=45,slow=36
SPITS **Spitsbergen Ar** **95.74 349** P **P** **19 57 15.9 -2.5**
SPITS pmax pmax
comp=Z,45nm,1.1s
SPITS MLR MLR
comp=Z,138μm,21.2s
SPITS **Spitsbergen Ar** **95.74 349** P **P** **19 57 15.9 -2.5**
SPB4 **Spitsbergen Ar** **95.75 349** *e*P P 19 57 14.8 -3.6
CEYT **Ceyhan** **95.80 307** *e*P **P** **19 57 20.8 +1.4**
HWQ **Hawqa** **95.80 304** *e*P **P** **19 57 19.9 +0.2**
DIKM **Dikmen** **95.84 312** *e*P **P** **19 57 19.1 -0.5**
KEV **Kevo** **95.86 340** P P 19 57 14.0 -5.0
KEV pmax pmax
comp=Z,88nm,1.0s
KEV MLR MLR
comp=Z,172μm,22.0s
KEV **Kevo** **95.86 340** P P 19 57 13.9 -5.0
comp=Z,88nm,1.0s
KEV LR LR
comp=Z,172μm,22.0s
KEV **Kevo** **95.86 340** *e*p **P** **19 57 20.9 +1.9**
comp=Z,40nm,0.8s
KEV **Kevo** **95.86 340** *e*p **P** **19 57 20.9 +1.9**
comp=Z,40nm,0.8s
BHL **Bhannes** **96.07 304** *e*P **P** **19 57 23.7 +2.8**
KRTS **Karatas** **96.12 307** *e*P P 19 57 26.4 +5.4
KBS **Kingsbay** **96.17 350** *e*P **P** **19 57 23.0 +2.7**
KBS *e*PP **PP** **20 01 12.0 -1.2**
KBS *i* 20 10 02.3
KBS *e*SS SS 20 15 10.0 +1.3
KBS AMS AMS 20 36 14.4
comp=Z,89μm,25.6s
KBS **Kingsbay** **96.17 350** *e*P P 19 57 15.7 -4.6
KBS pmax pmax
comp=Z,66nm,1.1s
KBS MLR MLR
comp=Z,105μm,20.0s
KBS **Kingsbay** **96.17 350** *e*P P 19 57 15.7 -4.6
comp=Z,66nm,1.1s
KBS LR LR
comp=Z,105μm,20.0s
BEYL **Beirut** **96.20 304** *e*P P 19 57 24.5 +3.1
MMAI **Mount Meron Ar** **96.33 303** P **P** **19 57 23.2 +1.1**
comp=Z,17nm,1.1s,baz=50,slow=5.7,SNR=8.6
MMAI PP **PP** **20 01 16.0 +0.1**
comp=Z,5.6nm,0.8s,baz=153,slow=4.2,SNR=2.5
MMAI PKKP PKKPdf 20 14 14.8 +5.1
comp=Z,2.9nm,0.7s,baz=354,slow=2.9,SNR=3.1
MMAI **Mount Meron Ar** **96.33 303** P **P** **19 57 23.2 +1.1**
MMAI PP **PP** **20 01 16.0 +0.1**
MMAI PKKP PKKPdf 20 14 14.8 +5.1
AVNT **Avonos** **96.38 309** *i*P **P** **19 57 21.4 -0.9**
SIM **Simferopol'** **96.39 315***c e*P **P** **19 57 24.8 +2.8**
SIM *e* 20 01 12.0
SIM *e*S **S** **20 08 39.0 -1.2**
SIM *e*SS SS 20 15 22.0 +8.6
ARCES **ARCESS Array B** **96.43 340** P **P** **19 57 19.6 -2.1**
comp=Z,42nm,0.9s,baz=64,slow=2.8,SNR=15
ARCES PKKPbc **PKKPdf** **20 14 13.3 +3.2**
comp=Z,2.4nm,0.5s,baz=242,slow=2.6,SNR=9.4
ARCES LR LR 20 47 38.0
comp=Z,172μm,18.8s,baz=75,slow=40
ARCES **ARCESS Array B** **96.43 340** P **P** **19 57 19.6 -2.1**
ARCES pmax pmax
comp=Z,42nm,1.0s
ARCES MLR MLR
comp=Z,172μm,18.8s
ARCES **ARCESS Array B** **96.43 340** P **P** **19 57 19.6 -2.1**
ARCES PKKPbc **PKKPdf** **20 14 13.3 +3.2**
ARE0 **ARCESS Array S** **96.43 340** *e*P **P** **19 57 21.2 -0.4**
ARE0 *e*SS SS 20 15 12.2 -0.4
ARE0 **ARCESS Array S** **96.43 340** *e*P P 19 57 17.9 -3.7
CORM **Corum** **96.44 310** *e*P **P** **19 57 23.9 +1.5**
GULE **Gulek** **96.55 307** *i*P **P** **19 57 20.7 -2.4**
PUL **Pulkovo** **96.64 330** *i*P **P** **19 57 23.1 +0.4**
PUL pmax pmax
comp=Z,143nm,1.2s
BJO **Bjornoya** **96.64 346** *e*P P 19 57 27.4 +5.0
BJO *e*PP **PP** **20 01 15.9 -1.0**
BJO *e*SKS **SKSac** **20 07 56.7 0.0**
BJO *e*SS **SS** **20 15 14.2 -1.2**
BJO AMS AMS 20 41 33.7
comp=Z,127μm,22.2s
BZK **Bozkurt** **96.75 312** *e*P **P** **19 57 23.9 +0.3**
MERS **Mersin** **96.79 307** *e*P **P** **19 57 25.7 +1.6**
EIL **Elat** **96.91 300** P **P** **19 57 22.8 -1.9**
comp=Z,5.0nm,0.9s,baz=45,slow=2.9,SNR=2.3
EIL PP PP 20 01 00.2 -20
comp=Z,62nm,1.2s,baz=51,slow=1.9,SNR=6.1
EIL **Elat** **96.91 300** P **P** **19 57 22.8 -1.9**
EIL PP PP 20 01 00.2 -20
CANT **Cankiri** **97.17 311** *e*P **P** **19 57 22.9 -2.8**
EREN **Erenkoy** **97.17 306** *e*P Pdif 19 57 28.5 +2.6
BR131 **Keskin Array S** **97.24 310** *e*P P 19 57 22.3 -3.8
comp=Z,19nm,0.8s
BR131 *e*PP PP 20 01 04.1 -19
BR131 LR LR
comp=Z,51μm,21.0s
BRTR **Keskin Array B** **97.24 310** P **P** **19 57 24.2 -1.9**
comp=Z,9.9nm,0.9s,baz=113,slow=4.9,SNR=14
BRTR PP PP 20 01 04.2 -19
comp=Z,14nm,1.0s,baz=79,slow=6.5,SNR=3.8
BRTR PKPPKP **P'P'df** **20 22 22.6 +2.3**
comp=Z,3.3nm,1.2s,baz=336,slow=2.7,SNR=5.0
BRTR **Keskin Array B** **97.24 310** P **P** **19 57 24.2 -1.9**
BRTR **Keskin Array B** **97.24 310** P **P** **19 57 24.2 -1.9**
BRTR PP PP 20 01 04.2 -19
BRTR P'P' 20 22 22.6
BALT **Daday** **97.25 312** *i*P **P** **19 57 26.3 0.0**
ELDT **Eldivan** **97.33 311** *i*P P 19 57 19.9 -6.6
KTK1 **Kautokeino** **97.35 340** *e*P P 19 57 13.0 -13
KTK1 *e*PP **PP** **20 01 17.9 -4.7**
KTK1 *e*SKS **SKSac** **20 07 55.7 -5.0**
KTK1 *e* 20 15 22.6
KTK1 AMS AMS 20 46 02.0
comp=Z,322μm,21.8s
AFSR **Af˙ar-Bala (A** **97.70 310** *e*P Pdif 19 57 29.1 +0.9
LFK **Lefkose** **97.71 305** *e*P Pdif 19 57 29.1 +0.8
SAFT **Safranbolu** **97.81 311** *e*P Pdif 19 57 35.6 +7.1
LOD **Lodumlu** **97.89 310** *e*P Pdif 19 57 30.2 +1.2
CSS **Prodhromos** **97.91 305** *e*P Pdif 19 57 31.1 +2.0
CSS **Prodhromos** **97.91 305** *e*Pdif P 19 57 24.6 -4.5
comp=Z,81nm,1.1s
CSS LR LR
comp=Z,100μm,22.0s
KAF **Kangasniemi** **98.05 333** *e*P Pdif 19 57 29.2 +0.1
KAF pmax pmax
comp=Z,36nm,0.9s
KAF **Kangasniemi** **98.05 333** *e*p Pdif 19 57 29.2 +0.1
comp=Z,36nm,0.9s
KAF **Kangasniemi** **98.05 333** *e*p Pdif 19 57 29.2 +0.1
comp=Z,36nm,0.9s
LEF **Lefka** **98.25 305** *e*P **P** **19 57 29.9 -0.7**
FINES **FINESS Array B** **98.32 332** P **P** **19 57 28.1 -2.1**
comp=Z,41nm,1.0s,baz=92,slow=5.7,SNR=18
FINES PKKP **PKKPdf** **20 14 06.6 0.0**
comp=Z,10nm,0.9s,baz=207,slow=2.8,SNR=4.0
FINES LR LR 20 45 55.4
comp=Z,168μm,20.2s,baz=73,slow=38
FINES **FINESS Array B** **98.32 332** P **P** **19 57 28.2 -2.1**
FINES pmax pmax
comp=Z,41nm,1.0s

FINES MLR MLR
comp=Z,168μm,20.2s
FINES **FINESS Array B** **98.32 332** P **P** **19 57 28.1 -2.1**
FINES PKKP **PKKPdf** **20 14 06.6 0.0**
LADK **Ladik-KONYA** **98.38 308** *e*P **P** **19 57 28.5 -2.8**
HDMB **Hadim** **98.40 307** *e*P Pdif 19 57 33.0 +1.4
KONT **Konya-~Tatoy** **98.40 308** *e*P **P** **19 57 29.1 -2.1**
TRO **Tromso** **98.58 341** *e*P Pdif 19 57 36.4 +5.2
TRO *e*PP **PP** **20 01 28.1 -3.7**
TRO *e*SS SS 20 15 47.0 +4.2
TRO AMS AMS 20 43 44.7
comp=Z,140μm,24.6s
VSU **Vasula** **98.71 329** *e*P **P** **19 57 30.0 -2.1**
VSU pmax pmax
comp=Z,105nm,1.2s
KDZE **Karadeniz Ereo** **98.73 312** *e*P **P** **19 57 31.2 -1.4**
AKASG **Malin Array Be** **98.87 321** P P 19 57 28.7 -4.3
comp=Z,19nm,0.9s,baz=69,slow=4.0,SNR=18
AKASG PP **PP** **20 01 30.0 -4.7**
comp=Z,6.5nm,0.9s,baz=130,slow=29,SNR=3.1
AKASG PKKP **PKKPdf** **20 14 04.0 -1.3**
comp=Z,1.3nm,0.6s,baz=292,slow=2.8,SNR=3.8
AKASG LR LR 20 46 39.2
comp=Z,104μm,21.4s,baz=75,slow=38
AKASG **Malin Array Be** **98.87 321** P P 19 57 28.7 -4.3
AKASG 20 01 30.0
AKASG pmax pmax
comp=Z,19nm,0.9s
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG MLR MLR
comp=Z,104μm,21.4s
AKASG **Malin Array Be** **98.87 321** P P 19 57 28.7 -4.3
AKASG PP **PP** **20 01 30.0 -4.7**
AKASG PKKP **PKKPdf** **20 14 04.0 -1.3**
AKBB **Malin Array Si** **98.87 321** *e*P P 19 57 29.1 -3.9
AKBB **Malin Array Si** **98.87 321** *e*Pdif P 19 57 29.1 -3.9
KIEV **Kiev** **98.88 321***c i*P **P** **19 57 31.6 -1.4**
KIEV **Kiev** **98.88 321** *e*Pdif P 19 57 29.0 -4.0
comp=Z,75nm,1.1s
KIEV LR LR
comp=Z,124μm,21.0s
SVRH **Sivrihisar-ESK** **98.89 310** *e*P **P** **19 57 31.9 -1.6**
MICGM **Minsk** **98.95 325** *e*P Pdif 19 57 34.0 +0.7
MNK **Minsk** **98.98 325***de*P **Pdif** **19 57 34.0 +0.6**
MNK *e*PPP PPP 20 03 46.0
MNK *e* 20 08 10.0
MNK *e*S **S** **20 09 02.0 +0.1**
MNK S ScS 20 09 12.0 +10
MNK *e*PS **PS** **20 10 34.0 +2.4**
MNK *e*SSS SSS 20 19 34.0
MNK pmax pmax
comp=Z,34μm,10.0s
MDUB **Mudurnu** **99.02 311** *e*P **Pdif** **19 57 32.6 -1.4**
NVL **N'lazarevskaya** **99.26 197***c i*P **Pdif** **19 57 43.9 +10**
NVL *e*S **SKSac** **20 08 08.9 -1.3**
NVL *e*PS **PS** **20 10 39.3 +5.3**
NVL pmax pmax
comp=Z,66nm,0.9s
NVL MLR MLR
comp=Z,268μm,20.0s
MAIT **Maitri** **99.28 197** *e*P **Pdif** **19 57 36.5 +2.1**
MAIT *e* 19 57 45.5
MAIT *e* 20 01 34.6
MAIT *e* 20 08 05.2
BOLV **Bolvadin** **99.42 309** *i*P **Pdif** **19 57 31.8 -4.1**
NACGM **Naroch** **99.49 326** *e*P **Pdif** **19 57 32.0 -3.7**
NLWA **Neilton Lookou** **99.53 42** PFAKE 19 57 40.0 +3.9
NLWA LR LR
comp=Z,149μm,22.0s
PGC **Sidney** **99.59 41** P **Pdif** **19 57 36.8 +0.6**
IZAR **Zarasai** **99.60 327** *e*P **Pdif** **19 57 37.0 +0.9**
IGN **Ignalina** **99.70 326** *e*P **Pdif** **19 57 37.5 +0.9**
ISAL **Salakas** **99.71 326** *e*P **Pdif** **19 57 37.6 +1.0**
SHUT **Suhut-Afyon** **99.75 309** *e*P **Pdif** **19 57 37.1 -0.2**
KIS **Kishinev** **99.77 318***α i*P **Pdif** **19 57 37.0 -0.1**
KIS *i* 20 01 41.0
KIS *i* PPP PPP 20 03 56.0
KIS *e*S **S** **20 09 05.0 -3.9**
KIS *e*PS **PS** **20 10 38.0 -2.5**
KIS *e*PPS PPS 20 11 22.0
KIS *e*SS SS 20 16 11.0 +10
KIS pmax pmax
comp=Z,910nm,3.5s
KIS pmax pmax
comp=Z,12μm,13.0s
KIS pmax pmax
comp=N,1μm,15.0s
KIS pmax pmax
comp=E,4μm,14.0s
KIS pmax pmax
comp=Z,13μm,16.0s
KIS pmax pmax
comp=Z,37μm,13.0s
KIS pmax pmax
comp=N,6μm,14.0s
KIS pmax pmax
comp=E,21μm,14.0s
KIS pmax pmax
comp=Z,41μm,14.0s
KIS smax smax
comp=N,17μm,15.0s
KIS smax smax
comp=E,8μm,13.0s
KIS **Kishinev** **99.77 318** *e*P **Pdif** **19 57 37.0 -0.1**
comp=E,13μm,16.0s
KIS **Kishinev** **99.77 318** *i* PP PP 20 01 41.0 -0.6
comp=E,41μm,14.0s
KIS **Kishinev** **99.77 318** *e*PPS PPS 20 11 22.0
KIS *e*SS SS 20 16 11.0 +10
KIS *e*SSS SSS 20 19 10.0
KIS LRM MLR 20 54 44.0
comp=E,62μm,18.0s
BCK **Bucak** **99.85 308** *e*P **Pdif** **19 57 36.1 -1.7**
ISP **Isparta** **99.86 308** *e*P **Pdif** **19 57 37.9 0.0**
ISP **Isparta** **99.86 308** PFAKE 19 57 50.0 +12
ISP LR LR
comp=Z,65μm,21.0s
ANTB **Antalya** **99.87 307** *e*P **Pdif** **19 57 39.9 +2.2**
ALT **Altintas** **100.03 309** *e*P **Pdif** **19 57 38.9 +0.3**
ALT **Altintas** **100.03 309** *i*P **Pdif** **19 57 37.4 -1.2**
TLCR **100.08 316**⇑ *i*P **Pdif** **19 57 38.4 -0.1**
TLCR **100.08 316**⇑ *i*P **Pdif** **19 57 38.4 -0.1**
CAVI **Cavuskoy** **100.08 311** *e*P **Pdif** **19 57 39.6 +0.9**
SILT **Sile** **100.10 312** *e*P **Pdif** **19 57 44.8 +6.1**
HRT **Hereke** **100.13 311** *e*P **Pdif** **19 57 40.6 +1.7**
ADVT **Abdulvahap** **100.13 311** *e*P **Pdif** **19 57 38.9 0.0**
YLV **Yalova** **100.38 311** *e*P **Pdif** **19 57 43.4 +3.3**
A05A **Maple Falls** **100.42 40** ⇑Pdiff **Pdif** **19 57 47.3 +7.4**
A05A baz=100 ⇑Pdiff **Pdif** **19 57 47.3 +7.4**
A05A baz=100 ⇑Pdiff **Pdif** **19 57 47.3 +7.4**
KRMB **Red Mountain** **100.44 48** *e*Pdif **Pdif** **19 57 35.8 -4.6**
comp=Z,201nm,1.9s
TIRR **Tirgusor** **100.48 315** *e*P **Pdif** **19 57 39.4 -0.9**
TIRR pmax pmax
comp=Z,53nm,1.1s
TIRR **Tirgusor** **100.48 315** *e*Pdif **Pdif** **19 57 39.4 -0.9**
comp=Z,53nm,1.1s
TIRR **Tirgusor** **100.48 315**⇑ *i*P **Pdif** **19 57 40.4 +0.1**
STEI **Steigen** **100.49 340** *e*P **Pdif** **19 57 42.5 +2.6**
GEMT **Gemlik** **100.54 311** *e*P **Pdif** **19 57 44.1 +3.4**
ISK **Istanbul-Kandi** **100.55 312** *e*P **Pdif** **19 57 41.3 +0.6**
CFR **Carcaliu** **100.55 316**⇑ P **Pdif** **19 57 40.6 0.0**
CFR **Carcaliu** **100.55 316**⇑ *i*P **Pdif** **19 57 40.6 0.0**
KHAL **Karahalli** **100.60 309** *i*P **Pdif** **19 57 33.7 -7.5**
KHMM **Horse Mountain** **100.67 49** *e*Pdif **Pdif** **19 57 41.9 +0.4**
comp=Z,109nm,1.3s
KHMM *e*PP **PP** **20 01 48.8 -0.1**
PSN **Preselentsi** **100.77 314** *i*P **Pdif** **19 57 44.4 +2.8**
RES **Resolute Bay** **100.86 12** PKKP **PKKPbc** **20 13 59.8 +2.8**
comp=Z,11nm,1.1s,baz=50,slow=2.8,SNR=5.7
RES **Resolute Bay** **100.86 12** *e*P **Pdif** **19 57 36.8 -4.5**
RES pmax pmax
comp=Z,28nm,0.8s
RES **Resolute Bay** **100.86 12** *e*Pdif **Pdif** **19 57 36.8 -4.5**
comp=Z,28nm,0.8s
RES *e*PP PP 20 01 20.4 -29
RES PKKP **PKKPbc** **20 13 59.8 +2.8**
KCPM **Cahto Peak** **100.96 50** *e*Pdif **Pdif** **19 57 47.8 +5.0**
comp=Z,42nm,1.2s
HUMO **Hull Mountain** **100.97 47** *e*Pdif **Pdif** **19 57 43.2 +0.6**

HUMO *e*PP PP 20 01 32.2 -19
HUMO *e*PKPdf PKiKP 20 02 00.6 -7.4
KIPM Iron Peak 101.02 50 *e*Pdif **Pdif 19 57 45.9 +2.9**
comp=Z,98nm,1.4s
DNZL Cakiroluk 101.04 308 *i* P **Pdif 19 57 42.2 -1.0**
DEMI Demirci 101.11 310 *i* P **Pdif 19 57 38.5 -4.9**
DURS Dursunbey 101.21 310 *i* P **Pdif 19 57 38.9 -4.9**
YBH Yreka Blue Hor 101.29 48 *e*P **Pdif 19 57 42.3 -1.9**
YBH pmax pmax
comp=Z,45nm,1.3s
YBH Yreka Blue Hor 101.29 48 *e*Pdif **Pdif 19 57 42.3 -1.9**
comp=Z,45nm,1.3s
TESR 101.33 317⇑ *i*P **Pdif 19 57 42.9 -1.2**
PRD Provadia 101.42 314 *i* P **Pdif 19 57 51.5 +7.0**
TURN Turunc 101.50 307 *i* P **Pdif 19 57 41.8 -3.2**
WDC Whiskeytown Da 101.61 49 *e*P **Pdif 19 57 42.8 -2.7**
WDC pmax pmax
comp=Z,157nm,1.8s
WDC Whiskeytown Da 101.61 49 *e*Pdif **Pdif 19 57 42.8 -2.7**
comp=Z,157nm,1.8s
ISR Istrita 101.67 316⇑ P **Pdif 19 57 46.0 +0.3**
ISR Istrita 101.67 316⇑ *i*P **Pdif 19 57 46.0 +0.3**
MCCM Marconi Confer 101.73 51 *e*Pdif **Pdif 19 57 41.0 -5.0**
comp=Z,515nm,1.8s
SUW Suwalki 101.75 325 *e*P **Pdif 19 57 49.2 +3.5**
SUW *e*PP PKiKP 20 02 03.6 -5.3
SUW *e*SKSac SKSac 20 08 32.6 +10
SUW *e*SP **SP 20 11 02.1 +5.4**
SUW *e*PS **PS 20 11 08.4 +7.2**
SUW Suwalki 101.75 325 *e*P **Pdif 19 57 40.7 -5.0**
SUW pmax pmax
comp=Z,83nm,0.9s
SUW Suwalki 101.75 325 *e*Pdif **Pdif 19 57 40.7 -5.0**
comp=Z,83nm,0.9s
BALY Balya 101.84 310 *i* P **Pdif 19 57 40.7 -5.8**
SULR 101.96 316⇑ *i*P **Pdif 19 57 47.3 +0.4**
ARG Arkhangelos 101.98 307 *e*P **PKiKP 20 02 12.0 +2.1**
STOK Stokkvaagen 101.98 339 *e*P **Pdif 19 57 52.5 +6.0**
STOK *e*PP **PP 20 01 55.5 -2.1**
STOK *e* 20 11 05.5
STOK *e*SS SS 20 16 27.6 -2.7
STOK AMS AMS 20 49 00.6
comp=Z,225μm,18.6s
MLR Muntele Rosu 102.01 316 P **Pdif 19 57 46.3 -1.0**
comp=Z,6.5nm,1.1s,baz=47,slow=6.6,SNR=12
MLR PP **PP 20 02 01.3 +2.5**
comp=Z,10nm,0.8s,baz=135,slow=3.0,SNR=4.0
MLR Muntele Rosu 102.01 316 P **Pdif 19 57 46.3 -1.0**
MLR 20 02 01.3
MLR pmax pmax
comp=Z,7.0nm,1.1s
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 102.01 316 P **Pdif 19 57 46.3 -1.0**
MLR PP **PP 20 02 01.3 +2.5**
MLR Muntele Rosu 102.01 316⇑ *i*P **Pdif 19 57 46.7 -0.6**
BURAR Bucovina Array 102.06 319⇑ P **Pdif 19 57 45.5 -1.9**
BURAR Bucovina Array 102.06 319⇑ *i*P **Pdif 19 57 45.5 -1.9**
BUR08 Bucovina Ar. S 102.06 319 *e*Pdif **Pdif 19 57 43.9 -3.6**
G06A Carlson Farm, 102.14 44⇑ Pdiff **Pdif 19 57 55.8 +8.0**
baz=102
G06A ⇑Pdiff **Pdif 19 57 55.8 +8.0**
baz=102
G06A ⇑Pdiff **Pdif 19 57 55.8 +8.0**
baz=102
G06A ⇑SKSac **SKSac 20 08 28.4 +3.1**
baz=102
G06A ⇑SKSac **SKSac 20 08 28.4 +3.1**
baz=102
G06A ⇑SKSac **SKSac 20 08 28.4 +3.1**
baz=102
JMB Yambol 102.14 313 *i* P **Pdif 19 57 55.1 +7.3**
DAG Danmarks Havn 102.17 353 *i* P **Pdif 19 57 48.8 +1.6**
DAG MLR MLR
comp=Z,60μm,21.0s
DAG Danmarks Havn 102.17 353 *i* P **Pdif 19 57 48.8 +1.6**
DAG
comp=Z,80μm,21.0s
LVV L'vov 102.31 321*c i*P **Pdif 19 57 55.1 +6.7**
LVV *e* 20 02 05.9
LVV *e*PPP PPP 20 04 16.9
LVV *e* 20 09 10.5
LVV *e*SS SS 20 16 44.5 +8.6
LVV *e*SSS SSS 20 20 32.1
LVV pmax pmax
comp=Z,300nm,2.3s
K05A Summer Lake 102.45 46⇓ Pdiff **Pdif 19 57 57.6 +8.2**
baz=102
K05A ⇓Pdiff **Pdif 19 57 57.6 +8.2**
baz=102
K05A ⇓Pdiff **Pdif 19 57 57.6 +8.2**
baz=102
K05A ⇑SKSac **SKSac 20 08 29.3 +2.1**
baz=102
K05A ⇑SKSac **SKSac 20 08 29.3 +2.1**
baz=102
K05A ⇑SKSac **SKSac 20 08 29.3 +2.1**
baz=102
SZH Strazhica 102.46 314 *i* P **Pdif 19 57 53.3 +4.1**
GCAM G?zelcaml? 102.46 308 *i* P **Pdif 19 57 45.2 -4.1**
SNAA Sanae 102.52 193 *e* **Pdif 19 57 57.2 +8.3**
SNAA Sanae 102.52 193 *e*P **Pdif 19 57 46.7 -2.2**
SNAA pmax pmax
comp=Z,22nm,0.9s
SNAA Sanae 102.52 193 *e*Pdif **Pdif 19 57 46.7 -2.2**
comp=Z,22nm,0.9s
SNAA *e*PP PP 20 00 59.4 -62
SNAA *e*PKKP **PKKPbc 20 13 47.9 -4.3**
RSW Rattlesnake Hi 102.61 42 *e*Pdif **Pdif 19 57 44.6 -5.3**
comp=Z,23nm,1.1s
VOIR 102.64 317⇓ P **Pdif 19 57 50.0 0.0**
VOIR 102.64 317⇓ *i*P **Pdif 19 57 50.0 0.0**
HAWA Hanford 102.65 42 *e*Pdif **Pdif 19 57 46.5 -3.5**
comp=Z,50nm,1.5s
HAWA *e*PP PP 20 01 54.4 -8.9
HAWA LR LR
comp=Z,149μm,21.0s
SMG Samos 102.77 308 *e*P PP 20 02 10.0 +5.4
KARP Karpathos 102.85 306 *e*P **PP 20 02 06.0 +0.7**
HUMR Humele 102.88 316⇑ *i*P **Pdif 19 57 51.2 +0.2**
PVL Pavlikeni 102.90 314 *i* P **Pdif 19 57 55.7 +4.6**
PRK Paraskevi 102.95 310 *e*P **PKiKP 20 02 13.0 +1.4**
OD2 Odessa Site #2 102.97 41 *e*Pdif **Pdif 19 57 52.3 +1.0**
comp=Z,96nm,1.6s
MOD Modoc 103.03 47 *e*Pdif **Pdif 19 57 42.9 -9.1**
comp=Z,37nm,1.2s
SAO San Andreas Ge 103.07 52 *e*P **Pdif 19 57 54.3 +2.3**
SAO pmax pmax
comp=Z,160nm,1.7s
SAO San Andreas Ge 103.07 52 *e*Pdif **Pdif 19 57 54.3 +2.3**
comp=Z,160nm,1.7s
SAO *e*PKPdf **PP 20 02 04.2 -2.7**
KDZ Kurdzhali 103.15 313 *i* P **Pdif 19 57 59.3 +7.0**
RDO Rodhopi 103.16 312 *e*P PKiKP 20 02 04.5 -7.4
C09A Chrisman Ranch 103.16 41⇓ Pdiff **Pdif 19 58 00.3 +8.1**
baz=103
C09A ⇓Pdiff **Pdif 19 58 00.3 +8.1**
baz=103
C09A ⇓Pdiff **Pdif 19 58 00.3 +8.1**
baz=103
I07A Izee 103.17 45⇑ Pdiff **Pdif 19 58 01.3 +8.8**
baz=103
I07A ⇑Pdiff **Pdif 19 58 01.3 +8.8**
baz=103
I07A ⇑Pdiff **Pdif 19 58 01.3 +8.8**
baz=103
BMR Baia Mare 103.17 319 P **Pdif 19 57 55.0 +2.8**
KWP Kalwaria Pacla 103.19 321 *e*P **Pdif 19 57 55.9 +3.6**
KWP *e*SP SP 20 11 16.6 +4.3
KWP Kalwaria Pacla 103.19 321 *e*P **Pdif 19 57 45.9 -6.4**
KWP pmax pmax
comp=Z,156nm,1.3s
KWP MLR MLR
comp=Z,190μm,22.0s
KWP Kalwaria Pacla 103.19 321 *e*Pdif **Pdif 19 57 45.9 -6.4**
comp=Z,156nm,1.3s
KWP LR LR
comp=Z,190μm,22.0s
NSS Namsos 103.21 338 *e*P **Pdif 19 57 52.9 +0.9**
NSS *e*PP **PP 20 02 06.4 -0.5**
NSS *e*SS SS 20 16 48.8 +1.5
NSS AMS AMS 20 49 54.4
comp=Z,200μm,21.4s
E09A Wood Farm, Sta 103.55 42⇑ Pdiff **Pdif 19 58 01.2 +7.2**
baz=103
E09A ⇑Pdiff **Pdif 19 58 01.2 +7.2**
baz=103
E09A ⇑Pdiff **Pdif 19 58 01.2 +7.2**
baz=103
PLD Plovdiv 103.58 313 *i* P **Pdif 19 58 00.1 +5.9**
LNOR Lincton Mounta 103.61 43 *e*P **Pdif 19 57 49.9 -4.4**
LNOR Lincton Mounta 103.61 43 *e*Pdif **Pdif 19 57 49.9 -4.4**
KOLS Kolonicke sedl 103.65 320 *i* P **Pdif 19 57 57.3 +2.9**
KOLS *e*S **Sdif 20 09 39.9 -1.3**
KOLS *e*SS SS 20 17 02.3 +7.9
KOLS Kolonicke sedl 103.65 320 PDIF **Pdif 19 57 57.2 +2.9**
KOLS *e*PP PKiKP 20 02 19.2 +6.6
KOLS SDIF 20 09 39.9
KOLS *e*SS SS 20 17 02.3 +7.9
RZN Rozhen 103.66 313 *i* P **Pdif 19 57 57.0 +2.2**
TRPA Tarpa 103.69 320⇑ *i*P **Pdif 19 57 53.2 -1.3**
TRPA Tarpa 103.69 320 *e*Pdif **Pdif 19 57 57.8 +3.3**
CMB Columbia Colle 103.69 51 *e*P **Pdif 19 57 52.8 -2.0**
CMB pmax pmax
comp=Z,184nm,1.8s
CMB Columbia Colle 103.69 51 *e*Pdif **Pdif 19 57 52.8 -2.0**
comp=Z,184nm,1.8s
UZH Uzhgorod 103.72 320 *e*P **Pdif 19 57 54.3 -0.3**
UZH *e* 20 04 28.1
UZH *e* 20 08 24.0
UZH *e*S **Sdif 20 09 37.7 -4.0**
UZH *e* 20 11 09.5
UZH *e* 20 16 48.5
BEL Belsk 103.75 324 *e*P **Pdif 19 57 59.5 +4.7**
BEL *e*PP PKiKP 20 02 17.9 +5.3
BEL *e*Sdiff **Sdif 20 09 45.5 +3.7**
BEL *e*PS **PS 20 11 27.3 +4.8**
BEL *e*SS SS 20 17 08.1 +13
BEL Belsk 103.75 324 *e*P **Pdif 19 57 59.4 +4.7**
BEL *e* 20 02 17.9
BEL *e*S **Sdif 20 09 45.5 +3.7**
BEL *e*PS **PS 20 11 27.3 +4.8**
BEL *e*SS SS 20 17 08.1 +13
CRAR CRAIOVA 103.75 316 P **Pdif 19 57 58.6 +3.7**
NEW Newport 103.79 40 PFAKE 19 58 00.0 +5.0
NEW LR LR
comp=Z,188μm,20.0s
PGB Panagyurishte 103.88 314 *i* P **Pdif 19 58 01.1 +5.5**
APE Apeiranthos 103.90 308 *e*P PP 20 02 07.0 -6.1
DRGR 103.91 318⇑ *i*P **Pdif 19 57 56.1 +0.5**
DRGR 103.91 318⇑ *i*P **Pdif 19 57 56.1 +0.5**
WCN Washoe City 103.94 50 *e*P **Pdif 19 57 54.3 -1.8**
WCN pmax pmax
comp=Z,153nm,1.8s
WCN Washoe City 103.94 50 *e*Pdif **Pdif 19 57 54.3 -1.8**
comp=Z,153nm,1.8s
WCN Washoe City 103.94 50⇑ Pdiff **Pdif 19 58 04.7 +8.6**
baz=104
WCN ⇑Pdiff **Pdif 19 58 04.7 +8.6**
baz=104
WCN ⇑Pdiff **Pdif 19 58 04.7 +8.6**
baz=104
MPEP Malo Peshtene 104.01 315 *i* P **Pdif 19 58 00.6 +4.5**
J08A Circle Bar Ran 104.05 45⇑ Pdiff **Pdif 19 58 05.2 +8.8**
baz=104
J08A ⇑Pdiff **Pdif 19 58 05.2 +8.8**
baz=104
J08A ⇑Pdiff **Pdif 19 58 05.2 +8.8**
baz=104
VNA2 Neumayer--Watz 104.07 193 *e* **Pdif 19 58 04.7 +8.9**
baz=130,slow=4.1
WVOR Wild Horse Val 104.14 46 *e*P **Pdif 19 57 53.4 -3.4**
WVOR pmax pmax
comp=Z,44nm,1.3s
WVOR Wild Horse Val 104.14 46 *e*Pdif **Pdif 19 57 53.4 -3.4**
comp=Z,44nm,1.3s
WVOR *e*PKPdf **PKiKP 20 02 14.0 +0.1**
WVOR LR LR
comp=Z,227μm,21.0s
NPS Neapolis 104.14 306 *e*P PKiKP 20 02 31.5 +18
STHS Stebnicka Huta 104.17 321 *i* P **Pdif 19 57 57.8 +1.1**
STHS Stebnicka Huta 104.17 321 PDIF **Pdif 19 57 57.8 +1.1**
CRVS Cervenica-Dubn 104.17 321 *i* P **Pdif 19 57 56.4 -0.3**
CRVS *e* 20 02 20.5
CRVS *e*S **Sdif 20 09 46.6 +1.0**
CRVS *e*SS SS 20 16 53.6 -8.0
CRVS Cervenica-Dubn 104.17 321 PDIF **Pdif 19 57 56.4 -0.3**
CRVS *e*PP PP 20 02 20.5 +5.8
CRVS SDIF 20 09 46.6
CRVS *e*SS SS 20 16 53.6 -8.0
GZR Gura Zlata 104.21 317⇓ P **Pdif 19 57 57.6 +0.6**
GZR Gura Zlata 104.21 317⇓ *i*P **Pdif 19 57 57.6 +0.6**
F10A Beach Ranch, E 104.30 42⇓ Pdiff **Pdif 19 58 05.8 +8.4**
baz=104
F10A ⇓Pdiff **Pdif 19 58 05.8 +8.4**
baz=104
F10A ⇓Pdiff **Pdif 19 58 05.8 +8.4**
baz=104
NVR Nevrokopi 104.35 313 *e*P PKiKP 20 02 23.5 +9.3
MMB Musomiste 104.40 313 *i* P **Pdif 19 58 01.4 +3.5**
SMMC Simmler 104.47 54⇑ Pdiff **Pdif 19 58 07.0 +8.7**
baz=104
SMMC ⇑Pdiff **Pdif 19 58 07.0 +8.7**
baz=104
SMMC ⇑Pdiff **Pdif 19 58 07.0 +8.7**
baz=104
HFS Hagfors 104.47 333 Pdiff **Pdif 19 57 57.8 +0.1**
comp=Z,22nm,0.9s,baz=0.0,slow=0.6,SNR=9.3
HFS PP **PP 20 02 20.5 +4.1**
comp=Z,38nm,1.0s,baz=93,slow=8.9,SNR=3.9
HFS PKKP **PKKPbc 20 13 49.9 +3.9**
comp=Z,3.7nm,0.7s,baz=211,slow=1.7,SNR=5.4
HFS Hagfors 104.47 333 P **Pdif 19 57 57.8 +0.1**
HFS 20 02 20.5
HFS pmax pmax
comp=Z,22nm,1.0s
HFS pmax pmax
comp=Z,38nm,1.0s
HFS Hagfors 104.47 333 Pdif **Pdif 19 57 57.8 +0.1**
HFS PP **PP 20 02 20.5 +4.1**
HFS PKKP **PKKPbc 20 13 49.9 +3.9**
VNA1 Neumayer--Stat 104.47 193 *e* Pdif 19 58 07.7 +10
BMO Blue Mountains 104.52 44 *e*P **Pdif 19 57 57.5 -1.0**
BMO pmax pmax
comp=Z,261nm,2.5s
BMO MLR MLR
comp=Z,181μm,21.0s
BMO Blue Mountains 104.52 44 *e*Pdif **Pdif 19 57 57.5 -1.0**
comp=Z,260nm,2.5s
BMO LR LR
comp=Z,181μm,21.0s
VTS Vitosha 104.56 314⇓ P **Pdif 19 58 00.3 +1.6**
VTS Vitosha 104.56 314⇓ *i*P **Pdif 19 58 00.3 +1.6**
VTS Vitosha 104.56 314 *i* P **Pdif 19 58 01.9 +3.2**
PKM Peak Mountain 104.68 54⇑ Pdiff **Pdif 19 58 08.0 +8.5**
baz=104
PKM ⇑Pdiff **Pdif 19 58 08.0 +8.5**
baz=104
PKM ⇑Pdiff **Pdif 19 58 08.0 +8.5**
baz=104
NIE Niedzica 104.75 321 *e*PKPdf **Pdif 19 58 00.7 +1.4**
NIE *e* 20 01 29.5
NIE Niedzica 104.75 321 *e*P **Pdif 19 58 00.7 +1.4**
KKB Krupnik 104.81 313 *i* P **Pdif 19 58 06.1 +6.4**
OJC Ojcow 104.83 322 *e*Pdiff **Pdif 19 58 02.2 +2.6**
OJC *e*PP **PP 20 02 20.6 +1.1**
OJC *e* 20 09 52.6
OJC *e*SP SP 20 11 28.4 -1.0
OJC *e*SS **SS 20 17 12.0 +1.5**
OJC L L 20 54 53.1
comp=Z,100nm,21.1s
OJC Ojcow 104.83 322 *e*P **Pdif 19 58 02.2 +2.6**
OJC *e* 20 02 20.6
OJC *e* 20 09 52.6
OJC *e*SP SP 20 11 28.4 -1.0
OJC *e*SS **SS 20 17 11.9 +1.5**
OJC *e*SS SKKPbc 20 17 12.0 -13
OJC MLR MLR
comp=Z,100μm,21.1s
SIVA Sivas 104.83 306 *e*P **PP 20 02 22.5 +2.5**
SOH Sokhos 104.84 312 *e*P **PP 20 02 23.5 +3.5**
SBC Santa Barbara 104.84 55⇓ Pdiff **Pdif 19 58 07.8 +7.8**
baz=104
SBC ⇓Pdiff **Pdif 19 58 07.8 +7.8**
baz=104
SBC ⇓Pdiff **Pdif 19 58 07.8 +7.8**
baz=104
PLG Polygyros 104.87 312 *e*P **PP 20 02 24.5 +4.3**
RCTC Rector, Farmer 104.90 53⇓ Pdiff **Pdif 19 58 07.1 +6.9**
baz=105
RCTC ⇓Pdiff **Pdif 19 58 07.1 +6.9**
baz=105
RCTC ⇓Pdiff **Pdif 19 58 07.1 +6.9**
baz=105
KECS Kecovo 104.91 320 *i* P **Pdif 19 58 00.6 +0.7**
KECS Kecovo 104.91 320 PDIF **Pdif 19 58 00.6 +0.7**
BOSA Boshof 104.94 240 Pdiff **Pdif 19 58 03.5 +2.9**
comp=Z,17nm,0.8s,baz=94,slow=5.1,SNR=15
BOSA PP **PP 20 02 22.5 +1.3**
comp=Z,41nm,1.1s,baz=88,slow=5.6,SNR=5.2
BOSA PKKPbc **PKKPbc 20 13 48.3 +4.6**
comp=Z,10nm,0.8s,baz=256,slow=4.2,SNR=7.4
BOSA Boshof 104.94 240 P **Pdif 19 58 03.6 +2.9**
BOSA 20 02 22.5
BOSA pmax pmax
comp=Z,17nm,0.8s
BOSA pmax pmax
comp=Z,41nm,1.1s
BOSA Boshof 104.94 240 *e*Pdif **Pdif 19 58 01.7 +1.0**
comp=Z,143nm,1.4s
BOSA Pdif Pdif 19 58 03.5 +2.9
BOSA *e*PKPdf **PKiKP 20 02 12.8 -2.9**
BOSA PP **PP 20 02 22.5 +1.3**
BOSA PKKPbc **PKKPbc 20 13 48.3 +4.6**
BOSA LR LR
comp=Z,143μm,20.0s
BZS Buzias 104.94 317⇑ P **Pdif 19 58 01.4 +1.2**
BZS Buzias 104.94 317⇑ *i*P **Pdif 19 58 01.4 +1.2**
MLAC Mammoth Lakes 104.97 51⇑ Pdiff **Pdif 19 58 09.7 +8.9**
baz=105
MLAC ⇑Pdiff **Pdif 19 58 09.7 +8.9**
baz=105
MLAC ⇑Pdiff **Pdif 19 58 09.7 +8.9**
baz=105
BSC Santa Cruz Isl 104.99 55⇑ Pdiff **Pdif 19 58 08.4 +7.7**
baz=105
BSC ⇑Pdiff **Pdif 19 58 08.4 +7.7**
baz=105
BSC ⇑Pdiff **Pdif 19 58 08.4 +7.7**
baz=105
PTL Penteli 105.02 309 *e*P PP 20 02 40.0 +19
VES Vestal, Richgr 105.11 53⇑ Pdiff **Pdif 19 58 08.5 +7.4**
baz=105
VES ⇑Pdiff **Pdif 19 58 08.5 +7.4**
baz=105
VES ⇑Pdiff **Pdif 19 58 08.5 +7.4**
baz=105
ATH Athens Observa 105.15 309 *e*P **PP 20 02 23.5 +1.2**
NB2 NORSAR Subarra 105.16 335 P **Pdif 19 57 58.7 -2.1**
comp=Z,63nm,1.2s,baz=62,slow=4.6
NOA NORSAR Array B 105.16 335 Pdiff **Pdif 19 57 59.4 -1.4**
comp=Z,6.9nm,0.9s,baz=63,slow=4.6,SNR=9.5
NOA PKiKP **PKiKP 20 02 11.3 -3.8**
comp=Z,9.4nm,0.9s,baz=64,slow=4.7,SNR=4.2
NOA PP PP 20 02 30.2 +8.6
comp=Z,46nm,1.1s,baz=61,slow=7.3,SNR=6.2
NOA PKKPbc **PKKPbc 20 13 43.9 -0.1**
comp=Z,4.8nm,0.9s,baz=71,slow=3.3,SNR=5.3
NOA NORSAR Array B 105.16 335 P **Pdif 19 57 59.4 -1.4**
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA NORSAR Array B 105.16 335 Pdif **Pdif 19 57 59.4 -1.4**
NOA PKiKP **PKiKP 20 02 11.3 -3.8**
NOA PP PP 20 02 30.2 +8.6
NOA PKKPbc **PKKPbc 20 13 43.9 -0.1**
NC602 NORSAR Array S 105.16 334 *e*P **Pdif 19 57 58.1 -2.7**
NC602 *e*PP **PKiKP 20 02 17.9 +2.9**
NC602 *e*SS SS 20 17 13.8 -0.3
LBTB Lobatse 105.16 244 PKKP **PKKPbc 20 13 47.9 +4.9**
comp=Z,16nm,0.8s,baz=284,slow=6.5,SNR=12
LBTB Lobatse 105.16 244 *e*P **Pdif 19 58 00.4 -1.3**
LBTB pmax pmax
comp=Z,183nm,1.9s
LBTB Lobatse 105.16 244 *e*Pdif **Pdif 19 58 00.3 -1.3**
comp=Z,183nm,1.9s
LBTB PKKP **PKKPbc 20 13 47.9 +4.9**
NVAR Mina Array Bea 105.22 50 Pdiff **Pdif 19 58 02.5 +0.6**
comp=Z,5.7nm,1.2s,baz=263,slow=7.2,SNR=14
NVAR PP **PKiKP 20 02 18.6 +2.5**
comp=Z,11nm,1.1s,baz=272,slow=5.2,SNR=3.7
NVAR PKKP **PKKPdf 20 13 50.8 -3.0**
comp=Z,3.6nm,0.8s,baz=116,slow=2.1,SNR=5.2
NVAR Mina Array Bea 105.22 50 Pdif **Pdif 19 58 02.5 +0.6**
NVAR PP **PKiKP 20 02 18.6 +2.5**
NVAR PKKP **PKKPdf 20 13 50.8 -3.0**
VAM Vamos 105.26 307 *e*P PP 20 02 13.5 -10
NEO Neokhori 105.26 311 *e*P **PP 20 02 24.5 +1.4**
JMIC Jan Mayen 105.29 348 PP PP 20 02 33.2 +11
comp=Z,28nm,0.6s,baz=162,slow=6.4,SNR=3.5
JMIC Jan Mayen 105.29 348 *e*P **Pdif 19 58 04.5 +3.4**
JMIC *e*PP PP 20 02 29.0 +6.9
JMIC *i* 20 11 39.6
JMIC *e*SS SS 20 17 15.9 +0.5
JMIC Jan Mayen 105.29 348 PP PP 20 02 33.2 +11
GKP Gorka Klasztor 105.34 326 *e*P **Pdif 19 58 05.1 +3.4**
GKP *e*PP PP 20 02 31.2 +8.1
GKP *e*Sdiff 20 09 59.4
GKP *e*PS **PS 20 11 41.0 +2.0**
GKP Gorka Klasztor 105.34 326 *e*P **Pdif 19 58 05.1 +3.4**
GKP *e* 20 02 31.2
GKP *e*PS **PS 20 11 41.0 +2.0**
NAIG Nisos Aigina 105.37 309 *e*P **PP 20 02 23.0 -0.9**
NAO01 NORSAR Array S 105.39 334 *e*Pdif **Pdif 19 58 01.5 -0.3**
comp=Z,20nm,0.8s
NAO01 *e*PKPdf **PKiKP 20 02 17.4 +2.0**
NAO01 LR LR
comp=Z,110μm,19.0s
BSMT Bassoo Peak 105.41 40 *e*Pdif **Pdif 19 58 03.8 +1.4**
comp=Z,36nm,1.5s
ARVC Arvin 105.44 54⇑ Pdiff **Pdif 19 58 11.2 +8.6**
baz=105
ARVC ⇑Pdiff **Pdif 19 58 11.2 +8.6**
baz=105
ARVC ⇑Pdiff **Pdif 19 58 11.2 +8.6**
baz=105
GVD Gavdhos 105.45 306 *e*P **PP 20 02 22.0 -2.6**
PSZ Piszkesteto 105.45 320⇓ P **Pdif 19 58 03.0 +0.5**
PSZ Piszkesteto 105.45 320 *e*Pdif **Pdif 19 58 00.1 -2.4**
comp=Z,29nm,1.2s
PSZ LR LR
comp=Z,110μm,20.0s
PSZ Piszkesteto 105.45 320⇓ *i*P **Pdif 19 58 03.0 +0.5**
PSZ Piszkesteto 105.45 320 *e*Pdiff **Pdif 19 58 06.4 +3.9**
TIN Tinemaha 105.56 52⇑ Pdiff **Pdif 19 58 12.4 +9.1**
baz=105
TIN ⇑Pdiff **Pdif 19 58 12.4 +9.1**
baz=105
TIN ⇑Pdiff **Pdif 19 58 12.4 +9.1**
baz=105
LKR Lokris 105.57 310 *e*P **PP 20 02 21.0 -4.3**
WALA Waterton Lakes 105.61 39 *e*Pdif **Pdif 19 58 02.7 -0.5**
comp=Z,0.9nm,1.1s
WALA *e*PP **PP 20 02 23.1 -2.3**
BMN Battle Mountai 105.61 48 *e*P **Pdif 19 58 05.5 +2.0**
BMN pmax pmax
comp=Z,87nm,1.7s
BMN MLR MLR
comp=Z,187μm,20.0s
BMN Battle Mountai 105.61 48 *e*Pdif **Pdif 19 58 05.5 +2.0**
comp=Z,87nm,1.7s
BMN LR LR
comp=Z,187μm,20.0s
ISA Isabella 105.63 53 *e*P **Pdif 19 58 03.6 +0.1**
ISA pmax pmax
comp=Z,113nm,1.9s
ISA Isabella 105.63 53 *e*Pdif **Pdif 19 58 03.6 +0.1**
comp=Z,113nm,1.9s
ISA Isabella 105.63 53⇑ Pdiff **Pdif 19 58 11.1 +7.6**
baz=105
ISA ⇑Pdiff **Pdif 19 58 11.1 +7.6**
baz=105
ISA ⇑Pdiff **Pdif 19 58 11.1 +7.6**
baz=105
LIT Litokhoron 105.64 312 *e*P PP 20 02 43.0 +17
LTK Loutraki 105.72 309 *e*P PP 20 02 20.5 -6.0
CWC Cottonwood Cre 105.79 52⇓ Pdiff **Pdif 19 58 12.3 +8.0**
baz=106
CWC ⇓Pdiff **Pdif 19 58 12.3 +8.0**
baz=106
CWC ⇓Pdiff **Pdif 19 58 12.3 +8.0**
baz=106
D13A Huson 105.84 41⇑ Pdiff **Pdif 19 58 11.5 +7.3**
baz=106

D13A ⇑Pdiff **Pdif** **19 58 11.5 +7.3**
baz=106
D13A ⇑Pdiff **Pdif** **19 58 11.5 +7.3**
baz=106
RAC **Raciborz** **105.85 322** *e*P **Pdif** **19 58 04.0 -0.1**
RAC *e* 20 02 28.1
RAC MLR MLR
comp=N,60μm,18.0s
RAC MLR MLR
comp=E,66μm,18.0s
RAC MLR MLR
comp=Z,72μm,18.0s
MFID **Camas Ranch** **105.91 45** *e*Pdif **Pdif** **19 58 03.4 -1.2**
comp=Z,370nm,0.3s
MFID **Camas Ranch** **105.91 45** ⇓Pdiff **Pdif** **19 58 12.6 +7.9**
baz=106
MFID ⇓Pdiff **Pdif** **19 58 12.6 +7.9**
baz=106
MFID ⇓Pdiff **Pdif** **19 58 12.6 +7.9**
baz=106
BSD **Bornholm Skovb** **105.93 328** *i* P **Pdif** **19 58 06.5 +2.2**
BSD *i* 20 02 32.6
BSD MLR MLR
comp=Z,110μm,21.0s
BSD **Bornholm Skovb** **105.93 328** *i* P **Pdif** **19 58 06.5 +2.2**
BSD *i* 20 02 32.6
BSD
comp=Z,113μm,21.0s
A14A **Double T Ranch** **105.94 39** ⇑Pdiff **Pdif** **19 58 13.1 +8.4**
baz=106
A14A ⇑Pdiff **Pdif** **19 58 13.1 +8.4**
baz=106
A14A ⇑Pdiff **Pdif** **19 58 13.1 +8.4**
baz=106
VYHS **Vyhne** **105.95 321** *i* P **Pdif** **19 58 06.9 +2.3**
VYHS *e* 20 02 28.8
VYHS *e*SS SS 20 17 37.4 +11
VYHS MLR MLR
comp=Z,59μm,23.3s
VYHS **Vyhne** **105.95 321** PDIF **Pdif** **19 58 06.9 +2.3**
VYHS *e*PP **PP** **20 02 28.8 +0.9**
VYHS SDIF 20 09 51.5
VYHS *e*SS SS 20 17 37.4 +11
OKC **Ostrava-Krasne** **105.96 322** *e*P **Pdif** **19 58 07.2 +2.6**
OKC *e* 20 11 39.6
OKC MLR MLR
comp=Z,80μm,17.3s
OKC **Ostrava-Krasne** **105.96 322** *e*PDIF **Pdif** **19 58 07.2 +2.6**
OKC *ex* x 20 01 42.2
OKC *ex* x 20 02 19.1
OKC *e*SDIF 20 10 03.5
OKC *e*SP **SP** **20 11 39.6 -1.6**
OKC AMS AMS 20 56 30.0
comp=Z,80μm,17.3s
SKO **Skopje** **105.98 314** ⇑*i*P PP 20 02 39.6 +11
SKO *e*S **Sdif** **20 10 03.6 +2.7**
AGG **Agios Georgios** **106.00 311** *e*P PP 20 02 34.0 +5.4
DECC **Green Verdugo** **106.00 55** ⇓Pdiff **Pdif** **19 58 12.7 +7.5**
baz=106
DECC ⇓Pdiff **Pdif** **19 58 12.7 +7.5**
baz=106
DECC ⇓Pdiff **Pdif** **19 58 12.7 +7.5**
baz=106
VLI **Veliai** **106.01 308** *e*P PP 20 02 39.0 +10
SWMT **Swartz Lake** **106.02 40** *e*Pdif **Pdif** **19 58 07.4 +2.4**
comp=Z,7.2nm,1.2s
SWMT *e*PKP **PKiKP** **20 02 15.8 -1.3**
SCI **San Clemente I** **106.05 56** ⇑Pdiff **Pdif** **19 58 13.3 +7.9**
baz=106
SCI ⇑Pdiff **Pdif** **19 58 13.3 +7.9**
baz=106
SCI ⇑Pdiff **Pdif** **19 58 13.3 +7.9**
baz=106
CIS **Catalina Islan** **106.10 55** ⇑Pdiff **Pdif** **19 58 13.8 +8.2**
baz=106
CIS ⇑Pdiff **Pdif** **19 58 13.8 +8.2**
baz=106
CIS ⇑Pdiff **Pdif** **19 58 13.8 +8.2**
baz=106
THL **Klokotos Trika** **106.12 311** *e*P **PP** **20 02 27.0 -2.3**
FMP **Fort Macarthur** **106.13 55** ⇑Pdiff **Pdif** **19 58 13.9 +8.2**
baz=106
FMP ⇑Pdiff **Pdif** **19 58 13.9 +8.2**
baz=106
FMP ⇑Pdiff **Pdif** **19 58 13.9 +8.2**
baz=106
PASC **Pasadena Art C** **106.14 55** *e*Pdif **Pdif** **19 58 07.8 +2.0**
comp=Z,96nm,1.4s
BUD **Budapest** **106.14 320** *e*Pdiff **Pdif** **19 58 09.2 +3.8**
EDW2 **Edwards Air Fo** **106.16 54** ⇓Pdiff **Pdif** **19 58 14.4 +8.4**
baz=106
EDW2 ⇓Pdiff **Pdif** **19 58 14.4 +8.4**
baz=106
EDW2 ⇓Pdiff **Pdif** **19 58 14.4 +8.4**
baz=106
KOLL **Kolacno** **106.20 321** *i* P **Pdif** **19 58 07.6 +1.9**
KOLL **Kolacno** **106.20 321** PDIF **Pdif** **19 58 07.6 +1.9**
E13A **Victor** **106.21 41** ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
E13A ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
E13A ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
DAC **Darwin (Calif)** **106.21 52** PFAKE 20 02 30.0
DAC LR LR
comp=Z,241μm,19.0s
GUR **Goura** **106.22 309** *e*P PP 20 02 24.0 -6.3
B14A **Marquette Ranc** **106.22 39** ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
B14A ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
B14A ⇑Pdiff **Pdif** **19 58 13.6 +7.6**
baz=106
MWC **Mount Wilson** **106.23 55** *e*P **Pdif** **19 57 57.1 -9.3**
MWC pmax pmax
comp=Z,211nm,1.6s
MWC **Mount Wilson** **106.23 55** *e*Pdif **Pdif** **19 57 57.1 -9.3**
comp=Z,211nm,1.6s
GRAC **Grapevine Rang** **106.24 52** ⇑Pdiff **Pdif** **19 58 15.0 +8.8**
baz=106
GRAC ⇑Pdiff **Pdif** **19 58 15.0 +8.8**
baz=106
GRAC ⇑Pdiff **Pdif** **19 58 15.0 +8.8**
baz=106
H12A **Diamond D Ranc** **106.29 43** ⇓Pdiff **Pdif** **19 58 13.3 +6.8**
baz=106
H12A ⇓Pdiff **Pdif** **19 58 13.3 +6.8**
baz=106
H12A ⇓Pdiff **Pdif** **19 58 13.3 +6.8**
baz=106
LRMC **Laurel Mountai** **106.29 53** ⇓Pdiff **Pdif** **19 58 15.1 +8.5**
baz=106
LRMC ⇓Pdiff **Pdif** **19 58 15.1 +8.5**
baz=106
LRMC ⇓Pdiff **Pdif** **19 58 15.1 +8.5**
baz=106
F13A **Darby** **106.30 42** ⇑Pdiff **Pdif** **19 58 13.3 +6.9**
baz=106
F13A ⇑Pdiff **Pdif** **19 58 13.3 +6.9**
baz=106
F13A ⇑Pdiff **Pdif** **19 58 13.3 +6.9**
baz=106
VLX **Vlachokerasia** **106.31 309** *e*P **PKiKP** **20 02 17.5 -0.5**
MPMC **Manual Prospec** **106.33 53** ⇑Pdiff **Pdif** **19 58 15.2 +8.3**
baz=106
MPMC ⇑Pdiff **Pdif** **19 58 15.2 +8.3**
baz=106
MPMC ⇑Pdiff **Pdif** **19 58 15.2 +8.3**
baz=106
MORC **Moravsky Berou** **106.35 322** ⇑P **Pdif** **19 58 05.7 -0.7**
MORC **Moravsky Berou** **106.35 322** *e*Pdif **Pdif** **19 58 04.3 -2.1**
comp=Z,168nm,2.1s
MORC *e*PKPdf **PKiKP** **20 02 16.4 -1.2**
MORC **Moravsky Berou** **106.35 322** ⇑*i*P **Pdif** **19 58 05.7 -0.7**
A15A **Johnson Ranch,** **106.37 39** ⇑Pdiff **Pdif** **19 58 14.3 +7.7**
baz=106
A15A ⇑Pdiff **Pdif** **19 58 14.3 +7.7**
baz=106
A15A ⇑Pdiff **Pdif** **19 58 14.3 +7.7**
baz=106
EVR **Evrytania** **106.42 311** *e*P **PP** **20 02 33.0 +1.3**
SLMT **Seeley Lake** **106.43 40** *e*Pdif **Pdif** **19 58 06.6 -0.4**
comp=Z,17nm,1.4s
SLMT *e*PKPdf **PKiKP** **20 02 18.8 +0.8**
EFP **Efpalio** **106.45 310** *e*P **PP** **20 02 28.0 -3.9**
D14A **Greenough** **106.47 41** ⇑Pdiff **Pdif** **19 58 13.6 +6.5**
baz=106
D14A ⇑Pdiff **Pdif** **19 58 13.6 +6.5**
baz=106
D14A ⇑Pdiff **Pdif** **19 58 13.6 +6.5**
baz=106
KONO **Kongsberg** **106.53 334** *e*P **Pdif** **19 58 08.3 +1.5**
KONO *e*PP **PP** **20 02 30.1 -1.5**
KONO *e*SS SS 20 17 35.9 +3.0
KONO **Kongsberg** **106.53 334** *e*P **Pdif** **19 58 12.0 +5.1**
KONO MLR MLR
comp=Z,143μm,19.0s
KONO **Kongsberg** **106.53 334** *e*Pdif **Pdif** **19 58 12.0 +5.1**
KONO LR LR
comp=Z,143μm,19.0s
BFSC **Mount Baldy Ra** **106.55 54** ⇓Pdiff **Pdif** **19 58 16.0 +8.2**
baz=106
BFSC ⇓Pdiff **Pdif** **19 58 16.0 +8.2**
baz=106
BFSC ⇓Pdiff **Pdif** **19 58 16.0 +8.2**
baz=106
G13A **Cobalt** **106.56 43** ⇑Pdiff **Pdif** **19 58 14.7 +7.1**
baz=106
G13A ⇑Pdiff **Pdif** **19 58 14.7 +7.1**
baz=106
G13A ⇑Pdiff **Pdif** **19 58 14.7 +7.1**
baz=106
E14A **Clinton** **106.67 41** ⇓Pdiff **Pdif** **19 58 15.8 +7.7**
baz=106
E14A ⇓Pdiff **Pdif** **19 58 15.8 +7.7**
baz=106
E14A ⇓Pdiff **Pdif** **19 58 15.8 +7.7**
baz=106
CHMT **Chamberlain Mo** **106.68 41** *e*Pdif **Pdif** **19 58 08.9 +0.8**
comp=Z,129nm,2.7s
B15A **Bradely Ranch,** **106.69 39** ⇓Pdiff **Pdif** **19 58 16.3 +8.3**
baz=106
B15A ⇓Pdiff **Pdif** **19 58 16.3 +8.3**
baz=106
B15A ⇓Pdiff **Pdif** **19 58 16.3 +8.3**
baz=106
H13A **Challis** **106.70 43** ⇑Pdiff **Pdif** **19 58 17.6 +9.4**
baz=106
H13A ⇑Pdiff **Pdif** **19 58 17.6 +9.4**
baz=106
H13A ⇑Pdiff **Pdif** **19 58 17.6 +9.4**
baz=106
ITM **Ithomi** **106.71 309** *e*P PKiKP 20 01 58.0 -21
KRLC **Kraliky** **106.72 323** *e*PDIF **Pdif** **19 58 11.3 +3.3**
KSP **Ksiaz** **106.74 324** *e*P **Pdif** **19 58 12.8 +4.8**
KSP *e*PP PP 20 02 42.3 +8.8
KSP *e*Sdiff 20 10 13.7
KSP *e*SS **SS** **20 17 33.7 -2.7**
KSP **Ksiaz** **106.74 324** *e*P **Pdif** **19 58 07.2 -0.8**
KSP *e* 20 02 36.5
KSP *e*PPP PPP 20 04 52.5
KSP *e*SP SP 20 11 41.0 -8.2
KSP MLR MLR
comp=Z,320μm,21.1s
FURC **Furnace Creek,** **106.75 52** ⇑Pdiff **Pdif** **19 58 16.4 +8.0**
baz=106
FURC ⇑Pdiff **Pdif** **19 58 16.4 +8.0**
baz=106
FURC ⇑Pdiff **Pdif** **19 58 16.4 +8.0**
baz=106
PKSM **Moragy** **106.77 318** ⇑P **Pdif** **19 58 09.8 +1.5**
PKSM **Moragy** **106.77 318** ⇑*i*P **Pdif** **19 58 09.8 +1.5**
PKSM **Moragy** **106.77 318** *e*Pdiff **Pdif** **19 58 11.9 +3.6**
C15A **Salmond Ranch,** **106.83 40** ⇑Pdiff **Pdif** **19 58 16.5 +7.8**
baz=106
C15A ⇑Pdiff **Pdif** **19 58 16.5 +7.8**
baz=106
C15A ⇑Pdiff **Pdif** **19 58 16.5 +7.8**
baz=106
HLID **Hailey** **106.86 44** *e*Pdif **Pdif** **19 58 05.8 -3.2**
comp=Z,9μm,1.5s
HLID LR LR
comp=Z,223μm,21.0s
HLID **Hailey** **106.86 44** ⇑Pdiff **Pdif** **19 58 17.5 +8.5**
baz=106
HLID ⇑Pdiff **Pdif** **19 58 17.5 +8.5**
baz=106
HLID ⇑Pdiff **Pdif** **19 58 17.5 +8.5**
baz=106
RLS **Riolos of Patr** **106.87 310** *e*P PP 20 02 27.5 -7.5
DPC **Dobruska-Polom** **106.90 323** *e*P **Pdif** **19 58 10.3 +1.5**
DPC *e* 20 02 28.8
DPC MLR MLR
comp=Z,140μm,20.6s
DPC **Dobruska-Polom** **106.90 323** *e*PDIF **Pdif** **19 58 10.3 +1.5**
DPC *e*PP PP 20 02 28.8 -5.9
DPC *e*SDIF 20 10 13.5
DPC *e*SP **SP** **20 11 51.0 +0.2**
DPC *e*SS **SS** **20 17 43.4 +4.8**
DPC AMS AMS 20 51 40.0
comp=Z,140μm,20.6s
PYL **PYLOS** **106.91 308** *e*P PP 20 02 24.0 -11
F14A **Wisdom** **106.94 42** ⇑Pdiff **Pdif** **19 58 17.6 +8.3**
baz=107
F14A ⇑Pdiff **Pdif** **19 58 17.6 +8.3**
baz=107
F14A ⇑Pdiff **Pdif** **19 58 17.6 +8.3**
baz=107
RRX **Edison Barstow** **106.96 54** ⇑Pdiff **Pdif** **19 58 18.1 +8.7**
baz=107
RRX ⇑Pdiff **Pdif** **19 58 18.1 +8.7**
baz=107
RRX ⇑Pdiff **Pdif** **19 58 18.1 +8.7**
baz=107
I13A **Wildhorse Cree** **106.97 44** ⇑Pdiff **Pdif** **19 58 15.9 +6.3**
baz=107
I13A ⇑Pdiff **Pdif** **19 58 15.9 +6.3**
baz=107
I13A ⇑Pdiff **Pdif** **19 58 15.9 +6.3**
baz=107
COP **Copenhagen** **106.99 329** *i* P **Pdif** **19 58 10.9 +1.9**
COP *i* 20 02 42.8
COP MLR MLR
comp=Z,59μm,20.0s
COP **Copenhagen** **106.99 329** *i* P **Pdif** **19 58 10.9 +1.9**
COP *i* 20 02 42.8
COP
comp=Z,59μm,20.0s
ELK **Elko** **107.01 47** *e*P **Pdif** **19 58 08.3 -1.5**
ELK **Elko** **107.01 47** *e*Pdif **Pdif** **19 58 08.3 -1.5**
UPC **Upice** **107.03 323** *e*P **Pdif** **19 58 10.5 +1.2**
UPC **Upice** **107.03 323** *e*PDIF **Pdif** **19 58 10.5 +1.2**
UPC *ex* x 20 01 48.7
GSC **Goldstone** **107.03 53** *e*P **Pdif** **19 58 04.3 -5.5**
GSC pmax pmax
comp=Z,118nm,1.9s
GSC **Goldstone** **107.03 53** *e*Pdif **Pdif** **19 58 04.3 -5.5**
comp=Z,118nm,1.9s
GSC *e*PP PP 20 02 44.1 +7.7
GSC **Goldstone** **107.03 53** ⇓Pdiff **Pdif** **19 58 18.3 +8.4**
baz=107
GSC ⇓Pdiff **Pdif** **19 58 18.3 +8.4**
baz=107
GSC ⇓Pdiff **Pdif** **19 58 18.3 +8.4**
baz=107
G14A **Jackson** **107.04 42** ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
G14A ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
G14A ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
MURC **Murrieta** **107.05 55** ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
MURC ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
MURC ⇑Pdiff **Pdif** **19 58 17.8 +8.0**
baz=107
J13A **Cove Ranch, Pi** **107.08 44** ⇑Pdiff **Pdif** **19 58 19.2 +9.3**
baz=107
J13A ⇑Pdiff **Pdif** **19 58 19.2 +9.3**
baz=107
J13A ⇑Pdiff **Pdif** **19 58 19.2 +9.3**
baz=107
VRAC **Vranov** **107.09 322** Pdiff **Pdif** **19 58 08.3 -1.3**
comp=Z,5.4nm,0.8s,baz=89,slow=4,2,SNR=6.7
VRAC **Vranov** **107.09 322** ⇑P **Pdif** **19 58 10.3 +0.6**
VRAC **Vranov** **107.09 322** Pdif **Pdif** **19 58 08.3 -1.3**
VRAC **Vranov** **107.09 322** ⇑*i*P **Pdif** **19 58 10.3 +0.6**
BBRC **Big Bear Solar** **107.15 54** ⇑Pdiff **Pdif** **19 58 19.4 +8.8**
baz=107
BBRC ⇑Pdiff **Pdif** **19 58 19.4 +8.8**
baz=107
B16A **M & M Farms, S** **107.20 39** ⇓Pdiff **Pdif** **19 58 17.7 +7.4**
baz=107
B16A ⇓Pdiff **Pdif** **19 58 17.7 +7.4**
baz=107
B16A ⇓Pdiff **Pdif** **19 58 17.7 +7.4**
baz=107
E15A **Deer Lodge** **107.23 41** ⇑Pdiff **Pdif** **19 58 18.6 +8.1**
baz=107
E15A ⇑Pdiff **Pdif** **19 58 18.6 +8.1**
baz=107
E15A ⇑Pdiff **Pdif** **19 58 18.6 +8.1**
baz=107
109C **Camp Elliot, M** **107.26 56** ⇓Pdiff **Pdif** **19 58 19.6 +8.8**
baz=107
109C ⇓Pdiff **Pdif** **19 58 19.6 +8.8**
baz=107
109C ⇓Pdiff **Pdif** **19 58 19.6 +8.8**
baz=107
TIR **Tirane** **107.28 313** *e*PKPdf PKiKP 20 02 09.7 -10
TIR LR LR
comp=Z,65μm,21.0s
H14A **Leadore** **107.29 43** ⇑Pdiff **Pdif** **19 58 19.2 +8.3**
baz=107
H14A ⇑Pdiff **Pdif** **19 58 19.2 +8.3**
baz=107
H14A ⇑Pdiff **Pdif** **19 58 19.2 +8.3**
baz=107
R11A **Troy Canyon, C** **107.33 50** ⇓Pdiff **Pdif** **19 58 19.7 +8.5**
baz=107
R11A ⇓Pdiff **Pdif** **19 58 19.7 +8.5**
baz=107
R11A ⇓Pdiff **Pdif** **19 58 19.7 +8.5**
baz=107
SHOC **Shoshone** **107.33 53** ⇑Pdiff **Pdif** **19 58 20.2 +9.1**
baz=107
SHOC ⇑Pdiff **Pdif** **19 58 20.2 +9.1**
baz=107
SHOC ⇑Pdiff **Pdif** **19 58 20.2 +9.1**
baz=107
FOO **Floro** **107.43 337** *e*P **Pdif** **19 58 10.7 -0.1**
FOO *e*PP **PP** **20 02 33.7 -4.4**
FOO *i* 20 12 05.1
FOO *e*SS SS 20 17 51.2 +6.4
FOO AMS AMS 20 58 07.1
comp=Z,231μm,23.5s
I14A **Mackay** **107.43 44** ⇓Pdiff **Pdif** **19 58 20.4 +8.8**
baz=107
I14A ⇓Pdiff **Pdif** **19 58 20.4 +8.8**
baz=107
I14A ⇓Pdiff **Pdif** **19 58 20.4 +8.8**
baz=107
HEC **Hector,Ludlow** **107.51 54** ⇓Pdiff **Pdif** **19 58 19.1 +7.2**
baz=107
HEC ⇓Pdiff **Pdif** **19 58 19.1 +7.2**
baz=107
HEC ⇓Pdiff **Pdif** **19 58 19.1 +7.2**
baz=107
F15A **Butte** **107.51 42** ⇓Pdiff **Pdif** **19 58 20.1 +8.2**
baz=107
F15A ⇓Pdiff **Pdif** **19 58 20.1 +8.2**
baz=107
F15A ⇓Pdiff **Pdif** **19 58 20.1 +8.2**
baz=107
LRM **Limekiln Ridge** **107.55 42** *e*Pdif **Pdif** **19 58 15.2 +3.1**
comp=Z,131nm,1.3s
MCMT **McKenzie Canyo** **107.58 43** *e*Pdif **Pdif** **19 58 11.7 -0.6**
comp=Z,4.4nm,1.2s
RUE **Ruedersdorf** **107.58 326** *e*Pdif **Pdif** **19 58 10.3 -1.3**
comp=Z,77nm,0.9s
DLMT **Dillon** **107.59 42** *e*PKPdf **Pdif** **19 58 09.8 -2.3**
comp=Z,31nm,1.4s
A17A **Triple J Farms** **107.64 38** ⇓Pdiff **Pdif** **19 58 21.2 +9.0**
baz=107
A17A ⇓Pdiff **Pdif** **19 58 21.2 +9.0**
baz=107
A17A ⇓Pdiff **Pdif** **19 58 21.2 +9.0**
baz=107
PFO **Pinyon Flat Ob** **107.66 55** *e*P **Pdif** **19 58 13.0 +0.3**
PFO pmax pmax
comp=Z,109nm,2.0s
PFO **Pinyon Flat Ob** **107.66 55** *e*Pdif **Pdif** **19 58 12.9 +0.3**
comp=Z,109nm,2.0s
PFO *e*PKP **PKiKP** **20 02 19.9 -0.7**
PFO LR LR
comp=Z,223μm,20.0s
PFO **Pinyon Flat Ob** **107.66 55** ⇑Pdiff **Pdif** **19 58 20.3 +7.6**
baz=107
PFO ⇑Pdiff **Pdif** **19 58 20.3 +7.6**
baz=107
PFO ⇑Pdiff **Pdif** **19 58 20.3 +7.6**
baz=107
BAR **Barrett** **107.66 56** *e*Pdif **Pdif** **19 58 04.4 -8.2**
comp=Z,38nm,1.4s
SOP **Sopron** **107.66 320** *e*Pdiff **Pdif** **19 58 14.9 +2.7**
HOMB **Homborsund** **107.70 333** *e*P **Pdif** **19 58 14.4 +2.3**
HOMB *e*PP **PP** **20 02 38.2 -2.0**
TUQ **Turquoise Moun** **107.71 53** ⇑Pdiff **Pdif** **19 58 20.4 +7.5**
baz=107
TUQ ⇑Pdiff **Pdif** **19 58 20.4 +7.5**
baz=107
TUQ ⇑Pdiff **Pdif** **19 58 20.4 +7.5**
baz=107
G15A **Dillon** **107.72 42** ⇑Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
G15A ⇑Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
G15A ⇑Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
D16A **Dana Ranch, Ca** **107.75 40** ⇓Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
D16A ⇓Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
D16A ⇓Pdiff **Pdif** **19 58 20.0 +7.2**
baz=107
TREC **Trest** **107.78 322** *e*P **Pdif** **19 58 13.3 +0.6**
TREC *e* 20 11 59.6
TREC MLR MLR
comp=Z,144μm,23.6s
TREC **Trest** **107.78 322** *e*PDIF **Pdif** **19 58 13.3 +0.6**
TREC *ex* x 20 02 25.0
TREC *e*SP SP 20 11 59.6 -0.3
TREC AMS AMS 20 51 10.0
comp=Z,144μm,23.6s
H15A **Lima** **107.78 43** ⇑Pdiff **Pdif** **19 58 20.1 +7.0**
baz=108
H15A ⇑Pdiff **Pdif** **19 58 20.1 +7.0**
baz=108
H15A ⇑Pdiff **Pdif** **19 58 20.1 +7.0**
baz=108
B17A **L&G Farms, Che** **107.81 39** ⇓Pdiff **Pdif** **19 58 20.6 +7.7**
baz=108
B17A ⇓Pdiff **Pdif** **19 58 20.6 +7.7**
baz=108
B17A ⇓Pdiff **Pdif** **19 58 20.6 +7.7**
baz=108
MONP **Monument Peak** **107.83 56** ⇓Pdiff **Pdif** **19 58 22.4 +8.9**
baz=108
MONP ⇓Pdiff **Pdif** **19 58 22.4 +8.9**
baz=108
MONP ⇓Pdiff **Pdif** **19 58 22.4 +8.9**
baz=108
E16A **East Helena** **107.83 41** ⇓Pdiff **Pdif** **19 58 20.2 +7.0**
baz=108
E16A ⇓Pdiff **Pdif** **19 58 20.2 +7.0**
baz=108
E16A ⇓Pdiff **Pdif** **19 58 20.2 +7.0**
baz=108
SUMG **Summit** **107.84 357** *e*P **Pdif** **19 58 13.8 +0.9**
SUMG pmax pmax
comp=Z,841nm,2.6s
SUMG **Summit** **107.84 357** *e*PKPdf **Pdif** **19 58 13.8 +0.9**
comp=Z,841nm,2.6s
SUMG **Summit** **107.84 357** *i* P **Pdif** **19 58 19.4 +6.4**
SUMG
comp=Z,94μm,20.0s
PVCC **Panska Ves** **107.88 324** *e*P **Pdif** **19 58 15.7 +2.6**
PVCC *e*SP SP 20 12 04.9 +4.1
PVCC *e* 20 17 48.6
PVCC MLR MLR
comp=Z,122μm,22.2s
PVCC **Panska Ves** **107.88 324** *e*PDIF **Pdif** **19 58 15.7 +2.6**
PVCC *ex* x 20 01 46.6
PVCC *e*SDIF 20 10 21.8
PVCC *e*SP **SP** **20 12 04.9 +4.1**
PVCC *e*SS **SS** **20 17 48.6 -3.2**

PVCC AMS AMS 20 54 20.0
comp=Z,122µm,22.2s
BEHE Becsehely 107.92 319 *e*Pdiff **Pdif** **19 58 18.7 +5.3**
BELC Belle Mtn. Jos 107.95 54 ⇑Pdiff **Pdif** **19 58 22.2 +8.2**
baz=108
BELC ⇑Pdiff **Pdif** **19 58 22.2 +8.2**
baz=108
BELC ⇑Pdiff **Pdif** **19 58 22.2 +8.2**
baz=108
BER Bergen 107.98 335 *e*P **Pdif** **19 58 17.2 +3.9**
BER *e*PP **PP** **20 02 42.0 -0.2**
BER *e* 20 12 08.2
BER AMS AMS 20 53 11.0
comp=Z,185µm,18.8s
SUR Sutherland 108.01 236 PKKPbc PKKPbc 20 13 40.9 +6.4
comp=Z,16nm,0.8s,baz=292,slow=4.5,SNR=7.0
SUR Sutherland 108.01 236 PKKPbc PKKPbc 20 13 40.9 +6.4
SUR LR LR
comp=Z,120µm,20.0s
CONA Conrad Observa 108.02 321 ⇑*i*Pdiff **Pdif** **19 58 16.5 +2.6**
comp=Z,13nm,1.4s
K14A Jones Ranch, D 108.02 45 ⇓Pdiff **Pdif** **19 58 22.4 +8.3**
baz=108
K14A ⇓Pdiff **Pdif** **19 58 22.4 +8.3**
baz=108
K14A ⇓Pdiff **Pdif** **19 58 22.4 +8.3**
baz=108
C17A Wharram Farm, 108.06 39 ⇑Pdiff **Pdif** **19 58 22.0 +7.9**
baz=108
C17A ⇑Pdiff **Pdif** **19 58 22.0 +7.9**
baz=108
C17A ⇑Pdiff **Pdif** **19 58 22.0 +7.9**
baz=108
I15A Monteview 108.08 44 ⇓Pdiff **Pdif** **19 58 23.8 +9.5**
baz=108
I15A ⇓Pdiff **Pdif** **19 58 23.8 +9.5**
baz=108
I15A ⇓Pdiff **Pdif** **19 58 23.8 +9.5**
baz=108
PRU Pruhonice 108.09 323 *e*P **Pdif** **19 58 15.9 +1.8**
PRU *e* 20 02 49.0
PRU *e*SP SP 20 12 07.9 +4.8
PRU *e*SS **SS** **20 17 58.6 +3.9**
PRU MLR MLR
comp=Z,119µm,18.7s
PRU Pruhonice 108.09 323 *e*PDIF **Pdif** **19 58 15.9 +1.8**
PRU *ex* x 20 01 55.6
PRU *e*PP PP 20 02 49.0 +5.6
PRU *e*SDIF 20 10 21.9
PRU *e*SP **SP** **20 12 07.9 +4.9**
PRU *e*SS **SS** **20 17 58.6 +3.9**
PRU AMS AMS 20 51 30.0
comp=Z,119µm,18.7s
F16A Kennard Place, 108.11 42 ⇓Pdiff **Pdif** **19 58 23.0 +8.6**
baz=108
F16A ⇓Pdiff **Pdif** **19 58 23.0 +8.6**
baz=108
F16A ⇓Pdiff **Pdif** **19 58 23.0 +8.6**
baz=108
BRG Berggiesshubel 108.11 324 *e*PDIF **Pdif** **19 58 14.8 +0.6**
comp=Z,57nm,1.4s
BRG *e* 20 01 46.6
comp=Z,41nm,1.5s
BRG PP PP 20 02 52.7 +9.2
comp=Z,852nm,2.6s
BRG PPP PPP 20 05 12.0
BRG SDIF 20 10 27.0
BRG PS PS 20 12 22.0 +14
BRG PKKP **PKKPab** **20 13 42.2 -4.8**
comp=Z,276nm,2.5s
BRG *e* 20 15 54.2
comp=Z,73nm,1.9s
BRG SS SS 20 18 08.0 +13
BRG PKPPKP P'P'df 20 21 35.5 -23
comp=Z,347nm,2.9s
BRG Berggiesshubel 108.11 324 *e*Pdiff **Pdif** **19 58 18.2 +4.1**
BRG *e*PP PP 20 02 52.5 +9.0
BRG *e*SS SS 20 18 03.2 +8.3
BRG Berggiesshubel 108.11 324 *e*P **Pdif** **19 58 14.8 +0.6**
BRG SS SS 20 18 08.0 +13
BRG pmax pmax
comp=Z,57nm,1.4s
L14A Malta 108.12 46 ⇑Pdiff **Pdif** **19 58 22.5 +8.0**
baz=108
L14A ⇑Pdiff **Pdif** **19 58 22.5 +8.0**
baz=108
L14A ⇑Pdiff **Pdif** **19 58 22.5 +8.0**
baz=108
PRA Prague 108.13 323 PDIF **Pdif** **19 58 17.0 +2.8**
PRA PP PP 20 02 53.0 +9.3
PRA *ex* x 20 10 23.0
PRA SP SP 20 12 09.0 +5.6
PRA SS **SS** **20 18 01.0 +5.8**
PRA AMS AMS 20 56 50.0
DVTC Desert V Tower 108.14 56 ⇓Pdiff **Pdif** **19 58 22.6 +7.8**
baz=108
DVTC ⇓Pdiff **Pdif** **19 58 22.6 +7.8**
baz=108
DVTC ⇓Pdiff **Pdif** **19 58 22.6 +7.8**
baz=108
BOZ Bozeman (W) 108.15 42 PFAKE 20 02 30.0
BOZ LR LR
comp=Z,158µm,22.0s
BOZ Bozeman (W) 108.15 42 ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
BOZ ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
BOZ ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
BOZ ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
BOZ ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
BOZ ⇑Pdiff **Pdif** **19 58 14.0 -0.6**
baz=108
G16A Moss Hill, Enn 108.16 42 ⇓Pdiff **Pdif** **19 58 19.0 +4.3**
baz=108
G16A ⇓Pdiff **Pdif** **19 58 19.0 +4.3**
baz=108
G16A ⇓Pdiff **Pdif** **19 58 19.0 +4.3**
baz=108
A18A Metzger Ranch, 108.18 38 ⇑Pdiff **Pdif** **19 58 18.5 +3.9**
baz=108
A18A ⇑Pdiff **Pdif** **19 58 18.5 +3.9**
baz=108
A18A ⇑Pdiff **Pdif** **19 58 18.5 +3.9**
baz=108
SCO Scoresbysund 108.18 351 ⇑*i*P **Pdif** **19 58 19.0 +5.0**
SCO *e* 20 17 55.3
SCO Scoresbysund 108.18 351 ⇑*i*P **Pdif** **19 58 19.0 +5.0**
MUD Monsted U'grnd 108.27 331 ⇑*i*P **Pdif** **19 58 20.1 +5.5**
MUD *i* 20 02 51.3
MUD MLR MLR
comp=Z,110µm,18.0s
MUD Monsted U'grnd 108.27 331 ⇑*i*P **Pdif** **19 58 20.1 +5.5**
MUD *i* 20 02 51.3
MUD
comp=Z,109µm,18.0s
D17A Six Diamond Ra 108.27 40 ⇑Pdiff **Pdif** **19 58 18.8 +3.7**
baz=108
D17A ⇑Pdiff **Pdif** **19 58 18.8 +3.7**
baz=108
D17A ⇑Pdiff **Pdif** **19 58 18.8 +3.7**
baz=108
KOGS Kog 108.27 319 *e*Pdiff **Pdif** **19 58 16.6 +1.7**
KOGS *e* 20 00 00.4
KOGS *e* 20 01 25.1
KOGS *e* 20 02 27.4
KOGS *e*Sdiff 20 10 24.9
KOGS *e*SS SS 20 18 25.8 +28
KOGS *e* 20 28 26.8
J15A Blackfoot 108.29 44 ⇓Pdiff **Pdif** **19 58 18.1 +2.8**
baz=108
J15A ⇓Pdiff **Pdif** **19 58 18.1 +2.8**
baz=108
J15A ⇓Pdiff **Pdif** **19 58 18.1 +2.8**
baz=108
B18A Beardsley Farm 108.41 38 ⇓Pdiff **Pdif** **19 58 19.5 +3.9**
baz=108
B18A ⇓Pdiff **Pdif** **19 58 19.5 +3.9**
baz=108
B18A ⇓Pdiff **Pdif** **19 58 19.5 +3.9**
baz=108
K15A Arbon 108.44 45 ⇓Pdiff **Pdif** **19 58 18.9 +3.0**
baz=108
K15A ⇓Pdiff **Pdif** **19 58 18.9 +3.0**
baz=108
LDFC Landfair 108.44 53 Pdif **Pdif** **19 58 11.2 -4.9**
BC3 Big Chuckawall 108.47 55 ⇓Pdiff **Pdif** **19 58 20.3 +4.0**
baz=108
BC3 ⇓Pdiff **Pdif** **19 58 20.3 +4.0**
baz=108
BC3 ⇓Pdiff **Pdif** **19 58 20.3 +4.0**
baz=108
CLL Collm 108.49 325 *e*Pdiff **Pdif** **19 58 20.3 +4.5**
CLL *e*PP PP 20 02 55.2 +9.0
CLL *e*SS SS 20 18 10.2 +10
CLL Collm 108.49 325 *e*P **Pdif** **19 58 17.0 +1.2**
CLL Collm 108.49 325 *e*pPdif **Pdif** **19 58 17.0 +1.2**
CLL *e* 20 02 12.0
CLL *e*PKiKP **PKiKP** **20 02 19.0 -2.5**
comp=Z,121nm,2.0s
CLL *e*PP **PP** **20 02 49.0 +2.8**
CLL *i* 20 03 02.7
comp=Z,399nm,1.8s
CLL *e*PPP PPP 20 05 20.0
CLL *e*SKSac **SKSac** **20 08 54.0 +0.5**
CLL *e*SKKSac SKSdf 20 09 39.0 +7.8
CLL *e*Sdif **Sdif** **20 10 22.0 +0.5**
CLL *e*PS **PS** **20 12 10.0 -1.5**
CLL *e*PPS PPS 20 13 15.0
CLL *e*(PKKPdf) 20 13 48.0
CLL *i* 20 14 17.8
CLL *e*SS **SS** **20 17 59.0 -0.9**
CLL *e* 20 19 20.0
CLL *e*(PKPPKP) 20 21 37.0
comp=Z,2µm,4.5s
CLL *e*SSS SSS 20 22 12.0
CLL *e*SSSS 20 25 48.0
CLL *e* 20 28 24.0
CLL LmH 20 43 00.0
comp=N,124µm,20.8s
CLL LmH 20 43 00.0
comp=E,120µm,20.9s
CLL LmV 20 57 00.0
comp=Z,113µm,21.1s
CLL Collm 108.49 325 *e*(P) PP 20 02 29.0 -17
comp=Z,49nm,1.0s
CLL *i* 20 02 34.6
comp=Z,49nm,1.0s
HVU Hansel Valley 108.52 46 *e*P **Pdif** **19 58 17.5 +1.1**
HVU pmax pmax
comp=Z,27nm,1.2s
HVU Hansel Valley 108.52 46 *e*Pdif **Pdif** **19 58 17.5 +1.1**
comp=Z,27nm,1.2s
QLMT Earthquake Lak 108.54 42 *e*Pdif **Pdif** **19 58 18.5 +2.0**
comp=Z,1.9nm,1.0s
EGMT Eagleton 108.56 39 *e*Pdif **Pdif** **19 58 15.9 -0.4**
EGMT *e*PKPdf **PKiKP** **20 02 25.1 +3.2**
EGMT *e*PKKP 20 12 04.6
EGMT LR LR
comp=Z,171µm,20.0s
R13A O'Grain Ranch, 108.60 50 ⇓Pdiff **Pdif** **19 58 19.2 +2.4**
baz=108
R13A ⇓Pdiff **Pdif** **19 58 19.2 +2.4**
baz=108
R13A ⇓Pdiff **Pdif** **19 58 19.2 +2.4**
baz=108
IRM Iron Mountain 108.61 54 ⇓Pdiff **Pdif** **19 58 22.6 +5.8**
baz=108
IRM ⇓Pdiff **Pdif** **19 58 22.6 +5.8**
baz=108
IRM ⇓Pdiff **Pdif** **19 58 22.6 +5.8**
baz=108
F17A Fitzpatrick Pl 108.70 41 ⇑Pdiff **Pdif** **19 58 18.7 +1.6**
baz=108
F17A ⇑Pdiff **Pdif** **19 58 18.7 +1.6**
baz=108
F17A ⇑Pdiff **Pdif** **19 58 18.7 +1.6**
baz=108
H16A Russell Place, 108.70 43 ⇓Pdiff **Pdif** **19 58 22.1 +4.8**
baz=108
H16A ⇓Pdiff **Pdif** **19 58 22.1 +4.8**
baz=108
H16A ⇓Pdiff **Pdif** **19 58 22.1 +4.8**
baz=108
L15A Malad City 108.74 45 ⇓Pdiff **Pdif** **19 58 21.0 +3.6**
baz=108
L15A ⇓Pdiff **Pdif** **19 58 21.0 +3.6**
baz=108
L15A ⇓Pdiff **Pdif** **19 58 21.0 +3.6**
baz=108
GROS Grobnik 108.75 319 *e*Pdiff **Pdif** **19 58 22.4 +5.3**
GROS *e* 20 30 50.6
I16A Newdale 108.80 43 ⇓Pdiff **Pdif** **19 58 22.3 +4.7**
baz=108
I16A ⇓Pdiff **Pdif** **19 58 22.3 +4.7**
baz=108
I16A ⇓Pdiff **Pdif** **19 58 22.3 +4.7**
baz=108
G17A Pierce Place, 108.84 42 ⇓Pdiff **Pdif** **19 58 26.2 +8.4**
baz=108
G17A ⇓Pdiff **Pdif** **19 58 26.2 +8.4**
baz=108
G17A ⇓Pdiff **Pdif** **19 58 26.2 +8.4**
baz=108
M15A Larsen Ranch, 108.85 46 ⇓Pdiff **Pdif** **19 58 23.1 +5.3**
baz=108
M15A ⇓Pdiff **Pdif** **19 58 23.1 +5.3**
baz=108
M15A ⇓Pdiff **Pdif** **19 58 23.1 +5.3**
baz=108
BSEG Bad Segeberg 108.86 328 *e*Pdiff **Pdif** **19 58 22.5 +5.2**
BSEG *e*PP PP 20 02 58.4 +10
BSEG *e*SS SS 20 18 18.1 +13
BSEG Bad Segeberg 108.86 328 *e*P **Pdif** **19 58 22.5 +5.2**
BSEG *e*SS SS 20 18 18.1 +13
NEE2 Needles Airpor 108.90 53 ⇑Pdiff **Pdif** **19 58 26.3 +8.2**
baz=109
NEE2 ⇑Pdiff **Pdif** **19 58 26.3 +8.2**
baz=109
NEE2 ⇑Pdiff **Pdif** **19 58 26.3 +8.2**
baz=109
J16A Bone 108.90 44 ⇑Pdiff **Pdif** **19 58 21.9 +3.8**
baz=109
J16A ⇑Pdiff **Pdif** **19 58 21.9 +3.8**
baz=109
J16A ⇑Pdiff **Pdif** **19 58 21.9 +3.8**
baz=109
B19A Brinkman Farms 108.90 38 ⇑Pdiff **Pdif** **19 58 25.4 +7.6**
baz=109
B19A ⇑Pdiff **Pdif** **19 58 25.4 +7.6**
baz=109
B19A ⇑Pdiff **Pdif** **19 58 25.4 +7.6**
baz=109
DUG Dugway 108.94 47 *e*P **Pdif** **19 58 14.9 -3.4**
DUG pmax pmax
comp=Z,24nm,1.3s
DUG MLR MLR
comp=Z,182µm,19.0s
DUG Dugway 108.94 47 *e*PKPdf **Pdif** **19 58 14.9 -3.4**
comp=Z,24nm,1.3s
DUG LR LR
comp=Z,182µm,19.0s
DUG Dugway 108.94 47 ⇑Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
DUG ⇑Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
DUG ⇑Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
N15A Stansbury Isla 108.96 47 ⇓Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
N15A ⇓Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
N15A ⇓Pdiff **Pdif** **19 58 26.8 +8.5**
baz=109
E18A Harlowton 108.97 40 ⇑Pdiff **Pdif** **19 58 26.4 +8.2**
baz=109
E18A ⇑Pdiff **Pdif** **19 58 26.4 +8.2**
baz=109
E18A ⇑Pdiff **Pdif** **19 58 26.4 +8.2**
baz=109
KHC Kasperske Hory 109.00 323 *e*P **Pdif** **19 58 20.5 +2.3**
KHC *e*SP SP 20 12 14.1 +1.7
KHC *e*SS **SS** **20 18 04.5 -2.6**
KHC MLR MLR
comp=Z,161µm,19.3s
KHC Kasperske Hory 109.00 323 *e*Pdif **Pdif** **19 58 17.7 -0.5**
KHC Kasperske Hory 109.00 323 *e*PDIF **Pdif** **19 58 20.5 +2.3**
KHC *ex* x 19 59 03.0
KHC *ex* x 20 01 43.0
KHC *e*PP **PKiKP** **20 02 25.5 +2.9**
KHC *ex* x 20 02 34.4
KHC *ex* x 20 03 07.0
KHC *e*SDIF 20 10 32.0
KHC *e*SP **SP** **20 12 14.1 +1.8**
KHC *e*SS **SS** **20 18 04.5 -2.6**
KHC AMS AMS 20 57 10.0
comp=Z,161µm,19.3s
GEC2 GERESS Array S 109.03 322 *e*Pdiff **Pdif** **19 58 23.3 +4.9**
GEC2 *e*PP PP 20 02 59.2 +8.8
GEC2 *e*SS SS 20 18 24.5 +17
GEC2 GERESS Array S 109.03 322 *e*P **Pdif** **19 58 23.3 +4.9**
GEC2 *e* 20 02 59.2
GEC2 *e*SS SS 20 18 24.5 +17
GERES GERESS Array B 109.03 322 Pdiff **Pdif** **19 58 17.0 -1.4**
comp=Z,4.0nm,1.0s,baz=57,slow=3.6,SNR=5.8
GERES PKiKP **PKiKP** **20 02 21.1 -1.7**
comp=Z,8.8nm,1.0s,baz=64,slow=4.5,SNR=5.7
GERES PP PP 20 02 57.5 +7.0
comp=Z,8.7nm,0.9s,baz=57,slow=3.6,SNR=4.4
GERES PKKPbc **PKKPbc** **20 13 34.5 +2.9**
comp=Z,1.1nm,0.6s,baz=248,slow=1.1,SNR=5.4
GERES GERESS Array B 109.03 322 P **Pdif** **19 58 17.0 -1.4**
GERES pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 109.03 322 Pdif **Pdif** **19 58 17.0 -1.4**
GERES PKiKP **PKiKP** **20 02 21.1 -1.7**
GERES PP PP 20 02 57.5 +7.0
GERES PKKPbc **PKKPbc** **20 13 34.5 +2.9**
K16A Soda Springs 109.05 44 ⇓Pdiff **Pdif** **19 58 26.6 +7.8**
baz=109
K16A ⇓Pdiff **Pdif** **19 58 26.6 +7.8**
baz=109
K16A ⇓Pdiff **Pdif** **19 58 26.6 +7.8**
baz=109
YFT Old Faithful 109.06 43 *e*Pdif **Pdif** **19 58 12.3 -6.6**
comp=Z,34nm,1.0s
RRI2 Red Ridge 109.08 44 *e*Pdif **Pdif** **19 58 17.9 -1.1**
comp=Z,36nm,2.0s
RRI2 *e*PKP **PKiKP** **20 02 22.9 -0.3**
YNR Norris Junctio 109.08 42 *e*Pdif **Pdif** **19 58 19.0 +0.1**
comp=Z,19nm,1.4s
C19A Slack Wire Ran 109.10 39 ⇑Pdiff **Pdif** **19 58 27.6 +8.8**
baz=109
C19A ⇑Pdiff **Pdif** **19 58 27.6 +8.8**
baz=109
C19A ⇑Pdiff **Pdif** **19 58 27.6 +8.8**
baz=109
GLA Glamis 109.11 55 *e*P **Pdif** **19 58 16.7 -2.3**
GLA pmax pmax
comp=Z,104nm,1.8s
GLA Glamis 109.11 55 *e*Pdif **Pdif** **19 58 16.7 -2.3**
comp=Z,104nm,1.8s
GLA Glamis 109.11 55 ⇓Pdiff **Pdif** **19 58 27.6 +8.5**
baz=109
GLA ⇓Pdiff **Pdif** **19 58 27.6 +8.5**
baz=109
GLA ⇓Pdiff **Pdif** **19 58 27.6 +8.5**
baz=109
TANN Tannenbergstha 109.16 324 *e*Pdiff **Pdif** **19 58 23.1 +4.2**
TANN *e*PP PP 20 03 00.4 +9.1
TANN *e*SS SS 20 18 23.1 +14
O15A The Old Anders 109.17 47 ⇑Pdiff **Pdif** **19 58 28.1 +8.8**
baz=109
O15A ⇑Pdiff **Pdif** **19 58 28.1 +8.8**
baz=109
O15A ⇑Pdiff **Pdif** **19 58 28.1 +8.8**
baz=109
Y12C Blythe 109.20 54 ⇑Pdiff **Pdif** **19 58 28.2 +8.8**
baz=109
Y12C ⇑Pdiff **Pdif** **19 58 28.2 +8.8**
baz=109
Y12C ⇑Pdiff **Pdif** **19 58 28.2 +8.8**
baz=109
CCUT Cedar City 109.22 50 *e*Pdif **Pdif** **19 58 22.3 +2.6**
comp=Z,244nm,2.4s
CCUT *e*PP PP 20 02 57.6 +5.1
BOJS Bojanci 109.24 319 *e*Pdiff **Pdif** **19 58 21.1 +1.8**
NKC Novy Kostel 109.24 324 *e*P **Pdif** **19 58 21.1 +1.9**
NKC *e*SP SP 20 12 16.2 +1.4
NKC *e* 20 18 14.8
NKC MLR MLR
comp=Z,143µm,20.6s
NKC Novy Kostel 109.24 324 *e*PDIF **Pdif** **19 58 21.1 +1.9**
NKC *ex* x 20 01 41.5
NKC *ex* x 20 02 27.4
NKC *e*SDIF 20 10 36.6
NKC *e*SP **SP** **20 12 16.2 +1.5**
NKC *e*SS **SS** **20 18 14.8 +4.6**
NKC AMS AMS 20 52 20.0
comp=Z,143µm,20.6s
H17A Grant Village 109.26 43 ⇓Pdiff Pdif 19 58 29.7 +10
baz=109
H17A ⇓Pdiff Pdif 19 58 29.7 +10
baz=109
H17A ⇓Pdiff Pdif 19 58 29.7 +10
baz=109
FLWY Flagg Ranch 109.28 43 *e*Pdif **Pdif** **19 58 22.2 +2.4**
LKWY Lake 109.32 42 PFAKE 20 02 30.0
LKWY LR LR
comp=Z,216µm,20.0s
F18A Big Timber 109.33 41 ⇓Pdiff **Pdif** **19 58 28.4 +8.6**
baz=109
F18A ⇓Pdiff **Pdif** **19 58 28.4 +8.6**
baz=109
F18A ⇓Pdiff **Pdif** **19 58 28.4 +8.6**
baz=109
MOOW Moose Ponds 109.35 43 *e*PKP **PKiKP** **20 02 23.7 +0.1**
A20A Cobblestone Ra 109.37 38 ⇑Pdiff **Pdif** **19 58 28.5 +8.6**
baz=109
A20A ⇑Pdiff **Pdif** **19 58 28.5 +8.6**
baz=109
A20A ⇑Pdiff **Pdif** **19 58 28.5 +8.6**
baz=109
PDMCI Parker Dam,Lak 109.39 54 ⇑Pdiff **Pdif** **19 58 29.0 +8.8**
baz=109
PDMCI ⇑Pdiff **Pdif** **19 58 29.0 +8.8**
baz=109
PDMCI ⇑Pdiff **Pdif** **19 58 29.0 +8.8**
baz=109
W13A Hualapai Mount 109.41 53 ⇑Pdiff **Pdif** **19 58 28.6 +8.0**
baz=109
W13A ⇑Pdiff **Pdif** **19 58 28.6 +8.0**
baz=109
W13A ⇑Pdiff **Pdif** **19 58 28.6 +8.0**
baz=109
I17A Pilgrim Ck. 109.41 43 ⇑Pdiff **Pdif** **19 58 29.5 +9.1**
baz=109
I17A ⇑Pdiff **Pdif** **19 58 29.5 +9.1**
baz=109
I17A ⇑Pdiff **Pdif** **19 58 29.5 +9.1**
baz=109
L16A Fish Haven 109.41 45 ⇓Pdiff **Pdif** **19 58 28.6 +8.2**
baz=109
L16A ⇓Pdiff **Pdif** **19 58 28.6 +8.2**
baz=109
L16A ⇓Pdiff **Pdif** **19 58 28.6 +8.2**
baz=109
AHID Auburn Hatcher 109.42 44 PFAKE 20 02 30.0
AHID LR LR
comp=Z,210µm,21.0s
D19A Cripps Ranch, 109.42 39 ⇓Pdiff **Pdif** **19 58 27.7 +7.5**
baz=109
D19A ⇓Pdiff **Pdif** **19 58 27.7 +7.5**
baz=109
D19A ⇓Pdiff **Pdif** **19 58 27.7 +7.5**
baz=109
WET Wettzell 109.42 323 *e*Pdiff **Pdif** **19 58 24.1 +4.1**
WET *e*PP PP 20 03 02.1 +9.0
WET *e*SS SS 20 18 28.8 +16
WET Wettzell 109.42 323 *e*P **Pdif** **19 58 24.1 +4.1**
WET *e* 20 03 02.1
WET *e*SS SS 20 18 28.8 +16
SNOW Snow King Moun 109.44 44 *e*PKPdf **PKiKP** **20 02 24.3 +0.4**
HWUT Hardware Ranch 109.44 46 PFAKE 20 02 30.0
HWUT LR LR
comp=Z,263µm,21.0s
LOHW Long Hollow 109.49 43 *e*Pdif **Pdif** **19 58 17.0 -3.8**
LOHW *e*PKPdf **PKiKP** **20 02 20.9 -3.0**
J17A Brown Place, J 109.50 44 ⇑Pdiff **Pdif** **19 58 29.2 +8.4**
baz=109
J17A ⇑Pdiff **Pdif** **19 58 29.2 +8.4**
baz=109
J17A ⇑Pdiff **Pdif** **19 58 29.2 +8.4**
baz=109

P15A Leamington 109.51 48 ⇓Pdiff **Pdif 19 58 29.7 +8.9**
baz=109
P15A ⇓Pdiff **Pdif 19 58 29.7 +8.9**
baz=109
P15A ⇓Pdiff **Pdif 19 58 29.7 +8.9**
baz=109
LJU Ljubljana 109.53 319 *e*Pdiff **Pdif 19 58 25.2 +4.7**
LJU *e* 20 02 34.8
LJU *e* 20 05 11.5
LJU *e* 20 07 02.0
LJU *e*Sdiff 20 10 32.3
LJU *e* 20 12 26.9
LJU *e* 20 13 30.4
LJU *e*SS SS 20 18 27.4 +13
LJU *e* 20 22 37.3
LJU *e* 20 28 54.8
MOX Moxa 109.56 325 *e*Pdiff **Pdif 19 58 22.6 +2.0**
MOX *e*PP PP 20 03 03.3 +9.2
MOX *e*SS SS 20 18 29.0 +15
MOX Moxa 109.56 325 *e*P **Pdif 19 58 22.6 +2.0**
MOX *e* 20 03 03.3
MOX *e*SS SS 20 18 29.0 +15
ROTZ Rotzenmuhle 109.57 324 *e*Pdiff **Pdif 19 58 24.7 +4.0**
ROTZ *e*PP PP 20 03 03.6 +9.4
ROTZ *e*SS SS 20 18 28.8 +14
G18A Lazy EL Ranch, 109.63 41 ⇑Pdiff **Pdif 19 58 28.1 +6.8**
baz=109
G18A ⇑Pdiff **Pdif 19 58 28.1 +6.8**
baz=109
G18A ⇑Pdiff **Pdif 19 58 28.1 +6.8**
baz=109
E19A Rath Farm, Rou 109.73 40 ⇑Pdiff **Pdif 19 58 30.1 +8.5**
baz=109
E19A ⇑Pdiff **Pdif 19 58 30.1 +8.5**
baz=109
E19A ⇑Pdiff **Pdif 19 58 30.1 +8.5**
baz=109
N16A Rees Ranch, Co 109.75 46 ⇑Pdiff **Pdif 19 58 30.1 +8.2**
baz=109
N16A ⇑Pdiff **Pdif 19 58 30.1 +8.2**
baz=109
N16A ⇑Pdiff **Pdif 19 58 30.1 +8.2**
baz=109
CLZ Clausthal 109.76 326 *e*Pdiff **Pdif 19 58 26.5 +5.0**
CLZ *e*PP PP 20 03 05.0 +10
CLZ *e*SS SS 20 18 27.0 +10
CLZ Clausthal 109.76 326 *e*P **Pdif 19 58 26.5 +5.0**
CLZ *e*SS SS 20 18 27.0 +10
C20A Veseth Ranch, 109.77 39 ⇑Pdiff **Pdif 19 58 29.2 +7.6**
baz=109
C20A ⇑Pdiff **Pdif 19 58 29.2 +7.6**
baz=109
C20A ⇑Pdiff **Pdif 19 58 29.2 +7.6**
baz=109
L17A Cokeville 109.78 45 ⇑Pdiff **Pdif 19 58 30.2 +8.1**
baz=109
L17A ⇑Pdiff **Pdif 19 58 30.2 +8.1**
baz=109
L17A ⇑Pdiff **Pdif 19 58 30.2 +8.1**
baz=109
JLU Jordanelle 109.82 47 *e*Pdif **Pdif 19 58 21.5 -0.8**
F19A Roth Farm, Mol 109.85 41 ⇑Pdiff **Pdif 19 58 30.8 +8.6**
baz=110
F19A ⇑Pdiff **Pdif 19 58 30.8 +8.6**
baz=110
F19A ⇑Pdiff **Pdif 19 58 30.8 +8.6**
baz=110
MVU Marysvale 109.85 49 PFAKE 20 02 30.0
MVU LR LR
comp=Z,248μm,22.0s
MPU Maple Canyon 109.86 47 *e*Pdif **Pdif 19 58 15.6 -6.8**
MPU *e*PKP **PKiKP 20 02 22.9 -1.7**
MSU Marysvale 109.87 49 *e*P **Pdif 19 58 28.1 +5.5**
MSU Marysvale 109.87 49 *e*Pdif **Pdif 19 58 28.1 +5.5**
MSU *e*PKP **PKiKP 20 02 23.0 -1.8**
R15A Junction 109.88 49 ⇑Pdiff **Pdif 19 58 30.8 +8.3**
baz=110
R15A ⇑Pdiff **Pdif 19 58 30.8 +8.3**
baz=110
R15A ⇑Pdiff **Pdif 19 58 30.8 +8.3**
baz=110
RLMT Red Lodge 109.89 42 *e*Pdif **Pdif 19 58 19.0 -3.5**
RLMT *e*PKP PKiKP 20 02 18.3 -6.3
RLMT LR LR
comp=Z,140μm,21.0s
RLMT Red Lodge 109.89 42 ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
RLMT ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
RLMT ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
RLMT ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
RLMT ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
RLMT ⇓Pdiff **Pdif 19 58 32.2 +10**
baz=110
O16A Springville 109.90 47 ⇓Pdiff **Pdif 19 58 31.3 +8.7**
baz=110
O16A ⇓Pdiff **Pdif 19 58 31.3 +8.7**
baz=110
O16A ⇓Pdiff **Pdif 19 58 31.3 +8.7**
baz=110
D20A Manuel Ranch, 109.92 39 ⇑Pdiff **Pdif 19 58 30.4 +8.1**
baz=110
D20A ⇑Pdiff **Pdif 19 58 30.4 +8.1**
baz=110
D20A ⇑Pdiff **Pdif 19 58 30.4 +8.1**
baz=110
A21A Bergtoll Ranch 109.93 37 ⇑Pdiff **Pdif 19 58 29.1 +6.8**
baz=110
A21A ⇑Pdiff **Pdif 19 58 29.1 +6.8**
baz=110
A21A ⇑Pdiff **Pdif 19 58 29.1 +6.8**
baz=110
P16A Fountain Green 109.95 48 ⇑Pdiff **Pdif 19 58 32.3 +9.5**
baz=110
P16A ⇑Pdiff **Pdif 19 58 32.3 +9.5**
baz=110
P16A ⇑Pdiff **Pdif 19 58 32.3 +9.5**
baz=110
CADS Cadrg 109.98 320 *e*Pdiff **Pdif 19 58 25.5 +2.9**
CADS *e*Sdiff 20 10 39.7
I18A Diamond G Ranc 110.00 43 ⇓Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
I18A ⇓Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
I18A ⇓Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
RJOB Jochberg 110.01 321 *e*Pdiff **Pdif 19 58 26.3 +3.5**
RJOB *e*PP PP 20 03 06.4 +8.9
RJOB *e*SS SS 20 18 38.6 +18
J18A Kendall Valley 110.03 44 ⇓Pdiff **Pdif 19 58 31.5 +8.4**
baz=110
J18A ⇓Pdiff **Pdif 19 58 31.5 +8.4**
baz=110
J18A ⇓Pdiff **Pdif 19 58 31.5 +8.4**
baz=110
Z13A Yuma Proving G 110.03 55 ⇓Pdiff **Pdif 19 58 31.1 +8.0**
baz=110
Z13A ⇓Pdiff **Pdif 19 58 31.1 +8.0**
baz=110
Z13A ⇓Pdiff **Pdif 19 58 31.1 +8.0**
baz=110
113A Mohawk Valley, 110.04 55 ⇑Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
113A ⇑Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
113A ⇑Pdiff **Pdif 19 58 32.0 +8.9**
baz=110
SKDS Skadanscina 110.04 319 *e*Pdiff **Pdif 19 58 26.9 +4.0**
FFC Flin Flon 110.10 30 *e*PKPdf **PKiKP 20 02 21.7 -2.7**
FFC *e*PKKP **PKKPab 20 13 36.8 -1.4**
FFC LR LR
comp=Z,188μm,22.0s
B21A Ellsworth Farm 110.10 38 ⇑Pdiff **Pdif 19 58 30.3 +7.2**
baz=110
B21A ⇑Pdiff **Pdif 19 58 30.3 +7.2**
baz=110
B21A ⇑Pdiff **Pdif 19 58 30.3 +7.2**
baz=110
M17A Scullys Gap (B 110.12 46 ⇓Pdiff **Pdif 19 58 30.4 +6.8**
baz=110
M17A ⇓Pdiff **Pdif 19 58 30.4 +6.8**
baz=110
M17A ⇓Pdiff **Pdif 19 58 30.4 +6.8**
baz=110
E20A Meyer Farm, Mu 110.14 40 ⇓Pdiff **Pdif 19 58 32.7 +9.3**
baz=110
E20A ⇓Pdiff **Pdif 19 58 32.7 +9.3**
baz=110
E20A ⇓Pdiff **Pdif 19 58 32.7 +9.3**
baz=110
TRI Trieste 110.15 319 PFAKE 20 02 30.0
TRI LR LR
comp=Z,71μm,21.0s
TIP Timpagrande 110.16 312 PFAKE 20 02 30.0
TIP LR LR
comp=Z,60μm,21.0s
N17A Moffit Pass 110.17 46 ⇓Pdiff **Pdif 19 58 33.2 +9.3**
baz=110
N17A ⇓Pdiff **Pdif 19 58 33.2 +9.3**
baz=110
N17A ⇓Pdiff **Pdif 19 58 33.2 +9.3**
baz=110
GRF Grafenberg Arr 110.19 324 *e*Pdiff **Pdif 19 58 26.9 +3.5**
GRF *e*PP PP 20 03 07.9 +9.3
GRF *e*Sdiff 20 10 44.0
GRF *e*SS SS 20 18 39.0 +16
GRF *e*L L 20 53 11.1
comp=Z,162μm,21.6s
GRF Grafenberg Arr 110.19 324 *e*P **Pdif 19 58 26.9 +3.5**
GRF *e*SS SS 20 18 39.0 +16
GRFO Grafenberg 110.19 324 *e*P **Pdif 19 58 22.2 -1.2**
GRFO Grafenberg 110.19 324 *e*Pdif **Pdif 19 58 22.2 -1.2**
K18A Toltan Ranch, 110.20 44 ⇓Pdiff **Pdif 19 58 32.3 +8.4**
baz=110
K18A ⇓Pdiff **Pdif 19 58 32.3 +8.4**
baz=110
K18A ⇓Pdiff **Pdif 19 58 32.3 +8.4**
baz=110
H19A Powell 110.24 42 ⇓Pdiff **Pdif 19 58 32.4 +8.5**
baz=110
H19A ⇓Pdiff **Pdif 19 58 32.4 +8.5**
baz=110
H19A ⇓Pdiff **Pdif 19 58 32.4 +8.5**
baz=110
TMUT Trail Mountain 110.38 48 *e*Pdif **Pdif 19 58 25.9 +1.0**
TMUT *e*PKP PKiKP 20 02 20.1 -5.7
F20A Billings 110.39 41 ⇓Pdiff **Pdif 19 58 31.3 +6.8**
baz=110
F20A ⇓Pdiff **Pdif 19 58 31.3 +6.8**
baz=110
F20A ⇓Pdiff **Pdif 19 58 31.3 +6.8**
baz=110
Y14A Wickenburg 110.39 54 ⇑Pdiff **Pdif 19 58 33.1 +8.4**
baz=110
Y14A ⇑Pdiff **Pdif 19 58 33.1 +8.4**
baz=110
Y14A ⇑Pdiff **Pdif 19 58 33.1 +8.4**
baz=110
UBBA Unterbreizbach 110.42 325 *e*Pdiff **Pdif 19 58 30.3 +6.1**
UBBA *e*PP PP 20 03 10.5 +10
UBBA *e*SS SS 20 18 41.3 +16
L18A Fontenelle, Gr 110.43 45 ⇓Pdiff **Pdif 19 58 33.7 +8.7**
baz=110
L18A ⇓Pdiff **Pdif 19 58 33.7 +8.7**
baz=110
L18A ⇓Pdiff **Pdif 19 58 33.7 +8.7**
baz=110
I19A Meeteetse 110.45 43 ⇑Pdiff **Pdif 19 58 34.6 +10**
baz=110
I19A ⇑Pdiff **Pdif 19 58 34.6 +10**
baz=110
I19A ⇑Pdiff **Pdif 19 58 34.6 +10**
baz=110
O17A Robinson Place 110.46 47 ⇓Pdiff **Pdif 19 58 34.6 +10**
baz=110
O17A ⇓Pdiff **Pdif 19 58 34.6 +10**
baz=110
O17A ⇓Pdiff **Pdif 19 58 34.6 +10**
baz=110
PD01 Pinedale Array 110.47 44 *e*Pdif **Pdif 19 58 31.0 +5.9**
PD01 *e*PKP PKiKP 20 02 07.6 -18
PD02 Pinedale Array 110.48 44 *e*Pdif **Pdif 19 58 18.7 -6.5**
PD02 *e*PKP **PKiKP 20 02 25.4 -0.4**
BW06 Boulder Array 110.49 44 *e*PKPdf **PKiKP 20 02 22.5 -3.4**
BW06 LR LR
comp=Z,184μm,21.0s
BW06 Boulder Array 110.49 44 ⇓Pdiff **Pdif 19 58 32.4 +7.2**
baz=110
BW06 ⇓Pdiff **Pdif 19 58 32.4 +7.2**
baz=110
BW06 ⇓Pdiff **Pdif 19 58 32.4 +7.2**
baz=110
BW06 ⇓Pdiff **Pdif 19 58 32.4 +7.2**
baz=110
BW06 ⇓Pdiff **Pdif 19 58 32.4 +7.2**
baz=110
PDAR Pinedale Array 110.49 44 Pdiff **Pdif 19 58 31.0 +5.8**
comp=Z,0.8nm,0.9s,baz=252,slow=0.9,SNR=4.6
PDAR PKiKP **PKiKP 20 02 25.5 -0.3**
comp=Z,2.6nm,0.9s,baz=258,slow=2.5,SNR=4.2
PDAR PKKPab **PKKPbc 20 13 31.6 +4.7**
comp=Z,8.0nm,0.9s,baz=119,slow=5.2,SNR=9.1
PDAR Pinedale Array 110.49 44 Pdif **Pdif 19 58 31.0 +5.8**
PDAR PKiKP **PKiKP 20 02 25.5 -0.3**
PDAR PKKPab **PKKPbc 20 13 31.6 +4.7**
Q16A Castle Valley 110.52 48 ⇑Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
Q16A ⇑Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
Q16A ⇑Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
S16A Weppner Ranch, 110.53 50 ⇓Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
S16A ⇓Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
S16A ⇓Pdiff **Pdif 19 58 33.4 +8.0**
baz=110
A22A Carney Farms, 110.54 37 ⇑Pdiff **Pdif 19 58 31.6 +6.5**
baz=110
A22A ⇑Pdiff **Pdif 19 58 31.6 +6.5**
baz=110
A22A ⇑Pdiff **Pdif 19 58 31.6 +6.5**
baz=110
G20A Bridger 110.55 41 ⇑Pdiff **Pdif 19 58 32.5 +7.2**
baz=110
G20A ⇑Pdiff **Pdif 19 58 32.5 +7.2**
baz=110
G20A ⇑Pdiff **Pdif 19 58 32.5 +7.2**
baz=110
M18A Lyman 110.56 46 ⇓Pdiff **Pdif 19 58 33.5 +7.9**
baz=110
M18A ⇓Pdiff **Pdif 19 58 33.5 +7.9**
baz=110
M18A ⇓Pdiff **Pdif 19 58 33.5 +7.9**
baz=110
Z14A Wintersburg 110.57 54 ⇑Pdiff **Pdif 19 58 34.4 +8.9**
baz=110
Z14A ⇑Pdiff **Pdif 19 58 34.4 +8.9**
baz=110
Z14A ⇑Pdiff **Pdif 19 58 34.4 +8.9**
baz=110
CUC Castrocucco 110.61 313 PFAKE 20 02 30.0
CUC LR LR
comp=Z,46μm,21.0s
D21A La Casta Ranch 110.65 39 ⇑Pdiff **Pdif 19 58 34.1 +8.5**
baz=110
D21A ⇑Pdiff **Pdif 19 58 34.1 +8.5**
baz=110
D21A ⇑Pdiff **Pdif 19 58 34.1 +8.5**
baz=110
J19A Crowheart 110.67 43 ⇓Pdiff **Pdif 19 58 35.0 +9.1**
baz=110
J19A ⇓Pdiff **Pdif 19 58 35.0 +9.1**
baz=110
J19A ⇓Pdiff **Pdif 19 58 35.0 +9.1**
baz=110
P17A Butcher Ranch, 110.67 48 ⇓Pdiff **Pdif 19 58 34.6 +8.6**
baz=110
P17A ⇓Pdiff **Pdif 19 58 34.6 +8.6**
baz=110
P17A ⇓Pdiff **Pdif 19 58 34.6 +8.6**
baz=110
114A Black Gap (USA 110.77 55 ⇓Pdiff **Pdif 19 58 35.7 +9.3**
baz=110
114A ⇓Pdiff **Pdif 19 58 35.7 +9.3**
baz=110
114A ⇓Pdiff **Pdif 19 58 35.7 +9.3**
baz=110
B22A Reddig Ranch S 110.78 38 ⇓Pdiff **Pdif 19 58 32.5 +6.4**
baz=110
B22A ⇓Pdiff **Pdif 19 58 32.5 +6.4**
baz=110
B22A ⇓Pdiff **Pdif 19 58 32.5 +6.4**
baz=110
FUR Furstenfeldbru 110.78 322 *e*Pdiff **Pdif 19 58 30.8 +4.7**
FUR *e*PP PP 20 03 11.7 +8.7
FUR *e*SS SS 20 18 46.8 +16
FUR Furstenfeldbru 110.78 322 *e*P **Pdif 19 58 30.8 +4.7**
FUR *e* 20 03 11.7
FUR *e*SS SS 20 18 46.8 +16
E21A Keefer Ranch, 110.80 40 ⇑Pdiff **Pdif 19 58 34.8 +8.5**
baz=110
E21A ⇑Pdiff **Pdif 19 58 34.8 +8.5**
baz=110
E21A ⇑Pdiff **Pdif 19 58 34.8 +8.5**
baz=110
L19A Farson 110.85 45 ⇑Pdiff **Pdif 19 58 35.4 +8.6**
baz=110
L19A ⇑Pdiff **Pdif 19 58 35.4 +8.6**
baz=110
L19A ⇑Pdiff **Pdif 19 58 35.4 +8.6**
baz=110
SRU San Rafael 110.94 48 *e*P **Pdif 19 58 30.4 +3.2**
SRU San Rafael 110.94 48 *e*Pdif **Pdif 19 58 30.4 +3.2**
SRU *e*PKP **PKiKP 20 02 26.7 0.0**
H20A Greybull 110.96 42 ⇑Pdiff **Pdif 19 58 36.0 +8.9**
baz=111
H20A ⇑Pdiff **Pdif 19 58 36.0 +8.9**
baz=111
H20A ⇑Pdiff **Pdif 19 58 36.0 +8.9**
baz=111
O18A Roosevelt 110.97 47 ⇓Pdiff **Pdif 19 58 36.0 +8.7**
baz=111
O18A ⇓Pdiff **Pdif 19 58 36.0 +8.7**
baz=111
O18A ⇓Pdiff **Pdif 19 58 36.0 +8.7**
baz=111
IBBN Ibbenburen 110.98 327 *e*Pdiff **Pdif 19 58 29.9 +3.1**
IBBN *e*PP PP 20 03 13.8 +10
IBBN *e*SS SS 20 18 48.9 +16
N18A Larsen Ranch, 110.99 46 ⇓Pdiff **Pdif 19 58 35.2 +7.7**
baz=111
N18A ⇓Pdiff **Pdif 19 58 35.2 +7.7**
baz=111
N18A ⇓Pdiff **Pdif 19 58 35.2 +7.7**
baz=111
R17A Hanksville Air 111.00 49 ⇓Pdiff **Pdif 19 58 37.0 +10**
baz=111
R17A ⇓Pdiff **Pdif 19 58 37.0 +10**
baz=111
R17A ⇓Pdiff **Pdif 19 58 37.0 +10**
baz=111
214A Organ Pipe Nat 111.01 56 ⇓Pdiff **Pdif 19 58 35.7 +8.2**
baz=111
214A ⇓Pdiff **Pdif 19 58 35.7 +8.2**
baz=111
214A ⇓Pdiff **Pdif 19 58 35.7 +8.2**
baz=111
F21A Absaloka Mine, 111.04 40 ⇓Pdiff **Pdif 19 58 36.2 +8.8**
baz=111
F21A ⇓Pdiff **Pdif 19 58 36.2 +8.8**
baz=111
F21A ⇓Pdiff **Pdif 19 58 36.2 +8.8**
baz=111
CEL Celeste 111.07 311 PFAKE 20 02 40.0
CEL LR LR
comp=Z,48μm,22.0s
I20A Worland 111.07 42 ⇓Pdiff **Pdif 19 58 37.1 +10**
baz=111
I20A ⇓Pdiff **Pdif 19 58 37.1 +10**
baz=111
I20A ⇓Pdiff **Pdif 19 58 37.1 +10**
baz=111
C22A Vida 111.07 38 ⇓Pdiff **Pdif 19 58 34.9 +7.4**
baz=111
C22A ⇓Pdiff **Pdif 19 58 34.9 +7.4**
baz=111
C22A ⇓Pdiff **Pdif 19 58 34.9 +7.4**
baz=111
D22A Cohagen 111.13 39 ⇓Pdiff **Pdif 19 58 36.8 +9.1**
baz=111
D22A ⇓Pdiff **Pdif 19 58 36.8 +9.1**
baz=111
D22A ⇓Pdiff **Pdif 19 58 36.8 +9.1**
baz=111
S17A Black Ridge (B 111.16 50 ⇑Pdiff **Pdif 19 58 36.9 +8.7**
baz=111
S17A ⇑Pdiff **Pdif 19 58 36.9 +8.7**
baz=111
S17A ⇑Pdiff **Pdif 19 58 36.9 +8.7**
baz=111
A23A Redstone 111.17 37 ⇑Pdiff **Pdif 19 58 35.1 +7.2**
baz=111
A23A ⇑Pdiff **Pdif 19 58 35.1 +7.2**
baz=111
A23A ⇑Pdiff **Pdif 19 58 35.1 +7.2**
baz=111
M19A Rock Springs 111.19 45 ⇑Pdiff **Pdif 19 58 35.1 +6.8**
baz=111
M19A ⇑Pdiff **Pdif 19 58 35.1 +6.8**
baz=111
M19A ⇑Pdiff **Pdif 19 58 35.1 +6.8**
baz=111
G21A Lodge Grass 111.21 41 ⇓Pdiff **Pdif 19 58 34.7 +6.5**
baz=111
G21A ⇓Pdiff **Pdif 19 58 34.7 +6.5**
baz=111
G21A ⇓Pdiff **Pdif 19 58 34.7 +6.5**
baz=111
Q18A Rafter H Ranch 111.23 48 ⇓Pdiff **Pdif 19 58 36.5 +8.1**
baz=111
Q18A ⇓Pdiff **Pdif 19 58 36.5 +8.1**
baz=111
Q18A ⇓Pdiff **Pdif 19 58 36.5 +8.1**
baz=111
WUAZ Wupatki 111.30 52 *e*Pdif **Pdif 19 58 25.9 -3.0**
WUAZ *e*PKP **PKiKP 20 02 25.3 -2.1**
WUAZ LR LR
comp=Z,222μm,22.0s
WUAZ Wupatki 111.30 52 ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
WUAZ ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
WUAZ ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
J20A Shoshoni 111.31 43 ⇑Pdiff **Pdif 19 58 36.7 +8.0**
baz=111
J20A ⇑Pdiff **Pdif 19 58 36.7 +8.0**
baz=111
J20A ⇑Pdiff **Pdif 19 58 36.7 +8.0**
baz=111
B23A Brockton 111.32 37 ⇑Pdiff **Pdif 19 58 36.2 +7.7**
baz=111
B23A ⇑Pdiff **Pdif 19 58 36.2 +7.7**
baz=111
B23A ⇑Pdiff **Pdif 19 58 36.2 +7.7**
baz=111
U16A Tuba City 111.32 51 ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
U16A ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
U16A ⇑Pdiff **Pdif 19 58 38.5 +10**
baz=111
T17A Navajo Res., N 111.34 50 ⇑Pdiff **Pdif 19 58 37.2 +8.1**
baz=111
T17A ⇑Pdiff **Pdif 19 58 37.2 +8.1**
baz=111
T17A ⇑Pdiff **Pdif 19 58 37.2 +8.1**
baz=111
K20A Yellowstone Ra 111.37 44 ⇑Pdiff **Pdif 19 58 36.8 +7.7**
baz=111
K20A ⇑Pdiff **Pdif 19 58 36.8 +7.7**
baz=111
K20A ⇑Pdiff **Pdif 19 58 36.8 +7.7**
baz=111
N19A John Jarvie Ra 111.37 46 ⇑Pdiff **Pdif 19 58 37.3 +8.2**
baz=111
N19A ⇑Pdiff **Pdif 19 58 37.3 +8.2**
baz=111
N19A ⇑Pdiff **Pdif 19 58 37.3 +8.2**
baz=111
C23A Lambert 111.48 38 ⇑Pdiff **Pdif 19 58 38.8 +10**
baz=111
C23A ⇑Pdiff **Pdif 19 58 38.8 +10**
baz=111
C23A ⇑Pdiff **Pdif 19 58 38.8 +10**

baz=111
X16A Lo Mia Camp, P 111.53 53 ⇓Pdiff Pdif 19 58 39.8 +10
baz=111
X16A ⇓Pdiff Pdif 19 58 39.8 +10
baz=111
X16A ⇓Pdiff Pdif 19 58 39.8 +10
baz=111
H21A Big Horn, Sher 111.55 41 ⇑Pdiff **Pdif 19 58 38.5 +8.8**
baz=111
H21A ⇑Pdiff **Pdif 19 58 38.5 +8.8**
baz=111
H21A ⇑Pdiff **Pdif 19 58 38.5 +8.8**
baz=111
E22A Miles City 111.56 39 ⇑Pdiff **Pdif 19 58 35.8 +6.2**
baz=111
E22A ⇑Pdiff **Pdif 19 58 35.8 +6.2**
baz=111
E22A ⇑Pdiff **Pdif 19 58 35.8 +6.2**
baz=111
U17A Shonto 111.56 51 ⇓Pdiff **Pdif 19 58 38.1 +8.0**
baz=111
U17A ⇓Pdiff **Pdif 19 58 38.1 +8.0**
baz=111
U17A ⇓Pdiff **Pdif 19 58 38.1 +8.0**
baz=111
TNS Taunus Mts 111.57 325 *e*Pdiff **Pdif 19 58 32.0 +2.4**
TNS *e*PP PP 20 03 18.3 +10
TNS *e*SS SS 20 18 57.7 +16
TNS Taunus Mts 111.57 325 *e*P **Pdif 19 58 32.0 +2.4**
TNS *e*SS SS 20 18 57.7 +16
AQU L'Aquila 111.58 316 PFAKE 20 02 40.0
AQU LR LR
comp=Z,130μm,22.0s
FETA Feichten 111.59 321 ⇓ *i*P **Pdif 19 58 31.0 +1.1**
FETA Feichten 111.59 321 ⇓ *i*PPdiff **Pdif 19 58 31.0 +1.1**
comp=Z,9.3nm,1.2s
L20A Wamsutter 111.60 44 ⇓Pdiff **Pdif 19 58 39.0 +8.9**
baz=111
L20A ⇓Pdiff **Pdif 19 58 39.0 +8.9**
baz=111
L20A ⇓Pdiff **Pdif 19 58 39.0 +8.9**
baz=111
O19A Miners Draw (B 111.60 46 ⇓Pdiff **Pdif 19 58 37.7 +7.6**
baz=111
O19A ⇓Pdiff **Pdif 19 58 37.7 +7.6**
baz=111
O19A ⇓Pdiff **Pdif 19 58 37.7 +7.6**
baz=111
F22A Rosebud 111.62 40 ⇑Pdiff **Pdif 19 58 38.2 +8.2**
baz=111
F22A ⇑Pdiff **Pdif 19 58 38.2 +8.2**
baz=111
F22A ⇑Pdiff **Pdif 19 58 38.2 +8.2**
baz=111
R18A Canyonlands Na 111.63 49 ⇑Pdiff **Pdif 19 58 39.1 +8.8**
baz=111
R18A ⇑Pdiff **Pdif 19 58 39.1 +8.8**
baz=111
R18A ⇑Pdiff **Pdif 19 58 39.1 +8.8**
baz=111
TOD Tromm 111.64 324 *e*P **Pdif 19 58 31.9 +2.0**
TOD Tromm 111.64 324 *e*P **Pdif 19 58 31.9 +2.0**
TOD *e*P PKiKP 20 02 12.8 -15
BUG Bochum--Univer 111.66 327 *e*Pdiff **Pdif 19 58 33.8 +3.9**
BUG *e*PP PP 20 03 18.6 +10
BUG *e*SS SS 20 18 55.8 +14
WTSB Winterswijk 111.66 327 *i* P **Pdif 19 58 34.4 +4.6**
comp=Z,199nm,2.3s
WTSB *e*PKPdf PKiKP 20 02 15.1 -12
WTSB *e*PP PP 20 03 18.8 +10
I21A Big Trails, Te 111.68 42 ⇓Pdiff **Pdif 19 58 38.7 +8.4**
baz=111
I21A ⇓Pdiff **Pdif 19 58 38.7 +8.4**
baz=111
I21A ⇓Pdiff **Pdif 19 58 38.7 +8.4**
baz=111
A24A Westby 111.71 36 ⇑Pdiff **Pdif 19 58 37.4 +7.2**
baz=111
A24A ⇑Pdiff **Pdif 19 58 37.4 +7.2**
baz=111
A24A ⇑Pdiff **Pdif 19 58 37.4 +7.2**
baz=111
D23A Lindsay 111.72 38 ⇑Pdiff **Pdif 19 58 37.5 +7.1**
baz=111
D23A ⇑Pdiff **Pdif 19 58 37.5 +7.1**
baz=111
D23A ⇑Pdiff **Pdif 19 58 37.5 +7.1**
baz=111
V17A Tonalea, Kykot 111.72 52 ⇓Pdiff **Pdif 19 58 38.4 +7.6**
baz=111
V17A ⇓Pdiff **Pdif 19 58 38.4 +7.6**
baz=111
V17A ⇓Pdiff **Pdif 19 58 38.4 +7.6**
baz=111
J21A Lysite 111.75 43 ⇑Pdiff **Pdif 19 58 38.9 +8.1**
baz=111
J21A ⇑Pdiff **Pdif 19 58 38.9 +8.1**
baz=111
J21A ⇑Pdiff **Pdif 19 58 38.9 +8.1**
baz=111
S18A Hurst Farm, Bl 111.76 49 ⇓Pdiff **Pdif 19 58 39.4 +8.3**
baz=111
S18A ⇓Pdiff **Pdif 19 58 39.4 +8.3**
baz=111
S18A ⇓Pdiff **Pdif 19 58 39.4 +8.3**
baz=111
STU Stuttgart 111.78 324 *e*Pdiff **Pdif 19 58 35.8 +5.3**
STU *e*PP PP 20 03 19.1 +9.0
STU *e*SS SS 20 19 00.7 +17
STU Stuttgart 111.78 324 *e*P **Pdif 19 58 25.7 -4.8**
STU Stuttgart 111.78 324 *e*Pdif **Pdif 19 58 25.7 -4.8**
STU *e*PKPdf **PKiKP 20 02 25.5 -2.3**
STU *e*PKKP **PKKPbc 20 13 23.9 +1.3**
DGMT Dagmar 111.79 37 *e*PKPdf PKiKP 20 02 22.5 -5.4
DGMT *e*SKP 20 05 57.8
DGMT LR LR
comp=Z,195μm,21.0s
DGMT Dagmar 111.79 37 ⇓Pdiff **Pdif 19 58 39.4 +8.8**
baz=112
DGMT ⇓Pdiff **Pdif 19 58 39.4 +8.8**
baz=112
DGMT ⇓Pdiff **Pdif 19 58 39.4 +8.8**
baz=112
G22A Birney 111.81 41 ⇑Pdiff **Pdif 19 58 39.9 +9.0**
baz=112
G22A ⇑Pdiff **Pdif 19 58 39.9 +9.0**
baz=112
G22A ⇑Pdiff **Pdif 19 58 39.9 +9.0**
baz=112
M20A Sweetwater, Wa 111.88 45 ⇓Pdiff **Pdif 19 58 39.6 +8.2**
baz=112
M20A ⇓Pdiff **Pdif 19 58 39.6 +8.2**
baz=112
M20A ⇓Pdiff **Pdif 19 58 39.6 +8.2**
baz=112
P19A Cripple Cowboy 111.92 47 ⇓Pdiff **Pdif 19 58 40.1 +8.5**
baz=112
P19A ⇓Pdiff **Pdif 19 58 40.1 +8.5**
baz=112
P19A ⇓Pdiff **Pdif 19 58 40.1 +8.5**
baz=112
Q19A Hogan Spring (111.92 48 ⇑Pdiff **Pdif 19 58 40.1 +8.6**
baz=112
Q19A ⇑Pdiff **Pdif 19 58 40.1 +8.6**
baz=112
Q19A ⇑Pdiff **Pdif 19 58 40.1 +8.6**
baz=112
E23A Ismay 111.94 39 ⇓Pdiff **Pdif 19 58 40.6 +9.3**
baz=112
E23A ⇓Pdiff **Pdif 19 58 40.6 +9.3**
baz=112
E23A ⇓Pdiff **Pdif 19 58 40.6 +9.3**
baz=112
H22A Clearmont 112.02 41 ⇑Pdiff **Pdif 19 58 39.8 +8.0**
baz=112
H22A ⇑Pdiff **Pdif 19 58 39.8 +8.0**
baz=112
H22A ⇑Pdiff **Pdif 19 58 39.8 +8.0**
baz=112
N20A Spence Gulch, 112.05 46 ⇓Pdiff **Pdif 19 58 39.4 +7.3**
baz=112
N20A ⇓Pdiff **Pdif 19 58 39.4 +7.3**
baz=112
N20A ⇓Pdiff **Pdif 19 58 39.4 +7.3**
baz=112
C24A Savage 112.06 38 ⇑Pdiff **Pdif 19 58 40.8 +9.0**
baz=112
C24A ⇑Pdiff **Pdif 19 58 40.8 +9.0**
baz=112
C24A ⇑Pdiff **Pdif 19 58 40.8 +9.0**
baz=112
X17A Forest Lakes 112.06 53 ⇑Pdiff **Pdif 19 58 42.2 +10**
baz=112
X17A ⇑Pdiff **Pdif 19 58 42.2 +10**
baz=112
X17A ⇑Pdiff **Pdif 19 58 42.2 +10**
baz=112
R19A Curley Farm, L 112.13 49 ⇓Pdiff **Pdif 19 58 41.0 +8.4**
baz=112
R19A ⇓Pdiff **Pdif 19 58 41.0 +8.4**
baz=112
R19A ⇓Pdiff **Pdif 19 58 41.0 +8.4**
baz=112
K21A Alcova 112.13 44 ⇑Pdiff **Pdif 19 58 41.0 +8.5**
baz=112
K21A ⇑Pdiff **Pdif 19 58 41.0 +8.5**
baz=112
K21A ⇑Pdiff **Pdif 19 58 41.0 +8.5**
baz=112
F23A Volborg 112.19 40 ⇓Pdiff **Pdif 19 58 41.1 +8.6**
baz=112
F23A ⇓Pdiff **Pdif 19 58 41.1 +8.6**
baz=112
F23A ⇓Pdiff **Pdif 19 58 41.1 +8.6**
baz=112
I22A 9 Mile Ranch, 112.19 42 ⇑Pdiff **Pdif 19 58 42.0 +9.3**
baz=112
I22A ⇑Pdiff **Pdif 19 58 42.0 +9.3**
baz=112
I22A ⇑Pdiff **Pdif 19 58 42.0 +9.3**
baz=112
Y17A Roosevelt 112.19 54 ⇑Pdiff **Pdif 19 58 42.0 +9.2**
baz=112
Y17A ⇑Pdiff **Pdif 19 58 42.0 +9.2**
baz=112
Y17A ⇑Pdiff **Pdif 19 58 42.0 +9.2**
baz=112
ABH Alteburg 112.24 325 *e*P PKiKP 20 02 14.1 -15
L21A Rawlins 112.29 44 ⇑Pdiff **Pdif 19 58 42.2 +8.9**
baz=112
L21A ⇑Pdiff **Pdif 19 58 42.2 +8.9**
baz=112
L21A ⇑Pdiff **Pdif 19 58 42.2 +8.9**
baz=112
O20A White River Ci 112.30 46 ⇓Pdiff **Pdif 19 58 41.7 +8.5**
baz=112
O20A ⇓Pdiff **Pdif 19 58 41.7 +8.5**
baz=112
O20A ⇓Pdiff **Pdif 19 58 41.7 +8.5**
baz=112
V18A Ganado 112.37 51 ⇑Pdiff **Pdif 19 58 43.2 +10**
baz=112
V18A ⇑Pdiff **Pdif 19 58 43.2 +10**
baz=112
V18A ⇑Pdiff **Pdif 19 58 43.2 +10**
baz=112
S19A Harvey Farm, M 112.39 49 ⇑Pdiff **Pdif 19 58 41.5 +7.7**
baz=112
S19A ⇑Pdiff **Pdif 19 58 41.5 +7.7**
baz=112
S19A ⇑Pdiff **Pdif 19 58 41.5 +7.7**
baz=112
P20A De Beque 112.39 47 ⇑Pdiff **Pdif 19 58 42.4 +8.7**
baz=112
P20A ⇑Pdiff **Pdif 19 58 42.4 +8.7**
baz=112
P20A ⇑Pdiff **Pdif 19 58 42.4 +8.7**
baz=112
G23A Biddle 112.41 40 ⇓Pdiff **Pdif 19 58 40.6 +7.1**
baz=112
G23A ⇓Pdiff **Pdif 19 58 40.6 +7.1**
baz=112
G23A ⇓Pdiff **Pdif 19 58 40.6 +7.1**
baz=112
M21A Separation Pea 112.42 45 ⇓Pdiff **Pdif 19 58 42.0 +8.1**
baz=112
M21A ⇓Pdiff **Pdif 19 58 42.0 +8.1**
baz=112
M21A ⇓Pdiff **Pdif 19 58 42.0 +8.1**
baz=112
BFO Black Forest 112.49 323 *e*Pdiff **Pdif 19 58 37.7 +4.0**
BFO *e*PP PP 20 03 24.2 +9.0
BFO *e*SS SS 20 19 04.2 +10
BFO Black Forest 112.49 323 *e*P **Pdif 19 58 37.7 +4.0**
BFO *e* 20 03 24.2
BFO *e*SS SS 20 19 04.2 +10
RWWY Rawlins 112.50 44 *e*PKPdf PKiKP 20 02 24.2 -5.5
LANF Langenberg 112.51 324 *e*PKIKP PKiKP 20 02 13.7 -15
LANF Langenberg 112.51 324 *e*P PKiKP 20 02 13.7 -15
LANF Langenberg 112.51 324 *e*P PKiKP 20 02 13.7 -15
E24A Baker 112.54 39 ⇓Pdiff **Pdif 19 58 42.2 +8.2**
baz=112
E24A ⇓Pdiff **Pdif 19 58 42.2 +8.2**
baz=112
E24A ⇓Pdiff **Pdif 19 58 42.2 +8.2**
baz=112
TUC Tucson 112.59 55 *e*P **Pdif 19 58 32.9 -1.7**
TUC Tucson 112.59 55 *e*Pdif **Pdif 19 58 32.9 -1.7**
TUC *e*PKPdf **PKiKP 20 02 26.3 -3.6**
Z17A San Carlos Hig 112.60 54 ⇓Pdiff **Pdif 19 58 44.1 +10**
baz=112
Z17A ⇓Pdiff **Pdif 19 58 44.1 +10**
baz=112
Z17A ⇓Pdiff **Pdif 19 58 44.1 +10**
baz=112
N21A Black Mountain 112.60 46 ⇑Pdiff **Pdif 19 58 43.7 +9.0**
baz=112
N21A ⇑Pdiff **Pdif 19 58 43.7 +9.0**
baz=112
N21A ⇑Pdiff **Pdif 19 58 43.7 +9.0**
baz=112
RUP Ruppelstein 112.61 325 *e*P **Pdif 19 58 33.3 -0.9**
RUP Ruppelstein 112.61 325 *e*P **Pdif 19 58 33.3 -0.9**
RUP *e*P PKiKP 20 02 13.3 -16
K22A Casper 112.63 43 ⇓Pdiff **Pdif 19 58 42.4 +7.7**
baz=112
K22A ⇓Pdiff **Pdif 19 58 42.4 +7.7**
baz=112
K22A ⇓Pdiff **Pdif 19 58 42.4 +7.7**
baz=112
Q20A Ridgley Place, 112.64 48 ⇓Pdiff **Pdif 19 58 44.2 +9.4**
baz=112
Q20A ⇓Pdiff **Pdif 19 58 44.2 +9.4**
baz=112
Q20A ⇓Pdiff **Pdif 19 58 44.2 +9.4**
baz=112
H23A Clabaugh Cattl 112.65 41 ⇑Pdiff **Pdif 19 58 43.3 +8.7**
baz=112
H23A ⇑Pdiff **Pdif 19 58 43.3 +8.7**
baz=112
H23A ⇑Pdiff **Pdif 19 58 43.3 +8.7**
baz=112
TUE Stuetta 112.68 321 *e*PKPdf PKiKP 20 02 21.2 -8.6
TUE *e*PKKP PKKPbc 20 13 02.6 -17
TUE LR LR
comp=Z,123μm,20.0s
X18A Snowflake 112.69 53 ⇓Pdiff **Pdif 19 58 44.3 +9.2**
baz=112
X18A ⇓Pdiff **Pdif 19 58 44.3 +9.2**
baz=112
X18A ⇓Pdiff **Pdif 19 58 44.3 +9.2**
baz=112
W18A Petrified Fore 112.69 52 ⇑Pdiff **Pdif 19 58 44.8 +10**
baz=112
W18A ⇑Pdiff **Pdif 19 58 44.8 +10**
baz=112
W18A ⇑Pdiff **Pdif 19 58 44.8 +10**
baz=112
HGN Heimansgroeve 112.72 326 *e*P **Pdif 19 58 40.6 +6.0**
comp=Z,1μm,4.6s
HGN *e*PKPdf **PKiKP 20 02 25.1 -4.3**
HGN *e*PP **PP 20 03 20.3 +3.6**
HGN *e*SKSP 20 12 41.8
HGN *e*PPS PPS 20 14 02.1
T19A Beclabito 112.75 50 ⇓Pdiff **Pdif 19 58 44.4 +9.1**
baz=112
T19A ⇓Pdiff **Pdif 19 58 44.4 +9.1**
baz=112
T19A ⇓Pdiff **Pdif 19 58 44.4 +9.1**
baz=112
F24A Ekalaka 112.75 39 ⇑Pdiff **Pdif 19 58 42.1 +7.1**
baz=112
F24A ⇑Pdiff **Pdif 19 58 42.1 +7.1**
baz=112
F24A ⇑Pdiff **Pdif 19 58 42.1 +7.1**
baz=112
MEM Membach 112.76 326 PKP **PKiKP 20 02 33.6 +4.1**
U19A Dine' College, 112.77 51 ⇑Pdiff **Pdif 19 58 44.0 +8.5**
baz=112
U19A ⇑Pdiff **Pdif 19 58 44.0 +8.5**
baz=112
U19A ⇑Pdiff **Pdif 19 58 44.0 +8.5**
baz=112
WDD Wield Dalam 112.81 309 PFAKE 20 02 40.0
WDD LR LR
comp=Z,46μm,21.0s
R20A Redvale 112.82 48 ⇑Pdiff **Pdif 19 58 44.1 +8.4**
baz=112
R20A ⇑Pdiff **Pdif 19 58 44.1 +8.4**
baz=112
R20A ⇑Pdiff **Pdif 19 58 44.1 +8.4**
baz=112
Y18A Canyon Day Jun 112.82 53 ⇓Pdiff **Pdif 19 58 45.5 +10**
baz=112
Y18A ⇓Pdiff **Pdif 19 58 45.5 +10**
baz=112
Y18A ⇓Pdiff **Pdif 19 58 45.5 +10**
baz=112
O21A Pagoda 112.83 46 ⇓Pdiff **Pdif 19 58 45.0 +9.3**
baz=112
O21A ⇓Pdiff **Pdif 19 58 45.0 +9.3**
baz=112
O21A ⇓Pdiff **Pdif 19 58 45.0 +9.3**
baz=112
I23A Meade Ranch, G 112.85 42 ⇑Pdiff **Pdif 19 58 43.7 +8.1**
baz=112
I23A ⇑Pdiff **Pdif 19 58 43.7 +8.1**
baz=112
I23A ⇑Pdiff **Pdif 19 58 43.7 +8.1**
baz=112
FELD Feldberg im Sc 112.89 323 *e*P PKiKP 20 02 12.8 -17
L22A Ellis Ranch, M 112.92 44 ⇑Pdiff **Pdif 19 58 45.6 +10**
baz=113
L22A ⇑Pdiff **Pdif 19 58 45.6 +10**
baz=113
L22A ⇑Pdiff **Pdif 19 58 45.6 +10**
baz=113
S20A Disappointment 112.95 49 ⇑Pdiff **Pdif 19 58 44.3 +8.0**
baz=113
S20A ⇑Pdiff **Pdif 19 58 44.3 +8.0**
baz=113
S20A ⇑Pdiff **Pdif 19 58 44.3 +8.0**
baz=113
W19A Sanders 112.97 52 ⇓Pdiff **Pdif 19 58 44.8 +8.5**
baz=113
W19A ⇓Pdiff **Pdif 19 58 44.8 +8.5**
baz=113
W19A ⇓Pdiff **Pdif 19 58 44.8 +8.5**
baz=113
G24A Alzada 112.98 40 ⇑Pdiff **Pdif 19 58 43.0 +7.0**
baz=113
G24A ⇑Pdiff **Pdif 19 58 43.0 +7.0**
baz=113
G24A ⇑Pdiff **Pdif 19 58 43.0 +7.0**
baz=113
J23A Dilts Ranch, B 113.00 42 ⇓Pdiff **Pdif 19 58 45.8 +10**
baz=113
J23A ⇓Pdiff **Pdif 19 58 45.8 +10**
baz=113
J23A ⇓Pdiff **Pdif 19 58 45.8 +10**
baz=113
Z18A Geronimo 113.00 54 ⇑Pdiff **Pdif 19 58 45.4 +9.0**
baz=113
Z18A ⇑Pdiff **Pdif 19 58 45.4 +9.0**
baz=113
Z18A ⇑Pdiff **Pdif 19 58 45.4 +9.0**
baz=113
M22A Cedar Creek Ra 113.03 45 ⇑Pdiff **Pdif 19 58 45.8 +9.3**
baz=113
M22A ⇑Pdiff **Pdif 19 58 45.8 +9.3**
baz=113
M22A ⇑Pdiff **Pdif 19 58 45.8 +9.3**
baz=113
MVCO Mesa Verde 113.04 49 *e*PKPdf **Pdif 19 58 34.4 -2.3**
MVCO *e*PKP **PKiKP 20 02 30.7 -0.1**
MVCO LR LR
comp=Z,195μm,20.0s
MVCO Mesa Verde 113.04 49 ⇓Pdiff **Pdif 19 58 44.4 +7.7**
baz=113
MVCO ⇓Pdiff **Pdif 19 58 44.4 +7.7**
baz=113
MVCO ⇓Pdiff **Pdif 19 58 44.4 +7.7**
baz=113
V19A Window Rock 113.06 51 ⇓Pdiff **Pdif 19 58 45.9 +9.1**
baz=113
V19A ⇓Pdiff **Pdif 19 58 45.9 +9.1**
baz=113
V19A ⇓Pdiff **Pdif 19 58 45.9 +9.1**
baz=113
P21A Newcastle 113.07 47 ⇑Pdiff **Pdif 19 58 46.4 +10**
baz=113
P21A ⇑Pdiff **Pdif 19 58 46.4 +10**
baz=113
P21A ⇑Pdiff **Pdif 19 58 46.4 +10**
baz=113
H24A Dirks Ranch, A 113.13 41 ⇓Pdiff **Pdif 19 58 43.8 +7.0**
baz=113
H24A ⇓Pdiff **Pdif 19 58 43.8 +7.0**
baz=113
H24A ⇓Pdiff **Pdif 19 58 43.8 +7.0**
baz=113
WLF Walferdange 113.14 325 P **Pdif 19 58 40.0 +3.4**
WLF Walferdange 113.14 325 *e*Pdiff **Pdif 19 58 39.9 +3.4**
WLF *e*PP PP 20 03 29.8 +10
WLF *e*SS SS 20 19 20.2 +18
WLF Walferdange 113.14 325 *e*P **Pdif 19 58 38.5 +2.0**
WLF Walferdange 113.14 325 *e*Pdif **Pdif 19 58 38.5 +2.0**
WLF *e*PKP **PKiKP 20 02 32.4 +2.1**
WLF LR LR
comp=Z,175μm,19.0s
BORG Borgarnes 113.18 348 PFAKE 20 02 40.0
BORG LR LR
comp=Z,74μm,22.0s
K23A Bowen Ranch, D 113.20 43 ⇑Pdiff **Pdif 19 58 44.8 +7.6**
baz=113
K23A ⇑Pdiff **Pdif 19 58 44.8 +7.6**
baz=113
K23A ⇑Pdiff **Pdif 19 58 44.8 +7.6**
baz=113
Q21A Lamborn Mesa, 113.21 47 ⇓Pdiff **Pdif 19 58 45.7 +8.4**
baz=113
Q21A ⇓Pdiff **Pdif 19 58 45.7 +8.4**
baz=113
Q21A ⇓Pdiff **Pdif 19 58 45.7 +8.4**
baz=113
X19A St. Johns 113.24 53 ⇑Pdiff **Pdif 19 58 47.2 +10**
baz=113
X19A ⇑Pdiff **Pdif 19 58 47.2 +10**
baz=113
X19A ⇑Pdiff **Pdif 19 58 47.2 +10**
baz=113
ECH Echery 113.24 324 *e*PKIKP PKiKP 20 02 18.5 -12
ECH *e* 20 02 31.8
ECH MLR MLR
comp=Z,78μm,20.0s
ECH Echery 113.24 324 *e*P Pdif 19 58 49.3 +12
ECH *e*P PKiKP 20 02 18.5 -12
ECH *e*PKP PP 20 02 31.8 -49
ECH LR LR
comp=Z,78μm,20.0s
ECH Echery 113.24 324 *e*P PKiKP 20 02 18.5 -12
BCLA Clavier 113.24 326 P **Pdif 19 58 40.3 +3.4**
BCLA PKP **PKiKP 20 02 34.5 +4.1**
U20A Newcomb 113.28 50 ⇓Pdiff **Pdif 19 58 45.9 +8.2**
baz=113
U20A ⇓Pdiff **Pdif 19 58 45.9 +8.2**
baz=113
U20A ⇓Pdiff **Pdif 19 58 45.9 +8.2**
baz=113
218A Dragoon 113.28 55 ⇓Pdiff **Pdif 19 58 46.8 +9.0**
baz=113
218A ⇓Pdiff **Pdif 19 58 46.8 +9.0**
baz=113
218A ⇓Pdiff **Pdif 19 58 46.8 +9.0**
baz=113
N22A Wattenberg Ran 113.35 45 ⇓Pdiff **Pdif 19 58 46.4 +8.4**
baz=113
N22A ⇓Pdiff **Pdif 19 58 46.4 +8.4**
baz=113
N22A ⇓Pdiff **Pdif 19 58 46.4 +8.4**
baz=113

TSUM	**Tsumeb**	**113.37**	**249**	PFAKE		20 02 40.0			
TSUM				LR	LR				
	comp=Z,182µm,21.0s								
BBS	**Basel-Blauen**	**113.38**	**323**	*e*PKIKP	PKiKP	20 02 13.9	-17		
BBS	**Basel-Blauen**	**113.38**	**323**	*e*P	PKiKP	20 02 13.9	-17		
R21A	**Cimarron**	**113.38**	**48**	⇑Pdiff	**Pdif**	**19 58 46.5**	**+8.3**		
	baz=113								
R21A				⇑Pdiff	**Pdif**	**19 58 46.5**	**+8.3**		
	baz=113								
R21A				⇑Pdiff	**Pdif**	**19 58 46.5**	**+8.3**		
	baz=113								
L23A	**Garrett**	**113.39**	**44**	⇓Pdiff	**Pdif**	**19 58 46.5**	**+8.4**		
	baz=113								
L23A				⇓Pdiff	**Pdif**	**19 58 46.5**	**+8.4**		
	baz=113								
L23A				⇓Pdiff	**Pdif**	**19 58 46.5**	**+8.4**		
	baz=113								
Y19A	**Nutrioso**	**113.40**	**53**	⇓Pdiff	**Pdif**	**19 58 47.9**	**+10**		
	baz=113								
Y19A				⇓Pdiff	**Pdif**	**19 58 47.9**	**+10**		
	baz=113								
Y19A				⇓Pdiff	**Pdif**	**19 58 47.9**	**+10**		
	baz=113								
MOF	**Molkenrain**	**113.43**	**323**	*e*PKIKP	PKiKP	20 02 15.2	-16		
MOF	**Molkenrain**	**113.43**	**323**	*e*P	PKiKP	20 02 15.2	-16		
MOF	**Molkenrain**	**113.43**	**323**	*e*P	PKiKP	20 02 15.2	-16		
S21A	**Coal Bank Pass**	**113.43**	**49**	⇑Pdiff	**Pdif**	**19 58 46.2**	**+7.7**		
	baz=113								
S21A				⇑Pdiff	**Pdif**	**19 58 46.2**	**+7.7**		
	baz=113								
S21A				⇑Pdiff	**Pdif**	**19 58 46.2**	**+7.7**		
	baz=113								
I24A	**Kuemmerle Ranc**	**113.44**	**42**	⇓Pdiff	**Pdif**	**19 58 46.2**	**+8.0**		
	baz=113								
I24A				⇓Pdiff	**Pdif**	**19 58 46.2**	**+8.0**		
	baz=113								
I24A				⇓Pdiff	**Pdif**	**19 58 46.2**	**+8.0**		
	baz=113								
318A	**Bisbee**	**113.47**	**56**	⇓Pdiff	**Pdif**	**19 58 47.1**	**+8.5**		
	baz=113								
318A				⇓Pdiff	**Pdif**	**19 58 47.1**	**+8.5**		
	baz=113								
318A				⇓Pdiff	**Pdif**	**19 58 47.1**	**+8.5**		
	baz=113								
V20A	**Brimhall**	**113.49**	**51**	⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.5**		
	baz=113								
V20A				⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.5**		
	baz=113								
V20A				⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.5**		
	baz=113								
O22A	**Kremmling**	**113.51**	**46**	⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.4**		
	baz=113								
O22A				⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.4**		
	baz=113								
O22A				⇑Pdiff	**Pdif**	**19 58 47.2**	**+8.4**		
	baz=113								
SMCO	**Snowmass**	**113.54**	**47**	*e*Pdif	**Pdif**	**19 58 31.4**	**-7.6**		
SMCO				*e*PKP	**PKiKP**	**20 02 29.8**	**-2.1**		
P22A	**Eagle**	**113.55**	**46**	⇓Pdiff	**Pdif**	**19 58 48.6**	**+10**		
	baz=113								
P22A				⇓Pdiff	**Pdif**	**19 58 48.6**	**+10**		
	baz=113								
P22A				⇓Pdiff	**Pdif**	**19 58 48.6**	**+10**		
	baz=113								
Z19A	**T-Link Ranch,**	**113.57**	**54**	⇓Pdiff	**Pdif**	**19 58 48.2**	**+9.2**		
	baz=113								
Z19A				⇓Pdiff	**Pdif**	**19 58 48.2**	**+9.2**		
	baz=113								
Z19A				⇓Pdiff	**Pdif**	**19 58 48.2**	**+9.2**		
	baz=113								
HINF	**Hinteralfeld**	**113.61**	**323**	*e*PKIKP	**PKiKP**	**20 02 29.6**	**-1.7**		
	comp=Z,132nm,1.0s								
M23A	**Laramie**	**113.62**	**44**	⇓Pdiff	**Pdif**	**19 58 47.4**	**+8.3**		
	baz=113								
M23A				⇓Pdiff	**Pdif**	**19 58 47.4**	**+8.3**		
	baz=113								
M23A				⇓Pdiff	**Pdif**	**19 58 47.4**	**+8.3**		
	baz=113								
SFJD	**Kangerlussuaq**	**113.63**	**1**	PFAKE		20 02 40.0			
SFJD				LR	LR				
	comp=Z,79µm,21.0s								
J24A	**Dixon Ranch, L**	**113.63**	**42**	⇑Pdiff	**Pdif**	**19 58 45.2**	**+6.1**		
	baz=113								
J24A				⇑Pdiff	**Pdif**	**19 58 45.2**	**+6.1**		
	baz=113								
J24A				⇑Pdiff	**Pdif**	**19 58 45.2**	**+6.1**		
	baz=113								
W20A	**Ramah**	**113.66**	**52**	⇓Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
W20A				⇓Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
W20A				⇓Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
N23A	**Red Feather La**	**113.67**	**45**	⇑Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
N23A				⇑Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
N23A				⇑Pdiff	**Pdif**	**19 58 48.0**	**+8.5**		
	baz=113								
119A	**Ashpeak Ranch,**	**113.68**	**54**	⇓Pdiff	**Pdif**	**19 58 48.5**	**+8.9**		
	baz=113								
119A				⇓Pdiff	**Pdif**	**19 58 48.5**	**+8.9**		
	baz=113								
119A				⇓Pdiff	**Pdif**	**19 58 48.5**	**+8.9**		
	baz=113								
Q22A	**Crested Butte,**	**113.69**	**47**	⇓Pdiff	**Pdif**	**19 58 48.9**	**+9.3**		
	baz=113								
Q22A				⇓Pdiff	**Pdif**	**19 58 48.9**	**+9.3**		
	baz=113								
Q22A				⇓Pdiff	**Pdif**	**19 58 48.9**	**+9.3**		
	baz=113								
PMSA	**Palmer Station**	**113.72**	**172**	PFAKE		20 02 40.0			
PMSA				LR	LR				
	comp=Z,194µm,21.0s								
RSSD	**Black Hills**	**113.73**	**41**	*e*PKIKP	**PKiKP**	**20 02 29.2**	**-2.7**		
RSSD	**Black Hills**	**113.73**	**41**	*e*PKPdf	**PKiKP**	**20 02 29.2**	**-2.7**		
RSSD				*e*PKKP	**PKKPbc**	**20 13 17.0**	**+0.8**		
SNF	**Seneffe**	**113.76**	**327**	PKP	**PKiKP**	**20 02 33.2**	**+1.7**		
K24A	**Anderson Ranch**	**113.77**	**43**	⇓Pdiff	**Pdif**	**19 58 47.2**	**+7.6**		
	baz=113								
K24A				⇓Pdiff	**Pdif**	**19 58 47.2**	**+7.6**		
	baz=113								
K24A				⇓Pdiff	**Pdif**	**19 58 47.2**	**+7.6**		
	baz=113								
DOU	**Dourbes**	**113.80**	**326**	PKP	**PKiKP**	**20 02 34.9**	**+3.4**		
HAU	**Haudompre**	**113.82**	**324**	*e*PKIKP	**PKiKP**	**20 02 30.2**	**-1.5**		
	comp=Z,134nm,1.2s								
HAU				*e*R					
	comp=Z,117µm,22.5s								
X20A	**Quemado**	**113.83**	**52**	⇓Pdiff	Pdif	19 58 50.1	+10		
	baz=114								
X20A				⇓Pdiff	Pdif	19 58 50.1	+10		
	baz=114								
X20A				⇓Pdiff	Pdif	19 58 50.1	+10		
	baz=114								
T21A	**Navajo Lake**	**113.84**	**49**	⇓Pdiff	Pdif	19 58 50.6	+10		
	baz=114								
T21A				⇓Pdiff	Pdif	19 58 50.6	+10		
	baz=114								
T21A				⇓Pdiff	Pdif	19 58 50.6	+10		
	baz=114								
PHWY	**Pilot Hill**	**113.87**	**44**	*e*PKPdf	PKiKP	20 02 25.3	-7.1		
PHWY				*e*SKP		20 06 00.8			
U21A	**Nageezi**	**113.92**	**50**	⇑Pdiff	**Pdif**	**19 58 49.4**	**+8.7**		
	baz=114								
U21A				⇑Pdiff	**Pdif**	**19 58 49.4**	**+8.7**		
	baz=114								
U21A				⇑Pdiff	**Pdif**	**19 58 49.4**	**+8.7**		
	baz=114								
PAGF	**Fort de Pagny**	**113.92**	**324**	*e*PKIKP	**PKiKP**	**20 02 30.6**	**-1.3**		
	comp=Z,16nm,1.0s								
THEF	**They Montfort**	**113.93**	**324**	*e*PKIKP	PKiKP	20 02 16.9	-15		
THEF	**They Montfort**	**113.93**	**324**	*e*P	PKiKP	20 02 16.9	-15		
THEF	**They Montfort**	**113.93**	**324**	*e*P	PKiKP	20 02 16.9	-15		
O23A	**Lake Granby, G**	**113.94**	**46**	⇑Pdiff	Pdif	19 58 50.8	+10		
	baz=114								
O23A				⇑Pdiff	Pdif	19 58 50.8	+10		
	baz=114								
O23A				⇑Pdiff	Pdif	19 58 50.8	+10		
	baz=114								
L24A	**Wheatland**	**113.95**	**43**	⇓Pdiff	**Pdif**	**19 58 49.0**	**+8.5**		
	baz=114								
L24A				⇓Pdiff	**Pdif**	**19 58 49.0**	**+8.5**		
	baz=114								
L24A				⇓Pdiff	**Pdif**	**19 58 49.0**	**+8.5**		
	baz=114								
R22A	**Saguache, Gunn**	**114.02**	**48**	⇓Pdiff	**Pdif**	**19 58 49.5**	**+8.4**		
	baz=114								
R22A				⇓Pdiff	**Pdif**	**19 58 49.5**	**+8.4**		
	baz=114								
R22A				⇓Pdiff	**Pdif**	**19 58 49.5**	**+8.4**		
	baz=114								
BAIF	**Baives**	**114.03**	**326**	*e*PKIKP	PKPdf	20 02 31.0	-1.0		
	comp=Z,74nm,0.9s								
319A	**Douglas**	**114.07**	**56**	⇑Pdiff	**Pdif**	**19 58 51.0**	**+10**		
	baz=114								
319A				⇑Pdiff	**Pdif**	**19 58 51.0**	**+10**		
	baz=114								
319A				⇑Pdiff	**Pdif**	**19 58 51.0**	**+10**		
	baz=114								
Y20A	**Horse Springs,**	**114.11**	**53**	⇑Pdiff	**Pdif**	**19 58 50.6**	**+9.1**		
	baz=114								
Y20A				⇑Pdiff	**Pdif**	**19 58 50.6**	**+9.1**		
	baz=114								
Y20A				⇑Pdiff	**Pdif**	**19 58 50.6**	**+9.1**		
	baz=114								
S22A	**4UR Ranch, Cre**	**114.12**	**48**	⇓Pdiff	**Pdif**	**19 58 48.4**	**+6.8**		
	baz=114								
S22A				⇓Pdiff	**Pdif**	**19 58 48.4**	**+6.8**		
	baz=114								
S22A				⇓Pdiff	**Pdif**	**19 58 48.4**	**+6.8**		
	baz=114								
V21A	**Milan**	**114.13**	**51**	⇓Pdiff	**Pdif**	**19 58 51.1**	**+10**		
	baz=114								
V21A				⇓Pdiff	**Pdif**	**19 58 51.1**	**+10**		
	baz=114								
V21A				⇓Pdiff	**Pdif**	**19 58 51.1**	**+10**		
	baz=114								
Z20A	**Nine Sixteen R**	**114.16**	**54**	⇑Pdiff	Pdif	19 58 51.6	+10		
	baz=114								
Z20A				⇑Pdiff	Pdif	19 58 51.6	+10		
	baz=114								
Z20A				⇑Pdiff	Pdif	19 58 51.6	+10		
	baz=114								
M24A	**Cheyenne**	**114.24**	**44**	⇓Pdiff	Pdif	19 58 51.8	+10		
	baz=114								
M24A				⇓Pdiff	Pdif	19 58 51.8	+10		
	baz=114								
M24A				⇓Pdiff	Pdif	19 58 51.8	+10		
	baz=114								
120A	**U Bar Ranch, L**	**114.29**	**54**	⇓Pdiff	**Pdif**	**19 58 50.5**	**+8.3**		
	baz=114								
120A				⇓Pdiff	**Pdif**	**19 58 50.5**	**+8.3**		
	baz=114								
120A				⇓Pdiff	**Pdif**	**19 58 50.5**	**+8.3**		
	baz=114								
P23A	**Jefferson**	**114.30**	**46**	⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
P23A				⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
P23A				⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
ISCO	**Idaho Springs**	**114.31**	**46**	*e*P	**Pdif**	**19 58 37.3**	**-5.0**		
ISCO	**Idaho Springs**	**114.31**	**46**	*e*Pdif	**Pdif**	**19 58 37.3**	**-5.0**		
ISCO				*e*PKPdf	PKPdf	20 02 31.1	-2.1		
ISCO				LR	LR				
	comp=Z,199µm,21.0s								
ISCO	**Idaho Springs**	**114.31**	**46**	⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
ISCO				⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
ISCO				⇑Pdiff	**Pdif**	**19 58 49.2**	**+6.8**		
	baz=114								
T22A	**Edith**	**114.31**	**49**	⇓Pdiff	**Pdif**	**19 58 51.5**	**+9.1**		
	baz=114								
T22A				⇓Pdiff	**Pdif**	**19 58 51.5**	**+9.1**		
	baz=114								
T22A				⇓Pdiff	**Pdif**	**19 58 51.5**	**+9.1**		
	baz=114								
W21A	**San Fidel**	**114.33**	**51**	⇓Pdiff	**Pdif**	**19 58 51.1**	**+8.6**		
	baz=114								
W21A				⇓Pdiff	**Pdif**	**19 58 51.1**	**+8.6**		
	baz=114								
W21A				⇓Pdiff	**Pdif**	**19 58 51.1**	**+8.6**		
	baz=114								
X21A	**Alamocita Cree**	**114.42**	**52**	⇑Pdiff	**Pdif**	**19 58 49.4**	**+6.5**		
	baz=114								
X21A				⇑Pdiff	**Pdif**	**19 58 49.4**	**+6.5**		
	baz=114								
X21A				⇑Pdiff	**Pdif**	**19 58 49.4**	**+6.5**		
	baz=114								
N24A	**Carr**	**114.45**	**45**	⇓Pdiff	**Pdif**	**19 58 50.8**	**+8.0**		
	baz=114								
N24A				⇓Pdiff	**Pdif**	**19 58 50.8**	**+8.0**		
	baz=114								
N24A				⇓Pdiff	**Pdif**	**19 58 50.8**	**+8.0**		
	baz=114								
K25A	**Mack Ranch, Ha**	**114.45**	**43**	⇑Pdiff	**Pdif**	**19 58 51.7**	**+9.0**		
	baz=114								
K25A				⇑Pdiff	**Pdif**	**19 58 51.7**	**+9.0**		
	baz=114								
K25A				⇑Pdiff	**Pdif**	**19 58 51.7**	**+9.0**		
	baz=114								
Q23A	**Hartsel**	**114.47**	**47**	⇑Pdiff	**Pdif**	**19 58 50.8**	**+7.8**		
	baz=114								
Q23A				⇑Pdiff	**Pdif**	**19 58 50.8**	**+7.8**		
	baz=114								
Q23A				⇑Pdiff	**Pdif**	**19 58 50.8**	**+7.8**		
	baz=114								
SFTF	**Sexfontaines**	**114.49**	**324**	*e*PKIKP	PKPdf	20 02 31.6	-1.4		
	comp=Z,95nm,1.1s								
RPN	**Rapa Nui**	**114.53**	**120**	PFAKE		20 02 40.0	+6.4		
RPN				LR	LR				
	comp=Z,110µm,20.0s								
220A	**Playas Peak, P**	**114.55**	**55**	⇓Pdiff	**Pdif**	**19 58 52.4**	**+9.0**		
	baz=114								
220A				⇓Pdiff	**Pdif**	**19 58 52.4**	**+9.0**		
	baz=114								
220A				⇓Pdiff	**Pdif**	**19 58 52.4**	**+9.0**		
	baz=114								
L25A	**Engebretsen Ra**	**114.57**	**43**	⇑Pdiff	Pdif	19 58 53.3	+10		
	baz=114								
L25A				⇑Pdiff	Pdif	19 58 53.3	+10		
	baz=114								
L25A				⇑Pdiff	Pdif	19 58 53.3	+10		
	baz=114								
O24A	**Longmont**	**114.58**	**45**	⇑Pdiff	**Pdif**	**19 58 49.7**	**+6.4**		
	baz=114								
O24A				⇑Pdiff	**Pdif**	**19 58 49.7**	**+6.4**		
	baz=114								
O24A				⇑Pdiff	**Pdif**	**19 58 49.7**	**+6.4**		
	baz=114								
CABF	**La Chapelle**	**114.63**	**322**	*e*PKIKP	PKPdf	20 02 32.3	-1.1		
	comp=Z,194nm,1.0s								
Y21A	**Point of Rocks**	**114.64**	**53**	⇓Pdiff	**Pdif**	**19 58 52.6**	**+8.7**		
	baz=114								
Y21A				⇓Pdiff	**Pdif**	**19 58 52.6**	**+8.7**		
	baz=114								
Y21A				⇓Pdiff	**Pdif**	**19 58 52.6**	**+8.7**		
	baz=114								
V22A	**San Miguel Ran**	**114.66**	**50**	⇓Pdiff	**Pdif**	**19 58 53.5**	**+10**		
	baz=114								
V22A				⇓Pdiff	**Pdif**	**19 58 53.5**	**+10**		
	baz=114								
V22A				⇓Pdiff	**Pdif**	**19 58 53.5**	**+10**		
	baz=114								
320A	**Kipp Ranch, An**	**114.70**	**56**	⇑Pdiff	**Pdif**	**19 58 53.1**	**+9.1**		
	baz=114								
320A				⇑Pdiff	**Pdif**	**19 58 53.1**	**+9.1**		
	baz=114								
320A				⇑Pdiff	**Pdif**	**19 58 53.1**	**+9.1**		
	baz=114								
R23A	**Moffat**	**114.72**	**48**	⇓Pdiff	**Pdif**	**19 58 50.4**	**+6.2**		
	baz=114								
R23A				⇓Pdiff	**Pdif**	**19 58 50.4**	**+6.2**		
	baz=114								
R23A				⇓Pdiff	**Pdif**	**19 58 50.4**	**+6.2**		
	baz=114								
LPG	**La Plagne**	**114.73**	**321**	*e*PKIKP	PKPdf	20 02 32.5	-1.4		
	comp=Z,83nm,0.9s								
LPL	**La Plagne**	**114.74**	**321**	*e*PKIKP	PKPdf	20 02 32.5	-1.3		
	comp=Z,72nm,0.8s								
S23A	**Nye Farm, Mont**	**114.75**	**48**	⇑Pdiff	**Pdif**	**19 58 50.5**	**+6.2**		
	baz=114								
S23A				⇑Pdiff	**Pdif**	**19 58 50.5**	**+6.2**		
	baz=114								
S23A				⇑Pdiff	**Pdif**	**19 58 50.5**	**+6.2**		
	baz=114								
M25A	**Palm-Egli Farm**	**114.79**	**44**	⇑Pdiff	**Pdif**	**19 58 51.0**	**+6.7**		
	baz=114								
M25A				⇑Pdiff	**Pdif**	**19 58 51.0**	**+6.7**		
	baz=114								
M25A				⇑Pdiff	**Pdif**	**19 58 51.0**	**+6.7**		
	baz=114								
MDND	**Maddock**	**114.81**	**36**	⇓Pdiff	**Pdif**	**19 58 50.6**	**+6.6**		
	baz=114								
MDND				⇓Pdiff	**Pdif**	**19 58 50.6**	**+6.6**		
	baz=114								
MDND				⇓Pdiff	**Pdif**	**19 58 50.6**	**+6.6**		
	baz=114								
K26A	**Motz Farm, Whi**	**114.88**	**42**	⇓Pdiff	**Pdif**	**19 58 53.0**	**+8.4**		
	baz=114								
K26A				⇓Pdiff	**Pdif**	**19 58 53.0**	**+8.4**		
	baz=114								
K26A				⇓Pdiff	**Pdif**	**19 58 53.0**	**+8.4**		
	baz=114								
P24A	**Kohler Place,**	**114.92**	**46**	⇑Pdiff	**Pdif**	**19 58 53.5**	**+8.6**		
	baz=115								
P24A				⇑Pdiff	**Pdif**	**19 58 53.5**	**+8.6**		
	baz=115								
P24A				⇑Pdiff	**Pdif**	**19 58 53.5**	**+8.6**		
	baz=115								
Q24A	**Divide**	**114.94**	**47**	⇑Pdiff	**Pdif**	**19 58 52.7**	**+7.5**		
	baz=115								
Q24A				⇑Pdiff	**Pdif**	**19 58 52.7**	**+7.5**		
	baz=115								
Q24A				⇑Pdiff	**Pdif**	**19 58 52.7**	**+7.5**		
	baz=115								
LAZ	**Ladron**	**114.95**	**52**	*e*Pdif	**Pdif**	**19 58 46.6**	**+1.4**		
LAZ				*e*PKP	PKPdf	20 02 34.7	+0.2		
T23A	**Casias Ranch,**	**114.95**	**49**	⇓Pdiff	**Pdif**	**19 58 54.1**	**+8.8**		
	baz=115								
T23A				⇓Pdiff	**Pdif**	**19 58 54.1**	**+8.8**		
	baz=115								
T23A				⇓Pdiff	**Pdif**	**19 58 54.1**	**+8.8**		
	baz=115								
W22A	**Albuquerque**	**114.95**	**51**	⇓Pdiff	Pdif	19 58 55.4	+10		
	baz=115								
W22A				⇓Pdiff	Pdif	19 58 55.4	+10		
	baz=115								
W22A				⇓Pdiff	Pdif	19 58 55.4	+10		
	baz=115								
121A	**Cookes Peak, D**	**114.98**	**54**	⇓Pdiff	Pdif	19 58 55.5	+10		
	baz=115								
121A				⇓Pdiff	Pdif	19 58 55.5	+10		
	baz=115								
121A				⇓Pdiff	Pdif	19 58 55.5	+10		
	baz=115								
BNI	**Bardonecchia**	**114.98**	**321**	*e*PKIKP	**PKPdf**	**20 02 32.3**	**-1.9**		
BNI				MLR	MLR				
	comp=Z,131µm,22.0s								
BNI	**Bardonecchia**	**114.98**	**321**	*e*PKPdf	**PKPdf**	**20 02 32.3**	**-1.9**		
BNI				*e*PKKP	**PKKPab**	**20 13 19.4**	**+2.6**		
BNI				LR	LR				
	comp=Z,131µm,22.0s								
N25A	**Grover**	**115.01**	**44**	⇑Pdiff	**Pdif**	**19 58 52.3**	**+7.1**		
	baz=115								
N25A				⇑Pdiff	**Pdif**	**19 58 52.3**	**+7.1**		
	baz=115								
N25A				⇑Pdiff	**Pdif**	**19 58 52.3**	**+7.1**		
	baz=115								
FRB	**Fobisher Bay**	**115.02**	**10**	PKP	**PKPdf**	**20 02 33.3**	**-0.2**		
	comp=Z,10nm,0.9s,baz=352,slow=7.8,SNR=4.4								
FRB				PKKPab	**PKKPab**	**20 13 20.0**	**+3.9**		
	comp=Z,26nm,1.1s,baz=177,slow=8.3,SNR=4.5								
FRB	**Frobisher Bay**	**115.02**	**10**	PKIKP	**PKPdf**	**20 02 33.3**	**-0.2**		
FRB				pmax	pmax				
	comp=Z,10.0nm,0.9s								
FRB	**Frobisher Bay**	**115.02**	**10**	PKP	**PKPdf**	**20 02 33.3**	**-0.2**		
FRB				PKKPab	**PKKPab**	**20 13 20.0**	**+3.9**		
U23A	**El Rito**	**115.07**	**50**	⇓Pdiff	**Pdif**	**19 58 52.9**	**+7.2**		
	baz=115								
U23A				⇓Pdiff	**Pdif**	**19 58 52.9**	**+7.2**		
	baz=115								
U23A				⇓Pdiff	**Pdif**	**19 58 52.9**	**+7.2**		
	baz=115								
SDCO	**Great Sand Dun**	**115.11**	**48**	*e*PKPdf	**PKPdf**	**20 02 32.7**	**-2.2**		
SDCO				LR	LR				
	comp=Z,251µm,19.0s								
SDCO	**Great Sand Dun**	**115.11**	**48**	⇓Pdiff	**Pdif**	**19 58 55.3**	**+9.3**		
	baz=115								
SDCO				⇓Pdiff	**Pdif**	**19 58 55.3**	**+9.3**		
	baz=115								
SDCO				⇓Pdiff	**Pdif**	**19 58 55.3**	**+9.3**		
	baz=115								
SDCO				⇓Pdiff	**Pdif**	**19 58 55.3**	**+9.3**		
	baz=115								
SDCO				⇓Pdiff	**Pdif**	**19 58 55.3**	**+9.3**		
	baz=115								
221A	**Mesquite Ranch**	**115.13**	**55**	⇓Pdiff	**Pdif**	**19 58 54.4**	**+8.4**		
	baz=115								
221A				⇓Pdiff	**Pdif**	**19 58 54.4**	**+8.4**		
	baz=115								
221A				⇓Pdiff	**Pdif**	**19 58 54.4**	**+8.4**		
	baz=115								
LENM	**Lemitar**	**115.15**	**52**	*e*PKPdf	**PKPdf**	**20 02 30.3**	**-4.6**		
LENM				*e*PP	**PP**	**20 03 36.0**	**+1.2**		
L26A	**Underwood Farm**	**115.22**	**43**	⇑Pdiff	**Pdif**	**19 58 55.5**	**+9.3**		
	baz=115								
L26A				⇑Pdiff	**Pdif**	**19 58 55.5**	**+9.3**		
	baz=115								
L26A				⇑Pdiff	**Pdif**	**19 58 55.5**	**+9.3**		
	baz=115								
Y22D	**IRIS PASSCAL I**	**115.22**	**52**	⇓Pdiff	**Pdif**	**19 58 53.7**	**+7.3**		
	baz=115								
Y22D				⇓Pdiff	**Pdif**	**19 58 53.7**	**+7.3**		
	baz=115								
Y22D				⇓Pdiff	**Pdif**	**19 58 53.7**	**+7.3**		
	baz=115								
Y22A	**Socorro**	**115.23**	**52**	⇓Pdiff	**Pdif**	**19 58 55.0**	**+8.6**		
	baz=115								
Y22A				⇓Pdiff	**Pdif**	**19 58 55.0**	**+8.6**		
	baz=115								
Y22A				⇓Pdiff	**Pdif**	**19 58 55.0**	**+8.6**		
	baz=115								
R24A	**Sanders Place,**	**115.23**	**47**	⇑Pdiff	**Pdif**	**19 58 53.2**	**+6.8**		
	baz=115								
R24A				⇑Pdiff	**Pdif**	**19 58 53.2**	**+6.8**		
	baz=115								
R24A				⇑Pdiff	**Pdif**

baz=115
P25A ⇑Pdiff **Pdif** **19 58 56.4 +9.1**
baz=115
P25A ⇑Pdiff **Pdif** **19 58 56.4 +9.1**
baz=115
VSL **Villasalto** **115.45 314** PFAKE 20 02 40.0 +4.9
VSL LR LR
comp=Z,65µm,22.0s
W23A **Werner Place,** **115.48 51** ⇑Pdiff **Pdif** **19 58 57.3 +10**
baz=115
W23A ⇑Pdiff **Pdif** **19 58 57.3 +10**
baz=115
W23A ⇑Pdiff **Pdif** **19 58 57.3 +10**
baz=115
K27A **Flueckinger Fa** **115.51 42** ⇓Pdiff **Pdif** **19 58 53.3 +5.9**
baz=115
K27A ⇓Pdiff **Pdif** **19 58 53.3 +5.9**
baz=115
K27A ⇓Pdiff **Pdif** **19 58 53.3 +5.9**
baz=115
ORIF **Oris-en-Rattie** **115.55 321** *e*PKIKP **PKPdf** **20 02 33.6 -1.6**
comp=Z,136nm,1.1s
ORIF *e*R
comp=Z,155µm,22.8s
122A **Conniff Cattle** **115.56 54** ⇓Pdiff **Pdif** **19 58 56.1 +8.3**
baz=115
122A ⇓Pdiff **Pdif** **19 58 56.1 +8.3**
baz=115
122A ⇓Pdiff **Pdif** **19 58 56.1 +8.3**
baz=115
N26A **Koester Ranch,** **115.61 44** ⇓Pdiff **Pdif** **19 58 56.7 +8.8**
baz=115
N26A ⇓Pdiff **Pdif** **19 58 56.7 +8.8**
baz=115
N26A ⇓Pdiff **Pdif** **19 58 56.7 +8.8**
baz=115
Q25A **Bedland, Calha** **115.61 46** ⇓Pdiff **Pdif** **19 58 55.8 +7.7**
baz=115
Q25A ⇓Pdiff **Pdif** **19 58 55.8 +7.7**
baz=115
Q25A ⇓Pdiff **Pdif** **19 58 55.8 +7.7**
baz=115
ULM **Lac du Bonnet** **115.63 32** PKP **PKPdf** **20 02 33.9 -1.2**
comp=Z,9.3nm,0.9s,baz=306,slow=2.2,SNR=3.4
ULM PP **PP** **20 03 39.5 +2.2**
comp=Z,13nm,0.8s,baz=311,slow=5.9,SNR=2.1
ULM PKKPbc **PKKPab** **20 13 11.9 -1.7**
comp=Z,13nm,0.8s,baz=95,slow=3.9,SNR=6.8
ULM **Lac du Bonnet** **115.63 32** PKIKP **PKPdf** **20 02 33.9 -1.2**
ULM 20 03 39.5
ULM 20 13 11.9
ULM pmax pmax
comp=Z,9.0nm,0.9s
ULM pmax pmax
comp=Z,13nm,0.8s
ULM **Lac du Bonnet** **115.63 32** PKP **PKPdf** **20 02 33.9 -1.2**
ULM *e*PKP **PKiKP** **20 02 34.7 -0.3**
ULM PP **PP** **20 03 39.5 +2.2**
ULM PKKPbc **PKKPab** **20 13 11.9 -1.7**
ULM LR LR
comp=Z,120µm,20.0s
X23A **Hourglass Bar** **115.64 52** ⇓Pdiff **Pdif** **19 58 56.3 +8.0**
baz=115
X23A ⇓Pdiff **Pdif** **19 58 56.3 +8.0**
baz=115
X23A ⇓Pdiff **Pdif** **19 58 56.3 +8.0**
baz=115
LOR **Lormes** **115.65 324** *e*PKIKP **PKPdf** **20 02 33.9 -1.4**
comp=Z,100nm,1.2s
LOR *e*R
comp=Z,100µm,20.2s
222A **Williams Famil** **115.66 54** ⇑Pdiff **Pdif** **19 58 57.7 +9.4**
baz=115
222A ⇑Pdiff **Pdif** **19 58 57.7 +9.4**
baz=115
222A ⇑Pdiff **Pdif** **19 58 57.7 +9.4**
baz=115
T24A **Torres, Weston** **115.68 49** ⇑Pdiff **Pdif** **19 58 56.4 +7.8**
baz=115
T24A ⇑Pdiff **Pdif** **19 58 56.4 +7.8**
baz=115
T24A ⇑Pdiff **Pdif** **19 58 56.4 +7.8**
baz=115
L27A **T5 Ranch, Ells** **115.72 43** ⇑Pdiff **Pdif** **19 58 56.0 +7.6**
baz=115
L27A ⇑Pdiff **Pdif** **19 58 56.0 +7.6**
baz=115
L27A ⇑Pdiff **Pdif** **19 58 56.0 +7.6**
baz=115
U24A **Moreno Valley** **115.74 49** ⇓Pdiff **Pdif** **19 58 57.4 +8.6**
baz=115
U24A ⇓Pdiff **Pdif** **19 58 57.4 +8.6**
baz=115
U24A ⇓Pdiff **Pdif** **19 58 57.4 +8.6**
baz=115
O26A **Horse Wrangler** **115.78 45** ⇑Pdiff **Pdif** **19 58 57.0 +8.3**
baz=115
O26A ⇑Pdiff **Pdif** **19 58 57.0 +8.3**
baz=115
O26A ⇑Pdiff **Pdif** **19 58 57.0 +8.3**
baz=115
R25A **Fountain Ranch** **115.87 47** ⇑Pdiff **Pdif** **19 58 55.8 +6.7**
baz=116
R25A ⇑Pdiff **Pdif** **19 58 55.8 +6.7**
baz=116
R25A ⇑Pdiff **Pdif** **19 58 55.8 +6.7**
baz=116
M27A **Reverse DX Ran** **115.90 43** ⇓Pdiff **Pdif** **19 58 57.7 +8.5**
baz=116
M27A ⇓Pdiff **Pdif** **19 58 57.7 +8.5**
baz=116
M27A ⇓Pdiff **Pdif** **19 58 57.7 +8.5**
baz=116
S25A **Robets Cordova** **115.94 48** ⇓Pdiff **Pdif** **19 58 59.1 +10**
baz=116
S25A ⇓Pdiff **Pdif** **19 58 59.1 +10**
baz=116
S25A ⇓Pdiff **Pdif** **19 58 59.1 +10**
baz=116
Y23A **Lovelace Mesa,** **115.95 52** ⇑Pdiff **Pdif** **19 58 57.8 +8.1**
baz=116
Y23A ⇑Pdiff **Pdif** **19 58 57.8 +8.1**
baz=116
Y23A ⇑Pdiff **Pdif** **19 58 57.8 +8.1**
baz=116
SSF **Saint Saulge** **115.96 324** *e*PKIKP **PKPdf** **20 02 34.7 -1.1**
comp=Z,128nm,1.1s
V24A **Rampart Ranch,** **115.98 50** ⇑Pdiff **Pdif** **19 58 58.7 +8.9**
baz=116
V24A ⇑Pdiff **Pdif** **19 58 58.7 +8.9**
baz=116
V24A ⇑Pdiff **Pdif** **19 58 58.7 +8.9**
baz=116
Z23A **Rita Site, Whi** **116.01 53** ⇑Pdiff **Pdif** **19 58 57.4 +7.6**
baz=116
Z23A ⇑Pdiff **Pdif** **19 58 57.4 +7.6**
baz=116
Z23A ⇑Pdiff **Pdif** **19 58 57.4 +7.6**
baz=116
P26A **Davis Ranch, A** **116.02 45** ⇑Pdiff **Pdif** **19 58 57.9 +8.1**
baz=116
P26A ⇑Pdiff **Pdif** **19 58 57.9 +8.1**
baz=116
P26A ⇑Pdiff **Pdif** **19 58 57.9 +8.1**
baz=116
W24A **Lazy 6 Ranch,** **116.04 51** ⇓Pdiff **Pdif** **19 58 58.9 +8.8**
baz=116
W24A ⇓Pdiff **Pdif** **19 58 58.9 +8.8**
baz=116
W24A ⇓Pdiff **Pdif** **19 58 58.9 +8.8**
baz=116
N27A **Anderson Farm,** **116.09 44** ⇑Pdiff **Pdif** **19 58 58.0 +8.0**
baz=116
N27A ⇑Pdiff **Pdif** **19 58 58.0 +8.0**
baz=116
N27A ⇑Pdiff **Pdif** **19 58 58.0 +8.0**
baz=116
Q26A **Hugo** **116.14 46** ⇑Pdiff **Pdif** **19 58 59.9 +10**
baz=116
Q26A ⇑Pdiff **Pdif** **19 58 59.9 +10**
baz=116
Q26A ⇑Pdiff **Pdif** **19 58 59.9 +10**
baz=116
T25A **Trinidad** **116.14 48** ⇓Pdiff **Pdif** **19 58 59.5 +9.0**
baz=116
T25A ⇓Pdiff **Pdif** **19 58 59.5 +9.0**
baz=116
T25A ⇓Pdiff **Pdif** **19 58 59.5 +9.0**
baz=116
SMRF **Simiane la Rot** **116.17 320** *e*PKIKP **PKPdf** **20 02 35.6 -0.8**
comp=Z,196nm,1.1s
123A **Bell Site, Whi** **116.18 54** ⇓Pdiff **Pdif** **19 58 57.3 +6.7**
baz=116
123A ⇓Pdiff **Pdif** **19 58 57.3 +6.7**
baz=116
123A ⇓Pdiff **Pdif** **19 58 57.3 +6.7**
baz=116
AVF **Avril sur Loir** **116.19 324** *e*PKIKP **PKPdf** **20 02 34.8 -1.5**
comp=Z,76nm,1.1s
SSB **Saint Sauveur** **116.21 322** *e*PKIKP **PKPdf** **20 02 33.7 -2.7**
SSB MLR MLR
comp=Z,61µm,19.0s
SSB **Saint Sauveur** **116.21 322** *e*PKPdf **PKPdf** **20 02 33.7 -2.7**
SSB LR LR
comp=Z,61µm,19.0s
223A **Chaparral, Ant** **116.23 54** ⇓Pdiff **Pdif** **19 58 59.2 +8.4**
baz=116
223A ⇓Pdiff **Pdif** **19 58 59.2 +8.4**
baz=116
223A ⇓Pdiff **Pdif** **19 58 59.2 +8.4**
baz=116
X24A **Lazy VL Ranch,** **116.23 51** ⇑Pdiff **Pdif** **19 58 57.9 +7.0**
baz=116
X24A ⇑Pdiff **Pdif** **19 58 57.9 +7.0**
baz=116
X24A ⇑Pdiff **Pdif** **19 58 57.9 +7.0**
baz=116
VIVF **Saint-Julien-l** **116.33 321** *e*PKIKP **PKPdf** **20 02 35.4 -1.3**
comp=Z,96nm,0.9s
O27A **Beecher Island** **116.38 45** ⇓Pdiff **Pdif** **19 58 58.6 +7.3**
baz=116
O27A ⇓Pdiff **Pdif** **19 58 58.6 +7.3**
baz=116
O27A ⇓Pdiff **Pdif** **19 58 58.6 +7.3**
baz=116
OGNE **Ogallala** **116.38 44** *e*PKP **PKPdf** **20 02 38.2 +1.3**
OGNE LR LR
comp=Z,173µm,22.0s
OGNE **Ogallala** **116.38 44** ⇑Pdiff **Pdif** **19 58 59.5 +8.2**
baz=116
OGNE ⇑Pdiff **Pdif** **19 58 59.5 +8.2**
baz=116
OGNE ⇑Pdiff **Pdif** **19 58 59.5 +8.2**
baz=116
U25A **Circle Dot Ran** **116.40 49** ⇑Pdiff **Pdif** **19 58 59.5 +7.9**
baz=116
U25A ⇑Pdiff **Pdif** **19 58 59.5 +7.9**
baz=116
U25A ⇑Pdiff **Pdif** **19 58 59.5 +7.9**
baz=116
R26A **Arlington** **116.43 47** ⇓Pdiff **Pdif** **19 58 58.7 +7.1**
baz=116
R26A ⇓Pdiff **Pdif** **19 58 58.7 +7.1**
baz=116
R26A ⇓Pdiff **Pdif** **19 58 58.7 +7.1**
baz=116
Y24A **Capitan** **116.44 52** ⇓Pdiff Pdif 19 59 02.3 +11
baz=116
Y24A ⇓Pdiff Pdif 19 59 02.3 +11
baz=116
Y24A ⇓Pdiff Pdif 19 59 02.3 +11
baz=116
PLDF **La Plantade** **116.44 323** *e*PKIKP PKPdf 20 02 28.8 -8.1
PLDF **La Plantade** **116.44 323** *e*P PKPdf 20 02 28.8 -8.1
PLDF **La Plantade** **116.44 323** *e*P PKPdf 20 02 28.8 -8.1
V25A **Rancho No Teng** **116.44 50** ⇓Pdiff **Pdif** **19 59 01.4 +10**
baz=116
V25A ⇓Pdiff **Pdif** **19 59 01.4 +10**
baz=116
V25A ⇓Pdiff **Pdif** **19 59 01.4 +10**
baz=116
BGF **Bois d'Agland** **116.61 324** *e*PKIKP **PKPdf** **20 02 36.1 -1.0**
comp=Z,194nm,1.0s
S26A **Kim** **116.66 47** ⇓Pdiff **Pdif** **19 59 00.5 +7.8**
baz=116
S26A ⇓Pdiff **Pdif** **19 59 00.5 +7.8**
baz=116
S26A ⇓Pdiff **Pdif** **19 59 00.5 +7.8**
baz=116
Z24A **Sheeppen Canyo** **116.68 53** ⇓Pdiff **Pdif** **19 59 02.3 +9.4**
baz=116
Z24A ⇓Pdiff **Pdif** **19 59 02.3 +9.4**
baz=116
Z24A ⇓Pdiff **Pdif** **19 59 02.3 +9.4**
baz=116
AGMN **Agassiz Nation** **116.72 34** *e*PKPdf **PKPdf** **20 02 36.0 -1.2**
AGMN *e*PP **PP** **20 03 40.5 -4.4**
AGMN *e*PKKP **PKKPbc** **20 13 02.0 -3.7**
AGMN LR LR
comp=Z,322µm,22.0s
KSCO **Kaye Shedlock'** **116.75 46** ⇑Pdiff **Pdif** **19 59 00.2 +7.2**
baz=116
KSCO ⇑Pdiff **Pdif** **19 59 00.2 +7.2**
baz=116
KSCO ⇑Pdiff **Pdif** **19 59 00.2 +7.2**
baz=116
W25A **X Bar L Ranch,** **116.77 50** ⇑Pdiff **Pdif** **19 59 01.6 +8.4**
baz=116
W25A ⇑Pdiff **Pdif** **19 59 01.6 +8.4**
baz=116
W25A ⇑Pdiff **Pdif** **19 59 01.6 +8.4**
baz=116
KEST **Kesra** **116.84 310** PKP **PKPdf** **20 02 38.6 +0.6**
comp=Z,14nm,0.9s,baz=304,slow=1.8,SNR=6.6
KEST PKKPab **PKKPab** **20 13 11.9 +3.4**
comp=Z,6.5nm,0.9s,baz=217,slow=1.6,SNR=4.3
KEST **Kesra** **116.84 310** *e*PKPdf PKPdf 20 02 30.1 -7.8
KEST PKP **PKPdf** **20 02 38.6 +0.6**
KEST PKKPab **PKKPab** **20 13 11.9 +3.4**
X25A **Clemmons Ranch** **116.85 51** ⇑Pdiff **Pdif** **19 59 00.8 +7.3**
baz=116
X25A ⇑Pdiff **Pdif** **19 59 00.8 +7.3**
baz=116
X25A ⇑Pdiff **Pdif** **19 59 00.8 +7.3**
baz=116
BRSD **Miller** **116.85 39** ⇓Pdiff **Pdif** **19 59 00.8 +7.6**
baz=116
BRSD ⇓Pdiff **Pdif** **19 59 00.8 +7.6**
baz=116
BRSD ⇓Pdiff **Pdif** **19 59 00.8 +7.6**
baz=116
R27A **Eads** **116.90 47** ⇓Pdiff **Pdif** **19 59 02.8 +9.1**
baz=116
R27A ⇓Pdiff **Pdif** **19 59 02.8 +9.1**
baz=116
R27A ⇓Pdiff **Pdif** **19 59 02.8 +9.1**
baz=116
U26A **Atchley Ranch,** **116.91 49** ⇑Pdiff **Pdif** **19 59 01.4 +7.6**
baz=117
U26A ⇑Pdiff **Pdif** **19 59 01.4 +7.6**
baz=117
U26A ⇑Pdiff **Pdif** **19 59 01.4 +7.6**
baz=117
Y25A **Mesa, Roswell** **117.02 52** ⇓Pdiff Pdif 19 59 04.4 +10
baz=117
Y25A ⇓Pdiff Pdif 19 59 04.4 +10
baz=117
Y25A ⇓Pdiff Pdif 19 59 04.4 +10
baz=117
LBL **Lubilhac** **117.03 322** *e*PKIKP PKPdf 20 02 31.3 -6.8
LBL **Lubilhac** **117.03 322** *e*P PKPdf 20 02 31.3 -6.8
LBL **Lubilhac** **117.03 322** *e*P PKPdf 20 02 31.3 -6.8
S27A **Las Animas** **117.06 47** ⇑Pdiff **Pdif** **19 59 02.2 +7.7**
baz=117
S27A ⇑Pdiff **Pdif** **19 59 02.2 +7.7**
baz=117
S27A ⇑Pdiff **Pdif** **19 59 02.2 +7.7**
baz=117
324A **Moseley Ranch,** **117.17 55** ⇑Pdiff **Pdif** **19 59 02.4 +7.3**
baz=117
324A ⇑Pdiff **Pdif** **19 59 02.4 +7.3**
baz=117
324A ⇑Pdiff **Pdif** **19 59 02.4 +7.3**
baz=117
MNTX **Cornudas Mount** **117.17 54** *e*Pdif **Pdif** **19 58 59.5 +4.7**
MNTX *e*PKPdf **PKPdf** **20 02 35.1 -3.5**
MNTX **Cornudas Mount** **117.17 54** ⇓Pdiff **Pdif** **19 59 04.2 +9.3**
baz=117
MNTX ⇓Pdiff **Pdif** **19 59 04.2 +9.3**
baz=117
MNTX ⇓Pdiff **Pdif** **19 59 04.2 +9.3**
baz=117
MNTX ⇓Pdiff **Pdif** **19 59 04.2 +9.3**
baz=117
MNTX ⇓Pdiff **Pdif** **19 59 04.2 +9.3**
baz=117
LDF **La Druitiere** **117.21 327** *e*PKIKP **PKPdf** **20 02 36.6 -1.6**
comp=Z,26nm,0.8s
Z25A **Roswell** **117.21 52** ⇑Pdiff **Pdif** **19 59 04.7 +10**
baz=117
Z25A ⇑Pdiff **Pdif** **19 59 04.7 +10**
baz=117
Z25A ⇑Pdiff **Pdif** **19 59 04.7 +10**
baz=117
LASF **Ste Croix** **117.22 321** *e*PKIKP **PKPdf** **20 02 37.3 -1.1**
comp=Z,155nm,1.1s
FLN **La Foliniere** **117.31 327** *e*PKIKP **PKPdf** **20 02 36.9 -1.5**
comp=Z,107nm,1.0s
FLN *e*R
comp=Z,285µm,19.8s
W26A **Owens Ranch, T** **117.35 50** ⇓Pdiff **Pdif** **19 59 05.0 +9.2**
baz=117
W26A ⇓Pdiff **Pdif** **19 59 05.0 +9.2**
baz=117
W26A ⇓Pdiff **Pdif** **19 59 05.0 +9.2**
baz=117
T27A **Campo** **117.42 48** ⇑Pdiff **Pdif** **19 59 05.6 +10**
baz=117
T27A ⇑Pdiff **Pdif** **19 59 05.6 +10**
baz=117
T27A ⇑Pdiff **Pdif** **19 59 05.6 +10**
baz=117
DSB **Dublin** **117.43 334** *e*PKPdf **PKPdf** **20 02 33.5 -5.0**
125A **Gardner Draw,** **117.46 53** ⇓Pdiff **Pdif** **19 59 06.1 +10**
baz=117
125A ⇓Pdiff **Pdif** **19 59 06.1 +10**
baz=117
125A ⇓Pdiff **Pdif** **19 59 06.1 +10**
baz=117
DLF **Lyons Farm** **117.47 334** *e*P **PKPdf** **20 02 41.2 +2.7**
225A **Deer Hill, Car** **117.50 54** ⇓Pdiff **Pdif** **19 59 06.2 +10**
baz=117
225A ⇓Pdiff **Pdif** **19 59 06.2 +10**
baz=117
225A ⇓Pdiff **Pdif** **19 59 06.2 +10**
baz=117
X26A **CR and CF Fran** **117.50 51** ⇓Pdiff **Pdif** **19 59 02.1 +5.6**
baz=117
X26A ⇓Pdiff **Pdif** **19 59 02.1 +5.6**
baz=117
X26A ⇓Pdiff **Pdif** **19 59 02.1 +5.6**
baz=117
325A **Bean Ranch, Si** **117.61 55** ⇑Pdiff **Pdif** **19 59 05.5 +8.4**
baz=117
325A ⇑Pdiff **Pdif** **19 59 05.5 +8.4**
baz=117
325A ⇑Pdiff **Pdif** **19 59 05.5 +8.4**
baz=117
Y26A **Elida** **117.70 51** ⇑Pdiff **Pdif** **19 59 07.0 +10**
baz=117
Y26A ⇑Pdiff **Pdif** **19 59 07.0 +10**
baz=117
Y26A ⇑Pdiff **Pdif** **19 59 07.0 +10**
baz=117
GRR **Gorron** **117.73 327** *e*PKIKP **PKPdf** **20 02 38.0 -1.2**
comp=Z,127nm,1.1s
425A **Indio Mountain** **117.77 55** ⇑Pdiff Pdif 19 59 07.6 +10
baz=117
425A ⇑Pdiff Pdif 19 59 07.6 +10
baz=117
425A ⇑Pdiff Pdif 19 59 07.6 +10
baz=117
Z26A **Caprock** **117.80 52** ⇑Pdiff Pdif 19 59 07.7 +10
baz=118
Z26A ⇑Pdiff Pdif 19 59 07.7 +10
baz=118
Z26A ⇑Pdiff Pdif 19 59 07.7 +10
baz=118
GDL2 **Guadalupe Moun** **117.84 53** *e*PKPdf **PKPdf** **20 02 37.9 -2.2**
T28A **Walsh** **117.85 48** ⇑Pdiff **Pdif** **19 59 05.0 +7.1**
baz=118
T28A ⇑Pdiff **Pdif** **19 59 05.0 +7.1**
baz=118
T28A ⇑Pdiff **Pdif** **19 59 05.0 +7.1**
baz=118
W27A **Bowe Ranch, En** **117.90 50** ⇓Pdiff **Pdif** **19 59 04.7 +6.5**
baz=118
W27A ⇓Pdiff **Pdif** **19 59 04.7 +6.5**
baz=118
W27A ⇓Pdiff **Pdif** **19 59 04.7 +6.5**
baz=118
CAF **Calviac** **117.91 322** *e*PKIKP **PKPdf** **20 02 38.9 -0.8**
comp=Z,118nm,1.0s
CPRX **Cap Rock** **117.97 52** *e*PKPdf **PKPdf** **20 02 36.9 -3.4**
126A **Clayton Basin,** **117.97 53** ⇓Pdiff **Pdif** **19 59 07.1 +8.5**
baz=118
126A ⇓Pdiff **Pdif** **19 59 07.1 +8.5**
baz=118
126A ⇓Pdiff **Pdif** **19 59 07.1 +8.5**
baz=118
X27A **F and S Farms,** **118.02 50** ⇓Pdiff **Pdif** **19 59 07.2 +8.4**
baz=118
X27A ⇓Pdiff **Pdif** **19 59 07.2 +8.4**
baz=118
X27A ⇓Pdiff **Pdif** **19 59 07.2 +8.4**
baz=118
RJF **Les Rejaudoux** **118.05 323** *e*PKIKP **PKPdf** **20 02 38.9 -1.0**
comp=Z,82nm,1.1s
RJF *e*R
comp=Z,193µm,21.2s
226A **Malaga, Loving** **118.09 54** ⇑Pdiff **Pdif** **19 59 07.3 +8.2**
baz=118
226A ⇑Pdiff **Pdif** **19 59 07.3 +8.2**
baz=118
226A ⇑Pdiff **Pdif** **19 59 07.3 +8.2**
baz=118
CLNB **Carlsbad** **118.21 53** *e*PKPdf **PKPdf** **20 02 38.7 -2.1**
Y27A **Causey** **118.23 51** ⇓Pdiff **Pdif** **19 59 08.5 +8.8**
baz=118
Y27A ⇓Pdiff **Pdif** **19 59 08.5 +8.8**
baz=118
Y27A ⇓Pdiff **Pdif** **19 59 08.5 +8.8**
baz=118
MFF **Saint Martin d** **118.33 325** *e*PKIKP **PKPdf** **20 02 39.2 -1.2**
comp=Z,139nm,1.0s
Z27A **Tatum** **118.39 52** ⇑Pdiff **Pdif** **19 59 10.1 +10**
baz=118
Z27A ⇑Pdiff **Pdif** **19 59 10.1 +10**
baz=118
Z27A ⇑Pdiff **Pdif** **19 59 10.1 +10**
baz=118
326A **Caldwell Ranch** **118.43 54** ⇓Pdiff **Pdif** **19 59 10.2 +10**
baz=118
326A ⇓Pdiff **Pdif** **19 59 10.2 +10**
baz=118
326A ⇓Pdiff **Pdif** **19 59 10.2 +10**
baz=118
127A **Arkansas Junct** **118.49 53** ⇓Pdiff **Pdif** **19 59 09.0 +8.1**
baz=118
127A ⇓Pdiff **Pdif** **19 59 09.0 +8.1**
baz=118
127A ⇓Pdiff **Pdif** **19 59 09.0 +8.1**
baz=118
MSTX **Muleshoe** **118.51 51** ⇑Pdiff **Pdif** **19 59 09.9 +9.0**
baz=118
MSTX ⇑Pdiff **Pdif** **19 59 09.9 +9.0**
baz=118
MSTX ⇑Pdiff **Pdif** **19 59 09.9 +9.0**
baz=118
426A **McDonald Obser** **118.59 55** ⇓Pdiff Pdif 19 59 12.3 +11
baz=118
426A ⇓Pdiff Pdif 19 59 12.3 +11
baz=118
426A ⇓Pdiff Pdif 19 59 12.3 +11
baz=118
LRDF **Laroque-de-Fa** **118.61 320** *e*P **PKPdf** **20 02 42.9 +1.8**
LRDF **Laroque-de-Fa** **118.61 320** *e*P **PKPdf** **20 02 42.9 +1.8**
MTLF **Montolieu** **118.62 321** *e*PKIKP **PKPdf** **20 02 39.8 -1.3**
comp=Z,124nm,1.0s
ECSD **EROS Data Cent** **118.67 39** *e*PKPdf **PKPdf** **20 02 37.8 -3.3**
ECSD LR LR
comp=Z,207µm,19.0s
526A **Mary Lane Ranc** **118.73 56** ⇓Pdiff **Pdif** **19 59 11.2 +9.2**
baz=118
526A ⇓Pdiff **Pdif** **19 59 11.2 +9.2**
baz=118
526A ⇓Pdiff **Pdif** **19 59 11.2 +9.2**
baz=118
SGMF **Saint Gilles** **118.73 327** *e*PKIKP **PKPdf** **20 02 39.6 -1.5**
comp=Z,163nm,1.0s
227A **Bennet, Jal** **118.76 53** ⇓Pdiff **Pdif** **19 59 11.3 +9.3**
baz=118

227A ⇓Pdiff **Pdif** **19 59 11.3 +9.3**
baz=118
227A ⇓Pdiff **Pdif** **19 59 11.3 +9.3**
baz=118
FILF Fillols 118.78 320 *e*P **PKPdf** **20 02 41.2 -0.3**
FILF Fillols 118.78 320 *e*P **PKPdf** **20 02 41.2 -0.3**
CASM Ain Smara 118.80 312 P **PKPdf** **20 02 39.0 -2.7**
327A Balmorhea Ranc 118.81 54 ⇑Pdiff **Pdif** **19 59 11.8 +10**
baz=118
327A ⇑Pdiff **Pdif** **19 59 11.8 +10**
baz=118
327A ⇑Pdiff **Pdif** **19 59 11.8 +10**
baz=118
BGNE Belgrade 118.81 42 ⇓Pdiff **Pdif** **19 59 10.0 +8.0**
baz=118
BGNE ⇓Pdiff **Pdif** **19 59 10.0 +8.0**
baz=118
BGNE ⇓Pdiff **Pdif** **19 59 10.0 +8.0**
baz=118
626A Big Bend Ranch 118.84 56 ⇑Pdiff **Pdif** **19 59 11.0 +8.6**
baz=118
626A ⇑Pdiff **Pdif** **19 59 11.0 +8.6**
baz=118
626A ⇑Pdiff **Pdif** **19 59 11.0 +8.6**
baz=118
CBKS Cedar Bluff 118.88 45 *e*PKIKP **PKPdf** **20 02 38.9 -2.8**
CBKS MLR MLR
comp=Z,179µm,22.0s
CBKS Cedar Bluff 118.88 45 *e*PKPdf **PKPdf** **20 02 38.9 -2.8**
CBKS LR LR
comp=Z,179µm,22.0s
CBKS Cedar Bluff 118.88 45 ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CBKS ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CBKS ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CBKS ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CBKS ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CBKS ⇑Pdiff **Pdif** **19 59 11.5 +9.1**
baz=118
CARF Carcanieres 119.00 320 *e*P **PKPdf** **20 02 44.7 +2.7**
CARF Carcanieres 119.00 320 *e*P **PKPdf** **20 02 44.7 +2.7**
AMTX Amarillo 119.02 50 *e*PKPdf **PKPdf** **20 02 39.5 -2.8**
AMTX LR LR
comp=Z,208µm,20.0s
AMTX Amarillo 119.02 50 ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
AMTX ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
AMTX ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
AMTX ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
AMTX ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
AMTX ⇑Pdiff **Pdif** **19 59 10.4 +7.3**
baz=119
427A Hayter Ranch, 119.05 55 ⇓Pdiff Pdif 19 59 13.2 +10
baz=119
427A ⇓Pdiff Pdif 19 59 13.2 +10
baz=119
427A ⇓Pdiff Pdif 19 59 13.2 +10
baz=119
ROSF Rostrenen 119.06 328 *e*PKIKP **PKPdf** **20 02 40.2 -1.5**
comp=Z,149nm,1.2s
527A Woodward Ranch 119.09 55 ⇑Pdiff **Pdif** **19 59 13.3 +10**
baz=119
527A ⇑Pdiff **Pdif** **19 59 13.3 +10**
baz=119
527A ⇑Pdiff **Pdif** **19 59 13.3 +10**
baz=119
DFRA Djebel Bou Aff 119.14 312 P **PKPdf** **20 02 46.0 +3.6**
QUIF Quistinic 119.26 327 *e*PKIKP **PKPdf** **20 02 40.6 -1.5**
comp=Z,138nm,1.1s
TXAR Lajitas Array 119.30 56 Pdiff **Pdif** **19 59 10.1 +5.6**
comp=Z,0.3nm,0.8s,baz=248,slow=3.8,SNR=2.6
TXAR PKP **PKPdf** **20 02 40.6 -2.2**
comp=Z,7.7nm,1.1s,baz=202,slow=3.6,SNR=5.3
TXAR PKKPab **PKKPab** **20 13 02.1 +4.3**
comp=Z,8.9nm,0.8s,baz=125,slow=4.7,SNR=12
TXAR Lajitas Array 119.30 56 PKIKP **PKPdf** **20 02 40.7 -2.2**
TXAR Lajitas Array 119.30 56 Pdif **Pdif** **19 59 10.1 +5.6**
TXAR PKP **PKPdf** **20 02 40.6 -2.2**
TXAR PKKPab **PKKPab** **20 13 02.1 +4.3**
EYMN Ely 119.31 32 *e*PKPdf **PKPdf** **20 02 40.5 -1.8**
EYMN LR LR
comp=Z,222µm,22.0s
328A Wristen Ranch, 119.36 54 ⇑Pdiff **Pdif** **19 59 13.8 +9.1**
baz=119
328A ⇑Pdiff **Pdif** **19 59 13.8 +9.1**
baz=119
328A ⇑Pdiff **Pdif** **19 59 13.8 +9.1**
baz=119
627A Terlingua Ranc 119.49 56 ⇓Pdiff **Pdif** **19 59 15.0 +10**
baz=119
627A ⇓Pdiff **Pdif** **19 59 15.0 +10**
baz=119
627A ⇓Pdiff **Pdif** **19 59 15.0 +10**
baz=119
MLS Moulis 119.52 321 *e*P **PKPdf** **20 02 44.8 +2.0**
MLS Moulis 119.52 321 *e*P **PKPdf** **20 02 44.8 +2.0**
SALF Salau 119.56 321 *e*P **PKPdf** **20 02 44.1 +1.1**
SALF Salau 119.56 321 *e*P **PKPdf** **20 02 44.1 +1.1**
SET Setif 119.63 312 P **PKPdf** **20 02 47.0 +3.7**
428A Kincaid Ranch, 119.67 55 ⇑Pdiff **Pdif** **19 59 15.8 +10**
baz=119
428A ⇑Pdiff **Pdif** **19 59 15.8 +10**
baz=119
428A ⇑Pdiff **Pdif** **19 59 15.8 +10**
baz=119
628A Black Gap, Mar 119.90 56 ⇓Pdiff Pdif 19 59 17.6 +10
baz=120
628A ⇓Pdiff Pdif 19 59 17.6 +10
baz=120
628A ⇓Pdiff Pdif 19 59 17.6 +10
baz=120
EPF Esparros 119.96 321 *e*PKIKP **PKPdf** **20 02 42.4 -1.3**
comp=Z,95nm,1.0s
RESF Ens 120.07 321 *e*P **PKPdf** **20 02 42.6 -1.4**
RESF Ens 120.07 321 *e*P **PKPdf** **20 02 42.6 -1.4**
SPMN St. Paul 120.17 36 ⇓Pdiff **Pdif** **19 59 16.2 +8.3**
baz=120
SPMN ⇓Pdiff **Pdif** **19 59 16.2 +8.3**
baz=120
SPMN ⇓Pdiff **Pdif** **19 59 16.2 +8.3**
baz=120
VIEF Viey 120.23 321 *e*P **PKPdf** **20 02 44.7 +0.4**
VIEF Viey 120.23 321 *e*P **PKPdf** **20 02 44.7 +0.4**
REYF Montagne du Re 120.39 322 *e*P **PKPdf** **20 02 44.1 -0.5**
REYF Montagne du Re 120.39 322 *e*P **PKPdf** **20 02 44.1 -0.5**
ETSF Etsaut 120.59 321 *e*PKIKP **PKPdf** **20 02 44.5 -0.5**
comp=Z,185nm,1.1s
SJPF Ste Jean 120.88 322 *e*PKIKP **PKPdf** **20 02 44.9 -0.5**
comp=Z,240nm,1.4s
KSU1 Kansas State U 120.93 43 *e*PKPdf **PKPdf** **20 02 42.0 -3.6**
KSU1 LR LR
comp=Z,233µm,21.0s
WMOK Wichita Mounta 121.28 49 *e*PKIKP **PKPdf** **20 02 42.4 -4.0**
WMOK MLR MLR
comp=Z,213µm,22.0s
WMOK Wichita Mounta 121.28 49 *e*PKPdf **PKPdf** **20 02 42.4 -4.0**
WMOK LR LR
comp=Z,213µm,22.0s
COWI Conover 121.72 33 *e*PKPdf **PKPdf** **20 02 46.6 -0.4**
SCIA State Center 121.76 39 *e*PKPdf **PKPdf** **20 02 46.0 -1.1**
SCIA LR LR
comp=Z,132µm,20.0s
JCT Junction City 122.09 54 *e*PKIKP **PKPdf** **20 02 44.9 -3.3**
JCT MLR MLR
comp=Z,312µm,21.0s
JCT Junction City 122.09 54 *e*PKPdf **PKPdf** **20 02 44.9 -3.3**
JCT LR LR
comp=Z,312µm,21.0s
JCT Junction City 122.09 54 ⇓Pdiff **Pdif** **19 59 26.3 +9.4**
baz=122
JCT ⇓Pdiff **Pdif** **19 59 26.3 +9.4**
baz=122
JCT ⇓Pdiff **Pdif** **19 59 26.3 +9.4**
baz=122
ECHA Ech Chlef 122.60 314 P PKPdf 20 02 55.0 +6.1
TUL1 Tulsa 122.98 46 ⇑Pdiff **Pdif** **19 59 25.7 +5.1**
baz=123
TUL1 ⇑Pdiff **Pdif** **19 59 25.7 +5.1**
baz=123
⇑Pdiff **Pdif** **19 59 25.7 +5.1**
baz=123
JFWS Jewell Farm 123.01 37 *e*PKIKP **PKPdf** **20 02 46.1 -3.4**
JFWS MLR MLR
comp=Z,202µm,20.0s
JFWS Jewell Farm 123.01 37 *e*PKPdf **PKPdf** **20 02 46.1 -3.4**
JFWS LR LR
comp=Z,202µm,20.0s
RFTA Plano 123.57 50 *e*PKPdf **PKPdf** **20 02 47.6 -3.2**
SCHQ Schefferville 123.58 13 PKP **PKPdf** **20 02 47.5 -2.7**
comp=Z,7.7nm,0.9s,baz=225,slow=4.3,SNR=2.4
SCHQ PKKPbc **PKKPbc** **20 12 42.8 +2.3**
comp=Z,14nm,0.7s,baz=181,slow=2.1,SNR=11
SCHQ Schefferville 123.58 13 *e*PKPdf PKPdf 20 02 44.5 -5.7
SCHQ PKP **PKPdf** **20 02 47.5 -2.7**
SCHQ PKKPbc **PKKPbc** **20 12 42.8 +2.3**
SCHQ LR LR
comp=Z,129µm,22.0s
CART Cartagena 123.60 316 *e*PKPdf **PKPdf** **20 02 47.9 -2.9**
TAM Tamanrasset 124.05 297 *e*PKIKP **PKPdf** **20 02 50.7 -1.6**
TAM MLR MLR
comp=Z,55µm,22.0s
TAM Tamanrasset 124.05 297 *e*PKPdf **PKPdf** **20 02 50.7 -1.6**
TAM *e*PKKP PKKPab 20 12 30.7 -6.8
TAM LR LR
comp=Z,55µm,22.0s
ESDC Sonseca Array 124.49 320 PKP **PKPdf** **20 02 52.2 -0.3**
comp=Z,9.7nm,0.9s,baz=18,slow=3.2,SNR=11
ESDC PP PP 20 04 45.2 +6.8
comp=Z,25nm,1.1s,baz=53,slow=5.8,SNR=4.8
ESDC PKKPbc PKKPbc 20 12 47.5 +11
comp=Z,2.6nm,0.8s,baz=248,slow=3.2,SNR=6.3
ESDC Sonseca Array 124.49 320 PKP **PKPdf** **20 02 52.2 -0.3**
ESDC PP PP 20 04 45.2 +6.8
ESDC PKKPbc PKKPbc 20 12 47.5 +11
ESLA Sonseca Array 124.49 320 *e*PKPdf **PKPdf** **20 02 52.4 -0.1**
ESLA LR LR
comp=Z,579µm,21.0s
KVTX Kingsville 124.68 56 *e*PKPdf **PKPdf** **20 02 50.2 -3.0**
KVTX LR LR
comp=Z,190µm,21.0s
PAB San Pablo 124.81 320 *e*PKIKP **PKPdf** **20 02 51.1 -2.1**
PAB *e* 20 04 40.3
PAB MLR MLR
comp=Z,129µm,20.0s
PAB San Pablo 124.81 320 *e*PKPdf **PKPdf** **20 02 51.1 -2.1**
PAB *e*PP **PP** **20 04 40.3 -0.2**
PAB LR LR
comp=Z,129µm,20.0s
HDIL Hopedale 124.96 38 *e*PKPdf **PKPdf** **20 02 51.1 -2.2**
HDIL LR LR
comp=Z,111µm,20.0s
GLMI Grayling 124.97 32 *e*PKPdf **PKPdf** **20 02 50.4 -2.8**
GLMI LR LR
comp=Z,199µm,22.0s
PBRG Braganca 124.97 324 *e*PKPdf **PKPdf** **20 02 54.8 +1.4**
PBRG Braganca 124.97 324 *e*PP PP 20 04 41.6 +0.1
MIAR Mount Ida 125.22 47 *e*PKIKP **PKPdf** **20 02 50.1 -3.9**
MIAR *e* 20 04 43.5
MIAR MLR MLR
comp=Z,200µm,19.0s
MIAR Mount Ida 125.22 47 *e*PKP **PKPdf** **20 02 50.0 -3.9**
MIAR *e*PP **PP** **20 04 43.5 0.0**
MIAR LR LR
comp=Z,200µm,19.0s
SLM Saint Louis 125.45 41 *e*PKIKP **PKPdf** **20 02 51.7 -2.6**
SLM Saint Louis 125.45 41 *e*PKPdf **PKPdf** **20 02 51.7 -2.6**
HKT Hockley 125.47 53 *e*PKIKP **PKPdf** **20 02 50.6 -3.9**
HKT *e* 20 04 40.0
HKT Hockley 125.47 53 *e*PKPdf **PKPdf** **20 02 50.6 -3.9**
HKT *e*PP PP 20 04 40.0 -5.3
MVO Moncorvo 125.53 323 *e*PKPdf **PKPdf** **20 02 54.5 0.0**
MVO Moncorvo 125.53 323 *e*PP PP 20 04 46.0 +0.7
NATX Nacogdoches 125.65 50 *e*PKPdf **PKPdf** **20 02 53.1 -1.8**
NATX LR LR
comp=Z,217µm,21.0s
PGAV Gavieira, Arco 125.77 325 *e*PKPdf **PKPdf** **20 02 57.0 +2.0**
PGAV Gavieira, Arco 125.77 325 *e*PP PP 20 04 53.1 +6.2
PCAB Cabril 125.79 324 *e*PKPdf **PKPdf** **20 02 56.2 +1.3**
PCAB Cabril 125.79 324 *e*PP PP 20 05 04.8 +18
POLO Lamas de Olo 125.86 324 *e*PKPdf **PKPdf** **20 02 55.4 +0.2**
POLO Lamas de Olo 125.86 324 *e*PP PP 20 04 51.0 +3.5
PVRL Vila Real 125.88 324 *e*PKPdf **PKPdf** **20 02 53.8 -1.3**
PVRL Vila Real 125.88 324 *e*PP PP 20 04 52.8 +5.3
UALR University of 126.00 46 *e*PKPdf **PKPdf** **20 02 52.4 -3.0**
UALR *e*PP **PP** **20 04 47.6 -1.1**
MTE Manteigas 126.31 323 *e*PKPdf **PKPdf** **20 02 56.7 +0.7**
MTE Manteigas 126.31 323 *e*PP PP 20 04 55.1 +4.7
MTE Manteigas 126.31 323 *e*PKPdf **PKPdf** **20 02 52.8 -3.3**
MTE *e*PP **PP** **20 04 55.4 +5.0**
MTE LR LR
comp=Z,116µm,22.0s
PVIS Viseu 126.33 323 *e*PKPdf **PKPdf** **20 02 54.5 -1.5**
PVIS Viseu 126.33 323 *e*PP PP 20 05 03.9 +13
SFIN Scholer Farm 126.42 37 ⇑Pdiff **Pdif** **19 59 41.7 +5.9**
baz=126
SFIN ⇑Pdiff **Pdif** **19 59 41.7 +5.9**
baz=126
SFIN ⇑Pdiff **Pdif** **19 59 41.7 +5.9**
baz=126
PTO Porto 126.49 324 *e*PKPdf PKPdf 20 03 03.5 +7.3
PCBR Castelo Branco 126.61 322 *e*PKPdf **PKPdf** **20 02 57.2 +0.7**
PCBR Castelo Branco 126.61 322 *e*PP PP 20 05 04.6 +12
SIUC Southern Illin 126.62 41 *e*PKPdf **PKPdf** **20 02 53.9 -2.7**
OLIL Olney 126.77 40 *e*PKPdf **PKPdf** **20 02 53.1 -3.7**
PMRV Marv??o 126.80 322 *e*PKPdf **PKPdf** **20 02 57.3 +0.4**
PMRV Marv??o 126.80 322 *e*PP PP 20 05 00.7 +7.0
HBAR Harrisburg 126.81 44 *e*PKPdf **PKPdf** **20 02 54.8 -2.2**
PARMO Parma 126.84 43 *e*PKPdf **PKPdf** **20 02 54.0 -3.0**
GNAR Gosnell 127.03 43 PKPdf **PKPdf** **20 02 54.0 -3.4**
AAM Ann Arbor 127.18 33 *e*PKIKP **PKPdf** **20 02 54.8 -2.7**
AAM MLR MLR
comp=Z,286µm,22.0s
AAM Ann Arbor 127.18 33 *e*PKPdf **PKPdf** **20 02 54.8 -2.7**
AAM LR LR
comp=Z,286µm,22.0s
EFI East Falkland 127.21 172 *e*PKIKP **PKPdf** **20 02 52.3 -5.0**
EFI MLR MLR
comp=Z,196µm,22.0s
EFI East Falkland 127.21 172 *e*PKPdf **PKPdf** **20 02 52.3 -5.0**
EFI LR LR
comp=Z,196µm,22.0s
PESTR Estremoz 127.26 321 *e*PKPdf **PKPdf** **20 02 59.6 +1.8**
PESTR Estremoz 127.26 321 *e*PP PP 20 05 04.0 +7.3
PBAR Barrancos 127.31 320 *e*PKPdf **PKPdf** **20 02 59.7 +1.8**
PBAR Barrancos 127.31 320 *e*PP PP 20 05 04.7 +7.6
PTOM Tomar 127.31 322 *e*PKPdf **PKPdf** **20 02 54.9 -2.9**
PTOM Tomar 127.31 322 *e*PP PP 20 05 10.0 +13
GLAT Glass 127.37 43 *e*PKPdf **PKPdf** **20 02 54.3 -3.7**
USIN University of 127.49 40 *e*PKPdf **PKPdf** **20 02 55.9 -2.4**
BLO Bloomington 127.50 38 *e*PKIKP **PKPdf** **20 02 54.3 -3.9**
BLO Bloomington 127.50 38 *e*PKPdf **PKPdf** **20 02 54.3 -3.9**
HALT Halls 127.53 43 *e*PKPdf **PKPdf** **20 02 57.0 -1.4**
PMTG Montargil 127.53 322 *e*PKPdf **PKPdf** **20 02 59.0 +0.7**
PMTG Montargil 127.53 322 *e*PP PP 20 05 07.1 +8.6
UTMT University of 127.62 42 *e*PKPpre PKPpre 20 02 54.9
EVO Evora 127.72 321 *e*PKPdf **PKPdf** **20 03 00.8 +2.1**
EVO Evora 127.72 321 *e*PP PP 20 05 07.5 +7.8
EVO Evora 127.72 321 *e*PKIKP **PKPdf** **20 02 56.3 -2.4**
comp=Z,363nm,1.2s
EVO *e*R
comp=Z,128µm,20.2s
SFS San Fernando 127.73 318 PFAKE 20 03 10.0 +11
SFS LR LR
comp=Z,116µm,20.0s
SADO Sadowa 127.75 28 PKP **PKPdf** **20 02 56.8 -1.8**
comp=Z,32nm,1.0s,baz=331,slow=4.0,SNR=10
SADO Sadowa 127.75 28 PKP **PKPdf** **20 02 56.8 -1.8**
PBEJ Beja 127.93 320 *e*PKPdf **PKPdf** **20 02 58.1 -1.0**
PBEJ Beja 127.93 320 *e*PP PP 20 05 12.5 +11
PVAQ Vaqueiros 128.20 320 *e*PKPdf **PKPdf** **20 02 59.0 -0.6**
PVAQ Vaqueiros 128.20 320 *e*PP PP 20 05 08.2 +5.3
WCI Wyandotte Cave 128.21 39 *e*PKIKP **PKPdf** **20 02 56.2 -3.5**
WCI Wyandotte Cave 128.21 39 *e*PKPdf **PKPdf** **20 02 56.1 -3.5**
PMAFR Mafra 128.25 322 *e*PKPdf **PKPdf** **20 03 00.0 +0.3**
PMAFR Mafra 128.25 322 *e*PP PP 20 05 10.8 +7.6
MESJ Messejana 128.26 320 *e*P **PKPdf** **20 02 58.7 -1.0**
MESJ *e*PP **PP** **20 05 02.5 -0.8**
MESJ *e*SS SS 20 22 16.8 +0.6
MESJ AMS AMS 21 08 07.7
comp=Z,67µm,23.3s
MESJ Messejana 128.26 320 *e*PP PP 20 05 02.5 -0.8
MESJ *e*SS SS 20 22 16.8 +0.6
MESJ A A 21 08 07.7
comp=Z,67µm,23.3s
MESJ Messejana 128.26 320 *e*PKIKP **PKPdf** **20 02 58.7 -1.0**
MESJ *e* 20 05 02.4
PCVE Castro Verde 128.27 320 *e*PKPdf **PKPdf** **20 03 03.4 +3.7**
PCVE Castro Verde 128.27 320 *e*PP PP 20 05 11.0 +7.6
PNCL Nicolau / Gran 128.30 321 *e*PKPdf **PKPdf** **20 03 03.2 +3.4**
PNCL Nicolau / Gran 128.30 321 *e*PP PP 20 05 12.1 +8.6
LIS Lisbon 128.32 322 *e*P **PKPdf** **20 02 58.6 -1.2**
LIS *e*PP **PP** **20 05 03.1 -0.5**
LIS *e*SS SS 20 22 18.4 +1.6
LIS AMS AMS 21 04 08.4
comp=N,98µm,19.6s
LIS Lisbon 128.32 322 *e*PKIKP **PKPdf** **20 02 58.6 -1.2**
LIS *e* 20 05 03.1
PBDV Barranco-do-Ve 128.43 320 *e*PKPdf **PKPdf** **20 03 01.9 +1.8**
PBDV Barranco-do-Ve 128.43 320 *e*PP PP 20 05 10.0 +5.5
WVT Waverly 128.43 42 *e*PKIKP **PKPdf** **20 02 57.0 -3.1**
WVT *e* 20 05 04.0
WVT Waverly 128.43 42 *e*PKPdf **PKPdf** **20 02 57.0 -3.1**
WVT *e*PP **PP** **20 05 04.0 -0.6**
VBMS Vicksburg 128.57 48 *e*PKPdf **PKPdf** **20 02 56.2 -4.2**
VBMS *e*PP PP 20 04 58.4 -7.3
VBMS LR LR
comp=Z,268µm,20.0s
PTEO Sao Teotonio 128.76 320 *e*PKPdf PKPdf 20 03 05.8 +5.1
PTEO Sao Teotonio 128.76 320 *e*PP PP 20 05 17.6 +11
MORF Marmelete 128.86 320 *e*PKPdf **PKPdf** **20 03 02.5 +1.6**
MORF Marmelete 128.86 320 *e*PP PP 20 05 11.8 +4.5
MORF Marmelete 128.86 320 *e*PKIKP **PKPdf** **20 02 59.2 -1.7**
MORF *e* 20 05 06.6
PLAL Pickwick Lake 128.90 43 *e*PKPdf PKPdf 20 02 55.4 -5.6
PLAL LR LR
comp=Z,227µm,21.0s
ACSO Alum Creek Sta 128.94 35 *e*PKPdf **PKPdf** **20 02 58.1 -2.8**
ACSO LR LR
comp=Z,157µm,22.0s
PFVI Vila Bisbo 129.07 320 *e*PKPdf **PKPdf** **20 03 00.4 -0.9**
PFVI Vila Bisbo 129.07 320 *e*PP PP 20 05 14.0 +5.4
COYC Coyhaique 129.17 158 *e*P **PKPdf** **20 03 02.8 +1.6**
COYC Coyhaique 129.17 158 *e*PP **PKPdf** **20 03 02.8 +1.6**
ERPA Erie 129.27 31 *e*PKPdf **PKPdf** **20 02 58.3 -3.2**
ERPA LR LR
comp=Z,182µm,21.0s
MSNY Massena 129.49 25 *e*PKPdf **PKPdf** **20 03 00.1 -1.7**
ALLY Alegheny Colle 129.52 32 *e*PKPdf **PKPdf** **20 02 59.2 -2.8**
ALLY *e*PP PP 20 05 04.5 -6.8
RTC Rabat Centre 129.53 316 PFAKE 20 03 10.0 +7.8
RTC LR LR
comp=Z,54µm,19.0s
TORD Torodi Ar. Bea 129.79 287 PKP **PKPdf** **20 02 59.8 -3.4**
comp=Z,6.7nm,0.7s,baz=54,slow=1.5,SNR=15
TORD Torodi Ar. Bea 129.79 287 PKP **PKPdf** **20 02 59.8 -3.4**
LONY Lake Ozonia 129.91 25 *e*PKPdf **PKPdf** **20 02 59.0 -3.7**
LONY LR LR
comp=Z,104µm,22.0s
FRNY Flat Rock 130.16 24 *e*PKPdf **PKPdf** **20 03 00.4 -2.7**
SWET Sewanee 130.22 42 *e*PKPdf PKPdf 20 02 57.8 -5.8
CMIG Matias Romero 130.46 68 PKP **PKPdf** **20 03 03.1 -1.3**
comp=Z,23nm,1.0s,baz=295,slow=3.9,SNR=2.4
CMIG PP **PP** **20 05 23.4 +4.5**
comp=Z,12nm,1.1s,baz=225,slow=5.7,SNR=2.3
CMIG Matias Romero 130.46 68 PKP **PKPdf** **20 03 03.1 -1.3**
CMIG PP **PP** **20 05 23.4 +4.5**
TRIS Tristan da Cun 130.47 217 PFAKE 20 03 10.0 +6.1
TRIS LR LR
comp=Z,109µm,21.0s
PQI Presque Isle 130.63 19 *e*PKPdf **PKPdf** **20 03 00.4 -3.6**
LRAL Lakeview Retre 130.71 45 *e*PKPdf **PKPdf** **20 03 00.8 -3.7**
LRAL LR LR
comp=Z,193µm,22.0s
TZTN Tazewell 130.97 39 *e*PKPdf **PKPdf** **20 03 02.1 -2.8**
MDV Middlebury 131.01 25 *e*PKPdf **PKPdf** **20 03 01.9 -2.9**
CPCT Cooper Cave 131.01 41 *e*PKPdf PKPpre 20 02 59.6
BINY Binghamton 131.19 28 *e*PKPdf PKPpre 20 02 59.5
BINY LR LR
comp=Z,118µm,20.0s
ACCN Adirondack Com 131.30 25 *e*PKPdf **PKPdf** **20 03 04.9 -0.4**
LBNH Lisbon 131.32 23 *e*PKIKP **PKPdf** **20 03 02.0 -3.4**
LBNH MLR MLR
comp=Z,144µm,21.0s
LBNH Lisbon 131.32 23 *e*PKPdf **PKPdf** **20 03 02.0 -3.4**
LBNH LR LR
comp=Z,144µm,21.0s
TKL Tuckaleechee C 131.37 40 PKP **PKPdf** **20 03 03.7 -2.0**
comp=Z,44nm,1.1s,baz=129,slow=4.2,SNR=4.4
TKL PP PP 20 05 33.3 +10
comp=Z,27nm,1.0s,baz=291,slow=7.2,SNR=6.2
TKL Tuckaleechee C 131.37 40 *e*PKIKP PKPpre 20 03 01.1
TKL Tuckaleechee C 131.37 40 *e*PKPdf PKPpre 20 03 01.1
TKL PKP **PKPdf** **20 03 03.7 -2.0**
TKL PP PP 20 05 33.3 +10
SSPA Standing Stone 131.43 31 *e*PKPdf **PKPdf** **20 03 00.5 -5.2**
PKME Peaks-Kenny Pk 131.43 21 *e*PKPdf **PKPdf** **20 03 03.3 -2.2**
PKME LR LR
comp=Z,169µm,21.0s
HNH Hanover 131.62 24 *e*PKPdf **PKPdf** **20 03 03.8 -2.1**
BRAL Brewton 131.73 47 *e*PKP **PKPdf** **20 03 06.2 -0.3**
BRAL LR LR
comp=Z,250µm,22.0s
TRY Troy 131.83 26 *e*PKP **PKPdf** **20 03 04.4 -1.9**
WVL Waterville 131.91 21 *e*PKPdf **PKPdf** **20 03 03.9 -2.5**
ILCA Isla Las Cabra 131.91 155 *e*P **PKPdf** **20 03 04.5 -1.9**
BLA Blacksburg 132.44 36 *e*PKHKP PKPpre 20 02 55.0
BLA MLR MLR
comp=Z,196µm,22.0s
BLA Blacksburg 132.44 36 *e*PKPpre PKPpre 20 02 55.0
BLA LR LR
comp=Z,196µm,22.0s
QUA2 Belchertown 132.76 25 *e*PKPdf **PKPdf** **20 03 07.8 -0.3**
SDMD Soldier's Deli 132.88 31 *e*PKPpre PKPpre 20 03 05.8
GOGA Godfrey 132.93 42 *e*PKIKP PKPpre 20 02 59.9
GOGA MLR MLR
comp=Z,219µm,20.0s
GOGA Godfrey 132.93 42 *e*PKPpre PKPpre 20 02 59.9
GOGA LR LR
comp=Z,219µm,20.0s
BRNJ Basking Ridge 133.04 28 *e*PKP **PKPdf** **20 03 07.6 -1.0**
PAL Palisades 133.09 28 *e*PKIKP PKPpre 20 03 03.9
PAL Palisades 133.09 28 *e*PKPdf PKPpre 20 03 03.9
WES Weston 133.11 24 *e*PKIKP **PKPdf** **20 03 08.9 +0.2**
WES Weston 133.11 24 *e*PKPdf **PKPdf** **20 03 08.9 +0.2**
CPNY Central Park 133.24 28 *e*PKPpre PKPpre 20 02 55.7
YLE Yale 133.29 26 *e*PKPdf **PKPdf** **20 03 07.9 -1.2**
CBN Corbin 133.48 33 PFAKE 20 03 20.0 +10
CBN LR LR
comp=Z,355µm,21.0s
JSC Jenkinsville 133.84 40 *e*PKHKP PKPpre 20 02 57.9
JSC Jenkinsville 133.84 40 *e*PKPpre PKPpre 20 02 57.9
PLCA Paso Flores 133.85 156 PKP **PKPdf** **20 03 08.1 -2.3**
comp=Z,4.5nm,0.9s,baz=324,slow=0.9,SNR=5.0
PLCA Paso Flores 133.85 156 *e*PKIKP PKPpre 20 03 04.3
PLCA MLR MLR
comp=Z,195µm,20.0s
PLCA Paso Flores 133.85 156 *e*PKPpre PKPpre 20 03 04.3
PLCA PKP **PKPdf** **20 03 08.1 -2.3**
PLCA LR LR
comp=Z,195µm,20.0s
COW Cow Castle Cre 134.77 40 *e*PKPdf **PKPdf** **20 03 08.4 -3.7**
CNNC Cliffs of the 135.28 36 *e*PKPdf **PKPdf** **20 03 10.7 -2.3**
CNNC LR LR
comp=Z,208µm,19.0s
NHSC New Hope 135.28 40 *e*PKPpre PKPpre 20 03 07.0
NHSC LR LR
comp=Z,206µm,22.0s
TEIG Tepich 135.49 61 *e*PKP **PKPdf** **20 03 13.7 -0.1**
TEIG LR LR
comp=Z,134µm,22.0s
SHEL Horse Pasture 135.74 246 *e*PKIKP **PKPdf** **20 03 12.5 -2.0**
SHEL MLR MLR
comp=Z,86µm,20.0s
SHEL Horse Pasture 135.74 246 *e*PKPdf **PKPdf** **20 03 12.5 -2.0**
SHEL LR LR
comp=Z,86µm,20.0s
CCHI Chillan 136.53 151 *e*P PKPdf 20 03 07.4 -8.0
PMAR Madeira 137.00 321 *e*PKPdf **PKPdf** **20 03 13.8 -2.8**
PMAR Madeira 137.00 321 *e*PP PP 20 06 05.0 +5.5
FUL Funchal 137.03 321 *e*PKPdf **PKPdf** **20 03 21.0 +4.6**
FUL Funchal 137.03 321 *e*PP PP 20 06 09.8 +10
PMOZ Porto Moniz, M 137.11 322 *e*PKPdf **PKPdf** **20 03 17.3 +0.6**
PMOZ Porto Moniz, M 137.11 322 *e*PP PP 20 06 07.7 +7.6
DBIC Dimbokro 137.13 279 PKhKP PKPpre 20 03 11.9
comp=Z,18nm,0.8s,baz=84,slow=4.2,SNR=7.6

DBIC PKP **PKPdf** 20 03 15.7 -1.4
comp=Z,18nm,0.8s,baz=68,slow=4.4,SNR=20
DBIC PP **PP** 20 06 04.3 +2.7
comp=Z,19nm,0.8s,baz=0.0,slow=0.0,SNR=2.4
DBIC Dimbokro 137.13 279 PKIKP PKPpre 20 03 12.0
DBIC 20 06 04.3
DBIC Dimbokro 137.13 279 PKPpre PKPpre 20 03 11.9
DBIC PKP **PKPdf** **20 03 15.7 -1.4**
DBIC PP **PP** **20 06 04.3 +2.7**
LIC Lamto 137.35 279 *e*PKIKP PKPdf 20 03 09.1 -8.4
comp=Z,359nm,1.1s
LIC *eR* 20 03 09.1
comp=Z,92μm,21.0s
ADH Angra Heroismo 137.79 336 *e*PKP PKPdf 20 03 23.3 +5.7
CMLA Cha da Macela 137.82 334 *e*PKP **PKPdf** **20 03 21.6 +3.9**
CMLA *e*LQ LQ 20 39 30.9
CMLA *e*LR LR 20 50 06.9
comp=Z,10μm,18.5s
CMLA Cha da Macela 137.82 334 PFAKE 20 03 30.0 +12
CMLA LR LR
comp=Z,67μm,21.0s
PDA Ponta Delgada 137.89 334 *e*PKP PKPdf 20 03 25.7 +7.9
ROSA Rosais 138.13 337 *e*PKP **PKPdf** **20 03 22.3 +4.1**
ROSA *e*LQ LQ 20 39 46.1
ROSA *e*LR LR 20 50 40.4
PMAN Manadas 138.14 337 *e*PKP **PKPdf** **20 03 22.8 +4.5**
PSMN Pico do Norte, 138.24 333 *e*PKP **PKPdf** **20 03 19.7 +1.2**
PSMN *e*LQ LQ 20 39 30.9
PSMN *e*LR LR 20 49 32.7
comp=Z,10μm,14.7s
PSMA Santa Maria 138.28 333 *e*PKP **PKPdf** **20 03 21.9 +3.4**
PCAN Candelaria 138.44 337 *e*PKP PKPdf 20 03 24.2 +5.4
SOR Soroa 138.92 55 *e*P **PKPdf** **20 03 18.9 -1.2**
TRQA Tornquist 139.32 162 *e*PKPpre PKPpre 20 03 11.1
TRQA LR LR
comp=Z,283μm,20.0s
CLCH Cerro Calan 139.84 149 *e*P PKPdf 20 03 13.4 -8.2
ROCH El Roble 139.93 148 *e*P **PKPdf** **20 03 21.5 -0.5**
PEL Peldehue 139.96 149 *e*P **PKPdf** **20 03 20.0 -1.8**
FCH Farellones 140.02 150 *e*P **PKPdf** **20 03 19.5 -2.8**
CMCH Combarbala 141.32 147 *e*P **PKPdf** **20 03 20.2 -4.1**
JCR Jicaral 141.36 75 *e*P **PKPdf** **20 03 21.0 -3.9**
JTS JuntasAbangare 141.42 74 *e*PKIKP **PKPdf** **20 03 21.5 -3.4**
JTS MLR MLR
comp=Z,169μm,22.0s
JTS JuntasAbangare 141.42 74 *e*PKPdf **PKPdf** **20 03 21.5 -3.4**
JTS LR LR
comp=Z,169μm,22.0s
MGV Manicaragua 141.70 54 *e*P **PKPdf** **20 03 24.1 -1.0**
TLL Tololo Astrono 142.20 146 *e*PKIKP **PKPdf** **20 03 23.6 -2.6**
TLL Tololo Astrono 142.20 146 *e*P **PKPdf** **20 03 23.6 -2.6**
TLL Tololo Astrono 142.20 146 *e*P **PKPdf** **20 03 23.6 -2.6**
LAJ Bijagual 142.31 75 *e*P PKPdf 20 03 20.9 -5.8
URSC Urasca 142.65 74 *e*P PKPdf 20 03 21.4 -5.9
BUS Buena Vista 142.73 75 *e*P **PKPdf** **20 03 24.1 -3.7**
LCO Las Campanas 143.13 145 *e*P PKPab 20 03 22.8 -0.6
LCO Las Campanas 143.13 145 *e*P PKPab 20 03 22.8 -0.6
LCO *e*P PKPbc 20 03 23.0 -1.8
LPA La Plata 143.40 165 PKIKP PKPab 20 03 18.0 -5.9
ACR Cerro Adams 143.47 76 *e*P PKPab 20 03 23.0 -1.9
BBSR BB Station 144.37 26 *e*PKPdf **PKPdf** **20 03 29.6 0.0**
BBSR LR LR
comp=Z,96μm,20.0s
LMGC Las Mercedes 145.12 54 *e*P **PKPdf** **20 03 32.1 +0.9**
MBJ Montego Bay 145.21 58 *i* P **PKPdf** **20 03 32.3 +0.8**
HLGC Holguin 145.46 52 *e*P **PKPab** **20 03 32.1 +0.1**
MCJ Malvern 145.57 58 *i* P **PKPab** **20 03 32.6 0.0**
BBJ Bamboo Saint A 145.72 57 *i* P **PKPab** **20 03 33.2 +0.1**
BNJ Bonny Gate 146.01 57 *i* P **PKPab** **20 03 35.3 +1.1**
PCJ Portland Cotta 146.11 58 *i* P **PKPab** **20 03 35.4 +0.9**
RCC Rio Carpintero 146.22 53 *e*P **PKPdf** **20 03 29.3 -3.8**
STH Stony Hill 146.25 57 *i* P **PKPab** **20 03 35.5 +0.5**
GWJ Greenwich 146.32 57 *i* P **PKPab** **20 03 35.5 +0.1**
HOJ Hope 146.33 57 *i* P **PKPab** **20 03 34.9 -0.5**
CMJ Castle Mountai 146.59 57 *i* P **PKPab** **20 03 37.5 +1.2**
BCIP Isla Barro Col 146.59 74 *e*PKPdf **PKPdf** **20 03 30.7 -3.2**
BCIP LR LR
comp=Z,193μm,22.0s
YHJ Yallahs 146.60 57 *i* P **PKPab** **20 03 37.1 +0.7**
GTBY Guantanamo Bay 146.72 53 *e*PKPdf PKPdf 20 03 27.6 -6.4
GTBY LR LR
comp=Z,109μm,22.0s
ANCH Antofagasta 147.16 139 *e*P **PKPab** **20 03 40.0 +1.6**
MASC Masc 147.28 52 *e*P **PKPab** **20 03 39.0 +0.1**
NNA Nana 148.23 114 *c i*PKP2 **PKPdf** **20 03 37.2 +0.5**
NNA Nana 148.23 114 *e*PKPdf **PKPdf** **20 03 35.2 -1.5**
NNA LR LR
comp=Z,284μm,20.0s
LVC Limon Verde 148.88 139 *e*PKPbc **PKPdf** **20 03 37.2 -0.6**
OTAV Otavalo 148.95 90 *e*PKPdf **PKPdf** **20 03 37.0 -1.4**
OTAV LR LR
comp=Z,164μm,21.0s
SDDR Presa de Saban 150.24 51 *e*PKPbc **PKPdf** **20 03 40.6 +0.8**
CPUP Villa Florida 151.63 161 PKP **PKPdf** **20 03 41.0 -0.7**
comp=Z,38nm,0.9s,baz=205,slow=1.2,SNR=32
CPUP PKPbc **PKPbc** **20 03 45.0 -2.9**
comp=Z,46nm,0.8s,baz=168,slow=1.9,SNR=36
CPUP Villa Florida 151.63 161 PKIKP **PKPdf** **20 03 41.0 -0.7**
CPUP 20 03 45.0
CPUP pmax pmax
comp=Z,39nm,0.9s
CPUP pmax pmax
comp=Z,46nm,0.8s
CPUP Villa Florida 151.63 161 PKP **PKPdf** **20 03 41.0 -0.7**
CPUP PKPbc **PKPbc** **20 03 45.0 -2.9**
SACV Santiago Islan 152.46 303 *e*PKPbc **PKPbc** **20 03 47.0 -3.1**
ROSC El Rosal 152.76 80 PKPbc **PKPdf** **20 03 46.7 +2.5**
comp=Z,37nm,0.6s,baz=299,slow=3.1,SNR=12
ROSC El Rosal 152.76 80 PKPbc PKPdf **20 03 46.7 +2.5**
LPAZ La Paz 153.59 130 PKP **PKPdf** **20 03 44.5 -1.1**
comp=Z,34nm,1.1s,baz=357,slow=2.5,SNR=24
LPAZ PKPbc **PKPbc** **20 03 49.7 -3.6**
comp=Z,42nm,1.0s,baz=215,slow=2.0,SNR=26
LPAZ La Paz 153.59 130 PKIKP **PKPdf** **20 03 44.5 -1.1**
LPAZ 20 03 49.7
LPAZ pmax pmax
comp=Z,34nm,1.2s
LPAZ La Paz 153.59 130 PKP **PKPdf** **20 03 44.5 -1.1**
LPAZ PKPbc **PKPbc** **20 03 49.7 -3.6**
LSP Las Mesas 153.89 47 *e*PKPbc **PKPdf** **20 03 47.4 +2.2**
CRPR Cabo Rojo, PR 153.98 47 *e*PKPbc **PKPdf** **20 03 47.5 +2.2**
LRS Lares 153.99 46 *e*PKPbc **PKPbc** **20 03 50.1 -3.3**
CELP Cerrillos 154.32 46 *e*PKPbc **PKPdf** **20 03 47.8 +2.0**
OBIP Obispado Ponce 154.32 46 *e*PKPbc **PKPdf** **20 03 47.9 +2.1**
ICM Isla Caja Muer 154.48 46 *e*PKPbc **PKPdf** **20 03 47.8 +1.8**
CBYP Canovanas 154.71 45 *e*PKPbc **PKPdf** **20 03 48.9 +2.5**
MTP Monte Pirata 155.04 45 *e*PKPbc **PKPdf** **20 03 48.5 +1.7**
STVI Saint Thomas 155.28 43 *e*PKPbc **PKPdf** **20 03 48.9 +1.8**
SDV Santo Domingo 155.42 70 *e*PKPdf **PKPdf** **20 03 44.1 -3.6**
SDV LR LR
comp=Z,41μm,22.0s
CDVI St. Croix 155.82 44 *e*PKPbc **PKPdf** **20 03 48.5 +0.7**
SPB Sao Paulo 156.03 180 *e*PKPdf **PKPdf** **20 03 50.2 +2.2**
SPB LR LR
comp=Z,182μm,22.0s
CAM4 Nova Friburgo 156.77 191 ⇑ *i*P PKPab 20 04 04.2 -14
CAM4 *i* 20 04 07.5
CAM4 *i* 20 04 15.0
CAM4 *i* 20 04 18.5
CAM4 *i* 20 04 28.3
CAM4 *i* 20 04 39.1
CAM4 *i* 20 04 50.1
CAM4 *i* 20 04 52.7
CAM4 *i* 20 05 06.0
CAM4 *i* 20 08 19.4
CAM4 *i* 20 08 31.3
CAM4 *i* 20 08 52.5
ANWB Willy Bob 157.85 39 PFAKE 20 04 00.0 +10
ANWB LR LR
comp=Z,88μm,21.0s
BPA Boggy Peak 158.27 40 *e*P **PKPdf** **20 03 51.6 +0.5**
SIV San Ignacio 158.75 141 PP PP 20 08 07.4 +0.7
comp=Z,34nm,1.1s,baz=324,slow=12,SNR=1.9
SIV San Ignacio 158.75 141 PP PP 20 08 07.4 +0.7
LZG Guadaloupe-1 158.98 42 *e*P PKPdf 20 04 04.2 +12
PHG Guadaloupe-2 159.16 42 *e*P PKPdf 20 03 59.9 +7.6
TBG Guadaloupe-3 159.28 42 *e*P PKPdf 20 04 04.1 +12
MGG Marie-Galante 159.45 41 *e*P PKPdf 20 04 04.7 +12
MDN Morne-Daniel 159.82 43 *e*P **PKPdf** **20 03 54.4 +1.5**
DPMT Pointe Michel 159.88 43 *e* PKPab 20 04 12.9 -19
DFBT Forest Bistro 159.91 43 *e* PKPab 20 04 19.2 -13
DLPL La Plaine 159.91 42 *e* PKPdf 20 03 59.0 +6.0

FDF Fort de France 160.40 43 *e*PKIKP **PKPdf** **20 03 52.5 -1.1**
FDF MLR MLR
comp=Z,134μm,21.0s
FDF Fort de France 160.40 43 *e*PKPdf **PKPdf** **20 03 52.5 -1.1**
FDF LR LR
comp=Z,134μm,21.0s
MCLT Moule a Chique 161.26 45 *e* PKPdf 20 04 06.5 +12
SVB Belmont 161.33 47 *e* **PKPdf** **20 03 57.2 +2.7**
SAML Samuel 161.67 121 *e*PKPdf **PKPdf** **20 03 53.0 -1.9**
SAML *e*PKPbc PKPab 20 03 57.2 -43
SAML *e*PKPab PKPab 20 04 41.4 +1.4
SAML LR LR
comp=Z,136μm,21.0s
GRGR Grenville 161.75 50 PFAKE 20 04 00.0 +5.0
GRGR LR LR
comp=Z,113μm,22.0s
BBGH Gun Hill 162.61 43 PFAKE 20 04 00.0 +4.2
BBGH LR LR
comp=Z,182μm,22.0s
BBSP Saint Philip 162.71 43 *e*P PKPdf 20 04 10.6 +15
TRN Trinidad (W) 162.83 54 *e*P PKPdf 20 04 03.1 +7.0
ALNG Atlantic LNG 162.86 56 *e*P PKPdf 20 04 03.5 +7.5
TPP Pointe-a-Pierr 162.98 55 *e* PKPdf 20 04 09.8 +14
TPR Prospect 163.01 51 *e*P PKPdf 20 04 04.0 +7.7
TOSP Speyside 163.12 50 *e* **PKPdf** **20 04 01.0 +4.6**
TBH Brigand Hill 163.19 53 *e*P PKPdf 20 04 01.8 +5.4
RCBR Riachuelo 166.90 241 *e*PKPdf **PKPdf** **20 03 57.4 -2.3**
RCBR *e*PKPab **PKPab** **20 05 04.0 +0.9**
RCBR LR LR
comp=Z,149μm,21.0s

*IDC **03** 19:52:36.7±0.9, 0.°51S×133.°50E, h0km, mb4.8/8, mb1 4.9/8, mb1mx4.7/17, mbtmp4.8/8, Error ellipse: s-maj=40.4km s-min=21.2km az=77.0*
*ISCJB **03** 19:52:39.3±0.7, 0.°4S±0.°1×133.°4E±0.°1, h28km, mb4.8/9, Error ellipse: s-maj=16.7km s-min=15.1km az=139.0*
*NEIC **03** 19:52:41.3±0.6, 0.°55S×133.°45E, h35km, mb4.9/3, Error ellipse: s-maj=16.9km s-min=13.7km az=83.0*
ISC 03 19:52:40.6±0.8, 0.°5S±0.°1×133.°5E±0.°2, h28km, n22,
σ0s94/21, mb4.8/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.99**	**38**	Pn	**Pn**	**19 56 47.4**	**-1.4**
	441nm,1.2s						
KKM	**Kota Kinabalu**	**18.46**	**291**	Pn	P	19 56 52.2	-2.3
	101nm,1.2s						
WRAB	**Tennant Creek**	**19.29**	**178**	P	**P**	**19 57 00.9**	**-2.5**
ASAR	**Alice Springs**	**22.99**	**179**	P	**P**	**19 57 44.4**	**+1.2**
	48nm,0.6s,baz=2.2,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**22.99**	**179**	P	**P**	**19 57 44.4**	**+1.2**
KSM	**Kuching**	**23.29**	**275**	P	**P**	**19 57 45.2**	**-1.1**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.86**	**301**	P	**P**	**20 00 03.7**	**-0.1**
	3.2nm,0.7s,baz=113,slow=5.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**38.86**	**301**	P	**P**	**20 00 03.7**	**-0.1**
PETK	**Petropavlovsk-**	**57.15**	**17**	P	**P**	**20 02 25.7**	**+1.0**
	7.9nm,0.9s,baz=191,slow=6.6,SNR=5.0						
PETK	**Petropavlovsk-**	**57.15**	**17**	P	**P**	**20 02 25.7**	**+1.0**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**20 03 18.4**	**+0.6**
	7.9nm,0.6s,baz=111,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**20 03 18.4**	**+0.6**
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20 03 34.0**	**0.0**
	3.9nm,0.7s,baz=134,slow=6.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20 03 34.0**	**0.0**
KURK	**Kurchatov**	**69.00**	**326**	P	**P**	**20 03 43.8**	**+0.4**
	16nm,1.0s,baz=121,slow=6.2,SNR=4.1						
KURK	**Kurchatov**	**69.00**	**326**	P	**P**	**20 03 43.8**	**+0.4**
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**20 05 18.1**	**-0.3**
	7.7nm,1.1s,baz=252,slow=5.2,SNR=2.8						
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**20 05 18.1**	**-0.3**
QSPA	**South Pole Qui**	**89.39**	**180**	P	**P**	**20 05 34.8**	**+0.2**
	13nm,1.0s,baz=273,slow=9.6,SNR=2.7						
QSPA	**South Pole Qui**	**89.39**	**180**	P	**P**	**20 05 34.8**	**+0.2**
CPUP	**Villa Florida**	**151.31**	**159**	PKPbc	**PKPbc**	**20 12 32.8**	**+0.4**
	10nm,0.8s,baz=252,slow=3.6,SNR=4.7						
CPUP	**Villa Florida**	**151.31**	**159**	PKPbc	**PKPbc**	**20 12 32.8**	**+0.4**

*BJI **03** 19:53:12.8, 1.°33S×134.°25E, h60km, mb5.4/6*
*IDC **03** 19:53:13.9±0.5, 0.°58S×133.°35E, h0km, mb5.4/21, mb1 5.4/22, mb1mx5.4/23, mbtmp5.4/22, ML5.5/1, Error ellipse: s-maj=25.3km s-min=12.8km az=70.0*
*ISCJB **03** 19:53:16.3±0.2, 0.°55S±0.°04×133.°47E±0.°04, h28km, mb5.6/77, MS6.6/1, Error ellipse: s-maj=6.0km s-min=5.2km az=174.1*
*MOS **03** 19:53:16.9±1.0, 0.°60S×133.°36E, h33km, mb5.8/41, Error ellipse: s-maj=12.7km s-min=6.4km az=108.4*
*NEIC **03** 19:53:18.9±0.2, 0.°59S×133.°36E, h35km, mb5.6/48, Error ellipse: s-maj=6.8km s-min=4.8km az=61.0*
*DJA **03** 19:53:42, 1.°38S×132.°18E, h117km, mb5.9/10*
ISC 03 19:53:18.0±0.3, 0.°61S±0.°05×133.°36E±0.°05, h28km, n225,
σ1s21/228, mb5.6/75, 2C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.55**	**206**	P	Pb	19 54 12.3	+9.2
BAKI	**Biak**	**2.80**	**102**	P	**Sb**	**19 54 40.9**	**-0.4**
MSAI	**Masohi**	**5.20**	**238**	P	Pn	19 54 38.2	+4.2
AAI	**Ambon**	**6.00**	**239**	P	**Pn**	**19 54 47.1**	**+2.1**
BBSI	**Bau Bau**	**11.81**	**246**	P	Pn	19 56 08.1	+3.3
	35μm,1.3s						
BKSI	**Bulukumba**	**14.02**	**250**	P	**P**	**19 56 39.4**	**-3.1**
	2μm,1.2s						
KAPI	**Kappang**	**14.28**	**252**	*e*Pn	**Pn**	**19 56 39.4**	**+1.0**
	493nm,0.9s						
KAPI	**Kappang**	**14.28**	**252**	P	**P**	**19 56 42.4**	**-3.0**
	2μm,1.2s						
SMKI	**Samarinda**	**16.16**	**271**	P	P	19 57 11.9	+5.6
PMG	**Port Moresby**	**16.27**	**123**	P	**Pn**	**19 57 04.4**	**-0.3**
PMG	**Port Moresby**	**16.27**	**123**	Pn	**Pn**	**19 57 04.4**	**-0.3**
KKM	**Kota Kinabalu**	**18.35**	**291**	*e*P	**Pn**	**19 57 31.3**	**+0.5**
	304nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	**P**	**19 57 37.3**	**0.0**
	12nm,0.3s,baz=51,slow=14,SNR=3.5						
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	**P**	**19 57 37.3**	**0.0**
TGY	**Tagaytay City**	**19.11**	**320**	P	**Pn**	**19 57 43.0**	**+3.1**
	4.7nm,0.3s,baz=129,slow=13,SNR=2.9						
TGY	**Tagaytay City**	**19.11**	**320**	P	**Pn**	**19 57 43.0**	**+3.1**
TGY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TGY	**Tagaytay City**	**19.11**	**320**	P	**Pn**	**19 57 43.0**	**+3.1**
WRAB	**Tennant Creek**	**19.23**	**177**	P	**P**	**19 57 39.9**	**-0.2**
WRAB	**Tennant Creek**	**19.23**	**177**	P	**P**	**19 57 39.9**	**-0.2**
KHKI	**Kahang-Kahang**	**19.29**	**246**	P	Pn	19 57 47.3	+5.3
	comp=Z,8μm,1.3s						
ABJI	**Asem Bagus**	**20.36**	**249**	P	Px	19 58 13.1	
BYJI	**Banyuwangi**	**20.39**	**248**	P	Pn	19 58 00.2	+5.2
	comp=Z,28μm,0.8s						
BLJI	**Banyuglugur**	**20.94**	**250**	P	Pn	19 58 04.2	+2.7
	comp=Z,8μm,2.6s						
GMJI	**Gumukmas**	**21.25**	**248**	P	P	19 58 10.2	+8.0
	comp=Z,8μm,1.7s						
SBUM	**Sibu**	**21.36**	**278**	P	P	19 58 10.8	+7.5
	comp=Z,20μm,1.7s						
ASAR	**Alice Springs**	**22.92**	**179**	P	**P**	**19 58 20.1**	**+0.1**
	comp=Z,332nm,0.8s,baz=3.9,slow=13,SNR=6.4						
ASAR				S	S	20 02 36.1	+7.8
	comp=Z,47nm,0.8s,baz=0.5,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**22.92**	**179**	P	**P**	**19 58 20.1**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,332nm,0.8s						
ASAR	**Alice Springs**	**22.92**	**179**	P	**P**	**19 58 20.1**	**+0.1**
ASAR				S	S	20 02 36.1	+7.8
CTAO	**Charters Tower**	**23.10**	**148**	P	**P**	**19 58 22.3**	**+0.4**
CTAO	**Charters Tower**	**23.10**	**148**	P	**P**	**19 58 22.3**	**+0.4**
KSM	**Kuching**	**23.15**	**275**	*e*P	**P**	**19 58 22.5**	**+0.2**
	comp=Z,304nm,1.1s						
KSM	**Kuching**	**23.15**	**275**	P	P	19 58 28.9	+6.5
	comp=Z,2μm,0.8s						
YOGI	**Yogyakarta**	**24.08**	**252**	P	P	19 58 37.8	+6.4
	comp=Z,6μm,0.8s						
BJII	**Banjamegara**	**24.51**	**254**	P	P	19 58 42.7	+7.3
	comp=Z,46μm,2.9s						
CISI	**Cisompet, Garu**	**26.39**	**254**	P	**P**	**19 58 54.3**	**+1.9**
SSLB	**Suanglung**	**27.09**	**334**	P	**P**	**19 58 56.1**	**-2.5**
	comp=Z,113nm,1.2s						
NACB	**Ninganchiao**	**27.16**	**336**	P	**P**	**19 58 59.1**	**0.0**
YHNB	**Yeheng**	**27.69**	**336**	*e*P	**P**	**19 59 02.4**	**-1.6**
	comp=Z,43nm,1.0s						
HNR	**Honiara**	**27.87**	**109**	P	**P**	**19 59 06.0**	**+0.3**
HNR	**Honiara**	**27.87**	**109**	P	**P**	**19 59 06.0**	**+0.3**

QIZ Qiongzhong 30.24 311 *e*P **P** **19 59 26.6 -0.1**
comp=Z,63nm,0.9s
KULM Kulim 33.19 281 *e*P **P** **19 59 51.0 -1.7**
comp=Z,126nm,1.3s
PSI Prapat 34.59 276 P P 20 00 10.0 +4.9
WHN Wuhan 35.88 331 P **P** **20 00 17.6 +1.9**
MAJO Matsushiro 37.24 6 *e*P **P** **20 00 25.1 -2.2**
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 37.24 6 *e*P **P** **20 00 25.1 -2.2**
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 37.24 6 P **P** **20 00 25.1 -2.2**
comp=Z,4.7nm,0.9s,baz=179,slow=9.8,SNR=5.6
MJAR PcP **PcP** **20 02 45.8 -0.9**
comp=Z,4.3nm,0.8s,baz=197,slow=3.0,SNR=4.0
MJAR Matsushiro Arr 37.24 6 P **P** **20 00 25.1 -2.2**
MJAR 20 02 45.8
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 37.24 6 P **P** **20 00 25.1 -2.2**
MJAR PcP **PcP** **20 02 45.8 -0.9**
KSAR Wonju Array Be 38.20 353 P **P** **20 00 36.5 +1.1**
KSAR Wonju Array Be 38.20 353 P **P** **20 00 36.5 +1.1**
KSRS Korea Array 38.21 353 P **P** **20 00 36.5 +1.1**
comp=Z,8.0nm,1.1s,baz=169,slow=9.4,SNR=4.1
KSRS Korea Array 38.21 353 P **P** **20 00 36.5 +1.1**
KSRS pmax pmax
comp=Z,8.0nm,1.1s
ENH Enshi 38.22 326 *e*P **P** **20 00 35.2 -0.4**
comp=Z,58nm,1.2s
CMAR Chiang Mai Arr 38.77 301 P **P** **20 00 40.6 +0.2**
comp=Z,8.5nm,0.8s,baz=115,slow=6.0,SNR=5.5
CMAR Chiang Mai Arr 38.77 301 P **P** **20 00 40.7 +0.2**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 38.77 301 P **P** **20 00 40.6 +0.2**
CHTO Chiang Mai 38.93 302 *e*P **P** **20 00 41.5 -0.3**
CHTO pmax pmax
comp=Z,36nm,1.1s
CHTO Chiang Mai 38.93 302 *e*P **P** **20 00 41.5 -0.3**
comp=Z,36nm,1.1s
BJT Baijiatuao 43.38 341 *e*P **P** **20 01 18.7 +0.6**
BJT pmax pmax
comp=Z,181nm,1.0s
BJT Baijiatuao 43.38 341 *e*P **P** **20 01 18.7 +0.6**
comp=Z,181nm,1.0s
VLA Vladivostok 43.56 358 ⇓ *i*P **P** **20 01 18.5 -0.9**
VLA *e* 20 03 00.1
VLA S **S** **20 07 45.2 -1.6**
VLA pmax pmax
comp=Z,36nm,1.3s
TAU Tasmania Unive 43.93 165 *e*P **P** **20 01 21.2 -1.2**
TAU pmax pmax
comp=Z,281nm,1.7s
TAU Tasmania Unive 43.93 165 *e*P **P** **20 01 21.2 -1.2**
comp=Z,281nm,1.7s
USRK Ussuriysk Arra 44.63 359 P **P** **20 01 28.4 +0.4**
comp=Z,19nm,0.9s,baz=185,slow=7.2,SNR=4.6
USRK PcP PP 20 03 12.4 -0.2
comp=Z,6.6nm,0.9s,baz=199,slow=4.1,SNR=2.2
MDJ Mudanjiang 45.16 356 *e*P **P** **20 01 31.2 -1.1**
comp=Z,54nm,1.2s
YUK Yuzh-Kuril'sk 45.83 13 P P 20 01 32.8 -4.7
YUK S S 20 08 12.4 -7.4
YSS Yuzh-Sakhalins 48.08 9 *e*P **P** **20 01 56.0 +0.9**
YSS Yuzh-Sakhalins 48.08 9 *e*P **P** **20 01 54.9 -0.1**
comp=Z,52nm,0.9s
HABR Khabarovsk 48.91 1 *e*P **P** **20 01 59.8 -1.6**
HABR *SP **sP** **20 02 13.7 +0.4**
HABR *e* 20 03 24.0
HABR *e* 20 03 53.1
HABR *e*S **S** **20 09 01.3 -2.2**
HABR *e*SS **sS** **20 09 17.9 +0.4**
HABR *e*SS SS 20 12 33.8 -0.8
HABR *e*SSS **SKiKP** **20 13 48.7 +3.8**
HABR pmax pmax
comp=Z,111nm,1.5s
HABR pmax pmax
comp=N,81nm,2.2s
HABR pmax pmax
comp=E,136nm,2.7s
HABR MLR MLR
comp=Z,45μm,15.0s
LSA Lhasa 50.27 311 *e*P **P** **20 02 12.0 -0.8**
LSA pmax pmax
comp=Z,66nm,1.0s
LSA Lhasa 50.27 311 *e*P **P** **20 02 11.9 -0.8**
comp=Z,66nm,1.0s
OUZ Omahuta 50.87 137 *e*P **P** **20 02 16.3 -0.2**
comp=Z,38nm,1.0s
ULN Ulaanbaatar 53.44 338 *e*P **P** **20 02 36.7 +1.0**
ULN pmax pmax
comp=Z,53nm,1.0s
ULN Ulaanbaatar 53.44 338 *e*P **P** **20 02 36.7 +1.0**
comp=Z,53nm,1.0s
SONM Songino Array 53.66 338 P **P** **20 02 36.0 -1.2**
comp=Z,14nm,0.9s,baz=142,slow=7.9,SNR=5.1
SONM PcP **PcP** **20 03 43.3 0.0**
comp=Z,13nm,0.8s,baz=162,slow=3.5,SNR=5.9
SONM Songino Array 53.66 338 P **P** **20 02 36.0 -1.2**
SONM 20 03 43.3
SONM pmax pmax
comp=Z,14nm,0.9s
SONM pmax pmax
comp=Z,13nm,0.8s
SONM Songino Array 53.66 338 P **P** **20 02 36.0 -1.2**
SONM PcP **PcP** **20 03 43.3 0.0**
RPZ Rata Peaks 54.47 147 P **P** **20 02 43.6 +0.4**
comp=Z,106nm,1.0s,baz=12,slow=2.7,SNR=8.6
RPZ Rata Peaks 54.47 147 *e*P **P** **20 02 43.2 +0.1**
comp=Z,176nm,1.2s
RPZ P **P** **20 02 43.6 +0.4**
URZ Urewera 54.88 138 P **P** **20 02 46.6 +0.4**
comp=Z,20nm,0.9s,baz=240,slow=8.1,SNR=4.0
URZ Urewera 54.88 138 P **P** **20 02 46.6 +0.4**
ODZ Otahua Downs 55.14 148 *e*P **P** **20 02 48.2 +0.3**
comp=Z,262nm,1.3s
PETK Petropavlovsk- 57.26 17 P **P** **20 03 04.0 +1.1**
comp=Z,20nm,0.9s,baz=185,slow=7.0,SNR=5.5
PETK Petropavlovsk- 57.26 17 P **P** **20 03 04.0 +1.1**
PETK pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 57.26 17 P **P** **20 03 04.0 +1.1**
PET Petropavlovsk 57.48 18 *e*P **P** **20 03 05.6 +1.2**
PET pmax pmax
comp=Z,110nm,1.3s
PET Petropavlovsk 57.48 18 *e*P **P** **20 03 05.6 +1.2**
comp=Z,110nm,1.3s
TLY Talaya 57.84 339 P **P** **20 03 07.3 +0.3**
TLY pmax pmax
comp=Z,48nm,1.3s
TLY Talaya 57.84 339 P **P** **20 03 07.3 +0.3**
comp=Z,48nm,1.3s
BOD Bodaibo 60.27 348 *e*P **P** **20 03 22.5 -1.2**
BOD pmax pmax
comp=Z,64nm,1.2s
YAK Yakutsk 62.54 358 *e*P **P** **20 03 39.4 +0.4**
YAK pmax pmax
comp=Z,78nm,0.8s
YAK Yakutsk 62.54 358 *e*P **P** **20 03 39.4 +0.4**
comp=Z,78nm,0.8s
MK31 Makanchi Array 64.92 324 *e*P **P** **20 03 55.3 +0.2**
MK31 Makanchi Array 64.92 324 *e*P **P** **20 03 55.2 +0.2**
MKAR Makanchi Array 64.92 324 P **P** **20 03 55.9 +0.9**
comp=Z,89nm,1.0s,baz=120,slow=7.1,SNR=14
MKAR Makanchi Array 64.92 324 P **P** **20 03 55.9 +0.9**
MKAR pmax pmax
comp=Z,89nm,1.0s
MKAR Makanchi Array 64.92 324 P **P** **20 03 55.9 +0.9**
SEY Seymchan 64.98 9 *e*P **P** **20 03 57.0 +2.0**
KSH Kashi 65.79 314 P **P** **20 04 02.9 +1.9**
KZA Kyzart 67.29 317 P **P** **20 04 12.4 +1.6**
SNR=7.7
KZA P **P** **20 04 12.4 +1.6**
SNR=7.7
TKM2 Tokmak 2 67.38 318 *e*P **P** **20 04 11.8 +0.6**
TKM2 pmax pmax
comp=Z,54nm,0.8s
TKM2 Tokmak 2 67.38 318 *e*P **P** **20 04 11.8 +0.6**
comp=Z,54nm,0.8s
ZAA0 Zalesovo Array 67.50 331 *e*P **P** **20 04 11.1 -0.2**
ZALV Zalesovo Beam 67.50 331 P **P** **20 04 11.5 +0.1**
comp=Z,55nm,1.1s,baz=111,slow=6.5,SNR=7.1

ZALV Zalesovo Beam 67.50 331 P P 20 04 11.5 +0.1
ZALV pmax pmax
comp=Z,55nm,1.1s
ZALV Zalesovo Beam 67.50 331 P P 20 04 11.5 +0.1
CHMS Chumysh 67.98 318 P P 20 04 15.3 +0.5
SNR=6.8
CHMS P P 20 04 15.3 +0.5
SNR=6.8
AAK Ala-Archa 68.02 317 *eP* **P 20 04 15.8 +0.7**
AAK pmax pmax
comp=Z,160nm,1.0s
AAK Ala-Archa 68.02 317 *eP* **P 20 04 15.8 +0.7**
comp=Z,160nm,1.0s
USP Ospenovka 68.26 318 P P 20 04 16.3 -0.2
SNR=9.7
USP P P 20 04 16.3 -0.2
SNR=9.7
AML Almayashu 68.38 316 P P 20 04 19.1 +1.4
SNR=9.1
AML P P 20 04 19.1 +1.4
SNR=9.1
EKS2 Erkin-Say 68.52 317 P P 20 04 19.7 +1.5
SNR=6.0
EKS2 P P 20 04 19.7 +1.5
SNR=6.0
EKS2 Erkin-Say 68.52 317 *eP* **P 20 04 19.3 +1.0**
EKS2 pmax pmax
comp=Z,85nm,0.9s
EKS2 Erkin-Say 68.52 317 *eP* **P 20 04 19.2 +1.0**
comp=Z,84nm,0.9s
KURK Kurchatov 68.98 326 P P 20 04 21.5 +0.8
comp=Z,140nm,1.0s,baz=118,slow=5.8,SNR=23
KURK Kurchatov 68.98 326 *eP* **P 20 04 22.0 +1.3**
KURK pmax pmax
comp=Z,226nm,1.2s
KURK Kurchatov 68.98 326 *eP* **P 20 04 21.1 +0.3**
comp=Z,184nm,1.0s
KURK P P 20 04 21.5 +0.8
KURK Kurchatov 68.98 326 P P 20 04 21.0 +0.3
comp=Z,852nm,1.0s,SNR=5.9
XMAS Kiritimati 69.23 88 *eP* **P 20 04 22.4 -0.7**
comp=Z,196nm,1.2s
KBL Kabul 69.41 307 *eP* **P 20 04 24.0 -0.1**
KBL pmax pmax
comp=Z,145nm,1.4s
KBL Kabul 69.41 307 *eP* **P 20 04 23.9 -0.1**
comp=Z,145nm,1.4s
KIP Kipapa 70.38 67 *eP* **P 20 04 31.7 +1.7**
KIP pmax pmax
comp=Z,165nm,1.1s
KIP Kipapa 70.38 67 *eP* **P 20 04 31.7 +1.7**
comp=Z,165nm,1.1s
KK31 Karatay Array 70.92 316 P P 20 04 33.1 +0.2
KK31 pmax pmax
comp=Z,175nm,1.0s
KKAR Karatay Array 70.92 316 *eP* **P 20 04 33.4 +0.5**
KKAR pmax pmax
comp=Z,137nm,1.0s
KKAR Karatay Array 70.92 316 *eP* **P 20 04 33.4 +0.5**
comp=Z,137nm,1.0s
BILL Bilibino 72.19 12 *eP* **P 20 04 41.3 +1.3**
BILL *eS* **S 20 13 59.7 -0.8**
BILL pmax pmax
comp=Z,13nm,1.2s
BILL Bilibino 72.19 12 P P 20 04 40.4 +0.4
comp=Z,14nm,1.0s
AKUT Akutan 73.87 32 P P 20 04 50.0 -0.1
comp=Z,175nm,1.1s
BVA0 Borovoye Array 74.58 326 P P 20 04 52.4 -2.0
BVA0 pmax pmax
comp=Z,300nm,4.0s
BVAR Borovoye Array 74.58 326 P P 20 04 54.9 +0.6
comp=Z,61nm,1.0s,baz=116,slow=6.8,SNR=15
BVAR Borovoye Array 74.58 326 P P 20 04 54.9 +0.6
BVAR pmax pmax
comp=Z,61nm,1.0s
BVAR Borovoye Array 74.58 326 P P 20 04 54.9 +0.6
BRVK Borovoye 74.65 326 *eP* **P 20 04 53.9 -0.8**
BRVK pmax pmax
comp=Z,131nm,1.1s
BRVK Borovoye 74.65 326 *eP* **P 20 04 53.9 -0.8**
comp=Z,131nm,1.1s
GAMB Gambell 75.78 22 *eP* **P 20 05 01.6 +0.6**
comp=Z,24nm,1.2s
MRIV Mauritius Mete 76.53 249 *eP* **P 20 05 06.4 +0.1**
VNDA Vanda 78.37 174 *eP* **P 20 05 15.4 0.0**
VNDA pmax pmax
comp=Z,39nm,1.1s
VNDA Vanda 78.37 174 *eP* **P 20 05 15.4 0.0**
comp=Z,39nm,1.1s
ABKT Ailbek 78.76 309 P P 20 05 19.3 +0.9
comp=Z,385nm,1.0s,SNR=6.1
SBA Scott Base 79.21 173 *eP* **P 20 05 20.3 +0.3**
SBA pmax pmax
comp=Z,97nm,1.3s
SBA Scott Base 79.21 173 *eP* **P 20 05 20.3 +0.3**
comp=Z,97nm,1.3s
AB31 Akbulak array 79.69 320 *i* P **P 20 05 22.8 -0.4**
AB31 pmax pmax
comp=Z,51nm,0.9s
ABKAR Akbulak array 79.69 320 *eP* **P 20 05 22.8 -0.4**
comp=Z,44nm,0.9s
SVE Sverdlovsk 81.12 328 *eP* **P 20 05 31.4 +0.7**
SVE pmax pmax
comp=Z,70nm,1.2s
AKTO Aktyubinsk 81.17 321 P P 20 05 31.3 +0.2
comp=Z,26nm,1.1s,baz=119,slow=9.5,SNR=5.9
AKTO Aktyubinsk 81.17 321 P P 20 05 31.3 +0.2
AKTO pmax pmax
comp=Z,27nm,1.1s
AKTO Aktyubinsk 81.17 321 P P 20 05 31.3 +0.2
TTA Tatalina 81.82 26 *eP* **P 20 05 34.2 -0.2**
TTA pmax pmax
comp=Z,114nm,1.8s
TTA Tatalina 81.82 26 *eP* **P 20 05 34.2 -0.2**
comp=Z,114nm,1.8s
KDAK Kodiak Island 82.06 31 P P 20 05 35.5 -0.1
comp=Z,42nm,1.1s,baz=26,slow=0.9,SNR=5.8
KDAK Kodiak Island 82.06 31 P P 20 05 35.5 -0.1
KDAK pmax pmax
comp=Z,42nm,1.1s
KDAK Kodiak Island 82.06 31 P P 20 05 35.5 -0.1
ARU Arti 82.14 327 *eP* **P 20 05 35.5 -0.6**
ARU pmax pmax
comp=Z,36nm,0.9s
ARU Arti 82.14 327 *eP* **P 20 05 35.5 -0.6**
comp=Z,36nm,0.9s
SLKM Skilak Lake 83.86 29 *eP* **P 20 05 44.2 -0.7**
SLKM Skilak Lake 83.86 29 *eP* **P 20 05 44.2 -0.7**
SEW Seward 84.15 29 P P 20 05 44.5 -1.8
comp=Z,49nm,1.0s
PMR Palmer 84.60 28 *eP* **P 20 05 48.0 -0.6**
PMR pmax pmax
comp=Z,57nm,1.3s
PMR Palmer 84.60 28 *eP* **P 20 05 48.0 -0.6**
comp=Z,57nm,1.3s
SML Sawmill 85.01 28 *eP* **P 20 05 51.4 +0.6**
SML pmax pmax
comp=Z,22nm,1.2s
SML Sawmill 85.01 28 *eP* **P 20 05 51.4 +0.6**
comp=Z,22nm,1.2s
MCK McKinley 85.11 26 *eP* **P 20 05 50.6 -0.6**
MCK pmax pmax
comp=Z,78nm,1.2s
MCK McKinley 85.11 26 *eP* **P 20 05 50.6 -0.6**
comp=Z,78nm,1.2s
COLA College 85.79 25 *eP* **P 20 05 52.2 -2.3**
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 85.79 25 *eP* **P 20 05 52.2 -2.3**
comp=Z,11nm,0.8s
DIV Divide 86.11 29 *eP* **P 20 05 56.6 +0.3**
comp=Z,211nm,1.3s
ILAR Eielson Array 86.18 25 P P 20 05 55.5 -1.0
comp=Z,9.4nm,0.8s,baz=264,slow=4.9,SNR=7.0
ILAR Eielson Array 86.18 25 P P 20 05 55.5 -1.0
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR Eielson Array 86.18 25 P P 20 05 55.5 -1.0
PAX Paxson 86.52 27 *eP* **P 20 05 57.2 -1.1**
PAX pmax pmax
comp=Z,111nm,1.6s
PAX Paxson 86.52 27 *eP* **P 20 05 57.2 -1.1**
comp=Z,111nm,1.6s
QSPA South Pole Qui 89.32 180 P P 20 06 11.4 -0.3
comp=Z,48nm,1.0s,baz=349,slow=4.0,SNR=6.4
QSPA South Pole Qui 89.32 180 *eP* **P 20 06 10.2 -1.5**
comp=Z,70nm,1.1s
GNI Garni 89.34 310 P P 20 06 11.4 -0.9
GNI pmax pmax
comp=Z,81nm,1.4s
GNI Garni 89.34 310 P P 20 06 11.4 -0.9
comp=Z,81nm,1.4s
DAWY Dawson 89.34 26 *eP* **P 20 06 10.9 -0.7**
OBN Obninsk 94.40 325 *i* P **P 20 06 34.1 -1.1**
OBN *eS* **SKSac 20 17 06.9 -1.5**
OBN pmax pmax
comp=Z,34nm,1.2s
OBN Obninsk 94.40 325 *eP* P 20 06 30.2 -5.0
comp=Z,63nm,1.2s
ARCES ARCESS Array B 96.77 340 P P 20 06 45.3 -0.5
comp=Z,26nm,0.9s,baz=63,slow=5.6,SNR=9.3
ARCES ARCESS Array B 96.77 340 P P 20 06 45.3 -0.5
ARCES pmax pmax
comp=Z,26nm,0.9s
ARCES ARCESS Array B 96.77 340 P P 20 06 45.3 -0.5
BRTR Keskin Array B 97.88 310 P P 20 06 50.1 -1.5
comp=Z,4.1nm,0.9s,baz=121,slow=4.1,SNR=3.3
BRTR Keskin Array B 97.88 310 P P 20 06 50.1 -1.5
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 97.88 310 P P 20 06 50.1 -1.5
FINES FINESS Array B 98.75 332 P P 20 06 53.6 -1.2
comp=Z,25nm,1.1s,baz=92,slow=5.7,SNR=4.8
FINES FINESS Array B 98.75 332 P P 20 06 53.6 -1.2
FINES pmax pmax
comp=Z,25nm,1.1s
FINES FINESS Array B 98.75 332 P P 20 06 53.6 -1.2
AKASG Malin Array Be 99.41 321 P Pdif 20 06 56.5 -1.5
comp=Z,4.8nm,0.9s,baz=72,slow=3.8,SNR=3.9
AKASG Malin Array Be 99.41 321 P Pdif 20 06 56.5 -1.5
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 99.41 321 P Pdif 20 06 56.5 -1.5
UZH Uzhgorod 104.27 320 *eP* **Pdif 20 07 24.7 +5.0**
HFS Hagfors 104.89 333 Pdiff **Pdif 20 07 21.1 -1.1**
comp=Z,6.6nm,0.8s,baz=108,slow=4.7,SNR=4.2
HFS Hagfors 104.89 333 P Pdif 20 07 21.1 -1.1
HFS pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 104.89 333 Pdif **Pdif 20 07 21.1 -1.1**
NOA NORSAR Array B 105.56 335 Pdiff **Pdif 20 07 23.9 -1.3**
comp=Z,4.8nm,1.0s,baz=63,slow=4.6,SNR=3.2
NOA NORSAR Array B 105.56 335 P Pdif 20 07 23.9 -1.3
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 105.56 335 Pdif **Pdif 20 07 23.9 -1.3**
PQI Presque Isle 130.46 19 *e*PKPdf **PKPdf 20 12 21.9 -4.4**
TORD Torodi Ar. Bea 130.54 287 PKP **PKPdf 20 12 26.4 -0.9**
comp=Z,7.7nm,1.0s,baz=85,slow=1.8,SNR=8.6
TORD Torodi Ar. Bea 130.54 287 PKP **PKPdf 20 12 26.4 -0.9**
TKL Tuckaleechee C 130.94 41 PKP **PKPdf 20 12 28.6 +1.1**
comp=Z,8.3nm,1.0s,baz=241,slow=5.4,SNR=3.8
TKL Tuckaleechee C 130.94 41 PKIKP **PKPdf 20 12 28.6 +1.1**
TKL pmax pmax
comp=Z,8.0nm,1.0s
TKL Tuckaleechee C 130.94 41 PKP **PKPdf 20 12 28.6 +1.1**
PLCA Paso Flores 133.45 155 PKP **PKPdf 20 12 33.6 +1.4**
comp=Z,5.0nm,0.8s,baz=186,slow=7.2,SNR=5.3
PLCA Paso Flores 133.45 155 PKIKP **PKPdf 20 12 33.6 +1.4**
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 133.45 155 PKP **PKPdf 20 12 33.6 +1.4**
DBIC Dimbokro 137.90 279 PKP **PKPdf 20 12 42.1 +1.0**
comp=Z,14nm,1.2s,baz=51,slow=6.5,SNR=3.0
DBIC Dimbokro 137.90 279 PKIKP **PKPdf 20 12 42.1 +1.0**
DBIC pmax pmax
comp=Z,14nm,1.2s
DBIC Dimbokro 137.90 279 PKP **PKPdf 20 12 42.1 +1.0**
CFAA Coronel Fontan 141.97 149 PKP **PKPdf 20 12 49.4 +1.3**
comp=Z,1.5nm,0.9s,baz=252,slow=2.5,SNR=5.0
CFAA Coronel Fontan 141.97 149 PKP **PKPdf 20 12 49.4 +1.3**
LCO Las Campanas 142.62 144 *e*PKPdf **PKPdf 20 12 47.9 -1.7**
ATAH Atahualpa 147.40 104 PKPbc **PKPbc 20 13 01.5 +0.6**
comp=Z,29nm,1.0s,baz=317,slow=4.9,SNR=4.2
ATAH Atahualpa 147.40 104 PKPbc **PKPbc 20 13 01.5 +0.6**
NNA Nana 147.50 114 PKPbc **PKPbc 20 13 00.8 +0.2**
comp=Z,55nm,1.1s,baz=278,slow=9.8,SNR=6.3
NNA Nana 147.50 114 *c i* PKP2 **PKPbc 20 13 00.6 -0.1**
NNA Nana 147.50 114 *e*PKPdf **PKPbc 20 12 59.5 -1.1**
NNA PKPbc **PKPbc 20 13 00.8 +0.2**
CPUP Villa Florida 151.29 160 PKPbc **PKPbc 20 13 10.2 +0.5**
comp=Z,32nm,0.9s,baz=205,slow=2.0,SNR=7.8
CPUP Villa Florida 151.29 160 PKIKP **PKPbc 20 13 10.2 +0.5**
CPUP pmax pmax
comp=Z,32nm,0.9s
CPUP Villa Florida 151.29 160 PKPbc **PKPbc 20 13 10.2 +0.5**
LPAZ La Paz 152.94 129 PKPbc **PKPbc 20 13 15.4 +0.9**
comp=Z,30nm,1.0s,baz=236,slow=1.4,SNR=6.2
LPAZ La Paz 152.94 129 PKIKP **PKPbc 20 13 15.5 +0.9**
LPAZ pmax pmax
comp=Z,31nm,1.0s
LPAZ La Paz 152.94 129 PKPbc **PKPbc 20 13 15.4 +0.9**

IDC ***03*** *19:54:51.2±1.0, 0.°39S×132.°89E, h0km, mb4.8/8, mb1 4.9/8, mb1mx4.6/18, mbtmp4.8/8, Error ellipse: s-maj=51.1km s-min=22.0km az=72.0*
ISCJB ***03*** *19:54:54.4±0.8, 0.°4S±0.°1×132.°9E±0.°2, h32km, mb4.9/17, Error ellipse: s-maj=24.6km s-min=16.1km az=157.1*
NEIC ***03*** *19:54:56.0±0.6, 0.°45S×132.°89E, h35km, mb5.0/10, Error ellipse: s-maj=20.6km s-min=13.3km az=67.0*
ISC 03 19:54:55.8±0.9, 0.°4S±0.°1×132.°9E±0.°2, h32km, n29, σ0§91/29, mb5.0/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**								
	58nm,1.0s	**22.62**	**275**	*eP*		**P**	**P**	**19 59 55.7**	**+1.4**
ASAR	**Alice Springs**	**23.12**	**178**	P		P	**P**	**19 59 58.7**	**-0.7**
	45nm,0.5s,baz=349,slow=6.6,SNR=3.3								
ASAR	**Alice Springs**	**23.12**	**178**	P		P	**P**	**19 59 58.7**	**-0.7**
KULM	**Kulim**	**32.66**	**280**	P		P	**P**	**20 01 24.7**	**-0.7**
	16nm,0.8s								
CMAR	**Chiang Mai Arr**	**38.24**	**301**	P		P	**P**	**20 02 13.8**	**+0.5**
	5.6nm,0.8s,baz=106,slow=6.4,SNR=3.9								
CMAR	**Chiang Mai Arr**	**38.24**	**301**	P		P	**P**	**20 02 13.8**	**+0.5**
CHTO	**Chiang Mai**	**38.39**	**302**	P		P	**P**	**20 02 14.4**	**-0.2**
	6.9nm,0.7s								
LSA	**Lhasa**	**49.76**	**311**	*eP*		P	**P**	**20 03 46.2**	**+0.1**
	20nm,0.9s								
MK31	**Makanchi Array**	**64.46**	**324**	*eP*		P	**P**	**20 05 28.1**	**-1.3**
MKAR	**Makanchi Array**	**64.46**	**324**	P		P	**P**	**20 05 29.0**	**-0.3**
	8.0nm,0.7s,baz=117,slow=8.4,SNR=5.3								
MKAR	**Makanchi Array**	**64.46**	**324**	P		P	**P**	**20 05 29.0**	**-0.3**
TKM2	**Tokmak 2**	**66.90**	**318**	*eP*		P	**P**	**20 05 46.0**	**+0.5**
	8.0nm,0.8s								
ZAA0	**Zalesovo Array**	**67.09**	**332**	P		P	**P**	**20 05 46.4**	**+0.4**
ZALV	**Zalesovo Beam**	**67.09**	**332**	P		P	**P**	**20 05 45.8**	**-0.3**
	16nm,1.2s,baz=150,slow=7.3,SNR=2.4								
ZALV	**Zalesovo Beam**	**67.09**	**332**	P		P	**P**	**20 05 45.8**	**-0.3**
EKS2	**Erkin-Say**	**68.03**	**317**	*eP*		P	**P**	**20 05 53.2**	**+0.7**
	14nm,1.0s								
KURK	**Kurchatov**	**68.54**	**326**	P		P	**P**	**20 05 55.8**	**+0.5**
	9.3nm,0.8s,baz=120,slow=5.6,SNR=3.2								
KURK	**Kurchatov**	**68.54**	**326**	P		P	**P**	**20 05 55.8**	**+0.5**
KBL	**Kabul**	**68.89**	**307**	*eP*		P	**P**	**20 05 57.8**	**-0.3**
	54nm,1.2s								
BVAR	**Borovoye Array**	**74.14**	**326**	P		P	**P**	**20 06 30.0**	**+1.0**
	6.6nm,0.9s,baz=138,slow=6.7,SNR=2.1								
BVAR	**Borovoye Array**	**74.14**	**326**	P		P	**P**	**20 06 30.0**	**+1.0**
ABKAR	**Akbulak array**	**79.22**	**320**	*eP*		P	**P**	**20 06 55.1**	**-2.8**
	12nm,0.9s								
ARU	**Arti**	**81.70**	**327**	P		P	**P**	**20 07 11.5**	**+0.5**
	42nm,1.2s								
ILAR	**Eielson Array**	**86.23**	**25**	P		P	**P**	**20 07 34.4**	**+0.4**
	2.4nm,0.7s,baz=256,slow=4.3,SNR=3.6								
ILAR	**Eielson Array**	**86.23**	**25**	P		P	**P**	**20 07 34.4**	**+0.4**
QSPA	**South Pole Qui**	**89.50**	**180**	P		P	**P**	**20 07 51.5**	**+1.8**
	14nm,0.9s,baz=243,slow=2.1,SNR=3.6								
QSPA	**South Pole Qui**	**89.50**	**180**	*eP*		P	**P**	**20 07 50.0**	**+0.2**
	64nm,1.3s								
TORD	**Torodi Ar. Bea**	**130.00**	**287**	PKP			**PKPdf**	**20 14 02.9**	**-0.6**
	4.9nm,1.0s,baz=63,slow=2.4,SNR=3.8								
TORD	**Torodi Ar. Bea**	**130.00**	**287**	PKP			**PKPdf**	**20 14 02.9**	**-0.6**

IDC ***03*** *19:58:07.7±0.6, 0.°39S×132.°16E, h0km, mb4.7/16, mb1 4.8/19, mb1mx4.8/23, mbtmp4.8/19, ML4.9/2, Error ellipse: s-maj=29.1km s-min=13.8km az=77.0*

ISCJB ***03*** *19:58:10.6±0.3, 0.°40S±0.°05×132.°25E±0.°08, h33km, mb4.8/30, Error ellipse: s-maj=12.2km s-min=7.1km az=161.8*
NEIC ***03*** *19:58:12.5±0.3, 0.°41S×132.°34E, h35km, mb4.9/14, Error ellipse: s-maj=9.8km s-min=5.8km az=68.0*
ISC 03 19:58:11.9±0.4, 0.°53S±0.°06×132.°27E±0.°10, h33km, n62, σ1§55/66, mb4.9/30, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**10.08**	**319**	Pn		Pn	**Pn**	**20 00 34.6**	**+0.1**
PMG	**Port Moresby**	**17.24**	**121**	P		P	**P**	**20 02 11.7**	**+0.1**
	0.2nm,0.3s,baz=294,slow=19,SNR=2.4								
PMG	**Port Moresby**	**17.24**	**121**	*e*Pn			**Pn**	**20 02 08.6**	**-1.7**
PMG						P	**P**	**20 02 11.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.64**	**200**	P			**Pn**	**20 02 28.1**	**+0.7**
	3.8nm,0.3s,baz=25,slow=14,SNR=2.4								
FITZ	**Fitzroy Crossi**	**18.64**	**200**	P		P	**Pn**	**20 02 28.1**	**+0.7**
WRA	**Warramunga Arr**	**19.39**	**174**	P		P	**Pn**	**20 02 37.6**	**+0.9**
	3.2nm,0.3s,baz=351,slow=11,SNR=3.7								
WRA						S	**S**	**20 06 06.5**	**-6.5**
	2.9nm,0.3s,baz=356,slow=22,SNR=4.9								
WRA	**Warramunga Arr**	**19.39**	**174**	P			**Pn**	**20 02 37.6**	**+0.9**
WRA						S	**S**	**20 06 06.5**	**-6.5**
KSM	**Kuching**	**22.05**	**275**	*eP*		P	**P**	**20 03 05.6**	**+1.4**
	27nm,0.8s								
ASAR	**Alice Springs**	**23.05**	**176**	P		P	**P**	**20 03 16.1**	**+1.5**
	70nm,0.8s,baz=358,slow=10,SNR=6.3								
ASAR	**Alice Springs**	**23.05**	**176**	P		P	**P**	**20 03 16.1**	**+1.5**
CTAO	**Charters Tower**	**23.77**	**146**	P		P	**P**	**20 03 22.3**	**+0.7**
JOW	**Kunigami**	**27.48**	**352**	P		P	**P**	**20 03 55.3**	**0.0**
	42nm,0.9s,baz=155,slow=7.7,SNR=6.3								
JOW	**Kunigami**	**27.48**	**352**	*eP*		P	**P**	**20 03 54.7**	**-0.5**
	22nm,0.9s								
JOW						P	**P**	**20 03 55.3**	**0.0**
KULM	**Kulim**	**32.11**	**281**	*eP*		P	**P**	**20 04 36.1**	**-0.4**
	12nm,0.8s								
MJAR	**Matsushiro Arr**	**37.30**	**8**	P		P	**P**	**20 05 21.3**	**+0.3**
	2.7nm,0.8s,baz=213,slow=7.0,SNR=3.5								
MJAR	**Matsushiro Arr**	**37.30**	**8**	P		P	**P**	**20 05 21.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**37.80**	**302**	P		P	**P**	**20 05 25.6**	**0.0**
	1.4nm,0.8s,baz=128,slow=7.5,SNR=2.9								
CMAR	**Chiang Mai Arr**	**37.80**	**302**	P		P	**P**	**20 05 25.6**	**0.0**
KSAR	**Wonju Array Be**	**38.01**	**354**	P		P	**P**	**20 05 27.1**	**+0.2**
KSRS	**Korea Array**	**38.01**	**354**	P		P	**P**	**20 05 27.1**	**+0.2**
	2.3nm,0.8s,baz=172,slow=10,SNR=4.2								
USRK	**Ussuriysk Arra**	**44.54**	**360**	P		P	**P**	**20 06 20.2**	**-0.2**
	8.5nm,0.9s,baz=176,slow=11,SNR=4.8								
MDJ	**Mudanjiang**	**45.02**	**357**	P		P	**P**	**20 06 23.6**	**-0.8**
	11nm,0.9s								
ULN	**Ulaanbaatar**	**52.97**	**339**	*eP*		P	**P**	**20 07 25.5**	**+0.1**
	13nm,0.8s								
SONM	**Songino Array**	**53.18**	**338**	P		P	**P**	**20 07 24.9**	**-2.0**
	4.6nm,0.8s,baz=160,slow=5.9,SNR=6.7								
SONM	**Songino Array**	**53.18**	**338**	P		P	**P**	**20 07 24.9**	**-2.0**
URZ	**Urewera**	**55.67**	**138**	P		P	**P**	**20 07 47.8**	**+2.7**
	7.2nm,0.8s,baz=230,slow=2.6,SNR=2.9								
URZ	**Urewera**	**55.67**	**138**	P		P	**P**	**20 07 47.8**	**+2.7**
PETK	**Petropavlovsk-**	**57.52**	**18**	P		P	**P**	**20 07 57.5**	**-0.4**
	5.9nm,0.8s,baz=183,slow=4.1,SNR=4.1								
PETK	**Petropavlovsk-**	**57.52**	**18**	P		P	**P**	**20 07 57.5**	**-0.4**
YAK	**Yakutsk**	**62.43**	**359**	*eP*		P	**P**	**20 08 31.2**	**-0.3**
	89nm,0.7s								
MK31	**Makanchi Array**	**64.21**	**324**	*eP*		P	**P**	**20 08 43.6**	**0.0**
MKAR	**Makanchi Array**	**64.21**	**324**	P		P	**P**	**20 08 43.9**	**+0.2**
	9.0nm,0.6s,baz=113,slow=9.0,SNR=8.0								
MKAR	**Makanchi Array**	**64.21**	**324**	P		P	**P**	**20 08 43.9**	**+0.2**
TKM2	**Tokmak 2**	**66.59**	**318**	*eP*		P	**P**	**20 08 59.4**	**0.0**
	9.9nm,0.9s								
ZAA0	**Zalesovo Array**	**66.91**	**332**	*eP*		P	**P**	**20 09 00.1**	**-0.7**
ZALV	**Zalesovo Beam**	**66.91**	**332**	P		P	**P**	**20 09 00.1**	**-0.7**
	3.7nm,0.6s,baz=128,slow=8.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**66.91**	**332**	P		P	**P**	**20 09 00.1**	**-0.7**
EKS2	**Erkin-Say**	**67.72**	**317**	*eP*		P	**P**	**20 09 06.8**	**+0.4**
	12nm,0.9s								
KURK	**Kurchatov**	**68.31**	**327**	P		P	**P**	**20 09 09.6**	**-0.2**
	5.9nm,0.8s,baz=124,slow=5.6,SNR=7.1								
KURK	**Kurchatov**	**68.31**	**327**	P		P	**P**	**20 09 09.6**	**-0.2**
KBL	**Kabul**	**68.50**	**308**	P		P	**P**	**20 09 10.7**	**-0.9**
BILL	**Bilibino**	**72.35**	**13**	P		P	**P**	**20 09 34.1**	**0.0**
BRVK	**Borovoye**	**73.97**	**326**	*eP*		P	**P**	**20 09 44.7**	**+0.6**
	17nm,1.0s								
VNDA	**Vanda**	**78.57**	**174**	*eP*		P	**P**	**20 10 11.1**	**+1.4**
	9.8nm,0.8s								
ABKAR	**Akbulak array**	**78.94**	**320**	*eP*		P	**P**	**20 10 11.6**	**-0.7**
	4.3nm,0.6s								
SBA	**Scott Base**	**79.42**	**173**	P		P	**P**	**20 10 16.5**	**+2.2**
	25nm,1.1s								
ARU	**Arti**	**81.48**	**327**	*eP*		P	**P**	**20 10 25.1**	**-0.7**
	11nm,0.7s								
KDAK	**Kodiak Island**	**82.56**	**31**	P		P	**P**	**20 10 32.3**	**+0.9**
	13nm,0.9s,baz=335,slow=3.1,SNR=4.0								
KDAK	**Kodiak Island**	**82.56**	**31**	P		P	**P**	**20 10 32.3**	**+0.9**
PMR	**Palmer**	**85.04**	**28**	*eP*		P	**P**	**20 10 41.6**	**-2.4**
	45nm,1.5s								
MCK	**McKinley**	**85.52**	**26**	*eP*		P	**P**	**20 10 45.8**	**-0.6**
	25nm,1.1s								
COLA	**College**	**86.18**	**25**	*eP*		P	**P**	**20 10 49.0**	**-0.6**
ILAR	**Eielson Array**	**86.57**	**25**	P		P	**P**	**20 10 50.6**	**-1.0**
	2.2nm,0.8s,baz=243,slow=6.4,SNR=4.7								
ILAR	**Eielson Array**	**86.57**	**25**	P		P	**P**	**20 10 50.6**	**-1.0**
QSPA	**South Pole Qui**	**89.40**	**180**	P		P	**P**	**20 11 06.6**	**+1.4**
	6.6nm,0.7s,baz=103,slow=15,SNR=8.0								
QSPA	**South Pole Qui**	**89.40**	**180**	P		P	**P**	**20 11 06.6**	**+1.4**
ARCES	**ARCESS Array B**	**96.32**	**340**	P		P	**P**	**20 11 36.0**	**-1.0**
	8.8nm,1.0s,baz=90,slow=7.3,SNR=5.8								
ARCES	**ARCESS Array B**	**96.32**	**340**	P		P	**P**	**20 11 36.0**	**-1.0**
ATAH	**Atahualpa**	**148.47**	**105**	PKPbc		**PKPab**	**PKPbc**	**20 17 60.0**	**-0.3**
	6.7nm,0.6s,baz=270,slow=7.1,SNR=4.6								
ATAH	**Atahualpa**	**148.47**	**105**	PKPbc		**PKPab**	**PKPbc**	**20 17 60.0**	**-0.3**
CPUP	**Villa Florida**	**151.73**	**162**	PKPbc		**PKPab**	**PKPbc**	**20 18 04.7**	**+0.7**
	3.9nm,0.7s,baz=1.9,slow=1.1,SNR=4.1								
CPUP	**Villa Florida**	**151.73**	**162**	PKPbc		**PKPbc**	**PKPbc**	**20 18 04.7**	**+0.7**

IDC ***03*** *19:59:40.4±0.9, 0.°23S×133.°46E, h0km, mb4.6/8, mb1 4.8/9, mb1mx4.5/18, mbtmp4.6/9, Error ellipse: s-maj=49.3km s-min=18.7km az=74.0*
ISCJB ***03*** *19:59:43.8±0.7, 0.°3S±0.°1×133.°2E±0.°2, h33km, mb4.6/14, Error ellipse: s-maj=29.2km s-min=11.7km az=157.9*
NEIC ***03*** *19:59:45.7±0.7, 0.°24S×133.°33E, h35km, mb4.8/6, Error ellipse: s-maj=36.7km s-min=11.6km az=73.0*
ISC 03 19:59:45.5±0.8, 0.°3S±0.°1×133.°3E±0.°3, h35km, n39, σ0§94/38, mb4.7/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.57**	**177**	P		P	**Pn**	**20 04 12.5**	**+0.4**
	baz=354,slow=11,SNR=2.5								
WRA	**Warramunga Arr**	**19.57**	**177**	P		P	**Pn**	**20 04 12.5**	**+0.4**
ASAR	**Alice Springs**	**23.26**	**179**	P		P	**P**	**20 04 50.0**	**0.0**
	87nm,0.9s,baz=354,slow=9.8,SNR=5.1								
ASAR	**Alice Springs**	**23.26**	**179**	P		P	**P**	**20 04 50.0**	**0.0**
CMAR	**Chiang Mai Arr**	**38.54**	**301**	P		P	**P**	**20 07 04.6**	**-0.5**
	5.4nm,0.9s,baz=120,slow=7.0,SNR=6.5								
CMAR	**Chiang Mai Arr**	**38.54**	**301**	P		P	**P**	**20 07 04.6**	**-0.5**
TAPN	**Taplejung**	**51.66**	**306**	*eP*		P	**P**	**20 08 49.3**	**-0.2**
	42nm,1.0s								
ODAN	**Odare**

ZAA0	Zalesovo Array	67.17 331	*e*P	P	20 10 35.3	-0.5
ZALV	Zalesovo Beam	67.17 331	P	P	20 10 36.6	+0.9
	2.0nm,0.5s,baz=137,slow=7.7,SNR=4.8					
ZALV	Zalesovo Beam	67.17 331	P	P	20 10 36.6	+0.9
EKS2	Erkin-Say	68.23 317	P	P	20 10 43.8	+0.9
	11nm,1.0s					
KURK	Kurchatov	68.66 326	P	P	20 10 46.3	+1.0
	7.7nm,1.0s,baz=124,slow=5.5,SNR=4.0					
KURK	Kurchatov	68.66 326	P	P	20 10 46.3	+1.0
KBL	Kabul	69.15 307	*e*P	P	20 10 48.1	-0.8
	5.4nm,0.6s					
BRVK	Borovoye	74.33 326	*e*P	P	20 11 20.2	+0.8
	10.0nm,0.7s					
ABKAR	Akbulak array	79.39 320	*e*P	P	20 11 48.2	+0.2
	2.7nm,0.6s					
ARU	Arti	81.82 327	P	P	20 11 59.1	-1.7
	8.9nm,1.0s					
ILAR	Eielson Array	85.90 25	P	P	20 12 20.3	-1.3
	0.8nm,0.6s,baz=261,slow=3.8,SNR=3.8					
ILAR	Eielson Array	85.90 25	P	P	20 12 20.3	-1.3
QSPA	South Pole Qui	89.66 180	P	P	20 12 39.0	-0.6
	8.1nm,1.1s,baz=1.1,slow=4.8,SNR=2.4					
QSPA	South Pole Qui	89.66 180	P	P	20 12 39.0	-0.6
CPUP	Villa Florida	151.63 160	PKPbc	PKPbc	20 19 38.1	+1.2
	3.0nm,0.7s,baz=169,slow=2.0,SNR=3.6					
CPUP	Villa Florida	151.63 160	PKPbc	PKPbc	20 19 38.1	+1.2

IDC ***03*** *20:00:28.9±1.4, 0.°27S×133.°12E, h0km, mb4.4/3, mb1 4.7/3, mb1mx4.0/15, mbtmp4.5/3, Error ellipse: s-maj=77.3km s-min=30.1km az=81.0*
ISCJB ***03*** *20:00:31.9±1.1, 0.°4S±0.°1×133.°0E±0.°3, h32km, mb4.5/5, Error ellipse: s-maj=51.3km s-min=16.2km az=165.2*
NEIC ***03*** *20:00:34.0±0.8, 0.°33S×133.°05E, h35km, mb4.8/3, Error ellipse: s-maj=41.3km s-min=12.8km az=76.0*

ISC 03 20:00:33.6±1.2, 0.°3S±0.°2×133.°1E±0.°4, h32km, n9, σ0.°39/9, mb4.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	19.53	176	P	P	20 04 58.4	-0.2
	193nm,1.1s						
ASAR	Alice Springs	23.22	178	P	P	20 05 38.4	+0.2
	31nm,0.9s,baz=0.5,slow=11,SNR=2.5						
ASAR	Alice Springs	23.22	178	P	P	20 05 38.4	+0.2
LSA	Lhasa	49.85	311	P	P	20 09 24.9	+0.3
	4.6nm,0.7s						
MKAR	Makanchi Array	64.50	324	P	P	20 11 07.5	+0.2
	1.5nm,0.6s,baz=114,slow=7.4,SNR=3.0						
MKAR	Makanchi Array	64.50	324	P	P	20 11 07.5	+0.2
TKM2	Tokmak 2	66.96	318	*e*P	P	20 11 22.8	-0.8
	7.9nm,1.1s						
ILAR	Eielson Array	86.05	25	P	P	20 13 10.9	0.0
	1.7nm,0.7s,baz=258,slow=4.3,SNR=5.9						
ILAR	Eielson Array	86.05	25	P	P	20 13 10.9	0.0

IDC ***03*** *20:02:55.4±0.9, 0.°60S×133.°06E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.2/11, Error ellipse: s-maj=45.5km s-min=16.1km az=78.0*
NEIC ***03*** *20:03:00.5±0.8, 0.°64S×133.°04E, h35km, mb4.6/1, Error ellipse: s-maj=37.6km s-min=11.9km az=74.0*

ISC 03 20:03:00.5±1.0, 0.°7S±0.°1×132.°9E±0.°3, h32km, n24, σ0.°96/22, mb4.2/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.19	176	P	P	20 07 22.4	+0.7
	baz=354,slow=13,SNR=2.4						
WRA	Warramunga Arr	19.19	176	P	P	20 07 22.4	+0.7
ASAR	Alice Springs	22.86	178	P	P	20 08 00.3	-1.1
	11nm,0.7s,baz=4.7,slow=12,SNR=3.1						
ASAR	Alice Springs	22.86	178	P	P	20 08 00.2	-1.1
STKA	Stephens Creek	32.10	166	P	P	20 09 25.1	+0.2
	36nm,1.2s,baz=353,slow=10.0,SNR=2.0						
STKA	Stephens Creek	32.10	166	P	P	20 09 25.1	+0.2
MJAR	Matsushiro Arr	37.38	7	P	P	20 10 07.3	-3.0
	2.1nm,1.0s,baz=200,slow=8.9,SNR=3.5						
MJAR	Matsushiro Arr	37.38	7	P	P	20 10 07.3	-3.0
CMAR	Chiang Mai Arr	38.37	301	P	P	20 10 17.9	-1.1
	0.9nm,1.0s,baz=113,slow=6.9,SNR=2.4						
CMAR	Chiang Mai Arr	38.37	301	P	P	20 10 17.9	-1.1
CHTO	Chiang Mai	38.53	302	P	P	20 10 20.4	0.0
USRK	Ussuriysk Arra	44.70	359	P	P	20 11 09.2	-1.2
	2.2nm,0.8s,baz=154,slow=11,SNR=3.1						
SONM	Songino Array	53.53	338	P	P	20 12 18.9	+0.6
	1.1nm,0.9s,baz=146,slow=6.0,SNR=3.3						
SONM	Songino Array	53.53	338	P	P	20 12 18.9	+0.6
MKAR	Makanchi Array	64.67	324	P	P	20 13 37.1	+1.8
	2.0nm,0.7s,baz=110,slow=7.5,SNR=3.7						
MKAR	Makanchi Array	64.67	324	P	P	20 13 37.1	+1.8
TKM2	Tokmak 2	67.09	318	P	P	20 13 51.5	+0.3
ZALV	Zalesovo Beam	67.32	332	P	P	20 13 52.4	+0.3
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.5						
ZALV	Zalesovo Beam	67.32	332	P	P	20 13 52.4	+0.3
EKS2	Erkin-Say	68.22	317	*e*P	P	20 13 59.8	+1.6
	4.6nm,0.8s						
KURK	Kurchatov	68.75	326	P	P	20 14 01.4	+0.2
	4.0nm,0.8s,baz=124,slow=5.6,SNR=4.3						
KURK	Kurchatov	68.75	326	P	P	20 14 01.4	+0.2
BVAR	Borovoye Array	74.35	326	P	P	20 14 35.4	+0.4
	1.8nm,0.8s,baz=116,slow=6.6,SNR=2.6						
BVAR	Borovoye Array	74.35	326	P	P	20 14 35.4	+0.4

IDC 03 20:03:23.7±2.3, 0.°53S×133.°57E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.3/4, Error ellipse: s-maj=184.4km s-min=21.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	23.00	179	P	P	20 08 31.1	+0.8
	17nm,0.8s,baz=359,slow=11,SNR=3.4						
STKA	Stephens Creek	32.09	167	P	P	20 09 52.0	-0.6
	22nm,1.2s,baz=0.0,slow=11,SNR=3.0						
SONM	Songino Array	53.66	338	P	P	20 12 47.8	+0.5
	0.4nm,0.5s,baz=153,slow=7.5,SNR=4.0						
MKAR	Makanchi Array	64.97	324	P	P	20 14 04.9	-0.6
	1.3nm,0.6s,baz=117,slow=7.4,SNR=4.1						

IDC ***03*** *20:04:15.7±0.5, 0.°51S×133.°04E, h0km, mb4.6/17, mb1 4.7/19, mb1mx4.7/24, mbtmp4.7/19, ML4.1/2, Error ellipse: s-maj=26.8km s-min=11.6km az=69.0*
DJA ***03*** *20:04:16, 0.°39S×133.°47E, h10km, mb5.6/3*
MOS ***03*** *20:04:18.7±1.1, 0.°53S×132.°95E, h33km, mb5.2/20, Error ellipse: s-maj=16.2km s-min=7.2km az=114.7*
ISCJB ***03*** *20:04:18.6±0.3, 0.°35S±0.°05×133.°24E±0.°06, h32km, mb5.0/42, Error ellipse: s-maj=8.3km s-min=6.5km az=155.9*
NEIC ***03*** *20:04:20.8±0.2, 0.°53S×133.°01E, h35km, mb5.0/22, Error ellipse: s-maj=11.3km s-min=5.2km az=62.0*

ISC 03 20:04:20.7±0.3, 0.°53S±0.°06×133.°05E±0.°06, h32km, n158, σ1.°25/155, mb5.0/42, 4C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	Labuha	5.55	269	P	Pb	20 05 56.4	-0.5
AAI	Ambon	5.78	237	P	Pn	20 05 49.4	+5.1
	13μm,1.4s,56nm						
LUWI	Luwuk	10.29	267	P	Pn	20 06 51.3	+5.1
	2μm,1.2s						
SPSI	Sidrap Palu	13.70	255	P	P	20 07 38.5	-2.6
	4μm,1.0s						
BKSI	Bulukumba	13.76	249	P	P	20 07 41.4	-0.4
	494nm,1.3s						
PMG	Port Moresby	16.59	123	Pn	P	20 08 12.2	-1.0
	0.4nm,0.3s,baz=328,slow=8.4,SNR=3.6						
PMG	Port Moresby	16.59	123	*e*P	Pn	20 08 10.7	-0.3
PMG				pmax	pmax		
	comp=Z,4μm,3.4s						
PMG	Port Moresby	16.59	123	*e*Pn	Pn	20 08 10.7	-0.3
	comp=Z,4μm,3.4s						
PMG				Pn	P	20 08 12.2	-1.0
KBKI	Kotabaru	17.09	261	P	P	20 08 30.0	+11
KKM	Kota Kinabalu	18.03	291	Pn	Pn	20 08 27.8	-1.2
	comp=Z,224nm,1.7s						
KHKI	Kahang-Kahang	19.04	245	P	Pn	20 08 45.5	+4.3
	comp=Z,7μm,1.1s						
WRAB	Tennant Creek	19.33	176	P	P	20 08 42.7	-0.8
WRAB	Tennant Creek	19.33	176	P	P	20 08 42.7	-0.8
WRA	Warramunga Arr	19.34	176	P	P	20 08 43.4	-0.2
	comp=Z,1.8nm,0.3s,baz=356,slow=11,SNR=3.9						
WRA	Warramunga Arr	19.34	176	P	P	20 08 43.4	-0.2
WRA	Warramunga Arr	19.34	176	P	P	20 08 43.4	-0.2
BLJI	Banyuglugur	20.67	249	P	Pn	20 09 06.8	+6.2
	comp=Z,2μm,2.7s						
GMJI	Gumukmas	20.99	248	P	Pn	20 09 10.1	+5.8
	comp=Z,5μm,4.1s						
SBUM	Sibu	21.03	278	P	P	20 09 11.3	+9.3
	comp=Z,1μm,1.0s						
KSM	Kuching	22.82	275	*e*P	P	20 09 23.2	+1.9
	comp=Z,74nm,1.2s						
KSM	Kuching	22.82	275	P	P	20 09 24.2	+2.9
	comp=Z,2μm,2.1s						
ASAR	Alice Springs	23.02	178	P	P	20 09 23.1	-0.1
	comp=Z,107nm,1.0s,baz=5.3,slow=9.9,SNR=14						
ASAR	Alice Springs	23.02	178	P	P	20 09 23.1	-0.1
ASAR	Alice Springs	23.02	178	P	P	20 09 23.1	-0.1
CTA	Charters Tower	23.35	147	P	P	20 09 26.9	+0.5
	comp=Z,47nm,0.9s,baz=321,slow=11,SNR=5.8						
CTA	Charters Tower	23.35	147	P	P	20 09 27.0	+0.5
CTA	Charters Tower	23.35	147	P	P	20 09 26.9	+0.5
CTAO	Charters Tower	23.35	147	*e*P	P	20 09 26.9	+0.5
CTAO				pmax	pmax		
	comp=Z,62nm,0.9s						
CTAO	Charters Tower	23.35	147	*e*P	P	20 09 26.9	+0.5
	comp=Z,62nm,0.9s						
BJII	Banjamegara	24.23	253	P	P	20 09 38.4	+3.4
	comp=Z,5μm,2.1s						
MBWA	Marble Bar	24.28	212	*e*P	P	20 09 38.4	+3.1
	comp=Z,376nm,1.4s						
CISI	Cisompet, Garu	26.11	254	P	P	20 09 58.3	+6.3
	comp=Z,7μm,1.5s						
JOW	Kunigami	27.59	351	P	P	20 10 05.8	+0.7
	comp=Z,13nm,0.8s,baz=201,slow=8.6,SNR=3.4						
JOW	Kunigami	27.59	351	P	P	20 10 05.8	+0.7
STKA	Stephens Creek	32.21	166	P	P	20 10 45.3	-0.8
	comp=Z,48nm,1.1s,baz=55,slow=6.4,SNR=5.0						
STKA	Stephens Creek	32.21	166	*e*P	P	20 10 44.6	-1.4
STKA				pmax	pmax		
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	32.21	166	*e*P	P	20 10 44.6	-1.4
	comp=Z,12nm,1.0s						
STKA				P	P	20 10 45.3	-0.8
MJAR	Matsushiro Arr	37.19	7	P	P	20 11 29.9	+0.9
	comp=Z,2.7nm,0.9s,baz=190,slow=7.6,SNR=4.4						
MJAR	Matsushiro Arr	37.19	7	P	P	20 11 29.9	+0.9
MJAR	Matsushiro Arr	37.19	7	P	P	20 11 29.9	+0.9
ENH	Enshi	37.96	326	*e*P	P	20 11 32.5	-3.1
	comp=Z,11nm,1.0s						
KSAR	Wonju Array Be	38.08	353	P	P	20 11 36.6	+0.1
KSAR	Wonju Array Be	38.08	353	P	P	20 11 36.5	+0.1
KSRS	Korea Array	38.09	353	P	P	20 11 36.5	+0.1
	comp=Z,2.8nm,1.1s,baz=158,slow=10,SNR=3.5						
CM31	Chiang Mai Arr	38.46	301	*e*P	P	20 11 39.7	-0.3
	comp=Z,13nm,1.1s						
CMAR	Chiang Mai Arr	38.46	301	P	P	20 11 40.3	+0.3
	comp=Z,12nm,1.1s,baz=124,slow=6.9,SNR=16						
CMAR	Chiang Mai Arr	38.46	301	P	P	20 11 40.3	+0.3
CMAR	Chiang Mai Arr	38.46	301	P	P	20 11 40.3	+0.3
CHTO	Chiang Mai	38.61	302	*e*P	P	20 11 41.1	-0.2
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CHTO	Chiang Mai	38.61	302	*e*P	P	20 11 41.1	-0.2
	comp=Z,10nm,1.1s						
CHTO	Chiang Mai	38.61	302	P	P	20 11 42.4	+1.1
BJT	Baijiatuan	43.20	341	P	P	20 12 18.3	-0.4
BJT				pmax	pmax		
	comp=Z,31nm,0.8s						
BJT	Baijiatuan	43.20	341	P	P	20 12 18.3	-0.4
	comp=Z,31nm,0.8s						
YUK	Yuzh-Kuril'sk	45.82	13	P	P	20 12 41.1	+1.6
YUK				S	S	20 19 24.0	+2.7
LSA	Lhasa	49.98	311	P	P	20 13 12.5	-0.2
LSA				pmax	pmax		
	comp=Z,28nm,1.2s						
LSA	Lhasa	49.98	311	P	P	20 13 12.4	-0.2
	comp=Z,28nm,1.2s						
TAPN	Taplejung	51.61	306	*e*P	P	20 13 24.2	-0.6
	comp=Z,96nm,1.3s						
TAPN	Taplejung	51.61	306	*e*P	P	20 13 24.2	-0.6
ODAN	Odare	51.66	305	*e*P	P	20 13 24.3	-0.8
	comp=Z,33nm,0.7s						
ODAN	Odare	51.66	305	*e*P	P	20 13 24.3	-0.8
RAMN	Ramite	52.34	305	*e*P	P	20 13 29.8	-0.4
	comp=Z,62nm,0.8s						
RAMN	Ramite	52.34	305	*e*P	P	20 13 29.8	-0.4
JIRN	Jiri	52.97	306	*e*P	P	20 13 34.4	-0.5
	comp=Z,20nm,0.6s						
JIRN	Jiri	52.97	306	*e*P	P	20 13 34.4	-0.5
ULN	Ulaanbaatar	53.24	338	*e*P	P	20 13 35.9	-0.4
ULN				pmax	pmax		
	comp=Z,25nm,1.4s						
ULN	Ulaanbaatar	53.24	338	*e*P	P	20 13 35.9	-0.4
	comp=Z,24nm,1.4s						
GUN	Gumba	53.32	306	*e*P	P	20 13 37.0	-0.5
	comp=Z,36nm,0.8s						
GUN	Gumba	53.32	306	*e*P	P	20 13 37.0	-0.5
SONM	Songino Array	53.46	338	P	P	20 13 36.5	-1.4
	comp=Z,1.6nm,0.9s,baz=134,slow=11,SNR=4.6						
SONM	Songino Array	53.46	338	P	P	20 13 36.5	-1.4
SONM	Songino Array	53.46	338	P	P	20 13 36.5	-1.4
PKI	Pulchoki	53.56	305	*e*P	P	20 13 38.3	-1.0
	comp=Z,22nm,0.8s						
PKI	Pulchoki	53.56	305	*e*P	P	20 13 38.3	-1.0
PKI	Pulchoki	53.56	305	*e*P	P	20 13 38.3	-1.0
KKN	Kakani	53.76	306	*e*P	P	20 13 39.7	-0.9
KKN	Kakani	53.76	306	*e*P	P	20 13 39.7	-0.9
KKN	Kakani	53.76	306	*e*P	P	20 13 39.7	-0.9
DMN	Daman	53.83	305	*e*P	P	20 13 40.5	-0.6
DMN	Daman	53.83	305	*e*P	P	20 13 40.5	-0.6
GKN	Gorkha	54.36	306	*e*P	P	20 13 44.1	-0.8
	comp=Z,64nm,1.1s						
GKN	Gorkha	54.36	306	*e*P	P	20 13 44.1	-0.8
RPZ	Rata Peaks	54.72	147	P	P	20 13 46.1	-1.0
	comp=Z,20nm,1.0s,baz=349,slow=19,SNR=2.8						
RPZ	Rata Peaks	54.72	147	P	P	20 13 46.1	-1.0
KOLN	Koldanda	55.12	305	*e*P	P	20 13 50.0	-0.5
	comp=Z,41nm,0.7s						
KOLN	Koldanda	55.12	305	*e*P	P	20 13 50.0	-0.5
DANN	Dangsing	55.21	306	*e*P	P	20 13 50.6	-0.6
	comp=Z,48nm,0.7s						
DANN	Dangsing	55.21	306	*e*P	P	20 13 50.6	-0.6
KHZ	Kahutara	55.30	144	*e*P	P	20 13 49.6	-1.6
	comp=Z,14nm,0.9s						
PETK	Petropavlovsk-	57.27	17	P	P	20 14 04.5	-0.6
	comp=Z,15nm,1.1s,baz=173,slow=2.6,SNR=5.5						
PETK	Petropavlovsk-	57.27	17	P	P	20 14 04.5	-0.6
PETK	Petropavlovsk-	57.27	17	P	P	20 14 04.5	-0.6
BOD	Bodaibo	60.12	348	P	P	20 14 22.9	-1.9
MK31	Makanchi Array	64.66	324	*e*P	P	20 14 55.1	-0.4
MK31	Makanchi Array	64.66	324	*e*P	P	20 14 55.1	-0.4
MKAR	Makanchi Array	64.66	324	P	P	20 14 56.0	+0.6
	comp=Z,4.6nm,0.8s,baz=123,slow=8.1,SNR=5.0						
MKAR	Makanchi Array	64.66	324	*ce*P	P	20 14 55.9	+0.4
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	64.66	324	P	P	20 14 56.0	+0.6
SEY	Seymchan	64.94	10	*e*P	P	20 15 01.2	+4.3
TKM2	Tokmak 2	67.11	318	*e*P	P	20 15 11.9	+0.4
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TKM2	Tokmak 2	67.11	318	*e*P	P	20 15 11.9	+0.4
	comp=Z,8.2nm,0.9s						
ZAA0	Zalesovo Array	67.27	331	*e*P	P	20 15 16.4	+4.4
ZALV	Zalesovo Beam	67.27	331	P	P	20 15 11.4	-0.6
	comp=Z,2.4nm,0.7s,baz=142,slow=4.2,SNR=4.3						
ZALV	Zalesovo Beam	67.27	331	P	P	20 15 11.4	-0.6
ZALV	Zalesovo Beam	67.27	331	P	P	20 15 11.4	-0.6
EKS2	Erkin-Say	68.24	317	P	P	20 15 17.0	-1.6
EKS2	Erkin-Say	68.24	317	P	P	20 15 17.0	-1.6
NVS	Novosibirsk	68.54	332	*e*P	P	20 15 15.3	-4.7
NVS				pmax	pmax		
	comp=N,9.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,16nm,1.8s						
NVS				pmax	pmax		
	comp=Z,22nm,1.8s						
KURK	Kurchatov	68.73	326	P	P	20 15 20.6	-0.6
	comp=Z,13nm,1.1s,baz=124,slow=5.5,SNR=9.2						
KURK	Kurchatov	68.73	326	*e*P	P	20 15 21.4	+0.1
KURK				pmax	pmax		
	comp=Z,43nm,1.7s						
KURK	Kurchatov	68.73	326	P	P	20 15 20.6	-0.6
KURK	Kurchatov	68.73	326	P	P	20 15 21.0	-0.3
	comp=Z,133nm,1.1s,SNR=5.4						
KBL	Kabul	69.11	307	*e*P	P	20 15 22.9	-1.3
KBL				pmax	pmax		
	comp=Z,37nm,1.5s						
KBL	Kabul	69.11	307	*e*P	P	20 15 22.9	-1.3
	comp=Z,37nm,1.5s						
KKAR	Karatay Array	70.64	316	*e*P	P	20 15 32.3	-0.9
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	Karatay Array	70.64	316	*e*P	P	20 15 32.3	-0.9
	comp=Z,8.5nm,1.0s						
BILL	Bilibino	72.17	13	*e*P	P	20 15 45.2	+3.2
BILL				*e*S	S	20 25 07.5	+5.5
BILL				pmax	pmax		
	comp=Z,20nm,1.8s						
BVAR	Borovoye Array	74.33	326	P	P	20 15 55.1	+0.1
	comp=Z,4.5nm,0.8s,baz=116,slow=8.2,SNR=5.9						
BVAR	Borovoye Array	74.33	326	P	P	20 15 55.1	+0.1
BVAR	Borovoye Array	74.33	326	P	P	20 15 55.1	+0.1
BRVK	Borovoye	74.40	326	*e*P	P	20 15 54.7	-0.7
BRVK				pmax	pmax		
	comp=Z,36nm,1.1s						
BRVK	Borovoye	74.40	326	*e*P	P	20 15 54.7	-0.7
	comp=Z,36nm,1.1s						
VNDA	Vanda	78.49	174	*e*P	P	20 16 18.0	-0.1
VNDA				pmax	pmax		
	comp=Z,22nm,1.2s						
VNDA	Vanda	78.49	174	*e*P	P	20 16 18.0	-0.1
	comp=Z,22nm,1.2s						
SBA	Scott Base	79.33	173	*e*P	P	20 16 23.8	+1.0
SBA				pmax	pmax		
	comp=Z,11nm,1.1s						
SBA	Scott Base	79.33	173	*e*P	P	20 16 23.8	+1.0
	comp=Z,11nm,1.1s						
ABKAR	Akbulak array	79.42	320	P	P	20 16 23.9	0.0
	comp=Z,4.0nm,0.6s						
ABKAR				*e*P	PcP	20 16 28.1	-3.7
AKTO	Aktyubinsk	80.90	321	P	P	20 16 30.6	-1.1
	comp=Z,3.5nm,1.0s,baz=53,slow=15,SNR=2.1						
AKTO	Aktyubinsk	80.90	321	P	P	20 16 30.6	-1.1
AKTO	Aktyubinsk	80.90	321	P	P	20 16 30.6	-1.1
KDAK	Kodiak Island	82.14	31	P	P	20 16 38.0	-0.1
	comp=Z,6.5nm,0.9s,baz=241,slow=10,SNR=2.3						
KDAK	Kodiak Island	82.14	31	P	P	20 16 38.1	-0.1
KDAK	Kodiak Island	82.14	31	P	P	20 16 38.0	-0.1
PMR	Palmer	84.67	28	P	P	20 16 52.5	+1.5
PMR				pmax	pmax		
	comp=Z,18nm,1.1s						
PMR	Palmer	84.67	28	P	P	20 16 52.5	+1.5
	comp=Z,18nm,1.1s						
MCK	McKinley	85.17	26	*e*P	P	20 16 51.9	-1.7
MCK				pmax	pmax		
	comp=Z,48nm,1.3s						
MCK	McKinley	85.17	26	*e*P	P	20 16 51.9	-1.7
	comp=Z,48nm,1.3s						
ILAR	Eielson Array	86.23	25	P	P	20 16 56.9	-1.9
	comp=Z,6.9nm,1.1s,baz=252,slow=4.6,SNR=4.1						
ILAR	Eielson Array	86.23	25	P	P	20 16 56.9	-1.9
ILAR	Eielson Array	86.23	25	P	P	20 16 56.9	-1.9
QSPA	South Pole Qui	89.41	180	*e*P	P	20 17 14.1	-0.1
	comp=Z,27nm,1.2s						
OBN	Obninsk	94.14	325	*e*P	P	20 17 38.9	+2.8
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKASG	Malin Array Be	99.15	321	*ce*P	Pdif	20 18 01.3	+2.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	130.21	287	PKP	PKPdf	20 23 28.6	-0.1
	comp=Z,1.3nm,1.0s,baz=103,slow=0.7,SNR=3.5						
TORD	Torodi Ar. Bea	130.21	287	PKP	PKPdf	20 23 28.6	-0.1
PLCA	Paso Flores	133.66	155	PKP	PKPdf	20 23 36.3	+1.6
	comp=Z,1.1nm,0.7s,baz=297,slow=4.2,SNR=3.1						
PLCA	Paso Flores	133.66	155	PKIKP	PKPdf	20 23 36.3	+1.6
PLCA	Paso Flores	133.66	155	PKP	PKPdf	20 23 36.3	+1.6
ATAH	Atahualpa	147.72	104	PKPbc	PKPbc	20 24 03.4	-0.5
	comp=Z,3.4nm,0.5s,baz=259,slow=10,SNR=3.2						
ATAH	Atahualpa	147.72	104	PKPbc	PKPbc	20 24 03.4	-0.5
NNA	Nana	147.82	114	*i* PKP2	PKPab	20 24 11.6	+5.5
CPUP	Villa Florida	151.49	160	PKPbc	PKPbc	20 24 12.2	-0.1
	comp=Z,15nm,0.9s,baz=187,slow=2.5,SNR=14						
CPUP				PKPab	PKPab	20 24 19.8	-0.7
	comp=Z,5.5nm,0.7s,baz=159,slow=1.5,SNR=6.4						
CPUP	Villa Florida	151.49	160	PKIKP	PKPbc	20 24 12.2	-0.1
CPUP						20 24 19.8	
CPUP	Villa Florida	151.49	160	PKPbc	PKPbc	20 24 12.2	-0.1
CPUP				PKPab	PKPab	20 24 19.8	-0.7
ROSC	El Rosal	152.32	81	PKPbc	PKPbc	20 24 15.6	+0.6
	comp=Z,8.6nm,0.5s,baz=84,slow=21,SNR=4.1						
ROSC	El Rosal	152.32	81	PKPbc	PKPbc	20 24 15.6	+0.6
LPAZ	La Paz	153.24	130	PKPbc	PKPbc	20 24 18.1	+0.9
	comp=Z,3.5nm,0.9s,baz=325,slow=2.6,SNR=4.2						
LPAZ				PKPab	PKPab	20 24 29.6	+0.6
	comp=Z,5.5nm,0.8s,baz=206,slow=3.9,SNR=5.3						
LPAZ	La Paz	153.24	130	PKIKP	PKPbc	20 24 18.1	+0.9
LPAZ						20 24 29.6	
LPAZ	La Paz	153.24	130	PKPbc	PKPbc	20 24 18.1	+0.9
LPAZ				PKPab	PKPab	20 24 29.6	+0.6

IDC ***

	9.7nm,0.8s						
ULN	**Ulaanbaatar**	**53.31**	**338**	*e*P	**P**	**20 16 31.4**	**+0.1**
	6.3nm,0.9s						
SONM	**Songino Array**	**53.53**	**338**	P	**P**	**20 16 33.4**	**+0.5**
	1.1nm,0.6s,baz=157,slow=6.1,SNR=5.2						
SONM	**Songino Array**	**53.53**	**338**	P	**P**	**20 16 33.4**	**+0.5**
PETK	**Petropavlovsk-**	**57.33**	**17**	P	**P**	**20 17 00.3**	**+0.4**
	4.1nm,0.9s,baz=169,slow=8.8,SNR=2.9						
PETK	**Petropavlovsk-**	**57.33**	**17**	P	**P**	**20 17 00.3**	**+0.4**
MKAR	**Makanchi Array**	**64.73**	**324**	P	**P**	**20 17 50.5**	**+0.1**
	3.0nm,0.7s,baz=114,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.73**	**324**	P	**P**	**20 17 50.5**	**+0.1**
TKM2	**Tokmak 2**	**67.17**	**318**	P	P	20 18 10.6	+4.2
ZAA0	**Zalesovo Array**	**67.34**	**331**	*e*P	**P**	**20 18 05.4**	**-1.5**
ZALV	**Zalesovo Beam**	**67.34**	**331**	P	**P**	**20 18 06.0**	**-1.0**
	4.5nm,0.7s,baz=119,slow=6.6,SNR=7.5						
ZALV	**Zalesovo Beam**	**67.34**	**331**	P	**P**	**20 18 06.0**	**-1.0**
EKS2	**Erkin-Say**	**68.31**	**317**	P	**P**	**20 18 16.5**	**+3.1**
	3.7nm,0.8s						
KURK	**Kurchatov**	**68.80**	**326**	P	**P**	**20 18 15.8**	**-0.4**
	8.9nm,1.0s,baz=119,slow=5.9,SNR=7.5						
KURK	**Kurchatov**	**68.80**	**326**	P	**P**	**20 18 15.8**	**-0.4**
KBL	**Kabul**	**69.17**	**307**	P	P	20 18 15.3	-3.7
	9.3nm,1.1s						
BVAR	**Borovoye Array**	**74.40**	**326**	P	**P**	**20 18 49.5**	**-0.4**
	7.9nm,0.8s,baz=128,slow=8.1,SNR=12						
BVAR	**Borovoye Array**	**74.40**	**326**	P	**P**	**20 18 49.5**	**-0.4**
BRVK	**Borovoye**	**74.47**	**326**	*e*P	**P**	**20 18 49.5**	**-0.8**
	10.0nm,0.6s						
VNDA	**Vanda**	**78.42**	**174**	*e*P	**P**	**20 19 12.1**	**-0.1**
	8.3nm,0.9s						
SBA	**Scott Base**	**79.26**	**173**	*e*P	**P**	**20 19 15.6**	**-1.2**
	27nm,1.4s						
ARU	**Arti**	**81.97**	**327**	P	**P**	**20 19 29.9**	**-1.7**
	9.4nm,0.9s						
ILAR	**Eielson Array**	**86.29**	**25**	P	**P**	**20 19 52.9**	**-0.7**
	0.8nm,0.7s,baz=257,slow=4.6,SNR=4.6						
ILAR	**Eielson Array**	**86.29**	**25**	P	**P**	**20 19 52.9**	**-0.7**
QSPA	**South Pole Qui**	**89.34**	**180**	P	**P**	**20 20 08.1**	**-0.1**
	7.5nm,0.9s,baz=333,slow=3.5,SNR=5.7						
QSPA	**South Pole Qui**	**89.34**	**180**	P	**P**	**20 20 08.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**130.25**	**287**	PKP	**PKPdf**	**20 26 22.8**	**-0.4**
	0.7nm,0.7s,baz=58,slow=1.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**130.25**	**287**	PKP	**PKPdf**	**20 26 22.8**	**-0.4**
PLCA	**Paso Flores**	**133.59**	**155**	PKP	**PKPdf**	**20 26 29.5**	**+0.5**
	2.0nm,0.9s,baz=191,slow=4.2,SNR=3.5						
PLCA	**Paso Flores**	**133.59**	**155**	PKP	**PKPdf**	**20 26 29.5**	**+0.5**
LVC	**Limon Verde**	**148.52**	**139**	*e*PKPbc	**PKPbc**	**20 27 01.2**	**+1.2**
CPUP	**Villa Florida**	**151.41**	**160**	PKPbc	**PKPbc**	**20 27 06.2**	**-0.3**
	7.3nm,0.9s,baz=344,slow=1.4,SNR=6.7						
CPUP				PKPab	**PKPab**	**20 27 13.8**	**-0.8**
	5.1nm,0.8s,baz=196,slow=5.3,SNR=5.0						
CPUP	**Villa Florida**	**151.41**	**160**	PKPbc	**PKPbc**	**20 27 06.2**	**-0.3**
CPUP				PKPab	**PKPab**	**20 27 13.8**	**-0.8**
LPAZ	**La Paz**	**153.18**	**130**	PKPab	**PKPab**	**20 27 23.1**	**0.0**
	2.7nm,0.7s,baz=263,slow=3.4,SNR=4.0						
LPAZ	**La Paz**	**153.18**	**130**	PKPab	**PKPab**	**20 27 23.1**	**0.0**

IDC 03 20:08:55.4±17.0,**0.22N**×**132.25E**,**h0**km,**mb4.5**/4,
mb1 4.7/4,**mb1mx4.0**/17,**mbtmp4.6**/4,**MS6.1**/1,**Ms1 6.1**/1,
ms1mx5.1/38,**Error ellipse: s-maj=284.5km**
s-min=96.5km az=149.0,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**9.52**	**316**	LR	LR	20 14 46.4	
	comp=Z,104μm,19.7s,baz=276,slow=37						
WRA	**Warramunga Arr**	**20.14**	**174**	P	P	20 13 32.1	+0.8
	7.8nm,0.5s,baz=352,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.80**	**176**	P	P	20 14 10.4	+0.3
	19nm,0.5s,baz=354,slow=11,SNR=4.4						
CTA	**Charters Tower**	**24.40**	**147**	P	P	20 14 15.8	0.0
	6.6nm,0.9s,baz=333,slow=11,SNR=2.2						
STKA	**Stephens Creek**	**33.12**	**165**	P	P	20 15 32.6	-0.9
	8.1nm,0.7s,baz=356,slow=7.5,SNR=4.6						

IDC 03 20:09:37.2±4.5,**0.29S**×**132.38E**,**h0**km,**mb4.4**/6,
mb1 4.5/6,**mb1mx4.1**/18,**mbtmp4.5**/6,**Error ellipse:**
s-maj=309.0km s-min=27.1km az=75.0,**Irian Jaya**
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**23.29**	**176**	P	P	20 14 46.7	-0.1
	22nm,0.8s,baz=360,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**64.07**	**324**	P	P	20 20 13.9	+0.8
	1.3nm,0.4s,baz=112,slow=8.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**66.74**	**332**	P	P	20 20 29.8	-0.3
	1.3nm,0.6s,baz=136,slow=5.2,SNR=3.5						
KURK	**Kurchatov**	**68.16**	**326**	P	P	20 20 39.3	+0.1
	3.0nm,0.7s,baz=123,slow=5.7,SNR=4.2						
BVAR	**Borovoye Array**	**73.76**	**326**	P	P	20 21 13.3	+0.1
	4.5nm,0.9s,baz=121,slow=7.8,SNR=3.6						
AKTO	**Aktyubinsk**	**80.30**	**321**	P	P	20 21 49.4	-0.7
	2.1nm,0.7s,baz=80,slow=2.8,SNR=5.1						

*IDC **03** 20:10:50.7±1.6,0.32S×132.93E,h0km,mb4.3/5,*
mb1 4.6/6,mb1mx4.1/17,mbtmp4.4/6,ML4.5/1,Error
ellipse: s-maj=76.3km s-min=20.0km az=61.0
*ISCJB **03** 20:10:53.5±1.2,0.4S±0.2×132.8E±0.3,h32km,mb4.2/5,*
Error ellipse: s-maj=52.2km s-min=12.7km az=155.4
*NEIC **03** 20:10:55.8±0.9,0.39S×132.90E,h35km,mb4.0/1,Error*
ellipse: s-maj=43.4km s-min=11.3km az=66.0

ISC 03 20:10:55.6±1.3,**0.5S**±0.2×**132.8E**±0.4,**h32**km,**n16**,
σ0**82**/16,**mb4.4**/5,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**20 15 20.1**	**-0.6**
	1.4nm,0.3s,baz=355,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**20 15 20.1**	**-0.6**
WB2	**Warramunga Arr**	**19.43**	**176**	P	**P**	**20 15 20.0**	**+0.6**
ASAR	**Alice Springs**	**23.10**	**177**	P	**P**	**20 16 00.1**	**+1.1**
	19nm,0.6s,baz=19,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**23.10**	**177**	P	**P**	**20 16 00.1**	**+1.1**
CTA	**Charters Tower**	**23.54**	**147**	P	**P**	**20 16 03.3**	**+0.1**
	4.2nm,0.5s,baz=332,slow=10,SNR=3.0						
CTA	**Charters Tower**	**23.54**	**147**	P	**P**	**20 16 03.3**	**+0.1**
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**	**20 17 22.0**	**-0.1**
	8.5nm,0.6s,baz=330,slow=9.1,SNR=6.4						
STKA	**Stephens Creek**	**32.34**	**166**	*e*P	**P**	**20 17 20.4**	**-1.7**
	1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**20 18 12.9**	**+0.1**
	0.8nm,0.8s,baz=120,slow=5.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**20 18 12.9**	**+0.1**
MK31	**Makanchi Array**	**64.46**	**324**	*e*P	**P**	**20 21 28.7**	**-0.3**
MKAR	**Makanchi Array**	**64.46**	**324**	P	**P**	**20 21 28.7**	**-0.4**
	3.1nm,0.9s,baz=114,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**64.46**	**324**	P	**P**	**20 21 28.7**	**-0.4**
CPUP	**Villa Florida**	**151.64**	**161**	PKPbc	**PKPbc**	**20 30 48.5**	**+0.9**
	0.4nm,0.3s,baz=133,slow=0.9,SNR=3.5						
CPUP	**Villa Florida**	**151.64**	**161**	PKPbc	**PKPbc**	**20 30 48.5**	**+0.9**

*IDC **03** 20:12:33.4±4.3,0.03S×133.24E,h0km,mb4.1/3,*
mb1 4.4/4,mb1mx3.9/16,mbtmp4.2/4,ML4.5/1,Error
ellipse: s-maj=147.8km s-min=25.6km az=59.0

ISC 03 20:12:37.5±4.8,**0.0S**±0.6×**133.3E**±1.0,**h32**km,**n4**,σ0**37**/4,
mb4.5/3,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.81**	**177**	P	**Pn**	**20 17 07.0**	**-0.2**
	1.5nm,0.3s,baz=355,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.50**	**179**	P	**P**	**20 17 45.0**	**+0.3**
	9.7nm,0.6s,baz=357,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**32.62**	**167**	P	**P**	**20 19 06.4**	**0.0**
	3.8nm,0.6s,baz=353,slow=12,SNR=5.7						
CMAR	**Chiang Mai Arr**	**38.44**	**300**	P	**P**	**20 19 56.6**	**0.0**
	0.4nm,0.7s,baz=104,slow=6.6,SNR=3.2						

*IDC **03** 20:12:53.9±0.8,0.25S×133.07E,h0km,mb4.5/9,*
mb1 4.6/9,mb1mx4.3/17,mbtmp4.5/9,Error ellipse:
s-maj=45.4km s-min=18.2km az=66.0
*ISCJB **03** 20:12:56.9±0.6,0.3S±0.1×133.0E±0.2,h32km,mb4.5/12,*
Error ellipse: s-maj=28.1km s-min=10.9km az=146.3
*NEIC **03** 20:12:59.2±0.4,0.31S×133.00E,h35km,mb4.4/3,Error*
ellipse: s-maj=22.0km s-min=8.4km az=60.0

ISC 03 20:12:58.6±0.7,**0.3S**±0.1×**133.0E**±0.2,**h32**km,**n53**,
σ0**55**/52,**mb4.4**/12,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**23.24**	**178**	P	**P**	**20 18 04.1**	**+0.7**
	44nm,0.9s,baz=2.5,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**23.24**	**178**	P	**P**	**20 18 04.1**	**+0.7**
CTAO	**Charters Tower**	**23.56**	**147**	P	**P**	**20 18 06.6**	**+0.1**
STKA	**Stephens Creek**	**32.44**	**166**	P	**P**	**20 19 24.9**	**-1.0**
	3.2nm,0.4s,baz=359,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**32.44**	**166**	P	**P**	**20 19 24.9**	**-1.0**
CM31	**Chiang Mai Arr**	**38.30**	**301**	*e*P	**P**	**20 20 16.6**	**0.0**
	4.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.30**	**301**	P	**P**	**20 20 16.7**	**+0.1**
	2.2nm,0.8s,baz=119,slow=6.5,SNR=9.7						
CMAR	**Chiang Mai Arr**	**38.30**	**301**	P	**P**	**20 20 16.7**	**+0.1**
CHTO	**Chiang Mai**	**38.45**	**301**	P	**P**	**20 20 17.7**	**-0.2**
	4.6nm,0.8s						
LSA	**Lhasa**	**49.79**	**311**	P	**P**	**20 21 49.8**	**+0.6**
	7.4nm,0.9s						
TAPN	**Taplejung**	**51.44**	**306**	*e*P	**P**	**20 22 01.0**	**-0.4**
	25nm,1.2s						
TAPN	**Taplejung**	**51.44**	**306**	*e*P	**P**	**20 22 01.0**	**-0.4**
ODAN	**Odare**	**51.49**	**305**	*e*P	**P**	**20 22 01.4**	**-0.4**
	17nm,0.7s						
ODAN	**Odare**	**51.49**	**305**	*e*P	**P**	**20 22 01.4**	**-0.4**
RAMN	**Ramite**	**52.17**	**305**	*e*P	**P**	**20 22 06.1**	**-0.8**
	17nm,0.7s						
RAMN	**Ramite**	**52.17**	**305**	*e*P	**P**	**20 22 06.1**	**-0.8**
JIRN	**Jiri**	**52.79**	**306**	*e*P	**P**	**20 22 11.2**	**-0.4**
	12nm,0.7s						
JIRN	**Jiri**	**52.79**	**306**	*e*P	**P**	**20 22 11.2**	**-0.4**
GUN	**Gumba**	**53.15**	**306**	*e*P	**P**	**20 22 13.8**	**-0.4**
	21nm,7s						
GUN	**Gumba**	**53.15**	**306**	*e*P	**P**	**20 22 13.8**	**-0.4**
SONM	**Songino Array**	**53.23**	**338**	P	**P**	**20 22 14.3**	**+0.1**
	1.4nm,1.0s,baz=144,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**53.23**	**338**	P	**P**	**20 22 14.3**	**+0.1**
PKI	**Pulchoki**	**53.39**	**305**	*e*P	**P**	**20 22 15.0**	**-1.0**
PKI	**Pulchoki**	**53.39**	**305**	*e*P	**P**	**20 22 15.0**	**-1.0**
KKN	**Kakani**	**53.59**	**305**	*e*P	**P**	**20 22 16.6**	**-0.6**
	14nm,0.9s						
KKN	**Kakani**	**53.59**	**305**	*e*P	**P**	**20 22 16.6**	**-0.6**
DMN	**Daman**	**53.66**	**305**	*e*P	**P**	**20 22 17.3**	**-0.5**
	26nm,1.0s						
DMN	**Daman**	**53.66**	**305**	*e*P	**P**	**20 22 17.3**	**-0.5**
GKN	**Gorkha**	**54.19**	**305**	*e*P	**P**	**20 22 21.2**	**-0.4**
GKN	**Gorkha**	**54.19**	**305**	*e*P	**P**	**20 22 21.2**	**-0.4**
KOLN	**Koldanda**	**54.95**	**305**	*e*P	**P**	**20 22 26.9**	**-0.3**
	20nm,0.7s						
KOLN	**Koldanda**	**54.95**	**305**	*e*P	**P**	**20 22 26.9**	**-0.3**
DANN	**Dangsing**	**55.04**	**305**	*e*P	**P**	**20 22 27.5**	**-0.4**
DANN	**Dangsing**	**55.04**	**305**	*e*P	**P**	**20 22 27.5**	**-0.4**
MK31	**Makanchi Array**	**64.45**	**324**	P	P	20 23 24.6	-7.4
MKAR	**Makanchi Array**	**64.45**	**324**	P	**P**	**20 23 32.4**	**+0.3**
	25nm,1.0s,baz=110,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**64.45**	**324**	P	**P**	**20 23 32.4**	**+0.3**
ZALV	**Zalesovo Beam**	**67.05**	**331**	P	**P**	**20 23 48.5**	**-0.1**
	32nm,1.2s,baz=125,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**67.05**	**331**	P	**P**	**20 23 48.5**	**-0.1**
KURK	**Kurchatov**	**68.52**	**326**	P	**P**	**20 23 58.3**	**+0.4**
	2.5nm,0.8s,baz=123,slow=5.8,SNR=4.2						
KURK	**Kurchatov**	**68.52**	**326**	P	**P**	**20 23 58.3**	**+0.4**
BVAR	**Borovoye Array**	**74.11**	**326**	P	**P**	**20 24 32.5**	**+0.8**
	3.8nm,0.8s,baz=102,slow=5.8,SNR=6.0						
BVAR	**Borovoye Array**	**74.11**	**326**	P	**P**	**20 24 32.5**	**+0.8**
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**20 25 35.4**	**-0.5**
	1.0nm,0.8s,baz=248,slow=4.3,SNR=5.3						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**20 25 35.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**130.10**	**287**	PKP	**PKPdf**	**20 32 06.0**	**-0.4**
	0.4nm,0.7s,baz=67,slow=1.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**130.10**	**287**	PKP	**PKPdf**	**20 32 06.0**	**-0.4**
PLCA	**Paso Flores**	**133.89**	**155**	PKP	**PKiKP**	**20 32 15.0**	**+0.7**
	1.1nm,0.8s,baz=265,slow=2.6,SNR=3.5						
PLCA	**Paso Flores**	**133.89**	**155**	PKP	**PKiKP**	**20 32 15.0**	**+0.7**
ATAH	**Atahualpa**	**147.83**	**104**	PKPbc	**PKPbc**	**20 32 42.1**	**+0.1**
	3.8nm,0.6s,baz=158,slow=5.4,SNR=3.2						
ATAH	**Atahualpa**	**147.83**	**104**	PKPbc	**PKPbc**	**20 32 42.1**	**+0.1**
CPUP	**Villa Florida**	**151.71**	**160**	PKPbc	**PKPbc**	**20 32 51.3**	**+0.6**
	2.0nm,0.6s,baz=326,slow=3.6,SNR=5.2						
CPUP	**Villa Florida**	**151.71**	**160**	PKPbc	**PKPbc**	**20 32 51.3**	**+0.6**

IDC 03 20:16:25.8±2.3,**0.23S**×**132.78E**,**h0**km,**mb4.2**/4,
mb1 4.4/5,**mb1mx4.1**/17,**mbtmp4.2**/5,**ML4.2**/1,**Error**
ellipse: s-maj=94.6km s-min=29.9km az=91.0,**Irian**
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.65**	**176**	P	Pn	20 20 57.2	-0.5
	0.8nm,0.3s,baz=356,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**23.32**	**177**	P	P	20 21 35.5	-0.3
	9.1nm,0.9s,baz=357,slow=12,SNR=4.3						
CTA	**Charters Tower**	**23.74**	**147**	P	P	20 21 40.6	+0.7
	7.0nm,1.0s,baz=315,slow=13,SNR=2.3						
STKA	**Stephens Creek**	**32.56**	**166**	P	P	20 22 58.0	-0.9
	4.0nm,0.7s,baz=352,slow=7.5,SNR=4.9						
ILAR	**Eielson Array**	**86.08**	**25**	P	P	20 29 08.3	-0.1
	0.5nm,0.8s,baz=254,slow=4.5,SNR=4.4						

IDC 03 20:18:37.7±17.0,**0.07N**×**132.19E**,**h0**km,**mb4.7**/2,
mb1 4.9/3,**mb1mx4.2**/16,**mbtmp4.7**/3,**MS6.3**/2,**Ms1 6.3**/2,
ms1mx5.5/39,**Error ellipse: s-maj=325.9km**
s-min=183.2km az=129.0,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.17**	**199**	LR	LR	20 29 50.3	
	comp=Z,83μm,18.8s,baz=114,slow=35						
WRA	**Warramunga Arr**	**20.00**	**174**	P	P	20 23 12.2	+0.2
	3.7nm,0.3s,baz=353,slow=12,SNR=10						
ASAR	**Alice Springs**	**23.65**	**176**	P	P	20 23 51.5	+0.6
	7.5nm,0.4s,baz=354,slow=11,SNR=4.5						
CBIJ	**Chichi jima**	**28.54**	**19**	LR	LR	20 33 29.5	
	comp=Z,50μm,19.3s,baz=181,slow=31						
STKA	**Stephens Creek**	**33.00**	**165**	P	P	20 25 13.9	-0.7
	3.6nm,0.5s,baz=357,slow=12,SNR=7.1						

*IDC **03** 20:18:36.6±0.8,0.57S×133.52E,h0km,mb4.1/7,*
mb1 4.3/8,mb1mx4.2/18,mbtmp4.2/8,ML4.1/1,Error
ellipse: s-maj=44.3km s-min=18.5km az=72.0
*ISCJB **03** 20:18:39.2±0.8,0.6S±0.1×133.6E±0.2,h28km,mb4.3/8,*
Error ellipse: s-maj=25.2km s-min=12.5km az=150.8
*NEIC **03** 20:18:41.9±0.6,0.63S×133.44E,h35km,mb4.1/2,Error*
ellipse: s-maj=26.6km s-min=10.5km az=69.0

ISC 03 20:18:41.0±0.8,**0.6S**±0.1×**133.6E**±0.2,**h28**km,**n24**,
σ0**87**/24,**mb4.2**/8,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.26**	**178**	P	**P**	**20 23 03.2**	**-0.2**
	0.7nm,0.3s,baz=355,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**19.26**	**178**	P	**P**	**20 23 03.2**	**-0.2**
ASAR	**Alice Springs**	**22.95**	**179**	P	**P**	**20 23 42.8**	**-0.4**
	4.6nm,0.4s,baz=358,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**22.95**	**179**	P	**P**	**20 23 42.8**	**-0.4**
CTA	**Charters Tower**	**23.01**	**148**	P	**P**	**20 23 44.4**	**+0.5**
	5.8nm,0.7s,baz=15,slow=11,SNR=5.1						
CTA	**Charters Tower**	**23.01**	**148**	P	**P**	**20 23 44.4**	**+0.5**
CTAO	**Charters Tower**	**23.01**	**148**	*e*P	**P**	**20 23 44.8**	**+1.0**
	6.6nm,0.7s						
MYKOM	**Kota Tinggi**	**29.84**	**275**	P	**P**	**20 24 46.5**	**+0.4**
MYKOM	**Kota Tinggi**	**29.84**	**275**	P	**P**	**20 24 46.4**	**+0.3**
	850nm,1.7s						
KGM	**Kluang**	**30.38**	**275**	P	**P**	**20 24 52.9**	**+1.9**
STKA	**Stephens Creek**	**32.03**	**167**	P	**P**	**20 25 04.8**	**-0.5**
	1.4nm,0.4s,baz=345,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**32.03**	**167**	*e*P	**P**	**20 25 04.5**	**-0.8**
	1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.96**	**301**	P	**P**	**20 26 04.0**	**-0.9**
	1.1nm,0.7s,baz=122,slow=7.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**38.96**	**301**	P	**P**	**20 26 04.0**	**-0.9**
SONM	**Songino Array**	**53.72**	**338**	P	**P**	**20 28 00.9**	**+0.2**
	0.9nm,0.7s,baz=149,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**53.72**	**338**	P	**P**	**20 28 00.9**	**+0.2**
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**20 31 18.1**	**-0.7**
	1.1nm,0.6s,baz=250,slow=4.8,SNR=14						
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**20 31 18.1**	**-0.7**
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**20 31 34.2**	**-0.6**
	1.5nm,0.7s,baz=55,slow=1.8,SNR=6.3						
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**20 31 34.2**	**-0.6**
CPUP	**Villa Florida**	**151.24**	**159**	PKPbc	**PKPbc**	**20 38 32.7**	**+0.1**
	1.1nm,0.5s,baz=195,slow=6.3,SNR=4.8						
CPUP	**Villa Florida**	**151.24**	**159**	PKPbc	**PKPbc**	**20 38 32.7**	**+0.1**
LPAZ	**La Paz**	**152.78**	**129**	PKPbc	**PKPbc**	**20 38 38.8**	**+1.7**
	1.3nm,0.5s,baz=180,slow=5.1,SNR=2.9						
LPAZ	**La Paz**	**152.78**	**129**	PKPbc	**PKPbc**	**20 38 38.8**	**+1.7**

*BJI **03** 20:20:35.3,8.26S×119.93E,h168km,mB5.1/6,mb4.7/15*
*NEIC **03** 20:20:36.8±0.8,8.16S×119.68E,h175km±8km,mb5.0/14,*
Error ellipse: s-maj=10.0km s-min=5.2km az=59.0
*ISCJB **03** 20:20:36.5±0.3,8.32S±0.03×119.64E±0.03,h176km±4km,*
mb4.8/30,Error ellipse: s-maj=5.0km s-min=4.1km
az=138.1
*IDC **03** 20:20:38.0±2.0,8.17S×119.78E,h186km±19km,mb4.2/11,*
mb1 4.4/13,mb1mx4.3/22,mbtmp4.3/13,Error ellipse:
s-maj=14.7km s-min=7.9km az=58.0
*DJA **03** 20:20:38,8.32S×119.59E,h140km,mb5.6/31*

ISC 03 20:20:37.4±0.3,**8.31S**±0.04×**119.67E**±0.05,**h177**km±2km,
h177km:**pP-P**,**n128**,σ1**48**/152,**mb4.7**/30,**3C**,**Flores**
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.49**	**155**	P	**Pn**	**20 21 08.3**	**-0.8**
MMRI	**Maumere**	**2.57**	**98**	P	**Pn**	**20 21 20.7**	**0.0**
BKSI	**Bukukumba**	**3.00**	**9**	P	**Pn**	**20 21 24.8**	**-1.1**
KAPI	**Kappang**	**3.27**	**2**	i*P*n	**Pn**	**20 21 27.0**	**-2.3**
KAPI	**Kappang**	**3.27**	**2**	P	**Pn**	**20 21 27.2**	**-2.1**
MTNI	**Mataram**	**3.47**	**264**	P	**Pn**	**20 21 30.2**	**-1.6**
KHKI	**Kahang-Kahang**	**4.01**	**269**	P	**Pn**	**20 21 36.7**	**-1.9**
BBSI	**Bau Bau**	**4.02**	**46**	P	**Pn**	**20 21 39.3**	**+0.6**
SPSI	**Sidrap Palu**	**4.31**	**1**	P	**Pn**	**20 21 41.8**	**-0.7**
IGBI	**Denpasar**	**4.50**	**263**	P	**Pn**	**20 21 43.5**	**-1.3**
MJSI	**Majene**	**4.77**	**352**	P	**Pn**	**20 21 48.7**	**+0.3**
NBBI	**Negara**	**4.99**	**269**	P	**Pn**	**20 21 51.8**	**+0.6**
TTSI	**Tana Toraja**	**5.23**	**2**	P	**Pn**	**20 21 55.1**	**+0.8**
	3μm,1.0s,14nm						
BYJI	**Banyuwangi**	**5.26**	**271**	P	**Pn**	**20 21 55.6**	**+0.9**
	2μm,1.2s,6.9nm						
JAGI	**Jajag, Banyawa**	**5.46**	**268**	P	**Pn**	**20 21 56.2**	**-1.1**
	595nm,1.1s,4.6nm						
KMMI	**Kalianget**	**5.78**	**282**	P	**Pn**	**20 22 02.7**	**+1.1**
	991nm,1.1s,2.6nm						
BLJI	**Banyuglugur**	**6.04**	**275**	P	**Pn**	**20 22 04.9**	**0.0**
	5μm,0.9s,20nm						
KBKI	**Kotabaru**	**6.07**	**325**	P	**Pn**	**20 22 04.2**	**-1.1**
	495nm,1.2s,2.3nm						
GMJI	**Gumukmas**	**6.16**	**270**	P	**Pn**	**20 22 07.1**	**+0.6**
	406nm,1.1s,2.8nm						
BBKI	**Banjar Baru**	**6.79**	**315**	P	**Pn**	**20 22 15.6**	**+0.7**
	2μm,0.9s,6.8nm						
KRKI	**Karangkates**	**7.14**	**271**	P	**Pn**	**20 22 21.3**	**+1.9**
	1μm,0.8s,7.6nm						
PWJI	**Pagerwojo**	**7.79**	**272**	P	**Pn**	**20 22 27.2**	**-0.8**
	1μm,0.9s,6.4nm						
SJI	**Sawahan**	**7.84**	**274**	P	**Pn**	**20 22 28.5**	**-0.3**
	2μm,0.7s,10nm						
LUWI	**Luwuk**	**7.85**	**23**	P	**Pn**	**20 22 29.2**	**+0.4**
	340nm,1.3s,2.0nm						
PCJI	**Pacitan**	**8.40**	**270**	P	**Pn**	**20 22 33.7**	**-2

CTA	**Charters Tower**	**28.26**	**117**	P		**P**	**20 26 14.0**	**-0.3**	
	6.0nm,0.6s,baz=300,slow=14,SNR=4.8								
CTA	**Charters Tower**	**28.26**	**117**	P		**P**	**20 26 14.0**	**-0.3**	
CTAO	**Charters Tower**	**28.26**	**117**	*e*P		**P**	**20 26 13.4**	**-0.8**	
	46nm,1.5s								
STKA	**Stephens Creek**	**31.08**	**142**	P		**P**	**20 26 40.5**	**+1.5**	
	89nm,0.4s,baz=319,slow=8.4,SNR=108								
STKA				ScP		**ScP**	**20 32 55.1**	**-1.4**	
	8.2nm,0.6s,baz=344,slow=3.1,SNR=3.6								
STKA	**Stephens Creek**	**31.08**	**142**	*e*P		**P**	**20 26 40.4**	**+1.5**	
	73nm,0.4s								
STKA	**Stephens Creek**	**31.08**	**142**	*e*P		**P**	**20 26 40.1**	**+1.2**	
	22nm,0.6s								
STKA				P		**P**	**20 26 40.5**	**+1.5**	
STKA				*e*			20 27 29.0		
STKA				ScP		**ScP**	**20 32 55.1**	**-1.4**	
CM31	**Chiang Mai Arr**	**33.55**	**323**	*e*P		**P**	**20 27 00.3**	**-0.3**	
	2.5nm,0.4s								
CMAR	**Chiang Mai Arr**	**33.55**	**323**	P		**P**	**20 27 00.5**	**-0.2**	
	2.4nm,0.4s,baz=154,slow=7.1,SNR=41								
CMAR	**Chiang Mai Arr**	**33.55**	**323**	P		**P**	**20 27 00.5**	**-0.2**	
CHTO	**Chiang Mai**	**33.82**	**323**	P		**P**	**20 27 02.7**	**-0.2**	
GYA	**Guiyang**	**36.79**	**340**	P		**P**	**20 27 30.0**	**+1.6**	
GYA				pP		**pP**	**20 28 06.6**	**+0.6**	
GYA				sP		**sP**	**20 28 25.7**	**-0.6**	
GYA				PP		PP	20 29 01.4	+5.3	
GYA				PcP		**PcP**	**20 29 48.3**	**+1.6**	
GYA				S		**S**	**20 33 01.0**	**+1.6**	
GYA				ScP		**ScP**	**20 33 17.8**	**+0.9**	
GYA				PcS		**PcS**	**20 33 35.6**	**+0.4**	
GYA				ScS		**ScS**	**20 37 24.3**	**-0.3**	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,90nm,4.9s								
KMI	**Kunming**	**37.09**	**334**	P		**P**	**20 27 32.7**	**+1.6**	
KMI				pmax		pmax			
	comp=Z,11nm,2.0s								
ARMA	**Armidale**	**37.10**	**131**	*e*P		P	20 27 34.3	+3.3	
TOO	**Toolangi**	**37.35**	**145**	*e*P		**P**	**20 27 36.0**	**+3.1**	
	comp=Z,242nm,1.2s								
CNB	**Canberra Magne**	**38.22**	**139**	*e*P		**P**	**20 27 42.7**	**+2.4**	
	comp=Z,84nm,0.8s								
ENH	**Enshi**	**39.58**	**346**	*e*P		**P**	**20 27 49.7**	**-1.8**	
	comp=Z,16nm,0.5s								
NJ2	**Nanjing**	**40.14**	**359**	*e*P		**P**	**20 27 56.2**	**+0.2**	
NJ2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CD2	**Chengdu**	**41.87**	**339**	P		**P**	**20 28 11.3**	**+1.0**	
CD2				pP		**pP**	**20 28 48.8**	**+0.1**	
CD2				sP		**sP**	**20 29 08.3**	**-0.5**	
CD2				PP		PP	20 29 54.1	+3.0	
CD2				S		**S**	**20 34 16.3**	**+1.3**	
CD2				sS		**sS**	**20 35 22.1**	**-0.2**	
CD2				SS		SS	20 37 23.1	-5.9	
CD2				pmax		pmax			
	comp=Z,40nm,0.5s								
CD2				pmax		pmax			
	comp=Z,610nm,11.7s								
KSAR	**Wonju Array Be**	**46.15**	**9**	P		**P**	**20 28 42.3**	**-1.9**	
KSAR				pP		**pP**	**20 29 20.5**	**-2.8**	
KSAR				PcP		**PcP**	**20 30 16.8**	**-0.3**	
KSRS	**Korea Array**	**46.17**	**9**	P		**P**	**20 28 42.3**	**-2.0**	
	comp=Z,1.4nm,0.9s,baz=206,slow=8.8,SNR=4.0								
KSRS				pP		**pP**	**20 29 20.5**	**-2.9**	
	comp=Z,8.0nm,1.0s,baz=185,slow=8.8,SNR=7.5								
KSRS				PcP		**PcP**	**20 30 16.8**	**-0.4**	
	comp=Z,1.2nm,0.8s,baz=170,slow=3.0,SNR=4.0								
LZH	**Lanzhou**	**46.60**	**342**	*e*P		P	20 28 51.8	+3.9	
LZH				pP		pP	20 29 28.1	+1.0	
LZH				sP		sP	20 29 49.4	+2.5	
LZH				PcP		**PcP**	**20 30 22.0**	**+3.0**	
LZH				*e*S		**S**	**20 35 25.3**	**+1.9**	
LZH				sS		sS	20 36 30.3	-1.6	
LZH				SS		SS	20 38 44.3	-7.9	
LZH				pmax		pmax			
	comp=Z,200nm,1.0s								
LZH				pmax		pmax			
	comp=Z,3μm,5.5s								
LZH				LR		LR			
	comp=N,30μm,14.2s								
LZH				LR		LR			
	comp=E,58μm,15.6s								
LZH				LR		LR			
	comp=Z,65μm,16.8s								
DGAR	**Diego Garcia**	**46.76**	**268**	*e*P		**P**	**20 28 47.5**	**-1.8**	
DZM	**Mont Dzumac**	**46.98**	**112**	*e*P		**P**	**20 28 51.8**	**+0.8**	
	comp=Z,29nm,1.2s								
HMDM	**Hanimaadhoo**	**48.70**	**287**	P		P	20 29 09.7	+5.4	
HHC	**Hu-ho-hao-te**	**49.48**	**352**	*e*P		**P**	**20 29 11.0**	**+1.2**	
HHC				pP		**pP**	**20 29 50.9**	**+1.4**	
HHC				sP		**sP**	**20 30 09.8**	**+0.6**	
HHC				PP		PP	20 31 08.8	+2.9	
HHC				S		**S**	**20 36 04.8**	**+1.2**	
HHC				sS		**sS**	**20 37 14.0**	**+1.2**	
HHC				SS		SS	20 39 35.7	-2.6	
HHC				pmax		pmax			
	comp=Z,210nm,1.2s								
USRK	**Ussuriysk Arra**	**53.44**	**11**	P		**P**	**20 29 37.0**	**-2.0**	
	comp=Z,1.6nm,0.6s,baz=200,slow=7.5,SNR=7.1								
PETK	**Petropavlovsk-**	**69.18**	**23**	P		**P**	**20 31 23.2**	**-1.4**	
	comp=Z,2.6nm,0.7s,baz=191,slow=6.8,SNR=8.1								
PETK	**Petropavlovsk-**	**69.18**	**23**	P		**P**	**20 31 23.2**	**-1.4**	
OPO	**Ambohidratompo**	**70.85**	**253**	P		**P**	**20 31 34.7**	**-1.0**	
	comp=Z,2.4nm,0.7s,baz=98,slow=11,SNR=4.5								
OPO	**Ambohidratompo**	**70.85**	**253**	P		**P**	**20 31 34.7**	**-1.0**	
VNDA	**Vanda**	**72.57**	**171**	*e*P		**P**	**20 31 45.9**	**+1.3**	
	comp=Z,6.8nm,0.6s								
SBA	**Scott Base**	**73.56**	**171**	*e*P		**P**	**20 31 52.6**	**+2.1**	
	comp=Z,323nm,2.7s								
SYO	**Syowa Base**	**78.74**	**201⇑**	*e*P		**P**	**20 32 19.8**	**0.0**	
SYO	**Syowa Base**	**78.74**	**201⇑**	*e*pP		pP	20 33 01.6	-1.4	
QSPA	**South Pole Qui**	**81.68**	**180**	P		**P**	**20 32 36.6**	**+0.8**	
	comp=Z,2.8nm,0.4s,baz=270,slow=1.0,SNR=22								
QSPA	**South Pole Qui**	**81.68**	**180**	*e*P		**P**	**20 32 36.4**	**+0.6**	
	comp=Z,9.1nm,0.9s								
BOSA	**Boshof**	**89.92**	**241**	P		**P**	**20 33 16.9**	**-0.1**	
	comp=Z,1.7nm,0.4s,baz=109,slow=4.0,SNR=12								
BOSA	**Boshof**	**89.92**	**241**	P		**P**	**20 33 16.9**	**-0.1**	
SNAA	**Sanae**	**91.84**	**195**	*e*P		**P**	**20 33 26.7**	**+1.7**	
	comp=Z,1.8nm,0.4s								
SNAA				*e*			20 34 01.1		
MSNY	**Massena**	**141.34**	**17**	*e*PKPpre		PKPpre	20 39 42.9		
WES	**Weston**	**144.70**	**14**	*e*PKPdf		**PKPab**	**20 39 51.2**	**-1.2**	
LRAL	**Lakeview Retre**	**145.16**	**41**	*e*PKPdf		**PKPbc**	**20 39 52.1**	**-2.2**	
TKL	**Tuckaleechee C**	**145.36**	**35**	PKPbc		**PKPdf**	**20 39 53.5**	**-1.1**	
	comp=Z,13nm,0.5s,baz=134,slow=1.5,SNR=22								
TKL	**Tuckaleechee C**	**145.36**	**35**	PKPbc		**PKPdf**	**20 39 53.5**	**-1.1**	
CPUP	**Villa Florida**	**145.45**	**185**	PKPbc		**PKPab**	**20 39 56.1**	**+0.5**	
	comp=Z,3.3nm,0.6s,baz=134,slow=2.9,SNR=8.2								
CPUP	**Villa Florida**	**145.45**	**185**	PKPbc		**PKPab**	**20 39 56.1**	**+0.5**	
GOGA	**Godfrey**	**147.13**	**37**	*e*PKPdf		**PKPdf**	**20 39 57.6**	**-0.1**	
LPAZ	**La Paz**	**154.38**	**162**	PKPab		**PKPab**	**20 40 34.8**	**+1.7**	
	comp=Z,5.4nm,0.6s,baz=176,slow=2.7,SNR=9.7								
LPAZ	**La Paz**	**154.38**	**162**	PKPab		**PKPab**	**20 40 34.8**	**+1.7**	

*IDC **03** 20:21:28.7±1.5,0.°22S×132.°68E,h0km,mb4.6/3, mb1 4.8/5,mb1mx4.4/18,mbtmp4.6/5,ML3.3/1,Error ellipse: s-maj=62.9km s-min=26.8km az=87.0*
*ISCJB **03** 20:21:32.2±0.8,0.°3S±0.°1×132.°6E±0.°1,h33km,mb4.8/6, Error ellipse: s-maj=19.7km s-min=13.4km az=145.1*
*NEIC **03** 20:21:33.8±0.7,0.°30S×132.°58E,h35km,mb5.1/4,Error ellipse: s-maj=19.2km s-min=12.7km az=54.0*

ISC 03 20:21:33.4±0.9,0.°3S±0.°1×132.°6E±0.°2,h33km,n18, σ1§29/18,mb4.8/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**17.04**	**122**	Pn	**P**	**20 25 29.9**	**-0.9**
	0.4nm,0.3s,baz=292,slow=19,SNR=3.4						
PMG	**Port Moresby**	**17.04**	**122**	Pn	**P**	**20 25 29.9**	**-0.9**
WRA	**Warramunga Arr**	**19.57**	**175**	P	**Pn**	**20 25 59.4**	**-0.7**
	baz=354,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**19.57**	**175**	P	**Pn**	**20 25 59.4**	**-0.7**
KSM	**Kuching**	**22.40**	**275**	*e*P	**P**	**20 26 28.8**	**-0.4**
	13nm,0.6s						
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**20 26 39.9**	**+2.0**
	19nm,0.5s,baz=355,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**20 26 39.9**	**+2.0**
CTA	**Charters Tower**	**23.74**	**147**	P	**P**	**20 26 42.4**	**-0.4**
	11nm,0.7s,baz=318,slow=11,SNR=5.3						
CTA	**Charters Tower**	**23.74**	**147**	P	**P**	**20 26 42.4**	**-0.4**
CTAO	**Charters Tower**	**23.74**	**147**	*e*P	**P**	**20 26 44.1**	**+1.4**
	94nm,1.3s						
MBWA	**Marble Bar**	**24.24**	**211**	P	**P**	**20 26 46.4**	**-1.0**
	142nm,0.7s						
YHNB	**Yeheng**	**27.14**	**337**	P	**P**	**20 27 14.0**	**+0.3**
	67nm,1.2s						
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**20 34 11.7**	**+0.3**
	1.9nm,0.7s,baz=257,slow=4.5,SNR=16						
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**20 34 11.7**	**+0.3**
PLCA	**Paso Flores**	**134.02**	**155**	PKP	**PKPdf**	**20 40 46.0**	**-1.8**
	1.6nm,0.6s,baz=207,slow=2.3,SNR=4.2						
PLCA	**Paso Flores**	**134.02**	**155**	PKP	**PKPdf**	**20 40 46.0**	**-1.8**
CPUP	**Villa Florida**	**151.81**	**161**	PKPbc	**PKPbc**	**20 41 27.0**	**+1.5**
	4.3nm,0.7s,baz=152,slow=1.6,SNR=4.3						
CPUP	**Villa Florida**	**151.81**	**161**	PKPbc	**PKPbc**	**20 41 27.0**	**+1.5**

*CSEM **03** 20:22:42.9±0.1,77.°03N×18.°12E,h10km,ML2.3,Error ellipse: s-maj=7.3km s-min=2.2km az=67.0*
*NAO **03** 20:22:43.5±2.0,77.°04N×18.°39E,h16km±17km,ML2.3*
*BER **03** 20:22:46.9±3.2,77.°13N×18.°92E,h23km±18km,MD2.3, ML2.6,ML2.3(NAO)*

ISC 03 20:22:44.2±2.5,77.°04N±0.°05×18.°23E±0.°07,h12km±24km, n15,σ1§25/24,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.61**	**268**	*e*P	**Pb**	**20 22 56.9**	**+0.3**
HSP				*e*S	**Sb**	**20 23 05.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.21**	**342**	Pg	**Pn**	**20 23 06.2**	**-0.8**
	baz=149,slow=18						
SPA0				Lg	Lg	20 23 22.2	
	baz=159,slow=28						
SPA0	**Spitsbergen Ar**	**1.21**	**342**	*e*P	**Pn**	**20 23 06.3**	**-0.6**
SPA0				*e*S	**Sb**	**20 23 21.9**	**-0.7**
SPA0	**Spitsbergen Ar**	**1.21**	**342**	*e*P	**Pn**	**20 23 06.3**	**-0.6**
	SNR=55						
SPA0				*e*S	**Sb**	**20 23 21.9**	**-0.7**
	SNR=55						
SPA0				Lg	Lg	20 23 22.2	
	SNR=9.4						
HOPEN	**Hopen**	**1.65**	**106**	*e*P	**Pn**	**20 23 12.1**	**-0.7**
HOPEN				AML	AML	20 23 38.1	
	comp=Z,86nm,0.2s						
HOPEN	**Hopen**	**1.65**	**106**	*e*P	**Pn**	**20 23 12.1**	**-0.7**
	comp=Z,86nm,0.2s,SNR=55						
KBS	**Kingsbay**	**2.31**	**328**	Pn	**Pn**	**20 23 20.9**	**-1.0**
KBS				Pg	**Pb**	**20 23 26.7**	**+1.2**
KBS				Lg	Lg	20 23 54.8	
KBS	**Kingsbay**	**2.31**	**328**	*e*P	**Pn**	**20 23 21.1**	**-0.8**
KBS				*e*Pg	**Pb**	**20 23 26.8**	**+1.2**
KBS				*e*Sg	**Sb**	**20 23 55.9**	**+1.8**
KBS				AML	AML	20 24 03.2	
	comp=Z,99nm,0.3s						
KBS	**Kingsbay**	**2.31**	**328**	Pn	**Pn**	**20 23 20.9**	**-1.0**
KBS	**Kingsbay**	**2.31**	**328**	*e*P	**Pn**	**20 23 21.1**	**-0.8**
	SNR=55						
KBS	**Kingsbay**	**2.31**	**328**	*e*Pg	**Pb**	**20 23 26.8**	**+1.2**
	SNR=92						
KBS				Lg	Lg	20 23 54.8	
KBS				*e*Sg	**Sb**	**20 23 55.8**	**+1.8**
	comp=Z,99nm,0.3s,SNR=92						
BJO	**Bjornoya**	**2.56**	**174**	*e*Pg	**Pb**	**20 23 32.0**	**+2.1**
BJO				*e*Sg	**Sg**	**20 24 05.4**	**-0.9**
BJO	**Bjornoya**	**2.56**	**174**	*e*Pg	**Pb**	**20 23 32.0**	**+2.1**
	SNR=92						
BJO				*e*Sg	**Sg**	**20 24 05.4**	**-0.9**
	SNR=92						
ARA0	**ARCESS Array S**	**7.82**	**161**	Pn	**Pn**	**20 24 36.2**	**-1.4**
	baz=355,slow=10						
ARA0				Sn	Sn	20 25 56.9	-8.9
	baz=5.4,slow=22						
ARA0	**ARCESS Array S**	**7.82**	**161**	Pn	**Pn**	**20 24 36.2**	**-1.4**

*BGS **03** 20:23:02.2±1.2,34.°51N×72.°60E,h205km,mb5.4*
*SZGRF **03** 20:23:16.7,36.°18N×70.°97E,h186km,mb6.0,Hindu Kush, Afghanistan, region*
*BJI **03** 20:23:18.8,36.°62N×70.°61E,h206km,mB6.3/9,mb6.0/61*
*ISCJB **03** 20:23:19.0±0.2,36.°43N±0.°01×70.°73E±0.°01,h202km±2km, mb5.7/369,Error ellipse: s-maj=2.4km s-min=1.7km az=18.6*
*MOS **03** 20:23:19.2±0.8,36.°44N×70.°78E,h207km,mb5.9/83, MS6.2/8,Error ellipse: s-maj=4.7km s-min=3.0km az=126.4*
MOS Felt (III-IV) at Chimkent, Taraz.
*IDC **03** 20:23:20.8±0.3,36.°43N×70.°79E,h209km±2km,mb5.6/42, mb1 5.6/46,mb1mx5.6/46,mbtmp5.6/46,Error ellipse: s-maj=6.3km s-min=5.1km az=177.0*
*DJA **03** 20:23:20,36.°30N×70.°86E,h196km,mb6.3/67*
*NEIC **03** 20:23:20.2±0.1,36.°42N×70.°74E,mb5.8/160,Error ellipse: s-maj=3.4km s-min=2.1km az=199.0*
NEIC Felt [IV] at Baghlan, Charikar and Jabal os Saraj; [III] at Bagrami, Jalalabad, Kabul and Mazar-e Sharif; [II] at Khowst. Also felt at Asadabad, Asmar, Eshkashem, Konduz, Mehtar Lam and Sarowbi. Felt [IV] at Peshawar and [III] at Islamabad and Lahore, Pakistan. Felt [III] at Dushanbe, Tajikistan. Also felt at Khorugh and Uroteppa. Felt [II] at Tashkent, Uzbekistan. Also felt at Termiz. Felt at Delhi, Gurgaon and Pathankot, India; Srinagar, Kashmir; Osh, Kyrgyzstan.
*NIC **03** 20:23:21.5±0.9,36.°51N×70.°76E,h200km,Earthquake Hindu Kush Region, Afghanistan 3km SW Ghowrayd gharami.*
*NNC **03** 20:23:21.8±4.6,36.°86N×70.°24E,h155km±54km,mb6.0, mpv7.1,Error ellipse: s-maj=37.9km s-min=31.1km az=38.0*

ISC 03 20:23:20.4±0.2,36.°46N±0.°03×70.°74E±0.°02,h209km±1km, h208km:pP-P,n1606,σ1§38/2148,mb5.8/363,411C-113D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**216**	*e*PN	**Pn**	**20 24 02.2**	**-1.4**
KBL				*e*		20 24 34.4	
KBL	**Kabul**	**2.36**	**216**	*e*Pn	**Pn**	**20 24 02.2**	**-1.4**
KBL				*e*Sn	**S**	**20 24 34.4**	**-2.5**
CEP	**Cherat**	**2.80**	**160**	⇑P	**Pn**	**20 24 08.2**	**-0.2**
CEP				S	**S**	**20 24 44.0**	**-1.4**
CHCP	**Chirah Chowk**	**3.47**	**143**	⇑P	**Pn**	**20 24 16.6**	**+0.4**
THW	**Thamme Wali**	**3.75**	**167**	P	**Pn**	**20 24 19.2**	**-0.3**
SARP	**Sargodha**	**4.80**	**160**	P	**Pn**	**20 24 31.8**	**-0.7**
JMU	**Jammu**	**5.07**	**136**	*ex*	**Pn**	**20 24 38.5**	**+2.6**
JMU				*ex*	x	20 24 42.5	
KSH	**Kashi**	**5.14**	**52**	*i*P	Pn	20 24 31.9	-4.9
KSH				sP	S	20 25 15.8	-21
KSH				S	S	20 25 24.6	-12
KSH				pmax	pmax		
	comp=Z,55μm,2.5s						
KSH				LR	LR		
	comp=N,113μm,4.8s						
KSH				LR	LR		
	comp=E,75μm,3.2s						
KSH				LR	LR		
	comp=Z,103μm,7.0s						
DLH	**Dalhousie**	**5.82**	**131**	*e*P	**Pn**	**20 24 45.0**	**-0.7**
DLH				*ex*	Sn	20 25 54.0	
AML	**Almayashu**	**6.11**	**21**	P	**Pn**	**20 24 48.8**	**-0.7**
AML				P	**Pn**	**20 24 48.8**	**-0.7**
DHRM	**DHARAMSHALA**	**6.22**	**131**	*e*P	**Pn**	**20 24 50.3**	**-0.6**
DHRM				AMb	AMB	20 24 51.8	
PONG	**Pong**	**6.23**	**135**	*e*P	**Pn**	**20 24 50.0**	**-0.7**
UCH	**Uchtor**	**6.46**	**26**	P	**Pn**	**20 24 53.6**	**-0.4**
	SNR=932						
UCH				P	**Pn**	**20 24 53.6**	**-0.4**
	SNR=932						
KZA	**Kyzart**	**6.61**	**31**	P	**Pn**	**20 24 54.9**	**-1.1**
	SNR=1723						
KZA				P	**Pn**	**20 24 54.9**	**-1.1**
	SNR=1723						
EKS2	**Erkin-Say**	**6.62**	**20**	P	**Pn**	**20 24 55.4**	**-0.4**
	SNR=3685						
EKS2				P	**Pn**	**20 24 55.4**	**-0.4**
	SNR=3685						
EKS2	**Erkin-Say**	**6.62**	**20**	⇓*i*PN	**Pn**	**20 24 55.2**	**-0.7**
EKS2				pmax	pmax		
	comp=Z,1μm,0.4s						
EKS2	**Erkin-Say**	**6.62**	**20**	⇓*i*Pn	**Pn**	**20 24 55.2**	**-0.7**
	comp=Z,1μm,0.4s						
EKS2				*e*Sn	**S**	**20 26 07.4**	**-4.2**
KK31	**Karatay Array**	**6.64**	**359**	P	**Pn**	**20 24 55.0**	**-0.9**
	comp=Z,2μm,0.3s,baz=178,slow=13						
KK31				S	S	20 25 59.6	-12
	comp=Z,11μm,0.6s,baz=187,slow=22,SNR=17						
KK31	**Karatay Array**	**6.64**	**359**	PN	**Pn**	**20 24 55.0**	**-0.9**
KK31				pmax	pmax		
	comp=Z,4μm,0.3s						
KKAR	**Karatay Array**	**6.64**	**359**	*e*PN	**Pn**	**20 24 55.0**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,13nm,0.5s						
KKAR	**Karatay Array**	**6.64**	**359**	*e*Pn	**Pn**	**20 24 55.0**	**-0.9**
	comp=Z,13nm,0.5s						
KKAR				*e*Sn	S	20 25 57.6	-14
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**20 24 58.0**	**-0.3**
	SNR=3919						
AAK				P	**Pn**	**20 24 58.0**	**-0.3**
	SNR=3919						
AAK	**Ala-Archa**	**6.81**	**24**	*d i*PN	**Pn**	**20 24 58.0**	**-0.3**
AAK	**Ala-Archa**	**6.81**	**24**	Pn	**Pn**	**20 24 58.3**	**0.0**
	comp=Z,108μm,0.6s						
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**20 24 58.3**	**0.0**
	SNR=196						
KBK	**Karagaybulak**	**6.99**	**26**	P	**Pn**	**20 25 00.5**	**-0.1**
	SNR=2837						
KBK				P	**Pn**	**20 25 00.5**	**-0.1**
	SNR=2837						
FRU	**Bishkek**	**7.03**	**24**	⇓*i*PN	**Pn**	**20 25 01.3**	**+0.3**
FRU				*i* S	**S**	**20 26 20.6**	**-0.5**
FRU				pmax	pmax		
	comp=Z,32μm,0.6s						
FRU				smax	smax		
	comp=N,40μm,0.9s						
ULHL	**Ulahol**	**7.18**	**35**	P	**Pn**	**20 25 02.0**	**-1.1**
	SNR=730						
ULHL				P	**Pn**	**20 25 02.0**	**-1.1**
	SNR=730						
CHMS	**Chumysh**	**7.22**	**24**	P	**Pn**	**20 25 02.6**	**-0.9**
	SNR=2260						
CHMS				P	**Pn**	**20 25 02.6**	**-0.9**
	SNR=2260						
USP	**Ospenovka**	**7.39**	**22**	P	**Pn**	**20 25 04.3**	**-1.4**
	SNR=1725						
USP				P	**Pn**	**20 25 04.3**	**-1.4**
	SNR=1725						
TKM2	**Tokmak 2**	**7.46**	**29**	P	**Pn**	**20 25 06.3**	**-0.4**
	SNR=9146						
TKM2				P	**Pn**	**20 25 06.3**	**-0.4**
	SNR=9146						
TKM2	**Tokmak 2**	**7.46**	**29**	⇓P	**Pn**	**20 25 06.2**	**-0.6**
	comp=N,12μm,0.6s						
TKM2	**Tokmak 2**	**7.46**	**29**	⇓*i*PN	**Pn**	**20 25 06.4**	**-0.4**
TKM2				*e*		20 26 29.3	
TKM2				pmax	pmax		
	comp=Z,10μm,0.6s						
TKM2	**Tokmak 2**	**7.46**	**29**	⇓*i*Pn	**Pn**	**20 25 06.4**	**-0.4**
	comp=Z,57μm,0.6s						
TKM2				*e*Sn	**S**	**20 26 29.3**	**-2.1**
SMLA	**Simla**	**7.54**	**133**	*e*P	**Pn**	**20 25 06.5**	**-1.2**
KNDC	**Almaty**	**8.27**	**33**	⇓P	**Pn**	**20 25 17.4**	**+0.2**
	comp=Z,16μm,0.8s						
AAA	**Alma-Ata**	**8.31**	**33**	*i* PN	**Pn**	**20 25 17.4**	**-0.2**
AAA				*e*S	**S**	**20 26 48.4**	**-2.8**
AAA				pmax	pmax		
	comp=Z,84μm,2.5s						
AAA				smax	smax		
	comp=E,108μm,3.7s						
AAA				MLR	MLR		
	comp=Z,120μm,6.0s						
DDI	**Dehra Dun**	**8.65**	**133**	*e*P	**Pn**	**20 25 22.2**	**+0.1**
DDI				AMb	AMB	20 25 26.6	
DDI				*e*S	S	20 26 50.0	-10
NDI	**New Delhi**	**9.48**	**143**	*e*P	**Pn**	**20 25 30.9**	**-1.9**
NDI				*e*P	P	20 25 32.0	-9.2
NDI				AMb	AMB	20 25 33.1	
	comp=Z,3μm,0.8s						
NDI				*e*S	S	20 27 12.0	-7.3
ABKT	**Ailbek**	**10.18**	**282**	Pn	**Pn**	**20 25 39.2**	**-2.6**
	comp=Z,8μm,0.8s						
PTH	**Pithoragarh**	**10.52**	**128**	*e*P	**Pn**	**20 25 45.3**	**-1.1**
PTH				*e*S	S	20 27 34.2	-10
BHJ	**Bhuj**	**13.19**	**184**	*e*P	**P**	**20 26 22.2**	**-0.5**
BHJ				AMb	AMB	20 27 22.1	
	comp=Z,4μm,0.5s						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**20 26 21.7**	**-1.3**
	comp=Z,36nm,0.3s,baz=218,slow=5.8,SNR=393						
MKAR				S	**S**	**20 28 49.0**	**-3.1**
	comp=Z,6.4nm,0.3s,baz=235,slow=17,SNR=2.2						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**20 26 21.7**	**-1.3**
MKAR				S	**S**	**20 28 49.0**	**-3.1**
MKAR				pmax	pmax		
	comp=Z,36nm,0.3s						
MKAR				smax	smax		
	comp=N,6.0nm,0.3s						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**20 26 21.7**	**-1.3**
MKAR				S	**S**	**20 28 49.0**	**-3.1**
MK31	**Makanchi Array**	**13.45**	**36**	⇑P	**Pn**	**20 26 22.7**	**-0.3**
	comp=N,1μm,0.7s						
MK31	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**20 26 22.7**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2μm,0.8s						
MK31	**Makanchi Array**	**13.45**	**36**	*e*Pn	**Pn**	**20 26 21.8**	**-1.2**
DANN	**Dangsing**	**13.64**	**123**	*e*P	**Pn**	**20 26 24.4**	**-1.4**
	comp=Z,5μm,0.7s						
DANN	**Dangsing**	**13.64**	**123**	*e*P	**Pn**	**20 26 24.4**	**-1.4**
	comp=Z,5μm,0.7s						
KOLN	**Koldanda**	**13.91**	**125**	*e*P	**Pn**	**20 26 27.9**	**-1.2**
	comp=Z,2μm,0.5s						
KOLN	**Koldanda**	**13.91**	**125**	*e*P	**Pn**	**20 26 27.9**	**-1.2**
	comp=Z,2μm,0.5s						
BHPL	**Bhopal**	**14.38**	**154**	*e*P	**

GUN Gumba 15.38 119 eP Pn 20 26 46.5 -0.7
comp=Z,6μm,0.8s
GUN Gumba 15.38 119 eP Pn 20 26 46.5 -0.7
comp=Z,6μm,0.8s
JIRN Jiri 15.75 119 eP P 20 26 51.5 +0.1
comp=Z,9μm,0.5s
JIRN Jiri 15.75 119 eP P 20 26 51.5 +0.1
comp=Z,9μm,0.5s
VOSK Vostochnaya 16.27 1 ⇓P Pn 20 26 56.9 -0.4
comp=Z,2μm,0.8s
VOSK ⇓S S 20 29 52.9 -3.2
VOSK Vostochnaya 16.27 1 P Pn 20 26 56.8 -0.4
VOSK pmax pmax
comp=Z,2μm,0.9s
RAMN Ramite 16.47 121 eP P 20 26 59.6 +0.4
comp=Z,8μm,0.8s
RAMN Ramite 16.47 121 eP P 20 26 59.6 +0.4
comp=Z,8μm,0.8s
ZRNK Zerenda 16.54 356 ⇑P Pn 20 27 00.8 +0.3
comp=Z,3μm,1.4s
ZRNK Zerenda 16.54 356 P Pn 20 27 00.7 +0.3
ZRNK pmax pmax
comp=Z,3μm,1.4s
BVA0 Borovoye Array 16.57 359 ⇑P Pn 20 27 01.1 +0.3
comp=Z,187nm,1.0s
BVA0 S S 20 30 02.3 +0.1
comp=Z,49nm,0.6s,baz=174,slow=24,SNR=10
BVA0 Borovoye Array 16.57 359 P Pn 20 27 01.1 +0.3
BVA0 pmax pmax
comp=Z,542nm,1.8s
BVAR Borovoye Array 16.57 359 P Pn 20 27 00.6 -0.3
comp=Z,129nm,0.3s,baz=159,slow=9.3,SNR=645
BVAR S S 20 29 58.5 -3.7
comp=Z,8.2nm,0.3s,baz=176,slow=20,SNR=2.1
BVAR PKiKP PKiKP 20 39 29.8 -0.8
comp=Z,1.0nm,0.3s,baz=263,slow=3.7,SNR=6.3
BVAR Borovoye Array 16.57 359 P Pn 20 27 00.6 -0.3
BVAR S S 20 29 58.5 -3.7
BVAR pmax pmax
comp=Z,129nm,0.3s
BVAR smax smax
comp=N,8.0nm,0.3s
BVAR Borovoye Array 16.57 359 P Pn 20 27 00.6 -0.3
BVAR S S 20 29 58.5 -3.7
BVAR PKiKP PKiKP 20 39 29.8 -0.8
BRVK Borovoye 16.60 359 ⇑P Pn 20 27 01.4 +0.2
comp=N,3μm,1.0s
BRVK ⇑S S 20 30 02.7 -0.2
comp=N,7μm,1.8s
BRVK Borovoye 16.60 359 ceP Pn 20 27 01.3 0.0
BRVK pmax pmax
comp=Z,2μm,1.2s
BRVK Borovoye 16.60 359 Pn Pn 20 27 01.0 -0.3
comp=Z,10μm,1.2s
AKTO Aktyubinsk 16.71 331 P Pn 20 27 02.5 -0.2
comp=Z,92nm,0.3s,baz=141,slow=9.7,SNR=1964
AKTO sP sP 20 27 56.0 -5.8
comp=Z,61nm,0.3s,baz=147,slow=17,SNR=2.1
AKTO S S 20 29 59.1 -6.1
comp=Z,14nm,0.3s,baz=163,slow=19,SNR=3.6
AKTO Aktyubinsk 16.71 331 ⇑P Pn 20 27 02.4 -0.2
comp=Z,597nm,1.0s
AKTO ⇑S S 20 30 02.7 -2.5
comp=Z,396nm,1.1s
AKTO Aktyubinsk 16.71 331 P Pn 20 27 02.5 -0.2
AKTO pmax pmax
comp=Z,597nm,1.0s
AKTO Aktyubinsk 16.71 331 P Pn 20 27 02.5 -0.2
AKTO sP sP 20 27 56.0 -5.8
AKTO S S 20 29 59.1 -6.1
TAPN Taplejung 17.01 117 eP Pn 20 27 06.7 0.0
comp=Z,6μm,0.8s
TAPN Taplejung 17.01 117 eP Pn 20 27 06.7 0.0
comp=Z,6μm,0.8s
ODAN Odare 17.08 119 eP Pn 20 27 07.7 +0.3
comp=Z,6μm,0.7s
ODAN Odare 17.08 119 eP Pn 20 27 07.7 +0.3
comp=Z,6μm,0.7s
GTK Gangtok 17.67 116 eP P 20 27 11.0 -1.3
GTK ex x 20 30 19.0
GTK ex x 20 30 19.0
POO Poona 18.07 170 eP P 20 27 16.0 -0.4
POO AMb AMB 20 27 27.0
comp=Z,1μm,1.0s
BOK Bokaro 18.16 130 eP P 20 27 16.6 -0.8
BOK AMb AMB 20 27 23.9
comp=Z,2μm,0.5s
LSA Lhasa 18.36 106 P Pn 20 27 22.5 -0.2
LSA pmax pmax
comp=Z,2μm,1.1s
LSA Lhasa 18.36 106 ⇑iP Pn 20 27 22.5 -0.2
LSA pmax pmax
comp=Z,72nm,1.0s
LSA Lhasa 18.36 106 ⇑iPn Pn 20 27 22.5 -0.2
comp=Z,72nm,1.0s
LSA eScP ScP 20 34 56.8 -0.4
LATR Latur 18.69 163 eP P 20 27 24.6 +1.5
LATR eS S 20 30 45.6 +0.8
MAK Makhachkala 18.99 297 eP P 20 27 27.0 +0.8
MAK eS S 20 30 54.0 +3.5
MAK pmax pmax
comp=Z,816nm,0.6s
MAK MLR MLR
comp=Z,64μm,16.0s
ZAA0 Zalesovo Array 20.04 25 ⇑iPn P 20 27 37.8 +0.4
ZALV Zalesovo Beam 20.04 25 P P 20 27 37.9 +0.6
comp=Z,2μm,0.6s,baz=218,slow=11,SNR=1458
ZALV sP sP 20 28 36.9 -1.5
comp=Z,671nm,0.6s,baz=222,slow=9.6,SNR=2.0
ZALV S S 20 31 11.4 +0.7
comp=Z,274nm,0.9s,baz=201,slow=21,SNR=5.4
ZALV PKiKP PKiKP 20 39 30.1 -1.8
comp=Z,5.8nm,0.4s,baz=169,slow=1.1,SNR=8.7
ZALV P3KPbc 21 01 47.9
comp=Z,1.9nm,0.7s,baz=19,slow=3.8,SNR=4.2
ZALV Zalesovo Beam 20.04 25 P P 20 27 37.9 +0.6
ZALV *SP sP 20 28 36.9 -1.5
ZALV S S 20 31 11.4 +0.7
ZALV smax smax
comp=N,275nm,0.9s
ZALV Zalesovo Beam 20.04 25 P P 20 27 37.9 +0.6
ZALV sP sP 20 28 36.9 -1.5
ZALV S S 20 31 11.4 +0.7
ZALV PKiKP PKiKP 20 39 30.1 -1.8
ZALV e 21 01 47.9
HYB Hyderabad 20.19 158 iP P 20 27 39.0 -0.3
comp=N,730nm,1.0s
HYB eS S 20 31 15.0 +0.7
HYB Hyderabad 20.19 158 eP P 20 27 39.3 0.0
NVS Novosibirsk 20.30 21 ⇑iP P 20 27 39.2 -0.8
NVS iS S 20 31 13.0 -2.6
NVS pmax pmax
comp=N,3μm,1.4s
NVS pmax pmax
comp=E,612nm,1.4s
NVS pmax pmax
comp=Z,4μm,1.4s
NVS smax smax
comp=N,2μm,1.1s
NVS smax smax
comp=E,3μm,1.3s
KBD Kabd 20.66 256 eP P 20 27 44.3 +0.1
KBD AMb AMB 20 27 48.0
comp=Z,4μm,0.6s
MIB Mutribah 20.67 258 eP P 20 27 44.4 +0.1
MIB AMb AMB 20 27 47.4
comp=Z,5μm,0.8s
QRN Al-Qurain 20.68 255 eP P 20 27 44.0 -0.4
QRN AMb AMB 20 27 50.5
comp=Z,5μm,0.5s
GNI Garni 20.71 288 P P 20 27 47.4 +2.6
comp=Z,256nm,0.5s,baz=2.0,slow=1.5,SNR=130
GNI S S 20 31 28.4 +4.4
comp=Z,130nm,0.8s,baz=350,slow=11,SNR=2.1
GNI Garni 20.71 288 eP P 20 27 46.8 +1.9
GNI Garni 20.71 288 ⇑eP P 20 27 47.1 +2.3
GNI pmax pmax
comp=Z,3μm,1.0s
GNI Garni 20.71 288 ⇑eP P 20 27 47.1 +2.3
comp=Z,3μm,1.0s
GNI P P 20 27 47.4 +2.6
GNI Garni 20.71 288 P P 20 27 47.7 +2.9
SNR=197
BWNR Bhubaneshwar 20.81 137 ex P 20 27 42.0 -3.8
BWNR ex S 20 31 32.0 +6.2
TBLG Delisi 20.82 293 P P 20 27 47.1 +1.3

TBLG Delisi 20.82 293 P P 20 27 47.1 +1.3
RDF Al-Radifah 20.89 256 eP P 20 27 47.0 +0.4
RDF AMb AMB 20 27 53.5
comp=Z,5μm,0.6s
NAY Al-Naaiem 20.98 257 eP P 20 27 47.7 +0.1
NAY AMb AMB 20 27 50.2
comp=Z,2μm,1.0s
GOA Goa 21.06 172 eP P 20 27 48.4 -0.1
GOA AMb AMB 20 27 53.9
SHL Shillong 21.08 115 eP P 20 27 48.2 -0.6
SHL AMb AMB 20 27 52.4
GOR Gori 21.32 293 P P 20 27 54.1 +3.1
CLDR Caldiran 21.34 285 eP P 20 27 54.5 +3.0
SVE Sverdlovsk 21.48 345 diP P 20 27 53.2 +0.8
SVE eS S 20 31 39.5 +3.0
SVE pmax pmax
comp=Z,2μm,1.4s
ZEI Tsey 21.57 295 eP P 20 27 53.9 +0.1
ZEI pmax pmax
comp=Z,537nm,1.0s
ARU Arti 21.61 341 ciP P 20 27 54.5 +0.8
ARU e 20 28 25.2
ARU S S 20 31 42.4 +3.9
ARU pmax pmax
comp=Z,3μm,1.0s
ARU Arti 21.61 341 P P 20 27 54.0 +0.3
comp=Z,16μm,0.7s
CUKT Cukurca 21.71 280 eP P 20 27 56.3 +1.2
AKH Akhalkalaki 21.73 291 P P 20 27 57.8 +2.5
VIS Vishakhapatnam 21.73 146 eP P 20 27 54.5 -0.7
VIS eP P 20 27 56.1 +0.8
VIS AMb AMB 20 28 00.1
comp=Z,290nm,0.6s
VANB Van 21.77 284 eP P 20 28 01.4 +5.7
BHD Baghdad 21.84 269 iP P 20 27 55.0 -1.3
BHD i PP PP 20 28 48.0
BHD iS S 20 31 35.0 -7.8
ONI Oni 21.87 295 P P 20 27 58.8 +2.3
VANT Van 21.88 283 eP P 20 28 01.5 +4.7
KARS Kars 22.00 289 eP P 20 28 00.6 +2.7
AGRB Hanur-Agry 22.05 287 eP P 20 28 00.6 +2.1
KIV Kislovodsk 22.62 298 ⇑P P 20 28 03.2 -0.4
comp=Z,12μm,2.4s
KIV Kislovodsk 22.62 298 ⇑iP P 20 28 04.3 +0.7
KIV e*PP pP 20 28 44.8 +4.5
KIV eS S 20 31 55.5 +0.1
KIV pmax pmax
comp=Z,266nm,0.8s
KIV Kislovodsk 22.62 298 P P 20 28 04.2 +0.7
comp=Z,4μm,0.7s,SNR=66
GTA Gaotai 23.07 74 ⇑P P 20 28 10.0 +2.3
GTA pP pP 20 28 48.7 +3.4
GTA sP sP 20 29 10.4 -1.2
GTA PcP PcP 20 31 50.6 +0.5
GTA S S 20 32 09.4 +6.6
GTA SS SS 20 33 17.4 -30
GTA ScP ScP 20 35 10.6 +2.6
GTA ScS ScS 20 38 52.5 -1.8
GTA pmax pmax
comp=Z,2μm,1.1s
GTA LR LR
comp=N,45μm,18.1s
GTA LR LR
comp=E,43μm,17.6s
GTA LR LR
comp=Z,48μm,17.6s
BCA Borcka 23.13 291 eP P 20 28 08.9 +0.9
VRTB Varto-Mus 23.25 286 eP P 20 28 11.8 +2.5
EZM Erzurum 23.30 287 eP P 20 28 12.7 +2.8
SARR Saratov 23.48 317 ceP P 20 28 12.3 +1.3
SARR iS S 20 32 08.4 -0.3
SARR pmax pmax
comp=Z,4μm,0.9s
PZAR Pazar-Rize 23.66 291 eP P 20 28 14.1 +1.3
BNGB Bing¨ll 23.87 285 eP P 20 28 16.7 +1.9
BAYT Ayd¨ntepe-Bay 24.23 289 eP P 20 28 21.4 +3.1
DIYA Diyarbakir 24.39 283 iP P 20 28 21.1 +1.5
DIYA iS sP 20 29 25.1 -0.2
KTUT Trabzon 24.52 290 eP P 20 28 23.4 +2.8
ERZN Erzincan 24.58 287 eP P 20 28 21.9 +0.6
SOC Sochi 24.70 296 eP P 20 28 26.1 +3.8
SOC e*PP pP 20 29 02.8 +0.1
SOC e*SP sP 20 29 26.1 -2.0
SOC eS S 20 32 35.0 +6.6
SOC e*SS sS 20 33 42.7 +0.4
SOC pmax pmax
comp=Z,496nm,0.9s
GUMT Gumushane 24.74 289 eP P 20 28 23.9 +1.2
SOKR Solikamsk 24.83 343 ciP P 20 28 25.2 +2.0
SOKR pmax pmax
comp=Z,950nm,0.8s
PTK Pertek 24.87 285 eP P 20 28 24.8 +0.7
VRHR Novokhopersk 25.40 314 ciP P 20 29 0.0 +0.5
VRHR e*SP sP 20 29 32.6 -1.9
VRHR eS S 20 32 38.9 -0.3
VRHR pmax pmax
comp=N,130nm,0.9s
VRHR pmax pmax
comp=E,270nm,0.9s
VRHR pmax pmax
comp=Z,440nm,0.9s
VRHR smax smax
comp=N,4μm,2.0s
VRHR smax smax
comp=E,3μm,2.0s
VRHR smax smax
comp=Z,930nm,2.0s
URFA Urfa 25.47 282 eP P 20 28 29.4 +0.1
ILIC Ilic-Erzincan 25.48 287 eP P 20 28 30.0 +0.6
MALT Malatya 25.68 284 eP P 20 28 34.0 +2.8
MYA Malataya 25.68 284 eP P 20 28 32.6 +1.4
DARE Darende-Malaty 26.10 286 eP P 20 28 39.8 +4.8
MOY Mondy 26.28 45 eP P 20 28 39.0 +2.5
MOY e 20 29 23.7
MOY pmax pmax
comp=Z,726nm,1.7s
RSDY Resadiye-TOKAT 26.38 289 eP P 20 28 39.0 +1.5
ANN Anapa 26.47 299 iP P 20 28 38.6 +0.5
ANN e*PP pP 20 29 18.0 -2.0
ANN e 20 29 33.0
ANN eS S 20 32 59.3 +3.1
ANN pmax pmax
comp=N,316nm,2.6s
ANN pmax pmax
comp=E,311nm,2.6s
ANN pmax pmax
comp=Z,1μm,2.6s
LZH Lanzhou 26.62 81 eP P 20 28 42.1 +2.3
LZH pP pP 20 29 20.0 -1.6
LZH sP sP 20 29 41.7 -4.2
LZH PcP PcP 20 31 59.3 +1.2
LZH eS S 20 32 58.4 -0.7
LZH sS sS 20 34 16.3 +2.1
LZH SS SS 20 34 34.4 -26
LZH ScP ScP 20 35 18.0 -0.1
LZH ScS ScS 20 39 07.7 -1.4
LZH pmax pmax
comp=Z,320nm,1.1s
LZH pmax pmax
comp=Z,11μm,6.0s
LZH LR LR
comp=N,30μm,14.2s
LZH LR LR
comp=E,58μm,15.6s
LZH LR LR
comp=Z,65μm,16.8s
VSR Storozhevoye 26.88 313 eP P 20 28 42.2 +0.5
VSR e*PP pP 20 29 22.9 -0.7
VSR pmax pmax
comp=N,240nm,1.1s
VSR pmax pmax
comp=Z,590nm,1.1s
VSR pmax pmax
comp=E,1μm,1.0s
VSR pmax pmax
comp=N,470nm,1.1s
VSR pmax pmax
comp=E,2μm,1.1s
VSR pmax pmax
comp=Z,1μm,1.1s
SARI SarD1z-Kayseri 26.99 285 eP P 20 28 47.3 +4.2
VOR Voronezh 27.05 314 ⇑iP P 20 28 44.0 +0.8
VOR eS S 20 33 05.0 -0.2

VOR pmax pmax
comp=Z,2μm,2.0s
ZAK Zakamensk 27.17 49 ⇓iP P 20 28 45.9 +1.4
ZAK pmax pmax
comp=Z,209nm,1.2s
KVT Kavak 27.33 290 eP P 20 28 48.2 +2.3
BNN Bunyan 27.63 286 eP P 20 28 49.9 +1.2
TLY Talaya 27.82 46 eP P 20 28 50.1 0.0
TLY pmax pmax
comp=Z,185nm,0.9s
TLY Talaya 27.82 46 P P 20 28 52.6 +2.5
comp=Z,1μm,0.8s,SNR=37
KOZT Kozan 27.82 283 eP P 20 28 53.4 +3.1
DIKM Dikmen 27.91 292 eP P 20 28 52.8 +1.8
CD2 Chengdu 27.94 92 P P 20 28 53.3 +1.9
CD2 pP pP 20 29 37.3 +3.8
CD2 PP PnPn 20 29 53.5 +2.8
CD2 S S 20 33 18.9 -0.8
CD2 sS sS 20 34 37.1 +2.1
CD2 SS ScP 20 35 01.9 -20
CD2 pmax pmax
comp=Z,2μm,1.2s
CD2 LR LR
comp=N,77μm,16.7s
CD2 LR LR
comp=Z,58μm,18.4s
CEYT Ceyhan 27.96 282 eP P 20 28 52.5 +1.1
YOZ Yozgat 27.97 287 eP P 20 28 53.8 +2.1
FKH Fakeheh 28.01 276 eP P 20 28 54.0 +2.0
ASF Jabal al Asfar 28.19 271 P P 20 28 54.1 +0.4
comp=Z,20nm,0.8s,baz=316,slow=5.3,SNR=30
ASF S S 20 33 27.1 +3.3
comp=Z,16nm,0.9s,baz=323,slow=20,SNR=2.3
ASF Jabal al Asfar 28.19 271 P P 20 28 54.1 +0.4
ASF S S 20 33 27.1 +3.3
ASF pmax pmax
comp=Z,20nm,0.8s
ASF smax smax
comp=N,16nm,0.9s
ASF Jabal al Asfar 28.19 271 P P 20 28 54.1 +0.4
ASF S S 20 33 27.1 +3.3
KRTS Karatas 28.33 281 eP P 20 28 58.6 +3.8
HWQ Hawqa 28.37 276 eP P 20 28 56.9 +1.6
IRK Irkutsk 28.38 46 eP P 20 28 56.8 +1.8
IRK pmax pmax
comp=Z,743nm,1.4s
TRD Trivandrum 28.39 167 eP P 20 28 56.0 +0.5
AVNT Avonos 28.41 286 iP P 20 28 56.2 +0.5
CORM Corum 28.45 289 eP P 20 28 56.5 +0.6
SONM Songino Array 28.53 55 P P 20 28 58.3 +1.8
comp=Z,222nm,0.9s,baz=268,slow=9.0,SNR=421
SONM ScP ScP 20 35 23.4 -0.3
comp=Z,11nm,0.7s,baz=320,slow=3.8,SNR=4.0
SONM P3KPbc 21 01 08.8
comp=Z,6.5nm,0.8s,baz=88,slow=3.5,SNR=21
SONM P3KP 21 02 03.9
comp=Z,3.4nm,1.0s,baz=98,slow=4.1,SNR=4.5
SONM Songino Array 28.53 55 P P 20 28 58.3 +1.8
SONM pmax pmax
comp=Z,223nm,0.9s
SONM Songino Array 28.53 55 P P 20 28 58.3 +1.8
SONM ScP ScP 20 35 23.4 -0.3
SONM e 21 01 08.8
SONM PKKKP 21 02 03.9
BHL Bhannes 28.70 275 eP P 20 29 00.2 +2.1
SIM Simferopol' 28.84 299 eP P 20 29 00.8 +1.7
SIM e*PP pP 20 29 43.0 +1.7
SIM eS S 20 33 37.0 +3.6
SIM pmax pmax
comp=Z,2μm,3.2s
SIM MLR MLR
comp=Z,66μm,22.0s
BZK Bozkurt 28.84 292 eP P 20 28 58.9 -0.3
TOS Tosya 28.86 290 eP P 20 29 01.8 +2.2
MERS Mersin 28.95 282 eP P 20 29 02.6 +2.3
ULN Ulaanbaatar 28.97 55 ⇑iP P 20 29 01.9 +1.4
ULN pmax pmax
comp=Z,164nm,0.8s
ULN Ulaanbaatar 28.97 55 ⇑iP P 20 29 01.9 +1.4
comp=Z,164nm,0.8s
ULN Ulaanbaatar 28.97 55 P P 20 29 01.7 +1.2
comp=Z,333nm,1.0s
MMAI Mount Meron Ar 29.15 274 P P 20 29 03.6 +1.5
comp=Z,14nm,0.6s,baz=74,slow=8.8,SNR=35
MMAI pP pP 20 29 45.7 +1.4
comp=Z,16nm,0.7s,baz=81,slow=12,SNR=2.6
MMAI PcP PcP 20 32 05.2 +1.0
comp=Z,33nm,0.6s,baz=73,slow=6.4,SNR=11
MMAI ScP ScP 20 35 26.2 +0.3
comp=Z,47nm,0.7s,baz=72,slow=5.4,SNR=12
MMAI Mount Meron Ar 29.15 274 P P 20 29 03.6 +1.5
MMAI pP pP 20 29 45.7 +1.4
MMAI PcP PcP 20 32 05.2 +1.0
MMAI ScP ScP 20 35 26.2 +0.3
CANT Cankiri 29.19 290 eP P 20 29 03.5 +1.0
KAMT Kaman 29.23 287 eP P 20 29 03.5 +0.7
MUKL Al Mukalla 29.25 227 ⇓eP P 20 29 03.8 +0.8
MUKL AMb AMB 20 29 05.2
comp=Z,857nm,0.9s
BR131 Keskin Array S 29.25 288 ⇑iP P 20 29 04.0 +1.0
comp=Z,0.1nm,0.7s
BR131 epP pP 20 29 44.5 -0.8
BRTR Keskin Array B 29.25 288 P P 20 29 04.2 +1.1
comp=Z,53nm,0.7s,baz=100,slow=8.1,SNR=242
BRTR pP pP 20 29 45.9 +0.6
comp=Z,203nm,1.1s,baz=79,slow=6.5,SNR=5.2
BRTR P3KPbc 21 01 07.8
comp=Z,6.7nm,1.1s,baz=250,slow=3.9,SNR=15
BRTR Keskin Array B 29.25 288 P P 20 29 04.2 +1.1
BRTR *PP pP 20 29 45.9 +0.6
BRTR pmax pmax
comp=Z,53nm,0.7s
BRTR Keskin Array B 29.25 288 P P 20 29 04.2 +1.1
BRTR pP pP 20 29 45.9 +0.6
BRTR e 21 01 07.8
BALT Daday 29.32 292 iP P 20 29 03.4 -0.3
ELDT Eldivan 29.35 289 iP P 20 29 05.4 +1.5
ELDT iS pP 20 29 48.8 +2.6
MOS Moscow 29.56 321 eP P 20 29 03.9 -1.5
MOS e*PP pP 20 29 43.1 -4.6
MOS e 20 30 05.0
MOS eS S 20 33 41.1 -3.4
MOS pmax pmax
comp=Z,2μm,1.0s
MOS pmax pmax
comp=Z,10μm,2.6s
KMI Kunming 29.59 103 ⇑P P 20 29 07.4 +1.1
KMI pP pP 20 29 52.5 +3.9
KMI PP PnPn 20 30 12.7 +0.9
KMI sP sP 20 30 18.3 +5.6
KMI S S 20 33 45.6 -0.4
KMI sS sS 20 35 04.4 +2.9
KMI SS ScP 20 35 38.8 +11
KMI pmax pmax
comp=Z,230nm,1.0s
KMI LR LR
comp=N,21μm,16.0s
KMI LR LR
comp=E,28μm,17.2s
KMI LR LR
comp=Z,28μm,17.2s
AFSR Afar-Bala (A 29.72 287 eP P 20 29 07.5 +0.4
OBN Obninsk 29.84 320 ⇑iP P 20 29 08.6 +0.9
OBN e*PP pP 20 29 52.7 +2.6
OBN e 20 30 15.5
OBN eS S 20 33 46.4 -2.3
OBN pmax pmax
comp=Z,1μm,1.0s
OBN Obninsk 29.84 320 ⇑iP P 20 29 08.7 +0.9
comp=Z,845nm,0.8s
OBN Obninsk 29.84 320 P P 20 29 08.3 +0.5
comp=Z,8μm,0.6s
CSS Prodhromos 30.30 278 P P 20 29 13.4 +1.2
CSS Prodhromos 30.30 278 eP P 20 29 10.8 -1.3
comp=Z,59nm,0.9s
CSS eScP ScP 20 35 28.3 -1.2
MAMC Mammari 30.34 279 P P 20 29 14.6 +2.1
CHTO Chiang Mai 30.38 118 eP P 20 29 13.2 +0.2
CHTO pmax pmax
comp=Z,4μm,2.2s
CHTO Chiang Mai 30.38 118 eP P 20 29 13.2 +0.2
comp=Z,4μm,2.2s
CHTO Chiang Mai 30.38 118 P P 20 29 13.9 +0.8
SNR=38

CHTO Chiang Mai 30.38 118 P **P** **20 29 13.6 +0.6**
comp=Z,420nm,1.3s
DGPR DIGLIPUR 30.56 134 *eP* **P** **20 29 15.8 +1.3**
CM31 Chiang Mai Arr 30.62 118⇑ *iP* **P** **20 29 15.9 +0.8**
comp=Z,851nm,1.2s
CM31 *e*pP **pP** **20 29 54.9 -2.6**
CM31 *e*PcP **PcP** **20 32 06.8 -1.3**
CM31 *e*ScP **ScP** **20 35 29.3 -1.4**
CMAR Chiang Mai Arr 30.62 118 P **P** **20 29 16.1 +1.0**
comp=Z,234nm,0.9s,baz=298,slow=7.8,SNR=275
CMAR pP **pP** **20 29 57.4 -0.1**
comp=Z,97nm,0.9s,baz=297,slow=10,SNR=1.7
CMAR PcP **PcP** **20 32 08.4 +0.3**
comp=Z,128nm,1.0s,baz=304,slow=4.6,SNR=6.0
CMAR ScP **ScP** **20 35 29.6 -1.1**
comp=Z,39nm,0.9s,baz=293,slow=5.1,SNR=5.9
CMAR PKiKP **PKiKP** **20 39 37.9 -1.0**
comp=Z,5.2nm,0.8s,baz=274,slow=2.2,SNR=7.4
CMAR P3KPbc 21 01 02.3
comp=Z,2.3nm,0.9s,baz=150,slow=3.5,SNR=8.6
CMAR P3KP 21 01 54.6
comp=Z,1.8nm,0.8s,baz=156,slow=3.1,SNR=5.8
CMAR Chiang Mai Arr 30.62 118 P **P** **20 29 16.1 +1.0**
CMAR *PP **pP** **20 29 57.4 -0.1**
CMAR 20 32 08.5
CMAR pmax pmax
comp=Z,234nm,0.9s
CMAR Chiang Mai Arr 30.62 118 P **P** **20 29 16.1 +1.0**
CMAR pP **pP** **20 29 57.4 -0.1**
CMAR PcP **PcP** **20 32 08.4 +0.3**
CMAR ScP **ScP** **20 35 29.6 -1.1**
CMAR PKiKP **PKiKP** **20 39 37.9 -1.0**
CMAR *e* 21 01 02.3
CMAR PKKKP 21 01 54.6
EIL Elat 30.63 268 P3KPbc 21 01 00.1
baz=247,slow=1.5
EIL Elat 30.63 268 *eP* P3KPbc 21 01 00.1
SZAC Souni-Zanaja 30.70 278 P **P** **20 29 17.2 +1.4**
BTO Baotou 30.83 70 *eP* **P** **20 29 17.9 +1.0**
ALFC Alevga 30.83 279 P **P** **20 29 17.3 +0.4**
comp=Z,4.1nm,0.6s
PPCY Paphos 31.10 279 P **P** **20 29 19.8 +0.6**
XAN Xi'an 31.14 83 P **P** **20 29 20.5 +0.9**
XAN pmax pmax
comp=Z,210nm,1.2s
SANA San'a 31.60 235⇓ *eP* **P** **20 29 24.7 +0.7**
PBA Port Blair 31.67 136 *eP* **P** **20 29 24.2 -0.1**
PBA AMb x 20 29 27.3
BDHA Al Bayda' 31.76 232⇓ *eP* **P** **20 29 25.9 +0.5**
HAJJ Hajjah 31.78 237⇓ *eP* **P** **20 29 26.2 +0.7**
ISP Isparta 31.92 285⇑ P **P** **20 29 27.8 +1.3**
ISP Isparta 31.92 285⇑ *iP* **P** **20 29 27.8 +1.3**
HHC Hu-ho-hao-te 31.97 69 *eP* **P** **20 29 28.6 +1.7**
HHC pP **pP** **20 30 09.1 -0.3**
HHC S **S** **20 34 18.1 -4.6**
HHC pmax pmax
comp=Z,200nm,1.1s
HHC LR LR
comp=N,20μm,15.3s
HHC LR LR
comp=E,21μm,17.4s
HHC LR LR
comp=Z,9μm,17.0s
LBOS 32.04 232 *eP* **P** **20 29 28.6 +0.7**
GYA Guiyang 32.06 98⇑ *iP* **P** **20 29 29.0 +1.2**
GYA pP **pP** **20 30 14.7 +4.3**
GYA PP **PP** **20 30 46.8 +2.1**
GYA PcP **PcP** **20 32 12.0 -0.1**
GYA S **S** **20 34 22.3 -2.1**
GYA sS **sS** **20 35 42.4 +2.2**
GYA PcS **PcS** **20 35 56.7 -0.7**
GYA ScS **ScS** **20 39 31.2 -3.9**
GYA pmax pmax
comp=Z,720nm,1.2s
GYA LR LR
comp=N,24μm,17.8s
GYA LR LR
comp=E,21μm,18.6s
GYA LR LR
comp=Z,26μm,17.4s
DHBB Dhamar BB 32.07 234 *eP* **P** **20 29 29.0 +0.9**
DHBB AMb AMB 20 29 31.0
comp=Z,1μm,1.5s
TLCR 32.60 299⇓ P **P** **20 29 33.1 +1.0**
TLCR 32.60 299⇓ *iP* **P** **20 29 33.1 +1.0**
KIS Kishinev 32.66 302⇑ *iP* **P** **20 29 33.5 +0.9**
KIS *i* *PP **pP** **20 30 16.0 +0.7**
KIS *i* 20 30 43.0
KIS *i* 20 30 51.0
KIS *i* S **S** **20 34 33.5 +0.6**
KIS *i* *SS **sS** **20 35 50.0 +1.2**
KIS pmax pmax
comp=Z,5μm,3.0s
KIS Kishinev 32.66 302 *i* P **P** **20 29 33.5 +0.9**
comp=Z,5μm,3.0s
KIS *i* pP **pP** **20 30 16.0 +0.7**
KIS *i* S **S** **20 34 33.5 +0.6**
KIS *i* sS **sS** **20 35 50.0 +1.2**
MANR Mangalia 32.77 296⇓ *iP* **P** **20 29 35.1 +1.5**
ENH Enshi 32.78 89⇑ *iP* **P** **20 29 35.5 +1.5**
comp=Z,2μm,1.2s
ENH *e*PcP **PcP** **20 32 12.8 -1.1**
ENH *e*ScP **ScP** **20 35 36.1 -1.9**
UDYN Al 'Udayn 32.79 234⇓ *eP* **P** **20 29 34.8 +0.6**
AKASG Malin Array Be 32.81 309 P **P** **20 29 34.2 +0.3**
comp=Z,229nm,0.6s,baz=80,slow=7.5,SNR=261
AKASG pP **pP** **20 30 16.2 -0.3**
comp=Z,219nm,0.8s,baz=87,slow=7.3,SNR=4.2
AKASG ScP **ScP** **20 35 36.4 -1.3**
comp=Z,45nm,0.8s,baz=80,slow=3.7,SNR=7.6
AKASG P3KPbc 21 00 48.1
comp=Z,1.4nm,0.8s,baz=275,slow=3.0,SNR=4.6
AKASG Malin Array Be 32.81 309 P **P** **20 29 34.2 +0.3**
AKASG *PP **pP** **20 30 16.3 -0.3**
AKASG pmax pmax
comp=Z,229nm,0.6s
AKASG Malin Array Be 32.81 309 P **P** **20 29 34.2 +0.3**
AKASG pP **pP** **20 30 16.2 -0.3**
AKASG ScP **ScP** **20 35 36.4 -1.3**
AKASG *e* 21 00 48.1
AKBB Malin Array Si 32.81 309⇑ *iP* **P** **20 29 33.3 -0.6**
AKBB *e**PP **pP** **20 30 14.6 -2.0**
AKBB Malin Array Si 32.81 309⇑ *iP* **P** **20 29 33.3 -0.6**
AKBB *e*pP **pP** **20 30 14.6 -2.0**
KIEV Kiev 32.82 309 *c iP* **P** **20 29 33.7 -0.3**
TIRR Tirgusor 32.89 297⇑ P **P** **20 29 35.9 +1.3**
TIRR Tirgusor 32.89 297⇑ *eP* **P** **20 29 35.4 +0.8**
comp=Z,3μm,2.7s
TIRR Tirgusor 32.89 297⇑ *iP* **P** **20 29 35.9 +1.3**
KSL Kastellorizon 32.99 282 *eP* **P** **20 29 36.0 +0.3**
LEOM Leova 33.03 301⇓ P **P** **20 29 37.0 +1.2**
LEOM Leova 33.03 301⇓ *iP* **P** **20 29 37.0 +1.2**
ADEN Aden 33.03 231⇓ *eP* **P** **20 29 36.9 +0.7**
PSN Preselentsi 33.07 296 *i* P **P** **20 29 37.9 +1.7**
CFR Carcaliu 33.08 299 P **P** **20 29 37.4 +1.1**
CFR Carcaliu 33.08 299⇑ *iP* **P** **20 29 37.3 +1.0**
TRBA At Turbah 33.24 233⇓ *eP* **P** **20 29 38.9 +0.6**
TRBA AMb AMB 20 29 39.9
comp=Z,163nm,0.6s
AMRR Amara 33.65 298⇑ P **P** **20 29 43.9 +2.7**
AMRR Amara 33.65 298⇑ *iP* **P** **20 29 43.9 +2.7**
PRD Provadia 33.66 295 *i* P **P** **20 29 42.8 +1.5**
PETR 33.72 300⇓ *iP* **P** **20 29 44.1 +2.3**
CIT Chita 33.84 49 *eP* **P** **20 29 44.3 +1.5**
CIT *e* 20 30 28.5
CIT *e* 20 30 48.5
CIT *e* 20 34 56.4
CIT pmax pmax
comp=Z,2μm,1.3s
PGOR Pogoanele 33.90 298⇓ *iP* **P** **20 29 46.0 +2.7**
GRER 33.90 299⇑ *iP* **P** **20 29 46.3 +2.9**
ARG Arkhangelos 34.13 283 *eP* **P** **20 29 46.0 +0.6**
TESR 34.13 301⇑ *iP* **P** **20 29 47.4 +2.0**
ISR Istrita 34.21 299⇓ P **P** **20 29 48.9 +2.8**
ISR Istrita 34.21 299⇓ *iP* **P** **20 29 48.9 +2.8**
JMB Yambol 34.32 294 *i* P **P** **20 29 49.1 +2.1**
MICGM Minsk 34.39 315⇑ *iP* **P** **20 29 48.0 +0.6**
MNK Minsk 34.41 315⇑ *iP* **P** **20 29 48.0 +0.4**
MNK pmax pmax
comp=N,400nm,1.0s
MNK pmax pmax
comp=Z,3μm,1.0s
MNK pmax pmax
comp=E,3μm,1.0s
SULR 34.42 298⇑ *iP* **P** **20 29 48.9 +1.1**
SECR 34.55 298⇑ *iP* **P** **20 29 51.5 +2.6**
BUC1 Bucharest 34.60 297 P **P** **20 29 51.6 +2.2**
MLR Muntele Rosu 34.62 299 P3KPbc 21 00 41.8
comp=E,0.7nm,0.7s,baz=180,slow=6.1,SNR=3.9
MLR Muntele Rosu 34.62 299⇑ P **P** **20 29 52.2 +2.5**
MLR Muntele Rosu 34.62 299⇑ *iP* **P** **20 29 52.2 +2.5**
CIOR Ciorogarla 34.70 297⇓ *iP* **P** **20 29 52.6 +2.4**
SZH Strazhica 34.73 295 *i* P **P** **20 29 51.7 +1.2**
NIS1 Nisyros Isl. 34.78 284 P **P** **20 29 51.5 +0.4**
NIS1 Nisyros Isl. 34.78 284 P **P** **20 29 51.5 +0.4**
SMG Samos 34.81 286 *eP* **P** **20 29 52.0 +0.7**
PUL Pulkovo 34.83 325 *c eP* **P** **20 29 52.2 +1.1**
PUL pmax pmax
comp=Z,2μm,1.1s
ALN Alexandroupoli 34.89 291 P **P** **20 29 53.1 +1.2**
ALN Alexandroupoli 34.89 291 P **P** **20 29 53.1 +1.2**
ALN Alexandroupoli 34.89 291 P **P** **20 29 53.1 +1.2**
ALN Alexandroupoli 34.89 291 *eP* **P** **20 29 52.5 +0.6**
PRK Paraskevi 34.96 288 P **P** **20 29 53.2 +0.6**
PRK Paraskevi 34.96 288 P **P** **20 29 53.2 +0.6**
PRK Paraskevi 34.96 288 P **P** **20 29 53.2 +0.6**
PRK Paraskevi 34.96 288 *eP* **P** **20 29 53.0 +0.4**
DOPR Dopca 35.00 300⇓ *iP* **P** **20 29 54.8 +1.9**
NACGM Naroch 35.10 316 *eP* P 20 29 50.0 -3.5
DIM Dimitrovgrad 35.13 293 *i* P **P** **20 29 54.8 +0.8**
BURAR Bucovina Array 35.13 303⇑ P **P** **20 29 55.3 +1.2**
BURAR Bucovina Array 35.13 303⇑ *iP* **P** **20 29 55.3 +1.2**
BUR08 Bucovina Ar. S 35.15 303⇑ *iP* **P** **20 29 55.0 +0.8**
BUR08 *e*ScP **ScP** **20 35 46.6 +0.5**
IDID Didziasalis 35.22 316 *eP* **P** **20 29 56.2 +1.7**
IDID AMB AMB 20 29 59.6
comp=Z,393nm,1.2s
RDO Rodhopi 35.24 292 *eP* **P** **20 29 55.5 +0.6**
VOIR 35.25 299⇑ P **P** **20 29 56.4 +1.3**
VOIR 35.25 299⇑ *iP* **P** **20 29 56.4 +1.3**
KDZ Kurdzhali 35.26 293 *i* P **P** **20 29 55.6 +0.5**
CHOS Chios island 35.28 287 P **P** **20 29 56.4 +1.0**
CHOS Chios island 35.28 287 *eP* **P** **20 29 56.0 +0.6**
ATD Arta Tunnel 35.33 232 P **P** **20 29 57.7 +1.7**
comp=Z,204nm,1.1s,baz=18,slow=7.2,SNR=35
ATD pP **pP** **20 30 40.5 +1.4**
comp=Z,104nm,0.9s,baz=353,slow=2.9,SNR=2.5
ATD ScP **ScP** **20 35 46.3 -1.0**
comp=Z,28nm,0.9s,baz=53,slow=8.8,SNR=3.9
ATD Arta Tunnel 35.33 232 P **P** **20 29 57.7 +1.7**
ATD pP **pP** **20 30 40.5 +1.4**
ATD ScP **ScP** **20 35 46.3 -1.0**
HUMR Humele 35.34 298⇑ *iP* **P** **20 29 57.2 +1.5**
BOD Bodaibo 35.51 39⇓ *iP* **P** **20 29 57.7 +0.7**
BOD pmax pmax
comp=Z,565nm,1.0s
IIGN Ignalina 35.52 316 *eP* **P** **20 29 58.6 +1.6**
IIGN AMB AMB 20 30 01.3
comp=Z,490nm,1.2s
BJT Baijiatuau 35.56 70 *eP* **P** **20 29 59.1 +1.4**
BJT *e* 20 32 22.3
BJT pmax pmax
comp=Z,122nm,0.6s
BJT Baijiatuau 35.56 70 *eP* **P** **20 29 59.1 +1.4**
comp=Z,122nm,0.6s
BJT *e*PcP **PcP** **20 32 22.2 +0.5**
BJT *e*ScP **ScP** **20 35 46.7 -1.0**
BJI Beijing 35.56 70 P **P** **20 29 59.4 +1.7**
BJI pmax pmax
comp=Z,150nm,1.1s
IZAR Zarasai 35.60 317 *eP* **P** **20 29 59.2 +1.5**
IZAR AMB AMB 20 30 02.0
comp=Z,441nm,1.2s
ISAL Salakas 35.62 317 *eP* **P** **20 29 59.5 +1.5**
ISAL AMB AMB 20 30 02.2
comp=Z,356nm,1.1s
LIA Limnos Island 35.69 290 *eP* **P** **20 29 59.5 +0.8**
MDB Medias 35.70 300⇑ P **P** **20 30 01.4 +2.6**
MDB Medias 35.70 300⇑ *iP* **P** **20 30 01.4 +2.6**
PLD Plovdiv 35.74 294 *i* P **P** **20 30 00.6 +1.4**
RZN Rozhen 35.78 293 *i* P **P** **20 30 01.4 +1.7**
JOF Joensuu 35.80 330 *eP* **P** **20 30 01.4 +2.0**
JOF pmax pmax
comp=Z,816nm,0.6s
JOF Joensuu 35.80 330 *ep* **P** **20 30 01.4 +2.0**
comp=Z,816nm,0.6s
JOF Joensuu 35.80 330 *ep* **P** **20 30 01.4 +2.0**
comp=Z,816nm,0.6s
ZKR Zakros 35.91 281 *eP* **P** **20 30 01.5 +0.8**
APE Apeiranthos 35.97 285⇑ P **P** **20 30 02.2 +1.0**
APE Apeiranthos 35.97 285 *eP* **P** **20 30 02.0 +0.8**
APE Apeiranthos 35.97 285⇑ *iP* **P** **20 30 02.2 +1.0**
LVV L'vov 36.02 307 *d iP* **P** **20 30 02.3 +0.9**
LVV *e**PP **pP** **20 30 42.1 -2.5**
LVV *e* 20 31 32.9
LVV *e* 20 32 24.5
LVV *e*S **S** **20 35 24.5 +0.1**
LVV MLR MLR
comp=N,16μm,17.0s
LVV MLR MLR
comp=E,41μm,17.0s
LVV MLR MLR
comp=Z,56μm,17.0s
KAVA Kavala 36.02 292 P **P** **20 30 00.5 -1.1**
KAVA Kavala 36.02 292 P **P** **20 30 00.5 -1.1**
PGB Panagyurishte 36.09 294 *i* P **P** **20 30 04.0 +1.8**
VSU Vasula 36.09 322 *c iP* **P** **20 30 02.5 +0.6**
VSU pmax pmax
comp=Z,1μm,1.0s
LOT Lotru 36.15 299⇓ *iP* **P** **20 30 04.2 +1.4**
THR1 Thera Island 36.18 284 P **P** **20 30 02.5 -0.5**
CRAR CRAIOVA 36.20 297 P **P** **20 30 04.5 +1.5**
BMR Baia Mare 36.30 303⇑ P **P** **20 30 05.7 +1.9**
BMR Baia Mare 36.30 303⇑ *iP* **P** **20 30 05.7 +1.9**
MPEP Malo Peshtene 36.32 296 *i* P **P** **20 30 05.5 +1.5**
NPS Neapolis 36.34 282 *eP* **P** **20 30 05.0 +0.6**
NVR Nevrokopi 36.46 292 *eP* **P** **20 30 06.5 +1.2**
OUR Ouranopolis 36.52 291 P **P** **20 30 06.9 +1.1**
OUR Ouranopolis 36.52 291 P **P** **20 30 06.9 +1.1**
OUR Ouranopolis 36.52 291 *iP* **P** **20 30 06.9 +1.1**
MMB Musomiste 36.53 293 *i* P **P** **20 30 07.1 +1.2**
WHN Wuhan 36.60 86⇑ *iP* **P** **20 30 08.0 +1.4**
WHN PcP **PcP** **20 32 25.3 +0.3**
WHN S S 20 35 41.4 +7.8
WHN ScP **ScP** **20 35 50.2 -1.4**
WHN PcS **PcS** **20 36 11.3 -2.0**
WHN ScS **ScS** **20 39 56.9 -2.1**
WHN pmax pmax
comp=Z,2μm,1.2s
WHN pmax pmax
comp=Z,108μm,12.7s
WHN LR LR
comp=Z,82μm,13.8s
SRS Serrai 36.70 292 P **P** **20 30 08.0 +0.7**
SRS Serrai 36.70 292 P **P** **20 30 08.0 +0.7**
SRS Serrai 36.70 292 *iP* **P** **20 30 08.0 +0.7**
DEV Deva 36.74 300⇑ P **P** **20 30 09.5 +1.9**
DEV Deva 36.74 300⇑ *iP* **P** **20 30 09.5 +1.9**
VTS Vitosha 36.79 295⇑ P **P** **20 30 09.5 +1.3**
VTS Vitosha 36.79 295⇑ *iP* **P** **20 30 09.5 +1.3**
VTS Vitosha 36.79 295 *i* P **P** **20 30 09.7 +1.5**
PAIG Paliouri 36.82 290 P **P** **20 30 10.0 +1.7**
PAIG Paliouri 36.82 290 P **P** **20 30 10.0 +1.7**
PAIG Paliouri 36.82 290 *iP* **P** **20 30 10.0 +1.7**
DRGR 36.84 302⇑ P **P** **20 30 10.1 +1.6**
DRGR 36.84 302⇑ *iP* **P** **20 30 10.1 +1.6**
GZR Gura Zlata 36.85 299⇑ *iP* **P** **20 30 09.2 +0.6**
KWP Kalwaria Pacla 36.87 306 *eP* **P** **20 30 09.9 +1.4**
comp=Z,9μm,3.2s
KWP *e*pP **pP** **20 30 53.4 +1.3**
KWP *e*sP **sP** **20 31 16.5 +0.6**
KWP *e*PP **PnPn** **20 31 39.8 -0.3**
KWP *e*S **S** **20 35 39.1 +1.8**
KWP Kalwaria Pacla 36.87 306⇑ *eP* **P** **20 30 10.0 +1.4**
KWP *e**PP **pP** **20 30 53.3 +1.3**
KWP *e**SP **sP** **20 31 16.5 +0.6**
KWP *e* 20 31 39.8
KWP *e*S **S** **20 35 39.1 +1.8**
KWP pmax pmax
comp=Z,9μm,3.2s
KWP Kalwaria Pacla 36.87 306⇑ *iP* **P** **20 30 09.6 +0.9**
comp=Z,1μm,1.3s
KWP *e*pP **pP** **20 30 52.7 +0.7**
KWP Kalwaria Pacla 36.87 306⇑ *iP* **P** **20 30 10.8 +2.2**
SOH Sokhos 36.92 292 P **P** **20 30 10.0 +0.8**
PLG Polygyros 36.92 291 P **P** **20 30 10.5 +1.3**
PLG Polygyros 36.92 291 P **P** **20 30 10.5 +1.3**
PLG Polygyros 36.92 291 P **P** **20 30 10.5 +1.3**
PLG Polygyros 36.92 291 *eP* **P** **20 30 10.0 +0.8**
TRPA Tarpa 36.95 304⇑ *iP* **P** **20 30 10.8 +1.6**
TRPA Tarpa 36.95 304⇑ *e* **P** **20 30 10.6 +1.4**
KKB Krupnik 36.97 293 *i* P **P** **20 30 10.5 +0.9**
SUW Suwalki 37.00 314 *eP* **P** **20 30 10.0 +0.4**
comp=Z,8μm,3.0s
SUW *e*sP **sP** **20 31 15.7 -1.2**
SUW *e*PP **PP** **20 31 38.7 +0.3**
SUW *e*S **S** **20 35 37.9 -1.1**
SUW *e*sS **sS** **20 36 56.9 +1.0**
SUW Suwalki 37.00 314⇑ *eP* **P** **20 30 10.0 +0.4**
SUW *e**SP **sP** **20 31 15.7 -1.2**
SUW *e* 20 31 38.7
SUW *e*S **S** **20 35 37.9 -1.1**
SUW *e**SS **sS** **20 36 56.9 +1.0**
SUW Suwalki 37.00 314⇑ *iP* **P** **20 30 09.7 +0.1**
comp=Z,457nm,0.8s
SUW pP **pP** **20 30 52.6 -0.4**
SIVA Sivas 37.04 282 *eP* **P** **20 30 13.0 +2.8**
UZH Uzhgorod 37.11 305⇓ *iP* **P** **20 30 11.9 +1.2**
UZH *e* 20 30 55.9
UZH *e*S **S** **20 35 43.0 +2.1**
UZH MLR MLR
comp=Z,17μm,17.5s
KOLS Kolonicke sedl 37.13 305 *eP* **P** **20 30 12.1 +1.3**
KOLS pmax pmax
comp=Z,173nm,1.1s
KOLS Kolonicke sedl 37.13 305 *eP* **P** **20 30 12.1 +1.3**
ATH Athens Observa 37.17 287 *eP* **P** **20 30 12.0 +0.7**
KNT Kendrikon 37.21 292 P **P** **20 30 12.3 +0.7**
KNT Kendrikon 37.21 292 P **P** **20 30 12.3 +0.7**
KNT Kendrikon 37.21 292 P **P** **20 30 12.3 +0.7**
NEO Neokhori 37.28 289 *eP* **P** **20 30 13.5 +1.3**
XOR Xorichti 37.29 289 P **P** **20 30 12.8 +0.5**
XOR Xorichti 37.29 289 P **P** **20 30 12.8 +0.5**
NAIG Nisos Aigina 37.40 287 *eP* **P** **20 30 12.5 -0.7**
FINES FINESS Array B 37.40 326 P **P** **20 30 14.0 +1.1**
comp=Z,587nm,0.8s,baz=112,slow=8.1,SNR=1334
FINES pP **pP** **20 30 58.5 +2.2**
comp=Z,101nm,0.6s,baz=108,slow=12,SNR=1.7
FINES FINESS Array B 37.40 326 P **P** **20 30 14.0 +1.1**
FINES *PP **pP** **20 30 58.6 +2.2**
FINES pmax pmax
comp=Z,587nm,0.8s
FINES FINESS Array B 37.40 326 P **P** **20 30 14.0 +1.1**
FINES pP **pP** **20 30 58.5 +2.2**
VAM Vamos 37.42 283 *eP* **P** **20 30 14.0 +0.6**
LVZ Lovozero 37.42 338 *c eP* **P** **20 30 13.5 +0.4**
LVZ pmax pmax
comp=Z,1μm,1.1s
LVZ Lovozero 37.42 338⇑ *iP* **P** **20 30 13.7 +0.7**
comp=Z,1μm,1.0s
LVZ Lovozero 37.42 338 P **P** **20 30 14.9 +1.8**
comp=Z,6μm,0.8s,SNR=58
HIA Hailar 37.48 54 *eP* **P** **20 30 15.2 +1.3**
HIA *e* 20 35 52.9
HIA pmax pmax
comp=Z,142nm,0.8s
HIA Hailar 37.48 54 *eP* **P** **20 30 15.2 +1.3**
comp=Z,142nm,0.8s
HIA *e*ScP **ScP** **20 35 52.9 -1.8**
KAF Kangasniemi 37.55 327 *eP* **P** **20 30 15.2 +1.1**
KAF pmax pmax
comp=Z,259nm,0.7s
KAF Kangasniemi 37.55 327 *ep* **P** **20 30 15.2 +1.1**
comp=Z,259nm,0.7s
KAF Kangasniemi 37.55 327 *ep* **P** **20 30 15.2 +1.1**
comp=Z,259nm,0.7s
LKR Lokris 37.58 288 *eP* **P** **20 30 14.0 -0.7**
APA Apatity 37.60 336⇓ *iP* **P** **20 30 15.8 +1.4**
APA *i* 20 31 24.0
APA *i* 20 32 35.0
APA *i* S **S** **20 35 48.0 +0.2**
APA MLR MLR
comp=Z,89μm,21.0s
GRG Griva 37.61 292 P **P** **20 30 15.3 +0.3**
GRG Griva 37.61 292 P **P** **20 30 15.3 +0.3**
GRG Griva 37.61 292 P **P** **20 30 15.3 +0.3**
BZS Buzias 37.65 300⇑ P **P** **20 30 16.8 +1.5**
BZS Buzias 37.65 300⇑ *iP* **P** **20 30 16.8 +1.5**
GVD Gavdhos 37.66 282⇑ *iP* **P** **20 30 15.4 -0.1**
comp=Z,403nm,0.5s
GVD *e*S **S** **20 35 44.9 -4.6**
GVD Gavdhos 37.66 282 *eP* **P** **20 30 15.5 0.0**
CRVS Cervenica-Dubn 37.67 305 *eP* **P** **20 30 16.4 +1.1**
CRVS pmax pmax
comp=Z,2μm,3.4s
CRVS Cervenica-Dubn 37.67 305 *eP* **P** **20 30 16.4 +1.1**
CRVS *e*PP **PnPn** **20 31 51.2 +1.7**
LIT Litokhoron 37.69 291 P **P** **20 30 15.8 +0.1**
LIT Litokhoron 37.69 291 P **P** **20 30 15.8 +0.1**
LIT Litokhoron 37.69 291 P **P** **20 30 15.8 +0.1**
LTK Loutraki 37.74 287 *eP* **P** **20 30 15.5 -0.6**
STHS Stebnicka Huta 37.82 306 *eP* **P** **20 30 17.2 +0.6**
STHS pmax pmax
comp=Z,68nm,0.8s
STHS Stebnicka Huta 37.82 306 *eP* **P** **20 30 17.2 +0.6**
STHS *e*SS SS 20 38 49.9 +3.2
TIM Timisoara 37.92 300 P **P** **20 30 20.0 +2.5**
AGG Agios Georgios 38.02 289 P **P** **20 30 17.9 -0.5**
AGG Agios Georgios 38.02 289 P **P** **20 30 17.9 -0.5**
AGG Agios Georgios 38.02 289 P **P** **20 30 17.9 -0.5**
AGG Agios Georgios 38.02 289 *eP* **P** **20 30 19.0 +0.6**
VLI Veliai 38.07 285 *eP* **P** **20 30 17.4 -1.4**
KYTH Kithira 38.10 284 *eP* **P** **20 30 19.0 -0.1**
THL Klokotos Trika 38.15 290 P **P** **20 30 19.3 -0.1**
THL Klokotos Trika 38.15 290 *eP* **P** **20 30 20.0 +0.6**
BSI Banda Aceh 38.16 138 P **P** **20 30 18.3 -1.5**
comp=Z,902nm,1.6s
BSI Banda Aceh 38.16 138 P **P** **20 30 18.3 -1.5**
comp=Z,902nm,1.6s
KZN Kozani 38.19 291 *eP* **P** **20 30 20.0 +0.1**
BEL Belsk 38.20 310 *eP* **P** **20 30 20.7 +1.0**
comp=Z,13μm,3.7s
BEL *e*PP **PP** **20 31 51.6 0.0**
BEL *e*S **S** **20 36 01.4 +4.1**
BEL *e*sS **sS** **20 37 15.0 +0.6**
BEL Belsk 38.20 310⇑ *eP* **P** **20 30 20.7 +1.0**
BEL *e* 20 31 51.6
BEL *e*S **S** **20 36 01.4 +4.1**
BEL *e**SS **sS** **20 37 15.0 +0.6**
BEL pmax pmax
comp=Z,13μm,3.7s
GUR Goura 38.24 287 *eP* **P** **20 30 20.0 -0.4**
KECS Kecovo 38.31 304 *eP* **P** **20 30 21.9 +1.2**
KECS pmax pmax
comp=Z,43nm,0.8s
KECS Kecovo 38.31 304 *eP* **P** **20 30 21.9 +1.2**
KECS *e*PP **PnPn** **20 31 56.8 -0.3**
KECS *e*SS SS 20 39 00.6 +3.9
VLX Vlachokerasia 38.34 286 *eP* **P** **20 30 21.0 -0.2**
QIZ Qiongzhong 38.41 106 P **P** **20 30 21.9 +0.1**
QIZ pmax pmax
comp=Z,210nm,1.4s
QIZ Qiongzhong 38.41 106 *eP* **P** **20 30 22.1 +0.2**
comp=Z,486nm,1.4s
FNA Florina 38.41 292 P **P** **20 30 22.1 +0.4**
FNA Florina 38.41 292 P **P** **20 30 22.1 +0.4**
FNA Florina 38.41 292 P **P** **20 30 22.1 +0.4**
NIE Niedzica 38.42 306 *i* P **P** **20 30 23.5 +1.8**
NIE *e*pP **pP** **20 31 07.3 +2.0**
NIE Niedzica 38.42 306⇑ *iP* **P** **20 30 23.5 +1.8**
NIE *e**PP **pP** **20 31 07.3 +2.0**
EVR Evrytania 38.44 289 *eP* **P** **20 30 22.5 +0.5**
EFP Efpalio 38.47 288 *eP* **P** **20 30 22.0 -0.1**
MEV Metsovon 38.70 290 P **P** **20 30 25.0 +0.7**
MEV Metsovon 38.70 290 *iP* **P** **20 30 25.0 +0.7**
PSZ Piszkesteto 38.72 304⇑ *iP* **P** **20 30 25.7 +1.4**
PSZ *e**PP **pP** **20 31 09.6 +1.7**
PSZ pmax pmax
comp=Z,155nm,0.8s
PSZ Piszkesteto 38.72 304⇑ *iP* **P** **20 30 25.7 +1.4**
comp=Z,155nm,0.8s
PSZ *e*pP **pP** **20 31 09.6 +1.7**
PSZ Piszkesteto 38.72 304⇑ *iP* **P** **20 30 25.5 +1.3**
PSZ Piszkesteto 38.72 304⇑ *e*PKKPbc **P** **20 30 26.0 +1.8**
ITM Ithomi 38.74 286 *eP* **P** **20 30 23.5 -0.9**
OJC Ojcow 38.77 307 *eP* **P** **20 30 25.3 +0.8**
OJC *e*pP **pP** **20 31 09.4 +1.2**

OJC ePP PnPn 20 32 02.8 +0.5
OJC eS S 20 36 08.5 +2.7
OJC Ojcow 38.77 307 eP P 20 30 25.3 +0.8
OJC e*PP pP 20 31 09.4 +1.2
OJC e 20 32 02.8
OJC eS S 20 36 08.5 +2.7
PKSN Nyarlorinc 38.79 302⇑ePKKPbc P 20 30 26.6 +1.9
RLS Riolos of Patr 38.89 288 eP P 20 30 26.0 +0.4
PHP Peshkopia 38.95 294 *i* P P 20 30 29.0 +2.8
PYL PYLOS 38.95 286 eP P 20 30 25.0 -1.2
GZH Guangzhou 39.00 98 P P 20 30 27.9 +1.2
GZH S S 20 36 08.2 -1.6
GZH LR LR
comp=N,16µm,13.2s
GZH LR LR
comp=E,35µm,14.0s
JAN Janina 39.01 290 eP P 20 30 27.5 +0.8
BCI Bajram Curri 39.12 295 *i* P P 20 30 28.6 +1.1
PVY Plav 39.16 295⇑*i*P P 20 30 28.4 +0.4
IVA Berane 39.17 296⇑*i*P P 20 30 29.4 +1.4
LIKS Likavka 39.22 305 eP P 20 30 30.8 +2.6
LIKS pmax pmax
comp=Z,76nm,0.7s
LIKS Likavka 39.22 305 eP P 20 30 30.8 +2.6
PKS7 Kunszentmiklos 39.26 302⇑*e* P 20 30 29.9 +1.3
LHMI Lhok Sumawe 39.29 136 P P 20 30 30.3 +1.1
LHMI Lhok Sumawe 39.29 136 P P 20 30 30.3 +1.1
comp=Z,1µm,1.8s,comp=Z,34µm
PUK Puka 39.30 294 *i* P P 20 30 29.0 -0.1
BUD Budapest 39.33 303⇑*e* P 20 30 30.6 +1.5
LKD2 Lefkada island 39.34 289 P P 20 30 28.2 -1.2
LKD2 Lefkada island 39.34 289 P P 20 30 28.2 -1.2
VYHS Vyhne 39.41 304 eP P 20 30 31.1 +1.3
VYHS pmax pmax
comp=Z,2µm,3.3s
VYHS Vyhne 39.41 304 eP P 20 30 31.1 +1.3
IGT Igoumenitsa 39.43 290 P P 20 30 29.5 -0.6
IGT Igoumenitsa 39.43 290 P P 20 30 29.5 -0.6
IGT Igoumenitsa 39.43 290 P P 20 30 29.5 -0.6
TIR Tirane 39.43 293 eP P 20 30 29.3 -0.8
TIR pmax pmax
comp=Z,66nm,0.6s
TIR Tirane 39.43 293 eP P 20 30 29.3 -0.8
comp=Z,66nm,0.6s
TIR Tirane 39.43 293 eP P 20 30 30.0 -0.1
PLE Pljevlja 39.47 296⇑*i*P P 20 30 32.2 +1.7
VLS Valsamata 39.53 288 eP P 20 30 30.0 -1.0
SRN Sarande 39.61 291 *i* P P 20 30 29.0 -2.5
PKSM Moragy 39.68 301 ⇑P P 20 30 33.2 +1.1
PKSM Moragy 39.68 301⇑*i*P P 20 30 33.2 +1.1
PKSM Moragy 39.68 301⇑*e* P 20 30 33.4 +1.3
NJ2 Nanjing 39.69 82 eP P 20 30 33.2 +0.9
NJ2 pmax pmax
comp=Z,1µm,1.0s
KOLL Kolacno 39.70 305 eP P 20 30 33.4 +1.2
KOLL *e* 20 32 15.6
KOLL Kolacno 39.70 305 eP P 20 30 33.4 +1.2
KOLL ePP PnPn 20 32 15.6 +2.4
TTG Podgorica 39.70 295⇑*i*P P 20 30 31.9 -0.4
PKSG 39.77 303⇑*e* P 20 30 33.9 +1.2
ULC Ulcinj 39.79 294⇑*i*P P 20 30 32.6 -0.4
RAC Raciborz 39.80 307 eP P 20 30 34.4 +1.5
RAC e*PP pP 20 31 15.3 -1.6
OKC Ostrava-Krasne 39.83 307⇑*i*P P 20 30 34.2 +1.0
OKC e*PP pP 20 31 18.2 +1.0
OKC *e* 20 32 11.3
OKC Ostrava-Krasne 39.83 307⇑*i*P P 20 30 34.2 +1.0
OKC epP pP 20 31 18.2 +1.0
OKC ePP PP 20 32 11.3 +2.1
NKY Niksic 39.84 296⇑*i*P P 20 30 32.1 -1.4
UPM Unac-Piva 39.84 296⇑*i*P P 20 30 33.8 +0.1
VLO Vlora 39.87 292 *i* P P 20 30 32.0 -1.7
PKS9 Tamasi 39.90 302⇑*e* P 20 30 35.1 +1.2
DL2 Dalian 39.92 71⇑*i*P P 20 30 35.3 +1.2
DL2 pP pP 20 31 23.0 +4.9
DL2 eS S 20 36 23.4 +0.2
DL2 pmax pmax
comp=Z,150nm,0.6s
RHK3 Tenkes 39.98 300⇑*e* P 20 30 35.2 +0.6
BUM Brajici-Budva 39.99 295⇑*i*P P 20 30 34.6 -0.1
PKST T"s 40.02 303⇑*e* P 20 30 35.6 +0.8
BRY Bratogost 40.15 296 eP P 20 30 36.1 -0.1
MORC Moravsky Berou 40.22 306 ⇑P P 20 30 37.9 +1.4
MORC Moravsky Berou 40.22 306⇑*i*P P 20 30 37.9 +1.4
HCY Herceg Novi 40.26 295⇑*i*P P 20 30 37.4 +0.5
SMOL Smolenice 40.35 305 eP P 20 30 38.6 +1.1
SMOL *e* 20 32 20.0
SMOL Smolenice 40.35 305 eP P 20 30 38.6 +1.1
SMOL ePP PnPn 20 32 20.0 -0.7
GKP Gorka Klasztor 40.45 312 eP P 20 30 39.1 +0.9
comp=Z,6µm,3.2s
GKP epP pP 20 31 23.3 +1.1
GKP esP sP 20 31 46.1 +0.1
GKP ePP PP 20 32 17.5 +1.8
GKP eS S 20 36 32.3 +1.7
GKP esS sS 20 37 48.0 -0.4
GKP Gorka Klasztor 40.45 312⇑*e*P P 20 30 39.1 +0.9
GKP e*PP pP 20 31 23.3 +1.1
GKP e*SP sP 20 31 46.1 +0.1
GKP *e* 20 32 17.5
GKP eS S 20 36 32.3 +1.7
GKP e*SS sS 20 37 48.0 -0.4
GKP pmax pmax
comp=Z,6µm,3.2s
KRLC Kraliky 40.71 307⇑*i*P P 20 30 41.6 +1.1
KRLC epP pP 20 31 26.1 +1.5
KRLC ePP PnPn 20 32 27.4 +2.5
KRLC *ex* x 20 39 41.7
SCTE Santa Cesarea 40.72 292 eP P 20 30 37.0 -3.7
KEV Kevo 40.77 338⇑*i*P P 20 30 41.6 +1.0
KEV pmax pmax
comp=Z,671nm,0.8s
KEV Kevo 40.77 338⇑*i*P P 20 30 41.6 +1.0
comp=Z,671nm,0.8s
KEV Kevo 40.77 338 *ep* P 20 30 41.9 +1.3
comp=Z,518nm,0.8s
KEV Kevo 40.77 338 *ep* P 20 30 41.9 +1.3
comp=Z,518nm,0.8s
SNY Shenyang 40.79 66 ⇑P P 20 30 41.8 +0.6
SNY sP sP 20 31 45.0 -4.0
SNY pmax pmax
comp=Z,280nm,0.5s
VRAC Vranov 40.86 306 ⇑P P 20 30 43.0 +1.3
VRAC Vranov 40.86 306⇑*i*P P 20 30 43.0 +1.3
BEHE Becsehely 40.94 301⇑*eP* P 20 30 43.7 +1.3
SOP Sopron 40.98 303⇑*e* P 20 30 43.5 +0.8
DPC Dobruska-Polom 40.99 307⇑*i*P P 20 30 44.3 +1.5
DPC e*PP pP 20 31 29.0 +2.0
DPC *e* 20 32 27.8
DPC *e* 20 39 38.4
DPC Dobruska-Polom 40.99 307⇑*i*P P 20 30 44.3 +1.5
DPC epP pP 20 31 29.0 +2.0
DPC ePP PnPn 20 32 27.8 -0.4
DPC *ex* x 20 39 38.4
KSP Ksiaz 41.00 308 eP P 20 30 44.1 +1.2
KSP epP pP 20 31 27.4 +0.5
KSP ePP PP 20 32 23.2 +1.4
KSP eS S 20 36 43.9 +5.0
KSP Ksiaz 41.00 308⇑*eP* P 20 30 43.7 +0.9
KSP e*PP pP 20 31 26.4 -0.6
KSP *e* 20 32 21.4
TPTI 41.05 137 P P 20 30 42.6 -1.0
comp=Z,320nm,1.4s
TPTI 41.05 137 P P 20 30 42.6 -1.0
comp=Z,320nm,1.4s
CLNS Chul'man 41.08 43 eP P 20 30 45.2 +1.8
CLNS eS S 20 36 42.0 +1.9
CLNS pmax pmax
comp=Z,501nm,1.2s
CLNS pmax pmax
comp=E,341nm,1.2s
CLNS pmax pmax
comp=N,125nm,1.1s
CLNS smax smax
comp=E,39µm,16.2s
CLNS smax smax
comp=N,28µm,13.4s
CLNS MLR MLR
comp=E,12µm,15.0s
CLNS MLR MLR
comp=N,21µm,17.0s
CLNS MLR MLR
comp=Z,32µm,18.0s
ARCES ARCESS Array B 41.10 338 P P 20 30 44.3 +0.9
comp=Z,1µm,0.8s,baz=117,slow=8.2,SNR=1455
ARCES pP pP 20 31 27.8 +0.2
comp=Z,379nm,1.1s,baz=119,slow=8.9,SNR=2.3
ARCES ARCESS Array B 41.10 338 P P 20 30 44.3 +0.9
ARCES *ePP pP 20 31 27.8 +0.2
ARCES ARCESS Array B 41.10 338 P P 20 30 44.3 +0.9
ARCES pP pP 20 31 27.8 +0.2
ARE0 ARCESS Array S 41.10 338⇑*i*P P 20 30 44.9 +1.5
ARE0 ARCESS Array S 41.10 338⇑*i*P P 20 30 44.9 +1.5
ARE0 epP pP 20 31 25.7 -1.9
ARE0 eScP ScP 20 36 04.1 -4.2
UPC Upice 41.19 308⇑*i*P P 20 30 45.6 +1.2
UPC e*PP pP 20 31 30.6 +2.1
UPC *e* 20 32 28.7
UPC *e* 20 39 56.1
UPC Upice 41.19 308⇑*i*P P 20 30 45.6 +1.2
UPC epP pP 20 31 30.6 +2.1
UPC ePP PnPn 20 32 28.7 -1.7
UPC *ex* x 20 39 56.1
KOGS Kog 41.31 301 eP P 20 30 46.3 +0.9
KULM Kulim 41.40 131⇑*i*P P 20 30 47.0 +0.5
comp=Z,89nm,2.6s
KULM ePcP PcP 20 32 40.1 -0.3
KULM Kulim 41.40 131 P P 20 30 47.6 +1.1
KULM Kulim 41.40 131 P P 20 30 47.0 +0.5
comp=Z,443nm,1.4s
CONA Conrad Observa 41.43 304 *i* P P 20 30 47.5 +1.0
comp=Z,339nm,1.1s
CONA Conrad Observa 41.43 304 *i* P P 20 30 47.5 +1.0
comp=Z,339nm,1.1s,SNR=188
TREC Trest 41.58 306⇑*i*P P 20 30 48.7 +1.1
TREC Trest 41.58 306⇑*i*P P 20 30 48.7 +1.1
TSI Tuntungan 41.62 135 P P 20 30 47.0 -1.2
ARSA Arzberg 41.72 303⇑*i*P P 20 30 49.7 +1.0
ARSA Arzberg 41.72 303⇑*i*P P 20 30 49.7 +1.0
SNR=36
CN2 Changchun 41.81 62 ⇑P P 20 30 50.2 +0.7
CN2 epP pP 20 31 31.2 -2.6
CN2 eS S 20 36 51.6 +0.6
CN2 pmax pmax
comp=Z,90nm,1.1s
SSE Sheshan 41.88 82 P P 20 30 51.7 +1.5
SSE pmax pmax
comp=Z,260nm,0.7s
SSE pmax pmax
comp=Z,8µm,10.1s
BSD Bornholm Skovb 41.89 315 *i* P P 20 30 48.6 -1.3
BSD *i* 20 31 35.5
BSD pmax pmax
comp=Z,260nm,0.8s
BSD Bornholm Skovb 41.89 315 *i* P P 20 30 48.6 -1.3
comp=Z,255nm,0.8s
BSD *i* 20 31 35.5
PVCC Panska Ves 42.11 308⇑*i*P P 20 30 53.1 +1.3
PVCC *e* 20 32 34.2
PVCC Panska Ves 42.11 308⇑*i*P P 20 30 53.1 +1.3
PVCC ePP PP 20 32 34.2 +0.6
BOJS Bojanci 42.11 300 *eP* P 20 30 52.9 +1.0
BOJS eScP ScP 20 36 12.7 -0.1
SOKA Soboth 42.12 302⇑*i*P P 20 30 53.3 +1.2
comp=Z,264nm,1.2s
SOKA Soboth 42.12 302⇑*i*P P 20 30 53.3 +1.2
comp=Z,264nm,1.2s
PRU Pruhonice 42.15 307⇑*i*P P 20 30 53.2 +1.0
PRU *e**PP pP 20 31 37.4 +0.9
PRU *e* 20 32 34.9
PRU *e* 20 40 10.8
PRU Pruhonice 42.15 307⇑*i*P P 20 30 53.2 +1.0
PRU epP pP 20 31 37.4 +0.9
PRU ePP PP 20 32 34.9 +0.8
PRU *ex* x 20 40 10.8
TIP Timpagrande 42.21 291⇑*eP* P 20 30 52.6 -0.2
comp=Z,102nm,0.9s
PRA Prague 42.22 307 ⇑P P 20 30 54.0 +1.3
IPM Ipoh 42.27 132 P P 20 30 54.4 +0.9
IPM Ipoh 42.27 132 P P 20 30 53.6 +0.1
comp=Z,956nm,0.7s,comp=Z,21µm
QZH Quanzhou 42.33 92⇑*i*P P 20 30 54.6 +0.7
QZH PcP PcP 20 32 43.2 -0.2
QZH ScP ScP 20 36 11.7 -2.3
QZH pmax pmax
comp=Z,610nm,0.9s
PSI Prapat 42.39 136 P P 20 30 54.0 -0.6
comp=Z,1µm,0.9s
OBKA Obir 42.47 302⇑*i*P P 20 30 56.1 +1.3
comp=Z,236nm,1.8s
OBKA Obir 42.47 302⇑*i*P P 20 30 56.1 +1.3
comp=Z,236nm,1.8s,SNR=31
BRG Berggiesshubel 42.49 308⇑*i*P P 20 30 56.2 +1.3
comp=Z,340nm,1.1s
BRG *e* 20 31 11.6
comp=Z,202nm,1.4s
BRG pP pP 20 31 40.7 +1.4
comp=Z,153nm,1.2s
BRG SP 20 32 03.7
comp=Z,195nm,0.9s
BRG *e* 20 32 18.6
comp=Z,149nm,0.9s
BRG PP PP 20 32 38.9 +1.3
comp=Z,748nm,1.7s
BRG *i* SCP ScP 20 36 14.3 +0.2
comp=Z,114nm,1.1s
BRG
comp=Z,158µm,20.8s
BRG
comp=N,91µm,26.1s
BRG
comp=E,88µm,26.1s
BRG Berggiesshubel 42.49 308 *eP* P 20 30 55.8 +1.0
comp=Z,298nm,1.1s
BRG ePP PP 20 32 39.1 +1.4
BRG Berggiesshubel 42.49 308⇑*i*P P 20 30 56.2 +1.3
BRG *PP pP 20 31 40.7 +1.4
BRG SP 20 32 03.7
BRG 20 32 38.9
BRG pmax pmax
comp=Z,340nm,1.1s
BRG pmax pmax
comp=Z,748nm,1.7s
BRG pmax pmax
comp=N,114nm,1.1s
BRG MLR MLR
comp=Z,158µm,20.8s
BRG MLR MLR
comp=N,91µm,26.1s
BRG MLR MLR
comp=E,88µm,26.1s
MOA Molln 42.51 304⇑*i*P P 20 30 55.9 +0.8
comp=E,196nm,0.9s
MOA Molln 42.51 304⇑*i*P P 20 30 55.9 +0.8
comp=E,196nm,0.9s,SNR=144
NVLJ Novalja 42.52 299 P P 20 30 55.1 0.0
RUE Ruedersdorf 42.53 311⇑*i*P P 20 30 55.2 0.0
comp=E,344nm,1.0s
RUE epP PP 20 32 38.2 +0.1
LJU Ljubljana 42.54 301 *eP* P 20 30 56.6 +1.3
LJU eScP ScP 20 36 14.5 0.0
CUC Castrocucco 42.72 292⇑*i*P P 20 30 57.5 +0.6
comp=E,290nm,0.8s
CUC epP pP 20 31 42.2 +0.8
CUC esP sP 20 32 03.6 -1.4
GEC2 GERESS Array S 42.79 305 *eP* P 20 30 58.2 +0.8
comp=Z,182nm,1.4s
GEC2 ePP PP 20 32 42.8 +1.8
GEC2 GERESS Array S 42.79 305 *eP* P 20 30 58.2 +0.8
GEC2 *e* 20 32 42.8
GEC2 pmax pmax
comp=Z,182nm,1.4s
GERES GERESS Array B 42.79 305 P P 20 30 58.0 +0.7
comp=Z,23nm,0.7s,baz=83,slow=6.4,SNR=110
GERES PP PP 20 32 42.2 +1.2
comp=Z,58nm,0.8s,baz=81,slow=8.2,SNR=5.3
GERES ScP ScP 20 36 15.9 +0.3
comp=Z,13nm,0.8s,baz=90,slow=4.9,SNR=5.3
GERES GERESS Array B 42.79 305 P P 20 30 58.1 +0.7
GERES 20 32 42.2
GERES GERESS Array B 42.79 305 P P 20 30 58.0 +0.7
GERES PP PP 20 32 42.2 +1.2
GERES ScP ScP 20 36 15.9 +0.3
RGN Rugen 42.80 314⇑*i*P P 20 30 58.2 +0.9
comp=Z,769nm,0.9s
RGN *ep*P pP 20 31 38.5 -3.2
KHC Kasperske Hory 42.84 306⇑*i*P P 20 30 58.5 +0.7
KHC *e* 20 32 09.5
KHC *e* 20 32 42.8
KHC *e* 20 40 15.7
KHC Kasperske Hory 42.84 306⇑*i*P P 20 30 58.5 +0.7
comp=Z,75nm,3.0s
KHC Kasperske Hory 42.84 306⇑*i*P P 20 30 58.5 +0.7
KHC *ex* x 20 31 53.8
KHC *es*P sP 20 32 09.5 +3.6
KHC *e*PP PP 20 32 42.8 +1.3
KHC *ex* x 20 40 15.7
VOY Vojsko 42.98 301 *eP* P 20 30 51.0 +1.0
VOY *e* 20 32 45.2
CLL Collm 43.06 309 *eP* P 20 30 59.8 +0.4
comp=Z,321nm,1.6s
CLL ePP PcP 20 32 45.0 -0.4
CLL Collm 43.06 309⇑*i*P P 20 31 00.0 +0.6
CLL *e**PP pP 20 31 41.0 -2.9
CLL *e*S S 20 37 11.0 +2.0
CLL pmax pmax
comp=Z,4µm,3.5s
CLL Collm 43.06 309⇑*i*P P 20 31 00.0 +0.6
comp=Z,4µm,3.5s
CLL epP pP 20 31 41.0 -2.9
CLL *i* PP PP 20 32 43.2 -0.5
comp=Z,542nm,1.6s
CLL ePPP PPP 20 33 22.0
CLL *e*S S 20 37 11.0 +2.0
CLL *e*SS ScS 20 40 34.0 -2.7
CADS Cadrg 43.06 301 *eP* P 20 31 00.3 +0.7
CADS *e*ScP ScP 20 36 15.6 -1.1
MYKA Terra Mystica 43.07 302⇑*i*P P 20 31 00.6 +0.9
comp=Z,91nm,0.8s
MYKA Terra Mystica 43.07 302⇑*i*P P 20 31 00.6 +0.9
comp=Z,91nm,0.8s
CEL Celeste 43.09 290 *eP* P 20 31 00.1 +0.2
comp=Z,890nm,1.5s
CEL epP pP 20 31 42.0 -2.5
CEL eScP ScP 20 36 16.3 -0.7
TRI Trieste 43.12 301 *eP* P 20 31 00.3 +0.3
TRI *e* 20 32 44.8
TRI pmax pmax
comp=Z,132nm,0.8s
TRI Trieste 43.12 301 *eP* P 20 31 00.3 +0.3
comp=Z,132nm,0.8s
TRI ePP PP 20 32 44.8 +0.3
KBA Koelnbreinsper 43.22 303⇑*i*P P 20 31 01.7 +0.7
KBA pmax pmax
comp=Z,134nm,1.5s
KBA Koelnbreinsper 43.22 303⇑*i*P P 20 31 01.7 +0.7
comp=Z,134nm,1.5s
KBA Koelnbreinsper 43.22 303⇑*i*P P 20 31 01.7 +0.7
comp=Z,134nm,1.5s,SNR=64
TRO Tromso 43.22 336⇑*i*P P 20 31 02.7 +2.2
TRO AMB AMB 20 31 04.5
comp=Z,953nm,0.9s
TRO AMS AMS 20 43 57.6
comp=Z,142µm,23.3s
WET Wettzell 43.30 306 *eP* P 20 31 02.3 +0.9
comp=Z,472nm,2.2s
WET ePP PP 20 32 46.4 +0.1
WET Wettzell 43.30 306 *eP* P 20 31 02.3 +0.9
WET *e* 20 32 46.4
WET pmax pmax
comp=Z,472nm,2.2s
COP Copenhagen 43.33 315 *i* P P 20 31 02.3 +0.9
COP *i* 20 31 48.1
COP pmax pmax
comp=Z,300nm,0.9s
COP Copenhagen 43.33 315 *i* P P 20 31 02.3 +0.9
comp=Z,296nm,0.9s
COP *i* 20 31 48.1
MSEY Mahe Island 43.34 202 *eP* P 20 31 02.4 +0.3
MSEY pmax pmax
comp=Z,315nm,1.3s
MSEY Mahe Island 43.34 202 *eP* P 20 31 02.4 +0.3
comp=Z,314nm,1.3s
MSEY Mahe Island 43.34 202 P P 20 31 03.0 +0.9
comp=Z,618nm,1.1s,SNR=5.9
TANN Tannenbergstha 43.46 308 *eP* P 20 31 03.7 +1.0
comp=Z,269nm,1.5s
NKC Novy Kostel 43.48 307⇑*i*P P 20 31 04.0 +1.1
NKC *e* 20 32 49.0
NKC Novy Kostel 43.48 307⇑*i*P P 20 31 04.0 +1.1
NKC epP pP 20 31 53.8 +6.3
NKC ePP PP 20 32 49.0 +0.8
RJOB Jochberg 43.51 304 *eP* P 20 31 03.5 +0.4
comp=Z,171nm,1.1s
RJOB ePP PP 20 32 50.6 +2.0
DGAR Diego Garcia 43.67 178 *i* P P 20 31 05.0 +0.4
DGAR Diego Garcia 43.67 178 *eP* P 20 31 03.9 -0.7
comp=Z,176nm,0.8s
ROTZ Rotzenmuhle 43.68 307 *eP* P 20 31 06.0 +1.6
comp=Z,458nm,1.7s
ROTZ ePP PP 20 32 51.4 +1.1
ABTA Abfaltersbach 43.83 302 *i* P P 20 31 05.6 -0.2
comp=Z,82nm,0.8s
ABTA Abfaltersbach 43.83 302 *i* P P 20 31 05.6 -0.2
comp=Z,82nm,0.8s,SNR=56
STEI Steigen 43.92 333⇑*i*P P 20 31 07.1 +1.1
AQU L'Aquila 43.98 296 ⇑P P 20 31 07.8 +0.8
AQU L'Aquila 43.98 296 *eP* P 20 31 07.5 +0.5
comp=Z,305nm,1.4s
AQU L'Aquila 43.98 296⇑*i*P P 20 31 07.8 +0.8
MOX Moxa 43.98 308 *eP* P 20 31 07.7 +0.9
comp=Z,262nm,1.3s
MOX ePP PP 20 32 55.5 +2.0
MOX Moxa 43.98 308 *eP* P 20 31 07.7 +0.9
MOX *e* 20 32 55.5
MOX pmax pmax
comp=Z,262nm,1.3s
INCN Inchon 44.10 71 *eP* P 20 31 08.3 +0.4
comp=Z,129nm,0.9s
INCN ePcP PcP 20 32 47.3 -1.9
NC602 NORSAR Array S 44.10 323⇑*i*P P 20 31 07.4 -0.2
YAK Yakutsk 44.12 35*c i*P P 20 31 08.3 +0.6
YAK *e**PP pP 20 31 52.2 -0.2
YAK *e* 20 32 48.4
YAK *e*S S 20 37 25.4 +1.3
YAK pmax pmax
comp=E,408nm,1.1s
YAK pmax pmax
comp=Z,1µm,0.9s
YAK pmax pmax
comp=N,233nm,1.1s
YAK smax smax
comp=N,1µm,1.5s
YAK smax smax
comp=E,2µm,1.5s
YAK Yakutsk 44.12 35⇑*i*P P 20 31 08.2 +0.6
comp=E,6.2nm,1.8s
FLOS Flostrand 44.22 331 *eP* P 20 31 09.0 +0.7
NB2 NORSAR Subarra 44.29 323 P P 20 31 09.3 +0.1
comp=Z,515nm,0.8s,baz=96,slow=7.9
NOA NORSAR Array B 44.29 323 P P 20 31 09.2 0.0
comp=Z,444nm,0.7s,baz=97,slow=7.9,SNR=871
NOA PP PcP 20 32 52.7 +3.3
comp=Z,203nm,0.9s,baz=96,slow=9.4,SNR=4.3
NOA NORSAR Array B 44.29 323 P P 20 31 09.2 0.0
NOA 20 32 52.7
NOA pmax pmax
comp=Z,444nm,0.7s
NOA NORSAR Array B 44.29 323 P P 20 31 09.2 0.0
NOA PP PcP 20 32 52.7 +3.3
GRF Grafenberg Arr 44.32 307 *eP* P 20 31 11.2 +1.7
comp=Z,253nm,1.1s
GRF ePP PP 20 32 58.4 +1.2
GRF Grafenberg Arr 44.32 307 *eP* P 20 31 11.2 +1.7
GRF *e* 20 32 58.4
GRF pmax pmax
comp=Z,253nm,1.1s
GRFO Grafenberg 44.32 307⇑*i*P P 20 31 10.9 +1.4
GRFO Grafenberg 44.32 307⇑*i*P P 20 31 10.9 +1.4
comp=Z,6µm,1.0s
WTTA Wattenberg 44.35 303 *i* P P 20 31 09.8 -0.1
WTTA pmax pmax
comp=Z,249nm,1.1s
WTTA Wattenberg 44.35 303 *i* P P 20 31 09.8 -0.1
comp=Z,249nm,1.1s
WTTA Wattenberg 44.35 303 *i* P P 20 31 09.8 -0.1
comp=Z,249nm,1.1s,SNR=132
STOK Stokkvaagen 44.35 331⇑*i*P P 20 31 10.2 +0.8
STOK AMB AMB 20 31 12.8
comp=Z,797nm,2.7s
STOK AMS AMS 20 48 50.4

comp=Z,223µm,21.7s
WATA Walderalm 44.38 303 *i* P **P** **20 31 09.9 -0.2**
WATA pmax pmax
comp=Z,103nm,0.8s
WATA Walderalm 44.38 303 *i* P **P** **20 31 09.9 -0.2**
comp=Z,103nm,0.8s
WATA Walderalm 44.38 303 *i* P **P** **20 31 09.9 -0.2**
comp=Z,103nm,0.8s,SNR=55
MNSI Mandailing Nat 44.41 136 P **P** **20 31 10.7 +0.1**
comp=Z,700nm,1.0s
NSS Namsos 44.42 328⇑ *i*P **P** **20 31 09.2 -0.9**
NSS AMS AMS 20 50 04.5
comp=Z,204µm,21.0s
NAO01 NORSAR Array S 44.43 323⇑ *i* P **P** **20 31 09.9 -0.3**
comp=Z,174nm,1.4s
NAO01 *e*PcP **PP** **20 32 56.1 -2.0**
OSL Oslo 44.44 321 *e*P **P** **20 31 10.2 -0.1**
FUR Furstenfeldbru 44.46 305 *e*P **P** **20 31 11.6 +0.9**
comp=Z,241nm,1.0s
FUR Furstenfeldbru 44.46 305 *e*P **P** **20 31 11.6 +0.9**
FUR pmax pmax
comp=Z,241nm,1.0s
BSEG Bad Segeberg 44.57 313 *e*P **P** **20 31 12.4 +1.1**
comp=Z,785nm,1.4s
BSEG *e*pP **pP** **20 31 53.3 -2.9**
BSEG Bad Segeberg 44.57 313 *e*P **P** **20 31 12.4 +1.1**
BSEG *e**PP **pP** **20 31 53.3 -2.9**
BSEG pmax pmax
comp=Z,785nm,1.4s
MDJ Mudanjiang 44.60 61 P **P** **20 31 11.4 -0.4**
MDJ pP **pP** **20 31 58.3 +1.7**
MDJ sP **sP** **20 32 23.2 +3.1**
MDJ PcP **PcP** **20 32 50.3 -0.5**
MDJ PP **PP** **20 32 59.7 -0.5**
MDJ S **S** **20 37 29.4 -2.2**
MDJ sS **sS** **20 38 52.9 +2.4**
MDJ SS **SS** **20 40 54.6 -1.7**
MDJ Mudanjiang 44.60 61 *e*P **P** **20 31 12.3 +0.5**
comp=Z,101nm,1.3s
TATO Taipei 44.65 90 *e*P **P** **20 31 13.5 +1.1**
comp=Z,33nm,1.8s
CLZ Clausthal 44.66 310 *e*P **P** **20 31 13.1 +0.9**
comp=Z,203nm,1.1s
CLZ Clausthal 44.66 310 *e*P **P** **20 31 13.1 +0.9**
CLZ pmax pmax
comp=Z,203nm,1.1s
MOTA Moosalm 44.69 303 *i* P **P** **20 31 12.3 -0.4**
MOTA pmax pmax
comp=Z,180nm,1.0s
MOTA Moosalm 44.69 303 *i* P **P** **20 31 12.3 -0.4**
comp=Z,180nm,1.0s
MOTA Moosalm 44.69 303 *i* P **P** **20 31 12.3 -0.4**
comp=Z,180nm,1.0s,SNR=190
YHNB Yeheng 44.70 91⇑ *e*P **P** **20 31 14.8 +1.9**
YHNB *e*PcP **PcP** **20 32 50.2 -1.4**
TPUB Ta-pu 44.74 93 *e*P **P** **20 31 14.9 +1.7**
comp=Z,507nm,0.9s
SSLB Suanglung 44.77 92⇑ *i*P **P** **20 31 15.5 +2.1**
comp=Z,48nm,0.5s
WDD Wield Dalam 44.83 287 *e*P **P** **20 31 13.8 +0.1**
comp=Z,353nm,0.8s
WDD *e*pP **pP** **20 31 55.6 -3.0**
RETA Reutte 44.90 304⇑ *i*P **P** **20 31 14.2 0.0**
comp=Z,70nm,0.8s
RETA Reutte 44.90 304⇑ *i*P **P** **20 31 14.2 0.0**
comp=Z,70nm,0.8s,SNR=76
TBLU Trondheim 44.98 326⇑ *i*P **P** **20 31 12.9 -1.6**
UBBA Unterbreizbach 44.98 308 *e*P **P** **20 31 16.5 +1.9**
comp=Z,123nm,1.2s
UBBA *e*PP **PP** **20 33 05.2 +1.3**
KONO Kongsberg 44.99 321⇑ *i*P **P** **20 31 15.0 +0.4**
KONO Kongsberg 44.99 321⇑ *i*P **P** **20 31 14.7 +0.1**
KONO *e* 20 33 00.3
KONO pmax pmax
comp=Z,235nm,0.8s
KONO Kongsberg 44.99 321⇑ *i*P **P** **20 31 14.7 +0.1**
comp=Z,235nm,0.8s
KONO *e*PP **PP** **20 33 00.2 -3.7**
HOPEN Hopen 44.99 346⇑ *i*P **P** **20 31 16.9 +2.5**
HOPEN AMB AMB 20 31 18.5
comp=Z,2µm,0.5s
FETA Feichten 45.00 303⇑ *i*P **P** **20 31 14.9 -0.1**
comp=Z,118nm,0.9s
FETA Feichten 45.00 303⇑ *i*P **P** **20 31 14.9 -0.1**
comp=Z,118nm,0.9s,SNR=111
KSAR Wonju Array Be 45.06 71 P **P** **20 31 15.9 +0.4**
KSAR 20 32 51.9
KSAR Wonju Array Be 45.06 71 P **P** **20 31 15.9 +0.4**
KSAR PcP **PcP** **20 32 51.9 -0.7**
KSAR ScP **ScP** **20 36 23.8 -1.2**
KSRS Korea Array 45.09 71 P **P** **20 31 15.9 +0.2**
comp=Z,58nm,0.5s,baz=273,slow=7.0,SNR=317
KSRS PcP **PcP** **20 32 51.9 -0.7**
comp=Z,89nm,0.9s,baz=286,slow=3.3,SNR=8.2
KSRS ScP **ScP** **20 36 23.8 -1.3**
comp=Z,19nm,0.8s,baz=288,slow=4.1,SNR=5.0
KSRS Korea Array 45.09 71 P **P** **20 31 15.9 +0.2**
KSRS 20 32 51.9
KSRS pmax pmax
comp=Z,58nm,0.5s
NACB Ninganchiao 45.10 91 *e*P **P** **20 31 17.4 +1.3**
comp=Z,416nm,1.0s
MUD Monsted U'grnd 45.16 316 *i* P **P** **20 31 16.5 +0.6**
MUD pmax pmax
comp=Z,150nm,0.8s
MUD Monsted U'grnd 45.16 316 *i* P **P** **20 31 16.5 +0.6**
comp=Z,149nm,0.8s
BJO Bjornoya 45.20 343⇑ *i*P **P** **20 31 17.9 +1.8**
BJO AMS AMS 20 46 57.4
comp=Z,116µm,18.0s
YULB Yu-li 45.24 92 *e*P **P** **20 31 19.3 +2.2**
comp=Z,586nm,0.9s
TWG Pinlang 45.33 93⇑ *i*P **P** **20 31 20.6 +2.8**
comp=Z,3µm,1.0s
KLR Kul'dur 45.34 54⇓ *i*P **P** **20 31 17.8 +0.3**
KLR pmax pmax
comp=E,250nm,1.2s
KLR pmax pmax
comp=Z,520nm,1.2s
DOMB Dombas 45.41 324 *e*P **P** **20 31 19.5 +1.6**
HOMB Homborsund 45.52 319⇑ *i*P **P** **20 31 19.2 +0.5**
DAVA Damuels 45.52 304⇑ *i*P **P** **20 31 19.4 +0.2**
comp=Z,472nm,1.0s
DAVA Damuels 45.52 304⇑ *i*P **P** **20 31 19.4 +0.2**
comp=Z,472nm,1.0s,SNR=207
KGM Kluang 45.60 131 P **P** **20 31 21.3 +1.3**
BKNI Bangkinang 45.62 135 P **P** **20 31 20.0 -0.1**
STU Stuttgart 45.75 306 *e*P **P** **20 31 21.5 +0.7**
comp=Z,6µm,4.0s
STU Stuttgart 45.75 306⇑ *i*P **P** **20 31 21.5 +0.7**
STU pmax pmax
comp=Z,128nm,0.8s
STU Stuttgart 45.75 306⇑ *i*P **P** **20 31 21.5 +0.7**
comp=Z,128nm,0.8s
STU *e*ScP **ScP** **20 36 26.2 -1.4**
TOD Tromm 45.89 307 *e*P **P** **20 31 21.7 -0.2**
TOD Tromm 45.89 307 *e*P **P** **20 31 21.7 -0.2**
PPI Padang Panjang 45.90 136 P **P** **20 31 22.1 -0.2**
comp=Z,1µm,0.8s
TUE Stuetta 46.02 303⇑ *i*P **P** **20 31 22.9 -0.3**
comp=Z,266nm,1.1s
TNS Taunus Mts 46.04 308 *e*P **P** **20 31 23.9 +0.9**
comp=Z,185nm,1.3s
TNS Taunus Mts 46.04 308 *e*P **P** **20 31 23.9 +0.9**
TNS pmax pmax
comp=Z,185nm,1.3s
MYKOM Kota Tinggi 46.10 131 P **P** **20 31 25.2 +1.3**
MYKOM Kota Tinggi 46.10 131 P **P** **20 31 24.6 +0.7**
comp=Z,620nm,1.1s
SNART Snartemo 46.20 319⇑ *i*P **P** **20 31 24.9 +0.8**
IBBN Ibbenburen 46.23 311 *e*P **P** **20 31 25.1 +0.7**
comp=Z,368nm,1.2s
USRK Ussuriysk Arra 46.38 61 P **P** **20 31 25.9 +0.2**
comp=Z,23nm,0.5s,baz=270,slow=6.3,SNR=58
USRK pP **pP** **20 32 13.5 +2.7**
comp=Z,78nm,1.0s,baz=298,slow=7.4,SNR=3.8
USRK PcP **PcP** **20 32 57.2 +0.2**
comp=Z,23nm,0.7s,baz=301,slow=6.3,SNR=4.1
USRK ScP **ScP** **20 36 28.5 -1.7**
comp=Z,3.8nm,0.6s,baz=273,slow=4.1,SNR=3.1
BFO Black Forest 46.39 305 *e*P **P** **20 31 26.0 +0.2**
comp=Z,161nm,1.4s
BFO Black Forest 46.39 305 *e*P **P** **20 31 26.0 +0.2**
BFO pmax pmax
comp=Z,161nm,1.4s
BFO Black Forest 46.39 305 P **P** **20 31 26.6 +0.8**
comp=Z,419nm,1.1s,SNR=37
KTD Kalmit 46.40 307 *e*P **P** **20 31 26.9 +1.1**
KTD Kalmit 46.40 307 *e*P **P** **20 31 26.9 +1.1**
ODD1 Odda 46.50 321⇑ *i*P **P** **20 31 26.5 0.0**
VLA Vladivostok 46.54 62⇓ *i*P **P** **20 31 27.4 +0.4**
VLA 20 32 56.9
VLA S **S** **20 37 59.6 +0.3**
VLA pmax pmax
comp=Z,632nm,1.6s
BLS5 Blasjo 46.58 321 *e*P **P** **20 31 27.9 +0.8**
BLS5 AMB AMB 20 31 31.4
comp=Z,280nm,0.9s
BUG Bochum--Univer 46.62 310 *e*P **P** **20 31 28.2 +0.7**
comp=Z,244nm,1.2s
LANF Langenberg 46.63 306 *e*P **P** **20 31 28.9 +1.3**
LANF Langenberg 46.63 306 *e*P **P** **20 31 28.9 +1.3**
LANF Langenberg 46.63 306 *e*P **P** **20 31 28.9 +1.3**
ABH Alteburg 46.66 307 *e*P **P** **20 31 27.8 0.0**
FELD Feldberg im Sc 46.68 305 *e*P **P** **20 31 28.0 -0.2**
STR Strasbourg 46.72 306 *e*P **P** **20 31 28.9 +0.7**
STR Strasbourg 46.72 306 *e*P **P** **20 31 28.9 +0.7**
STR Strasbourg 46.72 306 *e*P **P** **20 31 28.9 +0.7**
WIT Witteveen 46.83 312 *e*P **P** **20 31 30.2 +1.1**
comp=Z,14µm,3.4s
WTSB Winterswijk 46.85 310 *e*P **P** **20 31 30.1 +0.9**
comp=Z,5µm,3.2s
LIBD Limburg 46.90 305 *e*P **P** **20 31 30.1 +0.4**
LIBD Limburg 46.90 305 *e*P **P** **20 31 30.1 +0.4**
RGRI Rengat 46.91 134 P **P** **20 31 31.1 +1.0**
comp=Z,1µm,1.2s,comp=Z,41µm
STAV Stavanger 46.98 320 *e*P **P** **20 31 31.2 +1.2**
RUP Ruppelstein 47.00 307 *e*P **P** **20 31 30.4 -0.1**
RUP Ruppelstein 47.00 307 *e*P **P** **20 31 30.4 -0.1**
CDF Champ du Feu 47.07 305⇑ *i*P **P** **20 31 31.1 0.0**
comp=Z,182nm,1.2s
BBS Basel-Blauen 47.08 304 *e*P **P** **20 31 29.9 -1.3**
BBS Basel-Blauen 47.08 304 *e*P **P** **20 31 29.9 -1.3**
RUND Rundenannen 47.13 322⇑ *i*P **P** **20 31 31.0 -0.3**
BER Bergen 47.15 322⇑ *i*P **P** **20 31 31.1 -0.2**
BER AMS AMS 20 53 01.2
comp=Z,188µm,20.9s
ECH Echery 47.18 305⇑ *e*P **P** **20 31 31.7 -0.2**
ECH Echery 47.18 305⇑ *e*P **P** **20 31 31.7 -0.2**
comp=Z,21nm,2.0s
ECH Echery 47.18 305 *e*P **P** **20 31 31.9 0.0**
ASK Askoy 47.22 322 *e*P **P** **20 31 32.2 +0.3**
MOF Molkenrain 47.26 305 *e*P **P** **20 31 33.0 +0.4**
MOF Molkenrain 47.26 305 *e*P **P** **20 31 33.0 +0.4**
MOF Molkenrain 47.26 305 *e*P **P** **20 31 33.0 +0.4**
FOO Floro 47.29 324⇑ *i*P **P** **20 31 32.3 -0.2**
FOO AMS AMS 20 53 29.7
comp=Z,212µm,19.1s
HINF Hinteralfeld 47.45 305⇑ *i*P **P** **20 31 34.1 +0.1**
comp=Z,232nm,0.9s
HINF *e*pP **pP** **20 32 19.4 0.0**
SPA0 Spitsbergen Ar 47.49 347⇑ *i*P **P** **20 31 35.1 +1.2**
SPB4 Spitsbergen Ar 47.49 347⇑ *i*P **P** **20 31 35.6 +1.8**
MEM Membach 47.53 309 P **P** **20 31 35.3 +0.8**
HGN Heimansgroeve 47.55 309 *e*P **P** **20 31 35.3 +0.6**
comp=Z,2µm,3.0s
LOMF Lomont 47.56 304 *e*P **P** **20 31 32.5 -2.4**
LOMF Lomont 47.56 304 *e*P **P** **20 31 32.5 -2.4**
LOMF Lomont 47.56 304 *e*P **P** **20 31 32.5 -2.4**
WLF Walferdange 47.59 307 *e*P **P** **20 31 36.1 +1.1**
comp=Z,306nm,1.1s
WLF Walferdange 47.59 307⇑ *i*P **P** **20 31 36.0 +1.1**
WLF *e* 20 33 01.4
WLF pmax pmax
comp=Z,239nm,1.0s
WLF Walferdange 47.59 307⇑ *i*P **P** **20 31 36.0 +1.0**
comp=Z,239nm,1.0s
WLF *e*pP pP 20 32 12.5 -7.8
WLF *e*PcP **PcP** **20 33 01.4 +0.2**
HABR Khabarovsk 47.61 54 P **P** **20 31 33.5 -1.6**
HABR *e**PP **pP** **20 32 17.2 -3.3**
HABR *e*SP **sP** **20 32 39.8 -4.1**
HABR 20 32 59.9
HABR *e* 20 33 27.0
HABR *e*PPP PPP 20 34 21.2
HABR *e*S **S** **20 38 13.9 -0.3**
HABR *e**SS **sS** **20 39 30.6 -3.3**
HABR *e*SS **SS** **20 41 46.5 +1.8**
HABR pmax pmax
comp=Z,434nm,1.5s
HABR pmax pmax
comp=E,134nm,1.0s
HABR pmax pmax
comp=N,74nm,2.0s
HABR MLR MLR
comp=Z,26µm,19.0s
VSL Villasalto 47.65 293 *e*P **P** **20 31 32.8 -2.8**
comp=Z,49nm,0.8s
BEBN Eben Emael 47.71 309 P **P** **20 31 36.5 +0.6**
comp=Z,82nm,2.4s
ABRA Dolores 47.72 99 *e*P **P** **20 31 38.8 +2.4**
HAU Haudompre 47.75 305⇑ *i*P **P** **20 31 36.5 +0.2**
comp=Z,228nm,0.9s
SAOF Saorge 47.78 300 *e*P **P** **20 31 37.3 +0.7**
SAOF Saorge 47.78 300 *e*P **P** **20 31 37.3 +0.7**
SAOF Saorge 47.78 300 *e*P **P** **20 31 37.3 +0.7**
BOLP Bolinao 47.79 101 *e*P **P** **20 31 39.0 +2.1**
KRJI Kerinci 47.84 136 P **P** **20 31 37.4 0.0**
comp=Z,2µm,0.9s,comp=Z,34µm
OG01 Vacheresse 47.86 303 *e*P **P** **20 31 38.9 +1.7**
OG01 Vacheresse 47.86 303 *e*P **P** **20 31 38.9 +1.7**
AUTN L'Aution 47.87 300 *e*P **P** **20 31 38.4 +0.9**
AUTN L'Aution 47.87 300 *e*P **P** **20 31 38.4 +0.9**
AUTN L'Aution 47.87 300 *e*P **P** **20 31 38.4 +0.9**
SBF Sospel 47.90 299⇑ *i*P **P** **20 31 37.9 +0.4**
comp=Z,420nm,0.8s
SBF *e*pP **pP** **20 32 23.2 +0.2**
THEF They Montfort 47.95 305 *e*P **P** **20 31 38.4 +0.6**
THEF They Montfort 47.95 305 *e*P **P** **20 31 38.4 +0.6**
THEF They Montfort 47.95 305 *e*P **P** **20 31 38.4 +0.6**
REVF Revere 47.97 299 *e*P **P** **20 31 38.4 +0.3**
REVF Revere 47.97 299 *e*P **P** **20 31 38.4 +0.3**
REVF Revere 47.97 299 *e*P **P** **20 31 38.4 +0.3**
TOUF Mont Tournerai 47.99 300 *e*P **P** **20 31 39.1 +0.7**
TOUF Mont Tournerai 47.99 300 *e*P **P** **20 31 39.1 +0.7**
TOUF Mont Tournerai 47.99 300 *e*P **P** **20 31 39.1 +0.7**
LPG La Plagne 47.99 302⇑ *i*P **P** **20 31 39.0 +0.5**
comp=Z,313nm,0.7s
BCLA Clavier 48.00 308 P **P** **20 31 38.8 +0.7**
comp=Z,194nm,2.4s
LPL La Plagne 48.00 302⇑ *i*P **P** **20 31 39.1 +0.6**
comp=Z,450nm,0.9s
LPL *e*pP **pP** **20 32 24.4 +0.4**
OG22 Abries 48.01 301 *e*P **P** **20 31 39.6 +1.1**
OG22 Abries 48.01 301 *e*P **P** **20 31 39.6 +1.1**
RSL Roselend 48.04 302 *e*P **P** **20 31 40.2 +1.5**
RSL Roselend 48.04 302 *e*P **P** **20 31 40.2 +1.5**
RSL Roselend 48.04 302 *e*P **P** **20 31 40.2 +1.5**
PAGF Fort de Pagny 48.06 306⇑ *i*P **P** **20 31 39.6 +1.0**
comp=Z,122nm,1.0s
PAGF *e*pP **pP** **20 32 25.0 +0.9**
MVIF Mont Vial 48.09 300 *e*P **P** **20 31 39.7 +0.6**
MVIF Mont Vial 48.09 300 *e*P **P** **20 31 39.7 +0.6**
MVIF Mont Vial 48.09 300 *e*P **P** **20 31 39.7 +0.6**
SCZP Santa Cruz 48.13 102 *e*P **P** **20 31 40.3 +0.8**
BNI Bardonecchia 48.14 301⇑ *i*P **P** **20 31 39.5 0.0**
BNI *e**PP **pP** **20 32 23.8 -1.2**
BNI pmax pmax
comp=Z,285nm,1.1s
BNI Bardonecchia 48.14 301⇑ *i*P **P** **20 31 39.5 0.0**
comp=Z,285nm,1.1s
BNI *e*pP **pP** **20 32 23.8 -1.2**
SURF Saint Ours 48.18 300 *e*P **P** **20 31 40.5 +0.6**
SURF Saint Ours 48.18 300 *e*P **P** **20 31 40.5 +0.6**
CABF La Chapelle 48.20 303⇑ *i*P **P** **20 31 40.2 +0.3**
comp=Z,373nm,0.9s
CABF *e*pP **pP** **20 32 25.7 +0.3**
CALN Calern 48.31 299 *e*P **P** **20 31 41.0 +0.3**
CALN Calern 48.31 299 *e*P **P** **20 31 41.0 +0.3**
CALN Calern 48.31 299 *e*P **P** **20 31 41.0 +0.3**
BCPH Baguio City Da 48.32 101⇓ *i*P **P** **20 31 43.0 +1.8**
GDM Grand'Maison 48.50 301 *e*P **P** **20 31 42.0 -0.2**
GDM Grand'Maison 48.50 301 *e*P **P** **20 31 42.0 -0.2**
DOU Dourbes 48.51 308 P **P** **20 31 42.9 +0.9**
SFTF Sexfontaines 48.57 306⇑ *i*P **P** **20 31 43.0 +0.5**
comp=Z,210nm,0.9s
SFTF *e*pP **pP** **20 32 28.6 +0.5**
KBS Kingsbay 48.61 347⇑ *i*P **P** **20 31 44.2 +1.9**
KBS Kingsbay 48.61 347 *ce*P **P** **20 31 44.1 +1.8**
KBS pmax pmax
comp=Z,1µm,1.2s
SNF Seneffe 48.63 309 P **P** **20 31 43.6 +0.7**
comp=Z,148nm,2.9s
KMBO Kilima Mbogo 48.65 227⇓ *i*P **P** **20 31 45.3 +1.5**
KMBO Kilima Mbogo 48.65 227 *e*P **P** **20 31 44.9 +1.1**
KMBO pmax pmax
comp=Z,834nm,2.1s
KMBO Kilima Mbogo 48.65 227 *e*P **P** **20 31 44.9 +1.1**
comp=Z,834nm,2.1s
OG35 Corcelles 48.68 303 *e*P **P** **20 31 43.9 +0.5**
OG25 Le Caire 48.73 300 *e*P **P** **20 31 43.8 -0.1**
OG25 Le Caire 48.73 300 *e*P **P** **20 31 43.8 -0.1**
ORIF Oris-en-Rattie 48.73 301⇑ *i*P **P** **20 31 43.3 -0.6**
comp=Z,72nm,0.6s
GRN Grenoble 48.74 302 *e*P **P** **20 31 44.4 +0.4**
GRN Grenoble 48.74 302 *e*P **P** **20 31 44.4 +0.4**
GRN Grenoble 48.74 302 *e*P **P** **20 31 44.4 +0.4**
BAIF Baives 48.76 308⇑ *i*P **P** **20 31 44.9 +1.0**
comp=Z,455nm,1.0s
BAIF *e*pP **pP** **20 32 30.6 +1.1**
JNU Nakatsue 48.80 75⇑ *i*P **P** **20 31 45.5 +0.9**
comp=Z,194nm,1.2s
JNU *e*pP **pP** **20 32 27.9 -2.3**
KEST Kesra 48.85 288 P **P** **20 31 46.1 +1.1**
comp=Z,43nm,0.7s,baz=344,slow=1.4,SNR=119
KEST pP **pP** **20 32 32.5 +1.9**
comp=Z,50nm,0.8s,baz=336,slow=1.3,SNR=3.7
KEST Kesra 48.85 288⇑ *e*P **P** **20 31 46.0 +1.1**
KEST *e*pP **pP** **20 32 31.8 +1.2**
KEST pP **pP** **20 32 32.5 +1.9**
CAUP Cauayan 48.99 99 *e*P **P** **20 31 48.0 +1.9**
SMRF Simiane la Rot 49.17 300⇑ *i*P **P** **20 31 47.6 +0.4**
comp=Z,203nm,1.3s
OCF Saint Nazaire 49.21 301 *e*P **P** **20 31 48.2 +0.7**
OG26 St.-Nazaire-De 49.21 301 *e*P **P** **20 31 48.2 +0.7**
JOW Kunigami 49.28 84 P **P** **20 31 48.5 +0.3**
comp=Z,143nm,0.4s,baz=304,slow=5.6,SNR=27
JOW ScP **ScP** **20 36 41.0 -1.9**
comp=Z,17nm,0.3s,baz=301,slow=18,SNR=4.0
JOW Kunigami 49.28 84 P **P** **20 31 48.5 +0.3**
JOW ScP **ScP** **20 36 41.0 -1.9**
BALP Baler 49.47 101 *e*P **P** **20 31 51.9 +2.2**
LOR Lormes 49.55 305⇑ *i*P **P** **20 31 49.6 -0.4**
comp=Z,145nm,1.1s
SSB Saint Sauveur 49.56 302 *e*P **P** **20 31 50.5 +0.4**
SSB pmax pmax
comp=Z,237nm,1.1s
SSB Saint Sauveur 49.56 302 *e*P **P** **20 31 50.5 +0.4**
comp=Z,237nm,1.1s
VIVF Saint-Julien-l 49.57 301⇑ *i*P **P** **20 31 50.6 +0.4**
comp=Z,269nm,0.8s
VIVF *e*pP **pP** **20 32 36.4 +0.4**
SSF Saint Saulge 49.83 304⇑ *i*P **P** **20 31 52.1 0.0**
comp=Z,136nm,1.0s
SSF *e*pP **pP** **20 32 38.0 +0.1**
TGY Tagaytay City 49.91 103 P **P** **20 31 54.9 +1.8**
comp=Z,1µm,0.5s,baz=291,slow=2.1,SNR=32
TGY Tagaytay City 49.91 103 P **P** **20 31 54.9 +1.8**
TGY Tagaytay City 49.91 103 P **P** **20 31 54.9 +1.8**
AVF Avril sur Loir 50.00 304⇑ *i*P **P** **20 31 53.5 +0.2**
comp=Z,377nm,0.8s
AVF *e*pP **pP** **20 32 39.2 +0.1**
CMAH Djebel Manchou 50.01 290 P P 20 31 58.0 +4.3
PLDF La Plantade 50.02 303 *e*P **P** **20 31 53.9 +0.3**
PLDF La Plantade 50.02 303 *e*P **P** **20 31 53.9 +0.3**
PLDF La Plantade 50.02 303 *e*P **P** **20 31 53.9 +0.3**
COLF Collangettes 50.08 302 *e*P **P** **20 31 54.7 +0.7**
COLF Collangettes 50.08 302 *e*P **P** **20 31 54.7 +0.7**
AEU East Anglia Un 50.13 312⇑ *e*P **P** **20 31 54.4 +0.3**
AEU East Anglia Un 50.13 312 P **P** **20 31 54.4 +0.3**
LASF Ste Croix 50.34 301⇑ *i*P **P** **20 31 56.6 +0.6**
comp=Z,496nm,1.0s
LASF *e*pP **pP** **20 32 42.3 +0.4**
BGF Bois d'Agland 50.39 304⇑ *i*P **P** **20 31 56.3 0.0**
comp=Z,155nm,0.9s
BGF *e*pP **pP** **20 32 42.2 0.0**
LRW Lerwick 50.40 322⇑ *e*P **P** **20 31 55.8 -0.3**
LRW AMB AMB 20 31 58.7
comp=Z,551nm,3.1s
LRW Lerwick 50.40 322 P **P** **20 31 55.8 -0.3**
LRW AMB AMB 20 31 58.7
comp=Z,551nm,3.1s
LBL Lubilhac 50.46 302 *e*P **P** **20 31 57.3 +0.4**
LBL Lubilhac 50.46 302 *e*P **P** **20 31 57.3 +0.4**
LBL Lubilhac 50.46 302 *e*P **P** **20 31 57.3 +0.4**
ENPP El Nido 50.47 107 *e*P **P** **20 31 59.2 +2.0**
ELSH Elham, Standar 50.47 310⇑ *e*P **P** **20 31 56.8 +0.1**
ELSH AMB AMB 20 31 59.5
comp=Z,693nm,2.5s
ELSH Elham, Standar 50.47 310 P **P** **20 31 56.8 +0.1**
ELSH AMB AMB 20 31 59.5
comp=Z,693nm,2.5s
KSM Kuching 50.48 124 *e*P **P** **20 31 57.8 +0.6**
comp=Z,542nm,1.3s
KSM *e*pP **pP** **20 32 42.8 -0.4**
KSM *e*PcP **PcP** **20 33 12.4 +0.1**
KSM Kuching 50.48 124 P **P** **20 31 58.6 +1.3**
KSM Kuching 50.48 124 P **P** **20 31 58.0 +0.7**
comp=Z,306nm,1.2s
BUSP Coron 50.58 106 *e*P **P** **20 31 59.8 +1.8**
PPBI Pangkal Pinang 50.61 132 P **P** **20 31 58.3 0.0**
comp=Z,551nm,1.2s
BATP Bataraza 50.75 111 *e*P **P** **20 32 01.0 +1.7**
VERF Verneugheol 50.84 303 *e*P **P** **20 32 01.3 +1.6**
VERF Verneugheol 50.84 303 *e*P **P** **20 32 01.3 +1.6**
CASM Ain Smara 50.84 290 P **P** **20 32 02.0 +2.1**
BOAC Boac 51.00 103 *e*P **P** **20 32 01.8 +0.6**
SBUM Sibu 51.05 122 P **P** **20 32 03.3 +1.8**
SBUM Sibu 51.05 122 P **P** **20 32 02.8 +1.2**
comp=Z,286nm,1.5s
BTM Bintulu 51.11 120 P **P** **20 32 04.0 +2.0**
DFRA Djebel Bou Aff 51.21 291 P **P** **20 32 04.0 +1.3**
KDM Kudat 51.25 113 P **P** **20 32 04.6 +1.5**
CAF Calviac 51.34 302⇑ *i*P **P** **20 32 04.1 +0.6**
comp=Z,197nm,0.9s
CAF *e*pP **pP** **20 32 50.1 +0.6**
KKM Kota Kinabalu 51.38 115 *e*P **P** **20 32 05.9 +1.8**
comp=Z,1µm,1.2s
KKM Kota Kinabalu 51.38 115 P **P** **20 32 06.2 +2.1**
KKM Kota Kinabalu 51.38 115 P **P** **20 32 05.8 +1.7**
comp=Z,817nm,1.3s
SJAF Saint Jean de 51.48 299 *e*P **P** **20 32 04.2 -0.2**
SJAF Saint Jean de 51.48 299 *e*P **P** **20 32 04.2 -0.2**
SKP1 Kophill 51.54 311⇑ *i*P **P** **20 32 04.6 -0.1**
SKP1 Kophill 51.54 311 P **P** **20 32 04.6 -0.1**
LRDF Laroque-de-Fa 51.58 300 *e*P **P** **20 32 07.2 +2.0**
LRDF Laroque-de-Fa 51.58 300 *e*P **P** **20 32 05.5 +0.3**
LRDF Laroque-de-Fa 51.58 300 *e*P **P** **20 32 07.2 +2.0**
RJF Les Rejaudoux 51.61 303⇑ *i*P **P** **20 32 06.2 +0.8**
comp=Z,222nm,1.0s
RJF *e*pP **pP** **20 32 52.3 +0.8**
KBI1 Birley Grange 51.65 313⇑ *i*P **P** **20 32 05.0 -0.6**
KBI1 Birley Grange 51.65 313 P **P** **20 32 05.0 -0.6**
CKHR Kef el Ahmar 51.67 290 P **P** **20 32 05.0 -1.1**
FILF Fillols 51.68 299 *e*P **P** **20 32 06.5 +0.5**
FILF Fillols 51.68 299 *e*P **P** **20 32 06.5 +0.5**
MTLF Montolieu 51.69 300⇑ *i*P **P** **20 32 06.4 +0.4**
comp=Z,156nm,0.8s
MTLF *e*pP **pP** **20 32 52.3 +0.2**
SET Setif 51.69 290 P **P** **20 32 07.0 +0.8**
MME1 Meikle Cairn 51.71 318⇑ *e*P **P** **20 32 06.1 +0.2**
MME1 Meikle Cairn 51.71 318 P **P** **20 32 06.1 +0.2**
AUQP San Andres 51.73 103 *e*P **P** **20 32 09.1 +2.5**
XAL Allendale 51.73 315⇑ *i*P **P** **20 32 05.9 -0.2**
XAL Allendale 51.73 315 P **P** **20 32 05.9 -0.2**
ESY Stoneypath 51.76 317⇑ *i*P **P** **20 32 06.2 0.0**
ESY Stoneypath 51.76 317 P **P** **20 32 06.2 0.0**
OTRP Odiongan 51.78 104 *e*P **P** **20 32 07.4 +0.4**
MCD Coleburn Disti 51.82 319⇑ *e*P **P** **20 32 07.3 +0.7**
MCD Coleburn Disti 51.82 319 P **P** **20 32 07.3 +0.7**
LDF La Druitiere 51.84 307⇑ *i*P **P** **20 32 06.9 -0.1**
comp=Z,64nm,0.6s
WOL Wolverton 51.88 311⇑ *e*P **P** **20 32 07.4 +0.2**
WOL AMB AMB 20 32 09.8
comp=Z,723nm,2.3s
WOL Wolverton 51.88 311 P **P** **20 32 07.4 +0.2**
WOL AMB AMB 20 32 09.8
comp=Z,723nm,2.3s
KWE Weaver Farm 51.89 313 *e*P **P** **20 32 07.9 +0.6**
KWE Weaver Farm 51.89 313 P **P** **20 32 07.9 +0.6**
CUYO Cuyo Island 51.92 106 *e*P **P** **20 32 09.7 +1.7**
CARF Carcanieres 51.95 299 *e*P **P** **20 32 08.0 -0.1**

CARF **Carcanieres** 51.95 299 *eP* **P** **20 32 08.0 -0.1**
EBL **Broad Law** 52.02 317⇑ *eP* **P** **20 32 08.1 -0.1**
EBL **Broad Law** 52.02 317 P **P** **20 32 08.1 -0.1**
FLN **La Foliniere** 52.03 307⇑ *iP* **P** **20 32 08.2 -0.2**
comp=Z,134nm,0.7s
FLN *epP* **pP** **20 32 54.3 -0.3**
EDI **Edinburgh** 52.08 317⇑ *eP* **P** **20 32 08.7 +0.1**
EDI AMB AMB 20 32 11.4
comp=Z,467nm,3.1s
EDI **Edinburgh** 52.08 317 P **P** **20 32 08.7 +0.1**
EDI AMB AMB 20 32 11.4
comp=Z,467nm,3.1s
STNC **Stoke** 52.09 313 *eP* **P** **20 32 08.5 -0.2**
STNC AMB AMB 20 32 09.9
comp=Z,420nm,3.4s
STNC **Stoke** 52.09 313 P **P** **20 32 08.5 -0.2**
STNC AMB AMB 20 32 09.9
comp=Z,420nm,3.4s
SWN1 **Swindon** 52.19 311⇑ *eP* **P** **20 32 09.5 0.0**
SWN1 AMB AMB 20 32 12.2
comp=Z,811nm,3.9s
SWN1 **Swindon** 52.19 311 P **P** **20 32 09.5 0.0**
SWN1 AMB AMB 20 32 12.2
comp=Z,811nm,3.9s
ESK **Eskdalemuir** 52.20 316⇑ *eP* **P** **20 32 09.5 -0.1**
ESK AMB AMB 20 32 10.4
comp=Z,445nm,3.2s
ESK **Eskdalemuir** 52.20 316 P **P** **20 32 09.5 -0.1**
ESK AMB AMB 20 32 10.4
comp=Z,445nm,3.2s
ESK **Eskdalemuir** 52.20 316 P **P** **20 32 09.0 -0.6**
comp=Z,823nm,1.4s,SNR=21
EAU **Auchinoon** 52.23 317⇑ *iP* **P** **20 32 09.8 0.0**
EAU **Auchinoon** 52.23 317 P **P** **20 32 09.8 0.0**
MVH1 **Achvaich** 52.25 319⇑ *eP* **P** **20 32 10.0 +0.1**
MVH1 **Achvaich** 52.25 319 P **P** **20 32 10.0 +0.1**
KESW **Keswick, Cumbr** 52.29 315⇑ *eP* **P** **20 32 10.0 -0.2**
KESW AMB AMB 20 32 13.0
comp=Z,648nm,3.1s
KESW **Keswick, Cumbr** 52.29 315 P **P** **20 32 10.0 -0.2**
KESW AMB AMB 20 32 13.0
comp=Z,648nm,3.1s
STKI **Sintang** 52.30 124 P **P** **20 32 12.1 +1.3**
comp=Z,620nm,1.3s
MBAR **Mbarara** 52.31 234⇓ *iP* **P** **20 32 10.9 -0.2**
MBAR **Mbarara** 52.31 234 P **P** **20 32 10.0 -1.1**
comp=Z,747nm,0.7s,SNR=57
GRR **Gorron** 52.36 307⇑ *iP* **P** **20 32 10.6 -0.2**
comp=Z,124nm,0.8s
SDKM **Sandakan** 52.37 114 P **P** **20 32 12.2 +0.8**
MFF **Saint Martin d** 52.37 305⇑ *iP* **P** **20 32 10.8 -0.2**
comp=Z,151nm,0.8s
MDO **Dochfour** 52.43 319⇑ *eP* **P** **20 32 11.4 +0.2**
MDO **Dochfour** 52.43 319 P **P** **20 32 11.4 +0.2**
XDE **Dent Fell** 52.53 315⇑ *iP* **P** **20 32 12.1 +0.1**
XDE **Dent Fell** 52.53 315 P **P** **20 32 12.1 +0.1**
JMIC **Jan Mayen** 52.54 336⇑ *iP* **P** **20 32 14.0 +2.2**
JMIC AMB AMB 20 32 18.5
comp=Z,949nm,1.9s
SALF **Salau** 52.58 300 *eP* **P** **20 32 11.9 -0.8**
SALF **Salau** 52.58 300 *eP* **P** **20 32 11.9 -0.8**
HLM1 **Long Mynd** 52.61 312⇑ *eP* **P** **20 32 12.5 -0.1**
HLM1 AMB AMB 20 32 13.6
comp=Z,417nm,3.5s
HLM1 **Long Mynd** 52.61 312 P **P** **20 32 12.5 -0.1**
HLM1 AMB AMB 20 32 13.6
comp=Z,417nm,3.5s
EAB **Aberfoyle** 52.66 317⇑ *eP* **P** **20 32 12.4 -0.5**
EAB **Aberfoyle** 52.66 317 P **P** **20 32 12.4 -0.5**
GCD **Castle Douglas** 52.71 316⇑ *eP* **P** **20 32 13.2 -0.1**
GCD **Castle Douglas** 52.71 316 P **P** **20 32 13.2 -0.1**
FOEL **Foel Wylfa** 52.72 313⇑ *eP* **P** **20 32 12.6 -0.8**
FOEL AMB AMB 20 32 14.6
comp=Z,477nm,3.2s
FOEL **Foel Wylfa** 52.72 313 P **P** **20 32 12.6 -0.8**
FOEL AMB AMB 20 32 14.6
comp=Z,477nm,3.2s
PVCP **Virac** 52.74 101 *eP* **P** **20 32 15.2 +1.2**
HGH **Gray Hill** 52.77 311⇑ *eP* **P** **20 32 13.3 -0.5**
HGH **Gray Hill** 52.77 311 P **P** **20 32 13.3 -0.5**
MCH1 **Michaelchurch** 52.80 312⇑ *iP* **P** **20 32 13.7 -0.3**
MCH1 AMB AMB 20 32 16.3
comp=Z,513nm,3.6s
MCH1 **Michaelchurch** 52.80 312 P **P** **20 32 13.7 -0.3**
MCH1 AMB AMB 20 32 16.3
comp=Z,513nm,3.6s
PGBU **Glenifferbraes** 52.81 317⇑ *eP* **P** **20 32 13.9 -0.1**
PGBU AMB AMB 20 32 16.8
comp=Z,550nm,3.2s
PGBU **Glenifferbraes** 52.81 317 P **P** **20 32 13.9 -0.1**
PGBU AMB AMB 20 32 16.8
comp=Z,550nm,3.2s
JSA **Saint Aubin** 52.99 308 *eP* **P** **20 32 14.8 -0.6**
JSA AMB AMB 20 32 15.0
comp=Z,340nm,5.5s
JSA **Saint Aubin** 52.99 308 P **P** **20 32 14.8 -0.6**
JSA AMB AMB 20 32 15.0
comp=Z,340nm,5.5s
YSS **Yuzh-Sakhalins** 53.02 55⇑ *iP* **P** **20 32 17.0 +1.4**
YSS *e* 20 33 07.3
YSS pmax pmax
comp=N,120nm,1.0s
YSS pmax pmax
comp=E,160nm,1.0s
YSS pmax pmax
comp=Z,590nm,1.0s
YSS **Yuzh-Sakhalins** 53.02 55⇑ *iP* **P** **20 32 15.9 +0.3**
comp=Z,327nm,0.6s
YSS *epP* **pP** **20 33 01.6 -0.4**
WPM1 **Penmaenmawr** 53.05 314⇑ *iP* **P** **20 32 15.6 -0.1**
WPM1 **Penmaenmawr** 53.05 314 P **P** **20 32 15.6 -0.1**
EPF **Esparros** 53.09 300⇑ *iP* **P** **20 32 15.7 -0.6**
comp=Z,77nm,0.6s
KPL **Plockton** 53.13 319⇑ *iP* **P** **20 32 16.2 -0.1**
KPL AMB AMB 20 32 16.8
comp=Z,609nm,4.3s
KPL **Plockton** 53.13 319 P **P** **20 32 16.2 -0.1**
KPL AMB AMB 20 32 16.8
comp=Z,609nm,4.3s
GAL1 **Galloway** 53.14 316⇑ *eP* **P** **20 32 16.2 -0.2**
GAL1 AMB AMB 20 32 17.5
comp=Z,385nm,3.3s
GAL1 **Galloway** 53.14 316 P **P** **20 32 16.2 -0.2**
GAL1 AMB AMB 20 32 17.5
comp=Z,385nm,3.3s
MAJO **Matsushiro** 53.16 68⇑ *eP* **P** **20 32 16.7 -0.2**
MAJO pmax pmax
comp=Z,175nm,0.8s
MAJO **Matsushiro** 53.16 68⇑ *eP* **P** **20 32 16.7 -0.2**
comp=Z,175nm,0.8s
MAT **Matsushiro** 53.16 68 P **P** **20 32 16.3 -0.6**
MJAR **Matsushiro Arr** 53.16 68 P **P** **20 32 17.1 +0.2**
comp=Z,185nm,1.0s,baz=285,slow=9.9,SNR=120
MJAR pP **pP** **20 33 04.8 +1.5**
comp=Z,67nm,0.9s,baz=283,slow=9.8,SNR=2.8
MJAR ScP **ScP** **20 36 58.0 -1.5**
comp=Z,23nm,1.0s,baz=280,slow=5.4,SNR=7.5
MJAR **Matsushiro Arr** 53.16 68 P **P** **20 32 17.1 +0.2**
MJAR *PP **pP** **20 33 04.8 +1.5**
MJAR pmax pmax
comp=Z,185nm,1.0s
MJAR **Matsushiro Arr** 53.16 68 P **P** **20 32 17.1 +0.2**
MJAR pP **pP** **20 33 04.8 +1.5**
MJAR ScP **ScP** **20 36 58.0 -1.5**
RESF **Ens** 53.16 300 *eP* **P** **20 32 17.5 +0.6**
RESF **Ens** 53.16 300 *eP* **P** **20 32 17.5 +0.6**
YLL **Llanberis** 53.23 313⇑ *iP* **P** **20 32 17.0 -0.1**
YLL **Llanberis** 53.23 313 P **P** **20 32 17.0 -0.1**
WME **Myndd Eilian** 53.24 314⇑ *iP* **P** **20 32 16.6 -0.5**
WME **Myndd Eilian** 53.24 314 P **P** **20 32 16.6 -0.5**
GUIM **Jordan** 53.27 105 *eP* **P** **20 32 19.4 +1.5**
VIEF **Viey** 53.36 300 *eP* **P** **20 32 18.8 +0.5**
VIEF **Viey** 53.36 300 *eP* **P** **20 32 18.8 +0.5**
YRE **Yr Eifl** 53.41 313⇑ *iP* **P** **20 32 18.3 -0.1**
YRE **Yr Eifl** 53.41 313 P **P** **20 32 18.3 -0.1**
YRC **Rhoscolyn** 53.44 314⇑ *eP* **P** **20 32 18.5 0.0**
YRC **Rhoscolyn** 53.44 314 P **P** **20 32 18.5 0.0**
SGMF **Saint Gilles** 53.49 307⇑ *iP* **P** **20 32 19.3 +0.2**
comp=Z,114nm,0.7s
SGMF *epP* **pP** **20 33 05.6 +0.1**
HEX **Exmoor** 53.52 311⇑ *eP* **P** **20 32 18.7 -0.5**
HEX **Exmoor** 53.52 311 P **P** **20 32 18.7 -0.5**
REYF **Montagne du Re** 53.59 300 *eP* **P** **20 32 19.9 -0.1**
REYF **Montagne du Re** 53.59 300 *eP* **P** **20 32 19.9 -0.1**

MYLDM **Lahad Datu** 53.64 114 P **P** **20 32 22.8 +2.3**
MYLDM **Lahad Datu** 53.64 114 P **P** **20 32 23.0 +2.4**
comp=Z,3µm,1.2s
ASAJ **Asahikawa** 53.75 58 P **P** **20 32 20.2 -0.8**
comp=Z,46nm,0.7s,baz=271,slow=8.4,SNR=37
ASAJ **Asahikawa** 53.75 58 P **P** **20 32 20.2 -0.8**
ASAJ pmax pmax
comp=Z,46nm,0.7s
ASAJ **Asahikawa** 53.75 58 P **P** **20 32 20.2 -0.8**
ETSF **Etsaut** 53.76 300⇑ *iP* **P** **20 32 21.7 +0.5**
comp=Z,274nm,0.7s
ETSF *epP* **pP** **20 33 07.9 +0.2**
DYA **Yadsworthy** 53.76 310⇑ *eP* **P** **20 32 20.0 -1.0**
DYA AMB AMB 20 32 23.4
comp=Z,367nm,3.6s
DYA **Yadsworthy** 53.76 310 P **P** **20 32 20.0 -1.0**
DYA AMB AMB 20 32 23.4
comp=Z,367nm,3.6s
TSM **Tawau** 53.77 115 P **P** **20 32 22.3 +0.7**
ORDF **Ordiarp** 53.92 301 *eP* **P** **20 32 21.8 -0.5**
ORDF **Ordiarp** 53.92 301 *eP* **P** **20 32 21.8 -0.5**
ROSF **Rostrenen** 53.93 307⇑ *iP* **P** **20 32 22.4 +0.1**
comp=Z,141nm,0.8s
HTL **Hartland** 53.95 311⇑ *eP* **P** **20 32 21.9 -0.5**
HTL AMB AMB 20 32 23.0
comp=Z,425nm,4.2s
HTL **Hartland** 53.95 311 P **P** **20 32 21.9 -0.5**
HTL AMB AMB 20 32 23.0
comp=Z,425nm,4.2s
QUIF **Quistinic** 53.98 307⇑ *iP* **P** **20 32 22.5 -0.1**
comp=Z,107nm,0.8s
GMM **Mts of Mourne** 53.99 315⇑ *eP* **P** **20 32 22.3 -0.3**
GMM **Mts of Mourne** 53.99 315 P **P** **20 32 22.3 -0.3**
OSSF **Osses** 54.13 301 *eP* **P** **20 32 23.2 -0.6**
OSSF **Osses** 54.13 301 *eP* **P** **20 32 23.2 -0.6**
SJPF **Ste Jean** 54.15 301 *eP* **P** **20 32 24.5 +0.5**
comp=Z,80nm,0.7s
BST **Brest** 54.44 308 *eP* P 20 32 21.4 -4.6
BST **Brest** 54.44 308 *eP* P 20 32 21.4 -4.6
DSB **Dublin** 54.49 314 *eP* **P** **20 32 26.1 -0.1**
comp=Z,206nm,1.5s
LLP **Lapu-Lapu** 54.53 105 *eP* **P** **20 32 27.1 0.0**
DLF **Lyons Farm** 54.56 314⇑ *iP* **P** **20 32 26.7 0.0**
SEY **Seymchan** 54.57 34 *eP* **P** **20 32 28.0 +1.4**
OCLP **Ormoc** 54.59 103 *eP* **P** **20 32 28.7 +1.2**
DAG **Danmarks Havn** 54.71 344 *iP* **P** **20 32 27.6 +0.2**
DAG *i* 20 33 15.0
DAG pmax pmax
comp=Z,410nm,0.9s
DAG **Danmarks Havn** 54.71 344 *iP* **P** **20 32 27.6 +0.2**
comp=Z,4µm,0.9s
DAG *i* 20 33 15.0
ECHA **Ech Chlef** 54.74 292 P **P** **20 32 26.3 -2.0**
ERM **Erimo** 54.83 60 *eP* **P** **20 32 29.0 +0.2**
ERM pmax pmax
comp=Z,72nm,0.5s
ERM **Erimo** 54.83 60 *eP* **P** **20 32 29.0 +0.2**
comp=Z,72nm,0.5s
ERM **Erimo** 54.83 60 P **P** **20 32 29.6 +0.8**
comp=Z,980nm,0.5s,SNR=36
MSLP **Maasin** 55.34 104 *eP* **P** **20 32 34.4 +1.5**
PAGZ **Pagadian** 55.60 107 *eP* **P** **20 32 36.3 +1.7**
CART **Cartagena** 55.95 294⇑ *iP* **P** **20 32 36.3 -0.5**
comp=Z,194nm,0.8s
CART *epP* **pP** **20 33 22.1 -1.6**
CGP **Cagayan de Oro** 56.24 106⇓ *eP* **P** **20 32 39.8 +0.6**
BUTP **Butuan** 56.64 105 *eP* **P** **20 32 43.2 +1.2**
CTBH **Cotabato--PC H** 56.66 107⇑ *iP* **P** **20 32 43.3 +1.2**
BUKP **Musuan** 56.88 106 *eP* **P** **20 32 45.6 +1.8**
SCO **Scoresbysund** 57.01 336 *iP* **P** **20 32 45.4 +1.6**
SCO pmax pmax
comp=Z,63nm,1.1s
SCO **Scoresbysund** 57.01 336 *iP* **P** **20 32 45.4 +1.6**
comp=Z,63nm,1.1s
ESDC **Sonseca Array** 57.29 298 P **P** **20 32 46.4 0.0**
comp=Z,37nm,0.6s,baz=59,slow=7.3,SNR=237
ESDC pP **pP** **20 33 33.7 +0.2**
comp=Z,74nm,0.8s,baz=60,slow=7.6,SNR=4.5
ESDC PKPPKP **P'P'df** **21 02 35.1 +0.9**
comp=Z,3.3nm,0.9s,baz=282,slow=2.3,SNR=8.6
ESDC **Sonseca Array** 57.29 298 P **P** **20 32 46.4 0.0**
ESDC pP **pP** **20 33 33.7 +0.2**
ESDC P'P' 21 02 35.1
ESLA **Sonseca Array** 57.29 298⇑ *iP* **P** **20 32 46.2 -0.2**
comp=Z,1µm,0.9s
ESLA *epP* **pP** **20 33 29.2 -4.3**
TAM **Tamanrasset** 57.34 276 *eP* **P** **20 32 46.9 -0.1**
TAM *e*PP **pP** **20 33 32.1 -2.0**
TAM *eS* **S** **20 40 29.3 +2.1**
TAM pmax pmax
comp=Z,2µm,2.3s
TAM **Tamanrasset** 57.34 276 *eP* **P** **20 32 46.9 -0.1**
comp=Z,2µm,2.3s
TAM *epP* **pP** **20 33 32.1 -2.0**
TAM *eS* **S** **20 40 29.2 +2.1**
KCP **Kidapawan** 57.44 107⇓ *eP* **P** **20 32 48.9 +1.2**
PAB **San Pablo** 57.62 298⇑ *eP* **P** **20 32 48.4 -0.3**
PAB *e*PP **pP** **20 33 35.6 -0.2**
PAB pmax pmax
comp=Z,317nm,1.4s
PAB **San Pablo** 57.62 298⇑ *eP* **P** **20 32 48.4 -0.3**
comp=Z,317nm,1.4s
PAB *epP* **pP** **20 33 35.6 -0.2**
DMPH **Davao City--Mi** 57.72 106⇓ *iP* **P** **20 32 51.8 +2.2**
DAV **Davao City (W)** 57.78 106 P **P** **20 32 51.6 +1.6**
comp=Z,283nm,0.6s,baz=75,slow=4.3,SNR=12
DAV **Davao City (W)** 57.78 106 P **P** **20 32 51.6 +1.6**
DAV **Davao City (W)** 57.78 106 P P 20 32 54.2 +4.2
comp=Z,6µm,0.8s
GSPH **General Santos** 57.91 108⇑ *iP* **P** **20 32 52.8 +1.7**
MATI **Mati** 58.38 106 *eP* **P** **20 32 55.2 +1.0**
PBRG **Braganca** 58.43 301 *eP* **P** **20 32 54.0 -0.3**
comp=Z,317nm,1.8s
PBRG *epP* **PcP** **20 33 42.3 -0.3**
BORG **Borgarnes** 58.54 330 *eP* **P** **20 32 57.2 +2.7**
BORG *e* 20 35 07.2
BORG pmax pmax
comp=Z,137nm,1.0s
BORG **Borgarnes** 58.54 330 *eP* **P** **20 32 57.1 +2.7**
comp=Z,138nm,1.0s
BORG *es*P sP 20 33 57.9 -6.7
BORG *eP* **PP** **20 35 07.2 +1.1**
BORG **Borgarnes** 58.54 330 P **P** **20 32 57.0 +2.5**
comp=Z,1µm,0.8s,SNR=10
BILL **Bilibino** 58.74 26⇑ *eP* **P** **20 32 57.6 +1.7**
BILL *e*PP PcP 20 33 49.1 +5.9
BILL *e* 20 35 09.2
BILL *eS* **S** **20 40 46.8 +3.1**
BILL pmax pmax
comp=Z,849nm,0.9s
BILL **Bilibino** 58.74 26⇑ *iP* **P** **20 32 57.5 +1.7**
comp=Z,721nm,1.1s
BILL *eP* **PP** **20 35 05.0 -2.8**
MVO **Moncorvo** 58.88 300 *eP* **P** **20 32 59.0 +1.6**
comp=Z,336nm,2.2s
MVO *epP* **pP** **20 33 44.9 +0.2**
RER **Riviere de l'E** 59.03 196 *eP* **P** **20 32 60.0 +1.5**
comp=Z,404nm,0.9s
RER *epP* **pP** **20 33 45.7 -0.2**
ALE **Alert** 59.06 354 P **P** **20 32 59.0 +1.1**
comp=Z,1µm,0.7s,SNR=40
OPO **Ambohidratompo** 59.09 206 P **P** **20 33 00.1 +1.1**
comp=Z,47nm,0.9s,baz=25,slow=5.7,SNR=28
OPO *pP* **pP** **20 33 47.7 +1.2**
comp=Z,62nm,1.0s,baz=345,slow=2.1,SNR=3.6
OPO S **S** **20 40 48.5 -1.1**
comp=Z,2.4nm,0.9s,baz=252,slow=9.6,SNR=2.1
OPO **Ambohidratompo** 59.09 206 P **P** **20 33 00.1 +1.1**
OPO *pP* **pP** **20 33 47.7 +1.2**
OPO S **S** **20 40 48.5 -1.1**
PVRL **Vila Real** 59.31 301 *eP* **P** **20 33 00.4 +0.1**
comp=Z,309nm,1.9s
PVRL *epP* **pP** **20 33 47.1 -0.6**
POLO **Lamas de Olo** 59.33 301 *eP* **P** **20 33 00.9 +0.4**
comp=Z,102nm,2.3s
POLO *epP* **pP** **20 33 48.7 +0.8**
PCAB **Cabril** 59.35 301 *eP* **P** **20 33 01.2 +0.6**
comp=Z,562nm,1.8s
PCAB *epP* **pP** **20 33 48.4 +0.4**
PGAV **Gavieira, Arco** 59.42 302 *eP* **P** **20 33 01.7 +0.6**
comp=Z,513nm,1.6s
PGAV *epP* **pP** **20 33 49.1 +0.6**
ABPO **Ambohimpanom** 59.48 206 *eP* **P** **20 33 02.6 +0.8**
ABPO *e*PP **pP** **20 33 49.4 +0.2**
ABPO pmax pmax
comp=Z,444nm,1.5s
ABPO **Ambohimpanom** 59.48 206 *eP* **P** **20 33 02.6 +0.8**
comp=Z,444nm,1.5s
ABPO *epP* **pP** **20 33 49.4 +0.2**
ABPO **Ambohimpanom** 59.48 206 P **P** **20 33 03.5 +1.7**
comp=Z,450nm,0.7s,SNR=14
MTE **Manteigas** 59.54 300 *eP* **P** **20 33 02.6 +0.6**
comp=Z,521nm,2.1s
MTE *epP* **pP** **20 33 49.9 +0.6**
MTE **Manteigas** 59.54 300⇑ *iP* **P** **20 33 02.5 +0.6**
comp=Z,438nm,1.3s
MTE *ePcP* **pP** **20 33 50.0 +0.6**
PVIS **Viseu** 59.66 300 *eP* **P** **20 33 03.2 +0.5**
comp=Z,475nm,2.0s
PVIS *epP* **pP** **20 33 50.3 +0.1**
PCBR **Castelo Branco** 59.72 299 *eP* **P** **20 33 04.2 +1.2**
comp=Z,113nm,1.5s
PCBR *epP* **pP** **20 33 50.6 +0.1**
PMRV **Marv??o** 59.83 299 *eP* **P** **20 33 04.1 +0.3**
comp=Z,305nm,1.7s
PTO **Porto** 59.98 301 *eP* **P** **20 33 05.9 +1.1**
comp=Z,214nm,1.4s
PBAR **Barrancos** 60.09 297 *eP* **P** **20 33 05.9 +0.3**
comp=Z,336nm,1.6s
PBAR *epP* **pP** **20 33 53.0 -0.1**
PETK **Petropavlovsk-** 60.14 44 P **P** **20 33 05.2 -0.4**
comp=Z,56nm,0.8s,baz=248,slow=3.1,SNR=48
PETK **Petropavlovsk-** 60.14 44 P **P** **20 33 05.3 -0.4**
PETK pmax pmax
comp=Z,56nm,0.8s
PETK **Petropavlovsk-** 60.14 44 P **P** **20 33 05.2 -0.4**
PESTR **Estremoz** 60.20 298 *eP* **P** **20 33 06.8 +0.5**
comp=Z,236nm,1.3s
PESTR *epP* **pP** **20 33 53.6 -0.3**
CBIJ **Chichi jima** 60.21 77 P **P** **20 33 04.2 -2.4**
comp=Z,137nm,0.4s,baz=304,slow=6.9,SNR=10
CBIJ **Chichi jima** 60.21 77 P **P** **20 33 04.2 -2.4**
PTOM **Tomar** 60.47 299 *eP* **P** **20 33 08.6 +0.5**
comp=Z,446nm,1.5s
PTOM *epP* **pP** **20 33 56.2 +0.5**
PMTG **Montargil** 60.56 299 *eP* **P** **20 33 09.1 +0.3**
comp=Z,209nm,1.9s
PMTG *epP* **pP** **20 33 56.0 -0.4**
EVO **Evora** 60.64 298 *eP* **P** **20 33 09.8 +0.5**
comp=Z,301nm,1.8s
EVO *epP* **pP** **20 33 56.6 -0.3**
EVO **Evora** 60.64 298⇑ *iP* **P** **20 33 10.2 +0.9**
comp=Z,287nm,1.2s
EVO *epP* **pP** **20 33 56.7 -0.2**
PET **Petropavlovsk** 60.71 44 *eP* **P** **20 33 08.3 -1.2**
PET pmax pmax
comp=Z,289nm,1.1s
PET **Petropavlovsk** 60.71 44⇑ *eP* **P** **20 33 08.3 -1.2**
comp=Z,288nm,1.1s
PBEJ **Beja** 60.75 297 *eP* **P** **20 33 11.1 +1.1**
comp=Z,258nm,1.5s
PBEJ *epP* **pP** **20 33 57.9 +0.2**
PVAQ **Vaqueiros** 60.90 297 *eP* **P** **20 33 11.4 +0.3**
comp=Z,350nm,1.5s
PVAQ *epP* **pP** **20 33 58.4 -0.4**
SUMG **Summit** 61.03 341⇑ *iP* **P** **20 33 13.4 +1.5**
SUMG *e*PP **pP** **20 34 00.1 +0.5**
SUMG *e* 20 35 26.2
SUMG pmax pmax
comp=Z,117nm,0.8s
SUMG **Summit** 61.03 341⇑ *iP* **P** **20 33 13.4 +1.5**
comp=Z,117nm,0.8s
SUMG *epP* **pP** **20 34 00.1 +0.5**
SUMG *ePP* **PP** **20 35 26.1 -2.3**
SUMG **Summit** 61.03 341 *iP* **P** **20 33 12.4 +0.5**
comp=Z,545nm,1.0s
SUMG *i* 20 34 04.3
PCVE **Castro Verde** 61.04 297 *eP* **P** **20 33 13.6 +1.6**
comp=Z,247nm,1.7s
PCVE *epP* **pP** **20 33 59.7 0.0**
MESJ **Messejana** 61.08 297 *eP* **P** **20 33 12.9 +0.6**
MESJ AMb AMB 20 33 14.2
comp=Z,119nm,1.0s
MESJ *eS* **S** **20 41 14.9 +0.5**
MESJ **Messejana** 61.08 297 *eP* **P** **20 33 12.9 +0.6**
comp=Z,119nm,1.0s
MESJ *eS* **S** **20 41 14.9 +0.5**
MESJ **Messejana** 61.08 297 *eP* **P** **20 33 12.9 +0.6**
MESJ *eS* **S** **20 41 14.9 +0.5**
PBDV **Barranco-do-Ve** 61.13 297 *eP* **P** **20 33 13.3 +0.6**
comp=Z,297nm,1.7s
PBDV *epP* **pP** **20 34 00.7 +0.4**
PNCL **Nicolau / Gran** 61.18 298 *eP* **P** **20 33 13.7 +0.7**
comp=Z,288nm,1.7s
PNCL *epP* **pP** **20 34 00.8 +0.1**
PMAFR **Mafra** 61.36 299 *eP* **P** **20 33 14.7 +0.5**
comp=Z,454nm,1.5s
PMAFR *epP* **pP** **20 34 01.8 -0.1**
LIS **Lisbon** 61.37 299 *eP* **P** **20 33 14.7 +0.5**
LIS AMb AMB 20 33 18.8
comp=Z,218nm,1.5s
LIS *eS* **S** **20 41 18.5 +0.5**
LIS **Lisbon** 61.37 299 *eP* **P** **20 33 14.7 +0.5**
comp=Z,218nm,1.5s
LIS *eS* **S** **20 41 18.5 +0.5**
LIS **Lisbon** 61.37 299 *eP* **P** **20 33 14.6 +0.5**
LIS *eS* **S** **20 41 18.4 +0.5**
PTEO **Sao Teotonio** 61.57 297 *eP* **P** **20 33 16.1 +0.6**
comp=Z,414nm,1.5s
PTEO *epP* **pP** **20 34 03.1 -0.2**
KAPI **Kappang** 61.61 121 *eP* **P** **20 33 14.1 -2.0**
KAPI **Kappang** 61.61 121 P **P** **20 33 14.4 -1.7**
comp=Z,390nm,1.3s
MORF **Marmelete** 61.62 297 *eP* **P** **20 33 17.8 +1.8**
comp=Z,193nm,1.8s
MORF *epP* **pP** **20 34 02.9 -0.8**
MORF **Marmelete** 61.62 297 *eP* **P** **20 33 16.3 +0.3**
MORF *eS* **S** **20 41 21.9 +0.5**
PFVI **Vila Bisbo** 61.82 297 *eP* **P** **20 33 17.9 +0.7**
comp=Z,432nm,1.6s
PFVI *epP* **pP** **20 34 05.2 +0.2**
TORD **Torodi Ar. Bea** 65.51 268 P **P** **20 33 41.0 -0.6**
comp=Z,351nm,0.7s,baz=45,slow=5.1,SNR=581
TORD **Torodi Ar. Bea** 65.51 268 P **P** **20 33 41.0 -0.6**
SFJD **Kangerlussuaq** 67.72 339⇑ *eP* **P** **20 33 55.1 +0.3**
SFJD *e*PP **pP** **20 34 43.4 0.0**
SFJD pmax pmax
comp=Z,253nm,0.9s
SFJD **Kangerlussuaq** 67.72 339⇑ *eP* **P** **20 33 55.1 +0.3**
comp=Z,253nm,0.9s
SFJD *epP* **pP** **20 34 43.4 0.0**
SFJD **Kangerlussuaq** 67.72 339 *iP* **P** **20 33 55.2 +0.4**
comp=Z,159nm,1.0s
SFJD *i* 20 34 43.0
GAMB **Gambell** 68.63 25⇑ *iP* **P** **20 34 01.6 +1.1**
comp=Z,15nm,1.1s
GAMB *ePP* **PP** **20 36 33.4 -0.8**
RES **Resolute Bay** 68.73 356 P **P** **20 34 01.9 +1.1**
comp=Z,91nm,0.9s,baz=26,slow=9.5,SNR=282
RES **Resolute Bay** 68.73 356 *eP* **P** **20 34 01.8 +0.9**
RES **Resolute Bay** 68.73 356 *eP* **P** **20 34 01.8 +0.9**
comp=Z,2.7nm,1.5s
SMY **Shemya** 69.12 39⇑ *eP* **P** **20 34 03.6 -0.1**
SMY pmax pmax
comp=Z,627nm,1.3s
SMY **Shemya** 69.12 39⇑ *eP* **P** **20 34 03.6 -0.1**
comp=Z,627nm,1.3s
PMAR **Madeira** 69.75 296 *eP* **P** **20 34 08.4 +0.2**
comp=Z,717nm,1.9s
PMAR *epP* **pP** **20 34 57.8 +0.7**
FUL **Funchal** 69.78 296 *eP* **P** **20 34 09.3 +1.2**
comp=Z,474nm,1.6s
FUL *epP* **pP** **20 34 57.4 +0.4**
PMOZ **Porto Moniz, M** 69.91 296 *eP* **P** **20 34 09.3 +0.3**
comp=Z,430nm,2.1s
PMOZ *epP* **pP** **20 34 58.8 +0.8**
MSNA **Messina** 70.00 220⇓ *iP* **P** **20 34 10.6 +1.1**
MSNA AMB AMB 20 34 15.4
comp=Z,185nm,1.2s
COLD **Coldfoot** 72.07 16⇑ *iP* **P** **20 34 22.3 +1.0**
comp=Z,703nm,0.9s
COLD *epP* **pP** **20 35 14.7 +4.2**
BART **Pico Bartolome** 72.84 304 *eP* P 20 34 32.9 +6.5
PSMN **Pico do Norte,** 73.19 304 *eP* **P** **20 34 28.6 +0.2**
comp=Z,158nm,1.2s
PSMN *eP* **pP** **20 35 18.5 +0.7**
PSMA **Santa Maria** 73.23 304 *eP* **P** **20 34 29.0 +0.4**
comp=Z,100nm,0.8s
PSMA *eP* **pP** **20 35 17.3 -0.8**

POGA Pongola 73.41 216⇓ *iP* **P 20 34 30.1 +0.6**
POGA AMB AMB 20 34 33.8
comp=Z,381nm,0.8s
MBWA Marble Bar 73.65 133⇑ *eP* **P 20 34 31.0 -0.2**
comp=Z,262nm,1.1s
MBWA *epP* **pP 20 35 19.2 -1.4**
SLR Silverton 73.68 219 *eP* **P 20 34 32.4 +1.0**
SLR AMB AMB 20 34 37.1
comp=Z,162nm,1.6s
INK Inuvik 73.98 9 P **P 20 34 33.8 +1.4**
comp=Z,878nm,0.9s,baz=359,slow=7.2,SNR=1257
INK Inuvik 73.98 9⇑ *iP* **P 20 34 33.2 +0.8**
INK *e*PP **pP 20 35 21.4 -0.5**
INK Inuvik 73.98 9⇑ *iP* **P 20 34 33.2 +0.8**
comp=Z,11nm,1.4s
INK *epP* **pP 20 35 21.4 -0.5**
TTA Tatalina 74.13 20 *eP* **P 20 34 34.6 +1.1**
TTA Tatalina 74.13 20 *eP* **P 20 34 34.6 +1.1**
ERPM east rand prop 74.20 219 *eP* **P 20 34 34.9 +0.4**
ERPM AMB AMB 20 34 39.4
comp=Z,197nm,1.3s
PMAN Manadas 74.28 306 *eP* **P 20 34 36.0 +1.3**
comp=Z,210nm,1.0s
PMAN *epP* **pP 20 35 26.9 +2.7**
ROSA Rosais 74.33 307 *eP* **P 20 34 36.5 +1.5**
comp=Z,331nm,1.3s
DBIC Dimbokro 74.49 267 P **P 20 34 35.3 -1.0**
comp=Z,68nm,0.5s,baz=34,slow=6.8,SNR=116
DBIC pP **pP 20 35 25.8 0.0**
comp=Z,107nm,0.9s,baz=27,slow=6.8,SNR=4.6
DBIC PKKPbc **PKKPbc 20 54 01.6 +1.4**
comp=Z,2.0nm,0.6s,baz=158,slow=5.2,SNR=8.1
DBIC PKPPKP P'P'df 21 01 53.2 -12
comp=Z,3.0nm,1.0s,baz=231,slow=6.5,SNR=3.2
DBIC Dimbokro 74.49 267 P **P 20 34 35.3 -1.0**
DBIC *PP **pP 20 35 25.8 0.0**
DBIC pmax pmax
comp=Z,68nm,0.5s
DBIC Dimbokro 74.49 267 P **P 20 34 35.3 -1.0**
DBIC pP **pP 20 35 25.8 0.0**
DBIC PKKPbc **PKKPbc 20 54 01.6 +1.4**
DBIC P'P' 21 01 53.2
KLOF Kloof 74.53 220 *eP* **P 20 34 37.0 +0.6**
KLOF AMB AMB 20 34 40.5
comp=Z,228nm,0.9s
COLA College 74.58 16⇑ *iP* **P 20 34 36.6 +0.7**
COLA *e*PP **pP 20 35 25.4 0.0**
COLA *e* 20 37 24.3
COLA pmax pmax
comp=Z,1µm,0.9s
COLA College 74.58 16⇑ *iP* **P 20 34 36.6 +0.7**
comp=Z,1µm,0.9s
COLA *epP* **pP 20 35 25.4 0.0**
COLA *ePP* **PP 20 37 24.3 -0.5**
ILAR Eielson Array 74.88 16 P **P 20 34 37.5 -0.1**
comp=Z,510nm,1.0s,baz=319,slow=4.4,SNR=908
ILAR pP **pP 20 35 28.1 +0.8**
comp=Z,16nm,0.8s,baz=346,slow=11,SNR=2.4
ILAR PP **PP 20 37 27.6 +0.2**
comp=Z,24nm,0.7s,baz=320,slow=7.5,SNR=5.1
ILAR PKKPbc **PKKPbc 20 54 00.4 +0.1**
comp=Z,0.8nm,0.6s,baz=197,slow=1.9,SNR=5.5
ILAR PKPPKP P'P'df 21 01 50.2 -14
comp=Z,4.0nm,1.1s,baz=213,slow=2.7,SNR=4.2
ILAR Eielson Array 74.88 16 P **P 20 34 37.6 -0.1**
ILAR *PP **pP 20 35 28.1 +0.8**
ILAR 20 37 27.6
ILAR pmax pmax
comp=Z,510nm,1.0s
ILAR pmax pmax
comp=Z,24nm,0.7s
ILAR Eielson Array 74.88 16 P **P 20 34 37.5 -0.1**
ILAR pP **pP 20 35 28.1 +0.8**
ILAR PP **PP 20 37 27.6 +0.2**
ILAR PKKPbc **PKKPbc 20 54 00.4 +0.1**
ILAR P'P' 21 01 50.2
LIC Lamto 74.89 267⇑ *iP* **P 20 34 37.6 -0.9**
comp=Z,343nm,0.9s
LIC *epP* **pP 20 35 26.0 -2.2**
FITZ Fitzroy Crossi 75.03 126 P **P 20 34 39.4 +0.3**
comp=Z,201nm,0.9s,baz=335,slow=7.1,SNR=22
FITZ Fitzroy Crossi 75.03 126 P **P 20 34 39.4 +0.3**
FRB Frobisher Bay 75.04 343 P **P 20 34 39.1 +0.6**
comp=Z,238nm,1.0s,baz=19,slow=5.6,SNR=120
FRB pP **pP 20 35 28.8 +0.6**
comp=Z,60nm,0.8s,baz=15,slow=7.2,SNR=2.8
FRB Frobisher Bay 75.04 343 P **P 20 34 39.1 +0.6**
FRB *PP **pP 20 35 28.8 +0.6**
FRB pmax pmax
comp=Z,238nm,1.0s
FRB Frobisher Bay 75.04 343 P **P 20 34 39.1 +0.6**
FRB pP **pP 20 35 28.8 +0.6**
PRYS Parys 75.13 219 *eP* **P 20 34 40.1 +0.4**
PRYS AMB AMB 20 34 43.5
comp=Z,165nm,1.0s
PPLA Purkeypile 75.19 19⇑ *iP* **P 20 34 40.3 +0.6**
comp=Z,192nm,0.6s
PPLA *ePP* **PP 20 37 31.6 +1.3**
TRF Thorofare Moun 75.21 18 *eP* **P 20 34 39.9 +0.1**
comp=Z,11nm,1.1s
TRF *ePP* **PP 20 37 27.9 -2.5**
MCK McKinley 75.30 17⇑ *eP* **P 20 34 39.9 -0.2**
MCK pmax pmax
comp=Z,412nm,1.0s
MCK McKinley 75.30 17⇑ *eP* **P 20 34 39.9 -0.2**
comp=Z,412nm,1.0s
MCK *ePP* PP 20 37 20.7 -10
SVW2 Sparrevohn 75.72 21 *eP* **P 20 34 43.9 +1.4**
comp=Z,344nm,1.8s
EGAK Eagle 76.04 13⇑ *eP* **P 20 34 45.1 +0.9**
comp=Z,10µm,0.8s
EGAK *epP* **pP 20 35 34.0 0.0**
DOT Dot Lake 76.47 15 *eP* **P 20 34 47.2 +0.5**
comp=Z,153nm,0.9s
PAX Paxson 76.76 16⇑ *iP* **P 20 34 48.7 +0.3**
PAX pmax pmax
comp=Z,1µm,1.1s
PAX Paxson 76.76 16⇑ *iP* **P 20 34 48.7 +0.3**
comp=Z,1µm,1.1s
DAWY Dawson 77.01 13⇑ *iP* **P 20 34 50.5 +0.8**
DAWY *ePP* **PP 20 37 45.7 +0.4**
RSO Redoubt South 77.05 20 *eP* **P 20 34 50.3 +0.1**
comp=Z,703nm,0.9s
RSO *epP* **PP 20 37 42.8 -3.1**
PMR Palmer 77.07 18 *eP* **P 20 34 50.2 +0.2**
PMR pmax pmax
comp=Z,437nm,0.8s
PMR Palmer 77.07 18 *eP* **P 20 34 50.2 +0.2**
comp=Z,437nm,0.8s
SML Sawmill 77.09 18⇑ *iP* **P 20 34 50.5 +0.2**
SML *e*PP **pP 20 35 39.9 -0.2**
SML Sawmill 77.09 18⇑ *iP* **P 20 34 50.5 +0.2**
comp=Z,16nm,1.0s
SML *epP* **pP 20 35 39.9 -0.2**
RC01 Rabbit Creek A 77.34 19⇑ *iP* **P 20 34 51.9 +0.3**
comp=Z,653nm,1.0s
RC01 *epP* **pP 20 35 36.9 -4.6**
RC01 *es*P **sP 20 36 02.6 -1.2**
RC01 *ePP* **PP 20 37 46.4 -1.7**
AKUT Akutan 77.49 30 *eP* **P 20 34 52.8 +0.3**
comp=Z,306nm,1.3s
BOSA Boshof 77.58 220 P **P 20 34 54.0 +0.5**
comp=Z,261nm,0.8s,baz=35,slow=5.2,SNR=146
BOSA pP **pP 20 35 43.8 +0.4**
comp=Z,110nm,0.9s,baz=37,slow=6.2,SNR=3.5
BOSA PKKPbc **PKKPbc 20 53 55.6 -0.1**
comp=Z,2.3nm,0.5s,baz=204,slow=2.4,SNR=8.0
BOSA PKPPKP **P'P'df 21 02 00.7 +4.0**
comp=Z,12nm,1.2s,baz=214,slow=3.4,SNR=3.8
BOSA Boshof 77.58 220⇑ *iP* **P 20 34 53.8 +0.4**
BOSA AMB AMB 20 34 54.4
comp=Z,1µm,5.0s
BOSA Boshof 77.58 220 *eP* **P 20 34 53.5 +0.1**
BOSA *PP **pP 20 35 43.8 +0.4**
BOSA pmax pmax
comp=Z,270nm,0.9s
BOSA Boshof 77.58 220 *eP* **P 20 34 53.5 +0.1**
comp=Z,270nm,0.9s
BOSA *epP* **pP 20 35 41.6 -1.8**
BOSA pP **pP 20 35 43.8 +0.4**
BOSA PKKPbc **PKKPbc 20 53 55.6 -0.1**
BOSA P'P' 21 02 00.7
SLKM Skilak Lake 77.71 19⇑ *eP* **P 20 34 53.3 -0.4**
SLKM *e**PP **pP 20 35 41.8 -1.9**
SLKM *e* 20 37 51.3
SLKM Skilak Lake 77.71 19⇑ *eP* **P 20 34 53.3 -0.4**
SLKM *epP* **pP 20 35 41.8 -1.9**
SLKM *ePP* **PP 20 37 51.3 +0.1**
FALS False Pass 77.89 29 *eP* **P 20 34 53.9 -0.8**
comp=Z,197nm,0.5s
FALS *ePP* **PP 20 37 52.2 -0.6**
SEW Seward 78.26 19⇑ *eP* **P 20 34 56.3 -0.3**
comp=Z,457nm,1.0s
SEW *ePP* **PP 20 37 52.8 -2.9**
DIV Divide 78.30 17⇑ *eP* **P 20 34 57.6 +0.7**
comp=Z,6.5nm,1.2s
DIV *epP* **pP 20 35 50.2 +3.3**
CHGN Chignik 78.62 25 *eP* **P 20 34 58.3 -0.4**
SDPT Sand Point 78.62 27 *eP* **P 20 34 58.6 -0.1**
comp=Z,223nm,0.7s
KDAK Kodiak Island 79.31 22 P **P 20 35 04.2 +1.8**
comp=Z,837nm,0.7s,baz=343,slow=3.3,SNR=484
KDAK PKKPbc **PKKPbc 20 53 50.1 -0.5**
comp=Z,6.8nm,0.7s,baz=130,slow=2.8,SNR=5.2
KDAK Kodiak Island 79.31 22⇑ *iP* **P 20 35 03.0 +0.6**
KDAK *e**PP **pP 20 35 52.9 +0.3**
KDAK pmax pmax
comp=Z,1µm,1.1s
KDAK Kodiak Island 79.31 22⇑ *iP* **P 20 35 03.0 +0.6**
comp=Z,1µm,1.1s
KDAK *epP* **pP 20 35 52.9 +0.3**
KDAK PKKPbc **PKKPbc 20 53 50.1 -0.5**
KDAK Kodiak Island 79.31 22 P **P 20 35 03.0 +0.6**
comp=Z,7µm,0.9s
OHAK Old Harbor 79.56 23 *eP* **P 20 35 04.3 +0.5**
comp=Z,2µm,1.2s
SOE Somerset East 80.74 217 *eP* **P 20 35 11.0 +0.6**
SOE AMB AMB 20 35 14.4
comp=Z,163nm,1.1s
KLBR Kellerberrin 80.75 141 *eP* **P 20 35 08.6 -1.8**
comp=Z,100nm,0.8s
GRM Grahamstown 80.78 216⇑ *iP* **P 20 35 11.0 +0.4**
GRM AMB AMB 20 35 11.5
comp=Z,342nm,1.0s
PNL Peninsula 81.03 15⇑ *iP* **P 20 35 12.9 +1.3**
comp=Z,604nm,0.9s
PNL *ePP* **PP 20 38 21.6 +3.0**
NWAO Narrogin (SRO) 81.56 142 P **P 20 35 13.5 -1.1**
comp=Z,74nm,0.7s,baz=323,slow=5.5,SNR=17
NWAO pP **pP 20 36 06.3 +1.2**
comp=Z,87nm,1.0s,baz=304,slow=8.3,SNR=3.9
NWAO Narrogin (SRO) 81.56 142 P **P 20 35 13.5 -1.1**
NWAO *PP **pP 20 36 06.3 +1.2**
NWAO pmax pmax
comp=Z,74nm,0.7s
NWAO Narrogin (SRO) 81.56 142⇑ *eP* **P 20 35 13.4 -1.1**
comp=Z,138nm,1.1s
NWAO *epP* **pP 20 36 03.2 -1.9**
NWAO pP **pP 20 36 06.3 +1.2**
SCHQ Schefferville 82.05 337 P **P 20 35 17.5 +0.4**
comp=Z,61nm,0.7s,baz=40,slow=5.1,SNR=64
SCHQ pP **pP 20 36 07.8 +0.2**
comp=Z,67nm,0.8s,baz=48,slow=8.4,SNR=4.7
SCHQ PKKPbc **PKKPbc 20 53 42.8 -1.8**
comp=Z,5.8nm,0.9s,baz=243,slow=2.3,SNR=4.7
SCHQ Schefferville 82.05 337 P **P 20 35 17.5 +0.4**
SCHQ pP **pP 20 36 07.8 +0.2**
SCHQ PKKPbc **PKKPbc 20 53 42.8 -1.8**
WRA Warramunga Arr 82.14 122 P **P 20 35 17.3 -0.7**
comp=Z,367nm,0.7s,baz=324,slow=4.9,SNR=72
WRA Warramunga Arr 82.14 122 P **P 20 35 17.3 -0.7**
WRA pmax pmax
comp=Z,367nm,0.7s
WRA Warramunga Arr 82.14 122 P **P 20 35 17.3 -0.7**
WRAB Tennant Creek 82.14 122 P **P 20 35 17.2 -0.8**
comp=Z,4µm,1.0s,SNR=8.5
KOMG Komaggas 82.72 225 *eP* **P 20 35 21.3 +0.6**
KOMG AMB AMB 20 35 24.0
comp=Z,80nm,0.8s
CVNA Calvinia 82.75 222 *eP* **P 20 35 21.1 +0.1**
CVNA AMB AMB 20 35 25.1
comp=Z,93nm,1.0s
SUR Sutherland 82.89 221 P **P 20 35 23.1 +1.4**
baz=49,slow=4.7
SUR Sutherland 82.89 221 *eP* **P 20 35 22.6 +0.9**
SUR AMB AMB 20 35 25.4
comp=Z,68nm,0.8s
SUR Sutherland 82.89 221 *eP* **P 20 35 22.7 +0.9**
comp=Z,101nm,0.8s
SUR *epP* **pP 20 36 08.9 -3.5**
SUR Sutherland 82.89 221 P **P 20 35 22.0 +0.2**
comp=Z,741nm,0.8s,SNR=37
WAKE Wake Island 83.35 71 *eP* **P 20 35 24.2 0.0**
comp=Z,450nm,0.9s
DLBC Dease Lake 83.88 11 P **P 20 35 27.7 +1.3**
comp=Z,262nm,0.8s,baz=340,slow=4.8,SNR=498
DLBC PKKPbc **PKKPbc 20 53 39.3 -1.3**
comp=Z,5.2nm,0.9s,baz=150,slow=11,SNR=7.0
DLBC Dease Lake 83.88 11⇑ *eP* **P 20 35 27.6 +1.2**
DLBC PKKPbc **PKKPbc 20 53 39.3 -1.3**
ASAR Alice Springs 84.40 125 P **P 20 35 28.9 -0.6**
comp=Z,290nm,0.8s,baz=309,slow=4.9,SNR=86
ASAR *epP* **pP 20 36 22.2 +2.0**
comp=Z,56nm,0.9s,baz=320,slow=5.3,SNR=2.3
ASAR Alice Springs 84.40 125 P **P 20 35 28.9 -0.6**
ASAR *PP **pP 20 36 22.3 +2.0**
ASAR pmax pmax
comp=Z,290nm,0.8s
ASAR Alice Springs 84.40 125 P **P 20 35 28.9 -0.6**
ASAR pP **pP 20 36 22.2 +2.0**
COEN Coen 84.58 112⇑ *eP* **P 20 35 29.9 -0.6**
comp=Z,2µm,0.8s
PMG Port Moresby 84.79 106 P **P 20 35 31.3 -0.3**
comp=Z,354nm,1.0s,baz=320,slow=4.1,SNR=34
PMG Port Moresby 84.79 106 P **P 20 35 31.3 -0.3**
PMG pmax pmax
comp=Z,355nm,1.0s
PMG Port Moresby 84.79 106 *eP* **P 20 35 31.0 -0.5**
comp=Z,485nm,1.1s
ELIM Elim 85.17 220 *eP* **P 20 35 33.2 +0.2**
FORT Forrest 85.79 133 *eP* **P 20 35 35.8 -0.3**
comp=Z,304nm,0.6s
FORT Forrest 85.79 133⇑ *iP* **P 20 35 35.6 -0.5**
comp=Z,274nm,0.6s
CRAG Craig 86.19 13 *eP* **P 20 35 38.8 +1.0**
comp=Z,122nm,0.7s
FFC Flin Flon 88.97 356⇑ *eP* **P 20 35 51.8 +0.7**
FFC *e**PP **pP 20 36 42.3 -0.1**
FFC pmax pmax
comp=Z,270nm,1.0s
FFC Flin Flon 88.97 356⇑ *eP* **P 20 35 51.8 +0.7**
comp=Z,270nm,1.0s
FFC *epP* **pP 20 36 42.3 -0.1**
FFC Flin Flon 88.97 356 P **P 20 35 51.2 +0.1**
comp=Z,1µm,0.9s
BBB Bella Bella 90.20 11 P **P 20 35 57.5 +0.7**
comp=Z,107nm,1.0s,baz=326,slow=3.2,SNR=12
BBB Bella Bella 90.20 11 P **P 20 35 57.5 +0.7**
CTA Charters Tower 90.71 114 P **P 20 35 59.2 -0.5**
comp=Z,201nm,0.6s,baz=311,slow=5.4,SNR=58
CTA pP **pP 20 36 51.6 +0.6**
comp=Z,87nm,1.0s,baz=298,slow=7.5,SNR=3.4
CTA Charters Tower 90.71 114 *eP* **P 20 35 59.2 -0.5**
comp=Z,190nm,0.6s
CTA Charters Tower 90.71 114 P **P 20 35 59.2 -0.5**
CTA *PP **pP 20 36 51.7 +0.6**
CTA pmax pmax
comp=Z,201nm,0.6s
CTA Charters Tower 90.71 114 P **P 20 35 59.2 -0.5**
CTA pP **pP 20 36 51.6 +0.6**
CTAO Charters Tower 90.71 114⇑ *eP* **P 20 35 58.9 -0.8**
CTAO *e**PP **pP 20 36 51.4 +0.3**
CTAO pmax pmax
comp=Z,372nm,0.9s
CTAO Charters Tower 90.71 114⇑ *eP* **P 20 35 58.9 -0.8**
comp=Z,372nm,0.9s
CTAO *epP* **pP 20 36 51.4 +0.3**
ULM Lac du Bonnet 92.86 351 P **P 20 36 09.0 -0.2**
comp=Z,108nm,1.0s,baz=4.9,slow=4.8,SNR=71
ULM pP **pP 20 37 00.2 -0.4**
comp=Z,42nm,1.0s,baz=6.0,slow=5.9,SNR=3.2
ULM sP **sP 20 37 21.7 -0.7**
comp=Z,48nm,1.1s,baz=343,slow=6.3,SNR=2.4
ULM PP **PP 20 39 49.8 -3.6**
comp=Z,14nm,0.8s,baz=0.0,slow=8.1,SNR=2.8
ULM PKKP **PKKPdf 20 53 13.8 -0.9**
comp=Z,4.5nm,0.6s,baz=216,slow=1.7,SNR=8.0
ULM Lac du Bonnet 92.86 351⇑ *eP* **P 20 36 08.8 -0.4**
ULM *e**PP **pP 20 37 00.2 -0.4**
ULM *SP **sP 20 37 21.7 -0.7**
ULM 20 53 13.8
ULM pmax pmax
comp=Z,114nm,1.1s
ULM Lac du Bonnet 92.86 351⇑ *eP* **P 20 36 08.8 -0.4**
comp=Z,114nm,1.1s
ULM *epP* **pP 20 37 00.1 -0.4**
ULM sP **sP 20 37 21.7 -0.7**
ULM PP **PP 20 39 49.8 -3.6**
ULM PKKP **PKKPdf 20 53 13.8 -0.9**
MDV Middlebury 93.48 335 *eP* **P 20 36 12.2 +0.1**
comp=Z,6µm,0.7s
VDB Vedder Mountai 94.13 8 P **P 20 36 14.8 -0.2**
PGC Sidney 94.33 9 *eP* **P 20 36 16.8 +0.9**
comp=Z,6.4nm,1.1s
SADO Sadowa 94.67 339 P **P 20 36 17.7 +0.1**
comp=Z,9.3nm,0.6s,baz=21,slow=4.8,SNR=10
SADO pP **pP 20 37 09.2 +0.2**
comp=Z,22nm,1.1s,baz=324,slow=4.5,SNR=3.6
SADO Sadowa 94.67 339 P **P 20 36 17.7 +0.1**
SADO pP **pP 20 37 09.2 +0.2**
CMW Cultus Mountai 94.72 9 P **P 20 36 18.6 +0.7**
WALA Waterton Lakes 94.76 3 *eP* **P 20 36 18.3 +0.2**
comp=Z,1.0nm,2.8s
WALA *epP* **pP 20 37 09.0 -0.6**
WALA *ePP* **PP 20 40 03.6 -4.7**
RPW Rockport 94.77 8 *eP* **P 20 36 18.1 +0.1**
comp=Z,55nm,0.7s
AGMN Agassiz Nation 94.78 351⇑ *eP* **P 20 36 17.9 -0.2**
comp=Z,48nm,0.3s
AGMN *epP* **pP 20 37 06.8 -2.7**
AGMN *ePP* **PP 20 40 07.8 -0.5**
A14A Double T Ranch 94.86 3 ⇓P **P 20 36 19.1 +0.5**
baz=94
A24A Westby 94.86 357 ⇑P **P 20 36 19.6 +1.1**
baz=94,SNR=19
A23A Redstone 94.87 357 ⇓P **P 20 36 19.6 +1.1**
baz=94,SNR=15
A22A Carney Farms, 94.87 358 ⇓P **P 20 36 19.4 +0.9**
baz=94,SNR=17
A15A Johnson Ranch, 94.88 2 ⇓P **P 20 36 19.2 +0.5**
baz=94
A21A Bergtoll Ranch 94.90 358 P **P 20 36 19.5 +0.9**
baz=95,SNR=50
STKA Stephens Creek 94.93 126 P **P 20 36 17.4 -1.4**
comp=Z,17nm,0.4s,baz=2.5,slow=5.0,SNR=21
STKA Stephens Creek 94.93 126 *eP* **P 20 36 17.2 -1.6**
comp=Z,14nm,0.4s
STKA Stephens Creek 94.93 126 P **P 20 36 17.4 -1.4**
STKA pmax pmax
comp=Z,17nm,0.4s
STKA Stephens Creek 94.93 126 *eP* **P 20 36 17.1 -1.8**
comp=Z,6.5nm,0.8s
A16A West Butte Ran 94.94 2 ⇓P **P 20 36 19.2 +0.2**
baz=95
A17A Triple J Farms 94.96 1 ⇑P **P 20 36 19.5 +0.6**
baz=95
JCW Jim Creek 94.97 8 *eP* **P 20 36 19.0 +0.1**
comp=Z,4.4nm,0.7s
A19A Klindworth Far 94.99 360 ⇑P **P 20 36 19.9 +0.8**
baz=95
A18A Metzger Ranch, 95.00 0 P **P 20 36 19.8 +0.7**
baz=95,SNR=96
A20A Cobblestone Ra 95.03 359 P **P 20 36 20.1 +0.9**
baz=95,SNR=113
DGMT Dagmar 95.33 357 *eP* **P 20 36 21.5 +0.9**
comp=Z,145nm,1.0s
DGMT *epP* **pP 20 37 12.5 +0.4**
DGMT *ePP* PP 20 40 06.8 -5.7
DGMT Dagmar 95.33 357 ⇑P **P 20 36 21.8 +1.2**
baz=95,SNR=9.3
B23A Brookton 95.37 357 P **P 20 36 22.0 +1.2**
baz=95,SNR=29
B19A Brinkman Farms 95.46 360 P **P 20 36 22.0 +0.8**
baz=95,SNR=64
B21A Ellsworth Farm 95.47 359 ⇓P **P 20 36 22.7 +1.4**
baz=95,SNR=9.7
B20A Solberg Farm, 95.47 359 ⇓P **P 20 36 22.2 +0.9**
baz=95
B16A M & M Farms, S 95.48 2 ⇓P **P 20 36 21.7 +0.4**
baz=95
B14A Marquette Ranc 95.48 3 ⇑P **P 20 36 21.9 +0.4**
baz=95
NLWA Neilton Lookou 95.51 10 *eP* **P 20 36 23.0 +1.6**
comp=Z,111nm,1.0s
B18A Beardsley Farm 95.52 0 P **P 20 36 22.1 +0.6**
baz=95,SNR=103
B15A Bradely Ranch, 95.55 2 ⇑P **P 20 36 22.0 +0.3**
baz=95
B22A Reddig Ranch S 95.57 358 ⇓P **P 20 36 23.1 +1.4**
baz=95,SNR=7.2
B17A L&G Farms, Che 95.61 1 P **P 20 36 22.6 +0.7**
baz=95,SNR=99
MDND Maddock 95.63 353 P **P 20 36 22.6 +0.6**
baz=95,SNR=9.7
RMW Rattlesnake Mo 95.71 9 P **P 20 36 23.3 +0.9**
RMW Rattlesnake Mo 95.71 9 P **P 20 36 23.3 +0.9**
ETW Entiat 95.73 8 *eP* **P 20 36 22.4 -0.2**
comp=Z,78nm,1.1s
C09A Chrisman Ranch 95.73 6 ⇑P **P 20 36 23.3 +0.9**
baz=95
BLMT Blacktail Moun 95.78 3 *eP* **P 20 36 23.3 +0.4**
comp=Z,52nm,1.1s
EGMT Eagleton 95.89 0 *eP* **P 20 36 23.1 -0.1**
comp=Z,966nm,0.5s
EGMT *epP* **PP 20 40 17.6 +0.6**
EGMT Eagleton 95.89 0 ⇑P **P 20 36 24.2 +1.0**
baz=96,SNR=36
BSMT Bassoo Peak 95.92 4⇑ *iP* **P 20 36 24.4 +0.8**
comp=Z,286nm,1.3s
BSMT *epP* **pP 20 37 14.4 -0.6**
BSMT *ePP* **PP 20 40 16.1 -1.2**
YBMT Yellow Bay 95.95 3 *eP* **P 20 36 23.8 +0.2**
comp=Z,16nm,0.8s
YBMT *ePP* PP 20 40 07.8 -10
C12B Naegeli Ranch, 96.02 4 ⇑P **P 20 36 25.1 +1.3**
baz=96
C23A Lambert 96.04 357 P **P 20 36 25.4 +1.5**
baz=96,SNR=27
JTMT Jette 96.05 3 *eP* **P 20 36 24.4 +0.4**
comp=Z,30nm,0.8s
JTMT *epP* **pP 20 37 13.8 -1.7**
JTMT *ePP* PP 20 40 10.7 -7.6
C21A Desert Coulee 96.07 359 ⇑P **P 20 36 25.3 +1.4**
baz=96
C16A Fuhringer Ranc 96.09 2 ⇑P **P 20 36 24.5 +0.3**
baz=96
C15A Salmond Ranch, 96.09 2 P **P 20 36 24.6 +0.4**
baz=96,SNR=42
OD2 Odessa Site #2 96.10 6 P **P 20 36 24.6 +0.5**
C22A Vida 96.12 358 P **P 20 36 25.7 +1.5**
baz=96,SNR=43
TBM Table Mountain 96.13 8 P **P 20 36 24.7 +0.4**
C19A Slack Wire Ran 96.18 360 P **P 20 36 25.3 +0.8**
baz=96,SNR=43
C20A Veseth Ranch, 96.20 359 P **P 20 36 25.1 +0.6**
baz=96,SNR=53
C17A Wharram Farm, 96.28 1 P **P 20 36 25.4 +0.4**
baz=96,SNR=85
C24A Savage 96.28 357 ⇓P **P 20 36 26.6 +1.6**
baz=96,SNR=7.9
SWMT Swartz Lake 96.30 3 *eP* **P 20 36 25.2 +0.1**
comp=Z,732nm,0.3s
SWMT *ePP* **PP 20 40 15.6 -4.6**
LON Longmire 96.40 9 *eP* **P 20 36 25.8 +0.3**
LON *e**PP **pP 20 37 16.5 -0.6**
LON pmax pmax
comp=Z,60nm,0.8s
LON Longmire 96.40 9 *eP* **P 20 36 25.8 +0.3**
comp=Z,60nm,0.8s
LON *epP* **pP 20 37 16.5 -0.6**
WPW White Pass 96.49 8 P **P 20 36 26.9 +0.9**
SLMT Seeley Lake 96.59 3 *eP* **P 20 36 26.8 +0.3**
comp=Z,42nm,0.9s
SLMT *epP* **pP 20 37 18.8 +0.8**
SLMT *ePP* **PP 20 40 18.0 -4.5**
D23A Lindsay 96.67 357 P **P 20 36 28.3 +1.6**
baz=96,SNR=22
D24A Glendive 96.69 357 ⇓P **P 20 36 28.0 +1.2**
baz=96
D13A Huson 96.69 4 P **P 20 36 27.2 +0.4**
baz=96,SNR=14
D18A Linhart Farms, 96.72 0 ⇓P **P 20 36 27.7 +0.7**
baz=96,SNR=12
D22A Cohagen 96.72 358 ⇓P **P 20 36 29.1 +2.1**
baz=96,SNR=8.3
TDL Tradedollar La 96.75 9 P **P 20 36 28.1 +0.9**
MXC Moxie City 96.75 8 P **P 20 36 28.0 +0.9**

D14A **Greenough** 96.75 3 P P 20 36 27.6 +0.4
baz=96,SNR=42
D19A **Cripps Ranch,** 96.75 360 P P 20 36 27.9 +0.7
baz=96,SNR=38
D17A **Six Diamond Ra** 96.76 1 P P 20 36 28.0 +0.7
baz=96,SNR=106
D20A **Manuel Ranch,** 96.82 359 P P 20 36 28.0 +0.6
baz=96,SNR=29
D21A **La Casta Ranch** 96.83 358 P P 20 36 28.6 +1.1
baz=96,SNR=22
D16A **Dana Ranch, Ca** 96.86 2 P P 20 36 28.4 +0.7
baz=96,SNR=42
CHMT **Chamberlain Mo** 96.93 3 *e*P P 20 36 28.1 +0.1
comp=Z,121nm,0.5s
CHMT *e*pP **pP** 20 37 20.7 +1.1
CHMT *e*PP **PP** 20 40 23.1 -2.1
RSW **Rattlesnake Hi** 97.00 7 *e*P P 20 36 28.7 +0.5
comp=Z,39nm,1.2s
HAWA **Hanford** 97.01 7 *e*P P 20 36 28.5 +0.3
comp=Z,11nm,0.8s
E09A **Wood Farm, Sta** 97.02 6 ⇑P P 20 36 29.0 +0.8
baz=97
ASR **Mount Adams--S** 97.02 9 P P 20 36 29.4 +1.0
E24A **Baker** 97.24 357 ⇑P P 20 36 30.7 +1.4
baz=97,SNR=8.0
E23A **Ismay** 97.34 357 ⇑P P 20 36 31.0 +1.3
baz=97,SNR=7.6
SPMN **St. Paul** 97.34 348 ⇓P P 20 36 29.7 0.0
baz=97
E18A **Harlowton** 97.35 0 ⇓P P 20 36 30.9 +1.0
baz=97,SNR=37
E21A **Keefer Ranch,** 97.36 358 ⇓P P 20 36 30.9 +1.1
baz=97
E16A **East Helena** 97.36 2 P P 20 36 30.9 +1.0
baz=97,SNR=69
E13A **Victor** 97.36 3 ⇓P Pdif 20 36 30.1 +0.1
baz=97,SNR=18
E20A **Meyer Farm, Mu** 97.41 359 P P 20 36 30.8 +0.7
baz=97,SNR=44
E14A **Clinton** 97.41 3 P P 20 36 30.9 +0.6
baz=97,SNR=38
E22A **Miles City** 97.43 358 ⇑P P 20 36 31.2 +1.1
baz=97,SNR=7.8
E15A **Deer Lodge** 97.44 2 P P 20 36 30.9 +0.5
baz=97,SNR=34
E17A **Martinsdale** 97.44 1 P P 20 36 31.5 +1.1
baz=97,SNR=35
E19A **Rath Farm, Rou** 97.46 360 P P 20 36 31.1 +0.8
baz=97,SNR=38
F10A **Beach Ranch, E** 97.63 6 ⇑P P 20 36 31.9 +0.8
baz=97,SNR=33
LNOR **Lincton Mounta** 97.64 6 *e*P P 20 36 31.4 +0.3
LNOR pmax pmax
comp=Z,8.0nm,0.7s
LNOR **Lincton Mounta** 97.64 6 *e*P P 20 36 31.4 +0.3
comp=Z,8.0nm,0.7s
F24A **Ekalaka** 97.96 357 ⇑P P 20 36 33.8 +1.2
baz=98,SNR=5.9
F12A **Elk City** 97.98 4 ⇓P P 20 36 32.4 -0.3
baz=98
F13A **Darby** 98.00 4 ⇑P Pdif 20 36 32.9 0.0
baz=98,SNR=35
F17A **Fitzpatrick Pl** 98.00 1 ⇓P P 20 36 33.9 +1.0
baz=98,SNR=34
F18A **Big Timber** 98.01 0 P P 20 36 34.0 +1.2
baz=98,SNR=30
F14A **Wisdom** 98.02 3 P P 20 36 34.0 +0.9
baz=98,SNR=27
F15A **Butte** 98.03 2 P P 20 36 33.8 +0.7
baz=98,SNR=30
G06A **Carlson Farm,** 98.03 8 P P 20 36 33.8 +0.9
baz=98,SNR=9.5
LRM **Limekiln Ridge** 98.05 2 *e*P P 20 36 33.6 +0.4
comp=Z,7µm,0.9s
LRM *e*PP **PP** 20 40 33.0 -0.7
F19A **Roth Farm, Mol** 98.06 360 P P 20 36 34.1 +1.0
baz=98,SNR=47
F21A **Absaloka Mine,** 98.07 358 ⇑P P 20 36 33.9 +0.8
baz=98
F22A **Rosebud** 98.09 358 ⇓P P 20 36 33.8 +0.6
baz=98
F16A **Kennard Place,** 98.11 2 ⇓P P 20 36 34.3 +1.0
baz=98,SNR=19
F20A **Billings** 98.11 359 ⇓P P 20 36 34.5 +1.2
baz=98,SNR=12
F23A **Volborg** 98.12 357 ⇑P P 20 36 34.1 +0.8
baz=98,SNR=7.5
GCMT **Greycliff** 98.13 0 *e*P P 20 36 34.1 +0.7
comp=Z,43nm,1.1s
GCMT *e*pP **pP** 20 37 25.6 +0.6
BOZ **Bozeman (W)** 98.24 2 ⇑P P 20 36 35.1 +1.1
baz=98,SNR=36
BOZ ⇑P P 20 36 35.1 +1.1
baz=98,SNR=36
COR **Corvallis** 98.33 10 P P 20 36 35.6 +1.5
COR **Corvallis** 98.33 10 P P 20 36 35.6 +1.5
comp=Z,415nm,1.8s
DLMT **Dillon** 98.50 2 *e*P Pdif 20 36 35.9 +0.8
comp=Z,25nm,1.1s
DLMT *e*PP **PP** 20 40 32.9 -4.2
G14A **Jackson** 98.59 3 ⇓P Pdif 20 36 36.6 +1.0
baz=98,SNR=7.3
G17A **Pierce Place,** 98.59 1 ⇓P Pdif 20 36 37.1 +1.6
baz=98,SNR=9.2
G18A **Lazy EL Ranch,** 98.60 0 ⇑P Pdif 20 36 36.1 +0.5
baz=98,SNR=8.3
G22A **Birney** 98.66 358 ⇑P Pdif 20 36 36.3 +0.6
baz=98,SNR=13
G16A **Moss Hill, Enn** 98.66 2 ⇓P Pdif 20 36 36.5 +0.7
baz=98,SNR=29
G21A **Lodge Grass** 98.67 359 ⇓P Pdif 20 36 36.7 +0.8
baz=98,SNR=6.7
G20A **Bridger** 98.69 359 ⇓P Pdif 20 36 36.7 +0.7
baz=98,SNR=25
G15A **Dillon** 98.70 2 ⇑P Pdif 20 36 37.0 +0.9
baz=98,SNR=18
G13A **Cobalt** 98.70 4 ⇑P Pdif 20 36 36.6 +0.5
baz=98,SNR=47
RLMT **Red Lodge** 98.80 0 *e*P Pdif 20 36 36.9 +0.4
RLMT **Red Lodge** 98.80 0 ⇑P Pdif 20 36 37.6 +1.1
baz=98,SNR=28
RLMT ⇑P Pdif 20 36 37.6 +1.1
baz=98,SNR=28
MCMT **McKenzie Canyo** 99.03 3 *e*Pdif **Pdif** 20 36 38.0 +0.4
comp=Z,23nm,1.5s
MCMT *e*PP **PP** 20 40 36.2 -4.9
H24A **Dirks Ranch, A** 99.06 357 ⇓P **Pdif** 20 36 37.6 +0.1
baz=99,SNR=9.6
QLMT **Earthquake Lak** 99.06 2 *e*Pdif **Pdif** 20 36 38.5 +0.8
comp=Z,3.7nm,1.2s
JFWS **Jewell Farm** 99.12 346 *e*P **Pdif** 20 36 37.1 -0.6
JFWS *e**PP **pP** 20 37 28.0 -1.3
JFWS pmax pmax
comp=Z,40nm,1.0s
JFWS **Jewell Farm** 99.12 346 *e*Pdif **Pdif** 20 36 37.1 -0.6
comp=Z,40nm,1.0s
JFWS *e*pP **pP** 20 37 28.0 -1.3
H16A **Russell Place,** 99.19 1 ⇓P **Pdif** 20 36 39.5 +1.2
baz=99,SNR=13
H12A **Diamond D Ranc** 99.21 4 P **Pdif** 20 36 37.9 -0.5
baz=99,SNR=6.7
H14A **Leadore** 99.22 3 P **Pdif** 20 36 39.5 +1.1
baz=99,SNR=26
H13A **Challis** 99.23 4 P **Pdif** 20 36 38.5 +0.2
baz=99,SNR=8.0
YMR **Madison River** 99.23 1 *e*Pdif **Pdif** 20 36 39.2 +0.7
comp=Z,48nm,1.6s
YMR *e*PP PP 20 40 30.5 -12
H18A **Shoshone NF, C** 99.24 0 ⇓P **Pdif** 20 36 39.6 +1.0
baz=99
H15A **Lima** 99.24 2 ⇑P **Pdif** 20 36 39.3 +0.8
baz=99,SNR=11
H19A **Powell** 99.25 360 P **Pdif** 20 36 39.9 +1.4
baz=99,SNR=15
H21A **Big Horn, Sher** 99.27 358 P **Pdif** 20 36 39.6 +1.1
baz=99,SNR=14
H22A **Clearmont** 99.28 358 ⇓P **Pdif** 20 36 39.4 +0.8
baz=99,SNR=9.0
I07A **Izee** 99.30 7 ⇓P **Pdif** 20 36 39.2 +0.6
baz=99,SNR=23
ECSD **EROS Data Cent** 99.36 351 *e*Pdif **Pdif** 20 36 39.2 +0.4
comp=Z,31nm,0.6s
ECSD *e*pP **pP** 20 37 28.1 -2.3
ECSD *e*sP **sP** 20 37 49.9 -2.3
H20A **Greybull** 99.42 359 P **Pdif** 20 36 40.0 +0.8
baz=99,SNR=19
YFT **Old Faithful** 99.45 1 *e*Pdif **Pdif** 20 36 41.0 +1.5
comp=Z,8.7nm,0.7s

RSSD **Black Hills** 99.66 356 *e*P **Pdif** 20 36 40.9 +0.5
RSSD pmax pmax
comp=Z,73nm,1.4s
RSSD **Black Hills** 99.66 356 *e*Pdif **Pdif** 20 36 40.9 +0.5
comp=Z,73nm,1.4s
FLWY **Flagg Ranch** 99.83 1 *e*Pdif **Pdif** 20 36 42.6 +1.5
comp=Z,103nm,1.7s
I13A **Wildhorse Cree** 99.88 4 P **Pdif** 20 36 41.9 +0.5
baz=100,SNR=11
I19A **Meeteetse** 99.88 360 ⇓P **Pdif** 20 36 42.5 +1.2
baz=100,SNR=10
I14A **Mackay** 99.90 3 ⇓P **Pdif** 20 36 42.3 +0.9
baz=100,SNR=71
I12A **Atlanta** 99.95 4 ⇓P **Pdif** 20 36 42.1 +0.5
baz=100
I24A **Kuemmerle Ranc** 99.95 357 ⇓P **Pdif** 20 36 41.6 +0.1
baz=100
ACSO **Alum Creek Sta** 99.95 340 *e*Pdif **Pdif** 20 36 40.6 -0.9
comp=Z,11nm,0.8s
I20A **Worland** 99.96 359 P **Pdif** 20 36 42.8 +1.2
baz=100,SNR=15
I22A **9 Mile Ranch,** 99.99 358 ⇓P **Pdif** 20 36 42.8 +1.0
baz=100,SNR=8.3
I17A **Pilgrim Ck.** 99.99 1 P **Pdif** 20 36 44.1 +2.2
baz=100,SNR=5.2
I16A **Newdale** 100.02 2 ⇑P **Pdif** 20 36 43.6 +1.7
baz=100,SNR=22
I21A **Big Trails, Te** 100.09 359 P **Pdif** 20 36 42.8 +0.6
baz=100,SNR=49
J08A **Circle Bar Ran** 100.12 7 ⇑P **Pdif** 20 36 43.8 +1.5
baz=100,SNR=14
MOOW **Moose Ponds** 100.16 1 *e*Pdif **Pdif** 20 36 43.5 +0.9
comp=Z,18nm,1.3s
I18A **Diamond G Ranc** 100.22 0 ⇑P **Pdif** 20 36 44.5 +1.6
baz=100,SNR=8.6
HLID **Hailey** 100.22 4 *e*Pdif **Pdif** 20 36 43.0 +0.2
comp=Z,9.6nm,0.9s
HLID **Hailey** 100.22 4 P **Pdif** 20 36 43.7 +0.8
baz=100,SNR=14
MFID **Camas Ranch** 100.28 5 P **Pdif** 20 36 44.2 +1.2
baz=100,SNR=22
LOHW **Long Hollow** 100.30 1 *e*Pdif **Pdif** 20 36 44.4 +1.2
comp=Z,21nm,1.3s
HUMO **Hull Mountain** 100.32 10 *e*Pdif **Pdif** 20 36 44.0 +0.9
comp=Z,11nm,0.7s
J13A **Cove Ranch, Pi** 100.39 4 P **Pdif** 20 36 44.6 +1.1
baz=100,SNR=14
J22A **Midwest** 100.47 358 ⇓P **Pdif** 20 36 44.2 +0.3
baz=100
K05A **Summer Lake** 100.48 9 ⇑P **Pdif** 20 36 45.5 +1.4
baz=100,SNR=7.5
J14A **Carey** 100.50 3 ⇓P **Pdif** 20 36 45.6 +1.6
baz=100
J17A **Brown Place, J** 100.55 1 ⇓P **Pdif** 20 36 44.9 +0.5
baz=100,SNR=13
J21A **Lysite** 100.56 359 ⇑P **Pdif** 20 36 44.8 +0.4
baz=100,SNR=13
J20A **Shoshoni** 100.56 359 ⇑P **Pdif** 20 36 45.4 +1.1
baz=100
J16A **Bone** 100.61 2 P **Pdif** 20 36 46.0 +1.4
baz=100,SNR=7.4
SCIA **State Center** 100.64 348 *e*Pdif **Pdif** 20 36 44.6 +0.1
comp=Z,13nm,0.6s
J19A **Crowheart** 100.65 360 ⇓P **Pdif** 20 36 46.2 +1.4
baz=100,SNR=68
J18A **Kendall Valley** 100.70 1 P **Pdif** 20 36 46.3 +1.2
baz=100,SNR=8.9
ARMA **Armidale** 100.82 120 *e*P **Pdif** 20 36 45.3 -0.2
TOO **Toolangi** 100.99 129 *e*P **Pdif** 20 36 45.5 -0.5
comp=Z,90nm,1.1s
WVOR **Wild Horse Val** 101.02 7 *e*P **Pdif** 20 36 47.0 +0.6
WVOR pmax pmax
comp=Z,42nm,1.2s
WVOR **Wild Horse Val** 101.02 7 *e*Pdif **Pdif** 20 36 47.0 +0.6
comp=Z,42nm,1.2s
WVOR *e*PP PP 20 40 49.6 -6.5
K16A **Soda Springs** 101.06 2 ⇓P **Pdif** 20 36 47.8 +1.2
baz=101,SNR=6.0
K19A **Absolon Red Bu** 101.09 360 ⇑P **Pdif** 20 36 47.3 +0.5
baz=101
K23A **Bowen Ranch, D** 101.09 357 ⇑P **Pdif** 20 36 47.0 +0.3
baz=101
PD02 **Pinedale Array** 101.14 0 *e*Pdif **Pdif** 20 36 47.1 +0.1
PD02 *e*PP **PP** 20 40 53.9 -3.2
PD01 **Pinedale Array** 101.14 0 *e*Pdif **Pdif** 20 36 47.0 0.0
BW06 **Boulder Array** 101.15 0 *e*Pdif **Pdif** 20 36 47.4 +0.3
comp=Z,1µm,1.4s
BW06 **Boulder Array** 101.15 0 ⇑P **Pdif** 20 36 47.7 +0.6
baz=101,SNR=7.1
BW06 ⇑P **Pdif** 20 36 47.7 +0.6
baz=101,SNR=7.1
PDAR **Pinedale Array** 101.15 0 P **Pdif** 20 36 47.5 +0.5
comp=Z,5.2nm,0.8s,baz=28,slow=2.9,SNR=27
PDAR PP **PP** 20 40 55.0 -2.2
comp=Z,23nm,1.1s,baz=5.6,slow=6.1,SNR=6.2
PDAR PKiKP **PKiKP** 20 41 09.9 -0.9
comp=Z,4.5nm,0.7s,baz=72,slow=2.9,SNR=6.4
PDAR PKKPbc **PKKPbc** 20 52 52.3 -4.2
comp=Z,3.0nm,0.6s,baz=128,slow=4.9,SNR=15
PDAR SKKP 20 56 15.1
comp=Z,2.1nm,0.9s,baz=183,slow=3.6,SNR=4.1
PDAR PKPPKP P'P'df 21 01 08.2 -7.9
comp=Z,2.2nm,1.1s,baz=170,slow=5.5,SNR=8.5
PDAR **Pinedale Array** 101.15 0 P **Pdif** 20 36 47.5 +0.5
PDAR PP **PP** 20 40 55.0 -2.2
PDAR PKiKP **PKiKP** 20 41 09.9 -0.9
PDAR PKKPbc **PKKPbc** 20 52 52.3 -4.2
PDAR SKKP 20 56 15.1
PDAR P'P' 21 01 08.2
K15A **Arbon** 101.18 2 ⇓P **Pdif** 20 36 48.1 +1.0
baz=101,SNR=8.8
HDIL **Hopedale** 101.20 345 *e*Pdif **Pdif** 20 36 46.3 -0.7
comp=Z,69nm,1.5s
YBH **Yreka Blue Hor** 101.22 10 *e*P **Pdif** 20 36 47.6 +0.4
YBH pmax pmax
comp=Z,15nm,1.1s
YBH **Yreka Blue Hor** 101.22 10 *e*Pdif **Pdif** 20 36 47.6 +0.4
comp=Z,15nm,1.1s
K22A **Casper** 101.23 358 ⇑P **Pdif** 20 36 47.5 +0.1
baz=101
KRMB **Red Mountain** 101.24 11 *e*Pdif **Pdif** 20 36 48.1 +0.8
comp=Z,22nm,1.2s
K20A **Yellowstone Ra** 101.26 359 ⇓P **Pdif** 20 36 48.3 +0.8
baz=101,SNR=12
K21A **Alcova** 101.26 358 ⇓P **Pdif** 20 36 48.2 +0.6
baz=101,SNR=8.8
K18A **Toltan Ranch,** 101.28 1 ⇑P **Pdif** 20 36 48.9 +1.3
baz=101
K14A **Jones Ranch, D** 101.29 3 ⇓P **Pdif** 20 36 48.7 +1.2
baz=101,SNR=9.9
L23A **Garrett** 101.74 357 ⇓P **Pdif** 20 36 50.2 +0.5
baz=101
L14A **Malta** 101.80 3 ⇓P **Pdif** 20 36 51.5 +1.7
baz=102,SNR=7.9
L19A **Farson** 101.82 0 ⇓P **Pdif** 20 36 51.3 +1.3
baz=102,SNR=8.1
L15A **Malad City** 101.86 2 ⇑P **Pdif** 20 36 51.0 +0.8
baz=102,SNR=11
L16A **Fish Haven** 101.88 2 ⇑P **Pdif** 20 36 51.3 +1.0
baz=102
L21A **Rawlins** 101.94 359 ⇑P **Pdif** 20 36 50.7 +0.1
baz=102,SNR=9.1
L18A **Fontenelle, Gr** 101.99 1 ⇓P **Pdif** 20 36 50.8 0.0
baz=102,SNR=9.0
HVU **Hansel Valley** 102.07 3 *e*P **Pdif** 20 36 52.3 +1.2
HVU pmax pmax
comp=Z,17nm,0.7s
HVU **Hansel Valley** 102.07 3 *e*Pdif **Pdif** 20 36 52.3 +1.2
comp=Z,17nm,0.7s
RWWY **Rawlins** 102.21 358 *e*Pdif **Pdif** 20 36 50.5 -1.3
comp=Z,35nm,1.3s
M21A **Separation Pea** 102.29 359 ⇑P **Pdif** 20 36 51.7 -0.4
baz=102
M23A **Laramie** 102.38 357 ⇓P **Pdif** 20 36 53.4 +0.8
baz=102
M15A **Larsen Ranch,** 102.40 2 P **Pdif** 20 36 53.9 +1.4
baz=102,SNR=17
M17A **Scullys Gap (B** 102.43 1 ⇑P **Pdif** 20 36 53.7 +0.9
baz=102
M18A **Lyman** 102.49 1 ⇑P **Pdif** 20 36 54.1 +1.1
baz=102,SNR=7.5
PHWY **Pilot Hill** 102.54 357 *e*Pdif **Pdif** 20 36 49.0 -4.4
comp=Z,16nm,1.0s
N18A **Larsen Ranch,** 102.94 0 ⇓P **Pdif** 20 36 56.3 +1.3
baz=103
N17A **Moffit Pass** 102.96 1 ⇓P **Pdif** 20 36 54.5 -0.7
baz=103
N23A **Red Feather La** 102.96 357 ⇑P **Pdif** 20 36 56.2 +1.0
baz=103
N15A **Stansbury Isla** 102.97 3 ⇓P **Pdif** 20 36 55.1 0.0
baz=103
ELK **Elko** 102.98 5 *e*P **Pdif** 20 36 56.1 +0.8
ELK **Elko** 102.98 5 *e*Pdif **Pdif** 20 36 56.1 +0.8
ELK *e*PP PP 20 40 58.2 -13
N24A **Carr** 102.98 357 ⇑P **Pdif** 20 36 55.2 0.0
baz=103
N19A **John Jarvie Ra** 103.02 360 ⇑P **Pdif** 20 36 56.3 +0.9
baz=103
N22A **Wattenberg Ran** 103.07 358 ⇑P **Pdif** 20 36 56.3 +0.6
baz=103
N20A **Spence Gulch,** 103.08 359 ⇓P **Pdif** 20 36 56.7 +1.0
baz=103
BMN **Battle Mountai** 103.14 6 *e*P **Pdif** 20 36 56.9 +1.1
BMN pmax pmax
comp=Z,7.0nm,0.6s
BMN **Battle Mountai** 103.14 6 *e*Pdif **Pdif** 20 36 56.9 +1.1
comp=Z,7.2nm,0.6s
N21A **Black Mountain** 103.14 359 ⇑P **Pdif** 20 36 57.1 +1.1
baz=103
JLU **Jordanelle** 103.29 2 *e*Pdif **Pdif** 20 36 58.1 +1.5
comp=Z,27nm,1.6s
JLU **Jordanelle** 103.29 2 *e*PKP **PP** 20 41 11.3 -1.9
O26A **Horse Wrangler** 103.48 355 ⇑P **Pdif** 20 36 58.8 +1.4
baz=103
DAU **Daniels Canyon** 103.48 2 *e*P **Pdif** 20 36 59.3 +1.7
DAU pmax pmax
comp=Z,31nm,1.1s
DAU **Daniels Canyon** 103.48 2 *e*Pdif **Pdif** 20 36 59.3 +1.7
comp=Z,31nm,1.1s
O19A **Miners Draw (B** 103.62 360 ⇑P **Pdif** 20 36 59.2 +1.2
baz=103
O23A **Lake Granby, G** 103.64 357 ⇑P **Pdif** 20 36 59.3 +1.0
baz=103
DUG **Dugway** 103.65 3 *e*P **Pdif** 20 36 59.2 +1.1
DUG pmax pmax
comp=Z,11nm,0.9s
DUG **Dugway** 103.65 3 *e*Pdif **Pdif** 20 36 59.2 +1.1
comp=Z,11nm,0.9s
DUG **Dugway** 103.65 3 P **Pdif** 20 36 59.5 +1.4
baz=103,SNR=16
O25A **Wiggins** 103.66 356 ⇓P **Pdif** 20 36 59.2 +1.0
baz=103
O17A **Robinson Place** 103.71 1 ⇑P **Pdif** 20 37 00.0 +1.5
baz=103
O22A **Kremmling** 103.71 358 ⇓P **Pdif** 20 36 59.8 +1.1
baz=103
O20A **White River Ci** 103.78 359 ⇑P **Pdif** 20 36 59.7 +0.9
baz=103
WCN **Washoe City** 103.99 8 *e*P **Pdif** 20 37 00.2 +0.5
WCN pmax pmax
comp=Z,9.0nm,1.1s
WCN **Washoe City** 103.99 8 *e*Pdif **Pdif** 20 37 00.2 +0.5
comp=Z,9.3nm,1.1s
WCN **Washoe City** 103.99 8 ⇓P **Pdif** 20 37 00.6 +0.9
baz=104
ISCO **Idaho Springs** 104.04 357 *e*P **Pdif** 20 37 00.2 +0.1
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO **Idaho Springs** 104.04 357 *e*Pdif **Pdif** 20 37 00.2 +0.1
comp=Z,5.2nm,0.9s
ISCO **Idaho Springs** 104.04 357 ⇓P **Pdif** 20 37 00.4 +0.3
baz=104
P18A **Preston Nutter** 104.28 1 ⇑P **Pdif** 20 37 02.8 +1.6
baz=104
P22A **Eagle** 104.28 358 ⇓P **Pdif** 20 37 02.4 +1.3
baz=104
P15A **Leamington** 104.29 2 ⇑P **Pdif** 20 37 02.5 +1.5
baz=104
P20A **De Beque** 104.41 359 ⇓P **Pdif** 20 37 02.6 +1.0
baz=104
P17A **Butcher Ranch,** 104.43 1 ⇓P **Pdif** 20 37 02.6 +1.0
baz=104
TKL **Tuckaleechee C** 104.44 339 Pdiff **Pdif** 20 37 01.4 -0.1
comp=Z,2.9nm,0.8s,baz=320,slow=1.6,SNR=4.6
TKL **Tuckaleechee C** 104.44 339 P **Pdif** 20 37 01.4 -0.1
TKL pmax pmax
comp=Z,3.0nm,0.8s
TKL **Tuckaleechee C** 104.44 339 Pdif **Pdif** 20 37 01.4 -0.1
SRU **San Rafael** 104.80 1 *e*P **Pdif** 20 37 04.3 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU **San Rafael** 104.80 1 *e*Pdif **Pdif** 20 37 04.3 +1.0
comp=Z,3.1nm,0.7s
Q20A **Ridgley Place,** 104.95 359 ⇑P **Pdif** 20 37 04.9 +0.9
baz=105
Q16A **Castle Valley** 104.98 2 ⇑P **Pdif** 20 37 05.4 +1.3
baz=105
NVAR **Mina Array Bea** 105.02 7 Pdiff **Pdif** 20 37 05.5 +1.2
comp=Z,13nm,0.8s,baz=354,slow=3.4,SNR=30
NVAR PP **PP** 20 41 25.6 -0.5
comp=Z,13nm,1.0s,baz=337,slow=3.9,SNR=5.2
NVAR PKKPbc **PKKPbc** 20 52 45.1 0.0
comp=Z,5.6nm,0.7s,baz=192,slow=5.4,SNR=16
NVAR PKPPKP P'P'df 21 01 02.1 -6.6
comp=Z,1.7nm,0.9s,baz=134,slow=3.9,SNR=6.4
NVAR **Mina Array Bea** 105.02 7 Pdif **Pdif** 20 37 05.5 +1.2
NVAR PP **PP** 20 41 25.6 -0.5
NVAR PKKPbc **PKKPbc** 20 52 45.1 0.0
NVAR P'P' 21 01 02.1
Q22A **Crested Butte,** 105.02 358 ⇓P **Pdif** 20 37 05.7 +1.2
baz=105
MSU **Marysvale** 105.35 2 *e*P **Pdif** 20 37 07.2 +1.4
MSU pmax pmax
comp=Z,5.0nm,0.7s
MSU **Marysvale** 105.35 2 *e*Pdif **Pdif** 20 37 07.2 +1.4
comp=Z,4.6nm,0.7s
ARUT **Antelope Range** 106.02 3 *e*PKP **PKiKP** 20 41 23.2 +3.5
CCUT **Cedar City** 106.26 3 *e*Pdif **Pdif** 20 37 11.4 +1.5
comp=Z,8.4nm,1.0s
MVCO **Mesa Verde** 106.70 359 *e*Pdif **Pdif** 20 37 14.5 +2.7
comp=Z,12nm,1.2s
DZM **Mont Dzumac** 107.18 105 *e*Pdif **Pdif** 20 37 14.9 +1.0
comp=Z,74nm,1.2s
SYO **Syowa Base** 107.66 191 ⇓*e*P **PKKPdf** 20 52 49.6 -1.8
ISA **Isabella** 107.73 8 *e*PKP **PKiKP** 20 41 25.4 +2.6
GSC **Goldstone** 108.26 6 *e*P **Pdif** 20 37 22.4 +3.8
GSC pmax pmax
comp=Z,15nm,1.3s
GSC **Goldstone** 108.26 6 *e*Pdif **Pdif** 20 37 22.4 +3.8
comp=Z,15nm,1.3s
WMOK **Wichita Mounta** 108.50 351 *e*P **Pdif** 20 37 19.1 -0.5
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK **Wichita Mounta** 108.50 351 *e*Pdif **Pdif** 20 37 19.1 -0.5
comp=Z,5.7nm,1.0s
ANMO **Albuquerque** 108.91 358 Pdiff **Pdif** 20 37 24.9 +3.2
comp=Z,5.3nm,1.0s,baz=5.4,slow=3.2,SNR=8.7
ANMO PKKPbc **PKKPbc** 20 52 32.0 -1.0
comp=Z,1.6nm,0.5s,baz=166,slow=4.2,SNR=6.8
ANMO PKKP **PKKPdf** 20 52 45.6 -0.4
comp=Z,8.2nm,0.9s,baz=210,slow=7.3,SNR=9.5
ANMO **Albuquerque** 108.91 358 P **Pdif** 20 37 24.9 +3.2
ANMO 20 52 32.1
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 108.91 358 *e*Pdif **Pdif** 20 37 21.8 +0.1
comp=Z,5.0nm,0.9s
ANMO PKKPbc **PKKPbc** 20 52 32.0 -1.0
ANMO PKKP **PKKPdf** 20 52 45.6 -0.4
BAR **Barrett** 110.87 7 *e*PKPdf **PKiKP** 20 41 28.7 -0.1
JCT **Junction City** 112.83 351 *e*PKIKP **PKiKP** 20 41 30.7 -1.9
JCT **Junction City** 112.83 351 *e*PKPdf **PKiKP** 20 41 30.7 -1.9
MSVF **Nonsavu** 114.06 95 *e*PKIKP PKPdf 20 41 35.2 +0.1
MSVF **Nonsavu** 114.06 95 *e*PKPdf PKPdf 20 41 35.1 +0.1
TXAR **Lajitas Array** 114.35 355 Pdiff **Pdif** 20 37 48.2 +2.4
comp=Z,2.0nm,0.8s,baz=13,slow=2.7,SNR=13
TXAR PKP **PKiKP** 20 41 35.4 -0.2
comp=Z,5.0nm,0.8s,baz=294,slow=0.5,SNR=13
TXAR PP **PP** 20 42 34.5 +1.4
comp=Z,17nm,1.0s,baz=343,slow=3.9,SNR=6.3
TXAR PKKPbc **PKKPbc** 20 52 14.6 -0.5
comp=Z,9.0nm,0.8s,baz=186,slow=6.6,SNR=22
TXAR PKPPKP **P'P'df** 21 00 49.1 -1.6
comp=Z,0.6nm,0.8s,baz=198,slow=5.7,SNR=4.7
TXAR **Lajitas Array** 114.35 355 P **Pdif** 20 37 48.3 +2.4
TXAR 20 41 35.4
TXAR 20 42 34.6
TXAR 20 52 14.6
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR pmax pmax
comp=Z,17nm,1.0s

TXAR	**Lajitas Array**	**114.35**	**355**	Pdif	**Pdif**	**20 37 48.2**	**+2.4**
TXAR				PKP	**PKiKP**	**20 41 35.4**	**-0.2**
TXAR				PP	**PP**	**20 42 34.5**	**+1.4**
TXAR				PKKPbc	**PKKPbc**	**20 52 14.6**	**-0.5**
TXAR				P'P'		21 00 49.1	
SNAA	**Sanae**	**119.28**	**200**	*e*	**PKPdf**	**20 41 44.2**	**+0.6**
SNAA	**Sanae**	**119.28**	**200**	*i P*	**PKPdf**	**20 41 43.8**	**+0.3**
SNAA	**Sanae**	**119.28**	**200**	*e*PKiKP	**PKPdf**	**20 41 43.5**	**-0.1**
SNAA				*e*		20 42 38.6	
SNAA	**Sanae**	**119.28**	**200**	*e*PKPdf	**PKPdf**	**20 41 43.5**	**-0.1**
SNAA				*e*pPKPdf	**pPKPdf**	**20 42 38.6**	**+1.2**
SNAA				*e*SKP		20 44 58.6	
TEIG	**Tepich**	**120.24**	**337**	*e*PKPdf	**PKPdf**	**20 41 45.1**	**-1.9**
VNA2	**Neumayer--Watz**	**120.28**	**202**	*e*	**PKPdf**	**20 41 46.8**	**+1.4**
VNA1	**Neumayer--Stat**	**120.44**	**202**	*e*	**PKPdf**	**20 41 47.2**	**+1.6**
RPZ	**Rata Peaks**	**120.80**	**124**	PKP	**PKPdf**	**20 41 46.4**	**-0.8**
	comp=Z,48nm,0.6s,baz=277,slow=0.8,SNR=33						
RPZ	**Rata Peaks**	**120.80**	**124**	*e*PKPdf	**PKPdf**	**20 41 45.9**	**-1.3**
RPZ				PKP	**PKPdf**	**20 41 46.4**	**-0.8**
SNZO	**South Karori**	**122.39**	**120**	*e*PKPdf	**PKPdf**	**20 41 48.5**	**-1.7**
URZ	**Urewera**	**122.93**	**116**	PKP	**PKPdf**	**20 41 49.2**	**-2.3**
	comp=Z,153nm,0.6s,baz=274,slow=2.5,SNR=115						
URZ				pPKP	**pPKPdf**	**20 42 43.6**	**-1.8**
	comp=Z,26nm,0.9s,baz=277,slow=3.6,SNR=1.7						
URZ	**Urewera**	**122.93**	**116**	PKP	**PKPdf**	**20 41 49.2**	**-2.3**
URZ				pPKP	**pPKPdf**	**20 42 43.6**	**-1.8**
VNDA	**Vanda**	**125.51**	**165**	*e*PKiKP	**PKPdf**	**20 41 54.3**	**-1.0**
VNDA	**Vanda**	**125.51**	**165**	*e*PKPdf	**PKPdf**	**20 41 54.3**	**-1.0**
TGUH	**Tegucigalpa,Un**	**125.64**	**333**	*e*PKPdf	**PKPdf**	**20 41 57.4**	**0.0**
QSPA	**South Pole Qui**	**126.25**	**180**	*e*PKPdf	**PKPdf**	**20 41 55.9**	**-1.2**
SBA	**Scott Base**	**126.59**	**165**	*e*PKiKP	**PKPdf**	**20 41 54.9**	**-2.4**
SBA	**Scott Base**	**126.59**	**165**	*e*PKPdf	**PKPdf**	**20 41 54.9**	**-2.4**
ROSC	**El Rosal**	**127.51**	**314**	PKP	**PKPdf**	**20 41 59.4**	**-2.1**
	comp=Z,64nm,0.7s,baz=102,slow=6.0,SNR=9.6						
ROSC	**El Rosal**	**127.51**	**314**	PKP	**PKPdf**	**20 41 59.4**	**-2.1**
SAML	**Samuel**	**130.09**	**292**	*e*PKPpre	PKPpre	20 41 54.0	
SAML				*e*PKPdf	**PKPdf**	**20 42 05.4**	**-0.5**
SIV	**San Ignacio**	**132.76**	**282**	PKP	**PKPdf**	**20 42 10.6**	**-0.3**
	comp=Z,16nm,0.6s,baz=89,slow=2.2						
SIV				pPKP	**pPKPdf**	**20 43 03.1**	**-1.8**
	comp=Z,10nm,0.9s,baz=241,slow=1.1,SNR=2.6						
SIV				SKPbc	**SKPbc**	**20 45 16.3**	**-2.2**
	comp=Z,32nm,1.0s,baz=79,slow=5.8,SNR=8.7						
SIV				SKKPbc	SKKPbc	20 54 22.1	-15
	comp=Z,3.4nm,0.9s,baz=209,slow=3.4,SNR=3.5						
SIV	**San Ignacio**	**132.76**	**282**	PKP	**PKPdf**	**20 42 10.6**	**-0.3**
SIV				pPKP	**pPKPdf**	**20 43 03.1**	**-1.8**
SIV				SKPbc	**SKPbc**	**20 45 16.3**	**-2.2**
SIV				SKKPbc	SKKPbc	20 54 22.1	-15
RAR	**Rarotonga**	**133.72**	**85**	SKPbc	**SKPbc**	**20 45 20.3**	**-1.2**
	comp=Z,39nm,0.8s,baz=205,slow=5.4,SNR=7.4						
RAR	**Rarotonga**	**133.72**	**85**	SKPbc	**SKPbc**	**20 45 20.3**	**-1.2**
CPUP	**Villa Florida**	**135.00**	**268**	PKP	**PKPdf**	**20 42 13.8**	**-1.0**
	comp=Z,35nm,0.6s,baz=40,slow=2.0,SNR=31						
CPUP				SKPbc	**SKPbc**	**20 45 23.6**	**-1.9**
	comp=Z,27nm,0.8s,baz=53,slow=4.8,SNR=5.8						
CPUP	**Villa Florida**	**135.00**	**268**	PKiKP	**PKPdf**	**20 42 13.8**	**-1.0**
CPUP				pmax	pmax		
	comp=Z,35nm,0.6s						
CPUP				pmax	pmax		
	comp=N,27nm,0.8s						
CPUP	**Villa Florida**	**135.00**	**268**	PKP	**PKPdf**	**20 42 13.8**	**-1.0**
CPUP				SKPbc	**SKPbc**	**20 45 23.6**	**-1.9**
LPAZ	**La Paz**	**138.43**	**288**	PKP	**PKPdf**	**20 42 21.1**	**-1.1**
	comp=N,24nm,1.0s,baz=23,slow=2.1,SNR=13						
LPAZ				SKPbc	**SKPbc**	**20 45 33.1**	**-3.6**
	comp=N,13nm,0.9s,baz=65,slow=5.8,SNR=3.5						
LPAZ				SKKPbc	SKKPbc	20 54 07.8	-9.3
	comp=N,4.0nm,0.7s,baz=190,slow=2.7,SNR=4.7						
LPAZ	**La Paz**	**138.43**	**288**	PKiKP	**PKPdf**	**20 42 21.1**	**-1.1**
LPAZ				pmax	pmax		
	comp=Z,24nm,1.0s						
LPAZ				pmax	pmax		
	comp=N,13nm,0.9s						
LPAZ	**La Paz**	**138.43**	**288**	PKP	**PKPdf**	**20 42 21.1**	**-1.1**
LPAZ				SKPbc	**SKPbc**	**20 45 33.1**	**-3.6**
LPAZ				SKKPbc	SKKPbc	20 54 07.8	-9.3
ATAH	**Atahualpa**	**139.44**	**308**	SKPbc	**SKPbc**	**20 45 39.8**	**+0.3**
	comp=N,66nm,1.0s,baz=11,slow=4.0,SNR=9.9						
ATAH				SKKPbc	**SKKPbc**	**20 54 08.1**	**-4.1**
	comp=N,16nm,0.9s,baz=240,slow=2.1,SNR=7.9						
ATAH	**Atahualpa**	**139.44**	**308**	SKPbc	**SKPbc**	**20 45 39.8**	**+0.3**
ATAH				SKKPbc	**SKKPbc**	**20 54 08.1**	**-4.1**
PMOR	**Pomariorio Ree**	**139.53**	**68**	*e*PKiKP	**PKPdf**	**20 42 23.1**	**-0.3**
	comp=N,321nm,1.4s						
PMOR				*e*SKPdf	**SKPbc**	**20 45 39.1**	**+0.1**
	comp=N,171nm,1.0s						
PPT2	**Papeete2**	**139.82**	**73**	*e*PKiKP	**PKPdf**	**20 42 23.5**	**-0.5**
	comp=N,194nm,1.2s						
PPT2				*e*SKPdf	**SKPbc**	**20 45 40.7**	**+0.8**
	comp=N,120nm,1.1s						
PAE	**Paea**	**139.86**	**73**	*e*PKiKP	**PKPdf**	**20 42 23.4**	**-0.5**
	comp=N,10nm,0.7s						
TIAR	**Tiarei**	**139.98**	**73**	*e*PKiKP	**PKPdf**	**20 42 23.8**	**-0.4**
	comp=N,106nm,1.1s						
TIAR				*e*SKPdf	**SKPbc**	**20 45 40.3**	**+0.1**
	comp=N,119nm,1.0s						
PMSA	**Palmer Station**	**141.07**	**209**	PKhKP	PKPpre	20 42 20.7	
	comp=N,36nm,0.5s,baz=87,slow=2.4,SNR=9.7						
PMSA				SKPbc	**SKPbc**	**20 45 40.0**	**-1.5**
	comp=N,137nm,0.9s,baz=104,slow=2.9,SNR=9.5						
PMSA	**Palmer Station**	**141.07**	**209**	*e*PKPpre	PKPpre	20 42 17.4	
PMSA				PKPpre	PKPpre	20 42 20.7	
PMSA				SKPbc	**SKPbc**	**20 45 40.0**	**-1.5**
MEH	**Mehetia**	**141.15**	**72**	*e*PKiKP	**PKPdf**	**20 42 25.7**	**-0.6**
	comp=N,102nm,1.0s						
NNA	**Nana**	**142.00**	**302**	PKhKP	PKPpre	20 42 23.9	
	baz=333,slow=2.3						
NNA				PKP	**PKPdf**	**20 42 27.2**	**-0.7**
	comp=N,8.6nm,0.4s,baz=308,slow=3.2						
NNA	**Nana**	**142.00**	**302**	*c i*PKiKP	**PKPdf**	**20 42 29.1**	**+1.1**
NNA	**Nana**	**142.00**	**302**	PKPpre	PKPpre	20 42 23.9	
NNA				PKP	**PKPdf**	**20 42 27.2**	**-0.7**
TRQA	**Tornquist**	**142.65**	**253**	PKPpre	PKPpre	20 42 23.2	
TRQA				*e*PKPdf	**PKPdf**	**20 42 28.4**	**0.0**
TBI	**Tubuai**	**143.04**	**81**	*e*PKiKP	PKPbc	20 42 27.0	0.0
	comp=N,669nm,0.9s						
TBI				*e*SKPdf	**SKPbc**	**20 45 47.7**	**-0.1**
	comp=N,315nm,0.9s						
CFAA	**Coronel Fontan**	**145.85**	**266**	PKPbc	**PKPdf**	**20 42 34.6**	**+0.4**
	comp=N,28nm,0.9s,baz=55,slow=2.3,SNR=143						
CFAA				pPKPbc	pPKPbc	20 43 26.9	-1.5
	comp=N,19nm,1.0s,baz=45,slow=4.4,SNR=3.7						
CFAA				SKKPbc	SKKPbc	20 53 46.4	-1.2
	comp=N,0.9nm,0.9s,baz=193,slow=1.0,SNR=3.5						
CFAA	**Coronel Fontan**	**145.85**	**266**	PKPbc	**PKPdf**	**20 42 34.6**	**+0.4**
CFAA				pPKPbc	pPKPbc	20 43 26.9	-1.5
CFAA				SKKPbc	SKKPbc	20 53 46.4	-1.2
USHA	**Ushuaia**	**146.67**	**224**	PKPbc	**PKPbc**	**20 42 37.3**	**+0.5**
	comp=N,126nm,0.8s,baz=303,slow=4.3,SNR=23						
USHA				pPKPbc	pPKPbc	20 43 28.6	-1.4
	comp=N,110nm,1.0s,baz=27,slow=0.6,SNR=3.0						
USHA	**Ushuaia**	**146.67**	**224**	PKPbc	**PKPbc**	**20 42 37.3**	**+0.5**
USHA				pPKPbc	pPKPbc	20 43 28.6	-1.4
LCO	**Las Campanas**	**146.90**	**272**	*e*P	**PKPdf**	**20 42 36.1**	**-0.3**
LCO				*e*P	**PKPbc**	**20 42 37.0**	**-1.6**
LCO	**Las Campanas**	**146.90**	**272**	*e*P	**PKPdf**	**20 42 36.1**	**-0.3**
LCO				*e*P	**PKPbc**	**20 42 37.0**	**-1.6**
TLL	**Tololo Astrono**	**147.42**	**270**	*e*PKiKP	**PKPdf**	**20 42 36.8**	**-0.4**
TLL	**Tololo Astrono**	**147.42**	**270**	*e*P	**PKPdf**	**20 42 36.8**	**-0.4**
TLL	**Tololo Astrono**	**147.42**	**270**	*e*P	**PKPdf**	**20 42 36.8**	**-0.4**
CMCH	**Combarbala**	**147.93**	**268**	*e*P	**PKPdf**	**20 42 37.8**	**+0.1**
CMCH	**Combarbala**	**147.93**	**268**	*e*P	**PKPdf**	**20 42 37.8**	**+0.1**
FCH	**Farellones**	**148.03**	**264**	*e*P	**PKPdf**	**20 42 38.9**	**+0.7**
LMEL	**Las Melosas**	**148.11**	**263**	*e*P	**PKPdf**	**20 42 38.4**	**+0.3**
LMEL	**Las Melosas**	**148.11**	**263**	*e*P	**PKPdf**	**20 42 38.4**	**+0.3**
CLCH	**Cerro Calan**	**148.25**	**264**	*e*P	**PKPdf**	**20 42 39.5**	**+1.2**
PEL	**Peldehue**	**148.30**	**264**	*e*P	**PKPdf**	**20 42 39.0**	**+0.7**
ROCH	**El Roble**	**148.51**	**265**	*e*P	**PKPdf**	**20 42 39.1**	**+0.3**
PLCA	**Paso Flores**	**149.62**	**250**	PKP	**PKPdf**	**20 42 40.5**	**+0.4**
	comp=N,45nm,1.0s,baz=109,slow=1.6,SNR=20						
PLCA				PKPbc	**PKiKP**	**20 42 45.9**	**-0.1**
	comp=N,154nm,0.8s,baz=128,slow=4.7,SNR=76						
PLCA				pPKPbc	**pPKPbc**	**20 43 36.7**	**-1.9**
	comp=N,84nm,1.0s,baz=90,slow=6.3,SNR=2.1						
PLCA	**Paso Flores**	**149.62**	**250**	PKP	**PKPdf**	**20 42 40.5**	**+0.4**
PLCA				*e*PKPdf	**PKPdf**	**20 42 40.6**	**+0.4**
PLCA				*e*PKPbc	**PKiKP**	**20 42 45.4**	**-0.5**
PLCA				PKPbc	**PKiKP**	**20 42 45.9**	**-0.1**
PLCA				pPKPbc	**pPKPbc**	**20 43 36.7**	**-1.9**
COYC	**Coyhaique**	**150.73**	**240**	*e*P	**PKPdf**	**20 42 42.8**	**+1.2**
COYC	**Coyhaique**	**150.73**	**240**	*e*P	**PKPdf**	**20 42 42.8**	**+1.2**
RKT	**Rikitea**	**154.12**	**66**	*e*PKiKP	**PKPdf**	**20 42 46.8**	**-0.5**
	comp=N,92nm,1.4s						
RKT	**Rikitea**	**154.12**	**66**	*e*PKiKP	**PKiKP**	**20 42 57.4**	**+1.8**
	comp=N,142nm,1.2s						
RKT	**Rikitea**	**154.12**	**66**	*e*PKPab	**PKPab**	**20 43 11.7**	**+1.6**
	comp=N,156nm,1.1s						
RPN	**Rapa Nui**	**170.70**	**0**	PKP	**PKPdf**	**20 43 04.8**	**+1.3**
	comp=N,99nm,1.0s,baz=281,slow=2.8						
RPN	**Rapa Nui**	**170.70**	**0**	PKiKP	**PKPdf**	**20 43 04.8**	**+1.3**
RPN				pmax	pmax		
	comp=Z,99nm,1.0s						
RPN	**Rapa Nui**	**170.70**	**0**	PKP	**PKPdf**	**20 43 04.8**	**+1.3**

*DJA **03** 20:26:17.1˚37N×134˚44E,h10km,mb5.4/9*
*IDC **03** 20:26:44.4±1.3,0˚42S×132˚47E,h0km,mb5.1/4, mb1 5.0/6,mb1mx4.7/18,mbtmp5.0/6,ML4.9/1,Error ellipse: s-maj=62.7km s-min=21.0km az=64.0*
*ISCJB **03** 20:26:47.5±0.8,0˚28S±0˚09×132˚74E±0˚07,h33km, mb5.1/7,Error ellipse: s-maj=14.5km s-min=8.2km az=28.3*
*NEIC **03** 20:26:49.5±0.8,0˚36S×132˚71E,h35km,mb4.7/5,Error ellipse: s-maj=17.8km s-min=10.7km az=220.0*

ISC 03 20:26:48.8±1.0,0˚3S±0˚1×132˚7E±0˚1,h33km,n34, σ0§99/28,mb5.1/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.69**	**191**	P	Pb	20 27 39.6	+3.4
	2µm,0.8s,16nm						
MSAI	**Masohi**	**4.89**	**231**	P	Pn	20 28 03.7	+3.6
	308nm,0.6s,1.3nm						
LBMI	**Labuha**	**5.26**	**266**	P	**Pn**	**20 28 04.9**	**-0.2**
	1µm,1.4s,6.3nm						
TLE	**Tual**	**5.34**	**180**	P	**Pn**	**20 28 08.2**	**+1.9**
	6µm,1.5s,26nm						
AAI	**Ambon**	**5.68**	**233**	P	**Pn**	**20 28 11.5**	**+0.6**
	1µm,0.7s,4.8nm						
LUWI	**Luwuk**	**10.00**	**265**	P	**Pn**	**20 29 09.8**	**-0.4**
	174nm,0.8s						
MRSI	**Marisa**	**10.83**	**274**	P	Pn	20 29 26.4	+4.8
TTSI	**Tana Toraja**	**13.21**	**258**	P	P	20 29 59.2	-4.5
SPSI	**Sidrap Palu**	**13.48**	**254**	P	**Pn**	**20 29 58.6**	**+0.8**
	844nm,1.1s						
BKSI	**Bulukumba**	**13.57**	**248**	P	P	20 30 03.9	-3.8
KAPI	**Kappang**	**13.81**	**250**	*e*P	**Pn**	**20 30 03.8**	**+1.5**
PMG	**Port Moresby**	**16.98**	**123**	P	**P**	**20 30 46.2**	**+0.6**
	0.3nm,0.3s,baz=320,slow=12,SNR=3.2						
PMG	**Port Moresby**	**16.98**	**123**	Pn	**P**	**20 30 45.9**	**+0.2**
	20nm,1.0s						
WRAB	**Tennant Creek**	**19.62**	**175**	P	**P**	**20 31 12.9**	**-1.7**
WRA	**Warramunga Arr**	**19.62**	**176**	P	**P**	**20 31 14.3**	**-0.4**
	3.7nm,0.3s,baz=354,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**19.62**	**176**	P	**P**	**20 31 14.3**	**-0.4**
SBUM	**Sibu**	**20.69**	**278**	P	Pn	20 31 28.4	-0.4
	110nm,2.3s						
KSM	**Kuching**	**22.50**	**274**	*e*P	**P**	**20 31 46.2**	**+0.4**
	59nm,1.2s						
ASAR	**Alice Springs**	**23.30**	**177**	P	**P**	**20 31 53.4**	**-0.6**
	90nm,0.9s,baz=2.7,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.30**	**177**	P	**P**	**20 31 53.4**	**-0.6**
CTA	**Charters Tower**	**23.73**	**147**	P	**P**	**20 31 58.9**	**+0.7**
	24nm,0.8s,baz=319,slow=14,SNR=7.7						
CTA	**Charters Tower**	**23.73**	**147**	P	**P**	**20 31 58.9**	**+0.7**
CTAO	**Charters Tower**	**23.73**	**147**	*e*P	**P**	**20 31 58.8**	**+0.7**
	25nm,0.9s						
MBWA	**Marble Bar**	**24.35**	**211**	*e*P	**P**	**20 32 02.9**	**-1.0**
	18nm,0.7s						
XMIS	**Christmas Isla**	**28.79**	**248**	*e*P	**P**	**20 32 43.8**	**-0.2**
	949nm,0.9s						
STKA	**Stephens Creek**	**32.54**	**166**	P	**P**	**20 33 15.0**	**-1.9**
	24nm,0.8s,baz=0.7,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**32.54**	**166**	*e*P	**P**	**20 33 15.9**	**-1.0**
	18nm,0.7s						
STKA	**Stephens Creek**	**32.54**	**166**	*e*P	**P**	**20 33 15.0**	**-1.9**
	5.4nm,0.8s						
ARMA	**Armidale**	**34.96**	**151**	*e*P	**P**	**20 33 37.9**	**-0.1**
MK31	**Makanchi Array**	**64.27**	**324**	P	**P**	**20 37 21.5**	**+0.7**
MKAR	**Makanchi Array**	**64.27**	**324**	P	**P**	**20 37 21.7**	**+0.9**
	22nm,0.8s,baz=103,slow=7.4,SNR=5.8						
MKAR	**Makanchi Array**	**64.27**	**324**	P	**P**	**20 37 21.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**129.85**	**287**	PKP	**PKPdf**	**20 45 55.3**	**-0.6**
	0.6nm,0.5s,baz=90,slow=2.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**129.85**	**287**	PKP	**PKPdf**	**20 45 55.3**	**-0.6**

*NSSC **03** 20:28:06.4±2.2,35˚32N×36˚09E,h0km±418km,ML2.6*
*ISCJB **03** 20:28:07.0±0.8,35˚41N±0˚05×36˚0E±0˚1,h16km,Error ellipse: s-maj=14.5km s-min=6.7km az=173.8*

ISC 03 20:28:06.6±1.3,35˚31N±0˚05×36˚12E±0˚10,h16km,n6, σ1§45/9,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**2.06**	**25**	*e*P	**Pn**	**20 28 41.8**	**+1.2**
KMRS	**Kahramanmaras**	**2.28**	**16**	*e*P	**Pn**	**20 28 43.9**	**+0.2**
ZALF	**Zalf**	**2.59**	**157**	*i* P	**Pn**	**20 28 50.2**	**+2.2**
ZALF				*i* S	**Sb**	**20 29 24.7**	**+0.3**
ZALF				AML	AML	20 29 50.1	
	comp=N,147nm,0.7s						
ZALF				AML	AML	20 30 15.1	
	comp=E,40nm,0.5s						
TCHB	**Talchebab**	**2.64**	**183**	*e*P	**Pn**	**20 28 49.4**	**+0.8**
TCHB				*e*S	**Sb**	**20 29 26.0**	**+0.2**
TCHB				AML	AML	20 30 18.6	
	comp=N,129nm,0.9s						
TCHB				AML	AML	20 30 31.5	
	comp=E,76nm,0.2s						
SALA	**Sala**	**2.65**	**169**	*i* P	**Pb**	**20 28 52.2**	**-1.6**
SALA				*i* S	**Sb**	**20 29 24.7**	**-1.4**
SALA				AML	AML	20 30 23.6	
	comp=E,7.6nm,0.6s						
SALA				AML	AML	20 30 51.1	
	comp=N,78nm,0.6s						
KARP	**Karpathos**	**7.32**	**274**	*e*P	**Pn**	**20 29 54.0**	**+1.1**

*IDC **03** 20:30:07.7±0.6,0˚33S×132˚65E,h0km,mb4.8/12, mb1 4.9/15,mb1mx4.8/21,mbtmp4.8/15,ML4.9/2,Error ellipse: s-maj=30.5km s-min=13.3km az=72.0*
*ISCJB **03** 20:30:10.3±0.4,0˚39S±0˚06×132˚6E±0˚1,h33km, mb4.9/20,Error ellipse: s-maj=16.2km s-min=7.0km az=162.4*
*NEIC **03** 20:30:12.7±0.3,0˚39S×132˚61E,h35km,mb5.1/11,Error ellipse: s-maj=12.2km s-min=5.1km az=69.0*

ISC 03 20:30:12.5±0.5,0˚37S±0˚09×132˚6E±0˚1,h33km,n52, σ0§83/54,mb5.0/20,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**17.03**	**122**	P	**Pn**	**20 34 07.7**	**-0.5**
	0.2nm,0.3s,baz=120,slow=20,SNR=1.8						
PMG	**Port Moresby**	**17.03**	**122**	P	**Pn**	**20 34 07.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.91**	**201**	P	**P**	**20 34 30.2**	**-0.4**
	2.5nm,0.3s,baz=27,slow=16,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.91**	**201**	P	**P**	**20 34 30.2**	**-0.4**
WRAB	**Tennant Creek**	**19.52**	**175**	*e*P	**P**	**20 34 36.1**	**-1.1**
	62nm,0.7s						
WRA	**Warramunga Arr**	**19.52**	**175**	P	**P**	**20 34 37.2**	**-0.1**
	4.2nm,0.3s,baz=355,slow=11,SNR=11						
WRA	**Warramunga Arr**	**19.52**	**175**	P	**P**	**20 34 37.2**	**-0.1**
WB2	**Warramunga Arr**	**19.52**	**175**	*e*P	**P**	**20 34 36.8**	**-0.5**
ASAR	**Alice Springs**	**23.19**	**177**	P	**P**	**20 35 16.3**	**-0.3**
	38nm,0.7s,baz=353,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**23.19**	**177**	P	**P**	**20 35 16.3**	**-0.3**
CTA	**Charters Tower**	**23.71**	**147**	P	**P**	**20 35 23.2**	**+1.6**
	25nm,0.8s,baz=322,slow=13,SNR=4.3						
CTA	**Charters Tower**	**23.71**	**147**	P	**P**	**20 35 23.2**	**+1.6**
CTAO	**Charters Tower**	**23.71**	**147**	*e*P	**P**	**20 35 22.2**	**+0.6**
	29nm,0.8s						
STKA	**Stephens Creek**	**32.46**	**166**	P	**P**	**20 36 39.0**	**-0.9**
	31nm,1.0s,baz=337,slow=9.4,SNR=5.0						
STKA	**Stephens Creek**	**32.46**	**166**	*e*P	**P**	**20 36 38.6**	**-1.4**
	13nm,1.1s						
STKA				P	**P**	**20 36 39.0**	**-0.9**
KSAR	**Wonju Array Be**	**37.88**	**354**	P	**P**	**20 37 24.5**	**-2.0**
KSRS	**Korea Array**	**37.89**	**354**	P	**P**	**20 37 24.5**	**-2.0**
	1.0nm,0.6s,baz=169,slow=9.2,SNR=2.7						
CAN	**Canberra**	**37.98**	**158**	*e*P	**P**	**20 37 27.5**	**+0.1**
	34nm,1.1s						
CM31	**Chiang Mai Arr**	**38.02**	**301**	P	**P**	**20 37 28.3**	**+0.3**
	26nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.02**	**301**	P	**P**	**20 37 28.6**	**+0.6**
	12nm,1.0s,baz=124,slow=5.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**38.02**	**301**	P	**P**	**20 37 28.6**	**+0.6**
BJT	**Baijiatuao**	**42.91**	**341**	P	**P**	**20 38 08.3**	**+0.1**
MDJ	**Mudanjiang**	**44.87**	**357**	P	**P**	**20 38 23.4**	**-0.4**
	13nm,0.8s						
LSA	**Lhasa**	**49.55**	**311**	P	**P**	**20 39 00.9**	**-0.2**
	38nm,1.1s						
SONM	**Songino Array**	**53.16**	**338**	P	**P**	**20 39 28.4**	**+1.0**
	13nm,1.1s,baz=156,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**53.16**	**338**	P	**P**	**20 39 28.4**	**+1.0**
PETK	**Petropavlovsk-**	**57.25**	**18**	P	**P**	**20 39 57.2**	**+0.5**
	9.1nm,0.8s,baz=202,slow=7.6,SNR=4.8						
PETK	**Petropavlovsk-**	**57.25**	**18**	P	**P**	**20 39 57.2**	**+0.5**
YAK	**Yakutsk**	**62.28**	**358**	*e*P	**P**	**20 40 30.9**	**-0.1**
	72nm,0.9s						
MK31	**Makanchi Array**	**64.29**	**324**	P	**P**	**20 40 44.0**	**-0.7**
MKAR	**Makanchi Array**	**64.29**	**324**	P	**P**	**20 40 44.5**	**-0.2**
	14nm,0.7s,baz=111,slow=7.9,SNR=9.3						
MKAR	**Makanchi Array**	**64.29**	**324**	P	**P**	**20 40 44.5**	**-0.2**
TKM2	**Tokmak 2**	**66.71**	**318**	*e*P	**P**	**20 41 00.4**	**-0.3**
	45nm,1.0s						
ZALV	**Zalesovo Beam**	**66.93**	**332**	P	**P**	**20 41 01.0**	**-0.6**
	6.4nm,0.7s,baz=133,slow=6.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**66.93**	**332**	P	**P**	**20 41 01.0**	**-0.6**
EKS2	**Erkin-Say**	**67.84**	**317**	*e*P	**P**	**20 41 08.5**	**+0.7**
KURK	**Kurchatov**	**68.37**	**326**	P	**P**	**20 41 11.5**	**+0.8**
	25nm,0.9s,baz=123,slow=5.6,SNR=7.8						
KURK	**Kurchatov**	**68.37**	**326**	P	**P**	**20 41 10.9**	**+0.2**
KURK				P	**P**	**20 41 11.5**	**+0.8**
KBL	**Kabul**	**68.67**	**307**	*e*P	**P**	**20 41 12.2**	**-1.1**
	21nm,1.0s						
BVAR	**Borovoye Array**	**73.96**	**326**	P	**P**	**20 41 45.3**	**+0.7**
	13nm,0.9s,baz=107,slow=2.3,SNR=6.2						
BVAR	**Borovoye Array**	**73.96**	**326**	P	**P**	**20 41 45.3**	**+0.7**
BRVK	**Borovoye**	**74.03**	**326**	*e*P	**P**	**20 41 45.5**	**+0.5**
	24nm,0.8s						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**20 42 49.9**	**-0.8**
	5.3nm,0.8s,baz=261,slow=4.2,SNR=9.9						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**20 42 49.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**129.76**	**287**	PKP	**PKPdf**	**20 49 19.3**	**-0.2**
	1.2nm,1.0s,baz=40,slow=0.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**129.76**	**287**	PKP	**PKPdf**	**20 49 19.3**	**-0.2**
TKL	**Tuckaleechee C**	**131.24**	**40**	PKP	**PKPdf**	**20 49 22.7**	**+0.9**
CPUP	**Villa Florida**	**151.77**	**161**	PKPbc	**PKPbc**	**20 50 04.7**	**0.0**
	3.3nm,0.7s,baz=200,slow=3.1,SNR=3.9						
CPUP	**Villa Florida**	**151.77**	**161**	PKPbc	**PKPbc**	**20 50 04.7**	**0.0**
LPAZ	**La Paz**	**153.67**	**130**	PKPbc	**PKPbc**	**20 50 11.2**	**+1.3**
	4.1nm,0.9s,baz=254,slow=7.4,SNR=2.9						
LPAZ	**La Paz**	**153.67**	**130**	PKPbc	**PKPbc**	**20 50 11.2**	**+1.3**

*IDC **03** 20:35:04.6±0.5,0˚71S×133˚30E,h0km,mb4.8/20, mb1 4.8/22,mb1mx4.8

KDAK	Kodiak Island	82.15	31	P		P	20 47 28.5	+1.4
	16nm,0.8s,baz=148,slow=7.5,SNR=6.6							
KDAK	Kodiak Island	82.15	31	P		P	20 47 28.5	+1.4
SLKM	Skilak Lake	83.95	29	*eP*		P	20 47 36.1	-0.4
PMR	Palmer	84.69	28	*eP*		P	20 47 40.0	-0.1
MCK	McKinley	85.20	26	*eP*		P	20 47 42.4	-0.3
COLD	Coldfoot	85.41	22	*eP*		P	20 47 44.9	+1.2
	5.6nm,1.0s							
COLA	College	85.88	25	P		P	20 47 44.9	-1.1
OPO	Ambohidratompo	86.08	252	P		P	20 47 48.3	0.0
	4.0nm,0.9s,baz=72,slow=6.2,SNR=5.6							
OPO	Ambohidratompo	86.08	252	P		P	20 47 48.3	0.0
ILAR	Eielson Array	86.27	25	P		P	20 47 47.4	-0.6
	6.6nm,0.9s,baz=251,slow=5.0,SNR=21							
ILAR	Eielson Array	86.27	25	P		P	20 47 47.4	-0.6
PAX	Paxson	86.61	27	*eP*		P	20 47 49.4	-0.4
	22nm,1.4s							
DAWY	Dawson	89.42	26	*eP*		P	20 48 03.7	+0.6
KIV	Kislovodsk	90.89	314	P		P	20 48 11.9	+1.4
INK	Inuvik	91.81	22	P		P	20 48 12.8	-1.2
	4.0nm,1.0s,baz=298,slow=5.8,SNR=3.8							
INK	Inuvik	91.81	22	P		P	20 48 12.8	-1.2
ESDC	Sonseca Array	125.03	320	PKP		PKPdf	20 54 07.1	-0.1
	0.5nm,0.8s,baz=355,slow=2.7,SNR=3.2							
ESDC	Sonseca Array	125.03	320	PKP		PKPdf	20 54 07.1	-0.1
TORD	Torodi Ar. Bea	130.47	287	PKP		PKPdf	20 54 18.0	-0.2
	1.8nm,0.8s,baz=63,slow=2.0,SNR=6.8							
TORD	Torodi Ar. Bea	130.47	287	PKP		PKPdf	20 54 18.0	-0.2
ATAH	Atahualpa	147.47	104	PKPbc		PKPbc	20 54 50.9	-1.2
	19nm,0.8s,baz=245,slow=3.3,SNR=7.7							
ATAH	Atahualpa	147.47	104	PKPbc		PKPbc	20 54 50.9	-1.2
NNA	Nana	147.56	114	PKPbc		PKPdf	20 54 49.9	+0.7
	15nm,0.9s,baz=216,slow=8.7,SNR=2.9							
NNA	Nana	147.56	114	PKPbc		PKPdf	20 54 49.9	+0.7
CPUP	Villa Florida	151.27	160	PKPbc		PKPbc	20 55 00.9	+0.2
	9.4nm,0.7s,baz=48,slow=0.5,SNR=12							
CPUP	Villa Florida	151.27	160	PKPbc		PKPbc	20 55 00.9	+0.2
ROSC	El Rosal	152.12	81	PKPbc		PKPbc	20 55 04.1	+0.5
	4.4nm,0.3s,baz=104,slow=21,SNR=5.2							
ROSC	El Rosal	152.12	81	PKPbc		PKPbc	20 55 04.1	+0.5
LPAZ	La Paz	152.97	130	PKPbc		PKPbc	20 55 07.2	+1.6
	5.0nm,0.8s,baz=21,slow=3.6,SNR=4.0							
LPAZ	La Paz	152.97	130	PKPbc		PKPbc	20 55 07.2	+1.6

*IDC **03** 20:36:40.1±0.6,0.°28S×132.°83E,h0km,mb4.5/14, mb1 4.7/15,mb1mx4.6/21,mbtmp4.5/15,ML4.6/1,MS5.9/1, Ms1 5.9/1,ms1mx4.8/32,Error ellipse: s-maj=30.6km s-min=13.0km az=81.0*

*ISCJB **03** 20:36:42.7±0.3,0.°33S±0.°05×132.°76E±0.°09,h32km, mb4.6/28,Error ellipse: s-maj=13.2km s-min=6.6km az=169.1*

*NEIC **03** 20:36:45.1±0.3,0.°30S×132.°74E,h35km,mb4.9/17,Error ellipse: s-maj=11.4km s-min=5.9km az=74.0*

ISC 03 20:36:44.6±0.5,**0.°32S**±0.°07×**132.°7E**±0.°1,**h32**km,**n56,** σ0**96**/**56**,**mb4.7**/**28**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	19.56	175	*eP*	P	20 41 10.0	+0.1
	110nm,1.0s						
WRA	Warramunga Arr	19.57	175	P	Pn	20 41 10.6	-0.9
	2.1nm,0.3s,baz=355,slow=11,SNR=4057						
WRA				LR	LR	20 49 28.1	
	comp=Z,30μm,18.3s,baz=75,slow=39						
WRA	Warramunga Arr	19.57	175	P	Pn	20 41 10.6	-0.9
WB2	Warramunga Arr	19.57	175	*eP*	P	20 41 10.1	+0.1
KSM	Kuching	22.47	275	P	P	20 41 42.0	+0.6
	68nm,1.2s						
ASAR	Alice Springs	23.24	177	P	P	20 41 49.5	+0.2
	80nm,0.9s,baz=353,slow=7.1,SNR=11						
ASAR	Alice Springs	23.24	177	P	P	20 41 49.5	+0.2
CTA	Charters Tower	23.71	147	P	P	20 41 55.3	+1.5
	20nm,0.9s,baz=349,slow=12,SNR=2.8						
CTA	Charters Tower	23.71	147	P	P	20 41 55.3	+1.5
CTAO	Charters Tower	23.71	147	*eP*	P	20 41 54.6	+0.8
	42nm,0.9s						
MBWA	Marble Bar	24.28	211	*eP*	P	20 41 59.0	-0.1
	125nm,1.4s						
KULM	Kulim	32.49	280	P	P	20 43 11.4	-1.3
STKA	Stephens Creek	32.49	166	P	P	20 43 12.1	-0.4
	35nm,1.0s,baz=353,slow=6.5,SNR=5.6						
STKA	Stephens Creek	32.49	166	*eP*	P	20 43 11.5	-0.9
	7.7nm,0.9s						
ARMA	Armidale	34.92	151	*eP*	P	20 43 34.1	+0.4
	34nm,1.0s						
NWAO	Narrogin (SRO)	35.56	203	P	P	20 43 38.8	-0.2
	21nm,0.8s,baz=29,slow=5.1,SNR=5.1						
NWAO	Narrogin (SRO)	35.56	203	P	P	20 43 38.8	-0.2
MJAR	Matsushiro Arr	37.03	7	P	P	20 43 49.9	-1.6
	2.0nm,0.9s,baz=193,slow=5.7,SNR=3.2						
MJAR	Matsushiro Arr	37.03	7	P	P	20 43 49.9	-1.6
ENH	Enshi	37.60	326	P	P	20 43 56.5	-0.1
	7.7nm,0.9s						
KSAR	Wonju Array Be	37.84	354	P	P	20 43 59.2	+0.9
KSRS	Korea Array	37.84	354	P	P	20 43 59.2	+0.8
	1.9nm,1.0s,baz=185,slow=10,SNR=4.5						
CM31	Chiang Mai Arr	38.06	301	P	P	20 44 03.1	+2.6
	3.9nm,0.8s						
CMAR	Chiang Mai Arr	38.06	301	P	P	20 44 01.6	+1.1
	2.1nm,0.8s,baz=111,slow=6.8,SNR=4.1						
CMAR	Chiang Mai Arr	38.06	301	P	P	20 44 01.6	+1.1
CHTO	Chiang Mai	38.21	302	*eP*	P	20 44 02.9	+1.1
	4.6nm,0.8s						
USRK	Ussuriysk Arra	44.33	359	P	P	20 44 52.9	+1.3
	4.5nm,1.0s,baz=181,slow=9.2,SNR=4.2						
YSS	Yuzh-Sakhalins	47.90	9	P	P	20 45 19.6	0.0
LSA	Lhasa	49.58	311	*eP*	P	20 45 32.9	-0.7
ULN	Ulaanbaatar	52.92	339	P	P	20 45 58.4	+0.4
	20nm,1.3s						
SONM	Songino Array	53.14	338	P	P	20 46 00.6	+1.2
	1.7nm,0.7s,baz=158,slow=7.9,SNR=5.8						
SONM	Songino Array	53.14	338	P	P	20 46 00.6	+1.2
PETK	Petropavlovsk-	57.18	18	P	P	20 46 28.2	-0.2
	7.7nm,0.8s,baz=190,slow=7.5,SNR=4.4						
PETK	Petropavlovsk-	57.18	18	P	P	20 46 28.2	-0.2
YAK	Yakutsk	62.23	358	*eP*	P	20 47 03.0	+0.1
	17nm,0.6s						
TKM2	Tokmak 2	66.72	318	*eP*	P	20 47 33.7	+0.7
	12nm,1.0s						
EKS2	Erkin-Say	67.85	317	P	P	20 47 40.2	+0.1
	3.2nm,0.8s						
KURK	Kurchatov	68.37	326	P	P	20 47 44.0	+1.0
	4.0nm,0.8s,baz=139,slow=6.1,SNR=4.3						
KURK	Kurchatov	68.37	326	P	P	20 47 44.0	+1.0
KBL	Kabul	68.71	307	P	P	20 47 44.7	-1.0
	14nm,1.1s						
BVAR	Borovoye Array	73.97	326	P	P	20 48 17.4	+0.6
	1.6nm,0.7s,baz=140,slow=7.6,SNR=2.9						
BVAR	Borovoye Array	73.97	326	P	P	20 48 17.4	+0.6
VNDA	Vanda	78.73	174	*eP*	P	20 48 43.3	-0.1
	5.5nm,0.8s						
ABKAR	Akbulak array	79.05	320	P	P	20 48 43.2	-2.5
ARU	Arti	81.54	327	P	P	20 48 59.0	+0.2
	15nm,1.1s						
MCK	McKinley	85.13	26	*eP*	P	20 49 16.9	-0.4
	17nm,1.2s						
COLA	College	85.80	25	P	P	20 49 19.7	-0.8
ILAR	Eielson Array	86.19	25	P	P	20 49 21.9	-0.6
	2.6nm,0.7s,baz=256,slow=4.5,SNR=8.2						
ILAR	Eielson Array	86.19	25	P	P	20 49 21.9	-0.6
QSPA	South Pole Qui	89.61	180	P	P	20 49 39.3	+0.2
INK	Inuvik	91.70	22	P	P	20 49 47.6	-0.9
	2.4nm,0.9s,baz=233,slow=5.1,SNR=2.8						
INK	Inuvik	91.70	22	P	P	20 49 47.6	-0.9
PLCA	Paso Flores	133.99	155	PKP	PKiKP	20 56 01.6	+1.1
	2.3nm,0.9s,baz=168,slow=1.8,SNR=3.3						
PLCA	Paso Flores	133.99	155	PKP	PKiKP	20 56 01.6	+1.1
CPUP	Villa Florida	151.79	161	PKPbc	PKPbc	20 56 36.8	-0.1
	4.2nm,0.7s,baz=192,slow=1.5,SNR=4.0						
CPUP	Villa Florida	151.79	161	PKPbc	PKPbc	20 56 36.8	-0.1

*IDC **03** 20:38:30.9±0.6,0.°63S×133.°41E,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.3/20,mbtmp4.3/14,ML4.8/1,Error ellipse: s-maj=40.4km s-min=13.5km az=77.0*

*ISCJB **03** 20:38:32.7±0.5,0.°66S±0.°07×133.°5E±0.°1,h28km, mb4.4/20,Error ellipse: s-maj=19.7km s-min=9.2km az=167.3*

*NEIC **03** 20:38:35.7±0.3,0.°67S×133.°39E,h35km,mb4.7/9,Error ellipse: s-maj=16.1km s-min=7.2km az=70.0*

ISC 03 20:38:34.5±0.5,**0.70S**±0.°08×**133.4E**±0.°2,**h28**km,**n43,** σ1**19**/**43**,**mb4.5**/**20**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.15	177	P	Pn	20 42 56.3	-0.5
	3.4nm,0.3s,baz=353,slow=12,SNR=5.6						
WRA	Warramunga Arr	19.15	177	P	Pn	20 42 56.3	-0.5
WB2	Warramunga Arr	19.15	177	P	P	20 42 51.9	-3.9
ASAR	Alice Springs	22.84	179	P	P	20 43 35.6	0.0
	24nm,0.8s,baz=2.3,slow=10,SNR=4.9						
ASAR	Alice Springs	22.84	179	P	P	20 43 35.6	0.0
CTA	Charters Tower	23.03	148	P	P	20 43 39.6	+2.0
	5.6nm,0.6s,baz=306,slow=13,SNR=2.7						
CTA	Charters Tower	23.03	148	P	P	20 43 39.6	+2.0
CTAO	Charters Tower	23.03	148	*eP*	P	20 43 38.3	+0.7
	23nm,0.9s						
KSM	Kuching	23.16	275	P	P	20 43 39.6	+0.5
STKA	Stephens Creek	31.97	167	P	P	20 44 58.4	+0.1
	4.8nm,0.6s,baz=322,slow=12,SNR=3.8						
STKA	Stephens Creek	31.97	167	*eP*	P	20 44 57.9	-0.4
	1.7nm,0.8s						
MJAR	Matsushiro Arr	37.32	6	P	P	20 45 42.8	-1.6
	3.4nm,1.1s,baz=184,slow=6.2,SNR=4.2						
MJAR	Matsushiro Arr	37.32	6	P	P	20 45 42.8	-1.6
USRK	Ussuriysk Arra	44.72	359	P	P	20 46 44.8	-0.4
	3.1nm,0.8s,baz=175,slow=9.7,SNR=5.3						
ULN	Ulaanbaatar	53.52	338	P	P	20 47 53.9	+1.1
	4.6nm,0.8s						
SONM	Songino Array	53.74	338	P	P	20 47 54.9	+0.5
	2.7nm,1.0s,baz=116,slow=6.6,SNR=4.0						
SONM	Songino Array	53.74	338	P	P	20 47 54.9	+0.5
PETK	Petropavlovsk-	57.34	17	P	P	20 48 20.9	+1.0
	3.2nm,0.9s,baz=160,slow=4.6,SNR=3.2						
PETK	Petropavlovsk-	57.34	17	P	P	20 48 20.9	+1.0
YAK	Yakutsk	62.63	358	*eP*	P	20 48 55.8	-0.3
	5.8nm,0.6s						
MK31	Makanchi Array	64.99	324	*eP*	P	20 49 12.1	+0.1
MKAR	Makanchi Array	64.99	324	P	P	20 49 12.7	+0.7
	1.5nm,0.4s,baz=109,slow=8.5,SNR=4.1						
MKAR	Makanchi Array	64.99	324	P	P	20 49 12.7	+0.7
TKM2	Tokmak 2	67.45	318	P	P	20 49 28.4	+0.3
ZALV	Zalesovo Beam	67.58	331	P	P	20 49 28.7	+0.3
	1.0nm,0.3s,baz=74,slow=6.2,SNR=4.6						
ZALV	Zalesovo Beam	67.58	331	P	P	20 49 28.7	+0.3
AAK	Ala-Archa	68.08	317	P	P	20 49 32.6	+0.6
	32nm,1.1s						
EKS2	Erkin-Say	68.58	317	P	P	20 49 36.0	+0.8
	6.5nm,0.9s						
KURK	Kurchatov	69.05	326	P	P	20 49 38.7	+1.0
	4.8nm,0.8s,baz=122,slow=5.7,SNR=4.8						
KURK	Kurchatov	69.05	326	P	P	20 49 38.1	+0.4
KBL	Kabul	69.47	307	*eP*	P	20 49 39.8	-1.1
	5.1nm,1.0s						
BVAR	Borovoye Array	74.65	326	P	P	20 50 12.2	+1.0
	1.4nm,0.6s,baz=124,slow=9.6,SNR=3.4						
BVAR	Borovoye Array	74.65	326	P	P	20 50 12.2	+1.0
BRVK	Borovoye	74.72	326	P	P	20 50 12.7	+1.0
VNDA	Vanda	78.29	174	P	P	20 50 30.0	-1.5
	4.0nm,0.9s						
ABKAR	Akbulak array	79.76	320	*eP*	P	20 50 39.2	-0.8
MCK	McKinley	85.18	26	*eP*	P	20 51 07.1	-1.0
	12nm,1.3s						
ILAR	Eielson Array	86.25	25	P	P	20 51 12.6	-0.7
	0.7nm,0.7s,baz=251,slow=4.9,SNR=5.0						
ILAR	Eielson Array	86.25	25	P	P	20 51 12.6	-0.7
QSPA	South Pole Qui	89.23	180	P	P	20 51 28.7	+1.0
	4.9nm,0.9s,baz=90,slow=2.3,SNR=3.6						
QSPA	South Pole Qui	89.23	180	P	P	20 51 28.7	+1.0
CPUP	Villa Florida	151.21	160	PKPbc	PKPbc	20 58 28.1	+2.0
	0.8nm,0.5s,baz=198,slow=9.6,SNR=2.9						
CPUP	Villa Florida	151.21	160	PKPbc	PKPbc	20 58 28.1	+2.0

*IDC **03** 20:39:15.0±0.8,0.°40S×132.°81E,h0km,mb4.4/10, mb1 4.6/11,mb1mx4.4/19,mbtmp4.5/11,ML4.8/1,Error ellipse: s-maj=45.9km s-min=14.7km az=67.0*

*ISCJB **03** 20:39:17.3±0.4,0.°40S±0.°06×132.°9E±0.°1,h32km, mb4.6/24,Error ellipse: s-maj=18.6km s-min=8.0km az=164.4*

*NEIC **03** 20:39:19.6±0.3,0.°40S×132.°88E,h35km,mb4.7/16,Error ellipse: s-maj=15.5km s-min=6.7km az=71.0*

ISC 03 20:39:19.2±0.6,**0.°40S**±0.°09×**132.°9E**±0.°2,**h32**km,**n43,** σ0**96**/**43**,**mb4.6**/**24**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	19.46	176	P	P	20 43 42.7	-0.8
WRA	Warramunga Arr	19.47	176	P	P	20 43 43.8	+0.2
	2.9nm,0.3s,baz=356,slow=11,SNR=3.5						
WRA	Warramunga Arr	19.47	176	P	P	20 43 43.8	+0.2
KSM	Kuching	22.64	275	*eP*	P	20 44 19.0	+1.2
	17nm,1.0s						
ASAR	Alice Springs	23.14	178	P	P	20 44 23.9	+0.9
	14nm,0.5s,baz=356,slow=10.0,SNR=7.0						
ASAR	Alice Springs	23.14	178	P	P	20 44 23.9	+0.9
CTA	Charters Tower	23.55	147	P	P	20 44 28.1	+1.1
	18nm,1.0s,baz=307,slow=11,SNR=3.3						
CTA	Charters Tower	23.55	147	P	P	20 44 28.1	+1.1
CTAO	Charters Tower	23.55	147	*eP*	P	20 44 27.6	+0.6
	23nm,0.8s						
MBWA	Marble Bar	24.29	211	*eP*	P	20 44 34.5	+0.6
	74nm,1.3s						
STKA	Stephens Creek	32.37	166	P	P	20 45 45.4	-0.6
	17nm,0.5s,baz=341,slow=7.1,SNR=13						
STKA	Stephens Creek	32.37	166	*eP*	P	20 45 44.7	-1.3
	3.3nm,1.0s						
ENH	Enshi	37.77	326	*eP*	P	20 46 32.1	-0.4
	9.5nm,0.8s						
CMAR	Chiang Mai Arr	38.24	301	P	P	20 46 37.1	+0.4
	3.4nm,0.9s,baz=117,slow=6.3,SNR=7.5						
CMAR	Chiang Mai Arr	38.24	301	P	P	20 46 37.1	+0.4
BJT	Baijiatuan	43.02	341	*eP*	P	20 47 16.3	+0.4
	39nm,0.9s						
LSA	Lhasa	49.76	311	*eP*	P	20 48 10.0	+0.4
	7.8nm,0.7s						
ULN	Ulaanbaatar	53.06	338	*eP*	P	20 48 34.8	+1.2
	4.4nm,0.8s						
SONM	Songino Array	53.28	338	P	P	20 48 36.1	+0.9
	2.2nm,0.8s,baz=150,slow=8.0,SNR=4.0						
SONM	Songino Array	53.28	338	P	P	20 48 36.1	+0.9
YAK	Yakutsk	62.32	358	*eP*	P	20 49 38.3	+0.1
	15nm,0.7s						
MK31	Makanchi Array	64.46	324	*eP*	P	20 49 53.0	+0.3
MKAR	Makanchi Array	64.46	324	P	P	20 49 53.6	+0.9
	1.8nm,0.5s,baz=109,slow=8.3,SNR=3.4						
MKAR	Makanchi Array	64.46	324	P	P	20 49 53.6	+0.9
TKM2	Tokmak 2	66.90	318	P	P	20 50 08.5	-0.3
	50nm,1.7s						
ZAA0	Zalesovo Array	67.08	331	P	P	20 50 09.7	+0.3
ZALV	Zalesovo Beam	67.08	331	P	P	20 50 08.2	-1.3
	1.2nm,0.5s,baz=125,slow=6.0,SNR=4.0						
ZALV	Zalesovo Beam	67.08	331	P	P	20 50 08.2	-1.3
KURK	Kurchatov	68.53	326	P	P	20 50 19.1	+0.5
	5.4nm,1.0s,baz=124,slow=5.8,SNR=3.8						
KURK	Kurchatov	68.53	326	P	P	20 50 19.1	+0.5
KBL	Kabul	68.89	307	*eP*	P	20 50 19.2	-2.3
	5.5nm,0.8s						
BVAR	Borovoye Array	74.13	326	P	P	20 50 52.9	+0.4
	2.1nm,0.7s,baz=134,slow=6.5,SNR=3.1						
BVAR	Borovoye Array	74.13	326	P	P	20 50 52.9	+0.4
BRVK	Borovoye	74.20	326	*eP*	P	20 50 52.3	-0.5
	5.8nm,0.8s						
VNDA	Vanda	78.63	174	*eP*	P	20 51 17.3	-0.2
	9.9nm,1.2s						
ABKAR	Akbulak array	79.22	320	*eP*	P	20 51 19.0	-2.3
	4.4nm,0.9s						
MCK	McKinley	85.14	26	*eP*	P	20 51 51.3	-0.7
COLD	Coldfoot	85.32	22	*eP*	P	20 51 51.8	-1.0
	1.5nm,0.7s						
ILAR	Eielson Array	86.20	25	P	P	20 51 58.5	+1.3
	0.9nm,0.6s,baz=250,slow=4.8,SNR=4.2						
ILAR	Eielson Array	86.20	25	P	P	20 51 58.5	+1.3
QSPA	South Pole Qui	89.53	180	P	P	20 52 12.4	-0.9
	8.5nm,1.0s						
CPUP	Villa Florida	151.66	160	PKPbc	PKPbc	20 59 12.2	+0.9
	2.8nm,0.6s,baz=186,slow=1.9,SNR=4.0						
CPUP	Villa Florida	151.66	160	PKPbc	PKPbc	20 59 12.2	+0.9

IDC 03 20:40:46.3±1.5,**0.°17S**×**133.°01E**,**h0**km,**mb4.1**/**4**, **mb1 4.3**/**4**,**mb1mx3.9**/**16**,**mbtmp4.1**/**4**,**Error ellipse: s-maj=79.5km s-min=32.7km az=79.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	23.37	178	P	P	20 45 56.7	0.0
	14nm,0.7s,baz=1.6,slow=11,SNR=2.2						
MKAR	Makanchi Array	64.36	324	P	P	20 51 24.1	0.0
	0.7nm,0.5s,baz=108,slow=8.0,SNR=2.0						
KURK	Kurchatov	68.42	326	P	P	20 51 49.9	-0.1
	0.8nm,0.6s,baz=126,slow=5.9,SNR=1.1						
ILAR	Eielson Array	85.93	25	P	P	20 53 28.1	0.0
	0.9nm,0.6s,baz=239,slow=5.3,SNR=4.3						

*ISCJB **03** 20:40:56.7±0.6,42.°30N±0.°07×84.°74E±0.°06,h10km, mb4.0/15,Error ellipse: s-maj=10.3km s-min=5.5km az=160.8*

*NEIC **03** 20:40:57.2±1.0,42.°14N×84.°83E,h10km,mb4.2/4,Error ellipse: s-maj=16.4km s-min=11.8km az=111.0*

*IDC **03** 20:40:58.3±3.0,42.°28N×84.°35E,h0km,mb3.8/7, mb1 3.9/10,mb1mx3.8/27,mbtmp3.8/10,ML3.6/3,Error ellipse: s-maj=73.6km s-min=19.8km az=90.0*

*BJI **03** 20:40:58.7,42.°07N×84.°72E,h14km,ML3.7/7*

ISC 03 20:40:58.2±0.9,**42.°20N**±0.°09×**84.°74E**±0.°07,**h10**km,**n39,** σ1**16**/**40**,**mb4.2**/**15**,**1C**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.71	52	Pg	Pg	20 41 50.0	0.0
WMQ				Sg	Sg	20 42 25.2	+0.2
WMQ				smax	smax		
	comp=N,240nm,0.4s						
WMQ				smax	smax		
	comp=E,260nm,0.5s						
MKAR	Makanchi Array	4.92	340	Pn	Pn	20 42 13.5	+1.4
	comp=E,1.2nm,0.3s,baz=163,slow=14,SNR=60						
MKAR				Pg	Pb	20 42 25.6	+1.3
	comp=E,8.6nm,0.3s,baz=154,slow=15,SNR=23						
MKAR				Lg	Lg	20 43 28.5	
	comp=E,30nm,0.3s,baz=152,slow=29,SNR=16						
MKAR	Makanchi Array	4.92	340	Pn	Pn	20 42 13.5	+1.4
MKAR				Pg	Pb	20 42 25.6	+1.3
MKAR				Lg	Lg	20 43 28.5	
TKM2	Tokmak 2	6.79	279	*eP*	Pn	20 42 39.7	+1.6
TKM2				*eS*	Sn	20 43 56.8	+1.3
TKM2				*eS*	Sb	20 44 28.3	+11
AAK	Ala-Archa	7.60	277	*ePn*	Pn	20 42 49.4	+0.3
	comp=E,530nm,1.5s						
EKS2	Erkin-Say	8.13	277	*ePn*	Pn	20 42 57.7	+1.4
KURK	Kurchatov	9.50	336	Pn	Pn	20 43 13.1	-1.9
	comp=E,0.2nm,0.3s,baz=154,slow=12,SNR=8.0						
KURK				Lg	Lg	20 45 51.9	
	comp=E,0.4nm,0.3s,baz=152,slow=32,SNR=5.1						
KURK	Kurchatov	9.50	336	Pn	Pn	20 43 13.1	-1.9
KURK				Lg	Lg	20 45 51.9	
ZAA0	Zalesovo Array	11.76	0	*ePn*	Pn	20 43 44.5	-1.3
ZAA0				*eSn*	Sn	20 45 50.6	-6.3
ZALV	Zalesovo Beam	11.76	0	Pn	Pn	20 43 45.0	-0.8
	comp=E,1.0nm,0.3s,baz=180,slow=13,SNR=11						
ZALV	Zalesovo Beam	11.76	0	Pn	Pn	20 43 45.0	-0.8
LSA	Lhasa	13.50	155	*eP*	Pn	20 44 03.1	-7.1
	comp=E,16nm,1.0s						
KBL	Kabul	14.48	243	*ePn*	Pn	20 44 20.0	-3.4
	comp=E,8.4nm,1.0s						
BRVK	Borovoye	14.56	323	Pn	Pn	20 44 26.2	+2.0
ARU	Arti	22.04	319	*eP*	P	20 45 52.7	0.0
	comp=E,35nm,1.2s						
CHTO	Chiang Mai	26.25	148	*eP*	P	20 46 36.3	+2.8
	comp=E,4.1nm,0.7s						
CM31	Chiang Mai Arr	26.57	149	*eP*	P	20 46 36.1	-0.4
	comp=E,4.5nm,0.8s						
MALT	Malatya	35.22	279	P	P	20 47 51.1	-1.7
BR131	Keskin Array S	38.20	284	*eP*	P	20 48 13.9	-4.3
	comp=E,1.1nm,0.8s						
AKASG	Malin Array Be	38.37	302	P	P	20 48 17.4	-1.8
	comp=E,0.3nm,0.3s,baz=80,slow=7.7,SNR=4.3						
AKASG	Malin Array Be	38.37	302	P	P	20 48 17.4	-1.8
FINES	FINESS Array B	39.41	320	P	P	20 48 27.4	-0.3
	comp=E,1.7nm,0.8s,baz=102,slow=8.0,SNR=4.3						
FINES	FINESS Array B	39.41	320	P	P	20 48 27.4	-0.3
ARCES	ARCESS Array B	40.52	332	P	P	20 48 37.0	0.0
	comp=E,6.7nm,0.9s,baz=92,slow=7.3,SNR=6.7						
ARCES	ARCESS Array B	40.52	332	P	P	20 48 37.0	0.0
NB2	NORSAR Subarra	46.59	320	P	P	20 49 25.8	-0.2
	comp=Z,0.5nm,0.4s,baz=79,slow=7.9						
NOA	NORSAR Array B	46.59	320	P	P	20 49 25.7	-0.3
	comp=Z,0.7nm,0.4s,baz=80,slow=7.8,SNR=3.9						
NOA	NORSAR Array B	46.59	320	P	P	20 49 25.7	-0.3
GERES	GERESS Array B	48.55	304	P	P	20 49 41.7	+0.2
	comp=Z,0.5nm,0.7s,baz=76,slow=8

ISC 03 20:44:04.6±0.5,0.38S±0.08×132.59E±0.09,h33km,n87,
σ0966/87,mb4.6/29,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**13.62**	**250**	*e*Pn		**Pn**	**20 47 14.7**	**-0.9**
	37nm,1.0s							
PMG	**Port Moresby**	**17.05**	**122**	Pn		**P**	**20 48 02.4**	**+0.2**
	0.4nm,0.3s,baz=288,slow=3.2,SNR=3.9							
PMG	**Port Moresby**	**17.05**	**122**	*e*Pn		**P**	**20 48 01.7**	**-0.5**
	38nm,1.2s							
FITZ	**Fitzroy Crossi**	**18.89**	**201**	P		**P**	**20 48 21.4**	**-1.0**
	1.1nm,0.3s,baz=44,slow=12,SNR=2.6							
FITZ	**Fitzroy Crossi**	**18.89**	**201**	P		**P**	**20 48 21.4**	**-1.0**
WRAB	**Tennant Creek**	**19.51**	**175**	*e*P		**P**	**20 48 29.5**	**+0.3**
	67nm,0.7s							
WRA	**Warramunga Arr**	**19.52**	**175**	P		**P**	**20 48 29.8**	**+0.4**
	5.1nm,0.3s,baz=353,slow=11,SNR=12							
WRA	**Warramunga Arr**	**19.52**	**175**	P		**P**	**20 48 29.8**	**+0.4**
KSM	**Kuching**	**22.36**	**275**	*e*P		**P**	**20 49 01.6**	**+1.6**
	62nm,1.4s							
ASAR	**Alice Springs**	**23.18**	**177**	P		**P**	**20 49 08.9**	**+0.3**
	52nm,0.8s,baz=22,slow=12,SNR=49							
ASAR	**Alice Springs**	**23.18**	**177**	P		**P**	**20 49 08.9**	**+0.3**
CTA	**Charters Tower**	**23.72**	**146**	P		**P**	**20 49 14.8**	**+0.9**
	12nm,0.8s,baz=299,slow=12,SNR=6.1							
CTA	**Charters Tower**	**23.72**	**146**	*e*P		**P**	**20 49 14.6**	**+0.7**
	17nm,0.9s							
CTA	**Charters Tower**	**23.72**	**146**	P		**P**	**20 49 14.8**	**+0.9**
CTAO	**Charters Tower**	**23.72**	**146**	*e*P		**P**	**20 49 14.2**	**+0.4**
	21nm,0.8s							
MBWA	**Marble Bar**	**24.17**	**210**	*e*P		**P**	**20 49 18.9**	**+0.9**
	38nm,1.0s							
HNR	**Honiara**	**28.68**	**109**	P		**P**	**20 49 59.1**	**+0.3**
STKA	**Stephens Creek**	**32.47**	**166**	P		**P**	**20 50 30.9**	**-1.1**
	27nm,0.9s,baz=358,slow=7.8,SNR=44							
STKA	**Stephens Creek**	**32.47**	**166**	*e*P		**P**	**20 50 31.5**	**-0.5**
	17nm,0.7s							
STKA	**Stephens Creek**	**32.47**	**166**	P		**P**	**20 50 30.9**	**-1.1**
ARMA	**Armidale**	**34.93**	**151**	*e*P		**P**	**20 50 53.6**	**-0.1**
	11nm,0.6s							
NWAO	**Narrogin (SRO)**	**35.46**	**203**	P		**P**	**20 50 57.9**	**-0.1**
	17nm,0.8s,baz=33,slow=8.4,SNR=8.4							
NWAO	**Narrogin (SRO)**	**35.46**	**203**	P		**P**	**20 50 57.9**	**-0.1**
ENH	**Enshi**	**37.59**	**326**	P		**P**	**20 51 16.6**	**+0.4**
CM31	**Chiang Mai Arr**	**37.99**	**301**	P		**P**	**20 51 20.3**	**+0.5**
	4.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.99**	**301**	P		**P**	**20 51 20.8**	**+0.9**
	2.6nm,0.8s,baz=118,slow=7.1,SNR=14							
CMAR	**Chiang Mai Arr**	**37.99**	**301**	P		**P**	**20 51 20.8**	**+0.9**
CHTO	**Chiang Mai**	**38.15**	**302**	*e*P		**P**	**20 51 21.4**	**+0.3**
	43nm,2.0s							
LSA	**Lhasa**	**49.53**	**311**	*e*P		**P**	**20 52 53.9**	**+0.8**
	4.8nm,0.7s							
TAPN	**Taplejung**	**51.15**	**306**	*e*P		**P**	**20 53 05.2**	**+0.1**
	4.9nm,0.5s							
TAPN	**Taplejung**	**51.15**	**306**	*e*P		**P**	**20 53 05.2**	**+0.1**
ODAN	**Odare**	**51.21**	**306**	*e*P		**P**	**20 53 05.5**	**0.0**
ODAN	**Odare**	**51.21**	**306**	*e*P		**P**	**20 53 05.5**	**0.0**
RAMN	**Ramite**	**51.89**	**305**	*e*P		**P**	**20 53 10.8**	**+0.2**
	18nm,0.6s							
RAMN	**Ramite**	**51.89**	**305**	*e*P		**P**	**20 53 10.8**	**+0.2**
JIRN	**Jiri**	**52.51**	**306**	*e*P		**P**	**20 53 15.3**	**0.0**
	10nm,0.6s							
JIRN	**Jiri**	**52.51**	**306**	*e*P		**P**	**20 53 15.3**	**0.0**
GUN	**Gumba**	**52.86**	**306**	*e*P		**P**	**20 53 18.0**	**+0.1**
	17nm,0.6s							
GUN	**Gumba**	**52.86**	**306**	*e*P		**P**	**20 53 18.0**	**+0.1**
ULN	**Ulaanbaatar**	**52.94**	**339**	*e*P		**P**	**20 53 18.4**	**+0.6**
	9.8nm,1.2s							
PKI	**Pulchoki**	**53.11**	**305**	*e*P		**P**	**20 53 19.4**	**-0.3**
PKI	**Pulchoki**	**53.11**	**305**	*e*P		**P**	**20 53 19.4**	**-0.3**
SONM	**Songino Array**	**53.15**	**338**	P		**P**	**20 53 20.0**	**+0.6**
	0.9nm,0.9s,baz=154,slow=6.3,SNR=5.0							
SONM				PcP		**PcP**	**20 54 27.8**	**+0.5**
	0.5nm,0.6s,baz=144,slow=2.0,SNR=2.5							
SONM	**Songino Array**	**53.15**	**338**	P		**P**	**20 53 20.0**	**+0.6**
SONM				PcP		**PcP**	**20 54 27.8**	**+0.5**
KKN	**Kakani**	**53.30**	**306**	*e*P		**P**	**20 53 20.5**	**-0.5**
KKN	**Kakani**	**53.30**	**306**	*e*P		**P**	**20 53 20.5**	**-0.5**
DMN	**Daman**	**53.37**	**305**	*e*P		**P**	**20 53 21.4**	**-0.1**
	10nm,0.7s							
DMN	**Daman**	**53.37**	**305**	*e*P		**P**	**20 53 21.4**	**-0.1**
GKN	**Gorkha**	**53.90**	**306**	*e*P		**P**	**20 53 26.0**	**+0.7**
GKN	**Gorkha**	**53.90**	**306**	*e*P		**P**	**20 53 26.0**	**+0.7**
KOLN	**Koldanda**	**54.66**	**305**	*e*P		**P**	**20 53 31.3**	**+0.4**
	19nm,0.5s							
KOLN	**Koldanda**	**54.66**	**305**	*e*P		**P**	**20 53 31.3**	**+0.4**
DANN	**Dangsing**	**54.75**	**306**	*e*P		**P**	**20 53 31.8**	**+0.1**
	23nm,0.7s							
DANN	**Dangsing**	**54.75**	**306**	*e*P		**P**	**20 53 31.8**	**+0.1**
YAK	**Yakutsk**	**62.29**	**358**	P		**P**	**20 54 22.3**	**-0.9**
	12nm,0.6s							
MK31	**Makanchi Array**	**64.27**	**324**	*e*P		**P**	**20 54 36.8**	**+0.1**
MKAR	**Makanchi Array**	**64.27**	**324**	P		**P**	**20 54 36.7**	**0.0**
	3.7nm,0.7s,baz=113,slow=7.8,SNR=10							
MKAR	**Makanchi Array**	**64.27**	**324**	P		**P**	**20 54 36.7**	**0.0**
TKM2	**Tokmak 2**	**66.69**	**318**	*e*P		**P**	**20 54 52.6**	**-0.1**
	6.4nm,0.9s							
ZAA0	**Zalesovo Array**	**66.92**	**332**	*e*P		**P**	**20 54 53.2**	**-0.4**
ZALV	**Zalesovo Beam**	**66.92**	**332**	P		**P**	**20 54 53.4**	**-0.2**
	1.6nm,0.6s,baz=102,slow=6.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**66.92**	**332**	P		**P**	**20 54 53.4**	**-0.2**
EKS2	**Erkin-Say**	**67.82**	**317**	*e*P		**P**	**20 55 00.0**	**+0.3**
	3.5nm,0.7s							
KURK	**Kurchatov**	**68.35**	**326**	P		**P**	**20 55 03.2**	**+0.5**
	7.3nm,1.0s,baz=120,slow=5.9,SNR=12							
KURK	**Kurchatov**	**68.35**	**326**	*e*P		**P**	**20 55 02.8**	**+0.1**
	6.3nm,0.9s							
KBL	**Kabul**	**68.65**	**307**	*e*P		**P**	**20 55 04.9**	**-0.3**
	6.7nm,0.9s							
KKAR	**Karatay Array**	**70.22**	**317**	*e*P		**P**	**20 55 13.1**	**-1.3**
	2.0nm,0.6s							
BVAR	**Borovoye Array**	**73.95**	**326**	P		**P**	**20 55 36.9**	**+0.3**
	3.5nm,0.8s,baz=120,slow=5.8,SNR=6.5							
BVAR	**Borovoye Array**	**73.95**	**326**	P		**P**	**20 55 36.9**	**+0.3**
BRVK	**Borovoye**	**74.02**	**326**	*e*P		**P**	**20 55 37.1**	**+0.1**
	5.4nm,0.8s							
VNDA	**Vanda**	**78.69**	**174**	*e*P		**P**	**20 56 03.1**	**+0.1**
	14nm,1.4s							
ABKAR	**Akbulak array**	**79.02**	**320**	*e*P		**P**	**20 56 04.5**	**-0.9**
	1.4nm,0.5s							
AKTO	**Aktyubinsk**	**80.50**	**321**	P		**P**	**20 56 13.7**	**+0.3**
	1.4nm,0.7s,baz=74,slow=6.3,SNR=5.3							
AKTO	**Aktyubinsk**	**80.50**	**321**	P		**P**	**20 56 13.7**	**+0.3**
ARU	**Arti**	**81.52**	**327**	*e*P		**P**	**20 56 18.0**	**-0.7**
	3.7nm,0.7s							
ILAR	**Eielson Array**	**86.29**	**25**	P		**P**	**20 56 41.1**	**-1.7**
	1.2nm,0.7s,baz=257,slow=4.8,SNR=10.0							
ILAR	**Eielson Array**	**86.29**	**25**	P		**P**	**20 56 41.1**	**-1.7**
QSPA	**South Pole Qui**	**89.55**	**180**	P		**P**	**20 56 58.0**	**-0.6**
	4.7nm,0.7s,baz=200,slow=3.9,SNR=6.8							
QSPA	**South Pole Qui**	**89.55**	**180**	P		**P**	**20 56 58.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**129.73**	**287**	PKP		**PKPdf**	**21 03 11.3**	**-0.3**
	2.5nm,1.0s,baz=65,slow=1.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**129.73**	**287**	PKP		**PKPdf**	**21 03 11.3**	**-0.3**
PLCA	**Paso Flores**	**133.99**	**155**	PKP		**PKPdf**	**21 03 20.7**	**+1.6**
	1.0nm,0.6s,baz=46,slow=3.5,SNR=5.1							
PLCA	**Paso Flores**	**133.99**	**155**	PKP		**PKPdf**	**21 03 20.7**	**+1.6**
CFAA	**Coronel Fontan**	**142.57**	**150**	PKhKP		PKPpre	21 03 31.4	
	0.2nm,0.4s,baz=169,slow=6.1,SNR=4.2							
CFAA	**Coronel Fontan**	**142.57**	**150**	PKPpre		PKPpre	21 03 31.4	
CPUP	**Villa Florida**	**151.78**	**161**	PKPbc		**PKPbc**	**21 03 57.1**	**+0.5**
	4.3nm,0.7s,baz=128,slow=1.6,SNR=11							
CPUP	**Villa Florida**	**151.78**	**161**	PKPbc		**PKPbc**	**21 03 57.1**	**+0.5**

*IDC **03** 20:47:04.2±1.1,0.20S×132.81E,h0km,mb4.1/8,*
mb1 4.3/10,mb1mx4.1/20,mbtmp4.2/10,ML4.5/2,Error
ellipse: s-maj=53.8km s-min=15.5km az=68.0
*ISCJB **03** 20:47:07.2±0.8,0.27S±0.10×132.7E±0.2,h32km,mb4.1/9,*
Error ellipse: s-maj=29.7km s-min=11.2km az=162.0
*NEIC **03** 20:47:09.2±0.6,0.25S×132.82E,h35km,mb4.3/3,Error*
ellipse: s-maj=24.0km s-min=8.6km az=71.0

ISC 03 20:47:09.0±1.1,0.3S±0.2×132.8E±0.3,h32km,n22,
σ0958/22,mb4.2/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.06**	**201**	P		**P**	**20 51 28.2**	**-0.6**
	1.4nm,0.3s,baz=5.2,slow=11,SNR=4.6							
FITZ	**Fitzroy Crossi**	**19.06**	**201**	P		**P**	**20 51 28.2**	**-0.6**
WRAB	**Tennant Creek**	**19.61**	**176**	*e*P		**P**	**20 51 35.3**	**+0.4**
	20nm,0.6s							
WRA	**Warramunga Arr**	**19.62**	**176**	P		**P**	**20 51 35.2**	**+0.3**
	1.1nm,0.3s,baz=356,slow=12,SNR=5.0							
WRA	**Warramunga Arr**	**19.62**	**176**	P		**P**	**20 51 35.2**	**+0.3**
ASAR	**Alice Springs**	**23.29**	**177**	P		**P**	**20 52 14.7**	**+0.4**
	5.1nm,0.4s,baz=355,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**23.29**	**177**	P		**P**	**20 52 14.7**	**+0.4**
CTA	**Charters Tower**	**23.72**	**147**	P		**P**	**20 52 17.9**	**-0.5**
	5.3nm,0.6s,baz=337,slow=14,SNR=3.0							
CTA	**Charters Tower**	**23.72**	**147**	P		**P**	**20 52 17.9**	**-0.5**
MBWA	**Marble Bar**	**24.36**	**211**	P		**P**	**20 52 24.9**	**+0.6**
	6.4nm,0.7s							
STKA	**Stephens Creek**	**32.53**	**166**	P		**P**	**20 53 38.0**	**+0.8**
	6.7nm,0.9s,baz=326,slow=7.3,SNR=8.4							
STKA	**Stephens Creek**	**32.53**	**166**	*e*P		**P**	**20 53 35.8**	**-1.4**
	2.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**38.08**	**301**	P		**P**	**20 54 25.0**	**-0.1**
	0.5nm,0.8s,baz=128,slow=10,SNR=4.3							
CMAR	**Chiang Mai Arr**	**38.08**	**301**	P		**P**	**20 54 25.0**	**-0.1**
MKAR	**Makanchi Array**	**64.28**	**324**	P		**P**	**20 57 41.8**	**+0.4**
	1.2nm,0.6s,baz=110,slow=7.9,SNR=4.4							
MKAR	**Makanchi Array**	**64.28**	**324**	P		**P**	**20 57 41.8**	**+0.4**
ZALV	**Zalesovo Beam**	**66.91**	**332**	P		**P**	**20 57 57.8**	**-0.3**
	0.8nm,0.5s,baz=115,slow=4.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**66.91**	**332**	P		**P**	**20 57 57.8**	**-0.3**
KURK	**Kurchatov**	**68.36**	**326**	P		**P**	**20 58 07.1**	**-0.2**
	1.0nm,0.7s,baz=110,slow=5.3,SNR=5.2							
KURK	**Kurchatov**	**68.36**	**326**	P		**P**	**20 58 07.1**	**-0.2**
QSPA	**South Pole Qui**	**89.67**	**180**	P		**P**	**21 00 04.4**	**+0.6**
	1.6nm,0.7s,baz=138,slow=1.1,SNR=4.7							
QSPA	**South Pole Qui**	**89.67**	**180**	P		**P**	**21 00 04.4**	**+0.6**

*IDC **03** 20:47:30.3±0.6,0.33S×132.72E,h0km,mb4.8/13,*
mb1 4.9/14,mb1mx4.7/22,mbtmp4.8/14,ML5.2/1,Error
ellipse: s-maj=33.7km s-min=12.7km az=71.0
*ISCJB **03** 20:47:32.5±0.3,0.29S±0.04×132.95E±0.05,h32km,*
mb4.9/53,MS5.2/3,Error ellipse: s-maj=7.4km
s-min=5.1km az=168.9
*MOS **03** 20:47:33.4±1.2,0.36S×132.65E,h33km,mb5.0/16,Error*
ellipse: s-maj=18.9km s-min=7.7km az=120.3
*BJI **03** 20:47:33.7,0.20S×132.90E,h30km,mB4.9/4,mb4.8/24,*
Ms5.3/8,Ms7 5.2/7
*NEIC **03** 20:47:35.0±0.2,0.32S×132.78E,h35km,mb4.9/31,Error*
ellipse: s-maj=7.7km s-min=4.0km az=59.0
*DJA **03** 20:47:45,0.92S×132.51E,h64km,mb5.6/14*

ISC 03 20:47:35.1±0.4,0.43S±0.05×132.77E±0.06,h32km,n160,
σ1831/178,mb4.9/53,MS5.4/3,3C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**2.53**	**192**	P		**Pb**	**20 48 17.3**	**-2.6**
MSAI	**Masohi**	**4.81**	**233**	P		Pn	20 48 50.9	+5.5
TLE	**Tual**	**5.17**	**180**	P		Pn	20 48 55.4	+5.0
	1µm,1.6s,5.4nm							
AAI	**Ambon**	**5.60**	**235**	P		**Pn**	**20 48 59.1**	**+2.8**
	2µm,1.1s,9.5nm							
TTSI	**Tana Toraja**	**13.21**	**259**	P		**P**	**20 50 47.9**	**-2.2**
	361nm,0.8s							
MMRI	**Maumere**	**13.29**	**232**	P		P	20 50 57.2	+6.2
SPSI	**Sidrap Palu**	**13.46**	**255**	P		**Pn**	**20 50 44.9**	**+0.9**
	190nm,1.1s							
BKSI	**Bulukumba**	**13.53**	**249**	P		P	20 50 49.7	-4.0
	651nm,1.2s							
KAPI	**Kappang**	**13.78**	**250**	*e*Pn		**Pn**	**20 50 49.9**	**+1.6**
	38nm,0.8s							
KAPI				*e*Sn		**Sn**	**20 53 21.2**	**+0.8**
KAPI	**Kappang**	**13.78**	**250**	P		Pn	20 50 52.3	+3.9
	125nm,1.2s							
KBKI	**Kotabaru**	**16.84**	**260**	P		**P**	**20 51 30.0**	**-0.5**
	234nm,1.3s							
PMG	**Port Moresby**	**16.87**	**122**	Pn		**P**	**20 51 32.1**	**+1.3**
	0.4nm,0.3s,baz=293,slow=8.1,SNR=4.2							
PMG	**Port Moresby**	**16.87**	**122**	P		**Pn**	**20 51 27.6**	**-1.4**
PMG				pmax		pmax		
	comp=Z,27nm,0.9s							
PMG	**Port Moresby**	**16.87**	**122**	Pn		**Pn**	**20 51 27.6**	**-1.4**
	comp=Z,27nm,0.9s							
BBKI	**Banjar Baru**	**18.17**	**260**	P		**P**	**20 51 47.2**	**+2.0**
	comp=Z,93nm,1.4s							
KHKI	**Kahang-Kahang**	**18.83**	**245**	P		**Pn**	**20 51 53.6**	**+0.4**
	comp=Z,544nm,0.9s							
WRAB	**Tennant Creek**	**19.44**	**176**	*e*P		**P**	**20 51 59.5**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,56nm,0.6s							
WRAB	**Tennant Creek**	**19.44**	**176**	*e*P		**P**	**20 51 59.5**	**+0.3**
	comp=Z,56nm,0.6s							
WRA	**Warramunga Arr**	**19.45**	**176**	P		**Pn**	**20 52 00.3**	**-0.3**
	comp=Z,7.0nm,0.3s,baz=352,slow=11,SNR=16							
WRA	**Warramunga Arr**	**19.45**	**176**	P		**Pn**	**20 52 00.3**	**-0.3**
WRA	**Warramunga Arr**	**19.45**	**176**	P		**Pn**	**20 52 00.3**	**-0.3**
WB2	**Warramunga Arr**	**19.45**	**176**	*e*P		**P**	**20 51 59.6**	**+0.3**
BYJI	**Banyuwangi**	**19.91**	**247**	P		**Pn**	**20 52 08.8**	**+2.7**
	comp=Z,820nm,1.0s							
JAGI	**Jajag, Banyuwa**	**20.20**	**246**	P		Pn	20 52 11.3	+1.8
	comp=Z,159nm,1.1s							
SBUM	**Sibu**	**20.75**	**278**	P		Pn	20 52 17.5	+1.6
	comp=Z,194nm,1.3s							
STKI	**Sintang**	**21.30**	**271**	P		**P**	**20 52 22.1**	**+2.7**
	comp=Z,593nm,0.7s							
SJI	**Sawahan**	**22.16**	**250**	P		P	20 52 37.0	+8.3
	comp=Z,485nm,0.7s							
KSM	**Kuching**	**22.54**	**275**	*e*P		**P**	**20 52 33.0**	**+0.2**
	comp=Z,41nm,1.0s							
ASAR	**Alice Springs**	**23.12**	**177**	P		**P**	**20 52 39.5**	**+0.8**
	comp=Z,100nm,0.8s,baz=356,slow=12,SNR=40							
ASAR	**Alice Springs**	**23.12**	**177**	P		**P**	**20 52 39.5**	**+0.8**
ASAR	**Alice Springs**	**23.12**	**177**	P		**P**	**20 52 39.5**	**+0.8**
CTA	**Charters Tower**	**23.58**	**147**	P		**P**	**20 52 45.4**	**+2.2**
	comp=Z,13nm,0.7s,baz=321,slow=12,SNR=7.3							
CTA	**Charters Tower**	**23.58**	**147**	P		**P**	**20 52 45.4**	**+2.2**
CTA	**Charters Tower**	**23.58**	**147**	P		**P**	**20 52 45.4**	**+2.2**
CTAO	**Charters Tower**	**23.58**	**147**	*e*P		**P**	**20 52 44.6**	**+1.4**
CTAO				pmax		pmax		
	comp=Z,14nm,0.8s							
CTAO	**Charters Tower**	**23.58**	**147**	*e*P		**P**	**20 52 44.6**	**+1.4**
	comp=Z,14nm,0.8s							
BJII	**Banjamegara**	**24.00**	**253**	P		**P**	**20 52 49.9**	**+2.6**
	comp=Z,400nm,1.9s							
MBWA	**Marble Bar**	**24.22**	**211**	*e*P		**P**	**20 52 49.4**	**+0.3**
	comp=Z,64nm,0.9s							
FORT	**Forrest**	**30.51**	**188**	*e*P		**P**	**20 53 43.6**	**-1.9**
	comp=Z,40nm,0.7s							
STKA	**Stephens Creek**	**32.37**	**166**	P		**P**	**20 54 01.3**	**-0.6**
	comp=Z,25nm,0.7s,baz=344,slow=8.0,SNR=18							
STKA	**Stephens Creek**	**32.37**	**166**	*e*P		**P**	**20 54 02.2**	**+0.3**
	comp=Z,19nm,0.8s							
STKA	**Stephens Creek**	**32.37**	**166**	P		**P**	**20 54 01.3**	**-0.6**
STKA	**Stephens Creek**	**32.37**	**166**	P		**P**	**20 54 01.3**	**-0.6**
KULM	**Kulim**	**32.58**	**280**	P		**P**	**20 54 02.7**	**-1.2**
	comp=Z,8.9nm,0.9s							
KLBR	**Kellerberrin**	**34.10**	**203**	*e*P		**P**	**20 54 17.4**	**+0.4**
	comp=Z,22nm,0.5s							
ARMA	**Armidale**	**34.79**	**151**	*e*P		**P**	**20 54 24.2**	**+1.1**
NJ2	**Nanjing**	**34.89**	**339**	*e*P		**P**	**20 54 24.0**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
NWAO	**Narrogin (SRO)**	**35.48**	**203**	P		**P**	**20 54 29.3**	**+0.4**
	comp=Z,27nm,0.8s,baz=41,slow=8.4,SNR=9.9							
NWAO	**Narrogin (SRO)**	**35.48**	**203**	P		**P**	**20 54 29.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.48**	**203**	P		**P**	**20 54 29.3**	**+0.4**
GYA	**Guiyang**	**36.71**	**319**	P		**P**	**20 54 41.0**	**+1.3**
GYA				pP		**pP**	**20 54 50.4**	**+1.3**
GYA				sP		**sP**	**20 54 56.8**	**+3.9**
GYA				PP		PP	20 56 06.2	+2.5
GYA				S		**S**	**21 00 21.0**	**-0.5**
GYA				sS		**sS**	**21 00 38.9**	**+1.9**
GYA				ScP		**ScP**	**21 00 45.6**	**-1.0**
GYA				SS		SS	21 02 50.4	-13
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.8s							
GYA				LR		LR		
	comp=N,580nm,16.8s							
GYA				LR		LR		
	comp=E,470nm,18.6s							
ENH	**Enshi**	**37.73**	**326**	*e*P		**P**	**20 54 47.1**	**-1.0**
CM31	**Chiang Mai Arr**	**38.18**	**301**	*e*P		**P**	**20 54 51.1**	**-1.0**
	comp=E,9.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P		**P**	**20 54 51.5**	**-0.6**
	comp=E,6.8nm,0.9s,baz=122,slow=7.2,SNR=31							
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P		**P**	**20 54 51.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P		**P**	**20 54 51.5**	**-0.6**
CHTO	**Chiang Mai**	**38.33**	**302**	*e*P		**P**	**20 54 51.9**	**-1.4**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CHTO	**Chiang Mai**	**38.33**	**302**	*e*P		**P**	**20 54 51.9**	**-1.4**
	comp=Z,8.3nm,0.8s							
KMI	**Kunming**	**38.59**	**313**	P		**P**	**20 54 55.9**	**+0.2**
KMI				pmax		pmax		
	comp=Z,9.0nm,1.1s							
CD2	**Chengdu**	**41.60**	**321**	P		**P**	**20 55 20.8**	**+0.4**
CD2				pP		**pP**	**20 55 31.0**	**+1.1**
CD2				sP		**sP**	**20 55 35.3**	**+1.6**
CD2				PP		PP	20 57 00.9	+3.9
CD2				S		**S**	**21 01 34.9**	**+0.1**
CD2				sS		**sS**	**21 01 51.9**	**+1.5**
CD2				SS		SS	21 04 35.7	-5.0
CD2				pmax		pmax		
	comp=Z,30nm,1.0s							
CD2				LR		LR		
	comp=N,6µm,19.0s							
CD2				LR		LR		
	comp=Z,3µm,17.8s							
BJT	**Baijiatuau**	**43.02**	**341**	P		P	20 55 27.1	-4.6
BJT	**Baijiatuau**	**43.02**	**341**	P		P	20 55 27.1	-4.6
BJI	**Beijing**	**43.04**	**341**	P		**P**	**20 55 31.2**	**-0.6**
BJI				pmax		pmax		
	comp=Z,13nm,1.1s							
LZH	**Lanzhou**	**45.21**	**326**	*e*P		**P**	**20 55 49.9**	**+0.3**
LZH				pP		**pP**	**20 55 58.3**	**-0.8**
LZH				sP		**sP**	**20 56 02.1**	**-0.9**
LZH				PP		PP	20 57 34.2	-1.5
LZH				*e*S		**S**	**21 02 29.4**	**+1.7**
LZH				sS		**sS**	**21 02 45.0**	**+1.6**
HHC	**Hu-ho-hao-te**	**45.39**	**337**	*e*P		**P**	**20 55 51.2**	**+0.4**
HHC				pP		**pP**	**20 56 01.2**	**+0.8**
HHC				sP		**sP**	**20 56 05.1**	**+0.9**
HHC				PP		PP	20 57 36.6	-0.8
HHC				S		**S**	**21 02 28.7**	**-1.3**
HHC				sS		**sS**	**21 02 48.5**	**+2.8**
HHC				SS		**ScS**	**21 05 45.8**	**+0.5**
HHC				pmax		pmax		
	comp=Z,40nm,1.0s							
HHC				LR		LR		
	comp=N,8µm,16.7s							
HHC				LR		LR		
	comp=E,4µm,17.6s							
HHC				LR		LR		
	comp=Z,10µm,17.0s							
LSA	**Lhasa**	**49.71**	**311**	*e*P		**P**	**20 56 24.4**	**-0.6**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**49.71**	**311**	*e*P		**P**	**20 56 24.4**	**-0.6**
	comp=Z,4.9nm,0.6s							
TAPN	**Taplejung**	**51.33**	**306**	*e*P		**P**	**20 56 35.7**	**-1.5**
	comp=Z,18nm,0.9s							
TAPN	**Taplejung**	**51.33**	**306**	*e*P		**P**	**20 56 35.7**	**-1.5**
	comp=Z,18nm,0.9s							
ODAN	**Odare**	**51.39**	**306**	*e*P		**P**	**20 56 36.0**	**-1.5**
	comp=Z,31nm,0.7s							
ODAN	**Odare**	**51.39**	**306**	*e*P		**P**	**20 56 36.0**	**-1.5**
	comp=Z,31nm,0.7s							
RAMN	**Ramite**	**52.07**	**305**	*e*P		**P**	**20 56 41.4**	**-1.2**
	comp=Z,36nm,0.7s							
RAMN	**Ramite**	**52.07**	**305**	*e*P		**P**	**20 56 41.4**	**-1.2**
	comp=Z,36nm,0.7s							
JIRN	**Jiri**	**52.69**	**306**	*e*P		**P**	**20 56 45.9**	**-1.4**
	comp=Z,17nm,0.6s							
JIRN	**Jiri**	**52.69**	**306**	*e*P		**P**	**20 56 45.9**	**-1.4**
	comp=Z,17nm,0.6s							
GUN	**Gumba**	**53.04**	**306**	*e*P		**P**	**20 56 48.4**	**-1.5**
	comp=Z,35nm,0.7s							
GUN	**Gumba**	**53.04**	**306**	*e*P		**P**	**20 56 48.4**	**-1.5**
	comp=Z,35nm,0.7s							
ULN	**Ulaanbaatar**	**53.05**	**339**	*e*P		**P**	**20 56 49.0**	**-0.4**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**53.05**	**339**	*e*P		**P**	**20 56 49.0**	**-0.4

KKAR					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KKAR	**Karatay Array**	**70.38**	**317**	*eP*	**P**		**20 58 45.2**	**-1.0**	
	comp=Z,9.3nm,0.9s								
BVAR	**Borovoye Array**	**74.10**	**326**	P	**P**		**20 59 08.0**	**-0.1**	
	comp=Z,8.5nm,0.9s,baz=120,slow=6.0,SNR=18								
BVAR	**Borovoye Array**	**74.10**	**326**	P	**P**		**20 59 08.0**	**-0.1**	
BVAR	**Borovoye Array**	**74.10**	**326**	P	**P**		**20 59 08.0**	**-0.1**	
BRVK	**Borovoye**	**74.17**	**326**	*ceP*	**P**		**20 59 07.7**	**-0.8**	
BRVK					pmax	pmax			
	comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**74.17**	**326**	*eP*	**P**		**20 59 07.5**	**-1.0**	
	comp=Z,11nm,0.9s								
VNDA	**Vanda**	**78.61**	**174**	*eP*	**P**		**20 59 33.8**	**+0.5**	
VNDA					pmax	pmax			
	comp=Z,5.0nm,1.1s								
VNDA	**Vanda**	**78.61**	**174**	*eP*	**P**		**20 59 33.8**	**+0.5**	
	comp=Z,5.4nm,1.1s								
ABKAR	**Akbulak array**	**79.18**	**320**	*eP*	**P**		**20 59 35.5**	**-1.4**	
	comp=Z,7.1nm,0.9s								
AKTO	**Aktyubinsk**	**80.65**	**321**	P	**P**		**20 59 44.1**	**-0.8**	
	comp=Z,4.8nm,0.9s,baz=90,slow=6.3,SNR=6.8								
AKTO	**Aktyubinsk**	**80.65**	**321**	P	**P**		**20 59 44.1**	**-0.8**	
AKTO	**Aktyubinsk**	**80.65**	**321**	P	**P**		**20 59 44.1**	**-0.8**	
ARU	**Arti**	**81.67**	**327**	*c iP*	**P**		**20 59 49.3**	**-0.8**	
ARU							21 02 58.5		
ARU					S	**S**	**21 09 59.3**	**-1.1**	
ARU					pmax	pmax			
	comp=Z,15nm,1.2s								
ARU	**Arti**	**81.67**	**327**	*eP*	**P**		**20 59 48.7**	**-1.4**	
	comp=Z,10nm,1.1s								
MCK	**McKinley**	**85.20**	**26**	*eP*	P		21 00 03.3	-4.9	
MCK					pmax	pmax			
	comp=Z,8.0nm,0.9s								
MCK	**McKinley**	**85.20**	**26**	*eP*	P		21 00 03.3	-4.9	
	comp=Z,8.3nm,0.9s								
COLA	**College**	**85.87**	**25**	P	**P**		**21 00 10.2**	**-1.3**	
COLA	**College**	**85.87**	**25**	P	**P**		**21 00 10.2**	**-1.3**	
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**		**21 00 13.1**	**-0.3**	
	comp=Z,2.4nm,0.7s,baz=256,slow=4.4,SNR=16								
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**		**21 00 13.1**	**-0.3**	
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**		**21 00 13.1**	**-0.3**	
QSPA	**South Pole Qui**	**89.50**	**180**	P	**P**		**21 00 29.4**	**+0.3**	
	comp=Z,8.6nm,0.8s,baz=305,slow=1.6,SNR=11								
QSPA	**South Pole Qui**	**89.50**	**180**	*eP*	**P**		**21 00 28.3**	**-0.7**	
	comp=Z,9.6nm,0.9s								
TXAR	**Lajitas Array**	**119.10**	**56**	PKP		**PKPdf**	**21 06 21.8**	**+0.1**	
	comp=Z,0.3nm,0.8s,baz=212,slow=6.4,SNR=3.0								
TXAR	**Lajitas Array**	**119.10**	**56**	PKIKP		**PKPdf**	**21 06 21.8**	**+0.1**	
TXAR	**Lajitas Array**	**119.10**	**56**	PKP		**PKPdf**	**21 06 21.8**	**+0.1**	
TORD	**Torodi Ar. Bea**	**129.92**	**287**	PKP		**PKPdf**	**21 06 42.5**	**-0.2**	
	comp=Z,1.5nm,0.7s,baz=104,slow=2.5,SNR=6.2								
TORD	**Torodi Ar. Bea**	**129.92**	**287**	PKP		**PKPdf**	**21 06 42.5**	**-0.2**	
TKL	**Tuckaleechee C**	**131.19**	**40**	PKP		**PKPdf**	**21 06 44.9**	**+0.4**	
	comp=Z,0.9nm,0.5s,baz=163,slow=6.7,SNR=5.1								
TKL	**Tuckaleechee C**	**131.19**	**40**	PKIKP		**PKPdf**	**21 06 44.9**	**+0.4**	
TKL	**Tuckaleechee C**	**131.19**	**40**	PKP		**PKPdf**	**21 06 44.9**	**+0.4**	
PLCA	**Paso Flores**	**133.86**	**155**	PKP		**PKPdf**	**21 06 51.7**	**+2.2**	
	comp=Z,2.6nm,0.8s,baz=222,slow=5.7,SNR=6.2								
PLCA	**Paso Flores**	**133.86**	**155**	PKIKP		**PKPdf**	**21 06 51.7**	**+2.2**	
PLCA	**Paso Flores**	**133.86**	**155**	PKP		**PKPdf**	**21 06 51.7**	**+2.2**	
DBIC	**Dimbokro**	**137.28**	**279**	PKP		**PKPdf**	**21 06 57.1**	**+0.7**	
	comp=Z,1.2nm,0.7s,baz=0.2,slow=12,SNR=3.6								
DBIC	**Dimbokro**	**137.28**	**279**	PKIKP		**PKPdf**	**21 06 57.2**	**+0.7**	
DBIC	**Dimbokro**	**137.28**	**279**	PKP		**PKPdf**	**21 06 57.1**	**+0.7**	
CPUP	**Villa Florida**	**151.67**	**161**	PKPbc		**PKPbc**	**21 07 27.4**	**+0.3**	
	comp=Z,7.0nm,0.7s,baz=181,slow=2.1,SNR=16								
CPUP	**Villa Florida**	**151.67**	**161**	PKIKP		**PKPbc**	**21 07 27.5**	**+0.3**	
CPUP	**Villa Florida**	**151.67**	**161**	PKPbc		**PKPbc**	**21 07 27.4**	**+0.3**	

*DJA **03** 20:49:59.0˝28N×133˝10E,h10km,mb4.9/13*
*IDC **03** 20:50:02.7±0.6,0˝24S×132˝47E,h0km,mb4.4/14,*
mb1 4.5/16,mb1mx4.4/24,mbtmp4.4/16,ML4.7/2,Error
ellipse: s-maj=33.7km s-min=12.6km az=69.0
*ISCJB **03** 20:50:05.8±0.4,0˝20S±0.0˝05×132˝65E±0.0˝06,h33km,*
mb4.7/31,Error ellipse: s-maj=8.5km s-min=7.2km
az=148.7
*NEIC **03** 20:50:08.1±0.3,0˝28S×132˝41E,h35km,mb4.7/17,Error*
ellipse: s-maj=12.1km s-min=5.3km az=66.0
ISC 03 20:50:07.8±0.6,0°25S±0.08×132°51E±0.10,h33km,n71,
σt§03/62,mb4.6/29,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TTSI	**Tana Toraja**	**12.99**	**258**	P		P	20 53 14.9	-5.3
SPSI	**Sidrap Palu**	**13.26**	**254**	P		**Pn**	**20 53 14.5**	**+0.6**
	1µm,1.9s,5.0nm							
BKSI	**Bulukumba**	**13.36**	**248**	P		P	20 53 19.8	-4.6
	154nm,0.8s,0.6nm							
KAPI	**Kappang**	**13.60**	**249**	P		P	20 53 22.4	-4.6
	192nm,1.6s,1.1nm							
MYLDM	**Lahad Datu**	**15.00**	**291**	P		P	20 53 52.1	+10
	369nm,1.3s							
BBKI	**Banjar Baru**	**17.95**	**260**	P		**P**	**20 54 17.9**	**+2.6**
KHKI	**Kahang-Kahang**	**18.68**	**244**	P		**Pn**	**20 54 24.9**	**+1.1**
	64nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.99**	**200**	P		P	**20 54 24.5**	**-2.2**
	0.9nm,0.3s,baz=49,slow=11,SNR=2.2							
FITZ	**Fitzroy Crossi**	**18.99**	**200**	P		**P**	**20 54 24.5**	**-2.2**
WRAB	**Tennant Creek**	**19.65**	**175**	*eP*		**P**	**20 54 33.7**	**-0.2**
	26nm,0.6s							
WRA	**Warramunga Arr**	**19.66**	**175**	P		**P**	**20 54 33.5**	**-0.5**
	3.6nm,0.3s,baz=354,slow=12,SNR=6.0							
WRA	**Warramunga Arr**	**19.66**	**175**	P		**P**	**20 54 33.5**	**-0.5**
BYJI	**Banyuwangi**	**19.75**	**246**	P		**Pn**	**20 54 38.5**	**+1.8**
	1µm,0.8s							
JAGI	**Jajag, Banyuwa**	**20.04**	**245**	P		**Pn**	**20 54 40.9**	**+0.8**
	790nm,0.9s							
BLJI	**Banyuglugur**	**20.28**	**248**	P		Pn	20 54 47.7	+4.7
SBUM	**Sibu**	**20.46**	**278**	P		Pn	20 54 44.8	-0.4
	176nm,0.7s							
PBKI	**Pangkalan Bun**	**20.98**	**263**	P		**P**	**20 54 48.8**	**+0.3**
	447nm,1.2s							
STKI	**Sintang**	**21.04**	**271**	P			20 54 50.1	
	560nm,1.3s							
SJI	**Sawahan**	**21.98**	**250**	P		P	20 55 05.2	+5.9
	127nm,1.1s							
KSM	**Kuching**	**22.27**	**274**	*eP*		**P**	**20 55 01.7**	**-0.6**
	52nm,1.2s							
ASAR	**Alice Springs**	**23.32**	**177**	P		**P**	**20 55 13.8**	**+0.7**
	23nm,0.7s,baz=0.4,slow=14,SNR=7.5							
ASAR	**Alice Springs**	**23.32**	**177**	P		**P**	**20 55 13.8**	**+0.7**
BJII	**Banjamegara**	**23.80**	**252**	P		**P**	**20 55 20.2**	**+2.2**
CTA	**Charters Tower**	**23.87**	**147**	P		**P**	**20 55 20.2**	**+1.7**
	11nm,0.9s,baz=337,slow=15,SNR=3.8							
CTA	**Charters Tower**	**23.87**	**147**	P		**P**	**20 55 20.2**	**+1.7**
CTAO	**Charters Tower**	**23.87**	**147**	P		**P**	**20 55 19.5**	**+1.1**
	15nm,1.0s							
KULM	**Kulim**	**32.29**	**280**	P		**P**	**20 56 33.1**	**-0.8**
	47nm,1.3s							
STKA	**Stephens Creek**	**32.61**	**166**	P		**P**	**20 56 35.8**	**-0.7**
	6.9nm,0.5s,baz=353,slow=7.2,SNR=4.2							
STKA	**Stephens Creek**	**32.61**	**166**	P		**P**	**20 56 35.8**	**-0.7**
KLBR	**Kellerberrin**	**34.17**	**203**	*eP*		**P**	**20 56 49.5**	**-0.6**
	75nm,1.5s							
ARMA	**Armidale**	**35.08**	**151**	*eP*		**P**	**20 56 58.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**35.55**	**202**	P		**P**	**20 57 01.4**	**-0.6**
	13nm,0.7s,baz=28,slow=9.0,SNR=4.1							
NWAO	**Narrogin (SRO)**	**35.55**	**202**	P		**P**	**20 57 01.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.86**	**301**	P		**P**	**20 57 22.1**	**+0.3**
	1.0nm,0.8s,baz=127,slow=8.2,SNR=3.9							
CMAR	**Chiang Mai Arr**	**37.86**	**301**	P		**P**	**20 57 22.1**	**+0.3**
LSA	**Lhasa**	**49.39**	**311**	*eP*		**P**	**20 58 54.9**	**-0.2**
	3.7nm,0.7s							
ULN	**Ulaanbaatar**	**52.78**	**339**	*eP*		**P**	**20 59 22.0**	**+2.0**
	6.0nm,1.0s							
SONM	**Songino Array**	**53.00**	**338**	P		**P**	**20 59 22.9**	**+1.4**
	0.6nm,0.5s,baz=155,slow=6.8,SNR=4.1							
SONM	**Songino Array**	**53.00**	**338**	P		**P**	**20 59 22.9**	**+1.4**
RPZ	**Rata Peaks**	**55.24**	**147**	*eP*		**P**	**20 59 38.1**	**+0.3**
	35nm,1.2s							
URZ	**Urewera**	**55.72**	**138**	P		**P**	**20 59 41.8**	**+0.5**
	4.1nm,0.6s,baz=243,slow=2.3,SNR=2.7							
URZ	**Urewera**	**55.72**	**138**	P		**P**	**20 59 41.8**	**+0.5**
MK31	**Makanchi Array**	**64.12**	**324**	*eP*		**P**	**21 00 38.9**	**0.0**
MKAR	**Makanchi Array**	**64.12**	**324**	P		**P**	**21 00 39.2**	**+0.3**
	2.0nm,0.6s,baz=113,slow=8.6,SNR=9.9							
MKAR	**Makanchi Array**	**64.12**	**324**	P		**P**	**21 00 39.2**	**+0.3**
TKM2	**Tokmak 2**	**66.54**	**318**	*eP*		**P**	**21 00 55.5**	**+0.6**
	3.9nm,0.8s							
ZAA0	**Zalesovo Array**	**66.77**	**332**	*eP*		**P**	**21 00 54.5**	**-1.3**
ZALV	**Zalesovo Beam**	**66.77**	**332**	P		**P**	**21 00 55.3**	**-0.5**
	1.4nm,0.6s,baz=119,slow=6.7,SNR=5.2							
ZALV	**Zalesovo Beam**	**66.77**	**332**	P		**P**	**21 00 55.3**	**-0.5**
EKS2	**Erkin-Say**	**67.67**	**317**	*eP*		**P**	**21 01 02.5**	**+0.6**
	15nm,1.3s							
KURK	**Kurchatov**	**68.20**	**326**	P		**P**	**21 01 05.2**	**+0.3**
	2.3nm,0.6s,baz=125,slow=5.8,SNR=11							
KURK	**Kurchatov**	**68.20**	**326**	*eP*		**P**	**21 01 04.9**	**-0.1**
	19nm,1.2s							
KBL	**Kabul**	**68.51**	**307**	*eP*		**P**	**21 01 07.0**	**-0.5**
	5.0nm,0.6s							
KKAR	**Karatay Array**	**70.07**	**317**	*eP*		P	21 01 21.5	+4.8
	5.4nm,0.9s							
BVAR	**Borovoye Array**	**73.80**	**326**	P		**P**	**21 01 38.9**	**0.0**
	2.1nm,0.7s,baz=131,slow=7.8,SNR=7.9							
BVAR	**Borovoye Array**	**73.80**	**326**	P		**P**	**21 01 38.9**	**0.0**
BRVK	**Borovoye**	**73.87**	**326**	*eP*		**P**	**21 01 39.3**	**0.0**
	6.4nm,0.5s							
VNDA	**Vanda**	**78.83**	**174**	*eP*		**P**	**21 02 06.8**	**-0.1**
	2.5nm,0.6s							
ABKAR	**Akbulak array**	**78.87**	**320**	*eP*		**P**	**21 02 07.0**	**-0.7**
	2.9nm,0.6s							
SBA	**Scott Base**	**79.67**	**173**	*eP*		**P**	**21 02 11.4**	**-0.1**
	9.2nm,1.4s							
AKTO	**Aktyubinsk**	**80.35**	**321**	P		**P**	**21 02 13.9**	**-1.8**
	0.9nm,0.5s,baz=61,slow=10,SNR=3.8							
AKTO	**Aktyubinsk**	**80.35**	**321**	P		**P**	**21 02 13.9**	**-1.8**
MCK	**McKinley**	**85.15**	**26**	P		**P**	**21 02 40.9**	**+0.5**
ILAR	**Eielson Array**	**86.21**	**25**	P		**P**	**21 02 44.5**	**-1.2**
	1.5nm,0.8s,baz=238,slow=5.4,SNR=4.7							
ILAR	**Eielson Array**	**86.21**	**25**	P		**P**	**21 02 44.5**	**-1.2**
QSPA	**South Pole Qui**	**89.69**	**180**	P		**P**	**21 03 02.7**	**+0.3**
	5.7nm,0.6s,baz=308,slow=1.3,SNR=17							
QSPA	**South Pole Qui**	**89.69**	**180**	*eP*		**P**	**21 03 02.1**	**-0.3**
	12nm,1.0s							
TORD	**Torodi Ar. Bea**	**129.62**	**287**	PKP		**PKPdf**	**21 09 14.0**	**-0.5**
	0.4nm,0.8s,baz=63,slow=2.7,SNR=1.9							
TORD	**Torodi Ar. Bea**	**129.62**	**287**	PKP		**PKPdf**	**21 09 14.0**	**-0.5**
CPUP	**Villa Florida**	**151.93**	**161**	PKPbc		**PKPbc**	**21 09 59.2**	**-1.0**
	1.3nm,0.6s,baz=132,slow=2.4,SNR=3.6							
CPUP	**Villa Florida**	**151.93**	**161**	PKPbc		**PKPbc**	**21 09 59.2**	**-1.0**

*IDC **03** 20:51:00.7±0.9,0˝25S×133˝10E,h0km,mb4.3/7,*
mb1 4.5/8,mb1mx4.2/18,mbtmp4.3/8,ML4.4/1,Error
ellipse: s-maj=48.9km s-min=18.2km az=70.0
*ISCJB **03** 20:51:03.4±0.7,0˝26S±0.08×133˝1E±0˝2,h33km,*
mb4.3/15,Error ellipse: s-maj=23.3km s-min=10.6km
az=163.7
*NEIC **03** 20:51:05.4±0.5,0˝24S×133˝10E,h35km,mb4.4/9,Error*
ellipse: s-maj=19.1km s-min=9.1km az=72.0
ISC 03 20:51:05.3±0.7,0°25S±0.1×133°1E±0˝2,h35km,n34,
σt§16/34,mb4.3/15,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.62**	**177**	P		**P**	**20 55 30.7**	**-0.2**
	1.2nm,0.3s,baz=356,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**19.62**	**177**	P		**P**	**20 55 30.7**	**-0.2**
KSM	**Kuching**	**22.86**	**274**	*eP*		**P**	**20 56 06.3**	**+0.4**
ASAR	**Alice Springs**	**23.30**	**178**	P		**P**	**20 56 11.4**	**+1.1**
	14nm,0.9s,baz=1.0,slow=12,SNR=4.3							
ASAR	**Alice Springs**	**23.30**	**178**	P		**P**	**20 56 11.4**	**+1.1**
MBWA	**Marble Bar**	**24.56**	**211**	*eP*		**P**	**20 56 21.1**	**-0.9**
STKA	**Stephens Creek**	**32.48**	**166**	P		**P**	**20 57 32.5**	**-0.1**
	5.7nm,0.6s,baz=359,slow=11,SNR=5.9							
STKA	**Stephens Creek**	**32.48**	**166**	*eP*		**P**	**20 57 32.4**	**-0.3**
	1.5nm,0.7s							
ENH	**Enshi**	**37.76**	**326**	*eP*		**P**	**20 58 18.5**	**+0.3**
	2.5nm,0.6s							
CM31	**Chiang Mai Arr**	**38.36**	**301**	*eP*		**P**	**20 58 22.7**	**-0.7**
	4.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.36**	**301**	P		**P**	**20 58 23.2**	**-0.2**
	2.7nm,0.8s,baz=119,slow=6.7,SNR=9.1							
CMAR	**Chiang Mai Arr**	**38.36**	**301**	P		**P**	**20 58 23.2**	**-0.2**
CHTO	**Chiang Mai**	**38.51**	**301**	P		**P**	**20 58 24.5**	**-0.2**
	3.7nm,0.7s							
LSA	**Lhasa**	**49.83**	**310**	*eP*		**P**	**20 59 56.7**	**+0.9**
	4.8nm,0.8s							
ULN	**Ulaanbaatar**	**52.99**	**338**	P		**P**	**21 00 19.4**	**+0.7**
YAK	**Yakutsk**	**62.16**	**358**	P		**P**	**21 01 20.5**	**-2.3**
MK31	**Makanchi Array**	**64.46**	**324**	P		**P**	**21 01 35.2**	**-3.1**
MKAR	**Makanchi Array**	**64.46**	**324**	P		**P**	**21 01 39.8**	**+1.4**
	1.4nm,0.5s,baz=108,slow=7.9,SNR=2.8							
MKAR	**Makanchi Array**	**64.46**	**324**	P		**P**	**21 01 39.8**	**+1.4**
TKM2	**Tokmak 2**	**66.93**	**318**	P		**P**	**21 01 53.7**	**-0.9**
	2.3nm,0.7s							
EKS2	**Erkin-Say**	**68.06**	**317**	P		**P**	**21 02 02.3**	**+0.5**
	7.2nm,1.0s							
KURK	**Kurchatov**	**68.52**	**326**	P		**P**	**21 02 06.5**	**+2.3**
	1.6nm,0.8s,baz=124,slow=5.8,SNR=3.5							
KURK	**Kurchatov**	**68.52**	**326**	P		**P**	**21 02 06.5**	**+2.3**
KBL	**Kabul**	**68.97**	**307**	P		**P**	**21 02 07.8**	**+0.1**
BVAR	**Borovoye Array**	**74.12**	**326**	P		**P**	**21 02 37.2**	**-0.8**
	3.8nm,0.8s,baz=92,slow=4.3,SNR=4.2							
BVAR	**Borovoye Array**	**74.12**	**326**	P		**P**	**21 02 37.2**	**-0.8**
BRVK	**Borovoye**	**74.19**	**326**	*eP*		**P**	**21 02 38.2**	**-0.2**
	13nm,1.3s							
ABKAR	**Akbulak array**	**79.24**	**320**	*eP*		**P**	**21 03 06.0**	**-1.0**
	2.1nm,0.7s							
ILAR	**Eielson Array**	**85.95**	**25**	P		**P**	**21 03 42.7**	**+1.0**
	1.3nm,0.9s,baz=253,slow=4.7,SNR=3.8							
ILAR	**Eielson Array**	**85.95**	**25**	P		**P**	**21 03 42.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**130.18**	**287**	PKP		**PKPdf**	**21 10 13.2**	**+0.4**
	0.8nm,0.8s,baz=75,slow=1.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**130.18**	**287**	PKP		**PKPdf**	**21 10 13.2**	**+0.4**
CPUP	**Villa Florida**	**151.74**	**160**	PKPbc		**PKPbc**	**21 10 57.1**	**+0.1**
	2.1nm,0.6s,baz=182,slow=1.0,SNR=5.1							
CPUP	**Villa Florida**	**151.74**	**160**	PKPbc		**PKPbc**	**21 10 57.1**	**+0.1**

*IDC **03** 20:54:12.1±1.9,0˝16S×132˝48E,h0km,mb4.1/7,*
mb1 4.3/8,mb1mx4.0/19,mbtmp4.1/8,ML4.1/1,Error
ellipse: s-maj=148.3km s-min=17.5km az=73.0
*ISCJB **03** 20:54:15.3±1.3,0˝3S±0˝2×132˝2E±0˝7,h31km,mb4.2/12,*
Error ellipse: s-maj=110.3km s-min=11.2km az=162.2
*NEIC **03** 20:54:17.7±1.3,0˝30S×132˝16E,h35km,mb4.3/5,Error*
ellipse: s-maj=107.0km s-min=11.0km az=73.0
ISC 03 20:54:17.2±1.5,0°3S±0˝3×132°1E±0˝9,h31km,n23,
σt§17/23,mb4.1/12,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**174**	P		**P**	**20 58 42.6**	**-0.9**
	0.6nm,0.3s,baz=352,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**19.64**	**174**	P		**P**	**20 58 42.6**	**-0.9**
ASAR	**Alice Springs**	**23.29**	**176**	P		**P**	**20 59 23.1**	**+0.5**
	10nm,0.5s,baz=358,slow=9.1,SNR=6.9							
ASAR	**Alice Springs**	**23.29**	**176**	P		**P**	**20 59 23.1**	**+0.5**
STKA	**Stephens Creek**	**32.66**	**165**	P		**P**	**21 00 46.5**	**-0.1**
	4.1nm,0.8s,baz=339,slow=9.7,SNR=2.6							
STKA	**Stephens Creek**	**32.66**	**165**	P		**P**	**21 00 46.5**	**-0.1**
ULN	**Ulaanbaatar**	**52.69**	**339**	*eP*		**P**	**21 03 30.5**	**+1.6**
	3.1nm,0.9s							
SONM	**Songino Array**	**52.90**	**339**	P		**P**	**21 03 28.4**	**-2.1**
	1.9nm,1.1s,baz=133,slow=6.1,SNR=3.7							
SONM	**Songino Array**	**52.90**	**339**	P		**P**	**21 03 28.4**	**-2.1**
MK31	**Makanchi Array**	**63.93**	**324**	*eP*		**P**	**21 04 48.2**	**+0.9**
MKAR	**Makanchi Array**	**63.93**	**324**	P		**P**	**21 04 49.0**	**+1.7**
	0.8nm,0.6s,baz=111,slow=8.3,SNR=8.1							
MKAR	**Makanchi Array**	**63.93**	**324**	P		**P**	**21 04 49.0**	**+1.7**
TKM2	**Tokmak 2**	**66.31**	**318**	P		**P**	**21 05 01.4**	**-1.7**
KURK	**Kurchatov**	**68.03**	**327**	P		**P**	**21 05 13.2**	**-0.3**
	1.1nm,0.8s,baz=124,slow=5.4,SNR=4.1							
KURK	**Kurchatov**	**68.03**	**327**	P		**P**	**21 05 13.2**	**-0.3**
BVAR	**Borovoye Array**	**73.62**	**326**	P		**P**	**21 05 48.4**	**+0.8**
	1.5nm,0.8s,baz=130,slow=6.0,SNR=4.3							
BVAR	**Borovoye Array**	**73.62**	**326**	P		**P**	**21 05 48.4**	**+0.8**
ABKAR	**Akbulak array**	**78.66**	**320**	*eP*		**P**	**21 06 16.6**	**+0.4**
	1.4nm,0.6s							
VNDA	**Vanda**	**78.81**	**174**	*eP*		**P**	**21 06 16.1**	**-0.5**
	1.2nm,0.6s							
AKTO	**Aktyubinsk**	**80.14**	**321**	P		**P**	**21 06 25.1**	**+0.7**
	0.6nm,0.4s,baz=78,slow=7.9,SNR=3.1							
AKTO	**Aktyubinsk**	**80.14**	**321**	P		**P**	**21 06 25.1**	**+0.7**
ARU	**Arti**	**81.20**	**327**	*eP*		**P**	**21 06 29.1**	**-0.8**
	5.3nm,0.9s							
QSPA	**South Pole Qui**	**89.63**	**180**	*eP*		**P**	**21 07 13.0**	**+1.2**
	5.3nm,1.2s							

IDC 03 20:54:51.3±2.3,0°28S×132°99E,h0km,mb4.1/4,
mb1 4.3/5,mb1mx3.9/16,mbtmp4.1/5,ML4.5/1,Error
ellipse: s-maj=176.6km s-min=19.9km az=73.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.58**	**176**	P		Pn	20 59 22.7	+0.3
	1.5nm,0.3s,baz=352,slow=11,SNR=4.3							
ASAR	**Alice Springs**	**23.26**	**178**	P		P	21 00 00.6	-0.1
	7.5nm,0.5s,baz=356,slow=11,SNR=7.3							
STKA	**Stephens Creek**	**32.46**	**166**	P		P	21 01 22.7	-0.8
	2.8nm,0.4s,baz=321,slow=7.5,SNR=10							
MKAR	**Makanchi Array**	**64.43**	**324**	P		P	21 05 29.8	+0.2
	0.3nm,0.5s,baz=107,slow=8.3,SNR=3.2							
ZALV	**Zalesovo Beam**	**67.03**	**331**	P		P	21 05 46.0	-0.1
	0.3nm,0.3s,baz=115,slow=6.0,SNR=2.5							

*IDC **03** 20:56:28.4±1.1,0˝24S×132˝60E,h0km,mb4.0/5,*
mb1 4.2/6,mb1mx3.8/17,mbtmp4.1/6,ML4.4/1,MS5.4/1,
Ms1 5.4/1,ms1mx5.0/33,Error ellipse: s-maj=77.1km
s-min=19.5km az=76.0
*NEIC **03** 20:56:33.5±0.8,0˝29S×132˝62E,h35km,mb4.3/1,Error*
ellipse: s-maj=56.5km s-min=11.9km az=79.0
ISC 03 20:56:33.5±1.0,0°3S±0˝2×132°6E±0˝5,h35km,n14,
σt§67/13,mb4.2/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**10.15**	**316**	LR		LR	21 02 14.4	
	comp=Z,19µm,18.9s,baz=17,slow=34							
WRAB	**Tennant Creek**	**19.59**	**175**	P		**P**	**21 00 58.1**	**-0.7**
	17nm,0.9s							
WRA	**Warramunga Arr**	**19.60**	**175**	P		**P**	**21 00 59.0**	**0.0**
	1.2nm,0.3s,baz=352,slow=12,SNR=4.3							
WRA	**Warramunga Arr**	**19.60**	**175**	P		**P**	**21 00 59.0**	**0.0**
ASAR	**Alice Springs**	**23.27**	**177**	P		**P**	**21 01 39.4**	**+1.2**
	6.0nm,0.6s,baz=357,slow=12,SNR=6.9							
ASAR	**Alice Springs**	**23.27**	**177**	P		**P**	**21 01 39.4**	**+1.2**
STKA	**Stephens Creek**	**32.54**	**166**	P		**P**	**21 03 00.8**	**-0.5**
	2.2nm,0.7s,baz=338,slow=10,SNR=4.5							
STKA	**Stephens Creek**	**32.54**	**166**	P		**P**	**21 03 00.8**	**-0.5**
MKAR	**Makanchi Array**	**64.23**	**324**	P		**P**	**21 07 05.0**	**-0.1**
	0.5nm,0.6s,baz=111,slow=7.8,SNR=4.2							
MKAR	**Makanchi Array**	**64.23**	**324**	P		**P**	**21 07 05.0**	**-0.1**
ZALV	**Zalesovo Beam**	**66.87**	**332**	P		**P**	**21 07 21.6**	**-0.3**
	0.2nm,0.3s,baz=128,slow=6.3,SNR=1.9							
ZALV	**Zalesovo Beam**	**66.87**	**332**	P		**P**	**21 07 21.6**	**-0.3**
INK	**Inuvik**	**91.69**	**22**	P		**P**	**21 09 37.3**	**+0.3**
	1.5nm,1.1s,baz=258,slow=6.7,SNR=2.7							

1.9nm,0.9s,baz=120,slow=6.1,SNR=11
CMAR Chiang Mai Arr 39.11 301 P P 21 08 18.5 -0.9
USRK Ussuriysk Arra 44.73 358 P P 21 09 05.3 +0.5
1.7nm,0.7s,baz=187,slow=8.7,SNR=5.1
GTA Gaotai 50.55 326 eP P 21 09 50.8 +0.4
GTA pP pP 21 10 00.8 +1.8
GTA sP sP 21 10 04.7 +2.3
GTA pmax pmax
comp=Z,12nm,1.4s
LSA Lhasa 50.59 310 P P 21 09 50.8 -0.4
LSA Lhasa 50.59 310 eP P 21 09 51.5 +0.3
comp=Z,13nm,0.8s
TAPN Taplejung 52.24 306 eP P 21 10 02.6 -0.9
comp=Z,15nm,0.7s
TAPN Taplejung 52.24 306 eP P 21 10 02.6 -0.9
ODAN Odare 52.30 305 eP P 21 10 03.1 -0.7
comp=Z,22nm,0.6s
ODAN Odare 52.30 305 eP P 21 10 03.1 -0.7
RAMN Ramite 52.98 305 eP P 21 10 08.3 -0.6
comp=Z,39nm,0.7s
RAMN Ramite 52.98 305 eP P 21 10 08.3 -0.6
JIRN Jiri 53.60 306 eP P 21 10 12.7 -0.9
comp=Z,14nm,0.6s
JIRN Jiri 53.60 306 eP P 21 10 12.7 -0.9
ULN Ulaanbaatar 53.64 338 eP P 21 10 14.6 +1.3
comp=Z,5.9nm,0.9s
SONM Songino Array 53.87 337 P P 21 10 15.8 +0.9
comp=Z,3.8nm,0.9s,baz=144,slow=8.1,SNR=18
SONM Songino Array 53.87 337 P P 21 10 15.8 +0.9
GUN Gumba 53.95 306 eP P 21 10 15.3 -0.8
comp=Z,21nm,0.7s
GUN Gumba 53.95 306 eP P 21 10 15.3 -0.8
PKI Pulchoki 54.20 305 eP P 21 10 16.7 -1.2
PKI Pulchoki 54.20 305 eP P 21 10 16.7 -1.2
KKN Kakani 54.39 305 eP P 21 10 18.1 -1.1
comp=Z,18nm,0.8s
KKN Kakani 54.39 305 eP P 21 10 18.1 -1.1
DMN Daman 54.46 305 eP P 21 10 18.7 -1.1
comp=Z,25nm,0.9s
DMN Daman 54.46 305 eP P 21 10 18.7 -1.1
GKN Gorkha 55.00 305 eP P 21 10 22.4 -1.1
GKN Gorkha 55.00 305 eP P 21 10 22.4 -1.1
KOLN Koldanda 55.76 305 eP P 21 10 28.4 -0.7
comp=Z,32nm,0.7s
KOLN Koldanda 55.76 305 eP P 21 10 28.4 -0.7
DANN Dangsing 55.85 305 eP P 21 10 29.2 -0.6
DANN Dangsing 55.85 305 eP P 21 10 29.2 -0.6
MK31 Makanchi Array 65.19 324 eP P 21 11 33.2 +0.4
MKAR Makanchi Array 65.19 324 P P 21 11 33.4 +0.5
comp=Z,11nm,0.8s,baz=117,slow=7.9,SNR=58
MKAR Makanchi Array 65.19 324 P P 21 11 33.4 +0.5
KSH Kashi 66.09 314 P P 21 11 40.5 +1.5
KSH pmax pmax
comp=Z,6µm,13.9s
TKM2 Tokmak 2 67.68 318 eP P 21 11 49.5 +0.4
comp=Z,6.8nm,0.6s
ZALV Zalesovo Beam 67.73 331 P P 21 11 48.5 -0.5
comp=Z,4.3nm,1.0s,baz=120,slow=4.7,SNR=7.7
ZALV Zalesovo Beam 67.73 331 P P 21 11 48.5 -0.5
EKS2 Erkin-Say 68.81 317 eP P 21 11 57.0 +0.8
comp=Z,7.4nm,0.7s
KURK Kurchatov 69.24 326 P P 21 11 58.7 +0.3
comp=Z,15nm,0.9s,baz=118,slow=5.9,SNR=50
KURK Kurchatov 69.24 326 P P 21 11 58.7 +0.3
KBL Kabul 69.73 307 eP P 21 12 01.4 -0.8
KKAR Karatay Array 71.22 316 eP P 21 12 11.0 +0.3
BRVK Borovoye 74.91 326 eP P 21 12 32.9 +0.5
comp=Z,6.0nm,0.5s
VNDA Vanda 78.25 174 eP P 21 12 51.6 +0.7
ABKAR Akbulak array 79.98 320 eP P 21 12 59.7 -1.1
comp=Z,4.0nm,0.8s
ILAR Eielson Array 86.11 25 P P 21 13 32.4 +0.1
comp=Z,2.0nm,0.9s,baz=256,slow=4.3,SNR=8.0
ILAR Eielson Array 86.11 25 P P 21 13 32.4 +0.1
TORD Torodi Ar. Bea 130.89 287 PKP PKPdf 21 20 03.0 -1.1
comp=Z,0.8nm,0.8s,baz=80,slow=1.4,SNR=4.9
TORD Torodi Ar. Bea 130.89 287 PKP PKPdf 21 20 03.0 -1.1

IDC 03 21:05:24.1±1.1, 0.38S×132.23E, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=54.4km s-min=19.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.77	200	P		Pn		21 09 46.6	+1.3
	0.3nm,0.3s,baz=34,slow=13,SNR=2.2								
WRA	Warramunga Arr	19.55	174	P		P		21 09 53.1	-0.5
	0.4nm,0.3s,baz=354,slow=12,SNR=4.8								
ASAR	Alice Springs	23.20	176	P		P		21 10 32.7	-0.2
	3.0nm,0.8s,baz=360,slow=9.9,SNR=5.9								
STKA	Stephens Creek	32.55	165	P		P		21 11 56.5	-0.6
	1.3nm,0.6s,baz=332,slow=8.2,SNR=3.0								
MKAR	Makanchi Array	64.07	324	P		P		21 15 59.9	-0.1
	0.5nm,0.8s,baz=110,slow=7.7,SNR=3.5								
KURK	Kurchatov	68.13	327	P		P		21 16 25.6	-0.5
	0.7nm,0.9s,baz=123,slow=5.6,SNR=2.7								
ILAR	Eielson Array	86.45	25	P		P		21 18 09.3	+0.8
	0.3nm,0.8s,baz=270,slow=4.5,SNR=3.9								

IDC 03 21:06:27.9±1.4, 0.06S×133.86E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML4.4/2, Error ellipse: s-maj=65.7km s-min=16.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.67	204	P		P		21 10 58.3	-0.3
	1.0nm,0.3s,baz=41,slow=9.3,SNR=3.5								
WRA	Warramunga Arr	19.76	179	P		P		21 10 59.5	-0.2
	0.9nm,0.3s,baz=356,slow=11,SNR=4.0								
WRA				S		S		21 14 33.3	-10
	0.4nm,0.3s,baz=356,slow=14,SNR=6.4								
ASAR	Alice Springs	23.46	180	P		P		21 11 39.2	-0.1
	10.0nm,0.8s,baz=355,slow=11,SNR=13								
STKA	Stephens Creek	32.48	168	P		P		21 13 00.6	+0.3
	4.3nm,0.5s,baz=352,slow=8.7,SNR=11								
CMAR	Chiang Mai Arr	38.93	300	P		P		21 13 56.3	+0.5
	0.8nm,0.8s,baz=114,slow=6.4,SNR=5.3								
SONM	Songino Array	53.35	337	P		P		21 15 49.9	+0.7
	0.5nm,0.8s,baz=136,slow=6.9,SNR=4.5								
MKAR	Makanchi Array	64.77	323	P		P		21 17 07.4	-1.0
	1.1nm,0.7s,baz=114,slow=7.9,SNR=6.7								
ZALV	Zalesovo Beam	67.26	331	P		P		21 17 22.9	-1.3
	0.4nm,0.4s,baz=119,slow=5.1,SNR=3.7								
KURK	Kurchatov	68.80	326	P		P		21 17 34.9	+0.9
	1.3nm,0.7s,baz=118,slow=5.8,SNR=5.4								

*NEIC **03** 21:06:48.2, 53.62N×164.67W, h18km, ML3.8(AEIC), After AEIC.*
*ISCJB **03** 21:06:48.7±0.7, 53.77N±0.09×164.79W±0.06, h52km±4km, mb4.1/22, Error ellipse: s-maj=15.1km s-min=4.4km az=163.7*
*IDC **03** 21:06:50.1±3.4, 54.02N×164.76W, h43km±29km, mb3.7/15, mb1 3.9/17, mb1mx3.7/31, mbtmp3.7/17, ML3.9/2, Error ellipse: s-maj=28.3km s-min=16.9km az=2.0*

ISC 03 21:06:49.3±1.4, 53.79N±0.10×164.78W±0.04, h44km±11km, n69, σ1°13/78, mb4.2/22, 1C, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKA	Akutan	0.68	301	P		P	Pn	21 07 02.7	+0.2
AKA				S		S	Sn	21 07 13.7	+1.7
AKUT	Akutan	0.68	301	ePg		P	Pn	21 07 02.5	+0.1
AKUT				eS		S	Sn	21 07 13.6	+1.6
LVA	Lava Point	0.83	297	P		P	Pn	21 07 04.6	+0.1
UNV	Unalaska Valle	1.02	274	ePg		P	Pn	21 07 06.1	-1.0
UNV				eS		S	Sn	21 07 19.1	-1.1
BRPK	Brown Peak	1.05	35	P		P	Pn	21 07 07.1	-0.5
MREP	Makushin Rep't	1.16	272	P		P	Pn	21 07 08.6	-0.5
MCIR	Makushin Cirqu	1.26	278	P		P	Pn	21 07 10.4	0.0
MSOM	Makushin Julie	1.28	272	P		P	Pn	21 07 10.2	-0.5
FALS	False Pass	1.34	36	ePn		P	Pn	21 07 11.4	0.0
FALS				eS		S	Sn	21 07 28.9	+0.9
DRIA	Deer Island	1.89	50	P		P	Pn	21 07 18.8	-0.2
DT1	Dutton Round H	1.97	47	P		P	Pn	21 07 20.3	+0.2
DTNA	Dutton South F	2.01	46	P		P	Pn	21 07 21.1	+0.4
OKWE	Okmok W'ng Wal	2.08	263	P		P	Pn	21 07 22.4	+0.7
OKSP	Okmok Steeple	2.16	257	P		P	Pn	21 07 22.5	-0.3
DOL	Dolgoi Island	2.18	50	P		P	Pn	21 07 23.4	+0.3
HAG	Hague Volcano	2.27	46	P		P	Pn	21 07 25.6	+1.3
PS4A	Pavlof South-4	2.31	46	P		P	Pn	21 07 26.0	+1.2
PVV	Pavlof Volcano	2.36	46	P		P	Pn	21 07 26.8	+1.4
SDPT	Sand Point	2.95	56	ePn		P	Pn	21 07 34.7	+1.1
SDPT				eS		S	Sn	21 08 12.6	+4.9
CHGN	Chignik	4.44	53	ePn		P	Pn	21 07 55.0	+0.9
CHGN				eS		S	Sn	21 08 47.9	+3.5
KDAK	Kodiak Island	7.95	55	P		P	Pn	21 08 41.9	-0.2
	1.4nm,0.3s,baz=253,slow=8.6,SNR=15								
KDAK				S		S	Sn	21 10 06.8	-3.9
	baz=164,slow=14,SNR=1.9								
KDAK	Kodiak Island	7.95	55	P		P	Pn	21 08 41.9	-0.2
KDAK				S		S	Sn	21 10 06.8	-3.9
ILAR	Eielson Array	14.24	32	P		P	Pn	21 10 06.7	-1.3
	0.2nm,0.3s,baz=230,slow=11,SNR=12								
ILAR	Eielson Array	14.24	32	P		P	Pn	21 10 06.7	-1.3
INK	Inuvik	20.64	33	P		P	Pn	21 11 23.1	-1.5
	2.8nm,0.6s,baz=265,slow=12,SNR=18								
INK	Inuvik	20.64	33	P		P		21 11 23.1	-1.5
PETK	Petropavlovsk-	22.19	284	P		P		21 11 42.2	+0.8
	2.7nm,0.3s,baz=90,slow=13,SNR=29								
PETK	Petropavlovsk-	22.19	284	P		P		21 11 42.2	+0.8
RES	Resolute Bay	33.88	27	P		P		21 13 26.3	-0.8
	0.5nm,0.5s,baz=264,slow=10,SNR=4.0								
RES	Resolute Bay	33.88	27	P		P		21 13 26.3	-0.8
NVAR	Mina Array Bea	35.00	97	P		P		21 13 38.7	+1.2
	1.2nm,0.7s,baz=315,slow=8.9,SNR=8.8								
NVAR	Mina Array Bea	35.00	97	P		P		21 13 38.7	+1.2
TXAR	Lajitas Array	50.02	94	P		P		21 15 40.0	+0.7
	1.3nm,0.4s,baz=291,slow=5.7,SNR=5.9								
TXAR	Lajitas Array	50.02	94	P		P		21 15 40.0	+0.7
SONM	Songino Array	52.91	302	P		P		21 16 00.7	0.0
	0.3nm,0.3s,baz=58,slow=5.2,SNR=7.2								
SONM				PcP		PcP		21 17 09.7	+0.5
	0.5nm,0.6s,baz=47,slow=1.4,SNR=5.0								
SONM	Songino Array	52.91	302	P		P		21 16 00.7	0.0
SONM				PcP		PcP		21 17 09.7	+0.5
ARCES	ARCESS Array B	56.76	356	P		P		21 16 27.3	-0.7
	7.7nm,0.9s,baz=8.2,slow=8.2,SNR=5.7								
ARCES	ARCESS Array B	56.76	356	P		P		21 16 27.3	-0.7
JOF	Joensuu	62.95	352	ep		P		21 17 10.5	-0.1
	1.9nm,0.5s								
JOF	Joensuu	62.95	352	ep		P		21 17 10.5	-0.1
	1.9nm,0.5s								
KURK	Kurchatov	63.10	320	P		P		21 17 12.5	+0.7
	0.4nm,0.7s,baz=47,slow=7.6,SNR=4.4								
KURK	Kurchatov	63.10	320	P		P		21 17 12.4	+0.7
KAF	Kangasniemi	64.11	354	ep		P		21 17 16.2	-2.0
	2.5nm,0.6s								
KAF	Kangasniemi	64.11	354	ep		P		21 17 16.2	-2.0
	2.5nm,0.6s								
FINES	FINESS Array B	64.79	354	P		P		21 17 22.2	-0.5
	1.4nm,0.5s,baz=9.6,slow=7.7,SNR=14								
FINES	FINESS Array B	64.79	354	P		P		21 17 22.2	-0.5
HFS	Hagfors	66.42	1	P		P		21 17 32.7	-0.6
	2.1nm,0.5s,baz=58,slow=3.8,SNR=17								
HFS	Hagfors	66.42	1	P		P		21 17 32.7	-0.6
AKASG	Malin Array Be	75.22	351	P		P		21 18 26.2	-0.6
	4.0nm,0.6s,baz=11,slow=5.6,SNR=12								
AKASG	Malin Array Be	75.22	351	P		P		21 18 26.2	-0.6
BAIF	Baives	76.11	7	eP		P		21 18 32.6	+0.7
	3.8nm,0.6s								
LDF	La Druitiere	77.17	10	eP		P		21 18 39.0	+1.1
PAGF	Fort de Pagny	77.71	6	eP		P		21 18 42.1	+1.1
	1.9nm,0.6s								
GERES	GERESS Array B	77.73	1	P		P		21 18 41.2	0.0
	0.4nm,0.5s,baz=358,slow=4.9,SNR=4.4								
GERES	GERESS Array B	77.73	1	P		P		21 18 41.2	0.0
HAU	Haudompre	78.30	6	eP		P		21 18 44.9	+0.6
	2.4nm,0.5s								
HINF	Hinteralfeld	78.52	6	eP		P		21 18 46.0	+0.5
	2.7nm,0.6s								
BURAR	Bucovina Array	78.61	353	iP		P		21 18 46.7	+0.6
LOR	Lormes	78.86	8	eP		P		21 18 48.1	+0.8
CMAR	Chiang Mai Arr	78.94	286	P		P		21 18 47.7	-0.5
	0.9nm,0.8s,baz=22,slow=6.3,SNR=7.8								
CMAR	Chiang Mai Arr	78.94	286	P		P		21 18 47.7	-0.5
SSF	Saint Saulge	79.03	8	eP		P		21 18 49.0	+0.7
	4.3nm,0.6s								
AVF	Avril sur Loir	79.29	8	eP		P		21 18 50.2	+0.5
	5.4nm,0.6s								
LPL	La Plagne	80.80	6	eP		P		21 18 58.5	+0.3
LPG	La Plagne	80.82	6	eP		P		21 18 58.9	+0.5
ESDC	Sonseca Array	85.45	15	P		P		21 19 21.7	-0.4
	0.1nm,0.4s,baz=339,slow=4.7,SNR=4.2								
ESDC	Sonseca Array	85.45	15	P		P		21 19 21.7	-0.4
BRTR	Keskin Array B	85.51	346	P		P		21 19 23.2	+0.7
	1.3nm,0.6s,baz=359,slow=2.7,SNR=6.3								
BRTR	Keskin Array B	85.51	346	P		P		21 19 23.2	+0.7

IDC 03 21:11:59.7±1.7, 0.67S×133.77E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.7/18, mbtmp4.0/6, ML4.0/2, MS5.1/1, Ms1 5.1/1, ms1mx4.1/34, Error ellipse: s-maj=77.7km s-min=19.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	11.22	313	LR		LR		21 19 01.2	
	comp=Z,10µm,20.8s,baz=263,slow=38								
FITZ	Fitzroy Crossi	19.08	204	P		P		21 16 23.1	-0.9
	0.4nm,0.3s,baz=7.4,slow=11,SNR=3.8								
WRA	Warramunga Arr	19.16	178	P		Pn		21 16 25.4	-0.3
	0.5nm,0.3s,baz=358,slow=11,SNR=5.1								
ASAR	Alice Springs	22.86	180	P		P		21 17 05.3	+0.5
	3.0nm,0.4s,baz=1.0,slow=11,SNR=13								
STKA	Stephens Creek	31.91	167	P		P		21 18 26.8	-0.2
	1.3nm,0.7s,baz=336,slow=9.9,SNR=6.5								
MKAR	Makanchi Array	65.20	324	P		P		21 22 42.3	-0.7
	0.5nm,0.5s,baz=117,slow=7.9,SNR=8.4								
KURK	Kurchatov	69.25	326	P		P		21 23 09.4	+0.9
	1.4nm,1.1s,baz=118,slow=5.8,SNR=4.9								

*IDC **03** 21:13:43.2±0.8, 0.29S×133.03E, h0km, mb3.9/10, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML4.3/2, Error ellipse: s-maj=41.9km s-min=14.5km az=71.0*
*ISCJB **03** 21:13:46.2±0.7, 0.34S±0.08×132.9E±0.2, h32km, mb3.9/10, Error ellipse: s-maj=26.1km s-min=10.5km az=167.9*

ISC 03 21:13:47.9±0.9, 0.4S±0.1×133.0E±0.2, h32km, n15, σ0°72/15, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.06	202	P		Pn		21 18 08.1	-0.6
	0.6nm,0.3s,baz=20,slow=15,SNR=4.3								
FITZ	Fitzroy Crossi	19.06	202	eP		P		21 18 07.6	-0.1
	10nm,0.9s								
WRA	Warramunga Arr	19.52	176	P		P		21 18 12.7	-0.1
	0.8nm,0.3s,baz=354,slow=12,SNR=9.6								
ASAR	Alice Springs	23.20	178	P		P		21 18 52.5	+0.3
	9.5nm,0.7s,baz=6.0,slow=13,SNR=16								
CTA	Charters Tower	23.53	147	P		P		21 18 56.5	+1.0
	6.9nm,0.9s,baz=329,slow=12,SNR=3.0								
MBWA	Marble Bar	24.40	211	eP		P		21 19 04.2	+0.6
STKA	Stephens Creek	32.40	166	P		P		21 20 14.5	-0.4
	2.2nm,0.5s,baz=344,slow=11,SNR=11								
STKA	Stephens Creek	32.40	166	eP		P		21 20 14.5	-0.4
	3.7nm,0.6s								
CMAR	Chiang Mai Arr	38.31	301	P		P		21 21 05.5	-0.4
	1.0nm,0.8s,baz=118,slow=6.7,SNR=7.0								
SONM	Songino Array	53.27	338	P		P		21 23 04.2	+0.5
	0.6nm,0.9s,baz=152,slow=7.9,SNR=4.2								
MKAR	Makanchi Array	64.47	324	P		P		21 24 22.1	+0.7
	1.5nm,0.8s,baz=114,slow=7.8,SNR=9.1								
ZALV	Zalesovo Beam	67.08	331	P		P		21 24 37.1	-0.9
	0.4nm,0.6s,baz=115,slow=6.8,SNR=3.6								
KURK	Kurchatov	68.54	326	P		P		21 24 48.7	+1.4
	2.2nm,0.9s,baz=119,slow=6.0,SNR=5.3								
BVAR	Borovoye Array	74.14	326	P		P		21 25 20.9	-0.2
	0.8nm,0.7s,baz=126,slow=7.3,SNR=4.2								
ILAR	Eielson Array	86.10	25	P		P		21 26 24.6	-0.8
	0.3nm,0.8s,baz=243,slow=4.0,SNR=4.8								

*IDC **03** 21:14:32.6±0.8, 0.55S×133.42E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, ML4.4/2, Error ellipse: s-maj=41.2km s-min=14.5km az=72.0*
*ISCJB **03** 21:14:35.6±0.7, 0.64S±0.08×133.4E±0.2, h33km, mb4.3/11, Error ellipse: s-maj=25.6km s-min=9.4km az=162.8*
*DJA **03** 21:14:45, 0.47N×133.23E, h98km, mb5.2/9*

ISC 03 21:14:37.7±0.8, 0.6S±0.1×133.4E±0.2, h35km, n21, σ0°68/21, mb4.2/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.99	203	P		P		21 18 56.3	-0.1
	0.8nm,0.3s,baz=42,slow=12,SNR=3.8								
FITZ				S		Sn		21 22 17.3	-12
	1.2nm,0.3s,baz=162,slow=19,SNR=3.6								
WRA	Warramunga Arr	19.25	177	P		P		21 18 58.5	-0.8
	1.3nm,0.3s,baz=355,slow=11,SNR=6.8								
ASAR	Alice Springs	22.94	179	P		P		21 19 39.3	+0.3
	26nm,0.9s,baz=4.0,slow=12,SNR=7.0								
CTA	Charters Tower	23.10	148	P		P		21 19 42.6	+1.9
	4.6nm,0.7s,baz=311,slow=11,SNR=2.6								
STKA	Stephens Creek	32.06	167	P		P		21 21 00.7	-0.7
	2.0nm,0.6s,baz=350,slow=11,SNR=6.1								
KMBL	Kambalda	32.49	199	eP		P		21 21 04.7	-0.4
	27nm,0.5s								
CMAR	Chiang Mai Arr	38.79	301	P		P		21 21 59.5	+0.1
	1.7nm,0.9s,baz=108,slow=6.6,SNR=7.9								
JIRN	Jiri	53.29	306	eP		P		21 23 54.1	+0.2
	27nm,0.8s								
GUN	Gumba	53.64	306	eP		P		21 23 56.6	+0.1
	47nm,0.9s								
SONM	Songino Array	53.66	338	P		P		21 23 56.7	+0.8
	1.4nm,0.8s,baz=144,slow=10.0,SNR=8.5								
PKI	Pulchoki	53.89	305	eP		P		21 23 58.0	-0.3
KKN	Kakani	54.08	305	eP		P		21 23 59.4	-0.1
	24nm,0.9s								
DMN	Daman	54.15	305	eP		P		21 24 00.0	-0.1
	30nm,0.9s								
GKN	Gorkha	54.69	305	eP		P		21 24 03.8	-0.1
	30nm,0.9s								
KOLN	Koldanda	55.45	305	eP		P		21 24 09.7	+0.3
	40nm,0.8s								
DANN	Dangsing	55.53	305	eP		P		21 24 10.5	+0.3
MKAR	Makanchi Array	64.92	324	P		P		21 25 14.4	+0.7
	3.3nm,0.6s,baz=114,slow=8.1,SNR=16								
ZALV	Zalesovo Beam	67.50	331	P		P		21 25 29.2	-0.9
	1.1nm,0.7s,baz=111,slow=7.9,SNR=4.7								
KURK	Kurchatov	68.98	326	P		P		21 25 39.8	+0.4
	4.9nm,0.8s,baz=122,slow=5.8,SNR=13								
BVAR	Borovoye Array	74.58	326	P		P		21 26 13.1	0.0
	2.2nm,0.7s,baz=121,slow=5.6,SNR=7.4								
ILAR	Eielson Array	86.15	25	P		P		21 27 14.0	-1.0
	0.5nm,0.7s,baz=279,slow=5.1,SNR=4.5								

*DJA **03** 21:13:48, 26.30S×64.24W, h10km, mb6.1/10*
*ISCJB **03** 21:15:00.1±0.3, 28.48S±0.04×62.84W±0.04, h615km±4km, mb5.2/150, Error ellipse: s-maj=5.7km s-min=4.4km az=31.5*
*IDC **03** 21:15:01.8±0.4, 28.52S×62.93W, h627km±4km, mb4.6/21, mb1 4.7/26, mb1mx4.7/26, mbtmp4.7/26, Error ellipse: s-maj=10.0km s-min=8.0km az=53.0*
*NEIC **03** 21:15:01.6±0.1, 28.54S×63.01W, mb5.1/76, Error ellipse: s-maj=4.0km s-min=3.5km az=90.0*
*MOS **03** 21:15:01.0±1.0, 28.47S×63.00W, h624km, mb4.9/19, Error ellipse: s-maj=13.2km s-min=8.0km az=99.6*

ISC 03 21:15:01.2±0.3, 28.57S±0.04×62.95W±0.05, h622km±2km, h623km:pP-P, n943, σ1°07/1104, mb5.2/142, 144C-151D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	5.47	67	P		P		21 16 39.6	+0.5
	54nm,0.3s,baz=228,slow=10,SNR=438								
CPUP	Villa Florida	5.47	67	P		P		21 16 39.7	+0.5
CPUP	Villa Florida	5.47	67	P		P		21 16 39.6	+0.5
CFAA	Coronel Fontan	5.48	235	P		P		21 16 39.4	+0.1
	47nm,0.3s,baz=55,slow=9.2,SNR=3267								
CFAA	Coronel Fontan	5.48	235	P		P		21 16 39.4	+0.1
CPCH	Copiapo	6.65	279	eP		P		21 16 48.1	-1.0
CPCH	Copiapo	6.65	279	eP		P		21 16 48.1	-1.0
LCO	Las Campanas	6.81	264	eP		P		21 16 50.4	-0.4
LCO	Las Campanas	6.81	264	eP		P		21 16 50.4	-0.4
LCO				i S		S		21 18 19.9	-0.5
TLL	Tololo Astrono	7.03	255	eP		P		21 16 53.1	+0.4
TLL	Tololo Astrono	7.03	255	eP		P		21 16 53.1	+0.4
TLL	Tololo Astrono	7.03	255	eP		P		21 16 53.1	+0.4
CDCH	Caldera	7.13	280	iP		P		21 16 53.2	-0.1
CDCH	Caldera	7.13	280	iP		P		21 16 53.2	-0.1
CMCH	Combarbala	7.45	248	eP		P		21 16 55.5	-0.8
CMCH	Combarbala	7.45	248	eP		P		21 16 55.5	-0.8
OVCH	Ovalle	7.46	252	eP		P		21 16 56.0	-0.3
OVCH	Ovalle	7.46	252	eP		P		21 16 56.0	-0.3
FCH	Farellones	7.88	231	eP		P		21 17 01.3	+0.9
LVC	Limon Verde	8.01	316	eP		P		21 17 01.4	-0.4
LVC				eS		S		21 18 31.1	-9.3
PEL	Peldehue	8.05	234	eP		P		21 17 01.9	+0.2
CLCH	Cerro Calan	8.09	232	eP		P		21 17 02.6	+0.5
CHNG	Los Chungos	8.09	244	eP		P		21 17 01.8	-0.2
CHNG	Los Chungos	8.09	244	eP		P		21 17 01.8	-0.2
LMEL	Las Melosas	8.13	228	eP		P		21 17 03.5	+1.0
LMEL	Las Melosas	8.13	228	eP		P		21 17 03.5	+1.0
ROCH	El Roble	8.20	236	eP		P		21 17 03.0	-0.3
ANCH	Antofagasta	8.28	304	eP		P		21 17 03.1	-0.9
ANCH	Antofagasta	8.28	304	eP		P		21 17 03.1	-0.9
PACH	Papudo	8.31	240	eP		P		21 17 03.5	-0.6
PACH	Papudo	8.31	240	eP		P		21 17 03.5	-0.6
CEN1	Los Morros	8.31	307	eP		P		21 17 04.5	0.0
CHCH	Chadas Angostu	8.48	229	eP		P		21 17 05.9	+0.2
CHCH	Chadas Angostu	8.48	229	eP		P		21 17 05.9

NNA PcP **PcP** **21 22 43.2 +0.6**
NNA ScP **ScP** **21 25 22.4 +0.9**
NNA Nana 20.99 319 P **P** **21 19 02.0 -1.0**
comp=Z,2µm,1.1s,SNR=44
EFI East Falkland 23.36 172 *e*P **P** **21 19 23.8 +0.4**
EFI pmax pmax
comp=Z,33nm,0.8s
EFI East Falkland 23.36 172 *e*P **P** **21 19 23.8 +0.4**
comp=Z,33nm,0.8s
EFI East Falkland 23.36 172 P **P** **21 19 23.1 -0.3**
comp=Z,633nm,0.6s,SNR=13
ATAH Atahualpa 25.84 323 P **P** **21 19 47.6 +1.4**
comp=Z,94nm,0.7s,baz=166,slow=9.9,SNR=70
ATAH ScP **ScP** **21 25 36.5 +1.3**
comp=Z,19nm,0.8s,baz=135,slow=1.4,SNR=5.8
ATAH Atahualpa 25.84 323 P **P** **21 19 47.6 +1.4**
ATAH ScP **ScP** **21 25 36.5 +1.3**
USHA Ushuaia 26.54 187 P **P** **21 19 51.8 +0.4**
comp=Z,55nm,0.5s,baz=354,slow=7.7,SNR=70
USHA PcP **PcP** **21 22 54.4 +0.4**
comp=Z,31nm,0.6s,baz=30,slow=3.7,SNR=7.8
USHA Ushuaia 26.54 187 P **P** **21 19 51.8 +0.4**
USHA PcP **PcP** **21 22 54.4 +0.4**
OTAV Otavalo 32.26 330 *e*P **P** **21 20 42.4 +0.8**
comp=Z,152nm,0.7s
RCBR Riachuelo 34.18 54 P **P** **21 20 57.6 +0.4**
comp=Z,54nm,0.8s,baz=205,slow=8.3,SNR=43
RCBR PcP **PcP** **21 23 15.6 +0.2**
comp=Z,40nm,0.7s,baz=228,slow=2.5,SNR=12
RCBR Riachuelo 34.18 54 *e*P **P** **21 20 57.5 +0.4**
comp=Z,99nm,0.9s
RCBR PcP **PcP** **21 23 15.6 +0.2**
ROSC El Rosal 35.00 340 P **P** **21 21 04.0 -0.3**
comp=Z,48nm,0.5s,baz=119,slow=5.6,SNR=26
ROSC PcP **PcP** **21 23 18.1 -0.1**
comp=Z,29nm,0.7s,baz=135,slow=2.9,SNR=5.4
ROSC El Rosal 35.00 340 *e*P **P** **21 21 03.7 -0.6**
ROSC *e*PcP **PcP** **21 23 18.2 -0.1**
PMSA Palmer Station 36.22 181 P **P** **21 21 14.9 +1.7**
comp=Z,26nm,0.7s,baz=4.0,slow=5.5,SNR=13
PMSA Palmer Station 36.22 181 *e*P **P** **21 21 15.1 +1.9**
comp=Z,24nm,0.6s
SDV Santo Domingo 37.97 348 *e*P **P** **21 21 26.6 -1.8**
comp=Z,75nm,0.5s
GRGR Grenville 40.49 2 *e*P **P** **21 21 47.7 -0.5**
comp=Z,151nm,0.5s
BCIP Isla Barro Col 40.91 334 *e*P **P** **21 21 52.2 +0.6**
comp=Z,135nm,0.6s
FDF Fort de France 43.09 3 *e*P **P** **21 22 07.9 -0.7**
FDF pmax pmax
comp=Z,122nm,0.4s
FDF Fort de France 43.09 3 *e*P **P** **21 22 07.9 -0.7**
comp=Z,122nm,0.4s
FDF Fort de France 43.09 3 *e*P **P** **21 22 08.2 -0.4**
JTS JuntasAbangare 44.10 328 P **P** **21 22 17.1 +0.7**
comp=Z,103nm,0.8s,baz=161,slow=5.7,SNR=78
JTS ScP **ScP** **21 26 41.1 +0.3**
comp=Z,16nm,0.8s,baz=337,slow=2.6,SNR=8.1
JTS JuntasAbangare 44.10 328 *e*P **P** **21 22 17.1 +0.7**
JTS pmax pmax
comp=Z,112nm,0.8s
JTS JuntasAbangare 44.10 328 *e*P **P** **21 22 17.1 +0.7**
comp=Z,112nm,0.8s
JTS ScP **ScP** **21 26 41.1 +0.3**
JTS JuntasAbangare 44.10 328 P **P** **21 22 17.3 +0.9**
comp=Z,945nm,0.7s,SNR=21
OBIP Obispado Ponce 46.48 355 *e*P **P** **21 22 33.3 -1.0**
comp=Z,48nm,0.6s
CRPR Cabo Rojo, PR 46.48 355 *e*P **P** **21 22 32.8 -1.5**
comp=Z,26nm,0.6s
CRPR *e* 21 24 27.5
CELP Cerrillos 46.51 355 *e*P **P** **21 22 33.2 -1.3**
CELP *e*PcP **PcP** **21 23 54.3 -1.4**
LSP Las Mesas 46.65 355 *e*P **P** **21 22 34.3 -1.3**
LRS Lares 46.74 355 *e*P **P** **21 22 35.3 -1.0**
SDDR Presa de Saban 47.96 349 *e*P **P** **21 22 44.5 -0.9**
comp=Z,40nm,0.6s
SDDR *e*PcP **PcP** **21 24 00.7 -0.4**
TGUH Tegucigalpa,Un 48.47 328 *e*P **P** **21 22 48.6 -0.6**
comp=Z,112nm,1.2s
VNA3 Neumayer Olymp 51.66 161 *e* **P** **21 23 13.9 +2.3**
VNA1 Neumayer--Stat 51.83 160 *e* **P** **21 23 15.6 +2.8**
VNA1 *e* 21 24 16.7
VNA1 *e* 21 25 09.5
VNA2 Neumayer--Watz 52.20 160 *e* **P** **21 23 17.9 +2.4**
baz=290,slow=7.5
VNA2 *e* 21 24 17.7
VNA2 *e* 21 25 12.1
SNAA Sanae 53.84 160 *e* **P** **21 23 28.9 +1.8**
SNAA *e* 21 24 23.6
SNAA *e* 21 25 25.3
SNAA Sanae 53.84 160 *e*P **P** **21 23 28.6 +1.5**
SNAA *e* 21 24 23.9
SNAA *e* 21 25 25.0
SNAA pmax pmax
comp=Z,39nm,0.7s
SNAA Sanae 53.84 160 *e*P **P** **21 23 28.6 +1.5**
comp=Z,39nm,0.7s
SNAA *e*PcP **PcP** **21 24 23.9 +1.3**
SNAA *e* 21 25 25.0
SHEL Horse Pasture 53.97 89 *e*P **P** **21 23 29.8 +0.9**
SHEL pmax pmax
comp=Z,142nm,0.8s
SHEL Horse Pasture 53.97 89 *e*P **P** **21 23 29.8 +0.9**
comp=Z,142nm,0.8s
TEIG Tepich 54.33 330 *e*P **P** **21 23 30.4 -0.8**
comp=Z,150nm,0.6s
TEIG *e*PcP **PcP** **21 24 25.5 +0.4**
SACV Santiago Islan 57.64 47 *e*P **P** **21 23 52.5 -1.6**
comp=Z,79nm,0.8s
NVL N'lazarevskaya 58.30 158 ǁ*i*P P 21 24 01.1 +3.5
QSPA South Pole Qui 61.65 180 *e*P **P** **21 24 20.9 +1.0**
comp=Z,139nm,0.6s
BBTS Babate 62.15 52 P **P** **21 24 24.1 +0.4**
comp=Z,134nm,0.8s,baz=192,slow=9.3,SNR=27
BBTS Babate 62.15 52 P **P** **21 24 24.1 +0.4**
COW Cow Castle Cre 63.88 343 *e*P **P** **21 24 35.1 +0.7**
GOGA Godfrey 64.64 341 *e*P **P** **21 24 38.6 -0.6**
GOGA pmax pmax
comp=Z,21nm,0.8s
GOGA Godfrey 64.64 341 *e*P **P** **21 24 38.5 -0.6**
comp=Z,21nm,0.8s
JSC Jenkinsville 64.87 343 *e*P **P** **21 24 40.7 +0.1**
JSC Jenkinsville 64.87 343 *e*P **P** **21 24 40.7 +0.1**
LRAL Lakeview Retre 65.38 338 *e*P **P** **21 24 43.1 -0.7**
comp=Z,24nm,0.7s
LIC Lamto 65.60 68 *e*P **P** **21 24 45.1 -0.6**
comp=Z,201nm,0.7s
DBIC Dimbokro 66.00 67 P **P** **21 24 47.8 -0.3**
comp=Z,169nm,0.7s,baz=216,slow=8.2,SNR=313
DBIC PKP2ab 21 53 26.2
comp=Z,2.6nm,0.7s,baz=152,slow=1.5,SNR=5.4
DBIC Dimbokro 66.00 67 P **P** **21 24 47.8 -0.3**
DBIC Dimbokro 66.00 67 P **P** **21 24 47.8 -0.3**
DBIC P'P'ab **P'P'ab** **21 53 26.2 +0.8**
HKT Hockley 66.13 329 *e*P **P** **21 24 48.9 +0.5**
HKT pmax pmax
comp=Z,19nm,1.2s
HKT Hockley 66.13 329 *e*P **P** **21 24 48.9 +0.5**
comp=Z,19nm,1.2s
SYO Syowa Base 67.97 158 ⇑*i*P **P** **21 24 58.6 -0.6**
SYO Syowa Base 67.97 158 ǁ*i*X **P** **21 25 01.4 +2.2**
JCT Junction City 68.44 326 *e*P **P** **21 25 03.0 +0.3**
JCT pmax pmax
comp=Z,36nm,0.7s
JCT Junction City 68.44 326 *e*P **P** **21 25 03.0 +0.3**
comp=Z,36nm,0.7s
JCT Junction City 68.44 326 P **P** **21 25 03.4 +0.7**
baz=69,SNR=19
WVT Waverly 68.49 339 *e*P **P** **21 25 01.4 -1.4**
WVT *e*PP **pP** **21 27 06.4 -0.4**
WVT pmax pmax
comp=Z,39nm,0.6s
WVT Waverly 68.49 339 *e*P **P** **21 25 01.4 -1.4**
comp=Z,39nm,0.6s
WVT *e*pP **pP** **21 27 06.4 -0.4**
MIAR Mount Ida 69.13 333 *e*P **P** **21 25 06.4 -0.3**
MIAR *e**PP **pP** **21 27 11.7 +0.7**
MIAR pmax pmax
comp=Z,15nm,0.7s
MIAR Mount Ida 69.13 333 *e*P **P** **21 25 06.4 -0.3**
comp=Z,15nm,0.7s
MIAR *e*pP **pP** **21 27 11.7 +0.7**
628A Black Gap, Mar 69.21 323 P **P** **21 25 08.1 +0.8**
baz=69,SNR=28

627A Terlingua Ranc 69.44 323 ⇑P **P** **21 25 09.1 +0.3**
baz=70,SNR=24
TXAR Lajitas Array 69.50 323 P **P** **21 25 08.8 -0.3**
comp=Z,5.7nm,0.5s,baz=156,slow=7.7,SNR=154
TXAR PKPPKP **P'P'df** **21 53 07.2 -0.2**
comp=Z,2.8nm,1.1s,baz=46,slow=2.6,SNR=10
TXAR Lajitas Array 69.50 323 P **P** **21 25 08.8 -0.3**
TXAR Lajitas Array 69.50 323 P **P** **21 25 08.8 -0.3**
TXAR P'P' 21 53 07.2
PARMO Parma 69.61 337 *e*P **P** **21 25 08.8 -0.7**
PARMO *e*pP **pP** **21 27 15.4 +1.4**
528A Cox Ranch, San 69.69 324 ⇓P **P** **21 25 10.6 +0.3**
baz=70
SBA Scott Base 69.85 190 *e*P **P** **21 25 12.0 +1.7**
SBA pmax pmax
comp=Z,41nm,1.0s
SBA Scott Base 69.85 190 *e*P **P** **21 25 12.0 +1.7**
comp=Z,41nm,1.0s
626A Big Bend Ranch 69.92 322 ⇑P **P** **21 25 12.2 +0.6**
baz=70,SNR=51
WCI Wyandotte Cave 69.95 341 *e*P **P** **21 25 10.2 -1.3**
WCI pmax pmax
comp=Z,33nm,0.7s
WCI Wyandotte Cave 69.95 341 *e*P **P** **21 25 10.2 -1.3**
comp=Z,33nm,0.7s
428A Kincaid Ranch, 70.09 324 ⇓P **P** **21 25 13.3 +0.8**
baz=70,SNR=18
527A Woodward Ranch 70.11 323 P **P** **21 25 13.3 +0.6**
baz=70,SNR=19
526A Mary Lane Ranc 70.30 323 P **P** **21 25 14.3 +0.5**
baz=70,SNR=33
SUR Sutherland 70.46 117 P **P** **21 25 16.3 +1.3**
comp=Z,99nm,0.6s,baz=236,slow=8.1,SNR=168
SUR Sutherland 70.46 117 *e*P **P** **21 25 16.4 +1.3**
comp=Z,118nm,0.6s
SUR Sutherland 70.46 117 P **P** **21 25 16.7 +1.7**
comp=Z,1µm,0.6s,SNR=77
427A Hayter Ranch, 70.56 324 ⇑P **P** **21 25 15.8 +0.4**
baz=71,SNR=24
328A Wristen Ranch, 70.68 324 ⇑P **P** **21 25 16.4 +0.5**
baz=71,SNR=40
426A McDonald Obser 70.74 323 ⇓P **P** **21 25 16.9 +0.3**
baz=71,SNR=23
VNDA Vanda 70.81 189 *e*P **P** **21 25 17.6 +1.6**
VNDA pmax pmax
comp=Z,54nm,0.9s
VNDA Vanda 70.81 189 *e*P **P** **21 25 17.6 +1.6**
comp=Z,54nm,0.9s
BLO Bloomington 70.89 341 *e*P **P** **21 25 15.9 -1.1**
BLO pmax pmax
comp=Z,53nm,0.5s
BLO Bloomington 70.89 341 *e*P **P** **21 25 15.9 -1.1**
comp=Z,53nm,0.5s
TUL1 Tulsa 71.21 332 ⇓P **P** **21 25 19.2 +0.3**
baz=72,SNR=13
326A Caldwell Ranch 71.23 324 ⇓P **P** **21 25 19.8 +0.6**
baz=71,SNR=9.1
425A Indio Mountain 71.34 323 ⇓P **P** **21 25 20.0 +0.1**
baz=72,SNR=25
227A Bennet, Jal 71.43 325 ⇑P **P** **21 25 21.2 +0.9**
baz=72,SNR=16
325A Bean Ranch, Si 71.79 323 P **P** **21 25 22.6 -0.1**
baz=72,SNR=24
226A Malaga, Loving 71.88 324 ⇑P **P** **21 25 23.3 +0.3**
baz=72,SNR=9.1
127A Arkansas Junct 71.99 325 ⇓P **P** **21 25 24.2 +0.6**
baz=72,SNR=13
324A Mcey Ranch, 72.12 323 ⇑P **P** **21 25 23.5 -0.9**
baz=72,SNR=28
GDL2 Guadalupe Moun 72.13 324 *e*P **P** **21 25 24.9 +0.5**
comp=Z,44nm,0.8s
SFIN Scholer Farm 72.18 341 ⇑P **P** **21 25 23.6 -0.7**
baz=72,SNR=18
MNTX Cornudas Mount 72.27 323 ⇑P **P** **21 25 24.3 -0.8**
baz=72,SNR=13
MNTX ⇑P **P** **21 25 24.3 -0.8**
baz=72,SNR=13
225A Deer Hill, Car 72.29 324 ⇑P **P** **21 25 25.8 +0.3**
baz=72,SNR=11
126A Clayton Basin, 72.30 324 ⇓P **P** **21 25 25.5 +0.1**
baz=72,SNR=15
Z27A Tatum 72.43 325 P **P** **21 25 26.3 +0.1**
baz=73,SNR=20
CPRX Cap Rock 72.53 325 *e*P **P** **21 25 27.2 +0.5**
comp=Z,14nm,0.4s
224A Cornudas Mount 72.64 323 ⇓P **P** **21 25 27.5 +0.1**
baz=73
125A Gardner Draw, 72.64 324 P **P** **21 25 26.8 -0.6**
baz=73,SNR=12
MSTX Muleshoe 72.73 326 P **P** **21 25 27.9 0.0**
baz=73,SNR=26
Z26A Caprock 72.78 325 ⇑P **P** **21 25 28.3 +0.2**
baz=73,SNR=72
MDV Middlebury 72.83 352 *e*P **P** **21 25 28.5 +0.5**
comp=Z,9µm,0.8s
Y27A Causey 72.86 326 ⇑P **P** **21 25 28.4 -0.2**
baz=73,SNR=8.9
LBNH Lisbon 72.92 353 *e*P **P** **21 25 29.5 +0.9**
LBNH pmax pmax
comp=Z,71nm,0.9s
LBNH Lisbon 72.92 353 *e*P **P** **21 25 29.5 +0.9**
comp=Z,71nm,0.9s
AMTX Amarillo 72.95 327 ⇓P **P** **21 25 29.6 +0.6**
baz=73
AMTX ⇓P **P** **21 25 29.6 +0.6**
baz=73
HDIL Hopedale 73.00 339 *e*P **P** **21 25 28.0 -1.1**
comp=Z,76nm,0.6s
Z25A Roswell 73.16 324 P **P** **21 25 30.6 +0.3**
baz=73,SNR=7.5
Y26A Elida 73.22 325 ⇑P **P** **21 25 31.7 +1.1**
baz=73,SNR=9.7
X27A F and S Farms, 73.44 326 ⇑P **P** **21 25 32.2 +0.3**
baz=74
222A Williams Famil 73.50 322 P **P** **21 25 33.4 +1.0**
baz=74,SNR=6.6
Z24A Sheeppen Canyo 73.53 324 ⇑P **P** **21 25 33.0 +0.5**
baz=74,SNR=33
Y25A Mesa, Roswell 73.66 325 ⇑P **P** **21 25 33.3 +0.2**
baz=74,SNR=9.2
320A Kipp Ranch, An 73.71 320 ⇑P **P** **21 25 34.5 +1.0**
baz=74,SNR=7.4
X26A CR and CF Fran 73.71 326 ⇑P **P** **21 25 34.0 +0.5**
baz=74,SNR=32
W27A Bowe Ranch, En 73.76 327 ⇑P **P** **21 25 33.7 0.0**
baz=74,SNR=11
221A Mesquite Ranch 73.80 321 ⇑P **P** **21 25 35.1 +1.1**
baz=74,SNR=7.6
122A Conniff Cattle 73.91 322 ⇓P **P** **21 25 35.7 +1.1**
baz=74
Z23A Rita Site, Whi 73.93 323 ⇑P **P** **21 25 35.8 +1.1**
baz=74,SNR=26
MSNY Massena 74.02 351 *e*P **P** **21 25 35.2 +0.5**
comp=Z,694nm,0.8s
Y24A Capitan 74.04 324 ⇓P **P** **21 25 35.8 +0.4**
baz=74,SNR=8.6
W26A Owens Ranch, T 74.12 326 P **P** **21 25 36.3 +0.6**
baz=74,SNR=12
220A Playas Peak, P 74.13 321 ⇓P **P** **21 25 36.6 +0.7**
baz=74,SNR=16
319A Douglas 74.16 320 ⇓P **P** **21 25 37.1 +1.1**
baz=74,SNR=16
121A Cookes Peak, D 74.20 322 ⇓P **P** **21 25 37.1 +0.9**
baz=74,SNR=13
PSMA Santa Maria 74.27 31 *e*P **P** **21 25 36.5 +0.2**
comp=Z,67nm,0.8s
PSMN Pico do Norte, 74.30 31 *e*P **P** **21 25 36.4 -0.1**
comp=Z,94nm,0.8s
Z22A Elephant Butte 74.31 323 ⇓P **P** **21 25 38.0 +1.1**
baz=74
Y23A Loslace Mesa, 74.36 324 ⇑P **P** **21 25 37.9 +0.7**
baz=75,SNR=22
PMAN Manadas 74.37 28 *e*P **P** **21 25 38.2 +1.3**
comp=Z,367nm,1.0s
ROSA Rosais 74.39 28 *e*P **P** **21 25 37.5 +0.6**
comp=Z,192nm,0.9s
X24A Lazy VL Ranch, 74.54 325 P **P** **21 25 39.0 +0.8**
baz=75,SNR=10
W25A X Bar L Ranch, 74.56 326 ⇑P **P** **21 25 38.3 +0.1**
baz=75,SNR=18
318A Bisbee 74.61 320 ⇑P **P** **21 25 39.3 +0.7**
baz=75,SNR=11
120A U Bar Ranch, L 74.68 321 P **P** **21 25 39.8 +0.8**
baz=75,SNR=13
Z21A St. Cloud Mine 74.73 322 ⇓P **P** **21 25 40.4 +1.1**
baz=75
BNM Barren Site 74.83 324 *e*P **P** **21 25 40.5 +0.7**
comp=Z,9.2nm,0.7s

Y22A Socorro 74.84 323 P **P** **21 25 40.8 +0.9**
baz=75,SNR=6.1
BART Pico Bartolome 74.90 30 *e*P **P** **21 25 42.2 +2.3**
X23A Hourglass Bar 74.94 324 ⇓P **P** **21 25 41.4 +1.0**
baz=75,SNR=20
LPM Los Pinos Moun 74.96 324 *e*P **P** **21 25 41.0 +0.5**
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 74.97 66 P **P** **21 25 40.2 -0.5**
comp=Z,218nm,0.7s,baz=257,slow=5.2,SNR=1058
TORD pP **pP** **21 27 48.6 +0.7**
comp=Z,7.6nm,0.8s,baz=241,slow=5.0,SNR=3.0
TORD Torodi Ar. Bea 74.97 66 P **P** **21 25 40.2 -0.5**
TORD pP **pP** **21 27 48.6 +0.7**
T28A Walsh 74.98 328 ⇑P **P** **21 25 40.4 0.0**
baz=75,SNR=11
PMAR Madeira 75.01 39 *e*P **P** **21 25 41.5 +0.7**
comp=Z,111nm,2.8s
LENM Lemitar 75.02 323 *e*P **P** **21 25 41.3 +0.4**
comp=Z,55nm,1.0s
W24A Lazy 6 Ranch, 75.03 325 ⇑P **P** **21 25 41.3 +0.4**
baz=75,SNR=26
218A Dragoon 75.04 320 ⇑P **P** **21 25 41.5 +0.6**
baz=75,SNR=21
Z20A Nine Sixteen R 75.08 322 ⇓P **P** **21 25 42.1 +0.9**
baz=75,SNR=19
V25A Rancho No Teng 75.14 326 P **P** **21 25 41.9 +0.4**
baz=75,SNR=28
U26A Atchley Ranch, 75.16 327 ⇓P **P** **21 25 41.9 +0.4**
baz=75,SNR=20
T27A Campo 75.21 328 ⇓P **P** **21 25 42.5 +0.8**
baz=75,SNR=14
119A Ashpeak Ranch, 75.21 321 ⇑P **P** **21 25 42.9 +1.0**
baz=75,SNR=11
Y21A Point of Rocks 75.27 323 ⇓P **P** **21 25 43.2 +0.9**
baz=76,SNR=14
LAZ Ladron 75.29 323 *e*P **P** **21 25 43.3 +1.0**
comp=Z,12nm,0.9s
CBKS Cedar Bluff 75.33 331 ⇓P **P** **21 25 42.8 +0.6**
baz=76,SNR=8.7
CBKS ⇓P **P** **21 25 42.8 +0.6**
baz=76,SNR=8.7
ANMO Albuquerque 75.36 324 P **P** **21 25 43.3 +0.6**
comp=Z,30nm,0.8s,baz=152,slow=8.6,SNR=90
ANMO Albuquerque 75.36 324 *e*P **P** **21 25 43.3 +0.6**
ANMO *e**PP **pP** **21 27 51.8 +1.6**
ANMO *e* 21 28 45.4
ANMO pmax pmax
comp=Z,25nm,0.7s
ANMO Albuquerque 75.36 324 *e*P **P** **21 25 43.3 +0.6**
comp=Z,25nm,0.7s
ANMO *e*pP **pP** **21 27 51.8 +1.6**
ANMO *e* 21 28 45.4
W23A Werner Place, 75.37 325 ⇓P **P** **21 25 43.6 +0.8**
baz=76,SNR=20
V24A Rampart Ranch, 75.37 326 ⇑P **P** **21 25 43.6 +0.8**
baz=76,SNR=8.5
BOSA Boshof 75.47 115 *e*P **P** **21 25 43.5 0.0**
comp=Z,140nm,0.8s,baz=254,slow=5.8,SNR=311
BOSA Boshof 75.47 115 *e*P **P** **21 25 43.6 0.0**
BOSA pmax pmax
comp=Z,123nm,0.7s
BOSA Boshof 75.47 115 *e*P **P** **21 25 43.6 0.0**
comp=Z,123nm,0.7s
U25A Circle Dot Ran 75.48 327 P **P** **21 25 43.9 +0.5**
baz=76,SNR=19
Y20A Horse Springs, 75.57 322 ⇑P **P** **21 25 45.2 +1.2**
baz=76,SNR=20
Z19A T-Link Ranch, 75.59 321 ⇑P **P** **21 25 45.4 +1.5**
baz=76,SNR=5.9
X21A Alamocita Cree 75.67 323 P **P** **21 25 45.7 +1.2**
baz=76,SNR=30
W22A Albuquerque 75.67 324 ⇓P **P** **21 25 46.0 +1.6**
baz=76
GLMI Grayling 75.68 344 *e*P **P** **21 25 43.9 -0.1**
comp=Z,197nm,0.8s
V23A Ortiz Mt. (NFS 75.84 325 P **P** **21 25 46.7 +1.3**
baz=76,SNR=8.8
Z18A Geronimo 75.86 321 ⇑P **P** **21 25 46.3 +0.9**
baz=76,SNR=5.9
S26A Kim 76.01 328 ⇑P **P** **21 25 47.1 +0.9**
baz=76,SNR=25
T25A Trinidad 76.07 327 P **P** **21 25 47.5 +0.9**
baz=76,SNR=35
Y19A Nutrioso 76.08 322 P **P** **21 25 48.0 +1.2**
baz=76,SNR=24
W21A San Fidel 76.11 324 ⇑P **P** **21 25 47.9 +1.1**
baz=76,SNR=14
X20A Quemado 76.12 323 P **P** **21 25 48.1 +1.1**
baz=76,SNR=20
R27A Eads 76.24 329 ⇑P **P** **21 25 48.1 +0.7**
baz=76,SNR=9.8
Z17A San Carlos Hig 76.26 321 ⇑P **P** **21 25 48.3 +0.8**
baz=76
U23A El Rito 76.30 325 ⇑P **P** **21 25 49.2 +1.3**
baz=76,SNR=16
V22A San Miguel Ran 76.34 325 P **P** **21 25 49.5 +1.3**
baz=77,SNR=64
Y18A Canyon Day Jun 76.38 321 P **P** **21 25 49.3 +1.0**
baz=77,SNR=13
X19A St. Johns 76.46 322 P **P** **21 25 49.8 +1.0**
baz=77,SNR=5.1
S25A Robets Cordova 76.50 327 P **P** **21 25 49.7 +0.8**
baz=77,SNR=25
R26A Arlington 76.55 328 ⇓P **P** **21 25 49.9 +0.8**
baz=77,SNR=10
W20A Ramah 76.56 323 ⇓P **P** **21 25 50.1 +0.7**
baz=77,SNR=19
214A Organ Pipe Nat 76.62 318 P **P** **21 25 50.3 +0.8**
baz=77,SNR=12
V21A Milan 76.63 324 ⇓P **P** **21 25 50.8 +1.1**
baz=77,SNR=7.9
U22A Llaves 76.67 325 ⇓P **P** **21 25 51.2 +1.3**
baz=77
KSCO Kaye Shedlock' 76.75 329 ⇑P **P** **21 25 51.4 +1.2**
baz=77
Y17A Roosevelt 76.76 321 P **P** **21 25 51.4 +1.1**
baz=77,SNR=27
Y17A ⇓pP **pP** **21 27 59.8 +1.4**
baz=77,SNR=5.2
T23A Casias Ranch, 76.78 326 ⇓P **P** **21 25 51.2 +0.7**
baz=77
R25A Fountain Ranch 76.82 328 ⇓P **P** **21 25 51.3 +0.8**
baz=77,SNR=8.5
S24A Houchin Ranch, 76.86 327 ⇑P **P** **21 25 52.2 +1.3**
baz=77,SNR=27
X18A Snowflake 76.89 322 P **P** **21 25 52.2 +1.1**
baz=77,SNR=17
W19A Sanders 77.03 322 ⇑P **P** **21 25 52.6 +0.8**
baz=77,SNR=13
V20A Brimhall 77.06 323 P **P** **21 25 52.8 +0.8**
baz=77,SNR=28
SDCO Great Sand Dun 77.08 327 ⇑P **P** **21 25 52.9 +0.7**
baz=77,SNR=14
SDCO ⇑P **P** **21 25 52.9 +0.7**
baz=77,SNR=14
Q26A Hugo 77.09 329 ⇓P **P** **21 25 53.0 +1.0**
baz=77,SNR=6.4
U21A Nageezi 77.12 324 P **P** **21 25 53.3 +0.9**
baz=77,SNR=36
T22A Edith 77.19 325 P **P** **21 25 53.9 +1.1**
baz=77,SNR=28
W18A Petrified Fore 77.22 322 ⇑P **P** **21 25 53.6 +0.8**
baz=77,SNR=12
X17A Forest Lakes 77.22 321 ⇑P **P** **21 25 54.4 +1.4**
baz=77,SNR=5.8
114A Black Gap (USA 77.24 319 P **P** **21 25 53.6 +0.9**
baz=77,SNR=14
R24A Sanders Place, 77.28 327 P **P** **21 25 54.2 +1.1**
baz=78,SNR=23
S23A Nye Farm, Mont 77.29 326 ⇓P **P** **21 25 54.7 +1.4**
baz=78,SNR=5.7
V19A Window Rock 77.30 323 P **P** **21 25 54.3 +0.9**
baz=78,SNR=57
T21A Navajo Lake 77.50 325 ⇓P **P** **21 25 55.4 +1.0**
baz=78,SNR=11
P26A Davis Ranch, A 77.53 329 ⇓P **P** **21 25 55.3 +0.9**
baz=78,SNR=8.0
U20A Newcomb 77.53 324 ⇑P **P** **21 25 55.3 +0.9**
baz=78,SNR=20
R23A Moffat 77.59 327 P **P** **21 25 55.8 +0.9**
baz=78,SNR=22
X16A Lo Mia Camp, P 77.63 321 P **P** **21 25 56.1 +1.0**
baz=78,SNR=51
O27A Beecher Island 77.65 330 ⇑P **P** **21 25 56.3 +1.3**
baz=78,SNR=8.2
Z14A Wintersburg 77.72 319 ⇑P **P** **21 25 56.6 +1.3**
baz=78,SNR=5.4
S22A 4UR Ranch, Cre 77.73 326 ⇑P **P** **21 25 56.5 +0.8**

baz=78,SNR=33
113A **Mohawk Valley,** **77.77** 318 ⇑P **P** **21 25 56.2 +0.7**
baz=78,SNR=9.6
V18A **Ganado** **77.77** 322 ⇑P **P** **21 25 56.5 +0.7**
baz=78,SNR=20
U19A **Dine' College,** **77.82** 323 ⇓P **P** **21 25 56.8 +0.6**
baz=78,SNR=11
P25A **Willow Gulch B** **77.86** 329 ⇓P **P** **21 25 57.3 +1.1**
baz=78,SNR=5.6
Q24A **Divide** **77.88** 328 ⇑P **P** **21 25 57.4 +1.0**
baz=78,SNR=26
Z13A **Yuma Proving G** **78.01** 318 ⇓P **P** **21 25 57.9 +1.0**
baz=78,SNR=27
O26A **Horse Wrangler** **78.06** 330 ⇓P **P** **21 25 58.3 +1.1**
baz=78,SNR=8.5
R22A **Saguache, Gunn** **78.07** 326 ⇑P **P** **21 25 58.6 +1.0**
baz=78,SNR=11
OGNE **Ogallala** **78.08** 331 ⇓P **P** **21 25 58.2 +1.0**
baz=78,SNR=7.4
T19A **Beclabito** **78.14** 324 ⇓P **P** **21 25 58.5 +0.8**
baz=78,SNR=59
T19A pP **pP** **21 28 08.1 +1.6**
baz=78,SNR=6.5
S21A **Coal Bank Pass** **78.14** 325 ⇑P **P** **21 25 59.0 +1.1**
baz=78,SNR=30
MVCO **Mesa Verde** **78.16** 324 *e*P **P** **21 25 58.5 +0.6**
comp=Z,28nm,0.7s
MVCO **Mesa Verde** **78.16** 324 ⇓P **P** **21 25 58.8 +0.9**
baz=78,SNR=25
Y14A **Wickenburg** **78.16** 319 ⇑P **P** **21 25 58.6 +0.8**
baz=78,SNR=27
V17A **Tonalea, Kykot** **78.17** 322 P **P** **21 25 58.9 +1.0**
baz=78,SNR=40
N27A **Anderson Farm,** **78.18** 330 ⇓P **P** **21 25 58.8 +1.0**
baz=78,SNR=7.8
ECSD **EROS Data Cent** **78.30** 336 *e*P **P** **21 25 57.7 -0.5**
comp=Z,55nm,0.9s
ECSD *e*pP **pP** **21 28 07.1 +0.1**
O25A **Wiggins** **78.32** 329 ⇑P **P** **21 25 60.0 +1.4**
baz=79,SNR=25
WUAZ **Wupatki** **78.41** 321 *e*P **P** **21 25 59.7 +0.6**
comp=Z,40nm,0.8s
WUAZ **Wupatki** **78.41** 321 ⇓P **P** **21 26 00.4 +1.2**
baz=79,SNR=20
P23A **Jefferson** **78.53** 327 ⇓P **P** **21 26 01.1 +1.2**
baz=79,SNR=6.2
S20A **Disappointment** **78.56** 325 ⇓P **P** **21 26 01.2 +1.2**
baz=79,SNR=31
R21A **Cimarron** **78.57** 326 P **P** **21 26 01.1 +1.0**
baz=79,SNR=13
GLA **Glamis** **78.59** 318 ⇓P **P** **21 26 00.9 +0.8**
baz=79,SNR=5.1
Q22A **Crested Butte,** **78.64** 326 ⇓P **P** **21 26 01.8 +1.3**
baz=79,SNR=33
U16A **Tuba City** **78.74** 322 ⇑P **P** **21 26 02.0 +1.1**
baz=79,SNR=19
ISCO **Idaho Springs** **78.76** 328 *e*P **P** **21 26 01.8 +0.7**
ISCO *e**PP **pP** **21 28 11.8 +1.6**
ISCO pmax pmax
comp=Z,24nm,0.7s
ISCO **Idaho Springs** **78.76** 328 *e*P **P** **21 26 01.8 +0.7**
comp=Z,24nm,0.7s
ISCO *e*pP **pP** **21 28 11.8 +1.6**
ISCO **Idaho Springs** **78.76** 328 ⇓P **P** **21 26 02.0 +0.9**
baz=79,SNR=41
T18A **Mexican Hat** **78.81** 323 ⇑P **P** **21 26 01.9 +0.7**
baz=79
U17A **Shonto** **78.83** 323 P **P** **21 26 02.8 +1.3**
baz=79,SNR=23
R20A **Redvale** **78.84** 325 P **P** **21 26 02.7 +1.2**
baz=79,SNR=47
S19A **Harvey Farm, M** **78.89** 324 P **P** **21 26 02.5 +0.7**
baz=79,SNR=62
Y12C **Blythe** **78.91** 318 P **P** **21 26 02.8 +1.1**
baz=79,SNR=6.4
Q21A **Lamborn Mesa,** **78.94** 326 P **P** **21 26 03.2 +1.2**
baz=79,SNR=5.6
PDMCI **Parker Dam,Lak** **79.08** 319 ⇓P **P** **21 26 03.7 +1.2**
baz=79
DVTC **Desert V Tower** **79.08** 317 ⇓P **P** **21 26 03.9 +1.2**
baz=79
SWSC **Sam W. Stewart** **79.09** 317 ⇓P **P** **21 26 03.9 +1.3**
baz=79
L27A **T5 Ranch, Ells** **79.14** 331 ⇓P **P** **21 26 04.0 +1.2**
baz=79,SNR=5.0
P22A **Eagle** **79.14** 327 P **P** **21 26 03.9 +0.9**
baz=79,SNR=21
T17A **Navajo Res., N** **79.20** 323 P **P** **21 26 04.6 +1.2**
baz=79,SNR=30
O23A **Lake Granby, G** **79.23** 328 P **P** **21 26 05.2 +1.7**
baz=80,SNR=16
N24A **Carr** **79.24** 329 ⇑P **P** **21 26 04.5 +1.0**
baz=80,SNR=5.8
S18A **Hurst Farm, Bl** **79.29** 324 P **P** **21 26 04.9 +1.0**
baz=80,SNR=66
S18A pP **pP** **21 28 15.3 +2.1**
baz=80,SNR=5.9
R19A **Curley Farm, L** **79.37** 325 ⇑P **P** **21 26 04.9 +0.7**
baz=80,SNR=15
BC3 **Big Chuckawall** **79.39** 318 ⇓P **P** **21 26 05.0 +0.7**
baz=80,SNR=21
Q20A **Ridgley Place,** **79.39** 326 ⇑P **P** **21 26 05.1 +0.8**
baz=80,SNR=9.1
P21A **Newcastle** **79.42** 327 P **P** **21 26 05.6 +1.1**
baz=80,SNR=12
O22A **Kremmling** **79.48** 327 ⇓P **P** **21 26 05.5 +0.6**
baz=80,SNR=33
W13A **Hualapai Mount** **79.50** 320 ⇓P **P** **21 26 06.1 +1.1**
baz=80,SNR=16
IRM **Iron Mountain** **79.57** 318 ⇑P **P** **21 26 05.9 +0.7**
baz=80,SNR=16
U15A **North Rim** **79.58** 322 ⇑P **P** **21 26 06.7 +1.2**
baz=80
M24A **Cheyenne** **79.73** 329 P **P** **21 26 07.1 +1.1**
baz=80,SNR=30
R18A **Canyonlands Na** **79.77** 324 ⇑P **P** **21 26 06.9 +0.6**
baz=80,SNR=8.9
N23A **Red Feather La** **79.78** 328 ⇑P **P** **21 26 07.3 +0.9**
baz=80,SNR=23
P20A **De Beque** **79.86** 326 P **P** **21 26 07.8 +1.0**
baz=80,SNR=46
Q19A **Hogan Spring (** **79.88** 325 ⇓P **P** **21 26 07.7 +0.9**
baz=80,SNR=24
N22A **Wattenberg Ran** **79.94** 328 P **P** **21 26 08.3 +1.0**
baz=80,SNR=31
BELC **Belle Mtn. Jos** **79.95** 318 P **P** **21 26 08.3 +1.0**
baz=80,SNR=8.6
PFO **Pinyon Flat Ob** **79.95** 317 P **P** **21 26 08.0 +0.7**
comp=Z,122nm,0.6s,SNR=7.0
PFO **Pinyon Flat Ob** **79.95** 317 ⇓P **P** **21 26 08.3 +1.0**
baz=80,SNR=11
O21A **Pagoda** **79.97** 327 ⇑P **P** **21 26 08.6 +1.3**
baz=80,SNR=12
M23A **Laramie** **80.13** 329 ⇓P **P** **21 26 09.2 +1.0**
baz=80,SNR=9.8
S16A **Weppner Ranch,** **80.16** 323 ⇓P **P** **21 26 08.8 +0.4**
baz=80,SNR=20
R17A **Hanksville Air** **80.21** 324 ⇑P **P** **21 26 09.2 +0.7**
baz=80,SNR=36
P19A **Cripple Cowboy** **80.25** 326 ⇓P **P** **21 26 09.7 +0.8**
baz=80,SNR=32
O20A **White River Ci** **80.28** 326 ⇓P **P** **21 26 09.7 +0.8**
baz=80,SNR=29
MURC **Murrieta** **80.40** 317 ⇓P **P** **21 26 10.1 +0.6**
baz=81,SNR=5.2
N21A **Black Mountain** **80.41** 327 ⇑P **P** **21 26 10.5 +0.8**
baz=81,SNR=13
Q18A **Rafter H Ranch** **80.43** 325 ⇑P **P** **21 26 10.5 +0.8**
baz=81,SNR=20
M22A **Cedar Creek Ra** **80.48** 328 ⇑P **P** **21 26 11.5 +1.5**
baz=81,SNR=16
R16A **Teasdale** **80.51** 323 ⇓P **P** **21 26 11.0 +0.7**
baz=81
L23A **Garrett** **80.64** 329 P **P** **21 26 11.2 +0.5**
baz=81,SNR=12
HEC **Hector,Ludlow** **80.73** 318 P **P** **21 26 12.2 +1.0**
baz=81,SNR=15
K24A **Anderson Ranch** **80.73** 330 ⇓P **P** **21 26 12.2 +1.0**
baz=81,SNR=28
Q16A **Castle Valley** **80.82** 324 P **P** **21 26 12.7 +0.9**
baz=81,SNR=14
N20A **Spence Gulch,** **80.83** 327 ⇓P **P** **21 26 12.5 +0.7**
baz=81,SNR=20
O19A **Miners Draw (B** **80.83** 326 ⇓P **P** **21 26 12.6 +0.8**
baz=81,SNR=51
R15A **Junction** **80.88** 323 ⇑P **P** **21 26 13.2 +1.1**
baz=81
P18A **Preston Nutter** **80.88** 325 ⇓P **P** **21 26 13.2 +1.0**
baz=81
M21A **Separation Pea** **81.00** 328 P **P** **21 26 13.2 +0.6**
baz=81,SNR=45
P17A **Butcher Ranch,** **81.02** 325 ⇑P **P** **21 26 13.3 +0.6**
baz=81,SNR=17
MSU **Marysvale** **81.05** 323 *e*P **P** **21 26 13.7 +0.7**
MSU *e**PP **pP** **21 28 24.5 +1.5**
MSU pmax pmax
comp=Z,43nm,0.9s
MSU **Marysvale** **81.05** 323 *e*P **P** **21 26 13.7 +0.7**
comp=Z,43nm,0.9s
MSU *e*pP **pP** **21 28 24.5 +1.5**
K23A **Bowen Ranch, D** **81.11** 330 ⇓P **P** **21 26 13.8 +0.7**
baz=81,SNR=28
K23A pP **pP** **21 28 26.8 +3.6**
baz=81,SNR=7.0
J24A **Dixon Ranch, L** **81.15** 331 ⇓P **P** **21 26 14.1 +0.9**
baz=81,SNR=23
J24A pP **pP** **21 28 27.5 +4.2**
baz=81,SNR=7.8
ARUT **Antelope Range** **81.20** 322 *e*P **P** **21 26 15.1 +1.4**
ARUT pmax pmax
comp=Z,41nm,0.8s
ARUT **Antelope Range** **81.20** 322 *e*P **P** **21 26 15.1 +1.4**
comp=Z,41nm,0.8s
O18A **Roosevelt** **81.25** 325 ⇓P **P** **21 26 14.7 +0.9**
baz=82,SNR=28
L21A **Rawlins** **81.28** 328 ⇓P **P** **21 26 14.5 +0.4**
baz=82,SNR=36
M20A **Sweetwater, Wa** **81.30** 327 ⇑P **P** **21 26 14.9 +0.7**
baz=82,SNR=26
N19A **John Jarvie Ra** **81.31** 326 ⇑P **P** **21 26 15.1 +0.9**
baz=82,SNR=26
GSC **Goldstone** **81.34** 318 ⇑P **P** **21 26 15.1 +0.7**
baz=82,SNR=7.8
K22A **Casper** **81.44** 329 ⇑P **P** **21 26 15.6 +0.8**
baz=82,SNR=11
RSSD **Black Hills** **81.53** 331 *e*P **P** **21 26 14.9 -0.3**
RSSD **Black Hills** **81.53** 331 *e*P **P** **21 26 14.9 -0.3**
O17A **Robinson Place** **81.56** 325 ⇑P **P** **21 26 16.3 +0.8**
baz=82,SNR=70
O17A pP **pP** **21 28 27.9 +2.2**
baz=82,SNR=11
I24A **Kuemmerle Ranc** **81.56** 331 ⇓P **P** **21 26 15.8 +0.5**
baz=82,SNR=11
N18A **Larsen Ranch,** **81.62** 326 ⇓P **P** **21 26 16.2 +0.4**
baz=82,SNR=29
EDW2 **Edwards Air Fo** **81.75** 317 P **P** **21 26 16.6 +0.2**
baz=82,SNR=11
K21A **Alcova** **81.75** 329 ⇑P **P** **21 26 17.0 +0.6**
baz=82,SNR=43
K21A pP **pP** **21 28 30.2 +3.4**
baz=82,SNR=8.2
R13A **O'Grain Ranch,** **81.77** 322 ⇓P **P** **21 26 17.9 +1.3**
baz=82
L20A **Wamsutter** **81.77** 328 ⇓P **P** **21 26 17.4 +0.9**
baz=82,SNR=8.0
M19A **Rock Springs** **81.77** 327 ⇑P **P** **21 26 17.4 +0.8**
baz=82,SNR=21
P15A **Leamington** **81.88** 324 ⇓P **P** **21 26 17.9 +0.8**
baz=82,SNR=8.6
O16A **Springville** **81.95** 325 ⇓P **P** **21 26 18.6 +1.1**
baz=82,SNR=17
LRMC **Laurel Mountai** **81.98** 318 ⇓P **P** **21 26 18.3 +0.6**
baz=82,SNR=11
DAU **Daniels Canyon** **81.98** 325 *e*P **P** **21 26 18.6 +0.8**
DAU pmax pmax
comp=Z,27nm,0.9s
DAU **Daniels Canyon** **81.98** 325 *e*P **P** **21 26 18.6 +0.8**
comp=Z,27nm,0.9s
AGMN **Agassiz Nation** **82.02** 339 *e*P **P** **21 26 17.1 -0.3**
comp=Z,40nm,0.6s
AGMN *e*pP **pP** **21 28 27.7 -0.1**
M18A **Lyman** **82.16** 326 ⇓P **P** **21 26 18.8 +0.3**
baz=82,SNR=22
N17A **Moffit Pass** **82.17** 325 ⇓P **P** **21 26 19.5 +0.9**
baz=82,SNR=29
N17A pP **pP** **21 28 32.5 +3.3**
baz=82,SNR=6.1
FURC **Furnace Creek,** **82.18** 319 ⇓P **P** **21 26 19.4 +1.0**
baz=82,SNR=8.7
MPMC **Manual Prospec** **82.26** 318 ⇑P **P** **21 26 19.6 +0.4**
baz=82,SNR=14
K20A **Yellowstone Ra** **82.28** 328 ⇓P **P** **21 26 19.4 +0.4**
baz=82,SNR=6.3
L19A **Farson** **82.33** 327 ⇑P **P** **21 26 20.1 +0.8**
baz=83,SNR=33
N16A **Rees Ranch, Co** **82.43** 325 ⇑P **P** **21 26 20.9 +1.0**
baz=83,SNR=15
M17A **Scullys Gap (B** **82.48** 326 ⇑P **P** **21 26 20.3 +0.1**
baz=83,SNR=33
L18A **Fontenelle, Gr** **82.52** 327 ⇓P **P** **21 26 21.0 +0.6**
baz=83,SNR=37
L18A pP **pP** **21 28 33.9 +2.8**
baz=83,SNR=6.9
ISA **Isabella** **82.57** 317 ⇓P **P** **21 26 21.4 +0.8**
baz=83,SNR=20
DUG **Dugway** **82.62** 324 *e*P **P** **21 26 21.3 +0.5**
DUG *e**PP **pP** **21 28 33.2 +1.7**
DUG pmax pmax
comp=Z,17nm,0.8s
DUG **Dugway** **82.62** 324 *e*P **P** **21 26 21.3 +0.5**
comp=Z,17nm,0.8s
DUG *e*pP **pP** **21 28 33.2 +1.7**
DUG **Dugway** **82.62** 324 ⇓P **P** **21 26 21.5 +0.7**
baz=83,SNR=32
I21A **Big Trails, Te** **82.69** 329 pP pP 21 28 34.8 +3.0
baz=83,SNR=6.8
J20A **Shoshoni** **82.70** 329 P **P** **21 26 21.8 +0.7**
baz=83,SNR=15
PFVI **Vila Bisbo** **82.77** 41 *e*P **P** **21 26 22.5 +1.1**
comp=Z,309nm,1.4s
R11A **Troy Canyon, C** **82.78** 321 P **P** **21 26 22.5 +0.8**
baz=83,SNR=55
PKM **Peak Mountain** **82.86** 316 ⇓P **P** **21 26 23.1 +0.9**
baz=83,SNR=10
H22A **Clearmont** **82.90** 330 ⇑P **P** **21 26 22.4 +0.4**
baz=83,SNR=5.3
MDND **Maddock** **82.90** 336 ⇓P **P** **21 26 22.4 +0.6**
baz=83,SNR=18
BW06 **Boulder Array** **82.93** 327 ⇑P **P** **21 26 22.4 0.0**
baz=83,SNR=30
BW06 ⇑P **P** **21 26 22.4 0.0**
baz=83,SNR=30
PDAR **Pinedale Array** **82.93** 327 P **P** **21 26 22.1 -0.3**
comp=Z,21nm,0.7s,baz=133,slow=7.5,SNR=138
PDAR pP **pP** **21 28 33.8 +0.5**
comp=Z,3.2nm,0.5s,baz=116,slow=4.1,SNR=7.7
PDAR PKKPbc **PKKPbc** **21 44 38.6 -2.4**
comp=Z,1.4nm,0.7s,baz=198,slow=1.8,SNR=9.6
PDAR **Pinedale Array** **82.93** 327 P **P** **21 26 22.1 -0.3**
PDAR pP **pP** **21 28 33.8 +0.5**
PDAR PKKPbc **PKKPbc** **21 44 38.6 -2.4**
PD02 **Pinedale Array** **82.94** 327 *e*P **P** **21 26 22.2 -0.3**
PD02 *e*pP **pP** **21 28 34.9 +1.6**
PD01 **Pinedale Array** **82.95** 327 *e*P **P** **21 26 22.2 -0.3**
PD01 *e*pP **pP** **21 28 35.6 +2.2**
G23A **Biddle** **82.97** 331 ⇓P **P** **21 26 22.1 -0.2**
baz=83,SNR=23
N15A **Stansbury Isla** **82.98** 324 ⇑P **P** **21 26 23.2 +0.6**
baz=83,SNR=17
MORF **Marmelete** **82.99** 41 *e*P **P** **21 26 23.6 +1.0**
comp=Z,60nm,1.4s
VES **Vestal, Richgr** **83.06** 317 ⇓P **P** **21 26 23.5 +0.7**
baz=83,SNR=29
L17A **Cokeville** **83.06** 326 ⇓P **P** **21 26 23.2 +0.2**
baz=83,SNR=38
L17A pP **pP** **21 28 36.3 +2.4**
baz=83,SNR=5.7
K18A **Toltan Ranch,** **83.06** 327 ⇓P **P** **21 26 23.9 +0.8**
baz=83,SNR=41
K18A pP **pP** **21 28 37.2 +3.2**
baz=83,SNR=8.4
J19A **Crowheart** **83.08** 328 ⇑P **P** **21 26 23.6 +0.6**
baz=83,SNR=15
J19A pP **pP** **21 28 37.3 +3.3**
baz=83,SNR=5.9
PTEO **Sao Teotonio** **83.11** 41 *e*P **P** **21 26 23.8 +0.7**
comp=Z,238nm,1.0s
SCHQ **Schefferville** **83.13** 358 P **P** **21 26 21.9 -0.8**
comp=Z,60nm,0.8s,baz=187,slow=3.0,SNR=41
SCHQ **Schefferville** **83.13** 358 P **P** **21 26 21.9 -0.8**
I20A **Worland** **83.18** 329 ⇓P **P** **21 26 23.7 +0.2**
baz=83,SNR=24
I20A pP **pP** **21 28 37.6 +3.2**
baz=83,SNR=5.0
SMMC **Simmler** **83.25** 316 P **P** **21 26 25.2 +1.3**
baz=83,SNR=8.3
L16A **Fish Haven** **83.27** 326 ⇓P **P** **21 26 24.4 +0.4**
baz=84,SNR=52
PBDV **Barranco-do-Ve** **83.36** 41 *e*P **P** **21 26 25.2 +0.8**
comp=Z,279nm,1.1s
M15A **Larsen Ranch,** **83.37** 325 ⇑P **P** **21 26 24.8 +0.3**
baz=84,SNR=66
M15A pP **pP** **21 28 38.1 +2.6**
baz=84,SNR=5.6
F23A **Volborg** **83.39** 332 ⇑P **P** **21 26 24.1 -0.2**
baz=84,SNR=18
TAM **Tamanrasset** **83.42** 60 *e*P **P** **21 26 25.5 +0.3**
TAM pmax pmax
comp=Z,8.0nm,4.0s
TAM **Tamanrasset** **83.42** 60 *e*P **P** **21 26 25.5 +0.3**
comp=Z,8.2nm,4.0s
RCTC **Rector, Farmer** **83.47** 317 ⇓P **P** **21 26 24.8 0.0**
baz=84,SNR=5.2
J18A **Kendall Valley** **83.49** 327 P **P** **21 26 25.1 -0.1**
baz=84,SNR=26
J18A pP **pP** **21 28 38.7 +2.4**
baz=84,SNR=7.3
H20A **Greybull** **83.54** 329 ⇓P **P** **21 26 25.0 -0.2**
baz=84,SNR=22
H20A pP **pP** **21 28 39.0 +2.7**
baz=84,SNR=5.6
PCVE **Castro Verde** **83.57** 41 *e*P **P** **21 26 25.9 +0.6**
comp=Z,166nm,0.9s
K17A **Gardner Place,** **83.57** 327 ⇓P **P** **21 26 26.3 +0.8**
baz=84,SNR=15
K17A pP **pP** **21 28 38.0 +1.3**
baz=84,SNR=6.0
PVAQ **Vaqueiros** **83.59** 41 *e*P **P** **21 26 25.9 +0.4**
comp=Z,136nm,1.1s
MESJ **Messejana** **83.61** 41 *e*P **P** **21 26 25.2 -0.3**
E24A **Baker** **83.62** 333 ⇓P **P** **21 26 25.8 +0.3**
baz=84,SNR=6.0
PNCL **Nicolau / Gran** **83.62** 40 *e*P **P** **21 26 26.4 +0.8**
comp=Z,116nm,1.2s
LIS **Lisbon** **83.69** 39 *e*P **P** **21 26 25.9 +0.1**
ULM **Lac du Bonnet** **83.73** 339 P **P** **21 26 25.5 -0.3**
comp=Z,49nm,0.8s,baz=147,slow=6.8,SNR=80
ULM pP **pP** **21 28 36.9 -0.2**
comp=Z,25nm,1.1s,baz=156,slow=7.2,SNR=7.5
ULM PKKPbc **PKKPbc** **21 44 37.4 -1.9**
comp=Z,6.6nm,0.6s,baz=335,slow=3.8,SNR=12
ULM **Lac du Bonnet** **83.73** 339 P **P** **21 26 25.5 -0.3**
ULM *PP **pP** **21 28 36.9 -0.2**
ULM **Lac du Bonnet** **83.73** 339 P **P** **21 26 25.5 -0.3**
ULM pP **pP** **21 28 36.9 -0.2**
ULM PKKPbc **PKKPbc** **21 44 37.4 -1.9**
L15A **Malad City** **83.74** 325 ⇑P **P** **21 26 26.4 +0.1**
baz=84,SNR=65
L15A pP **pP** **21 28 38.5 +1.0**
baz=84,SNR=6.9
G21A **Lodge Grass** **83.77** 330 ⇑P **P** **21 26 26.2 0.0**
baz=84,SNR=21
I18A **Diamond G Ranc** **83.77** 328 ⇑P **P** **21 26 26.9 +0.4**
baz=84,SNR=30
PMAFR **Mafra** **83.78** 39 *e*P **P** **21 26 27.0 +0.6**
comp=Z,151nm,1.3s
F22A **Rosebud** **83.80** 331 P **P** **21 26 26.2 -0.1**
baz=84,SNR=15
J17A **Brown Place, J** **83.93** 327 P **P** **21 26 27.7 +0.4**
baz=84,SNR=19
PBEJ **Beja** **83.94** 41 *e*P **P** **21 26 27.4 +0.2**
comp=Z,93nm,1.1s
K16A **Soda Springs** **83.96** 326 P **P** **21 26 28.0 +0.6**
baz=84,SNR=70
K16A pP **pP** **21 28 41.9 +3.2**
baz=84,SNR=7.4
MLAC **Mammoth Lakes** **84.12** 319 ⇓P **P** **21 26 29.0 +0.6**
baz=84,SNR=6.0
H19A **Powell** **84.13** 329 ⇓P **P** **21 26 28.1 0.0**
baz=84,SNR=16
L14A **Malta** **84.19** 325 ⇑P **P** **21 26 28.7 +0.2**
baz=84,SNR=14
E22A **Miles City** **84.19** 332 ⇑P **P** **21 26 28.6 +0.3**
baz=84,SNR=7.3
EVO **Evora** **84.20** 40 *e*P **P** **21 26 29.1 +0.7**
comp=Z,67nm,1.2s
EVO **Evora** **84.20** 40 ⇓*i*P **P** **21 26 28.1 -0.3**
comp=Z,148nm,0.7s
G20A **Bridger** **84.21** 330 ⇓P **P** **21 26 28.1 -0.4**
baz=84,SNR=37
RRI2 **Red Ridge** **84.21** 327 *e*P **P** **21 26 29.0 +0.3**
comp=Z,66nm,0.8s
RRI2 *e*pP **pP** **21 28 41.3 +1.2**
I17A **Pilgrim Ck.** **84.29** 328 ⇓P **P** **21 26 29.8 +0.8**
baz=84,SNR=43
ELK **Elko** **84.29** 323 *e*P **P** **21 26 29.2 0.0**
ELK *e**PP **pP** **21 28 41.2 +0.6**
ELK **Elko** **84.29** 323 *e*P **P** **21 26 29.2 0.0**
ELK *e*pP **pP** **21 28 41.2 +0.6**
K15A **Arbon** **84.31** 326 ⇑P **P** **21 26 29.6 +0.5**
baz=84,SNR=78
ALMR **Almeirim** **84.31** 39 *e*P **P** **21 26 28.6 -0.3**
ALMR **Almeirim** **84.31** 39 *e*P **P** **21 26 28.6 -0.3**
NVAR **Mina Array Bea** **84.36** 320 P **P** **21 26 29.8 +0.3**
comp=Z,12nm,0.7s,baz=134,slow=5.2,SNR=82
NVAR PKKPbc **PKKPbc** **21 44 37.7 +0.2**
comp=Z,2.1nm,0.8s,baz=316,slow=2.5,SNR=11
NVAR **Mina Array Bea** **84.36** 320 P **P** **21 26 29.8 +0.3**
NVAR PKKPbc **PKKPbc** **21 44 37.7 +0.2**
C24A **Savage** **84.45** 333 ⇓P **P** **21 26 30.1 +0.6**
baz=85,SNR=11
PMTG **Montargil** **84.45** 40 *e*P **P** **21 26 29.9 +0.3**
comp=Z,310nm,0.9s
D23A **Lindsay** **84.48** 333 ⇓P **P** **21 26 30.3 +0.6**
baz=85,SNR=12
PBAR **Barrancos** **84.51** 41 *e*P **P** **21 26 30.5 +0.5**
comp=Z,76nm,1.7s
K14A **Jones Ranch, D** **84.53** 325 ⇑P **P** **21 26 30.3 +0.2**
baz=85,SNR=30
RLMT **Red Lodge** **84.60** 329 *e*P **P** **21 26 30.4 -0.1**
comp=Z,21nm,0.6s
RLMT **Red Lodge** **84.60** 329 ⇓P **P** **21 26 30.8 +0.3**
baz=85,SNR=27
RLMT ⇓P **P** **21 26 30.8 +0.3**
baz=85,SNR=27
PESTR **Estremoz** **84.67** 40 *e*P **P** **21 26 31.3 +0.6**
comp=Z,88nm,1.4s
I16A **Newdale** **84.69** 327 ⇑P **P** **21 26 31.4 +0.5**
baz=85,SNR=56
PTOM **Tomar** **84.73** 39 *e*P **P** **21 26 31.5 +0.5**
comp=Z,228nm,1.4s
J15A **Blackfoot** **84.79** 326 ⇓P **P** **21 26 32.2 +0.8**
baz=85,SNR=32
YFT **Old Faithful** **84.81** 328 *e*P **P** **21 26 32.8 +1.2**
comp=Z,30nm,0.7s
D22A **Cohagen** **84.86** 332 ⇓P **P** **21 26 32.4 +0.9**
baz=85,SNR=11
G18A **Lazy EL Ranch,** **84.89** 329 ⇓P **P** **21 26 31.8 0.0**
baz=85,SNR=26
YNR **Norris Junctio** **84.94** 328 *e*P **P** **21 26 33.9 +1.7**
comp=Z,15nm,0.9s
C23A **Lambert** **84.97** 333 ⇓P **P** **21 26 32.4 +0.3**
baz=85,SNR=23
F19A **Roth Farm, Mol** **85.02** 330 ⇑P **P** **21 26 32.6 +0.3**
baz=85,SNR=37
YMR **Madison River** **85.04** 328 *e*P **P** **21 26 33.4 +0.8**
comp=Z,76nm,0.8s
YMR *e*pP **pP** **21 28 47.3 +2.9**
DGMT **Dagmar** **85.12** 334 P **P** **21 26 33.5 +0.8**
baz=85,SNR=14
D21A **La Casta Ranch** **85.13** 332 ⇓P **P** **21 26 33.0 +0.2**
baz=85,SNR=26
BMN **Battle Mountai** **85.14** 322 *e*P **P** **21 26 33.2 +0.1**
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN **Battle Mountai** **85.14** 322 *e*P **P** **21 26 33.2 +0.1**
comp=Z,7.4nm,0.8s
PMRV **Marv??o** **85.17** 40 *e*P **P** **21 26 33.5 +0.4**
comp=Z,73nm,1.6s
E20A **Meyer Farm, Mu** **85.17** 331 ⇓P **P** **21 26 33.2 +0.2**
baz=85,SNR=45
H16A **Russell Place,** **85.20** 328 ⇑P **P** **21 26 34.1 +0.7**
baz=85,SNR=16
I15A **Monteview** **85.26** 327 ⇑P **P** **21 26 34.6 +1.0**
baz=86,SNR=12
J14A **Carey** **85.27** 326 ⇑P **P** **21 26 34.5 +0.8**
baz=86
GCMT **Greycliff** **85.30** 329 *e*P **P** **21 26 33.8 0.0**
comp=Z,30nm,0.7s
QLMT **Earthquake Lak** **85.38** 328 *e*P **P** **21 26 34.9 +0.6**
comp=Z,4.1nm,0.9s
QLMT *e*pP **pP** **21 28 48.9 +2.7**

QLMT ePP PP 21 30 07.1 +2.1
PCBR Castelo Branco 85.40 40 eP P 21 26 34.3 +0.1
comp=Z,77nm,1.1s
F18A Big Timber 85.41 329 ⇑P P 21 26 34.5 +0.3
baz=86,SNR=57
A24A Westby 85.42 334 ⇓P P 21 26 34.7 +0.6
baz=86,SNR=7.2
E19A Rath Farm, Rou 85.42 330 ⇓P P 21 26 34.3 +0.1
baz=86,SNR=72
E19A pP pP 21 28 48.0 +1.8
baz=86,SNR=6.2
G17A Pierce Place, 85.43 328 ⇓P P 21 26 34.9 +0.5
baz=86,SNR=8.7
D20A Manuel Ranch, 85.63 331 pP pP 21 28 49.3 +2.1
baz=86,SNR=7.1
J13A Cove Ranch, Pi 85.65 325 ⇓P P 21 26 36.4 +0.9
baz=86,SNR=130
PTO Porto 85.68 38 eP P 21 26 35.6 +0.1
comp=Z,106nm,1.3s
I14A Mackay 85.68 326 P P 21 26 36.7 +1.0
baz=86,SNR=158
I14A pP pP 21 28 50.1 +2.3
baz=86,SNR=6.8
MTE Manteigas 85.75 39 eP P 21 26 36.1 +0.2
comp=Z,101nm,1.2s
MTE Manteigas 85.75 39 eP P 21 26 35.7 -0.2
comp=Z,66nm,0.9s
PVIS Viseu 85.77 39 eP P 21 26 36.3 +0.3
comp=Z,47nm,1.9s
WCN Washoe City 85.79 319 ⇑P P 21 26 37.1 +0.8
baz=86,SNR=10
H15A Lima 85.80 327 ⇑P P 21 26 37.1 +0.9
baz=86,SNR=37
F17A Fitzpatrick Pl 85.83 329 ⇓P P 21 26 36.9 +0.6
baz=86,SNR=54
G16A Moss Hill, Enn 85.85 328 ⇓P P 21 26 36.9 +0.4
baz=86,SNR=18
HLID Hailey 85.89 325 eP P 21 26 37.4 +0.7
comp=Z,61nm,0.8s
HLID epP pP 21 28 50.0 +1.1
HLID Hailey 85.89 325 P P 21 26 37.5 +0.8
baz=86,SNR=120
E18A Harlowton 86.00 330 ⇓P P 21 26 37.2 +0.1
baz=86,SNR=20
I13A Wildhorse Cree 86.00 326 P P 21 26 38.1 +0.8
baz=86,SNR=62
D19A Cripps Ranch, 86.01 331 ⇑P P 21 26 37.0 0.0
baz=86,SNR=26
MCMT McKenzie Canyo 86.05 327 eP P 21 26 38.2 +0.7
comp=Z,36nm,0.7s
MCMT epP pP 21 28 51.7 +1.9
C20A Veseth Ranch, 86.06 331 ⇓P P 21 26 36.9 -0.3
baz=86,SNR=20
C20A pP pP 21 28 51.1 +1.7
baz=86,SNR=5.4
BOZ Bozeman (W) 86.08 328 P P 21 26 37.5 0.0
baz=86,SNR=21
BOZ P P 21 26 37.5 0.0
baz=86,SNR=21
G15A Dillon 86.13 327 ⇑P P 21 26 38.4 +0.6
baz=86,SNR=32
H14A Leadore 86.14 327 P P 21 26 38.6 +0.7
baz=86,SNR=44
F16A Kennard Place, 86.19 328 ⇑P P 21 26 38.7 +0.7
baz=86,SNR=11
B21A Ellsworth Farm 86.21 332 ⇓P P 21 26 38.1 +0.3
baz=86,SNR=6.0
A22A Carney Farms, 86.22 333 ⇓P P 21 26 38.3 +0.4
baz=86,SNR=17
PVRL Vila Real 86.26 38 eP P 21 26 38.4 +0.1
comp=Z,94nm,1.5s
POLO Lamas de Olo 86.28 38 eP P 21 26 38.6 +0.1
comp=Z,39nm,1.4s
E17A Martinsdale 86.34 329 ⇑P P 21 26 39.2 +0.4
baz=87,SNR=73
PCAB Cabril 86.39 38 eP P 21 26 38.8 -0.1
comp=Z,35nm,1.5s
I12A Atlanta 86.42 325 ⇓P P 21 26 39.9 +0.7
baz=87
D18A Linhart Farms, 86.43 330 ⇓P P 21 26 39.4 +0.3
baz=87,SNR=12
PGAV Gavieira, Arco 86.43 38 eP P 21 26 39.1 -0.1
comp=Z,65nm,1.6s
MFID Camas Ranch 86.50 324 ⇓P P 21 26 40.1 +0.6
baz=87,SNR=20
C19A Slack Wire Ran 86.52 331 ⇓P P 21 26 39.4 0.0
baz=87,SNR=24
H13A Challis 86.54 326 ⇑P P 21 26 40.5 +0.8
baz=87
MVO Moncorvo 86.56 39 eP P 21 26 39.9 +0.2
comp=Z,279nm,1.3s
LRM Limekiln Ridge 86.60 328 eP P 21 26 40.3 +0.2
comp=Z,423nm,0.9s
LRM epP pP 21 28 54.4 +1.9
F15A Butte 86.63 328 ⇑P P 21 26 40.9 +0.8
baz=87,SNR=34
G14A Jackson 86.65 327 ⇓P P 21 26 40.8 +0.5
baz=87,SNR=21
E16A East Helena 86.77 329 ⇑P P 21 26 41.3 +0.6
baz=87,SNR=39
D17A Six Diamond Ra 86.79 330 ⇑P P 21 26 41.3 +0.5
baz=87,SNR=46
D17A pP pP 21 28 55.8 +2.5
baz=87,SNR=6.1
H12A Diamond D Ranc 86.83 326 ⇑P P 21 26 41.6 +0.6
baz=87,SNR=25
G13A Cobalt 86.91 326 ⇑P P 21 26 42.2 +0.8
baz=87,SNR=85
A20A Cobblestone Ra 86.94 332 ⇑P P 21 26 41.4 +0.1
baz=87,SNR=56
A20A pP pP 21 28 55.4 +1.4
baz=87,SNR=6.7
F14A Wisdom 87.02 327 P P 21 26 43.0 +1.1
baz=87,SNR=16
B19A Brinkman Farms 87.03 331 ⇑P P 21 26 41.9 +0.1
baz=87,SNR=34
EGMT Eagleton 87.05 331 eP P 21 26 41.5 -0.3
comp=Z,45nm,0.9s
EGMT epP pP 21 28 55.8 +1.3
EGMT Eagleton 87.05 331 ⇑P P 21 26 42.1 +0.2
baz=87,SNR=10
D16A Dana Ranch, Ca 87.09 329 ⇑P P 21 26 42.8 +0.7
baz=87,SNR=40
D16A pP pP 21 28 57.1 +2.3
baz=87,SNR=6.1
E15A Deer Lodge 87.13 328 ⇑P P 21 26 42.8 +0.4
baz=87,SNR=17
PBRG Braganca 87.15 38 eP P 21 26 42.4 -0.1
comp=Z,198nm,1.5s
C17A Wharram Farm, 87.19 330 P P 21 26 42.5 -0.1
baz=87,SNR=16
WVOR Wild Horse Val 87.29 322 eP P 21 26 43.3 +0.1
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 87.29 322 eP P 21 26 43.3 +0.1
comp=Z,7.2nm,1.0s
ESDC Sonseca Array 87.30 41 P P 21 26 43.4 +0.1
comp=Z,16nm,0.7s,baz=243,slow=4.2,SNR=93
ESDC pP pP 21 28 57.1 +1.1
comp=Z,2.1nm,0.6s,baz=243,slow=4.0,SNR=6.0
ESDC Sonseca Array 87.30 41 P P 21 26 43.4 +0.1
ESDC pP pP 21 28 57.1 +1.1
B18A Beardsley Farm 87.34 331 ⇓P P 21 26 43.4 +0.2
baz=88,SNR=44
F13A Darby 87.47 327 ⇓P P 21 26 44.5 +0.5
baz=88,SNR=51
E14A Clinton 87.53 328 ⇑P P 21 26 45.0 +0.8
baz=88,SNR=29
D15A Lincoln 87.54 329 ⇓P P 21 26 45.1 +0.8
baz=88,SNR=50
B17A L&G Farms, Che 87.70 330 ⇓P P 21 26 44.8 -0.2
baz=88,SNR=28
CART Cartagena 87.73 45 eP P 21 26 45.3 +0.1
comp=Z,59nm,0.8s
C16A Fuhringer Ranc 87.75 329 ⇑P P 21 26 45.2 0.0
baz=88
A18A Metzger Ranch, 87.77 331 ⇑P P 21 26 45.0 -0.2
baz=88,SNR=18
J08A Circle Bar Ran 87.84 323 ⇑P P 21 26 46.4 +0.6
baz=88,SNR=12
E13A Victor 87.87 327 ⇑P P 21 26 46.5 +0.6
baz=88,SNR=33
D14A Greenough 88.02 328 ⇑P P 21 26 46.9 +0.4
baz=88,SNR=16
C15A Salmond Ranch, 88.12 329 ⇓P P 21 26 47.4 +0.5
baz=88,SNR=55
C15A pP pP 21 29 02.2 +2.1
baz=88,SNR=6.2

SLMT Seeley Lake 88.13 328 eP P 21 26 47.0 0.0
comp=Z,19nm,0.6s
SLMT epP pP 21 29 01.8 +1.7
A17A Triple J Farms 88.16 331 ⇓P P 21 26 47.2 +0.1
baz=88,SNR=47
B16A M & M Farms, S 88.19 330 ⇑P P 21 26 47.2 0.0
baz=88,SNR=22
KIPM Iron Peak 88.29 318 eP P 21 26 49.4 +1.5
comp=Z,52nm,1.3s
D13A Huson 88.47 328 ⇓P P 21 26 48.8 +0.3
baz=89,SNR=22
A16A West Butte Ran 88.55 330 ⇑P P 21 26 49.1 +0.2
baz=89
SWMT Swartz Lake 88.56 328 eP P 21 26 49.3 +0.3
comp=Z,12nm,0.7s
SWMT epP pP 21 29 04.2 +2.0
K05A Summer Lake 88.72 321 ⇑P P 21 26 50.8 +0.8
baz=89,SNR=31
JTMT Jette 88.87 328 eP P 21 26 50.5 0.0
comp=Z,26nm,0.6s
JTMT epP pP 21 29 05.2 +1.5
I07A Izee 88.88 323 ⇑P P 21 26 51.0 +0.4
baz=89,SNR=9.9
F10A Beach Ranch, E 89.02 326 ⇓P P 21 26 51.6 +0.5
baz=89,SNR=16
BLMT Blacktail Moun 89.10 328 eP P 21 26 51.6 0.0
comp=Z,31nm,0.7s
BSMT Bassoo Peak 89.18 328 eP P 21 26 51.9 0.0
comp=Z,21nm,0.7s
BSMT epP pP 21 29 06.6 +1.3
FFC Flin Flon 89.50 339 *i* P P 21 26 53.6 +0.6
KTRM Thompson Ridge 89.58 320 P P 21 26 54.5 +0.7
RSW Rattlesnake Hi 90.50 325 eP P 21 26 58.6 +0.7
comp=Z,15nm,0.7s
RSW epP pP 21 29 13.4 +1.8
BROR Big Rock Looko 90.59 322 P P 21 26 58.0 -0.2
OD2 Odessa Site #2 90.74 326 eP P 21 26 58.9 -0.1
comp=Z,16nm,0.8s
OD2 epP pP 21 29 13.5 +0.8
C09A Chrisman Ranch 90.80 326 ⇑P P 21 26 59.4 +0.1
baz=91,SNR=9.3
SJPF Ste Jean 91.09 40 eP P 21 27 01.0 +0.3
comp=Z,47nm,0.9s
ETSF Etsaut 91.33 41 eP P 21 27 02.2 +0.3
comp=Z,30nm,0.7s
REYF Montagne du Re 91.53 41 eP P 21 27 03.5 +0.7
REYF Montagne du Re 91.53 41 eP P 21 27 03.5 +0.7
EPF Esparros 91.93 41 eP P 21 27 04.7 +0.1
comp=Z,28nm,0.9s
SALF Salau 92.26 42 eP P 21 27 07.2 +1.1
SALF Salau 92.26 42 eP P 21 27 07.2 +1.1
MLS Moulis 92.32 41 eP P 21 27 07.0 +0.7
MLS Moulis 92.32 41 eP P 21 27 07.0 +0.7
RPZ Rata Peaks 92.70 216 P P 21 27 08.9 +0.7
comp=Z,31nm,0.9s,baz=111,slow=3.6,SNR=9.6
RPZ Rata Peaks 92.70 216 P P 21 27 08.9 +0.7
CARF Carcanieres 92.77 42 eP P 21 27 09.0 +0.5
CARF Carcanieres 92.77 42 eP P 21 27 09.0 +0.5
QUIF Quistinic 93.12 36 eP P 21 27 09.0 -0.8
comp=Z,73nm,0.9s
MTLF Montolieu 93.21 42 eP P 21 27 10.0 -0.4
comp=Z,60nm,1.0s
ROSF Rosfrenen 93.33 35 eP P 21 27 10.1 -0.7
comp=Z,48nm,0.7s
KEST Kesra 93.39 51 P P 21 27 11.6 +0.1
comp=Z,3.7nm,0.8s,baz=247,slow=5.1,SNR=13
KEST Kesra 93.39 51 P P 21 27 11.6 +0.1
SGMF Saint Gilles 93.65 36 eP P 21 27 11.1 -1.1
comp=Z,17nm,0.7s
RJF Les Rejaudoux 93.99 40 eP P 21 27 13.4 -0.5
comp=Z,64nm,1.2s
CAF Calviac 94.07 40 eP P 21 27 14.2 -0.1
comp=Z,31nm,0.8s
LASF Ste Croix 94.60 42 eP P 21 27 16.6 -0.1
comp=Z,33nm,1.1s
GRR Gorron 94.61 36 eP P 21 27 15.6 -1.0
comp=Z,53nm,0.8s
LBL Lubilhac 94.93 40 eP P 21 27 18.6 +0.4
LBL Lubilhac 94.93 40 eP P 21 27 18.6 +0.4
LBL Lubilhac 94.93 40 eP P 21 27 18.6 +0.4
FLN La Foliniere 95.04 36 eP P 21 27 17.7 -0.8
comp=Z,40nm,1.1s
LDF La Drulliere 95.12 36 eP P 21 27 18.0 -0.9
comp=Z,31nm,0.7s
BGF Bois d'Agland 95.48 39 eP P 21 27 20.3 -0.3
comp=Z,102nm,1.2s
VIVF Saint-Julien-l 95.53 41 eP P 21 27 21.0 +0.1
comp=Z,17nm,0.9s
SMRF Simiane la Rot 95.56 42 eP P 21 27 21.7 +0.7
comp=Z,62nm,1.1s
PLDF La Plantade 95.57 40 eP P 21 27 21.6 +0.5
PLDF La Plantade 95.57 40 eP P 21 27 21.6 +0.5
PLDF La Plantade 95.57 40 eP P 21 27 21.6 +0.5
AVF Avril sur Loir 95.90 39 eP P 21 27 22.1 -0.4
comp=Z,34nm,0.8s
SSF Saint Saulge 96.15 39 eP P 21 27 23.0 -0.6
comp=Z,76nm,0.8s
ORIF Oris-en-Rattie 96.27 42 eP P 21 27 24.8 +0.5
comp=Z,27nm,0.8s
LOR Lormes 96.46 39 eP P 21 27 24.5 -0.5
comp=Z,70nm,0.9s
LPL La Plagne 97.10 42 eP P 21 27 28.7 +0.5
comp=Z,19nm,0.8s
LPG La Plagne 97.11 42 eP P 21 27 28.8 +0.5
comp=Z,20nm,0.8s
CABF La Chapelle 97.34 40 eP Pdif 21 27 29.0 0.0
comp=Z,52nm,1.0s
SFTF Sexfontaines 97.66 39 eP Pdif 21 27 29.7 -0.6
comp=Z,48nm,1.0s
LOMF Lomont 98.18 40 eP P 21 27 33.4 +0.7
LOMF Lomont 98.18 40 eP P 21 27 33.4 +0.7
LOMF Lomont 98.18 40 eP P 21 27 33.4 +0.7
THEF They Montfort 98.19 39 eP P 21 27 33.2 +0.5
THEF They Montfort 98.19 39 eP P 21 27 33.2 +0.5
THEF They Montfort 98.19 39 eP P 21 27 33.2 +0.5
PAGF Fort de Pagny 98.23 39 eP Pdif 21 27 32.6 -0.2
comp=Z,18nm,1.0s
BAIF Baives 98.27 37 eP Pdif 21 27 32.3 -0.6
comp=Z,55nm,1.2s
HAU Haudompre 98.27 39 eP Pdif 21 27 32.6 -0.4
comp=Z,36nm,1.1s
HINF Hinteralfeld 98.45 40 eP Pdif 21 27 33.4 -0.5
comp=Z,18nm,1.0s
DOU Dourbes 98.49 37 P Pdif 21 27 33.8 -0.2
SNF Seneffe 98.56 37 P P 21 27 34.6 +0.4
comp=Z,17nm,1.3s
MOF Molkenrain 98.62 40 eP P 21 27 35.3 +0.6
MOF Molkenrain 98.62 40 eP P 21 27 35.3 +0.6
MOF Molkenrain 98.62 40 eP P 21 27 35.3 +0.6
ECH Echery 98.84 40 eP P 21 27 36.4 +0.8
ECH Echery 98.84 40 eP P 21 27 36.4 +0.8
ECH Echery 98.84 40 eP P 21 27 36.4 +0.8
CDF Champ du Feu 99.01 39 eP Pdif 21 27 36.0 -0.4
comp=Z,36nm,1.0s
BCLA Clavier 99.05 37 P Pdif 21 27 36.5 +0.1
WLF Walferdange 99.08 38 P Pdif 21 27 37.4 +0.8
comp=Z,21nm,1.2s
MEM Membach 99.53 37 P Pdif 21 27 38.6 +0.1
RUP Ruppelstein 99.59 38 eP Pdif 21 27 39.9 +1.0
RUP Ruppelstein 99.59 38 eP Pdif 21 27 39.9 +1.0
LANF Langenberg 99.61 39 eP Pdif 21 27 39.7 +0.7
LANF Langenberg 99.61 39 eP Pdif 21 27 39.7 +0.7
LANF Langenberg 99.61 39 eP Pdif 21 27 39.7 +0.7
GERES GERESS Array B 102.89 41 Pdiff Pdif 21 27 54.4 +0.7
comp=Z,0.5nm,0.6s,baz=242,slow=2.1,SNR=4.0
GERES PKiKP PKiKP 21 32 09.7 -0.1
comp=Z,2.5nm,0.7s,baz=214,slow=0.7,SNR=14
GERES PKKPbc PKKPbc 21 43 48.4 -0.8
comp=Z,2.2nm,0.7s,baz=48,slow=1.5,SNR=15
GERES GERESS Array B 102.89 41 P Pdif 21 27 54.4 +0.7
GERES GERESS Array B 102.89 41 Pdif Pdif 21 27 54.4 +0.7
GERES PKiKP PKiKP 21 32 09.7 -0.1
GERES PKKPbc PKKPbc 21 43 48.4 -0.8
APE Apeiranthos 105.48 56 ⇓*i* PKiKP 21 32 16.3 +1.5
KOLL Kolacno 105.54 43 *e*PKP PKiKP 21 32 15.3 +0.8
VYHS Vyhne 105.77 43 *e*PKP PKiKP 21 32 15.2 +0.2
VYHS *e* 21 40 42.7
BZS Buzias 106.29 47 ⇑*i* PKiKP 21 32 15.1 -0.9
KECS Kecovo 106.76 44 *e*PKP PKiKP 21 32 17.2 +0.4
NB2 NORSAR Subarra 107.39 29 PKPdif PKiKP 21 32 17.1 -0.5
comp=Z,1.5nm,0.8s,baz=248,slow=1.9
NOA NORSAR Array B 107.39 29 PKiKP PKiKP 21 32 17.4 -0.2
comp=Z,1.1nm,0.7s,baz=246,slow=2.3,SNR=5.6
NOA PKKP PKKPab 21 43 50.4 +0.1
comp=Z,2.7nm,0.8s,baz=66,slow=4.4,SNR=7.4

NOA NORSAR Array B 107.39 29 PKiKP PKiKP 21 32 17.4 -0.2
NOA PKKP PKKPab 21 43 50.4 +0.1
DRGR 107.46 46 ⇓*i* P PKiKP 21 32 18.5 +0.3
STHS Stebnicka Huta 107.59 43 *e* PKiKP 21 32 10.1 -8.2
TRPA Tarpa 107.88 45 ⇑*i* P PKiKP 21 32 19.5 +0.7
KOLS Kolonicke sedl 108.03 44 *e*PKP PKiKP 21 32 17.0 -2.1
KOLS *e* 21 40 40.8
MLR Muntele Rosu 109.05 48 ⇓*i* P PKiKP 21 32 19.8 -1.5
BURAR Bucovina Array 109.35 46 ⇑*i* P PKiKP 21 32 20.7 -1.1
TESR 109.87 47 ⇓*i* P PKiKP 21 32 23.6 +0.9
TIRR Tirgusor 110.31 50 ⇓PKiKP PKiKP 21 32 22.4 -1.1
TIRR Tirgusor 110.31 50 ⇓*i* P PKiKP 21 32 22.4 -1.1
SUW Suwalki 110.43 39 *e*PKiKP PKiKP 21 32 22.9 -0.6
SUW Suwalki 110.43 39 *e*P PKiKP 21 32 22.9 -0.6
TLCR 110.83 49 ⇑PKiKP PKiKP 21 32 24.6 +0.1
TLCR 110.83 49 ⇑*i* P PKiKP 21 32 24.6 +0.1
BR131 Keskin Array S 112.38 56 *e*PKPdf PKiKP 21 32 27.4 -0.4
BRTR Keskin Array B 112.38 56 PKiKP PKiKP 21 32 27.4 -0.4
comp=Z,6.4nm,0.7s,baz=194,slow=2.9,SNR=34
BRTR PKKPbc PKKPbc 21 43 19.1 -0.6
comp=Z,0.7nm,0.7s,baz=128,slow=2.4,SNR=3.7
BRTR PKKPab PKKPab 21 43 29.9 +0.9
comp=Z,0.8nm,0.7s,baz=73,slow=1.7,SNR=4.1
BRTR Keskin Array B 112.38 56 PKiKP PKiKP 21 32 27.5 -0.4
BRTR 21 43 19.2
BRTR Keskin Array B 112.38 56 PKiKP PKiKP 21 32 27.4 -0.4
BRTR PKKPbc PKKPbc 21 43 19.1 -0.6
BRTR PKKPab PKKPab 21 43 29.9 +0.9
NACGM Naroch 112.71 39 *e* PKiKP 21 32 24.0 -3.8
KIEV Kiev 112.85 44 *e*PKiKP PKiKP 21 32 27.0 -1.2
KIEV Kiev 112.85 44 *e*PKPdf PKiKP 21 32 27.0 -1.2
AKASG Malin Array Be 112.86 44 PKiKP PKiKP 21 32 26.9 -1.3
comp=Z,11nm,0.7s,baz=258,slow=2.7,SNR=35
AKASG pPKiKP pPKiKP 21 34 51.4 +0.3
comp=Z,1.3nm,0.5s,baz=263,slow=2.6,SNR=4.1
AKASG PKKPbc PKKPbc 21 43 17.5 -0.7
comp=Z,1.4nm,0.6s,baz=58,slow=3.7,SNR=5.1
AKASG Malin Array Be 112.86 44 PKiKP PKiKP 21 32 26.9 -1.3
AKASG 21 43 17.5
AKASG Malin Array Be 112.86 44 PKiKP PKiKP 21 32 26.9 -1.3
AKASG *e* 21 34 51.4
AKASG PKKPbc PKKPbc 21 43 17.5 -0.7
ILAR Eielson Array 112.96 332 PKiKP PKiKP 21 32 27.4 -0.6
comp=Z,2.0nm,0.6s,baz=225,slow=0.9,SNR=26
ILAR PKKPbc PKKPbc 21 43 16.1 -2.1
comp=Z,2.7nm,0.7s,baz=305,slow=3.8,SNR=15
ILAR PKKPab PKKPab 21 43 20.9 -4.6
comp=Z,8.0nm,0.9s,baz=260,slow=5.4,SNR=24
ILAR Eielson Array 112.96 332 PKiKP PKiKP 21 32 27.4 -0.6
ILAR 21 43 16.1
ILAR 21 43 20.9
ILAR Eielson Array 112.96 332 PKiKP PKiKP 21 32 27.4 -0.6
ILAR PKKPbc PKKPbc 21 43 16.1 -2.1
ILAR PKKPab PKKPab 21 43 20.9 -4.6
KDAK Kodiak Island 113.50 324 *i* PKiKP PKiKP 21 32 29.7 +0.5
FINES FINESS Array B 114.21 32 PKP PKPdf 21 32 29.8 -0.7
comp=Z,6.7nm,0.6s,baz=194,slow=0.6,SNR=25
FINES PKKPbc PKKPbc 21 43 12.0 -2.0
comp=Z,5.7nm,0.6s,baz=67,slow=3.6,SNR=20
FINES FINESS Array B 114.21 32 PKIKP PKPdf 21 32 29.8 -0.7
FINES FINESS Array B 114.21 32 PKP PKPdf 21 32 29.8 -0.7
FINES PKKPbc PKKPbc 21 43 12.0 -2.0
KAF Kangasniemi 114.50 31 *e*PKIKP PKPdf 21 32 29.4 -1.6
KAF pmax pmax
comp=Z,16nm,0.7s
KAF Kangasniemi 114.50 31 *ep* PKPdf 21 32 29.4 -1.6
comp=Z,16nm,0.7s
KAF Kangasniemi 114.50 31 *ep* PKKPbc 21 43 12.1 -0.9
comp=Z,2.0nm,0.6s
KAF Kangasniemi 114.50 31 *ep* PKPdf 21 32 29.4 -1.6
comp=Z,16nm,0.7s
KAF Kangasniemi 114.50 31 *ep* PKKPbc 21 43 12.1 -0.9
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 115.92 23 PKP PKPdf 21 32 33.3 -0.3
comp=Z,6.0nm,0.7s,baz=256,slow=1.9,SNR=12
ARCES PKKPbc PKKPbc 21 43 07.1 -1.2
comp=Z,12nm,0.4s,baz=77,slow=3.3,SNR=93
ARCES PKKPab PKKPab 21 43 13.5 +1.2
comp=Z,15nm,0.7s,baz=72,slow=4.6,SNR=14
ARCES ARCESS Array B 115.92 23 PKIKP PKPdf 21 32 33.3 -0.3
ARCES ARCESS Array B 115.92 23 PKP PKPdf 21 32 33.3 -0.3
ARCES PKKPbc PKKPbc 21 43 07.1 -1.2
ARCES PKKPab PKKPab 21 43 13.5 +1.2
TTA Tatalina 116.40 329 *e*PKIKP PKPdf 21 32 35.4 +0.6
TTA Tatalina 116.40 329 *e*PKPdf PKPdf 21 32 35.4 +0.6
KEV Kevo 116.48 23 *ep* PKKPbc 21 43 04.3 -2.1
KEV Kevo 116.48 23 *ep* PKKPbc 21 43 04.3 -2.1
ANN Anapa 116.55 52 *i* PKIKP PKPdf 21 32 34.4 -1.1
ANN pmax pmax
comp=Z,32nm,0.9s
JOF Joensuu 116.94 31 *e*PKIKP PKPdf 21 32 35.3 -0.4
JOF pmax pmax
comp=Z,21nm,0.5s
JOF Joensuu 116.94 31 *ep* PKPdf 21 32 35.3 -0.4
comp=Z,20nm,0.5s
JOF Joensuu 116.94 31 *ep* PKKPbc 21 43 03.5 -1.2
comp=Z,4.9nm,0.7s
JOF Joensuu 116.94 31 *ep* PKPdf 21 32 35.3 -0.4
comp=Z,20nm,0.5s
JOF Joensuu 116.94 31 *ep* PKKPbc 21 43 03.5 -1.2
comp=Z,4.9nm,0.7s
SOC Sochi 117.84 53 *i* PKIKP PKPdf 21 32 37.6 -0.4
SOC pmax pmax
comp=Z,38nm,0.6s
OBN Obninsk 118.23 40 ⇑*i* PKIKP PKPdf 21 32 37.5 -0.9
OBN *e*SS SS 21 49 54.9 +19
OBN pmax pmax
comp=Z,62nm,1.0s
OBN MLR MLR
comp=Z,15μm,17.0s
OBN Obninsk 118.23 40 *e*PKPdf PKPdf 21 32 37.8 -0.6
NWAO Narrogin (SRO) 118.83 180 PKP PKPdf 21 32 40.0 -0.5
comp=Z,15nm,0.7s,baz=196,slow=5.3,SNR=11
NWAO Narrogin (SRO) 118.83 180 PKIKP PKPdf 21 32 40.0 -0.5
NWAO Narrogin (SRO) 118.83 180 PKP PKPdf 21 32 40.0 -0.5
MOS Moscow 118.93 39 *e*PKIKP PKPdf 21 32 40.5 +0.8
MOS pmax pmax
comp=Z,68nm,0.7s
VSR Storozhevoye 119.08 45 *e*PKIKP PKPdf 21 32 39.2 -1.0
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
NAY Al-Naaiem 119.78 71 *e*P PKPdf 21 32 41.7 -0.5
NAY AMb AMB 21 32 42.8
comp=Z,23nm,0.9s
RDF Al-Radifah 119.94 71 *e*P PKPdf 21 32 42.1 -0.4
RDF AMb AMB 21 32 45.4
comp=Z,50nm,1.2s
KIV Kislovodsk 120.02 53 ⇓*i* PKIKP PKPdf 21 32 42.5 +0.1
KIV *e* 21 34 15.1
KIV pmax pmax
comp=Z,44nm,0.8s
KIV MLR MLR
comp=Z,11μm,18.0s
KIV Kislovodsk 120.02 53 *e*PKPdf PKPdf 21 32 42.2 -0.2
MIB Mutribah 120.03 70 *e*P PKPdf 21 32 42.0 -0.6
MIB AMb AMB 21 32 43.8
comp=Z,47nm,0.7s
FORT Forrest 120.05 191 *e*PKP PKPdf 21 32 37.8 -5.0
comp=Z,40nm,0.6s
KLBR Kellerberrin 120.16 181 *e*PKP PKPdf 21 32 42.0 -1.1
comp=Z,24nm,0.6s
VRHR Novokhopersk 120.59 45 *e*PKIKP PKPdf 21 32 42.5 -0.6
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,60nm,0.8s
ZEI Tsey 120.64 55 *e*PKIKP PKPdf 21 32 43.9 +0.1
ZEI pmax pmax
comp=Z,17nm,0.8s
GNI Garni 120.70 58 PKP PKPdf 21 32 43.9 +0.1
comp=Z,19nm,0.6s,baz=303,slow=3.7,SNR=24
GNI Garni 120.70 58 PKIKP PKPdf 21 32 44.0 +0.1
GNI Garni 120.70 58 PKP PKPdf 21 32 44.0 +0.1
CTA Charters Tower 123.99 214 PKP PKPdf 21 32 50.0 -0.7
comp=Z,31nm,0.6s,baz=122,slow=1.5,SNR=18
CTA Charters Tower 123.99 214 *e*PKP PKPdf 21 32 50.0 -0.7
comp=Z,24nm,0.6s
CTA Charters Tower 123.99 214 PKIKP PKPdf 21 32 50.0 -0.7

CTA Charters Tower 123.99 214 PKP PKPdf 21 32 50.0 -0.7
ASAR Alice Springs 125.58 199 PKP PKPdf 21 32 53.2 -0.5
comp=Z,78nm,0.6s,baz=141,slow=1.8,SNR=49
ASAR Alice Springs 125.58 199 PKIKP PKPdf 21 32 53.2 -0.5
ASAR Alice Springs 125.58 199 PKP PKPdf 21 32 53.2 -0.5
MTSU Mount Surprise 126.60 213 ePKP PKPdf 21 32 55.1 -0.6
comp=Z,79nm,0.7s
WB2 Warramunga Arr 128.95 201 ePKPdf PKPdf 21 33 00.3 +0.1
WRA Warramunga Arr 128.96 201 PKP PKPdf 21 32 59.7 -0.5
comp=Z,82nm,0.7s,baz=166,slow=1.6,SNR=38
WRA Warramunga Arr 128.96 201 PKIKP PKPdf 21 32 59.7 -0.5
WRA Warramunga Arr 128.96 201 PKP PKPdf 21 32 59.7 -0.5
WRAB Tennant Creek 128.96 201 ePKIKP PKPdf 21 33 00.1 -0.1
WRAB Tennant Creek 128.96 201 ePKPdf PKPdf 21 33 00.1 -0.1
SOKR Solikamsk 129.18 35c iPKIKP PKPdf 21 33 00.5 +1.3
SOKR pmax pmax
comp=Z,30nm,0.7s
ARU Arti 130.62 39 i PKIKP PKPdf 21 33 03.4 +1.3
ARU 21 35 26.3
ARU Arti 130.62 39 ePKPdf PKPdf 21 33 02.6 +0.5
ARU epPKPdf pPKPdf 21 35 25.5 +0.5
AKTO Aktyubinsk 130.94 47 PKP PKPdf 21 33 03.5 +0.6
comp=Z,23nm,0.8s,baz=315,slow=3.0,SNR=49
AKTO Aktyubinsk 130.94 47 PKIKP PKPdf 21 33 03.5 +0.6
AKTO Aktyubinsk 130.94 47 PKP PKPdf 21 33 03.5 +0.6
BILL Bilibino 131.07 338⇑ iPKIKP PKPdf 21 33 02.7 +0.1
BILL e 21 35 30.4
BILL pmax pmax
comp=Z,59nm,1.7s
BILL Bilibino 131.07 338 ePKPdf PKPdf 21 33 02.8 +0.2
SVE Sverdlovsk 131.68 38 ePKIKP PKPdf 21 33 05.3 +1.2
SVE pmax pmax
comp=Z,38nm,1.3s
ABKAR Akbulak array 132.26 48 ePKPdf PKPdf 21 33 05.6 +0.2
PMG Port Moresby 132.34 222 PKP PKPdf 21 33 06.9 +0.2
comp=Z,24nm,0.9s,baz=94,slow=1.8,SNR=6.7
PMG Port Moresby 132.34 222c iPKIKP PKPdf 21 33 09.8 +3.2
PMG pmax pmax
comp=Z,11nm,0.7s
PMG Port Moresby 132.34 222 PKP PKPdf 21 33 06.9 +0.2
PMG ePKPdf PKiKP 21 33 07.1 -0.8
FITZ Fitzroy Crossi 132.86 191 PKP PKPdf 21 33 08.4 +0.9
comp=Z,49nm,0.6s,baz=188,slow=4.4,SNR=12
FITZ Fitzroy Crossi 132.86 191 ePKP PKPdf 21 33 07.7 +0.2
comp=Z,77nm,0.5s
FITZ Fitzroy Crossi 132.86 191 PKP PKPdf 21 33 08.4 +0.9
BRVK Borovoye 137.99 41c iPKIKP PKPdf 21 33 16.6 +0.7
BRVK pmax pmax
comp=Z,20nm,0.7s
BRVK Borovoye 137.99 41 ePKPdf PKPdf 21 33 15.8 -0.1
BVAR Borovoye Array 138.06 41 PKP PKPdf 21 33 17.1 +1.0
comp=Z,38nm,0.7s,baz=308,slow=2.0,SNR=40
BVAR pPKP pPKPdf 21 35 40.8 +1.7
comp=Z,4.7nm,0.7s,baz=276,slow=2.8,SNR=6.4
BVAR Borovoye Array 138.06 41 PKIKP PKPdf 21 33 17.1 +1.0
BVAR Borovoye Array 138.06 41 PKP PKPdf 21 33 17.1 +1.0
BVAR pPKP pPKPdf 21 35 40.8 +1.7
SEY Seymchan 138.71 336c iPKIKP PKPdf 21 33 18.3 +1.4
KKAR Karatay Array 140.10 56 ePKHKP PKPpre 21 33 14.8
KKAR Karatay Array 140.10 56 ePKPdf PKPpre 21 33 14.8
PETK Petropavlovsk- 141.44 321 PKhKP PKPpre 21 33 18.2
comp=Z,18nm,0.7s,baz=99,slow=6.6,SNR=22
PETK pPKP pPKPdf 21 35 45.5 +0.2
comp=Z,12nm,0.9s,baz=83,slow=4.9,SNR=5.7
PETK Petropavlovsk- 141.44 321 PKHKP PKPpre 21 33 18.2
PETK Petropavlovsk- 141.44 321 PKPpre PKPpre 21 33 18.2
PETK pPKP pPKPdf 21 35 45.5 +0.2
JAY Jayapura 141.64 220 PKP PKPdf 21 33 22.3 -1.5
EKS2 Erkin-Say 142.53 56 P PKPdf 21 33 22.0 -2.6
SNR=55
EKS2 P PKPdf 21 33 22.0 -2.6
SNR=55
EKS2 Erkin-Say 142.53 56 ePKIKP PKPdf 21 33 22.2 -2.4
EKS2 Erkin-Say 142.53 56 ePKPdf PKPdf 21 33 22.2 -2.4
AML Almayashu 142.54 57 P PKPdf 21 33 22.7 -2.3
SNR=23
AML P PKPdf 21 33 22.7 -2.3
SNR=23
USP Ospenovka 142.97 55 P PKPdf 21 33 23.7 -1.6
SNR=54
USP P PKPdf 21 33 23.7 -1.6
SNR=54
CISI Cisompet, Garu 142.99 165 P PKPdf 21 33 24.3 -1.9
comp=Z,558nm,0.8s
MTNI Mataram 143.00 179 PKP PKPdf 21 33 24.1 -2.1
PCJI Pacitan 143.01 170 P PKPbc 21 33 24.8 +0.3
comp=Z,1μm,0.8s,comp=Z,13μm
HYB Hyderabad 143.01 99 i PKP PKPab 21 33 23.0 -1.0
HYB e 21 33 45.0
HYB e 21 35 51.0
HYB e 21 37 13.0
AAK Ala-Archa 143.06 56 P PKPbc 21 33 24.3 +0.2
SNR=161
AAK P PKPbc 21 33 24.3 +0.2
SNR=161
AAK Ala-Archa 143.06 56d iPKIKP PKPbc 21 33 24.3 +0.2
AAK pmax pmax
comp=Z,879nm,1.0s
AAK Ala-Archa 143.06 56 ePKPdf PKPbc 21 33 24.2 +0.1
CLJI Cilicap 143.10 167 P PKPdf 21 33 26.4 +0.1
comp=Z,980nm,1.0s,comp=Z,26μm
FRU Bishkek 143.12 56⇓ iPKIKP PKPbc 21 33 24.5 +0.4
FRU pmax pmax
comp=Z,510nm,1.6s
UCH Uchtor 143.13 57 P PKPbc 21 33 24.9 +0.2
SNR=23
UCH P PKPbc 21 33 24.9 +0.2
SNR=23
UGM Wanagama 143.18 169 P PKPdf 21 33 27.3 +0.8
comp=Z,460nm,1.4s
CHMS Chumysh 143.19 55 P PKPbc 21 33 24.3 0.0
SNR=197
CHMS P PKPbc 21 33 24.3 0.0
SNR=197
SKJI Sukabumi 143.21 162 P PKPbc 21 33 25.1 0.0
comp=Z,517nm,1.1s
KRKI Karangkates 143.21 172 P PKPbc 21 33 25.8 +0.7
comp=Z,3μm,0.7s,comp=Z,28μm
PWJI Pagerwojo 143.27 171 P PKPbc 21 33 25.4 +0.2
comp=Z,1μm,0.7s
BYJI Banyuwangi 143.34 176 PKP PKPdf 21 33 26.5 -0.2
CGJI Cibinong 143.34 161 P PKPbc 21 33 25.6 +0.1
comp=Z,614nm,0.8s
KBK Karagaybulak 143.39 56 P PKPbc 21 33 25.4 +0.4
SNR=427
KBK P PKPbc 21 33 25.4 +0.4
SNR=427
SJI Sawahan 143.54 171 P PKPdf 21 33 27.1 -0.1
comp=Z,273nm,0.8s
BJII Banjamegara 143.61 168 P PKPdf 21 33 27.9 +0.6
KURK Kurchatov 143.64 42 PKP PKPdf 21 33 25.9 -0.2
comp=Z,332nm,0.7s,baz=296,slow=3.6,SNR=998
KURK pPKP pPKPdf 21 35 49.3 0.0
comp=Z,23nm,1.1s,baz=294,slow=3.7,SNR=5.3
KURK Kurchatov 143.64 42 ePKIKP PKPab 21 33 25.5 +0.1
KURK Kurchatov 143.64 42 ePKPdf PKPab 21 33 25.5 +0.1
KURK PKP PKPdf 21 33 25.9 -0.2
KURK pPKP pPKPdf 21 35 49.3 0.0
LEM Lembang 143.65 164 P PKPdf 21 33 27.5 0.0
KZA Kyzart 143.69 57 P PKPab 21 33 26.8 +0.3
SNR=82
KZA P PKPab 21 33 26.8 +0.3
SNR=82
BLJI Banyuglugur 143.74 174 P PKPdf 21 33 27.3 -0.1
comp=Z,598nm,1.1s
TKM2 Tokmak 2 143.82 55 P PKPab 21 33 26.6 0.0
SNR=50
TKM2 P PKPab 21 33 26.6 0.0
SNR=50
TKM2 Tokmak 2 143.82 55 ePKIKP PKPbc 21 33 26.5 +0.1
TKM2 Tokmak 2 143.82 55 ePKPdf PKPbc 21 33 26.4 0.0
TKM2 epPKPdf pPKPdf 21 35 52.0 +1.8
SMRI Semarang 144.02 169 P PKPdf 21 33 28.8 +0.8
RBSI Rajabasa 144.09 161 P PKPab 21 33 28.5 +0.4
NVS Novosibirsk 144.18 33⇓ iPKIKP PKPbc 21 33 26.2 -0.6
NVS pmax pmax
comp=N,56nm,0.7s
NVS pmax pmax
comp=E,55nm,0.7s
NVS pmax pmax
comp=Z,245nm,0.7s
LWLI Liwa 144.34 157 P PKPab 21 33 29.1 -0.1
comp=Z,627nm,0.8s,comp=Z,7μm
ULHL Ulahol 144.40 56 P PKPab 21 33 28.9 0.0
SNR=38
ULHL P PKPab 21 33 28.9 0.0
SNR=38
KMMI Kalianget 144.46 175 P PKPab 21 33 30.3 +0.8
KSH Kashi 144.53 61 ePKP PKPdf 21 33 27.8 -0.4
KSH epPKP pPKPdf 21 35 44.8 -6.6
KSH esPKP 21 36 43.8
KSH ePKS PKSdf 21 37 01.8 -2.0
KSH eSKS SKSdf 21 39 38.6 -1.0
KSH eSKKS SKKSac 21 42 40.1 -3.1
KSH eSS SS 21 54 46.3 -6.3
MNAI Manna 144.56 155 P PKPab 21 33 30.8 +0.9
comp=Z,402nm,0.6s
KLI Kotabumi 144.75 159 P PKPbc 21 33 30.0 +0.2
KSI Kapahiang 145.07 154 P PKPbc 21 33 31.0 +0.1
comp=Z,665nm,0.8s,comp=Z,8μm
NDI New Delhi 145.15 80 eP PKPbc 21 33 30.5 -0.1
ZAA0 Zalesovo Array 145.45 34 ePKPdf PKPdf 21 33 29.4 +0.3
ZALV Zalesovo Beam 145.45 34 PKPbc PKPbc 21 33 30.0 -0.6
comp=Z,288nm,0.8s,baz=314,slow=3.4,SNR=226
ZALV pPKPbc pPKPbc 21 35 51.8 +0.9
comp=Z,25nm,0.7s,baz=297,slow=3.6,SNR=9.4
ZALV Zalesovo Beam 145.45 34 PKIKP PKPbc 21 33 30.0 -0.6
ZALV 21 35 51.8
ZALV Zalesovo Beam 145.45 34 PKPbc PKPbc 21 33 30.0 -0.6
ZALV pPKPbc pPKPbc 21 35 51.8 +0.9
YAK Yakutsk 145.51 350 ePKIKP PKPdf 21 33 28.9 0.0
YAK pmax pmax
comp=Z,268nm,0.7s
YAK pmax pmax
comp=N,39nm,1.0s
YAK pmax pmax
comp=E,25nm,1.1s
YAK Yakutsk 145.51 350 ePKPdf PKPdf 21 33 29.0 0.0
YAK epPKPdf pPKPdf 21 35 51.4 -0.8
KRJI Kerinci 146.04 151 P PKPbc 21 33 33.5 -0.1
comp=E,1μm,0.7s
KRJI Kerinci 146.04 151 P PKPbc 21 33 33.5 -0.1
AAI Ambon 146.18 200 PKP PKPdf 21 33 27.6 -4.0
KAPI Kappang 146.50 185 ePKPdf PKPdf 21 33 32.7 +0.5
KAPI ePKPbc PKPbc 21 33 34.6 -0.2
KAPI epPKPdf pPKPdf 21 35 55.4 0.0
KAPI Kappang 146.50 185 P PKPbc 21 33 35.8 +1.0
SNR=9.0
PPI Padang Panjang 147.02 148 P PKPdf 21 33 33.3 +0.3
comp=E,288nm,0.8s
PPI Padang Panjang 147.02 148 PKP PKPdf 21 33 33.3 +0.3
MK31 Makanchi Array 147.38 47 ePKIKP PKPdf 21 33 32.9 +0.3
MK31 e 21 35 56.4
MK31 Makanchi Array 147.38 47 ePKPdf PKPdf 21 33 32.9 +0.3
MK31 ePKPbc PKPbc 21 33 36.2 +0.1
MK31 epPKPdf pPKPdf 21 35 56.4 +0.4
MKAR Makanchi Array 147.38 47 PKPbc PKPdf 21 33 34.1 +1.5
comp=E,132nm,0.7s,baz=287,slow=1.0,SNR=81
MKAR pPKPbc pPKPbc 21 35 57.5 +0.4
comp=E,19nm,0.6s,baz=275,slow=3.6,SNR=9.8
MKAR Makanchi Array 147.38 47 PKIKP PKPdf 21 33 34.1 +1.5
MKAR 21 35 57.5
MKAR Makanchi Array 147.38 47 PKPbc PKPdf 21 33 34.1 +1.5
MKAR pPKPbc pPKPbc 21 35 57.5 +0.4
SPSI Sidrap Palu 147.54 185 P PKPbc 21 33 37.8 +0.3
comp=E,337nm,0.8s
MNSI Mandailing Nat 147.72 146 P PKPdf 21 33 34.3 +0.1
comp=E,272nm,0.8s
PTH Pithoragarh 147.88 79 eP PKPbc 21 33 38.3 +0.1
PTH eS SKPbc 21 36 00.8 -17
MJSI Majene 148.01 184 P PKPab 21 33 41.2 -2.4
BKNI Bangkinang 148.01 149 P PKPdf 21 33 35.2 +0.6
comp=E,457nm,0.8s
TTSI Tana Toraja 148.45 185 P PKPbc 21 33 40.3 +0.5
TPTI 148.51 139 P PKPbc 21 33 39.8 -0.1
PSI Prapat 149.10 143 P PKPdf 21 33 37.2 +0.7
comp=E,351nm,0.7s
BSI Banda Aceh 149.15 134 P PKPbc 21 33 40.5 -1.0
comp=E,491nm,0.9s,comp=E,7μm
TSI Tuntungan 149.49 141 P PKPbc 21 33 42.3 0.0
comp=E,763nm,0.8s
LHMI Lhok Sumawe 149.96 137 P PKPbc 21 33 43.6 +0.2
comp=E,785nm,0.9s
GUMO Guam 150.16 246 PKPbc PKPbc 21 33 43.2 -0.6
comp=E,339nm,0.7s,baz=130,slow=3.2,SNR=9.8
GUMO Guam 150.16 246 PKIKP PKPbc 21 33 43.2 -0.6
GUMO Guam 150.16 246 PKPbc PKPbc 21 33 43.2 -0.6
KGM Kluang 150.52 151 P PKPbc 21 33 45.0 +0.3
MYKOM Kota Tinggi 150.54 152 P PKPdf 21 33 40.3 +1.7
KOLN Koldanda 150.56 83 eP PKPdf 21 33 38.2 -0.3
KOLN Koldanda 150.56 83 eP PKPdf 21 33 38.2 -0.3
BOD Bodaibo 150.69 3 ePKIKP PKPdf 21 33 36.8 -0.7
BOD e 21 33 42.6
BOD pmax pmax
comp=Z,11nm,1.3s
DANN Dangsing 150.79 82 eP PKPdf 21 33 39.3 +0.3
DANN Dangsing 150.79 82 eP PKPdf 21 33 39.3 +0.3
CLNS Chul'man 151.21 351 ePKIKP PKPdf 21 33 39.3 +0.9
CLNS pmax pmax
comp=Z,51nm,1.1s
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,5.0nm,1.0s
GKN Gorkha 151.50 83 eP PKPdf 21 33 39.6 -0.3
GKN Gorkha 151.50 83 eP PKPdf 21 33 39.6 -0.3
IPM Ipoh 151.61 145 ePKPdf PKPdf 21 33 40.7 +0.4
IPM ePKPbc PKPbc 21 33 47.1 -0.1
IPM Ipoh 151.61 145 P PKPbc 21 33 47.6 +0.4
IPM Ipoh 151.61 145 P PKPdf 21 33 41.5 +1.2
comp=E,482nm,0.7s
IPM P PKPbc 21 33 46.7 -0.5
comp=E,482nm,0.7s
MRSI Marisa 151.67 190 P PKPbc 21 33 44.0 -3.3
comp=E,121nm,0.7s
DMN Daman 151.85 84 eP PKPdf 21 33 40.4 -0.1
DMN Daman 151.85 84 eP PKPdf 21 33 40.4 -0.1
KKN Kakani 152.03 84 eP PKPdf 21 33 40.4 -0.3
KKN Kakani 152.03 84 ePKIKP PKPdf 21 33 40.4 -0.3
KKN Kakani 152.03 84 eP PKPdf 21 33 40.4 -0.3
WMQ Urumqi 152.03 49 ePKPbc PKPdf 21 33 40.0 0.0
KULM Kulim 152.10 143 ePKPdf PKPdf 21 33 41.1 +0.1
KULM ePKPbc PKPbc 21 33 48.1 -0.2
KULM ePKPab PKPab 21 34 01.2 +0.4
KULM Kulim 152.10 143 P PKPbc 21 33 48.4 +0.2
KULM Kulim 152.10 143 P PKPbc 21 33 48.0 -0.2
comp=E,202nm,0.8s
PKI Pulchoki 152.11 84 eP PKPdf 21 33 40.5 -0.5
PKI Pulchoki 152.11 84 ePKIKP PKPdf 21 33 40.5 -0.5
PKI Pulchoki 152.11 84 eP PKPdf 21 33 40.5 -0.5
KSM Kuching 152.29 165 P PKPbc 21 33 47.6 -1.1
GUN Gumba 152.57 84 eP PKPdf 21 33 41.6 -0.1
GUN Gumba 152.57 84 eP PKPdf 21 33 41.6 -0.1
JIRN Jiri 152.80 84 eP PKPdf 21 33 41.7 -0.4
JIRN Jiri 152.80 84 eP PKPdf 21 33 41.7 -0.4
YSS Yuzh-Sakhalins 152.81 319 ePKIKP PKPdf 21 33 42.0 +1.1
YSS e 21 34 04.0
YSS pmax pmax
comp=E,100nm,0.8s
YSS Yuzh-Sakhalins 152.81 319 ePKPbc PKPbc 21 33 48.7 0.0
RAMN Ramite 153.04 86 eP PKPdf 21 33 42.5 +0.2
RAMN Ramite 153.04 86 eP PKPdf 21 33 42.5 +0.2
SBUM Sibu 153.62 169 P PKPbc 21 33 52.1 +0.6
ODAN Odare 153.72 87 eP PKPdf 21 33 43.3 +0.1
ODAN Odare 153.72 87 eP PKPdf 21 33 43.3 +0.1
MOY Mondy 153.99 23 ePKIKP PKPdf 21 33 44.1 +1.5
MOY e 21 34 08.6
MOY pmax pmax
comp=Z,38nm,2.2s
TAPN Taplejung 154.09 86 eP PKPdf 21 33 43.8 0.0
TAPN Taplejung 154.09 86 eP PKPdf 21 33 43.8 0.0
ASAJ Asahikawa 154.37 314 ePKPdf PKPdf 21 33 44.2 +1.0
ASAJ ePKPbc PKPbc 21 33 53.4 +1.3
TLY Talaya 154.83 20 ePKP2 PKPab 21 34 12.1 +0.5
TLY e 21 51 07.1
TLY pmax pmax
comp=Z,34nm,0.9s
HABR Khabarovsk 155.76 330 ePKIKP PKPdf 21 33 46.6 +1.7
HABR e 21 36 08.7
HABR e 21 37 58.2
HABR e 21 39 55.9
HABR eSSS SSS 22 03 07.3
HABR pmax pmax
comp=Z,53nm,1.5s
HABR pmax pmax
comp=N,22nm,1.5s
HABR pmax pmax
comp=E,38nm,2.3s
ZAK Zakamensk 155.84 22 ePKIKP PKPdf 21 33 46.2 +1.0
ZAK e 21 34 16.6
ZAK pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 156.49 335 ePKIKP PKPdf 21 33 42.6 -3.3
KLR e 21 34 15.1
KLR pmax pmax
comp=Z,60nm,1.6s
SDKM Sandakan 157.19 180 P PKPab 21 34 22.5 -0.1
LSA Lhasa 157.36 81 ePKP2 PKPab 21 34 24.7 +0.8
LSA Lhasa 157.36 81 ePKPab PKPab 21 34 24.7 +0.8
SONM Songino Array 159.07 20 PKP PKPdf 21 33 49.5 +0.3
comp=Z,27nm,0.9s,baz=269,slow=0.8,SNR=114
SONM PKPab PKPab 21 34 30.3 +0.1
comp=Z,9.9nm,0.8s,baz=321,slow=2.6,SNR=6.8
SONM pPKP pPKPdf 21 36 13.8 +0.6
comp=Z,21nm,1.1s,baz=220,slow=0.9,SNR=13
SONM Songino Array 159.07 20 PKIKP PKPdf 21 33 49.5 +0.3
SONM 21 34 30.3
SONM 21 36 13.8
SONM Songino Array 159.07 20 PKP PKPdf 21 33 49.5 +0.3
SONM PKPab PKPab 21 34 30.3 +0.1
SONM pPKP pPKPdf 21 36 13.8 +0.6
HIA Hailar 159.23 355 ePKIKP PKPdf 21 33 48.6 -0.6
HIA e 21 34 30.7
HIA Hailar 159.23 355 ePKPdf PKPdf 21 33 48.6 -0.6
HIA ePKPab PKPab 21 34 30.7 -0.1
ULN Ulaanbaatar 159.24 19 ePKP2 PKPab 21 34 31.1 +0.1
ULN Ulaanbaatar 159.24 19 ePKPab PKPab 21 34 31.1 +0.1
ULN epPKPdf pPKPdf 21 36 14.9 +1.4
USRK Ussuriysk Arra 160.35 327 PKP PKPdf 21 33 50.4 -0.1
comp=Z,2.4nm,0.7s,baz=275,slow=1.2,SNR=8.0
USRK PKPab PKPab 21 34 35.9 +0.1
comp=Z,3.9nm,0.7s,baz=11,slow=2.9,SNR=6.6
MJAR Matsushiro Arr 160.50 299 PKP PKPdf 21 33 50.7 -0.3
comp=Z,2.7nm,0.9s,baz=199,slow=0.6,SNR=7.3
MJAR PKPab PKPab 21 34 36.0 -0.9
comp=Z,5.4nm,0.7s,baz=68,slow=3.1,SNR=11
MJAR pPKPab pPKPab 21 36 52.7 +0.8
comp=Z,2.9nm,0.8s,baz=75,slow=4.7,SNR=4.5
MJAR Matsushiro Arr 160.50 299 PKIKP PKPdf 21 33 50.7 -0.3
MJAR 21 34 36.0
MJAR Matsushiro Arr 160.50 299 PKP PKPdf 21 33 50.7 -0.3
MJAR PKPab PKPab 21 34 36.0 -0.9
MJAR pPKPab pPKPab 21 36 52.7 +0.8
MAT Matsushiro 160.50 299 PKP PKPdf 21 33 50.4 -0.6
CM31 Chiang Mai Arr 160.61 117 ePKPdf PKPdf 21 33 51.7 +0.1
CM31 ePKPab PKPab 21 34 36.2 -1.5
CMAR Chiang Mai Arr 160.61 117 PKP PKPdf 21 33 51.9 +0.3
comp=Z,9.1nm,0.8s,baz=259,slow=2.7,SNR=43
CMAR PKPab PKPab 21 34 37.3 -0.4
comp=Z,12nm,0.8s,baz=242,slow=4.9,SNR=17
CMAR pPKPab pPKPab 21 36 53.5 +0.8
comp=Z,2.8nm,0.8s,baz=250,slow=4.7,SNR=4.4
CMAR Chiang Mai Arr 160.61 117 PKIKP PKPdf 21 33 51.9 +0.3
CMAR 21 34 37.3
CMAR Chiang Mai Arr 160.61 117 PKP PKPdf 21 33 51.9 +0.3
CMAR PKPab PKPab 21 34 37.3 -0.4
CMAR pPKPab pPKPab 21 36 53.5 +0.8
CHTO Chiang Mai 160.81 116 ePKIKP PKPdf 21 33 52.0 +0.1
CHTO e 21 34 38.4
CHTO Chiang Mai 160.81 116 ePKPdf PKPdf 21 33 52.0 +0.1
CHTO ePKPab PKPab 21 34 38.4 -0.2
GTA Gaotai 162.12 48 PKP PKPdf 21 33 52.9 +0.2
GTA PKPab PKPab 21 34 44.7 +0.7
GTA SKS SKSdf 21 40 00.5 +0.7
GTA SKKS SKKSac 21 44 17.1 -0.3
CN2 Changchun 163.38 338⇑ PKP PKPdf 21 33 53.1 -0.5
CN2 epPKP pPKPdf 21 36 14.0 -3.9
CN2 ePP PP 21 38 37.5 +1.7
CN2 eSS SS 21 58 13.1 +1.4
LZH Lanzhou 166.57 53 PKP PKPdf 21 33 58.7 +1.9
LZH PKPab PKPab 21 35 05.2 +1.4
LZH pPKP pPKPdf 21 36 19.0 -2.2
LZH sPKP 21 37 19.4
LZH PP PP 21 38 56.0 +2.6
LZH SKKS 21 44 40.4
LZH SS SS 21 58 44.4 -1.6
LZH AMB AMB
comp=Z,220nm,5.1s
KMI Kunming 166.78 102 PKP PKPdf 21 33 58.2 +0.9
HHC Hu-ho-hao-te 166.96 19 ePKP PKPdf 21 33 58.7 +1.9
HHC pPKP pPKPdf 21 36 20.3 -1.0
HHC sPKP 21 37 13.8
HHC PP PP 21 38 56.3 +2.1
HHC SKS SKSdf 21 40 06.1 +3.0
HHC SKKS SKKSac 21 44 44.4 +3.2
HHC AMB AMB
comp=Z,11μm,11.9s
KSRS Korea Array 167.29 317 PKP PKPdf 21 33 57.0 +0.1
comp=Z,13nm,0.8s,baz=36,slow=0.1,SNR=36
KSRS PKPab PKPab 21 35 07.0 +0.3
comp=Z,4.7nm,0.8s,baz=51,slow=4.5,SNR=9.9
KSRS pPKPab pPKPab 21 37 22.2 +0.7
comp=Z,2.2nm,0.8s,baz=54,slow=5.3,SNR=5.8
KSAR Wonju Array Be 167.32 317 PKIKP PKPdf 21 33 57.1 +0.1
KSAR 21 35 07.0
KSAR 21 37 22.2
KSAR Wonju Array Be 167.32 317 PKP PKPdf 21 33 57.0 +0.1
KSAR PKPab PKPab 21 35 07.0 +0.2
KSAR pPKPab pPKPab 21 37 22.2 +0.6
CD2 Chengdu 168.22 75 PKP PKPdf 21 33 59.2 +1.3
CD2 PKPab PKPab 21 35 14.1 +2.9
CD2 pPKP pPKPdf 21 36 21.4 -1.0
CD2 sPKP 21 37 17.8
CD2 PKS PKSdf 21 37 30.5 -0.1
CD2 PP PP 21 39 04.9 +2.8
CD2 SKS SKSdf 21 40 05.2 +1.1
CD2 SKKS SKKSac 21 44 51.7 +3.4
CD2 SS SS 21 59 04.5 +1.3
CD2 AMB AMB
comp=Z,8μm,11.9s
BJI Beijing 168.54 3 PKP PKPdf 21 33 58.1 +0.4
JOW Kunigami 169.90 263 ePKPdf PKPdf 21 33 59.8 +0.7
GYA Guiyang 170.54 100 PKP PKPdf 21 33 58.0 -1.5
GYA PKPab PKPab 21 35 22.4 +0.7
GYA pPKP pPKPdf 21 36 20.2 -3.9
GYA sPKP 21 37 16.7
GYA PKS PKSdf 21 37 28.6 -3.5
GYA PP PP 21 39 14.0 +0.3
XAN Xi'an 171.17 50 PKP PKPdf 21 34 08.3 +0.8
ENH Enshi 173.19 74 ePKPdf PKPdf 21 34 00.3 -0.2
ENH ePKPab PKPab 21 35 32.9 -0.4
SSLB Suanglung 174.08 217 ePKPdf PKPdf 21 34 01.5 +0.5
WHN Wuhan 176.94 49 PKP PKPdf 21 34 01.6 +0.1

IDC 03 21:16:06.6±1.1, 0.26S×132.66E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, ML4.6/1, Error ellipse: s-maj=66.3km s-min=21.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.63	175	P	P		21 20 36.6	-0.4
	2.0nm,0.3s,baz=355,slow=11,SNR=5.2							
ASAR	Alice Springs	23.30	177	P	P		21 21 16.9	+0.6
	19nm,0.8s,baz=356,slow=10,SNR=4.5							
USRK	Ussuriysk Arra	44.27	359	P	P		21 24 18.6	+0.6
	1.1nm,0.6s,baz=192,slow=7.2,SNR=4.2							
SONM	Songino Array	53.07	338	P	P		21 25 26.6	+0.7
	0.6nm,0.7s,baz=158,slow=6.7,SNR=4.7							
MKAR	Makanchi Array	64.22	324	P	P		21 26 43.5	0.0
	1.2nm,0.4s,baz=111,slow=8.1,SNR=7.4							
KURK	Kurchatov	68.30	326	P	P		21 27 08.8	-0.7
	1.1nm,0.5s,baz=123,slow=5.6,SNR=5.9							
ILAR	Eielson Array	86.16	25	P	P		21 28 48.9	-0.6
	1.4nm,0.9s,baz=255,slow=5.7,SNR=5.8							

IDC 03 21:19:02.4±2.8, 0.31S×132.70E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=198.2km s-min=20.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.58	175	P	P		21 23 32.2	-0.1
	0.4nm,0.3s,baz=352,slow=11,SNR=2.7							
ASAR	Alice Springs	23.25	177	P	P		21 24 12.6	+0.9
	4.1nm,0.6s,baz=358,slow=11,SNR=6.6							
STKA	Stephens Creek	32.51	166	P	P		21 25 34.1	-0.9
	1.4nm,0.4s,baz=343,slow=11,SNR=4.5							

MKAR **Makanchi Array** **64.28 324** P P 21 29 40.0 +0.3
0.5nm,0.8s,baz=117,slow=6.6,SNR=3.6
KURK **Kurchatov** **68.36 326** P P 21 30 05.4 -0.2
0.5nm,0.8s,baz=118,slow=6.4,SNR=3.4

IDC 03 21:20:44.7±1.6, 0.03S×133.10E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=87.2km s-min=17.8km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.83 177**		P	Pn	21 25 18.5	-0.3
	0.3nm,0.3s,baz=355,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**23.51 178**		P		21 25 56.5	-0.1
	8.6nm,0.6s,baz=356,slow=10.0,SNR=5.6						
STKA	**Stephens Creek**	**32.68 167**		P		21 27 18.2	-0.6
	2.1nm,0.3s,baz=350,slow=9.4,SNR=16						
CMAR	**Chiang Mai Arr**	**38.25 301**		P		21 28 06.5	-0.5
	0.6nm,0.9s,baz=122,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**64.29 324**		P		21 31 22.4	+0.4
	0.9nm,0.5s,baz=112,slow=7.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**66.86 331**		P		21 31 38.3	-0.1
	0.4nm,0.6s,baz=145,slow=5.3,SNR=3.1						
KURK	**Kurchatov**	**68.34 326**		P		21 31 48.0	+0.1
	2.6nm,0.9s,baz=121,slow=5.9,SNR=4.5						

*DJA **03** 21:21:17, 1.70N×135.06E, h10km, mb5.6/8*
IDC 03 21:21:24.9±1.5, 0.89N×132.53E, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.2/18, mbtmp4.3/8, Error ellipse: s-maj=66.7km s-min=17.1km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.05 199**		P	Pn	21 26 01.2	-0.4
	6.6nm,0.5s,baz=28,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**20.78 175**		P		21 26 06.3	-1.5
	9.6nm,0.6s,baz=357,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**24.45 177**		P		21 26 46.4	+0.7
	46nm,1.2s,baz=1.7,slow=9.5,SNR=6.5						
STKA	**Stephens Creek**	**33.70 166**		P		21 28 07.5	-0.5
	4.8nm,0.6s,baz=340,slow=9.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**37.30 300**		P		21 28 38.7	-0.4
	1.8nm,0.9s,baz=122,slow=7.2,SNR=8.6						
SONM	**Songino Array**	**51.96 338**		P		21 30 37.6	+1.7
	0.8nm,0.7s,baz=159,slow=5.8,SNR=5.2						
MKAR	**Makanchi Array**	**63.22 324**		P		21 31 54.4	-0.8
	1.6nm,0.6s,baz=116,slow=7.7,SNR=5.6						
KURK	**Kurchatov**	**67.27 326**		P		21 32 20.7	-0.6
	3.0nm,0.9s,baz=121,slow=6.1,SNR=7.2						

*DJA **03** 21:26:12, 0.72S×131.43E, h32km, MLv4.8/6*
IDC 03 21:25:47.7±1.2, 0.27S×132.92E, h0km, mb4.5/5, mb1 4.7/7, mb1mx4.3/18, mbtmp4.5/7, ML4.5/2, Error ellipse: s-maj=39.4km s-min=20.1km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.11 202**		P		21 30 11.9	-0.4
	0.8nm,0.3s,baz=22,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**19.60 176**		P		21 30 17.0	-0.7
	2.0nm,0.3s,baz=354,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**23.27 178**		P		21 30 56.7	-0.5
	9.4nm,0.5s,baz=355,slow=11,SNR=14						
CTA	**Charters Tower**	**23.62 147**		P		21 31 02.0	+1.3
	26nm,0.9s,baz=332,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**32.48 166**		P		21 32 20.1	0.0
	15nm,0.9s,baz=351,slow=10,SNR=25						
STKA	**Stephens Creek**	**32.48 166**	*e*PKP	P		21 32 19.0	-1.1
	8.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.22 301**		P		21 33 10.2	+0.5
	2.1nm,0.8s,baz=118,slow=7.1,SNR=13						
ILAR	**Eielson Array**	**86.06 25**		P		21 38 29.2	-0.9
	1.3nm,0.8s,baz=249,slow=4.7,SNR=7.4						

IDC 03 21:26:35.9±16.0, 0.56N×134.01E, h0km, mb4.6/3, mb1 4.9/3, mb1mx4.0/16, mbtmp4.7/3, Error ellipse: s-maj=252.8km s-min=143.5km az=160.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.38 179**		P		21 31 15.3	+0.9
	13nm,0.7s,baz=358,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**24.08 180**		P		21 31 53.0	-0.4
	34nm,0.9s,baz=354,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**33.05 168**		P		21 33 13.0	-0.3
	11nm,0.7s,baz=346,slow=8.9,SNR=6.0						

IDC 03 21:28:31.0±1.5, 0.56S×133.67E, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.1/17, mbtmp4.4/5, Error ellipse: s-maj=73.8km s-min=29.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**22.98 179**		P	P	21 33 37.4	0.0
	16nm,0.8s,baz=3.4,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**65.05 324**		P		21 39 13.7	+0.4
	3.5nm,0.8s,baz=116,slow=7.2,SNR=5.9						
KURK	**Kurchatov**	**69.10 326**		P		21 39 38.6	-0.3
	8.5nm,1.0s,baz=118,slow=6.0,SNR=9.3						
BVAR	**Borovoye Array**	**74.70 326**		P		21 40 12.5	-0.1
	3.3nm,0.9s,baz=123,slow=7.1,SNR=3.9						
ILAR	**Eielson Array**	**86.00 25**		P		21 41 13.2	+0.1
	1.1nm,0.8s,baz=260,slow=5.0,SNR=4.4						

*IDC **03** 21:30:39.4±0.5, 0.48S×133.10E, h0km, mb4.8/15, mb1 4.9/18, mb1mx4.8/23, mbtmp4.8/18, ML4.4/3, Error ellipse: s-maj=26.0km s-min=11.9km az=74.0*
*BJI **03** 21:30:41.2, 1.07S×133.42E, h65km, mB5.6/12, mb5.1/38, Ms5.7/17, Ms7 5.5/17*
*MOS **03** 21:30:42.8±1.1, 0.50S×133.00E, h33km, mb5.3/19, Error ellipse: s-maj=16.2km s-min=6.7km az=111.4*
*ISCJB **03** 21:30:42.7±1.5, 0.54S±0.04×133.09E±0.07, h34km±14km, mb5.0/58, MS5.5/6, Error ellipse: s-maj=12.0km s-min=6.5km az=162.9*
*NEIC **03** 21:30:44.8±1.4, 0.52S×133.10E, h37km±12km, mb5.0/26, Error ellipse: s-maj=8.3km s-min=4.7km az=66.0*
ISC 03 21:30:47.8±0.4, 0.58S±0.06×133.13E±0.08, h65km±3km, n201, σ1°15/234, mb5.0/58, 11C-11D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**15.69 292**		P	pP	21 34 39.8	-1.7
TSM	**Tawau**	**16.00 288**		P	**P**	**21 34 33.6**	**+2.2**
PMG	**Port Moresby**	**16.49 123**		Pn	**Pn**	**21 34 35.2**	**+0.1**
	0.6nm,0.3s,baz=320,slow=7.9,SNR=3.6						
PMG	**Port Moresby**	**16.49 123**		P	**Pn**	**21 34 35.2**	**+0.1**
PMG	**Port Moresby**	**16.49 123**		Pn	**Pn**	**21 34 35.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.91 203**		P	**P**	**21 35 02.3**	**-1.0**
	2.4nm,0.3s,baz=36,slow=13,SNR=4.7						
FITZ				S	S	21 38 22.8	-12
	1.3nm,0.3s,baz=217,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**18.91 203**	*e*P		**P**	**21 35 01.4**	**-1.9**
	50nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.91 203**	*e*P		**P**	**21 35 01.5**	**-1.9**
	45nm,0.9s						
FITZ				S	S	21 38 22.8	-12
WRAB	**Tennant Creek**	**19.27 177**	*e*P		**P**	**21 35 06.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**19.27 177**	*e*P		**P**	**21 35 06.7**	**-0.7**
	comp=Z,21nm,0.7s						
WRA	**Warramunga Arr**	**19.28 177**	P		**P**	**21 35 06.8**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=356,slow=12,SNR=5.9						
WRA				S	S	21 38 31.7	-11
	comp=Z,0.9nm,0.3s,baz=357,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**19.28 177**	P		**P**	**21 35 06.8**	**-0.7**
WRA				S	S	21 38 31.7	-11
WRA	**Warramunga Arr**	**19.28 177**	P		**P**	**21 35 06.8**	**-0.7**
WRA				S	S	21 38 31.7	-11
WB2	**Warramunga Arr**	**19.28 177**	P		**Pn**	**21 35 08.5**	**-0.6**
SBUM	**Sibu**	**21.12 278**	P		P	21 35 34.2	+6.7
KSM	**Kuching**	**22.91 275**	*e*P		**P**	**21 35 45.6**	**-1.1**
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**22.96 178**	*e*P		**P**	**21 35 46.4**	**-0.7**
ASAR	**Alice Springs**	**22.96 178**	P		**P**	**21 35 48.0**	**+0.9**
	comp=Z,62nm,0.8s,baz=356,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.96 178**	P		**P**	**21 35 48.0**	**+0.9**
ASAR	**Alice Springs**	**22.96 178**	P		**P**	**21 35 48.0**	**+0.9**
CTA	**Charters Tower**	**23.26 147**	P		**P**	**21 35 50.4**	**+0.5**
	comp=Z,41nm,0.8s,baz=320,slow=12,SNR=14						
CTA	**Charters Tower**	**23.26 147**	*e*P		**P**	**21 35 50.3**	**+0.4**
	comp=Z,32nm,0.8s						
CTA	**Charters Tower**	**23.26 147**	P		**P**	**21 35 50.4**	**+0.5**
CTA	**Charters Tower**	**23.26 147**	P		**P**	**21 35 50.4**	**+0.5**
CTAO	**Charters Tower**	**23.26 147**	*e*P		**P**	**21 35 50.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,70nm,1.1s						
CTAO	**Charters Tower**	**23.26 147**	*e*P		**P**	**21 35 50.3**	**+0.4**
	comp=Z,70nm,1.1s						
MBWA	**Marble Bar**	**24.28 212**	*e*P		**P**	**21 35 59.4**	**+0.2**
	comp=Z,67nm,0.9s						
STKA	**Stephens Creek**	**32.14 166**	P		**P**	**21 37 07.9**	**-1.5**
	comp=Z,31nm,0.8s,baz=336,slow=10,SNR=16						
STKA	**Stephens Creek**	**32.14 166**	*e*P		**P**	**21 37 08.3**	**-1.1**
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	**32.14 166**	*e*P		**P**	**21 37 08.2**	**-1.1**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
STKA	**Stephens Creek**	**32.14 166**	*e*P		**P**	**21 37 08.2**	**-1.1**
	comp=Z,8.3nm,0.9s						
BBOO	**Buckleboo**	**32.18 175**	*e*P		**P**	**21 37 08.7**	**-0.9**
	comp=Z,140nm,0.9s						
KMBL	**Kambalda**	**32.42 198**	*e*P		**P**	**21 37 11.4**	**-0.4**
	comp=Z,134nm,0.9s						
ARMA	**Armidale**	**34.49 151**	*e*P		**P**	**21 37 30.1**	**+0.2**
ARMA	**Armidale**	**34.49 151**	*e*P		**P**	**21 37 30.1**	**+0.2**
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**35.16 339**	*e*P		**P**	**21 37 35.4**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
WHN	**Wuhan**	**35.74 332**	P		**P**	**21 37 41.5**	**+0.9**
ARPS	**Mount Arapiles**	**36.90 168**	*e*P		**P**	**21 37 50.0**	**-0.4**
	comp=Z,189nm,1.0s						
GYA	**Guiyang**	**37.06 318**	P		**P**	**21 37 53.4**	**+1.3**
GYA			pP		**pP**	**21 38 10.0**	**+2.0**
GYA			sP		**sP**	**21 38 17.4**	**+1.8**
GYA			PP		PP	21 39 22.5	+4.8
GYA			S		**S**	**21 43 35.0**	**+1.4**
GYA			ScP		**ScP**	**21 43 52.3**	**-1.0**
GYA			SS		SS	21 46 07.8	-9.4
GYA			pmax		pmax		
	comp=Z,30nm,0.8s						
GYA			pmax		pmax		
	comp=Z,120nm,4.9s						
GYA			LR		LR		
	comp=N,880nm,17.8s						
GYA			LR		LR		
	comp=E,770nm,17.6s						
GYA			LR		LR		
	comp=Z,840nm,16.4s						
MJAR	**Matsushiro Arr**	**37.23 7**	P		**P**	**21 37 50.3**	**-2.9**
	comp=Z,2.7nm,0.9s,baz=179,slow=8.2,SNR=5.2						
MJAR			PcP		**PcP**	**21 40 11.4**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=208,slow=4.5,SNR=5.1						
MJAR	**Matsushiro Arr**	**37.23 7**	P		**P**	**21 37 50.3**	**-2.9**
MJAR						21 40 11.4	
MJAR	**Matsushiro Arr**	**37.23 7**	P		**P**	**21 37 50.3**	**-2.9**
MJAR			PcP		**PcP**	**21 40 11.4**	**-0.5**
ENH	**Enshi**	**38.06 326**	*e*P		**P**	**21 37 59.2**	**-1.1**
	comp=Z,6.8nm,0.6s						
KSAR	**Wonju Array Be**	**38.14 353**	P		**P**	**21 38 00.7**	**-0.2**
KSAR						21 40 15.3	
KSAR	**Wonju Array Be**	**38.14 353**	P		**P**	**21 38 00.7**	**-0.2**
KSAR			PcP		**PcP**	**21 40 15.3**	**+0.7**
KSRS	**Korea Array**	**38.15 353**	P		**P**	**21 38 00.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=171,slow=9.2,SNR=5.2						
KSRS			PcP		**PcP**	**21 40 15.3**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=190,slow=2.7,SNR=5.9						
TOO	**Toolangi**	**38.53 164**	*e*P		**P**	**21 38 06.9**	**+2.7**
	comp=Z,53nm,0.9s						
CM31	**Chiang Mai Arr**	**38.56 301**	*e*P		**P**	**21 38 04.6**	**-0.1**
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.56 301**	P		**P**	**21 38 04.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=113,slow=6.6,SNR=8.3						
CMAR	**Chiang Mai Arr**	**38.56 301**	P		**P**	**21 38 04.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.56 301**	P		**P**	**21 38 04.1**	**-0.6**
KMI	**Kunming**	**38.95 313**	P		**P**	**21 38 08.6**	**+0.4**
KMI			pP		**pP**	**21 38 24.2**	**0.0**
KMI			sP		**sP**	**21 38 32.7**	**+1.0**
KMI			PP		PP	21 39 43.6	+5.0
KMI			S		**S**	**21 44 02.4**	**-0.1**
KMI			sS		**sS**	**21 44 32.6**	**+2.7**
KMI			SS		SS	21 46 50.8	-6.0
KMI			pmax		pmax		
	comp=Z,15nm,1.4s						
KMI			pmax		pmax		
	comp=Z,2μm,10.0s						
KMI			LR		LR		
	comp=N,5μm,18.2s						
KMI			LR		LR		
	comp=E,5μm,17.7s						
KMI			LR		LR		
	comp=Z,6μm,22.7s						
XAN	**Xi'an**	**41.26 329**	P		**P**	**21 38 25.0**	**-1.9**
XAN			pmax		pmax		
	comp=Z,9.0nm,0.7s						
CD2	**Chengdu**	**41.94 321**	P		**P**	**21 38 32.5**	**0.0**
CD2			pP		**pP**	**21 38 48.8**	**0.0**
CD2			sP		**sP**	**21 38 56.6**	**+0.4**
CD2			PP		PP	21 40 14.0	+3.3
CD2			S		**S**	**21 44 46.6**	**0.0**
CD2			sS		**sS**	**21 45 14.5**	**+0.4**
CD2			SS		SS	21 47 49.9	-5.8
CD2			pmax		pmax		
	comp=Z,20nm,0.5s						
CD2			pmax		pmax		
	comp=Z,320nm,11.2s						
CD2			LR		LR		
	comp=N,8μm,17.8s						
CD2			LR		LR		
	comp=Z,8μm,19.0s						
BJT	**Baijiatuan**	**43.28 341**	*e*P		**P**	**21 38 42.6**	**-0.5**
BJT			pmax		pmax		
	comp=Z,45nm,0.7s						
BJT	**Baijiatuan**	**43.28 341**	*e*P		**P**	**21 38 42.6**	**-0.5**
	comp=Z,45nm,0.7s						
BJI	**Beijing**	**43.29 341**	P		**P**	**21 38 42.2**	**-1.0**
BJI			pmax		pmax		
	comp=Z,68nm,0.8s						
USRK	**Ussuriysk Arra**	**44.60 359**	P		**P**	**21 38 52.6**	**-1.0**
	comp=Z,5.3nm,0.9s,baz=189,slow=9.1,SNR=5.1						
CN2	**Changchun**	**44.72 352**	*e*P		P	21 38 58.1	+3.5
CN2			*e*sP		sP	21 39 22.7	+4.3
CN2			*e*S		**S**	**21 45 31.1**	**+4.5**
CN2			pmax		pmax		
	comp=Z,20nm,1.2s						
CN2			pmax		pmax		
	comp=Z,200nm,6.0s						
CN2			LR		LR		
	comp=N,12μm,19.0s						
CN2			LR		LR		
	comp=E,13μm,19.0s						
CN2			LR		LR		
	comp=Z,26μm,20.0s						
LZH	**Lanzhou**	**45.53 326**	*e*P		**P**	**21 39 02.4**	**+1.0**
LZH			pP		**pP**	**21 39 19.9**	**+2.1**
LZH			sP		**sP**	**21 39 26.0**	**+0.7**
LZH			eS		**S**	**21 45 39.5**	**+0.5**
LZH			SS		**ScS**	**21 48 55.0**	**+2.8**
LZH			pmax		pmax		
	comp=Z,41nm,1.2s						
LZH			pmax		pmax		
	comp=Z,2μm,6.0s						
LZH			LR		LR		
	comp=N,4μm,12.6s						
LZH			LR		LR		
	comp=E,5μm,15.5s						
LZH			LR		LR		
	comp=Z,9μm,18.8s						
HHC	**Hu-ho-hao-te**	**45.66 337**	*e*P		**P**	**21 39 02.0**	**-0.3**
HHC			pP		**pP**	**21 39 17.6**	**-1.1**
HHC			sP		**sP**	**21 39 24.9**	**-1.2**
HHC			PP		PP	21 40 50.7	+0.3
HHC			S		**S**	**21 45 40.2**	**-0.4**
HHC			SS		**ScS**	**21 48 57.2**	**+4.5**
HHC			pmax		pmax		
	comp=Z,27nm,1.0s						
HHC			pmax		pmax		
	comp=Z,4μm,7.8s						
HHC			LR		LR		
	comp=N,2μm,17.2s						
HHC			LR		LR		
	comp=E,2μm,16.7s						
HHC			LR		LR		
	comp=Z,3μm,16.7s						
YSS	**Yuzh-Sakhalins**	**48.09 9**	*i*P		**P**	**21 39 20.8**	**-0.1**
YSS			pmax		pmax		
	comp=N,30nm,0.9s						
YSS			pmax		pmax		
	comp=Z,60nm,0.9s						
YSS	**Yuzh-Sakhalins**	**48.09 9**	*e*P		**P**	**21 39 20.2**	**-0.7**
	comp=Z,42nm,0.7s						
KLR	**Kul'dur**	**49.63 359**	*e*P		P	21 39 29.0	-3.8
LSA	**Lhasa**	**50.08 311**	P		**P**	**21 39 36.3**	**-0.8**
LSA	**Lhasa**	**50.08 311**	*e*P		**P**	**21 39 37.2**	**+0.1**
LSA			pmax		pmax		
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**50.08 311**	*e*P		**P**	**21 39 37.1**	**+0.1**
	comp=Z,14nm,0.7s						
GTA	**Gaotai**	**50.13 326**	*e*P		**P**	**21 39 36.2**	**-0.7**
GTA			pP		**pP**	**21 39 53.2**	**-0.4**
GTA			pmax		pmax		
	comp=Z,10.0nm,1.4s						
TAPN	**Taplejung**	**51.71 306**	*e*P		**P**	**21 39 47.9**	**-1.3**
	comp=Z,48nm,1.2s						
TAPN	**Taplejung**	**51.71 306**	*e*P		**P**	**21 39 47.9**	**-1.3**
ODAN	**Odare**	**51.76 305**	*e*P		**P**	**21 39 48.2**	**-1.3**
	comp=Z,31nm,0.7s						
ODAN	**Odare**	**51.76 305**	*e*P		**P**	**21 39 48.2**	**-1.3**
RAMN	**Ramite**	**52.45 305**	*e*P		**P**	**21 39 53.5**	**-1.1**
	comp=Z,34nm,0.7s						
RAMN	**Ramite**	**52.45 305**	*e*P		**P**	**21 39 53.5**	**-1.1**
JIRN	**Jiri**	**53.06 306**	*e*P		**P**	**21 39 58.0**	**-1.3**
	comp=Z,30nm,0.8s						
JIRN	**Jiri**	**53.06 306**	*e*P		**P**	**21 39 58.0**	**-1.3**
ULN	**Ulaanbaatar**	**53.32 338**	*e*P		**P**	**21 40 00.4**	**-0.2**
ULN			pmax		pmax		
	comp=Z,53nm,1.5s						
ULN	**Ulaanbaatar**	**53.32 338**	*e*P		**P**	**21 40 00.4**	**-0.2**
	comp=Z,53nm,1.5s						
GUN	**Gumba**	**53.42 306**	*e*P		**P**	**21 40 00.4**	**-1.5**
	comp=Z,36nm,0.7s						
GUN	**Gumba**	**53.42 306**	*e*P		**P**	**21 40 00.4**	**-1.5**
SONM	**Songino Array**	**53.54 338**	P		**P**	**21 40 02.0**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=155,slow=8.1,SNR=10.0						
SONM			PcP		**PcP**	**21 41 08.1**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=150,slow=3.9,SNR=4.2						
SONM	**Songino Array**	**53.54 338**	P		**P**	**21 40 02.0**	**-0.1**
SONM						21 41 08.1	
SONM	**Songino Array**	**53.54 338**	P		**P**	**21 40 02.0**	**-0.1**
SONM			PcP		**PcP**	**21 41 08.1**	**-0.1**
PKI	**Pulchoki**	**53.66 305**	*e*P		**P**	**21 40 02.0**	**-1.7**
PKI	**Pulchoki**	**53.66 305**	*e*P		**P**	**21 40 02.0**	**-1.7**
PKI	**Pulchoki**	**53.66 305**	*e*P		**P**	**21 40 02.0**	**-1.7**
KKN	**Kakani**	**53.86 306**	*e*P		**P**	**21 40 03.3**	**-1.6**
	comp=Z,21nm,0.8s						
KKN	**Kakani**	**53.86 306**	*e*P		**P**	**21 40 03.3**	**-1.6**
KKN	**Kakani**	**53.86 306**	*e*P		**P**	**21 40 03.3**	**-1.6**
DMN	**Daman**	**53.93 305**	*e*P		**P**	**21 40 04.3**	**-1.2**
	comp=Z,26nm,0.8s						
DMN	**Daman**	**53.93 305**	*e*P		**P**	**21 40 04.3**	**-1.2**
GKN	**Gorkha**	**54.46 306**	*e*P		**P**	**21 40 07.7**	**-1.6**
	comp=Z,25nm,0.8s						
GKN	**Gorkha**	**54.46 306**	*e*P		**P**	**21 40 07.7**	**-1.6**
CIT	**Chita**	**54.95 345**	*e*P		**P**	**21 40 12.4**	**+0.2**
CIT			pmax		pmax		
	comp=Z,151nm,2.2s						
KOLN	**Koldanda**	**55.22 305**	*e*P		**P**	**21 40 13.9**	**-0.9**
	comp=Z,45nm,0.8s						
KOLN	**Koldanda**	**55.22 305**	*e*P		**P**	**21 40 13.9**	**-0.9**
DANN	**Dangsing**	**55.31 306**	*e*P		**P**	**21 40 13.8**	**-1.8**
	comp=Z,62nm,0.8s						
DANN	**Dangsing**	**55.31 306**	*e*P		**P**	**21 40 13.8**	**-1.8**
ZAK	**Zakamensk**	**56.80 338**	*e*P		**P**	**21 40 26.5**	**+0.9**
ZAK			pmax		pmax		
	comp=Z,9.0nm,0.8s						
PETK	**Petropavlovsk-**	**57.30 17**	P		**P**	**21 40 28.2**	**-0.7**
	comp=Z,23nm,0.8s,baz=179,slow=5.5,SNR=18						
PETK	**Petropavlovsk-**	**57.30 17**	P		**P**	**21 40 28.2**	**-0.7**
PETK	**Petropavlovsk-**	**57.30 17**	P		**P**	**21 40 28.2**	**-0.7**
MOY	**Mondy**	**58.70 337**	*e*P		**P**	**21 40 39.2**	**+0.3**
MOY			pmax		pmax		
	comp=Z,51nm,2.5s						
WMQ	**Urumqi**	**59.94 323**	P		**P**	**21 40 48.0**	**+0.5**
WMQ			pP		**pP**	**21 41 04.0**	**-0.6**
WMQ			sP		**sP**	**21 41 11.0**	**-0.8**
WMQ			PcP		**PcP**	**21 41 30.0**	**-3.2**
WMQ			pmax		pmax		
	comp=Z,42nm,0.9s						
BOD	**Bodaibo**	**60.19 348**	*e*P		**P**	**21 40 47.7**	**-1.2**
BOD			pmax		pmax		
	comp=Z,20nm,1.1s						
YAK	**Yakutsk**	**62.50 358**	*e*P		**P**	**21 41 03.7**	**-0.6**
YAK			pmax		pmax		
	comp=Z,30nm,0.8s						
YAK	**Yakutsk**	**62.50 358**	*e*P		**P**	**21 41 03.7**	**-0.6**
	comp=Z,30nm,0.8s						
MK31	**Makanchi Array**	**64.75 324**	*e*P		**P**	**21 41 19.2**	**-0.4**
MK31	**Makanchi Array**	**64.75 324**	*e*P		**P**	**21 41 19.2**	**-0.4**
MKAR	**Makanchi Array**	**64.75 324**	P		**P**	**21 41 19.6**	**0.0**
	comp=Z,24nm,0.7s,baz=114,slow=7.7,SNR=42						
MKAR	**Makanchi Array**	**64.75 324**	P		**P**	**21 41 19.6**	**0.0**
MKAR	**Makanchi Array**	**64.75 324**	P		**P**	**21 41 19.6**	**0.0**
SEY	**Seymchan**	**64.98 10**	*c*eP		**P**	**21 41 21.0**	**+0.3**
KSH	**Kashi**	**65.60 314**	P		**P**	**21 41 26.6**	**+1.3**
KSH			pmax		pmax		
	comp=Z,2μm,14.1s						
KZA	**Kyzart**	**67.10 317**	P		**P**	**21 41 36.0**	**+0.7**
	SNR=5.8						
KZA			P		**P**	**21 41 36.0**	**+0.7**
	SNR=5.8						
TKM2	**Tokmak 2**	**67.20 318**	P		**P**	**21 41 35.4**	**-0.2**
	SNR=7.0						
TKM2			P		**P**	**21 41 35.4**	**-0.2**
	SNR=7.0						
TKM2	**Tokmak 2**	**67.20 318**	*i*P		**P**	**21 41 35.4**	**-0.2**
TKM2	**Tokmak 2**	**67.20 318**	*e*P		**P**	**21 41 35.2**	**-0.5**
	comp=Z,14nm,0.7s						
ZALV	**Zalesovo Beam**	**67.36 331**	P		**P**	**21 41 35.1**	**-1.0**
	comp=Z,5.7nm,0.7s,baz=123,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**67.36 331**	P		**P**	**21 41 35.1**	**-1.0**
ZALV	**Zalesovo Beam**	**67.36 331**	P		**P**	**21 41 35.1**	**-1.0**
USP	**Ospenovka**	**68.08 318**	P		**P**	**21 41 41.2**	**+0.3**
	SNR=11						
USP			P		**P**	**21 41 41.2**	**+0.3**
	SNR=11						
AML	**Almayashu**	**68.19 316**	P		**P**	**21 41 42.8**	**+0.7**
	SNR=6.2						
AML			P		**P**	**21 41 42.8**	**+0.7**
	SNR=6.2						
EKS2	**Erkin-Say**	**68.33 317**	P		**P**	**21 41 43.4**	**+

BVAR	Borovoye Array	74.42	326	P		P	21 42 18.9	-0.1
BVAR	Borovoye Array	74.42	326	P		P	21 42 18.9	-0.1
BRVK	Borovoye	74.49	326	*e*P		P	21 42 18.9	-0.4
BRVK					pmax	pmax		
	comp=Z,35nm,0.7s							
BRVK	Borovoye	74.49	326	*e*P		P	21 42 18.9	-0.4
	comp=Z,35nm,0.7s							
BRVK	Borovoye	74.49	326	P		P	21 42 19.4	+0.1
	comp=Z,321nm,0.6s,SNR=14							
VNDA	Vanda	78.43	174	*e*P		P	21 42 41.5	+0.3
VNDA					pmax	pmax		
	comp=Z,7.0nm,0.8s							
VNDA	Vanda	78.43	174	*e*P		P	21 42 41.5	+0.3
	comp=Z,6.6nm,0.8s							
SBA	Scott Base	79.27	173	*e*P		P	21 42 46.8	+1.0
SBA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
SBA	Scott Base	79.27	173	*e*P		P	21 42 46.8	+1.0
	comp=Z,7.8nm,1.0s							
ABKAR	Akbulak array	79.52	320	*e*P		P	21 42 47.1	-0.6
	comp=Z,7.0nm,0.6s							
SVE	Sverdlovsk	80.97	328⇓	*e*P		P	21 42 55.2	-0.1
SVE					pmax	pmax		
	comp=Z,18nm,1.2s							
AKTO	Aktyubinsk	81.00	321	P		P	21 42 55.0	-0.6
	comp=Z,6.7nm,0.8s,baz=124,slow=7.3,SNR=12							
AKTO	Aktyubinsk	81.00	321	P		P	21 42 55.0	-0.6
AKTO	Aktyubinsk	81.00	321	P		P	21 42 55.0	-0.6
ARU	Arti	81.98	327	*d* iP		P	21 43 00.4	-0.3
ARU							21 46 04.5	
ARU					S	S	21 53 09.9	+0.3
ARU					SS	SS	21 58 25.2	-4.5
ARU					pmax	pmax		
	comp=Z,44nm,2.5s							
ARU	Arti	81.98	327	*e*P		P	21 42 60.0	-0.7
	comp=Z,23nm,1.3s							
ARU	Arti	81.98	327	P		P	21 43 00.1	-0.6
	comp=Z,91nm,0.8s,SNR=5.1							
KDAK	Kodiak Island	82.15	31	P		P	21 43 01.9	+0.4
	comp=Z,18nm,0.9s,baz=243,slow=2.3,SNR=6.0							
KDAK	Kodiak Island	82.15	31	P		P	21 43 01.9	+0.4
KDAK	Kodiak Island	82.15	31	P		P	21 43 01.9	+0.4
MCK	McKinley	85.18	26	*e*P		P	21 43 15.8	-1.2
MCK					pmax	pmax		
	comp=Z,131nm,1.9s							
MCK	McKinley	85.18	26	*e*P		P	21 43 15.8	-1.2
	comp=Z,131nm,1.9s							
COLA	College	85.86	25	*e*P		P	21 43 20.1	-0.1
COLA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
COLA	College	85.86	25	*e*P		P	21 43 20.1	-0.1
	comp=Z,5.7nm,0.8s							
QSPA	South Pole Qui	89.35	180	*e*P		P	21 43 37.3	+0.1
	comp=Z,5.4nm,0.9s							
CLL	Collm	108.84	325	*e*P		Pdif	21 45 09.0	+3.7
O20A	White River Ci	111.95	47	⇓P		PKiKP	21 49 16.9	+0.5
	baz=112							
P20A	De Beque	112.04	47	⇑P		PKiKP	21 49 17.2	+0.7
	baz=112							
U21A	Nageezi	113.55	50	⇓P		PKiKP	21 49 20.4	+0.9
	baz=114							
O23A	Lake Granby, G	113.60	46	⇑P		PKiKP	21 49 20.5	+0.8
	baz=114							
S22A	4UR Ranch, Cre	113.76	49	⇓P		PKiKP	21 49 20.8	+0.8
	baz=114							
S25A	Robets Cordova	115.58	48	⇑P		PKPdf	21 49 23.8	+0.5
	baz=116							
V24A	Rampart Ranch,	115.60	50	⇓P		PKPdf	21 49 24.3	+0.8
	baz=116							
T25A	Trinidad	115.78	48	⇓P		PKPdf	21 49 24.3	+0.5
	baz=116							
Y24A	Capitan	116.05	52	⇑P		PKPdf	21 49 24.9	+0.5
	baz=116							
Z24A	Sheeppen Canyo	116.29	53	⇑P		PKPdf	21 49 25.4	+0.5
	baz=116							
S26A	Kim	116.31	48	⇑P		PKPdf	21 49 25.0	+0.3
	baz=116							
324A	Moseley Ranch,	116.77	55	⇑P		PKPdf	21 49 26.0	+0.2
	baz=117							
Z27A	Tatum	118.00	52	⇑P		PKPdf	21 49 28.5	+0.4
	baz=118							
427A	Hayter Ranch,	118.64	55	⇑P		PKPdf	21 49 29.7	+0.3
	baz=119							
527A	Woodward Ranch	118.69	56	⇓P		PKPdf	21 49 29.9	+0.4
	baz=119							
TXAR	Lajitas Array	118.88	57	PKP		PKPdf	21 49 30.3	+0.4
	comp=Z,0.5nm,0.7s,baz=215,slow=3.0,SNR=5.5							
TXAR	Lajitas Array	118.88	57	PKiKP		PKPdf	21 49 30.3	+0.4
TXAR	Lajitas Array	118.88	57	PKP		PKPdf	21 49 30.3	+0.4
328A	Wristen Ranch,	118.96	54	⇓P		PKPdf	21 49 30.2	+0.3
	baz=119							
JCT	Junction City	121.69	54	*e*PKiKP		PKPdf	21 49 35.5	+0.4
JCT	Junction City	121.69	54	*e*PKPdf		PKPdf	21 49 35.5	+0.4
JCT	Junction City	121.69	54	⇑P		PKPdf	21 49 35.6	+0.4
	baz=122							
MIAR	Mount Ida	124.87	47	*e*PKiKP		PKPdf	21 49 42.4	+1.3
MIAR	Mount Ida	124.87	47	*e*PKPdf		PKPdf	21 49 42.4	+1.3
TORD	Torodi Ar. Bea	130.31	287	PKP		PKPdf	21 49 51.8	-0.1
	comp=Z,1.5nm,0.8s,baz=78,slow=0.2,SNR=8.8							
TORD	Torodi Ar. Bea	130.31	287	PKP		PKPdf	21 49 51.8	-0.1
LRAL	Lakeview Retre	130.37	45	*e*PKPdf		PKPdf	21 49 52.8	+1.2
GOGA	Godfrey	132.61	43	*e*PKiKP		PKPdf	21 49 57.2	+1.3
GOGA	Godfrey	132.61	43	*e*PKPdf		PKPdf	21 49 57.2	+1.3
PLCA	Paso Flores	133.58	155	PKP		PKPdf	21 49 59.3	+1.7
	comp=Z,3.5nm,0.8s,baz=226,slow=2.9,SNR=9.1							
PLCA	Paso Flores	133.58	155	PKiKP		PKPdf	21 49 59.3	+1.7
PLCA	Paso Flores	133.58	155	PKP		PKPdf	21 49 59.3	+1.7
LVC	Limon Verde	148.50	138	*e*PKPab		PKPab	21 50 30.7	-1.3
CPUP	Villa Florida	151.41	160	PKPbc		PKPbc	21 50 36.2	+1.0
	comp=Z,18nm,0.7s,baz=205,slow=1.0,SNR=32							
CPUP	Villa Florida	151.41	160	PKiKP		PKPbc	21 50 36.2	+1.0
CPUP	Villa Florida	151.41	160	PKPbc		PKPbc	21 50 36.2	+1.0
LPAZ	La Paz	153.14	130	PKPbc		PKPbc	21 50 41.5	+1.4
	comp=Z,6.7nm,0.9s,baz=247,slow=1.2,SNR=9.8							
LPAZ	La Paz	153.14	130	PKPbc		PKPbc	21 50 41.5	+1.4
LPAZ	La Paz	153.14	130	PKPbc		PKPbc	21 50 41.5	+1.4
SDV	Santo Domingo	154.94	70	*e*PKPab		PKPab	21 50 59.7	+0.6

IDC 03 21:31:59.0±1.0, 0.°64S×133.°50E, h0km, mb4.6/7, mb1 4.7/8, mb1mx4.3/19, mbtmp4.6/8, ML4.7/1, Error ellipse: s-maj=54.9km s-min=18.0km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.20	178	P	Pn	21 36 26.0	+0.5
	2.5nm,0.3s,baz=360,slow=13,SNR=4.9						
ASAR	Alice Springs	22.89	179	P	P	21 37 06.2	+1.6
	22nm,0.8s,baz=5.8,slow=11,SNR=4.6						
STKA	Stephens Creek	32.00	167	P	P	21 38 26.8	-0.4
	12nm,0.8s,baz=334,slow=10.0,SNR=3.4						
NWAO	Narrogin (SRO)	35.58	204	P	P	21 38 56.8	-1.5
	9.7nm,0.8s,baz=45,slow=7.1,SNR=4.3						
MKAR	Makanchi Array	65.02	324	P	P	21 42 41.8	+0.6
	6.3nm,0.6s,baz=113,slow=6.8,SNR=7.3						
KURK	Kurchatov	69.07	326	P	P	21 43 07.5	+0.7
	12nm,1.0s,baz=121,slow=5.6,SNR=3.4						
BVAR	Borovoye Array	74.67	326	P	P	21 43 40.1	-0.4
	2.1nm,0.6s,baz=128,slow=6.8,SNR=3.8						
ILAR	Eielson Array	86.15	25	P	P	21 44 41.3	-0.5
	0.7nm,0.6s,baz=247,slow=5.0,SNR=3.0						
TORD	Torodi Ar. Bea	130.67	287	PKP	PKPdf	21 51 12.3	-0.9
	0.4nm,0.6s,baz=79,slow=1.1,SNR=2.6						

*IDC **03** 21:35:49.4±1.0, 0.°63S×133.°58E, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML4.5/2, Error ellipse: s-maj=45.1km s-min=16.0km az=77.0*
*ISCJB **03** 21:35:52.6±0.7, 0.°77S×0.°06×133.°4E±0.°2, h33km, mb4.5/14, Error ellipse: s-maj=27.3km s-min=8.3km az=170.8*
*NEIC **03** 21:35:54.8±0.6, 0.°69S×133.°45E, h35km, mb4.7/4, Error ellipse: s-maj=24.8km s-min=8.5km az=81.0*
ISC 03 21:35:56.1±0.9, 1.°01S±0.°08×132.°9E±0.°2, h35km, n30, σ2s09/29, mb4.6/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.40	202	P	P	21 40 12.5	+4.2
	2.0nm,0.3s,baz=31,slow=11,SNR=7.2						
FITZ				S	Sn	21 43 30.3	-2.9
	1.9nm,0.3s,baz=108,slow=19,SNR=5.7						
FITZ	Fitzroy Crossi	18.40	202	P	P	21 40 12.5	+4.2
FITZ				S	Sn	21 43 30.3	-2.9
WRA	Warramunga Arr	18.87	176	P	Pn	21 40 15.7	+1.4
	1.2nm,0.3s,baz=354,slow=11,SNR=4.5						
WRA				S	Sn	21 43 40.2	-4.4
	1.0nm,0.3s,baz=354,slow=24,SNR=5.4						
WRA	Warramunga Arr	18.87	176	P	Pn	21 40 15.7	+1.4
WRA				S	Sn	21 43 40.2	-4.4
ASAR	Alice Springs	22.54	177	P	P	21 40 55.7	+2.4
	19nm,0.8s,baz=358,slow=11,SNR=9.4						
ASAR	Alice Springs	22.54	177	P	P	21 40 55.7	+2.4
MBWA	Marble Bar	23.77	212	*e*P	P	21 41 07.7	+2.2
MBWA	Marble Bar	23.77	212	P	P	21 41 09.2	+3.7
	31nm,1.1s						
BBOO	Buckleboo	31.77	175	*e*P	P	21 42 16.2	-1.0
	40nm,0.6s						
STKA	Stephens Creek	31.79	166	P	P	21 42 16.9	-0.4
	5.4nm,0.6s,baz=342,slow=9.8,SNR=6.1						
STKA	Stephens Creek	31.79	166	*e*P	P	21 42 17.2	-0.2
	5.1nm,0.6s						
STKA	Stephens Creek	31.79	166	*e*P	P	21 42 17.4	0.0
	1.1nm,0.6s						
KMBL	Kambalda	31.92	198	*e*P	P	21 42 21.2	+2.6
	70nm,0.7s						
ARPS	Mount Arapiles	36.54	168	*e*P	P	21 42 59.2	+0.7
	78nm,1.4s						
CMAR	Chiang Mai Arr	38.54	302	P	P	21 43 16.6	+0.9
	0.5nm,0.7s,baz=127,slow=7.7,SNR=4.1						
CMAR	Chiang Mai Arr	38.54	302	P	P	21 43 16.6	+0.9
SONM	Songino Array	53.84	338	P	P	21 45 12.6	-3.1
	0.6nm,0.8s,baz=160,slow=7.7,SNR=3.4						
SONM	Songino Array	53.84	338	P	P	21 45 12.6	-3.1
MK31	Makanchi Array	64.94	324	*e*P	P	21 46 31.9	-0.4
MKAR	Makanchi Array	64.94	324	P	P	21 46 31.9	-0.4
	2.7nm,0.6s,baz=116,slow=8.2,SNR=17						
MKAR	Makanchi Array	64.94	324	P	P	21 46 31.9	-0.4
ZALV	Zalesovo Beam	67.60	332	P	P	21 46 49.2	0.0
	0.8nm,0.6s,baz=133,slow=6.1,SNR=3.3						
ZALV	Zalesovo Beam	67.60	332	P	P	21 46 49.2	0.0
KURK	Kurchatov	69.02	326	P	P	21 46 58.1	0.0
	3.8nm,0.8s,baz=120,slow=5.8,SNR=9.6						
KURK	Kurchatov	69.02	326	*e*P	P	21 46 58.2	0.0
	48nm,1.8s						
BVAR	Borovoye Array	74.62	326	P	P	21 47 31.0	-0.7
	1.6nm,0.7s,baz=125,slow=7.0,SNR=5.0						
BVAR	Borovoye Array	74.62	326	P	P	21 47 31.1	-0.7
ILAR	Eielson Array	86.76	25	P	P	21 48 31.3	-5.1
	0.5nm,0.6s,baz=248,slow=5.1,SNR=6.5						
ILAR	Eielson Array	86.76	25	P	P	21 48 31.3	-5.1
QSPA	South Pole Qui	88.92	180	*e*P	P	21 48 47.5	+0.7
	3.8nm,0.9s						

IDC 03 21:43:48.3±1.1, 0.°49S×133.°62E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/19, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=56.2km s-min=17.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.18	204	P	P	21 48 14.6	+0.9
	0.7nm,0.3s,baz=37,slow=13,SNR=4.5						
FITZ				S	Sn	21 51 24.5	-26
	0.3nm,0.3s,baz=120,slow=17,SNR=3.8						
WRA	Warramunga Arr	19.35	178	P	P	21 48 15.0	-0.6
	0.6nm,0.3s,baz=356,slow=12,SNR=6.3						
WRA				S	Sn	21 51 34.4	-20
	0.2nm,0.3s,baz=0.9,slow=24,SNR=5.2						
ASAR	Alice Springs	23.04	179	P	P	21 48 54.0	-1.5
	4.3nm,0.8s,baz=358,slow=12,SNR=7.1						
STKA	Stephens Creek	32.12	167	P	P	21 50 18.8	+1.3
	1.2nm,0.5s,baz=353,slow=8.1,SNR=3.6						
MKAR	Makanchi Array	64.97	324	P	P	21 54 30.4	+0.3
	1.2nm,0.6s,baz=112,slow=8.0,SNR=12						
ZALV	Zalesovo Beam	67.51	331	P	P	21 54 45.6	-0.6
	0.3nm,0.4s,baz=126,slow=7.4,SNR=3.0						
KURK	Kurchatov	69.02	326	P	P	21 54 56.0	+0.3
	0.7nm,0.6s,baz=119,slow=5.9,SNR=5.6						
BVAR	Borovoye Array	74.61	326	P	P	21 55 29.2	-0.1
	0.4nm,0.6s,baz=101,slow=7.6,SNR=3.7						
ILAR	Eielson Array	85.96	25	P	P	21 56 30.2	0.0
	0.3nm,0.7s,baz=267,slow=4.4,SNR=6.3						

*ISCJB **03** 21:46:41.7±0.4, 7.°05S±0.°05×155.°93E±0.°08, h62km, mb4.8/36, Error ellipse: s-maj=11.2km s-min=7.0km az=2.0*
*NEIC **03** 21:46:46.8±1.1, 7.°09S×156.°08E, h102km±9km, mb4.8/12, Error ellipse: s-maj=9.3km s-min=8.4km az=115.0*
*IDC **03** 21:46:46.6±1.9, 7.°08S×155.°90E, h96km±18km, mb4.4/18, mb1 4.5/20, mb1mx4.4/22, mbtmp4.4/20, Error ellipse: s-maj=13.6km s-min=12.4km az=97.0*
ISC 03 21:46:42.7±0.4, 6.°98S±0.°07×156.°08E±0.°08, h62km, n118, σ1s02/118, mb4.9/36, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.54	123	P	Pn	21 47 53.2	+4.3
	21nm,0.3s,baz=247,slow=9.5,SNR=6.8						
HNR				S	Sn	21 48 48.8	+8.5
	87nm,0.3s,baz=29,slow=19,SNR=8.6						
HNR	Honiara	4.54	123	*e*Pn	Pn	21 47 51.4	+2.5
HNR				*e*S	Sn	21 48 48.5	+8.2
PMG	Port Moresby	9.15	254	P	Pn	21 48 53.0	+0.9
	0.9nm,0.3s,baz=94,slow=1.9,SNR=3.4						
PMG	Port Moresby	9.15	254	*e*Pn	Pn	21 48 56.5	+4.4
	60nm,0.8s						
PMG				*e*S	Sn	21 50 37.7	+4.0
CTA	Charters Tower	16.14	215	P	P	21 50 28.4	+0.4
	0.4nm,0.3s,baz=34,slow=14,SNR=5.8						
CTA	Charters Tower	16.14	215	*e*P	P	21 50 29.0	+1.0
	10nm,1.3s						
CTA	Charters Tower	16.14	215	P	P	21 50 28.4	+0.4
QLP	Quilpie	22.52	209	*e*P	P	21 51 36.4	-1.0
ARMA	Armidale	23.68	190	*e*P	P	21 51 49.1	+0.1
WRAB	Tennant Creek	24.70	236	*e*P	P	21 51 57.2	-1.0
	28nm,0.8s						
WB2	Warramunga Arr	24.70	236	*e*P	P	21 51 57.9	-0.4
WRA	Warramunga Arr	24.71	236	P	P	21 51 56.5	-1.9
	24nm,0.7s,baz=62,slow=9.7,SNR=24						
WRA	Warramunga Arr	24.71	236	P	P	21 51 56.5	-1.9
CMSA	Cobar Meteorol	26.29	200	*e*P	P	21 52 11.5	-1.0
	31nm,0.6s						
ASAR	Alice Springs	26.99	230	P	P	21 52 17.7	-1.3
	2.8nm,0.5s,baz=58,slow=10.0,SNR=19						
ASAR	Alice Springs	26.99	230	P	P	21 52 17.7	-1.3
STKA	Stephens Creek	28.21	207	P	P	21 52 29.3	-0.4
	4.1nm,0.8s,baz=8.8,slow=9.3,SNR=4.5						
STKA	Stephens Creek	28.21	207	P	P	21 52 29.3	-0.4
FITZ	Fitzroy Crossi	31.64	247	P	P	21 52 58.9	-1.4
	17nm,0.6s,baz=81,slow=8.7,SNR=6.1						
FITZ	Fitzroy Crossi	31.64	247	P	P	21 52 58.9	-1.4
ARPS	Mount Arapiles	32.37	202	*e*P	P	21 53 05.4	-1.0
	19nm,1.7s						
RPZ	Rata Peaks	38.88	163	P	P	21 54 02.4	+0.3
	22nm,0.7s,baz=18,slow=6.4,SNR=10.0						
RPZ	Rata Peaks	38.88	163	P	P	21 54 02.4	+0.3
KMBL	Kambalda	40.10	228	*e*P	P	21 54 11.6	-0.9
	97nm,0.6s						
MEEK	Meekatharra	40.62	237	*e*P	P	21 54 15.7	-1.1
	96nm,0.8s						
KLBR	Kellerberrin	43.32	230	*e*P	P	21 54 37.3	-1.5
	22nm,0.5s						
NWAO	Narrogin (SRO)	44.31	229	P	P	21 54 45.8	-0.9
	17nm,0.9s,baz=66,slow=7.6,SNR=9.9						
NWAO	Narrogin (SRO)	44.31	229	P	P	21 54 45.8	-0.9
MJAR	Matsushiro Arr	46.43	340	P	P	21 55 03.6	+0.3
	1.9nm,0.6s,baz=165,slow=7.5,SNR=12						
MJAR	Matsushiro Arr	46.43	340	P	P	21 55 03.6	+0.3
JNU	Nakatsue	46.52	331	*e*P	P	21 55 05.1	+0.9
	5.5nm,0.8s						
KSRS	Korea Array	51.44	331	P	P	21 55 42.8	+1.2
	2.2nm,0.7s,baz=147,slow=7.2,SNR=27						
KSAR	Wonju Array Be	51.45	331	P	P	21 55 42.8	+1.1
USRK	Ussuriysk Arra	55.39	339	P	P	21 56 10.7	+0.2
	9.1nm,1.0s,baz=144,slow=6.4,SNR=12						
ENH	Enshi	58.02	312	*e*P	P	21 56 29.4	-0.1
	64nm,1.1s						
PETK	Petropavlovsk-	59.88	1	P	P	21 56 42.5	+0.6
	4.9nm,0.8s,baz=164,slow=7.6,SNR=5.4						
PETK	Petropavlovsk-	59.88	1	P	P	21 56 42.5	+0.6
XAN	Xi'an	60.45	316	P	P	21 56 46.1	-0.1
XAN				pP	pP	21 56 51.6	-11
XAN				sP	sP	21 56 54.5	-15
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA	Gaotai	69.47	317	*e*P	P	21 57 46.3	+1.5
GTA				pP	pP	21 57 55.9	-5.8
GTA				sP	sP	21 58 00.5	-8.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	Ulaanbaatar	69.58	327	*e*P	P	21 57 46.6	+1.3
	comp=Z,18nm,0.9s						
SONM	Songino Array	69.91	327	P	P	21 57 48.8	+1.4
	comp=Z,19nm,0.8s,baz=140,slow=7.0,SNR=106						
SONM	Songino Array	69.91	327	P	P	21 57 48.8	+1.4
VNDA	Vanda	70.56	179	*e*P	P	21 57 51.3	+0.5
	comp=Z,2.7nm,0.8s						
TAPN	Taplejung	74.32	301	*e*P	P	21 58 14.8	+0.4
	comp=Z,41nm,0.9s						
TAPN	Taplejung	74.32	301	*e*P	P	21 58 14.8	+0.4
ODAN	Odare	74.45	300	*e*P	P	21 58 15.6	+0.5
	comp=Z,80nm,0.6s						
ODAN	Odare	74.45	300	*e*P	P	21 58 15.6	+0.5
RAMN	Ramite	75.16	300	*e*P	P	21 58 19.4	+0.2
	comp=Z,19nm,0.6s						
RAMN	Ramite	75.16	300	*e*P	P	21 58 19.4	+0.2
JIRN	Jiri	75.70	301	*e*P	P	21 58 22.9	+0.5
	comp=Z,30nm,0.6s						
JIRN	Jiri	75.70	301	*e*P	P	21 58 22.9	+0.5
GUN	Gumba	76.03	301	*e*P	P	21 58 24.7	+0.4
GUN	Gumba	76.03	301	*e*P	P	21 58 24.7	+0.4
PKI	Pulchoki	76.35	300	*e*P	P	21 58 26.1	+0.1
PKI	Pulchoki	76.35	300	*e*P	P	21 58 26.1	+0.1
KKN	Kakani	76.51	301	*e*P	P	21 58 27.1	+0.2
	comp=Z,35nm,0.7s						
KKN	Kakani	76.51	301	*e*P	P	21 58 27.1	+0.2
DMN	Daman	76.61	300	*e*P	P	21 58 27.9	+0.4
DMN	Daman	76.61	300	*e*P	P	21 58 27.9	+0.4
GKN	Gorkha	77.12	301	*e*P	P	21 58 30.2	0.0
	comp=Z,57nm,0.7s						
GKN	Gorkha	77.12	301	*e*P	P	21 58 30.2	0.0
KOLN	Koldanda	77.95	300	*e*P	P	21 58 34.8	-0.1
	comp=Z,33nm,0.6s						
KOLN	Koldanda	77.95	300	*e*P	P	21 58 34.8	-0.1
DANN	Dangsing	77.96	301	*e*P	P	21 58 34.9	-0.1
	comp=Z,32nm,0.6s						
DANN	Dangsing	77.96	301	*e*P	P	21 58 34.9	-0.1
ILAR	Eielson Array	82.97	21	P	P	21 59 00.3	-0.4
	comp=Z,0.5nm,0.5s,baz=243,slow=5.3,SNR=12						
ILAR	Eielson Array	82.97	21	P	P	21 59 00.3	-0.4
QSPA	South Pole Qui	82.99	180	P	P	21 59 01.1	0.0
	comp=Z,9.1nm,0.5s,baz=351,slow=0.7,SNR=98						
QSPA	South Pole Qui	82.99	180	P	P	21 59 01.1	0.0
MK31	Makanchi Array	84.11	318	*e*P	P	21 59 07.5	+0.5
MKAR	Makanchi Array	84.11	318	P	P	21 59 07.5	+0.5
	comp=Z,16nm,0.7s,baz=100,slow=5.8,SNR=79						
MKAR	Makanchi Array	84.11	318	P	P	21 59 07.5	+0.5
SDNR	Sundarnagar	84.41	303	*e*P	P	21 59 10.0	+1.1
ZALV	Zalesovo Beam	84.77	326	P	P	21 59 09.8	-0.4
	comp=Z,7.2nm,0.4s,baz=118,slow=5.5,SNR=45						
ZALV	Zalesovo Beam	84.77	326	P	P	21 59 09.8	-0.4
KSH	Kashi	86.83	310	P	P	21 59 23.0	+2.2
KSH				*e*pP	pP	21 59 33.2	-5.0
KSH				*e*sP	sP	21 59 37.3	-7.7
KSH				*e*PcP	PcP	22 00 14.5	+51
KSH				*e*PP	PP	22 01 33.3	-71
KSH				*e*ScP		22 04 11.2	
KSH				*e*PcS	PKiKP	22 04 14.8	-12
KSH				*e*S	SKiKP	22 07 17.7	-38
KSH				*e*sS	sS	22 07 35.6	-168
KSH				*e*ScS	SKSac	22 09 06.2	-37
KSH				*e*SS	SP	22 11 11.2	+16
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,3μm,12.6s						
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				LR	LR		
	comp=N,5μm,18.1s						
KSH				LR	LR		
	comp=E,10μm,20.2s						
KSH				LR	LR		
	comp=Z,15μm,20.8s						
KURK	Kurchatov	87.49	322	P	P	21 59 23.5	-0.1
	comp=Z,3.4nm,0.7s,baz=96,slow=5.4,SNR=5.9						
KURK	Kurchatov	87.49	322	*e*P	P	21 59 23.1	-0.5
	comp=Z,3.5nm,0.3s						
TKM2	Tokmak 2	87.79	314	*e*P	P	21 59 25.6	0.0
	comp=Z,7.2nm,0.6s						
AAK	Ala-Archa	88.53	313	*e*P	P	21 59 29.3	+0.3
	comp=Z,13nm,0.8s						
NVAR	Mina Array Bea	90.87	52	P	P	21 59 40.3	+0.3
	comp=Z,0.5nm,0.8s,baz=260,slow=2.7,SNR=2.8						
NVAR	Mina Array Bea	90.87	52	P	P	21 59 40.4	+0.3
KBL	Kabul	91.48	304	*e*P	P	21 59 42.0	-1.0
	comp=Z,3.5nm,0.6s						
KKAR	Karatay Array	91.49	313	*e*P	P	21 59 42.0	-0.6
	comp=Z,2.1nm,0.8s						
BVAR

1.2nm,0.9s,baz=120,slow=7.2,SNR=8.1
MKAR Makanchi Array 64.28 324 P P 21 58 26.6 -0.1
0.5nm,0.6s,baz=115,slow=8.4,SNR=8.3
KURK Kurchatov 68.36 326 P P 21 58 52.8 +0.1
1.9nm,1.0s,baz=120,slow=5.7,SNR=8.5

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*BJI **03** 21:49:25.9,0.°78S×133.°37E,h42km,mB6.0/20,mb5.3/53, Ms5.8/32,Ms7 5.6/30*
*IDC **03** 21:49:26.5±0.3,0.°26S×132.°81E,h0km,mb5.2/28, mb1 5.3/31,mb1mx5.3/31,mbtmp5.2/31,ML5.5/2,MS5.7/6, Ms1 5.7/6,ms1mx5.2/38,Error ellipse: s-maj=16.9km s-min=8.3km az=75.0*
*MOS **03** 21:49:29.6±1.0,0.°33S×132.°79E,h33km,mb5.6/56, MS5.8/8,Error ellipse: s-maj=11.1km s-min=5.3km az=109.0*
*DJA **03** 21:49:30,0.°41S×132.°97E,h10km,mb5.7/36*
*NEIC **03** 21:49:30.9±1.4,0.°33S×132.°89E,h29km±10km,mb5.6/73, Error ellipse: s-maj=6.3km s-min=3.9km az=67.0*
NEIC Felt [IV] at Manokwari and Sorong.
*ISCJB **03** 21:49:30.7±0.6,0.°32S±0.°02×133.°01E±0.°03,h44km±5km, mb5.5/155,MS6.1/27,Error ellipse: s-maj=4.7km s-min=3.8km az=145.8*
ISC 03 21:49:32.3±0.3,**0.°28S**±0.°04×**132.°91E**±0.°04,**h39**km±2km, **h39**km:**pP-P,n555,**σ1**36**/589,**mb5.5**/154,**MS5.8**/28, **32C-30D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.71 194**		P	**Pn**	**Pn**	**21 50 13.1**	**-0.2**
BAKI	**Biak**	**3.32 106**		P	**Pn**	**Pn**	**21 50 18.9**	**-2.9**
MSAI	**Masohi**	**5.01 232**		P	**Pn**	**Pn**	**21 50 46.4**	**+1.4**
	2μm,0.7s,24μm7.5nm							
TLE	**Tual**	**5.33 182**		P	**Pn**	**Pn**	**21 50 49.6**	**+0.2**
	5μm,1.0s,83μm21nm							
LBMI	**Labuha**	**5.42 266**		P	**Pn**	**Pn**	**21 50 49.6**	**-1.0**
	2μm,0.9s,21μm7.5nm							
TNTI	**Ternate**	**5.64 281**		P	Pn	Pn	21 50 58.0	+4.4
	811nm,1.0s,19μm2.9nm							
AAI	**Ambon**	**5.80 234**		P	**Pn**	**Pn**	**21 50 56.1**	**+0.2**
	5μm,0.8s,61μm18nm							
SMPI	**Sarmi**	**6.04 106**		P	**Pn**	**Pn**	**21 50 56.4**	**-2.8**
	465nm,0.9s,2.6nm							
JAY	**Jayapura**	**8.10 106**		P	**Pn**	**Pn**	**21 51 30.3**	**+2.8**
	89nm,0.7s,0.5nm							
MNI	**Manado**	**8.25 282**		P	Pn	Pn	21 51 34.8	+5.3
	924nm,0.8s,12μm2.5nm							
SGSI	**Sangihe**	**8.36 298**		P		sPn	21 51 41.1	-3.2
KMSI	**Cibinong**	**8.97 275**		P		Pn	21 51 44.1	+4.7
	1μm,0.8s,14μm							
LUWI	**Luwuk**	**10.17 266**		P	**Pn**	**Pn**	**21 51 54.5**	**-1.3**
	1μm,1.4s,16μm							
DAV	**Davao City (W)**	**10.33 315**		Pn	**Pn**	**Pn**	**21 51 56.5**	**-1.6**
DAV	**Davao City (W)**	**10.33 315**		P		sPn	21 52 09.7	-1.6
MRSI	**Marisa**	**11.00 274**		P	**Pn**	**Pn**	**21 52 09.9**	**+2.8**
	222nm,0.7s							
CTBH	**Cotabato--PC H**	**11.41 311**		⇑*i*P	**Pn**	**Pn**	**21 52 13.8**	**+1.0**
BBSI	**Bau Bau**	**11.55 243**		P	Pn	Pn	21 52 19.3	+4.6
	413nm,1.0s,9μm							
TTSI	**Tana Toraja**	**13.37 258**		P	**Pn**	**Pn**	**21 52 40.9**	**+1.3**
	266nm,0.9s,4μm							
MMRI	**Maumere**	**13.49 232**		P	Pn	Pn	21 52 44.5	+3.2
	502nm,1.7s							
SPSI	**Sidrap Palu**	**13.63 254**		P	**Pn**	**Pn**	**21 52 43.2**	**0.0**
	371nm,0.9s,8μm							
BKSI	**Bulukumba**	**13.72 248**		P	**Pn**	**Pn**	**21 52 45.4**	**+1.0**
	338nm,0.9s,6μm							
KAPI	**Kappang**	**13.96 250**		*e*Pn	**Pn**	**Pn**	**21 52 48.4**	**+0.7**
KAPI				*e*S	**Sn**	**Sn**	**21 55 19.2**	**-2.2**
KAPI	**Kappang**	**13.96 250**		P	**Pn**	**Pn**	**21 52 49.6**	**+1.9**
	511nm,1.1s,8μm							
MJSI	**Majene**	**14.30 257**		P	**Pn**	**Pn**	**21 52 53.8**	**+1.6**
	280nm,1.0s							
MYLDM	**Lahad Datu**	**15.38 291**		P	**P**	**P**	**21 53 08.7**	**-2.1**
MYLDM	**Lahad Datu**	**15.38 291**		P	**P**	**P**	**21 53 10.5**	**-0.3**
	447nm,1.1s							
WSI	**Waingapu**	**15.64 233**		P	**P**	**P**	**21 53 17.1**	**+3.4**
TSM	**Tawau**	**15.70 287**		P	**Pn**	**Pn**	**21 53 10.3**	**-0.4**
SDKM	**Sandakan**	**16.76 291**		P	**P**	**P**	**21 53 25.8**	**-0.4**
PMG	**Port Moresby**	**16.84 123**		P	Pn	**Pn**	**21 53 25.0**	**-0.3**
	1.6nm,0.3s,baz=302,slow=11,SNR=11							
PMG	**Port Moresby**	**16.84 123**		*e*P	**Pn**	**Pn**	**21 53 24.9**	**-0.3**
PMG				pmax	pmax			
	comp=Z,951nm,1.8s							
PMG	**Port Moresby**	**16.84 123**		*e*Pn	**Pn**	**Pn**	**21 53 24.9**	**-0.3**
	comp=Z,951nm,1.8s							
COEN	**Coen**	**16.97 144**		*e*P	**Pn**	**Pn**	**21 53 25.8**	**-1.1**
	comp=Z,443nm,0.6s							
COEN	**Coen**	**16.97 144**		*e*Pn	**Pn**	**Pn**	**21 53 26.1**	**-0.9**
	comp=Z,727nm,0.9s							
KBKI	**Kotabaru**	**17.00 260**		P	**P**	**P**	**21 53 28.5**	**-0.3**
	comp=Z,193nm,1.3s							
KDM	**Kudat**	**17.56 294**		P	**P**	**P**	**21 53 37.0**	**+2.0**
KKM	**Kota Kinabalu**	**17.81 291**		*e*P	**P**	**P**	**21 53 38.2**	**+0.3**
	comp=Z,151nm,1.1s							
KKM	**Kota Kinabalu**	**17.81 291**		P	**P**	**P**	**21 53 38.8**	**+0.9**
KKM	**Kota Kinabalu**	**17.81 291**		P	P	P	21 53 48.5	+11
GUMO	**Guam**	**18.17 40**		LR	LR	LR	21 59 52.8	
	comp=Z,12μm,19.3s,baz=228,slow=34							
BBKI	**Banjar Baru**	**18.33 260**		P	**Pn**	**Pn**	**21 53 45.7**	**+2.0**
	comp=Z,361nm,1.3s,comp=Z,16μm							
MTNI	**Mataram**	**18.63 243**		P	**Pn**	**Pn**	**21 53 48.3**	**+1.0**
	comp=Z,484nm,0.9s,comp=Z,10μm							
KHKI	**Kahang-Kahang**	**19.02 245**		P	**Pn**	**Pn**	**21 53 51.9**	**-0.1**
	comp=Z,520nm,1.5s,comp=Z,13μm							
FITZ	**Fitzroy Crossi**	**19.10 202**		P	**P**	**P**	**21 53 50.0**	**-1.9**
	comp=Z,8.0nm,0.3s,baz=30,slow=13,SNR=16							
FITZ				S	Sn	Sn	21 57 14.8	-11
	comp=Z,9.9nm,0.3s,baz=170,slow=16,SNR=6.6							
FITZ	**Fitzroy Crossi**	**19.10 202**		*e*P	**P**	**P**	**21 53 49.7**	**-2.2**
	comp=Z,199nm,0.6s							
FITZ				*e*S	Sn	Sn	21 57 11.6	-15
FITZ	**Fitzroy Crossi**	**19.10 202**		*e*P	**P**	**P**	**21 53 49.4**	**-2.5**
	comp=Z,133nm,0.8s							
FITZ				*e*S	Sn	Sn	21 57 15.4	-11
FITZ	**Fitzroy Crossi**	**19.10 202**		S	Sn	Sn	21 57 14.8	-11
BALP	**Baler**	**19.46 325**		*e*P	Pn	Pn	21 54 04.1	+6.9
WRAB	**Tennant Creek**	**19.59 176**		*e*P	**P**	**P**	**21 53 56.1**	**-1.1**
WRAB				*e*S	S	S	21 57 27.3	-9.1
WRAB				pmax	pmax	pmax		
	comp=Z,698nm,1.4s							
WRAB	**Tennant Creek**	**19.59 176**		*e*P	**P**	**P**	**21 53 56.1**	**-1.1**
	comp=Z,698nm,1.4s							
WRAB				*e*S	S	S	21 57 27.3	-9.1
WRAB	**Tennant Creek**	**19.59 176**		P	**P**	**P**	**21 53 55.0**	**-2.2**
	comp=Z,2μm,0.9s,SNR=31							
WRA	**Warramunga Arr**	**19.60 176**		P	**P**	**P**	**21 53 56.0**	**-1.3**
	comp=Z,18nm,0.3s,baz=354,slow=11,SNR=25							
WRA				S	S	S	21 57 27.0	-10
	comp=Z,10nm,0.3s,baz=359,slow=22,SNR=6.5							
WRA	**Warramunga Arr**	**19.60 176**		P	**P**	**P**	**21 53 56.0**	**-1.3**
WRA				S	S	S	21 57 27.0	-10
WRA				pmax	pmax	pmax		
	comp=Z,18nm,0.3s							
WRA				smax	smax	smax		
	comp=N,10.0nm,0.3s							
WRA	**Warramunga Arr**	**19.60 176**		P	**P**	**P**	**21 53 56.0**	**-1.3**
WRA				S	S	S	21 57 27.0	-10
WB2	**Warramunga Arr**	**19.60 176**		*e*P	**P**	**P**	**21 53 55.5**	**-1.8**
WB2				*e*S	S	S	21 57 27.4	-9.2
IGBI	**Denpasar**	**19.62 244**		P	Pn	Pn	21 54 04.9	+5.7
NBBI	**Negara**	**19.92 246**		P	**Pn**	**Pn**	**21 54 05.5**	**+2.8**
	comp=N,826nm,1.6s,comp=N,17μm							
KMMI	**Kalianget**	**20.06 250**		P	Pn	Pn	21 54 08.5	+4.1
	comp=N,1μm,1.8s,comp=N,15μm							
BYJI	**Banyuwangi**	**20.10 246**		P	Pn	Pn	21 54 06.2	+1.3
	comp=N,1μm,0.9s,comp=N,32μm							
BTM	**Bintulu**	**20.12 280**		P	Pn	Pn	21 54 04.5	-0.6
JAGI	**Jajag, Banyuwa**	**20.39 246**		P	Pn	Pn	21 54 07.5	-0.7
	comp=N,336nm,1.3s,comp=N,11μm							
SCZP	**Santa Cruz**	**20.47 322**		*e*P	**P**	**P**	**21 54 06.8**	**-0.1**
BCPH	**Baguio City Da**	**20.54 324**		⇓*i*P	Pn	Pn	21 54 12.9	+2.7
BLJI	**Banyuglugur**	**20.64 248**		P	Pn	Pn	21 54 11.1	0.0
	comp=N,506nm,1.4s,comp=N,8μm							
SBUM	**Sibu**	**20.86 278**		P	**P**	**P**	**21 54 12.3**	**+1.1**
SBUM	**Sibu**	**20.86 278**		P	**P**	**P**	**21 54 11.8**	**+0.7**
	comp=N,86nm,1.8s							
BOLP	**Bolinao**	**20.94 323**		*e*P	Pn	Pn	21 54 16.1	+1.5
GMJI	**Gumukmas**	**20.96 247**		P	Pn	Pn	21 54 15.8	+0.9
	comp=N,407nm,1.0s							
PBKI	**Pangkalan Bun**	**21.37 263**		P	**P**	**P**	**21 54 18.0**	**+1.4**
	comp=N,766nm,1.1s,comp=N,8μm							
STKI	**Sintang**	**21.44 271**		P	**P**	**P**	**21 54 19.4**	**+2.1**
	comp=N,183nm,2.3s,comp=N,15μm							
ABRA	**Dolores**	**21.48 327**		*e*P	**P**	**P**	**21 54 19.1**	**+1.5**
KRKI	**Karangkates**	**21.84 248**		P	**P**	**P**	**21 54 25.5**	**+3.9**
	comp=N,586nm,0.8s,comp=N,16μm							
SJI	**Sawahan**	**22.34 250**		P	**P**	**P**	**21 54 28.5**	**+1.4**
	comp=N,292nm,1.2s							
PWJI	**Pagerwojo**	**22.40 249**		P	**P**	**P**	**21 54 28.3**	**+0.7**
	comp=N,154nm,1.0s							
KSM	**Kuching**	**22.67 274**		*e*P	**P**	**P**	**21 54 30.6**	**0.0**
	comp=N,155nm,1.0s							
KSM	**Kuching**	**22.67 274**		P	**P**	**P**	**21 54 30.5**	**0.0**
KSM	**Kuching**	**22.67 274**		P	**P**	**P**	**21 54 31.5**	**+1.0**
	comp=N,160nm,1.4s,comp=N,8μm							
PCJI	**Pacitan**	**23.04 249**		P	**P**	**P**	**21 54 36.7**	**+2.3**
	comp=N,287nm,1.0s							
AS31	**Alice Springs**	**23.27 178**		*e*P	**P**	**P**	**21 54 35.7**	**-0.9**
ASAR	**Alice Springs**	**23.27 178**		P	**P**	**P**	**21 54 35.6**	**-0.9**
	comp=N,351nm,0.8s,baz=356,slow=11,SNR=122							
ASAR				S	**S**		**21 58 52.2**	**+5.9**
	comp=N,77nm,1.0s,baz=357,slow=14,SNR=4.8							
ASAR	**Alice Springs**	**23.27 178**		P	**P**	**P**	**21 54 35.7**	**-0.9**
ASAR				pmax	pmax			
	comp=Z,351nm,0.8s							
ASAR	**Alice Springs**	**23.27 178**		P	**P**	**P**	**21 54 35.6**	**-0.9**
ASAR				S	**S**		**21 58 52.2**	**+5.9**
SMRI	**Semarang**	**23.40 253**		P	**P**	**P**	**21 54 39.9**	**+1.9**
	comp=Z,586nm,1.1s,comp=Z,10μm							
UGM	**Wanagama**	**23.57 251**		*e*P	**P**	**P**	**21 54 41.4**	**+1.8**
	comp=Z,664nm,1.2s							
UGM	**Wanagama**	**23.57 251**		P	P	P	21 54 46.3	+6.7
	comp=Z,543nm,1.7s							
CTA	**Charters Tower**	**23.63 147**		P	**P**	**P**	**21 54 40.0**	**-0.1**
	comp=Z,149nm,0.8s,baz=320,slow=11,SNR=31							
CTA				LR	LR		22 04 49.0	
	comp=Z,32μm,19.8s,baz=316,slow=39							
CTA	**Charters Tower**	**23.63 147**		*e*P	**P**	**P**	**21 54 38.8**	**-1.3**
	comp=Z,203nm,0.9s							
CTA	**Charters Tower**	**23.63 147**		P	**P**	**P**	**21 54 40.0**	**-0.1**
CTA				pmax	pmax			
	comp=Z,149nm,0.8s							
CTA				MLR	MLR			
	comp=Z,32μm,19.8s							
CTA	**Charters Tower**	**23.63 147**		P	**P**	**P**	**21 54 40.0**	**-0.1**
CTAO	**Charters Tower**	**23.63 147**		*e*P	**P**	**P**	**21 54 39.4**	**-0.7**
CTAO				pmax	pmax			
	comp=Z,282nm,0.9s							
CTAO	**Charters Tower**	**23.63 147**		*e*P	**P**	**P**	**21 54 39.4**	**-0.7**
	comp=Z,282nm,0.9s							
YOGI	**Yogyakarta**	**23.75 251**		P	P	P	21 54 47.4	+6.1
	comp=Z,μm,1.4s,comp=Z,18μm							
BJII	**Banjamgara**	**24.17 253**		P	**P**	**P**	**21 54 47.5**	**+2.2**
	comp=Z,327nm,2.1s,comp=Z,10μm							
MBWA	**Marble Bar**	**24.42 211**		*e*P	**P**	**P**	**21 54 47.0**	**-0.4**
MBWA	**Marble Bar**	**24.42 211**		*e*P	**P**	**P**	**21 54 47.0**	**-0.4**
	comp=Z,307nm,1.0s							
CISI	**Cisompet, Garu**	**26.04 253**		P	**P**	**P**	**21 55 01.6**	**-0.7**
	comp=Z,500nm,0.9s							
LEM	**Lembang**	**26.06 255**		P	**P**	**P**	**21 55 06.0**	**+3.5**
	comp=Z,192nm,0.8s							
YULB	**Yuli**	**26.09 335**		*e*P	**P**	**P**	**21 55 04.3**	**+1.7**
	comp=Z,557nm,2.2s							
TPUB	**Ta-pu**	**26.30 334**		*e*P	**P**	**P**	**21 55 04.8**	**+0.3**
	comp=Z,72nm,1.0s							
NACB	**Ninganchiao**	**26.67 336**		*e*P	**P**	**P**	**21 55 08.5**	**+0.8**
	comp=Z,108nm,1.0s							
CBJI	**Citeko**	**26.71 256**		P	**P**	**P**	**21 55 11.0**	**+2.8**
	comp=Z,487nm,0.9s							
YHNB	**Yeheng**	**27.20 337**		*e*P	**P**	**P**	**21 55 14.4**	**+1.9**
	comp=Z,186nm,1.3s							
JOW	**Kunigami**	**27.32 351**		P	**P**	**P**	**21 55 13.5**	**0.0**
	comp=Z,82nm,0.9s,baz=159,slow=8.3,SNR=8.3							
JOW				LR	LR		22 04 38.6	
	comp=Z,18μm,19.5s,baz=300,slow=33							
JOW	**Kunigami**	**27.32 351**		*e*P	**P**	**P**	**21 55 14.0**	**+0.5**
	comp=Z,111nm,1.2s							
CGJI	**Cibinong**	**27.88 256**		P	**P**	**P**	**21 55 18.8**	**+0.1**
	comp=Z,101nm,0.8s,comp=Z,3μm							
KLI	**Kotabumi**	**28.39 260**		P	**P**	**P**	**21 55 25.6**	**+2.3**
	comp=Z,179nm,0.7s							
HNR	**Honiara**	**28.41 109**		P	**P**	**P**	**21 55 23.5**	**+0.1**
	comp=Z,108nm,0.7s,baz=174,slow=2.8,SNR=5.3							
HNR	**Honiara**	**28.41 109**		*e*P	**P**	**P**	**21 55 23.3**	**-0.1**
HNR				pmax	pmax			
	comp=Z,154nm,0.8s							
HNR	**Honiara**	**28.41 109**		*e*P	**P**	**P**	**21 55 23.2**	**-0.1**
	comp=Z,154nm,0.8s							
XMIS	**Christmas Isla**	**28.94 249**		*e*P	**P**	**P**	**21 55 25.9**	**-2.2**
	comp=Z,424nm,0.8s							
MYKOM	**Kota Tinggi**	**29.13 274**		P	**P**	**P**	**21 55 30.7**	**+0.9**
MYKOM	**Kota Tinggi**	**29.13 274**		P	**P**	P	21 55 35.6	+5.7
	comp=Z,60nm,1.1s							
LWLI	**Liwa**	**29.20 260**		P	**P**	**P**	**21 55 33.2**	**+2.6**
	comp=Z,108nm,1.0s							
MEEK	**Meekatharra**	**29.61 207**		*e*P	**P**	**P**	**21 55 33.3**	**-0.6**
	comp=Z,145nm,0.8s							
KGM	**Kluang**	**29.67 275**		P	**P**	**P**	**21 55 34.6**	**-0.1**
QIZ	**Qiongzhong**	**29.68 312**		*e*P	**P**	**P**	**21 55 34.9**	**+0.2**
	comp=Z,25nm,0.8s							
KSI	**Kapahiang**	**30.48 263**		P	**P**	**P**	**21 55 42.4**	**+0.5**
	comp=Z,155nm,0.8s							
EIDS	**Eidsvold**	**30.50 146**		*e*P	**P**	**P**	**21 55 40.2**	**-1.7**
	comp=Z,252nm,1.9s							
FORT	**Forrest**	**30.68 188**		*e*P	**P**	**P**	**21 55 43.3**	**-0.1**
	comp=Z,131nm,0.7s							
FORT	**Forrest**	**30.68 188**		*e*P	**P**	**P**	**21 55 44.0**	**+0.6**
	comp=Z,446nm,0.8s							
KRJI	**Kerinci**	**31.49 266**		P	P	P	21 55 57.4	+6.5
	comp=Z,239nm,1.1s							
BKNI	**Bangkinang**	**31.88 271**		P	P	P	21 56 00.1	+5.9
	comp=Z,90nm,1.0s,comp=Z,3μm							
IPM	**Ipoh**	**32.20 279**		*e*P	**P**	**P**	**21 55 56.6**	**-0.4**
	comp=Z,66nm,1.0s							
IPM	**Ipoh**	**32.20 279**		P	**P**	**P**	**21 55 56.8**	**-0.2**
IPM	**Ipoh**	**32.20 279**		P	**P**	**P**	**21 55 58.2**	**+1.2**
	comp=Z,211nm,0.7s							
STKA	**Stephens Creek**	**32.49 166**		P	**P**	**P**	**21 55 57.6**	**-1.7**
	comp=Z,139nm,0.8s,baz=346,slow=11,SNR=90							
STKA				LR	LR		22 10 44.2	
	comp=Z,19μm,19.2s,baz=347,slow=39							
STKA	**Stephens Creek**	**32.49 166**		*e*P	**P**	**P**	**21 55 56.6**	**-2.7**
	comp=Z,110nm,0.6s							
STKA	**Stephens Creek**	**32.49 166**		*e*P	**P**	**P**	**21 55 57.0**	**-2.3**
STKA				pmax	pmax			
	comp=Z,30nm,0.8s							
STKA	**Stephens Creek**	**32.49 166**		*e*P	**P**	**P**	**21 55 57.0**	**-2.3**
	comp=Z,30nm,0.8s							
BBOO	**Buckleboo**	**32.50 175**		*e*P	**P**	**P**	**21 55 57.6**	**-1.8**
	comp=Z,1μm,0.8s							
BBOO				*e*ScP	**ScP**	**ScP**	**22 02 31.8**	**+5.0**
PPI	**Padang Panjang**	**32.51 270**		P	**P**	**P**	**21 55 58.4**	**-1.3**
	comp=Z,66nm,1.3s							
KULM	**Kulim**	**32.69 280**		*e*P	**P**	**P**	**21 55 59.4**	**-1.8**
	comp=Z,44nm,1.1s							
KULM	**Kulim**	**32.69 280**		P	**P**	**P**	**21 56 01.2**	**-0.1**
KULM	**Kulim**	**32.69 280**		P	P	P	21 56 04.8	+3.5
	comp=Z,206nm,1.4s							
SSE	**Sheshan**	**33.12 341**		P	**P**	**P**	**21 56 07.4**	**+2.6**
SSE				pmax	pmax			
	comp=Z,37nm,0.7s							
SSE				pmax	pmax			
	comp=Z,2μm,12.5s							
JNU	**Nakatsue**	**33.27 357**		*e*P	**P**	**P**	**21 56 05.1**	**-1.0**
	comp=Z,66nm,1.2s							
MNSI	**Mandailing Nat**	**33.35 272**		P	**P**	**P**	**21 56 06.6**	**-0.4**
	comp=Z,123nm,0.8s							
PSI	**Prapat**	**34.11 275**		P	**P**	**P**	**21 56 12.2**	**-1.6**
	comp=Z,185nm,0.8s							
KLBR	**Kellerberrin**	**34.29 203**		*e*P	**P**	**P**	**21 56 14.3**	**-0.7**
	comp=Z,50nm,0.8s							
TSI	**Tuntungan**	**34.53 277**		P	P	P	21 56 22.6	+5.3
	comp=Z,134nm,1.1s							
NJ2	**Nanjing**	**34.79 339**		*e*P	**P**	**P**	**21 56 20.4**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,20nm,0.8s							
ARMA	**Armidale**	**34.86 151**		*e*P	**P**	**P**	**21 56 19.8**	**-0.3**
ARMA	**Armidale**	**34.86 151**		*e*P	**P**	**P**	**21 56 19.9**	**-0.1**
	comp=Z,98nm,0.8s							
WHN	**Wuhan**	**35.37 332**		P	**P**	**P**	**21 56 26.5**	**+2.2**
NWAO	**Narrogin (SRO)**	**35.68 203**		P	**P**	**P**	**21 56 26.6**	**-0.3**
	comp=Z,41nm,1.0s,baz=28,slow=8.7,SNR=11							
NWAO				LR	LR		22 10 56.8	
	comp=Z,8μm,21.0s,baz=39,slow=36							
NWAO	**Narrogin (SRO)**	**35.68 203**		P	**P**	**P**	**21 56 26.6**	**-0.3**
NWAO				pmax	pmax			
	comp=Z,41nm,1.0s							
NWAO				MLR	MLR			
	comp=Z,8μm,21.0s							
NWAO	**Narrogin (SRO)**	**35.68 203**		*e*P	**P**	**P**	**21 56 26.6**	**-0.3**
	comp=Z,32nm,1.0s							
TPTI		**35.88 276**		P	**P**	**P**	**21 56 35.7**	**+6.7**
	comp=Z,170nm,0.9s							
LHMI	**Lhok Sumawe**	**36.33 279**		P	**P**	**P**	**21 56 40.3**	**+7.5**
	comp=Z,193nm,0.8s							
GYA	**Guiyang**	**36.69 318**		P	**P**	**P**	**21 56 37.4**	**+1.6**
GYA				pP	**pP**	**pP**	**21 56 48.0**	**+1.2**
GYA				sP	**sP**	**sP**	**21 56 53.7**	**+2.2**
GYA				PP	**PnPn**	**PnPn**	**21 58 02.2**	**+2.2**
GYA				S	**S**	**S**	**22 02 19.5**	**+2.6**
GYA				ScP	**ScP**	**ScP**	**22 02 42.3**	**+0.3**
GYA				pmax	pmax			
	comp=Z,40nm,0.8s							
GYA				pmax	pmax			
	comp=Z,180nm,5.4s							
GYA				LR	LR			
	comp=N,4μm,17.9s							
GYA				LR	LR			
	comp=E,3μm,18.0s							
GYA				LR	LR			
	comp=Z,8μm,16.9s							
MJAR	**Matsushiro Arr**	**36.96 7**		P	**P**	**P**	**21 56 37.0**	**-0.8**
	comp=Z,14nm,0.8s,baz=183,slow=7.9,SNR=24							
MJAR				LR	LR		22 08 43.9	
	comp=Z,14μm,21.8s,baz=15,slow=31							
MJAR	**Matsushiro Arr**	**36.96 7**		P	**P**	**P**	**21 56 37.0**	**-0.8**
MJAR				pmax	pmax			
	comp=Z,14nm,0.8s							
MJAR				MLR	MLR			
	comp=Z,14μm,21.8s							
MJAR	**Matsushiro Arr**	**36.96 7**		P	**P**	**P**	**21 56 37.0**	**-0.8**
MAJO	**Matsushiro**	**36.96 7**		*e*P	**P**	**P**	**21 56 37.7**	**-0.1**
MAJO				pmax	pmax			
	comp=Z,449nm,2.6s							
MAJO	**Matsushiro**	**36.96 7**		*e*P	**P**	**P**	**21 56 37.7**	**-0.1**
	comp=Z,449nm,2.6s							
MAT	**Matsushiro**	**36.96 7**		P	**P**	**P**	**21 56 35.9**	**-1.9**
ENH	**Enshi**	**37.68 326**		*e*P	**P**	**P**	**21 56 43.7**	**-0.4**
	comp=Z,64nm,1.1s							
ENH				*e*PcP	**PcP**	**PcP**	**21 59 02.2**	**+1.3**
KSAR	**Wonju Array Be**	**37.82 353**		P	**P**	**P**	**21 56 45.1**	**0.0**
KSAR							21 59 02.0	
KSAR	**Wonju Array Be**	**37.82 353**		P	**P**	**P**	**21 56 45.0**	**0.0**
KSAR				PcP	**PcP**	**PcP**	**21 59 02.0**	**+0.9**
KSRS	**Korea Array**	**37.82 354**		P	**P**	**P**	**21 56 45.0**	**0.0**
	comp=Z,30nm,1.2s,baz=167,slow=9.2,SNR=13							
KSRS				PcP	**PcP**	**PcP**	**21 59 02.0**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=188,slow=2.6,SNR=4.1							
KSRS	**Korea Array**	**37.82 354**		P	**P**	**P**	**21 56 45.1**	**0.0**
KSRS							21 59 02.0	
KSRS				pmax	pmax			
	comp=Z,30nm,1.2s							
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CAN	**Canberra**	**37.96 158**		*e*P	**P**	**P**	**21 56 46.0**	**-0.4**
CAN				pmax	pmax			
	comp=Z,63nm,1.1s							
CAN	**Canberra**	**37.96 158**		*e*P	**P**	**P**	**21 56 46.0**	**-0.4**
	comp=Z,63nm,1.1s							
BSI	**Banda Aceh**	**37.99 279**		P	**P**	**P**	**21 56 50.0**	**+3.1**
	comp=Z,221nm,0.8s							
INCN	**Inchon**	**38.02 352**		*e*P	**P**	**P**	**21 56 45.7**	**-1.1**
	comp=Z,185nm,1.6s							
INCN				*e*PP	**PnPn**	**PnPn**	**21 58 20.0**	**+4.2**
CNB	**Canberra Magne**	**38.09 158**		*e*P	**P**	**P**	**21 56 47.0**	**-0.5**
	comp=Z,98nm,0.7s							
CM31	**Chiang Mai Arr**	**38.21 301**		*e*P	**P**	**P**	**21 56 48.4**	**-0.3**
	comp=Z,18nm,0.8s							
CM31				*e*PcP	**PcP**	**PcP**	**21 59 04.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**38.21 301**		P	**P**	**P**	**21 56 48.1**	**-0.6**
	comp=Z,20nm,0.8s,baz=124,slow=7.6,SNR=52							
CMAR				P

comp=E,5µm,19.0s
CN2 LR LR
comp=Z,13µm,21.0s
MDJ Mudanjiang 44.80 357 P **P** **21 57 43.6 +1.4**
MDJ pP **pP** **21 57 51.9 -1.5**
MDJ sP **sP** **21 57 55.7 -2.4**
MDJ PP **PP** **21 59 28.3 +0.9**
MDJ SS **ScS** **22 07 37.6 +1.0**
MDJ pmax pmax
comp=Z,19nm,1.6s
MDJ pmax pmax
comp=Z,8µm,8.0s
MDJ LR LR
comp=N,7µm,20.1s
MDJ LR LR
comp=E,6µm,22.8s
MDJ LR LR
comp=Z,11µm,28.3s
MDJ Mudanjiang 44.80 357 *e*P **P** **21 57 42.2 0.0**
comp=Z,79nm,1.2s
ASAJ Asahikawa 45.03 10 P **P** **21 57 45.8 +1.6**
comp=Z,34nm,1.0s,baz=191,slow=5.9,SNR=6.2
ASAJ Asahikawa 45.03 10 P **P** **21 57 45.8 +1.6**
ASAJ pmax pmax
comp=Z,34nm,1.0s
ASAJ Asahikawa 45.03 10 *e*P **P** **21 57 44.7 +0.5**
comp=Z,42nm,1.3s
LZH Lanzhou 45.16 326 *e*P **P** **21 57 46.2 +0.7**
LZH pP **pP** **21 57 59.6 +2.9**
LZH sP **sP** **21 58 04.7 +3.4**
LZH PcP **PcP** **21 59 27.4 +1.9**
LZH *e*S **S** **22 04 22.3 -0.3**
LZH SS **ScS** **22 07 43.0 +3.3**
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,790nm,4.9s
LZH LR LR
comp=N,12µm,21.0s
LZH LR LR
comp=Z,9µm,19.1s
HHC Hu-ho-hao-te 45.30 337 *e*P **P** **21 57 47.3 +0.9**
HHC pP pP 21 58 03.1 +5.4
HHC PP **PP** **21 59 34.0 +1.1**
HHC S **S** **22 04 25.9 +1.5**
HHC sS sS 22 04 50.4 +7.4
HHC SS **ScS** **22 07 39.0 -1.3**
HHC pmax pmax
comp=Z,46nm,1.6s
HHC pmax pmax
comp=Z,4µm,9.3s
HHC LR LR
comp=N,7µm,19.6s
HHC LR LR
comp=E,6µm,18.2s
HHC LR LR
comp=Z,8µm,18.8s
BTO Baotou 45.71 336 *e*P P 21 57 46.0 -3.7
MSVF Nonsavu 47.65 114 *e*P **P** **21 58 05.7 +0.5**
MSVF pmax pmax
comp=Z,67nm,1.2s
MSVF Nonsavu 47.65 114 *e*P **P** **21 58 05.7 +0.5**
comp=Z,66nm,1.2s
MSVF Nonsavu 47.65 114 P **P** **21 58 07.0 +1.8**
comp=Z,239nm,0.9s,SNR=9.3
YSS Yuzh-Sakhalins 47.82 9⇓ *e*P **P** **21 58 07.3 +1.4**
YSS *e* 21 58 12.9
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=N,3µm,18.0s
YSS MLR MLR
comp=Z,6µm,18.0s
YSS Yuzh-Sakhalins 47.82 9 *e*P **P** **21 58 06.5 +0.6**
comp=Z,73nm,0.8s
HABR Khabarovsk 48.59 2 *e*P **P** **21 58 10.9 -1.0**
HABR *e**PP **pP** **21 58 20.5 -2.7**
HABR *e* 21 59 35.2
HABR *e* 22 00 04.0
HABR PPP PPP 22 00 54.6
HABR *e*S **S** **22 05 11.5 +0.6**
HABR *e**SS **sS** **22 05 28.3 -1.3**
HABR *e* 22 08 00.6
HABR *e*SSS SSS 22 09 57.7
HABR pmax pmax
comp=N,127nm,3.1s
HABR pmax pmax
comp=E,96nm,3.1s
HABR pmax pmax
comp=Z,255nm,1.6s
HABR MLR MLR
comp=Z,5µm,14.0s
KLR Kul'dur 49.32 359 *e*P P 21 58 14.0 -3.5
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,340nm,1.8s
LSA Lhasa 49.71 311 P **P** **21 58 21.7 +0.3**
LSA Lhasa 49.71 311 *e*P **P** **21 58 21.6 +0.2**
LSA *e* 21 59 43.5
LSA pmax pmax
comp=Z,58nm,0.9s
LSA Lhasa 49.71 311 *e*P **P** **21 58 21.6 +0.2**
comp=Z,58nm,0.9s
LSA *e*PcP **PcP** **21 59 43.5 +1.3**
GTA Gaotai 49.76 326 *e*P **P** **21 58 21.4 +0.2**
GTA pP **pP** **21 58 32.9 +0.4**
GTA sP **sP** **21 58 36.9 -0.2**
GTA PcP **PcP** **21 59 44.0 +2.2**
GTA S **S** **22 05 28.8 +0.8**
GTA ScS **ScS** **22 08 10.3 +0.4**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA LR LR
comp=N,10µm,24.7s
GTA LR LR
comp=E,11µm,22.8s
GTA LR LR
comp=Z,14µm,22.3s
HIA Hailar 50.64 349 *e*P **P** **21 58 27.1 -0.4**
HIA pmax pmax
comp=Z,102nm,1.5s
HIA Hailar 50.64 349 *e*P **P** **21 58 27.1 -0.4**
comp=Z,102nm,1.5s
TAPN Taplejung 51.35 306 *e*P **P** **21 58 32.9 -0.7**
comp=Z,143nm,1.0s
TAPN Taplejung 51.35 306 *e*P **P** **21 58 32.9 -0.7**
ODAN Odare 51.41 305 *e*P **P** **21 58 33.1 -0.9**
comp=Z,234nm,0.8s
ODAN Odare 51.41 305 *e*P **P** **21 58 33.1 -0.9**
RAMN Ramite 52.09 305 *e*P **P** **21 58 38.5 -0.6**
comp=Z,189nm,0.6s
RAMN Ramite 52.09 305 *e*P **P** **21 58 38.5 -0.6**
JIRN Jiri 52.71 306 *e*P **P** **21 58 43.0 -0.8**
comp=Z,148nm,0.7s
JIRN Jiri 52.71 306 *e*P **P** **21 58 43.0 -0.8**
ULN Ulaanbaatar 52.96 338 *e*P **P** **21 58 46.0 +1.0**
ULN pmax pmax
comp=Z,780nm,2.7s
ULN Ulaanbaatar 52.96 338 *e*P **P** **21 58 46.0 +1.0**
comp=Z,780nm,2.7s
GUN Gumba 53.06 306 *e*P **P** **21 58 46.4 0.0**
comp=Z,218nm,0.7s
GUN Gumba 53.06 306 *e*P **P** **21 58 46.4 0.0**
SONM Songino Array 53.18 338 P **P** **21 58 47.6 +1.0**
comp=Z,22nm,1.0s,baz=154,slow=7.7,SNR=16
SONM PcP **PcP** **21 59 54.7 +0.4**
comp=Z,8.4nm,0.8s,baz=139,slow=2.5,SNR=3.2
SONM Songino Array 53.18 338 P **P** **21 58 47.6 +1.0**
SONM 21 59 54.7
SONM pmax pmax
comp=Z,23nm,1.0s
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 53.18 338 P **P** **21 58 47.6 +1.0**
SONM PcP **PcP** **21 59 54.7 +0.4**
PKI Pulchoki 53.31 305 *e*P **P** **21 58 46.8 -1.4**
comp=Z,67nm,0.7s
PKI Pulchoki 53.31 305 *e*P **P** **21 58 46.8 -1.4**
PKI Pulchoki 53.31 305 *e*P **P** **21 58 46.8 -1.4**
KKN Kakani 53.50 305 *e*P **P** **21 58 48.4 -1.0**
comp=Z,114nm,0.8s
KKN Kakani 53.50 305 *e*P **P** **21 58 48.4 -1.0**
KKN Kakani 53.50 305 *e*P **P** **21 58 48.4 -1.0**
DMN Daman 53.57 305 *e*P **P** **21 58 49.2 -0.8**
comp=Z,121nm,0.7s
DMN Daman 53.57 305 *e*P **P** **21 58 49.2 -0.8**
GKN Gorkha 54.11 305 *e*P **P** **21 58 52.9 -0.9**
comp=Z,124nm,0.7s
GKN Gorkha 54.11 305 *e*P **P** **21 58 52.9 -0.9**
CIT Chita 54.60 345 *e*P **P** **21 58 57.7 +0.9**
CIT *e* 21 59 14.4
CIT *e* 22 06 39.8
KOLN Koldanda 54.87 305 *e*P **P** **21 58 58.8 -0.6**
comp=Z,327nm,0.7s
KOLN Koldanda 54.87 305 *e*P **P** **21 58 58.8 -0.6**
DANN Dangsing 54.95 305 *e*P **P** **21 58 59.5 -0.6**
comp=Z,378nm,0.7s
DANN Dangsing 54.95 305 *e*P **P** **21 58 59.5 -0.6**
RPZ Rata Peaks 55.00 147 P **P** **21 59 00.5 +0.7**
comp=Z,39nm,0.9s,baz=301,slow=4.7,SNR=8.2
RPZ Rata Peaks 55.00 147 *e*P **P** **21 59 00.4 +0.5**
comp=Z,77nm,0.8s
URZ Urewera 55.44 138 P **P** **21 59 03.9 +0.8**
comp=Z,17nm,0.6s,baz=345,slow=3.8,SNR=7.8
URZ Urewera 55.44 138 *e*P **P** **21 59 00.7 -2.4**
comp=Z,56nm,0.9s
KHZ Kahutara 55.59 144 *e*P **P** **21 59 04.0 0.0**
comp=Z,42nm,0.7s
ODZ Otahua Downs 55.67 148 *e*P **P** **21 59 05.5 +1.0**
comp=Z,134nm,0.9s
HYB Hyderabad 56.30 291 *i* P **P** **21 59 08.0 -1.6**
HYB *e*pP **pP** **21 59 18.0 -3.1**
HYB *e*sP **sP** **21 59 23.0 -2.6**
PEA0B Petropavlovsk- 57.08 18 *e*P **P** **21 59 14.1 -0.3**
PETK Petropavlovsk- 57.08 18 P **P** **21 59 14.0 -0.5**
comp=Z,36nm,0.9s,baz=202,slow=7.2,SNR=17
PETK Petropavlovsk- 57.08 18 P **P** **21 59 14.0 -0.5**
PETK pmax pmax
comp=Z,36nm,0.9s
PETK Petropavlovsk- 57.08 18 P **P** **21 59 14.0 -0.5**
PET Petropavlovsk 57.30 18 *e*P **P** **21 59 16.9 +0.9**
PET pmax pmax
comp=Z,166nm,1.4s
PET Petropavlovsk 57.30 18 *e*P **P** **21 59 15.7 -0.3**
comp=Z,363nm,1.5s
TLY Talaya 57.36 339 *e*P P 21 59 23.0 +6.5
TLY pmax pmax
comp=Z,19nm,0.9s
TLY Talaya 57.36 339 *e*P **P** **21 59 17.7 +1.2**
IRK Irkutsk 57.60 340 *e*P **P** **21 59 18.6 +0.4**
IRK pmax pmax
comp=Z,154nm,2.2s
MOY Mondy 58.34 337 *e*P **P** **21 59 24.3 +0.8**
MOY pmax pmax
comp=Z,137nm,2.0s
WMQ Urumqi 59.56 323 P **P** **21 59 32.7 +0.6**
WMQ pP **pP** **21 59 42.8 -0.9**
WMQ sP **sP** **21 59 46.7 -1.5**
WMQ PcP **PcP** **22 00 19.7 +0.5**
WMQ pmax pmax
comp=Z,140nm,0.7s
WMQ pmax pmax
comp=Z,2µm,10.0s
BOD Bodaibo 59.85 348 *e*P **P** **21 59 33.5 -0.2**
BOD pmax pmax
comp=Z,96nm,1.6s
DDI Dehra Dun 60.31 306 *ex* **P** **21 59 36.5 -1.0**
DDI *ex* x 22 03 05.4
YAK Yakutsk 62.19 358 *e*P **P** **21 59 49.3 -0.2**
YAK pmax pmax
comp=Z,82nm,0.8s
YAK Yakutsk 62.19 358 *e*P **P** **21 59 49.3 -0.2**
comp=Z,82nm,0.8s
FX1 Attu Island--F 62.70 26 *e*P **P** **21 59 54.0 +0.9**
FX1 Attu Island--F 62.70 26 *e*P **P** **21 59 54.0 +0.9**
MK31 Makanchi Array 64.38 324*ce*P **P** **22 00 04.2 -0.2**
MK31 pmax pmax
comp=Z,23nm,0.5s
MK31 Makanchi Array 64.38 324 *e*P **P** **22 00 04.7 +0.3**
MKAR Makanchi Array 64.38 324 P **P** **22 00 04.3 0.0**
comp=Z,14nm,0.7s,baz=114,slow=8.0,SNR=26
MKAR Makanchi Array 64.38 324 *e*P **P** **22 00 04.9 +0.5**
MKAR Makanchi Array 64.38 324 *e*P **P** **22 00 04.8 +0.5**
SEY Seymchan 64.72 10 *e*P **P** **22 00 07.1 +0.9**
KSH Kashi 65.23 314 P **P** **22 00 11.2 +1.0**
KSH *e*pP **pP** **22 00 21.3 -0.6**
KSH *e*sP **sP** **22 00 25.1 -1.3**
KSH *e*PcP **PcP** **22 00 43.1 +0.7**
KSH *e*PP **PP** **22 02 36.1 +2.0**
KSH *e*ScP 22 04 42.3
KSH *e*PcS 22 04 46.3
KSH *e*S **S** **22 08 48.1 -3.0**
KSH *e*ScS **SKSac** **22 09 59.1 -3.5**
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH pmax pmax
comp=Z,4µm,11.1s
KSH LR LR
comp=N,5µm,18.1s
KSH LR LR
comp=E,10µm,20.3s
KSH LR LR
comp=Z,16µm,21.3s
KZA Kyzart 66.73 317 P **P** **22 00 21.0 +0.9**
SNR=12
KZA P **P** **22 00 21.0 +0.9**
SNR=12
TKM2 Tokmak 2 66.83 318 P **P** **22 00 20.5 0.0**
SNR=12
TKM2 P **P** **22 00 20.5 0.0**
SNR=12
TKM2 Tokmak 2 66.83 318 *i* P **P** **22 00 20.5 0.0**
TKM2 Tokmak 2 66.83 318 *e*P **P** **22 00 20.9 +0.3**
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 66.98 331 P **P** **22 00 19.9 -1.0**
comp=Z,14nm,0.6s,baz=123,slow=6.9,SNR=34
ZALV Zalesovo Beam 66.98 331 P **P** **22 00 20.0 -1.0**
ZALV pmax pmax
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 66.98 331 P **P** **22 00 19.9 -1.0**
KBK Karagaybulak 67.16 317 P **P** **22 00 23.8 +1.2**
SNR=8.9
KBK P **P** **22 00 23.8 +1.2**
SNR=8.9
CHMS Chumysh 67.43 318 P **P** **22 00 25.1 +1.0**
SNR=7.5
CHMS P **P** **22 00 25.1 +1.0**
SNR=7.5
AAK Ala-Archa 67.46 317 *e*P **P** **22 00 24.5 0.0**
AAK pmax pmax
comp=Z,547nm,1.9s
AAK Ala-Archa 67.46 317 *e*P **P** **22 00 24.5 0.0**
comp=Z,547nm,1.9s
AAK Ala-Archa 67.46 317 P **P** **22 00 24.5 0.0**
comp=Z,106nm,1.0s,SNR=10
USP Ospenovka 67.70 318 P **P** **22 00 25.9 0.0**
SNR=18
USP P **P** **22 00 25.9 0.0**
SNR=18
AML Almayashu 67.82 316 P **P** **22 00 29.4 +2.4**
SNR=11
AML P **P** **22 00 29.4 +2.4**
SNR=11
EKS2 Erkin-Say 67.96 317 P **P** **22 00 29.8 +2.3**
SNR=10
EKS2 P **P** **22 00 29.8 +2.3**
SNR=10
EKS2 Erkin-Say 67.96 317 *e*P **P** **22 00 28.4 +0.8**
EKS2 pmax pmax
comp=Z,56nm,1.3s
EKS2 Erkin-Say 67.96 317 *e*P **P** **22 00 28.4 +0.8**
comp=Z,56nm,1.3s
NVS Novosibirsk 68.26 332⇑ *i*P **P** **22 00 27.6 -1.4**
NVS *e*S **S** **22 09 27.8 +1.0**
NVS pmax pmax
comp=N,23nm,1.2s
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,64nm,1.2s
NVS smax smax
comp=N,30nm,3.0s
NVS smax smax
comp=E,51nm,3.0s
KURK Kurchatov 68.45 326 P **P** **22 00 30.1 -0.2**
comp=E,17nm,0.7s,baz=121,slow=5.7,SNR=47
KURK Kurchatov 68.45 326*ce*P **P** **22 00 30.5 +0.2**
KURK pmax pmax
comp=Z,119nm,1.7s
KURK MLR MLR
comp=Z,19µm,23.0s
KURK Kurchatov 68.45 326 *e*P **P** **22 00 30.1 -0.2**
comp=Z,64nm,0.9s
KURK Kurchatov 68.45 326 P **P** **22 00 30.4 +0.2**
comp=Z,405nm,1.1s,SNR=20
KBL Kabul 68.84 307 *e*P **P** **22 00 32.0 -1.4**
KBL pmax pmax
comp=Z,33nm,0.7s
KBL Kabul 68.84 307 *e*P **P** **22 00 32.0 -1.4**
comp=Z,33nm,0.7s
KK31 Karatay Array 70.36 316*ce*P **P** **22 00 41.6 -0.7**
KK31 pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 70.36 316 *e*P **P** **22 00 42.0 -0.3**
KKAR Karatay Array 70.36 316 *e*P **P** **22 00 42.0 -0.3**
MIR Mirnyy 71.86 196⇑ *i*P **P** **22 00 51.0 +0.2**
MIR pmax pmax
comp=Z,62nm,1.0s
BILL Bilibino 71.96 13⇓ *e*P **P** **22 00 53.3 +1.9**
BILL *e* 22 03 33.2
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,15µm,20.0s
BILL Bilibino 71.96 13 *e*P P 22 00 47.2 -4.2
comp=Z,18nm,1.2s
BVAR Borovoye Array 74.04 326 P **P** **22 01 03.8 -0.3**
comp=Z,28nm,0.7s,baz=128,slow=7.2,SNR=53
BVAR Borovoye Array 74.04 326 P **P** **22 01 03.8 -0.3**
BVAR pmax pmax
comp=Z,28nm,0.7s
BVAR Borovoye Array 74.04 326 P **P** **22 01 03.8 -0.3**
BRVK Borovoye 74.11 326 *e*P **P** **22 01 04.7 +0.2**
BRVK pmax pmax
comp=Z,61nm,0.9s
BRVK Borovoye 74.11 326 *e*P **P** **22 01 04.7 +0.2**
comp=Z,61nm,0.9s
BRVK Borovoye 74.11 326 P **P** **22 01 04.7 +0.2**
comp=Z,416nm,1.0s,SNR=33
ABKT Aibek 78.20 309 P **P** **22 01 28.3 +0.2**
comp=Z,448nm,0.8s,SNR=9.9
VNDA Vanda 78.75 174 *e*P **P** **22 01 27.9 -2.4**
VNDA pmax pmax
comp=Z,22nm,0.9s
VNDA Vanda 78.75 174 *e*P **P** **22 01 27.9 -2.4**
comp=Z,22nm,0.9s
AB31 Akbulak array 79.15 320*ce*P **P** **22 01 32.2 -0.8**
AB31 pmax pmax
comp=Z,25nm,0.7s
ABKAR Akbulak array 79.15 320 *e*P **P** **22 01 32.2 -0.8**
comp=Z,15nm,0.6s
SBA Scott Base 79.60 173 *e*P **P** **22 01 36.0 +1.1**
SBA pmax pmax
comp=Z,37nm,1.0s
SBA Scott Base 79.60 173 *e*P **P** **22 01 36.0 +1.1**
comp=Z,37nm,1.0s
SVE Sverdlovsk 80.60 328⇑ *e*P **P** **22 01 40.2 -0.5**
SVE pmax pmax
comp=Z,71nm,1.8s
AKTO Aktyubinsk 80.62 321 P **P** **22 01 40.4 -0.6**
comp=Z,9.7nm,0.8s,baz=113,slow=6.6,SNR=32
AKTO Aktyubinsk 80.62 321 *i* P **P** **22 01 40.8 -0.2**
AKTO pmax pmax
comp=Z,6.0nm,0.9s
AKTO Aktyubinsk 80.62 321 P **P** **22 01 40.4 -0.6**
ARU Arti 81.61 327*c i*P **P** **22 01 45.6 -0.5**
ARU 22 04 47.7
ARU S **S** **22 11 56.8 +1.4**
ARU SS **SS** **22 17 09.3 -3.8**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 81.61 327 *e*P **P** **22 01 45.2 -0.8**
comp=Z,40nm,0.9s
ARU Arti 81.61 327 P **P** **22 01 45.1 -1.0**
comp=Z,291nm,0.8s,SNR=8.4
TTA Tatalina 81.71 26 P **P** **22 01 46.6 0.0**
TTA Tatalina 81.71 26 *e*P **P** **22 01 46.6 0.0**
KDAK Kodiak Island 82.01 31 P **P** **22 01 48.4 +0.3**
comp=Z,25nm,1.0s,baz=227,slow=8.8,SNR=6.4
KDAK Kodiak Island 82.01 31*ce*P **P** **22 01 50.0 +1.9**
KDAK Kodiak Island 82.01 31 *e*P **P** **22 01 49.8 +1.7**
comp=Z,28nm,0.8s
RSO Redoubt South 82.55 29 P **P** **22 01 50.3 -0.9**
SOKR Solikamsk 83.22 330 *e*P **P** **22 01 54.7 +0.3**
SOKR pmax pmax
comp=Z,30nm,0.9s
PPLA Purkeypile 83.39 26 *e*P **P** **22 01 56.9 +1.4**
comp=Z,213nm,2.0s
SLKM Skilak Lake 83.78 29 *e*P **P** **22 01 55.2 -2.2**
SLKM Skilak Lake 83.78 29 *e*P **P** **22 01 55.2 -2.2**
RC01 Rabbit Creek A 84.13 28 *e*P **P** **22 01 58.5 -0.5**
comp=Z,46nm,0.9s
TRF Thorofare Moun 84.36 26 *e*P **P** **22 02 01.6 +1.2**
comp=Z,100nm,1.6s
PMR Palmer 84.52 28 *e*P **P** **22 02 01.2 +0.2**
PMR pmax pmax
comp=Z,167nm,1.8s
PMR Palmer 84.52 28 *e*P **P** **22 02 01.2 +0.2**
comp=Z,167nm,1.8s
SML Sawmill 84.93 28 *e*P **P** **22 02 02.9 -0.3**
SML pmax pmax
comp=Z,17nm,1.1s
SML Sawmill 84.93 28 *e*P **P** **22 02 02.9 -0.3**
comp=Z,17nm,1.1s
MCK McKinley 85.00 26 *e*P **P** **22 02 03.0 -0.5**
MCK pmax pmax
comp=Z,154nm,1.4s
MCK McKinley 85.00 26 *e*P **P** **22 02 03.0 -0.5**
comp=Z,154nm,1.4s
COLD Coldfoot 85.19 22 *e*P **P** **22 02 05.2 +1.0**
comp=Z,23nm,1.0s
COLA College 85.67 25 *e*P **P** **22 02 06.9 +0.2**
COLA pmax pmax
comp=Z,11nm,0.7s
COLA College 85.67 25 *e*P **P** **22 02 06.9 +0.2**
comp=Z,11nm,0.7s
QRN Al-Qurain 85.74 299 *e*P **P** **22 02 06.0 -1.8**
OPO Ambohidratompo 85.86 252 P **P** **22 02 08.3 -0.6**
comp=Z,11nm,0.7s,baz=79,slow=3.4,SNR=20
OPO Ambohidratompo 85.86 252 P **P** **22 02 08.3 -0.6**
DIV Divide 86.04 29 *e*P **P** **22 02 07.1 -1.6**
comp=Z,383nm,1.9s
ILAR Eielson Array 86.06 25 P **P** **22 02 07.3 -1.3**
comp=Z,7.2nm,0.7s,baz=258,slow=4.7,SNR=48
ILAR PP **PP** **22 05 30.4 +1.2**
comp=Z,5.3nm,1.2s,baz=257,slow=7.1,SNR=6.1
ILAR Eielson Array 86.06 25 P **P** **22 02 07.4 -1.3**
ILAR 22 05 30.4
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILAR pmax pmax
comp=Z,5.0nm,1.2s
ILAR Eielson Array 86.06 25 P **P** **22 02 07.3 -1.3**
ILAR PP **PP** **22 05 30.4 +1.2**
RDF Al-Radifah 86.07 299 *e*P **P** **22 02 08.4 -1.1**
RDF AMb AMB 22 02 10.5
comp=Z,65nm,1.0s
MIB Mutribah 86.29 300 *e*P **P** **22 02 08.8 -1.8**
MIB AMb AMB 22 02 18.0
comp=Z,75nm,1.4s
NAY Al-Naaiem 86.35 299 *e*P **P** **22 02 09.0 -1.9**
NAY AMb AMB 22 02 12.4
comp=Z,32nm,0.7s
PAX Paxson 86.43 27 *e*P **P** **22 02 11.0 +0.4**
PAX pmax pmax
comp=Z,89nm,1.5s
PAX Paxson 86.43 27 *e*P **P** **22 02 11.0 +0.4**
comp=Z,89nm,1.5s
BMRM Bremner River 86.58 29 *e*P **P** **22 02 12.2 +0.9**
comp=Z,252nm,1.9s
EGAK Eagle 88.50 25 *e*P **P** **22 02 20.8 +0.4**
comp=Z,11nm,0.9s
EGAK *e*PP **PP** **22 05 53.0 +4.2**
GNI Garni 88.77 310 *e*P P 22 02 26.3 +3.8
GNI pmax pmax
comp=Z,17nm,1.2s
QSPA South Pole Qui 89.66 180 P **P** **22 02 26.4 +0.4**
comp=Z,27nm,0.8s,baz=324,slow=3.6,SNR=28
QSPA South Pole Qui 89.66 180 *e*P **P** **22 02 26.1 +0.1**
comp=Z,43nm,1.0s
KIV Kislovodsk 90.35 314⇓ *e*P **P** **22 02 32.2 +2.5**
KIV *e*S **SKSac** **22 12 58.5 +0.3**
KIV pmax pmax
comp=Z,6.0nm,1.2s
KIV MLR MLR
comp=Z,4µm,18.0s

SYO	Syowa Base	90.94	201	⇓	eP		P	22 02 30.8	-0.9
VRHR	Novokhopersk	91.02	321		eP		P	22 02 31.1	-1.4
VRHR	comp=Z,10.0nm,1.2s				pmax	pmax			
VRHR	comp=N,10.0nm,1.5s				pmax	pmax			
VRHR	comp=E,10.0nm,1.5s				pmax	pmax			
VSR	Storozhevoye	92.57	321		eP		P	22 02 39.2	-0.5
VSR	comp=N,5.0nm,1.0s				pmax	pmax			
VSR	comp=Z,10.0nm,1.0s				pmax	pmax			
VSR	comp=E,1.0nm,0.5s				pmax	pmax			
MOS	Moscow	93.21	326		eP		P	22 02 38.4	-4.1
OBN	Obninsk	93.86	325	⇓	eP		P	22 02 44.8	-0.7
OBN					eS		SKSac	22 13 13.8	-3.3
OBN	comp=Z,22nm,0.9s				pmax	pmax			
OBN	comp=Z,15μm,19.0s				MLR	MLR			
OBN	Obninsk	93.86	325		eP		P	22 02 44.3	-1.2
JOF	comp=Z,47nm,1.4s Joensuu	95.52	333		eP		P	22 02 50.7	-2.3
JOF	comp=Z,5.0nm,0.7s				pmax	pmax			
JOF	Joensuu	95.52	333		ep		P	22 02 50.7	-2.3
JOF	comp=Z,5.2nm,0.7s Joensuu	95.52	333		ep		P	22 02 50.7	-2.3
KEV	comp=Z,5.2nm,0.7s Kevo	95.73	340		eP		P	22 02 58.3	+4.5
KEV	Kevo	95.73	340		ep		P	22 02 58.3	+4.5
KEV	Kevo	95.73	340		ep		P	22 02 58.3	+4.5
ARCES	ARCESS Array B	96.30	340		P		P	22 02 55.2	-1.2
ARCES	comp=Z,13nm,0.8s,baz=80,slow=6.5,SNR=16 ARCESS Array B	96.30	340		P		P	22 02 55.2	-1.2
ARCES	comp=Z,13nm,0.8s				pmax	pmax			
ARCES	ARCESS Array B	96.30	340		P		P	22 02 55.2	-1.2
BR131	Keskin Array S	97.31	310		eP		P	22 03 01.0	-0.9
BRTR	comp=Z,2.1nm,0.8s Keskin Array B	97.31	310		P		P	22 03 00.2	-1.7
BRTR	comp=Z,2.4nm,0.8s,baz=116,slow=4.6,SNR=16 Keskin Array B	97.31	310		ce	P	P	22 03 00.7	-1.2
BRTR	comp=Z,2.0nm,0.8s				pmax	pmax			
BRTR	Keskin Array B	97.31	310		P		P	22 03 00.2	-1.7
KAF	Kangasniemi	97.97	333		eP		Pdif	22 03 04.3	+0.2
KAF	comp=Z,5.0nm,0.8s				pmax	pmax			
KAF	Kangasniemi	97.97	333		ep		Pdif	22 03 04.3	+0.2
KAF	comp=Z,5.0nm,0.8s Kangasniemi	97.97	333		ep		Pdif	22 03 04.3	+0.2
FINES	comp=Z,5.0nm,0.8s FINESS Array B	98.24	332		P		P	22 03 04.1	-1.2
FINES	comp=Z,7.1nm,1.0s,baz=62,slow=3.3,SNR=8.9 FINESS Array B	98.24	332		P		P	22 03 04.1	-1.2
FINES	comp=Z,7.0nm,1.0s				pmax	pmax			
AKASG	FINESS Array B	98.24	332		P		P	22 03 04.1	-1.2
AKASG	Malin Array Be	98.87	321		P		P	22 03 06.3	-2.0
AKASG	comp=Z,2.2nm,0.7s,baz=72,slow=4.3,SNR=7.5 Malin Array Be	98.87	321		ce	P	P	22 03 07.0	-1.3
AKASG	comp=Z,2.0nm,0.7s Malin Array Be	98.87	321		P		P	22 03 06.3	-2.0
WCN	Washoe City	103.54	50		eP	P	PP	22 07 52.1	+6.1
UZH	Uzhgorod	103.72	320		eP		Pdif	22 03 28.7	-1.3
CRVS	Cervenica-Dubn	104.17	321		i P		Pdif	22 03 32.4	+0.3
CRVS	Cervenica-Dubn	104.17	321		PDIF		Pdif	22 03 32.4	+0.3
NVAR	Mina Array Bea	104.83	50		Pdiff		Pdif	22 03 34.9	-0.6
NVAR	comp=Z,0.4nm,0.6s,baz=265,slow=4.3,SNR=3.5				PP		PKiKP	22 07 51.4	+0.7
NVAR	comp=Z,4.4nm,1.1s,baz=280,slow=5.4,SNR=4.3 Mina Array Bea	104.83	50		Pdif		Pdif	22 03 34.9	-0.6
NVAR					PP		PKiKP	22 07 51.4	+0.7
BSMT	Bassoo Peak	105.02	40		ePKPdf			22 07 50.6	
NB2	NORSAR Subarra	105.06	335		P		Pdif	22 03 34.8	-1.0
NOA	comp=Z,2.0nm,0.8s,baz=60,slow=4.4 NORSAR Array B	105.06	335		Pdiff		Pdif	22 03 34.2	-1.5
NOA	comp=Z,2.7nm,1.0s,baz=62,slow=4.7,SNR=4.9 NORSAR Array B	105.06	335		P		Pdif	22 03 34.3	-1.5
NOA	comp=Z,3.0nm,1.0s				pmax	pmax			
NOA	NORSAR Array B	105.06	335		Pdif		Pdif	22 03 34.2	-1.5
VYHS	Vyhne	105.96	321		i P		Pdif	22 03 42.7	+2.7
VYHS	Vyhne	105.96	321		PDIF		Pdif	22 03 42.7	+2.7
HLID	Hailey	106.47	44		ePKPdf		PKiKP	22 07 55.6	+2.1
CLL	Collm	108.46	325		ePKPdf		PKiKP	22 07 57.0	+0.3
GERES	GERESS Array B	109.02	322		PKiKP		PKiKP	22 07 57.5	-0.5
GERES	comp=Z,1.6nm,0.8s,baz=66,slow=1.2,SNR=7.9 GERESS Array B	109.02	322		PKiKP		PKiKP	22 07 57.5	-0.5
PDAR	Pinedale Array	110.10	44		PKiKP		PKiKP	22 08 00.3	-0.1
PDAR	comp=Z,0.6nm,0.7s,baz=122,slow=1.2,SNR=5.2 Pinedale Array	110.10	44		PKiKP		PKiKP	22 08 00.3	-0.1
GRFO	Grafenberg	110.17	324		ePKiKP		PKiKP	22 08 02.4	+2.4
GRFO	Grafenberg	110.17	324		ePKiKP		PKiKP	22 08 02.4	+2.4
GRFO					ePKPab		PKKPdf	22 19 22.3	+2.6
SRU	San Rafael	110.54	48		ePKiKP		PKiKP	22 08 02.2	+0.9
SRU	San Rafael	110.54	48		ePKPdf		PKiKP	22 08 02.2	+0.9
J22A	Midwest baz=112	111.98	43	⇓	P		PKiKP	22 08 03.5	-0.3
MVCO	Mesa Verde	112.64	49		ePKPdf		PKiKP	22 08 06.9	+1.5
TUE	Stuetta	112.68	321		ePKiKP		PKiKP	22 08 05.3	+0.1
SMCO	Snowmass	113.14	47		ePP		PP	22 09 05.6	+9.5
W20A	Ramah baz=113	113.26	52	⇑	P		PKiKP	22 08 06.4	-0.3
Q22A	Crested Butte, baz=113	113.29	47	⇑	P		PKiKP	22 08 06.6	-0.2
PHWY	Pilot Hill	113.47	44		ePKiKP		PKiKP	22 08 11.1	+4.2
U21A	Nageezi baz=114	113.52	50	⇓	P		PKiKP	22 08 07.2	+0.1
HINF	Hinteralfeld comp=Z,15nm,1.1s	113.59	324		ePKiKP		PKiKP	22 08 06.5	-0.1
S22A	4UR Ranch, Cre baz=114	113.73	48	⇑	P		PKiKP	22 08 07.5	0.0
HAU	Haudompre comp=Z,9.2nm,0.8s	113.80	324		ePKiKP		PKiKP	22 08 07.1	+0.1
BAIF	Baives comp=Z,9.8nm,0.9s	114.00	327		ePKiKP		PKiKP	22 08 07.8	+0.5
X21A	Alamocita Cree baz=114	114.03	52	⇓	P		PKPdf	22 08 08.5	+0.3
V22A	San Miguel Ran baz=114	114.26	50	⇓	P		PKPdf	22 08 09.3	+0.8
R23A	Moffat baz=114	114.32	48	⇓	P		PKPdf	22 08 09.5	+0.8
CABF	La Chapelle comp=Z,42nm,1.3s	114.62	323		ePKiKP		PKPdf	22 08 09.3	+0.6
LPG	La Plagne comp=Z,18nm,0.9s	114.73	321		ePKiKP		PKPdf	22 08 09.5	+0.3
LPL	La Plagne comp=Z,19nm,1.1s	114.73	321		ePKiKP		PKPdf	22 08 09.4	+0.3
Y22A	Socorro baz=115	114.83	52	⇓	P		PKPdf	22 08 09.9	+0.2
ANMO	Albuquerque	114.91	51		ePKiKP		PKPdf	22 08 09.8	0.0
ANMO	Albuquerque	114.91	51		ePKPdf		PKPdf	22 08 09.8	+0.1
Z22A	Elephant Butte baz=115	115.03	53	⇓	P		PKPdf	22 08 10.1	+0.1
ULM	Lac du Bonnet comp=Z,1.3nm,0.7s,baz=256,slow=4.2,SNR=2.6	115.25	32		PKiKP		PKPdf	22 08 09.1	-0.6
ULM	Lac du Bonnet comp=Z,1.0nm,0.7s	115.25	32		PKiKP pmax		PKPdf pmax	22 08 09.1	-0.6
ULM	Lac du Bonnet	115.25	32		PKP		PKPdf	22 08 09.1	-0.6
ULM					ePKKPab		PKKPab	22 18 49.4	-1.3
ULM	comp=Z,33μm,21.0s				LR		LR		
R25A	Fountain Ranch baz=116	115.47	47	⇑	P		PKPdf	22 08 10.9	+0.2
ORIF	Oris-en-Rastis comp=Z,10nm,0.8s	115.55	321		ePKiKP		PKPdf	22 08 10.7	+0.1
Y23A	Lovelace Mesa, baz=116	115.55	52	⇓	P		PKPdf	22 08 11.0	0.0
V24A	Rampart Ranch, baz=116	115.58	50	⇓	P		PKPdf	22 08 10.9	-0.2
LOR	Lormes	115.63	324		ePKiKP		PKPdf	22 08 11.5	+1.0
W24A	Lazy 6 Ranch, baz=116	115.64	51	⇑	P		PKPdf	22 08 11.3	+0.1
T25A	Trinidad baz=116	115.74	48	⇑	P		PKPdf	22 08 11.5	+0.2
SSF	Saint Saulge comp=Z,9.7nm,0.9s	115.94	324		ePKiKP		PKPdf	22 08 11.6	+0.5
R26A	Arlington baz=116	116.03	47	⇓	P		PKPdf	22 08 11.6	-0.1
Y24A	Capitan baz=116	116.04	52	⇑	P		PKPdf	22 08 11.8	-0.2
V25A	Rancho No Teng baz=116	116.04	50	⇓	P		PKPdf	22 08 11.9	0.0
AVF	Avril sur Loir	116.17	324		ePKiKP		PKPdf	22 08 11.4	-0.2
SMRF	Simiane la Rot	116.18	320		ePKiKP		PKPdf	22 08 12.3	+0.6
S26A	Kim baz=116	116.27	48	⇑	P		PKPdf	22 08 11.9	-0.3
Z24A	Sheeppen Canyo baz=116	116.28	53	⇑	P		PKPdf	22 08 12.7	+0.2
VIVF	Saint-Julien-l comp=Z,12nm,0.8s	116.33	321		ePKiKP		PKPdf	22 08 12.2	+0.2
BGF	Bois d'Agland comp=Z,8.8nm,0.6s	116.59	324		ePKiKP		PKPdf	22 08 12.9	+0.5
Y25A	Mesa, Roswell baz=117	116.62	52	⇓	P		PKPdf	22 08 12.8	-0.2
324A	Moseley Ranch, baz=117	116.77	55	⇓	P		PKPdf	22 08 12.9	-0.4
MNTX	Comundas Mount baz=117	116.78	54	⇑	P		PKPdf	22 08 13.0	-0.2
MNTX	baz=117			⇑	P		PKPdf	22 08 13.0	-0.2
KEST	Kesra comp=Z,1.5nm,1.0s,baz=88,slow=9.2,SNR=3.2	116.91	311		PKP		PKPdf	22 08 12.2	-1.2
KEST	Kesra	116.91	311		PKP		PKPdf	22 08 12.2	-1.2
W26A	Owens Ranch, T baz=117	116.95	50	⇓	P		PKPdf	22 08 13.3	-0.3
LDF	La Druitiere comp=Z,4.4nm,0.7s	117.17	327		ePKiKP		PKPdf	22 08 13.4	0.0
LASF	Ste Croix comp=Z,23nm,1.0s	117.22	321		ePKiKP		PKPdf	22 08 14.0	+0.3
425A	Indio Mountain baz=117	117.37	55	⇑	P		PKPdf	22 08 14.1	-0.5
T28A	Walsh baz=117	117.45	48	⇓	P		PKPdf	22 08 14.7	+0.2
GRR	Gorron	117.69	327		ePKiKP		PKPdf	22 08 14.8	+0.4
Y27A	Causey baz=118	117.84	51	⇓	P		PKPdf	22 08 15.0	-0.3
CAF	Calviac comp=Z,13nm,1.0s	117.90	323		ePKiKP		PKPdf	22 08 15.8	+0.8
Z27A	Tatum baz=118	117.99	52	⇓	P		PKPdf	22 08 15.3	-0.3
326A	Caldwell Ranch baz=118	118.03	54	⇓	P		PKPdf	22 08 15.6	-0.2
RJF	Les Rejaudoux	118.04	323		ePKiKP		PKPdf	22 08 15.7	+0.5
MSTX	Muleshoe baz=118	118.11	51	⇓	P		PKPdf	22 08 15.5	-0.4
426A	McDonald Obser baz=118	118.19	55	⇓	P		PKPdf	22 08 15.4	-0.8
ECSD	EROS Data Cent	118.28	39		ePKPdf		PKPdf	22 08 15.0	-0.7
ECSD					ePKKPab		PKKPbc	22 18 36.5	+1.1
MFF	Saint Martin d comp=Z,22nm,1.0s	118.31	325		ePKiKP		PKPdf	22 08 15.8	+0.1
526A	Mary Lane Ranc baz=118	118.33	56	⇑	P		PKPdf	22 08 16.1	-0.3
MTLF	Montolieu comp=Z,8.1nm,0.8s	118.62	321		ePKiKP		PKPdf	22 08 16.7	+0.3
427A	Hayter Ranch, baz=119	118.65	55	⇓	P		PKPdf	22 08 16.7	-0.3
SGMF	Saint Gilles	118.68	328		ePKiKP		PKPdf	22 08 16.4	+0.1
527A	Woodward Ranch baz=119	118.70	55	⇑	P		PKPdf	22 08 16.6	-0.6
TXAR	Lajitas Array comp=Z,1.3nm,0.6s,baz=214,slow=3.1,SNR=19	118.90	56		PKP		PKPdf	22 08 18.1	+0.6
TXAR	Lajitas Array	118.90	56		PKiKP		PKPdf	22 08 18.1	+0.6
TXAR	comp=Z,1.0nm,0.6s				pmax	pmax			
TXAR	Lajitas Array	118.90	56		PKP		PKPdf	22 08 18.1	+0.6
328A	Wrisen Ranch, baz=119	118.96	54	⇑	P		PKPdf	22 08 17.4	-0.1
627A	Terlingua Ranc baz=119	119.09	56	⇓	P		PKPdf	22 08 17.5	-0.3
428A	Kincaid Ranch, baz=119	119.27	55	⇑	P		PKPdf	22 08 18.2	+0.1
528A	Cox Ranch, San baz=119	119.37	55	⇓	P		PKPdf	22 08 18.1	-0.3
EPF	Esparros comp=Z,11nm,0.9s	119.95	321		ePKiKP		PKPdf	22 08 20.1	+1.1
ETSF	Etsaut comp=Z,21nm,1.0s	120.58	322		ePKiKP		PKPdf	22 08 21.4	+1.1
SJPF	Ste Jean comp=Z,12nm,0.9s	120.88	322		ePKiKP		PKPdf	22 08 21.5	+0.7
WMOK	Wichita Mounta	120.88	49		ePKiKP		PKPdf	22 08 21.7	+0.7
WMOK	Wichita Mounta	120.88	49		ePKPdf		PKPdf	22 08 21.7	+0.7
JCT	Junction City	121.69	54		ePKiKP		PKPdf	22 08 23.0	+0.3
JCT	Junction City	121.69	54		ePKPdf		PKPdf	22 08 23.0	+0.3
JCT	Junction City baz=122	121.69	54	⇑	P		PKPdf	22 08 22.5	-0.3
SCHQ	Schefferville	123.26	14		PKP		PKPdf	22 08 25.0	0.0
SCHQ	comp=Z,5.0nm,0.7s,baz=280,slow=5.0,SNR=5.8 Schefferville	123.26	14		PKP		PKPdf	22 08 25.0	0.0
TAM	Tamanrasset	124.21	298		ePKiKP		PKPdf	22 08 31.0	+3.1
TAM	Tamanrasset	124.21	298		ePKPdf		PKPdf	22 08 31.0	+3.1
ESDC	Sonseca Array comp=Z,1.8nm,0.8s,baz=19,slow=2.4,SNR=12	124.49	320		PKP		PKPdf	22 08 28.2	+0.4
ESDC	Sonseca Array	124.49	320		PKP		PKPdf	22 08 28.2	+0.4
MIAR	Mount Ida	124.82	47		ePKiKP		PKPdf	22 08 30.4	+1.8
MIAR	Mount Ida	124.82	47		ePKPdf		PKPdf	22 08 30.4	+1.8
MVO	Moncorvo	125.52	323		ePKPdf		PKPdf	22 08 31.2	+1.4
PGAV	Gavieira, Arco	125.75	325		ePKPdf		PKPdf	22 08 31.4	+1.1
POLO	Lamas de Olo	125.84	324		ePKPdf		PKPdf	22 08 31.7	+1.2
PVRL	Vila Real	125.86	324		ePKPdf		PKPdf	22 08 31.9	+1.5
MTE	Manteigas	126.30	323		ePKPdf		PKPdf	22 08 31.8	+0.5
PVIS	Viseu	126.31	323		ePKPdf		PKPdf	22 08 32.6	+1.3
OLIL	Olney	126.38	40		ePKPdf		PKPdf	22 08 32.5	+1.1
PCBR	Castelo Branco	126.60	322		ePKPdf		PKPdf	22 08 32.7	+0.9
PMRV	Marv??o	126.79	322		ePKPdf		PKPdf	22 08 33.4	+1.2
BLO	Bloomington	127.11	38		ePKiKP		PKPdf	22 08 34.1	+1.3
BLO	Bloomington	127.11	38		ePKPdf		PKPdf	22 08 34.1	+1.3
PTOM	Tomar	127.30	323		ePKPdf		PKPdf	22 08 33.7	+0.5
PBAR	Barrancos	127.32	320		ePKPdf		PKPdf	22 08 34.5	+1.3
WVT	Waverly	128.04	42		ePKiKP		PKPdf	22 08 37.7	+3.1
WVT	Waverly	128.04	42		ePKPdf		PKPdf	22 08 37.7	+3.1
ACSO	Alum Creek Sta	128.56	35		ePKPdf		PKPdf	22 08 36.6	+1.1
ALLY	Alegheny Colle	129.15	32		ePP		PP	22 10 46.5	+2.2
TORD	Torodi Ar. Bea comp=Z,4.5nm,0.7s,baz=66,slow=1.9,SNR=17	130.01	287		PKP		PKPdf	22 08 39.0	0.0
TORD	Torodi Ar. Bea	130.01	287		PKP		PKPdf	22 08 39.0	0.0
LRAL	Lakeview Retre	130.31	45		ePKPdf		PKPdf	22 08 39.2	+0.1
LRAL					eSKPbc		SKiKP	22 12 07.0	-6.1
TKL	Tuckaleechee C	130.98	40		ePKiKP		PKPdf	22 08 41.9	+1.6
TKL	Tuckaleechee C	130.98	40		ePKPdf		PKPdf	22 08 41.9	+1.6
LHS	Liberty Hill	133.62	39		eSKPbc		SKPbc	22 12 12.2	+1.1
PLCA	Paso Flores comp=Z,5.1nm,0.7s,baz=233,slow=2.4,SNR=8.0	133.95	155		PKP		PKPdf	22 08 47.0	+1.1
PLCA	Paso Flores	133.95	155		PKiKP		PKPdf	22 08 47.0	+1.1
PLCA	comp=Z,5.0nm,0.7s				pmax	pmax			
PLCA	Paso Flores	133.95	155		PKP		PKPdf	22 08 47.0	+1.1
DBIC	Dimbokro comp=Z,3.1nm,0.8s,baz=109,slow=4.4,SNR=4.6	137.39	280		PKiKP		PKPre	22 08 43.6	
DBIC	Dimbokro	137.39	280		PKHKP		PKPre	22 08 43.7	
DBIC	comp=Z,3.0nm,0.8s				pmax	pmax			
DBIC	Dimbokro	137.39	280		PKPpre		PKPre	22 08 43.6	
LIC	Lamto comp=Z,28nm,0.9s	137.61	279		ePKiKP		PKPre	22 08 46.2	
CFAA	Coronel Fontan comp=Z,1.0nm,0.6s,baz=214,slow=3.6,SNR=14	142.49	150		PKhKP		PKPre	22 08 57.6	
CFAA	Coronel Fontan	142.49	150		PKPpre		PKPre	22 08 57.6	
LCO	Las Campanas	143.16	144		ePKPdf		PKPbc	22 09 00.8	+0.6
BCIP	Isla Barro Col	146.22	74		ePKPab		PKPab	22 09 10.4	0.0
BCIP	comp=Z,21μm,22.0s				LR		LR		
ATAH	Atahualpa comp=Z,47nm,1.0s,baz=292,slow=1.4,SNR=13	147.92	104		PKPbc		PKPbc	22 09 15.2	+0.2
ATAH					PP		PP	22 12 41.8	-1.0
ATAH	comp=Z,14nm,1.0s,baz=246,slow=5.0,SNR=3.8 Atahualpa	147.92	104		PKPbc		PKPbc	22 09 15.2	+0.2
ATAH					PP		PP	22 12 41.8	-1.0
NNA	Nana comp=Z,24nm,1.0s,baz=228,slow=3.4,SNR=7.7	148.05	113		PKPbc		PKPbc	22 09 14.8	-0.1
NNA	Nana	148.05	113	c	iPKP2		PKPbc	22 09 14.3	-0.6
NNA	Nana	148.05	113		ePKPbc		PKPbc	22 09 13.8	-1.0
NNA					ePKPab		PKiKP	22 09 16.9	+0.2
NNA	comp=Z,20μm,20.0s				LR		LR		
OTAV	Otavalo	148.64	90		ePKPbc		PKPbc	22 09 17.2	+0.2
OTAV					eSKPbc		SKPbc	22 12 45.0	-6.8
OTAV	comp=Z,32μm,19.0s				LR		LR		
LVC	Limon Verde	148.87	138		ePKPbc		PKPbc	22 09 16.1	-0.9
LVC					ePKPab		PKiKP	22 09 19.5	+1.0
LVC	comp=Z,22μm,21.0s				LR		LR		
SDDR	Presa de Saban	149.84	51		ePKPab		PKPab	22 09 26.3	+1.6
SDDR	comp=Z,36μm,20.0s				LR		LR		
CPUP	Villa Florida	151.77	160		PKP		PKPdf	22 09 17.1	-0.1
CPUP	comp=Z,3.0nm,0.9s,baz=315,slow=1.4,SNR=3.2				PKPbc		PKPbc	22 09 23.4	-0.2
CPUP	comp=Z,20nm,0.6s,baz=191,slow=1.7,SNR=52				SKP			22 12 51.0	
CPUP	comp=Z,3.0nm,0.5s,baz=328,slow=0.9,SNR=4.0								
CPUP	Villa Florida	151.77	160		PKiKP		PKPdf	22 09 17.1	-0.1
CPUP								22 09 23.4	
CPUP	comp=Z,3.0nm,1.0s				pmax	pmax			
CPUP	comp=Z,21nm,0.6s				pmax	pmax			
CPUP	comp=N,3.0nm,0.5s				pmax	pmax			
CPUP	Villa Florida	151.77	160		PKP		PKPdf	22 09 17.1	-0.1
CPUP					PKPbc		PKPbc	22 09 23.4	-0.2
CPUP					SKP			22 12 51.0	
LPAZ	La Paz comp=N,3.9nm,0.8s,baz=31,slow=2.4,SNR=8.5	153.51	129		PKP		PKPdf	22 09 22.1	+1.4
LPAZ					PKPbc		PKiKP	22 09 30.1	+1.5
LPAZ	comp=N,12nm,0.9s,baz=55,slow=1.3,SNR=8.7				PKPab		PKPab	22 09 42.9	+2.1
LPAZ	La Paz	153.51	129		PKiKP		PKPdf	22 09 22.2	+1.4
LPAZ								22 09 30.1	
LPAZ	comp=Z,4.0nm,0.8s				pmax	pmax			
LPAZ	comp=Z,12nm,0.9s				pmax	pmax			
LPAZ	comp=Z,32nm,0.8s				pmax	pmax			
LPAZ	La Paz	153.51	129		PKP		PKPdf	22 09 22.1	+1.4
LPAZ					PKPbc		PKiKP	22 09 30.1	+1.5
LPAZ					PKPab		PKPab	22 09 42.9	+2.1
SDV	Santo Domingo	155.04	69		ePKPbc		PKPdf	22 09 29.7	+7.2
SDV	comp=Z,20μm,22.0s				LR		LR		
SIV	San Ignacio	158.75	140		PKP		PKPdf	22 09 28.1	+1.1
SIV	comp=Z,1.6nm,0.8s,baz=256,slow=4.2,SNR=7.0				PKPab		PKPab	22 10 03.5	+1.0
SIV	comp=Z,3.6nm,0.8s,baz=223,slow=5.7,SNR=5.8				PKPab		PKPab	22 10 03.5	+1.0
SAML	Samuel	161.53	120		ePKPdf		PKPdf	22 09 30.5	+0.4
SAML	comp=Z,32μm,20.0s				LR		LR		
RCBR	Riachuelo comp=Z,17nm,1.0s,baz=150,slow=4.6,SNR=7.1	167.29	241		PKPab		PKPab	22 10 40.8	+0.6
RCBR	Riachuelo	167.29	241		PKPab		PKPab	22 10 40.8	+0.6
RCBR	comp=Z,48μm,21.0s				LR		LR		

*IDC **03** 21:52:54.0±0.7, 0.34S×132.99E, h0km, mb4.8/14, mb1 4.9/15, mb1mx4.8/22, mbtmp4.8/15, ML5.1/1, Error ellipse: s-maj=38.2km s-min=14.6km az=70.0*
*ISCJB **03** 21:52:57.0±0.4, 0.29S±0.06×133.05E±0.09, h32km, mb4.8/18, Error ellipse: s-maj=12.9km s-min=7.7km az=158.6*
*NEIC **03** 21:52:59.3±0.3, 0.31S×133.04E, h35km, mb5.2/6, Error ellipse: s-maj=9.8km s-min=5.8km az=65.0*
ISC 03 21:52:58.8±0.5, **0.41S**±0.08×**132.9E**±0.1, **h32**km, **n50,** σ0.8**89**/47, **mb4.9**/17, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPI	Kappang	13.88	251		ePn	P	21 56 18.1	-3.1
PMG	Port Moresby	16.80	123		ePn	Pn	21 56 52.1	+0.3
WRA	Warramunga Arr 6.6nm,0.3s,baz=356,slow=11,SNR=5.9	19.47	176		P	Pn	21 57 23.3	-1.2
WRA					S	S	22 00 52.5	-9.0
WRA	Warramunga Arr 2.2nm,0.3s,baz=352,slow=25,SNR=3.7	19.47	176		P	Pn	21 57 23.3	-1.2
WRA					S	S	22 00 52.5	-9.0
WB2	Warramunga Arr	19.47	176		eP	Pn	21 57 25.2	+0.7
KSM	Kuching	22.64	275		eP	P	21 57 59.9	+2.5
ASAR	Alice Springs 83nm,0.8s,baz=355,slow=11,SNR=10	23.14	178		P	P	21 58 03.0	+0.4
ASAR	Alice Springs	23.14	178		P	P	21 58 06.9	+0.4
CTA	Charters Tower 48nm,1.0s,baz=316,slow=13,SNR=5.1	23.54	147		P	P	21 58 06.9	+0.4
CTA	Charters Tower	23.54	147		P	P	21 58 06.9	+0.4
CTAO	Charters Tower 43nm,0.8s	23.54	147		eP	P	21 58 07.3	+0.9
MBWA	Marble Bar 118nm,1.3s	24.29	211		eP	P	21 58 13.9	+0.5
STKA	Stephens Creek 21nm,0.5s,baz=348,slow=11,SNR=6.9	32.37	166		P	P	21 59 24.7	-0.8
STKA	Stephens Creek 5.4nm,0.6s	32.37	166		eP	P	21 59 24.6	-0.9
CM31	Chiang Mai Arr	38.25	301		eP	P	22 00 16.0	-0.3
CMAR	Chiang Mai Arr 12nm,1.1s,baz=117,slow=7.2,SNR=7.0	38.25	301		P	P	22 00 17.2	+0.9
CMAR	Chiang Mai Arr	38.25	301		P	P	22 00 17.2	+0.9
BJT	Baijiatuan 58nm,1.0s	43.03	341		eP	P	22 00 55.5	+0.1
LSA	Lhasa	49.77	311		eP	P	22 01 49.6	+0.5
ULN	Ulaanbaatar	53.06	338		eP	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.87**	**5**	*e*Pg	**Pg**	**21 58 52.4**	**+0.1**
BLY				*e*Sg	**Sb**	**21 59 05.1**	**-0.2**
BLY	**Banja Luka**	**0.87**	**5**	*e*Pg	**Pg**	**21 58 52.4**	**+0.1**
BRY	**Bratogost**	**1.44**	**132**	⇓*i*Pg	**Pn**	**21 58 59.8**	**-3.0**
BRY				*e*Sg	**Sb**	**21 59 22.2**	**+0.2**
BRY	**Bratogost**	**1.44**	**132**	⇓*i*Pg	**Pn**	**21 58 59.8**	**-3.0**
BRY				*e*Sg	**Sb**	**21 59 22.2**	**+0.2**
UPM	**Unac-Piva**	**1.49**	**117**	⇓*i*Pg	Pn	21 59 00.2	-3.2
UPM				*e*Sg	**Sn**	**21 59 23.1**	**-0.3**
UPM	**Unac-Piva**	**1.49**	**117**	⇓*i*Pg	Pn	21 59 00.2	-3.2
UPM				*e*Sg	**Sn**	**21 59 23.1**	**-0.3**
SISC	**Sisak**	**1.67**	**342**	*i*Pn	**Pn**	**21 59 05.4**	**-0.3**
SISC	**Sisak**	**1.67**	**342**	*i*Pn	**Pn**	**21 59 05.4**	**-0.3**
NVLJ	**Novalja**	**1.73**	**294**	*e*Pn	**Pg**	**21 59 09.2**	**+0.3**
NVLJ				Sn	**Sg**	**21 59 35.0**	**+3.7**
NVLJ	**Novalja**	**1.73**	**294**	*e*Pn	**Pg**	**21 59 09.1**	**+0.3**
NKY	**Niksic**	**1.75**	**127**	⇑*i*Pn	**Pn**	**21 59 06.1**	**-0.9**
NKY				*e*Sn	**Sb**	**21 59 31.7**	**+0.8**
NKY	**Niksic**	**1.75**	**127**	⇑*i*Pn	**Pn**	**21 59 06.1**	**-0.9**
NKY				*e*Sn	**Sb**	**21 59 31.7**	**+0.8**
PLE	**Pljevlja**	**1.76**	**108**	⇑*i*Pn	**Pn**	**21 59 06.0**	**-1.1**
PLE				*e*Sn	**Sb**	**21 59 31.2**	**+0.1**
PLE	**Pljevlja**	**1.76**	**108**	⇑*i*Pn	**Pn**	**21 59 06.0**	**-1.1**
PLE				*e*Sn	**Sb**	**21 59 31.2**	**+0.1**
HCY	**Herceg Novi**	**1.77**	**144**	⇓*i*Pn	**Pn**	**21 59 05.8**	**-1.3**
HCY				*e*Sn	**Sb**	**21 59 32.0**	**+0.8**
HCY	**Herceg Novi**	**1.77**	**144**	⇓*i*Pn	**Pn**	**21 59 05.8**	**-1.3**
HCY				*e*Sn	**Sb**	**21 59 32.0**	**+0.8**
TEKS	**Tekeris**	**1.88**	**68**	*e*Pn	**Pn**	**21 59 09.0**	**+0.4**
TEKS				*e*Sn	**Sg**	**21 59 35.7**	**-0.3**
TEKS	**Tekeris**	**1.88**	**68**	*e*Pn	**Pn**	**21 59 09.0**	**+0.4**
BUM	**Brajici-Budva**	**2.06**	**139**	⇓*i*Pn	**Pn**	**21 59 11.0**	**-0.2**
BUM				*e*Sn	**Sb**	**21 59 39.4**	**-0.4**
BUM	**Brajici-Budva**	**2.06**	**139**	⇓*i*Pn	**Pn**	**21 59 11.0**	**-0.2**
BUM				*e*Sn	**Sb**	**21 59 39.4**	**-0.4**
DIVS	**Divibare**	**2.11**	**83**	*e*Pn	**Pn**	**21 59 11.3**	**-0.5**
DIVS				*e*Sn	**Sb**	**21 59 41.4**	**+0.3**
DIVS	**Divibare**	**2.11**	**83**	*e*Pn	**Pn**	**21 59 11.3**	**-0.5**
PDG	**Podgorica**	**2.15**	**132**	⇓*i*Pn	**Pn**	**21 59 10.9**	**-1.4**
PDG				*e*Sn	**Sn**	**21 59 40.0**	**+0.5**
PDG	**Podgorica**	**2.15**	**132**	⇓*i*Pn	**Pn**	**21 59 12.6**	**+0.3**
PDG				*e*Sn	**Sn**	**21 59 40.0**	**+0.5**
TTG	**Podgorica**	**2.15**	**132**	⇓*i*Pn	**Pn**	**21 59 12.6**	**+0.2**
TTG				*e*Sn	**Sb**	**21 59 41.9**	**-0.4**
RHK3	**Tenkes**	**2.17**	**22**	⇑*e*Pn	**Pn**	**21 59 11.1**	**-1.5**
RHK3				*e*Sn	**Pn**	**21 59 14.0**	**+1.4**
RHK3	**Tenkes**	**2.17**	**22**	⇑*e*Pn	**Pn**	**21 59 11.1**	**-1.5**
RHK3	**Tenkes**	**2.17**	**22**	*e*Pg	**Pn**	**21 59 14.0**	**+1.4**
IVAS	**Ivanjica**	**2.24**	**97**	*e*Pn	**Pn**	**21 59 13.6**	**-0.1**
IVAS				*e*Sn	**Sb**	**21 59 44.1**	**-0.8**
IVAS	**Ivanjica**	**2.24**	**97**	*e*Pn	**Pn**	**21 59 13.6**	**-0.1**
BEY	**Berane**	**2.28**	**115**	⇑*i*Pn	**Pn**	**21 59 13.7**	**-0.5**
BEY				*e*Sn	**Sb**	**21 59 44.5**	**-1.6**
IVA	**Berane**	**2.29**	**115**	⇑*i*Pn	**Pn**	**21 59 13.7**	**-0.6**
IVA				*e*Sn	**Sb**	**21 59 44.5**	**-1.7**
FGSL	**Fruska Gora**	**2.33**	**56**	*e*Pn	**Pn**	**21 59 14.0**	**-0.8**
FRGS	**Fruska Gora**	**2.33**	**56**	*e*Pn	**Pn**	**21 59 14.0**	**-0.8**
FRGS				*e*Sn	**Sb**	**21 59 47.7**	**+0.4**
TRUS	**Trudelj**	**2.42**	**81**	*e*Pn	**Pn**	**21 59 16.8**	**+0.8**
TRUS	**Trudelj**	**2.42**	**81**	*e*Pn	**Pn**	**21 59 16.8**	**+0.8**
PVY	**Plav**	**2.46**	**121**	⇑*i*Pn	**Pn**	**21 59 17.2**	**+0.4**
PVY				*e*Sn	**Sn**	**21 59 49.1**	**+1.7**
PVY	**Plav**	**2.46**	**121**	⇑*i*Pn	**Pn**	**21 59 17.2**	**+0.4**
PVY				*e*Sn	**Sn**	**21 59 49.1**	**+1.7**
ULC	**Ulcinj**	**2.49**	**140**	⇓*i*Pn	**Pn**	**21 59 17.8**	**+0.8**
ULC				*e*Sn	**Sb**	**21 59 50.7**	**-1.3**
ULC	**Ulcinj**	**2.49**	**140**	⇓*i*Pn	**Pn**	**21 59 17.8**	**+0.8**
ULC				*e*Sn	**Sb**	**21 59 50.7**	**-1.3**
PKSM	**Moragy**	**2.58**	**25**	⇓*i*P	**Pn**	**21 59 16.6**	**-1.6**
PKSM	**Moragy**	**2.58**	**25**	⇑*i*Pn	**Pn**	**21 59 16.5**	**-1.6**
PKSM	**Moragy**	**2.58**	**25**	⇑*e*Pn	**Pn**	**21 59 16.6**	**-1.6**
PKSM				*e*Pg	**Pb**	**21 59 22.8**	**+0.4**
PKSM				*e*Sn	**Sg**	**21 59 58.6**	**+0.2**
PKSM	**Moragy**	**2.58**	**25**	⇓*i*P	**Pn**	**21 59 16.6**	**-1.6**
BEHE	**Becsehely**	**2.59**	**355**	⇓*e*Pn	**Pn**	**21 59 18.9**	**+0.4**
BEHE				*e*Sn	**Sg**	**22 00 00.2**	**+1.2**
BEHE	**Becsehely**	**2.59**	**355**	⇓*e*Pn	**Pn**	**21 59 18.9**	**+0.4**
GRUS	**Gruza**	**2.62**	**89**	*e*Pn	**Pn**	**21 59 19.0**	**+0.2**
GRUS				*e*Sn	**Sb**	**21 59 54.2**	**-1.6**
GRUS	**Gruza**	**2.62**	**89**	*e*Pn	**Pn**	**21 59 19.0**	**+0.2**
PKS9	**Tamasi**	**2.83**	**17**	*e*Pn	**Pb**	**21 59 27.6**	**+0.8**
PKS9				*e*Sn	**Sg**	**22 00 10.9**	**+4.3**
SELS	**Selova**	**3.00**	**101**	*e*Pn	**Pn**	**21 59 22.7**	**-1.4**
SELS	**Selova**	**3.00**	**101**	*e*Pn	**Pn**	**21 59 22.7**	**-1.4**
VOY	**Vojsko**	**3.12**	**315**	*e*Pn	**Pb**	**21 59 29.1**	**-2.7**
VOY				*e*		21 59 34.4	
VOY				*e*Sn	**Sb**	**22 00 08.8**	**-1.5**
VOY	**Vojsko**	**3.12**	**315**	Pn	**Pb**	**21 59 29.1**	**-2.7**
SOKA	**Soboth**	**3.15**	**333**	⇓*i*Pn	**Pn**	**21 59 27.0**	**+0.9**
SOKA				⇓*i*Sn	**Sn**	**22 00 06.0**	**+1.8**
SOKA	**Soboth**	**3.15**	**333**	Pn	**Pn**	**21 59 27.0**	**+0.9**
SOKA				Sn	**Sn**	**22 00 06.0**	**+1.8**
OBKA	**Obir**	**3.18**	**327**	⇓*i*Pn	**Pn**	**21 59 28.6**	**+2.0**
OBKA				⇑*i*Sn	**Sb**	**22 00 08.7**	**-3.2**
OBKA	**Obir**	**3.18**	**327**	Pn	**Pn**	**21 59 28.6**	**+2.0**
OBKA				Sn	**Sb**	**22 00 08.7**	**-3.2**
PKS7	**Kunszentmiklos**	**3.48**	**24**	*e*PKPPKPd	**Sg**	**22 00 29.7**	**+2.2**
BOLS	**Boljevac**	**3.52**	**89**	*e*Pn	**Pn**	**21 59 30.4**	**-0.8**
BOLS				*e*Sn	**Sn**	**22 00 16.1**	**+2.9**
BOLS	**Boljevac**	**3.52**	**89**	*e*Pn	**Pn**	**21 59 30.4**	**-0.8**
ARSA	**Arzberg** SNR=7.6	**3.54**	**342**	⇓*i*Pn	**Pn**	**21 59 31.8**	**+0.3**
ARSA				⇑*i*Sn	**Sn**	**22 00 12.6**	**-1.2**
ARSA	**Arzberg** SNR=7.6	**3.54**	**342**	Pn	**Pn**	**21 59 31.8**	**+0.3**
ARSA				Sn	**Sn**	**22 00 12.6**	**-1.2**
BARS	**Barje**	**3.61**	**106**	⇑*i*Pn	**Pn**	**21 59 30.7**	**-1.7**
BARS	**Barje**	**3.61**	**106**	⇑*i*Pn	**Pn**	**21 59 30.9**	**-1.5**
PKSG		**3.62**	**14**	⇓*e*Pn	**Pn**	**21 59 32.0**	**-0.6**
PKSG				*e*Sn	**Sn**	**22 00 15.8**	**0.0**
PKSG		**3.62**	**14**	⇓*e*Pn	**Pn**	**21 59 32.0**	**-0.6**
PKSG				*e*Sn	**Sn**	**22 00 15.8**	**0.0**
BZS	**Buzias**	**3.66**	**60**	⇓*i*P	**Pn**	**21 59 30.5**	**-2.6**
BZS	**Buzias**	**3.66**	**60**	⇓*i*P	**Pn**	**21 59 30.5**	**-2.6**
SOP	**Sopron**	**3.82**	**355**	*e*Pn	**Pn**	**21 59 35.0**	**-0.3**
SOP				*e*Sn	**Sn**	**22 00 21.4**	**+0.8**
ZAPS	**Zavoj**	**4.08**	**97**	*e*Pn	**Pn**	**21 59 38.5**	**-0.3**
ZAPS				*e*Sn	**Sn**	**22 00 27.8**	**+0.8**
CONA	**Conrad Observa** SNR=12	**4.13**	**348**	⇑*i*Pn	**Pn**	**21 59 40.0**	**+0.3**
CONA				⇑*i*Sn	**Sn**	**22 00 27.7**	**-0.8**
CONA	**Conrad Observa** SNR=12	**4.13**	**348**	Pn	**Pn**	**21 59 40.0**	**+0.3**
CONA				Sn	**Sn**	**22 00 27.7**	**-0.8**
ABTA	**Abfaltersbach**	**4.31**	**313**	⇓*i*Pn	Pn	21 59 44.8	+2.7
ABTA	**Abfaltersbach**	**4.31**	**313**	Pn	Pn	21 59 44.8	+2.7
GZR	**Gura Zlata**	**4.33**	**68**	⇓*i*P	**Pn**	**21 59 39.7**	**-2.7**
GZR	**Gura Zlata**	**4.33**	**68**	⇓*i*P	**Pn**	**21 59 39.7**	**-2.7**
MOA	**Molln** SNR=14	**4.43**	**335**	⇓*i*Pn	**Pn**	**21 59 45.3**	**+1.6**
MOA				⇓*i*Sn	**Sn**	**22 00 36.4**	**+0.7**
MOA	**Molln** SNR=14	**4.43**	**335**	Pn	**Pn**	**21 59 45.3**	**+1.6**
MOA				Sn	**Sn**	**22 00 36.4**	**+0.7**
PSZ	**Piszkesteto**	**4.49**	**25**	⇑*i*P	**Pn**	**21 59 42.9**	**-1.6**
PSZ	**Piszkesteto**	**4.49**	**25**	⇓*e*Pn	**Pn**	**21 59 42.9**	**-1.6**
PSZ				*e*sn	**Sn**	**22 00 31.9**	**-5.3**
PSZ	**Piszkesteto**	**4.49**	**25**	⇑*i*P	**Pn**	**21 59 42.9**	**-1.6**
PSZ				*e*Sn	**Sn**	**22 00 31.9**	**-5.3**
SMOL	**Smolenice**	**4.64**	**3**	*e*PN	**Pn**	**21 59 45.9**	**-0.6**
SMOL				*e*SN	**Sn**	**22 00 37.0**	**-3.8**
SMOL	**Smolenice**	**4.64**	**3**	*e*Pn	**Pn**	**21 59 45.9**	**-0.6**
VTS	**Vitosha**	**4.66**	**104**	⇑*i*P	**Pn**	**21 59 45.1**	**-1.8**
VTS	**Vitosha**	**4.66**	**104**	*e*Pn	**Pn**	**21 59 45.3**	**-1.6**
VTS	**Vitosha**	**4.66**	**104**	*e*Pn	**Pn**	**21 59 45.3**	**-1.6**
VYHS	**Vyhne**	**4.77**	**14**	*e*PN	**Pn**	**21 59 47.8**	**-0.5**
VYHS				*e*SN	**Sn**	**22 00 40.8**	**-3.2**
VYHS	**Vyhne**	**4.77**	**14**	*e*Pn	**Pn**	**21 59 47.8**	**-0.5**
KOLL	**Kolacno**	**4.78**	**11**	*e*PN	**Pn**	**21 59 48.1**	**-0.4**
KOLL				*e*SN	**Sn**	**22 00 40.6**	**-3.8**
KOLL	**Kolacno**	**4.78**	**11**	*e*Pn	**Pn**	**21 59 48.1**	**-0.4**
WTTA	**Wattenberg** SNR=11	**5.11**	**313**	⇓*i*Pn	Pn	21 59 55.9	+2.8
WTTA				⇑*i*Sn	**Sn**	**22 00 55.5**	**+2.9**
WTTA	**Wattenberg** SNR=11	**5.11**	**313**	Pn	Pn	21 59 55.9	+2.8
WTTA				Sn	**Sn**	**22 00 55.5**	**+2.9**
KECS	**Kecovo**	**5.17**	**26**	*e*PN	**Pn**	**21 59 54.5**	**+0.7**
KECS				*e*SN	**Sn**	**22 00 49.5**	**-4.4**
KECS	**Kecovo**	**5.17**	**26**	*e*Pn	**Pn**	**21 59 54.5**	**+0.7**
WATA	**Walderalm** SNR=10	**5.18**	**314**	⇑*i*Pn	Pn	21 59 57.3	+3.2
WATA				⇑*i*Sn	Sn	22 00 59.6	+5.2
WATA	**Walderalm** SNR=10	**5.18**	**314**	Pn	Pn	21 59 57.3	+3.2
VRAC	**Vranov**	**5.44**	**357**	⇑*i*P	**Pn**	**21 59 58.0**	**+0.5**
VRAC	**Vranov**	**5.44**	**357**	⇑*i*P	**Pn**	**21 59 58.0**	**+0.5**
MOTA	**Moosalm** SNR=14	**5.44**	**312**	⇑*i*Pn	Pn	22 00 00.8	+3.1
MOTA				⇓*i*Sn	Sn	22 01 05.4	+4.7
FETA	**Feichten**	**5.46**	**307**	⇓*i*Pn	Pn	22 00 01.2	+3.2
FETA				⇓*i*Sn	Sn	22 01 06.9	+5.5
KHC	**Kasperske Hory** 5.3nm,0.5s	**5.78**	**336**	*e*PN	**Pn**	**22 00 03.5**	**+1.3**
KHC				*ex*	x	22 00 11.5	
KHC				*e*PG	**Pg**	**22 00 28.0**	**+1.6**
KHC				*e*SN	**Sn**	**22 01 07.4**	**-1.6**
KHC	**Kasperske Hory** 5.7nm,0.6s	**5.78**	**336**	Pn	**Pn**	**22 00 03.5**	**+1.3**
KHC				Sn	**Sn**	**22 01 07.4**	**-1.6**
OKC	**Ostrava-Krasne** 8.9nm,0.6s	**6.00**	**7**	*e*SN	**Sn**	**22 01 12.9**	**-1.4**
OKC	**Ostrava-Krasne**	**6.00**	**7**	Sn	**Sn**	**22 01 12.9**	**-1.4**
SBF	**Sospel**	**6.98**	**273**	*e*Pn	**Pn**	**22 00 18.6**	**-0.1**
SBF				*e*Sn	**Sn**	**22 01 35.9**	**-2.6**
SBF	**Sospel**	**6.98**	**273**	*e*Pn	**Pn**	**22 00 18.6**	**-0.1**
MBDF	**Montbardon**	**7.45**	**280**	*e*Pn	**Pn**	**22 00 25.2**	**-0.1**
MBDF				*e*Sn	**Sn**	**22 01 46.9**	**-3.4**
MBDF	**Montbardon**	**7.45**	**280**	*e*Pn	**Pn**	**22 00 25.2**	**-0.1**
LPG	**La Plagne**	**7.54**	**286**	*e*Pn	**Pn**	**22 00 26.2**	**-0.5**
LPG				*e*Sn	**Sn**	**22 01 49.2**	**-3.5**
LPG	**La Plagne**	**7.54**	**286**	*e*Pn	**Pn**	**22 00 26.2**	**-0.5**
LPL	**La Plagne**	**7.56**	**286**	*e*Pn	**Pn**	**22 00 27.0**	**+0.2**
LPL				*e*Sn	**Sn**	**22 01 49.6**	**-3.4**
LPL	**La Plagne**	**7.56**	**286**	*e*Pn	**Pn**	**22 00 27.0**	**+0.2**
LMR	**La Mourre**	**7.70**	**270**	*e*Pn	**Pn**	**22 00 28.5**	**0.0**
LMR				*e*Sn	**Sn**	**22 01 53.0**	**-3.2**
LMR	**La Mourre**	**7.70**	**270**	*e*Pn	Pn	22 00 28.5	0.0
CLL	**Collm**	**7.92**	**341**	*e*Sb	Sb	22 02 18.0	-10
CLL				*e*Sg	**Sg**	**22 02 47.0**	**-2.9**
ORIF	**Oris-en-Rattie** 7.2nm,0.7s	**8.09**	**281**	*e*Pn	**Pn**	**22 00 34.0**	**-0.1**
ORIF				*e*Sn	**Sn**	**22 02 02.4**	**-3.6**
ORIF	**Oris-en-Rattie**	**8.09**	**281**	*e*Pn	**Pn**	**22 00 34.0**	**-0.1**
HINF	**Hinteralfeld** 6.0nm,0.7s	**8.15**	**302**	*e*Pn	**Pn**	**22 00 34.7**	**-0.1**
HINF				*e*Sn	**Sn**	**22 02 03.2**	**-4.2**
HINF	**Hinteralfeld**	**8.15**	**302**	*e*Pn	**Pn**	**22 00 34.7**	**-0.1**
CDF	**Champ du Feu** 0.9nm,0.5s	**8.18**	**307**	*e*Pn	**Pn**	**22 00 34.9**	**-0.3**
CDF				*e*Sn	**Sn**	**22 02 03.6**	**-4.5**
CDF	**Champ du Feu**	**8.18**	**307**	*e*Pn	**Pn**	**22 00 34.9**	**-0.3**
CABF	**La Chapelle** 2.7nm,0.6s	**8.23**	**293**	*e*Pn	**Pn**	**22 00 36.0**	**+0.1**
CABF				*e*Sn	**Sn**	**22 02 05.2**	**-4.1**
CABF	**La Chapelle**	**8.23**	**293**	*e*Pn	**Pn**	**22 00 36.0**	**+0.1**
SMRF	**Simiane la Rot** 4.4nm,0.7s	**8.31**	**275**	*e*Pn	**Pn**	**22 00 37.0**	**0.0**
SMRF				*e*Sn	**Sn**	**22 02 07.4**	**-3.9**
SMRF	**Simiane la Rot**	**8.31**	**275**	*e*Pn	**Pn**	**22 00 37.0**	**0.0**
HAU	**Haudompre** 7.2nm,0.6s	**8.54**	**303**	*e*Pn	**Pn**	**22 00 39.7**	**-0.4**
HAU				*e*Sn	**Sn**	**22 02 12.1**	**-4.8**
HAU	**Haudompre**	**8.54**	**303**	*e*Pn	**Pn**	**22 00 39.7**	**-0.4**
VIVF	**Saint-Julien-l** 2.0nm,0.4s	**8.95**	**281**	*e*Pn	**Pn**	**22 00 45.7**	**0.0**
VIVF				*e*Sn	**Sn**	**22 02 22.7**	**-4.2**
VIVF	**Saint-Julien-l**	**8.95**	**281**	*e*Pn	**Pn**	**22 00 45.7**	**0.0**
SFTF	**Sexfontaines** 1.3nm,0.3s	**9.43**	**301**	*e*Pn	**Pn**	**22 00 51.9**	**-0.3**
SFTF				*e*Sn	**Sn**	**22 02 33.5**	**-5.1**
SFTF	**Sexfontaines**	**9.43**	**301**	*e*Pn	**Pn**	**22 00 51.9**	**-0.3**
MEZF	**Maizieres J'vi** 1.4nm,0.4s	**9.54**	**303**	*e*Pn	**Pn**	**22 00 53.1**	**-0.6**
MEZF				*e*Sn	**Sn**	**22 02 35.9**	**-5.4**
MEZF	**Maizieres J'vi**	**9.54**	**303**	*e*Pn	**Pn**	**22 00 53.1**	**-0.6**
SMF	**Signal de Mont** 1.7nm,0.4s	**9.74**	**291**	*e*Pn	**Pn**	**22 00 56.2**	**-0.3**
SMF				*e*Sn	**Sn**	**22 02 41.3**	**-5.1**
SMF	**Signal de Mont**	**9.74**	**291**	*e*Pn	**Pn**	**22 00 56.2**	**-0.3**
LOR	**Lormes** 1.5nm,0.3s	**9.87**	**295**	*e*Pn	**Pn**	**22 00 58.0**	**-0.4**
LOR				*e*Sn	**Sn**	**22 02 44.4**	**-5.2**
LOR	**Lormes**	**9.87**	**295**	*e*Pn	**Pn**	**22 00 58.0**	**-0.4**
SSF	**Saint Saulge** 2.0nm,0.5s	**10.05**	**293**	*e*Pn	**Pn**	**22 01 00.6**	**-0.2**
SSF				*e*Sn	**Sn**	**22 02 48.8**	**-5.3**
SSF	**Saint Saulge**	**10.05**	**293**	*e*Pn	**Pn**	**22 01 00.6**	**-0.2**

IDC 03 22:02:26.1±2.0, 0°63N×133°14E, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/17, mbtmp4.0/5, Error ellipse: s-maj=104.9km s-min=28.9km az=100.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 3.5nm,0.4s,baz=36,slow=12,SNR=6.5	**20.03**	**201**	P	P	22 07 00.8	0.0
WRA	**Warramunga Arr** 6.0nm,0.9s,baz=353,slow=12,SNR=5.4	**20.48**	**177**	P	P	22 07 04.3	-1.4
ASAR	**Alice Springs** 4.1nm,0.7s,baz=357,slow=11,SNR=5.1	**24.17**	**178**	P	P	22 07 45.1	+0.9
STKA	**Stephens Creek** 1.8nm,0.3s,baz=332,slow=13,SNR=2.3	**33.31**	**167**	P	P	22 09 05.8	+0.1
ILAR	**Eielson Array** 0.2nm,0.6s,baz=259,slow=4.7,SNR=4.6	**85.15**	**25**	P	P	22 15 03.8	-0.2

*IDC **03** 22:03:13.7±0.6, 0°36S×132°56E, h0km, mb4.8/11, mb1 4.9/13, mb1mx4.6/22, mbtmp4.8/13, ML4.7/2, Error ellipse: s-maj=26.8km s-min=13.4km az=69.0*
*ISCJB **03** 22:03:16.1±0.5, 0°29S±0°05×132°90E±0°05, h32km, mb5.0/21, Error ellipse: s-maj=8.6km s-min=6.1km az=38.1*
*NEIC **03** 22:03:19.0±0.3, 0°40S×132°51E, h35km, mb5.0/3, Error ellipse: s-maj=11.4km s-min=6.3km az=70.0*
*DJA **03** 22:03:19, 0°52S×132°64E, h10km, mb5.1/11*

ISC 03 22:03:18.7±0.5, 0°31S±0°08×132°72E±0°06, h32km, n82, σ1°26/75, mb5.1/22, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.64**	**190**	P	**Pn**	**22 03 59.2**	**+0.1**
BAKI	**Biak**	**3.50**	**105**	P	**Pb**	**22 04 22.3**	**+2.3**
MSAI	**Masohi**	**4.84**	**231**	P	**Pn**	**22 04 31.7**	**+2.2**
LBMI	**Labuha**	**5.23**	**266**	P	**Pn**	**22 04 34.5**	**-0.3**
TLE	**Tual**	**5.29**	**180**	P	**Pn**	**22 04 36.6**	**+0.9**
AAI	**Ambon** 868nm,0.8s,13μm2.4nm	**5.63**	**233**	P	**Pn**	**22 04 40.9**	**+0.6**
LUWI	**Luwuk**	**9.97**	**266**	P	**Pn**	**22 05 39.3**	**-0.6**
MRSI	**Marisa** 58nm,1.2s	**10.81**	**274**	P	Pn	22 05 57.6	+6.2
TTSI	**Tana Toraja** 231nm,1.4s	**13.18**	**258**	P	**Pn**	**22 06 26.3**	**+2.5**
MMRI	**Maumere**	**13.32**	**231**	P	**P**	**22 06 38.0**	**+3.0**
SPSI	**Sidrap Palu** 212nm,1.0s	**13.44**	**254**	P	**Pn**	**22 06 28.2**	**+0.8**
BKSI	**Bulukumba** 83nm,1.0s	**13.53**	**248**	P	Pn	22 06 32.7	+4.1
KAPI	**Kappang** 250nm,0.8s	**13.77**	**250**	P	Pn	22 06 35.7	+3.8
KBKI	**Kotabaru** 122nm,1.2s	**16.81**	**260**	P	**Pn**	**22 07 13.1**	**+1.2**
PMG	**Port Moresby** 0.5nm,0.3s,baz=308,slow=12,SNR=5.9	**16.98**	**123**	P	**P**	**22 07 17.0**	**+1.3**
PMG	**Port Moresby**	**16.98**	**123**	P	**P**	**22 07 17.0**	**+1.3**
COEN	**Coen** 146nm,1.3s	**17.06**	**143**	*e*P	**Pn**	**22 07 14.6**	**-0.4**
BBKI	**Banjar Baru** 85nm,1.1s	**18.14**	**260**	P	**P**	**22 07 30.0**	**+1.5**
MTNI	**Mataram** 58nm,1.2s	**18.45**	**243**	P	**Pn**	**22 07 34.9**	**+2.8**
KHKI	**Kahang-Kahang** 126nm,1.0s	**18.84**	**244**	P	**P**	**22 07 36.5**	**+0.4**
FITZ	**Fitzroy Crossi** 0.9nm,0.3s,baz=18,slow=11,SNR=4.4	**19.00**	**201**	P	**P**	**22 07 36.2**	**-1.8**
FITZ	**Fitzroy Crossi** 27nm,0.6s	**19.00**	**201**	*e*P	**P**	**22 07 35.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.00**	**201**	P	**P**	**22 07 36.2**	**-1.8**
WRAB	**Tennant Creek**	**19.57**	**175**	*e*P	**P**	**22 07 42.8**	**-1.3**
WRAB	**Tennant Creek** 444nm,0.6s,SNR=5.4	**19.57**	**175**	P	**P**	**22 07 43.5**	**-0.7**
WRA	**Warramunga Arr** 4.0nm,0.3s,baz=352,slow=11,SNR=28	**19.58**	**175**	P	**P**	**22 07 43.2**	**-1.0**
WRA	**Warramunga Arr**	**19.58**	**175**	P	**P**	**22 07 43.2**	**-1.0**
WB2	**Warramunga Arr**	**19.58**	**175**	*e*P	**P**	**22 07 43.3**	**-1.0**
BYJI	**Banyuwangi** 247nm,1.2s	**19.91**	**246**	P	**Pn**	**22 07 51.7**	**+1.9**
JAGI	**Jajag, Banyuwa** 91nm,1.2s	**20.20**	**246**	P	Pn	22 07 54.2	+1.1
BLJI	**Banyuglugur**	**20.45**	**248**	P	Pn	22 08 01.8	+5.8
SBUM	**Sibu** 68nm,0.9s	**20.68**	**278**	P	Pn	22 07 58.5	-0.2
GMJI	**Gumukmas** 271nm,1.2s	**20.77**	**247**	P	Pn	22 08 02.6	+2.8
MTSU	**Mount Surprise** 87nm,1.1s	**21.07**	**148**	*e*P	**P**	**22 07 59.1**	**-1.3**
PBKI	**Pangkalan Bun** 139nm,1.1s,6μm	**21.18**	**263**	P	P	22 08 07.2	+5.5
STKI	**Sintang** 44nm,1.2s	**21.25**	**271**	P	P	22 08 10.8	+8.4
KSM	**Kuching** 32nm,1.5s	**22.48**	**275**	P	**P**	**22 08 17.2**	**+1.5**
AS31	**Alice Springs**	**23.25**	**177**	*e*P	**P**	**22 08 22.4**	**-1.2**
ASAR	**Alice Springs** 39nm,0.6s,baz=22,slow=12,SNR=51	**23.25**	**177**	P	**P**	**22 08 22.6**	**-1.0**
ASAR	**Alice Springs**	**23.25**	**177**	P	**P**	**22 08 22.6**	**-1.0**
CTA	**Charters Tower** 18nm,0.9s,baz=322,slow=12,SNR=5.6	**23.71**	**147**	P	**P**	**22 08 27.8**	**-0.2**
CTA	**Charters Tower** 13nm,0.8s	**23.71**	**147**	*e*P	**P**	**22 08 27.8**	**-0.2**
CTA	**Charters Tower**	**23.71**	**147**	P	**P**	**22 08 27.8**	**-0.2**
CTAO	**Charters Tower** 16nm,0.7s	**23.71**	**147**	*e*P	**P**	**22 08 27.9**	**-0.1**
BJII	**Banjamegara** 292nm,1.9s	**23.98**	**253**	P	**P**	**22 08 32.3**	**+1.5**
MBWA	**Marble Bar**	**24.30**	**211**	*e*P	**P**	**22 08 32.5**	**-1.0**
MBWA	**Marble Bar** 81nm,1.2s	**24.30**	**211**	*e*P	**P**	**22 08 32.5**	**-1.0**
CISI	**Cisompet, Garu**	**25.85**	**253**	P	**P**	**22 08 47.7**	**-0.1**
HNR	**Honiara** 58nm,0.5s,baz=214,slow=5.7,SNR=3.1	**28.57**	**109**	P	**P**	**22 09 13.8**	**+1.6**
HNR	**Honiara**	**28.57**	**109**	P	**P**	**22 09 13.8**	**+1.6**
STKA	**Stephens Creek** 28nm,0.8s,baz=336,slow=8.3,SNR=15	**32.50**	**166**	P	**P**	**22 09 45.0**	**-1.7**
STKA	**Stephens Creek** 22nm,0.7s	**32.50**	**166**	*e*P	**P**	**22 09 44.8**	**-1.8**
STKA	**Stephens Creek**	**32.50**	**166**	P	**P**	**22 09 45.0**	**-1.7**
KMBL	**Kambalda** 114nm,0.7s	**32.55**	**197**	*e*P	**P**	**22 09 45.8**	**-1.3**
MORW	**Morawa** 59nm,0.6s	**32.74**	**208**	*e*P	**P**	**22 09 47.4**	**-1.4**
CMSA	**Cobar Meteorol** 94nm,1.1s	**33.40**	**160**	*e*P	**P**	**22 09 52.

TWE Neicheng 0.57 352⇑*i*P Pg 22 04 46.6 -0.4
baz=354
TWE *e*S **Sb 22 04 54.9 -0.4**
baz=354
ILA Ilan 0.61 359 P Pg 22 04 47.5 -0.1
ILA *e*S **Sb 22 04 56.1 -0.4**
YHNB Yeheng 0.62 326 *e*Pg Pg 22 04 47.2 -0.8
YHNB *e*S **Sg 22 04 55.5 -0.6**
NSK Sanguang 0.63 325⇑*i*P Pg 22 04 47.6 -0.5
baz=327
NSK S **Sg 22 04 56.1 -0.5**
baz=327
EHY Hungye 0.76 212*i*P Pg 22 04 49.2 -1.4
baz=223
SSLB Suanglung 0.82 244 *e*Pg Pg 22 04 50.3 -1.4
SSLB *e*S **Sg 22 05 00.1 -2.4**
SMLT Sun Moon Lake 0.83 251⇑*i*P Pg 22 04 50.9 -1.0
baz=253
SMLT S **Sg 22 05 01.5 -1.3**
baz=253
NSTT Nanjuang 0.83 305⇑*i*P Pg 22 04 51.5 -0.5
baz=306
NSTT *e*S **Sg 22 05 02.0 -0.9**
baz=306
TWA Mucha 0.83 349 ⇑P Pg 22 04 51.7 -0.3
baz=350
TWA S **Sg 22 05 02.8 -0.2**
baz=350
TATO Taipei 0.85 343 *e*Pg Pb 22 04 51.7 -0.6
TATO *e*S **Sg 22 05 03.2 -0.2**
TATO Taipei 0.85 343 P Pb 22 04 52.1 -0.2
SNR=196
TYC Yuchr 0.86 253⇑*i*P Pb 22 04 51.3 -1.1
baz=246
TYC *e*S **Sb 22 05 01.1 -2.6**
baz=246
YULB Yu-li 0.87 209 *e*Pg Pb 22 04 51.0 -1.6
YULB *e*S **Sg 22 05 04.8 +0.8**
TWB1 Santiao Chiao 0.87 14 P Pb 22 04 52.1 -0.5
baz=4.0
TAP1 Taipei 0.90 347⇑*i*P Pb 22 04 53.1 0.0
baz=346
TAP1 S **Sb 22 05 04.6 -0.4**
baz=346
TWF1 Yuli 0.90 208 *e*P Pb 22 04 53.2 +0.1
baz=223
NWF Wu-fen Shan 0.91 1⇑*i*P Pb 22 04 53.3 0.0
baz=353
NWF S **Sb 22 05 05.0 -0.3**
baz=353
TWQ1 Liyutan 0.92 282⇓*i*P Pn 22 04 53.9 -0.3
baz=284
NSY Sanyi 0.94 286⇑*i*P Pn 22 04 54.3 -0.2
baz=288
NCU National Centr 0.96 328 ⇑P Pg 22 04 54.5 +0.1
baz=328
NCU S **Sn 22 05 09.0 +0.8**
baz=328
HSN Hsinchu 0.96 312 *e*P Pg 22 04 54.5 +0.1
baz=315
HSN *e*S **Sn 22 05 08.9 +0.8**
baz=315
TCU Taichung 0.99 270⇑*i*P Pn 22 04 55.2 +0.2
baz=272
TCU *e*S **Sn 22 05 09.0 +0.2**
baz=272
TWS1 Kuangyinshan 0.99 342⇑*i*P Pn 22 04 55.2 0.0
baz=351
TWS1 *e*S **Sn 22 05 09.2 +0.3**
baz=351
YUS Yu-Shan 0.99 228⇓*i*P Pb 22 04 55.0 0.0
baz=231
YUS *e*S **Sb 22 05 07.1 -0.9**
baz=231
WNT Mingjian 1.02 254⇑*i*P Pg 22 04 55.5 +0.1
baz=252
WNT S **Sg 22 05 09.1 +0.4**
baz=252
ALS Alishan 1.08 234 *e*P Pb 22 04 56.2 -0.2
baz=247
TWY Chenhua 1.12 353 *e*P Pg 22 04 57.2 -0.3
baz=337
CHN5 Tsauling 1.13 241 P Pn 22 04 57.3 +0.1
baz=247
ELDTW Lidau 1.18 215⇓*e*P Pn 22 04 56.0 -1.8
baz=222
YOJ Yonaguni jima 1.19 75 ⇑P Pn 22 04 57.9 +0.1
baz=62
YOJ *e*S **Sg 22 05 15.1 +1.0**
baz=62
WGK Gukeng 1.19 247 P Pb 22 04 58.4 +0.3
baz=250
WGK *e*S **Sg 22 05 14.6 +0.4**
baz=250
CHN4 Tsaushan 1.33 233⇓*i*P Pg 22 05 01.1 -0.3
baz=225
CHN4 S **Sg 22 05 20.3 +1.5**
baz=225
TPUB Ta-pu 1.34 231 *e*Pn Pb 22 05 00.5 -0.1
TPUB *e*S **Sg 22 05 19.8 +0.8**
STYT Tauyuan 1.35 223 ⇑P Pn 22 04 59.9 -0.2
baz=227
STYT *e*S **Sb 22 05 18.1 +0.2**
baz=227
WTCT Ta-ch'eng 1.38 258 P Pb 22 05 01.3 0.0
baz=261
WTCT S **Sg 22 05 20.3 0.0**
baz=261
CHY Chiayi 1.38 242 *e*P Pb 22 05 01.9 +0.5
baz=246
CHY *e*S **Sg 22 05 21.0 +0.6**
baz=246
WTP Ta-pu 1.38 229⇑*i*P Pb 22 05 01.2 -0.2
baz=234
WTP S **Sg 22 05 20.3 -0.2**
baz=234
TWG Pinlang 1.47 205 *e*P Pn 22 04 59.3 -2.4
baz=214
TWG Pinlang 1.47 205 *e*Pn Pn 22 04 59.4 -2.4
CHN1 Nanshi 1.48 230⇓*i*P Pb 22 05 03.4 +0.3
baz=235
CHN1 *e*S **Sg 22 05 23.4 -0.3**
baz=235
WSF Szhu 1.50 250 P Pb 22 05 03.1 -0.1
baz=253
WSF S **Sg 22 05 23.4 -0.6**
baz=253
TTN Taitung 1.50 202 *e*P Pn 22 04 59.5 -2.7
baz=212
SGST Jiashian 1.52 225 ⇑P Pb 22 05 03.2 -0.4
baz=230
SGST *e*S **Sg 22 05 25.2 +0.5**
baz=230
CHN8 Yiju 1.63 241 *e*P Pb 22 05 04.9 -0.7
baz=245
CHN8 S **Sg 22 05 28.0 -0.3**
baz=245
CHN3 Shinhua 1.67 230 *e*P Pb 22 05 06.9 +0.7
baz=236
CHN3 *e*S **Sg 22 05 29.8 +0.3**
baz=236
ECL Taimali 1.72 206 *e*P Pn 22 05 02.1 -3.1
baz=201
SCLT Jiali 1.73 236 *e*P Pb 22 05 06.7 -0.6
baz=241
SCLT S **Sg 22 05 31.1 -0.5**
baz=241
SSD Sandimen 1.74 217 *e*P Pn 22 05 05.2 -0.3
baz=235
SSD *e*S **Sb 22 05 29.7 +0.5**
baz=235
TAI1 Yung-k'ang 1.79 232 *e*P Pb 22 05 07.9 -0.3
baz=239
TAI1 *e*S **Sb 22 05 31.3 +0.8**
baz=239
TWM1 Shoushan 1.81 223 ⇓P Pb 22 05 08.9 +0.3
baz=233
SGLT Jiouru 1.84 219 *e*P Pb 22 05 09.0 -0.1
baz=219
EAST Anshuo 1.95 205 *e*P Pn 22 05 06.3 -2.1
baz=203
TAW Tawu 1.96 204 *e*P Pn 22 05 06.5 -2.0
baz=202
SCZT Fangliau 2.06 211 *e*P Pn 22 05 11.3 +1.5
baz=206
KAU Kaohsiung 2.07 220 *e*P Pn 22 05 09.8 -0.2
baz=249
PNG Penghu 2.10 254 P Pn 22 05 10.5 +0.2
baz=258
PNG *e*S **Sn 22 05 37.5 +1.3**
baz=258
LAY Lan-yu 2.12 185 *e*P Pn 22 05 07.8 -2.9
baz=197
WDGT Dungji 2.12 245 P Pn 22 05 11.2 +0.6
baz=250
WDGT *e*S **Sn 22 05 37.9 +1.1**
baz=250
TWP Hsiaoliuchiu 2.21 216 *e*P Pn 22 05 13.7 +1.7
baz=246
HEN Hengchun 2.34 204 *e*P Pn 22 05 14.0 +0.3
baz=205
TWK1 Hengchun 2.37 202 ⇑P Pn 22 05 13.9 -0.3
baz=199
TWK1 *e*S **Sb 22 05 45.3 -1.9**
baz=199
TSEB Hengchuen, Pin 2.38 199 *e*P Pn 22 05 13.4 -0.9
baz=202
QZH Quanzhou 2.98 286 ⇓Pn Pn 22 05 21.7 -0.9
QZH Sn **Sn 22 05 58.0 -0.1**
QZH smax smax
comp=N,5μm,0.9s
QZH smax smax
comp=E,4μm,0.8s
KNM Kinmen 3.04 276 *e*P Pn 22 05 24.2 +0.9
baz=278
JOW Kunigami 6.46 64 Pn Pn 22 06 09.7 -0.8
comp=E,7.7nm,0.3s,baz=120,slow=16,SNR=4.6
JOW Sn **Sn 22 07 25.6 +1.5**
baz=123,slow=28,SNR=1.8
JOW Kunigami 6.46 64 *e*Pn Pn 22 06 09.9 -0.5
JOW Sn **Sn 22 07 25.6 +1.5**
GZH Guangzhou 7.79 264 P Pn 22 06 24.0 -4.6
GZH S Sn 22 07 43.5 -13
GZH smax smax
comp=N,2.0nm,1.1s
GZH smax smax
comp=E,1μm,1.2s
BCPH Baguio City Da 7.81 188⇓*i*P Pn 22 06 32.0 +2.8
NJ2 Nanjing 8.27 343 *e*P Pn 22 06 32.9 -2.3
NJ2 pP pP 22 06 36.0
NJ2 sP 22 06 38.9
NJ2 S **Sn 22 08 07.5 -0.9**
NJ2 pmax pmax
comp=Z,70nm,0.9s
NJ2 smax smax
comp=N,740nm,1.0s
NJ2 smax smax
comp=E,900nm,1.0s
WHN Wuhan 9.15 316 P Pn 22 06 45.7 -1.6
WHN S **Sn 22 08 25.7 -4.4**
JNU Nakatsue 11.99 40 *e*Pn Pn 22 07 31.0 +4.7
comp=E,20nm,1.0s
QIZ Qiongzhong 12.20 248 P Pn 22 07 28.1 -1.0
QIZ S **Sn 22 09 43.6 -1.3**
QIZ LR LR
comp=Z,5μm,19.8s
QIZ Qiongzhong 12.20 248 *e*Pn Pn 22 07 30.0 +0.9
QIZ *e*S **Sn 22 09 45.2 +0.3**
GYA Guiyang 13.84 283 P Pn 22 07 51.6 0.0
GYA PP **P 22 08 02.0 +2.0**
GYA SS **S 22 10 42.3 -5.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.2s
GYA LR LR
comp=N,8μm,14.9s
GYA LR LR
comp=E,7μm,15.0s
GYA LR LR
comp=Z,9μm,13.9s
INCN Inchon 13.93 16 *e*Pn P 22 08 01.8 +1.1
KSAR Wonju Array Be 14.24 20 P P 22 08 01.8 -2.5
KSAR Wonju Array Be 14.24 20 Pn P 22 08 01.8 -2.5
KSRS Korea Array 14.27 20 Pn P 22 08 01.8 -2.7
comp=Z,1.2nm,0.3s,baz=200,slow=10.0,SNR=50
DL2 Dalian 14.71 360 P P 22 08 12.3 +2.9
DL2 *e*S **S 22 11 04.4 -0.3**
DL2 pmax pmax
comp=Z,30nm,0.9s
DL2 LR LR
comp=N,3μm,15.5s
DL2 LR LR
comp=E,1μm,17.2s
DL2 LR LR
comp=Z,4μm,16.1s
XAN Xi'an 14.91 314 P Pn 22 08 05.7 -0.5
XAN pmax pmax
comp=Z,5.0nm,1.2s
BJT Baijiatuan 16.50 345 *e*P Pn 22 08 27.4 +0.7
BJT Baijiatuan 16.50 345 *e*Pn Pn 22 08 27.4 +0.7
BJI Beijing 16.52 345 P P 22 08 28.9 -0.6
BJI pmax pmax
comp=Z,21nm,1.5s
CD2 Chengdu 17.31 297 P P 22 08 37.9 -0.5
CD2 pP **pP 22 08 41.4 -1.2**
CD2 sP **sP 22 08 44.9 +0.4**
CD2 PP **PnPn 22 08 52.4 +5.3**
CD2 S **Sn 22 11 48.8 -0.7**
CD2 sS **S 22 11 54.1 -4.1**
CD2 SS 22 12 10.1
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,3μm,11.6s
CD2 LR LR
comp=N,9μm,19.0s
CD2 LR LR
comp=Z,14μm,19.6s
KMI Kunming 17.32 277 P P 22 08 41.3 +2.6
KMI PP PP 22 08 56.6
KMI S **Sn 22 11 52.9 +3.0**
KMI SS S 22 12 09.6 +11
KMI pmax pmax
comp=Z,18nm,1.1s
KMI LR LR
comp=N,7μm,14.2s
KMI LR LR
comp=E,5μm,24.0s
KMI LR LR
comp=Z,7μm,24.0s
HHC Hu-ho-hao-te 18.71 335 *e*P P 22 08 55.2 +1.4
HHC pP **pP 22 08 58.5 +0.5**
HHC sP **sP 22 09 02.3 +2.4**
HHC PP **PnPn 22 09 11.5 +5.2**
HHC S **Sn 22 12 23.4 +0.1**
HHC sS **sS 22 12 31.4 -1.8**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,1μm,6.1s
HHC LR LR
comp=N,7μm,16.5s
HHC LR LR
comp=E,4μm,15.3s
KKM Kota Kinabalu 18.78 197 *e*P Pn 22 08 55.3 +0.1
comp=E,108nm,1.5s
MJAR Matsushiro Arr 18.78 45 P P 22 08 53.9 -0.7
comp=E,0.2nm,0.3s,baz=239,slow=9.7,SNR=8.7
MJAR Matsushiro Arr 18.78 45 P P 22 08 53.9 -0.7
MJAR Matsushiro Arr 18.78 45 P P 22 08 53.9 -0.7
BTO Baotou 19.13 332 *e*P P 22 08 59.9 +1.5
LZH Lanzhou 19.49 312 *e*P P 22 09 05.2 +2.7
LZH pP **pP 22 09 10.1 +3.4**
LZH sP **sP 22 09 13.3 +4.7**
LZH PP **PnPn 22 09 19.5 +2.4**
LZH *e*S **Sn 22 12 40.4 -2.0**
LZH sS **S 22 12 45.2 +2.7**
LZH pmax pmax
comp=Z,240nm,1.2s
LZH pmax pmax
comp=Z,1μm,5.6s
CN2 Changchun 19.83 8 *e*P P 22 09 06.7 +0.8
CN2 *e*sP **sP 22 09 12.5 +0.5**
CN2 *e*S **S 22 12 44.7 -4.1**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=N,5μm,18.0s
CN2 LR LR
comp=E,4μm,18.0s
CN2 LR LR
comp=Z,5μm,19.0s
MDJ Mudanjiang 21.39 15 P P 22 09 22.8 0.0
MDJ pP **pP 22 09 25.7 -1.3**
MDJ sP **sP 22 09 27.0 -1.9**
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ Mudanjiang 21.39 15 *e*P P 22 09 23.1 +0.3
comp=Z,62nm,1.3s
USRK Ussuriysk Arra 21.68 20 P P 22 09 25.5 -0.4
comp=Z,12nm,0.9s,baz=199,slow=12,SNR=20
CHTO Chiang Mai 21.87 260 P P 22 09 36.4 +8.2
SNR=7.4
CHTO Chiang Mai 21.87 260 P P 22 09 30.0 +1.8
comp=Z,34nm,1.4s
CM31 Chiang Mai Arr 21.98 259 *e*P P 22 09 30.4 +0.9
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 21.98 259 P P 22 09 29.9 +0.4
comp=Z,6.9nm,0.9s,baz=62,slow=8.2,SNR=30
CMAR PcP **PcP 22 13 28.4 +0.5**
comp=Z,1.4nm,0.7s,baz=23,slow=1.2,SNR=10
CMAR Chiang Mai Arr 21.98 259 P P 22 09 29.9 +0.4
CMAR 22 13 28.4
CMAR Chiang Mai Arr 21.98 259 P P 22 09 29.9 +0.4
CMAR PcP **PcP 22 13 28.4 +0.5**
SBUM Sibu 23.47 205 P P 22 09 47.7 +2.8
comp=Z,56nm,1.1s
MRSI Marisa 23.54 180 P P 22 09 57.7 +12
comp=Z,34nm,0.9s
GTA Gaotai 23.98 315 P P 22 09 49.9 0.0
GTA pP **pP 22 09 53.7 -0.6**
GTA sP **sP 22 09 56.2 0.0**
GTA PP **PnPn 22 10 26.5 +8.1**
GTA S **S 22 14 10.2 +3.9**
GTA pmax pmax
comp=Z,24nm,1.2s
GTA LR LR
comp=N,5μm,23.3s
GTA LR LR
comp=E,4μm,16.2s
GTA LR LR
comp=Z,8μm,20.4s
HIA Hailar 25.11 357 *e*P P 22 10 00.2 +0.2
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 25.11 357 *e*P P 22 10 00.2 +0.2
comp=Z,16nm,0.9s
KSM Kuching 25.12 208 P P 22 10 01.4 +1.0
comp=Z,74nm,1.2s
KSM Kuching 25.12 208 P P 22 10 04.8 +4.5
comp=Z,50nm,1.1s
STKI Sintang 25.94 204 P P 22 10 13.2 +5.5
ASAJ Asahikawa 26.21 35 P P 22 10 13.1 +3.1
comp=Z,4.9nm,0.7s,baz=217,slow=5.1,SNR=4.1
ASAJ Asahikawa 26.21 35 P P 22 10 13.1 +3.1
KLR Kul'dur 26.23 15 *e*P P 22 10 07.0 -3.1
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
ULN Ulaanbaatar 26.39 337 *e*P P 22 10 11.8 +0.1
ULN pmax pmax
comp=Z,37nm,1.0s
ULN Ulaanbaatar 26.39 337 *e*P P 22 10 11.8 +0.1
comp=Z,37nm,1.0s
ULN Ulaanbaatar 26.39 337 P P 22 10 12.0 +0.3
comp=Z,141nm,1.4s
HABR Khabarovsk 26.45 20 *e*P P 22 10 10.9 -1.1
HABR 22 10 50.4
HABR *e* 22 13 35.7
HABR S **S 22 14 45.5 +0.3**
HABR *e*SS 22 15 47.7
HABR *e*SSS SSS 22 16 01.7
HABR MLR MLR
comp=Z,4μm,19.0s
SONM Songino Array 26.60 337 P P 22 10 13.6 0.0
comp=Z,17nm,1.0s,baz=154,slow=9.3,SNR=58
SONM Songino Array 26.60 337 P P 22 10 13.6 0.0
SONM Songino Array 26.60 337 P P 22 10 13.6 0.0
LSA Lhasa 27.79 288 P P 22 10 25.2 +0.3
LSA Lhasa 27.79 288 *e*P P 22 10 26.4 +1.5
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 27.79 288 *e*P P 22 10 26.4 +1.5
comp=Z,40nm,1.0s
IPM Ipoh 27.96 229 *e*P P 22 10 26.3 +0.3
YSS Yuzh-Sakhalins 28.28 31 *e*P P 22 10 33.0 +4.5
YSS pmax pmax
comp=Z,30nm,1.0s
CIT Chita 28.52 349 *e*P P 22 10 30.0 -0.7
CIT *e* 22 10 47.0
CIT pmax pmax
comp=Z,42nm,1.1s
ZAK Zakamensk 29.86 336 *e*P P 22 10 41.8 -0.8
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TAPN Taplejung 30.77 283 *e*P P 22 10 52.0 +0.8
comp=Z,101nm,1.1s
TAPN Taplejung 30.77 283 *e*P P 22 10 52.0 +0.8
TLY Talaya 30.80 338 *e*P P 22 10 44.0 -6.8
TLY pmax pmax
comp=Z,30nm,1.5s
ODAN Odare 31.08 282 *e*P P 22 10 54.4 +0.6
comp=Z,146nm,1.2s
ODAN Odare 31.08 282 *e*P P 22 10 54.4 +0.6
MOY Mondy 31.75 335 *e*P P 22 10 57.9 -1.4
RAMN Ramite 31.78 283 *e*P P 22 11 00.8 +0.8
comp=Z,121nm,1.1s
RAMN Ramite 31.78 283 *e*P P 22 11 00.8 +0.8
JIRN Jiri 32.11 284 *e*P P 22 11 03.9 +0.8
comp=Z,97nm,1.2s
JIRN Jiri 32.11 284 *e*P P 22 11 03.9 +0.8
GUN Gumba 32.38 284 *e*P P 22 11 05.9 +0.5
comp=Z,135nm,1.3s
GUN Gumba 32.38 284 *e*P P 22 11 05.9 +0.5
PKI Pulchoki 32.81 284 *e*P P 22 11 09.3 +0.1
comp=Z,100nm,1.5s
PKI Pulchoki 32.81 284 *e*P P 22 11 09.3 +0.1
PKI Pulchoki 32.81 284 *e*P P 22 11 09.3 +0.1
KKN Kakani 32.91 284 *e*P P 22 11 10.0 +0.1
comp=Z,120nm,1.4s
KKN Kakani 32.91 284 *e*P P 22 11 10.0 +0.1
KKN Kakani 32.91 284 *e*P P 22 11 10.0 +0.1
DMN Daman 33.08 284 *e*P P 22 11 11.6 +0.2
comp=Z,83nm,1.2s
DMN Daman 33.08 284 *e*P P 22 11 11.6 +0.2
GKN Gorkha 33.48 285 *e*P P 22 11 14.7 -0.1
comp=Z,51nm,1.0s
GKN Gorkha 33.48 285 *e*P P 22 11 14.7 -0.1
WMQ Urumqi 34.05 314 P P 22 11 20.3 +0.8
WMQ pP **pP 22 11 24.8 +0.8**
WMQ sP **sP 22 11 27.3 +1.4**
WMQ PP PP 22 12 29.3 -7.3
WMQ pmax pmax
comp=Z,18nm,1.2s
BOD Bodaibo 34.09 353 *e*P P 22 11 16.7 -2.8
BOD pmax pmax
comp=Z,6.0nm,1.8s
DANN Dangsing 34.24 285 *e*P P 22 11 21.9 +0.3
DANN Dangsing 34.24 285 *e*P P 22 11 21.9 +0.3
KOLN Koldanda 34.40 284 *e*P P 22 11 23.1 +0.2
comp=Z,32nm,0.8s
KOLN Koldanda 34.40 284 *e*P P 22 11 23.1 +0.2
YAK Yakutsk 38.24 6 *i*P P 22 11 52.0 -2.9
YAK pmax pmax
comp=Z,18nm,1.2s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK Yakutsk 38.24 6 *e*P P 22 11 52.9 -2.0
MK31 Makanchi Array 38.72 316 *ce*P P 22 11 59.0 -0.3
MK31 pmax pmax
comp=Z,27nm,0.9s
MK31 Makanchi Array 38.72 316 *e*P P 22 11 59.1 -0.1
MKAR Makanchi Array 38.72 316 P P 22 11 58.7 -0.6
comp=Z,22nm,0.9s,baz=110,slow=9.9,SNR=61
MKAR Makanchi Array 38.72 316 *ce*P P 22 11 59.5 +0.2
MKAR pmax pmax
comp=Z,22nm,0.9s
MKAR Makanchi Array 38.72 316 *e*P P 22 11 59.5 +0.2
NDI New Delhi 39.97 286 *e*P P 22 12 09.0 -0.9
ZALV Zalesovo Beam 40.55 327 P P 22 12 13.0 -1.4
comp=Z,14nm,0.8s,baz=111,slow=8.1,SNR=47
ZALV Zalesovo Beam 40.55 327 P P 22 12 13.0 -1.4
ZALV Zalesovo Beam 40.55 327 P P 22 12 13.0 -1.4
KSH Kashi 41.35 303 *e*P P 22 12 24.7 +3.3

KSH epP pP 22 12 29.2 +3.2
KSH esP sP 22 12 31.5 +3.7
KSH ePP PP 22 14 04.0 +7.2
KSH ePcP **PcP** **22 14 22.1 +2.5**
KSH eScP **ScP** **22 18 10.6 +1.4**
KSH ePcS **PcS** **22 18 12.4 +1.5**
KSH eS **S** **22 18 40.1 +4.5**
KSH esS sS 22 18 47.6 +4.4
KSH eSS SS 22 21 39.9 +0.5
KSH eScS **ScS** **22 22 25.4 +0.1**
KSH pmax pmax
comp=Z,8.0nm,1.2s
NVS Novosibirsk 41.81 327 ⇑ *i* P P 22 12 19.6 -5.1
NVS *e* 22 14 19.9
NVS pmax pmax
comp=N,10.0nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,25nm,1.8s
TKM2 Tokmak 2 42.19 308 *e*P **P** **22 12 29.4 +1.1**
TKM2 Tokmak 2 42.19 308 *e*P **P** **22 12 29.4 +1.1**
KURK Kurchatov 42.45 320 P **P** **22 12 29.6 -0.3**
comp=Z,10.0nm,1.2s,baz=146,slow=2.7,SNR=22
KURK Kurchatov 42.45 320 *de*P **P** **22 12 30.0 0.0**
KURK pmax pmax
comp=Z,24nm,1.7s
KURK Kurchatov 42.45 320 P **P** **22 12 29.6 -0.3**
KURK Kurchatov 42.45 320 P **P** **22 12 30.3 +0.3**
SNR=5.5
KURK Kurchatov 42.45 320 P **P** **22 12 29.3 -0.7**
comp=Z,84nm,1.5s,SNR=7.3
AAK Ala-Archa 42.94 307 *i* P **P** **22 12 35.9 +1.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 43.83 20 *e*P **P** **22 12 43.6 +2.7**
MBWA Marble Bar 45.09 183 P P 22 13 02.8 +11
SNR=15
KK31 Karatay Array 45.90 307 *ce*P **P** **22 12 58.2 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 45.90 307 *e*P **P** **22 12 58.1 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 45.90 307 *e*P **P** **22 12 58.0 +0.2**
comp=Z,4.2nm,0.8s
KBL Kabul 46.65 295 *e*P **P** **22 13 04.6 +0.5**
KBL Kabul 46.65 295 *e*P **P** **22 13 04.5 +0.5**
BVAR Borovoye Array 48.02 321 P **P** **22 13 14.0 -0.2**
comp=Z,6.5nm,0.9s,baz=113,slow=12,SNR=16
BVAR Borovoye Array 48.02 321 P **P** **22 13 14.0 -0.2**
BVAR Borovoye Array 48.02 321 P **P** **22 13 14.0 -0.2**
BRVK Borovoye 48.10 321 *ce*P **P** **22 13 14.2 -0.6**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 48.10 321 *e*P **P** **22 13 14.8 0.0**
BRVK Borovoye 48.10 321 P **P** **22 13 14.5 -0.3**
comp=Z,93nm,1.1s,SNR=7.6
BRVK Borovoye 48.10 321 P **P** **22 13 14.7 0.0**
SNR=7.8
BILL Bilibino 51.53 20 ⇑ *e*P **P** **22 13 39.7 -1.0**
BILL *e*S SS 22 24 31.7 -4.5
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL Bilibino 51.53 20 *e*P **P** **22 13 39.8 -1.0**
comp=Z,2.8nm,0.7s
AB31 Akbulak array 53.83 314 *ce*P **P** **22 13 57.8 -0.2**
AB31 pmax pmax
comp=Z,17nm,0.9s
ABKAR Akbulak array 53.83 314 *e*P **P** **22 13 57.8 -0.2**
comp=Z,13nm,0.8s
SVE Sverdlovsk 54.37 324 ⇑ *e*P **P** **22 14 01.6 -0.2**
SVE pmax pmax
comp=Z,32nm,1.2s
AKTO Aktyubinsk 55.16 316 P **P** **22 14 07.3 -0.3**
comp=Z,9.1nm,0.9s,baz=84,slow=5.7,SNR=24
AKTO Aktyubinsk 55.16 316 P **P** **22 14 07.3 -0.3**
AKTO Aktyubinsk 55.16 316 P **P** **22 14 07.3 -0.3**
ABKT Ailbek 55.26 300 P **P** **22 14 09.9 +1.3**
comp=Z,99nm,0.9s,SNR=5.3
ARU Arti 55.44 323 *d* *i* P **P** **22 14 09.0 -0.6**
ARU S **S** **22 21 55.9 +2.1**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 55.44 323 *e*P **P** **22 14 08.7 -0.8**
comp=Z,19nm,0.9s
ARU Arti 55.44 323 P **P** **22 14 08.6 -1.0**
comp=Z,139nm,1.1s,SNR=10.0
SOKR Solikamsk 56.84 327 *e*P P 22 14 13.0 -6.4
SOKR pmax pmax
comp=Z,30nm,1.4s
NWAO Narrogin (SRO) 56.93 185 P **P** **22 14 20.3 0.0**
comp=Z,12nm,1.0s,baz=318,slow=5.4,SNR=6.2
NWAO Narrogin (SRO) 56.93 185 P **P** **22 14 20.3 0.0**
NWAO Narrogin (SRO) 56.93 185 P **P** **22 14 20.3 0.0**
GAMB Gambell 58.26 29 *e*P **P** **22 14 29.0 -0.4**
comp=Z,13nm,1.3s
TTA Tatalina 65.27 30 *e*P **P** **22 15 16.4 -0.4**
TTA Tatalina 65.27 30 *e*P **P** **22 15 16.4 -0.4**
ZEI Tsey 65.36 308 *e*P **P** **22 15 16.6 -1.4**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 65.51 317 *e*P **P** **22 15 16.8 -1.6**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
MIB Mutribah 65.51 293 *e*P **P** **22 15 17.6 -1.2**
MIB AMb AMB 22 15 19.2
comp=Z,40nm,0.9s
RDF Al-Radifah 65.56 292 *e*P **P** **22 15 18.2 -1.0**
RDF AMb AMB 22 15 20.2
comp=Z,77nm,1.1s
NAY Al-Naaiem 65.73 293 *e*P **P** **22 15 18.9 -1.4**
NAY AMb AMB 22 15 27.6
comp=Z,26nm,1.1s
KIV Kislovodsk 66.01 309 ⇓ *e*P **P** **22 15 22.3 +0.4**
KIV *e*S **S** **22 24 06.6 -2.8**
KIV pmax pmax
comp=Z,38nm,1.7s
KIV Kislovodsk 66.01 309 *e*P **P** **22 15 21.9 -0.1**
comp=Z,21nm,1.0s
PPLA Purkeypile 67.01 30 *e*P **P** **22 15 30.2 +2.1**
VSR Storozhevoye 67.02 317 *e*P **P** **22 15 27.1 -1.0**
VSR pmax pmax
comp=N,2.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
RSO Redoubt South 67.10 32 *e*P **P** **22 15 30.7 +1.9**
MOS Moscow 67.14 322 *e*P **P** **22 15 26.4 -2.4**
MOS *e* 22 15 52.2
MOS *e*S **S** **22 24 23.1 +0.6**
MOS pmax pmax
comp=Z,49nm,1.2s
COLD Coldfoot 67.23 25 *e*P **P** **22 15 29.7 +0.5**
KDAK Kodiak Island 67.63 35 *ce*P **P** **22 15 33.2 +1.4**
TRF Thorofare Moun 67.78 29 *e*P **P** **22 15 34.1 +1.2**
OBN Obninsk 67.84 322 ⇓ *i* P **P** **22 15 32.4 -0.8**
OBN pmax pmax
comp=Z,29nm,1.7s
MCK McKinley 68.33 29 *e*P **P** **22 15 36.5 +0.3**
MCK McKinley 68.33 29 *e*P **P** **22 15 36.5 +0.3**
PMR Palmer 68.64 31 *e*P **P** **22 15 39.1 +1.0**
PMR Palmer 68.64 31 *e*P **P** **22 15 39.1 +1.0**
SEW Seward 68.79 32 *e*P **P** **22 15 41.1 +2.0**
MSVF Nonsavu 68.91 122 *e*P **P** **22 15 42.2 +1.7**
MSVF pmax pmax
comp=Z,15nm,1.3s
MSVF Nonsavu 68.91 122 *e*P **P** **22 15 42.2 +1.7**
comp=Z,15nm,1.3s
SML Sawmill 68.97 31 *e*P **P** **22 15 39.8 -0.5**
SML Sawmill 68.97 31 *e*P **P** **22 15 39.8 -0.5**
JOF Joensuu 68.99 331 *e*P **P** **22 15 38.1 -2.2**
JOF pmax pmax
comp=Z,14nm,0.8s
JOF Joensuu 68.99 331 *ep* **P** **22 15 38.1 -2.2**
comp=Z,14nm,0.8s
JOF Joensuu 68.99 331 *ep* **P** **22 15 38.1 -2.2**
comp=Z,14nm,0.8s
ILAR Eielson Array 69.00 27 P **P** **22 15 38.9 -1.5**
comp=Z,3.1nm,1.1s,baz=282,slow=6.5,SNR=14
ILAR Eielson Array 69.00 27 P **P** **22 15 38.9 -1.5**
ILAR Eielson Array 69.00 27 P **P** **22 15 38.9 -1.5**
ANN Anapa 69.51 311 *e*P **P** **22 15 42.6 -1.2**
ANN pmax pmax
comp=Z,24nm,0.8s
PAX Paxson 70.01 29 *e*P **P** **22 15 46.2 -0.6**
PAX Paxson 70.01 29 *e*P **P** **22 15 46.2 -0.6**
DIV Divide 70.33 31 *e*P **P** **22 15 50.3 +1.7**
EGAK Eagle 71.37 27 *e*P **P** **22 15 54.0 -0.9**
KAF Kangasniemi 71.44 330 *e*P **P** **22 15 52.9 -2.4**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 71.44 330 *ep* **P** **22 15 52.9 -2.4**
comp=Z,5.8nm,0.8s
KAF Kangasniemi 71.44 330 *ep* **P** **22 15 52.9 -2.4**
comp=Z,5.8nm,0.8s
FINES FINESS Array B 71.73 330 P **P** **22 15 56.5 -0.5**
comp=Z,16nm,0.9s,baz=76,slow=8.0,SNR=18
FINES FINESS Array B 71.73 330 P **P** **22 15 56.6 -0.5**
FINES FINESS Array B 71.73 330 P **P** **22 15 56.5 -0.5**
DAWY Dawson 72.32 27 *e*P **P** **22 15 59.8 -0.9**
INK Inuvik 73.06 22 *e*P **P** **22 16 03.5 -1.4**
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 73.06 22 *e*P **P** **22 16 03.5 -1.4**
comp=Z,18nm,1.0s
AKASG Malin Array Be 73.24 318 P **P** **22 16 04.6 -1.7**
comp=Z,6.9nm,0.8s,baz=61,slow=5.7,SNR=16
AKASG Malin Array Be 73.24 318 P **P** **22 16 04.6 -1.7**
AKASG Malin Array Be 73.24 318 P **P** **22 16 04.6 -1.7**
NACGM Naroch 73.36 323 *e* P 22 16 03.0 -3.9
ASF Jabal al Asfar 73.44 298 P **P** **22 16 08.3 +0.3**
comp=Z,3.0nm,0.9s,baz=119,slow=3.6,SNR=5.0
ASF Jabal al Asfar 73.44 298 P **P** **22 16 08.3 +0.3**
ASF Jabal al Asfar 73.44 298 P **P** **22 16 08.3 +0.3**
BR131 Keskin Array S 73.61 307 *e*P **P** **22 16 08.2 -0.6**
comp=Z,7.7nm,1.0s
BRTR Keskin Array B 73.61 307 P **P** **22 16 08.5 -0.4**
comp=Z,8.1nm,1.1s,baz=104,slow=5.2,SNR=19
BRTR Keskin Array B 73.61 307 P **P** **22 16 08.5 -0.4**
BRTR Keskin Array B 73.61 307 P **P** **22 16 08.5 -0.4**
SUW Suwalki 75.63 323 *e*P **P** **22 16 18.8 -1.3**
SUW Suwalki 75.63 323 *e*P **P** **22 16 19.6 -0.5**
SUW pmax pmax
comp=Z,64nm,0.9s
SUW Suwalki 75.63 323 *e*P **P** **22 16 19.6 -0.5**
comp=Z,64nm,0.9s
MLR Muntele Rosu 77.04 314 P **P** **22 16 27.3 -1.2**
comp=Z,1.2nm,0.9s,baz=124,slow=2.4,SNR=8.0
MLR Muntele Rosu 77.04 314 P **P** **22 16 27.3 -1.2**
MLR Muntele Rosu 77.04 314 P **P** **22 16 27.3 -1.2**
KWP Kalwaria Pacla 77.54 319 *e*P **P** **22 16 30.9 -0.2**
KWP Kalwaria Pacla 77.54 319 *e*P **P** **22 16 30.9 -0.2**
HFS Hagfors 77.84 331 P **P** **22 16 30.8 -1.7**
comp=Z,5.3nm,0.9s,baz=103,slow=6.5,SNR=5.1
HFS Hagfors 77.84 331 P **P** **22 16 30.8 -1.7**
HFS Hagfors 77.84 331 P **P** **22 16 30.8 -1.7**
KOLS Kolonicke sedl 78.07 318 *e*P **P** **22 16 32.3 -1.7**
KOLS *e* 22 16 39.7
KOLS Kolonicke sedl 78.07 318 *e*P **P** **22 16 32.3 -1.7**
KOLS *ep*P **pP** **22 16 39.7 +0.8**
NB2 NORSAR Subarra 78.49 332 P **P** **22 16 34.3 -1.9**
comp=Z,2.3nm,0.8s,baz=59,slow=5.6
NOA NORSAR Array B 78.49 332 P **P** **22 16 34.6 -1.5**
comp=Z,3.5nm,0.8s,baz=60,slow=5.5,SNR=11
NOA NORSAR Array B 78.49 332 P **P** **22 16 34.6 -1.5**
NOA NORSAR Array B 78.49 332 P **P** **22 16 34.6 -1.5**
STHS Stebnicka Huta 78.50 319 *e*P **P** **22 16 35.4 -1.0**
STHS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 78.50 319 *e*P **P** **22 16 35.3 -1.1**
CRVS Cervenica-Dubn 78.58 319 *e*P **P** **22 16 36.0 -0.8**
CRVS pmax pmax
comp=Z,18nm,1.9s
CRVS Cervenica-Dubn 78.58 319 *e*P **P** **22 16 36.0 -0.8**
RES Resolute Bay 78.61 9 *e*P **P** **22 16 35.1 -1.3**
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 78.61 9 *e*P **P** **22 16 35.1 -1.3**
comp=Z,8.0nm,1.0s
OJC Ojcow 79.03 320 *e*P **P** **22 16 38.8 -0.5**
OJC Ojcow 79.03 320 *e*P **P** **22 16 38.8 -0.5**
NIE Niedzica 79.06 319 *e*P **P** **22 16 40.2 +0.7**
NIE Niedzica 79.06 319 *e*P **P** **22 16 40.2 +0.7**
KECS Kecovo 79.34 318 *e*P **P** **22 16 40.0 -1.0**
KECS pmax pmax
comp=Z,2.0nm,1.3s
KECS Kecovo 79.34 318 *e*P **P** **22 16 40.0 -1.0**
VYHS Vyhne 80.33 319 *e*P **P** **22 16 45.7 -0.7**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 80.33 319 *e*P **P** **22 16 45.7 -0.7**
KOLL Kolacno 80.55 319 *e*P **P** **22 16 47.4 -0.2**
KOLL Kolacno 80.55 319 *e*P **P** **22 16 47.4 -0.2**
KSP Ksiaz 80.78 322 *e*P **P** **22 16 48.6 -0.1**
KSP Ksiaz 80.78 322 *e*P **P** **22 16 48.2 -0.5**
SMOL Smolenice 81.16 319 *e*P **P** **22 16 52.4 +1.6**
SMOL Smolenice 81.16 319 *e*P **P** **22 16 52.4 +1.6**
VRAC Vranov 81.30 320 P **P** **22 16 51.5 -0.1**
comp=Z,1.5nm,0.7s,baz=73,slow=6.7,SNR=3.5
VRAC Vranov 81.30 320 P **P** **22 16 51.5 -0.1**
VRAC Vranov 81.30 320 P **P** **22 16 51.5 -0.1**
BRG Berggiesshubel 82.08 322 *e*P P 22 17 01.8 +6.2
comp=Z,12nm,1.6s
BRG Berggiesshubel 82.08 322 *e*P P 22 17 01.8 +6.2
BRG pmax pmax
comp=Z,12nm,1.6s
SUMG Summit 82.58 354 *i* P **P** **22 16 57.2 -1.1**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 82.58 354 *i* P **P** **22 16 57.2 -1.1**
comp=Z,6.6nm,0.9s
GERES GERESS Array B 83.19 321 P **P** **22 17 00.1 -1.5**
comp=Z,1.2nm,0.8s,baz=67,slow=7.4,SNR=6.7
GERES GERESS Array B 83.19 321 P **P** **22 17 00.1 -1.5**
GERES GERESS Array B 83.19 321 P **P** **22 17 00.1 -1.5**
ABPO Ambohimpanom 84.33 246 *e*P **P** **22 17 07.7 -0.2**
ABPO pmax pmax
comp=Z,13nm,1.0s
ABPO Ambohimpanom 84.33 246 *e*P **P** **22 17 07.7 -0.2**
comp=Z,13nm,1.0s
DAVOX Davos/Dischmat 86.46 320 P **P** **22 17 17.5 -0.7**
comp=Z,1.8nm,0.8s,baz=119,slow=13,SNR=3.4
DAVOX Davos/Dischmat 86.46 320 P **P** **22 17 17.5 -0.7**
DAVOX Davos/Dischmat 86.46 320 P **P** **22 17 17.5 -0.7**
C09A Chrisman Ranch 90.41 36 ⇑ P **P** **22 17 37.6 +0.9**
baz=90
C09A ⇑P **P** **22 17 37.6 +0.9**
baz=90
G06A Carlson Farm, 90.64 39 ⇓ P **P** **22 17 37.5 -0.4**
baz=90
G06A ⇓P **P** **22 17 37.5 -0.4**
baz=90
E09A Wood Farm, Sta 91.26 37 ⇑ P **P** **22 17 41.3 +0.6**
baz=91
E09A ⇑P **P** **22 17 41.3 +0.6**
baz=91
C12B Naegeli Ranch, 91.94 35 ⇑ P **P** **22 17 43.6 -0.3**
baz=92
C12B ⇑P **P** **22 17 43.6 -0.3**
baz=92
K05A Summer Lake 91.96 41 ⇓ P **P** **22 17 44.4 +0.2**
baz=92
K05A ⇓P **P** **22 17 44.4 +0.2**
baz=92
I07A Izee 91.97 39 ⇓ P **P** **22 17 44.9 +0.7**
baz=92
I07A ⇓P **P** **22 17 44.9 +0.7**
baz=92
F10A Beach Ranch, E 92.10 37 ⇑ P **P** **22 17 44.7 0.0**
baz=92
F10A ⇑P **P** **22 17 44.7 0.0**
baz=92
A14A Double T Ranch 92.16 33 ⇓ P **P** **22 17 44.9 -0.1**
baz=92
A14A ⇓P **P** **22 17 44.9 -0.1**
baz=92
YBMT Yellow Bay 92.59 34 *e*P **P** **22 17 48.7 +1.7**
comp=Z,6.9nm,1.0s
B14A Marquette Ranc 92.63 33 ⇓ P **P** **22 17 47.5 +0.3**
baz=92
B14A ⇓P **P** **22 17 47.5 +0.3**
baz=92
SWMT Swartz Lake 92.83 34 *e*P **P** **22 17 48.8 +0.7**
comp=Z,15nm,1.4s
D13A Huson 92.86 35 ⇓ P **P** **22 17 48.3 +0.1**
baz=93
D13A ⇓P **P** **22 17 48.3 +0.1**
baz=93
FFC Flin Flon 92.95 24 *i* P **P** **22 17 47.9 -0.4**
FFC Flin Flon 92.95 24 P **P** **22 17 47.8 -0.5**
comp=Z,82nm,1.3s,SNR=7.0
J08A Circle Bar Ran 93.00 39 ⇑ P **P** **22 17 49.2 +0.2**
baz=93
J08A ⇑P **P** **22 17 49.2 +0.2**
baz=93
B15A Bradely Ranch, 93.02 33 ⇑ P **P** **22 17 48.9 -0.1**
baz=93
B15A ⇑P **P** **22 17 48.9 -0.1**
baz=93
A16A West Butte Ran 93.06 32 ⇑ P **P** **22 17 49.1 -0.1**
baz=93
A16A ⇑P **P** **22 17 49.1 -0.1**
baz=93
SLMT Seeley Lake 93.26 34 *e*P **P** **22 17 50.7 +0.5**
comp=Z,23nm,1.2s
F12A Elk City 93.30 36 ⇓ P **P** **22 17 50.3 0.0**
baz=93
F12A ⇓P **P** **22 17 50.3 0.0**
baz=93
C15A Salmond Ranch, 93.36 33 ⇑ P **P** **22 17 50.6 +0.1**
baz=93
C15A ⇑P **P** **22 17 50.6 +0.1**
baz=93
D14A Greenough 93.36 34 ⇓ P **P** **22 17 50.4 -0.1**
baz=93
D14A ⇓P **P** **22 17 50.4 -0.1**
baz=93
B16A M & M Farms, S 93.37 32 ⇓ P **P** **22 17 50.1 -0.4**
baz=93
B16A ⇓P **P** **22 17 50.1 -0.4**
baz=93
E13A Victor 93.43 35 ⇑ P **P** **22 17 50.9 0.0**
baz=93
E13A ⇑P **P** **22 17 50.9 0.0**
baz=93
A17A Triple J Farms 93.50 32 ⇑ P **P** **22 17 50.7 -0.4**
baz=93
A17A ⇑P **P** **22 17 50.7 -0.4**
baz=93
CHMT Chamberlain Mo 93.60 34 *e*P **P** **22 17 51.3 -0.5**
comp=Z,12nm,1.5s
C16A Fuhringer Ranc 93.77 33 ⇓ P **P** **22 17 51.9 -0.6**
baz=94
C16A ⇓P **P** **22 17 51.9 -0.6**
baz=94
F13A Darby 93.78 36 ⇓ P **P** **22 17 51.8 -0.7**
baz=94
F13A ⇓P **P** **22 17 51.8 -0.7**
baz=94
B17A L&G Farms, Che 93.90 32 ⇑ P **P** **22 17 52.7 -0.3**
baz=94
B17A ⇑P **P** **22 17 52.7 -0.3**
baz=94
A18A Metzger Ranch, 93.92 31 ⇑ P **P** **22 17 52.0 -1.0**
baz=94
A18A ⇑P **P** **22 17 52.0 -1.0**
baz=94
E15A Deer Lodge 94.24 34 ⇑ P **P** **22 17 53.5 -1.2**
baz=94
E15A ⇑P **P** **22 17 53.5 -1.2**
baz=94
F14A Wisdom 94.27 35 ⇑ P **P** **22 17 54.6 -0.2**
baz=94
F14A ⇑P **P** **22 17 54.6 -0.2**
baz=94
G13A Cobalt 94.28 36 ⇓ P **P** **22 17 53.4 -1.5**
baz=94
G13A ⇓P **P** **22 17 53.4 -1.5**
baz=94
H12A Diamond D Ranc 94.30 37 ⇓ P **P** **22 17 54.7 -0.3**
baz=94
H12A ⇓P **P** **22 17 54.7 -0.3**
baz=94
B18A Beardsley Farm 94.32 32 ⇓ P **P** **22 17 54.6 -0.3**
baz=94
B18A ⇓P **P** **22 17 54.6 -0.3**
baz=94
D16A Dana Ranch, Ca 94.39 33 ⇑ P **P** **22 17 54.5 -0.8**
baz=94
D16A ⇑P **P** **22 17 54.5 -0.8**
baz=94
A19A Klindworth Far 94.43 31 ⇓ P **P** **22 17 54.7 -0.6**
baz=94
A19A ⇓P **P** **22 17 54.7 -0.6**
baz=94
MFID Camas Ranch 94.48 38 ⇑ P **P** **22 17 55.9 +0.1**
baz=94
MFID ⇑P **P** **22 17 55.9 +0.1**
baz=94
H13A Challis 94.61 36 ⇑ P **P** **22 17 56.0 -0.4**
baz=94
H13A ⇑P **P** **22 17 56.0 -0.4**
baz=94
I12A Atlanta 94.63 37 ⇓ P **P** **22 17 56.0 -0.6**
baz=94
I12A ⇓P **P** **22 17 56.0 -0.6**
baz=94
E16A East Helena 94.66 34 ⇓ P **P** **22 17 55.5 -1.1**
baz=94
E16A ⇓P **P** **22 17 55.5 -1.1**
baz=94
F15A Butte 94.71 35 ⇓ P **P** **22 17 56.6 -0.3**
baz=94
F15A ⇓P **P** **22 17 56.6 -0.3**
baz=94
D17A Six Diamond Ra 94.74 33 ⇓ P **P** **22 17 56.5 -0.4**
baz=94
D17A ⇓P **P** **22 17 56.5 -0.4**
baz=94
LRM Limekiln Ridge 94.74 35 *e*P **P** **22 17 57.3 +0.2**
comp=Z,73nm,1.2s
A20A Cobblestone Ra 94.85 30 ⇑ P **P** **22 17 56.6 -0.6**
baz=95
A20A ⇑P **P** **22 17 56.6 -0.6**
baz=95
I13A Wildhorse Cree 95.11 37 ⇑ P **P** **22 17 58.7 -0.1**
baz=95
I13A ⇑P **P** **22 17 58.7 -0.1**
baz=95
B20A Solberg Farm, 95.12 31 ⇑ P **P** **22 17 58.1 -0.4**
baz=95
B20A ⇑P **P** **22 17 58.1 -0.4**
baz=95
E17A Martinsdale 95.13 33 ⇓ P **P** **22 17 58.5 -0.3**
baz=95
E17A ⇓P **P** **22 17 58.5 -0.3**
baz=95
C19A Slack Wire Ran 95.13 32 ⇑ P **P** **22 17 58.7 +0.1**
baz=95
C19A ⇑P **P** **22 17 58.7 +0.1**
baz=95
G15A Dillon 95.16 35 ⇑ P **P** **22 17 59.0 +0.1**
baz=95
G15A ⇑P **P** **22 17 59.0 +0.1**
baz=95
HLID Hailey 95.18 37 *e*P **P** **22 17 59.9 +0.8**
comp=Z,8.3nm,1.1s
HLID Hailey 95.18 37 ⇑ P **P** **22 17 59.0 0.0**
baz=95
HLID ⇑P **P** **22 17 59.0 0.0**
baz=95
A21A Bergtoll Ranch 95.22 30 ⇑ P **P** **22 17 58.4 -0.5**
baz=95
A21A ⇑P **P** **22 17 58.4 -0.5**
baz=95
BOZ Bozeman (W) 95.29 34 ⇓ P **P** **22 17 59.1 -0.3**
baz=95
BOZ ⇓P **P** **22 17 59.1 -0.3**
baz=95
BOZ ⇓P **P** **22 17 59.1 -0.3**
baz=95
BOZ ⇓P **P** **22 17 59.1 -0.3**
baz=95
J13A Cove Ranch, Pi 95.42 37 ⇑ P **P** **22 18 00.2 +0.1**
baz=95
J13A ⇑P **P** **22 18 00.2 +0.1**
baz=95
I14A Mackay 95.47 37 ⇓ P **P** **22 18 01.0 +0.6**
baz=95
I14A ⇓P **P** **22 18 01.0 +0.6**
baz=95
G16A Moss Hill, Enn 95.48 35 ⇓ P **P** **22 18 00.3 -0.1**

baz=95
G16A ⇓P P 22 18 00.3 -0.1
baz=95
E18A Harlowton 95.53 33 ⇑P P 22 18 00.8 +0.3
baz=95
E18A ⇑P P 22 18 00.8 +0.3
baz=95
D19A Cripps Ranch, 95.61 32 ⇑P P 22 18 00.1 -0.7
baz=95
D19A ⇑P P 22 18 00.1 -0.7
baz=95
C20A Veseth Ranch, 95.64 31 ⇓P P 22 18 00.6 -0.3
baz=95
C20A ⇓P P 22 18 00.6 -0.3
baz=95
J14A Carey 95.83 37 ⇑P P 22 18 02.5 +0.5
baz=96
J14A ⇑P P 22 18 02.5 +0.5
baz=96
D20A Manuel Ranch, 96.03 32 ⇓P P 22 18 02.2 -0.5
baz=96
D20A ⇓P P 22 18 02.2 -0.5
baz=96
F18A Big Timber 96.08 33 ⇑P P 22 18 02.6 -0.4
baz=96
F18A ⇑P P 22 18 02.6 -0.4
baz=96
NVAR Mina Array Bea 96.09 43 P P 22 18 03.3 -0.1
comp=Z,2.0nm,0.9s,baz=284,slow=2.8,SNR=7.1
NVAR Mina Array Bea 96.09 43 P P 22 18 03.3 -0.1
E19A Rath Farm, Rou 96.16 32 ⇓P P 22 18 03.7 +0.4
baz=96
E19A ⇓P P 22 18 03.7 +0.4
baz=96
C22A Vida 96.61 30 ⇑P P 22 18 04.3 -1.0
baz=96
C22A ⇑P P 22 18 04.3 -1.0
baz=96
OLIL Olney 111.47 25 *e*PKPdf **PKiKP** 22 23 10.7 +0.9
DBIC Dimbokro 119.61 293 PKP **PKPdf** 22 23 24.6 -1.4
comp=Z,2.1nm,0.8s,baz=16,slow=4.4,SNR=3.8
DBIC Dimbokro 119.61 293 PKIKP **PKPdf** 22 23 24.6 -1.4
DBIC Dimbokro 119.61 293 PKP **PKPdf** 22 23 24.6 -1.4
SDV Santo Domingo 145.00 22 *e*PKPdf **PKPab** 22 24 11.3 -1.5
OTAV Otavalo 148.82 42 *e*PKPbc **PKPbc** 22 24 24.3 0.0

BJI ***03*** *22:07:40.8,0.˚82S×133.˚43E,h40km,mB5.8/16,mb5.2/40, Ms5.7/22,Ms7 5.7/20*
DJA ***03*** *22:07:41,0.˚19N×132.˚86E,h10km,mb5.5/20*
IDC ***03*** *22:07:42.5±0.4,0.˚22S×132.˚81E,h0km,mb4.9/25, mb1 5.0/28,mb1mx4.9/30,mbtmp4.9/28,ML4.7/2, Error ellipse: s-maj=18.7km s-min=10.1km az=70.0*
ISCJB ***03*** *22:07:46.3±0.7,0.˚28S±0.˚03×133.˚02E±0.˚03,h42km±6km, mb5.2/98,MS5.7/8, Error ellipse: s-maj=5.5km s-min=4.3km az=139.1*
NEIC ***03*** *22:07:47.5±0.2,0.˚28S×132.˚86E,h35km,mb5.3/51, Error ellipse: s-maj=6.4km s-min=4.2km az=69.0*
NEIC Felt [III] at Sorong.
ISC 03 22:07:48.1±0.4,0˚24S±0.˚04×132˚98E±0.˚05,h37km±1km, n246,σ1$44/274,mb5.3/98,MS6.0/8,2C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.76**	**195**	P	**Pn**	**22 08 29.0**	**-0.8**
BAKI	**Biak**	**3.26**	**107**	P	**Pn**	**22 08 35.9**	**-0.8**
MSAI	**Masohi**	**5.09**	**233**	P	**Pn**	**22 09 02.5**	**+0.6**
	784nm,0.7s,8μm2.8nm						
TLE	**Tual**	**5.36**	**183**	P	**Pn**	**22 09 05.9**	**+0.3**
	2μm,1.1s,13nm						
LBMI	**Labuha**	**5.50**	**266**	P	**Pn**	**22 09 06.6**	**-0.9**
	687nm,1.1s,3.3nm						
LBMI	**Labuha**	**5.50**	**266**	P	Sn	22 10 27.3	+18
TNTI	**Ternate**	**5.71**	**280**	P	Pn	22 09 18.4	+8.1
AAI	**Ambon**	**5.88**	**234**	P	**Pn**	**22 09 12.2**	**-0.6**
	2μm,1.5s,25μm8.5nm						
SMPI	**Sarmi**	**5.98**	**107**	P	**Pn**	**22 09 14.1**	**0.0**
	1μm,3.5s,6.0nm						
KMSI	**Cibinong**	**9.04**	**275**	P	Pn	22 10 02.5	+6.4
LUWI	**Luwuk**	**10.24**	**266**	P	**Pn**	**22 10 10.9**	**-1.7**
	346nm,1.2s						
MRSI	**Marisa**	**11.07**	**274**	P	Pn	22 10 28.3	+4.4
	11nm,1.3s						
BBSI	**Bau Bau**	**11.63**	**243**	P	**Pn**	**22 10 33.0**	**+1.4**
	250nm,1.6s						
TTSI	**Tana Toraja**	**13.45**	**258**	P	**Pn**	**22 10 58.6**	**+2.1**
	159nm,0.7s						
MMRI	**Maumere**	**13.57**	**232**	P	**Pn**	**22 10 58.2**	**+0.1**
	256nm,1.7s						
SPSI	**Sidrap Palu**	**13.71**	**254**	P	**Pn**	**22 10 59.6**	**-0.5**
	147nm,0.9s						
BKSI	**Bulukumba**	**13.80**	**248**	P	**Pn**	**22 11 01.0**	**-0.2**
	97nm,0.8s						
KAPI	**Kappang**	**14.04**	**250**	*e*Pn	**Pn**	**22 11 03.6**	**-1.0**
KAPI	**Kappang**	**14.04**	**250**	P	**Pn**	**22 11 05.9**	**+1.4**
	147nm,1.1s						
MJSI	**Majene**	**14.37**	**257**	P	**Pn**	**22 11 11.0**	**+1.9**
	149nm,1.7s						
MYLDM	**Lahad Datu**	**15.44**	**291**	P	**P**	**22 11 26.5**	**-0.9**
WSI	**Waingapu**	**15.72**	**233**	P	**P**	**22 11 35.0**	**+4.5**
TSM	**Tawau**	**15.76**	**287**	P	**P**	**22 11 30.0**	**-1.0**
PMG	**Port Moresby**	**16.79**	**123**	Pn	**Pn**	**22 11 42.1**	**+1.6**
	0.4nm,0.3s,baz=318,slow=11,SNR=11						
PMG	**Port Moresby**	**16.79**	**123**	*e*Pn	**Pn**	**22 11 41.2**	**+0.7**
	83nm,1.0s						
PMG				S	Sn	22 14 34.2	-12
SDKM	**Sandakan**	**16.81**	**291**	P	**P**	**22 11 42.0**	**-0.7**
COEN	**Coen**	**16.95**	**144**	*e*Pn	**Pn**	**22 11 42.5**	**-0.1**
	239nm,0.8s						
KBKI	**Kotabaru**	**17.08**	**260**	P	**Pn**	**22 11 44.6**	**+0.4**
	107nm,1.1s						
KKM	**Kota Kinabalu**	**17.87**	**291**	P	sP	22 12 06.4	-2.2
BBKI	**Banjar Baru**	**18.41**	**260**	P	**P**	**22 12 02.3**	**+2.0**
	173nm,1.2s,5μm						
MTNI	**Mataram**	**18.71**	**243**	P	**P**	**22 12 06.1**	**+2.5**
	231nm,1.7s						
KHKI	**Kahang-Kahang**	**19.10**	**245**	P	**P**	**22 12 07.3**	**-0.6**
	218nm,2.4s,5μm						
FITZ	**Fitzroy Crossi**	**19.16**	**202**	P	**P**	**22 12 06.5**	**-2.0**
	1.5nm,0.3s,baz=8.3,slow=14,SNR=5.4						
FITZ				S	Sn	22 15 28.8	-15
	1.5nm,0.3s,baz=124,slow=16,SNR=7.2						
FITZ	**Fitzroy Crossi**	**19.16**	**202**	*e*P	**P**	**22 12 04.7**	**-3.8**
	149nm,1.0s						
FITZ				S	Sn	22 15 28.8	-15
WRAB	**Tennant Creek**	**19.61**	**176**	*e*P	**P**	**22 12 11.8**	**-1.6**
	165nm,1.0s						
WRA	**Warramunga Arr**	**19.62**	**176**	P	**P**	**22 12 11.9**	**-1.7**
	2.7nm,0.3s,baz=354,slow=11,SNR=14						
WRA				S	S	22 15 45.2	-7.9
	1.7nm,0.3s,baz=353,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	**19.62**	**176**	P	**P**	**22 12 11.9**	**-1.7**
WRA				S	S	22 15 45.2	-7.9
WB2	**Warramunga Arr**	**19.62**	**176**	*e*P	**P**	**22 12 12.1**	**-1.5**
NBBI	**Negara**	**20.00**	**246**	P	**P**	**22 12 21.5**	**+3.8**
	301nm,1.3s,7μm						
KMMI	**Kalianget**	**20.14**	**250**	P	Pn	22 12 24.8	+3.6
	192nm,1.3s						
BYJI	**Banyuwangi**	**20.18**	**246**	P	Pn	22 12 22.2	+0.4
	611nm,1.4s						
BTM	**Bintulu**	**20.18**	**280**	P	Pn	22 12 21.4	-0.4
JAGI	**Jajag, Banyuwa**	**20.46**	**246**	P	Pn	22 12 26.5	+1.4
	174nm,1.0s						
BLJI	**Banyuglugur**	**20.71**	**248**	P	Pn	22 12 31.4	+3.4
SBUM	**Sibu**	**20.93**	**277**	P	**P**	**22 12 27.5**	**-0.3**
SBUM	**Sibu**	**20.93**	**277**	P	**P**	**22 12 28.5**	**+0.7**
	109nm,0.8s						
MTSU	**Mount Surprise**	**20.98**	**149**	*e*P	**P**	**22 12 27.7**	**-0.6**
	135nm,1.1s						
GMJI	**Gumukmas**	**21.04**	**247**	P	**P**	**22 12 32.2**	**+3.2**
	168nm,1.3s						
PBKI	**Pangkalan Bun**	**21.44**	**263**	P	**P**	**22 12 32.9**	**-0.5**
	228nm,1.1s						
STKI	**Sintang**	**21.51**	**271**	P	**P**	**22 12 36.3**	**+2.2**
	88nm,1.2s						
KRKI	**Karangkates**	**21.92**	**248**	P	P	22 12 48.5	+10
SJI	**Sawahan**	**22.42**	**250**	P	**P**	**22 12 48.2**	**+4.3**
	108nm,1.4s						
PWJI	**Pagerwojo**	**22.48**	**249**	P	**P**	**22 12 45.7**	**+1.2**
	135nm,1.1s						
KSM	**Kuching**	**22.74**	**274**	*e*P	**P**	**22 12 45.0**	**-2.2**
	54nm,0.9s						
KSM	**Kuching**	**22.74**	**274**	P	**P**	**22 12 46.3**	**-1.0**
KSM	**Kuching**	**22.74**	**274**	P	**P**	**22 12 47.7**	**+0.5**
	56nm,1.3s						

PCJI	**Pacitan**	**23.12**	**249**	P	P	22 13 00.8	+10
AS31	**Alice Springs**	**23.30**	**178**	*e*P	**P**	**22 12 51.4**	**-1.5**
ASAR	**Alice Springs**	**23.30**	**178**	P	**P**	**22 12 51.7**	**-1.1**
	217nm,1.0s,baz=360,slow=9.2,SNR=79						
ASAR				S	**S**	**22 17 06.7**	**+3.7**
	17nm,1.0s,baz=4.3,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**23.30**	**178**	P	**P**	**22 12 51.8**	**-1.1**
ASAR				S	**S**	**22 17 06.7**	**+3.7**
SMRI	**Semarang**	**23.48**	**253**	P	Px	22 13 07.5	
CTA	**Charters Tower**	**23.62**	**147**	P	**P**	**22 12 55.9**	**-0.1**
	62nm,0.9s,baz=326,slow=12,SNR=23						
CTA	**Charters Tower**	**23.62**	**147**	*e*P	**P**	**22 12 55.8**	**-0.1**
	50nm,0.9s						
CTA	**Charters Tower**	**23.62**	**147**	P	**P**	**22 12 55.9**	**-0.1**
CTAO	**Charters Tower**	**23.62**	**147**	*e*P	**P**	**22 12 55.5**	**-0.4**
	91nm,1.0s						
UGM	**Wanagama**	**23.65**	**251**	*e*P	**P**	**22 12 55.8**	**-0.6**
	643nm,1.6s						
BJII	**Banjamegara**	**24.25**	**253**	P	**P**	**22 13 02.6**	**+0.6**
	138nm,1.2s						
MBWA	**Marble Bar**	**24.49**	**211**	*e*P	**P**	**22 13 01.9**	**-2.1**
	134nm,1.1s						
CISI	**Cisompet, Garu**	**26.12**	**253**	P	**P**	**22 13 17.2**	**-1.8**
	160nm,0.9s						
LEM	**Lembang**	**26.13**	**255**	P	Px	22 13 29.4	
CBJI	**Citeko**	**26.79**	**256**	P	Px	22 13 37.9	
JOW	**Kunigami**	**27.30**	**351**	P	**P**	**22 13 29.1**	**-0.3**
	51nm,0.9s,baz=176,slow=9.4,SNR=8.4						
JOW	**Kunigami**	**27.30**	**351**	*e*P	**P**	**22 13 29.2**	**-0.1**
	32nm,1.0s						
CGJI	**Cibinong**	**27.95**	**256**	P	P	22 13 41.3	+5.9
	184nm,0.8s						
QLP	**Quilpie**	**28.34**	**158**	*e*P	**P**	**22 13 36.6**	**-2.1**
HNR	**Honiara**	**28.35**	**110**	P	**P**	**22 13 40.6**	**+1.7**
	54nm,0.4s,baz=159,slow=11,SNR=3.0						
HNR	**Honiara**	**28.35**	**110**	P	**P**	**22 13 40.6**	**+1.7**
KSI	**Kapahiang**	**30.56**	**263**	P	**P**	**22 14 00.6**	**+2.0**
	104nm,0.7s						
FORT	**Forrest**	**30.73**	**188**	*e*P	**P**	**22 14 00.5**	**+0.7**
	40nm,0.7s						
IPM	**Ipoh**	**32.27**	**279**	P	**P**	**22 14 11.8**	**-1.8**
BBOO	**Buckleboo**	**32.52**	**175**	*e*P	**P**	**22 14 12.8**	**-2.8**
	166nm,1.0s						
BBOO	**Buckleboo**	**32.52**	**175**	*e*P	**P**	**22 14 13.7**	**-1.9**
	770nm,1.0s						
PPI	**Padang Panjang**	**32.59**	**270**	P	**P**	**22 14 15.2**	**-1.2**
	109nm,1.3s						
KULM	**Kulim**	**32.75**	**280**	P	**P**	**22 14 16.5**	**-1.3**
JNU	**Nakatsue**	**33.25**	**357**	*e*P	**P**	**22 14 21.0**	**-0.9**
	24nm,1.0s						
CMSA	**Cobar Meteorol**	**33.37**	**160**	*e*P	**P**	**22 14 20.9**	**-2.1**
	209nm,1.0s						
PSI	**Prapat**	**34.18**	**275**	P	**P**	**22 14 28.5**	**-1.9**
	42nm,1.0s						
KLBR	**Kellerberrin**	**34.35**	**203**	*e*P	**P**	**22 14 29.6**	**-1.9**
	36nm,1.1s						
NJ2	**Nanjing**	**34.79**	**339**	*e*P	**P**	**22 14 35.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,40nm,1.1s						
ARMA	**Armidale**	**34.85**	**151**	*e*P	**P**	**22 14 35.3**	**-0.7**
ARMA	**Armidale**	**34.85**	**151**	*e*P	**P**	**22 14 35.3**	**-0.7**
	comp=Z,45nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.73**	**203**	P	**P**	**22 14 41.8**	**-1.6**
	comp=Z,18nm,1.0s,baz=25,slow=14,SNR=4.6						
NWAO	**Narrogin (SRO)**	**35.73**	**203**	P	**P**	**22 14 41.8**	**-1.6**
GYA	**Guiyang**	**36.71**	**318**	P	**P**	**22 14 53.2**	**+1.2**
GYA				pP	**pP**	**22 15 03.2**	**+0.5**
GYA				sP	**sP**	**22 15 09.5**	**+2.4**
GYA				PP	**PnPn**	**22 16 20.0**	**+3.8**
GYA				S	**S**	**22 20 34.7**	**+1.3**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.4s						
GYA				LR	LR		
	comp=N,780nm,17.7s						
GYA				LR	LR		
	comp=E,670nm,18.2s						
YNG	**Young**	**36.83**	**158**	*e*P	**P**	**22 14 51.6**	**-1.2**
	comp=E,34nm,1.0s						
MJAR	**Matsushiro Arr**	**36.92**	**7**	P	**P**	**22 14 51.1**	**-2.4**
	comp=E,7.7nm,0.8s,baz=195,slow=9.0,SNR=16						
MJAR	**Matsushiro Arr**	**36.92**	**7**	P	**P**	**22 14 51.1**	**-2.4**
MAJO	**Matsushiro**	**36.92**	**7**	*e*P	**P**	**22 14 51.3**	**-2.2**
	comp=E,24nm,0.9s						
MAT	**Matsushiro**	**36.92**	**7**	P	**P**	**22 14 50.9**	**-2.6**
ARPS	**Mount Arapiles**	**37.26**	**168**	*e*P	**P**	**22 14 54.8**	**-1.6**
	comp=E,293nm,1.0s						
KSAR	**Wonju Array Be**	**37.80**	**353**	P	**P**	**22 14 59.8**	**-1.1**
KSRS	**Korea Array**	**37.80**	**353**	P	**P**	**22 14 59.8**	**-1.2**
	comp=E,12nm,1.1s,baz=171,slow=9.7,SNR=12						
CNB	**Canberra Magne**	**38.09**	**158**	*e*P	**P**	**22 15 02.6**	**-0.9**
	comp=E,145nm,1.3s						
CM31	**Chiang Mai Arr**	**38.26**	**301**	*e*P	**P**	**22 15 03.3**	**-1.8**
	comp=E,9.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**22 15 04.4**	**-0.7**
	comp=E,8.9nm,0.8s,baz=122,slow=7.0,SNR=42						
CMAR				PcP	**PcP**	**22 17 19.9**	**+0.9**
	comp=E,2.7nm,0.9s,baz=124,slow=1.3,SNR=4.1						
CMAR				ScP	**ScP**	**22 21 06.3**	**+2.1**
	comp=E,1.4nm,0.9s,baz=130,slow=2.7,SNR=5.9						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**22 15 04.4**	**-0.7**
CMAR				PcP	**PcP**	**22 17 19.9**	**+0.9**
CMAR				ScP	**ScP**	**22 21 06.3**	**+2.1**
CHTO	**Chiang Mai**	**38.41**	**301**	*e*P	**P**	**22 15 05.5**	**-0.9**
	comp=E,11nm,0.8s						
CHTO	**Chiang Mai**	**38.41**	**301**	P	**P**	**22 15 05.9**	**-0.5**
	comp=E,187nm,1.3s						
KMI	**Kunming**	**38.62**	**313**	P	**P**	**22 15 10.0**	**+1.7**
KMI				pP	**pP**	**22 15 20.3**	**+1.3**
KMI				PP	**PnPn**	**22 16 42.8**	**+3.4**
KMI				S	**S**	**22 21 05.4**	**+2.8**
KMI				sS	**sS**	**22 21 21.4**	**+1.2**
KMI				LR	LR		
	comp=N,4μm,20.4s						
KMI				LR	LR		
	comp=E,6μm,19.8s						
KMI				LR	LR		
	comp=Z,7μm,30.9s						
TOO	**Toolangi**	**38.90**	**164**	*e*P	**P**	**22 15 09.4**	**-0.8**
	comp=Z,244nm,0.9s						
CD2	**Chengdu**	**41.59**	**321**	P	**P**	**22 15 34.0**	**+1.3**
CD2				pP	**pP**	**22 15 44.2**	**+0.8**
CD2				sP	**sP**	**22 15 48.5**	**+0.7**
CD2				PP	**PnPn**	**22 17 14.2**	**-0.1**
CD2				S	**S**	**22 21 48.2**	**+1.7**
CD2				SS	**SS**	**22 24 49.2**	**-3.4**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				pmax	pmax		
	comp=Z,4μm,11.3s						
CD2				LR	LR		
	comp=N,15μm,23.8s						
CD2				LR	LR		
	comp=Z,28μm,23.8s						
SNY	**Shenyang**	**42.73**	**350**	⇑P	**P**	**22 15 41.2**	**-0.5**
SNY				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuan**	**42.91**	**341**	*e*P	**P**	**22 15 42.9**	**-0.4**
	comp=Z,82nm,1.0s						
BJI	**Beijing**	**42.93**	**341**	P	**P**	**22 15 42.7**	**-0.6**
BJI				pmax	pmax		
	comp=Z,78nm,0.9s						
USRK	**Ussuriysk Arra**	**44.26**	**359**	P	**P**	**22 15 52.6**	**-1.4**
	comp=Z,7.3nm,0.9s,baz=181,slow=8.0,SNR=17						
CN2	**Changchun**	**44.37**	**352**	*e*P	**P**	**22 15 54.1**	**-0.7**
CN2				*e*sP	**sP**	**22 16 09.0**	**-1.1**
CN2				*e*S	**S**	**22 22 27.2**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,20μm,18.0s						
CN2				LR	LR		
	comp=E,12μm,18.0s						
CN2				LR	LR		
	comp=Z,18μm,19.0s						
TAU	**Tasmania Unive**	**44.38**	**165**	*e*P	**P**	**22 15 55.6**	**+0.7**
MDJ	**Mudanjiang**	**44.77**	**357**	P	**P**	**22 15 57.5**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MDJ	**Mudanjiang**	**44.77**	**357**	*e*P	**P**	**22 15 57.5**	**-0.6**
	comp=Z,44nm,1.2s						
ASAJ	**Asahikawa**	**44.99**	**10**	P	**P**	**22 16 01.1**	**+1.3**
	comp=Z,9.3nm,0.8s,baz=204,slow=12,SNR=2.8						

ASAJ	**Asahikawa**	**44.99**	**10**	P	**P**	**22 16 01.1**	**+1.3**
LZH	**Lanzhou**	**45.17**	**326**	*e*P	**P**	**22 16 04.4**	**+2.8**
LZH				pP	**pP**	**22 16 12.4**	**0.0**
LZH				sP	**sP**	**22 16 15.8**	**-1.0**
LZH				PP	**PP**	**22 17 50.0**	**+2.3**
LZH				*e*S	S	22 22 45.3	+6.3
LZH				SS	**ScS**	**22 25 58.5**	**+2.5**
LZH				pmax	pmax		
	comp=Z,56nm,1.1s						
LZH				pmax	pmax		
	comp=Z,280nm,4.4s						
LZH				LR	LR		
	comp=N,16μm,20.2s						
LZH				LR	LR		
	comp=E,7μm,19.4s						
LZH				LR	LR		
	comp=Z,24μm,23.0s						
HHC	**Hu-ho-hao-te**	**45.30**	**337**	*e*P	**P**	**22 16 03.4**	**+0.9**
HHC				pP	**pP**	**22 16 14.2**	**+0.9**
HHC				sP	**sP**	**22 16 18.2**	**+0.5**
HHC				PP	**PP**	**22 17 52.2**	**+3.3**
HHC				S	**S**	**22 22 41.3**	**+0.7**
HHC				sS	**sS**	**22 22 59.1**	**+0.6**
HHC				SS	**ScS**	**22 25 59.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,45nm,1.0s						
HHC				pmax	pmax		
	comp=Z,3μm,8.8s						
HHC				LR	LR		
	comp=N,3μm,17.6s						
HHC				LR	LR		
	comp=E,4μm,15.2s						
HHC				LR	LR		
	comp=Z,3μm,17.8s						
SHL	**Shillong**	**47.25**	**306**	*e*P	**P**	**22 16 20.0**	**+1.8**
MSVF	**Nonsavu**	**47.59**	**114**	*e*P	**P**	**22 16 22.3**	**+1.5**
	comp=Z,33nm,1.0s						
YSS	**Yuzh-Sakhalins**	**47.78**	**9**	*e*P	**P**	**22 16 21.0**	**-0.6**
	comp=Z,37nm,0.6s						
LSA	**Lhasa**	**49.75**	**311**	P	**P**	**22 16 37.5**	**-0.2**
LSA	**Lhasa**	**49.75**	**311**	*e*P	**P**	**22 16 37.3**	**-0.4**
GTA	**Gaotai**	**49.77**	**326**	*e*P	**P**	**22 16 37.3**	**0.0**
GTA				pP	**pP**	**22 16 47.2**	**-1.1**
GTA				sP	**sP**	**22 16 51.2**	**-1.4**
GTA				S	**S**	**22 23 44.1**	**-0.3**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GTA				LR	LR		
	comp=N,12μm,22.3s						
GTA				LR	LR		
	comp=E,10μm,21.9s						
GTA				LR	LR		
	comp=Z,19μm,20.4s						
HIA	**Hailar**	**50.62**	**349**	*e*P	**P**	**22 16 43.1**	**-0.3**
	comp=Z,12nm,1.0s						
TAPN	**Taplejung**	**51.39**	**306**	*e*P	**P**	**22 16 48.9**	**-1.0**
	comp=Z,71nm,1.0s						
TAPN	**Taplejung**	**51.39**	**306**	*e*P	**P**	**22 16 48.9**	**-1.0**
	comp=Z,71nm,1.0s						
ODAN	**Odare**	**51.45**	**305**	*e*P	**P**	**22 16 49.1**	**-1.2**
	comp=Z,60nm,0.7s						
ODAN	**Odare**	**51.45**	**305**	*e*P	**P**	**22 16 49.1**	**-1.2**
	comp=Z,60nm,0.7s						
RAMN	**Ramite**	**52.13**	**305**	*e*P	**P**	**22 16 54.5**	**-0.9**
	comp=Z,55nm,0.6s						
RAMN	**Ramite**	**52.13**	**305**	*e*P	**P**	**22 16 54.5**	**-0.9**
	comp=Z,55nm,0.6s						
JIRN	**Jiri**	**52.75**	**306**	*e*P	**P**	**22 16 59.0**	**-1.1**
	comp=Z,49nm,0.7s						
JIRN	**Jiri**	**52.75**	**306**	*e*P	**P**	**22 16 59.0**	**-1.1**
	comp=Z,49nm,0.7s						
ULN	**Ulaanbaatar**	**52.96**	**338**	*e*P	**P**	**22 17 01.3**	**+0.3**
	comp=Z,21nm,0.9s						
ULN	**Ulaanbaatar**	**52.96**	**338**	P	**P**	**22 17 01.4**	**+0.4**
	comp=Z,317nm,0.8s						
GUN	**Gumba**	**53.10**	**306**	*e*P	**P**	**22 17 01.6**	**-1.1**
	comp=Z,100nm,0.7s						
GUN	**Gumba**	**53.10**	**306**	*e*P	**P**	**22 17 01.6**	**-1.1**
	comp=Z,100nm,0.7s						
SONM	**Songino Array**	**53.18**	**338**	P	**P**	**22 17 02.7**	**+0.1**
	comp=Z,12nm,1.0s,baz=149,slow=7.8,SNR=20						
SONM	**Songino Array**	**53.18**	**338**	P	**P**	**22 17 02.7**	**+0.1**
PKI	**Pulchoki**	**53.35**	**305**	*e*P	**P**	**22 17 03.0**	**-1.5**
	comp=Z,23nm,0.7s						
PKI	**Pulchoki**	**53.35**	**305**	*e*P	**P**	**22 17 03.0**	**-1.5**
	comp=Z,23nm,0.7s						
KKN	**Kakani**	**53.54**	**305**	*e*P	**P**	**22 17 04.4**	**-1.4**
	comp=Z,51nm,0.9s						
KKN	**Kakani**	**53.54**	**305**	*e*P	**P**	**22 17 04.4**	**-1.4**
	comp=Z,51nm,0.9s						
DMN	**Daman**	**53.61**	**305**	*e*P	**P**	**22 17 05.0**	**-1.4**
	comp=Z,64nm,0.8s						
DMN	**Daman**	**53.61**	**305**	*e*P	**P**	**22 17 05.0**	**-1.4**
	comp=Z,64nm,0.8s						
GKN	**Gorkha**	**54.15**	**305**	*e*P	**P**	**22 17 08.8**	**-1.3**
	comp=Z,42nm,0.8s						
GKN	**Gorkha**	**54.15**	**305**	*e*P	**P**	**22 17 08.8**	**-1.3**
	comp=Z,42nm,0.8s						
KOLN	**Koldanda**	**54.91**	**305**	*e*P	**P**	**22 17 14.8**	**-0.9**
	comp=Z,89nm,0.6s						
KOLN	**Koldanda**	**54.91**	**305**	*e*P	**P**	**22 17 14.8**	**-0.9**
	comp=Z,89nm,0.6s						
RPZ	**Rata Peaks**	**54.99**	**147**	P	**P**	**22 17 15.9**	**+0.1**
	comp=Z,17nm,0.9s,baz=230,slow=2.2,SNR=3.8						
RPZ	**Rata Peaks**	**54.99**	**147**	*e*P	**P**	**22 17 16.4**	**+0.6**
DANN	**Dangsing**	**54.99**	**305**	*e*P	**P**	**22 17 15.4**	**-1.1**
	comp=Z,131nm,0.8s						
DANN	**Dangsing**	**54.99**	**305**	*e*P	**P**	**22 17 15.4**	**-1.1**
	comp=Z,131nm,0.8s						
URZ	**Urewera**	**55.41**	**138**	P	**P**	**22 17 19.9**	**+1.0**
	comp=Z,14nm,0.9s,baz=46,slow=2.8,SNR=4.1						
URZ	**Urewera**	**55.41**	**138**	*e*P	**P**	**22 17 19.4**	**+0.5**
	comp=Z,19nm,0.8s						
HYB	**Hyderabad**	**56.35**	**291**	*i* P	P	22 17 23.0	-3.0
PEA0B	**Petropavlovsk-**	**57.02**	**17**	*e*P	**P**	**22 17 28.2**	**-1.9**
PETK	**Petropavlovsk-**	**57.02**	**17**	P	**P**	**22 17 30.3**	**+0.2**
	comp=Z,29nm,0.9s,baz=208,slow=2.9,SNR=16						
PETK	**Petropavlovsk-**	**57.02**	**17**	P	**P**	**22 17 30.3**	**+0.2**
WMQ	**Urumqi**	**59.58**	**323**	P	**P**	**22 17 48.9**	**+0.6**
WMQ				pP	**pP**	**22 17 59.0**	**-0.4**
WMQ				sP	**sP**	**22 18 02.9**	**-0.8**
WMQ				PcP	**Pc

comp=Z,3.1nm,0.6s
BVAR Borovoye Array 74.06 326 P **P** 22 19 20.1 -0.2
comp=Z,15nm,0.9s,baz=116,slow=6.9,SNR=17
BVAR Borovoye Array 74.06 326 P **P** 22 19 20.1 -0.2
BRVK Borovoye 74.13 326 *eP* **P** 22 19 20.6 0.0
comp=Z,27nm,1.0s
BRVK Borovoye 74.13 326 P **P** 22 19 20.1 -0.5
comp=Z,152nm,0.8s,SNR=11
VNDA Vanda 78.78 174 *eP* **P** 22 19 46.2 -0.3
comp=Z,10nm,0.9s
ABKAR Akbulak array 79.17 320 *eP* **P** 22 19 48.6 -0.6
comp=Z,8.7nm,0.7s
SBA Scott Base 79.62 173 *eP* **P** 22 19 51.8 +0.8
comp=Z,13nm,1.0s
AKTO Aktyubinsk 80.64 321 P **P** 22 19 55.5 -1.7
comp=Z,5.3nm,0.9s,baz=41,slow=8.3,SNR=10
AKTO Aktyubinsk 80.64 321 P **P** 22 19 55.5 -1.7
ARU Arti 81.62 327 *eP* **P** 22 20 01.5 -0.7
comp=Z,20nm,1.0s
TTA Tatalina 81.66 26 *eP* **P** 22 20 02.2 -0.1
KDAK Kodiak Island 81.94 31 P **P** 22 20 04.8 +1.0
comp=Z,13nm,0.9s,baz=3.9,slow=7.7,SNR=4.0
KDAK Kodiak Island 81.94 31 P **P** 22 20 04.8 +1.0
RSO Redoubt South 82.49 29 *eP* **P** 22 20 06.6 -0.4
SLKM Skilak Lake 83.72 29 *eP* **P** 22 20 12.4 -0.7
RC01 Rabbit Creek A 84.07 28 *eP* **P** 22 20 17.0 +2.2
comp=Z,26nm,0.9s
SML Sawmill 84.87 28 *eP* **P** 22 20 21.3 +2.4
comp=Z,23nm,1.7s
MCK McKinley 84.95 26 *eP* **P** 22 20 18.6 -0.6
comp=Z,60nm,1.3s
COLD Coldfoot 85.13 22 *eP* **P** 22 20 21.1 +1.1
comp=Z,10.0nm,1.0s
COLA College 85.62 25 *eP* **P** 22 20 21.9 -0.6
comp=Z,6.0nm,0.6s
DIV Divide 85.98 29 *eP* **P** 22 20 22.6 -1.8
comp=Z,121nm,1.6s
ILAR Eielson Array 86.01 25 P **P** 22 20 23.1 -1.3
comp=Z,4.7nm,0.9s,baz=253,slow=4.8,SNR=32
ILAR Eielson Array 86.01 25 P **P** 22 20 23.1 -1.3
PAX Paxson 86.37 27 *eP* **P** 22 20 26.9 +0.5
comp=Z,27nm,1.3s
BMRM Bremner River 86.52 29 *eP* **P** 22 20 28.1 +1.0
comp=Z,29nm,1.0s
QSPA South Pole Qui 89.69 180 *eP* **P** 22 20 41.2 -1.0
comp=Z,23nm,1.0s
SYO Syowa Base 91.00 201⇑ *eP* **P** 22 20 46.0 -2.0
INK Inuvik 91.53 22 P **P** 22 20 49.1 -1.4
comp=Z,3.7nm,1.2s,baz=310,slow=5.4,SNR=2.7
INK Inuvik 91.53 22 P **P** 22 20 49.1 -1.4
ARCES ARCESS Array B 96.29 340 P **P** 22 21 11.4 -1.0
comp=Z,2.6nm,0.9s,baz=86,slow=5.5,SNR=5.9
ARCES ARCESS Array B 96.29 340 P **P** 22 21 11.4 -1.0
BRTR Keskin Array B 97.35 310 P **P** 22 21 15.7 -2.4
comp=Z,0.7nm,0.7s,baz=133,slow=31,SNR=4.0
BRTR Keskin Array B 97.35 310 P **P** 22 21 15.7 -2.4
FINES FINESS Array B 98.25 332 P **P** 22 21 20.9 -0.5
comp=Z,4.3nm,1.0s,baz=162,slow=32,SNR=4.4
FINES FINESS Array B 98.25 332 P **P** 22 21 20.9 -0.5
NVAR Mina Array Bea 104.75 50 PP PP 22 26 12.3 +1.2
comp=Z,1.0nm,0.8s,baz=269,slow=9.3,SNR=5.4
NVAR Mina Array Bea 104.75 50 PP PP 22 26 12.3 +1.2
PDAR Pinedale Array 110.03 44 PP **PP** 22 26 48.2 -1.3
comp=Z,3.0nm,1.3s,baz=276,slow=4.3,SNR=4.3
PDAR Pinedale Array 110.03 44 PP **PP** 22 26 48.2 -1.3
ULM Lac du Bonnet 115.19 32 PKKPbc PKKPbc 22 37 03.4 +0.9
comp=Z,3.9nm,0.8s,baz=43,slow=5.4,SNR=6.4
ULM Lac du Bonnet 115.19 32 PKKPbc PKKPbc 22 37 03.4 +0.9
TXAR Lajitas Array 118.82 56 PKP **PKPdf** 22 26 33.3 -0.1
comp=Z,0.3nm,0.7s,baz=260,slow=0.5,SNR=4.7
TXAR PKKPbc **PKKPbc** 22 36 49.7 +0.5
comp=Z,0.3nm,0.7s,baz=116,slow=5.7,SNR=3.8
TXAR Lajitas Array 118.82 56 PKP **PKPdf** 22 26 33.3 -0.1
TXAR PKKPbc **PKKPbc** 22 36 49.7 +0.5
ESDC Sonseca Array 124.52 320 PKP **PKPdf** 22 26 43.5 -0.4
comp=Z,0.9nm,0.7s,baz=43,slow=0.8,SNR=4.0
ESDC Sonseca Array 124.52 320 PKP **PKPdf** 22 26 43.5 -0.4
TORD Torodi Ar. Bea 130.07 287 PKP **PKPdf** 22 26 53.9 -1.3
comp=Z,2.3nm,0.8s,baz=51,slow=1.8,SNR=13
TORD Torodi Ar. Bea 130.07 287 PKP **PKPdf** 22 26 53.9 -1.3
PLCA Paso Flores 133.94 155 PKP **PKPdf** 22 27 02.1 +0.2
comp=Z,3.5nm,0.8s,baz=152,slow=2.1,SNR=6.8
PLCA Paso Flores 133.94 155 PKP **PKPdf** 22 27 02.1 +0.2
DBIC Dimbokro 137.46 280 PKP **PKPdf** 22 27 09.9 +0.8
comp=Z,2.6nm,0.8s,baz=170,slow=3.2,SNR=4.9
DBIC Dimbokro 137.46 280 PKP **PKPdf** 22 27 09.9 +0.8
BBTS Babate 146.63 297 PKPbc **PKPbc** 22 27 27.3 +0.4
comp=Z,26nm,0.8s,baz=88,slow=2.4,SNR=6.4
BBTS Babate 146.63 297 PKPbc **PKPbc** 22 27 27.3 +0.4
ATAH Atahualpa 147.85 104 PKPbc **PKPab** 22 27 33.4 0.0
comp=Z,34nm,0.9s,baz=285,slow=10,SNR=9.3
ATAH Atahualpa 147.85 104 PKPbc **PKPab** 22 27 33.4 0.0
NNA Nana 147.99 113 PKPbc **PKPab** 22 27 32.6 -0.8
comp=Z,18nm,1.1s,baz=270,slow=1.0,SNR=2.9
NNA Nana 147.99 113 *e*PKPdf **PKPdf** 22 27 27.5 -0.2
NNA PKPbc **PKPab** 22 27 32.6 -0.8
OTAV Otavalo 148.57 90 *e*PKPdf **PKPdf** 22 27 30.0 +0.8
OTAV *e*PKPbc **PKPbc** 22 27 33.5 +0.6
LVC Limon Verde 148.84 138 *e*PKPbc **PKPbc** 22 27 34.2 +1.1
CPUP Villa Florida 151.77 160 PKPbc **PKPbc** 22 27 39.6 0.0
comp=Z,9.0nm,0.7s,baz=185,slow=0.5,SNR=17
CPUP Villa Florida 151.77 160 PKPbc **PKPbc** 22 27 39.6 0.0
ROSC El Rosal 152.34 80 PKPbc **PKPbc** 22 27 42.0 +0.2
comp=Z,8.2nm,0.6s,baz=96,slow=17,SNR=5.7
ROSC El Rosal 152.34 80 PKPbc **PKPbc** 22 27 42.0 +0.2
LPAZ La Paz 153.47 129 PKPbc **PKPbc** 22 27 47.3 +2.8
comp=Z,2.2nm,0.6s,baz=234,slow=3.2,SNR=4.7
LPAZ PKPab **PKPab** 22 27 57.5 +0.8
comp=Z,12nm,0.9s,baz=331,slow=0.2,SNR=6.8
LPAZ La Paz 153.47 129 PKPbc **PKPbc** 22 27 47.3 +2.8
LPAZ PKPab **PKPab** 22 27 57.5 +0.8

IDC 03 22:10:27.6±1.1, 0°21S×132°58E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, ML4.1/1, Error ellipse: s-maj=68.4km s-min=20.8km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.68**	**175**	P	P	22 14 58.7	+0.1
	0.7nm,0.3s,baz=356,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**23.35**	**177**	P	P	22 15 37.9	+0.1
	27nm,0.8s,baz=360,slow=9.4,SNR=6.9						
SONM	**Songino Array**	**52.99**	**338**	P	P	22 19 47.2	+0.9
	1.5nm,1.0s,baz=142,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**64.13**	**324**	P	P	22 21 03.6	-0.4
	3.1nm,0.7s,baz=118,slow=7.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**66.77**	**332**	P	P	22 21 20.2	-0.6
	1.1nm,0.6s,baz=126,slow=7.4,SNR=3.2						
KURK	**Kurchatov**	**68.21**	**326**	P	P	22 21 30.1	+0.1
	3.2nm,0.8s,baz=123,slow=5.7,SNR=4.8						
BVAR	**Borovoye Array**	**73.81**	**326**	P	P	22 22 04.1	+0.1
	1.6nm,0.8s,baz=96,slow=8.8,SNR=2.6						
ILAR	**Eielson Array**	**86.16**	**25**	P	P	22 23 10.3	-0.2
	1.2nm,0.7s,baz=250,slow=5.0,SNR=5.3						

*DJA **03** 22:14:34, 1.53S×131.32E, h10km, MLv4.6/7*
IDC 03 22:14:15.9±0.9, 0°20S×133°26E, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML4.4/2, Error ellipse: s-maj=44.2km s-min=15.9km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.30**	**202**	P	P	22 18 42.1	-0.5
	0.5nm,0.3s,baz=21,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**19.65**	**177**	P	P	22 18 46.3	-0.1
	1.9nm,0.3s,baz=355,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.33**	**179**	P	P	22 19 26.6	+0.7
	16nm,0.7s,baz=9.1,slow=11,SNR=17						
STKA	**Stephens Creek**	**32.48**	**167**	P	P	22 20 47.8	-0.4
	5.6nm,0.8s,baz=31,slow=13,SNR=6.9						
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P	P	22 21 39.1	-1.0
	0.8nm,0.8s,baz=112,slow=6.8,SNR=4.8						
SONM	**Songino Array**	**53.24**	**338**	P	P	22 23 36.6	+0.2
	0.9nm,0.8s,baz=151,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**64.53**	**324**	P	P	22 24 55.1	+0.3
	1.4nm,0.7s,baz=119,slow=7.6,SNR=9.1						
ZALV	**Zalesovo Beam**	**67.09**	**331**	P	P	22 25 10.8	-0.2
	1.7nm,0.8s,baz=122,slow=5.6,SNR=4.9						
KURK	**Kurchatov**	**68.58**	**326**	P	P	22 25 21.1	+0.5
	1.4nm,0.8s,baz=122,slow=6.0,SNR=4.1						
BVAR	**Borovoye Array**	**74.18**	**326**	P	P	22 25 54.7	+0.3
	1.1nm,0.7s,baz=155,slow=14,SNR=3.8						
ILAR	**Eielson Array**	**85.85**	**25**	P	P	22 26 56.8	-0.5
	1.5nm,0.8s,baz=253,slow=3.5,SNR=13						
TORD	**Torodi Ar. Bea**	**130.33**	**287**	PKP	PKPdf	22 33 29.2	-0.2
	0.3nm,0.7s,baz=152,slow=1.8,SNR=2.4						

IDC 03 22:16:46.4±1.0, 0.56S×133.40E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/19, mbtmp4.0/9, ML4.2/2, Error ellipse: s-maj=54.0km s-min=17.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.02**	**203**	P	P	22 21 08.2	-1.9
	0.7nm,0.3s,baz=31,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**19.28**	**177**	P	P	22 21 13.9	+0.9
	0.8nm,0.3s,baz=356,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**22.97**	**179**	P	P	22 21 53.5	+0.7
	6.4nm,0.6s,baz=356,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**32.09**	**167**	P	P	22 23 15.2	-0.2
	3.9nm,0.6s,baz=316,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	22 27 27.4	-0.3
	0.7nm,0.5s,baz=112,slow=8.6,SNR=9.9						
ZALV	**Zalesovo Beam**	**67.47**	**331**	P	P	22 27 44.8	+0.7
	0.3nm,0.4s,baz=153,slow=7.3,SNR=2.7						
KURK	**Kurchatov**	**68.95**	**326**	P	P	22 27 53.2	-0.2
	1.2nm,0.8s,baz=124,slow=5.7,SNR=6.1						
BVAR	**Borovoye Array**	**74.55**	**326**	P	P	22 28 27.5	+0.4
	0.6nm,0.6s,baz=163,slow=10,SNR=2.8						
ILAR	**Eielson Array**	**86.12**	**25**	P	P	22 29 28.4	-0.7
	0.5nm,0.6s,baz=248,slow=5.0,SNR=10.0						

*DDA **03** 22:19:17.0, 38.02N×37.88E, h7km, MD2.7*
*ISK **03** 22:19:16.5, 38.10N×37.84E, h5km, MD3.0*
*ISCJB **03** 22:19:16.9±0.7, 38.06N±0.04×37.83E±0.06, h1km,8km, Error ellipse: s-maj=9.2km s-min=5.0km az=39.4*
*CSEM **03** 22:19:17.3±0.1, 38.07N×37.86E, h8km, MD2.7, Error ellipse: s-maj=4.5km s-min=2.5km az=135.0*
ISC 03 22:19:17.6±1.2, 38.04N±0.03×37.87E±0.03, h4km±11km, n27, σ1s04/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.25**	**10**	*i* P	**Pg**	**22 19 22.6**	**0.0**
AKCD				*i* S	**Sg**	**22 19 27.7**	**+1.7**
AKCD	**Akcadag**	**0.25**	**10**	*i* P	**Pg**	**22 19 22.6**	**0.0**
AKCD				*i* S	**Sg**	**22 19 27.7**	**+1.7**
MALT	**Malatya**	**0.52**	**59**	*e*PG	**Pg**	**22 19 27.0**	**-0.6**
MALT	**Malatya**	**0.52**	**59**	*e*Pg	**Pg**	**22 19 27.0**	**-0.6**
MYA	**Malataya**	**0.52**	**57**	*e*PG	**Pg**	**22 19 27.0**	**-0.7**
MYA				*e*SG	**Sg**	**22 19 34.6**	**+0.1**
MYA	**Malataya**	**0.52**	**57**	*e*Pg	**Pg**	**22 19 27.0**	**-0.7**
MYA				*e*Sg	**Sg**	**22 19 34.6**	**+0.1**
KMRS	**Kahramanmaras**	**0.94**	**235**	*e*PG	**Pg**	**22 19 34.9**	**-0.7**
KMRS	**Kahramanmaras**	**0.94**	**235**	*e*Pg	**Pg**	**22 19 34.9**	**-0.7**
URFA	**Urfa**	**0.97**	**128**	*e*PG	**Pg**	**22 19 36.5**	**+0.3**
URFA	**Urfa**	**0.97**	**128**	*e*Pg	**Pg**	**22 19 36.5**	**+0.3**
GAZ	**Gaziantep**	**1.01**	**211**	*e*PG	**Pg**	**22 19 37.2**	**+0.1**
GAZ	**Gaziantep**	**1.01**	**211**	*e*Pg	**Pg**	**22 19 37.2**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.12**	**305**	*e*PN	**Pg**	**22 19 38.9**	**-0.2**
KEMA	**Kemaliye**	**1.32**	**22**	*i* P	**Pg**	**22 19 41.6**	**-1.3**
KEMA				*i* S	**Sn**	**22 20 04.5**	**+3.6**
KEMA	**Kemaliye**	**1.32**	**22**	*i* P	**Pg**	**22 19 41.6**	**-1.3**
KUZU	**Kuzuini**	**1.42**	**207**	*i* P	**Pn**	**22 19 43.8**	**-0.4**
KUZU				*i* S	**Sn**	**22 20 03.8**	**+0.5**
KUZU	**Kuzuini**	**1.42**	**207**	*i* P	**Pn**	**22 19 43.8**	**-0.4**
KUZU				*i* S	**Sn**	**22 20 03.8**	**+0.5**
PTK	**Pertek**	**1.47**	**54**	*e*PN	**Pn**	**22 19 44.3**	**-0.7**
PTK	**Pertek**	**1.47**	**54**	*e*Pn	**Pn**	**22 19 44.3**	**-0.7**
ILIC	**ilic-Erzincan**	**1.51**	**21**	*e*PN	**Pn**	**22 19 44.4**	**-1.1**
ILIC	**ilic-Erzincan**	**1.51**	**21**	*e*Pn	**Pn**	**22 19 44.4**	**-1.1**
KOZT	**Kozan**	**1.71**	**251**	*e*PN	**Pn**	**22 19 47.9**	**-0.3**
KOZT	**Kozan**	**1.71**	**251**	*e*Pn	**Pn**	**22 19 47.9**	**-0.3**
BNN	**Bunyan**	**1.78**	**298**	*e*PN	**Pn**	**22 19 48.2**	**-1.1**
BNN	**Bunyan**	**1.78**	**298**	*e*Pn	**Pn**	**22 19 48.2**	**-1.1**
BINT	**Bingol**	**2.22**	**67**	*e*Pn	**Pb**	**22 19 57.8**	**-0.6**
BNGB	**Bing¶l**	**2.40**	**66**	*e*PN	**Pn**	**22 19 57.8**	**0.0**

IDC 03 22:21:25.7±1.1, 0.59S×133.32E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=57.6km s-min=17.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.97**	**203**	P	P	22 25 47.1	-1.7
	0.2nm,0.3s,baz=42,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**19.26**	**177**	P	Pn	22 25 53.1	+0.1
	0.4nm,0.3s,baz=356,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.95**	**179**	P	P	22 26 32.9	+1.0
	4.4nm,0.5s,baz=358,slow=12,SNR=9.3						
STKA	**Stephens Creek**	**32.09**	**167**	P	P	22 27 53.5	-1.1
	3.0nm,0.4s,baz=344,slow=7.4,SNR=3.1						
SONM	**Songino Array**	**53.62**	**338**	P	P	22 30 47.8	-1.1
	0.4nm,0.7s,baz=155,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**64.87**	**324**	P	P	22 32 06.8	0.0
	1.1nm,0.5s,baz=110,slow=8.5,SNR=25						
KURK	**Kurchatov**	**68.93**	**326**	P	P	22 32 33.2	+0.7
	1.7nm,0.8s,baz=122,slow=5.8,SNR=12						
BVAR	**Borovoye Array**	**74.53**	**326**	P	P	22 33 06.8	+0.6
	0.8nm,0.6s,baz=122,slow=5.6,SNR=4.8						
ILAR	**Eielson Array**	**86.17**	**25**	P	P	22 34 08.6	-0.1
	0.4nm,0.6s,baz=271,slow=4.6,SNR=5.2						

*IDC **03** 22:23:42.3±0.5, 0.45S×132.15E, h0km, mb4.6/17, mb1 4.7/19, mb1mx4.7/22, mbtmp4.6/19, ML5.0/2, Error ellipse: s-maj=25.4km s-min=11.7km az=78.0*
*ISCJB **03** 22:23:45.3±0.3, 0.44S±0.03×132.32E±0.04, h33km, mb4.9/65, MS4.8/2, Error ellipse: s-maj=6.2km s-min=4.4km az=165.6*
*MOS **03** 22:23:46.5±1.3, 0.54S×131.96E, h38km, mb5.1/17, Error ellipse: s-maj=15.4km s-min=6.7km az=110.5*
*NEIC **03** 22:23:47.7±0.2, 0.51S×132.16E, h35km, mb4.9/28, Error ellipse: s-maj=8.9km s-min=5.0km az=70.0*
*DJA **03** 22:23:49, 0.70S×132.01E, h10km, mb5.1/12*
ISC 03 22:23:47.1±0.3, 0.56S±0.04×132.30E±0.06, h33km, n212, σ1s67/219, mb5.0/65, 1C-5D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.34**	**181**	P	**Pb**	**22 24 26.8**	**-1.8**
MSAI	**Masohi**	**4.36**	**231**	P	Pn	22 24 54.5	+3.4
LBMI	**Labuha**	**4.80**	**269**	P	**Pn**	**22 24 58.5**	**+1.3**
	255nm,0.7s,1.3nm						
TLE	**Tual**	**5.06**	**175**	P	Pn	22 25 06.1	+5.4
AAI	**Ambon**	**5.15**	**233**	P	**Pn**	**22 25 03.9**	**+2.0**
	803nm,0.6s,14µm4.1nm						
KMSI	**Cibinong**	**8.40**	**278**	P	sPn	22 25 59.0	+0.6
JAY	**Jayapura**	**8.62**	**103**	P	Pn	22 25 40.6	-9.0
	1.12nm,0.7s,17µm1.1nm						
LUWI	**Luwuk**	**9.54**	**267**	P	**Pn**	**22 26 01.9**	**-0.4**
	232nm,1.1s						
MRSI	**Marisa**	**10.41**	**276**	P	Pn	22 26 22.5	+8.3
TTSI	**Tana Toraja**	**12.72**	**259**	P	**Pn**	**22 26 48.8**	**+3.0**
	56nm,0.9s						
MMRI	**Maumere**	**12.84**	**231**	P	P	22 26 53.9	-4.0
	123nm,0.8s						
SPSI	**Sidrap Palu**	**12.97**	**255**	P	**Pn**	**22 26 50.7**	**+1.5**
	92nm,0.8s						
BKSI	**Bulukumba**	**13.05**	**249**	P	P	22 26 56.2	-4.0
	54nm,1.1s						
KAPI	**Kappang**	**13.29**	**250**	*e*Pn	**Pn**	**22 26 54.2**	**+0.6**
KAPI	**Kappang**	**13.29**	**250**	P	Pn	22 26 58.2	+4.6
	54nm,1.0s,3µm						
KBKI	**Kotabaru**	**16.35**	**260**	P	**P**	**22 27 38.4**	**+1.5**
	122nm,0.9s						
COEN	**Coen**	**17.11**	**142**	*e*Pn	**P**	**22 27 44.1**	**-1.2**
	126nm,0.8s						
COEN				*e*S	**Sn**	**22 30 48.1**	**-5.3**
PMG	**Port Moresby**	**17.20**	**121**	P	**P**	**22 27 48.9**	**+2.6**
	0.3nm,0.3s,baz=282,slow=3.9,SNR=3.8						
PMG	**Port Moresby**	**17.20**	**121**	*d* iP	**P**	**22 27 49.3**	**+3.0**
PMG	**Port Moresby**	**17.20**	**121**	Pn	**P**	**22 27 48.7**	**+2.4**
	25nm,0.8s						
BBKI	**Banjar Baru**	**17.69**	**260**	P	**P**	**22 27 54.2**	**+2.5**
	161nm,1.1s						
MTNI	**Mataram**	**17.96**	**243**	P	P	22 28 01.2	+6.5
KHKI	**Kahang-Kahang**	**18.35**	**245**	P	**Pn**	**22 28 01.1**	**+1.9**
	154nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.62**	**200**	P	**P**	**22 28 00.0**	**-1.9**
	3.1nm,0.3s,baz=36,slow=11,SNR=13						
FITZ				S	Sn	22 31 19.2	-11
	1.7nm,0.3s,baz=95,slow=19,SNR=7.0						
FITZ	**Fitzroy Crossi**	**18.62**	**200**	*e*P	**P**	**22 27 59.5**	**-2.4**
	43nm,0.6s						
FITZ				*e*S	Sn	22 31 18.0	-12
FITZ	**Fitzroy Crossi**	**18.62**	**200**	*e*Pn	**P**	**22 28 00.1**	**-1.9**
	28nm,0.8s						
FITZ				S	Sn	22 31 19.2	-11
FITZ				*e*S	S	22 31 23.9	-8.6
WRAB	**Tennant Creek**	**19.35**	**174**	*e*P	**Pn**	**22 28 11.3**	**0.0**
WRAB				*e*S	S	22 31 38.7	-8.6
WRAB				pmax	pmax		
	comp=Z,32nm,0.7s						
WRAB	**Tennant Creek**	**19.35**	**174**	*e*P	**Pn**	**22 28 11.3**	**0.0**
	comp=Z,32nm,0.7s						
WRAB				*e*S	S	22 31 38.7	-8.6
WRA	**Warramunga Arr**	**19.36**	**174**	P	**Pn**	**22 28 11.3**	**-0.1**
	comp=Z,4.6nm,0.3s,baz=351,slow=11,SNR=32						
WRA				S	S	22 31 38.9	-8.6
	comp=Z,1.8nm,0.3s,baz=351,slow=23,SNR=8.8						
WRA	**Warramunga Arr**	**19.36**	**174**	P	**Pn**	**22 28 11.3**	**-0.1**
WRA				S	S	22 31 38.9	-8.6
WRA	**Warramunga Arr**	**19.36**	**174**	P	**Pn**	**22 28 11.3**	**-0.1**
WRA				S	S	22 31 38.9	-8.6
WB2	**Warramunga Arr**	**19.36**	**174**	*e*P	**Pn**	**22 28 11.1**	**-0.3**
WB2				*e*S	**S**	**22 31 41.0**	**-6.6**
BYJI	**Banyuwangi**	**19.43**	**246**	P	**Pn**	**22 28 13.6**	**+1.4**
	comp=Z,474nm,0.9s						
JAGI	**Jajag, Banyuwa**	**19.71**	**246**	P	**Pn**	**22 28 15.2**	**-0.4**
	comp=Z,180nm,0.9s						
BLJI	**Banyuglugur**	**19.96**	**249**	P	Pn	22 28 24.0	+5.4
GMJI	**Gumukmas**	**20.29**	**247**	P	Pn	22 28 24.7	+2.3
	comp=Z,110nm,1.1s						
SBUM	**Sibu**	**20.30**	**279**	P	Pn	22 28 21.9	-0.7
	comp=Z,35nm,1.2s						
PBKI	**Pangkalan Bun**	**20.73**	**264**	P	**P**	**22 28 25.9**	**+0.8**
	comp=Z,292nm,1.0s,comp=Z,5µm						
STKI	**Sintang**	**20.84**	**272**	P	**P**	**22 28 26.7**	**+0.5**
	comp=Z,66nm,1.0s						
SJI	**Sawahan**	**21.67**	**250**	P	P	22 28 41.2	+5.9
	comp=Z,67nm,1.0s						
KSM	**Kuching**	**22.09**	**275**	*e*P	**P**	**22 28 39.0**	**-0.7**
	comp=Z,19nm,0.8s						
AS31	**Alice Springs**	**23.02**	**176**	*e*P	**P**	**22 28 50.6**	**+1.1**
ASAR	**Alice Springs**	**23.02**	**176**	P	**P**	**22 28 50.6**	**+1.2**
	comp=Z,61nm,0.8s,baz=354,slow=10.0,SNR=63						
ASAR				S	**S**	**22 32 57.5**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=358,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.02**	**176**	P	**P**	**22 28 50.7**	**+1.2**
ASAR				S	**S**	**22 32 57.5**	**-0.5**
ASAR	**Alice Springs**	**23.02**	**176**	P	**P**	**22 28 50.6**	**+1.2**
ASAR				S	**S**	**22 32 57.5**	**-0.5**
BJII	**Banjamegara**	**23.51**	**253**	P	**P**	**22 28 56.8**	**+2.3**
	comp=Z,192nm,1.0s,comp=Z,6µm						
CTA	**Charters Tower**	**23.73**	**146**	P	**P**	**22 28 58.4**	**+2.0**
	comp=Z,17nm,0.9s,baz=321,slow=10,SNR=8.7						
CTA	**Charters Tower**	**23.73**	**146**	*e*P	**P**	**22 28 58.4**	**+2.0**
	comp=Z,13nm,0.9s						
CTA	**Charters Tower**	**23.73**	**146**	P	**P**	**22 28 58.4**	**+2.0**
CTA	**Charters Tower**	**23.73**	**146**	P	**P**	**22 28 58.4**	**+2.0**
CTAO	**Charters Tower**	**23.73**	**146**	*e*P	**P**	**22 28 58.0**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,11nm,0.7s						
CTAO	**Charters Tower**	**23.73**	**146**	*e*P	**P**	**22 28 58.0**	**+1.6**
	comp=Z,11nm,0.7s						
MBWA	**Marble Bar**	**23.87**	**210**	*e*P	**P**	**22 28 58.6**	**+0.9**
MBWA	**Marble Bar**	**23.87**	**210**	*e*P	**P**	**22 28 58.7**	**+0.9**
	comp=Z,31nm,0.9s						
CISI	**Cisompet, Garu**	**25.38**	**253**	P	**P**	**22 29 12.1**	**+0.4**
	comp=Z,84nm,1.0s						
QLP	**Quilpie**	**28.30**	**157**	*e*P	**P**	**22 29 37.9**	**+0.1**
MEEK	**Meekatharra**	**29.08**	**206**	*e*P	**P**	**22 29 45.3**	**+0.6**
	comp=Z,72nm,0.9s						
FORT	**Forrest**	**30.32**	**187**	*e*P	**P**	**22 29 57.1**	**+1.5**
	comp=Z,135nm,0.6s						
FORT	**Forrest**	**30.32**	**187**	*e*P	**P**	**22 29 56.9**	**+1.3**
	comp=Z,161nm,0.7s						
PPI	**Padang Panjang**	**31.91**	**270**	P	**P**	**22 30 09.4**	**-0.5**
	comp=Z,36nm,1.0s						
KULM	**Kulim**	**32.14**	**281**	*e*P	**P**	**22 30 11.3**	**-0.6**
	comp=Z,21nm,0.8s						
BBOO	**Buckleboo**	**32.27**	**174**	*e*P	**P**	**22 30 13.5**	**+0.7**
	comp=Z,333nm,0.9s						
STKA	**Stephens Creek**	**32.36**	**165**	P	**P**	**22 30 15.4**	**+1.8**
	comp=Z,8.9nm,0.5s,baz=333,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**32.36**	**165**	*e*P	**P**	**22 30 13.7**	**+0.1**
	comp=Z,6.6nm,0.5s						
STKA	**Stephens Creek**	**32.36**	**165**	P	**P**	**22 30 15.4**	**+1.

comp=Z,9.0nm,1.0s
USRK Ussuriysk Arra 44.57 360 P **P** **22 31 55.0 -0.8**
comp=Z,5.3nm,0.9s,baz=156,slow=7.5,SNR=7.5
CN2 Changchun 44.59 353 *eP* P 22 32 00.0 +3.9
LZH Lanzhou 45.06 327 *eP* P 22 32 04.1 +3.9
LZH pP pP 22 32 16.3 +6.3
LZH sP sP 22 32 20.9 +6.9
LZH *eS* **S** **22 38 43.0 +5.7**
LZH sS sS 22 38 57.0 +3.6
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,130nm,6.0s
LZH LR LR
comp=N,1μm,12.4s
LZH LR LR
comp=E,1μm,15.7s
LZH LR LR
comp=Z,2μm,17.8s
HHC Hu-ho-hao-te 45.33 338 *eP* **P** **22 32 04.2 +2.0**
HHC pP **pP** **22 32 13.4 +1.4**
HHC sP **sP** **22 32 18.5 +2.5**
HHC S **S** **22 38 41.9 +1.0**
HHC sS **sS** **22 38 58.3 +1.2**
HHC pmax pmax
comp=Z,14nm,1.0s
YSS Yuzh-Sakhalins 48.20 10 *eP* **P** **22 32 24.0 -0.4**
LSA Lhasa 49.44 311 P **P** **22 32 32.8 -2.0**
GTA Gaotai 49.67 327 *eP* **P** **22 32 32.9 -3.1**
GTA pP **pP** **22 32 43.2 -2.7**
GTA sP **sP** **22 32 46.7 -3.1**
TAPN Taplejung 51.03 307 *eP* **P** **22 32 45.2 -1.5**
comp=Z,25nm,1.1s
TAPN Taplejung 51.03 307 *eP* **P** **22 32 45.2 -1.5**
ODAN Odare 51.08 306 *eP* **P** **22 32 45.5 -1.5**
comp=Z,34nm,0.9s
ODAN Odare 51.08 306 *eP* **P** **22 32 45.5 -1.5**
RAMN Ramite 51.76 306 *eP* **P** **22 32 50.8 -1.3**
comp=Z,30nm,0.9s
RAMN Ramite 51.76 306 *eP* **P** **22 32 50.8 -1.3**
JIRN Jiri 52.38 306 *eP* **P** **22 32 55.4 -1.5**
comp=Z,23nm,0.9s
JIRN Jiri 52.38 306 *eP* **P** **22 32 55.4 -1.5**
GUN Gumba 52.74 306 *eP* **P** **22 32 57.8 -1.7**
comp=Z,23nm,0.7s
GUN Gumba 52.74 306 *eP* **P** **22 32 57.8 -1.7**
PKI Pulchoki 52.98 306 *eP* **P** **22 32 59.4 -1.9**
PKI Pulchoki 52.98 306 *eP* **P** **22 32 59.4 -1.9**
PKI Pulchoki 52.98 306 *eP* **P** **22 32 59.4 -1.9**
ULN Ulaanbaatar 53.00 339 *eP* **P** **22 33 00.6 -0.3**
ULN pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 53.00 339 *eP* **P** **22 33 00.6 -0.3**
comp=Z,10nm,0.9s
KKN Kakani 53.17 306 *eP* **P** **22 33 00.8 -1.8**
comp=Z,23nm,0.9s
KKN Kakani 53.17 306 *eP* **P** **22 33 00.8 -1.8**
KKN Kakani 53.17 306 *eP* **P** **22 33 00.8 -1.8**
SONM Songino Array 53.22 338 P **P** **22 33 02.0 -0.4**
comp=Z,4.0nm,0.7s,baz=154,slow=7.5,SNR=11
SONM Songino Array 53.22 338 P **P** **22 33 02.0 -0.4**
SONM Songino Array 53.22 338 P **P** **22 33 02.0 -0.4**
DMN Daman 53.24 306 *eP* **P** **22 33 01.5 -1.6**
comp=Z,22nm,0.8s
DMN Daman 53.24 306 *eP* **P** **22 33 01.5 -1.6**
GKN Gorkha 53.78 306 *eP* **P** **22 33 05.3 -1.6**
comp=Z,20nm,0.8s
GKN Gorkha 53.78 306 *eP* **P** **22 33 05.3 -1.6**
KOLN Koldanda 54.53 305 *eP* **P** **22 33 11.4 -1.1**
comp=Z,68nm,0.8s
KOLN Koldanda 54.53 305 *eP* **P** **22 33 11.4 -1.1**
DANN Dangsing 54.63 306 *eP* **P** **22 33 11.9 -1.4**
comp=Z,63nm,0.8s
DANN Dangsing 54.63 306 *eP* **P** **22 33 11.9 -1.4**
PETK Petropavlovsk- 57.53 18 P **P** **22 33 33.4 +0.2**
comp=Z,9.2nm,0.9s,baz=222,slow=2.0,SNR=6.2
PETK Petropavlovsk- 57.53 18 P **P** **22 33 33.4 +0.2**
PETK Petropavlovsk- 57.53 18 P **P** **22 33 33.4 +0.2**
MOY Mondy 58.37 338 *eP* P 22 33 44.2 +4.9
WMQ Urumqi 59.43 324 P **P** **22 33 46.2 -0.6**
WMQ pP **pP** **22 33 56.2 -0.7**
WMQ sP **sP** **22 34 00.2 -0.5**
WMQ pmax pmax
comp=Z,16nm,0.7s
YAK Yakutsk 62.46 359 *eP* **P** **22 34 05.4 -1.4**
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 62.46 359 *eP* **P** **22 34 06.1 -0.7**
comp=E,72nm,0.8s
MK31 Makanchi Array 64.25 324 *eP* **P** **22 34 18.9 -0.2**
MK31 Makanchi Array 64.25 324 *eP* **P** **22 34 18.9 -0.2**
MK31 *e* 22 34 23.6
MKAR Makanchi Array 64.25 324 P **P** **22 34 18.7 -0.4**
comp=E,7.3nm,0.5s,baz=115,slow=8.1,SNR=52
MKAR Makanchi Array 64.25 324 P **P** **22 34 18.7 -0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 64.25 324 *eP* **P** **22 34 19.0 -0.1**
KSH Kashi 65.00 315 P **P** **22 34 24.6 +0.4**
KSH *ep*P **pP** **22 34 34.5 +0.1**
KSH *es*P **sP** **22 34 38.6 +0.3**
KSH *eP*cP **PcP** **22 34 57.5 +0.4**
KSH *eP*P **PP** **22 36 48.6 +1.1**
KSH *eS*cP 22 38 56.5
KSH *eP*cS 22 39 00.5
KSH *eS* **S** **22 42 59.1 -5.2**
KSH *eS*cS **SKSac** **22 44 12.6 -4.4**
KSH *eS*S **SS** **22 47 12.5 -4.3**
KSH pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 65.11 10 *deP* **P** **22 34 26.5 +2.3**
TKM2 Tokmak 2 66.64 318 *eP* **P** **22 34 34.8 0.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 66.64 318 *eP* **P** **22 34 34.8 0.0**
comp=Z,9.8nm,0.8s
ZALV Zalesovo Beam 66.95 332 P **P** **22 34 35.2 -1.1**
comp=Z,2.4nm,0.6s,baz=123,slow=5.9,SNR=13
ZALV Zalesovo Beam 66.95 332 P **P** **22 34 35.2 -1.1**
ZALV Zalesovo Beam 66.95 332 P **P** **22 34 35.2 -1.1**
AAK Ala-Archa 67.26 317 *eP* **P** **22 34 38.3 -0.4**
AAK Ala-Archa 67.26 317 *eP* **P** **22 34 38.3 -0.4**
EKS2 Erkin-Say 67.76 317 *eP* **P** **22 34 41.8 0.0**
EKS2 pmax pmax
comp=Z,14nm,0.9s
EKS2 Erkin-Say 67.76 317 *eP* **P** **22 34 41.8 0.0**
comp=Z,14nm,0.9s
NVS Novosibirsk 68.22 332 *eP* **P** **22 34 42.3 -2.0**
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS pmax pmax
comp=Z,18nm,1.5s
KURK Kurchatov 68.35 327 P **P** **22 34 44.9 -0.4**
comp=Z,8.9nm,0.7s,baz=126,slow=5.8,SNR=64
KURK Kurchatov 68.35 327 *deP* **P** **22 34 44.8 -0.4**
KURK pmax pmax
comp=Z,24nm,1.7s
KURK Kurchatov 68.35 327 *eP* **P** **22 34 44.4 -0.8**
comp=Z,15nm,1.0s
KBL Kabul 68.54 308 *eP* **P** **22 34 45.8 -1.2**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 68.54 308 *eP* **P** **22 34 45.8 -1.2**
comp=Z,7.8nm,0.9s
KKAR Karatay Array 70.15 317 *eP* **P** **22 34 55.7 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 70.15 317 *eP* **P** **22 34 55.7 -0.9**
comp=Z,2.7nm,0.5s
BILL Bilibino 72.37 13⇑ *eP* **P** **22 35 12.2 +2.8**
BILL *eS* **S** **22 44 27.4 -3.1**
BILL pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 73.94 326 P **P** **22 35 18.6 -0.4**
comp=Z,5.2nm,0.7s,baz=126,slow=7.3,SNR=24
BVAR Borovoye Array 73.94 326 P **P** **22 35 18.6 -0.4**
BVAR Borovoye Array 73.94 326 P **P** **22 35 18.6 -0.4**
BRVK Borovoye 74.02 326 *eP* **P** **22 35 18.8 -0.6**
BRVK pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye 74.02 326 *eP* **P** **22 35 18.8 -0.6**
comp=Z,25nm,1.3s
VNDA Vanda 78.53 174 *eP* **P** **22 35 45.9 +1.2**
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 78.53 174 *eP* **P** **22 35 45.9 +1.2**
comp=Z,10nm,0.9s
ABKAR Akbulak array 78.98 320 *eP* **P** **22 35 46.6 -1.0**
comp=Z,3.7nm,0.5s
SBA Scott Base 79.39 173 *eP* **P** **22 35 51.2 +1.9**
SBA pmax pmax
comp=Z,11nm,1.0s
SBA Scott Base 79.39 173 *eP* **P** **22 35 51.2 +1.9**
comp=Z,11nm,1.0s
AKTO Aktyubinsk 80.46 321 P **P** **22 35 54.8 -0.9**
comp=Z,3.6nm,0.7s,baz=86,slow=8.0,SNR=15
AKTO Aktyubinsk 80.46 321 P **P** **22 35 54.8 -0.9**
AKTO Aktyubinsk 80.46 321 P **P** **22 35 54.8 -0.9**
SVE Sverdlovsk 80.52 328 *eP* **P** **22 35 55.5 -0.3**
SVE pmax pmax
comp=Z,19nm,0.9s
ARU Arti 81.52 327 *d iP* **P** **22 36 00.2 -1.0**
ARU 22 39 05.0
ARU S **S** **22 46 09.5 -1.1**
ARU SS **SS** **22 51 24.5 -3.3**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 81.52 327 *eP* **P** **22 35 59.8 -1.4**
comp=Z,14nm,0.8s
TTA Tatalina 82.24 26 *eP* P 22 36 08.0 +3.1
TTA pmax pmax
comp=Z,30nm,1.6s
TTA Tatalina 82.24 26 *eP* P 22 36 08.0 +3.1
comp=Z,30nm,1.6s
QRN Al-Qurain 85.34 299 *eP* **P** **22 36 19.9 -1.6**
QRN AMb AMB 22 36 24.9
comp=Z,77nm,1.5s
MCK McKinley 85.53 26 *eP* **P** **22 36 24.1 +2.4**
MCK pmax pmax
comp=Z,126nm,2.2s
MCK McKinley 85.53 26 *eP* **P** **22 36 24.1 +2.4**
comp=Z,126nm,2.2s
MIB Mutribah 85.90 300 *eP* **P** **22 36 22.8 -1.4**
MIB AMb AMB 22 36 32.9
comp=Z,40nm,0.9s
NAY Al-Naaiem 85.96 299 *eP* **P** **22 36 22.8 -1.8**
NAY AMb AMB 22 36 31.9
comp=Z,33nm,1.3s
DIV Divide 86.58 29 *eP* P 22 36 32.3 +5.3
comp=Z,21nm,0.8s
ILAR Eielson Array 86.58 25 P **P** **22 36 26.4 -0.4**
comp=Z,4.1nm,0.9s,baz=250,slow=3.8,SNR=24
ILAR Eielson Array 86.58 25 P **P** **22 36 26.4 -0.4**
ILAR Eielson Array 86.58 25 P **P** **22 36 26.4 -0.4**
QSPA South Pole Qui 89.37 180 *eP* **P** **22 36 40.8 +0.5**
comp=Z,17nm,0.8s
SYO Syowa Base 90.45 201‖ *e*PcP **PcP** **22 36 49.6 +3.4**
INK Inuvik 92.07 22 P **P** **22 36 53.5 +0.9**
comp=Z,1.0nm,0.9s,baz=244,slow=3.1,SNR=3.0
INK Inuvik 92.07 22 P **P** **22 36 53.5 +0.9**
INK Inuvik 92.07 22 P **P** **22 36 53.5 +0.9**
ARCES ARCESS Array B 96.36 340 P **P** **22 37 10.2 -2.1**
comp=Z,7.3nm,1.2s,baz=76,slow=10,SNR=4.0
ARCES ARCESS Array B 96.36 340 P **P** **22 37 10.2 -2.1**
ARCES ARCESS Array B 96.36 340 P **P** **22 37 10.2 -2.1**
TXAR Lajitas Array 119.56 56 PKP **PKPdf** **22 42 33.3 -1.1**
comp=Z,0.1nm,0.6s,baz=351,slow=4.0,SNR=2.7
TXAR Lajitas Array 119.56 56 PKIKP **PKPdf** **22 42 33.3 -1.1**
TXAR Lajitas Array 119.56 56 PKP **PKPdf** **22 42 33.3 -1.1**
TORD Torodi Ar. Bea 129.51 287 PKP **PKPdf** **22 42 52.6 -1.1**
comp=Z,0.5nm,0.8s,baz=33,slow=3.1,SNR=3.8
TORD Torodi Ar. Bea 129.51 287 PKP **PKPdf** **22 42 52.6 -1.1**
PLCA Paso Flores 133.94 156 PKP **PKPdf** **22 43 03.6 +2.1**
comp=Z,2.8nm,0.9s,baz=211,slow=16,SNR=5.9
PLCA Paso Flores 133.94 156 PKIKP **PKPdf** **22 43 03.6 +2.1**
PLCA Paso Flores 133.94 156 PKP **PKPdf** **22 43 03.6 +2.1**
CFAA Coronel Fontan 142.55 151 PKP **PKPdf** **22 43 17.7 +0.2**
comp=Z,0.2nm,0.4s,baz=219,slow=6.5,SNR=3.7
CFAA Coronel Fontan 142.55 151 PKP **PKPdf** **22 43 17.7 +0.2**
ATAH Atahualpa 148.44 105 PKPbc **PKPab** **22 43 34.0 -1.3**
comp=Z,4.5nm,0.7s,baz=151,slow=7.4,SNR=5.8
ATAH Atahualpa 148.44 105 PKPbc **PKPab** **22 43 34.0 -1.3**
CPUP Villa Florida 151.69 162 PKPbc **PKPbc** **22 43 39.2 +0.2**
comp=Z,6.4nm,0.7s,baz=189,slow=2.1,SNR=12
CPUP Villa Florida 151.69 162 PKIKP **PKPbc** **22 43 39.2 +0.2**
CPUP Villa Florida 151.69 162 PKPbc **PKPbc** **22 43 39.2 +0.2**

IDC 03 22:32:16.1±1.9, **0.53S**×**133.01E, h0**km**, mb4.1**/3, **mb1 4.4/5, mb1mx3.9**/17, **mbtmp4.2**/5, **ML3.9**/1, **Error ellipse: s-maj=78.6km s-min=23.2km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.91**	**202**	P	P	22 36 38.7	+0.2
	0.3nm,0.3s,baz=37,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**19.34**	**176**	P	P	22 36 43.5	+0.1
	1.1nm,0.3s,baz=355,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**23.02**	**178**	P	P	22 37 23.2	+0.3
	11nm,0.7s,baz=356,slow=11,SNR=12						
STKA	**Stephens Creek**	**32.22**	**166**	P	P	22 38 45.9	-0.4
	3.8nm,0.8s,baz=360,slow=9.9,SNR=3.3						
MKAR	**Makanchi Array**	**64.64**	**324**	P	P	22 42 55.7	-0.1
	0.5nm,0.7s,baz=112,slow=7.7,SNR=3.0						

*BJI **03** 22:33:32.6, 1.°43S×133.°80E, h33km, mB7.4/37, mb6.2/52, Ms7.2/77, Ms7 7.0/66*
*IDC **03** 22:33:36.4±0.3, 0.°72S×133.°13E, h0km, mb6.0/33, mb1 6.0/37, mb1mx6.0/37, mbtmp5.9/37, ML5.4/4, MS7.2/23, Ms1 7.2/23, ms1mx7.0/34, Error ellipse: s-maj=8.0km s-min=4.8km az=82.0*
*MOS **03** 22:33:39.7±1.1, 0.°70S×133.°28E, h33km, mb6.5/72, MS7.0/78, Error ellipse: s-maj=8.0km s-min=4.5km az=111.2*
*TEH **03** 22:33:40.3, 0.°71S×133.°36E, h23km, ML7.4*
*NEIC **03** 22:33:40.3±0.1, 0.°69S×133.°31E, h23km, mb6.7/118, ME7.5, MS7.4/162, MW7.3, MW7.2, Error ellipse: s-maj=4.4km s-min=3.4km az=63.0 Broadband fault plane solution: P waves. NP1:ϕs310.00000°, δ75.00000°, λ100.00000°. NP2:ϕs96.00000°, δ18.00000°, λ57.00000°. Principal axes: T Plg59.0000°, Azm234.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm32.0000°; Moment Tensor Solution. s53 Moment tensor: Scale 1019 Nm; Mrr7.33; Mθθ-7.43; Mϕϕ0.10; Mrθ-2.77; Mθϕ3.19; Mϕr3.43; Best double couple: Mo9.20000×1019 NP1: ϕs306.00000°, δ60.00000°, λ108.00000°. NP2: ϕs93.00000°, δ35.00000°, λ62.00000°. Principal axes: T 8.8300, Plg69.0000°, Azm254.0000°; N 0.6500, Plg15.0000°, Azm116.0000°; P -9.4800, Plg13.0000°, Azm22.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Casualties and damage are included with the event at 19:33 UTC. Felt [VII] at Manokwari, [VI] at Sorong, [IV] at Nabire and [III] at Biak.
*ISCJB **03** 22:33:41.3±0.4, 0.°70S±0.°02×133.°42E±0.°02, h46km±3km, mb6.4/242, MS7.2/244 Error ellipse: s-maj=3.6km s-min=2.8km az=147.9*
*DJA **03** 22:33:45, 0.°83S×133.°38E, h60km, Mw7.5/78*
*SZGRF **03** 22:33:47.6, 0.°49S×131.°98E, h33km, mb7.3, Irian Jaya, Indonesia, region*
*NEIC **03** 22:33:57.7±0.0, 0.°58S×133.°52E, h20km, Moment Tensor Solution. s166 Moment tensor: Scale 1020Nm; Mrr1.01; Mθθ-0.91; Mϕϕ-0.10; Mrθ-0.55; Mθϕ0.38; Mϕr0.39; Best double couple: Mo1.20000×1020 NP1:ϕs104.00000°, δ29.00000°, λ76.00000°. NP2:ϕs299.00000°, δ62.00000°, λ98.00000°. Principal axes: T 1.2200, Plg72.0000°, Azm226.0000°; N 0.0300, Plg6.0000°, Azm115.0000°; P -1.2500, Plg16.0000°, Azm23.0000°;*
ISC 03 22:33:42.7±0.3, **0.71S**±0.02×**133.31E**±0.°03, **h34**km, **h35**km:**pP-P, n1425,** σ**1991**/1889, **mb6.5**/241, **MS7.3**/246, **263C-210D, Irian Jaya region**

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

FAKI Fak Fak 2.44 206 P **Pn** **22 34 21.4 +1.3**
BAKI Biak 2.83 100 P Pn 22 34 21.9 -3.6
TLE Tual 4.93 187 P **Pn** **22 34 55.6 +1.2**
MSAI Masohi 5.10 239 P Pn 22 34 59.9 +3.1
12μm,0.7s,290μm62nm
SMPI Sarmi 5.54 103 P Pn 22 34 59.5 -3.3
9μm,1.7s,740μm150nm
LBMI Labuha 5.81 271 P **Pn** **22 35 07.8 +1.3**
26μm,1.1s,408μm116nm
AAI Ambon 5.91 240 P **Pn** **22 35 09.4 +1.6**
40μm,1.3s,811μm169nm
TNTI Ternate 6.12 284 P Pn 22 35 14.7 +3.9
5μm,1.2s,217μm54nm
JAY Jayapura 7.60 104 P **Pn** **22 35 33.6 +2.4**
1μm,0.8s,187μm24nm
MNI Manado 8.74 284 P Pn 22 35 50.9 +4.2
6μm,1.0s,156μm24nm
SGSI Sangihe 8.92 299 P Pn 22 35 54.3 +5.1
6μm,0.8s,127μm
KMSI Cibinong 9.42 278 P Pn 22 36 00.9 +4.9
12μm,1.2s,271μm
MATI Mati 10.36 317 *eP* Pn 22 36 13.0 +4.0
LUWI Luwuk 10.54 268 P **Pn** **22 36 12.0 +0.5**
10μm,1.5s,181μm
GSPH General Santos 10.74 309‖ *iP* **Pn** **22 36 15.6 +1.3**
DAV Davao City (W) 10.92 315 Pn **Pn** **22 36 18.8 +2.2**
35nm,0.3s,baz=163,slow=4.3,SNR=33
DAV Sn **Sn** **22 38 15.3 -2.4**
27nm,0.3s,baz=88,slow=23,SNR=1.8
DAV Davao City (W) 10.92 315 *e*Pn **Pn** **22 36 18.3 +1.7**
DAV Sn **Sn** **22 38 15.3 -2.4**
DAV Davao City (W) 10.92 315⇑ *eP* Pn 22 36 21.8 +5.2
DAV Davao City (W) 10.92 315 P Pn 22 36 22.7 +6.1
5μm,1.9s,244μm
DMPH Davao City--Mi 10.98 315 *eP* Pn 22 36 21.4 +4.0
KCP Kidapawan 11.23 313‖ *eP* Pn 22 36 27.0 +6.1
MRSI Marisa 11.43 276 P **Pn** **22 36 24.7 +1.1**
3μm,1.2s,88μm
BBSI Bau Bau 11.73 246 P Pn 22 36 30.9 +3.2
10μm,2.3s,282μm
BUKP Musuan 11.85 316 *eP* Pn 22 36 33.0 +3.5
CTBH Cotabato--PC H 11.99 311‖ *iP* **Pn** **22 36 32.4 +1.1**
CGP Cagayan de Oro 12.52 317‖ *eP* P 22 36 44.5 -5.2
PAGZ Pagadian 13.05 311 *eP* **Pn** **22 36 47.3 +1.5**
MMRI Maumere 13.55 234 P **Pn** **22 36 55.2 +2.6**
7μm,0.9s,183μm
ZMPH Zamboanga City 13.56 304‖ *eP* **Pn** **22 36 53.2 +0.4**
IPIL Ipil 13.64 308 *eP* Pn 22 36 57.9 +4.1
TTSI Tana Toraja 13.68 260 P Pn 22 36 57.5 +3.1
3μm,2.3s,106μm
SPSI Sidrap Palu 13.91 256 P **Pn** **22 37 00.0 +2.5**
4μm,2.5s,147μm
BKSI Bulukumba 13.94 251 P **Pn** **22 36 59.9 +2.0**
6μm,1.3s,142μm
KAPI Kappang 14.20 252 *e*Pn **Pn** **22 37 01.5 0.0**
KAPI Kappang 14.20 252 P Pn **22 37 03.6 +2.1**
12μm,0.9s,141μm
LLP Lapu-Lapu 14.37 320 *eP* **Pn** **22 37 04.4 +0.6**
PLP Palo 14.41 325‖ *eP* **Pn** **22 37 02.2 -2.1**
MJSI Majene 14.60 259 P **P** **22 37 11.2 -1.6**
4μm,1.6s,105μm
WSI Waingapu 15.71 235 P **P** **22 37 23.9 -1.3**
8μm,1.1s,233μm
MYLDM Lahad Datu 15.91 292 P **P** **22 37 27.7 +0.3**
MYLDM Lahad Datu 15.91 292 P **P** **22 37 28.1 +0.7**
3μm,2.1s,234μm
TSM Tawau 16.21 288 P **Pn** **22 37 27.4 -0.6**
PMG Port Moresby 16.26 123 Pn **Pn** **22 37 29.9 +1.3**
6.1nm,0.3s,baz=311,slow=7.8,SNR=44
PMG Sn **S** **22 40 34.7 -5.4**
1.9nm,0.3s,baz=301,slow=8.4,SNR=2.5
PMG Port Moresby 16.26 123 *ceP* **Pn** **22 37 27.5 -1.2**
PMG pmax pmax
comp=Z,2μm,1.7s
PMG Port Moresby 16.26 123 *e*Pn **Pn** **22 37 26.0 -2.7**
comp=Z,34μm,2.7s
PMG *eS* **S** **22 40 40.2 +0.1**
COEN Coen 16.39 144 *e*Pn **Pn** **22 37 25.8 -4.4**
comp=Z,17μm,1.4s
COEN *eS* **S** **22 40 40.2 -2.4**
PVCP Virac 16.86 328‖ *eP* **Pn** **22 37 34.6 -1.7**
SDKM Sandakan 17.29 292 P **P** **22 37 44.6 +1.8**
KBKI Kotabaru 17.32 261 P **P** **22 37 44.1 +1.0**
comp=Z,3μm,0.9s,comp=Z,143μm
GQP Guinayangan 18.07 324‖ *eP* **P** **22 37 52.0 +0.6**
KDM Kudat 18.10 295 P **P** **22 37 54.6 +2.8**
GUMO Guam 18.25 38 P **P** **22 37 53.3 0.0**
comp=Z,13nm,0.3s,baz=208,slow=9.8,SNR=3.9
GUMO S **S** **22 41 21.0 +0.5**
comp=Z,11nm,0.3s,baz=48,slow=22,SNR=2.4
GUMO LR LR 22 44 07.8
comp=Z,663μm,18.1s,baz=209,slow=34
GUMO Guam 18.25 38 P **P** **22 37 53.3 0.0**
GUMO S **S** **22 41 21.0 +0.5**
GUMO pmax pmax
comp=Z,13nm,0.3s
GUMO smax smax
comp=N,11nm,0.3s
GUMO MLR MLR
comp=Z,663μm,18.1s
GUMO Guam 18.25 38 *eP* **P** **22 37 49.2 -4.1**
comp=Z,17μm,1.9s
GUMO *eS* **S** **22 41 23.4 +3.0**
KKM Kota Kinabalu 18.34 292 *e*Pn **P** **22 37 54.4 -0.1**
comp=Z,3μm,1.2s
KKM *eS* S 22 41 30.1 +7.6
KKM Kota Kinabalu 18.34 292 P Pn **22 37 55.5 +0.8**
KKM Kota Kinabalu 18.34 292 P **Pn** **22 37 56.3 +1.7**
comp=Z,2μm,1.6s,comp=Z,165μm
BBKI Banjar Baru 18.66 261 P **Pn** **22 38 01.4 +3.0**
comp=Z,6μm,1.9s,comp=Z,363μm
LQP Lukban 18.78 322‖ *eP* **Pn** **22 38 04.0 +4.0**
MTNI Mataram 18.80 245 P Pn **22 38 00.3 +0.2**
comp=Z,6μm,1.9s,comp=Z,273μm
FITZ Fitzroy Crossi 18.86 203 P **P** **22 37 58.0 -2.0**
comp=Z,13nm,0.3s,baz=34,slow=10,SNR=60
FITZ S **Sn** **22 41 24.6 -6.3**
comp=Z,82nm,0.3s,baz=178,slow=14,SNR=11
FITZ LR LR 22 45 48.3
comp=Z,826μm,20.4s,baz=34,slow=39
FITZ Fitzroy Crossi 18.86 203 *eP* **P** **22 37 57.2 -2.8**
comp=Z,3μm,0.6s
FITZ *eS* Sn 22 41 08.2 -23
FITZ Fitzroy Crossi 18.86 203 P **P** **22 37 58.0 -2.0**
FITZ *eP*n **Pn** **22 37 58.2 -2.5**
FITZ *eS* Sn 22 41 17.0 -14
WRAB Tennant Creek 19.13 177 *eP* **P** **22 38 00.6 -2.4**
WRAB *eS* Sn 22 41 29.1 -8.5
WRAB pmax pmax
comp=Z,5μm,1.1s
WRAB Tennant Creek 19.13 177 *eP* **P** **22 38 00.6 -2.4**
comp=Z,5μm,1.1s
WRAB *eS* Sn 22 41 29.1 -8.5
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRAB Tennant Creek 19.13 177 P **P** **22 38 01.2 -1.8**
comp=Z,9μm,0.8s
WRA Warramunga Arr 19.14 177 P **P** **22 38 01.1 -2.0**
comp=Z,28nm,0.3s,baz=359,slow=13,SNR=40
WRA S **Sn** **22 41 31.1 -6.7**
comp=Z,41nm,0.3s,baz=355,slow=23,SNR=6.5
WRA Warramunga Arr 19.14 177 P **P** **22 38 01.1 -2.0**
WRA S **Sn** **22 41 31.1 -6.7**
WRA pmax pmax
comp=Z,28nm,0.3s
WRA smax smax
comp=N,41nm,0.3s
WRA Warramunga Arr 19.14 177 P **P** **22 38 01.1 -2.0**
WRA S **Sn** **22 41 31.1 -6.7**
WB2 Warramunga Arr 19.14 177 *eP* **P** **22 38 01.0 -2.2**
WB2 *eS* Sn 22 41 30.5 -7.3
TGY Tagaytay City 19.15 321 P **Pn** **22 38 05.7 +1.3**

comp=N,30nm,0.3s,baz=167,slow=5.1,SNR=28
TGY Tagaytay City 19.15 321 P **Pn** **22 38 05.7 +1.3**
TGY pmax pmax
comp=Z,30nm,0.3s
TGY Tagaytay City 19.15 321 P **Pn** **22 38 05.7 +1.3**
TGY Tagaytay City 19.15 321⇑ *eP* Pn 22 38 10.7 +6.4
KHKI Kahang-Kahang 19.20 246 P **Pn** **22 38 04.7 -0.3**
comp=Z,5μm,1.3s,comp=Z,373μm
IGBI Denpasar 19.80 245 P **Pn** **22 38 16.0 +3.9**
comp=Z,3μm,1.9s,comp=Z,142μm
BALP Baler 20.04 325 *eP* Pn 22 38 14.3 -0.6
NBBI Negara 20.11 247 P Pn 22 38 17.0 +1.2
comp=Z,17μm,2.2s,comp=Z,493μm
ABJI Asem Bagus 20.27 249 P Pn 22 38 30.9 +13
KMMI Kalianget 20.29 251 P Pn 22 38 19.4 +1.5
comp=Z,10μm,2.5s,comp=Z,390μm
BYJI Banyuwangi 20.30 248 P Pn 22 38 19.4 +1.4
comp=Z,25μm,2.3s,comp=Z,571μm
JAGI Jajag, Banyuwa 20.58 247 P Pn 22 38 21.2 -0.1
comp=Z,8μm,2.0s,comp=Z,232μm
BTM Bintulu 20.59 281 P Pn 22 38 21.4 0.0
BLJI Banyuglugur 20.86 250 P Pn 22 38 23.5 -1.0
comp=Z,7μm,2.8s,comp=Z,308μm
CAUP Cauayan 20.88 328 *eP* Pn 22 38 24.3 -0.3
CAUP *eS* Px 22 38 52.6
BCPH Baguio City Da 21.12 324⇓ *iP* **P** **22 38 27.9 +3.0**
BCPH *i* S **S** **22 42 16.1 -2.2**
GMJI Gumukmas 21.17 249 P **P** **22 38 26.2 +1.0**
comp=Z,4μm,1.6s,comp=Z,222μm
SBUM Sibu 21.32 279 P **P** **22 38 28.9 +2.1**
SBUM Sibu 21.32 279 P **P** **22 38 27.8 +1.0**
comp=Z,4μm,1.5s,comp=Z,148μm
BOLP Bolinao 21.52 323 *eP* **P** **22 38 31.0 +2.0**
PBKI Pangkalan Bun 21.72 265 P **P** **22 38 33.4 +2.2**
comp=Z,5μm,1.6s,comp=Z,145μm
STKI Sintang 21.85 272 P **P** **22 38 33.2 +0.7**
comp=Z,2μm,2.3s,comp=Z,92μm
KRKI Karangkates 22.06 250 P **P** **22 38 37.4 +2.6**
comp=Z,9μm,2.7s,comp=Z,288μm
ABRA Dolores 22.06 326 *eP* **P** **22 38 36.1 +1.3**
SIPP Brgy, Tapao 22.43 326⇓ *eP* **P** **22 38 41.5 +2.8**
SJI Sawahan 22.58 251 P **P** **22 38 40.6 +0.1**
comp=Z,8μm,2.4s,comp=Z,308μm
PWJI Pagerwojo 22.63 251 P **P** **22 38 40.8 -0.1**
comp=Z,2μm,0.8s,comp=Z,107μm
PIP Pasuquin 22.66 327⇑ *eP* **P** **22 38 40.1 -1.1**
AS31 Alice Springs 22.83 179 P **P** **22 38 41.0 -1.9**
AS31 *eS* **S** **22 42 50.9 +0.9**
ASAR Alice Springs 22.83 179 P **P** **22 38 41.5 -1.4**
comp=Z,1μm,0.8s,baz=4.8,slow=10,SNR=163
ASAR S **S** **22 42 54.5 +4.5**
comp=Z,412nm,0.9s,baz=3.4,slow=20,SNR=4.9
ASAR Alice Springs 22.83 179 P **P** **22 38 41.5 -1.4**
ASAR Alice Springs 22.83 179 P **P** **22 38 41.5 -1.4**
ASAR S **S** **22 42 54.5 +4.5**
CTA Charters Tower 23.05 147 P **P** **22 38 43.5 -1.7**
comp=Z,247nm,0.8s,baz=325,slow=12,SNR=81
CTA S **S** **22 42 58.5 +4.7**
comp=Z,53nm,0.9s,baz=22,slow=22,SNR=1.8
CTA Charters Tower 23.05 147 *eP* **P** **22 38 43.3 -1.9**
comp=Z,1μm,1.2s
CTA *eS* **S** **22 42 58.8 +4.9**
CTA Charters Tower 23.05 147 P **P** **22 38 43.5 -1.7**
CTA pmax pmax
comp=Z,247nm,0.8s
CTA Charters Tower 23.05 147 P **P** **22 38 43.5 -1.7**
CTA S **S** **22 42 58.5 +4.7**
CTAO Charters Tower 23.05 147 *eP* **P** **22 38 42.3 -2.9**
CTAO *e* 22 42 56.9
CTAO pmax pmax
comp=Z,10μm,2.6s
CTAO MLR MLR
comp=Z,1605μm,19.0s
CTAO Charters Tower 23.05 147 *eP* **P** **22 38 42.3 -2.9**
comp=Z,24μm,2.6s
CTAO *e* 22 42 56.9
CTAO LR LR
comp=Z,1605μm,19.0s
KSM Kuching 23.10 275 *eP* **P** **22 38 45.5 -0.4**
comp=Z,6μm,1.6s
KSM LR LR
comp=Z,299μm,20.0s
KSM Kuching 23.10 275 P **P** **22 38 46.4 +0.5**
KSM Kuching 23.10 275 P **P** **22 38 47.2 +1.4**
comp=Z,11μm,1.9s,comp=Z,130μm
PCJI Pacitan 23.27 251 P **P** **22 38 46.5 -1.0**
comp=Z,3μm,1.7s,comp=Z,101μm
SMRI Semarang 23.66 254 P **P** **22 38 52.3 +1.0**
comp=Z,6μm,2.0s,comp=Z,201μm
UGM Wanagama 23.81 252 *eP* **P** **22 38 52.5 -0.2**
comp=Z,30μm,2.1s
UGM Wanagama 23.81 252 P **P** **22 38 54.3 +1.6**
comp=Z,5μm,2.1s,comp=Z,145μm
YOGI Yogyakarta 24.00 252 P **P** **22 38 55.3 +0.8**
comp=Z,16μm,2.0s,comp=Z,373μm
MBWA Marble Bar 24.27 212 *eP* **P** **22 38 56.9 +0.1**
MBWA *eS* **S** **22 43 14.8 +1.3**
MBWA Marble Bar 24.27 212 *eP* **P** **22 38 57.0 +0.1**
comp=Z,4μm,1.1s
MBWA *eS* S 22 43 24.1 +11
MBWA LR LR
comp=Z,711μm,22.0s
BJII Banjamegara 24.43 254 P **P** **22 38 59.7 +1.2**
comp=Z,9μm,2.2s,comp=Z,283μm
CLJI Cilicap 25.20 253 P **P** **22 39 07.4 +2.0**
comp=Z,5μm,1.5s,comp=Z,178μm
TPI Tanjungpandan 25.73 265 P **P** **22 39 11.8 +1.6**
comp=Z,2μm,0.9s,comp=Z,76μm
TWG Pinlang 26.25 334 *eP* **P** **22 39 11.7 -3.2**
comp=Z,130nm,0.7s
CISI Cisompet, Garu 26.31 254 P **P** **22 39 13.8 -1.7**
comp=Z,5μm,0.8s,comp=Z,124μm
LEM Lembang 26.34 256 P **P** **22 39 15.8 -0.1**
comp=Z,7μm,1.2s,comp=Z,142μm
YULB Yu-li 26.66 335 *eP* **P** **22 39 17.8 -0.7**
TPUB Ta-pu 26.87 333 *eP* **P** **22 39 18.7 -1.7**
comp=Z,648nm,1.1s
CBJI Citeko 27.00 257 P **P** **22 39 21.0 -0.7**
comp=Z,4μm,0.9s,comp=Z,169μm
SSLB Suanglung 27.15 335 *eP* **P** **22 39 21.6 -1.4**
TNG Tangerang 27.16 258 P pP 22 39 35.0 +2.1
TNG Tangerang 27.16 258 P pP 22 39 35.1 +2.1
PPBI Pangkal Pinang 27.20 267 P **P** **22 39 25.9 +2.4**
comp=Z,780nm,2.0s,comp=Z,55μm
NACB Ninganchiao 27.22 336 *eP* **P** **22 39 22.3 -1.3**
comp=Z,6μm,2.2s
SKJI Sukabumi 27.41 256 P **P** **22 39 26.8 +1.5**
comp=Z,4μm,1.0s,comp=Z,62μm
SBJI Serang 27.65 258 P P 22 39 34.6 +7.1
comp=Z,2μm,1.9s,comp=Z,70μm
YHNB Yeheng 27.75 336 *eP* **P** **22 39 28.1 -0.3**
comp=Z,136nm,0.8s
JOW Kunigami 27.81 350 P **P** **22 39 28.5 -0.3**
comp=Z,101nm,0.9s,baz=184,slow=10,SNR=15
JOW S **S** **22 44 11.5 +1.9**
comp=Z,13nm,0.6s,baz=84,slow=4.8,SNR=1.7
JOW LR LR 22 50 38.6
comp=Z,393μm,18.2s,baz=165,slow=37
JOW Kunigami 27.81 350 *eP* **P** **22 39 28.3 -0.5**
comp=Z,292nm,1.3s
JOW *eS* **S** **22 44 15.6 +5.9**
HNR Honiara 27.89 109 P **P** **22 39 29.8 +0.2**
comp=Z,527nm,0.8s,baz=233,slow=6.2,SNR=10
HNR S S 22 44 19.5 +8.3
comp=Z,88nm,0.8s,baz=323,slow=15,SNR=2.0
HNR Honiara 27.89 109 P **P** **22 39 29.8 +0.2**
HNR pmax pmax
comp=Z,527nm,0.8s
HNR Honiara 27.89 109 *eP* **P** **22 39 27.1 -2.5**
comp=Z,2μm,1.1s
HNR S S 22 44 19.5 +8.3
RBSI Rajabasa 27.98 259 P **P** **22 39 33.3 +2.8**
comp=Z,691nm,1.5s,comp=Z,11μmcomp=Z,9μm
TATO Taipei 27.98 337 *eP* **P** **22 39 30.8 +0.5**
comp=Z,1μm,1.3s
TATO LR LR
comp=Z,204μm,21.0s
CGJI Cibinong 28.17 257 P **P** **22 39 30.2 -1.9**
comp=Z,994nm,1.9s,comp=Z,57μm
KLI Kotabumi 28.71 261 P **P** **22 39 38.2 +1.2**
comp=Z,2μm,0.8s,comp=Z,42μm
CBIJ Chichi jima 28.93 17 P **P** **22 39 37.9 -0.9**
comp=Z,150nm,0.9s,baz=275,slow=3.3,SNR=5.3
CBIJ S **S** **22 44 29.7 +2.4**
CBIJ LR LR 22 49 04.0
comp=Z,300μm,19.1s,baz=182,slow=32
CBIJ Chichi jima 28.93 17 P **P** **22 39 37.9 -0.9**
CBIJ S **S** **22 44 29.7 +2.4**
XMIS Christmas Isla 29.16 250 *eP* **P** **22 39 40.2 -0.8**
comp=Z,4μm,0.8s
XMIS Christmas Isla 29.16 250 *eP* **P** **22 39 41.0 0.0**
comp=Z,74μm,2.5s
QZH Quanzhou 29.22 332⇑ *iP* **P** **22 39 41.1 -0.2**
QZH S **S** **22 44 34.0 +2.2**
QZH SS SS 22 46 11.0 -26
QZH pmax pmax
comp=Z,1μm,1.1s
QZH LR LR
comp=N,214μm,14.3s
QZH LR LR
comp=E,271μm,14.6s
QZH LR LR
comp=Z,409μm,18.1s
LWLI Liwa 29.52 261 P **P** **22 39 44.9 +0.6**
comp=Z,2μm,1.1s,comp=Z,50μm
MYKOM Kota Tinggi 29.56 275 P **P** **22 39 44.6 0.0**
MYKOM Kota Tinggi 29.56 275 P P 22 39 47.8 +3.3
MYKOM Kota Tinggi 29.56 275 P **P** **22 39 45.7 +1.1**
comp=Z,2μm,0.7s,comp=Z,51μm
EIDS Eidsvold 29.92 146 *eP* **P** **22 39 46.6 -1.0**
comp=Z,824nm,1.4s
KGM Kluang 30.11 275 P **P** **22 39 49.9 +0.5**
KGM Kluang 30.11 275 P **P** **22 39 52.4 +2.9**
QIZ Qiongzhong 30.26 312 P **P** **22 39 50.2 -0.5**
QIZ pP **pP** **22 39 59.7 -0.9**
QIZ sP **sP** **22 40 04.0 -0.8**
QIZ S **S** **22 44 50.1 +1.7**
QIZ sS **sS** **22 45 05.7 +0.9**
QIZ LR LR
comp=N,264μm,29.2s
QIZ LR LR
comp=E,96μm,28.5s
QIZ LR LR
comp=Z,203μm,29.1s
QIZ Qiongzhong 30.26 312 *eP* **P** **22 39 50.7 0.0**
comp=Z,2μm,1.6s
QIZ LR LR
comp=Z,176μm,19.0s
FORT Forrest 30.32 189 *eP* **P** **22 39 49.8 -1.2**
comp=Z,1μm,0.7s
FORT *eS* S 22 44 56.0 +7.0
FORT Forrest 30.32 189 *eP* **P** **22 39 50.6 -0.4**
comp=Z,2μm,0.8s
MNAI Manna 30.54 263 P **P** **22 39 53.0 -0.2**
comp=Z,2μm,1.1s,comp=Z,68μm
GZH Guangzhou 30.61 322 P **P** **22 39 56.0 +2.3**
GZH S S 22 45 00.0 +6.3
GZH LR LR
comp=N,132μm,16.9s
GZH LR LR
comp=E,145μm,17.1s
KSI Kapahiang 30.83 264 P **P** **22 39 55.0 -0.9**
comp=E,3μm,1.1s,comp=E,85μm
RGRI Rengat 30.98 270 P **P** **22 39 58.6 +1.5**
comp=E,995nm,1.3s,comp=E,383μm
KRJI Kerinci 31.87 267 P **P** **22 40 05.8 +0.7**
comp=E,6μm,1.1s,comp=E,104μm
STKA Stephens Creek 31.97 167 P **P** **22 40 04.2 -1.4**
comp=E,137nm,0.7s,baz=341,slow=8.2,SNR=69
STKA S **S** **22 45 19.8 +4.9**
comp=E,65nm,0.8s,baz=142,slow=6.4,SNR=2.0
STKA LR LR 22 54 30.6
comp=E,1132μm,18.6s,baz=343,slow=39
STKA Stephens Creek 31.97 167 *eP* P 22 40 02.3 -3.3
comp=E,345nm,0.9s
STKA *eS* S 22 44 59.9 -15
STKA Stephens Creek 31.97 167 P **P** **22 40 04.2 -1.4**
STKA S **S** **22 45 19.8 +4.9**
STKA pmax pmax
comp=Z,137nm,0.7s
STKA smax smax
comp=N,65nm,0.8s
STKA MLR MLR
comp=Z,132μm,18.6s
STKA Stephens Creek 31.97 167 *eP* **P** **22 40 03.1 -2.5**
comp=Z,162nm,1.1s
STKA S **S** **22 45 19.8 +4.9**
BBOO Buckleboo 32.03 176 *eP* **P** **22 40 04.5 -1.7**
comp=Z,17μm,1.1s
BKNI Bangkinang 32.29 272 P **P** **22 40 08.4 -0.2**
comp=Z,3μm,1.1s,comp=Z,43μm
IPM Ipoh 32.67 279 *eP* **P** **22 40 11.0 -1.0**
comp=Z,1μm,1.3s
IPM Ipoh 32.67 279 P **P** **22 40 11.6 -0.4**
IPM Ipoh 32.67 279 P **P** **22 40 13.3 +1.3**
IPM Ipoh 32.67 279 P **P** **22 40 11.6 -0.4**
comp=Z,2μm,0.9s,comp=Z,40μm
PPI Padang Panjang 32.91 270 P **P** **22 40 12.9 -1.2**
comp=Z,712nm,1.1s,comp=Z,46μm
KULM Kulim 33.16 281 *eP* **P** **22 40 14.9 -1.4**
comp=Z,752nm,1.2s
KULM LR LR
comp=Z,158μm,20.0s
KULM Kulim 33.16 281 P **P** **22 40 15.7 -0.5**
KULM Kulim 33.16 281 P **P** **22 40 16.4 +0.1**
KULM Kulim 33.16 281 P **P** **22 40 15.9 -0.4**
comp=Z,488nm,0.9s,comp=Z,33μm
SSE Sheshan 33.66 341 P **P** **22 40 19.9 -0.5**
SSE S **S** **22 45 40.7 -0.4**
SSE sS **sS** **22 46 01.6 +4.0**
SSE pmax pmax
comp=Z,160nm,1.3s
SSE pmax pmax
comp=Z,59μm,10.5s
SSE LR LR
comp=Z,243μm,19.1s
JNU Nakatsue 33.73 356 *eP* **P** **22 40 19.1 -1.9**
comp=Z,320nm,1.2s
JNU *eS* **S** **22 45 37.0 -5.2**
MNSI Mandailing Nat 33.77 272 P **P** **22 40 20.9 -0.6**
comp=Z,736nm,1.6s,comp=Z,35μm
KLBR Kellerberrin 34.06 204 *eP* **P** **22 40 22.7 -1.2**
comp=Z,2μm,1.3s
ARMA Armidale 34.29 151 *eP* **P** **22 40 23.9 -2.1**
ARMA *eS* **S** **22 45 49.0 -2.1**
ARMA Armidale 34.29 151 *eP* **P** **22 40 24.6 -1.4**
comp=Z,477nm,0.9s
PSI Prapat 34.55 276 P **P** **22 40 26.5 -2.0**
comp=Z,746nm,1.4s,comp=Z,40μm
TSI Tuntungan 34.98 277 P **P** **22 40 31.9 -0.2**
comp=Z,2μm,1.3s,comp=Z,62μm
NJ2 Nanjing 35.34 338 *eP* **P** **22 40 34.7 -0.2**
NJ2 pP **pP** **22 40 44.8 -0.1**
NJ2 sP **sP** **22 40 48.7 -0.3**
NJ2 PP **PP** **22 41 56.6 +1.0**
NJ2 S **S** **22 46 08.0 +1.0**
NJ2 sS **sS** **22 46 25.0 +1.5**
NJ2 pmax pmax
comp=Z,380nm,1.0s
NJ2 pmax pmax
comp=Z,67μm,4.5s
NJ2 LR LR
comp=N,593μm,18.1s
NJ2 LR LR
comp=E,1114μm,17.3s
NJ2 LR LR
comp=Z,339μm,16.8s
NWAO Narrogin (SRO) 35.44 204 P **P** **22 40 34.5 -1.3**
comp=Z,939nm,1.2s,baz=34,slow=9.4,SNR=35
NWAO S **S** **22 46 10.8 +2.2**
comp=Z,127nm,0.9s,baz=163,slow=15,SNR=1.7
NWAO LR LR 22 57 06.4
comp=Z,695μm,18.3s,baz=155,slow=40
NWAO Narrogin (SRO) 35.44 204 P **P** **22 40 34.5 -1.3**
NWAO S **S** **22 46 10.8 +2.2**
NWAO pmax pmax
comp=Z,939nm,1.2s
NWAO smax smax
comp=N,127nm,0.9s
NWAO MLR MLR
comp=Z,695μm,18.3s
NWAO Narrogin (SRO) 35.44 204 *eP* **P** **22 40 35.5 -0.2**
comp=Z,530nm,1.1s
NWAO S **S** **22 46 10.8 +2.2**
KWAJ Kwajalein Atol 35.46 74 *eP* **P** **22 40 36.2 +0.1**
KWAJ pmax pmax
comp=Z,373nm,1.0s
KWAJ Kwajalein Atol 35.46 74 *eP* **P** **22 40 36.2 +0.1**
comp=Z,373nm,1.0s
WHN Wuhan 35.94 331 P **P** **22 40 38.5 -1.5**
WHN pmax pmax
comp=Z,310nm,1.1s
WHN LR LR
comp=N,215μm,13.8s
WHN LR LR
comp=E,279μm,13.8s
WHN LR LR
comp=Z,306μm,18.0s
TPTI 36.33 276 P **P** **22 40 42.5 -1.2**
comp=Z,899nm,1.1s,comp=Z,34μm
LHMI Lhok Sumawe 36.80 280 P **P** **22 40 47.2 -0.4**
comp=Z,2μm,1.4s,comp=Z,51μm
GYA Guiyang 37.28 318⇑ *iP* **P** **22 40 51.0 -0.7**
GYA pP **pP** **22 41 02.7 +1.0**
GYA sP **sP** **22 41 08.4 +2.5**
GYA PP PnPn 22 42 26.2 +8.3
GYA S **S** **22 46 36.7 -0.4**
GYA pmax pmax
comp=Z,160nm,1.0s
GYA pmax pmax
comp=Z,65μm,13.0s
GYA LR LR
comp=N,148μm,17.1s
GYA LR LR
comp=E,171μm,23.9s
GYA LR LR
comp=Z,194μm,18.3s
MJAR Matsushiro Arr 37.34 7 P **P** **22 40 49.9 -2.1**
comp=Z,76nm,1.0s,baz=194,slow=9.5,SNR=40
MJAR PP **PnPn** **22 42 20.5 +2.1**
comp=Z,13nm,0.9s,baz=226,slow=52,SNR=1.7
MJAR PcP **PcP** **22 43 13.2 +2.4**
comp=Z,67nm,1.1s,baz=186,slow=3.8,SNR=4.7
MJAR LR LR 22 53 26.8
comp=Z,381μm,20.6s,baz=190,slow=32
MJAR PKKP **PKKPdf** **23 05 18.6 -0.9**
comp=Z,4.9nm,1.2s,baz=52,slow=3.2,SNR=4.0
MJAR Matsushiro Arr 37.34 7 P **P** **22 40 49.9 -2.1**
MJAR 22 42 20.5
MJAR 22 43 13.2
MJAR MLR MLR
comp=Z,381μm,20.6s
MJAR Matsushiro Arr 37.34 7 P **P** **22 40 49.9 -2.1**
MJAR PP **PnPn** **22 42 20.5 +2.1**
MJAR PcP **PcP** **22 43 13.2 +2.4**
MJAR PKKP **PKKPdf** **23 05 18.6 -0.9**
MAJO Matsushiro 37.34 7 *eP* **P** **22 40 49.1 -2.9**
MAJO pmax pmax
comp=Z,3μm,2.4s
MAJO MLR MLR
comp=Z,397μm,21.0s
MAJO Matsushiro 37.34 7 *eP* **P** **22 40 49.1 -2.9**
comp=Z,3μm,2.4s
MAJO LR LR
comp=Z,397μm,21.0s
MAT Matsushiro 37.34 7 P P 22 40 48.2 -3.7
MAT S S 22 46 31.0 -6.5
CAN Canberra 37.41 159 *eP* **P** **22 40 52.6 0.0**
CAN pmax pmax
comp=Z,1μm,1.7s
CAN MLR MLR
comp=Z,1561μm,21.0s
CAN Canberra 37.41 159 *eP* **P** **22 40 52.6 0.0**
comp=Z,1μm,1.7s
CAN LR LR
comp=Z,1561μm,21.0s
CNB Canberra Magne 37.54 158 *eP* **P** **22 40 52.4 -1.3**
comp=Z,2μm,1.4s
CNB *eS* **S** **22 46 42.8 +2.1**
COCO West Island 37.93 251 PFAKE 22 41 10.0 +13
COCO LR LR
comp=Z,116μm,20.0s
COCO West Island 37.93 251 P **P** **22 40 57.0 -0.2**
comp=Z,2μm,1.6s,SNR=5.3
ENH Enshi 38.26 326 *eP* **P** **22 40 59.2 -0.7**
comp=Z,849nm,1.4s
ENH LR LR
comp=Z,158μm,20.0s
WAKE Wake Island 38.28 57 PFAKE 22 41 10.0 +10
WAKE LR LR
comp=Z,463μm,20.0s
KSAR Wonju Array Be 38.29 353 P **P** **22 40 58.5 -1.4**
KSAR 22 43 16.9
KSAR S **S** **22 46 56.5 +4.7**
KSAR Wonju Array Be 38.29 353 P **P** **22 40 58.5 -1.4**
KSAR PcP **PcP** **22 43 16.9 +3.3**
KSAR S **S** **22 46 56.5 +4.7**
KSRS Korea Array 38.30 353 P **P** **22 40 58.5 -1.5**
comp=Z,33nm,0.9s,baz=176,slow=10.0,SNR=36
KSRS PcP **PcP** **22 43 16.9 +3.3**
comp=Z,39nm,1.0s,baz=186,slow=3.6,SNR=5.0
KSRS S **S** **22 46 56.5 +4.6**
comp=Z,0.8nm,0.3s,baz=316,slow=54,SNR=2.8
KSRS LR LR 22 54 11.0
comp=Z,197μm,21.7s,baz=175,slow=32
KSRS Korea Array 38.30 353 P **P** **22 40 58.5 -1.5**
KSRS 22 43 16.9
KSRS S **S** **22 46 56.5 +4.6**
KSRS smax smax
comp=N,1.0nm,0.3s
KSRS MLR MLR
comp=Z,197μm,21.7s
TOO Toolangi 38.36 164 *eP* **P** **22 40 59.3 -1.3**
comp=Z,1μm,1.2s
TOO *eS* **S** **22 46 56.5 +3.4**
BSI Banda Aceh 38.46 280 P **P** **22 40 59.4 -2.3**
comp=Z,866nm,1.1s,comp=Z,31μm
INCN Inchon 38.50 351 *eP* **P** **22 41 01.0 -0.7**
comp=Z,555nm,1.6s
INCN LR LR
comp=Z,198μm,20.0s
NOUC Port Laguerre 38.52 126 *eP* **P** **22 40 59.5 -2.5**
DZM Mont Dzumac 38.62 126 *eP* **P** **22 41 01.8 -1.2**
comp=Z,822nm,1.4s
DZM *eS* **S** **22 46 57.3 -0.2**
comp=Z,295μm,36.1s
DZM *eLR* LR 22 51 30.3
comp=Z,1040μm,24.3s
DZM Mont Dzumac 38.62 126 *eP* **P** **22 41 00.3 -2.7**
DZM Mont Dzumac 38.62 126 *eP* **P** **22 41 02.1 -0.9**
comp=Z,402nm,1.3s
CM31 Chiang Mai Arr 38.78 301 *eP* **P** **22 41 02.7 -1.6**
comp=Z,499nm,1.1s
CM31 LR LR
comp=Z,113μm,20.0s
CMAR Chiang Mai Arr 38.78 301 P **P** **22 41 02.9 -1.5**
comp=Z,83nm,0.9s,baz=124,slow=6.4,SNR=95
CMAR S **S** **22 47 05.0 +5.2**
comp=Z,12nm,1.2s,baz=111,slow=3.2,SNR=2.6
CMAR P3KPbc 23 11 11.1
comp=Z,2.8nm,0.9s,baz=288,slow=3.2,SNR=14
CMAR Chiang Mai Arr 38.78 301 P **P** **22 41 02.9 -1.5**
CMAR S **S** **22 47 05.1 +5.2**
CMAR pmax pmax
comp=Z,83nm,0.9s
CMAR smax smax
comp=N,12nm,1.2s
CMAR Chiang Mai Arr 38.78 301 P **P** **22 41 02.9 -1.5**
CMAR S **S** **22 47 05.0 +5.2**
CMAR *e* 23 11 11.1
CHTO Chiang Mai 38.93 302 *eP* **P** **22 41 04.8 -0.8**
CHTO pmax pmax
comp=Z,602nm,1.3s
CHTO MLR MLR
comp=Z,145μm,22.0s
CHTO Chiang Mai 38.93 302 *eP* **P** **22 41 04.8 -0.8**
comp=Z,602nm,1.3s
CHTO LR LR
comp=Z,145μm,22.0s
CHTO Chiang Mai 38.93 302 P **P** **22 41 04.1 -1.5**
comp=Z,1μm,0.8s,comp=Z,40μm
KMI Kunming 39.17 313 P **P** **22 41 07.9 +0.1**
KMI pP **pP** **22 41 17.7 -0.2**
KMI sP **sP** **22 41 22.6 +0.6**
KMI PP **PnPn** **22 42 41.4 +0.6**
KMI S **S** **22 47 05.5 -0.5**
KMI sS **sS** **22 47 21.7 -0.9**
KMI ScS **ScS** **22 51 10.3 -4.6**
KMI pmax pmax
comp=Z,210nm,1.8s
KMI pmax pmax
comp=Z,30μm,10.3s
KMI LR LR
comp=N,189μm,18.2s
KMI LR LR
comp=E,153μm,17.7s
KMI LR LR
comp=Z,184μm,24.1s

TIA Tai'an 39.70 339 ⇓P P 22 41 13.3 +1.5
TIA PP **PP** 22 42 42.6 -0.8
TIA LR LR
comp=N,241µm,36.8s
TIA LR LR
comp=E,356µm,30.9s
TIA LR LR
comp=Z,376µm,29.7s
DL2 Dalian 40.86 346 ⇓*i*P P 22 41 24.1 +2.8
DL2 PP **PnPn** 22 43 00.9 +0.6
DL2 S **S** 22 47 34.5 +4.2
DL2 SS **SS** 22 50 35.7 +3.0
DL2 pmax pmax
comp=Z,270nm,1.3s
DL2 pmax pmax
comp=Z,47µm,14.0s
DL2 LR LR
comp=N,197µm,20.8s
DL2 LR LR
comp=E,285µm,20.8s
DL2 LR LR
comp=Z,163µm,16.9s
XAN Xi'an 41.46 329 P P 22 41 24.5 -1.9
XAN pP **pP** 22 41 34.3 -2.3
XAN PP **PnPn** 22 43 10.7 +3.2
XAN S **S** 22 47 39.5 -0.1
XAN SS **SS** 22 50 44.4 -0.5
XAN LR LR
comp=N,191µm,33.0s
XAN LR LR
comp=E,112µm,29.0s
CD2 Chengdu 42.16 321 P P 22 41 31.0 -1.1
CD2 pP **pP** 22 41 43.4 +1.1
CD2 sP **sP** 22 41 48.8 +2.4
CD2 PP **PP** 22 43 12.5 +2.3
CD2 S **S** 22 47 48.0 -2.0
CD2 sS **sS** 22 48 08.0 +1.3
CD2 pmax pmax
comp=Z,670nm,1.2s
CD2 pmax pmax
comp=Z,92µm,11.8s
CD2 LR LR
comp=N,226µm,23.8s
CD2 LR LR
comp=Z,214µm,17.8s
TIY Taiyuan 42.82 335 ⇑*i*P P 22 41 37.4 -0.1
TIY S **S** 22 47 58.5 -1.1
TIY pmax pmax
comp=Z,32µm,6.6s
TIY LR LR
comp=N,35µm,15.1s
TIY LR LR
comp=E,158µm,18.2s
TIY LR LR
comp=Z,124µm,20.9s
SNY Shenyang 43.25 349 ⇓P P 22 41 39.6 -1.1
SNY S **S** 22 48 07.4 +1.9
SNY SS **SS** 22 51 16.6 -3.1
SNY pmax pmax
comp=Z,300nm,1.5s
SNY pmax pmax
comp=Z,74µm,12.0s
SNY LR LR
comp=N,422µm,33.8s
SNY LR LR
comp=E,225µm,23.0s
SNY LR LR
comp=Z,456µm,37.2s
MOO Moorlands 43.38 165 *e*P P 22 41 41.8 0.0
comp=Z,1µm,1.0s
ERM Erimo 43.45 11 *e*P P 22 41 42.9 +0.6
ERM pmax pmax
comp=Z,2µm,1.8s
ERM Erimo 43.45 11 *e*P P 22 41 42.9 +0.6
comp=Z,2µm,1.8s
ERM Erimo 43.45 11 P P 22 41 44.9 +2.6
comp=Z,1µm,2.7s,SNR=7.5
BJT Baijiatuan 43.46 341 *e*P P 22 41 40.7 -1.8
BJT pmax pmax
comp=Z,2µm,1.1s
BJT MLR MLR
comp=Z,208µm,21.0s
BJT Baijiatuan 43.46 341 *e*P P 22 41 40.7 -1.8
comp=Z,2µm,1.1s
BJT LR LR
comp=Z,208µm,21.0s
BJI Beijing 43.47 341 P P 22 41 40.4 -2.2
BJI PP **PP** 22 43 26.9 +2.8
BJI S **S** 22 48 13.6 +4.7
BJI SS **SS** 22 51 23.5 -0.6
BJI pmax pmax
comp=Z,760nm,0.9s
BJI pmax pmax
comp=Z,20µm,11.8s
BJI LR LR
comp=N,192µm,20.1s
BJI LR LR
comp=E,364µm,21.0s
BJI LR LR
comp=Z,242µm,36.5s
VLA Vladivostok 43.65 358 ⇓*i*P P 22 41 41.7 -2.2
VLA *i* S **S** 22 48 10.7 -0.7
VLA pmax pmax
comp=Z,289nm,1.2s
TAU Tasmania Unive 43.85 165 *e*P P 22 41 44.8 -0.8
TAU pmax pmax
comp=Z,327nm,1.2s
TAU Tasmania Unive 43.85 165 *e*P P 22 41 44.8 -0.8
comp=Z,327nm,1.2s
TAU LR LR
comp=Z,1921µm,20.0s
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
TAU Tasmania Unive 43.85 165 P P 22 41 45.1 -0.5
comp=Z,792nm,1.6s,SNR=9.7
USRK Ussuriysk Arra 44.73 359 P P 22 41 51.7 -0.9
comp=Z,114nm,1.0s,baz=177,slow=7.6,SNR=52
USRK S **S** 22 48 26.4 -0.6
comp=Z,3.0nm,0.9s,baz=223,slow=2.1,SNR=2.8
USRK PKPPKP **P'P'df** 23 13 30.7 -0.9
comp=Z,3.9nm,0.9s,baz=315,slow=1.1,SNR=4.5
CN2 Changchun 44.87 352 ⇑P P 22 41 52.7 -1.0
CN2 *es*P **sP** 22 42 10.0 +2.0
CN2 *e*S **S** 22 48 27.4 -1.7
CN2 pmax pmax
comp=Z,59µm,10.0s
MDJ Mudanjiang 45.25 356 P P 22 41 55.6 -1.1
MDJ pP **pP** 22 42 04.5 -2.5
MDJ sP **sP** 22 42 07.8 -3.3
MDJ PcP **PcP** 22 43 35.8 -0.5
MDJ PP **PP** 22 43 41.5 -1.5
MDJ S **S** 22 48 32.9 -1.7
MDJ SS **SS** 22 51 56.8 -1.4
MDJ pmax pmax
comp=Z,67µm,14.6s
MDJ LR LR
comp=N,100µm,18.8s
MDJ LR LR
comp=E,69µm,20.3s
MDJ LR LR
comp=Z,109µm,18.0s
MDJ Mudanjiang 45.25 356 *e*P P 22 41 56.2 -0.5
comp=Z,420nm,1.0s
MDJ LR LR
comp=Z,159µm,19.0s
ASAJ Asahikawa 45.39 9 P P 22 41 57.5 -0.3
comp=Z,85nm,0.9s,baz=233,slow=13,SNR=18
ASAJ S **S** 22 48 33.5 -3.2
comp=Z,14nm,1.0s,baz=140,slow=9.7,SNR=3.7
ASAJ LR LR 22 58 28.4
comp=Z,148µm,20.2s,baz=198,slow=33
ASAJ Asahikawa 45.39 9 P P 22 41 57.6 -0.3
ASAJ S **S** 22 48 33.5 -3.2
ASAJ pmax pmax
comp=Z,85nm,0.9s
ASAJ smax smax
comp=N,14nm,1.0s
ASAJ MLR MLR
comp=Z,148µm,20.2s
ASAJ Asahikawa 45.39 9 *e*P P 22 41 56.7 -1.1
comp=Z,2µm,2.0s
ASAJ S **S** 22 48 33.5 -3.2
LZH Lanzhou 45.74 326 *e*P P 22 42 00.9 -0.1
LZH pP **pP** 22 42 09.8 -1.4
LZH sP **sP** 22 42 15.0 -0.3
LZH PcP **PcP** 22 43 35.9 -2.6
LZH *e*S **S** 22 48 39.6 -2.7
LZH pmax pmax
comp=Z,660nm,1.0s
LZH pmax pmax
comp=Z,11µm,6.0s
LZH LR LR
comp=N,151µm,16.6s
LZH LR LR
comp=E,53µm,17.5s
LZH LR LR
comp=Z,153µm,19.0s
IMP Imphal 45.78 306 *e*P P 22 41 59.0 -2.4
IMP *ex* x 22 47 16.0
HHC Hu-ho-hao-te 45.85 337 *e*P P 22 42 01.6 -0.1
HHC pP **pP** 22 42 14.3 +2.4
HHC sP **sP** 22 42 19.2 +3.2
HHC PP **PP** 22 43 49.2 -0.4
HHC S **S** 22 48 42.4 -1.2
HHC sS **sS** 22 49 05.0 +4.5
HHC ScS **ScS** 22 51 51.2 -4.0
HHC SS SS 22 52 01.1 -7.6
HHC pmax pmax
comp=Z,290nm,1.5s
HHC pmax pmax
comp=Z,77µm,8.2s
HHC LR LR
comp=N,159µm,16.7s
HHC LR LR
comp=E,108µm,15.2s
HHC LR LR
comp=Z,145µm,18.0s
YUK Yuzh-Kuril'sk 45.94 13*d* *i*P P 22 41 59.3 -2.8
YUK *i* 22 43 45.7
YUK *i* S **S** 22 48 40.3 -4.2
YUK pmax pmax
comp=Z,13µm,2.6s
YUK pmax pmax
comp=N,371nm,0.7s
YUK pmax pmax
comp=Z,2µm,1.4s
YUK pmax pmax
comp=E,358nm,1.4s
BTO Baotou 46.27 335 *e*P P 22 42 03.5 -1.5
FUNA Funafuti 46.35 101 *e*P P 22 42 05.5 -0.5
comp=E,8µm,2.0s
FUNA LR LR
comp=Z,507µm,20.0s
MSVF Nonsavu 47.10 114 *e*P P 22 42 11.7 -0.2
MSVF pmax pmax
comp=Z,2µm,1.4s
MSVF MLR MLR
comp=Z,510µm,21.0s
MSVF Nonsavu 47.10 114 *e*P P 22 42 11.7 -0.2
comp=Z,2µm,1.4s
MSVF LR LR
comp=Z,510µm,21.0s
MSVF Nonsavu 47.10 114 P P 22 42 12.0 +0.1
comp=Z,4µm,1.1s,SNR=52
SHL Shillong 47.79 306 ⇑*i*P P 22 42 18.0 +0.8
SHL AMb AMB 22 42 41.6
comp=Z,2µm,2.0s
SHL *i* S **S** 22 49 14.0 +2.0
YSS Yuzh-Sakhalins 48.18 9⇑ *e*P P 22 42 18.0 -1.6
YSS *e* 22 44 12.0
YSS *e*S **S** 22 49 12.0 -4.5
YSS pmax pmax
comp=N,250nm,1.0s
YSS pmax pmax
comp=Z,410nm,1.0s
YSS pmax pmax
comp=Z,56µm,16.0s
YSS pmax pmax
comp=N,40µm,18.0s
YSS pmax pmax
comp=E,12µm,18.0s
YSS smax smax
comp=N,331µm,18.0s
YSS smax smax
comp=E,118µm,18.0s
YSS MLR MLR
comp=Z,196µm,17.0s
YSS MLR MLR
comp=N,138µm,16.0s
YSS Yuzh-Sakhalins 48.18 9 *e*P P 22 42 18.5 -1.1
comp=N,2µm,1.5s
YSS *e*S **S** 22 49 21.7 +5.2
YSS LR LR
comp=Z,109µm,22.0s
HABR Khabarovsk 49.01 2*d* *i*P P 22 42 24.7 -1.3
HABR *e**PP **pP** 22 42 33.2 -3.1
HABR *e**SP **sP** 22 42 37.8 -2.6
HABR *e* 22 43 46.7
HABR 22 44 17.3
HABR *e*PPP PPP 22 45 08.6
HABR *e*S **S** 22 49 23.8 -4.3
HABR *e**SS **sS** 22 49 42.7 -2.3
HABR *e* 22 52 13.2
HABR *e*SS **SS** 22 52 59.3 -0.2
HABR *e*SSS SSS 22 54 17.6
HABR pmax pmax
comp=Z,678nm,1.6s
HABR pmax pmax
comp=E,236nm,1.6s
HABR pmax pmax
comp=N,249nm,1.6s
HABR pmax pmax
comp=Z,52µm,15.6s
HABR MLR MLR
comp=N,76µm,16.0s
HABR MLR MLR
comp=Z,131µm,16.0s
HABR MLR MLR
comp=E,104µm,17.0s
CAL Calcutta 49.52 301 *e*P P 22 42 28.4 -2.0
CAL AMb AMB 22 42 57.9
comp=Z,4µm,0.0s
CAL *ex* x 22 49 45.3
KLR Kul'dur 49.76 359 *e*P P 22 42 26.7 -5.0
KLR pmax pmax
comp=Z,2µm,1.8s
LSA Lhasa 50.30 311 P P 22 42 35.7 -1.0
LSA S **S** 22 49 44.5 -3.2
LSA LR LR
comp=N,178µm,37.7s
LSA LR LR
comp=E,219µm,41.8s
LSA Lhasa 50.30 311 *e*P P 22 42 36.9 +0.2
LSA pmax pmax
comp=Z,2µm,1.3s
LSA MLR MLR
comp=Z,84µm,21.0s
LSA Lhasa 50.30 311 *e*P P 22 42 36.9 +0.2
comp=Z,2µm,1.3s
LSA LR LR
comp=Z,84µm,21.0s
GTA Gaotai 50.34 326 ⇑P P 22 42 34.9 -1.6
GTA pP **pP** 22 42 47.8 +1.0
GTA sP **sP** 22 42 52.1 +1.2
GTA PP **PP** 22 44 32.4 +0.1
GTA S **S** 22 49 45.4 -1.9
GTA sS **sS** 22 50 06.8 +2.4
GTA pmax pmax
comp=Z,170nm,2.0s
GTA pmax pmax
comp=Z,63µm,11.9s
GTA LR LR
comp=N,93µm,15.2s
GTA LR LR
comp=E,87µm,19.0s
OUZ Omahuta 50.83 137 *e*P P 22 42 40.0 -0.1
comp=E,1µm,1.7s
HIA Hailar 51.14 349 *e*P P 22 42 41.6 -0.6
HIA pmax pmax
comp=Z,172nm,1.1s
HIA MLR MLR
comp=Z,324µm,21.0s
HIA Hailar 51.14 349 *e*P P 22 42 41.6 -0.6
comp=Z,172nm,1.1s
HIA LR LR
comp=Z,324µm,21.0s
TAPN Taplejung 51.93 306 *e*P P 22 42 47.1 -1.7
comp=Z,3µm,1.1s
TAPN Taplejung 51.93 306 *e*P P 22 42 47.1 -1.7
comp=Z,3µm,1.1s
ODAN Odare 51.99 305 *e*P P 22 42 47.3 -1.9
comp=Z,2µm,0.9s
ODAN Odare 51.99 305 *e*P P 22 42 47.3 -1.9
comp=Z,2µm,0.9s
RAMN Ramite 52.67 305 *e*P P 22 42 52.6 -1.6
comp=Z,3µm,1.1s
RAMN Ramite 52.67 305 *e*P P 22 42 52.6 -1.6
comp=Z,3µm,1.1s
JIRN Jiri 53.29 306 *e*P P 22 42 57.1 -1.9
comp=Z,2µm,0.8s
JIRN Jiri 53.29 306 *e*P P 22 42 57.1 -1.9
comp=Z,2µm,0.8s
QRZ Quartz Range 53.42 143 PN P 22 42 58.9 -0.4
JCZ Jackson Bay 53.44 149 PN P 22 42 59.2 -0.3
TOZ Tahuroa Road 53.49 139 ePN P 22 42 59.6 -0.2
ULN Ulaanbaatar 53.51 338 *e*P P 22 42 58.9 -1.1
ULN MLR MLR
comp=Z,157µm,21.0s
ULN Ulaanbaatar 53.51 338 *e*P P 22 42 58.9 -1.1
ULN LR LR
comp=Z,157µm,21.0s
ULN Ulaanbaatar 53.51 338 P P 22 42 58.4 -1.5
comp=Z,1µm,1.3s,comp=Z,40µm
GUN Gumba 53.64 306 *e*P P 22 42 59.8 -1.7
comp=Z,2µm,0.9s
GUN Gumba 53.64 306 *e*P P 22 42 59.8 -1.7
comp=Z,2µm,0.9s
SONM Songino Array 53.73 338 P P 22 43 00.7 -0.9
comp=Z,106nm,0.9s,baz=155,slow=8.0,SNR=137
SONM S **S** 22 50 34.8 +1.2
comp=Z,5.7nm,1.0s,baz=125,slow=4.1,SNR=2.1
SONM LR LR 23 07 53.2
comp=Z,170µm,19.2s,baz=144,slow=38
SONM PKPPKP **P'P'df** 23 13 17.3 -3.1
comp=Z,4.7nm,1.1s,baz=107,slow=1.5,SNR=4.3
SONM PKP2bc 23 13 34.0
comp=Z,9.0nm,1.1s,baz=263,slow=1.9,SNR=6.8
SONM Songino Array 53.73 338 P P 22 43 00.7 -0.9
SONM S **S** 22 50 34.8 +1.2
SONM pmax pmax
comp=Z,106nm,0.9s
SONM smax smax
comp=N,6.0nm,1.0s
SONM MLR MLR
comp=Z,170µm,19.2s
SONM Songino Array 53.73 338 P P 22 43 00.7 -0.9
SONM S **S** 22 50 34.8 +1.2
SONM P'P' 23 13 17.3
SONM ⇑*e* 23 13 34.0
PKI Pulchoki 53.89 305 *e*P P 22 43 01.0 -2.3
comp=Z,1µm,1.1s
PKI Pulchoki 53.89 305 *e*P P 22 43 01.0 -2.3
PKI pmax pmax
comp=Z,1µm,1.1s
PKI Pulchoki 53.89 305 *e*P P 22 43 01.0 -2.3
comp=Z,1µm,1.1s
KKN Kakani 54.08 306 *e*P P 22 43 02.4 -2.2
comp=Z,2µm,1.0s
KKN Kakani 54.08 306 *e*P P 22 43 02.4 -2.2
KKN pmax pmax
comp=Z,2µm,1.0s
KKN Kakani 54.08 306 *e*P P 22 43 02.4 -2.2
comp=Z,2µm,1.0s
DMN Daman 54.15 305 *e*P P 22 43 03.0 -2.1
comp=Z,1µm,0.7s
DMN Daman 54.15 305 *e*P P 22 43 03.0 -2.1
comp=Z,1µm,0.7s
THZ Tophouse 54.22 144 ePN P 22 43 03.3 -1.9
LBZ Lake Benmore 54.40 148 ePN P 22 43 05.2 -1.2
RAO Raoul Island 54.42 126 P P 22 43 04.9 -1.9
RAO MLR MLR
comp=Z,282µm,19.0s
RAO Raoul Island 54.42 126 P P 22 43 04.9 -1.9
RAO LR LR
comp=Z,282µm,19.0s
RPZ Rata Peaks 54.42 147 P P 22 43 05.9 -0.7
comp=Z,672nm,1.1s,baz=348,slow=3.1,SNR=69
RPZ S **S** 22 50 44.7 +1.8
comp=Z,7.9nm,0.9s,baz=308,slow=22,SNR=1.7
RPZ Rata Peaks 54.42 147 *e*P P 22 43 05.8 -0.7
comp=Z,891nm,1.1s
RPZ S **S** 22 50 44.7 +1.8
RPZ Rata Peaks 54.42 147 *e*PN P 22 43 05.1 -1.4
GKN Gorkha 54.68 306 *e*P P 22 43 06.8 -2.1
comp=Z,4µm,1.3s
GKN Gorkha 54.68 306 *e*P P 22 43 06.8 -2.1
comp=Z,4µm,1.3s
URZ Urewera 54.85 138 P P 22 43 09.3 -0.4
comp=Z,193nm,1.1s,baz=323,slow=3.0,SNR=43
URZ S **S** 22 50 50.5 +1.8
comp=Z,4.4nm,0.6s,baz=348,slow=19,SNR=2.6
URZ LR LR 23 05 47.5
comp=Z,641µm,20.2s,baz=85,slow=35
URZ Urewera 54.85 138 *e*P P 22 43 07.9 -1.8
comp=Z,1µm,1.5s
URZ S **S** 22 50 50.5 +1.8
KHZ Kahutara 55.00 144 *e*P P 22 43 08.7 -2.0
comp=Z,398nm,1.1s
SNZO South Karori 55.03 143 *e*P P 22 43 09.7 -1.2
comp=Z,586nm,1.3s
SNZO LR LR
comp=Z,833µm,20.0s
TSZ Takapari Road 55.09 141 *e*PN P 22 43 09.2 -2.2
ODZ Otahua Downs 55.09 148 *e*P P 22 43 10.6 -0.7
comp=Z,2µm,1.3s
CIT Chita 55.12 345 *e*P P 22 43 11.3 -0.2
CIT *e* 22 43 19.9
CIT *e* 22 50 47.8
MIDW Midway 55.29 54 PFAKE 22 43 20.0 +7.0
MIDW LR LR
comp=Z,231µm,21.0s
MXZ Matakaoa Point 55.29 137 *e*PN P 22 43 11.5 -1.4
KOLN Koldanda 55.44 305 *e*P P 22 43 13.0 -1.5
comp=Z,1µm,0.7s
KOLN Koldanda 55.44 305 *e*P P 22 43 13.0 -1.5
comp=Z,1µm,0.7s
KAHZ Kahuranaki 55.52 140 *e*PN P 22 43 13.1 -1.6
DANN Dangsing 55.53 306 *e*P P 22 43 13.2 -2.0
comp=Z,2µm,0.8s
DANN Dangsing 55.53 306 *e*P P 22 43 13.2 -2.0
comp=Z,2µm,0.8s
HYB Hyderabad 56.83 291 *i* P P 22 43 21.5 -2.8
comp=Z,2µm,1.0s
HYB *e*S **S** 22 51 15.0 -0.8
TRD Trivandrum 56.89 281 ⇑*i*P P 22 43 34.0 +9.2
TRD *i* S S 22 51 24.0 +7.3
ZAK Zakamensk 56.99 338 *e*P P 22 43 25.0 0.0
ZAK pmax pmax
comp=Z,450nm,1.9s
NGP Nagpur 57.27 296 *e*P P 22 43 26.8 -0.5
NGP AMb AMB 22 43 44.8
comp=Z,902nm,1.5s
NGP *ex* x 22 51 27.0
PEA0B Petropavlovsk- 57.37 17 *e*P P 22 43 26.7 -0.7
PETK Petropavlovsk- 57.37 17 P P 22 43 26.7 -0.8
comp=Z,119nm,0.9s,baz=170,slow=2.4,SNR=65
PETK LR LR 23 04 36.2
comp=Z,89µm,21.3s,baz=125,slow=32
PETK PKP2bc 23 13 29.1
comp=Z,8.4nm,1.0s,baz=187,slow=1.2,SNR=3.2
PETK Petropavlovsk- 57.37 17 P P 22 43 26.7 -0.8
PETK pmax pmax
comp=Z,119nm,0.9s
PETK MLR MLR
comp=Z,89µm,21.3s
PETK Petropavlovsk- 57.37 17 P P 22 43 26.7 -0.8
PETK ⇑*e* 23 13 29.1
PET Petropavlovsk 57.58 18*d* *i*P P 22 43 28.1 -0.8
PET *e* 22 45 36.8
PET *i* S **S** 22 51 20.8 -3.6
PET *e*SS **SS** 22 55 10.9 -4.1
PET pmax pmax
comp=Z,158nm,1.0s

PET pmax pmax
comp=Z,71µm,14.1s
PET pmax pmax
comp=Z,70µm,15.6s
PET smax smax
comp=N,268µm,23.8s
PET MLR MLR
comp=Z,116µm,19.0s
PET Petropavlovsk 57.58 18 *e*P **P 22 43 27.9 -1.0**
comp=Z,1µm,1.4s
PET LR LR
comp=Z,103µm,19.0s
CLNS Chul'man 57.77 355 *e*P **P 22 43 30.6 +0.4**
CLNS *e* 22 44 21.0
CLNS *e* 22 45 45.7
CLNS *e*S S 22 51 33.4 +6.5
CLNS *e* 22 53 12.7
CLNS *e*SS **SS 22 55 19.1 +1.2**
CLNS pmax pmax
comp=N,122nm,1.1s
CLNS pmax pmax
comp=Z,224nm,1.0s
CLNS pmax pmax
comp=E,112nm,1.2s
CLNS pmax pmax
comp=E,49nm,1.2s
CLNS pmax pmax
comp=N,117nm,1.3s
CLNS pmax pmax
comp=Z,77nm,1.1s
CLNS smax smax
comp=N,55µm,15.1s
CLNS smax smax
comp=E,46µm,16.9s
CLNS MLR MLR
comp=E,38µm,20.0s
CLNS MLR MLR
comp=Z,66µm,15.0s
CLNS MLR MLR
comp=N,53µm,17.0s
TLY Talaya 57.91 339 *e*P **P 22 43 29.8 -1.5**
TLY *e* 22 44 22.7
TLY *e* 22 45 48.1
TLY *e*S **S 22 51 29.1 +0.3**
TLY *e* 22 53 19.6
TLY *e*SS **SS 22 55 15.8 -4.4**
TLY pmax pmax
comp=Z,290nm,1.5s
TLY MLR MLR
comp=Z,96µm,19.0s
TLY Talaya 57.91 339 *e*P **P 22 43 31.0 -0.3**
comp=Z,378nm,1.3s
TLY LR LR
comp=Z,143µm,21.0s
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
TLY Talaya 57.91 339 P **P 22 43 31.0 -0.3**
comp=Z,790nm,1.0s,SNR=25
IRK Irkutsk 58.14 339 *e*P **P 22 43 33.5 +0.6**
IRK *e*S S 22 51 25.5 -6.4
IRK pmax pmax
comp=Z,2µm,2.1s
PTH Pithoragarh 58.86 306 *e*P **P 22 43 38.3 -0.3**
PTH *ex* x 22 46 06.3
MOY Mondy 58.89 337 *e*P **P 22 43 37.5 -0.8**
MOY pmax pmax
comp=Z,3µm,2.5s
JOHN Johnston Islan 58.93 70 PFAKE 22 43 50.0 +11
JOHN LR LR
comp=Z,394µm,20.0s
WMQ Urumqi 60.15 323 P **P 22 43 46.0 -1.1**
WMQ pP **pP 22 43 58.8 +1.2**
WMQ sP **sP 22 44 04.0 +2.4**
WMQ PcP **PcP 22 44 30.7 -1.8**
WMQ S **S 22 51 54.0 -4.3**
WMQ pmax pmax
comp=Z,1µm,1.4s
WMQ pmax pmax
comp=Z,73µm,9.0s
WMQ LR LR
comp=N,107µm,25.2s
WMQ LR LR
comp=E,84µm,23.0s
WMQ LR LR
comp=Z,78µm,19.0s
KAAM Kaadhehdhoo 60.33 271 P **P 22 43 51.1 +2.4**
comp=Z,1µm,1.0s,comp=Z,38µm
BOD Bodaibo 60.35 348 *e*P **P 22 43 45.7 -2.4**
BOD pmax pmax
comp=Z,532nm,2.0s
HMDM Hanimaadhoo 60.45 278 P **P 22 43 52.1 +2.5**
comp=Z,822nm,1.4s,comp=Z,42µm
MNCY Minicoy 60.73 280 *e*P **P 22 43 52.0 +0.5**
MNCY *ex* x 22 45 15.0
DDI Dehra Dun 60.88 306 *e*P **P 22 43 53.0 +0.7**
DDI *ex* x 22 44 17.7
DGAR Diego Garcia 61.02 262 *e*P **P 22 43 54.1 +0.7**
DGAR pmax pmax
comp=Z,2µm,1.4s
DGAR MLR MLR
comp=Z,67µm,19.0s
DGAR Diego Garcia 61.02 262 *e*P **P 22 43 54.1 +0.7**
comp=Z,2µm,1.4s
DGAR LR LR
comp=Z,67µm,19.0s
DGAR Diego Garcia 61.02 262 P **P 22 43 55.6 +2.2**
comp=Z,4µm,1.2s,SNR=8.7
NDI New Delhi 61.04 304 *e*P **P 22 43 51.8 -1.6**
NDI AMb AMB 22 44 04.3
comp=Z,1µm,1.9s
POO Poona 61.44 291 *e*P **P 22 43 54.1 -2.1**
SDNR Sundarnagar 62.16 306 *e*P **P 22 44 00.0 -0.9**
BOM Bombay 62.47 292 *ex* **PP 22 46 20.4 -0.5**
BOM *ex* x 22 51 11.7
YAK Yakutsk 62.64 358 *e*P **P 22 44 01.2 -2.2**
YAK *e**PP **pP 22 44 10.9 -3.0**
YAK *e* 22 44 37.2
YAK *i*S **S 22 52 26.1 -2.9**
YAK pmax pmax
comp=Z,684nm,0.9s
YAK pmax pmax
comp=N,277nm,1.0s
YAK pmax pmax
comp=E,46nm,1.0s
YAK smax smax
comp=E,22µm,11.6s
YAK smax smax
comp=N,130µm,16.6s
YAK Yakutsk 62.64 358 *e*P **P 22 44 02.6 -0.8**
comp=N,1µm,0.9s
YAK LR LR
comp=Z,101µm,20.0s
FX1 Attu Island--F 62.91 26 P **P 22 44 05.2 -0.2**
comp=Z,390nm,1.0s,baz=114,slow=5.2,SNR=14
FX1 S S 22 52 43.5 +11
comp=Z,38nm,1.0s,baz=76,slow=16,SNR=2.0
FX1 Attu Island--F 62.91 26 P **P 22 44 05.2 -0.2**
FX1 S S 22 52 43.5 +11
FX1 pmax pmax
comp=Z,390nm,1.0s
FX1 Attu Island--F 62.91 26 P **P 22 44 05.2 -0.2**
FX1 S S 22 52 43.5 +11
DLH Dalhousie 63.31 307 *e*P **P 22 44 07.0 -1.8**
DLH *ex* x 22 44 17.0
BHV Bhavnagar 63.66 295 *e*P **P 22 44 11.2 +0.3**
MK31 Makanchi Array 64.96 324*ce*P **P 22 44 17.4 -1.7**
MK31 Makanchi Array 64.96 324 *e*P **P 22 44 17.8 -1.3**
MKAR Makanchi Array 64.96 324 P **P 22 44 17.1 -1.9**
comp=Z,122nm,0.6s,baz=113,slow=7.5,SNR=108
MKAR S **S 22 53 00.8 +2.2**
comp=Z,6.1nm,1.2s,baz=272,slow=30,SNR=2.5
MKAR ScS **SKSac 22 54 08.9 -2.5**
comp=Z,2.1nm,0.5s,baz=112,slow=8.5,SNR=7.1
MKAR PKP2bc 23 13 07.3
comp=Z,6.3nm,0.9s,baz=286,slow=1.8,SNR=5.4
MKAR Makanchi Array 64.96 324 P **P 22 44 17.2 -1.9**
MKAR S **S 22 53 00.8 +2.2**
MKAR 22 54 08.9
MKAR pmax pmax
comp=Z,122nm,0.6s
MKAR smax smax
comp=N,6.0nm,1.2s
MKAR Makanchi Array 64.96 324 P **P 22 44 17.1 -1.9**
MKAR S **S 22 53 00.8 +2.2**
MKAR ScS **SKSac 22 54 08.9 -2.5**
MKAR ⇑*e* 23 13 07.3
SEY Seymchan 65.08 9*de*P **P 22 44 18.8 -0.6**
KSH Kashi 65.82 314⇑*i*P **P 22 44 25.1 +0.2**
KSH pP **pP 22 44 35.3 -0.2**
KSH sP **sP 22 44 39.3 -0.3**
KSH PcP **PcP 22 44 55.2 -0.6**
KSH ScP 22 48 55.2
KSH PcS 22 48 58.0
KSH S **S 22 53 05.6 -4.0**
KSH ScS **SKSac 22 54 14.2 -4.2**
KSH pmax pmax
comp=Z,160nm,1.3s
KSH pmax pmax
comp=Z,5µm,3.9s
KSH LR LR
comp=N,50µm,15.0s
KSH LR LR
comp=E,26µm,12.5s
KSH LR LR
comp=Z,48µm,22.3s
AAA Alma-Ata 66.66 319 *i*P **P 22 44 32.0 +1.8**
AAA *i*S **S 22 53 20.2 +0.6**
AAA pmax pmax
comp=Z,63µm,9.4s
AAA smax smax
comp=N,64µm,13.9s
AAA MLR MLR
comp=Z,75µm,17.0s
ULHL Ulahol 66.71 317 P **P 22 44 30.1 -0.6**
SNR=9.9
ULHL P **P 22 44 30.1 -0.6**
SNR=9.9
KZA Kyzart 67.32 317 P **P 22 44 33.9 -0.9**
SNR=244
KZA P **P 22 44 33.9 -0.9**
SNR=244
TKM2 Tokmak 2 67.42 318 P **P 22 44 34.5 -0.6**
SNR=162
TKM2 P **P 22 44 34.5 -0.6**
SNR=162
TKM2 Tokmak 2 67.42 318 *e*P **P 22 44 34.4 -0.8**
TKM2 pmax pmax
comp=Z,303nm,0.7s
TKM2 MLR MLR
comp=Z,88µm,21.0s
TKM2 Tokmak 2 67.42 318 *e*P **P 22 44 34.4 -0.8**
comp=Z,303nm,0.7s
TKM2 LR LR
comp=Z,88µm,21.0s
ZAA0 Zalesovo Array 67.56 331 *e*P **P 22 44 33.6 -1.9**
ZALV Zalesovo Beam 67.56 331 P **P 22 44 33.4 -2.1**
comp=Z,76nm,0.9s,baz=121,slow=5.7,SNR=75
ZALV PKP2bc 23 13 01.1
comp=Z,46nm,1.1s,baz=302,slow=3.3,SNR=15
ZALV Zalesovo Beam 67.56 331 P **P 22 44 33.4 -2.1**
ZALV pmax pmax
comp=Z,76nm,0.9s
ZALV Zalesovo Beam 67.56 331 P **P 22 44 33.4 -2.1**
ZALV ⇑*e* 23 13 01.1
KBK Karagaybulak 67.75 317 P **P 22 44 36.8 -0.4**
SNR=120
KBK P **P 22 44 36.8 -0.4**
SNR=120
UCH Uchtor 67.88 317 P **P 22 44 39.0 +0.6**
SNR=79
UCH P **P 22 44 39.0 +0.6**
SNR=79
CHMS Chumysh 68.02 318 P **P 22 44 38.4 -0.3**
SNR=140
CHMS P **P 22 44 38.4 -0.3**
SNR=140
FRU Bishkek 68.05 317 *i*P **P 22 44 40.0 +1.1**
FRU *e*S **S 22 53 40.0 +3.8**
FRU pmax pmax
comp=Z,960nm,3.4s
AAK Ala-Archa 68.05 317 P **P 22 44 38.9 -0.2**
SNR=78
AAK P **P 22 44 38.9 -0.2**
SNR=78
AAK Ala-Archa 68.05 317*ce*P **P 22 44 38.1 -1.0**
AAK pmax pmax
comp=Z,841nm,1.7s
AAK Ala-Archa 68.05 317 *e*P **P 22 44 38.9 -0.2**
comp=Z,6µm,1.8s
AAK LR LR
comp=Z,81µm,19.0s
AAK Ala-Archa 68.05 317 P **P 22 44 39.5 +0.4**
comp=Z,994nm,1.1s,SNR=58
RAR Rarotonga 68.27 112 P **P 22 44 40.2 -0.4**
comp=Z,19nm,0.7s,baz=173,slow=6.6,SNR=3.4
RAR LR LR 23 12 39.2
comp=Z,132µm,20.5s,baz=279,slow=34
RAR Rarotonga 68.27 112 P **P 22 44 40.2 -0.4**
RAR MLR MLR
comp=Z,132µm,20.5s
RAR Rarotonga 68.27 112 *e*P **P 22 44 40.0 -0.7**
comp=Z,4µm,2.7s
USP Ospenovka 68.30 318 P **P 22 44 40.4 -0.1**
SNR=300
USP P **P 22 44 40.4 -0.1**
SNR=300
AML Almayashu 68.41 316 P **P 22 44 40.8 -0.9**
SNR=264
AML P **P 22 44 40.8 -0.9**
SNR=264
EKS2 Erkin-Say 68.55 317 P **P 22 44 41.9 -0.3**
SNR=186
EKS2 P **P 22 44 41.9 -0.3**
SNR=186
EKS2 Erkin-Say 68.55 317 *e*P **P 22 44 42.3 +0.1**
EKS2 pmax pmax
comp=Z,379nm,0.8s
EKS2 MLR MLR
comp=Z,73µm,21.0s
EKS2 Erkin-Say 68.55 317 *e*P **P 22 44 42.3 +0.1**
comp=Z,379nm,0.8s
EKS2 LR LR
comp=Z,73µm,21.0s
NVS Novosibirsk 68.83 332⇑*i*P **P 22 44 40.5 -3.0**
NVS *e*S **S 22 53 40.0 -4.9**
NVS pmax pmax
comp=N,558nm,1.8s
NVS pmax pmax
comp=Z,2µm,1.8s
NVS pmax pmax
comp=E,552nm,1.6s
NVS smax smax
comp=E,306nm,2.6s
NVS smax smax
comp=N,167nm,2.4s
KURK Kurchatov 69.03 326 P **P 22 44 42.6 -2.2**
comp=N,379nm,0.8s,baz=120,slow=5.8,SNR=127
KURK S S 22 53 38.9 -8.5
comp=N,7.5nm,1.2s,baz=240,slow=34,SNR=2.5
KURK PKP2bc 23 12 55.8
comp=N,23nm,1.1s,baz=293,slow=4.1,SNR=11
KURK Kurchatov 69.03 326*ce*P **P 22 44 43.0 -1.8**
KURK pmax pmax
comp=Z,1µm,1.7s
KURK Kurchatov 69.03 326 *e*P **P 22 44 43.7 -1.0**
comp=Z,976nm,0.9s
KURK S S 22 53 38.9 -8.5
KURK ⇑*e* 23 12 55.8
KURK LR LR
comp=Z,69µm,20.0s
KURK Kurchatov 69.03 326 P **P 22 44 43.0 -1.8**
comp=Z,6µm,1.0s
XMAS Kiritimati 69.28 88 *e*P **P 22 44 47.3 +0.2**
comp=Z,704nm,1.0s
XMAS LR LR
comp=Z,386µm,21.0s
KBL Kabul 69.43 307 *e*P **P 22 44 46.0 -1.9**
KBL pmax pmax
comp=Z,437nm,0.8s
KBL Kabul 69.43 307 *e*P **P 22 44 46.0 -1.9**
comp=Z,437nm,0.8s
HON Honolulu 70.46 67 *e*P **P 22 44 55.0 +0.8**
HON Honolulu 70.46 67 *e*P **P 22 44 55.0 +0.8**
KIP Kipapa 70.47 67*ce*P **P 22 44 55.1 +0.9**
KIP pmax pmax
comp=Z,398nm,0.8s
KIP Kipapa 70.47 67 *e*P **P 22 44 54.5 +0.2**
comp=Z,410nm,0.8s
KIP LR LR
comp=Z,215µm,19.0s
KK31 Karatay Array 70.95 316*ce*P **P 22 44 55.5 -1.3**
KKAR Karatay Array 70.95 316 *e*P **P 22 44 56.2 -0.6**
KKAR Karatay Array 70.95 316 *e*P **P 22 44 56.2 -0.6**
comp=Z,7.1nm,0.7s
MIR Mirnyy 71.55 196⇑*i*P **P 22 44 58.6 -1.3**
MIR *i* 22 54 23.0
PAF Port-aux-Franc 72.23 218 *e*P **P 22 45 05.0 +0.7**
PAF pmax pmax
comp=Z,981nm,1.4s
PAF MLR MLR
comp=Z,195µm,20.0s
PAF Port-aux-Franc 72.23 218 *e*P **P 22 45 05.0 +0.7**
comp=Z,981nm,1.4s
PAF LR LR
comp=Z,195µm,20.0s
BILL Bilibino 72.29 12⇓*e*P **P 22 45 02.6 -1.7**
BILL *i* 22 47 44.8
BILL *i*S **S 22 54 25.2 +0.4**
BILL *e*SS **SS 22 59 08.6 +5.4**
BILL pmax pmax
comp=Z,231nm,2.8s
BILL Bilibino 72.29 12 *e*P **P 22 45 02.1 -2.3**
comp=Z,213nm,1.4s
BILL *e*PP PP 22 47 38.9 -6.4
BILL LR LR
comp=Z,136µm,22.0s
PUH Pauahi 72.79 70 *e*P **P 22 45 07.8 -0.6**
STCH Steam Cracks 72.87 70 *e*P **P 22 45 09.9 +1.0**
UNV Unalaska Valle 73.46 32 *e*P **P 22 45 11.3 -0.2**
comp=Z,492nm,1.1s
AKUT Akutan 73.97 32 *e*P **P 22 45 15.0 +0.5**
comp=Z,750nm,1.1s
BVAR Borovoye Array 74.63 326 P **P 22 45 16.3 -2.1**
comp=Z,162nm,0.9s,baz=114,slow=5.8,SNR=89
BVAR S **S 22 54 48.6 -3.2**
comp=Z,5.9nm,1.2s,baz=232,slow=18,SNR=2.6
BVAR LR LR 23 22 38.3
comp=Z,89µm,19.4s,baz=103,slow=40
BVAR Borovoye Array 74.63 326 P **P 22 45 16.3 -2.1**
BVAR S **S 22 54 48.6 -3.2**
BVAR pmax pmax
comp=Z,162nm,0.9s
BVAR smax smax
comp=N,6.0nm,1.2s
BVAR MLR MLR
comp=Z,89µm,19.4s
BVAR Borovoye Array 74.63 326 P **P 22 45 16.3 -2.1**
BVAR S **S 22 54 48.6 -3.2**
BRVK Borovoye 74.70 326*ce*P **P 22 45 17.1 -1.7**
BRVK pmax pmax
comp=Z,643nm,1.7s
BRVK MLR MLR
comp=Z,98µm,19.0s
BRVK Borovoye 74.70 326 *e*P **P 22 45 17.9 -0.9**
comp=Z,693nm,1.1s
BRVK LR LR
comp=Z,110µm,20.0s
BRVK Borovoye 74.70 326 P **P 22 45 17.2 -1.6**
comp=Z,3µm,1.2s,SNR=90
FALS False Pass 75.52 32 *e*P **P 22 45 21.4 -2.1**
comp=Z,2µm,1.5s
GAMB Gambell 75.89 22 *e*P **P 22 45 24.9 -0.4**
comp=Z,1µm,1.6s
MRIV Mauritius Mete 76.45 249 *e*P **P 22 45 29.5 -0.1**
SDPT Sand Point 77.28 32 *e*P **P 22 45 33.7 +0.3**
comp=Z,382nm,0.7s
PPT2 Papeete2 77.50 108 *e*P **P 22 45 37.1 +1.5**
PPT2 *e*S **S 22 55 24.2 -0.6**
comp=Z,364µm,28.2s
PPT2 *e*SS **SS 23 00 24.3 -0.2**
comp=Z,145µm,25.0s
PPT2 *e*LQ LQ 23 06 21.7
comp=Z,931µm,32.0s
PPT2 *e*LR LR 23 09 40.1
comp=Z,249µm,26.5s
PAE Paea 77.50 108 *e*P **P 22 45 36.6 +1.2**
comp=Z,35nm,1.0s
TIAR Tiarei 77.72 108 *e*P **P 22 45 38.2 +1.5**
comp=Z,280nm,1.1s
MSEY Mahe Island 77.82 265 *e*P **P 22 45 37.2 -0.2**
MSEY pmax pmax
comp=Z,1µm,1.8s
MSEY MLR MLR
comp=Z,78µm,21.0s
MSEY Mahe Island 77.82 265 *e*P **P 22 45 37.2 -0.2**
comp=Z,1µm,1.8s
MSEY LR LR
comp=Z,78µm,21.0s
MSEY Mahe Island 77.82 265 P **P 22 45 38.3 +0.9**
comp=Z,610nm,1.5s,SNR=6.8
TBI Tubuai 77.99 114 *e*P **P 22 45 39.4 +1.3**
comp=Z,938nm,1.4s
TBI *e*S **S 22 55 29.6 -0.2**
comp=Z,217µm,30.8s
TBI *e*SS **SS 23 00 31.7 +0.1**
comp=Z,104µm,32.0s
TBI *e*LQ LQ 23 06 33.3
comp=Z,417µm,36.5s
TBI *e*LR LR 23 09 50.5
comp=Z,274µm,25.5s
RER Riviere de l'E 78.15 249 *e*P **P 22 45 40.0 +0.9**
comp=Z,626nm,1.0s
RER LR LR
comp=Z,53µm,21.0s
IEMG Emamgholi 78.28 308 *e*P **P 22 45 39.5 -0.3**
VNDA Vanda 78.28 174 *e*P **P 22 45 37.6 -1.0**
VNDA Vanda 78.28 174 *e*P **P 22 45 37.6 -1.0**
comp=Z,5.3nm,0.5s
VNDA LR LR
comp=Z,1010µm,22.0s
IQHU Qucahn 78.31 308 *e*P **P 22 45 39.8 0.0**
IBND Bandar-abas 78.60 298 *e*P **P 22 45 41.0 -0.4**
CHGN Chignik 78.69 32 *e*P **P 22 45 41.2 0.0**
ISFR Sfrayin 78.73 308 *e*P **P 22 45 41.4 -0.9**
ABKT Ailbek 78.78 309 P **P 22 45 41.0 -1.3**
comp=Z,4µm,1.2s
MEH Mehetia 78.95 108 *e*P **P 22 45 44.7 +1.2**
comp=Z,372nm,1.3s
PMOR Pomariorio Ree 78.99 105 *e*P **P 22 45 45.3 +1.6**
comp=Z,648nm,1.3s
ISHV Shirvan 79.04 308 *e*P **P 22 45 43.6 -0.3**
SBA Scott Base 79.12 173 *e*P **P 22 45 43.7 +0.5**
SBA pmax pmax
comp=Z,5µm,2.1s
SBA MLR MLR
comp=Z,496µm,20.0s
SBA Scott Base 79.12 173 *e*P **P 22 45 43.7 +0.5**
comp=Z,5µm,2.1s
SBA LR LR
comp=Z,496µm,20.0s
ABKAR Akbulak array 79.73 320 *e*P **P 22 45 45.9 -1.2**
comp=Z,50nm,0.9s
IBAF Bafgh 79.94 302 *e*P **P 22 45 45.8 -3.0**
IMEH Mehriz 80.72 302 *e*P **P 22 45 51.0 -2.2**
ICHK Chekchek 81.00 303 *e*P P 22 45 51.5 -3.1
SVE Sverdlovsk 81.17 328⇓*i*P **P 22 45 53.7 -1.0**
SVE *e*S **S 22 56 01.4 -0.8**
SVE *e*SS **SS 23 01 17.8 0.0**
SVE pmax pmax
comp=Z,52µm,15.0s
SVE pmax pmax
comp=Z,728nm,1.6s
SVE smax smax
comp=N,48µm,22.6s
SVE smax smax
comp=E,93µm,24.0s
AKTO Aktyubinsk 81.21 321 P **P 22 45 53.5 -1.5**
comp=E,207nm,1.2s,baz=85,slow=6.9,SNR=91
AKTO S **S 22 56 01.2 -1.6**
comp=E,1.5nm,0.9s,baz=234,slow=14,SNR=1.9
AKTO PKPPKP P'P'df 23 12 28.1 -7.3
comp=E,2.6nm,1.1s,baz=109,slow=4.9,SNR=3.7
AKTO LR LR 23 24 23.8
comp=E,48µm,19.1s,baz=103,slow=38
AKTO Aktyubinsk 81.21 321 P **P 22 45 53.6 -1.5**

AKTO S **S** **22 56 01.3 -1.6**
AKTO pmax pmax
comp=Z,207nm,1.2s
AKTO smax smax
comp=N,2.0nm,0.9s
AKTO Aktyubinsk 81.21 321 P **P** **22 45 53.5 -1.5**
AKTO S **S** **22 56 01.2 -1.6**
AKTO P'P' 23 12 28.1
ISAD Sadrabad 81.57 302 *e*P **P** **22 45 55.9 -1.8**
SVW2 Sparrevohn 81.57 28 *e*P **P** **22 45 56.7 -0.1**
comp=N,148nm,1.1s
OHAK Old Harbor 81.66 32 *e*P **P** **22 45 56.3 -0.9**
comp=N,325nm,1.0s
TTA Tatalina 81.93 26 *e*P **P** **22 45 57.7 -1.0**
TTA Tatalina 81.93 26 *e*P **P** **22 45 57.7 -1.0**
KDAK Kodiak Island 82.17 31 P **P** **22 46 00.2 +0.4**
comp=N,280nm,0.9s,baz=236,slow=5.9,SNR=68
KDAK S **S** **22 56 15.7 +3.4**
comp=N,6.4nm,0.9s,baz=318,slow=15,SNR=2.0
KDAK LR LR 23 19 56.4
comp=N,235µm,21.6s,baz=349,slow=34
KDAK Kodiak Island 82.17 31 *ce*P **P** **22 45 59.3 -0.6**
KDAK Kodiak Island 82.17 31 *e*P **P** **22 45 59.4 -0.5**
comp=N,437nm,0.9s
KDAK S **S** **22 56 15.7 +3.4**
KDAK Kodiak Island 82.17 31 P **P** **22 46 00.5 +0.6**
comp=N,3µm,0.9s,SNR=11
ARU Arti 82.19 327 *c i*P **P** **22 45 57.9 -2.2**
ARU 22 49 04.8
ARU PPP PPP 22 50 58.2
ARU S **S** **22 56 09.9 -2.8**
ARU pmax pmax
comp=Z,387nm,1.7s
ARU pmax pmax
comp=Z,55µm,16.9s
ARU Arti 82.19 327 *e*P **P** **22 45 58.5 -1.5**
comp=Z,3µm,2.0s
ARU LR LR
comp=Z,72µm,21.0s
ARU Arti 82.19 327 P **P** **22 45 58.2 -1.9**
comp=Z,2µm,0.8s,SNR=55
RSO Redoubt South 82.74 29 *e*P **P** **22 46 01.6 -1.5**
comp=Z,402nm,1.0s
IZEF Zefreh 82.81 303 *e*P P 22 46 00.9 -3.3
IGAR Gharneh 83.00 303 *e*P **P** **22 46 03.3 -1.9**
IKLH Kolahrood 83.47 303 *e*P **P** **22 46 06.4 -1.2**
SOKR Solikamsk 83.80 330 *c i*P **P** **22 46 06.1 -2.2**
SOKR 22 49 15.9
SOKR S **S** **22 56 26.8 -2.0**
SOKR pmax pmax
comp=Z,460nm,1.3s
SOKR MLR MLR
comp=Z,46µm,12.0s
SLKM Skilak Lake 83.97 29 *e*P **P** **22 46 07.8 -1.5**
SLKM Skilak Lake 83.97 29 *e*P **P** **22 46 07.8 -1.5**
SEW Seward 84.26 29 *e*P **P** **22 46 09.4 -1.2**
comp=Z,561nm,1.1s
RC01 Rabbit Creek A 84.32 28 *e*P **P** **22 46 08.6 -2.4**
comp=Z,402nm,0.9s
TRF Thorofare Moun 84.57 26 *e*P **P** **22 46 10.8 -1.6**
comp=Z,59nm,2.8s
MUKL Al Mukalla 84.63 285 *e*P **P** **22 46 13.6 +0.1**
PMR Palmer 84.71 28 *e*P **P** **22 46 12.1 -0.8**
PMR pmax pmax
comp=Z,184nm,0.8s
PMR Palmer 84.71 28 *e*P **P** **22 46 12.1 -0.8**
comp=Z,184nm,0.8s
SML Sawmill 85.12 28 *e*P **P** **22 46 14.1 -1.0**
SML pmax pmax
comp=Z,276nm,1.3s
SML Sawmill 85.12 28 *e*P **P** **22 46 14.1 -1.0**
comp=Z,276nm,1.3s
MCK McKinley 85.22 26 *e*P **P** **22 46 13.5 -2.0**
MCK pmax pmax
comp=Z,4µm,1.4s
MCK McKinley 85.22 26 *e*P **P** **22 46 13.5 -2.0**
comp=Z,4µm,1.4s
COLD Coldfoot 85.43 22 *e*P **P** **22 46 16.1 -0.4**
comp=Z,439nm,0.6s
COLA College 85.90 25 *e*P **P** **22 46 17.4 -1.4**
COLA pmax pmax
comp=Z,2µm,2.0s
COLA MLR MLR
comp=Z,100µm,22.0s
COLA College 85.90 25 *e*P **P** **22 46 17.4 -1.4**
comp=Z,2µm,2.0s
COLA LR LR
comp=Z,100µm,22.0s
ABPO Ambohimpanom 86.07 251 *e*P **P** **22 46 19.8 -1.0**
ABPO pmax pmax
comp=Z,1µm,1.8s
ABPO MLR MLR
comp=Z,67µm,19.0s
ABPO Ambohimpanom 86.07 251 *e*P **P** **22 46 19.8 -1.0**
comp=Z,1µm,1.8s
ABPO LR LR
comp=Z,67µm,19.0s
OPO Ambohidratompo 86.10 252 S **S** **22 56 49.1 -4.7**
comp=Z,3.2nm,0.9s,baz=108,slow=6.9,SNR=2.2
DIV Divide 86.22 29 *e*P **P** **22 46 19.5 -1.1**
comp=Z,1µm,1.1s
ILAR Eielson Array 86.29 25 P **P** **22 46 19.1 -1.6**
comp=Z,46nm,0.7s,baz=278,slow=2.6,SNR=98
ILAR S S 22 56 45.3 -8.1
comp=Z,0.8nm,0.7s,baz=249,slow=4.1,SNR=4.0
ILAR PKKPbc **PKKPbc** **23 04 18.1 -3.4**
comp=Z,3.5nm,1.0s,baz=325,slow=0.7,SNR=7.6
ILAR PKPPKP P'P'df 23 12 19.1 -6.2
comp=Z,2.5nm,1.0s,baz=61,slow=1.0,SNR=8.0
ILAR LR LR 23 22 50.9
comp=Z,77µm,21.2s,baz=279,slow=34
ILAR Eielson Array 86.29 25 P **P** **22 46 19.2 -1.6**
ILAR S S 22 56 45.3 -8.1
ILAR pmax pmax
comp=Z,46nm,0.7s
ILAR smax smax
comp=N,1.0nm,0.7s
ILAR Eielson Array 86.29 25 P **P** **22 46 19.1 -1.6**
ILAR S S 22 56 45.3 -8.1
ILAR PKKPbc **PKKPbc** **23 04 18.1 -3.4**
ILAR P'P' 23 12 19.1
QRN Al-Qurain 86.30 299 *e*P **P** **22 46 20.1 -1.5**
QRN AMb AMB 22 46 34.8
comp=Z,2µm,1.6s
TAOE Nuku Hiva Isla 86.47 99 *e*P **P** **22 46 23.8 +1.0**
TAOE *e*S **S** **22 56 57.5 +0.1**
comp=Z,179µm,29.9s
TAOE *e*SS **SS** **23 02 38.8 +0.5**
comp=Z,162µm,26.9s
TAOE *e*LQ LQ 23 10 01.3
comp=Z,205µm,31.1s
TAOE *e*LR LR 23 13 47.8
comp=Z,320µm,21.9s
KBD Kabd 86.51 299 *e*P **P** **22 46 20.9 -1.7**
KBD AMb AMB 22 46 40.2
comp=Z,786nm,1.8s
RDF Al-Radifah 86.63 299 *e*P **P** **22 46 21.4 -1.8**
RDF AMb AMB 22 46 35.9
comp=Z,1µm,1.6s
PAX Paxson 86.63 27 *e*P **P** **22 46 21.4 -1.2**
PAX pmax pmax
comp=Z,2µm,1.7s
PAX Paxson 86.63 27 *e*P **P** **22 46 21.4 -1.2**
comp=Z,2µm,1.7s
BMRM Bremner River 86.77 29 *e*P **P** **22 46 21.9 -1.3**
comp=Z,3µm,1.7s
MIB Mutribah 86.85 300 *e*P **P** **22 46 22.5 -1.7**
MIB AMb AMB 22 46 37.5
comp=Z,1µm,1.5s
NAY Al-Naaiem 86.91 299 *e*P **P** **22 46 22.3 -2.3**
NAY AMb AMB 22 46 36.8
comp=Z,842nm,1.5s
DOT Dot Lake 87.35 26 *e*P **P** **22 46 24.9 -1.1**
comp=Z,379nm,1.7s
MAK Makhachkala 87.40 313 *e*P **P** **22 46 26.0 -0.6**
MAK *e*S **SKSac** **22 56 50.4 -1.5**
MAK *e*SS **SS** **23 02 50.5 +0.1**
MAK pmax pmax
comp=Z,1µm,1.6s
MAK pmax pmax
comp=Z,7µm,3.5s
MAK pmax pmax
comp=N,840nm,1.3s
MAK pmax pmax
comp=E,1µm,2.1s
MAK smax smax
comp=E,22µm,8.1s
MAK smax smax
comp=N,11µm,7.9s
MENT Mentasta 87.42 27 *e*P **P** **22 46 26.7 +0.4**
IHRS Heris 87.50 308 *e*P **P** **22 46 26.1 -1.4**
IFTB Fath-abad 88.00 308 *e*P **P** **22 46 28.7 -1.2**
ITBZ Tabriz 88.20 308 *e*P **P** **22 46 28.9 -1.9**
IAZR Azarshahr 88.31 308 *e*P **P** **22 46 29.6 -1.9**
IMRD Marand 88.57 309 *e*P **P** **22 46 30.9 -1.6**
EGAK Eagle 88.72 25 *e*P **P** **22 46 31.4 -1.1**
comp=N,90nm,1.1s
EGAK LR LR
comp=Z,105µm,20.0s
DHBB Dhamar BB 89.13 284 ⇑ *e*P **P** **22 46 35.8 +0.1**
DHBB AMb AMB 22 46 38.7
comp=Z,2µm,1.6s
QSPA South Pole Qui 89.22 180 *e*P **P** **22 46 34.0 -0.9**
comp=Z,578nm,1.0s
QSPA LR LR
comp=Z,1303µm,19.0s
PNL Peninsula 89.23 30 *e*P **P** **22 46 34.1 -0.9**
comp=Z,532nm,1.3s
GNI Garni 89.36 310 P **P** **22 46 34.1 -2.0**
comp=Z,22nm,1.1s,baz=327,slow=5.6,SNR=8.7
GNI S **SKSac** **22 57 11.0 +6.8**
comp=Z,15nm,1.1s,baz=228,slow=23,SNR=2.8
GNI PKKPbc **PKKPbc** **23 04 14.5 +1.3**
comp=Z,6.7nm,0.8s,baz=354,slow=14,SNR=3.7
GNI Garni 89.36 310 *c i*P **P** **22 46 34.0 -2.2**
GNI pmax pmax
comp=Z,115nm,1.7s
GNI MLR MLR
comp=Z,30µm,23.0s
GNI Garni 89.36 310 *e*P **P** **22 46 35.9 -0.3**
comp=Z,654nm,1.4s
GNI S **SKSac** **22 57 11.0 +6.8**
GNI PKKPbc **PKKPbc** **23 04 14.6 +1.3**
GNI LR LR
comp=Z,27µm,19.0s
TRBA At Turbah 89.38 283 *e*P **P** **22 46 36.9 0.0**
TBLG Delisi 89.40 312 P **P** **22 46 34.7 -1.5**
TBLG Delisi 89.40 312 P **P** **22 46 34.7 -1.5**
DAWY Dawson 89.44 26 *e*P **P** **22 46 34.7 -1.2**
BHD Baghdad 89.49 303 *i* P P 22 46 29.0 -7.7
BHD *i* PP PP 22 50 15.0 +6.6
BHD *i* ScS **SKSac** **22 57 01.0 -3.8**
BHD *i* S **SKKSac** **22 57 21.0 +3.7**
BHD *i* PS **PnS** **22 58 31.0 -3.1**
BHD *i* SS SS 23 03 39.0 +18
GOR Gori 89.88 312 P P 22 46 34.5 -4.0
ZEI Tsey 90.05 313 *e*P **P** **22 46 36.6 -2.8**
ZEI pmax pmax
comp=Z,206nm,1.3s
AKH Akhalkalaki 90.33 311 P **P** **22 46 39.8 -0.9**
ONI Oni 90.37 312 P **P** **22 46 40.9 +0.1**
ATD Arta Tunnel 90.60 281 P **P** **22 46 40.1 -2.2**
comp=Z,11nm,0.9s
ATD S S 22 57 28.1 -8.2
comp=Z,1.2nm,0.5s,baz=230,slow=21,SNR=1.8
ATD Arta Tunnel 90.60 281 P **P** **22 46 40.1 -2.2**
ATD S S 22 57 28.1 -8.2
SYO Syowa Base 90.68 201 ⇑ *e*P **P** **22 46 39.6 -1.9**
KIV Kislovodsk 90.94 314 ⇑ *e*P **P** **22 46 41.6 -1.8**
KIV *e* 22 50 16.4
KIV *e*S **SKSac** **22 57 14.4 +1.4**
KIV *i* PS **PnS** **22 58 54.5 +3.6**
KIV Kislovodsk 90.94 314 *e*P **P** **22 46 42.5 -0.9**
comp=Z,254nm,1.5s
KIV LR LR
comp=Z,43µm,19.0s
KIV Kislovodsk 90.94 314 P **P** **22 46 42.9 -0.5**
comp=Z,318nm,2.1s,SNR=7.3
SKAG Skagway 91.30 31 *e*P **P** **22 46 45.2 +0.7**
comp=Z,58nm,0.9s
RKT Rikitea 91.30 113 *e*P **P** **22 46 47.0 +1.6**
comp=Z,277nm,1.4s
RKT Rikitea 91.30 113 *e*PP PP 22 50 19.4 -3.6
comp=Z,15µm,31.5s
RKT *e*SKSac **SKSac** **22 57 13.0 -2.7**
comp=Z,33µm,28.9s
RKT *e*S **S** **22 57 39.2 -3.1**
comp=Z,90µm,30.8s
RKT Rikitea 91.30 113 *e*PS PS 22 58 53.3 -1.8
comp=Z,57µm,30.8s
RKT *e*SS SS 23 03 48.4 +0.4
comp=Z,101µm,29.5s
RKT *e*LR LR 23 16 01.3
comp=Z,200µm,31.2s
SIT Sitka 91.33 33 *e*P **P** **22 46 45.1 +0.4**
SIT pmax pmax
comp=Z,1µm,2.3s
SIT Sitka 91.33 33 *e*P **P** **22 46 45.1 +0.4**
comp=Z,1µm,2.3s
VRHR Novokhopersk 91.61 321 *e*P **P** **22 46 44.0 -2.2**
VRHR *e* 22 50 21.5
VRHR *e*S **S** **22 57 39.1 -4.8**
VRHR pmax pmax
comp=Z,100nm,1.4s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,90nm,1.1s
VRHR pmax pmax
comp=Z,2µm,3.5s
VRHR pmax pmax
comp=N,350nm,2.3s
VRHR pmax pmax
comp=E,2µm,3.9s
VRHR smax smax
comp=N,5µm,5.2s
VRHR smax smax
comp=E,4µm,5.2s
VRHR smax smax
comp=Z,3µm,6.0s
VRHR MLR MLR
comp=Z,91µm,21.0s
VRHR MLR MLR
comp=N,26µm,23.0s
VRHR MLR MLR
comp=E,62µm,22.0s
INK Inuvik 91.83 22 P **P** **22 46 45.8 -1.1**
comp=E,17nm,0.8s,baz=314,slow=3.9,SNR=58
INK PP **PP** **22 50 26.7 +0.8**
comp=E,13nm,1.0s,baz=336,slow=4.1,SNR=3.3
INK S **SKSac** **22 57 19.4 +2.6**
comp=E,2.5nm,1.0s,baz=277,slow=32,SNR=2.4
INK PKKPbc **PKKPdf** **23 04 05.1 +0.4**
comp=E,18nm,1.2s,baz=80,slow=3.5,SNR=9.7
INK LR LR 23 27 38.0
comp=E,69µm,21.4s,baz=256,slow=35
INK Inuvik 91.83 22 *e*P **P** **22 46 44.4 -2.4**
INK 22 50 26.7
INK S **SKSac** **22 57 19.4 +2.6**
INK *e* 23 04 03.3
INK pmax pmax
comp=Z,565nm,1.0s
INK Inuvik 91.83 22 *e*P **P** **22 46 44.4 -2.4**
comp=Z,564nm,1.0s
INK PP **PP** **22 50 26.7 +0.8**
INK S **SKSac** **22 57 19.4 +2.6**
INK *e*PKKPdf **PKKPdf** **23 04 03.3 -1.4**
INK PKKPbc **PKKPdf** **23 04 05.1 +0.4**
CRAG Craig 92.61 35 *e*P **P** **22 46 50.9 +0.2**
comp=Z,2µm,2.8s
SOC Sochi 93.10 313 *d i*P **P** **22 46 55.0 +1.8**
SOC *i* 22 50 37.7
SOC *e*S **SKSac** **22 57 26.6 +1.7**
SOC *i* 22 57 57.6
SOC *e*SS **SS** **23 04 14.4 +1.7**
SOC pmax pmax
comp=Z,80nm,1.4s
VOR Voronezh 93.11 322 ⇑ *i*P **P** **22 46 51.0 -2.1**
VOR pmax pmax
comp=Z,700nm,2.0s
VSR Storozhevoye 93.15 321 *e*P **P** **22 46 51.2 -2.1**
VSR *e* 22 50 41.1
VSR *e*S **S** **22 57 56.3 -1.4**
VSR *e*PS PS 22 59 04.0 -11
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR pmax pmax
comp=Z,5µm,4.2s
VSR pmax pmax
comp=E,890nm,2.1s
VSR smax smax
comp=N,6µm,5.6s
VSR smax smax
comp=E,5µm,5.6s
VSR smax smax
comp=Z,1µm,5.6s
VSR MLR MLR
comp=N,33µm,20.0s
VSR MLR MLR
comp=E,48µm,20.0s
VSR MLR MLR
comp=Z,85µm,20.0s
MOS Moscow 93.80 326 *e*P **P** **22 46 55.7 -0.4**
MOS *e* 22 50 45.5
MOS *e*PPP PPP 22 52 45.0
MOS *e*S **SKSac** **22 57 28.2 0.0**
MOS *e*PS **PS** **22 59 25.8 +4.4**
MOS *e*SS **SS** **23 04 27.5 +5.5**
MOS pmax pmax
comp=E,69nm,1.0s
MOS pmax pmax
comp=Z,192nm,1.1s
MOS pmax pmax
comp=N,72nm,1.0s
MOS MLR MLR
comp=Z,71µm,18.0s
MOS MLR MLR
comp=E,82µm,19.0s
LVZ Lovozero 93.92 338 *ce*P **P** **22 46 56.7 +0.1**
LVZ pmax pmax
comp=Z,91nm,1.2s
LVZ MLR MLR
comp=Z,111µm,23.0s
LVZ Lovozero 93.92 338 *e*P **P** **22 46 55.4 -1.1**
comp=Z,100nm,1.0s
LVZ LR LR
comp=Z,106µm,22.0s
DLBC Dease Lake 94.10 32 S **SKSac** **22 57 31.8 +1.8**
comp=Z,7.0nm,1.2s,baz=301,slow=20,SNR=1.6
DLBC LR LR 23 30 47.6
comp=Z,102µm,18.7s,baz=294,slow=36
DLBC Dease Lake 94.10 32 *e*P **P** **22 46 57.6 0.0**
DLBC S **SKSac** **22 57 31.8 +1.8**
MALT Malatya 94.28 308 PFAKE 22 47 10.0 +11
MALT LR LR
comp=Z,515nm,19.0s
APA Apatity 94.44 338 ⇓ *i*P **P** **22 46 57.0 -1.9**
APA *i* 22 50 47.0
APA *i* 22 57 30.0
APA *i* S **S** **22 58 05.0 -3.4**
APA *i* SS **SS** **23 04 31.0 +0.4**
APA pmax pmax
comp=Z,83nm,1.0s
OBN Obninsk 94.45 325 ⇑ *e*P **P** **22 46 56.4 -2.7**
OBN *e* 22 50 42.5
OBN *e*S S 22 58 00.9 -8.0
OBN *i* PS **PS** **22 59 31.2 +2.6**
OBN *e*SS **SS** **23 04 35.7 +4.4**
OBN pmax pmax
comp=Z,184nm,1.2s
OBN MLR MLR
comp=Z,68µm,21.0s
OBN Obninsk 94.45 325 *e*P P 22 46 55.8 -3.3
comp=Z,169nm,1.0s
OBN *e*PKKPdf **PKKPdf** **23 03 58.0 -1.7**
OBN LR LR
comp=Z,66µm,20.0s
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
OBN Obninsk 94.45 325 P P 22 46 55.7 -3.4
comp=Z,821nm,1.0s,SNR=12
ANN Anapa 94.68 315 *i* P **P** **22 46 58.7 -1.8**
ANN *e* 22 50 45.5
ANN *e* 22 57 26.5
ANN *e*SS SS 23 04 33.9 -1.3
ANN pmax pmax
comp=Z,144nm,1.4s
ANN pmax pmax
comp=N,2µm,10.8s
ANN pmax pmax
comp=E,890nm,10.8s
ANN pmax pmax
comp=Z,9µm,10.8s
HOPEN Hopen 94.92 347 *e*P P 22 47 04.8 +3.9
HOPEN AMS AMS 23 37 10.7
comp=Z,106µm,18.5s
ASF Jabal al Asfar 95.81 302 P **P** **22 47 05.2 -0.9**
comp=Z,11nm,1.1s,baz=42,slow=2.6,SNR=13
ASF S **SKSac** **22 57 44.6 +4.3**
comp=Z,1.8nm,0.9s,baz=220,slow=7.4,SNR=2.3
ASF PKKPbc **PKKPbc** **23 03 56.3 +0.1**
comp=Z,5.1nm,0.8s,baz=58,slow=1.8,SNR=7.8
ASF Jabal al Asfar 95.81 302 P **P** **22 47 05.2 -0.9**
ASF Jabal al Asfar 95.81 302 P **P** **22 47 05.2 -0.9**
ASF S **SKSac** **22 57 44.6 +4.3**
ASF PKKPbc **PKKPbc** **23 03 56.3 +0.1**
BBB Bella Bella 95.83 38 LR LR 23 22 33.4
comp=Z,146µm,21.8s,baz=265,slow=31
KMBO Kilima Mbogo 96.04 269 *e*P **P** **22 47 07.5 -0.2**
KMBO Kilima Mbogo 96.04 269 *e*P **P** **22 47 07.1 -0.6**
KMBO pmax pmax
comp=Z,314nm,1.9s
KMBO MLR MLR
comp=Z,46µm,20.0s
KMBO Kilima Mbogo 96.04 269 *e*P **P** **22 47 07.0 -0.6**
comp=Z,314nm,1.9s
KMBO *e* 22 51 08.3
KMBO LR LR
comp=Z,46µm,20.0s
SPA0 Spitsbergen Ar 96.05 349 *e*P **P** **22 47 07.3 +1.2**
SPA0 *e*SS SS 23 04 57.0 +3.9
SPITS Spitsbergen Ar 96.05 349 P **P** **22 47 04.6 -1.5**
comp=Z,53nm,0.9s,baz=124,slow=10,SNR=3.2
SPITS S **SKSac** **22 57 41.1 +1.5**
comp=Z,6.8nm,0.9s,baz=163,slow=17,SNR=2.6
SPITS Spitsbergen Ar 96.05 349 P **P** **22 47 04.6 -1.5**
SPITS S **SKSac** **22 57 41.2 +1.5**
SPITS pmax pmax
comp=Z,53nm,0.9s
SPITS smax smax
comp=N,7.0nm,0.9s
SPITS Spitsbergen Ar 96.05 349 P **P** **22 47 04.6 -1.5**
SPITS S **SKSac** **22 57 41.1 +1.5**
SPB4 Spitsbergen Ar 96.06 349 *e*P **P** **22 47 04.3 -1.9**
JOF Joensuu 96.09 333 *e*P **P** **22 47 04.9 -1.6**
JOF pmax pmax
comp=Z,42nm,0.8s
JOF Joensuu 96.09 333 *ep* **P** **22 47 04.9 -1.6**
comp=Z,42nm,0.8s
JOF Joensuu 96.09 333 *ep* **P** **22 47 04.9 -1.6**
comp=Z,42nm,0.8s
KEV Kevo 96.27 340 *e*P **P** **22 47 06.6 -0.6**
KEV pmax pmax
comp=Z,41nm,0.8s
KEV Kevo 96.27 340 *e*P **P** **22 47 06.5 -0.7**
comp=Z,749nm,1.8s
KEV LR LR
comp=Z,144µm,22.0s
KEV Kevo 96.27 340 *ep* **P** **22 47 06.6 -0.6**
comp=Z,41nm,0.8s
KEV Kevo 96.27 340 *ep* **P** **22 47 06.6 -0.6**
comp=Z,41nm,0.8s
KBS Kingsbay 96.47 350 *e*P **P** **22 47 08.1 +0.2**
KBS *e*PP **PP** **22 51 03.0 +1.1**
KBS *e*SS SS 23 05 02.4 +3.5
KBS AMS AMS 23 24 20.8
comp=Z,95µm,30.2s
KBS Kingsbay 96.47 350 *ce*P **P** **22 47 08.2 +0.2**
KBS pmax pmax

comp=Z,55nm,1.2s
KBS Kingsbay 96.47 350 *e*P **P** **22 47 07.6 -0.4**
comp=Z,189nm,1.6s
KBS LR LR
comp=Z,78µm,20.0s
HWQ Hawqa 96.49 304 *e*P P 22 47 05.5 -3.6
BHL Bhannes 96.76 304 *e*P **P** **22 47 07.8 -2.6**
ARCES ARCESS Array B 96.84 340 P **P** **22 47 08.9 -0.8**
comp=Z,129nm,0.8s,baz=54,slow=6.2,SNR=37
ARCES PKKPbc **PKKPdf** **23 03 55.6 -0.1**
comp=Z,7.7nm,1.0s,baz=270,slow=1.2,SNR=4.1
ARCES LR LR 23 39 51.8
comp=Z,97µm,18.2s,baz=81,slow=41
ARCES ARCESS Array B 96.84 340 P **P** **22 47 09.0 -0.8**
ARCES pmax pmax
comp=Z,129nm,0.8s
ARCES MLR MLR
comp=Z,97µm,18.2s
ARCES ARCESS Array B 96.84 340 P **P** **22 47 08.9 -0.8**
ARCES PKKPbc **PKKPdf** **23 03 55.6 -0.1**
ARE0 ARCESS Array S 96.84 340 *e*P **P** **22 47 09.7 -0.1**
ARE0 ARCESS Array S 96.84 340 *e*P **P** **22 47 09.2 -0.6**
BJO Bjornoya 96.99 346 *e*P **P** **22 47 13.1 +2.7**
BJO *e*PP **PP** **22 51 04.2 -1.7**
BJO AMS AMS 23 40 27.6
comp=Z,72µm,16.5s
SIM Simferopol' 97.02 315 *ce*P **P** **22 47 10.7 -0.4**
SIM *e* 22 51 15.0
SIM *e* 22 57 45.0
SIM *e*PS **PS** **22 59 59.0 +1.8**
SIM *e*SS SS 23 05 16.0 +7.6
SIM pmax pmax
comp=Z,12µm,16.0s
MMAI Mount Meron Ar 97.02 303 P **P** **22 47 10.7 -0.9**
comp=Z,19nm,1.1s,baz=10,slow=5.9,SNR=7.8
MMAI PP PP 22 50 52.8 -15
comp=Z,20nm,1.1s,baz=92,slow=9.2,SNR=4.1
MMAI PKKPbc **PKKPdf** **23 03 54.3 -0.4**
comp=Z,6.4nm,0.8s,baz=38,slow=1.5,SNR=6.9
MMAI Mount Meron Ar 97.02 303 P **P** **22 47 10.7 -0.9**
MMAI PP PP 22 50 52.8 -15
MMAI PKKPbc **PKKPdf** **23 03 54.3 -0.4**
EIL Elat 97.62 300 P **P** **22 47 12.5 -1.7**
comp=Z,24nm,1.1s,baz=289,slow=1.1,SNR=17
EIL PKKPbc **PKKPdf** **23 03 52.5 -1.0**
comp=Z,6.7nm,0.8s,baz=338,slow=4.2,SNR=9.4
EIL Elat 97.62 300 P **P** **22 47 12.5 -1.7**
EIL PKKPbc **PKKPdf** **23 03 52.5 -1.0**
KTK1 Kautokeino 97.77 340 *e*PP PP 22 51 08.8 -3.2
KTK1 AMS AMS 23 25 45.3
comp=Z,246µm,28.0s
BR131 Keskin Array S 97.90 310 *e*P P 22 47 12.1 -3.4
comp=Z,16nm,0.8s
BR131 LR LR
comp=Z,30µm,20.0s
BRTR Keskin Array B 97.90 310 P P 22 47 12.1 -3.4
comp=Z,6.6nm,0.8s,baz=106,slow=4.5,SNR=22
BRTR PP PP 22 51 08.9 -5.3
comp=Z,11nm,0.9s,baz=106,slow=7.8,SNR=4.3
BRTR PKKPbc **PKKPbc** **23 03 51.3 +0.5**
comp=Z,1.6nm,0.7s,baz=204,slow=2.4,SNR=4.1
BRTR Keskin Array B 97.90 310 P P 22 47 12.1 -3.4
BRTR 22 51 08.9
BRTR Keskin Array B 97.90 310 P P 22 47 12.1 -3.4
BRTR PP PP 22 51 08.9 -5.3
BRTR PKKPbc **PKKPbc** **23 03 51.3 +0.5**
ALE Alert 97.97 2 P **P** **22 47 12.0 -2.7**
comp=Z,126nm,1.2s,SNR=5.0
KAF Kangasniemi 98.53 333 *e*P **P** **22 47 16.5 -1.0**
KAF pmax pmax
comp=Z,34nm,0.9s
KAF Kangasniemi 98.53 333 *e*p **P** **22 47 16.5 -1.0**
comp=Z,34nm,0.9s
KAF Kangasniemi 98.53 333 *e*p **P** **22 47 16.5 -1.0**
comp=Z,34nm,0.9s
CSS Prodhromos 98.59 305 *e*P **P** **22 47 17.3 -1.2**
comp=Z,87nm,1.3s
CSS LR LR
comp=Z,33µm,22.0s
FINES FINESS Array B 98.81 332 P **P** **22 47 16.1 -2.7**
comp=Z,57nm,0.9s,baz=94,slow=6.1,SNR=33
FINES PP **PP** **22 51 18.5 -1.7**
comp=Z,7.4nm,0.7s,baz=85,slow=6.1,SNR=3.5
FINES PKKPbc **PKKPbc** **23 03 47.8 -1.0**
comp=Z,12nm,0.9s,baz=116,slow=4.4,SNR=6.5
FINES LR LR 23 36 59.2
comp=Z,127µm,19.6s,baz=74,slow=38
FINES FINESS Array B 98.81 332 P **P** **22 47 16.1 -2.7**
FINES 22 51 18.5
FINES pmax pmax
comp=Z,57nm,1.0s
FINES MLR MLR
comp=Z,127µm,19.6s
FINES FINESS Array B 98.81 332 P **P** **22 47 16.1 -2.7**
FINES PP **PP** **22 51 18.5 -1.7**
FINES PKKPbc **PKKPbc** **23 03 47.8 -1.0**
TRO Tromso 98.98 341 *e*P Pdif 22 47 24.5 +5.1
TRO *e*PP **PP** **22 51 20.9 -0.4**
TRO *e*SKS **SKSac** **22 57 53.8 -1.0**
TRO *e*SS **SS** **23 05 36.6 +2.2**
NLWA Neilton Lookou 99.19 42 PFAKE 22 47 30.0 +9.1
NLWA LR LR
comp=Z,108µm,21.0s
VSU Vasula 99.23 329 *e*P **Pdif** **22 47 19.1 -1.6**
VSU pmax pmax
comp=Z,204nm,1.2s
NVL N'lazarevskaya 99.29 197 ⇓ *i*P **Pdif** **22 47 25.3 +4.5**
NVL *e* 22 47 38.7
NVL *e*S **SKSac** **22 57 58.0 +1.7**
NVL *e* 22 58 39.7
NVL *e*PS **PS** **23 00 25.2 +4.5**
NVL pmax pmax
comp=Z,98nm,1.5s
NVL MLR MLR
comp=Z,200µm,17.0s
MAIT Maitri 99.31 197 *e*P pP 22 47 38.4 +6.5
AKASG Malin Array Be 99.45 321 P **Pdif** **22 47 19.5 -2.4**
comp=Z,15nm,0.7s,baz=69,slow=4.2,SNR=32
AKASG PP **PP** **22 51 22.4 -3.0**
comp=Z,9.6nm,0.9s,baz=63,slow=7.9,SNR=4.2
AKASG LR LR 23 39 52.2
comp=Z,66µm,20.7s,baz=55,slow=40
AKASG Malin Array Be 99.45 321 P **Pdif** **22 47 19.5 -2.4**
AKASG 22 51 22.4
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG MLR MLR
comp=Z,66µm,20.7s
AKASG Malin Array Be 99.45 321 P **Pdif** **22 47 19.5 -2.4**
AKASG PP **PP** **22 51 22.4 -3.0**
KIEV Kiev 99.47 321 *c* ⇓ *i*P **Pdif** **22 47 19.9 -2.1**
KIEV Kiev 99.47 321 PFAKE 22 47 30.0 +8.0
KIEV LR LR
comp=Z,66µm,20.0s
MICGM Minsk 99.51 325 ⇓ *i*P **Pdif** **22 47 20.0 -2.1**
MNK Minsk 99.53 325 *d i*P **Pdif** **22 47 20.0 -2.2**
MNK *e* 22 51 20.0
MNK *e*PPP PPP 22 53 40.0
MNK *e* 22 57 56.0
MNK *e*S S 22 58 46.0 -6.6
MNK *e*PS **PS** **23 00 22.0 -2.0**
MNK *e*SS **SS** **23 05 40.0 -3.1**
MNK pmax pmax
comp=Z,340nm,1.0s
MNK pmax pmax
comp=Z,28µm,20.0s
MNK smax smax
comp=N,41µm,20.0s
NACGM Naroch 100.04 326 *e*P **Pdif** **22 47 19.0 -5.4**
POGA Pongola 100.06 242 *e*P **Pdif** **22 47 25.1 -0.1**
POGA AMS AMS 23 24 21.6
comp=Z,97µm,24.9s
IZAR Zarasai 100.14 327 *e*P **Pdif** **22 47 22.5 -2.4**
IZAR AMB AMB 22 47 38.7
comp=Z,25nm,2.3s
IZAR Zarasai 100.14 327 *e*P **PKKPbc** **23 03 45.3 +0.4**
IZAR AMB AMB 23 03 58.7
comp=Z,10nm,1.7s
IIGN Ignalina 100.25 326 *e*P **Pdif** **22 47 23.8 -1.6**
IIGN AMB AMB 22 47 39.4
comp=Z,30nm,2.6s
IIGN Ignalina 100.25 326 *e*P **PKKPbc** **23 03 43.9 -0.7**
IIGN AMB AMB 23 03 55.5
comp=Z,13nm,1.5s
ISAL Salakas 100.25 327 *e*P **Pdif** **22 47 23.4 -1.9**
ISAL AMB AMB 22 47 39.4
comp=Z,25nm,2.1s
ISAL Salakas 100.25 327 *e*P **PKKPbc** **23 03 44.9 +0.4**
ISAL AMB AMB 23 03 55.6
comp=Z,14nm,1.7s
KIS Kishinev 100.39 318 *e*P **Pdif** **22 47 23.0 -3.2**
KIS *i* 22 51 36.0
KIS *e*S **Sdif** **22 58 52.0 -8.0**
KIS *e*PS **PS** **23 00 32.0 -1.5**
KIS *e*PPS PPS 23 01 16.0
KIS *e*SSS SSS 23 09 48.0
KIS pmax pmax
comp=Z,10µm,17.0s
KIS pmax pmax
comp=N,2µm,16.0s
KIS pmax pmax
comp=E,3µm,15.0s
KIS pmax pmax
comp=Z,11µm,18.0s
KIS pmax pmax
comp=Z,22µm,14.0s
KIS pmax pmax
comp=Z,25µm,16.0s
KIS Kishinev 100.39 318 *e*P **Pdif** **22 47 23.0 -3.2**
comp=Z,10µm,17.0s
KIS Kishinev 100.39 318 *i* PP PP 22 51 36.0 +3.4
comp=Z,22µm,14.0s
KIS *e*S **Sdif** **22 58 52.0 -8.0**
KIS Kishinev 100.39 318 *e*PPS PPS 23 01 16.0
KIS *e*SS SS 23 05 44.0 -11
KIS *e*SSS SSS 23 09 48.0
KIS LRM MLR 23 37 24.0
comp=Z,50µm,20.0s
ISP Isparta 100.53 308 PFAKE 22 47 40.0 +13
ISP LR LR
comp=Z,24µm,20.0s
TLCR 100.70 316 ⇑P **Pdif** **22 47 26.4 -1.2**
TLCR 100.70 316 ⇑ *i*P **Pdif** **22 47 26.4 -1.2**
RES Resolute Bay 100.89 12 PKKPbc PKKPbc 23 03 42.0 -1.3
comp=Z,6.2nm,1.1s,baz=102,slow=2.1,SNR=5.0
RES Resolute Bay 100.89 12 PKKPbc PKKPbc 23 03 42.0 -1.3
TIRR Tirgusor 101.11 315 ⇓P **Pdif** **22 47 28.3 -1.1**
TIRR Tirgusor 101.11 315 ⇓ *i*P **Pdif** **22 47 28.3 -1.1**
PSN Preselentsi 101.41 314 P **Pdif** **22 47 32.4 +1.6**
PETR 101.70 317 ⇑ *i*P **Pdif** **22 47 31.7 -0.3**
TESR 101.94 317 ⇑ *i*P **Pdif** **22 47 31.6 -1.5**
MSNA Messina 102.01 247 *e*P **Pdif** **22 47 33.7 -0.3**
MSNA AMS AMS 23 23 01.8
comp=Z,49µm,35.0s
PRD Provadia 102.06 314 P **Pdif** **22 47 34.5 +0.8**
K05A Summer Lake 102.06 46 ⇓P **Pdif** **22 47 33.2 -0.8**
baz=102
K05A ⇓P **Pdif** **22 47 33.2 -0.8**
baz=102
K05A ⇓P **Pdif** **22 47 33.2 -0.8**
baz=102
ISR Istrita 102.30 316 ⇓ *i*P **Pdif** **22 47 35.6 +0.8**
HAWA Hanford 102.30 43 *e*PKKPdf PKKPdf 23 03 49.1 +3.8
comp=Z,45nm,1.3s
HAWA LR LR
comp=Z,125µm,21.0s
SUW Suwalki 102.30 325 *e*Pdiff **Pdif** **22 47 32.9 -1.6**
SUW *e*PP **PP** **22 51 47.7 +0.9**
SUW *e*SP SP 23 00 48.1 -0.5
SUW LMZ LR 23 30 08.8
comp=Z,76µm,25.7s
SUW Suwalki 102.30 325 *e*P **Pdif** **22 47 32.9 -1.6**
SUW *e* 22 51 47.7
SUW *e*SP SP 23 00 48.1 -0.5
SUW MLR MLR
comp=Z,76µm,25.7s
STOK Stokkvaagen 102.41 339 *e*P **Pdif** **22 47 40.3 +5.6**
STOK *e*PP **PP** **22 51 49.6 +2.5**
STOK AMS AMS 23 39 59.1
comp=Z,95µm,20.3s
DAG Danmarks Havn 102.43 354 *e*P **Pdif** **22 47 41.1 +6.5**
DAG *i* 22 51 47.6
DAG *i* 22 58 10.3
DAG Danmarks Havn 102.43 354 *i*P **Pdif** **22 47 41.1 +6.5**
DAG *i* 22 51 47.6
DAG *i* 22 58 10.3
SNAA Sanae 102.50 193 *e* **Pdif** **22 47 37.1 +1.9**
SNAA *e* 22 52 00.1
SNAA Sanae 102.50 193 *e*P **Pdif** **22 47 35.9 +0.7**
SNAA Sanae 102.50 193 *e*PKKPbc PKKPbc 23 03 36.5 -2.1
MBAR Mbarara 102.56 269 *e*P **Pdif** **22 47 37.0 +0.2**
MBAR Mbarara 102.56 269 PFAKE 22 47 50.0 +13
MBAR LR LR
comp=Z,860nm,22.0s
SULR 102.58 316 ⇓ *i*P **Pdif** **22 47 35.8 -0.2**
MLR Muntele Rosu 102.63 317 P **Pdif** **22 47 33.9 -2.5**
comp=Z,2.2nm,0.7s,baz=79,slow=1.3,SNR=14
MLR PP **PP** **22 51 47.7 -2.1**
comp=Z,4.5nm,0.8s,baz=179,slow=7.3,SNR=3.3
MLR PKKPbc **PKKPbc** **23 03 36.7 -0.8**
comp=Z,0.6nm,0.7s,baz=160,slow=15,SNR=4.2
MLR Muntele Rosu 102.63 317 P **Pdif** **22 47 33.9 -2.5**
MLR 22 51 47.7
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR pmax pmax
comp=Z,5.0nm,0.8s
MLR Muntele Rosu 102.63 317 P **Pdif** **22 47 33.9 -2.5**
MLR PP **PP** **22 51 47.7 -2.1**
MLR PKKPbc **PKKPbc** **23 03 36.7 -0.8**
MLR Muntele Rosu 102.63 317 ⇑ *i*P **Pdif** **22 47 35.2 -1.2**
MLR Muntele Rosu 102.63 317 ⇓ *i*P **PKKPbc** **23 03 36.7 -0.8**
MOD Modoc 102.64 47 *e*PKKPbc PKKPbc 23 03 34.1 -3.3
comp=Z,51nm,1.4s
ARG Arkhangelos 102.65 307 *e*P **PKiKP** **22 51 56.0 -1.5**
BURAR Bucovina Array 102.66 319 ⇑P **Pdif** **22 47 35.5 -0.9**
BURAR Bucovina Array 102.66 319 ⇑ *i*P **Pdif** **22 47 35.5 -0.9**
BURAR Bucovina Array 102.66 319 ⇑ *i*P **PKKPbc** **23 03 37.5 0.0**
JMB Yambol 102.78 313 P **Pdif** **22 47 43.4 +6.5**
I07A Izee 102.79 45 ⇑P **Pdif** **22 47 36.8 -0.3**
I07A
baz=103
⇑P **Pdif** **22 47 36.8 -0.3**
I07A
baz=103
⇑P **Pdif** **22 47 36.8 -0.3**
baz=103
BUC1 Bucharest 102.81 315 P **Pdif** **22 47 37.6 +0.6**
LVV L'vov 102.90 321 *e*P **Pdif** **22 47 36.1 -1.2**
LVV *e* 22 51 55.7
LVV *e*PPP PPP 22 54 05.9
LVV *e*S **Sdif** **22 59 19.3 -1.6**
LVV *e*PS **PS** **23 01 02.3 +2.2**
LVV *e*SS **SS** **23 06 26.7 -3.3**
DOPR Dopca 102.91 317 ⇑ *i*P **Pdif** **22 47 37.5 0.0**
SZH Strazhica 103.09 314 P **Pdif** **22 47 40.5 +2.2**
ERPM east rand prop 103.17 243 *e*P **Pdif** **22 47 40.4 +1.1**
ERPM AMS AMS 23 35 58.7
comp=Z,59µm,23.7s
E09A Wood Farm, Sta 103.21 42 ⇑P **Pdif** **22 47 38.6 -0.1**
baz=103
E09A ⇑P **Pdif** **22 47 38.6 -0.1**
baz=103
E09A ⇑P **Pdif** **22 47 38.6 -0.1**
baz=103
SLR Silverton 103.21 243 *e*P **Pdif** **22 47 41.2 +1.7**
SLR AMS AMS 23 25 56.4
comp=Z,79µm,26.0s
VOIR 103.26 317 ⇑P **Pdif** **22 47 39.7 +0.6**
VOIR 103.26 317 ⇑ *i*P **Pdif** **22 47 39.7 +0.6**
SMG Samos 103.44 309 *e*P PKiKP 22 52 05.0 +6.1
ALN Alexandroupoli 103.47 312 *e*P PKiKP 22 52 10.0 +11
HUMR Humele 103.51 316 ⇑ *i*P **Pdif** **22 47 41.1 +1.0**
WCN Washoe City 103.52 50 ⇑P **Pdif** **22 47 40.6 +0.1**
baz=104
WCN ⇑P **Pdif** **22 47 40.6 +0.1**
baz=104
WCN ⇑P **Pdif** **22 47 40.6 +0.1**
baz=104
KARP Karpathos 103.53 306 *e*P **PKiKP** **22 52 01.0 +1.9**
PVL Pavlikeni 103.53 314 P **Pdif** **22 47 45.2 +5.0**
PRK Paraskevi 103.61 310 *e*P **PKiKP** **22 51 55.5 -3.6**
DIM Dimitrovgrad 103.63 313 P **Pdif** **22 47 41.3 +0.6**
NSS Namsos 103.65 338 *e*P **Pdif** **22 47 42.3 +2.0**
NSS *e*PP **PP** **22 51 55.1 -1.4**
NSS *e*SS SS 23 06 39.7 +0.3
NSS AMS AMS 23 37 03.1
comp=Z,64µm,19.2s
J08A Circle Bar Ran 103.67 45 ⇓P **Pdif** **22 47 40.9 -0.2**
baz=104
J08A ⇓P **Pdif** **22 47 40.9 -0.2**
baz=104
J08A ⇓P **Pdif** **22 47 40.9 -0.2**
baz=104
WVOR Wild Horse Val 103.75 46 *e*PKKPbc PKKPbc 23 03 32.5 -1.6
WVOR LR LR
comp=Z,160µm,19.0s
KWP Kalwaria Pacla 103.78 321 *e*Pdiff **Pdif** **22 47 40.0 -1.2**
KWP *e*PP PKiKP 22 52 04.7 +5.6
KWP *e*Sdiff 22 59 30.4
KWP *e*SP **SP** **23 01 04.2 -0.3**
KWP LMZ LR 23 36 05.7
comp=Z,79µm,23.8s
KWP Kalwaria Pacla 103.78 321 *e*P **Pdif** **22 47 40.0 -1.2**
KWP *e* 22 52 04.7
KWP *e*S **Sdif** **22 59 30.4 +2.1**
KWP *e*SP **SP** **23 01 04.2 -0.3**
KWP MLR MLR
comp=Z,79µm,23.8s
KWP Kalwaria Pacla 103.78 321 PFAKE 22 47 50.0 +8.8
KWP LR LR
comp=Z,108µm,19.0s
BMR Baia Mare 103.78 319 ⇑P **Pdif** **22 47 41.8 +0.5**
BMR Baia Mare 103.78 319 ⇑ *i*P **Pdif** **22 47 41.8 +0.5**
KDZ Kurdzhali 103.79 313 P **Pdif** **22 47 45.2 +3.7**
RDO Rodhopi 103.80 312 *e*P **PKiKP** **22 52 04.0 +4.6**
PRYS Parys 103.88 242 *e*P **Pdif** **22 47 42.0 -0.4**
PRYS AMS AMS 23 26 14.5
comp=Z,61µm,16.6s
CHOS Chios island 103.93 309 *e*P **PKiKP** **22 52 03.0 +3.2**
VNA2 Neumayer--Watz 104.05 192 *e* **Pdif** **22 47 44.5 +2.5**
VNA2 Neumayer--Watz 104.05 192 *e* **PP** **22 52 00.2 +0.9**
LOT Lotru 104.13 317 ⇑ *i*P **Pdif** **22 47 42.6 -0.5**
BMO Blue Mountains 104.16 44 PFAKE 22 47 50.0 +6.8
BMO LR LR
comp=Z,125µm,22.0s
PKM Peak Mountain 104.21 54 ⇓P **Pdif** **22 47 43.9 +0.2**
baz=104
PKM ⇓P **Pdif** **22 47 43.9 +0.2**
baz=104
PKM ⇓P **Pdif** **22 47 43.9 +0.2**
baz=104
PLD Plovdiv 104.22 313 P **Pdif** **22 47 47.6 +4.3**
KOLS Kolonicke sedl 104.24 321 *i* P **Pdif** **22 47 40.7 -2.6**
KOLS *e* 22 52 03.4
KOLS *e*S **Sdif** **22 59 28.8 -3.3**
KOLS *e*SS **SS** **23 06 46.8 -1.7**
KOLS Kolonicke sedl 104.24 321 PDIF **Pdif** **22 47 40.7 -2.6**
KOLS *e*PP **PP** **22 52 03.4 +1.9**
KOLS SDIF 22 59 28.8
KOLS *e*SS **SS** **23 06 46.8 -1.7**
TRPA Tarpa 104.28 320 ⇓ *i*P **Pdif** **22 47 42.2 -1.3**
TRPA Tarpa 104.28 320 ⇓ *i*P **PKKPbc** **23 03 32.2 -0.3**
RZN Rozhen 104.30 313 P **Pdif** **22 47 48.9 +4.9**
UZH Uzhgorod 104.31 320 *e*P **Pdif** **22 47 41.7 -1.9**
UZH *e* 22 52 05.3
UZH *e* 22 54 17.5
UZH *e* 22 58 20.7
UZH *e*S **Sdif** **22 59 28.9 -3.7**
LIA Limnos Island 104.31 311 *e*P PP 22 52 20.5 +18
BEL Belsk 104.32 324 *e*Pdiff **Pdif** **22 47 43.3 -0.2**
BEL *e*PP **PP** **22 52 05.1 +3.2**
BEL *e*PS **PS** **23 01 12.0 -2.8**
BEL *e*SP SP 23 01 20.1 +10
BEL LMZ LR 23 39 01.2
comp=Z,66µm,23.4s
BEL Belsk 104.32 324 *e*P **Pdif** **22 47 43.3 -0.2**
BEL *e* 22 52 05.1
BEL *e*PS **PS** **23 01 12.0 -2.8**
BEL MLR MLR
comp=Z,66µm,23.4s
ZKR Zakros 104.36 306 *e*P **PP** **22 52 04.5 +1.6**
CRAR CRAIOVA 104.38 316 P **Pdif** **22 47 43.8 -0.2**
VNA1 Neumayer--Stat 104.45 192 *e* **Pdif** **22 47 48.0 +4.3**
VNA1 Neumayer--Stat 104.45 192 *e* **PP** **22 52 06.6 +4.4**
PGB Panagyurishte 104.51 314 P **Pdif** **22 47 48.6 +3.9**
DRGR 104.52 318 ⇑P **Pdif** **22 47 43.6 -1.1**
DRGR 104.52 318 ⇑ *i*P **Pdif** **22 47 43.5 -1.1**
DRGR 104.52 318 ⇑ *i*P **PKKPbc** **23 03 31.9 0.0**
APE Apeiranthos 104.57 308 *e*P PKiKP 22 51 45.0 -16
MPEP Malo Peshtene 104.64 315 P **Pdif** **22 47 49.9 +4.7**
STHS Stebnicka Huta 104.75 321 *i* P **Pdif** **22 47 45.9 +0.3**
STHS Stebnicka Huta 104.75 321 PDIF **Pdif** **22 47 45.8 +0.2**
STHS *e* 22 50 49.4
CRVS Cervenica-Dubn 104.76 321 *i* P **Pdif** **22 47 45.0 -0.6**
CRVS *e* 22 52 05.6
CRVS *e* 22 58 22.0
CRVS *e*S **Sdif** **22 59 34.8 -1.7**
CRVS *e*SS **SS** **23 06 55.0 -0.7**
CRVS MLR MLR
comp=Z,33µm,25.2s
CRVS Cervenica-Dubn 104.76 321 PDIF **Pdif** **22 47 45.0 -0.6**
CRVS *e*PP **PP** **22 52 05.6 +0.2**
CRVS Cervenica-Dubn 104.76 321 ⇑ *e*SKSp 22 58 22.0
CRVS SDIF 22 59 34.8
CRVS *e*SS **SS** **23 06 55.0 -0.7**
NVAR Mina Array Bea 104.79 50 Pdif **Pdif** **22 47 46.0 -0.2**
comp=Z,6.2nm,0.8s,baz=265,slow=3.4,SNR=27
NVAR PP **PP** **22 52 07.0 +0.7**
comp=Z,7.3nm,1.0s,baz=283,slow=5.4,SNR=5.4
NVAR PKKPbc **PKKPbc** **23 03 33.8 +2.8**
comp=Z,4.2nm,0.9s,baz=146,slow=2.3,SNR=6.5
NVAR Mina Array Bea 104.79 50 Pdif **Pdif** **22 47 46.0 -0.2**
NVAR PP **PP** **22 52 07.0 +0.7**
NVAR PKKPbc **PKKPbc** **23 03 33.8 +2.8**
NPS Neapolis 104.82 306 *e*P PP 22 52 18.5 +12
GZR Gura Zlata 104.83 317 ⇑ *i*P **PKKPbc** **23 03 30.9 0.0**
HFS Hagfors 104.95 333 PKKPbc PKKPbc 23 03 29.3 -1.6
comp=Z,4.0nm,0.9s,baz=191,slow=6.0,SNR=5.2
HFS Hagfors 104.95 333 PKKPbc PKKPbc 23 03 29.3 -1.6
NVR Nevrokopi 105.00 313 *e*P PP 22 52 12.5 +5.0
MMB Musomiste 105.04 313 P **Pdif** **22 47 44.4 -2.7**
ISA Isabella 105.17 53 *e*PKPdf PP 22 52 02.5 -6.4
VTS Vitosha 105.19 314 ⇑ *i*P **Pdif** **22 47 47.6 -0.3**
VTS Vitosha 105.19 314 P **Pdif** **22 47 48.6 +0.7**
BMN Battle Mountai 105.21 48 *e*PKPdf **PKiKP** **22 52 04.9 +2.7**
BMN *e*PKKPbc **PKKPbc** **23 03 30.2 +0.5**
NIE Niedzica 105.33 321 *e*Pdiff **Pdif** **22 47 46.7 -1.5**
NIE *e* 22 51 19.6
NIE Niedzica 105.33 321 *e*P **Pdif** **22 47 46.1 -1.5**
OJC Ojcow 105.41 322 *e*Pdiff **Pdif** **22 47 48.1 -0.4**
OJC *e*PKiKP **PKiKP** **22 52 00.5 -1.6**
OJC *e*PP **PP** **22 52 08.2 -1.9**
OJC *e*SKSac **SKSac** **22 58 23.5 -2.6**
OJC *e*SKKSac **SKSdf** **22 59 07.3 -4.1**
OJC *e*SP **SP** **23 01 20.2 -1.2**
OJC *e*SS **SS** **23 07 02.6 -1.8**
OJC L L 23 44 07.5
comp=Z,65nm,19.4s
OJC Ojcow 105.41 322 *e*P **Pdif** **22 47 48.1 -0.4**
KKB Krupnik 105.45 313 P **Pdif** **22 47 51.7 +2.8**
BOSA Boshof 105.46 240 Pdiff **Pdif** **22 47 48.4 -1.0**
comp=Z,32nm,1.2s,baz=130,slow=6.3,SNR=8.8
BOSA PP **PKiKP** **22 52 06.9 +3.9**
comp=Z,8.9nm,0.8s,baz=114,slow=5.2,SNR=4.1
BOSA PKKPbc **PKKPbc** **23 03 25.9 -2.6**
comp=Z,7.7nm,1.1s,baz=279,slow=9.5,SNR=3.6
BOSA Boshof 105.46 240 *e*P **Pdif** **22 47 48.7 -0.7**
BOSA AMS AMS 23 30 03.5
comp=Z,61µm,20.6s
BOSA Boshof 105.46 240 P **Pdif** **22 47 48.4 -1.0**
BOSA 22 52 06.9
BOSA pmax pmax
comp=Z,32nm,1.2s
BOSA pmax pmax
comp=Z,9.0nm,0.9s
BOSA Boshof 105.46 240 Pdif **Pdif** **22 47 48.4 -1.0**
BOSA PP **PKiKP** **22 52 06.9 +3.9**
BOSA PKKPbc **PKKPbc** **23 03 25.9 -2.6**
BOSA LR LR
comp=Z,85µm,21.0s
SOH Sokhos 105.49 312 *e*P **PP** **22 52 15.0 +3.9**
KECS Kecovo 105.50 320 *i* P **Pdif** **22 47 47.9 -1.0**
KECS Kecovo 105.50 320 PDIF **Pdif** **22 47 47.9 -1.0**
KECS *e* 22 50 57.5
SIVA Sivas 105.51 306 *e*P **PP** **22 52 12.5 +1.1**
PLG Polygyros 105.52 312 *e*P **PP** **22 52 07.0 -4.3**
MFID Camas Ranch 105.54 45 *e*PKPdf PKiKP 22 51 56.3 -6.4
BZS Buzias 105.56 317 ⇑P **Pdif** **22 47 48.3 -0.9**
BZS Buzias 105.56 317 ⇑ *i*P **Pdif** **22 47 48.3 -0.9**
BZS Buzias 105.56 317 ⇓ *i*P **PKKPbc** **23 03 28.7 +0.1**

JMIC **Jan Mayen** 105.62 348 *e*P **Pdif** 22 47 56.8 +7.9
JMIC *e*SS SS 23 07 05.4 -0.5
NB2 **NORSAR Subarra**105.62 335 P **Pdif** 22 47 47.8 -1.4
comp=Z,148nm,2.0s,baz=61,slow=4.4
NOA **NORSAR Array B** 105.62 335 Pdiff **Pdif** 22 47 47.3 -2.0
comp=Z,18nm,0.9s,baz=64,slow=4.5,SNR=31
NOA PP **PKiKP** 22 52 05.7 +3.4
comp=Z,5.9nm,0.9s,baz=73,slow=8.5,SNR=5.2
NOA PKKPbc **PKKPbc** 23 03 28.3 -0.6
comp=Z,5.6nm,0.8s,baz=76,slow=3.1,SNR=9.0
NOA **NORSAR Array B** 105.62 335 P **Pdif** 22 47 47.3 -2.0
NOA pmax pmax
comp=Z,18nm,0.9s
NOA **NORSAR Array B** 105.62 335 Pdif **Pdif** 22 47 47.3 -2.0
NOA PP **PKiKP** 22 52 05.7 +3.4
NOA PKKPbc **PKKPbc** 23 03 28.3 -0.6
NC602 **NORSAR Array S** 105.63 334 *e*P **Pdif** 22 47 54.0 +4.8
NC602 *e*PP **PP** 22 52 09.7 -1.6
NC602 *e*SS SS 23 07 11.8 +5.1
SWMT **Swartz Lake** 105.69 41 *e*PKPdf **PKiKP** 22 52 02.0 -0.9
LBTB **Lobatse** 105.72 244 Pdiff **Pdif** 22 47 51.5 +1.0
baz=90,slow=7.7
LBTB PP **PKiKP** 22 52 05.4 +1.9
comp=Z,11nm,1.0s,baz=71,slow=5.4,SNR=3.7
LBTB PKKPbc **PKKPbc** 23 03 29.1 +1.5
comp=Z,6.6nm,0.8s,baz=324,slow=3.4,SNR=8.4
LBTB **Lobatse** 105.72 244 P **Pdif** 22 47 51.5 +1.0
LBTB pmax pmax
comp=Z,11nm,1.0s
LBTB **Lobatse** 105.72 244 Pdif **Pdif** 22 47 51.5 +1.0
LBTB PP **PKiKP** 22 52 05.4 +1.9
LBTB PKKPbc **PKKPbc** 23 03 29.1 +1.5
DAC **Darwin (Calif)** 105.76 53 PFAKE 22 52 10.0
DAC LR LR
comp=Z,190µm,20.0s
NAO01 **NORSAR Array S** 105.86 335 PFAKE 22 52 10.0
NAO01 LR LR
comp=Z,95µm,21.0s
GKP **Gorka Klasztor** 105.89 326 *e*Pdiff **Pdif** 22 47 48.6 -1.9
GKP *e*PP PP 22 52 20.5 +7.0
GKP *e*PS **PS** 23 01 38.4 +7.2
GKP LMZ LR 23 37 38.9
comp=Z,109µm,19.5s
GKP **Gorka Klasztor** 105.89 326 *e*P **Pdif** 22 47 48.6 -1.9
GKP *e* 22 52 20.5
GKP MLR MLR
comp=Z,109µm,19.5s
VAM **Vamos** 105.94 307 *e*P **PP** 22 52 16.5 +1.9
PSZ **Piszkesteto** 106.05 320 PFAKE 22 52 10.0
PSZ LR LR
comp=Z,65µm,20.0s
GVD **Gavdhos** 106.13 306 *e*P **PP** 22 52 18.0 +2.0
LKR **Lokris** 106.23 310 *e*P PP 22 52 06.5 -10
DID **Didima** 106.28 309 *e*P **PP** 22 52 14.5 -2.6
LTK **Loutraki** 106.39 309 *e*P **PP** 22 52 16.5 -1.3
RAC **Raciborz** 106.43 323 *e*P **Pdif** 22 47 52.0 -1.0
RAC MLR MLR
comp=Z,48µm,20.0s
BSD **Bornholm Skovb** 106.46 328 *e*P **Pdif** 22 47 53.6 +0.6
BSD MLR MLR
comp=Z,64µm,18.0s
BSD **Bornholm Skovb** 106.46 328 *i* P **Pdif** 22 47 53.6 +0.6
BSD *i* 22 52 03.3
BSD
comp=Z,64µm,18.0s
BSD **Bornholm Skovb** 106.46 328 *i* P **SP** 23 01 34.8 +2.9
HLID **Hailey** 106.50 45 *e*PKPdf PKiKP 22 51 56.8 -7.8
HLID LR LR
comp=Z,153µm,19.0s
OKC **Ostrava-Krasne** 106.54 322 *e*P **Pdif** 22 47 52.9 -0.6
OKC *e* 23 07 29.1
OKC MLR MLR
comp=Z,44µm,17.8s
OKC **Ostrava-Krasne** 106.54 322 *e*PDIF **Pdif** 22 47 52.9 -0.6
OKC *ep*P 22 48 02.0
OKC *ex* x 22 51 36.3
OKC *ex* x 22 52 29.1
OKC *e*SKS **SKSdf** 22 59 18.1 +4.6
OKC *ex* x 23 07 29.1
OKC AMS AMS 23 45 50.0
comp=Z,44µm,17.8s
VYHS **Vyhne** 106.54 321 *i* P **Pdif** 22 47 53.0 -0.6
VYHS *e*SS SS 23 07 18.6 -1.4
VYHS MLR MLR
comp=Z,43µm,24.3s
VYHS **Vyhne** 106.54 321 PDIF **Pdif** 22 47 53.0 -0.6
VYHS *e*PP PKiKP 22 52 10.3 +6.0
VYHS SDIF 22 59 58.5
VYHS *e*SS **SS** 23 07 18.6 -1.4
SKO **Skopje** 106.62 314 *e*P **PP** 22 52 24.3 +5.0
SKO **Skopje** 106.62 314 ⇑*i*P PP 22 52 24.9 +5.6
AGG **Agios Georgios** 106.66 311 *e*P **PP** 22 52 16.0 -3.8
VLI **Veliai** 106.68 308 *e*P PP 22 52 13.0 -7.0
THL **Klokotos Trika** 106.77 311 *e*P **PP** 22 52 20.5 0.0
KZN **Kozani** 106.78 312 *e*P **PP** 22 52 20.0 -0.7
KOLL **Kolacno** 106.79 321 *i* P **Pdif** 22 47 55.2 +0.6
KOLL **Kolacno** 106.79 321 PDIF **Pdif** 22 47 55.2 +0.6
KOLL *e* 22 51 06.4
GUR **Goura** 106.89 310 *e*P **PKiKP** 22 52 06.0 +0.7
MORC **Moravsky Berou** 106.93 322 ⇑P **Pdif** 22 47 54.1 -1.2
MORC **Moravsky Berou** 106.93 322 ⇑*i*P **Pdif** 22 47 54.1 -1.2
VLX **Vlachokerasia** 106.98 309 *e*P **PP** 22 52 24.5 +2.2
KONO **Kongsberg** 107.00 334 PFAKE 22 52 20.0
KONO LR LR
comp=Z,119µm,21.0s
EVR **Evrytania** 107.08 311 *e*P PP 22 52 15.0 -7.9
EFP **Efpalio** 107.11 310 *e*P PP 22 52 14.0 -9.1
PFO **Pinyon Flat Ob** 107.18 55 *e*PKPdf **PKiKP** 22 52 08.3 +2.3
PFO LR LR
comp=Z,182µm,19.0s
DLMT **Dillon** 107.25 42 *e*PKPdf **PKiKP** 22 52 07.8 +1.9
KRLC **Kraliky** 107.29 323 *e*PDIF **Pdif** 22 47 57.4 +0.5
KRLC *ep*P 22 48 06.1
KRLC *e*PP **PP** 22 52 22.9 -1.1
KSP **Ksiaz** 107.31 324 *e*Pdiff **Pdif** 22 47 57.1 +0.3
KSP *e*PP **PP** 22 52 26.8 +2.8
KSP *e*Sdiff 23 00 00.3
KSP *e*SP **SP** 23 01 39.3 -1.6
KSP *e*PS PS 23 01 57.4 +11
KSP LMZ LR 23 39 11.8
comp=Z,90µm,20.0s
KSP **Ksiaz** 107.31 324 *e*P **Pdif** 22 47 56.5 -0.4
KSP *e* 22 52 22.6
KSP *e*PPP PPP 22 54 35.7
KSP *e*SP SP 23 01 39.0 -2.0
KSP MLR MLR
comp=Z,181µm,20.0s
ITM **Ithomi** 107.37 309 *e*P **PP** 22 52 25.0 -0.1
PKSM **Moragy** 107.38 319 ⇑*i*P **Pdif** 22 47 54.3 -3.0
PKSM **Moragy** 107.38 319 ⇑*i*P **PKKPbc** 23 03 22.9 0.0
SMOL **Smolenice** 107.42 321 *i* P **Pdif** 22 47 58.8 +1.3
SMOL **Smolenice** 107.42 321 PDIF **Pdif** 22 47 58.8 +1.3
SMOL *e* 22 51 15.8
DPC **Dobruska-Polom** 107.47 323 *e*P **Pdif** 22 47 56.4 -1.3
DPC *e* 22 52 25.2
DPC *e* 23 01 34.4
DPC MLR MLR
comp=Z,82µm,19.0s
DPC **Dobruska-Polom** 107.47 323 *e*PDIF **Pdif** 22 47 56.4 -1.3
DPC *ep*P 22 48 08.9
DPC *ex* x 22 51 27.1
DPC *e*PP **PP** 22 52 25.2 -0.1
DPC *e*SDIF 22 59 56.3
DPC *ex* x 23 01 34.4
DPC *ex* x 23 07 15.2
DPC AMS AMS 23 41 40.0
comp=Z,82µm,19.0s
COP **Copenhagen** 107.50 329 *e*P Pdif 22 47 45.8 -12
COP *i* 22 52 22.5
COP MLR MLR
comp=Z,23µm,20.0s
COP **Copenhagen** 107.50 329 *i* P Pdif 22 47 45.8 -12
COP *i* 22 52 22.5
COP *i* 23 00 00.1
COP
comp=Z,23µm,20.0s
COP **Copenhagen** 107.50 329 *i* P **SP** 23 01 41.8 -0.8
RLS **Riolos of Patr** 107.53 310 *e*P **PP** 22 52 28.5 +2.3
PYL **PYLOS** 107.58 309 *e*P PP 22 52 18.0 -8.6
UPC **Upice** 107.60 323 *i* P **Pdif** 22 47 56.4 -1.8
UPC *e* 22 52 21.5
UPC **Upice** 107.60 323 *e*PDIF **Pdif** 22 47 56.4 -1.8
UPC *ep*P 22 48 09.7
UPC *ex* x 22 51 29.5
UPC *e*PP **PP** 22 52 21.5 -4.7
JAN **Janina** 107.62 312 *e*P PP 22 52 21.0 -5.8
VRAC **Vranov** 107.67 322 PP PP 22 52 27.2 +0.4
comp=Z,13nm,1.1s,baz=84,slow=11,SNR=2.8
VRAC **Vranov** 107.67 322 ⇑P **Pdif** 22 47 58.3 -0.3
VRAC **Vranov** 107.67 322 PP PP 22 52 27.2 +0.5
VRAC **Vranov** 107.67 322 ⇑*i*P **Pdif** 22 47 58.3 -0.3
BOZ **Bozeman (W)** 107.81 42 *e*PKPdf **PKiKP** 22 52 08.1 +1.1
BOZ LR LR
comp=Z,90µm,20.0s
FOO **Floro** 107.87 337 *e*P **Pdif** 22 48 05.9 +6.8
FOO AMS AMS 23 38 23.2
comp=Z,146µm,21.2s
SUMG **Summit** 108.05 357 *e*P **Pdif** 22 48 09.2 +9.0
SUMG *e* 22 52 26.6
SUMG *i* 23 01 49.7
SUMG **Summit** 108.05 357 *i* P **Pdif** 22 48 09.2 +9.0
SUMG *e* 22 52 26.6
SUMG *i* 23 01 49.7
SUMG **Summit** 108.05 357 *i* P **SP** 23 01 45.1 -2.7
VLS **Valsamata** 108.18 310 *e*P **PP** 22 52 28.5 -2.4
HOMB **Homborsund** 108.18 333 *e*P **Pdif** 22 48 06.3 +5.8
HOMB *e*PP **PP** 22 52 28.0 -2.1
EGMT **Eagleton** 108.25 39 *e*PKPdf **PKiKP** 22 52 05.2 -2.4
EGMT LR LR
comp=Z,102µm,20.0s
TREC **Trest** 108.35 322 *i* P **Pdif** 22 48 01.2 -0.4
TREC *e* 23 01 53.5
TREC MLR MLR
comp=Z,56µm,20.1s
TREC **Trest** 108.35 322 *e*PDIF **Pdif** 22 48 01.2 -0.4
TREC *ep*P 22 48 11.8
TREC *e*SP SP 23 01 53.5 +1.7
TREC *ex* x 23 08 08.9
TREC AMS AMS 23 45 40.0
comp=Z,56µm,20.1s
PVCC **Panska Ves** 108.44 324 *e*P **Pdif** 22 48 00.6 -1.3
PVCC *e* 23 01 53.8
PVCC MLR MLR
comp=Z,78µm,18.8s
PVCC **Panska Ves** 108.44 324 *e*PDIF **Pdif** 22 48 00.6 -1.3
PVCC *ep*P 22 48 12.0
PVCC *ex* x 22 51 32.6
PVCC *e*SP SP 23 01 53.8 +1.2
PVCC *ex* x 23 07 21.7
PVCC AMS AMS 23 39 50.0
comp=Z,78µm,18.8s
SCO **Scoresbysund** 108.47 351 *e*P **Pdif** 22 48 06.1 +4.5
SCO **Scoresbysund** 108.47 351 *i* P **Pdif** 22 48 06.1 +4.5
SCO **Scoresbysund** 108.47 351 *i* P **SP** 23 01 53.0 +1.4
SUR **Sutherland** 108.50 236 PP PP 22 52 33.6 -0.1
comp=Z,25nm,1.1s,baz=118,slow=8.6,SNR=2.8
SUR PKKPbc **PKKPbc** 23 03 19.6 +0.4
comp=Z,12nm,1.0s,baz=127,slow=8.9,SNR=3.3
SUR **Sutherland** 108.50 236 *e*PKPdf 22 52 11.1
SUR PP **PP** 22 52 33.6 0.0
SUR PKKPbc **PKKPbc** 23 03 19.6 +0.4
SUR LR LR
comp=Z,106µm,22.0s
DUG **Dugway** 108.54 48 *e*PKPdf **PKiKP** 22 52 09.6 +1.2
DUG LR LR
comp=Z,101µm,19.0s
CONA **Conrad Observa** 108.61 321 ⇑*i*P **Pdif** 22 48 09.1 +6.3
comp=Z,28nm,2.1s
CONA **Conrad Observa** 108.61 321 ⇑*i*PDiff **Pdif** 22 48 09.1 +6.3
comp=Z,28nm,2.1s
PRU **Pruhonice** 108.67 323 *e*P **Pdif** 22 48 01.3 -1.6
PRU *e* 22 52 41.9
PRU *e* 23 01 57.1
PRU MLR MLR
comp=Z,67µm,18.6s
PRU **Pruhonice** 108.67 323 *e*PDIF **Pdif** 22 48 01.3 -1.6
PRU *ep*P 22 48 13.4
PRU *ex* x 22 51 35.7
PRU *e*PP PP 22 52 41.9 +8.0
PRU *ex* x 23 00 15.0
PRU *e*SP SP 23 01 57.1 +2.3
PRU *ex* x 23 07 22.4
PRU AMS AMS 23 46 00.0
comp=Z,67µm,18.6s
BRG **Berggiesshubel** 108.68 324 *i* PDIF **Pdif** 22 48 02.2 -0.7
comp=Z,38nm,1.2s
BRG *i* 22 48 13.7
comp=Z,136nm,1.7s
BRG *e* 22 51 18.9
comp=Z,29nm,1.5s
BRG PP PP 22 52 42.8 +8.8
comp=Z,278nm,1.9s
BRG SDIF 23 00 20.0
BRG PS **PS** 23 01 59.0 -0.9
BRG PKKP **PKKPdf** 23 03 33.8 +0.2
comp=Z,141nm,2.1s
BRG SS SS 23 08 02.0 +13
BRG PKPPKP P'P'df 23 11 10.8 -33
comp=Z,236nm,2.6s
BRG
comp=Z,111µm,20.4s
BRG
comp=N,90µm,21.5s
BRG
comp=E,88µm,21.5s
BRG
comp=Z,39µm,21.1s
BRG
comp=N,20µm,19.6s
BRG
comp=E,25µm,19.6s
BRG **Berggiesshubel** 108.68 324 *e*Pdiff **Pdif** 22 48 03.5 +0.5
BRG *e*PP **PP** 22 52 36.3 +2.3
BRG **Berggiesshubel** 108.68 324 *i* P **Pdif** 22 48 02.2 -0.7
BRG 22 52 42.8
BRG PS **PS** 23 01 59.0 -0.9
BRG SS SS 23 08 02.0 +13
BRG pmax pmax
comp=Z,38nm,1.2s
BRG pmax pmax
comp=Z,278nm,1.9s
BRG MLR MLR
comp=Z,39µm,21.1s
BRG MLR MLR
comp=N,20µm,19.6s
BRG MLR MLR
comp=E,25µm,19.6s
PRA **Prague** 108.70 323 PDIF **Pdif** 22 48 03.0 -0.1
PRA PP **PP** 22 52 36.0 +1.8
PRA SS SS 23 08 01.0 +12
PRA AMS AMS 23 40 00.0
RRI2 **Red Ridge** 108.72 44 *e*PKPdf **PKiKP** 22 52 11.0 +2.2
MUD **Monsted U'grnd** 108.77 331 *e*P **Pdif** 22 48 01.8 -1.4
MUD *i* 22 52 37.3
MUD MLR MLR
comp=Z,120µm,18.0s
MUD **Monsted U'grnd** 108.77 331 *i* P **Pdif** 22 48 01.8 -1.4
MUD *i* 22 52 37.3
MUD
comp=Z,125µm,18.0s
MUD **Monsted U'grnd** 108.77 331 *i* P **SP** 23 01 48.8 -6.6
KOGS **Kog** 108.87 319 *e*Sdiff **Sdif** 23 00 20.3 +9.4
KOGS *e*SP **SP** 23 01 52.1 -5.1
KOGS *e* 23 02 06.3
FLWY **Flagg Ranch** 108.92 43 *e*PKPdf **PKiKP** 22 52 06.3 -2.8
LKWY **Lake** 108.97 43 PFAKE 22 52 20.0
LKWY LR LR
comp=Z,169µm,19.0s
F18A **Big Timber** 109.00 41 ⇓P **PKiKP** 22 52 09.4 +0.3
baz=109
F18A ⇓P **PKiKP** 22 52 09.4 +0.3
baz=109
F18A ⇓P **PKiKP** 22 52 09.4 +0.3
baz=109
CLL **Collm** 109.05 325 *e*Pdiff **Pdif** 22 48 04.3 -0.3
CLL *e*PP **PP** 22 52 38.8 +2.2
CLL *e*PS **PS** 23 01 58.7 -4.9
CLL *e*SS SS 23 07 54.6 +1.1
CLL **Collm** 109.05 325 *e*P **Pdif** 22 48 02.0 -2.6
CLL *i* 22 52 41.8
CLL pmax pmax
comp=Z,76nm,1.8s
CLL pmax pmax
comp=Z,2µm,3.4s
CLL **Collm** 109.05 325 *e*Pdif **Pdif** 22 48 02.0 -2.6
comp=Z,76nm,1.8s
CLL *es*Pdif sPdif 22 48 15.0 -4.5
comp=Z,184nm,2.1s
CLL *e* 22 51 57.0
CLL *e*PKiKP **PKiKP** 22 52 06.0 -2.8
CLL *e*PP **PP** 22 52 32.0 -4.6
CLL *i* PPmax 22 52 41.8
comp=Z,2µm,3.4s
CLL *i* (PPP) 22 52 58.5
CLL *e*SKSac **SKSac** 22 58 48.0 +6.1
CLL *e*Sdif **Sdif** 23 00 17.0 +4.9
CLL *e*PS **PS** 23 01 58.0 -5.6
CLL *e*PPS PPS 23 03 01.0
CLL *e*PKKPdf **PKKPab** 23 03 30.0 +0.9
CLL *i* sPKKPdf 23 03 40.4
comp=Z,228nm,2.2s
CLL *i* 23 03 49.7
comp=Z,73nm,1.6s
CLL *e*PcPP 23 07 25.0
CLL *e*SS **SS** 23 07 54.0 +0.5
CLL *e*(PPPrev) 23 11 13.0
CLL *e*SSS SSS 23 12 00.0
CLL *e* 23 18 00.0
CLL LmV 23 39 00.0
comp=Z,83µm,20.8s
SNOW **Snow King Moun** 109.08 44 *e*PKPdf **PKiKP** 22 52 10.4 +0.9
D19A **Cripps Ranch,** 109.10 40 ⇑P **PKiKP** 22 52 09.5 +0.3
baz=109
D19A ⇑P **PKiKP** 22 52 09.5 +0.3
baz=109
D19A ⇑P **PKiKP** 22 52 09.5 +0.3
baz=109
LOHW **Long Hollow** 109.13 44 *e*PKPdf **PKiKP** 22 52 10.0 +0.4
GROS **Grobnik** 109.35 320 *e*Pdiff **Pdif** 22 48 06.3 +0.2
BSEG **Bad Segeberg** 109.38 328 *e*Pdiff **Pdif** 22 48 05.6 -0.4
BSEG *e*PP **PP** 22 52 41.9 +3.0
BSEG *e*SP SP 23 02 00.6 -1.3
BSEG *e*SS **SS** 23 07 59.1 +1.3
BSEG **Bad Segeberg** 109.38 328 *e*P **Pdif** 22 48 05.6 -0.4
BSEG *e* 22 52 41.9
BSEG *e*SP SP 23 02 00.6 -1.3
BSEG *e*SS **SS** 23 07 59.1 +1.3
MVU **Marysvale** 109.43 49 PFAKE 22 52 20.0
MVU LR LR
comp=Z,177µm,19.0s
MPU **Maple Canyon** 109.46 48 *e*PKPdf **PKiKP** 22 52 11.0 +0.8
RLMT **Red Lodge** 109.55 42 PFAKE 22 52 20.0
RLMT LR LR
comp=Z,127µm,22.0s
KHC **Kasperske Hory** 109.57 323 *e*P **Pdif** 22 48 06.7 -0.4
KHC *e* 22 52 44.8
KHC *e*SP SP 23 02 01.2 -3.0
KHC *e* 23 08 04.5
KHC MLR MLR
comp=Z,113µm,20.7s
KHC **Kasperske Hory** 109.57 323 *e*PDIF **Pdif** 22 48 06.7 -0.4
KHC *ep*P 22 48 17.4
KHC *ex* x 22 51 40.2
KHC *ex* x 22 52 01.5
KHC *e*PP **PP** 22 52 44.8 +4.2
KHC *e*SDIF 23 00 19.6
KHC *e*SP **SP** 23 02 01.2 -3.0
KHC *ex* x 23 03 37.5
KHC *e*SS **SS** 23 08 04.5 +3.6
KHC AMS AMS 23 40 20.0
comp=Z,113µm,20.7s
GEC2 **GERESS Array S** 109.61 322 *e*Pdiff **Pdif** 22 48 09.5 +2.2
GEC2 *e*PP **PP** 22 52 42.9 +1.9
GEC2 *e*PS **PS** 23 02 03.7 -6.0
GEC2 *e*SS SS 23 07 51.5 -10
GEC2 **GERESS Array S** 109.61 322 *e*P **Pdif** 22 48 09.5 +2.2
GEC2 *e* 22 52 42.9
GEC2 *e*PS **PS** 23 02 03.7 -6.0
GERES **GERESS Array B** 109.61 322 Pdiff **Pdif** 22 48 06.4 -0.9
comp=Z,5.6nm,0.9s,baz=60,slow=3.5,SNR=14
GERES PKiKP **PKiKP** 22 52 09.9 -0.2
comp=Z,6.7nm,0.9s,baz=82,slow=1.2,SNR=9.3
GERES PP **PP** 22 52 36.9 -4.0
comp=Z,7.2nm,0.8s,baz=90,slow=6.7,SNR=4.6
GERES PKKPbc **PKKPbc** 23 03 15.6 -0.6
comp=Z,2.1nm,1.0s,baz=200,slow=3.5,SNR=3.6
GERES **GERESS Array B** 109.61 322 P **Pdif** 22 48 06.4 -0.9
GERES 22 52 36.9
GERES 23 03 15.6
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES **GERESS Array B** 109.61 322 Pdif **Pdif** 22 48 06.4 -0.9
GERES PKiKP **PKiKP** 22 52 09.9 -0.2
GERES PP **PP** 22 52 36.9 -4.0
GERES PKKPbc **PKKPbc** 23 03 15.6 -0.6
MOA **Molln** 109.64 321 ⇑*i*P **Pdif** 22 48 07.0 -0.3
MOA **Molln** 109.64 321 ⇑*i*Pdiff **Pdif** 22 48 07.0 -0.3
comp=Z,36nm,1.4s
TANN **Tannenbergstha** 109.72 324 *e*Pdiff **Pdif** 22 48 06.8 -0.9
TANN *e*PP **PP** 22 52 44.0 +2.3
TANN *e*SS SS 23 08 10.8 +8.0
NKC **Novy Kostel** 109.81 324 *e*P **Pdif** 22 48 07.4 -0.7
NKC *e*SP SP 23 02 02.3 -4.2
NKC MLR MLR
comp=Z,72µm,21.6s
NKC **Novy Kostel** 109.81 324 *e*PDIF **Pdif** 22 48 07.4 -0.7
NKC *e*SDIF 23 00 17.8
NKC *e*SP **SP** 23 02 02.3 -4.2
NKC AMS AMS 23 43 00.0
comp=Z,72µm,21.6s
BOJS **Bojanci** 109.85 319 *e*Pdiff **Pdif** 22 48 04.2 -4.0
FFC **Flin Flon** 109.89 30 PFAKE 22 52 20.0
FFC LR LR
comp=Z,94µm,21.0s
WET **Wettzell** 109.99 323 *e*Pdiff **Pdif** 22 48 08.1 -0.8
WET *e*PP **PP** 22 52 45.9 +2.3
WET *e*SS SS 23 08 17.0 +11
WET **Wettzell** 109.99 323 *e*P **Pdif** 22 48 08.1 -0.8
WET *e* 22 52 45.9
WET *e*SS SS 23 08 17.0 +11
PD01 **Pinedale Array** 110.11 44 *e*PKPdf **PKiKP** 22 52 13.3 +1.9
PD02 **Pinedale Array** 110.12 44 *e*PKPdf **PKiKP** 22 52 07.8 -3.7
MOX **Moxa** 110.12 325 *e*Pdiff **Pdif** 22 48 08.8 -0.6
MOX *e*PP **PP** 22 52 46.7 +2.2
MOX *e*PS **PS** 23 02 08.9 -5.5
MOX *e*SS SS 23 08 13.9 +5.9
MOX **Moxa** 110.12 325 *e*P **Pdif** 22 48 08.8 -0.6
MOX *e* 22 52 46.7
MOX *e*PS **PS** 23 02 08.9 -5.5
MOX *e*SS SS 23 08 13.9 +5.9
BW06 **Boulder Array** 110.13 44 *e*PKPdf **PKiKP** 22 52 14.6 +3.1
BW06 LR LR
comp=Z,120µm,21.0s
PDAR **Pinedale Array** 110.13 44 Pdiff **Pdif** 22 48 12.1 +2.2
comp=Z,0.8nm,0.9s,baz=74,slow=29,SNR=2.1
PDAR PKiKP **PKiKP** 22 52 13.0 +1.5
comp=Z,4.6nm,0.8s,baz=184,slow=1.9,SNR=7.9
PDAR PP **PP** 22 52 45.9 +0.7
comp=Z,4.1nm,0.8s,baz=18,slow=0.5,SNR=3.9
PDAR PKKPbc **PKKPbc** 23 03 13.3 -1.1
comp=Z,4.6nm,0.8s,baz=100,slow=3.1,SNR=8.5
PDAR **Pinedale Array** 110.13 44 Pdif **Pdif** 22 48 12.1 +2.2
PDAR PKiKP **PKiKP** 22 52 13.0 +1.5
PDAR PP **PP** 22 52 45.9 +0.7
PDAR PKKPbc **PKKPbc** 23 03 13.3 -1.1
LJU **Ljubljana** 110.13 319 *e*Pdiff **Pdif** 22 48 07.4 -2.2
LJU *e*PP **PP** 22 52 46.5 +1.7
LJU *e* 22 54 13.9
LJU *e* 22 55 10.7
LJU *e* 22 57 04.3
LJU *e*Sdiff 23 00 31.2
LJU *e*SP **SP** 23 02 03.0 -6.9
LJU *e* 23 02 21.8
LJU *e* 23 03 25.5
LJU *e* 23 05 49.3
LJU *e* 23 08 17.9
LJU *e* 23 12 22.4
LJU *e* 23 19 03.4
ROTZ **Rotzenmuhle** 110.14 324 *e*Pdiff **Pdif** 22 48 08.1 -1.4
ROTZ *e*PP **PP** 22 52 47.1 +2.5
ROTZ *e*PS **PS** 23 02 08.3 -6.3
ROTZ *e*SS SS 23 08 10.8 +2.5
G20A **Bridger** 110.22 41 ⇑P **PKiKP** 22 52 11.6 +0.2
baz=110
G20A ⇑P **PKiKP** 22 52 11.6 +0.2
baz=110

G20A ⇑P **PKiKP** **22 52 11.6 +0.2**
baz=110
A22A **Carney Farms,** **110.26** **37** ⇓P **PKiKP** **22 52 11.5 +0.2**
baz=110
A22A ⇓P **PKiKP** **22 52 11.5 +0.2**
baz=110
A22A ⇓P **PKiKP** **22 52 11.5 +0.2**
baz=110
CLZ **Clausthal** **110.30** **326** *e*Pdiff **Pdif** **22 48 09.3 -0.9**
CLZ *e*PP **PP** **22 52 48.4 +2.6**
CLZ *e*PS **PS** **23 02 12.0 -4.1**
CLZ *e*SS SS 23 08 09.4 -1.0
CLZ **Clausthal** **110.30** **326** *e*P **Pdif** **22 48 09.3 -0.9**
CLZ *e* 22 52 48.4
CLZ *e*PS **PS** **23 02 12.0 -4.1**
CLZ *e*SS SS 23 08 09.4 -1.0
E21A **Keefer Ranch,** **110.48** **40** ⇓P **PKiKP** **22 52 11.6 -0.1**
baz=110
E21A ⇓P **PKiKP** **22 52 11.6 -0.1**
baz=110
E21A ⇓P **PKiKP** **22 52 11.6 -0.1**
baz=110
CADS **Cadrg** **110.58** **320** *e*Pdiff **Pdif** **22 48 10.9 -0.7**
CADS *e*PP **PP** **22 52 50.4 +2.4**
R17A **Hanksville Air** **110.59** **49** ⇓P **PKiKP** **22 52 12.0 -0.3**
baz=110
R17A ⇓P **PKiKP** **22 52 12.0 -0.3**
baz=110
R17A ⇓P **PKiKP** **22 52 12.0 -0.3**
baz=110
RJOB **Jochberg** **110.60** **322** *e*Pdiff **Pdif** **22 48 10.9 -0.8**
RJOB *e*PP **PP** **22 52 50.4 +2.3**
RJOB *e*PS **PS** **23 02 14.2 -4.9**
RJOB *e*SS SS 23 08 14.9 +0.2
TRI **Trieste** **110.75** **319** PFAKE 22 52 20.0
TRI LR LR
comp=Z,46μm,19.0s
GRF **Grafenberg Arr** **110.75** **324** *e*Pdiff **Pdif** **22 48 13.0 +0.7**
GRF *e*PP **PP** **22 52 51.3 +2.2**
GRF *e*PS **PS** **23 02 14.0 -6.3**
GRF *e*SS SS 23 08 17.0 +0.5
GRF *e*L L 23 40 24.1
comp=Z,77μm,20.6s
GRF **Grafenberg Arr** **110.75** **324** *e*P **Pdif** **22 48 13.0 +0.7**
GRF *e* 22 52 51.3
GRF *e*PS **PS** **23 02 14.0 -6.3**
GRF *e*SS SS 23 08 17.0 +0.5
GRF MLR MLR
comp=Z,78μm,20.6s
TIP **Timpagrande** **110.80** **312** PFAKE 22 52 20.0
TIP LR LR
comp=Z,37μm,21.0s
D22A **Cohagen** **110.82** **39** ⇑P **PKiKP** **22 52 12.6 +0.2**
baz=111
D22A ⇑P **PKiKP** **22 52 12.6 +0.2**
baz=111
D22A ⇑P **PKiKP** **22 52 12.6 +0.2**
baz=111
WUAZ **Wupatki** **110.85** **52** *e*PKPdf **PKiKP** **22 52 12.5 -0.4**
WUAZ LR LR
comp=Z,173μm,20.0s
J20A **Shoshoni** **110.95** **43** ⇓P **PKiKP** **22 52 12.8 -0.1**
baz=111
J20A ⇓P **PKiKP** **22 52 12.8 -0.1**
baz=111
J20A ⇓P **PKiKP** **22 52 12.8 -0.1**
baz=111
UBBA **Unterbreizbach** **110.97** **325** *e*PP PP 22 52 54.2 +3.8
UBBA *e*PS **PS** **23 02 17.7 -4.2**
UBBA *e*SS SS 23 08 22.9 +3.9
C23A **Lambert** **111.18** **38** ⇓P **PKiKP** **22 52 13.4 +0.4**
baz=111
C23A ⇓P **PKiKP** **22 52 13.4 +0.4**
baz=111
C23A ⇓P **PKiKP** **22 52 13.4 +0.4**
baz=111
R18A **Canyonlands Na** **111.21** **49** ⇑P **PKiKP** **22 52 13.3 -0.2**
baz=111
R18A ⇑P **PKiKP** **22 52 13.3 -0.2**
baz=111
R18A ⇑P **PKiKP** **22 52 13.3 -0.2**
baz=111
L20A **Wamsutter** **111.23** **45** ⇓P **PKiKP** **22 52 13.3 -0.2**
baz=111
L20A ⇓P **PKiKP** **22 52 13.3 -0.2**
baz=111
L20A ⇓P **PKiKP** **22 52 13.3 -0.2**
baz=111
E22A **Miles City** **111.24** **40** ⇓P **PKiKP** **22 52 13.4 +0.2**
baz=111
E22A ⇓P **PKiKP** **22 52 13.4 +0.2**
baz=111
E22A ⇓P **PKiKP** **22 52 13.4 +0.2**
baz=111
CUC **Castrocucco** **111.26** **313** PFAKE 22 52 20.0
CUC LR LR
comp=Z,31μm,20.0s
I21A **Big Trails, Te** **111.33** **43** ⇓P **PKiKP** **22 52 13.0 -0.6**
baz=111
I21A ⇓P **PKiKP** **22 52 13.0 -0.6**
baz=111
I21A ⇓P **PKiKP** **22 52 13.0 -0.6**
baz=111
FUR **Furstenfeldbru** **111.36** **322** *e*Pdiff **Pdif** **22 48 15.7 +0.7**
FUR *e*PP **PP** **22 52 55.2 +1.7**
FUR *e*PS **PS** **23 02 20.4 -5.5**
FUR *e*SS SS 23 08 26.7 +1.9
FUR **Furstenfeldbru** **111.36** **322** *e*P **Pdif** **22 48 15.7 +0.7**
FUR *e* 22 52 55.2
FUR *e*PS **PS** **23 02 20.4 -5.5**
FUR *e*SS SS 23 08 26.7 +1.9
D23A **Lindsay** **111.42** **39** ⇓P **PKiKP** **22 52 12.8 -0.7**
baz=111
D23A ⇓P **PKiKP** **22 52 12.8 -0.7**
baz=111
D23A ⇓P **PKiKP** **22 52 12.8 -0.7**
baz=111
G22A **Birney** **111.49** **41** ⇑P **PKiKP** **22 52 14.0 +0.2**
baz=111
G22A ⇑P **PKiKP** **22 52 14.0 +0.2**
baz=111
G22A ⇑P **PKiKP** **22 52 14.0 +0.2**
baz=111
DGMT **Dagmar** **111.51** **37** PFAKE 22 52 20.0
DGMT LR LR
comp=Z,117μm,22.0s
IBBN **Ibbenburen** **111.51** **328** *e*PP PP 22 52 57.3 +3.0
IBBN *e*SS SS 23 08 19.8 -6.5
Q19A **Hogan Spring (** **111.52** **48** ⇓P **PKiKP** **22 52 13.7 -0.3**
baz=112
Q19A ⇓P **PKiKP** **22 52 13.7 -0.3**
baz=112
Q19A ⇓P **PKiKP** **22 52 13.7 -0.3**
baz=112
P19A **Cripple Cowboy** **111.52** **47** ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
P19A ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
P19A ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
T18A **Mexican Hat** **111.58** **50** ⇓P **PKiKP** **22 52 13.4 -0.9**
baz=112
T18A ⇓P **PKiKP** **22 52 13.4 -0.9**
baz=112
T18A ⇓P **PKiKP** **22 52 13.4 -0.9**
baz=112
E23A **Ismay** **111.63** **39** ⇓P **PKiKP** **22 52 13.8 -0.1**
baz=112
E23A ⇓P **PKiKP** **22 52 13.8 -0.1**
baz=112
E23A ⇓P **PKiKP** **22 52 13.8 -0.1**
baz=112
N20A **Spence Gulch,** **111.66** **46** ⇓P **PKiKP** **22 52 14.4 -0.1**
baz=112
N20A ⇓P **PKiKP** **22 52 14.4 -0.1**
baz=112
N20A ⇓P **PKiKP** **22 52 14.4 -0.1**
baz=112
CEL **Celeste** **111.72** **311** PFAKE 22 52 30.0
CEL LR LR
comp=Z,30μm,20.0s
C24A **Savage** **111.76** **38** ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
C24A ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
C24A ⇑P **PKiKP** **22 52 13.7 -0.5**
baz=112
K21A **Alcova** **111.78** **44** ⇓P **PKiKP** **22 52 14.0 -0.5**
baz=112
K21A ⇓P **PKiKP** **22 52 14.0 -0.5**
baz=112
K21A ⇓P **PKiKP** **22 52 14.0 -0.5**
baz=112
F23A **Volborg** **111.87** **40** ⇑P **PKiKP** **22 52 14.0 -0.5**
baz=112
F23A ⇑P **PKiKP** **22 52 14.0 -0.5**
baz=112
F23A ⇑P **PKiKP** **22 52 14.0 -0.5**
baz=112
L21A **Rawlins** **111.92** **45** ⇑P **PKiKP** **22 52 13.7 -1.1**
baz=112
L21A ⇑P **PKiKP** **22 52 13.7 -1.1**
baz=112
L21A ⇑P **PKiKP** **22 52 13.7 -1.1**
baz=112
S19A **Harvey Farm, M** **111.97** **49** ⇓P **PKiKP** **22 52 14.4 -0.7**
baz=112
S19A ⇓P **PKiKP** **22 52 14.4 -0.7**
baz=112
S19A ⇓P **PKiKP** **22 52 14.4 -0.7**
baz=112
D24A **Glendive** **112.00** **38** ⇑P **PKiKP** **22 52 14.5 -0.1**
baz=112
D24A ⇑P **PKiKP** **22 52 14.5 -0.1**
baz=112
D24A ⇑P **PKiKP** **22 52 14.5 -0.1**
baz=112
P20A **De Beque** **112.00** **47** ⇑P **PKiKP** **22 52 15.5 +0.5**
baz=112
P20A ⇑P **PKiKP** **22 52 15.5 +0.5**
baz=112
P20A ⇑P **PKiKP** **22 52 15.5 +0.5**
baz=112
J22A **Midwest** **112.03** **43** ⇑P **PKiKP** **22 52 14.1 -0.8**
baz=112
J22A ⇑P **PKiKP** **22 52 14.1 -0.8**
baz=112
J22A ⇑P **PKiKP** **22 52 14.1 -0.8**
baz=112
M21A **Separation Pea** **112.05** **45** ⇑P **PKiKP** **22 52 15.0 -0.1**
baz=112
M21A ⇑P **PKiKP** **22 52 15.0 -0.1**
baz=112
M21A ⇑P **PKiKP** **22 52 15.0 -0.1**
baz=112
G23A **Biddle** **112.08** **41** ⇓P **PKiKP** **22 52 14.6 -0.3**
baz=112
G23A ⇓P **PKiKP** **22 52 14.6 -0.3**
baz=112
G23A ⇓P **PKiKP** **22 52 14.6 -0.3**
baz=112
TNS **Taunus Mts** **112.12** **325** *e*Pdiff **Pdif** **22 48 17.2 -1.2**
TNS *e*PP **PP** **22 53 01.8 +2.9**
TNS *e*PS **PS** **23 02 28.1 -4.8**
TNS *e*SS SS 23 08 37.0 +2.2
TNS **Taunus Mts** **112.12** **325** *e*P **Pdif** **22 48 17.2 -1.2**
TNS *e* 22 53 01.8
TNS *e*PS **PS** **23 02 28.1 -4.8**
TNS *e*SS SS 23 08 37.0 +2.2
RWWY **Rawlins** **112.13** **45** *e*PKPdf **PKiKP** **22 52 13.9 -1.4**
FETA **Feichten** **112.17** **321** ⇑/*e*P **Pdif** **22 48 16.6 -2.3**
FETA **Feichten** **112.17** **321** ⇑/*e*Pdiff **Pdif** **22 48 16.6 -2.3**
comp=Z,7.1nm,1.1s
BUG **Bochum--Univer** **112.20** **327** *e*Pdiff **Pdif** **22 48 19.2 +0.6**
BUG *e*PP **PP** **22 53 01.9 +2.6**
BUG *e*PS **PS** **23 02 28.9 -4.5**
BUG *e*SS SS 23 08 32.9 -2.6
AQU **L'Aquila** **112.20** **316** PFAKE 22 52 30.0
AQU LR LR
comp=Z,50μm,19.0s
TOD **Tromm** **112.20** **325** *e*P **Pdif** **22 48 18.7 0.0**
TOD **Tromm** **112.20** **325** *e*P **Pdif** **22 48 18.7 0.0**
Q20A **Ridgley Place,** **112.24** **48** ⇓P **PKiKP** **22 52 15.2 -0.3**
baz=112
Q20A ⇓P **PKiKP** **22 52 15.2 -0.3**
baz=112
Q20A ⇓P **PKiKP** **22 52 15.2 -0.3**
baz=112
STU **Stuttgart** **112.35** **324** *e*Pdiff **Pdif** **22 48 20.4 +1.0**
STU *e*PP **PP** **22 53 02.6 +2.1**
STU *e*PS **PS** **23 02 29.0 -6.0**
STU *e*SS SS 23 08 44.6 +6.8
STU **Stuttgart** **112.35** **324** *e*PKIKP **PKiKP** **22 52 15.9 +0.7**
STU **Stuttgart** **112.35** **324** *e*PKPdf **PKiKP** **22 52 15.9 +0.7**
MVCO **Mesa Verde** **112.61** **50** *e*PKPdf **PKiKP** **22 52 19.2 +2.9**
MVCO *e*PKKPbc **PKKPbc** **23 03 03.2 -2.9**
MVCO LR LR
comp=Z,130μm,21.0s
MVCO **Mesa Verde** **112.61** **50** ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
MVCO ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
MVCO ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
DAVOX **Davos/Dischmat** **112.80** **322** PKiKP **PKiKP** **22 52 17.0 +0.6**
comp=Z,12nm,0.8s,baz=38,slow=4.1,SNR=9.2
DAVOX PP **PP** **22 53 03.9 -0.2**
comp=Z,32nm,1.0s,baz=80,slow=3.6,SNR=6.0
DAVOX PKKPbc **PKKPab** **23 03 10.5 -2.2**
comp=Z,2.2nm,0.7s,baz=352,slow=17,SNR=3.0
DAVOX **Davos/Dischmat** **112.80** **322** PKiKP **PKiKP** **22 52 17.0 +0.6**
DAVOX 22 53 03.9
DAVOX **Davos/Dischmat** **112.80** **322** PKiKP **PKiKP** **22 52 17.0 +0.6**
DAVOX PP **PP** **22 53 03.9 -0.2**
DAVOX PKKPbc **PKKPab** **23 03 10.5 -2.2**
H24A **Dirks Ranch, A** **112.81** **41** ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
H24A ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
H24A ⇓P **PKiKP** **22 52 15.5 -0.8**
baz=113
Q21A **Lamborn Mesa,** **112.81** **48** ⇑P **PKiKP** **22 52 15.4 -1.2**
baz=113
Q21A ⇑P **PKiKP** **22 52 15.4 -1.2**
baz=113
Q21A ⇑P **PKiKP** **22 52 15.4 -1.2**
baz=113
BFO **Black Forest** **113.06** **324** *e*Pdiff **Pdif** **22 48 21.7 -0.9**
BFO *e*PP **PP** **22 53 07.5 +1.9**
BFO *e*PS **PS** **23 02 37.0 -4.6**
BFO *e*SS SS 23 08 44.6 -2.7
BFO **Black Forest** **113.06** **324** *e*P **Pdif** **22 48 21.7 -0.9**
BFO *e* 22 53 07.5
BFO *e*PS **PS** **23 02 37.0 -4.6**
BFO *e*SS SS 23 08 44.6 -2.7
LANF **Langenberg** **113.07** **324** *e*P **Pdif** **22 48 23.9 +1.3**
LANF **Langenberg** **113.07** **324** *e*P **Pdif** **22 48 23.9 +1.3**
LANF **Langenberg** **113.07** **324** *e*P **Pdif** **22 48 23.9 +1.3**
I24A **Kuemmerle Ranc** **113.11** **42** ⇓P **PKiKP** **22 52 16.0 -0.9**
baz=113
I24A ⇓P **PKiKP** **22 52 16.0 -0.9**
baz=113
I24A ⇓P **PKiKP** **22 52 16.0 -0.9**
baz=113
SMCO **Snowmass** **113.14** **47** *e*PKKPbc PKKPbc 23 03 05.2 +0.6
P22A **Eagle** **113.16** **47** ⇑P **PKiKP** **22 52 16.4 -0.9**
baz=113
P22A ⇑P **PKiKP** **22 52 16.4 -0.9**
baz=113
P22A ⇑P **PKiKP** **22 52 16.4 -0.9**
baz=113
RUP **Ruppelstein** **113.16** **325** *e*P **Pdif** **22 48 19.8 -3.2**
RUP **Ruppelstein** **113.16** **325** *e*P **Pdif** **22 48 19.8 -3.2**
TUE **Stuetta** **113.27** **321** *e*PKPdf **PKiKP** **22 52 17.0 -0.2**
TUE *e*PKKPab **PKKPab** **23 03 11.0 +0.3**
TUE LR LR
comp=Z,96μm,22.0s
Q22A **Crested Butte,** **113.29** **48** ⇓P **PKiKP** **22 52 16.4 -1.3**
baz=113
Q22A ⇓P **PKiKP** **22 52 16.4 -1.3**
baz=113
Q22A ⇓P **PKiKP** **22 52 16.4 -1.3**
baz=113
MEM **Membach** **113.30** **327** P **Pdif** **22 48 23.6 0.0**
MEM PKP **PKiKP** **22 52 15.8 -1.1**
RSSD **Black Hills** **113.39** **41** *e*PKIKP **PKiKP** **22 52 16.1 -1.5**
RSSD **Black Hills** **113.39** **41** *e*PKPdf **PKiKP** **22 52 16.1 -1.5**
PMSA **Palmer Station** **113.44** **172** PFAKE 22 52 30.0
PMSA LR LR
comp=Z,202μm,20.0s
FELD **Feldberg im Sc** **113.46** **323** *e*P **Pdif** **22 48 23.9 -0.6**
WDD **Wield Dalam** **113.47** **309** PFAKE 22 52 30.0
WDD LR LR
comp=Z,25μm,20.0s
U21A **Nageezi** **113.49** **50** ⇓P **PKiKP** **22 52 16.9 -1.1**
baz=113
U21A ⇓P **PKiKP** **22 52 16.9 -1.1**
baz=113
U21A ⇓P **PKiKP** **22 52 16.9 -1.1**
baz=113
BORG **Borgarnes** **113.50** **348** PFAKE 22 52 30.0
BORG LR LR
comp=Z,40μm,20.0s
PHWY **Pilot Hill** **113.50** **45** *e*PKKPab PKKPab 23 03 07.5 -2.4
O23A **Lake Granby, G** **113.56** **46** ⇓P **PKiKP** **22 52 17.2 -0.9**
baz=114
O23A ⇓P **PKiKP** **22 52 17.2 -0.9**
baz=114
O23A ⇓P **PKiKP** **22 52 17.2 -0.9**
baz=114
319A **Douglas** **113.58** **56** ⇑P **PKiKP** **22 52 17.4 -0.8**
baz=114
319A ⇑P **PKiKP** **22 52 17.4 -0.8**
baz=114
319A ⇑P **PKiKP** **22 52 17.4 -0.8**
baz=114
WLF **Walferdange** **113.69** **326** P **Pdif** **22 48 24.4 -0.9**
WLF PKP PKiKP 22 52 23.2 +5.5
WLF **Walferdange** **113.69** **326** *e*PP PP 22 53 13.4 +3.4
WLF *e*SP SP 23 02 41.3 -0.9
WLF *e*SS SS 23 09 08.7 +13
WLF **Walferdange** **113.69** **326** *e*PKIKP PKiKP 22 52 25.1 +7.4
WLF MLR MLR
comp=Z,74μm,19.0s
WLF **Walferdange** **113.69** **326** *e*PKPdf PKiKP 22 52 25.1 +7.4
WLF LR LR
comp=Z,74μm,19.0s
Z20A **Nine Sixteen R** **113.70** **54** ⇓P **PKiKP** **22 52 18.3 -0.1**
baz=114
Z20A ⇓P **PKiKP** **22 52 18.3 -0.1**
baz=114
Z20A ⇓P **PKiKP** **22 52 18.3 -0.1**
baz=114
S22A **4UR Ranch, Cre** **113.71** **49** ⇑P **PKiKP** **22 52 18.2 -0.3**
baz=114
S22A ⇑P **PKiKP** **22 52 18.2 -0.3**
baz=114
S22A ⇑P **PKiKP** **22 52 18.2 -0.3**
baz=114
BCLA **Clavier** **113.79** **327** P **Pdif** **22 48 26.4 +0.7**
BCLA PKP **PKiKP** **22 52 18.9 +1.1**
SFJD **Kangerlussuaq** **113.79** **2** PFAKE 22 52 30.0
SFJD LR LR
comp=Z,45μm,21.0s
ECH **Echery** **113.81** **324** *e*PKIKP **PKiKP** **22 52 18.1 +0.1**
ECH MLR MLR
comp=Z,68μm,20.0s
ECH **Echery** **113.81** **324** *e*PKPdf **PKiKP** **22 52 18.1 +0.1**
ECH LR LR
comp=Z,68μm,20.0s
RPN **Rapa Nui** **113.82** **120** PP PP 22 53 10.2 -1.7
comp=Z,5nm,0.3s,baz=236,slow=3.7,SNR=2.2
RPN **Rapa Nui** **113.82** **120** PP PP 22 53 10.2 -1.7
RPN LR LR
comp=Z,96μm,20.0s
T22A **Edith** **113.89** **49** ⇑P **PKiKP** **22 52 18.0 -0.8**
baz=114
T22A ⇑P **PKiKP** **22 52 18.0 -0.8**
baz=114
T22A ⇑P **PKiKP** **22 52 18.0 -0.8**
baz=114
ISCO **Idaho Springs** **113.92** **46** PFAKE 22 52 30.0
ISCO LR LR
comp=Z,119μm,19.0s
X21A **Alamocita Cree** **113.97** **52** ⇑P **PKiKP** **22 52 18.9 -0.1**
baz=114
X21A ⇑P **PKiKP** **22 52 18.9 -0.1**
baz=114
X21A ⇑P **PKiKP** **22 52 18.9 -0.1**
baz=114
MOF **Molkenrain** **114.00** **323** *e*P **Pdif** **22 48 23.9 -2.9**
MOF **Molkenrain** **114.00** **323** *e*P **Pdif** **22 48 23.9 -2.9**
MOF **Molkenrain** **114.00** **323** *e*P **Pdif** **22 48 23.9 -2.9**
220A **Playas Peak, P** **114.07** **55** ⇑P PKPdf 22 52 18.7 -0.4
baz=114
220A ⇑P PKPdf 22 52 18.7 -0.4
baz=114
220A ⇑P PKPdf 22 52 18.7 -0.4
baz=114
HINF **Hinteralfeld** **114.18** **324** *e*PKIKP PKPdf 22 52 18.3 -0.4
comp=Z,224nm,1.7s
V22A **San Miguel Ran** **114.22** **51** ⇑P PKPdf 22 52 18.9 -0.6
baz=114
V22A ⇑P PKPdf 22 52 18.9 -0.6
baz=114
V22A ⇑P PKPdf 22 52 18.9 -0.6
baz=114
SNF **Seneffe** **114.30** **327** PKP PKPdf 22 52 19.2 +0.4
R23A **Moffat** **114.31** **48** ⇑P PKPdf 22 52 19.2 -0.4
baz=114
R23A ⇑P PKPdf 22 52 19.2 -0.4
baz=114
R23A ⇑P PKPdf 22 52 19.2 -0.4
baz=114
DOU **Dourbes** **114.34** **327** PKP PKPdf 22 52 20.2 +1.3
HAU **Haudompre** **114.39** **324** *e*PKIKP PKPdf 22 52 19.0 -0.1
comp=Z,259nm,1.6s
HAU *e*R
comp=Z,106μm,21.8s
PAGF **Fort de Pagny** **114.48** **325** *e*PKIKP PKPdf 22 52 19.3 +0.1
LAZ **Ladron** **114.50** **52** *e*PKPdf PKPdf 22 52 19.6 -0.4
LAZ *e*PKKPbc **PKKPbc** **23 03 01.4 +1.9**
MDND **Maddock** **114.53** **36** ⇑P PKPdf 22 52 18.7 -0.7
baz=114
MDND ⇑P PKPdf 22 52 18.7 -0.7
baz=114
MDND ⇑P PKPdf 22 52 18.7 -0.7
baz=114
K26A **Motz Farm, Whi** **114.53** **43** ⇑P PKPdf 22 52 19.0 -0.7
baz=114
K26A ⇑P PKPdf 22 52 19.0 -0.7
baz=114
K26A ⇑P PKPdf 22 52 19.0 -0.7
baz=114
X22A **Bernardo** **114.57** **52** ⇓P PKPdf 22 52 19.4 -0.7
baz=114
X22A ⇓P PKPdf 22 52 19.4 -0.7
baz=114
X22A ⇓P PKPdf 22 52 19.4 -0.7
baz=114
BAIF **Baives** **114.58** **327** *e*PKIKP PKPdf 22 52 19.7 +0.3
comp=Z,110nm,1.5s
U23A **El Rito** **114.65** **50** ⇓P PKPdf 22 52 18.7 -1.5
baz=115
U23A ⇓P PKPdf 22 52 18.7 -1.5
baz=115
U23A ⇓P PKPdf 22 52 18.7 -1.5
baz=115
LENM **Lemitar** **114.70** **52** *e*PKPdf PKPdf 22 52 17.7 -2.6
SDCO **Great Sand Dun** **114.71** **48** *e*PKKPbc PKKPbc 23 02 54.9 -4.2
SDCO LR LR
comp=Z,191μm,20.0s
SDCO **Great Sand Dun** **114.71** **48** ⇓P PKPdf 22 52 19.4 -1.0
baz=115
SDCO ⇓P PKPdf 22 52 19.4 -1.0
baz=115
SDCO ⇓P PKPdf 22 52 19.4 -1.0
baz=115
SDCO ⇓P PKPdf 22 52 19.4 -1.0
baz=115
SDCO ⇓P PKPdf 22 52 19.4 -1.0
baz=115
SDCO ⇓P PKPdf 22 52 19.4 -1.0
baz=115
V23A **Ortiz Mt. (NFS** **114.84** **51** ⇑P PKPdf 22 52 20.1 -0.6
baz=115
V23A ⇑P PKPdf 22 52 20.1 -0.6
baz=115
V23A ⇑P PKPdf 22 52 20.1 -0.6
baz=115
ANMO **Albuquerque** **114.87** **51** PKKPbc PKKPbc 23 02 58.8 +0.4
comp=Z,4.1nm,1.0s,baz=146,slow=6.0,SNR=4.6
ANMO **Albuquerque** **114.87** **51** *e*PKKPbc PKKPbc 23 02 52.7 -5.6
ANMO LR LR
comp=Z,159μm,20.0s
O25A **Wiggins** **114.88** **45** ⇑P PKPdf 22 52 20.2 -0.3
baz=115
O25A ⇑P PKPdf 22 52 20.2 -0.3

O25A baz=115 ⇑P PKPdf 22 52 20.2 -0.3
baz=115
LPM Los Pinos Moun 114.92 52 *e*PKPdf PKPdf 22 52 20.4 -0.4
LPM *e*PKKPab **PKKPab 23 03 03.5 +0.1**
S24A Houchin Ranch, 114.96 48 ⇓P PKPdf 22 52 19.1 -1.8
baz=115
S24A ⇓P PKPdf 22 52 19.1 -1.8
baz=115
S24A ⇓P PKPdf 22 52 19.1 -1.8
baz=115
BNM Barren Site 114.98 52 *e*PKPdf PKPdf 22 52 20.9 -0.1
BNM *e*PKKPbc **PKKPbc 23 02 57.2 -0.7**
W23A Werner Place, 115.05 51 ⇓P **PKPdf 22 52 20.0 -1.1**
baz=115
W23A ⇓P **PKPdf 22 52 20.0 -1.1**
baz=115
W23A ⇓P **PKPdf 22 52 20.0 -1.1**
baz=115
SFTF Sexfontaines 115.05 325 *e*PKIKP **PKPdf 22 52 20.4 0.0**
comp=Z,174nm,1.8s
P25A Willow Gulch B 115.06 46 ⇓P **PKPdf 22 52 20.0 -0.9**
baz=115
P25A ⇓P **PKPdf 22 52 20.0 -0.9**
baz=115
P25A ⇓P **PKPdf 22 52 20.0 -0.9**
baz=115
FRB Frobisher Bay 115.07 11 PKKPbc PKKPbc 23 02 58.5 +0.3
comp=Z,8.9nm,1.0s,baz=142,slow=3.6,SNR=4.0
FRB Frobisher Bay 115.07 11 PKKPbc PKKPbc 23 02 58.5 +0.3
X23A Hourglass Bar 115.19 52 ⇓P **PKPdf 22 52 20.7 -0.7**
baz=115
X23A ⇓P **PKPdf 22 52 20.7 -0.7**
baz=115
X23A ⇓P **PKPdf 22 52 20.7 -0.7**
baz=115
CABF La Chapelle 115.21 323 *e*PKIKP **PKPdf 22 52 21.1 +0.3**
comp=Z,129nm,1.2s
LPG La Plagne 115.32 321 *e*PKIKP **PKPdf 22 52 21.3 0.0**
comp=Z,60nm,0.9s
LPL La Plagne 115.32 321 *e*PKIKP **PKPdf 22 52 21.2 -0.1**
comp=Z,64nm,1.0s
ULM Lac du Bonnet 115.40 33 PKP **PKPdf 22 52 19.4 -1.6**
comp=Z,9.6nm,0.7s,baz=286,slow=2.6,SNR=9.3
ULM PP **PP 22 53 23.9 +1.9**
comp=Z,8.9nm,1.1s,baz=328,slow=7.5,SNR=2.5
ULM PKKPbc **PKKPbc 23 02 56.5 -0.1**
comp=Z,52nm,0.9s,baz=118,slow=4.5,SNR=11
ULM Lac du Bonnet 115.40 33 PKIKP **PKPdf 22 52 19.4 -1.6**
ULM 22 53 23.9
ULM 23 02 56.6
ULM pmax pmax
comp=Z,10.0nm,0.7s
ULM pmax pmax
comp=Z,9.0nm,1.1s
ULM Lac du Bonnet 115.40 33 PKP **PKPdf 22 52 19.4 -1.6**
ULM *e*PKPdf **PKiKP 22 52 20.1 -0.8**
ULM PP **PP 22 53 23.9 +1.9**
ULM PKKPbc **PKKPbc 23 02 56.5 -0.1**
ULM LR LR
comp=Z,143µm,19.0s
R25A Fountain Ranch 115.47 48 ⇑P **PKPdf 22 52 21.6 0.0**
baz=115
R25A ⇑P **PKPdf 22 52 21.6 0.0**
baz=115
R25A ⇑P **PKPdf 22 52 21.6 0.0**
baz=115
Y23A Lovelace Mesa, 115.50 52 ⇑P **PKPdf 22 52 20.9 -1.0**
baz=115
Y23A ⇑P **PKPdf 22 52 20.9 -1.0**
baz=115
Y23A ⇑P **PKPdf 22 52 20.9 -1.0**
baz=115
S25A Robets Cordova 115.53 48 ⇓P **PKPdf 22 52 21.5 -0.4**
baz=116
S25A ⇓P **PKPdf 22 52 21.5 -0.4**
baz=116
S25A ⇓P **PKPdf 22 52 21.5 -0.4**
baz=116
V24A Rampart Ranch, 115.55 50 ⇑P **PKPdf 22 52 21.0 -1.0**
baz=116
V24A ⇑P **PKPdf 22 52 21.0 -1.0**
baz=116
V24A ⇑P **PKPdf 22 52 21.0 -1.0**
baz=116
Z23A Rita Site, Whi 115.55 53 ⇑P **PKPdf 22 52 22.1 +0.2**
baz=116
Z23A ⇑P **PKPdf 22 52 22.1 +0.2**
baz=116
Z23A ⇑P **PKPdf 22 52 22.1 +0.2**
baz=116
BNI Bardonecchia 115.57 321 *e*PKIKP **PKPdf 22 52 21.4 -0.3**
BNI MLR MLR
comp=Z,89µm,21.0s
BNI Bardonecchia 115.57 321 *e*PKPdf **PKPdf 22 52 21.4 -0.3**
BNI LR LR
comp=Z,89µm,21.0s
W24A Lazy 6 Ranch, 115.61 51 ⇓P **PKPdf 22 52 21.5 -0.6**
baz=116
W24A ⇓P **PKPdf 22 52 21.5 -0.6**
baz=116
W24A ⇓P **PKPdf 22 52 21.5 -0.6**
baz=116
SBF Sospel 115.62 319 *e*PKIKP **PKPdf 22 52 21.1 -0.6**
P26A Davis Ranch, A 115.64 46 ⇓P **PKPdf 22 52 21.4 -0.6**
baz=116
P26A ⇓P **PKPdf 22 52 21.4 -0.6**
baz=116
P26A ⇓P **PKPdf 22 52 21.4 -0.6**
baz=116
T25A Trinidad 115.73 49 ⇑P **PKPdf 22 52 22.1 -0.2**
baz=116
T25A ⇑P **PKPdf 22 52 22.1 -0.2**
baz=116
T25A ⇑P **PKPdf 22 52 22.1 -0.2**
baz=116
N27A Anderson Farm, 115.73 44 ⇑P **PKPdf 22 52 21.5 -0.5**
baz=116
N27A ⇑P **PKPdf 22 52 21.5 -0.5**
baz=116
N27A ⇑P **PKPdf 22 52 21.5 -0.5**
baz=116
U25A Circle Dot Ran 115.98 49 ⇓P **PKPdf 22 52 23.7 +0.9**
baz=116
U25A ⇓P **PKPdf 22 52 23.7 +0.9**
baz=116
U25A ⇓P **PKPdf 22 52 23.7 +0.9**
baz=116
Y24A Capitan 115.99 52 ⇓P **PKPdf 22 52 23.1 +0.3**
baz=116
Y24A ⇓P **PKPdf 22 52 23.1 +0.3**
baz=116
Y24A ⇓P **PKPdf 22 52 23.1 +0.3**
baz=116
O27A Beecher Island 116.01 45 ⇓P **PKPdf 22 52 22.6 0.0**
baz=116
O27A ⇓P **PKPdf 22 52 22.6 0.0**
baz=116
O27A ⇓P **PKPdf 22 52 22.6 0.0**
baz=116
V25A Rancho No Teng 116.01 50 ⇓P **PKPdf 22 52 22.2 -0.6**
baz=116
V25A ⇓P **PKPdf 22 52 22.2 -0.6**
baz=116
V25A ⇓P **PKPdf 22 52 22.2 -0.6**
baz=116
OGNE Ogallala 116.02 44 *e*PKPdf **PKPdf 22 52 22.8 +0.2**
OGNE LR LR
comp=Z,127µm,21.0s
OGNE Ogallala 116.02 44 ⇑P **PKPdf 22 52 22.5 -0.1**
baz=116
OGNE ⇑P **PKPdf 22 52 22.5 -0.1**
baz=116
OGNE ⇑P **PKPdf 22 52 22.5 -0.1**
baz=116
R26A Arlington 116.03 47 ⇑P **PKPdf 22 52 22.2 -0.5**
baz=116
R26A ⇑P **PKPdf 22 52 22.2 -0.5**
baz=116
R26A ⇑P **PKPdf 22 52 22.2 -0.5**
baz=116
VSL Villasalto 116.08 314 PFAKE 22 52 30.0 +7.4
VSL LR LR
comp=Z,44µm,19.0s
ORIF Oris-en-Rattie 116.13 321 *e*PKIKP **PKPdf 22 52 22.6 -0.1**
comp=Z,46nm,1.0s
ORIF *e*R
comp=Z,92µm,22.2s

LOR Lormes 116.21 324 *e*PKIKP **PKPdf 22 52 22.7 +0.1**
comp=Z,130nm,1.6s
LOR *e*R
comp=Z,73µm,20.5s
Z24A Sheeppen Canyo 116.23 53 ⇑P **PKPdf 22 52 24.2 +0.8**
baz=116
Z24A ⇑P **PKPdf 22 52 24.2 +0.8**
baz=116
Z24A ⇑P **PKPdf 22 52 24.2 +0.8**
baz=116
W25A X Bar L Ranch, 116.34 51 ⇑P **PKPdf 22 52 23.9 +0.5**
baz=116
W25A ⇑P **PKPdf 22 52 23.9 +0.5**
baz=116
W25A ⇑P **PKPdf 22 52 23.9 +0.5**
baz=116
AGMN Agassiz Nation 116.47 34 *e*PKPdf **PKPdf 22 52 20.7 -2.4**
AGMN LR LR
comp=Z,175µm,20.0s
224A Cornudas Mount 116.47 54 ⇑P **PKPdf 22 52 22.8 -1.0**
baz=116
224A ⇑P **PKPdf 22 52 22.8 -1.0**
baz=116
224A ⇑P **PKPdf 22 52 22.8 -1.0**
baz=116
U26A Atchley Ranch, 116.49 49 ⇓P **PKPdf 22 52 23.8 0.0**
baz=116
U26A ⇓P **PKPdf 22 52 23.8 0.0**
baz=116
U26A ⇓P **PKPdf 22 52 23.8 0.0**
baz=116
R27A Eads 116.51 47 ⇑P **PKPdf 22 52 23.4 -0.2**
baz=116
R27A ⇑P **PKPdf 22 52 23.4 -0.2**
baz=116
R27A ⇑P **PKPdf 22 52 23.4 -0.2**
baz=116
SSF Saint Saulge 116.53 324 *e*PKIKP **PKPdf 22 52 23.2 0.0**
comp=Z,109nm,1.3s
Y25A Mesa, Roswell 116.58 52 ⇑P **PKPdf 22 52 23.4 -0.5**
baz=116
Y25A ⇑P **PKPdf 22 52 23.4 -0.5**
baz=116
Y25A ⇑P **PKPdf 22 52 23.4 -0.5**
baz=116
324A Moseley Ranch, 116.69 55 ⇓P **PKPdf 22 52 24.2 0.0**
baz=117
324A ⇓P **PKPdf 22 52 24.2 0.0**
baz=117
324A ⇓P **PKPdf 22 52 24.2 0.0**
baz=117
MNTX Cornudas Mount 116.70 55 *e*PKPdf **PKPdf 22 52 24.2 +0.1**
MNTX *e*PKKPbc **PKKPbc 23 02 50.8 -0.8**
MNTX LR LR
comp=Z,152µm,19.0s
MNTX Cornudas Mount 116.70 55 ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
MNTX ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
MNTX ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
MNTX ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
MNTX ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
MNTX ⇓P **PKPdf 22 52 24.5 +0.5**
baz=117
AVF Avril sur Loir 116.76 324 *e*PKIKP **PKPdf 22 52 23.3 -0.4**
comp=Z,42nm,1.2s
Z25A Roswell 116.76 53 ⇑P **PKPdf 22 52 24.4 +0.2**
baz=117
Z25A ⇑P **PKPdf 22 52 24.4 +0.2**
baz=117
Z25A ⇑P **PKPdf 22 52 24.4 +0.2**
baz=117
SMRF Simiane la Rot 116.77 320 *e*PKIKP **PKPdf 22 52 24.1 +0.3**
comp=Z,202nm,1.4s
SSB Saint Sauveur 116.80 322 *e*PKIKP **PKPdf 22 52 23.6 -0.3**
SSB *e* 22 53 27.9
SSB MLR MLR
comp=Z,50µm,20.0s
SSB Saint Sauveur 116.80 322 *e*PKPdf **PKPdf 22 52 23.6 -0.3**
SSB *e*PP **PP 22 53 27.9 -4.1**
SSB LR LR
comp=Z,50µm,20.0s
VIVF Saint-Julien-l 116.92 321 *e*PKIKP **PKPdf 22 52 24.0 -0.1**
comp=Z,86nm,1.2s
125A Gardner Draw, 117.00 53 ⇓P **PKPdf 22 52 24.4 -0.3**
baz=117
125A ⇓P **PKPdf 22 52 24.4 -0.3**
baz=117
125A ⇓P **PKPdf 22 52 24.4 -0.3**
baz=117
T27A Campo 117.02 48 ⇑P **PKPdf 22 52 24.7 0.0**
baz=117
T27A ⇑P **PKPdf 22 52 24.7 0.0**
baz=117
T27A ⇑P **PKPdf 22 52 24.7 0.0**
baz=117
X26A CR and CF Fran 117.06 51 ⇓P **PKPdf 22 52 25.1 +0.2**
baz=117
X26A ⇓P **PKPdf 22 52 25.1 +0.2**
baz=117
X26A ⇓P **PKPdf 22 52 25.1 +0.2**
baz=117
325A Bean Ranch, Si 117.13 55 ⇑P **PKPdf 22 52 25.0 -0.1**
baz=117
325A ⇑P **PKPdf 22 52 25.0 -0.1**
baz=117
325A ⇑P **PKPdf 22 52 25.0 -0.1**
baz=117
BGF Bois d'Agland 117.17 324 *e*PKIKP **PKPdf 22 52 24.7 +0.2**
comp=Z,300nm,1.5s
425A Indio Mountain 117.29 55 ⇑P **PKPdf 22 52 24.6 -0.8**
baz=117
425A ⇑P **PKPdf 22 52 24.6 -0.8**
baz=117
425A ⇑P **PKPdf 22 52 24.6 -0.8**
baz=117
T28A Walsh 117.45 48 ⇓P **PKPdf 22 52 25.0 -0.4**
baz=117
T28A ⇓P **PKPdf 22 52 25.0 -0.4**
baz=117
T28A ⇓P **PKPdf 22 52 25.0 -0.4**
baz=117
W27A Bowe Ranch, En 117.47 50 ⇑P **PKPdf 22 52 24.9 -0.7**
baz=117
W27A ⇑P **PKPdf 22 52 24.9 -0.7**
baz=117
W27A ⇑P **PKPdf 22 52 24.9 -0.7**
baz=117
KEST Kesra 117.50 310 PKP **PKPdf 22 52 24.2 -1.3**
comp=Z,5.9nm,0.9s,baz=338,slow=2.5,SNR=7.6
KEST PP **PP 22 53 38.7 +1.3**
comp=Z,22nm,1.0s,baz=9.0,slow=1.9,SNR=5.7
KEST PKKPbc **PKKPbc 23 02 50.0 +1.0**
comp=Z,4.0nm,0.8s,baz=237,slow=3.2,SNR=6.7
KEST Kesra 117.50 310 PKP **PKPdf 22 52 24.2 -1.3**
KEST *e*PKPdf **PKiKP 22 52 25.6 0.0**
KEST PP **PP 22 53 38.7 +1.3**
KEST PKKPbc **PKKPbc 23 02 50.0 +1.0**
126A Clayton Basin, 117.51 53 ⇑P **PKPdf 22 52 25.3 -0.4**
baz=118
126A ⇑P **PKPdf 22 52 25.3 -0.4**
baz=118
126A ⇑P **PKPdf 22 52 25.3 -0.4**
baz=118
CPRX Cap Rock 117.51 53 *e*PKKPbc PKKPbc 23 02 48.9 0.0
226A Malaga, Loving 117.63 54 ⇑P **PKPdf 22 52 25.3 -0.6**
baz=118
226A ⇑P **PKPdf 22 52 25.3 -0.6**
baz=118
226A ⇑P **PKPdf 22 52 25.3 -0.6**
baz=118
LDF La Druitiere 117.75 327 *e*PKIKP **PKPdf 22 52 25.2 -0.3**
Y27A Causey 117.79 52 ⇑P **PKPdf 22 52 25.9 -0.3**
baz=118
Y27A ⇑P **PKPdf 22 52 25.9 -0.3**
baz=118
Y27A ⇑P **PKPdf 22 52 25.9 -0.3**
baz=118
LASF Ste Croix 117.81 321 *e*PKIKP **PKPdf 22 52 25.9 +0.1**
comp=Z,288nm,1.8s
FLN La Foliniere 117.85 327 *e*PKIKP **PKPdf 22 52 25.7 0.0**
comp=Z,148nm,1.4s
FLN *e*R
comp=Z,149µm,21.5s
Z27A Tatum 117.94 52 ⇓P **PKPdf 22 52 26.0 -0.5**
baz=118
Z27A ⇓P **PKPdf 22 52 26.0 -0.5**
baz=118
Z27A ⇓P **PKPdf 22 52 26.0 -0.5**
baz=118
DLF Lyons Farm 117.94 334 *e*P **PKPdf 22 52 27.8 +2.1**
DLF Lyons Farm 117.94 334 *e*P PKKPbc 23 02 37.0 -11
326A Caldwell Ranch 117.96 55 ⇑P **PKPdf 22 52 26.2 -0.3**
baz=118
326A ⇑P **PKPdf 22 52 26.2 -0.3**
baz=118
326A ⇑P **PKPdf 22 52 26.2 -0.3**
baz=118
127A Arkansas Junct 118.03 53 ⇑P **PKPdf 22 52 26.5 -0.2**
baz=118
127A ⇑P **PKPdf 22 52 26.5 -0.2**
baz=118
127A ⇑P **PKPdf 22 52 26.5 -0.2**
baz=118
MSTX Muleshoe 118.07 51 ⇑P **PKPdf 22 52 26.1 -0.6**
baz=118
MSTX ⇑P **PKPdf 22 52 26.1 -0.6**
baz=118
MSTX ⇑P **PKPdf 22 52 26.1 -0.6**
baz=118
426A McDonald Obser 118.11 55 ⇓P **PKPdf 22 52 26.3 -0.7**
baz=118
426A ⇓P **PKPdf 22 52 26.3 -0.7**
baz=118
426A ⇓P **PKPdf 22 52 26.3 -0.7**
baz=118
526A Mary Lane Ranc 118.24 56 ⇑P **PKPdf 22 52 27.3 0.0**
baz=118
526A ⇑P **PKPdf 22 52 27.3 0.0**
baz=118
526A ⇑P **PKPdf 22 52 27.3 0.0**
baz=118
GRR Gorron 118.27 327 *e*PKIKP **PKPdf 22 52 26.4 -0.1**
comp=Z,116nm,1.4s
ECSD EROS Data Cent 118.36 39 *e*PKPdf **PKPdf 22 52 25.1 -1.8**
ECSD LR LR
comp=Z,138µm,21.0s
BGNE Belgrade 118.47 42 ⇓P **PKPdf 22 52 26.7 -0.5**
baz=118
BGNE ⇓P **PKPdf 22 52 26.7 -0.5**
baz=118
BGNE ⇓P **PKPdf 22 52 26.7 -0.5**
baz=118
CAF Calviac 118.49 323 *e*PKIKP **PKPdf 22 52 27.6 +0.5**
comp=Z,219nm,1.7s
CBKS Cedar Bluff 118.51 45 *e*PKIKP **PKPdf 22 52 27.6 +0.2**
CBKS MLR MLR
comp=Z,154µm,22.0s
CBKS Cedar Bluff 118.51 45 *e*PKPdf **PKPdf 22 52 27.6 +0.2**
CBKS LR LR
comp=Z,154µm,22.0s
CBKS Cedar Bluff 118.51 45 ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
CBKS ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
CBKS ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
CBKS ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
CBKS ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
CBKS ⇑P **PKPdf 22 52 27.0 -0.3**
baz=118
427A Hayter Ranch, 118.57 55 ⇓P **PKPdf 22 52 26.8 -0.9**
baz=118
427A ⇓P **PKPdf 22 52 26.8 -0.9**
baz=118
427A ⇓P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX Amarillo 118.59 50 *e*PKPdf **PKPdf 22 52 27.2 -0.5**
AMTX LR LR
comp=Z,180µm,21.0s
AMTX Amarillo 118.59 50 ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
AMTX ⇑P **PKPdf 22 52 26.8 -0.9**
baz=118
527A Woodward Ranch 118.61 56 ⇑P **PKPdf 22 52 27.2 -0.7**
baz=119
527A ⇑P **PKPdf 22 52 27.2 -0.7**
baz=119
527A ⇑P **PKPdf 22 52 27.2 -0.7**
baz=119
RJF Les Rejaudoux 118.62 323 *e*PKIKP **PKPdf 22 52 27.6 +0.3**
comp=Z,168nm,1.7s
RJF *e*R
comp=Z,117µm,23.0s
TXAR Lajitas Array 118.80 57 Pdiff **Pdif 22 48 51.4 +2.7**
comp=Z,0.1nm,0.6s,baz=33,slow=3.0,SNR=3.6
TXAR PKP **PKPdf 22 52 28.3 +0.1**
comp=Z,4.4nm,0.9s,baz=196,slow=1.7,SNR=12
TXAR PKKPbc **PKKPab 23 02 45.9 -0.5**
comp=Z,9.3nm,1.0s,baz=112,slow=2.2,SNR=21
TXAR Lajitas Array 118.80 57 P **Pdif 22 48 51.4 +2.7**
TXAR 22 52 28.3
TXAR Lajitas Array 118.80 57 Pdif **Pdif 22 48 51.4 +2.7**
TXAR PKP **PKPdf 22 52 28.3 +0.1**
TXAR PKKPbc **PKKPab 23 02 45.9 -0.5**
328A Wristen Ranch, 118.89 54 ⇓P **PKPdf 22 52 27.9 -0.4**
baz=119
328A ⇓P **PKPdf 22 52 27.9 -0.4**
baz=119
328A ⇓P **PKPdf 22 52 27.9 -0.4**
baz=119
MFF Saint Martin d 118.89 325 *e*PKIKP **PKPdf 22 52 27.7 -0.1**
comp=Z,100nm,1.1s
627A Terlingua Ranc 119.00 56 ⇓P **PKPdf 22 52 28.4 -0.2**
baz=119
627A ⇓P **PKPdf 22 52 28.4 -0.2**
baz=119
627A ⇓P **PKPdf 22 52 28.4 -0.2**
baz=119
EYMN Ely 119.08 33 *e*PKPdf **PKPdf 22 52 27.9 -0.2**
EYMN LR LR
comp=Z,168µm,20.0s
428A Kincaid Ranch, 119.19 55 ⇓P **PKPdf 22 52 28.4 -0.6**
baz=119
428A ⇓P **PKPdf 22 52 28.4 -0.6**
baz=119
428A ⇓P **PKPdf 22 52 28.4 -0.6**
baz=119
MTLF Montolieu 119.20 321 *e*PKIKP **PKPdf 22 52 28.5 0.0**
comp=Z,100nm,1.3s
SGMF Saint Gilles 119.26 328 *e*PKIKP **PKPdf 22 52 28.1 -0.3**
comp=Z,91nm,1.1s
528A Cox Ranch, San 119.28 56 ⇑P **PKPdf 22 52 29.2 0.0**
baz=119
528A ⇑P **PKPdf 22 52 29.2 0.0**
baz=119
528A ⇑P **PKPdf 22 52 29.2 0.0**
baz=119
CASM Ain Smara 119.45 312 P **PKPdf 22 52 30.0 +0.8**
ROSF Rostrenen 119.59 328 *e*PKIKP **PKPdf 22 52 28.8 -0.3**
comp=Z,104nm,1.3s
MSKU Masuku 119.66 268 PKP **PKPdf 22 52 30.1 -0.1**
comp=Z,40nm,0.8s,baz=0.0,slow=3.0,SNR=11
MSKU PP **PP 22 53 49.6 -3.7**
comp=Z,12nm,0.7s,baz=182,slow=22,SNR=1.7
MSKU Masuku 119.66 268 PKP **PKPdf 22 52 30.1 -0.1**
MSKU PP **PP 22 53 49.6 -3.7**
MSKU LR LR
comp=Z,2.0nm,22.0s
DFRA Djebel Bou Aff 119.79 313 P **PKPdf 22 52 32.0 +2.0**
QUIF Quistinic 119.79 328 *e*PKIKP **PKPdf 22 52 29.1 -0.3**
comp=Z,209nm,1.5s
SPMN St. Paul 119.91 36 ⇑P **PKPdf 22 52 28.8 -1.0**
baz=120
SPMN ⇑P **PKPdf 22 52 28.8 -1.0**
baz=120
SPMN ⇑P **PKPdf 22 52 28.8 -1.0**
baz=120
SET Setif 120.28 312 P **PKPdf 22 52 33.0 +2.1**
EPF Esparros 120.54 321 *e*PKIKP **PKPdf 22 52 31.2 +0.1**
comp=Z,156nm,1.5s
KSU1 Kansas State U 120.57 44 *e*PKPdf **PKPdf 22 52 30.4 -0.9**

KSU1 LR LR
comp=Z,147µm,22.0s
WMOK Wichita Mounta 120.86 49 *e*PKIKP **PKPdf** 22 52 31.5 -0.5
WMOK MLR MLR
comp=Z,142µm,22.0s
WMOK Wichita Mounta 120.86 49 *e*PKPdf **PKPdf** 22 52 31.5 -0.5
WMOK *e*PKKPbc **PKKPbc** 23 02 36.4 -0.2
WMOK LR LR
comp=Z,142µm,22.0s
ETSF Etsaut 121.17 322 *e*PKIKP **PKPdf** 22 52 33.0 +0.6
comp=Z,313nm,1.7s
SCIA State Center 121.45 39 *e*PKPdf **PKPdf** 22 52 33.1 +0.2
SCIA LR LR
comp=Z,88µm,20.0s
SJPF Ste Jean 121.46 322 *e*PKIKP **PKPdf** 22 52 33.5 +0.6
comp=Z,189nm,1.4s
JCT Junction City 121.62 54 *e*PKIKP **PKPdf** 22 52 32.1 -1.5
JCT MLR MLR
comp=Z,266µm,22.0s
JCT Junction City 121.62 54 *e*PKPdf **PKPdf** 22 52 32.1 -1.5
JCT *e*PKKPbc **PKKPbc** 23 02 32.7 -0.9
JCT LR LR
comp=Z,266µm,22.0s
JCT Junction City 121.62 54 ⇓P **PKPdf** 22 52 33.1 -0.4
baz=122
JCT ⇓P **PKPdf** 22 52 33.1 -0.4
baz=122
JCT ⇓P **PKPdf** 22 52 33.1 -0.4
baz=122
USHA Ushuaia 121.83 165 PKP **PKPdf** 22 52 33.4 +0.2
comp=Z,52nm,1.0s,baz=211,slow=1.9,SNR=11
USHA PP **PP** 22 54 07.2 +1.4
comp=Z,15nm,0.9s,baz=138,slow=10,SNR=1.3
USHA Ushuaia 121.83 165 PKP **PKPdf** 22 52 33.4 +0.2
USHA PP **PP** 22 54 07.2 +1.4
TUL1 Tulsa 122.59 47 ⇑P **PKPdf** 22 52 35.3 +0.1
baz=122
TUL1 ⇑P **PKPdf** 22 52 35.3 +0.1
baz=122
TUL1 ⇑P **PKPdf** 22 52 35.3 +0.1
baz=122
JFWS Jewell Farm 122.73 37 *e*PKIKP **PKPdf** 22 52 33.6 -1.7
JFWS MLR MLR
comp=Z,109µm,20.0s
JFWS Jewell Farm 122.73 37 *e*PKPdf **PKPdf** 22 52 33.6 -1.7
JFWS LR LR
comp=Z,109µm,20.0s
RFTA Plano 123.14 50 *e*PKPdf **PKPdf** 22 52 37.1 +0.7
SCHQ Schefferville 123.58 14 PKP **PKPdf** 22 52 35.5 -1.1
comp=Z,26nm,1.0s,baz=43,slow=3.7,SNR=8.4
SCHQ PP **PP** 22 54 17.9 +0.1
comp=Z,13nm,1.0s,baz=205,slow=12,SNR=2.0
SCHQ PKKPbc **PKKPbc** 23 02 29.8 +3.0
comp=Z,6.3nm,0.7s,baz=220,slow=9.2,SNR=7.0
SCHQ Schefferville 123.58 14 *e*PKPdf **PKPdf** 22 52 33.8 -2.8
SCHQ PKP **PKPdf** 22 52 35.5 -1.1
SCHQ PP **PP** 22 54 17.9 +0.1
SCHQ PKKPbc **PKKPbc** 23 02 29.8 +3.0
SCHQ LR LR
comp=Z,91µm,20.0s
KVTX Kingsville 124.19 57 PFAKE 22 52 50.0 +12
KVTX LR LR
comp=Z,109µm,19.0s
HDIL Hopedale 124.66 39 *e*PKPdf **PKPdf** 22 52 38.2 -0.9
HDIL LR LR
comp=Z,112µm,19.0s
GLMI Grayling 124.74 32 *e*PKPdf **PKPdf** 22 52 38.4 -0.7
GLMI LR LR
comp=Z,189µm,20.0s
TAM Tamanrasset 124.76 297 *e*PKIKP **PKPdf** 22 52 40.4 +0.5
TAM *e* 22 54 20.7
TAM MLR MLR
comp=Z,29µm,19.0s
TAM Tamanrasset 124.76 297 *e*PKPdf **PKPdf** 22 52 40.4 +0.5
TAM *e*PP PP 22 54 20.6 -6.9
TAM LR LR
comp=Z,29µm,19.0s
MIAR Mount Ida 124.82 47 *e*PKIKP **PKPdf** 22 52 38.9 -0.7
MIAR *e* 22 54 32.1
MIAR MLR MLR
comp=Z,180µm,21.0s
MIAR Mount Ida 124.82 47 *e*PKPdf **PKPdf** 22 52 38.9 -0.7
MIAR *e*PP **PP** 22 54 32.1 +4.9
MIAR LR LR
comp=Z,180µm,21.0s
HKT Hockley 125.02 53 *e*PKIKP **PKPdf** 22 52 40.8 +0.9
HKT Hockley 125.02 53 *e*PKPdf **PKPdf** 22 52 40.8 +0.9
ESDC Sonseca Array 125.08 320 PKP **PKPdf** 22 52 39.2 -0.7
comp=Z,7.2nm,1.0s,baz=19,slow=4.0,SNR=15
ESDC PP **PP** 22 54 27.7 -1.0
comp=Z,11nm,1.0s,baz=49,slow=5.8,SNR=4.5
ESDC PKKPbc PKKPbc 23 02 25.8 +5.4
comp=Z,1.5nm,0.9s,baz=240,slow=3.1,SNR=4.4
ESDC SKKPbc SKKPbc 23 06 10.1 +1.0
comp=Z,3.7nm,1.0s,baz=233,slow=4.8,SNR=4.6
ESDC Sonseca Array 125.08 320 PKP **PKPdf** 22 52 39.2 -0.7
ESDC PP **PP** 22 54 27.7 -1.0
ESDC PKKPbc PKKPbc 23 02 25.8 +5.4
ESDC SKKPbc SKKPbc 23 06 10.1 +1.0
ESLA Sonseca Array 125.08 320 *e*PKPdf **PKPdf** 22 52 39.9 0.0
ESLA *e*PP PP 22 54 36.9 +8.2
ESLA LR LR
comp=Z,267µm,19.0s
PAB San Pablo 125.40 320 *e*PKIKP **PKPdf** 22 52 40.6 0.0
PAB MLR MLR
comp=Z,40µm,20.0s
PAB San Pablo 125.40 320 *e*PKPdf **PKPdf** 22 52 40.5 0.0
PAB LR LR
comp=Z,40µm,20.0s
PBRG Braganca 125.54 324 *e*PKPdf **PKPdf** 22 52 42.0 +1.2
PBRG Braganca 125.54 324 *e*PP PP 22 54 33.1 +1.5
UALR University of 125.61 46 *e*PKPdf **PKPdf** 22 52 39.5 -1.6
UALR *e*PP **PP** 22 54 31.7 -0.7
MVO Moncorvo 126.11 323 *e*PKPdf **PKPdf** 22 52 42.1 +0.2
MVO Moncorvo 126.11 323 *e*PP PP 22 54 34.2 -1.2
MVO *e*LR LR 23 36 35.7
comp=Z,43µm,18.0s
SFIN Scholer Farm 126.13 38 ⇓P **PKPdf** 22 52 41.6 -0.3
baz=126
SFIN ⇓P **PKPdf** 22 52 41.6 -0.3
baz=126
SFIN ⇓P **PKPdf** 22 52 41.6 -0.3
baz=126
SIUC Southern Illin 126.29 42 *e*PKPdf **PKPdf** 22 52 41.8 -0.5
PGAV Gavieira, Arco 126.33 325 *e*PKPdf PKPdf 22 52 47.9 +5.5
PGAV Gavieira, Arco 126.33 325 *e*PP PP 22 54 37.7 +0.8
POLO Lamas de Olo 126.43 324 *e*PKPdf **PKPdf** 22 52 41.4 -1.2
POLO Lamas de Olo 126.43 324 *e*PP PP 22 54 34.3 -3.3
HBAR Harrisburg 126.44 45 *e*PKPdf **PKPdf** 22 52 42.4 -0.2
OLIL Olney 126.45 40 *e*PKPdf **PKPdf** 22 52 42.6 0.0
OLIL *e*PP PP 22 54 44.5 +6.7
PARMO Parma 126.49 43 *e*PKPdf **PKPdf** 22 52 41.8 -0.9
GNAR Gosnell 126.67 44 *e*PKPdf **PKPdf** 22 52 42.9 -0.2
MTE Manteigas 126.88 323 *e*PKPdf **PKPdf** 22 52 44.6 +1.2
MTE Manteigas 126.88 323 *e*PP PP 22 54 42.7 +2.1
MTE Manteigas 126.88 323 *e*PKPdf **PKPdf** 22 52 44.2 +0.8
MTE LR LR
comp=Z,58µm,19.0s
PVIS Viseu 126.90 323 *e*PP PP 22 54 58.4 +18
EFI East Falkland 126.93 171 *e*PKIKP **PKPdf** 22 52 43.5 +0.5
EFI MLR MLR
comp=Z,34µm,19.0s
EFI East Falkland 126.93 171 *e*PKPdf **PKPdf** 22 52 43.5 +0.5
EFI LR LR
comp=Z,34µm,19.0s
AAM Ann Arbor 126.94 34 *e*PKIKP **PKPdf** 22 52 42.8 -0.5
AAM MLR MLR
comp=Z,117µm,20.0s
AAM Ann Arbor 126.94 34 *e*PKPdf **PKPdf** 22 52 42.8 -0.5
AAM LR LR
comp=Z,117µm,20.0s
GLAT Glass 127.02 43 *e*PKPdf **PKPdf** 22 52 43.3 -0.4
HALT Halls 127.17 44 *e*PKPdf **PKPdf** 22 52 44.3 +0.3
USIN University of 127.17 41 *e*PKPdf **PKPdf** 22 52 42.0 -1.9
USIN *e*PP **PP** 22 54 38.6 -3.9
PCBR Castelo Branco 127.18 322 *e*PKPdf **PKPdf** 22 52 44.6 +0.7
BLO Bloomington 127.20 39 *e*PKIKP **PKPdf** 22 52 42.6 -1.3
BLO *e* 22 54 43.8
BLO Bloomington 127.20 39 *e*PKPdf **PKPdf** 22 52 42.6 -1.3
BLO *e*PP **PP** 22 54 43.8 +1.2
PMRV Marv??o 127.38 322 *e*PKPdf **PKPdf** 22 52 44.1 -0.2
PMRV Marv??o 127.38 322 *e*PP PP 22 54 45.9 +2.1
PESTR Estremoz 127.84 321 *e*PKPdf **PKPdf** 22 52 46.0 +0.8
PESTR Estremoz 127.84 321 *e*PP PP 22 54 48.6 +1.7

PTOM Tomar 127.89 323 *e*PKPdf **PKPdf** 22 52 45.8 +0.5
PTOM Tomar 127.89 323 *e*PP PP 22 54 57.9 +11
WCI Wyandotte Cave 127.90 40 *e*PKIKP **PKPdf** 22 52 43.6 -1.8
WCI Wyandotte Cave 127.90 40 *e*PKPdf **PKPdf** 22 52 43.5 -1.8
PBAR Barrancos 127.91 320 *e*PKPdf **PKPdf** 22 52 46.1 +0.8
PBAR Barrancos 127.91 320 *e*PP PP 22 54 48.0 +0.7
WVT Waverly 128.09 43 *e*PKIKP **PKPdf** 22 52 44.9 -0.8
WVT Waverly 128.09 43 *e*PKPdf **PKPdf** 22 52 44.9 -0.8
PMTG Montargil 128.11 322 *e*PKPdf **PKPdf** 22 52 45.8 +0.1
PMTG Montargil 128.11 322 *e*PP PP 22 54 50.1 +1.5
VBMS Vicksburg 128.17 48 PFAKE 22 53 00.0 +14
VBMS LR LR
comp=Z,171µm,20.0s
EVO Evora 128.31 321 *e*PKPdf **PKPdf** 22 52 46.8 +0.7
EVO Evora 128.31 321 *e*PP PP 22 54 48.0 -1.9
EVO Evora 128.31 321 *e*PKIKP **PKPdf** 22 52 45.8 -0.3
comp=Z,584nm,1.6s
EVO *e*R
comp=Z,81µm,23.0s
SFS San Fernando 128.34 318 PFAKE 22 53 00.0 +14
SFS LR LR
comp=Z,92µm,19.0s
PBEJ Beja 128.52 321 *e*PPKPdf **PKPdf** 22 52 47.3 +0.8
PBEJ Beja 128.52 321 *e*PP PP 22 55 04.1 +13
PLAL Pickwick Lake 128.54 44 *e*PKPdf **PKPdf** 22 52 44.9 -1.7
PLAL *e*PP PP 22 54 58.4 +6.7
PLAL LR LR
comp=Z,164µm,22.0s
ACSO Alum Creek Sta 128.68 35 *e*PKPdf **PKPdf** 22 52 45.5 -1.2
ACSO LR LR
comp=Z,129µm,22.0s
COYC Coyhaique 128.74 157 *e*P **PKPdf** 22 52 47.6 +1.0
COYC Coyhaique 128.74 157 *e*P **PKPdf** 22 52 47.6 +1.0
PVAQ Vaqueiros 128.79 320 *e*PKPdf **PKPdf** 22 52 49.0 +2.0
PVAQ Vaqueiros 128.79 320 *e*PP PP 22 54 56.0 +2.8
PMAFR Mafra 128.83 323 *e*PKPdf **PKPdf** 22 52 48.5 +1.4
PMAFR Mafra 128.83 323 *e*PP PP 22 54 54.4 +1.1
MESJ Messejana 128.85 321 *e*P **PKPdf** 22 52 46.3 -0.8
MESJ *e*PP **PP** 22 54 53.2 -0.3
MESJ *e*SS SS 23 12 10.5 +0.9
MESJ AMS AMS 23 45 04.8
comp=E,63µm,21.0s
MESJ Messejana 128.85 321 *e*PKIKP **PKPdf** 22 52 46.3 -0.8
MESJ *e* 22 54 53.2
PCVE Castro Verde 128.86 320 *e*PKPdf **PKPdf** 22 52 45.2 -2.0
PCVE Castro Verde 128.86 320 *e*PP PP 22 54 48.6 -5.0
PNCL Nicolau / Gran 128.88 321 *e*PKPdf **PKPdf** 22 52 47.9 +0.7
PNCL Nicolau / Gran 128.88 321 *e*PP PP 22 54 53.4 -0.3
LIS Lisbon 128.90 322 *e*P **PKPdf** 22 52 45.4 -1.9
LIS *e*PP **PP** 22 54 53.2 -0.5
LIS *e*SS SS 23 12 10.6 +0.7
LIS AMS AMS 23 54 16.8
comp=Z,50µm,26.2s
LIS Lisbon 128.90 322 *e*PP PP 22 54 53.2 -0.5
LIS *e*SS SS 23 12 10.6 +0.6
LIS A A 23 54 16.8
comp=Z,50µm,26.2s
LIS Lisbon 128.90 322 *e*PKIKP **PKPdf** 22 52 45.3 -1.9
LIS *e* 22 54 53.2
PBDV Barranco-do-Ve 129.03 320 *e*PKPdf **PKPdf** 22 52 46.5 -1.0
PBDV Barranco-do-Ve 129.03 320 *e*PP PP 22 54 57.1 +2.4
ERPA Erie 129.05 32 *e*PKPdf **PKPdf** 22 52 47.0 -0.4
ERPA LR LR
comp=Z,140µm,20.0s
MSNY Massena 129.35 26 *e*PKPdf **PKPdf** 22 52 47.7 -0.1
PTEO Sao Teotonio 129.35 321 *e*PKPdf **PKPdf** 22 52 49.8 +1.7
PTEO Sao Teotonio 129.35 321 *e*PP PP 22 55 10.0 +13
MORF Marmelete 129.45 320 *e*PKPdf **PKPdf** 22 52 49.2 +0.8
MORF Marmelete 129.45 320 *e*PP PP 22 54 56.6 -0.9
MORF Marmelete 129.45 320 *e*PKIKP **PKPdf** 22 52 46.6 -1.8
MORF *e* 22 54 56.1
PFVI Vila Bisbo 129.66 320 *e*PKPdf **PKPdf** 22 52 48.4 -0.3
PFVI Vila Bisbo 129.66 320 *e*PP PP 22 55 01.3 +2.5
LONY Lake Ozonia 129.77 26 *e*PKPdf **PKPdf** 22 52 47.9 -0.8
LONY LR LR
comp=Z,77µm,20.0s
CMIG Matias Romero 129.87 68 PKP **PKPdf** 22 52 47.5 -2.1
comp=Z,8.5nm,0.3s,baz=123,slow=11,SNR=12
CMIG Matias Romero 129.87 68 PKP **PKPdf** 22 52 47.5 -2.1
SWET Sewanee 129.88 42 *e*PKPdf **PKPdf** 22 52 47.6 -1.6
FRNY Flat Rock 130.02 25 *e*PKPdf **PKPdf** 22 52 48.7 -0.5
RTC Rabat Centre 130.16 316 PFAKE 22 53 00.0 +10
RTC LR LR
comp=Z,27µm,20.0s
LRAL Lakeview Retre 130.33 45 *e*PKPdf **PKPdf** 22 52 48.7 -1.4
LRAL LR LR
comp=Z,129µm,20.0s
TORD Torodi Ar. Bea 130.52 287 PKP **PKPdf** 22 52 49.5 -1.4
comp=Z,27nm,0.9s,baz=59,slow=2.4,SNR=39
TORD Torodi Ar. Bea 130.52 287 PKP **PKPdf** 22 52 49.5 -1.4
PQI Presque Isle 130.57 19 *e*PKPdf **PKPdf** 22 52 50.6 +0.4
TZTV Tazewell 130.66 40 *e*PKPdf **PKPdf** 22 52 50.8 +0.1
CPCT Cooper Cave 130.68 41 *e*PKPdf **PKPdf** 22 52 50.3 +0.4
TRIS Tristan da Cun 130.75 217 PFAKE 22 53 00.0 +9.2
TRIS LR LR
comp=Z,105µm,20.0s
MDV Middlebury 130.87 25 *e*PKPdf **PKPdf** 22 52 51.0 +0.2
BINY Binghamton 131.01 29 *e*PKPdf **PKPdf** 22 52 50.2 -1.0
BINY LR LR
comp=Z,130µm,19.0s
TKL Tuckaleechee C 131.05 41 *e*PKIKP **PKPdf** 22 52 51.5 +0.1
TKL Tuckaleechee C 131.05 41 *e*PKPdf **PKPdf** 22 52 51.5 +0.1
ACCN Adirondack Com 131.15 26 *e*PKPdf **PKPdf** 22 52 51.3 -0.1
ACCN *e* 22 56 18.7
LBNH Lisbon 131.20 24 *e*PKIKP **PKPdf** 22 52 51.1 -0.3
LBNH MLR MLR
comp=Z,114µm,20.0s
LBNH Lisbon 131.20 24 *e*PKPdf **PKPdf** 22 52 51.1 -0.3
LBNH LR LR
comp=Z,114µm,20.0s
SSPA Standing Stone 131.21 32 *e*PKPdf **PKPdf** 22 52 50.9 -0.7
SSPA *e* 22 56 18.3
BRAL Brewton 131.33 48 PFAKE 22 53 00.0 +8.0
BRAL LR LR
comp=Z,155µm,22.0s
PKME Peaks-Kenny Pk 131.35 21 *e*PKPdf **PKPdf** 22 52 51.8 +0.2
HNH Hanover 131.49 25 *e*PKPdf **PKPdf** 22 52 53.4 +1.4
TRY Troy 131.67 27 *e*PKPdf **PKPdf** 22 52 52.8 +0.5
TRY *e* 22 56 20.3
WVL Waterville 131.81 22 *e*PKPdf **PKPdf** 22 52 51.8 -0.8
BLA Blacksburg 132.17 37 *e*PKIKP **PKPdf** 22 52 53.2 -0.3
BLA *e* 22 55 14.9
BLA MLR MLR
comp=Z,177µm,19.0s
BLA Blacksburg 132.17 37 *e*PKPdf **PKPdf** 22 52 53.2 -0.3
BLA *e*PP **PP** 22 55 14.8 -0.1
BLA LR LR
comp=Z,177µm,19.0s
GOGA Godfrey 132.58 43 *e*PKIKP **PKPdf** 22 52 51.3 -3.1
GOGA *e* 22 55 17.1
GOGA MLR MLR
comp=Z,121µm,20.0s
GOGA Godfrey 132.58 43 *e*PKPdf **PKPdf** 22 52 51.3 -3.1
GOGA *e*PP **PP** 22 55 17.1 -0.7
GOGA LR LR
comp=Z,121µm,20.0s
QUA2 Belchertown 132.62 26 *e*PKPdf **PKPdf** 22 52 55.0 +0.9
SDMD Soldier's Deli 132.66 32 *e*PKPdf **PKPdf** 22 52 54.2 -0.1
PAL Palisades 132.92 28 *e*PKIKP **PKPdf** 22 52 53.9 -0.8
PAL Palisades 132.92 28 *e*PKPdf **PKPdf** 22 52 53.9 -0.8
WES Weston 132.97 25 *e*PKIKP **PKPdf** 22 52 54.3 -0.5
WES Weston 132.97 25 *e*PKPdf **PKPdf** 22 52 54.3 -0.5
CPNY Central Park 133.06 28 *e*PKPdf **PKPdf** 22 52 55.2 +0.2
YLE Yale 133.13 27 *e*PKPdf **PKPdf** 22 52 55.5 +0.4
CBN Corbin 133.24 33 *e*PKPdf **PKPdf** 22 52 54.8 -0.6
CBN LR LR
comp=Z,139µm,20.0s
BRYW Bryant College 133.26 26 *e*PKPdf **PKPdf** 22 52 55.6 +0.2
PLCA Paso Flores 133.39 155 PKP **PKPdf** 22 52 57.0 +1.2
comp=Z,58nm,0.9s,baz=188,slow=5.0,SNR=15
PLCA PP **PP** 22 55 20.4 -2.1
comp=Z,12nm,1.1s,baz=232,slow=8.7,SNR=4.2
PLCA Paso Flores 133.39 155 *e*PKIKP **PKPdf** 22 52 56.5 +0.7
PLCA *e* 22 55 21.6
PLCA MLR MLR
comp=Z,192µm,20.0s
PLCA Paso Flores 133.39 155 *e*PKPdf **PKPdf** 22 52 56.5 +0.7
PLCA PKP **PKPdf** 22 52 57.0 +1.2
PLCA PP **PP** 22 55 20.4 -2.1
PLCA *e*PP PP 22 55 21.6 -0.8
PLCA LR LR
comp=Z,192µm,20.0s

TEIG Tepich 134.95 62 PKP **PKPdf** 22 53 00.4 +1.3
comp=Z,13nm,0.9s,baz=320,slow=14,SNR=4.2
TEIG PP **PP** 22 55 35.4 +1.7
comp=Z,9.7nm,0.8s,baz=64,slow=20,SNR=2.2
TEIG Tepich 134.95 62 *e*PKPdf **PKPdf** 22 53 00.5 +1.3
TEIG PP **PP** 22 55 35.4 +1.7
TEIG LR LR
comp=Z,79µm,21.0s
NHSC New Hope 134.96 41 *e*PKPdf **PKPdf** 22 52 57.6 -1.1
NHSC LR LR
comp=Z,124µm,20.0s
CNNC Cliffs of the 135.00 37 *e*PKPdf **PKPdf** 22 52 59.3 +0.5
CNNC LR LR
comp=Z,133µm,20.0s
CCHI Chillan 136.02 150 *e*P PKPpre 22 52 46.5
CCHI Chillan 136.02 150 *e*P PKPpre 22 52 46.5
SHEL Horse Pasture 136.32 246 *e*PKIKP **PKPdf** 22 53 02.0 +0.2
SHEL MLR MLR
comp=Z,81µm,19.0s
SHEL Horse Pasture 136.32 246 *e*PKPdf **PKPdf** 22 53 02.0 +0.2
SHEL LR LR
comp=Z,81µm,19.0s
DWPF Disney 137.02 48 *e*PKPdf **PKPdf** 22 53 02.4 -0.3
PMAR Madeira 137.58 322 *e*PKPdf **PKPdf** 22 53 03.9 -0.1
PMAR Madeira 137.58 322 *e*PP PP 22 55 50.7 +1.2
FUL Funchal 137.62 322 *e*PKPdf **PKPdf** 22 53 04.2 +0.4
FUL Funchal 137.62 322 *e*PP PP 22 55 50.7 +1.2
PMOZ Porto Moniz, M 137.69 322 *e*PKPdf **PKPdf** 22 53 01.3 -2.7
PMOZ Porto Moniz, M 137.69 322 *e*PP PP 22 55 57.9 +7.8
TGUH Tegucigalpa,Un 137.72 70 PFAKE 22 53 20.0 +16
TGUH LR LR
comp=Z,109µm,21.0s
DBIC Dimbokro 137.86 279 PKhKP PKPpre 22 52 53.9
comp=Z,13nm,0.7s,baz=71,slow=3.0,SNR=20
DBIC PKP **PKPdf** 22 53 03.3 -1.4
comp=Z,38nm,0.9s,baz=71,slow=2.7,SNR=20
DBIC PP **PP** 22 55 49.0 -3.5
comp=Z,23nm,1.1s,baz=102,slow=11,SNR=2.7
DBIC Dimbokro 137.86 279 PKHKP PKPpre 22 52 53.9
DBIC 22 53 03.3
DBIC 22 55 49.0
DBIC pmax pmax
comp=Z,13nm,0.7s
DBIC pmax pmax
comp=Z,38nm,0.9s
DBIC pmax pmax
comp=Z,23nm,1.1s
DBIC Dimbokro 137.86 279 PKPpre PKPpre 22 52 53.9
DBIC PKP **PKPdf** 22 53 03.3 -1.4
DBIC PP **PP** 22 55 49.0 -3.5
LIC Lamto 138.07 278 *e*PKIKP PKPdf 22 52 57.0 -8.1
comp=Z,352nm,1.2s
LIC *e*R
comp=Z,120µm,21.2s
CMLA Cha da Macela 138.29 335 *e*PKP **PKPdf** 22 53 02.8 -2.1
CMLA Cha da Macela 138.29 335 *e*PP PP 22 55 55.5 +2.3
CMLA *e*SS SS 23 14 05.4 +2.6
CMLA *e*LQ LQ 23 29 01.9
CMLA *e*LR LR 23 38 19.9
comp=Z,10µm,20.3s
CMLA Cha da Macela 138.29 335 PFAKE 22 53 20.0 +15
CMLA LR LR
comp=Z,37µm,21.0s
PDA Ponta Delgada 138.36 335 *e*PKP **PKPdf** 22 53 04.9 -0.1
PDA Ponta Delgada 138.36 335 *e*PP PP 22 55 52.8 -0.8
ROSA Rosais 138.56 338 *e*PKP **PKPdf** 22 53 05.2 -0.2
ROSA Rosais 138.56 338 *e*PP PP 22 55 57.0 +2.2
ROSA *e*SS SS 23 14 09.3 +3.5
PMAN Manadas 138.58 338 *e*PKP **PKPdf** 22 53 07.5 +2.1
PMAN Manadas 138.58 338 *e*PP PP 22 55 57.5 +2.6
PSMN Pico do Norte, 138.72 333 *e*PKP **PKPdf** 22 53 05.2 -0.5
PSMN Pico do Norte, 138.72 333 *e*PP PP 22 55 56.5 +0.6
PSMN *e*SS SS 23 14 03.4 -4.5
PSMN *e*LQ LQ 23 29 28.8
PSMN *e*LR LR 23 39 54.2
comp=Z,6µm,10.6s
PSMA Santa Maria 138.76 333 *e*PKP **PKPdf** 22 53 05.1 -0.6
PSMA Santa Maria 138.76 333 *e*PP PP 22 55 56.2 +0.1
PCAN Candelaria 138.88 338 *e*PKP **PKPdf** 22 53 05.7 -0.3
PCAN Candelaria 138.88 338 *e*PP PP 22 55 53.5 -3.2
TRQA Tornquist 138.93 162 *e*PKPdf **PKPdf** 22 53 04.1 -2.0
TRQA *e*PP **PP** 22 55 57.5 +0.6
TRQA LR LR
comp=Z,232µm,22.0s
CLCH Cerro Calan 139.32 149 *e*P PKPpre 22 52 55.8
ROCH El Roble 139.40 148 *e*P **PKPdf** 22 53 03.5 -3.8
PEL Peldehue 139.44 148 *e*P PKPpre 22 52 51.2
FCH Farellones 139.50 149 *e*P PKPpre 22 52 54.0
CMCH Combarbala 140.78 146 *e*P PKPdf 22 53 04.5 -5.3
CMCH Combarbala 140.78 146 *e*P PKPdf 22 53 04.5 -5.3
JTS JuntasAbangare 140.79 75 PKhKP PKPpre 22 53 05.8
comp=Z,16nm,0.8s,baz=320,slow=6.2,SNR=8.7
JTS PP **PP** 22 56 07.6 -2.9
comp=Z,11nm,0.9s,baz=226,slow=22,SNR=2.2
JTS JuntasAbangare 140.79 75 PKIKP **PKPdf** 22 53 05.8 -4.3
JTS 22 56 07.6
JTS pmax pmax
comp=Z,16nm,0.8s
JTS pmax pmax
comp=Z,11nm,0.9s
JTS JuntasAbangare 140.79 75 PKPpre PKPpre 22 53 05.8
JTS *e*PKPdf **PKPdf** 22 53 08.3 -1.8
JTS PP **PP** 22 56 07.6 -2.9
JTS LR LR
comp=Z,135µm,20.0s
TLL Tololo Astrono 141.65 145 *e*PKHKP PKPpre 22 53 02.8
TLL Tololo Astrono 141.65 145 *e*P PKPpre 22 53 02.8
TLL Tololo Astrono 141.65 145 *e*P PKPpre 22 53 02.8
CFAA Coronel Fontan 141.92 149 PKhKP PKPpre 22 53 04.6
comp=Z,4.4nm,0.9s,baz=247,slow=2.3,SNR=14
CFAA PP **PP** 22 56 02.3 -13
comp=Z,0.8nm,0.4s,baz=95,slow=16,SNR=5.7
CFAA Coronel Fontan 141.92 149 PKPpre PKPpre 22 53 04.6
CFAA PP PP 22 56 02.3 -13
LCO Las Campanas 142.57 144 *e*P PKPdf 22 53 05.2 -8.0
LCO *e*PKPdf PKiKP 22 53 09.7 -6.7
LCO LR LR
comp=Z,122µm,22.0s
LCO Las Campanas 142.57 144 *e*P PKPpre 22 53 03.0
LCO *e*P PKPdf 22 53 04.2 -9.0
LCO *e*P PKiKP 22 53 05.2 -11
LPA La Plata 143.04 165 PKIKP **PKPdf** 22 53 16.0 +2.5
BBSR BB Station 144.22 27 *e*PKPdf PKPbc 22 53 13.7 -0.1
BBSR LR LR
comp=Z,97µm,20.0s
BCIP Isla Barro Col 145.95 75 *e*PKPbc **PKPdf** 22 53 19.1 0.0
BCIP LR LR
comp=Z,132µm,20.0s
GTBY Guantanamo Bay 146.26 54 *e*PKPbc **PKPbc** 22 53 20.3 -0.3
GTBY LR LR
comp=Z,66µm,21.0s
ANCH Antofagasta 146.55 138 *e*P **PKPbc** 22 53 22.0 +0.6
ANCH Antofagasta 146.55 138 *e*P **PKPbc** 22 53 22.0 +0.6
CEN1 Los Morros 146.89 138 *e*P **PKPbc** 22 53 22.3 -0.2
MECH Mejillones 146.91 137 *e*P **PKPab** 22 53 24.8 +1.0
MECH Mejillones 146.91 137 *e*P **PKPab** 22 53 24.8 +1.0
BBTS Babate 147.13 296 PKPbc **PKPdf** 22 53 21.1 +0.1
comp=Z,234nm,0.9s,baz=246,slow=0.5,SNR=32
BBTS PP **PP** 22 56 49.5 +1.4
comp=Z,36nm,1.0s,baz=357,slow=2.3,SNR=2.1
BBTS Babate 147.13 296 PKPbc **PKPdf** 22 53 21.1 +0.1
BBTS PP **PP** 22 56 49.5 +1.4
ATAH Atahualpa 147.42 104 PKPbc **PKPdf** 22 53 22.9 +0.8
comp=Z,182nm,1.0s,baz=258,slow=2.2,SNR=53
ATAH Atahualpa 147.42 104 PKPbc **PKPdf** 22 53 22.9 +0.8
NNA Nana 147.51 114 *e*PKP2 **PKPdf** 22 53 22.6 +0.8
NNA MLR MLR
comp=Z,155µm,20.0s
NNA Nana 147.51 114 *e*PKPbc **PKPdf** 22 53 22.6 +0.8
NNA LR LR
comp=Z,155µm,20.0s
OTAV Otavalo 148.24 91 *e*PKPbc **PKPbc** 22 53 25.6 -1.3
OTAV LR LR
comp=Z,145µm,20.0s
LVC Limon Verde 148.28 138 *e*PKPbc **PKPbc** 22 53 25.5 -1.0
LVC LR LR
comp=Z,138µm,21.0s
SDDR Presa de Saban 149.80 52 *e*PKPbc **PKPbc** 22 53 29.9 -0.3
SDDR LR LR
comp=Z,80µm,20.0s
CPUP Villa Florida 151.22 160 PKP **PKPdf** 22 53 27.3 -0.1
comp=Z,42nm,0.9s,baz=94,slow=0.2,SNR=28
CPUP PKPbc **PKiKP** 22 53 34.8 +1.0
comp=Z,379nm,1.0s,baz=203,slow=2.1,SNR=59

CPUP				PP	**PP**	**22 57 12.8**	**+2.6**
	comp=Z,23nm,1.1s,baz=232,slow=14,SNR=1.7						
CPUP	**Villa Florida**	**151.22**	**160**	PKIKP	**PKPdf**	**22 53 27.3**	**-0.1**
CPUP						22 53 34.8	
CPUP						22 57 12.8	
CPUP				pmax	pmax		
	comp=Z,42nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,379nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,23nm,1.1s						
CPUP	**Villa Florida**	**151.22**	**160**	PKP	**PKPdf**	**22 53 27.3**	**-0.1**
CPUP				PKPbc	**PKiKP**	**22 53 34.8**	**+1.0**
CPUP				PP	**PP**	**22 57 12.8**	**+2.6**
ROSC	**El Rosal**	**152.09**	**81**	PKP	**PKPdf**	**22 53 29.7**	**+0.2**
	comp=Z,13nm,0.7s,baz=92,slow=24,SNR=24						
ROSC				PKPbc	**PKPbc**	**22 53 35.9**	**-0.2**
	comp=Z,101nm,0.8s,baz=141,slow=2.8,SNR=25						
ROSC	**El Rosal**	**152.09**	**81**	PKP	**PKPdf**	**22 53 29.7**	**+0.2**
ROSC				*e*PKPdf	PKPbc	22 53 29.8	-6.3
ROSC				*e*PKPbc	**PKiKP**	**22 53 35.7**	**-0.8**
ROSC				PKPbc	**PKPbc**	**22 53 35.9**	**-0.2**
LPAZ	**La Paz**	**152.92**	**130**	PKP	**PKPdf**	**22 53 31.3**	**+0.4**
	comp=Z,38nm,0.9s,baz=345,slow=1.2,SNR=62						
LPAZ				PKPbc	**PKiKP**	**22 53 39.2**	**+0.9**
	comp=Z,206nm,1.0s,baz=320,slow=2.8,SNR=47						
LPAZ	**La Paz**	**152.92**	**130**	PKIKP	**PKPdf**	**22 53 31.3**	**+0.4**
LPAZ						22 53 39.3	
LPAZ				pmax	pmax		
	comp=Z,38nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,206nm,1.0s						
LPAZ	**La Paz**	**152.92**	**130**	PKP	**PKPdf**	**22 53 31.3**	**+0.4**
LPAZ				PKPbc	**PKiKP**	**22 53 39.2**	**+0.9**
SACV	**Santiago Islan**	**153.15**	**303**	*e*PKPdf	**PKPdf**	**22 53 30.9**	**+0.4**
SACV				LR	LR		
	comp=Z,74μm,20.0s						
AGPR	**Aguadilla, PR**	**153.29**	**47**	*e*PKPdf	**PKPdf**	**22 53 31.5**	**+0.9**
LSP	**Las Mesas**	**153.49**	**48**	*e*PKPdf	**PKPdf**	**22 53 31.4**	**+0.5**
LSP				*e*PKPbc	**PKPbc**	**22 53 38.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**153.58**	**48**	*e*PKPdf	**PKPdf**	**22 53 31.1**	**+0.1**
LRS	**Lares**	**153.59**	**47**	*e*PKPdf	**PKPdf**	**22 53 31.0**	**-0.2**
CELP	**Cerrillos**	**153.93**	**47**	*e*PKPdf	**PKPdf**	**22 53 31.6**	**0.0**
OBIP	**Obispado Ponce**	**153.93**	**48**	*e*PKPdf	**PKPdf**	**22 53 31.6**	**0.0**
ICM	**Isla Caja Muer**	**154.08**	**48**	*e*PKPdf	**PKPdf**	**22 53 31.5**	**-0.2**
CBYP	**Canovanas**	**154.33**	**46**	*e*PKPdf	**PKPdf**	**22 53 32.8**	**+0.7**
MTP	**Monte Pirata**	**154.66**	**46**	*e*PKPdf	**PKPdf**	**22 53 32.2**	**-0.4**
SDV	**Santo Domingo**	**154.81**	**70**	*e*PKPdf	**PKPdf**	**22 53 32.4**	**-0.8**
SDV				LR	LR		
	comp=Z,31μm,20.0s						
STVI	**Saint Thomas**	**154.92**	**45**	*e*PKPdf	**PKPdf**	**22 53 32.2**	**-0.7**
CDVI	**St. Croix**	**155.45**	**45**	*e*PKPdf	**PKPdf**	**22 53 32.3**	**-1.3**
SPB	**Sao Paulo**	**155.83**	**178**	*e*PKPdf	**PKPdf**	**22 53 34.8**	**+0.8**
SPB				LR	LR		
	comp=Z,131μm,20.0s						
CAM4	**Nova Friburgo**	**156.72**	**190**	⇑*i*P	PKPdf	22 53 44.7	+9.2
CAM4				*i*		22 53 50.1	
CAM4				*i*		22 53 53.3	
CAM4				*i*		22 54 05.5	
CAM4				*i*		22 54 30.1	
CAM4				*i*		22 54 50.4	
CAM4				*i*		22 55 09.2	
CAM4				*i*		22 57 50.8	
CAM4				*i*		22 57 54.4	
CAM4				*i*		22 58 06.2	
ANWB	**Willy Bob**	**157.54**	**41**	*e*PKPdf	**PKPdf**	**22 53 36.0**	**-0.4**
ANWB				LR	LR		
	comp=Z,87μm,22.0s						
SIV	**San Ignacio**	**158.16**	**140**	PKP	**PKPdf**	**22 53 37.5**	**+0.3**
	comp=Z,29nm,1.1s,baz=233,slow=1.4,SNR=42						
SIV				PKPab	**PKPab**	**22 54 11.2**	**+0.3**
	comp=Z,25nm,0.9s,baz=234,slow=3.3,SNR=6.4						
SIV				PP	PP	22 57 56.4	+6.5
	comp=Z,23nm,1.1s,baz=245,slow=16,SNR=4.1						
SIV	**San Ignacio**	**158.16**	**140**	PKP	**PKPdf**	**22 53 37.5**	**+0.3**
SIV				PKPab	**PKPab**	**22 54 11.2**	**+0.3**
SIV				PP	PP	22 57 56.4	+6.5
FDF	**Fort de France**	**160.04**	**45**	*e*PKIKP	**PKPdf**	**22 53 38.3**	**-1.2**
FDF				MLR	MLR		
	comp=Z,106μm,21.0s						
FDF	**Fort de France**	**160.04**	**45**	*e*PKPdf	**PKPdf**	**22 53 38.3**	**-1.2**
FDF				LR	LR		
	comp=Z,106μm,21.0s						
SAML	**Samuel**	**160.97**	**121**	*e*PKPdf	**PKPdf**	**22 53 39.7**	**-0.8**
SAML				*e*PKPab	**PKPab**	**22 54 23.7**	**+0.5**
SAML				LR	LR		
	comp=Z,119μm,22.0s						
GRGR	**Grenville**	**161.31**	**52**	PFAKE		22 53 50.0	+9.2
GRGR				LR	LR		
	comp=Z,66μm,20.0s						
BBGH	**Gun Hill**	**162.25**	**45**	PFAKE		22 53 50.0	+8.2
BBGH				LR	LR		
	comp=Z,143μm,21.0s						
RCBR	**Riachuelo**	**167.42**	**239**	*e*PKPdf	**PKPdf**	**22 53 46.6**	**+0.2**
RCBR				*e*PKPab	**PKPab**	**22 54 52.8**	**+1.1**
RCBR				LR	LR		
	comp=Z,142μm,20.0s						

*ISCJB **03** 22:42:44.6±0.5, 21°.17S±0°.05×66°.52W±0°.05, h194km, mb4.6/1, Error ellipse: s-maj=7.0km s-min=5.2km az=143.5*

*IDC **03** 22:42:45.7±1.3, 21°.00S×66°.44W, h229km±14km, mb4.4/1, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=19.2km s-min=13.4km az=82.0*

*GUC **03** 22:42:46.5±0.4, 20°.95S×67°.18W, h242km±24km*

ISC 03 22:42:44.8±0.8, 21°.08S±0°.06×66°.53W±0°.06, h194km, n13, σ2s28/20, 1C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MACH	**Maria Elena**	**3.20**	**249**	⇓*i*P		**Pn**		**22 43 37.6**	**+0.8**
MACH				*i*	S	**Sn**		**22 44 16.5**	**-1.0**
CEN1	**Los Morros**	**4.10**	**235**	⇑*i*P		**Pn**		**22 43 50.5**	**+2.7**
CEN1				*i*	S	**Sn**		**22 44 40.0**	**+2.7**
MECH	**Mejillones**	**4.15**	**240**	*e*P		**Pn**		**22 43 48.7**	**+0.3**
MECH				*i*	S	**Sn**		**22 44 36.8**	**-1.4**
ARCH	**Arica**	**4.38**	**305**	*e*P		**Pn**		**22 43 50.3**	**-1.0**
ARCH				*i*	S	**Sn**		**22 44 39.1**	**-4.4**
ANCH	**Antofagasta**	**4.43**	**233**	⇓*i*P		**Pn**		**22 43 52.0**	**+0.2**
ANCH				*e*S		**Sn**		**22 44 42.1**	**-2.3**
LPAZ	**La Paz**	**5.00**	**342**	P		**Pn**		**22 44 00.8**	**+1.0**
	1.8nm,0.3s,baz=166,slow=11,SNR=18								
LPAZ				S		**Sn**		**22 45 00.1**	**+1.4**
	0.7nm,0.3s,baz=348,slow=13,SNR=12								
SIV	**San Ignacio**	**7.24**	**47**	P		**Pn**		**22 44 29.2**	**+0.9**
	6.0nm,0.3s,baz=243,slow=10,SNR=97								
SIV				S		**Sn**		**22 45 51.4**	**+1.1**
	0.4nm,0.3s,baz=305,slow=23,SNR=3.3								
CPUP	**Villa Florida**	**9.92**	**124**	P		**Pn**		**22 45 04.0**	**+0.9**
	0.4nm,0.3s,baz=292,slow=12,SNR=6.4								
CPUP				S		**Sn**		**22 46 49.3**	**-4.5**
	0.6nm,0.3s,baz=307,slow=11,SNR=4.0								
CFAA	**Coronel Fontan**	**10.59**	**188**	P		**Pn**		**22 45 11.8**	**0.0**
	0.1nm,0.3s,baz=360,slow=12,SNR=8.8								
CFAA				S		Sn		22 47 02.0	-7.9
	0.6nm,0.3s,baz=110,slow=23,SNR=15								
PLCA	**Paso Flores**	**19.89**	**189**	P		**P**		**22 47 02.2**	**+0.9**
	1.0nm,0.3s,baz=6.9,slow=11,SNR=4.3								
TORD	**Torodi Ar. Bea**	**75.13**	**69**	P		P		22 54 02.2	-3.9
	13nm,0.9s,baz=255,slow=6.0,SNR=7.7								
MKAR	**Makanchi Array**	**143.98**	**37**	PKP		**PKPab**		**23 01 52.8**	**-2.1**
	1.2nm,1.0s,baz=332,slow=2.0,SNR=2.4								
SONM	**Songino Array**	**152.71**	**10**	PKPbc		**PKPdf**		**23 02 15.1**	**+3.7**
	1.0nm,0.8s,baz=348,slow=0.5,SNR=3.6								

IDC 03 22:45:10.9±5.0, 1°.30S×130°.59E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/17, mbtmp4.3/5, Error ellipse: s-maj=422.1km s-min=27.1km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**22.47**	**172**	P		P	P	22 50 12.0	0.0
	9.0nm,0.8s,baz=5.5,slow=11,SNR=2.7								
MKAR	**Makanchi Array**	**63.86**	**325**	P			P	22 55 45.8	+0.3
	2.1nm,0.9s,baz=108,slow=7.5,SNR=2.3								
ZALV	**Zalesovo Beam**	**66.79**	**333**	P		P	P	22 56 05.4	+1.1
	1.2nm,0.6s,baz=137,slow=6.7,SNR=2.2								
KURK	**Kurchatov**	**68.03**	**327**	P		P	P	22 56 10.6	-1.6
	3.8nm,0.9s,baz=123,slow=5.5,SNR=3.0								
BVAR	**Borovoye Array**	**73.61**	**327**	P		P	P	22 56 46.3	+0.2
	2.6nm,1.0s,baz=131,slow=5.2,SNR=2.7								

*DJA **03** 22:46:24.0°.75S×132°.01E, h13km, MLv5.3/4*

IDC 03 22:46:04.8±0.8, 1°.09S×131°.72E, h0km, mb4.6/10, mb1 4.7/11, mb1mx4.6/18, mbtmp4.6/11, Error ellipse: s-maj=49.1km s-min=18.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.91**	**172**	P		P	P	22 50 27.0	-0.2
	baz=356,slow=13,SNR=0.4								
ASAR	**Alice Springs**	**22.54**	**175**	P		P	P	22 51 06.7	+0.1
	28nm,0.6s,baz=0.1,slow=13,SNR=6.5								
USRK	**Ussuriysk Arra**	**45.10**	**0**	P		P	P	22 54 23.2	+0.5
	5.7nm,0.8s,baz=180,slow=7.0,SNR=7.6								
SONM	**Songino Array**	**53.50**	**339**	P		P	P	22 55 26.3	-0.9
	1.9nm,0.8s,baz=172,slow=4.4,SNR=2.7								
PETK	**Petropavlovsk-**	**58.21**	**18**	P		P	P	22 56 01.7	+0.9
	5.3nm,0.8s,baz=207,slow=9.5,SNR=4.5								
MKAR	**Makanchi Array**	**64.34**	**325**	P		P	P	22 56 43.1	+0.7
	5.8nm,0.7s,baz=112,slow=7.6,SNR=8.5								
ZALV	**Zalesovo Beam**	**67.14**	**332**	P		P	P	22 57 00.5	+0.2
	1.9nm,0.7s,baz=140,slow=5.7,SNR=2.7								
KURK	**Kurchatov**	**68.47**	**327**	P		P	P	22 57 09.0	+0.3
	11nm,1.0s,baz=125,slow=5.9,SNR=5.3								
BVAR	**Borovoye Array**	**74.06**	**327**	P		P	P	22 57 42.6	0.0
	9.9nm,0.9s,baz=93,slow=3.0,SNR=3.6								
ILAR	**Eielson Array**	**87.31**	**25**	P		P	P	22 58 51.9	-1.4
	3.1nm,0.9s,baz=257,slow=5.4,SNR=5.1								
ARCES	**ARCESS Array B**	**96.66**	**340**	P		P	P	22 59 35.0	-1.6
	5.3nm,0.9s,baz=60,slow=3.6,SNR=3.1								
TORD	**Torodi Ar. Bea**	**129.10**	**286**	PKP		PKPdf		23 05 15.1	-0.9
	4.8nm,0.9s,baz=253,slow=4.7,SNR=4.0								
PLCA	**Paso Flores**	**133.69**	**157**	PKP		PKPdf		23 05 22.3	-1.8
	7.3nm,1.0s,baz=222,slow=1.5,SNR=3.6								
CPUP	**Villa Florida**	**151.37**	**163**	PKPbc		PKPbc		23 06 02.4	+1.0
	12nm,0.9s,baz=173,slow=1.7,SNR=7.0								

IDC 03 22:47:41.7±0.7, 0°.72S×133°.76E, h0km, mb4.5/10, mb1 4.7/12, mb1mx4.5/20, mbtmp4.5/12, ML4.7/2, Error ellipse: s-maj=31.3km s-min=16.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.03**	**204**	P		P	P	22 52 05.3	-0.1
	1.5nm,0.3s,baz=30,slow=14,SNR=3.2								
WRA	**Warramunga Arr**	**19.12**	**178**	P		P	P	22 52 06.6	+0.2
	2.6nm,0.3s,baz=355,slow=11,SNR=4.8								
ASAR	**Alice Springs**	**22.82**	**180**	P		P	P	22 52 46.7	+0.3
	19nm,0.6s,baz=360,slow=11,SNR=5.2								
HNR	**Honiara**	**27.46**	**109**	P		P	P	22 53 28.8	-0.9
	84nm,0.5s,baz=209,slow=8.0,SNR=5.4								
USRK	**Ussuriysk Arra**	**44.75**	**358**	P		P	P	22 55 57.1	+0.3
	3.4nm,0.9s,baz=181,slow=5.5,SNR=4.0								
SONM	**Songino Array**	**53.90**	**337**	P		P	P	22 57 08.4	+1.4
	1.9nm,0.8s,baz=140,slow=5.9,SNR=3.2								
PETK	**Petropavlovsk-**	**57.24**	**17**	P		P	P	22 57 31.9	+1.1
	4.3nm,0.9s,baz=197,slow=5.3,SNR=2.9								
MKAR	**Makanchi Array**	**65.23**	**324**	P		P	P	22 58 24.6	-0.6
	6.5nm,0.8s,baz=120,slow=7.9,SNR=5.4								
ZALV	**Zalesovo Beam**	**67.78**	**331**	P		P	P	22 58 40.2	-1.0
	2.6nm,0.9s,baz=117,slow=8.0,SNR=3.5								
KURK	**Kurchatov**	**69.28**	**326**	P		P	P	22 58 50.1	-0.6
	8.6nm,0.9s,baz=119,slow=6.0,SNR=4.5								
BVAR	**Borovoye Array**	**74.88**	**326**	P		P	P	22 59 24.1	-0.1
	4.9nm,0.8s,baz=103,slow=6.4,SNR=4.5								
ILAR	**Eielson Array**	**86.10**	**25**	P		P	P	23 00 23.3	-1.0
	1.4nm,0.7s,baz=259,slow=4.4,SNR=4.1								
QSPA	**South Pole Qui**	**89.22**	**180**	P		P	P	23 00 40.1	+0.7
	7.5nm,1.0s,baz=317,slow=5.3,SNR=5.8								

*IDC **03** 22:49:51.1±0.6, 0°.59S×133°.74E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.3/12, ML4.3/1, Error ellipse: s-maj=34.5km s-min=15.4km az=70.0*

*ISCJB **03** 22:49:53.6±0.7, 0°.59S±0°.10×133°.7E±0°.2, h28km, mb4.3/11, Error ellipse: s-maj=24.8km s-min=11.3km az=158.7*

ISC 03 22:49:55.4±0.7, 0°.6S±0°.1×133°.7E±0°.2, h28km, n28, σ0s81/31, mb4.4/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**11.10**	**313**	Pn		**Pn**	**Pn**	**22 52 31.7**	**-0.7**
	206nm,0.3s,baz=8.7,slow=11,SNR=6.6								
WRA	**Warramunga Arr**	**19.25**	**178**	P		**P**	**P**	**22 54 16.7**	**-1.1**
	0.9nm,0.3s,baz=357,slow=12,SNR=3.3								
ASAR	**Alice Springs**	**22.95**	**179**	P		**P**	**P**	**22 54 56.9**	**-0.8**
	8.5nm,0.6s,baz=4.8,slow=12,SNR=4.5								
CMAR	**Chiang Mai Arr**	**39.03**	**301**	P		**P**	**P**	**22 57 19.5**	**-0.6**
	1.4nm,0.9s,baz=124,slow=7.7,SNR=4.3								
USRK	**Ussuriysk Arra**	**44.61**	**358**	P		**P**	**P**	**22 58 04.0**	**-1.2**
	1.5nm,0.8s,baz=191,slow=8.9,SNR=4.2								
TAPN	**Taplejung**	**52.16**	**306**	*e*P		**P**	**P**	**22 59 04.6**	**+0.5**
	25nm,0.9s								
ODAN	**Odare**	**52.22**	**305**	*e*P		**P**	**P**	**22 59 04.7**	**+0.2**
	42nm,0.6s								
RAMN	**Ramite**	**52.90**	**305**	*e*P		**P**	**P**	**22 59 09.9**	**+0.3**
	62nm,0.7s								
JIRN	**Jiri**	**53.52**	**306**	*e*P		**P**	**P**	**22 59 14.4**	**+0.1**
	27nm,0.7s								
SONM	**Songino Array**	**53.76**	**337**	P		**P**	**P**	**22 59 16.4**	**+1.0**
	2.8nm,0.9s,baz=150,slow=6.7,SNR=4.8								
SONM				PcP		**PcP**	**PcP**	**23 00 21.7**	**+0.6**
	1.3nm,0.7s,baz=159,slow=4.9,SNR=3.0								
GUN	**Gumba**	**53.87**	**306**	*e*P		**P**	**P**	**22 59 17.2**	**+0.4**
	43nm,0.7s								
PKI	**Pulchoki**	**54.12**	**305**	*e*P		**P**	**P**	**22 59 18.3**	**-0.3**
	18nm,0.8s								
KKN	**Kakani**	**54.31**	**305**	*e*P		**P**	**P**	**22 59 19.9**	**0.0**
	21nm,0.8s								
DMN	**Daman**	**54.38**	**305**	*e*P		**P**	**P**	**22 59 20.4**	**-0.1**
	31nm,0.7s								
GKN	**Gorkha**	**54.91**	**305**	*e*P		**P**	**P**	**22 59 24.0**	**-0.2**
	30nm,0.8s								
KOLN	**Koldanda**	**55.68**	**305**	*e*P		**P**	**P**	**22 59 30.2**	**+0.4**
	55nm,0.8s								
DANN	**Dangsing**	**55.76**	**305**	*e*P		**P**	**P**	**22 59 30.6**	**+0.1**
	54nm,0.7s								
MKAR	**Makanchi Array**	**65.08**	**324**	P		**P**	**P**	**23 00 34.5**	**+1.0**
	3.9nm,0.6s,baz=109,slow=8.8,SNR=11								
ZALV	**Zalesovo Beam**	**67.63**	**331**	P		**P**	**P**	**23 00 49.3**	**-0.3**
	1.0nm,0.5s,baz=122,slow=6.7,SNR=4.0								
KURK	**Kurchatov**	**69.13**	**326**	P		**P**	**P**	**23 00 59.4**	**+0.3**
	6.4nm,0.8s,baz=121,slow=5.7,SNR=7.5								
BVAR	**Borovoye Array**	**74.73**	**326**	P		**P**	**P**	**23 01 33.5**	**+0.9**
	1.5nm,0.6s,baz=125,slow=8.6,SNR=5.5								
ILAR	**Eielson Array**	**86.02**	**25**	P		**P**	**P**	**23 02 32.6**	**-0.4**
	2.9nm,0.9s,baz=254,slow=4.4,SNR=11								
OPO	**Ambohidratompo**	**86.49**	**252**	P		**P**	**P**	**23 02 37.1**	**+0.5**
	3.9nm,0.9s,baz=117,slow=2.7,SNR=3.9								
QSPA	**South Pole Qui**	**89.35**	**180**	P		**P**	**P**	**23 02 49.3**	**+0.2**
	3.0nm,0.9s,baz=11,slow=6.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**130.84**	**287**	PKP		**PKPdf**	**PKPdf**	**23 09 04.6**	**-0.6**
	0.6nm,0.8s,baz=42,slow=1.2,SNR=4.5								
PLCA	**Paso Flores**	**133.34**	**155**	PKP		**PKPdf**	**PKPdf**	**23 09 11.4**	**+2.0**
	2.7nm,0.9s,baz=31,slow=6.4,SNR=4.3								
CPUP	**Villa Florida**	**151.21**	**159**	PKPbc		**PKPbc**	**PKPbc**	**23 09 47.7**	**+0.8**
	6.4nm,0.7s,baz=216,slow=1.8,SNR=10.0								
CPUP				PKPab		**PKPab**	**PKPab**	**23 09 54.4**	**-0.3**
	2.8nm,0.8s,baz=153,slow=4.5,SNR=2.9								
LPAZ	**La Paz**	**152.71**	**129**	PKPbc		**PKPbc**	**PKPbc**	**23 09 52.7**	**+1.3**
	1.4nm,0.5s,baz=206,slow=6.2,SNR=4.0								
LPAZ				PKPab		**PKPab**	**PKPab**	**23 10 00.4**	**-1.7**
	2.7nm,0.8s,baz=56,slow=2.2,SNR=4.0								

CASC 03 22:51:32.3±1.4, 13°.60N×90°.83W, h17km±4km, MD3.5, ML3.8, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.68**	**33**	⇓*e*P		Pb		22 51 46.2	+0.2
PCG	**Pacaya**	**0.82**	**15**	*e*P		Pb		22 51 48.1	-0.5
PCG				*e*S		Sb		22 51 59.4	-0.2
FUG	**Fuego 3**	**0.85**	**359**	*e*P		Pb		22 51 47.8	-1.0
JAT	**Jato**	**1.06**	**313**	⇓*e*P		Pb		22 51 49.9	-2.3
NBG	**Las Nubes**	**1.09**	**26**	*e*P		Pb		22 51 52.9	-0.3
NBG				*e*S		Sg		22 52 08.3	-0.1
RTR	**El Retiro**	**1.19**	**75**	*e*P		Pn		22 51 53.7	-0.7
RTR				*e*S		Sn		22 52 10.3	-0.1
SBLS	**San Blas**	**1.20**	**78**	*e*P		Pn		22 51 53.5	-1.1
SBLS				*e*S		Sb		22 52 10.4	0.0
SNJE	**San Jose**	**1.22**	**77**	*e*P		Pn		22 51 54.2	-0.7
RBDL	**Robledal**	**1.23**	**65**	*e*P		Pn		22 51 54.3	-0.6
RBDL				*e*S		Sb		22 52 10.4	-0.6
BOQS	**Boqueron**	**1.52**	**85**	*e*P		Pn		22 51 58.4	-0.6
BOQS				*e*S		Sb		22 52 19.7	+0.2
SNET	**Serv Nac Est T**	**1.56**	**87**	*e*P		Pn		22 51 59.4	0.0
SNET				*e*S		Sn		22 52 19.7	+0.4
SNET				AML		AML	AML	22 52 22.1	
	comp=Z,1μm,0.2s								
MTO2	**Montecristo 2**	**1.64**	**61**	*e*P		Pn		22 51 59.8	-0.9
MTO2				*e*S		Sb		22 52 22.5	-0.4
LFRS	**El Faro**	**1.72**	**89**	*e*P		Pn		22 52 01.6	-0.1
LBRS	**Las Brisas**	**1.75**	**85**	*e*P		Pn		22 52 01.8	-0.1
SNVI	**San Vicente**	**1.94**	**89**	*e*P		Pn		22 52 04.8	+0.1
SNVI				*e*S		Sn		22 52 30.0	+1.2
SNVI				*e*S		Sb		22 52 30.5	-1.0
BLLM	**Bellamira**	**2.53**	**93**	*e*P		Pn		22 52 13.3	+0.6
BLLM				*e*S		Sn		22 52 43.9	+0.6
BLLM				*e*S		Sb		22 52 44.6	-3.7
CAHU	**Cacacuatique**	**2.55**	**86**	*e*P		Pn		22 52 13.0	-0.3
CNCH	**Conchagua**	**2.94**	**96**	*e*P		Pn		22 52 18.3	-0.1

IDC 03 22:53:11.0±1.3, 0°.56S×133°.87E, h0km, mb4.0/6, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, ML4.3/2, Error ellipse: s-maj=62.4km s-min=19.2km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.21**	**204**	P		P	P	22 57 36.4	-0.4
	1.5nm,0.3s,baz=48,slow=14,SNR=3.5								
WRA	**Warramunga Arr**	**19.27**	**179**	P		P	P	22 57 36.5	-0.9
	0.6nm,0.3s,baz=358,slow=13,SNR=3.7								
ASAR	**Alice Springs**	**22.97**	**180**	P		P	P	22 58 18.2	+0.9
	1.6nm,0.4s,baz=2.8,slow=12,SNR=2.9								
SONM	**Songino Array**	**53.81**	**337**	P		P	P	23 02 35.1	-0.6
	0.5nm,0.8s,baz=147,slow=6.9,SNR=3.5								
MKAR	**Makanchi Array**	**65.17**	**324**	P		P	P	23 03 54.1	0.0
	1.4nm,0.6s,baz=111,slow=7.9,SNR=5.3								
KURK	**Kurchatov**	**69.22**	**326**	P		P	P	23 04 19.8	+0.2
	1.8nm,0.8s,baz=120,slow=5.6,SNR=5.0								
BVAR	**Borovoye Array**	**74.82**	**326**	P		P	P	23 04 53.6	+0.3
	1.0nm,0.8s,baz=123,slow=5.3,SNR=2.9								
ILAR	**Eielson Array**	**85.92**	**25**	P		P	P	23 05 52.6	-0.1
	2.2nm,0.9s,baz=255,slow=3.4,SNR=4.4								

*DJA **03** 22:56:49.0°.80S×133°.05E, h10km, MLv5.6/10*

IDC 03 22:56:43.0±2.1, 0°.56S×133°.36E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=99.7km s-min=21.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.01**	**203**	P		P	Pn	23 01 07.2	0.0
	0.9nm,0.3s,baz=18,slow=13,SNR=4.5								
WRA	**Warramunga Arr**	**19.29**	**177**	P		P	P	23 01 09.6	0.0
	0.4nm,0.3s,baz=356,slow=12,SNR=3.8								
ASAR	**Alice Springs**	**22.97**	**179**	P		P	P	23 01 48.8	-0.6
	4.4nm,0.9s,baz=358,slow=10,SNR=5.5								
MKAR	**Makanchi Array**	**64.87**	**324**	P		P	P	23 07 23.9	-0.3
	0.5nm,0.6s,baz=107,slow=8.3,SNR=5.7								
KURK	**Kurchatov**	**68.93**	**326**	P		P	P	23 07 49.8	-0.1
	1.2nm,0.9s,baz=122,slow=5.7,SNR=5.1								
TORD	**Torodi Ar. Bea**	**130.52**	**287**

COEN Coen 16.55 145 *e*Pn **Pn** **23 04 54.5 +0.4**
256nm,0.9s
KBKI Kotabaru 17.42 260 P *p*P 23 05 17.3 +2.4
KKM Kota Kinabalu 18.30 291 Pn **P** **23 05 12.1 -3.8**
BBKI Banjar Baru 18.75 261 P **Pn** **23 05 22.5 +1.2**
449nm,1.2s
FITZ Fitzroy Crossi 19.10 203 S Sn 23 08 43.8 -15
2.1nm,0.3s,baz=197,slow=10.0,SNR=4.2
FITZ Fitzroy Crossi 19.10 203 *e*P **P** **23 05 24.9 +0.4**
118nm,1.0s
FITZ Fitzroy Crossi 19.10 203 *e*P **P** **23 05 23.4 -1.1**
102nm,1.2s
FITZ S Sn 23 08 43.8 -15
KHKI Kahang-Kahang 19.36 246 P Pn 23 05 38.4 +10
WRAB Tennant Creek 19.37 177 *e*P **P** **23 05 24.6 -2.8**
234nm,1.2s
WRAB *e*S **S** **23 09 03.0 -1.9**
WRA Warramunga Arr 19.38 177 P **P** **23 05 23.8 -3.8**
2.0nm,0.3s,baz=356,slow=12,SNR=10
WRA S **S** **23 09 02.9 -2.2**
2.1nm,0.3s,baz=358,slow=23,SNR=5.6
WRA Warramunga Arr 19.38 177 P **P** **23 05 23.8 -3.8**
WRA S **S** **23 09 02.9 -2.2**
WB2 Warramunga Arr 19.38 177 *e*P **P** **23 05 24.6 -3.0**
WB2 *e*S **S** **23 09 01.5 -3.6**
BYJI Banyuwangi 20.45 247 P Pn 23 05 46.6 +5.1
BYJI Banyuwangi 20.45 247 P *p*P 23 05 52.9 +4.7
JAGI Jajag, Banyuwa 20.73 247 P Pn 23 05 54.0 +9.2
BLJI Banyuglugur 20.99 249 P **P** **23 05 49.7 +4.6**
1µm,1.4s
GMJI Gumukmas 21.31 248 P *p*P 23 06 00.8 +3.2
SBUM Sibu 21.34 278 P **P** **23 05 51.0 +2.1**
250nm,2.3s
SBUM Sibu 21.34 278 P *p*P 23 06 03.0 +5.1
250nm,2.3s
STKI Sintang 21.90 271 P P 23 06 03.1 +8.2
SJI Sawahan 22.71 251 P *p*P 23 06 14.7 +2.0
PWJI Pagerwojo 22.76 250 P *p*P 23 06 18.0 +4.8
AS31 Alice Springs 23.07 179 *e*P **P** **23 06 05.0 -2.2**
AS31 *e*S Sn 23 10 31.8 -2.2
ASAR Alice Springs 23.07 179 P **P** **23 06 04.7 -2.6**
4.7nm,0.4s,baz=356,slow=12,SNR=11
ASAR S Sn 23 10 27.5 -6.5
14nm,0.7s,baz=359,slow=27,SNR=4.2
ASAR Alice Springs 23.07 179 P **P** **23 06 04.7 -2.6**
ASAR S Sn 23 10 27.5 -6.5
KSM Kuching 23.14 275 *e*P **P** **23 06 08.0 0.0**
71nm,1.4s
CTA Charters Tower 23.23 148 P **P** **23 06 10.6 +1.7**
5.9nm,0.8s,baz=331,slow=11,SNR=4.2
CTA Charters Tower 23.23 148 *e*P **P** **23 06 06.2 -2.6**
56nm,0.9s
CTA Charters Tower 23.23 148 P **P** **23 06 10.6 +1.7**
CTAO Charters Tower 23.23 148 *e*P **P** **23 06 04.6 -4.2**
152nm,1.2s
CTAO *e* 23 06 17.1
MBWA Marble Bar 24.50 212 *e*P **P** **23 06 21.1 +0.3**
MBWA Marble Bar 24.50 212 *e*P **P** **23 06 20.3 -0.5**
619nm,1.6s
MBWA *e* 23 06 33.1
BJII Banjamegara 24.56 253 P P 23 06 27.2 +5.7
CISI Cisompet, Garu 26.43 254 P P 23 06 43.7 +5.3
LEM Lembang 26.45 256 P *p*P 23 06 52.5 +4.0
NACB Ninganchiao 27.02 336 P **P** **23 06 41.4 -2.2**
9.8nm,0.5s
FORT Forrest 30.57 189 *e*P P 23 07 19.7 +4.7
33nm,0.7s
STKA Stephens Creek 32.20 167 P **P** **23 07 28.4 -1.0**
24nm,0.9s,baz=334,slow=8.2,SNR=6.4
STKA Stephens Creek 32.20 167 *e*P **P** **23 07 31.9 +2.5**
98nm,1.1s
STKA Stephens Creek 32.20 167 *e*P **P** **23 07 31.3 +1.9**
22nm,1.0s
STKA *e* 23 07 48.0
BBOO Buckleboo 32.27 176 *e*P P 23 07 33.8 +3.7
182nm,1.0s
BBOO Buckleboo 32.27 176 P **P** **23 07 31.7 +1.6**
974nm,1.1s
BBOO *e* 23 07 48.2
PPI Padang Panjang 32.97 270 P *p*P 23 07 52.0 +5.7
KULM Kulim 33.17 280 *e*P **P** **23 07 38.1 -0.1**
32nm,1.5s
KLBR Kellerberrin 34.30 204 *e*P **P** **23 07 47.5 -0.3**
86nm,1.1s
ARMA Armidale 34.48 151 *e*P P 23 07 54.5 +5.1
ARMA Armidale 34.48 151 P **P** **23 07 48.8 -0.7**
57nm,0.9s
PSI Prapat 34.58 276 P *p*P 23 08 04.0 +3.5
NJ2 Nanjing 35.14 338 *e*P **pP** **23 08 07.5 +2.7**
NJ2 pmax pmax
comp=Z,50nm,1.2s
NJ2 Nanjing 35.14 338 *e*P **P** **23 07 54.6 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
WHN Wuhan 35.75 331 P *p*P 23 08 13.1 +2.9
MJAR Matsushiro Arr 37.09 6 P P 23 08 19.2 +7.5
comp=Z,1.2nm,0.8s,baz=243,slow=2.0,SNR=4.7
MJAR Matsushiro Arr 37.09 6 P P 23 08 19.2 +7.5
GYA Guiyang 37.13 318 P **P** **23 08 11.8 -0.5**
GYA pP **pP** **23 08 21.6 -0.6**
GYA sP **sP** **23 08 25.4 -0.9**
GYA PP PP 23 09 41.2 +3.8
GYA S **S** **23 13 57.8 +1.1**
GYA ScP **ScP** **23 14 13.4 -3.6**
GYA SS SS 23 16 30.3 -10
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=N,630nm,17.8s
GYA LR LR
comp=E,590nm,18.0s
GYA LR LR
comp=Z,610nm,17.9s
ENH Enshi 38.09 325 *e*P **P** **23 08 18.6 -1.7**
comp=Z,37nm,1.3s
ENH *e* 23 08 31.8
TOO Toolangi 38.58 164 *e*P P 23 08 29.9 +5.6
comp=Z,515nm,1.2s
CM31 Chiang Mai Arr 38.70 301 P **P** **23 08 24.4 -1.1**
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 38.70 301 P **P** **23 08 23.3 -2.2**
comp=Z,6.6nm,1.0s,baz=124,slow=6.3,SNR=7.2
CMAR Chiang Mai Arr 38.70 301 P **P** **23 08 23.3 -2.2**
CHTO Chiang Mai 38.85 301 P **P** **23 08 25.6 -1.2**
comp=Z,12nm,1.0s
CHTO Chiang Mai 38.85 301 P P 23 08 31.4 +4.6
KMI Kunming 39.05 313 P **P** **23 08 29.1 +0.5**
KMI S **S** **23 14 24.3 -1.7**
XAN Xi'an 41.28 329 P P 23 08 57.6 +11
XAN pP pP 23 09 05.2 +8.4
XAN pmax pmax
comp=Z,6.0nm,1.2s
CD2 Chengdu 42.00 321 P P 23 09 04.8 +12
CD2 Chengdu 42.00 321 P P 23 09 04.8 +12
CD2 pP pP 23 09 15.0 +12
CD2 sP sP 23 09 19.3 +12
CD2 PP **PcP** **23 10 46.2 -1.4**
CD2 S S 23 15 23.0 +13
CD2 sS sS 23 15 39.9 +14
CD2 SS SS 23 18 26.2 +8.6
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,4µm,11.6s
CD2 LR LR
comp=N,14µm,14.9s
CD2 LR LR
comp=Z,10µm,15.5s
BJT Baijiatuau 43.24 341 P **P** **23 09 00.7 -1.9**
comp=Z,110nm,1.0s
BJT *e* 23 09 15.1
BJI Beijing 43.26 341 P **P** **23 09 04.1 +1.4**
BJI pmax pmax
comp=Z,22nm,2.1s
USRK Ussuriysk Arra 44.49 359 P P 23 09 18.4 +5.9
comp=Z,4.5nm,0.8s,baz=172,slow=7.4,SNR=7.6
MDJ Mudanjiang 45.01 356 P **P** **23 09 17.4 +0.8**
comp=Z,3µm,3.7s
LZH Lanzhou 45.57 326 *e*P **P** **23 09 21.2 -0.2**
LZH pP **pP** **23 09 29.6 -2.0**
LZH sP **sP** **23 09 32.6 -3.0**
LZH PcP **PcP** **23 10 59.2 -0.5**
LZH PP PP 23 11 08.4 -0.2
LZH *e*S **S** **23 15 59.2 -2.5**
LZH sS **sS** **23 16 18.0 -0.4**
LZH SS **ScS** **23 19 20.1 +4.5**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,190nm,4.7s
LZH LR LR
comp=N,1µm,14.7s
LZH LR LR
comp=E,1µm,15.8s
LZH LR LR
comp=Z,2µm,17.3s
HHC Hu-ho-hao-te 45.65 337 *e*P **P** **23 09 21.0 -0.9**
HHC pP **pP** **23 09 31.9 -0.2**
HHC sP **sP** **23 09 34.5 -1.6**
HHC PP PP 23 11 06.3 -3.0
HHC S **S** **23 16 05.0 +2.4**
HHC sS **sS** **23 16 19.0 -0.3**
HHC pmax pmax
comp=Z,120nm,1.7s
HHC LR LR
comp=N,6µm,16.4s
HHC LR LR
comp=E,5µm,16.7s
HHC LR LR
comp=Z,9µm,18.6s
GTA Gaotai 50.17 326 *e*P **P** **23 09 59.9 +2.9**
GTA pP **pP** **23 10 09.2 +2.0**
GTA sP **sP** **23 10 14.1 +2.8**
GTA pmax pmax
comp=Z,5.0nm,1.2s
LSA Lhasa 50.18 310 P **P** **23 09 58.0 +0.3**
LSA Lhasa 50.18 310 *e*P **P** **23 10 00.7 +3.1**
comp=Z,20nm,0.8s
TAPN Taplejung 51.83 306 *e*P P 23 10 06.7 -3.2
comp=Z,53nm,1.1s
TAPN Taplejung 51.83 306 *e*P P 23 10 06.7 -3.2
RAMN Ramite 52.57 305 *e*P **P** **23 10 12.5 -2.9**
comp=Z,76nm,0.9s
RAMN Ramite 52.57 305 *e*P **P** **23 10 12.5 -2.9**
JIRN Jiri 53.19 306 *e*P **P** **23 10 17.8 -2.3**
JIRN Jiri 53.19 306 *e*P **P** **23 10 17.8 -2.3**
ULN Ulaanbaatar 53.30 338 *e*P P 23 10 23.9 +3.6
SONM Songino Array 53.52 338 P **P** **23 10 21.9 +0.1**
comp=Z,1.8nm,1.0s,baz=125,slow=4.2,SNR=6.3
SONM Songino Array 53.52 338 P **P** **23 10 21.9 +0.1**
GUN Gumba 53.54 306 *e*P **P** **23 10 20.5 -2.1**
GUN Gumba 53.54 306 *e*P **P** **23 10 20.5 -2.1**
PKI Pulchoki 53.79 305 *e*P **P** **23 10 22.2 -2.2**
PKI Pulchoki 53.79 305 *e*P **P** **23 10 22.2 -2.2**
KKN Kakani 53.98 305 *e*P **P** **23 10 23.5 -2.2**
comp=Z,25nm,0.7s
KKN Kakani 53.98 305 *e*P **P** **23 10 23.5 -2.2**
DMN Daman 54.05 305 *e*P **P** **23 10 24.6 -1.7**
DMN Daman 54.05 305 *e*P **P** **23 10 24.6 -1.7**
GKN Gorkha 54.59 305 *e*P **P** **23 10 27.7 -2.4**
comp=Z,27nm,0.8s
GKN Gorkha 54.59 305 *e*P **P** **23 10 27.7 -2.4**
KOLN Koldanda 55.35 305 *e*P **P** **23 10 33.9 -1.7**
comp=Z,51nm,0.7s
KOLN Koldanda 55.35 305 *e*P **P** **23 10 33.9 -1.7**
DANN Dangsing 55.44 305 *e*P **P** **23 10 34.7 -1.6**
comp=Z,75nm,0.7s
DANN Dangsing 55.44 305 *e*P **P** **23 10 34.7 -1.6**
PETK Petropavlovsk- 57.12 17 P P 23 10 54.5 +7.0
comp=Z,22nm,1.0s,baz=180,slow=4.3,SNR=3.6
PETK Petropavlovsk- 57.12 17 P P 23 10 54.5 +7.0
WMQ Urumqi 59.99 323 *e*P **P** **23 11 06.4 -1.4**
WMQ pP **pP** **23 11 16.6 -1.6**
WMQ sP **sP** **23 11 20.4 -1.8**
WMQ PcP **PcP** **23 11 53.4 -0.3**
WMQ pmax pmax
comp=Z,51nm,1.4s
DDI Dehra Dun 60.79 305 *e*x P 23 11 18.0 +4.5
DDI *e*x x 23 13 09.8
YAK Yakutsk 62.40 358 P P 23 11 17.0 -6.6
comp=Z,21nm,0.8s
MK31 Makanchi Array 64.80 324 *e*P **P** **23 11 38.8 -1.0**
MKAR Makanchi Array 64.80 324 P **P** **23 11 39.0 -0.9**
comp=Z,3.6nm,0.6s,baz=107,slow=8.8,SNR=28
MKAR Makanchi Array 64.80 324 P **P** **23 11 39.0 -0.9**
KSH Kashi 65.69 314 *e*P P 23 11 54.1 +8.2
KSH *e*PcP **PcP** **23 12 21.6 +4.5**
KSH *e*ScP 23 16 21.1
KSH *e*PcS 23 16 24.2
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH pmax pmax
comp=Z,18µm,13.7s
ZAA0 Zalesovo Array 67.37 331 *e*P **P** **23 11 54.7 -1.5**
ZALV Zalesovo Beam 67.37 331 P **P** **23 11 56.1 -0.1**
comp=Z,1.3nm,0.6s,baz=133,slow=6.3,SNR=3.5
ZALV Zalesovo Beam 67.37 331 P **P** **23 11 56.1 -0.1**
KURK Kurchatov 68.86 326 P **P** **23 12 04.3 -1.3**
comp=Z,5.2nm,0.9s,baz=122,slow=5.3,SNR=5.4
KURK Kurchatov 68.86 326 P **P** **23 12 05.4 -0.1**
comp=Z,222nm,1.8s
KURK Kurchatov 68.86 326 P P 23 12 13.2 +7.6
comp=Z,206nm,1.0s,SNR=5.6
BVAR Borovoye Array 74.45 326 P **P** **23 12 40.2 +1.0**
comp=Z,5.1nm,0.8s,baz=124,slow=7.5,SNR=8.9
BVAR Borovoye Array 74.45 326 P **P** **23 12 40.2 +1.0**
BRVK Borovoye 74.53 326 *e*P **P** **23 12 38.1 -1.5**
comp=Z,49nm,1.0s
BRVK *e* 23 12 53.5
BRVK Borovoye 74.53 326 P **P** **23 12 38.1 -1.5**
comp=Z,260nm,1.1s,SNR=5.7
ILAR Eielson Array 86.04 25 P P 23 13 48.6 +7.3
comp=Z,3.0nm,0.9s,baz=260,slow=5.3,SNR=8.8
ILAR Eielson Array 86.04 25 P P 23 13 48.6 +7.3
QSPA South Pole Qui 89.47 180 P **P** **23 13 57.6 -0.3**
comp=Z,4.9nm,0.8s,baz=1.3,slow=2.6,SNR=14
QSPA South Pole Qui 89.47 180 *e*P **P** **23 13 57.6 -0.3**
comp=Z,43nm,1.4s
JCT Junction City 121.44 54 PKPdf **PKPdf** **23 19 52.4 -2.7**
TORD Torodi Ar. Bea 130.50 287 PKP **PKPdf** **23 20 14.0 +1.3**
comp=Z,0.5nm,0.7s,baz=62,slow=1.6,SNR=4.3
TORD Torodi Ar. Bea 130.50 287 PKP **PKPdf** **23 20 14.0 +1.3**
PLCA Paso Flores 133.58 155 PKP **PKPdf** **23 20 20.4 +2.5**
comp=Z,1.0nm,0.8s,baz=188,slow=20,SNR=3.0
PLCA Paso Flores 133.58 155 PKP **PKPdf** **23 20 20.4 +2.5**
CPUP Villa Florida 151.43 160 PKPbc **PKPbc** **23 20 56.0 +0.4**
comp=Z,6.1nm,0.7s,baz=230,slow=1.1,SNR=15
CPUP PKPab **PKPab** **23 21 05.1 +1.4**
comp=Z,4.0nm,0.8s,baz=182,slow=5.5,SNR=3.3
CPUP Villa Florida 151.43 160 PKPbc **PKPbc** **23 20 56.0 +0.4**
CPUP PKPab **PKPab** **23 21 05.1 +1.4**
LPAZ La Paz 153.03 129 PKPbc **PKPbc** **23 21 00.9 +0.7**
comp=Z,2.2nm,0.9s,baz=153,slow=2.6,SNR=4.1
LPAZ PKPab **PKPab** **23 21 14.9 +3.4**
comp=Z,5.0nm,0.8s,baz=298,slow=4.1,SNR=3.6
LPAZ La Paz 153.03 129 PKPbc **PKPbc** **23 21 00.9 +0.7**
LPAZ PKPab **PKPab** **23 21 14.9 +3.4**

*DDA **03** 23:05:57.0, 39°.59N×27°.42E, h7km, MD3.0*
*ISK **03** 23:05:56.6, 39°.60N×27°.40E, h10km, ML3.5*
*ATH **03** 23:05:56.1, 39°.64N×27°.47E, h18km±2km, MD3.6/9*
*THE **03** 23:05:56.3, 39°.51N×27°.50E, h0km±1km, ML3.4/6, Error ellipse: s-maj=2.8km s-min=0.9km az=99.0*
*CSEM **03** 23:05:57.6±0.1, 39°.61N×27°.43E, h10km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=150.0*
*ISCJB **03** 23:05:57.8±0.3, 39°.61N±0°.02×27°.42E±0°.02, h16km±4km, Error ellipse: s-maj=2.9km s-min=2.6km az=157.0*
ISC 03 23:05:57.8±1.0, 39°.60N±0°.02×27°.43E±0°.02, h18km±2km, n160, σ0s98/192, 11C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.20**	**47**	*i* P	**Pg**	**23 06 02.6**	**-0.3**
BALY				*i* S	**Sg**	**23 06 06.6**	**+0.3**
BALY	**Balya**	**0.20**	**47**	*i* P	**Pg**	**23 06 02.6**	**-0.3**
BALY				*i* S	**Sg**	**23 06 06.6**	**+0.3**
BALB	**Balikesir**	**0.35**	**84**	PG	**Pg**	**23 06 04.8**	**-0.4**
BALB				*e*SG	**Sg**	**23 06 10.1**	**-0.2**
BALB	**Balikesir**	**0.35**	**84**	*i* Pg	**Pg**	**23 06 04.8**	**-0.4**
BALB				*e*Sg	**Sg**	**23 06 10.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.49**	**24**	*e*PG	**Pb**	**23 06 07.5**	**-0.3**
GONE				*e*SG	**Sb**	**23 06 14.8**	**+0.2**
GONE	**Gonen-Balikesi**	**0.49**	**24**	*e*Pg	**Pb**	**23 06 07.5**	**-0.3**
GONE				*e*Sg	**Sb**	**23 06 14.8**	**+0.2**
AYVA	**Ayvalik**	**0.64**	**243**	*i* P	**Pb**	**23 06 09.4**	**-0.9**
AYVA				*i* S	**Sb**	**23 06 18.8**	**0.0**
AYVA	**Ayvalik**	**0.64**	**243**	*i* P	**Pb**	**23 06 09.4**	**-0.9**
AYVA				*i* S	**Sb**	**23 06 18.8**	**0.0**
AKS	**Akhisar**	**0.78**	**157**	*e*PG	**Pb**	**23 06 11.7**	**-1.1**
AKS	**Akhisar**	**0.78**	**157**	*e*Pg	**Pb**	**23 06 11.7**	**-1.1**
KRBG	**Karabiga-Canak**	**0.80**	**353**	*e*PG	**Pb**	**23 06 13.0**	**-0.1**
KRBG	**Karabiga-Canak**	**0.80**	**353**	*e*Pg	**Pb**	**23 06 13.0**	**-0.1**
DURS	**Dursunbey**	**0.81**	**90**	*i* P	**Pb**	**23 06 12.7**	**-0.7**
DURS				*i* S	**Sg**	**23 06 24.3**	**-0.1**
DURS	**Dursunbey**	**0.81**	**90**	*i* P	**Pb**	**23 06 12.7**	**-0.7**
DURS				*i* S	**Sg**	**23 06 24.3**	**-0.1**
EDC	**Edincik**	**0.82**	**24**	*e*PG	**Pb**	**23 06 13.1**	**-0.3**
EDC				*e*SG	**Sg**	**23 06 24.6**	**0.0**
EDC	**Edincik**	**0.82**	**24**	*e*Pg	**Pb**	**23 06 13.1**	**-0.3**
EDC				*e*Sg	**Sg**	**23 06 24.6**	**0.0**
BNT	**Bandirma**	**0.84**	**27**	*e*PG	**Pb**	**23 06 13.2**	**-0.7**
BNT	**Bandirma**	**0.84**	**27**	*e*Pg	**Pb**	**23 06 13.2**	**-0.7**
EZN	**Ezine**	**0.88**	**285**	*e*PG	**Pb**	**23 06 13.6**	**-0.8**
EZN	**Ezine**	**0.88**	**285**	*e*Pg	**Pb**	**23 06 13.6**	**-0.8**
LPK	**Lapseki**	**0.92**	**327**	*e*PG	**Pb**	**23 06 14.6**	**-0.6**
LPK	**Lapseki**	**0.92**	**327**	*e*Pg	**Pb**	**23 06 14.6**	**-0.6**
PRK	**Paraskevi**	**0.96**	**249**	P	**Pb**	**23 06 15.1**	**-0.8**
PRK				S	**Sn**	**23 06 30.0**	**+0.6**
PRK	**Paraskevi**	**0.96**	**249**	*e*PN	**Pb**	**23 06 15.0**	**-0.8**
PRK				*e*SN	**Sn**	**23 06 30.1**	**+0.6**
PRK	**Paraskevi**	**0.96**	**249**	P	**Pb**	**23 06 15.1**	**-0.8**
PRK				*e*Sn	**Sn**	**23 06 30.1**	**+0.6**
KCTX	**Karacabey (Bur**	**0.98**	**47**	*e*PG	**Pb**	**23 06 15.9**	**-0.2**
KCTX	**Karacabey (Bur**	**0.98**	**47**	*e*Pg	**Pb**	**23 06 15.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.08**	**318**	*e*PG	**Pb**	**23 06 17.3**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.08**	**318**	*e*Pg	**Pb**	**23 06 17.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.10**	**350**	*e*PN	**Pn**	**23 06 18.1**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.10**	**350**	*e*Pn	**Pn**	**23 06 18.1**	**-0.2**
DEMI	**Demirci**	**1.15**	**119**	*i* P	**Pb**	**23 06 19.4**	**+0.3**
DEMI				*i* S	**Sg**	**23 06 34.6**	**-0.4**
DEMI	**Demirci**	**1.15**	**119**	*i* P	**Pb**	**23 06 19.4**	**+0.3**
DEMI				*i* S	**Sg**	**23 06 34.6**	**-0.4**
BLCB	**Balcova**	**1.25**	**194**	*e*PN	**Pb**	**23 06 20.7**	**-0.1**
BLCB	**Balcova**	**1.25**	**194**	*e*Pn	**Pb**	**23 06 20.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.28**	**327**	*e*PN	**Pn**	**23 06 21.0**	**+0.3**
ERIK	**Erikli-Kesan**	**1.28**	**327**	*e*Pn	**Pn**	**23 06 21.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.36**	**55**	*e*PN	**Pb**	**23 06 22.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.36**	**55**	*e*Pn	**Pb**	**23 06 22.3**	**-0.3**
TKR	**Tekirdag**	**1.39**	**3**	*e*PN	**Pb**	**23 06 22.9**	**-0.2**
TKR	**Tekirdag**	**1.39**	**3**	*e*Pn	**Pb**	**23 06 22.9**	**-0.2**
MANT	**Manisa**	**1.42**	**141**	*i* P	**Pn**	**23 06 23.1**	**+0.3**
MANT				*i* S	**Sn**	**23 06 41.0**	**-0.1**
MANT	**Manisa**	**1.42**	**141**	*i* P	**Pn**	**23 06 23.1**	**+0.3**
MANT				*i* S	**Sn**	**23 06 41.0**	**-0.1**
ULDT	**Uludag**	**1.42**	**67**	*i* P	**Pb**	**23 06 23.3**	**-0.6**
ULDT				*i* S	**Sb**	**23 06 41.2**	**-0.5**
ULDT	**Uludag**	**1.42**	**67**	*i* P	**Pb**	**23 06 23.3**	**-0.6**
ULDT				*i* S	**Sb**	**23 06 41.2**	**-0.5**
KULA	**Kula-Manisa**	**1.45**	**138**	*e*PN	**Pb**	**23 06 23.9**	**-0.3**
KULA	**Kula-Manisa**	**1.45**	**138**	*e*Pn	**Pb**	**23 06 24.0**	**-0.3**
ARMT	**Armutlu**	**1.46**	**48**	*e*PN	**Pn**	**23 06 23.7**	**+0.4**
ARMT	**Armutlu**	**1.46**	**48**	*e*Pn	**Pn**	**23 06 23.7**	**+0.4**
ENEZ	**Enez**	**1.50**	**320**	*e*PN	**Pn**	**23 06 24.2**	**+0.6**
ENEZ	**Enez**	**1.50**	**320**	*e*Pn	**Pn**	**23 06 24.2**	**+0.6**
CRLT	**Corlu**	**1.54**	**9**	*e*PN	**Pn**	**23 06 25.0**	**+0.7**
CRLT	**Corlu**	**1.54**	**9**	*e*Pn	**Pn**	**23 06 25.0**	**+0.7**
GEMT	**Gemlik**	**1.59**	**58**	*e*PN	**Pn**	**23 06 25.5**	**+0.5**
GEMT	**Gemlik**	**1.59**	**58**	*e*Pn	**Pn**	**23 06 25.5**	**+0.5**
CHOS	**Chios island**	**1.62**	**222**	P	**Pn**	**23 06 25.0**	**-0.4**
CHOS				S	**Sn**	**23 06 41.3**	**+0.6**
CHOS	**Chios island**	**1.62**	**222**	*e*PN	**Pn**	**23 06 25.9**	**+0.5**
CHOS	**Chios island**	**1.62**	**222**	P	**Pn**	**23 06 25.0**	**-0.4**
CHOS	**Chios island**	**1.62**	**222**	*e*Pn	**Pn**	**23 06 25.9**	**+0.5**
CHOS				S	**Sn**	**23 06 46.4**	**+0.6**
ALN	**Alexandroupoli**	**1.67**	**321**	P	**Pn**	**23 06 27.0**	**+0.9**
ALN				S	**Sg**	**23 06 51.0**	**-0.6**
ALN	**Alexandroupoli**	**1.67**	**321**	*e*PN	**Pn**	**23 06 27.0**	**+0.9**
ALN				*e*SB	**Sb**	**23 06 49.4**	**+0.8**
ALN	**Alexandroupoli**	**1.67**	**321**	P	**Pn**	**23 06 27.0**	**+0.9**
ALN				*e*Sb	**Sb**	**23 06 49.4**	**+0.8**
ALN				S	**Sg**	**23 06 51.0**	**-0.6**
ELBA	**Catalca**	**1.72**	**26**	*e*P	**Pn**	**23 06 26.8**	**0.0**
ELBA				*e*S	**Sn**	**23 06 48.1**	**-0.3**
ELBA	**Catalca**	**1.72**	**26**	*e*P	**Pn**	**23 06 26.8**	**0.0**
ELBA				*e*S	**Sn**	**23 06 48.1**	**-0.3**
SLVT	**Silivri**	**1.73**	**20**	*e*PN	**Pn**	**23 06 27.6**	**+0.7**
SLVT	**Silivri**	**1.73**	**20**	*e*Pn	**Pn**	**23 06 27.6**	**+0.7**
LIA	**Limnos Island**	**1.75**	**280**	P	**Pn**	**23 06 27.7**	**+0.5**
LIA				S	**Sb**	**23 06 52.4**	**+1.4**
LIA	**Limnos Island**	**1.75**	**280**	*e*PB	**Pn**	**23 06 27.4**	**+0.2**
LIA				*e*SN	**Sb**	**23 06 50.9**	**-0.1**
LIA	**Limnos Island**	**1.75**	**280**	*e*Pb	**Pn**	**23 06 27.4**	**+0.2**
LIA	**Limnos Island**	**1.75**	**280**	P	**Pn**	**23 06 27.7**	**+0.5**
LIA				*e*Sn	**Sb**	**23 06 50.9**	**-0.1**
LIA				S	**Sb**	**23 06 52.4**	**+1.4**
YLV	**Yalova**	**1.78**	**57**	*e*PN	**Pn**	**23 06 28.2**	**+0.6**
YLV	**Yalova**	**1.78**	**57**	*e*Pn	**Pn**	**23 06 28.2**	**+0.6**
CTKS	**Kestanelik-??a**	**1.83**	**26**	*e*PN	**Pn**	**23 06 28.6**	**+0.3**
CTKS	**Kestanelik-??a**	**1.83**	**26**	*e*Pn	**Pn**	**23 06 28.6**	**+0.3**
BGKT	**Bogazkoy**	**1.88**	**33**	*e*PN	**Pn**	**23 06 29.3**	**+0.3**
BGKT	**Bogazkoy**	**1.88**	**33**	*e*Pn	**Pn**	**23 06 29.3**	**+0.3**
ISK	**Istanbul-Kandi**	**1.92**	**40**	*e*PN	**Pn**	**23 06 30.7**	**+1.1**
ISK	**Istanbul-Kandi**	**1.92**	**40**	*e*Pn	**Pn**	**23 06 30.7**	**+1.1**
SMG	**Samos**	**1.94**	**194**	*e*PN	**Pn**	**23 06 30.9**	**+1.0**
SMG				*e*SN	**Sb**	**23 06 57.5**	**+1.0**
SMG	**Samos**	**1.94**	**194**	*e*Pn	**Pn**	**23 06 30.9**	**+1.0**
SMG				*e*Sn	**Sb**	**23 06 57.5**	**+1.0**
CAVI	**Cavuskoy**	**1.95**	**71**	*e*PN	**Pn**	**23 06 30.6**	**+0.6**
CAVI	**Cavuskoy**	**1.95**	**71**	*e*Pn	**Pn**	**23 06 30.6**	**+0.6**
ADVT	**Abdulvahap**	**1.96**	**64**	*e*PN	**Pn**	**23 06 31.2**	**+1.1**
ADVT	**Abdulvahap**	**1.96**	**64**	*e*Pn	**Pn**	**23 06 31.2**	**+1.1**
CTYL	**Yal??k??y-??at**	**1.98**	**19**	*e*PN	**Pn**	**23 06 31.4**	**+1.0**
CTYL	**Yal??k??y-??at**	**1.98**	**19**	*e*Pn	**Pn**	**23 06 31.4**	**+1.0**
KLYT	**Kilyos**	**2.06**	**36**	*e*PN	**Pn**	**23 06 32.5**	**+1.1**
KLYT	**Kilyos**	**2.06**	**36**	*e*Pn	**Pn**	**23 06 32.5**	**+1.1**
HRT	**Hereke**	**2.11**	**54**	*e*PN	**Pn**	**23 06 32.5**	**+0.4**
HRT	**Hereke**	**2.11**	**54**	*e*Pn	**Pn**	**23 06 32.5**	**+0.4**
RDO	**Rodhopi**	**2.11**	**318**	P	**Pn**	**23 06 33.3**	**+1.2**
RDO				S	**Sb**	**23 07 02.4**	**+1.1**
RDO	**Rodhopi**	**2.11**	**318**	*e*PN	**Pn**	**23 06 33.5**	**+1.4**
RDO	**Rodhopi**	**2.11**	**318**	P	**Pn**	**23 06 33.3**	**+1.2**
RDO				S	**Sb**	**23 07 02.4**	**+1.1**
ALT	**Altintas**	**2.15**	**104**	*e*PN	**Pn**	**23 06 33.8**	**+1.0**
ALT	**Altintas**	**2.15**	**104**	*i* P	**Pn**	**23 06 27.9**	**-4.9**
ALT				*i* S	**Sn**	**23 06 56.9**	**-2.1**
ALT	**Altintas**	**2.15**	**104**	*e*Pn	**Pn**	**23 06 33.8**	**+1.0**
DENT	**Denizli**	**2.23**	**145**	*e*PN	**Pn**	**23 06 35.1**	**+1.2**
DENT	**Denizli**	**2.23**	**145**	*e*Pn	**Pn**	**23 06 35.1**	**+1.2**
SILT	**Sile**	**2.30**	**47**	*e*PN	**Pn**	**23 06 35.9**	**+1.3**
SILT	**Sile**	**2.30**	**47**	*e*Pn	**Pn**	**23 06 35.9**	**+1.3**
EDRB	**Edirne**	**2.30**	**347**	*e*PN	**Pn**	**23 06 35.7**	**+0.9**
EDRB	**Edirne**	**2.30**	**347**	*e*Pn	**Pn**	**23 06 35.7**	**+0.9**
BODT	**Bodrum**	**2.54**	**182**	*e*PN	**Pn**	**23 06 39.3**	**+1.3**
BODT	**Bodrum**	**2.54**	**182**	*e*Pn	**Pn**	**23 06 39.3**	**+1.3**

LTK	Loutraki	3.82 247	*e*PN	Pn	23 06 57.8	+2.1
LTK	Loutraki	3.82 247	*e*Pn	Pn	23 06 57.8	+2.1
DID	Didima	3.89 239	*e*PN	Pn	23 06 58.7	+2.0
DID	Didima	3.89 239	*e*Pn	Pn	23 06 58.7	+2.0
KARP	Karpathos	4.05 183	*e*PN	Pn	23 06 59.9	+1.0
KARP	Karpathos	4.05 183	*e*Pn	Pn	23 06 59.9	+1.0
THL	Klokotos Trika	4.18 271	*e*PN	Pn	23 07 01.4	+0.8
THL	Klokotos Trika	4.18 271	*e*Pn	Pn	23 07 01.4	+0.8
GUR	Goura	4.31 249	*e*PN	Pn	23 07 03.9	+1.5
GUR	Goura	4.31 249	*e*Pn	Pn	23 07 03.9	+1.5
VTS	Vitosha	4.37 315 ⇑	*i*P	Pn	23 07 05.3	+2.0
VTS	Vitosha	4.37 315 ⇑	*i*P	Pn	23 07 05.3	+2.0
EFP	Efpalio	4.46 256	*e*PN	Pn	23 07 06.3	+1.9
EFP	Efpalio	4.46 256	*e*Pn	Pn	23 07 06.3	+1.9
VLI	Veliai	4.56 232	*e*PN	Pn	23 07 06.8	+1.0
VLI	Veliai	4.56 232	*e*Pn	Pn	23 07 06.8	+1.0
TIRR	Tirgusor	4.91 8 ⇓	*i*P	Pn	23 07 12.1	+1.5
TIRR	Tirgusor	4.91 8 ⇓	*i*P	Pn	23 07 12.1	+1.5
MLR	Muntele Rosu	5.99 350 ⇑	*i*P	Pn	23 07 29.0	+3.5
VOIR		6.09 344 ⇑	*i*P	Pn	23 07 25.8	-1.1
VOIR		6.09 344 ⇑	*i*P	Pn	23 07 25.8	-1.1
DOPR	Dopca	6.54 347 ⇓	*i*P	Pn	23 07 35.8	+2.9
DOPR	Dopca	6.54 347 ⇓	*i*P	Pn	23 07 35.8	+2.9
GZR	Gura Zlata	6.73 331 ⇑	*i*P	Pn	23 07 36.9	+1.3
GZR	Gura Zlata	6.73 331 ⇑	*i*P	Pn	23 07 36.9	+1.3
TESR		6.93 356 ⇑	*i*P	Pn	23 07 41.6	+3.3
TESR		6.93 356 ⇑	*i*P	Pn	23 07 41.6	+3.3
BZS	Buzias	7.38 326 ⇑	*i*P	Pn	23 07 45.6	+1.1
BZS	Buzias	7.38 326 ⇑	*i*P	Pn	23 07 45.6	+1.1
BURAR	Bucovina Array	8.17 349 ⇓	*i*P	Pn	23 07 53.0	-2.4

IDC 03 23:09:34.4±4.5, 1°.05S×132°.09E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=307.4km s-min=23.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.91	173	P	P	23 13 57.0	+0.2
	baz=353,slow=11,SNR=2.2						
ASAR	Alice Springs	22.55	176	P	P	23 14 36.1	-0.3
	2.0nm,0.6s,baz=355,slow=11,SNR=3.6						
MKAR	Makanchi Array	64.52	324	P	P	23 20 13.8	+0.5
	0.6nm,0.7s,baz=110,slow=8.1,SNR=5.4						
KURK	Kurchatov	68.64	327	P	P	23 20 39.1	-0.3
	1.1nm,0.8s,baz=120,slow=5.6,SNR=7.1						

*DJA **03** 23:10:42, 0°.20S×133°.01E, h23km, MLv5.2/8*
IDC 03 23:10:35.4±0.8, 0°.45S×133°.36E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/19, mbtmp4.2/11, ML4.3/2, Error ellipse: s-maj=42.9km s-min=15.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.12	203	P	P	23 14 59.5	-0.6
	0.7nm,0.3s,baz=37,slow=12,SNR=5.5						
WRA	Warramunga Arr	19.40	177	P	P	23 15 03.5	+0.3
	0.9nm,0.3s,baz=356,slow=13,SNR=6.6						
ASAR	Alice Springs	23.09	179	P	P	23 15 43.0	0.0
	5.8nm,0.6s,baz=356,slow=9.3,SNR=12						
STKA	Stephens Creek	32.22	167	P	P	23 17 05.7	+0.2
	5.2nm,0.8s,baz=327,slow=14,SNR=5.8						
SONM	Songino Array	53.50	338	P	P	23 19 58.1	+0.2
	0.9nm,0.8s,baz=156,slow=6.5,SNR=4.9						
PETK	Petropavlovsk-	57.10	17	P	P	23 20 23.9	+0.4
	5.3nm,0.9s,baz=187,slow=10,SNR=4.8						
MKAR	Makanchi Array	64.78	324	P	P	23 21 16.1	+0.1
	3.6nm,0.6s,baz=114,slow=7.0,SNR=24						
ZALV	Zalesovo Beam	67.35	331	P	P	23 21 31.3	-0.9
	0.6nm,0.5s,baz=125,slow=6.9,SNR=3.9						
KURK	Kurchatov	68.84	326	P	P	23 21 41.9	+0.2
	3.5nm,0.7s,baz=126,slow=5.7,SNR=20						
BVAR	Borovoye Array	74.43	326	P	P	23 22 15.8	+0.4
	2.6nm,0.8s,baz=125,slow=9.4,SNR=9.1						
ILAR	Eielson Array	86.03	25	P	P	23 23 17.0	-0.6
	0.6nm,0.6s,baz=246,slow=5.0,SNR=8.8						
CPUP	Villa Florida	151.45	160	PKPbc	PKPbc	23 30 31.9	-0.2
	0.4nm,0.4s,baz=79,slow=3.9,SNR=3.4						

IDC 03 23:11:51.8±1.1, 0°.55S×133°.96E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=65.0km s-min=21.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.28	179	P	P	23 16 18.3	0.0
	0.5nm,0.3s,baz=356,slow=12,SNR=6.0						
ASAR	Alice Springs	22.98	180	P	P	23 16 58.1	-0.2
	3.7nm,0.8s,baz=2.4,slow=11,SNR=2.6						
MKAR	Makanchi Array	65.22	324	P	P	23 22 36.0	+0.9
	1.4nm,0.6s,baz=107,slow=8.9,SNR=8.6						
ZALV	Zalesovo Beam	67.73	331	P	P	23 22 49.8	-1.3
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.4						
KURK	Kurchatov	69.26	326	P	P	23 23 01.1	+0.4
	1.7nm,0.9s,baz=121,slow=5.9,SNR=4.0						
ILAR	Eielson Array	85.86	25	P	P	23 24 33.3	+0.1
	0.4nm,0.7s,baz=250,slow=5.5,SNR=3.4						
CPUP	Villa Florida	151.15	159	PKPbc	PKPbc	23 31 47.9	0.0
	2.1nm,0.7s,baz=216,slow=1.9,SNR=4.0						

IDC 03 23:13:34.3±1.0, 0°.22S×133°.17E, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML3.9/2, Error ellipse: s-maj=55.6km s-min=16.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.25	202	P	P	23 18 00.8	+0.4
	0.3nm,0.3s,baz=32,slow=14,SNR=1.9						
WRA	Warramunga Arr	19.63	177	P	P	23 18 04.8	+0.1
	0.3nm,0.3s,baz=355,slow=12,SNR=2.6						
ASAR	Alice Springs	23.32	178	P	P	23 18 44.9	+0.6
	10nm,1.0s,baz=357,slow=12,SNR=5.8						
STKA	Stephens Creek	32.48	167	P	P	23 20 05.7	-0.9
	2.6nm,0.5s,baz=330,slow=8.6,SNR=4.8						
SONM	Songino Array	53.22	338	P	P	23 22 55.6	+0.9
	0.8nm,1.0s,baz=123,slow=7.1,SNR=2.8						
MKAR	Makanchi Array	64.48	324	P	P	23 24 12.8	-0.1
	0.7nm,0.6s,baz=112,slow=8.6,SNR=4.6						
ZALV	Zalesovo Beam	67.06	331	P	P	23 24 28.6	-0.7
	0.6nm,0.5s,baz=101,slow=7.5,SNR=3.6						
KURK	Kurchatov	68.54	326	P	P	23 24 38.5	-0.3
	1.6nm,0.9s,baz=126,slow=5.7,SNR=4.6						
BVAR	Borovoye Array	74.14	326	P	P	23 25 12.8	+0.2
	1.9nm,0.9s,baz=116,slow=9.8,SNR=5.2						
ILAR	Eielson Array	85.91	25	P	P	23 26 16.2	+0.2
	0.4nm,0.9s,baz=265,slow=4.7,SNR=4.3						

IDC 03 23:15:07.6±16.0, 0°.00S×132°.74E, h0km, mb4.3/2, mb1 4.5/4, mb1mx3.9/17, mbtmp4.3/4, ML4.3/2, Error ellipse: s-maj=250.0km s-min=96.8km az=165.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.29	201	P	P	23 19 34.2	0.0
	0.5nm,0.3s,baz=21,slow=13,SNR=2.1						
WRA	Warramunga Arr	19.88	176	P	P	23 19 40.9	+0.3
	1.0nm,0.3s,baz=354,slow=12,SNR=6.5						
ASAR	Alice Springs	23.55	177	P	P	23 20 20.3	+0.5
	14nm,0.9s,baz=355,slow=11,SNR=9.2						
STKA	Stephens Creek	32.79	166	P	P	23 21 42.0	-0.7
	1.4nm,0.4s,baz=0.3,slow=10,SNR=5.4						

*IDC **03** 23:15:59.0±1.0, 0°.62S×133°.61E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.4/2, Error ellipse: s-maj=53.5km s-min=16.8km az=80.0*
*ISCJB **03** 23:16:01.4±0.7, 0°.68S±0°.07×133°.61E±0°.07, h28km, mb4.1/8, Error ellipse: s-maj=10.9km s-min=10.5km az=137.8*
*DJA **03** 23:16:06, 0°.69S×133°.12E, h10km, mb5.3/8*
ISC 03 23:16:03.1±0.9, 0°.69S±0°.10×133°.6E±0°.1, h28km, n23, σ1s08/20, mb4.2/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	2.51	101	P	Pb	23 16 56.9	+9.3
MSAI	Masohi	5.40	241	P	Pn	23 17 23.4	+1.5
LBMI	Labuha	6.14	270	P	Pn	23 17 31.5	-0.6
	293nm,0.9s,1.9nm						
AAI	Ambon	6.20	241	P	Pn	23 17 32.1	-0.8
	2µm,0.7s,7.0nm						
NLAI	Namlea	7.01	249	P	Pn	23 17 43.4	-0.6
	289nm,0.9s,1.1nm						
GTOI	Gorontalo	10.71	277	P	Pn	23 18 36.7	+1.9
	825nm,0.7s						
LUWI	Luwuk	10.88	268	P	Pn	23 18 35.5	-1.5
	184nm,0.9s						
MRSI	Marisa	11.76	276	P	Pn	23 18 51.9	+2.8
	748nm,1.0s						
TTSI	Tana Toraja	14.01	260	P	P	23 19 32.1	+4.6
SPSI	Sidrap Palu	14.24	257	P	Pn	23 19 24.3	+1.3
	204nm,0.8s						
BKSI	Bulukumba	14.26	251	P	Pn	23 19 23.7	+0.4
	465nm,1.4s						
KAPI	Kappang	14.52	253	P	Pn	23 19 27.7	+0.8
FITZ	Fitzroy Crossi	19.01	204	P	P	23 20 22.0	-0.8
	1.7nm,0.3s,baz=26,slow=12,SNR=4.6						
WRA	Warramunga Arr	19.15	178	P	Pn	23 20 25.8	+0.4
	0.9nm,0.3s,baz=355,slow=12,SNR=3.9						
ASAR	Alice Springs	22.84	179	P	P	23 21 05.2	+0.9
	6.6nm,0.4s,baz=356,slow=11,SNR=8.3						
STKA	Stephens Creek	31.92	167	P	P	23 22 27.1	+0.7
	2.4nm,0.6s,baz=348,slow=7.8,SNR=4.4						
SONM	Songino Array	53.84	338	P	P	23 25 24.0	+0.4
	0.4nm,0.6s,baz=142,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	65.14	324	P	P	23 26 42.4	+0.8
	2.9nm,0.7s,baz=114,slow=7.9,SNR=12						
ZALV	Zalesovo Beam	67.70	331	P	P	23 26 56.7	-1.1
	1.0nm,0.6s,baz=106,slow=4.8,SNR=3.7						
KURK	Kurchatov	69.20	326	P	P	23 27 08.1	+0.9
	5.6nm,0.9s,baz=120,slow=5.8,SNR=8.0						
AKTO	Aktyubinsk	81.40	321	P	P	23 28 15.8	-1.7
	0.6nm,0.8s,baz=23,slow=7.7,SNR=3.0						
ILAR	Eielson Array	86.13	25	P	P	23 28 41.2	-0.1
	0.7nm,0.6s,baz=244,slow=5.0,SNR=9.7						
TORD	Torodi Ar. Bea	130.83	287	PKP	PKPdf	23 35 12.6	-0.4
	0.3nm,0.7s,baz=66,slow=2.2,SNR=4.0						

IDC 03 23:20:32.9±1.0, 1°.69N×133°.50E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=61.3km s-min=19.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.51	178	P	P	23 25 21.8	-1.8
	2.6nm,0.6s,baz=354,slow=11,SNR=2.6						
ASAR	Alice Springs	25.20	179	P	P	23 26 00.5	0.0
	7.0nm,0.7s,baz=358,slow=8.3,SNR=4.4						
STKA	Stephens Creek	34.25	168	P	P	23 27 22.1	+1.4
	1.0nm,0.3s,baz=332,slow=9.6,SNR=5.9						
MKAR	Makanchi Array	63.16	323	P	P	23 31 03.3	+0.5
	0.7nm,0.7s,baz=114,slow=8.1,SNR=6.4						
KURK	Kurchatov	67.16	326	P	P	23 31 28.9	+0.3
	1.8nm,0.9s,baz=120,slow=5.5,SNR=9.3						
ILAR	Eielson Array	84.05	25	P	P	23 33 04.3	-0.9
	0.7nm,1.1s,baz=268,slow=5.0,SNR=3.4						

IDC 03 23:21:44.0±0.9, 0°.59S×133°.44E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML4.1/2, Error ellipse: s-maj=47.9km s-min=16.1km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.02	203	P	P	23 26 06.7	-0.9
	0.8nm,0.3s,baz=44,slow=14,SNR=2.7						
WRA	Warramunga Arr	19.25	177	P	P	23 26 10.1	-0.1
	0.4nm,0.3s,baz=354,slow=13,SNR=3.1						
ASAR	Alice Springs	22.94	179	P	P	23 26 49.2	-0.8
	2.9nm,0.6s,baz=353,slow=9.0,SNR=2.2						
STKA	Stephens Creek	32.06	167	P	P	23 28 14.4	+1.8
	1.9nm,0.6s,baz=339,slow=9.8,SNR=3.8						
MJAR	Matsushiro Arr	37.21	6	P	P	23 28 57.4	+0.2
	2.1nm,0.9s,baz=184,slow=7.0,SNR=4.5						
SONM	Songino Array	53.67	338	P	P	23 31 08.4	+0.8
	0.4nm,0.5s,baz=147,slow=7.7,SNR=5.3						
MKAR	Makanchi Array	64.94	324	P	P	23 32 25.9	+0.3
	1.4nm,0.6s,baz=111,slow=8.0,SNR=13						
ZALV	Zalesovo Beam	67.52	331	P	P	23 32 41.6	-0.2
	0.3nm,0.5s,baz=125,slow=6.1,SNR=3.1						
KURK	Kurchatov	69.00	326	P	P	23 32 51.1	-0.2
	2.4nm,0.9s,baz=119,slow=5.6,SNR=7.6						
BVAR	Borovoye Array	74.60	326	P	P	23 33 24.9	-0.1
	0.9nm,0.6s,baz=67,slow=3.9,SNR=4.5						
ILAR	Eielson Array	86.12	25	P	P	23 34 25.6	-1.1
	0.7nm,0.7s,baz=251,slow=4.7,SNR=8.7						

IDC 03 23:22:32.0±1.1, 0°.38S×133°.68E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=56.4km s-min=20.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.46	178	P	Pn	23 27 01.5	0.0
	0.3nm,0.3s,baz=357,slow=13,SNR=2.5						
ASAR	Alice Springs	23.15	179	P	P	23 27 39.7	-0.5
	2.8nm,0.6s,baz=0.5,slow=11,SNR=2.7						
MJAR	Matsushiro Arr	36.97	6	P	P	23 29 43.2	+0.1
	1.1nm,0.9s,baz=190,slow=8.4,SNR=2.9						
SONM	Songino Array	53.56	337	P	P	23 31 55.8	+0.9
	1.0nm,0.9s,baz=149,slow=8.2,SNR=4.3						
MKAR	Makanchi Array	64.92	324	P	P	23 33 13.4	0.0
	1.3nm,0.5s,baz=110,slow=8.3,SNR=7.9						
ZALV	Zalesovo Beam	67.44	331	P	P	23 33 29.1	-0.4
	0.3nm,0.3s,baz=112,slow=6.0,SNR=2.5						
KURK	Kurchatov	68.96	326	P	P	23 33 39.1	+0.1
	1.7nm,0.6s,baz=123,slow=5.7,SNR=5.5						
BVAR	Borovoye Array	74.56	326	P	P	23 34 12.4	-0.3
	0.9nm,0.8s,baz=120,slow=8.5,SNR=2.9						
ILAR	Eielson Array	85.83	25	P	P	23 35 12.8	-0.4
	0.7nm,0.9s,baz=264,slow=5.4,SNR=4.6						

IDC 03 23:25:43.9±2.4, 0°.44S×133°.97E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=120.2km s-min=19.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.36	205	P	P	23 30 10.6	-0.7
	0.7nm,0.3s,baz=29,slow=13,SNR=4.3						
WRA	Warramunga Arr	19.38	179	P	P	23 30 11.2	-0.3
	0.5nm,0.3s,baz=357,slow=13,SNR=4.7						
ASAR	Alice Springs	23.09	180	P	P	23 30 52.1	+0.6
	2.2nm,0.7s,baz=1.8,slow=11,SNR=4.8						
SONM	Songino Array	53.73	337	P	P	23 35 06.9	-1.1
	0.1nm,0.4s,baz=167,slow=8.6,SNR=2.6						
MKAR	Makanchi Array	65.13	324	P	P	23 36 28.1	+1.4
	0.5nm,0.6s,baz=111,slow=8.4,SNR=8.8						
KURK	Kurchatov	69.17	326	P	P	23 36 51.8	-0.5
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.8						

*BJI **03** 23:26:06.7, 0°.71S×133°.86E, h21km, mb4.8/7*
*IDC **03** 23:26:07.5±0.5, 0°.53S×133°.57E, h0km, mb4.3/14, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.5/2, Error ellipse: s-maj=26.6km s-min=12.4km az=74.0*
*ISCJB **03** 23:26:10.0±0.3, 0°.51S±0°.04×133°.55E±0°.05, h28km, mb4.5/21, Error ellipse: s-maj=6.9km s-min=5.9km az=145.0*
*DJA **03** 23:26:12, 0°.45S×133°.55E, h85km, mb5.2/7*
*NEIC **03** 23:26:12.6±0.3, 0°.58S×133°.58E, h35km, mb4.7/9, Error ellipse: s-maj=12.4km s-min=5.9km az=75.0*
ISC 03 23:26:11.9±0.5, 0°.52S±0°.07×133°.59E±0°.07, h28km, n89, σ1s08/87, mb4.5/21, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	2.60	105	P	Pn	23 26 52.5	+0.4
FAKI	Fak Fak	2.74	209	P	Pb	23 27 04.9	+4.7
TLE	Tual	5.16	189	P	Pn	23 27 30.0	+2.7
	6µm,0.9s,34nm						
SMPI	Sarmi	5.32	106	P	Pn	23 27 32.2	+2.7
	1µm,3.2s,7.7nm						
MSAI	Masohi	5.44	239	P	Pn	23 27 33.4	+2.2
	169nm,0.8s,0.7nm						
LBMI	Labuha	6.09	269	P	Pn	23 27 40.9	+0.8
	708nm,0.9s,2.7nm						
AAI	Ambon	6.25	240	P	Pn	23 27 42.1	-0.1
	1µm,1.1s,5.9nm						
NLAI	Namlea	7.03	247	P	Pn	23 27 52.8	-0.2
	442nm,0.7s,1.9nm						
GTOI	Gorontalo	10.64	276	P	Pn	23 28 51.6	+9.0
LUWI	Luwuk	10.83	267	P	Pn	23 28 45.3	+0.1
	226nm,0.8s						
MRSI	Marisa	11.69	275	P	Pn	23 29 07.3	+10
TTSI	Tana Toraja	13.99	259	P	P	23 29 36.5	+0.5
SPSI	Sidrap Palu	14.23	256	P	P	23 29 37.0	-1.7
BKSI	Bulukumba	14.27	250	P	Pn	23 29 35.3	+3.1
	73nm,1.4s						
KAPI	Kappang	14.52	252	P	Pn	23 29 38.0	+2.3
	492nm,1.2s						
PMG	Port Moresby	16.14	124	Pn	Pn	23 29 57.2	+0.4
	0.2nm,0.3s,baz=291,slow=11,SNR=4.8						
PMG	Port Moresby	16.14	124	*e*Pn	Pn	23 29 57.4	+0.5
	47nm,1.1s						
FITZ	Fitzroy Crossi	19.14	204	P	P	23 30 32.1	-0.9
	1.4nm,0.3s,baz=41,slow=13,SNR=3.8						
FITZ	Fitzroy Crossi	19.14	204	P	P	23 30 32.1	-0.9
WRAB	Tennant Creek	19.31	178	*e*P	P	23 30 34.5	-0.5
	38nm,0.9s						
WRA	Warramunga Arr	19.32	178	P	P	23 30 32.5	-2.5
	1.6nm,0.3s,baz=356,slow=12,SNR=9.0						
WRA	Warramunga Arr	19.32	178	P	P	23 30 32.5	-2.5
WB2	Warramunga Arr	19.32	178	*e*P	P	23 30 34.5	-0.6
AS31	Alice Springs	23.01	179	*e*P	P	23 31 12.9	-1.9
ASAR	Alice Springs	23.02	179	P	P	23 31 12.8	-2.0
	11nm,0.7s,baz=6.5,slow=12,SNR=15						
ASAR	Alice Springs	23.02	179	P	P	23 31 12.8	-2.0
CTA	Charters Tower	23.07	148	P	P	23 31 15.2	-0.2
	5.6nm,0.6s,baz=318,slow=13,SNR=4.0						
CTA	Charters Tower	23.07	148	P	P	23 31 15.2	-0.2
MBWA	Marble Bar	24.58	213	*e*P	P	23 31 30.1	+0.4
	34nm,1.2s						
STKA	Stephens Creek	32.10	167	P	P	23 32 36.8	+0.1
	5.2nm,0.7s,baz=338,slow=10,SNR=7.1						
STKA	Stephens Creek	32.10	167	P	P	23 32 36.7	0.0
	0.5nm,0.5s						
MJAR	Matsushiro Arr	37.12	6	P	P	23 33 18.8	-1.3
	2.4nm,0.9s,baz=197,slow=10,SNR=6.0						
MJAR	Matsushiro Arr	37.12	6	P	P	23 33 18.8	-1.3
CMAR	Chiang Mai Arr	38.92	301	P	P	23 33 35.3	-0.3
	2.3nm,0.8s,baz=114,slow=6.9,SNR=16						
CMAR	Chiang Mai Arr	38.92	301	P	P	23 33 35.3	-0.3
BJI	Beijing	43.38	340	P	P	23 34 12.2	+0.3
BJI				pmax	pmax		
	comp=Z,41nm,0.6s						
USRK	Ussuriysk Arra	44.54	358	P	P	23 34 21.7	+0.5
	comp=Z,3.9nm,0.6s,baz=176,slow=7.9,SNR=14						
LSA	Lhasa	50.38	310	P	P	23 35 07.1	-0.4
LSA	Lhasa	50.38	310	*e*P	P	23 35 08.3	+0.8
	comp=Z,13nm,0.8s						
TAPN	Taplejung	52.04	306	*e*P	P	23 35 18.9	-0.8
	comp=Z,26nm,0.9s						
TAPN	Taplejung	52.04	306	*e*P	P	23 35 18.9	-0.8
ODAN	Odare	52.10	305	*e*P	P	23 35 19.4	-0.7
	comp=Z,45nm,0.7s						
ODAN	Odare	52.10	305	*e*P	P	23 35 19.4	-0.7
RAMN	Ramite	52.78	305	*e*P	P	23 35 24.6	-0.6
	comp=Z,52nm,0.7s						
RAMN	Ramite	52.78	305	*e*P	P	23 35 24.6	-0.6
JIRN	Jiri	53.40	306	*e*P	P	23 35 29.3	-0.6
	comp=Z,30nm,0.7s						
JIRN	Jiri	53.40	306	*e*P	P	23 35 29.3	-0.6
SONM	Songino Array	53.66	338	P	P	23 35 31.9	+0.8
	comp=Z,1.5nm,0.6s,baz=151,slow=8.3,SNR=17						
SONM	Songino Array	53.66	338	P	P	23 35 31.9	+0.8
GUN	Gumba	53.75	306	*e*P	P	23 35 31.8	-0.6
	comp=Z,39nm,0.7s						
GUN	Gumba	53.75	306	*e*P	P	23 35 31.8	-0.6
PKI	Pulchoki	54.00	305	*e*P	P	23 35 33.2	-1.0
	comp=Z,13nm,0.7s						
PKI	Pulchoki	54.00	305	*e*P	P	23 35 33.2	-1.0
KKN	Kakani	54.19	305	*e*P	P	23 35 34.5	-1.0
	comp=Z,30nm,0.8s						
KKN	Kakani	54.19	305	*e*P	P	23 35 34.5	-1.0
DMN	Daman	54.27	305	*e*P	P	23 35 35.3	-0.8
	comp=Z,40nm,0.8s						
DMN	Daman	54.27	305	*e*P	P	23 35 35.3	-0.8
GKN	Gorkha	54.80	305	*e*P	P	23 35 38.9	-0.9
	comp=Z,28nm,0.8s						
GKN	Gorkha	54.80	305	*e*P	P	23 35 38.9	-0.9
KOLN	Koldanda	55.56	305	*e*P	P	23 35 44.9	-0.5
	comp=Z,50nm,0.7s						
KOLN	Koldanda	55.56	305	*e*P	P	23 35 44.9	-0.5
DANN	Dangsing	55.65	305	*e*P	P	23 35 45.5	-0.6
	comp=Z,65nm,0.7s						
DANN	Dangsing	55.65	305	*e*P	P	23 35 45.5	-0.6
MK31	Makanchi Array	64.97	324	*e*P	P	23 36 49.6	+0.4
MKAR	Makanchi Array	64.97	324	P	P	23 36 49.8	+0.5
	comp=Z,4.8nm,0.6s,baz=111,slow=7.9,SNR=32						
MKAR	Makanchi Array	64.97	324	P	P	23 36 49.8	+0.5
KSH	Kashi	65.88	314	P	P	23 36 57.6	+2.2
KSH				pmax	pmax		
	comp=Z,12µm,12.9s						
ZALV	Zalesovo Beam	67.52	331	P	P	23 37 04.8	-0.5
	comp=Z,1.0nm,0.5s,baz=121,slow=6.5,SNR=8.4						
ZALV	Zalesovo Beam	67.52	331	P	P	23 37 04.8	-0.5
EKS2	Erkin-Say	68.60	317	*e*P	P	23 37 13.4

0.6nm,0.3s,baz=355,slow=11,SNR=3.8
ASAR Alice Springs 23.37 177 P P 23 35 19.1 +0.5
3.0nm,0.4s,baz=356,slow=11,SNR=6.1
SONM Songino Array 53.00 338 P P 23 39 27.6 +0.7
0.5nm,0.6s,baz=158,slow=7.9,SNR=3.9
MKAR Makanchi Array 64.15 324 P P 23 40 44.2 -0.4
2.5nm,0.6s,baz=117,slow=7.8,SNR=16
ZALV Zalesovo Beam 66.78 331 P P 23 41 02.3 +0.8
1.2nm,0.5s,baz=123,slow=7.0,SNR=6.5
KURK Kurchatov 68.23 326 P P 23 41 10.2 -0.5
2.6nm,0.6s,baz=126,slow=6.0,SNR=18
BVAR Borovoye Array 73.83 326 P P 23 41 44.7 0.0
1.3nm,0.6s,baz=126,slow=7.3,SNR=6.7
ILAR Eielson Array 86.11 25 P P 23 42 50.5 -0.3
0.9nm,0.8s,baz=268,slow=4.1,SNR=6.0

IDC 03 23:31:18.5±1.2,0.49S×134.46E,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.9/18,mbtmp3.9/10,ML4.4/2,Error ellipse: s-maj=48.8km s-min=19.2km az=83.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.33 180**		P	P	23 35 44.2	-1.3
	0.9nm,0.3s,baz=359,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.53 206**		P	P	23 35 48.0	+0.2
	1.0nm,0.3s,baz=38,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**23.04 181**		P	P	23 36 26.1	+0.5
	2.6nm,0.4s,baz=358,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**39.66 300**		P	P	23 38 53.6	+1.0
	1.8nm,1.0s,baz=123,slow=6.0,SNR=7.6						
SONM	**Songino Array**	**53.98 337**		P	P	23 40 44.8	+0.3
	0.2nm,0.7s,baz=153,slow=9.7,SNR=2.1						
MKAR	**Makanchi Array**	**65.47 323**		P	P	23 42 02.7	-0.9
	0.8nm,0.7s,baz=107,slow=9.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**67.92 331**		P	P	23 42 18.4	-0.6
	0.4nm,0.5s,baz=119,slow=12,SNR=2.7						
KURK	**Kurchatov**	**69.50 326**		P	P	23 42 27.7	-1.2
	1.3nm,0.9s,baz=121,slow=5.8,SNR=3.2						
BVAR	**Borovoye Array**	**75.09 326**		P	P	23 43 03.4	+1.1
	0.2nm,0.3s,baz=84,slow=15,SNR=2.3						
ILAR	**Eielson Array**	**85.61 25**		P	P	23 43 59.5	+0.9
	0.4nm,0.6s,baz=242,slow=4.3,SNR=4.6						

*IDC **03** 23:35:59.0±0.8,0.38S×133.90E,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.3/18,mbtmp4.4/9,ML4.7/1,Error ellipse: s-maj=43.0km s-min=18.3km az=71.0*
*ISCJB **03** 23:36:02.8±0.6,0.4S±0.1×133.6E±0.2,h32km,mb4.4/11, Error ellipse: s-maj=26.2km s-min=9.9km az=151.4*
*NEIC **03** 23:36:04.4±0.4,0.41S×133.83E,h35km,mb4.7/4,Error ellipse: s-maj=23.6km s-min=8.4km az=72.0*
ISC 03 23:36:03.9±0.7,0.5S±0.1×133.8E±0.2,h32km,n53, σ0s51/55,mb4.4/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**16.34 146**		eP	**P**	**23 39 54.2**	**+0.4**
	102nm,0.8s						
COEN				eS	Sn	23 42 27.7	-24
WRA	**Warramunga Arr**	**19.38 178**		P	**Pn**	**23 40 28.0**	**-0.5**
	2.2nm,0.3s,baz=357,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**19.38 178**		P	**Pn**	**23 40 28.0**	**-0.5**
ASAR	**Alice Springs**	**23.07 180**		P	**P**	**23 41 07.8**	**+0.8**
	6.9nm,0.7s,baz=5.2,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**23.07 180**		P	**P**	**23 41 07.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**39.02 301**		P	**P**	**23 43 28.1**	**+0.2**
	1.0nm,0.3s,baz=122,slow=6.7,SNR=11						
CMAR	**Chiang Mai Arr**	**39.02 301**		P	**P**	**23 43 28.1**	**+0.2**
LSA	**Lhasa**	**50.46 310**		eP	**P**	**23 45 00.1**	**+0.5**
	6.8nm,0.8s						
TAPN	**Taplejung**	**52.13 306**		eP	**P**	**23 45 11.6**	**-0.3**
	75nm,1.0s						
TAPN	**Taplejung**	**52.13 306**		eP	**P**	**23 45 11.6**	**-0.3**
ODAN	**Odare**	**52.19 305**		eP	**P**	**23 45 12.0**	**-0.3**
	97nm,0.8s						
ODAN	**Odare**	**52.19 305**		eP	**P**	**23 45 12.0**	**-0.3**
RAMN	**Ramite**	**52.88 305**		eP	**P**	**23 45 17.3**	**-0.1**
	105nm,0.8s						
RAMN	**Ramite**	**52.88 305**		eP	**P**	**23 45 17.3**	**-0.1**
JIRN	**Jiri**	**53.49 305**		eP	**P**	**23 45 21.6**	**-0.5**
	47nm,0.7s						
JIRN	**Jiri**	**53.49 305**		eP	**P**	**23 45 21.6**	**-0.5**
SONM	**Songino Array**	**53.66 337**		P	**P**	**23 45 23.6**	**+1.0**
	2.8nm,1.0s,baz=155,slow=7.6,SNR=15						
SONM				PcP	**PcP**	**23 46 28.9**	**+0.2**
	0.5nm,0.7s,baz=137,slow=3.7,SNR=4.1						
SONM	**Songino Array**	**53.66 337**		P	**P**	**23 45 23.6**	**+1.0**
SONM				PcP	**PcP**	**23 46 28.9**	**+0.2**
GUN	**Gumba**	**53.84 306**		eP	**P**	**23 45 24.2**	**-0.4**
	67nm,0.8s						
GUN	**Gumba**	**53.84 306**		eP	**P**	**23 45 24.2**	**-0.4**
PKI	**Pulchoki**	**54.09 305**		eP	**P**	**23 45 25.7**	**-0.7**
	24nm,0.8s						
PKI	**Pulchoki**	**54.09 305**		eP	**P**	**23 45 25.7**	**-0.7**
KKN	**Kakani**	**54.28 305**		eP	**P**	**23 45 27.0**	**-0.7**
	47nm,0.9s						
KKN	**Kakani**	**54.28 305**		eP	**P**	**23 45 27.0**	**-0.7**
DMN	**Daman**	**54.36 305**		eP	**P**	**23 45 27.8**	**-0.5**
	65nm,0.9s						
DMN	**Daman**	**54.36 305**		eP	**P**	**23 45 27.8**	**-0.5**
GKN	**Gorkha**	**54.89 305**		eP	**P**	**23 45 31.4**	**-0.6**
	52nm,0.9s						
GKN	**Gorkha**	**54.89 305**		eP	**P**	**23 45 31.4**	**-0.6**
KOLN	**Koldanda**	**55.66 305**		eP	**P**	**23 45 37.3**	**-0.3**
	64nm,0.7s						
KOLN	**Koldanda**	**55.66 305**		eP	**P**	**23 45 37.3**	**-0.3**
DANN	**Dangsing**	**55.74 305**		eP	**P**	**23 45 38.0**	**-0.3**
	86nm,0.8s						
DANN	**Dangsing**	**55.74 305**		eP	**P**	**23 45 38.0**	**-0.3**
DDI	**Dehra Dun**	**61.09 305**		ex	**P**	**23 46 15.2**	**-0.2**
MK31	**Makanchi Array**	**65.02 324**		eP	**P**	**23 46 41.6**	**+0.6**
MKAR	**Makanchi Array**	**65.02 324**		P	**P**	**23 46 41.6**	**+0.5**
	5.0nm,0.6s,baz=111,slow=8.6,SNR=39						
MKAR	**Makanchi Array**	**65.02 324**		P	**P**	**23 46 41.6**	**+0.5**
ZALV	**Zalesovo Beam**	**67.54 331**		P	**P**	**23 46 56.6**	**-0.4**
	1.4nm,0.6s,baz=110,slow=6.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**67.54 331**		P	**P**	**23 46 56.6**	**-0.4**
KURK	**Kurchatov**	**69.06 326**		P	**P**	**23 47 06.9**	**+0.3**
	9.3nm,0.9s,baz=119,slow=5.8,SNR=29						
KURK	**Kurchatov**	**69.06 326**		eP	**P**	**23 47 06.7**	**+0.1**
	8.8nm,1.0s						
KKAR	**Karatay Array**	**71.07 316**		eP	**P**	**23 47 19.0**	**-0.1**
BVAR	**Borovoye Array**	**74.66 326**		P	**P**	**23 47 40.6**	**+0.3**
	3.9nm,0.8s,baz=104,slow=6.3,SNR=14						
BVAR	**Borovoye Array**	**74.66 326**		P	**P**	**23 47 40.6**	**+0.3**
BRVK	**Borovoye**	**74.73 326**		eP	**P**	**23 47 40.6**	**0.0**
	12nm,1.4s						
ABKAR	**Akbulak array**	**79.82 320**		eP	**P**	**23 48 08.4**	**-0.8**
	3.7nm,0.7s						
ILAR	**Eielson Array**	**85.87 25**		P	**P**	**23 48 39.9**	**-0.5**
	1.3nm,0.7s,baz=255,slow=4.6,SNR=14						
ILAR	**Eielson Array**	**85.87 25**		P	**P**	**23 48 39.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**130.86 287**		PKP	**PKPdf**	**23 55 12.7**	**-0.5**
	0.5nm,0.8s,baz=103,slow=2.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**130.86 287**		PKP	**PKPdf**	**23 55 12.7**	**-0.5**
CPUP	**Villa Florida**	**151.31 159**		PKPbc	**PKPbc**	**23 55 54.5**	**-0.7**
	3.8nm,0.7s,baz=189,slow=1.4,SNR=9.5						
CPUP	**Villa Florida**	**151.31 159**		PKPbc	**PKPbc**	**23 55 54.5**	**-0.7**
LPAZ	**La Paz**	**152.75 129**		PKPbc	**PKPbc**	**23 55 59.8**	**+0.3**
	1.0nm,0.7s,baz=2.2,slow=4.2,SNR=4.1						
LPAZ	**La Paz**	**152.75 129**		PKPbc	**PKPbc**	**23 55 59.8**	**+0.3**

*IDC **03** 23:36:30.1±6.1,6.59S×129.80E,h89km±63km,mb3.8/3, mb1 4.3/7,mb1mx3.9/17,mbtmp4.2/7,ML4.8/4,Error ellipse: s-maj=37.5km s-min=27.8km az=30.0*
ISC 03 23:36:37.9±2.0,7.1S±0.2×130.2E±0.1,h104km,n15, σ1s16/17,mb4.6/5,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79 202**		P	**Pn**	**23 39 21.6**	**-1.2**
	6.3nm,0.3s,baz=36,slow=11,SNR=66						
FITZ				S	**Sn**	**23 41 32.4**	**-0.1**
	8.8nm,0.3s,baz=132,slow=18,SNR=6.2						
FITZ	**Fitzroy Crossi**	**11.79 202**		eP	**Pn**	**23 39 21.7**	**-1.0**
	46nm,0.4s						
FITZ				eS	**Sn**	**23 41 32.2**	**-0.2**
WRA	**Warramunga Arr**	**13.34 163**		P	**Pn**	**23 39 43.5**	**+0.4**
	9.2nm,0.3s,baz=338,slow=13,SNR=42						
WRA				S	**Sn**	**23 42 09.1**	**-1.0**
	10nm,0.3s,baz=358,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.81 168**		P	**Pn**	**23 40 28.5**	**+1.4**
	4.2nm,0.3s,baz=348,slow=11,SNR=32						
PMG	**Port Moresby**	**16.89 99**		P	**Pn**	**23 40 26.2**	**-1.9**
	2.4nm,0.3s,baz=288,slow=7.4,SNR=6.2						
MBWA	**Marble Bar**	**17.26 215**		eP	**Pn**	**23 40 32.9**	**+0.4**
MTSU	**Mount Surprise**	**17.54 130**		eP	**P**	**23 40 35.6**	**0.0**
	99nm,1.3s						
MTSU				eS	Sn	23 43 43.7	-7.8
CTA	**Charters Tower**	**20.17 131**		P	**P**	**23 41 04.8**	**+0.6**
	4.0nm,0.6s,baz=308,slow=11,SNR=4.9						
MEEK	**Meekatharra**	**22.33 208**		eP	**P**	**23 41 26.8**	**-0.4**
	17nm,0.3s						
QLP	**Quilpie**	**23.48 147**		eP	**P**	**23 41 38.8**	**+0.4**
FORT	**Forrest**	**23.61 185**		eP	**P**	**23 41 39.8**	**+0.3**
	19nm,0.7s						
BBOO	**Buckleboo**	**26.12 169**		eP	**P**	**23 42 05.1**	**+2.9**
	13nm,0.6s						
STKA	**Stephens Creek**	**26.80 158**		P	**P**	**23 42 08.1**	**-0.2**
	1.0nm,0.3s,baz=326,slow=7.9,SNR=5.6						
STKA	**Stephens Creek**	**26.80 158**		eP	**P**	**23 42 08.1**	**-0.2**
	9.0nm,1.4s						
MKAR	**Makanchi Array**	**68.47 327**		P	P	23 47 18.5	-10
	1.0nm,0.4s,baz=115,slow=7.4,SNR=7.6						

*ISCJB **03** 23:38:46.7±1.4,10.92N±0.08×61.73W±0.06,h76km±9km, Error ellipse: s-maj=15.2km s-min=8.1km az=29.4*
*FUNV **03** 23:38:47.5,11.04N×61.62W,h46km,MW2.9*
ISC 03 23:38:48.0±2.2,10.9N±0.1×61.76W±0.07,h71km±14km, n10,σ1s09/15,1C,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.43 126**		⇑iP	**Pn**	**23 38 59.8**	**-0.5**
TRN				eS	**Sn**	**23 39 07.9**	**-1.5**
GUIV	**Guiria**	**0.53 241**		eP	**Pn**	**23 39 01.3**	**+0.1**
GUIV				eS	**Sn**	**23 39 10.7**	**-0.2**
TBH	**Brigand Hill**	**0.80 122**		eP	**Pn**	**23 39 06.2**	**+2.1**
TPR	**Prospect**	**1.00 74**		eP	Pn	23 39 16.7	+10
GUNV	**Guanoco**	**1.38 238**		eP	**Pn**	**23 39 12.5**	**+1.0**
GUNV				eS	**Sn**	**23 39 31.1**	**+2.0**
ITEV	**Isla Los Testi**	**1.42 289**		eP	**Pn**	**23 39 11.8**	**-0.2**
ITEV				eS	**Sn**	**23 39 29.5**	**-0.6**
CRUV	**Carupano**	**1.47 261**		eP	**Pn**	**23 39 12.6**	**0.0**
CRUV				eS	**Sn**	**23 39 31.1**	**-0.1**
RIOV	**Rio Grande**	**2.82 181**		eP	**Pn**	**23 39 30.4**	**-0.4**
RIOV				eS	**Sn**	**23 40 03.7**	**0.0**
LUEV	**Luepa**	**5.04 177**		eP	**Pn**	**23 40 00.7**	**-0.5**
BAUV	**El Baul**	**6.49 253**		eP	**Pn**	**23 40 21.0**	**+0.1**

ISC 03 23:40:34.2±1.6,36.57N±0.08×70.6E±0.2,h204km,n6, σ1s73/8,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.96 157**		⇓P	**Pn**	**23 41 23.4**	**-0.3**
CEP				S	S	23 41 57.0	-4.8
CHCP	**Chirah Chowk**	**3.66 142**		P	**Pn**	**23 41 31.8**	**-0.2**
THW	**Thamme Wali**	**3.89 165**		⇓P	**Pn**	**23 41 34.4**	**-0.5**
SARP	**Sargodha**	**4.96 159**		P	**Pn**	**23 41 47.5**	**-0.7**
KK31	**Karatay Array**	**6.53 360**		⇑Pn	**Pn**	**23 42 10.3**	**+2.0**
	0.7nm,0.3s,baz=184,slow=12,SNR=62						
KK31				Sn	**S**	**23 43 19.9**	**-2.8**
	5.1nm,0.3s,baz=188,slow=22,SNR=14						
TKM2	**Tokmak 2**	**7.44 30**		⇑Pn	**Pn**	**23 42 21.6**	**+1.3**
	1.2nm,0.5s						
TKM2				⇑Sn	**S**	**23 43 43.8**	**-0.8**
	0.7nm,0.5s						

IDC 03 23:41:48.9±1.2,0.24S×133.01E,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.7/17,mbtmp3.7/6,Error ellipse: s-maj=69.2km s-min=21.7km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63 176**		P	Pn	23 46 19.9	-0.6
	baz=348,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**23.31 178**		P	P	23 46 58.6	-0.1
	1.7nm,0.4s,baz=355,slow=11,SNR=3.7						
SONM	**Songino Array**	**53.18 338**		P	P	23 51 10.3	+1.4
	0.1nm,0.5s,baz=160,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**64.40 324**		P	P	23 52 26.8	-0.2
	0.4nm,0.5s,baz=110,slow=8.7,SNR=6.3						
KURK	**Kurchatov**	**68.47 326**		P	P	23 52 52.0	-0.8
	0.5nm,0.7s,baz=121,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**85.99 25**		P	P	23 54 30.2	-0.8
	1.0nm,1.1s,baz=276,slow=4.2,SNR=4.1						

IDC 03 23:42:53.0±0.9,0.14S×133.12E,h0km,mb4.0/7, mb1 4.3/9,mb1mx4.1/18,mbtmp4.1/9,ML4.4/2,Error ellipse: s-maj=52.5km s-min=13.0km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.31 202**		P	P	23 47 18.9	-0.9
	0.6nm,0.3s,baz=33,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**19.72 177**		P	P	23 47 23.4	-0.9
	1.5nm,0.3s,baz=353,slow=11,SNR=13						
WRA				S	S	23 50 54.6	-13
	0.4nm,0.3s,baz=5.2,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**23.40 178**		P	P	23 48 02.5	-1.3
	22nm,0.6s,baz=360,slow=13,SNR=22						
ASAR				S	S	23 52 21.7	+3.6
	2.7nm,0.9s,baz=360,slow=27,SNR=5.2						
STKA	**Stephens Creek**	**32.57 167**		P	P	23 49 24.9	-1.3
	2.8nm,0.3s,baz=350,slow=10,SNR=11						
SONM	**Songino Array**	**53.13 338**		P	P	23 52 14.4	+1.7
	0.8nm,1.0s,baz=144,slow=5.6,SNR=3.3						
MKAR	**Makanchi Array**	**64.39 324**		P	P	23 53 30.8	-0.2
	0.9nm,0.6s,baz=110,slow=8.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**66.97 331**		P	P	23 53 46.7	-0.7
	0.5nm,0.6s,baz=128,slow=6.7,SNR=3.3						
KURK	**Kurchatov**	**68.45 326**		P	P	23 53 56.5	-0.3
	0.7nm,0.7s,baz=121,slow=5.8,SNR=4.7						
ILAR	**Eielson Array**	**85.85 25**		P	P	23 55 34.6	+0.2
	0.8nm,0.7s,baz=247,slow=4.6,SNR=11						
CPUP	**Villa Florida**	**151.82 160**		PKPbc	PKPbc	00 02 50.6	0.0
	1.1nm,0.6s,baz=30,slow=2.5,SNR=3.6						

IDC 03 23:45:38.1±1.2,0.25S×133.91E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.7/17,mbtmp3.6/7,ML3.7/1,Error ellipse: s-maj=71.6km s-min=21.1km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.58 179**		P	P	23 50 06.3	-1.5
	0.2nm,0.3s,baz=358,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**23.28 180**		P	P	23 50 48.9	+1.2
	0.6nm,0.5s,baz=357,slow=11,SNR=3.4						
SONM	**Songino Array**	**53.54 337**		P	P	23 55 02.0	+1.2
	0.3nm,0.4s,baz=152,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**64.95 324**		P	P	23 56 19.8	0.0
	0.7nm,0.6s,baz=107,slow=8.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**67.44 331**		P	P	23 56 35.1	-0.5
	0.3nm,0.4s,baz=134,slow=6.5,SNR=2.2						
KURK	**Kurchatov**	**68.98 326**		P	P	23 56 44.8	-0.5
	1.2nm,0.9s,baz=121,slow=5.9,SNR=6.8						
ILAR	**Eielson Array**	**85.62 25**		P	P	23 58 18.1	-0.2
	0.3nm,0.6s,baz=262,slow=4.5,SNR=5.1						

IDC 03 23:49:26.4±1.8,0.41S×133.35E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/16,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=145.1km s-min=19.5km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.43 177**		P	P	23 53 54.7	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**23.12 179**		P	P	23 54 34.4	0.0
	4.7nm,0.6s,baz=358,slow=11,SNR=18						
STKA	**Stephens Creek**	**32.25 167**		P	P	23 55 56.0	-0.7
	1.7nm,0.7s,baz=38,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**64.75 324**		P	P	00 00 07.3	+0.5
	0.8nm,0.5s,baz=111,slow=8.6,SNR=17						
ZALV	**Zalesovo Beam**	**67.31 331**		P	P	00 00 22.2	-0.9
	0.2nm,0.3s,baz=134,slow=6.2,SNR=3.0						
CPUP	**Villa Florida**	**151.49 160**		PKPbc	PKPbc	00 09 24.1	+0.8
	0.6nm,0.5s,baz=6.5,slow=6.0,SNR=3.3						

IDC 03 23:50:23.7±2.1,0.26S×132.59E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.7/16,mbtmp3.7/5,ML3.5/1,Error ellipse: s-maj=146.1km s-min=22.2km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63 175**		P	P	23 54 54.4	+0.3
	0.2nm,0.3s,baz=355,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**23.30 177**		P	P	23 55 33.2	-0.2
	4.5nm,0.9s,baz=351,slow=9.8,SNR=4.4						
SONM	**Songino Array**	**53.05 338**		P	P	23 59 42.7	-0.1
	0.3nm,0.6s,baz=154,slow=8.6,SNR=2.5						
MKAR	**Makanchi Array**	**64.18 324**		P	P	00 00 58.6	-1.6
	0.6nm,0.7s,baz=112,slow=8.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**66.82 332**		P	P	00 01 18.5	+1.3
	0.5nm,0.7s,baz=108,slow=7.7,SNR=2.9						

IDC 03 23:53:21.4±7.6,0.45S×133.63E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.5/16,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=442.6km s-min=27.0km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.38 178**		P	P	23 57 47.6	-1.4
	0.2nm,0.3s,baz=359,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**23.08 179**		P	P	23 58 30.1	+1.2
	2.0nm,0.7s,baz=0.1,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**64.94 324**		P	P	00 04 03.0	-0.1
	0.2nm,0.7s,baz=110,slow=8.5,SNR=4.3						

IDC 03 23:54:41.4±2.5,0.82S×133.13E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/17,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=145.2km s-min=23.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.05 176**		P	P	23 59 03.4	-2.0
	0.2nm,0.3s,baz=356,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**22.73 178**		P	P	23 59 46.9	+1.7
	1.8nm,0.7s,baz=3.1,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**64.94 324**		P	P	00 05 21.8	-1.1
	0.2nm,0.5s,baz=123,slow=7.2,SNR=3.7						
KURK	**Kurchatov**	**69.01 326**		P	P	00 05 49.8	+1.1
	0.9nm,0.8s,baz=125,slow=5.9,SNR=3.3						

IDC 03 23:55:51.3±2.3,0.68S×133.54E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.8/17,mbtmp3.9/6,Error ellipse: s-maj=169.5km s-min=18.8km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16 178**		P	Pn	00 00 17.5	+0.2
	0.3nm,0.3s,baz=352,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.85 179**		P	P	00 00 56.6	+0.2
	8.9nm,0.9s,baz=357,slow=11,SNR=11						
STKA	**Stephens Creek**	**31.95 167**		P	P	00 02 18.2	-0.8
	3.7nm,0.8s,baz=347,slow=9.3,SNR=7.4						
MKAR	**Makanchi Array**	**65.07 324**		P	P	00 06 34.0	+0.3
	0.6nm,0.5s,baz=118,slow=7.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**67.64 331**		P	P	00 06 49.5	-0.5
	0.2nm,0.4s,baz=140,slow=7.4,SNR=2.6						
KURK	**Kurchatov**	**69.13 326**		P	P	00 06 59.8	+0.4
	0.7nm,0.6s,baz=123,slow=6.1,SNR=6.4						

IDC 03 23:57:20.3±2.7,0.14S×132.68E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/17,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=163.4km s-min=23.7km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.75 175**		P	P	00 01 52.1	+0.2
	0.3nm,0.3s,baz=354,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**23.42 177**		P	P	00 02 31.1	-0.1
	7.2nm,0.9s,baz=359,slow=10.0,SNR=6.9						
MKAR	**Makanchi Array**	**64.13 324**		P	P	00 07 56.6	0.0
	0.3nm,0.6s,baz=118,slow=8.3,SNR=3.0						
KURK	**Kurchatov**	**68.20 326**		P	P	00 08 22.6	0.0
	0.4nm,0.7s,baz=128,slow=5.8,SNR=4.4						

IDC 03 23:58:13.0±4.1,0.29S×132.59E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/16,mbtmp3.5/4,ML3.7/1,Error ellipse: s-maj=292.4km s-min=23.7km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.61 175**		P	P	00 02 42.6	-0.5
	0.2nm,0.3s,baz=353,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**23.27 177**		P	P	00 03 23.0	+0.5
	1.7nm,0.8s,baz=356,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**64.20 324**		P	P	00 08 50.5	+0.7
	0.2nm,0.5s,baz=115,slow=7.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**66.85 332**		P	P	00 09 06.0	-0.7
	0.1nm,0.4s,baz=131,slow=6.5,SNR=2.7						

IDC 03 23:58:28.4±1.2,0.89S×132.99E,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.7/17,mbtmp3.7/6,ML4.0/1,Error ellipse: s-maj=67.7km s-min=22.2km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.99 176**		P	P	00 02 51.7	-0.1
	0.5n

ILAR Eielson Array 86.22 25 P P 00 12 32.4 0.0
0.7nm,0.9s,baz=268,slow=4.6,SNR=3.6

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*IDC **04** 00:00:32.7±0.4,0.˝74S×133.˝21E,h0km,mb5.2/22, mb1 5.3/25,mb1mx5.3/25,mbtmp5.2/25,ML5.4/1, Error ellipse: s-maj=21.3km s-min=9.9km az=80.0*
*BJI **04** 00:00:34.0,0.˝88S×133.˝55E,h35km,mB6.0/18,mb5.4/59, Ms5.9/29,Ms7 5.7/28*
*ISCJB **04** 00:00:35.9±0.8,0.˝69S±0.˝03×133.˝38E±0.˝04,h33km±6km, mb5.4/130,MS6.2/17, Error ellipse: s-maj=6.4km s-min=4.1km az=159.2*
*MOS **04** 00:00:36.4±1.1,0.˝64S×133.˝18E,h34km,mb5.5/53,Error ellipse: s-maj=12.4km s-min=5.6km az=111.1*
*NEIC **04** 00:00:38.1±0.2,0.˝69S×133.˝28E,h35km,mb5.5/54, Error ellipse: s-maj=6.8km s-min=4.1km az=65.0*
*DJA **04** 00:00:41,0.˝91S×133.˝25E,h45km, mb5.6/25*
ISC 04 00:00:37.9±0.3,0.70S±0.˝04×133.˝38E±0.˝05,h34km±1km, h34km:pP-P,n368,σ1º36/434,mb5.5/129,MS6.0/17, 12C-5D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.48**	**207**	P	**Pn**	**00 01 16.5**	**+0.6**
BAKI	**Biak**	**2.77**	**100**	P	**Pb**	**00 01 24.9**	**-1.9**
TLE	**Tual**	**4.95**	**187**	P	**Pn**	**00 01 51.3**	**+1.4**
TNTI	**Ternate**	**6.19**	**284**	P	**Pn**	**00 02 07.4**	**+0.4**
	538nm,0.8s,2.0nm						
MNI	**Manado**	**8.80**	**284**	P	**Pn**	**00 02 44.5**	**+1.6**
	1µm,0.8s,2.8nm						
GTOI	**Gorontalo**	**10.46**	**277**	P	**Pn**	**00 03 08.0**	**+2.5**
	741nm,0.9s						
LUWI	**Luwuk**	**10.61**	**268**	P	**Pn**	**00 03 06.8**	**-0.9**
	1µm,1.1s						
DAV	**Davao City (W)**	**10.96**	**315**	Pn	**Pn**	**00 03 15.3**	**+2.8**
	34nm,0.3s,baz=100,slow=1.8,SNR=17						
DAV	**Davao City (W)**	**10.96**	**315**	*e*Pn	**Pn**	**00 03 14.7**	**+2.2**
DAV	**Davao City (W)**	**10.96**	**315**	P	Pn	00 03 18.2	+5.7
	427nm,1.1s						
CTBH	**Cotabato--PC H**	**12.04**	**311**	⇓*i*P	**Pn**	**00 03 27.9**	**+0.7**
MMRI	**Maumere**	**13.61**	**234**	P	**Pn**	**00 03 49.5**	**+0.7**
	305nm,1.2s						
KAPI	**Kappang**	**14.27**	**252**	*e*Pn	**Pn**	**00 03 58.5**	**+0.8**
KAPI	**Kappang**	**14.27**	**252**	P	**Pn**	**00 03 59.6**	**+1.9**
	SNR=18						
KAPI	**Kappang**	**14.27**	**252**	P	**Pn**	**00 04 00.0**	**+2.3**
	302nm,0.9s						
WSI	**Waingapu**	**15.77**	**235**	P	**P**	**00 04 24.6**	**+3.4**
MYLDM	**Lahad Datu**	**15.97**	**292**	P	**P**	**00 04 23.6**	**+0.2**
MYLDM	**Lahad Datu**	**15.97**	**292**	P	**P**	**00 04 23.5**	**+0.1**
	312nm,1.2s						
RCP	**Roxas**	**16.13**	**319**	⇑*e*P	**P**	**00 04 24.9**	**-0.2**
PMG	**Port Moresby**	**16.21**	**123**	Pn	**P**	**00 04 25.7**	**-0.4**
	2.0nm,0.3s,baz=303,slow=8.1,SNR=16						
PMG	**Port Moresby**	**16.21**	**123**	*ce*P	**P**	**00 04 27.6**	**+1.5**
PMG				pmax	pmax		
	comp=Z,140nm,1.2s						
PMG	**Port Moresby**	**16.21**	**123**	*e*Pn	**P**	**00 04 27.0**	**+0.9**
	comp=Z,190nm,1.1s						
TSM	**Tawau**	**16.27**	**288**	P	**Pn**	**00 04 23.6**	**-0.5**
COEN	**Coen**	**16.35**	**144**	*e*P	**Pn**	**00 04 23.7**	**-1.4**
	comp=Z,261nm,0.6s						
COEN	**Coen**	**16.35**	**144**	*e*Pn	**Pn**	**00 04 24.1**	**-1.0**
	comp=Z,677nm,1.3s						
PVCP	**Virac**	**16.89**	**328**	⇓*e*P	**Pn**	**00 04 30.6**	**-1.3**
SDKM	**Sandakan**	**17.35**	**291**	P	**P**	**00 04 40.1**	**+1.4**
KKM	**Kota Kinabalu**	**18.40**	**292**	*e*P	**P**	**00 04 49.4**	**-1.0**
KKM	**Kota Kinabalu**	**18.40**	**292**	P	**Pn**	**00 04 52.0**	**+1.3**
KKM	**Kota Kinabalu**	**18.40**	**292**	P	**Pn**	**00 04 52.0**	**+1.3**
	comp=Z,238nm,1.7s						
WRAB	**Tennant Creek**	**19.14**	**177**	*e*P	**P**	**00 04 57.9**	**-0.5**
WRAB				*e*S	**Sn**	**00 08 27.1**	**-6.0**
WRAB				pmax	pmax		
	comp=Z,225nm,0.9s						
WRAB	**Tennant Creek**	**19.14**	**177**	*e*P	**P**	**00 04 57.9**	**-0.5**
	comp=Z,225nm,0.9s						
WRAB				*e*S	**Sn**	**00 08 27.1**	**-6.0**
WRAB	**Tennant Creek**	**19.14**	**177**	P	**P**	**00 04 57.2**	**-1.2**
	comp=Z,1µm,0.6s,SNR=19						
WRA	**Warramunga Arr**	**19.15**	**177**	P	**P**	**00 04 57.4**	**-1.1**
	comp=Z,11nm,0.3s,baz=355,slow=12,SNR=35						
WRA				S	Sn	00 08 21.6	-12
	comp=Z,2.2nm,0.3s,baz=353,slow=24,SNR=5.6						
WRA	**Warramunga Arr**	**19.15**	**177**	P	**P**	**00 04 57.4**	**-1.1**
WRA				S	Sn	00 08 21.7	-12
WRA				pmax	pmax		
	comp=Z,11nm,0.3s						
WRA				smax	smax		
	comp=N,2.0nm,0.3s						
WRA	**Warramunga Arr**	**19.15**	**177**	P	**P**	**00 04 57.4**	**-1.1**
WB2	**Warramunga Arr**	**19.15**	**177**	*e*P	**P**	**00 04 57.3**	**-1.2**
TGY	**Tagaytay City**	**19.19**	**320**	P	**P**	**00 04 58.8**	**-0.2**
	comp=N,58nm,0.3s,baz=163,slow=6.4,SNR=6.9						
TGY	**Tagaytay City**	**19.19**	**320**	P	**P**	**00 04 58.8**	**-0.2**
TGY				pmax	pmax		
	comp=Z,58nm,0.3s						
TGY	**Tagaytay City**	**19.19**	**320**	P	**P**	**00 04 58.8**	**-0.2**
KHKI	**Kahang-Kahang**	**19.27**	**246**	P	**P**	**00 05 00.4**	**+0.5**
	comp=Z,230nm,1.2s						
MTSU	**Mount Surprise**	**20.39**	**149**	*e*P	**P**	**00 05 12.3**	**+0.2**
	comp=Z,321nm,1.2s						
JAGI	**Jajag, Banyuwa**	**20.65**	**247**	P	Pn	00 05 18.1	+0.7
	comp=Z,315nm,1.2s						
BTM	**Bintulu**	**20.66**	**281**	P	Pn	00 05 16.8	-0.7
SBUM	**Sibu**	**21.39**	**278**	P	**P**	**00 05 24.2**	**+1.3**
SBUM	**Sibu**	**21.39**	**278**	P	**P**	**00 05 23.7**	**+0.8**
	comp=Z,156nm,1.8s						
AS31	**Alice Springs**	**22.83**	**179**	*e*P	**P**	**00 05 37.9**	**-0.4**
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**00 05 37.8**	**-0.6**
	comp=Z,217nm,0.8s,baz=357,slow=7.5,SNR=80						
ASAR				S	**S**	**00 09 46.9**	**+1.3**
	comp=Z,23nm,0.9s,baz=2.5,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**00 05 37.8**	**-0.6**
ASAR				S	**S**	**00 09 46.9**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,217nm,0.8s						
ASAR				smax	smax		
	comp=N,23nm,0.9s						
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**00 05 37.8**	**-0.6**
CTAO	**Charters Tower**	**23.02**	**148**	*e*P	**P**	**00 05 42.0**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,192nm,1.1s						
CTAO	**Charters Tower**	**23.02**	**148**	*e*P	**P**	**00 05 42.0**	**+1.8**
	comp=Z,192nm,1.1s						
KSM	**Kuching**	**23.17**	**275**	*e*P	**P**	**00 05 41.1**	**-0.8**
	comp=Z,72nm,0.7s						
KSM	**Kuching**	**23.17**	**275**	P	**P**	**00 05 42.1**	**+0.3**
KSM	**Kuching**	**23.17**	**275**	P	**P**	**00 05 42.1**	**+0.3**
	comp=Z,226nm,0.8s						
SMRI	**Semarang**	**23.73**	**254**	P	**P**	**00 05 47.6**	**+0.3**
	comp=Z,314nm,1.1s						
UGM	**Wanagama**	**23.88**	**252**	*e*P	**P**	**00 05 47.8**	**-0.9**
	comp=Z,1µm,1.7s						
UGM	**Wanagama**	**23.88**	**252**	P	**P**	**00 05 49.6**	**+0.9**
	comp=Z,316nm,1.5s						
YOGI	**Yogyakarta**	**24.07**	**252**	P	**P**	**00 05 51.2**	**+0.8**
	comp=Z,1µm,1.1s						
MBWA	**Marble Bar**	**24.31**	**212**	*e*P	**P**	**00 05 52.2**	**-0.3**
MBWA	**Marble Bar**	**24.31**	**212**	*e*P	**P**	**00 05 52.3**	**-0.3**
	comp=Z,197nm,1.0s						
MBWA	**Marble Bar**	**24.31**	**212**	P	**P**	**00 05 53.2**	**+0.7**
	SNR=18						
BJII	**Banjamegara**	**24.50**	**254**	P	**P**	**00 05 55.4**	**+0.9**
	comp=Z,381nm,1.5s						
TPI	**Tanjungpandan**	**25.80**	**265**	P	**P**	**00 06 06.7**	**+0.6**
	comp=Z,324nm,1.2s						
CISI	**Cisompet, Garu**	**26.38**	**254**	P	**P**	**00 06 09.5**	**-2.0**
	comp=Z,438nm,1.1s						
LEM	**Lembang**	**26.41**	**256**	P	**P**	**00 06 11.6**	**-0.3**
	comp=Z,138nm,1.1s						
YULB	**Yu-li**	**26.68**	**335**	*e*P	**P**	**00 06 14.8**	**+0.8**
	comp=Z,33nm,0.9s						
SSLB	**Suanglung**	**27.17**	**334**	*e*P	**P**	**00 06 16.2**	**-2.2**
	comp=Z,95nm,1.1s						
NACB	**Ninganchiao**	**27.24**	**336**	*e*P	**P**	**00 06 17.7**	**-1.4**
	comp=Z,55nm,1.0s						
JOW	**Kunigami**	**27.81**	**350**	P	**P**	**00 06 24.1**	**0.0**
	comp=Z,38nm,1.0s,baz=173,slow=8.6,SNR=4.9						
JOW	**Kunigami**	**27.81**	**350**	P	**P**	**00 06 24.1**	**0.0**
MYKOM	**Kota Tinggi**	**29.63**	**275**	P	**P**	**00 06 40.0**	**-0.5**
EIDS	**Eidsvold**	**29.89**	**147**	*e*P	**P**	**00 06 43.7**	**+1.1**
	comp=Z,42nm,0.8s						
KGM	**Kluang**	**30.18**	**275**	P	**P**	**00 06 45.5**	**+0.1**
QIZ	**Qiongzhong**	**30.31**	**312**	P	**P**	**00 06 46.3**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,57nm,0.8s						
QIZ	**Qiongzhong**	**30.31**	**312**	*e*P	**P**	**00 06 45.9**	**-0.5**
	comp=Z,51nm,0.8s						
FORT	**Forrest**	**30.34**	**189**	*e*P	**P**	**00 06 46.7**	**+0.2**
	comp=Z,96nm,0.6s						
FORT	**Forrest**	**30.34**	**189**	*e*P	**P**	**00 06 46.5**	**0.0**
	comp=Z,291nm,0.9s						
FORT				*e*		00 07 17.3	
MNAI	**Manna**	**30.61**	**263**	P	**P**	**00 06 49.1**	**-0.1**
	comp=Z,250nm,1.3s						
KSI	**Kapahiang**	**30.90**	**264**	P	**P**	**00 06 50.6**	**-1.2**
	comp=Z,245nm,0.9s						
STKA	**Stephens Creek**	**31.97**	**167**	P	**P**	**00 07 00.3**	**-0.6**
	comp=Z,79nm,0.6s,baz=341,slow=8.4,SNR=99						
STKA	**Stephens Creek**	**31.97**	**167**	*e*P	**P**	**00 07 00.3**	**-0.6**
	comp=Z,64nm,0.6s						
STKA	**Stephens Creek**	**31.97**	**167**	P	**P**	**00 07 00.3**	**-0.6**
STKA				pmax	pmax		
	comp=Z,79nm,0.6s						
STKA	**Stephens Creek**	**31.97**	**167**	*e*P	**P**	**00 07 00.2**	**-0.6**
	comp=Z,20nm,0.8s						
BBOO	**Buckleboo**	**32.04**	**176**	*e*P	**P**	**00 07 01.1**	**-0.4**
	comp=Z,3µm,0.8s						
IPM	**Ipoh**	**32.73**	**279**	*e*P	**P**	**00 07 06.7**	**-1.2**
	comp=Z,97nm,1.1s						
IPM	**Ipoh**	**32.73**	**279**	P	**P**	**00 07 07.4**	**-0.5**
IPM	**Ipoh**	**32.73**	**279**	P	**P**	**00 07 06.9**	**-1.0**
	comp=Z,95nm,0.9s						
PPI	**Padang Panjang**	**32.98**	**270**	P	**P**	**00 07 08.6**	**-1.4**
	comp=Z,282nm,1.3s						
KULM	**Kulim**	**33.23**	**281**	*e*P	**P**	**00 07 11.0**	**-1.2**
	comp=Z,60nm,0.9s						
KULM	**Kulim**	**33.23**	**281**	P	**P**	**00 07 11.8**	**-0.3**
KULM	**Kulim**	**33.23**	**281**	P	**P**	**00 07 11.3**	**-0.9**
	comp=Z,163nm,1.4s						
KLBR	**Kellerberrin**	**34.10**	**204**	*e*P	**P**	**00 07 19.1**	**-0.4**
	comp=Z,50nm,0.7s						
ARMA	**Armidale**	**34.27**	**151**	*e*P	**P**	**00 07 22.1**	**+1.0**
ARMA	**Armidale**	**34.27**	**151**	*e*P	**P**	**00 07 21.9**	**+0.8**
	comp=Z,74nm,0.8s						
PSI	**Prapat**	**34.62**	**276**	P	**P**	**00 07 22.5**	**-1.9**
	comp=Z,104nm,0.8s						
NJ2	**Nanjing**	**35.36**	**338**	*e*P	**P**	**00 07 30.9**	**+0.5**
NJ2				pP	**pP**	**00 07 41.1**	**+0.9**
NJ2				sP	**sP**	**00 07 45.1**	**+0.8**
NJ2				PP	**PP**	**00 08 53.1**	**+2.0**
NJ2				S	**S**	**00 13 06.5**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,80nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,7µm,7.0s						
NJ2				LR	LR		
	comp=N,27µm,27.1s						
NJ2				LR	LR		
	comp=E,15µm,23.9s						
NJ2				LR	LR		
	comp=Z,13µm,20.8s						
NWAO	**Narrogin (SRO)**	**35.48**	**204**	*e*P	**P**	**00 07 31.3**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,31nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.48**	**204**	*e*P	**P**	**00 07 31.3**	**-0.1**
	comp=Z,31nm,0.9s						
WHN	**Wuhan**	**35.97**	**331**	P	**P**	**00 07 36.5**	**+0.9**
WHN				pmax	pmax		
	comp=Z,100nm,0.8s						
TPTI		**36.40**	**276**	P	**P**	**00 07 38.2**	**-1.4**
	comp=Z,376nm,1.1s						
LHMI	**Lhok Sumawe**	**36.86**	**280**	P	**P**	**00 07 42.9**	**-0.6**
	comp=Z,317nm,0.9s						
GYA	**Guiyang**	**37.32**	**318**	P	**P**	**00 07 48.3**	**+1.0**
GYA				pP	**pP**	**00 07 58.9**	**+1.7**
GYA				sP	**sP**	**00 08 03.2**	**+1.9**
GYA				PP	**PnPn**	**00 09 17.0**	**+3.4**
GYA				S	**S**	**00 13 33.1**	**+0.1**
GYA				ScP	**ScP**	**00 13 50.4**	**-0.8**
GYA				SS	**SnSn**	**00 16 06.6**	**-4.3**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=N,5µm,17.7s						
GYA				LR	LR		
	comp=E,3µm,18.5s						
GYA				LR	LR		
	comp=Z,5µm,17.8s						
MAJO	**Matsushiro**	**37.32**	**6**	*e*P	**P**	**00 07 45.4**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**37.32**	**6**	*e*P	**P**	**00 07 45.4**	**-1.7**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**37.32**	**6**	P	**P**	**00 07 45.7**	**-1.4**
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**00 07 45.6**	**-1.6**
	comp=Z,12nm,0.9s,baz=195,slow=9.4,SNR=23						
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**00 07 45.6**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**00 07 45.6**	**-1.6**
CAN	**Canberra**	**37.39**	**159**	*e*P	**P**	**00 07 48.2**	**+0.4**
	comp=Z,18nm,0.9s						
CNB	**Canberra Magne**	**37.52**	**158**	*e*P	**P**	**00 07 49.5**	**+0.6**
	comp=Z,81nm,0.8s						
KSAR	**Wonju Array Be**	**38.29**	**353**	P	**P**	**00 07 54.6**	**-0.7**
KSAR	**Wonju Array Be**	**38.29**	**353**	P	**P**	**00 07 54.5**	**-0.7**
ENH	**Enshi**	**38.30**	**326**	*e*P	**P**	**00 07 54.6**	**-0.9**
	comp=Z,21nm,0.9s						
KSRS	**Korea Array**	**38.30**	**353**	P	**P**	**00 07 54.5**	**-0.7**
	comp=Z,6.8nm,0.9s,baz=171,slow=9.8,SNR=18						
KSRS				PcP	**PcP**	**00 10 08.6**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=196,slow=3.4,SNR=5.0						
KSRS	**Korea Array**	**38.30**	**353**	P	**P**	**00 07 54.6**	**-0.7**
KSRS						00 10 08.6	
KSRS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TOO	**Toolangi**	**38.35**	**164**	*e*P	**P**	**00 07 56.4**	**+0.5**
	comp=Z,175nm,1.0s						
BSI	**Banda Aceh**	**38.53**	**280**	P	**P**	**00 07 55.0**	**-2.6**
	comp=Z,116nm,1.0s						
CM31	**Chiang Mai Arr**	**38.84**	**301**	*e*P	**P**	**00 07 59.9**	**-0.2**
	comp=Z,3.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.84**	**301**	P	**P**	**00 07 59.6**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=120,slow=6.5,SNR=31						
CMAR				PcP	**PcP**	**00 10 11.2**	**+0.2**
	comp=Z,5.0nm,1.0s,baz=133,slow=3.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**38.84**	**301**	P	**P**	**00 07 59.6**	**-0.5**
CMAR						00 10 11.3	
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.84**	**301**	P	**P**	**00 07 59.6**	**-0.5**
CHTO	**Chiang Mai**	**38.99**	**302**	*e*P	**P**	**00 08 00.5**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,21nm,1.1s						
CHTO	**Chiang Mai**	**38.99**	**302**	*e*P	**P**	**00 08 00.5**	**-0.9**
	comp=Z,21nm,1.1s						
CHTO	**Chiang Mai**	**38.99**	**302**	P	**P**	**00 08 00.6**	**-0.9**
	comp=Z,247nm,0.8s						
KMI	**Kunming**	**39.22**	**313**	P	**P**	**00 08 03.6**	**+0.1**
KMI				pP	**pP**	**00 08 11.4**	**-2.0**
KMI				pmax	pmax		
	comp=Z,33nm,1.2s						
DL2	**Dalian**	**40.87**	**346**	P	**P**	**00 08 17.8**	**+1.1**
DL2				pmax	pmax		
	comp=Z,50nm,1.0s						
XAN	**Xi'an**	**41.49**	**329**	P	**P**	**00 08 21.2**	**-0.8**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
CD2	**Chengdu**	**42.19**	**321**	P	**P**	**00 08 27.2**	**-0.6**
CD2				pP	**pP**	**00 08 37.4**	**-0.4**
CD2				sP	**sP**	**00 08 41.7**	**-0.1**
CD2				PP	**PP**	**00 10 08.6**	**+2.7**
CD2				S	**S**	**00 14 45.3**	**-0.6**
CD2				sS	**sS**	**00 15 02.3**	**-0.1**
CD2				SS	**SS**	**00 17 48.5**	**-6.3**
CD2				pmax	pmax		
	comp=Z,70nm,1.1s						
CD2				pmax	pmax		
	comp=Z,12µm,11.6s						
CD2				LR	LR		
	comp=N,8µm,16.7s						
CD2				LR	LR		
	comp=Z,11µm,18.4s						
MOO	**Moorlands**	**43.37**	**165**	*e*P	**P**	**00 08 38.2**	**+1.1**
	comp=Z,225nm,1.5s						
BJT	**Baijiatuao**	**43.47**	**341**	*e*P	**P**	**00 08 38.4**	**+0.5**
BJT	**Baijiatuao**	**43.47**	**341**	*e*P	**P**	**00 08 38.4**	**+0.5**
BJI	**Beijing**	**43.49**	**341**	P	**P**	**00 08 38.4**	**+0.4**
BJI				pmax	pmax		
	comp=Z,260nm,1.0s						
USRK	**Ussuriysk Arra**	**44.72**	**359**	P	**P**	**00 08 48.1**	**+0.3**
	comp=Z,16nm,0.9s,baz=176,slow=7.8,SNR=17						
CN2	**Changchun**	**44.87**	**352**	*e*P	**P**	**00 08 48.7**	**-0.4**
CN2				*es*P	**sP**	**00 09 02.5**	**-0.7**
CN2				PcP	**PcP**	**00 10 30.3**	**-0.1**
CN2				*e*S	**S**	**00 15 25.4**	**+0.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,7µm,12.0s						
CN2				LR	LR		
	comp=E,6µm,12.0s						
CN2				LR	LR		
	comp=Z,9µm,17.0s						
MDJ	**Mudanjiang**	**45.24**	**356**	P	**P**	**00 08 52.2**	**+0.2**
MDJ				pP	**pP**	**00 09 01.0**	**-1.1**
MDJ				sP	**sP**	**00 09 04.9**	**-1.2**
MDJ				ScP	**ScP**	**00 14 22.0**	**0.0**
MDJ				PcS	**PcS**	**00 14 25.6**	**+0.2**
MDJ				S	**S**	**00 15 30.2**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,23nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,5µm,9.4s						
MDJ	**Mudanjiang**	**45.24**	**356**	*e*P	**P**	**00 08 52.0**	**-0.1**
	comp=Z,27nm,1.0s						
ASAJ	**Asahikawa**	**45.37**	**9**	P	**P**	**00 08 54.0**	**+1.0**
	comp=Z,28nm,1.1s,baz=238,slow=22,SNR=3.9						
ASAJ	**Asahikawa**	**45.37**	**9**	P	**P**	**00 08 54.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,28nm,1.1s						
ASAJ	**Asahikawa**	**45.37**	**9**	P	**P**	**00 08 54.0**	**+1.0**
LZH	**Lanzhou**	**45.77**	**326**	*e*P	**P**	**00 08 57.2**	**+0.7**
LZH				pP	**pP**	**00 09 08.3**	**+1.7**
LZH				sP	**sP**	**00 09 12.2**	**+1.5**
LZH				PcP	**PcP**	**00 10 34.2**	**+0.3**
LZH				PP	**PP**	**00 10 42.2**	**-2.0**
LZH				*e*S	**S**	**00 15 38.5**	**+0.4**
LZH				SS	**ScS**	**00 18 54.3**	**+3.9**
LZH				pmax	pmax		
	comp=Z,90nm,1.2s						
LZH				pmax	pmax		
	comp=Z,2µm,4.0s						
LZH				LR	LR		
	comp=N,5µm,14.3s						
LZH				LR	LR		
	comp=E,12µm,13.5s						
LZH				LR	LR		
	comp=Z,12µm,15.8s						
IMP	**Imphal**	**45.83**	**306**	*e*P	**P**	**00 08 55.0**	**-2.1**
HHC	**Hu-ho-hao-te**	**45.87**	**337**	*e*P	**P**	**00 08 57.9**	**+0.7**
HHC				pP	**pP**	**00 09 07.7**	**+0.4**
HHC				sP	**sP**	**00 09 11.2**	**-0.1**
HHC				PP	**PP**	**00 10 47.3**	**+2.2**
HHC				S	**S**	**00 15 40.3**	**+1.0**
HHC				sS	**sS**	**00 15 55.9**	**0.0**
HHC				SS	**ScS**	**00 18 57.0**	**+6.2**
HHC				pmax	pmax		
	comp=Z,86nm,1.1s						
HHC				pmax	pmax		
	comp=Z,2µm,7.3s						
HHC				LR	LR		
	comp=N,2µm,16.6s						
HHC				LR	LR		
	comp=E,3µm,17.6s						
HHC				LR	LR		
	comp=Z,6µm,16.6s						
BTO	**Baotou**	**46.29**	**335**	*e*P	**P**	**00 08 58.7**	**-1.8**
MSVF	**Nonsavu**	**47.04**	**114**	*e*P	P	00 09 10.3	+3.6
MSVF				pmax	pmax		
	comp=Z,25nm,1.1s						
MSVF	**Nonsavu**	**47.04**	**114**	*e*P	P	00 09 10.3	+3.6
	comp=Z,25nm,1.1s						
SHL	**Shillong**	**47.84**	**306**	⇓*i*P	**P**	**00 09 15.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**48.16**	**9**	*e*P	**P**	**00 09 14.2**	**-0.6**
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS	**Yuzh-Sakhalins**	**48.16**	**9**	*e*P	**P**	**00 09 14.9**	**+0.1**
	comp=Z,59nm,0.8s						
HABR	**Khabarovsk**	**49.00**	**1**	*e*P	**P**	**00 09 19.0**	**-2.2**
HABR				*e**PP	**pP**	**00 09 28.8**	**-2.6**
HABR				*e**SP	**sP**	**00 09 33.0**	**-2.4**
HABR				*e*		00 10 42.4	
HABR				*e*		00 11 12.5	
HABR				*e*S	**S**	**00 16 21.9**	**-1.4**
HABR				*e**SS	**sS**	**00 16 38.4**	**-1.6**
HABR				*e*SS	**SS**	**00 19 54.4**	**-0.3**
HABR				*e*SSS	SSS	00 21 10.4	
HABR				pmax	pmax		
	comp=E,109nm,3.0s						
HABR				pmax	pmax		
	comp=N,57nm,2.2s						
HABR				pmax	pmax		
	comp=Z,85nm,1.8s						
HABR				MLR	MLR		
	comp=Z,5µm,16.0s						
KLR	**Kul'dur**	**49.76**	**359**	*e*P	**P**	**00 09 24.2**	**-2.8**
KLR				pmax	pmax		
	comp=Z,90nm,2.0s						
LSA	**Lhasa**	**50.34**	**311**	*e*P	**P**	**00 09 32.6**	**+0.2**
LSA				pmax	pmax		
	comp=Z,65nm,1.0s						
LSA	**Lhasa**	**50.34**	**311**	*e*P	**P**	**00 09 32.6**	**+0.2**
	comp=Z,65nm,1.0s						
GTA	**Gaotai**	**50.37**	**326**	⇑P	**P**	**00 09 32.5**	**+0.4**
GTA				pP	**pP**	**00 09 42.6**	**+0.4**
GTA				sP	**sP**	**00 09 46.6**	**+0.4**
GTA				S	**S**	**00 16 43.4**	**+0.2**
GTA				sS	**sS**	**00 17 00.3**	**+0.4**
GTA				SS	**SS**	**00 20 14.8**	**-2.6**
GTA				pmax	pmax		
	comp=Z,45nm,1.4s						
GTA				pmax	pmax		
	comp=Z,8µm,8.3s						
GTA	

PKI Pulchoki 53.94 305 *e*P P 00 09 57.7 -1.3
comp=Z,40nm,0.8s
PKI Pulchoki 53.94 305 *e*P P 00 09 57.7 -1.3
PKI pmax pmax
comp=Z,40nm,0.8s
PKI Pulchoki 53.94 305 *e*P P 00 09 57.7 -1.3
comp=Z,40nm,0.8s
KKN Kakani 54.13 306 *e*P P 00 09 59.3 -1.0
comp=Z,45nm,0.7s
KKN Kakani 54.13 306 *e*P P 00 09 59.3 -1.0
KKN pmax pmax
comp=Z,45nm,0.7s
KKN Kakani 54.13 306 *e*P P 00 09 59.3 -1.0
comp=Z,45nm,0.7s
DMN Daman 54.20 305 *e*P P 00 09 59.9 -0.9
comp=Z,59nm,0.7s
DMN Daman 54.20 305 *e*P P 00 09 59.9 -0.9
comp=Z,59nm,0.7s
GKN Gorkha 54.73 305 *e*P P 00 10 03.5 -1.1
comp=Z,59nm,0.7s
GKN Gorkha 54.73 305 *e*P P 00 10 03.5 -1.1
comp=Z,59nm,0.7s
CIT Chita 55.13 345 *e*P P 00 10 05.4 -1.5
CIT *e* 00 10 15.7
CIT pmax pmax
comp=Z,245nm,1.8s
KOLN Koldanda 55.49 305 *e*P P 00 10 09.6 -0.6
comp=Z,137nm,0.7s
KOLN Koldanda 55.49 305 *e*P P 00 10 09.6 -0.6
comp=Z,137nm,0.7s
DANN Dangsing 55.58 306 *e*P P 00 10 10.1 -0.8
comp=Z,144nm,0.7s
DANN Dangsing 55.58 306 *e*P P 00 10 10.1 -0.8
comp=Z,144nm,0.7s
HYB Hyderabad 56.89 291⇑ *i*P P 00 10 17.5 -2.6
HYB *es*P **sP** 00 10 33.0 -1.3
HYB *e*PcP **PcP** 00 11 16.0 +0.6
HYB *e*S **S** 00 18 10.0 -2.0
ZAK Zakamensk 57.01 337 *e*P P 00 10 20.8 +0.4
ZAK *e* 00 10 27.0
ZAK pmax pmax
comp=Z,18nm,1.2s
PETK Petropavlovsk- 57.34 17 P P 00 10 22.6 0.0
comp=Z,17nm,0.9s,baz=182,slow=5.9,SNR=14
PETK Petropavlovsk- 57.34 17 P P 00 10 22.6 0.0
PETK pmax pmax
comp=Z,17nm,0.9s
PETK Petropavlovsk- 57.34 17 P P 00 10 22.6 0.0
PET Petropavlovsk 57.55 18 *e*P **pP** 00 10 34.2 -0.1
PET pmax pmax
comp=Z,68nm,1.3s
CLNS Chul'man 57.76 354 *e*P P 00 10 26.1 +0.6
CLNS *e* 00 11 14.6
CLNS *e* 00 12 36.7
CLNS *e*PPP PPP 00 13 57.2
CLNS *e*S S 00 18 31.1 +8.9
CLNS pmax pmax
comp=Z,28nm,1.1s
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.1s
CLNS smax smax
comp=E,6µm,17.6s
CLNS smax smax
comp=N,6µm,16.3s
CLNS MLR MLR
comp=Z,6µm,17.0s
CLNS MLR MLR
comp=E,2µm,18.0s
CLNS MLR MLR
comp=N,3µm,18.0s
TLY Talaya 57.92 339 *e*P P 00 10 26.5 -0.2
TLY pmax pmax
comp=Z,34nm,1.8s
IRK Irkutsk 58.16 339 *e*P P 00 10 28.6 +0.3
IRK pmax pmax
comp=Z,110nm,2.2s
MOY Mondy 58.91 337 *e*P P 00 10 34.1 +0.4
MOY pmax pmax
comp=Z,102nm,1.7s
WMQ Urumqi 60.18 323 P P 00 10 43.2 +0.6
WMQ pP **pP** 00 10 53.4 +0.4
WMQ sP **sP** 00 10 57.2 +0.2
WMQ PcP **PcP** 00 11 30.2 +2.2
WMQ pmax pmax
comp=Z,180nm,0.9s
BOD Bodaibo 60.36 348⇑ *i*P P 00 10 44.0 +0.6
BOD pmax pmax
comp=Z,51nm,1.3s
DDI Dehra Dun 60.94 306 *ex* P 00 10 48.2 +0.2
YAK Yakutsk 62.63 358 *e*P P 00 10 57.3 -1.4
YAK pmax pmax
comp=Z,77nm,0.9s
YAK pmax pmax
comp=N,27nm,1.0s
YAK Yakutsk 62.63 358 *e*P P 00 10 58.9 +0.2
comp=N,104nm,0.9s
MK31 Makanchi Array 65.00 324 *e*P P 00 11 15.0 +0.4
MK31 Makanchi Array 65.00 324 *e*P P 00 11 15.0 +0.4
MKAR Makanchi Array 65.00 324 P P 00 11 14.0 -0.7
comp=N,75nm,0.7s,baz=110,slow=9.2,SNR=114
MKAR Makanchi Array 65.00 324 P P 00 11 14.0 -0.7
MKAR pmax pmax
comp=Z,75nm,0.7s
MKAR Makanchi Array 65.00 324 P P 00 11 14.0 -0.7
SEY Seymchan 65.06 9*ce*P P 00 11 15.8 +1.2
KSH Kashi 65.86 314 P P 00 11 21.8 +1.3
KSH *ep*P **pP** 00 11 31.8 +0.8
KSH *es*P **sP** 00 11 35.8 +0.9
KSH *e*PcP **PcP** 00 11 51.8 +0.5
KSH *e*PP **PP** 00 13 48.8 +3.0
KSH *e*PcS 00 15 54.8
KSH *e*S **S** 00 20 03.0 -2.5
KSH *e*ScS **SKSac** 00 21 10.8 -3.4
KSH *e*SS **SS** 00 24 20.9 +0.1
KSH pmax pmax
comp=Z,44nm,0.9s
KSH pmax pmax
comp=Z,6µm,14.6s
KSH LR LR
comp=N,6µm,15.9s
KSH LR LR
comp=E,6µm,14.0s
KSH LR LR
comp=Z,9µm,15.8s
KZA Kyzart 67.36 317 P P 00 11 31.6 +1.2
SNR=34
KZA P P 00 11 31.6 +1.2
SNR=34
TKM2 Tokmak 2 67.46 318 P P 00 11 31.2 +0.4
SNR=18
TKM2 P P 00 11 31.2 +0.4
SNR=18
TKM2 Tokmak 2 67.46 318 *i*P P 00 11 31.2 +0.4
TKM2 Tokmak 2 67.46 318 *e*P P 00 11 31.0 +0.2
comp=Z,56nm,0.8s
ZALV Zalesovo Beam 67.58 331 P P 00 11 30.4 -0.6
comp=Z,47nm,1.0s,baz=106,slow=4.8,SNR=92
ZALV PKPPKP **P'P'df** 00 39 58.2 +4.1
comp=Z,0.6nm,0.6s,baz=270,slow=4.4,SNR=4.4
ZALV Zalesovo Beam 67.58 331 P P 00 11 30.4 -0.6
ZALV pmax pmax
comp=Z,47nm,1.0s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 67.58 331 P P 00 11 30.4 -0.6
KBK Karagaybulak 67.79 317 P P 00 11 33.4 +0.6
SNR=20
KBK P P 00 11 33.4 +0.6
SNR=20
UCH Uchtor 67.92 317 P P 00 11 35.0 +1.0
SNR=11
UCH P P 00 11 35.0 +1.0
SNR=11
CHMS Chumysh 68.06 318 P P 00 11 34.4 +0.1
SNR=21
CHMS P P 00 11 34.4 +0.1
SNR=21
AAK Ala-Archa 68.09 317 P P 00 11 35.3 +0.6
SNR=15
AAK P P 00 11 35.3 +0.6
SNR=15
AAK Ala-Archa 68.09 317 *i*P P 00 11 35.3 +0.6
AAK Ala-Archa 68.09 317 *e*P P 00 11 35.1 +0.3
comp=Z,227nm,1.3s
AAK Ala-Archa 68.09 317 P P 00 11 35.0 +0.3
comp=Z,148nm,0.9s,SNR=12
USP Ospenovka 68.33 318 P P 00 11 36.4 +0.4
SNR=43
USP P P 00 11 36.4 +0.4
SNR=43
AML Almayashu 68.45 316 P P 00 11 38.1 +0.8
SNR=62
AML P P 00 11 38.1 +0.8
SNR=62
EKS2 Erkin-Say 68.59 317 P P 00 11 38.2 +0.5
SNR=31
EKS2 P P 00 11 38.2 +0.5
SNR=31
EKS2 Erkin-Say 68.59 317 *e*P P 00 11 38.5 +0.7
EKS2 pmax pmax
comp=Z,68nm,0.9s
EKS2 Erkin-Say 68.59 317 *e*P P 00 11 38.5 +0.7
comp=Z,68nm,0.9s
NVS Novosibirsk 68.85 332⇑ *i*P P 00 11 36.8 -2.1
NVS pmax pmax
comp=N,32nm,1.2s
NVS pmax pmax
comp=E,42nm,1.2s
NVS pmax pmax
comp=Z,86nm,1.2s
KURK Kurchatov 69.06 326 P P 00 11 40.4 +0.1
comp=Z,110nm,0.9s,baz=119,slow=5.7,SNR=166
KURK Kurchatov 69.06 326 P P 00 11 40.4 +0.1
KURK pmax pmax
comp=Z,110nm,0.9s
KURK Kurchatov 69.06 326 *e*P P 00 11 40.4 +0.1
comp=Z,149nm,0.9s
KURK Kurchatov 69.06 326 P P 00 11 40.7 +0.4
SNR=40
KURK Kurchatov 69.06 326 P P 00 11 40.5 +0.2
comp=Z,947nm,0.8s,SNR=72
KK31 Karatay Array 70.99 316 *i*P P 00 11 51.9 -0.5
KK31 pmax pmax
comp=Z,72nm,0.8s
KKAR Karatay Array 70.99 316 *e*P P 00 11 52.5 +0.1
KKAR pmax pmax
comp=Z,55nm,0.7s
KKAR Karatay Array 70.99 316 *e*P P 00 11 52.5 +0.1
comp=Z,55nm,0.7s
MIR Mirnyy 71.58 196 *e*P P 00 11 55.0 -0.4
MIR *i* 00 12 04.0
MIR pmax pmax
comp=Z,41nm,1.0s
BILL Bilibino 72.27 12⇑ *e*P P 00 12 00.2 +0.7
BILL *e* 00 12 18.4
BILL pmax pmax
comp=Z,10.0nm,1.2s
BVA0 Borovoye Array 74.66 326 *i*P P 00 12 13.6 -0.3
BVA0 pmax pmax
comp=Z,21nm,2.2s
BVAR Borovoye Array 74.66 326 P P 00 12 14.0 +0.1
comp=Z,34nm,0.8s,baz=121,slow=7.1,SNR=68
BVAR Borovoye Array 74.66 326 P P 00 12 14.0 +0.1
BVAR pmax pmax
comp=Z,34nm,0.8s
BVAR Borovoye Array 74.66 326 P P 00 12 14.0 +0.1
BRVK Borovoye 74.73 326 *e*P P 00 12 14.3 0.0
BRVK pmax pmax
comp=Z,97nm,1.1s
BRVK Borovoye 74.73 326 *e*P P 00 12 14.3 0.0
comp=Z,98nm,1.1s
BRVK Borovoye 74.73 326 P P 00 12 14.3 0.0
comp=Z,373nm,1.0s,SNR=22
BRVK Borovoye 74.73 326 P P 00 12 14.8 +0.5
SNR=22
WBK Wadi Bani Khal 75.90 293 P P 00 12 22.3 +0.6
SNR=5.3
JMDO Jabal Madar 76.67 293 P P 00 12 26.0 0.0
SNR=6.9
SMDO Samad 76.79 294 P P 00 12 27.0 +0.1
SNR=5.3
HOQ Hoqain 77.53 294 P P 00 12 31.4 +0.5
SNR=6.2
BSY Bisya 77.54 293 P P 00 12 31.1 +0.2
SNR=7.3
ARQ Araqi 78.22 294 P P 00 12 35.0 +0.3
SNR=7.9
VNDA Vanda 78.28 174 *e*P P 00 12 34.5 +0.5
VNDA pmax pmax
comp=Z,35nm,1.0s
VNDA Vanda 78.28 174 *e*P P 00 12 34.5 +0.5
comp=Z,35nm,1.0s
ABKT Ailbek 78.83 309 P P 00 12 38.7 +0.8
comp=Z,286nm,1.0s,SNR=24
SBA Scott Base 79.12 173 *e*P P 00 12 40.8 +2.2
SBA pmax pmax
comp=Z,37nm,1.1s
SBA Scott Base 79.12 173 *e*P P 00 12 40.8 +2.2
comp=Z,37nm,1.1s
AB31 Akbulak array 79.77 320 *i*P P 00 12 41.5 -1.2
AB31 pmax pmax
comp=Z,36nm,1.0s
ABKAR Akbulak array 79.77 320 *e*P P 00 12 42.2 -0.5
comp=Z,26nm,0.9s
SVE Sverdlovsk 81.20 328⇓ *i*P P 00 12 49.8 -0.4
SVE pmax pmax
comp=Z,43nm,1.3s
AKTO Aktyubinsk 81.24 321 P P 00 12 50.1 -0.5
comp=Z,13nm,0.9s,baz=98,slow=6.3,SNR=38
AKTO Aktyubinsk 81.24 321 P P 00 12 50.1 -0.5
AKTO pmax pmax
comp=Z,13nm,1.0s
AKTO Aktyubinsk 81.24 321 P P 00 12 50.1 -0.5
TTA Tatalina 81.89 26 *e*P P 00 12 54.4 +0.6
TTA pmax pmax
comp=Z,49nm,1.4s
TTA Tatalina 81.89 26 *e*P P 00 12 54.4 +0.6
comp=Z,49nm,1.4s
KDAK Kodiak Island 82.12 31 P P 00 12 56.1 +1.1
comp=Z,31nm,0.9s,baz=245,slow=2.1,SNR=11
KDAK Kodiak Island 82.12 31 *ce*P P 00 12 56.3 +1.3
KDAK Kodiak Island 82.12 31 *e*P P 00 12 56.0 +1.0
comp=Z,34nm,0.9s
ARU Arti 82.22 327 *c i*P P 00 12 54.9 -0.7
ARU S S 00 23 08.8 +0.4
ARU SSS SSS 00 31 55.8
ARU pmax pmax
comp=Z,34nm,1.0s
ARU Arti 82.22 327 *e*P P 00 12 54.4 -1.1
comp=Z,21nm,0.8s
ARU Arti 82.22 327 P P 00 12 54.9 -0.7
comp=Z,168nm,0.9s,SNR=9.3
SOKR Solikamsk 83.82 330 *e*P P 00 13 04.1 +0.4
SOKR pmax pmax
comp=Z,50nm,1.3s
SLKM Skilak Lake 83.93 29 *e*P P 00 13 04.4 0.0
SLKM Skilak Lake 83.93 29 *e*P P 00 13 04.4 0.0
PMR Palmer 84.67 28 *e*P P 00 13 08.1 +0.1
PMR pmax pmax
comp=Z,37nm,1.4s
PMR Palmer 84.67 28 *e*P P 00 13 08.1 +0.1
comp=Z,37nm,1.4s
MCK McKinley 85.18 26 *e*P P 00 13 10.6 0.0
MCK pmax pmax
comp=Z,107nm,1.4s
MCK McKinley 85.18 26 *e*P P 00 13 10.6 0.0
comp=Z,107nm,1.4s
COLA College 85.86 25 *e*P P 00 13 13.6 -0.3
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 85.86 25 *e*P P 00 13 13.6 -0.3
comp=Z,7.8nm,0.8s
OPO Ambohidratompo 86.17 252 P P 00 13 16.5 -0.2
comp=Z,17nm,0.9s,baz=76,slow=4.6,SNR=19
OPO Ambohidratompo 86.17 252 P P 00 13 16.5 -0.2
ILAR Eielson Array 86.25 25 P P 00 13 15.3 -0.5
comp=Z,12nm,0.9s,baz=258,slow=4.9,SNR=53
ILAR Eielson Array 86.25 25 P P 00 13 15.4 -0.5
ILAR pmax pmax
comp=Z,12nm,0.9s
ILAR Eielson Array 86.25 25 P P 00 13 15.3 -0.5
RDF Al-Radifah 86.68 299 *e*P P 00 13 18.1 -0.7
RDF AMb AMB 00 13 20.4
comp=Z,72nm,1.1s
MIB Mutribah 86.91 300 *e*P P 00 13 18.7 -1.1
MIB AMb AMB 00 13 21.1
comp=Z,70nm,1.4s
NAY Al-Naaiem 86.97 299 *e*P P 00 13 19.0 -1.2
NAY AMb AMB 00 13 21.3
comp=Z,70nm,1.1s
QSPA South Pole Qui 89.23 180 *e*P P 00 13 30.8 +0.5
comp=Z,27nm,0.9s
DAWY Dawson 89.41 26 *e*P P 00 13 31.4 +0.3
ZEI Tsey 90.09 313 *e*P P 00 13 33.6 -1.4
ZEI pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 90.98 314 *e*P P 00 13 41.1 +2.2
KIV *e* 00 17 15.1
KIV pmax pmax
comp=Z,11nm,1.5s
DIB Dawson Inlet, 93.05 37 T T 01 57 25.8
SNR=6.9
OBN Obninsk 94.48 325⇓ *e*P P 00 13 52.6 -2.0
OBN *e* 00 17 41.7
OBN pmax pmax
comp=Z,18nm,1.2s
ANN Anapa 94.72 315 *e*P P 00 14 02.0 +6.0
JOF Joensuu 96.11 333 *e*P P 00 13 59.4 -2.5
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 96.11 333 *ep* P 00 13 59.4 -2.5
comp=Z,3.1nm,0.7s
JOF Joensuu 96.11 333 *ep* P 00 13 59.4 -2.5
comp=Z,3.1nm,0.7s
ARCES ARCESS Array B 96.85 340 P P 00 14 03.9 -1.3
comp=Z,17nm,0.8s,baz=104,slow=3.9,SNR=16
ARCES ARCESS Array B 96.85 340 P P 00 14 03.9 -1.3
ARCES pmax pmax
comp=Z,17nm,0.8s
ARCES ARCESS Array B 96.85 340 P P 00 14 03.9 -1.3
BRTR Keskin Array B 97.94 310 P P 00 14 08.9 -2.1
comp=Z,1.5nm,1.0s,baz=84,slow=3.8,SNR=4.3
BRTR Keskin Array B 97.94 310 *ce*P P 00 14 10.1 -0.9
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 97.94 310 P P 00 14 08.9 -2.1
FINES FINESS Array B 98.83 332 P P 00 14 12.7 -1.5
comp=Z,9.7nm,1.0s,baz=87,slow=4.9,SNR=7.7
FINES FINESS Array B 98.83 332 P P 00 14 12.7 -1.5
FINES pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 98.83 332 P P 00 14 12.7 -1.5
AKASG Malin Array Be 99.49 321 P Pdif 00 14 15.1 -2.4
comp=Z,2.1nm,0.9s,baz=73,slow=3.6,SNR=5.1
AKASG Malin Array Be 99.49 321 P Pdif 00 14 15.1 -2.4
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 99.49 321 P Pdif 00 14 15.1 -2.4
KIEV Kiev 99.50 321 *c i*P Pdif 00 14 15.7 -1.8
UZH Uzhgorod 104.34 320 *e*P Pdif 00 14 38.3 -0.8
NVAR Mina Array Bea 104.73 50 Pdiff Pdif 00 14 42.0 +0.7
comp=Z,1.4nm,1.0s,baz=258,slow=8.2,SNR=6.4
NVAR Mina Array Bea 104.73 50 Pdif Pdif 00 14 42.0 +0.7
NB2 NORSAR Subarra 105.65 335 P Pdif 00 14 42.7 -1.9
comp=Z,6.8nm,1.2s,baz=64,slow=4.6
NOA NORSAR Array B 105.65 335 Pdiff Pdif 00 14 42.8 -1.9
comp=Z,2.4nm,0.9s,baz=63,slow=4.6,SNR=5.8
NOA NORSAR Array B 105.65 335 P Pdif 00 14 42.8 -1.9
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 105.65 335 Pdif Pdif 00 14 42.8 -1.9
OKC Ostrava-Krasne 106.57 322 AMS AMS 00 48 30.0
comp=Z,27µm,19.3s
DPC Dobruska-Polom 107.50 323 AMS AMS 00 50 40.0
comp=Z,25µm,19.5s
TREC Trest 108.39 322 AMS AMS 00 54 00.0
comp=Z,31µm,17.1s
PVCC Panska Ves 108.48 324 AMS AMS 00 48 50.0
comp=Z,34µm,19.0s
PRU Pruhonice 108.70 323 AMS AMS 00 54 20.0
comp=Z,30µm,18.8s
KHC Kasperske Hory 109.61 323 AMS AMS 00 51 40.0
comp=Z,39µm,19.1s
GERES GERESS Array B 109.64 322 Pdiff Pdif 00 15 01.1 -1.6
comp=Z,0.3nm,0.8s,baz=44,slow=11,SNR=3.5
GERES PKiKP **PKiKP** 00 19 05.6 +0.1
comp=Z,1.1nm,0.9s,baz=329,slow=1.7,SNR=6.4
GERES GERESS Array B 109.64 322 P Pdif 00 15 01.2 -1.6
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 109.64 322 Pdif Pdif 00 15 01.1 -1.6
GERES PKiKP **PKiKP** 00 19 05.6 +0.1
NKC Novy Kostel 109.84 324 AMS AMS 00 45 30.0
comp=Z,34µm,21.0s
PDAR Pinedale Array 110.07 44 PKiKP **PKiKP** 00 19 06.1 -0.6
comp=Z,0.5nm,0.9s,baz=204,slow=3.3,SNR=3.7
PDAR PKKPbc **PKKPbc** 00 30 08.0 -2.0
comp=Z,0.7nm,0.9s,baz=120,slow=5.8,SNR=4.1
PDAR Pinedale Array 110.07 44 PKiKP **PKiKP** 00 19 06.1 -0.6
DAVOX Davos/Dischmat 112.84 322 PKiKP **PKiKP** 00 19 10.6 -1.2
comp=Z,1.4nm,0.6s,baz=333,slow=4.5,SNR=4.7
DAVOX Davos/Dischmat 112.84 322 PKiKP **PKiKP** 00 19 10.6 -1.2
DAVOX Davos/Dischmat 112.84 322 PKiKP **PKiKP** 00 19 10.6 -1.2
LPG La Plagne 115.36 321 *e*PKiKP **PKPdf** 00 19 17.0 +0.3
comp=Z,7.0nm,0.8s
ORIF Oris-en-Rattie 116.17 321 *e*PKiKP **PKPdf** 00 19 19.8 +1.7
comp=Z,30nm,1.4s
VIVF Saint-Julien-l 116.95 321 *e*PKiKP **PKPdf** 00 19 21.4 +1.9
TXAR Lajitas Array 118.74 57 PKP **PKPdf** 00 19 24.4 +0.9
comp=Z,0.3nm,0.6s,baz=294,slow=1.1,SNR=4.2
TXAR PKKPbc **PKKPbc** 00 29 37.9 -1.9
comp=Z,1.0nm,1.0s,baz=108,slow=4.7,SNR=7.9
TXAR Lajitas Array 118.74 57 PKiKP **PKPdf** 00 19 24.4 +0.9
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 118.74 57 PKP **PKPdf** 00 19 24.4 +0.9
MFF Saint Martin d 118.92 325 *e*PKiKP **PKPdf** 00 19 24.5 +1.3
comp=Z,23nm,1.1s
EPF Esparros 120.58 322 *e*PKiKP **PKPdf** 00 19 30.6 +4.0
ETSF Etsaut 121.20 322 *e*PKiKP **PKPdf** 00 19 32.0 +4.2
ESDC Sonseca Array 125.12 320 PP PP 00 21 21.8 -2.5
comp=Z,3.2nm,1.0s,baz=56,slow=6.8,SNR=7.1
TORD Torodi Ar. Bea 130.58 287 PKP **PKPdf** 00 19 45.7 -0.7
comp=Z,3.5nm,0.8s,baz=62,slow=1.4,SNR=19
TORD PP **PP** 00 21 59.1 -2.3
comp=Z,2.2nm,1.1s,baz=60,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 130.58 287 PKP **PKPdf** 00 19 45.7 -0.7
PLCA Paso Flores 133.37 155 PKhKP PKPpre 00 19 45.4
comp=Z,12nm,0.6s,baz=102,slow=1.3,SNR=8.9
PLCA Paso Flores 133.37 155 *i*PKiKP PKPpre 00 19 45.4
PLCA pmax pmax
comp=Z,12nm,0.6s
PLCA Paso Flores 133.37 155 PKPpre PKPpre 00 19 45.4
DBIC Dimbokro 137.93 279 PKhKP PKPpre 00 19 50.0
comp=Z,2.5nm,0.9s,baz=330,slow=1.8,SNR=4.0
DBIC PKP **PKPdf** 00 19 59.8 -0.4
comp=Z,3.7nm,0.8s,baz=60,slow=6.2,SNR=4.2
DBIC Dimbokro 137.93 279 *i* PKHKP PKPpre 00 19 50.0
DBIC 00 19 59.8
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 137.93 279 PKPpre PKPpre 00 19 50.0
DBIC PKP **PKPdf** 00 19 59.8 -0.4
CFAA Coronel Fontan 141.89 149 PKP **PKPdf** 00 20 06.3 -0.7
comp=Z,0.4nm,0.6s,baz=241,slow=4.8,SNR=5.9
CFAA Coronel Fontan 141.89 149 PKP **PKPdf** 00 20 06.3 -0.7
BBTS Babate 147.19 296 PKPbc **PKPdf** 00 20 16.0 -0.4
comp=Z,60nm,1.1s,baz=176,slow=1.1,SNR=7.8
BBTS Babate 147.19 296 PKPbc **PKPdf** 00 20 16.0 -0.4
NNA Nana 147.45 114 PKPbc **PKPbc** 00 20 19.4 -0.2
comp=Z,10nm,0.8s,baz=269,slow=7.8,SNR=4.2
NNA Nana 147.45 114 PKP2 **PKPbc** 00 20 19.4 -0.2
NNA pmax pmax
comp=Z,10.0nm,0.8s
NNA Nana 147.45 114 PKPbc **PKPbc** 00 20 19.4 -0.2
CPUP Villa Florida 151.21 160 PKPbc **PKPbc** 00 20 29.9 +1.3
comp=Z,7.7nm,0.7s,baz=186,slow=2.3,SNR=19
CPUP Villa Florida 151.21 160 PKiKP **PKPbc** 00 20 29.9 +1.3
CPUP pmax pmax
comp=Z,8.0nm,0.7s
CPUP Villa Florida 151.21 160 PKPbc **PKPbc** 00 20 29.9 +1.3
ROSC El Rosal 152.02 81 PKPbc **PKPbc** 00 20 32.7 +1.4
comp=Z,11nm,0.7s,baz=81,slow=16,SNR=5.6
ROSC El Rosal 152.02 81 PKPbc **PKPbc** 00 20 32.7 +1.4
LPAZ La Paz 152.88 129 PKP **PKPdf** 00 20 28.2 +2.0
comp=Z,1.5nm,0.7s,baz=100,slow=4.1,SNR=4.9
LPAZ PKPbc **PKPbc** 00 20 35.2 +1.8
comp=Z,9.7nm,1.1s,baz=327,slow=0.3,SNR=12

LPAZ	**La Paz**	**152.88 129**	PKIKP	**PKPdf**	**00 20 28.2**	**+2.0**
LPAZ					00 20 35.2	
LPAZ			pmax	pmax		
	comp=Z,2.0nm,0.7s					
LPAZ			pmax	pmax		
	comp=Z,10.0nm,1.1s					
LPAZ	**La Paz**	**152.88 129**	PKP	**PKPdf**	**00 20 28.2**	**+2.0**
LPAZ			PKPbc	**PKPbc**	**00 20 35.2**	**+1.8**
SIV	**San Ignacio**	**158.12 140**	PKP	**PKPdf**	**00 20 33.8**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=227,slow=2.9,SNR=5.4					
SIV	**San Ignacio**	**158.12 140**	PKP	**PKPdf**	**00 20 33.8**	**+1.3**
SAML	**Samuel**	**160.92 121**	*e*PKPdf	**PKPdf**	**00 20 36.5**	**+0.7**

IDC ***04*** *00:05:05.9±0.4,0.16S×133.02E,h0km,mb5.0/20, mb1 5.1/22,mb1mx5.1/24,mbtmp5.0/22,ML4.7/2,Error ellipse: s-maj=21.4km s-min=11.8km az=72.0*
BJI ***04*** *00:05:06.2,0.56S×133.37E,h35km,mB6.0/17,mb5.1/46, Ms5.8/26,Ms7 5.7/26*
NEIC ***04*** *00:05:09.5±2.6,0.19S×132.99E,h20km±18km,mb5.2/35, Error ellipse: s-maj=7.7km s-min=4.7km az=68.0*
ISCJB ***04*** *00:05:09.3±0.2,0.16S±0.03×133.16E±0.04,h32km, mb5.2/106,MS5.7/10,Error ellipse: s-maj=5.6km s-min=4.4km az=173.3*
DJA ***04*** *00:05:10,0.27S×133.13E,h10km,mb5.5/20*
MOS ***04*** *00:05:10.1±1.1,0.12S×132.95E,h33km,mb5.4/35,Error ellipse: s-maj=12.8km s-min=6.1km az=113.5*
ISC 04 00:05:11.7±0.3,0.22S±0.04×133.01E±0.06,h35km±5km, h36km:pP-P,n342,σ1s37/377,mb5.3/105,MS5.8/10, 18C-18D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.79**	**196**	P	Pn	00 05 58.8	+4.9
TLE	**Tual**	**5.39**	**183**	P	Pn	00 06 37.3	+7.7
	2µm,0.8s,8.5nm						
MNI	**Manado**	**8.34**	**281**	P	Pn	00 07 18.3	+8.2
	299nm,0.9s,1.0nm						
GTOI	**Gorontalo**	**10.04**	**275**	P	Pn	00 07 42.3	+8.9
	331nm,1.1s						
LUWI	**Luwuk**	**10.27**	**265**	P	Pn	00 07 52.2	+16
MMRI	**Maumere**	**13.61**	**232**	P	P	00 08 38.6	+7.9
KAPI	**Kappang**	**14.07**	**250**	*e*Pn	**P**	**00 08 33.7**	**-2.2**
KAPI	**Kappang**	**14.07**	**250**	P	**P**	**00 08 35.3**	**-0.6**
	174nm,1.5s						
MJSI	**Majene**	**14.41**	**257**	P	P	00 08 47.4	+7.8
MYLDM	**Lahad Datu**	**15.45**	**290**	P	**P**	**00 08 55.6**	**+4.4**
RCP	**Roxas**	**15.52**	**319**	*e*P	**P**	**00 08 54.8**	**+2.8**
TSM	**Tawau**	**15.77**	**287**	P	**P**	**00 08 55.7**	**+0.9**
PMG	**Port Moresby**	**16.78**	**123**	Pn	**Pn**	**00 09 03.1**	**-1.1**
	1.3nm,0.3s,baz=333,slow=8.5,SNR=16						
PMG	**Port Moresby**	**16.78**	**123**	*e*P	**Pn**	**00 09 04.5**	**+0.3**
PMG				pmax	pmax		
	comp=Z,351nm,1.3s						
PMG	**Port Moresby**	**16.78**	**123**	*e*Pn	**Pn**	**00 09 04.5**	**+0.3**
	comp=Z,351nm,1.3s						
SDKM	**Sandakan**	**16.83**	**290**	P	**P**	**00 09 08.2**	**+1.6**
KBKI	**Kotabaru**	**17.11**	**260**	P	P	00 09 25.4	+16
BBKI	**Banjar Baru**	**18.44**	**260**	P	Pn	00 09 31.6	+6.9
	comp=Z,225nm,1.7s,comp=Z,14µm						
MTNI	**Mataram**	**18.74**	**243**	P	Pn	00 09 35.3	+7.0
	comp=Z,222nm,1.2s						
KHKI	**Kahang-Kahang**	**19.14**	**245**	P	**Pn**	**00 09 37.6**	**+4.6**
	comp=Z,244nm,1.0s						
PLKI	**Palangkaraya**	**19.16**	**264**	P	**Pn**	**00 09 35.2**	**+1.8**
	comp=Z,258nm,1.0s						
WRA	**Warramunga Arr**	**19.65**	**176**	P	**P**	**00 09 36.4**	**-1.1**
	comp=Z,7.2nm,0.3s,baz=355,slow=11,SNR=8.3						
WRA				S	S	00 13 04.2	-13
	comp=Z,1.0nm,0.3s,baz=353,slow=21,SNR=3.0						
WRA	**Warramunga Arr**	**19.65**	**176**	P	**P**	**00 09 36.4**	**-1.1**
WRA	**Warramunga Arr**	**19.65**	**176**	P	**P**	**00 09 36.4**	**-1.1**
WRA				S	S	00 13 04.2	-13
NBBI	**Negara**	**20.03**	**246**	P	Pn	00 09 52.0	+8.3
	comp=Z,898nm,0.8s						
KMMI	**Kalianget**	**20.17**	**250**	P	Pn	00 09 52.9	+7.6
	comp=Z,211nm,1.4s						
BTM	**Bintulu**	**20.20**	**280**	P	Pn	00 09 46.6	+0.8
BYJI	**Banyuwangi**	**20.22**	**246**	P	Pn	00 09 45.7	-0.2
	comp=Z,628nm,1.1s						
JAGI	**Jajag, Banyuwa**	**20.50**	**246**	P	Pn	00 09 54.0	+4.8
	comp=Z,253nm,1.0s						
BLJI	**Banyuglugur**	**20.75**	**248**	P	Pn	00 09 54.2	+2.1
	comp=Z,247nm,1.4s						
SBUM	**Sibu**	**20.95**	**277**	P	Pn	00 09 54.5	0.0
SBUM	**Sibu**	**20.95**	**277**	P	Pn	00 09 53.9	-0.6
	comp=Z,162nm,1.2s						
GMJI	**Gumukmas**	**21.08**	**247**	P	P	00 09 57.9	+4.8
	comp=Z,295nm,1.1s,comp=Z,8µm						
PBKI	**Pangkalan Bun**	**21.48**	**263**	P	**P**	**00 09 58.2**	**+0.8**
	comp=Z,308nm,1.0s						
STKI	**Sintang**	**21.54**	**271**	P	**P**	**00 10 02.3**	**+4.3**
	comp=Z,146nm,0.9s,comp=Z,34µm						
SJI	**Sawahan**	**22.46**	**250**	P	P	00 10 17.0	+9.0
	comp=Z,158nm,2.2s						
PWJI	**Pagerwojo**	**22.51**	**249**	P	**P**	**00 10 10.0**	**+1.5**
	comp=Z,210nm,0.9s						
KSM	**Kuching**	**22.76**	**274**	*e*P	**P**	**00 10 11.9**	**+0.7**
	comp=Z,63nm,1.0s						
KSM	**Kuching**	**22.76**	**274**	P	**P**	**00 10 11.6**	**+0.4**
KSM	**Kuching**	**22.76**	**274**	P	**P**	**00 10 13.7**	**+2.5**
	comp=Z,78nm,0.9s						
PCJI	**Pacitan**	**23.16**	**249**	P	**P**	**00 10 14.8**	**-0.4**
	comp=Z,219nm,0.8s						
AS31	**Alice Springs**	**23.32**	**178**	*e*P	**P**	**00 10 15.7**	**-1.1**
ASAR	**Alice Springs**	**23.33**	**178**	P	**P**	**00 10 15.8**	**-1.1**
	comp=Z,151nm,1.0s,baz=352,slow=11,SNR=27						
ASAR	**Alice Springs**	**23.33**	**178**	P	**P**	**00 10 15.8**	**-1.1**
ASAR	**Alice Springs**	**23.33**	**178**	P	**P**	**00 10 15.8**	**-1.1**
SMRI	**Semarang**	**23.51**	**253**	P	P	00 10 26.2	+7.5
	comp=Z,642nm,1.0s						
CTAO	**Charters Tower**	**23.63**	**148**	*e*P	**P**	**00 10 20.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,70nm,0.8s						
CTAO	**Charters Tower**	**23.63**	**148**	*e*P	**P**	**00 10 20.1**	**+0.4**
	comp=Z,70nm,0.8s						
YOGI	**Yogyakarta**	**23.87**	**251**	P	**P**	**00 10 24.5**	**+2.4**
	comp=Z,821nm,0.9s						
BJII	**Banjamegara**	**24.29**	**253**	P	P	00 10 33.1	+7.0
	comp=Z,220nm,2.0s						
MBWA	**Marble Bar**	**24.53**	**211**	*e*P	**P**	**00 10 28.0**	**0.0**
MBWA	**Marble Bar**	**24.53**	**211**	*e*P	**P**	**00 10 28.1**	**0.0**
	comp=Z,179nm,1.0s						
CISI	**Cisompet, Garu**	**26.16**	**253**	P	**P**	**00 10 42.2**	**-0.8**
	comp=Z,264nm,0.9s						
SSLB	**Suanglung**	**26.58**	**335**	*e*P	**P**	**00 10 45.3**	**-1.4**
	comp=Z,68nm,1.0s						
PPBI	**Pangkal Pinang**	**26.94**	**266**	P	P	00 10 59.2	+9.2
	comp=Z,46nm,0.9s						
JOW	**Kunigami**	**27.28**	**351**	P	**P**	**00 10 52.6**	**-0.3**
	comp=Z,12nm,0.3s,baz=146,slow=18,SNR=6.3						
JOW	**Kunigami**	**27.28**	**351**	P	**P**	**00 10 52.6**	**-0.3**
CGJI	**Cibinong**	**27.99**	**256**	P	P	00 11 06.8	+7.4
	comp=Z,271nm,0.7s						
KLI	**Kotabumi**	**28.50**	**260**	P	P	00 11 11.8	+7.8
	comp=Z,236nm,0.7s						
MYKOM	**Kota Tinggi**	**29.22**	**274**	P	**P**	**00 11 12.3**	**+1.9**
QIZ	**Qiongzhong**	**29.71**	**311**	P	**P**	**00 11 16.0**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,43nm,1.4s						
KSI	**Kapahiang**	**30.59**	**263**	P	P	00 11 30.8	+8.2
	comp=Z,130nm,1.0s						
FRIM	**Kepong**	**31.56**	**277**	P	P	00 11 37.0	+5.9
IPM	**Ipoh**	**32.29**	**279**	*e*P	**P**	**00 11 36.4**	**-1.2**
	comp=Z,26nm,0.9s						
IPM	**Ipoh**	**32.29**	**279**	P	**P**	**00 11 38.7**	**+1.2**
IPM	**Ipoh**	**32.29**	**279**	P	P	00 11 44.1	+6.5
	comp=Z,73nm,0.9s						
STKA	**Stephens Creek**	**32.52**	**166**	P	**P**	**00 11 37.8**	**-1.5**
	comp=Z,70nm,0.6s,baz=339,slow=8.6,SNR=42						
STKA	**Stephens Creek**	**32.52**	**166**	*e*P	**P**	**00 11 37.5**	**-1.8**
	comp=Z,54nm,0.5s						
STKA	**Stephens Creek**	**32.52**	**166**	*e*P	**P**	**00 11 37.7**	**-1.6**
STKA				pmax	pmax		
	comp=Z,11nm,0.5s						
STKA	**Stephens Creek**	**32.52**	**166**	*e*P	**P**	**00 11 37.7**	**-1.6**
	comp=Z,11nm,0.5s						
PPI	**Padang Panjang**	**32.61**	**269**	P	**P**	**00 11 40.4**	**0.0**
	comp=Z,308nm,0.9s						
KULM	**Kulim**	**32.78**	**280**	*e*P	**P**	**00 11 41.0**	**-0.8**
	comp=Z,16nm,0.9s						
KULM	**Kulim**	**32.78**	**280**	P	**P**	**00 11 42.7**	**+0.9**
MORW	**Morawa**	**32.95**	**208**	*e*P	**P**	**00 11 42.8**	**-0.3**
	comp=Z,118nm,0.9s						

JNU	**Nakatsue**	**33.22**	**357**	*e*P	**P**	**00 11 45.8**	**+0.4**
	comp=Z,20nm,1.1s						
MNSI	**Mandailing Nat**	**33.45**	**272**	P	P	00 11 53.6	+6.0
	comp=Z,166nm,1.3s						
PSI	**Prapat**	**34.21**	**275**	P	**P**	**00 11 53.8**	**-0.6**
	comp=Z,81nm,1.0s						
NJ2	**Nanjing**	**34.78**	**339**	*e*P	**P**	**00 12 00.6**	**+1.7**
NJ2				pP	**pP**	**00 12 09.1**	**0.0**
NJ2				sP	**sP**	**00 12 12.8**	**-0.6**
NJ2				PP	**PP**	**00 13 20.1**	**+1.9**
NJ2				S	**S**	**00 17 31.0**	**+3.9**
NJ2				sS	**sS**	**00 17 49.0**	**+5.0**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
NJ2				LR	LR		
	comp=N,30µm,24.4s						
NJ2				LR	LR		
	comp=E,12µm,27.1s						
NJ2				LR	LR		
	comp=Z,18µm,24.3s						
ARMA	**Armidale**	**34.86**	**151**	*e*P	**P**	**00 11 59.5**	**-0.3**
ARMA	**Armidale**	**34.86**	**151**	*e*P	**P**	**00 11 59.7**	**-0.2**
	comp=Z,49nm,0.8s						
WHN	**Wuhan**	**35.37**	**332**	P	**P**	**00 12 05.9**	**+1.9**
GYA	**Guiyang**	**36.71**	**318**	P	**P**	**00 12 17.4**	**+1.6**
GYA				pP	**pP**	**00 12 27.8**	**+1.7**
GYA				sP	**sP**	**00 12 33.0**	**+2.7**
GYA				PP	**PnPn**	**00 13 43.4**	**+3.5**
GYA				S	**S**	**00 17 58.9**	**+1.7**
GYA				ScP	**ScP**	**00 18 22.2**	**-0.1**
GYA				SS	**SnSn**	**00 20 27.5**	**-2.3**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				LR	LR		
	comp=N,4µm,17.6s						
GYA				LR	LR		
	comp=E,2µm,18.2s						
GYA				LR	LR		
	comp=Z,4µm,17.6s						
MJAR	**Matsushiro Arr**	**36.89**	**7**	P	P	00 12 14.0	-3.0
	comp=Z,7.8nm,0.9s,baz=196,slow=9.6,SNR=13						
MJAR	**Matsushiro Arr**	**36.89**	**7**	P	P	00 12 14.0	-3.0
MJAR	**Matsushiro Arr**	**36.89**	**7**	P	P	00 12 14.0	-3.0
MAJO	**Matsushiro**	**36.89**	**7**	*e*P	**P**	**00 12 15.6**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**36.89**	**7**	*e*P	**P**	**00 12 15.6**	**-1.4**
	comp=Z,12nm,0.8s						
MAT	**Matsushiro**	**36.89**	**7**	P	**P**	**00 12 15.3**	**-1.7**
KSAR	**Wonju Array Be**	**37.77**	**353**	P	**P**	**00 12 23.5**	**-0.9**
KSAR	**Wonju Array Be**	**37.77**	**353**	P	**P**	**00 12 23.4**	**-0.9**
KSRS	**Korea Array**	**37.78**	**353**	P	**P**	**00 12 23.4**	**-1.0**
	comp=Z,5.9nm,1.0s,baz=174,slow=9.9,SNR=10						
CNB	**Canberra Magne**	**38.10**	**158**	*e*P	**P**	**00 12 27.3**	**-0.1**
	comp=Z,154nm,1.9s						
CMAR	**Chiang Mai Arr**	**38.27**	**301**	P	**P**	**00 12 28.3**	**-0.6**
	comp=Z,16nm,0.8s,baz=118,slow=6.9,SNR=40						
CMAR				PcP	**PcP**	**00 14 43.3**	**+0.5**
	comp=Z,12nm,0.8s,baz=148,slow=1.8,SNR=16						
CMAR	**Chiang Mai Arr**	**38.27**	**301**	P	**P**	**00 12 28.3**	**-0.6**
CMAR						00 14 43.3	
CMAR	**Chiang Mai Arr**	**38.27**	**301**	P	**P**	**00 12 28.3**	**-0.6**
CMAR				PcP	**PcP**	**00 14 43.3**	**+0.5**
CHTO	**Chiang Mai**	**38.42**	**301**	*e*P	**P**	**00 12 29.8**	**-0.4**
CHTO				*e*		00 14 44.1	
CHTO				pmax	pmax		
	comp=Z,30nm,0.9s						
CHTO	**Chiang Mai**	**38.42**	**301**	*e*P	**P**	**00 12 29.8**	**-0.4**
	comp=Z,30nm,0.9s						
CHTO				*e*PcP	**PcP**	**00 14 44.1**	**+0.9**
CHTO	**Chiang Mai**	**38.42**	**301**	P	**P**	**00 12 30.7**	**+0.5**
	comp=Z,73nm,0.9s						
KMI	**Kunming**	**38.62**	**313**	P	**P**	**00 12 31.8**	**-0.2**
KMI				pP	**pP**	**00 12 46.3**	**+3.9**
TOO	**Toolangi**	**38.92**	**164**	*e*P	**P**	**00 12 32.7**	**-1.4**
	comp=Z,192nm,1.0s						
XAN	**Xi'an**	**40.89**	**329**	P	**P**	**00 12 50.3**	**-0.3**
XAN				pP	**pP**	**00 13 01.0**	**0.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CD2	**Chengdu**	**41.59**	**321**	P	**P**	**00 12 56.8**	**+0.4**
CD2				pP	**pP**	**00 13 07.1**	**+0.3**
CD2				PP	**PnPn**	**00 14 37.4**	**-0.5**
CD2				S	**S**	**00 19 11.0**	**+0.7**
CD2				sS	**sS**	**00 19 28.0**	**+0.5**
CD2				SS	**SS**	**00 22 11.9**	**-4.4**
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				pmax	pmax		
	comp=Z,7µm,10.8s						
CD2				LR	LR		
	comp=E,7µm,14.3s						
CD2				LR	LR		
	comp=Z,9µm,17.2s						
BJT	**Baijiatuau**	**42.89**	**341**	*e*P	**P**	**00 13 07.0**	**+0.2**
BJT				pmax	pmax		
	comp=Z,47nm,0.8s						
BJT	**Baijiatuau**	**42.89**	**341**	*e*P	**P**	**00 13 07.0**	**+0.2**
	comp=Z,46nm,0.8s						
BJI	**Beijing**	**42.91**	**341**	P	**P**	**00 13 06.5**	**-0.4**
BJI				pmax	pmax		
	comp=Z,49nm,0.8s						
USRK	**Ussuriysk Arra**	**44.23**	**359**	P	**P**	**00 13 16.4**	**-1.0**
	comp=Z,8.4nm,1.0s,baz=183,slow=6.5,SNR=6.6						
CN2	**Changchun**	**44.34**	**352**	*e*P	**P**	**00 13 18.0**	**-0.4**
CN2				*ep*P	**pP**	**00 13 28.0**	**-0.9**
CN2				*es*P	**sP**	**00 13 31.9**	**-1.2**
CN2				*e*S	**S**	**00 19 50.0**	**-0.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,5µm,13.0s						
CN2				LR	LR		
	comp=E,3µm,13.0s						
CN2				LR	LR		
	comp=Z,6µm,16.0s						
TAU	**Tasmania Unive**	**44.40**	**165**	*e*P	**P**	**00 13 19.7**	**+0.8**
TAU				pmax	pmax		
	comp=Z,16nm,1.0s						
TAU	**Tasmania Unive**	**44.40**	**165**	*e*P	**P**	**00 13 19.7**	**+0.8**
	comp=Z,16nm,1.0s						
MDJ	**Mudanjiang**	**44.74**	**357**	P	**P**	**00 13 21.8**	**+0.2**
MDJ				pP	**pP**	**00 13 30.8**	**-1.3**
MDJ				sP	**sP**	**00 13 34.4**	**-1.9**
MDJ				ScP	**ScP**	**00 18 53.8**	**+0.6**
MDJ				PcS	**PcS**	**00 18 57.4**	**+0.6**
MDJ				S	**S**	**00 19 56.9**	**+0.8**
MDJ				sS	**sS**	**00 20 12.2**	**-1.1**
MDJ				ScS	**ScS**	**00 23 17.2**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,2µm,11.0s						
MDJ				LR	LR		
	comp=N,9µm,22.4s						
MDJ				LR	LR		
	comp=E,5µm,18.4s						
MDJ				LR	LR		
	comp=Z,9µm,18.0s						
MDJ	**Mudanjiang**	**44.74**	**357**	*e*P	**P**	**00 13 22.2**	**+0.6**
	comp=Z,12nm,0.9s						
LZH	**Lanzhou**	**45.16**	**326**	*e*P	**P**	**00 13 26.6**	**+1.3**
LZH				pP	**pP**	**00 13 35.4**	**-0.4**
LZH				sP	**sP**	**00 13 40.8**	**+0.8**
LZH				PcP	**PcP**	**00 15 07.4**	**+2.1**
LZH				PP	**PP**	**00 15 08.2**	**-3.1**
LZH				*e*S	**S**	**00 20 07.5**	**+4.7**
LZH				sS	**sS**	**00 20 22.3**	**+2.2**
LZH				SS	**ScS**	**00 23 20.5**	**+0.6**
LZH				pmax	pmax		
	comp=Z,56nm,1.0s						
LZH				pmax	pmax		
	comp=Z,1µm,4.0s						
LZH				LR	LR		
	comp=N,5µm,14.3s						
LZH				LR	LR		
	comp=E,12µm,13.5s						
LZH				LR	LR		
	comp=Z,12µm,15.8s						
IMP	**Imphal**	**45.25**	**306**	*e*S	**P**	**00 13 26.0**	**0.0**
HHC	**Hu-ho-hao-te**	**45.28**	**337**	*e*P	**P**	**00 13 28.7**	**+2.6**
HHC				pP	**pP**	**00 13 38.1**	**+1.5**
HHC				sP	**sP**	**00 13 41.7**	**+0.9**

HHC				PP	**PP**	**00 15 11.1**	**-1.4**
HHC				S	**S**	**00 20 06.8**	**+2.6**
HHC				sS	**sS**	**00 20 21.9**	**+0.4**
HHC				SS	**ScS**	**00 23 22.6**	**+2.3**
HHC				pmax	pmax		
	comp=Z,39nm,1.0s						
HHC				LR	LR		
	comp=N,5µm,17.7s						
HHC				LR	LR		
	comp=E,3µm,17.8s						
HHC				LR	LR		
	comp=Z,4µm,16.1s						
SHL	**Shillong**	**47.26**	**306**	*e*P	**P**	**00 13 44.0**	**+2.0**
MSVF	**Nonsavu**	**47.58**	**114**	*e*P	**P**	**00 13 46.5**	**+2.1**
MSVF				pmax	pmax		
	comp=Z,36nm,1.1s						
MSVF	**Nonsavu**	**47.58**	**114**	*e*P	**P**	**00 13 46.5**	**+2.1**
	comp=Z,36nm,1.1s						
MSVF	**Nonsavu**	**47.58**	**114**	P	**P**	**00 13 46.5**	**+2.1**
	comp=Z,135nm,1.2s,SNR=7.0						
YSS	**Yuzh-Sakhalins**	**47.75**	**9**	*e*P	**P**	**00 13 45.0**	**-0.1**
YSS				*e*		00 13 54.6	
YSS	**Yuzh-Sakhalins**	**47.75**	**9**	*e*P	**P**	**00 13 45.6**	**+0.5**
	comp=Z,18nm,0.8s						
HABR	**Khabarovsk**	**48.53**	**2**	*e*P	**P**	**00 13 50.7**	**-0.4**
HABR				*e**PP	**pP**	**00 13 58.7**	**-3.0**
HABR				*e**SP	**sP**	**00 14 02.9**	**-3.0**
HABR				*e*		00 15 17.1	
HABR						00 15 41.2	
HABR				*e*S	**S**	**00 20 47.2**	**-2.9**
HABR				*e**SS	sS	00 21 01.8	-5.7
HABR				*e*		00 23 40.0	
HABR				*e*SS	**SS**	**00 24 15.2**	**-5.3**
HABR				pmax	pmax		
	comp=Z,148nm,2.6s						
HABR				pmax	pmax		
	comp=N,95nm,2.6s						
HABR				pmax	pmax		
	comp=E,150nm,3.8s						
HABR				MLR	MLR		
	comp=Z,7µm,16.0s						
KLR	**Kul'dur**	**49.27**	**359**	*e*P	**P**	**00 13 54.7**	**-2.1**
LSA	**Lhasa**	**49.75**	**310**	P	**P**	**00 14 01.4**	**0.0**
LSA	**Lhasa**	**49.75**	**310**	*e*P	**P**	**00 14 01.6**	**+0.1**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s						
LSA	**Lhasa**	**49.75**	**310**	*e*P	**P**	**00 14 01.6**	**+0.1**
	comp=Z,26nm,0.8s						
GTA	**Gaotai**	**49.77**	**326**	⇓P	**P**	**00 14 01.7**	**+0.7**
GTA				pP	**pP**	**00 14 11.7**	**+0.1**
GTA				sP	**sP**	**00 14 15.5**	**-0.3**
GTA				S	**S**	**00 21 09.3**	**+1.2**
GTA				sS	**sS**	**00 21 25.2**	**-0.4**
GTA				SS	**SS**	**00 24 38.1**	**-3.0**
GTA				pmax	pmax		
	comp=Z,14nm,1.2s						
GTA				pmax	pmax		
	comp=Z,3µm,6.2s						
GTA				LR	LR		
	comp=N,6µm,17.6s						
GTA				LR	LR		
	comp=E,6µm,16.6s						
GTA				LR	LR		
	comp=Z,9µm,17.1s						
HIA	**Hailar**	**50.60**	**349**	*e*P	**P**	**00 14 07.7**	**+0.7**
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
HIA	**Hailar**	**50.60**	**349**	*e*P	**P**	**00 14 07.7**	**+0.7**
	comp=Z,16nm,1.0s						
TAPN	**Taplejung**	**51.40**	**306**	*e*P	**P**	**00 14 13.2**	**-0.5**
	comp=Z,154nm,1.1s						
TAPN	**Taplejung**	**51.40**	**306**	*e*P	**P**	**00 14 13.2**	**-0.5**
ODAN	**Odare**	**51.46**	**305**	*e*P	**P**	**00 14 13.5**	**-0.6**
	comp=Z,159nm,0.8s						
ODAN	**Odare**	**51.46**	**305**	*e*P	**P**	**00 14 13.5**	**-0.6**
RAMN	**Ramite**	**52.14**	**305**	*e*P	**P**	**00 14 18.3**	**-0.9**
	comp=Z,152nm,0.7s						
RAMN	**Ramite**	**52.14**	**305**	*e*P	**P**	**00 14 18.3**	**-0.9**
JIRN	**Jiri**	**52.76**	**306**	*e*P	**P**	**00 14 23.3**	**-0.6**
	comp=Z,91nm,0.7s						
JIRN	**Jiri**	**52.76**	**306**	*e*P	**P**	**00 14 23.3**	**-0.6**
ULN	**Ulaanbaatar**	**52.94**	**338**	*e*P	**P**	**00 14 25.3**	**+0.7**
ULN	**Ulaanbaatar**	**52.94**	**338**	*e*P	**P**	**00 14 25.3**	**+0.7**
GUN	**Gumba**	**53.11**	**306**	*e*P	**P**	**00 14 25.4**	**-1.1**
	comp=Z,135nm,0.7s						
GUN	**Gumba**	**53.11**	**306**	*e*P	**P**	**00 14 25.4**	**-1.1**
SONM	**Songino Array**	**53.16**	**338**	P	**P**	**00 14 25.4**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=154,slow=7.4,SNR=16						
SONM	**Songino Array**	**53.16**	**338**	P	**P**	**00 14 25.4**	**-0.8**
SONM	**Songino Array**	**53.16**	**338**	P	**P**	**00 14 25.4**	**-0.8**
PKI	**Pulchoki**	**53.36**	**305**	*e*P	**P**	**00 14 27.2**	**-1.1**
	comp=Z,57nm,0.7s						
PKI	**Pulchoki**	**53.36**	**305**	*e*P	**P**	**00 14 27.2**	**-1.1**
PKI	**Pulchoki**	**53.36**	**305**	*e*P	**P**	**00 14 27.2**	**-1.1**
KKN	**Kakani**	**53.55**	**305**	*e*P	**P**	**00 14 28.4**	**-1.2**
	comp=Z,107nm,0.9s						
KKN	**Kakani**	**53.55**	**305**	*e*P	**P**	**00 14 28.4**	**-1.2**
KKN	**Kakani**	**53.55**	**305**	*e*P	**P**	**00 14 28.4**	**-1.2**
DMN	**Daman**	**53.62**	**305**	*e*P	**P**	**00 14 29.3**	**-0.8**
	comp=Z,118nm,0.7s						
DMN	**Daman**	**53.62**	**305**	*e*P	**P**	**00 14 29.3**	**-0.8**
GKN	**Gorkha**	**54.15**	**305**	*e*P	**P**	**00 14 32.6**	**-1.3**
	comp=Z,141nm,0.9s						
GKN	**Gorkha**	**54.15**	**305**	*e*P	**P**	**00 14 32.6**	**-1.3**
CIT	**Chita**	**54.57**	**345**	*e*P	**P**	**00 14 38.1**	**+1.7**
CIT				pmax	pmax		
	comp=Z,203nm,2.0s						
KOLN	**Koldanda**	**54.91**	**305**	*e*P	**P**	**00 14 38.7**	**-0.8**
	comp=Z,278nm,0.7s						
KOLN	**Koldanda**	**54.91**	**305**	*e*P	**P**	**00 14 38.7**	**-0.8**
RPZ	**Rata Peaks**	**55.00**	**147**	*e*P	**P**	**00 14 41.0**	**+1.4**
	comp=Z,49nm,1.0s						
DANN	**Dangsing**	**55.00**	**305**	*e*P	**P**	**00 14 39.3**	**-0.9**
	comp=Z,314nm,0.7s						
DANN	**Dangs

KSH				*e*PcP	**PcP**	**00 16 24.3**	**+1.9**
KSH				*e*PP	**PP**	**00 18 17.1**	**+3.0**
KSH				*e*ScP		00 20 23.1	
KSH				*e*PcS		00 20 26.2	
KSH				*e*S	**S**	**00 24 29.8**	**-1.7**
KSH				*es*S	**sS**	**00 24 48.1**	**-1.4**
KSH				*e*ScS	**SKSac**	**00 25 40.1**	**-2.9**
KSH				pmax	pmax		
	comp=Z,25nm,1.1s						
KSH				pmax	pmax		
	comp=Z,710nm,4.8s						
KSH				LR	LR		
	comp=N,8μm,17.1s						
KSH				LR	LR		
	comp=E,6μm,15.7s						
KSH				LR	LR		
	comp=Z,5μm,20.6s						
KZA	**Kyzart**	**66.76**	**317**	P	**P**	**00 16 02.5**	**+2.4**
	SNR=7.1						
KZA				P	**P**	**00 16 02.5**	**+2.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**66.86**	**318**	P	**P**	**00 16 01.8**	**+1.3**
	SNR=5.9						
TKM2				P	**P**	**00 16 01.8**	**+1.3**
	SNR=5.9						
TKM2	**Tokmak 2**	**66.86**	**318**	*e*P	**P**	**00 16 01.9**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,297nm,2.9s						
TKM2	**Tokmak 2**	**66.86**	**318**	*e*P	**P**	**00 16 01.9**	**+1.4**
	comp=Z,297nm,2.9s						
ZALV	**Zalesovo Beam**	**66.98**	**331**	P	**P**	**00 15 59.5**	**-1.3**
	comp=Z,11nm,0.7s,baz=114,slow=6.1,SNR=21						
ZALV	**Zalesovo Beam**	**66.98**	**331**	P	**P**	**00 15 59.5**	**-1.3**
ZALV	**Zalesovo Beam**	**66.98**	**331**	P	**P**	**00 15 59.5**	**-1.3**
AAK	**Ala-Archa**	**67.49**	**317**	*e*P	**P**	**00 16 05.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**67.49**	**317**	*e*P	**P**	**00 16 05.6**	**+1.2**
	comp=Z,202nm,1.5s						
USP	**Ospenovka**	**67.73**	**318**	P	**P**	**00 16 06.9**	**+1.1**
	SNR=11						
USP				P	**P**	**00 16 06.9**	**+1.1**
	SNR=11						
AML	**Almayashu**	**67.85**	**316**	P	**P**	**00 16 08.6**	**+1.6**
	SNR=8.5						
AML				P	**P**	**00 16 08.6**	**+1.6**
	SNR=8.5						
EKS2	**Erkin-Say**	**67.99**	**317**	P	**P**	**00 16 09.1**	**+1.5**
	SNR=6.0						
EKS2				P	**P**	**00 16 09.1**	**+1.5**
	SNR=6.0						
EKS2	**Erkin-Say**	**67.99**	**317**	*e*P	**P**	**00 16 09.0**	**+1.5**
EKS2				pmax	pmax		
	comp=Z,164nm,2.3s						
EKS2	**Erkin-Say**	**67.99**	**317**	*e*P	**P**	**00 16 09.0**	**+1.5**
	comp=Z,164nm,2.3s						
NVS	**Novosibirsk**	**68.25**	**332**⇑	*i*P	**P**	**00 16 06.5**	**-2.2**
NVS				pmax	pmax		
	comp=N,27nm,1.6s						
NVS				pmax	pmax		
	comp=E,29nm,1.6s						
NVS				pmax	pmax		
	comp=Z,61nm,1.6s						
KURK	**Kurchatov**	**68.45**	**326**	P	**P**	**00 16 09.8**	**-0.3**
	comp=Z,33nm,0.9s,baz=119,slow=6.1,SNR=35						
KURK	**Kurchatov**	**68.45**	**326**	*e*P	**P**	**00 16 10.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,110nm,1.4s						
KURK	**Kurchatov**	**68.45**	**326**	*e*P	**P**	**00 16 10.1**	**0.0**
	comp=Z,110nm,1.4s						
KURK	**Kurchatov**	**68.45**	**326**	P	**P**	**00 16 10.3**	**+0.2**
	comp=Z,216nm,0.8s,SNR=9.7						
KBL	**Kabul**	**68.89**	**307**	*e*P	**P**	**00 16 12.7**	**-0.7**
KBL				pmax	pmax		
	comp=Z,18nm,0.8s						
KBL	**Kabul**	**68.89**	**307**	*e*P	**P**	**00 16 12.7**	**-0.7**
	comp=Z,18nm,0.8s						
KK31	**Karatay Array**	**70.39**	**316**	*e*P	**P**	**00 16 21.7**	**-0.6**
KK31				pmax	pmax		
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**70.39**	**316**	*e*P	**P**	**00 16 22.0**	**-0.3**
KKAR	**Karatay Array**	**70.39**	**316**	*e*P	**P**	**00 16 22.0**	**-0.3**
BILL	**Bilibino**	**71.88**	**13**	*e*P	**P**	**00 16 31.6**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MIR	**Mirnyy**	**71.94**	**196**⇓	*i*P	**P**	**00 16 31.4**	**+0.3**
MIR				pmax	pmax		
	comp=Z,41nm,1.0s						
BVA0	**Borovoye Array**	**74.05**	**326**	*i* P	**P**	**00 16 43.8**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**74.05**	**326**	P	**P**	**00 16 43.7**	**-0.2**
	comp=Z,23nm,0.9s,baz=123,slow=6.3,SNR=34						
BVAR	**Borovoye Array**	**74.05**	**326**	P	**P**	**00 16 43.7**	**-0.2**
BVAR	**Borovoye Array**	**74.05**	**326**	P	**P**	**00 16 43.7**	**-0.2**
BRVK	**Borovoye**	**74.12**	**326**	*e*P	**P**	**00 16 45.1**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,33nm,1.0s						
BRVK	**Borovoye**	**74.12**	**326**	*e*P	**P**	**00 16 44.5**	**+0.2**
	comp=Z,43nm,1.1s						
BRVK	**Borovoye**	**74.12**	**326**	P	**P**	**00 16 45.4**	**+1.1**
	comp=Z,205nm,0.7s,SNR=11						
GAMB	**Gambell**	**75.55**	**22**	*e*P	**P**	**00 16 51.2**	**-1.1**
	comp=Z,12nm,0.9s						
MRIV	**Mauritius Mete**	**76.34**	**249**	*e*P	**P**	**00 16 58.5**	**+0.7**
ABKT	**Ailbek**	**78.24**	**309**	P	**P**	**00 17 08.1**	**0.0**
	comp=Z,215nm,0.8s,SNR=9.7						
VNDA	**Vanda**	**78.80**	**174**	*e*P	**P**	**00 17 11.1**	**+0.7**
VNDA	**Vanda**	**78.80**	**174**	*e*P	**P**	**00 17 11.1**	**+0.7**
AB31	**Akbulak array**	**79.17**	**320**	*i* P	**P**	**00 17 12.3**	**-0.6**
AB31				pmax	pmax		
	comp=Z,11nm,0.9s						
ABKAR	**Akbulak array**	**79.17**	**320**	*e*P	**P**	**00 17 12.7**	**-0.2**
	comp=Z,9.9nm,0.9s						
SBA	**Scott Base**	**79.64**	**173**	*e*P	**P**	**00 17 16.3**	**+1.3**
SBA				pmax	pmax		
	comp=Z,13nm,1.0s						
SBA	**Scott Base**	**79.64**	**173**	*e*P	**P**	**00 17 16.3**	**+1.3**
	comp=Z,13nm,1.0s						
SVE	**Sverdlovsk**	**80.60**	**328**⇓	*e*P	**P**	**00 17 20.5**	**0.0**
SVE				pmax	pmax		
	comp=Z,46nm,1.3s						
AKTO	**Aktyubinsk**	**80.64**	**321**	P	**P**	**00 17 21.0**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=95,slow=9.3,SNR=7.1						
AKTO	**Aktyubinsk**	**80.64**	**321**	P	**P**	**00 17 21.0**	**+0.2**
AKTO	**Aktyubinsk**	**80.64**	**321**	P	**P**	**00 17 21.0**	**+0.2**
ARU	**Arti**	**81.61**	**327**	*d* iP	**P**	**00 17 26.2**	**+0.3**
ARU						00 20 29.3	
ARU				S	**S**	**00 27 35.0**	**-0.6**
ARU				pmax	pmax		
	comp=Z,23nm,1.2s						
ARU	**Arti**	**81.61**	**327**	*e*P	**P**	**00 17 25.4**	**-0.5**
	comp=Z,32nm,1.1s						
TTA	**Tatalina**	**81.62**	**26**	*e*P	**P**	**00 17 27.4**	**+1.5**
TTA	**Tatalina**	**81.62**	**26**	*e*P	**P**	**00 17 27.4**	**+1.5**
KDAK	**Kodiak Island**	**81.90**	**31**	P	**P**	**00 17 28.0**	**+0.6**
	comp=Z,20nm,0.9s,baz=170,slow=2.3,SNR=6.6						
KDAK	**Kodiak Island**	**81.90**	**31**	*ce*P	**P**	**00 17 28.8**	**+1.4**
KDAK	**Kodiak Island**	**81.90**	**31**	P	**P**	**00 17 28.0**	**+0.6**
SOKR	**Solikamsk**	**83.22**	**330**	*e*P	**P**	**00 17 33.5**	**-0.7**
SOKR				pmax	pmax		
	comp=Z,40nm,1.7s						
SLKM	**Skilak Lake**	**83.69**	**29**	*e*P	**P**	**00 17 35.6**	**-1.0**
SLKM	**Skilak Lake**	**83.69**	**29**	*e*P	**P**	**00 17 35.6**	**-1.0**
PMR	**Palmer**	**84.42**	**28**	*e*P	**P**	**00 17 40.3**	**0.0**
PMR	**Palmer**	**84.42**	**28**	*e*P	**P**	**00 17 40.3**	**0.0**
MCK	**McKinley**	**84.91**	**26**	*e*P	**P**	**00 17 42.0**	**-0.8**
MCK				pmax	pmax		
	comp=Z,47nm,1.2s						
MCK	**McKinley**	**84.91**	**26**	*e*P	**P**	**00 17 42.0**	**-0.8**
	comp=Z,47nm,1.2s						
COLA	**College**	**85.58**	**25**	*e*P	**P**	**00 17 46.0**	**0.0**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	**College**	**85.58**	**25**	*e*P	**P**	**00 17 46.0**	**0.0**
	comp=Z,10nm,0.8s						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**00 17 46.8**	**-1.2**
	comp=Z,11nm,0.9s,baz=260,slow=4.6,SNR=41						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**00 17 46.8**	**-1.2**
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**00 17 46.8**	**-1.2**
OPO	**Ambohidratompo**	**85.97**	**252**	P	**P**	**00 17 48.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=76,slow=4.6,SNR=14						
OPO	**Ambohidratompo**	**85.97**	**252**	P	**P**	**00 17 48.7**	**-0.5**
RDF	**Al-Radifah**	**86.13**	**299**	*e*P	**P**	**00 17 49.1**	**-0.5**
RDF				AMb	AMB	00 17 54.9	
	comp=Z,83nm,1.5s						
MIB	**Mutribah**	**86.35**	**300**	*e*P	**P**	**00 17 50.2**	**-0.5**
MIB				AMb	AMB	00 17 52.0	
	comp=Z,48nm,0.8s						
NAY	**Al-Naaiem**	**86.41**	**299**	*e*P	**P**	**00 17 50.2**	**-0.7**
NAY				AMb	AMB	00 17 57.2	
	comp=Z,40nm,1.0s						
ZEI	**Tsey**	**89.49**	**313**	*e*P	**P**	**00 18 07.5**	**+1.8**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
QSPA	**South Pole Qui**	**89.71**	**180**	*e*P	**P**	**00 18 05.7**	**-0.4**
SYO	**Syowa Base**	**91.03**	**201**⇑	*e*X	**P**	**00 18 09.4**	**-2.6**
INK	**Inuvik**	**91.49**	**22**	P	**P**	**00 18 12.2**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=241,slow=4.3,SNR=7.0						
INK	**Inuvik**	**91.49**	**22**	P	**P**	**00 18 12.3**	**-1.8**
INK	**Inuvik**	**91.49**	**22**	P	**P**	**00 18 12.2**	**-1.8**
OBN	**Obninsk**	**93.87**	**325**	*e*P	**P**	**00 18 25.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMBO	**Kilima Mbogo**	**95.75**	**269**	*e*P	**P**	**00 18 35.2**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMBO	**Kilima Mbogo**	**95.75**	**269**	*e*P	**P**	**00 18 35.2**	**-0.1**
	comp=Z,5.7nm,1.0s						
ARCES	**ARCESS Array B**	**96.28**	**340**	P	**P**	**00 18 35.4**	**-0.7**
	comp=Z,9.5nm,0.9s,baz=53,slow=6.2,SNR=6.5						
ARCES	**ARCESS Array B**	**96.28**	**340**	P	**P**	**00 18 35.4**	**-0.7**
ARCES	**ARCESS Array B**	**96.28**	**340**	P	**P**	**00 18 35.4**	**-0.7**
BRTR	**Keskin Array B**	**97.35**	**310**	P	**P**	**00 18 39.8**	**-2.1**
	comp=Z,2.7nm,0.9s,baz=119,slow=3.5,SNR=8.3						
BRTR	**Keskin Array B**	**97.35**	**310**	*ce*P	**P**	**00 18 39.7**	**-2.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**97.35**	**310**	P	**P**	**00 18 39.8**	**-2.1**
UZH	**Uzhgorod**	**103.74**	**320**⇓	*i*P	**Pdif**	**00 19 10.7**	**+0.8**
NVAR	**Mina Array Bea**	**104.71**	**50**	PP	**PP**	**00 23 35.9**	**+1.3**
	comp=Z,1.0nm,1.0s,baz=272,slow=11,SNR=4.3						
NVAR	**Mina Array Bea**	**104.71**	**50**	PP	**PP**	**00 23 35.9**	**+1.3**
BRG	**Berggiesshuel**	**108.10**	**324**	*e*(P)	**PP**	**00 23 54.4**	**-4.3**
	comp=Z,34nm,1.9s						
GERES	**GERESS Array B**	**109.04**	**322**	PKiKP	**PKiKP**	**00 23 37.0**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=146,slow=2.6,SNR=4.1						
GERES	**GERESS Array B**	**109.04**	**322**	PKiKP	**PKiKP**	**00 23 37.0**	**-0.8**
PDAR	**Pinedale Array**	**109.99**	**44**	PKKPbc	PKKPbc	00 34 42.1	-1.6
	comp=Z,0.7nm,0.8s,baz=108,slow=5.3,SNR=5.5						
PDAR	**Pinedale Array**	**109.99**	**44**	PKKPbc	PKKPbc	00 34 42.1	-1.6
K21A	**Alcova**	**111.63**	**44**	⇑P	**PKiKP**	**00 23 43.6**	**+0.5**
	baz=112						
N21A	**Black Mountain**	**112.09**	**46**	⇓P	**PKiKP**	**00 23 44.9**	**+0.8**
	baz=112						
U21A	**Nageezi**	**113.41**	**50**	⇑P	**PKiKP**	**00 23 47.8**	**+1.1**
	baz=113						
X21A	**Alamocita Cree**	**113.91**	**52**	⇑P	**PKiKP**	**00 23 48.9**	**+1.1**
	baz=114						
P24A	**Kohler Place,**	**114.41**	**46**	⇑P	PKPdf	00 23 48.5	0.0
	baz=114						
LPG	**La Plagne**	**114.75**	**321**	*e*PKiKP	PKPdf	00 23 48.5	-0.6
	comp=Z,11nm,1.0s						
LPL	**La Plagne**	**114.75**	**321**	*e*PKiKP	PKPdf	00 23 48.5	-0.5
	comp=Z,9.4nm,0.9s						
ANMO	**Albuquerque**	**114.80**	**51**	PKP	PKPdf	00 23 50.0	+0.6
	comp=Z,1.5nm,0.9s,baz=259,slow=5.2,SNR=4.2						
ANMO	**Albuquerque**	**114.80**	**51**	*e*PKiKP	PKPdf	00 23 50.2	+0.8
ANMO	**Albuquerque**	**114.80**	**51**	*e*PKPdf	PKPdf	00 23 50.2	+0.8
ULM	**Lac du Bonnet**	**115.15**	**32**	PKKPbc	PKKPbc	00 34 27.2	+0.8
	comp=Z,5.8nm,0.9s,baz=147,slow=3.8,SNR=9.0						
ULM	**Lac du Bonnet**	**115.15**	**32**	PKKPbc	PKKPbc	00 34 27.2	+0.7
V24A	**Rampart Ranch,**	**115.47**	**50**	⇓P	**PKPdf**	**00 23 51.3**	**+0.5**
	baz=115						
Y24A	**Capitan**	**115.92**	**52**	⇓P	**PKPdf**	**00 23 52.0**	**+0.4**
	baz=116						
V25A	**Rancho No Teng**	**115.93**	**50**	⇓P	**PKPdf**	**00 23 51.5**	**-0.1**
	baz=116						
S26A	**Kim**	**116.15**	**48**	⇑P	**PKPdf**	**00 23 52.0**	**+0.1**
	baz=116						
W25A	**X Bar L Ranch,**	**116.26**	**50**	⇓P	**PKPdf**	**00 23 52.0**	**-0.1**
	baz=116						
Y25A	**Mesa, Roswell**	**116.51**	**52**	⇑P	**PKPdf**	**00 23 53.0**	**+0.3**
	baz=116						
324A	**Moseley Ranch,**	**116.66**	**55**	⇓P	**PKPdf**	**00 23 53.3**	**+0.3**
	baz=117						
MNTX	**Cornudas Mount**	**116.66**	**54**	⇑P	**PKPdf**	**00 23 53.0**	**+0.2**
MNTX	baz=117			⇑P	**PKPdf**	**00 23 53.0**	**+0.2**
	baz=117						
425A	**Indio Mountain**	**117.26**	**55**	⇓P	**PKPdf**	**00 23 53.8**	**-0.4**
	baz=117						
T28A	**Walsh**	**117.34**	**48**	⇑P	**PKPdf**	**00 23 54.1**	**0.0**
	baz=117						
Y27A	**Causey**	**117.72**	**51**	⇓P	**PKPdf**	**00 23 55.4**	**+0.4**
	baz=118						
Z27A	**Tatum**	**117.88**	**52**	⇓P	**PKPdf**	**00 23 55.9**	**+0.6**
	baz=118						
526A	**Mary Lane Ranc**	**118.21**	**56**	⇓P	**PKPdf**	**00 23 56.4**	**+0.3**
	baz=118						
427A	**Hayter Ranch,**	**118.53**	**55**	⇓P	**PKPdf**	**00 23 56.6**	**0.0**
	baz=118						
527A	**Woodward Ranch**	**118.58**	**55**	⇓P	**PKPdf**	**00 23 56.6**	**-0.2**
	baz=118						
TXAR	**Lajitas Array**	**118.78**	**56**	PKP	**PKPdf**	**00 23 56.9**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=236,slow=1.9,SNR=7.5						
TXAR				PKKPbc	**PKKPab**	**00 34 14.3**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=122,slow=7.2,SNR=6.3						
TXAR	**Lajitas Array**	**118.78**	**56**	PKIKP	**PKPdf**	**00 23 56.9**	**-0.2**
TXAR	**Lajitas Array**	**118.78**	**56**	PKP	**PKPdf**	**00 23 56.9**	**-0.2**
TXAR				PKKPbc	**PKKPab**	**00 34 14.3**	**-1.0**
328A	**Wristen Ranch,**	**118.84**	**54**	⇑P	**PKPdf**	**00 23 56.8**	**-0.3**
	baz=119						
628A	**Black Gap, Mar**	**119.38**	**56**	⇑P	**PKPdf**	**00 23 58.5**	**+0.3**
	baz=119						
ETSF	**Etsaut**	**120.60**	**322**	*e*PKIKP	**PKPdf**	**00 24 00.7**	**+0.5**
	comp=Z,9.5nm,0.9s						
JCT	**Junction City**	**121.58**	**54**	⇓P	**PKPdf**	**00 24 02.4**	**0.0**
	baz=122						
ESDC	**Sonseca Array**	**124.51**	**320**	PKP	**PKPdf**	**00 24 07.2**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=29,slow=2.7,SNR=4.9						
ESDC	**Sonseca Array**	**124.51**	**320**	PKP	**PKPdf**	**00 24 07.2**	**-0.6**
CMIG	**Matias Romero**	**129.97**	**68**	PKP	**PKPdf**	**00 24 18.8**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=269,slow=5.1,SNR=5.0						
CMIG	**Matias Romero**	**129.97**	**68**	PKP	**PKPdf**	**00 24 18.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**130.09**	**287**	PKP	**PKPdf**	**00 24 18.7**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=56,slow=1.6,SNR=21						
TORD	**Torodi Ar. Bea**	**130.09**	**287**	PKP	**PKPdf**	**00 24 18.7**	**-0.3**
LRAL	**Lakeview Retre**	**130.20**	**45**	*e*PKPdf	**PKPdf**	**00 24 19.6**	**+0.9**
PLCA	**Paso Flores**	**133.96**	**155**	PKP	**PKPdf**	**00 24 27.4**	**+1.7**
	comp=Z,5.0nm,0.9s,baz=124,slow=3.2,SNR=7.8						
PLCA	**Paso Flores**	**133.96**	**155**	PKIKP	**PKPdf**	**00 24 27.4**	**+1.7**
PLCA	**Paso Flores**	**133.96**	**155**	PKP	**PKPdf**	**00 24 27.4**	**+1.7**
DBIC	**Dimbokro**	**137.48**	**280**	PKP	**PKPdf**	**00 24 32.9**	**0.0**
	comp=Z,6.2nm,0.8s,baz=100,slow=1.8,SNR=6.4						
DBIC	**Dimbokro**	**137.48**	**280**	PKIKP	**PKPdf**	**00 24 32.9**	**0.0**
DBIC	**Dimbokro**	**137.48**	**280**	PKP	**PKPdf**	**00 24 32.9**	**0.0**
CFAA	**Coronel Fontan**	**142.49**	**149**	PKP	**PKPdf**	**00 24 41.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=214,slow=3.5,SNR=6.0						
CFAA	**Coronel Fontan**	**142.49**	**149**	PKP	**PKPdf**	**00 24 41.0**	**-0.6**
BBTS	**Babate**	**146.64**	**297**	PKPbc	**PKPbc**	**00 24 50.0**	**-0.6**
	comp=Z,90nm,0.9s,baz=102,slow=2.2,SNR=26						
BBTS	**Babate**	**146.64**	**297**	PKPbc	**PKPbc**	**00 24 50.0**	**-0.6**
ATAH	**Atahualpa**	**147.83**	**104**	PKPbc	**PKPbc**	**00 24 53.7**	**-1.0**
	comp=Z,39nm,1.0s,baz=302,slow=4.7,SNR=12						
ATAH	**Atahualpa**	**147.83**	**104**	PKPbc	**PKPbc**	**00 24 53.7**	**-1.0**
NNA	**Nana**	**147.98**	**113**	PKPbc	**PKPbc**	**00 24 54.1**	**-0.4**
	comp=Z,20nm,0.8s,baz=233,slow=8.3,SNR=6.9						
NNA	**Nana**	**147.98**	**113**	*c* iPKP2	**PKPab**	**00 24 56.1**	**-1.1**
NNA	**Nana**	**147.98**	**113**	PKPbc	**PKPbc**	**00 24 54.1**	**-0.4**
SDDR	**Presa de Saban**	**149.73**	**51**	*e*PKPab	**PKPab**	**00 25 04.1**	**0.0**
CPUP	**Villa Florida**	**151.79**	**160**	PKPbc	**PKPbc**	**00 25 04.6**	**+1.1**
	comp=Z,14nm,0.8s,baz=197,slow=1.9,SNR=22						
CPUP	**Villa Florida**	**151.79**	**160**	PKIKP	**PKPbc**	**00 25 04.6**	**+1.1**
CPUP	**Villa Florida**	**151.79**	**160**	PKPbc	**PKPbc**	**00 25 04.6**	**+1.1**
ROSC	**El Rosal**	**152.31**	**80**	PKPbc	**PKPbc**	**00 25 05.0**	**-0.5**
	comp=Z,25nm,0.8s,baz=99,slow=20,SNR=15						
ROSC	**El Rosal**	**152.31**	**80**	PKPbc	**PKPbc**	**00 25 05.0**	**-0.5**
LPAZ	**La Paz**	**153.47**	**129**	PKP	**PKPdf**	**00 25 01.8**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=45,slow=3.6,SNR=5.4						
LPAZ				PKPbc	**PKPbc**	**00 25 08.1**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=342,slow=1.4,SNR=9.1						
LPAZ	**La Paz**	**153.47**	**129**	PKIKP	**PKPdf**	**00 25 01.8**	**+1.2**
LPAZ						00 25 08.1	
LPAZ	**La Paz**	**153.47**	**129**	PKP	**PKPdf**	**00 25 01.8**	**+1.2**
LPAZ				PKPbc	**PKPbc**	**00 25 08.1**	**-0.1**
SDV	**Santo Domingo**	**154.93**	**69**	*e*PKPdf	**PKPdf**	**00 25 02.4**	**+0.2**
SDV				*e*PKPbc	**PKPbc**	**00 25 10.2**	**-0.8**
SIV	**San Ignacio**	**158.72**	**140**	PKPab	**PKPab**	**00 25 42.7**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=239,slow=2.5,SNR=4.7						
SIV	**San Ignacio**	**158.72**	**140**	PKPab	**PKPab**	**00 25 42.7**	**+0.5**
SAML	**Samuel**	**161.48**	**120**	*e*PKPdf	**PKPdf**	**00 25 10.3**	**+0.5**
SAML				*e*PKPab	**PKPab**	**00 25 55.5**	**+1.2**

IDC ***04*** *00:14:52.0±0.8, 0.°26S×133.°04E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, ML4.4/1, Error ellipse: s-maj=40.6km s-min=14.7km az=75.0*
ISCJB ***04*** *00:14:55.4±0.6, 0.°28S±0.°08×132.°9E±0.°2, h33km, mb4.5/23, Error ellipse: s-maj=24.3km s-min=8.4km az=160.2*
DJA ***04*** *00:15:00, 0.°29S×132.°74E, h36km, mb5.1/5*
NEIC ***04*** *00:15:04.4±2.9, 0.°41S×132.°75E, h98km±28km, mb4.1/3, Error ellipse: s-maj=16.7km s-min=9.2km az=68.0*

ISC 04 00:14:57.7±0.6, 0.°3S±0.°1×132.°8E±0.°2, h33km, n55, σ0s95/55, mb4.5/23, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**16.95**	**123**	Pn	**P**	**00 18 57.2**	**+3.0**
	0.9nm,0.3s,baz=280,slow=8.2,SNR=3.9						
PMG	**Port Moresby**	**16.95**	**123**	Pn	**P**	**00 18 57.2**	**+3.0**
WRA	**Warramunga Arr**	**19.59**	**176**	P	**P**	**00 19 22.9**	**-0.3**
	1.2nm,0.3s,baz=355,slow=11,SNR=20						
WRA	**Warramunga Arr**	**19.59**	**176**	P	**P**	**00 19 22.9**	**-0.3**
WB2	**Warramunga Arr**	**19.59**	**176**	*e*P	**P**	**00 19 22.9**	**-0.2**
AS31	**Alice Springs**	**23.26**	**177**	*e*P	**P**	**00 20 02.3**	**-0.1**
ASAR	**Alice Springs**	**23.26**	**177**	P	**P**	**00 20 02.2**	**-0.2**
	9.5nm,0.6s,baz=355,slow=10,SNR=39						
ASAR	**Alice Springs**	**23.26**	**177**	P	**P**	**00 20 02.2**	**-0.2**
STKA	**Stephens Creek**	**32.50**	**166**	P	**P**	**00 21 24.2**	**-1.2**
	11nm,0.6s,baz=318,slow=7.4,SNR=25						
STKA	**Stephens Creek**	**32.50**	**166**	P	**P**	**00 21 24.2**	**-1.2**
MJAR	**Matsushiro Arr**	**37.00**	**7**	P	**P**	**00 22 02.8**	**-1.4**
	7.0nm,0.3s,baz=187,slow=9.9,SNR=5.2						
MJAR	**Matsushiro Arr**	**37.00**	**7**	P	**P**	**00 22 02.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**38.09**	**301**	P	**P**	**00 22 15.0**	**+1.3**
	0.9nm,0.7s,baz=120,slow=6.7,SNR=6.1						
CMAR	**Chiang Mai Arr**	**38.09**	**301**	P	**P**	**00 22 15.0**	**+1.3**
TAPN	**Taplejung**	**51.24**	**306**	*e*P	**P**	**00 23 58.2**	**-0.6**
	16nm,1.0s						
TAPN	**Taplejung**	**51.24**	**306**	*e*P	**P**	**00 23 58.2**	**-0.6**
	16nm,1.0s						
ODAN	**Odare**	**51.30**	**305**	*e*P	**P**	**00 23 59.9**	**+0.7**
ODAN	**Odare**	**51.30**	**305**	*e*P	**P**	**00 23 59.9**	**+0.7**
RAMN	**Ramite**	**51.98**	**305**	*e*P	**P**	**00 24 04.9**	**+0.6**
	21nm,0.7s						
RAMN	**Ramite**	**51.98**	**305**	*e*P	**P**	**00 24 04.9**	**+0.6**
	21nm,0.7s						
JIRN	**Jiri**	**52.60**	**306**	*e*P	**P**	**00 24 09.5**	**+0.5**
	15nm,0.7s						
JIRN	**Jiri**	**52.60**	**306**	*e*P	**P**	**00 24 09.5**	**+0.5**
	15nm,0.7s						
GUN	**Gumba**	**52.95**	**306**	*e*P	**P**	**00 24 11.8**	**+0.2**
	28nm,0.8s						
GUN	**Gumba**	**52.95**	**306**	*e*P	**P**	**00 24 11.8**	**+0.2**
	28nm,0.8s						
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**00 24 13.0**	**+0.6**
	0.5nm,0.9s,baz=126,slow=7.3,SNR=2.7						
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**00 24 13.0**	**+0.6**
DMN	**Daman**	**53.46**	**305**	*e*P	**P**	**00 24 15.0**	**-0.3**

71nm,0.1s,SNR=7.9
EADA Adamuz 0.71 295 Pg Pb 00 17 34.8 -0.5
3.4nm,0.1s,SNR=7.9
EADA Lg Lg 00 17 44.0
71nm,0.1s,SNR=7.9
EQUE Quentar 0.71 159 Pg Pb 00 17 34.5 -1.0
7.2nm,0.1s,SNR=7.9
EQUE Lg Lg 00 17 44.6
7.9nm,0.1s,SNR=7.9
EQUE Quentar 0.71 159 Pg Pb 00 17 34.5 -1.0
7.2nm,0.1s,SNR=7.9
EQUE Lg Lg 00 17 44.6
7.9nm,0.1s,SNR=7.9
ELOJ Sierra Loja 0.79 203 Pg Pb 00 17 36.2 -0.5
3.0nm,0.1s,SNR=12
ELOJ Lg Lg 00 17 47.2
6.7nm,0.2s,SNR=13
ELOJ Sierra Loja 0.79 203 Pg Pb 00 17 36.2 -0.5
3.0nm,0.1s,SNR=12
ELOJ Lg Lg 00 17 47.2
6.7nm,0.2s,SNR=13
ERON Agron 0.85 182 Pg Pb 00 17 37.0 -0.9
6.1nm,0.1s,SNR=7.9
ERON Lg Lg 00 17 48.5
18nm,0.2s,SNR=7.9
ERON Agron 0.85 182 Pg Pb 00 17 37.0 -0.9
6.1nm,0.1s,SNR=7.9
ERON Lg Lg 00 17 48.5
18nm,0.2s,SNR=7.9
EHUE Huescar 0.93 93 Pg Pb 00 17 38.4 -0.7
2.0nm,0.1s,SNR=7.9
EHUE Lg Lg 00 17 50.9
21nm,0.1s,SNR=7.9
EHUE Huescar 0.93 93 Pg Pb 00 17 38.4 -0.7
2.0nm,0.1s,SNR=7.9
EHUE Lg Lg 00 17 50.9
21nm,0.1s,SNR=7.9
EGUA Guajares 1.05 171 Pg Pn 00 17 40.5 -0.5
7.4nm,0.1s,SNR=7.9
EGUA Lg Lg 00 17 54.5
28nm,0.2s,SNR=7.9
EGUA Guajares 1.05 171 Pg Pn 00 17 40.5 -0.5
7.4nm,0.1s,SNR=7.9
EGUA Lg Lg 00 17 54.5
28nm,0.2s,SNR=7.9
EBER Berja 1.20 144 Pg Pn 00 17 43.0 -0.3
1.0nm,0.1s,SNR=7.9
EBER Lg Lg 00 17 58.1
3.7nm,0.2s,SNR=7.9
EBER Berja 1.20 144 Pg Pn 00 17 43.0 -0.3
1.0nm,0.1s,SNR=7.9
EBER Lg Lg 00 17 58.1
3.7nm,0.2s,SNR=7.9
EVIA Vianos 1.25 52 Pn Pn 00 17 42.1 -1.9
1.3nm,0.1s,SNR=7.9
EVIA Pg Pb 00 17 43.7 -1.0
1.8nm,0.1s,SNR=9.7
EVIA Lg Lg 00 18 00.3
6.1nm,0.1s,SNR=9.0
EVIA Vianos 1.25 52 Pn Pn 00 17 42.1 -1.9
1.3nm,0.1s,SNR=7.9
ENIJ Nijar 1.53 125 Pg Pb 00 17 49.5 +0.2
1.1nm,0.1s,SNR=7.9
ENIJ Lg Lg 00 18 08.7
5.4nm,0.3s,SNR=7.9
ENIJ Nijar 1.53 125 Pg Pb 00 17 49.5 +0.2
1.1nm,0.1s,SNR=7.9
ENIJ Lg Lg 00 18 08.7
5.4nm,0.3s,SNR=7.9
EMIJ Mijas 1.53 212 Pn Pn 00 17 47.1 -0.6
0.1nm,0.4s,SNR=7.9
EMIJ Lg Lg 00 18 09.5
1.6nm,0.3s,SNR=7.9
EMIJ Mijas 1.53 212 Pn Pn 00 17 47.1 -0.6
0.1nm,0.4s,SNR=7.9
EMIJ Lg Lg 00 18 09.5
1.6nm,0.3s,SNR=7.9
ESDC Sonseca Array 1.81 355 Pn Pn 00 17 50.6 -0.9
0.1nm,0.2s,baz=178,slow=12,SNR=7.9
ESDC Pg Pb 00 17 54.4 +0.3
0.3nm,0.1s,baz=174,slow=16,SNR=43
ESDC Lg Lg 00 18 16.0
0.6nm,0.1s,baz=176,slow=26,SNR=17
ESDC Sonseca Array 1.81 355 Pn Pn 00 17 50.6 -0.9
0.1nm,0.2s,slow=12,SNR=7.9
ESDC Sonseca Array 1.81 355 Pg Pb 00 17 54.4 +0.3
0.3nm,0.1s,baz=174,slow=16,SNR=43
ESDC Lg Lg 00 18 16.0
0.6nm,0.1s,baz=176,slow=26,SNR=17
ETOB Tobarra 1.91 65 Pn Pn 00 17 51.2 -1.7
0.3nm,0.1s,SNR=7.9
ETOB Pg Pb 00 17 57.1 +1.4
0.6nm,0.3s,SNR=7.9
ETOB Sn Sn 00 18 14.8 -1.6
0.5nm,0.1s,SNR=7.9
ETOB Lg Lg 00 18 22.0
1.5nm,0.2s,SNR=7.9
ETOB Tobarra 1.91 65 Pn Pn 00 17 51.2 -1.7
0.3nm,0.1s,SNR=7.9
ETOB Tobarra 1.91 65 Pg Pb 00 17 57.2 +1.4
0.6nm,0.3s,SNR=7.9
ETOB Sn Sn 00 18 14.8 -1.6
0.5nm,0.1s,SNR=7.9
ETOB Lg Lg 00 18 22.0
1.5nm,0.2s,SNR=7.9
EMIN Mina Concepcio 2.31 268 Pn Pn 00 17 56.1 -2.2
0.2nm,0.1s,SNR=7.9
EMIN Sn Sn 00 18 22.6 -3.4
0.5nm,0.1s,SNR=7.9
EMIN Lg Lg 00 18 31.1
1.2nm,0.1s,SNR=7.9
EMIN Mina Concepcio 2.31 268 Pn Pn 00 17 56.1 -2.2
0.2nm,0.1s,SNR=7.9
EMIN Sn Sn 00 18 22.6 -3.4
0.5nm,0.1s,SNR=7.9
EMIN Lg Lg 00 18 31.1
1.2nm,0.1s,SNR=7.9
PBAR Barrancos 2.60 278 *e*Sg Sb 00 18 39.9 +0.8
PBAR A A 00 18 46.4
6.2nm,0.3s
PBAR Barrancos 2.60 278 Lg Lg 00 18 39.9
6.2nm,0.3s
PBAR Barrancos 2.60 278 Lg Lg 00 18 39.9
6.2nm,0.3s
EBAD Badajoz 2.70 290 Pn Pn 00 18 01.6 -2.2
0.0nm,0.2s,SNR=7.9
EBAD Sn Sn 00 18 33.0 -2.8
2.4nm,0.1s,SNR=7.9
EBAD Lg Lg 00 18 42.5
2.2nm,0.3s,SNR=7.9
EBAD Badajoz 2.70 290 Pn Pn 00 18 01.6 -2.2
SNR=7.9
EBAD Sn Sn 00 18 33.0 -2.9
2.4nm,0.1s,SNR=7.9
EBAD Lg Lg 00 18 42.5
2.2nm,0.3s,SNR=7.9
GUD Guadarrama 2.78 354 Pn Pn 00 18 04.1 -0.9
0.3nm,0.2s,SNR=7.9
GUD Pg Pb 00 18 11.6 +0.8
0.5nm,0.2s,SNR=7.9
GUD Lg Lg 00 18 47.4
3.5nm,0.2s,SNR=7.9
GUD Guadarrama 2.78 354 Pn Pn 00 18 04.1 -1.0
0.3nm,0.2s,SNR=7.9
EPLA Plasencia 2.84 321 Lg Lg 00 18 48.8
0.4nm,0.0s,SNR=7.9
EPLA Plasencia 2.84 321 Lg Lg 00 18 48.8
0.4nm,0.0s,SNR=7.9
EBEN Beniarda 2.91 72 Pn Pn 00 18 05.3 -1.4
0.1nm,0.1s,SNR=7.9
EBEN Sn Sn 00 18 38.4 -2.6
0.2nm,0.2s,SNR=7.9
EBEN Beniarda 2.91 72 Pn Pn 00 18 05.3 -1.3
0.1nm,0.1s,SNR=7.9
EBEN Sn Sn 00 18 38.4 -2.6
0.2nm,0.2s,SNR=7.9
EGRO El Granado 2.97 265 Pn Pn 00 18 05.1 -2.4
0.4nm,0.1s,SNR=7.9
EGRO Sn Sn 00 18 39.3 -3.1
0.6nm,0.3s,SNR=7.9
EGRO Lg Lg 00 18 51.9
0.3nm,0.1s,SNR=7.9
EGRO El Granado 2.97 265 Pn Pn 00 18 05.1 -2.3
0.4nm,0.1s,SNR=7.9
EGRO Sn Sn 00 18 39.3 -3.1
0.6nm,0.3s,SNR=7.9
EGRO Lg Lg 00 18 51.9
0.3nm,0.1s,SNR=7.9

PESTR Estremoz 3.17 289 *e*Sn Sn 00 18 44.2 -3.1
PESTR *e*Sg Sb 00 18 59.6 +4.2
PESTR A A 00 19 02.5
3.7nm,0.5s
PESTR Estremoz 3.17 289 Sn Sn 00 18 44.2 -3.1
PESTR Lg Lg 00 18 59.6
3.7nm,0.5s
PESTR Estremoz 3.17 289 Sn Sn 00 18 44.2 -3.1
PESTR Lg Lg 00 18 59.6
3.7nm,0.5s
PVAQ Vaqueiros 3.17 263 *e*Pn Pn 00 18 08.8 -1.4
PVAQ *e*Sg Sb 00 18 59.2 +3.7
PVAQ A A 00 19 08.0
2.7nm,0.3s
PVAQ Vaqueiros 3.17 263 Pn Pn 00 18 08.8 -1.4
PVAQ Lg Lg 00 18 59.2
2.7nm,0.3s
PVAQ Vaqueiros 3.17 263 Pn Pn 00 18 08.8 -1.4
PVAQ Lg Lg 00 18 59.2
2.7nm,0.3s
ETOR Torete 3.23 24 Pn Pn 00 18 10.6 -0.5
0.8nm,0.2s,SNR=7.9
ETOR Lg Lg 00 19 01.0
12nm,0.2s,SNR=7.9
ETOR Torete 3.23 24 Pn Pn 00 18 10.6 -0.5
0.8nm,0.2s,SNR=7.9
ETOR Lg Lg 00 19 01.0
12nm,0.2s,SNR=7.9
PMRV Marv??o 3.24 300 *e*Sg Sb 00 19 00.7 +3.3
PMRV A A 00 19 07.9
6.1nm,0.7s
PMRV Marv??o 3.24 300 Lg Lg 00 19 00.7
6.1nm,0.7s
PMRV Marv??o 3.24 300 Lg Lg 00 19 00.7
6.1nm,0.7s
EVO Evora 3.41 282 *e*Sn Sn 00 18 50.1 -3.2
EVO *e*Sg Sb 00 19 08.0 +5.7
EVO A A 00 19 13.6
4.2nm,0.3s
EVO Evora 3.41 282 Sn Sn 00 18 50.1 -3.2
EVO Lg Lg 00 19 08.0
4.2nm,0.3s
EVO Evora 3.41 282 Sn Sn 00 18 50.1 -3.2
EVO Lg Lg 00 19 08.0
4.2nm,0.3s
PCBR Castelo Branco 3.50 305 *e*Pn Pn 00 18 14.3 -0.5
PCBR *e*Sn Sn 00 18 52.9 -2.6
PCBR *e*Sg Sb 00 19 10.5 +5.6
PCBR A A 00 19 16.2
4.4nm,0.4s
PCBR Castelo Branco 3.50 305 Pn Pn 00 18 14.3 -0.5
PCBR Sn Sn 00 18 52.9 -2.6
PCBR Lg Lg 00 19 10.5
2.2nm,0.4s
PCBR Castelo Branco 3.50 305 Pn Pn 00 18 14.3 -0.5
PCBR Sn Sn 00 18 52.9 -2.6
PCBR *e*Sg Sb 00 19 10.5 +5.6
4.4nm,0.4s
MVO Moncorvo 4.15 323 Sn Sn 00 19 07.2 -4.3
0.3nm,0.1s,SNR=7.9
MVO Lg Lg 00 19 32.4
1.8nm,0.4s,SNR=7.9
MVO Moncorvo 4.15 323 Sn Sn 00 19 07.2 -4.4
0.3nm,0.1s,SNR=7.9
MVO Lg Lg 00 19 32.3
1.8nm,0.4s,SNR=7.9

IDC 04 00:17:27.5±2.2, 0.°14N×133.°51E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/17, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=127.3km s-min=24.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.97**	**178**	P	P	00 22 00.8	-0.8
	0.3nm,0.3s,baz=357,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.66**	**179**	P	P	00 22 41.3	+0.4
	7.1nm,1.1s,baz=356,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**32.75**	**167**	P	P	00 24 02.4	+0.2
	5.5nm,0.9s,baz=340,slow=11,SNR=3.4						
KURK	**Kurchatov**	**68.44**	**326**	P	P	00 28 31.3	0.0
	0.1nm,0.4s,baz=122,slow=6.0,SNR=2.7						

IDC 04 00:18:59.5±2.7, 0.°14S×133.°10E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=182.6km s-min=26.2km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.72**	**177**	P	P	00 23 30.8	-0.1
	0.3nm,0.3s,baz=356,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**23.40**	**178**	P	P	00 24 10.4	+0.1
	2.2nm,0.7s,baz=1.2,slow=11,SNR=2.9						
ZALV	**Zalesovo Beam**	**66.95**	**331**	P	P	00 29 53.8	0.0
	0.8nm,0.6s,baz=108,slow=3.3,SNR=2.5						

IDC 04 00:19:04.2±0.8, 0.°11S×133.°06E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/20, mbtmp4.1/12, ML4.4/1, Error ellipse: s-maj=49.3km s-min=15.2km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.75**	**176**	P	P	00 23 35.5	-0.3
	1.2nm,0.3s,baz=354,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**23.43**	**178**	P	P	00 24 14.9	-0.3
	3.7nm,0.4s,baz=20,slow=12,SNR=14						
STKA	**Stephens Creek**	**32.61**	**166**	P	P	00 25 38.5	+0.8
	4.5nm,1.0s,baz=353,slow=14,SNR=4.5						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	P	00 26 27.5	+1.0
	0.8nm,0.8s,baz=126,slow=7.7,SNR=4.8						
SONM	**Songino Array**	**53.08**	**338**	P	P	00 28 23.8	+0.3
	0.2nm,0.3s,baz=247,slow=5.5,SNR=4.5						
MKAR	**Makanchi Array**	**64.33**	**324**	P	P	00 29 41.7	-0.1
	2.7nm,0.7s,baz=116,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**66.92**	**331**	P	P	00 29 58.3	0.0
	1.5nm,0.6s,baz=118,slow=7.1,SNR=8.1						
KURK	**Kurchatov**	**68.39**	**326**	P	P	00 30 07.2	-0.5
	4.5nm,0.9s,baz=120,slow=5.7,SNR=12						
BVAR	**Borovoye Array**	**73.99**	**326**	P	P	00 30 41.6	-0.1
	4.3nm,0.9s,baz=131,slow=6.5,SNR=7.1						
AKTO	**Aktyubinsk**	**80.59**	**321**	P	P	00 31 18.4	-0.3
	1.1nm,0.9s,baz=338,slow=19,SNR=3.0						
ILAR	**Eielson Array**	**85.86**	**25**	P	P	00 31 46.1	+0.5
	0.9nm,0.8s,baz=257,slow=3.9,SNR=8.1						
QSPA	**South Pole Qui**	**89.82**	**180**	P	P	00 32 04.7	-0.1
	0.6nm,0.5s,baz=96,slow=3.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**130.10**	**287**	PKP	PKPdf	00 38 16.9	-0.4
	0.1nm,0.8s,baz=72,slow=2.5,SNR=2.2						
CPUP	**Villa Florida**	**151.87**	**160**	PKPbc	PKPbc	00 39 01.3	-0.6
	0.5nm,0.5s,baz=189,slow=13,SNR=2.6						

*DJA **04** 00:20:31, 9.°42S×111.°25E, h176km, MLv3.8/9*
IDC 04 00:20:12.8±2.2, 10.°63S×110.°50E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=112.7km s-min=18.8km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.76**	**115**	P	P	00 25 36.3	-0.1
	2.3nm,0.6s,baz=287,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**25.80**	**123**	P	P	00 25 46.8	+1.0
	1.5nm,0.6s,baz=299,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**35.66**	**131**	P	P	00 27 11.6	-1.3
	2.4nm,0.7s,baz=290,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**58.31**	**357**	P	P	00 30 09.5	-0.1
	0.3nm,0.5s,baz=180,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**62.48**	**339**	P	P	00 30 38.1	+0.1
	0.8nm,0.5s,baz=147,slow=6.9,SNR=6.2						
ZALV	**Zalesovo Beam**	**67.92**	**344**	P	P	00 31 12.6	-0.5
	0.7nm,0.4s,baz=138,slow=6.9,SNR=4.7						
AKTO	**Aktyubinsk**	**76.00**	**328**	P	P	00 32 02.2	+0.5
	0.7nm,0.5s,baz=117,slow=4.5,SNR=5.4						

*DJA **04** 00:22:34, 1.°44S×133.°82E, h155km, mb4.6/3*
IDC 04 00:22:25.6±0.9, 0.°60S×133.°72E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.1/16, mbtmp4.0/9, ML4.2/1, Error ellipse: s-maj=41.8km s-min=17.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**178**	P	P	00 26 51.1	-0.5
	0.7nm,0.3s,baz=2.2,slow=13,SNR=6.9						
ASAR	**Alice Springs**	**22.93**	**180**	P	P	00 27 31.9	+0.3
	12nm,0.8s,baz=4.6,slow=12,SNR=15						
STKA	**Stephens Creek**	**31.99**	**167**	P	P	00 28 53.8	+0.1
	2.1nm,0.6s,baz=335,slow=7.1,SNR=4.4						
MJAR	**Matsushiro Arr**	**37.19**	**6**	P	P	00 29 38.6	0.0
	1.6nm,0.9s,baz=184,slow=9.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**39.07**	**301**	P	P	00 29 54.8	0.0
	0.3nm,0.3s,baz=109,slow=7.1,SNR=3.5						
SONM	**Songino Array**	**53.78**	**337**	P	P	00 31 50.6	+0.5
	0.9nm,0.9s,baz=160,slow=8.2,SNR=6.2						
MKAR	**Makanchi Array**	**65.11**	**324**	P	P	00 33 08.2	-0.2
	1.0nm,0.5s,baz=112,slow=8.5,SNR=13						
ZALV	**Zalesovo Beam**	**67.65**	**331**	P	P	00 33 24.0	-0.4
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.9						
ILAR	**Eielson Array**	**86.01**	**25**	P	P	00 35 07.7	-0.2
	1.2nm,0.8s,baz=261,slow=4.4,SNR=9.6						

IDC 04 00:23:30.8±1.7, 0.°22S×133.°22E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/16, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=113.6km s-min=20.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**177**	P	P	00 28 01.2	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**23.32**	**178**	P	P	00 28 41.3	+0.6
	11nm,0.8s,baz=0.9,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**32.47**	**167**	P	P	00 30 02.8	-0.3
	1.4nm,0.3s,baz=348,slow=9.2,SNR=7.3						
SONM	**Songino Array**	**53.24**	**338**	P	P	00 32 52.2	+0.9
	0.9nm,0.8s,baz=134,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**64.51**	**324**	P	P	00 34 08.4	-1.1
	1.4nm,0.7s,baz=113,slow=8.2,SNR=5.3						

*IDC **04** 00:25:03.5±0.8, 0.°42S×133.°44E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/17, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=43.7km s-min=12.7km az=77.0*
*ISCJB **04** 00:25:07.1±0.6, 0.°34S±0.°06×133.°4E±0.°1, h33km, mb4.6/18, Error ellipse: s-maj=20.0km s-min=6.1km az=159.4*
*NEIC **04** 00:25:09.5±0.4, 0.°36S×133.°31E, h35km, mb4.6/6, Error ellipse: s-maj=15.9km s-min=6.9km az=69.0*
*DJA **04** 00:25:29, 0.°66S×132.°25E, h27km, MLv4.8/10*
ISC 04 00:25:08.5±0.6, 0.°41S±0.°08×133.°3E±0.°1, h28km, n78, σ1s21/64, mb4.7/18, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.72**	**204**	P	Pb	00 26 06.7	+10
MSAI	**Masohi**	**5.29**	**236**	P	Pb	00 26 35.9	-4.3
	155nm,1.6s,0.5nm						
LBMI	**Labuha**	**5.84**	**268**	P	Pb	00 26 43.6	-6.1
	197nm,1.2s,0.7nm						
AAI	**Ambon**	**6.08**	**238**	P	Pb	00 26 46.9	-6.9
	302nm,0.9s,1.0nm						
GTOI	**Gorontalo**	**10.38**	**276**	P	Pn	00 27 48.3	+13
	137nm,0.9s						
LUWI	**Luwuk**	**10.59**	**267**	P	Pn	00 27 47.6	+9.2
	143nm,0.8s						
MRSI	**Marisa**	**11.44**	**274**	P	Pn	00 28 07.5	+17
TTSI	**Tana Toraja**	**13.77**	**259**	P	P	00 28 41.4	+11
SPSI	**Sidrap Palu**	**14.01**	**255**	P	P	00 28 46.6	+14
BKSI	**Bulukumba**	**14.07**	**249**	P	P	00 28 37.9	+4.4
	120nm,1.1s						
KAPI	**Kappang**	**14.32**	**251**	P	P	00 28 40.3	+4.0
	97nm,0.8s						
PMG	**Port Moresby**	**16.40**	**123**	Pn	**Pn**	**00 28 57.5**	**+0.7**
	0.2nm,0.3s,baz=273,slow=18,SNR=1.9						
PMG	**Port Moresby**	**16.40**	**123**	Pn	**Pn**	**00 28 57.6**	**+0.7**
	19nm,1.0s						
KHKI	**Kahang-Kahang**	**19.35**	**245**	P	Pn	00 29 41.3	+8.1
	77nm,0.9s						
WRAB	**Tennant Creek**	**19.43**	**177**	*e*P	**Pn**	**00 29 34.0**	**-0.1**
	27nm,1.1s						
WB2	**Warramunga Arr**	**19.43**	**177**	*e*P	**Pn**	**00 29 34.4**	**+0.2**
WRA	**Warramunga Arr**	**19.43**	**177**	P	**P**	**00 29 32.3**	**-0.6**
	0.9nm,0.3s,baz=354,slow=11,SNR=10						
WRA				S	**S**	**00 33 06.8**	**-4.4**
	0.1nm,0.3s,baz=8.1,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	**19.43**	**177**	P	**P**	**00 29 32.3**	**-0.6**
WRA				S	**S**	**00 33 06.8**	**-4.4**
SBUM	**Sibu**	**21.31**	**278**	P	**P**	**00 29 56.3**	**+3.0**
KSM	**Kuching**	**23.11**	**275**	P	P	00 30 20.5	+8.0
	38nm,1.4s						
AS31	**Alice Springs**	**23.12**	**179**	*e*P	**P**	**00 30 13.5**	**+1.0**
ASAR	**Alice Springs**	**23.12**	**179**	P	**P**	**00 30 12.4**	**-0.1**
	57nm,1.1s,baz=3.2,slow=8.6,SNR=23						
ASAR				S	**S**	**00 34 23.9**	**+1.6**
	1.3nm,0.9s,baz=2.4,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**23.12**	**179**	P	**P**	**00 30 12.4**	**-0.1**
ASAR				S	**S**	**00 34 23.9**	**+1.6**
CTAO	**Charters Tower**	**23.28**	**148**	*e*P	**P**	**00 30 16.2**	**+2.0**
	36nm,1.1s						
MBWA	**Marble Bar**	**24.53**	**212**	P	P	00 30 25.6	-0.3
	145nm,1.6s						
BJII	**Banjamegara**	**24.55**	**253**	P	P	00 30 35.6	+9.4
	111nm,2.5s						
CISI	**Cisompet, Garu**	**26.42**	**254**	P	P	00 30 52.4	+9.2
QLP	**Quilpie**	**28.05**	**159**	*e*P	**P**	**00 30 59.0**	**+1.4**
STKA	**Stephens Creek**	**32.25**	**167**	P	**P**	**00 31 32.5**	**-2.2**
	3.5nm,0.5s,baz=353,slow=7.6,SNR=9.0						
STKA	**Stephens Creek**	**32.25**	**167**	*e*P	**P**	**00 31 35.4**	**+0.7**
	4.1nm,0.6s						
STKA	**Stephens Creek**	**32.25**	**167**	*e*P	**P**	**00 31 34.6**	**-0.1**
	1.2nm,0.7s						
BBOO	**Buckleboo**	**32.33**	**176**	*e*P	**P**	**00 31 35.9**	**+0.5**
	100nm,1.5s						
ARPS	**Mount Arapiles**	**37.02**	**169**	*e*P	**P**	**00 32 16.9**	**+1.0**
	81nm,1.2s						
CMAR	**Chiang Mai Arr**	**38.65**	**301**	P	**P**	**00 32 29.4**	**-0.6**
	3.9nm,1.1s,baz=123,slow=7.2,SNR=14						
CMAR	**Chiang Mai Arr**	**38.65**	**301**	P	**P**	**00 32 29.4**	**-0.6**
KMI	**Kunming**	**38.99**	**313**	P	P	00 32 38.5	+5.5
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
BJI	**Beijing**			P	P	00 33 14.7	+7.6
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
GTA	**Gaotai**	**50.11**	**326**	*e*P	P	00 34 09.7	+8.2
GTA				pP	pP	00 34 13.9	+3.9
GTA				sP	sP	00 34 16.8	+3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
LSA	**Lhasa**	**50.13**	**310**	P	**P**	**00 34 03.2**	**+1.1**
TAPN	**Taplejung**	**51.78**	**306**	*e*P	**P**	**00 34 13.8**	**-0.6**
TAPN	**Taplejung**	**51.78**	**306**	*e*P	**P**	**00 34 13.8**	**-0.6**
ODAN	**Odare**	**51.84**	**305**	*e*P	**P**	**00 34 14.8**	**0.0**
ODAN	**Odare**	**51.84**	**305**	*e*P	**P**	**00 34 14.8**	**0.0**
RAMN	**Ramite**	**52.52**	**305**	*e*P	**P**	**00 34 19.5**	**-0.4**
	comp=Z,56nm,1.2s						
RAMN	**Ramite**	**52.52**	**305**	*e*P	**P**	**00 34 19.5**	**-0.4**
JIRN	**Jiri**	**53.14**	**306**	*e*P	**P**	**00 34 24.8**	**+0.2**
	comp=Z,31nm,1.2s						
JIRN	**Jiri**	**53.14**	**306**	*e*P	**P**	**00 34 24.8**	**+0.2**
SONM	**Songino Array**	**53.47**	**338**	P	**P**	**00 34 25.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=153,slow=9.7,SNR=3.5						
SONM	**Songino Array**	**53.47**	**338**	P	**P**	**00 34 25.5**	**-0.8**
GUN	**Gumba**	**53.49**	**306**	*e*P	**P**	**00 34 26.5**	**-0.6**
	comp=Z,20nm,0.9s						
GUN	**Gumba**	**53.49**	**306**	*e*P	**P**	**00 34 26.5**	**-0.6**
PKI	**Pulchoki**	**53.74**	**305**	*e*P	**P**	**00 34 29.1**	**+0.2**
PKI	**Pulchoki**	**53.74**	**305**	*e*P	**P**	**00 34 29.1**	**+0.2**
KKN	**Kakani**	**53.93**	**305**	*e*P	**P**	**00 34 29.8**	**-0.4**
KKN	**Kakani**	**53.93**	**305**	*e*P	**P**	**00 34 29.8**	**-0.4**
DMN	**Daman**	**54.00**	**305**	*e*P	**P**	**00 34 29.6**	**-1.2**
DMN	**Daman**	**54.00**	**305**	*e*P	**P**	**00 34 29.6**	**-1.2**
GKN	**Gorkha**	**54.54**	**305**	*e*P	**P**	**00 34 33.9**	**-0.7**
GKN	**Gorkha**	**54.54**	**305**	*e*P	**P**	**00 34 33.9**	**-0.7**
KOLN	**Koldanda**	**55.30**	**305**	*e*P	**P**	**00 34 39.8**	**-0.3**
	comp=Z,21nm,0.8s						
KOLN	**Koldanda**	**55.30**	**305**	*e*P	**P**	**00 34 39.8**	**-0.3**
DANN	**Dangsing**	**55.38**	**305**	*e*P	**P**	**00 34 40.0**	**-0.8**
DANN	**Dangsing**	**55.38**	**305**	*e*P	**P**	**00 34 40.0**	**-0.8**
DDI	**Dehra Dun**	**60.74**	**305**	*ex*	**P**	**00 35 19.0**	**+1.0**
MK31	**Makanchi Array**	**64.74**	**324**	*e*P	**P**	**00 35 44.9**	**+0.5**
MKAR	**Makanchi Array**	**64.74**	**324**	P	**P**	**00 35 44.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=108,slow=8.3,SNR=8.5						

MKAR	**Makanchi Array**	**64.74**	**324**	P		**P**	**00 35 44.9**	**+0.5**
ZALV	**Zalesovo Beam**	**67.31**	**331**	P		**P**	**00 35 59.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=119,slow=6.6,SNR=5.6							
ZALV	**Zalesovo Beam**	**67.31**	**331**	P		**P**	**00 35 59.9**	**-0.8**
KURK	**Kurchatov**	**68.80**	**326**	*e*P		**P**	**00 36 09.9**	**-0.2**
	comp=Z,11nm,1.1s							
ILAR	**Eielson Array**	**86.01**	**25**	P		**P**	**00 37 44.5**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=260,slow=4.6,SNR=9.9							
ILAR	**Eielson Array**	**86.01**	**25**	P		**P**	**00 37 44.5**	**-1.6**
QSPA	**South Pole Qui**	**89.52**	**180**	P		**P**	**00 38 03.7**	**+0.6**
	comp=Z,3.9nm,1.1s,baz=306,slow=2.3,SNR=3.3							
QSPA	**South Pole Qui**	**89.52**	**180**	P		**P**	**00 38 03.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**130.46**	**287**	PKP		**PKPdf**	**00 44 17.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=126,slow=0.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**130.46**	**287**	PKP		**PKPdf**	**00 44 17.7**	**+0.1**
CPUP	**Villa Florida**	**151.49**	**160**	PKPbc		**PKPbc**	**00 45 01.5**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=349,slow=2.5,SNR=5.6							
CPUP	**Villa Florida**	**151.49**	**160**	PKPbc		**PKPbc**	**00 45 01.5**	**+0.8**

*ISCJB **04** 00:28:08.8±0.7, 67.80N±0.04×20.3E±0.1, h0km, Error ellipse: s-maj=6.2km s-min=4.9km az=28.5*
*UPP **04** 00:28:09.5, 67.83N×20.20E, h1km, ML0.7, Mining explosion.*
*CSEM **04** 00:28:09.2±0.2, 67.82N×20.21E, h0km±2km, ML0.7, Error ellipse: s-maj=5.3km s-min=3.7km az=135.0, Mining explosion.*
*HEL **04** 00:28:10.0±0.0, 67.83N×20.19E, h0km, ML1.3, ML0.7(UPP), Explosion*

ISC 04 00:28:09.4±0.9, 67.82N±0.03×20.24E±0.03, h0km, n26, σ0s72/39, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**15**	*i* P		**Pg**	**00 28 12.2**	**+0.1**
KUA				*i* S		**Sg**	**00 28 14.2**	**+0.2**
KUA	**Kurravaara**	**0.14**	**15**	P		**Pg**	**00 28 12.2**	**+0.1**
KUA				S		**Sg**	**00 28 14.2**	**+0.2**
KUA	**Kurravaara**	**0.14**	**15**	P		Pg	00 28 16.4	+4.3
	baz=34							
NIKU	**Nikkaluokta**	**0.46**	**277**	*i* P		**Pg**	**00 28 17.9**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**277**	P		**Pg**	**00 28 17.8**	**-0.3**
LANU	**Lannavaara**	**0.70**	**70**	*e*P		**Pg**	**00 28 22.7**	**0.0**
	baz=258							
LANU				*e*S		**Sg**	**00 28 32.3**	**+0.4**
LANU	**Lannavaara**	**0.70**	**70**	P		**Pg**	**00 28 22.8**	**0.0**
LANU				S		**Sg**	**00 28 32.3**	**+0.4**
LANU	**Lannavaara**	**0.70**	**70**	P		**Pn**	**00 28 27.4**	**+0.8**
DUNU	**Dundret**	**0.71**	**169**	*i* P		**Pg**	**00 28 23.0**	**+0.1**
DUNU	**Dundret**	**0.71**	**169**	P		**Pg**	**00 28 23.0**	**+0.1**
SALU	**Saltoluokta**	**0.79**	**237**	*i* P		**Pg**	**00 28 24.3**	**-0.2**
SALU	**Saltoluokta**	**0.79**	**237**	P		**Pg**	**00 28 24.3**	**-0.2**
SALU	**Saltoluokta**	**0.79**	**237**	P		**Pn**	**00 28 29.1**	**+1.3**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB		**Pg**	**00 28 32.6**	**0.0**
KIF				MSG		**Sg**	**00 28 48.5**	**+0.2**
	comp=Z,2.3nm,0.2s							
KIF				*e*SB		**Sg**	**00 28 48.5**	**+0.2**
KIF				*e*RG		Rg	00 28 57.5	
KIF	**Kilpisjarvi**	**1.21**	**10**	Pb		**Pg**	**00 28 32.6**	**0.0**
KIF				Sb		**Sg**	**00 28 48.5**	**+0.2**
HEF	**Hetta**	**1.42**	**64**	*e*PG		**Pn**	**00 28 35.6**	**-0.8**
	baz=239							
HEF				MSG		**Sn**	**00 28 56.1**	**+0.5**
	comp=Z,1.7nm,0.4s							
HEF				*e*SN		**Sn**	**00 28 56.1**	**+0.5**
HEF				*e*RG		Rg	00 28 59.4	
HEF	**Hetta**	**1.42**	**64**	Pg		**Pn**	**00 28 35.5**	**-0.8**
HEF				Sn		**Sn**	**00 28 56.1**	**+0.5**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*P		**Pn**	**00 28 37.0**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**	**00 28 36.9**	**-0.2**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB		**Pb**	**00 28 54.5**	**-1.5**
RNF				MSG		**Sb**	**00 29 29.1**	**+1.2**
	comp=Z,0.7nm,0.1s							
RNF				*e*SG		**Sb**	**00 29 29.1**	**+1.2**
RNF	**Rovaniemi**	**2.56**	**116**	Pb		**Pb**	**00 28 54.5**	**-1.5**
RNF				Sg		**Sb**	**00 29 29.1**	**+1.2**
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P		**Pn**	**00 28 53.6**	**+1.2**
	baz=225							
ARA0				*e*SG		**Sb**	**00 29 29.0**	**+0.1**
ARA0				MSG			00 29 29.0	
	comp=Z,2.2nm,0.3s							
ARA0	**ARCESS Array S**	**2.59**	**46**	P		**Pn**	**00 28 53.6**	**+1.2**
ARA0	**ARCESS Array S**	**2.59**	**46**	Sg		**Sb**	**00 29 29.0**	**+0.1**
	comp=Z,2.2nm,0.3s							
KEV	**Kevo**	**3.14**	**49**	*e*SB		**Sb**	**00 29 43.8**	**-0.9**
KEV				MSG			00 29 43.8	
	comp=Z,0.7nm,0.2s							
KEV	**Kevo**	**3.14**	**49**	Sb		**Sb**	**00 29 43.8**	**-0.9**
	comp=Z,0.7nm,0.2s							

IDC 04 00:28:47.0±1.8, 0.54S×133.29E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=116.7km s-min=20.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.31**	**177**	P		P	00 33 14.0	+0.1
	0.5nm,0.3s,baz=356,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**23.00**	**179**	P		P	00 33 54.0	+0.3
	3.7nm,0.3s,baz=358,slow=11,SNR=12							
STKA	**Stephens Creek**	**32.15**	**167**	P		P	00 35 16.1	-0.3
	3.2nm,0.7s,baz=345,slow=5.9,SNR=6.8							
MKAR	**Makanchi Array**	**64.81**	**324**	P		P	00 39 27.1	-0.6
	0.2nm,0.3s,baz=110,slow=7.8,SNR=5.1							
ZALV	**Zalesovo Beam**	**67.39**	**331**	P		P	00 39 44.6	+0.5
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.6							

IDC 04 00:34:07.5±4.1, 0.41S×132.57E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=249.0km s-min=26.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.49**	**175**	P		P	00 38 36.7	+0.3
	0.1nm,0.3s,baz=354,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**23.16**	**177**	P		P	00 39 15.7	-0.1
	0.9nm,0.6s,baz=358,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**64.28**	**324**	P		P	00 44 44.8	-0.1
	0.6nm,0.8s,baz=121,slow=7.0,SNR=4.7							

IDC 04 00:37:24.8±7.1, 0.48S×133.04E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=436.2km s-min=26.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.38**	**176**	P		P	00 41 51.9	-0.6
	0.1nm,0.3s,baz=357,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**23.06**	**178**	P		P	00 42 32.6	+0.5
	0.7nm,0.4s,baz=359,slow=12,SNR=9.6							
MKAR	**Makanchi Array**	**64.62**	**324**	P		P	00 48 04.2	-0.1
	0.4nm,0.7s,baz=116,slow=8.4,SNR=3.7							

*BJI **04** 00:40:21.7, 0.96S×134.04E, h20km, mb4.7/12*
*IDC **04** 00:40:24.0±0.7, 0.61S×133.80E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/17, mbtmp4.3/10, ML4.4/1, Error ellipse: s-maj=39.3km s-min=15.6km az=76.0*
*ISCJB **04** 00:40:26.7±0.3, 0.61S±0.04×133.71E±0.06, h28km, mb4.5/24, MS5.5/1, Error ellipse: s-maj=8.4km s-min=5.1km az=177.7*
*DJA **04** 00:40:27, 0.72S×133.59E, h10km, mb5.3/12*
*MOS **04** 00:40:27.6±1.0, 0.67S×133.55E, h33km, mb4.9/11, Error ellipse: s-maj=18.7km s-min=8.5km az=114.6*
*NEIC **04** 00:40:29.8±0.3, 0.66S×133.66E, h35km, mb4.6/9, Error ellipse: s-maj=11.2km s-min=6.0km az=71.0*

ISC 04 00:40:28.3±0.4, 0.67S±0.05×133.72E±0.07, h28km, n110, σ1s18/115, mb4.6/24, 1C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAKI	**Biak**	**2.44**	**102**	P		**Pb**	**00 41 11.2**	**-0.4**
FAKI	**Fak Fak**	**2.67**	**213**	P		**Pn**	**00 41 10.3**	**+0.7**
TLE	**Tual**	**5.03**	**191**	P		**Pn**	**00 41 44.4**	**+2.4**
MSAI	**Masohi**	**5.47**	**241**	P		**Pn**	**00 41 50.3**	**+2.2**
	93nm,0.6s,0.4nm							

LBMI	**Labuha**	**6.22**	**270**	P		**Pn**	**00 41 58.9**	**+0.6**
	175nm,0.7s,0.6nm							
AAI	**Ambon**	**6.28**	**241**	P		**Pn**	**00 41 59.7**	**+0.5**
	505nm,0.6s,2.0nm							
NLAI	**Namlea**	**7.09**	**249**	P		**Pn**	**00 42 10.8**	**+0.5**
	363nm,0.5s,1.4nm							
GTOI	**Gorontalo**	**10.79**	**277**	P		Pn	00 43 07.7	+6.7
	144nm,0.7s							
MRSI	**Marisa**	**11.83**	**275**	P		Pn	00 43 21.5	+6.1
	64nm,0.8s							
SPSI	**Sidrap Palu**	**14.31**	**257**	P		**P**	**00 43 56.0**	**-0.1**
BKSI	**Bulukumba**	**14.34**	**251**	P		P	00 43 52.9	-3.5
	99nm,0.9s							
KAPI	**Kappang**	**14.60**	**253**	*e*Pn		**Pn**	**00 43 54.6**	**+1.4**
	26nm,0.8s							
KAPI	**Kappang**	**14.60**	**253**	P		**P**	**00 43 59.4**	**+0.1**
PMG	**Port Moresby**	**15.95**	**123**	Pn		**P**	**00 44 14.3**	**0.0**
	0.5nm,0.3s,baz=286,slow=19,SNR=2.1							
PMG	**Port Moresby**	**15.95**	**123**	P		**P**	**00 44 14.3**	**0.0**
PMG	**Port Moresby**	**15.95**	**123**	Pn		**P**	**00 44 14.3**	**0.0**
WRAB	**Tennant Creek**	**19.16**	**178**	*e*P		**P**	**00 44 49.9**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,20nm,0.6s							
WRAB	**Tennant Creek**	**19.16**	**178**	*e*P		**P**	**00 44 49.9**	**+0.2**
	comp=Z,20nm,0.6s							
WB2	**Warramunga Arr**	**19.16**	**178**	*e*P		**P**	**00 44 49.8**	**+0.1**
WRA	**Warramunga Arr**	**19.16**	**178**	P		**P**	**00 44 50.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=356,slow=11,SNR=26							
WRA				S		**Sn**	**00 48 20.6**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=358,slow=23,SNR=4.9							
WRA	**Warramunga Arr**	**19.16**	**178**	P		**P**	**00 44 50.1**	**+0.3**
WRA				S		**Sn**	**00 48 20.6**	**-4.3**
WRA	**Warramunga Arr**	**19.16**	**178**	P		**P**	**00 44 50.0**	**+0.3**
WRA				S		**Sn**	**00 48 20.6**	**-4.3**
AS31	**Alice Springs**	**22.86**	**180**	*e*P		**P**	**00 45 29.6**	**-0.1**
ASAR	**Alice Springs**	**22.86**	**180**	P		**P**	**00 45 30.0**	**+0.3**
	comp=Z,7.5nm,0.6s,baz=358,slow=11,SNR=28							
ASAR	**Alice Springs**	**22.86**	**180**	P		**P**	**00 45 30.0**	**+0.3**
ASAR	**Alice Springs**	**22.86**	**180**	P		**P**	**00 45 30.0**	**+0.3**
MBWA	**Marble Bar**	**24.52**	**213**	*e*P		**P**	**00 45 47.0**	**+1.4**
	comp=Z,13nm,0.7s							
STKA	**Stephens Creek**	**31.92**	**167**	P		**P**	**00 46 51.5**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=159,slow=21,SNR=8.1							
STKA	**Stephens Creek**	**31.92**	**167**	*e*P		**P**	**00 46 52.4**	**+0.8**
STKA	**Stephens Creek**	**31.92**	**167**	*e*P		**P**	**00 46 52.4**	**+0.8**
	comp=Z,0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P		**P**	**00 47 52.8**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=128,slow=7.4,SNR=5.6							
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P		**P**	**00 47 52.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P		**P**	**00 47 52.8**	**-0.8**
BJI	**Beijing**	**43.57**	**340**	P		**P**	**00 48 30.0**	**+0.1**
BJI				pmax		pmax		
	comp=Z,63nm,0.7s							
USRK	**Ussuriysk Arra**	**44.70**	**358**	P		**P**	**00 48 36.5**	**-2.3**
	comp=Z,7.0nm,0.8s,baz=192,slow=7.7,SNR=9.8							
HABR	**Khabarovsk**	**48.96**	**1**	*e*P		**P**	**00 49 10.4**	**-1.7**
HABR				*e**PP		**pP**	**00 49 20.3**	**-0.4**
HABR				*e**SP		**sP**	**00 49 24.5**	**+0.5**
HABR				*e*			00 50 35.1	
HABR				*e*			00 51 03.5	
HABR				PPP		PP	00 51 53.5	+48
HABR				*e*S		**S**	**00 56 10.5**	**-4.0**
HABR				*e**SS		**sS**	**00 56 27.9**	**-0.6**
HABR				*e*			00 58 59.9	
HABR				*e*SS		SS	00 59 42.7	-3.0
HABR				*e*SSS		**SKiKP**	**01 00 57.0**	**+1.7**
HABR				pmax		pmax		
	comp=Z,90nm,3.2s							
HABR				pmax		pmax		
	comp=E,65nm,2.4s							
HABR				pmax		pmax		
	comp=N,54nm,1.9s							
HABR				MLR		MLR		
	comp=Z,4μm,16.0s							
KLR	**Kul'dur**	**49.73**	**358**	*e*P		**P**	**00 49 16.7**	**-1.4**
LSA	**Lhasa**	**50.58**	**310**	P		**P**	**00 49 25.2**	**-0.2**
LSA	**Lhasa**	**50.58**	**310**	*e*P		**P**	**00 49 25.7**	**+0.3**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**50.58**	**310**	*e*P		**P**	**00 49 25.6**	**+0.3**
	comp=Z,8.3nm,0.6s							
TAPN	**Taplejung**	**52.23**	**306**	*e*P		**P**	**00 49 37.0**	**-0.7**
TAPN	**Taplejung**	**52.23**	**306**	*e*P		**P**	**00 49 37.0**	**-0.7**
ODAN	**Odare**	**52.29**	**305**	*e*P		**P**	**00 49 37.7**	**-0.3**
	comp=Z,39nm,0.7s							
ODAN	**Odare**	**52.29**	**305**	*e*P		**P**	**00 49 37.7**	**-0.3**
RAMN	**Ramite**	**52.98**	**305**	*e*P		**P**	**00 49 42.7**	**-0.4**
	comp=Z,69nm,0.8s							
RAMN	**Ramite**	**52.98**	**305**	*e*P		**P**	**00 49 42.7**	**-0.4**
JIRN	**Jiri**	**53.59**	**306**	*e*P		**P**	**00 49 47.1**	**-0.7**
	comp=Z,27nm,0.7s							
JIRN	**Jiri**	**53.59**	**306**	*e*P		**P**	**00 49 47.1**	**-0.7**
ULN	**Ulaanbaatar**	**53.62**	**338**	P		**P**	**00 49 48.2**	**+0.8**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ULN	**Ulaanbaatar**	**53.62**	**338**	P		**P**	**00 49 48.2**	**+0.8**
	comp=Z,3.2nm,0.6s							
SONM	**Songino Array**	**53.85**	**337**	P		**P**	**00 49 50.1**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=154,slow=8.8,SNR=32							
SONM	**Songino Array**	**53.85**	**337**	P		**P**	**00 49 50.1**	**+1.1**
SONM	**Songino Array**	**53.85**	**337**	P		**P**	**00 49 50.1**	**+1.1**
GUN	**Gumba**	**53.95**	**306**	*e*P		**P**	**00 49 49.7**	**-0.6**
	comp=Z,36nm,0.7s							
GUN	**Gumba**	**53.95**	**306**	*e*P		**P**	**00 49 49.7**	**-0.6**
PKI	**Pulchoki**	**54.20**	**305**	*e*P		**P**	**00 49 51.4**	**-0.7**
	comp=Z,13nm,0.7s							
PKI	**Pulchoki**	**54.20**	**305**	*e*P		**P**	**00 49 51.4**	**-0.7**
PKI	**Pulchoki**	**54.20**	**305**	*e*P		**P**	**00 49 51.4**	**-0.7**
KKN	**Kakani**	**54.38**	**305**	*e*P		**P**	**00 49 52.5**	**-0.9**
KKN	**Kakani**	**54.38**	**305**	*e*P		**P**	**00 49 52.5**	**-0.9**
KKN	**Kakani**	**54.38**	**305**	*e*P		**P**	**00 49 52.5**	**-0.9**
DMN	**Daman**	**54.46**	**305**	*e*P		**P**	**00 49 53.3**	**-0.6**
	comp=Z,27nm,0.7s							
DMN	**Daman**	**54.46**	**305**	*e*P		**P**	**00 49 53.3**	**-0.6**
GKN	**Gorkha**	**54.99**	**305**	*e*P		**P**	**00 49 56.9**	**-0.8**
	comp=Z,29nm,0.8s							
GKN	**Gorkha**	**54.99**	**305**	*e*P		**P**	**00 49 56.9**	**-0.8**
KOLN	**Koldanda**	**55.75**	**305**	*e*P		**P**	**00 50 02.9**	**-0.4**
	comp=Z,31nm,0.7s							
KOLN	**Koldanda**	**55.75**	**305**	*e*P		**P**	**00 50 02.9**	**-0.4**
DANN	**Dangsing**	**55.84**	**305**	*e*P		**P**	**00 50 03.4**	**-0.6**
DANN	**Dangsing**	**55.84**	**305**	*e*P		**P**	**00 50 03.4**	**-0.6**
ZAK	**Zakamensk**	**57.11**	**337**	*e*P		**P**	**00 50 12.7**	**+0.3**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
MOY	**Mondy**	**59.01**	**337**	*e*P		**P**	**00 50 27.4**	**+1.7**
BOD	**Bodaibo**	**60.40**	**348**	*e*P		**P**	**00 50 34.4**	**-0.5**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.2s							
SEY	**Seymchan**	**64.97**	**9**	*e*P		**P**	**00 51 07.6**	**+2.3**
MK31	**Makanchi Array**	**65.17**	**324**	*e*P		**P**	**00 51 07.2**	**+0.2**
MK31	**Makanchi Array**	**65.17**	**324**	*e*P		**P**	**00 51 07.2**	**+0.2**
MKAR	**Makanchi Array**	**65.17**	**324**	P		**P**	**00 51 07.5**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=110,slow=8.6,SNR=118							
MKAR	**Makanchi Array**	**65.17**	**324**	P		**P**	**00 51 07.5**	**+0.5**
MKAR	**Makanchi Array**	**65.17**	**324**	P		**P**	**00 51 07.5**	**+0.5**
KSH	**Kashi**	**66.08**	**314**	P		**P**	**00 51 15.1**	**+1.9**
ZALV	**Zalesovo Beam**	**67.72**	**331**	P		**P**	**00 51 22.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=125,slow=6.5,SNR=13							
ZALV	**Zalesovo Beam**	**67.72**	**331**	P		**P**	**00 51 22.8**	**-0.3**
ZALV	**Zalesovo Beam**	**67.72**	**331**	P		**P**	**00 51 22.8**	**-0.3**
NVS	**Novosibirsk**	**68.99**	**331**	*e*P		P	00 51 22.7	-8.3
NVS				pmax		pmax		
	comp=Z,7.0nm,1.5s							
NVS				pmax		pmax		
	comp=N,2.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.5s							
KURK	**Kurchatov**	**69.22**	**326**	*e*P		**P**	**00 51 33.1**	**+0.5**
KURK				pmax		pmax		
	comp=Z,32nm,2.5s							
KURK	**Kurchatov**	**69.22**	**326**	*e*P		**P**	**00 51 32.9**	**+0.3**
	comp=Z,8.8nm,0.8s							
KBL	**Kabul**	**69.72**	**307**	*e*P		**P**	**00 51 36.1**	**-0.2**
KBL				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KBL	**Kabul**	**69.72**	**307**	*e*P		**P**	**00 51 36.1**	**-0.2**
	comp=Z,8.2nm,0.7s							
KIP	**Kipapa**	**70.08**	**67**	*ce*P		**P**	**00 51 40.4**	**+2.0**
KIP				pmax		pmax		
	comp=Z,82nm,1.7s							
KKAR	**Karatay Array**	**71.20**	**316**	*e*P		**P**	**00 51 45.0**	**+0.1**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**71.20**	**316**	*e*P		**P**	**00 51 45.0**	**+0.1**
	comp=Z,2.4nm,0.6s							
BRVK	**Borovoye**	**74.89**	**326**	*de*P		**P**	**00 52 06.7**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,12nm,1.7s							
BRVK	**Borovoye**	**74.89**	**326**	*e*P		**P**	**00 52 06.5**	**0.0**
	comp=Z,4.3nm,0.7s							
ABKAR	**Akbulak array**	**79.96**	**320**	*e*P		**P**	**00 52 34.9**	**-0.1**
	comp=Z,4.2nm,0.6s							
ARU	**Arti**	**82.38**	**327**	*d i*P		**P**	**00 52 48.1**	**+0.5**
ARU				S		**S**	**01 02 59.2**	**-2.7**
ARU				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ILAR	**Eielson Array**	**86.08**	**25**	P		**P**	**00 53 06.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=255,slow=4.6,SNR=36							
ILAR	**Eielson Array**	**86.08**	**25**	P		**P**	**00 53 06.5**	**+0.2**
ILAR	**Eielson Array**	**86.08**	**25**	P		**P**	**00 53 06.5**	**+0.2**
QSPA	**South Pole Qui**	**89.26**	**180**	*e*P		**P**	**00 53 22.9**	**+1.2**
KIV	**Kislovodsk**	**91.21**	**314**	*e*P		**P**	**00 53 32.2**	**+1.0**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.2s							
INK	**Inuvik**	**91.64**	**22**	P		**P**	**00 53 31.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=307,slow=4.9,SNR=3.7							
INK	**Inuvik**	**91.64**	**22**	P		**P**	**00 53 31.8**	**-0.8**
INK	**Inuvik**	**91.64**	**22**	P		**P**	**00 53 31.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**130.90**	**287**	PKP		**PKPdf**	**00 59 38.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=79,slow=2.0,SNR=5.7							
TORD	**Torodi Ar. Bea**	**130.90**	**287**	PKP		**PKPdf**	**00 59 38.0**	**-0.2**
CPUP	**Villa Florida**	**151.12**	**159**	PKPbc		**PKPbc**	**01 00 19.1**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=158,slow=1.6,SNR=8.4							
CPUP	**Villa Florida**	**151.12**	**159**	PKIKP		**PKPbc**	**01 00 19.1**	**-0.6**
CPUP	**Villa Florida**	**151.12**	**159**	PKPbc		**PKPbc**	**01 00 19.1**	**-0.6**
LPAZ	**La Paz**	**152.63**	**129**	PKPbc		**PKPbc**	**01 00 25.5**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=216,slow=9.4,SNR=4.0							
LPAZ	**La Paz**	**152.63**	**129**	PKIKP		**PKPbc**	**01 00 25.5**	**+1.3**
LPAZ	**La Paz**	**152.63**	**129**	PKPbc		**PKPbc**	**01 00 25.5**	**+1.3**

*DJA **04** 00:44:47, 1.40S×131.81E, h30km, MLv4.3/6*

IDC 04 00:44:25.9±1.0, 0.28S×133.13E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=51.3km s-min=17.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.58**	**177**	P		P	00 48 55.9	+0.2
	0.3nm,0.3s,baz=351,slow=9.7,SNR=3.4							
ASAR	**Alice Springs**	**23.26**	**178**	P		P	00 49 35.4	+0.1
	7.8nm,1.0s,baz=357,slow=12,SNR=6.9							
STKA	**Stephens Creek**	**32.43**	**166**	P		P	00 50 57.7	-0.1
	6.3nm,0.8s,baz=336,slow=8.0,SNR=6.7							
CMAR	**Chiang Mai Arr**	**38.40**	**301**	P		P	00 51 48.8	-0.7
	0.5nm,0.3s,baz=131,slow=7.2,SNR=5.0							
SONM	**Songino Array**	**53.26**	**338**	P		P	00 53 47.0	+0.4
	0.2nm,0.6s,baz=140,slow=7.5,SNR=2.3							
MKAR	**Makanchi Array**	**64.51**	**324**	P		P	00 55 05.3	+0.6
	0.8nm,0.5s,baz=109,slow=9.0,SNR=8.9							
ZALV	**Zalesovo Beam**	**67.09**	**331**	P		P	00 55 20.6	-0.6
	0.7nm,0.6s,baz=130,slow=7.1,SNR=3.9							
ILAR	**Eielson Array**	**85.98**	**25**	P		P	00 57 07.6	-0.3
	0.3nm,0.6s,baz=244,slow=5.2,SNR=2.7							

*IDC **04** 00:44:51.1±1.8, 36.89N×141.85E, h0km, mb4.1/9, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML3.6/3, Error ellipse: s-maj=41.4km s-min=21.8km az=158.0*
*ISCJB **04** 00:44:52.6±0.8, 36.98N±0.06×141.95E±0.06, h19km, mb4.0/9, Error ellipse: s-maj=9.2km s-min=5.8km az=142.8*
*JMA **04** 00:44:55.4±0.2, 36.98N×141.79E, h45km±4km, M3.9*

ISC 04 00:44:54.7±1.0, 36.98N±0.07×141.74E±0.07, h19km, n23, σ0s83/29, mb4.1/9, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.76**	**279**	P	

IDC 04 00:49:31.5±1.2,0.49S×134.00E,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.9/17,mbtmp3.9/7,ML3.3/1,Error ellipse: s-maj=67.1km s-min=22.0km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.33**	**179**	P	P	00 53 57.8	-0.8
	0.1nm,0.3s,baz=355,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.04**	**180**	P	P	00 54 39.1	+0.6
	5.7nm,0.8s,baz=1.4,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**53.79**	**337**	P	P	00 58 56.2	+0.1
	0.8nm,0.8s,baz=151,slow=6.7,SNR=5.4						
MKAR	**Makanchi Array**	**65.19**	**324**	P	P	01 00 15.1	+0.4
	1.9nm,0.8s,baz=117,slow=8.2,SNR=13						
ZALV	**Zalesovo Beam**	**67.70**	**331**	P	P	01 00 29.8	-0.8
	0.5nm,0.6s,baz=119,slow=8.4,SNR=4.3						
KURK	**Kurchatov**	**69.23**	**326**	P	P	01 00 40.2	0.0
	2.5nm,0.8s,baz=122,slow=5.6						
ILAR	**Eielson Array**	**85.80**	**25**	P	P	01 02 12.7	+0.1
	0.4nm,0.6s,baz=261,slow=4.6,SNR=7.7						

IDC 04 00:50:06.5±1.9,0.31S×133.40E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.8/17,mbtmp4.0/5,ML4.2/1,Error ellipse: s-maj=117.3km s-min=20.0km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.53**	**177**	P	Pn	00 54 36.4	-0.5
	0.8nm,0.3s,baz=356,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.22**	**179**	P	P	00 55 15.6	+0.2
	9.4nm,0.6s,baz=356,slow=12,SNR=20						
STKA	**Stephens Creek**	**32.34**	**167**	P	P	00 56 37.0	-0.5
	4.3nm,0.8s,baz=330,slow=9.4,SNR=7.9						
MKAR	**Makanchi Array**	**64.70**	**324**	P	P	01 00 46.2	-0.2
	0.3nm,0.5s,baz=109,slow=8.4,SNR=2.8						
KURK	**Kurchatov**	**68.75**	**326**	P	P	01 01 12.5	+0.3
	0.4nm,0.7s,baz=124,slow=5.8,SNR=2.5						

IDC 04 00:53:08.4±2.4,0.67S×133.19E,h0km,mb3.8/3, mb1 4.2/4,mb1mx3.7/17,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=134.6km s-min=22.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.18**	**177**	P	P	00 57 33.8	-0.1
	0.7nm,0.3s,baz=356,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**22.87**	**178**	P	P	00 58 13.8	+0.1
	5.6nm,0.7s,baz=4.6,slow=11,SNR=14						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	01 03 49.7	+0.2
	0.8nm,0.7s,baz=105,slow=8.5,SNR=7.6						
KURK	**Kurchatov**	**68.93**	**326**	P	P	01 04 15.1	-0.2
	0.7nm,0.7s,baz=109,slow=5.6,SNR=4.1						

IDC 04 00:53:59.4±1.3,0.38S×133.75E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.9/17,mbtmp3.9/7,ML4.0/1,Error ellipse: s-maj=74.5km s-min=21.9km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.45**	**178**	P	P	00 58 27.9	+0.2
	0.4nm,0.3s,baz=357,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**23.15**	**180**	P	P	00 59 07.6	+0.1
	8.5nm,0.9s,baz=5.4,slow=11,SNR=4.5						
SONM	**Songino Array**	**53.59**	**337**	P	P	01 03 23.7	+1.2
	0.3nm,0.5s,baz=126,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	01 04 41.1	+0.1
	1.1nm,0.7s,baz=114,slow=8.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**67.48**	**331**	P	P	01 04 56.3	-0.7
	0.2nm,0.3s,baz=104,slow=4.8,SNR=2.5						
KURK	**Kurchatov**	**69.00**	**326**	P	P	01 05 06.2	-0.4
	0.8nm,0.7s,baz=119,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**85.81**	**25**	P	P	01 06 40.3	-0.2
	0.5nm,0.7s,baz=247,slow=4.6,SNR=4.5						

IDC 04 00:54:17.2±1.2,0.47S×133.64E,h0km,mb3.8/5, mb1 4.2/6,mb1mx3.9/16,mbtmp3.9/6,ML4.2/1,Error ellipse: s-maj=50.5km s-min=22.8km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.36**	**178**	P	P	00 58 44.5	-0.1
	0.7nm,0.3s,baz=359,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**23.06**	**179**	P	P	00 59 24.4	0.0
	9.5nm,0.8s,baz=4.1,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.94**	**301**	P	P	01 01 45.1	-0.1
	0.6nm,0.6s,baz=124,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	01 04 58.9	0.0
	0.5nm,0.5s,baz=112,slow=8.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**67.51**	**331**	P	P	01 05 15.0	0.0
	0.2nm,0.4s,baz=103,slow=5.2,SNR=2.7						
ILAR	**Eielson Array**	**85.94**	**25**	P	P	01 06 59.0	0.0
	0.4nm,0.8s,baz=252,slow=4.4,SNR=2.8						

*BJI **04** 00:55:29.7,0.63S×133.21E,h35km,mB5.6/19,mb4.9/44, Ms5.9/25,Ms7 5.6/25*

*IDC **04** 00:55:30.1±0.5,0.21S×132.88E,h0km,mb4.7/14, mb1 4.8/16,mb1mx4.7/19,mbtmp4.7/16,ML4.2/2,Error ellipse: s-maj=28.4km s-min=10.6km az=80.0*

*ISCJB **04** 00:55:33.3±0.2,0.13S±0.02×133.08E±0.04,h32km, mb5.0/75,MS5.7/11,Error ellipse: s-maj=5.6km s-min=3.5km az=176.4*

*MOS **04** 00:55:34.5±1.0,0.05S×132.79E,h33km,mb5.3/25,Error ellipse: s-maj=16.4km s-min=7.0km az=114.9*

*NEIC **04** 00:55:36.2±1.2,0.19S×132.86E,h39km±11km,mb5.1/28, Error ellipse: s-maj=8.6km s-min=4.6km az=63.0*

*DJA **04** 00:55:44,0.74S×132.69E,h83km,mb5.1/21*

ISC 04 00:55:35.6±0.4,0.20S±0.04×132.96E±0.06,h34km±1km, h35km:pP-P,n239,σ1§62/278,mb5.1/73,MS5.8/12,6C-10D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.80**	**195**	P	**Pn**	**00 56 19.4**	**+1.4**
MSAI	**Masohi**	**5.10**	**232**	P	Pn	00 56 53.0	+3.4
	387nm,0.5s,4μm1.3nm						
TLE	**Tual**	**5.41**	**182**	P	Pn	00 56 57.3	+3.4
	4μm,1.2s,36μm12nm						
LBMI	**Labuha**	**5.47**	**265**	P	**Pn**	**00 56 54.5**	**-0.3**
TNTI	**Ternate**	**5.67**	**280**	P	Pb	00 57 05.7	-8.2
	206nm,1.1s,4μm0.7nm						
AAI	**Ambon**	**5.89**	**234**	P	**Pn**	**00 57 02.3**	**+1.8**
	1μm,0.7s,10μm3.1nm						
SMPI	**Sarmi**	**6.02**	**107**	P	pPn	00 57 12.5	+2.7
NLAI	**Namlea**	**6.59**	**243**	P	Pn	00 57 13.6	+3.5
	204nm,1.1s,0.9nm						
MNI	**Manado**	**8.28**	**281**	P	sPn	00 57 44.9	-0.7
KMSI	**Cibinong**	**9.01**	**275**	P	pPn	00 57 52.9	+2.0
	435nm,1.1s,8μm						
GTOI	**Gorontalo**	**9.98**	**275**	P	**Pn**	**00 57 59.2**	**+2.5**
	224nm,1.0s						
LUWI	**Luwuk**	**10.22**	**265**	P	Pn	00 58 06.0	+6.1
	156nm,1.5s						
MRSI	**Marisa**	**11.04**	**273**	P	pPn	00 58 19.4	+0.7
	89nm,1.2s,2μm						
BBSI	**Bau Bau**	**11.63**	**243**	P	sPn	00 58 33.1	+1.6
TTSI	**Tana Toraja**	**13.43**	**258**	P	P	00 58 48.1	-4.7
	58nm,1.3s						
MMRI	**Maumere**	**13.58**	**232**	P	**P**	**00 58 53.8**	**-0.6**
SPSI	**Sidrap Palu**	**13.70**	**254**	P	P	00 58 51.3	-4.5
	51nm,1.4s,2μm						
BKSI	**Bulukumba**	**13.79**	**248**	P	Pn	00 58 51.8	+3.0
	82nm,0.9s						
KAPI	**Kappang**	**14.03**	**250**	*e*Pn	**Pn**	**00 58 51.0**	**-1.1**
KAPI	**Kappang**	**14.03**	**250**	P	**Pn**	**00 58 54.2**	**+2.1**
	94nm,1.2s						
PMG	**Port Moresby**	**16.84**	**123**	Pn	**Pn**	**00 59 29.1**	**+0.2**
	0.4nm,0.3s,baz=320,slow=7.0,SNR=7.3						
PMG	**Port Moresby**	**16.84**	**123**	*de*P	**P**	**00 59 32.6**	**+1.9**
PMG				pmax	pmax		
	comp=Z,34nm,1.2s						
PMG	**Port Moresby**	**16.84**	**123**	*e*P	**P**	**00 59 30.5**	**-0.2**
COEN	**Coen**	**17.01**	**144**	*e*P	**P**	**00 59 33.5**	**+0.9**
	comp=Z,471nm,1.5s						
KBKI	**Kotabaru**	**17.06**	**259**	P	**P**	**00 59 35.0**	**+1.8**
	comp=Z,81nm,0.8s						
BBKI	**Banjar Baru**	**18.39**	**260**	P	**Pn**	**00 59 50.4**	**+2.3**
	comp=Z,128nm,1.4s						
MTNI	**Mataram**	**18.71**	**243**	P	**Pn**	**00 59 56.1**	**+4.2**
	comp=Z,156nm,1.4s,comp=Z,15μm						
KHKI	**Kahang-Kahang**	**19.10**	**244**	P	**Pn**	**00 59 59.8**	**+3.2**
	comp=Z,152nm,1.1s						
WRAB	**Tennant Creek**	**19.66**	**176**	*e*P	**P**	**01 00 01.8**	**0.0**
WRAB				*e*S	**S**	**01 03 37.1**	**-4.8**
WRAB				pmax	pmax		
	comp=Z,157nm,1.1s						
WRAB	**Tennant Creek**	**19.66**	**176**	*e*P	**P**	**01 00 01.8**	**0.0**
	comp=Z,157nm,1.1s						
WRAB				*e*S	**S**	**01 03 37.1**	**-4.8**
WRAB	**Tennant Creek**	**19.66**	**176**	P	**P**	**01 00 01.2**	**-0.6**
	comp=Z,627nm,0.8s,SNR=12						
WRA	**Warramunga Arr**	**19.67**	**176**	P	**P**	**01 00 01.1**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=352,slow=11,SNR=23						
WRA				S	**S**	**01 03 36.5**	**-5.6**
	comp=Z,1.0nm,0.3s,baz=359,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**19.67**	**176**	P	**P**	**01 00 01.1**	**-0.8**
WRA				S	**S**	**01 03 36.5**	**-5.6**
WRA	**Warramunga Arr**	**19.67**	**176**	P	**P**	**01 00 01.1**	**-0.8**
WRA				*S*	**S**	**01 03 36.5**	**-5.6**
WB2	**Warramunga Arr**	**19.67**	**176**	*e*P	**P**	**01 00 01.7**	**-0.2**
WB2				*e*S	**S**	**01 03 35.6**	**-6.5**
KMMI	**Kalianget**	**20.13**	**250**	P	Pn	01 00 18.6	+10
BYJI	**Banyuwangi**	**20.18**	**246**	P	Pn	01 00 14.4	+5.0
	comp=Z,338nm,1.1s,comp=Z,16μm						
JAGI	**Jajag, Banyuwa**	**20.46**	**246**	P	Pn	01 00 20.4	+7.6
BLJI	**Banyuglugur**	**20.71**	**248**	P	Pn	01 00 20.6	+4.9
	comp=Z,140nm,1.4s						
SBUM	**Sibu**	**20.90**	**277**	P	**P**	**01 00 15.8**	**+0.6**
	comp=Z,40nm,1.3s,comp=Z,2μm						
GMJI	**Gumukmas**	**21.03**	**247**	P		01 00 20.7	
	comp=Z,116nm,1.4s						
PBKI	**Pangkalan Bun**	**21.42**	**263**	P	**P**	**01 00 23.7**	**+2.8**
	comp=Z,296nm,1.1s						
STKI	**Sintang**	**21.48**	**271**	P	**P**	**01 00 23.4**	**+1.9**
	comp=Z,90nm,1.6s						
SJI	**Sawahan**	**22.41**	**250**	P	**P**	**01 00 35.5**	**+3.9**
	comp=Z,91nm,0.9s,comp=Z,9μm						
PWJI	**Pagerwojo**	**22.47**	**249**	P	P	01 00 38.6	+6.5
	comp=Z,81nm,0.9s						
KSM	**Kuching**	**22.71**	**274**	*e*P	**P**	**01 00 34.1**	**-0.5**
	comp=Z,67nm,1.1s						
KSM	**Kuching**	**22.71**	**274**	P	**P**	**01 00 35.3**	**+0.6**
	comp=Z,60nm,1.4s						
AS31	**Alice Springs**	**23.35**	**178**	*e*P	**P**	**01 00 41.1**	**-0.1**
AS31				*e*		01 00 50.5	
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 00 40.4**	**-0.7**
	comp=Z,50nm,0.7s,baz=353,slow=9.2,SNR=58						
ASAR				S	**S**	**01 04 55.2**	**+3.4**
	comp=Z,10nm,1.0s,baz=2.8,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 00 40.4**	**-0.7**
ASAR				S	**S**	**01 04 55.2**	**+3.4**
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 00 40.4**	**-0.7**
ASAR				S	**S**	**01 04 55.2**	**+3.4**
SMRI	**Semarang**	**23.47**	**253**	P	P	01 00 54.1	+12
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	**P**	**01 00 45.1**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,119nm,1.1s						
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	**P**	**01 00 45.0**	**+0.8**
	comp=Z,119nm,1.1s						
BJII	**Banjamegara**	**24.24**	**252**	P	P	01 00 54.3	+4.6
	comp=Z,99nm,1.7s,comp=Z,4μm						
MBWA	**Marble Bar**	**24.52**	**211**	*e*P	**P**	**01 00 51.9**	**-0.1**
MBWA	**Marble Bar**	**24.52**	**211**	*e*P	**P**	**01 00 51.6**	**-0.4**
	comp=Z,248nm,1.6s						
CISI	**Cisompet, Garu**	**26.11**	**253**	P	**P**	**01 01 05.4**	**-1.3**
	comp=Z,142nm,1.0s						
JOW	**Kunigami**	**27.25**	**351**	P	**P**	**01 01 16.3**	**-0.4**
	comp=Z,24nm,0.8s,baz=188,slow=5.9,SNR=5.4						
JOW	**Kunigami**	**27.25**	**351**	P	**P**	**01 01 16.3**	**-0.4**
QLP	**Quilpie**	**28.39**	**158**	*e*P	**P**	**01 01 26.5**	**-0.5**
RGRI	**Rengat**	**30.62**	**270**	P	**P**	**01 01 46.0**	**-0.9**
	comp=Z,348nm,0.3s,comp=Z,133μm						
FORT	**Forrest**	**30.77**	**188**	*e*P	**P**	**01 01 50.6**	**+2.6**
	comp=Z,38nm,0.7s						
FORT	**Forrest**	**30.77**	**188**	*e*P	**P**	**01 01 48.2**	**+0.2**
	comp=Z,117nm,0.8s						
IPM	**Ipoh**	**32.23**	**279**	*e*P	**P**	**01 02 03.0**	**+1.9**
	comp=Z,31nm,1.0s						
IPM	**Ipoh**	**32.23**	**279**	P	P	01 02 07.4	+6.3
	comp=Z,59nm,1.2s						
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**	**01 02 02.8**	**-0.9**
	comp=Z,22nm,0.8s,baz=336,slow=8.3,SNR=23						
STKA	**Stephens Creek**	**32.55**	**166**	*e*P	**P**	**01 02 02.6**	**-1.1**
	comp=Z,32nm,0.9s						
STKA	**Stephens Creek**	**32.55**	**166**	*e*P	**P**	**01 02 02.7**	**-0.9**
STKA				pmax	pmax		
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**32.55**	**166**	*e*P	**P**	**01 02 02.7**	**-0.9**
	comp=Z,11nm,1.0s						
PPI	**Padang Panjang**	**32.56**	**269**	P	**P**	**01 02 02.9**	**-1.1**
	comp=Z,114nm,1.5s						
BBOO	**Buckleboo**	**32.57**	**175**	*e*P	**P**	**01 02 05.4**	**+1.6**
	comp=Z,349nm,0.9s						
JNU	**Nakatsue**	**33.20**	**357**	*e*P	**P**	**01 02 09.4**	**+0.1**
	comp=Z,18nm,1.1s						
PSI	**Prapat**	**34.15**	**275**	P	**P**	**01 02 16.4**	**-1.6**
KLBR	**Kelberrin**	**34.38**	**203**	*e*P	**P**	**01 02 18.6**	**-1.0**
	comp=Z,92nm,1.5s						
NJ2	**Nanjing**	**34.74**	**339**	*e*P	**P**	**01 02 25.2**	**+2.6**
NJ2				pP	**pP**	**01 02 33.0**	**+0.4**
NJ2				sP	**sP**	**01 02 36.9**	**+0.1**
NJ2				PP	PP	01 03 40.2	-1.6
NJ2				S	**S**	**01 07 55.0**	**+4.3**
NJ2				sS	**sS**	**01 08 11.0**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,1μm,6.0s						
NJ2				LR	LR		
	comp=N,12μm,22.7s						
NJ2				LR	LR		
	comp=E,10μm,20.5s						
NJ2				LR	LR		
	comp=Z,13μm,24.0s						
NJ2	**Nanjing**	**34.74**	**339**	*e*P	**P**	**01 02 24.9**	**+2.3**
NJ2				pP	**pP**	**01 02 33.0**	**+0.4**
NJ2				sP	**sP**	**01 02 36.9**	**+0.1**
NJ2				PP	PP	01 03 40.2	-1.6
NJ2				S	**S**	**01 07 55.0**	**+4.3**
NJ2				sS	**sS**	**01 08 11.0**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,1μm,6.0s						
NJ2				LR	LR		
	comp=N,12μm,22.7s						
NJ2				LR	LR		
	comp=E,10μm,20.5s						
NJ2				LR	LR		
	comp=Z,13μm,24.0s						
ARMA	**Armidale**	**34.91**	**151**	*e*P	**P**	**01 02 24.7**	**+0.4**
ARMA	**Armidale**	**34.91**	**151**	*e*P	**P**	**01 02 25.5**	**+1.2**
	comp=Z,26nm,0.9s						
WHN	**Wuhan**	**35.32**	**332**	P	**P**	**01 02 28.8**	**+1.1**
GYA	**Guiyang**	**36.66**	**318**	P	**P**	**01 02 40.0**	**+0.6**
GYA				pP	**pP**	**01 02 50.4**	**+1.0**
GYA				sP	**sP**	**01 02 56.8**	**+3.3**
GYA				PP	PP	01 04 05.6	+2.3
GYA				S	**S**	**01 08 20.1**	**-0.5**
GYA				ScP	**ScP**	**01 08 45.3**	**-1.0**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
GYA				LR	LR		
	comp=N,1μm,18.6s						
GYA				LR	LR		
	comp=E,890nm,19.2s						
GYA				LR	LR		
	comp=Z,2μm,18.6s						
MJAR	**Matsushiro Arr**	**36.88**	**7**	P	**P**	**01 02 39.3**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=196,slow=11,SNR=5.9						
MJAR	**Matsushiro Arr**	**36.88**	**7**	P	**P**	**01 02 39.3**	**-1.6**
MJAR	**Matsushiro Arr**	**36.88**	**7**	P	**P**	**01 02 39.3**	**-1.6**
ENH	**Enshi**	**37.64**	**326**	*e*P	**P**	**01 02 46.7**	**-0.9**
	comp=Z,24nm,1.0s						
KSAR	**Wonju Array Be**	**37.74**	**353**	P	**P**	**01 02 47.3**	**-0.9**
KSAR	**Wonju Array Be**	**37.74**	**353**	P	**P**	**01 02 47.3**	**-0.9**
KSRS	**Korea Array**	**37.75**	**353**	P	**P**	**01 02 47.3**	**-1.0**
	comp=Z,4.5nm,1.1s,baz=176,slow=11,SNR=9.0						
CAN	**Canberra**	**38.02**	**158**	*e*P	P	01 02 54.9	+4.2
CAN				pmax	pmax		
	comp=Z,25nm,1.1s						
CAN	**Canberra**	**38.02**	**158**	*e*P	P	01 02 54.9	+4.2
	comp=Z,26nm,1.1s						
BSI	**Banda Aceh**	**38.03**	**279**	P	P	01 02 56.7	+5.7
	comp=Z,24nm,1.1s						
CNB	**Canberra Magne**	**38.15**	**158**	*e*P	P	01 02 46.6	-5.2
	comp=Z,69nm,1.2s						
CM31	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**01 02 52.2**	**-0.4**
	comp=Z,5.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**01 02 51.9**	**-0.6**
	comp=Z,7.8nm,1.1s,baz=110,slow=5.5,SNR=13						
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**01 02 51.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	**P**	**01 02 51.9**	**-0.6**
CHTO	**Chiang Mai**	**38.36**	**301**	*e*P	**P**	**01 02 52.6**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**38.36**	**301**	*e*P	**P**	**01 02 52.6**	**-1.2**
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**38.36**	**301**	P	**P**	**01 02 54.4**	**+0.6**
	comp=Z,46nm,1.6s						
KMI	**Kunming**	**38.56**	**313**	P	**P**	**01 02 56.0**	**+0.3**
KMI				pP	**pP**	**01 03 05.2**	**-0.5**
KMI				sP	**sP**	**01 03 10.4**	**+0.5**
KMI				pmax	pmax		
	comp=Z,15nm,1.5s						
TOO	**Toolangi**	**38.95**	**164**	*e*P	**P**	**01 02 59.2**	**+0.7**
	comp=Z,86nm,1.0s						
XAN	**Xi'an**	**40.84**	**329**	P	**P**	**01 03 13.1**	**-1.2**
XAN				pP	**pP**	**01 03 24.9**	**+0.5**
XAN				S	**S**	**01 09 19.5**	**-3.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
XAN				LR	LR		
	comp=N,4μm,19.9s						
XAN				LR	LR		
	comp=E,2μm,22.6s						
XAN				LR	LR		
	comp=Z,2μm,21.2s						
CD2	**Chengdu**	**41.53**	**321**	P	**P**	**01 03 20.1**	**+0.1**
CD2				pP	**pP**	**01 03 30.8**	**+0.7**
CD2				sP	**sP**	**01 03 33.3**	**-1.0**
CD2				PP	PP	01 05 05.7	+9.2
CD2				S	S	01 09 42.8	+9.1
CD2				sS	**sS**	**01 09 49.2**	**-1.2**
CD2				SS	SS	01 12 42.0	+2.6
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				pmax	pmax		
	comp=Z,4μm,10.9s						
CD2				LR	LR		
	comp=E,5μm,20.2s						
CD2				LR	LR		
	comp=Z,11μm,21.4s						
BJT	**Baijiatuao**	**42.86**	**341**	*e*P	**P**	**01 03 30.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,27nm,0.8s						
BJT	**Baijiatuao**	**42.86**	**341**	*e*P	**P**	**01 03 30.9**	**+0.4**
	comp=Z,27nm,0.8s						
BJI	**Beijing**	**42.87**	**341**	P	**P**	**01 03 30.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,33nm,1.6s						
BJI				LR	LR		
	comp=N,13μm,20.7s						
BJI				LR	LR		
	comp=E,10μm,15.6s						
BJI				LR	LR		
	comp=Z,15μm,25.9s						
USRK	**Ussuriysk Arra**	**44.21**	**359**	P	**P**	**01 03 40.9**	**-0.4**
	comp=Z,7.5nm,1.1s,baz=188,slow=12,SNR=6.4						
CN2	**Changchun**	**44.31**	**352**	*e*P	**P**	**01 03 41.9**	**-0.3**
CN2				epP	**pP**	**01 03 51.7**	**-0.7**
CN2				esP	**sP**	**01 03 55.6**	**-0.9**
CN2				*e*S	**S**	**01 10 14.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,10μm,18.0s						
CN2				LR	LR		
	comp=E,12μm,18.0s						
CN2				LR	LR		
	comp=Z,18μm,18.0s						
TAU	**Tasmania Unive**	**44.44**	**165**	P	**P**	**01 03 45.1**	**+1.9**
TAU	**Tasmania Unive**	**44.44**	**165**	P	**P**	**01 03 45.1**	**+1.9**
MDJ	**Mudanjiang**	**44.72**	**357**	P	**P**	**01 03 46.1**	**+0.6**
MDJ				pP	**pP**	**01 03 55.1**	**-0.6**
MDJ				sP	**sP**	**01 03 58.8**	**-1.0**
MDJ				ScP	**ScP**	**01 09 17.9**	**+0.6**
MDJ				PcS	**PcS**	**01 09 21.7**	**+0.9**
MDJ				S	**S**	**01 10 21.4**	**+1.5**
MDJ				sS	**sS**	**01 10 36.7**	**0.0**
MDJ				pmax	pmax		
	comp=Z,20nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,2μm,8.4s						
MDJ				LR	LR		
	comp=N,10μm,24.2s						
MDJ				LR	LR		
	comp=E,8μm,31.2s						
MDJ				LR	LR		
	comp=Z,11μm,22.3s						
LZH	**Lanzhou**	**45.11**	**326**	*e*P	**P**	**01 03 49.6**	**+0.6**
LZH				pP	**pP**	**01 03 56.7**	**-2.5**
LZH				sP	**sP**	**01 03 58.8**	**-4.5**
LZH				PP	PP	01 05 35.5	+0.6
LZH				*e*S	**S**	**01 10 27.5**	**+1.2**
LZH				SS	**ScS**	**01 13 40.0**	**-3.8**
LZH				pmax	pmax		
	comp=Z,78nm,1.0s						
LZH				pmax	pmax		
	comp=Z,480nm,4.0s						
LZH				LR	LR		
	comp=N,5μm,15.5s						
LZH				LR	LR		
	comp=E,13μm,18.7s						
LZH				LR	LR		
	comp=Z,20μm,19.9s						
SHL	**Shillong**	**47.20**	**306**	*e*P	**P**	**01 04 08.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**47.73**	**9**	*e*P	**P**	**01 04 09.0**	**-0.1**
HABR	**Khabarovsk**	**48.51**	**2**	*e*P	**P**	**01 04 13.6**	**-1.5**
HABR				*e**PP	**pP**	**01 04 23.4**	**-2.0**
HABR				*e**SP	**sP**	**01 04 27.6**	**-1.8**
HABR				*e*S	**S**	**01 11 13.9**	**-0.1**
HABR				*e**SS	**sS**	**01 11 30.2**	**-0.7**
HABR				*e*		01 14 03.4	
HABR				*e*SSS	**SKiKP**	**01 16 00.8**	**+0.4**
HABR				pmax	pmax		
	comp=E,38nm,1.5s						
HABR				pmax	pmax		
	comp=Z,52nm,1.5s						
HABR				pmax	pmax		
	comp=N,22nm,1.5s						
HABR				MLR	MLR		
	comp=Z,10μm,20.0s						
KLR	**Kul'dur**	**49.24**	**359**	*e*P	**P**	**01 04 17.7**	**-3.0**
KLR				pmax	pmax		
	comp=Z,57nm,1.6s						
LSA	**Lhasa**	**49.69**	**310**	P	**P**	**01 04 24.9**	**-0.1**
LSA	**Lhasa**	**49.69**	**

ODAN	**Odare**	**51.40**	**305**	*e*P		**P**	**01 04 36.4**	**-1.4**
RAMN	**Ramite**	**52.08**	**305**	*e*P		**P**	**01 04 41.7**	**-1.2**
	comp=Z,149nm,1.2s							
RAMN	**Ramite**	**52.08**	**305**	*e*P		**P**	**01 04 41.7**	**-1.2**
JIRN	**Jiri**	**52.70**	**306**	*e*P		**P**	**01 04 46.4**	**-1.2**
	comp=Z,88nm,1.0s							
JIRN	**Jiri**	**52.70**	**306**	*e*P		**P**	**01 04 46.4**	**-1.2**
ULN	**Ulaanbaatar**	**52.90**	**338**	*e*P		**P**	**01 04 49.3**	**+0.9**
ULN					pmax	pmax		
	comp=Z,31nm,1.3s							
ULN	**Ulaanbaatar**	**52.90**	**338**	*e*P		**P**	**01 04 49.3**	**+0.9**
	comp=Z,31nm,1.3s							
ULN	**Ulaanbaatar**	**52.90**	**338**	P		**P**	**01 04 49.1**	**+0.7**
	comp=Z,119nm,1.1s							
GUN	**Gumba**	**53.05**	**306**	*e*P		**P**	**01 04 48.8**	**-1.4**
	comp=Z,56nm,0.8s							
GUN	**Gumba**	**53.05**	**306**	*e*P		**P**	**01 04 48.8**	**-1.4**
SONM	**Songino Array**	**53.12**	**338**	P		**P**	**01 04 50.6**	**+0.6**
	comp=Z,6.3nm,1.0s,baz=160,slow=7.8,SNR=20							
SONM	**Songino Array**	**53.12**	**338**	P		**P**	**01 04 50.6**	**+0.6**
SONM	**Songino Array**	**53.12**	**338**	P		**P**	**01 04 50.6**	**+0.6**
PKI	**Pulchoki**	**53.30**	**305**	*e*P		**P**	**01 04 50.3**	**-1.7**
PKI	**Pulchoki**	**53.30**	**305**	*e*P		**P**	**01 04 50.3**	**-1.7**
PKI	**Pulchoki**	**53.30**	**305**	*e*P		**P**	**01 04 50.3**	**-1.7**
KKN	**Kakani**	**53.49**	**305**	*e*P		**P**	**01 04 52.2**	**-1.0**
	comp=Z,57nm,1.0s							
KKN	**Kakani**	**53.49**	**305**	*e*P		**P**	**01 04 52.2**	**-1.0**
KKN	**Kakani**	**53.49**	**305**	*e*P		**P**	**01 04 52.2**	**-1.0**
DMN	**Daman**	**53.56**	**305**	*e*P		**P**	**01 04 52.7**	**-1.1**
	comp=Z,70nm,1.0s							
DMN	**Daman**	**53.56**	**305**	*e*P		**P**	**01 04 52.7**	**-1.1**
GKN	**Gorkha**	**54.10**	**305**	*e*P		**P**	**01 04 55.8**	**-1.8**
	comp=Z,55nm,1.0s							
GKN	**Gorkha**	**54.10**	**305**	*e*P		**P**	**01 04 55.8**	**-1.8**
CIT	**Chita**	**54.54**	**345**	*e*P		**P**	**01 05 01.1**	**+0.9**
KOLN	**Koldanda**	**54.86**	**305**	*e*P		**P**	**01 05 02.3**	**-0.9**
	comp=Z,83nm,0.9s							
KOLN	**Koldanda**	**54.86**	**305**	*e*P		**P**	**01 05 02.3**	**-0.9**
DANN	**Dangsing**	**54.95**	**305**	*e*P		**P**	**01 05 02.7**	**-1.2**
DANN	**Dangsing**	**54.95**	**305**	*e*P		**P**	**01 05 02.7**	**-1.2**
HYB	**Hyderabad**	**56.31**	**291**	*i* P		**P**	**01 05 12.0**	**-1.6**
HYB				*e*			01 05 18.0	
PETK	**Petropavlovsk-**	**56.99**	**18**	P		**P**	**01 05 18.5**	**+0.8**
	comp=Z,14nm,0.9s,baz=189,slow=6.6,SNR=9.8							
PETK	**Petropavlovsk-**	**56.99**	**18**	P		**P**	**01 05 18.5**	**+0.8**
PETK	**Petropavlovsk-**	**56.99**	**18**	P		**P**	**01 05 18.5**	**+0.8**
PET	**Petropavlovsk**	**57.21**	**18**	*e*P		**P**	**01 05 20.4**	**+1.2**
PET					pmax	pmax		
	comp=Z,16nm,1.1s							
PET					MLR	MLR		
	comp=Z,19µm,19.0s							
MOY	**Mondy**	**58.28**	**337**	*e*P		**P**	**01 05 28.0**	**+1.0**
MOY					pmax	pmax		
	comp=Z,32nm,1.6s							
WMQ	**Urumqi**	**59.53**	**323**	P		**P**	**01 05 36.2**	**+0.5**
WMQ				pP		**pP**	**01 05 46.2**	**0.0**
WMQ				sP		**sP**	**01 05 50.2**	**-0.1**
WMQ				PcP		**PcP**	**01 06 21.2**	**-1.8**
WMQ				pmax	pmax			
	comp=Z,51nm,1.0s							
BOD	**Bodaibo**	**59.78**	**348**	*e*P		**P**	**01 05 37.7**	**+0.6**
BOD				pmax	pmax			
	comp=Z,20nm,1.4s							
DDI	**Dehra Dun**	**60.30**	**305**	*ex*		**P**	**01 05 40.2**	**-1.1**
YAK	**Yakutsk**	**62.12**	**358**	*e*P		**P**	**01 05 52.7**	**-0.1**
YAK				pmax	pmax			
	comp=Z,21nm,0.9s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
YAK	**Yakutsk**	**62.12**	**358**	*e*P		**P**	**01 05 52.9**	**0.0**
	comp=N,19nm,0.8s							
MK31	**Makanchi Array**	**64.34**	**324**	*e*P		**P**	**01 06 08.1**	**+0.1**
MK31	**Makanchi Array**	**64.34**	**324**	*e*P		**P**	**01 06 08.1**	**+0.1**
MKAR	**Makanchi Array**	**64.34**	**324**	P		**P**	**01 06 08.0**	**0.0**
	comp=N,15nm,0.6s,baz=115,slow=7.9,SNR=58							
MKAR	**Makanchi Array**	**64.34**	**324**	P		**P**	**01 06 08.0**	**0.0**
MKAR	**Makanchi Array**	**64.34**	**324**	P		**P**	**01 06 08.0**	**0.0**
SEY	**Seymchan**	**64.63**	**10**	*ce*P		**P**	**01 06 09.7**	**+0.2**
KSH	**Kashi**	**65.21**	**314**	*e*P		**P**	**01 06 15.1**	**+1.2**
KSH				*e*pP		**pP**	**01 06 25.2**	**+0.7**
KSH				*e*sP		**sP**	**01 06 29.0**	**+0.5**
KSH				*e*PcP		**PcP**	**01 06 47.2**	**+1.0**
KSH				*e*PP		**PP**	**01 08 40.0**	**+2.3**
KSH				*e*ScP			01 10 46.4	
KSH				*e*PcS			01 10 50.2	
KSH				*e*S		**S**	**01 14 51.8**	**-3.3**
KSH				*e*ScS		**SKSac**	**01 16 03.2**	**-3.5**
KSH				pmax	pmax			
	comp=Z,11nm,0.8s							
KSH				pmax	pmax			
	comp=Z,2µm,14.4s							
KSH				LR	LR			
	comp=N,3µm,16.0s							
KSH				LR	LR			
	comp=E,9µm,16.9s							
KSH				LR	LR			
	comp=Z,6µm,18.0s							
TKM2	**Tokmak 2**	**66.80**	**318**	*e*P		**P**	**01 06 24.1**	**-0.1**
TKM2				pmax	pmax			
	comp=Z,38nm,1.4s							
TKM2	**Tokmak 2**	**66.80**	**318**	*e*P		**P**	**01 06 24.1**	**-0.1**
	comp=Z,38nm,1.4s							
ZALV	**Zalesovo Beam**	**66.94**	**331**	P		**P**	**01 06 23.9**	**-0.6**
	comp=Z,8.0nm,0.6s,baz=123,slow=6.7,SNR=41							
ZALV	**Zalesovo Beam**	**66.94**	**331**	P		**P**	**01 06 23.9**	**-0.6**
ZALV	**Zalesovo Beam**	**66.94**	**331**	P		**P**	**01 06 23.9**	**-0.6**
AAK	**Ala-Archa**	**67.44**	**317**	*e*P		**P**	**01 06 28.5**	**+0.3**
AAK				pmax	pmax			
	comp=Z,11nm,1.2s							
EKS2	**Erkin-Say**	**67.94**	**317**	*e*P		**P**	**01 06 31.9**	**+0.6**
EKS2				pmax	pmax			
	comp=Z,30nm,1.3s							
EKS2	**Erkin-Say**	**67.94**	**317**	*e*P		**P**	**01 06 31.9**	**+0.6**
	comp=Z,30nm,1.3s							
NVS	**Novosibirsk**	**68.21**	**332**	⇑*i*P		**P**	**01 06 30.6**	**-1.9**
NVS				pmax	pmax			
	comp=N,4.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,15nm,1.4s							
NVS				pmax	pmax			
	comp=Z,34nm,1.4s							
KURK	**Kurchatov**	**68.41**	**326**	P		**P**	**01 06 33.7**	**-0.2**
	comp=Z,16nm,0.8s,baz=120,slow=5.9,SNR=39							
KURK	**Kurchatov**	**68.41**	**326**	*de*P		**P**	**01 06 34.0**	**+0.1**
KURK				pmax	pmax			
	comp=Z,77nm,1.7s							
KURK	**Kurchatov**	**68.41**	**326**	*e*P		**P**	**01 06 33.5**	**-0.4**
	comp=Z,57nm,1.3s							
KURK	**Kurchatov**	**68.41**	**326**	P		**P**	**01 06 34.6**	**+0.7**
	comp=Z,189nm,1.1s,SNR=26							
KKAR	**Karatay Array**	**70.33**	**316**	*e*P		**P**	**01 06 45.9**	**-0.1**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**70.33**	**316**	*e*P		**P**	**01 06 45.9**	**-0.1**
	comp=Z,5.9nm,0.7s							
BRVK	**Borovoye**	**74.07**	**326**	*e*P		**P**	**01 07 08.0**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,36nm,1.1s							
BRVK	**Borovoye**	**74.07**	**326**	*e*P		**P**	**01 07 08.0**	**-0.1**
	comp=Z,36nm,1.1s							
BRVK	**Borovoye**	**74.07**	**326**	P		**P**	**01 07 08.3**	**+0.2**
	comp=Z,176nm,1.0s,SNR=13							
ABKT	**Ailbek**	**78.18**	**309**	P		**P**	**01 07 32.8**	**+0.9**
	comp=Z,153nm,1.2s,SNR=9.8							
VNDA	**Vanda**	**78.83**	**174**	*e*P		**P**	**01 07 35.2**	**+0.6**
VNDA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VNDA	**Vanda**	**78.83**	**174**	*e*P		**P**	**01 07 35.2**	**+0.6**
	comp=Z,5.6nm,1.0s							
ABKAR	**Akbulak array**	**79.11**	**320**	*e*P		**P**	**01 07 36.0**	**-0.7**
	comp=Z,16nm,1.1s							
SVE	**Sverdlovsk**	**80.55**	**328**	⇓*i*P		**P**	**01 07 44.7**	**+0.4**
SVE				pmax	pmax			
	comp=Z,41nm,1.4s							
ARU	**Arti**	**81.57**	**327**	*c i*P		**P**	**01 07 49.0**	**-0.7**
ARU				S		**S**	**01 17 59.7**	**+0.4**
ARU				pmax	pmax			
	comp=Z,19nm,1.2s							
ARU	**Arti**	**81.57**	**327**	*e*P		**P**	**01 07 48.3**	**-1.4**
	comp=Z,24nm,1.1s							
ARU	**Arti**	**81.57**	**327**	P		**P**	**01 07 48.0**	**-1.7**
	comp=Z,113nm,1.2s,SNR=6.3							
MCK	**McKinley**	**84.91**	**26**	*e*P		**P**	**01 08 07.1**	**+0.2**
MCK				pmax	pmax			
	comp=Z,57nm,1.5s							
MCK	**McKinley**	**84.91**	**26**	*e*P		**P**	**01 08 07.1**	**+0.2**
	comp=Z,56nm,1.5s							
ILAR	**Eielson Array**	**85.97**	**25**	P		**P**	**01 08 11.8**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=264,slow=4.1,SNR=16							
ILAR				PP		**PP**	**01 11 29.6**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=268,slow=6.5,SNR=4.2							
ILAR	**Eielson Array**	**85.97**	**25**	P		**P**	**01 08 11.8**	**-0.4**
ILAR							01 11 29.6	
ILAR	**Eielson Array**	**85.97**	**25**	P		**P**	**01 08 11.8**	**-0.4**
ILAR				PP		**PP**	**01 11 29.6**	**-2.7**
QSPA	**South Pole Qui**	**89.74**	**180**	*e*P		**P**	**01 08 29.6**	**-0.7**
	comp=Z,22nm,1.1s							
SYO	**Syowa Base**	**91.03**	**201**	⇑*e*X		**P**	**01 08 33.4**	**-2.7**
OBN	**Obninsk**	**93.82**	**325**	⇑*e*P		**P**	**01 08 49.2**	**0.0**
OBN				pmax	pmax			
	comp=Z,15nm,1.6s							
AKASG	**Malin Array Be**	**98.83**	**321**	P		**P**	**01 09 10.1**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=112,slow=4.5,SNR=4.5							
AKASG	**Malin Array Be**	**98.83**	**321**	P		**P**	**01 09 10.1**	**-2.0**
AKASG	**Malin Array Be**	**98.83**	**321**	P		**P**	**01 09 10.1**	**-2.0**
VYHS	**Vyhne**	**105.92**	**321**	*i* P		**Pdif**	**01 09 43.8**	**0.0**
VYHS	**Vyhne**	**105.92**	**321**	PDIF		**Pdif**	**01 09 43.8**	**0.0**
GERES	**GERESS Array B**	**108.99**	**322**	PKiKP		**PKiKP**	**01 14 01.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=317,slow=5.5,SNR=4.2							
GERES	**GERESS Array B**	**108.99**	**322**	PKiKP		**PKiKP**	**01 14 01.0**	**-0.9**
324A	**Moseley Ranch,**	**116.69**	**55**	⇓P		**PKPdf**	**01 14 17.4**	**+0.2**
	baz=117							
MNTX	**Cornudas Mount**	**116.69**	**54**	⇓P		**PKPdf**	**01 14 17.4**	**+0.4**
	baz=117							
MNTX				⇓P		**PKPdf**	**01 14 17.4**	**+0.4**
	baz=117							
Y27A	**Causey**	**117.75**	**51**	⇓P		**PKPdf**	**01 14 19.3**	**+0.2**
	baz=118							
TXAR	**Lajitas Array**	**118.82**	**56**	PKP		**PKPdf**	**01 14 21.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=183,slow=1.7,SNR=4.4							
TXAR				PKKPbc		**PKKPbc**	**01 24 36.1**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=123,slow=4.6,SNR=3.5							
TXAR	**Lajitas Array**	**118.82**	**56**	PKIKP		**PKPdf**	**01 14 21.1**	**-0.1**
TXAR	**Lajitas Array**	**118.82**	**56**	PKP		**PKPdf**	**01 14 21.1**	**-0.1**
TXAR				PKKPbc		**PKKPbc**	**01 24 36.1**	**-0.9**
328A	**Wristen Ranch,**	**118.88**	**54**	⇓P		**PKPdf**	**01 14 21.8**	**+0.5**
	baz=119							
428A	**Kincaid Ranch,**	**119.19**	**55**	⇑P		**PKPdf**	**01 14 22.8**	**+0.9**
	baz=119							
JCT	**Junction City**	**121.61**	**54**	*e*PKIKP		**PKPdf**	**01 14 27.1**	**+0.6**
JCT	**Junction City**	**121.61**	**54**	*e*PKPdf		**PKPdf**	**01 14 27.1**	**+0.6**
JCT	**Junction City**	**121.61**	**54**	⇓P		**PKPdf**	**01 14 26.9**	**+0.4**
	baz=122							
ESDC	**Sonseca Array**	**124.46**	**320**	PKP		**PKPdf**	**01 14 31.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=8.5,slow=2.6,SNR=3.9							
ESDC	**Sonseca Array**	**124.46**	**320**	PKP		**PKPdf**	**01 14 31.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**130.03**	**287**	PKP		**PKPdf**	**01 14 42.1**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=67,slow=1.5,SNR=10.0							
TORD	**Torodi Ar. Bea**	**130.03**	**287**	PKP		**PKPdf**	**01 14 42.1**	**-0.8**
PLCA	**Paso Flores**	**134.00**	**155**	PKP		**PKPdf**	**01 14 50.4**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=191,slow=8.8,SNR=2.8							
PLCA	**Paso Flores**	**134.00**	**155**	PKIKP		**PKPdf**	**01 14 50.4**	**+0.5**
PLCA	**Paso Flores**	**134.00**	**155**	PKP		**PKPdf**	**01 14 50.4**	**+0.5**
NNA	**Nana**	**148.04**	**113**	*i* PKP2		**PKPab**	**01 15 25.9**	**+4.4**
OTAV	**Otavalo**	**148.59**	**90**	*e*PKPbc		**PKPbc**	**01 15 21.5**	**+0.7**
LVC	**Limon Verde**	**148.90**	**138**	*e*PKPdf		**PKPdf**	**01 15 16.8**	**-0.3**
CPUP	**Villa Florida**	**151.83**	**160**	PKPbc		**PKPbc**	**01 15 27.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=132,slow=1.1,SNR=10							
CPUP	**Villa Florida**	**151.83**	**160**	PKIKP		**PKPbc**	**01 15 27.9**	**+0.3**
CPUP	**Villa Florida**	**151.83**	**160**	PKPbc		**PKPbc**	**01 15 27.9**	**+0.3**
ROSC	**El Rosal**	**152.36**	**80**	PKPbc		**PKPbc**	**01 15 30.6**	**+0.9**
	comp=Z,8.0nm,0.9s,baz=79,slow=20,SNR=5.3							
ROSC	**El Rosal**	**152.36**	**80**	*e*PKPbc		**PKPbc**	**01 15 31.2**	**+1.5**
LPAZ	**La Paz**	**153.52**	**129**	PKP		**PKPdf**	**01 15 25.8**	**+1.0**
	comp=Z,3.4nm,1.1s,baz=44,slow=4.4,SNR=3.9							
LPAZ	**La Paz**	**153.52**	**129**	PKIKP		**PKPdf**	**01 15 25.8**	**+1.0**
LPAZ	**La Paz**	**153.52**	**129**	PKP		**PKPdf**	**01 15 25.8**	**+1.0**

IDC 04 00:58:56.1±2.5, 0.35S×133.10E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, MS2.8/1, Ms1 2.8/1, ms1mx2.8/25, Error ellipse: s-maj=143.3km s-min=23.7km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**18.74**	**320**	LR	LR	01 09 41.8	
	comp=Z,30nm,20.6s,baz=289,slow=34						
WRA	**Warramunga Arr**	**19.51**	**176**	P	P	01 03 25.5	+0.3
	baz=355,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**23.19**	**178**	P	P	01 04 04.6	-0.1
	4.6nm,0.7s,baz=5.5,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**64.55**	**324**	P	P	01 09 35.0	-0.1
	0.5nm,0.5s,baz=113,slow=8.3,SNR=4.3						
KURK	**Kurchatov**	**68.61**	**326**	P	P	01 10 01.1	+0.1
	0.8nm,0.5s,baz=114,slow=6.4,SNR=3.0						

*BJI **04** 01:02:48.5, 1.01S×134.16E, h24km, mB5.3/2, mb4.7/8*
*IDC **04** 01:02:51.0±0.7, 0.74S×133.60E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.3/12, ML4.6/1, Error ellipse: s-maj=33.6km s-min=14.9km az=78.0*
*ISCJB **04** 01:02:53.5±0.3, 0.65S±0.04×133.66E±0.05, h28km, mb4.5/34, Error ellipse: s-maj=7.4km s-min=5.3km az=163.0*
*NEIC **04** 01:02:56.3±0.2, 0.73S×133.51E, h35km, mb4.7/20, Error ellipse: s-maj=9.3km s-min=4.9km az=64.0*
*DJA **04** 01:02:58, 0.75S×133.48E, h54km, mb5.0/9*

ISC 04 01:02:55.0±0.4, 0.71S±0.05×133.60E±0.07, h28km, n86, σ1s23/87, mb4.6/34, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.57**	**212**	P	**Pb**	**01 03 28.6**	**-2.0**
TLE	**Tual**	**4.97**	**190**	P	**Pn**	**01 04 10.4**	**+2.5**
SMPI	**Sarmi**	**5.27**	**104**	P	Pb	01 04 29.9	+3.4
	397nm,1.4s,1.6nm						
MSAI	**Masohi**	**5.35**	**241**	P	**Pn**	**01 04 16.1**	**+3.0**
LBMI	**Labuha**	**6.09**	**271**	P	**Pn**	**01 04 25.5**	**+2.1**
	215nm,1.0s,0.7nm						
AAI	**Ambon**	**6.15**	**241**	P	**Pn**	**01 04 25.5**	**+1.4**
	382nm,1.2s,6µm1.4nm						
NLAI	**Namlea**	**6.96**	**249**	P	**Pn**	**01 04 37.2**	**+2.0**
	191nm,0.5s,0.8nm						
BKSI	**Bulukumba**	**14.21**	**251**	P	P	01 06 18.2	-3.5
	67nm,1.2s						
KAPI	**Kappang**	**14.47**	**253**	*e*Pn	**Pn**	**01 06 17.4**	**-0.7**
	51nm,1.2s						
KAPI	**Kappang**	**14.47**	**253**	P	P	**01 06 21.9**	**-2.6**
	36nm,1.1s						
PMG	**Port Moresby**	**16.02**	**123**	Pn	**P**	**01 06 40.5**	**-1.4**
	0.2nm,0.3s,baz=317,slow=12,SNR=3.4						
PMG	**Port Moresby**	**16.02**	**123**	Pn	**P**	**01 06 40.5**	**-1.4**
COEN	**Coen**	**16.22**	**145**	*e*Pn	**P**	**01 06 43.3**	**-0.7**
MTNI	**Mataram**	**19.06**	**245**	P	**Pn**	**01 07 18.7**	**+2.4**
	78nm,1.2s,40µm						
WRAB	**Tennant Creek**	**19.12**	**178**	*e*P	**P**	**01 07 15.7**	**-0.3**
	54nm,1.2s						
WRA	**Warramunga Arr**	**19.13**	**178**	P	**P**	**01 07 16.5**	**+0.4**
	2.2nm,0.3s,baz=355,slow=12,SNR=14						
WRA				S	Sn	01 10 41.2	-10
	0.4nm,0.3s,baz=356,slow=23,SNR=4.2						
WRA	**Warramunga Arr**	**19.13**	**178**	P	**P**	**01 07 16.5**	**+0.4**
WRA				S	Sn	01 10 41.2	-10
WB2	**Warramunga Arr**	**19.13**	**178**	*e*P	**P**	**01 07 15.9**	**-0.2**
SBUM	**Sibu**	**21.60**	**278**	P	P	01 07 51.8	+8.8
	22nm,1.5s						
AS31	**Alice Springs**	**22.82**	**179**	*e*P	**P**	**01 07 56.1**	**+0.1**
ASAR	**Alice Springs**	**22.82**	**179**	P	**P**	**01 07 55.9**	**-0.1**
	21nm,0.8s,baz=2.3,slow=12,SNR=18						
ASAR	**Alice Springs**	**22.82**	**179**	P	**P**	**01 07 55.9**	**-0.1**
CTAO	**Charters Tower**	**22.90**	**148**	*e*P	**P**	**01 07 57.7**	**+0.9**
	50nm,1.3s						
KSM	**Kuching**	**23.39**	**275**	*e*P	**P**	**01 08 00.6**	**-1.2**
	24nm,1.3s						
MBWA	**Marble Bar**	**24.42**	**213**	*e*P	**P**	**01 08 12.0**	**+0.6**
MBWA	**Marble Bar**	**24.42**	**213**	*e*P	**P**	**01 08 12.0**	**+0.6**
	56nm,1.3s						
SSLB	**Suanglung**	**27.27**	**334**	*e*P	**P**	**01 08 35.5**	**-1.8**
	30nm,1.1s						
STKA	**Stephens Creek**	**31.91**	**167**	P	**P**	**01 09 17.2**	**-1.0**
	5.4nm,0.9s,baz=0.9,slow=16,SNR=6.4						
STKA	**Stephens Creek**	**31.91**	**167**	P	**P**	**01 09 17.2**	**-1.0**
KMBL	**Kambalda**	**32.45**	**199**	*e*P	**P**	**01 09 23.7**	**+0.7**
	162nm,1.0s						
MJAR	**Matsushiro Arr**	**37.31**	**6**	P	**P**	**01 10 03.8**	**-1.1**
	1.0nm,0.6s,baz=178,slow=8.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**37.31**	**6**	P	**P**	**01 10 03.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**39.02**	**301**	P	**P**	**01 10 19.4**	**-0.3**
	0.6nm,0.3s,baz=126,slow=4.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**39.02**	**301**	P	**P**	**01 10 19.4**	**-0.3**
BJT	**Baijiatuan**	**43.55**	**340**	*e*P	**P**	**01 10 57.1**	**+0.6**
	19nm,0.5s						
BJI	**Beijing**	**43.57**	**341**	P	**P**	**01 10 57.4**	**+0.8**
BJI				pmax	pmax		
	comp=Z,41nm,1.2s						
USRK	**Ussuriysk Arra**	**44.74**	**358**	P	**P**	**01 11 06.4**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=170,slow=12,SNR=6.3						
LZH	**Lanzhou**	**45.90**	**326**	*e*P	**P**	**01 11 17.0**	**+1.5**
LZH				pP	**pP**	**01 11 24.5**	**+0.5**
LZH				sP	**sP**	**01 11 27.6**	**+0.3**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
MSVF	**Nonsavu**	**46.84**	**114**	*e*P	**P**	**01 11 21.7**	**-1.4**
	comp=Z,5.8nm,0.9s						
GTA	**Gaotai**	**50.50**	**326**	*e*P	**P**	**01 11 51.5**	**+0.5**
GTA				pP	**pP**	**01 11 56.0**	**-3.5**
GTA				sP	**sP**	**01 11 58.5**	**-4.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
LSA	**Lhasa**	**50.51**	**310**	P	**P**	**01 11 52.2**	**+0.6**
LSA	**Lhasa**	**50.51**	**310**	*e*P	**P**	**01 11 52.2**	**+0.6**
	comp=Z,19nm,1.4s						
TAPN	**Taplejung**	**52.16**	**306**	*e*P	**P**	**01 12 03.5**	**-0.3**
	comp=Z,8.6nm,0.5s						
TAPN	**Taplejung**	**52.16**	**306**	*e*P	**P**	**01 12 03.5**	**-0.3**
ODAN	**Odare**	**52.22**	**305**	*e*P	**P**	**01 12 03.8**	**-0.4**
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**52.22**	**305**	*e*P	**P**	**01 12 03.8**	**-0.4**
RAMN	**Ramite**	**52.90**	**305**	*e*P	**P**	**01 12 09.0**	**-0.2**
	comp=Z,14nm,0.5s						
RAMN	**Ramite**	**52.90**	**305**	*e*P	**P**	**01 12 09.0**	**-0.2**
JIRN	**Jiri**	**53.52**	**306**	*e*P	**P**	**01 12 13.6**	**-0.3**
	comp=Z,8.4nm,0.5s						
JIRN	**Jiri**	**53.52**	**306**	*e*P	**P**	**01 12 13.6**	**-0.3**
ULN	**Ulaanbaatar**	**53.61**	**338**	*e*P	**P**	**01 12 14.9**	**+0.9**
	comp=Z,9.1nm,1.1s						
SONM	**Songino Array**	**53.84**	**338**	P	**P**	**01 12 17.0**	**+1.4**
	comp=Z,3.2nm,1.0s,baz=143,slow=7.7,SNR=16						
SONM	**Songino Array**	**53.84**	**338**	P	**P**	**01 12 17.0**	**+1.4**
GUN	**Gumba**	**53.87**	**306**	*e*P	**P**	**01 12 16.2**	**-0.3**
GUN	**Gumba**	**53.87**	**306**	*e*P	**P**	**01 12 16.2**	**-0.3**
RPZ	**Rata Peaks**	**54.27**	**147**	*e*P	**P**	**01 12 19.2**	**+0.5**
	comp=Z,37nm,1.3s						
URZ	**Urewera**	**54.66**	**138**	*e*P	**P**	**01 12 22.8**	**+1.2**
	comp=Z,5.6nm,0.6s						
KOLN	**Koldanda**	**55.68**	**305**	*e*P	**P**	**01 12 29.5**	**+0.1**
	comp=Z,18nm,0.7s						
KOLN	**Koldanda**	**55.68**	**305**	*e*P	**P**	**01 12 29.5**	**+0.1**
PETK	**Petropavlovsk-**	**57.29**	**17**	P	**P**	**01 12 41.5**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=182,slow=5.5,SNR=2.5						
PETK	**Petropavlovsk-**	**57.29**	**17**	P	**P**	**01 12 41.5**	**+1.4**
MK31	**Makanchi Array**	**65.13**	**324**	*e*P	**P**	**01 13 34.0**	**+0.5**
MKAR	**Makanchi Array**	**65.13**	**324**	P	**P**	**01 13 34.3**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=109,slow=8.4,SNR=25						
MKAR	**Makanchi Array**	**65.13**	**324**	P	**P**	**01 13 34.3**	**+0.8**
KSH	**Kashi**	**66.02**	**314**	P	**P**	**01 13 41.5**	**+2.0**
KSH				pmax	pmax		
	comp=Z,2µm,14.2s						
TKM2	**Tokmak 2**	**67.61**	**318**	*e*P	**P**	**01 13 50.3**	**+0.6**
	comp=Z,1.9nm,0.5s						
ZAA0	**Zalesovo Array**	**67.69**	**331**	*e*P	**P**	**01 13 48.9**	**-0.8**
ZALV	**Zalesovo Beam**	**67.69**	**331**	P	**P**	**01 13 49.5**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=103,slow=6.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**67.69**	**331**	P	**P**	**01 13 49.5**	**-0.2**
EKS2	**Erkin-Say**	**68.75**	**317**	*e*P	**P**	**01 13 57.5**	**+0.8**
	comp=Z,6.6nm,0.9s						
KURK	**Kurchatov**	**69.19**	**326**	P	**P**	**01 13 59.9**	**+0.8**
	comp=Z,6.4nm,0.8s,baz=117,slow=5.8,SNR=20						
KURK	**Kurchatov**	**69.19**	**326**	*e*P	**P**	**01

IDC 04 01:12:57.5±3.1, 0.35S×133.35E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=196.5km s-min=24.4km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**177**	P	P	01 17 26.3	-0.1
	0.1nm,0.3s,baz=353,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**23.18**	**179**	P	P	01 18 07.3	+1.3
	0.6nm,0.5s,baz=356,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**32.31**	**167**	P	P	01 19 27.1	-1.3
	1.6nm,1.0s,baz=342,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**64.70**	**324**	P	P	01 23 37.5	0.0
	0.2nm,0.9s,baz=118,slow=7.4,SNR=2.7						

*IDC **04** 01:19:00.1±0.8, 0.52S×133.39E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/16, mbtmp4.2/8, ML4.1/1, Error ellipse: s-maj=58.6km s-min=17.4km az=77.0*
*ISCJB **04** 01:19:03.1±0.8, 0.44S±0.08×133.3E±0.1, h28km, mb4.2/7, Error ellipse: s-maj=15.3km s-min=11.3km az=20.2*
*DJA **04** 01:19:05, 0.55S×133.12E, h12km, mb5.0/7*
ISC 04 01:19:04.2±0.8, 0.58S±0.09×133.4E±0.1, h28km, n19, σ1°26/15, mb4.3/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.60**	**207**	P	**Pb**	**01 19 48.8**	**-1.4**
BAKI	**Biak**	**2.75**	**103**	P	Pb	01 20 01.7	+8.9
TLE	**Tual**	**5.07**	**188**	P	Pb	01 20 24.6	-7.7
MSAI	**Masohi**	**5.26**	**238**	P	**Pn**	**01 20 22.3**	**+1.2**
LBMI	**Labuha**	**5.92**	**269**	P	**Pn**	**01 20 29.7**	**-0.4**
	101nm,0.8s,0.4nm						
AAI	**Ambon**	**6.07**	**239**	P	**Pn**	**01 20 31.6**	**-0.5**
	187nm,0.6s,5μm0.7nm						
NLAI	**Namlea**	**6.85**	**247**	P	**Pn**	**01 20 45.5**	**+2.7**
	86nm,1.1s,0.4nm						
WRA	**Warramunga Arr**	**19.27**	**177**	P	**Pn**	**01 23 28.5**	**+0.6**
	0.5nm,0.3s,baz=356,slow=11,SNR=26						
ASAR	**Alice Springs**	**22.95**	**179**	P	**P**	**01 24 07.7**	**+1.2**
	3.8nm,0.3s,baz=359,slow=11,SNR=41						
STKA	**Stephens Creek**	**32.07**	**167**	P	**P**	**01 25 28.3**	**-0.6**
	1.9nm,0.5s,baz=348,slow=8.6,SNR=7.6						
SONM	**Songino Array**	**53.65**	**338**	P	**P**	**01 28 24.1**	**+0.7**
	0.4nm,0.7s,baz=152,slow=10.0,SNR=3.7						
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**01 29 41.9**	**+0.6**
	3.6nm,0.7s,baz=110,slow=8.6,SNR=70						
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**01 29 56.1**	**-1.5**
	1.1nm,0.7s,baz=117,slow=5.6,SNR=6.9						
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**01 31 43.0**	**+0.6**
	0.7nm,0.7s,baz=258,slow=4.8,SNR=12						
ARCES	**ARCESS Array B**	**96.75**	**340**	P	**P**	**01 32 31.4**	**-0.6**
	4.6nm,1.0s,baz=104,slow=3.0,SNR=3.7						
VNA2	**Neumayer--Watz**	**104.20**	**192**	*e*	PKiKP	01 37 30.3	+8.5
	baz=190,slow=5.0						
VNA3	**Neumayer Olymp**	**104.43**	**192**	*e*	PKiKP	01 37 28.6	+6.3
TXAR	**Lajitas Array**	**118.64**	**57**	PKP	**PKiKP**	**01 37 51.1**	**+0.6**
	0.1nm,0.7s,baz=270,slow=1.6,SNR=2.0						
TORD	**Torodi Ar. Bea**	**130.59**	**287**	PKP	**PKPdf**	**01 38 12.2**	**-1.3**
	0.4nm,0.8s,baz=86,slow=1.3,SNR=3.3						

IDC 04 01:20:34.1±7.4, 0.91S×133.16E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=448.0km s-min=27.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.95**	**177**	P	P	01 24 56.5	-0.5
	baz=356,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**22.63**	**178**	P	P	01 25 37.3	+0.4
	1.6nm,0.7s,baz=0.4,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	01 31 16.2	-0.1
	0.4nm,0.6s,baz=112,slow=7.7,SNR=5.1						

*DJA **04** 01:22:31, 0.22S×133.81E, h13km, MLv4.8/6*
IDC 04 01:22:35.3±3.1, 0.55S×133.52E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=206.6km s-min=20.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.29**	**178**	P	Pn	01 27 02.8	-0.1
	0.4nm,0.3s,baz=355,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**22.99**	**179**	P	P	01 27 41.7	-0.1
	2.2nm,0.4s,baz=359,slow=12,SNR=11						
STKA	**Stephens Creek**	**32.09**	**167**	P	P	01 29 03.8	-0.5
	0.8nm,0.4s,baz=345,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	01 33 16.9	-0.1
	0.4nm,0.5s,baz=109,slow=9.0,SNR=6.1						
KURK	**Kurchatov**	**69.01**	**326**	P	P	01 33 42.7	+0.1
	0.8nm,0.2s,baz=121,slow=6.2,SNR=2.3						

*DJA **04** 01:27:13, 0.87S×132.10E, h15km, MLv4.3/5*
IDC 04 01:26:54.0±1.2, 0.93S×133.37E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=54.0km s-min=21.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.92**	**177**	P	Pn	01 31 16.9	-0.2
	0.2nm,0.3s,baz=354,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**22.61**	**179**	P	P	01 31 56.4	-0.2
	1.8nm,0.5s,baz=358,slow=11,SNR=6.4						
CMAR	**Chiang Mai Arr**	**38.95**	**301**	P	P	01 34 22.6	+0.5
	0.6nm,0.3s,baz=90,slow=3.6,SNR=2.9						
SONM	**Songino Array**	**53.95**	**338**	P	P	01 36 20.6	+0.8
	0.4nm,0.9s,baz=144,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**65.17**	**324**	P	P	01 37 38.2	+1.1
	0.6nm,0.7s,baz=108,slow=8.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**67.78**	**331**	P	P	01 37 52.5	-1.1
	0.3nm,0.4s,baz=139,slow=9.0,SNR=3.6						
KURK	**Kurchatov**	**69.24**	**326**	P	P	01 38 02.7	-0.1
	2.0nm,0.3s,baz=110,slow=5.1,SNR=3.1						
BVAR	**Borovoye Array**	**74.84**	**326**	P	P	01 38 35.2	-1.2
	1.7nm,0.9s,baz=108,slow=9.5,SNR=7.7						
ILAR	**Eielson Array**	**86.46**	**25**	P	P	01 39 39.0	+0.6
	0.9nm,1.1s,baz=218,slow=7.9,SNR=4.4						

IDC 04 01:29:39.6±1.1, 0.67S×133.64E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=61.1km s-min=21.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.17**	**178**	P	P	01 34 05.0	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**22.86**	**179**	P	P	01 34 45.0	+0.2
	1.0nm,0.6s,baz=1.8,slow=12,SNR=4.2						
SONM	**Songino Array**	**53.81**	**338**	P	P	01 39 04.7	+0.4
	0.3nm,0.6s,baz=155,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**65.12**	**324**	P	P	01 40 22.8	+0.4
	0.7nm,0.6s,baz=111,slow=8.0,SNR=7.6						
KURK	**Kurchatov**	**69.18**	**326**	P	P	01 40 47.4	-0.6
	0.9nm,0.3s,baz=120,slow=5.7,SNR=4.7						
BVAR	**Borovoye Array**	**74.77**	**326**	P	P	01 41 21.8	+0.2
	0.3nm,0.6s,baz=147,slow=8.1,SNR=2.8						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	01 42 21.5	-0.7
	0.6nm,0.9s,baz=278,slow=6.3,SNR=3.9						

IDC 04 01:34:19.4±2.5, 0.80S×133.02E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=141.2km s-min=22.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.07**	**176**	P	P	01 38 43.5	-0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**22.75**	**178**	P	P	01 39 23.4	+0.1
	1.2nm,0.3s,baz=358,slow=11,SNR=18						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	01 44 59.8	-0.7
	0.2nm,0.7s,baz=110,slow=7.8,SNR=2.6						
KURK	**Kurchatov**	**68.94**	**326**	P	P	01 45 27.0	+0.7
	0.3nm,0.3s,baz=111,slow=4.5,SNR=2.2						

*DJA **04** 01:36:07, 0.17S×133.03E, h14km, MLv4.5/9*
IDC 04 01:36:04.0±2.4, 0.20S×133.14E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=184.7km s-min=17.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.65**	**177**	P	P	01 40 34.1	-0.5
	0.4nm,0.3s,baz=355,slow=12,SNR=11						
ASAR	**Alice Springs**	**23.34**	**178**	P	P	01 41 14.8	+0.7
	6.2nm,0.8s,baz=1.6,slow=12,SNR=26						
STKA	**Stephens Creek**	**32.50**	**167**	P	P	01 42 36.0	-0.5
	1.7nm,0.5s,baz=337,slow=7.3,SNR=4.3						
SONM	**Songino Array**	**53.20**	**338**	P	P	01 45 24.7	+0.5
	0.5nm,0.8s,baz=166,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**64.46**	**324**	P	P	01 46 41.9	-0.6
	0.6nm,0.6s,baz=108,slow=8.3,SNR=19						
ZALV	**Zalesovo Beam**	**67.03**	**331**	P	P	01 46 58.4	-0.5
	0.3nm,0.4s,baz=126,slow=8.5,SNR=3.9						
KURK	**Kurchatov**	**68.52**	**326**	P	P	01 47 08.5	+0.2
	0.4nm,0.3s,baz=118,slow=5.8,SNR=3.5						
BVAR	**Borovoye Array**	**74.11**	**326**	P	P	01 47 42.6	+0.5
	0.8nm,0.7s,baz=121,slow=6.8,SNR=7.2						

IDC 04 01:37:20.4±2.7, 0.09S×133.58E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/18, mbtmp3.8/6, Error ellipse: s-maj=196.8km s-min=19.8km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.74**	**178**	P	P	01 41 52.7	+0.7
	0.3nm,0.3s,baz=354,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**23.43**	**179**	P	P	01 42 31.5	-0.1
	1.5nm,0.6s,baz=359,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**32.51**	**167**	P	P	01 43 52.7	-0.4
	1.8nm,0.7s,baz=330,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**64.62**	**324**	P	P	01 47 59.8	-0.2
	0.3nm,0.5s,baz=106,slow=8.8,SNR=4.5						
KURK	**Kurchatov**	**68.67**	**326**	P	P	01 48 25.8	+0.2
	0.5nm,0.3s,baz=129,slow=6.3,SNR=2.8						
BVAR	**Borovoye Array**	**74.27**	**326**	P	P	01 48 59.6	+0.1
	0.5nm,0.6s,baz=130,slow=8.0,SNR=3.7						

*ISK **04** 01:40:04.4, 37.69N×29.28E, h14km, MD2.7*
*DDA **04** 01:40:04.7, 37.91N×29.22E, h7km, MD2.6*
*CSEM **04** 01:40:05.1±0.2, 37.92N×29.23E, h2km, MD2.7, Error ellipse: s-maj=4.8km s-min=3.2km az=107.0*
ISC 04 01:40:05.1±0.9, 37.90N±0.02×29.21E±0.03, h16km±7km, n22, σ0°86/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**224**	*e*PG	**Pg**	**01 40 09.8**	**0.0**
DENT				*e*SG	**Sg**	**01 40 12.9**	**-0.1**
DENT	**Denizli**	**0.20**	**224**	*e*Pg	**Pg**	**01 40 09.9**	**0.0**
DENT				*e*Sg	**Sg**	**01 40 12.9**	**-0.1**
DNZL	**Cakiroluk**	**0.24**	**212**	*i* P	**Pg**	**01 40 11.1**	**+0.5**
DNZL				*i* S	**Sg**	**01 40 14.6**	**+0.3**
DNZL	**Cakiroluk**	**0.24**	**212**	*i* P	**Pg**	**01 40 11.1**	**+0.5**
DNZL				*i* S	**Sg**	**01 40 14.6**	**+0.3**
KHAL	**Karahalli**	**0.53**	**25**	*i* P	**Pg**	**01 40 15.3**	**-0.3**
KHAL				*i* S	**Sg**	**01 40 21.8**	**-0.9**
KHAL	**Karahalli**	**0.53**	**25**	*i* P	**Pg**	**01 40 15.3**	**-0.3**
KHAL				*i* S	**Sg**	**01 40 21.8**	**-0.9**
GOLH	**Golhisar**	**0.71**	**157**	*i* P	**Pg**	**01 40 18.4**	**-0.7**
GOLH				*i* S	**Sb**	**01 40 29.4**	**+0.4**
GOLH	**Golhisar**	**0.71**	**157**	*i* P	**Pg**	**01 40 18.4**	**-0.7**
GOLH				*i* S	**Sb**	**01 40 29.3**	**+0.4**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*PG	**Pn**	**01 40 23.2**	**+2.0**
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	**01 40 20.4**	**0.0**
MANT				*i* S	**Sg**	**01 40 29.5**	**-1.4**
MANT	**Manisa**	**0.78**	**320**	*i* P	**Pg**	**01 40 20.4**	**0.0**
MANT				*i* S	**Sg**	**01 40 29.5**	**-1.4**
YER	**Yerkesik**	**1.06**	**224**	*e*PG	**Pg**	**01 40 23.1**	**-2.4**
AYDN	**Tasoluk**	**1.08**	**258**	*i* P	**Pn**	**01 40 26.4**	**+0.8**
AYDN				*i* S	**Sg**	**01 40 40.3**	**+0.2**
AYDN	**Tasoluk**	**1.08**	**258**	*i* P	**Pn**	**01 40 26.4**	**+0.8**
AYDN				*i* S	**Sg**	**01 40 40.3**	**+0.2**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pg**	**01 40 28.7**	**+0.3**
DEMI				*i* S	**Sb**	**01 40 43.0**	**-0.1**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pg**	**01 40 28.7**	**+0.3**
DEMI				*i* S	**Sb**	**01 40 43.0**	**-0.1**
GDZ	**Gediz**	**1.21**	**10**	*i* P	**Pb**	**01 40 26.4**	**-1.4**
GDZ				*i* S	**Sn**	**01 40 44.8**	**+1.0**
GDZ	**Gediz**	**1.21**	**10**	*i* P	**Pb**	**01 40 26.4**	**-1.4**
GDZ				*i* S	**Sn**	**01 40 44.7**	**+1.0**
SHUT	**Suhut-Afyon**	**1.25**	**58**	*e*PN	**Pg**	**01 40 29.2**	**+0.1**
SHUT	**Suhut-Afyon**	**1.25**	**58**	*e*Pn	**Pg**	**01 40 29.3**	**+0.1**
ALT	**Altintas**	**1.36**	**31**	*e*PN	**Pg**	**01 40 31.5**	**+0.2**
ALT	**Altintas**	**1.36**	**31**	*e*Pn	**Pg**	**01 40 31.5**	**+0.2**

*IDC **04** 01:42:15.5±1.0, 0.62S×133.54E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, ML4.0/1, Error ellipse: s-maj=68.8km s-min=17.3km az=75.0*
*ISCJB **04** 01:42:18.0±0.8, 0.76S±0.09×133.3E±0.3, h28km, mb4.4/10, Error ellipse: s-maj=46.8km s-min=10.3km az=170.0*
*DJA **04** 01:42:20, 0.68S×133.10E, h13km, MLv4.6/4*
ISC 04 01:42:18.9±1.2, 0.6S±0.1×133.8E±0.4, h28km, n12, σ0°61/12, mb4.5/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**178**	P	**Pn**	**01 46 42.0**	**-0.1**
	0.4nm,0.3s,baz=354,slow=11,SNR=23						
WRA				S	Sn	01 50 07.0	-10
	0.2nm,0.3s,baz=350,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**22.93**	**180**	P	**P**	**01 47 20.9**	**-0.1**
	16nm,0.9s,baz=10,slow=12,SNR=37						
STKA	**Stephens Creek**	**31.98**	**167**	P	**P**	**01 48 43.5**	**+0.8**
	6.6nm,0.7s,baz=344,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**31.98**	**167**	*e*P	**P**	**01 48 42.8**	**+0.1**
	4.8nm,0.7s						
BBOO	**Buckleboo**	**32.11**	**176**	*e*P	**P**	**01 48 44.0**	**+0.1**
	62nm,0.9s						
KMBL	**Kambalda**	**32.60**	**199**	*e*P	**P**	**01 48 47.7**	**-0.5**
	45nm,0.8s						
ARPS	**Mount Arapiles**	**36.76**	**169**	*e*P	**P**	**01 49 24.8**	**+0.7**
	40nm,1.2s						
MKAR	**Makanchi Array**	**65.14**	**324**	P	**P**	**01 52 58.2**	**+0.8**
	1.8nm,0.8s,baz=117,slow=8.1,SNR=21						
ZALV	**Zalesovo Beam**	**67.68**	**331**	P	**P**	**01 53 13.0**	**-0.5**
	0.2nm,0.3s,baz=96,slow=4.5,SNR=3.7						
KURK	**Kurchatov**	**69.19**	**326**	P	**P**	**01 53 23.4**	**+0.4**
	3.2nm,0.8s,baz=130,slow=3.5,SNR=9.8						
BVAR	**Borovoye Array**	**74.79**	**326**	P	**P**	**01 53 57.0**	**+0.5**
	0.6nm,0.6s,baz=134,slow=8.5,SNR=5.9						
ILAR	**Eielson Array**	**86.01**	**25**	P	**PcP**	**01 54 58.4**	**-0.8**
	0.4nm,0.8s,baz=237,slow=4.6,SNR=4.9						

*IDC **04** 01:44:23.1±1.0, 0.52S×133.72E, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=65.5km s-min=18.0km az=77.0*
*ISCJB **04** 01:44:25.5±0.8, 0.55S±0.10×133.6E±0.3, h28km, mb3.9/7, Error ellipse: s-maj=42.1km s-min=13.1km az=172.8*
*DJA **04** 01:44:28, 0.90S×133.68E, h10km, mb5.2/8*
ISC 04 01:44:27.3±1.0, 0.6S±0.1×133.7E±0.4, h28km, n9, σ0°77/9, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.26**	**178**	P	**Pn**	**01 48 51.6**	**+0.7**
	0.6nm,0.3s,baz=355,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**22.95**	**179**	P	**P**	**01 49 29.8**	**+0.1**
	3.1nm,0.7s,baz=0.7,slow=11,SNR=5.2						
MBWA	**Marble Bar**	**24.57**	**213**	*e*P	**P**	**01 49 44.7**	**-0.3**
STKA	**Stephens Creek**	**32.02**	**167**	P	**P**	**01 50 51.0**	**-0.5**
	2.1nm,0.7s,baz=0.0,slow=9.1,SNR=3.5						
SONM	**Songino Array**	**53.74**	**337**	P	**P**	**01 53 47.3**	**+0.2**
	0.5nm,0.7s,baz=144,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**65.06**	**324**	P	**P**	**01 55 06.0**	**+0.7**
	1.1nm,0.6s,baz=110,slow=8.8,SNR=11						
ZALV	**Zalesovo Beam**	**67.61**	**331**	P	**P**	**01 55 20.0**	**-1.4**
	0.3nm,0.4s,baz=101,slow=7.7,SNR=4.2						
BVAR	**Borovoye Array**	**74.71**	**326**	P	**P**	**01 56 04.7**	**+0.2**
	1.2nm,0.8s,baz=124,slow=4.5,SNR=4.1						
ILAR	**Eielson Array**	**86.02**	**25**	P	**P**	**01 57 05.3**	**+0.3**
	0.7nm,0.7s,baz=256,slow=4.7,SNR=9.2						

*ISK **04** 01:48:04.9, 38.00N×29.11E, h9km, MD2.8*
*DDA **04** 01:48:05.0, 37.91N×29.21E, h7km, MD2.8*
*CSEM **04** 01:48:05.5±0.2, 37.94N×29.16E, h8km, MD2.8, Error ellipse: s-maj=6.4km s-min=4.5km az=102.0*
*ISCJB **04** 01:48:05.7±0.6, 37.94N±0.03×29.19E±0.05, h7km±6km, Error ellipse: s-maj=7.5km s-min=4.5km az=22.7*
ISC 04 01:48:05.7±0.9, 37.94N±0.03×29.16E±0.04, h12km±8km, n22, σ0°70/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**209**	*e*PG	**Pg**	**01 48 09.7**	**-0.6**
DENT				*e*SG	**Sg**	**01 48 15.3**	**+1.9**
DENT	**Denizli**	**0.21**	**209**	*e*Pg	**Pg**	**01 48 09.7**	**-0.6**
DNZL	**Cakiroluk**	**0.27**	**200**	*i* P	**Pg**	**01 48 10.8**	**-0.5**
DNZL				*i* S	**Sg**	**01 48 15.0**	**-0.1**
DNZL	**Cakiroluk**	**0.27**	**200**	*i* P	**Pg**	**01 48 10.8**	**-0.5**
DNZL				*i* S	**Sg**	**01 48 15.0**	**-0.1**
KHAL	**Karahalli**	**0.50**	**31**	*i* P	**Pg**	**01 48 15.1**	**-0.4**
KHAL				*i* S	**Sg**	**01 48 22.6**	**+0.4**
KHAL	**Karahalli**	**0.50**	**31**	*i* P	**Pg**	**01 48 15.1**	**-0.4**
KHAL				*i* S	**Sg**	**01 48 22.6**	**+0.4**
KULA	**Kula-Manisa**	**0.69**	**325**	*e*PG	**Pg**	**01 48 17.4**	**-1.8**
KULA	**Kula-Manisa**	**0.69**	**325**	*e*Pg	**Pg**	**01 48 17.4**	**-1.8**
MANT	**Manisa**	**0.73**	**319**	*i* P	**Pb**	**01 48 20.6**	**+0.2**
MANT				*i* S	**Sb**	**01 48 30.5**	**0.0**
MANT	**Manisa**	**0.73**	**319**	*i* P	**Pb**	**01 48 20.6**	**+0.2**
MANT				*i* S	**Sb**	**01 48 30.5**	**0.0**
GLHS	**Glhisar (BURDU**	**0.83**	**161**	*e*PG	**Pn**	**01 48 22.9**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.83**	**161**	*e*Pg	**Pn**	**01 48 22.9**	**-0.4**
AYDN	**Tasoluk**	**1.05**	**255**	*i* P	**Pb**	**01 48 26.3**	**+0.4**
AYDN				*i* S	**Sb**	**01 48 39.9**	**+0.2**
AYDN	**Tasoluk**	**1.05**	**255**	*i* P	**Pb**	**01 48 26.3**	**+0.4**
AYDN				*i* S	**Sb**	**01 48 39.9**	**+0.2**
YER	**Yerkesik**	**1.07**	**221**	*e*PN	**Pb**	**01 48 26.4**	**+0.3**
YER	**Yerkesik**	**1.07**	**221**	*e*Pn	**Pb**	**01 48 26.4**	**+0.3**
DEMI	**Demirci**	**1.15**	**342**	*i* P	**Pg**	**01 48 28.7**	**+0.8**
DEMI				*i* S	**Sn**	**01 48 43.7**	**+0.2**
DEMI	**Demirci**	**1.15**	**342**	*i* P	**Pg**	**01 48 28.7**	**+0.8**
DEMI				*i* S	**Sn**	**01 48 43.7**	**+0.2**
SHUT	**Suhut-Afyon**	**1.25**	**60**	*e*PN	**Pb**	**01 48 29.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.25**	**60**	*e*Pn	**Pb**	**01 48 29.4**	**+0.1**
ALT	**Altintas**	**1.34**	**33**	*e*PN	**Pn**	**01 48 30.1**	**-0.2**
ALT	**Altintas**	**1.34**	**33**	*e*Pn	**Pn**	**01 48 30.1**	**-0.2**

CASC 04 01:49:55.9±2.1, 7.95N×82.73W, h26km±7km, MD3.5, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.82**	**328**	*e*P	Pb	01 50 10.6	-1.0
ACR				*e*S	Sb	01 50 22.6	+0.2
BRU2	**Volcan**	**0.84**	**3**	*e*P	Pb	01 50 12.1	0.0
BRU2				*i* S	Sb	01 50 23.0	-0.1
BUS	**Buena Vista**	**1.89**	**328**	*e*P	Pn	01 50 26.0	-1.2
BUS				*e*S	Sb	01 50 52.6	-1.3
URSC	**Urasca**	**2.14**	**331**	⇓*e*P	Pn	01 50 32.1	+1.8
URSC				*e*S	Sn	01 50 56.4	+0.3
PTP	**Ponta Puerca**	**19.54**	**57**	⇓*i*P	x	01 50 02.3	
PTP				*i* S	x	01 50 08.6	

*NNC **04** 01:51:48.5±1.2, 39.21N×70.56E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.1km s-min=7.0km az=11.0*
ISC 04 01:51:43.9±3.2, 38.7N±0.2×70.5E±0.1, h17km, n11, σ1°51/20, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.19**	**34**	P	**Pn**	**01 52 48.5**	**+1.2**
	SNR=12						
AML				P	**Pn**	**01 52 48.5**	**+1.2**
	SNR=12						
KK31	**Karatay Array**	**4.40**	**360**	⇓Pn	Pn	01 52 52.8	+2.9
	2.0nm,0.3s,baz=173,slow=11,SNR=159						
KK31				⇑Pg	**Pb**	**01 52 59.2**	**-1.5**
	2.3nm,0.3s,baz=174,slow=12,SNR=9.1						
KK31				⇑Sn	**Sn**	**01 53 42.7**	**+2.0**
	5.1nm,0.4s,baz=187,slow=26,SNR=4.3						
KK31				⇑Lg	Lg	01 53 50.3	
	9.2nm,0.5s,baz=176,slow=34,SNR=3.5						
EKS2	**Erkin-Say**	**4.66**	**31**	P	Pn	01 52 56.6	+3.1
	SNR=10.0						
EKS2				P	Pn	01 52 56.6	+3.1
	SNR=10.0						
KZA	**Kyzart**	**4.93**	**45**	P	**Pn**	**01 52 55.9**	**-1.6**
	SNR=12						
KZA				P	**Pn**	**01 52 55.9**	**-1.6**
	SNR=12						
AAK	**Ala-Archa**	**4.95**	**36**	P	**Pn**	**01 52 59.5**	**+1.9**
	SNR=8.3						
AAK				P	**Pn**	**01 52 59.5**	**+1.9**
	SNR=8.3						
KBK	**Karagaybulak**	**5.18**	**39**	P	**Pn**	**01 53 02.6**	**+1.9**
	SNR=5.7						
KBK				P	**Pn**	**01 53 02.6**	**+1.9**
	SNR=5.7						
CHMS	**Chumysh**	**5.35**	**35**	P	**Pn**	**01 53 03.4**	**+0.5**
	SNR=6.0						
CHMS				P	**Pn**	**01 53 03.4**	**+0.5**
	SNR=6.0						
USP	**Ospenovka**	**5.46**	**32**	P	**Pn**	**01 53 05.2**	**+0.8**
	SNR=7.0						
USP				P	**Pn**	**01 53 05.2**	**+0.8**
	SNR=7.0						
T

ZALV	**Zalesovo Beam**	**67.06 331**	P	**P**	**02 02 58.8**	**-0.3**
KURK	**Kurchatov**	**68.51 326**	P	**P**	**02 03 08.9**	**+0.6**
	2.3nm,0.9s,baz=120,slow=5.8,SNR=14					
KURK	**Kurchatov**	**68.51 326**	*e*P	**P**	**02 03 08.7**	**+0.4**
	3.7nm,0.8s					
KBL	**Kabul**	**68.86 307**	*e*P	**P**	**02 03 10.7**	**-0.4**
	2.5nm,0.7s					
BVAR	**Borovoye Array**	**74.10 326**	P	**P**	**02 03 42.1**	**0.0**
	0.9nm,0.8s,baz=123,slow=5.3,SNR=4.5					
BVAR	**Borovoye Array**	**74.10 326**	P	**P**	**02 03 42.1**	**0.0**
BRVK	**Borovoye**	**74.17 326**	*e*P	**P**	**02 03 44.9**	**+2.4**
	8.3nm,1.1s					
ILAR	**Eielson Array**	**86.20 25**	P	**P**	**02 04 46.4**	**-0.7**
	0.4nm,0.8s,baz=264,slow=4.5,SNR=4.3					
ILAR	**Eielson Array**	**86.20 25**	P	**P**	**02 04 46.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**129.98 287**	PKP	**PKPdf**	**02 11 16.6**	**-0.1**
	0.3nm,0.9s,baz=64,slow=2.6,SNR=2.6					
TORD	**Torodi Ar. Bea**	**129.98 287**	PKP	**PKPdf**	**02 11 16.6**	**-0.1**

BJI ***04*** *01:55:13.4, 1.°64S×134.°19E, h20km, mB5.4/18, mb4.9/44, Ms5.3/21, Ms7 5.1/20*
IDC ***04*** *01:55:19.7±0.6, 0.°71S×133.°65E, h0km, mb4.7/15, mb1 4.8/16, mb1mx4.7/18, mbtmp4.7/16, ML4.9/1, Error ellipse: s-maj=30.9km s-min=13.9km az=77.0*
MOS ***04*** *01:55:23.4±1.0, 0.°78S×133.°43E, h33km, mb5.3/30, Error ellipse: s-maj=13.2km s-min=6.2km az=112.1*
NEIC ***04*** *01:55:23.4±0.2, 0.°73S×133.°55E, mb5.3/44, Error ellipse: s-maj=7.1km s-min=4.7km az=69.0*
ISCJB ***04*** *01:55:24.9±0.7, 0.°77S±0.°03×133.°62E±0.°03, h47km±6km, mb5.1/104, MS5.0/9, Error ellipse: s-maj=6.0km s-min=4.7km az=43.5*
DJA ***04*** *01:55:27, 0.°98S×133.°59E, h14km, mb5.4/56*
ISC 04 01:55:24.3±0.3,**0.°74S**±0.°04×**133.°74E**±0.°05,**h28**km±1km,
h28km:**pP-P,n286,**σ1§**67**/308,**mb5.2**/103,**MS5.1**/9,**6C-8D,**
Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.41**	**101**	P	**Pb**	**01 56 05.2**	**-1.8**
FAKI	**Fak Fak**	**2.63**	**214**	P	**Pn**	**01 56 05.2**	**+0.3**
TLE	**Tual**	**4.97**	**192**	P	**Pn**	**01 56 38.7**	**+1.6**
SMPI	**Sarmi**	**5.12**	**104**	P	Pn	01 56 43.2	+4.0
	433nm,1.1s,1.6nm						
MSAI	**Masohi**	**5.46**	**242**	P	**Pn**	**01 56 44.4**	**+0.5**
	374nm,1.2s,5μm1.7nm						
LBMI	**Labuha**	**6.24**	**271**	P	**Pn**	**01 56 54.3**	**-0.2**
	985nm,1.0s,8μm2.9nm						
AAI	**Ambon**	**6.27**	**242**	P	**Pn**	**01 56 54.0**	**-0.9**
	2μm,1.4s,18μm5.7nm						
TNTI	**Ternate**	**6.54**	**283**	P	**Pn**	**01 56 59.4**	**+0.6**
	250nm,0.8s,6μm1.4nm						
NLAI	**Namlea**	**7.08**	**249**	P	**Pn**	**01 57 04.8**	**-1.4**
	745nm,1.1s,12μm2.4nm						
MNI	**Manado**	**9.16**	**284**	P	**Pn**	**01 57 36.8**	**+2.1**
	516nm,1.0s,6μm						
KMSI	**Cibinong**	**9.84**	**278**	P	Pn	01 57 48.9	+4.9
	544nm,0.8s						
GTOI	**Gorontalo**	**10.81**	**277**	P	**Pn**	**01 58 00.2**	**+2.9**
	314nm,1.0s						
LUWI	**Luwuk**	**10.97**	**268**	P	**Pn**	**01 57 57.6**	**-1.9**
	557nm,1.6s,7μm						
DAV	**Davao City (W)**	**11.24**	**314**	Pn	**Pn**	**01 58 05.4**	**+2.2**
	16nm,0.3s,baz=248,slow=23,SNR=11						
DAV	**Davao City (W)**	**11.24**	**314**	Pn	**Pn**	**01 58 05.4**	**+2.2**
MRSI	**Marisa**	**11.86**	**276**	P	**Pn**	**01 58 13.1**	**+1.4**
	96nm,1.3s						
BBSI	**Bau Bau**	**12.11**	**247**	P	**Pn**	**01 58 15.1**	**0.0**
	212nm,1.8s,5μm						
MMRI	**Maumere**	**13.88**	**235**	P	**Pn**	**01 58 39.4**	**0.0**
	173nm,1.5s,3μm						
TTSI	**Tana Toraja**	**14.10**	**260**	P	**Pn**	**01 58 41.8**	**-0.5**
	131nm,1.3s						
SPSI	**Sidrap Palu**	**14.32**	**257**	P	**Pn**	**01 58 46.1**	**+0.8**
	152nm,1.0s						
BKSI	**Bulukumba**	**14.34**	**251**	P	**Pn**	**01 58 44.3**	**-1.2**
	256nm,1.5s						
KAPI	**Kappang**	**14.60**	**253**	*e*Pn	**Pn**	**01 58 47.6**	**-1.5**
KAPI	**Kappang**	**14.60**	**253**	P	**Pn**	**01 58 47.8**	**-1.3**
	258nm,1.4s						
MJSI	**Majene**	**15.01**	**259**	P	**P**	**01 59 03.6**	**+3.8**
PMG	**Port Moresby**	**15.89**	**123**	Pn	**P**	**01 59 09.4**	**-0.2**
	0.9nm,0.3s,baz=321,slow=7.5,SNR=30						
PMG	**Port Moresby**	**15.89**	**123**	*e*P	**P**	**01 59 10.0**	**+0.4**
PMG				pmax	pmax		
	comp=Z,1μm,2.0s						
PMG	**Port Moresby**	**15.89**	**123**	*e*Pn	**P**	**01 59 10.0**	**+0.4**
	comp=Z,1μm,2.0s						
COEN	**Coen**	**16.12**	**145**	*e*Pn	**Pn**	**01 59 09.5**	**+0.4**
	comp=Z,365nm,0.9s						
COEN				*e*Sn	**Sn**	**02 02 03.5**	**-3.6**
MYLDM	**Lahad Datu**	**16.32**	**291**	P	**P**	**01 59 16.1**	**+1.8**
MYLDM	**Lahad Datu**	**16.32**	**291**	P	**P**	**01 59 17.8**	**+3.5**
	comp=Z,201nm,1.3s						
SMKI	**Samarinda**	**16.53**	**271**	P	**P**	**01 59 20.0**	**+3.3**
	comp=Z,526nm,1.2s						
TSM	**Tawau**	**16.62**	**288**	P	**Pn**	**01 59 16.2**	**+0.8**
SDKM	**Sandakan**	**17.69**	**291**	P	**P**	**01 59 30.2**	**+0.6**
KBKI	**Kotabaru**	**17.74**	**262**	P	**P**	**01 59 33.4**	**+3.3**
	comp=Z,166nm,1.2s						
KKM	**Kota Kinabalu**	**18.75**	**291**	*e*P	**P**	**01 59 40.4**	**-0.8**
	comp=Z,127nm,1.3s						
BBKI	**Banjar Baru**	**19.08**	**262**	P	**Pn**	**01 59 50.1**	**+4.4**
	comp=Z,202nm,1.4s						
WRAB	**Tennant Creek**	**19.09**	**178**	*e*P	**P**	**01 59 43.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,276nm,1.4s						
WRAB	**Tennant Creek**	**19.09**	**178**	*e*P	**P**	**01 59 43.8**	**-1.1**
	comp=Z,276nm,1.4s						
WRAB	**Tennant Creek**	**19.09**	**178**	P	**P**	**01 59 43.7**	**-1.1**
	comp=Z,624nm,1.1s,SNR=9.9						
WRA	**Warramunga Arr**	**19.10**	**178**	P	**P**	**01 59 43.6**	**-1.3**
	comp=Z,3.5nm,0.3s,baz=358,slow=12,SNR=39						
WRA				S	Sn	02 03 07.9	-11
	comp=Z,0.6nm,0.3s,baz=355,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**19.10**	**178**	P	**P**	**01 59 43.7**	**-1.3**
WRA				S	Sn	02 03 07.9	-11
WRA	**Warramunga Arr**	**19.10**	**178**	P	**P**	**01 59 43.6**	**-1.3**
WRA				S	Sn	02 03 07.9	-11
WB2	**Warramunga Arr**	**19.10**	**178**	*e*P	**P**	**01 59 43.6**	**-1.3**
MTNI	**Mataram**	**19.18**	**245**	P	**P**	**01 59 45.6**	**-0.3**
	comp=Z,292nm,1.2s,comp=Z,12μm						
KHKI	**Kahang-Kahang**	**19.59**	**247**	P	**P**	**01 59 49.9**	**-0.5**
	comp=Z,294nm,1.4s,comp=Z,4μm						
PLKI	**Palangkaraya**	**19.84**	**266**	P	**Pn**	**01 59 59.6**	**+4.7**
	comp=Z,316nm,1.4s						
MTSU	**Mount Surprise**	**20.17**	**150**	*e*P	**P**	**01 59 57.7**	**+0.9**
	comp=Z,175nm,1.1s						
NBBI	**Negara**	**20.50**	**248**	P	Pn	02 00 03.1	+0.5
	comp=Z,359nm,1.5s,comp=Z,6μm						
BYJI	**Banyuwangi**	**20.69**	**248**	P	Pn	02 00 06.2	+1.4
	comp=Z,609nm,1.1s,comp=Z,13μm						
KMMI	**Kalianget**	**20.69**	**252**	P	Pn	02 00 06.3	+1.5
	comp=Z,234nm,1.0s,comp=Z,4μm						
JAGI	**Jajag, Banyuwa**	**20.97**	**248**	P	Pn	02 00 07.4	-0.7
	comp=Z,288nm,1.3s						
BTM	**Bintulu**	**21.01**	**281**	P	**P**	**02 00 07.7**	**+1.8**
BLJI	**Banyuglugur**	**21.25**	**250**	P	**P**	**02 00 09.6**	**+1.2**
	comp=Z,401nm,0.9s						
GMJI	**Gumukmas**	**21.56**	**249**	P	**P**	**02 00 16.2**	**+4.5**
	comp=Z,164nm,1.3s						
SBUM	**Sibu**	**21.75**	**278**	P	P	02 00 19.1	+5.3
SBUM	**Sibu**	**21.75**	**278**	P	**P**	**02 00 17.9**	**+4.1**
	comp=Z,158nm,1.6s						
STKI	**Sintang**	**22.27**	**272**	P	**P**	**02 00 20.9**	**+1.4**
	comp=Z,80nm,1.8s,comp=Z,11μm						
KRKI	**Karangkates**	**22.45**	**250**	P	P	02 00 29.4	+8.0
	comp=Z,309nm,1.3s,comp=Z,17μm						
AS31	**Alice Springs**	**22.79**	**180**	*e*P	**P**	**02 00 24.1**	**-0.9**
ASAR	**Alice Springs**	**22.80**	**180**	P	**P**	**02 00 24.2**	**-0.7**
	comp=Z,44nm,0.9s,baz=1.1,slow=7.6,SNR=44						
ASAR				S	Sn	02 04 40.7	-7.5
	comp=Z,12nm,0.9s,baz=4.8,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**22.80**	**180**	P	**P**	**02 00 24.3**	**-0.7**
ASAR	**Alice Springs**	**22.80**	**180**	P	**P**	**02 00 24.2**	**-0.7**
ASAR				S	Sn	02 04 40.7	-7.5
CTAO	**Charters Tower**	**22.80**	**148**	*e*P	**P**	**02 00 27.0**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,133nm,1.1s						
CTAO	**Charters Tower**	**22.80**	**148**	*e*P	**P**	**02 00 26.9**	**+2.0**
	comp=Z,133nm,1.1s						
SJI	**Sawahan**	**22.98**	**252**	P	**P**	**02 00 30.6**	**+3.6**
	comp=Z,211nm,1.6s,comp=Z,4μm						
PWJI	**Pagerwojo**	**23.02**	**251**	P	**P**	**02 00 30.3**	**+2.9**
	comp=Z,104nm,1.4s						
KSM	**Kuching**	**23.53**	**275**	*e*P	**P**	**02 00 32.0**	**-0.4**
	comp=Z,71nm,1.1s						
KSM	**Kuching**	**23.53**	**275**	P	**P**	**02 00 35.3**	**+2.8**
KSM	**Kuching**	**23.53**	**275**	P	**P**	**02 00 35.5**	**+3.1**
	comp=Z,164nm,1.0s						
PCJI	**Pacitan**	**23.67**	**251**	P	**P**	**02 00 37.5**	**+3.8**
	comp=Z,150nm,1.4s						
SMRI	**Semarang**	**24.06**	**254**	P	**P**	**02 00 41.6**	**+4.1**
	comp=Z,145nm,1.4s						
MBWA	**Marble Bar**	**24.48**	**213**	*e*P	**P**	**02 00 40.3**	**-0.9**
	comp=Z,215nm,1.4s						
BJII	**Banjamegara**	**24.84**	**254**	P	**P**	**02 00 45.4**	**+0.8**
	comp=Z,173nm,2.0s,comp=Z,6μm						
TPI	**Tanjungpandan**	**26.15**	**265**	P	P	02 01 04.4	+8.0
	comp=Z,53nm,1.5s						
CISI	**Cisompet, Garu**	**26.71**	**255**	P	**P**	**02 01 01.7**	**+0.1**
	comp=Z,278nm,1.0s						
LEM	**Lembang**	**26.75**	**256**	P	P	02 01 07.7	+5.7
	comp=Z,108nm,1.3s						
SSLB	**Suanglung**	**27.36**	**334**	*e*P	**P**	**02 01 09.0**	**+1.7**
	comp=Z,34nm,0.9s						
FORT	**Forrest**	**30.36**	**190**	*e*P	**P**	**02 01 33.0**	**-0.8**
	comp=Z,40nm,0.6s						
FORT	**Forrest**	**30.36**	**190**	*e*P	**P**	**02 01 34.0**	**+0.2**
	comp=Z,66nm,0.7s						
QIZ	**Qiongzhong**	**30.60**	**311**	P	**P**	**02 01 35.9**	**-0.2**
KSI	**Kapahiang**	**31.25**	**264**	P	**P**	**02 01 45.1**	**+3.1**
	comp=Z,108nm,1.1s						
STKA	**Stephens Creek**	**31.85**	**167**	P	**P**	**02 01 46.2**	**-0.8**
	comp=Z,7.8nm,0.6s,baz=343,slow=8.6,SNR=9.6						
STKA	**Stephens Creek**	**31.85**	**167**	*e*P	P	02 01 43.2	-3.8
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**31.85**	**167**	*e*P	P	02 01 43.4	-3.6
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**31.85**	**167**	*e*P	P	02 01 43.4	-3.6
	comp=Z,3.5nm,0.8s						
BBOO	**Buckleboo**	**31.98**	**176**	*e*P	**P**	**02 01 48.6**	**+0.5**
	comp=Z,1μm,1.4s						
KMBL	**Kambalda**	**32.47**	**199**	*e*P	**P**	**02 01 52.4**	**0.0**
	comp=Z,337nm,1.0s						
IPM	**Ipoh**	**33.09**	**279**	*e*P	**P**	**02 01 57.9**	**-0.3**
	comp=Z,33nm,1.2s						
IPM	**Ipoh**	**33.09**	**279**	P	**P**	**02 01 58.3**	**+0.2**
PPI	**Padang Panjang**	**33.34**	**270**	P	**P**	**02 02 00.7**	**+0.4**
	comp=Z,31nm,1.2s						
KULM	**Kulim**	**33.58**	**281**	*e*P	**P**	**02 02 00.4**	**-2.0**
	comp=Z,15nm,0.8s						
KULM	**Kulim**	**33.58**	**281**	P	**P**	**02 02 01.4**	**-1.0**
JNU	**Nakatsue**	**33.78**	**356**	*e*P	**P**	**02 02 02.9**	**-1.0**
	comp=Z,9.4nm,1.0s						
ARMA	**Armidale**	**34.06**	**152**	*e*P	**P**	**02 02 05.5**	**-1.0**
KLBR	**Kellerberrin**	**34.21**	**205**	*e*P	**P**	**02 02 07.2**	**-0.4**
	comp=Z,42nm,0.8s						
PSI	**Prapat**	**34.98**	**276**	P	**P**	**02 02 13.9**	**-0.8**
	comp=Z,104nm,1.1s						
WHN	**Wuhan**	**36.17**	**331**	P	P	02 02 28.5	+4.1
ARPS	**Mount Arapiles**	**36.63**	**169**	*e*P	**P**	**02 02 28.4**	**+0.1**
	comp=Z,60nm,0.9s						
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**02 02 32.4**	**-1.8**
	comp=Z,3.5nm,1.0s,baz=191,slow=7.3,SNR=5.4						
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**02 02 32.4**	**-1.8**
MJAR	**Matsushiro Arr**	**37.32**	**6**	P	**P**	**02 02 32.4**	**-1.8**
MAT	**Matsushiro**	**37.32**	**6**	P	**P**	**02 02 34.0**	**-0.2**
GYA	**Guiyang**	**37.58**	**318**	P	**P**	**02 02 37.6**	**+0.9**
GYA				pP	**pP**	**02 02 44.3**	**-0.8**
GYA				PP	**PnPn**	**02 04 06.7**	**+2.9**
GYA				S	**S**	**02 08 25.6**	**+0.9**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=N,2μm,16.6s						
GYA				LR	LR		
	comp=E,2μm,17.2s						
GYA				LR	LR		
	comp=Z,3μm,16.6s						
TOO	**Toolangi**	**38.23**	**165**	*e*P	**P**	**02 02 42.8**	**+0.9**
	comp=Z,31nm,0.8s						
KSAR	**Wonju Array Be**	**38.37**	**352**	P	**P**	**02 02 42.8**	**-0.2**
KSAR	**Wonju Array Be**	**38.37**	**352**	P	**P**	**02 02 42.8**	**-0.2**
KSRS	**Korea Array**	**38.38**	**353**	P	**P**	**02 02 42.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=174,slow=13,SNR=5.1						
BSI	**Banda Aceh**	**38.88**	**280**	P	**P**	**02 02 46.6**	**-1.2**
	comp=Z,81nm,1.0s						
CM31	**Chiang Mai Arr**	**39.16**	**301**	*e*P	**P**	**02 02 49.2**	**-0.8**
	comp=Z,23nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.16**	**301**	P	**P**	**02 02 48.8**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=120,slow=6.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**39.16**	**301**	P	**P**	**02 02 48.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.16**	**301**	P	**P**	**02 02 48.8**	**-1.2**
CHTO	**Chiang Mai**	**39.31**	**301**	*e*P	**P**	**02 02 49.6**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**39.31**	**301**	*e*P	**P**	**02 02 49.6**	**-1.6**
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**39.31**	**301**	P	**P**	**02 02 52.4**	**+1.2**
	comp=Z,47nm,1.5s						
KMI	**Kunming**	**39.50**	**313**	P	**P**	**02 02 52.1**	**-0.9**
KMI				pP	**pP**	**02 02 57.4**	**-4.1**
KMI				sP	**sP**	**02 03 00.8**	**-4.1**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CD2	**Chengdu**	**42.45**	**320**	P	P	02 03 21.5	+4.5
CD2				pP	pP	02 03 27.5	+2.0
CD2				sP	sP	02 03 30.6	+1.7
CD2				PP	PcP	02 05 03.0	-6.7
CD2				S	**S**	**02 09 42.1**	**+4.8**
CD2				sS	sS	02 09 52.2	+1.0
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				pmax	pmax		
	comp=Z,3μm,11.5s						
CD2				LR	LR		
	comp=E,2μm,19.0s						
CD2				LR	LR		
	comp=Z,2μm,17.3s						
BJT	**Baijiatuan**	**43.62**	**340**	*e*P	**P**	**02 03 26.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,75nm,0.8s						
BJT	**Baijiatuan**	**43.62**	**340**	*e*P	**P**	**02 03 26.4**	**+0.1**
	comp=Z,76nm,0.8s						
BJI	**Beijing**	**43.64**	**340**	P	**P**	**02 03 26.5**	**+0.1**
BJI				pP	**pP**	**02 03 31.9**	**-3.0**
BJI				pmax	pmax		
	comp=Z,71nm,1.1s						
USRK	**Ussuriysk Arra**	**44.77**	**358**	P	**P**	**02 03 35.8**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=191,slow=9.3,SNR=6.6						
CN2	**Changchun**	**44.96**	**352**	*e*P	P	02 03 32.6	-4.3
CN2				*e*S	**S**	**02 10 10.1**	**-3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s						
CN2				LR	LR		
	comp=E,1μm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
MDJ	**Mudanjiang**	**45.30**	**356**	P	**P**	**02 03 40.5**	**+0.9**
MDJ				pP	**pP**	**02 03 46.6**	**-1.6**
MDJ				sP	**sP**	**02 03 49.4**	**-2.2**
MDJ				ScP	**ScP**	**02 09 11.1**	**+1.1**
MDJ				S	**S**	**02 10 19.6**	**+1.2**
MDJ				ScS	**ScS**	**02 13 36.2**	**+1.7**
MDJ				SS	**SS**	**02 13 44.4**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,13nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,270nm,7.7s						
MDJ				LR	LR		
	comp=N,990nm,21.5s						
MDJ				LR	LR		
	comp=E,970nm,19.2s						
MDJ				LR	LR		
	comp=Z,2μm,18.0s						
LZH	**Lanzhou**	**46.00**	**326**	*e*P	**P**	**02 03 46.9**	**+1.4**
LZH				pP	**pP**	**02 03 51.7**	**-2.3**
LZH				sP	**sP**	**02 03 55.8**	**-1.6**
LZH				*e*S	**S**	**02 10 28.5**	**-0.5**
LZH				pmax	pmax		
	comp=Z,41nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,4.6s						
LZH				LR	LR		
	comp=N,160nm,9.2s						
LZH				LR	LR		
	comp=E,1μm,15.7s						
LZH				LR	LR		
	comp=Z,3μm,19.2s						
MSVF	**Nonsavu**	**46.70**	**114**	*e*P	P	02 03 55.1	+3.9
MSVF				pmax	pmax		
	comp=Z,204nm,2.2s						
MSVF	**Nonsavu**	**46.70**	**114**	*e*P	P	02 03 55.1	+3.9
	comp=Z,204nm,2.2s						
MSVF	**Nonsavu**	**46.70**	**114**	P	P	02 03 55.6	+4.4
	comp=Z,162nm,1.1s,SNR=8.0						
YSS	**Yuzh-Sakhalins**	**48.15**	**8**	*e*P	P	02 04 07.8	+6.0
YSS				*e*		02 04 13.0	
YSS	**Yuzh-Sakhalins**	**48.15**	**8**	*e*P	**P**	**02 04 01.7**	**-0.1**
SHL	**Shillong**	**48.15**	**306**	*e*P	**P**	**02 04 04.0**	**+1.5**
HABR	**Khabarovsk**	**49.03**	**1**	*de*P	**P**	**02 04 08.3**	**-0.3**
HABR				*e**PP	**pP**	**02 04 17.8**	**+0.6**
HABR				*e**SP	**sP**	**02 04 21.7**	**+1.1**
HABR				*e*		02 05 30.2	
HABR				*e*PPP	PPP	02 06 53.8	
HABR				*e*S	**S**	**02 11 12.7**	**+1.4**
HABR				*e**SS	**sS**	**02 11 29.4**	**+3.9**
HABR				*e*		02 13 56.8	
HABR				*e*SS	**SS**	**02 14 44.7**	**+2.0**
HABR				*e*SSS	SSS	02 16 03.1	
HABR				pmax	pmax		
	comp=Z,75nm,1.6s						
HABR				pmax	pmax		
	comp=N,33nm,1.9s						
HABR				pmax	pmax		
	comp=E,35nm,1.8s						
HABR				MLR	MLR		
	comp=Z,870nm,15.0s						
KLR	**Kul'dur**	**49.80**	**358**	*e*P	**P**	**02 04 12.2**	**-2.3**
KLR				pmax	pmax		
	comp=Z,50nm,1.4s						
GTA	**Gaotai**	**50.60**	**326**	↓P	**P**	**02 04 20.8**	**-0.1**
GTA				pP	**pP**	**02 04 30.9**	**+1.3**
GTA				sP	**sP**	**02 04 34.6**	**+1.7**
GTA				S	**S**	**02 11 35.2**	**+1.2**
GTA				sS	**sS**	**02 11 52.3**	**+4.1**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,960nm,5.7s						
GTA				LR	LR		
	comp=N,790nm,17.6s						
GTA				LR	LR		
	comp=E,1μm,17.1s						
GTA				LR	LR		
	comp=Z,2μm,18.3s						
LSA	**Lhasa**	**50.64**	**310**	P	**P**	**02 04 21.2**	**-0.6**
LSA	**Lhasa**	**50.64**	**310**	*e*P	**P**	**02 04 21.5**	**-0.3**
LSA				pmax	pmax		
	comp=Z,188nm,1.8s						
LSA	**Lhasa**	**50.64**	**310**	*e*P	**P**	**02 04 21.5**	**-0.3**
	comp=Z,188nm,1.8s						
TAPN	**Taplejung**	**52.29**	**306**	*e*P	**P**	**02 04 33.0**	**-1.0**
	comp=Z,166nm,1.2s						
TAPN	**Taplejung**	**52.29**	**306**	*e*P	**P**	**02 04 33.0**	**-1.0**
ODAN	**Odare**	**52.35**	**305**	*e*P	**P**	**02 04 32.8**	**-1.6**
ODAN	**Odare**	**52.35**	**305**	*e*P	**P**	**02 04 32.8**	**-1.6**
RAMN	**Ramite**	**53.03**	**305**	*e*P	**P**	**02 04 38.5**	**-0.9**
	comp=Z,131nm,1.0s						
RAMN	**Ramite**	**53.03**	**305**	*e*P	**P**	**02 04 38.5**	**-0.9**
JIRN	**Jiri**	**53.65**	**306**	*e*P	**P**	**02 04 43.0**	**-1.1**
	comp=Z,40nm,0.7s						
JIRN	**Jiri**	**53.65**	**306**	*e*P	**P**	**02 04 43.0**	**-1.1**
ULN	**Ulaanbaatar**	**53.69**	**338**	*e*P	**P**	**02 04 44.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,36nm,1.1s						
ULN	**Ulaanbaatar**	**53.69**	**338**	*e*P	**P**	**02 04 44.4**	**+0.6**
	comp=Z,36nm,1.1s						
SONM	**Songino Array**	**53.91**	**337**	P	**P**	**02 04 45.7**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=154,slow=5.4,SNR=24						
SONM	**Songino Array**	**53.91**	**337**	P	**P**	**02 04 45.7**	**+0.3**
SONM	**Songino Array**	**53.91**	**337**	P	**P**	**02 04 45.7**	**+0.3**
GUN	**Gumba**	**54.00**	**306**	*e*P	**P**	**02 04 45.2**	**-1.4**
	comp=Z,100nm,0.8s						
GUN	**Gumba**	**54.00**	**306**	*e*P	**P**	**02 04 45.2**	**-1.4**
RPZ	**Rata Peaks**	**54.17**	**147**	*e*P	**P**	**02 04 48.6**	**+1.5**
	comp=Z,56nm,1.3s						
PKI	**Pulchoki**	**54.25**	**305**	*e*P	**P**	**02 04 46.9**	**-1.5**
	comp=Z,53nm,1.0s						
PKI	**Pulchoki**	**54.25**	**305**	*e*P	**P**	**02 04 46.9**	**-1.5**
PKI	**Pulchoki**	**54.25**	**305**	*e*P	**P**	**02 04 46.9**	**-1.5**
KKN	**Kakani**	**54.44**	**305**	*e*P	**P**	**02 04 49.2**	**-0.5**
	comp=Z,83nm,1.1s						
KKN	**Kakani**	**54.44**	**305**	*e*P	**P**	**02 04 49.2**	**-0.5**
KKN	**Kakani**	**54.44**	**305**	*e*P	**P**	**02 04 49.2**	**-0.5**
DMN	**Daman**	**54.51**	**305**	*e*P	**P**	**02 04 49.1**	**-1.2**
	comp=Z,93nm,1.0s						
DMN	**Daman**	**54.51**	**305**	*e*P	**P**	**02 04 49.1**	**-1.2**
URZ	**Urewera**	**54.55**	**138**	*e*P	**P**	**02 04 51.8**	**+1.8**
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**55.05**	**305**	*e*P	**P**	**02 04 52.5**	**-1.5**
GKN	**Gorkha**	**55.05**	**305**	*e*P	**P**	**02 04 52.5**	**-1.5**
CIT	**Chita**	**55.26**	**345**	*e*P	**P**	**02 04 56.0**	**+1.1**
CIT				*e*		02 05 08.8	
**K

YAK pmax pmax
comp=Z,188nm,5.5s
YAK pmax pmax
comp=N,197nm,6.3s
YAK pmax pmax
comp=E,261nm,8.1s
YAK smax smax
comp=E,134nm,3.1s
YAK smax smax
comp=N,102nm,3.3s
YAK Yakutsk 62.68 358 *e*P **P 02 05 46.5 +0.3**
comp=N,30nm,0.8s
SEY Seymchan 65.03 9*ce*P **P 02 06 03.8 +2.1**
MK31 Makanchi Array 65.23 324 *e*P **P 02 06 02.9 -0.4**
MK31 *e**PP **pP 02 06 09.4 -2.8**
MK31 Makanchi Array 65.23 324 *e*P **P 02 06 02.9 -0.4**
MK31 *e*pP **pP 02 06 09.3 -2.8**
MKAR Makanchi Array 65.23 324 P **P 02 06 03.3 0.0**
comp=N,8.2nm,0.6s,baz=110,slow=8.8,SNR=98
MKAR Makanchi Array 65.23 324*ce*P **P 02 06 03.2 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 65.23 324 *e*P P 02 05 58.4 -4.9
KSH Kashi 66.14 314⇓*i*P **P 02 06 10.1 +0.6**
KSH *e*pP **pP 02 06 20.2 +1.8**
KSH *e*sP **sP 02 06 24.2 +2.5**
KSH *e*PcP **PcP 02 06 40.3 +0.6**
KSH *e*PP **PP 02 08 37.3 +1.9**
KSH *e*ScP 02 10 40.1
KSH *e*PcS 02 10 43.4
KSH *e*S **S 02 14 51.4 -5.2**
KSH *e*ScS **SKSac 02 15 59.4 -4.7**
KSH pmax pmax
comp=Z,16nm,1.0s
KSH LR LR
comp=N,820nm,15.0s
KSH LR LR
comp=E,280nm,8.2s
KSH LR LR
comp=Z,780nm,14.8s
TKM2 Tokmak 2 67.73 318 *e*P **P 02 06 19.4 -0.2**
TKM2 *e**PP **pP 02 06 25.5 -3.0**
TKM2 pmax pmax
comp=Z,11nm,0.7s
TKM2 Tokmak 2 67.73 318 *e*P **P 02 06 19.4 -0.2**
comp=Z,11nm,0.7s
TKM2 *e*pP **pP 02 06 25.4 -3.0**
ZAA0 Zalesovo Array 67.78 331 *e*P **P 02 06 18.5 -0.9**
ZALV Zalesovo Beam 67.78 331 P **P 02 06 18.4 -1.0**
comp=Z,10nm,1.1s,baz=119,slow=5.4,SNR=20
ZALV Zalesovo Beam 67.78 331 P **P 02 06 18.4 -1.0**
ZALV Zalesovo Beam 67.78 331 P **P 02 06 18.4 -1.0**
AAK Ala-Archa 68.36 317*d*i*P **P 02 06 24.3 +0.7**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 68.36 317 *e*P **P 02 06 23.9 +0.3**
comp=Z,95nm,1.2s
EKS2 Erkin-Say 68.86 317 *e*P **P 02 06 26.8 +0.2**
EKS2 *e**PP **pP 02 06 33.2 -2.4**
EKS2 pmax pmax
comp=Z,18nm,0.8s
EKS2 Erkin-Say 68.86 317 *e*P **P 02 06 26.8 +0.2**
comp=Z,18nm,0.8s
EKS2 *e*pP **pP 02 06 33.1 -2.4**
NVS Novosibirsk 69.06 331⇓*i*P **P 02 06 24.8 -2.6**
NVS *e*S **S 02 15 28.5 -2.1**
NVS pmax pmax
comp=Z,97nm,2.3s
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,15nm,1.4s
NVS smax smax
comp=N,13nm,2.4s
NVS smax smax
comp=E,8.0nm,2.4s
KURK Kurchatov 69.29 326 P **P 02 06 28.4 -0.4**
comp=E,14nm,0.9s,baz=122,slow=5.2,SNR=5.2
KURK Kurchatov 69.29 326*ce*P **P 02 06 28.5 -0.4**
KURK pmax pmax
comp=Z,46nm,1.2s
KURK Kurchatov 69.29 326 *e*P **P 02 06 28.0 -0.9**
comp=Z,40nm,0.9s
KURK Kurchatov 69.29 326 P **P 02 06 28.7 -0.2**
comp=Z,232nm,0.9s,SNR=18
KBL Kabul 69.78 307 *e*P **P 02 06 31.5 -1.1**
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 69.78 307 *e*P **P 02 06 31.5 -1.1**
comp=Z,18nm,0.9s
KK31 Karatay Array 71.26 316 *i*P **P 02 06 40.8 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 71.26 316 *e*P **P 02 06 40.9 -0.4**
KKAR Karatay Array 71.26 316 *e*P **P 02 06 40.9 -0.4**
MIR Mirnyy 71.64 196⇑*i*P **P 02 06 43.2 +0.2**
MIR pmax pmax
comp=Z,90nm,2.0s
BILL Bilibino 72.22 12 *e*P **P 02 06 47.1 +0.6**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 72.22 12 *e*P **P 02 06 46.8 +0.3**
comp=Z,3.0nm,0.7s
VOSK Vostochnaya 74.44 326 P **P 02 06 58.8 -1.0**
VOSK pmax pmax
comp=Z,40nm,1.5s
BVA0 Borovoye Array 74.89 326 *i*P **P 02 07 02.0 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 74.89 326 P **P 02 07 02.0 -0.4**
comp=Z,5.5nm,0.6s,baz=120,slow=7.0,SNR=29
BVAR Borovoye Array 74.89 326 P **P 02 07 02.0 -0.4**
BVAR Borovoye Array 74.89 326 P **P 02 07 02.0 -0.4**
BRVK Borovoye 74.96 326*de*P **P 02 07 02.3 -0.5**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 74.96 326 *e*P **P 02 07 01.5 -1.3**
comp=Z,19nm,0.9s
ZRNK Zerenda 75.64 326 P **P 02 07 05.7 -1.0**
ZRNK pmax pmax
comp=Z,1.0nm,1.6s
VNDA Vanda 78.21 174 *e*P **P 02 07 21.5 +0.7**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 78.21 174 *e*P **P 02 07 21.5 +0.7**
comp=Z,17nm,1.0s
SBA Scott Base 79.04 173 *e*P **P 02 07 25.9 +0.6**
SBA pmax pmax
comp=Z,232nm,2.4s
SBA Scott Base 79.04 173 *e*P **P 02 07 25.9 +0.6**
comp=Z,232nm,2.4s
AB31 Akbulak array 80.03 320 *i*P P 02 07 25.0 -6.2
ABKAR Akbulak array 80.03 320 *e*P **P 02 07 29.8 -1.4**
comp=Z,12nm,0.9s
ABKAR *e*pP **PcP 02 07 36.5 -2.1**
SVE Sverdlovsk 81.42 328⇓*i*P **P 02 07 38.5 0.0**
SVE pmax pmax
comp=Z,39nm,1.5s
TTA Tatalina 81.76 26 *e*P **P 02 07 41.4 +1.0**
TTA Tatalina 81.76 26 *e*P **P 02 07 41.4 +1.0**
KDAK Kodiak Island 81.97 31*ce*P P 02 07 44.5 +3.1
ARU Arti 82.44 327*c i*P **P 02 07 43.2 -0.7**
ARU 02 10 49.1
ARU PPP PPP 02 12 41.5
ARU S **S 02 17 57.2 -1.2**
ARU pmax pmax
comp=Z,31nm,2.5s
ARU Arti 82.44 327 *e*P **P 02 07 42.5 -1.4**
comp=Z,31nm,1.4s
ARU *e*pP **PcP 02 07 48.9 -0.1**
RSO Redoubt South 82.55 29 *e*P **P 02 07 45.2 +0.5**
SLKM Skilak Lake 83.78 29 *e*P **P 02 07 51.0 +0.2**
SLKM Skilak Lake 83.78 29 *e*P **P 02 07 51.0 +0.2**
SOKR Solikamsk 84.03 330 *e*P **P 02 07 51.3 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.4s
RC01 Rabbit Creek A 84.14 28 *e*P **P 02 07 53.4 +0.8**
comp=Z,102nm,1.8s
TRF Thorofare Moun 84.40 26 *e*P **P 02 07 55.4 +1.3**
comp=Z,63nm,1.6s
PMR Palmer 84.53 28 *e*P **P 02 07 54.9 +0.4**
PMR *e**PP **pP 02 08 01.2 -2.4**
PMR pmax pmax
comp=Z,93nm,2.1s
PMR Palmer 84.53 28 *e*P **P 02 07 54.9 +0.4**
comp=Z,93nm,2.1s
PMR *e*pP **pP 02 08 01.2 -2.4**
SML Sawmill 84.95 28 *e*P **P 02 07 57.2 +0.5**
SML pmax pmax
comp=Z,18nm,1.5s
SML Sawmill 84.95 28 *e*P **P 02 07 57.2 +0.5**
comp=Z,18nm,1.5s
MCK McKinley 85.06 26 *e*P **P 02 07 57.5 +0.3**
MCK pmax pmax
comp=Z,122nm,1.6s
MCK McKinley 85.06 26 *e*P **P 02 07 57.5 +0.3**
comp=Z,122nm,1.6s
COLD Coldfoot 85.30 22 *e*P **P 02 07 59.9 +1.6**
comp=Z,11nm,1.2s
COLA College 85.74 25 *e*P **P 02 08 00.6 +0.1**
COLA pmax pmax
comp=Z,24nm,1.5s
COLA College 85.74 25 *e*P **P 02 08 00.6 +0.1**
comp=Z,24nm,1.5s
DIV Divide 86.04 29 *e*P **P 02 08 03.7 +1.5**
comp=Z,81nm,1.3s
ILAR Eielson Array 86.13 25 P **P 02 08 00.7 -1.8**
comp=Z,2.6nm,0.6s,baz=252,slow=4.7,SNR=48
ILAR Eielson Array 86.13 25 P **P 02 08 00.7 -1.8**
ILAR Eielson Array 86.13 25 P **P 02 08 00.7 -1.8**
PAX Paxson 86.46 27 *e*P **P 02 08 05.6 +1.3**
PAX Paxson 86.46 27 *e*P **P 02 08 05.6 +1.3**
BMRM Bremner River 86.58 29 *e*P **P 02 08 06.1 +1.2**
comp=Z,97nm,1.5s
KBD Kabd 86.90 299 *e*P P 02 08 11.6 +4.6
KBD AMb AMB 02 08 13.5
comp=Z,46nm,2.0s
MIB Mutribah 87.23 300 *e*P P 02 08 13.2 +4.5
MIB AMb AMB 02 08 20.1
comp=Z,44nm,1.8s
NAY Al-Naaiem 87.29 299 *e*P P 02 08 13.4 +4.4
NAY AMb AMB 02 08 23.5
comp=Z,32nm,1.4s
QSPA South Pole Qui 89.20 180 *e*P **P 02 08 17.4 +0.1**
comp=Z,31nm,1.1s
SYO Syowa Base 90.81 201⇓*e*PcP **PcP 02 08 28.8 +3.1**
INK Inuvik 91.70 22 *e*P **P 02 08 29.1 +0.3**
INK pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 91.70 22 *e*P **P 02 08 29.1 +0.3**
comp=Z,12nm,1.3s
OBN Obninsk 94.71 325 *e*P P 02 08 39.6 -3.3
OBN pmax pmax
comp=Z,8.0nm,1.2s
ARCES ARCESS Array B 97.00 340 P **P 02 08 52.8 -0.3**
comp=Z,1.9nm,0.8s,baz=80,slow=8.8,SNR=8.4
ARCES ARCESS Array B 97.00 340 P **P 02 08 52.8 -0.3**
ARCES ARCESS Array B 97.00 340 P **P 02 08 52.8 -0.3**
FINES FINESS Array B 99.03 332 P **Pdif 02 09 00.6 -1.7**
comp=Z,4.4nm,1.1s,baz=36,slow=12,SNR=3.3
FINES FINESS Array B 99.03 332 P **Pdif 02 09 00.6 -1.7**
FINES FINESS Array B 99.03 332 P **Pdif 02 09 00.6 -1.7**
NVAR Mina Array Bea 104.48 51 Pdiff **Pdif 02 09 28.6 +1.2**
comp=Z,0.4nm,0.8s,baz=279,slow=6.0,SNR=3.1
NVAR Mina Array Bea 104.48 51 Pdif **Pdif 02 09 28.6 +1.2**
UZH Uzhgorod 104.60 320 *e*P **Pdif 02 09 25.9 -1.5**
CLL Collm 109.31 325 *e*PP **PP 02 14 22.0 +1.0**
TORD Torodi Ar. Bea 130.94 287 PKP **PKPdf 02 14 32.0 -2.3**
comp=Z,1.4nm,0.9s,baz=29,slow=1.4,SNR=8.0
TORD Torodi Ar. Bea 130.94 287 PKP **PKPdf 02 14 32.0 -2.3**
LCO Las Campanas 142.30 144 *e*PKPdf **PKPdf 02 14 55.5 +0.1**
NNA Nana 147.11 114 *e*PKP2 **PKPab 02 15 07.1 -0.3**
NNA Nana 147.11 114 *e*PKPbc **PKPab 02 15 07.1 -0.3**
OTAV Otavalo 147.81 91 *e*PKPbc **PKPbc 02 15 09.6 +1.2**
LVC Limon Verde 147.98 138 *e*PKPbc **PKPab 02 15 10.6 -0.2**
CPUP Villa Florida 151.05 159 PKPbc **PKPbc 02 15 16.5 +1.1**
comp=Z,11nm,1.0s,baz=216,slow=3.2,SNR=10
CPUP Villa Florida 151.05 159 PKIKP **PKPbc 02 15 16.5 +1.1**
CPUP Villa Florida 151.05 159 PKPbc **PKPbc 02 15 16.5 +1.1**
ROSC El Rosal 151.67 81 PKPbc **PKPbc 02 15 19.0 +1.2**
comp=Z,2.4nm,0.4s,baz=97,slow=21,SNR=6.9
ROSC El Rosal 151.67 81 PKPbc **PKPbc 02 15 19.0 +1.2**
LPAZ La Paz 152.58 129 PKPbc **PKPbc 02 15 21.9 +1.9**
comp=Z,10nm,1.0s,baz=253,slow=1.7,SNR=17
LPAZ La Paz 152.58 129 PKIKP **PKPbc 02 15 21.9 +1.9**
LPAZ La Paz 152.58 129 PKPbc **PKPbc 02 15 21.9 +1.9**

IDC 04 02:04:44.5±1.4,**0.66S×133.63E, h0**km,**mb3.6**/4,
mb1 3.8/5,**mb1mx3.6**/17,**mbtmp3.6**/5,**ML3.6**/1,**Error ellipse: s-maj=76.5km s-min=23.8km az=80.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.18**	**178**	P	Pn	02 09 10.7	0.0
	0.2nm,0.3s,baz=356,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**22.87**	**179**	P	P	02 09 49.4	-0.4
	1.6nm,0.5s,baz=359,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**65.11**	**324**	P	P	02 15 27.4	+0.2
	0.4nm,0.7s,baz=118,slow=7.3,SNR=4.8						
KURK	**Kurchatov**	**69.16**	**326**	P	P	02 15 52.6	-0.2
	0.4nm,0.8s,baz=123,slow=8.5,SNR=4.6						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	02 17 27.0	-0.1
	0.5nm,1.1s,baz=256,slow=5.2,SNR=4.1						

*DJA **04** 02:09:43,0.42S×136.74E,h15km,MLv5.1/3*
IDC 04 02:09:40.7±1.2,**0.66S×137.07E, h0**km,**mb3.6**/5,
mb1 3.8/6,**mb1mx3.6**/13,**mbtmp3.6**/6,**ML3.4**/1,**Error ellipse: s-maj=70.5km s-min=20.2km az=83.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**188**	P	P	02 14 07.6	-0.3
	0.1nm,0.3s,baz=5.8,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**23.07**	**187**	P	P	02 14 48.2	+0.1
	1.9nm,0.6s,baz=17,slow=11,SNR=8.8						
STKA	**Stephens Creek**	**31.34**	**173**	P	P	02 16 03.1	+0.1
	0.8nm,0.6s,baz=344,slow=11,SNR=4.9						
SONM	**Songino Array**	**55.18**	**335**	P	P	02 19 15.6	+0.1
	0.2nm,0.5s,baz=155,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**67.18**	**322**	P	P	02 20 36.5	-0.2
	0.3nm,0.4s,baz=106,slow=9.7,SNR=7.3						
ILAR	**Eielson Array**	**84.67**	**25**	P	P	02 22 16.1	-0.1
	0.2nm,0.6s,baz=274,slow=5.1,SNR=4.3						

*IDC **04** 02:10:34.5±0.7,0.47S×132.90E,h0km,mb4.4/7,*
mb1 4.7/8,mb1mx4.3/16,mbtmp4.5/8,ML4.8/1,MS4.8/2,
Ms1 4.8/2,ms1mx4.0/26,Error ellipse: s-maj=45.4km
s-min=15.9km az=70.0
*ISCJB **04** 02:10:37.4±0.4,0.45S×132.95E±0.06,h32km,*
mb4.6/25,MS4.8/1,Error ellipse: s-maj=9.0km
s-min=5.6km az=156.2
*BJI **04** 02:10:38.5,0.66S×133.09E,h60km,mB5.1/3,mb4.6/9*
*DJA **04** 02:10:38.1±0.5,0.35×6×13.3E±°,h10km,M5.2/18,mB5.8/4,*
mb5.2/18,MLv5.1/5,Mw(mB)5.3/4
*NEIC **04** 02:10:38.8±0.3,0.54S×132.63E,mb4.7/10,Error ellipse:*
s-maj=13.8km s-min=5.4km az=64.0
ISC 04 02:10:39.1±0.5,**0.45S**±0.07×**132.92E**±0.10,**h32**km,**n74,**
σ1**93/73,mb4.8**/25,**2C,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.55**	**195**	P	**Pn**	**02 11 18.7**	**+0.5**
TLE	**Tual**	**5.16**	**182**	P	**Pn**	**02 11 55.9**	**+1.8**
	1µm,0.7s,3.5nm						
LBMI	**Labuha**	**5.42**	**268**	P	**Pn**	**02 11 57.0**	**-0.7**
	174nm,0.9s,3µm0.6nm						
AAI	**Ambon**	**5.71**	**236**	P	**Pn**	**02 12 01.7**	**-0.1**
	716nm,0.8s,8µm2.9nm						
NLAI	**Namlea**	**6.44**	**244**	P	**Pn**	**02 12 11.9**	**+0.1**
	170nm,0.7s,0.6nm						
GTOI	**Gorontalo**	**9.97**	**276**	P	**Pn**	**02 13 03.3**	**+3.2**
	158nm,0.7s						
MRSI	**Marisa**	**11.02**	**275**	P	Pn	02 13 20.6	+6.1
	49nm,0.8s						
TTSI	**Tana Toraja**	**13.35**	**259**	P	P	02 14 00.4	+4.8
SPSI	**Sidrap Palu**	**13.60**	**255**	P	**Pn**	**02 13 51.8**	**+2.0**
	30nm,0.7s						
BKSI	**Bulukumba**	**13.66**	**249**	P	Pn	02 13 54.5	+3.8
	52nm,1.1s						
WSI	**Waingapu**	**15.55**	**234**	P	P	02 14 27.5	+7.4
PMG	**Port Moresby**	**16.74**	**123**	Pn	Pn	02 14 36.3	+5.0
	0.7nm,0.3s,baz=290,slow=10,SNR=6.1						
PMG	**Port Moresby**	**16.74**	**123**	Pn	Pn	02 14 36.3	+5.0
COEN	**Coen**	**16.83**	**143**	*e*Pn	**P**	**02 14 33.7**	**-0.6**

WRAB Tennant Creek 19.42 176 *e*P **P 02 15 02.5 -0.3**
20nm,0.6s
WRA Warramunga Arr 19.43 176 P **P 02 15 02.1 -0.8**
2.9nm,0.3s,baz=355,slow=12,SNR=34
WRA S S 02 18 30.0 -11
0.9nm,0.3s,baz=357,slow=22,SNR=7.2
WRA LR LR 02 23 33.4
comp=Z,2µm,18.9s,baz=350,slow=40
WRA Warramunga Arr 19.43 176 P **P 02 15 02.1 -0.8**
WRA S S 02 18 30.0 -11
WB2 Warramunga Arr 19.43 176 *e*P **P 02 15 02.3 -0.6**
SBUM Sibu 20.89 278 P Pn 02 15 23.3 +1.7
44nm,1.0s
AS31 Alice Springs 23.10 178 *e*P **P 02 15 42.4 0.0**
ASAR Alice Springs 23.10 178 P **P 02 15 42.4 -0.1**
38nm,0.5s,baz=356,slow=11,SNR=110
ASAR S **S 02 19 49.8 -1.8**
1.4nm,0.6s,baz=350,slow=10,SNR=3.8
ASAR Alice Springs 23.10 178 P **P 02 15 42.4 -0.1**
ASAR S **S 02 19 49.9 -1.8**
CTAO Charters Tower 23.48 147 *e*P **P 02 15 48.1 +1.9**
28nm,0.8s
CTAO *e*pP **pP 02 15 55.2 +0.1**
BJII Banjamegara 24.13 253 P **P 02 15 54.5 +2.0**
72nm,1.8s
MBWA Marble Bar 24.28 211 *e*P **P 02 15 53.6 -0.1**
MBWA Marble Bar 24.28 211 *e*P **P 02 15 53.3 -0.3**
11nm,0.8s
CISI Cisompet, Garu 26.00 254 P **P 02 16 09.0 -0.5**
92nm,1.1s,3µm
QLP Quilpie 28.18 158 *e*P **P 02 16 28.5 -0.3**
HNR Honiara 28.34 109 LR LR 02 27 13.6
comp=Z,2µm,19.3s,baz=353,slow=35
STKA Stephens Creek 32.32 166 P **P 02 17 05.2 -0.2**
23nm,0.7s,baz=338,slow=8.2,SNR=55
STKA Stephens Creek 32.32 166 *e*P **P 02 17 05.1 -0.2**
0.8nm,0.9s
STKA Stephens Creek 32.32 166⇑*i*P **P 02 17 05.1 -0.2**
20nm,0.8s
STKA Stephens Creek 32.32 166 P **P 02 17 05.2 -0.2**
BBOO Buckleboo 32.33 175 *e*P **P 02 17 04.9 -0.5**
50nm,0.6s
KMBL Kambalda 32.48 198 *e*P **P 02 17 06.5 -0.3**
36nm,0.5s
CMSA Cobar Meteorol 33.20 160 *e*P **P 02 17 13.0 -0.1**
39nm,0.6s
ARMA Armidale 34.71 151 *e*P **P 02 17 26.8 +0.5**
ARMA Armidale 34.71 151 *e*P **P 02 17 26.8 +0.5**
WHN Wuhan 35.52 332⇑P **P 02 17 36.9 +3.7**
CMAR Chiang Mai Arr 38.31 301 P **P 02 17 57.4 +0.3**
3.6nm,0.8s,baz=122,slow=6.8,SNR=19
CMAR Chiang Mai Arr 38.31 301 P **P 02 17 57.4 +0.3**
CHTO Chiang Mai 38.46 302 *e*P **P 02 17 57.8 -0.6**
2.6nm,0.8s
CHTO Chiang Mai 38.46 302 P **P 02 17 58.5 +0.1**
46nm,0.9s
TOO Toolangi 38.72 164 *e*P **P 02 18 01.5 +1.2**
6.0nm,0.7s
TOO Toolangi 38.72 164 *e*P **P 02 18 01.5 +1.2**
48nm,0.8s
XAN Xi'an 41.04 329 P **P 02 18 19.3 -0.3**
XAN pmax pmax
comp=Z,3.0nm,0.9s
BJI Beijing 43.10 341 P **P 02 18 36.7 +0.4**
BJI pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 49.83 311 P **P 02 19 30.2 +0.3**
LSA Lhasa 49.83 311 *e*P **P 02 19 30.0 +0.1**
comp=Z,7.2nm,0.6s
LSA *e*pP **pP 02 19 38.2 -1.3**
ULN Ulaanbaatar 53.12 338 *e*P **P 02 19 54.4 +0.5**
comp=Z,3.0nm,1.1s
ULN *e*pP **pP 02 20 01.7 -1.8**
ULN Ulaanbaatar 53.12 338 P P 02 20 02.5 +8.7
SONM Songino Array 53.34 338 P **P 02 19 56.5 +1.1**
comp=Z,0.8nm,0.6s,baz=152,slow=6.7,SNR=7.3
SONM PcP **PcP 02 21 02.4 -0.2**
comp=Z,1.1nm,0.7s,baz=149,slow=3.4,SNR=6.0
SONM Songino Array 53.34 338 P **P 02 19 56.5 +1.1**
SONM PcP **PcP 02 21 02.4 -0.2**
MK31 Makanchi Array 64.52 324 *e*P **P 02 21 13.3 +0.4**
MK31 *e*pP **pP 02 21 20.5 -2.4**
MKAR Makanchi Array 64.52 324 P **P 02 21 13.5 +0.6**
comp=Z,4.8nm,0.6s,baz=112,slow=8.7,SNR=47
MKAR Makanchi Array 64.52 324 P **P 02 21 13.5 +0.6**
KSH Kashi 65.36 314 P **P 02 21 20.2 +1.5**
KSH pmax pmax
comp=Z,230nm,8.1s
ZALV Zalesovo Beam 67.14 331 P **P 02 21 29.6 0.0**
comp=Z,1.6nm,0.7s,baz=117,slow=6.2,SNR=9.8
ZALV Zalesovo Beam 67.14 331 P **P 02 21 29.6 0.0**
KURK Kurchatov 68.59 326 *e*P **P 02 21 38.9 0.0**
comp=Z,12nm,1.3s
KURK *e*pP **pP 02 21 46.1 -2.6**
KBL Kabul 68.95 307 *e*P **P 02 21 40.6 -1.1**
comp=Z,3.4nm,1.0s
KKAR Karatay Array 70.49 316 *e*P **P 02 21 50.6 -0.1**
comp=Z,5.2nm,0.9s
BRVK Borovoye 74.26 326 *e*P **P 02 22 13.1 +0.1**
comp=Z,7.3nm,0.7s
ABKAR Akbulak array 79.28 320 *e*P **P 02 22 40.8 -0.7**
comp=Z,9.0nm,1.1s
ILAR Eielson Array 86.22 25 P **P 02 23 17.9 +0.8**
comp=Z,0.7nm,0.8s,baz=256,slow=4.7,SNR=6.5
ILAR Eielson Array 86.22 25 P **P 02 23 17.9 +0.8**
TORD Torodi Ar. Bea 130.07 287 PKP **PKPdf 02 29 45.8 -1.0**
comp=Z,1.1nm,0.8s,baz=54,slow=2.3,SNR=7.4
TORD Torodi Ar. Bea 130.07 287 PKP **PKPdf 02 29 45.8 -1.0**
PLCA Paso Flores 133.79 155 PKP **PKPdf 02 29 54.9 +1.5**
comp=Z,2.3nm,0.9s,baz=4.3,slow=9.5,SNR=3.8
PLCA Paso Flores 133.79 155 PKP **PKPdf 02 29 54.9 +1.5**
CPUP Villa Florida 151.60 160 PKPbc **PKPbc 02 30 31.2 +0.3**
comp=Z,4.1nm,0.7s,baz=198,slow=3.2,SNR=11
CPUP Villa Florida 151.60 160 PKPbc **PKPbc 02 30 31.2 +0.3**
LPAZ La Paz 153.39 130 PKPbc **PKPbc 02 30 36.7 +0.7**
comp=Z,1.1nm,0.6s,baz=300,slow=7.1,SNR=4.0
LPAZ La Paz 153.39 130 PKPbc **PKPbc 02 30 36.7 +0.7**

IDC 04 02:18:35.0±3.7,**0.59S×133.28E, h0**km,**mb3.8**/3,
mb1 4.0/4,**mb1mx3.8**/16,**mbtmp3.8**/4,**ML3.8**/1,**Error ellipse: s-maj=261.3km s-min=30.2km az=95.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.26**	**177**	P	P	02 23 01.1	-0.2
	0.3nm,0.3s,baz=356,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**22.95**	**179**	P	P	02 23 41.0	0.0
	1.3nm,0.4s,baz=0.2,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**32.10**	**167**	P	P	02 25 04.2	+0.2
	1.0nm,0.4s,baz=336,slow=10.0,SNR=6.2						
ILAR	**Eielson Array**	**86.19**	**25**	P	P	02 31 17.9	-0.1
	0.3nm,0.6s,baz=246,slow=5.1,SNR=4.4						

*BJI **04** 02:19:16.9,4.15N×127.83E,h20km,mB5.2/11,mb4.7/22,*
Ms4.8/10,Ms7 4.6/10
*MAN **04** 02:19:29,4.78N×127.40E,h30km,mb5.2,ML4.2,MS4.4*
*IDC **04** 02:19:30.6±3.3,5.02N×127.37E,h62km±29km,mb3.9/13,*
mb1 4.0/13,mb1mx4.0/16,mbtmp3.9/13,Error ellipse:
s-maj=33.6km s-min=12.6km az=70.0
*NEIC **04** 02:19:32.9±1.2,4.98N×127.40E,h84km±10km,mb4.6/11,*
Error ellipse: s-maj=11.9km s-min=5.2km az=67.0
*ISCJB **04** 02:19:32.7±0.7,4.89N±0.03×127.28E±0.07,h97km±6km,*
mb4.6/38,Error ellipse: s-maj=12.6km s-min=4.5km
az=164.5
*DJA **04** 02:19:39,4.46N×126.93E,h23km,mb5.2/8*
ISC 04 02:19:26.2±0.5,**4.99N**±0.04×**127.49E**±0.06,**h25**km±2km,
n105,σ1**40/126,mb4.6**/38,**MS4.7**/5,**5C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.30**	**328**	*e*P	**Pb**	**02 20 08.9**	**+1.8**
MATI				*e*S	**Sb**	**02 20 36.5**	**+1.5**
SGSI	**Sangihe**	**2.35**	**237**	P	**Pn**	**02 20 05.6**	**+2.3**
GSPH	**General Santos**	**2.76**	**293**⇑*i*P		**Pn**	**02 20 09.0**	**-0.1**
GSPH				*i*S	**Sn**	**02 20 40.2**	**-1.5**
DAV	**Davao City (W)**	**2.81**	**317**	P	**Pb**	**02 20 15.2**	**-0.6**
	62nm,0.3s,baz=93,slow=2.4,SNR=6.2						
DAV				S	**Sb**	**02 20 49.0**	**-0.8**
	83nm,0.3s,baz=90,slow=19,SNR=8.0						
DAV	**Davao City (W)**	**2.81**	**317**	P	**Pb**	**02 20 15.2**	**-0.6**
DAV				S	**Sb**	**02 20 49.0**	**-0.8**

DAV	Davao City (W)	2.81 317	P		Pb	02 20 24.7	+8.9	
DMPH	Davao City--Mi	2.87 317⇑	*e*P		**Pb**	**02 20 14.8**	**-1.9**	
DMPH			*e*S		**Sb**	**02 20 51.4**	**0.0**	
KCP	Kidapawan	3.12 310⇑	*e*P		**Pb**	**02 20 21.1**	**0.0**	
KCP			*i* S		**Sb**	**02 20 57.8**	**-1.0**	
BUKP	Musuan	3.75 320	*e*P		Pb	02 20 28.3	-3.5	
CTBH	Cotabato--PC H	3.92 305⇑	*e*P		**Pn**	**02 20 26.6**	**+1.8**	
TNTI	Ternate	4.19 182	P		Pb	02 20 34.4	-4.9	
MNI	Manado	4.41 217	P		Pn	02 20 35.9	+4.3	
CGP	Cagayan de Oro	4.42 321⇑	*e*P		Pb	02 20 40.0	-3.3	
CGP			*e*S		**Sn**	**02 21 28.1**	**+5.5**	
PAGZ	Pagadian	4.97 305	*e*P		Pn	02 20 44.5	+5.1	
LBMI	Labuha	5.59 180	P		Pn	02 20 53.2	+5.3	
	177nm,0.8s,4μm1.1nm							
KMSI	Cibinong	5.62 219	P		**Pb**	**02 21 03.7**	**+0.1**	
GTOI	Gorontalo	6.22 226	P		**Pn**	**02 20 58.8**	**+2.2**	
	154nm,0.9s,2μm0.5nm							
MRSI	Marisa	7.13 231	P		**Pn**	**02 21 11.6**	**+2.5**	
	180nm,0.6s,2μm0.6nm							
LUWI	Luwuk	7.62 218	P		Pn	02 21 25.1	+9.2	
TTSI	Tana Toraja	11.07 224	P		Pn	02 22 11.7	+8.6	
JAY	Jayapura	15.16 119	P		P	02 23 11.4	+7.5	
SBUM	Sibu	15.45 261	P		**P**	**02 23 07.9**	**+0.9**	
	42nm,0.9s							
KSM	Kuching	17.51 259	*e*Pn		**P**	**02 23 29.6**	**-0.3**	
	48nm,0.9s							
WRAB	Tennant Creek	25.67 165	*e*P		**P**	**02 24 55.6**	**+1.3**	
	46nm,0.7s							
WRA	Warramunga Arr	25.67 165	P		**P**	**02 24 55.5**	**+1.0**	
	57nm,0.8s,baz=343,slow=10,SNR=49							
WRA	Warramunga Arr	25.67 165	P		**P**	**02 24 55.5**	**+1.0**	
WB2	Warramunga Arr	25.68 165	*e*P		**P**	**02 24 55.5**	**+1.0**	
IPM	Ipoh	26.38 270	*e*P		**P**	**02 25 00.3**	**-0.7**	
	6.9nm,0.6s							
MBWA	Marble Bar	27.08 196	*e*P		**P**	**02 25 07.8**	**+0.7**	
	11nm,1.0s							
NJ2	Nanjing	28.11 344	*e*P		**P**	**02 25 17.1**	**+0.8**	
NJ2			pmax	pmax				
	comp=Z,10.0nm,0.6s							
AS31	Alice Springs	29.16 168	*e*P		**P**	**02 25 25.6**	**-0.2**	
ASAR	Alice Springs	29.16 168	P		**P**	**02 25 25.9**	**+0.2**	
	comp=Z,2.7nm,0.4s,baz=349,slow=7.3,SNR=15							
ASAR			PcP		**PcP**	**02 28 33.0**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=346,slow=2.3,SNR=4.5							
ASAR			ScP		**ScP**	**02 32 10.5**	**-2.9**	
	comp=Z,0.6nm,1.0s,baz=354,slow=2.7,SNR=4.7							
ASAR	Alice Springs	29.16 168	P		**P**	**02 25 25.9**	**+0.2**	
ASAR			PcP		**PcP**	**02 28 33.0**	**-0.1**	
ASAR			ScP		**ScP**	**02 32 10.5**	**-2.9**	
GYA	Guiyang	29.19 319	P		**P**	**02 25 27.3**	**+1.2**	
GYA			pP		**pP**	**02 25 33.6**	**+0.2**	
GYA			PP		PP	02 26 23.0	-9.3	
GYA			S		**S**	**02 30 17.8**	**+0.4**	
GYA			ScP		**ScP**	**02 32 13.4**	**-0.2**	
GYA			pmax	pmax				
	comp=Z,10.0nm,0.8s							
GYA			pmax	pmax				
	comp=Z,110nm,5.0s							
GYA			LR	LR				
	comp=N,430nm,16.8s							
GYA			LR	LR				
	comp=E,390nm,17.4s							
GYA			LR	LR				
	comp=Z,410nm,16.5s							
CMAR	Chiang Mai Arr	30.93 298	P		**P**	**02 25 42.0**	**+0.6**	
	comp=Z,0.5nm,0.4s,baz=108,slow=6.6,SNR=4.2							
CMAR	Chiang Mai Arr	30.93 298	P		**P**	**02 25 42.0**	**+0.6**	
KMI	Kunming	31.06 313	P		**P**	**02 25 44.9**	**+2.1**	
KMI			pP		**pP**	**02 25 51.1**	**+0.9**	
KMI			sP		**sP**	**02 25 54.3**	**+1.1**	
KMI			pmax	pmax				
	comp=Z,5.0nm,0.9s							
XAN	Xi'an	33.66 332	P		**P**	**02 26 05.7**	**+0.4**	
XAN			pP		**pP**	**02 26 12.0**	**-0.7**	
XAN			pmax	pmax				
	comp=Z,3.0nm,0.7s							
CD2	Chengdu	34.10 322	P		**P**	**02 26 10.8**	**+1.6**	
CD2			pP		**pP**	**02 26 16.8**	**+0.2**	
CD2			sP		**sP**	**02 26 19.7**	**+0.1**	
CD2			PP		PP	02 27 25.4	-1.3	
CD2			S		**S**	**02 31 35.0**	**+1.1**	
CD2			pmax	pmax				
	comp=Z,10.0nm,0.5s							
CD2			pmax	pmax				
	comp=Z,260nm,8.3s							
CD2			LR	LR				
	comp=N,840nm,15.5s							
CD2			LR	LR				
	comp=Z,1μm,17.3s							
HNR	Honiara	35.38 114	*e*P		**P**	**02 26 19.2**	**-1.1**	
	comp=Z,413nm,1.0s							
FORT	Forrest	35.57 179	*e*P		**P**	**02 26 22.2**	**+0.5**	
	comp=Z,4.7nm,0.7s							
FORT	Forrest	35.57 179	*e*P		**P**	**02 26 22.3**	**+0.5**	
	comp=Z,41nm,0.8s							
FORT	Forrest	35.57 179	*e*P		**P**	**02 26 22.7**	**+1.0**	
	comp=Z,46nm,0.8s							
KMBL	Kambalda	36.55 188	*e*P		**P**	**02 26 29.7**	**-0.4**	
	comp=Z,46nm,0.6s							
LZH	Lanzhou	37.83 328	*e*P		**P**	**02 26 42.3**	**+1.1**	
LZH			pP		**pP**	**02 26 49.0**	**+0.4**	
LZH			sP		**sP**	**02 26 52.8**	**+1.2**	
LZH			PP		PP	02 28 13.1	+5.3	
LZH			*e*S		**S**	**02 32 29.1**	**-1.9**	
LZH			pmax	pmax				
	comp=Z,20nm,1.1s							
LZH			pmax	pmax				
	comp=Z,240nm,5.8s							
LZH			LR	LR				
	comp=N,290nm,14.4s							
LZH			LR	LR				
	comp=E,1μm,17.6s							
LZH			LR	LR				
	comp=Z,1μm,17.6s							
BBOO	Buckleboo	38.46 168	*e*P		**P**	**02 26 46.9**	**+0.6**	
	comp=Z,24nm,0.9s							
BBOO	Buckleboo	38.46 168	*e*P		**P**	**02 26 47.2**	**+0.9**	
	comp=Z,82nm,0.8s							
BBOO	Buckleboo	38.46 168	*e*P		**P**	**02 26 47.5**	**+1.2**	
	comp=Z,306nm,0.8s							
CN2	Changchun	38.70 358	*e*P		**P**	**02 26 50.3**	**+2.2**	
CN2			*e*S		**S**	**02 32 47.2**	**+3.6**	
CN2			pmax	pmax				
	comp=Z,10.0nm,0.7s							
CN2			pmax	pmax				
	comp=Z,800nm,6.0s							
CN2			LR	LR				
	comp=N,500nm,12.0s							
CN2			LR	LR				
	comp=E,400nm,12.0s							
CN2			LR	LR				
	comp=Z,800nm,15.0s							
STKA	Stephens Creek	39.05 161	P		**P**	**02 26 53.0**	**+1.7**	
	comp=Z,22nm,0.5s,baz=335,slow=8.0,SNR=75							
STKA	Stephens Creek	39.05 161	*e*P		**P**	**02 26 52.7**	**+1.5**	
	comp=Z,6.7nm,2.0s							
STKA	Stephens Creek	39.05 161	*e*P		**P**	**02 26 52.9**	**+1.7**	
	comp=Z,20nm,0.5s							
STKA	Stephens Creek	39.05 161	*e*P		**P**	**02 26 53.0**	**+1.7**	
	comp=Z,7.5nm,1.0s							
USRK	Ussuriysk Arra	39.25 5	P		**P**	**02 26 53.0**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=188,slow=9.1,SNR=2.7							
MDJ	Mudanjiang	39.51 2	P		**P**	**02 26 55.6**	**+0.7**	
MDJ			pP		**pP**	**02 27 01.8**	**-0.6**	
MDJ			sP		**sP**	**02 27 04.4**	**-1.0**	
MDJ			ScP		**ScP**	**02 32 50.2**	**+0.5**	
MDJ			PcS		**PcS**	**02 32 52.5**	**+0.4**	
MDJ			S		**S**	**02 32 58.1**	**+2.3**	
MDJ			pmax	pmax				
	comp=Z,6.0nm,1.7s							
MDJ			pmax	pmax				
	comp=Z,300nm,4.2s							
MDJ			LR	LR				
	comp=N,790nm,36.8s							
MDJ			LR	LR				
	comp=E,350nm,22.1s							
MDJ			LR	LR				
	comp=Z,810nm,20.2s							
CMSA	Cobar Meteorol	40.26 156	*e*P		**P**	**02 27 03.0**	**+1.7**	
	comp=Z,27nm,0.9s							
ARPS	Mount Arapiles	43.65 163	*e*P		**P**	**02 27 30.9**	**+1.9**	
	comp=Z,44nm,0.6s							
JIRN	Jiri	45.27 305	*e*P		**P**	**02 27 41.4**	**-1.2**	
JIRN	Jiri	45.27 305	*e*P		**P**	**02 27 41.4**	**-1.2**	
TOO	Toolangi	45.54 160	*e*P		**P**	**02 27 46.2**	**+2.1**	
	comp=Z,8.0nm,0.8s							
TOO	Toolangi	45.54 160	*e*P		**P**	**02 27 46.7**	**+2.6**	
	comp=Z,16nm,0.4s							
GUN	Gumba	45.62 305	*e*P		**P**	**02 27 43.3**	**-2.0**	
GUN	Gumba	45.62 305	*e*P		**P**	**02 27 43.3**	**-2.0**	
ULN	Ulaanbaatar	46.17 341	*e*P		**P**	**02 27 50.4**	**+1.3**	
	comp=Z,6.3nm,1.2s							
SONM	Songino Array	46.36 340	P		**P**	**02 27 51.8**	**+1.2**	
	comp=Z,1.3nm,0.8s,baz=160,slow=7.4,SNR=9.0							
SONM	Songino Array	46.36 340	P		**P**	**02 27 51.8**	**+1.2**	
KOLN	Koldanda	47.45 303	*e*P		**P**	**02 27 58.1**	**-1.4**	
KOLN	Koldanda	47.45 303	*e*P		**P**	**02 27 58.1**	**-1.4**	
DANN	Dangsing	47.52 304	*e*P		**P**	**02 27 58.6**	**-1.6**	
DANN	Dangsing	47.52 304	*e*P		**P**	**02 27 58.6**	**-1.6**	
WMQ	Urumqi	52.15 324	*e*P		**P**	**02 28 35.0**	**+0.2**	
WMQ			pP		**pP**	**02 28 41.1**	**-1.4**	
WMQ			sP		**sP**	**02 28 44.0**	**-1.4**	
WMQ			pmax	pmax				
	comp=Z,11nm,0.6s							
PETK	Petropavlovsk-	53.98 22	P		**P**	**02 28 49.2**	**+1.1**	
	comp=Z,3.3nm,0.6s,baz=186,slow=7.4,SNR=4.4							
PETK	Petropavlovsk-	53.98 22	P		**P**	**02 28 49.2**	**+1.1**	
MK31	Makanchi Array	56.97 324	*e*P		**P**	**02 29 09.6**	**-0.2**	
MKAR	Makanchi Array	56.97 324	P		**P**	**02 29 09.7**	**-0.1**	
	comp=Z,4.4nm,0.7s,baz=121,slow=8.3,SNR=51							
MKAR	Makanchi Array	56.97 324	*e*P		**P**	**02 29 09.8**	**0.0**	
ZAA0	Zalesovo Array	59.82 332	*e*P		**P**	**02 29 29.0**	**-0.5**	
ZALV	Zalesovo Beam	59.82 332	P		**P**	**02 29 28.2**	**-1.3**	
	comp=Z,2.7nm,0.6s,baz=119,slow=7.0,SNR=12							
ZALV	Zalesovo Beam	59.82 332	P		**P**	**02 29 28.2**	**-1.3**	
EKS2	Erkin-Say	60.45 317	*e*P		**P**	**02 29 34.2**	**+0.1**	
KURK	Kurchatov	61.10 327	P		**P**	**02 29 37.6**	**-0.7**	
	comp=Z,7.5nm,0.5s,baz=127,slow=6.6,SNR=79							
KURK	Kurchatov	61.10 327	*e*P		**P**	**02 29 37.6**	**-0.7**	
	comp=Z,11nm,0.6s							
KKAR	Karatay Array	62.84 316	*e*P		**P**	**02 29 49.8**	**-0.4**	
BRVK	Borovoye	66.76 326	*e*P		**P**	**02 30 15.0**	**-0.5**	
	comp=Z,11nm,0.7s							
ABKAR	Akbulak array	71.67 320	*e*P		**P**	**02 30 45.2**	**-0.8**	
ARU	Arti	74.29 327	*e*P		**P**	**02 31 00.9**	**-0.4**	
	comp=Z,5.3nm,0.8s							
ILAR	Eielson Array	83.65 25	P		**P**	**02 31 51.7**	**-0.8**	
	comp=Z,0.5nm,0.9s,baz=255,slow=5.5,SNR=4.8							
ILAR	Eielson Array	83.65 25	P		**P**	**02 31 51.7**	**-0.8**	
VNDA	Vanda	84.57 173	*e*P		**P**	**02 31 56.8**	**-0.2**	
	comp=Z,1.8nm,1.0s							
ARCES	ARCESS Array B	89.54 340	P		**P**	**02 32 19.3**	**-1.9**	
	comp=Z,4.7nm,0.9s,baz=64,slow=5.5,SNR=7.9							
ARCES	ARCESS Array B	89.54 340	P		**P**	**02 32 19.3**	**-1.9**	
BRTR	Keskin Array B	89.81 310	P		**P**	**02 32 21.8**	**-1.5**	
	comp=Z,1.0nm,0.9s,baz=112,slow=4.2,SNR=3.9							
BRTR	Keskin Array B	89.81 310	P		**P**	**02 32 21.8**	**-1.5**	
FINES	FINESS Array B	91.09 332	P		**P**	**02 32 26.9**	**-1.7**	
	comp=Z,2.8nm,1.1s,baz=316,slow=5.3,SNR=4.7							
FINES	FINESS Array B	91.09 332	P		**P**	**02 32 26.9**	**-1.7**	
AKASG	Malin Array Be	91.40 321	P		**P**	**02 32 28.2**	**-2.0**	
	comp=Z,0.9nm,0.6s,baz=67,slow=4.9,SNR=3.7							
AKASG	Malin Array Be	91.40 321	P		**P**	**02 32 28.2**	**-2.0**	
TXAR	Lajitas Array	120.23 52	PKP		**PKPdf**	**02 38 15.1**	**-1.0**	
	comp=Z,0.1nm,0.7s,baz=48,slow=1.3,SNR=2.4							
TXAR	Lajitas Array	120.23 52	PKP		**PKPdf**	**02 38 15.1**	**-1.0**	
TORD	Torodi Ar. Bea	123.24 289	PKP		**PKPdf**	**02 38 20.7**	**-1.4**	
	comp=Z,0.4nm,0.7s,baz=34,slow=2.4,SNR=4.1							
TORD	Torodi Ar. Bea	123.24 289	PKP		**PKPdf**	**02 38 20.7**	**-1.4**	
TRQA	Tornquist	145.97 167	*e*PKPbc		**PKPbc**	**02 39 04.4**	**+0.1**	
LCO	Las Campanas	150.54 146	*e*PKPbc		**PKPbc**	**02 39 17.0**	**-0.1**	
NNA	Nana	154.96 108	*e*PKPdf		**PKPdf**	**02 39 17.4**	**-0.8**	
SAML	Samuel	168.70 111	*e*PKPdf		**PKPdf**	**02 39 31.5**	**-0.8**	

IDC 04 02:27:20.8±1.0,0°**31S**×**133°02E**,**h0**km,**mb3.8**/6,
mb1 4.0/7,**mb1mx3.8**/17,**mbtmp3.8**/7,**ML3.9**/1,**MS4.2**/1,
Ms1 4.2/1,**ms1mx3.1**/25,**Error ellipse: s-maj=69.8km**
s-min=18.3km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.56	176	P		P		02 31 50.5	+0.1
	0.4nm,0.3s,baz=353,slow=11,SNR=9.4								
ASAR	Alice Springs	23.24	178	P		P		02 32 30.4	+0.5
	2.8nm,0.5s,baz=354,slow=9.6,SNR=15								
JOW	Kunigami	27.37	351	LR		LR		02 43 37.6	
	comp=Z,520nm,19.8s,baz=310,slow=36								
STKA	Stephens Creek	32.43	166	P		P		02 33 52.1	-0.6
	2.8nm,0.6s,baz=330,slow=8.2,SNR=11								
MKAR	Makanchi Array	64.47	324	P		P		02 37 59.2	-0.1
	0.3nm,0.6s,baz=116,slow=8.0,SNR=5.1								
ZALV	Zalesovo Beam	67.06	331	P		P		02 38 15.9	0.0
	0.2nm,0.3s,baz=145,slow=5.3,SNR=1.6								
KURK	Kurchatov	68.53	326	P		P		02 38 25.2	0.0
	0.4nm,0.4s,baz=119,slow=5.5,SNR=4.7								
ILAR	Eielson Array	86.05	25	P		P		02 40 03.4	+0.2
	0.3nm,0.6s,baz=251,slow=5.0,SNR=6.3								

BJI ***04*** *02:28:55.1,1.1*′*26S*×*134.*′*08E,h35*km*,mB5.1/18,mb4.7/31,*
Ms4.9/14,Ms7 4.6/14
IDC ***04*** *02:28:56.8*±*0.7,0.*°*70S*×*133.*′*69E,h0*km*,mb4.4/12,*
mb1 4.6/13,mb1mx4.5/17,mbtmp4.4/13,ML4.6/1, Error
ellipse: s-maj=33.2km s-min=14.2km az=79.0
MOS ***04*** *02:28:59.9*±*0.9,0.*°*72S*×*133.*′*60E,h33*km*,mb4.8/22, Error*
ellipse: s-maj=15.8km s-min=6.7km az=111.6
NEIC ***04*** *02:29:00.7*±*3.1,0.*°*69S*×*133.*′*58E,h23*km*±*23*km*,mb4.8/21,*
Error ellipse: s-maj=10.0km s-min=6.5km az=67.0
ISCJB ***04*** *02:29:00.2*±*1.0,0.*°*73S*±*0.*°*04*×*133.*′*69E*±*0.*′*05,h36*km*±*9*km*,*
mb4.7/61,MS4.6/8, Error ellipse: s-maj=8.8km
s-min=6.2km az=154.4
DJA ***04*** *02:29:03,0.*°*96S*×*133.*′*60E,h15*km*,mb5.2/24*
ISC 04 02:29:01.7±**0.6,0.73S**±**0.**°**04**×**133.73E**±**0.**′**06,h34**km±2km**,**
n182,σ**1**§**20/196,mb4.7/61,MS4.6/8,4C,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAKI	Biak	2.42	101	P		P		**02 29 43.1**	**-1.5**
FAKI	Fak Fak	2.63	214	P		P		**02 29 43.9**	**+2.1**
TLE	Tual	4.97	191	P		P		**02 30 15.9**	**+1.9**
MSAI	Masohi	5.46	242	P		P		**02 30 21.2**	**+0.6**
	271nm,1.0s,2μm0.8nm								
LBMI	Labuha	6.23	271	P		P		**02 30 30.6**	**-0.7**
	437nm,1.0s,4μm1.4nm								
AAI	Ambon	6.26	242	P		P		**02 30 30.3**	**-1.4**
	858nm,0.8s,10μm2.6nm								
TNTI	Ternate	6.54	283	P		P		**02 30 37.1**	**+1.6**
	157nm,0.8s,0.6nm								
NLAI	Namlea	7.08	249	P		P		**02 30 41.3**	**-1.6**
	354nm,0.7s,5μm1.2nm								
GTOI	Gorontalo	10.80	277	P		P		02 31 37.2	+3.1
	130nm,0.9s								
LUWI	Luwuk	10.96	268	P		P		**02 31 35.7**	**-0.5**
	230nm,1.4s,2μm								
MRSI	Marisa	11.85	276	P		P		02 31 52.3	+3.9
	48nm,1.3s								
BBSI	Bau Bau	12.10	247	P		P		**02 31 54.4**	**+2.6**
	143nm,1.2s,1μm								
MTN	Manton Dam	12.31	192	*e*P		P		**02 31 52.6**	**-2.0**
MTN				*e*S		Sn		02 34 03.8	-6.9
MMRI	Maumere	13.88	235	P		P		**02 32 21.1**	**-2.8**
TTSI	Tana Toraja	14.09	260	P		P		**02 32 20.7**	**+1.7**
	42nm,1.6s								
SPSI	Sidrap Palu	14.31	257	P		P		**02 32 23.3**	**+1.3**
	56nm,0.8s,1μm								
BKSI	Bulukumba	14.33	251	P		P		**02 32 22.0**	**-0.3**
	103nm,1.0s								
KAPI	Kappang	14.59	253	*e*Pn		P		**02 32 24.8**	**-1.0**
KAPI	Kappang	14.59	253	P		P		**02 32 25.8**	**0.0**
	12nm,1.2s,1μm								
PMG	Port Moresby	15.90	123	*e*P		P		**02 32 45.4**	**-1.0**
PMG				pmax	pmax				
	comp=Z,37nm,1.3s								
PMG	Port Moresby	15.90	123	*e*P		P		**02 32 45.4**	**-1.0**
	comp=Z,37nm,1.3s								
COEN	Coen	16.13	145	*e*P		P		**02 32 50.0**	**+1.1**
	comp=Z,41nm,0.8s								
COEN	Coen	16.13	145	*e*Pn		P		**02 32 50.5**	**+1.6**
SMKI	Samarinda	16.52	271	P		P		**02 32 57.6**	**+4.3**
BBKI	Banjar Baru	19.07	262	P		pP		02 33 32.8	+2.5
WRAB	Tennant Creek	19.09	178	*e*P		P		**02 33 21.3**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,27nm,0.8s								
WRAB	Tennant Creek	19.09	178	*e*P		P		**02 33 21.3**	**-0.4**
	comp=Z,27nm,0.8s								
WRA	Warramunga Arr	19.10	178	P		P		**02 33 21.0**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=353,slow=11,SNR=27								
WRA				S		Sn		02 36 46.5	-9.4
	comp=Z,0.5nm,0.3s,baz=1.4,slow=22,SNR=5.1								
WRA	Warramunga Arr	19.10	178	P		P		**02 33 21.0**	**-0.8**
WRA				S		Sn		02 36 46.5	-9.4
WRA	Warramunga Arr	19.10	178	P		P		**02 33 21.0**	**-0.8**
WRA				S		Sn		02 36 46.5	-9.4
WB2	Warramunga Arr	19.10	178	*e*P		P		**02 33 21.9**	**+0.2**
MTNI	Mataram	19.17	245	P		Pn		**02 33 23.7**	**+0.1**
	comp=Z,72nm,1.1s,comp=Z,10μm								
KHKI	Kahang-Kahang	19.58	247	P		P		**02 33 26.8**	**-0.2**
	comp=Z,95nm,1.1s								
BYJI	Banyuwangi	20.68	248	P		Pn		02 33 45.5	+4.0
BLJI	Banyuglugur	21.24	250	P		P		**02 33 49.5**	**+4.4**
	comp=Z,116nm,1.3s								
GMJI	Gumukmas	21.55	249	P		pP		02 34 00.3	+2.9
SBUM	Sibu	21.73	278	P		P		02 33 56.2	+5.8
	comp=Z,50nm,1.5s								
AS31	Alice Springs	22.80	180	*e*P		P		**02 34 01.7**	**0.0**
ASAR	Alice Springs	22.80	180	P		P		**02 34 01.2**	**-0.5**
	comp=Z,27nm,0.8s,baz=357,slow=11,SNR=28								
ASAR				S		S		**02 38 10.1**	**+1.4**
	comp=Z,5.7nm,0.9s,baz=2.8,slow=27,SNR=5.4								
ASAR	Alice Springs	22.80	180	P		P		**02 34 01.2**	**-0.5**
ASAR				S		S		**02 38 10.1**	**+1.4**
ASAR	Alice Springs	22.80	180	P		P		**02 34 01.2**	**-0.5**
ASAR				S		S		**02 38 10.1**	**+1.4**
CTAO	Charters Tower	22.81	148	*e*P		P		**02 34 03.8**	**+2.0**
CTAO				pmax	pmax				
	comp=Z,14nm,0.9s								
CTAO	Charters Tower	22.81	148	*e*P		P		**02 34 03.8**	**+2.0**
	comp=Z,14nm,0.9s								
SJI	Sawahan	22.97	252	P		pP		02 34 12.9	+0.3
MBWA	Marble Bar	24.47	213	*e*P		P		**02 34 17.2**	**-0.6**
MBWA	Marble Bar	24.47	213	*e*P		P		**02 34 17.3**	**-0.6**
	comp=Z,10nm,0.9s								
BJII	Banjamegara	24.83	254	P		P		**02 34 23.8**	**+2.6**
	comp=Z,42nm,2.0s								
CISI	Cisompet, Garu	26.70	255	P		P		**02 34 38.4**	**+0.2**
	comp=Z,74nm,1.1s								
FORT	Forrest	30.36	190	*e*P		P		**02 35 11.2**	**+0.7**
	comp=Z,2.9nm,0.8s								
FORT	Forrest	30.36	190	*e*P		P		**02 35 11.4**	**+0.9**
	comp=Z,26nm,0.6s								
FORT	Forrest	30.36	190	*e*P		P		**02 35 11.5**	**+1.0**
	comp=Z,34nm,0.9s								
KSI	Kapahiang	31.25	264	P		P		02 35 22.7	+4.1
	comp=Z,54nm,0.9s								
STKA	Stephens Creek	31.86	167	P		P		**02 35 23.8**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=354,slow=9.4,SNR=10								
STKA	Stephens Creek	31.86	167	*e*P		P		**02 35 23.4**	**-0.3**
	comp=Z,2.1nm,1.6s								
STKA	Stephens Creek	31.86	167	*e*P		P		**02 35 23.7**	**+0.1**
	comp=Z,3.8nm,0.6s								
STKA	Stephens Creek	31.86	167	*e*P		P		**02 35 23.9**	**+0.2**
STKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
STKA	Stephens Creek	31.86	167	*e*P		P		**02 35 23.9**	**+0.2**
	comp=Z,1.0nm,0.7s								
KMBL	Kambalda	32.47	199	*e*P		P		**02 35 29.2**	**+0.1**
	comp=Z,192nm,0.7s								
IPM	Ipoh	33.08	279	*e*P		P		**02 35 33.2**	**-1.5**
	comp=Z,11nm,0.6s								
KULM	Kulim	33.58	281	*e*P		P		**02 35 38.2**	**-0.7**
	comp=Z,16nm,1.1s								
JNU	Nakatsue	33.78	356	*e*P		P		**02 35 40.3**	**-0.2**
	comp=Z,14nm,1.1s								
KLBR	Kellerberrin	34.21	205	*e*P		P		**02 35 43.7**	**-0.6**
	comp=Z,2.2nm,0.7s								
KLBR	Kellerberrin	34.21	205	*e*P		P		**02 35 43.7**	**-0.6**
	comp=Z,23nm,0.7s								
NJ2	Nanjing	35.52	338	*e*P		P		**02 35 56.4**	**+0.9**
NJ2				pmax	pmax				
	comp=Z,20nm,0.8s								
NWAO	Narrogin (SRO)	35.59	204	*e*P		P		**02 35 56.5**	**+0.4**
NWAO				pmax	pmax				
	comp=Z,264nm,2.9s								
NWAO	Narrogin (SRO)	35.59	204	*e*P		P		**02 35 56.5**	**+0.4**
	comp=Z,264nm,2.9s								
WHN	Wuhan	36.16	331	P		P		**02 36 02.3**	**+1.3**
MAJO	Matsushiro	37.32	6	*e*P		P		**02 36 09.4**	**-1.4**
MAJO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAJO	Matsushiro	37.32	6	*e*P		P		**02 36 09.4**	**-1.4**
	comp=Z,7.3nm,0.9s								
MJAR	Matsushiro Arr	37.32	6	P		P		**02 36 08.9**	**-1.9**
	comp=Z,2.7nm,0.9s,baz=188,slow=9.0,SNR=6.6								
MJAR	Matsushiro Arr	37.32	6	P		P		**02 36 08.9**	**-1.9**
MJAR	Matsushiro Arr	37.32	6	P		P		**02 36 08.9**	**-1.9**
GYA	Guiyang	37.57	318	P		P		**02 36 13.4**

comp=Z,100nm,4.0s
LZH LR LR
comp=N,210nm,11.4s
LZH LR LR
comp=E,610nm,15.1s
LZH LR LR
comp=Z,680nm,17.9s
HABR Khabarovsk 49.02 1 *e*P **P 02 37 44.3 -0.8**
HABR *e**PP **pP 02 37 54.2 -1.0**
HABR *e**SP **sP 02 37 58.4 -0.8**
HABR *e* 02 39 07.3
HABR *e* 02 39 38.3
HABR *e*PPP PPP 02 40 30.2
HABR *e*S **S 02 44 48.2 +0.8**
HABR *e**SS **sS 02 45 04.7 +0.7**
HABR *e* 02 47 33.6
HABR *e*SSS SSS 02 49 39.5
HABR MLR MLR
comp=Z,379nm,19.0s
GTA Gaotai 50.59 326 *e*P **P 02 37 57.9 +0.4**
GTA S **S 02 45 09.6 -0.4**
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,190nm,4.5s
GTA LR LR
comp=N,400nm,17.6s
GTA LR LR
comp=E,360nm,19.0s
GTA LR LR
comp=Z,470nm,19.9s
LSA Lhasa 50.63 310 P **P 02 37 58.5 +0.1**
LSA Lhasa 50.63 310 *e*P **P 02 37 58.4 +0.1**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 50.63 310 *e*P **P 02 37 58.4 +0.1**
comp=Z,13nm,0.8s
TAPN Taplejung 52.28 306 *e*P **P 02 38 09.3 -1.2**
comp=Z,47nm,1.1s
TAPN Taplejung 52.28 306 *e*P **P 02 38 09.3 -1.2**
ODAN Odare 52.34 305 *e*P **P 02 38 09.8 -1.1**
comp=Z,23nm,0.7s
ODAN Odare 52.34 305 *e*P **P 02 38 09.8 -1.1**
RAMN Ramite 53.02 305 *e*P **P 02 38 14.8 -1.2**
RAMN Ramite 53.02 305 *e*P **P 02 38 14.8 -1.2**
JIRN Jiri 53.64 306 *e*P **P 02 38 19.5 -1.1**
comp=Z,15nm,0.7s
JIRN Jiri 53.64 306 *e*P **P 02 38 19.5 -1.1**
ULN Ulaanbaatar 53.68 338 *e*P **P 02 38 21.5 +1.1**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 53.68 338 *e*P **P 02 38 21.5 +1.1**
comp=Z,13nm,1.0s
ULN Ulaanbaatar 53.68 338 P **P 02 38 21.2 +0.9**
comp=Z,21nm,0.8s
SONM Songino Array 53.91 337 P **P 02 38 22.8 +0.8**
comp=Z,3.8nm,0.9s,baz=153,slow=8.6,SNR=22
SONM PcP **PcP 02 39 27.1 -0.1**
comp=Z,0.5nm,0.6s,baz=157,slow=3.8,SNR=3.8
SONM Songino Array 53.91 337 P **P 02 38 22.8 +0.8**
SONM 02 39 27.1
SONM Songino Array 53.91 337 P **P 02 38 22.8 +0.8**
SONM PcP **PcP 02 39 27.1 -0.1**
GUN Gumba 53.99 306 *e*P **P 02 38 21.9 -1.3**
comp=Z,44nm,1.0s
GUN Gumba 53.99 306 *e*P **P 02 38 21.9 -1.3**
KKN Kakani 54.43 305 *e*P **P 02 38 24.8 -1.4**
KKN Kakani 54.43 305 *e*P **P 02 38 24.8 -1.4**
KKN Kakani 54.43 305 *e*P **P 02 38 24.8 -1.4**
DMN Daman 54.50 305 *e*P **P 02 38 25.8 -1.0**
DMN Daman 54.50 305 *e*P **P 02 38 25.8 -1.0**
GKN Gorkha 55.04 305 *e*P **P 02 38 29.4 -1.2**
GKN Gorkha 55.04 305 *e*P **P 02 38 29.4 -1.2**
KOLN Koldanda 55.80 305 *e*P **P 02 38 35.3 -0.8**
comp=Z,24nm,0.7s
KOLN Koldanda 55.80 305 *e*P **P 02 38 35.3 -0.8**
DANN Dangsing 55.88 305 *e*P **P 02 38 35.9 -0.9**
DANN Dangsing 55.88 305 *e*P **P 02 38 35.9 -0.9**
ZAK Zakamensk 57.17 337 *e*P **P 02 38 45.5 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
HYB Hyderabad 57.22 291 *i*P **P 02 38 44.0 -2.2**
PETK Petropavlovsk- 57.27 17 P **P 02 38 46.0 +0.2**
comp=Z,5.5nm,0.8s,baz=147,slow=8.3,SNR=5.2
PETK Petropavlovsk- 57.27 17 P **P 02 38 46.0 +0.2**
PETK Petropavlovsk- 57.27 17 P **P 02 38 46.0 +0.2**
MOY Mondy 59.08 337 *e*P **P 02 38 59.9 +1.3**
MOY pmax pmax
comp=Z,24nm,1.8s
WMQ Urumqi 60.42 323 *e*P **P 02 39 08.7 +0.7**
WMQ pmax pmax
comp=Z,16nm,1.0s
BOD Bodaibo 60.46 348 *e*P **P 02 39 08.0 +0.1**
BOD pmax pmax
comp=Z,8.0nm,1.4s
DDI Dehra Dun 61.24 305 *ex* **P 02 39 13.7 -0.1**
SEY Seymchan 65.03 9 *ce*P **P 02 39 39.5 +1.3**
MK31 Makanchi Array 65.23 324 *i*P **P 02 39 39.8 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 65.23 324 *e*P **P 02 39 40.0 +0.1**
MKAR Makanchi Array 65.23 324 P **P 02 39 40.4 +0.5**
comp=Z,3.4nm,0.7s,baz=116,slow=7.8,SNR=30
MKAR Makanchi Array 65.23 324 P **P 02 39 40.4 +0.5**
MKAR Makanchi Array 65.23 324 P **P 02 39 40.4 +0.5**
KSH Kashi 66.13 314 *e*P **P 02 39 47.5 +1.5**
KSH *e*PcP **PcP 02 40 17.9 +1.7**
KSH *e*PP **PP 02 42 15.3 +3.4**
KSH *e*PcS 02 44 21.4
KSH *e*S **S 02 48 30.5 -2.1**
KSH *e*ScS **SKSac 02 49 37.0 -3.0**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,84nm,5.0s
KSH LR LR
comp=N,140nm,6.0s
KSH LR LR
comp=E,230nm,7.3s
KSH LR LR
comp=Z,490nm,16.9s
TKM2 Tokmak 2 67.72 318 *e*P **P 02 39 56.6 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 67.72 318 *e*P **P 02 39 56.6 +0.5**
comp=Z,3.7nm,0.6s
ZAA0 Zalesovo Array 67.78 331 *e*P **P 02 39 55.1 -0.9**
ZALV Zalesovo Beam 67.78 331 P **P 02 39 55.4 -0.6**
comp=Z,1.8nm,0.8s,baz=108,slow=4.8,SNR=9.0
ZALV Zalesovo Beam 67.78 331 P **P 02 39 55.4 -0.6**
ZALV Zalesovo Beam 67.78 331 P **P 02 39 55.4 -0.6**
AAK Ala-Archa 68.35 317 *i*P **P 02 39 59.4 -0.7**
AAK pmax pmax
comp=Z,6.0nm,1.2s
EKS2 Erkin-Say 68.85 317 *e*P **P 02 40 03.4 +0.2**
EKS2 pmax pmax
comp=Z,3.0nm,0.5s
EKS2 Erkin-Say 68.85 317 *e*P **P 02 40 03.4 +0.2**
comp=Z,3.2nm,0.5s
NVS Novosibirsk 69.05 331 *e*P **P 02 40 02.2 -1.7**
NVS pmax pmax
comp=Z,8.0nm,1.4s
NVS pmax pmax
comp=N,6.0nm,1.8s
NVS pmax pmax
comp=E,5.0nm,1.4s
KURK Kurchatov 69.28 326 P **P 02 40 05.8 +0.3**
comp=E,5.6nm,0.8s,baz=119,slow=5.7,SNR=26
KURK Kurchatov 69.28 326 *ce*P **P 02 40 05.9 +0.5**
KURK pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 69.28 326 P **P 02 40 05.8 +0.3**
KBL Kabul 69.77 307 *e*P **P 02 40 08.5 -0.6**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 69.77 307 *e*P **P 02 40 08.5 -0.6**
comp=Z,6.5nm,0.6s
KK31 Karatay Array 71.25 316 *i*P **P 02 40 17.6 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 71.25 316 *e*P **P 02 40 17.8 +0.1**
KKAR Karatay Array 71.25 316 *e*P **P 02 40 17.8 +0.1**
VOSK Vostochnaya 74.43 326 P **P 02 40 35.7 -0.7**
VOSK pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 74.88 326 P **P 02 40 38.5 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 74.95 326 *ce*P **P 02 40 39.6 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 74.95 326 *e*P **P 02 40 39.8 +0.4**
ZRNK Zerenda 75.63 326 P **P 02 40 42.4 -0.9**
ZRNK pmax pmax
comp=Z,1.0nm,0.2s
VNDA Vanda 78.22 174 *e*P **P 02 40 58.5 +1.1**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 78.22 174 *e*P **P 02 40 58.5 +1.1**
comp=Z,4.6nm,1.1s
AB31 Akbulak array 80.02 320 *i*P **P 02 41 06.9 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 80.02 320 *e*P **P 02 41 07.2 -0.6**
comp=Z,3.3nm,0.7s
ARU Arti 82.44 327 P **P 02 41 21.2 +0.8**
MCK McKinley 85.06 26 *e*P **P 02 41 34.3 +0.5**
MCK pmax pmax
comp=Z,23nm,1.3s
MCK McKinley 85.06 26 *e*P **P 02 41 34.2 +0.5**
comp=Z,23nm,1.3s
COLA College 85.74 25 *e*P **P 02 41 37.6 +0.5**
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 85.74 25 *e*P **P 02 41 37.6 +0.5**
comp=Z,3.9nm,0.7s
ILAR Eielson Array 86.13 25 P **P 02 41 39.1 +0.1**
comp=Z,2.8nm,0.7s,baz=260,slow=4.5,SNR=29
ILAR Eielson Array 86.13 25 P **P 02 41 39.2 +0.1**
ILAR Eielson Array 86.13 25 P **P 02 41 39.1 +0.1**
KIV Kislovodsk 91.26 314 *e*P **P 02 42 02.9 -1.1**
KIV pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 99.73 321 *ce*P **Pdif 02 42 42.0 -0.3**
TORD Torodi Ar. Bea 130.93 287 PKP **PKPdf 02 48 09.6 -1.2**
comp=Z,0.6nm,0.7s,baz=30,slow=2.2,SNR=4.7
TORD Torodi Ar. Bea 130.93 287 PKP **PKPdf 02 48 09.6 -1.2**
LVC Limon Verde 147.99 138 *e*PKPbc **PKPab 02 48 47.7 +0.2**
CPUP Villa Florida 151.06 159 PKPbc **PKPbc 02 48 53.9 +1.9**
comp=Z,2.9nm,0.7s,baz=109,slow=2.0,SNR=6.0
CPUP Villa Florida 151.06 159 PKIKP **PKPbc 02 48 53.9 +1.9**
CPUP Villa Florida 151.06 159 PKPbc **PKPbc 02 48 53.9 +1.9**
LPAZ La Paz 152.59 129 PKPbc **PKPbc 02 48 58.5 +2.0**
comp=Z,1.9nm,0.7s,baz=248,slow=2.1,SNR=7.0
LPAZ La Paz 152.59 129 PKIKP **PKPbc 02 48 58.5 +2.0**
LPAZ La Paz 152.59 129 PKPbc **PKPbc 02 48 58.5 +2.0**

IDC 04 02:33:55.7±2.6, 0.62S×133.26E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=158.1km s-min=23.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**177**	P	P	02 38 22.2	+0.4
	0.2nm,0.3s,baz=354,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**22.92**	**178**	P	P	02 39 02.4	+0.8
	4.6nm,0.8s,baz=360,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**32.08**	**167**	P	P	02 40 23.5	-1.1
	0.7nm,0.4s,baz=345,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**64.85**	**324**	P	P	02 44 36.8	0.0
	0.1nm,0.3s,baz=115,slow=8.2,SNR=21						

IDC 04 02:36:05.0±1.1, 0.91S×132.64E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=76.6km s-min=20.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**175**	P	Pn	02 40 29.5	+0.5
	0.4nm,0.3s,baz=355,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.66**	**177**	P	P	02 41 09.3	+1.2
	2.8nm,0.4s,baz=358,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**31.95**	**166**	P	P	02 42 30.9	-1.8
	2.9nm,0.9s,baz=320,slow=7.1,SNR=5.3						
SONM	**Songino Array**	**53.66**	**338**	P	P	02 45 28.9	+0.3
	0.1nm,0.5s,baz=160,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**64.73**	**324**	P	P	02 46 44.7	-0.6
	0.3nm,0.6s,baz=106,slow=7.6,SNR=4.2						
ILAR	**Eielson Array**	**86.75**	**25**	P	P	02 48 51.3	+0.4
	0.4nm,0.9s,baz=261,slow=5.4,SNR=2.8						

IDC 04 02:42:41.4±3.0, 0.60S×134.23E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=143.9km s-min=27.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**180**	P	P	02 47 07.3	0.0
	0.2nm,0.3s,baz=359,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**22.93**	**181**	P	P	02 47 47.5	+0.2
	0.4nm,0.4s,baz=1.8,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**65.42**	**323**	P	P	02 53 26.0	-0.1
	0.1nm,0.5s,baz=111,slow=8.6,SNR=2.7						

*BJI **04** 02:47:05.4, 1.00S×133.06E, h20km, mB5.2/20, mb4.7/30, Ms4.8/16, Ms7 4.6/17*
*IDC **04** 02:47:08.6±0.6, 0.22S×132.69E, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.4/19, mbtmp4.5/13, ML5.0/1, MS4.2/3, Ms1 4.2/3, ms1mx3.5/29, Error ellipse: s-maj=36.1km s-min=11.5km az=79.0*
*ISCJB **04** 02:47:09.3±1.9, 0.22S±0.04×132.80E±0.05, h15km±13km, mb4.7/63, MS4.5/7, Error ellipse: s-maj=9.0km s-min=5.7km az=145.0*
*MOS **04** 02:47:12.4±1.3, 0.24S×132.54E, h33km, mb5.0/20, Error ellipse: s-maj=17.1km s-min=7.6km az=111.8*
*NEIC **04** 02:47:13.9±4.0, 0.23S×132.73E, h33km±28km, mb4.8/26, Error ellipse: s-maj=13.4km s-min=6.6km az=57.0*
*DJA **04** 02:47:16, 0.51S×132.52E, h15km, mb5.0/31*
ISC 04 02:47:13.0±0.4, 0.24S±0.04×132.75E±0.06, h23km±2km, n193, σ1°46/211, mb4.8/63, MS4.4/9, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.71**	**191**	P	**Pn**	**02 47 55.1**	**-0.1**
MSAI	**Masohi**	**4.91**	**231**	P	**Pn**	**02 48 24.8**	**-0.7**
TLE	**Tual**	**5.36**	**180**	P	**Pn**	**02 48 33.0**	**+1.3**
TNTI	**Ternate**	**5.48**	**281**	P	**Pb**	**02 48 48.6**	**+0.6**
	143nm,0.9s,0.6nm						
AAI	**Ambon**	**5.70**	**233**	P	**Pn**	**02 48 34.4**	**-1.9**
NLAI	**Namlea**	**6.38**	**242**	P	**Pn**	**02 48 44.6**	**-1.2**
	114nm,1.1s,5μm0.9nm						
GTOI	**Gorontalo**	**9.78**	**275**	P	Pn	02 49 39.2	+6.8
	84nm,0.9s						
LUWI	**Luwuk**	**10.01**	**265**	P	Pn	02 49 44.5	+8.9
	110nm,1.3s,3μm						
MRSI	**Marisa**	**10.83**	**274**	P	Px	02 50 00.8	
BBSI	**Bau Bau**	**11.42**	**243**	P	Pn	02 50 02.6	+7.6
MTN	**Manton Dam**	**12.62**	**187**	*e*P	Pn	02 50 07.5	-3.9
TTSI	**Tana Toraja**	**13.22**	**258**	P	**Pn**	**02 50 22.2**	**+2.6**
	38nm,1.0s,2μm						
SPSI	**Sidrap Palu**	**13.49**	**254**	P	**Pn**	**02 50 22.3**	**-0.9**
	40nm,1.0s,632nm						
BKSI	**Bulukumba**	**13.58**	**248**	P	**Pn**	**02 50 26.6**	**+2.1**
	44nm,1.2s,726nm						
KAPI	**Kappang**	**13.82**	**250**	*e*Pn	**Pn**	**02 50 28.2**	**+0.5**
	85nm,1.2s						
KAPI	**Kappang**	**13.82**	**250**	P	**Pn**	**02 50 29.7**	**+2.0**
	67nm,1.1s						
SMKI	**Samarinda**	**15.54**	**269**	P	P	**02 50 57.8**	**+2.7**
	276nm,1.2s,6μm						
KBKI	**Kotabaru**	**16.85**	**259**	P	P	**02 51 10.3**	**+0.7**
	37nm,1.5s,2μm						
PMG	**Port Moresby**	**16.99**	**123**	P	P	**02 51 13.7**	**+2.6**
	1.1nm,0.3s,baz=303,slow=9.8,SNR=11						
PMG	**Port Moresby**	**16.99**	**123**	*e*P	P	**02 51 12.7**	**+1.6**
PMG				pmax	pmax		
	comp=Z,84nm,1.7s						
PMG	**Port Moresby**	**16.99**	**123**	*e*Pn	**Pn**	**02 51 13.5**	**+2.4**
	comp=Z,50nm,1.1s						
COEN	**Coen**	**17.09**	**143**	*e*Pn	**Pn**	**02 51 10.4**	**-0.3**
	comp=Z,242nm,1.2s						
BBKI	**Banjar Baru**	**18.18**	**260**	P	P	**02 51 25.7**	**+1.3**
	comp=Z,155nm,1.3s						
GUMO	**Guam**	**18.25**	**41**	LR	LR	02 56 59.5	
	comp=Z,446nm,18.4s,baz=190,slow=32						
KHKI	**Kahang-Kahang**	**18.89**	**244**	P	**Pn**	**02 51 33.1**	**+0.3**
	comp=Z,66nm,1.7s,comp=Z,1μm						
WRAB	**Tennant Creek**	**19.63**	**176**	*e*P	P	**02 51 39.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,40nm,0.7s						
WRAB	**Tennant Creek**	**19.63**	**176**	*e*P	P	**02 51 39.6**	**-0.7**
	comp=Z,40nm,0.7s						
WRA	**Warramunga Arr**	**19.64**	**176**	P	P	**02 51 39.5**	**-0.8**
	comp=Z,5.2nm,0.3s,baz=355,slow=11,SNR=126						
WRA				S	S	02 55 08.0	-13
	comp=Z,1.1nm,0.3s,baz=348,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**19.64**	**176**	P	P	**02 51 39.6**	**-0.8**
WRA				S	S	02 55 08.0	-13
WRA	**Warramunga Arr**	**19.64**	**176**	P	P	**02 51 39.5**	**-0.8**
WRA				S	S	02 55 08.0	-13
WB2	**Warramunga Arr**	**19.64**	**176**	*e*P	P	**02 51 39.0**	**-1.3**
BYJI	**Banyuwangi**	**19.97**	**246**	P	**Pn**	**02 51 45.7**	**0.0**
	comp=Z,412nm,1.0s						
JAGI	**Jajag, Banyuwa**	**20.25**	**246**	P	Pn	02 51 50.0	+0.9
	comp=Z,81nm,1.1s						
GMJI	**Gumukmas**	**20.83**	**247**	P	Pn	02 51 57.4	+1.6
	comp=Z,79nm,1.5s,comp=Z,1μm						
MTSU	**Mount Surprise**	**21.11**	**148**	*e*P	P	**02 51 56.7**	**+0.4**
	comp=Z,33nm,0.6s						
PBKI	**Pangkalan Bun**	**21.21**	**263**	P	P	**02 51 57.6**	**+0.1**
SJI	**Sawahan**	**22.20**	**250**	P	P	02 52 13.5	+5.3
	comp=Z,55nm,1.4s,comp=Z,4μm						
KSM	**Kuching**	**22.50**	**274**	*e*P	P	**02 52 11.1**	**-0.3**
	comp=Z,152nm,2.0s						
AS31	**Alice Springs**	**23.31**	**177**	*e*P	P	**02 52 18.5**	**-1.1**
ASAR	**Alice Springs**	**23.31**	**177**	P	P	**02 52 18.4**	**-1.2**
	comp=Z,21nm,0.7s,baz=357,slow=7.8,SNR=104						
ASAR				S	S	**02 56 34.2**	**+3.0**
	comp=Z,18nm,1.0s,baz=358,slow=26,SNR=7.9						
ASAR	**Alice Springs**	**23.31**	**177**	P	P	**02 52 18.5**	**-1.2**
ASAR				S	S	**02 56 34.2**	**+3.0**
ASAR	**Alice Springs**	**23.31**	**177**	P	P	**02 52 18.4**	**-1.2**
ASAR				S	S	**02 56 34.2**	**+3.0**
CTAO	**Charters Tower**	**23.75**	**147**	*e*P	P	**02 52 25.2**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,43nm,0.9s						
CTAO	**Charters Tower**	**23.75**	**147**	*e*P	P	**02 52 25.2**	**+1.3**
	comp=Z,43nm,0.9s						
BJII	**Banjamegara**	**24.03**	**252**	P	P	**02 52 27.8**	**+1.1**
MBWA	**Marble Bar**	**24.37**	**211**	*e*P	P	**02 52 28.6**	**-1.1**
	comp=Z,47nm,1.3s						
QLP	**Quilpie**	**28.43**	**158**	*e*P	P	**02 53 05.9**	**-0.3**
MEEK	**Meekatharra**	**29.56**	**206**	*e*P	P	**02 53 14.1**	**-2.3**
	comp=Z,25nm,0.6s						
FORT	**Forrest**	**30.70**	**188**	*e*P	P	**02 53 25.6**	**-0.7**
	comp=Z,2.3nm,0.5s						
FORT	**Forrest**	**30.70**	**188**	*e*P	P	**02 53 25.6**	**-0.7**
	comp=Z,26nm,0.7s						
FORT	**Forrest**	**30.70**	**188**	*e*P	P	**02 53 27.6**	**+1.3**
	comp=Z,36nm,0.8s						
IPM	**Ipoh**	**32.04**	**279**	*e*P	P	**02 53 36.5**	**-1.9**
	comp=Z,14nm,0.9s						
KULM	**Kulim**	**32.52**	**280**	*e*P	P	**02 53 42.5**	**-0.2**
	comp=Z,13nm,0.9s						
BBOO	**Buckleboo**	**32.55**	**175**	*e*P	P	**02 53 43.2**	**+0.6**
	comp=Z,299nm,1.1s						
STKA	**Stephens Creek**	**32.56**	**166**	P	P	**02 53 42.1**	**-0.6**
	comp=Z,10nm,0.7s,baz=335,slow=8.6,SNR=51						
STKA	**Stephens Creek**	**32.56**	**166**	*e*P	P	**02 53 42.0**	**-0.6**
	comp=Z,0.4nm,0.6s						
STKA	**Stephens Creek**	**32.56**	**166**	*e*P	P	**02 53 42.0**	**-0.6**
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**32.56**	**166**	P	P	**02 53 42.1**	**-0.6**
STKA				pmax	pmax		
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**32.56**	**166**	*e*P	P	**02 53 42.2**	**-0.5**
	comp=Z,3.7nm,0.9s						
KMBL	**Kambalda**	**32.63**	**197**	*e*P	P	**02 53 42.2**	**-1.1**
	comp=Z,92nm,0.9s						
CMSA	**Cobar Meteorol**	**33.45**	**160**	*e*P	P	**02 53 50.2**	**-0.3**
	comp=Z,106nm,0.9s						
KLBR	**Kellerberrin**	**34.26**	**203**	*e*P	P	**02 53 56.0**	**-1.5**
	comp=Z,3.6nm,1.0s						
KLBR	**Kellerberrin**	**34.26**	**203**	*e*P	P	**02 53 56.1**	**-1.5**
	comp=Z,15nm,0.6s						
NJ2	**Nanjing**	**34.70**	**339**	*e*P	P	**02 54 01.6**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
ARMA	**Armidale**	**34.97**	**151**	*e*P	P	**02 54 04.5**	**+0.7**
ARMA	**Armidale**	**34.97**	**151**	*e*P	P	**02 54 04.7**	**+0.9**
ARMA	**Armidale**	**34.97**	**151**	*e*P	P	**02 54 04.9**	**+1.1**
	comp=Z,20nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.65**	**203**	*e*P	P	**02 54 08.5**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,58nm,1.7s						
NWAO	**Narrogin (SRO)**	**35.65**	**203**	*e*P	P	**02 54 08.5**	**-1.0**
	comp=Z,58nm,1.7s						
GYA	**Guiyang**	**36.56**	**319**	P	P	**02 54 18.8**	**+1.3**
GYA				pP	**pP**	**02 54 25.2**	**+0.8**
GYA				PP	PP	02 55 43.5	+2.5
GYA				S	**S**	**03 00 01.2**	**+2.1**
GYA				ScP	**ScP**	**03 00 27.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,480nm,16.7s						
GYA				LR	LR		
	comp=E,410nm,17.5s						
GYA				LR	LR		
	comp=Z,460nm,16.2s						
MJAR	**Matsushiro Arr**	**36.95**	**7**	LR	LR	03 07 32.0	
	comp=Z,626nm,21.6s,baz=210,slow=33						
KSRS	**Korea Array**	**37.77**	**354**	LR	LR	03 09 13.6	
	comp=Z,415nm,20.0s,baz=165,slow=35						
CAN	**Canberra**	**38.05**	**158**	*e*P	P	**02 54 31.1**	**+1.1**
	comp=Z,9.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	P	02 54 24.4	-5.8
	comp=Z,0.9nm,0.3s,baz=117,slow=6.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	P	02 54 24.4	-5.8
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	P	02 54 24.4	-5.8
CNB	**Canberra Magne**	**38.18**	**158**	*e*P	P	**02 54 30.2**	**-0.9**
	comp=Z,6.3nm,1.2s						
CHTO	**Chiang Mai**	**38.21**	**302**	*e*P	P	**02 54 33.7**	**+2.2**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**38.21**	**302**	*e*P	P	**02 54 33.6**	**+2.2**
	comp=Z,7.6nm,1.1s						
KMI	**Kunming**	**38.45**	**313**	P	P	**02 54 34.6**	**+0.9**
KMI				pP	**pP**	**02 54 40.6**	**+0.1**
KMI				sP	**sP**	**02 54 43.4**	**+0.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TOO	**Toolangi**	**38.97**	**164**	*e*P	P	**02 54 38.7**	**+1.1**
	comp=Z,2.6nm,0.5s						
TOO	**Toolangi**	**38.97**	**164**	*e*P	P	**02 54 38.7**	**+1.1**
	comp=Z,31nm,0.6s						
XAN	**Xi'an**	**40.78**	**329**	P	P	**02 54 53.5**	**+0.8**
XAN				pP	**pP**	**02 55 02.4**	**+2.8**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CD2	**Chengdu**	**41.44**	**321**	P	P	**02 54 59.6**	**+1.3**
CD2				pP	**pP**	**02 55 05.7**	**+0.5**
CD2				sP	**sP**	**02 55 08.7**	**+0.8**
CD2				PP	PP	02 56 39.1	+4.8
CD2				S	**S**	**03 01 14.1**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,7.7s						
CD2				LR	LR		
	comp=N,410nm,10.7s						
CD2				LR	LR		
	comp=Z,420nm,16.1s						
BJI	**Beijing**	**42.85**	**341**	P	P	**02 55 09.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USRK	**Ussuriysk Arra**	**44.25**	**359**	P	P	**02 55 20.7**	**0.0**
	comp=Z,2.7nm,0.8s,baz=194,slow=7.6,SNR=4.7						
CN2	**Changchun**	**44.33**	**352**	*e*P	P	02 55 25.6	+4.2
CN2				*e*S	**S**	**03 01 59.8**	**+5.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s						

CN2				LR	LR			
	comp=E,400nm,15.0s							
CN2				LR	LR			
	comp=Z,500nm,18.0s							
MDJ	**Mudanjiang**	**44.75**	**357**	P	**P**	**02**	**55**	**24.7 0.0**
MDJ				pP	**pP**	**02**	**55**	**30.8 -0.9**
MDJ				sP	**sP**	**02**	**55**	**33.5 -1.0**
MDJ				ScP	**ScP**	**03**	**00**	**57.8 -0.1**
MDJ				PcS	**PcS**	**03**	**01**	**00.3 +0.1**
MDJ				S	**S**	**03**	**02**	**01.2 +0.8**
MDJ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,61nm,4.1s							
MDJ				LR	LR			
	comp=N,540nm,23.8s							
MDJ				LR	LR			
	comp=E,270nm,24.4s							
MDJ				LR	LR			
	comp=Z,530nm,28.6s							
LZH	**Lanzhou**	**45.04**	**326**	*e*P	**P**	**02**	**55**	**30.4 +3.0**
LZH				pP	**pP**	**02**	**55**	**35.9 +1.5**
LZH				sP	**sP**	**02**	**55**	**39.2 +2.1**
LZH				*e*S	**S**	**03**	**02**	**04.2 -1.0**
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				pmax	pmax			
	comp=Z,170nm,4.9s							
LZH				LR	LR			
	comp=N,160nm,11.1s							
LZH				LR	LR			
	comp=E,620nm,17.4s							
LZH				LR	LR			
	comp=Z,650nm,19.2s							
HHC	**Hu-ho-hao-te**	**45.20**	**337**	*e*P	P	02	55	31.7 +3.1
HHC				pP	pP	02	55	37.9 +2.4
HHC				sP	sP	02	55	40.6 +2.3
HHC				PP	PP	02	57	17.8 +3.3
HHC				S	**S**	**03**	**02**	**11.2 +3.8**
HHC				sS	sS	03	02	21.4 +2.6
HHC				SS	**ScS**	**03**	**05**	**26.1 +1.6**
HHC				pmax	pmax			
	comp=Z,15nm,1.1s							
HHC				pmax	pmax			
	comp=Z,430nm,6.2s							
HHC				LR	LR			
	comp=N,350nm,11.0s							
HHC				LR	LR			
	comp=E,260nm,9.6s							
HHC				LR	LR			
	comp=Z,630nm,11.3s							
MSVF	**Nonsavu**	**47.80**	**114**	*e*P	P	02	55	53.3 +4.0
MSVF				pmax	pmax			
	comp=Z,14nm,1.2s							
MSVF	**Nonsavu**	**47.80**	**114**	*e*P	P	02	55	53.3 +4.0
	comp=Z,14nm,1.2s							
KLR	**Kul'dur**	**49.29**	**359**	*e*P	**P**	**02**	**55**	**57.9 -2.2**
LSA	**Lhasa**	**49.57**	**311**	P	**P**	**02**	**56**	**01.7 -1.5**
LSA	**Lhasa**	**49.57**	**311**	*e*P	**P**	**02**	**56**	**02.9 -0.3**
LSA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
LSA	**Lhasa**	**49.57**	**311**	*e*P	**P**	**02**	**56**	**02.9 -0.3**
	comp=Z,8.2nm,1.0s							
GTA	**Gaotai**	**49.64**	**326**	*e*P	**P**	**02**	**56**	**03.6 +0.4**
GTA				pP	**pP**	**02**	**56**	**09.6 -0.6**
GTA				sP	**sP**	**02**	**56**	**11.6 -1.4**
GTA				S	**S**	**03**	**03**	**11.5 +0.8**
GTA				sS	**sS**	**03**	**03**	**25.1 +2.9**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,480nm,3.8s							
GTA				LR	LR			
	comp=N,210nm,16.4s							
GTA				LR	LR			
	comp=E,250nm,16.1s							
GTA				LR	LR			
	comp=Z,510nm,17.1s							
TAPN	**Taplejung**	**51.20**	**306**	*e*P	**P**	**02**	**56**	**15.4 0.0**
	comp=Z,20nm,1.0s							
TAPN	**Taplejung**	**51.20**	**306**	*e*P	**P**	**02**	**56**	**15.4 0.0**
ODAN	**Odare**	**51.26**	**305**	*e*P	**P**	**02**	**56**	**15.8 +0.1**
	comp=Z,24nm,0.9s							
ODAN	**Odare**	**51.26**	**305**	*e*P	**P**	**02**	**56**	**15.8 +0.1**
RAMN	**Ramite**	**51.94**	**305**	*e*P	**P**	**02**	**56**	**19.3 -1.6**
	comp=Z,27nm,0.8s							
RAMN	**Ramite**	**51.94**	**305**	*e*P	**P**	**02**	**56**	**19.3 -1.6**
JIRN	**Jiri**	**52.56**	**306**	*e*P	**P**	**02**	**56**	**24.0 -1.6**
	comp=Z,12nm,0.6s							
JIRN	**Jiri**	**52.56**	**306**	*e*P	**P**	**02**	**56**	**24.0 -1.6**
ULN	**Ulaanbaatar**	**52.87**	**339**	*e*P	**P**	**02**	**56**	**27.0 -0.2**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ULN	**Ulaanbaatar**	**52.87**	**339**	*e*P	**P**	**02**	**56**	**27.0 -0.2**
	comp=Z,9.1nm,1.0s							
GUN	**Gumba**	**52.91**	**306**	*e*P	**P**	**02**	**56**	**26.4 -1.8**
	comp=Z,20nm,0.7s							
GUN	**Gumba**	**52.91**	**306**	*e*P	**P**	**02**	**56**	**26.4 -1.8**
SONM	**Songino Array**	**53.09**	**338**	P	**P**	**02**	**56**	**28.4 -0.5**
	comp=Z,2.2nm,0.9s,baz=157,slow=7.3,SNR=11							
SONM	**Songino Array**	**53.09**	**338**	P	**P**	**02**	**56**	**28.4 -0.5**
SONM	**Songino Array**	**53.09**	**338**	P	**P**	**02**	**56**	**28.4 -0.5**
DMN	**Daman**	**53.42**	**305**	*e*P	**P**	**02**	**56**	**30.3 -1.5**
DMN	**Daman**	**53.42**	**305**	*e*P	**P**	**02**	**56**	**30.3 -1.5**
GKN	**Gorkha**	**53.96**	**305**	*e*P	**P**	**02**	**56**	**34.1 -1.5**
	comp=Z,16nm,0.8s							
GKN	**Gorkha**	**53.96**	**305**	*e*P	**P**	**02**	**56**	**34.1 -1.5**
KOLN	**Koldanda**	**54.72**	**305**	*e*P	**P**	**02**	**56**	**39.3 -1.9**
	comp=Z,36nm,0.8s							
KOLN	**Koldanda**	**54.72**	**305**	*e*P	**P**	**02**	**56**	**39.3 -1.9**
DANN	**Dangsing**	**54.80**	**306**	*e*P	**P**	**02**	**56**	**39.9 -2.1**
	comp=Z,43nm,0.8s							
DANN	**Dangsing**	**54.80**	**306**	*e*P	**P**	**02**	**56**	**39.9 -2.1**
HYB	**Hyderabad**	**56.13**	**291**	*i* P	**P**	**02**	**56**	**50.0 -1.4**
PETK	**Petropavlovsk-**	**57.09**	**18**	P	**P**	**02**	**56**	**56.3 -1.2**
	comp=Z,5.4nm,0.9s,baz=224,slow=10,SNR=4.0							
PETK	**Petropavlovsk-**	**57.09**	**18**	P	**P**	**02**	**56**	**56.3 -1.2**
PETK	**Petropavlovsk-**	**57.09**	**18**	P	**P**	**02**	**56**	**56.3 -1.2**
MOY	**Mondy**	**58.24**	**337**	*e*P	P	02	57	09.0 +3.2
MOY				pmax	pmax			
	comp=Z,34nm,2.8s							
WMQ	**Urumqi**	**59.44**	**323**	*e*P	**P**	**02**	**57**	**14.3 +0.1**
WMQ				pP	**pP**	**02**	**57**	**20.3 -1.1**
WMQ				sP	**sP**	**02**	**57**	**23.3 -0.8**
WMQ				PcP	**PcP**	**02**	**57**	**58.3 -3.5**
WMQ				pmax	pmax			
	comp=Z,17nm,1.0s							
BOD	**Bodaibo**	**59.78**	**349**	*e*P	**P**	**02**	**57**	**16.1 -0.1**
BOD				pmax	pmax			
	comp=Z,11nm,1.3s							
YAK	**Yakutsk**	**62.15**	**358**	*e*P	**P**	**02**	**57**	**31.7 -0.5**
YAK				pmax	pmax			
	comp=Z,20nm,0.9s							
YAK	**Yakutsk**	**62.15**	**358**	*e*P	**P**	**02**	**57**	**32.7 +0.5**
MK31	**Makanchi Array**	**64.26**	**324**	*e*P	**P**	**02**	**57**	**45.5 -1.0**
MK31	**Makanchi Array**	**64.26**	**324**	*e*P	**P**	**02**	**57**	**45.5 -1.0**
MKAR	**Makanchi Array**	**64.26**	**324**	P	**P**	**02**	**57**	**45.5 -1.0**
	comp=Z,6.6nm,0.7s,baz=118,slow=7.8,SNR=43							
MKAR	**Makanchi Array**	**64.26**	**324**	P	**P**	**02**	**57**	**45.5 -1.0**
MKAR	**Makanchi Array**	**64.26**	**324**	P	**P**	**02**	**57**	**45.5 -1.0**
SEY	**Seymchan**	**64.71**	**10**	*e*P	**P**	**02**	**57**	**49.8 +0.7**
KSH	**Kashi**	**65.09**	**314**	*e*P	**P**	**02**	**57**	**54.4 +2.1**
KSH				*e*pP	**pP**	**02**	**57**	**59.6 +0.1**
KSH				*e*sP	**sP**	**02**	**58**	**01.6 -0.6**
KSH				*e*PcP	**PcP**	**02**	**58**	**27.2 +2.2**
KSH				*e*PP	**PP**	**03**	**00**	**19.6 +3.9**
KSH				*e*ScP		03	02	28.5
KSH				*e*PcS		03	02	30.2
KSH				*e*S	**S**	**03**	**06**	**33.5 -0.4**
KSH				*e*ScS	**SKSac**	**03**	**07**	**45.3 -1.0**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,100nm,3.2s							
KSH				LR	LR			
	comp=N,140nm,4.7s							
KSH				LR	LR			
	comp=E,130nm,5.8s							
KSH				LR	LR			
	comp=Z,100nm,4.1s							
TKM2	**Tokmak 2**	**66.70**	**318**	*e*P	**P**	**02**	**58**	**04.5 +1.8**
TKM2	**Tokmak 2**	**66.70**	**318**	*e*P	**P**	**02**	**58**	**04.5 +1.8**
ZAA0	**Zalesovo Array**	**66.88**	**332**	*e*P	**P**	**02**	**58**	**01.5 -1.8**
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**02**	**58**	**01.5 -1.8**
	comp=Z,2.4nm,0.7s,baz=107,slow=5.8,SNR=13							
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**02**	**58**	**01.5 -1.8**
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**02**	**58**	**01.5 -1.8**
AAK	**Ala-Archa**	**67.33**	**317**	*e*P	**P**	**02**	**58**	**06.8 +0.2**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
EKS2	**Erkin-Say**	**67.83**	**317**	*e*P	**P**	**02**	**58**	**10.7 +1.0**
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.7s							
EKS2	**Erkin-Say**	**67.83**	**317**	*e*P	**P**	**02**	**58**	**10.7 +1.0**
	comp=Z,4.1nm,0.7s							
NVS	**Novosibirsk**	**68.15**	**332**	*e*P	**P**	**02**	**58**	**08.8 -2.5**
NVS				pmax	pmax			
	comp=N,6.0nm,1.6s							
NVS				pmax	pmax			
	comp=E,8.0nm,1.6s							
NVS				pmax	pmax			
	comp=Z,19nm,1.6s							
KURK	**Kurchatov**	**68.33**	**326**	P	**P**	**02**	**58**	**11.3 -1.2**
	comp=Z,5.1nm,0.7s,baz=122,slow=5.9,SNR=38							
KURK	**Kurchatov**	**68.33**	**326**	*e*P	**P**	**02**	**58**	**11.6 -0.9**
KURK				pmax	pmax			
	comp=Z,28nm,1.7s							
KURK	**Kurchatov**	**68.33**	**326**	*e*P	**P**	**02**	**58**	**11.2 -1.2**
	comp=Z,11nm,1.0s							
KBL	**Kabul**	**68.70**	**307**	*e*P	**P**	**02**	**58**	**15.8 +0.4**
KBL	**Kabul**	**68.70**	**307**	*e*P	**P**	**02**	**58**	**15.8 +0.4**
KKAR	**Karatay Array**	**70.23**	**316**	*e*P	**P**	**02**	**58**	**23.1 -1.4**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**70.23**	**316**	*e*P	**P**	**02**	**58**	**23.1 -1.4**
	comp=Z,4.4nm,0.8s							
BVAR	**Borovoye Array**	**73.93**	**326**	P	**P**	**02**	**58**	**45.6 -0.8**
	comp=Z,5.7nm,0.8s,baz=116,slow=6.8,SNR=16							
BVAR	**Borovoye Array**	**73.93**	**326**	P	**P**	**02**	**58**	**45.6 -0.8**
BVAR	**Borovoye Array**	**73.93**	**326**	P	**P**	**02**	**58**	**45.6 -0.8**
BRVK	**Borovoye**	**74.00**	**326**	*e*P	**P**	**02**	**58**	**46.0 -0.8**
BRVK				pmax	pmax			
	comp=Z,17nm,1.2s							
BRVK	**Borovoye**	**74.00**	**326**	*e*P	**P**	**02**	**58**	**45.7 -1.1**
	comp=Z,13nm,1.0s							
VNDA	**Vanda**	**78.81**	**174**	*e*P	**P**	**02**	**59**	**14.0 +0.4**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
VNDA	**Vanda**	**78.81**	**174**	*e*P	**P**	**02**	**59**	**14.0 +0.4**
	comp=Z,3.2nm,0.7s							
ABKAR	**Akbulak array**	**79.02**	**320**	*e*P	**P**	**02**	**59**	**13.6 -1.7**
	comp=Z,5.6nm,0.7s							
SVE	**Sverdlovsk**	**80.48**	**328**	*e*P	**P**	**02**	**59**	**22.2 -0.9**
SVE				pmax	pmax			
	comp=Z,26nm,1.6s							
AKTO	**Aktyubinsk**	**80.49**	**321**	P	**P**	**02**	**59**	**21.6 -1.7**
	comp=Z,4.7nm,0.9s,baz=106,slow=8.0,SNR=16							
AKTO	**Aktyubinsk**	**80.49**	**321**	P	**P**	**02**	**59**	**21.7 -1.7**
AKTO	**Aktyubinsk**	**80.49**	**321**	P	**P**	**02**	**59**	**21.6 -1.7**
ARU	**Arti**	**81.50**	**327**	*c i* P	**P**	**02**	**59**	**27.7 -0.8**
ARU				S	**S**	**03**	**09**	**38.0 -0.8**
ARU				SS	**SS**	**03**	**14**	**52.7 -2.9**
ARU				pmax	pmax			
	comp=Z,13nm,1.2s							
ARU	**Arti**	**81.50**	**327**	*e*P	**P**	**02**	**59**	**26.8 -1.7**
	comp=Z,9.0nm,0.9s							
MCK	**McKinley**	**85.04**	**26**	*e*P	**P**	**02**	**59**	**46.0 -0.7**
MCK				pmax	pmax			
	comp=Z,72nm,2.0s							
MCK	**McKinley**	**85.04**	**26**	*e*P	**P**	**02**	**59**	**46.0 -0.7**
	comp=Z,72nm,2.0s							
COLA	**College**	**85.71**	**25**	*e*P	**P**	**02**	**59**	**50.2 +0.2**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
COLA	**College**	**85.71**	**25**	*e*P	**P**	**02**	**59**	**50.1 +0.2**
	comp=Z,3.0nm,0.6s							
ILAR	**Eielson Array**	**86.10**	**25**	P	**P**	**02**	**59**	**50.8 -1.2**
	comp=Z,2.6nm,0.8s,baz=258,slow=4.2,SNR=22							
ILAR	**Eielson Array**	**86.10**	**25**	P	**P**	**02**	**59**	**50.8 -1.2**
ILAR	**Eielson Array**	**86.10**	**25**	P	**P**	**02**	**59**	**50.8 -1.2**
QSPA	**South Pole Qui**	**89.69**	**180**	*e*P	**P**	**03**	**00**	**08.4 -0.8**
	comp=Z,13nm,0.8s							
INK	**Inuvik**	**91.61**	**22**	P	**P**	**03**	**00**	**16.1 -1.8**
	comp=Z,0.9nm,0.8s,baz=244,slow=4.6,SNR=3.2							
INK	**Inuvik**	**91.61**	**22**	P	**P**	**03**	**00**	**16.1 -1.8**
INK	**Inuvik**	**91.61**	**22**	P	**P**	**03**	**00**	**16.1 -1.8**
TXAR	**Lajitas Array**	**119.01**	**56**	PKP	**PKPdf**	**03**	**05**	**59.7 -1.2**
	comp=Z,0.2nm,0.7s,baz=28,slow=4.1,SNR=3.3							
TXAR	**Lajitas Array**	**119.01**	**56**	PKIKP	**PKPdf**	**03**	**05**	**59.7 -1.2**
TXAR	**Lajitas Array**	**119.01**	**56**	PKP	**PKPdf**	**03**	**05**	**59.7 -1.2**
TORD	**Torodi Ar. Bea**	**129.85**	**287**	PKP	**PKPdf**	**03**	**06**	**20.7 -1.1**
	comp=Z,0.3nm,0.7s,baz=33,slow=1.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**129.85**	**287**	PKP	**PKPdf**	**03**	**06**	**20.7 -1.1**
LCO	**Las Campanas**	**143.28**	**144**	*e*PKPdf	PKPbc	03	06	45.0 +1.4
LVC	**Limon Verde**	**149.00**	**139**	*e*PKPbc	**PKPbc**	**03**	**07**	**01.5 +1.0**
CPUP	**Villa Florida**	**151.85**	**161**	PKPbc	**PKPbc**	**03**	**07**	**06.2 -0.7**
	comp=Z,3.4nm,0.7s,baz=156,slow=3.2,SNR=8.5							
CPUP	**Villa Florida**	**151.85**	**161**	PKIKP	**PKPbc**	**03**	**07**	**06.2 -0.7**
CPUP	**Villa Florida**	**151.85**	**161**	PKPbc	**PKPbc**	**03**	**07**	**06.2 -0.7**
ROSC	**El Rosal**	**152.57**	**80**	PKPbc	**PKPbc**	**03**	**07**	**11.1 +1.7**
	comp=Z,2.2nm,0.5s,baz=112,slow=23,SNR=4.2							
ROSC	**El Rosal**	**152.57**	**80**	PKPbc	**PKPbc**	**03**	**07**	**11.1 +1.7**
LPAZ	**La Paz**	**153.65**	**130**	PKPbc	**PKPbc**	**03**	**07**	**09.4 -2.5**
	comp=Z,2.2nm,0.9s,baz=20,slow=5.9,SNR=3.7							
LPAZ	**La Paz**	**153.65**	**130**	PKIKP	**PKPbc**	**03**	**07**	**09.5 -2.5**
LPAZ	**La Paz**	**153.65**	**130**	PKPbc	**PKPbc**	**03**	**07**	**09.4 -2.5**

*IDC **04** 02:49:12.9±0.8, 0.˚31S×132.˚53E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML4.1/2, Error ellipse: s-maj=41.0km s-min=16.8km az=70.0*
*ISCJB **04** 02:49:16.1±0.5, 0.˚33S±0.˚09×132.˚5E±0.˚1, h33km, mb4.3/15, Error ellipse: s-maj=22.1km s-min=9.2km az=153.9*
*NEIC **04** 02:49:18.1±0.3, 0.˚34S×132.˚52E, h35km, mb4.6/6, Error ellipse: s-maj=15.0km s-min=5.8km az=63.0*

ISC 04 02:49:17.6±0.7, 0.˚3S±0.˚1×132.˚6E±0.˚2, h33km, n30, σ0s49/31, mb4.4/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**17.07**	**122**	P	**P**	**02 53 15.0**	**-0.5**
	0.6nm,0.3s,baz=291,slow=10,SNR=4.2						
PMG	**Port Moresby**	**17.07**	**122**	P	**P**	**02 53 15.0**	**-0.5**
WRA	**Warramunga Arr**	**19.56**	**175**	P	**P**	**02 53 42.9**	**+0.1**
	1.6nm,0.3s,baz=355,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**19.56**	**175**	P	**P**	**02 53 42.9**	**+0.1**
AS31	**Alice Springs**	**23.22**	**177**	*e*P	**P**	**02 54 22.9**	**+0.8**
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**02 54 22.4**	**+0.4**
	22nm,1.0s,baz=1.6,slow=10.0,SNR=5.2						
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**02 54 22.4**	**+0.4**
STKA	**Stephens Creek**	**32.51**	**166**	P	**P**	**02 55 45.4**	**0.0**
	5.1nm,0.7s,baz=324,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**32.51**	**166**	P	**P**	**02 55 45.4**	**0.0**
CMAR	**Chiang Mai Arr**	**37.97**	**301**	P	**P**	**02 56 32.6**	**0.0**
	0.7nm,0.2s,baz=119,slow=7.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**37.97**	**301**	P	**P**	**02 56 32.6**	**0.0**
CHTO	**Chiang Mai**	**38.12**	**302**	*e*P	**P**	**02 56 33.7**	**-0.3**
	28nm,1.8s						
USRK	**Ussuriysk Arra**	**44.35**	**359**	P	**P**	**02 57 24.7**	**0.0**
	0.9nm,0.5s,baz=191,slow=9.0,SNR=4.0						
SONM	**Songino Array**	**53.11**	**338**	P	**P**	**02 58 32.9**	**+0.7**
	2.2nm,1.2s,baz=153,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**53.11**	**338**	P	**P**	**02 58 32.9**	**+0.7**
MK31	**Makanchi Array**	**64.24**	**324**	*e*P	**P**	**02 59 49.5**	**0.0**
MK31				*e*pP	**pP**	**02 59 58.9**	**-0.8**
MKAR	**Makanchi Array**	**64.24**	**324**	P	**P**	**02 59 49.6**	**+0.1**
	2.4nm,0.7s,baz=110,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**64.24**	**324**	P	**P**	**02 59 49.6**	**+0.1**
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**03 00 05.8**	**-0.6**
	1.2nm,0.6s,baz=120,slow=6.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**03 00 05.8**	**-0.6**
AAK	**Ala-Archa**	**67.29**	**317**	*e*P	**P**	**03 00 10.5**	**+1.0**
	4.1nm,0.6s						
KURK	**Kurchatov**	**68.32**	**326**	P	**P**	**03 00 15.4**	**-0.2**
	2.6nm,0.7s,baz=124,slow=5.8,SNR=5.4						
KURK	**Kurchatov**	**68.32**	**326**	*e*P	**P**	**03 00 15.2**	**-0.3**
	2.2nm,0.6s						
KBL	**Kabul**	**68.62**	**307**	*e*P	**P**	**03 00 17.6**	**-0.4**
	6.9nm,1.0s						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**03 00 49.7**	**+0.3**
	2.1nm,0.7s,baz=115,slow=6.7,SNR=4.6						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**03 00 49.7**	**+0.3**
BRVK	**Borovoye**	**73.99**	**326**	*e*P	**P**	**03 00 49.8**	**-0.1**
	5.5nm,0.8s						
ABKAR	**Akbulak array**	**78.99**	**320**	*e*P	**P**	**03 01 17.4**	**-0.8**
	5.2nm,1.0s						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**03 01 56.2**	**+0.4**
	2.1nm,1.0s,baz=253,slow=4.5,SNR=6.7						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**03 01 56.2**	**+0.4**

IDC 04 02:58:45.4±2.9, 0.˚81S×133.˚27E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=140.0km s-min=28.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.05**	**177**	P	P	03 03 09.7	+0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**22.73**	**178**	P	P	03 03 49.2	-0.1
	0.9nm,0.6s,baz=2.3,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	03 09 27.4	-0.1
	0.2nm,0.6s,baz=109,slow=7.6,SNR=3.8						

*DJA **04** 03:05:38, 0.˚27S×132.˚97E, h68km, MLv4.4/5*

IDC 04 03:05:33.5±1.1, 0.˚47S×133.˚19E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=70.3km s-min=15.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.39**	**177**	P	Pn	03 10 02.4	+0.2
	0.3nm,0.3s,baz=353,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**23.07**	**178**	P	P	03 10 42.2	+1.4
	3.8nm,0.8s,baz=357,slow=9.5,SNR=15						
ASAR				S	S	03 14 52.4	-0.7
	0.8nm,0.8s,baz=360,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**32.24**	**167**	P	P	03 12 04.5	+0.9
	0.7nm,0.4s,baz=333,slow=11,SNR=5.3						
SONM	**Songino Array**	**53.46**	**338**	P	P	03 14 55.3	-0.3
	0.4nm,0.9s,baz=148,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**64.69**	**324**	P	P	03 16 13.5	0.0
	0.6nm,0.7s,baz=112,slow=7.2,SNR=5.5						
ILAR	**Eielson Array**	**86.12**	**25**	P	P	03 18 15.5	-0.7
	0.4nm,1.0s,baz=260,slow=2.7,SNR=3.4						

IDC 04 03:12:06.7±8.8, 7.˚06N×77.˚03W, h61km±72km, mb3.4/2, mb1 3.4/3, mb1mx3.1/19, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=74.7km s-min=45.4km az=177.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.46**	**129**	P	Pn	03 12 58.6	0.0
	7.0nm,0.3s,baz=272,slow=12,SNR=10						
ROSC				S	Sn	03 13 39.4	+0.6
	9.4nm,0.3s,baz=98,slow=18,SNR=6.6						
DBIC	**Dimbokro**	**71.58**	**85**	P	P	03 23 22.1	-0.1
	1.2nm,0.9s,baz=270,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.49**	**78**	P	P	03 23 56.6	+0.2
	0.2nm,0.5s,baz=284,slow=6.4,SNR=7.7						
ASAR	**Alice Springs**	**146.03**	**238**	PKPbc	PKPdf	03 31 39.8	0.0
	1.2nm,0.8s,baz=132,slow=3.8,SNR=5.5						

IDC 04 03:14:55.3±1.2, 0.˚62S×133.˚42E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/17, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=71.0km s-min=20.2km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**177**	P	P	03 19 21.2	0.0
	0.2nm,0.3s,baz=356,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.92**	**179**	P	P	03 20 01.1	0.0
	1.1nm,0.6s,baz=359,slow=9.7,SNR=12						
STKA	**Stephens Creek**	**32.04**	**167**	P	P	03 21 23.8	0.0
	1.1nm,0.9s,baz=357,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	03 25 37.2	+0.3
	0.3nm,0.6s,baz=107,slow=8.1,SNR=7.9						
KURK	**Kurchatov**	**69.01**	**326**	P	P	03 26 02.5	-0.1
	0.4nm,0.7s,baz=120,slow=5.4,SNR=5.8						
ILAR	**Eielson Array**	**86.16**	**25**	P	P	03 27 37.8	-0.4
	0.6nm,1.1s,baz=246,slow=4.1,SNR=4.5						

IDC 04 03:16:42.3±3.2, 0.˚36S×133.˚27E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=204.1km s-min=24.1km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.49**	**177**	P	P	03 21 11.3	+0.2
	0.2nm,0.3s,baz=356,slow=13,SNR=15						
**ASA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.19**	**179**	P	**P**	**03 31 23.5**	**-0.5**
	0.8nm,0.3s,baz=359,slow=12,SNR=14						
WRA	**Warramunga Arr**	**19.19**	**179**	P	**P**	**03 31 23.5**	**-0.5**
AS31	**Alice Springs**	**22.89**	**180**	*e*P	**P**	**03 32 04.9**	**+1.0**
ASAR	**Alice Springs**	**22.89**	**180**	P	**P**	**03 32 04.3**	**+0.4**
	2.4nm,0.5s,baz=358,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**22.89**	**180**	P	**P**	**03 32 04.3**	**+0.4**
MBWA	**Marble Bar**	**24.64**	**213**	*e*P	**P**	**03 32 21.1**	**+0.5**
	25nm,1.4s						
STKA	**Stephens Creek**	**31.91**	**168**	P	**P**	**03 33 24.9**	**-0.5**
	1.7nm,0.9s,baz=314,slow=18,SNR=4.5						
STKA	**Stephens Creek**	**31.91**	**168**	P	**P**	**03 33 24.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.26**	**301**	P	**P**	**03 34 28.2**	**-0.5**
	1.2nm,0.4s,baz=126,slow=8.1,SNR=9.5						
CMAR	**Chiang Mai Arr**	**39.26**	**301**	P	**P**	**03 34 28.2**	**-0.5**
CHTO	**Chiang Mai**	**39.41**	**301**	*e*P	**P**	**03 34 28.2**	**-1.8**
	4.9nm,0.9s						
USRK	**Ussuriysk Arra**	**44.68**	**358**	P	**P**	**03 35 12.3**	**-0.3**
	2.5nm,0.8s,baz=162,slow=11,SNR=4.0						
SONM	**Songino Array**	**53.89**	**337**	P	**P**	**03 36 24.2**	**+1.0**
	0.7nm,0.8s,baz=151,slow=8.0,SNR=5.6						
SONM	**Songino Array**	**53.89**	**337**	P	**P**	**03 36 24.2**	**+1.0**
MK31	**Makanchi Array**	**65.26**	**324**	*e*P	**P**	**03 37 42.0**	**+0.5**
MKAR	**Makanchi Array**	**65.26**	**324**	P	**P**	**03 37 42.0**	**+0.5**
	1.7nm,0.6s,baz=115,slow=8.0,SNR=16						
MKAR	**Makanchi Array**	**65.26**	**324**	P	**P**	**03 37 42.0**	**+0.5**
ZALV	**Zalesovo Beam**	**67.78**	**331**	P	**P**	**03 37 56.5**	**-0.9**
	0.6nm,0.7s,baz=104,slow=6.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**67.78**	**331**	P	**P**	**03 37 56.5**	**-0.9**
KURK	**Kurchatov**	**69.30**	**326**	P	**P**	**03 38 07.3**	**+0.4**
	1.9nm,0.7s,baz=120,slow=5.7,SNR=12						
KURK	**Kurchatov**	**69.30**	**326**	*e*P	**P**	**03 38 07.1**	**+0.2**
	3.4nm,0.8s						
KKAR	**Karatay Array**	**71.31**	**316**	*e*P	**P**	**03 38 19.8**	**+0.4**
	2.7nm,1.0s						
BVAR	**Borovoye Array**	**74.90**	**326**	P	**P**	**03 38 40.8**	**+0.3**
	1.5nm,0.8s,baz=103,slow=6.5,SNR=7.6						
BVAR	**Borovoye Array**	**74.90**	**326**	P	**P**	**03 38 40.8**	**+0.3**
BRVK	**Borovoye**	**74.97**	**326**	*e*P	**P**	**03 38 41.0**	**+0.2**
	17nm,1.4s						
ABKAR	**Akbulak array**	**80.06**	**320**	*e*P	**P**	**03 39 08.7**	**-0.6**
	13nm,1.4s						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**03 39 39.2**	**-0.4**
	0.7nm,0.8s,baz=269,slow=4.3,SNR=4.7						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**03 39 39.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**131.07**	**287**	PKP	**PKPdf**	**03 46 12.9**	**+0.5**
	0.2nm,0.7s,baz=74,slow=2.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**131.07**	**287**	PKP	**PKPdf**	**03 46 12.9**	**+0.5**
CPUP	**Villa Florida**	**151.08**	**159**	PKPbc	**PKPbc**	**03 46 52.7**	**-0.7**
	2.1nm,0.8s,baz=30,slow=8.7,SNR=3.5						
CPUP	**Villa Florida**	**151.08**	**159**	PKPbc	**PKPbc**	**03 46 52.7**	**-0.7**
LPAZ	**La Paz**	**152.50**	**129**	PKPbc	**PKPbc**	**03 46 58.6**	**+0.9**
	0.9nm,0.6s,baz=160,slow=3.7,SNR=3.6						
LPAZ	**La Paz**	**152.50**	**129**	PKPbc	**PKPbc**	**03 46 58.6**	**+0.9**

*BJI **04** 03:28:22.1, 1.˚42S× 134.˚07E, h40km, mB5.2/23, mb4.8/35, Ms4.7/16, Ms7 4.5/17*
*IDC **04** 03:28:24.4±0.5, 0.˚67S× 133.˚70E, h0km, mb4.6/18, mb1 4.6/19, mb1mx4.6/22, mbtmp4.5/19, ML4.6/1, MS4.5/1, Ms1 4.4/1, ms1mx3.0/22, Error ellipse: s-maj=27.1km s-min=12.8km az=74.0*
*MOS **04** 03:28:27.9±0.9, 0.˚69S× 133.˚46E, h33km, mb5.1/21, Error ellipse: s-maj=14.4km s-min=6.9km az=110.2*
*ISCJB **04** 03:28:28.6±1.1, 0.˚69S±0.˚04× 133.˚60E±0.˚05, h37km±10km, mb4.8/65, MS4.4/8, Error ellipse: s-maj=9.2km s-min=6.1km az=146.4*
*NEIC **04** 03:28:29.5±2.3, 0.˚66S× 133.˚51E, h32km±16km, mb4.9/31, Error ellipse: s-maj=7.9km s-min=4.7km az=65.0*
*DJA **04** 03:28:29, 0.˚48S× 133.˚61E, h60km, mb5.3/8*
ISC 04 03:28:30.7±0.4, 0.˚69S±0.˚05×133.˚62E±0.˚07, h43km±2km, n195, σ1§14/238, mb4.8/65, MS4.4/8, 2C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.60**	**212**	P	Pn	03 29 18.3	+7.9
MSAI	**Masohi**	**5.38**	**241**	P	**Pn**	**03 29 51.2**	**+2.6**
LBMI	**Labuha**	**6.12**	**270**	P	Pn	03 30 02.7	+4.0
	151nm,0.7s,1μm0.5nm						
AAI	**Ambon**	**6.19**	**241**	P	**Pn**	**03 30 00.9**	**+1.3**
	323nm,0.9s,3μm1.1nm						
NLAI	**Namlea**	**6.99**	**249**	P	**Pn**	**03 30 11.4**	**+0.7**
	159nm,0.6s,5μm0.7nm						
KAPI	**Kappang**	**14.50**	**253**	*e*Pn	**Pn**	**03 31 51.5**	**-1.9**
PMG	**Port Moresby**	**16.01**	**123**	Pn	**P**	**03 32 14.6**	**-1.4**
	0.6nm,0.3s,baz=320,slow=11,SNR=6.8						
PMG	**Port Moresby**	**16.01**	**123**	P	**P**	**03 32 14.6**	**-1.4**
PMG	**Port Moresby**	**16.01**	**123**	Pn	**P**	**03 32 14.6**	**-1.4**
PMG				*e*Pn	**Pn**	**03 32 14.8**	**+1.7**
COEN	**Coen**	**16.22**	**145**	*e*Pn	**P**	**03 32 17.1**	**-1.2**
	158nm,1.2s						
WRAB	**Tennant Creek**	**19.14**	**178**	*e*P	**P**	**03 32 49.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,168nm,1.9s						
WRAB	**Tennant Creek**	**19.14**	**178**	*e*P	**P**	**03 32 49.9**	**-0.6**
	comp=Z,168nm,1.9s						
WRA	**Warramunga Arr**	**19.14**	**178**	P	**P**	**03 32 49.6**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=355,slow=11,SNR=18						
WRA				S	Sn	03 36 12.8	-13
	comp=Z,0.5nm,0.3s,baz=0.8,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**19.14**	**178**	P	**P**	**03 32 49.6**	**-1.0**
WRA				S	Sn	03 36 12.8	-13
WRA	**Warramunga Arr**	**19.14**	**178**	P	**P**	**03 32 49.6**	**-1.0**
WRA				S	Sn	03 36 12.8	-13
WB2	**Warramunga Arr**	**19.14**	**178**	*e*P	**P**	**03 32 50.1**	**-0.5**
AS31	**Alice Springs**	**22.84**	**179**	*e*P	**P**	**03 33 29.8**	**-0.6**
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**03 33 29.6**	**-0.8**
	comp=Z,13nm,0.7s,baz=358,slow=11,SNR=15						
ASAR				S	**S**	**03 37 34.5**	**-2.5**
	comp=Z,3.9nm,0.8s,baz=2.4,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**03 33 29.6**	**-0.8**
ASAR				S	**S**	**03 37 34.5**	**-2.5**
ASAR	**Alice Springs**	**22.84**	**179**	P	**P**	**03 33 29.6**	**-0.8**
ASAR				S	**S**	**03 37 34.5**	**-2.5**
CTAO	**Charters Tower**	**22.90**	**148**	*e*P	**P**	**03 33 32.4**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**22.90**	**148**	*e*P	**P**	**03 33 32.4**	**+1.3**
	comp=Z,32nm,0.9s						
MBWA	**Marble Bar**	**24.45**	**213**	*e*P	**P**	**03 33 46.0**	**+0.3**
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**27.27**	**334**	*e*P	**P**	**03 34 10.3**	**-1.0**
	comp=Z,24nm,1.0s						
FORT	**Forrest**	**30.39**	**189**	*e*P	**P**	**03 34 39.3**	**+0.4**
	comp=Z,15nm,0.5s						
FORT	**Forrest**	**30.39**	**189**	*e*P	**P**	**03 34 39.5**	**+0.6**
	comp=Z,18nm,0.6s						
RGRI	**Rengat**	**31.29**	**270**	P	**P**	**03 34 49.0**	**+1.9**
	comp=Z,333nm,0.5s						
STKA	**Stephens Creek**	**31.92**	**167**	P	**P**	**03 34 50.8**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=352,slow=9.0,SNR=11						
STKA				LR	LR	03 49 44.8	
	comp=Z,766nm,20.3s,baz=292,slow=40						
STKA	**Stephens Creek**	**31.92**	**167**	*e*P	**P**	**03 34 52.6**	**+0.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**31.92**	**167**	*e*P	**P**	**03 34 52.6**	**+0.2**
	comp=Z,1.6nm,1.0s						
BBOO	**Buckleboo**	**32.03**	**176**	*e*P	**P**	**03 34 53.7**	**+0.3**
	comp=Z,65nm,0.7s						
JNU	**Nakatsue**	**33.73**	**356**	*e*P	**P**	**03 35 07.5**	**-0.8**
	comp=Z,7.7nm,0.9s						
NJ2	**Nanjing**	**35.44**	**338**	*e*P	**P**	**03 35 23.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
WHN	**Wuhan**	**36.08**	**331**	P	P	03 35 32.0	+3.6
MJAR	**Matsushiro Arr**	**37.29**	**6**	P	**P**	**03 35 36.9**	**-1.8**
	comp=Z,3.6nm,1.0s,baz=177,slow=6.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**37.29**	**6**	P	**P**	**03 35 36.9**	**-1.8**
MJAR	**Matsushiro Arr**	**37.29**	**6**	P	**P**	**03 35 36.9**	**-1.8**
GYA	**Guiyang**	**37.47**	**318**	P	**P**	**03 35 41.2**	**+0.6**
GYA				pP	**pP**	**03 35 52.6**	**+0.3**
GYA				sP	**sP**	**03 35 59.2**	**+1.9**
GYA				PP	PP	03 37 11.4	+4.7
GYA				S	**S**	**03 41 27.6**	**+1.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,490nm,16.4s						
GYA				LR	LR		
	comp=E,460nm,17.3s						
GYA				LR	LR		
	comp=Z,480nm,16.5s						
KSAR	**Wonju Array Be**	**38.31**	**353**	P	**P**	**03 35 47.0**	**-0.4**
KSAR	**Wonju Array Be**	**38.31**	**353**	P	**P**	**03 35 47.0**	**-0.4**
KSRS	**Korea Array**	**38.32**	**353**	P	**P**	**03 35 47.0**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=163,slow=8.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**39.04**	**301**	P	**P**	**03 35 53.3**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=129,slow=7.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**39.04**	**301**	P	**P**	**03 35 53.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.04**	**301**	P	**P**	**03 35 53.3**	**-0.5**
KMI	**Kunming**	**39.39**	**313**	P	**P**	**03 35 59.8**	**+2.9**
KMI				pP	**pP**	**03 36 09.2**	**+0.6**
KMI				sP	**sP**	**03 36 14.7**	**+1.0**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CD2	**Chengdu**	**42.34**	**321**	P	**P**	**03 36 22.3**	**+1.4**
CD2				pP	**pP**	**03 36 32.5**	**-0.2**
CD2				sP	**sP**	**03 36 36.8**	**-0.9**
CD2				PP	PP	03 38 03.7	+4.1
CD2				S	**S**	**03 42 40.7**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,310nm,5.8s						
CD2				LR	LR		
	comp=N,340nm,8.9s						
CD2				LR	LR		
	comp=Z,410nm,16.6s						
BJI	**Beijing**	**43.56**	**340**	P	**P**	**03 36 30.7**	**+0.2**
BJI				pmax	pmax		
	comp=Z,50nm,0.8s						
USRK	**Ussuriysk Arra**	**44.72**	**358**	P	**P**	**03 36 39.8**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=176,slow=6.5,SNR=9.6						
CN2	**Changchun**	**44.90**	**352**	*e*P	P	03 36 44.4	+3.2
CN2				*e*S	**S**	**03 43 20.3**	**+4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
MDJ	**Mudanjiang**	**45.26**	**356**	P	**P**	**03 36 43.7**	**-0.3**
MDJ				pP	**pP**	**03 36 55.1**	**-0.8**
MDJ				sP	**sP**	**03 36 59.8**	**-1.1**
MDJ				ScP	**ScP**	**03 42 12.4**	**-0.4**
MDJ				PcS	**PcS**	**03 42 17.1**	**-0.1**
MDJ				S	**S**	**03 43 20.8**	**-0.5**
MDJ				sS	**sS**	**03 43 39.5**	**-1.6**
MDJ				ScS	**ScS**	**03 46 36.8**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,90nm,5.0s						
MDJ				LR	LR		
	comp=N,250nm,27.7s						
MDJ				LR	LR		
	comp=E,180nm,24.8s						
MDJ				LR	LR		
	comp=Z,490nm,29.3s						
LZH	**Lanzhou**	**45.90**	**326**	*e*P	**P**	**03 36 50.1**	**+0.7**
LZH				pP	**pP**	**03 37 02.8**	**+1.4**
LZH				sP	**sP**	**03 37 08.0**	**+1.6**
LZH				PP	PP	03 38 38.0	+0.3
LZH				*e*S	**S**	**03 43 31.5**	**+0.3**
LZH				sS	**sS**	**03 43 50.1**	**-0.9**
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,97nm,5.9s						
LZH				LR	LR		
	comp=N,320nm,15.6s						
LZH				LR	LR		
	comp=E,160nm,5.8s						
LZH				LR	LR		
	comp=Z,400nm,15.8s						
HHC	**Hu-ho-hao-te**	**45.96**	**337**	*e*P	**P**	**03 36 50.3**	**+0.5**
HHC				pP	**pP**	**03 37 02.9**	**+1.2**
HHC				sP	**sP**	**03 37 08.1**	**+1.4**
HHC				PcP	**PcP**	**03 38 27.2**	**+1.1**
HHC				PP	PP	03 38 38.3	+0.2
HHC				S	**S**	**03 43 32.5**	**+0.7**
HHC				sS	**sS**	**03 43 53.4**	**+1.8**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,260nm,5.2s						
HHC				LR	LR		
	comp=N,190nm,14.5s						
HHC				LR	LR		
	comp=E,210nm,14.1s						
HHC				LR	LR		
	comp=Z,710nm,16.7s						
MSVF	**Nonsavu**	**46.83**	**114**	*e*P	**P**	**03 36 59.4**	**+2.5**
MSVF				pmax	pmax		
	comp=Z,14nm,1.1s						
MSVF	**Nonsavu**	**46.83**	**114**	*e*P	**P**	**03 36 59.4**	**+2.5**
	comp=Z,14nm,1.1s						
SHL	**Shillong**	**48.03**	**306**	*e*P	**P**	**03 37 09.0**	**+2.7**
GTA	**Gaotai**	**50.50**	**326**	⇓P	**P**	**03 37 25.6**	**+0.7**
GTA				pP	**pP**	**03 37 35.7**	**-1.3**
GTA				sP	**sP**	**03 37 39.6**	**-2.3**
GTA				S	**S**	**03 44 36.8**	**+0.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,150nm,5.0s						
GTA				LR	LR		
	comp=N,140nm,15.4s						
GTA				LR	LR		
	comp=E,120nm,15.9s						
GTA				LR	LR		
	comp=Z,200nm,16.9s						
LSA	**Lhasa**	**50.52**	**310**	P	**P**	**03 37 26.3**	**+0.7**
TAPN	**Taplejung**	**52.17**	**306**	*e*P	**P**	**03 37 37.4**	**-0.4**
TAPN	**Taplejung**	**52.17**	**306**	*e*P	**P**	**03 37 37.4**	**-0.4**
ODAN	**Odare**	**52.23**	**305**	*e*P	**P**	**03 37 37.7**	**-0.5**
	comp=Z,72nm,0.8s						
ODAN	**Odare**	**52.23**	**305**	*e*P	**P**	**03 37 37.7**	**-0.5**
RAMN	**Ramite**	**52.91**	**305**	*e*P	**P**	**03 37 43.0**	**-0.3**
	comp=Z,96nm,0.9s						
RAMN	**Ramite**	**52.91**	**305**	*e*P	**P**	**03 37 43.0**	**-0.3**
JIRN	**Jiri**	**53.53**	**306**	*e*P	**P**	**03 37 47.5**	**-0.4**
	comp=Z,50nm,0.8s						
JIRN	**Jiri**	**53.53**	**306**	*e*P	**P**	**03 37 47.5**	**-0.4**
ULN	**Ulaanbaatar**	**53.61**	**338**	*e*P	**P**	**03 37 48.6**	**+0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**53.61**	**338**	*e*P	**P**	**03 37 48.6**	**+0.7**
	comp=Z,9.5nm,0.8s						
SONM	**Songino Array**	**53.83**	**338**	P	**P**	**03 37 50.1**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=153,slow=7.9,SNR=18						
SONM				PcP	**PcP**	**03 38 54.9**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=155,slow=4.2,SNR=6.7						
SONM	**Songino Array**	**53.83**	**338**	P	**P**	**03 37 50.1**	**+0.6**
SONM						03 38 54.9	
SONM	**Songino Array**	**53.83**	**338**	P	**P**	**03 37 50.1**	**+0.6**
SONM				PcP	**PcP**	**03 38 54.9**	**+0.1**
GUN	**Gumba**	**53.88**	**306**	*e*P	**P**	**03 37 50.0**	**-0.5**
	comp=Z,65nm,0.7s						
GUN	**Gumba**	**53.88**	**306**	*e*P	**P**	**03 37 50.0**	**-0.5**
PKI	**Pulchoki**	**54.13**	**305**	*e*P	**P**	**03 37 51.4**	**-0.9**
	comp=Z,31nm,0.9s						
PKI	**Pulchoki**	**54.13**	**305**	*e*P	**P**	**03 37 51.4**	**-0.9**
PKI	**Pulchoki**	**54.13**	**305**	*e*P	**P**	**03 37 51.4**	**-0.9**
RPZ	**Rata Peaks**	**54.27**	**147**	*e*P	**P**	**03 37 53.8**	**+1.2**
	comp=Z,25nm,1.2s						
KKN	**Kakani**	**54.32**	**305**	*e*P	**P**	**03 37 53.0**	**-0.5**
KKN	**Kakani**	**54.32**	**305**	*e*P	**P**	**03 37 53.0**	**-0.5**
KKN	**Kakani**	**54.32**	**305**	*e*P	**P**	**03 37 53.0**	**-0.5**
DMN	**Daman**	**54.39**	**305**	*e*P	**P**	**03 37 53.6**	**-0.5**
	comp=Z,56nm,0.8s						
DMN	**Daman**	**54.39**	**305**	*e*P	**P**	**03 37 53.6**	**-0.5**
URZ	**Urewera**	**54.65**	**138**	P	**P**	**03 37 54.4**	**-1.1**
	comp=Z,6.7nm,0.5s,baz=328,slow=8.1,SNR=6.4						
URZ	**Urewera**	**54.65**	**138**	*e*P	**P**	**03 37 55.5**	**0.0**
	comp=Z,7.0nm,0.6s						
SKR	**Severo-Kuril's**	**54.66**	**17**	*e*P	P	03 38 06.0	+11
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
GKN	**Gorkha**	**54.93**	**305**	*e*P	**P**	**03 37 57.2**	**-0.7**
	comp=Z,52nm,0.8s						
GKN	**Gorkha**	**54.93**	**305**	*e*P	**P**	**03 37 57.2**	**-0.7**
KOLN	**Koldanda**	**55.69**	**305**	*e*P	**P**	**03 38 03.1**	**-0.3**
	comp=Z,59nm,0.8s						
KOLN	**Koldanda**	**55.69**	**305**	*e*P	**P**	**03 38 03.1**	**-0.3**
DANN	**Dangsing**	**55.78**	**305**	*e*P	**P**	**03 38 03.7**	**-0.4**
	comp=Z,76nm,0.8s						
DANN	**Dangsing**	**55.78**	**305**	*e*P	**P**	**03 38 03.7**	**-0.4**
ZAK	**Zakamensk**	**57.09**	**337**	*e*P	**P**	**03 38 12.7**	**-0.2**
ZAK				*e*		03 39 06.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HYB	**Hyderabad**	**57.11**	**291**	*i* P	**P**	**03 38 11.0**	**-2.5**
PETK	**Petropavlovsk-**	**57.26**	**17**	P	**P**	**03 38 13.2**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=152,slow=6.7,SNR=6.4						
PETK	**Petropavlovsk-**	**57.26**	**17**	P	**P**	**03 38 13.3**	**-0.6**
PETK	**Petropavlovsk-**	**57.26**	**17**	P	**P**	**03 38 13.2**	**-0.6**
MOY	**Mondy**	**59.00**	**337**	*e*P	**P**	**03 38 27.1**	**+0.9**
WMQ	**Urumqi**	**60.32**	**323**	P	**P**	**03 38 35.9**	**+0.5**
WMQ				pP	**pP**	**03 38 45.9**	**-1.8**
WMQ				sP	**sP**	**03 38 49.9**	**-2.7**
WMQ				PcP	**PcP**	**03 39 18.9**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
BOD	**Bodaibo**	**60.40**	**348**	*e*P	**P**	**03 38 35.6**	**0.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
DDI	**Dehra Dun**	**61.13**	**305**	*ex*	**P**	**03 38 41.6**	**+0.5**
YAK	**Yakutsk**	**62.63**	**358**	*e*P	**P**	**03 38 50.3**	**-0.2**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
YAK	**Yakutsk**	**62.63**	**358**	*e*P	**P**	**03 38 50.3**	**-0.2**
	comp=Z,18nm,0.7s						
SEY	**Seymchan**	**65.01**	**9**	*de*P	**P**	**03 39 07.4**	**+1.2**
MK31	**Makanchi Array**	**65.13**	**324**	*e*P	**P**	**03 39 05.7**	**-1.6**
MK31	**Makanchi Array**	**65.13**	**324**	*e*P	**P**	**03 39 05.7**	**-1.6**
MKAR	**Makanchi Array**	**65.13**	**324**	P	**P**	**03 39 07.7**	**+0.4**
	comp=Z,11nm,0.7s,baz=115,slow=7.9,SNR=45						
MKAR	**Makanchi Array**	**65.13**	**324**	*ce*P	**P**	**03 39 07.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**65.13**	**324**	*e*P	**P**	**03 39 06.2**	**-1.2**
KSH	**Kashi**	**66.03**	**314**	P	**P**	**03 39 14.8**	**+1.4**
KSH				*e*pP	**pP**	**03 39 27.6**	**+1.7**
KSH				*e*sP	**sP**	**03 39 32.9**	**+2.1**
KSH				PcP	**PcP**	**03 39 45.0**	**+1.2**
KSH				*e*PP	**PP**	**03 41 42.6**	**+3.4**
KSH				*e*ScP		03 43 42.9	
KSH				*e*PcS		03 43 48.4	
KSH				*e*S	**S**	**03 47 56.0**	**-2.6**
KSH				*e*sS	**sS**	**03 48 19.3**	**-0.1**
KSH				*e*ScS	**SKSac**	**03 49 03.1**	**-3.2**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,5.8s						
KSH				LR	LR		
	comp=N,120nm,4.7s						
KSH				LR	LR		
	comp=E,80nm,5.0s						
KSH				LR	LR		
	comp=Z,170nm,5.3s						
TKM2	**Tokmak 2**	**67.62**	**318**	*e*P	**P**	**03 39 23.6**	**0.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	**Tokmak 2**	**67.62**	**318**	*e*P	**P**	**03 39 23.6**	**0.0**
	comp=Z,6.3nm,0.6s						
ZAA0	**Zalesovo Array**	**67.69**	**331**	*e*P	**P**	**03 39 22.9**	**-0.6**
ZALV	**Zalesovo Beam**	**67.69**	**331**	P	**P**	**03 39 23.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=122,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**67.69**	**331**	P	**P**	**03 39 23.1**	**-0.4**
ZALV	**Zalesovo Beam**	**67.69**	**331**	P	**P**	**03 39 23.1**	**-0.4**
AAK	**Ala-Archa**	**68.25**	**317**	*e*P	**P**	**03 39 28.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s						
EKS2	**Erkin-Say**	**68.75**	**317**	*e*P	**P**	**03 39 31.7**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	**Erkin-Say**	**68.75**	**317**	*e*P	**P**	**03 39 31.7**	**+1.1**
	comp=Z,6.4nm,0.8s						
NVS	**Novosibirsk**	**68.96**	**331**	*e*P	**P**	**03 39 29.8**	**-1.6**
NVS				pmax	pmax		
	comp=Z,16nm,1.8s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
KURK	**Kurchatov**	**69.19**	**326**	P	**P**	**03 39 33.0**	**+0.1**
	comp=E,16nm,0.9s,baz=119,slow=5.7,SNR=33						
KURK	**Kurchatov**	**69.19**	**326**	*e*P	**P**	**03 39 33.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**69.19**	**326**	*e*P	**P**	**03 39 32.6**	**-0.3**
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**69.66**	**307**	*e*P	**P**	**03 39 36.2**	**-0.3**
KBL				pmax	pmax		
	comp=Z,14nm,0.7s						
KBL	**Kabul**	**69.66**	**307**	*e*P	**P**	**03 39 36.2**	**-0.3**
	comp=Z,14nm,0.7s						
KKAR	**Karatay Array**	**71.15**	**316**	*e*P	**P**	**03 39 45.4**	**+0.2**
KKAR	**Karatay Array**	**71.15**	**316**	*e*P	**P**	**03 39 45.4**	**+0.2**
BILL	**Bilibino**	**72.21**	**12**	*e*P	**P**	**03 39 51.3**	**+0.3**
BILL

MCK	**McKinley**	**85.07**	**26**	*eP*	**P**	**03 41 01.9**	**+0.1**
	comp=Z,56nm,1.6s							
COLD	**Coldfoot**	**85.30**	**22**	*eP*	**P**	**03 41 03.7**	**+0.9**
	comp=Z,2.8nm,0.6s							
DIV	**Divide**	**86.06**	**29**	*eP*	**P**	**03 41 08.1**	**+1.2**
	comp=Z,41nm,1.3s							
ILAR	**Eielson Array**	**86.14**	**25**	P	**P**	**03 41 06.5**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=254,slow=4.6,SNR=47							
ILAR	**Eielson Array**	**86.14**	**25**	P	**P**	**03 41 06.5**	**-0.6**
ILAR	**Eielson Array**	**86.14**	**25**	P	**P**	**03 41 06.5**	**-0.6**
PAX	**Paxson**	**86.47**	**27**	*eP*	**P**	**03 41 08.7**	**-0.2**
PAX				pmax	pmax			
	comp=Z,19nm,1.5s							
PAX	**Paxson**	**86.47**	**27**	*eP*	**P**	**03 41 08.7**	**-0.2**
	comp=Z,19nm,1.5s							
BMRM	**Bremner River**	**86.60**	**29**	*eP*	**P**	**03 41 10.3**	**+0.8**
	comp=Z,15nm,1.0s							
DAWY	**Dawson**	**89.29**	**26**	*eP*	**P**	**03 41 22.5**	**+0.2**
INK	**Inuvik**	**91.70**	**22**	P	**P**	**03 41 32.0**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=300,slow=4.9,SNR=14							
INK	**Inuvik**	**91.70**	**22**	P	**P**	**03 41 32.0**	**-1.3**
INK	**Inuvik**	**91.70**	**22**	P	**P**	**03 41 32.0**	**-1.3**
OBN	**Obninsk**	**94.61**	**325**	*eP*	**P**	**03 41 44.5**	**-2.5**
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARCES	**ARCESS Array B**	**96.93**	**340**	P	**P**	**03 41 57.3**	**0.0**
	comp=Z,4.3nm,0.7s,baz=90,slow=6.1,SNR=7.0							
ARCES	**ARCESS Array B**	**96.93**	**340**	P	**P**	**03 41 57.3**	**0.0**
ARCES	**ARCESS Array B**	**96.93**	**340**	P	**P**	**03 41 57.3**	**0.0**
RES	**Resolute Bay**	**100.81**	**12**	P	**Pdif**	**03 42 13.7**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=67,slow=21,SNR=7.3							
RES	**Resolute Bay**	**100.81**	**12**	P	**Pdif**	**03 42 13.7**	**-0.9**
RES	**Resolute Bay**	**100.81**	**12**	P	**Pdif**	**03 42 13.7**	**-0.9**
TXAR	**Lajitas Array**	**118.53**	**57**	PKP	**PKPdf**	**03 47 15.0**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=339,slow=4.8,SNR=2.4							
TXAR	**Lajitas Array**	**118.53**	**57**	PKIKP	**PKPdf**	**03 47 15.0**	**+0.2**
TXAR	**Lajitas Array**	**118.53**	**57**	PKP	**PKPdf**	**03 47 15.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**130.81**	**287**	PKP	**PKPdf**	**03 47 37.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=94,slow=1.7,SNR=12							
TORD	**Torodi Ar. Bea**	**130.81**	**287**	PKP	**PKPdf**	**03 47 37.7**	**-0.8**
PLCA	**Paso Flores**	**133.27**	**155**	PKP	**PKPdf**	**03 47 44.5**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=284,slow=5.8,SNR=4.7							
PLCA	**Paso Flores**	**133.27**	**155**	PKIKP	**PKPdf**	**03 47 44.5**	**+1.9**
PLCA	**Paso Flores**	**133.27**	**155**	PKP	**PKPdf**	**03 47 44.5**	**+1.9**
LCO	**Las Campanas**	**142.40**	**144**	*e*PKPdf	**PKPdf**	**03 47 58.0**	**-2.0**
NNA	**Nana**	**147.23**	**114**	*e*PKP2	**PKPab**	**03 48 11.5**	**-0.9**
NNA	**Nana**	**147.23**	**114**	*e*PKPbc	**PKPab**	**03 48 11.5**	**-0.9**
OTAV	**Otavalo**	**147.92**	**91**	*e*PKPdf	**PKPdf**	**03 48 10.8**	**+0.7**
OTAV				*e*PKPbc	**PKiKP**	**03 48 14.1**	**-0.9**
OTAV				*e*PKPab	**PKPab**	**03 48 16.7**	**+1.0**
LVC	**Limon Verde**	**148.08**	**138**	*e*PKPbc	**PKPab**	**03 48 14.8**	**-1.0**
CPUP	**Villa Florida**	**151.13**	**159**	PKPbc	**PKPbc**	**03 48 21.0**	**+0.9**
	comp=Z,7.0nm,0.8s,baz=187,slow=2.1,SNR=16							
CPUP	**Villa Florida**	**151.13**	**159**	PKIKP	**PKPbc**	**03 48 21.0**	**+0.9**
CPUP	**Villa Florida**	**151.13**	**159**	PKPbc	**PKPbc**	**03 48 21.0**	**+0.9**
LPAZ	**La Paz**	**152.69**	**129**	PKPbc	**PKPbc**	**03 48 26.2**	**+1.5**
	comp=Z,4.7nm,0.6s,baz=345,slow=4.8,SNR=13							
LPAZ	**La Paz**	**152.69**	**129**	PKIKP	**PKPbc**	**03 48 26.2**	**+1.5**
LPAZ	**La Paz**	**152.69**	**129**	PKPbc	**PKPbc**	**03 48 26.2**	**+1.5**
SAML	**Samuel**	**160.71**	**120**	*e*PKPab	**PKPab**	**03 49 09.6**	**+0.4**

*IDC **04** 03:30:54.3±8.7,36.31N×142.32E,h50km±70km,mb3.8/5, mb1 3.9/6,mb1mx3.5/24,mbtmp3.9/6,ML4.0/1,MS3.2/2, Ms1 3.2/2,ms1mx3.1/29,Error ellipse: s-maj=126.1km s-min=55.7km az=3.0*

*JMA **04** 03:30:57.1±0.2,36.96N×141.78E,h38km±2km,M3.7*

ISC 04 03:30:55.8±2.6,37.00N±0.08×141.8E±0.1,h15km±11km, n17,σ1s00/22,mb3.8/5,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.82**	**277**	↓P	**Pg**	**03 31 12.0**	**+0.2**
JFK	**Kawauchi**	**0.84**	**296**	↓P	**Pb**	**03 31 12.3**	**+0.2**
JFK				eS	**Sg**	**03 31 23.3**	**+0.2**
JHO	**Hitachi**	**1.07**	**249**	↓P	**Pb**	**03 31 15.1**	**-1.1**
JHO				S	**Sb**	**03 31 28.3**	**-1.7**
JMM	**Marumori**	**1.19**	**317**	↓P	**Pn**	**03 31 17.7**	**-0.3**
JFT	**Otama**	**1.29**	**294**	↓P	**Pn**	**03 31 19.9**	**+0.5**
JFT				eS	**Sn**	**03 31 35.8**	**-0.6**
JIO	**Ouri**	**1.50**	**346**	↓P	**Pn**	**03 31 22.2**	**0.0**
JOU	**Okura**	**1.64**	**326**	P	**Pn**	**03 31 24.8**	**+0.6**
JOU				S	**Sn**	**03 31 45.3**	**+0.2**
JFY	**Yanaizu**	**1.73**	**284**	P	**Pn**	**03 31 26.1**	**+0.6**
JYS	**Shirataka**	**1.85**	**312**	P	**Pn**	**03 31 28.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.93**	**262**	P	**Pn**	**03 31 43.4**	**+1.4**
	17nm,0.3s,baz=91,slow=15,SNR=219							
MJAR				S	**Sb**	**03 32 22.0**	**-1.6**
	7.2nm,0.3s,baz=38,slow=30,SNR=9.4							
MJAR				LR	LR	03 33 14.5		
	comp=Z,281nm,18.4s,baz=220,slow=42							
MAT	**Matsushiro**	**2.94**	**262**	P	**Pn**	**03 31 43.3**	**+1.3**
MAT				eS	**Sn**	**03 32 18.8**	**+1.8**
USRK	**Ussuriysk Arra**	**10.36**	**317**	LR	LR	03 37 31.6	
	comp=Z,164nm,19.8s,baz=105,slow=36							
SONM	**Songino Array**	**28.07**	**304**	P	**P**	**03 36 47.6**	**+0.8**
	1.1nm,0.6s,baz=106,slow=8.7,SNR=7.4							
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**03 38 48.5**	**+0.8**
	0.8nm,0.5s,baz=81,slow=9.2,SNR=4.0							
MKAR	**Makanchi Array**	**44.41**	**302**	P	**P**	**03 39 05.3**	**-0.6**
	9.3nm,0.7s,baz=89,slow=8.3,SNR=46							
KURK	**Kurchatov**	**46.21**	**308**	P	**P**	**03 39 20.1**	**+0.1**
	1.9nm,0.6s,baz=81,slow=7.8,SNR=16							
BVAR	**Borovoye Array**	**50.83**	**312**	P	**P**	**03 39 55.3**	**-0.3**
	0.4nm,0.6s,baz=72,slow=4.7,SNR=2.9							

IDC 04 03:34:46.0±2.0,0.71S×133.24E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.6/17,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=116.9km s-min=21.8km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**177**	P	Pn	03 39 11.4	-0.3
	0.3nm,0.3s,baz=356,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	03 39 51.0	+0.2
	2.2nm,0.3s,baz=357,slow=11,SNR=11						
STKA	**Stephens Creek**	**31.99**	**167**	P	P	03 41 13.5	-0.5
	1.5nm,0.5s,baz=349,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**64.92**	**324**	P	P	03 45 27.4	0.0
	0.3nm,0.5s,baz=102,slow=7.4,SNR=4.6						
KURK	**Kurchatov**	**68.99**	**326**	P	P	03 45 53.2	0.0
	0.2nm,0.4s,baz=120,slow=5.7,SNR=4.1						

*IDC **04** 03:36:43.1±0.9,0.23S×132.80E,h0km,mb3.9/9, mb1 4.1/10,mb1mx4.0/18,mbtmp3.9/10,ML4.0/1,Error ellipse: s-maj=50.4km s-min=12.7km az=77.0*

*ISCJB **04** 03:36:46.2±0.7,0.28S±0.08×132.7E±0.2,h33km, mb4.0/12,Error ellipse: s-maj=32.3km s-min=9.4km az=166.2*

*NEIC **04** 03:36:48.2±0.4,0.29S×132.71E,h35km,mb4.5/4,Error ellipse: s-maj=21.6km s-min=6.0km az=76.0*

*DJA **04** 03:36:49,0.31S×132.70E,h26km,mb4.9/15*

ISC 04 03:36:48.1±0.8,0.23S±0.10×132.8E±0.3,h33km,n26, σ1s44/28,mb4.1/12,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.66**	**176**	P	**Pn**	**03 41 13.8**	**-2.0**
	0.4nm,0.3s,baz=353,slow=12,SNR=40						
WRA				S	S	03 44 43.3	-11
	0.2nm,0.3s,baz=5.7,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**19.66**	**176**	P	**Pn**	**03 41 13.8**	**-2.0**
WRA				S	S	03 44 43.4	-11
WB2	**Warramunga Arr**	**19.66**	**176**	*e*P	**P**	**03 41 13.3**	**-1.0**
AS31	**Alice Springs**	**23.32**	**177**	*e*P	**P**	**03 41 53.4**	**-0.1**
ASAR	**Alice Springs**	**23.33**	**177**	P	**P**	**03 41 52.8**	**-0.7**
	15nm,0.8s,baz=359,slow=11,SNR=37						
ASAR				S	**S**	**03 46 08.3**	**+4.2**
	0.9nm,0.9s,baz=359,slow=26,SNR=4.4						
ASAR	**Alice Springs**	**23.33**	**177**	P	**P**	**03 41 52.8**	**-0.7**
ASAR				S	**S**	**03 46 08.2**	**+4.2**
MBWA	**Marble Bar**	**24.38**	**211**	*e*P	**P**	**03 42 02.7**	**-0.7**
	10.0nm,0.9s						
STKA	**Stephens Creek**	**32.57**	**166**	P	**P**	**03 43 16.1**	**-0.2**
	1.2nm,0.4s,baz=316,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**32.57**	**166**	P	**P**	**03 43 16.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.05**	**301**	P	**P**	**03 44 03.6**	**-0.1**
	0.5nm,0.3s,baz=126,slow=7.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**38.05**	**301**	P	**P**	**03 44 03.6**	**-0.1**
SONM	**Songino Array**	**53.07**	**338**	P	**P**	**03 46 03.2**	**+1.0**
	0.4nm,0.7s,baz=138,slow=7.5,SNR=4.1						
SONM	**Songino Array**	**53.07**	**338**	P	**P**	**03 46 03.2**	**+1.0**
MK31	**Makanchi Array**	**64.25**	**324**	*e*P	**P**	**03 47 20.8**	**+0.9**
MKAR	**Makanchi Array**	**64.25**	**324**	P	**P**	**03 47 19.9**	**0.0**
	1.1nm,0.6s,baz=117,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**64.25**	**324**	P	**P**	**03 47 19.9**	**0.0**
ZALV	**Zalesovo Beam**	**66.87**	**332**	P	**P**	**03 47 36.3**	**-0.4**
	0.5nm,0.5s,baz=101,slow=7.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**66.87**	**332**	P	**P**	**03 47 36.3**	**-0.4**
KURK	**Kurchatov**	**68.32**	**326**	P	**P**	**03 47 47.0**	**+1.2**
	1.4nm,0.7s,baz=122,slow=5.7,SNR=13						
KURK	**Kurchatov**	**68.32**	**326**	*e*P	**P**	**03 47 46.2**	**+0.3**
	4.5nm,1.1s						
KBL	**Kabul**	**68.69**	**307**	*e*P	**P**	**03 47 48.1**	**-0.7**
	4.3nm,0.8s						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**03 48 20.2**	**+0.4**
	0.8nm,0.8s,baz=129,slow=4.6,SNR=5.5						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**03 48 20.2**	**+0.4**
BRVK	**Borovoye**	**73.99**	**326**	*e*P	**P**	**03 48 19.9**	**-0.3**
	7.1nm,1.2s						
ILAR	**Eielson Array**	**86.09**	**25**	P	**P**	**03 49 25.2**	**-0.1**
	0.3nm,0.7s,baz=269,slow=4.2,SNR=6.1						
ILAR	**Eielson Array**	**86.09**	**25**	P	**P**	**03 49 25.2**	**-0.1**

KRSC 04 03:37:16.3±1.0,48.88N×156.56E,h5km±5km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**3.61**	**13**	*e*P	Pn	03 38 13.8	+0.8
ASAK				S	Sn	03 38 56.4	+0.4
MTVR	**Mutnovka**	**3.75**	**15**	P	Pn	03 38 15.9	+0.9
MTVR				S	Sn	03 39 00.4	+0.7
RUS	**Russkaya**	**3.77**	**19**	S	Sn	03 38 59.8	+0.1
AVH	**Avacha**	**4.60**	**17**	P	Pn	03 38 29.1	+2.5
AVH				S	Sn	03 39 20.7	+0.3

IDC 04 03:42:04.8±7.0,0.60S×133.95E,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.6/17,mbtmp3.9/4,ML3.8/1,Error ellipse: s-maj=417.5km s-min=23.3km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**179**	P	P	03 46 30.7	0.0
	0.3nm,0.3s,baz=359,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**22.93**	**180**	P	P	03 47 10.8	+0.1
	2.7nm,0.8s,baz=1.9,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**65.25**	**324**	P	P	03 52 48.6	+0.2
	0.7nm,0.5s,baz=114,slow=8.5,SNR=12						
KURK	**Kurchatov**	**69.29**	**326**	P	P	03 53 13.8	-0.1
	1.6nm,0.9s,baz=119,slow=5.8,SNR=11						

IDC 04 03:43:39.3±25.0,0.37N×133.16E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/16,mbtmp3.8/3,Error ellipse: s-maj=444.7km s-min=215.8km az=139.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.22**	**177**	P	P	03 48 15.4	-0.6
	0.7nm,0.5s,baz=354,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**23.90**	**178**	P	P	03 48 55.8	+0.7
	2.1nm,0.7s,baz=356,slow=13,SNR=5.0						
STKA	**Stephens Creek**	**33.05**	**167**	P	P	03 50 16.2	-0.5
	2.4nm,1.0s,baz=350,slow=9.9,SNR=2.9						

IDC 04 03:44:17.3±2.7,1.08S×133.61E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.5/17,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=146.7km s-min=24.3km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.76**	**178**	P	P	03 48 37.6	-0.5
	0.2nm,0.3s,baz=357,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**22.45**	**179**	P	P	03 49 18.6	+0.4
	1.4nm,0.7s,baz=355,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**65.44**	**324**	P	P	03 55 02.2	+0.1
	0.2nm,0.4s,baz=123,slow=6.7,SNR=5.7						
KURK	**Kurchatov**	**69.50**	**326**	P	P	03 55 27.5	-0.2
	0.5nm,0.6s,baz=120,slow=5.2,SNR=4.7						

IDC 04 03:46:32.5±3.0,0.89S×130.56E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.7/18,mbtmp3.8/5,Error ellipse: s-maj=234.4km s-min=22.3km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.29**	**169**	P	P	03 50 58.3	-0.8
	0.3nm,0.3s,baz=354,slow=12,SNR=5.3						
WRA				S	Sn	03 54 27.0	-10
	0.2nm,0.3s,baz=349,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**22.87**	**172**	P	P	03 51 38.2	+0.5
	2.8nm,0.5s,baz=353,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**63.51**	**325**	P	P	03 57 05.3	+0.7
	0.5nm,0.5s,baz=117,slow=8.4,SNR=5.3						
KURK	**Kurchatov**	**67.67**	**327**	P	P	03 57 31.5	+0.1
	0.5nm,0.6s,baz=125,slow=5.5,SNR=4.8						
BVAR	**Borovoye Array**	**73.25**	**327**	P	Pn	03 58 04.7	-0.9
	0.3nm,0.5s,baz=108,slow=4.8,SNR=3.9						

*DJA **04** 03:52:02,0.11S×133.23E,h23km,MLv4.6/5*

IDC 04 03:52:06.7±13.0,0.94S×133.24E,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.6/16,mbtmp3.9/3,Error ellipse: s-maj=203.1km s-min=127.5km az=149.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.92**	**177**	P	Pn	03 56 30.9	+1.1
	0.2nm,0.3s,baz=354,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**22.60**	**178**	P	P	03 57 09.8	+0.6
	2.6nm,0.8s,baz=5.9,slow=11,SNR=10						
STKA	**Stephens Creek**	**31.77**	**166**	P	P	03 58 31.5	-1.3
	2.2nm,0.6s,baz=330,slow=8.1,SNR=5.7						

*NIED **04** 03:53:00,24.10N×122.00E,h32km,Mw4.5 Best double couple: M₀5.31000×10¹⁵ NP1:φ₀62.00000°,δ80.00000°, λ-43.00000°. NP2:φ₀161.00000°,δ48.00000°, λ-166.00000°.*

*JMA **04** 03:53:51.8±0.3,24.06N×121.99E,h39km,M4.6*

*BJI **04** 03:53:51.8,24.10N×122.10E,h4km,mB4.3/1,mb4.3/12, ML4.0/4,Ms3.9/5,Ms7 3.9/4*

*ISCJB **04** 03:53:52.8±0.4,24.02N±0.02×122.27E±0.02,h26km±2km, mb4.2/30,Error ellipse: s-maj=3.0km s-min=2.1km az=44.1*

*NEIC **04** 03:53:53.6±1.3,24.07N×122.20E,h29km±9km,mb4.4/13, Error ellipse: s-maj=7.9km s-min=6.6km az=94.0*

*TAP **04** 03:53:53.3,24.07N×122.18E,h18km,ML4.7,C*

*IDC **04** 03:53:56.1±3.0,24.20N×122.29E,h49km±30km,mb3.8/19, mb1 4.0/20,mb1mx3.9/26,mbtmp3.8/20,ML3.7/1,Error ellipse: s-maj=19.4km s-min=14.3km az=60.0*

ISC 04 03:53:54.1±0.7,24.02N±0.02×122.18E±0.02,h31km±4km, n144,σ1s06/214,mb4.2/30,9C-14D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.49**	**306**	*e*P	**Pb**	**03 54 03.5**	**-1.0**
	baz=301						
EHP				*e*S	**Sb**	**03 54 11.6**	**0.0**
	baz=301						
HWA	**Hwalien**	**0.52**	**266**	*e*P	**Pb**	**03 54 04.7**	**-0.3**
	baz=259						
HWA				*e*S	**Sn**	**03 54 13.0**	**-0.3**
	baz=259						
TWD	**Chiawan**	**0.53**	**277**	↓*i*P	**Pb**	**03 54 04.6**	**-0.5**
	baz=271						
TWD				*i* S	**Sb**	**03 54 12.9**	**+0.3**
	baz=271						
NACB	**Ninganchiao**	**0.55**	**287**	*e*Pg	**Pb**	**03 54 04.4**	**-1.0**
ENA	**Nanau**	**0.57**	**316**	↑*i*P	**Pb**	**03 54 04.2**	**-1.6**
	baz=322						
ESF	**Shoufeng Towns**	**0.63**	**257**	*e*P	**Pb**	**03 54 05.7**	**-1.0**
	baz=239						
ESF				*e*S	**Sn**	**03 54 15.7**	**-0.2**
	baz=239						
TEGC	**Jichi Village**	**0.66**	**242**	*e*P	**Pb**	**03 54 06.9**	**-0.2**
	baz=237						
TEGC				*e*S	**Sn**	**03 54 16.5**	**-0.1**
	baz=237						
TWC	**Suao**	**0.66**	**333**	↑*i*P	**Pb**	**03 54 05.3**	**-1.9**
	baz=341						
TWC				*e*S	**Sb**	**03 54 13.1**	**-3.1**
	baz=341						
ESL	**Shilin**	**0.71**	**254**	*e*P	**Pb**	**03 54 07.1**	**-0.9**
	baz=237						
ESL				S	**Sn**	**03 54 17.8**	**0.0**
	baz=237						
ENTT	**Nioudou**	**0.83**	**318**	↑*i*P	**Pn**	**03 54 09.0**	**-0.7**
	baz=325						
ENTT				*e*S	**Sb**	**03 54 21.6**	**+0.6**
	baz=325						
ILA	**Ilan**	**0.84**	**332**	*e*P	**Pn**	**03 54 09.1**	**-0.7**
	baz=331						
ILA				*e*S	**Sb**	**03 54 22.1**	**+0.9**
	baz=331						
TWE	**Neicheng**	**0.84**	**327**	↑*i*P	**Pn**	**03 54 08.8**	**-1.0**
	baz=335						
TWE				S	**Sb**	**03 54 21.4**	**+0.2**
	baz=335						
WHF	**Hehuan Shan**	**0.84**	**279**	↓*i*P	**Pn**	**03 54 09.6**	**-0.6**
	baz=260						
WHF				*e*S	**Sn**	**03 54 21.3**	**-0.5**
	baz=260						
NNS	**Nan Shan**	**0.84**	**300**	↓*i*P	**Pn**	**03 54 09.7**	**-0.3**
	baz=296						
NNS				*e*S	**Sn**	**03 54 20.8**	**-0.6**
	baz=296						
YOJ	**Yonaguni jima**	**0.88**	**60**	P	**Pn**	**03 54 09.9**	**-0.5**
YOJ				S	**Sb**	**03 54 23.4**	**+1.0**
EHY	**Hungye**	**0.93**	**237**	⇑P	**Pn**	**03 54 10.5**	**-0.6**
	baz=223						
EHY				S	**Sn**	**03 54 23.4**	**-0.1**
	baz=223						
TWT	**Tachien**	**0.94**	**285**	↓P	**Pn**	**03 54 11.6**	**+0.2**
	baz=267						
TWT				*e*S	**Sb**	**03 54 24.9**	**+0.5**
	baz=267						
YHNB	**Yeheng**	**0.98**	**312**	*e*Pn	**Pn**	**03 54 11.3**	**-0.4**
NSK	**Sanguang**	**0.99**	**312**	↓*i*P	**Pn**	**03 54 12.0**	**0.0**
	baz=309						
NSK				S	**Sb**	**03 54 26.4**	**+0.8**
	baz=309						
TWB1	**Santiao Chiao**	**1.00**	**350**	P	**Pn**	**03 54 11.5**	**-0.5**
	baz=351						
TWB1				*e*S	**Sb**	**03 54 25.7**	**-0.1**
	baz=351						
YULB	**Yu-li**	**1.02**	**232**	*e*Pn	**Pn**	**03 54 11.4**	**-0.8**
YULB				*e*Sn	**Sb**	**03 54 26.1**	**-0.1**
TWA	**Mucha**	**1.10**	**331**	P	**Pn**	**03 54 13.7**	**+0.2**
	baz=330						
TWA				*e*S	**Sb**	**03 54 30.3**	**+1.7**
	baz=330						
NWF	**Wu-fen Shan**	**1.11**	**341**	↓*i*P	**Pn**	**03 54 13.9**	**+0.3**
	baz=358						
NWF				*e*S	**Sn**	**03 54 28.0**	**+0.1**
	baz=358						
SSLB	**Suanglung**	**1.14**	**259**	*e*Pn	**Pn**	**03 54 13.7**	**-0.3**
SSLB				*e*Sn	**Sb**	**03 54 30.0**	**+0.2**
TATO	**Taipei**	**1.14**	**327**	*e*Pn	**Pn**	**03 54 14.2**	**+0.3**
TATO				*e*Sn	**Sn**	**03 54 28.4**	**-0.1**
SMLT	**Sun Moon Lake**	**1.18**	**264**	↓*i*P	**Pn**	**03 54 15.1**	**+0.6**
	baz=260						
SMLT				*e*S	**Sb**	**03 54 30.3**	**-0.5**
	baz=260						
TAP1	**Taipei**	**1.18**	**330**	*e*P	**Pn**	**03 54 14.9**	**+0.5**
	baz=328						
TAP1				*e*S	**Sb**	**03 54 32.2**	**+1.4**
	baz=328						
TYC	**Yuchr**	**1.21**	**265**	↓*i*P	**Pn**	**03 54 15.4**	**+0.5**
	baz=262						
TYC				*e*S	**Sb**	**03 54 31.6**	**-0.2**
	baz=262						
NSTT	**Nanjuang**	**1.23**	**300**	↓P	**Pb**	**03 54 16.4**	**-0.5**
	baz=298						
NSTT				S	**Sb**	**03 54 32.6**	**+0.2**
	baz=298						
YUS	**Yu-Shan**	**1.24**	**245**	↑*i*P	**Pb**	**03 54 16.8**	**-0.4**
	baz=242						
YUS				*e*S	**Sn**	**03 54 32.7**	**+1.1**
	baz=242						
TWS1	**Kuangyinshan**	**1.28**	**328**	P	**Pn**	**03 54 16.6**	**+0.8**
	baz=341						
TWS1				*e*S	**Sb**	**03 54 34.8**	**+1.1**
	baz=341						
NCU	**National Centr**	**1.31**	**317**	*e*P	**Pn**	**03 54 16.9**	**+0.7**
	baz=316						
NCU				*e*S	**Sb**	**03 54 37.2**	**+2.7**
	baz=316						
TWQ1	**Liyutan**	**1.32**	**285**	↓*i*P	**Pb**	**03 54 18.4**	**0.0**
	baz=282						
TWQ1				*e*S	**Sb**	**03 54 35.9**	**+1.0**
	baz=282						
ELDTW	**Lidau**	**1.34**	**232**	*e*P	**Pn**	**03 54 16.2**	**-0.6**
	baz=216						
HSN	**Hsinchu**	**1.35**	**306**	*e*P	**Pn**	**03 54 17.4**	**+0.6**
	baz=307						
NSY	**Sanyi**	**1.35**	**287**	↓*i*P	**Pb**	**03 54 18.8**	**0.0**
	baz=270						
NSY				*e*S	**Sb**	**03 54 36.8**	**+1.0**
	baz=270						
TWY	**Chenhua**	**1.36**	**337**	P	**Pn**	**03 54 17.4**	**+0.5**
	baz=351						
TWY				*e*S	**Sb**	**03 54 36.3**	**+0.3**
	baz=351						
WNT	**Mingjian**	**1.37**	**265**

WTCT	**Ta-ch'eng**	**1.74**	**265**	*eP*		**Pn**	03 54 23.6	**+1.5**
	baz=263							
WTCT				eS		**Sb**	03 54 47.0	**+0.2**
	baz=263							
ECL	**Taimali**	**1.81**	**219**	*eP*		**Pn**	03 54 22.0	**-1.0**
	baz=217							
WSF	**Szhu**	**1.83**	**258**	*eP*		**Pb**	03 54 25.4	**-1.5**
	baz=256							
WSF				eS		**Sb**	03 54 49.5	**+0.2**
	baz=256							
JIJ	**Ishigaki jima**	**1.83**	**79**	P		**Pn**	03 54 23.6	**+0.2**
JIJ				S		**Sb**	03 54 48.1	**-1.3**
SSD	**Sandimen**	**1.90**	**229**	*eP*		**Pn**	03 54 25.4	**+1.0**
	baz=216							
SSD				eS		**Sb**	03 54 50.2	**-1.2**
	baz=216							
CHN3	**Shinhua**	**1.91**	**241**	*eP*		**Pn**	03 54 26.0	**+1.5**
	baz=238							
CHN3				eS		**Sb**	03 54 49.9	**-1.8**
	baz=238							
CHN8	**Yiju**	**1.92**	**250**	*eP*		**Pn**	03 54 26.1	**+1.4**
	baz=247							
CHN8				eS		**Sb**	03 54 51.3	**-0.8**
	baz=247							
TWM1	**Shoushan**	**2.00**	**234**	*eP*		**Pb**	03 54 29.1	**-0.7**
	baz=215							
TWM1				eS		**Sb**	03 54 53.4	**-1.0**
	baz=215							
SCLT	**Jiali**	**2.00**	**246**	*eP*		**Pb**	03 54 27.9	**-1.9**
	baz=242							
SCLT				eS		**Sb**	03 54 53.4	**-0.9**
	baz=242							
TAW	**Tawu**	**2.03**	**216**	*eP*		**Pn**	03 54 25.2	**-0.9**
	baz=214							
EAST	**Anshuo**	**2.03**	**217**	*eP*		**Pn**	03 54 25.7	**-0.5**
	baz=214							
EAST				eS		**Sn**	03 54 51.9	**+1.2**
	baz=214							
TAI1	**Yung-k'ang**	**2.04**	**242**	*eP*		**Pn**	03 54 27.5	**+1.3**
	baz=239							
TAI1				eS		**Sn**	03 54 52.8	**+2.2**
	baz=239							
LAY	**Lan-yu**	**2.05**	**196**⇑	*eP*		**Pn**	03 54 25.3	**-1.2**
	baz=196							
SCZT	**Fangliau**	**2.17**	**221**	*eP*		**Pn**	03 54 29.4	**+1.3**
	baz=211							
SCZT				eS		**Sb**	03 54 57.3	**-2.1**
	baz=211							
KAU	**Kaohsiung**	**2.24**	**230**	*eP*		**Pb**	03 54 32.6	**-1.4**
	baz=230							
TWP	**Hsiaoliuchiu**	**2.36**	**225**	*eP*		**Pb**	03 54 34.8	**-1.1**
	baz=209							
TWP				eS		**Sb**	03 55 04.1	**-0.5**
	baz=209							
JTJ	**Tarama**	**2.39**	**74**	P		**Pn**	03 54 32.2	**+1.1**
JTJ				eS		**Sn**	03 55 01.3	**+2.0**
HEN	**Hengchun**	**2.40**	**214**	*eP*		**Pn**	03 54 32.0	**+0.8**
	baz=211							
HEN				eS		**Sn**	03 55 02.0	**+2.4**
	baz=211							
TWK1	**Hengchun**	**2.42**	**212**⇓	*eP*		**Pn**	03 54 31.8	**+0.3**
	baz=210							
TWK1				eS		**Sn**	03 55 00.7	**+0.6**
	baz=210							
WDGT	**Dungji**	**2.43**	**252**	*eP*		**Pn**	03 54 32.9	**+1.3**
	baz=235							
WDGT				eS		**Sn**	03 55 01.8	**+1.5**
	baz=235							
PNG	**Penghu**	**2.44**	**260**	*eP*		**Pn**	03 54 32.7	**+0.9**
	baz=256							
PNG				eS		**Sn**	03 55 02.2	**+1.6**
	baz=256							
JOGS	**Gusukube**	**3.04**	**75**	P		**Pn**	03 54 40.8	**+0.8**
JOGS				eS		**Sn**	03 55 18.6	**+3.3**
QZH	**Quanzhou**	**3.39**	**287**⇑	*rPn*		**Pn**	03 54 44.6	**-0.3**
QZH				Sn		**Sn**	03 55 23.5	**-0.6**
QZH				smax		smax		
	comp=N,760nm,0.8s							
QZH				smax		smax		
	comp=E,620nm,0.9s							
QZH				LR		LR		
	comp=E,3μm,13.7s							
QZH				LR		LR		
	comp=Z,4μm,15.4s							
KNM	**Kinmen**	**3.44**	**277**	*eP*		**Pn**	03 54 47.4	**+1.8**
	baz=277							
JKE	**Kume jima 2**	**4.77**	**60**	P		**Pn**	03 55 04.0	**+0.2**
JOW	**Kunigami**	**6.18**	**62**	P		**Pn**	03 55 22.3	**-1.0**
	comp=Z,4.7nm,0.3s,baz=218,slow=21,SNR=20							
JOW	**Kunigami**	**6.18**	**62**	P		**Pn**	03 55 22.3	**-1.0**
JOW	**Kunigami**	**6.18**	**62**	P		**Pn**	03 55 22.1	**-1.2**
JTK	**Tokunoshima**	**7.16**	**57**	P		**Pn**	03 55 35.1	**-1.6**
KSAR	**Wonju Array Be**	**14.25**	**19**	P		**Pn**	03 57 14.3	**+0.6**
KSRS	**Korea Array**	**14.27**	**19**	P		**Pn**	03 57 14.3	**+0.3**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=3.3							
XAN	**Xi'an**	**15.29**	**314**	P		**P**	03 57 33.9	**+1.7**
XAN				pmax		pmax		
	comp=Z,3.0nm,0.7s							
XAN				LR		LR		
	comp=N,260nm,16.7s							
XAN				LR		LR		
	comp=Z,190nm,17.2s							
HHC	**Hu-ho-hao-te**	**19.00**	**335**	*eP*		**Pn**	03 58 15.3	**+1.2**
HHC				PP		pP	03 58 31.9	+10
HHC				S		**Sn**	04 01 44.4	**-1.6**
HHC				pmax		pmax		
	comp=Z,21nm,0.7s							
LZH	**Lanzhou**	**19.87**	**311**	*eP*		**Pn**	03 58 25.1	**+0.4**
LZH				pmax		pmax		
	comp=Z,34nm,1.4s							
CN2	**Changchun**	**19.92**	**7**	*eP*		**P**	03 58 23.2	**0.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
USRK	**Ussuriysk Arra**	**21.68**	**19**	P		**P**	03 58 39.8	**-2.3**
	comp=Z,1.5nm,0.6s,baz=202,slow=9.0,SNR=5.4							
CMAR	**Chiang Mai Arr**	**22.34**	**260**	P		**P**	03 58 52.2	**+2.7**
	comp=Z,1.0nm,0.6s,baz=66,slow=7.5,SNR=6.1							
CMAR	**Chiang Mai Arr**	**22.34**	**260**	P		**P**	03 58 52.2	**+2.7**
GTA	**Gaotai**	**24.35**	**314**	*eP*		**P**	03 59 10.8	**+1.4**
GTA				pP		**pP**	03 59 18.6	**+0.2**
GTA				sP		**sP**	03 59 22.3	**+0.1**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ULN	**Ulaanbaatar**	**26.67**	**337**	*eP*		**P**	03 59 29.6	**-0.8**
	comp=Z,2.9nm,0.5s							
SONM	**Songino Array**	**26.88**	**336**	P		**P**	03 59 31.6	**-0.6**
	comp=Z,5.7nm,0.7s,baz=154,slow=10,SNR=42							
SONM	**Songino Array**	**26.88**	**336**	P		**P**	03 59 31.6	**-0.6**
LSA	**Lhasa**	**28.20**	**288**	*eP*		**P**	03 59 46.2	**+1.5**
	comp=Z,3.5nm,0.5s							
MK31	**Makanchi Array**	**39.09**	**316**	*eP*		**P**	04 01 18.2	**-0.2**
MKAR	**Makanchi Array**	**39.09**	**316**	P		**P**	04 01 18.3	**-0.1**
	comp=Z,1.9nm,0.5s,baz=101,slow=9.5,SNR=42							
MKAR	**Makanchi Array**	**39.09**	**316**	P		**P**	04 01 18.3	**-0.1**
ZAA0	**Zalesovo Array**	**40.88**	**327**	*eP*		**P**	04 01 31.4	**-1.7**
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	04 01 31.6	**-1.5**
	comp=Z,2.7nm,0.5s,baz=112,slow=8.2,SNR=15							
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	04 01 31.6	**-1.5**
TKM2	**Tokmak 2**	**42.58**	**308**	*eP*		**P**	04 01 48.6	**+1.1**
	comp=Z,6.8nm,0.8s							
KURK	**Kurchatov**	**42.80**	**320**	P		**P**	04 01 48.1	**-0.7**
	comp=Z,1.0nm,0.5s,baz=108,slow=10.0,SNR=20							
KURK	**Kurchatov**	**42.80**	**320**	*eP*		**P**	04 01 48.0	**-0.8**
	comp=Z,11nm,1.3s							
COEN	**Coen**	**42.96**	**149**	*eP*		**P**	04 01 52.0	**+1.5**
WRA	**Warramunga Arr**	**45.27**	**164**	P		**P**	04 02 09.6	**+0.6**
	comp=Z,1.3nm,0.6s,baz=344,slow=8.7,SNR=4.2							
WRA	**Warramunga Arr**	**45.27**	**164**	P		**P**	04 02 09.6	**+0.6**
KKAR	**Karatay Array**	**46.29**	**307**	*eP*		**P**	04 02 16.8	**-0.1**
	comp=Z,1.6nm,0.6s							
KBL	**Kabul**	**47.05**	**296**	*eP*		**P**	04 02 23.7	**+0.4**
	comp=Z,3.7nm,0.7s							
BVAR	**Borovoye Array**	**48.38**	**321**	P		**P**	04 02 32.5	**-0.5**
	comp=Z,1.6nm,0.5s,baz=110,slow=8.4,SNR=16							
BVAR	**Borovoye Array**	**48.38**	**321**	P		**P**	04 02 32.5	**-0.5**
BRVK	**Borovoye**	**48.45**	**321**	*eP*		**P**	04 02 32.0	**-1.4**
	comp=Z,1.8nm,0.5s							
ASAR	**Alice Springs**	**48.75**	**166**	P		**P**	04 02 37.1	**+1.0**
	comp=Z,0.7nm,0.5s,baz=342,slow=7.0,SNR=6.3							
ASAR	**Alice Springs**	**48.75**	**166**	P		**P**	04 02 37.1	**+1.0**
ABKAR	**Akbulak array**	**54.20**	**314**	*eP*		**P**	04 03 16.5	**-0.2**
	comp=Z,4.9nm,0.6s							
FORT	**Forrest**	**54.78**	**174**	*eP*		**P**	04 03 19.2	**-1.7**
	comp=Z,28nm,1.2s							
AKTO	**Aktyubinsk**	**55.52**	**316**	P		**P**	04 03 26.3	**+0.1**
	comp=Z,1.6nm,0.7s,baz=81,slow=7.2,SNR=7.8							
AKTO	**Aktyubinsk**	**55.52**	**316**	P		**P**	04 03 26.3	**+0.1**
ARU	**Arti**	**55.78**	**323**	*eP*		**P**	04 03 26.9	**-1.0**
	comp=Z,3.0nm,0.7s							
STKA	**Stephens Creek**	**58.60**	**161**	P		**P**	04 03 49.0	**+0.9**
	comp=Z,3.5nm,0.8s,baz=354,slow=9.8,SNR=4.9							
STKA	**Stephens Creek**	**58.60**	**161**	P		**P**	04 03 49.0	**+0.9**
ILAR	**Eielson Array**	**68.94**	**27**	P		**P**	04 04 54.3	**-1.6**
	comp=Z,0.8nm,0.7s,baz=294,slow=7.3,SNR=10							
ILAR	**Eielson Array**	**68.94**	**27**	P		**P**	04 04 54.3	**-1.6**
FINES	**FINESS Array B**	**72.05**	**330**	P		**P**	04 05 14.2	**-0.6**
	comp=Z,5.0nm,1.1s,baz=74,slow=4.9,SNR=8.6							
FINES	**FINESS Array B**	**72.05**	**330**	P		**P**	04 05 14.2	**-0.6**
INK	**Inuvik**	**73.04**	**22**	P		**P**	04 05 19.2	**-1.4**
	comp=Z,3.1nm,0.7s,baz=299,slow=8.7,SNR=20							
INK	**Inuvik**	**73.04**	**22**	*eP*		**P**	04 05 19.7	**-1.0**
	comp=Z,4.3nm,0.8s							
AKASG	**Malin Array Be**	**73.60**	**319**	P		**P**	04 05 22.6	**-1.7**
	comp=Z,1.2nm,0.5s,baz=62,slow=6.9,SNR=3.7							
AKASG	**Malin Array Be**	**73.60**	**319**	P		**P**	04 05 22.6	**-1.7**
BR131	**Keskin Array S**	**74.00**	**307**	*eP*		**P**	04 05 27.1	**0.0**
	comp=Z,9.6nm,1.4s							
BRTR	**Keskin Array B**	**74.00**	**307**	P		**P**	04 05 25.9	**-1.1**
	comp=Z,1.8nm,0.7s,baz=101,slow=3.0,SNR=11							
BRTR	**Keskin Array B**	**74.00**	**307**	P		**P**	04 05 25.9	**-1.1**
BUR08	**Bucovina Ar. S**	**77.11**	**316**	*eP*		**P**	04 05 44.4	**-0.3**
RES	**Resolute Bay**	**78.68**	**9**	*eP*		**P**	04 05 51.4	**-1.3**
	comp=Z,1.8nm,0.7s							
NB2	**NORSAR Subarra**	**78.79**	**332**	P		**P**	04 05 52.4	**-1.3**
	comp=Z,1.6nm,0.8s,baz=53,slow=5.9							
NOA	**NORSAR Array B**	**78.79**	**332**	P		**P**	04 05 52.7	**-1.0**
	comp=Z,1.1nm,0.7s,baz=59,slow=5.6,SNR=4.4							
NOA	**NORSAR Array B**	**78.79**	**332**	P		**P**	04 05 52.7	**-1.0**
OJC	**Ojcow**	**79.38**	**320**	*ePX*		**P**	04 05 56.9	**-0.2**
GERES	**GERESS Array B**	**83.55**	**321**	P		**P**	04 06 19.0	**-0.3**
	comp=Z,1.4nm,0.7s,baz=56,slow=5.0,SNR=13							
GERES	**GERESS Array B**	**83.55**	**321**	P		**P**	04 06 19.0	**-0.3**
NVAR	**Mina Array Bea**	**95.93**	**43**	P		**P**	04 07 18.8	**+0.3**
	comp=Z,1.0nm,0.7s,baz=297,slow=5.5,SNR=9.0							
NVAR	**Mina Array Bea**	**95.93**	**43**	P		**P**	04 07 18.8	**+0.3**

IDC 04 03:56:16.6±3.7, 0.21S×134.80E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=199.4km s-min=24.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.62**	**181**	P	P	04 00 47.1	+0.3
	0.2nm,0.3s,baz=0.6,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**23.34**	**182**	P	P	04 01 26.6	-0.1
	0.5nm,0.7s,baz=5.2,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**65.44**	**323**	P	P	04 07 00.9	-0.6
	0.2nm,0.5s,baz=116,slow=8.0,SNR=4.8						
KURK	**Kurchatov**	**69.45**	**326**	P	P	04 07 27.2	+0.5
	0.2nm,0.7s,baz=118,slow=5.4,SNR=3.4						

*DJA **04** 04:01:13, 0.71S×133.52E, h20km, mb4.5/5*

IDC 04 04:01:10.2±2.5, 0.49S×133.45E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=138.0km s-min=23.6km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.36**	**177**	P	P	04 05 36.5	-1.1
	0.3nm,0.3s,baz=356,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**23.05**	**179**	P	P	04 06 18.3	+1.0
	1.3nm,0.6s,baz=2.0,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	04 11 51.6	+0.3
	0.5nm,0.6s,baz=115,slow=7.5,SNR=6.4						
KURK	**Kurchatov**	**68.92**	**326**	P	P	04 12 16.6	-0.4
	0.8nm,0.9s,baz=118,slow=5.9,SNR=6.6						

IDC 04 04:05:41.3±3.3, 1.11S×132.70E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML2.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/12, Error ellipse: s-maj=187.6km s-min=26.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**10.79**	**319**	LR	LR	04 12 42.0	
	comp=Z,274nm,18.5s,baz=151,slow=39						
WRA	**Warramunga Arr**	**18.79**	**175**	P	P	04 10 01.3	-1.1
	0.0nm,0.3s,baz=354,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**22.46**	**177**	P	P	04 10 42.9	+0.6
	0.5nm,0.4s,baz=356,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**64.92**	**324**	P	P	04 16 22.7	0.0
	0.1nm,0.5s,baz=139,slow=8.5,SNR=3.6						

*IDC **04** 04:09:43.9±0.8, 0.72S×133.18E, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/17, mbtmp4.2/8, ML3.9/2, Error ellipse: s-maj=49.1km s-min=17.0km az=73.0*
*ISCJB **04** 04:09:47.0±0.5, 0.74S±0.06×133.15E±0.07, h33km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=8.2km az=163.5*
*NEIC **04** 04:09:48.3±0.4, 0.76S×133.14E, mb4.6/6, Error ellipse: s-maj=19.9km s-min=8.0km az=73.0*
*DJA **04** 04:09:49, 0.87S×133.32E, h17km, mb5.0/17*

ISC 04 04:09:49.2±0.5, 0.71S±0.07×133.08E±0.08, h35km, n39, σ1 9 30/41, mb4.4/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.35**	**201**	P	**Pn**	**04 10 26.8**	**+1.5**
BAKI	**Biak**	**3.07**	**99**	P	**Pn**	**04 10 34.8**	**-0.5**
MSAI	**Masohi**	**4.90**	**238**	P	**Pn**	**04 10 59.0**	**-1.5**
TLE	**Tual**	**4.91**	**184**	P	Pn	04 11 03.1	+2.5
LBMI	**Labuha**	**5.58**	**271**	P	Pn	04 11 17.2	+7.5
	73nm,1.1s,0.3nm						
AAI	**Ambon**	**5.70**	**239**	P	Pn	04 11 08.6	-2.9
	487nm,0.9s,4μm1.6nm						
AAI	**Ambon**	**5.70**	**239**	P		04 11 14.5	
	487nm,0.9s,4μm1.6nm						
NLAI	**Namlea**	**6.48**	**247**	P	**Pn**	**04 11 24.9**	**+2.7**
PMG	**Port Moresby**	**16.46**	**122**	Pn	**Pn**	**04 13 37.1**	**-0.6**
	0.3nm,0.3s,baz=275,slow=13,SNR=3.2						
PMG	**Port Moresby**	**16.46**	**122**	Pn	**Pn**	**04 13 37.1**	**-0.6**
WRAB	**Tennant Creek**	**19.15**	**176**	*eP*	**P**	**04 14 08.6**	**-1.1**
	19nm,1.0s						
WRA	**Warramunga Arr**	**19.16**	**176**	P	**P**	**04 14 08.9**	**-0.9**
	1.2nm,0.3s,baz=356,slow=13,SNR=27						
WRA				S	Sn	04 17 34.2	-10
	0.4nm,0.3s,baz=354,slow=23,SNR=5.0						
WRA	**Warramunga Arr**	**19.16**	**176**	P	**P**	**04 14 08.9**	**-0.9**
WRA				S	Sn	04 17 34.2	-10
WB2	**Warramunga Arr**	**19.16**	**176**	*eP*	**P**	**04 14 08.6**	**-1.2**
AS31	**Alice Springs**	**22.84**	**178**	*eP*	**P**	**04 14 47.9**	**-1.6**
ASAR	**Alice Springs**	**22.84**	**178**	P	**P**	**04 14 48.0**	**-1.5**
	6.5nm,0.5s,baz=358,slow=11,SNR=63						
ASAR				S	**S**	**04 18 57.8**	**+1.2**
	1.6nm,0.9s,baz=355,slow=18,SNR=6.5						
ASAR	**Alice Springs**	**22.84**	**178**	P	**P**	**04 14 48.0**	**-1.5**
ASAR				S	**S**	**04 18 57.9**	**+1.2**
MBWA	**Marble Bar**	**24.14**	**212**	*eP*	**P**	**04 15 03.7**	**+1.5**
	38nm,1.3s						
STKA	**Stephens Creek**	**32.03**	**166**	P	**P**	**04 16 11.4**	**-1.2**
	2.4nm,0.5s,baz=353,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**32.03**	**166**	P	**P**	**04 16 11.4**	**-1.2**
SONM	**Songino Array**	**53.64**	**338**	P	**P**	**04 19 08.4**	**+1.0**
	0.9nm,1.1s,baz=132,slow=6.2,SNR=3.9						
SONM	**Songino Array**	**53.64**	**338**	P	**P**	**04 19 08.4**	**+1.0**
MK31	**Makanchi Array**	**64.82**	**324**	*eP*	**P**	**04 20 25.6**	**+0.9**
MK31				*epP*	**pP**	**04 20 34.4**	**-1.0**
MKAR	**Makanchi Array**	**64.82**	**324**	P	**P**	**04 20 25.8**	**+1.1**
	3.5nm,0.8s,baz=114,slow=7.9,SNR=33						
MKAR	**Makanchi Array**	**64.82**	**324**	P	**P**	**04 20 25.8**	**+1.1**
ZALV	**Zalesovo Beam**	**67.44**	**331**	P	**P**	**04 20 41.0**	**-0.3**
	0.6nm,0.5s,baz=104,slow=6.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**67.44**	**331**	P	**P**	**04 20 41.0**	**-0.3**
KURK	**Kurchatov**	**68.90**	**326**	*eP*	**P**	**04 20 50.6**	**+0.1**
	9.4nm,1.0s						
KURK				*epP*	**pP**	**04 20 60.0**	**-1.3**
KKAR	**Karatay Array**	**70.79**	**316**	*eP*	**P**	**04 21 02.6**	**+0.3**
	8.2nm,1.0s						
KKAR				*epP*	**pP**	**04 21 12.4**	**-0.8**
BRVK	**Borovoye**	**74.56**	**326**	*eP*	**P**	**04 21 25.0**	**+0.5**
	7.1nm,1.0s						
BRVK				*epP*	**pP**	**04 21 33.4**	**-2.1**
ABKAR	**Akbulak array**	**79.58**	**320**	*eP*	**P**	**04 21 52.5**	**-0.3**
	0.9nm,0.6s						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**04 22 26.1**	**-1.5**
	1.3nm,0.8s,baz=255,slow=4.8,SNR=18						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**04 22 26.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**130.29**	**287**	PKP	**PKPdf**	**04 28 56.3**	**-0.6**
	0.6nm,0.8s,baz=83,slow=2.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**130.29**	**287**	PKP	**PKPdf**	**04 28 56.3**	**-0.6**
CPUP	**Villa Florida**	**151.31**	**160**	PKPbc	**PKPbc**	**04 29 40.1**	**+0.2**
	1.0nm,0.6s,baz=192,slow=1.5,SNR=3.8						
CPUP	**Villa Florida**	**151.31**	**160**	PKPbc	**PKPbc**	**04 29 40.1**	**+0.2**
LPAZ	**La Paz**	**153.11**	**130**	PKPbc	**PKPbc**	**04 29 47.6**	**+2.5**
	0.6nm,0.4s,baz=170,slow=6.1,SNR=3.1						
LPAZ	**La Paz**	**153.11**	**130**	PKPbc	**PKPbc**	**04 29 47.6**	**+2.5**

*DJA **04** 04:17:12, 0.41S×132.32E, h15km, mb4.8/5*

IDC 04 04:17:02.6±1.2, 0.11S×133.20E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=65.2km s-min=22.2km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.74**	**177**	P	P	04 21 34.0	-0.1
	0.4nm,0.3s,baz=356,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**23.43**	**178**	P	P	04 22 13.8	+0.3
	1.3nm,0.5s,baz=358,slow=11,SNR=9.9						
SONM	**Songino Array**	**53.13**	**338**	P	P	04 26 23.0	+0.7
	0.2nm,0.4s,baz=153,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**64.42**	**324**	P	P	04 27 40.1	-0.6
	0.3nm,0.5s,baz=112,slow=8.4,SNR=5.8						
ILAR	**Eielson Array**	**85.80**	**25**	P	P	04 29 43.4	-0.3
	0.9nm,1.1s,baz=248,slow=4.8,SNR=3.8						

*DJA **04** 04:21:22, 0.65S×132.98E, h10km, MLv4.2/8*

IDC 04 04:21:15.5±2.7, 0.40S×133.53E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=198.8km s-min=20.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.44**	**178**	P	P	04 25 43.4	-0.4
	0.4nm,0.3s,baz=358,slow=12,SNR=12						
ASAR	**Alice Springs**	**23.13**	**179**	P	P	04 26 23.8	+0.3
	5.8nm,0.8s,baz=7.2,slow=11,SNR=24						
STKA	**Stephens Creek**	**32.22**	**167**	P	P	04 27 45.6	0.0
	2.2nm,0.7s,baz=321,slow=8.5,SNR=5.1						
KURK	**Kurchatov**	**68.89**	**326**	P	P	04 32 22.1	0.0
	1.4nm,0.7s,baz=120,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**74.49**	**326**	P	P	04 32 55.9	+0.1
	1.2nm,0.6s,baz=120,slow=7.1,SNR=10						

IDC 04 04:24:45.0±2.3, 1.47S×132.82E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/16, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=121.3km s-min=27.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.42**	**175**	P	Pn	04 29 01.2	-0.8
	0.2nm,0.3s,baz=355,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**22.09**	**177**	P	P	04 29 41.9	-0.1
	1.9nm,0.7s,baz=358,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**31.36**	**166**	P	P	04 31 08.1	+0.5
	0.9nm,0.7s,baz=332,slow=17,SNR=2.0						
MKAR	**Makanchi Array**	**65.28**	**324**	P	P	04 35 28.7	-0.1
	0.3nm,0.6s,baz=122,slow=7.4,SNR=2.1						

IDC 04 04:29:25.6±1.2, 0.35S×134.13E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=61.2km s-min=23.2km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.48**	**179**	P	P	04 33 54.3	+0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**23.18**	**181**	P	P	04 34 34.2	+0.1
	0.7nm,0.3s,baz=359,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**65.16**	**323**	P	P	04 40 08.8	+0.3
	0.5nm,0.7s,baz=111,slow=7.9,SNR=7.3						
KURK	**Kurchatov**	**69.19**	**326**	P	P	04 40 34.9	+0.9
	0.8nm,0.9s,baz=115,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**85.61**	**25**	P	P	04 42 04.6	-1.2
	0.9nm,1.2s,baz=234,slow=4.3,SNR=3.1						

**IDC 04 04:30:25.4±1.3, 0.66S×134.12E, h0km,

WRA	**Warramunga Arr**	**19.64 176**	P	**P**	**04 35 51.6**	**-0.1**
WB2	**Warramunga Arr**	**19.64 176**	*e*P	**P**	**04 35 51.3**	**-0.5**
AS31	**Alice Springs**	**23.31 178**	*e*P	**P**	**04 36 30.9**	**-0.2**
ASAR	**Alice Springs**	**23.31 178**	P	**P**	**04 36 31.2**	**+0.2**
	16nm,0.7s,baz=355,slow=11,SNR=16					
ASAR	**Alice Springs**	**23.31 178**	P	**P**	**04 36 31.2**	**+0.2**
HNR	**Honiara**	**28.46 110**	LR	LR	04 48 15.9	
	comp=Z,92nm,18.8s,baz=138,slow=36					
STKA	**Stephens Creek**	**32.53 166**	P	**P**	**04 37 53.4**	**-0.4**
	10nm,0.9s,baz=343,slow=5.5,SNR=11					
STKA	**Stephens Creek**	**32.53 166**	P	**P**	**04 37 53.4**	**-0.4**
CHTO	**Chiang Mai**	**38.31 301**	*e*P	**P**	**04 38 43.4**	**-0.3**
	9.1nm,1.0s					
TAPN	**Taplejung**	**51.29 306**	*e*P	**P**	**04 40 27.0**	**-0.3**
TAPN	**Taplejung**	**51.29 306**	*e*P	**P**	**04 40 27.0**	**-0.3**
ODAN	**Odare**	**51.35 305**	*e*P	**P**	**04 40 27.3**	**-0.4**
	18nm,0.7s					
ODAN	**Odare**	**51.35 305**	*e*P	**P**	**04 40 27.3**	**-0.4**
RAMN	**Ramite**	**52.03 305**	*e*P	**P**	**04 40 32.7**	**-0.1**
	22nm,0.6s					
RAMN	**Ramite**	**52.03 305**	*e*P	**P**	**04 40 32.7**	**-0.1**
JIRN	**Jiri**	**52.65 306**	*e*P	**P**	**04 40 37.2**	**-0.3**
	10nm,0.7s					
JIRN	**Jiri**	**52.65 306**	*e*P	**P**	**04 40 37.2**	**-0.3**
ULN	**Ulaanbaatar**	**52.91 338**	*e*P	**P**	**04 40 39.0**	**+0.2**
	3.9nm,0.9s					
ULN	**Ulaanbaatar**	**52.91 338**	P	**P**	**04 40 41.3**	**+2.5**
GUN	**Gumba**	**53.00 306**	*e*P	**P**	**04 40 39.7**	**-0.4**
	17nm,0.7s					
GUN	**Gumba**	**53.00 306**	*e*P	**P**	**04 40 39.7**	**-0.4**
SONM	**Songino Array**	**53.13 338**	P	**P**	**04 40 40.8**	**+0.4**
	1.2nm,0.7s,baz=156,slow=5.5,SNR=10					
SONM	**Songino Array**	**53.13 338**	P	**P**	**04 40 40.8**	**+0.4**
PKI	**Pulchoki**	**53.25 305**	*e*P	**P**	**04 40 41.3**	**-0.6**
PKI	**Pulchoki**	**53.25 305**	*e*P	**P**	**04 40 41.3**	**-0.6**
DMN	**Daman**	**53.51 305**	*e*P	**P**	**04 40 43.0**	**-0.8**
DMN	**Daman**	**53.51 305**	*e*P	**P**	**04 40 43.0**	**-0.8**
KOLN	**Koldanda**	**54.81 305**	*e*P	**P**	**04 40 53.0**	**-0.2**
	22nm,0.6s					
KOLN	**Koldanda**	**54.81 305**	*e*P	**P**	**04 40 53.0**	**-0.2**
DANN	**Dangsing**	**54.90 305**	*e*P	**P**	**04 40 53.5**	**-0.4**
DANN	**Dangsing**	**54.90 305**	*e*P	**P**	**04 40 53.5**	**-0.4**
MK31	**Makanchi Array**	**64.32 324**	*e*P	**P**	**04 41 58.6**	**+0.4**
MKAR	**Makanchi Array**	**64.32 324**	P	**P**	**04 41 59.1**	**+0.9**
	5.5nm,0.7s,baz=115,slow=8.1,SNR=25					
MKAR	**Makanchi Array**	**64.32 324**	P	**P**	**04 41 59.1**	**+0.9**
TKM2	**Tokmak 2**	**66.77 318**	*e*P	**P**	**04 42 14.9**	**+0.5**
	4.0nm,0.7s					
ZALV	**Zalesovo Beam**	**66.93 331**	P	**P**	**04 42 14.5**	**-0.3**
	1.1nm,0.5s,baz=110,slow=6.5,SNR=6.1					
ZALV	**Zalesovo Beam**	**66.93 331**	P	**P**	**04 42 14.5**	**-0.3**
KURK	**Kurchatov**	**68.39 326**	P	**P**	**04 42 24.8**	**+0.7**
	6.9nm,0.8s,baz=120,slow=5.9,SNR=21					
KURK	**Kurchatov**	**68.39 326**	*e*P	**P**	**04 42 24.6**	**+0.5**
	5.5nm,0.7s					
KBL	**Kabul**	**68.79 307**	*e*P	**P**	**04 42 26.5**	**-0.8**
	4.1nm,0.4s					
KKAR	**Karatay Array**	**70.31 316**	*e*P	**P**	**04 42 36.5**	**+0.3**
	3.6nm,0.6s					
BVAR	**Borovoye Array**	**73.99 326**	P	**P**	**04 42 58.5**	**+0.6**
	2.3nm,0.8s,baz=124,slow=6.3,SNR=9.4					
BVAR	**Borovoye Array**	**73.99 326**	P	**P**	**04 42 58.5**	**+0.6**
BRVK	**Borovoye**	**74.06 326**	*e*P	**P**	**04 42 58.9**	**+0.5**
	3.9nm,0.9s					
ILAR	**Eielson Array**	**86.05 25**	P	**P**	**04 44 02.9**	**0.0**
	0.7nm,0.6s,baz=252,slow=5.0,SNR=10					
ILAR	**Eielson Array**	**86.05 25**	P	**P**	**04 44 02.9**	**0.0**
ARCES	**ARCESS Array B**	**96.25 340**	P	**P**	**04 44 50.1**	**-0.3**
	4.9nm,1.0s,baz=22,slow=3.9,SNR=4.0					
ARCES	**ARCESS Array B**	**96.25 340**	P	**P**	**04 44 50.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**129.96 287**	PKP	**PKPdf**	**04 50 32.6**	**-0.5**
	0.4nm,0.7s,baz=84,slow=2.3,SNR=5.3					
TORD	**Torodi Ar. Bea**	**129.96 287**	PKP	**PKPdf**	**04 50 32.6**	**-0.5**

*IDC **04** 04:34:26.3±1.0, 0.70S×133.67E, h0km, mb4.1/7,*
mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, ML4.1/1, Error
ellipse: s-maj=63.5km s-min=17.8km az=76.0
*ISCJB **04** 04:34:28.8±0.8, 0.72S±0.10×133.5E±0.3, h28km, mb4.2/9,*
Error ellipse: s-maj=51.0km s-min=9.3km az=167.7
*NEIC **04** 04:34:31.6±0.6, 0.69S×133.64E, h35km, mb4.5/4, Error*
ellipse: s-maj=38.0km s-min=7.0km az=78.0
*DJA **04** 04:34:53, 1.60S×132.06E, h15km, MLv4.3/9*
ISC 04 04:34:30.6±0.9, 0.7S±0.1×133.6E±0.4, h28km, n22,
σ058/22, mb4.2/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**19.11**	**178**	*e*P	**P**	**04 38 52.0**	**+0.5**
	28nm,1.2s						
WB2	**Warramunga Arr**	**19.12**	**178**	*e*P	**Pn**	**04 38 52.9**	**+0.3**
WRA	**Warramunga Arr**	**19.12**	**178**	P	**P**	**04 38 51.8**	**+0.3**
	0.6nm,0.3s,baz=355,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**19.12**	**178**	P	P	**04 38 51.9**	**+0.3**
AS31	**Alice Springs**	**22.82**	**179**	*e*P	**P**	**04 39 32.9**	**+1.4**
ASAR	**Alice Springs**	**22.82**	**179**	P	**P**	**04 39 31.3**	**-0.2**
	3.9nm,0.5s,baz=359,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.82**	**179**	P	P	**04 39 31.3**	**-0.2**
STKA	**Stephens Creek**	**31.89**	**167**	P	**P**	**04 40 53.0**	**-0.6**
	2.3nm,0.8s,baz=350,slow=6.4,SNR=4.9						
STKA	**Stephens Creek**	**31.89**	**167**	P	P	**04 40 53.0**	**-0.6**
SONM	**Songino Array**	**53.86**	**338**	P	**P**	**04 43 51.9**	**+0.6**
	0.5nm,0.6s,baz=154,slow=6.2,SNR=4.2						
SONM	**Songino Array**	**53.86**	**338**	P	**P**	**04 43 51.9**	**+0.6**
MK31	**Makanchi Array**	**65.16**	**324**	*e*P	**P**	**04 45 09.3**	**+0.1**
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**04 45 09.6**	**+0.4**
	3.2nm,0.6s,baz=110,slow=6.6,SNR=30						
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**04 45 09.6**	**+0.4**
ZALV	**Zalesovo Beam**	**67.72**	**331**	P	**P**	**04 45 24.6**	**-0.8**
	0.6nm,0.5s,baz=145,slow=5.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**67.72**	**331**	P	**P**	**04 45 24.6**	**-0.8**
KURK	**Kurchatov**	**69.22**	**326**	P	**P**	**04 45 34.8**	**+0.1**
	3.9nm,0.9s,baz=120,slow=5.8,SNR=15						
KURK	**Kurchatov**	**69.22**	**326**	*e*P	**P**	**04 45 34.9**	**+0.1**
	9.0nm,1.1s						
KKAR	**Karatay Array**	**71.18**	**316**	*e*P	**P**	**04 45 46.5**	**-0.6**
	5.5nm,0.9s						
BRVK	**Borovoye**	**74.89**	**326**	*e*P	**P**	**04 46 08.1**	**-0.6**
	3.9nm,0.6s						
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**04 47 09.2**	**+0.2**
	1.0nm,0.8s,baz=252,slow=4.9,SNR=10						
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**04 47 09.2**	**+0.2**

*DJA **04** 04:37:29, 0.54S×132.85E, h15km, MLv4.2/5*
IDC 04 04:37:19.5±2.0, 0.10S×133.76E, h0km, mb3.9/4,
mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML3.6/1, Error
ellipse: s-maj=125.0km s-min=20.7km az=73.0, Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.73**	**178**	P	P	**04 41 51.3**	**+0.4**
	0.2nm,0.3s,baz=356,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**23.43**	**180**	P	P	**04 42 30.9**	**+0.3**
	4.5nm,1.0s,baz=11,slow=9.6,SNR=5.7						
STKA	**Stephens Creek**	**32.46**	**168**	P	P	**04 43 51.0**	**-0.7**
	1.7nm,0.7s,baz=335,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	**04 47 59.9**	**+0.1**
	0.8nm,0.7s,baz=112,slow=8.2,SNR=7.0						
KURK	**Kurchatov**	**68.78**	**326**	P	P	**04 48 25.6**	**+0.1**
	0.8nm,0.7s,baz=124,slow=5.5,SNR=4.5						

*SOF **04** 04:43:09.7, 39.99N×24.42E, h0km, MD2.7*
*ATH **04** 04:43:13.1, 40.10N×24.35E, h29km±1km, MD3.3/15*
*THE **04** 04:43:13.2, 40.01N×24.37E, h10km, ML2.6/10, Error*
ellipse: s-maj=0.6km s-min=0.4km az=101.0
CSEM 04 04:43:13.7±0.1, 40.02N×24.36E, h20km, ML2.6/10, 1C-4D,
Error ellipse: s-maj=3.3km s-min=2.9km az=111.0,
Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.43**	**318**	P	Pb	04 43 21.7	-0.9
OUR				S	Sb	04 43 28.5	-0.1
OUR	**Ouranopolis**	**0.43**	**318**	P	Pb	04 43 21.7	-0.9
OUR				S	Sb	04 43 28.5	-0.1
PAIG	**Paliouri**	**0.53**	**261**	P	Pb	04 43 23.4	-0.9
PAIG				S	Sb	04 43 31.2	-0.3
PAIG	**Paliouri**	**0.53**	**261**	P	Pb	04 43 23.4	-0.9
PAIG				S	Sb	04 43 31.2	-0.3
LIA	**Limnos Island**	**0.65**	**100**	P	Pb	04 43 25.6	-0.7
LIA				S	Sb	04 43 34.7	-0.2
LIA	**Limnos Island**	**0.65**	**100**	*e*PN	Pb	04 43 26.5	+0.2
LIA				*e*SN	Sn	04 43 37.1	-0.2
LIA	**Limnos Island**	**0.65**	**100**	P	Pb	04 43 25.6	-0.7
LIA	**Limnos Island**	**0.65**	**100**	*e*Pn	Pb	04 43 26.5	+0.2
LIA				S	Sb	04 43 34.7	-0.2
LIA				*e*Sn	Sn	04 43 37.1	-0.2
PLG	**Polygyros**	**0.79**	**297**	P	Pb	04 43 27.9	-0.9
PLG				S	Sn	04 43 40.0	-0.9
PLG	**Polygyros**	**0.79**	**297**	*e*PN	Pb	04 43 27.8	-1.0
PLG				*e*SN	Sb	04 43 37.8	-1.2
PLG	**Polygyros**	**0.79**	**297**	P	Pb	04 43 27.9	-0.9
PLG				*e*Sn	Sb	04 43 37.8	-1.2
PLG				S	Sn	04 43 40.0	-0.9
AOS	**Alonnisos**	**0.92**	**204**	P	Pb	04 43 30.6	-0.4
AOS				S	Sn	04 43 44.2	0.0
AOS	**Alonnisos**	**0.92**	**204**	P	Pb	04 43 30.6	-0.4
AOS				S	Sn	04 43 44.2	0.0
KAVA	**Kavala**	**0.99**	**7**	P	Pb	04 43 31.7	-0.4
KAVA				S	Sn	04 43 46.0	+0.2
KAVA	**Kavala**	**0.99**	**7**	P	Pb	04 43 31.7	-0.4
KAVA				S	Sn	04 43 46.0	+0.2
SKIA	**Skiathos**	**1.09**	**219**	P	Pn	04 43 33.4	-0.5
SKIA	**Skiathos**	**1.09**	**219**	P	Pn	04 43 33.4	-0.5
SOH	**Sokhos**	**1.11**	**317**	P	Pn	04 43 34.2	0.0
SOH				S	Sn	04 43 50.2	+1.2
SOH	**Sokhos**	**1.11**	**317**	*e*PN	Pn	04 43 33.1	-1.1
SOH				*e*SN	Sb	04 43 48.3	-0.2
SOH	**Sokhos**	**1.11**	**317**	*e*Pn	Pn	04 43 33.1	-1.1
SOH	**Sokhos**	**1.11**	**317**	P	Pn	04 43 34.2	0.0
SOH				*e*Sn	Sb	04 43 48.3	-0.2
SOH				S	Sn	04 43 50.2	+1.2
HORT	**Hortiatis**	**1.12**	**302**	P	Pn	04 43 34.0	-0.4
HORT				S	Sn	04 43 50.3	+0.9
HORT	**Hortiatis**	**1.12**	**302**	P	Pn	04 43 34.0	-0.4
HORT				S	Sn	04 43 50.3	+0.9
NEO	**Neokhori**	**1.13**	**231**	P	Pn	04 43 33.9	-0.5
NEO	**Neokhori**	**1.13**	**231**	*e*PB	Pn	04 43 34.3	-0.1
NEO				*e*SN	Sn	04 43 51.9	+2.6
NEO	**Neokhori**	**1.13**	**231**	P	Pn	04 43 33.9	-0.5
NEO	**Neokhori**	**1.13**	**231**	*e*Pb	Pn	04 43 34.3	-0.1
NEO				*e*Sn	Sn	04 43 51.9	+2.6
THE	**Thessaloniki**	**1.23**	**301**	P	Pn	04 43 36.0	+0.2
THE	**Thessaloniki**	**1.23**	**301**	P	Pn	04 43 36.0	+0.2
SRS	**Serrai**	**1.25**	**332**	P	Pn	04 43 36.1	+0.1
SRS				S	Sn	04 43 53.5	+1.2
SRS	**Serrai**	**1.25**	**332**	P	Pn	04 43 36.1	+0.1
SRS				S	Sn	04 43 53.5	+1.2
NVR	**Nevrokopi**	**1.39**	**344**	P	Pn	04 43 37.7	-0.3
NVR	**Nevrokopi**	**1.39**	**344**	*e*PN	Pn	04 43 37.7	-0.3
NVR				*e*SN	Sn	04 43 55.0	-0.8
NVR	**Nevrokopi**	**1.39**	**344**	P	Pn	04 43 37.7	-0.3
NVR				*e*Sn	Sn	04 43 55.0	-0.8
LIT	**Litokhoron**	**1.44**	**274**	*e*PN	Pn	04 43 39.0	+0.4
LIT	**Litokhoron**	**1.44**	**274**	*e*Pn	Pn	04 43 39.0	+0.4
MRKA	**Markates**	**1.44**	**205**	P	Pn	04 43 38.6	-0.1
MRKA	**Markates**	**1.44**	**205**	P	Pn	04 43 38.6	-0.1
RDO	**Rodhopi**	**1.44**	**38**	P	Pn	04 43 38.0	-0.7
RDO	**Rodhopi**	**1.44**	**38**	*e*PN	Pn	04 43 37.9	-0.8
RDO	**Rodhopi**	**1.44**	**38**	P	Pn	04 43 38.0	-0.7
ALN	**Alexandroupoli**	**1.56**	**55**	P	Pn	04 43 39.7	-0.6
ALN				S	Sb	04 44 01.5	+0.3
ALN	**Alexandroupoli**	**1.56**	**55**	*e*PB	Pn	04 43 39.7	-0.6
ALN				*e*SN	Sn	04 44 00.0	+0.1
ALN	**Alexandroupoli**	**1.56**	**55**	P	Pn	04 43 39.7	-0.6
ALN				*e*Sn	Sn	04 44 00.0	+0.1
ALN				S	Sb	04 44 01.5	+0.3
KNT	**Kendrikon**	**1.60**	**316**	P	Pn	04 43 41.1	+0.3
KNT				S	Sb	04 44 02.5	+0.2
KNT	**Kendrikon**	**1.60**	**316**	P	Pn	04 43 41.1	+0.3
KNT				S	Sb	04 44 02.5	+0.2
ERET	**Eretria**	**1.63**	**195**	P	Pn	04 43 41.1	-0.2
ERET	**Eretria**	**1.63**	**195**	P	Pn	04 43 41.1	-0.2
MMB	**Musomiste**	**1.64**	**343**	*i* P	Pn	04 43 41.3	-0.2
MMB	**Musomiste**	**1.64**	**343**	*i* P	Pn	04 43 41.3	-0.2
PRK	**Paraskevi**	**1.67**	**117**	P	Pn	04 43 41.4	-0.3
PRK	**Paraskevi**	**1.67**	**117**	*e*PN	Pb	04 43 43.3	-0.4
PRK	**Paraskevi**	**1.67**	**117**	P	Pn	04 43 41.4	-0.3
PRK	**Paraskevi**	**1.67**	**117**	*e*Pn	Pb	04 43 43.3	-0.4
ATAL	**Atalanti**	**1.68**	**219**	P	Pn	04 43 41.7	-0.2
ATAL	**Atalanti**	**1.68**	**219**	P	Pn	04 43 41.7	-0.2
RZN	**Rozhen**	**1.69**	**9**	*i* P	Pn	04 43 42.6	+0.2
RZN	**Rozhen**	**1.69**	**9**	*i* P	Pn	04 43 42.6	+0.2
LKR	**Lokris**	**1.72**	**218**	P	Pn	04 43 42.2	-0.3
LKR	**Lokris**	**1.72**	**218**	*e*PB	Pn	04 43 43.3	+0.8
LKR	**Lokris**	**1.72**	**218**	P	Pn	04 43 42.2	-0.3
LKR	**Lokris**	**1.72**	**218**	*e*Pb	Pn	04 43 43.3	+0.8
GRG	**Griva**	**1.76**	**303**	P	Pn	04 43 43.5	+0.3
GRG	**Griva**	**1.76**	**303**	P	Pn	04 43 43.5	+0.3
KDZ	**Kurdzhali**	**1.82**	**26**	P	Pn	04 43 43.2	-0.7
KDZ	**Kurdzhali**	**1.82**	**26**	P	Pn	04 43 43.2	-0.7
AGG	**Agios Georgios**	**1.85**	**238**	P	Pn	04 43 44.6	+0.2
AGG				S	Sb	04 44 08.8	-1.0
AGG	**Agios Georgios**	**1.85**	**238**	*e*PN	Pn	04 43 44.7	+0.3
AGG	**Agios Georgios**	**1.85**	**238**	P	Pn	04 43 44.6	+0.2
AGG				S	Sb	04 44 08.8	-1.0
THL	**Klokotos Trika**	**1.86**	**257**	P	Pn	04 43 44.6	+0.2
THL				S	Sb	04 44 09.4	-0.4
THL	**Klokotos Trika**	**1.86**	**257**	*e*PN	Pn	04 43 44.7	+0.3
THL	**Klokotos Trika**	**1.86**	**257**	P	Pn	04 43 44.6	+0.2
THL				S	Sb	04 44 09.4	-0.4
MAKR	**Makrakomi, Fth**	**1.99**	**241**	P	Pn	04 43 46.6	+0.3
MAKR	**Makrakomi, Fth**	**1.99**	**241**	P	Pn	04 43 46.6	+0.3
PTL	**Penteli**	**2.00**	**191**	*e*PN	Pb	04 43 48.1	-1.4
PTL	**Penteli**	**2.00**	**191**	*e*Pn	Pb	04 43 48.1	-1.4
KZN	**Kozani**	**2.00**	**279**	P	Pn	04 43 46.1	-0.4
KZN	**Kozani**	**2.00**	**279**	*e*PB	Pn	04 43 47.4	+0.9
KZN	**Kozani**	**2.00**	**279**	P	Pn	04 43 46.1	-0.4
KZN	**Kozani**	**2.00**	**279**	*e*Pb	Pn	04 43 47.4	+0.9
VIL1	**Vilia, Western**	**2.01**	**204**	*e*PN	Pn	04 43 48.1	+1.5
VIL1	**Vilia, Western**	**2.01**	**204**	*e*Pn	Pn	04 43 48.1	+1.5
CHOS	**Chios island**	**2.09**	**140**	*e*PN	Pb	04 43 49.7	-1.4
CHOS	**Chios island**	**2.09**	**140**	*e*Pn	Pb	04 43 49.7	-1.4
VLY	**Voula,Athens**	**2.20**	**192**	P	Pn	04 43 49.3	+0.1
VLY	**Voula,Athens**	**2.20**	**192**	*e*PB	Pb	04 43 52.0	-0.9
VLY	**Voula,Athens**	**2.20**	**192**	P	Pn	04 43 49.3	+0.1
VLY	**Voula,Athens**	**2.20**	**192**	*e*Pb	Pb	04 43 52.0	-0.9
EVR	**Evrytania**	**2.26**	**242**	*e*PN	Pn	04 43 51.3	+1.3
EVR	**Evrytania**	**2.26**	**242**	*e*Pn	Pn	04 43 51.3	+1.3
VTS	**Vitosha**	**2.72**	**342**	*i* P	Pn	04 43 57.5	+1.1
VTS	**Vitosha**	**2.72**	**342**	P	Pn	04 43 58.0	+1.6
VTS	**Vitosha**	**2.72**	**342**	P	Pn	04 43 58.0	+1.6
VOIR		**5.44**	**5**	*i* P	Pn	04 44 34.6	+0.8
VOIR		**5.44**	**5**	*i* P	Pn	04 44 34.6	+0.8
MLR	**Muntele Rosu**	**5.60**	**12**	*i* P	Pn	04 44 37.4	+1.4
MLR	**Muntele Rosu**	**5.60**	**12**	*i* P	Pn	04 44 37.4	+1.4

IDC 04 04:43:28.0±2.4, 0.66S×131.24E, h0km, mb3.7/4,
mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.8/1, Error
ellipse: s-maj=180.4km s-min=20.9km az=74.0, Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.41**	**171**	P	P	**04 47 55.5**	**-0.4**
	0.3nm,0.3s,baz=352,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**23.02**	**174**	P	P	**04 48 35.0**	**+0.1**
	1.8nm,0.5s,baz=357,slow=9.4,SNR=24						
SONM	**Songino Array**	**52.92**	**339**	P	P	**04 52 45.4**	**-0.7**
	0.4nm,0.5s,baz=158,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**63.71**	**325**	P	P	**04 54 02.0**	**+0.5**
	0.6nm,0.5s,baz=112,slow=8.5,SNR=14						
KURK	**Kurchatov**	**67.84**	**327**	P	P	**04 54 27.9**	**-0.1**
	0.3nm,0.5s,baz=122,slow=6.0,SNR=5.2						

*DDA **04** 04:45:17.5, 40.72N×30.54E, h7km, MD3.0*
*ISK **04** 04:45:17.3, 40.68N×30.57E, h5km, MD3.0*
CSEM 04 04:45:17.9±0.1, 40.70N×30.58E, h5km, MD3.0, Error
ellipse: s-maj=3.9km s-min=2.6km az=8.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPNC	**Sapanca-Adapaz**	**0.20**	**267**	*e*PG	Pg	04 45 22.8	+0.8
SPNC	**Sapanca-Adapaz**	**0.20**	**267**	*e*Pg	Pg	04 45 22.8	+0.8
HENT	**Hendek**	**0.28**	**63**	*i* P	Pg	04 45 23.1	-0.2
HENT				*i* S	Sg	04 45 27.4	+0.4
HENT	**Hendek**	**0.28**	**63**	*i* P	Pg	04 45 23.1	-0.3
MDUB	**Mudurnu**	**0.52**	**115**	*e*PG	Pg	04 45 27.8	-0.3
MDUB				*e*SG	Sg	04 45 35.4	+0.4
MDUB	**Mudurnu**	**0.52**	**115**	*e*Pg	Pg	04 45 27.8	-0.3
MDUB				*e*Sg	Sg	04 45 35.4	+0.3
ADVT	**Abdulvahap**	**0.69**	**248**	*e*PG	Pg	04 45 30.9	-0.3
ADVT				*e*SG	Sg	04 45 40.6	+0.4
ADVT	**Abdulvahap**	**0.69**	**248**	*e*Pg	Pg	04 45 30.9	-0.3
ADVT				*e*Sg	Sg	04 45 40.6	+0.4
HRT	**Hereke**	**0.70**	**281**	*e*PG	Pg	04 45 31.3	-0.2
HRT	**Hereke**	**0.70**	**281**	*e*Pg	Pg	04 45 31.3	-0.2
CAVI	**Cavuskoy**	**0.75**	**229**	*e*PG	Pg	04 45 32.3	0.0
CAVI	**Cavuskoy**	**0.75**	**229**	*e*Pg	Pg	04 45 32.3	0.0
SILT	**Sile**	**0.84**	**303**	*e*PG	Pg	04 45 33.9	-0.2
SILT	**Sile**	**0.84**	**303**	*e*Pg	Pg	04 45 33.9	-0.2
KDZE	**Karadeniz Ereo**	**0.90**	**46**	*e*PG	Pg	04 45 35.2	0.0
KDZE	**Karadeniz Ereo**	**0.90**	**46**	*e*Pg	Pg	04 45 35.2	0.0
YLV	**Yalova**	**0.93**	**262**	*e*PG	Pg	04 45 35.0	-0.8
YLV	**Yalova**	**0.93**	**262**	*e*Pg	Pg	04 45 35.0	-0.8
GEMT	**Gemlik**	**1.09**	**257**	*e*PN	Pg	04 45 38.6	-0.3
GEMT	**Gemlik**	**1.09**	**257**	*e*Pn	Pg	04 45 38.6	-0.2
BUY	**Buyukada**	**1.12**	**278**	*i* P	Pg	04 45 39.0	-0.4
BUY				*i* S	Sb	04 45 54.4	-0.2
BUY	**Buyukada**	**1.12**	**278**	*i* P	Pg	04 45 39.0	-0.4
BUY				*i* S	Sb	04 45 54.4	-0.2
ESKT	**Eskisehir**	**1.19**	**170**	*e*PN	Pg	04 45 40.5	-0.5
ESKT	**Eskisehir**	**1.19**	**170**	*e*Pn	Pg	04 45 40.5	-0.5
SEYT	**Eskypehyr**	**1.19**	**170**	*i* P	Pg	04 45 40.6	-0.4
SEYT				*i* S	Sn	04 45 58.8	+0.7
SEYT	**Eskypehyr**	**1.19**	**170**	*i* P	Pg	04 45 40.6	-0.4
SEYT				*i* S	Sn	04 45 58.8	+0.7
ISK	**Istanbul-Kandi**	**1.21**	**288**	*e*PN	Pg	04 45 41.0	-0.1
ISK	**Istanbul-Kandi**	**1.21**	**288**	*e*Pn	Pg	04 45 41.0	-0.1
ULDT	**Uludag**	**1.23**	**244**	*i* P	Pg	04 45 40.9	-0.9
ULDT				*i* S	Sg	04 45 55.9	-2.1
ULDT	**Uludag**	**1.23**	**244**	*i* P	Pg	04 45 40.9	-0.9
ULDT				*i* S	Sg	04 45 55.9	-2.1
KLYT	**Kilyos**	**1.29**	**296**	*e*PN	Pn	04 45 42.4	-0.2
KLYT	**Kilyos**	**1.29**	**296**	*e*Pn	Pn	04 45 42.4	-0.1
ARMT	**Armutlu**	**1.31**	**265**	*e*PN	Pn	04 45 42.3	-0.7
ARMT	**Armutlu**	**1.31**	**265**	*e*Pn	Pn	04 45 42.3	-0.6
MDNY	**Mudanya-Bursa**	**1.33**	**256**	*e*PN	Pn	04 45 43.1	-0.1
MDNY	**Mudanya-Bursa**	**1.33**	**256**	*e*Pn	Pn	04 45 43.1	0.0
SVRH	**Sivrihisar-ESK**	**1.44**	**150**	*e*PN	Pn	04 45 44.9	0.0
SVRH	**Sivrihisar-ESK**	**1.44**	**150**	*e*Pn	Pn	04 45 44.9	+0.1
BGKT	**Bogazkoy**	**1.45**	**290**	*e*PN	Pn	04 45 44.9	+0.1
BGKT	**Bogazkoy**	**1.45**	**290**	*e*Pn	Pn	04 45 44.9	+0.1
CTKS	**Kestanelik-??a**	**1.66**	**290**	*e*PN	Pn	04 45 48.0	+0.4
CTKS	**Kestanelik-??a**	**1.66**	**290**	*e*Pn	Pn	04 45 48.0	+0.4
ALT	**Altintas**	**1.68**	**193**	*e*PN	Pn	04 45 48.3	+0.2

IDC 04 05:00:05.4±3.4,0.72S×133.20E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/17,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=202.6km s-min=23.6km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.14**	**177**	P	P	05 04 29.2	-1.1
	0.1nm,0.3s,baz=356,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**22.82**	**178**	P	P	05 05 11.1	+0.9
	0.6nm,0.6s,baz=0.8,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**64.90**	**324**	P	P	05 10 47.0	+0.2
	0.5nm,0.7s,baz=118,slow=7.7,SNR=5.1						
KURK	**Kurchatov**	**68.97**	**326**	P	P	05 11 12.3	-0.3
	0.3nm,0.6s,baz=120,slow=6.0,SNR=3.0						

*DJA **04** 05:04:11,0.05S×132.96E,h15km,mb4.6/4*

IDC 04 05:04:08.9±1.1,0.14S×133.10E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/17,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=67.3km s-min=20.1km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.72**	**177**	P	P	05 08 40.0	-0.2
	0.2nm,0.3s,baz=351,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**23.40**	**178**	P	P	05 09 20.2	+0.6
	1.9nm,0.7s,baz=356,slow=11,SNR=18						
STKA	**Stephens Creek**	**32.58**	**166**	P	P	05 10 41.6	-0.5
	1.7nm,0.8s,baz=338,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**64.38**	**324**	P	P	05 14 46.8	0.0
	0.4nm,0.8s,baz=106,slow=6.8,SNR=4.4						
KURK	**Kurchatov**	**68.44**	**326**	P	P	05 15 12.9	+0.2
	0.3nm,0.6s,baz=125,slow=5.0,SNR=3.8						
ILAR	**Eielson Array**	**85.86**	**25**	P	P	05 16 50.0	-0.3
	0.6nm,1.1s,baz=210,slow=7.1,SNR=3.0						

IDC 04 05:05:08.5±1.1,0.83S×133.25E,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.9/17,mbtmp4.0/6,ML3.9/1,Error ellipse: s-maj=62.9km s-min=19.4km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.02**	**177**	P	Pn	05 09 32.6	-0.2
	0.4nm,0.3s,baz=355,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**22.71**	**178**	P	P	05 10 12.2	+0.1
	4.6nm,0.6s,baz=4.8,slow=11,SNR=14						
STKA	**Stephens Creek**	**31.87**	**166**	P	P	05 11 35.2	-0.3
	1.8nm,0.6s,baz=351,slow=6.9,SNR=5.6						
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	05 15 49.8	-0.9
	0.6nm,0.6s,baz=112,slow=8.1,SNR=7.2						
KURK	**Kurchatov**	**69.10**	**326**	P	P	05 16 17.3	+0.8
	2.1nm,0.8s,baz=120,slow=5.8,SNR=14						
ILAR	**Eielson Array**	**86.42**	**25**	P	P	05 17 52.5	-0.2
	0.4nm,0.6s,baz=255,slow=5.0,SNR=6.6						

*IDC **04** 05:06:24.6±1.5,0.14S×133.33E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.9/17,mbtmp3.9/8,ML4.2/1,Error ellipse: s-maj=83.5km s-min=17.5km az=72.0*
*ISCJB **04** 05:06:27.5±0.7,0.2S±0.1×133.2E±0.1,h33km,mb3.8/7, Error ellipse: s-maj=19.4km s-min=10.6km az=142.4*
*NEIC **04** 05:06:29.7±0.6,0.20S×133.24E,h35km,mb4.1/2,Error ellipse: s-maj=18.2km s-min=10.1km az=54.0*

ISC 04 05:06:29.4±0.8,0.2S±0.1×133.3E±0.1,h35km,n19, σ1§07/19,mb3.8/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.29**	**250**	*e*Pn	**Pn**	**05 09 48.4**	**-1.0**
PMG	**Port Moresby**	**16.57**	**124**	*e*Pn	**Pn**	**05 10 18.4**	**-0.9**
	5.1nm,0.8s						
COEN	**Coen**	**16.81**	**145**	*e*Pn	**P**	**05 10 22.8**	**-1.3**
	30nm,0.8s						
WRA	**Warramunga Arr**	**19.62**	**177**	P	**Pn**	**05 10 57.1**	**+0.6**
	0.7nm,0.3s,baz=352,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**19.62**	**177**	P	**Pn**	**05 10 57.1**	**+0.6**
ASAR	**Alice Springs**	**23.30**	**178**	P	**P**	**05 11 36.5**	**+2.2**
	5.6nm,0.6s,baz=354,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**23.30**	**178**	P	**P**	**05 11 36.5**	**+2.2**
STKA	**Stephens Creek**	**32.45**	**167**	P	**P**	**05 12 55.5**	**-1.0**
	2.8nm,0.6s,baz=337,slow=7.8,SNR=7.3						
STKA	**Stephens Creek**	**32.45**	**167**	*e*P	**P**	**05 12 56.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P	**P**	**05 13 48.0**	**-0.6**
	0.6nm,0.4s,baz=122,slow=8.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P	**P**	**05 13 48.0**	**-0.6**
SONM	**Songino Array**	**53.27**	**338**	P	**P**	**05 15 45.1**	**+0.3**
	0.4nm,0.7s,baz=176,slow=4.3,SNR=3.5						
SONM	**Songino Array**	**53.27**	**338**	P	**P**	**05 15 45.1**	**+0.3**
MKAR	**Makanchi Array**	**64.54**	**324**	P	**P**	**05 17 03.9**	**+0.8**
	0.4nm,0.5s,baz=109,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**64.54**	**324**	P	**P**	**05 17 03.9**	**+0.8**
ZALV	**Zalesovo Beam**	**67.11**	**331**	P	**P**	**05 17 19.4**	**+0.1**
	0.3nm,0.4s,baz=164,slow=5.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**67.11**	**331**	P	**P**	**05 17 19.4**	**+0.1**
KURK	**Kurchatov**	**68.60**	**326**	P	**P**	**05 17 29.7**	**+0.9**
	0.8nm,0.8s,baz=128,slow=5.4,SNR=2.5						
KURK	**Kurchatov**	**68.60**	**326**	P	**P**	**05 17 29.7**	**+0.9**

IDC 04 05:06:39.5±7.0,5.52S×145.77E,h0km,mb3.7/2, mb1 4.0/4,mb1mx3.6/14,mbtmp3.8/4,ML4.0/1,MS3.4/1, Ms1 3.4/1,ms1mx3.2/15,Error ellipse: s-maj=97.6km s-min=56.5km az=11.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**160**	Pn	Pn	05 07 45.2	+1.8
	4.1nm,0.3s,baz=17,slow=11,SNR=32						
PMG				Sn	Sn	05 08 29.6	-2.6
	2.1nm,0.3s,baz=27,slow=19,SNR=2.4						
PMG				LR	LR	05 09 06.6	
	comp=Z,516nm,21.2s,baz=223,slow=36						
WRA	**Warramunga Arr**	**18.14**	**217**	P	Pn	05 10 51.2	-1.9
	0.5nm,0.3s,baz=45,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.36**	**211**	P	P	05 11 28.6	-0.1
	1.6nm,0.6s,baz=32,slow=13,SNR=5.5						
STKA	**Stephens Creek**	**26.51**	**188**	P	P	05 12 18.9	+0.1
	0.8nm,0.7s,baz=14,slow=8.1,SNR=3.3						

*IDC **04** 05:10:31.7±0.6,36.80N×22.21E,h0km,mb4.2/21, mb1 4.2/25,mb1mx4.2/32,mbtmp4.1/25,ML3.8/4,Error ellipse: s-maj=15.1km s-min=13.5km az=156.0*
*ISCJB **04** 05:10:33.5±0.4,36.60N±0.02×22.12E±0.02,h24km±2km, mb4.3/42,Error ellipse: s-maj=3.5km s-min=2.8km az=18.7*
*CSEM **04** 05:10:33.5±0.1,36.66N×22.12E,h10km,mb4.4/32,Ms3.9, Error ellipse: s-maj=4.4km s-min=3.0km az=42.0*
*NEIC **04** 05:10:33.5±0.2,36.73N×22.28E,h10km,mb4.3/15, ML4.1(THE),MW3.9(ATH),Error ellipse: s-maj=5.4km s-min=3.3km az=206.0*
NEIC One person killed and one injured by a falling wall at Khora Gaitson. Felt at Kalamata and Sparta.
*MOS **04** 05:10:35.1±1.1,36.75N×22.14E,h33km,mb4.4/30, MS4.1/4,Error ellipse: s-maj=10.3km s-min=4.5km az=85.0*
*THE **04** 05:10:35.7,36.80N×22.13E,h0km,ML4.1/15,Error ellipse: s-maj=1.1km s-min=0.4km az=201.0*
*TEH **04** 05:10:35.0,36.84N×22.12E,h1km,ML4.3*
*ATH **04** 05:10:35.5,36.82N×22.13E,h14km,ML4.0*
*PRU **04** 05:10:38.5,37.27N×23.59E,h0km,M4.3*
*VIE **04** 05:10:45.0±0.9,37.54N×21.63E,h10km,mb3.5/4,Ms3.9/3, Error ellipse: s-maj=9.7km s-min=6.5km az=30.0 77 km S of Patras*

ISC 04 05:10:34.6±0.5,36.82N±0.02×22.13E±0.02,h15km±3km, n542,σ1§41/556,mb4.3/42,22C-6D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.17**	**108**	P	**Pg**	**05 10 39.5**	**+0.6**
DYR				S	**Sg**	**05 10 42.7**	**+1.0**
PYL	**PYLOS**	**0.32**	**285**	P	**Pg**	**05 10 41.8**	**+0.5**
PYL				S	**Sg**	**05 10 46.8**	**+1.0**
PYL	**PYLOS**	**0.32**	**285**	*e*PB	**Pg**	**05 10 41.8**	**+0.5**
PYL				*e*SB	**Sb**	**05 10 46.9**	**-0.2**
PYL	**PYLOS**	**0.32**	**285**	P	**Pg**	**05 10 41.8**	**+0.5**
PYL				*e*Sb	**Sb**	**05 10 46.9**	**-0.2**
ITM	**Ithomi**	**0.40**	**336**	P	**Pb**	**05 10 43.6**	**+0.2**
ITM				*e*		05 10 49.7	
ITM	**Ithomi**	**0.40**	**336**	P	**Pb**	**05 10 43.6**	**+0.2**
ITM				S	**Sb**	**05 10 49.7**	**+0.3**
ITM	**Ithomi**	**0.40**	**336**	*e*PB	**Pg**	**05 10 43.4**	**+0.7**
ITM				*e*SB	**Sg**	**05 10 49.1**	**+0.9**
ITM	**Ithomi**	**0.40**	**336**	*e*Pb	**Pg**	**05 10 43.4**	**+0.7**
ITM	**Ithomi**	**0.40**	**336**	P	**Pb**	**05 10 43.7**	**+0.3**
ITM				*e*Sb	**Sg**	**05 10 49.1**	**+0.9**
ITM				S	**Sb**	**05 10 49.7**	**+0.3**
VLX	**Vlachokerasia**	**0.59**	**20**	P	**Pb**	**05 10 47.2**	**+0.5**
VLX				S	**Sb**	**05 10 56.1**	**+1.1**
VLX	**Vlachokerasia**	**0.59**	**20**	*e*PB	**Pb**	**05 10 47.3**	**+0.5**
VLX				*e*SB	**Sb**	**05 10 55.1**	**+0.1**
VLX	**Vlachokerasia**	**0.59**	**20**	*e*Pb	**Pb**	**05 10 47.3**	**+0.5**
VLX				*e*Sb	**Sb**	**05 10 55.1**	**+0.1**
VLX				S	**Sb**	**05 10 56.1**	**+1.1**
VLI	**Veliai**	**0.66**	**98**	P	**Pb**	**05 10 48.3**	**+0.5**
VLI				S	**Sb**	**05 10 57.8**	**+1.0**
VLI	**Veliai**	**0.66**	**98**	P	**Pb**	**05 10 48.3**	**+0.5**
VLI				S	**Sb**	**05 10 57.8**	**+1.0**
VLI	**Veliai**	**0.66**	**98**	*e*PB	**Pb**	**05 10 48.4**	**+0.6**
VLI				*e*SB	**Sb**	**05 10 57.5**	**+0.7**
VLI	**Veliai**	**0.66**	**98**	*e*Pb	**Pb**	**05 10 48.4**	**+0.6**
VLI				*e*Sb	**Sb**	**05 10 57.5**	**+0.7**
VLI				S	**Sb**	**05 10 57.8**	**+1.0**
KYTH	**Kithira**	**0.91**	**126**	P	**Pg**	**05 10 52.8**	**+0.6**
KYTH	**Kithira**	**0.91**	**126**	*e*PB	**Pg**	**05 10 53.0**	**+0.8**
KYTH				*e*SB	**Sg**	**05 11 05.2**	**+1.1**
KYTH	**Kithira**	**0.91**	**126**	*e*Pb	**Pg**	**05 10 53.0**	**+0.8**
DIDY	**Didyma**	**1.09**	**52**	P	**Pg**	**05 10 56.1**	**+0.4**
DIDY	**Didyma**	**1.09**	**52**	P	**Pg**	**05 10 56.6**	**+0.2**
DID	**Didima**	**1.12**	**52**	P	**Pg**	**05 10 56.6**	**+0.2**
DID				S	**Sn**	**05 11 13.5**	**+2.4**
DID	**Didima**	**1.12**	**52**	*e*PB	**Pg**	**05 10 57.1**	**+0.8**
DID				*e*SB	**Sn**	**05 11 12.1**	**+1.0**
DID	**Didima**	**1.12**	**52**	P	**Pg**	**05 10 56.5**	**+0.2**
DID	**Didima**	**1.12**	**52**	*e*Pb	**Pg**	**05 10 57.1**	**+0.8**
DID				*e*Sb	**Sn**	**05 11 12.1**	**+1.0**
DID				S	**Sg**	**05 11 13.0**	**+2.0**
GUR	**Goura**	**1.13**	**9**	P	**Pn**	**05 10 56.5**	**+0.4**
GUR				S	**Sn**	**05 11 14.0**	**+2.5**
GUR	**Goura**	**1.13**	**9**	*e*PB	**Pg**	**05 10 56.8**	**+0.3**
GUR				*e*SB	**Sn**	**05 11 12.0**	**+0.5**
GUR	**Goura**	**1.13**	**9**	P	**Pn**	**05 10 56.5**	**+0.4**
GUR	**Goura**	**1.13**	**9**	*e*Pb	**Pg**	**05 10 56.8**	**+0.3**
GUR				*e*Sb	**Sn**	**05 11 12.0**	**+0.5**
GUR				S	**Sn**	**05 11 14.0**	**+2.5**
THAL	**Thalero**	**1.29**	**19**	P	**Pg**	**05 11 00.5**	**+1.0**
THAL	**Thalero**	**1.29**	**19**	P	**Pg**	**05 11 00.9**	**+0.3**
RLS	**Riolos of Patr**	**1.35**	**337**	P	**Pg**	**05 11 00.9**	**+0.3**
RLS	**Riolos of Patr**	**1.35**	**337**	*e*PB	**Pg**	**05 11 01.1**	**+0.5**
RLS	**Riolos of Patr**	**1.35**	**337**	P	**Pg**	**05 11 00.8**	**+0.2**
RLS	**Riolos of Patr**	**1.35**	**337**	*e*Pb	**Pg**	**05 11 01.1**	**+0.5**
RLS				S	**Sg**	**05 11 20.2**	**+2.1**
LTK	**Loutraki**	**1.38**	**29**	P	**Pg**	**05 11 01.1**	**-0.1**
LTK	**Loutraki**	**1.38**	**29**	*e*PB	**Pg**	**05 11 01.8**	**+0.6**
LTK				*e*SB	**Sg**	**05 11 20.2**	**+1.1**
LTK	**Loutraki**	**1.38**	**29**	P	**Pg**	**05 11 01.0**	**-0.1**
LTK	**Loutraki**	**1.38**	**29**	*e*Pb	**Pg**	**05 11 01.8**	**+0.6**
LTK				S	**Sg**	**05 11 18.9**	**-0.2**
LTK				*e*Sb	**Sg**	**05 11 20.3**	**+1.1**
LAKA	**Lakka**	**1.43**	**355**	P	**Pb**	**05 11 01.3**	**+0.3**
LAKA				S	**Sg**	**05 11 22.5**	**+1.8**
LAKA	**Lakka**	**1.43**	**355**	P	**Pb**	**05 11 01.3**	**+0.3**
LAKA				S	**Sg**	**05 11 22.5**	**+1.8**
LAKA	**Lakka**	**1.43**	**355**	P	**Pb**	**05 11 01.3**	**+0.3**
LAKA				S	**Sg**	**05 11 22.5**	**+1.8**
NAIG	**Nisos Aigina**	**1.44**	**49**	*e*PB	**Pg**	**05 11 02.5**	**+0.2**
NAIG	**Nisos Aigina**	**1.44**	**49**	*e*Pb	**Pg**	**05 11 02.5**	**+0.2**
UPR	**University Cam**	**1.49**	**350**	*e*PB	**Pg**	**05 11 03.9**	**+0.6**
UPR	**University Cam**	**1.49**	**350**	P	**Pb**	**05 11 03.0**	**+0.9**
UPR	**University Cam**	**1.49**	**350**	*e*Pb	**Pg**	**05 11 03.9**	**+0.6**
UPR				S	**Sb**	**05 11 22.0**	**+1.2**
TRIZ	**Trizonia**	**1.55**	**358**	P	**Pb**	**05 11 03.8**	**+0.8**
TRIZ				S	**Sg**	**05 11 25.7**	**+1.2**
TRIZ	**Trizonia**	**1.55**	**358**	P	**Pb**	**05 11 03.8**	**+0.8**
TRIZ				S	**Sg**	**05 11 25.7**	**+1.2**
KALE	**Kalithea**	**1.57**	**0**	P	**Pb**	**05 11 04.1**	**+0.6**
KALE				S	**Sg**	**05 11 26.2**	**+0.8**
KALE	**Kalithea**	**1.57**	**0**	P	**Pb**	**05 11 04.1**	**+0.6**
KALE				S	**Sg**	**05 11 26.2**	**+0.8**
EFP	**Efpalio**	**1.62**	**354**	P	**Pb**	**05 11 04.8**	**+0.6**
EFP				S	**Sg**	**05 11 27.9**	**+1.1**
EFP	**Efpalio**	**1.62**	**354**	*e*PB	**Pg**	**05 11 05.1**	**-0.3**
EFP	**Efpalio**	**1.62**	**354**	P	**Pb**	**05 11 04.8**	**+0.6**
EFP	**Efpalio**	**1.62**	**354**	*e*Pb	**Pg**	**05 11 05.5**	**-0.3**
EFP				S	**Sg**	**05 11 26.5**	**-0.3**
DSF	**Desfina**	**1.62**	**11**	P	**Pb**	**05 11 05.0**	**+0.6**
DSF				S	**Sg**	**05 11 27.2**	**+0.2**
DSF	**Desfina**	**1.62**	**11**	P	**Pb**	**05 11 05.0**	**+0.6**
DSF				S	**Sg**	**05 11 27.2**	**+0.2**
VIL1	**Vilia, Western**	**1.65**	**35**	*e*PB	**Pb**	**05 11 05.3**	**+0.5**
VIL1	**Vilia, Western**	**1.65**	**35**	*e*Pb	**Pb**	**05 11 05.3**	**+0.5**
KFL	**Anninata**	**1.68**	**321**	P	**Pb**	**05 11 05.6**	**+0.4**
KFL	**Anninata**	**1.68**	**321**	P	**Pb**	**05 11 05.6**	**+0.4**
VLY	**Voula,Athens**	**1.69**	**52**	P	**Pb**	**05 11 05.6**	**+0.2**
VLY	**Voula,Athens**	**1.69**	**52**	*e*PB	**Pb**	**05 11 05.9**	**+0.5**
VLY	**Voula,Athens**	**1.69**	**52**	P	**Pb**	**05 11 05.6**	**+0.2**
VLY	**Voula,Athens**	**1.69**	**52**	*e*Pb	**Pb**	**05 11 05.9**	**+0.5**
ATH	**Athens Observa**	**1.71**	**47**	*e*PN	**Pb**	**05 11 06.8**	**+1.0**
ATH	**Athens Observa**	**1.71**	**47**	*e*Pn	**Pb**	**05 11 06.8**	**+1.0**
VLS	**Valsamata**	**1.83**	**319**	P	**Pb**	**05 11 07.3**	**-0.5**
VLS	**Valsamata**	**1.83**	**319**	*e*PN	**Pb**	**05 11 08.6**	**+0.8**
VLS	**Valsamata**	**1.83**	**319**	P	**Pb**	**05 11 07.3**	**-0.5**
VLS	**Valsamata**	**1.83**	**319**	*e*Pn	**Pb**	**05 11 08.6**	**+0.8**
PTL	**Penteli**	**1.85**	**48**	P	**Pb**	**05 11 08.3**	**0.0**
PTL	**Penteli**	**1.85**	**48**	*e*PN	**Pb**	**05 11 08.2**	**0.0**
PTL				*e*SN	**Sb**	**05 11 32.9**	**+1.7**
PTL	**Penteli**	**1.85**	**48**	*e*Pn	**Pb**	**05 11 08.2**	**0.0**
PTL				*e*Sn	**Sb**	**05 11 32.9**	**+1.7**
LKR	**Lokris**	**1.96**	**20**	P	**Pb**	**05 11 09.8**	**-0.2**
LKR				S	**Sb**	**05 11 35.8**	**+1.5**
LKR	**Lokris**	**1.96**	**20**	*e*PN	**Pb**	**05 11 10.1**	**+0.1**
LKR	**Lokris**	**1.96**	**20**	P	**Pb**	**05 11 09.8**	**-0.2**
LKR	**Lokris**	**1.96**	**20**	*e*Pn	**Pb**	**05 11 10.1**	**+0.1**
LKR				S	**Sb**	**05 11 35.8**	**+1.5**
ATAL	**Atalanti**	**2.00**	**20**	P	**Pb**	**05 11 10.2**	**-0.6**
ATAL	**Atalanti**	**2.00**	**20**	P	**Pb**	**05 11 10.2**	**-0.6**
ERET	**Eretria**	**2.10**	**39**	P	**Pb**	**05 11 11.8**	**-0.7**
ERET	**Eretria**	**2.10**	**39**	P	**Pb**	**05 11 11.8**	**-0.7**
EVR	**Evrytania**	**2.11**	**353**	*e*PG	**Pg**	**05 11 14.5**	**-0.7**
EVR	**Evrytania**	**2.11**	**353**	*e*Pg	**Pg**	**05 11 14.5**	**-0.7**
MRMA	**Marmari**	**2.18**	**55**	P	**Pb**	**05 11 12.5**	**-1.3**
MRMA	**Marmari**	**2.18**	**55**	P	**Pb**	**05 11 12.5**	**-1.3**
VAM	**Vamos**	**2.19**	**129**	P	**Pn**	**05 11 12.7**	**+2.2**
VAM	**Vamos**	**2.19**	**129**	*e*PN	**Pb**	**05 11 13.9**	**-0.1**
AGG	**Agios Georgios**	**2.21**	**4**	P	**Pb**	**05 11 13.8**	**-0.5**
AGG				S	**Sb**	**05 11 42.4**	**+0.9**
AGG	**Agios Georgios**	**2.21**	**4**	*e*PN	**Pb**	**05 11 14.3**	**0.0**
AGG	**Agios Georgios**	**2.21**	**4**	P	**Pb**	**05 11 13.8**	**-0.5**
AGG	**Agios Georgios**	**2.21**	**4**	*e*Pn	**Pb**	**05 11 14.3**	**0.0**
AGG				S	**Sb**	**05 11 42.4**	**+0.9**
MRKA	**Markates**	**2.21**	**31**	P	**Pb**	**05 11 13.4**	**-1.0**
MRKA	**Markates**	**2.21**	**31**	P	**Pb**	**05 11 13.4**	**-1.0**
LKD2	**Lefkada island**	**2.29**	**330**	P	**Pb**	**05 11 14.6**	**-1.1**
LKD2				S	**Sb**	**05 11 44.9**	**+1.1**
LKD2	**Lefkada island**	**2.29**	**330**	P	**Pb**	**05 11 14.6**	**-1.1**
LKD2				S	**Sb**	**05 11 44.9**	**+1.1**
GVD	**Gavdhos**	**2.54**	**140**	*e*Pn	**Pb**	**05 11 21.2**	**+1.4**
GVD	**Gavdhos**	**2.54**	**140**	*e*PN	**Pb**	**05 11 19.7**	**-0.1**
SKIA	**Skiathos**	**2.58**	**24**	P	**Pn**	**05 11 18.5**	**+2.7**
SKIA	**Skiathos**	**2.58**	**24**	P	**Pn**	**05 11 18.5**	**+2.7**
NEO	**Neokhori**	**2.63**	**19**	*e*PB	**Pn**	**05 11 19.3**	**+2.6**
NEO	**Neokhori**	**2.63**	**19**	*e*Pb	**Pn**	**05 11 19.3**	**+2.6**
XOR	**Xorichti**	**2.68**	**18**	P	**Pn**	**05 11 19.7**	**+2.4**
XOR				S	**Sb**	**05 11 54.2**	**-0.9**
XOR	**Xorichti**	**2.68**	**18**	P	**Pn**	**05 11 19.7**	**+2.4**
XOR				S	**Sb**	**05 11 54.2**	**-0.9**
THR2	**Thira island,**	**2.69**	**97**	P	**Pn**	**05 11 20.0**	**+2.6**
THR2	**Thira island,**	**2.69**	**97**	P	**Pn**	**05 11 20.0**	**+2.6**
THR1	**Thera Island**	**2.72**	**98**	P	**Pn**	**05 11 20.4**	**+2.6**
THR1	**Thera Island**	**2.72**	**98**	P	**Pn**	**05 11 20.4**	**+2.6**
AOS	**Alonnisos**	**2.73**	**30**	P	**Pn**	**05 11 20.1**	**+2.2**
AOS				S	**Sb**	**05 11 54.7**	**-1.7**
AOS	**Alonnisos**	**2.73**	**30**	P	**Pn**	**05 11 20.1**	**+2.2**
AOS				S	**Sb**	**05 11 54.7**	**-1.7**
APE	**Apeiranthos**	**2.74**	**84**	P	**Pn**	**05 11 19.8**	**+1.7**
APE				S	**Sb**	**05 11 55.1**	**-1.7**
APE	**Apeiranthos**	**2.74**	**84**	*e*PN	**Pn**	**05 11 21.0**	**+2.9**
APE	**Apeiranthos**	**2.74**	**84**	P	**Pn**	**05 11 19.8**	**+1.7**
APE	**Apeiranthos**	**2.74**	**84**	*e*Pn	**Pn**	**05 11 21.0**	**+2.9**
THL	**Klokotos Trika**	**2.75**	**358**	P	**Pb**	**05 11 21.3**	**-2.2**
THL	**Klokotos Trika**	**2.75**	**358**	*e*PB	**Pb**	**05 11 22.0**	**-1.5**
THL	**Klokotos Trika**	**2.75**	**358**	P	**Pb**	**05 11 21.3**	**-2.2**
THL	**Klokotos Trika**	**2.75**	**358**	*e*Pb	**Pb**	**05 11 22.0**	**-1.5**
SIVA	**Sivas**	**2.82**	**129**	P	**Pn**	**05 11 21.4**	**+2.2**
SIVA	**Sivas**	**2.82**	**129**	*e*PN	**Pb**	**05 11 22.9**	**-1.8**
JAN	**Janina**	**3.01**	**341**	*e*PN	Pn	05 11 25.2	+3.4
JAN	**Janina**	**3.01**	**341**	*e*Pn	Pn	05 11 25.2	+3.4
IGT	**Igoumenitsa**	**3.06**	**333**	P	**Pn**	**05 11 24.6**	**+2.1**
IGT	**Igoumenitsa**	**3.06**	**333**	P	**Pn**	**05 11 24.6**	**+2.1**
NPS	**Neapolis**	**3.22**	**118**	P	**Pn**	**05 11 27.2**	**+2.5**
NPS	**Neapolis**	**3.22**	**118**	*e*PN	**Pn**	**05 11 27.8**	**+3.1**
PAIG	**Paliouri**	**3.34**	**21**	P	**Pn**	**05 11 28.8**	**+2.5**
PAIG	**Paliouri**	**3.34**	**21**	P	**Pn**	**05 11 28.8**	**+2.5**
SRN	**Sarande**	**3.49**	**332**	*e*PN	**Pn**	**05 11 28.2**	**-0.1**
SRN	**Sarande**	**3.49**	**332**	*e*Pn	**Pn**	**05 11 28.2**	**-0.1**
CHOS	**Chios island**	**3.49**	**62**	P	**Pn**	**05 11 30.8**	**+2.3**
CHOS	**Chios island**	**3.49**	**62**	*e*PN	**Pn**	**05 11 31.0**	**+2.5**
CHOS	**Chios island**	**3.49**	**62**	P	**Pn**	**05 11 30.8**	**+2.3**
KZN	**Kozani**	**3.50**	**356**	P	**Pn**	**05 11 31.5**	**+2.9**
KZN	**Kozani**	**3.50**	**356**	*e*PN	Pn	05 11 31.9	+3.3
KZN	**Kozani**	**3.50**	**356**	P	**Pn**	**05 11 31.5**	**+2.9**
KZN	**Kozani**	**3.50**	**356**	*e*Pn	Pn	05 11 31.9	+3.3
PLG	**Polygyros**	**3.70**	**16**	P	**Pn**	**05 11 33.8**	**+2.5**
PLG	**Polygyros**	**3.70**	**16**	*e*PN	**Pn**	**05 11 34.0**	**+2.7**
PLG	**Polygyros**	**3.70**	**16**	P	**Pn**	**05 11 33.8**	**+2.5**
ZKR	**Zakros**	**3.73**	**116**	*e*PN	Pn	05 11 35.2	+3.5
HORT	**Hortiatis**	**3.85**	**11**	P	**Pn**	**05 11 36.0**	**+2.5**
HORT	**Hortiatis**	**3.85**	**11**	P	**Pn**	**05 11 36.0**	**+2.5**
SMG	**Samos**	**3.86**	**75**	*e*PN	**Pn**	**05 11 36.3**	**+2.8**
SMG	**Samos**	**3.86**	**75**	*e*Pn	**Pn**	**05 11 36.3**	**+2.8**
LIA	**Limnos Island**	**3.90**	**37**	*e*PN	**Pn**	**05 11 35.8**	**+1.7**
LIA	**Limnos Island**	**3.90**	**37**	*e*Pn	**Pn**	**05 11 35.8**	**+1.7**
PRK	**Paraskevi**	**4.07**	**52**	P	**Pn**	**05 11 38.5**	**+2.0**
PRK	**Paraskevi**	**4.07**	**52**	*e*PN	**Pn**	**05 11 38.4**	**+2.0**
PRK	**Paraskevi**	**4.07**	**52**	*e*Pn	**Pn**	**05 11 38.4**	**+2.0**
BIA	**Bitola**	**4.25**	**352**	*i* Pn	Pn	05 11 43.4	+4.5
BIA				*e*Sn	**Sn**	**05 12 32.1**	**+3.9**
BIA	**Bitola**	**4.25**	**352**	*i* Pn	Pn	05 11 43.3	+4.5
BIA				*e*Sn	**Sn**	**05 12 32.0**	**+3.9**
KARP	**Karpathos**	**4.26**	**106**	*e*PN	Pn	05 11 42.6	+3.5
VAY	**Valandovo**	**4.51**	**4**	*i* Pn	**Pn**	**05 11 44.9**	**+2.5**
VAY	**Valandovo**	**4.51**	**4**	*i* Pn	**Pn**	**05 11 45.4**	**+3.0**
KRUS	**Krusevo**	**4.60**	**352**	*i* Pn	**Pn**	**05 11 45.3**	**+1.5**
KRUS	**Krusevo**	**4.60**	**352**	*i* Pn	**Pn**	**05 11 45.2**	**+1.5**
NVR	**Nevrokopi**	**4.72**	**16**	*e*PN	Pn	05 11 49.3	+3.9
NVR	**Nevrokopi**	**4.72**	**16**	*e*Pn	Pn	05 11 49.3	+3.9
TIP	**Timpagrande**	**4.85**	**301**	*e*Pn	**Pn**

KOLL Kolacno 12.07 348 *e*PN Pn 05 13 30.6 +4.6
KOLL Kolacno 12.07 348 *e*SN **Sn** **05 15 38.0 -2.3**
CRVS Cervenica-Dubn 12.09 358 *e*P **Pn** **05 13 28.9 +2.6**
CRVS Cervenica-Dubn 12.09 358 *e*PN **Pn** **05 13 28.9 +2.6**
CRVS Cervenica-Dubn 12.09 358 *e*P **Pn** **05 13 28.9 +2.6**
MOA Molln 12.46 335⇑ *i*Pn **Pn** **05 13 31.2 -0.2**
MOA Molln 12.46 335 Pn **Pn** **05 13 31.2 -0.2**
STHS Stebnicka Huta 12.61 357 *e*P **P** **05 13 43.6 -1.3**
STHS Stebnicka Huta 12.61 357 *e* **P** **05 13 43.6 -1.3**
EIL Elat 12.88 120 Pn Pn 05 13 34.1 -3.0
comp=Z,0.9nm,0.3s,baz=358,slow=10,SNR=4.4
EIL Sn Sn 05 15 51.8 -8.5
comp=Z,1.2nm,0.3s,baz=70,slow=7.4,SNR=5.5
EIL Elat 12.88 120 Pn Pn 05 13 34.1 -3.0
EIL Sn Sn 05 15 51.8 -8.5
EIL Elat 12.88 120 Pn Pn 05 13 34.2 -3.0
ASF Jabal al Asfar 13.03 106 Sn Sn 05 15 58.5 -5.6
comp=Z,0.1nm,0.3s,baz=122,slow=23,SNR=1.8
ASF Jabal al Asfar 13.03 106 Sn Sn 05 15 58.5 -5.6
OKC Ostrava-Krasne 13.33 349 *e*P **P** **05 13 54.3 +1.4**
OKC MLR MLR
comp=Z,2µm,19.4s
OKC Ostrava-Krasne 13.33 349 *e*P **P** **05 13 54.3 +1.4**
OKC *ex* x 05 14 00.2 -
MORC Moravsky Berou 13.38 347 *e*P **P** **05 13 55.5 +2.1**
MORC Moravsky Berou 13.38 347 *e*Pn **P** **05 13 55.5 +2.1**
MORC Moravsky Berou 13.38 347⇑ *i*P **P** **05 13 55.5 +2.1**
TREC Trest 13.38 341 *e*P **P** **05 13 54.7 +1.3**
TREC Trest 13.38 341 *e*P **P** **05 13 54.7 +1.3**
DAVOX Davos/Dischmat 13.50 321 Pn **Pn** **05 13 48.1 +2.4**
comp=Z,0.2nm,0.3s,baz=132,slow=21,SNR=6.5
DAVOX Sn Sn 05 16 05.3 -10
comp=Z,0.3nm,0.3s,baz=152,slow=18,SNR=3.1
DAVOX Davos/Dischmat 13.50 321 P **Pn** **05 13 48.1 +2.4**
DAVOX Davos/Dischmat 13.50 321 Pn **Pn** **05 13 48.1 +2.4**
DAVOX Sn Sn 05 16 05.3 -10
DAVOX Davos/Dischmat 13.50 321 P **Pn** **05 13 48.1 +2.4**
GERES GERESS Array B 13.51 336 Pn **Pn** **05 13 46.2 +0.4**
comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=5.8
GERES Sn Sn 05 16 07.6 -8.0
comp=Z,0.1nm,0.3s,baz=150,slow=24,SNR=2.1
GERES GERESS Array B 13.51 336 P **Pn** **05 13 46.2 +0.4**
GERES GERESS Array B 13.51 336 Pn **Pn** **05 13 46.2 +0.4**
GERES Sn Sn 05 16 07.6 -8.0
GERES GERESS Array B 13.51 336 P **Pn** **05 13 46.2 +0.4**
TUE Stuetta 13.56 319 *e*Pn **Pn** **05 13 48.0 +1.4**
TUE Stuetta 13.56 319 *e*Pn **Pn** **05 13 48.0 +1.4**
KHC Kasperske Hory 13.80 336 *e*P **Pn** **05 13 51.4 +1.8**
KHC MLR MLR
comp=Z,2µm,17.7s
KHC Kasperske Hory 13.80 336 *e*Pn P 05 13 55.1 -3.0
KHC Kasperske Hory 13.80 336 *e*P **Pn** **05 13 51.4 +1.8**
KHC *ex* x 05 13 59.3
KHC Kasperske Hory 13.80 336 *e*P **Pn** **05 13 51.4 +1.8**
comp=Z,2µm,17.7s
ANN Anapa 14.06 51 *e*P Pn 05 13 49.0 -4.2
ANN pmax pmax
comp=Z,50nm,1.3s
DPC Dobruska-Polom 14.16 345 *e*P **P** **05 14 01.5 -0.7**
DPC Dobruska-Polom 14.16 345 *e*Pn **P** **05 14 01.9 -0.2**
DPC Dobruska-Polom 14.16 345 *e*P **P** **05 14 01.5 -0.7**
DPC *e*pP pP 05 14 09.3
DPC Dobruska-Polom 14.16 345 *e*P **P** **05 14 01.5 -0.7**
PRU Pruhonice 14.26 340 *e*P **P** **05 14 03.9 +0.7**
PRU Pruhonice 14.26 340 *e*P **P** **05 14 03.9 +0.7**
PRU *e*pP pP 05 14 08.5
PRU Pruhonice 14.26 340 *e*P **P** **05 14 03.9 +0.7**
UPC Upice 14.38 344 *e*P **P** **05 14 06.3 +1.8**
UPC Upice 14.38 344 *e*P **P** **05 14 06.3 +1.8**
UPC *e*pP pP 05 14 12.0
UPC Upice 14.38 344 *e*P **P** **05 14 06.3 +1.8**
LPG La Plagne 14.45 312 *e*P **Pn** **05 14 01.3 +2.4**
SMRF Simiane la Rot 14.49 305 *e*P Pn 05 14 02.4 +3.3
comp=Z,30nm,1.2s
KSP Ksiaz 14.63 345 *e*P **P** **05 14 09.2 +1.9**
KSP Ksiaz 14.63 345 *e*P **P** **05 14 09.2 +1.9**
KSP Ksiaz 14.63 345 *e*P **P** **05 14 09.2 +1.9**
ORIF Oris-en-Rattie 14.70 308 *e*P **Pn** **05 14 04.6 +2.5**
KIEV Kiev 14.78 18 *e*P **Pn** **05 14 02.9 -0.1**
KIEV Kiev 14.78 18 *e*Pn **Pn** **05 14 02.9 -0.1**
KIEV Kiev 14.78 18 *e*Pn **Pn** **05 14 02.9 -0.1**
AKASG Malin Array Be 14.79 18 Pn **Pn** **05 14 05.3 +2.2**
comp=Z,1.9nm,0.3s,baz=214,slow=11,SNR=7.3
AKASG Malin Array Be 14.79 18 P **Pn** **05 14 05.3 +2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 14.79 18 Pn **Pn** **05 14 05.3 +2.2**
AKASG Malin Array Be 14.79 18 Pn **Pn** **05 14 05.3 +2.2**
AKBB Malin Array Si 14.79 18 *e*P **Pn** **05 14 03.0 -0.1**
AKBB Malin Array Si 14.79 18 *e*Pn **Pn** **05 14 03.0 -0.1**
AKBB Malin Array Si 14.79 18 *e*Pn **Pn** **05 14 03.0 -0.1**
NKC Novy Kostel 15.12 336 *e*P **P** **05 14 12.7 -0.1**
NKC Novy Kostel 15.12 336 *e*P **P** **05 14 12.7 -0.1**
NKC Novy Kostel 15.12 336 *e*P **P** **05 14 12.7 -0.1**
BRG Berggiesshubel 15.23 340 *i*P **P** **05 14 14.5 +0.6**
comp=Z,5.8nm,0.8s
BRG MLR MLR
comp=Z,742nm,22.1s
BRG pmax pmax
comp=N,577nm,19.9s
BRG MLR MLR
comp=E,337nm,19.9s
BRG Berggiesshubel 15.23 340 *i*P **P** **05 14 14.5 +0.6**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG MLR MLR
comp=Z,742nm,22.1s
BRG MLR MLR
comp=N,577nm,19.9s
BRG MLR MLR
comp=E,337nm,19.9s
BRG Berggiesshubel 15.23 340 *i*P **P** **05 14 14.5 +0.6**
comp=E,742nm,22.1s
CABF La Chapelle 15.44 314 *e*P **Pn** **05 14 14.2 +2.2**
comp=E,19nm,1.1s
HINF Hinteralfeld 15.73 319 *e*P **P** **05 14 18.7 -0.9**
comp=E,12nm,0.8s
ECH Echery 15.83 321 *e*P **P** **05 14 21.9 +1.2**
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 15.83 321 *e*Pn **P** **05 14 21.9 +1.2**
comp=Z,5.6nm,0.9s
ECH Echery 15.83 321 *e*P **P** **05 14 21.9 +1.2**
comp=Z,6.0nm,0.9s
CLL Collm 15.88 339 *i*P **P** **05 14 22.6 +1.4**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,2µm,19.1s
CLL Collm 15.88 339 *i*sP **P** **05 14 22.6 +1.4**
comp=Z,11nm,1.0s
CLL *e*PP **pP** **05 14 26.0 +0.7**
CLL *es*PP 05 14 29.0
CLL LmV 05 23 00.0
comp=Z,200nm,18.7s
CLL Collm 15.88 339 *i*P **P** **05 14 22.6 +1.4**
comp=Z,2µm,19.1s
CDF Champ du Feu 15.90 321 *e*P **P** **05 14 20.4 -1.1**
comp=Z,18nm,1.1s
HAU Haudompre 16.12 319 *e*P **Pn** **05 14 21.7 +1.1**
comp=Z,21nm,0.7s
RUE Ruedersdorf 16.73 342 *e*Pn **P** **05 14 31.3 +0.7**
comp=Z,42nm,1.5s
RUE Ruedersdorf 16.73 342 *e*Pn **P** **05 14 31.3 +0.7**
comp=Z,42nm,1.5s
PAGF Fort de Pagny 16.78 319 *e*P **P** **05 14 31.2 0.0**
comp=Z,5.5nm,0.9s
SFTF Sexfontaines 16.94 318 *e*P **P** **05 14 33.8 +0.9**
comp=Z,28nm,0.9s
LOR Lormes 17.08 313 *e*P **P** **05 14 34.9 +0.3**
MEZF Maizieres J'vi 17.11 318 *e*P **P** **05 14 35.4 +0.6**
comp=Z,16nm,0.7s,baz=128
SSF Saint Saulge 17.18 312 *e*P **P** **05 14 36.5 +0.8**
comp=Z,16nm,1.1s
KIV Kislovodsk 17.19 59⇑ *e*P **P** **05 14 39.9 +4.1**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV Kislovodsk 17.19 59 *e*Pn **Pn** **05 14 32.0 -2.2**
KIV Kislovodsk 17.19 59 *e*Pn **Pn** **05 14 32.0 -2.2**
SUW Suwalki 17.21 2 *e*P **P** **05 14 36.3 +0.4**
SUW Suwalki 17.21 2 *e*P **P** **05 14 36.3 +0.4**
SUW Suwalki 17.21 2 *e*P **P** **05 14 36.3 +0.4**
WLF Walferdange 17.28 323 P **P** **05 14 40.0 +3.3**
comp=Z,11nm,1.7s
WLF Walferdange 17.28 323 *e*P **P** **05 14 38.2 +1.5**
WLF Walferdange 17.28 323 *e*Pn **P** **05 14 38.2 +1.5**
WLF Walferdange 17.28 323 *e*P **P** **05 14 38.2 +1.5**
ZEI Tsey 17.74 64 *e*P **P** **05 14 44.6 +2.6**
ZEI pmax pmax
comp=Z,22nm,0.9s
MEM Membach 18.00 325 P **P** **05 14 46.4 +1.8**
GNI Garni 18.01 72⇑ *e*P P 05 14 51.2 +6.2
GNI pmax pmax
comp=Z,17nm,1.2s
GNI Garni 18.01 72 *e*P **Pn** **05 14 42.8 -1.7**
comp=Z,24nm,1.3s
GNI Garni 18.01 72 *e*P **Pn** **05 14 42.8 -1.7**
comp=Z,24nm,1.3s
LFF La Frestale 18.06 303 *e*P **P** **05 14 48.1 +2.8**
DOU Dourbes 18.33 322 P **P** **05 14 49.2 +1.0**
comp=Z,6.6nm,1.2s
ETSF Etsaut 18.42 296 *e*P **Pn** **05 14 52.6 +3.1**
BAIF Baives 18.50 321 *e*P **Pn** **05 14 51.0 +0.7**
SJPF Ste Jean 18.94 297 *e*P **Pn** **05 14 59.1 +3.3**
comp=Z,18nm,1.0s
IDHR Dehrash 19.79 89 *e*P **P** **05 15 04.6 0.0**
IDHR Dehrash 19.79 89 *e*P **P** **05 15 04.6 0.0**
IHRS Heris 19.80 78 *e*P **P** **05 15 03.8 -0.9**
IHRS Heris 19.80 78 *e*P **P** **05 15 03.8 -0.9**
IGHG Ghaleghazi 20.02 90 *e*P **P** **05 15 06.8 -0.4**
IGHG Ghaleghazi 20.02 90 *e*P **P** **05 15 06.8 -0.4**
TAM Tamanrasset 20.03 230 *e*P **P** **05 15 08.2 +1.0**
TAM pmax pmax
comp=Z,3.0nm,1.1s
TAM Tamanrasset 20.03 230 *e*P **P** **05 15 08.2 +1.0**
comp=Z,3.2nm,1.1s
LDF La Druitiere 20.07 313 *e*P **P** **05 15 07.5 +0.2**
comp=Z,7.0nm,0.5s
IVIS Veis 20.20 89 *e*P **P** **05 15 08.9 -0.1**
IVIS Veis 20.20 89 *e*P **P** **05 15 08.9 -0.1**
ILIN Lien 20.20 88 *e*P **P** **05 15 09.2 0.0**
ILIN Lien 20.20 88 *e*P **P** **05 15 09.2 0.0**
FLN La Foliniere 20.36 313 *e*P **P** **05 15 11.8 +1.4**
ESDC Sonseca Array 20.67 286 P **P** **05 15 14.2 +0.3**
comp=Z,2.4nm,0.8s,baz=83,slow=10,SNR=7.0
ESDC Sonseca Array 20.67 286 P **P** **05 15 14.2 +0.3**
ESDC Sonseca Array 20.67 286 P **P** **05 15 14.2 +0.3**
OBN Obninsk 20.80 24⇑ *e*P Pn 05 15 18.5 +0.9
OBN *e* 05 15 36.7
OBN *e*S Sn 05 19 09.7 -2.2
OBN pmax pmax
comp=Z,15nm,1.0s
OBN Obninsk 20.80 24 *e*P Pn 05 15 18.5 +0.9
comp=Z,15nm,1.0s
OBN *e*S Sn 05 19 09.7 -2.2
IKOM Komasi 20.82 90 *e*P **P** **05 15 15.4 -0.4**
IKOM Komasi 20.82 90 *e*P **P** **05 15 15.4 -0.4**
SGMF Saint Gilles 21.39 310 *e*P **P** **05 15 24.7 +3.2**
QUIF Quistinic 21.63 309 *e*P **P** **05 15 24.0 -0.2**
comp=Z,55nm,1.1s
ROSF Rostrenen 21.86 310 *e*P **P** **05 15 29.8 +3.2**
MIB Mutribah 22.16 101 *e*P **P** **05 15 27.8 -2.3**
MIB AMb AMB 05 15 34.5
comp=Z,30nm,1.0s
NAY Al-Naaiem 22.33 102 *e*P **P** **05 15 31.1 -0.7**
NAY AMb AMB 05 15 36.1
comp=Z,32nm,0.8s
HFS Hagfors 23.96 350 P **P** **05 15 47.2 -0.9**
comp=Z,7.1nm,0.4s,baz=153,slow=10.0,SNR=34
HFS Hagfors 23.96 350 P **P** **05 15 47.2 -0.9**
HFS pmax pmax
comp=Z,7.0nm,0.4s
HFS Hagfors 23.96 350 P **P** **05 15 47.2 -0.9**
HFS Hagfors 23.96 350 P **P** **05 15 47.2 -0.9**
comp=Z,7.0nm,0.4s
IKLH Kolahrood 24.31 89 *e*P **P** **05 15 53.4 +1.4**
FINES FINESS Array B 24.78 5 P **P** **05 15 55.2 -0.4**
comp=Z,4.4nm,0.6s,baz=180,slow=8.7,SNR=26
FINES PcP **PcP** 05 19 31.3 -0.4
comp=Z,2.3nm,0.9s,baz=191,slow=3.7,SNR=3.1
FINES FINESS Array B 24.78 5 P **P** **05 15 55.2 -0.4**
FINES 05 19 31.3
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 24.78 5 P **P** **05 15 55.2 -0.4**
FINES PcP **PcP** 05 19 31.3 -0.4
FINES FINESS Array B 24.78 5 P **P** **05 15 55.2 -0.4**
comp=Z,4.0nm,0.6s
FINES FINESS Array B 24.78 5 PcP **PcP** **05 19 31.3 -0.4**
comp=Z,2.0nm,1.0s
NAO01 NORSAR Array S 25.09 347 *e*P **P** **05 15 57.9 -0.5**
comp=Z,4.0nm,0.4s
NAO01 NORSAR Array S 25.09 347 *e*P **P** **05 15 57.9 -0.5**
comp=Z,4.0nm,0.4s
NB2 NORSAR Subarra 25.21 348 P **P** **05 15 58.9 -0.7**
comp=Z,0.6nm,0.4s,baz=152,slow=10
NB2 NORSAR Subarra 25.21 348 P **P** **05 15 58.9 -0.7**
comp=Z,0.6nm,0.4s,SNR=2.6
NOA NORSAR Array B 25.21 348 P **P** **05 15 58.7 -0.9**
comp=Z,3.5nm,0.6s,baz=152,slow=7.5,SNR=28
NOA NORSAR Array B 25.21 348 P **P** **05 15 58.7 -0.9**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 25.21 348 P **P** **05 15 58.7 -0.9**
NOA NORSAR Array B 25.21 348 P **P** **05 15 58.7 -0.9**
comp=Z,4.0nm,0.6s
KAF Kangasniemi 25.46 5 *e*P **P** **05 16 00.6 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 25.46 5 *e*p **P** **05 16 00.6 -1.1**
comp=Z,2.3nm,0.5s
KAF Kangasniemi 25.46 5 *e*p **P** **05 16 00.6 -1.1**
comp=Z,2.3nm,0.5s
KAF Kangasniemi 25.46 5 *e*P **P** **05 16 00.6 -1.1**
comp=Z,2.0nm,0.5s
DLF Lyons Farm 25.86 319 *e*P **P** **05 16 06.0 +0.6**
JOF Joensuu 26.74 9 *e*P **P** **05 16 12.6 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 26.74 9 *e*p **P** **05 16 12.6 -0.7**
comp=Z,1.8nm,0.5s
JOF Joensuu 26.74 9 *e*p **P** **05 16 12.6 -0.7**
comp=Z,1.8nm,0.5s
JOF Joensuu 26.74 9 *e*P **P** **05 16 12.6 -0.7**
comp=Z,2.0nm,0.5s
AKTK Aktyubinsk 29.02 51 P **P** **05 16 32.8 -1.1**
AKTO Aktyubinsk 29.02 51 P **P** **05 16 32.8 -1.1**
comp=Z,0.4nm,0.4s,baz=253,slow=11,SNR=3.1
AKTO Aktyubinsk 29.02 51 P **P** **05 16 32.8 -1.1**
AKTO Aktyubinsk 29.02 51 P **P** **05 16 32.8 -1.1**
AKTO Aktyubinsk 29.02 51 P **P** **05 16 32.8 -1.1**
TORD Torodi Ar. Bea 29.84 223 P **P** **05 16 41.0 -0.4**
comp=Z,1.5nm,0.7s,baz=33,slow=9.4,SNR=14
TORD Torodi Ar. Bea 29.84 223 P **P** **05 16 41.0 -0.4**
TORD Torodi Ar. Bea 29.84 223 P **P** **05 16 41.0 -0.4**
ARU Arti 31.26 39 *e*P **P** **05 16 53.1 -0.5**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 31.26 39 *e*P **P** **05 16 53.1 -0.5**
comp=Z,2.6nm,0.6s
ARU Arti 31.26 39 *e*P **P** **05 16 53.1 -0.5**
comp=Z,2.6nm,0.6s
ARCES ARCESS Array B 32.83 2 P **P** **05 17 07.1 -0.2**
comp=Z,4.1nm,0.5s,baz=192,slow=9.3,SNR=40
ARCES PcP **PcP** **05 19 50.7 -1.0**
comp=Z,3.4nm,1.0s,baz=197,slow=1.9,SNR=1.1
ARCES ARCESS Array B 32.83 2 P **P** **05 17 07.1 -0.2**
ARCES 05 19 50.7
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 32.83 2 P **P** **05 17 07.1 -0.2**
ARCES PcP **PcP** **05 19 50.7 -1.0**
ARCES ARCESS Array B 32.83 2 P **P** **05 17 07.1 -0.2**
comp=Z,4.0nm,0.5s
ARCES ARCESS Array B 32.83 2 PcP **PcP** **05 19 50.7 -1.0**
comp=Z,3.0nm,1.0s
KEV Kevo 33.11 3 *e*P **P** **05 17 09.0 -0.6**
KEV pmax pmax
comp=Z,5.0nm,0.5s
KEV Kevo 33.11 3 *e*p **P** **05 17 09.0 -0.6**
comp=Z,4.6nm,0.5s
KEV Kevo 33.11 3 *e*p **P** **05 17 09.0 -0.6**
comp=Z,4.6nm,0.5s
KEV Kevo 33.11 3 *e*P **P** **05 17 09.0 -0.6**
comp=Z,5.0nm,0.5s
BRVK Borovoye 36.98 48 *e*P **P** **05 17 43.4 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 36.98 48 *e*P **P** **05 17 43.4 +0.2**
comp=Z,4.1nm,0.7s
BRVK Borovoye 36.98 48 *e*P **P** **05 17 43.4 +0.2**
comp=Z,4.1nm,0.7s
BVAR Borovoye Array 37.04 48 P **P** **05 17 43.5 -0.3**
comp=Z,1.9nm,0.7s,baz=252,slow=7.4,SNR=7.5
BVAR Borovoye Array 37.04 48 P **P** **05 17 43.5 -0.3**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 37.04 48 P **P** **05 17 43.5 -0.3**
BVAR Borovoye Array 37.04 48 P **P** **05 17 43.5 -0.3**
comp=Z,2.0nm,0.7s
KKAR Karatay Array 37.20 65 *e*P **P** **05 17 45.6 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 37.20 65 *e*P **P** **05 17 45.5 +0.3**
comp=Z,1.7nm,0.4s
KKAR Karatay Array 37.20 65 *e*P **P** **05 17 45.5 +0.3**
comp=Z,1.7nm,0.4s
DBIC Dimbokro 38.81 226 P **P** **05 17 58.5 -0.5**
comp=Z,4.0nm,1.0s,baz=2.0,slow=5.8,SNR=3.1
DBIC Dimbokro 38.81 226 P **P** **05 17 58.5 -0.5**
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 38.81 226 P **P** **05 17 58.5 -0.5**
DBIC Dimbokro 38.81 226 P **P** **05 17 58.5 -0.5**
comp=Z,4.0nm,1.0s
LIC Lamto 39.27 226 *e*P P 05 18 08.4 +5.5
AAK Ala-Archa 40.16 65⇑ *e*P P 05 18 17.2 +6.9
AAK pmax pmax
comp=Z,21nm,1.7s
KMBO Kilima Mbogo 40.28 156 *e*P **P** **05 18 12.1 +0.6**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 40.28 156 *e*P **P** **05 18 12.1 +0.6**
comp=Z,3.3nm,1.1s
KURK Kurchatov 42.08 52 P **P** **05 18 24.5 -1.2**
comp=Z,3.8nm,0.7s,baz=277,slow=8.7,SNR=22
KURK Kurchatov 42.08 52⇑ *e*P P 05 18 30.7 +4.9
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 42.08 52 *e*P **P** **05 18 24.7 -1.1**
comp=Z,2.6nm,0.6s
KURK Kurchatov 42.08 52 *e*P **P** **05 18 24.7 -1.1**
comp=Z,2.5nm,0.6s
NVS Novosibirsk 44.69 46⇑ *i*P **P** **05 18 45.4 -1.3**
NVS pmax pmax
comp=Z,14nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.9s
NVS Novosibirsk 44.69 46 *i*P **P** **05 18 45.4 -1.3**
comp=E,2.0nm,0.8s
MK31 Makanchi Array 44.94 58 *e*P **P** **05 18 47.8 -1.1**
MK31 Makanchi Array 44.94 58 *e*P **P** **05 18 47.8 -1.1**
MK31 Makanchi Array 44.94 58 *e*P **P** **05 18 47.8 -1.1**
MKAR Makanchi Array 44.94 58 P **P** **05 18 47.9 -1.0**
comp=E,1.5nm,0.5s,baz=274,slow=7.6,SNR=27
MKAR PcP **PcP** 05 20 29.5 -0.6
comp=E,0.7nm,0.5s,baz=262,slow=3.8,SNR=3.1
MKAR Makanchi Array 44.94 58 P **P** **05 18 47.9 -1.0**
MKAR 05 20 29.5
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 44.94 58 P **P** **05 18 47.9 -1.0**
MKAR PcP **PcP** 05 20 29.5 -0.6
MKAR Makanchi Array 44.94 58 P **P** **05 18 47.9 -1.0**
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.94 58 PcP **PcP** **05 20 29.5 -0.6**
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 45.66 47 *e*P **P** **05 18 53.1 -1.4**
ZAA0 Zalesovo Array 45.66 47 *e*P **P** **05 18 53.1 -1.4**
ZALV Zalesovo Beam 45.66 47 P **P** **05 18 53.5 -1.0**
comp=Z,4.2nm,0.4s,baz=273,slow=9.0,SNR=29
ZALV Zalesovo Beam 45.66 47 P **P** **05 18 53.5 -1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 45.66 47 P **P** **05 18 53.5 -1.0**
ZALV Zalesovo Beam 45.66 47 P **P** **05 18 53.5 -1.0**
comp=Z,4.0nm,0.4s
DANN Dangsing 51.84 81 *e*P **P** **05 19 42.2 -0.5**
DANN Dangsing 51.84 81 *e*P **P** **05 19 42.2 -0.5**
DANN Dangsing 51.84 81 *e*P **P** **05 19 42.2 -0.5**
KOLN Koldanda 51.97 81 *e*P **P** **05 19 42.6 -0.9**
comp=Z,9.3nm,0.5s
KOLN Koldanda 51.97 81 *e*P **P** **05 19 42.6 -0.9**
comp=Z,9.3nm,0.5s
KOLN Koldanda 51.97 81 *e*P **P** **05 19 42.6 -0.9**
comp=Z,9.3nm,0.5s
GKN Gorkha 52.68 80 *e*P **P** **05 19 48.0 -0.8**
comp=Z,17nm,0.5s
GKN Gorkha 52.68 80 *e*P **P** **05 19 48.0 -0.8**
comp=Z,17nm,0.5s
GKN Gorkha 52.68 80 *e*P **P** **05 19 48.0 -0.8**
comp=Z,17nm,0.5s
DMN Daman 53.23 81 *e*P **P** **05 19 52.2 -0.8**
comp=Z,32nm,0.7s
DMN Daman 53.23 81 *e*P **P** **05 19 52.2 -0.8**
comp=Z,32nm,0.7s
DMN Daman 53.23 81 *e*P **P** **05 19 52.2 -0.8**
comp=Z,32nm,0.7s
KKN Kakani 53.29 80 *e*P **P** **05 19 52.3 -1.0**
KKN Kakani 53.29 80 *e*P **P** **05 19 52.3 -1.0**
KKN Kakani 53.29 80 *e*P **P** **05 19 52.3 -1.0**
KKN Kakani 53.29 80 *e*P **P** **05 19 52.3 -1.0**
PKI Pulchoki 53.49 81 *e*P **P** **05 19 53.5 -1.4**
PKI Pulchoki 53.49 81 *e*P **P** **05 19 53.5 -1.4**
PKI Pulchoki 53.49 81 *e*P **P** **05 19 53.5 -1.4**
PKI Pulchoki 53.49 81 *e*P **P** **05 19 53.5 -1.4**
GUN Gumba 53.71 80 *e*P **P** **05 19 55.6 -1.0**
GUN Gumba 53.71 80 *e*P **P** **05 19 55.6 -1.0**
GUN Gumba 53.71 80 *e*P **P** **05 19 55.6 -1.0**
JIRN Jiri 54.07 80 *e*P **P** **05 19 58.3 -0.9**
comp=Z,12nm,0.5s
JIRN Jiri 54.07 80 *e*P **P** **05 19 58.3 -0.9**
comp=Z,12nm,0.5s
JIRN Jiri 54.07 80 *e*P **P** **05 19 58.3 -0.9**
comp=Z,12nm,0.5s
RAMN Ramite 54.71 81 *e*P **P** **05 20 02.4 -1.4**
comp=Z,27nm,0.8s
RAMN Ramite 54.71 81 *e*P **P** **05 20 02.4 -1.4**
comp=Z,27nm,0.8s
RAMN Ramite 54.71 81 *e*P **P** **05 20 02.4 -1.4**
comp=Z,27nm,0.8s
TAPN Taplejung 55.41 80 *e*P **P** **05 20 07.9 -1.0**
TAPN Taplejung 55.41 80 *e*P **P** **05 20 07.9 -1.0**
TAPN Taplejung 55.41 80 *e*P **P** **05 20 07.9 -1.0**
SCHQ Schefferville 60.33 318 P **P** **05 20 42.5 -0.2**
comp=Z,3.4nm,0.8s,baz=46,slow=12,SNR=5.6
SCHQ Schefferville 60.33 318 P **P** **05 20 42.5 -0.2**
SCHQ Schefferville 60.33 318 P **P** **05 20 42.5 -0.2**
SONM Songino Array 60.34 50 P **P** **05 20 41.9 -1.1**
comp=Z,0.8nm,0.7s,baz=282,slow=7.8,SNR=8.3
SONM Songino Array 60.34 50 P **P** **05 20 41.9 -1.1**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 60.34 50 P **P** **05 20 41.9 -1.1**
SONM Songino Array 60.34 50 P **P** **05 20 41.9 -1.1**
comp=Z,1.0nm,0.7s
BOD Bodaibo 60.66 38 *e*P P 05 20 41.8 -3.1
BOD pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 60.73 50 *e*P **P** **05 20 45.2 -0.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 60.73 50 *e*P **P** **05 20 45.2 -0.5**
comp=Z,2.1nm,0.9s
ULN Ulaanbaatar 60.73 50 *e*P **P** **05 20 45.2 -0.5**
comp=Z,2.0nm,0.9s
RES Resolute Bay 61.43 344 *e*P **P** **05 20 50.4 +0.6**
RES pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 61.43 344 *e*P **P** **05 20 50.4 +0.6**
comp=Z,1.4nm,0.6s
RES Resolute Bay 61.43 344 *e*P **P** **05 20 50.4 +0.6**
comp=Z,1.4nm,0.6s
BOSA Boshof 65.15 177 P **P** **05 21 14.7 -0.4**
comp=Z,1.2nm,0.6s,baz=188,slow=6.8,SNR=5.7
BOSA Boshof 65.15 177 P **P** **05 21 14.7 -0.4**
BOSA pmax pmax

	comp=Z,1.0nm,0.6s								
BOSA	**Boshof**		**65.15**	**177**	P	**P**		**05 21 14.7**	**-0.4**
BOSA	**Boshof**		**65.15**	**177**	P	**P**		**05 21 14.7**	**-0.4**
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**		**68.81**	**82**	P	**P**		**05 21 37.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=302,slow=7.8,SNR=7.0								
CMAR	**Chiang Mai Arr**		**68.81**	**82**	P	**P**		**05 21 37.9**	**-0.8**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**		**68.81**	**82**	P	**P**		**05 21 37.9**	**-0.8**
CMAR	**Chiang Mai Arr**		**68.81**	**82**	P	**P**		**05 21 37.8**	**-0.8**
INK	**Inuvik**		**73.62**	**351**	*e*P	**P**		**05 22 06.7**	**-0.2**
INK					pmax	pmax			
	comp=Z,1.0nm,0.6s								
INK	**Inuvik**		**73.62**	**351**	*e*P	**P**		**05 22 06.7**	**-0.2**
	comp=Z,1.4nm,0.6s								
INK	**Inuvik**		**73.62**	**351**	*e*P	**P**		**05 22 06.7**	**-0.2**
	comp=Z,1.4nm,0.6s								
USRK	**Ussuriysk Arra**		**77.39**	**44**	P	**P**		**05 22 27.9**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=307,slow=4.6,SNR=6.6								
ULM	**Lac du Bonnet**		**77.55**	**325**	P	**P**		**05 22 29.1**	**-0.6**
	comp=Z,5.2nm,1.1s,baz=34,slow=5.9,SNR=3.6								
ULM	**Lac du Bonnet**		**77.55**	**325**	P	**P**		**05 22 29.2**	**-0.6**
ULM					pmax	pmax			
	comp=Z,5.0nm,1.1s								
ULM	**Lac du Bonnet**		**77.55**	**325**	P	**P**		**05 22 29.1**	**-0.6**
ULM	**Lac du Bonnet**		**77.55**	**325**	P	**P**		**05 22 29.2**	**-0.6**
	comp=Z,5.0nm,1.1s								
ILAR	**Eielson Array**		**78.38**	**355**	P	**P**		**05 22 34.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=340,slow=2.8,SNR=12								
ILAR	**Eielson Array**		**78.38**	**355**	P	**P**		**05 22 34.4**	**+0.3**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**		**78.38**	**355**	P	**P**		**05 22 34.4**	**+0.3**
ILAR	**Eielson Array**		**78.38**	**355**	P	**P**		**05 22 34.4**	**+0.3**
	comp=Z,1.0nm,0.6s								
KSAR	**Wonju Array Be**		**79.18**	**51**	P	**P**		**05 22 38.4**	**-0.6**
KSAR	**Wonju Array Be**		**79.18**	**51**	P	**P**		**05 22 38.4**	**-0.6**
KSAR	**Wonju Array Be**		**79.18**	**51**	P	**P**		**05 22 38.4**	**-0.6**
KSRS	**Korea Array**		**79.20**	**51**	P	**P**		**05 22 38.4**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=316,slow=4.3,SNR=12								
KSRS	**Korea Array**		**79.20**	**51**	P	**P**		**05 22 38.4**	**-0.7**
KSRS					pmax	pmax			
	comp=Z,3.0nm,0.5s								
KSRS	**Korea Array**		**79.20**	**51**	P	**P**		**05 22 38.4**	**-0.7**
	comp=Z,3.0nm,0.5s								
MJAR	**Matsushiro Arr**		**86.01**	**46**	P	**P**		**05 23 13.8**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=319,slow=4.1,SNR=3.8								
MJAR	**Matsushiro Arr**		**86.01**	**46**	P	**P**		**05 23 13.8**	**-0.9**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MJAR	**Matsushiro Arr**		**86.01**	**46**	P	**P**		**05 23 13.8**	**-0.9**
MJAR	**Matsushiro Arr**		**86.01**	**46**	P	**P**		**05 23 13.8**	**-0.9**
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**		**120.74**	**98**	PKP	**PKPdf**		**05 29 25.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=310,slow=1.7,SNR=4.7								
ASAR	**Alice Springs**		**120.74**	**98**	PKIKP	**PKPdf**		**05 29 25.3**	**-1.1**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ASAR	**Alice Springs**		**120.74**	**98**	PKP	**PKPdf**		**05 29 25.3**	**-1.1**

IDC 04 05:12:21.2±1.2, 0.°55S×133.°80E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=66.7km s-min=22.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.28**	**178**	P	P		05 16 48.1	+0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**22.98**	**180**	P	P		05 17 27.4	-0.2
	1.4nm,0.7s,baz=358,slow=11,SNR=3.8							
MKAR	**Makanchi Array**	**65.12**	**324**	P	P		05 23 04.2	+0.3
	0.7nm,0.6s,baz=116,slow=7.5,SNR=8.4							
ZALV	**Zalesovo Beam**	**67.65**	**331**	P	P		05 23 19.7	-0.3
	0.3nm,0.4s,baz=141,slow=4.8,SNR=2.3							
KURK	**Kurchatov**	**69.17**	**326**	P	P		05 23 29.6	+0.1
	0.7nm,0.8s,baz=119,slow=6.0,SNR=9.2							
ILAR	**Eielson Array**	**85.94**	**25**	P	P		05 25 03.0	0.0
	0.5nm,0.8s,baz=254,slow=6.1,SNR=3.9							

*ISK **04** 05:12:56.8, 35.°69N×27.°87E, h26km, MD3.3*
*ISCJB **04** 05:12:59.0±1.4, 35.°8N±0.°1×27.°94E±0.°07, h70km±28km, Error ellipse: s-maj=18.5km s-min=7.2km az=24.4*
*CSEM **04** 05:12:59.8±0.6, 35.°91N×27.°99E, h20km, MD3.5, Error ellipse: s-maj=12.3km s-min=6.1km az=17.0*
*DDA **04** 05:13:00.2, 35.°88N×28.°01E, h54km, MD3.5*
ISC 04 05:13:00.1±2.0, 35.°85N±0.°10×27.°95E±0.°06, h55km±40km, n30, σ1°s24/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TURN	**Turunc**	**1.15**	**27**	*i* P	**Pn**		**05 13 18.8**	**-1.2**
TURN				*i* S	**Sn**		**05 13 32.1**	**-2.7**
TURN	**Turunc**	**1.15**	**27**	*i* P	**Pn**		**05 13 18.8**	**-1.2**
TURN				*i* S	**Sn**		**05 13 32.1**	**-2.7**
YER	**Yerkesik**	**1.31**	**12**	*e*PN	**Pn**		**05 13 23.2**	**+1.0**
YER				*e*SN	**Sn**		**05 13 41.8**	**+3.0**
YER	**Yerkesik**	**1.31**	**12**	*e*Pn	**Pn**		**05 13 23.3**	**+1.0**
YER				*e*Sn	**Sn**		**05 13 41.8**	**+3.0**
BODT	**Bodrum**	**1.32**	**337**	*e*PN	**Pn**		**05 13 22.1**	**-0.2**
BODT				*e*SN	**Sn**		**05 13 39.4**	**+0.5**
BODT	**Bodrum**	**1.32**	**337**	*e*Pn	**Pn**		**05 13 22.1**	**-0.2**
BODT				*e*Sn	**Sn**		**05 13 39.4**	**+0.5**
AKAS	**Kas**	**1.40**	**73**	*e*P	**Pn**		**05 13 24.1**	**+0.6**
AKAS				*i* S	**Sn**		**05 13 41.0**	**+0.1**
AKAS	**Kas**	**1.40**	**73**	*e*P	**Pn**		**05 13 24.1**	**+0.6**
AKAS				*i* S	**Sn**		**05 13 41.0**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.81**	**43**	*e*PN	**Pn**		**05 13 28.8**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.81**	**43**	*e*Pn	**Pn**		**05 13 28.8**	**-0.2**
AYDN	**Tasoluk**	**1.81**	**358**	*i* P	**Pn**		**05 13 30.1**	**+1.0**
AYDN				*i* S	**Sn**		**05 13 51.1**	**+0.2**
AYDN	**Tasoluk**	**1.81**	**358**	*i* P	**Pn**		**05 13 30.1**	**+1.0**
AYDN				*i* S	**Sn**		**05 13 51.1**	**+0.2**
ELL	**Elmali**	**1.82**	**60**	*e*PN	**Pn**		**05 13 28.6**	**-0.6**
ELL	**Elmali**	**1.82**	**60**	*e*Pn	**Pn**		**05 13 28.6**	**-0.6**
GCAM	**G?zelcaml?**	**1.94**	**343**	*i* P	**Pn**		**05 13 51.5**	**+0.8**
GCAM				*i* S	**Sn**		**05 13 54.1**	**+0.2**
GCAM	**G?zelcaml?**	**1.94**	**343**	*i* P	**Pn**		**05 13 31.5**	**+0.8**
GCAM				*i* S	**Sn**		**05 13 54.1**	**+0.2**
DNZL	**Cakiroluk**	**2.04**	**25**	*i* P	Pn		05 13 37.2	+4.9
DNZL				*i* S	Sn		05 14 03.5	+6.9
DENT	**Denizli**	**2.09**	**24**	*e*PN	**Pn**		**05 13 33.4**	**+0.5**
DENT	**Denizli**	**2.09**	**24**	*e*Pn	**Pn**		**05 13 33.4**	**+0.5**
APE	**Apeiranthos**	**2.30**	**303**	*e*PN	**Pn**		**05 13 35.4**	**-0.3**
APE	**Apeiranthos**	**2.30**	**303**	*e*Pn	**Pn**		**05 13 35.4**	**-0.3**
BLCB	**Balcova**	**2.64**	**344**	*e*PN	**Pn**		**05 13 40.7**	**+0.5**
BLCB	**Balcova**	**2.64**	**344**	*e*Pn	**Pn**		**05 13 40.7**	**+0.5**
KULA	**Kula-Manisa**	**2.72**	**12**	*e*PN	**Pn**		**05 13 42.3**	**+0.8**
KULA	**Kula-Manisa**	**2.72**	**12**	*e*Pn	**Pn**		**05 13 42.3**	**+0.8**
AKHS	**Akhisar**	**3.03**	**358**	*i* P	**Pn**		**05 13 45.7**	**+0.1**
AKHS				*i* S	**Sn**		**05 14 18.1**	**-2.6**
AKHS	**Akhisar**	**3.03**	**358**	*i* P	**Pn**		**05 13 45.7**	**+0.1**
AKHS				*i* S	**Sn**		**05 14 18.1**	**-2.6**
AKS	**Akhisar**	**3.03**	**358**	*e*PN	**Pn**		**05 13 46.2**	**+0.6**
AKS	**Akhisar**	**3.03**	**358**	*e*Pn	**Pn**		**05 13 46.2**	**+0.6**
GAZI	**Gazipasa**	**3.56**	**82**	*i* P	Pn		05 13 59.8	+6.9
GAZI				*i* S	**Sn**		**05 14 34.2**	**+0.5**

*IDC **04** 05:20:05.3±0.9, 21.°55N×75.°15E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, Error ellipse: s-maj=22.8km s-min=18.1km az=157.0*
*NEIC **04** 05:20:06.5±0.6, 21.°59N×75.°33E, h10km, mb4.1/5, Error ellipse: s-maj=11.4km s-min=6.1km az=171.0*
*NDI **04** 05:20:06.4±4.0, 21.°57N×75.°31E, h10km, ML4.2, mb4.1(NEIC)*
*NNC **04** 05:20:10.4±2.0, 22.°10N×75.°57E, h0km, mb3.9, Error ellipse: s-maj=53.7km s-min=23.1km az=70.0*
ISC 04 05:20:06.4±2.0, 21.°59N±0.°04×75.°24E±0.°04, h8km±13km, n91, σ1°s39/95, mb4.0/26, 5C-1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BHPL	**Bhopal**	**2.61**	**50**	*e*P	**Pn**		**05 20 48.5**	**-0.4**
BHPL				*e*S	**Sn**		**05 21 19.5**	**-1.4**
BHPL				AML	AML		05 21 31.2	
	comp=E,2μm,0.5s							
BHPL				AML	AML		05 21 31.4	
	comp=N,4μm,0.5s							

BHV	**Bhavnagar**		**2.88**	**274**	*ex*	**Pn**		**05 20 51.0**	**-1.6**
BHV					*ex*	**Sg**		**05 21 39.0**	**0.0**
POO	**Poona**		**3.31**	**203**	*e*P	**Pn**		**05 20 58.7**	**+0.1**
POO					*e*S	**Sn**		**05 21 36.8**	**-1.2**
POO					AML	AML		05 21 50.5	
	comp=E,1μm,0.7s								
POO					AML	AML		05 21 51.2	
	comp=N,1μm,0.5s								
LATR	**Latur**		**3.39**	**158**	*e*P	**Pb**		**05 21 07.1**	**+0.3**
LATR					*e*S	**Sb**		**05 21 46.2**	**-1.9**
NGP	**Nagpur**		**3.58**	**96**	*e*P	**Pn**		**05 21 01.5**	**-0.8**
NGP					*e*S	**Sn**		**05 21 41.0**	**-3.8**
KAD	**Karad**		**4.37**	**193**	*e*P	**Pb**		**05 21 24.2**	**+0.7**
KAD					*e*S	**Sb**		**05 22 18.8**	**+2.4**
HYB	**Hyderabad**		**5.19**	**142**	*i* Pn	**Pn**		**05 21 25.0**	**+0.5**
HYB					*e*Pg	**Pb**		**05 21 37.0**	**-0.5**
HYB					*e*Sg	**Sb**		**05 22 40.0**	**-0.1**
BHJ	**Bhuj**		**5.42**	**289**	*e*S	**Sn**		**05 22 28.5**	**-1.7**
BHJ					AML	AML		05 24 11.2	
	comp=N,181nm,0.7s								
BHJ					AML	AML		05 24 14.4	
	comp=E,344nm,0.6s								
AGRA	**Agra**		**6.14**	**23**	AML	AML		05 23 34.7	
	comp=N,1μm,0.1s								
AGRA					AML	AML		05 23 35.4	
	comp=E,1μm,0.6s								
AYAN	**Aya Nagar**		**7.08**	**14**	*e*P	**Pn**		**05 21 49.2**	**-1.1**
AYAN					AML	AML		05 24 01.7	
	comp=Z,173nm,0.8s								
ALBI	**Allahabad**		**7.08**	**57**	*ex*	Pb		05 22 03.0	-6.7
ALBI					*ex*	x		05 23 45.0	
NDI	**New Delhi**		**7.29**	**14**	*e*P	**Pn**		**05 21 52.8**	**-0.4**
NDI					*e*P	Pb		05 21 55.5	-18
NDI					*e*S	Sn		05 23 09.2	-7.0
NDI					*e*S	Sb		05 23 12.5	-28
NDI					AML	AML		05 23 57.1	
	comp=N,300nm,0.7s								
NDI					AML	AML		05 24 04.0	
	comp=E,439nm,0.2s								
DDI	**Dehra Dun**		**9.06**	**16**	*ex*	x		05 22 27.8	
DDI					*ex*	x		05 24 59.0	
KOLN	**Koldanda**		**9.78**	**49**	*e*P	**Pn**		**05 22 26.3**	**-1.3**
KOLN	**Koldanda**		**9.78**	**49**	*e*P	**Pn**		**05 22 26.3**	**-1.3**
BWNR	**Bhubaneshwar**		**9.96**	**95**	*ex*	x		05 24 14.0	
BWNR					*ex*	x		05 25 21.0	
SDNR	**Sundarnagar**		**10.00**	**9**	*ex*	**Pn**		**05 22 33.0**	**+2.6**
SDNR					*ex*	**Sn**		**05 24 23.1**	**+0.3**
DANN	**Dangsing**		**10.25**	**47**	*e*P	**Pn**		**05 22 34.1**	**0.0**
	comp=E,22nm,0.2s								
DANN	**Dangsing**		**10.25**	**47**	*e*P	**Pn**		**05 22 34.1**	**0.0**
	comp=E,22nm,0.2s								
GKN	**Gorkha**		**10.66**	**51**	*e*P	**Pn**		**05 22 38.5**	**-1.1**
	comp=E,91nm,0.4s								
GKN	**Gorkha**		**10.66**	**51**	*e*P	**Pn**		**05 22 38.5**	**-1.1**
	comp=E,91nm,0.4s								
DMN	**Daman**		**10.79**	**54**	*e*P	**Pn**		**05 22 39.9**	**-1.6**
	comp=E,23nm,0.3s								
DMN	**Daman**		**10.79**	**54**	*e*P	**Pn**		**05 22 39.9**	**-1.6**
	comp=E,23nm,0.3s								
PKI	**Pulchoki**		**11.01**	**55**	*e*P	**Pn**		**05 22 42.4**	**-2.1**
	comp=E,28nm,0.3s								
PKI	**Pulchoki**		**11.01**	**55**	*e*P	**Pn**		**05 22 42.4**	**-2.1**
	comp=E,28nm,0.3s								
KKN	**Kakani**		**11.02**	**54**	*e*P	**Pn**		**05 22 43.4**	**-1.2**
KKN	**Kakani**		**11.02**	**54**	*e*P	**Pn**		**05 22 43.4**	**-1.2**
GUN	**Gumba**		**11.54**	**55**	*e*P	**Pn**		**05 22 49.7**	**-2.1**
	comp=E,41nm,0.3s								
GUN	**Gumba**		**11.54**	**55**	*e*P	**Pn**		**05 22 49.7**	**-2.1**
	comp=E,41nm,0.3s								
THW	**Thamme Wali**		**11.59**	**345**	P	**Pn**		**05 22 53.1**	**+0.9**
JIRN	**Jiri**		**11.65**	**57**	*e*P	**Pn**		**05 22 51.4**	**-2.0**
	comp=E,42nm,0.3s								
JIRN	**Jiri**		**11.65**	**57**	*e*P	**Pn**		**05 22 51.4**	**-2.0**
	comp=E,42nm,0.3s								
RAMN	**Ramite**		**11.66**	**61**	*e*P	**Pn**		**05 22 51.0**	**-2.4**
	comp=E,53nm,0.3s								
RAMN	**Ramite**		**11.66**	**61**	*e*P	**Pn**		**05 22 51.0**	**-2.4**
	comp=E,53nm,0.3s								
CHCP	**Chirah Chowk**		**12.15**	**352**	P	**Pn**		**05 23 00.1**	**+0.2**
ODAN	**Odare**		**12.27**	**62**	*e*P	**Pn**		**05 22 59.8**	**-1.9**
ODAN	**Odare**		**12.27**	**62**	*e*P	**Pn**		**05 22 59.8**	**-1.9**
CEP	**Cherat**		**12.54**	**347**	P	**Pn**		**05 23 05.7**	**+0.4**
CEP					S	Sn		05 25 14.0	-11
TAPN	**Taplejung**		**12.72**	**61**	*e*P	**Pn**		**05 23 06.0**	**-2.0**
	comp=E,23nm,0.4s								
TAPN	**Taplejung**		**12.72**	**61**	*e*P	**Pn**		**05 23 06.0**	**-2.0**
	comp=E,23nm,0.4s								
KBL	**Kabul**		**14.01**	**338**	*e*Pn	**Pn**		**05 23 25.4**	**-0.1**
	comp=E,8.1nm,0.8s								
SHL	**Shillong**		**15.77**	**72**	*ex*	**Sn**		**05 26 50.0**	**+5.9**
SHL					*ex*	x		05 28 38.0	
AAK	**Ala-Archa**		**21.00**	**358**	*e*P	Pn		05 24 54.5	+1.4
	comp=E,20nm,0.7s								
EKS2	**Erkin-Say**		**21.05**	**357**	*e*P	P		05 24 57.2	+6.3
	comp=E,8.4nm,0.8s								
KK31	**Karatay Array**		**21.82**	**351**	⇑P	**P**		**05 24 59.5**	**+0.4**
	comp=E,5.3nm,1.0s,baz=164,slow=10,SNR=17								
KK31					⇑S	**S**		**05 28 58.6**	**-1.8**
	comp=E,3.0nm,0.8s,baz=164,slow=24								
KKAR	**Karatay Array**		**21.82**	**351**	*e*P	**P**		**05 24 59.6**	**+0.6**
	comp=E,1.9nm,0.5s								
CHTO	**Chiang Mai**		**22.41**	**93**	*e*P	**P**		**05 25 06.2**	**+0.5**
	comp=E,11nm,1.0s								
CMAR	**Chiang Mai Arr**		**22.48**	**94**	P	**P**		**05 25 06.9**	**+0.5**
	comp=E,2.2nm,0.8s,baz=281,slow=10,SNR=12								
CMAR	**Chiang Mai Arr**		**22.48**	**94**	P	**P**		**05 25 06.9**	**+0.5**
MK31	**Makanchi Array**		**25.79**	**11**	⇑P	**P**		**05 25 38.3**	**+0.5**
	comp=E,0.4nm,0.4s,baz=202,slow=10.0,SNR=30								
MKAR	**Makanchi Array**		**25.79**	**11**	P	**P**		**05 25 38.7**	**+0.8**
	comp=E,1.3nm,0.6s,baz=202,slow=9.7,SNR=26								
MKAR	**Makanchi Array**		**25.79**	**11**	P	**P**		**05 25 38.7**	**+0.8**
KURBB	**Kurchatov Arra**		**29.10**	**4**	⇓P	**P**		**05 26 07.7**	**+0.3**
	comp=E,0.3nm,0.8s								
KURK	**Kurchatov**		**29.19**	**4**	P	**P**		**05 26 08.5**	**+0.3**
	comp=E,1.0nm,0.6s,baz=198,slow=8.8,SNR=11								
KURK	**Kurchatov**		**29.19**	**4**	⇑P	**P**		**05 26 09.4**	**+1.2**
	comp=E,3.1nm,0.9s								
KURK	**Kurchatov**		**29.19**	**4**	P	**P**		**05 26 08.5**	**+0.3**
AB31	**Akbulak array**		**30.17**	**340**	P	**P**		**05 26 18.9**	**+2.0**
	comp=E,5.5nm,1.0s,baz=137,slow=9.5,SNR=14								
ABKAR	**Akbulak array**		**30.17**	**340**	*e*P	**P**		**05 26 18.4**	**+1.4**
	comp=E,1.1nm,0.6s								
VOSK	**Vostochnaya**		**31.26**	**355**	⇑P	**P**		**05 26 26.8**	**+0.3**
	comp=E,2.2nm,0.7s								
BVAR	**Borovoye Array**		**31.61**	**354**	P	**P**		**05 26 29.7**	**+0.1**
	comp=E,0.6nm,0.5s,baz=156,slow=11,SNR=8.0								
BVAR	**Borovoye Array**		**31.61**	**354**	P	**P**		**05 26 29.7**	**+0.1**
ZAA0	**Zalesovo Array**		**33.12**	**10**	P	**P**		**05 26 43.6**	**+0.8**
ZALV	**Zalesovo Beam**		**33.12**	**10**	P	**P**		**05 26 43.9**	**+1.0**
	comp=E,7.7nm,0.4s,baz=202,slow=8.7,SNR=26								
ZALV	**Zalesovo Beam**		**33.12**	**10**	P	**P**		**05 26 43.9**	**+1.0**
SONM	**Songino Array**		**36.21**	**36**	P	**P**		**05 27 11.7**	**+1.9**
	comp=E,1.8nm,0.7s,baz=229,slow=8.6,SNR=15								
SONM	**Songino Array**		**36.21**	**36**	P	**P**		**05 27 11.7**	**+1.9**
AKASG	**Malin Array Be**		**46.11**	**321**	P	**P**		**05 28 29.9**	**-1.0**
	comp=E,0.4nm,0.5s,baz=106,slow=6.1,SNR=4.2								
AKASG	**Malin Array Be**		**46.11**	**321**	P	**P**		**05 28 29.9**	**-1.0**
USRK	**Ussuriysk Arra**		**51.61**	**50**	P	**P**		**05 29 13.3**	**0.0**
	comp=E,1.4nm,0.5s,baz=124,slow=19,SNR=11								
FINES	**FINESS Array B**		**52.18**	**333**	P	**P**		**05 29 17.7**	**+0.4**
	comp=E,1.8nm,0.8s,baz=123,slow=7.0,SNR=4.7								
FINES	**FINESS Array B**		**52.18**	**333**	P	**P**		**05 29 17.7**	**+0.4**
GERES	**GERESS Array B**		**55.41**	**315**	P	**P**		**05 29 41.2**	**-0.2**
	comp=E,1.7nm,0.7s,baz=103,slow=5.8,SNR=12								
GERES	**GERESS Array B**		**55.41**	**315**	P	**P**		**05 29 41.2**	**-0.2**
ARCES	**ARCESS Array B**		**56.36**	**341**	P	**P**		**05 29 48.2**	**+0.5**
	comp=E,7.9nm,1.0s,baz=115,slow=7.0,SNR=11								
ARCES	**ARCESS Array B**		**56.36**	**341**	P	**P**		**05 29 48.2**	**+0.5**
HFS	**Hagfors**		**57.41**	**329**	P	**P**		**05 29 55.1**	**-0.1**
	comp=E,0.9nm,0.5s,baz=98,slow=11,SNR=4.4								
HFS	**Hagfors**		**57.41**	**329**	P	**P**		**05 29 55.1**	**-0.1**
NOA	**NORSAR Array B**		**58.81**	**329**	P	**P**		**05 30 04.7**	**-0.4**
	comp=E,1.2nm,0.8s,baz=102,slow=7.6,SNR=3.6								
NOA	**NORSAR Array B**		**58.81**	**329**	P	**P**		**05 30 04.7**	**-0.4**
ESDC	**Sonseca Array**		**68.46**	**305**	P	**P**		**05 31 09.1**	**-0.2**
	comp=E,0.3nm,0.6s,baz=58,slow=6.1,SNR=6.7								
ESDC	**Sonseca Array**		**68.46**	**305**	P	**P**		**05 31 09.1**	**-0.2**
BOSA	**Boshof**		**69.39**	**226**	P	**P**		**05 31 15.8**	**+0.6**
	comp=E,2.5nm,1.1s,baz=83,slow=6.4,SNR=3.5								
BOSA	**Boshof**		**69.39**	**226**	P	**P**		**05 31 15.8**	**+0.6**
TORD	**Torodi Ar. Bea**		**70.15**	**277**	P	**P**		**05 31 19.8**	**-0.3**
	comp=E,0.5nm,0.8s,baz=82,slow=4.4,SNR=5.5								
TORD	**Torodi Ar. Bea**		**70.15**	**277**	P	**P**		**05 31 19.8**	**-0.3**
ILAR	**Eielson Array**		**88.02**	**17**	P	**P**		**05 32 56.3**	**-0.6**
	comp=E,0.3nm,0.6s,baz=330,slow=5.4,SNR=3.9								
ILAR	**Eielson Array**		**88.02**	**17**	P	**P**		**05 32 56.3**	**-0.6**
LPAZ	**La Paz**		**145.01**	**272**	PKP	**PKPbc**		**05 39 43.9**	**-1.3**
	comp=E,1.0nm,0.6s,baz=42,slow=1.1,SNR=4.2								
LPAZ	**La Paz**		**145.01**	**272**	PKP	**PKPbc**		**05 39 43.9**	**-1.3**
PLCA	**Paso Flores**		**145.35**	**229**	PKPbc	**PKPdf**		**05 39 45.2**	**0.0**
	comp=E,1.4nm,0.9s,baz=43,slow=22,SNR=3.4								
PLCA	**Paso Flores**		**145.35**	**229**	PKPbc	**PKPdf**		**05 39 45.2**	**0.0**

IDC 04 05:20:45.8±2.5, 0.°82S×132.°79E, h0km, mb3.6/3, mb1 3.7/4, mbtmp3.5/17, mbmtp3.5/4, ML3.6/1, Error ellipse: s-maj=146.2km s-min=23.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.06**	**176**	P	P		05 25 09.8	-0.1
	0.2nm,0.3s,baz=354,slow=11,SNR=8.2							
ASAR	**Alice Springs**	**22.73**	**177**	P	P		05 25 49.8	+0.2
	0.8nm,0.6s,baz=0.3,slow=12,SNR=12							
MKAR	**Makanchi Array**	**64.75**	**324**	P	P		05 31 26.6	+0.5
	0.4nm,0.5s,baz=118,slow=7.6,SNR=6.4							
KURK	**Kurchatov**	**68.83**	**326**	P	P		05 31 51.4	-0.7
	0.6nm,0.9s,baz=116,slow=6.2,SNR=4.6							

*DJA **04** 05:22:11, 0.°46S×133.°55E, h112km, MLv4.4/8*
IDC 04 05:22:08.0±1.2, 0.°88S×133.°08E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/17, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=62.2km s-min=23.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**176**	P	P		05 26 31.1	-0.1
	0.3nm,0.3s,baz=356,slow=12,SNR=7.8							
ASAR	**Alice Springs**	**22.66**	**178**	P	P		05 27 11.3	+0.2
	2.1nm,0.7s,baz=8.6,slow=12,SNR=6.7							
MKAR	**Makanchi Array**	**64.97**	**324**	P	P		05 32 49.8	0.0
	0.3nm,0.6s,baz=123,slow=8.2,SNR=3.1							
KURK	**Kurchatov**	**69.05**	**326**	P	P		05 33 15.1	-0.4
	0.3nm,0.7s,baz=127,slow=5.4,SNR=2.9							
ILAR	**Eielson Array**	**86.54**	**25**	P	P		05 34 53.1	+0.4
	0.2nm,0.6s,baz=238,slow=5.0,SNR=2.9							

*IDC **04** 05:25:46.9±0.9, 7.°33S×128.°22E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/17, mbtmp4.0/9, ML4.5/2, Error ellipse: s-maj=66.0km s-min=19.4km az=66.0*
*ISCJB **04** 05:25:50.4±0.5, 7.°31S±0.°07×128.°3E±0.°1, h35km, mb4.2/

SONM Songino Array 54.69 337 P P 05 41 37.3 -0.1
0.4nm,0.7s,baz=148,slow=8.2,SNR=2.8
MKAR Makanchi Array 66.02 324 P P 05 42 55.0 +0.2
0.7nm,0.5s,baz=116,slow=8.3,SNR=11
KURK Kurchatov 70.07 326 P P 05 43 20.1 -0.1
0.8nm,0.7s,baz=120,slow=6.1,SNR=7.6

IDC 04 05:32:46.5±1.1, 0.32S×133.42E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=66.5km s-min=20.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.53**	**177**	P	Pn	05 37 16.5	-0.5
	0.1nm,0.3s,baz=352,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**23.22**	**179**	P	P	05 37 55.7	+0.3
	4.2nm,0.8s,baz=5.4,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**32.33**	**167**	P	P	05 39 16.8	-0.8
	1.7nm,0.7s,baz=1.8,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**64.71**	**324**	P	P	05 43 26.8	+0.1
	0.2nm,0.5s,baz=123,slow=7.5,SNR=2.6						
KURK	**Kurchatov**	**68.76**	**326**	P	P	05 43 52.3	-0.1
	0.9nm,0.8s,baz=118,slow=5.9,SNR=4.9						
ILAR	**Eielson Array**	**85.89**	**25**	P	P	05 45 28.1	0.0
	0.3nm,0.8s,baz=234,slow=6.1,SNR=3.2						

*DJA **04** 05:36:32, 0.16S×133.03E, h15km, mb4.6/11*
IDC 04 05:36:31.3±2.5, 0.72S×132.02E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/16, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=172.8km s-min=24.3km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**173**	P	Pn	05 40 58.2	-0.1
	0.4nm,0.3s,baz=353,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**22.88**	**176**	P	P	05 41 37.6	+0.9
	5.1nm,0.9s,baz=354,slow=9.9,SNR=23						
STKA	**Stephens Creek**	**32.28**	**165**	P	P	05 43 00.7	-1.3
	4.6nm,0.7s,baz=351,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**64.22**	**324**	P	P	05 47 08.3	+0.1
	0.4nm,0.6s,baz=113,slow=7.6,SNR=5.8						

IDC 04 05:41:49.0±1.3, 0.60S×133.86E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=66.9km s-min=25.2km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**179**	P	P	05 46 15.0	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**22.93**	**180**	P	P	05 46 55.0	+0.1
	1.2nm,0.7s,baz=2.8,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**65.20**	**324**	P	P	05 52 32.6	+0.3
	0.2nm,0.5s,baz=114,slow=8.4,SNR=7.0						
ILAR	**Eielson Array**	**85.96**	**25**	P	P	05 54 30.5	-0.5
	0.4nm,1.1s,baz=263,slow=5.3,SNR=3.1						

*BJI **04** 05:43:56.6, 1.37S×133.61E, h31km, mB5.5/44, mb5.2/57, Ms5.0/52, Ms7 4.8/53*
*IDC **04** 05:43:59.6±0.5, 0.67S×133.23E, h0km, mb5.2/17, mb1 5.3/18, mb1mx5.3/18, mbtmp5.2/18, ML5.2/1, MS4.9/20, Ms1 4.9/20, ms1mx4.7/27, Error ellipse: s-maj=25.8km s-min=12.5km az=78.0*
*MOS **04** 05:44:02.9±1.2, 0.67S×133.11E, h33km, mb5.5/50, MS4.6/13, Error ellipse: s-maj=10.9km s-min=5.7km az=104.2*
*NEIC **04** 05:44:04.4±0.1, 0.67S×133.19E, mb5.3/65, Error ellipse: s-maj=5.1km s-min=3.7km az=70.0*
NEIC Felt [IV] at Manokwari.
*ISCJB **04** 05:44:04.9±0.6, 0.69S±0.03×133.30E±0.03, h50km±5km, mb5.3/153, MS4.8/40, Error ellipse: s-maj=4.7km s-min=4.2km az=39.4*
*TEH **04** 05:44:05.0, 0.70S×133.19E, h35km, ML5.4*
*DJA **04** 05:44:07, 0.76S×133.30E, h42km, Mw5.4/51*
ISC 04 05:44:04.9±0.3, 0.73S±0.03×133.27E±0.04, h34km, h34km:pP-P, n447, σ1$52/537, mb5.3/152, MS4.8/40, 17C-16D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.41**	**205**	P	**Pn**	**05 44 42.6**	**+0.7**
BAKI	**Biak**	**2.88**	**99**	P	**Pn**	**05 44 49.1**	**+0.7**
TLE	**Tual**	**4.91**	**186**	P	**Pn**	**05 45 18.5**	**+2.1**
MSAI	**Masohi**	**5.06**	**239**	P	Pn	05 45 21.7	+3.3
	742nm,0.6s,11µm4.2nm						
SMPI	**Sarmi**	**5.58**	**103**	P	Pn	05 45 29.1	+3.5
	238nm,0.9s,35µm2.2nm						
LBMI	**Labuha**	**5.77**	**271**	P	**Pn**	**05 45 28.9**	**+0.7**
	1µm,1.0s,15µm3.9nm						
AAI	**Ambon**	**5.86**	**240**	P	**Pn**	**05 45 31.2**	**+1.7**
	2µm,0.7s,27µm7.0nm						
TNTI	**Ternate**	**6.09**	**284**	P	**Pn**	**05 45 34.1**	**+1.5**
	403nm,0.9s,10µm2.2nm						
NLAI	**Namlea**	**6.65**	**248**	P	**Pn**	**05 45 41.1**	**+0.8**
	994nm,0.7s,15µm6.1nm						
MNI	**Manado**	**8.70**	**284**	P	Pn	05 46 12.7	+4.2
	430nm,0.8s,4µm1.5nm						
SGSI	**Sangihe**	**8.89**	**300**	P	Pn	05 46 24.3	+13
KMSI	**Cibinong**	**9.38**	**278**	P	Pn	05 46 21.1	+3.3
	826nm,1.0s,9µm						
LUWI	**Luwuk**	**10.50**	**268**	P	**Pn**	**05 46 33.5**	**+0.3**
	615nm,1.2s,7µm						
DAV	**Davao City (W)**	**10.90**	**315**	Pn	Pn	05 46 44.5	+5.9
	46nm,0.3s,baz=222,slow=5.4,SNR=8.5						
DAV				LR	LR	05 50 38.5	
	comp=Z,3µm,18.5s,baz=126,slow=37						
DAV	**Davao City (W)**	**10.90**	**315**	ePn	Pn	05 46 43.9	+5.2
MRSI	**Marisa**	**11.39**	**276**	P	Pn	05 46 49.1	+3.8
	133nm,1.1s,2µm						
BBSI	**Bau Bau**	**11.68**	**246**	P	Pn	05 46 54.1	+4.8
	213nm,1.1s,4µm						
CTBH	**Cotabato--PC H**	**11.97**	**311**	⇓*i*P	**Pn**	**05 46 52.4**	**-0.9**
MMRI	**Maumere**	**13.51**	**234**	P	Pn	05 47 18.3	+4.0
	258nm,1.3s,4µm						
TTSI	**Tana Toraja**	**13.64**	**260**	P	Pn	05 47 19.2	+3.1
	117nm,1.4s,2µm						
SPSI	**Sidrap Palu**	**13.87**	**256**	P	Pn	05 47 22.7	+3.5
	148nm,0.8s,3µm						
BKSI	**Bulukumba**	**13.90**	**251**	P	Pn	05 47 22.9	+3.3
	183nm,0.6s,3µm						
KAPI	**Kappang**	**14.15**	**252**	*e*Pn	**Pn**	**05 47 23.3**	**+0.2**
KAPI				*e*ScP	ScP	05 56 01.8	-11
KAPI	**Kappang**	**14.15**	**252**	P	**Pn**	**05 47 26.0**	**+2.9**
	186nm,1.0s,2µm						
MJSI	**Majene**	**14.55**	**259**	P	P	05 47 42.9	+8.3
MYLDM	**Lahad Datu**	**15.88**	**292**	P	**P**	**05 47 52.7**	**+3.3**
MYLDM	**Lahad Datu**	**15.88**	**292**	P	**P**	**05 47 53.9**	**+4.5**
RCP	**Roxas**	**16.07**	**320**	⇓*e*P	**P**	**05 47 53.8**	**+2.2**
TSM	**Tawau**	**16.17**	**288**	P	**Pn**	**05 47 50.8**	**+1.1**
PMG	**Port Moresby**	**16.29**	**122**	Pn	**P**	**05 47 53.7**	**-0.3**
	0.7nm,0.3s,baz=299,slow=7.4,SNR=16						
PMG	**Port Moresby**	**16.29**	**122**	P	**P**	**05 47 53.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG	**Port Moresby**	**16.29**	**122**	*e*P	**P**	**05 47 54.1**	**+0.1**
COEN	**Coen**	**16.40**	**144**	*e*Pn	**Pn**	**05 47 53.1**	**+0.4**
	comp=Z,388nm,0.9s						
SDKM	**Sandakan**	**17.25**	**292**	P	**P**	**05 48 06.2**	**+1.5**
KBKI	**Kotabaru**	**17.28**	**261**	P	**P**	**05 48 08.5**	**+3.5**
	comp=Z,70nm,1.2s,comp=Z,2µm						
GUMO	**Guam**	**18.29**	**39**	P	**Pn**	**05 48 17.9**	**+1.8**
	comp=Z,12nm,0.3s,baz=197,slow=19,SNR=2.7						
GUMO				LR	LR	05 54 28.8	
	comp=Z,2µm,18.6s,baz=120,slow=34						
GUMO	**Guam**	**18.29**	**39**	P	**Pn**	**05 48 17.9**	**+1.8**
GUMO				pmax	pmax		
	comp=Z,12nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,2µm,18.6s						
GUMO	**Guam**	**18.29**	**39**	P	**Pn**	**05 48 17.9**	**+1.8**
KKM	**Kota Kinabalu**	**18.31**	**292**	*e*Pn	**Pn**	**05 48 17.0**	**+0.5**
	comp=Z,262nm,1.4s						
KKM	**Kota Kinabalu**	**18.31**	**292**	P	**Pn**	**05 48 19.9**	**+3.4**
KKM	**Kota Kinabalu**	**18.31**	**292**	P	**Pn**	**05 48 19.8**	**+3.3**
	comp=Z,163nm,1.4s,comp=Z,4µm						
BBKI	**Banjar Baru**	**18.61**	**261**	P	**Pn**	**05 48 22.5**	**+2.3**
	comp=Z,285nm,1.3s,comp=Z,6µm						
MTNI	**Mataram**	**18.75**	**245**	P	**Pn**	**05 48 22.5**	**+0.7**
	comp=Z,285nm,0.9s						
WRAB	**Tennant Creek**	**19.12**	**177**	*e*P	**P**	**05 48 24.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,466nm,1.5s						
WRAB	**Tennant Creek**	**19.12**	**177**	*e*P	**P**	**05 48 24.5**	**-0.7**
	comp=Z,466nm,1.5s						
WRAB				*e*S	Sn	05 51 40.0	-20
WRAB	**Tennant Creek**	**19.12**	**177**	P	**P**	**05 48 25.3**	**+0.1**
	comp=Z,1µm,0.5s,SNR=45						
WRA	**Warramunga Arr**	**19.13**	**177**	P	**P**	**05 48 24.2**	**-1.1**
	comp=Z,8.1nm,0.3s,baz=355,slow=12,SNR=81						
WRA				S	Sn	05 51 44.8	-15
	comp=Z,2.4nm,0.3s,baz=3.7,slow=23,SNR=4.0						
WRA				LR	LR	05 56 47.5	
	comp=Z,6µm,19.0s,baz=355,slow=40						
WRA	**Warramunga Arr**	**19.13**	**177**	P	**P**	**05 48 24.2**	**-1.1**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,6µm,19.0s						
WRA	**Warramunga Arr**	**19.13**	**177**	P	**P**	**05 48 24.2**	**-1.1**
WRA				S	Sn	05 51 44.8	-15
WB2	**Warramunga Arr**	**19.13**	**177**	*e*P	**P**	**05 48 24.2**	**-1.1**
WB2				*e*S	Sn	05 51 36.3	-24
TGY	**Tagaytay City**	**19.14**	**321**	P	**Pn**	**05 48 27.9**	**+1.4**
	comp=Z,46nm,0.3s,baz=105,slow=21,SNR=3.4						
TGY	**Tagaytay City**	**19.14**	**321**	P	**Pn**	**05 48 27.9**	**+1.4**
TGY				pmax	pmax		
	comp=Z,46nm,0.3s						
TGY	**Tagaytay City**	**19.14**	**321**	P	**Pn**	**05 48 27.9**	**+1.4**
KHKI	**Kahang-Kahang**	**19.16**	**246**	P	**Pn**	**05 48 27.1**	**+0.4**
	comp=Z,325nm,1.2s,comp=Z,4µm						
NBBI	**Negara**	**20.07**	**247**	P	Pn	05 48 42.2	+4.7
	comp=Z,395nm,2.0s,comp=Z,8µm						
KMMI	**Kalianget**	**20.25**	**251**	P	Pn	05 48 42.0	+2.3
	comp=Z,312nm,1.6s,comp=Z,7µm						
BYJI	**Banyuwangi**	**20.26**	**248**	P	Pn	05 48 41.5	+1.7
	comp=Z,798nm,1.3s						
JAGI	**Jajag, Banyuwa**	**20.54**	**247**	P	Pn	05 48 42.7	-0.4
	comp=Z,292nm,1.2s,comp=Z,3µm						
BTM	**Bintulu**	**20.55**	**281**	P	Pn	05 48 43.5	+0.3
BLJI	**Banyuglugur**	**20.81**	**250**	P	Pn	05 48 46.0	-0.2
	comp=Z,239nm,2.4s,comp=Z,15µm						
GMJI	**Gumukmas**	**21.12**	**249**	P	**P**	**05 48 50.0**	**+3.0**
	comp=Z,146nm,1.1s,comp=Z,3µm						
SBUM	**Sibu**	**21.28**	**279**	P	**P**	**05 48 52.7**	**+3.9**
SBUM	**Sibu**	**21.28**	**279**	P	**P**	**05 48 52.1**	**+3.4**
	comp=Z,126nm,1.7s,comp=Z,3µm						
PBKI	**Pangkalan Bun**	**21.68**	**265**	P	**P**	**05 48 56.7**	**+3.7**
	comp=Z,302nm,1.1s						
STKI	**Sintang**	**21.81**	**272**	P	**P**	**05 48 57.6**	**+3.2**
	comp=Z,81nm,1.0s,comp=Z,12µm						
SJI	**Sawahan**	**22.53**	**251**	P	**P**	**05 49 03.9**	**+1.6**
	comp=Z,160nm,1.8s,comp=Z,5µm						
PWJI	**Pagerwojo**	**22.58**	**251**	P	**P**	**05 49 02.3**	**-0.4**
	comp=Z,98nm,1.0s,comp=Z,2µm						
AS31	**Alice Springs**	**22.81**	**178**	*e*P	**P**	**05 49 04.6**	**-0.5**
AS31				*e*S	**S**	**05 53 13.9**	**+1.7**
ASAR	**Alice Springs**	**22.81**	**178**	P	**P**	**05 49 04.8**	**-0.3**
	comp=Z,256nm,0.8s,baz=1.7,slow=9.4,SNR=168						
ASAR				S	**S**	**05 53 07.4**	**-4.8**
	comp=Z,6.0nm,0.7s,baz=2.2,slow=27,SNR=2.4						
ASAR	**Alice Springs**	**22.81**	**178**	P	**P**	**05 49 04.8**	**-0.3**
ASAR				S	**S**	**05 53 07.4**	**-4.8**
ASAR				pmax	pmax		
	comp=Z,256nm,0.8s						
ASAR				smax	smax		
	comp=N,6.0nm,0.7s						
ASAR	**Alice Springs**	**22.81**	**178**	P	**P**	**05 49 04.8**	**-0.3**
ASAR				S	**S**	**05 53 07.4**	**-4.8**
CTAO	**Charters Tower**	**23.06**	**147**	*e*P	**P**	**05 49 09.0**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,117nm,1.0s						
CTAO	**Charters Tower**	**23.06**	**147**	*e*P	**P**	**05 49 09.0**	**+1.4**
	comp=Z,117nm,1.0s						
KSM	**Kuching**	**23.06**	**275**	*e*P	**P**	**05 49 07.7**	**-0.1**
	comp=Z,84nm,1.0s						
KSM	**Kuching**	**23.06**	**275**	P	**P**	**05 49 08.6**	**+0.9**
KSM	**Kuching**	**23.06**	**275**	P	**P**	**05 49 09.5**	**+1.8**
	comp=Z,113nm,1.0s,comp=Z,3µm						
PCJI	**Pacitan**	**23.23**	**251**	P	**P**	**05 49 09.4**	**+0.1**
	comp=Z,242nm,0.8s						
SMRI	**Semarang**	**23.61**	**254**	P	**P**	**05 49 15.1**	**+1.9**
	comp=Z,299nm,1.2s,comp=Z,7µm						
YOGI	**Yogyakarta**	**23.95**	**252**	P	**P**	**05 49 17.4**	**+1.0**
	comp=Z,1µm,1.2s,comp=Z,12µm						
MBWA	**Marble Bar**	**24.23**	**212**	*e*P	**P**	**05 49 18.7**	**-0.1**
	comp=Z,191nm,0.9s						
MBWA				*e*S	**S**	**05 53 38.0**	**+2.7**
BJII	**Banjamegara**	**24.39**	**254**	P	**P**	**05 49 21.9**	**+1.5**
	comp=Z,469nm,1.0s,comp=Z,8µm						
TPI	**Tanjungpandan**	**25.68**	**265**	P	**P**	**05 49 35.5**	**+3.4**
	comp=Z,82nm,1.0s,comp=Z,1µm						
CISI	**Cisompet, Garu**	**26.26**	**254**	P	**P**	**05 49 36.4**	**-1.0**
	comp=Z,402nm,1.1s,comp=Z,3µm						
LEM	**Lembang**	**26.29**	**256**	P	**P**	**05 49 39.9**	**+2.1**
	comp=Z,128nm,1.8s,comp=Z,2µm						
YULB	**Yu-li**	**26.65**	**335**	*e*P	**P**	**05 49 42.8**	**+2.1**
	comp=Z,24nm,0.9s						
CBJI	**Citeko**	**26.96**	**257**	P	P	05 49 51.2	+7.6
	comp=Z,384nm,0.9s						
SSLB	**Suanglung**	**27.15**	**335**	*e*P	**P**	**05 49 43.0**	**-2.2**
	comp=Z,53nm,0.9s						
JOW	**Kunigami**	**27.82**	**350**	P	**P**	**05 49 53.5**	**+2.3**
	comp=Z,19nm,1.0s,baz=216,slow=12,SNR=4.9						
JOW				LR	LR	05 59 02.5	
	comp=Z,6µm,20.3s,baz=144,slow=32						
JOW	**Kunigami**	**27.82**	**350**	*e*P	**P**	**05 49 51.3**	**+0.2**
	comp=Z,212nm,2.8s						
CGJI	**Cibinong**	**28.12**	**257**	P	**P**	**05 49 52.5**	**-1.6**
	comp=Z,104nm,0.8s,comp=Z,2µm						
KLI	**Kotabumi**	**28.67**	**261**	P	**P**	**05 49 59.4**	**+0.5**
	comp=Z,179nm,0.8s						
QZH	**Quanzhou**	**29.21**	**332**	*e*P	P	05 50 07.6	+4.0
QZH				S	S	05 55 03.0	+8.9
QZH				LR	LR		
	comp=Z,3µm,21.8s						
LWLI	**Liwa**	**29.48**	**261**	P	**P**	**05 50 06.9**	**+0.6**
	comp=Z,129nm,0.9s,comp=Z,19µm						
MYKOM	**Kota Tinggi**	**29.52**	**275**	P	**P**	**05 50 04.9**	**-1.6**
MYKOM	**Kota Tinggi**	**29.52**	**275**	P	**P**	**05 50 08.7**	**+2.2**
	comp=Z,51nm,0.9s						
EIDS	**Eidsvold**	**29.93**	**146**	*e*P	**P**	**05 50 10.5**	**+0.5**
	comp=Z,29nm,0.8s						
KGM	**Kluang**	**30.07**	**275**	P	**P**	**05 50 11.2**	**-0.2**
QIZ	**Qiongzhong**	**30.24**	**312**	P	**P**	**05 50 12.4**	**-0.4**
QIZ				pP	**pP**	**05 50 21.8**	**-0.7**
QIZ				sP	**sP**	**05 50 25.9**	**-0.7**
QIZ				S	**S**	**05 55 12.0**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,40nm,0.8s						
QIZ				LR	LR		
	comp=N,1µm,21.7s						
QIZ				LR	LR		
	comp=E,380nm,21.4s						
QIZ				LR	LR		
	comp=Z,2µm,18.6s						
FORT	**Forrest**	**30.30**	**189**	*e*P	**P**	**05 50 13.5**	**+0.4**
	comp=Z,89nm,0.7s						
FORT				*e*		05 53 13.2	
FORT	**Forrest**	**30.30**	**189**	*e*P	**P**	**05 50 13.1**	**0.0**
	comp=Z,147nm,0.7s						
FORT				*e*PcP	**PcP**	**05 53 13.6**	**+0.4**
KSI	**Kapahiang**	**30.79**	**264**	P	**P**	**05 50 17.1**	**-0.7**
	comp=Z,226nm,0.8s						
STKA	**Stephens Creek**	**31.97**	**167**	P	**P**	**05 50 27.2**	**-0.7**
	comp=Z,51nm,0.7s,baz=340,slow=8.0,SNR=57						
STKA				LR	LR	06 04 57.9	
	comp=Z,10µm,18.0s,baz=236,slow=39						
STKA	**Stephens Creek**	**31.97**	**167**	*e*P	**P**	**05 50 26.8**	**-1.1**
	comp=Z,39nm,0.8s						
STKA	**Stephens Creek**	**31.97**	**167**	*e*P	**P**	**05 50 27.1**	**-0.7**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
STKA	**Stephens Creek**	**31.97**	**167**	*e*P	**P**	**05 50 27.1**	**-0.7**
	comp=Z,8.1nm,0.7s						
BBOO	**Buckleboo**	**32.02**	**176**	*e*P	**P**	**05 50 27.9**	**-0.4**
	comp=Z,2µm,0.8s						
IPM	**Ipoh**	**32.63**	**279**	*e*P	**P**	**05 50 33.0**	**-1.0**
	comp=Z,37nm,0.9s						
IPM	**Ipoh**	**32.63**	**279**	P	**P**	**05 50 33.2**	**-0.8**
IPM	**Ipoh**	**32.63**	**279**	P	**P**	**05 50 33.7**	**-0.2**
	comp=Z,48nm,0.8s						
PPI	**Padang Panjang**	**32.87**	**270**	P	**P**	**05 50 36.0**	**-0.1**
	comp=Z,39nm,1.2s,comp=Z,1µm						
KULM	**Kulim**	**33.12**	**281**	*e*P	**P**	**05 50 37.6**	**-0.6**
	comp=Z,26nm,0.9s						
KULM	**Kulim**	**33.12**	**281**	P	**P**	**05 50 37.6**	**-0.6**
KULM	**Kulim**	**33.12**	**281**	P	**P**	**05 50 38.7**	**+0.5**
	comp=Z,40nm,1.1s						
SSE	**Sheshan**	**33.66**	**341**	P	**P**	**05 50 41.9**	**-0.8**
SSE				sP	**sP**	**05 50 54.5**	**-2.0**
SSE				S	**S**	**05 56 03.9**	**+0.4**
SSE				sS	**sS**	**05 56 19.8**	**+0.2**
SSE				pmax	pmax		
	comp=Z,31nm,0.8s						
SSE				pmax	pmax		
	comp=Z,390nm,7.3s						
SSE				LR	LR		
	comp=N,1µm,24.8s						
SSE				LR	LR		
	comp=E,870nm,24.8s						
SSE				LR	LR		
	comp=Z,2µm,19.8s						
MNSI	**Mandailing Nat**	**33.72**	**273**	P	**P**	**05 50 42.2**	**-1.3**
	comp=Z,28nm,0.8s						
JNU	**Nakatsue**	**33.74**	**356**	*e*P	**P**	**05 50 42.5**	**-0.9**
	comp=Z,10nm,0.9s						
KLBR	**Kellerberrin**	**34.03**	**204**	*e*P	**P**	**05 50 45.6**	**-0.3**
	comp=Z,55nm,0.8s						
ARMA	**Armidale**	**34.30**	**151**	*e*P	**P**	**05 50 49.0**	**+0.6**
ARMA	**Armidale**	**34.30**	**151**	*e*P	**P**	**05 50 49.1**	**+0.7**
	comp=Z,39nm,0.8s						
PSI	**Prapat**	**34.51**	**276**	P	**P**	**05 50 48.9**	**-1.6**
	comp=Z,69nm,0.9s,comp=Z,824nm						
TSI	**Tuntungan**	**34.94**	**277**	P	**P**	**05 50 54.5**	**+0.5**
	comp=Z,151nm,0.9s						
NJ2	**Nanjing**	**35.34**	**339**	*e*P	**P**	**05 50 59.1**	**+1.9**
NJ2				pP	**pP**	**05 51 08.1**	**+1.1**
NJ2				sP	**sP**	**05 51 14.4**	**+3.3**
NJ2				PP	**PP**	**05 52 20.2**	**+2.3**
NJ2				S	**S**	**05 56 31.0**	**+1.6**
NJ2				sS	**sS**	**05 56 47.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,50nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.6s						
NJ2				LR	LR		
	comp=N,950nm,24.0s						
NJ2				LR	LR		
	comp=E,1µm,23.4s						
NJ2				LR	LR		
	comp=Z,700nm,19.6s						
NJ2	**Nanjing**	**35.34**	**339**	*e*P	**P**	**05 50 58.8**	**+1.6**
NJ2				pP	**pP**	**05 51 08.1**	**+1.1**
NJ2				sP	**sP**	**05 51 14.4**	**+3.3**
NJ2				PP	**PP**	**05 52 20.2**	**+2.3**
NJ2				S	**S**	**05 56 31.0**	**+1.6**
NJ2				sS	**sS**	**05 56 47.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,40nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.6s						
NJ2				LR	LR		
	comp=N,950nm,24.0s						
NJ2				LR	LR		
	comp=E,1µm,23.4s						
NJ2				LR	LR		
	comp=Z,700nm,19.6s						
NWAO	**Narrogin (SRO)**	**35.41**	**204**	*e*P	**P**	**05 50 58.2**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,31nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.41**	**204**	*e*P	**P**	**05 50 58.2**	**+0.4**
	comp=Z,31nm,0.8s						
WHN	**Wuhan**	**35.93**	**332**	⇑P	**P**	**05 51 04.1**	**+1.8**
WHN				pP	**pP**	**05 51 13.4**	**+1.3**
WHN				sP	**sP**	**05 51 18.9**	**+2.7**
WHN				S	**S**	**05 56 41.5**	**+3.0**
WHN				pmax	pmax		
	comp=Z,49nm,0.7s						
WHN				pmax	pmax		
	comp=Z,850nm,6.0s						
WHN				LR	LR		
	comp=N,3µm,18.9s						
WHN				LR	LR		
	comp=E,580nm,11.7s						
WHN				LR	LR		
	comp=Z,3µm,18.9s						
GYA	**Guiyang**	**37.26**	**318**	P	**P**	**05 51 14.5**	**+0.6**
GYA				pP	**pP**	**05 51 24.6**	**+0.9**
GYA				sP	**sP**	**05 51 30.0**	**+2.2**
GYA				PP	**PnPn**	**05 52 42.3**	**+2.4**
GYA				S	**S**	**05 57 01.4**	**+2.2**
GYA				ScP	**ScP**	**05 57 17.8**	**-0.2**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,2µm,17.4s						
GYA				LR	LR		
	comp=E,740nm,18.3s						
GYA				LR	LR		
	comp=Z,2µm,17.5s						
MAJO	**Matsushiro**	**37.36**	**7**	*e*P	**P**	**05 51 12.0**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,17nm,0.7s						
MAJO	**Matsushiro**	**37.36**	**7**	*e*P	**P**	**05 51 12.0**	**-2.4**
	comp=Z,17nm,0.7s						
MAT	**Matsushiro**	**37.36**	**7**	P	**P**	**05 51 12.1**	**-2.3**
MAT				S	**S**	**05 57 01.0**	**+0.8**
MJAR	**Matsushiro Arr**	**37.36**	**7**	P	**P**	**05 51 12.5**	**-2.0**
	comp=Z,9.3nm,0.8s,baz=197,slow=8.4,SNR=34						
MJAR				LR	LR	06 03 37.1	
	comp=Z,2µm,20.4s,baz=180,slow=32						
MJAR	**Matsushiro Arr**	**37.36**	**7**	P	**P**	**05 51 12.5**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**37.36**	**7**	P	**P**	**05 51 12.5**	**-2.0**
CAN	**Canberra**	**37.41**	**159**	*e*P	**P**	**05 51 15.3**	**+0.4**
CAN				pmax	pmax		
	comp=Z,17nm,0.9s						
CAN	**Canberra**	**37.41**	**159**	*e*P	**P**	**05 51 15.2**	**+0.4**
	comp=Z,17nm,0.9s						
CNB	**Canberra Magne**	**37.54**	**158**	*e*P	**P**	**05 51 16.5**	**+

KMI sS **sS** **05 57 45.4 +1.0**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,260nm,6.5s
KMI LR LR
comp=N,760nm,18.8s
KMI LR LR
comp=E,800nm,23.3s
KMI LR LR
comp=Z,1μm,24.3s
XAN Xi'an 41.46 329 P **P** **05 51 47.5 -1.2**
XAN pP **pP** **05 51 59.0 +0.4**
XAN PP **PnPn** **05 53 34.8 +5.1**
XAN SS SS 06 01 12.2 +5.0
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,110nm,10.1s
XAN LR LR
comp=N,680nm,25.2s
XAN LR LR
comp=E,210nm,23.9s
XAN LR LR
comp=Z,250nm,25.2s
CD2 Chengdu 42.14 321 P **P** **05 51 56.0 +1.7**
CD2 pP **pP** **05 52 06.2 +1.9**
CD2 sP **sP** **05 52 10.5 +2.2**
CD2 PP **PP** **05 53 37.2 +4.8**
CD2 S **S** **05 58 13.5 +1.4**
CD2 sS **sS** **05 58 30.5 +2.0**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,650nm,5.5s
CD2 LR LR
comp=N,1μm,17.8s
CD2 LR LR
comp=Z,1μm,20.2s
BJI Beijing 43.47 341 P **P** **05 52 04.6 -0.3**
BJI pP **pP** **05 52 15.0 +0.1**
BJI sP **sP** **05 52 19.1 +0.2**
BJI PP **PP** **05 53 47.8 +1.3**
BJI S **S** **05 58 30.9 -0.4**
BJI sS **sS** **05 58 49.9 +2.2**
BJI SS **SS** **06 01 47.3 +0.8**
BJI pmax pmax
comp=Z,170nm,0.8s
BJI pmax pmax
comp=Z,520nm,5.2s
BJI LR LR
comp=N,1μm,20.2s
BJI LR LR
comp=E,640nm,21.0s
BJI LR LR
comp=Z,1μm,23.7s
USRK Ussuriysk Arra 44.74 359 P **P** **05 52 14.6 -0.4**
comp=Z,9.4nm,0.8s,baz=169,slow=8.1,SNR=14
USRK LR LR 06 07 09.3
comp=Z,733nm,21.0s,baz=1.8,slow=31
CN2 Changchun 44.88 352 *e*P **P** **05 52 16.1 0.0**
CN2 *e*pP **pP** **05 52 26.2 +0.1**
CN2 *e*sP **sP** **05 52 30.0 -0.1**
CN2 PcP **PcP** **05 53 57.5 +0.1**
CN2 *e*S **S** **05 58 51.8 +0.1**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,19.0s
CN2 LR LR
comp=E,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
MDJ Mudanjiang 45.26 356 P **P** **05 52 19.7 +0.5**
MDJ pP **pP** **05 52 28.6 -0.6**
MDJ sP **sP** **05 52 32.4 -0.8**
MDJ ScP **ScP** **05 57 49.4 +0.4**
MDJ PcS **PcS** **05 57 53.0 +0.5**
MDJ S **S** **05 58 58.9 +1.7**
MDJ pmax pmax
comp=Z,18nm,1.2s
MDJ pmax pmax
comp=Z,140nm,4.6s
MDJ LR LR
comp=N,520nm,26.2s
MDJ LR LR
comp=E,330nm,21.3s
MDJ LR LR
comp=Z,800nm,20.3s
ASAJ Asahikawa 45.42 9 P **P** **05 52 19.4 -0.9**
comp=Z,8.8nm,0.8s,baz=211,slow=18,SNR=3.4
ASAJ Asahikawa 45.42 9 P **P** **05 52 19.5 -0.9**
ASAJ pmax pmax
comp=Z,9.0nm,0.8s
ASAJ Asahikawa 45.42 9 P **P** **05 52 19.4 -0.9**
LZH Lanzhou 45.73 326 *e*P **P** **05 52 23.6 +0.4**
LZH pP **pP** **05 52 32.8 -0.4**
LZH sP **sP** **05 52 35.8 -1.4**
LZH PcP **PcP** **05 54 00.0 -0.8**
LZH *e*S **S** **05 59 04.6 +0.1**
LZH sS **sS** **05 59 20.5 -0.5**
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.5s
LZH LR LR
comp=N,2μm,14.3s
LZH LR LR
comp=E,300nm,10.4s
LZH LR LR
comp=Z,2μm,19.4s
HHC Hu-ho-hao-te 45.85 337 ⇑P **P** **05 52 24.2 +0.2**
HHC pP **pP** **05 52 34.1 +0.1**
HHC sP **sP** **05 52 38.1 +0.1**
HHC PcP **PcP** **05 54 00.1 -0.9**
HHC PP **PP** **05 54 12.6 +0.7**
HHC S **S** **05 59 06.3 +0.3**
HHC sS **sS** **05 59 23.0 +0.5**
HHC SS **ScS** **06 02 23.3 +5.7**
HHC pmax pmax
comp=Z,65nm,1.1s
HHC pmax pmax
comp=Z,750nm,6.1s
HHC LR LR
comp=N,670nm,18.1s
HHC LR LR
comp=E,570nm,17.2s
HHC LR LR
comp=Z,1μm,17.3s
YUK Yuzh-Kuril'sk 45.96 13*de*P P 05 52 20.9 -3.8
YUK 05 54 12.3
YUK *e*PPP PPP 05 54 52.8
YUK *e*S **S** **05 59 07.6 +0.4**
YUK *i* SS **ScS** **06 02 24.5 +6.6**
YUK *i* SSS SSS 06 03 27.9
YUK pmax pmax
comp=Z,63nm,0.2s
YUK MLR MLR
comp=N,782nm,18.0s
YUK MLR MLR
comp=Z,565nm,18.0s
MSVF Nonsavu 47.14 114 *e*P **P** **05 52 36.6 +2.1**
MSVF pmax pmax
comp=Z,13nm,0.8s
MSVF Nonsavu 47.14 114 *e*P **P** **05 52 36.6 +2.1**
comp=Z,13nm,0.8s
SHL Shillong 47.76 306 *e*P **P** **05 52 38.0 -1.3**
SHL *ex* x 06 02 34.0
YSS Yuzh-Sakhalins 48.21 9 *e*P **P** **05 52 41.6 -0.5**
YSS *e* 05 52 53.0
YSS pmax pmax
comp=Z,70nm,0.8s
YSS MLR MLR
comp=N,800nm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 48.21 9 *e*P **P** **05 52 41.6 -0.5**
HABR Khabarovsk 49.03 2 *e*P **P** **05 52 46.5 -1.9**
HABR *e**PP **pP** **05 52 56.3 -2.2**
HABR *e**SP **sP** **05 53 00.6 -1.9**
HABR *e* 05 54 09.7
HABR *e* 05 54 40.4
HABR *e*PPP PPP 05 55 32.1
HABR *e*S **S** **05 59 49.3 -1.4**
HABR *e**SS **sS** **06 00 06.3 -1.0**
HABR *e* 06 02 35.9
HABR *e*SS **SS** **06 03 22.4 +0.3**
HABR *e*SSS SSS 06 04 39.9
HABR pmax pmax
comp=E,59nm,2.6s
HABR pmax pmax
comp=Z,29nm,1.1s
HABR pmax pmax
comp=N,17nm,1.2s
HABR MLR MLR
comp=Z,468nm,18.0s
KLR Kul'dur 49.78 359 *e*P **P** **05 52 51.7 -2.5**
LSA Lhasa 50.27 311 P **P** **05 52 58.4 -0.5**
LSA sP **sP** **05 53 10.6 -2.4**
LSA S **S** **06 00 11.0 +1.2**
LSA LR LR
comp=Z,570nm,32.8s
GTA Gaotai 50.33 326 ⇑P **P** **05 52 58.7 0.0**
GTA pP **pP** **05 53 08.9 +0.1**
GTA sP **sP** **05 53 12.8 0.0**
GTA S **S** **06 00 08.3 -1.3**
GTA sS **sS** **06 00 25.1 -1.1**
GTA pmax pmax
comp=Z,11nm,1.8s
GTA pmax pmax
comp=Z,430nm,4.0s
GTA LR LR
comp=N,500nm,21.9s
GTA LR LR
comp=E,550nm,20.9s
GTA LR LR
comp=Z,900nm,21.9s
OUZ Omahuta 50.85 137 *e*P P 05 53 05.8 +3.3
TAPN Taplejung 51.90 306 *e*P **P** **05 53 09.9 -1.1**
comp=Z,39nm,0.9s
TAPN Taplejung 51.90 306 *e*P **P** **05 53 09.9 -1.1**
comp=Z,39nm,0.9s
ODAN Odare 51.96 305 *e*P **P** **05 53 10.3 -1.0**
comp=Z,86nm,0.7s
ODAN Odare 51.96 305 *e*P **P** **05 53 10.3 -1.0**
comp=Z,86nm,0.7s
RAMN Ramite 52.64 305 *e*P **P** **05 53 15.6 -0.8**
comp=Z,92nm,0.7s
RAMN Ramite 52.64 305 *e*P **P** **05 53 15.6 -0.8**
comp=Z,92nm,0.7s
JIRN Jiri 53.26 306 *e*P **P** **05 53 20.1 -1.0**
comp=Z,58nm,0.6s
JIRN Jiri 53.26 306 *e*P **P** **05 53 20.1 -1.0**
comp=Z,58nm,0.6s
ULN Ulaanbaatar 53.51 338 *e*P **P** **05 53 22.5 +0.2**
ULN *e* 05 54 28.8
ULN pmax pmax
comp=Z,60nm,1.4s
ULN Ulaanbaatar 53.51 338 *e*P **P** **05 53 22.5 +0.2**
comp=Z,60nm,1.4s
ULN *e*PcP **PcP** **05 54 28.8 -0.1**
ULN Ulaanbaatar 53.51 338 P **P** **05 53 22.5 +0.2**
comp=Z,38nm,1.6s,comp=Z,867nm
GUN Gumba 53.61 306 *e*P **P** **05 53 22.6 -1.1**
comp=Z,80nm,0.7s
GUN Gumba 53.61 306 *e*P **P** **05 53 22.6 -1.1**
comp=Z,80nm,0.7s
SONM Songino Array 53.73 338 P **P** **05 53 23.9 0.0**
comp=Z,5.9nm,0.8s,baz=154,slow=6.8,SNR=32
SONM PcP **PcP** **05 54 29.7 +0.1**
comp=Z,11nm,0.8s,baz=153,slow=3.2,SNR=8.5
SONM LR LR 06 16 34.6
comp=Z,1μm,19.8s,baz=254,slow=36
SONM Songino Array 53.73 338 P **P** **05 53 23.9 0.0**
SONM 05 54 29.7
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,11nm,0.8s
SONM MLR MLR
comp=Z,1μm,19.8s
SONM Songino Array 53.73 338 P **P** **05 53 23.9 0.0**
SONM PcP **PcP** **05 54 29.7 +0.1**
PKI Pulchoki 53.86 305 *e*P **P** **05 53 24.0 -1.4**
comp=Z,27nm,0.6s
PKI Pulchoki 53.86 305 *e*P **P** **05 53 24.0 -1.4**
PKI pmax pmax
comp=Z,27nm,0.6s
PKI Pulchoki 53.86 305 *e*P **P** **05 53 24.0 -1.4**
comp=Z,27nm,0.6s
KKN Kakani 54.05 306 *e*P **P** **05 53 25.3 -1.4**
KKN Kakani 54.05 306 *e*P **P** **05 53 25.3 -1.4**
KKN Kakani 54.05 306 *e*P **P** **05 53 25.3 -1.4**
DMN Daman 54.12 305 *e*P **P** **05 53 26.2 -1.1**
comp=Z,43nm,0.6s
DMN Daman 54.12 305 *e*P **P** **05 53 26.2 -1.1**
comp=Z,43nm,0.6s
RPZ Rata Peaks 54.43 147 LR LR 06 18 19.4
comp=Z,2μm,18.1s,baz=306,slow=38
RPZ Rata Peaks 54.43 147 *e*P **P** **05 53 29.9 +1.0**
comp=Z,90nm,1.0s
GKN Gorkha 54.66 306 *e*P **P** **05 53 29.9 -1.1**
comp=Z,70nm,0.9s
GKN Gorkha 54.66 306 *e*P **P** **05 53 29.9 -1.1**
comp=Z,70nm,0.9s
URZ Urewera 54.87 138 LR LR 06 17 47.6
comp=Z,1μm,18.4s,baz=114,slow=37
URZ Urewera 54.87 138 *e*P **P** **05 53 33.1 +1.0**
comp=Z,16nm,0.7s
URZ *e*PcP **PcP** **05 54 36.7 +2.7**
URZ *e*ScP **ScP** **05 58 25.9 -4.4**
KHZ Kahutara 55.01 144 *e*P **P** **05 53 33.0 -0.1**
comp=Z,33nm,0.8s
CIT Chita 55.13 345 *e*P **pP** **05 53 44.9 +0.9**
CIT pmax pmax
comp=Z,271nm,2.4s
KOLN Koldanda 55.42 305 *e*P **P** **05 53 35.8 -0.8**
comp=Z,129nm,0.7s
KOLN Koldanda 55.42 305 *e*P **P** **05 53 35.8 -0.8**
comp=Z,129nm,0.7s
DANN Dangsing 55.51 306 *e*P **P** **05 53 36.3 -1.0**
DANN Dangsing 55.51 306 *e*P **P** **05 53 36.3 -1.0**
HYB Hyderabad 56.79 291 *i* P **P** **05 53 43.5 -2.9**
ZAK Zakamensk 56.99 338 *e*P **P** **05 53 47.8 +0.5**
ZAK *e* 05 53 59.2
ZAK *e* 05 54 42.4
ZAK pmax pmax
comp=Z,11nm,1.0s
PEA0B Petropavlovsk- 57.40 17 *e*P **P** **05 53 49.0 -1.0**
PETK Petropavlovsk- 57.40 17 P **P** **05 53 49.5 -0.4**
comp=Z,28nm,0.9s,baz=181,slow=4.3,SNR=25
PETK LR LR 06 17 45.8
comp=Z,366nm,19.8s,baz=208,slow=35
PETK Petropavlovsk- 57.40 17 P **P** **05 53 49.5 -0.4**
PETK pmax pmax
comp=Z,28nm,0.9s
PETK Petropavlovsk- 57.40 17 P **P** **05 53 49.5 -0.4**
PET Petropavlovsk 57.61 18 *e*P P 05 53 59.2 +7.8
PET *e*S S 06 01 55.2 +8.0
PET pmax pmax
comp=Z,20nm,0.9s
CLNS Chul'man 57.78 355 *e*P **P** **05 53 54.2 +1.6**
CLNS *e* 05 54 45.0
CLNS *e* 05 55 58.2
CLNS *e*PPP PPP 05 57 25.2
CLNS *e*S S 06 02 00.1 +11
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS smax smax
comp=E,122nm,15.6s
CLNS smax smax
comp=N,254nm,14.4s
CLNS MLR MLR
comp=N,200nm,15.0s
CLNS MLR MLR
comp=Z,363nm,19.0s
CLNS MLR MLR
comp=N,393nm,18.0s
TLY Talaya 57.90 339 *e*P **P** **05 53 55.7 +2.1**
TLY *e*S S 06 01 44.7 -6.5
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,613nm,19.0s
IRK Irkutsk 58.14 339 *e*P **P** **05 53 54.8 -0.4**
IRK *e* 05 54 42.1
IRK pmax pmax
comp=Z,83nm,2.2s
MOY Mondy 58.89 337 *e*P **P** **05 54 01.0 +0.4**
MOY pmax pmax
comp=Z,76nm,1.7s
AGRA Agra 59.95 302 *e*P **P** **05 54 06.1 -2.1**
AGRA AMb AMB 05 54 08.5
comp=Z,58nm,0.3s
WMQ Urumqi 60.14 323 P **P** **05 54 09.6 +0.3**
WMQ pP **pP** **05 54 19.6 0.0**
WMQ sP **sP** **05 54 23.6 +0.1**
WMQ PcP **PcP** **05 54 52.6 -2.2**
WMQ S **S** **06 02 18.7 -1.8**
WMQ pmax pmax
comp=Z,130nm,0.8s
WMQ pmax pmax
comp=Z,560nm,3.7s
WMQ LR LR
comp=N,470nm,27.6s
WMQ LR LR
comp=E,450nm,21.9s
WMQ LR LR
comp=Z,570nm,23.0s
BOD Bodaibo 60.36 348 *e*P **P** **05 54 10.2 -0.2**
BOD pmax pmax
comp=Z,38nm,1.2s
DDI Dehra Dun 60.86 306 *ex* **P** **05 54 17.0 +2.5**
AYAN Aya Nagar 61.02 303 *e*P **P** **05 54 13.1 -2.5**
AYAN AMb AMB 05 54 19.0
comp=Z,12nm,0.4s
KKR Kurukshetra 61.75 305 *e*P **P** **05 54 18.3 -2.2**
KHET Khetri 62.01 302 *e*P **P** **05 54 20.8 -1.5**
KHET AMb AMB 05 54 23.6
comp=Z,24nm,0.9s
SDNR Sundarnagar 62.14 307 *e*P **P** **05 54 21.0 -2.0**
YAK Yakutsk 62.65 358 *e*P **P** **05 54 24.9 -0.9**
YAK *e* 05 55 03.7
YAK *e* 05 56 44.0
YAK *e*PPP PPP 05 58 12.5
YAK *e*S **S** **06 02 45.9 -5.7**
YAK *e* 06 04 06.3
YAK *e*SS **SS** **06 06 55.2 -1.4**
YAK pmax pmax
comp=Z,80nm,1.0s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=Z,106nm,3.8s
YAK pmax pmax
comp=N,135nm,4.9s
YAK pmax pmax
comp=E,56nm,3.3s
YAK smax smax
comp=N,82nm,3.6s
YAK smax smax
comp=E,117nm,3.3s
YAK Yakutsk 62.65 358 *e*P **P** **05 54 24.9 -0.9**
comp=E,65nm,0.8s
MK31 Makanchi Array 64.95 324 *e*P **P** **05 54 41.2 -0.1**
MK31 Makanchi Array 64.95 324 *e*P **P** **05 54 41.2 -0.1**
MKAR Makanchi Array 64.95 324 P **P** **05 54 41.3 -0.1**
comp=E,63nm,0.6s,baz=116,slow=7.6,SNR=451
MKAR LR LR 06 24 28.3
comp=E,343nm,19.5s,baz=114,slow=37
MKAR Makanchi Array 64.95 324 P **P** **05 54 41.3 -0.1**
MKAR pmax pmax
comp=Z,63nm,0.6s
MKAR MLR MLR
comp=Z,343nm,19.5s
MKAR Makanchi Array 64.95 324 P **P** **05 54 41.3 -0.1**
SEY Seymchan 65.10 10 *e*P **P** **05 54 42.5 +0.6**
KSH Kashi 65.80 314 P **P** **05 54 48.1 +1.0**
KSH *e*pP **pP** **05 54 58.1 +0.6**
KSH *e*sP **sP** **05 55 02.2 +0.8**
KSH *e*PcP **PcP** **05 55 19.2 +1.1**
KSH *e*PP **PP** **05 57 14.7 +2.4**
KSH *e*ScP 05 59 18.6
KSH *e*PcS 05 59 22.5
KSH *e*S **S** **06 03 28.7 -3.0**
KSH *e*ScS **SKSac** **06 04 37.4 -3.3**
KSH pmax pmax
comp=Z,16nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.1s
KSH LR LR
comp=N,140nm,5.8s
KSH LR LR
comp=E,130nm,5.8s
KSH LR LR
comp=Z,270nm,6.6s
KZA Kyzart 67.30 317 P **P** **05 54 57.7 +0.7**
SNR=25
KZA P **P** **05 54 57.7 +0.7**
SNR=25
TKM2 Tokmak 2 67.40 318 P **P** **05 54 57.5 +0.1**
SNR=26
TKM2 P **P** **05 54 57.5 +0.1**
SNR=26
TKM2 Tokmak 2 67.40 318 *i* P **P** **05 54 57.5 +0.1**
ZAA0 Zalesovo Array 67.55 331 *e*P **P** **05 54 56.6 -1.2**
ZALV Zalesovo Beam 67.55 331 P **P** **05 54 56.6 -1.2**
comp=Z,27nm,0.9s,baz=104,slow=6.0,SNR=48
ZALV LR LR 06 26 25.5
comp=Z,286nm,19.8s,baz=99,slow=38
ZALV Zalesovo Beam 67.55 331 P **P** **05 54 56.6 -1.2**
ZALV pmax pmax
comp=Z,27nm,0.9s
ZALV MLR MLR
comp=Z,286nm,19.8s
ZALV Zalesovo Beam 67.55 331 P **P** **05 54 56.6 -1.2**
KBK Karagaybulak 67.74 317 P **P** **05 54 59.8 +0.3**
SNR=25
KBK P **P** **05 54 59.8 +0.3**
SNR=25
UCH Uchtor 67.86 317 P **P** **05 55 01.7 +1.1**
SNR=9.1
UCH P **P** **05 55 01.7 +1.1**
SNR=9.1
CHMS Chumysh 68.00 318 P **P** **05 55 01.1 +0.1**
SNR=17
CHMS P **P** **05 55 01.1 +0.1**
SNR=17
AAK Ala-Archa 68.03 317 P **P** **05 55 01.6 +0.3**
SNR=11
AAK P **P** **05 55 01.6 +0.3**
SNR=11
AAK Ala-Archa 68.03 317 *i* P **P** **05 55 01.4 +0.1**
AAK pmax pmax
comp=Z,43nm,1.2s
AAK Ala-Archa 68.03 317 P **P** **05 55 01.0 -0.3**
comp=Z,103nm,0.9s,SNR=7.8
USP Ospenovka 68.28 318 P **P** **05 55 02.6 0.0**
SNR=39
USP P **P** **05 55 02.6 0.0**
SNR=39
AML Almayashu 68.39 316 P **P** **05 55 04.5 +0.7**
SNR=6.0
AML P **P** **05 55 04.5 +0.7**
SNR=6.0
EKS2 Erkin-Say 68.53 317 P **P** **05 55 04.8 +0.3**
SNR=37
EKS2 P **P** **05 55 04.8 +0.3**
SNR=37
NVS Novosibirsk 68.82 332 ⇑*i*P **P** **05 55 03.7 -2.0**
NVS *e*S **S** **06 04 01.6 -5.6**
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,25nm,1.2s
NVS pmax pmax
comp=Z,54nm,1.2s
NVS smax smax
comp=N,12nm,2.5s
NVS smax smax
comp=E,22nm,2.5s
KURK Kurchatov 69.02 326 P **P** **05 55 06.7 -0.4**
comp=E,105nm,0.8s,baz=120,slow=5.8,SNR=342
KURK Kurchatov 69.02 326 P **P** **05 55 06.7 -0.4**
KURK pmax pmax

comp=Z,105nm,0.8s
KURK MLR MLR
comp=Z,291nm,18.7s
KURK Kurchatov 69.02 326 *e*P **P** 05 55 06.7 -0.4
comp=Z,113nm,0.8s
KURK Kurchatov 69.02 326 P **P** 05 55 06.2 -0.8
comp=Z,892nm,0.8s
KBL Kabul 69.40 307 *e*P **P** 05 55 09.8 -0.3
KBL pmax pmax
comp=Z,12nm,0.7s
KBL Kabul 69.40 307 *e*P **P** 05 55 09.8 -0.3
comp=Z,12nm,0.7s
KIP Kipapa 70.51 67 *ce*P **P** 05 55 18.6 +1.8
KIP pmax pmax
comp=Z,202nm,2.5s
KKAR Karatay Array 70.93 316 *e*P **P** 05 55 18.5 -0.5
KKAR pmax pmax
comp=Z,53nm,0.7s
KKAR Karatay Array 70.93 316 *e*P **P** 05 55 18.5 -0.5
comp=Z,53nm,0.7s
MIR Mirnyy 71.52 196 *e*P **P** 05 55 22.0 -0.1
MIR pmax pmax
comp=Z,70nm,1.0s
BILL Bilibino 72.31 12⇑ *e*P **P** 05 55 26.9 +0.1
BILL pmax pmax
comp=Z,5.0nm,0.7s
BILL Bilibino 72.31 12 *e*P **P** 05 55 26.8 -0.1
comp=Z,7.6nm,0.9s
BRVK Borovoye 74.69 326 *e*P **P** 05 55 40.5 -0.6
BRVK pmax pmax
comp=Z,41nm,0.8s
BRVK Borovoye 74.69 326 *e*P **P** 05 55 40.5 -0.6
comp=Z,41nm,0.8s
BRVK Borovoye 74.69 326 P **P** 05 55 40.8 -0.3
comp=Z,356nm,0.6s,SNR=39
GAMB Gambell 75.92 22 *e*P **P** 05 55 47.5 -0.4
comp=Z,17nm,1.0s
MRIV Mauritius Mete 76.41 249 *e*P **P** 05 55 51.8 +0.1
IDAH Dahanechah 76.47 304 *e*P **P** 05 55 52.0 -0.1
IKOO Kooshah 77.14 303 *e*P **P** 05 55 55.2 -0.6
ITEG Tejag 77.42 304 *e*P **P** 05 55 57.1 -0.3
PPT2 Papeete2 77.54 108 *e*S **S** 06 05 47.4 -0.2
comp=Z,649nm,28.5s
PPT2 *e*LR LR 06 20 06.1
comp=Z,1μm,32.5s
TBI Tubuai 78.03 114 *e*S **S** 06 05 54.1 +1.5
comp=Z,362nm,26.0s
TBI *e*LR LR 06 20 19.9
comp=Z,752nm,31.2s
TNA Tin City 78.23 21 *e*P **P** 05 56 01.1 +0.3
comp=Z,9.0nm,1.0s
ABKT Ailbek 78.76 309 P **P** 05 56 04.5 0.0
comp=Z,249nm,1.2s,SNR=7.6
ISHV Shirvan 79.02 308 *e*P **P** 05 56 06.2 +0.1
SBA Scott Base 79.11 173 *e*P **P** 05 56 07.2 +1.7
SBA pmax pmax
comp=Z,188nm,2.0s
SBA Scott Base 79.11 173 *e*P **P** 05 56 07.2 +1.7
comp=Z,188nm,2.0s
ABKAR Akbulak array 79.72 320 *e*P **P** 05 56 08.4 -1.0
comp=Z,19nm,0.7s
SVE Sverdlovsk 81.17 328⇓ *i*P **P** 05 56 16.3 -0.7
SVE pmax pmax
comp=Z,21nm,0.9s
OHAK Old Harbor 81.69 32 *e*P **P** 05 56 19.6 -0.2
comp=Z,44nm,1.0s
IANJ Anjilo 81.75 306 *e*P **P** 05 56 17.8 -3.1
TTA Tatalina 81.96 26 *e*P **P** 05 56 21.5 +0.3
TTA pmax pmax
comp=Z,22nm,0.9s
TTA Tatalina 81.96 26 *e*P **P** 05 56 21.5 +0.3
comp=Z,22nm,0.9s
ARU Arti 82.18 327 *d i*P **P** 05 56 21.1 -1.2
ARU 05 59 25.5
ARU PPP PPP 06 01 24.5
ARU S **S** 06 06 34.9 -0.1
ARU pmax pmax
comp=Z,31nm,0.8s
ARU Arti 82.18 327 *e*P **P** 05 56 21.3 -1.1
comp=Z,26nm,0.8s
ARU Arti 82.18 327 P **P** 05 56 21.6 -0.7
comp=Z,206nm,0.9s,SNR=12
KDAK Kodiak Island 82.20 31 P **P** 05 56 23.4 +1.0
comp=Z,41nm,0.8s,baz=236,slow=2.7,SNR=9.7
KDAK Kodiak Island 82.20 31 P **P** 05 56 23.4 +1.0
KDAK pmax pmax
comp=Z,41nm,0.8s
KDAK Kodiak Island 82.20 31 *e*P **P** 05 56 22.4 0.0
comp=Z,47nm,0.8s
KDAK Kodiak Island 82.20 31 P **P** 05 56 23.9 +1.5
comp=Z,339nm,0.8s,SNR=10
ISHM Shahmirzad 82.29 306 *e*P **P** 05 56 23.2 -0.6
IFIR Firoozkooh 82.71 306 *e*P **P** 05 56 24.7 -1.2
RSO Redoubt South 82.77 29 *e*P **P** 05 56 26.1 +0.5
comp=Z,35nm,0.9s
IDMV Damavand 83.29 306 *e*P **P** 05 56 29.7 +0.7
IKLH Kolahrood 83.45 303 *e*P **P** 05 56 27.6 -2.2
PPLA Purkeypile 83.63 26 *e*P **P** 05 56 29.4 -0.6
comp=Z,13nm,0.8s
PPLA *e*pP **pP** 05 56 39.5 -1.2
PPLA *e*sP **sP** 05 56 44.8 +0.3
SOKR Solikamsk 83.79 330 *e*P **P** 05 56 31.0 +0.5
SOKR pmax pmax
comp=Z,30nm,0.9s
SLKM Skilak Lake 84.00 29 *e*P **P** 05 56 30.5 -1.2
SLKM Skilak Lake 84.00 29 *e*P **P** 05 56 30.5 -1.2
SEW Seward 84.30 29 *e*P **P** 05 56 32.2 -1.0
comp=Z,44nm,0.9s
RC01 Rabbit Creek A 84.36 28 *e*P **P** 05 56 32.4 -1.1
comp=Z,36nm,0.8s
TRF Thorofare Moun 84.60 26 *e*P **P** 05 56 33.7 -1.2
comp=Z,17nm,1.0s
PMR Palmer 84.74 28 *e*P **P** 05 56 34.4 -1.0
PMR pmax pmax
comp=Z,19nm,0.9s
PMR Palmer 84.74 28 *e*P **P** 05 56 34.4 -1.0
comp=Z,19nm,0.9s
SML Sawmill 85.16 28 *e*P **P** 05 56 37.3 -0.3
SML pmax pmax
comp=Z,14nm,0.9s
SML Sawmill 85.16 28 *e*P **P** 05 56 37.3 -0.3
comp=Z,14nm,0.9s
MCK McKinley 85.25 26 *e*P **P** 05 56 37.1 -0.9
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 85.25 26 *e*P **P** 05 56 37.1 -0.9
comp=Z,41nm,1.0s
COLD Coldfoot 85.46 22 *e*P **P** 05 56 39.0 +0.1
comp=Z,12nm,0.9s
COLA College 85.93 25 *e*P **P** 05 56 40.3 -0.9
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 85.93 25 *e*P **P** 05 56 40.3 -0.9
comp=Z,11nm,0.8s
ABPO Ambohimpanom 86.02 251 *e*P **P** 05 56 42.4 -0.6
ABPO pmax pmax
comp=Z,22nm,1.0s
ABPO Ambohimpanom 86.02 251 *e*P **P** 05 56 42.4 -0.6
comp=Z,22nm,1.0s
DIV Divide 86.26 29 *e*P **P** 05 56 43.2 +0.1
comp=Z,101nm,0.9s
ILAR Eielson Array 86.32 25 P **P** 05 56 41.6 -1.6
comp=Z,15nm,0.8s,baz=252,slow=4.3,SNR=108
ILAR PKKPbc **PKKPbc** 06 14 41.0 -2.8
comp=Z,0.6nm,0.9s,baz=93,slow=1.9,SNR=5.8
ILAR LR LR 06 32 27.2
comp=Z,235nm,19.9s,baz=274,slow=34
ILAR Eielson Array 86.32 25 P **P** 05 56 41.7 -1.6
ILAR pmax pmax
comp=Z,15nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 86.32 25 P **P** 05 56 41.6 -1.6
ILAR PKKPbc **PKKPbc** 06 14 41.0 -2.8
KBD Kabd 86.48 299 *e*P **P** 05 56 43.4 -1.4
KBD AMb AMB 05 56 46.5
comp=Z,53nm,1.1s
TAOE Nuku Hiva Isla 86.51 99 *e*LR LR 06 24 17.4
comp=Z,866nm,24.4s
PAX Paxson 86.66 27 *e*P **P** 05 56 45.0 -0.1
PAX pmax pmax
comp=Z,33nm,1.3s
PAX Paxson 86.66 27 *e*P **P** 05 56 45.0 -0.1
comp=Z,33nm,1.3s
BMRM Bremner River 86.80 29 *e*P **P** 05 56 45.1 -0.6
comp=Z,67nm,0.9s

MIB Mutribah 86.82 300 *e*P **P** 05 56 45.1 -1.3
MIB AMb AMB 05 56 47.3
comp=Z,31nm,1.3s
NAY Al-Naaiem 86.88 299 *e*P **P** 05 56 44.9 -1.9
NAY AMb AMB 05 56 47.2
comp=Z,42nm,0.7s
ISRB Sarab 86.96 308 *e*P **P** 05 56 44.8 -2.4
DOT Dot Lake 87.38 26 *e*P **P** 05 56 48.4 -0.1
comp=Z,6.7nm,0.8s
MAK Makhachkala 87.38 313 *e*P P 05 56 44.9 -3.9
MAK *e* 06 00 16.1
MAK *e*S **SKSac** 06 07 11.3 -2.9
MAK pmax pmax
comp=Z,126nm,1.0s
MENT Mentasta 87.45 27 *e*P **P** 05 56 49.9 +1.1
EGAK Eagle 88.76 25 *e*P **P** 05 56 55.1 +0.2
comp=Z,5.7nm,0.8s
BHD Baghdad 89.46 303 *i*P **P** 05 56 56.0 -2.9
BHD *e*PP PP 06 00 43.0 +13
BHD *i*S S 06 07 40.0 -7.4
DAWY Dawson 89.48 26 *e*P **P** 05 56 58.2 -0.2
DAWY *e*pP **pP** 05 57 08.9 -0.3
ZEI Tsey 90.02 313 *e*P **P** 05 57 03.3 +1.6
ZEI pmax pmax
comp=Z,12nm,0.9s
SYO Syowa Base 90.65 201⇓ *e*P **P** 05 57 02.4 -1.3
RKT Rikitea 91.34 113 *e*LR LR 06 26 29.0
comp=Z,710nm,29.5s
INK Inuvik 91.86 22 P **P** 05 57 07.4 -1.8
comp=Z,6.5nm,0.8s,baz=311,slow=3.4,SNR=22
INK Inuvik 91.86 22 *e*P **P** 05 57 07.5 -1.8
INK *e**PP **pP** 05 57 17.4 -2.6
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 91.86 22 *e*P **P** 05 57 07.5 -1.8
comp=Z,12nm,1.1s
INK *e*pP **pP** 05 57 17.4 -2.6
OBN Obninsk 94.44 325 *e*P **P** 05 57 20.3 -1.1
OBN *e* 06 01 10.7
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,400nm,16.0s
SPITS Spitsbergen Ar 96.06 349 LR LR 06 41 43.9
comp=Z,691nm,20.5s,baz=60,slow=36
JOF Joensuu 96.08 333 *e*P **P** 05 57 26.1 -2.7
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 96.08 333 *e*p **P** 05 57 26.1 -2.7
comp=Z,4.5nm,0.6s
JOF Joensuu 96.08 333 *e*p **P** 05 57 26.1 -2.7
comp=Z,4.5nm,0.6s
KEV Kevo 96.27 340 *e*P P 05 57 26.0 -3.5
KEV pmax pmax
comp=Z,8.0nm,0.7s
KEV Kevo 96.27 340 *e*p P 05 57 26.0 -3.5
comp=Z,7.6nm,0.7s
KEV Kevo 96.27 340 *e*p P 05 57 26.0 -3.5
comp=Z,7.6nm,0.7s
ARCES ARCESS Array B 96.84 340 P **P** 05 57 29.9 -2.2
comp=Z,27nm,0.8s,baz=76,slow=5.1,SNR=22
ARCES LR LR 06 47 24.7
comp=Z,704nm,18.5s,baz=79,slow=39
ARCES ARCESS Array B 96.84 340 P **P** 05 57 29.9 -2.2
ARCES pmax pmax
comp=Z,27nm,0.8s
ARCES ARCESS Array B 96.84 340 P **P** 05 57 29.9 -2.2
BRTR Keskin Array B 97.88 310 P **P** 05 57 35.1 -2.6
comp=Z,0.7nm,0.8s,baz=132,slow=3.7,SNR=4.2
BRTR Keskin Array B 97.88 310 *i*P Pdif 05 57 38.0 +0.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 97.88 310 P **P** 05 57 35.1 -2.6
KAF Kangasniemi 98.53 333 *e*P **P** 05 57 37.7 -2.1
KAF pmax pmax
comp=Z,4.0nm,0.9s
KAF Kangasniemi 98.53 333 *e*p **P** 05 57 37.7 -2.1
comp=Z,4.2nm,0.9s
KAF Kangasniemi 98.53 333 *e*p **P** 05 57 37.7 -2.1
comp=Z,4.2nm,0.9s
FINES FINESS Array B 98.80 332 P **P** 05 57 38.7 -2.4
comp=Z,8.2nm,0.9s,baz=169,slow=3.9,SNR=8.5
FINES LR LR 06 44 50.5
comp=Z,1μm,20.4s,baz=209,slow=37
FINES FINESS Array B 98.80 332 P **P** 05 57 38.7 -2.4
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES MLR MLR
comp=Z,1μm,20.4s
FINES FINESS Array B 98.80 332 P **P** 05 57 38.7 -2.4
AKASG Malin Array Be 99.44 321 P **Pdif** 05 57 41.1 -3.1
comp=Z,2.5nm,0.9s,baz=72,slow=4.2,SNR=7.9
AKASG LR LR 06 51 02.0
comp=Z,426nm,18.9s,baz=55,slow=40
AKASG Malin Array Be 99.44 321 P **Pdif** 05 57 41.1 -3.1
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 99.44 321 P **Pdif** 05 57 41.1 -3.1
SNAA Sanae 102.48 193 *e* **PKiKP** 06 02 20.0 +1.4
BUR08 Bucovina Ar. S 102.65 319 *e*Pdif **Pdif** 05 57 57.7 -1.0
VNA2 Neumayer--Watz 104.03 192 *e* **PKiKP** 06 02 22.9 +1.6
baz=43,slow=1.0
UZH Uzhgorod 104.29 320 *e*P **Pdif** 05 58 06.3 +0.5
NVAR Mina Array Bea 104.83 50 Pdiff **Pdif** 05 58 09.3 +0.5
comp=Z,1.4nm,0.9s,baz=257,slow=5.6,SNR=7.7
NVAR Mina Array Bea 104.83 50 Pdif **Pdif** 05 58 09.3 +0.5
NB2 NORSAR Subarra 105.62 335 P **Pdif** 05 58 08.9 -2.6
comp=Z,2.2nm,0.8s,baz=64,slow=4.4
NOA NORSAR Array B 105.62 335 Pdiff **Pdif** 05 58 09.2 -2.3
comp=Z,2.0nm,0.8s,baz=64,slow=4.5,SNR=7.3
NOA NORSAR Array B 105.62 335 P **Pdif** 05 58 09.2 -2.3
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 105.62 335 Pdif **Pdif** 05 58 09.2 -2.3
L18A Fontenelle, Gr 110.09 45⇑ P **PKiKP** 06 02 33.9 +0.1
baz=110
PDAR Pinedale Array 110.17 44 PKKPbc PKKPbc 06 13 35.0 -1.7
comp=Z,1.4nm,0.8s,baz=113,slow=5.4,SNR=8.8
PDAR Pinedale Array 110.17 44 PKKPbc PKKPbc 06 13 35.0 -1.7
O20A White River Ci 111.95 47⇑ P **PKiKP** 06 02 36.7 -0.6
baz=112
J22A Midwest 112.07 43⇓ P **PKiKP** 06 02 36.4 -0.9
baz=112
E24A Baker 112.27 39⇓ P **PKiKP** 06 02 37.4 -0.1
baz=112
S21A Coal Bank Pass 113.06 49⇑ P **PKiKP** 06 02 39.4 -0.2
baz=113
X21A Alamocita Cree 114.02 52⇓ P **PKiKP** 06 02 41.8 +0.4
baz=114
HINF Hinteralfeld 114.17 324 *e*PKIKP PKPdf 06 02 40.7 -0.4
HAU Haudompre 114.37 324 *e*PKIKP PKPdf 06 02 40.4 -1.0
comp=Z,6.1nm,0.9s
CABF La Chapelle 115.19 323 *e*PKIKP **PKPdf** 06 02 43.4 +0.3
comp=Z,7.2nm,0.8s
LPG La Plagne 115.31 321 *e*PKIKP **PKPdf** 06 02 42.9 -0.7
comp=Z,15nm,1.1s
LPL La Plagne 115.31 321 *e*PKIKP **PKPdf** 06 02 42.9 -0.7
comp=Z,8.9nm,0.8s
U24A Moreno Valley 115.36 50⇓ P **PKPdf** 06 02 43.9 -0.1
baz=115
ULM Lac du Bonnet 115.44 33 PKKPbc PKKPbc 06 13 20.9 +2.1
comp=Z,6.6nm,0.8s,baz=116,slow=4.1,SNR=9.6
ULM Lac du Bonnet 115.44 33 PKKPbc PKKPbc 06 13 20.9 +2.1
SBF Sospel 115.60 319 *e*PKIKP **PKPdf** 06 02 44.8 +0.8
comp=Z,19nm,0.7s
ORIF Oris-en-Rattie 116.12 321 *e*PKIKP **PKPdf** 06 02 44.8 -0.2
S26A Kim 116.30 48⇓ P **PKPdf** 06 02 45.6 0.0
baz=116
W25A X Bar L Ranch, 116.38 51⇓ P **PKPdf** 06 02 46.2 +0.4
baz=116
Y25A Mesa, Roswell 116.62 52⇑ P **PKPdf** 06 02 46.3 -0.1
baz=117
324A Moseley Ranch, 116.73 55⇑ P **PKPdf** 06 02 46.3 -0.3
baz=117
MNTX Cornudas Mount 116.74 55⇑ P **PKPdf** 06 02 46.9 +0.4
baz=117
MNTX ⇑P **PKPdf** 06 02 46.9 +0.4
baz=117
VIVF Saint-Julien-l 116.90 321 *e*PKIKP **PKPdf** 06 02 46.3 -0.1
comp=Z,7.6nm,0.8s
425A Indio Mountain 117.33 55⇓ P **PKPdf** 06 02 47.6 -0.2
baz=117
Y27A Causey 117.83 52⇓ P **PKPdf** 06 02 48.9 +0.3
baz=118
Z27A Tatum 117.98 52⇓ P **PKPdf** 06 02 49.2 +0.3
baz=118

526A Mary Lane Ranc 118.28 56⇑ P **PKPdf** 06 02 49.6 -0.1
baz=118
427A Hayter Ranch, 118.61 55⇑ P **PKPdf** 06 02 50.1 -0.1
baz=119
527A Woodward Ranch 118.65 56⇓ P **PKPdf** 06 02 50.0 -0.3
baz=119
TXAR Lajitas Array 118.85 57 PKP **PKPdf** 06 02 49.4 -1.3
comp=Z,0.6nm,0.7s,baz=204,slow=1.8,SNR=8.4
TXAR PKKPbc **PKKPbc** 06 13 07.2 +0.9
comp=Z,1.0nm,0.6s,baz=120,slow=4.7,SNR=15
TXAR Lajitas Array 118.85 57 PKIKP **PKPdf** 06 02 49.4 -1.3
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 118.85 57 PKP **PKPdf** 06 02 49.4 -1.3
TXAR PKKPbc **PKKPbc** 06 13 07.2 +0.9
MFF Saint Martin d 118.88 325 *e*PKIKP **PKPdf** 06 02 49.9 -0.2
comp=Z,16nm,1.0s
627A Terlingua Ranc 119.04 56⇑ P **PKPdf** 06 02 51.3 +0.2
baz=119
MTLF Montolieu 119.19 321 *e*PKIKP **PKPdf** 06 02 50.7 -0.1
comp=Z,8.7nm,0.9s
JCT Junction City 121.67 54 *e*PKIKP **PKPdf** 06 02 55.6 -0.4
JCT Junction City 121.67 54 *e*PKPdf **PKPdf** 06 02 55.6 -0.4
JCT Junction City 121.67 54⇑ P **PKPdf** 06 02 55.8 -0.3
baz=122
ESDC Sonseca Array 125.07 320 PKP **PKPdf** 06 03 01.5 -0.8
comp=Z,0.7nm,0.8s,baz=24,slow=2.6,SNR=4.2
ESDC PP **PP** 06 04 50.5 -0.4
comp=Z,1.7nm,0.9s,baz=46,slow=7.4,SNR=6.7
ESDC Sonseca Array 125.07 320 PKP **PKPdf** 06 03 01.5 -0.8
ESDC PP **PP** 06 04 50.5 -0.4
OLIL Olney 126.49 40 *e*PKPdf **PKPdf** 06 03 05.5 +0.6
TORD Torodi Ar. Bea 130.48 287 PKhKP PKPpre 06 03 02.8
comp=Z,0.8nm,1.0s,baz=358,slow=1.2,SNR=3.5
TORD PKP **PKPdf** 06 03 12.2 -1.0
comp=Z,4.3nm,0.7s,baz=56,slow=1.8,SNR=24
TORD Torodi Ar. Bea 130.48 287 PKPpre PKPpre 06 03 02.8
TORD PKP **PKPdf** 06 03 12.2 -1.0
PLCA Paso Flores 133.39 155 PKP **PKPdf** 06 03 18.7 +0.6
comp=Z,3.9nm,0.7s,baz=171,slow=2.1,SNR=11
PLCA Paso Flores 133.39 155 PKIKP **PKPdf** 06 03 18.7 +0.6
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA Paso Flores 133.39 155 PKP **PKPdf** 06 03 18.7 +0.6
DBIC Dimbokro 137.82 279 PKhKP PKPpre 06 03 15.5
comp=Z,3.7nm,0.8s,baz=112,slow=6.0,SNR=5.1
DBIC PKP **PKPdf** 06 03 26.7 -0.3
comp=Z,4.5nm,0.9s,baz=132,slow=4.8,SNR=4.6
DBIC Dimbokro 137.82 279 *i* PKHKP PKPpre 06 03 15.5
DBIC 06 03 26.7
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 137.82 279 PKPpre PKPpre 06 03 15.5
DBIC PKP **PKPdf** 06 03 26.7 -0.3
TRQA Tornquist 138.92 162 *e*PKPdf **PKPdf** 06 03 28.1 -0.3
CFAA Coronel Fontan 141.93 150 PKhKP PKPpre 06 03 30.8
comp=Z,1.1nm,0.8s,baz=251,slow=2.5,SNR=12
CFAA Coronel Fontan 141.93 150 PKPpre PKPpre 06 03 30.8
LCO Las Campanas 142.58 144 *e*PKPdf **PKPdf** 06 03 31.1 -4.4
NNA Nana 147.54 114 PKPbc **PKPbc** 06 03 46.6 -0.2
comp=Z,26nm,1.0s,baz=244,slow=6.1,SNR=11
NNA Nana 147.54 114 *e*PKIKP **PKPdf** 06 03 44.1 -0.1
NNA 06 03 46.6
NNA Nana 147.54 114 *e*PKPdf **PKPdf** 06 03 44.1 -0.1
NNA PKPbc **PKPbc** 06 03 46.6 -0.2
OTAV Otavalo 148.28 91 *e*PKPdf **PKPdf** 06 03 46.3 +0.3
LVC Limon Verde 148.30 138 *e*PKPdf **PKPdf** 06 03 46.6 +1.1
CPUP Villa Florida 151.22 160 PKP **PKPdf** 06 03 50.0 +0.3
comp=Z,4.5nm,0.8s,baz=333,slow=5.2,SNR=7.6
CPUP PKPbc **PKPbc** 06 03 56.0 +0.4
comp=Z,22nm,0.7s,baz=204,slow=0.3,SNR=45
CPUP Villa Florida 151.22 160 PKIKP **PKPdf** 06 03 50.0 +0.3
CPUP 06 03 56.0
CPUP pmax pmax
comp=Z,5.0nm,0.8s
CPUP pmax pmax
comp=Z,22nm,0.7s
CPUP Villa Florida 151.22 160 PKP **PKPdf** 06 03 50.0 +0.3
CPUP PKPbc **PKPbc** 06 03 56.0 +0.4
ROSC El Rosal 152.14 81 PKP **PKPdf** 06 03 52.7 +0.7
comp=Z,6.6nm,0.8s,baz=99,slow=18,SNR=9.7
ROSC PKPbc **PKPbc** 06 04 00.0 +1.4
comp=Z,15nm,0.8s,baz=91,slow=23,SNR=16
ROSC El Rosal 152.14 81 *e*PKPdf **PKPdf** 06 03 52.2 +0.3
ROSC PKP **PKPdf** 06 03 52.7 +0.7
ROSC *e*PKPbc **PKPbc** 06 03 59.7 +1.1
ROSC PKPbc **PKPbc** 06 04 00.0 +1.4
LPAZ La Paz 152.95 130 PKP **PKPdf** 06 03 54.3 +1.0
comp=Z,4.4nm,0.8s,baz=44,slow=0.8,SNR=14
LPAZ PKPbc **PKPbc** 06 04 01.6 +1.0
comp=Z,14nm,0.9s,baz=228,slow=2.9,SNR=18
LPAZ La Paz 152.95 130 PKIKP **PKPdf** 06 03 54.3 +1.0
LPAZ 06 04 01.6
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ pmax pmax
comp=Z,14nm,1.0s
LPAZ La Paz 152.95 130 PKP **PKPdf** 06 03 54.3 +1.0
LPAZ PKPbc **PKPbc** 06 04 01.6 +1.0
LRS Lares 153.64 47 *e*PKPab **PKPab** 06 04 14.4 +0.5
CELP Cerrillos 153.97 47 *e*PKPab **PKPab** 06 04 16.0 +0.8
SDV Santo Domingo 154.86 70 *e*PKPdf **PKPdf** 06 03 55.4 -0.2
SIV San Ignacio 158.17 140 PKP **PKPdf** 06 03 59.9 +0.3
comp=Z,2.3nm,0.8s,baz=202,slow=2.6,SNR=9.5
SIV San Ignacio 158.17 140 PKP **PKPdf** 06 03 59.9 +0.3
SAML Samuel 161.00 121 *e*PKPdf **PKPdf** 06 04 03.0 +0.1
SAML *e*PKPab **PKPab** 06 04 46.8 +1.1

IDC 04 05:54:54.2±2.7, 0.82S×133.19E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=136.4km s-min=26.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.04**	**177**	P	P	P	05 59 18.4	+0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**22.72**	**178**	P	P	P	05 59 57.9	-0.1
	0.6nm,0.6s,baz=5.7,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**64.98**	**324**	P	P	P	06 05 36.0	-0.1
	0.3nm,1.0s,baz=108,slow=7.7,SNR=2.0							

IDC 04 05:56:28.9±1.3, 0.16S×133.27E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/16, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=68.3km s-min=24.7km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.69**	**177**	P	P	P	06 00 59.9	0.0
	0.1nm,0.3s,baz=354,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**23.38**	**179**	P	P	P	06 01 39.6	+0.2
	2.0nm,0.8s,baz=357,slow=12,SNR=7.5							
MKAR	**Makanchi Array**	**64.49**	**324**	P	P	P	06 07 07.8	+0.3
	0.3nm,0.7s,baz=116,slow=6.7,SNR=3.5							
ILAR	**Eielson Array**	**85.81**	**25**	P	P	P	06 09 09.6	-0.4
	0.2nm,0.6s,baz=250,slow=4.7,SNR=2.9							

IDC 04 05:57:57.3±3.0, 1.32N×67.29E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=194.6km s-min=27.1km az=125.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.15**	**14**	P	P	P	06 06 31.1	-0.4
	0.3nm,0.9s,baz=191,slow=5.9,SNR=3.3							
BOSA	**Boshof**	**50.06**	**230**	P	P	P	06 06 53.8	-0.5
	2.6nm,1.1s,baz=27,slow=2.3,SNR=3.2							
ZALV	**Zalesovo Beam**	**54.41**	**13**	P	P	P	06 07 25.6	-0.4
	0.7nm,0.6s,baz=209,slow=9.0,SNR=3.8							
SONM	**Songino Array**	**57.34**	**30**	P	P	P	06 07 47.1	-0.3
	0.5nm,0.9s,baz=217,slow=0.7,SNR=4.4							
TXAR	**Lajitas Array**	**148.31**	**345**	PKPbc	PKPbc		06 17 46.8	+0.4
	0.8nm,0.8s,baz=56,slow=2.8,SNR=8.5							

IDC 04 05:59:22.2±3.4, 0.45S×133.11E, h0km, mb2.9/2,

mb1 3.3/3,**mb1mx3.1**/16,**mbtmp3.0**/3,**ML3.1**/1,**Error ellipse: s-maj=185.8km s-min=27.5km az=75.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**177**	P		P	P	06 03 50.5	+0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=3.1								
ASAR	**Alice Springs**	**23.09**	**178**	P		P	P	06 04 29.6	-0.1
	0.2nm,0.3s,baz=357,slow=10,SNR=4.2								
MKAR	**Makanchi Array**	**64.64**	**324**	P		P	P	06 10 01.8	-0.1
	0.1nm,0.6s,baz=116,slow=9.8,SNR=2.0								

IDC 04 06:04:01.4±2.3,0.20S×132.87E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/17,mbtmp3.6/4,ML3.9/1,MS4.0/1, Ms1 4.0/1,ms1mx2.9/18,Error ellipse: s-maj=134.1km s-min=22.8km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.68**	**176**	P		P	P	06 08 32.0	-0.3
	0.3nm,0.3s,baz=355,slow=11,SNR=11								
ASAR	**Alice Springs**	**23.35**	**178**	P		P	P	06 09 11.8	+0.2
	1.4nm,0.6s,baz=351,slow=8.9,SNR=15								
PETK	**Petropavlovsk-**	**57.02**	**18**	LR		LR	LR	06 35 54.6	
	comp=Z,132nm,18.9s,baz=148,slow=34								
MKAR	**Makanchi Array**	**64.29**	**324**	P		P	P	06 14 38.7	0.0
	0.4nm,0.6s,baz=114,slow=8.0,SNR=5.8								
KURK	**Kurchatov**	**68.36**	**326**	P		P	P	06 15 04.7	+0.1
	0.7nm,1.0s,baz=120,slow=5.3,SNR=4.1								

*DJA **04** 06:04:28,0.94N×130.81E,h470km,mb4.9/6*
IDC 04 06:04:19.6±1.0,0.61S×133.68E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/17,mbtmp3.9/8,MS3.8/1,Ms1 3.8/1, ms1mx3.3/20,Error ellipse: s-maj=65.4km s-min=17.2km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**178**	P		P	Pn	06 08 46.0	-0.4
	0.4nm,0.3s,baz=5.9,slow=13,SNR=12								
ASAR	**Alice Springs**	**22.92**	**179**	P		P	P	06 09 25.1	-0.3
	4.7nm,0.8s,baz=3.2,slow=12,SNR=16								
CBIJ	**Chichi jima**	**28.74**	**16**	LR		LR	LR	06 19 53.0	
	comp=Z,203nm,19.4s,baz=306,slow=32								
STKA	**Stephens Creek**	**31.99**	**167**	P		P	P	06 10 47.7	0.0
	1.6nm,0.8s,baz=300,slow=15,SNR=4.0								
SONM	**Songino Array**	**53.77**	**337**	P		P	P	06 13 45.0	+1.0
	0.9nm,1.0s,baz=131,slow=4.5,SNR=5.3								
MKAR	**Makanchi Array**	**65.10**	**324**	P		P	P	06 15 02.5	+0.3
	1.1nm,0.8s,baz=118,slow=8.1,SNR=9.4								
ZALV	**Zalesovo Beam**	**67.64**	**331**	P		P	P	06 15 17.1	-1.3
	0.8nm,0.3s,baz=134,slow=4.2,SNR=2.0								
KURK	**Kurchatov**	**69.15**	**326**	P		P	P	06 15 28.0	+0.2
	2.3nm,0.9s,baz=118,slow=5.9,SNR=15								
ILAR	**Eielson Array**	**86.04**	**25**	P		P	P	06 17 01.8	-0.1
	0.7nm,1.0s,baz=238,slow=3.1,SNR=3.8								

*BJI **04** 06:05:07.1,1.70S×134.72E,h35km,mB5.1/18,mb4.8/41, Ms4.8/22,Ms7 4.5/22*
*IDC **04** 06:05:10.5±0.5,0.64S×133.83E,h0km,mb4.3/15, mb1 4.5/17,mb1mx4.5/20,mbtmp4.4/17,ML4.2/2,MS4.2/4, Ms1 4.2/4,ms1mx3.6/22,Error ellipse: s-maj=26.4km s-min=12.1km az=72.0*
*ISCJB **04** 06:05:12.8±0.3,0.63S±0.03×134.13E±0.05,h27km, mb4.7/58,MS4.3/11,Error ellipse: s-maj=6.9km s-min=4.4km az=170.0*
*NEIC **04** 06:05:15.8±0.3,0.66S×134.04E,h35km,mb4.9/25,Error ellipse: s-maj=10.2km s-min=5.9km az=67.0*
*MOS **04** 06:05:17.0±1.4,0.11S×133.78E,h33km,mb5.0/16,Error ellipse: s-maj=21.1km s-min=9.2km az=116.2*
*DJA **04** 06:05:23,1.21S×133.90E,h15km,mb5.0/32*
ISC 04 06:05:15.8±0.3,0.83S±0.04×134.16E±0.06,h27km,n190, σ1.9 92/171,mb4.8/58,MS4.4/11,6C-2D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.98**	**197**	P		P	**Pn**	**06 06 31.3**	**+2.4**
MSAI	**Masohi**	**5.80**	**244**	P		P	**Pn**	**06 06 42.0**	**+1.9**
	148nm,0.9s,2μm0.7nm								
AAI	**Ambon**	**6.61**	**244**	P		P	**Pn**	**06 06 50.9**	**-0.3**
	650nm,1.0s,5μm2.0nm								
LBMI	**Labuha**	**6.67**	**272**	P		P	**Pn**	**06 06 51.6**	**-0.4**
	235nm,1.3s,3μm1.0nm								
TNTI	**Ternate**	**6.98**	**283**	P		P	Pn	06 07 03.3	+7.0
	103nm,1.1s,0.4nm								
NLAI	**Namlea**	**7.45**	**251**	P		P	**Pn**	**06 07 03.1**	**+0.3**
	296nm,0.8s,6μm0.9nm								
KMSI	**Cibinong**	**10.28**	**278**	P		P	Pn	06 07 57.2	+16
LUWI	**Luwuk**	**11.39**	**269**	P		P	Pn	06 08 00.7	+3.8
	120nm,1.0s,1μm								
TTSI	**Tana Toraja**	**14.50**	**261**	P		P	P	06 08 53.3	+7.5
BKSI	**Bulukumba**	**14.71**	**252**	P		P	**P**	**06 08 45.3**	**-2.8**
	62nm,0.7s,694nm								
SPSI	**Sidrap Palu**	**14.71**	**258**	P		P	**P**	**06 08 46.5**	**-1.6**
	44nm,0.9s								
KAPI	**Kappang**	**14.98**	**254**	*e*Pn		P	**Pn**	**06 08 45.9**	**0.0**
	55nm,0.9s								
KAPI	**Kappang**	**14.98**	**254**	P		P	**P**	**06 08 49.0**	**-2.1**
	50nm,1.0s,710nm								
PMG	**Port Moresby**	**15.49**	**124**	Pn		P	**Pn**	**06 08 54.6**	**+2.0**
	0.3nm,0.3s,baz=281,slow=16,SNR=2.0								
PMG	**Port Moresby**	**15.49**	**124**	*ce*P		P	**Pn**	**06 08 54.3**	**+1.8**
PMG					pmax	pmax			
	comp=Z,31nm,1.5s								
PMG	**Port Moresby**	**15.49**	**124**	*e*Pn		P	**Pn**	**06 08 54.1**	**+1.6**
	comp=Z,40nm,1.0s								
COEN	**Coen**	**15.80**	**146**	*e*P		P	**Pn**	**06 08 58.6**	**+2.0**
	comp=Z,65nm,0.6s								
COEN	**Coen**	**15.80**	**146**	*e*Pn		P	**Pn**	**06 08 58.2**	**+1.7**
	comp=Z,1μm,2.5s								
MYLDM	**Lahad Datu**	**16.75**	**291**	P		P	P	06 09 17.0	+6.3
	comp=Z,131nm,1.0s								
WRAB	**Tennant Creek**	**18.99**	**179**	*e*P		P	**P**	**06 09 35.6**	**+0.2**
WRAB					pmax	pmax			
	comp=Z,95nm,0.9s								
WRAB	**Tennant Creek**	**18.99**	**179**	*e*P		P	**P**	**06 09 35.6**	**+0.2**
	comp=Z,94nm,0.9s								
WRA	**Warramunga Arr**	**19.00**	**179**	P		P	**P**	**06 09 35.1**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=356,slow=12,SNR=30								
WRA					S		Sn	06 13 00.4	-8.1
	comp=Z,0.1nm,0.3s,baz=357,slow=24,SNR=2.8								
WRA					LR		LR	06 17 29.9	
	comp=Z,318nm,21.0s,baz=350,slow=38								
WRA	**Warramunga Arr**	**19.00**	**179**	P		P	**P**	**06 09 35.1**	**-0.5**
WRA	**Warramunga Arr**	**19.00**	**179**	P		P	**P**	**06 09 35.1**	**-0.5**
WRA					S		Sn	06 13 00.4	-8.1
WB2	**Warramunga Arr**	**19.00**	**179**	*e*P		P	**P**	**06 09 35.5**	**0.0**
WB2					*e*Sn		**Sn**	**06 13 09.2**	**+0.7**
KKM	**Kota Kinabalu**	**19.18**	**291**	*e*Pn		P	**P**	**06 09 37.1**	**-0.5**
	comp=Z,166nm,1.5s								
KKM	**Kota Kinabalu**	**19.18**	**291**	P		P	**Pn**	**06 09 42.1**	**+3.4**
	comp=Z,76nm,1.7s								
MTNI	**Mataram**	**19.52**	**246**	P		P	Pn	06 09 48.8	+6.1
KHKI	**Kahang-Kahang**	**19.94**	**247**	P		P	Pn	06 09 54.2	+6.5
JAGI	**Jajag, Banyuwa**	**21.33**	**249**	P		P	P	06 10 11.1	+10
BLJI	**Banyuglugur**	**21.62**	**251**	P		P	P	06 10 15.9	+12
CTAO	**Charters Tower**	**22.50**	**149**	*e*P		P	**P**	**06 10 14.0**	**+0.5**
CTAO					pmax	pmax			
	comp=Z,21nm,0.8s								
CTAO	**Charters Tower**	**22.50**	**149**	*e*P		P	**P**	**06 10 14.0**	**+0.5**
	comp=Z,21nm,0.8s								
ASAR	**Alice Springs**	**22.70**	**181**	P		P	**P**	**06 10 15.5**	**-0.1**
	comp=Z,40nm,0.8s,baz=6.6,slow=10,SNR=14								
ASAR					S		**S**	**06 14 21.5**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=48,slow=47,SNR=2.8								
ASAR	**Alice Springs**	**22.70**	**181**	P		P	**P**	**06 10 15.5**	**-0.1**
ASAR	**Alice Springs**	**22.70**	**181**	P		P	**P**	**06 10 15.5**	**-0.1**
ASAR					S		**S**	**06 14 21.5**	**-1.1**
STKI	**Sintang**	**22.70**	**272**	P		P	P	06 10 22.0	+6.3
	comp=Z,52nm,0.8s								
KSM	**Kuching**	**23.96**	**275**	*e*P		P	**P**	**06 10 25.8**	**-2.4**
	comp=Z,26nm,0.8s								
MBWA	**Marble Bar**	**24.63**	**214**	*e*P		P	**P**	**06 10 33.5**	**-0.8**
	comp=Z,23nm,0.8s								
SSLB	**Suanglung**	**27.63**	**333**	*e*P		P	**P**	**06 10 58.0**	**-3.3**
	comp=Z,35nm,1.0s								
JOW	**Kunigami**	**28.08**	**349**	LR		LR	LR	06 20 24.7	
	comp=Z,543nm,18.2s,baz=29,slow=33								
FORT	**Forrest**	**30.34**	**190**	*e*P		P	P	06 11 21.3	-4.0
	comp=Z,20nm,0.7s								
QIZ	**Qiongzhong**	**30.98**	**311**	P		P	**P**	**06 11 29.6**	**-1.5**
STKA	**Stephens Creek**	**31.67**	**168**	P		P	**P**	**06 11 36.5**	**-0.5**
	comp=Z,6.5nm,0.7s,baz=336,slow=8.1,SNR=8.4								
STKA					LR		LR	06 25 28.9	
	comp=Z,649nm,19.4s,baz=342,slow=38								
STKA	**Stephens Creek**	**31.67**	**168**	*e*P		P	**P**	**06 11 37.5**	**+0.5**
	comp=Z,6.8nm,0.8s								
STKA	**Stephens Creek**	**31.67**	**168**	P		P	**P**	**06 11 36.5**	**-0.5**
STKA	**Stephens Creek**	**31.67**	**168**	P		P	**P**	**06 11 36.5**	**-0.5**
BBOO	**Buckleboo**	**31.86**	**177**	*e*P		P	P	06 11 45.5	+6.8
	comp=Z,268nm,1.1s								
ARMA	**Armidale**	**33.78**	**152**	*e*P		P	P	06 12 02.1	+6.4
JNU	**Nakatsue**	**33.91**	**355**	*e*P		P	**P**	**06 11 53.7**	**-2.9**
	comp=Z,17nm,1.1s								
KLBR	**Kellerberrin**	**34.31**	**205**	*e*P		P	**P**	**06 11 58.4**	**-1.7**
	comp=Z,19nm,1.2s								
NJ2	**Nanjing**	**35.77**	**337**	*e*P		P	P	06 12 17.1	+4.4
NJ2					pmax	pmax			
	comp=Z,40nm,1.0s								
WHN	**Wuhan**	**36.46**	**331**	P		P	P	06 12 22.7	+4.1
MJAR	**Matsushiro Arr**	**37.37**	**5**	P		P	P	06 12 22.3	-4.0
	comp=Z,2.8nm,0.9s,baz=185,slow=8.4,SNR=5.8								
MJAR					LR		LR	06 24 14.0	
	comp=Z,333nm,21.2s,baz=155,slow=31								
MJAR	**Matsushiro Arr**	**37.37**	**5**	P		P	P	06 12 22.3	-4.0
MJAR	**Matsushiro Arr**	**37.37**	**5**	P		P	P	06 12 22.3	-4.0
GYA	**Guiyang**	**37.94**	**318**	P		P	**P**	**06 12 30.0**	**-1.4**
GYA					pP		**pP**	**06 12 40.5**	**+1.1**
GYA					sP		**sP**	**06 12 46.8**	**+4.1**
GYA					PP		**PnPn**	**06 14 01.7**	**+2.0**
GYA					S		**S**	**06 18 20.0**	**-1.8**
GYA					ScP		**ScP**	**06 18 30.6**	**-2.5**
GYA					pmax	pmax			
	comp=Z,20nm,0.8s								
GYA					pmax	pmax			
	comp=Z,120nm,5.4s								
GYA					LR	LR			
	comp=N,690nm,17.7s								
GYA					LR	LR			
	comp=E,540nm,18.1s								
GYA					LR	LR			
	comp=Z,780nm,17.9s								
TOO	**Toolangi**	**38.02**	**165**	*e*P		P	**P**	**06 12 34.1**	**+2.2**
	comp=Z,30nm,0.9s								
KSAR	**Wonju Array Be**	**38.52**	**352**	P		P	P	06 12 31.1	-4.9
KSAR	**Wonju Array Be**	**38.52**	**352**	P		P	P	06 12 31.1	-4.9
KSRS	**Korea Array**	**38.53**	**352**	P		P	P	06 12 31.1	-4.9
	comp=Z,0.8nm,0.9s,baz=169,slow=8.7,SNR=2.9								
CM31	**Chiang Mai Arr**	**39.57**	**301**	*e*P		P	P	06 12 40.7	-4.4
	comp=Z,8.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**39.57**	**301**	P		P	P	06 12 40.9	-4.2
	comp=Z,11nm,0.7s,baz=116,slow=6.3,SNR=9.4								
CMAR	**Chiang Mai Arr**	**39.57**	**301**	P		P	P	06 12 40.9	-4.2
CMAR	**Chiang Mai Arr**	**39.57**	**301**	P		P	P	06 12 40.9	-4.2
CHTO	**Chiang Mai**	**39.72**	**301**	*e*P		P	**P**	**06 12 45.1**	**-1.2**
CHTO					pmax	pmax			
	comp=Z,18nm,0.8s								
CHTO	**Chiang Mai**	**39.72**	**301**	*e*P		P	**P**	**06 12 45.1**	**-1.2**
	comp=Z,18nm,0.8s								
KMI	**Kunming**	**39.88**	**313**	P		P	P	06 12 52.1	+4.3
KMI					pmax	pmax			
	comp=Z,17nm,1.2s								
XAN	**Xi'an**	**42.01**	**328**	P		P	P	06 13 08.3	+3.3
XAN					pmax	pmax			
	comp=Z,4.0nm,0.9s								
CD2	**Chengdu**	**42.79**	**320**	P		P	**P**	**06 13 11.4**	**0.0**
CD2					pP		**pP**	**06 13 21.7**	**+2.1**
CD2					sP		**sP**	**06 13 25.9**	**+3.1**
CD2					PP		**PP**	**06 14 53.5**	**+2.5**
CD2					S		**S**	**06 19 32.2**	**-1.9**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,340nm,7.7s								
CD2					LR	LR			
	comp=N,400nm,16.7s								
CD2					LR	LR			
	comp=Z,410nm,14.3s								
BJT	**Baijiatuau**	**43.85**	**340**	*e*P		P	P	06 13 16.5	-3.3
BJT					pmax	pmax			
	comp=Z,74nm,0.9s								
BJT	**Baijiatuau**	**43.85**	**340**	*e*P		P	P	06 13 16.5	-3.3
	comp=Z,74nm,0.9s								
BJI	**Beijing**	**43.87**	**340**	P		P	**P**	**06 13 16.8**	**-3.1**
BJI					pmax	pmax			
	comp=Z,19nm,1.0s								
USRK	**Ussuriysk Arra**	**44.87**	**358**	P		P	**P**	**06 13 25.1**	**-2.8**
	comp=Z,2.5nm,0.7s,baz=176,slow=8.3,SNR=7.8								
CN2	**Changchun**	**45.11**	**351**	*e*P		P	**P**	**06 13 32.8**	**+3.0**
CN2					*es*P		sP	06 13 46.6	+5.4
CN2					*e*S		**S**	**06 20 09.1**	**+1.6**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
CN2					LR	LR			
	comp=N,300nm,15.0s								
CN2					LR	LR			
	comp=E,300nm,15.0s								
CN2					LR	LR			
	comp=Z,300nm,17.0s								
ASAJ	**Asahikawa**	**45.38**	**9**	P		P	**P**	**06 13 29.6**	**-2.3**
	comp=Z,8.8nm,0.8s,baz=95,slow=11,SNR=2.5								
ASAJ	**Asahikawa**	**45.38**	**9**	P		P	**P**	**06 13 29.6**	**-2.3**
MDJ	**Mudanjiang**	**45.43**	**355**	P		P	**P**	**06 13 32.6**	**+0.3**
MDJ					pP		**pP**	**06 13 41.6**	**+1.1**
MDJ					sP		**sP**	**06 13 45.4**	**+1.6**
MDJ					PcS		**PcS**	**06 19 05.0**	**0.0**
MDJ					S		**S**	**06 20 13.2**	**+1.2**
MDJ					sS		**sS**	**06 20 28.6**	**+3.1**
MDJ					pmax	pmax			
	comp=Z,11nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,360nm,8.4s								
MDJ					LR	LR			
	comp=N,130nm,25.5s								
MDJ					LR	LR			
	comp=E,99nm,18.0s								
MDJ					LR	LR			
	comp=Z,160nm,26.8s								
MDJ	**Mudanjiang**	**45.43**	**355**	P		P	**P**	**06 13 30.8**	**-1.5**
	comp=Z,18nm,1.0s								
HHC	**Hu-ho-hao-te**	**46.30**	**336**	*e*P		P	**P**	**06 13 39.8**	**+0.4**
HHC					pP		**pP**	**06 13 49.4**	**+1.8**
HHC					sP		**sP**	**06 13 53.7**	**+2.9**
HHC					PcP		**PcP**	**06 15 15.6**	**+1.1**
HHC					PP		**PP**	**06 15 28.3**	**-0.1**
HHC					S		**S**	**06 20 24.6**	**-0.3**
HHC					pmax	pmax			
	comp=Z,20nm,1.0s								
HHC					pmax	pmax			
	comp=Z,560nm,9.8s								
HHC					LR	LR			
	comp=N,290nm,13.3s								
HHC					LR	LR			
	comp=E,190nm,14.7s								
HHC					LR	LR			
	comp=Z,310nm,15.1s								
LZH	**Lanzhou**	**46.31**	**326**	*e*P		P	**P**	**06 13 38.9**	**-0.7**
LZH					pP		**pP**	**06 13 48.7**	**+0.9**
LZH					sP		**sP**	**06 13 52.7**	**+1.6**
LZH					PcP		**PcP**	**06 15 12.2**	**-2.5**
LZH					PP		**PP**	**06 15 27.2**	**-1.5**
LZH					*es*		S	**06 20 22.6**	**-2.8**
LZH					pmax	pmax			
	comp=Z,10.0nm,1.2s								
LZH					pmax	pmax			
	comp=Z,57nm,5.1s								
LZH					LR	LR			
	comp=N,220nm,10.2s								
LZH					LR	LR			
	comp=E,210nm,13.6s								
LZH					LR	LR			
	comp=Z,290nm,14.0s								
YSS	**Yuzh-Sakhalins**	**48.18**	**8**	*e*P		P	**P**	**06 13 54.8**	**+1.1**
SHL	**Shillong**	**48.55**	**306**	*e*P		P	**P**	**06 13 56.0**	**-1.2**
SHL					*ex*		x	07 21 37.0	
HABR	**Khabarovsk**	**49.11**	**1**	*e*P		P	P	06 14 07.4	+6.5
HABR					*e*			06 15 20.8	
HABR					*e*PPP		PPP	06 16 43.2	
HABR					*es*		**S**	**06 21 00.6**	**-3.7**
HABR					*e**SS		sS	06 21 17.5	-0.4
HABR					*e*			06 23 47.1	
HABR					pmax	pmax			
	comp=N,35nm,1.8s								
HABR					pmax	pmax			
	comp=E,37nm,1.8s								
HABR					pmax	pmax			
	comp=Z,32nm,1.2s								
HABR					MLR	MLR			
	comp=Z,174nm,21.0s								
KLR	**Kul'dur**	**49.91**	**358**	*e*P		P	P	06 14 01.8	-5.2
GTA	**Gaotai**	**50.92**	**326**	⇓P		P	**P**	**06 14 16.1**	**+1.1**
GTA					pP		**pP**	**06 14 26.2**	**+2.9**
GTA					sP		**sP**	**06 14 30.2**	**+3.7**
GTA					S		**S**	**06 21 31.4**	**+1.3**
GTA					sS		**sS**	**06 21 48.3**	**+4.5**
GTA					pmax	pmax			
	comp=Z,9.0nm,1.4s								
GTA					pmax	pmax			
	comp=Z,270nm,5.2s								
GTA					LR	LR			
	comp=N,230nm,19.2s								
GTA					LR	LR			
	comp=E,370nm,19.0s								
GTA					LR	LR			
	comp=Z,260nm,17.6s								
LSA	**Lhasa**	**51.02**	**310**	P		P	**P**	**06 14 16.4**	**+0.1**
LSA	**Lhasa**	**51.02**	**310**	*e*P		P	**P**	**06 14 15.5**	**-0.9**
LSA					pmax	pmax			
	comp=Z,19nm,0.8s								
LSA	**Lhasa**	**51.02**	**310**	*e*P		P	**P**	**06 14 15.4**	**-0.9**
	comp=Z,19nm,0.8s								
TAPN	**Taplejung**	**52.69**	**306**	*e*P		P	P	06 14 24.3	-4.3
	comp=Z,85nm,1.1s								
TAPN	**Taplejung**	**52.69**	**306**	*e*P		P	P	06 14 24.3	-4.3
ODAN	**Odare**	**52.75**	**305**	*e*P		P	P	06 14 24.2	-4.8
	comp=Z,111nm,0.9s								
ODAN	**Odare**	**52.75**	**305**	*e*P		P	P	06 14 24.2	-4.8
RAMN	**Ramite**	**53.43**	**305**	*e*P		P	P	06 14 28.4	-5.6
	comp=Z,133nm,0.8s								
RAMN	**Ramite**	**53.43**	**305**	*e*P		P	P	06 14 28.4	-5.6
ULN	**Ulaanbaatar**	**53.94**	**338**	*e*P		P	**P**	**06 14 34.4**	**-2.8**
ULN					pmax	pmax			
	comp=Z,23nm,1.1s								
ULN	**Ulaanbaatar**	**53.94**	**338**	*e*P		P	**P**	**06 14 34.4**	**-2.8**
	comp=Z,23nm,1.1s								
JIRN	**Jiri**	**54.05**	**306**	*e*P		P	P	06 14 34.4	-4.3
	comp=Z,54nm,0.8s								
JIRN	**Jiri**	**54.05**	**306**	*e*P		P	P	06 14 34.4	-4.3
SONM	**Songino Array**	**54.16**	**337**	P		P	**P**	**06 14 35.7**	**-3.1**
	comp=Z,4.0nm,1.0s,baz=149,slow=6.9,SNR=5.4								
SONM					PcP		**PcP**	**06 15 43.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=157,slow=4.7,SNR=2.5								
SONM	**Songino Array**	**54.16**	**337**	P		P	**P**	**06 14 35.7**	**-3.1**
SONM								06 15 43.6	
SONM	**Songino Array**	**54.16**	**337**	P		P	**P**	**06 14 35.7**	**-3.1**
SONM					PcP		**PcP**	**06 15 43.6**	**+0.4**
URZ	**Urewera**	**54.19**	**139**	P		P	**P**	**06 14 40.8**	**+1.7**
	comp=Z,7.0nm,0.9s,baz=332,slow=15,SNR=3.7								
URZ	**Urewera**	**54.19**	**139**	P		P	**P**	**06 14 40.8**	**+1.7**
GUN	**Gumba**	**54.40**	**306**	*e*P		P	P	06 14 36.8	-4.4
	comp=Z,84nm,0.8s								
GUN	**Gumba**	**54.40**	**306**	*e*P		P	P	06 14 36.8	-4.4
PKI	**Pulchoki**	**54.65**	**305**	*e*P		P	P	06 14 38.2	-4.8
PKI	**Pulchoki**	**54.65**	**305**	*e*P		P	P	06 14 38.2	-4.8
PKI	**Pulchoki**	**54.65**	**305**	*e*P		P	P	06 14 38.2	-4.8
KKN	**Kakani**	**54.84**	**305**	*e*P		P	P	06 14 39.4	-4.9
	comp=Z,58nm,0.8s								
KKN	**Kakani**	**54.84**	**305**	*e*P		P	P	06 14 39.4	-4.9
KKN	**Kakani**	**54.84**	**305**	*e*P		P	P	06 14 39.4	-4.9
DMN	**Daman**	**54.91**	**305**	*e*P		P	P	06 14 40.9	-3.9
	comp=Z,79nm,0.9s								
DMN	**Daman**	**54.91**	**305**	*e*P		P	P	06 14 40.9	-3.9
GKN	**Gorkha**	**55.45**	**305**	*e*P		P	P	06 14 44.0	-4.6
GKN	**Gorkha**	**55.45**	**305**	*e*P		P	P	06 14 44.0	-4.6
KOLN	**Koldanda**	**56.21**	**305**	*e*P		P	P	06 14 49.5	-4.6
	comp=Z,133nm,0.8s								
KOLN	**Koldanda**	**56.21**	**305**	*e*P		P	P	06 14 49.5	-4.6
DANN	**Dangsing**	**56.29**	**305**	*e*P		P	P	06 14 51.2	-3.6
DANN	**Dangsing**	**56.29**	**305**	*e*P		P	P	06 14 51.2	-3.6
PETK	**Petropavlovsk-**	**57.23**	**17**	P		P	**P**	**06 14 59.4**	**-1.3**
	comp=Z,5.4nm,1.0s,baz=142,slow=9.9,SNR=2.7								
PETK	**Petropavlovsk-**	**57.23**	**17**	P		P	**P**	**06 14 59.4**	**-1.3**
PETK	**Petropavlovsk-**	**57.23**	**17**	P		P	**P**	**06 14 59.4**	**-1.3**
ZAK	**Zakamensk**	**57.43**	**337**	*e*P		P	**P**	**06 15 03.6**	**+1.4**
ZAK					pmax	pmax			
	comp=Z,10.0nm,1.1s								
HYB	**Hyderabad**	**57.66**	**291**	*i*P		P	**P**	**06 15 03.0**	**-1.4**
MOY	**Mondy**	**59.34**	**337**	*e*P		P	**P**	**06 15 13.2**	**-2.3**
BOD	**Bodaibo**	**60.65**	**348**	*e*P		P	**P**	**06 15 21.1**	**-3.1**
BOD					pmax	pmax			
	comp=Z,10.0nm,1.3s								
WMQ	**Urumqi**	**60.75**	**323**	P		P	**P**	**06 15 26.5**	**+1.1**
WMQ					pP		**pP**	**06 15 36.5**	**+2.7**
WMQ					sP		**sP**	**06 15 40.5**	**+3.5**
WMQ					PcP		**PcP**	**06 16 10.5**	**+1.3**
WMQ					pmax	pmax			
	comp=Z,35nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,120nm,5.2s								
DDI	**Dehra Dun**	**61.65**	**305**	*ex*		P	**P**	**06 15 30.0**	**-1.

VNDA	**Vanda**	**78.08**	**174**	*e*P	**P**	**06**	**17**	**12.2**	**+0.5**
	comp=Z,4.5nm,0.8s								
ABKAR	**Akbulak array**	**80.37**	**320**	*e*P	**P**	**06**	**17**	**22.5**	**-2.3**
	comp=Z,1.8nm,0.6s								
ARU	**Arti**	**82.75**	**327**	*d i*P	**P**	**06**	**17**	**34.1**	**-3.1**
ARU						06	20	41.8	
ARU				PPP	PPP	06	22	33.4	
ARU				S	**S**	**06**	**27**	**50.1**	**-3.3**
ARU				SS	SS	06	33	03.3	-13
ARU				pmax	pmax				
	comp=Z,13nm,2.5s								
ARU	**Arti**	**82.75**	**327**	P	**P**	**06**	**17**	**34.2**	**-3.1**
	comp=Z,3.3nm,0.9s								
RC01	**Rabbit Creek A**	**84.02**	**28**	*e*P	**P**	**06**	**17**	**42.9**	**-0.8**
	comp=Z,16nm,1.0s								
COLD	**Coldfoot**	**85.22**	**22**	*e*P	**P**	**06**	**17**	**47.2**	**-2.4**
	comp=Z,4.4nm,1.0s								
ILAR	**Eielson Array**	**86.03**	**25**	P	**P**	**06**	**17**	**51.5**	**-2.2**
	comp=Z,3.7nm,0.9s,baz=252,slow=4.6,SNR=28								
ILAR	**Eielson Array**	**86.03**	**25**	P	**P**	**06**	**17**	**51.5**	**-2.2**
ILAR	**Eielson Array**	**86.03**	**25**	P	**P**	**06**	**17**	**51.5**	**-2.2**
QSPA	**South Pole Qui**	**89.11**	**180**	*e*P	**P**	**06**	**18**	**08.1**	**-0.5**
	comp=Z,8.9nm,1.1s								
BRTR	**Keskin Array B**	**98.63**	**310**	P	P	06	18	49.7	-3.2
	comp=Z,0.5nm,0.8s,baz=132,slow=52,SNR=2.8								
BRTR	**Keskin Array B**	**98.63**	**310**	P	P	06	18	49.7	-3.2
BRTR	**Keskin Array B**	**98.63**	**310**	P	P	06	18	49.7	-3.2
TXAR	**Lajitas Array**	**118.16**	**57**	PKP	**PKPdf**	**06**	**24**	**02.3**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=320,slow=4.0,SNR=2.7								
TXAR	**Lajitas Array**	**118.16**	**57**	PKIKP	**PKPdf**	**06**	**24**	**02.3**	**+1.0**
TXAR	**Lajitas Array**	**118.16**	**57**	PKP	**PKPdf**	**06**	**24**	**02.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**131.37**	**287**	PKP	**PKPdf**	**06**	**24**	**25.3**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=71,slow=2.1,SNR=5.0								
TORD	**Torodi Ar. Bea**	**131.37**	**287**	PKP	**PKPdf**	**06**	**24**	**25.3**	**-1.5**
PLCA	**Paso Flores**	**132.91**	**154**	PKP	**PKPdf**	**06**	**24**	**29.9**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=240,slow=4.0,SNR=4.0								
PLCA	**Paso Flores**	**132.91**	**154**	PKIKP	**PKPdf**	**06**	**24**	**30.0**	**+0.8**
PLCA	**Paso Flores**	**132.91**	**154**	PKP	**PKPdf**	**06**	**24**	**29.9**	**+0.8**
NNA	**Nana**	**146.68**	**113**	PKPbc	**PKPab**	**06**	**24**	**57.6**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=293,slow=15,SNR=2.1								
NNA	**Nana**	**146.68**	**113**	PKIKP	**PKPab**	**06**	**24**	**57.6**	**+0.1**
NNA	**Nana**	**146.68**	**113**	PKPbc	**PKPab**	**06**	**24**	**57.6**	**+0.1**
OTAV	**Otavalo**	**147.38**	**91**	*e*PKPdf	**PKPbc**	**06**	**24**	**59.4**	**+0.6**
LVC	**Limon Verde**	**147.62**	**137**	*e*PKPbc	**PKPab**	**06**	**25**	**01.0**	**-0.1**
CPUP	**Villa Florida**	**150.81**	**158**	PKPbc	**PKPbc**	**06**	**25**	**05.9**	**-0.7**
	comp=Z,6.0nm,0.7s,baz=210,slow=1.2,SNR=19								
CPUP	**Villa Florida**	**150.81**	**158**	PKIKP	**PKPbc**	**06**	**25**	**05.9**	**-0.7**
CPUP	**Villa Florida**	**150.81**	**158**	PKPbc	**PKPbc**	**06**	**25**	**05.9**	**-0.7**
ROSC	**El Rosal**	**151.27**	**81**	PKP	**PKPdf**	**06**	**25**	**02.8**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=100,slow=17,SNR=2.9								
ROSC				PKPbc	**PKPbc**	**06**	**25**	**08.4**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=284,slow=19,SNR=9.2								
ROSC	**El Rosal**	**151.27**	**81**	PKP	**PKPdf**	**06**	**25**	**02.8**	**+0.2**
ROSC				PKPbc	**PKPbc**	**06**	**25**	**08.4**	**-0.1**
ROSC				*e*PKPbc	**PKiKP**	**06**	**25**	**09.1**	**+0.1**
LPAZ	**La Paz**	**152.19**	**129**	PKPbc	**PKPbc**	**06**	**25**	**11.4**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=271,slow=1.5,SNR=9.4								
LPAZ	**La Paz**	**152.19**	**129**	PKIKP	**PKPbc**	**06**	**25**	**11.4**	**+0.6**
LPAZ	**La Paz**	**152.19**	**129**	PKPbc	**PKPbc**	**06**	**25**	**11.4**	**+0.6**
SIV	**San Ignacio**	**157.51**	**139**	PKPab	**PKPab**	**06**	**25**	**41.1**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=243,slow=11,SNR=2.8								
SIV	**San Ignacio**	**157.51**	**139**	PKPab	**PKPab**	**06**	**25**	**41.1**	**-1.2**

*DJA **04** 06:09:49,0.°10S×133.°30E,h15km,MLv4.7/12*
IDC 04 06:09:50.1±1.2,0.°33S×133.°64E,h0km,mb3.9/4, mb1 4.2/5,mb1mx3.9/16,mbtmp4.0/5,ML4.3/1,Error ellipse: s-maj=69.7km s-min=21.9km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.51**	**178**	P	P	06	14	18.9	-0.2
	0.9nm,0.3s,baz=358,slow=11,SNR=5.7								
WRA				S	Sn	06	17	44.1	-16
	0.3nm,0.3s,baz=360,slow=23,SNR=4.0								
ASAR	**Alice Springs**	**23.20**	**179**	P	P	06	14	58.3	-0.6
	7.3nm,0.8s,baz=355,slow=11,SNR=15								
STKA	**Stephens Creek**	**32.27**	**167**	P	P	06	16	21.2	+0.6
	6.4nm,0.6s,baz=349,slow=8.2,SNR=19								
MKAR	**Makanchi Array**	**64.85**	**324**	P	P	06	20	31.0	-0.1
	0.2nm,0.6s,baz=123,slow=7.6,SNR=1.8								
ILAR	**Eielson Array**	**85.80**	**25**	P	P	06	22	31.2	0.0
	0.6nm,1.1s,baz=271,slow=6.0,SNR=3.0								

*DJA **04** 06:18:08,0.°59S×133.°65E,h23km,mb4.7/9*
IDC 04 06:18:03.9±1.2,0.°54S×133.°74E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.6/17,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=64.9km s-min=22.8km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.29**	**178**	P	P	06	22	30.5	0.0
	0.2nm,0.3s,baz=355,slow=12,SNR=7.0								
ASAR	**Alice Springs**	**22.99**	**180**	P	P	06	23	10.6	+0.2
	0.8nm,0.5s,baz=356,slow=11,SNR=7.8								
MKAR	**Makanchi Array**	**65.08**	**324**	P	P	06	28	46.6	+0.3
	0.6nm,0.5s,baz=113,slow=8.1,SNR=13								
KURK	**Kurchatov**	**69.13**	**326**	P	P	06	29	11.9	0.0
	0.7nm,1.1s,baz=121,slow=5.7,SNR=8.1								
ILAR	**Eielson Array**	**85.95**	**25**	P	P	06	30	45.4	-0.4
	0.3nm,0.8s,baz=268,slow=3.4,SNR=3.2								

*DJA **04** 06:20:10,0.°53S×132.°78E,h15km,MLv4.0/4*
IDC 04 06:20:03.5±1.0,0.°32S×133.°28E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/17,mbtmp3.7/7,Error ellipse: s-maj=68.2km s-min=19.1km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.53**	**177**	P	P	06	24	33.1	+0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=4.9								
ASAR	**Alice Springs**	**23.22**	**179**	P	P	06	25	12.2	-0.2
	2.8nm,0.6s,baz=6.6,slow=8.3,SNR=14								
STKA	**Stephens Creek**	**32.36**	**167**	P	P	06	26	34.7	-0.1
	1.6nm,0.4s,baz=349,slow=7.7,SNR=9.1								
MKAR	**Makanchi Array**	**64.63**	**324**	P	P	06	30	42.8	-0.3
	0.2nm,0.5s,baz=106,slow=8.5,SNR=4.6								
ZALV	**Zalesovo Beam**	**67.20**	**331**	P	P	06	30	59.1	-0.3
	0.5nm,0.3s,baz=146,slow=5.4,SNR=2.2								
KURK	**Kurchatov**	**68.69**	**326**	P	P	06	31	09.4	+0.6
	0.4nm,0.8s,baz=124,slow=5.1,SNR=3.9								
ILAR	**Eielson Array**	**85.95**	**25**	P	P	06	32	45.4	0.0
	0.3nm,0.9s,baz=243,slow=5.9,SNR=3.0								

*DJA **04** 06:23:17,0.°42S×132.°67E,h15km,MLv4.3/9*
IDC 04 06:23:12.3±1.1,0.°48S×132.°93E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.8/16,mbtmp3.8/7,ML3.6/1,Error ellipse: s-maj=72.5km s-min=18.9km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.39**	**176**	P	P	06	27	40.3	+0.3
	0.2nm,0.3s,baz=354,slow=11,SNR=5.2								
WRA				S	Sn	06	31	11.6	-7.7
	0.1nm,0.3s,baz=357,slow=23,SNR=3.2								
ASAR	**Alice Springs**	**23.07**	**178**	P	P	06	28	20.1	+0.5
	2.8nm,0.8s,baz=0.7,slow=12,SNR=9.8								
STKA	**Stephens Creek**	**32.28**	**166**	P	P	06	29	42.0	-0.9
	1.9nm,0.8s,baz=328,slow=13,SNR=3.2								
SONM	**Songino Array**	**53.37**	**338**	P	P	06	32	34.2	+0.4
	0.2nm,0.7s,baz=141,slow=9.3,SNR=2.3								
MKAR	**Makanchi Array**	**64.56**	**324**	P	P	06	33	51.6	+0.2
	1.4nm,0.7s,baz=116,slow=8.5,SNR=1.9								
ZALV	**Zalesovo Beam**	**67.17**	**331**	P	P	06	34	07.3	-0.8
	0.5nm,0.3s,baz=133,slow=6.1,SNR=3.9								
ILAR	**Eielson Array**	**86.24**	**25**	P	P	06	35	55.9	+0.3
	0.5nm,0.8s,baz=244,slow=3.8,SNR=5.4								

*IDC **04** 06:29:33.6±0.6,0.°64S×133.°95E,h0km,mb4.1/10, mb1 4.4/11,mb1mx4.2/17,mbtmp4.2/11,ML4.7/1,Error ellipse: s-maj=34.4km s-min=15.0km az=78.0*
*ISCJB **04** 06:29:35.9±0.4,0.°67S±0.°04×134.°05E±0.°09,h32km, mb4.3/17,Error ellipse: s-maj=12.8km s-min=5.2km az=170.8*
*NEIC **04** 06:29:39.1±0.3,0.°71S×133.°71E,h35km,mb4.6/7,Error ellipse: s-maj=14.8km s-min=6.8km az=74.0*
*DJA **04** 06:29:39,0.°64S×133.°93E,h20km,mb5.1/7*

ISC 04 06:29:38.3±0.5,0.°70S±0.°06×133.°99E±0.°08,h32km,n74, σ1s18/71,mb4.4/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BAKI	**Biak**	**2.18**	**103**	P	**Pb**	**06**	**30**	**16.3**	**-0.8**
FAKI	**Fak Fak**	**2.81**	**218**	P	**Pn**	**06**	**30**	**22.1**	**+1.0**
SMPI	**Sarmi**	**4.89**	**105**	P	Pb	06	31	10.3	+6.9
TLE	**Tual**	**5.06**	**194**	P	Pn	06	30	55.7	+3.6
MSAI	**Masohi**	**5.70**	**242**	P	Pn	06	31	08.3	+7.5
	47nm,0.7s,0.2nm								
LBMI	**Labuha**	**6.49**	**270**	P	Pn	06	31	20.2	+8.5
	68nm,0.9s,1μm0.3nm								
AAI	**Ambon**	**6.50**	**243**	P	**Pn**	**06**	**31**	**14.3**	**+2.4**
	178nm,0.8s,3μm0.6nm								
NLAI	**Namlea**	**7.33**	**250**	P	Pn	06	31	27.3	+4.0
	74nm,1.0s,0.3nm								
PMG	**Port Moresby**	**15.71**	**124**	Pn	**P**	**06**	**33**	**22.9**	**+1.8**
	0.3nm,0.3s,baz=311,slow=9.3,SNR=3.5								
PMG	**Port Moresby**	**15.71**	**124**	Pn	**P**	**06**	**33**	**22.9**	**+1.8**
COEN	**Coen**	**16.01**	**146**	*e*Pn	**P**	**06**	**33**	**23.4**	**+2.1**
	45nm,0.9s								
COEN	**Coen**	**16.01**	**146**	*e*Pn	**P**	**06**	**33**	**23.7**	**-0.8**
	80nm,1.0s								
WRAB	**Tennant Creek**	**19.12**	**179**	*e*P	**P**	**06**	**33**	**58.6**	**-0.3**
	43nm,1.0s								
WRAB				*e*S	**Sn**	**06**	**37**	**27.6**	**-5.7**
WB2	**Warramunga Arr**	**19.13**	**179**	*e*P	**P**	**06**	**33**	**58.6**	**-0.3**
WRA	**Warramunga Arr**	**19.13**	**179**	P	**P**	**06**	**33**	**59.0**	**0.0**
	2.3nm,0.3s,baz=358,slow=11,SNR=55								
WRA				S	Sn	06	37	27.1	-6.4
	0.3nm,0.3s,baz=353,slow=24,SNR=4.0								
WRA	**Warramunga Arr**	**19.13**	**179**	P	**P**	**06**	**33**	**59.0**	**0.0**
WRA				S	Sn	06	37	27.1	-6.4
AS31	**Alice Springs**	**22.83**	**180**	*e*P	**P**	**06**	**34**	**38.8**	**-0.1**
ASAR	**Alice Springs**	**22.83**	**180**	P	**P**	**06**	**34**	**38.3**	**-0.6**
	6.9nm,0.4s,baz=359,slow=11,SNR=61								
ASAR	**Alice Springs**	**22.83**	**180**	P	**P**	**06**	**34**	**38.3**	**-0.6**
MBWA	**Marble Bar**	**24.64**	**213**	*e*P	**P**	**06**	**34**	**56.0**	**-0.3**
	14nm,0.9s								
FORT	**Forrest**	**30.44**	**190**	*e*P	**P**	**06**	**35**	**48.5**	**+0.4**
	10.0nm,0.7s								
STKA	**Stephens Creek**	**31.84**	**168**	P	**P**	**06**	**36**	**00.3**	**-0.1**
	2.6nm,0.7s,baz=330,slow=10,SNR=12								
STKA	**Stephens Creek**	**31.84**	**168**	*e*P	**P**	**06**	**36**	**00.6**	**+0.2**
	2.1nm,0.8s								
STKA	**Stephens Creek**	**31.84**	**168**	P	**P**	**06**	**36**	**00.3**	**-0.1**
	6.9nm,1.0s								
KLBR	**Kellerberrin**	**34.35**	**205**	*e*P	**P**	**06**	**36**	**22.6**	**+0.2**
	7.6nm,0.5s								
MJAR	**Matsushiro Arr**	**37.26**	**6**	P	**P**	**06**	**36**	**46.1**	**-1.1**
	0.8nm,0.7s,baz=187,slow=7.7,SNR=3.5								
MJAR	**Matsushiro Arr**	**37.26**	**6**	P	**P**	**06**	**36**	**46.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**39.35**	**301**	P	**P**	**06**	**37**	**04.5**	**-0.7**
	2.6nm,1.0s,baz=121,slow=6.7,SNR=8.8								
CMAR	**Chiang Mai Arr**	**39.35**	**301**	P	**P**	**06**	**37**	**04.5**	**-0.7**
USRK	**Ussuriysk Arra**	**44.73**	**358**	P	**P**	**06**	**37**	**48.0**	**-0.7**
	2.7nm,0.8s,baz=141,slow=3.7,SNR=5.9								
LZH	**Lanzhou**	**46.10**	**326**	*e*P	P	06	38	05.8	+5.9
LZH				pP	pP	06	38	16.9	+7.5
LZH				sP	sP	06	38	21.3	+8.0
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
GTA	**Gaotai**	**50.71**	**326**	*e*P	P	06	38	42.0	+6.7
GTA				pP	pP	06	38	47.0	+2.1
GTA				sP	sP	06	38	50.2	+1.5
GTA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
LSA	**Lhasa**	**50.80**	**310**	P	**P**	**06**	**38**	**37.2**	**+0.7**
TAPN	**Taplejung**	**52.47**	**306**	*e*P	**P**	**06**	**38**	**47.7**	**-1.1**
	comp=Z,37nm,1.1s								
TAPN	**Taplejung**	**52.47**	**306**	*e*P	**P**	**06**	**38**	**47.7**	**-1.1**
ODAN	**Odare**	**52.53**	**305**	*e*P	**P**	**06**	**38**	**48.0**	**-1.2**
	comp=Z,19nm,0.7s								
ODAN	**Odare**	**52.53**	**305**	*e*P	**P**	**06**	**38**	**48.0**	**-1.2**
RAMN	**Ramite**	**53.21**	**305**	*e*P	**P**	**06**	**38**	**53.9**	**-0.4**
	comp=Z,35nm,0.8s								
RAMN	**Ramite**	**53.21**	**305**	*e*P	**P**	**06**	**38**	**53.9**	**-0.4**
JIRN	**Jiri**	**53.83**	**306**	*e*P	**P**	**06**	**38**	**58.3**	**-0.6**
JIRN	**Jiri**	**53.83**	**306**	*e*P	**P**	**06**	**38**	**58.3**	**-0.6**
SONM	**Songino Array**	**53.97**	**337**	P	**P**	**06**	**38**	**59.8**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=150,slow=6.9,SNR=5.0								
SONM				PcP	**PcP**	**06**	**40**	**04.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=150,slow=3.7,SNR=3.1								
SONM	**Songino Array**	**53.97**	**337**	P	**P**	**06**	**38**	**59.8**	**+0.4**
SONM				PcP	**PcP**	**06**	**40**	**04.8**	**+0.4**
GUN	**Gumba**	**54.18**	**306**	*e*P	**P**	**06**	**39**	**00.8**	**-0.7**
	comp=Z,30nm,0.8s								
GUN	**Gumba**	**54.18**	**306**	*e*P	**P**	**06**	**39**	**00.8**	**-0.7**
PKI	**Pulchoki**	**54.43**	**305**	*e*P	**P**	**06**	**39**	**01.9**	**-1.4**
PKI	**Pulchoki**	**54.43**	**305**	*e*P	**P**	**06**	**39**	**01.9**	**-1.4**
DMN	**Daman**	**54.69**	**305**	*e*P	**P**	**06**	**39**	**04.1**	**-1.0**
	comp=Z,21nm,0.9s								
DMN	**Daman**	**54.69**	**305**	*e*P	**P**	**06**	**39**	**04.1**	**-1.0**
GKN	**Gorkha**	**55.23**	**305**	*e*P	**P**	**06**	**39**	**08.4**	**-0.5**
GKN	**Gorkha**	**55.23**	**305**	*e*P	**P**	**06**	**39**	**08.4**	**-0.5**
KOLN	**Koldanda**	**55.99**	**305**	*e*P	**P**	**06**	**39**	**13.9**	**-0.5**
	comp=Z,18nm,0.8s								
KOLN	**Koldanda**	**55.99**	**305**	*e*P	**P**	**06**	**39**	**13.9**	**-0.5**
DANN	**Dangsing**	**56.07**	**305**	*e*P	**P**	**06**	**39**	**14.3**	**-0.8**
DANN	**Dangsing**	**56.07**	**305**	*e*P	**P**	**06**	**39**	**14.3**	**-0.8**
MK31	**Makanchi Array**	**65.35**	**324**	*e*P	**P**	**06**	**40**	**17.4**	**-0.3**
MKAR	**Makanchi Array**	**65.35**	**324**	P	**P**	**06**	**40**	**17.6**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=108,slow=8.6,SNR=55								
MKAR	**Makanchi Array**	**65.35**	**324**	P	**P**	**06**	**40**	**17.6**	**-0.1**
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	**P**	**06**	**40**	**32.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.3,SNR=3.0								
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	**P**	**06**	**40**	**32.6**	**-0.9**
KURK	**Kurchatov**	**69.39**	**326**	*e*P	**P**	**06**	**40**	**42.6**	**-0.5**
	comp=Z,5.5nm,0.9s								
KURK				*e*PP	**PP**	**06**	**43**	**14.8**	**-1.9**
ABKAR	**Akbulak array**	**80.16**	**320**	*e*P	**P**	**06**	**41**	**45.2**	**-0.3**
	comp=Z,1.3nm,0.6s								
ILAR	**Eielson Array**	**85.99**	**25**	P	**P**	**06**	**42**	**14.7**	**-0.6**
	0.3nm,0.9s,baz=256,slow=4.3,SNR=14								
ILAR	**Eielson Array**	**85.99**	**25**	P	**P**	**06**	**42**	**14.7**	**-0.6**
INK	**Inuvik**	**91.57**	**22**	P	**P**	**06**	**42**	**41.3**	**-0.3**
	comp=Z,2.4nm,1.2s,baz=333,slow=4.5,SNR=2.1								
INK	**Inuvik**	**91.57**	**22**	P	**P**	**06**	**42**	**41.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**131.16**	**287**	PKP	**PKPdf**	**06**	**48**	**48.5**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=11,slow=0.8,SNR=3.1								
TORD	**Torodi Ar. Bea**	**131.16**	**287**	PKP	**PKPdf**	**06**	**48**	**48.5**	**+0.3**
CPUP	**Villa Florida**	**151.00**	**159**	PKPbc	**PKPbc**	**06**	**49**	**29.9**	**+1.1**
	comp=Z,5.1nm,0.8s,baz=169,slow=5.0,SNR=8.9								
CPUP	**Villa Florida**	**151.00**	**159**	PKPbc	**PKPbc**	**06**	**49**	**29.9**	**+1.1**
ROSC	**El Rosal**	**151.42**	**81**	PKPbc	**PKPbc**	**06**	**49**	**32.2**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=107,slow=17,SNR=2.0								
ROSC	**El Rosal**	**151.42**	**81**	PKPbc	**PKPbc**	**06**	**49**	**32.2**	**+1.5**
LPAZ	**La Paz**	**152.41**	**129**	PKPbc	**PKPbc**	**06**	**49**	**34.9**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=94,slow=1.0,SNR=6.1								
LPAZ	**La Paz**	**152.41**	**129**	PKPbc	**PKPbc**	**06**	**49**	**34.9**	**+1.8**

IDC 04 06:31:56.6±1.3,0.°63S×133.°98E,h0km,mb3.6/5, mb1 4.0/6,mb1mx3.8/16,mbtmp3.8/6,ML3.9/1,Error ellipse: s-maj=53.1km s-min=22.1km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.20**	**179**	P	P	06	36	22.1	-0.1
	0.4nm,0.3s,baz=357,slow=12,SNR=3.8								
ASAR	**Alice Springs**	**22.90**	**180**	P	P	06	37	02.5	+0.2
	3.5nm,0.9s,baz=5.0,slow=12,SNR=2.5								
CMAR	**Chiang Mai Arr**	**39.31**	**301**	P	P	06	39	27.4	-0.4
	0.6nm,0.4s,baz=127,slow=5.7,SNR=2.6								
SONM	**Songino Array**	**53.91**	**337**	P	P	06	41	22.6	+0.6
	0.2nm,0.5s,baz=144,slow=5.4,SNR=2.7								
MKAR	**Makanchi Array**	**65.29**	**324**	P	P	06	42	40.4	-0.1
	0.7nm,0.6s,baz=106,slow=8.3,SNR=5.4								
ILAR	**Eielson Array**	**85.94**	**25**	P	P	06	44	38.0	-0.4
	0.3nm,0.7s,baz=242,slow=5.0,SNR=4.7								

IDC 04 06:37:12.0±4.7,0.°61S×131.°43E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/16,mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=323.6km s-min=25.7km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.43**	**172**	P	P	06	41	39.9	-0.2
	0.3nm,0.3s,baz=352,slow=12,SNR=4.5								
ASAR	**Alice Springs**	**23.05**	**174**	P	P	06	42	19.3	+0.2
	1.1nm,0.4s,baz=358,slow=12,SNR=12								
MKAR	**Makanchi Array**	**63.78**	**325**	P	P	06	47	45.9	-0.1
	0.1nm,0.6s,baz=122,slow=7.6,SNR=3.0								

*IDC **04** 06:39:35.8±1.7,2.°70S×139.°56E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.6/12,mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=78.0km s-min=27.0km az=97.0*
*NEIC **04** 06:39:41.4±0.8,2.°68S×139.°27E,h35km,mb4.1/1,Error ellipse: s-maj=28.8km s-min=11.4km az=92.0*
*DJA **04** 06:39:41,2.°51S×139.°52E,h76km,MLv4.3/3*
ISC 04 06:39:48.3±3.4,3.°3S±0.°2×138.°9E±0.°2,h46km,n12, σ1s21/11,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
COEN	**Coen**	**11.45**	**158**	*e*Pn	**Pn**	**06**	**42**	**28.6**	**-0.7**
COEN				*e*Sn	**Sn**	**06**	**44**	**36.7**	**+0.8**
WRAB	**Tennant Creek**	**17.15**	**195**	Pn	**P**	**06**	**43**	**47.1**	**+1.2**
	14nm,0.8s								
WRAB				*e*Sn	**Sn**	**06**	**46**	**53.8**	**-0.9**
WB2	**Warramunga Arr**	**17.16**	**195**	*e*Pn	**P**	**06**	**43**	**46.7**	**+0.7**
WB2				*e*Sn	**S**	**06**	**47**	**00.2**	**-2.2**
WRA	**Warramunga Arr**	**17.16**	**195**	P	**P**	**06**	**43**	**46.5**	**+0.5**
	0.5nm,0.3s,baz=20,slow=13,SNR=8.9								
WRA				S	**Sn**	**06**	**46**	**56.1**	**+1.1**
	0.2nm,0.3s,baz=13,slow=22,SNR=3.8								
WRA	**Warramunga Arr**	**17.16**	**195**	P	**P**	**06**	**43**	**46.5**	**+0.5**
WRA				S	**Sn**	**06**	**46**	**56.1**	**+1.1**
AS31	**Alice Springs**	**20.85**	**193**	*e*P	**P**	**06**	**44**	**26.8**	**+0.4**
ASAR	**Alice Springs**	**20.85**	**193**	P	Pn	06	44	27.2	-2.0
	1.1nm,0.6s,baz=18,slow=9.5,SNR=9.0								
ASAR				S	Sn	06	48	21.8	-2.1
	0.2nm,0.4s,baz=21,slow=26,SNR=1.6								
ASAR	**Alice Springs**	**20.85**	**193**	P	Pn	06	44	27.2	-2.0
ASAR				S	Sn	06	48	21.8	-2.1
MKAR	**Makanchi Array**	**70.31**	**322**	P	P	06	50	51.1	-6.1
	0.4nm,0.7s,baz=102,slow=7.7,SNR=4.7								
MKAR	**Makanchi Array**	**70.31**	**322**	P	P	06	50	51.1	-6.1
ILAR	**Eielson Array**	**86.27**	**24**	P	P	06	52	15.2	-10
	0.3nm,0.7s,baz=271,slow=4.9,SNR=4.2								
ILAR	**Eielson Array**	**86.27**	**24**	P	P	06	52	15.2	-10

IDC 04 06:46:20.2±2.9,0.°68S×134.°17E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/16,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=139.5km s-min=26.4km az=76.0,Irian Jaya region

| Code | Station Name | Δ° | AZ°

JOW	Kunigami	27.34 351	LR	LR	07 08 31.6		
	comp=Z,311nm,18.9s,baz=109,slow=33						
CBIJ	Chichi jima	28.68 18	LR	LR	07 08 34.5		
	comp=Z,251nm,18.4s,baz=154,slow=31						
FORT	Forrest	30.65 188	eP	P	06 59 53.2	+0.8	
	19nm,0.7s						
FORT	Forrest	30.65 188	eP	P	06 59 52.3	-0.1	
	33nm,0.7s						
STKA	Stephens Creek	32.47 166	P	P	07 00 08.2	-0.3	
	18nm,0.9s,baz=338,slow=7.9,SNR=28						
STKA	Stephens Creek	32.47 166	eP	P	07 00 08.1	-0.3	
	12nm,0.9s						
STKA	Stephens Creek	32.47 166	P	P	07 00 08.2	-0.3	
	38nm,1.0s						
KLBR	Kellerberrin	34.24 203	eP	P	07 00 23.6	-0.3	
	20nm,0.8s						
NJ2	Nanjing	34.80 339	eP	P	07 00 30.3	+1.6	
NJ2			pmax	pmax			
	comp=Z,10.0nm,1.1s						
ARMA	Armidale	34.86 151	eP	P	07 00 30.2	+0.8	
WHN	Wuhan	35.37 332	∥P	P	07 00 28.1	-5.5	
NWAO	Narrogin (SRO)	35.63 203	eP	P	07 00 35.4	-0.4	
	comp=Z,13nm,0.8s						
GYA	Guiyang	36.67 319	P	P	07 00 45.8	+0.7	
GYA			pP	pP	07 00 57.8	+3.4	
GYA			sP	sP	07 01 01.4	+3.1	
GYA			PP	PP	07 02 13.2	+4.2	
GYA			S	S	07 06 27.6	+1.0	
GYA			ScP	ScP	07 06 51.8	-0.4	
GYA			SS	SS	07 08 55.0	-13	
GYA			pmax	pmax			
	comp=Z,10.0nm,0.8s						
GYA			pmax	pmax			
	comp=Z,90nm,5.4s						
GYA			LR	LR			
	comp=N,490nm,17.7s						
GYA			LR	LR			
	comp=E,340nm,18.1s						
GYA			LR	LR			
	comp=Z,480nm,17.9s						
CMAR	Chiang Mai Arr	38.18 301	P	P	07 00 56.5	-1.4	
	comp=Z,0.7nm,0.4s,baz=124,slow=6.9,SNR=13						
CMAR	Chiang Mai Arr	38.18 301	P	P	07 00 56.5	-1.4	
KMI	Kunming	38.57 313	P	P	07 01 04.0	+2.8	
KMI			pP	pP	07 01 12.4	+1.8	
KMI			sP	sP	07 01 16.6	+2.1	
KMI			S	S	07 06 56.1	+0.5	
KMI			sS	sS	07 07 13.7	+2.6	
KMI			pmax	pmax			
	comp=Z,11nm,1.1s						
KMI			LR	LR			
	comp=N,160nm,13.9s						
KMI			LR	LR			
	comp=E,190nm,14.2s						
KMI			LR	LR			
	comp=Z,160nm,21.2s						
XAN	Xi'an	40.88 329	P	P	07 01 18.8	-1.4	
CD2	Chengdu	41.56 321	P	P	07 01 26.4	+0.7	
CD2			pP	pP	07 01 36.6	+1.4	
CD2			sP	sP	07 01 40.9	+1.8	
CD2			PP	PP	07 03 06.4	+4.2	
CD2			S	S	07 07 40.2	+0.4	
CD2			sS	sS	07 07 57.1	+1.7	
CD2			SS	SS	07 10 40.8	-4.7	
CD2			pmax	pmax			
	comp=Z,10.0nm,0.5s						
CD2			pmax	pmax			
	comp=Z,230nm,6.5s						
CD2			LR	LR			
	comp=N,360nm,7.3s						
CD2			LR	LR			
	comp=Z,200nm,6.0s						
BJI	Beijing	42.95 341	P	P	07 01 37.8	+1.0	
BJI			pmax	pmax			
	comp=Z,10.0nm,1.3s						
CN2	Changchun	44.41 352	eP	P	07 01 49.8	+1.3	
CN2			epP	pP	07 01 59.6	+1.5	
CN2			esP	sP	07 02 03.5	+1.6	
CN2			eS	S	07 08 22.5	+1.3	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.5s						
CN2			pmax	pmax			
	comp=Z,200nm,5.0s						
CN2			LR	LR			
	comp=N,200nm,14.0s						
CN2			LR	LR			
	comp=E,200nm,14.0s						
CN2			LR	LR			
	comp=Z,300nm,15.0s						
MDJ	Mudanjiang	44.82 357	P	P	07 01 52.9	+1.1	
MDJ			pP	pP	07 02 01.8	+0.4	
MDJ			sP	sP	07 02 05.6	+0.4	
MDJ			ScP	ScP	07 07 24.0	+0.4	
MDJ			PcS	PcS	07 07 27.6	+0.8	
MDJ			S	S	07 08 28.9	+1.8	
MDJ			pmax	pmax			
	comp=Z,4.0nm,1.1s						
MDJ			pmax	pmax			
	comp=Z,78nm,4.5s						
MDJ			LR	LR			
	comp=Z,130nm,24.4s						
LZH	Lanzhou	45.15 326	eP	P	07 01 56.5	+1.7	
LZH			pP	pP	07 02 05.1	+0.7	
LZH			sP	sP	07 02 09.9	+1.7	
LZH			eS	S	07 08 34.0	+1.5	
LZH			sS	sS	07 08 52.0	+3.7	
LZH			SS	ScS	07 11 49.1	-0.7	
LZH			pmax	pmax			
	comp=Z,25nm,1.5s						
LZH			pmax	pmax			
	comp=Z,71nm,5.0s						
HHC	Hu-ho-hao-te	45.30 337	eP	P	07 01 56.0	+0.1	
HHC			pP	pP	07 02 05.9	+0.5	
HHC			sP	sP	07 02 09.7	+0.4	
HHC			PP	PP	07 03 42.1	-0.2	
HHC			S	S	07 08 34.4	-0.1	
HHC			sS	sS	07 08 50.7	+0.5	
HHC			SS	ScS	07 11 49.6	-0.9	
HHC			pmax	pmax			
	comp=Z,11nm,0.8s						
HHC			pmax	pmax			
	comp=Z,140nm,5.4s						
HHC			LR	LR			
	comp=N,600nm,15.8s						
HHC			LR	LR			
	comp=E,500nm,14.9s						
HHC			LR	LR			
	comp=Z,990nm,15.2s						
GTA	Gaotai	49.76 326	eP	P	07 02 31.0	+0.5	
GTA			pP	pP	07 02 41.4	+1.2	
GTA			sP	sP	07 02 45.2	+1.2	
GTA			S	S	07 09 37.7	-0.2	
GTA			sS	sS	07 09 53.1	-0.7	
GTA			pmax	pmax			
	comp=Z,2.0nm,1.3s						
GTA			pmax	pmax			
	comp=Z,110nm,4.0s						
GTA			LR	LR			
	comp=N,440nm,17.8s						
GTA			LR	LR			
	comp=E,580nm,17.3s						
GTA			LR	LR			
	comp=Z,410nm,17.8s						
TAPN	Taplejung	51.32 306	eP	P	07 02 40.7	-2.1	
TAPN	Taplejung	51.32 306	eP	P	07 02 40.7	-2.1	
ODAN	Odare	51.38 305	eP	P	07 02 41.1	-2.1	
	comp=Z,15nm,0.7s						
ODAN	Odare	51.38 305	eP	P	07 02 41.1	-2.1	
RAMN	Ramite	52.06 305	eP	P	07 02 46.6	-1.7	
RAMN	Ramite	52.06 305	eP	P	07 02 46.6	-1.7	
JIRN	Jiri	52.68 306	eP	P	07 02 51.0	-2.0	
JIRN	Jiri	52.68 306	eP	P	07 02 51.0	-2.0	
ULN	Ulaanbaatar	52.97 338	eP	P	07 02 54.0	-0.5	
	comp=Z,13nm,1.4s						
GUN	Gumba	53.03 306	eP	P	07 02 53.7	-1.9	
GUN	Gumba	53.03 306	eP	P	07 02 53.7	-1.9	
SONM	Songino Array	53.18 338	P	P	07 02 55.4	-0.6	
	comp=Z,2.0nm,1.1s,baz=136,slow=5.3,SNR=7.1						
SONM	Songino Array	53.18 338	P	P	07 02 55.4	-0.6	
PKI	Pulchoki	53.28 305	eP	P	07 02 55.0	-2.4	
PKI	Pulchoki	53.28 305	eP	P	07 02 55.0	-2.4	
KKN	Kakani	53.47 306	eP	P	07 02 56.8	-1.9	
KKN	Kakani	53.47 306	eP	P	07 02 56.8	-1.9	
DMN	Daman	53.54 305	eP	P	07 02 57.3	-1.9	
	comp=Z,12nm,0.8s						
DMN	Daman	53.54 305	eP	P	07 02 57.3	-1.9	
GKN	Gorkha	54.08 305	eP	P	07 03 00.6	-2.4	
GKN	Gorkha	54.08 305	eP	P	07 03 00.6	-2.4	
KOLN	Koldanda	54.84 305	eP	P	07 03 06.8	-1.8	
	comp=Z,28nm,0.9s						
KOLN	Koldanda	54.84 305	eP	P	07 03 06.8	-1.8	
DANN	Dangsing	54.93 306	eP	P	07 03 07.4	-1.9	
	comp=Z,36nm,1.0s						
DANN	Dangsing	54.93 306	eP	P	07 03 07.4	-1.9	
HYB	Hyderabad	56.26 291	iP	P	07 03 16.0	-2.7	
WMQ	Urumqi	59.55 323	eP	P	07 03 41.0	-0.5	
WMQ			pP	pP	07 03 51.0	-0.3	
WMQ			sP	sP	07 03 55.0	-0.1	
WMQ			pmax	pmax			
	comp=Z,12nm,1.1s						
MK31	Makanchi Array	64.37 324	eP	P	07 04 13.1	-0.6	
MKAR	Makanchi Array	64.37 324	P	P	07 04 13.1	-0.7	
	comp=Z,3.5nm,0.7s,baz=116,slow=8.2,SNR=35						
MKAR	Makanchi Array	64.37 324	P	P	07 04 13.1	-0.7	
KSH	Kashi	65.21 314	eP	P	07 04 19.6	+0.1	
KSH			epP	pP	07 04 30.0	+0.6	
KSH			esP	sP	07 04 33.7	+0.5	
KSH			ePcP	PcP	07 04 52.5	+0.7	
KSH			ePP	PP	07 06 44.7	+1.4	
KSH			eScP		07 08 51.1		
KSH			ePcS		07 08 54.7		
KSH			eS	S	07 12 56.0	-4.9	
KSH			esS	sS	07 13 14.7	-2.6	
KSH			eScS	SKSac	07 14 08.1	-4.5	
KSH			eSS	SS	07 17 11.7	-2.4	
KSH			pmax	pmax			
	comp=Z,4.0nm,0.9s						
KSH			LR	LR			
	comp=N,220nm,5.1s						
KSH			LR	LR			
	comp=E,350nm,10.8s						
KSH			LR	LR			
	comp=Z,350nm,7.6s						
TKM2	Tokmak 2	66.82 318	eP	P	07 04 29.1	-0.7	
ZAA0	Zalesovo Array	66.99 331	eP	P	07 04 28.9	-1.5	
ZALV	Zalesovo Beam	66.99 331	P	P	07 04 28.8	-1.6	
	comp=Z,1.3nm,0.6s,baz=116,slow=6.8,SNR=7.7						
ZALV	Zalesovo Beam	66.99 331	P	P	07 04 28.8	-1.6	
KURK	Kurchatov	68.44 326	eP	P	07 04 39.0	-0.6	
	comp=Z,8.6nm,0.9s						
KBL	Kabul	68.82 307	eP	P	07 04 41.3	-1.4	
	comp=Z,15nm,1.4s						
KKAR	Karatay Array	70.35 316	eP	P	07 04 50.6	-1.0	
	comp=Z,1.3nm,0.4s						
BRVK	Borovoye	74.11 326	eP	P	07 05 13.0	-0.9	
	comp=Z,7.6nm,1.0s						
ABKAR	Akbulak array	79.13 320	eP	P	07 05 41.2	-1.2	
	comp=Z,4.5nm,0.9s						
ARU	Arti	81.61 327	eP	P	07 05 54.0	-1.5	
	comp=Z,7.1nm,1.1s						
ILAR	Eielson Array	86.11 25	P	P	07 06 17.5	-0.9	
	comp=Z,1.2nm,0.9s,baz=245,slow=5.2,SNR=8.5						
ILAR	Eielson Array	86.11 25	P	P	07 06 17.5	-0.9	
QSPA	South Pole Qui	89.63 180	eP	P	07 06 34.9	-0.4	
	comp=Z,8.1nm,1.0s						
TXAR	Lajitas Array	118.96 56	PKP	PKPdf	07 12 27.5	+0.4	
	comp=Z,0.2nm,0.8s,baz=309,slow=3.0,SNR=2.5						
TXAR	Lajitas Array	118.96 56	PKP	PKPdf	07 12 27.5	+0.4	
TORD	Torodi Ar. Bea	129.97 287	PKP	PKPdf	07 12 47.7	-0.7	
	comp=Z,0.4nm,0.9s,baz=354,slow=2.9,SNR=3.0						
TORD	Torodi Ar. Bea	129.97 287	PKP	PKPdf	07 12 47.7	-0.7	
CFAA	Coronel Fontan	142.50 150	PKPdf	PKPpre	07 13 07.3		
	comp=Z,0.1nm,0.4s,baz=117,slow=6.8,SNR=2.8						
CFAA	Coronel Fontan	142.50 150	PKPpre	PKPpre	07 13 07.3		
ATAH	Atahualpa	147.96 104	PKPbc	PKPbc	07 13 24.4	-0.3	
	comp=Z,8.5nm,1.2s,baz=239,slow=12,SNR=4.2						
ATAH	Atahualpa	147.96 104	PKPbc	PKPbc	07 13 24.4	-0.3	
NNA	Nana	148.09 114	PKPbc	PKPbc	07 13 25.4	+0.9	
	comp=Z,1.4nm,0.3s,baz=21,slow=8.6,SNR=2.6						
NNA	Nana	148.09 114	PKPbc	PKPbc	07 13 25.4	+0.9	
CPUP	Villa Florida	151.76 160	PKPbc	PKPbc	07 13 33.0	-0.1	
	comp=Z,3.6nm,0.8s,baz=169,slow=3.7,SNR=7.1						
CPUP	Villa Florida	151.76 160	PKPbc	PKPbc	07 13 33.0	-0.1	
ROSC	El Rosal	152.47 80	PKPbc	PKPbc	07 13 33.8	-1.8	
	comp=Z,2.0nm,0.7s,baz=86,slow=17,SNR=2.4						
ROSC	El Rosal	152.47 80	PKPbc	PKPbc	07 13 33.8	-1.8	

*CSEM **04** 06:54:14.6±0.1, 33.21°N×35.16°E, h15km, ML2.6, Error ellipse: s-maj=3.5km s-min=2.4km az=145.0*

GRAL 04 06:54:15.8±0.3, 33.15°N×35.24°E, h14km±5km, MD2.6, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NAQL	Naqoura	0.09	250	eP	Pg	06 54 18.6	-0.2
NAQL				eS	Sg	06 54 20.8	-0.1
RCY	Rachaya	0.61	55	eP	Pg	06 54 26.8	-1.1
RCY				eS	Sg	06 54 34.8	-1.3
BHL	Bhannes	0.83	24	eP	Pg	06 54 30.4	-1.6
BHL	Bhannes	0.83	24	eP	Pg	06 54 30.5	-1.6
HWQ	Hawqa	1.27	27	eP	Pn	06 54 37.6	-1.8
HWQ	Hawqa	1.27	27	eP	Pn	06 54 37.6	-1.7

*DDA **04** 06:56:55.6, 37.88N×29.25E, h6km, MD2.7*
*CSEM **04** 06:56:56.1±0.1, 37.88N×29.24E, h5km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.4km az=123.0*

ISK 04 06:56:56.0, 37.88N×29.22E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.19	229	ePG	Pg	06 57 00.2	+0.2
DENT	Denizli	0.19	229	ePg	Pg	06 57 00.2	+0.2
DNZL	Cakiroluk	0.23	215	iP	Pg	06 57 01.1	+0.2
DNZL				iS	Sg	06 57 04.4	+0.2
DNZL	Cakiroluk	0.23	215	iP	Pg	06 57 01.1	+0.2
DNZL				iS	Sg	06 57 04.4	+0.2
KHAL	Karahalli	0.54	24	iP	Pg	06 57 05.9	-0.7
KHAL				iS	Sg	06 57 13.5	-0.3
KHAL	Karahalli	0.54	24	iP	Pg	06 57 05.9	-0.7
GLHS	Gihisar (BURDU	0.76	163	ePG	Pg	06 57 11.1	+0.4
GLHS	Gihisar (BURDU	0.76	163	ePg	Pg	06 57 11.1	+0.4
KULA	Kula-Manisa	0.77	326	ePG	Pb	06 57 11.7	-0.1
KULA				eSG	Sb	06 57 22.2	-0.3
KULA	Kula-Manisa	0.77	326	ePg	Pb	06 57 11.7	-0.1
KULA				eSg	Sb	06 57 22.2	-0.4
YER	Yerkesik	1.05	225	ePG	Pb	06 57 16.5	0.0
YER	Yerkesik	1.05	225	ePg	Pb	06 57 16.5	0.0
AYDN	Tasoluk	1.08	259	iP	Pb	06 57 17.1	+0.1
AYDN				iS	Sg	06 57 31.1	+0.1
AYDN	Tasoluk	1.08	259	iP	Pb	06 57 17.1	+0.1
AYDN				iS	Sg	06 57 31.1	+0.1
SHUT	Suhut-Afyon	1.25	57	ePN	Pg	06 57 20.2	0.0
SHUT	Suhut-Afyon	1.25	57	ePn	Pg	06 57 20.2	0.0
ALT	Altintas	1.37	31	ePN	Pb	06 57 21.9	-0.2
ALT	Altintas	1.37	31	ePn	Pb	06 57 21.9	-0.1

IDC 04 07:04:42.8±1.2, 1.18S×134.02E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/16, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=63.6km s-min=23.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.65	179	P	P	07 09 01.1	-1.2
	0.1nm,0.3s,baz=358,slow=11,SNR=2.9						
ASAR	Alice Springs	22.36	180	P	P	07 09 43.3	+0.8
	0.4nm,0.7s,baz=1.3,slow=11,SNR=3.0						
MKAR	Makanchi Array	65.76	324	P	P	07 15 29.6	0.0
	0.7nm,0.7s,baz=115,slow=7.9,SNR=11						
KURK	Kurchatov	69.81	326	P	P	07 15 55.1	+0.1
	0.4nm,0.6s,baz=120,slow=6.2,SNR=6.0						
ILAR	Eielson Array	86.41	25	P	P	07 17 26.8	-0.1
	0.3nm,0.7s,baz=261,slow=5.9,SNR=4.5						

IDC 04 07:06:39.0±2.4, 0.91S×132.88E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=132.8km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.97	176	P	P	07 11 02.2	+0.1
	0.2nm,0.3s,baz=355,slow=12,SNR=6.4						
ASAR	Alice Springs	22.65	178	P	P	07 11 42.0	+0.1
	0.9nm,0.4s,baz=356,slow=11,SNR=8.6						
MKAR	Makanchi Array	64.87	324	P	P	07 17 20.4	+0.3
	0.5nm,0.5s,baz=114,slow=7.8,SNR=8.6						
KURK	Kurchatov	68.95	326	P	P	07 17 45.7	-0.3
	0.9nm,0.9s,baz=119,slow=5.3,SNR=6.4						

*IDC **04** 07:08:38.3±0.8, 0.63S×133.06E, h0km, mb4.5/5, mb1 4.7/7, mb1mx4.3/18, mbtmp4.5/7, ML4.1/2, Error ellipse: s-maj=52.8km s-min=18.7km az=74.0*
*DJA **04** 07:08:41, 0.50S×133.41E, h10km, MLv5.3/10*
*ISCJB **04** 07:08:41.3±0.6, 0.65S±0.07×133.40E±0.06, h28km, mb4.8/10, Error ellipse: s-maj=10.2km s-min=8.6km az=33.2*
*NEIC **04** 07:08:44.0±0.5, 0.72S×133.17E, h35km, mb4.7/4, Error ellipse: s-maj=20.6km s-min=9.3km az=71.0*

ISC 04 07:08:43.0±0.7, 0.63S±0.08×133.36E±0.09, h28km, n41, σ1s24/37, mb4.9/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	2.53	206	P	Pn	07 09 23.5	+1.2
BAKI	Biak	2.80	102	P	Pn	07 09 26.5	+0.5
TLE	Tual	5.01	187	P	Pn	07 09 58.4	+2.0
	430nm,0.6s,7μm2.7nm						
MSAI	Masohi	5.19	239	P	Pn	07 10 02.6	+3.8
	258nm,0.7s,2μm0.9nm						
SMPI	Sarmi	5.52	104	P	Pb	07 10 11.6	-7.0
LBMI	Labuha	5.86	270	P	Pn	07 10 10.5	+2.4
	361nm,0.8s,3μm1.5nm						
AAI	Ambon	5.99	239	P	Pn	07 10 11.2	+1.3
	835nm,0.8s,6μm2.7nm						
NLAI	Namlea	6.77	247	P	Pn	07 10 21.8	+1.2
	370nm,0.7s,1.3nm						
MNI	Manado	8.77	284	P	Pn	07 10 46.0	-2.0
	1μm,0.9s,4.0nm						
SGSI	Sangihe	8.92	299	P	Pn	07 11 05.5	+15
PMG	Port Moresby	16.27	123	Pn	P	07 12 32.2	-0.3
	0.5nm,0.3s,baz=328,slow=9.5,SNR=3.7						
PMG	Port Moresby	16.27	123	Pn	P	07 12 32.2	-0.3
COEN	Coen	16.42	144	ePn	Pn	07 12 31.6	-0.1
	36nm,0.8s						
WRAB	Tennant Creek	19.21	177	eP	P	07 13 03.8	-1.1
	28nm,0.9s						
WB2	Warramunga Arr	19.22	177	eP	P	07 13 03.9	-1.2
WRA	Warramunga Arr	19.22	177	P	P	07 13 04.4	-0.7
	1.7nm,0.3s,baz=353,slow=11,SNR=42						
WRA	Warramunga Arr	19.22	177	P	P	07 13 04.4	-0.7
BLJI	Banyuglugur	20.93	250	P	Pn	07 13 31.5	+5.1
AS31	Alice Springs	22.91	179	eP	P	07 13 44.0	-0.9
ASAR	Alice Springs	22.91	179	P	P	07 13 44.3	-0.5
	28nm,0.8s,baz=4.1,slow=11,SNR=72						
ASAR	Alice Springs	22.91	179	P	P	07 13 44.3	-0.5
FORT	Forrest	30.41	189	eP	P	07 14 53.2	+0.2
	34nm,0.7s						
FORT	Forrest	30.41	189	eP	P	07 14 52.9	-0.1
	36nm,0.7s						
STKA	Stephens Creek	32.04	167	P	P	07 15 06.2	-1.1
	7.0nm,0.6s,baz=339,slow=10.0,SNR=21						
STKA	Stephens Creek	32.04	167	eP	P	07 15 06.2	-1.1
	6.3nm,0.8s						
STKA	Stephens Creek	32.04	167	P	P	07 15 06.2	-1.1
	18nm,0.8s						
BBOO	Buckleboo	32.11	176	eP	P	07 15 07.6	-0.4
	198nm,0.8s						
KLBR	Kellerberrin	34.15	204	eP	P	07 15 25.9	+0.1
	19nm,0.9s						
MKAR	Makanchi Array	64.93	324	P	P	07 19 20.8	+0.7
	3.9nm,0.6s,baz=120,slow=7.0,SNR=8.9						
MKAR	Makanchi Array	64.93	324	P	P	07 19 20.8	+0.7
KURK	Kurchatov	68.99	326	P	P	07 19 45.9	+0.1
	12nm,1.1s,baz=120,slow=5.8,SNR=10						
KURK	Kurchatov	68.99	326	P	P	07 19 45.9	+0.1
KKAR	Karatay Array	70.93	316	eP	P	07 19 58.4	+0.4
	7.5nm,0.7s						
BVAR	Borovoye Array	74.59	326	P	P	07 20 16.5	-3.0
	3.0nm,0.8s,baz=132,slow=8.2,SNR=6.4						
BVAR	Borovoye Array	74.59	326	P	P	07 20 16.5	-3.0
ILAR	Eielson Array	86.19	25	P	P	07 21 21.4	-0.1
	0.8nm,1.0s,baz=256,slow=4.7,SNR=6.1						
ILAR	Eielson Array	86.19	25	P	P	07 21 21.4	-0.1
CPUP	Villa Florida	151.28	160	PKPbc	PKPbc	07 28 35.9	+1.2
	1.9nm,0.7s,baz=111,slow=1.1,SNR=8.2						
CPUP	Villa Florida	151.28	160	PKPbc	PKPbc	07 28 35.9	+1.2
LPAZ	La Paz	152.94	129	PKPbc	PKPbc	07 28 40.6	+1.1
	1.3nm,0.7s,baz=245,slow=5.3,SNR=3.6						
LPAZ	La Paz	152.94	129	PKPbc	PKPbc	07 28 40.6	+1.1

*IDC **04** 07:08:55.2±0.5, 1.04N×121.76E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/24, mbtmp4.6/20, ML5.4/1, MS5.2/2, Ms1 5.2/2, ms1mx4.3/23, Error ellipse: s-maj=25.8km s-min=11.4km az=64.0*
*MOS **04** 07:08:59.0±1.0, 1.14N×121.81E, h33km, mb4.9/25, Error ellipse: s-maj=18.2km s-min=7.2km az=118.3*
*ISCJB **04** 07:09:00.7±0.7, 1.14N±0.04×121.93E±0.04, h46km±6km, mb4.8/61, MS5.0/12, Error ellipse: s-maj=7.8km s-min=5.5km az=156.9*
*DJA **04** 07:09:01, 1.16N×121.69E, h10km, mb5.2/21*
*NEIC **04** 07:09:02.4±0.8, 1.10N×121.86E, h50km±7km, mb5.0/16, Error ellipse: s-maj=8.1km s-min=4.7km az=65.0*

ISC 04 07:09:02.7±0.3, 1.13N±0.04×121.88E±0.05, h49km±2km, h49km:pP-P, n259, σ1s21/312, mb4.8/61, MS5.1/12, 25C-27D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	0.65	174	P	Pn	07 09 13.8	-1.9
KMSI	Cibinong	2.17	105	P	Pn	07 09 41.3	+4.9
LUWI	Luwuk	2.33	157	P	Pn	07 09 40.9	+2.3
PCI	Palu	2.87	225	P	Pn	07 09 41.9	-4.0
MNI	Manado	2.98	84	P	Pn	07 10 02.4	+15
TTSI	Tana Toraja	4.62	206	P	Pn	07 10 11.6	+1.5
TSM	Tawau	5.09	308	P	Pn	07 10 14.0	-2.4
MYLDM	Lahad Datu	5.25	320	P	Pn	07 10 18.7	0.0
MYLDM	Lahad Datu	5.25	320	P	Pn	07 10 18.6	0.0
	577nm,1.0s,7μm3.1nm						
MJSI	Majene	5.47	212	P	Pn	07 10 28.2	+6.5
SPSI	Sidrap Palu	5.48	203	P	Pn	07 10 23.6	+1.8
	272nm,0.7s,2μm0.8nm						
TNTI	Ternate	5.50	94	P	Pn	07 10 35.3	+13
KAPI	Kappang	6.46	199	ePn	Pn	07 10 34.9	-0.3
KAPI	Kappang	6.46	199	P	Pn	07 10 39.1	+3.9
	58nm,0.9s,803nm0.3nm						
SDKM	Sandakan	6.48	314	P	Pn	07 10 35.0	-0.6
CTBH	Cotabato--PC H	6.50	21	∥iP	Pn	07 10 31.7	-4.1
BBSI	Bau Bau	6.61	174	P	Pn	07 10 56.0	+19
BKSI	Bulukumba	6.64	195	P	Pn	07 10 40.1	+2.4
	64nm,0.8s,838nm0.3nm						
DAV	Davao City (W)	6.96	32	Pn	Pn	07 10 40.5	-1.7
	59nm,0.3s,baz=42,slow=1.4,SNR=2.8						
DAV	Davao City (W)	6.96	32	ePn	Pn	07 10 41.8	-0.5
KBKI	Kotabaru	7.20	232	P	Pn	07 10 45.2	-0.2
	134nm,0.5s,3μm0.8nm						
KKM	Kota Kinabalu	7.47	311	ePn	Pn	07 10 48.8	-0.5
KKM				eSn	Sn	07 12 09.1	-3.6
KKM	Kota Kinabalu	7.47	311	P	Pn	07 10 48.9	-0.3
KKM	Kota Kinabalu

75nm,1.0s
MNSI Mandailing Nat 22.30 269 P P 07 13 55.9 -0.3
57nm,0.8s
PSI Prapat 23.00 274 P P 07 14 03.4 -0.3
38nm,1.0s
TSI Tuntungan 23.41 276 P P 07 14 08.8 +1.2
158nm,1.3s
WRA Warramunga Arr 24.24 150 P P 07 14 14.6 -0.6
13nm,0.4s,baz=330,slow=10,SNR=25
WRA Warramunga Arr 24.24 150 P P 07 14 14.6 -0.6
WRA pmax pmax
comp=Z,13nm,0.4s
WRA Warramunga Arr 24.24 150 P P 07 14 14.6 -0.6
COEN Coen 25.88 126 *eP* **P 07 14 30.7 +0.5**
comp=Z,130nm,0.9s
PMG Port Moresby 27.27 113 LR LR 07 26 02.3
comp=Z,7µm,18.3s,baz=299,slow=38
PMG Port Moresby 27.27 113‖ *eP* **P 07 14 45.7 +3.0**
PMG pmax pmax
comp=Z,53nm,1.2s
ASAR Alice Springs 27.28 155 P P 07 14 41.7 -1.0
comp=Z,6.7nm,0.6s,baz=344,slow=9.8,SNR=4.5
ASAR PcP **PcP 07 18 01.2 -0.5**
comp=Z,3.1nm,0.4s,baz=351,slow=2.4,SNR=6.0
ASAR Alice Springs 27.28 155 P P 07 14 41.7 -1.0
ASAR 07 18 01.2
ASAR pmax pmax
comp=Z,7.0nm,0.6s
ASAR pmax pmax
comp=Z,3.0nm,0.4s
ASAR Alice Springs 27.28 155 P P 07 14 41.7 -1.0
ASAR PcP **PcP 07 18 01.2 -0.5**
CMAR Chiang Mai Arr 28.34 309 P P 07 14 52.5 +0.2
comp=Z,2.8nm,0.8s,baz=135,slow=8.4,SNR=9.7
CMAR Chiang Mai Arr 28.34 309 P P 07 14 52.5 +0.2
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 28.34 309 P P 07 14 52.5 +0.2
CHTO Chiang Mai 28.54 309 *eP* **P 07 14 54.1 +0.1**
CHTO *e**PP **pP 07 15 07.1 +0.3**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 28.54 309 *eP* **P 07 14 54.1 +0.1**
comp=Z,10nm,1.2s
CHTO *e*pP **pP 07 15 07.1 +0.3**
CHTO Chiang Mai 28.54 309 P P 07 14 56.0 +1.9
comp=Z,9.8nm,1.1s
GYA Guiyang 29.13 331 P P 07 15 01.4 +2.1
GYA pP **pP 07 15 14.2 +2.2**
GYA sP **sP 07 15 19.8 +1.9**
GYA PP **PnPn 07 15 57.4 +3.6**
GYA S **S 07 19 51.0 +2.8**
GYA sS **sS 07 20 12.5 +2.9**
GYA ScP **ScP 07 21 45.3 +1.2**
GYA PcS **PcS 07 21 50.0 +0.6**
GYA ScS **ScS 07 25 36.7 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,890nm,17.9s
GYA LR LR
comp=E,740nm,18.3s
GYA LR LR
comp=Z,980nm,18.0s
KMI Kunming 30.18 324 P P 07 15 11.1 +2.4
KMI pP **pP 07 15 23.1 +1.6**
KMI sP **sP 07 15 27.7 +0.4**
KMI pmax pmax
comp=Z,9.0nm,0.8s
NJ2 Nanjing 30.89 355 *eP* **P 07 15 16.0 +1.3**
NJ2 pP **pP 07 15 27.2 -0.2**
NJ2 sP **sP 07 15 32.8 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,4.5s
NJ2 LR LR
comp=N,6µm,21.2s
NJ2 LR LR
comp=E,7µm,23.4s
NJ2 LR LR
comp=Z,7µm,22.4s
FORT Forrest 32.27 170 *eP* **P 07 15 25.5 -1.3**
comp=Z,42nm,0.7s
FORT Forrest 32.27 170 *eP* **P 07 15 25.7 -1.1**
comp=Z,44nm,0.7s
CD2 Chengdu 34.24 332 P P 07 15 46.8 +2.7
CD2 pP **pP 07 15 58.8 +1.9**
CD2 sP **sP 07 16 04.1 +1.4**
CD2 PP **PP 07 17 03.2 +0.8**
CD2 S **S 07 21 10.6 +2.9**
CD2 sS **sS 07 21 30.7 +1.4**
CD2 SS **SnSn 07 23 22.7 +2.5**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,330nm,7.2s
CD2 LR LR
comp=N,440nm,8.1s
CD2 LR LR
comp=Z,320nm,7.6s
BBOO Buckleboo 36.31 160 *eP* **P 07 16 00.3 -1.5**
comp=Z,217nm,0.8s
KSAR Wonju Array Be 36.56 8 P P 07 16 04.0 +0.2
KSAR Wonju Array Be 36.56 8 P P 07 16 04.0 +0.2
KSRS Korea Array 36.58 8 P P 07 16 04.0 0.0
comp=Z,0.5nm,0.3s,baz=171,slow=8.6,SNR=4.5
KSRS Korea Array 36.58 8 P P 07 16 04.0 0.0
KSRS pmax pmax
comp=Z,1.0nm,0.3s
STKA Stephens Creek 37.77 152 P P 07 16 13.3 -0.9
comp=Z,18nm,0.7s,baz=327,slow=8.7,SNR=13
STKA Stephens Creek 37.77 152 *eP* **P 07 16 13.8 -0.4**
comp=Z,15nm,0.8s
STKA Stephens Creek 37.77 152 P P 07 16 13.3 -0.9
STKA pmax pmax
comp=Z,18nm,0.7s
STKA Stephens Creek 37.77 152 P P 07 16 13.3 -0.9
MJAR Matsushiro Arr 38.35 21 P P 07 16 17.8 -1.2
comp=Z,2.1nm,0.8s,baz=201,slow=9.6,SNR=6.1
MJAR PcP **PcP 07 18 32.3 +0.2**
comp=Z,1.1nm,0.8s,baz=186,slow=3.0,SNR=4.7
MJAR Matsushiro Arr 38.35 21 P P 07 16 17.8 -1.2
MJAR 07 18 32.3
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 38.35 21 P P 07 16 17.8 -1.2
MJAR PcP **PcP 07 18 32.3 +0.2**
LZH Lanzhou 38.60 336 *eP* P 07 16 25.0 +3.7
LZH pP pP 07 16 37.4 +3.1
LZH sP sP 07 16 42.8 +2.7
LZH PcP PcP 07 18 39.7 +6.7
LZH *e*S **ScP 07 22 21.4 +4.1**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,59nm,4.0s
LZH LR LR
comp=N,4µm,15.6s
LZH LR LR
comp=E,4µm,16.3s
LZH LR LR
comp=Z,4µm,18.0s
BJI Beijing 39.08 353 P P 07 16 26.7 +1.7
BJI pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 40.63 348 *eP* **P 07 16 38.7 +0.6**
HHC pP **pP 07 16 51.0 -0.1**
HHC sP **sP 07 16 56.5 -0.4**
HHC PP **PnPn 07 18 17.1 +0.3**
HHC PcP **PcP 07 18 40.4 +1.1**
HHC S **S 07 22 46.3 +1.7**
HHC sS **sS 07 23 06.8 +0.3**
HHC SS **SS 07 25 44.0 -2.4**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.4s
HHC LR LR
comp=N,1µm,15.9s
HHC LR LR
comp=E,540nm,14.3s
HHC LR LR
comp=Z,2µm,15.0s
ODAN Odare 41.84 311 *eP* **P 07 16 48.9 +0.5**
comp=Z,55nm,0.9s
ODAN Odare 41.84 311 *eP* **P 07 16 48.9 +0.5**
TAPN Taplejung 41.86 312 *eP* **P 07 16 49.1 +0.5**
comp=Z,39nm,0.5s
TAPN Taplejung 41.86 312 *eP* **PcP 07 18 44.0 +0.1**
TAPN Taplejung 41.86 312 *eP* **P 07 16 49.1 +0.5**
RAMN Ramite 42.49 310 *eP* **P 07 16 54.4 +0.7**
comp=Z,90nm,0.9s
RAMN Ramite 42.49 310 *eP* **PcP 07 18 44.6 -1.3**
RAMN Ramite 42.49 310 *eP* **P 07 16 54.4 +0.7**
CN2 Changchun 42.61 4 *eP* **P 07 16 53.2 -0.9**
CN2 *e*S **S 07 23 13.9 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
GTA Gaotai 43.10 335‖ *eP* **P 07 16 59.5 +1.2**
GTA pP **pP 07 17 11.9 +0.5**
GTA sP **sP 07 17 17.0 -0.2**
GTA S **S 07 23 22.6 +1.5**
GTA sS **sS 07 23 42.5 -0.7**
GTA SS **SS 07 26 30.5 -4.6**
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,36nm,5.0s
GTA LR LR
comp=N,1µm,16.6s
GTA LR LR
comp=E,1µm,16.6s
GTA LR LR
comp=Z,1µm,17.6s
JIRN Jiri 43.17 311 *eP* **P 07 16 59.9 +0.5**
comp=Z,42nm,0.5s
JIRN Jiri 43.17 311 *eP* **PcP 07 18 47.9 -0.4**
JIRN Jiri 43.17 311 *eP* **P 07 16 59.9 +0.5**
GUN Gumba 43.54 311 *eP* **P 07 17 02.8 +0.5**
GUN Gumba 43.54 311 *eP* **PcP 07 18 49.3 -0.2**
comp=Z,38nm,1.0s
GUN Gumba 43.54 311 *eP* **P 07 17 02.8 +0.5**
PKI Pulchoki 43.72 310 *eP* **P 07 17 03.6 -0.1**
comp=Z,32nm,0.7s
PKI Pulchoki 43.72 310 *eP* **PcP 07 18 49.6 -0.5**
comp=Z,20nm,0.6s
PKI Pulchoki 43.72 310 *eP* **P 07 17 03.6 -0.1**
PKI Pulchoki 43.72 310 *eP* **P 07 17 03.6 -0.1**
USRK Ussuriysk Arra 43.83 11 P P 07 17 04.5 +0.6
comp=Z,3.0nm,0.7s,baz=193,slow=6.0,SNR=8.7
MDJ Mudanjiang 43.84 8 P P 07 17 04.7 +0.7
MDJ pP **pP 07 17 16.0 -1.2**
MDJ sP **sP 07 17 20.9 -2.0**
MDJ ScP **ScP 07 22 38.4 +0.8**
MDJ PcS **PcS 07 22 42.8 +0.2**
MDJ S **S 07 23 34.1 +2.5**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,61nm,4.2s
MDJ LR LR
comp=N,2µm,18.1s
MDJ LR LR
comp=E,3µm,19.0s
MDJ LR LR
comp=Z,1µm,14.0s
KKN Kakani 43.93 310 *eP* **P 07 17 05.6 +0.3**
KKN Kakani 43.93 310 *eP* **PcP 07 18 50.2 -0.5**
KKN Kakani 43.93 310 *eP* **P 07 17 05.6 +0.3**
KKN Kakani 43.93 310 *eP* **P 07 17 05.6 +0.3**
DMN Daman 43.97 310 *eP* **P 07 17 05.9 +0.2**
comp=Z,70nm,1.0s
DMN Daman 43.97 310 *eP* **PcP 07 18 50.5 -0.4**
comp=Z,26nm,0.8s
DMN Daman 43.97 310 *eP* **P 07 17 05.9 +0.2**
CAN Canberra 44.24 148 *eP* **P 07 17 07.6 +0.2**
CAN pmax pmax
comp=Z,11nm,0.5s
CAN Canberra 44.24 148 *eP* **P 07 17 07.6 +0.2**
comp=Z,11nm,0.5s
TOO Toolangi 44.27 153 *eP* **P 07 17 08.1 +0.5**
comp=Z,28nm,0.8s
GKN Gorkha 44.53 310 *eP* **P 07 17 10.1 +0.1**
comp=Z,92nm,0.9s
GKN Gorkha 44.53 310 *eP* **PcP 07 18 51.8 -0.9**
GKN Gorkha 44.53 310 *eP* **P 07 17 10.1 +0.1**
KOLN Koldanda 45.21 309 *eP* **P 07 17 15.8 +0.3**
comp=Z,48nm,0.7s
KOLN Koldanda 45.21 309 *eP* **PcP 07 18 54.2 -0.9**
KOLN Koldanda 45.21 309 *eP* **P 07 17 15.8 +0.3**
DANN Dangsing 45.37 310 *eP* **P 07 17 17.1 +0.2**
comp=Z,114nm,0.8s
DANN Dangsing 45.37 310 *eP* **PcP 07 18 54.9 -0.9**
DANN Dangsing 45.37 310 *eP* **P 07 17 17.1 +0.2**
HYB Hyderabad 45.55 293 *i* P **P 07 17 17.0 -1.2**
YUK Yuzh-Kuril'sk 47.75 23 *eP* P 07 17 30.3 -4.5
YUK *i* PPP PPP 07 20 13.3
YUK *e*S **S 07 24 29.0 +1.2**
YUK *i* SS **SS 07 27 56.9 +0.1**
YUK *i* SSS SSS 07 29 02.2
YUK pmax pmax
comp=N,390nm,1.3s
YUK pmax pmax
comp=Z,148nm,1.3s
YUK pmax pmax
comp=E,189nm,1.3s
YUK pmax pmax
comp=Z,281nm,1.6s
YUK MLR MLR
comp=Z,1µm,18.0s
YUK MLR MLR
comp=N,959nm,17.0s
YUK MLR MLR
comp=E,985nm,18.0s
ULN Ulaanbaatar 48.30 347 *eP* **P 07 17 39.4 +0.2**
ULN Ulaanbaatar 48.30 347 *eP* **P 07 17 39.4 +0.2**
ULN Ulaanbaatar 48.30 347 P **P 07 17 40.4 +1.2**
comp=E,14nm,1.2s,comp=E,441nm
SONM Songino Array 48.43 346 P **P 07 17 41.1 +0.9**
comp=E,11nm,1.1s,baz=162,slow=9.4,SNR=53
SONM Songino Array 48.43 346 P **P 07 17 41.1 +0.9**
SONM pmax pmax
comp=Z,11nm,1.1s
SONM Songino Array 48.43 346 P **P 07 17 41.1 +0.9**
HABR Khabarovsk 48.52 12 *eP* P 07 17 48.6 +7.9
HABR *e* 07 19 03.9
HABR *e*S **S 07 24 39.1 +0.6**
HABR *e**SS sS 07 24 55.5 -5.3
HABR *e* 07 27 28.9
HABR *e*SS **SS 07 28 10.5 +1.4**
HABR *e*SSS SSS 07 29 24.1
HABR pmax pmax
comp=E,85nm,2.7s
HABR pmax pmax
comp=Z,64nm,2.7s
HABR pmax pmax
comp=N,65nm,2.7s
HABR MLR MLR
comp=Z,5µm,20.0s
ZAK Zakamensk 51.56 345 *eP* **P 07 18 04.0 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 52.26 329 *eP* **P 07 18 10.0 +0.8**
WMQ pP **pP 07 18 22.6 0.0**
WMQ sP **sP 07 18 27.8 -0.5**
WMQ PcP **PcP 07 19 18.0 -2.1**
WMQ pmax pmax
comp=Z,11nm,0.7s
MOY Mondy 53.34 344 *eP* **P 07 18 18.3 +1.2**
KSH Kashi 56.60 318 *eP* **P 07 18 42.1 +1.3**
KSH *e*pP **pP 07 18 54.5 +0.1**
KSH *e*sP **sP 07 19 00.3 +0.2**
KSH *e*PcP **PcP 07 19 37.9 +1.0**
KSH *e*PP **PP 07 20 49.6 +2.4**
KSH *e*ScP **ScP 07 23 32.1 -0.4**
KSH *e*PcS **PcS 07 23 37.1 -0.6**
KSH *e*S **S 07 26 27.3 -2.2**
KSH *e*sS **sS 07 26 50.2 -2.1**
KSH *e*ScS **ScS 07 28 23.3 -3.0**
KSH *e*SS **SS 07 30 17.5 -0.3**
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,59nm,3.3s
KSH LR LR
comp=N,620nm,9.3s
KSH LR LR
comp=E,640nm,8.5s
KSH LR LR
comp=Z,850nm,12.3s
BOD Bodaibo 56.87 355 *eP* **P 07 18 42.7 +0.4**
BOD pmax pmax
comp=Z,12nm,1.0s
MK31 Makanchi Array 57.07 329 *eP* **P 07 18 44.3 +0.3**
MK31 Makanchi Array 57.07 329 *eP* **P 07 18 44.3 +0.3**
MKAR Makanchi Array 57.07 329 P P 07 18 44.5 +0.5
comp=Z,5.4nm,0.5s,baz=129,slow=8.3,SNR=78
MKAR Makanchi Array 57.07 329 P P 07 18 44.5 +0.5
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 57.07 329 P P 07 18 44.5 +0.5
KZA Kyzart 58.39 321 P P 07 18 55.1 +1.4
SNR=5.0
KZA P P 07 18 55.1 +1.4
SNR=5.0
TKM2 Tokmak 2 58.61 322 P P 07 18 56.0 +1.0
SNR=5.5
TKM2 P P 07 18 56.0 +1.0
SNR=5.5
TKM2 Tokmak 2 58.61 322 *i* P **P 07 18 56.0 +1.0**
TKM2 Tokmak 2 58.61 322 *eP* **P 07 18 55.6 +0.5**
comp=Z,60nm,1.5s
KBK Karagaybulak 58.88 321 P P 07 18 58.2 +1.3
SNR=8.9
KBK P P 07 18 58.2 +1.3
SNR=8.9
AAK Ala-Archa 59.15 321 P P 07 19 00.0 +1.2
SNR=7.0
AAK P P 07 19 00.0 +1.2
SNR=7.0
AAK Ala-Archa 59.15 321 *i* P **P 07 19 00.0 +1.2**
AAK *i* *PP **pP 07 19 09.3 -3.1**
AAK pmax pmax
comp=Z,57nm,1.6s
AAK Ala-Archa 59.15 321 *eP* **P 07 18 58.8 0.0**
comp=Z,61nm,1.0s
AAK *e*PcP **PcP 07 19 46.7 -0.2**
KBL Kabul 59.36 310 *eP* **P 07 19 00.4 0.0**
KBL pmax pmax
comp=Z,26nm,0.8s
KBL Kabul 59.36 310 *eP* **P 07 19 00.4 0.0**
comp=Z,26nm,0.8s
AML Almayashu 59.41 320 P P 07 19 02.3 +1.4
SNR=6.6
AML P P 07 19 02.3 +1.4
SNR=6.6
USP Ospenovka 59.48 321 P P 07 19 01.3 +0.4
SNR=7.6
USP P P 07 19 01.3 +0.4
SNR=7.6
EKS2 Erkin-Say 59.62 320 P P 07 19 03.3 +1.3
SNR=5.7
EKS2 P P 07 19 03.3 +1.3
SNR=5.7
PETK Petropavlovsk- 59.72 24 P P 07 19 02.6 +0.4
comp=Z,2.8nm,0.7s,baz=206,slow=4.8,SNR=7.2
PETK Petropavlovsk- 59.72 24 P P 07 19 02.6 +0.4
PETK pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 59.72 24 P P 07 19 02.6 +0.4
ZAA0 Zalesovo Array 60.83 336 *eP* **P 07 19 09.1 -0.7**
ZALV Zalesovo Beam 60.83 336 P P 07 19 08.8 -1.0
comp=Z,3.8nm,0.6s,baz=128,slow=6.3,SNR=28
ZALV Zalesovo Beam 60.83 336 P P 07 19 08.9 -1.0
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 60.83 336 P P 07 19 08.8 -1.0
YAK Yakutsk 61.04 4 *eP* **P 07 19 10.0 -1.1**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK Yakutsk 61.04 4 *eP* **P 07 19 10.9 -0.1**
comp=Z,27nm,0.6s
KURK Kurchatov 61.45 330 P P 07 19 13.9 -0.2
comp=Z,4.1nm,0.6s,baz=131,slow=5.9,SNR=49
KURK Kurchatov 61.45 330 P P 07 19 13.9 -0.2
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 61.45 330 P P 07 19 13.9 -0.2
KURK Kurchatov 61.45 330 P P 07 19 14.8 +0.8
comp=Z,149nm,0.6s,SNR=15
KKAR Karatay Array 61.94 320 *eP* **P 07 19 17.4 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 61.94 320 *eP* **P 07 19 17.4 -0.1**
comp=Z,6.8nm,0.8s
NVS Novosibirsk 62.12 336 *eP* **P 07 19 16.3 -2.2**
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,7.0nm,0.9s
RPZ Rata Peaks 62.58 142 P P 07 19 21.7 -0.1
comp=Z,28nm,0.9s,baz=248,slow=5.4,SNR=9.0
RPZ Rata Peaks 62.58 142 P P 07 19 21.7 -0.1
URZ Urewera 64.10 134 P P 07 19 30.9 -1.1
comp=Z,4.3nm,0.3s,baz=284,slow=6.2,SNR=6.8
URZ Urewera 64.10 134 P P 07 19 30.9 -1.1
BVAR Borovoye Array 66.95 329 P P 07 19 49.9 -0.2
comp=Z,2.2nm,0.6s,baz=134,slow=9.3,SNR=18
BVAR Borovoye Array 66.95 329 P P 07 19 49.9 -0.2
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 66.95 329 P P 07 19 49.9 -0.2
BRVK Borovoye 67.02 329*c i* P **P 07 19 50.2 -0.3**
BRVK pmax pmax
comp=Z,16nm,1.5s
BRVK Borovoye 67.02 329 *eP* **P 07 19 50.3 -0.2**
comp=Z,14nm,1.3s
ABKAR Akbulak array 71.16 322 *eP* **P 07 20 16.0 -0.2**
comp=Z,7.6nm,0.8s
AKTO Aktyubinsk 72.74 323 P P 07 20 25.4 -0.4
comp=Z,7.7nm,0.7s,baz=104,slow=9.8,SNR=27
AKTO Aktyubinsk 72.74 323 P P 07 20 25.4 -0.4
AKTO pmax pmax
comp=Z,8.0nm,0.7s
AKTO Aktyubinsk 72.74 323 P P 07 20 25.4 -0.4
SVE Sverdlovsk 73.69 330 *eP* **P 07 20 31.1 -0.1**
SVE pmax pmax
comp=Z,14nm,1.2s
ARU Arti 74.59 329*d i* P **P 07 20 35.7 -0.8**
ARU 07 23 17.5
ARU S **S 07 30 07.6 -0.7**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 74.59 329 *eP* **P 07 20 35.7 -0.8**
comp=Z,7.1nm,1.1s
RAR Rarotonga 79.55 112 LR LR 07 53 12.9
comp=Z,1µm,21.4s,baz=276,slow=33
KMBO Kilima Mbogo 84.65 269 *eP* **P 07 21 32.0 -0.3**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 84.65 269 *eP* **P 07 21 32.0 -0.3**
comp=Z,3.4nm,0.9s
OBN Obninsk 86.39 325‖ *i* P **P 07 21 38.9 -0.8**
OBN pmax pmax
comp=Z,28nm,1.2s
BRTR Keskin Array B 87.93 310 P P 07 21 45.6 -2.1
comp=Z,1.2nm,0.8s,baz=114,slow=3.0,SNR=5.7
BRTR Keskin Array B 87.93 310 P P 07 21 45.6 -2.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 87.93 310 P P 07 21 45.6 -2.1
AKASG Malin Array Be 90.82 321 P P 07 21 58.6 -2.2
comp=Z,2.4nm,0.7s,baz=71,slow=4.9,SNR=8.4
AKASG Malin Array Be 90.82 321*c e*P **P 07 21 58.9 -1.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 90.82 321 P P 07 21 58.6 -2.2
KIS Kishinev 91.28 317 *eP* PKiKP 07 27 07.0 +12
KIS LRM MLR 08 15 42.0
comp=Z,2µm,22.0s
FINES FINESS Array B 91.80 331 P P 07 22 03.2 -1.9

comp=Z,2.7nm,0.9s,baz=64,slow=4.8,SNR=5.4
FINES FINES Array B 91.80 331 P **P** **07 22 03.2 -1.9**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINES Array B 91.80 331 P **P** **07 22 03.2 -1.9**
BUR08 Bucovina Ar. S 93.68 318 *e*P **P** **07 22 13.3 -1.0**
H13A Challis 112.62 40 ⇓P **PKiKP** **07 27 33.5 -0.7**
baz=113
A17A Triple J Farms 112.70 35 ⇑P **PKiKP** **07 27 33.6 -0.6**
baz=113
C17A Wharram Farm, 113.33 36 ⇓P **PKiKP** **07 27 35.0 -0.4**
baz=113
D21A La Casta Ranch 115.81 35 ⇑P **PKPdf** **07 27 39.6 -0.5**
baz=116
I18A Diamond G Ranc 115.85 39 ⇑P **PKPdf** **07 27 40.1 -0.5**
baz=116
G20A Bridger 116.08 37 ⇑P **PKPdf** **07 27 40.2 -0.6**
baz=116
D22A Cohagen 116.22 34 ⇓P **PKPdf** **07 27 40.7 -0.2**
baz=116
M17A Scullys Gap (B 116.36 42 ⇑P **PKPdf** **07 27 40.5 -1.1**
baz=116
C23A Lambert 116.41 33 ⇓P **PKPdf** **07 27 40.8 -0.5**
baz=116
J19A Crowheart 116.55 39 ⇑P **PKPdf** **07 27 41.0 -0.8**
baz=116
L18A Fontenelle, Gr 116.57 41 ⇓P **PKPdf** **07 27 41.7 -0.3**
baz=116
H20A Greybull 116.59 38 ⇓P **PKPdf** **07 27 41.3 -0.5**
baz=116
MVU Marysvale 116.62 45 *e*Pdif **Pdif** **07 23 57.0 -0.2**
E22A Miles City 116.75 35 ⇑P **PKPdf** **07 27 41.4 -0.5**
baz=117
D23A Lindsay 116.76 34 ⇓P **PKPdf** **07 27 41.7 -0.3**
baz=117
I20A Worland 116.79 38 ⇑P **PKPdf** **07 27 41.5 -0.7**
baz=117
K19A Absolon Red Bu 116.90 40 ⇓P **PKPdf** **07 27 41.8 -0.8**
baz=117
C24A Savage 116.98 33 ⇑P **PKPdf** **07 27 41.6 -0.7**
baz=117
E23A Ismay 117.09 35 ⇑P **PKPdf** **07 27 42.1 -0.5**
baz=117
J20A Shoshoni 117.12 39 ⇑P **PKPdf** **07 27 42.4 -0.5**
baz=118
F24A Ekalaka 117.95 35 ⇓P **PKPdf** **07 27 43.6 -0.8**
baz=118
J22A Midwest 118.09 38 ⇓P **PKPdf** **07 27 43.5 -1.2**
baz=118
K22A Casper 118.46 39 ⇑P **PKPdf** **07 27 44.6 -0.9**
baz=118
Q19A Hogan Spring (118.48 44 ⇑P **PKPdf** **07 27 45.1 -0.5**
baz=118
O20A White River Ci 118.62 42 ⇑P **PKPdf** **07 27 45.4 -0.5**
baz=119
N21A Black Mountain 118.79 41 ⇓P **PKPdf** **07 27 45.7 -0.6**
baz=119
T18A Mexican Hat 118.88 46 ⇓P **PKPdf** **07 27 45.8 -0.6**
baz=119
TORD Torodi Ar. Bea 119.03 286 PKP **PKPdf** **07 27 45.9 -1.2**
comp=Z,1.2nm,0.7s,baz=69,slow=1.7,SNR=10.0
TORD Torodi Ar. Bea 119.03 286 PKP **PKPdf** **07 27 45.9 -1.2**
ULM Lac du Bonnet 119.51 27 PKP **PKPdf** **07 27 45.0 -2.0**
comp=Z,2.9nm,0.7s,baz=227,slow=1.1,SNR=5.2
ULM Lac du Bonnet 119.51 27 PKIKP **PKPdf** **07 27 45.0 -2.0**
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 119.51 27 PKP **PKPdf** **07 27 45.0 -2.0**
S21A Coal Bank Pass 120.11 44 ⇑P **PKPdf** **07 27 48.7 -0.3**
baz=120
O23A Lake Granby, G 120.12 41 ⇓P **PKPdf** **07 27 48.5 -0.5**
baz=120
W20A Ramah 120.76 47 ⇓P **PKPdf** **07 27 50.3 0.0**
baz=121
U21A Nageezi 120.78 46 ⇑P **PKPdf** **07 27 50.5 +0.3**
baz=121
U22A Llaves 121.38 45 ⇓P **PKPdf** **07 27 51.2 -0.2**
baz=121
X21A Alamocita Cree 121.59 48 ⇓P **PKPdf** **07 27 51.3 -0.6**
baz=122
P25A Willow Gulch B 121.63 41 ⇓P **PKPdf** **07 27 51.6 -0.2**
baz=122
Q25A Bedland, Calha 121.90 41 ⇓P **PKPdf** **07 27 51.6 -0.7**
baz=122
P26A Davis Ranch, A 122.14 40 ⇓P **PKPdf** **07 27 52.1 -0.6**
baz=122
320A Kipp Ranch, An 122.36 51 ⇑P **PKPdf** **07 27 52.9 -0.5**
baz=122
Y22A Socorro 122.43 48 ⇑P **PKPdf** **07 27 52.9 -0.5**
baz=122
W24A Lazy 6 Ranch, 122.97 46 ⇓P **PKPdf** **07 27 53.8 -0.7**
baz=123
S26A Kim 123.10 42 ⇑P **PKPdf** **07 27 54.3 -0.3**
baz=123
Z24A Sheeppen Canyo 123.89 48 ⇓P **PKPdf** **07 27 56.0 -0.3**
baz=124
Y25A Mesa, Roswell 124.11 47 ⇑P **PKPdf** **07 27 56.0 -0.6**
baz=124
324A Moseley Ranch, 124.66 50 ⇑P **PKPdf** **07 27 57.2 -0.6**
baz=125
Z27A Tatum 125.48 47 ⇓P **PKPdf** **07 27 58.8 -0.4**
baz=125
328A Wristen Ranch, 126.72 49 ⇓P **PKPdf** **07 28 01.0 -0.6**
baz=127
TXAR Lajitas Array 127.01 51 PKP **PKPdf** **07 28 02.4 +0.2**
comp=Z,0.4nm,0.6s,baz=244,slow=3.9,SNR=4.8
TXAR Lajitas Array 127.01 51 PKIKP **PKPdf** **07 28 02.4 +0.2**
TXAR Lajitas Array 127.01 51 PKP **PKPdf** **07 28 02.4 +0.2**
JCT Junction City 129.41 48 *e*PKIKP **PKPdf** **07 28 07.2 +0.5**
JCT Junction City 129.41 48 *e*PKPdf **PKPdf** **07 28 07.2 +0.5**
JCT Junction City 129.41 48 ⇑P **PKPdf** **07 28 06.5 -0.2**
baz=129
LCO Las Campanas 149.78 158 *e*PKPbc **PKPbc** **07 28 48.4 +0.1**
LPAZ La Paz 161.99 147 PKPab **PKPab** **07 29 47.7 +1.2**
comp=Z,2.8nm,0.6s,baz=189,slow=3.3,SNR=5.9
LPAZ La Paz 161.99 147 PKP2 **PKPab** **07 29 47.7 +1.2**
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ La Paz 161.99 147 PKPab **PKPab** **07 29 47.7 +1.2**

*IDC **04** 07:10:30.1±0.7,0.˚25S×132.˚75E, h0km, mb4.6/11, mb1 4.8/13,mb1mx4.6/20, mbtmp4.7/13, ML4.2/2, Error ellipse: s-maj=34.4km s-min=15.0km az=69.0*
*ISCJB **04** 07:10:33.3±0.4, 0.˚27S±0.˚06×132.˚7E±0.˚1, h33km, mb4.7/20, Error ellipse: s-maj=17.9km s-min=7.9km az=162.8*
*NEIC **04** 07:10:35.5±0.3, 0.˚28S×132.˚68E, h35km, mb4.8/8, Error ellipse: s-maj=13.3km s-min=5.8km az=69.0*
*DJA **04** 07:10:38, 0.59S×132.˚56E, h10km, mb5.2/10*
ISC 04 07:10:35.3±0.5, 0.˚28S±0.˚09×132.˚7E±0.˚1, h33km, n48, σ0.˚65/48, mb4.8/20, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**17.01**	**123**	Pn		**Pn**		**07 14 31.2**	**+0.4**
	0.4nm,0.3s,baz=304,slow=11,SNR=7.8								
PMG	**Port Moresby**	**17.01**	**123**	Pn		**Pn**		**07 14 31.2**	**+0.4**
WRAB	**Tennant Creek**	**19.60**	**175**	*e*P		**P**		**07 15 00.8**	**0.0**
	49nm,0.7s								
WRA	**Warramunga Arr**	**19.61**	**175**	P		**P**		**07 15 00.8**	**-0.1**
	2.7nm,0.3s,baz=352,slow=11,SNR=16								
WRA	**Warramunga Arr**	**19.61**	**175**	P		**P**		**07 15 00.8**	**-0.1**
ASAR	**Alice Springs**	**23.27**	**177**	P		**P**		**07 15 40.4**	**+0.2**
	125nm,0.8s,baz=0.5,slow=12,SNR=33								
ASAR	**Alice Springs**	**23.27**	**177**	P		**P**		**07 15 40.4**	**+0.2**
MBWA	**Marble Bar**	**24.31**	**211**	*e*P		**P**		**07 15 50.3**	**+0.4**
	36nm,0.7s								
FORT	**Forrest**	**30.65**	**188**	*e*P		**P**		**07 16 47.0**	**+0.3**
	31nm,0.7s								
STKA	**Stephens Creek**	**32.53**	**166**	P		**P**		**07 17 02.3**	**-1.0**
	20nm,0.8s,baz=344,slow=9.2,SNR=7.5								
STKA	**Stephens Creek**	**32.53**	**166**	*e*P		**P**		**07 17 02.7**	**-0.6**
	16nm,0.8s								
STKA	**Stephens Creek**	**32.53**	**166**	*e*P		**P**		**07 17 02.5**	**-0.8**
KLBR	**Kellerberrin**	**34.20**	**203**	*e*P		**P**		**07 17 18.0**	**+0.1**
	31nm,0.8s								
CMAR	**Chiang Mai Arr**	**38.03**	**301**	P		**P**		**07 17 51.4**	**+0.6**
	4.1nm,0.9s,baz=122,slow=7.1,SNR=12								
CMAR	**Chiang Mai Arr**	**38.03**	**301**	P		**P**		**07 17 51.4**	**+0.6**
SONM	**Songino Array**	**53.10**	**338**	P		**P**		**07 19 50.2**	**+0.5**
	2.4nm,1.1s,baz=146,slow=8.7,SNR=3.5								
SONM	**Songino Array**	**53.10**	**338**	P		**P**		**07 19 50.2**	**+0.5**
PETK	**Petropavlovsk-**	**57.15**	**18**	P		**P**		**07 20 19.2**	**+0.5**
	7.5nm,0.9s,baz=189,slow=8.5,SNR=4.9								
PETK	**Petropavlovsk-**	**57.15**	**18**	P		**P**		**07 20 19.2**	**+0.5**

MK31 Makanchi Array 64.26 324 *e*P **P** **07 21 07.5 +0.3**
MKAR Makanchi Array 64.26 324 P **P** **07 21 07.6 +0.3**
6.1nm,0.8s,baz=116,slow=8.1,SNR=9.8
MKAR Makanchi Array 64.26 324 P **P** **07 21 07.6 +0.3**
ZAA0 Zalesovo Array 66.89 332 *e*P **P** **07 21 23.5 -0.6**
ZALV Zalesovo Beam 66.89 332 P **P** **07 21 23.4 -0.7**
2.2nm,0.7s,baz=136,slow=7.2,SNR=4.1
ZALV Zalesovo Beam 66.89 332 P **P** **07 21 23.4 -0.7**
KURK Kurchatov 68.33 326 P **P** **07 21 33.1 -0.2**
10nm,0.9s,baz=122,slow=5.7,SNR=11
KURK Kurchatov 68.33 326 P **P** **07 21 33.1 -0.2**
KBL Kabul 68.68 307 *e*P **P** **07 21 35.8 -0.2**
12nm,0.8s
KKAR Karatay Array 70.22 316 *e*P **P** **07 21 45.2 0.0**
3.5nm,0.8s
BVAR Borovoye Array 73.93 326 P **P** **07 22 06.9 -0.2**
6.1nm,0.8s,baz=134,slow=8.3,SNR=10
BVAR Borovoye Array 73.93 326 P **P** **07 22 06.9 -0.2**
BRVK Borovoye 74.00 326 *e*P **P** **07 22 07.5 -0.1**
10nm,1.0s
IMYA Miami 76.19 308 *e*P **P** **07 22 20.5 -0.3**
IMOG Moghan 76.76 307 *e*P **P** **07 22 23.2 -1.0**
ABKAR Akbulak array 79.01 320 *e*P **P** **07 22 35.5 -0.5**
11nm,1.1s
AKTO Aktyubinsk 80.49 321 P **P** **07 22 43.5 -0.5**
3.7nm,0.9s,baz=93,slow=7.3,SNR=4.4
AKTO Aktyubinsk 80.49 321 P **P** **07 22 43.5 -0.5**
ARU Arti 81.50 327 *e*P **P** **07 22 48.2 -1.0**
5.8nm,0.9s
ILAR Eielson Array 86.16 25 P **P** **07 23 11.8 -1.2**
2.1nm,0.8s,baz=258,slow=5.5,SNR=11
ILAR Eielson Array 86.16 25 P **P** **07 23 11.8 -1.2**
QSPA South Pole Qui 89.65 180 *e*P **P** **07 23 29.2 -0.5**
7.9nm,0.8s
TORD Torodi Ar. Bea 129.81 287 PKP **PKPdf** **07 29 42.1 -0.3**
0.7nm,0.9s,baz=56,slow=1.8,SNR=3.3
TORD Torodi Ar. Bea 129.81 287 PKP **PKPdf** **07 29 42.1 -0.3**
PLCA Paso Flores 134.03 155 PKP **PKPdf** **07 29 51.2 +1.4**
2.1nm,0.8s,baz=219,slow=2.6,SNR=5.0
PLCA Paso Flores 134.03 155 PKP **PKPdf** **07 29 51.2 +1.4**
LVC Limon Verde 149.01 139 *e*PKPbc **PKPbc** **07 30 22.9 +1.7**
CPUP Villa Florida 151.83 161 PKPbc **PKPbc** **07 30 27.2 -0.3**
8.0nm,0.8s,baz=189,slow=1.7,SNR=11
CPUP Villa Florida 151.83 161 PKPbc **PKPbc** **07 30 27.2 -0.3**

IDC 04 07:11:43.5±2.9, 20.˚67S×68.˚73W, h116km±21km, mb3.8/2, mb1 3.3/6, mb1mx3.2/14, mbtmp3.2/6, Error ellipse: s-maj=51.7km s-min=25.4km az=92.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.40**	**8**	P		P		07 12 49.7	+0.6
	1.0nm,0.3s,baz=201,slow=7.8,SNR=16								
SIV	**San Ignacio**	**8.63**	**59**	P		Pn		07 13 44.1	-1.6
	0.8nm,0.3s,baz=252,slow=12,SNR=18								
CFAA	**Coronel Fontan**	**10.90**	**178**	P		Pn		07 14 15.5	-0.7
	0.0nm,0.3s,baz=352,slow=14,SNR=9.9								
CFAA				S		Sn		07 16 10.3	-5.8
	0.0nm,0.3s,baz=255,slow=20,SNR=11								
CPUP	**Villa Florida**	**11.80**	**120**	P		Pn		07 14 30.8	+1.6
	0.4nm,0.3s,baz=291,slow=11,SNR=4.6								
PLCA	**Paso Flores**	**20.06**	**184**	P		Pn		07 16 10.9	+0.4
	2.3nm,0.9s,baz=354,slow=6.9,SNR=4.5								
DBIC	**Dimbokro**	**68.34**	**74**	P		P		07 22 32.1	-0.7
	2.1nm,0.8s,baz=208,slow=6.2,SNR=4.0								
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P		P		07 23 24.1	+0.5
	0.9nm,0.6s,baz=252,slow=4.8,SNR=14								

*BJI **04** 07:13:52.0, 1.˚14S×133.˚17E, h35km, mB5.7/46, mb5.1/57, Ms5.6/65, Ms7 5.4/63*
*IDC **04** 07:13:55.1±0.5, 0.˚41S×132.˚79E, h0km, mb5.0/16, mb1 5.1/17, mb1mx5.1/17, mbtmp5.0/17, ML5.1/1, MS5.3/17, Ms1 5.4/17, ms1mx5.2/23, Error ellipse: s-maj=28.9km s-min=13.7km az=71.0*
*MOS **04** 07:13:58.4±1.4, 0.˚39S×132.˚75E, h33km, mb5.6/53, MS5.3/22, Error ellipse: s-maj=10.8km s-min=5.5km az=110.7*
*ISCJB **04** 07:13:59.1±0.2, 0.˚25S±0.˚02×132.˚99E±0.˚03, h33km, mb5.4/151, MS5.4/57, Error ellipse: s-maj=3.9km s-min=3.5km az=174.0*
*NEIC **04** 07:14:00.6±0.2, 0.˚40S×132.˚76E, h35km, mb5.5/68, Error ellipse: s-maj=6.6km s-min=4.5km az=65.0*
*TEH **04** 07:14:00.0, 0.˚43S×133.˚17E, h47km, ML6.0*
*DJA **04** 07:14:08, 0.67S×132.˚89E, h43km, Mw5.8/62*
ISC 04 07:14:00.6±0.3, 0.˚43S±0.˚03×132.˚88E±0.˚03, h34km, h34km:pP-P, n477, σ2.˚03/535, mb5.4/149, MS5.4/61, 32C-30D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.56**	**194**	P		**Pb**		**07 14 46.6**	**+0.8**
BAKI	**Biak**	**3.32**	**103**	P		**Pn**		**07 14 52.8**	**+2.6**
MSAI	**Masohi**	**4.90**	**234**	P		Pn		07 15 16.1	+4.2
TLE	**Tual**	**5.18**	**182**	P		**Pn**		**07 15 18.7**	**+2.9**
	7µm,0.9s,168µm216µm36nm								
LBMI	**Labuha**	**5.38**	**268**	P		Pn		07 15 22.7	+4.2
	2µm,0.8s,27µm8.8nm								
TNTI	**Ternate**	**5.64**	**282**	P		Pn		07 15 26.1	+4.0
	971nm,1.0s,17µm4.1nm								
AAI	**Ambon**	**5.69**	**235**	P		**Pn**		**07 15 24.5**	**+1.7**
	2µm,0.8s,57µm14nm								
SMPI	**Sarmi**	**6.04**	**105**	P		**Pn**		**07 15 29.9**	**+2.4**
	667nm,1.0s,14µm2.6nm								
NLAI	**Namlea**	**6.41**	**244**	P		Pn		07 15 39.8	+7.0
	669nm,0.8s,19µm4.0nm								
JAY	**Jayapura**	**8.10**	**105**	P		Pb		07 16 09.2	-11
MNI	**Manado**	**8.25**	**283**	P		Pb		07 16 11.9	-11
LUWI	**Luwuk**	**10.12**	**266**	P		Pn		07 16 37.2	+14
DAV	**Davao City (W)**	**10.41**	**316**	Pn		**Pn**		**07 16 30.6**	**+2.9**
	30nm,0.3s,baz=124,slow=0.9,SNR=5.3								
DAV	**Davao City (W)**	**10.41**	**316**	*e*Pn		**Pn**		**07 16 29.7**	**+2.0**
DAV				*e*Sn		Sn		07 18 37.3	+14
DAV	**Davao City (W)**	**10.41**	**316**	⇓*i*P		Pn		07 16 35.5	+7.8
DAV	**Davao City (W)**	**10.41**	**316**	⇓*e*S		Sn		07 18 53.6	+30
DAV	**Davao City (W)**	**10.41**	**316**	P		Pn		07 16 38.2	+11
	588nm,1.7s,15µm								
BBSI	**Bau Bau**	**11.45**	**244**	P		Pn		07 16 55.7	+14
PCI	**Palu**	**13.05**	**268**	P		**Pn**		**07 17 06.1**	**+2.4**
	548nm,0.9s,8µm								
TTSI	**Tana Toraja**	**13.31**	**259**	P		P		07 17 12.9	-3.6
	300nm,0.9s,7µm								
MMRI	**Maumere**	**13.37**	**232**	P		**P**		**07 17 19.1**	**+1.9**
SPSI	**Sidrap Palu**	**13.56**	**255**	P		Pn		07 17 15.3	+4.6
	419nm,0.6s,8µm								
BKSI	**Bulukumba**	**13.63**	**249**	P		**P**		**07 17 19.2**	**-0.9**
	434nm,0.8s,6µm								
KAPI	**Kappang**	**13.88**	**251**	*e*Pn		**Pn**		**07 17 12.8**	**-2.2**
KAPI				*e*Sn		**Sn**		**07 19 53.6**	**+5.5**
KAPI	**Kappang**	**13.88**	**251**	P		**P**		**07 17 20.3**	**-2.5**
	368nm,1.4s,9µm								
PLP	**Palo**	**13.94**	**326**	⇓*e*P		**Pn**		**07 17 13.0**	**-2.9**
MJSI	**Majene**	**14.23**	**257**	P		**P**		**07 17 26.5**	**-0.3**
	446nm,0.9s,7µm								
MYLDM	**Lahad Datu**	**15.40**	**291**	P		**P**		**07 17 42.0**	**+2.2**
MYLDM	**Lahad Datu**	**15.40**	**291**	P		**P**		**07 17 44.4**	**+4.6**
	446nm,3.0s,15µm								
WSI	**Waingapu**	**15.52**	**233**	P		P		07 17 52.0	+11
RCP	**Roxas**	**15.59**	**320**	⇓*e*P		**P**		**07 17 43.5**	**+1.6**
SMKI	**Samarinda**	**15.67**	**270**	P		P		07 17 49.9	+7.1
	890nm,1.2s,10µm								
TSM	**Tawau**	**15.71**	**288**	P		**P**		**07 17 45.3**	**+2.1**
SDKM	**Sandakan**	**16.78**	**291**	P		**P**		**07 17 59.7**	**+4.5**
PMG	**Port Moresby**	**16.78**	**123**	Pn		**P**		**07 17 57.9**	**+2.8**
	2.9nm,0.3s,baz=299,slow=13,SNR=35								
PMG	**Port Moresby**	**16.78**	**123**	*e*P		**P**		**07 17 55.2**	**+0.1**
PMG				pmax	pmax				
	comp=Z,402nm,1.0s								
PMG	**Port Moresby**	**16.78**	**123**	*e*Pn		**P**		**07 17 55.2**	**+0.1**
	comp=Z,402nm,1.0s								
PMG				*e*Sn		**S**		**07 21 13.4**	**+4.7**
COEN	**Coen**	**16.87**	**143**	*e*Pn		**Pn**		**07 17 55.0**	**+0.7**
	comp=Z,985nm,1.1s								
COEN				*e*Sn		**S**		**07 21 07.4**	**-3.1**
KBKI	**Kotabaru**	**16.94**	**260**	P		**P**		**07 18 01.1**	**+4.2**
	comp=Z,222nm,1.3s,comp=Z,5µm								
KKM	**Kota Kinabalu**	**17.83**	**291**	*e*Pn		**Pn**		**07 18 04.6**	**-1.8**
	comp=Z,747nm,1.8s								
KKM				*e*Sn		Sn		07 21 16.0	-8.4
KKM	**Kota Kinabalu**	**17.83**	**291**	P		P		07 18 12.2	+5.4
KKM	**Kota Kinabalu**	**17.83**	**291**	P		P		07 18 13.9	+7.0

comp=Z,324nm,1.5s,comp=Z,7µm
BBKI Banjar Baru 18.27 260 P **Pn** **07 18 16.3 +4.6**
comp=Z,557nm,0.9s,comp=Z,18µm
MTNI Mataram 18.53 243 P Pn 07 18 19.8 +5.0
comp=Z,520nm,1.6s,comp=Z,29µm
TGY Tagaytay City 18.66 321 P Pn 07 18 21.7 +5.3
comp=Z,44nm,0.3s,baz=236,slow=1.9,SNR=12
TGY Tagaytay City 18.66 321 P Pn 07 18 21.7 +5.3
TGY pmax pmax
comp=Z,44nm,0.3s
TGY Tagaytay City 18.66 321 P Pn 07 18 21.7 +5.3
KHKI Kahang-Kahang 18.93 245 P **Pn** **07 18 22.1 +2.5**
comp=Z,440nm,1.8s,comp=Z,13µm
WRAB Tennant Creek 19.44 176 *e*P **P** **07 18 24.0 -0.4**
WRAB pmax pmax
comp=Z,296nm,1.1s
WRAB Tennant Creek 19.44 176 *e*P **P** **07 18 24.0 -0.4**
comp=Z,296nm,1.1s
WRAB Tennant Creek 19.44 176 P **P** **07 18 24.9 +0.5**
comp=Z,1µm,1.1s,SNR=14
WRA Warramunga Arr 19.45 176 P **P** **07 18 24.0 -0.5**
comp=Z,5.3nm,0.3s,baz=352,slow=11,SNR=31
WRA S **S** **07 21 57.3 -5.4**
comp=Z,6.0nm,0.3s,baz=356,slow=23,SNR=5.7
WRA Warramunga Arr 19.45 176 P **P** **07 18 24.0 -0.5**
WRA S **S** **07 21 57.3 -5.4**
WRA pmax pmax
comp=Z,5.0nm,0.3s
WRA smax smax
comp=N,6.0nm,0.3s
WRA Warramunga Arr 19.45 176 P **P** **07 18 24.0 -0.5**
WRA S **S** **07 21 57.3 -5.4**
WB2 Warramunga Arr 19.45 176 *e*P **P** **07 18 23.9 -0.6**
WB2 *e*S S 07 21 54.1 -8.5
IGBI Denpasar 19.53 244 P Pn 07 18 35.2 +8.4
comp=N,156nm,0.9s
NBBI Negara 19.83 246 P **Pn** **07 18 34.2 +3.8**
comp=N,1µm,1.3s,comp=N,24µm
KMMI Kalianget 19.98 250 P Pn 07 18 43.2 +11
BYJI Banyuwangi 20.01 247 P Pn 07 18 33.7 +1.1
comp=N,930nm,1.5s,comp=N,32µm
BTM Bintulu 20.11 280 P Pn 07 18 38.0 +4.3
JAGI Jajag, Banyuwa 20.29 246 P Pn 07 18 39.9 +4.0
comp=N,346nm,1.2s,comp=N,9µm
BLJI Banyuglugur 20.55 249 P Pn 07 18 41.7 +2.8
comp=N,321nm,0.9s,comp=N,11µm
SBUM Sibu 20.85 278 P Pn 07 18 46.9 +4.5
SBUM Sibu 20.85 278 P Pn 07 18 44.2 +1.8
comp=N,182nm,1.6s,comp=N,9µm
GMJI Gumukmas 20.87 248 P Pn 07 18 44.2 +1.6
comp=N,412nm,1.1s,comp=N,9µm
PBKI Pangkalan Bun 21.32 264 P P 07 18 52.6 +7.8
comp=N,740nm,1.0s,comp=N,9µm
STKI Sintang 21.41 271 P **P** **07 18 49.4 +3.6**
comp=N,361nm,1.1s,comp=N,15µm
KRKI Karangkates 21.75 249 P P 07 18 59.8 +10
comp=N,449nm,1.5s
PIP Pasuquin 22.19 328 ⇑*e*P P 07 19 00.2 +6.1
SJI Sawahan 22.26 250 P **P** **07 18 58.2 +3.2**
comp=N,166nm,1.4s,comp=N,6µm
PWJI Pagerwojo 22.32 250 P **P** **07 18 58.9 +3.4**
comp=N,181nm,1.9s,comp=N,4µm
KSM Kuching 22.64 275 *e*P **P** **07 18 58.0 -1.0**
comp=N,215nm,1.4s
KSM Kuching 22.64 275 P P 07 19 04.0 +4.9
KSM Kuching 22.64 275 P **P** **07 19 00.9 +1.8**
comp=N,121nm,1.3s,comp=N,6µm
PCJI Pacitan 22.96 250 P **P** **07 19 06.1 +3.8**
comp=N,217nm,1.0s,comp=N,4µm
ASAR Alice Springs 23.12 178 P **P** **07 19 02.9 -1.0**
comp=N,75nm,0.9s,baz=356,slow=10,SNR=34
ASAR S **S** **07 23 20.0 +6.8**
comp=N,58nm,1.0s,baz=1.0,slow=22,SNR=7.5
ASAR Alice Springs 23.12 178 P **P** **07 19 02.9 -1.0**
ASAR pmax pmax
comp=Z,75nm,0.9s
ASAR Alice Springs 23.12 178 P **P** **07 19 02.9 -1.0**
ASAR S **S** **07 23 20.0 +6.8**
SMRI Semarang 23.32 253 P **P** **07 19 09.1 +3.1**
comp=Z,382nm,1.9s,comp=Z,12µm
UGM Wanagama 23.49 251 *e*P **P** **07 19 08.8 +1.2**
comp=Z,745nm,1.3s
UGM Wanagama 23.49 251 P P 07 19 15.6 +8.0
comp=Z,460nm,1.5s
CTAO Charters Tower 23.52 147 *e*P **P** **07 19 07.9 0.0**
CTAO pmax pmax
comp=Z,345nm,1.1s
CTAO Charters Tower 23.52 147 *e*P **P** **07 19 07.8 0.0**
comp=Z,345nm,1.1s
YOGI Yogyakarta 23.68 251 P P 07 19 16.1 +6.7
comp=Z,2µm,1.5s,comp=Z,22µm
BJII Banjamegara 24.10 253 P **P** **07 19 15.9 +2.4**
comp=Z,479nm,1.9s,comp=Z,12µm
MBWA Marble Bar 24.28 211 *e*P **P** **07 19 14.8 -0.2**
comp=Z,162nm,0.9s
TPI Tanjungpandan 25.32 264 P P 07 19 32.7 +8.2
comp=Z,125nm,1.9s,comp=Z,5µm
CISI Cisompet, Garu 25.97 254 P **P** **07 19 33.4 +2.9**
comp=Z,483nm,1.1s,comp=Z,4µm
LEM Lembang 25.98 255 P P 07 19 37.1 +6.4
comp=Z,247nm,1.2s,comp=Z,4µm
YULB Yu-li 26.22 335 *e*P **P** **07 19 32.2 -0.3**
comp=Z,76nm,1.2s
CBJI Citeko 26.64 257 P pP 07 19 49.4 +3.3
SSLB Suanglung 26.71 335 *e*P **P** **07 19 38.1 +1.1**
comp=Z,74nm,1.0s
PPBI Pangkal Pinang 26.79 266 P P 07 19 48.3 +10
comp=Z,77nm,0.8s,comp=Z,3µm
NACB Ninganchiao 26.79 337 *e*P **P** **07 19 39.2 +1.5**
comp=Z,86nm,1.1s
JOW Kunigami 27.46 351 P **P** **07 19 47.3 +3.6**
comp=Z,67nm,1.1s,baz=174,slow=8.4,SNR=6.5
JOW LR LR 07 28 25.7
comp=Z,27µm,20.8s,baz=128,slow=32
JOW Kunigami 27.46 351 P **P** **07 19 47.3 +3.6**
comp=Z,4.2nm,1.0s
CGJI Cibinong 27.81 257 P P 07 19 54.6 +7.7
comp=Z,74nm,1.2s,comp=Z,4µm
KLI Kotabumi 28.33 261 P P 07 19 58.1 +6.5
comp=Z,116nm,1.0s
HNR Honiara 28.39 109 P P 07 19 56.0 +3.9
comp=Z,282nm,0.8s,baz=202,slow=5.4,SNR=5.4
HNR Honiara 28.39 109 *e*P **P** **07 19 52.7 +0.6**
HNR pmax pmax
comp=Z,223nm,0.8s
HNR Honiara 28.39 109 *e*P **P** **07 19 52.7 +0.6**
comp=Z,223nm,0.8s
QZH Quanzhou 28.76 332 ⇑*i*P P **07 19 56.0 +0.7**
QZH S **S** **07 24 39.0 -3.7**
QZH pmax pmax
comp=Z,2µm,7.2s
QZH LR LR
comp=N,2µm,8.1s
QZH LR LR
comp=E,7µm,11.3s
QZH LR LR
comp=Z,22µm,29.7s
CBIJ Chichi jima 28.79 17 LR LR 07 28 40.4
comp=Z,7µm,19.8s,baz=191,slow=31
MYKOM Kota Tinggi 29.11 274 P P 07 20 02.5 +3.9
MYKOM Kota Tinggi 29.11 274 P P 07 20 06.5 +8.0
comp=Z,56nm,1.1s,comp=Z,2µm
KGM Kluang 29.65 275 P P 07 20 12.5 +9.1
QIZ Qiongzhong 29.75 312 P **P** **07 20 02.3 -1.9**
QIZ pP **pP** **07 20 12.2 -1.7**
QIZ S **S** **07 24 56.8 -1.7**
QIZ LR LR
comp=N,5µm,22.8s
QIZ LR LR
comp=E,2µm,24.1s
QIZ LR LR
comp=Z,10µm,33.5s
GZH Guangzhou 30.12 322 P **P** **07 20 09.4 +2.0**
GZH S S 07 25 13.4 +9.3
GZH LR LR
comp=Z,7µm,18.8s
KTGM Kuala Trenggan 30.25 281 P **P** **07 20 11.4 +2.7**
EIDS Eidsvold 30.40 146 *e*P **P** **07 20 12.5 +2.7**
comp=Z,56nm,1.1s
KSI Kapahiang 30.43 264 P P 07 20 14.6 +4.3
comp=Z,172nm,0.8s,comp=Z,11µm
FORT Forrest 30.53 188 *e*P **P** **07 20 11.6 +0.7**
comp=Z,86nm,0.7s
FORT Forrest 30.53 188 *e*P **P** **07 20 10.8 -0.1**
comp=Z,294nm,1.2s
IPM Ipoh 32.19 279 *e*P **P** **07 20 24.1 -1.7**
comp=Z,420nm,2.3s

IPM eS S 07 25 43.0 +6.1
IPM Ipoh 32.19 279 P **P** **07 20 27.0 +1.1**
IPM Ipoh 32.19 279 P P 07 20 29.7 +3.9
comp=Z,147nm,1.0s,comp=Z,2µm
STKA Stephens Creek 32.35 166 P **P** **07 20 25.4 -1.5**
comp=Z,79nm,0.8s,baz=340,slow=9.7,SNR=19
STKA LR LR 07 35 54.6
comp=Z,8µm,19.1s,baz=102,slow=41
STKA Stephens Creek 32.35 166 eP **P** **07 20 25.5 -1.4**
comp=Z,60nm,0.6s
STKA Stephens Creek 32.35 166 P **P** **07 20 25.4 -1.5**
STKA pmax pmax
comp=Z,79nm,0.8s
STKA MLR MLR
comp=Z,8µm,19.1s
STKA Stephens Creek 32.35 166 eP **P** **07 20 25.5 -1.4**
BBOO Buckleboo 32.35 175 eP **P** **07 20 27.4 +0.5**
comp=Z,942nm,1.0s
PPI Padang Panjang 32.48 270 P **P** **07 20 29.5 +1.2**
comp=Z,60nm,1.5s,comp=Z,2µm
KULM Kulim 32.68 280 eP **P** **07 20 28.6 -1.5**
comp=Z,98nm,1.4s
KULM Kulim 32.68 280 P **P** **07 20 32.9 +2.8**
KULM Kulim 32.68 280 P P 07 20 35.1 +5.0
comp=Z,55nm,1.7s,comp=Z,2µm
SSE Sheshan 33.26 342 P **P** **07 20 35.9 +1.1**
SSE sP **sP** **07 20 48.5 -0.2**
SSE PP **PP** **07 21 52.8 +2.3**
SSE S **S** **07 25 54.3 +1.4**
SSE pmax pmax
comp=Z,44nm,0.7s
SSE pmax pmax
comp=Z,750nm,9.9s
SSE LR LR
comp=N,7µm,23.2s
SSE LR LR
comp=E,2µm,23.2s
SSE LR LR
comp=Z,8µm,24.0s
MNSI Mandailing Nat 33.32 272 P P 07 20 39.7 +4.0
comp=Z,52nm,1.2s,comp=Z,3µm
JNU Nakatsue 33.42 357 eP **P** **07 20 34.2 -2.1**
comp=Z,21nm,1.1s
JNU eS **S** **07 25 53.9 -1.6**
KLBR Kellerberrin 34.14 203 eP **P** **07 20 42.0 -0.6**
comp=Z,48nm,0.8s
TSI Tuntungan 34.51 277 P P 07 20 51.6 +5.6
comp=Z,139nm,1.2s
ARMA Armidale 34.75 151 eP **P** **07 20 47.1 -0.9**
ARMA Armidale 34.75 151 eP **P** **07 20 47.8 -0.2**
comp=Z,70nm,1.0s
NJ2 Nanjing 34.92 339 eP P 07 20 53.7 +4.4
NJ2 pP pP 07 21 01.2 +2.1
NJ2 sP sP 07 21 05.4 +2.2
NJ2 PP **PP** **07 22 12.0 +3.1**
NJ2 S **S** **07 26 19.5 +0.9**
NJ2 sS sS 07 26 38.0 +3.2
NJ2 pmax pmax
comp=Z,30nm,0.9s
NJ2 pmax pmax
comp=Z,960nm,10.2s
NJ2 LR LR
comp=N,6µm,21.2s
NJ2 LR LR
comp=E,4µm,28.4s
NJ2 LR LR
comp=Z,7µm,22.4s
WHN Wuhan 35.48 332 P **P** **07 20 55.4 +1.2**
WHN pP **pP** **07 21 04.2 +0.2**
WHN S **S** **07 26 32.3 +5.0**
WHN LR LR
comp=N,4µm,10.1s
WHN LR LR
comp=E,6µm,10.6s
WHN LR LR
comp=Z,23µm,31.4s
NWAO Narrogin (SRO) 35.53 203 eP **P** **07 20 53.5 -1.0**
NWAO e 07 22 16.6
NWAO pmax pmax
comp=Z,61nm,1.1s
NWAO Narrogin (SRO) 35.53 203 eP **P** **07 20 53.5 -1.0**
comp=Z,61nm,1.1s
NWAO ePP **PP** **07 22 16.6 +1.0**
TPTI 35.87 276 P P 07 21 08.2 +10
comp=Z,434nm,0.8s
GYA Guiyang 36.78 319 P **P** **07 21 06.5 +1.0**
GYA pP **pP** **07 21 17.4 +2.1**
GYA sP **sP** **07 21 23.6 +4.2**
GYA S **S** **07 26 47.6 +0.1**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,240nm,5.9s
GYA LR LR
comp=N,29µm,17.8s
GYA LR LR
comp=E,25µm,18.6s
GYA LR LR
comp=Z,32µm,18.4s
MJAR Matsushiro Arr 37.11 7 P **P** **07 21 08.7 +0.7**
comp=Z,3.5nm,0.7s,baz=180,slow=9.3,SNR=47
MJAR LR LR 07 32 52.5
comp=Z,13µm,21.7s,baz=185,slow=31
MJAR Matsushiro Arr 37.11 7 P **P** **07 21 08.7 +0.7**
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 37.11 7 P **P** **07 21 08.7 +0.7**
MAJO Matsushiro 37.11 7 eP **P** **07 21 06.8 -1.2**
MAJO pmax pmax
comp=Z,181nm,2.4s
MAJO Matsushiro 37.11 7 eP **P** **07 21 06.8 -1.2**
comp=Z,181nm,2.4s
MAT Matsushiro 37.11 7 P **P** **07 21 06.8 -1.2**
MAT S **S** **07 26 56.0 +3.8**
ENH Enshi 37.79 326 eP **P** **07 21 11.8 -2.1**
comp=Z,170nm,1.5s
CAN Canberra 37.83 158 eP **P** **07 21 16.9 +2.7**
CAN pmax pmax
comp=Z,107nm,1.4s
CAN Canberra 37.83 158 eP **P** **07 21 16.9 +2.7**
comp=Z,107nm,1.4s
CNB Canberra Magne 37.96 158 eP **P** **07 21 17.9 +2.6**
comp=Z,117nm,0.9s
KSAR Wonju Array Be 37.96 354 P **P** **07 21 17.0 +1.8**
KSAR 07 23 31.2
KSAR Wonju Array Be 37.96 354 P **P** **07 21 16.9 +1.8**
KSAR PcP **PcP** **07 23 31.1 +0.6**
KSRS Korea Array 37.97 354 P **P** **07 21 16.9 +1.8**
comp=Z,7.5nm,1.0s,baz=176,slow=9.6,SNR=8.8
KSRS PcP **PcP** **07 23 31.1 +0.6**
comp=Z,4.2nm,1.0s,baz=183,slow=3.5,SNR=5.5
KSRS LR LR 07 34 59.2
comp=Z,9µm,20.6s,baz=168,slow=33
KSRS Korea Array 37.97 354 P **P** **07 21 17.0 +1.8**
KSRS 07 23 31.2
KSRS pmax pmax
comp=Z,8.0nm,1.0s
KSRS pmax pmax
comp=Z,4.0nm,1.0s
BSI Banda Aceh 37.98 279 P P 07 21 20.5 +4.8
comp=Z,70nm,1.4s,comp=Z,1µm
CM31 Chiang Mai Arr 38.26 301 eP **P** **07 21 16.9 -1.2**
comp=Z,29nm,0.8s
CMAR Chiang Mai Arr 38.26 301 P **P** **07 21 16.6 -1.4**
comp=Z,8.8nm,0.8s,baz=116,slow=6.8,SNR=28
CMAR LR LR 07 37 40.3
comp=Z,2µm,19.7s,baz=120,slow=37
CMAR Chiang Mai Arr 38.26 301 P **P** **07 21 16.6 -1.4**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR MLR MLR
comp=Z,2µm,19.7s
CMAR Chiang Mai Arr 38.26 301 P **P** **07 21 16.6 -1.4**
CHTO Chiang Mai 38.42 302 eP **P** **07 21 17.6 -1.7**
CHTO pmax pmax
comp=Z,57nm,1.0s
CHTO Chiang Mai 38.42 302 eP **P** **07 21 17.6 -1.7**
comp=Z,57nm,1.0s
KMI Kunming 38.66 313 P **P** **07 21 22.5 +0.9**
KMI pP **pP** **07 21 32.2 +0.8**
KMI sP **sP** **07 21 35.3 -0.2**
KMI PP **PnPn** **07 22 53.0 +0.3**
KMI S **S** **07 27 16.1 -0.3**
KMI pmax pmax
comp=Z,36nm,1.3s
KMI pmax pmax
comp=Z,770nm,5.9s
KMI LR LR
comp=N,2µm,27.9s
KMI LR LR
comp=E,4µm,21.7s
KMI LR LR
comp=Z,8µm,25.8s
TOO Toolangi 38.75 164 eP **P** **07 21 23.5 +1.6**
comp=Z,267nm,0.9s
DZM Mont Dzumac 39.14 126 eP P 07 21 29.3 +3.9
comp=Z,85nm,1.2s
DZM eS **S** **07 27 23.5 +0.2**
comp=Z,4µm,35.0s
DZM eLR LR 07 32 16.1
comp=Z,8µm,22.9s
DZM Mont Dzumac 39.14 126 eP P 07 21 29.0 +3.6
comp=Z,54nm,1.3s
TIA Tai'an 39.29 340 P **P** **07 21 26.7 +0.4**
TIA PP PnPn 07 23 07.6 +7.8
TIA S **S** **07 27 28.8 +3.8**
TIA SS **SnSn** **07 30 20.3 -0.4**
TIA pmax pmax
comp=Z,30nm,1.0s
TIA pmax pmax
comp=Z,1µm,10.8s
TIA LR LR
comp=N,7µm,32.3s
TIA LR LR
comp=E,6µm,15.7s
TIA LR LR
comp=Z,7µm,21.6s
DL2 Dalian 40.48 346 P **P** **07 21 37.4 +1.2**
DL2 S **S** **07 27 45.1 +2.3**
DL2 SS **SnSn** **07 30 48.4 -1.0**
DL2 pmax pmax
comp=Z,30nm,1.5s
DL2 pmax pmax
comp=Z,680nm,8.8s
DL2 LR LR
comp=N,5µm,17.7s
DL2 LR LR
comp=Z,5µm,20.1s
XAN Xi'an 41.00 329 P **P** **07 21 38.6 -2.0**
XAN pP **pP** **07 21 46.2 -4.4**
XAN PP **PnPn** **07 23 19.4 -0.7**
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN pmax pmax
comp=Z,220nm,12.7s
XAN LR LR
comp=N,2µm,27.9s
XAN LR LR
comp=E,810nm,34.5s
XAN LR LR
comp=Z,1µm,34.5s
CD2 Chengdu 41.66 321 P **P** **07 21 45.0 -1.1**
CD2 pP **pP** **07 21 57.0 +0.9**
CD2 sP **sP** **07 22 01.3 +1.2**
CD2 PP **PnPn** **07 23 26.9 -1.0**
CD2 S **S** **07 28 00.9 +0.1**
CD2 sS **sS** **07 28 17.9 +0.7**
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,1µm,13.7s
CD2 LR LR
comp=E,5µm,18.4s
CD2 LR LR
comp=Z,6µm,19.0s
SNY Shenyang 42.89 350 ⇑P **P** **07 21 56.3 +0.4**
SNY S **S** **07 28 20.5 +2.1**
SNY SS **SS** **07 31 35.1 +4.3**
SNY pmax pmax
comp=Z,24nm,2.3s
SNY LR LR
comp=N,7µm,24.3s
SNY LR LR
comp=E,5µm,22.1s
SNY LR LR
comp=Z,11µm,24.6s
BJT Baijiatuau 43.05 341 eP **P** **07 21 56.1 -1.1**
BJT pmax pmax
comp=Z,117nm,1.0s
BJT Baijiatuau 43.05 341 eP **P** **07 21 56.1 -1.1**
comp=Z,117nm,1.0s
BJI Beijing 43.06 341 P **P** **07 21 56.2 -1.1**
BJI pP **pP** **07 22 07.8 +0.5**
BJI PP **PP** **07 23 39.3 +1.5**
BJI S **S** **07 28 20.4 -0.6**
BJI sS **sS** **07 28 39.0 +1.6**
BJI SS **SS** **07 31 38.4 +4.2**
BJI pmax pmax
comp=Z,71nm,1.0s
BJI pmax pmax
comp=Z,900nm,3.7s
BJI LR LR
comp=N,4µm,23.2s
BJI LR LR
comp=E,1µm,24.7s
BJI LR LR
comp=Z,8µm,26.1s
MOO Moorlands 43.77 165 eP P 07 22 06.5 +3.6
comp=Z,209nm,1.1s
USRK Ussuriysk Arra 44.44 359 P **P** **07 22 10.1 +1.8**
comp=Z,8.2nm,1.0s,baz=175,slow=6.6,SNR=8.6
USRK LR LR 07 39 24.1
comp=Z,4µm,19.3s,baz=348,slow=34
CN2 Changchun 44.53 352 eP **P** **07 22 11.2 +2.2**
CN2 epP **pP** **07 22 23.5 +4.4**
CN2 PP **PP** **07 23 57.5 +4.1**
CN2 eS **S** **07 28 45.3 +3.0**
CN2 SS **SS** **07 31 57.3 -5.6**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3µm,18.0s
CN2 LR LR
comp=E,6µm,18.0s
CN2 LR LR
comp=Z,7µm,21.0s
MDJ Mudanjiang 44.94 357 P **P** **07 22 12.0 -0.3**
MDJ pP **pP** **07 22 21.0 -1.3**
MDJ sP **sP** **07 22 24.8 -1.6**
MDJ PcS **PcS** **07 27 46.7 -0.1**
MDJ S **S** **07 28 49.0 +0.8**
MDJ ScS **ScS** **07 32 06.9 -0.2**
MDJ pmax pmax
comp=Z,11nm,2.0s
MDJ pmax pmax
comp=Z,700nm,11.5s
MDJ LR LR
comp=N,5µm,31.6s
MDJ LR LR
comp=E,2µm,17.7s
MDJ LR LR
comp=Z,6µm,27.3s
MDJ Mudanjiang 44.94 357 eP **P** **07 22 11.8 -0.5**
comp=Z,52nm,1.3s
LZH Lanzhou 45.26 326 eP **P** **07 22 14.9 -0.3**
LZH pP **pP** **07 22 24.1 -1.1**
LZH sP **sP** **07 22 28.4 -0.9**
LZH eS **S** **07 28 48.2 -5.3**
LZH pmax pmax
comp=Z,130nm,1.3s
LZH pmax pmax
comp=Z,370nm,4.0s
LZH LR LR
comp=N,2µm,10.8s
LZH LR LR
comp=E,2µm,11.8s
LZH LR LR
comp=Z,4µm,18.0s
HHC Hu-ho-hao-te 45.42 337 eP **P** **07 22 16.3 0.0**
HHC pP **pP** **07 22 26.2 -0.2**
HHC sP **sP** **07 22 30.2 -0.2**
HHC PP **PP** **07 24 03.5 +0.5**
HHC S **S** **07 28 55.9 +0.4**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,810nm,6.8s
HHC LR LR
comp=N,2µm,16.1s
HHC LR LR
comp=E,3µm,15.9s
HHC LR LR
comp=Z,3µm,17.2s
YUK Yuzh-Kuril'sk 45.76 13 eP **P** **07 22 16.4 -2.4**
YUK *i* PPP PPP 07 24 44.4
YUK *i* S **S** **07 29 01.6 +1.6**
YUK *i* SS **ScS** **07 32 18.1 +5.8**
YUK *i* SSS SSS 07 33 17.1
YUK pmax pmax
comp=E,469nm,1.2s
YUK pmax pmax
comp=Z,187nm,1.2s
YUK pmax pmax
comp=N,180nm,1.2s
YUK pmax pmax
comp=Z,174nm,1.3s
YUK MLR MLR
comp=N,2µm,20.0s
YUK MLR MLR
comp=Z,2µm,20.0s
BTO Baotou 45.83 336 eP **P** **07 22 17.8 -1.8**
FUNA Funafuti 46.83 101 eP **P** **07 22 29.0 +1.3**
comp=Z,151nm,0.9s
SHL Shillong 47.27 306 eP **P** **07 22 30.0 -1.2**
SHL ex x 07 29 32.0
MSVF Nonsavu 47.62 114 eP **P** **07 22 33.5 -0.4**
MSVF pmax pmax
comp=Z,107nm,0.9s
MSVF Nonsavu 47.62 114 eP **P** **07 22 33.5 -0.4**
comp=Z,107nm,0.9s
MSVF Nonsavu 47.62 114 P **P** **07 22 35.0 +1.1**
comp=Z,761nm,0.8s,SNR=16
YSS Yuzh-Sakhalins 47.97 9 eP **P** **07 22 38.0 +2.0**
YSS e 07 22 45.2
YSS eS **S** **07 29 33.0 +1.4**
YSS eSS **ScS** **07 32 30.0 +3.3**
YSS smax smax
comp=E,2µm,16.0s
YSS MLR MLR
comp=N,2µm,17.0s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS Yuzh-Sakhalins 47.97 9 eP **P** **07 22 36.6 +0.6**
comp=Z,34nm,0.7s
HABR Khabarovsk 48.74 2 eP **P** **07 22 39.3 -2.6**
HABR e*PP **pP** **07 22 49.0 -3.0**
HABR e*SP **sP** **07 22 53.4 -2.6**
HABR e 07 24 03.8
HABR e 07 24 32.6
HABR ePPP PPP 07 25 23.1
HABR eS **S** **07 29 40.6 -1.8**
HABR e*SS **sS** **07 29 57.1 -1.9**
HABR e 07 32 29.1
HABR eSS **SS** **07 33 12.6 -0.6**
HABR eSSS SSS 07 34 27.3
HABR pmax pmax
comp=N,55nm,3.1s
HABR pmax pmax
comp=E,34nm,1.5s
HABR pmax pmax
comp=Z,58nm,1.5s
HABR pmax pmax
comp=E,49nm,1.7s
HABR pmax pmax
comp=N,24nm,1.1s
HABR pmax pmax
comp=Z,58nm,1.0s
HABR MLR MLR
comp=Z,2µm,21.0s
CAL Calcutta 49.00 301 eP **P** **07 22 43.3 -1.1**
CAL ex x 07 26 18.6
KLR Kul'dur 49.47 359 eP P 07 22 43.0 -4.5
KLR eS **S** **07 29 52.5 -0.2**
KLR pmax pmax
comp=Z,90nm,2.0s
KLR smax smax
comp=N,2µm,9.0s
KLR smax smax
comp=E,2µm,9.0s
KLR MLR MLR
comp=N,2µm,13.0s
KLR MLR MLR
comp=Z,7µm,13.0s
LSA Lhasa 49.78 311 P **P** **07 22 49.4 -1.4**
LSA pP **pP** **07 23 01.4 +0.4**
LSA sP **sP** **07 23 07.3 +2.3**
LSA S **S** **07 29 56.1 -2.5**
LSA sS sS 07 30 21.0 +5.7
LSA pmax pmax
comp=Z,880nm,13.7s
LSA LR LR
comp=E,2µm,27.4s
LSA Lhasa 49.78 311 eP **P** **07 22 50.0 -0.8**
LSA Lhasa 49.78 311 eP **P** **07 22 50.0 -0.8**
GTA Gaotai 49.87 326 ⇑P **P** **07 22 50.1 -0.8**
GTA pP **pP** **07 23 00.1 -0.9**
GTA sP **sP** **07 23 04.0 -1.0**
GTA S **S** **07 29 55.8 -3.0**
GTA pmax pmax
comp=Z,16nm,1.7s
GTA pmax pmax
comp=Z,710nm,6.9s
GTA LR LR
comp=N,2µm,16.4s
GTA LR LR
comp=E,3µm,20.0s
GTA LR LR
comp=Z,4µm,19.5s
HIA Hailar 50.78 349 eP **P** **07 22 58.4 +0.9**
HIA pmax pmax
comp=Z,48nm,1.3s
HIA Hailar 50.78 349 eP **P** **07 22 58.4 +0.9**
comp=Z,48nm,1.3s
OUZ Omahuta 51.34 137 P P 07 23 07.0 +5.1
comp=Z,56nm,1.2s
TAPN Taplejung 51.41 306 eP **P** **07 23 01.0 -2.0**
comp=Z,299nm,1.1s
TAPN Taplejung 51.41 306 eP **P** **07 23 01.0 -2.0**
ODAN Odare 51.47 305 eP **P** **07 23 01.3 -2.0**
comp=Z,388nm,0.9s
ODAN Odare 51.47 305 eP **P** **07 23 01.3 -2.0**
RAMN Ramite 52.15 305 eP **P** **07 23 06.6 -1.8**
comp=Z,324nm,0.9s
RAMN Ramite 52.15 305 eP **P** **07 23 06.6 -1.8**
JIRN Jiri 52.77 306 eP **P** **07 23 11.2 -2.0**
comp=Z,350nm,1.0s
JIRN Jiri 52.77 306 eP **P** **07 23 11.2 -2.0**
ULN Ulaanbaatar 53.09 338 eP **P** **07 23 13.9 -1.0**
ULN pmax pmax
comp=Z,162nm,1.7s
ULN Ulaanbaatar 53.09 338 eP **P** **07 23 13.9 -1.0**
comp=Z,162nm,1.7s
GUN Gumba 53.12 306 eP **P** **07 23 13.7 -2.0**
comp=Z,334nm,0.9s
GUN Gumba 53.12 306 eP **P** **07 23 13.7 -2.0**
SONM Songino Array 53.30 338 P **P** **07 23 15.1 -1.3**
comp=Z,10nm,1.1s,baz=149,slow=7.3,SNR=17
SONM LR LR 07 45 05.9
comp=Z,5µm,21.6s,baz=146,slow=35
SONM PKPPKP **P'P'df** **07 53 35.1 -4.0**
comp=Z,0.5nm,0.9s,baz=205,slow=3.0,SNR=4.0
SONM Songino Array 53.30 338 P **P** **07 23 15.1 -1.3**
SONM pmax pmax
comp=Z,10.0nm,1.1s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 53.30 338 P **P** **07 23 15.1 -1.3**
SONM P'P' 07 53 35.1
PKI Pulchoki 53.37 305 eP **P** **07 23 15.2 -2.3**
comp=Z,297nm,1.5s
PKI Pulchoki 53.37 305 eP **P** **07 23 15.2 -2.3**
PKI Pulchoki 53.37 305 eP **P** **07 23 15.2 -2.3**
KKN Kakani 53.56 306 eP **P** **07 23 16.5 -2.3**
comp=Z,145nm,0.9s
KKN Kakani 53.56 306 eP **P** **07 23 16.5 -2.3**
KKN Kakani 53.56 306 eP **P** **07 23 16.5 -2.3**
DMN Daman 53.63 305 eP **P** **07 23 17.6 -1.8**
comp=Z,246nm,0.9s
DMN Daman 53.63 305 eP **P** **07 23 17.6 -1.8**
GKN Gorkha 54.17 306 eP **P** **07 23 21.1 -2.1**
comp=Z,230nm,0.9s
GKN Gorkha 54.17 306 eP **P** **07 23 21.1 -2.1**
SKR Severo-Kuril's 54.63 18 eP P 07 23 42.0 +16
RPZ Rata Peaks 54.90 147 P P 07 23 31.8 +3.8
comp=Z,36nm,0.8s,baz=345,slow=7.9,SNR=10

RPZ	**Rata Peaks**	**54.90**	**147**	P		P	07 23 31.8	+3.8	
KOLN	**Koldanda**	**54.92**	**305**	*e*P		**P**	**07 23 27.1**	**-1.6**	
	comp=Z,350nm,0.9s								
KOLN	**Koldanda**	**54.92**	**305**	*e*P		**P**	**07 23 27.1**	**-1.6**	
DANN	**Dangsing**	**55.01**	**306**	*e*P		**P**	**07 23 27.5**	**-2.0**	
	comp=Z,539nm,0.9s								
DANN	**Dangsing**	**55.01**	**306**	*e*P		**P**	**07 23 27.5**	**-2.0**	
URZ	**Urewera**	**55.35**	**138**	P		P	07 23 35.3	+4.0	
	comp=Z,28nm,0.8s,baz=309,slow=6.3,SNR=8.1								
URZ	**Urewera**	**55.35**	**138**	*e*P		**P**	**07 23 32.6**	**+1.3**	
	comp=Z,84nm,1.3s								
KHZ	**Kahutara**	**55.48**	**144**	*e*P		**P**	**07 23 32.9**	**+0.7**	
	comp=Z,36nm,0.9s								
HYB	**Hyderabad**	**56.32**	**291**	*i* P		**P**	**07 23 36.0**	**-2.7**	
HYB				*e*S		**S**	**07 31 25.0**	**-2.1**	
TRD	**Trivandrum**	**56.41**	**280**⇑	*ex*		P	07 23 43.7	+4.3	
TRD				*ex*		x	07 31 13.7		
NGP	**Nagpur**	**56.75**	**296**	*e*P		**P**	**07 23 41.0**	**-0.7**	
NGP				AMb		AMB	07 23 49.9		
	comp=Z,46nm,1.1s								
NGP				*ex*		x	07 31 34.6		
PETK	**Petropavlovsk-**	**57.23**	**18**	P		**P**	**07 23 43.6**	**-0.9**	
	comp=Z,18nm,0.9s,baz=194,slow=5.2,SNR=7.3								
PETK				LR		LR	07 44 39.6		
	comp=Z,2μm,20.5s,baz=306,slow=32								
PETK	**Petropavlovsk-**	**57.23**	**18**	P		**P**	**07 23 43.6**	**-0.9**	
PETK				pmax		pmax			
	comp=Z,18nm,0.9s								
PETK	**Petropavlovsk-**	**57.23**	**18**	P		**P**	**07 23 43.6**	**-0.9**	
CLNS	**Chul'man**	**57.45**	**355**	*e*P		**P**	**07 23 44.9**	**-1.1**	
CLNS				*e**PP		pP	07 24 01.8	+5.5	
CLNS				*e*			07 24 39.5		
CLNS				*e*			07 25 52.4		
CLNS				*e*PPP		PPP	07 27 09.3		
CLNS				*e*S		S	07 31 34.7	-6.0	
CLNS				*e*			07 33 27.6		
CLNS				*e*SSS		SSS	07 37 40.2		
CLNS				pmax		pmax			
	comp=Z,40nm,1.2s								
CLNS				pmax		pmax			
	comp=E,20nm,1.1s								
CLNS				pmax		pmax			
	comp=N,23nm,1.2s								
CLNS				pmax		pmax			
	comp=E,6.0nm,1.0s								
CLNS				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CLNS				pmax		pmax			
	comp=N,7.0nm,1.0s								
CLNS				smax		smax			
	comp=E,1μm,15.1s								
CLNS				smax		smax			
	comp=N,948nm,13.4s								
CLNS				MLR		MLR			
	comp=E,1μm,15.0s								
CLNS				MLR		MLR			
	comp=Z,1μm,17.0s								
CLNS				MLR		MLR			
	comp=N,1μm,16.0s								
PET	**Petropavlovsk**	**57.45**	**18**	*e*P		P	07 23 42.2	-3.8	
PET				*e*S		**S**	**07 31 36.3**	**-4.4**	
PET				pmax		pmax			
	comp=Z,74nm,1.1s								
PET				pmax		pmax			
	comp=Z,200nm,10.2s								
PET				smax		smax			
	comp=N,2μm,18.9s								
TLY	**Talaya**	**57.48**	**339**	*e*P		**P**	**07 23 47.6**	**+1.3**	
TLY				*e*			07 24 40.0		
TLY				*e*S		**S**	**07 31 43.0**	**+1.6**	
TLY				*e*PS		PS	07 31 50.3		
TLY				*e*SS		**SS**	**07 35 36.7**	**+5.0**	
TLY				pmax		pmax			
	comp=Z,16nm,1.1s								
TLY				MLR		MLR			
	comp=Z,2μm,19.0s								
IRK	**Irkutsk**	**57.72**	**340**	*e*P		**P**	**07 23 50.6**	**+2.6**	
IRK				*e*S		S	07 31 51.5	+7.0	
IRK				*e*			07 33 29.1		
IRK				pmax		pmax			
	comp=Z,138nm,2.1s								
MOY	**Mondy**	**58.46**	**337**	*e*P		**P**	**07 23 53.0**	**-0.3**	
MOY				pmax		pmax			
	comp=Z,106nm,2.1s								
BHPL	**Bhopal**	**58.76**	**298**	*e*P		**P**	**07 23 55.6**	**-0.2**	
WMQ	**Urumqi**	**59.66**	**323**	P		**P**	**07 24 01.2**	**-0.5**	
WMQ				pP		**pP**	**07 24 11.4**	**-0.7**	
WMQ				sP		**sP**	**07 24 15.2**	**-0.8**	
WMQ				PcP		**PcP**	**07 24 48.0**	**-0.6**	
WMQ				S		**S**	**07 32 07.3**	**-2.8**	
WMQ				pmax		pmax			
	comp=Z,180nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,2μm,4.0s								
WMQ				LR		LR			
	comp=N,3μm,21.5s								
WMQ				LR		LR			
	comp=E,2μm,23.2s								
WMQ				LR		LR			
	comp=Z,3μm,22.1s								
BOD	**Bodaibo**	**59.99**	**348**	*e*P		**P**	**07 24 02.2**	**-1.4**	
BOD				pmax		pmax			
	comp=Z,74nm,1.2s								
DDI	**Dehra Dun**	**60.37**	**306**	*e*P		**P**	**07 24 05.6**	**-1.2**	
NDI	**New Delhi**	**60.52**	**304**	*e*P		**P**	**07 24 06.4**	**-1.5**	
NDI				AMb		AMB	07 24 16.1		
	comp=Z,65nm,1.7s								
POO	**Poona**	**60.93**	**291**	*e*P		**P**	**07 24 09.1**	**-1.7**	
POO				AMb		AMB	07 24 19.2		
	comp=Z,21nm,0.9s								
SDNR	**Sundarnagar**	**61.64**	**307**	*e*P		**P**	**07 24 15.0**	**-0.4**	
YAK	**Yakutsk**	**62.34**	**358**	*e*P		**P**	**07 24 19.6**	**+0.2**	
YAK				*e*			07 24 56.5		
YAK				*e*			07 26 35.3		
YAK				*e*PPP		PPP	07 28 08.5		
YAK				*e*S		**S**	**07 32 40.8**	**-2.6**	
YAK				*e*			07 34 03.4		
YAK				pmax		pmax			
	comp=Z,31nm,1.0s								
YAK				pmax		pmax			
	comp=N,12nm,1.1s								
YAK				pmax		pmax			
	comp=Z,407nm,4.3s								
YAK				pmax		pmax			
	comp=N,227nm,4.2s								
YAK				pmax		pmax			
	comp=E,72nm,2.4s								
YAK				smax		smax			
	comp=E,2μm,6.7s								
YAK				smax		smax			
	comp=N,944nm,8.1s								
YAK	**Yakutsk**	**62.34**	**358**	*e*P		**P**	**07 24 17.5**	**-1.9**	
	comp=N,53nm,0.7s								
MK31	**Makanchi Array**	**64.48**	**324**	*e*P		**P**	**07 24 32.5**	**-1.5**	
MK31	**Makanchi Array**	**64.48**	**324**	*e*P		**P**	**07 24 32.5**	**-1.5**	
MKAR	**Makanchi Array**	**64.48**	**324**	P		**P**	**07 24 33.4**	**-0.6**	
	comp=N,14nm,0.9s,baz=114,slow=6.4,SNR=26								
MKAR				LR		LR	07 52 44.6		
	comp=N,1μm,18.1s,baz=122,slow=36								
MKAR				PKPPKP		**P'P'df**	**07 53 22.3**	**-0.2**	
	comp=N,1.4nm,0.9s,baz=304,slow=2.2,SNR=7.4								
MKAR	**Makanchi Array**	**64.48**	**324**	*ce*P		**P**	**07 24 33.0**	**-0.9**	
MKAR				pmax		pmax			
	comp=Z,14nm,0.9s								
MKAR	**Makanchi Array**	**64.48**	**324**	*e*P		**P**	**07 24 33.0**	**-0.9**	
MKAR				P'P'			07 53 22.3		
SEY	**Seymchan**	**64.87**	**10**⇑	*e*P		**P**	**07 24 35.3**	**-0.8**	
KSH	**Kashi**	**65.31**	**315**	P		**P**	**07 24 39.9**	**+0.2**	
KSH				*e*pP		**pP**	**07 24 49.9**	**-0.2**	
KSH				*e*sP		**sP**	**07 24 53.8**	**-0.2**	
KSH				*e*PcP		**PcP**	**07 25 12.4**	**+0.7**	
KSH				*e*PP		**PP**	**07 27 04.6**	**+0.9**	
KSH				*e*ScP			07 29 11.3		
KSH				*e*PcS			07 29 15.1		
KSH				S		**S**	**07 33 16.9**	**-4.6**	
KSH				*e*ScS		**SKSac**	**07 34 28.0**	**-4.7**	
KSH				pmax		pmax			
	comp=Z,13nm,0.9s								
KSH				LR		LR			
	comp=N,950nm,12.8s								
KSH				LR		LR			
	comp=E,580nm,11.5s								
KSH				LR		LR			
	comp=Z,2μm,15.0s								
DRV	**Dumont d'Urvil**	**66.30**	**177**	P		**P**	**07 24 43.0**	**-2.2**	
DRV	**Dumont d'Urvil**	**66.30**	**177**	PP		PP	07 27 13.0	+1.5	
DRV				S		S	07 33 20.0	-12	
DRV				SS		SS	07 38 30.0	+41	
DRV				L		L	07 40 00.0		
DRV				R			07 45 00.0		
TKM2	**Tokmak 2**	**66.92**	**318**	*e*P		**P**	**07 24 49.2**	**-0.8**	
TKM2				pmax		pmax			
	comp=Z,69nm,1.4s								
TKM2	**Tokmak 2**	**66.92**	**318**	*e*P		**P**	**07 24 49.2**	**-0.8**	
	comp=Z,70nm,1.4s								
ZAA0	**Zalesovo Array**	**67.10**	**331**	*e*P		**P**	**07 24 48.5**	**-2.1**	
ZALV	**Zalesovo Beam**	**67.10**	**331**	P		**P**	**07 24 49.5**	**-1.1**	
	comp=Z,11nm,0.8s,baz=111,slow=6.2,SNR=14								
ZALV				PKPPKP		P'P'df	07 53 24.5	+6.8	
	comp=Z,1.4nm,0.8s,baz=302,slow=3.3,SNR=4.1								
ZALV				LR		LR	07 54 58.4		
	comp=Z,1μm,21.3s,baz=116,slow=37								
ZALV	**Zalesovo Beam**	**67.10**	**331**	P		**P**	**07 24 49.6**	**-1.1**	
ZALV				pmax		pmax			
	comp=Z,11nm,0.8s								
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ZALV				MLR		MLR			
	comp=Z,1μm,21.3s								
ZALV	**Zalesovo Beam**	**67.10**	**331**	P		**P**	**07 24 49.5**	**-1.1**	
ZALV				P'P'			07 53 24.5		
FRU	**Bishkek**	**67.55**	**317**	*e*P		**P**	**07 24 55.0**	**+1.2**	
FRU				*e*			07 33 50.0		
FRU				MLR		MLR			
	comp=Z,2μm,20.0s								
AAK	**Ala-Archa**	**67.55**	**317**⇓	*e*P		**P**	**07 24 52.3**	**-1.7**	
AAK				pmax		pmax			
	comp=Z,30nm,1.7s								
AAK	**Ala-Archa**	**67.55**	**317**	*e*P		**P**	**07 24 54.0**	**+0.1**	
	comp=Z,287nm,1.5s								
AAK	**Ala-Archa**	**67.55**	**317**	P		**P**	**07 24 54.8**	**+0.8**	
	comp=Z,128nm,1.4s,SNR=5.4								
EKS2	**Erkin-Say**	**68.05**	**317**	*e*P		**P**	**07 24 56.2**	**-0.9**	
EKS2				pmax		pmax			
	comp=Z,126nm,1.6s								
EKS2	**Erkin-Say**	**68.05**	**317**	*e*P		**P**	**07 24 56.2**	**-0.9**	
	comp=Z,126nm,1.6s								
NVS	**Novosibirsk**	**68.37**	**332**⇓	*i*P		**P**	**07 24 55.6**	**-3.0**	
NVS				*e*S		**S**	**07 34 00.6**	**+3.0**	
NVS				pmax		pmax			
	comp=N,21nm,1.6s								
NVS				pmax		pmax			
	comp=E,36nm,1.6s								
NVS				pmax		pmax			
	comp=Z,79nm,1.6s								
NVS				smax		smax			
	comp=N,27nm,2.7s								
NVS				smax		smax			
	comp=E,10.0nm,1.7s								
KURK	**Kurchatov**	**68.55**	**326**	P		**P**	**07 24 58.8**	**-1.1**	
	comp=E,14nm,0.8s,baz=124,slow=5.5,SNR=19								
KURK	**Kurchatov**	**68.55**	**326**	*d* iP		**P**	**07 24 58.1**	**-1.7**	
KURK				pmax		pmax			
	comp=Z,41nm,1.2s								
KURK	**Kurchatov**	**68.55**	**326**	P		**P**	**07 24 58.8**	**-1.1**	
	comp=Z,6.6nm,1.0s								
KURK	**Kurchatov**	**68.55**	**326**	P		**P**	**07 24 58.9**	**-0.9**	
	comp=Z,357nm,1.1s,SNR=13								
KBL	**Kabul**	**68.91**	**307**	*e*P		**P**	**07 25 01.3**	**-1.4**	
KBL				pmax		pmax			
	comp=Z,127nm,1.5s								
KBL	**Kabul**	**68.91**	**307**	*e*P		**P**	**07 25 01.2**	**-1.4**	
	comp=Z,127nm,1.5s								
KKAR	**Karatay Array**	**70.45**	**316**	*e*P		**P**	**07 25 10.7**	**-1.1**	
KKAR				pmax		pmax			
	comp=Z,49nm,1.0s								
KKAR	**Karatay Array**	**70.45**	**316**	*e*P		**P**	**07 25 10.7**	**-1.1**	
	comp=Z,49nm,1.0s								
KIP	**Kipapa**	**70.76**	**67**	*de*P		**P**	**07 25 14.8**	**+0.8**	
KIP				pmax		pmax			
	comp=Z,289nm,2.5s								
MIR	**Mirnyy**	**71.70**	**196**	*e*P		**P**	**07 25 20.0**	**+1.2**	
MIR				*e*S		S	07 34 44.0	+7.9	
MIR				pmax		pmax			
	comp=Z,41nm,1.0s								
MIR				pmax		pmax			
	comp=Z,609nm,4.0s								
MIR				smax		smax			
	comp=N,2μm,10.0s								
MIR				smax		smax			
	comp=E,2μm,7.0s								
MIR				MLR		MLR			
	comp=N,1μm,20.0s								
MIR				MLR		MLR			
	comp=E,2μm,20.0s								
MIR				MLR		MLR			
	comp=Z,2μm,20.0s								
MIR				MLR		MLR			
	comp=N,2μm,16.0s								
MIR				MLR		MLR			
	comp=E,1μm,16.0s								
MIR				MLR		MLR			
	comp=Z,2μm,16.0s								
BILL	**Bilibino**	**72.11**	**13**⇑	*e*P		**P**	**07 25 20.9**	**-0.4**	
BILL				*e*			07 25 38.0		
BILL				*i* S		**S**	**07 34 44.7**	**+3.9**	
BILL				*e*SS		**SS**	**07 39 18.4**	**-0.1**	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,1μm,19.0s								
BILL	**Bilibino**	**72.11**	**13**	*e*P		P	07 25 24.6	+3.3	
	comp=Z,29nm,1.5s								
BVAR	**Borovoye Array**	**74.15**	**326**	P		**P**	**07 25 32.4**	**-1.2**	
	comp=Z,18nm,0.8s,baz=120,slow=6.3,SNR=45								
BVAR				LR		LR	08 00 09.4		
	comp=Z,2μm,20.8s,baz=108,slow=37								
BVAR	**Borovoye Array**	**74.15**	**326**	P		**P**	**07 25 32.4**	**-1.2**	
BVAR				pmax		pmax			
	comp=Z,18nm,0.8s								
BVAR				MLR		MLR			
	comp=Z,2μm,20.8s								
BVAR	**Borovoye Array**	**74.15**	**326**	P		**P**	**07 25 32.4**	**-1.2**	
BRVK	**Borovoye**	**74.22**	**326**	*d* iP		**P**	**07 25 32.5**	**-1.6**	
BRVK				pmax		pmax			
	comp=Z,28nm,0.8s								
BRVK	**Borovoye**	**74.22**	**326**	*e*P		**P**	**07 25 32.7**	**-1.4**	
	comp=Z,53nm,1.0s								
BRVK	**Bovoye**	**74.22**	**326**	P		**P**	**07 25 33.5**	**-0.6**	
	comp=Z,295nm,1.3s,SNR=20								
GAMB	**Gambell**	**75.79**	**22**	*e*P		**P**	**07 25 40.9**	**-2.0**	
	comp=Z,14nm,0.8s								
IDAH	**Dahanechah**	**75.98**	**304**	*e*P		**P**	**07 25 42.9**	**-2.1**	
IMYA	**Miami**	**76.42**	**308**	*e*P		**P**	**07 25 45.9**	**-1.4**	
ISRO	**Mashad**	**76.92**	**307**	*e*P		**P**	**07 25 47.5**	**-2.5**	
IMOG	**Moghan**	**76.99**	**307**	*e*P		**P**	**07 25 50.0**	**-0.7**	
IPAY	**Payeh**	**77.32**	**307**	*e*P		**P**	**07 25 50.8**	**-1.7**	
IAKL	**Akhelmad**	**77.54**	**308**	*e*P		P	07 25 49.3	-4.4	
IKRD	**Kardeh**	**77.76**	**308**	*e*P		P	07 25 49.9	-5.0	
PPT2	**Papeete2**	**78.00**	**108**	*e*S		**S**	**07 35 46.5**	**-1.8**	
	comp=Z,2μm,31.5s								
PPT2				*e*LQ		LQ	07 46 55.4		
	comp=Z,7μm,37.0s								
PPT2				*e*LR		LR	07 50 13.4		
	comp=Z,4μm,25.2s								
ABKT	**Ailbek**	**78.27**	**309**	P		**P**	**07 25 57.4**	**-0.1**	
	comp=Z,334nm,0.8s,SNR=6.7								
TBI	**Tubuai**	**78.50**	**114**	*e*S		**S**	**07 35 53.5**	**+0.1**	
	comp=Z,1μm,32.8s								
TBI				*e*SS		**SS**	**07 40 57.1**	**-0.3**	
	comp=Z,864nm,32.2s								
TBI				*e*LQ		LQ	07 47 04.6		
	comp=Z,4μm,41.5s								
TBI				*e*LR		LR	07 50 27.7		
	comp=Z,2μm,34.5s								
ISHV	**Shirvan**	**78.53**	**308**	*e*P		**P**	**07 25 57.6**	**-1.5**	
ABKAR	**Akbulak array**	**79.24**	**320**	*e*P		**P**	**07 26 00.8**	**-1.7**	
	comp=Z,39nm,0.9s								
SBA	**Scott Base**	**79.45**	**173**	*e*P		**P**	**07 26 02.7**	**-0.4**	
SBA				pmax		pmax			
	comp=Z,79nm,1.6s								
SBA	**Scott Base**	**79.45**	**173**	*e*P		**P**	**07 26 02.7**	**-0.4**	
	comp=Z,79nm,1.6s								
SVE	**Sverdlovsk**	**80.70**	**328**⇓	*e*P		**P**	**07 26 08.9**	**-1.3**	
SVE				*e*			07 29 15.5		
SVE				*e*PPP		PPP	07 31 01.6		
SVE				*e*S		**S**	**07 36 18.9**	**+3.5**	
SVE				*e*SS		**SS**	**07 41 32.9**	**+4.0**	
SVE				pmax		pmax			
	comp=Z,86nm,1.4s								
SVE				MLR		MLR			
	comp=Z,2μm,23.0s								
AKTO	**Aktyubinsk**	**80.72**	**321**	P		**P**	**07 26 09.3**	**-1.1**	
	comp=Z,4.5nm,0.8s,baz=96,slow=4.5,SNR=11								
AKTO				LR		LR	08 04 50.5		
	comp=Z,1μm,20.0s,baz=110,slow=38								
AKTO	**Aktyubinsk**	**80.72**	**321**	P		**P**	**07 26 09.3**	**-1.1**	
AKTO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
AKTO				MLR		MLR			
	comp=Z,1μm,20.0s								
AKTO	**Aktyubinsk**	**80.72**	**321**	P		**P**	**07 26 09.3**	**-1.1**	
IANJ	**Anjilo**	**81.26**	**306**	*e*P		**P**	**07 26 11.8**	**-2.2**	
ISRV	**Sarvestan**	**81.29**	**300**	*e*P		P	07 26 10.4	-4.0	
IPAR	**Pars**	**81.39**	**300**	*e*P		P	07 26 11.8	-3.1	
ARU	**Arti**	**81.72**	**327**	*c i*P		**P**	**07 26 14.1**	**-1.5**	
ARU							07 29 26.9		
ARU				PPP		PPP	07 31 17.1		
ARU				S		**S**	**07 36 24.1**	**-1.9**	
ARU				SSS		SSS	07 45 10.3		
ARU				pmax		pmax			
	comp=Z,15nm,0.8s								
ARU				MLR		MLR			
	comp=Z,1μm,23.0s								
ARU	**Arti**	**81.72**	**327**	*e*P		**P**	**07 26 13.9**	**-1.7**	
	comp=Z,41nm,0.9s								
ARU	**Arti**	**81.72**	**327**	P		**P**	**07 26 13.6**	**-2.0**	
	comp=Z,281nm,0.8s,SNR=5.8								
ISHM	**Shahmirzad**	**81.80**	**306**	*e*P		**P**	**07 26 14.5**	**-2.4**	
TTA	**Tatalina**	**81.86**	**26**	*e*P		**P**	**07 26 15.9**	**-0.4**	
TTA				pmax		pmax			
	comp=Z,27nm,1.1s								
TTA	**Tatalina**	**81.86**	**26**	*e*P		**P**	**07 26 15.9**	**-0.4**	
	comp=Z,27nm,1.1s								
KDAK	**Kodiak Island**	**82.15**	**31**	P		**P**	**07 26 20.8**	**+2.9**	
	comp=Z,19nm,0.9s,baz=288,slow=6.4,SNR=4.7								
KDAK	**Kodiak Island**	**82.15**	**31**	*e*P		**P**	**07 26 18.2**	**+0.4**	
KDAK				pmax		pmax			
	comp=Z,40nm,1.1s								
KDAK	**Kodiak Island**	**82.15**	**31**	*e*P		**P**	**07 26 18.2**	**+0.4**	
	comp=Z,40nm,1.1s								
RSO	**Redoubt South**	**82.70**	**29**	*e*P		**P**	**07 26 21.5**	**+0.6**	
SOKR	**Solikamsk**	**83.33**	**330**	*e*P		**P**	**07 26 25.0**	**+1.1**	
SOKR				S		**S**	**07 36 44.5**	**+2.2**	
SOKR				SS		**SS**	**07 42 02.6**	**-5.2**	
SOKR				pmax		pmax			
	comp=Z,40nm,1.1s								
SOKR				MLR		MLR			
	comp=Z,2μm,26.0s								
IPIR	**Pirpir**	**83.48**	**303**	*e*P		**P**	**07 26 24.3**	**-1.4**	
PPLA	**Purkeypile**	**83.54**	**26**	*e*P		**P**	**07 26 26.0**	**+0.9**	
	comp=Z,88nm,1.5s								
SLKM	**Skilak Lake**	**83.93**	**29**	*e*P		**P**	**07 26 25.6**	**-1.5**	
SLKM	**Skilak Lake**	**83.93**	**29**	*e*P		**P**	**07 26 25.6**	**-1.5**	
RC01	**Rabbit Creek A**	**84.28**	**28**	*e*P		**P**	**07 26 28.2**	**-0.6**	
	comp=Z,33nm,0.9s								
TRF	**Thorofare Moun**	**84.51**	**26**	*e*P		**P**	**07 26 28.8**	**-1.4**	
	comp=Z,112nm,1.8s								
PMR	**Palmer**	**84.66**	**28**	*e*P		**P**	**07 26 29.7**	**-1.0**	
PMR				pmax		pmax			
	comp=Z,71nm,1.5s								
PMR	**Palmer**	**84.66**	**28**	*e*P		**P**	**07 26 29.7**	**-1.0**	
	comp=Z,71nm,1.5s								
SML	**Sawmill**	**85.08**	**28**	*e*P		**P**	**07 26 31.3**	**-1.6**	
SML				pmax		pmax			
	comp=Z,7.0nm,0.8s								
SML	**Sawmill**	**85.08**	**28**	*e*P		**P**	**07 26 31.3**	**-1.6**	
	comp=Z,7.1nm,0.8s								
MCK	**McKinley**	**85.16**	**26**	*e*P		P	07 26 27.9	-5.3	
MCK				pmax		pmax			
	comp=Z,108nm,1.5s								
MCK	**McKinley**	**85.16**	**26**	*e*P		P	07 26 27.9	-5.3	
	comp=Z,108nm,1.5s								
COLD	**Coldfoot**	**85.34**	**22**	*e*P		**P**	**07 26 35.4**	**+1.4**	
	comp=Z,13nm,1.1s								
ABPO	**Ambohimpanom**	**85.75**	**251**	*e*P		**P**	**07 26 37.0**	**-0.3**	
ABPO				pmax		pmax			
	comp=Z,24nm,1.3s								
ABPO	**Ambohimpanom**	**85.75**	**251**	*e*P		**P**	**07 26 37.0**	**-0.3**	
	comp=Z,24nm,1.3s								
QRN	**Al-Qurain**	**85.78**	**299**	*e*P		**P**	**07 26 35.1**	**-1.9**	
COLA	**College**	**85.83**	**25**	*e*P		**P**	**07 26 33.9**	**-2.5**	
COLA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
COLA	**College**	**85.83**	**25**	*e*P		**P**	**07 26 33.9**	**-2.5**	
	comp=Z,9.4nm,0.8s								
KBD	**Kabd**	**86.00**	**299**	*e*P		**P**	**07 26 35.2**	**-2.9**	
KBD				AMb		AMB	07 26 43.0		
	comp=Z,64nm,1.3s								
DIV	**Divide**	**86.19**	**29**	*e*P		**P**	**07 26 39.3**	**+0.9**	
	comp=Z,70nm,1.1s								
ILAR	**Eielson Array**	**86.22**	**25**	P		**P**	**07 26 36.8**	**-1.6**	
	comp=Z,9.6nm,0.9s,baz=261,slow=4.5,SNR=18								
ILAR				PP		PP	07 30 05.8	+6.6	
	comp=Z,1.4nm,0.9s,baz=243,slow=6.9,SNR=4.4								
ILAR	**Eielson Array**	**86.22**	**25**	P		**P**	**07 26 36.8**	**-1.6**	
ILAR							07 30 05.9		
ILAR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ILAR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**86.22**	**25**	P		**P**	**07 26 36.8**	**-1.6**	
ILAR				PP		PP	07 30 05.8	+6.6	
NAY	**Al-Naaiem**	**86.39**	**299**	*e*P		**P**	**07 26 37.9**	**-2.1**	
NAY				AMb		AMB	07 26 44.8		
	comp=Z,41nm,0.9s								
PAX	**Paxson**	**86.58**	**27**	*e*P		**P**	**07 26 40.2**	**-0.2**	
PAX				pmax		pmax			
	comp=Z,26nm,1.2s								
PAX	**Paxson**	**86.58**	**27**	*e*P		**P**	**07 26 40.1**	**-0.2**	
	comp=Z,26nm,1.2s								
BMRM	**Bremner River**	**86.73**	**29**	*e*P		**P**	**07 26 41.3**	**+0.3**	
	comp=Z,47nm,1.1s								
MAK	**Makhachkala**	**86.89**	**313**	*e*P		P	07 26 38.2	-4.0	
MAK				*e*			07 30 05.8		
MAK				*e*PPP		PPP	07 32 06.0		
MAK				*e*S		**SKSac**	**07 37 02.5**	**-4.4**	
MAK				*e*			07 37 22.5		
MAK				*e*SS		**SS**	**07 43 00.9**	**-0.1**	
MAK				pmax		pmax			
	comp=Z,201nm,1.2s								
TAOE	**Nuku Hiva Isla**	**86.95**	**99**	*e*S		**S**	**07 37 20.5**	**+0.4**	
	comp=Z

SOC				*e*PPP	PPP	07 32 45.8		
SOC				*e*S	SKSac	07 37 33.1	-7.1	
SOC				*e*SSS	SSS	07 48 00.0		
VSR	**Storozhevoye**	**92.66**	**321**	*e*P	**P**	**07 27 06.7**	**-2.4**	
VSR				pmax	pmax			
	comp=N,6.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,8.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VSR				MLR	MLR			
	comp=N,640nm,22.0s							
VSR				MLR	MLR			
	comp=E,1μm,22.0s							
VSR				MLR	MLR			
	comp=Z,1μm,22.0s							
OBN	**Obninsk**	**93.97**	**325**⇓	*e*P	**P**	**07 27 13.0**	**-2.0**	
OBN				*e*		07 31 00.0		
OBN				*i*		07 37 51.2		
OBN				*i* PS	**PS**	**07 39 36.4**	**-4.9**	
OBN				*e*SS	SS	07 44 50.7	+8.2	
OBN				pmax	pmax			
	comp=Z,16nm,1.0s							
APA	**Apatity**	**94.01**	**338**⇓	*e*P	P	07 27 19.0	+4.1	
APA				*e*		07 37 40.0		
APA				*i* S	**S**	**07 38 26.0**	**+3.3**	
APA				*i* PS	**PS**	**07 39 48.0**	**+6.6**	
APA				*i* SS	SS	07 44 54.0	+11	
APA				MLR	MLR			
	comp=Z,4μm,21.0s							
ANN	**Anapa**	**94.17**	**315**	*e*P	**P**	**07 27 16.7**	**+0.5**	
ANN				*e*		07 31 06.1		
ANN				*e*		07 37 49.9		
ANN				*e*		07 38 23.3		
ANN				*e*PS	**PS**	**07 39 41.5**	**-2.5**	
ANN				*e*SS	SS	07 44 55.5	+9.5	
ANN				pmax	pmax			
	comp=Z,14nm,0.9s							
ANN				MLR	MLR			
	comp=N,1μm,22.0s							
ANN				MLR	MLR			
	comp=E,296nm,22.0s							
ANN				MLR	MLR			
	comp=Z,820nm,22.0s							
KMBO	**Kilima Mbogo**	**95.61**	**269**	*e*P	**P**	**07 27 23.7**	**-0.1**	
KMBO				pmax	pmax			
	comp=Z,15nm,1.5s							
KMBO	**Kilima Mbogo**	**95.61**	**269**	*e*P	**P**	**07 27 23.7**	**-0.1**	
	comp=Z,15nm,1.5s							
ARCES	**ARCESS Array B**	**96.42**	**340**	P	**P**	**07 27 26.2**	**+0.2**	
	comp=Z,10nm,0.9s,baz=76,slow=3.8,SNR=6.3							
ARCES				LR	LR	08 12 04.7		
	comp=Z,3μm,21.8s,baz=54,slow=36							
ARCES	**ARCESS Array B**	**96.42**	**340**	P	**P**	**07 27 26.2**	**+0.2**	
ARCES				pmax	pmax			
	comp=Z,11nm,0.9s							
ARCES				MLR	MLR			
	comp=Z,3μm,21.8s							
ARCES	**ARCESS Array B**	**96.42**	**340**	P	**P**	**07 27 26.2**	**+0.2**	
BR131	**Keskin Array S**	**97.38**	**310**	*e*P	**P**	**07 27 31.0**	**-0.1**	
	comp=Z,1.7nm,0.8s							
BRTR	**Keskin Array B**	**97.38**	**310**	P	Pdif	07 27 32.3	+1.1	
	comp=Z,2.4nm,0.9s,baz=118,slow=4.0,SNR=8.8							
BRTR				PP	**PP**	**07 31 32.6**	**+4.4**	
	comp=Z,1.5nm,0.9s,baz=119,slow=10.0,SNR=4.0							
BRTR				LR	LR	08 21 09.9		
	comp=Z,392nm,20.3s,baz=216,slow=42							
BRTR	**Keskin Array B**	**97.38**	**310**	P	Pdif	07 27 32.3	+1.1	
BRTR						07 31 32.7		
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**97.38**	**310**	P	Pdif	07 27 32.3	+1.1	
BRTR				PP	**PP**	**07 31 32.6**	**+4.4**	
FINES	**FINESS Array B**	**98.36**	**332**	P	**P**	**07 27 34.4**	**-0.4**	
	comp=Z,10nm,1.0s,baz=101,slow=7.2,SNR=6.7							
FINES				LR	LR	08 14 32.6		
	comp=Z,3μm,20.6s,baz=74,slow=37							
FINES	**FINESS Array B**	**98.36**	**332**	P	**P**	**07 27 34.4**	**-0.4**	
FINES				pmax	pmax			
	comp=Z,10.0nm,1.0s							
FINES				MLR	MLR			
	comp=Z,3μm,20.6s							
FINES	**FINESS Array B**	**98.36**	**332**	P	**P**	**07 27 34.4**	**-0.4**	
AKASG	**Malin Array Be**	**98.96**	**321**	P	Pdif	07 27 38.2	+0.5	
	comp=Z,1.7nm,0.7s,baz=79,slow=4.0,SNR=6.9							
AKASG				PP	**PP**	**07 31 40.3**	**+0.6**	
	comp=Z,2.4nm,1.0s,baz=74,slow=7.2,SNR=5.4							
AKASG				LR	LR	08 17 09.8		
	comp=Z,1μm,21.5s,baz=50,slow=38							
AKASG	**Malin Array Be**	**98.96**	**321**	P	Pdif	07 27 38.2	+0.4	
AKASG						07 31 40.3		
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
AKASG	**Malin Array Be**	**98.96**	**321**	P	Pdif	07 27 38.2	+0.5	
AKASG				PP	**PP**	**07 31 40.3**	**+0.6**	
RES	**Resolute Bay**	**100.70**	**12**	*e*P	**Pdif**	**07 27 44.3**	**-0.7**	
RES				pmax	pmax			
	comp=Z,8.0nm,1.0s							
RES	**Resolute Bay**	**100.70**	**12**	*e*Pdif	**Pdif**	**07 27 44.3**	**-0.7**	
	comp=Z,7.5nm,1.0s							
MLR	**Muntele Rosu**	**102.13**	**317**	P	**Pdif**	**07 27 53.4**	**+1.2**	
	comp=Z,1.3nm,1.0s,baz=63,slow=4.5,SNR=5.1							
MLR				PP	**PKiKP**	**07 32 11.6**	**-2.8**	
	comp=Z,1.8nm,0.9s,baz=102,slow=7.5,SNR=6.1							
MLR	**Muntele Rosu**	**102.13**	**317**	P	**Pdif**	**07 27 53.4**	**+1.2**	
MLR						07 32 11.6		
MLR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MLR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MLR	**Muntele Rosu**	**102.13**	**317**	P	**Pdif**	**07 27 53.4**	**+1.2**	
MLR				PP	**PKiKP**	**07 32 11.6**	**-2.8**	
BUR08	**Bucovina Ar. S**	**102.17**	**319**	*e*Pdif	**Pdif**	**07 27 49.8**	**-2.4**	
UZH	**Uzhgorod**	**103.81**	**320**	*e*P	**Pdif**	**07 28 02.3**	**+2.9**	
UZH				*e*S	**Sdif**	**07 39 45.3**	**-1.3**	
VNA2	**Neumayer--Watz**	**104.23**	**193**	*e*	**PP**	**07 32 18.9**	**+0.2**	
STHS	**Stebnicka Huta**	**104.26**	**321**	*i* P	**Pdif**	**07 27 59.4**	**-2.0**	
STHS	**Stebnicka Huta**	**104.26**	**321**	PDIF	**Pdif**	**07 27 59.4**	**-2.0**	
CRVS	**Cervenica-Dubn**	**104.27**	**321**	*i* P	**Pdif**	**07 27 59.1**	**-2.4**	
CRVS	**Cervenica-Dubn**	**104.27**	**321**	PDIF	**Pdif**	**07 27 59.1**	**-2.4**	
VNA3	**Neumayer Olymp**	**104.47**	**192**	*e*	**PP**	**07 32 19.3**	**-1.1**	
NVAR	**Mina Array Bea**	**104.95**	**50**	PP	**PP**	**07 32 28.3**	**+2.9**	
	comp=Z,2.9nm,1.1s,baz=277,slow=7.5,SNR=5.8							
NVAR				PKKPbc	**PKKPbc**	**07 43 52.5**	**+4.0**	
	comp=Z,0.7nm,0.8s,baz=158,slow=4.3,SNR=3.9							
NVAR	**Mina Array Bea**	**104.95**	**50**	PP	**PP**	**07 32 28.3**	**+2.9**	
NVAR				PKKPbc	**PKKPbc**	**07 43 52.5**	**+4.0**	
OKC	**Ostrava-Krasne**	**106.05**	**322**	*e*PP	PP	07 32 39.2	+6.4	
OKC				*e*PS	**PS**	**07 41 50.9**	**-0.1**	
OKC				AMS	AMS	08 25 10.0		
	comp=Z,2μm,19.4s							
KRLC	**Kraliky**	**106.80**	**323**	*e*PP	PP	07 32 47.5	+9.1	
DPC	**Dobruska-Polom**	**106.98**	**323**	*e*PP	PP	07 32 48.0	+8.3	
DPC				*e*PS	**PS**	**07 41 58.5**	**-2.2**	
DPC				AMS	AMS	08 20 10.0		
	comp=Z,2μm,20.5s							
UPC	**Upice**	**107.11**	**323**	*e*PP	PP	07 32 42.8	+2.2	
TREC	**Trest**	**107.86**	**322**	*e*PP	PP	07 32 55.7	+9.5	
TREC				*e*PS	**PS**	**07 42 08.1**	**-1.6**	
TREC				AMS	AMS	08 24 20.0		
	comp=Z,2μm,17.7s							
PVCC	**Panska Ves**	**107.96**	**324**	AMS	AMS	08 20 40.0		
	comp=Z,2μm,20.0s							
PRU	**Pruhonice**	**108.18**	**323**	*e*PS	PS	07 42 11.2	-1.7	
PRU				*ex*	x	07 48 09.0		
PRU				AMS	AMS	08 25 50.0		
	comp=Z,2μm,19.0s							
BRG	**Berggiesshubel**	**108.19**	**324**	*e*PDIF	**Pdif**	**07 28 17.4**	**-1.5**	
	comp=Z,6.3nm,1.2s							
BRG				*e*		07 31 54.1		
	comp=Z,12nm,1.5s							
BRG				PP	PP	07 32 55.7	+7.2	
	comp=Z,82nm,2.6s							
BRG	**Berggiesshubel**	**108.19**	**324**	*e*P	**Pdif**	**07 28 17.4**	**-1.5**	
BRG						07 32 55.7		
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BRG				pmax	pmax			
	comp=Z,12nm,1.5s							
BRG				pmax	pmax			
	comp=Z,82nm,2.6s							
BRG	**Berggiesshubel**	**108.19**	**324**	PS	PS	07 42 12.9	-0.1	
BRG				SS	SS	07 48 19.0	+19	
BRG				PKPPKP	P'P'df	07 51 46.2	-17	
	comp=Z,1.5nm,0.7s							
BRG				SKPSKP		08 06 22.7		
	comp=Z,38nm,2.3s							
CLL	**Collm**	**108.57**	**325**	*e*PP	**PP**	**07 32 49.0**	**-2.2**	
CLL				*e*(SKSac)		07 39 08.0		
CLL				*e*PS	**PS**	**07 42 11.0**	**-5.7**	
CLL				*e*PPS	PPS	07 43 07.0		
CLL				*e*SS	SS	07 48 11.0	+5.9	
CLL				*e*		08 00 00.0		
CLL				LmV		08 23 00.0		
	comp=Z,2μm,19.1s							
KHC	**Kasperske Hory**	**109.09**	**323**	*e*PP	PP	07 33 01.4	+6.3	
KHC				*e*PS	**PS**	**07 42 17.7**	**-4.5**	
KHC				AMS	AMS	08 21 30.0		
	comp=Z,2μm,17.7s							
GERES	**GERESS Array B**	**109.12**	**322**	PKiKP	**PKiKP**	**07 32 29.4**	**+2.1**	
	comp=Z,0.5nm,0.5s,baz=130,slow=2.1,SNR=3.9							
GERES	**GERESS Array B**	**109.12**	**322**	PKiKP	**PKiKP**	**07 32 29.4**	**+2.1**	
NKC	**Novy Kostel**	**109.32**	**324**	*e*SP	SP	07 42 16.8	-2.9	
NKC				AMS	AMS	08 27 30.0		
	comp=Z,3μm,20.8s							
K19A	**Absolon Red Bu**	**110.70**	**44**	⇓P	**PKiKP**	**07 32 30.4**	**-0.1**	
	baz=111							
K19A				⇓P	**PKiKP**	**07 32 30.4**	**-0.1**	
	baz=111							
FETA	**Feichten**	**111.68**	**321**⇓	*i*pPKiKP	pPKiKP	07 32 37.4	-5.9	
	comp=Z,7.3nm,1.0s							
Q22A	**Crested Butte,**	**113.42**	**47**	⇑P	**PKiKP**	**07 32 36.0**	**0.0**	
	baz=113							
Q22A				⇑P	**PKiKP**	**07 32 36.0**	**0.0**	
	baz=113							
S22A	**4UR Ranch, Cre**	**113.85**	**48**	⇑P	**PKiKP**	**07 32 36.7**	**-0.1**	
	baz=114							
S22A				⇑P	**PKiKP**	**07 32 36.7**	**-0.1**	
	baz=114							
LPG	**La Plagne**	**114.83**	**321**	*e*PKIKP	PKPdf	07 32 37.4	-1.0	
	comp=Z,8.6nm,0.9s							
SDCO	**Great Sand Dun**	**114.84**	**48**	⇓P	PKPdf	07 32 38.5	-0.2	
	baz=115							
SDCO				⇓P	PKPdf	07 32 38.5	-0.2	
	baz=115							
SDCO				⇓P	PKPdf	07 32 38.5	-0.2	
	baz=115							
SDCO				⇓P	PKPdf	07 32 38.5	-0.2	
	baz=115							
ULM	**Lac du Bonnet**	**115.40**	**32**	PKKPbc	PKKPbc	07 43 17.7	+3.0	
	comp=Z,3.7nm,0.8s,baz=149,slow=7.3,SNR=5.8							
ULM	**Lac du Bonnet**	**115.40**	**32**	PKKPbc	PKKPbc	07 43 17.7	+3.0	
ORIF	**Oris-en-Rattie**	**115.64**	**321**	*e*PKIKP	**PKPdf**	**07 32 37.9**	**-1.8**	
	comp=Z,6.2nm,0.9s							
LOR	**Lormes**	**115.73**	**324**	*e*PKIKP	**PKPdf**	**07 32 38.7**	**-1.0**	
W24A	**Lazy 6 Ranch,**	**115.77**	**51**	⇑P	**PKPdf**	**07 32 39.8**	**-0.6**	
	baz=116							
W24A				⇑P	**PKPdf**	**07 32 39.8**	**-0.6**	
	baz=116							
R26A	**Arlington**	**116.16**	**47**	⇑P	**PKPdf**	**07 32 40.2**	**-0.8**	
	baz=116							
R26A				⇑P	**PKPdf**	**07 32 40.2**	**-0.8**	
	baz=116							
Y24A	**Capitan**	**116.16**	**52**	⇑P	**PKPdf**	**07 32 40.9**	**-0.3**	
	baz=116							
Y24A				⇑P	**PKPdf**	**07 32 40.9**	**-0.3**	
	baz=116							
V25A	**Rancho No Teng**	**116.16**	**50**	⇑P	**PKPdf**	**07 32 40.8**	**-0.4**	
	baz=116							
V25A				⇑P	**PKPdf**	**07 32 40.8**	**-0.4**	
	baz=116							
S26A	**Kim**	**116.39**	**48**	⇓P	**PKPdf**	**07 32 41.3**	**-0.2**	
	baz=116							
S26A				⇓P	**PKPdf**	**07 32 41.3**	**-0.2**	
	baz=116							
VIVF	**Saint-Julien-l**	**116.43**	**321**	*e*PKIKP	**PKPdf**	**07 32 40.1**	**-1.1**	
	comp=Z,8.3nm,0.9s							
224A	**Cornudas Mount**	**116.66**	**54**	⇓P	**PKPdf**	**07 32 42.0**	**-0.2**	
	baz=117							
224A				⇓P	**PKPdf**	**07 32 42.0**	**-0.2**	
	baz=117							
324A	**Moseley Ranch,**	**116.88**	**55**	⇓P	**PKPdf**	**07 32 41.9**	**-0.8**	
	baz=117							
324A				⇓P	**PKPdf**	**07 32 41.9**	**-0.8**	
	baz=117							
MNTX	**Cornudas Mount**	**116.89**	**54**	⇓P	**PKPdf**	**07 32 42.2**	**-0.3**	
	baz=117							
MNTX				⇓P	**PKPdf**	**07 32 42.2**	**-0.3**	
	baz=117							
MNTX				⇓P	**PKPdf**	**07 32 42.2**	**-0.3**	
	baz=117							
MNTX				⇓P	**PKPdf**	**07 32 42.2**	**-0.3**	
	baz=117							
LDF	**La Druitiere**	**117.28**	**327**	*e*PKIKP	**PKPdf**	**07 32 41.7**	**-0.9**	
	comp=Z,7.9nm,1.1s							
425A	**Indio Mountain**	**117.49**	**55**	⇑P	**PKPdf**	**07 32 43.5**	**-0.3**	
	baz=118							
425A				⇑P	**PKPdf**	**07 32 43.5**	**-0.3**	
	baz=118							
CAF	**Calviac**	**118.00**	**322**	*e*PKIKP	**PKPdf**	**07 32 43.8**	**-0.4**	
527A	**Woodward Ranch**	**118.81**	**56**	⇑P	**PKPdf**	**07 32 45.5**	**-0.9**	
	baz=119							
527A				⇑P	**PKPdf**	**07 32 45.5**	**-0.9**	
	baz=119							
TXAR	**Lajitas Array**	**119.01**	**56**	PKP	**PKPdf**	**07 32 46.9**	**+0.2**	
	comp=Z,1.1nm,0.9s,baz=150,slow=2.0,SNR=8.1							
TXAR				PKKPbc	**PKKPab**	**07 43 04.2**	**+0.7**	
	comp=Z,0.5nm,0.7s,baz=130,slow=5.9,SNR=6.4							
TXAR	**Lajitas Array**	**119.01**	**56**	PKiKP	**PKPdf**	**07 32 46.9**	**+0.2**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**119.01**	**56**	PKP	**PKPdf**	**07 32 46.9**	**+0.2**	
TXAR				PKKPbc	**PKKPab**	**07 43 04.2**	**+0.7**	
328A	**Wristen Ranch,**	**119.07**	**54**	⇑P	**PKPdf**	**07 32 46.7**	**-0.1**	
	baz=119							
328A				⇑P	**PKPdf**	**07 32 46.7**	**-0.1**	
	baz=119							
627A	**Terlingua Ranc**	**119.21**	**56**	⇑P	**PKPdf**	**07 32 46.8**	**-0.3**	
	baz=119							
627A				⇑P	**PKPdf**	**07 32 46.8**	**-0.3**	
	baz=119							
JCT	**Junction City**	**121.81**	**54**	*e*PKIKP	**PKPdf**	**07 32 50.9**	**-1.1**	
JCT	**Junction City**	**121.81**	**54**	*e*PKPdf	**PKPdf**	**07 32 50.9**	**-1.1**	
JCT	**Junction City**	**121.81**	**54**	⇓P	**PKPdf**	**07 32 51.5**	**-0.5**	
	baz=122							
JCT				⇓P	**PKPdf**	**07 32 51.5**	**-0.5**	
	baz=122							
ESDC	**Sonseca Array**	**124.59**	**320**	PKP	**PKPdf**	**07 32 56.3**	**-0.8**	
	comp=Z,0.7nm,0.7s,baz=27,slow=4.2,SNR=4.1							
ESDC				PP	PP	07 34 50.0	+6.5	
	comp=Z,1.4nm,0.9s,baz=53,slow=6.8,SNR=5.1							
ESDC	**Sonseca Array**	**124.59**	**320**	PKP	**PKPdf**	**07 32 56.3**	**-0.8**	
ESDC				PP	PP	07 34 50.0	+6.5	
TORD	**Torodi Ar. Bea**	**130.02**	**287**	PKP	**PKPdf**	**07 33 07.2**	**-0.8**	
	comp=Z,2.5nm,0.7s,baz=60,slow=1.6,SNR=15							
TORD				SKPbc	**SKiKP**	**07 36 36.2**	**-6.3**	
	comp=Z,2.9nm,1.1s,baz=84,slow=2.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**130.02**	**287**	PKP	**PKPdf**	**07 33 07.2**	**-0.8**	
TORD				SKPbc	**SKiKP**	**07 36 36.2**	**-6.3**	
LRAL	**Lakeview Retre**	**130.44**	**45**	*e*PKPdf	**PKPdf**	**07 33 07.9**	**-0.4**	
PLCA	**Paso Flores**	**133.82**	**155**	PKP	**PKPdf**	**07 33 15.3**	**+0.7**	
	comp=Z,4.2nm,0.9s,baz=212,slow=5.4,SNR=3.3							
PLCA	**Paso Flores**	**133.82**	**155**	PKiKP	**PKPdf**	**07 33 15.3**	**+0.7**	
PLCA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
PLCA	**Paso Flores**	**133.82**	**155**	PKP	**PKPdf**	**07 33 15.3**	**+0.7**	
DBIC	**Dimbokro**	**137.38**	**279**	PKP	**PKPdf**	**07 33 21.9**	**0.0**	
	comp=Z,4.6nm,0.9s,baz=106,slow=3.9,SNR=4.3							
DBIC	**Dimbokro**	**137.38**	**279**	PKiKP	**PKPdf**	**07 33 21.9**	**0.0**	
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**137.38**	**279**	PKP	**PKPdf**	**07 33 21.9**	**0.0**	
LCO	**Las Campanas**	**143.05**	**144**	*e*PKPdf	PKPbc	07 33 29.7	+0.7	
NNA	**Nana**	**148.02**	**114**	*e*PKP2	**PKPbc**	**07 33 44.7**	**+0.9**	
NNA	**Nana**	**148.02**	**114**	*e*PKPbc	**PKPbc**	**07 33 44.7**	**+0.9**	
OTAV	**Otavalo**	**148.67**	**90**	*e*PKPdf	**PKPdf**	**07 33 43.0**	**+0.7**	
LVC	**Limon Verde**	**148.78**	**139**	*e*PKPbc	**PKPbc**	**07 33 46.2**	**+0.4**	
SDDR	**Presa de Saban**	**149.97**	**51**	*e*PKPbc	**PKPbc**	**07 33 48.5**	**-0.1**	
CPUP	**Villa Florida**	**151.64**	**160**	PKPbc	**PKPbc**	**07 33 52.2**	**0.0**	
	comp=Z,14nm,0.8s,baz=183,slow=1.5,SNR=24							
CPUP	**Villa Florida**	**151.64**	**160**	PKiKP	**PKPbc**	**07 33 52.2**	**0.0**	
CPUP				pmax	pmax			
	comp=Z,14nm,0.8s							
CPUP	**Villa Florida**	**151.64**	**160**	PKPbc	**PKPbc**	**07 33 52.2**	**0.0**	
ROSC	**El Rosal**	**152.47**	**80**	PKP	**PKPdf**	**07 33 48.7**	**+0.6**	
	comp=Z,2.9nm,0.4s,baz=69,slow=20,SNR=3.5							
ROSC				PKPbc	**PKPbc**	**07 33 55.2**	**+0.1**	
	comp=Z,17nm,0.8s,baz=270,slow=2.0,SNR=10							
ROSC	**El Rosal**	**152.47**	**80**	PKP	**PKPdf**	**07 33 48.7**	**+0.6**	
ROSC				*e*PKPbc	**PKPbc**	**07 33 54.9**	**-0.1**	
ROSC				PKPbc	**PKPbc**	**07 33 55.2**	**+0.1**	
LPAZ	**La Paz**	**153.44**	**130**	PKP	**PKPdf**	**07 33 50.9**	**+1.2**	
	comp=Z,1.2nm,0.7s,baz=118,slow=0.6,SNR=3.8							
LPAZ				PKPbc	**PKPbc**	**07 33 57.9**	**+0.6**	
	comp=Z,6.0nm,0.9s,baz=278,slow=1.5,SNR=11							
LPAZ	**La Paz**	**153.44**	**130**	PKIKP	**PKPdf**	**07 33 50.9**	**+1.2**	
LPAZ						07 33 57.9		
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
LPAZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
LPAZ	**La Paz**	**153.44**	**130**	PKP	**PKPdf**	**07 33 50.9**	**+1.2**	
LPAZ				PKPbc	**PKPbc**	**07 33 57.9**	**+0.6**	
SDV	**Santo Domingo**	**155.13**	**70**	*e*PKPdf	**PKPdf**	**07 33 51.8**	**+0.2**	
SDV				*e*PKPbc	PKPab	07 33 60.0	-16	
SAML	**Samuel**	**161.49**	**121**	*e*PKPdf	**PKPdf**	**07 33 58.2**	**-0.9**	
SAML				*e*PKPab	**PKPab**	**07 34 44.9**	**+1.3**	

*IDC **04** 07:16:38.3±2.2, 17°.94S×179°.82W, h623km±25km, mb3.7/10, mb1 3.9/10, mb1mx3.8/16, mbtmp3.7/10, Error ellipse: s-maj=22.5km s-min=17.5km az=126.0*
*NEIC **04** 07:16:39.4±0.8, 17°.97S×179°.81W, h639km±8km, mb4.7/3, Error ellipse: s-maj=19.9km s-min=10.9km az=135.0*
ISC 04 07:16:39.2±0.6, 17°.9S±0°.1×179°.9W±0°.1, h631km, n170, σ0°.974/165, mb4.4/13, 56C-44D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.99**	**275**	*e*Pn	**P**	**07 17 57.3**	**+0.9**
RPZ	**Rata Peaks**	**26.83**	**195**	P	**P**	**07 21 30.4**	**-1.3**
	11nm,0.7s,baz=32,slow=5.6,SNR=6.7						
RPZ	**Rata Peaks**	**26.83**	**195**	P	**P**	**07 21 30.4**	**-1.3**
EIDS	**Eidsvold**	**27.95**	**250**	*e*P	**P**	**07 21 42.2**	**+0.5**
	13nm,0.7s						
ARMA	**Armidale**	**28.73**	**239**	*e*P	**P**	**07 21 49.4**	**+0.8**
	9.8nm,0.5s						
CTAO	**Charters Tower**	**32.07**	**261**	*e*P	**P**	**07 22 17.5**	**+0.5**
	22nm,0.9s						
STKA	**Stephens Creek**	**37.40**	**241**	P	**P**	**07 23 02.1**	**+1.2**
	21nm,0.6s,baz=87,slow=9.5,SNR=7.5						
STKA	**Stephens Creek**	**37.40**	**241**	P	**P**	**07 23 02.1**	**+1.2**
AS31	**Alice Springs**	**43.44**	**254**	*e*P	**P**	**07 23 48.7**	**-0.2**
ASAR	**Alice Springs**	**43.44**	**254**	P	**P**	**07 23 49.0**	**+0.1**
	56nm,0.6s,baz=89,slow=8.0,SNR=25						
ASAR	**Alice Springs**	**43.44**	**254**	P	**P**	**07 23 49.0**	**+0.1**
MJAR	**Matsushiro Arr**	**67.10**	**324**	P	**P**	**07 26 31.3**	**-0.5**
	4.2nm,0.6s,baz=158,slow=6.2,SNR=21						
MJAR	**Matsushiro Arr**	**67.10**	**324**	P	**P**	**07 26 31.3**	**-0.5**
MAT	**Matsushiro**	**67.10**	**324**	P	**P**	**07 26 31.3**	**-0.6**
ASAJ	**Asahikawa**	**70.64**	**332**	P	**P**	**07 26 53.6**	**+0.9**
	11nm,0.8s,baz=190,slow=6.1,SNR=5.5						
ASAJ	**Asahikawa**	**70.64**	**332**	P	**P**	**07 26 53.6**	**+0.9**
PETK	**Petropavlovsk-**	**73.35**	**346**	P	**P**	**07 27 07.8**	**-0.5**
	5.0nm,0.6s,baz=137,slow=8.9,SNR=6.4						
PETK	**Petropavlovsk-**	**73.35**	**346**	P	**P**	**07 27 07.8**	**-0.5**
USRK	**Ussuriysk Arra**	**75.85**	**326**	P	**P**	**07 27 23.3**	**+1.0**
	1.6nm,0.6s,baz=137,slow=4.1,SNR=5.0						
EDW2	**Edwards Air Fo**	**78.77**	**48**	⇑P	**P**	**07 27 39.1**	**+0.6**
	baz=79						
ISA	**Isabella**	**78.84**	**47**	⇑P	**P**	**07 27 39.5**	**+0.8**
	baz=79						
MONP	**Monument Peak**	**78.89**	**50**	⇑P	**P**	**07 27 39.9**	**+0.6**
	baz=79						
MPMC	**Manual Prospec**	**79.73**	**47**	⇓P	**P**	**07 27 44.2**	**+0.6**
	baz=80						
WCN	**Washoe City**	**79.92**	**43**	⇓P	**P**	**07 27 45.3**	**+0.8**
	baz=80						
NVAR	**Mina Array Bea**	**80.41**	**44**	P	**P**	**07 27 47.5**	**+0.4**
	2.8nm,0.7s,baz=228,slow=8.0,SNR=18						
NVAR	**Mina Array Bea**	**80.41**	**44**	P	**P**	**07 27 47.5**	**+0.4**
K05A	**Summer Lake**	**81.10**	**40**	⇓P	**P**	**07 27 51.4**	**+0.9**
	baz=81						
Z14A	**Wintersburg**	**81.67**	**51**	⇑P	**P**	**07 27 54.5**	**+1.1**
	baz=82						
W13A	**Hualapai Mount**	**81.80**	**49**	⇓P	**P**	**07 27 55.1**	**+0.8**
	baz=82						
Y14A	**Wickenburg**	**81.90**	**51**	⇑P	**P**	**07 27 55.4**	**+0.8**
	baz=82						
G06A	**Carlson Farm,**	**82.67**	**38**

P19A	**Cripple Cowboy** baz=88	**87.34**	**47**	⇓P		**P**		**07 28 21.7 +0.7**
M18A	**Lyman** baz=88	**87.39**	**45**	⇑P		**P**		**07 28 21.8 +0.6**
N18A	**Larsen Ranch,** baz=88	**87.46**	**45**	⇓P		**P**		**07 28 22.3 +0.8**
Q20A	**Ridgley Place,** baz=88	**87.53**	**48**	⇓P		**P**		**07 28 22.5 +0.6**
E14A	**Clinton** baz=88	**87.53**	**39**	⇑P		**P**		**07 28 22.1 +0.4**
G15A	**Dillon** baz=88	**87.55**	**41**	⇑P		**P**		**07 28 22.5 +0.6**
P20A	**De Beque** baz=88	**87.70**	**47**	⇓P		**P**		**07 28 23.4 +0.7**
R21A	**Cimarron** baz=88	**87.81**	**49**	⇑P		**P**		**07 28 24.4 +1.1**
J17A	**Brown Place, J** baz=88	**87.84**	**43**	⇑P		**P**		**07 28 24.1 +0.8**
K18A	**Toltan Ranch,** baz=88	**87.95**	**44**	⇑P		**P**		**07 28 24.5 +0.7**
427A	**Hayter Ranch,** baz=88	**87.97**	**57**	⇓P		**P**		**07 28 24.6 +0.5**
M19A	**Rock Springs** baz=88	**88.04**	**45**	⇑P		**P**		**07 28 24.8 +0.5**
H16A	**Russell Place,** baz=88	**88.11**	**42**	⇑P		**P**		**07 28 25.8 +1.3**
L19A	**Farson** baz=88	**88.17**	**45**	⇓P		**P**		**07 28 25.7 +0.9**
J18A	**Kendall Valley** baz=88	**88.22**	**43**	⇑P		**P**		**07 28 25.7 +0.6**
N20A	**Spence Gulch,** baz=88	**88.36**	**46**	⇓P		**P**		**07 28 26.5 +0.7**
Z26A	**Caprock** baz=88	**88.43**	**54**	⇑P		**P**		**07 28 26.6 +0.4**
B14A	**Marquette Ranc** baz=89	**88.61**	**38**	⇑P		**P**		**07 28 26.5 -0.2**
K19A	**Absolon Red Bu** baz=89	**88.82**	**44**	⇓P		**P**		**07 28 27.8 0.0**
K20A	**Yellowstone Ra** baz=89	**89.09**	**44**	⇓P		**P**		**07 28 29.2 +0.2**
C16A	**Fuhringer Ranc** baz=89	**89.25**	**39**	⇑P		**P**		**07 28 29.3 -0.3**
O22A	**Kremmling** baz=89	**89.27**	**47**	⇑P		**P**		**07 28 30.5 +0.4**
B16A	**M & M Farms, S** baz=90	**89.55**	**38**	⇓P		**P**		**07 28 30.6 -0.4**
J20A	**Shoshoni** baz=90	**89.56**	**44**	⇓P		**P**		**07 28 32.0 +0.8**
N22A	**Wattenberg Ran** baz=90	**89.59**	**47**	⇓P		**P**		**07 28 32.5 +1.0**
O23A	**Lake Granby, G** baz=90	**89.73**	**47**	⇑P		**P**		**07 28 32.8 +0.6**
C17A	**Wharram Farm,** baz=90	**89.75**	**39**	⇑P		**P**		**07 28 32.0 +0.1**
Q24A	**Divide** baz=90	**89.77**	**49**	⇑P		**P**		**07 28 33.0 +0.5**
A16A	**West Butte Ran** baz=90	**89.87**	**38**	⇓P		**P**		**07 28 32.5 +0.1**
A17A	**Triple J Farms** baz=91	**90.39**	**38**	⇑P		**P**		**07 28 35.1 +0.3**
D20A	**Manuel Ranch,** baz=91	**91.12**	**40**	⇑P		**P**		**07 28 38.8 +0.7**
C20A	**Veseth Ranch,** baz=92	**91.46**	**40**	⇓P		**P**		**07 28 40.5 +0.7**
D21A	**La Casta Ranch** baz=92	**91.81**	**41**	⇑P		**P**		**07 28 42.3 +0.9**
A20A	**Cobblestone Ra** baz=92	**92.01**	**39**	⇓P		**P**		**07 28 42.7 +0.5**
C21A	**Desert Coulee** baz=92	**92.07**	**40**	⇑P		**P**		**07 28 42.9 +0.4**
C23A	**Lambert** baz=93	**93.24**	**41**	⇑P		**P**		**07 28 48.7 +0.8**
D24A	**Glendive** baz=94	**93.51**	**41**	⇓P		**P**		**07 28 49.9 +0.8**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=119,slow=0.3,SNR=6.3	**108.15 314**		PKiKP		**PKiKP**		**07 33 55.9 -1.0**
MKAR	**Makanchi Array**	**108.15 314**		PKiKP		**PKiKP**		**07 33 55.9 -1.0**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=84,slow=1.4,SNR=7.4	**115.98 321**		PKP		**PKPdf**		**07 34 10.6 -1.0**
BVAR	**Borovoye Array**	**115.98 321**		PKP		**PKPdf**		**07 34 10.6 -1.0**
SPITS	**Spitsbergen Ar** 2.6nm,0.7s,baz=97,slow=6.8,SNR=8.3	**119.20 356**		PKP		**PKPdf**		**07 34 10.7 -1.0**
SPITS	**Spitsbergen Ar**	**119.20 356**		PKP		**PKPdf**		**07 34 16.1 -1.0**
AKTO	**Aktyubinsk** 1.2nm,0.8s,baz=227,slow=18,SNR=4.8	**123.97 319**		PKP		**PKPdf**		**07 34 26.0 -1.0**
AKTO	**Aktyubinsk**	**123.97 319**		PKP		**PKPdf**		**07 34 26.0 -1.0**
ARCES	**ARCESS Array B** 1.3nm,0.5s,baz=31,slow=2.1,SNR=11	**126.08 349**		PKP		**PKPdf**		**07 34 29.7 -0.8**
ARCES	**ARCESS Array B**	**126.08 349**		PKP		**PKPdf**		**07 34 29.7 -0.8**
FINES	**FINESS Array B** 1.0nm,0.4s,baz=90,slow=1.4,SNR=5.1	**132.81 343**		PKP		**PKPdf**		**07 34 42.7 -0.7**
FINES				SKPbc		**SKPbc**		**07 37 13.8 +0.7**
FINES	1.6nm,0.8s,baz=96,slow=4.2,SNR=3.4 **FINESS Array B**	**132.81 343**		PKP		**PKPdf**		**07 34 42.7 -0.7**
FINES				SKPbc		**SKPbc**		**07 37 13.8 +0.7**
AKASG	**Malin Array Be** 0.8nm,0.4s,baz=42,slow=3.8,SNR=6.4	**139.92 331**		PKhKP		PKPpre		07 34 48.3
AKASG	**Malin Array Be**	**139.92 331**		PKPpre		PKPpre		07 34 48.3
KWP	**Kalwaria Pacla**	**143.51 335**		*e*PX		PKPbc		07 35 01.0 -1.4
BRTR	**Keskin Array B** 1.5nm,0.6s,baz=70,slow=1.7,SNR=11	**143.80 314**		PKP		PKPbc		07 35 03.4 -0.4
BRTR	**Keskin Array B**	**143.80 314**		PKP		PKPbc		07 35 03.4 -0.4
BUR08	**Bucovina Ar. S**	**143.95 331**		*e*PKPbc		**PKPdf**		**07 35 04.8 +0.5**
BURAR	**Bucovina Array**	**143.96 331**	⇑	*i*P		**PKPdf**		**07 35 04.9 +0.6**
TESR		**144.05 328**	⇓	*i*P		**PKPab**		**07 35 04.8 +0.3**
OJC	**Ojcow**	**144.13 336**		*e*PX		PKPbc		07 35 04.2 0.0
STHS	**Stebnicka Huta**	**144.26 336**		*e*PKP		**PKPab**		**07 35 05.5 +0.3**
DLF	**Lyons Farm**	**144.32 7**	⇓	*i*P		**PKPdf**		**07 35 04.6 0.0**
VRI	**Vrincioaia**	**144.46 327**	⇑	*i*P		**PKPab**		**07 35 06.3 +0.2**
CRVS	**Cervenica-Dubn**	**144.59 336**		*e*PKP		**PKPab**		**07 35 06.7 +0.2**
NIE	**Niedzica**	**144.61 337**		*e*PX		**PKPab**		**07 35 06.5 -0.1**
KSP	**Ksiaz**	**144.72 342**		*e*PX		**PKPab**		**07 35 06.4 -0.5**
MMAI	**Mount Meron Ar** 1.0nm,0.4s,baz=61,slow=7.1,SNR=4.3	**144.98 302**		PKPbc		PKPbc		07 35 07.7 +0.2
MMAI	**Mount Meron Ar**	**144.98 302**		PKPbc		PKPbc		07 35 07.7 +0.2
UPC	**Upice**	**145.10 342**		*e*PKP		**PKPbc**		**07 35 07.6 +0.5**
MLR	**Muntele Rosu** 0.7nm,0.5s,baz=340,slow=7.7,SNR=11	**145.11 328**		PKPbc		**PKPdf**		**07 35 06.8 +0.4**
MLR	**Muntele Rosu**	**145.11 328**		PKPbc		**PKPdf**		**07 35 06.8 +0.4**
MLR	**Muntele Rosu**	**145.11 328**	⇑	*i*P		**PKPab**		**07 35 08.6 -0.2**
DPC	**Dobruska-Polom**	**145.15 342**		*e*PKP		**PKPbc**		**07 35 07.7 +0.4**
CLL	**Collm** comp=Z,22nm,0.8s	**145.16 346**	⇑	*i*PKPbc		**PKPbc**		**07 35 07.3 0.0**
KECS	**Kecovo**	**145.31 336**		*e*PKP		**PKPbc**		**07 35 08.1 +0.3**
BRG	**Berggiesshubel** comp=Z,8.8nm,0.9s	**145.33 345**		*i* P		**PKPbc**		**07 35 08.2 +0.4**
BRG	comp=Z,3μm,19.3s							
BRG	comp=N,2μm,20.3s							
BRG	comp=E,2μm,20.3s							
PVCC	**Panska Ves**	**145.48 344**		*e*PKP		**PKPbc**		**07 35 08.7 +0.5**
VOIR		**145.60 328**	⇓	*i*P		**PKPbc**		**07 35 08.9 0.0**
DRGR		**145.72 332**	⇑	*i*P		**PKPbc**		**07 35 09.3 +0.2**
VYHS	**Vyhne**	**145.92 338**		*e*PKP		**PKPbc**		**07 35 09.7 +0.1**
PRU	**Pruhonice**	**145.98 343**		*e*PKP		**PKPbc**		**07 35 09.7 +0.1**
VRAC	**Vranov** comp=E,2.6nm,0.8s,baz=85,slow=7.8,SNR=3.1	**145.98 341**		PKPbc		**PKPbc**		**07 35 08.7 -1.0**
VRAC	**Vranov**	**145.98 341**		PKPbc		**PKPbc**		**07 35 08.7 -1.0**
PSZ	**Piszkesteto**	**146.00 336**	⇓	*i*P		**PKPbc**		**07 35 10.0 +0.1**
KOLL	**Kolacno**	**146.00 338**		*e*PKP		**PKPbc**		**07 35 10.4 +0.6**
SMOL	**Smolenice**	**146.40 339**		*e*PKP		**PKPbc**		**07 35 12.1 +1.2**
GZR	**Gura Zlata**	**146.74 330**	⇓	*i*P		**PKPbc**		**07 35 11.8 -0.1**
KHC	**Kasperske Hory**	**147.02 344**		*e*PKP		**PKPbc**		**07 35 12.6 +0.1**
MEM	**Membach**	**147.06 353**		P		**PKPab**		**07 35 15.0 -1.2**
BZS	**Buzias**	**147.10 332**	⇓	*i*P		**PKPbc**		**07 35 12.9 +0.1**
GERES	**GERESS Array B** comp=E,2.8nm,0.5s,baz=23,slow=3.2,SNR=21	**147.25 343**		PKPbc		**PKPbc**		**07 35 12.9 -0.3**
GERES	**GERESS Array B**	**147.25 343**		PKPbc		**PKPbc**		**07 35 12.9 -0.3**
SNF	**Seneffe**	**147.32 355**		P		**PKPbc**		**07 35 13.2 0.0**
CONA	**Conrad Observa** comp=E,4.0nm,0.6s	**147.43 340**	⇑	*i*PKiKP		**PKPbc**		**07 35 13.9 +0.2**
DOU	**Dourbes**	**147.71 355**		P		**PKPbc**		**07 35 14.3 +0.2**
WLF	**Walferdange**	**147.97 353**		P		**PKPbc**		**07 35 15.7 +0.9**
WATA	**Walderalm** comp=E,2.9nm,0.4s	**149.20 345**	⇓	*i*PKiKP		**PKPbc**		**07 35 17.8 -0.4**
WTTA	**Wattenberg** comp=E,7.6nm,0.4s	**149.25 345**	⇑	*i*PKiKP		**PKPbc**		**07 35 18.1 -0.2**
MOTA	**Moosalm** comp=E,7.6nm,1.0s	**149.30 345**	⇓	*i*PKiKP		**PKPbc**		**07 35 18.1 -0.4**
FETA	**Feichten** comp=E,6.6nm,0.9s	**149.70 346**	⇑	*i*PKiKP		**PKPbc**		**07 35 19.4 0.0**
TUE	**Stuetta**	**150.53 347**		*e*PKPbc		**PKPbc**		**07 35 21.3 -0.1**

TRN 04 07:19:56.0, 12.94N×60.15W, h35km, MD3.7, M3.1 (FDF), 1C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BHS	**Barnard House**	**1.02 291**		*e*P		Pb	07 20 14.7	-0.5
BHS				*e*S		Sb	07 20 29.6	+1.2
MCLT	**Moule a Chique**	**1.09 315**	⇓	*i*P		Pb	07 20 16.4	-0.1
MCLT				*e*S		Sb	07 20 30.4	0.0
FCV	**Fort Charlotte**	**1.09 282**		*e*P		Pb	07 20 16.6	+0.1
FCV				*e*S		Sb	07 20 30.6	+0.2
SVV	**Soufriere Volc**	**1.10 290**	⇓	*e*P		Pb	07 20 17.1	+0.4
SVV				*e*S		Sb	07 20 31.6	+0.7
SVB	**Belmont**	**1.12 287**	⇑	*i*P		Pb	07 20 16.2	-0.8
SVB				*e*S		Sb	07 20 31.0	-0.4
SLB	**Belfond**	**1.24 316**		*e*P		Pb	07 20 19.2	+0.1
SLB				*e*S		Sb	07 20 34.0	-0.9
GRIC	**Isle de Caille**	**1.54 245**		*e*P		Pb	07 20 23.3	-0.8
GRIC				*e*S		Sb	07 20 41.6	-1.7
GRSS	**Sisters**	**1.56 246**	⇓	*e*P		Pb	07 20 22.8	-1.5
GRSS				*e*S		Sb	07 20 42.5	-1.3
GRHS	**Sauteurs**	**1.62 244**		*e*P		Pn	07 20 23.5	+1.4
GRHS				*e*S		Sb	07 20 44.4	-1.0
GRW	**Mount Saint Ca**	**1.66 243**		*e*P		Pn	07 20 23.9	+1.1
GRW				*e*S		Sn	07 20 44.1	+1.1
TOSP	**Speyside**	**1.67 193**		*e*P		Pn	07 20 24.5	+1.7
TOSP				*e*S		Sn	07 20 44.0	+1.0
MVM	**Montagne Vaucl**	**1.77 336**		*e*P		Pn	07 20 25.9	+1.7
BIM	**Bigot**	**1.81 330**		*e*P		Pb	07 20 26.7	-1.9
BIM				*e*S		Sn	07 20 48.1	+1.6
FDF	**Fort de France**	**2.03 332**		*e*P		Pn	07 20 30.0	+2.1
FDF				*e*S		Sn	07 20 54.0	+1.8

IDC 04 07:24:43.2±2.2, 0.34S×132.68E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=182.4km s-min=20.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=350,slow=12,SNR=3.5	**19.55 175**		P		Pn	07 29 13.3	-0.6
ASAR	**Alice Springs** 2.3nm,0.5s,baz=357,slow=11,SNR=6.1	**23.22 177**		P		P	07 29 52.6	+0.5
STKA	**Stephens Creek** 7.8nm,1.0s,baz=354,slow=9.9,SNR=4.2	**32.48 166**		P		P	07 31 14.5	-1.0
SONM	**Songino Array** 0.2nm,0.6s,baz=146,slow=6.0,SNR=2.2	**53.15 338**		P		P	07 34 01.8	-1.2
KURK	**Kurchatov** 0.9nm,0.9s,baz=116,slow=5.9,SNR=4.0	**68.37 326**		P		P	07 35 47.0	+0.4
BVAR	**Borovoye Array** 1.3nm,0.8s,baz=128,slow=4.2,SNR=5.5	**73.97 326**		P		P	07 36 21.0	+0.5

IDC 04 07:25:45.7±12.0, 0.88S×133.15E, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.7/16, mbtmp4.1/3, Error ellipse: s-maj=181.9km s-min=113.9km az=157.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=357,slow=12,SNR=6.4	**18.99 177**		P		P	07 30 09.3	+0.3
ASAR	**Alice Springs** 3.3nm,0.5s,baz=356,slow=9.7,SNR=4.7	**22.67 178**		P		P	07 30 49.5	+0.7
STKA	**Stephens Creek** 2.7nm,0.8s,baz=345,slow=8.9,SNR=7.0	**31.85 166**		P		P	07 32 11.9	-0.7

IDC 04 07:28:01.4±12.0, 0.08N×131.61E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp4.0/3, Error ellipse: s-maj=229.7km s-min=158.3km az=112.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 2.0nm,0.6s,baz=354,slow=11,SNR=5.4	**20.08 172**		P		P	07 32 36.8	+0.2
ASAR	**Alice Springs** 1.9nm,0.5s,baz=356,slow=9.8,SNR=8.5	**23.71 175**		P		P	07 33 16.4	+1.1
STKA	**Stephens Creek** 2.9nm,1.0s,baz=332,slow=9.9,SNR=4.7	**33.16 164**		P		P	07 34 38.4	-1.3

KRSC 04 07:30:42.1±0.8, 51.53N×159.64E, h5km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**1.14 323**		P		Pb	07 31 04.3	0.0
RUS				*i* S		Sn	07 31 21.1	+0.4
MTVR	**Mutnovka**	**1.31 317**		*e*P		Pn	07 31 07.2	-0.1
MTVR				*e*S		Sn	07 31 25.5	+0.2
ASAK	**Asacha**	**1.37 309**		P		Pb	07 31 08.4	0.0
ASAK				*i* S		Sn	07 31 27.8	+1.1
GRL	**Gorelyy**	**1.41 317**		P		Pg	07 31 09.5	+0.2
GRL				*i* S		Sg	07 31 29.3	+1.6
SPN	**Mys Shipunski**	**1.59 8**		P		Pn	07 31 10.6	-0.3
SPN				*i* S		Sn	07 31 31.1	-0.7
PET	**Petropavlovsk**	**1.61 338**		P		Pb	07 31 12.5	+0.1
PET				*i* S		Sg	07 31 34.4	+0.4
SDLR	**Sedlovina**	**1.81 345**		P		Pb	07 31 16.2	+0.3
AVH	**Avacha**	**1.82 343**		P		Pb	07 31 16.6	+0.5
KOK	**Koryaka**	**1.87 341**		P		Pb	07 31 16.7	-0.2
MIPR	**Malaya Ipel'ka**	**1.94 294**		*e*P		Pn	07 31 16.7	+1.0
MIPR				*e*S		Sb	07 31 41.5	-0.8

IDC 04 07:31:46.2±2.4, 0.56S×132.62E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=133.9km s-min=23.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=354,slow=11,SNR=5.1	**19.33 175**		P		P	07 36 13.5	+0.2
ASAR	**Alice Springs** 1.4nm,0.5s,baz=357,slow=10,SNR=14	**23.00 177**		P		P	07 36 52.9	0.0
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=124,slow=7.5,SNR=5.0	**64.44 324**		P		P	07 42 23.0	-1.6
KURK	**Kurchatov** 0.2nm,0.3s,baz=116,slow=5.9,SNR=4.7	**68.52 326**		P		P	07 42 52.1	+1.6

NEIC ***04*** *07:32:08.4±0.6, 5.80S×147.59E, h35km, mb4.8/4, Error ellipse: s-maj=19.9km s-min=11.1km az=115.0*
ISCJB ***04*** *07:32:12.6±0.5, 6.10S±0.05×147.5E±0.1, h77km, mb4.6/13, Error ellipse: s-maj=14.5km s-min=6.5km az=10.2*
IDC ***04*** *07:32:16.2±1.8, 6.22S×147.53E, h96km±15km, mb4.2/9, mb1 4.4/11, mb1mx4.3/15, mbtmp4.2/11, Error ellipse: s-maj=29.8km s-min=13.0km az=93.0*

ISC 04 07:32:14.2±0.5, 6.14S±0.06×147.4E±0.1, h77km, n46, σ1$41/54, mb4.8/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby** 13nm,0.3s,baz=17,slow=12,SNR=60	**3.25 184**		P		**Pn**	**07 33 04.4**	**+1.4**
PMG				S		**Sn**	**07 33 40.7**	**+0.1**
PMG	177nm,0.3s,baz=187,slow=19,SNR=4.2 **Port Moresby**	**3.25 184**		P		**Pn**	**07 33 04.4**	**+1.4**
PMG				S		**Sn**	**07 33 40.7**	**+0.1**
COEN	**Coen** 197nm,0.8s	**8.81 208**		*e*Pn		**Pn**	**07 34 20.6**	**+1.8**
COEN				*e*Sn		Sn	07 35 42.1	-14
WRAB	**Tennant Creek** 33nm,0.6s	**18.67 222**		*e*P		**Pn**	**07 36 27.0**	**-0.4**
WB2	**Warramunga Arr**	**18.68 222**		*e*P		**Pn**	**07 36 27.0**	**-0.6**
WRA	**Warramunga Arr** 5.9nm,0.3s,baz=50,slow=11,SNR=148	**18.68 222**		P		**Pn**	**07 36 27.5**	**-0.1**
WRA				S		**S**	**07 39 52.4**	**-2.6**
WRA	0.4nm,0.3s,baz=44,slow=21,SNR=9.1 **Warramunga Arr**	**18.68 222**		P		**Pn**	**07 36 27.5**	**-0.1**
WRA				S		**S**	**07 39 52.4**	**-2.6**
EIDS	**Eidsvold** 62nm,1.1s	**19.44 170**		*e*P		**Pn**	**07 36 35.9**	**-0.6**
AS31	**Alice Springs**	**21.73 215**		*e*P		**P**	**07 37 00.6**	**+1.2**
ASAR	**Alice Springs** 34nm,0.6s,baz=50,slow=8.9,SNR=287	**21.73 215**		P		**P**	**07 37 00.6**	**+1.3**
ASAR	12nm,1.0s,baz=31,slow=21,SNR=4.9			S		**S**	**07 40 54.2**	**-1.4**
ASAR	**Alice Springs**	**21.73 215**		P		**P**	**07 37 00.6**	**+1.3**
ASAR				S		**S**	**07 40 54.2**	**-1.4**
ARMA	**Armidale**	**24.48 171**		*e*P		**P**	**07 37 26.6**	**+0.3**
STKA	**Stephens Creek** 24nm,0.7s,baz=18,slow=11,SNR=30	**26.17 191**		P		P	**07 37 41.6**	**+0.1**
STKA	**Stephens Creek** 20nm,0.8s	**26.17 191**		*e*P		**P**	**07 37 41.6**	**+0.1**
STKA	**Stephens Creek**	**26.17 191**		P		**P**	**07 37 41.6**	**+0.1**
FORT	**Forrest** 63nm,0.8s	**30.50 214**		*e*P		**P**	**07 38 21.1**	**+1.0**
KLBR	**Kellerberrin** 35nm,0.7s	**37.54 224**		*e*P		**P**	**07 39 21.5**	**+0.4**
RPZ	**Rata Peaks** 6.4nm,0.7s,baz=180,slow=2.0,SNR=4.3	**42.81 155**		P		P	**07 40 04.7**	**+0.2**
RPZ	**Rata Peaks**	**42.81 155**		P		**P**	**07 40 04.7**	**+0.2**
KSRS	**Korea Array** 1.7nm,0.5s,baz=158,slow=9.0,SNR=6.6	**47.03 339**		P		**P**	**07 40 38.3**	**+0.4**
KSAR	**Wonju Array Be**	**47.03 339**		P		**P**	**07 40 38.3**	**+0.3**
USRK	**Ussuriysk Arra** 15nm,1.2s,baz=171,slow=7.5,SNR=5.6	**52.00 346**		P		**P**	**07 41 17.0**	**+1.4**
PETK	**Petropavlovsk-** 9.2nm,0.8s,baz=197,slow=9.0,SNR=20	**59.67 7**		P		**P**	**07 42 11.4**	**+1.0**
PETK	**Petropavlovsk-**	**59.67 7**		P		**P**	**07 42 11.4**	**+1.0**
SONM	**Songino Array** 1.8nm,0.9s,baz=143,slow=8.5,SNR=5.5	**64.72 331**		P		**P**	**07 42 44.9**	**+0.5**
SONM	**Songino Array**	**64.72 331**		P		**P**	**07 42 44.9**	**+0.5**
VNDA	**Vanda** 3.5nm,1.0s	**71.75 177**		*e*P		**P**	**07 43 27.7**	**0.0**
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=94,slow=7.5,SNR=5.4	**77.86 320**		P		**P**	**07 44 03.5**	**-0.1**
MKAR	**Makanchi Array**	**77.86 320**		P		**P**	**07 44 03.5**	**-0.1**
QSPA	**South Pole Qui** 12nm,0.8s	**83.83 180**		*e*P		**P**	**07 44 34.6**	**-0.5**
ILAR	**Eielson Array** 2.2nm,0.9s,baz=252,slow=5.7,SNR=16	**85.46 23**		P		**P**	**07 44 41.2**	**-1.9**
ILAR	**Eielson Array**	**85.46 23**		P		**P**	**07 44 41.2**	**-1.9**
CFAA	**Coronel Fontan** 0.2nm,0.8s,baz=249,slow=5.8,SNR=5.4	**129.35 140**		PKP		**PKPdf**	**07 51 15.3**	**+0.6**
CFAA	**Coronel Fontan**	**129.35 140**		PKP		**PKPdf**	**07 51 15.3**	**+0.6**
LPAZ	**La Paz** 1.3nm,0.7s,baz=162,slow=2.4,SNR=3.6	**138.38 123**		PKhKP		PKPpre	07 51 27.4	
LPAZ	**La Paz**	**138.38 123**		PKPpre		PKPpre	07 51 27.4	
ROSC	**El Rosal** 5.2nm,0.8s,baz=100,slow=16,SNR=7.8	**138.45 90**		PKP		**PKPdf**	**07 51 31.4**	**-1.2**
ROSC	**El Rosal**	**138.45 90**		PKP		**PKPdf**	**07 51 31.4**	**-1.2**
SDV	**Santo Domingo**	**142.21 83**		*e*PKPdf		**PKPdf**	**07 51 37.0**	**-2.1**
SIV	**San Ignacio** 4.6nm,0.8s,baz=252,slow=5.9,SNR=15	**144.25 128**		PKP		**PKPab**	**07 51 40.4**	**0.0**
SIV	**San Ignacio**	**144.25 128**		PKP		**PKPab**	**07 51 40.4**	**0.0**
TORD	**Torodi Ar. Bea** 1.0nm,0.4s,baz=42,slow=0.2,SNR=14	**145.51 284**		PKPbc		**PKPbc**	**07 51 44.8**	**0.0**
TORD				SKPbc		**SKPbc**	**07 55 13.2**	**-4.5**
TORD	1.5nm,1.0s,baz=6.3,slow=2.2,SNR=4.3 **Torodi Ar. Bea**	**145.51 284**		PKPbc		**PKPbc**	**07 51 44.8**	**0.0**
TORD				SKPbc		**SKPbc**	**07 55 13.2**	**-4.5**
SAML	**Samuel**	**146.03 116**		*e*PKPbc		**PKPdf**	**07 51 45.8**	**+0.3**
DBIC	**Dimbokro** 1.3nm,0.7s,baz=149,slow=2.9,SNR=3.3	**152.42 273**		PKPbc		**PKPbc**	**07 52 03.0**	**+0.4**
DBIC				PKPab		**PKPab**	**07 52 15.0**	**+1.9**
DBIC	1.6nm,0.6s,baz=99,slow=18,SNR=4.1 **Dimbokro**	**152.42 273**		PKPbc		**PKPbc**	**07 52 03.0**	**+0.4**
DBIC				PKPab		**PKPab**	**07 52 15.0**	**+1.9**

BJI ***04*** *07:32:54.4, 1.08S×133.95E, h30km, mB5.3/21, mb4.8/38, Ms5.0/21, Ms7 4.8/21*
IDC ***04*** *07:32:56.0±0.7, 0.61S×133.63E, h0km, mb4.5/14, mb1 4.7/15, mb1mx4.6/19, mbtmp4.6/15, ML4.6/1, Error ellipse: s-maj=32.1km s-min=14.5km az=79.0*
MOS ***04*** *07:32:58.4±1.0, 0.76S×133.57E, h33km, mb5.1/20, Error ellipse: s-maj=18.3km s-min=7.2km az=109.7*
ISCJB ***04*** *07:32:58.2±0.3, 0.76S±0.03×133.67E±0.04, h32km, mb4.9/62, MS4.8/8, Error ellipse: s-maj=6.2km s-min=4.2km az=12.7*
TEH ***04*** *07:33:00.0, 0.82S×133.62E, h35km, ML5.1*
NEIC ***04*** *07:33:00.8±0.3, 0.71S×133.60E, h35km, mb5.0/21, Error ellipse: s-maj=10.0km s-min=5.4km az=84.0*
DJA ***04*** *07:33:05, 0.94S×133.27E, h57km, MLv5.5/12*

ISC 04 07:33:00.8±0.4, 0.71S±0.04×133.69E±0.07, h34km±1km, n186, σ1$56/231, mb4.9/62, MS4.8/8, 3C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLE	**Tual**	**4.99 191**		P		**Sn**	**07 35 11.5**	**+1.5**
MSAI	**Masohi**	**5.44 241**		P		**Pn**	**07 34 19.0**	**-0.5**
LBMI	**Labuha**	**6.19 271**		P		**Pn**	**07 34 28.5**	**-1.4**
LBMI	**Labuha** 484nm,0.9s	**6.19 271**		P		**Pn**	**07 34 28.5**	**-1.4**
AAI	**Ambon**	**6.24 242**		P		**Pn**	**07 34 28.4**	**-2.2**
AAI	**Ambon** 2μm,0.8s,14μm	**6.24 242**		P		**Pn**	**07 34 28.4**	**-2.2**
TNTI	**Ternate**	**6.50 283**		P		**Pn**	**07 34 35.0**	**+0.9**
TNTI	**Ternate** 463nm,1.7s	**6.50 283**

BJII	**Banjamegara**	**24.80**	**254**	P	**P**	**07 38 20.8**	**+0.7**		
FORT	**Forrest**	**30.38**	**190**	*e*P	**P**	**07 39 10.9**	**+1.1**		
	comp=Z,52nm,0.7s								
STKA	**Stephens Creek**	**31.89**	**167**	P	**P**	**07 39 23.1**	**0.0**		
	comp=Z,11nm,0.7s,baz=341,slow=9.0,SNR=4.0								
STKA	**Stephens Creek**	**31.89**	**167**	P	**P**	**07 39 23.1**	**0.0**		
STKA	**Stephens Creek**	**31.89**	**167**	P	**P**	**07 39 23.1**	**0.0**		
JNU	**Nakatsue**	**33.75**	**356**	P	**P**	**07 39 37.7**	**-1.7**		
KLBR	**Kellerberrin**	**34.22**	**205**	*e*P	**P**	**07 39 42.8**	**-0.6**		
	comp=Z,33nm,0.8s								
JMN	**Monobe**	**34.25**	**0**	P	**P**	**07 39 44.0**	**+0.3**		
SISI	**Saibi**	**34.60**	**269**	P	P	07 39 57.3	+10		
PSI	**Prapat**	**34.93**	**276**	P	**P**	**07 39 52.9**	**+2.9**		
JIE	**Ise**	**35.03**	**4**	P	**P**	**07 39 50.4**	**+0.1**		
JAD	**Aida**	**35.46**	**1**	P	**P**	**07 39 53.6**	**-0.5**		
NJ2	**Nanjing**	**35.48**	**338**	*e*P	**P**	**07 39 56.3**	**+2.1**		
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
JHS	**Saijyo**	**35.52**	**359**	P	**P**	**07 39 54.7**	**+0.1**		
JWT	**Wachi**	**35.84**	**2**	P	**P**	**07 39 57.4**	**+0.1**		
WHN	**Wuhan**	**36.12**	**331**	P	**P**	**07 40 00.3**	**+0.5**		
JGF	**Kuroka**	**36.28**	**5**	P	**P**	**07 40 00.8**	**-0.3**		
JRY	**Ryogami san**	**36.85**	**7**	P	**P**	**07 40 04.3**	**-1.7**		
MJAR	**Matsushiro Arr**	**37.30**	**6**	P	**P**	**07 40 07.9**	**-1.9**		
	comp=Z,5.5nm,0.9s,baz=193,slow=8.0,SNR=13								
MJAR	**Matsushiro Arr**	**37.30**	**6**	P	**P**	**07 40 07.9**	**-1.9**		
MJAR	**Matsushiro Arr**	**37.30**	**6**	P	**P**	**07 40 07.9**	**-1.9**		
GYA	**Guiyang**	**37.53**	**318**	P	**P**	**07 40 12.4**	**+0.4**		
GYA				pP	**pP**	**07 40 22.6**	**+0.6**		
GYA				sP	**sP**	**07 40 28.4**	**+2.2**		
GYA				PP	**PnPn**	**07 41 42.4**	**+3.3**		
GYA				S	**S**	**07 46 01.2**	**+2.1**		
GYA				ScP	**ScP**	**07 46 13.7**	**-1.1**		
GYA				SS	**SnSn**	**07 48 34.5**	**-4.4**		
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,5.4s								
GYA				LR	LR				
	comp=N,690nm,17.7s								
GYA				LR	LR				
	comp=E,540nm,18.1s								
GYA				LR	LR				
	comp=Z,780nm,17.9s								
KSAR	**Wonju Array Be**	**38.34**	**353**	P	**P**	**07 40 18.2**	**-0.3**		
KSAR	**Wonju Array Be**	**38.34**	**353**	P	**P**	**07 40 18.2**	**-0.3**		
KSRS	**Korea Array**	**38.34**	**353**	P	**P**	**07 40 18.2**	**-0.3**		
	comp=Z,2.9nm,1.0s,baz=170,slow=10,SNR=7.8								
JMM	**Marumori**	**38.94**	**9**	P	**P**	**07 40 26.3**	**+2.8**		
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P	**P**	**07 40 25.5**	**+0.2**		
	comp=Z,0.9nm,0.5s,baz=110,slow=6.1,SNR=6.4								
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P	**P**	**07 40 25.5**	**+0.2**		
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P	**P**	**07 40 25.5**	**+0.2**		
KMI	**Kunming**	**39.45**	**313**	P	**P**	**07 40 29.4**	**+1.1**		
KMI				pP	**pP**	**07 40 39.3**	**+0.9**		
KMI				sP	**sP**	**07 40 43.3**	**+0.8**		
KMI				pmax	pmax				
	comp=Z,12nm,0.7s								
JYA	**Atsumi**	**39.50**	**7**	P	**P**	**07 40 29.4**	**+1.2**		
CD2	**Chengdu**	**42.40**	**320**	P	**P**	**07 40 53.9**	**+1.6**		
CD2				pP	**pP**	**07 41 04.2**	**+1.8**		
CD2				sP	**sP**	**07 41 08.4**	**+1.9**		
CD2				PP	**PP**	**07 42 35.7**	**+4.7**		
CD2				S	**S**	**07 47 13.5**	**+1.8**		
CD2				sS	**sS**	**07 47 30.6**	**+2.2**		
CD2				SS	**SS**	**07 50 17.8**	**-3.8**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,290nm,6.8s								
CD2				LR	LR				
	comp=N,380nm,7.7s								
CD2				LR	LR				
	comp=Z,280nm,8.3s								
BJT	**Baijiatuau**	**43.58**	**340**	*e*P	**P**	**07 41 01.6**	**-0.1**		
BJT				pmax	pmax				
	comp=Z,66nm,0.9s								
BJT	**Baijiatuau**	**43.58**	**340**	*e*P	**P**	**07 41 01.6**	**-0.1**		
	comp=Z,66nm,0.9s								
BJI	**Beijing**	**43.60**	**340**	P	**P**	**07 41 01.4**	**-0.3**		
BJI				pmax	pmax				
	comp=Z,77nm,0.8s								
USRK	**Ussuriysk Arra**	**44.73**	**358**	P	**P**	**07 41 11.1**	**+0.3**		
	comp=Z,7.2nm,0.9s,baz=190,slow=10,SNR=9.5								
CN2	**Changchun**	**44.92**	**352**	*e*P	**P**	**07 41 10.7**	**-1.6**		
CN2				*es*P	**sP**	**07 41 24.4**	**-2.2**		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,500nm,15.0s								
CN2				LR	LR				
	comp=E,900nm,15.0s								
CN2				LR	LR				
	comp=Z,900nm,13.0s								
MDJ	**Mudanjiang**	**45.27**	**356**	P	**P**	**07 41 15.1**	**0.0**		
MDJ				pP	**pP**	**07 41 24.0**	**-1.3**		
MDJ				sP	**sP**	**07 41 27.9**	**-1.5**		
MDJ				ScP	**ScP**	**07 46 44.5**	**-0.3**		
MDJ				PcS	**PcS**	**07 46 48.3**	**0.0**		
MDJ				S	**S**	**07 47 54.6**	**+1.5**		
MDJ				sS	**sS**	**07 48 09.7**	**-0.2**		
MDJ				pmax	pmax				
	comp=Z,12nm,1.3s								
MDJ				pmax	pmax				
	comp=Z,860nm,10.8s								
MDJ				LR	LR				
	comp=N,580nm,17.1s								
MDJ				LR	LR				
	comp=E,660nm,10.6s								
MDJ				LR	LR				
	comp=Z,1μm,19.4s								
LZH	**Lanzhou**	**45.95**	**326**	*e*P	**P**	**07 41 21.2**	**+0.4**		
LZH				pP	**pP**	**07 41 29.9**	**-1.1**		
LZH				sP	**sP**	**07 41 33.9**	**-1.2**		
LZH				PcP	**PcP**	**07 42 57.5**	**+0.1**		
LZH				PP	**PP**	**07 43 10.0**	**+1.0**		
LZH				*e*S	**S**	**07 48 04.0**	**+0.5**		
LZH				sS	**sS**	**07 48 20.2**	**-0.1**		
LZH				SS	**SS**	**07 51 23.4**	**-5.4**		
LZH				pmax	pmax				
	comp=Z,15nm,1.1s								
LZH				pmax	pmax				
	comp=Z,280nm,5.8s								
LZH				LR	LR				
	comp=N,690nm,11.5s								
LZH				LR	LR				
	comp=E,420nm,13.3s								
LZH				LR	LR				
	comp=Z,750nm,13.6s								
HHC	**Hu-ho-hao-te**	**46.00**	**337**	*e*P	**P**	**07 41 21.0**	**0.0**		
HHC				pP	**pP**	**07 41 30.9**	**-0.4**		
HHC				sP	**sP**	**07 41 35.0**	**-0.4**		
HHC				PP	**PP**	**07 43 09.5**	**+0.2**		
HHC				S	**S**	**07 48 04.9**	**+0.9**		
HHC				sS	**sS**	**07 48 20.5**	**-0.3**		
HHC				SS	**ScS**	**07 51 21.4**	**+7.0**		
HHC				pmax	pmax				
	comp=Z,21nm,1.0s								
HHC				pmax	pmax				
	comp=Z,2μm,5.6s								
HHC				LR	LR				
	comp=N,560nm,14.5s								
HHC				LR	LR				
	comp=E,660nm,15.0s								
HHC				LR	LR				
	comp=Z,880nm,16.3s								
YSS	**Yuzh-Sakhalins**	**48.12**	**8**	*e*P	**P**	**07 41 39.0**	**+1.6**		
HABR	**Khabarovsk**	**49.00**	**1**	*e*P	P	07 41 51.2	+7.2		
HABR				*e*		07 43 04.8			
HABR				*e*		07 43 35.0			
HABR				*e*PPP	PPP	07 44 26.6			
HABR				*e*S	**S**	**07 48 44.3**	**-1.8**		
HABR				*e**SS	sS	07 49 01.1	-1.9		
HABR				*e*		07 51 30.9			
HABR				*e*SS	**SS**	**07 52 17.3**	**-0.2**		
HABR				SSS	SSS	07 53 34.5			
HABR				pmax	pmax				
	comp=E,43nm,2.2s								
HABR				pmax	pmax				
	comp=N,22nm,2.0s								
HABR				pmax	pmax				
	comp=Z,55nm,2.1s								
HABR				MLR	MLR				
	comp=Z,389nm,16.0s								
KLR	**Kul'dur**	**49.77**	**358**	*e*P	P	07 41 46.2	-3.8		
KLR				pmax	pmax				
	comp=Z,45nm,1.6s								
GTA	**Gaotai**	**50.55**	**326**	*e*P	**P**	**07 41 56.3**	**0.0**		
GTA				pP	**pP**	**07 42 06.3**	**-0.3**		
GTA				sP	**sP**	**07 42 10.1**	**-0.6**		
GTA				S	**S**	**07 49 08.8**	**+0.4**		
GTA				pmax	pmax				
	comp=Z,7.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,1μm,4.5s								
GTA				LR	LR				
	comp=N,660nm,19.0s								
GTA				LR	LR				
	comp=E,1μm,18.8s								
GTA				LR	LR				
	comp=Z,920nm,16.1s								
LSA	**Lhasa**	**50.58**	**310**	P	**P**	**07 41 56.6**	**-0.5**		
LSA	**Lhasa**	**50.58**	**310**	*e*P	**P**	**07 41 56.6**	**-0.5**		
LSA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
LSA	**Lhasa**	**50.58**	**310**	*e*P	**P**	**07 41 56.6**	**-0.5**		
	comp=Z,8.9nm,0.8s								
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**07 42 12.7**	**-2.0**		
	comp=Z,21nm,0.6s								
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**07 42 12.7**	**-2.0**		
JIRN	**Jiri**	**53.59**	**306**	*e*P	**P**	**07 42 17.7**	**-1.7**		
JIRN	**Jiri**	**53.59**	**306**	*e*P	**P**	**07 42 17.7**	**-1.7**		
ULN	**Ulaanbaatar**	**53.65**	**338**	*e*P	**P**	**07 42 19.6**	**+0.5**		
ULN				pmax	pmax				
	comp=Z,17nm,1.1s								
ULN	**Ulaanbaatar**	**53.65**	**338**	*e*P	**P**	**07 42 19.6**	**+0.5**		
	comp=Z,17nm,1.1s								
SONM	**Songino Array**	**53.87**	**338**	P	**P**	**07 42 20.7**	**0.0**		
	comp=Z,4.5nm,0.9s,baz=153,slow=7.4,SNR=31								
SONM	**Songino Array**	**53.87**	**338**	P	**P**	**07 42 20.7**	**0.0**		
SONM	**Songino Array**	**53.87**	**338**	P	**P**	**07 42 20.7**	**0.0**		
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**07 42 19.8**	**-2.2**		
	comp=Z,36nm,0.8s								
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**07 42 19.8**	**-2.2**		
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**07 42 21.9**	**-1.9**		
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**07 42 21.9**	**-1.9**		
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**07 42 21.9**	**-1.9**		
KKN	**Kakani**	**54.39**	**305**	*e*P	**P**	**07 42 23.3**	**-1.7**		
KKN	**Kakani**	**54.39**	**305**	*e*P	**P**	**07 42 23.3**	**-1.7**		
KKN	**Kakani**	**54.39**	**305**	*e*P	**P**	**07 42 23.3**	**-1.7**		
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**07 42 24.2**	**-1.4**		
	comp=Z,21nm,0.8s								
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**07 42 24.2**	**-1.4**		
GKN	**Gorkha**	**54.99**	**305**	*e*P	**P**	**07 42 28.2**	**-1.1**		
	comp=Z,14nm,0.6s								
GKN	**Gorkha**	**54.99**	**305**	*e*P	**P**	**07 42 28.2**	**-1.1**		
KOLN	**Koldanda**	**55.75**	**305**	*e*P	**P**	**07 42 33.9**	**-1.0**		
	comp=Z,23nm,0.6s								
KOLN	**Koldanda**	**55.75**	**305**	*e*P	**P**	**07 42 33.9**	**-1.0**		
DANN	**Dangsing**	**55.84**	**305**	*e*P	**P**	**07 42 34.3**	**-1.3**		
	comp=Z,26nm,0.6s								
DANN	**Dangsing**	**55.84**	**305**	*e*P	**P**	**07 42 34.3**	**-1.3**		
ZAK	**Zakamensk**	**57.13**	**337**	*e*P	**P**	**07 42 42.6**	**-1.6**		
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.3s								
PETK	**Petropavlovsk-**	**57.25**	**17**	P	**P**	**07 42 44.5**	**-0.3**		
	comp=Z,8.2nm,0.8s,baz=183,slow=5.8,SNR=6.0								
PETK	**Petropavlovsk-**	**57.25**	**17**	P	**P**	**07 42 44.5**	**-0.3**		
PETK	**Petropavlovsk-**	**57.25**	**17**	P	**P**	**07 42 44.5**	**-0.3**		
MOY	**Mondy**	**59.04**	**337**	*e*P	**P**	**07 42 57.6**	**+0.1**		
MOY				pmax	pmax				
	comp=Z,33nm,1.4s								
WMQ	**Urumqi**	**60.37**	**323**	*e*P	**P**	**07 43 07.1**	**+0.3**		
WMQ				pP	**pP**	**07 43 17.1**	**-0.2**		
WMQ				sP	**sP**	**07 43 21.1**	**-0.2**		
WMQ				PcP	**PcP**	**07 43 52.1**	**+0.5**		
WMQ				pmax	pmax				
	comp=Z,21nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,700nm,8.0s								
BOD	**Bodaibo**	**60.43**	**348**	*e*P	**P**	**07 43 06.9**	**+0.1**		
BOD				pmax	pmax				
	comp=Z,11nm,1.2s								
YAK	**Yakutsk**	**62.65**	**358**	*e*P	**P**	**07 43 21.6**	**0.0**		
YAK				pmax	pmax				
	comp=Z,23nm,0.9s								
YAK				pmax	pmax				
	comp=N,11nm,1.0s								
YAK	**Yakutsk**	**62.65**	**358**	*e*P	**P**	**07 43 21.8**	**+0.1**		
	comp=N,23nm,0.9s								
SEY	**Seymchan**	**65.01**	**9**	*e*P	**P**	**07 43 38.9**	**+1.7**		
MK31	**Makanchi Array**	**65.18**	**324**	*e*P	**P**	**07 43 38.5**	**-0.2**		
MK31	**Makanchi Array**	**65.18**	**324**	*e*P	**P**	**07 43 38.5**	**-0.2**		
MKAR	**Makanchi Array**	**65.18**	**324**	P	**P**	**07 43 38.5**	**-0.2**		
	comp=N,7.4nm,0.6s,baz=114,slow=7.8,SNR=90								
MKAR	**Makanchi Array**	**65.18**	**324**	*e*P	**P**	**07 43 38.6**	**-0.2**		
MKAR	**Makanchi Array**	**65.18**	**324**	*e*P	**P**	**07 43 38.6**	**-0.2**		
KSH	**Kashi**	**66.09**	**314**	P	**P**	**07 43 45.0**	**+0.2**		
KSH				*e*pP	**pP**	**07 43 55.1**	**-0.4**		
KSH				*es*P	**sP**	**07 43 59.1**	**-0.4**		
KSH				*e*PcP	**PcP**	**07 44 15.4**	**+0.3**		
KSH				*e*PP	**PP**	**07 46 12.6**	**+1.9**		
KSH				*e*ScP		07 48 14.8			
KSH				*e*PcS		07 48 18.5			
KSH				*e*S	**S**	**07 52 27.0**	**-4.1**		
KSH				*es*S	**sS**	**07 52 45.9**	**-2.7**		
KSH				*e*ScS	**SKSac**	**07 53 34.8**	**-3.9**		
KSH				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KSH				pmax	pmax				
	comp=Z,170nm,4.6s								
KSH				LR	LR				
	comp=N,460nm,11.5s								
KSH				LR	LR				
	comp=E,440nm,9.5s								
KSH				LR	LR				
	comp=Z,620nm,15.3s								
TKM2	**Tokmak 2**	**67.67**	**318**	*e*P	**P**	**07 43 54.3**	**-0.7**		
TKM2				pmax	pmax				
	comp=Z,42nm,1.6s								
TKM2	**Tokmak 2**	**67.67**	**318**	*e*P	**P**	**07 43 54.3**	**-0.7**		
	comp=Z,42nm,1.6s								
ZAA0	**Zalesovo Array**	**67.74**	**331**	*e*P	**P**	**07 43 53.7**	**-1.1**		
ZALV	**Zalesovo Beam**	**67.74**	**331**	P	**P**	**07 43 53.8**	**-1.0**		
	comp=Z,4.7nm,0.8s,baz=114,slow=7.0,SNR=25								
ZALV	**Zalesovo Beam**	**67.74**	**331**	P	**P**	**07 43 53.8**	**-1.0**		
ZALV	**Zalesovo Beam**	**67.74**	**331**	P	**P**	**07 43 53.8**	**-1.0**		
AAK	**Ala-Archa**	**68.31**	**317**	*e*P	**P**	**07 43 57.9**	**-1.0**		
AAK				pmax	pmax				
	comp=Z,13nm,1.7s								
EKS2	**Erkin-Say**	**68.81**	**317**	*e*P	**P**	**07 44 02.1**	**+0.1**		
EKS2				pmax	pmax				
	comp=Z,107nm,2.6s								
EKS2	**Erkin-Say**	**68.81**	**317**	*e*P	**P**	**07 44 02.1**	**+0.1**		
	comp=Z,107nm,2.6s								
NVS	**Novosibirsk**	**69.01**	**331**	*e*P	P	07 43 57.8	-4.9		
NVS				pmax	pmax				
	comp=N,3.0nm,1.0s								
NVS				pmax	pmax				
	comp=E,4.0nm,1.0s								
NVS				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KURK	**Kurchatov**	**69.24**	**326**	P	**P**	**07 44 03.6**	**-0.6**		
	comp=Z,14nm,0.9s,baz=120,slow=5.7,SNR=97								
KURK	**Kurchatov**	**69.24**	**326**	*d*P	**P**	**07 44 03.7**	**-0.6**		
KURK				pmax	pmax				
	comp=Z,15nm,0.8s								
KURK	**Kurchatov**	**69.24**	**326**	*e*P	**P**	**07 44 03.9**	**-0.4**		
KURK	**Kurchatov**	**69.24**	**326**	P	**P**	**07 44 03.3**	**-1.0**		
	comp=Z,99nm,0.9s,SNR=13								
KBL	**Kabul**	**69.73**	**307**	*e*P	**P**	**07 44 06.9**	**-1.0**		
KBL				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KBL	**Kabul**	**69.73**	**307**	*e*P	**P**	**07 44 06.9**	**-1.0**		
	comp=Z,3.4nm,0.6s								
KKAR	**Karatay Array**	**71.21**	**316**	*e*P	**P**	**07 44 15.8**	**-0.8**		
KKAR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KKAR	**Karatay Array**	**71.21**	**316**	*e*P	**P**	**07 44 15.8**	**-0.8**		
	comp=Z,5.9nm,0.6s								
BILL	**Bilibino**	**72.20**	**12**	*e*P	**P**	**07 44 22.2**	**+0.2**		
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BVAR	**Borovoye Array**	**74.83**	**326**	P	**P**	**07 44 37.0**	**-0.8**		
	comp=Z,5.5nm,0.9s,baz=112,slow=6.9,SNR=8.6								
BVAR	**Borovoye Array**	**74.83**	**326**	P	**P**	**07 44 37.0**	**-0.8**		
BVAR	**Borovoye Array**	**74.83**	**326**	P	**P**	**07 44 37.0**	**-0.8**		
BRVK	**Borovoye**	**74.91**	**326**	*d*P	**P**	**07 44 37.1**	**-1.1**		
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BRVK	**Borovoye**	**74.91**	**326**	*e*P	**P**	**07 44 37.7**	**-0.5**		
	comp=Z,14nm,1.1s								
BRVK	**Borovoye**	**74.91**	**326**	P	**P**	**07 44 37.8**	**-0.4**		
	comp=Z,70nm,1.1s,SNR=6.8								
IMYA	**Miami**	**77.24**	**307**	*e*P	**P**	**07 44 51.1**	**-1.0**		
VNDA	**Vanda**	**78.25**	**174**	*e*P	**P**	**07 44 56.2**	**-0.4**		
VNDA				pmax	pmax				
	comp=Z,7.0nm,1.1s								
VNDA	**Vanda**	**78.25**	**174**	*e*P	**P**	**07 44 56.2**	**-0.4**		
	comp=Z,6.6nm,1.1s								
ABKAR	**Akbulak array**	**79.97**	**320**	*e*P	**P**	**07 45 05.6**	**-1.1**		
	comp=Z,7.5nm,0.9s								
SVE	**Sverdlovsk**	**81.37**	**328**	*e*P	**P**	**07 45 13.7**	**-0.2**		
SVE				pmax	pmax				
	comp=Z,15nm,1.2s								
AKTO	**Aktyubinsk**	**81.44**	**321**	P	**P**	**07 45 13.9**	**-0.6**		
	comp=Z,1.7nm,0.9s,baz=100,slow=5.1,SNR=4.3								
AKTO	**Aktyubinsk**	**81.44**	**321**	P	**P**	**07 45 13.9**	**-0.6**		
AKTO	**Aktyubinsk**	**81.44**	**321**	P	**P**	**07 45 13.9**	**-0.6**		
IPAR	**Pars**	**82.23**	**300**	*e*P	**P**	**07 45 19.8**	**+0.3**		
ARU	**Arti**	**82.39**	**327**	*d*P	**P**	**07 45 18.5**	**-0.8**		
ARU				S	**S**	**07 55 34.3**	**+1.3**		
ARU				SS	**SS**	**08 00 49.0**	**-5.2**		
ARU				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ARU	**Arti**	**82.39**	**327**	*e*P	**P**	**07 45 18.5**	**-0.8**		
	comp=Z,5.4nm,0.8s								
RC01	**Rabbit Creek A**	**84.14**	**28**	*e*P	**P**	**07 45 29.3**	**+1.1**		
	comp=Z,13nm,0.9s								
MCK	**McKinley**	**85.05**	**26**	*e*P	**P**	**07 45 33.1**	**+0.3**		
MCK				pmax	pmax				
	comp=Z,17nm,1.0s								
MCK	**McKinley**	**85.05**	**26**	*e*P	**P**	**07 45 33.1**	**+0.3**		
	comp=Z,17nm,1.0s								
COLD	**Coldfoot**	**85.28**	**22**	*e*P	**P**	**07 45 32.1**	**-1.8**		
	comp=Z,68nm,2.6s								
DIV	**Divide**	**86.04**	**29**	*e*P	**P**	**07 45 39.4**	**+1.6**		
	comp=Z,42nm,1.2s								
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**07 45 38.1**	**+0.1**		
	comp=Z,5.2nm,0.9s,baz=255,slow=4.8,SNR=15								
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**07 45 38.2**	**+0.1**		
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**07 45 38.1**	**+0.1**		
EGAK	**Eagle**	**88.56**	**25**	*e*P	**P**	**07 45 49.0**	**-0.9**		
QSPA	**South Pole Qui**	**89.23**	**180**	*e*P	**P**	**07 45 54.1**	**+1.0**		
	comp=Z,15nm,1.1s								
TORD	**Torodi Ar. Bea**	**130.88**	**287**	PKP	**PKPdf**	**07 52 11.0**	**+1.2**		
	comp=Z,4.7nm,0.8s,baz=76,slow=2.8,SNR=8.2								
TORD	**Torodi Ar. Bea**	**130.88**	**287**	PKP	**PKPdf**	**07 52 11.0**	**+1.2**		
JTS	**JuntasAbangare**	**140.42**	**75**	PKP	**PKPdf**	**07 52 28.1**	**+0.5**		
	comp=Z,4.6nm,0.8s,baz=185,slow=12,SNR=3.5								
JTS	**JuntasAbangare**	**140.42**	**75**	PKIKP	**PKPdf**	**07 52 28.1**	**+0.5**		
JTS	**JuntasAbangare**	**140.42**	**75**	PKP	**PKPdf**	**07 52 28.1**	**+0.5**		
CPUP	**Villa Florida**	**151.09**	**159**	PKPbc	**PKPbc**	**07 52 52.5**	**+1.4**		
	comp=Z,6.1nm,0.9s,baz=345,slow=0.6,SNR=6.6								
CPUP	**Villa Florida**	**151.09**	**159**	PKIKP	**PKPbc**	**07 52 52.6**	**+1.4**		
CPUP	**Villa Florida**	**151.09**	**159**	PKPbc	**PKPbc**	**07 52 52.5**	**+1.4**		
LPAZ	**La Paz**	**152.63**	**129**	PKPbc	**PKPbc**	**07 52 58.6**	**+2.9**		
	comp=Z,3.4nm,0.8s,baz=350,slow=2.9,SNR=4.7								
LPAZ	**La Paz**	**152.63**	**129**	PKIKP	**PKPbc**	**07 52 58.6**	**+2.9**		
LPAZ	**La Paz**	**152.63**	**129**	PKPbc	**PKPbc**	**07 52 58.6**	**+2.9**		

DJA ***04*** *07:38:41.0˝37S×132˚83E, h55km, MLv4.7/7*

IDC 04 07:38:35.0±1.0, 0˚27S×133˚24E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=64.1km s-min=14.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.58**	**177**	P	P	P	07 43 03.8	-1.0
	0.5nm,0.3s,baz=358,slow=13,SNR=6.5							
WRA				S		Sn	07 46 26.8	-20
	0.2nm,0.3s,baz=357,slow=23,SNR=5.3							
ASAR	**Alice Springs**	**23.26**	**178**	P	P	P	07 43 43.9	-0.5
	3.6nm,0.7s,baz=4.9,slow=7.3,SNR=6.4							
ASAR				S		S	07 48 00.7	+2.8
	1.5nm,0.9s,baz=4.8,slow=23,SNR=4.0							
STKA	**Stephens Creek**	**32.41**	**167**	P	P	P	07 45 05.3	-1.5
	3.9nm,0.7s,baz=347,slow=9.6,SNR=6.7							
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	P	07 49 14.7	+0.5
	0.9nm,0.7s,baz=111,slow=8.5,SNR=17							
ZALV	**Zalesovo Beam**	**67.14**	**331**	P	P	P	07 49 30.6	+0.1
	0.3nm,0.4s,baz=134,slow=4.2,SNR=3.6							
BVAR	**Borovoye Array**	**74.22**	**326**	P	P	P	07 50 12.8	-1.0
	1.2nm,0.7s,baz=120,slow=8.7,SNR=6.1							
ILAR	**Eielson Array**	**85.92**	**25**	P	P	P	07 51 17.6

NRCA Sg **Sg** 07 42 43.5 +1.4
NRCA Norcia 0.29 128 Pg **Pg** 07 42 38.9 +0.7
NRCA Sg **Sg** 07 42 43.5 +1.4
MURB Monte Urbino 0.32 321 Pg **Pg** 07 42 40.6 +1.8
MURB Sg **Sg** 07 42 46.9 +3.7
MURB Monte Urbino 0.32 321 Pg **Pg** 07 42 40.6 +1.8
MURB Sg **Sg** 07 42 46.9 +3.7
LNSS Leonessa 0.45 157 Pg **Pg** 07 42 42.3 +1.2
LNSS Sg **Sg** 07 42 49.4 +2.4
LNSS Leonessa 0.45 157 Pg **Pg** 07 42 42.3 +1.2
LNSS Sg **Sg** 07 42 49.4 +2.4
CING Cingoli 0.46 38 Pg **Pg** 07 42 41.9 +0.5
CING Sg **Sg** 07 42 49.0 +1.5
CING Cingoli 0.46 38 Pg **Pg** 07 42 41.9 +0.5
CING Sg **Sg** 07 42 49.0 +1.5
MGAB Montegabbione 0.52 259 Pg Pn 07 42 44.5 -1.4
MGAB Sg **Sb** 07 42 54.3 +3.1
2µm,0.5s
MGAB Montegabbione 0.52 259 Pg Pn 07 42 44.5 -1.4
PIEI Pieia 0.56 339 Pg **Pb** 07 42 44.5 +0.2
PIEI Sg **Sb** 07 42 53.8 +1.4
PIEI Pieia 0.56 339 Pg **Pb** 07 42 44.5 +0.2
PIEI Sg **Sb** 07 42 53.8 +1.4
CDCA Citt' di Caste 0.61 317 Pg **Pn** 07 42 45.9 -1.2
1µm,0.6s
CDCA Citt' di Caste 0.61 317 Pg **Pn** 07 42 45.9 -1.2
1µm,0.6s
MNS Montasola 0.64 188 Pg **Pb** 07 42 46.1 +0.5
MNS Sg **Sb** 07 42 56.9 +2.3
MNS Montasola 0.64 188 Pg **Pb** 07 42 46.1 +0.5
BADI Badiali 0.64 321 Pg **Pn** 07 42 46.8 -0.8
BADI Sg **Sb** 07 42 56.8 +2.0
BADI Badiali 0.64 321 Pg **Pn** 07 42 46.8 -0.8
BADI Sg **Sb** 07 42 56.8 +2.0
OFFI Offida 0.65 97 Pg **Pb** 07 42 46.3 +0.5
4µm,0.6s
OFFI Offida 0.65 97 Pg **Pb** 07 42 46.3 +0.5
4µm,0.6s
CAMP Campotosto 0.65 137 Pg **Pg** 07 42 45.3 +0.3
CAMP Sg **Sb** 07 42 55.2 +0.1
307nm,1.0s
CAMP Campotosto 0.65 137 Pg **Pg** 07 42 45.3 +0.3
CAMP Sg **Sb** 07 42 55.2 +0.1
307nm,1.0s
FSSB Fossombrone 0.68 358 Pg **Pb** 07 42 46.1 -0.2
FSSB Sg **Sb** 07 42 57.1 +1.3
FSSB Fossombrone 0.68 358 Pg **Pb** 07 42 46.1 -0.2
FSSB Sg **Sb** 07 42 57.1 +1.3
SACS San Casciano d 0.68 256 Pg Pn 07 42 48.7 +0.6
SACS Sg **Sb** 07 42 59.8 +4.0
977nm,0.7s
TERO Teramo 0.71 123 Pg **Pg** 07 42 46.0 0.0
TERO Sg **Sb** 07 42 56.7 +0.1
2µm,1.2s
TERO Teramo 0.71 123 Pg **Pg** 07 42 46.0 0.0
TERO Sg **Sb** 07 42 56.7 +0.1
2µm,1.2s
PARC Parchiule 0.76 327 Pg **Pn** 07 42 48.3 -0.9
PARC Sg **Sb** 07 43 01.0 +2.9
2µm,1.1s
PARC Parchiule 0.76 327 Pg **Pn** 07 42 48.3 -0.9
SENI Senigallia 0.76 24 Pg **Pn** 07 42 48.6 -0.5
1µm,0.6s
SENI Senigallia 0.76 24 Pg **Pn** 07 42 48.6 -0.5
1µm,0.6s
FIAM Fiamignano 0.78 163 Pg **Pg** 07 42 47.7 +0.3
919nm,0.8s
FIAM Fiamignano 0.78 163 Pg **Pg** 07 42 47.7 +0.3
919nm,0.8s
AOI Ancona 0.79 47 Pg **Pb** 07 42 48.0 -0.3
694nm,0.9s
AOI Ancona 0.79 47 Pg **Pb** 07 42 48.0 -0.3
694nm,0.9s
AQU L'Aquila 0.79 146 Pg **Pb** 07 42 48.4 +0.1
AQU L'Aquila 0.79 146 Pg **Pb** 07 42 48.4 +0.1
GUMA Gualdo di Mace 0.83 86 Pg Pg 07 42 40.9 -7.5
GUMA Sg Sg 07 42 47.1 -12
GUMA Gualdo di Mace 0.83 86 Pg Pg 07 42 40.9 -7.5
GUMA Sg Sg 07 42 47.1 -12
PESA Pesaro 0.93 2 Pg **Pn** 07 42 51.5 0.0
857nm,0.4s
PESA Pesaro 0.93 2 Pg **Pn** 07 42 51.5 0.0
857nm,0.4s
RSM Repubblica di 0.95 344 Pg **Pn** 07 42 52.5 +0.6
164nm,0.7s
RSM Repubblica di 0.95 344 Pg **Pn** 07 42 52.5 +0.6
164nm,0.7s
VCEL Villa Celiera 0.98 129 Pg **Pb** 07 42 51.3 -0.3
1µm,0.8s
VCEL Villa Celiera 0.98 129 Pg **Pb** 07 42 51.3 -0.3
1µm,0.8s
ARCI Arcidosso 0.99 261 Pg Pn 07 42 54.8 +2.4
318nm,1.3s
MTCE Montecelio 0.99 183 Pg **Pn** 07 42 52.0 -0.4
474nm,0.6s
MTCE Montecelio 0.99 183 Pg **Pn** 07 42 52.0 -0.4
474nm,0.6s
CERT Cerreto 1.07 173 Pg **Pb** 07 42 53.0 -0.1
1µm,0.5s
CERT Cerreto 1.07 173 Pg **Pb** 07 42 53.0 -0.1
1µm,0.5s
PTQR Pietraquaria 1.08 156 Pg **Pb** 07 42 53.2 -0.1
54nm,0.4s
PTQR Pietraquaria 1.08 156 Pg **Pb** 07 42 53.2 -0.1
54nm,0.4s
TOLF Tolfa 1.12 212 Pg **Pg** 07 42 55.7 +1.8
319nm,0.9s
CSNT Castellina Chi 1.20 293 Pg **Pg** 07 42 56.7 +1.3
309nm,1.1s
CSNT Castellina Chi 1.20 293 Pg **Pg** 07 42 56.7 +1.3
309nm,1.1s
RDP Rocca di Papa 1.26 183 Pg **Pg** 07 42 58.0 +1.5
1µm,0.6s
RDP Rocca di Papa 1.26 183 Pg **Pg** 07 42 58.0 +1.5
1µm,0.6s
GUAR Guarcino 1.27 163 Pg **Pg** 07 42 57.9 +1.1
446nm,0.7s
GUAR Guarcino 1.27 163 Pg **Pg** 07 42 57.9 +1.1
446nm,0.7s
INTR Introdacqua 1.29 141 Pg **Pn** 07 42 56.2 -0.3
667nm,0.6s
INTR Introdacqua 1.29 141 Pg **Pn** 07 42 56.2 -0.3
667nm,0.6s
VVLD Villa Vallelon 1.29 152 Pg **Pg** 07 42 57.4 +0.2
1µm,1.1s
VVLD Villa Vallelon 1.29 152 Pg **Pg** 07 42 57.4 +0.2
1µm,1.1s
LPEL Lama dei Pelig 1.40 133 Pg **Pb** 07 42 58.3 -0.4
635nm,1.1s
LPEL Lama dei Pelig 1.40 133 Pg **Pb** 07 42 58.3 -0.4
635nm,1.1s
POFI Posta Fibreno 1.46 152 Pg **Pb** 07 42 59.7 0.0
364nm,1.1s
POFI Posta Fibreno 1.46 152 Pg **Pb** 07 42 59.7 0.0
364nm,1.1s
SDI San Donato 1.50 150 Pg **Pg** 07 43 01.9 +0.7
78nm,0.4s
SDI San Donato 1.50 150 Pg **Pg** 07 43 01.9 +0.7
78nm,0.4s
CRMI Carmignano 1.55 301 Pg **Pg** 07 43 01.9 -0.1
135nm,0.9s
CRMI Carmignano 1.55 301 Pg **Pg** 07 43 01.9 -0.1
135nm,0.9s
MTRZ Monterenzio 1.67 325 Pg **Pg** 07 43 05.4 +1.0
CERA Filignano 1.68 147 Pg **Pg** 07 43 04.6 +0.1
339nm,0.9s
CERA Filignano 1.68 147 Pg **Pg** 07 43 04.6 +0.1
339nm,0.9s
MIDA Miranda 1.74 141 Pg **Pb** 07 43 03.6 -0.9
MIDA Miranda 1.74 141 Pg **Pb** 07 43 03.6 -0.9
MAIM Mastiano 1.91 299 Pg **Pb** 07 43 07.0 -0.3
72nm,0.7s
MAIM Mastiano 1.91 299 Pg **Pb** 07 43 07.0 -0.3
72nm,0.7s
BDI Bagni Di Lucca 1.92 304 Pg **Pb** 07 43 06.3 -1.2
BDI Bagni Di Lucca 1.92 304 Pg **Pb** 07 43 06.3 -1.2
VAGA Valle Agricola 1.92 146 Pg **Pg** 07 43 09.2 +0.1
PTRJ Pietraroja 2.09 142 Pg **Pb** 07 43 11.0 +0.6
PTRJ Pietraroja 2.09 142 Pg **Pb** 07 43 11.0 +0.6
NVLJ Novalja 2.15 43 *e*Pn **Pn** 07 43 09.1 +0.8
NVLJ Sn **Sb** 07 43 36.2 -2.1
NVLJ Novalja 2.15 43 *e*Pn **Pn** 07 43 09.1 +0.8
NVLJ Sn **Sb** 07 43 36.1 -2.1
SKDS Skadanscina 2.68 19 *i*Pn **Pn** 07 43 16.5 +0.9
SKDS *i*Sn Sg 07 44 04.2 +5.8
SKDS Skadanscina 2.68 19 Pn **Pn** 07 43 16.5 +0.9
ROVR Rover˜¤ Verone 2.91 335 Pg **Pb** 07 43 21.8 -2.7
67nm,0.7s
ROVR Rover˜¤ Verone 2.91 335 Pg **Pb** 07 43 21.8 -2.7
67nm,0.7s
JAVS Javornik 3.02 17 *i*Pn **Pn** 07 43 21.1 +0.8
JAVS *i*Sn Sg 07 44 17.8 +8.6
JAVS Javornik 3.02 17 *i*Pn **Pn** 07 43 21.1 +0.8
SABO M.te Sabotino 3.02 11 Pg **Pn** 07 43 21.3 +1.0
151nm,0.7s
SABO M.te Sabotino 3.02 11 Pg **Pn** 07 43 21.3 +1.0
151nm,0.7s
BOJS Bojanci 3.05 34 *i*Pn **Pn** 07 43 22.4 +1.8
BOJS *i* 07 43 29.9
BOJS *i*Sn **Sb** 07 44 00.6 -3.4
BOJS Bojanci 3.05 34 *i*Pn **Pn** 07 43 22.4 +1.8
BOJS *i*Sn **Sb** 07 44 00.6 -3.4
VOY Vojsko 3.12 14 *e*Pn **Pn** 07 43 22.9 +1.2
VOY *e* 07 43 27.8
VOY *e* 07 43 34.4
VOY *e*(Sn) Sg 07 44 23.0 +11
VOY *e* 07 44 31.7
VOY Vojsko 3.12 14 *e*Pn **Pn** 07 43 22.9 +1.2
VINO Villanova 3.26 6 Pg **Pn** 07 43 24.7 +1.1
122nm,1.1s
VINO Villanova 3.26 6 Pg **Pn** 07 43 24.7 +1.1
122nm,1.1s
GEPF Gemona 3.27 4 Pg **Pn** 07 43 25.0 +1.3
62nm,0.7s
CADS Cadrg 3.28 11 *i*Pn **Pn** 07 43 25.1 +1.2
CADS Cadrg 3.28 11 *i*Pn **Pn** 07 43 25.1 +1.2
MABI Malga Bissina 3.45 332 Pg Pb 07 43 29.7 -4.0
16nm,0.6s
MABI Malga Bissina 3.45 332 Pg Pb 07 43 29.7 -4.0
16nm,0.6s
MDI Monti di Nese 3.54 322 Pg Pn 07 43 28.0 +0.5
22nm,0.3s
MYKA Terra Mystica 3.66 9 ⇓*i*Pn Pn 07 43 31.1 +1.9
MYKA Terra Mystica 3.66 9 Pn Pn 07 43 31.1 +1.9
ABTA Abfaltersbach 3.74 357 ⇑*i*Pn Pn 07 43 32.7 +2.5
SNR=6.7
ABTA ⇑*i*Sn **Sn** 07 44 18.3 +3.9
ABTA Abfaltersbach 3.74 357 Pn Pn 07 43 32.7 +2.5
SNR=6.7
ABTA Sn **Sn** 07 44 18.3 +3.9
MUGIO Muggio 3.96 318 Pg Pn 07 43 35.2 +1.9
MUGIO Muggio 3.96 318 Pg Pn 07 43 35.2 +1.9
SOKA Soboth 3.99 23 ⇑*i*Pn Pn 07 43 35.1 +1.4
SOKA ⇓*i*Sn **Sn** 07 44 21.0 +0.4
SOKA Soboth 3.99 23 Pn Pn 07 43 35.1 +1.4
SOKA Sn **Sn** 07 44 21.0 +0.4
SBF Sospel 4.00 284 *e*Pn **Pn** 07 43 33.5 -0.3
SBF *e*Sn **Sn** 07 44 19.4 -1.4
28nm,0.9s
SBF Sospel 4.00 284 *e*Pn **Pn** 07 43 33.5 -0.3
SBF *e*Sn **Sn** 07 44 19.4 -1.4
14nm,0.9s
KBA Koelnbreinsper 4.08 5 ⇓*i*Pn Pn 07 43 36.8 +1.8
KBA Koelnbreinsper 4.08 5 Pn Pn 07 43 36.8 +1.8
TUE Stuetta 4.25 326 Pg Pn 07 43 41.0 +3.7
29nm,1.1s
TUE Stuetta 4.25 326 Pg Pn 07 43 41.0 +3.7
29nm,1.1s
FETA Feichten 4.27 341 ⇓*i*Pn Pn 07 43 41.9 +4.3
SNR=12
FETA Feichten 4.27 341 Pn Pn 07 43 41.9 +4.3
SNR=12
DAVOX Davos/Dischmat 4.30 332 Pn Pb 07 43 42.8 -5.4
4.2nm,0.3s,baz=158,slow=22,SNR=43
DAVOX Sn **Sb** 07 44 34.9 -5.3
0.8nm,0.3s,baz=311,slow=19,SNR=2.8
DAVOX LR LR 07 45 02.9
comp=Z,469nm,21.1s,baz=64,slow=34
DAVOX Davos/Dischmat 4.30 332 Pg Pn 07 43 42.4 +4.4
DAVOX Davos/Dischmat 4.30 332 Pg Pn 07 43 42.4 +4.4
WTTA Wattenberg 4.33 349 ⇓*i*Pn Pn 07 43 41.8 +3.4
WTTA ⇓*i*Sn Sb 07 44 34.4 -6.6
WTTA Wattenberg 4.33 349 Pn Pn 07 43 41.8 +3.4
WATA Walderalm 4.41 349 ⇑*i*Pn Pn 07 43 42.7 +3.2
SNR=14
WATA ⇓*i*Sn **Sn** 07 44 35.5 +4.5
WATA Walderalm 4.41 349 Pn Pn 07 43 42.7 +3.2
SNR=14
WATA Sn **Sn** 07 44 35.5 +4.5
MOTA Moosalm 4.50 345 ⇑*i*Pn Pn 07 43 45.0 +4.3
MOTA ⇑*i*Sn **Sn** 07 44 38.1 +5.0
MOTA Moosalm 4.50 345 Pn Pn 07 43 45.0 +4.3
LMR La Mourre 4.62 276 *e*Pn Pn 07 43 42.5 +0.3
LMR *e*Sn **Sn** 07 44 33.6 -2.2
3.2nm,0.7s
LMR La Mourre 4.62 276 *e*Pn Pn 07 43 42.5 +0.3
LMR *e*Sn **Sn** 07 44 33.6 -2.2
1.6nm,0.7s
ARSA Arzberg 4.65 23 ⇑*i*Pn Pn 07 43 43.9 +1.2
SNR=11
ARSA ⇑*i*Sn **Sn** 07 44 37.0 +0.2
ARSA Arzberg 4.65 23 Pn Pn 07 43 43.9 +1.2
SNR=11
ARSA Sn **Sn** 07 44 37.0 +0.2
MBDF Montbardon 4.69 293 *e*Pn **Pn** 07 43 42.9 -0.4
MBDF *e*Sn **Sn** 07 44 35.6 -2.2
0.8nm,0.3s
MBDF Montbardon 4.69 293 *e*Pn **Pn** 07 43 42.9 -0.4
MBDF *e*Sn **Sn** 07 44 35.6 -2.2
0.4nm,0.3s
MOA Molln 4.94 11 ⇑*i*Pn Pn 07 43 48.7 +2.0
MOA ⇓*i*Sn **Sn** 07 44 46.4 +2.4
MOA Molln 4.94 11 Pn Pn 07 43 48.7 +2.0
MOA Sn **Sn** 07 44 46.4 +2.4
LPG La Plagne 5.01 302 *e*Pn **Pn** 07 43 47.4 -0.4
LPG *e*Sn **Sn** 07 44 43.5 -2.4
4.0nm,0.6s
LPG La Plagne 5.01 302 *e*Pn **Pn** 07 43 47.4 -0.4
LPG *e*Sn **Sn** 07 44 43.5 -2.4
2.0nm,0.6s
LPL La Plagne 5.03 302 *e*Pn **Pn** 07 43 47.9 -0.2
LPL *e*Sn **Sn** 07 44 43.6 -2.7
7.6nm,0.6s
LPL La Plagne 5.03 302 *e*Pn **Pn** 07 43 47.9 -0.2
LPL *e*Sn **Sn** 07 44 43.6 -2.7
3.8nm,0.6s
SMRF Simiane la Rot 5.35 283 *e*Pn **Pn** 07 43 52.3 0.0
SMRF *e*Sn **Sn** 07 44 51.2 -2.7
3.8nm,0.7s
SMRF Simiane la Rot 5.35 283 *e*Pn **Pn** 07 43 52.3 0.0
SMRF *e*Sn **Sn** 07 44 51.2 -2.7
1.9nm,0.7s
ORIF Oris-en-Rattie 5.35 293 *e*Pn **Pn** 07 43 51.9 -0.4
ORIF *e*Sn **Sn** 07 44 51.1 -2.9
3.5nm,0.5s
ORIF Oris-en-Rattie 5.35 293 *e*Pn **Pn** 07 43 51.9 -0.4
ORIF *e*Sn **Sn** 07 44 51.1 -2.9
1.8nm,0.5s
CONA Conrad Observa 5.36 23 ⇑*i*Pn Pn 07 43 53.7 +1.2
SNR=12
CONA ⇑*i*Sn **Sn** 07 44 54.5 +0.1
CONA Conrad Observa 5.36 23 Pn Pn 07 43 53.7 +1.2
SNR=12
CONA Sn **Sn** 07 44 54.5 +0.1
GERES GERESS Array B 5.87 6 Pn Pn 07 44 01.2 +1.8
0.7nm,0.3s,baz=173,slow=13,SNR=18
GERES Sn **Sn** 07 45 08.9 +2.2
0.9nm,0.3s,baz=172,slow=22,SNR=5.6
GERES LR LR 07 46 49.4
comp=Z,105nm,19.3s,baz=360,slow=44
CABF La Chapelle 5.98 309 *e*Pn **Pn** 07 44 00.6 -0.4
CABF *e*Sn **Sn** 07 45 06.2 -3.4
3.6nm,0.4s
CABF La Chapelle 5.98 309 *e*Pn **Pn** 07 44 00.6 -0.4
CABF *e*Sn **Sn** 07 45 06.2 -3.4
1.8nm,0.4s
KHC Kasperske Hory 6.14 5 *e*PN Pn 07 44 03.9 +0.7
KHC *ex* x 07 44 15.0
KHC *e*SN **Sn** 07 45 14.3 +0.8
KHC *ex* x 07 45 44.5
KHC Kasperske Hory 6.14 5 Pn Pn 07 44 03.9 +0.7
KHC Sn **Sn** 07 45 14.3 +0.8
VIVF Saint-Julien-l 6.15 290 *e*Pn **Pn** 07 44 03.0 -0.3
VIVF *e*Sn **Sn** 07 45 10.6 -3.2
0.4nm,0.3s
VIVF Saint-Julien-l 6.15 290 *e*Pn **Pn** 07 44 03.0 -0.3
VIVF *e*Sn **Sn** 07 45 10.6 -3.2
0.2nm,0.3s
HINF Hinteralfeld 6.37 321 *e*Pn **Pn** 07 44 05.8 -0.5
HINF *e*Sn **Sn** 07 45 15.3 -3.9
17nm,0.7s
HINF Hinteralfeld 6.37 321 *e*Pn **Pn** 07 44 05.8 -0.5
CDF Champ du Feu 6.64 326 *e*Pn **Pn** 07 44 09.2 -0.9
CDF *e*Sn **Sn** 07 45 21.8 -4.1
18nm,0.9s
CDF Champ du Feu 6.64 326 *e*Pn **Pn** 07 44 09.2 -0.9
HAU Haudompre 6.74 320 *e*Pn **Pn** 07 44 11.0 -0.4
HAU *e*Sn **Sn** 07 45 24.3 -4.0
23nm,0.7s
HAU Haudompre 6.74 320 *e*Pn **Pn** 07 44 11.0 -0.4
PRU Pruhonice 7.08 9 *e*SN **Sn** 07 45 36.2 -0.3
PRU Pruhonice 7.08 9 Sn **Sn** 07 45 36.2 -0.3
SMF Signal de Mont 7.33 303 *e*Pn **Pn** 07 44 19.0 -0.5
SMF *e*Sn **Sn** 07 45 38.5 -4.3
11nm,0.8s
SMF Signal de Mont 7.33 303 *e*Pn **Pn** 07 44 19.0 -0.5
PAGF Fort de Pagny 7.43 321 *e*Pn **Pn** 07 44 20.1 -0.7
PAGF *e*Sn **Sn** 07 45 40.5 -4.6
2.0nm,0.7s
PAGF Fort de Pagny 7.43 321 *e*Pn **Pn** 07 44 20.1 -0.7
SFTF Sexfontaines 7.52 316 *e*Pn **Pn** 07 44 21.4 -0.7
SFTF *e*Sn **Sn** 07 45 43.0 -4.4
4.3nm,0.5s
SFTF Sexfontaines 7.52 316 *e*Pn **Pn** 07 44 21.4 -0.7
LOR Lormes 7.62 307 *e*Pn **Pn** 07 44 22.8 -0.7
LOR *e*Sn **Sn** 07 45 45.6 -4.3
1.8nm,0.4s
LOR Lormes 7.62 307 *e*Pn **Pn** 07 44 22.8 -0.7
AVF Avril sur Loir 7.70 303 *e*Pn **Pn** 07 44 23.8 -0.7
AVF *e*Sn **Sn** 07 45 47.3 -4.4
1.3nm,0.4s
AVF Avril sur Loir 7.70 303 *e*Pn **Pn** 07 44 23.8 -0.7
SSF Saint Saulge 7.73 305 *e*Pn **Pn** 07 44 24.1 -0.8
SSF *e*Sn **Sn** 07 45 48.0 -4.5
0.5nm,0.3s
SSF Saint Saulge 7.73 305 *e*Pn **Pn** 07 44 24.1 -0.8
MLR Muntele Rosu 9.75 71 LR LR 07 47 55.1
comp=Z,219nm,21.7s,baz=176,slow=34
ESDC Sonseca Array 13.03 261 Pn Pn 07 45 46.0 +8.3
0.0nm,0.3s,baz=83,slow=14,SNR=2.9
HFS Hagfors 17.15 2 LR LR 07 53 11.9
comp=Z,408nm,21.0s,baz=314,slow=37
NOA NORSAR Array B 18.08 358 LR LR 07 54 53.1
comp=Z,71nm,21.0s,baz=315,slow=41
FINES FINESS Array B 20.09 19 P pP 07 47 08.9 +0.3
0.1nm,0.3s,baz=207,slow=5.9,SNR=4.4
MKAR Makanchi Array 47.90 60 P pP 07 51 13.6 0.0
0.4nm,0.7s,baz=286,slow=8.7,SNR=4.5

IDC ***04*** *07:44:40.5±0.6, 0.°32S×133.°10E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/18, mbtmp4.3/11, ML4.7/1, MS4.1/2, Ms1 4.1/2, ms1mx3.5/21, Error ellipse: s-maj=34.9km s-min=11.9km az=77.0*
ISCJB ***04*** *07:44:43.7±0.4, 0.°37S±0.°05×132.°95E±0.°06, h32km, mb4.4/17, MS4.0/1, Error ellipse: s-maj=8.5km s-min=6.1km az=154.5*
NEIC ***04*** *07:44:45.8±0.3, 0.°38S×132.°90E, h35km, mb4.5/9, Error ellipse: s-maj=14.1km s-min=5.8km az=68.0*
DJA ***04*** *07:44:46, 0.°36S×132.°83E, h56km, MLv5.1/12*
ISC 04 07:44:45.5±0.5, **0.°38S**±0.°06×**132.°99E**±0.°06, **h32**km, **n56,**
σ1§**90**/60, **mb4.5**/17, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.63**	**196**	P	P	**07 45 27.6**	**+1.8**
BAKI	**Biak**	**3.22**	**105**	P	**Pn**	**07 45 35.2**	**+1.2**
MSAI	**Masohi**	**5.02**	**234**	P	**Pn**	**07 46 00.3**	**+1.7**
158nm,0.6s,2µm0.6nm							
TLE	**Tual**	**5.23**	**183**	P	**Pn**	**07 46 03.5**	**+1.9**
539nm,1.1s,2.8nm							
LBMI	**Labuha**	**5.49**	**267**	P	**Pn**	**07 46 04.2**	**-1.0**
106nm,1.3s,0.7nm							
AAI	**Ambon**	**5.81**	**235**	P	**Pn**	**07 46 09.4**	**-0.2**
291nm,0.7s,5µm1.4nm							
TTSI	**Tana Toraja**	**13.43**	**258**	P	**P**	**07 48 04.4**	**+1.4**
SPSI	**Sidrap Palu**	**13.68**	**255**	P	**Pn**	**07 47 58.6**	**+1.2**
109nm,1.4s							
KAPI	**Kappang**	**14.00**	**251**	P	**P**	**07 48 06.2**	**-3.1**
44nm,1.4s							
PMG	**Port Moresby**	**16.72**	**123**	Pn	**P**	**07 48 40.0**	**+0.5**
0.1nm,0.3s,baz=300,slow=13,SNR=3.0							
PMG	**Port Moresby**	**16.72**	**123**	Pn	**P**	**07 48 40.0**	**+0.5**
COEN	**Coen**	**16.85**	**144**	Pn	**Pn**	**07 48 39.4**	**+0.2**
62nm,1.1s							
GUMO	**Guam**	**18.20**	**40**	LR	LR	07 55 19.1	
comp=Z,460nm,19.6s,baz=60,slow=35							
WRAB	**Tennant Creek**	**19.48**	**176**	*e*P	**P**	**07 49 09.3**	**-0.7**
19nm,0.8s							
WRA	**Warramunga Arr**	**19.49**	**176**	P	**P**	**07 49 10.0**	**-0.1**
2.2nm,0.3s,baz=353,slow=11,SNR=28							
WRA				S	**S**	**07 52 42.1**	**-6.6**
0.8nm,0.3s,baz=2.2,slow=23,SNR=6.4							
WRA	**Warramunga Arr**	**19.49**	**176**	P	**P**	**07 49 10.0**	**-0.1**
WRA				S	**S**	**07 52 42.1**	**-6.6**
WB2	**Warramunga Arr**	**19.49**	**176**	*e*P	**P**	**07 49 09.8**	**-0.3**
WB2				*e*Sn	S	07 52 37.2	-12
SJI	**Sawahan**	**22.38**	**250**	P	**P**	**07 49 39.6**	**-1.9**
112nm,0.6s,7µm							
AS31	**Alice Springs**	**23.17**	**178**	*e*P	**P**	**07 49 49.2**	**-0.3**
ASAR	**Alice Springs**	**23.17**	**178**	P	**P**	**07 49 49.1**	**-0.5**
19nm,0.6s,baz=356,slow=10,SNR=94							
ASAR				S	**S**	**07 54 03.7**	**+4.5**
7.8nm,1.1s,baz=358,slow=24,SNR=7.4							
ASAR	**Alice Springs**	**23.17**	**178**	P	**P**	**07 49 49.1**	**-0.5**
ASAR				S	**S**	**07 54 03.7**	**+4.5**
CTAO	**Charters Tower**	**23.50**	**147**	*e*P	**P**	**07 49 54.2**	**+1.3**
36nm,1.1s							
BJII	**Banjamegara**	**24.22**	**253**	P	**P**	**07 50 03.0**	**+3.3**
62nm,1.8s,2µm							
MBWA	**Marble Bar**	**24.38**	**211**	*e*P	**P**	**07 50 00.4**	**-0.6**
52nm,1.4s							
CBIJ	**Chichi jima**	**28.71**	**17**	LR	LR	08 01 54.1	
comp=Z,389nm,18.9s,baz=274,slow=36							
STKA	**Stephens Creek**	**32.37**	**166**	P	**P**	**07 51 11.6**	**-0.7**
14nm,0.9s,baz=351,slow=9.9,SNR=25							
STKA	**Stephens Creek**	**32.37**	**166**	P	**P**	**07 51 11.6**	**-0.7**
40nm,1.1s							
ARMA	**Armidale**	**34.74**	**151**	*e*P	**P**	**07 51 32.9**	**-0.1**
5.9nm,0.8s							
MJAR	**Matsushiro Arr**	**37.05**	**7**	P	**P**	**07 51 50.2**	**-2.5**
0.8nm,0.5s,baz=196,slow=11,SNR=3.8							
MJAR	**Matsushiro Arr**	**37.05**	**7**	P	**P**	**07 51 50.2**	**-2.5**
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**07 52 04.2**	**+0.5**
1.0nm,0.5s,baz=120,slow=6.1,SNR=10							
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**07 52 04.2**	**+0.5**
CHTO	**Chiang Mai**	**38.48**	**302**	P	**P**	**07 52 07.0**	**+2.0**
SONM	**Songino Array**	**53.30**	**338**	P	**P**	**07 54 02.6**	**+1.0**
1.0nm,0.8s,baz=160,slow=7.5,SNR=7.5							
SONM	**Songino Array**	**53.30**	**338**	P	**P**	**07 54 02.6**	**+1.0**
MK31	**Makanchi Array**	**64.50**	**324**	*e*P	**P**	**07 55 19.0**	**-0.3**
MKAR	**Makanchi Array**	**64.50**	**324**	P	**P**	**07 55 19.2**	**-0.1**
3.8nm,0.8s,baz=114,slow=7.5,SNR=21							
MKAR	**Makanchi Array**	**64.50**	**324**	P	**P**	**07 55 19.2**	**-0.1**
ZALV	**Zalesovo Beam**	**67.11**	**331**	P	**P**	**07 55 36.1**	**+0.2**
1.1nm,0.7s,baz=120,slow=5.7,SNR=5.6							
ZALV	**Zalesovo Beam**	**67.11**	**331**	P	**P**	**07 55 36.1**	**+0.2**
KKAR	**Karatay Array**	**70.49**	**316**	*e*P	**P**	**07 55 56.7**	**-0.5**
1.9nm,0.6s							
BVAR	**Borovoye Array**	**74.17**	**326**	P	**P**	**07 56 18.8**	**-0.2**
4.9nm,0.9s,baz=114,slow=6.6,SNR=14							
BVAR	**Borovoye Array**	**74.17**	**326**	P	**P**	**07 56 18.8**	**-0.2**
ABKAR	**Akbulak array**	**79.27**	**320**	*e*P	**P**	**07 56 46.8**	**-1.0**
1.1nm,0.6s							
AKTO	**Aktyubinsk**	**80.75**	**321**	P	**P**	**07 56 55.0**	**-0.8**
2.0nm,0.9s,baz=117,slow=4.5,SNR=5.0							
AKTO	**Aktyubinsk**	**80.75**	**321**	P	**P**	**07 56 55.0**	**-0.8**
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**07 57 22.2**	**-1.0**
0.7nm,0.8s,baz=267,slow=4.5,SNR=6.3							
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**07 57 22.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**130.11**	**287**	PKP	**PKPdf**	**08 03 53.0**	**-0.3**
1.0nm,1.1s,baz=65,slow=0.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**130.11**	**287**	PKP	**PKPdf**	**08 03 53.0**	**-0.3**
CPUP	**Villa Florida**	**151.65**	**160**	PKPbc	**PKPbc**	**08 04 37.2**	**-0.2**
3.6nm,1.0s,baz=319,slow=2.6,SNR=4.3							
CPUP	**Villa Florida**	**151.65**	**160**	PKPbc	**PKPbc**	**08 04 37.2**	**-0.2**
ROSC	**El Rosal**	**152.36**	**80**	PKPbc	**PKPbc**	**08 04 40.0**	**0.0**
1.9nm,0.5s,baz=93,slow=17,SNR=2.8							
ROSC	**El Rosal**	**152.36**	**80**	PKPbc	**PKPbc**	**08 04 40.0**	**0.0**
LPAZ	**La Paz**	**153.38**	**129**	PKP	**PKPdf**	**08 04 35.7**	**+0.9**
0.5nm,0.5s,baz=270,slow=5.1,SNR=2.7							
LPAZ				PKPbc	**PKPbc**	**08 04 44.5**	**+2.1**
0.7nm,0.5s,baz=190,slow=6.1,SNR=3.4							

LPAZ La Paz 153.38 129 PKP PKPdf 08 04 35.7 +0.9
LPAZ PKPbc PKPbc 08 04 44.5 +2.1

IDC 04 07:45:08.3±2.4, 0.21S×132.93E, h0km, mb4.5/3, mb1 4.8/4, mb1mx4.1/16, mbtmp4.5/4, Error ellipse: s-maj=126.8km s-min=29.9km az=95.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.66	176	P	P	07 49 39.4	+0.4
	2.4nm,0.3s,baz=355,slow=11,SNR=7.4						
ASAR	Alice Springs	23.34	178	P	P	07 50 18.8	+0.3
	32nm,0.8s,baz=359,slow=9.3,SNR=7.6						
STKA	Stephens Creek	32.55	166	P	P	07 51 40.6	-0.7
	6.8nm,0.7s,baz=347,slow=10,SNR=6.7						
ILAR	Eielson Array	86.00	25	P	P	07 57 50.5	+0.1
	1.2nm,1.0s,baz=256,slow=4.7,SNR=4.7						

DDA 04 07:47:03.8, 37.88N×29.22E, h4km, MD2.8
ISK 04 07:47:04.1, 37.88N×29.19E, h7km, MD2.8
CSEM 04 07:47:04.2±0.1, 37.88N×29.22E, h5km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.2km az=98.0
ISCJB 04 07:47:04.2±0.5, 37.88N±0.03×29.21E±0.04, h6km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=14.5
ISC 04 07:47:04.3±0.9, 37.88N±0.02×29.21E±0.03, h12km±9km, n24, σ0.43/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.18	228	ePG	Pg	07 47 08.0	-0.5
DENT	Denizli	0.18	228	ePg	Pg	07 47 08.0	-0.5
DNZL	Cakiroluk	0.23	214	iP	Pg	07 47 09.5	+0.2
DNZL				iS	Sg	07 47 12.8	+0.2
DNZL	Cakiroluk	0.23	214	iP	Pg	07 47 09.5	+0.2
DNZL				iS	Sg	07 47 12.8	+0.2
KHAL	Karahalli	0.54	25	iP	Pg	07 47 14.3	-0.7
KHAL				iS	Sg	07 47 22.6	+0.4
KHAL	Karahalli	0.54	25	iP	Pg	07 47 14.3	-0.7
KHAL				iS	Sg	07 47 22.6	+0.4
GOLH	Golhisar	0.70	156	iP	Pg	07 47 16.7	-1.2
GOLH				iS	Sb	07 47 28.2	+0.1
GOLH	Golhisar	0.70	156	iP	Pg	07 47 16.7	-1.2
GOLH				iS	Sb	07 47 28.2	+0.1
GLHS	Glhisar (BURDU	0.76	162	ePG	Pg	07 47 19.2	+0.2
GLHS	Glhisar (BURDU	0.76	162	ePg	Pg	07 47 19.2	+0.2
KULA	Kula-Manisa	0.77	326	ePG	Pg	07 47 19.3	+0.1
KULA				eSG	Sb	07 47 30.2	+0.1
KULA	Kula-Manisa	0.77	326	ePg	Pg	07 47 19.3	+0.1
KULA				eSg	Sb	07 47 30.2	+0.1
MANT	Manisa	0.80	320	iP	Pb	07 47 20.2	0.0
MANT				iS	Sb	07 47 31.0	-0.1
MANT	Manisa	0.80	320	iP	Pb	07 47 20.2	0.0
MANT				iS	Sb	07 47 31.0	-0.1
YER	Yerkesik	1.04	225	ePG	Pb	07 47 24.7	+0.4
YER	Yerkesik	1.04	225	ePg	Pb	07 47 24.7	+0.4
AYDN	Tasoluk	1.07	259	iP	Pg	07 47 24.7	-0.3
AYDN				iS	Sg	07 47 38.8	-0.2
AYDN	Tasoluk	1.07	259	iP	Pg	07 47 24.7	-0.3
AYDN				iS	Sg	07 47 38.8	-0.2
GDZ	Gediz	1.23	10	iP	Pb	07 47 27.5	-0.1
GDZ				iS	Sb	07 47 43.0	-0.4
GDZ	Gediz	1.23	10	iP	Pb	07 47 27.5	-0.1
GDZ				iS	Sb	07 47 43.0	-0.4
SHUT	Suhut-Afyon	1.26	57	ePN	Pg	07 47 28.7	+0.2
SHUT	Suhut-Afyon	1.26	57	ePn	Pg	07 47 28.7	+0.2
ALT	Altintas	1.37	31	ePN	Pb	07 47 30.4	+0.4
ALT	Altintas	1.37	31	ePn	Pb	07 47 30.4	+0.4

DJA 04 07:53:25, 0.91S×131.58E, h55km, MLv4.0/6
IDC 04 07:53:13.2±4.8, 0.60S×131.54E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=325.0km s-min=25.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.42	172	P	P	07 57 41.2	0.0
	0.2nm,0.3s,baz=352,slow=11,SNR=6.3						
WRA				S	Sn	08 01 12.6	-8.3
	0.3nm,0.3s,baz=346,slow=24,SNR=5.6						
ASAR	Alice Springs	23.05	174	P	P	07 58 20.3	0.0
	3.2nm,0.8s,baz=356,slow=10.0,SNR=13						
MKAR	Makanchi Array	63.84	325	P	P	08 03 47.5	0.0
	0.4nm,0.6s,baz=112,slow=8.5,SNR=8.7						

IDC 04 07:58:18.1±3.2, 1.31S×133.73E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=198.6km s-min=24.7km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.53	178	P	Pn	08 02 37.2	+0.7
	0.1nm,0.3s,baz=355,slow=13,SNR=3.5						
ASAR	Alice Springs	22.23	180	P	P	08 03 16.5	0.0
	0.6nm,0.3s,baz=357,slow=10,SNR=6.9						
STKA	Stephens Creek	31.30	167	P	P	08 04 39.5	-0.6
	1.1nm,0.7s,baz=333,slow=9.0,SNR=3.1						
MKAR	Makanchi Array	65.69	324	P	P	08 09 04.5	0.0
	0.2nm,0.6s,baz=117,slow=6.2,SNR=3.3						

IDC 04 08:00:20.3±0.9, 0.36S×132.89E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=66.2km s-min=18.6km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.52	176	P	P	08 04 49.5	+0.1
	0.2nm,0.3s,baz=354,slow=11,SNR=5.0						
ASAR	Alice Springs	23.19	178	P	P	08 05 28.2	-0.8
	4.1nm,0.8s,baz=356,slow=11,SNR=13						
STKA	Stephens Creek	32.41	166	P	P	08 06 53.0	+0.8
	1.4nm,0.8s,baz=318,slow=11,SNR=3.8						
SONM	Songino Array	53.24	338	P	P	08 09 41.7	+0.8
	0.4nm,0.6s,baz=155,slow=5.6,SNR=3.6						
MKAR	Makanchi Array	64.43	324	P	P	08 10 58.5	-0.1
	1.0nm,0.6s,baz=111,slow=8.5,SNR=20						
BVAR	Borovoye Array	74.10	326	P	P	08 11 58.0	-0.4
	0.9nm,0.7s,baz=111,slow=12,SNR=4.0						
ILAR	Eielson Array	86.15	25	P	P	08 13 02.8	-0.4
	0.7nm,0.8s,baz=252,slow=4.2,SNR=8.6						
CPUP	Villa Florida	151.70	160	PKPbc	PKPbc	08 20 17.6	0.0
	1.9nm,0.9s,baz=187,slow=14,SNR=3.9						

IDC 04 08:03:24.4±3.6, 0.57S×133.81E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=206.8km s-min=24.2km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.26	178	P	Pn	08 07 51.4	-0.3
	baz=358,slow=11,SNR=2.7						
ASAR	Alice Springs	22.96	180	P	P	08 08 30.4	-0.3
	0.6nm,0.7s,baz=358,slow=11,SNR=4.2						
MKAR	Makanchi Array	65.14	324	P	P	08 14 07.4	+0.1
	0.7nm,1.0s,baz=120,slow=8.1,SNR=5.0						
KURK	Kurchatov	69.18	326	P	P	08 14 32.8	-0.1
	0.5nm,0.8s,baz=122,slow=5.5,SNR=4.8						

DJA 04 08:04:16, 0.09S×132.92E, h32km, mb4.8/13
IDC 04 08:04:14.8±1.1, 0.09S×133.20E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/17, mbtmp3.7/8, ML4.2/1, Error ellipse: s-maj=76.4km s-min=18.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.77	177	P	P	08 08 46.7	+0.1
	0.8nm,0.3s,baz=354,slow=11,SNR=12						
ASAR	Alice Springs	23.45	178	P	P	08 09 26.1	0.0
	4.3nm,0.7s,baz=358,slow=10,SNR=19						
STKA	Stephens Creek	32.60	167	P	P	08 10 48.3	+0.1
	1.6nm,0.7s,baz=349,slow=6.6,SNR=5.0						
SONM	Songino Array	53.11	338	P	P	08 13 36.0	+1.6
	0.3nm,0.6s,baz=155,slow=6.5,SNR=2.4						
MKAR	Makanchi Array	64.39	324	P	P	08 14 52.7	-0.1
	0.3nm,0.5s,baz=113,slow=8.2,SNR=4.9						
ZALV	Zalesovo Beam	66.96	331	P	P	08 15 08.8	-0.4
	0.2nm,0.3s,baz=123,slow=7.8,SNR=2.0						
KURK	Kurchatov	68.45	326	P	P	08 15 18.0	-0.7
	0.4nm,0.8s,baz=122,slow=5.5,SNR=3.3						
ILAR	Eielson Array	85.77	25	P	P	08 16 55.5	-0.3
	0.2nm,0.7s,baz=247,slow=4.7,SNR=3.5						

IDC 04 08:05:35.6±1.3, 0.58S×133.94E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=56.0km s-min=23.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.25	179	P	P	08 10 00.6	-1.2
	0.4nm,0.3s,baz=358,slow=13,SNR=3.3						
ASAR	Alice Springs	22.95	180	P	P	08 10 42.5	+0.8
	1.6nm,0.5s,baz=4.8,slow=12,SNR=2.4						
CMAR	Chiang Mai Arr	39.25	301	P	P	08 13 06.1	-0.1
	0.8nm,0.3s,baz=125,slow=7.8,SNR=6.1						
SONM	Songino Array	53.85	337	P	P	08 15 00.1	-0.5
	0.4nm,0.9s,baz=140,slow=7.5,SNR=3.0						
MKAR	Makanchi Array	65.23	324	P	P	08 16 19.1	+0.1
	0.7nm,0.7s,baz=117,slow=7.7,SNR=5.4						
ZALV	Zalesovo Beam	67.74	331	P	P	08 16 35.2	+0.3
	0.3nm,0.5s,baz=114,slow=6.0,SNR=2.0						
KURK	Kurchatov	69.27	326	P	P	08 16 44.5	0.0
	0.9nm,0.8s,baz=117,slow=6.2,SNR=5.7						
ILAR	Eielson Array	85.91	25	P	P	08 18 17.2	0.0
	0.7nm,1.0s,baz=255,slow=5.4,SNR=3.4						

IDC 04 08:06:54.1±1.3, 0.60S×134.15E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=69.8km s-min=22.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.23	179	P	P	08 11 19.8	-0.3
	0.5nm,0.3s,baz=358,slow=12,SNR=5.4						
ASAR	Alice Springs	22.93	181	P	P	08 11 60.0	-0.1
	1.5nm,0.4s,baz=3.2,slow=11,SNR=5.8						
STKA	Stephens Creek	31.90	168	P	P	08 13 21.7	+0.4
	1.1nm,0.8s,baz=330,slow=8.1,SNR=2.2						
MKAR	Makanchi Array	65.36	324	P	P	08 17 38.6	+0.1
	0.3nm,0.3s,baz=111,slow=6.3,SNR=6.6						
ILAR	Eielson Array	85.83	25	P	P	08 19 35.0	-0.4
	0.4nm,0.9s,baz=270,slow=4.5,SNR=3.5						

IDC 04 08:12:06.3±0.6, 0.72S×133.57E, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/19, mbtmp4.4/16, ML4.0/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/33, Error ellipse: s-maj=29.3km s-min=13.2km az=71.0
BJI 04 08:12:07.8, 1.26S×133.35E, h35km, mB5.2/27, mb4.8/39, Ms4.8/22, Ms7 4.5/22
MOS 04 08:12:09.6±1.0, 0.75S×133.43E, h33km, mb5.1/21, Error ellipse: s-maj=15.8km s-min=6.9km az=116.5
ISCJB 04 08:12:09.1±0.2, 0.70S±0.03×133.62E±0.04, h29km, mb4.8/64, MS4.3/7, Error ellipse: s-maj=5.3km s-min=3.8km az=153.7
NEIC 04 08:12:11.7±0.2, 0.73S×133.49E, h35km, mb5.0/25, Error ellipse: s-maj=7.7km s-min=4.2km az=65.0
DJA 04 08:12:17, 0.96S×133.42E, h26km, mb5.2/32
ISC 04 08:12:10.9±0.3, 0.93S±0.04×133.54E±0.05, h29km, h29km:pP-P, n200, σ2.900/226, mb5.0/63, MS4.5/7, 6C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	2.36	213	P	Pb	08 12 51.7	-1.1
BAKI	Biak	2.58	96	P	Pn	08 12 51.5	+0.8
TLE	Tual	4.75	190	P	Pn	08 13 26.3	+5.8
	1µm,0.7s,17µm7.1nm						
MSAI	Masohi	5.20	242	P	Pn	08 13 31.2	+4.5
	298nm,0.8s,3µm0.9nm						
SMPI	Sarmi	5.28	102	P	Pn	08 13 29.5	+1.7
	165nm,1.4s,7µm1.2nm						
AAI	Ambon	6.00	243	P	Pn	08 13 40.6	+2.8
	993nm,0.8s,10µm3.9nm						
LBMI	Labuha	6.04	273	P	Pn	08 13 40.1	+1.7
	283nm,1.2s,3µm1.2nm						
TNTI	Ternate	6.40	285	P	Pn	08 13 48.4	+5.1
	150nm,0.9s,0.6nm						
NLAI	Namlea	6.83	250	P	Pn	08 13 51.8	+2.6
	554nm,0.6s,8µm1.7nm						
KMSI	Cibinong	9.67	279	P	Pn	08 14 28.3	+0.1
	468nm,0.5s,7µm						
LUWI	Luwuk	10.77	269	P	Pn	08 14 44.9	+1.7
	277nm,1.3s,3µm						
DAV	Davao City (W)	11.23	315	LR	LR	08 18 14.4	
	comp=Z,270nm,21.0s,baz=342,slow=33						
DAV	Davao City (W)	11.23	315	ePn	Pn	08 14 52.8	+3.2
MRSI	Marisa	11.68	277	P	Pn	08 15 03.7	+7.9
MMRI	Maumere	13.61	235	P	P	08 15 31.8	+1.1
PCI	Palu	13.70	270	P	P	08 15 29.0	-2.7
	384nm,1.0s,8µm						
TTSI	Tana Toraja	13.87	261	P	P	08 15 32.6	-1.0
	59nm,1.1s						
SPSI	Sidrap Palu	14.08	257	P	P	08 15 35.9	-0.1
	53nm,1.4s						
BKSI	Bulukumba	14.09	252	P	P	08 15 33.6	-2.4
	87nm,0.9s,1µm						
KAPI	Kappang	14.35	253	ePn	Pn	08 15 30.9	-1.4
KAPI	Kappang	14.35	253	P	P	08 15 35.8	-3.2
	112nm,1.3s,1µm						
PMG	Port Moresby	15.96	122	Pn	Pn	08 15 54.0	+0.5
	0.3nm,0.3s,baz=304,slow=10,SNR=7.9						
PMG	Port Moresby	15.96	122	eP	P	08 15 57.4	+0.6
PMG				pmax	pmax		
	comp=Z,70nm,2.0s						
PMG	Port Moresby	15.96	122	ePn	P	08 15 56.3	-0.5
PMG				eSn	Sn	08 18 50.5	+0.8
COEN	Coen	16.08	144	ePn	P	08 15 57.4	-0.7
	comp=Z,182nm,1.0s						
COEN				eSn	Sn	08 18 46.5	-6.1
MYLDM	Lahad Datu	16.20	292	P	P	08 16 02.6	+3.1
	comp=Z,71nm,1.4s						
SMKI	Samarinda	16.34	272	P	P	08 16 07.2	+6.2
	comp=Z,264nm,1.0s,comp=Z,6µm						
GUMO	Guam	18.28	38	LR	LR	08 22 31.5	
	comp=Z,652nm,18.1s,baz=105,slow=34						
KKM	Kota Kinabalu	18.63	292	eP	P	08 16 25.9	-0.6
	comp=Z,111nm,1.3s						
BBKI	Banjar Baru	18.85	262	P	Pn	08 16 39.4	+10
WRAB	Tennant Creek	18.91	178	eP	Pn	08 16 31.8	+1.7
WRAB				eS	Sn	08 19 57.8	-3.3
WRAB				pmax	pmax		
	comp=Z,58nm,0.7s						
WRAB	Tennant Creek	18.91	178	eP	Pn	08 16 31.8	+1.7
	comp=Z,58nm,0.7s						
WRAB				eS	Sn	08 19 57.8	-3.3
WRAB	Tennant Creek	18.91	178	P	Pn	08 16 32.0	+1.9
	comp=Z,482nm,0.6s,SNR=31						
WRA	Warramunga Arr	18.91	178	P	Pn	08 16 31.3	+1.1
	comp=Z,1.8nm,0.3s,baz=353,slow=11,SNR=42						
WRA				S	Sn	08 19 57.0	-4.3
	comp=Z,0.7nm,0.3s,baz=359,slow=22,SNR=5.0						
WRA	Warramunga Arr	18.91	178	P	Pn	08 16 31.3	+1.1
WRA				S	Sn	08 19 57.0	-4.3
WRA	Warramunga Arr	18.91	178	P	Pn	08 16 31.3	+1.1
WRA				S	Sn	08 19 57.0	-4.3
MTNI	Mataram	18.91	246	P	Pn	08 16 35.2	+4.9
	comp=Z,92nm,1.4s						
WB2	Warramunga Arr	18.91	178	eP	Pn	08 16 32.0	+1.7
WB2				eS	Sn	08 19 55.9	-5.4
KHKI	Kahang-Kahang	19.33	247	P	Pn	08 16 40.5	+5.3
	comp=Z,129nm,0.9s,comp=Z,1µm						
BYJI	Banyuwangi	20.43	249	P	Pn	08 16 55.2	+6.9
	comp=Z,486nm,1.1s,comp=Z,22µm						
JAGI	Jajag, Banyuwa	20.71	248	P	Pn	08 16 57.2	+5.6
	comp=Z,140nm,1.3s						
BLJI	Banyuglugur	21.00	251	P	Pn	08 16 59.1	+4.2
	comp=Z,117nm,0.9s,comp=Z,2µm						
GMJI	Gumukmas	21.30	249	P	pP	08 17 08.6	+5.2
SBUM	Sibu	21.58	279	P	P	08 17 02.1	+3.6
	comp=Z,53nm,1.4s						
AS31	Alice Springs	22.61	179	eP	P	08 17 12.0	+2.5
AS31				eSn	Sn	08 21 30.9	+0.8
ASAR	Alice Springs	22.61	179	P	P	08 17 11.7	+2.2
	comp=Z,19nm,0.7s,baz=3.3,slow=12,SNR=90						
ASAR				S	S	08 21 12.4	-3.1
	comp=Z,2.2nm,0.9s,baz=358,slow=27,SNR=3.2						
ASAR	Alice Springs	22.61	179	P	P	08 17 11.7	+2.2
ASAR				S	S	08 21 12.4	-3.1
ASAR	Alice Springs	22.61	179	P	P	08 17 11.7	+2.2
ASAR				S	S	08 21 12.4	-3.1
SJI	Sawahan	22.73	252	P	P	08 17 21.1	+10
CTAO	Charters Tower	22.75	148	eP	P	08 17 14.0	+3.1
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	Charters Tower	22.75	148	eP	P	08 17 14.0	+3.1
	comp=Z,33nm,1.0s						
KSM	Kuching	23.35	276	eP	P	08 17 17.6	+0.4
	comp=Z,45nm,1.2s						
KSM	Kuching	23.35	276	P	P	08 17 22.6	+5.4
	comp=Z,34nm,1.3s						
MBWA	Marble Bar	24.21	213	eP	P	08 17 27.5	+2.4
	comp=Z,98nm,1.1s						
MBWA				eS	S	08 21 54.5	+13
BJII	Banjamegara	24.59	254	P	P	08 17 32.9	+4.0
	comp=Z,112nm,1.5s						
CISI	Cisompet, Garu	26.47	255	P	P	08 17 49.6	+3.7
	comp=Z,104nm,1.2s						
NACB	Ninganchiao	27.52	336	eP	P	08 17 56.7	+1.6
	comp=Z,35nm,1.1s						
FORT	Forrest	30.14	189	eP	P	08 18 21.8	+3.4
	comp=Z,31nm,0.7s						
FORT	Forrest	30.14	189	eP	P	08 18 19.9	+1.5
	comp=Z,45nm,0.6s						
KSI	Kapahiang	31.04	264	P	P	08 18 29.4	+2.8
	comp=Z,90nm,0.8s,comp=Z,11µmcomp=Z,80µm						
STKA	Stephens Creek	31.71	167	P	P	08 18 32.5	+0.2
	comp=Z,3.2nm,0.6s,baz=329,slow=5.4,SNR=13						
STKA	Stephens Creek	31.71	167	eP	P	08 18 32.4	+0.2
	comp=Z,5.1nm,0.5s						
STKA	Stephens Creek	31.71	167	eP	P	08 18 33.6	+1.4
STKA	Stephens Creek	31.71	167	eP	P	08 18 33.6	+1.4
BBOO	Buckleboo	31.80	176	eP	P	08 18 35.2	+2.2
	comp=Z,201nm,0.9s						
KLBR	Kellerberrin	33.96	205	eP	P	08 18 54.5	+2.6
	comp=Z,20nm,0.9s						
ARMA	Armidale	33.99	151	eP	P	08 18 54.8	+2.5
PSI	Prapat	34.80	276	P	P	08 18 58.6	-1.0
	comp=Z,27nm,1.3s						
NWAO	Narrogin (SRO)	35.33	204	eP	P	08 19 03.7	-0.1
NWAO				pmax	pmax		
	comp=Z,11nm,0.8s						
NWAO	Narrogin (SRO)	35.33	204	eP	P	08 19 03.7	-0.1
	comp=Z,11nm,0.8s						
NJ2	Nanjing	35.63	338	eP	P	08 19 07.9	+1.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WHN	Wuhan	36.24	331	P	P	08 19 17.7	+6.2
MJAR	Matsushiro Arr	37.53	6	P	P	08 19 19.0	-3.5
	comp=Z,1.7nm,0.9s,baz=200,slow=9.4,SNR=4.0						
MJAR	Matsushiro Arr	37.53	6	P	P	08 19 19.0	-3.5
MJAR	Matsushiro Arr	37.53	6	P	P	08 19 19.0	-3.5
GYA	Guiyang	37.59	318	P	P	08 19 24.9	+1.6
GYA				pP	pP	08 19 34.8	+2.9
GYA				sP	sP	08 19 40.2	+4.8
GYA				PP	PnPn	08 20 53.7	+3.3
GYA				S	S	08 25 12.0	+0.8
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,590nm,17.3s						
GYA				LR	LR		
	comp=E,440nm,18.8s						
GYA				LR	LR		
	comp=Z,680nm,17.5s						
TOO	Toolangi	38.09	165	eP	P	08 19 35.8	+8.5
	comp=Z,18nm,0.6s						
KSAR	Wonju Array Be	38.54	353	P	P	08 19 29.1	-1.8
KSAR	Wonju Array Be	38.54	353	P	P	08 19 29.1	-1.8
KSRS	Korea Array	38.54	353	P	P	08 19 29.1	-1.8
	comp=Z,0.5nm,0.4s,baz=155,slow=6.0,SNR=2.8						
CMAR	Chiang Mai Arr	39.09	301	P	P	08 19 34.9	-1.0
	comp=Z,3.5nm,0.8s,baz=121,slow=6.7,SNR=18						
CMAR	Chiang Mai Arr	39.09	301	P	P	08 19 34.9	-1.0
CMAR	Chiang Mai Arr	39.09	301	P	P	08 19 34.9	-1.0
CHTO	Chiang Mai	39.24	302	eP	P	08 19 36.0	-1.1
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHTO	Chiang Mai	39.24	302	eP	P	08 19 36.0	-1.1
	comp=Z,3.4nm,0.9s						
CHTO	Chiang Mai	39.24	302	P	P	08 19 36.3	-0.8
	comp=Z,16nm,1.1s						
KMI	Kunming	39.49	313	P	P	08 19 38.2	-1.2
KMI				pP	pP	08 19 48.9	+0.9
KMI				sP	sP	08 19 53.3	+1.8
KMI				pmax	pmax		
	comp=Z,14nm,1.3s						
XAN	Xi'an	41.77	329	P	P	08 19 55.5	-2.4
CD2	Chengdu	42.47	321	P	P	08 20 04.9	+1.3
CD2				pP	pP	08 20 15.1	+2.8
CD2				sP	sP	08 20 19.4	+3.6
CD2				PP	PP	08 21 46.5	+4.1
CD2				S	S	08 26 23.8	-0.2
CD2				sS	sS	08 26 40.9	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,390nm,10.7s						
CD2				LR	LR		
	comp=N,650nm,9.5s						
CD2				LR	LR		
	comp=Z,390nm,9.5s						
BJT	Baijiatuan	43.74	341	eP	P	08 20 12.4	-1.2
BJT				pmax	pmax		
	comp=Z,47nm,0.8s						
BJT	Baijiatuan	43.74	341	eP	P	08 20 12.4	-1.2
	comp=Z,47nm,0.8s						
BJI	Beijing	43.75	341	P	P	08 20 12.6	-1.2
BJI				pmax	pmax		
	comp=Z,25nm,0.8s						
BJI				pmax	pmax		
	comp=Z,160nm,8.1s						
USRK	Ussuriysk Arra	44.95	358	P	P	08 20 21.7	-1.5
	comp=Z,5.0nm,1.0s,baz=182,slow=7.8,SNR=3.8						
CN2	Changchun	45.12	352	eP	P	08 20 21.9	-2.7
CN2				eS	S	08 26 58.9	-3.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
MDJ	Mudanjiang	45.48	356	P	P	08 20 29.7	+2.2
MDJ				pP	pP	08 20 38.7	+2.4
MDJ				PcS	PcS	08 26 02.2	+2.2
MDJ				S	S	08 27 10.4	+3.0
MDJ

HHC	**Hu-ho-hao-te**	**46.14**	**337**	*e*P	**P**	**08 20 34.5**	**+1.6**
HHC				pP	**pP**	**08 20 44.4**	**+2.7**
HHC				sP	**sP**	**08 20 48.3**	**+3.1**
HHC				PP	**PP**	**08 22 22.9**	**+1.3**
HHC				S	**S**	**08 27 18.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,420nm,5.8s						
HHC				LR	LR		
	comp=N,320nm,11.8s						
HHC				LR	LR		
	comp=E,260nm,11.8s						
HHC				LR	LR		
	comp=Z,280nm,13.2s						
MSVF	**Nonsavu**	**46.81**	**114**	*e*P	**P**	**08 20 38.9**	**+0.4**
MSVF				pmax	pmax		
	comp=Z,16nm,1.0s						
MSVF	**Nonsavu**	**46.81**	**114**	*e*P	**P**	**08 20 38.9**	**+0.4**
	comp=Z,16nm,1.0s						
SHL	**Shillong**	**48.10**	**306**	*e*P	**P**	**08 20 51.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**48.37**	**8**	*e*P	P	08 20 55.0	+5.0
YSS				*e*		08 21 08.2	
HABR	**Khabarovsk**	**49.22**	**1**	*e*P	**P**	**08 20 54.2**	**-2.3**
HABR				*e**PP	**pP**	**08 21 04.2**	**-1.1**
HABR				*e**SP	**sP**	**08 21 08.3**	**-0.5**
HABR				*e*		08 22 48.0	
HABR				*e*S	**S**	**08 27 57.7**	**-2.8**
HABR				*e**SS	**sS**	**08 28 14.2**	**-0.8**
HABR				*e*		08 30 43.7	
HABR				*e*SS	**SS**	**08 31 30.8**	**-1.5**
HABR				*e*SSS	SSS	08 32 49.0	
HABR				pmax	pmax		
	comp=N,27nm,1.9s						
HABR				pmax	pmax		
	comp=Z,49nm,2.4s						
HABR				pmax	pmax		
	comp=E,35nm,1.9s						
HABR				MLR	MLR		
	comp=Z,133nm,15.0s						
KLR	**Kul'dur**	**49.98**	**358**	*e*P	**P**	**08 21 03.8**	**+1.4**
LSA	**Lhasa**	**50.61**	**311**	P	**P**	**08 21 07.1**	**-0.9**
LSA	**Lhasa**	**50.61**	**311**	*e*P	**P**	**08 21 07.4**	**-0.6**
LSA				*e**PP	**pP**	**08 21 17.0**	**+0.1**
LSA				pmax	pmax		
	comp=Z,21nm,0.8s						
LSA	**Lhasa**	**50.61**	**311**	*e*P	**P**	**08 21 07.4**	**-0.6**
	comp=Z,21nm,0.8s						
LSA				*e*pP	**pP**	**08 21 17.0**	**+0.1**
GTA	**Gaotai**	**50.65**	**326**⇑	*e*P	**P**	**08 21 06.7**	**-1.1**
GTA				pP	**pP**	**08 21 16.8**	**+0.2**
GTA				S	**S**	**08 28 18.0**	**-3.1**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,240nm,5.0s						
GTA				LR	LR		
	comp=N,200nm,16.2s						
GTA				LR	LR		
	comp=E,280nm,16.2s						
GTA				LR	LR		
	comp=Z,270nm,17.3s						
TAPN	**Taplejung**	**52.24**	**306**	*e*P	**P**	**08 21 18.7**	**-1.4**
	comp=Z,81nm,1.1s						
TAPN	**Taplejung**	**52.24**	**306**	*e*P	**P**	**08 21 18.7**	**-1.4**
ODAN	**Odare**	**52.30**	**305**	*e*P	**P**	**08 21 19.4**	**-1.1**
ODAN	**Odare**	**52.30**	**305**	*e*P	**P**	**08 21 19.4**	**-1.1**
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**08 21 24.4**	**-1.1**
	comp=Z,124nm,1.0s						
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**08 21 24.4**	**-1.1**
JIRN	**Jiri**	**53.60**	**306**	*e*P	**P**	**08 21 29.1**	**-1.1**
	comp=Z,48nm,0.9s						
JIRN	**Jiri**	**53.60**	**306**	*e*P	**P**	**08 21 29.1**	**-1.1**
ULN	**Ulaanbaatar**	**53.79**	**338**	*e*P	**P**	**08 21 30.2**	**-0.8**
ULN				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**53.79**	**338**	*e*P	**P**	**08 21 30.2**	**-0.8**
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**53.79**	**338**	P	**P**	**08 21 30.8**	**-0.2**
	comp=Z,8.7nm,1.3s						
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**08 21 31.4**	**-1.4**
	comp=Z,83nm,0.8s						
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**08 21 31.4**	**-1.4**
SONM	**Songino Array**	**54.02**	**338**	P	**P**	**08 21 31.5**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=152,slow=8.9,SNR=15						
SONM	**Songino Array**	**54.02**	**338**	P	**P**	**08 21 31.5**	**-1.1**
SONM	**Songino Array**	**54.02**	**338**	P	**P**	**08 21 31.5**	**-1.1**
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**08 21 32.8**	**-1.7**
	comp=Z,50nm,1.2s						
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**08 21 32.8**	**-1.7**
PKI	**Pulchoki**	**54.20**	**305**	*e*P	**P**	**08 21 32.8**	**-1.7**
KKN	**Kakani**	**54.39**	**306**	*e*P	**P**	**08 21 34.4**	**-1.4**
	comp=Z,53nm,0.9s						
KKN	**Kakani**	**54.39**	**306**	*e*P	**P**	**08 21 34.4**	**-1.4**
KKN	**Kakani**	**54.39**	**306**	*e*P	**P**	**08 21 34.4**	**-1.4**
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**08 21 35.1**	**-1.3**
	comp=Z,59nm,0.9s						
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**08 21 35.1**	**-1.3**
URZ	**Urewera**	**54.53**	**138**	P	**P**	**08 21 36.6**	**+0.2**
	comp=Z,6.2nm,1.0s,baz=319,slow=9.3,SNR=2.3						
URZ	**Urewera**	**54.53**	**138**	P	**P**	**08 21 36.6**	**+0.2**
GKN	**Gorkha**	**54.99**	**306**	*e*P	**P**	**08 21 38.8**	**-1.3**
	comp=Z,63nm,1.0s						
GKN	**Gorkha**	**54.99**	**306**	*e*P	**P**	**08 21 38.8**	**-1.3**
KOLN	**Koldanda**	**55.75**	**305**	*e*P	**P**	**08 21 44.8**	**-0.9**
	comp=Z,63nm,0.9s						
KOLN	**Koldanda**	**55.75**	**305**	*e*P	**P**	**08 21 44.8**	**-0.9**
DANN	**Dangsing**	**55.84**	**306**	*e*P	**P**	**08 21 45.1**	**-1.3**
	comp=Z,100nm,0.9s						
DANN	**Dangsing**	**55.84**	**306**	*e*P	**P**	**08 21 45.1**	**-1.3**
HYB	**Hyderabad**	**57.12**	**291**	*i*P	**P**	**08 21 53.0**	**-2.3**
ZAK	**Zakamensk**	**57.28**	**337**	*e*P	**P**	**08 21 54.2**	**-1.8**
ZAK				*e*		08 22 01.7	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PETK	**Petropavlovsk-**	**57.51**	**17**	P	**P**	**08 21 56.9**	**-0.5**
	comp=Z,7.5nm,1.1s,baz=178,slow=5.6,SNR=3.6						
PETK	**Petropavlovsk-**	**57.51**	**17**	P	**P**	**08 21 56.9**	**-0.5**
PETK	**Petropavlovsk-**	**57.51**	**17**	P	**P**	**08 21 56.9**	**-0.5**
MOY	**Mondy**	**59.18**	**337**	*e*P	**P**	**08 22 09.4**	**+0.1**
MOY				pmax	pmax		
	comp=Z,23nm,1.9s						
WMQ	**Urumqi**	**60.46**	**323**	P	**P**	**08 22 17.4**	**-0.7**
WMQ				pP	**pP**	**08 22 27.4**	**+0.3**
WMQ				PcP	**PcP**	**08 23 01.4**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,26nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,190nm,8.3s						
BOD	**Bodaibo**	**60.61**	**348**	*e*P	P	08 22 22.2	+3.4
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
DDI	**Dehra Dun**	**61.20**	**306**	*ex*	**P**	**08 22 23.0**	**-0.4**
YAK	**Yakutsk**	**62.86**	**358**	*e*P	P	08 22 37.3	+3.5
YAK				pmax	pmax		
	comp=Z,29nm,1.2s						
YAK				pmax	pmax		
	comp=N,13nm,1.1s						
MK31	**Makanchi Array**	**65.27**	**324**	*e*P	**P**	**08 22 49.4**	**-0.7**
MK31	**Makanchi Array**	**65.27**	**324**	*e*P	**P**	**08 22 49.4**	**-0.7**
MKAR	**Makanchi Array**	**65.27**	**324**	P	**P**	**08 22 49.6**	**-0.5**
	comp=N,2.8nm,0.5s,baz=112,slow=8.0,SNR=24						
MKAR	**Makanchi Array**	**65.27**	**324**	*ce*P	**P**	**08 22 49.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**65.27**	**324**	P	**P**	**08 22 49.6**	**-0.5**
KSH	**Kashi**	**66.13**	**314**	P	**P**	**08 22 56.8**	**+0.9**
KSH				*ep*P	**pP**	**08 23 07.1**	**+2.1**
KSH				*e*PcP	**PcP**	**08 23 27.5**	**+1.4**
KSH				*e*PP	**PP**	**08 25 24.2**	**+2.4**
KSH				*e*PcS		08 27 30.5	
KSH				*e*S	**S**	**08 31 38.1**	**-4.8**
KSH				*e*ScS	**SKSac**	**08 32 46.2**	**-4.2**
KSH				pmax	pmax		
	comp=Z,23nm,1.1s						
KSH				pmax	pmax		
	comp=Z,130nm,5.6s						
KSH				LR	LR		
	comp=N,190nm,6.7s						
KSH				LR	LR		
	comp=E,120nm,4.4s						
KSH				LR	LR		
	comp=Z,92nm,5.4s						
TKM2	**Tokmak 2**	**67.73**	**318**	*e*P	**P**	**08 23 05.3**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s						
TKM2	**Tokmak 2**	**67.73**	**318**	*e*P	**P**	**08 23 05.3**	**-0.9**
	comp=Z,12nm,0.7s						
ZAA0	**Zalesovo Array**	**67.86**	**331**	*e*P	**P**	**08 23 04.4**	**-2.0**
ZAA0				*e*PcP	**PcP**	**08 23 34.0**	**+1.2**
ZALV	**Zalesovo Beam**	**67.86**	**331**	P	**P**	**08 23 04.5**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=118,slow=5.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**67.86**	**331**	P	**P**	**08 23 04.5**	**-1.9**
ZALV	**Zalesovo Beam**	**67.86**	**331**	*e*P	**P**	**08 23 04.5**	**-1.9**
AAK	**Ala-Archa**	**68.37**	**317**⇑	*e*P	**P**	**08 23 09.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,27nm,2.7s						
AAK	**Ala-Archa**	**68.37**	**317**	*e*P	**P**	**08 23 09.3**	**-0.8**
	comp=Z,40nm,1.1s						
EKS2	**Erkin-Say**	**68.87**	**317**	*e*P	**P**	**08 23 13.0**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
EKS2	**Erkin-Say**	**68.87**	**317**	*e*P	**P**	**08 23 13.0**	**-0.1**
	comp=Z,9.4nm,0.7s						
NVS	**Novosibirsk**	**69.13**	**332**	*e*P	**P**	**08 23 11.3**	**-3.0**
NVS				pmax	pmax		
	comp=N,9.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,13nm,1.6s						
NVS				pmax	pmax		
	comp=Z,19nm,1.6s						
KURK	**Kurchatov**	**69.33**	**326**	P	**P**	**08 23 14.7**	**-1.0**
	comp=Z,8.7nm,0.9s,baz=119,slow=5.8,SNR=63						
KURK	**Kurchatov**	**69.33**	**326**	*c iP*	**P**	**08 23 14.6**	**-1.0**
KURK				pmax	pmax		
	comp=Z,24nm,1.7s						
KURK	**Kurchatov**	**69.33**	**326**	*e*P	**P**	**08 23 14.7**	**-1.0**
	comp=Z,26nm,0.9s						
KURK	**Kurchatov**	**69.33**	**326**	P	**P**	**08 23 15.0**	**-0.7**
	comp=Z,174nm,0.9s,SNR=9.8						
KBL	**Kabul**	**69.74**	**307**	*e*P	**P**	**08 23 17.7**	**-1.1**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**69.74**	**307**	*e*P	**P**	**08 23 17.7**	**-1.1**
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**71.27**	**316**	*e*P	**P**	**08 23 27.1**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**71.27**	**316**	*e*P	**P**	**08 23 27.1**	**-0.6**
	comp=Z,11nm,0.7s						
BRVK	**Borovoye**	**75.00**	**326**	*c iP*	**P**	**08 23 48.5**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,12nm,1.7s						
BRVK	**Borovoye**	**75.00**	**326**	*e*P	**P**	**08 23 48.6**	**-0.9**
	comp=Z,22nm,1.0s						
ABKAR	**Akbulak array**	**80.05**	**320**	*e*P	**P**	**08 24 16.6**	**-1.2**
	comp=Z,3.6nm,0.6s						
ABKAR				*e*PP	**PP**	**08 27 19.3**	**-0.7**
SVE	**Sverdlovsk**	**81.48**	**328**	*e*P	**P**	**08 24 23.6**	**-1.7**
SVE				pmax	pmax		
	comp=Z,23nm,1.5s						
ARU	**Arti**	**82.50**	**327**	*d iP*	**P**	**08 24 29.4**	**-1.3**
ARU						08 27 36.8	
ARU				PPP	PPP	08 29 33.6	
ARU				S	**S**	**08 34 42.8**	**-2.6**
ARU				SS	**SS**	**08 40 01.9**	**-5.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**82.50**	**327**	*e*P	**P**	**08 24 29.2**	**-1.5**
	comp=Z,5.4nm,0.8s						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**08 24 48.3**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=254,slow=4.4,SNR=9.6						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**08 24 48.3**	**-1.9**
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**08 24 48.3**	**-1.9**
QSPA	**South Pole Qui**	**89.01**	**180**	*e*P	**P**	**08 25 04.5**	**+1.6**
	comp=Z,20nm,1.2s						
KIV	**Kislovodsk**	**91.25**	**314**	*de*P	**P**	**08 25 13.3**	**-0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
OBN	**Obninsk**	**94.75**	**325**⇑	*e*P	**P**	**08 25 27.1**	**-2.5**
OBN				pmax	pmax		
	comp=Z,19nm,1.5s						
BRTR	**Keskin Array B**	**98.21**	**310**	P	**P**	**08 25 43.7**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=94,slow=8.7,SNR=3.8						
BRTR	**Keskin Array B**	**98.21**	**310**	P	**P**	**08 25 43.7**	**-2.2**
BRTR	**Keskin Array B**	**98.21**	**310**	P	**P**	**08 25 43.7**	**-2.2**
TORD	**Torodi Ar. Bea**	**130.80**	**287**	PKP	**PKPdf**	**08 31 19.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=65,slow=1.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**130.80**	**287**	PKP	**PKPdf**	**08 31 19.4**	**-1.1**
LVC	**Limon Verde**	**147.97**	**138**	*e*PKPdf	**PKPbc**	**08 31 54.4**	**-0.4**
CPUP	**Villa Florida**	**150.94**	**160**	PKPbc	**PKPbc**	**08 32 03.0**	**+1.4**
	comp=Z,3.9nm,0.8s,baz=185,slow=1.9,SNR=8.8						
CPUP	**Villa Florida**	**150.94**	**160**	PKIKP	**PKPbc**	**08 32 03.0**	**+1.4**
CPUP	**Villa Florida**	**150.94**	**160**	PKPbc	**PKPbc**	**08 32 03.0**	**+1.4**
ROSC	**El Rosal**	**151.90**	**81**	PKPbc	**PKPbc**	**08 32 05.7**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=293,slow=15,SNR=2.0						
ROSC	**El Rosal**	**151.90**	**81**	PKPbc	**PKPbc**	**08 32 05.7**	**+0.9**
ROSC				*e*PKPdf	**PKPab**	**08 32 10.3**	**-3.6**
LPAZ	**La Paz**	**152.61**	**130**	PKPbc	**PKPbc**	**08 32 07.2**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=236,slow=6.5,SNR=6.3						
LPAZ	**La Paz**	**152.61**	**130**	PKIKP	**PKPbc**	**08 32 07.2**	**+0.7**
LPAZ	**La Paz**	**152.61**	**130**	PKPbc	**PKPbc**	**08 32 07.2**	**+0.7**

*IDC **04** 08:12:55.3±6.6, 31.°03S×178.°47W, h0km, mb4.3/2, mb1 4.6/2, mb1mx4.0/15, mbtmp4.3/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/24, Error ellipse: s-maj=273.6km s-min=56.7km az=156.0*

*ISCJB **04** 08:12:57.4±1.8, 31.°74S±0.°09×177.°9W±0.°3, h61km, mb4.3/2, Error ellipse: s-maj=37.5km s-min=10.6km az=12.8*

ISC 04 08:12:59.6±2.6, 31.°7S±0.°1×177.°9W±0.°4, h61km, n16, σ1°89/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.05**	**205**	*e*PN	**Pn**	**08 14 41.7**	**+1.5**
PUZ				SN	**Sn**	**08 15 59.2**	**+0.2**
CNGZ	**Carnagh Statio**	**7.44**	**204**	*e*PN	**Pn**	**08 14 48.2**	**+2.8**
MWZ	**Matawai**	**7.56**	**208**	*e*PN	**Pn**	**08 14 48.0**	**+0.8**
MWZ				SN	**Sn**	**08 16 13.5**	**+2.0**
URZ	**Urewera**	**7.67**	**211**	Sn	**Sn**	**08 16 15.3**	**+1.2**
	3.4nm,0.3s,baz=70,slow=23,SNR=6.5						
URZ				LR	LR	08 17 32.6	
	comp=Z,593nm,19.5s,baz=331,slow=34						
KNZ	**Kokohu**	**8.11**	**205**	*e*PN	**Pn**	**08 14 55.8**	**+1.2**
NMHZ	**Naumai**	**8.51**	**209**	*e*PN	**Pn**	**08 15 01.1**	**+0.9**
NMHZ				SN	**Sn**	**08 16 36.8**	**+2.1**
PXZ	**Pawanui**	**9.29**	**205**	*e*PN	**Pn**	**08 15 09.7**	**-1.1**
PXZ				*e*SN	**Sn**	**08 16 49.9**	**-3.8**
PRHZ	**Porangahau**	**9.58**	**206**	*e*PN	**Pn**	**08 15 13.7**	**-1.1**
DVHZ	**Dannevirke**	**9.79**	**207**	SN	**Sn**	**08 17 03.1**	**-2.9**
BFZ	**Birch Farm**	**10.03**	**206**	*e*PN	**Pn**	**08 15 20.2**	**-1.4**
MRZ	**Mangatainoka R**	**10.33**	**209**	*e*Pn	Pn	08 15 21.6	-3.4
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**08 20 53.5**	**-0.5**
	1.1nm,0.5s,baz=110,slow=8.0,SNR=3.3						
WRA	**Warramunga Arr**	**44.21**	**273**	P	**P**	**08 21 02.8**	**-0.1**
	13nm,0.9s,baz=113,slow=7.9,SNR=4.9						
VNA3	**Neumayer Olymp**	**76.98**	**176**	*e*	P	08 24 57.6	+12
VNA2	**Neumayer--Watz**	**77.41**	**177**	*e*	P	08 24 59.8	+12
	baz=194,slow=6.1						
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc	**PKPab**	**08 32 34.0**	**+0.1**
	1.6nm,0.7s,baz=53,slow=4.9,SNR=8.3						

IDC 04 08:15:47.0±1.3, 19.°99N×147.°09E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/22, mbtmp4.0/9, Error ellipse: s-maj=38.4km s-min=28.4km az=56.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.12**	**320**	P	P	08 21 05.3	+0.9
	3.1nm,0.8s,baz=145,slow=9.2,SNR=10						
SONM	**Songino Array**	**42.99**	**320**	P	P	08 23 47.5	-0.7
	1.2nm,0.7s,baz=124,slow=5.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**45.37**	**277**	P	P	08 24 08.1	+0.7
	1.1nm,0.3s,baz=60,slow=7.6,SNR=5.6						
STKA	**Stephens Creek**	**51.84**	**186**	P	P	08 24 56.5	-0.5
	2.5nm,0.9s,baz=1.1,slow=5.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**57.81**	**322**	P	P	08 25 39.9	-0.2
	1.3nm,0.5s,baz=109,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**58.53**	**313**	P	P	08 25 45.8	+0.4
	1.4nm,0.7s,baz=93,slow=9.5,SNR=3.8						
KURK	**Kurchatov**	**61.20**	**318**	P	P	08 26 03.6	+0.1
	2.0nm,0.6s,baz=91,slow=7.6,SNR=12						
NVAR	**Mina Array Bea**	**81.32**	**52**	P	P	08 28 06.8	+0.9
	0.8nm,0.7s,baz=258,slow=6.1,SNR=5.1						
FINES	**FINESS Array B**	**86.27**	**336**	P	P	08 28 28.5	-1.9
	2.2nm,0.8s,baz=55,slow=5.3,SNR=3.5						

WEL 04 08:17:11.4±0.4, 38.°45S×176.°01E, h153km±3km, ML3.5/9, Error ellipse: s-maj=2.6km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.74**	**206**	PN	Pn	08 17 34.8	+0.1
BKZ	**Black Stump Fm**	**0.81**	**152**	PN	Pn	08 17 35.2	+0.1
BKZ				SN	Sn	08 17 52.9	-0.3
TUVZ	**Tukino**	**0.87**	**198**	PN	Pn	08 17 35.7	+0.2
URZ	**Urewera**	**0.89**	**78**	PN	Pn	08 17 35.3	-0.2
URZ				SN	Sn	08 17 53.3	-0.5
NMHZ	**Naumai**	**0.90**	**136**	*e*PN	Pn	08 17 36.2	+0.5
WNVZ	**Wahianoa**	**0.94**	**200**	PN	Pn	08 17 36.2	0.0
MOVZ	**Moawhango**	**0.98**	**192**	PN	Pn	08 17 36.1	-0.3
PKVZ	**Pokaka**	**0.99**	**211**	PN	Pn	08 17 36.3	-0.1
MTVZ	**Mangateitei**	**1.03**	**204**	PN	Pn	08 17 36.7	0.0
BHHZ	**Black Hill Sta**	**1.04**	**178**	PN	Pn	08 17 36.7	-0.2
MWZ	**Matawai**	**1.20**	**85**	PN	Pn	08 17 38.1	-0.1
MWZ				SN	Sn	08 17 58.2	-0.6
CKHZ	**Cape Kidnapper**	**1.47**	**146**	PN	Pn	08 17 41.2	+0.4
PNHZ	**Pukenui**	**1.47**	**174**	PN	Pn	08 17 40.5	-0.4
KAHZ	**Kahuranaki**	**1.51**	**154**	PN	Pn	08 17 41.5	+0.2
WAZ	**Wanganui**	**1.53**	**211**	PN	Pn	08 17 41.0	-0.5
TSZ	**Takapari Road**	**1.61**	**181**	PN	Pn	08 17 41.9	-0.5
MHGZ	**Mahia Peninsul**	**1.64**	**116**	PN	Pn	08 17 43.0	+0.3
WPHZ	**Waipukurau**	**1.65**	**168**	PN	Pn	08 17 42.4	-0.3
PXZ	**Pawanui**	**1.72**	**158**	PN	Pn	08 17 43.2	-0.3
PRHZ	**Porangahau**	**1.88**	**165**	PN	Pn	08 17 44.7	-0.6
MRZ	**Mangatainoka R**	**2.24**	**188**	PN	Pn	08 17 47.8	-1.7
MRZ				SN	Sn	08 18 15.7	-3.2
BFZ	**Birch Farm**	**2.24**	**175**	PN	Pn	08 17 48.0	-1.5
TIWZ	**Tintock**	**2.33**	**182**	PN	Pn	08 17 48.9	-1.7
OGWZ	**Otaki Gorge**	**2.46**	**195**	PN	Pn	08 17 50.4	-1.7
KIW	**Kapiti Island**	**2.56**	**199**	PN	Pn	08 17 51.1	-2.3
MTW	**Mount Morrison**	**2.74**	**188**	PN	Pn	08 17 53.0	-2.6
CAW	**Cannon Point**	**2.76**	**195**	PN	Pn	08 17 53.5	-2.3
TCW	**Tory Channel**	**3.07**	**205**	PN	Pn	08 17 57.0	-2.7
PLWZ	**Palliser**	**3.17**	**190**	PN	Pn	08 17 58.0	-3.1

*IDC **04** 08:19:48.5±0.8, 0.°63S×134.°05E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML4.1/1, Error ellipse: s-maj=40.3km s-min=16.7km az=73.0*

*ISCJB **04** 08:19:51.2±0.7, 0.°70S±0.°10×134.°0E±0.°2, h32km, mb4.0/10, Error ellipse: s-maj=36.6km s-min=11.7km az=167.3*

*DJA **04** 08:19:52, 0.°62S×134.°03E, h21km, mb4.8/9*

*NEIC **04** 08:19:53.9±0.5, 0.°71S×133.°99E, h35km, mb4.1/1, Error ellipse: s-maj=27.8km s-min=9.8km az=73.0*

ISC 04 08:19:53.4±0.7, 0.°7S±0.°1×134.°0E±0.°2, h32km, n29, σ0°88/29, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**179**	P	**P**	**08 24 12.9**	**-1.5**
	0.6nm,0.3s,baz=360,slow=12,SNR=7.9						
WRA	**Warramunga Arr**	**19.16**	**179**	P	P	**08 24 12.9**	**-1.5**
ASAR	**Alice Springs**	**22.87**	**180**	P	**P**	**08 24 54.1**	**-0.2**
	2.4nm,0.6s,baz=359,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**22.87**	**180**	P	P	**08 24 54.1**	**-0.2**
STKA	**Stephens Creek**	**31.86**	**168**	P	P	**08 26 15.8**	**+0.1**
	3.0nm,0.8s,baz=347,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**31.86**	**168**	P	**P**	**08 26 15.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.38**	**301**	P	P	**08 27 19.9**	**-0.5**
	0.8nm,0.3s,baz=123,slow=7.3,SNR=7.7						
CMAR	**Chiang Mai Arr**	**39.38**	**301**	P	**P**	**08 27 19.9**	**-0.5**
USRK	**Ussuriysk Arra**	**44.70**	**358**	P	**P**	**08 28 02.5**	**-0.9**
	1.6nm,0.7s,baz=176,slow=7.2,SNR=3.6						
SONM	**Songino Array**	**53.96**	**337**	P	**P**	**08 29 13.5**	**-0.8**
	0.6nm,0.8s,baz=153,slow=5.6,SNR=2.8						
SONM	**Songino Array**	**53.96**	**337**	P	P	**08 29 13.5**	**-0.8**
MK31	**Makanchi Array**	**65.36**	**324**	*e*P	P	**08 30 32.9**	**+0.1**
MKAR	**Makanchi Array**	**65.36**	**324**	P	**P**	**08 30 32.8**	**0.0**
	2.1nm,0.7s,baz=114,slow=7.9,SNR=16						
MKAR	**Makanchi Array**	**65.36**	**324**	P	P	**08 30 32.8**	**0.0**
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	P	**08 30 47.9**	**-0.7**
	0.6nm,0.5s,baz=129,slow=6.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	P	**08 30 47.9**	**-0.7**
KURK	**Kurchatov**	**69.40**	**326**	P	P	**08 30 58.4**	**+0.2**
	2.5nm,0.7s,baz=119,slow=6.0,SNR=24						
KURK	**Kurchatov**	**69.40**	**326**	P	P	**08 30 58.4**	**+0.2**
ABKAR	**Akbulak array**

s-maj=42.9km s-min=16.3km az=69.0
*ISCJB **04** 08:33:26.5±0.6,28°.34N±0°.06×140°.0E±0°.1, h550km, mb3.3/5, Error ellipse: s-maj=17.7km s-min=6.6km az=167.5*
*JMA **04** 08:33:27.0±0.2,28°.34N×139°.84E, h540km, M3.7*

ISC 04 08:33:27.4±0.8, 28°.39N±0°.09×140°.3E±0°.2, h550km, n18, σ1§37/26, mb3.4/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**126**	P	**P**	**08 34 37.3**	**-0.5**
	baz=282,slow=20						
CBIJ				S	**S**	**08 35 32.2**	**-2.7**
	baz=288,slow=19						
CBIJ	**Chichi jima**	**2.15**	**126**	P	**P**	**08 34 37.8**	**0.0**
CBIJ				*e*S	**S**	**08 35 33.9**	**-1.0**
JHHJ	**Haha-jima-NKT**	**2.45**	**135**	P	**P**	**08 34 40.4**	**+1.1**
JHHJ				*e*S	**S**	**08 35 38.1**	**+0.4**
BSO3	**Boso 3**	**6.40**	**2**	*e*S	**S**	**08 36 33.7**	**+1.0**
JKN2	**Miekihoku**	**6.75**	**331**	P	**P**	**08 35 11.7**	**-1.1**
JOD2	**Odawara 2**	**6.93**	**352**	P	**P**	**08 35 14.0**	**-0.5**
JOD2				*e*S	**S**	**08 36 41.7**	**-0.7**
JHU	**Hanno**	**7.49**	**354**	P	**P**	**08 35 20.1**	**+0.2**
JHU				S	**S**	**08 36 50.3**	**-1.9**
JRY	**Ryogami san**	**7.69**	**352**	P	**P**	**08 35 21.6**	**-0.3**
JRY				*e*S	**S**	**08 36 54.9**	**-1.1**
JAG	**Ashikaga**	**8.04**	**355**	P	**P**	**08 35 25.1**	**-0.2**
JAG				S	**S**	**08 36 59.7**	**-2.5**
JHO	**Hitachi**	**8.21**	**2**	P	**P**	**08 35 28.7**	**+1.8**
JHO				S	**S**	**08 37 04.0**	**-1.2**
MJAR	**Matsushiro Arr**	**8.31**	**349**	P	**P**	**08 35 25.7**	**-2.4**
	0.7nm,0.3s,baz=172,slow=12,SNR=11						
USRK	**Ussuriysk Arra**	**17.11**	**339**	P	**P**	**08 36 58.8**	**+2.0**
	0.1nm,0.3s,baz=147,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**48.33**	**309**	P	**P**	**08 41 18.3**	**-0.8**
	0.1nm,0.3s,baz=87,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**48.38**	**187**	P	**P**	**08 41 20.1**	**+0.4**
	0.4nm,0.3s,baz=3.5,slow=7.7,SNR=8.6						
KURK	**Kurchatov**	**50.86**	**314**	P	**P**	**08 41 37.6**	**+0.1**
	0.8nm,0.5s,baz=92,slow=8.3,SNR=12						
BVAR	**Borovoye Array**	**55.93**	**317**	P	**P**	**08 42 13.9**	**+0.5**
	1.2nm,0.5s,baz=92,slow=7.5,SNR=10.0						
FINES	**FINESS Array B**	**76.03**	**333**	P	**P**	**08 44 19.8**	**+1.7**
	0.9nm,0.3s,baz=67,slow=4.0,SNR=14						
LPAZ	**La Paz**	**151.20**	**71**	PKPbc	**PKPbc**	**08 52 19.4**	**-0.8**
	0.6nm,0.5s,baz=342,slow=6.4,SNR=3.3						

IDC 04 08:37:09.9±3.7, 0°.82S×132°.90E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/17, mbtmp3.2/4, ML3.6/1, Error ellipse: s-maj=231.9km s-min=24.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.06**	**176**	P	P	08 41 34.3	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**22.74**	**178**	P	P	08 42 13.8	0.0
	0.5nm,0.7s,baz=0.5,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	08 47 50.1	-0.6
	0.2nm,0.6s,baz=118,slow=8.3,SNR=4.1						
KURK	**Kurchatov**	**68.89**	**326**	P	P	08 48 17.0	+0.4
	0.2nm,0.3s,baz=108,slow=5.9,SNR=3.2						

*IDC **04** 08:43:23.2±9.0, 29°.76S×178°.92W, h368km±92km, mb3.3/3, mb1 3.4/4, mb1mx3.2/14, mbtmp3.3/4, Error ellipse: s-maj=90.0km s-min=46.3km az=8.0*

ISC 04 08:43:22.3±2.2, 29°.82S±0°.10×179°.0W±0°.3, h350km, n14, σ1§06/19, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**8.03**	**195**	*e*PN	Pn	08 45 20.6	+3.9
MXZ				SN	**S**	**08 46 49.5**	**-0.5**
PUZ	**Puketiti**	**8.53**	**195**	*e*PN	**Pn**	**08 45 23.8**	**+1.1**
PUZ				SN	**S**	**08 47 00.2**	**-0.7**
MWZ	**Matawai**	**8.96**	**198**	*e*PN	**Pn**	**08 45 28.2**	**+0.4**
URZ	**Urewera**	**9.00**	**200**	P	**P**	**08 45 31.3**	**+0.8**
	1.4nm,0.3s,baz=20,slow=15,SNR=16						
URZ				S	**S**	**08 47 12.2**	**+1.0**
	1.5nm,0.3s,baz=86,slow=14,SNR=7.7						
URZ	**Urewera**	**9.00**	**200**	*e*PN	**Pn**	**08 45 29.4**	**+1.2**
URZ				SN	**S**	**08 47 12.0**	**+0.8**
PXZ	**Pawanui**	**10.73**	**197**	*e*PN	**Pn**	**08 45 49.0**	**+0.3**
PXZ				*e*SN	**S**	**08 47 47.3**	**-1.8**
BFZ	**Birch Farm**	**11.50**	**198**	*e*PN	**P**	**08 45 58.9**	**+0.7**
BFZ				*e*SN	**S**	**08 48 04.4**	**-1.9**
MRZ	**Mangatainoka R**	**11.68**	**201**	*e*PN	**Pn**	**08 45 59.1**	**-0.9**
CAW	**Cannon Point**	**12.24**	**201**	*e*PN	**P**	**08 46 05.9**	**-0.5**
THZ	**Tophouse**	**13.59**	**207**	*e*PN	**P**	**08 46 21.1**	**-0.3**
STKA	**Stephens Creek**	**33.74**	**256**	P	**P**	**08 49 33.5**	**+1.3**
	1.8nm,0.4s,baz=102,slow=10,SNR=13						
ASAR	**Alice Springs**	**42.25**	**267**	P	**P**	**08 50 42.4**	**-0.3**
	1.5nm,0.5s,baz=102,slow=7.0,SNR=33						
WRA	**Warramunga Arr**	**43.18**	**272**	P	**P**	**08 50 49.2**	**-0.9**
	0.9nm,0.5s,baz=110,slow=7.3,SNR=6.4						
FINES	**FINESS Array B**	**144.30**	**340**	PKP	**PKPab**	**09 02 14.4**	**-1.0**
	0.7nm,0.4s,baz=65,slow=3.3,SNR=12						

IDC 04 08:51:44.2±1.2, 0°.61S×133°.87E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/17, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=67.8km s-min=23.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**179**	P	P	08 56 09.6	-0.5
	0.1nm,0.3s,baz=359,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**22.92**	**180**	P	P	08 56 50.5	+0.4
	0.8nm,0.5s,baz=357,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**65.21**	**324**	P	P	09 02 28.3	+0.8
	0.2nm,0.5s,baz=126,slow=7.3,SNR=3.2						
KURK	**Kurchatov**	**69.26**	**326**	P	P	09 02 52.3	-0.7
	0.1nm,0.5s,baz=114,slow=6.0,SNR=2.2						
ILAR	**Eielson Array**	**85.96**	**25**	P	P	09 04 26.1	0.0
	0.2nm,0.9s,baz=272,slow=3.5,SNR=3.6						

IDC 04 08:54:17.1±1.1, 0°.28S×133°.24E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/17, mbtmp3.6/7, ML3.5/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/19, Error ellipse: s-maj=50.2km s-min=19.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.58**	**177**	P	P	08 58 46.8	0.0
	0.1nm,0.3s,baz=354,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**23.26**	**178**	P	P	08 59 26.4	-0.1
	1.2nm,0.7s,baz=354,slow=9.6,SNR=11						
CBIJ	**Chichi jima**	**28.54**	**17**	LR	LR	09 08 45.8	
	comp=Z,249nm,21.3s,baz=124,slow=30						
STKA	**Stephens Creek**	**32.41**	**167**	P	P	09 00 48.7	-0.1
	1.1nm,0.6s,baz=310,slow=8.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**38.49**	**301**	P	P	09 01 42.0	+0.7
	0.6nm,0.3s,baz=119,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	09 04 55.0	-1.2
	0.4nm,0.9s,baz=113,slow=7.7,SNR=4.1						
BVAR	**Borovoye Array**	**74.23**	**326**	P	P	09 05 55.8	0.0
	0.5nm,0.8s,baz=106,slow=3.1,SNR=2.6						
ILAR	**Eielson Array**	**85.93**	**25**	P	P	09 06 59.3	+0.5
	0.3nm,1.0s,baz=252,slow=4.6,SNR=2.4						

*BJI **04** 08:54:25.7, 1°.26S×133°.76E, h35km, mB5.0/12, mb4.6/18, Ms4.5/5, Ms7 4.3/5*
*IDC **04** 08:54:28.1±0.8, 0°.26S×133°.01E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, ML3.9/2, Error ellipse: s-maj=38.9km s-min=12.0km az=74.0*
*ISCJB **04** 08:54:32.7±0.4, 0°.46S±0°.04×133°.04E±0°.06, h32km, mb4.3/19, MS4.3/2, Error ellipse: s-maj=8.2km s-min=5.5km az=162.4*
*DJA **04** 08:54:33, 0°.29S×132°.93E, h30km, mb4.9/9*
*NEIC **04** 08:54:33.4±0.4, 0°.29S×133°.10E, h35km, mb4.5/4, Error ellipse: s-maj=11.1km s-min=6.6km az=62.0*

ISC 04 08:54:34.1±0.5, 0°.45S±0°.05×133°.04E±0°.06, h32km, n50, σ2§29/59, mb4.5/19, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.58**	**198**	P	**Pn**	**08 55 15.3**	**+1.7**
BAKI	**Biak**	**3.15**	**103**	P	**Pn**	**08 55 23.2**	**+1.7**
MSAI	**Masohi**	**5.02**	**235**	P	**Pn**	**08 55 48.6**	**+1.4**
	78nm,0.6s,2µm0.3nm						
TLE	**Tual**	**5.16**	**183**	P	Pn	08 55 52.4	+3.2
	272nm,0.8s,5µm1.9nm						
LBMI	**Labuha**	**5.54**	**268**	P	**Pn**	**08 55 52.0**	**-2.5**
	91nm,1.0s,0.3nm						
AAI	**Ambon**	**5.81**	**236**	P	**Pn**	**08 55 58.2**	**+0.1**
	178nm,0.8s,2µm0.7nm						
SMPI	**Sarmi**	**5.87**	**105**	P	Pn	08 56 02.6	+3.7
	83nm,1.0s,3µm0.3nm						
KAPI	**Kappang**	**14.02**	**251**	*e*Pn	**Pn**	**08 57 52.4**	**+1.7**
PMG	**Port Moresby**	**16.63**	**123**	Pn	**Pn**	**08 58 23.6**	**-1.4**
	0.4nm,0.3s,baz=330,slow=16,SNR=2.4						
PMG	**Port Moresby**	**16.63**	**123**	Pn	**Pn**	**08 58 23.6**	**-1.4**
COEN	**Coen**	**16.75**	**144**	*e*Pn	**Pn**	**08 58 27.0**	**+0.5**
	70nm,1.1s						
WRAB	**Tennant Creek**	**19.40**	**176**	*e*P	**P**	**08 58 58.0**	**+0.4**
	22nm,1.0s						
WRAB				*e*S	S	09 02 20.6	-15
WRA	**Warramunga Arr**	**19.41**	**176**	P	**P**	**08 58 57.7**	**-0.1**
	0.9nm,0.3s,baz=354,slow=11,SNR=33						
WRA				S	**S**	**09 02 30.1**	**-5.6**
	0.5nm,0.3s,baz=359,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**19.41**	**176**	P	**P**	**08 58 57.7**	**-0.1**
WRA				S	**S**	**09 02 30.1**	**-5.6**
WB2	**Warramunga Arr**	**19.41**	**176**	*e*P	**P**	**08 58 58.1**	**+0.4**
AS31	**Alice Springs**	**23.09**	**178**	*e*P	**P**	**08 59 37.6**	**+0.3**
ASAR	**Alice Springs**	**23.09**	**178**	P	**P**	**08 59 37.6**	**+0.3**
	17nm,0.8s,baz=2.4,slow=11,SNR=52						
ASAR				S	**S**	**09 03 53.2**	**+6.7**
	3.6nm,1.0s,baz=358,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**23.09**	**178**	P	**P**	**08 59 37.6**	**+0.3**
ASAR				S	**S**	**09 03 53.2**	**+6.7**
CTAO	**Charters Tower**	**23.41**	**147**	*e*P	**P**	**08 59 41.8**	**+1.3**
	12nm,0.8s						
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**	**08 59 49.0**	**-0.2**
	17nm,1.2s						
HNR	**Honiara**	**28.22**	**109**	*e*P	**P**	**09 00 23.6**	**-0.7**
	296nm,1.1s						
STKA	**Stephens Creek**	**32.28**	**166**	P	**P**	**09 00 59.7**	**-0.4**
	9.3nm,0.7s,baz=344,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**32.28**	**166**	*e*P	**P**	**09 01 00.2**	**+0.2**
GYA	**Guiyang**	**36.91**	**318**	*e*P	**P**	**09 01 42.7**	**+2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.42**	**301**	P	**P**	**09 01 50.0**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=116,slow=7.0,SNR=9.5						
CMAR	**Chiang Mai Arr**	**38.42**	**301**	P	**P**	**09 01 50.0**	**-3.0**
KMI	**Kunming**	**38.80**	**313**	P	**P**	**09 01 58.4**	**+1.9**
KMI				pP	**pP**	**09 02 09.0**	**+3.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2	**Chengdu**	**41.79**	**321**	P	**P**	**09 02 22.7**	**+1.8**
CN2	**Changchun**	**44.58**	**352**	*e*P	**P**	**09 02 43.3**	**+0.1**
CN2				*e*S	**S**	**09 09 16.4**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
MDJ	**Mudanjiang**	**44.98**	**357**	P	**P**	**09 02 48.2**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,120nm,6.3s						
LZH	**Lanzhou**	**45.38**	**326**	*e*P	**P**	**09 02 52.0**	**+2.1**
LZH				pP	**pP**	**09 03 01.0**	**+1.6**
LZH				sP	**sP**	**09 03 05.0**	**+1.8**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.51**	**337**	*e*P	**P**	**09 02 51.0**	**+0.2**
HHC				pP	**pP**	**09 03 00.9**	**+0.6**
HHC				sP	**sP**	**09 03 04.8**	**+0.7**
HHC				PP	PP	09 04 38.6	+0.9
HHC				S	**S**	**09 09 30.2**	**-0.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.1s						
HHC				LR	LR		
	comp=N,130nm,15.1s						
HHC				LR	LR		
	comp=E,150nm,14.9s						
HHC				LR	LR		
	comp=Z,190nm,13.0s						
SONM	**Songino Array**	**53.39**	**338**	P	**P**	**09 03 47.9**	**-3.0**
	comp=Z,0.6nm,0.6s,baz=157,slow=5.7,SNR=5.4						
SONM	**Songino Array**	**53.39**	**338**	P	**P**	**09 03 47.9**	**-3.0**
WMQ	**Urumqi**	**59.78**	**323**	*e*P	**P**	**09 04 38.3**	**+2.0**
MKAR	**Makanchi Array**	**64.60**	**324**	P	**P**	**09 05 07.2**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=132,slow=7.0,SNR=19						
MKAR	**Makanchi Array**	**64.60**	**324**	P	**P**	**09 05 07.2**	**-1.3**
ZALV	**Zalesovo Beam**	**67.20**	**331**	P	**P**	**09 05 23.2**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=123,slow=6.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**67.20**	**331**	P	**P**	**09 05 23.2**	**-1.9**
KURK	**Kurchatov**	**68.67**	**326**	P	**P**	**09 05 32.4**	**-1.9**
	comp=Z,3.3nm,1.0s,baz=120,slow=5.9,SNR=18						
KURK	**Kurchatov**	**68.67**	**326**	P	**P**	**09 05 32.4**	**-1.9**
BVAR	**Borovoye Array**	**74.26**	**326**	P	**P**	**09 06 05.1**	**-3.0**
	comp=Z,2.2nm,1.0s,baz=102,slow=6.2,SNR=6.1						
BVAR	**Borovoye Array**	**74.26**	**326**	P	**P**	**09 06 05.1**	**-3.0**
ABKAR	**Akbulak array**	**79.36**	**320**	*e*P	**P**	**09 06 36.8**	**-0.1**
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**09 07 10.6**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=270,slow=4.4,SNR=8.7						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**09 07 10.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**130.19**	**287**	PKP	**PKPdf**	**09 13 42.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=85,slow=3.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**130.19**	**287**	PKP	**PKPdf**	**09 13 42.0**	**-0.1**
CPUP	**Villa Florida**	**151.56**	**160**	PKPbc	**PKPbc**	**09 14 25.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=236,slow=5.7,SNR=3.9						
CPUP	**Villa Florida**	**151.56**	**160**	PKPbc	**PKPbc**	**09 14 25.6**	**-0.3**

IDC 04 09:02:60.0±0.9, 9°.00S×158°.26E, h22km±5km, mb3.7/6, mb1 3.8/6, mb1mx3.6/13, mbtmp3.7/6, Error ellipse: s-maj=27.4km s-min=20.5km az=8.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**105**	Pn	Pn	09 03 28.7	+0.1
	18nm,0.3s,baz=336,slow=1.4,SNR=13						
HNR				Sn	Sn	09 03 50.5	+0.6
	94nm,0.3s,baz=231,slow=18,SNR=7.2						
ASAR	**Alice Springs**	**27.48**	**235**	P	P	09 08 43.6	-1.4
	0.4nm,0.8s,baz=62,slow=9.8,SNR=3.6						
STKA	**Stephens Creek**	**27.52**	**212**	P	P	09 08 46.3	+1.2
	1.6nm,0.9s,baz=78,slow=20,SNR=3.7						
SONM	**Songino Array**	**72.77**	**326**	P	P	09 14 27.7	+0.9
	0.8nm,0.6s,baz=135,slow=5.4,SNR=6.1						
SONM				pP	pP	09 14 35.2	+1.2
	0.4nm,0.8s,baz=141,slow=5.5,SNR=4.1						
ILAR	**Eielson Array**	**84.07**	**21**	P	P	09 15 28.6	0.0
	0.4nm,0.6s,baz=246,slow=4.8,SNR=5.6						
ILAR				pP	pP	09 15 35.3	-0.7
	0.6nm,0.9s,baz=250,slow=3.5,SNR=3.5						
MKAR	**Makanchi Array**	**87.04**	**318**	P	P	09 15 43.6	-0.3
	0.6nm,0.5s,baz=100,slow=6.1,SNR=14						
MKAR				pP	pP	09 15 51.1	-0.1
	0.6nm,0.5s,baz=91,slow=6.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**87.64**	**325**	P	P	09 15 45.7	-0.9
	0.4nm,0.5s,baz=130,slow=5.6,SNR=2.6						
ZALV				pP	pP	09 15 53.1	-0.7
	0.3nm,0.4s,baz=101,slow=7.5,SNR=1.4						

IDC 04 09:03:58.2±2.5, 0°.97S×134°.10E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/17, Error ellipse: s-maj=133.6km s-min=24.0km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**179**	P	Pn	09 08 21.0	+0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**22.57**	**180**	P	P	09 08 59.8	-0.5
	1.0nm,0.8s,baz=5.4,slow=11,SNR=5.4						
ASAJ	**Asahikawa**	**45.52**	**9**	LR	LR	09 28 52.8	
	comp=Z,66nm,21.5s,baz=325,slow=33						
MKAR	**Makanchi Array**	**65.64**	**324**	P	P	09 14 43.2	-1.1
	0.3nm,0.7s,baz=114,slow=6.5,SNR=2.5						
KURK	**Kurchatov**	**69.68**	**326**	P	P	09 15 10.7	+1.1
	0.1nm,0.3s,baz=129,slow=7.3,SNR=4.0						

IDC 04 09:05:41.8±2.4, 0°.44S×132°.75E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=186.9km s-min=18.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.45**	**175**	P	Pn	09 10 10.6	-0.6
	0.2nm,0.3s,baz=352,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.12**	**177**	P	P	09 10 50.2	+0.6
	2.2nm,0.8s,baz=355,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**32.37**	**166**	P	P	09 12 12.1	-1.0
	1.1nm,0.5s,baz=348,slow=9.8,SNR=4.2						
MKAR	**Makanchi Array**	**64.41**	**324**	P	P	09 16 19.9	0.0
	0.2nm,0.6s,baz=110,slow=7.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**67.05**	**332**	P	P	09 16 37.0	+0.3
	0.2nm,0.3s,baz=69,slow=8.0,SNR=2.2						
KURK	**Kurchatov**	**68.49**	**326**	P	P	09 16 45.6	-0.2
	0.5nm,0.9s,baz=117,slow=6.3,SNR=3.1						

IDC 04 09:07:37.9±2.8, 0°.23S×133°.09E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=139.2km s-min=29.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63**	**177**	P	P	09 12 08.4	+0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.31**	**178**	P	P	09 12 47.7	-0.1
	1.3nm,0.6s,baz=12,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**64.45**	**324**	P	P	09 18 16.3	-0.1
	0.3nm,0.7s,baz=103,slow=7.7,SNR=3.7						

IDC 04 09:09:18.1±2.4, 0°.85S×133°.23E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/18, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=145.5km s-min=22.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.00**	**177**	P	P	09 13 41.6	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**22.69**	**178**	P	P	09 14 21.6	+0.1
	1.1nm,0.8s,baz=6.0,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	09 19 59.5	-0.7
	0.1nm,0.5s,baz=118,slow=9.1,SNR=2.7						
KURK	**Kurchatov**	**69.10**	**326**	P	P	09 20 26.6	+0.6
	0.3nm,0.7s,baz=114,slow=5.3,SNR=3.3						
BVAR	**Borovoye Array**	**74.70**	**326**	P	P	09 20 59.9	+0.2
	0.2nm,0.5s,baz=111,slow=6.3,SNR=2.3						
CLL	**Collm**	**109.12**	**325**	Lm	MLR	09 27 00.0	
	comp=Z,400nm,21.2s						

IDC 04 09:11:05.8±2.9, 0°.28S×132°.80E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=142.5km s-min=29.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.60**	**176**	P	P	09 15 35.8	0.0
	0.3nm,0.3s,baz=355,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.27**	**177**	P	P	09 16 15.4	+0.1
	1.5nm,0.5s,baz=356,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	09 21 43.3	-0.1
	0.2nm,0.8s,baz=126,slow=7.6,SNR=3.3						

*ISK **04** 09:11:14.8, 39°.33N×38°.37E, h2km, MD3.0*
*DDA **04** 09:11:14.6, 39°.35N×38°.33E, h8km, MD3.0*
*CSEM **04** 09:11:15.3±0.2, 39°.34N×38°.32E, h2km, MD3.0, Error ellipse: s-maj=4.9km s-min=3.7km az=109.0*
*ISCJB **04** 09:11:15.2±0.7, 39°.35N±0°.02×38°.33E±0°.04, h2km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=13.7*

ISC 04 09:11:15.5±0.9, 39°.34N±0°.02×38°.32E±0°.02, h11km±7km, n34, σ0§79/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.15**	**119**	*i* P	**Pg**	**09 11 18.9**	**-0.2**
KEMA				*i* S	**Sg**	**09 11 21.6**	**0.0**
KEMA	**Kemaliye**	**0.15**	**119**	*i* P	**Pg**	**09 11 18.9**	**-0.2**
KEMA				*i* S	**Sg**	**09 11 21.6**	**0.0**
ILIC	**ilic-Erzincan**	**0.22**	**60**	PG	**Pg**	**09 11 19.9**	**-0.3**
ILIC				*e*SG	**Sg**	**09 11 23.3**	**-0.1**
ILIC	**ilic-Erzincan**	**0.22**	**60**	*i* Pg	**Pg**	**09 11 19.9**	**-0.3**
ILIC				*e*Sg	**Sg**	**09 11 23.3**	**-0.1**
SUSE	**Susehri**	**0.87**	**354**	*i* P	**Pg**	**09 11 31.4**	**-0.9**
SUSE				*i* S	**Sb**	**09 11 44.6**	**+0.1**
SUSE	**Susehri**	**0.87**	**354**	*i* P	**Pg**	**09 11 31.4**	**-0.9**
SUSE				*i* S	**Sb**	**09 11 44.6**	**+0.1**
EZZC	**Erzincan**	**0.90**	**63**	*e*Pn	**Pn**	**09 11 35.6**	**+1.4**
PTK	**Pertek**	**0.95**	**118**	*e*PG	**Pg**	**09 11 32.9**	**-0.9**
PTK				*e*SG	**Sb**	**09 11 46.8**	**+0.1**
PTK	**Pertek**	**0.95**	**118**	*e*Pg	**Pg**	**09 11 32.9**	**-0.9**
PTK				*e*Sg	**Sb**	**09 11 46.8**	**+0.1**
ELZG	**Elazig**	**0.99

*IDC **04** 09:15:34.1±1.5,0.°30S×133.°09E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/18,mbtmp3.8/8,Error ellipse: s-maj=86.4km s-min=18.0km az=72.0*
*ISCJB **04** 09:15:36.9±1.2,0.°4S±0.°2×133.°0E±0.°4,h32km,mb3.8/7, Error ellipse: s-maj=66.5km s-min=11.4km az=162.4*
*NEIC **04** 09:15:39.9±1.3,0.°44S×132.°87E,h35km,mb4.2/3,Error ellipse: s-maj=70.8km s-min=11.4km az=72.0*

ISC 04 09:15:39.1±1.4,0.°4S±0.°2×132.°9E±0.°5,h32km,n18, σ0s98/18,mb3.9/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**19.43**	**176**	*eP*	**P**	**09 20 00.9**	**-2.0**
	3.9nm,0.5s						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**09 20 04.5**	**+0.1**
	0.4nm,0.3s,baz=352,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**09 20 04.5**	**+0.1**
WB2	**Warramunga Arr**	**19.43**	**176**	*eP*	**Pn**	**09 20 03.8**	**-0.6**
ASAR	**Alice Springs**	**23.11**	**178**	P	**P**	**09 20 43.9**	**+1.4**
	2.1nm,0.6s,baz=354,slow=9.7,SNR=7.1						
ASAR	**Alice Springs**	**23.11**	**178**	P	**P**	**09 20 43.9**	**+1.4**
STKA	**Stephens Creek**	**32.32**	**166**	P	**P**	**09 22 04.8**	**-0.6**
	1.4nm,0.6s,baz=347,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**32.32**	**166**	*eP*	**P**	**09 22 06.1**	**+0.7**
	21nm,2.2s						
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**09 22 57.2**	**-0.1**
	0.9nm,0.3s,baz=119,slow=6.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**09 22 57.2**	**-0.1**
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**09 24 55.4**	**-0.1**
	0.4nm,0.9s,baz=122,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**09 24 55.4**	**-0.1**
MKAR	**Makanchi Array**	**64.53**	**324**	P	**P**	**09 26 11.9**	**-1.1**
	0.5nm,0.5s,baz=113,slow=7.9,SNR=8.1						
MKAR	**Makanchi Array**	**64.53**	**324**	P	**P**	**09 26 11.9**	**-1.1**
KURK	**Kurchatov**	**68.60**	**326**	P	**P**	**09 26 39.1**	**+0.2**
	0.6nm,0.7s,baz=123,slow=5.6,SNR=3.6						
KURK	**Kurchatov**	**68.60**	**326**	*eP*	**P**	**09 26 40.5**	**+1.6**
	2.2nm,1.0s						
BVAR	**Borovoye Array**	**74.19**	**326**	P	**P**	**09 27 12.7**	**0.0**
	0.5nm,0.7s,baz=134,slow=4.2,SNR=3.0						
BVAR	**Borovoye Array**	**74.19**	**326**	P	**P**	**09 27 12.7**	**0.0**

IDC 04 09:17:56.2±6.9,0.°47S×133.°56E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/17,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=427.5km s-min=24.0km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.36**	**178**	P	P	09 22 23.5	-0.1
	0.1nm,0.3s,baz=358,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**23.06**	**179**	P	P	09 23 03.4	0.0
	0.6nm,0.6s,baz=6.1,slow=9.6,SNR=3.5						
MKAR	**Makanchi Array**	**64.92**	**324**	P	P	09 28 37.3	-0.3
	0.3nm,0.6s,baz=115,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	**68.97**	**326**	P	P	09 29 03.6	+0.3
	0.5nm,0.8s,baz=119,slow=5.7,SNR=4.7						

*IDC **04** 09:21:05.7±2.0,0.°27S×132.°76E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.6/17,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=122.8km s-min=21.0km az=72.0*

NEIC 04 09:21:14.9±1.8,0.°96S×131.°05E,h35km,mb4.1/3,Error ellipse: s-maj=150.0km s-min=11.8km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**19.13**	**170**	*eP*	P	09 25 34.7	-0.4
	4.1nm,0.7s						
WRA	**Warramunga Arr**	**19.14**	**171**	P	P	09 25 34.9	-0.3
	0.3nm,0.3s,baz=355,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**19.14**	**171**	P	P	09 25 34.9	-0.3
WB2	**Warramunga Arr**	**19.14**	**170**	*eP*	P	09 25 35.2	0.0
AS31	**Alice Springs**	**22.74**	**173**	*eP*	P	09 26 14.4	+0.3
ASAR	**Alice Springs**	**22.74**	**173**	P	P	09 26 14.3	+0.2
	2.7nm,0.8s,baz=17,slow=10,SNR=17						
ASAR	**Alice Springs**	**22.74**	**173**	P	P	09 26 14.3	+0.2
STKA	**Stephens Creek**	**32.32**	**163**	P	P	09 27 40.5	-0.3
	1.0nm,0.5s,baz=349,slow=9.3,SNR=3.6						
STKA	**Stephens Creek**	**32.32**	**163**	*eP*	P	09 27 40.7	-0.1
	11nm,1.9s						
MKAR	**Makanchi Array**	**63.85**	**325**	P	P	09 31 42.8	-1.1
	0.4nm,0.7s,baz=114,slow=6.5,SNR=5.9						
MKAR	**Makanchi Array**	**63.85**	**325**	P	P	09 31 42.8	-1.1
KURK	**Kurchatov**	**68.00**	**327**	P	P	09 32 08.9	-1.6
	0.3nm,0.6s,baz=123,slow=5.7,SNR=5.5						
KURK	**Kurchatov**	**68.00**	**327**	*eP*	P	09 32 11.6	+1.1
	1.9nm,1.0s						

DDA 04 09:22:21.0,36.°98N×28.°22E,h7km,MD2.6,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.32**	**109**	*i* P	Pg	09 22 25.4	-1.9
TURN				*i* S	Sg	09 22 28.7	-2.9
AYDN	**Tasoluk**	**0.73**	**338**	*i* P	Pb	09 22 35.8	-0.3
AYDN				*i* S	Sb	09 22 45.7	-0.7
GOLH	**Golhisar**	**1.10**	**76**	*i* P	Pn	09 22 43.6	+0.6
GOLH				*i* S	Sn	09 22 58.0	-0.6

IDC 04 09:24:23.7±5.4,1.°14S×131.°96E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=350.9km s-min=28.9km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.83**	**173**	P	Pn	09 28 46.0	+0.3
	baz=352,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**22.47**	**175**	P	P	09 29 24.2	-0.5
	0.7nm,0.6s,baz=5.7,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**64.52**	**325**	P	P	09 35 02.5	0.0
	0.2nm,0.6s,baz=109,slow=10,SNR=3.9						

*CSEM **04** 09:29:25.1±0.2,39.°36N×40.°52E,h2km,MD3.0,Error ellipse: s-maj=4.4km s-min=3.4km az=128.0*
*DDA **04** 09:29:25.6,39.°38N×40.°49E,h7km,MD2.8*
*ISK **04** 09:29:25.1,39.°38N×40.°51E,h6km,MD3.0*

ISC 04 09:29:25.6±1.1,39.°36N±0.°02×40.°51E±0.°03,h5km±13km, n30,σ0s61/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bing¨¶l**	**0.40**	**160**	*e*PG	**Pg**	**09 29 33.6**	**+0.3**
BNGB				*e*SG	**Sg**	**09 29 39.8**	**+1.3**
BINT	**Bingol**	**0.49**	**182**	*e*Pg	**Pg**	**09 29 33.6**	**-1.4**
BINT				*e*Sg	**Sg**	**09 29 39.8**	**-1.6**
BNGL	**BINGOL**	**0.65**	**129**	*i* P	**Pg**	**09 29 38.4**	**+0.3**
BNGL				*i* S	**Sb**	**09 29 48.6**	**-0.3**
ERZN	**Erzincan**	**0.65**	**290**	*e*PG	**Pg**	**09 29 38.0**	**-0.1**
KOPT	**Kop Dagi**	**0.65**	**359**	*i* P	**Pg**	**09 29 38.2**	**0.0**
KOPT				*i* S	**Sg**	**09 29 47.4**	**+0.6**
KOPT	**Kop Dagi**	**0.65**	**359**	*i* P	**Pg**	**09 29 38.2**	**0.0**
KOPT				*i* S	**Sg**	**09 29 47.4**	**+0.6**
VRTB	**Varto-Mus**	**0.76**	**105**	*e*PG	**Pg**	**09 29 40.2**	**-0.1**
VRTB	**Varto-Mus**	**0.76**	**105**	*e*Pg	**Pg**	**09 29 40.2**	**-0.1**
EZM	**Erzurum**	**0.85**	**50**	*e*PG	**Pg**	**09 29 41.4**	**-0.6**
EZM				*e*SG	**Sg**	**09 29 54.1**	**+1.0**
ERZM	**Erzurum**	**0.85**	**50**	*i* P	**Pg**	**09 29 41.2**	**-0.9**
ERZM				*i* S	**Sg**	**09 29 53.2**	**0.0**
ERZM	**Erzurum**	**0.85**	**50**	*i* P	**Pg**	**09 29 41.2**	**-0.9**
ERZM				*i* S	**Sg**	**09 29 53.2**	**0.0**
PTK	**Pertek**	**0.99**	**242**	*e*PG	**Pg**	**09 29 44.4**	**-0.2**
PTK				*e*SG	**Sb**	**09 29 59.0**	**+0.3**
PTK	**Pertek**	**0.99**	**242**	*e*Pg	**Pg**	**09 29 44.4**	**-0.2**
PTK				*e*Sg	**Sb**	**09 29 59.1**	**+0.3**
BAYT	**Ayd¨¬ntepe-Bay**	**1.07**	**345**	*e*PG	**Pg**	**09 29 45.6**	**-0.5**
BAYT	**Ayd¨¬ntepe-Bay**	**1.07**	**345**	*e*Pg	**Pg**	**09 29 45.6**	**-0.5**
KELT	**Kelkit**	**1.24**	**309**	*i* P	**Pg**	**09 29 48.7**	**-0.8**
KELT	**Kelkit**	**1.24**	**309**	*i* P	**Pg**	**09 29 48.7**	**-0.8**
GUMT	**Gumushane**	**1.35**	**324**	*e*PN	**Pn**	**09 29 50.9**	**-0.3**
GUMT	**Gumushane**	**1.35**	**324**	*e*Pn	**Pn**	**09 29 50.9**	**-0.3**
ELZG	**Elazig**	**1.47**	**234**	*i* P	**Pb**	**09 29 53.6**	**+0.1**
ELZG	**Elazig**	**1.47**	**234**	*i* P	**Pb**	**09 29 53.6**	**+0.1**
ILIC	**ilic-Erzincan**	**1.51**	**274**	*e*PN	**Pn**	**09 29 53.4**	**0.0**
ILIC	**ilic-Erzincan**	**1.51**	**274**	*e*Pn	**Pn**	**09 29 53.4**	**0.0**
BEST	**Besiri**	**1.59**	**158**	*i* P	**Pg**	**09 29 56.2**	**+0.2**
KTUT	**Trabzon**	**1.72**	**341**	*e*PN	**Pn**	**09 29 56.1**	**-0.1**
KTUT	**Trabzon**	**1.72**	**341**	*e*Pn	**Pn**	**09 29 56.1**	**-0.1**
AGRB	**Hanur-Agry**	**1.93**	**83**	*e*PN	**Pn**	**09 29 59.1**	**-0.2**
AGRB	**Hanur-Agry**	**1.93**	**83**	*e*Pn	**Pn**	**09 29 59.1**	**-0.2**
MALT	**Malatya**	**1.93**	**238**	*e*PN	**Pn**	**09 29 59.8**	**+0.5**
MALT	**Malatya**	**1.93**	**238**	*e*Pn	**Pn**	**09 29 59.8**	**+0.5**

IDC 04 09:40:19.0±2.7,0.°52S×132.°79E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/16,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=145.6km s-min=26.0km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.37**	**176**	P	P	09 44 46.7	+0.3
	0.1nm,0.3s,baz=355,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**23.04**	**177**	P	P	09 45 26.0	0.0
	1.2nm,0.8s,baz=356,slow=11,SNR=14						
MKAR	**Makanchi Array**	**64.50**	**324**	P	P	09 50 57.6	-0.1
	0.2nm,0.6s,baz=113,slow=4.6,SNR=3.0						

IDC 04 09:41:53.8±1.6,0.°59S×132.°71E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.8/16,mbtmp3.8/5,ML4.2/1,MS3.6/1, Ms1 3.5/1,ms1mx2.5/30,Error ellipse: s-maj=108.2km s-min=19.8km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.30**	**175**	P	Pn	09 46 21.3	-0.2
	0.7nm,0.3s,baz=355,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.97**	**177**	P	P	09 47 01.0	+0.8
	4.5nm,0.7s,baz=359,slow=13,SNR=23						
STKA	**Stephens Creek**	**32.24**	**166**	P	P	09 48 23.1	-0.9
	1.1nm,0.3s,baz=328,slow=12,SNR=8.3						
STKA				LR	LR	10 01 07.6	
	comp=Z,90nm,19.1s,baz=212,slow=36						
SONM	**Songino Array**	**53.39**	**338**	P	P	09 51 17.0	+1.6
	0.1nm,0.3s,baz=145,slow=8.6,SNR=2.5						
MKAR	**Makanchi Array**	**64.51**	**324**	P	P	09 52 30.7	-1.9
	0.5nm,0.8s,baz=108,slow=7.8,SNR=4.9						

IDC 04 09:47:21.2±3.0,0.°40S×132.°85E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.5/16,mbtmp3.7/4,ML3.6/1,Error ellipse: s-maj=193.6km s-min=24.1km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.48**	**176**	P	Pn	09 51 50.7	-0.5
	0.2nm,0.3s,baz=353,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**23.16**	**178**	P	P	09 52 29.9	+0.3
	1.6nm,0.6s,baz=359,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**32.38**	**166**	P	P	09 53 52.0	-0.8
	1.6nm,0.6s,baz=341,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.44**	**324**	P	P	09 57 59.6	0.0
	0.1nm,0.6s,baz=107,slow=6.5,SNR=2.2						

NNC 04 09:51:26.0±2.9,53.°99N×85.°56E,h0km,mb3.6,mpv3.2, 11C-4D,Error ellipse: s-maj=25.4km s-min=11.5km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.37**	**235**	↑P	Pn	09 52 49.6	+2.3
	3.1nm,0.8s						
KURK				↑Lg	Lg	09 54 23.1	
	4.2nm,0.7s						
KURBB	**Kurchatov Arra**	**5.47**	**235**	↑P	Pn	09 52 50.6	+1.9
	0.5nm,0.5s						
KURBB				↓Lg	Lg	09 54 25.9	
	1.3nm,0.6s						
MK31	**Makanchi Array**	**7.50**	**197**	↑P	Pn	09 53 18.6	+2.0
	0.5nm,0.3s,baz=26,slow=14,SNR=4.1						
MK31				↑Sn	Sn	09 54 48.4	+6.0
	0.4nm,0.5s,baz=22,slow=24,SNR=5.5						
MK31				↓Lg	Lg	09 55 20.4	
	2.5nm,0.8s						
VOSK	**Vostochnaya**	**8.82**	**268**	↓P	Pn	09 53 34.8	+0.2
	1.3nm,0.4s						
VOSK				↓Sn	Sn	09 55 14.3	-0.4
	2.8nm,0.6s						
BVA0	**Borovoye Array**	**9.10**	**270**	↑P	Pn	09 53 39.0	+0.5
	0.1nm,0.5s,baz=63,slow=16,SNR=7.3						
BVA0				↑Sn	Sn	09 55 20.3	-1.2
	0.5nm,1.1s,baz=74,slow=26,SNR=5.8						
BRVK	**Borovoye**	**9.15**	**270**	↑P	Pn	09 53 39.0	-0.2
	0.8nm,0.4s						
BRVK				↑Sn	Sn	09 55 22.1	-0.7
	3.4nm,1.3s						
ZRNK	**Zerenda**	**9.93**	**271**	↑P	Pn	09 53 51.8	+2.0
	1.9nm,0.4s						
ZRNK				↑Sn	Sn	09 55 40.8	-1.1
	2.5nm,1.2s						

IDC 04 09:57:05.5±2.7,0.°78S×132.°40E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/16,mbtmp3.7/4,Error ellipse: s-maj=181.2km s-min=23.6km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**174**	P	Pn	10 01 31.5	+0.3
	0.2nm,0.3s,baz=356,slow=13,SNR=8.3						
ASAR	**Alice Springs**	**22.80**	**176**	P	P	10 02 10.8	+0.7
	3.1nm,0.7s,baz=353,slow=9.1,SNR=32						
STKA	**Stephens Creek**	**32.13**	**165**	P	P	10 03 33.3	-1.4
	1.6nm,0.9s,baz=354,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**64.48**	**324**	P	P	10 07 44.3	+0.2
	0.2nm,0.8s,baz=118,slow=8.3,SNR=3.2						

IDC 04 09:58:14.3±1.2,0.°00N×133.°00E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.6/17,mbtmp3.6/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.86**	**176**	P	P	10 02 45.6	-1.6
	baz=351,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**23.54**	**178**	P	P	10 03 26.1	-0.4
	1.8nm,0.8s,baz=354,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**32.73**	**166**	P	P	10 04 46.9	-2.0
	1.8nm,0.9s,baz=4.1,slow=14,SNR=2.4						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	10 08 52.4	+1.3
	0.3nm,0.5s,baz=115,slow=8.5,SNR=3.8						
KURK	**Kurchatov**	**68.27**	**326**	P	P	10 09 18.3	+1.2
	0.3nm,0.6s,baz=125,slow=6.2,SNR=2.9						

IDC 04 09:59:00.1±2.6,0.°55S×132.°27E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/17,mbtmp3.5/4,ML2.9/1,Error ellipse: s-maj=157.7km s-min=24.9km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.38**	**174**	P	P	10 03 26.4	-1.4
	0.0nm,0.3s,baz=355,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**23.04**	**176**	P	P	10 04 08.1	+0.9
	1.5nm,0.6s,baz=353,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**64.22**	**324**	P	P	10 09 37.3	+0.3
	0.3nm,0.5s,baz=110,slow=8.8,SNR=5.0						
KURK	**Kurchatov**	**68.31**	**327**	P	P	10 10 02.8	-0.3
	0.5nm,0.7s,baz=122,slow=5.8,SNR=3.5						

*ISCJB **04** 09:59:55.3±0.6,48.°64N±0.°09×154.°8E±0.°2,h51km, mb3.6/9,Error ellipse: s-maj=18.9km s-min=5.5km az=40.4*
*KRSC **04** 09:59:56.7±2.3,48.°45N×156.°68E,h2km±2km,ML4.1*
*IDC **04** 09:59:57.1±3.6,48.°56N×154.°71E,h53km±34km,mb3.3/9, mb1 3.6/12,mb1mx3.4/26,mbtmp3.4/12,ML2.9/3,MS3.1/1, Ms1 3.1/1,ms1mx2.5/26,Error ellipse: s-maj=28.1km s-min=15.2km az=145.0*

ISC 04 09:59:56.7±0.8,48.°7N±0.°1×154.°7E±0.°1,h51km,n21, σ1s52/23,mb3.5/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**4.25**	**28**	*e*P	**Pn**	**10 01 00.2**	**+1.3**
ASAK				S	**Sn**	**10 01 46.7**	**-0.6**
MTVR	**Mutnovka**	**4.43**	**29**	P	**Pn**	**10 01 02.3**	**+0.9**
MTVR				S	**Sn**	**10 01 50.3**	**-1.4**
RUS	**Russkaya**	**4.50**	**31**	S	**Sn**	**10 01 49.4**	**-3.7**
PETK	**Petropavlovsk-**	**4.84**	**22**	P	**Pn**	**10 01 08.9**	**+2.0**
	0.8nm,0.3s,baz=182,slow=14,SNR=22						
PETK				S	Sn	10 02 13.8	+12
	0.2nm,0.3s,baz=105,slow=20,SNR=1.3						
PETK				LR	LR	10 03 16.8	
	comp=Z,194nm,20.3s,baz=255,slow=40						
PET	**Petropavlovsk**	**5.04**	**28**	P	**Pn**	**10 01 10.9**	**+1.3**
PET				S	**Sn**	**10 02 04.4**	**-2.0**
KOK	**Koryaka**	**5.26**	**27**	P	**Pn**	**10 01 14.8**	**+2.0**
AVH	**Avacha**	**5.27**	**28**	P	**Pn**	**10 01 14.9**	**+2.0**
SDLR	**Sedlovina**	**5.33**	**28**	P	**Pn**	**10 01 14.2**	**+0.5**
SPN	**Mys Shipunski**	**5.58**	**35**	S	Sn	10 02 13.9	-5.9
ASAJ	**Asahikawa**	**9.51**	**246**	P	Pn	10 02 14.8	+4.0
	2.1nm,0.3s,baz=88,slow=16,SNR=16						
USRK	**Ussuriysk Arra**	**16.24**	**263**	P	**P**	**10 03 42.1**	**-1.5**
	0.1nm,0.3s,baz=67,slow=13,SNR=2.8						
MJAR	**Matsushiro Arr**	**17.10**	**231**	P	**Pn**	**10 03 50.2**	**-1.8**
	0.1nm,0.3s,baz=27,slow=30,SNR=3.2						
KSRS	**Korea Array**	**22.42**	**250**	P	**P**	**10 04 51.5**	**+0.6**
	1.0nm,0.6s,baz=50,slow=10,SNR=5.2						
INK	**Inuvik**	**39.47**	**34**	P	**P**	**10 07 21.9**	**+0.5**
	2.0nm,1.2s,baz=269,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**47.02**	**296**	P	**P**	**10 08 22.1**	**-0.6**
	0.4nm,0.7s,baz=64,slow=6.4,SNR=4.9						
BVAR	**Borovoye Array**	**50.47**	**309**	P	**P**	**10 08 50.0**	**+0.9**
	0.3nm,0.6s,baz=67,slow=10.0,SNR=2.7						
CMAR	**Chiang Mai Arr**	**53.85**	**256**	P	**P**	**10 09 15.6**	**+1.0**
	1.5nm,0.6s,baz=34,slow=7.1,SNR=8.1						
NVAR	**Mina Array Bea**	**60.62**	**64**	P	**P**	**10 10 03.3**	**+0.9**
	0.2nm,0.4s,baz=297,slow=10.0,SNR=3.0						
WRA	**Warramunga Arr**	**70.67**	**200**	P	**P**	**10 11 06.3**	**-0.6**
	0.4nm,0.6s,baz=16,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**74.36**	**200**	P	**P**	**10 11 28.7**	**-0.1**
	0.3nm,0.5s,baz=10,slow=4.6,SNR=3.9						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**10 11 36.4**	**-0.1**
	0.5nm,0.8s,baz=300,slow=5.4,SNR=8.5						
TXAR				pP	**pP**	**10 11 50.3**	**-0.7**
	0.3nm,0.6s,baz=289,slow=5.1,SNR=3.2						

IDC 04 10:01:03.1±3.1,0.°61S×131.°84E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/16,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=214.1km s-min=27.9km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.37**	**173**	P	P	10 05 30.0	-0.6
	0.1nm,0.3s,baz=353,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**23.01**	**175**	P	P	10 06 10.2	+0.4
	1.2nm,0.5s,baz=355,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**32.44**	**164**	P	P	10 07 35.1	0.0
	1.4nm,0.8s,baz=1.0,slow=5.9,SNR=3.7						
MKAR	**Makanchi Array**	**64.02**	**324**	P	P	10 11 38.6	0.0
	0.2nm,0.8s,baz=111,slow=7.9,SNR=2.1						

*CSEM **04** 10:02:42.8,45.°66N×26.°48E,h152km,MD3.6/2,After BUC*

BUC 04 10:02:42.8±0.8,45.°66N×26.°48E,h152km±6km,MD3.6/2, 30C-27D,Error ellipse: s-maj=5.8km s-min=4.6km az=337.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.22**	**32**	↓*i*P	Pn	10 03 03.4	0.0
PLOR	**Plostina**	**0.22**	**32**	S	Sn	10 03 17.9	-1.2
PLOR	**Plostina**	**0.22**	**32**	↓*i*P	Pn	10 03 03.4	0.0
PLOR				*i* S	Sn	10 03 17.9	-1.2
PLOR	**Plostina**	**0.22**	**32**	↓*i*P	Pn	10 03 03.4	0.0
PLOR				*i* S	Sn	10 03 17.9	-1.2
VRI	**Vrincioaia**	**0.27**	**40**	↑*i*P	Pn	10 03 03.5	+0.1
VRI	**Vrincioaia**	**0.27**	**40**	S	Sn	10 03 18.6	-0.6
VRI	**Vrincioaia**	**0.27**	**40**	↑*i*P	Pn	10 03 03.5	+0.1
VRI				*i* S	Sn	10 03 18.6	-0.6
VRI	**Vrincioaia**	**0.27**	**40**	↑*i*P	Pn	10 03 03.5	+0.1
VRI				*i* S	Sn	10 03 18.6	-0.6
MLR	**Muntele Rosu**	**0.41**	**246**	↓*i*P	Pn	10 03 04.4	+0.3
MLR	**Muntele Rosu**	**0.41**	**246**	S	Sn	10 03 19.9	-0.4
MLR	**Muntele Rosu**	**0.41**	**246**	↓*i*P	Pn	10 03 04.4	+0.3
MLR				*i* S	Sn	10 03 19.9	-0.4
MLR	**Muntele Rosu**	**0.41**	**246**	↓*i*P	Pn	10 03 04.4	+0.3
MLR				*i* S	Sn	10 03 19.9	-0.4
ODBI	**Odobesti**	**0.42**	**76**	S	Sn	10 03 20.5	+0.5
ODBI	**Odobesti**	**0.42**	**76**	*i* S	Sn	10 03 20.5	+0.5
ODBI	**Odobesti**	**0.42**	**76**	*i* S	Sn	10 03 20.5	+0.5
PETR		**0.53**	**83**	↑*i*P	Pn	10 03 05.0	+0.6
PETR		**0.53**	**83**	S	Sn	10 03 21.3	+0.4
PETR		**0.53**	**83**	↑*i*P	Pn	10 03 05.0	+0.6
PETR				*i* S	Sn	10 03 21.3	+0.4
PETR		**0.53**	**83**	↑*i*P	Pn	10 03 05.0	+0.6
PETR				*i* S	Sn	10 03 21.3	+0.4
ISR	**Istrita**	**0.54**	**175**	↑*i*P	Pn	10 03 05.3	+0.7
ISR	**Istrita**	**0.54**	**175**	↑*i*P	Pn	10 03 05.3	+0.7
ISR	**Istrita**	**0.54**	**175**	↑*i*P	Pn	10 03 05.3	+0.7
SECR		**0.69**	**205**	↑*i*P	Pn	10 03 06.2	+0.8
SECR		**0.69**	**205**	S	Sn

TLCR		**1.71**	**105**	S	Sn	10 03 38.3	-0.8
TLCR		**1.71**	**105**	‖iP	Pn	10 03 15.0	+0.3
TLCR				*i* S	Sn	10 03 38.3	-0.8
TLCR		**1.71**	**105**	‖iP	Pn	10 03 15.0	+0.3
TLCR				*i* S	Sn	10 03 38.3	-0.8
TIRR	**Tirgusor**	**1.82**	**131**	⇑iP	Pn	10 03 16.3	+0.3
TIRR	**Tirgusor**	**1.82**	**131**	S	Sn	10 03 39.9	-1.5
TIRR	**Tirgusor**	**1.82**	**131**	⇑iP	Pn	10 03 16.3	+0.3
TIRR				*i* S	Sn	10 03 39.9	-1.5
TIRR	**Tirgusor**	**1.82**	**131**	⇑iP	Pn	10 03 16.3	+0.3
TIRR				*i* S	Sn	10 03 39.9	-1.5
GZR	**Gura Zlata**	**2.62**	**265**	⇑iP	Pn	10 03 26.2	+0.7
GZR	**Gura Zlata**	**2.62**	**265**	⇑iP	Pn	10 03 26.2	+0.7
GZR	**Gura Zlata**	**2.62**	**265**	⇑iP	Pn	10 03 26.2	+0.7
DRGR		**2.85**	**295**	‖iP	Pn	10 03 28.1	-0.3
DRGR		**2.85**	**295**	‖iP	Pn	10 03 28.1	-0.3
DRGR		**2.85**	**295**	‖iP	Pn	10 03 28.1	-0.3

IDC 04 10:04:15.6±3.2,**0°18'S**×**133°36'E**,**h0**km,**mb3.6**/3,
mb1 3.8/4,**mb1mx3.5**/16,**mbtmp3.6**/4,**ML3.8**/1,**Error ellipse: s-maj=198.7km s-min=27.6km az=72.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.67**	**177**	P	P	10 08 46.7	+0.4
	0.3nm,0.3s,baz=357,slow=13,SNR=9.7						
ASAR	**Alice Springs**	**23.36**	**179**	P	P	10 09 25.9	0.0
	2.0nm,0.8s,baz=356,slow=11,SNR=15						
STKA	**Stephens Creek**	**32.48**	**167**	P	P	10 10 47.6	-0.2
	0.9nm,0.6s,baz=352,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**64.56**	**324**	P	P	10 14 54.7	0.0
	0.2nm,0.5s,baz=103,slow=7.5,SNR=2.8						

IDC 04 10:08:39.6±2.4,**0°67'S**×**131°16'E**,**h0**km,**mb3.6**/4,
mb1 3.8/5,**mb1mx3.6**/17,**mbtmp3.6**/5,**ML3.6**/1,**Error ellipse: s-maj=192.0km s-min=21.0km az=74.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**171**	P	P	10 13 07.1	-0.4
	0.2nm,0.3s,baz=356,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**23.02**	**174**	P	P	10 13 46.6	+0.2
	3.3nm,0.8s,baz=354,slow=9.9,SNR=20						
SONM	**Songino Array**	**52.90**	**339**	P	P	10 17 56.7	-1.0
	0.5nm,0.7s,baz=160,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**63.67**	**325**	P	P	10 19 13.6	+0.6
	0.3nm,0.5s,baz=112,slow=7.5,SNR=6.5						
KURK	**Kurchatov**	**67.81**	**327**	P	P	10 19 39.6	+0.2
	0.7nm,1.1s,baz=121,slow=5.6						

*CSEM **04** 10:08:52.5±0.3,38°.17N×38°.05E,h15km,MD3.0,Error ellipse: s-maj=7.4km s-min=3.6km az=178.0*
*ISCJB **04** 10:08:52.9±1.4,38°.16N±0°.09×38°.08E±0°.06,h14km±5km, Error ellipse: s-maj=15.5km s-min=7.3km az=179.2*
*ISK **04** 10:08:53.0,38°.31N×38°.04E,h9km,MD2.8*
*DDA **04** 10:08:54.4,38°.28N×38°.13E,h7km,MD3.0*
ISC 04 10:08:54.6±1.1,**38°.32N**±0°.08×**38°.09E**±0°.03,**h10**km±10km, **n13**,σ**0s55**/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.14**	**262**	*i* P	**Pg**	**10 08 57.7**	**-0.1**
AKCD				*i* S	**Sg**	**10 09 00.2**	**+0.1**
AKCD	**Akcadag**	**0.14**	**262**	*i* P	**Pg**	**10 08 57.7**	**-0.1**
AKCD				*i* S	**Sg**	**10 09 00.2**	**+0.1**
MALT	**Malatya**	**0.26**	**90**	*e*Pg	**Pg**	**10 08 59.7**	**-0.2**
MALT				*e*Sg	**Sg**	**10 09 04.5**	**+1.0**
MALT	**Malatya**	**0.26**	**90**	*e*PG	**Pg**	**10 08 59.7**	**-0.2**
MALT				*e*SG	**Sg**	**10 09 04.5**	**+0.9**
ELZG	**Elazig**	**0.72**	**75**	*e*P	**Pg**	**10 09 08.1**	**-0.4**
ELZG				*e*S	**Sg**	**10 09 18.3**	**+0.3**
ELZG	**Elazig**	**0.72**	**75**	*e*P	**Pg**	**10 09 08.1**	**-0.4**
ELZG				*e*S	**Sg**	**10 09 18.3**	**+0.3**
KEMA	**Kemaliye**	**1.00**	**18**	*e*P	**Pg**	**10 09 13.7**	**-0.2**
KEMA				*e*S	**Sn**	**10 09 29.4**	**+0.4**
KEMA	**Kemaliye**	**1.00**	**18**	*e*P	**Pg**	**10 09 13.7**	**-0.2**
KEMA				*e*S	**Sn**	**10 09 29.4**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.16**	**289**	*e*PN	**Pn**	**10 09 17.5**	**+0.6**
PTK	**Pertek**	**1.17**	**60**	*e*PN	**Pb**	**10 09 16.1**	**-0.8**
PTK	**Pertek**	**1.17**	**60**	*e*Pn	**Pb**	**10 09 16.1**	**-0.8**
ILIC	**ilic-Erzincan**	**1.19**	**18**	*e*Pn	**Pb**	**10 09 16.8**	**-0.5**
ILIC	**ilic-Erzincan**	**1.19**	**18**	*e*Pn	**Pb**	**10 09 16.8**	**-0.5**

IDC 04 10:12:34.5±2.4,**0°48'S**×**133°24'E**,**h0**km,**mb3.4**/3,
mb1 3.6/4,**mb1mx3.4**/16,**mbtmp3.4**/4,**ML3.5**/1,**Error ellipse: s-maj=144.2km s-min=23.8km az=72.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.38**	**177**	P	P	10 17 02.5	+0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**23.06**	**178**	P	P	10 17 42.0	+0.2
	0.5nm,0.3s,baz=355,slow=11,SNR=12						
STKA	**Stephens Creek**	**32.21**	**167**	P	P	10 19 04.2	-0.4
	0.9nm,0.9s,baz=344,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	10 23 14.7	0.0
	0.2nm,0.7s,baz=103,slow=3.1,SNR=2.4						

IDC 04 10:19:50.3±2.9,**0°53'S**×**134°29E**,**h0**km,**mb3.2**/2,
mb1 3.4/3,**mb1mx3.2**/16,**mbtmp3.3**/3,**ML3.3**/1,**Error ellipse: s-maj=141.6km s-min=26.7km az=76.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.30**	**180**	P	P	10 24 16.6	-0.4
	0.1nm,0.3s,baz=359,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**23.01**	**181**	P	P	10 24 57.5	+0.4
	0.3nm,0.5s,baz=1.1,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**65.40**	**323**	P	P	10 30 34.8	-0.1
	0.2nm,0.5s,baz=110,slow=10,SNR=3.0						

*IDC **04** 10:20:33.0±1.0,0°.58S×133°.40E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.6/18,mbtmp3.7/7,ML3.8/1,Error ellipse: s-maj=64.7km s-min=18.6km az=76.0*
*NEIC **04** 10:20:38.4±0.7,0°.63S×133°.48E,h35km,mb3.9/3,Error ellipse: s-maj=43.8km s-min=9.1km az=80.0*
ISC 04 10:20:38.1±0.9,**0°.7S**±0°.1×**133°.6E**±0°.4,**h32**km,**n17**, σ**0s94**/17,**mb3.8**/6,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.17**	**178**	*e*P	**P**	**10 24 58.8**	**-0.3**
	9.8nm,1.2s						
WRA	**Warramunga Arr**	**19.18**	**178**	P	**P**	**10 24 59.1**	**-0.1**
	0.3nm,0.3s,baz=357,slow=12,SNR=9.5						
WRA	**Warramunga Arr**	**19.18**	**178**	P	**P**	**10 24 59.1**	**-0.1**
WB2	**Warramunga Arr**	**19.18**	**178**	*e*P	**Pn**	**10 24 59.8**	**-0.5**
AS31	**Alice Springs**	**22.87**	**179**	*e*P	**P**	**10 25 40.0**	**+0.8**
ASAR	**Alice Springs**	**22.87**	**179**	P	**P**	**10 25 39.9**	**+0.8**
	1.1nm,0.4s,baz=358,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.87**	**179**	P	**P**	**10 25 39.9**	**+0.8**
STKA	**Stephens Creek**	**31.95**	**167**	P	**P**	**10 27 01.1**	**-0.2**
	0.6nm,0.3s,baz=344,slow=9.3,SNR=4.8						
STKA	**Stephens Creek**	**31.95**	**167**	*e*P	**P**	**10 27 01.2**	**0.0**
	1.4nm,1.0s						
MKAR	**Makanchi Array**	**65.09**	**324**	P	**P**	**10 31 14.8**	**-1.0**
	1.0nm,0.6s,baz=114,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**65.09**	**324**	P	**P**	**10 31 14.8**	**-1.0**
KURK	**Kurchatov**	**69.15**	**326**	P	**P**	**10 31 38.9**	**-2.5**
	1.2nm,0.8s,baz=120,slow=5.7,SNR=13						
KURK	**Kurchatov**	**69.15**	**326**	*e*P	**P**	**10 31 39.9**	**-1.5**
	1.3nm,0.8s						
BVAR	**Borovoye Array**	**74.75**	**326**	P	**P**	**10 32 15.2**	**+0.2**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.6						
BVAR	**Borovoye Array**	**74.75**	**326**	P	**P**	**10 32 15.2**	**+0.2**
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**10 33 15.9**	**+0.1**
	0.4nm,1.0s,baz=263,slow=5.2,SNR=3.1						
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**10 33 15.9**	**+0.1**

*ISK **04** 10:26:27.3,35°.15N×27°.53E,h3km,ML4.2*
*ATH **04** 10:26:29.4,35°.10N×27°.75E,h8km±1km,ML4.3*
*IDC **04** 10:26:29.2±0.7,35°.34N×27°.58E,h0km,mb4.0/18, mb1 4.1/24,mb1mx4.0/29,mbtmp4.0/24,ML3.8/5,MS3.4/7, Ms1 3.5/7,ms1mx3.1/39,Error ellipse: s-maj=16.9km s-min=12.6km az=167.0*
*NEIC **04** 10:26:29.5,35°.10N×27°.76E,h9km,mb3.9/8,ML4.3(ATH), After ATH.*
*MOS **04** 10:26:30.9±1.8,34°.76N×27°.45E,h33km,mb4.3/20,Error ellipse: s-maj=8.6km s-min=3.8km az=94.8*
*DDA **04** 10:26:31.6,35°.24N×27°.69E,h25km,ML4.3*
*HLW **04** 10:26:32.3,35°.46N×27°.76E,h14km±8km,Md4.0,Ml3.8*
*CSEM **04** 10:26:32.1±0.1,35°.20N×27°.77E,h10km,mb4.1/14,Error ellipse: s-maj=3.4km s-min=2.7km az=29.0*
*BJI **04** 10:26:34.4,34°.50N×27°.26E,h55km,mB5.0/3,mb4.3/7*
*THE **04** 10:26:34.3,35°.39N×27°.66E,h1km,ML4.3/6,Error ellipse: s-maj=1.8km s-min=0.6km az=135.0*
ISC 04 10:26:31.7±0.6,**35°.24N**±0°.02×**27°.75E**±0°.02,**h12**km±3km, **n489**,σ**1s48**/475,**mb4.1**/51,**MS3.5**/6,**23C-14D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**303**	P	**Pg**	**10 26 43.0**	**+0.2**
KARP				S	**Sg**	**10 26 50.3**	**-0.1**
KARP	**Karpathos**	**0.57**	**303**	*e*PB	**Pg**	**10 26 42.6**	**-0.2**
KARP				*e*SB	**Sb**	**10 26 51.7**	**0.0**
KARP	**Karpathos**	**0.57**	**303**	P	**Pg**	**10 26 43.0**	**+0.2**
KARP				*e*Sb	**Sb**	**10 26 51.7**	**0.0**
ARG	**Arkhangelos**	**1.02**	**17**	P	**Pg**	**10 26 51.3**	**-0.1**
ARG				S	**Sb**	**10 27 05.5**	**+0.8**
ARG	**Arkhangelos**	**1.02**	**17**	*e*PN	**Pg**	**10 26 51.2**	**-0.1**
ARG				*e*SB	**Sn**	**10 27 07.4**	**+1.3**
ARG	**Arkhangelos**	**1.02**	**17**	P	**Pg**	**10 26 51.3**	**-0.1**
ARG				S	**Sb**	**10 27 05.5**	**+0.8**
ARG				*e*Sb	**Sn**	**10 27 07.4**	**+1.3**
ZKR	**Zakros**	**1.26**	**265**	P	**Pg**	**10 26 56.7**	**+0.8**
ZKR				S	**Sn**	**10 27 14.1**	**+2.1**
ZKR	**Zakros**	**1.26**	**265**	P	**Pg**	**10 26 56.7**	**+0.8**
ZKR				S	**Sn**	**10 27 14.1**	**+2.1**
NIS1	**Nisyros Isl.**	**1.44**	**341**	P	**Pn**	**10 26 57.3**	**-0.2**
NIS1				S	**Sn**	**10 27 15.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.44**	**341**	P	**Pn**	**10 26 57.3**	**-0.2**
NIS1				S	**Sn**	**10 27 15.9**	**-0.4**
XRY	**Khrisi**	**1.72**	**258**	*e*PN	**Pn**	**10 27 02.1**	**+0.6**
XRY				*e*SN	**Sb**	**10 27 24.8**	**-0.1**
XRY	**Khrisi**	**1.72**	**258**	*e*Pn	**Pn**	**10 27 02.1**	**+0.6**
XRY				*e*Sn	**Sb**	**10 27 24.8**	**-0.1**
KSL	**Kastellorizon**	**1.75**	**58**	*e*PN	**Pn**	**10 27 02.9**	**+1.1**
KSL				*e*SN	**Sg**	**10 27 28.2**	**+0.3**
NPS	**Neapolis**	**1.75**	**271**	P	**Pb**	**10 27 03.5**	**-0.2**
NPS				S	**Sb**	**10 27 25.6**	**-0.1**
NPS	**Neapolis**	**1.75**	**271**	*e*PG	**Pn**	**10 27 02.4**	**+0.6**
NPS				*e*SN	**Sb**	**10 27 25.5**	**-0.1**
NPS	**Neapolis**	**1.75**	**271**	*e*Pg	**Pn**	**10 27 02.4**	**+0.6**
NPS	**Neapolis**	**1.75**	**271**	P	**Pb**	**10 27 03.5**	**-0.2**
NPS				*e*Sn	**Sb**	**10 27 25.5**	**-0.1**
TURN	**Turunc**	**1.77**	**23**	*i* P	**Pn**	**10 27 01.8**	**-0.3**
TURN				*i* S	**Sn**	**10 27 22.4**	**-2.1**
TURN	**Turunc**	**1.77**	**23**	*i* P	**Pn**	**10 27 01.8**	**-0.3**
TURN				*i* S	**Sn**	**10 27 22.4**	**-2.1**
AKAS	**Kas**	**1.81**	**56**	*i* P	**Pn**	**10 27 04.4**	**+1.7**
AKAS				*i* S	**Sb**	**10 27 28.4**	**+1.0**
AKAS	**Kas**	**1.81**	**56**	*i* P	**Pn**	**10 27 04.4**	**+1.7**
AKAS				*i* S	**Sb**	**10 27 28.4**	**+1.0**
YER	**Yerkesik**	**1.94**	**13**	*e*PN	**Pn**	**10 27 05.0**	**+0.5**
YER	**Yerkesik**	**1.94**	**13**	*e*Pn	**Pn**	**10 27 05.0**	**+0.5**
THR1	**Thera Island**	**2.17**	**302**	P	**Pn**	**10 27 07.7**	**+0.7**
THR1	**Thera Island**	**2.17**	**302**	P	**Pn**	**10 27 07.7**	**0.0**
ELL	**Elmali**	**2.31**	**49**	*e*PN	**Pn**	**10 27 10.4**	**+0.7**
ELL				*e*SN	**Sb**	**10 27 41.3**	**-0.6**
ELL	**Elmali**	**2.31**	**49**	*e*Pn	**Pn**	**10 27 10.4**	**+0.7**
ELL				*e*Sn	**Sb**	**10 27 41.3**	**-0.6**
GLHS	**Glhisar (BURDU**	**2.38**	**36**	*e*PN	**Pn**	**10 27 10.8**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.38**	**36**	*e*Pn	**Pn**	**10 27 10.8**	**+0.2**
AYDN	**Tasoluk**	**2.42**	**2**	*i* P	**Pn**	**10 27 12.4**	**+1.3**
AYDN				*i* S	**Sb**	**10 27 44.4**	**-0.5**
AYDN	**Tasoluk**	**2.42**	**2**	*i* P	**Pn**	**10 27 12.4**	**+1.3**
AYDN				*i* S	**Sb**	**10 27 44.4**	**-0.5**
SIVA	**Sivas**	**2.42**	**266**	P	**Pn**	**10 27 12.7**	**+1.7**
SIVA				S	**Sn**	**10 27 42.4**	**+1.9**
SIVA	**Sivas**	**2.42**	**266**	P	**Pn**	**10 27 12.7**	**+1.7**
SIVA				S	**Sn**	**10 27 42.4**	**+1.9**
GOLH	**Golhisar**	**2.47**	**36**	*i* P	**Pn**	**10 27 14.6**	**+2.7**
GOLH				*i* S	**Sn**	**10 27 45.2**	**+3.1**
GOLH	**Golhisar**	**2.47**	**36**	*i* P	**Pn**	**10 27 14.6**	**+1.7**
GOLH				*i* S	**Sn**	**10 27 45.2**	**+3.1**
GCAM	**G?zelcaml?**	**2.49**	**351**	*e*P	**Pn**	**10 27 13.0**	**+1.0**
GCAM				*e*S	**Sb**	**10 27 48.4**	**+1.5**
GCAM	**G?zelcaml?**	**2.49**	**351**	*e*P	**Pn**	**10 27 13.0**	**+1.0**
APE	**Apeiranthos**	**2.56**	**316**	*e*PN	**Pn**	**10 27 10.5**	**-2.5**
APE	**Apeiranthos**	**2.56**	**316**	P	**Pn**	**10 27 13.2**	**+0.2**
APE				S	**Sn**	**10 27 43.4**	**-0.7**
APE	**Apeiranthos**	**2.56**	**316**	*e*PB	**Pn**	**10 27 13.9**	**+0.9**
APE				*e*SN	**Sb**	**10 27 48.3**	**-0.7**
APE	**Apeiranthos**	**2.56**	**316**	*e*Pn	**Pn**	**10 27 10.5**	**-2.5**
APE	**Apeiranthos**	**2.56**	**316**	P	**Pn**	**10 27 13.2**	**+0.2**
APE	**Apeiranthos**	**2.56**	**316**	*e*Pb	**Pn**	**10 27 13.9**	**+0.9**
APE				S	**Sn**	**10 27 43.4**	**-0.7**
APE				*e*Sn	**Sb**	**10 27 48.3**	**-0.7**
SMG	**Samos**	**2.57**	**344**	*e*PB	**Pn**	**10 27 15.0**	**+1.9**
SMG				*e*SN	**Sb**	**10 27 49.5**	**+0.2**
SMG	**Samos**	**2.57**	**344**	*e*Pb	**Pn**	**10 27 15.0**	**+1.9**
SMG				*e*Sn	**Sb**	**10 27 49.5**	**+0.2**
DNZL	**Cakiroluk**	**2.66**	**23**	*e*P	**Pn**	**10 27 16.8**	**+2.3**
DNZL				*e*S	**Sg**	**10 27 56.4**	**-0.7**
DNZL	**Cakiroluk**	**2.66**	**23**	*e*P	**Pn**	**10 27 16.8**	**+2.3**
DENT	**Denizli**	**2.71**	**22**	*e*PN	**Pn**	**10 27 15.4**	**+0.2**
DENT	**Denizli**	**2.71**	**22**	*e*Pn	**Pn**	**10 27 15.4**	**+0.2**
KORT	**Korkueli**	**2.74**	**49**	*e*P	**Pn**	**10 27 16.4**	**+0.7**
KORT	**Korkueli**	**2.74**	**49**	*e*P	**Pn**	**10 27 16.4**	**+0.7**
ANTB	**Antalya**	**2.88**	**54**	*e*PN	**Pn**	**10 27 18.1**	**+0.8**
ANTB	**Antalya**	**2.88**	**54**	*e*Pn	**Pn**	**10 27 18.2**	**+0.8**
VAM	**Vamos**	**2.91**	**274**	*e*PN	**Pn**	**10 27 18.9**	**+1.2**
VAM	**Vamos**	**2.91**	**274**	*e*Pn	**Pn**	**10 27 18.9**	**+1.2**
GVD	**Gavdhos**	**3.03**	**263**	*e*Pn	**Pn**	**10 27 21.5**	**+2.1**
GVD	**Gavdhos**	**3.03**	**263**	*e*Pn	**Pn**	**10 27 21.5**	**+2.1**
BCK	**Bucak**	**3.19**	**45**	*e*PN	**Pn**	**10 27 22.5**	**+0.8**
BCK	**Bucak**	**3.19**	**45**	*e*Pn	**Pn**	**10 27 22.5**	**+0.8**
BLCB	**Balcova**	**3.19**	**350**	*e*PN	**Pn**	**10 27 20.8**	**-0.8**
BLCB	**Balcova**	**3.19**	**350**	*e*Pn	**Pn**	**10 27 20.8**	**-0.8**
KULA	**Kula-Manisa**	**3.35**	**12**	*e*PN	**Pn**	**10 27 24.1**	**+0.2**
KULA	**Kula-Manisa**	**3.35**	**12**	*e*Pn	**Pn**	**10 27 24.1**	**+0.2**
ISP	**Isparta**	**3.41**	**40**	*e*PN	**Pn**	**10 27 26.2**	**+1.5**
ISP	**Isparta**	**3.41**	**40**	*e*P	**Pn**	**10 27 26.8**	**+2.0**
ISP	**Isparta**	**3.41**	**40**	*e*Pn	**Pn**	**10 27 26.8**	**+2.0**
ISP	**Isparta**	**3.41**	**40**	⇑iP	**Pg**	**10 27 39.0**	**+2.0**
ISP	**Isparta**	**3.41**	**40**	*e*Pn	**Pn**	**10 27 26.3**	**+1.5**
ISP	**Isparta**	**3.41**	**40**	*e*P	**Pn**	**10 27 26.8**	**+2.0**
CHOS	**Chios island**	**3.42**	**337**	P	**Pn**	**10 27 25.8**	**+0.9**
CHOS				S	**Sn**	**10 28 04.6**	**-0.8**
CHOS	**Chios island**	**3.42**	**337**	*e*PN	**Pn**	**10 27 26.3**	**+1.4**
CHOS	**Chios island**	**3.42**	**337**	P	**Pn**	**10 27 25.8**	**+0.9**
CHOS	**Chios island**	**3.42**	**337**	*e*Pn	**Pn**	**10 27 26.3**	**+1.4**
CHOS				S	**Sn**	**10 28 04.6**	**-0.8**
AKS	**Akhisar**	**3.63**	**1**	*e*PN	**Pn**	**10 27 27.5**	**-0.2**
AKS	**Akhisar**	**3.63**	**1**	*e*Pn	**Pn**	**10 27 27.5**	**-0.2**
MRMA	**Marmari**	**3.90**	**317**	P	**Pn**	**10 27 32.5**	**+1.0**
MRMA	**Marmari**	**3.90**	**317**	P	**Pn**	**10 27 32.5**	**+1.0**
KYTH	**Kithira**	**3.97**	**287**	P	**Pn**	**10 27 33.2**	**+0.8**
KYTH	**Kithira**	**3.97**	**287**	*e*PN	**Pn**	**10 27 33.8**	**+1.4**
KYTH	**Kithira**	**3.97**	**287**	P	**Pn**	**10 27 33.2**	**+0.8**
KYTH	**Kithira**	**3.97**	**287**	*e*Pn	**Pn**	**10 27 33.8**	**+1.4**
SHUT	**Suhut-Afyon**	**4.00**	**33**	*e*PN	**Pn**	**10 27 34.0**	**+1.1**
SHUT	**Suhut-Afyon**	**4.00**	**33**	*e*Pn	**Pn**	**10 27 34.0**	**+1.1**
VLY	**Voula,Athens**	**4.11**	**310**	P	**Pn**	**10 27 35.2**	**+0.9**
VLY				S	**Sn**	**10 28 21.9**	**-0.5**
VLY	**Voula,Athens**	**4.11**	**310**	*e*PN	**Pn**	**10 27 36.8**	**+2.5**
VLY	**Voula,Athens**	**4.11**	**310**	P	**Pn**	**10 27 35.2**	**+0.9**
VLY	**Voula,Athens**	**4.11**	**310**	*e*Pn	**Pn**	**10 27 36.8**	**+2.5**
VLY				S	**Sn**	**10 28 21.9**	**-0.5**
PRK	**Paraskevi**	**4.17**	**344**	*e*PN	**Pn**	**10 27 37.5**	**+2.4**
PRK	**Paraskevi**	**4.17**	**344**	*e*Pn	**Pn**	**10 27 37.5**	**+2.4**
VLI	**Veliai**	**4.17**	**292**	P	**Pn**	**10 27 35.9**	**+0.8**
VLI				S	**Sn**	**10 28 24.0**	**+0.2**
VLI	**Veliai**	**4.17**	**292**	*e*PN	**Pn**	**10 27 37.0**	**+1.9**
VLI	**Veliai**	**4.17**	**292**	P	**Pn**	**10 27 35.9**	**+0.8**
VLI	**Veliai**	**4.17**	**292**	*e*Pn	**Pn**	**10 27 37.0**	**+1.9**
VLI				S	**Sn**	**10 28 24.0**	**+0.2**
HMAT	**Matruh**	**4.17**	**188**	S	**Sn**	**10 28 21.4**	**-2.4**
HDMB	**Hadim**	**4.20**	**64**	*e*PN	**Pn**	**10 27 37.1**	**+1.3**
HDMB	**Hadim**	**4.20**	**64**	*e*Pn	**Pn**	**10 27 37.1**	**+1.3**
LEF	**Lefka**	**4.21**	**90**	*e*PN	**Pn**	**10 27 36.2**	**+0.5**
LEF	**Lefka**	**4.21**	**90**	*e*Pn	**Pn**	**10 27 36.2**	**+0.5**
ATH	**Athens Observa**	**4.24**	**311**	*e*PN	**Pn**	**10 27 37.9**	**+1.9**
ATH	**Athens Observa**	**4.24**	**311**	*e*Pn	**Pn**	**10 27 37.9**	**+1.9**
ALT	**Altintas**	**4.25**	**26**	*e*PN	**Pn**	**10 27 37.1**	**+0.8**
ALT	**Altintas**	**4.25**	**26**	*e*Pn	**Pn**	**10 27 37.1**	**+0.8**
NAIG	**Nisos Aigina**	**4.25**	**307**	*e*PN	**Pn**	**10 27 38.5**	**+2.2**
NAIG	**Nisos Aigina**	**4.25**	**307**	*e*Pn	**Pn**	**10 27 38.5**	**+2.2**
DID	**Didima**	**4.29**	**303**	P	**Pn**	**10 27 37.2**	**+0.5**
DID	**Didima**	**4.29**	**303**	*e*PN	**Pn**	**10 27 38.2**	**+1.5**
DID	**Didima**	**4.29**	**303**	P	**Pn**	**10 27 37.2**	**+0.5**
DID	**Didima**	**4.29**	**303**	*e*Pn	**Pn**	**10 27 38.2**	**+1.5**
SLUM		**4.30**	**210**	P	**Pn**	**10 27 37.8**	**+0.9**
BALB	**Balikesir**	**4.39**	**1**	*e*PN	**Pn**	**10 27 38.5**	**+0.3**
BALB	**Balikesir**	**4.39**	**1**	*e*Pn	**Pn**	**10 27 38.5**	**+0.3**
CSS	**Prodhromos**	**4.58**	**92**	*e*Pn	**Pn**	**10 27 41.9**	**+1.0**
CSS	**Prodhromos**	**4.58**	**92**	*e*Pn	**Pn**	**10 27 41.5**	**+0.6**
KONT	**Konya--Tatoy**	**4.59**	**53**	*e*PN	**Pn**	**10 27 42.8**	**+1.9**
KONT	**Konya--Tatoy**	**4.59**	**53**	*e*Pn	**Pn**	**10 27 42.8**	**+1.9**
VIL1	**Vilia, Western**	**4.60**	**311**	*e*PN	**Pn**	**10 27 43.8**	**+2.8**
VIL1	**Vilia, Western**	**4.60**	**311**	*e*Pn	**Pn**	**10 27 43.8**	**+2.8**
EZN	**Ezine**	**4.71**	**347**	*e*PN	**Pn**	**10 27 42.5**	**-0.1**
EZN	**Ezine**	**4.71**	**347**	*e*Pn	**Pn**	**10 27 42.5**	**-0.1**
LADK	**Ladik-KONYA**	**4.74**	**50**	*e*PN	**Pn**	**10 27 45.1**	**+2.0**
LADK	**Ladik-KONYA**	**4.74**	**50**	*e*Pn	**Pn**	**10 27 45.1**	**+2.0**
LTK	**Loutraki**	**4.74**	**307**	*e*PN	**Pn**	**10 27 45.3**	**+2.3**
LTK	**Loutraki**	**4.74**	**307**	*e*Pn	**Pn**	**10 27 45.3**	**+2.3**
GONE	**Gonen-Balikesi**	**4.80**	**359**	*e*PN	**Pn**	**10 27 44.1**	**+0.4**
GONE	**Gonen-Balikesi**	**4.80**	**359**	*e*Pn	**Pn**	**10 27 44.1**	**+0.4**
VLX	**Vlachokerasia**	**4.83**	**298**	*e*PN	**Pn**	10 27 47.1	+2.8
VLX	**Vlachokerasia**	**4.83**	**298**	*e*Pn	**Pn**	10 27 47.1	+2.8
ESKT	**Eskisehir**	**4.93**	**29**	*e*PN	**Pn**	**10 27 47.2**	**+1.5**
ESKT	**Eskisehir**	**4.93**	**29**	*e*Pn	**Pn**	**10 27 47.2**	**+1.5**
HBRG	**Burj al 'Arab**	**4.97**	**159**	P	**Pn**	**10 27 43.1**	**+1.1**
KCTX	**Karacabey (Bur**	**5.04**	**5**	*e*PN	**Pn**	**10 27 47.8**	**+0.7**
KCTX	**Karacabey (Bur**	**5.04**	**5**	*e*Pn	**Pn**	**10 27 47.8**	**+0.7**
LIA	**Limnos Island**	**5.08**	**337**	*e*PN	**Pn**	**10 27 50.1**	**+2.6**
LIA	**Limnos Island**	**5.08**	**337**	*e*Pn	**Pn**	**10 27 50.1**	**+2.6**
ITM	**Ithomi**	**5.09**	**294**	P	**Pn**	**10 27 49.0**	**+1.2**
ITM	**Ithomi**	**5.09**	**294**	*e*PN	**Pn**	**10 27 50.2**	**+2.4**
ITM	**Ithomi**	**5.09**	**294**	P	**Pn**	**10 27 49.0**	**+1.2

comp=Z,1.0nm,0.3s
ASF Jabal al Asfar 8.21 109 Pn **Pn 10 28 31.2 +0.4**
EIL Elat 8.24 130 Pn **Pn 10 28 31.1 +0.1**
comp=Z,1.8nm,0.3s,baz=340,slow=9.3,SNR=13
EIL Sn **Sn 10 29 59.6 -4.4**
comp=Z,4.1nm,0.3s,baz=308,slow=12,SNR=10
EIL Elat 8.24 130 Pn **Pn 10 28 31.1 +0.1**
EIL Sn **Sn 10 29 59.6 -4.4**
EIL Elat 8.24 130 Pn **Pn 10 28 31.1 +0.1**
TR2 8.52 142 P **Pn 10 28 34.9 +0.1**
TIRR Tirgusor 9.22 3 *e*P **Pn 10 28 46.1 +1.7**
TIRR pmax pmax
comp=Z,7.0nm,0.8s
TIRR Tirgusor 9.22 3 *e*Pn **Pn 10 28 46.1 +1.7**
comp=Z,6.6nm,0.8s
TIRR Tirgusor 9.22 3 *e*P **Pn 10 28 46.1 +1.7**
comp=Z,7.0nm,0.8s
TIP Timpagrande 9.61 297 *e*Pn **Pn 10 28 47.9 -1.9**
comp=Z,34nm,0.9s
HDK1 Dakhla 9.77 171 P **Pn 10 28 52.1 0.0**
MLR Muntele Rosu 10.33 353 Pn Pn 10 29 04.1 +4.3
comp=Z,0.1nm,0.3s,baz=133,slow=1.9,SNR=5.4
MLR LR LR 10 33 13.6
comp=Z,43nm,18.9s,baz=357,slow=40
MLR Muntele Rosu 10.33 353 P Pn 10 29 04.1 +4.3
MLR MLR MLR
comp=Z,43nm,18.9s
MLR Muntele Rosu 10.33 353 Pn Pn 10 29 04.1 +4.3
MLR Muntele Rosu 10.33 353⇑ *i*P Pn 10 29 04.6 +4.8
VOIR 10.39 349⇑P Pn 10 29 05.0 +4.5
VOIR 10.39 349⇑ *i*P Pn 10 29 05.0 +4.5
CUC Castrocucco 10.58 300 *e*Pn **Pn 10 29 02.3 -0.9**
comp=Z,21nm,0.6s
CUC Castrocucco 10.58 300 *e*Pn **Pn 10 29 02.3 -0.9**
comp=Z,21nm,0.6s
PLOR Plostina 10.63 356⇑P Pn 10 29 09.8 +6.0
PLOR Plostina 10.63 356⇑ *i*P Pn 10 29 09.8 +6.0
VRI Vrincioaia 10.64 356⇓P Pn 10 29 09.3 +5.4
VRI Vrincioaia 10.64 356⇓ *i*P Pn 10 29 09.3 +5.4
GZR Gura Zlata 10.82 341⇓P Pn 10 29 10.6 +4.1
GZR Gura Zlata 10.82 341⇓ *i*P Pn 10 29 10.6 +4.1
GZR Gura Zlata 10.82 341 P Pn 10 29 10.6 +4.1
HDK2 Wahat Dakhilah 10.94 174 P **Pn 10 29 07.2 -0.8**
TESR 11.29 356⇓ *i*P Pn 10 29 18.6 +5.8
BZS Buzias 11.36 338⇓P Pn 10 29 18.2 +4.4
BZS Buzias 11.36 338⇓ *i*P Pn 10 29 18.2 +4.4
DRGR 12.15 343⇓P Pn 10 29 29.8 +5.3
DRGR 12.15 343⇓ *i*P Pn 10 29 29.8 +5.3
SOC Sochi 12.44 44 *e*P **P 10 29 40.0 -0.4**
SOC MLR MLR
comp=Z,193nm,10.0s
BURAR Bucovina Array 12.51 352⇑P Pn 10 29 35.3 +5.8
BURAR Bucovina Array 12.51 352⇑ *i*P Pn 10 29 35.3 +5.8
BUR08 Bucovina Ar. S 12.54 352 *e*Pn Pn 10 29 35.0 +5.1
PKSM Moragy 12.94 331⇑P Pn 10 29 39.5 +4.2
PKSM Moragy 12.94 331⇑ *i*P Pn 10 29 39.5 +4.2
PKSM Moragy 12.94 331 P Pn 10 29 39.5 +4.2
PSZ Piszkesteto 13.95 338⇓P P 10 29 53.8 -3.5
PSZ Piszkesteto 13.95 338 *e*P **P 10 29 57.7 +0.4**
comp=Z,9.1nm,0.8s
PSZ Piszkesteto 13.95 338⇓ *i*P P 10 29 53.8 -3.5
PSZ Piszkesteto 13.95 338 *e*P **P 10 29 57.7 +0.4**
comp=Z,9.1nm,0.8s
UZH Uzhgorod 13.98 345 *e*P **P 10 29 56.5 -1.0**
UZH *e*S Sn 10 32 31.9 +7.5
UZH Uzhgorod 13.98 345 *e*P **P 10 29 56.5 -1.0**
KOLS Kolonicke sedl 14.27 345 *e*P **P 10 30 02.3 +1.5**
KOLS Kolonicke sedl 14.27 345 *e*P **P 10 30 02.2 +1.5**
KOLS Kolonicke sedl 14.27 345 *e*P **P 10 30 02.3 +1.5**
KECS Kecovo 14.29 340 *e*P **P 10 30 02.3 +1.4**
KECS Kecovo 14.29 340 *e*P **P 10 30 02.3 +1.4**
KECS Kecovo 14.29 340 *e*P **P 10 30 02.3 +1.4**
GNI Garni 14.31 65 Pn Pn 10 29 57.3 +3.0
comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=2.1
GNI LR LR 10 35 43.8
comp=Z,99nm,20.1s,baz=301,slow=38
GNI Garni 14.31 65⇑ *e*P **P 10 30 03.9 +2.4**
GNI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 14.31 65 Pn Pn 10 29 57.3 +3.0
GNI Garni 14.31 65 Pn Pn 10 29 57.3 +3.0
GNI Garni 14.31 65 *e*P **P 10 30 03.9 +2.4**
comp=Z,15nm,1.2s
KIV Kislovodsk 14.42 48⇑ *e*P P 10 30 05.9 +3.4
KIV pmax pmax
comp=Z,19nm,1.2s
KIV MLR MLR
comp=Z,200nm,16.0s
KIV Kislovodsk 14.42 48 *e*P **P 10 30 03.6 +1.1**
comp=Z,5.5nm,0.6s
KIV Kislovodsk 14.42 48 *e*P **P 10 30 03.6 +1.1**
comp=Z,5.5nm,0.6s
CRVS Cervenica-Dubn 14.42 343 *e*P P 10 30 06.1 +3.7
CRVS Cervenica-Dubn 14.42 343 *e*P P 10 30 06.1 +3.7
ZEI Tsey 14.62 54 *e*P **P 10 30 05.5 +0.6**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
ZEI Tsey 14.62 54 *e*P **P 10 30 05.5 +0.6**
comp=Z,7.0nm,0.6s
VYHS Vyhne 14.80 336 *e*P **P 10 30 07.5 +0.9**
VYHS Vyhne 14.80 336 *e*P **P 10 30 07.5 +0.9**
VYHS Vyhne 14.80 336 *e*P **P 10 30 07.5 +0.9**
STHS Stebnicka Huta 14.95 343 *e*P **P 10 30 09.0 +0.7**
STHS Stebnicka Huta 14.95 343 *e*P **P 10 30 09.0 +0.7**
STHS Stebnicka Huta 14.95 343 *e*P **P 10 30 09.0 +0.7**
KEST Kesra 15.00 277 Pn **Pn 10 30 04.0 +0.4**
comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=2.5
KEST Kesra 15.00 277 *e*P **P 10 30 07.3 -1.8**
KEST Kesra 15.00 277 *e*P **P 10 30 07.3 -1.8**
NIE Niedzica 15.19 341 *e*P **P 10 30 12.7 +1.8**
NIE Niedzica 15.19 341 *e*P **P 10 30 12.7 +1.8**
NIE Niedzica 15.19 341 *e*P **P 10 30 12.7 +1.8**
KIEV Kiev 15.48 3 *e*P **P 10 30 13.9 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 15.48 3 *e*P **P 10 30 13.9 -0.2**
comp=Z,7.7nm,0.9s
KIEV Kiev 15.48 3 *e*P **P 10 30 13.9 -0.2**
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 15.49 4 Pn **Pn 10 30 11.1 +1.3**
comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=4.0
AKASG Malin Array Be 15.49 4 *i*P P 10 30 19.7 +5.5
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 15.49 4 Pn **Pn 10 30 11.1 +1.3**
AKASG Malin Array Be 15.49 4 Pn **Pn 10 30 11.1 +1.3**
OJC Ojcow 16.05 341 *e*P **P 10 30 20.1 -0.4**
OJC Ojcow 16.05 341 *e*P **P 10 30 20.1 -0.4**
OJC Ojcow 16.05 341 *e*P **P 10 30 20.1 -0.4**
OKC Ostrava-Krasne 16.19 337 *e*P P 10 30 27.5 +5.5
OKC Ostrava-Krasne 16.19 337 *e*P P 10 30 27.5 +5.5
VRAC Vranov 16.27 333 Pn **P 10 30 23.5 +0.5**
comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=5.7
VRAC Vranov 16.27 333⇑P **P 10 30 25.6 +2.6**
VRAC Vranov 16.27 333 Pn **P 10 30 23.5 +0.5**
VRAC Vranov 16.27 333⇑ *i*P **P 10 30 25.6 +2.6**
VRAC Vranov 16.27 333 Pn **P 10 30 23.5 +0.5**
VRAC Vranov 16.27 333 P **P 10 30 25.6 +2.6**
PGF Pioggiola 16.30 302 *e*P **Pn 10 30 17.6 -2.9**
MORC Moravsky Berou 16.34 336⇑P **P 10 30 25.2 +1.5**
MORC Moravsky Berou 16.34 336 *e*P **P 10 30 25.3 +1.5**
comp=Z,9.4nm,1.4s
MORC Moravsky Berou 16.34 336⇑ *i*P **P 10 30 25.2 +1.5**
MORC Moravsky Berou 16.34 336 P **P 10 30 25.2 +1.5**
GERES GERESS Array B 17.10 327 Pn **Pn 10 30 29.5 -1.0**
comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=7.5
GERES GERESS Array B 17.10 327 P **Pn 10 30 29.5 -1.0**
GERES GERESS Array B 17.10 327 Pn **Pn 10 30 29.5 -1.0**
GERES GERESS Array B 17.10 327 Pn **Pn 10 30 29.5 -1.0**
DPC Dobruska-Polom 17.24 335 *e*P **P 10 30 33.7 0.0**
DPC Dobruska-Polom 17.24 335 *e*P **P 10 30 33.7 0.0**
DPC Dobruska-Polom 17.24 335 *e*P **P 10 30 33.7 0.0**
FETA Feichten 17.36 318⇑ *i*P **P 10 30 35.0 -0.2**
comp=Z,12nm,1.0s
FETA Feichten 17.36 318⇑ *i*Pn **P 10 30 35.0 -0.2**
comp=Z,12nm,1.0s
FETA Feichten 17.36 318⇑ *i*P **P 10 30 35.0 -0.2**
comp=Z,12nm,1.0s
KHC Kasperske Hory 17.36 327 *e*P **Pn 10 30 33.7 0.0**
KHC Kasperske Hory 17.36 327 *e*P **Pn 10 30 33.5 -0.3**
comp=Z,6.7nm,0.8s
KHC Kasperske Hory 17.36 327 *e*P **Pn 10 30 33.7 0.0**
KHC *ex* x 10 30 50.5
KHC Kasperske Hory 17.36 327 *e*P **Pn 10 30 33.7 0.0**
UPC Upice 17.48 334 *e*P **P 10 30 37.5 +1.2**
UPC Upice 17.48 334 *e*P **P 10 30 37.5 +1.2**
UPC Upice 17.48 334 *e*P **P 10 30 37.5 +1.2**
PRU Pruhonice 17.61 331 *e*P **Pn 10 30 36.9 +0.1**
PRU Pruhonice 17.61 331 *e*P **Pn 10 30 36.9 +0.1**
PRU Pruhonice 17.61 331 *e*P **Pn 10 30 36.9 +0.1**
DAVOX Davos/Dischmat 17.70 316 P **Pn 10 30 37.7 -0.4**
comp=Z,0.2nm,0.3s,baz=156,slow=19,SNR=4.8
DAVOX Davos/Dischmat 17.70 316 P **Pn 10 30 37.7 -0.4**
DAVOX Davos/Dischmat 17.70 316 P **Pn 10 30 37.7 -0.4**
DAVOX Davos/Dischmat 17.70 316 P **Pn 10 30 37.7 -0.4**
SBF Sospel 17.84 305 *e*P **Pn 10 30 37.1 -2.7**
comp=Z,159nm,1.6s
VSR Storozhevoye 17.97 24 *e*P **P 10 30 45.9 +4.2**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 18.55 332 *e*P Pn 10 30 55.1 +6.9
comp=Z,4.2nm,1.0s
BRG Berggiesshubel 18.55 332 *e*P Pn 10 30 55.2 +6.9
BRG pmax pmax
comp=Z,4.0nm,1.0s
GRA1 Grafenberg Arr 18.84 325 *e*P **P 10 30 51.3 0.0**
GRF Grafenberg Arr 18.84 325 *e*P **P 10 30 51.3 0.0**
LPG La Plagne 18.95 309 *e*P **P 10 30 52.4 -0.4**
LPL La Plagne 18.96 309 *e*P **P 10 30 52.3 -0.7**
comp=Z,8.7nm,0.5s
SMRF Simiane la Rot 19.14 304 *e*P **P 10 30 53.2 -1.5**
comp=Z,15nm,0.9s
CLL Collm 19.26 331 *e*P **P 10 30 54.0 -1.8**
CLL Collm 19.26 331 *es*P **sP 10 31 00.0 -0.9**
CLL *e*(PP) 10 31 08.0
ORIF Oris-en-Rattie 19.27 307 *e*P **P 10 30 53.7 -2.5**
comp=Z,28nm,1.3s
ORIF *e*R
comp=Z,193nm,22.3s
CABF La Chapelle 19.85 311 *e*P **P 10 31 00.3 -2.2**
comp=Z,20nm,0.8s
HINF Hinteralfeld 19.99 315 *e*P **P 10 31 03.2 -0.7**
VIVF Saint-Julien-l 20.05 306 *e*P **P 10 31 02.6 -2.0**
comp=Z,38nm,1.3s
CDF Champ du Feu 20.07 317 *e*P **P 10 31 04.2 -0.6**
comp=Z,11nm,0.8s
HAU Haudompre 20.38 315 *e*P **P 10 31 07.2 -0.9**
comp=Z,15nm,0.7s
HAU *e*R
comp=Z,140nm,22.3s
OBN Obninsk 20.79 14⇓ *e*P Pn 10 31 20.0 +5.1
OBN pmax pmax
comp=Z,25nm,0.9s
OBN MLR MLR
comp=Z,100nm,18.0s
PAGF Fort de Pagny 21.02 316 *e*P **P 10 31 13.6 -1.4**
comp=Z,7.1nm,1.1s
SFTF Sexfontaines 21.24 315 *e*P **P 10 31 16.7 -0.7**
comp=Z,21nm,0.8s
MEZF Maizieres J'vi 21.37 315 *e*P **P 10 31 17.7 -1.2**
WLF Walferdange 21.38 319 P **P 10 31 22.8 +3.8**
comp=Z,13nm,1.4s
LOR Lormes 21.51 311 *e*P **P 10 31 18.7 -1.7**
comp=Z,15nm,0.8s
LOR *e*R
comp=Z,168nm,17.5s
MOS Moscow 21.59 15 *e*P P 10 31 32.6 +11
MOS *e* 10 31 53.0
MOS pmax pmax
comp=Z,53nm,0.7s
AVF Avril sur Loir 21.63 310 *e*P **P 10 31 19.6 -2.0**
comp=Z,7.4nm,0.6s
SSF Saint Saulge 21.64 310 *e*P **P 10 31 20.3 -1.5**
comp=Z,29nm,0.9s
CAF Calviac 21.82 304 *e*P **P 10 31 22.7 -1.1**
comp=Z,13nm,0.9s
BGF Bois d'Agland 21.86 309 *e*P **P 10 31 22.4 -1.7**
comp=Z,22nm,0.8s
MEM Membach 22.00 321 P **P 10 31 25.6 0.0**
comp=Z,9.8nm,1.4s
MEM Membach 22.00 321 P **P 10 31 25.6 0.0**
comp=Z,9.8nm,1.4s
BCLA Clr 22.26 320 P **P 10 31 28.1 -0.3**
comp=Z,6.6nm,1.3s
BCLA Clavier 22.26 320 P **P 10 31 28.0 -0.3**
comp=Z,6.6nm,1.3s
RJF Les Rejaudoux 22.31 305 *e*P **P 10 31 27.1 -1.9**
comp=Z,10nm,0.8s
RJF *e*R
comp=Z,154nm,17.0s
DOU Dourbes 22.46 318 P **P 10 31 27.5 -3.0**
comp=Z,15nm,2.5s
BAIF Baives 22.65 318 *e*P **P 10 31 30.8 -1.7**
comp=Z,23nm,0.9s
TAM Tamanrasset 23.00 243 *e*P **P 10 31 38.0 +1.5**
TAM pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 23.00 243 *e*P **P 10 31 38.0 +1.5**
comp=Z,9.6nm,1.1s
TAM Tamanrasset 23.00 243 *e*P **P 10 31 38.0 +1.5**
comp=Z,10.0nm,1.1s
VSU Vasula 23.24 359⇓ *e*P **P 10 31 42.3 +3.8**
VSU pmax pmax
comp=Z,28nm,1.7s
SJPF Ste Jean 23.71 298 *e*P **P 10 31 41.2 -2.2**
comp=Z,26nm,1.1s
MFF Saint Martin d 23.81 307 *e*P **P 10 31 41.9 -2.4**
comp=Z,15nm,0.9s
LDF La Druitiere 24.50 312 *e*P **P 10 31 47.4 -3.3**
comp=Z,4.9nm,0.5s
FLN La Foliniere 24.78 312 *e*P **P 10 31 51.0 -2.2**
comp=Z,14nm,0.7s
FLN *e*R
comp=Z,159nm,22.5s
GRR Gorron 24.88 311 *e*P **P 10 31 52.2 -1.9**
comp=Z,14nm,0.6s
ESDC Sonseca Array 25.48 289 P **P 10 31 58.7 -1.1**
comp=Z,2.5nm,0.6s,baz=82,slow=9.6,SNR=12
ESDC Sonseca Array 25.48 289 P **P 10 31 58.7 -1.1**
ESDC Sonseca Array 25.48 289 P **P 10 31 58.7 -1.1**
ESLA Sonseca Array 25.48 289 *e*P **P 10 31 58.8 -1.0**
comp=Z,0.7nm,0.6s
ESLA Sonseca Array 25.48 289 *e*P **P 10 31 58.8 -1.0**
comp=Z,0.7nm,0.6s
SGMF Saint Gilles 25.89 309 *e*P **P 10 32 01.2 -2.1**
comp=Z,31nm,1.2s
QUIF Quistinic 26.18 308 *e*P **P 10 32 03.7 -2.2**
comp=Z,22nm,0.9s
FINES FINESS Array B 26.24 358 P **P 10 32 02.9 -3.4**
comp=Z,4.2nm,0.8s,baz=170,slow=12,SNR=7.8
FINES LR LR 10 43 44.1
comp=Z,129nm,19.1s,baz=135,slow=40
FINES FINESS Array B 26.24 358 P **P 10 32 02.9 -3.4**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,129nm,19.1s
FINES FINESS Array B 26.24 358 P **P 10 32 02.9 -3.4**
ROSF Rostrenen 26.37 309 *e*P **P 10 32 05.3 -2.4**
comp=Z,15nm,0.8s
HFS Hagfors 26.53 344 P **P 10 32 06.3 -2.6**
comp=Z,2.5nm,0.6s,baz=150,slow=10,SNR=8.6
HFS LR LR 10 43 31.4
comp=Z,106nm,19.0s,baz=72,slow=39
HFS Hagfors 26.53 344 P **P 10 32 06.3 -2.6**
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS MLR MLR
comp=Z,106nm,19.0s
HFS Hagfors 26.53 344 P **P 10 32 06.3 -2.6**
AKTK Aktyubinsk 26.66 46 P **P 10 32 09.4 -0.8**
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.66 46 P **P 10 32 09.4 -0.8**
comp=Z,1.7nm,0.6s,baz=166,slow=4.2,SNR=4.2
AKTO Aktyubinsk 26.66 46 P **P 10 32 09.4 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.66 46 P **P 10 32 09.4 -0.8**
AKTO Aktyubinsk 26.66 46 P **P 10 32 09.4 -0.8**
KAF Kangasniemi 26.91 359 *e*P P 10 32 16.9 +4.6
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 26.91 359 *ep* P 10 32 16.9 +4.6
comp=Z,2.4nm,0.6s
KAF Kangasniemi 26.91 359 *ep* P 10 32 16.9 +4.6
comp=Z,2.4nm,0.6s
ABKAR Akbulak array 27.40 49 *e*P **P 10 32 20.3 +3.4**
comp=Z,2.1nm,0.7s
JOF Joensuu 27.79 3 *e*P **P 10 32 20.7 +0.5**
JOF pmax pmax
comp=Z,1.0nm,0.7s
JOF Joensuu 27.79 3 *ep* **P 10 32 20.7 +0.5**
comp=Z,1.4nm,0.7s
JOF Joensuu 27.79 3 *ep* **P 10 32 20.7 +0.5**
comp=Z,1.4nm,0.7s
JOF Joensuu 27.79 3 *e*P **P 10 32 20.7 +0.5**
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 27.91 343 P **P 10 32 17.9 -3.4**
comp=Z,3.4nm,1.1s,baz=149,slow=9.3
NOA NORSAR Array B 27.91 343 P **P 10 32 18.3 -3.1**
comp=Z,0.9nm,0.9s,baz=151,slow=9.0,SNR=4.5
NOA NORSAR Array B 27.91 343 P **P 10 32 18.3 -3.1**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 27.91 343 P **P 10 32 18.3 -3.1**
ARU Arti 29.75 35*d* *i*P P 10 32 43.7 +6.0
ARU 10 33 37.4
ARU S S 10 37 41.9 +8.3
ARU SS SS 10 39 10.1 -30
ARU pmax pmax
comp=Z,2.0nm,0.6s
TORD Torodi Ar. Bea 32.20 233 P **P 10 32 59.1 -0.6**
comp=Z,5.1nm,0.6s,baz=35,slow=9.4,SNR=35
TORD PcP **PcP 10 35 48.9 +0.5**
comp=Z,0.5nm,0.7s,baz=42,slow=1.7,SNR=2.8
TORD Torodi Ar. Bea 32.20 233 P **P 10 32 59.1 -0.6**
TORD PcP **PcP 10 35 48.9 +0.5**
TORD Torodi Ar. Bea 32.20 233 P **P 10 32 59.1 -0.6**
ARCES ARCESS Array B 34.37 359 P **P 10 33 15.8 -2.3**
comp=Z,1.6nm,0.6s,baz=178,slow=7.8,SNR=8.7
ARCES LR LR 10 48 26.5
comp=Z,130nm,18.6s,baz=222,slow=38
ARCES ARCESS Array B 34.37 359 P **P 10 33 15.8 -2.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,130nm,18.6s
ARCES ARCESS Array B 34.37 359 P **P 10 33 15.8 -2.3**
BVAR Borovoye Array 34.76 46 P **P 10 33 23.3 +1.6**
comp=Z,0.5nm,0.7s,baz=224,slow=6.0,SNR=2.6
BVAR Borovoye Array 34.76 46 P **P 10 33 23.3 +1.6**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 34.76 46 P **P 10 33 23.3 +1.6**
BVAR Borovoye Array 34.76 46 P **P 10 33 23.3 +1.6**
comp=Z,1.0nm,0.7s
AAK Ala-Archa 36.72 64⇑ *e*P P 10 33 43.4 +4.6
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 36.72 64 *e*P **P 10 33 40.7 +1.8**
comp=Z,17nm,1.0s
AAK Ala-Archa 36.72 64 *e*P **P 10 33 40.7 +1.8**
comp=Z,17nm,1.0s
KURK Kurchatov 39.48 51 P **P 10 34 01.8 0.0**
comp=Z,2.1nm,0.8s,baz=276,slow=8.9,SNR=11
KURK Kurchatov 39.48 51⇑ *e*P P 10 34 08.0 +6.2
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 39.48 51 P **P 10 34 01.8 0.0**
KURK Kurchatov 39.48 51 P **P 10 34 01.8 0.0**
DBIC Dimbokro 41.30 234 P **P 10 34 14.9 -2.3**
comp=Z,2.9nm,0.5s,baz=6.2,slow=4.0,SNR=6.8
DBIC LR LR 10 54 21.3
comp=Z,97nm,19.2s,baz=27,slow=40
DBIC Dimbokro 41.30 234 P **P 10 34 14.9 -2.3**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC MLR MLR
comp=Z,97nm,19.2s
DBIC Dimbokro 41.30 234 P **P 10 34 14.9 -2.3**
DBIC Dimbokro 41.30 234 P **P 10 34 14.9 -2.3**
comp=Z,97nm,19.2s
LIC Lamto 41.75 234 *e*P **P 10 34 19.6 -1.3**
MK31 Makanchi Array 41.96 57 *e*P **P 10 34 23.6 +1.2**
MK31 Makanchi Array 41.96 57 *e*P **P 10 34 23.6 +1.2**
MK31 Makanchi Array 41.96 57 *e*P **P 10 34 23.6 +1.2**
MKAR Makanchi Array 41.96 57 P **P 10 34 23.4 +1.1**
comp=Z,2.0nm,0.9s,baz=274,slow=7.0,SNR=9.3
MKAR Makanchi Array 41.96 57 *i*P **P 10 34 24.7 +2.3**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 41.96 57 P **P 10 34 23.4 +1.1**
MKAR Makanchi Array 41.96 57 P **P 10 34 23.5 +1.1**
NVS Novosibirsk 42.54 45 *e*P **P** 10 34 23.8 -3.1
ZALV Zalesovo Beam 43.42 46 P **P 10 34 34.1 +0.1**
comp=Z,0.8nm,0.5s,baz=272,slow=8.8,SNR=5.9
ZALV Zalesovo Beam 43.42 46 P **P 10 34 34.1 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.42 46 P **P 10 34 34.1 +0.1**
ZALV Zalesovo Beam 43.42 46 P **P 10 34 34.1 +0.1**
comp=Z,1.0nm,0.5s
GTA Gaotai 56.05 63 *e*P P 10 36 15.9 +5.3
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 57.79 51 P **P 10 36 23.2 +0.4**
comp=Z,0.6nm,0.6s,baz=281,slow=7.7,SNR=5.7
SONM Songino Array 57.79 51 P **P 10 36 23.2 +0.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 57.79 51 P **P 10 36 23.2 +0.4**
SONM Songino Array 57.79 51 P **P 10 36 23.2 +0.4**
comp=Z,1.0nm,0.6s
BOD Bodaibo 59.08 38 *e*P **P 10 36 31.9 +0.4**
BOD pmax pmax
comp=Z,4.0nm,2.5s
BOD Bodaibo 59.08 38 *e*P **P 10 36 31.9 +0.4**
comp=Z,4.0nm,2.5s
CMAR Chiang Mai Arr 64.45 85 P **P 10 37 07.0 -1.3**
comp=Z,0.5nm,0.3s,baz=300,slow=8.7,SNR=5.3
CMAR LR LR 11 09 46.7
comp=Z,31nm,19.1s,baz=275,slow=40
CMAR Chiang Mai Arr 64.45 85 P **P 10 37 07.0 -1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,31nm,19.1s
CMAR Chiang Mai Arr 64.45 85 P **P 10 37 07.0 -1.3**
CMAR Chiang Mai Arr 64.45 85 P **P 10 37 07.0 -1.3**
comp=Z,31nm,19.1s
SCHQ Schefferville 64.49 320 P **P 10 37 06.5 -1.4**
comp=Z,2.0nm,0.5s,baz=38,slow=9.0,SNR=9.1
SCHQ Schefferville 64.49 320 P **P 10 37 06.6 -1.4**
SCHQ Schefferville 64.49 320 P **P 10 37 06.6 -1.4**
USRK Ussuriysk Arra 75.28 46 P **P 10 38 13.2 -1.2**
comp=Z,1.6nm,0.5s,baz=301,slow=5.7,SNR=9.0
KSAR Wonju Array Be 76.52 54 P **P 10 38 22.4 +0.7**
KSAR Wonju Array Be 76.52 54 P **P 10 38 22.4 +0.7**
KSAR Wonju Array Be 76.52 54 P **P 10 38 22.4 +0.7**
KSRS Korea Array 76.54 54 P **P 10 38 22.4 +0.6**
comp=Z,0.5nm,0.5s,baz=275,slow=6.1,SNR=2.9
KSRS Korea Array 76.54 54 P **P 10 38 22.4 +0.6**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 76.54 54 P **P 10 38 22.4 +0.6**
comp=Z,1.0nm,0.5s
ILAR Eielson Array 80.23 358 P **P 10 38 41.2 -0.5**
comp=Z,0.2nm,0.6s,baz=4.3,slow=2.8,SNR=5.2
ILAR Eielson Array 80.23 358 P **P 10 38 41.2 -0.5**
ILAR Eielson Array 80.23 358 P **P 10 38 41.2 -0.5**
ILAR Eielson Array 80.23 358 P **P 10 38 41.2 -0.5**

IDC 04 10:30:11.8±3.1, 12°.42S×166°.84E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.7/14, mbtmp4.0/3, Error ellipse: s-maj=122.1km s-min=78.9km az=179.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SONM	**Songino Array**	**80.40**	**324**	P	P		10 42 25.6	+0.2
	0.4nm,0.3s,baz=137,slow=6.1,SNR=12							
ILAR	**Eielson Array**	**84.47**	**18**	P	P		10 42 46.1	-0.1
	0.3nm,0.6s,baz=239,slow=5.0,SNR=7.3							
MKAR	**Makanchi Array**	**95.25**	**317**	P	P		10 43 37.2	-0.4
	1.0nm,0.6s,baz=89,slow=6.5,SNR=11							
ARCES	**ARCESS Array B**	**117.92**	**346**	PKP	PKPdf		10 48 59.8	-0.2
	8.5nm,1.1s,baz=85,slow=2.0,SNR=9.5							
FINES	**FINESS Array B**	**123.43**	**339**	PKP	PKPdf		10 49 10.6	-0.1
	3.8nm,1.0s,baz=62,slow=4.5,SNR=3.8							

*IDC **04** 10:31:13.6±2.8,0.40S×132.86E,h0km,mb4.0/3, mb1 4.3/4,mb1mx3.7/16,mbtmp4.1/4,ML4.1/1,Error ellipse: s-maj=182.2km s-min=23.5km az=72.0*

*ISCJB **04** 10:31:16.5±1.2,0.5S±0.1×133.1E±0.2,h32km,mb4.0/4, Error ellipse: s-maj=24.1km s-min=14.7km az=167.4*

*NEIC **04** 10:31:18.2±0.9,0.37S×133.11E,h35km,mb4.0/4,Error ellipse: s-maj=20.3km s-min=14.5km az=57.0*

ISC 04 10:31:17.8±1.4,0.4S±0.2×133.1E±0.2,h32km,n11, σ0s56/11,mb4.2/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 15nm,1.1s	**16.62**	**123**	*eP*	**Pn**	**10 35 08.8**	**+0.1**
WRAB	**Tennant Creek** 5.6nm,0.6s	**19.45**	**176**	*eP*	**P**	**10 35 42.1**	**+0.2**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=353,slow=11,SNR=23	**19.46**	**176**	P	**Pn**	**10 35 42.6**	**-0.8**
WRA	0.2nm,0.3s,baz=1.7,slow=17,SNR=5.5			S	S	10 39 11.9	-8.5
WRA	**Warramunga Arr**	**19.46**	**176**	P	**Pn**	**10 35 42.6**	**-0.8**
WRA				S	S	10 39 11.9	-8.5
ASAR	**Alice Springs** 4.4nm,0.5s,baz=360,slow=11,SNR=45	**23.14**	**178**	P	**P**	**10 36 22.2**	**+0.7**
ASAR	**Alice Springs**	**23.14**	**178**	P	**P**	**10 36 22.2**	**+0.7**
MBWA	**Marble Bar** 6.3nm,0.8s	**24.41**	**211**	*eP*	**P**	**10 36 33.9**	**+0.3**
STKA	**Stephens Creek** 4.7nm,1.1s,baz=357,slow=8.2,SNR=10	**32.32**	**166**	P	**P**	**10 37 44.4**	**+0.2**
STKA	**Stephens Creek** 2.0nm,1.3s	**32.32**	**166**	*eP*	**P**	**10 37 44.0**	**-0.2**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=140,slow=5.6,SNR=7.9	**64.58**	**324**	P	**P**	**10 41 52.0**	**-0.1**
MKAR	**Makanchi Array**	**64.58**	**324**	P	**P**	**10 41 52.0**	**-0.1**

IDC 04 10:41:55.9±2.5,0.31S×132.44E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/16,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=128.9km s-min=25.9km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=355,slow=12,SNR=6.0	**19.60**	**175**	P	P	10 46 25.6	-0.3
ASAR	**Alice Springs** 1.5nm,0.7s,baz=355,slow=8.7,SNR=12	**23.26**	**177**	P	P	10 47 05.4	+0.1
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=129,slow=7.8,SNR=2.4	**64.13**	**324**	P	P	10 52 32.3	+0.1

IDC 04 10:43:31.5±4.2,0.73S×131.05E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.2/16,mbtmp3.2/3,ML2.7/1,Error ellipse: s-maj=295.4km s-min=25.9km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=353,slow=11,SNR=2.7	**19.37**	**171**	P	P	10 47 58.9	-0.1
ASAR	**Alice Springs** 0.8nm,0.8s,baz=355,slow=8.7,SNR=3.4	**22.97**	**173**	P	P	10 48 37.8	-0.1
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=116,slow=7.9,SNR=3.5	**63.66**	**325**	P	P	10 54 04.8	+0.1

*DJA **04** 10:45:19,0.38S×132.76E,h70km,mb4.7/5*

IDC 04 10:45:14.2±2.4,0.47S×132.67E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.6/16,mbtmp3.7/5,Error ellipse: s-maj=107.3km s-min=20.9km az=67.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=352,slow=11,SNR=7.5	**19.43**	**175**	P	P	10 49 42.5	+0.1
ASAR	**Alice Springs** 2.1nm,0.6s,baz=354,slow=7.9,SNR=19	**23.09**	**177**	P	P	10 50 22.3	+0.4
STKA	**Stephens Creek** 1.5nm,0.9s,baz=8.5,slow=15,SNR=2.9	**32.36**	**166**	P	P	10 51 44.4	-1.2
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=118,slow=7.2,SNR=4.4	**38.10**	**301**	P	P	10 52 35.7	+0.4
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=116,slow=8.1,SNR=8.2	**64.39**	**324**	P	P	10 55 52.1	-0.1

IDC 04 10:50:29.1±1.3,0.48S×133.47E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/16,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=78.6km s-min=25.5km az=85.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=352,slow=13,SNR=3.9	**19.36**	**178**	P	P	10 54 56.9	+0.4
ASAR	**Alice Springs** 0.5nm,0.3s,baz=357,slow=11,SNR=8.0	**23.06**	**179**	P	P	10 55 36.1	-0.1
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=112,slow=8.3,SNR=4.1	**64.87**	**324**	P	P	11 01 10.3	+0.1
ILAR	**Eielson Array** 0.2nm,0.8s,baz=229,slow=6.8,SNR=3.1	**86.01**	**25**	P	P	11 03 11.0	-0.2

*IDC **04** 10:53:44.2±0.7,0.35S×133.21E,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.3/18,mbtmp4.3/10,ML4.3/1,MS3.7/4, Ms1 3.7/4,ms1mx3.1/24,Error ellipse: s-maj=35.2km s-min=12.1km az=73.0*

*BJI **04** 10:53:48.0,0.29S×133.24E,h36km,mB5.1/3,mb4.6/13*

*ISCJB **04** 10:53:48.4±0.3,0.35S±0.04×132.94E±0.05,h32km, mb4.4/23,MS3.7/3,Error ellipse: s-maj=7.6km s-min=5.4km az=157.4*

*NEIC **04** 10:53:50.1±0.4,0.33S×133.06E,h35km,mb4.6/12,Error ellipse: s-maj=14.1km s-min=6.5km az=69.0*

*DJA **04** 10:53:51,0.31S×132.88E,h39km,mb5.0/12*

ISC 04 10:53:49.7±0.5,0.36S±0.06×133.05E±0.09,h32km,n65, σ1s59/65,mb4.5/23,MS3.7/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.66**	**198**	P	**Pn**	**10 54 31.3**	**+0.9**
BAKI	**Biak**	**3.17**	**105**	P	**Pn**	**10 54 40.0**	**+2.7**
MSAI	**Masohi**	**5.08**	**234**	P	**Pn**	**10 55 05.3**	**+1.7**
TLE	**Tual** 526nm,0.8s,5µm1.9nm	**5.25**	**183**	P	**Pn**	**10 55 08.6**	**+2.6**
LBMI	**Labuha** 168nm,1.1s,2µm0.6nm	**5.56**	**267**	P	**Pn**	**10 55 08.4**	**-1.8**
AAI	**Ambon** 236nm,0.9s,3µm1.0nm	**5.87**	**236**	P	**Pn**	**10 55 14.4**	**-0.1**
SMPI	**Sarmi**	**5.88**	**106**	P	Pn	10 55 19.3	+4.6
NLAI	**Namlea** 67nm,0.8s,0.3nm	**6.60**	**244**	P	**Pn**	**10 55 25.1**	**+0.6**
LUWI	**Luwuk** 104nm,1.1s,1µm	**10.30**	**266**	P	**Pn**	**10 56 14.6**	**-0.8**
TTSI	**Tana Toraja**	**13.49**	**258**	P	Pn	10 57 03.0	+4.0
SPSI	**Sidrap Palu**	**13.74**	**255**	P	P	10 57 06.7	-3.9
KAPI	**Kappang**	**14.06**	**251**	*e*Pn	**Pn**	**10 57 06.0**	**-0.8**
COEN	**Coen** 59nm,1.0s	**16.82**	**144**	*eP*	**Pn**	**10 57 42.9**	**-0.1**
GUMO	**Guam** comp=Z,113nm,20.6s,baz=72,slow=32	**18.14**	**40**	LR	LR	11 03 16.1	
WRAB	**Tennant Creek** 47nm,1.1s	**19.49**	**176**	*eP*	**P**	**10 58 14.6**	**+0.4**
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=354,slow=12,SNR=98	**19.50**	**176**	P	**P**	**10 58 14.8**	**+0.4**
WRA	0.3nm,0.3s,baz=359,slow=22,SNR=5.2			S	**S**	**11 01 47.3**	**-5.8**
WRA	**Warramunga Arr**	**19.50**	**176**	P	**P**	**10 58 14.8**	**+0.4**
WRA				S	**S**	**11 01 47.3**	**-5.8**
WB2	**Warramunga Arr**	**19.50**	**176**	*eP*	**P**	**10 58 14.8**	**+0.4**
AS31	**Alice Springs**	**23.18**	**178**	*eP*	**P**	**10 58 54.3**	**+0.5**
ASAR	**Alice Springs** 46nm,0.9s,baz=3.2,slow=12,SNR=176	**23.18**	**178**	P	**P**	**10 58 53.9**	**+0.1**
ASAR	1.4nm,1.0s,baz=354,slow=15,SNR=4.1			S	**S**	**11 03 04.7**	**+1.2**
ASAR	**Alice Springs**	**23.18**	**178**	P	**P**	**10 58 53.9**	**+0.1**
ASAR				S	**S**	**11 03 04.8**	**+1.2**
CTAO	**Charters Tower** 14nm,1.0s	**23.48**	**147**	*eP*	**P**	**10 58 58.0**	**+1.2**
MBWA	**Marble Bar** 83nm,1.3s	**24.42**	**211**	*eP*	**P**	**10 59 06.4**	**+0.8**
JOW	**Kunigami** comp=Z,216nm,18.1s,baz=132,slow=33	**27.43**	**351**	LR	LR	11 09 01.6	
FORT	**Forrest** 16nm,0.8s	**30.62**	**188**	*eP*	**P**	**11 00 03.2**	**+2.1**
STKA	**Stephens Creek** 5.6nm,0.7s,baz=342,slow=6.5,SNR=28	**32.37**	**166**	P	**P**	**11 00 16.5**	**+0.1**
STKA	**Stephens Creek** 7.2nm,0.8s	**32.37**	**166**	*eP*	**P**	**11 00 16.4**	**0.0**
STKA	**Stephens Creek** 2.9nm,1.0s	**32.37**	**166**	*eP*	**P**	**11 00 16.1**	**-0.4**
ARMA	**Armidale**	**34.72**	**151**	*eP*	**P**	**11 00 38.0**	**+1.0**
MJAR	**Matsushiro Arr** comp=Z,128nm,21.9s,baz=190,slow=31	**37.03**	**7**	LR	LR	11 12 35.8	
CMAR	**Chiang Mai Arr** 2.8nm,0.8s,baz=122,slow=6.8,SNR=24	**38.38**	**301**	P	**P**	**11 01 08.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**38.38**	**301**	P	**P**	**11 01 08.0**	**-0.3**
XAN	**Xi'an**	**41.03**	**329**	P	**P**	**11 01 29.4**	**-0.8**
XAN	comp=Z,2.0nm,1.3s			pmax	pmax		
BJI	**Beijing**	**43.06**	**341**	P	**P**	**11 01 46.2**	**-0.4**
BJI	comp=Z,19nm,0.9s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,93nm,19.7s,baz=336,slow=34	**45.10**	**10**	LR	LR	11 19 33.3	
LZH	**Lanzhou**	**45.30**	**326**	*eP*	**P**	**11 02 05.5**	**+0.6**
LZH				pP	**pP**	**11 02 14.7**	**+0.2**
LZH				sP	**sP**	**11 02 18.0**	**-0.3**
LZH	comp=Z,16nm,1.3s			pmax	pmax		
SHL	**Shillong**	**47.37**	**306**	*eP*	**P**	**11 02 24.0**	**+2.7**
GTA	**Gaotai**	**49.91**	**326**	*eP*	**P**	**11 02 40.6**	**0.0**
GTA				pP	**pP**	**11 02 50.5**	**+0.3**
GTA				sP	**sP**	**11 02 54.3**	**+0.3**
GTA	comp=Z,5.0nm,1.4s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,9.1nm,1.3s	**53.09**	**338**	*eP*	**P**	**11 03 05.4**	**+1.2**
SONM	**Songino Array** comp=Z,3.6nm,1.2s,baz=146,slow=5.1,SNR=14	**53.31**	**338**	P	**P**	**11 03 04.8**	**-1.0**
SONM	**Songino Array**	**53.31**	**338**	P	**P**	**11 03 04.8**	**-1.0**
URZ	**Urewera** comp=Z,6.6nm,1.0s,baz=293,slow=13,SNR=2.8	**55.28**	**138**	P	**P**	**11 03 18.1**	**-2.1**
URZ	**Urewera**	**55.28**	**138**	P	**P**	**11 03 18.1**	**-2.1**
MK31	**Makanchi Array**	**64.53**	**324**	*eP*	**P**	**11 04 24.1**	**+0.5**
MKAR	**Makanchi Array** comp=Z,2.5nm,0.9s,baz=115,slow=8.1,SNR=17	**64.53**	**324**	P	**P**	**11 04 24.0**	**+0.4**
MKAR	**Makanchi Array**	**64.53**	**324**	P	**P**	**11 04 24.0**	**+0.4**
KSH	**Kashi**	**65.39**	**314**	P	**P**	**11 04 31.7**	**+2.2**
KSH	comp=Z,69nm,2.9s			pmax	pmax		
DRV	**Dumont d'Urvil**	**66.35**	**177**	R		11 04 00.0	
ZALV	**Zalesovo Beam** comp=Z,2.1nm,1.0s,baz=101,slow=4.7,SNR=7.8	**67.13**	**331**	P	**P**	**11 04 39.7**	**-0.5**
ZALV	**Zalesovo Beam**	**67.13**	**331**	P	**P**	**11 04 39.7**	**-0.5**
KURK	**Kurchatov** comp=Z,12nm,1.4s	**68.60**	**326**	*eP*	**P**	**11 04 49.9**	**+0.4**
KBL	**Kabul** comp=Z,6.8nm,1.2s	**69.01**	**307**	*eP*	**P**	**11 04 52.0**	**-0.7**
KKAR	**Karatay Array** comp=Z,0.4nm,0.3s	**70.52**	**316**	*eP*	**P**	**11 04 59.6**	**-2.0**
BRVK	**Borovoye** comp=Z,7.5nm,1.3s	**74.27**	**326**	*eP*	**P**	**11 05 24.2**	**+0.5**
ABKAR	**Akbulak array** comp=Z,0.8nm,0.6s	**79.30**	**320**	*eP*	**P**	**11 05 52.2**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=265,slow=5.3,SNR=6.4	**86.08**	**25**	P	**P**	**11 06 26.1**	**-1.0**
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**11 06 26.1**	**-1.0**
QSPA	**South Pole Qui** comp=Z,2.3nm,1.0s,baz=78,slow=1.3,SNR=3.6	**89.57**	**180**	P	**P**	**11 06 45.1**	**+1.1**
QSPA	**South Pole Qui**	**89.57**	**180**	P	**P**	**11 06 45.1**	**+1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.9s,baz=82,slow=3.1,SNR=3.2	**130.17**	**287**	PKP	**PKPdf**	**11 12 58.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**130.17**	**287**	PKP	**PKPdf**	**11 12 58.1**	**+0.5**
CPUP	**Villa Florida** comp=Z,0.7nm,0.5s,baz=225,slow=2.9,SNR=2.6	**151.64**	**160**	PKPbc	**PKPbc**	**11 13 42.8**	**+1.2**
CPUP	**Villa Florida**	**151.64**	**160**	PKPbc	**PKPbc**	**11 13 42.8**	**+1.2**
LPAZ	**La Paz** comp=Z,0.4nm,0.3s,baz=209,slow=13,SNR=2.4	**153.34**	**129**	PKPab	**PKPab**	**11 13 55.5**	**-2.9**
LPAZ	**La Paz**	**153.34**	**129**	PKPab	**PKPab**	**11 13 55.5**	**-2.9**

*ISCJB **04** 10:55:55.8±0.7,49.69S±0.09×125.8E±0.3,h10km, mb4.2/7,MS3.7/3,Error ellipse: s-maj=30.1km s-min=12.4km az=2.5*

*IDC **04** 10:55:56.2±1.2,49.72S×125.75E,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/12,mbtmp4.1/5,MS3.7/3,Ms1 3.6/3, ms1mx3.1/20,Error ellipse: s-maj=41.7km s-min=26.1km az=82.0*

*NEIC **04** 10:55:57.7±0.6,49.71S×125.81E,h10km,mb4.5/5,Error ellipse: s-maj=23.9km s-min=10.0km az=93.0*

ISC 04 10:55:57.6±0.8,49.7S±0.1×125.8E±0.2,h10km,n17, σ0s55/14,mb4.3/7,MS3.7/3,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORT	**Forrest** 28nm,0.9s	**18.98**	**6**	*eP*	**Pn**	**11 00 19.8**	**+0.1**
STKA	**Stephens Creek** comp=Z,180nm,19.2s,baz=109,slow=33	**21.38**	**39**	LR	LR	11 07 48.7	
ASAR	**Alice Springs** 2.6nm,0.8s,baz=195,slow=8.8,SNR=9.3	**26.75**	**17**	P	**P**	**11 01 38.1**	**+0.7**
ASAR	**Alice Springs**	**26.75**	**17**	P	**P**	**11 01 38.1**	**+0.7**
WB2	**Warramunga Arr**	**30.47**	**16**	*eP*	**P**	**11 02 09.6**	**-0.9**
VNDA	**Vanda** 10nm,0.9s	**31.08**	**166**	*eP*	**P**	**11 02 15.3**	**0.0**
RPZ	**Rata Peaks** 3.2nm,0.4s,baz=288,slow=6.4,SNR=6.3	**31.23**	**97**	P	**P**	**11 02 17.3**	**+0.2**
RPZ	**Rata Peaks** 3.4nm,0.5s	**31.23**	**97**	*eP*	**P**	**11 02 17.1**	**0.0**
QSPA	**South Pole Qui** 1.0nm,0.6s,baz=0.0,slow=3.0,SNR=3.3	**40.42**	**180**	P	**P**	**11 03 36.3**	**+0.6**
QSPA	**South Pole Qui** 5.0nm,1.0s	**40.42**	**180**	*eP*	**P**	**11 03 36.4**	**+0.7**
HNR	**Honiara** comp=Z,107nm,19.4s,baz=326,slow=36	**49.16**	**47**	LR	LR	11 25 15.7	
SNAA	**Sanae** 6.2nm,1.1s	**53.62**	**198**	*eP*	**P**	**11 05 18.2**	**-0.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.5s,baz=183,slow=6.3,SNR=6.0	**71.90**	**333**	P	**P**	**11 07 21.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**71.90**	**333**	P	**P**	**11 07 21.1**	**+0.2**
BOSA	**Boshof** comp=Z,39nm,20.8s,baz=352,slow=30	**75.05**	**243**	LR	LR	11 33 01.1	
PLCA	**Paso Flores** 1.4nm,0.8s,baz=209,slow=6.4,SNR=3.1	**88.81**	**168**	P	**P**	**11 08 51.0**	**-0.6**
PLCA	**Paso Flores**	**88.81**	**168**	P	**P**	**11 08 51.0**	**-0.6**

IDC 04 11:02:33.3±2.9,0.22S×132.76E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/16,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=193.6km s-min=24.1km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=354,slow=11,SNR=5.2	**19.66**	**176**	P	P	11 07 04.4	+0.4
ASAR	**Alice Springs** 1.1nm,0.7s,baz=357,slow=11,SNR=8.7	**23.33**	**177**	P	P	11 07 43.8	+0.4
STKA	**Stephens Creek** 0.5nm,0.4s,baz=343,slow=11,SNR=6.3	**32.58**	**166**	P	P	11 09 05.8	-0.7
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=119,slow=8.4,SNR=2.8	**64.24**	**324**	P	P	11 13 10.3	0.0

IDC 04 11:04:09.6±1.2,0.32S×133.00E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/16,mbtmp3.8/5,Error ellipse: s-maj=73.0km s-min=21.8km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=352,slow=11,SNR=8.8	**19.55**	**176**	P	P	11 08 39.0	-0.1
ASAR	**Alice Springs** 1.9nm,0.5s,baz=352,slow=9.9,SNR=17	**23.23**	**178**	P	P	11 09 19.2	+0.6
STKA	**Stephens Creek** 1.2nm,0.3s,baz=352,slow=11,SNR=10	**32.43**	**166**	P	P	11 10 41.0	-0.5
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=108,slow=9.3,SNR=5.7	**64.46**	**324**	P	P	11 14 48.2	+0.1
ILAR	**Eielson Array** 0.2nm,0.6s,baz=254,slow=6.5,SNR=3.3	**86.06**	**25**	P	P	11 16 51.9	-0.1

*IDC **04** 11:08:44.0±0.6,0.61S×133.75E,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.3/16,mbtmp4.2/12,ML4.3/1,MS3.9/8, Ms1 3.9/8,ms1mx3.4/30,Error ellipse: s-maj=35.4km s-min=9.2km az=85.0*

*ISCJB **04** 11:08:46.8±0.4,0.60S±0.04×133.73E±0.07,h28km, mb4.5/33,MS4.0/10,Error ellipse: s-maj=10.0km s-min=6.0km az=171.2*

*BJI **04** 11:08:48.6,0.90S×132.90E,h35km,mB5.0/20,mb4.7/31, Ms4.6/13,Ms7 4.3/13*

*DJA **04** 11:08:49,0.79S×133.64E,h12km,MLv4.8/11*

*NEIC **04** 11:08:50.5±0.5,0.79S×133.22E,h35km,mb4.6/13,Error ellipse: s-maj=25.4km s-min=8.1km az=71.0*

ISC 04 11:08:49.3±0.4,0.62S±0.05×133.69E±0.06,h28km,n97, σ1s80/110,mb4.6/33,MS4.0/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.48**	**103**	P	**Pn**	**11 09 28.6**	**+0.7**
FAKI	**Fak Fak**	**2.70**	**212**	P	**Pn**	**11 09 30.8**	**-0.1**
TLE	**Tual**	**5.07**	**191**	P	**Pn**	**11 10 04.6**	**+1.0**
SMPI	**Sarmi**	**5.20**	**105**	P	Pb	11 10 16.2	-3.4
MSAI	**Masohi**	**5.47**	**240**	P	**Pb**	**11 10 24.2**	**-0.1**
LBMI	**Labuha** 59nm,0.9s,1µm0.2nm	**6.19**	**270**	P	Pn	11 10 27.1	+8.2
AAI	**Ambon** 164nm,1.4s,2µm0.8nm	**6.28**	**241**	P	**Pn**	**11 10 22.0**	**+1.9**
NLAI	**Namlea** 68nm,1.1s,0.3nm	**7.08**	**248**	P	Pn	11 10 34.9	+3.8
SGSI	**Sangihe**	**9.21**	**298**	P	Pn	11 11 04.7	+4.3
PMG	**Port Moresby** 32nm,1.2s	**15.99**	**123**	*eP*	P	11 12 42.4	+6.6
COEN	**Coen** 150nm,1.4s	**16.24**	**145**	*e*Pn	**P**	**11 12 40.3**	**+1.8**
GUMO	**Guam** comp=Z,118nm,19.1s,baz=84,slow=35	**17.95**	**38**	LR	LR	11 19 15.4	
WRAB	**Tennant Creek** 16nm,0.7s	**19.20**	**178**	*eP*	**P**	**11 13 09.2**	**-2.0**
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=354,slow=11,SNR=23	**19.21**	**178**	P	**P**	**11 13 08.2**	**-3.1**
WRA	0.3nm,0.3s,baz=358,slow=24,SNR=5.1			S	**S**	**11 16 47.5**	**0.0**
WRA	**Warramunga Arr**	**19.21**	**178**	P	**P**	**11 13 08.2**	**-3.1**
WRA				S	**S**	**11 16 47.5**	**0.0**
WB2	**Warramunga Arr**	**19.21**	**178**	*eP*	**P**	**11 13 07.8**	**-3.5**
TGY	**Tagaytay City** 21nm,0.3s,baz=146,slow=15,SNR=2.8	**19.33**	**320**	P	**Pn**	**11 13 14.4**	**+0.6**
TGY	**Tagaytay City**	**19.33**	**320**	P	**Pn**	**11 13 14.4**	**+0.6**
AS31	**Alice Springs**	**22.91**	**179**	*eP*	**P**	**11 13 49.4**	**-1.8**
ASAR	**Alice Springs** 11nm,0.9s,baz=4.6,slow=11,SNR=47	**22.91**	**179**	P	**P**	**11 13 49.9**	**-1.3**
ASAR	2.5nm,1.0s,baz=5.9,slow=19,SNR=5.0			S	**S**	**11 18 03.5**	**+4.0**
ASAR	**Alice Springs**	**22.91**	**179**	P	**P**	**11 13 49.9**	**-1.3**
ASAR				S	**S**	**11 18 03.5**	**+4.0**
CTAO	**Charters Tower** 33nm,1.3s	**22.92**	**148**	*eP*	**P**	**11 13 55.6**	**+4.3**
MBWA	**Marble Bar** 15nm,1.0s	**24.54**	**213**	*eP*	**P**	**11 14 04.5**	**-2.3**
JOW	**Kunigami** comp=Z,235nm,20.4s,baz=127,slow=32	**27.79**	**350**	LR	LR	11 23 25.0	
STKA	**Stephens Creek** 1.5nm,0.7s,baz=360,slow=9.9,SNR=5.3	**31.97**	**167**	P	**P**	**11 15 10.9**	**-2.2**
STKA	comp=Z,456nm,20.1s,baz=250,slow=39			LR	LR	11 29 27.5	
STKA	**Stephens Creek** 0.5nm,0.6s	**31.97**	**167**	*eP*	**P**	**11 15 10.9**	**-2.2**
BBOO	**Buckleboo** 134nm,1.0s	**32.09**	**176**	*eP*	**P**	**11 15 13.7**	**-0.4**
NJ2	**Nanjing**	**35.40**	**338**	*eP*	P	11 15 46.3	+3.4
NJ2	comp=Z,20nm,1.0s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.8nm,0.6s,baz=191,slow=8.3,SNR=6.8	**37.21**	**6**	P	**P**	**11 15 55.7**	**-2.7**
MJAR	comp=Z,132nm,18.6s,baz=185,slow=33			LR	LR	11 28 55.2	
MJAR	**Matsushiro Arr**	**37.21**	**6**	P	**P**	**11 15 55.7**	**-2.7**
GYA	**Guiyang**	**37.46**	**318**	P	**P**	**11 16 01.5**	**+0.7**
GYA				pP	**pP**	**11 16 11.4**	**+2.3**
GYA				PP	PP	11 17 28.9	+2.3
GYA				S	**S**	**11 21 45.6**	**-2.4**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
KSAR	**Wonju Array Be**	**38.25**	**353**	P	**P**	**11 16 04.8**	**-2.3**
KSRS	**Korea Array** comp=Z,1.7nm,1.1s,baz=155,slow=8.0,SNR=3.5	**38.26**	**353**	P	**P**	**11 16 04.8**	**-2.3**
KSRS	comp=Z,101nm,18.2s,baz=37,slow=35			LR	LR	11 31 04.0	
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.9s,baz=122,slow=7.0,SNR=8.8	**39.06**	**301**	P	**P**	**11 16 13.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.06**	**301**	P	**P**	**11 16 13.4**	**-0.8**
KMI	**Kunming**	**39.39**	**313**	P	**P**	**11 16 17.9**	**+0.8**
KMI				pP	**pP**	**11 16 27.4**	**+1.9**
KMI				sP	**sP**	**11 16 31.2**	**+2.3**
KMI	comp=Z,6.0nm,1.5s			pmax	pmax		
CD2	**Chengdu**	**42.33**	**320**	P	**P**	**11 16 41.7**	**+0.6**
CD2				pP	**pP**	**11 16 51.9**	**+2.4**
CD2				sP	**sP**	**11 16 56.2**	**+3.3**
CD2				PP	PP	11 18 22.9	+3.4
CD2				S	**S**	**11 22 58.9**	**-1.7**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,120nm,5.4s			LR	LR		
CD2	comp=N,160nm,7.7s			LR	LR		
BJT	**Baijiatuau** comp=Z,9.9nm,0.6s	**43.50**	**340**	*eP*	**P**	**11 16 50.0**	**-0.3**
BJI	**Beijing**	**43.52**	**340**	P	**P**	**11 16 49.5**	**-0.9**
BJI	comp=Z,50nm,0.9s			pmax	pmax		
USRK	**Ussuriysk Arra** comp=Z,5.6nm,0.9s,baz=177,slow=8.4,SNR=7.3	**44.65**	**358**	P	**P**	**11 16 59.0**	**-0.5**
USRK	comp=Z,66nm,20.3s,baz=129,slow=32			LR	LR	11 32 53.8	
CN2	**Changchun**	**44.84**	**352**	*eP*	**P**	**11 17 03.1**	**+2.1**
CN2				*e*S	**S**	**11 23 40.3**	**+3.5**
CN2	comp=Z,10.0nm,0.6s			pmax	pmax		
CN2	comp=Z,200nm,5.0s			pmax	pmax		
CN2	comp=N,200nm,13.0s			LR	LR		
CN2	comp=E,200nm,13.0s			LR	LR		
CN2	comp=Z,200nm,15.0s			LR	LR		
MDJ	**Mudanjiang**	**45.19**	**356**	P	P	11 17 09.0	+5.2
MDJ	comp=Z,3.0nm,1.0s			pmax	pmax		
MDJ	comp=Z,35nm,3.7s			pmax	pmax		
LZH	**Lanzhou**	**45.88**	**326**	*eP*	**P**	**11 17 09.6**	**0.0**
LZH				pP	**pP**	**11 17 19.8**	**+1.7**
LZH				sP	**sP**	**11 17 24.0**	**+2.6**
LZH	comp=Z,19nm,1.0s			pmax	pmax		
LZH	comp=Z,63nm,5.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**45.92**	**337**	*eP*	**P**	**11 17 09.7**	**-0.1**
HHC				pP	**pP**	**11 17 19.6**	**+1.3**
HHC				sP	**sP**	**11 17 23.5**	**+1.9**
HHC				PP	PP	11 18 57.9	+0.1
HHC				S	**S**	**11 23 52.7**	**0.0**
HHC	comp=Z,20nm,1.0s			pmax	pmax		
HHC	comp=Z,190nm,5.3s			pmax	pmax		
HHC	com

GTA					LR		LR		
	comp=E,110nm,16.2s								
GTA					LR		LR		
	comp=Z,98nm,15.2s								
LSA	**Lhasa**	**50.53**	**310**	P		**P**		**11 17 45.1**	**-0.9**
LSA	**Lhasa**	**50.53**	**310**	*e*P		**P**		**11 17 45.9**	**-0.1**
	comp=Z,7.0nm,0.8s								
TAPN	**Taplejung**	**52.18**	**306**	*e*P		**P**		**11 17 57.2**	**-1.1**
TAPN	**Taplejung**	**52.18**	**306**	*e*P		**P**		**11 17 57.2**	**-1.1**
ODAN	**Odare**	**52.24**	**305**	*e*P		**P**		**11 17 57.5**	**-1.1**
	comp=Z,38nm,0.8s								
ODAN	**Odare**	**52.24**	**305**	*e*P		**P**		**11 17 57.5**	**-1.1**
RAMN	**Ramite**	**52.93**	**305**	*e*P		**P**		**11 18 02.8**	**-0.9**
	comp=Z,50nm,0.8s								
RAMN	**Ramite**	**52.93**	**305**	*e*P		**P**		**11 18 02.8**	**-0.9**
JIRN	**Jiri**	**53.54**	**306**	*e*P		**P**		**11 18 07.3**	**-1.1**
	comp=Z,27nm,0.8s								
JIRN	**Jiri**	**53.54**	**306**	*e*P		**P**		**11 18 07.3**	**-1.1**
ULN	**Ulaanbaatar**	**53.57**	**338**	*e*P		**P**		**11 18 07.9**	**-0.1**
	comp=Z,4.0nm,0.6s								
SONM	**Songino Array**	**53.79**	**337**	P		**P**		**11 18 09.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=152,slow=7.9,SNR=25								
SONM	**Songino Array**	**53.79**	**337**	P		**P**		**11 18 09.1**	**-0.4**
GUN	**Gumba**	**53.89**	**306**	*e*P		**P**		**11 18 09.9**	**-1.0**
	comp=Z,32nm,0.7s								
GUN	**Gumba**	**53.89**	**306**	*e*P		**P**		**11 18 09.9**	**-1.0**
PKI	**Pulchoki**	**54.14**	**305**	*e*P		**P**		**11 18 11.1**	**-1.6**
PKI	**Pulchoki**	**54.14**	**305**	*e*P		**P**		**11 18 11.1**	**-1.6**
RPZ	**Rata Peaks**	**54.29**	**147**	LR		LR		11 41 14.1	
	comp=Z,115nm,19.3s,baz=345,slow=36								
KKN	**Kakani**	**54.33**	**305**	*e*P		**P**		**11 18 12.6**	**-1.4**
KKN	**Kakani**	**54.33**	**305**	*e*P		**P**		**11 18 12.6**	**-1.4**
DMN	**Daman**	**54.41**	**305**	*e*P		**P**		**11 18 13.4**	**-1.2**
DMN	**Daman**	**54.41**	**305**	*e*P		**P**		**11 18 13.4**	**-1.2**
GKN	**Gorkha**	**54.94**	**305**	*e*P		**P**		**11 18 17.0**	**-1.3**
	comp=Z,29nm,0.8s								
GKN	**Gorkha**	**54.94**	**305**	*e*P		**P**		**11 18 17.0**	**-1.3**
KOLN	**Koldanda**	**55.70**	**305**	*e*P		**P**		**11 18 23.0**	**-0.9**
	comp=Z,35nm,0.8s								
KOLN	**Koldanda**	**55.70**	**305**	*e*P		**P**		**11 18 23.0**	**-0.9**
DANN	**Dangsing**	**55.79**	**305**	*e*P		**P**		**11 18 23.4**	**-1.2**
	comp=Z,39nm,0.8s								
DANN	**Dangsing**	**55.79**	**305**	*e*P		**P**		**11 18 23.4**	**-1.2**
HYB	**Hyderabad**	**57.15**	**291**	*i* P		P		11 18 29.0	-5.1
PETK	**Petropavlovsk-**	**57.17**	**17**	P		**P**		**11 18 33.9**	**+0.3**
	comp=Z,6.0nm,1.0s,baz=202,slow=3.1,SNR=3.5								
PETK	**Petropavlovsk-**	**57.17**	**17**	P		**P**		**11 18 33.9**	**+0.3**
WMQ	**Urumqi**	**60.30**	**323**	P		P		**11 18 55.4**	**-0.3**
WMQ				pP		**pP**		**11 19 05.4**	**+1.0**
WMQ				sP		**sP**		**11 19 09.4**	**+1.7**
MK31	**Makanchi Array**	**65.11**	**324**	*e*P		**P**		**11 19 27.3**	**-0.4**
MKAR	**Makanchi Array**	**65.11**	**324**	P		**P**		**11 19 27.5**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=116,slow=7.9,SNR=47								
MKAR	**Makanchi Array**	**65.11**	**324**	*e*P		**P**		**11 19 27.5**	**-0.2**
KSH	**Kashi**	**66.03**	**314**	*e*P		**P**		**11 19 34.8**	**+1.0**
KSH				epP		**pP**		**11 19 44.8**	**+2.2**
KSH				esP		**sP**		**11 19 48.8**	**+2.9**
KSH				eScP				11 24 04.8	
KSH				*e*PcS				11 24 08.8	
KSH				*e*S		**S**		**11 28 15.1**	**-5.2**
KSH				eScS		**SKSac**		**11 29 23.8**	**-4.5**
KSH				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KSH				pmax		pmax			
	comp=Z,100nm,4.9s								
KSH				LR		LR			
	comp=N,94nm,4.9s								
KSH				LR		LR			
	comp=E,100nm,5.1s								
KSH				LR		LR			
	comp=Z,150nm,6.2s								
ZALV	**Zalesovo Beam**	**67.66**	**331**	P		**P**		**11 19 41.6**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=134,slow=6.4,SNR=7.4								
ZALV	**Zalesovo Beam**	**67.66**	**331**	P		**P**		**11 19 41.6**	**-2.1**
KURK	**Kurchatov**	**69.17**	**326**	*e*P		**P**		**11 19 53.0**	**-0.3**
	comp=Z,6.9nm,0.8s								
KBL	**Kabul**	**69.67**	**307**	*e*P		**P**		**11 19 56.2**	**-0.8**
	comp=Z,5.3nm,0.8s								
KKAR	**Karatay Array**	**71.15**	**316**	*e*P		**P**		**11 20 04.8**	**-0.8**
	comp=Z,0.8nm,0.5s								
BRVK	**Borovoye**	**74.84**	**326**	*e*P		**P**		**11 20 26.9**	**-0.3**
	comp=Z,6.4nm,1.1s								
ABKAR	**Akbulak array**	**79.91**	**320**	*e*P		**P**		**11 20 55.0**	**-0.7**
ILAR	**Eielson Array**	**86.05**	**25**	P		**P**		**11 21 25.9**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=260,slow=5.3,SNR=17								
ILAR	**Eielson Array**	**86.05**	**25**	P		**P**		**11 21 25.9**	**-1.3**
QSPA	**South Pole Qui**	**89.31**	**180**	LR		LR		12 02 29.2	
	comp=Z,177nm,18.6s,baz=22,slow=36								
TORD	**Torodi Ar. Bea**	**130.85**	**287**	PKP		**PKPdf**		**11 27 58.6**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=254,slow=2.6,SNR=3.0								
TORD	**Torodi Ar. Bea**	**130.85**	**287**	PKP		**PKPdf**		**11 27 58.6**	**-0.6**
CPUP	**Villa Florida**	**151.17**	**159**	PKPbc		**PKPbc**		**11 28 41.3**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=237,slow=3.4,SNR=3.7								
CPUP	**Villa Florida**	**151.17**	**159**	PKPbc		**PKPbc**		**11 28 41.3**	**+0.5**

*SOF **04** 11:18:34.5, 40.39N×25.72E, h5km, MD2.5*
*ATH **04** 11:18:34.8, 40.38N×25.75E, h29km±1km, MD3.3/5*
*ISK **04** 11:18:34.8, 40.34N×25.79E, h7km, MD3.1*
*ISCJB **04** 11:18:34.2±0.7, 40.37N±0.03×25.70E±0.04, h9km±5km, Error ellipse: s-maj=5.2km s-min=4.2km az=171.8*
*CSEM **04** 11:18:35.1±0.2, 40.36N×25.76E, h8km, MD3.1, Error ellipse: s-maj=3.7km s-min=3.3km az=71.0*
*DDA **04** 11:18:37.1, 40.32N×25.97E, h7km, MD3.2*
ISC 04 11:18:35.4±1.0, **40.37N**±0.02×**25.77E**±0.03, **h12**km±9km, **n53**, σ0▮**48**/**72**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**38**	*e*PG	**Pg**	**11 18 44.6**	**0.0**
ENEZ				*e*SG	**Sb**	**11 18 52.0**	**-0.5**
ENEZ	**Enez**	**0.47**	**38**	*e*Pg	**Pg**	**11 18 44.6**	**0.0**
ENEZ				*e*Sg	**Sb**	**11 18 52.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.54**	**87**	*e*PG	**Pg**	**11 18 45.9**	**0.0**
GELI				*e*SG	**Sg**	**11 18 53.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.54**	**87**	*e*Pg	**Pg**	**11 18 45.9**	**0.0**
GELI				*e*Sg	**Sg**	**11 18 53.2**	**+0.1**
ALN	**Alexandroupoli**	**0.57**	**22**	*e*PN	**Pg**	**11 18 46.4**	**-0.1**
ALN				*e*SN	**Sg**	**11 18 54.5**	**+0.5**
ALN	**Alexandroupoli**	**0.57**	**22**	*e*Pn	**Pg**	**11 18 46.4**	**-0.1**
ALN				*e*Sn	**Sg**	**11 18 54.5**	**+0.5**
BOZC	**Bozcaada**	**0.57**	**157**	*i* P	**Pg**	**11 18 46.5**	**0.0**
BOZC				*i* S	**Sg**	**11 18 54.1**	**+0.1**
ERIK	**Erikli-Kesan**	**0.64**	**62**	*e*PG	**Pg**	**11 18 47.2**	**-0.7**
ERIK				*e*SG	**Sb**	**11 18 57.5**	**0.0**
ERIK	**Erikli-Kesan**	**0.64**	**62**	*e*Pg	**Pg**	**11 18 47.2**	**-0.7**
ERIK				*e*Sg	**Sb**	**11 18 57.5**	**0.0**
LIA	**Limnos Island**	**0.65**	**224**	*e*PN	**Pg**	**11 18 47.9**	**-0.1**
LIA				*e*SN	**Sb**	**11 18 57.6**	**-0.1**
LIA	**Limnos Island**	**0.65**	**224**	*e*Pn	**Pg**	**11 18 47.9**	**-0.1**
LIA				*e*Sn	**Sb**	**11 18 57.6**	**-0.1**
EZN	**Ezine**	**0.69**	**142**	*e*PG	**Pg**	**11 18 48.4**	**-0.3**
EZN	**Ezine**	**0.69**	**142**	*e*Pg	**Pg**	**11 18 48.4**	**-0.3**
LPK	**Lapseki**	**0.76**	**89**	*e*PG	**Pg**	**11 18 49.4**	**-0.6**
LPK	**Lapseki**	**0.76**	**89**	*e*Pg	**Pg**	**11 18 49.4**	**-0.6**
RDO	**Rodhopi**	**0.80**	**347**	*e*PN	**Pg**	**11 18 50.7**	**-0.1**
RDO				*e*SN	**Sg**	**11 19 01.6**	**+0.4**
RDO	**Rodhopi**	**0.80**	**347**	*e*Pn	**Pg**	**11 18 50.7**	**-0.1**
RDO				*e*Sn	**Sg**	**11 19 01.6**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.12**	**73**	*e*PN	**Pb**	**11 18 56.0**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.12**	**73**	*e*Pn	**Pb**	**11 18 56.0**	**-0.7**
SART	**Tekirdag**	**1.12**	**73**	*e*P	**Pb**	**11 18 56.1**	**-0.7**
SART				*e*S	**Sb**	**11 19 11.5**	**+0.1**
SART	**Tekirdag**	**1.12**	**73**	*e*P	**Pb**	**11 18 56.1**	**-0.7**
SART				*e*S	**Sb**	**11 19 11.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.17**	**88**	*e*PN	**Pb**	**11 18 56.8**	**-0.7**
KRBG	**Karabiga-Canak**	**1.17**	**88**	*e*Pn	**Pb**	**11 18 56.8**	**-0.7**
PRK	**Paraskevi**	**1.19**	**161**	*e*PN	**Pb**	**11 18 57.4**	**-0.4**
PRK	**Paraskevi**	**1.19**	**161**	*e*Pn	**Pb**	**11 18 57.4**	**-0.4**
AYVA	**Ayvalik**	**1.27**	**146**	*e*P	**Pb**	**11 18 59.1**	**-0.2**
AYVA				*e*S	**Sn**	**11 19 15.8**	**-0.2**
AYVA	**Ayvalik**	**1.27**	**146**	*e*P	**Pb**	**11 18 59.1**	**-0.2**
AYVA				*e*S	**Sn**	**11 19 15.8**	**-0.2**
KDZ	**Kurdzhali**	**1.31**	**348**	*i* P	**Pn**	**11 18 59.5**	**0.0**
KDZ	**Kurdzhali**	**1.31**	**348**	*i* P	**Pn**	**11 18 59.5**	**0.0**
TKR	**Tekirdag**	**1.48**	**65**	*e*PN	**Pb**	**11 19 02.5**	**-0.3**
TKR	**Tekirdag**	**1.48**	**65**	*e*Pn	**Pb**	**11 19 02.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*PN	**Pn**	**11 19 02.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*Pn	**Pn**	**11 19 02.6**	**+0.4**
RZN	**Rozhen**	**1.54**	**329**	*i* P	**Pn**	**11 19 03.4**	**+0.5**
RZN	**Rozhen**	**1.54**	**329**	*i* P	**Pn**	**11 19 03.4**	**+0.5**
BALY	**Balya**	**1.55**	**113**	*e*P	**Pb**	**11 19 04.0**	**-0.1**
BALY				*e*S	**Sn**	**11 19 23.3**	**+0.3**
BALY	**Balya**	**1.55**	**113**	*e*P	**Pb**	**11 19 04.0**	**-0.1**
BALY				*e*S	**Sn**	**11 19 23.3**	**+0.3**
EDC	**Edincik**	**1.60**	**90**	*e*PN	**Pn**	**11 19 03.9**	**+0.4**
EDC	**Edincik**	**1.60**	**90**	*e*Pn	**Pn**	**11 19 03.9**	**+0.4**
EDRB	**Edirne**	**1.65**	**26**	*e*PN	**Pb**	**11 19 05.4**	**-0.4**
EDRB	**Edirne**	**1.65**	**26**	*e*Pn	**Pb**	**11 19 05.4**	**-0.4**
NVR	**Nevrokopi**	**1.75**	**305**	*e*PB	**Pn**	**11 19 04.6**	**-1.0**
NVR	**Nevrokopi**	**1.75**	**305**	*e*Pb	**Pn**	**11 19 04.6**	**-1.0**
BALB	**Balikesir**	**1.78**	**113**	*e*PN	**Pn**	**11 19 06.5**	**+0.6**
BALB	**Balikesir**	**1.78**	**113**	*e*Pn	**Pn**	**11 19 06.5**	**+0.6**
MMB	**Musomiste**	**1.97**	**309**	*i* P	**Pn**	**11 19 09.2**	**+0.6**
MMB	**Musomiste**	**1.97**	**309**	*i* P	**Pn**	**11 19 09.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.98**	**92**	*e*PN	**Pn**	**11 19 09.2**	**+0.4**
KCTX	**Karacabey (Bur**	**1.98**	**92**	*e*Pn	**Pn**	**11 19 09.2**	**+0.4**
CTKS	**Kestanelik-??a**	**2.25**	**66**	*e*PN	**Pn**	**11 19 13.5**	**+1.1**
CTKS	**Kestanelik-??a**	**2.25**	**66**	*e*Pn	**Pn**	**11 19 13.5**	**+1.1**
ARMT	**Armutlu**	**2.37**	**84**	*e*PN	**Pn**	**11 19 14.8**	**+0.7**
ARMT	**Armutlu**	**2.37**	**84**	*e*Pn	**Pn**	**11 19 14.8**	**+0.7**

MEX 04 11:19:08.2±1.1, **16.95N**×**94.77W**, **h121**km±9km, **MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.18**	**323**	*e*P	Pn	11 19 23.4	-1.5
CMIG				*i* S	Sn	11 19 35.3	-2.2
TGIG		**1.59**	**96**	*e*P	Pn	11 19 35.4	-1.3
TGIG				*e*S	Sn	11 19 56.4	-2.1
HUIG	**Huatulco**	**1.74**	**228**	*e*P	Pn	11 19 36.2	-2.3
HUIG				*e*S	Sn	11 20 00.1	-1.6
VHO	**Vista Hermosa**	**1.88**	**274**	*i* P	Pn	11 19 39.9	-0.6
VHO				*e*S	Sn	11 20 04.2	-1.0
PCIG		**1.93**	**129**	*i* P	Pn	11 19 40.2	-0.6
PCIG				*e*S	Sn	11 20 05.0	-0.8
UTMO	**Huajuapan**	**3.03**	**287**	*i* P	Pn	11 19 53.9	-1.3
UTMO				*e*S	Sn	11 20 29.6	-1.8
PNIG	**Pinotepa**	**3.27**	**261**	*e*P	Pn	11 19 55.6	-2.5
PNIG				*e*S	Sn	11 20 34.1	-2.4

IDC 04 11:24:31.5±7.5, **0.87S**×**133.23E**, **h0**km, **mb3.3**/2, **mb1 3.3**/3, **mb1mx3.2**/16, **mbtmp3.2**/3, **ML3.0**/1, **Error ellipse: s-maj=448.5km s-min=28.1km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.99**	**177**	P	P	11 28 53.9	-1.0
	0.1nm,0.3s,baz=356,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**22.67**	**178**	P	P	11 29 35.5	+0.7
	0.3nm,0.5s,baz=1.2,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**65.04**	**324**	P	P	11 35 13.7	-0.1
	0.3nm,0.6s,baz=120,slow=7.1,SNR=4.2						

SKHL 04 11:25:08.5±1.0, **54.77N**×**142.05E**, **h10**km, **mb3.7**/2, **Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.33**	**157**	*e*Pg	Pn	11 25 32.5	-0.5
OKH				AMB	AMB	11 25 33.0	
	167nm,0.8s						
				*e*Sg	Sb	11 25 50.0	-0.5
OKH				A	A	11 25 51.5	
	283nm,0.4s						
OKH				A	A	11 25 51.5	
	184nm,0.4s						
NKL	**Nikolayevsk**	**1.81**	**207**	*e*Pg	Pg	11 25 44.5	+1.3
NKL				AMB	AMB	11 25 47.0	
	10.0nm,0.3s						
				*e*Sg	Sg	11 26 09.0	+2.3
NKL				A	A	11 26 10.0	
	56nm,0.3s						
NKL				A	A	11 26 10.0	
	61nm,0.3s						
GRNR	**Gornyy**	**5.26**	**223**	*e*Sg	Sg	11 28 05.8	+8.3
GRNR				A	A	11 28 14.0	
	14nm,0.9s						
GRNR				A	A	11 28 14.0	
	17nm,0.9s						
EKMR	**Ekimchan**	**5.64**	**256**	*e*Sg	Sg	11 28 18.0	+8.4
EKMR				A	A	11 28 23.0	
	4.0nm,0.6s						

IDC 04 11:33:44.7±13.0, **0.99S**×**133.95E**, **h0**km, **mb3.7**/2, **mb1 3.8**/3, **mb1mx3.4**/15, **mbtmp3.6**/3, **Error ellipse: s-maj=203.0km s-min=128.4km az=150.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.60**	**176**	P	P	11 39 31.5	-0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.28**	**178**	P	P	11 40 12.1	+0.9
	1.1nm,0.8s,baz=354,slow=9.9,SNR=8.0						
STKA	**Stephens Creek**	**32.48**	**166**	P	P	11 41 33.1	-0.9
	0.8nm,0.7s,baz=336,slow=11,SNR=4.4						

IDC 04 11:35:01.6±13.0, **0.27S**×**133.00E**, **h0**km, **mb3.6**/2, **mb1 3.7**/3, **mb1mx3.3**/16, **mbtmp3.5**/3, **ML3.3**/1, **Error ellipse: s-maj=196.2km s-min=122.2km az=159.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.60**	**176**	P	P	11 39 31.5	-0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.28**	**178**	P	P	11 40 12.1	+0.9
	1.1nm,0.8s,baz=354,slow=9.9,SNR=8.0						
STKA	**Stephens Creek**	**32.48**	**166**	P	P	11 41 33.1	-0.9
	0.8nm,0.7s,baz=336,slow=11,SNR=4.4						

*IDC **04** 11:40:49.2±0.9, 0.27S×132.62E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/23, Error ellipse: s-maj=50.0km s-min=16.2km az=73.0*
*DJA **04** 11:40:53.0±0.39S×132.55E, h10km, MLv4.8/10*
*NEIC **04** 11:40:54.0±0.4, 0.26S×132.73E, h35km, mb4.5/10, Error ellipse: s-maj=14.3km s-min=6.5km az=70.0*
ISC 04 11:40:54.6±0.6, **0.32S**±0.08×**132.37E**±0.08, **h33**km, **n48**, σ1▮**25**/41, **mb4.3**/15, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.59**	**183**	P	**Pn**	**11 41 34.8**	**+0.6**
BAKI	**Biak**	**3.84**	**103**	P	Pb	11 42 06.8	+5.2
MSAI	**Masohi**	**4.57**	**229**	P	Pn	11 42 05.9	+4.4
LBMI	**Labuha**	**4.88**	**266**	P	**Pn**	**11 42 07.8**	**+2.1**
TLE	**Tual**	**5.30**	**176**	P	**Pn**	**11 42 14.2**	**+2.7**
AAI	**Ambon**	**5.35**	**231**	P	**Pn**	**11 42 14.7**	**+2.5**
NLAI	**Namlea**	**6.01**	**241**	P	Pn	11 42 25.6	+4.3
	86nm,0.8s,1µm0.3nm						
LUWI	**Luwuk**	**9.62**	**266**	P	Pn	11 43 17.3	+6.4
	58nm,1.4s,704nm						
DAV	**Davao City (W)**	**9.99**	**317**	LR	LR	11 47 35.4	
	comp=Z,295nm,18.6s,baz=131,slow=40						
TTSI	**Tana Toraja**	**12.83**	**258**	P	**P**	**11 44 03.9**	**-1.4**
	23nm,1.1s						
KAPI	**Kappang**	**13.44**	**249**	*e*Pn	Pn	11 44 08.6	+5.4
WSI	**Waingapu**	**15.19**	**232**	P	**Pn**	**11 44 25.0**	**-1.8**
	390nm,0.4s,12µm						
COEN	**Coen**	**17.27**	**142**	*e*P	**Pn**	**11 44 50.8**	**-2.5**
	34nm,0.6s						
PMG	**Port Moresby**	**17.27**	**122**	Pn	**P**	**11 44 55.6**	**+1.0**
	0.3nm,0.3s,baz=300,slow=12,SNR=3.6						
PMG	**Port Moresby**	**17.27**	**122**	Pn	**P**	**11 44 55.6**	**+1.0**
WRAB	**Tennant Creek**	**19.59**	**174**	*e*P	**P**	**11 45 19.4**	**-0.7**
	20nm,0.7s						
WRA	**Warramunga Arr**	**19.60**	**174**	P	**P**	**11 45 19.7**	**-0.6**
	1.6nm,0.3s,baz=354,slow=12,SNR=46						
WRA				S	S	11 48 48.8	-11
	0.5nm,0.3s,baz=5.1,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**19.60**	**174**	P	**P**	**11 45 19.7**	**-0.6**
WRA				S	S	11 48 48.8	-11
WB2	**Warramunga Arr**	**19.60**	**174**	*e*P	**P**	**11 45 19.5**	**-0.8**
BLJI	**Banyuglugur**	**20.12**	**248**	P	Pn	11 45 34.4	+6.5
AS31	**Alice Springs**	**23.26**	**176**	*e*P	**P**	**11 45 59.0**	**-0.4**
ASAR	**Alice Springs**	**23.26**	**176**	P	**P**	**11 45 58.8**	**-0.6**
	7.6nm,0.6s,baz=348,slow=10,SNR=66						
ASAR				S	S	11 50 19.0	+9.4
	6.5nm,1.2s,baz=0.6,slow=26,SNR=6.6						
ASAR	**Alice Springs**	**23.26**	**176**	P	**P**	**11 45 58.8**	**-0.6**
ASAR				S	S	11 50 19.0	+9.4
CTAO	**Charters Tower**	**23.89**	**146**	*e*P	**P**	**11 46 03.0**	**-2.5**
	21nm,1.1s						
MBWA	**Marble Bar**	**24.11**	**210**	*e*P	**P**	**11 46 08.1**	**+0.5**
	11nm,0.8s						
STKA	**Stephens Creek**	**32.58**	**165**	P	**P**	**11 47 22.2**	**-0.9**
	3.1nm,0.6s,baz=328,slow=6.1,SNR=11						
STKA	**Stephens Creek**	**32.58**	**165**	*e*P	**P**	**11 47 22.4**	**-0.7**
	3.8nm,0.9s						
STKA	**Stephens Creek**	**32.58**	**165**	*e*P	**P**	**11 47 22.2**	**-0.9**
	1.7nm,1.1s						
KLBR	**Kellerberrin**	**34.04**	**203**	*e*P	**P**	**11 47 36.4**	**+0.6**
	52nm,1.7s						
ARMA	**Armidale**	**35.09**	**150**	*e*P	**P**	**11 47 44.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**37.77**	**301**	P	**P**	**11 48 08.1**	**+0.1**
	0.4nm,0.7s,baz=125,slow=7.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**37.77**	**301**	P	**P**	**11 48 08.1**	**+0.1**
ULN	**Ulaanbaatar**	**52.80**	**339**	*e*P	**P**	**11 50 07.2**	**+0.4**
	8.1nm,1.4s						
SONM	**Songino Array**	**53.01**	**338**	P	**P**	**11 50 09.3**	**+0.9**
	1.4nm,1.0s,baz=155,slow=4.6,SNR=6.9						
SONM	**Songino Array**	**53.01**	**338**	P	**P**	**11 50 09.3**	**+0.9**
MK31	**Makanchi Array**	**64.09**	**324**	*e*P	**P**	**11 51 26.1**	**+0.5**
MKAR	**Makanchi Array**	**64.09**	**324**	P	**P**	**11 51 26.3**	**+0.8**
	1.8nm,0.7s,baz=110,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**64.09**	**324**	P	**P**	**11 51 26.3**	**+0.8**
ZAA0	**Zalesovo Array**	**66.76**	**332**	*e*P	**P**	**11 51 42.7**	**0.0**
ZALV	**Zalesovo Beam**	**66.76**	**332**	P	**P**	**11 51 42.4**	**-0.2**
	1.0nm,0.6s,baz=118,slow=6.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**66.76**	**332**	P	**P**	**11 51 42.4**	**-0.2**
KURK	**Kurchatov**	**68.18**	**326**	*e*P	**P**	**11 51 49.0**	**-2.7**
	12nm,1.4s						
KKAR	**Karatay Array**	**70.02**	**317**	*e*P	**P**	**11 52 03.6**	**+0.3**
	2.7nm,1.0s						
ABKAR	**Akbulak array**	**78.83**	**320**	*e*P	**P**	**11 52 54.5**	**+0.2**
	0.5nm,0.4s						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**11 53 31.6**	**-1.5**
	0.9nm,0.8s,baz=254,slow=4.3,SNR=12						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**11 53 31.6**	**-1.5**
QSPA	**South Pole Qui**	**89.61**	**180**	P	**P**	**11 53 49.3**	**+0.4**
	3.8nm,0.9s,baz=279,slow=1.8,SNR=21						
QSPA	**South Pole Qui**	**89.61**	**180**	*e*P	**P**	**11 53 49.0**	**+0.1**
	7.5nm,1.2s						

*IDC **04** 11:49:44.1±0.6, 0.66S×133.81E, h0km, mb4.5/14, mb1 4.7/15, mb1mx4.6/20, mbtmp4.5/15, ML4.6/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/23, Error ellipse: s-maj=30.2km s-min=13.5km az=76.0*
*MOS **04** 11:49:47.6±1.4, 0.66S×133.71E, h33km, mb5.2/25, Error ellipse: s-maj=15.1km s-min=6.8km az=113.9*
*BJI **04** 11:49:48.4, 0.70S×133.80E, h35km, mB5.1/28, mb4.7/42, Ms4.6/32, Ms7 4.3/32*
*ISCJB **04** 11:49:48.8±0.8, 0.70S±0.04×133.96E±0.04, h48km±7km, mb4.8/70, MS4.2/24, Error ellipse: s-maj=7.6km s-min=5.8km az=151.5*
*NEIC **04** 11:49:49.5±0.3, 0.68S×133.84E, h35km, mb5.0/30, Error ellipse: s-maj=9.8km s-min=5.7km az=66.0*
*DJA **04** 11:49:52.0, 0.92S×133.96E, h30km, mb5.2/12*
*TEH **04** 11:49:52.0, 0.74S×133.77E, h57km, ML4.9*
ISC 04 11:49:49.7±0.3, **0.66S**±0.04×**133.89E**±0.05, **h35**km±1km, **h35**km:**pP-P**, **n210**, σ1▮**52**/256, **mb4.9**/71, **MS4.1**/24, **8C-3D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.28**	**103**	P	**Pn**	**11 50 25.5**	**+0.6**
FAKI	**Fak Fak**	**2.78**	**216**	P	**Pn**	**11 50 31.6**	**-0.2**
SMPI	**Sarmi**	**5.00**	**105**	P	Pn

	comp=Z,22nm,0.6s								
FORT	**Forrest**	**30.46**	**190**	*e*P		**P**	**11**	**55**	**58.8 -0.4**
	comp=Z,28nm,0.7s								
STKA	**Stephens Creek**	**31.89**	**168**	P		**P**	**11**	**56**	**10.7 -1.2**
	comp=Z,9.6nm,0.8s,baz=346,slow=6.5,SNR=15								
STKA				LR		LR	12	10	27.7
	comp=Z,740nm,20.4s,baz=346,slow=39								
STKA	**Stephens Creek**	**31.89**	**168**	*e*P		**P**	**11**	**56**	**09.1 -2.8**
	comp=Z,7.2nm,0.9s								
STKA	**Stephens Creek**	**31.89**	**168**	*e*P		**P**	**11**	**56**	**10.7 -1.2**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
STKA	**Stephens Creek**	**31.89**	**168**	*e*P		**P**	**11**	**56**	**10.7 -1.2**
	comp=Z,2.1nm,0.9s								
BBOO	**Buckleboo**	**32.05**	**177**	*e*P		**P**	**11**	**56**	**13.1 -0.2**
	comp=Z,449nm,1.4s								
IPM	**Ipoh**	**33.23**	**279**	*e*P		**P**	**11**	**56**	**22.9 -1.0**
	comp=Z,19nm,1.2s								
PPI	**Padang Panjang**	**33.49**	**270**	P		**P**	**11**	**56**	**24.9 -1.2**
	comp=Z,29nm,1.1s								
KULM	**Kulim**	**33.72**	**280**	*e*P		**P**	**11**	**56**	**25.6 -2.5**
	comp=Z,36nm,1.5s								
JNU	**Nakatsue**	**33.72**	**355**	*e*P		**P**	**11**	**56**	**27.4 -0.5**
	comp=Z,13nm,1.2s								
ARMA	**Armidale**	**34.06**	**152**	*e*P		**P**	**11**	**56**	**32.5 +1.5**
MNSI	**Mandalling Nat**	**34.34**	**272**	P		**P**	**11**	**56**	**32.7 -0.8**
	comp=Z,17nm,1.0s								
KLBR	**Kellerberrin**	**34.34**	**205**	*e*P		**P**	**11**	**56**	**32.8 -0.5**
	comp=Z,40nm,1.1s								
PSI	**Prapat**	**35.12**	**276**	P		**P**	**11**	**56**	**38.5 -1.9**
	comp=Z,52nm,1.0s								
NJ2	**Nanjing**	**35.51**	**338**	*e*P		**P**	**11**	**56**	**44.5 +1.2**
NJ2				pP		**pP**	**11**	**56**	**53.2 -0.3**
NJ2				sP		**sP**	**11**	**56**	**56.1 -1.6**
NJ2				PP		**PP**	**11**	**58**	**05.2 +0.8**
NJ2				S		**S**	**12**	**02**	**20.0 +3.5**
NJ2				sS		**sS**	**12**	**02**	**35.0 +1.7**
NJ2				pmax		pmax			
	comp=Z,30nm,0.9s								
NJ2				pmax		pmax			
	comp=Z,960nm,11.2s								
NJ2				LR		LR			
	comp=N,2µm,21.2s								
NJ2				LR		LR			
	comp=E,2µm,22.4s								
NJ2				LR		LR			
	comp=Z,3µm,22.4s								
WHN	**Wuhan**	**36.17**	**331**	P		**P**	**11**	**56**	**50.1 +1.1**
WHN				*e*S		**S**	**12**	**02**	**32.1 +5.4**
WHN				LR		LR			
	comp=Z,680nm,6.4s								
MJAR	**Matsushiro Arr**	**37.23**	**6**	P		**P**	**11**	**56**	**56.8 -1.2**
	comp=Z,1.2nm,0.7s,baz=192,slow=7.3,SNR=4.3								
MJAR				LR		LR	12	09	42.1
	comp=Z,481nm,18.9s,baz=190,slow=32								
MJAR	**Matsushiro Arr**	**37.23**	**6**	P		**P**	**11**	**56**	**56.8 -1.2**
MJAR	**Matsushiro Arr**	**37.23**	**6**	P		**P**	**11**	**56**	**56.8 -1.2**
GYA	**Guiyang**	**37.62**	**318**⇑	*i*P		**P**	**11**	**57**	**02.6 +1.0**
GYA				pP		**pP**	**11**	**57**	**11.9 +0.1**
GYA				sP		**sP**	**11**	**57**	**17.0 +1.0**
GYA				PP		**PnPn**	**11**	**58**	**31.4 +2.4**
GYA				S		**S**	**12**	**02**	**49.8 +0.5**
GYA				ScP		**ScP**	**12**	**03**	**03.0 -0.8**
GYA				SS		**SnSn**	**12**	**05**	**24.5 -5.4**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=N,590nm,17.1s								
GYA				LR		LR			
	comp=E,480nm,17.8s								
GYA				LR		LR			
	comp=Z,640nm,17.5s								
DZM	**Mont Dzumac**	**38.18**	**126**	*e*LR		LR	12	07	40.6
	comp=Z,372nm,23.4s								
TOO	**Toolangi**	**38.26**	**165**	*e*P		**P**	**11**	**57**	**07.3 +0.6**
	comp=Z,35nm,0.9s								
KSRS	**Korea Array**	**38.32**	**352**	LR		LR	12	12	26.6
	comp=Z,246nm,18.0s,baz=172,slow=36								
BSI	**Banda Aceh**	**39.02**	**280**	P		**P**	**11**	**57**	**11.6 -1.8**
	comp=Z,26nm,1.3s								
CM31	**Chiang Mai Arr**	**39.25**	**301**	*e*P		**P**	**11**	**57**	**14.8 -0.4**
	comp=Z,29nm,1.2s								
CMAR	**Chiang Mai Arr**	**39.25**	**301**	P		**P**	**11**	**57**	**14.2 -1.0**
	comp=Z,9.7nm,1.0s,baz=122,slow=6.7,SNR=54								
CMAR				PcP		**PcP**	**11**	**59**	**24.4 +0.4**
	comp=Z,0.5nm,0.6s,baz=150,slow=2.0,SNR=4.6								
CMAR				LR		LR	12	15	12.2
	comp=Z,96nm,19.7s,baz=120,slow=39								
CMAR	**Chiang Mai Arr**	**39.25**	**301**	P		**P**	**11**	**57**	**14.3 -1.0**
CMAR							11	59	24.4
CMAR	**Chiang Mai Arr**	**39.25**	**301**	P		**P**	**11**	**57**	**14.2 -1.0**
CMAR				PcP		**PcP**	**11**	**59**	**24.4 +0.4**
CHTO	**Chiang Mai**	**39.40**	**301**	*e*P		**P**	**11**	**57**	**15.9 -0.6**
CHTO				pmax		pmax			
	comp=Z,40nm,1.5s								
CHTO	**Chiang Mai**	**39.40**	**301**	*e*P		**P**	**11**	**57**	**15.9 -0.6**
	comp=Z,40nm,1.5s								
CHTO	**Chiang Mai**	**39.40**	**301**	P		**P**	**11**	**57**	**15.6 -0.9**
	comp=Z,24nm,1.6s								
KMI	**Kunming**	**39.56**	**313**	P		**P**	**11**	**57**	**17.9 -0.1**
KMI				pP		**pP**	**11**	**57**	**29.8 +1.5**
KMI				sP		**sP**	**11**	**57**	**35.2 +2.7**
KMI				PP		**PnPn**	**11**	**58**	**54.3 +1.9**
KMI				S		**S**	**12**	**03**	**19.2 +0.4**
KMI				sS		**sS**	**12**	**03**	**36.8 +1.1**
KMI				SS		**SS**	**12**	**06**	**08.5 -6.0**
KMI				pmax		pmax			
	comp=Z,10.0nm,1.5s								
KMI				pmax		pmax			
	comp=Z,150nm,4.7s								
KMI				LR		LR			
	comp=N,170nm,21.2s								
KMI				LR		LR			
	comp=E,150nm,21.7s								
KMI				LR		LR			
	comp=Z,260nm,25.6s								
XAN	**Xi'an**	**41.72**	**328**	P		**P**	**11**	**57**	**33.9 -1.6**
XAN				SS		SS	12	06	53.6 -3.4
XAN				pmax		pmax			
	comp=Z,2.0nm,1.2s								
XAN				pmax		pmax			
	comp=Z,51nm,10.2s								
XAN				LR		LR			
	comp=N,140nm,11.8s								
XAN				LR		LR			
	comp=Z,89nm,15.6s								
CD2	**Chengdu**	**42.48**	**320**	P		**P**	**11**	**57**	**43.1 +1.3**
CD2				pP		**pP**	**11**	**57**	**53.4 +1.3**
CD2				sP		**sP**	**11**	**57**	**57.6 +1.3**
CD2				PP		**PP**	**11**	**59**	**25.0 +4.3**
CD2				S		**S**	**12**	**04**	**02.9 +1.2**
CD2				sS		**sS**	**12**	**04**	**20.0 +1.3**
CD2				SS		**SS**	**12**	**07**	**07.3 -4.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				pmax		pmax			
	comp=Z,230nm,6.5s								
CD2				LR		LR			
	comp=N,270nm,7.1s								
CD2				LR		LR			
	comp=Z,190nm,14.3s								
BJT	**Baijiatuau**	**43.60**	**340**	*e*P		**P**	**11**	**57**	**50.6 0.0**
BJT				pmax		pmax			
	comp=Z,44nm,0.9s								
BJT	**Baijiatuau**	**43.60**	**340**	*e*P		**P**	**11**	**57**	**50.6 0.0**
	comp=Z,44nm,0.9s								
BJI	**Beijing**	**43.62**	**340**	P		**P**	**11**	**57**	**50.2 -0.5**
BJI				S		**S**	**12**	**04**	**23.6 +5.7**
BJI				pmax		pmax			
	comp=Z,22nm,1.7s								
BJI				pmax		pmax			
	comp=Z,160nm,3.4s								
BJI				LR		LR			
	comp=N,220nm,20.5s								
BJI				LR		LR			
	comp=E,380nm,19.7s								
BJI				LR		LR			
	comp=Z,180nm,22.1s								
USRK	**Ussuriysk Arra**	**44.69**	**358**	P		**P**	**11**	**57**	**58.8 -0.5**
	comp=Z,2.4nm,0.8s,baz=142,slow=9.6,SNR=4.6								
USRK				LR		LR	12	13	39.5
	comp=Z,192nm,20.3s,baz=138,slow=32								
CN2	**Changchun**	**44.90**	**351**	*e*P		**P**	**11**	**58**	**01.6 +0.6**
CN2				*e*S		**S**	**12**	**04**	**38.2 +1.7**
CN2				SS		**ScS**	**12**	**07**	**51.6 -4.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,300nm,15.0s								
CN2				LR		LR			
	comp=E,200nm,15.0s								
CN2				LR		LR			
	comp=Z,300nm,21.0s								
MDJ	**Mudanjiang**	**45.24**	**356**	P		**P**	**11**	**58**	**05.3 +1.7**
MDJ				pP		**pP**	**11**	**58**	**14.3 +0.3**
MDJ				sP		**sP**	**11**	**58**	**18.1 -0.1**
MDJ				ScP		**ScP**	**12**	**03**	**33.4 0.0**
MDJ				PcS		**PcS**	**12**	**03**	**37.4 +0.4**
MDJ				S		**S**	**12**	**04**	**44.9 +3.5**
MDJ				sS		**sS**	**12**	**05**	**00.3 +1.8**
MDJ				ScS		**ScS**	**12**	**07**	**59.1 +1.3**
MDJ				pmax		pmax			
	comp=Z,8.0nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,100nm,3.6s								
MDJ				LR		LR			
	comp=N,170nm,14.6s								
MDJ				LR		LR			
	comp=E,120nm,17.0s								
MDJ				LR		LR			
	comp=Z,270nm,16.7s								
ASAJ	**Asahikawa**	**45.25**	**9**	LR		LR	12	14	25.1
	comp=Z,210nm,22.0s,baz=162,slow=33								
HHC	**Hu-ho-hao-te**	**46.03**	**336**	*e*P		**P**	**11**	**58**	**10.1 0.0**
HHC				pP		**pP**	**11**	**58**	**20.1 -0.4**
HHC				sP		**sP**	**11**	**58**	**23.9 -0.8**
HHC				PP		**PP**	**11**	**59**	**59.0 +0.5**
HHC				S		**S**	**12**	**04**	**53.3 +0.1**
HHC				sS		**sS**	**12**	**05**	**09.7 -0.6**
HHC				SS		SS	12	08	11.1 -7.5
HHC				pmax		pmax			
	comp=Z,21nm,1.0s								
HHC				pmax		pmax			
	comp=Z,160nm,7.5s								
HHC				LR		LR			
	comp=N,230nm,13.7s								
HHC				LR		LR			
	comp=E,240nm,13.2s								
HHC				LR		LR			
	comp=Z,160nm,13.4s								
MSVF	**Nonsavu**	**46.60**	**114**	*e*P		**P**	**11**	**58**	**17.1 +2.2**
MSVF				pmax		pmax			
	comp=Z,24nm,1.0s								
MSVF	**Nonsavu**	**46.60**	**114**	*e*P		**P**	**11**	**58**	**17.1 +2.2**
	comp=Z,24nm,1.0s								
MSVF	**Nonsavu**	**46.60**	**114**	P		P	11	58	18.0 +3.1
	comp=Z,147nm,1.1s,SNR=7.1								
SHL	**Shillong**	**48.22**	**306**	*e*P		**P**	**11**	**58**	**30.0 +2.4**
HABR	**Khabarovsk**	**48.95**	**1**	*de*P		**P**	**11**	**58**	**30.9 -1.6**
HABR				*e**PP		**pP**	**11**	**58**	**40.3 -2.6**
HABR				*e**SP		**sP**	**11**	**58**	**44.9 -2.2**
HABR				*e*			11	59	54.0
HABR				*e*PPP		PPP	12	01	16.2
HABR				*e*S		**S**	**12**	**05**	**34.2 +0.1**
HABR				*e**SS		**sS**	**12**	**05**	**50.6 -0.7**
HABR				*e*			12	08	20.1
HABR				*e*SS		**SS**	**12**	**09**	**06.9 +1.5**
HABR				*e*SSS		SSS	12	10	24.0
HABR				pmax		pmax			
	comp=N,52nm,2.2s								
HABR				pmax		pmax			
	comp=E,89nm,2.2s								
HABR				pmax		pmax			
	comp=Z,99nm,3.0s								
HABR				MLR		MLR			
	comp=Z,140nm,19.0s								
GTA	**Gaotai**	**50.62**	**326**	⇑P		**P**	**11**	**58**	**45.5 -0.1**
GTA				pP		**pP**	**11**	**58**	**55.4 -0.7**
GTA				sP		**sP**	**11**	**58**	**59.2 -1.0**
GTA				S		**S**	**12**	**05**	**58.4 +0.3**
GTA				sS		**sS**	**12**	**06**	**14.3 -1.1**
GTA				SS		**SS**	**12**	**09**	**30.1 -2.7**
GTA				pmax		pmax			
	comp=Z,11nm,1.4s								
GTA				pmax		pmax			
	comp=Z,160nm,7.2s								
GTA				LR		LR			
	comp=N,91nm,16.6s								
GTA				LR		LR			
	comp=E,150nm,16.1s								
GTA				LR		LR			
	comp=Z,150nm,16.1s								
LSA	**Lhasa**	**50.70**	**310**	P		**P**	**11**	**58**	**44.9 -1.9**
LSA	**Lhasa**	**50.70**	**310**	*e*P		**P**	**11**	**58**	**46.3 -0.5**
LSA				pmax		pmax			
	comp=Z,17nm,1.0s								
LSA	**Lhasa**	**50.70**	**310**	*e*P		**P**	**11**	**58**	**46.3 -0.5**
	comp=Z,17nm,1.0s								
ULN	**Ulaanbaatar**	**53.67**	**338**	*e*P		**P**	**11**	**59**	**08.7 +0.5**
ULN				pmax		pmax			
	comp=Z,29nm,1.5s								
ULN	**Ulaanbaatar**	**53.67**	**338**	*e*P		**P**	**11**	**59**	**08.7 +0.5**
	comp=Z,29nm,1.5s								
ULN	**Ulaanbaatar**	**53.67**	**338**	P		**P**	**11**	**59**	**08.9 +0.7**
	comp=Z,13nm,2.1s								
SONM	**Songino Array**	**53.90**	**337**	P		**P**	**11**	**59**	**10.1 +0.3**
	comp=Z,2.4nm,1.0s,baz=148,slow=4.6,SNR=17								
SONM				PcP		**PcP**	**12**	**00**	**14.4 -0.6**
	comp=Z,3.1nm,1.0s,baz=143,slow=3.7,SNR=4.4								
SONM	**Songino Array**	**53.90**	**337**	P		**P**	**11**	**59**	**10.1 +0.3**
SONM							12	00	14.4
SONM	**Songino Array**	**53.90**	**337**	P		**P**	**11**	**59**	**10.1 +0.3**
SONM				PcP		**PcP**	**12**	**00**	**14.4 -0.6**
PETK	**Petropavlovsk-**	**57.15**	**17**	P		**P**	**11**	**59**	**33.1 +0.3**
	comp=Z,7.7nm,1.2s,baz=186,slow=8.7,SNR=2.9								
PETK				LR		LR	12	18	37.0
	comp=Z,167nm,21.0s,baz=227,slow=30								
PETK	**Petropavlovsk-**	**57.15**	**17**	P		**P**	**11**	**59**	**33.2 +0.3**
PETK	**Petropavlovsk-**	**57.15**	**17**	P		**P**	**11**	**59**	**33.1 +0.3**
ZAK	**Zakamensk**	**57.16**	**337**	*e*P		**P**	**11**	**59**	**33.0 -0.2**
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.3s								
HYB	**Hyderabad**	**57.34**	**291**	*i* P		**P**	**11**	**59**	**33.0 -1.9**
HYB				*e*			11	59	40.0
TLY	**Talaya**	**58.07**	**338**	*e*P		P	11	59	44.1 +4.7
TLY				*e*			12	13	45.1
TLY				pmax		pmax			
	comp=Z,21nm,1.1s								
MOY	**Mondy**	**59.07**	**337**	*e*P		**P**	**11**	**59**	**47.3 +0.8**
MOY				pmax		pmax			
	comp=Z,41nm,1.8s								
BOD	**Bodaibo**	**60.42**	**348**	*e*P		**P**	**11**	**59**	**54.4 -1.1**
BOD				pmax		pmax			
	comp=Z,9.0nm,1.9s								
WMQ	**Urumqi**	**60.45**	**323**	P		**P**	**11**	**59**	**56.3 +0.2**
WMQ				pP		**pP**	**12**	**00**	**06.3 -0.5**
WMQ				sP		**sP**	**12**	**00**	**10.3 -0.6**
WMQ				PcP		**PcP**	**12**	**00**	**43.3 +2.6**
WMQ				S		**S**	**12**	**08**	**07.3 -1.8**
WMQ				SS		**SS**	**12**	**12**	**06.3 -1.3**
WMQ				pmax		pmax			
	comp=Z,29nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,96nm,4.0s								
WMQ				LR		LR			
	comp=N,81nm,19.3s								
WMQ				LR		LR			
	comp=E,79nm,19.3s								
WMQ				LR		LR			
	comp=Z,84nm,22.5s								
NDI	**New Delhi**	**61.49**	**303**	*e*P		**P**	**12**	**00**	**02.0 -1.4**
YAK	**Yakutsk**	**62.61**	**358**	*e*P		**P**	**12**	**00**	**09.4 -0.8**
YAK				pmax		pmax			
	comp=Z,16nm,1.0s								
YAK				pmax		pmax			
	comp=N,10.0nm,1.1s								
SEY	**Seymchan**	**64.93**	**9**‖	*e*P		**P**	**12**	**00**	**26.1 +0.6**
MK31	**Makanchi Array**	**65.26**	**324**	*e*P		**P**	**12**	**00**	**27.9 -0.1**
MK31	**Makanchi Array**	**65.26**	**324**	*e*P		**P**	**12**	**00**	**27.9 -0.1**
MKAR	**Makanchi Array**	**65.26**	**324**	P		**P**	**12**	**00**	**28.0 0.0**
	comp=N,6.6nm,0.8s,baz=117,slow=7.9,SNR=52								
MKAR				LR		LR	12	31	42.0
	comp=N,80nm,20.3s,baz=7.2,slow=39								
MKAR	**Makanchi Array**	**65.26**	**324**	P		**P**	**12**	**00**	**28.0 0.0**
MKAR	**Makanchi Array**	**65.26**	**324**	P		**P**	**12**	**00**	**28.0 0.0**
KSH	**Kashi**	**66.19**	**314**	P		**P**	**12**	**00**	**35.6 +1.3**
KSH				*e*pP		**pP**	**12**	**00**	**45.8 +0.7**
KSH				*e*sP		**sP**	**12**	**00**	**49.6 +0.4**
KSH				*e*PcP		**PcP**	**12**	**01**	**05.6 +1.2**
KSH				*e*ScP			12	05	04.6
KSH				*e*PcS			12	05	08.7
KSH				*e*S		**S**	**12**	**09**	**18.9 -2.2**
KSH				*e*sS		**sS**	**12**	**09**	**37.6 -1.3**
KSH				*e*ScS		**SKSac**	**12**	**10**	**25.6 -2.6**
KSH				*e*SS		**SS**	**12**	**13**	**37.6 0.0**
KSH				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KSH				pmax		pmax			
	comp=Z,74nm,3.1s								
KSH				LR		LR			
	comp=N,90nm,5.9s								
KSH				LR		LR			
	comp=E,140nm,4.9s								
KSH				LR		LR			
	comp=Z,100nm,5.4s								
CASY	**Casey**	**67.55**	**190**	*e*P		**P**	**12**	**00**	**42.8 +0.6**
	comp=Z,13nm,0.9s								
TKM2	**Tokmak 2**	**67.77**	**318**	*e*P		**P**	**12**	**00**	**43.1 -1.3**
TKM2				pmax		pmax			
	comp=Z,10.0nm,1.3s								
TKM2	**Tokmak 2**	**67.77**	**318**	*e*P		**P**	**12**	**00**	**43.1 -1.3**
	comp=Z,10nm,1.3s								
ZAA0	**Zalesovo Array**	**67.79**	**331**	*e*P		**P**	**12**	**00**	**42.5 -1.4**
ZALV	**Zalesovo Beam**	**67.79**	**331**	P		**P**	**12**	**00**	**42.8 -1.1**
	comp=Z,3.4nm,1.0s,baz=104,slow=6.3,SNR=20								
ZALV	**Zalesovo Beam**	**67.79**	**331**	P		**P**	**12**	**00**	**42.8 -1.1**
ZALV	**Zalesovo Beam**	**67.79**	**331**	P		**P**	**12**	**00**	**42.8 -1.1**
AAK	**Ala-Archa**	**68.41**	**317**	*c i*P		**P**	**12**	**00**	**48.1 -0.2**
AAK				pmax		pmax			
	comp=Z,35nm,2.3s								
AAK	**Ala-Archa**	**68.41**	**317**	*e*P		**P**	**12**	**00**	**48.4 +0.1**
	comp=Z,62nm,1.9s								
EKS2	**Erkin-Say**	**68.91**	**317**	*e*P		**P**	**12**	**00**	**51.2 -0.2**
EKS2				pmax		pmax			
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**68.91**	**317**	*e*P		**P**	**12**	**00**	**51.2 -0.2**
	comp=Z,4.5nm,0.8s								
NVS	**Novosibirsk**	**69.06**	**331**⇑	*i*P		**P**	**12**	**00**	**49.3 -2.6**
NVS				pmax		pmax			
	comp=Z,57nm,2.2s								
NVS				pmax		pmax			
	comp=N,14nm,1.6s								
NVS				pmax		pmax			
	comp=E,12nm,1.4s								
KURK	**Kurchatov**	**69.31**	**326**	P		**P**	**12**	**00**	**53.1 -0.4**
	comp=E,12nm,0.9s,baz=119,slow=5.8,SNR=74								
KURK	**Kurchatov**	**69.31**	**326**	*c i*P		**P**	**12**	**00**	**53.0 -0.4**
KURK				pmax		pmax			
	comp=Z,32nm,1.6s								
KURK	**Kurchatov**	**69.31**	**326**	*e*P		**P**	**12**	**00**	**53.1 -0.4**
KURK	**Kurchatov**	**69.31**	**326**	P		**P**	**12**	**00**	**53.3 -0.2**
	comp=Z,99nm,1.1s,SNR=14								
KBL	**Kabul**	**69.85**	**307**	*e*P		**P**	**12**	**00**	**57.1 -0.4**
KBL				pmax		pmax			
	comp=Z,17nm,1.3s								
KBL	**Kabul**	**69.85**	**307**	*e*P		**P**	**12**	**00**	**57.0 -0.4**
	comp=Z,17nm,1.3s								
BILL	**Bilibino**	**72.12**	**12**	*e*P		**P**	**12**	**01**	**09.7 -0.6**
BILL				pmax		pmax			
	comp=Z,8.0nm,1.9s								
BVAR	**Borovoye Array**	**74.90**	**326**	P		**P**	**12**	**01**	**26.6 -0.4**
	comp=Z,5.7nm,0.9s,baz=116,slow=6.8,SNR=23								
BVAR	**Borovoye Array**	**74.90**	**326**	P		**P**	**12**	**01**	**26.6 -0.4**
BVAR	**Borovoye Array**	**74.90**	**326**	P		**P**	**12**	**01**	**26.6 -0.4**
BRVK	**Borovoye**	**74.97**	**326**	*c i*P		**P**	**12**	**01**	**26.5 -0.9**
BRVK				pmax		pmax			
	comp=Z,19nm,1.4s								
BRVK	**Borovoye**	**74.97**	**326**	*e*P		**P**	**12**	**01**	**26.4 -0.9**
	comp=Z,16nm,1.3s								
IDAH	**Dahanechah**	**76.94**	**304**	*e*P		**P**	**12**	**01**	**39.3 -0.1**
PPT2	**Papeete2**	**76.97**	**108**	*e*S		**S**	**12**	**11**	**24.7 -1.3**
	comp=Z,191nm,22.5s								
PPT2				*e*LR		LR	12	25	37.0
	comp=Z,99nm,22.2s								
IMYA	**Miami**	**77.37**	**307**	*e*P		**P**	**12**	**01**	**40.7 -0.9**
ITEG	**Tejag**	**77.90**	**304**	*e*P		**P**	**12**	**01**	**44.1 -0.6**
IMOG	**Moghan**	**77.93**	**307**	*e*P		**P**	**12**	**01**	**42.8 -2.1**
IPAY	**Payeh**	**78.26**	**307**	*e*P		**P**	**12**	**01**	**45.6 -1.1**
VNDA	**Vanda**	**78.27**	**174**	*e*P		**P**	**12**	**01**	**46.2 +0.6**
VNDA				pmax		pmax			
	comp=Z,12nm,0.9s								
VNDA	**Vanda**	**78.27**	**174**	*e*P		**P**	**12**	**01**	**46.2 +0.6**
	comp=Z,12nm,0.9s								
IAKL	**Akhelmad**	**78.48**	**307**	*e*P		**P**	**12**	**01**	**45.8 -2.1**
IKRD	**Kardeh**	**78.70**	**308**	*e*P		P	12	01	43.4 -5.7
ISFR	**Sfrayin**	**79.15**	**308**	*e*P		**P**	**12**	**01**	**50.6 -1.0**
ISHV	**Shirvan**	**79.46**	**308**	*e*P		**P**	**12**	**01**	**52.4 -0.8**
ABKAR	**Akbulak array**	**80.06**	**320**	*e*P		**P**	**12**	**01**	**55.1 -0.8**
	comp=Z,7.0nm,0.9s								
SVE	**Sverdlovsk**	**81.44**	**328**⇑	*e*P		**P**	**12**	**02**	**02.9 -0.2**
SVE				pmax		pmax			
	comp=Z,16nm,1.5s								
IPAR	**Pars**	**82.38**	**300**	*e*P		**P**	**12**	**02**	**06.6 -2.4**
ARU	**Arti**	**82.46**	**327**	*d i*P		**P**	**12**	**02**	**07.5 -0.9**
ARU							12	05	12.8
ARU				PPP		PPP	12	07	04.8
ARU				S		**S**	**12**	**12**	**22.2 -0.2**
ARU				pmax		pmax			
	comp=Z,12nm,1.7s								
ARU	**Arti**	**82.46**	**327**	*e*P		**P**	**12**	**02**	**06.8 -1.6**
	comp=Z,5.8nm,1.0s								
MCK	**McKinley**	**84.92**	**26**	*e*P		**P**	**12**	**02**	**20.8 -0.2**
MCK				pmax		pmax			
	comp=Z,40nm,1.3s								
MCK	**McKinley**	**84.92**	**26**	*e*P		**P**	**12**	**02**	**20.8 -0.2**
	comp=Z,40nm,1.3s								
COLA	**College**	**85.61**	**25**	*e*P		**P**	**12**	**02**	**23.3 -1.0**
COLA				pmax		pmax			
	comp=Z,11nm,1.2s								
COLA	**College**	**85.61**	**25**	*e*P		**P**	**12**	**02**	**23.3 -1.0**
	comp=Z,11nm,1.2s								
ILAR	**Eielson Array**	**86.00**	**25**

comp=Z,7.1nm,0.8s,baz=202,slow=3.5,SNR=4.9

CPUP	**Villa Florida**	**151.07 159**	PKIKP	**PKPbc**	**12 09 40.7 +0.8**
CPUP	**Villa Florida**	**151.07 159**	PKPbc	**PKPbc**	**12 09 40.7 +0.8**
LPAZ	**La Paz**	**152.51 129**	PKPbc	**PKPbc**	**12 09 45.6 +1.3**
	comp=Z,8.5nm,1.0s,baz=15,slow=1.5,SNR=16				
LPAZ	**La Paz**	**152.51 129**	PKIKP	**PKPbc**	**12 09 45.6 +1.3**
LPAZ	**La Paz**	**152.51 129**	PKPbc	**PKPbc**	**12 09 45.6 +1.3**

*IDC **04** 11:52:50.0±1.8, 47.06N×156.49E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=48.2km s-min=19.9km az=156.0*
*NEIC **04** 11:52:51.5±1.4, 47.11N×156.42E, h10km, mb4.0/2, Error ellipse: s-maj=30.9km s-min=11.7km az=146.0*

ISC 04 11:52:52.7±1.3, 47.1N±0.2×156.5E±0.1, h18km, n22, σ1§47/22, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.10**	**7**	Pn	**Pn**	**11 54 20.8**	**-1.1**
	2.4nm,0.3s,baz=190,slow=16,SNR=32						
PETK	**Petropavlovsk-**	**6.10**	**7**	Pn	**Pn**	**11 54 20.8**	**-1.1**
PET	**Petropavlovsk**	**6.13**	**13**	*e*Pn	**Pn**	**11 54 20.1**	**-2.1**
YSS	**Yuzh-Sakhalins**	**9.36**	**274**	*e*Pn	**Pn**	**11 55 06.3**	**-0.3**
ASAJ	**Asahikawa**	**10.15**	**258**	Pn	**Pn**	**11 55 15.4**	**-1.9**
	0.8nm,0.3s,baz=66,slow=10,0,SNR=7.4						
ASAJ	**Asahikawa**	**10.15**	**258**	*e*Pn	**Pn**	**11 55 15.1**	**-2.3**
BILL	**Bilibino**	**21.62**	**10**	*e*P	**P**	**11 57 42.3**	**+0.9**
	4.5nm,0.5s						
CN2	**Changchun**	**21.93**	**273**	*e*P	**P**	**11 57 45.2**	**+0.4**
KSRS	**Korea Array**	**23.09**	**256**	P	**P**	**11 57 58.1**	**+1.0**
	1.4nm,0.5s,baz=54,slow=11,SNR=9.3						
KSAR	**Wonju Array Be**	**23.12**	**256**	P	**P**	**11 57 58.1**	**+0.6**
ILAR	**Eielson Array**	**34.87**	**39**	P	**P**	**11 59 41.3**	**-1.1**
	0.3nm,0.6s,baz=253,slow=7.5,SNR=7.7						
ILAR	**Eielson Array**	**34.87**	**39**	P	**P**	**11 59 41.3**	**-1.1**
INK	**Inuvik**	**40.15**	**33**	P	**P**	**12 00 27.4**	**+0.5**
	0.8nm,0.5s,baz=303,slow=4.5,SNR=9.4						
INK	**Inuvik**	**40.15**	**33**	*e*P	**P**	**12 00 27.2**	**+0.2**
	1.5nm,0.7s						
KURK	**Kurchatov**	**49.08**	**305**	P	**P**	**12 01 40.5**	**+2.0**
	2.4nm,0.5s,baz=68,slow=8.4,SNR=10						
KURK	**Kurchatov**	**49.08**	**305**	P	**P**	**12 01 40.5**	**+2.0**
BVAR	**Borovoye Array**	**52.41**	**310**	P	**P**	**12 02 02.0**	**-1.6**
	3.9nm,0.8s,baz=59,slow=5.6,SNR=4.5						
BVAR	**Borovoye Array**	**52.41**	**310**	P	**P**	**12 02 02.0**	**-1.6**
FINES	**FINESS Array B**	**64.70**	**336**	P	**P**	**12 03 30.9**	**+1.9**
	2.2nm,0.9s,baz=51,slow=9.1,SNR=4.1						
FINES	**FINESS Array B**	**64.70**	**336**	P	**P**	**12 03 30.9**	**+1.9**
TXAR	**Lajitas Array**	**75.33**	**63**	P	**P**	**12 04 35.3**	**+0.4**
	0.2nm,0.8s,baz=305,slow=5.2,SNR=3.0						
TXAR	**Lajitas Array**	**75.33**	**63**	P	**P**	**12 04 35.3**	**+0.4**

IDC 04 12:00:12.7±2.8, 0.77S×133.11E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=178.0km s-min=23.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**176**	P	Pn	12 04 37.7	-0.2
	0.4nm,0.3s,baz=353,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**22.77**	**178**	P	P	12 05 17.5	+0.5
	1.0nm,0.3s,baz=355,slow=10.0,SNR=27						
STKA	**Stephens Creek**	**31.96**	**166**	P	P	12 06 39.7	-0.8
	1.9nm,0.8s,baz=350,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	12 10 54.1	+0.1
	0.3nm,0.8s,baz=118,slow=7.9,SNR=2.8						

IDC 04 12:04:51.2±2.4, 0.38S×132.79E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=182.3km s-min=20.4km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.50**	**176**	P	P	12 09 20.7	+0.5
	0.3nm,0.3s,baz=349,slow=12,SNR=10.0						
WRA				S	Sn	12 12 50.3	-11
	0.1nm,0.3s,baz=6.8,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**23.17**	**177**	P	P	12 10 00.5	+0.7
	1.2nm,0.5s,baz=360,slow=10,SNR=26						
STKA	**Stephens Creek**	**32.42**	**166**	P	P	12 11 21.9	-1.2
	1.0nm,0.4s,baz=342,slow=9.1,SNR=5.2						
MKAR	**Makanchi Array**	**64.39**	**324**	P	P	12 15 29.8	+0.6
	0.3nm,0.7s,baz=109,slow=8.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**67.02**	**332**	P	P	12 15 45.6	-0.4
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.4						

IDC 04 12:12:25.2±2.4, 0.25S×132.67E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=179.3km s-min=19.8km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**175**	P	P	12 16 55.9	+0.2
	0.8nm,0.3s,baz=352,slow=11,SNR=28						
ASAR	**Alice Springs**	**23.31**	**177**	P	P	12 17 35.0	0.0
	2.3nm,0.4s,baz=358,slow=10,SNR=47						
STKA	**Stephens Creek**	**32.57**	**166**	P	P	12 18 58.1	-0.2
	2.5nm,0.8s,baz=332,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	12 23 02.7	+0.7
	1.4nm,0.8s,baz=108,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**66.85**	**332**	P	P	12 23 17.9	-0.9
	0.9nm,0.9s,baz=123,slow=5.3,SNR=4.3						

*IDC **04** 12:16:59.8±1.1, 0.69S×134.02E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=70.1km s-min=18.9km az=79.0*
*ISCJB **04** 12:17:02.7±0.8, 0.72S±0.08×133.80E±0.09, h27km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=12.0km az=25.0*
*DJA **04** 12:17:06, 0.73S×133.59E, h30km, MLv4.7/8*

ISC 04 12:17:03.4±0.8, 0.73S±0.10×134.02E±0.09, h27km, n14, σ1§53/13, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.13**	**102**	P	Pb	12 17 44.5	+3.1
FAKI	**Fak Fak**	**2.81**	**219**	P	**Pn**	**12 17 45.3**	**-1.2**
SMPI	**Sarmi**	**4.85**	**105**	P	**Pb**	**12 18 25.4**	**-2.3**
	65nm,0.6s,0.3nm						
TLE	**Tual**	**5.04**	**195**	P	**Pn**	**12 18 19.7**	**+2.4**
MSAI	**Masohi**	**5.72**	**243**	P	**Pn**	**12 18 26.1**	**-0.5**
	55nm,0.8s,816nm0.2nm						
AAI	**Ambon**	**6.52**	**243**	P	**Pn**	**12 18 35.5**	**-2.1**
	191nm,0.9s,2µm0.6nm						
LBMI	**Labuha**	**6.52**	**271**	P	**Pn**	**12 18 38.4**	**+0.8**
	76nm,0.8s,960nm0.2nm						
NLAI	**Namlea**	**7.35**	**250**	P	**Pn**	**12 18 47.7**	**-1.4**
	69nm,0.6s,1µm0.3nm						
WRA	**Warramunga Arr**	**19.10**	**179**	P	**Pn**	**12 21 24.9**	**-0.2**
	0.7nm,0.3s,baz=355,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.80**	**180**	P	**P**	**12 22 05.3**	**+1.1**
	3.9nm,0.7s,baz=9.0,slow=12,SNR=25						
STKA	**Stephens Creek**	**31.80**	**168**	P	**P**	**12 23 26.0**	**+0.2**
	0.6nm,0.5s,baz=344,slow=8.9,SNR=5.1						
SONM	**Songino Array**	**54.02**	**337**	P	**P**	**12 26 26.8**	**+1.4**
	0.6nm,1.1s,baz=152,slow=6.5,SNR=3.4						
MKAR	**Makanchi Array**	**65.40**	**324**	P	**P**	**12 27 43.5**	**-0.2**
	0.5nm,0.5s,baz=112,slow=8.1,SNR=19						
ILAR	**Eielson Array**	**86.00**	**25**	P	**P**	**12 29 41.7**	**+0.5**
	0.4nm,0.7s,baz=256,slow=4.6,SNR=6.3						

*IDC **04** 12:21:40.0±1.1, 0.37S×132.86E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/16, mbtmp3.8/7, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/26, Error ellipse: s-maj=50.3km s-min=12.4km az=78.0*
*ISCJB **04** 12:21:43.1±0.8, 0.27S±0.08×132.78E±0.1, h32km, mb3.8/6, MS3.3/1, Error ellipse: s-maj=21.9km s-min=10.5km az=162.7*
*NEIC **04** 12:21:45.5±0.6, 0.28S×132.84E, h35km, mb4.1/2, Error ellipse: s-maj=15.7km s-min=8.3km az=71.0*
*DJA **04** 12:21:47, 0.39S×132.64E, h30km, MLv4.5/10*

ISC 04 12:21:44.9±0.9, 0.31S±0.10×132.9E±0.2, h32km, n19, σ0§71/20, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.90**	**250**	*e*Pn	**Pn**	**12 24 59.7**	**0.0**
WRAB	**Tennant Creek**	**19.55**	**176**	*e*P	**P**	**12 26 10.5**	**+0.3**
	7.4nm,0.7s						
WRA	**Warramunga Arr**	**19.56**	**176**	P	**P**	**12 26 10.8**	**+0.5**
	0.7nm,0.3s,baz=353,slow=11,SNR=5.4						
WRA				S	**S**	**12 29 48.6**	**-1.0**
	0.2nm,0.3s,baz=356,slow=22,SNR=4.7						
WRA	**Warramunga Arr**	**19.56**	**176**	P	**P**	**12 26 10.8**	**+0.5**
WRA				S	**S**	**12 29 48.6**	**-1.0**
WB2	**Warramunga Arr**	**19.56**	**176**	*e*P	**P**	**12 26 11.0**	**+0.8**
AS31	**Alice Springs**	**23.24**	**178**	*e*P	**P**	**12 26 50.7**	**+1.1**
ASAR	**Alice Springs**	**23.24**	**178**	P	**P**	**12 26 50.3**	**+0.7**
	7.0nm,0.8s,baz=357,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.24**	**178**	P	**P**	**12 26 50.3**	**+0.7**
STKA	**Stephens Creek**	**32.46**	**166**	P	**P**	**12 28 12.5**	**0.0**
	2.7nm,0.8s,baz=335,slow=9.3,SNR=3.9						
STKA	**Stephens Creek**	**32.46**	**166**	*e*P	**P**	**12 28 12.9**	**+0.4**
	5.0nm,1.5s						
KSRS	**Korea Array**	**37.85**	**354**	LR	LR	12 44 09.5	
	comp=Z,45nm,18.2s,baz=236,slow=36						
CMAR	**Chiang Mai Arr**	**38.19**	**301**	P	**P**	**12 29 01.7**	**-0.2**
	0.6nm,0.7s,baz=115,slow=6.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**38.19**	**301**	P	**P**	**12 29 01.7**	**-0.2**
MKAR	**Makanchi Array**	**64.38**	**324**	P	**P**	**12 32 17.6**	**-0.3**
	0.5nm,0.6s,baz=118,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**64.38**	**324**	P	**P**	**12 32 17.6**	**-0.3**
ZALV	**Zalesovo Beam**	**66.99**	**331**	P	**P**	**12 32 35.5**	**+1.0**
	0.2nm,0.4s,baz=160,slow=4.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**66.99**	**331**	P	**P**	**12 32 35.5**	**+1.0**
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**12 34 21.8**	**-0.7**
	0.6nm,1.0s,baz=261,slow=5.0,SNR=5.6						
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**	**12 34 21.8**	**-0.7**

IDC 04 12:29:05.6±4.9, 0.56S×131.77E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=318.6km s-min=28.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.42**	**173**	P	P	12 33 33.5	-0.2
	0.2nm,0.3s,baz=353,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.06**	**175**	P	P	12 34 13.1	+0.2
	0.8nm,0.4s,baz=356,slow=12,SNR=11						
MKAR	**Makanchi Array**	**63.94**	**324**	P	P	12 39 40.6	-0.1
	0.1nm,0.5s,baz=111,slow=8.5,SNR=3.1						

*CSEM **04** 12:33:51.7±0.2, 37.44N×38.71E, h2km, MD3.3, Error ellipse: s-maj=5.5km s-min=4.9km az=22.0*
*DDA **04** 12:33:51.5, 37.44N×38.72E, h22km, MD3.3*
*NSSC **04** 12:33:53.1±2.0, 37.52N×38.76E, h17km±19km, ML3.0, MW3.3*

ISC 04 12:33:51.6±1.2, 37.45N±0.03×38.74E±0.03, h4km±11km, n38, σ0§80/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.35**	**273**	*i* P	**Pg**	**12 33 59.0**	**+0.6**
ATAB				*i* S	**Sg**	**12 34 01.8**	**-1.3**
ATAB	**Bozova**	**0.35**	**273**	*i* P	**Pg**	**12 33 59.0**	**+0.6**
ATAB				*i* S	**Sg**	**12 34 01.8**	**-1.3**
MALT	**Malatya**	**0.89**	**344**	*e*PG	**Pg**	**12 34 08.6**	**-0.2**
MALT	**Malatya**	**0.89**	**344**	*e*Pg	**Pg**	**12 34 08.6**	**-0.2**
MYA	**Malataya**	**0.91**	**344**	*e*PG	**Pg**	**12 34 09.0**	**0.0**
MYA	**Malataya**	**0.91**	**344**	*e*Pg	**Pg**	**12 34 09.0**	**0.0**
GZT	**Gaziantep**	**0.94**	**264**	*i* P	**Pg**	**12 34 10.0**	**+0.4**
GZT				*i* S	**Sb**	**12 34 23.4**	**0.0**
AKCD	**Akcadag**	**1.06**	**323**	*i* P	**Pg**	**12 34 11.8**	**-0.2**
AKCD				*i* S	**Sn**	**12 34 28.4**	**-0.3**
AKCD	**Akcadag**	**1.06**	**323**	*i* P	**Pg**	**12 34 11.8**	**-0.2**
ELZG	**Elazig**	**1.06**	**11**	*i* P	**Pg**	**12 34 12.0**	**0.0**
ELZG	**Elazig**	**1.06**	**11**	*i* P	**Pg**	**12 34 12.0**	**0.0**
DIYA	**Diyarbakir**	**1.19**	**66**	*i* P	**Pn**	**12 34 14.6**	**-0.6**
DIYA				*i* S	**Sn**	**12 34 32.1**	**+0.2**
DIYA	**Diyarbakir**	**1.19**	**66**	*i* P	**Pn**	**12 34 14.6**	**-0.6**
DIYA				*i* S	**Sn**	**12 34 32.1**	**+0.2**
SLMH	**Al Salmeh**	**1.40**	**208**	*e*P	**Pg**	**12 34 19.1**	**+0.7**
SLMH				*e*S	**Sg**	**12 34 37.9**	**+1.4**
KMRS	**Kahramanmaras**	**1.46**	**273**	*e*PN	**Pn**	**12 34 17.2**	**-1.6**
KMRS	**Kahramanmaras**	**1.46**	**273**	*e*Pn	**Pn**	**12 34 17.3**	**-1.6**
KUZU	**Kuzuini**	**1.49**	**243**	*i* P	**Pn**	**12 34 19.1**	**-0.2**
KUZU				*i* S	**Sg**	**12 34 39.8**	**+0.3**
KUZU	**Kuzuini**	**1.49**	**243**	*i* P	**Pn**	**12 34 19.1**	**-0.2**
KUZU				*i* S	**Sg**	**12 34 39.8**	**+0.3**
SFNV	**Sufian**	**1.51**	**133**	*e*P	**Pn**	**12 34 20.1**	**-0.1**
SFNV				*e*S	**Sn**	**12 34 39.1**	**-0.6**
SFNV	**Sufian**	**1.51**	**133**	*e*P	**Pb**	**12 34 20.1**	**-0.1**
	SNR=57						
SFNV				*e*S	**Sn**	**12 34 39.1**	**-0.6**
	SNR=49						
KBSD	**Kabsdagh**	**1.51**	**107**	*e*P	**Pn**	**12 34 19.7**	**+0.2**
KBSD				*e*S	**Sn**	**12 34 39.8**	**+0.1**
KBSD				AML	AML	12 34 44.1	
	comp=Z,348nm,0.3s						
KBSD				AML	AML	12 34 45.7	
	comp=E,405nm,0.4s						
KBSD				AML	AML	12 34 46.1	
	comp=N,218nm,0.3s						
KBSD	**Kabsdagh**	**1.51**	**107**	*e*P	**Pn**	**12 34 19.7**	**+0.2**
	SNR=57						
KBSD				*e*S	**Sn**	**12 34 39.8**	**+0.1**
	comp=N,218nm,0.3s,SNR=49						
PTK	**Pertek**	**1.53**	**20**	*e*PN	**Pb**	**12 34 20.5**	**-0.1**
PTK	**Pertek**	**1.53**	**20**	*e*Pn	**Pb**	**12 34 20.5**	**-0.1**
MARD	**Mardin**	**1.63**	**94**	*i* P	**Pn**	**12 34 21.6**	**+0.3**
MARD				*i* S	**Sb**	**12 34 43.9**	**+0.5**
KEMA	**Kemaliye**	**1.82**	**354**	*i* P	**Pn**	**12 34 24.3**	**+0.4**
KEMA				*i* S	**Sg**	**12 34 49.8**	**-0.4**
KEMA	**Kemaliye**	**1.82**	**354**	*i* P	**Pn**	**12 34 24.3**	**+0.4**
KEMA				*i* S	**Sg**	**12 34 49.8**	**-0.4**
ANDN	**Andirin**	**1.91**	**275**	*i* P	**Sb**	**12 34 50.8**	**-0.5**
BEST	**Besiri**	**2.06**	**77**	*i* P	**Pn**	**12 34 27.0**	**-0.1**
PINB	**Pinarbasi**	**2.21**	**304**	*i* P	**Pn**	**12 34 29.9**	**+0.5**
PINB				*i* S	**Sg**	**12 35 02.6**	**-0.1**
PINB	**Pinarbasi**	**2.21**	**304**	*i* P	**Pn**	**12 34 29.9**	**+0.5**
MZRK	**Al-Mazaregh**	**2.24**	**136**	*e*P	**Pn**	**12 34 28.3**	**-1.2**
MZRK				*e*S	**Sn**	**12 34 56.5**	**-1.1**
MZRK	**Al-Mazaregh**	**2.24**	**136**	*e*P	**Pn**	**12 34 28.3**	**-1.2**
	SNR=45						
MZRK				*e*S	**Sn**	**12 34 56.5**	**-1.1**
	SNR=40						
EZM	**Erzurum**	**3.20**	**39**	*e*PN	**Pn**	**12 34 44.6**	**+1.7**
ERZM	**Erzurum**	**3.20**	**39**	*i* P	**Pn**	**12 34 44.8**	**+1.8**
ERZM	**Erzurum**	**3.20**	**39**	*i* P	**Pn**	**12 34 44.8**	**+1.8**
HAWK	**Haweek**	**3.48**	**214**	*e*P	**Pn**	**12 34 48.1**	**+1.4**
HAWK	**Haweek**	**3.48**	**214**	*e*P	**Pn**	**12 34 48.1**	**+1.4**
	SNR=45						

IDC 04 12:36:14.9±2.8, 0.68S×134.40E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/15, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=132.0km s-min=26.7km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**180**	P	P	12 40 39.0	-0.9
	0.1nm,0.3s,baz=359,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.86**	**181**	P	P	12 41 20.9	+0.9
	0.7nm,0.8s,baz=6.6,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**65.58**	**323**	P	P	12 47 00.6	-0.1
	0.2nm,0.6s,baz=115,slow=7.5,SNR=3.1						

*DJA **04** 12:38:07, 0.66S×133.39E, h38km, mb4.8/7*

IDC 04 12:38:01.4±1.2, 0.57S×133.58E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=75.4km s-min=22.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.27**	**178**	P	P	12 42 28.2	+0.4
	0.3nm,0.3s,baz=359,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**22.96**	**179**	P	P	12 43 07.2	-0.6
	2.2nm,0.7s,baz=4.3,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.05**	**167**	P	P	12 44 30.4	+0.4
	0.9nm,0.6s,baz=346,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	12 48 43.4	0.0
	0.4nm,0.5s,baz=108,slow=8.4,SNR=6.5						
ILAR	**Eielson Array**	**86.05**	**25**	P	P	12 50 43.7	-0.1
	0.3nm,0.8s,baz=256,slow=4.5,SNR=5.1						

*IDC **04** 12:48:51.3±0.8, 0.44S×133.10E, h0km, mb4.3/7, mb1 4.6/8, mb1mx4.3/16, mbtmp4.3/8, ML4.5/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/31, Error ellipse: s-maj=41.1km s-min=12.9km az=75.0*
*ISCJB **04** 12:48:54.4±0.4, 0.45S±0.04×133.02E±0.06, h32km, mb4.5/22, MS3.9/1, Error ellipse: s-maj=8.2km s-min=5.6km az=159.1*
*DJA **04** 12:48:56, 0.56S×132.93E, h10km, mb5.1/17*
*NEIC **04** 12:48:56.8±0.2, 0.51S×132.98E, h35km, mb4.6/13, Error ellipse: s-maj=9.4km s-min=4.3km az=67.0*

ISC 04 12:48:56.5±0.5, 0.44S±0.07×133.00E±0.09, h32km, n87, σ1§11/78, mb4.6/22, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.58**	**197**	P	**Pn**	**12 49 35.8**	**-0.3**
MSAI	**Masohi**	**4.99**	**235**	P	**Pn**	**12 50 10.6**	**+1.3**
TLE	**Tual**	**5.17**	**183**	P	**Pn**	**12 50 13.0**	**+1.2**
LBMI	**Labuha**	**5.50**	**268**	P	**Pn**	**12 50 15.8**	**-0.5**
	464nm,1.0s,4µm1.4nm						
TNTI	**Ternate**	**5.76**	**282**	P	Pn	12 50 24.7	+4.9
	115nm,0.9s,0.4nm						
AAI	**Ambon**	**5.79**	**236**	P	**Pn**	**12 50 20.0**	**-0.2**
	628nm,0.7s,6µm2.4nm						
NLAI	**Namlea**	**6.52**	**245**	P	**Pn**	**12 50 30.9**	**+0.6**
	159nm,0.7s,3µm0.9nm						
KMSI	**Cibinong**	**9.08**	**276**	P	Pn	12 51 13.9	+8.5
LUWI	**Luwuk**	**10.25**	**267**	P	**Pn**	**12 51 20.7**	**-0.7**
	124nm,1.0s,2µm						
DAV	**Davao City (W)**	**10.51**	**315**	LR	LR	12 55 35.7	
	comp=Z,216nm,18.1s,baz=230,slow=38						
MRSI	**Marisa**	**11.10**	**275**	P	Pn	12 51 47.4	+14
TTSI	**Tana Toraja**	**13.43**	**259**	P	**Pn**	**12 52 07.3**	**+2.3**
	36nm,1.3s						
SPSI	**Sidrap Palu**	**13.68**	**255**	P	**P**	**12 52 14.3**	**-2.4**
BKSI	**Bulukumba**	**13.74**	**249**	P	**P**	**12 52 19.0**	**+1.5**
KAPI	**Kappang**	**13.99**	**251**	*e*Pn	**Pn**	**12 52 12.6**	**-0.1**
MYLDM	**Lahad Datu**	**15.52**	**291**	P	P	12 52 50.8	+14
COEN	**Coen**	**16.79**	**144**	*e*P	**Pn**	**12 52 48.9**	**-0.5**
	57nm,1.0s						
GUMO	**Guam**	**18.23**	**40**	LR	LR	12 58 33.2	
	comp=Z,264nm,18.9s,baz=236,slow=32						
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*e*P	**P**	**12 53 11.4**	**-4.1**
	19nm,0.6s						
FITZ				*e*S	Sn	12 56 31.0	-17
KHKI	**Kahang-Kahang**	**19.03**	**245**	P	**Pn**	**12 53 16.7**	**-0.3**
	60nm,1.5s						
WRAB	**Tennant Creek**	**19.42**	**176**	*e*P	**P**	**12 53 19.1**	**-1.2**
	28nm,0.9s						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**P**	**12 53 19.4**	**-1.0**
	1.4nm,0.3s,baz=357,slow=12,SNR=69						
WRA				S	S	12 56 47.0	-12
	0.5nm,0.3s,baz=1.6,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**P**	**12 53 19.4**	**-1.0**
WRA				S	S	12 56 47.0	-12
WB2	**Warramunga Arr**	**19.43**	**176**	*e*P	**P**	**12 53 19.3**	**-1.1**
SBUM	**Sibu**	**20.97**	**278**	P	Pn	12 53 42.7	+2.8
	46nm,1.3s						
GMJI	**Gumukmas**	**20.98**	**248**	P	Pn	12 53 39.3	-0.7
	75nm,1.2s						
QIS	**Mount Isa**	**21.02**	**163**	*e*P	**P**	**12 53 36.7**	**-0.9**
AS31	**Alice Springs**	**23.11**	**178**	*e*P	**P**	**12 53 58.9**	**-1.0**
ASAR	**Alice Springs**	**23.11**	**178**	P	**P**	**12 53 59.3**	**-0.6**
	60nm,0.9s,baz=357,slow=11,SNR=205						
ASAR				S	**S**	**12 58 12.7**	**+3.5**
	4.0nm,1.0s,baz=359,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**23.11**	**178**	P	**P**	**12 53 59.3**	**-0.6**
ASAR				S	**S**	**12 58 12.7**	**+3.5**
CTAO	**Charters Tower**	**23.45**	**147**	*e*P	**P**	**12 54 03.9**	**+0.6**
	21nm,0.8s						
BJII	**Banjamegara**	**24.21**	**253**	P	**P**	**12 54 13.0**	**+2.3**
	66nm,1.5s						
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**	**12 54 11.0**	**-0.6**
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**	**12 54 10.7**	**-0.9**
	52nm,1.1s						
CISI	**Cisompet, Garu**	**26.09**	**254**	P	**P**	**12 54 28.0**	**+0.4**
	152nm,1.0s						
STKA	**Stephens Creek**	**32.31**	**166**	P	**P**	**12 55 21.6**	**-1.1**
	22nm,0.8s,baz=352,slow=9.9,SNR=39						
STKA	**Stephens Creek**	**32.31**	**166**	*e*P	**P**	**12 55 21.6**	**-1.1**
	19nm,1.0s						
STKA	**Stephens Creek**	**32.31**	**166**	*e*P	**P**	**12 55 21.3**	**-1.4**
	5.6nm,0.9s						
ARMA	**Armidale**	**34.68**	**151**	*e*P	**P**	**12 55 43.5**	**0.0**
ARMA	**Armidale**	**34.68**	**151**	*e*P	**P**	**12 55 43.5**	**0.0**

*CSEM **04** 12:53:28.3±0.4,59°.31N×27°.18E,h2km, Error ellipse: s-maj=12.9km s-min=5.4km az=100.0, Mining explosion.*
HEL 04 12:53:29.1±0.1,59°.31N×27°.13E,h0km, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**194**	*eP*	Pg	12 53 44.9	-0.9
VSU				*eS*	Sg	12 53 55.7	-1.5
VSU	**Vasula**	**0.88**	**194**	P	Pg	12 53 44.9	-1.0
VSU				S	Sg	12 53 55.6	-1.6
VJF	**Virojoki**	**1.25**	**10**	*eP*	Pg	12 53 51.4	-1.7
VJF				*eS*	Sg	12 54 07.5	-1.7
VJF	**Virojoki**	**1.25**	**10**	*eP*	Pg	12 53 51.4	-1.7
VJF				*eS*	Sg	12 54 07.5	-1.7
VJF	**Virojoki**	**1.25**	**10**	P	Pg	12 53 51.3	-1.7
VJF				*eS*	Sg	12 54 07.5	-1.7
	SNR=47						
PVF	**Pernaja**	**1.39**	**333**	*eP*	Pn	12 53 54.1	-1.7
PVF				*eS*	Sg	12 54 11.2	-2.6
PVF	**Pernaja**	**1.39**	**333**	*eP*	Pn	12 53 54.1	-1.7
PVF				*eS*	Sg	12 54 11.2	-2.6
PVF	**Pernaja**	**1.39**	**333**	P	Pn	12 53 54.0	-1.8
PVF				S	Sg	12 54 11.2	-2.7
MEF	**Metsahovi**	**1.66**	**304**	*eP*	Pn	12 53 58.4	-1.0
MEF				*eS*	Sn	12 54 19.9	-1.5
MEF	**Metsahovi**	**1.66**	**304**	*eP*	Pn	12 53 58.4	-1.0
MEF				*eS*	Sn	12 54 19.9	-1.5
MEF	**Metsahovi**	**1.66**	**304**	P	Pn	12 53 58.3	-1.1
MEF				S	Sn	12 54 19.8	-1.5
MTSE	**Matsula**	**1.82**	**252**	*eP*	Pn	12 54 01.0	-0.5
MTSE				*eS*	Sn	12 54 24.7	-0.6
MTSE	**Matsula**	**1.82**	**252**	P	Pn	12 54 01.0	-0.6
MTSE				S	Sn	12 54 24.6	-0.7
FIA0	**FINESS Array S**	**2.20**	**347**	*eP*	Pn	12 54 06.5	-0.4
FIA0				*eS*	Sn	12 54 35.2	+0.4
FIA0	**FINESS Array S**	**2.20**	**347**	*eP*	Pn	12 54 06.5	-0.4
FIA0				*eS*	Sn	12 54 35.2	+0.4
FIA0	**FINESS Array S**	**2.20**	**347**	P	Pn	12 54 06.4	-0.5
FIA0				S	Sn	12 54 35.2	+0.4
KAF	**Kangasniemi**	**2.84**	**352**	*eP*	Pn	12 54 16.1	+0.4
KAF	**Kangasniemi**	**2.84**	**352**	*eP*	Pn	12 54 16.1	+0.4
KAF	**Kangasniemi**	**2.84**	**352**	P	Pn	12 54 16.0	+0.3
RAF	**Rauma**	**3.19**	**305**	*eP*	Pn	12 54 20.9	+0.6
RAF	**Rauma**	**3.19**	**305**	*eP*	Pn	12 54 20.9	+0.6
RAF	**Rauma**	**3.19**	**305**	P	Pn	12 54 20.9	+0.5

*IDC **04** 12:55:12.2±0.9,0°.25S×133°.11E,h0km,mb3.9/9, mb1 4.1/10,mb1mx3.9/18,mbtmp3.9/10,ML4.0/1,Error ellipse: s-maj=48.5km s-min=16.6km az=72.0*
*ISCJB **04** 12:55:15.3±0.6,0°.31S±0°.07×133°.1E±0°.1,h33km, mb4.0/11,Error ellipse: s-maj=19.0km s-min=9.7km az=163.9*
*DJA **04** 12:55:16,0°.14S×132°.91E,h30km,mb5.0/9*
*NEIC **04** 12:55:17.5±0.5,0°.31S×133°.17E,h35km,mb4.6/5,Error ellipse: s-maj=15.5km s-min=7.9km az=74.0*
ISC 04 12:55:17.3±0.8,0°.32S±0°.10×133°.2E±0°.1,h35km,n25, σ0s86/25,mb4.1/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.19**	**251**	*ePn*	**Pn**	**12 58 36.7**	**+0.7**
WRAB	**Tennant Creek** 67nm,1.3s	**19.53**	**177**	*eP*	**P**	**12 59 41.6**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=356,slow=12,SNR=4.9	**19.54**	**177**	P	**Pn**	**12 59 42.5**	**-1.0**
WRA				S	S	13 03 11.4	-10
	0.5nm,0.3s,baz=358,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**19.54**	**177**	P	**Pn**	**12 59 42.5**	**-1.0**
WRA				S	S	13 03 11.4	-10
WB2	**Warramunga Arr**	**19.54**	**177**	*eP*	**Pn**	**12 59 42.6**	**-0.9**
ASAR	**Alice Springs** 17nm,0.9s,baz=4.8,slow=12,SNR=21	**23.22**	**178**	P	**P**	**13 00 22.8**	**+1.3**
ASAR	**Alice Springs**	**23.22**	**178**	P	**P**	**13 00 22.8**	**+1.3**
CTAO	**Charters Tower** 20nm,1.1s	**23.45**	**148**	*eP*	**P**	**13 00 24.4**	**+0.6**
MBWA	**Marble Bar** 13nm,1.0s	**24.52**	**212**	*eP*	**P**	**13 00 33.5**	**-0.2**
STKA	**Stephens Creek** 3.6nm,0.6s,baz=348,slow=10,SNR=20	**32.38**	**167**	P	**P**	**13 01 43.7**	**-0.1**
STKA	**Stephens Creek** 7.3nm,1.5s	**32.38**	**167**	*eP*	**P**	**13 01 43.4**	**-0.4**
CMAR	**Chiang Mai Arr** 1.2nm,0.8s,baz=123,slow=6.2,SNR=11	**38.46**	**301**	P	**P**	**13 02 35.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**38.46**	**301**	P	**P**	**13 02 35.2**	**-1.0**
SONM	**Songino Array** 0.5nm,1.0s,baz=139,slow=4.8,SNR=3.6	**53.31**	**338**	P	**P**	**13 04 33.5**	**+0.5**
SONM	**Songino Array**	**53.31**	**338**	P	**P**	**13 04 33.5**	**+0.5**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=115,slow=8.8,SNR=11	**64.57**	**324**	P	**P**	**13 05 50.9**	**-0.1**
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**13 05 50.9**	**-0.1**
ZALV	**Zalesovo Beam** 0.4nm,0.2s,baz=117,slow=8.7,SNR=4.2	**67.15**	**331**	P	**P**	**13 06 06.8**	**-0.7**
ZALV	**Zalesovo Beam**	**67.15**	**331**	P	**P**	**13 06 06.8**	**-0.7**
KURK	**Kurchatov** 1.3nm,1.1s,baz=126,slow=5.2,SNR=5.4	**68.63**	**326**	P	**P**	**13 06 16.1**	**-0.8**
KURK	**Kurchatov** 21nm,1.6s	**68.63**	**326**	*eP*	**P**	**13 06 18.9**	**+2.1**
BVAR	**Borovoye Array** 0.7nm,0.7s,baz=108,slow=9.3,SNR=2.7	**74.22**	**326**	P	**P**	**13 06 50.5**	**-0.1**
BVAR	**Borovoye Array**	**74.22**	**326**	P	**P**	**13 06 50.5**	**-0.1**
ILAR	**Eielson Array** 0.3nm,0.5s,baz=253,slow=4.8,SNR=8.3	**85.99**	**25**	P	**P**	**13 07 54.1**	**+0.3**
ILAR	**Eielson Array**	**85.99**	**25**	P	**P**	**13 07 54.1**	**+0.3**

*IDC **04** 12:59:35.2±0.6,0°.28S×132°.38E,h0km,mb4.4/11, mb1 4.5/13,mb1mx4.3/20,mbtmp4.4/13,ML4.2/2,Error ellipse: s-maj=31.9km s-min=11.7km az=73.0*
*ISCJB **04** 12:59:37.8±0.3,0°.20S±0°.04×132°.75E±0°.05,h33km, mb4.7/32,Error ellipse: s-maj=6.9km s-min=5.3km az=163.3*
*NEIC **04** 12:59:40.2±0.3,0°.34S×132°.47E,h35km,mb4.7/16,Error ellipse: s-maj=12.7km s-min=5.8km az=67.0*
*DJA **04** 12:59:41,0°.46S×132°.63E,h30km,mb5.0/27*
ISC 04 12:59:40.2±0.5,0°.22S±0°.06×132°.63E±0°.08,h35km,n118, σ1s44/109,mb4.7/32,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.71**	**188**	P	**Pn**	**13 00 21.6**	**+0.2**
MSAI	**Masohi**	**4.83**	**230**	P	**Pn**	**13 00 52.2**	**+1.6**
LBMI	**Labuha** 261nm,1.4s,3µm0.9nm	**5.15**	**265**	P	**Pn**	**13 00 54.3**	**-0.6**
TNTI	**Ternate** 114nm,1.1s,0.4nm	**5.36**	**281**	P	Pn	13 01 03.2	+5.4
TLE	**Tual** 803nm,1.1s,10µm2.9nm	**5.39**	**179**	P	**Pn**	**13 00 59.8**	**+1.6**
AAI	**Ambon** 362nm,0.5s,5µm1.4nm	**5.62**	**232**	P	**Pn**	**13 01 01.2**	**-0.2**
NLAI	**Namlea** 119nm,0.5s,2µm0.6nm	**6.29**	**241**	P	**Pn**	**13 01 11.1**	**+0.5**
LUWI	**Luwuk** 101nm,0.9s,976nm	**9.89**	**265**	P	**Pn**	**13 01 59.8**	**-0.3**
MRSI	**Marisa**	**10.71**	**274**	P	Pn	13 02 27.0	+16
TTSI	**Tana Toraja**	**13.11**	**257**	P	**P**	**13 02 52.5**	**-1.3**
SPSI	**Sidrap Palu** 51nm,1.0s	**13.38**	**254**	P	**Pn**	**13 02 49.0**	**+1.2**
BKSI	**Bulukumba** 45nm,0.8s	**13.48**	**248**	P	Pn	13 02 53.5	+4.3
KAPI	**Kappang** 93nm,1.2s	**13.72**	**249**	*ePn*	**Pn**	**13 02 54.6**	**+2.2**
KAPI	**Kappang** 69nm,1.4s,821nm	**13.72**	**249**	P	Pn	13 02 56.1	+3.7
MYLDM	**Lahad Datu**	**15.10**	**291**	P	P	13 03 25.9	+10
SMKI	**Samarinda**	**15.43**	**269**	P	**P**	**13 03 23.3**	**+3.7**
KBKI	**Kotabaru** 38nm,1.6s,936nm	**16.74**	**259**	P	**P**	**13 03 35.9**	**+1.7**
PMG	**Port Moresby** 0.3nm,0.3s,baz=287,slow=13,SNR=4.0	**17.10**	**123**	P	**P**	**13 03 38.1**	**0.0**
PMG	**Port Moresby**	**17.10**	**123**	P	**P**	**13 03 38.1**	**0.0**
COEN	**Coen** 31nm,0.6s	**17.18**	**143**	*eP*	**Pn**	**13 03 36.1**	**-1.7**
BBKI	**Banjar Baru** 126nm,0.8s	**18.07**	**260**	P	**P**	**13 03 53.4**	**+4.5**
KHKI	**Kahang-Kahang** 88nm,1.3s,2µm	**18.80**	**244**	P	**P**	**13 03 57.0**	**+0.1**
WRAB	**Tennant Creek** 47nm,1.1s	**19.67**	**175**	*eP*	**P**	**13 04 04.0**	**-2.4**
WRA	**Warramunga Arr**	**19.68**	**175**	P	**P**	**13 04 05.3**	**-1.2**
	3.1nm,0.3s,baz=355,slow=11,SNR=32						
WRA				S	S	13 07 37.0	-10
	1.5nm,0.3s,baz=352,slow=24,SNR=6.4						
WRA	**Warramunga Arr**	**19.68**	**175**	P	**P**	**13 04 05.3**	**-1.2**
WRA				S	S	13 07 37.0	-10
WB2	**Warramunga Arr**	**19.68**	**175**	*eP*	**P**	**13 04 05.2**	**-1.3**
BYJI	**Banyuwangi** 235nm,1.1s,8µm	**19.87**	**246**	P	**Pn**	**13 04 11.9**	**+1.5**
JAGI	**Jajag, Banyuwa** 93nm,1.1s,1µm	**20.16**	**246**	P	Pn	13 04 14.5	+0.7
BLJI	**Banyuglugur** 58nm,1.2s	**20.40**	**248**	P	Pn	13 04 18.2	+1.6
SBUM	**Sibu** 47nm,1.1s	**20.58**	**278**	P	Pn	13 04 20.7	+2.0
GMJI	**Gumukmas** 68nm,1.0s	**20.73**	**247**	P	Pn	13 04 22.7	+2.2
PBKI	**Pangkalan Bun** 216nm,1.0s	**21.10**	**263**	P	**P**	**13 04 23.4**	**+1.4**
STKI	**Sintang** 42nm,1.1s	**21.16**	**271**	P	**P**	**13 04 24.5**	**+1.9**
MTSU	**Mount Surprise** 34nm,1.1s	**21.19**	**148**	*eP*	**P**	**13 04 21.9**	**-1.0**
QIS	**Mount Isa**	**21.34**	**162**	*eP*	**P**	**13 04 23.9**	**-0.6**
SJI	**Sawahan** 64nm,1.4s	**22.10**	**250**	P	P	13 04 38.9	+6.1
KSM	**Kuching** 59nm,1.1s	**22.39**	**274**	*eP*	**P**	**13 04 33.0**	**-2.8**
AS31	**Alice Springs**	**23.34**	**177**	*eP*	**P**	**13 04 44.8**	**-0.9**
ASAR	**Alice Springs** 12nm,0.6s,baz=356,slow=10,SNR=17	**23.34**	**177**	P	**P**	**13 04 44.3**	**-1.3**
ASAR				S	**S**	**13 09 00.9**	**+4.8**
	6.6nm,1.2s,baz=7.3,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**23.34**	**177**	P	**P**	**13 04 44.3**	**-1.3**
ASAR				S	**S**	**13 09 00.9**	**+4.8**
CTAO	**Charters Tower** 36nm,1.3s	**23.83**	**147**	*eP*	**P**	**13 04 50.7**	**+0.3**
BJII	**Banjamegara** 82nm,1.5s	**23.93**	**252**	P	**P**	**13 04 53.5**	**+2.1**
MBWA	**Marble Bar**	**24.33**	**210**	*eP*	**P**	**13 04 54.4**	**-0.5**
MBWA	**Marble Bar** 72nm,1.4s	**24.33**	**210**	*eP*	**P**	**13 04 55.1**	**+0.2**
STKA	**Stephens Creek** 3.8nm,0.5s,baz=348,slow=9.1,SNR=32	**32.61**	**166**	P	**P**	**13 06 07.8**	**-0.9**
STKA	**Stephens Creek** 8.5nm,1.0s	**32.61**	**166**	*eP*	**P**	**13 06 07.5**	**-1.2**
STKA	**Stephens Creek** 3.7nm,1.1s	**32.61**	**166**	*eP*	**P**	**13 06 07.2**	**-1.5**
KMBL	**Kambalda** 60nm,0.8s	**32.61**	**197**	*eP*	**P**	**13 06 06.4**	**-2.4**
CMSA	**Cobar Meteorol** 54nm,1.1s	**33.52**	**160**	*eP*	**P**	**13 06 15.4**	**-1.2**
PSI	**Prapat** 12nm,1.4s	**33.83**	**275**	P	**P**	**13 06 20.7**	**+1.0**
KLBR	**Kellerberrin** 40nm,1.3s	**34.24**	**203**	*eP*	**P**	**13 06 21.7**	**-1.2**
CMAR	**Chiang Mai Arr** 2.1nm,1.0s,baz=122,slow=6.8,SNR=14	**37.95**	**301**	P	**P**	**13 06 51.8**	**-3.1**
CMAR	**Chiang Mai Arr**	**37.95**	**301**	P	**P**	**13 06 51.8**	**-3.1**
TAPN	**Taplejung** 11nm,0.9s	**51.09**	**306**	*eP*	**P**	**13 08 38.8**	**-1.3**
TAPN	**Taplejung** 11nm,0.9s	**51.09**	**306**	*eP*	**P**	**13 08 39.8**	**-0.3**
TAPN	**Taplejung**	**51.09**	**306**	*eP*	**P**	**13 08 38.8**	**-1.3**
ODAN	**Odare**	**51.15**	**305**	*eP*	**P**	**13 08 39.6**	**-0.8**
ODAN	**Odare**	**51.15**	**305**	*eP*	**P**	**13 08 39.7**	**-0.7**
ODAN	**Odare**	**51.15**	**305**	*eP*	**P**	**13 08 39.7**	**-0.7**
RAMN	**Ramite** 24nm,1.0s	**51.83**	**305**	*eP*	**P**	**13 08 45.1**	**-0.4**
RAMN	**Ramite** 24nm,1.0s	**51.83**	**305**	*eP*	**P**	**13 08 45.1**	**-0.4**
RAMN	**Ramite**	**51.83**	**305**	*eP*	**P**	**13 08 45.1**	**-0.4**
JIRN	**Jiri** 12nm,0.9s	**52.45**	**306**	*eP*	**P**	**13 08 49.7**	**-0.6**
JIRN	**Jiri** 12nm,0.9s	**52.45**	**306**	*eP*	**P**	**13 08 49.7**	**-0.6**
JIRN	**Jiri**	**52.45**	**306**	*eP*	**P**	**13 08 49.7**	**-0.6**
GUN	**Gumba** 20nm,0.9s	**52.80**	**306**	*eP*	**P**	**13 08 50.6**	**-2.3**
GUN	**Gumba** 20nm,0.9s	**52.80**	**306**	*eP*	**P**	**13 08 52.2**	**-0.7**
GUN	**Gumba**	**52.80**	**306**	*eP*	**P**	**13 08 50.6**	**-2.3**
ULN	**Ulaanbaatar** 7.8nm,1.3s	**52.80**	**339**	*eP*	**P**	**13 08 53.2**	**+1.0**
ULN	**Ulaanbaatar** 7.2nm,1.4s	**52.80**	**339**	P	**P**	**13 08 54.1**	**+1.8**
SONM	**Songino Array** 2.0nm,1.0s,baz=147,slow=4.8,SNR=10	**53.02**	**338**	P	**P**	**13 08 54.8**	**+1.0**
SONM	**Songino Array**	**53.02**	**338**	P	**P**	**13 08 54.9**	**+1.0**
PKI	**Pulchoki**	**53.05**	**305**	*eP*	**P**	**13 08 54.5**	**-0.2**
PKI	**Pulchoki**	**53.05**	**305**	*eP*	**P**	**13 08 54.5**	**-0.2**
KKN	**Kakani**	**53.24**	**306**	*eP*	**P**	**13 08 55.5**	**-0.4**
KKN	**Kakani**	**53.24**	**306**	*eP*	**P**	**13 08 55.5**	**-0.4**
DMN	**Daman**	**53.31**	**305**	*eP*	**P**	**13 08 55.7**	**-0.8**
DMN	**Daman** 14nm,1.0s	**53.31**	**305**	*eP*	**P**	**13 08 55.8**	**-0.8**
DMN	**Daman**	**53.31**	**305**	*eP*	**P**	**13 08 55.7**	**-0.8**
GKN	**Gorkha**	**53.85**	**306**	*eP*	**P**	**13 08 58.8**	**-1.5**
GKN	**Gorkha**	**53.85**	**306**	*eP*	**P**	**13 08 59.8**	**-0.5**
GKN	**Gorkha**	**53.85**	**306**	*eP*	**P**	**13 08 58.8**	**-1.5**
KOLN	**Koldanda** 21nm,0.8s	**54.60**	**305**	*eP*	**P**	**13 09 05.4**	**-0.5**
KOLN	**Koldanda** 21nm,0.8s	**54.60**	**305**	*eP*	**P**	**13 09 05.5**	**-0.5**
KOLN	**Koldanda**	**54.60**	**305**	*eP*	**P**	**13 09 05.4**	**-0.5**
DANN	**Dangsing**	**54.69**	**306**	*eP*	**P**	**13 09 06.1**	**-0.5**
DANN	**Dangsing**	**54.69**	**306**	*eP*	**P**	**13 09 06.1**	**-0.5**
DANN	**Dangsing**	**54.69**	**306**	*eP*	**P**	**13 09 06.1**	**-0.5**
PETK	**Petropavlovsk-** 6.4nm,1.0s,baz=218,slow=8.9,SNR=3.7	**57.10**	**18**	P	**P**	**13 09 25.0**	**+1.9**
PETK	**Petropavlovsk-**	**57.10**	**18**	P	**P**	**13 09 25.0**	**+1.9**
YAK	**Yakutsk** 18nm,0.8s	**62.13**	**358**	*eP*	**P**	**13 09 58.0**	**+0.5**
MK31	**Makanchi Array**	**64.17**	**324**	*eP*	**P**	**13 10 11.6**	**+0.2**
MKAR	**Makanchi Array** 4.2nm,0.7s,baz=118,slow=7.7,SNR=42	**64.17**	**324**	P	**P**	**13 10 11.8**	**+0.4**
MKAR	**Makanchi Array**	**64.17**	**324**	P	**P**	**13 10 11.8**	**+0.4**
KSH	**Kashi**	**64.99**	**315**	P	P	13 10 08.7	-8.4
KSH	comp=Z,120nm,4.4s			pmax	pmax		
ZAA0	**Zalesovo Array**	**66.80**	**332**	*eP*	**P**	**13 10 27.9**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.6s,baz=116,slow=6.6,SNR=15	**66.80**	**332**	P	**P**	**13 10 27.6**	**-0.6**
ZALV	**Zalesovo Beam**	**66.80**	**332**	P	**P**	**13 10 27.6**	**-0.6**
AAK	**Ala-Archa** comp=Z,24nm,1.3s	**67.23**	**317**	*eP*	**P**	**13 10 31.8**	**+0.3**
EKS2	**Er-Ta-Say** comp=Z,10nm,1.5s	**67.73**	**317**	*eP*	**P**	**13 10 35.5**	**+1.0**
KURK	**Kurchatov** comp=Z,7.1nm,0.9s,baz=122,slow=5.7,SNR=44	**68.24**	**326**	P	**P**	**13 10 37.8**	**+0.3**
KURK	**Kurchatov** comp=Z,5.0nm,0.8s	**68.24**	**326**	*eP*	**P**	**13 10 37.7**	**+0.3**
KKAR	**Karatay Array**	**70.13**	**316**	*eP*	**P**	**13 10 49.6**	**+0.3**
BVAR	**Borovoye Array** comp=Z,5.6nm,0.9s,baz=116,slow=6.6,SNR=20	**73.84**	**326**	P	**P**	**13 11 11.7**	**+0.4**
BVAR	**Borovoye Array**	**73.84**	**326**	P	**P**	**13 11 11.7**	**+0.4**
BRVK	**Borovoye** comp=Z,11nm,1.0s	**73.91**	**326**	*eP*	**P**	**13 11 12.2**	**+0.4**
ABKAR	**Akbulak array** comp=Z,2.1nm,0.6s	**78.92**	**320**	*eP*	**P**	**13 11 40.1**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,2.2nm,0.7s,baz=109,slow=6.9,SNR=6.6	**80.40**	**321**	P	**P**	**13 11 48.1**	**-0.1**
AKTO	**Aktyubinsk**	**80.40**	**321**	P	**P**	**13 11 48.1**	**-0.1**
ARU	**Arti** comp=Z,6.8nm,1.0s	**81.41**	**327**	*eP*	**P**	**13 11 53.2**	**-0.3**
MCK	**McKinley** comp=Z,5.5nm,1.2s	**85.07**	**26**	*eP*	**P**	**13 12 11.5**	**-0.7**
ILAR	**Eielson Array** comp=Z,1.5nm,0.9s,baz=264,slow=4.5,SNR=12	**86.13**	**25**	P	**P**	**13 12 17.0**	**-0.5**
ILAR	**Eielson Array**	**86.13**	**25**	P	**P**	**13 12 17.0**	**-0.5**
QSPA	**South Pole Qui** comp=Z,5.3nm,1.0s	**89.72**	**180**	*eP*	**P**	**13 12 34.8**	**+0.1**
CPUP	**Villa Florida** comp=Z,0.4nm,0.4s,baz=268,slow=5.4,SNR=3.6	**151.91**	**161**	PKPbc	**PKPbc**	**13 19 32.6**	**+0.3**
CPUP	**Villa Florida**	**151.91**	**161**	PKPbc	**PKPbc**	**13 19 32.6**	**+0.3**
LPAZ	**La Paz** comp=Z,1.7nm,0.9s,baz=234,slow=8.5,SNR=3.9	**153.76**	**130**	PKPab	**PKPab**	**13 19 52.0**	**+1.7**
LPAZ	**La Paz**	**153.76**	**130**	PKPab	**PKPab**	**13 19 52.0**	**+1.7**

*BJI **04** 13:06:25.8,1°.19S×132°.94E,h39km,mB5.1/36,mb4.7/42, Ms4.7/29,Ms7 4.4/31*
*IDC **04** 13:06:26.2±0.6,0°.61S×132°.67E,h0km,mb4.6/13, mb1 4.7/15,mb1mx4.6/20,mbtmp4.6/15,ML4.1/2,MS4.5/14, Ms1 4.5/14,ms1mx4.2/26,Error ellipse: s-maj=29.2km s-min=13.9km az=70.0*

*DJA **04** 13:06:27,0°.33S×133°.06E,h10km,MLv5.4/11*
*MOS **04** 13:06:29.8±1.0,0°.59S×132°.62E,h33km,mb5.0/23,Error ellipse: s-maj=18.2km s-min=7.1km az=118.7*
*NEIC **04** 13:06:31.8±0.3,0°.57S×132°.73E,h35km,mb4.8/23,Error ellipse: s-maj=11.8km s-min=6.0km az=65.0*
*ISCJB **04** 13:06:31.1±0.8,0°.48S±0°.04×133°.15E±0°.04,h50km±7km, mb4.8/67,MS4.5/27,Error ellipse: s-maj=7.4km s-min=5.4km az=145.8*
ISC 04 13:06:33.4±0.6,0°.61S±0°.04×132°.97E±0°.05,h51km±5km, n188,σ1s72/192,mb4.8/63,MS4.4/27,4C-2D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.40**	**198**	P	**Pn**	**13 07 11.6**	**+1.3**
BAKI	**Biak**	**3.19**	**100**	P	Pn	13 07 17.2	-3.8
MSAI	**Masohi** 408nm,0.8s,6µm1.7nm	**4.87**	**236**	P	**Pn**	**13 07 46.8**	**+2.6**
TLE	**Tual** 1µm,0.7s,21µm7.3nm	**5.00**	**183**	P	**Pn**	**13 07 48.2**	**+2.3**
LBMI	**Labuha** 352nm,0.8s,5µm1.5nm	**5.47**	**270**	P	**Pn**	**13 07 51.6**	**-0.9**
AAI	**Ambon** 1µm,0.8s,13µm4.4nm	**5.67**	**237**	P	**Pn**	**13 07 56.2**	**+1.1**
TNTI	**Ternate** 159nm,1.0s,3µm0.8nm	**5.77**	**284**	P	Pn	13 08 03.0	+6.4
SMPI	**Sarmi** 98nm,0.9s,2µm0.6nm	**5.89**	**103**	P	**Pn**	**13 07 56.7**	**-1.5**
NLAI	**Namlea** 237nm,0.7s,3µm1.3nm	**6.42**	**246**	P	**Pn**	**13 08 07.9**	**+2.4**
KMSI	**Cibinong** 300nm,0.9s	**9.07**	**277**	P	Pn	13 08 47.8	+6.0
LUWI	**Luwuk** 209nm,1.1s,2µm	**10.21**	**268**	P	**Pn**	**13 08 56.9**	**-0.5**
MRSI	**Marisa** 74nm,0.7s	**11.09**	**276**	P	Pn	13 09 15.3	+5.9
BBSI	**Bau Bau** 144nm,1.1s,2µm	**11.46**	**245**	P	Pn	13 09 19.7	+5.2
MTN	**Manton Dam**	**12.29**	**188**	*eP*	**Pn**	**13 09 24.5**	**-1.3**
MTN				*eS*	**Sn**	**13 11 39.6**	**-1.8**
MMRI	**Maumere** 101nm,1.4s,1µm	**13.34**	**233**	P	**P**	**13 09 49.8**	**+1.5**
TTSI	**Tana Toraja** 41nm,0.8s,624nm	**13.37**	**259**	P	P	13 09 43.7	-5.0
SPSI	**Sidrap Palu** 74nm,0.8s,1µm	**13.61**	**256**	P	P	13 09 46.4	-4.9
BKSI	**Bulukumba** 48nm,0.8s,1µm	**13.66**	**250**	P	**P**	**13 09 51.3**	**-0.6**
KAPI	**Kappang** 63nm,1.0s	**13.91**	**251**	P	Pn	13 09 43.9	-4.0
KAPI	**Kappang** 97nm,1.3s,1µm	**13.91**	**251**	P	**P**	**13 09 54.4**	**-0.3**
MYLDM	**Lahad Datu** 50nm,1.3s	**15.56**	**292**	P	**P**	**13 10 16.5**	**+3.4**
PMG	**Port Moresby** 0.3nm,0.3s,baz=294,slow=12,SNR=2.6	**16.60**	**122**	Pn	**Pn**	**13 10 22.0**	**-0.8**
PMG	**Port Moresby**	**16.60**	**122**	*eP*	**P**	**13 10 27.1**	**+2.5**
PMG	**Port Moresby**	**16.60**	**122**	*eP*	**P**	**13 10 27.1**	**+2.5**
COEN	**Coen** 61nm,0.6s	**16.66**	**143**	P	**Pn**	**13 10 23.1**	**-0.6**
KBKI	**Kotabaru** 58nm,0.9s	**17.01**	**261**	P	**P**	**13 10 31.6**	**+2.5**
GUMO	**Guam** comp=Z,1µm,18.2s,baz=227,slow=34	**18.39**	**39**	LR	LR	13 16 52.2	
MTNI	**Mataram** 142nm,1.1s,3µm	**18.54**	**244**	P	**Pn**	**13 10 50.8**	**+4.1**
KHKI	**Kahang-Kahang** 115nm,2.2s,2µm	**18.94**	**246**	P	**Pn**	**13 10 53.4**	**+1.9**
WRAB	**Tennant Creek**	**19.25**	**176**	*eP*	**Pn**	**13 10 54.9**	**-0.3**
WRAB	comp=Z,40nm,0.6s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,40nm,0.6s	**19.25**	**176**	*eP*	**Pn**	**13 10 54.9**	**-0.3**
WRA	**Warramunga Arr** comp=Z,2.7nm,0.3s,baz=355,slow=11,SNR=21	**19.26**	**176**	P	**P**	**13 10 53.0**	**-0.9**
WRA				S	**S**	**13 14 25.5**	**-3.9**
	comp=Z,1.8nm,0.3s,baz=1.8,slow=24,SNR=6.0						
WRA	**Warramunga Arr**	**19.26**	**176**	P	**P**	**13 10 53.0**	**-0.9**
WRA				S	**S**	**13 14 25.5**	**-3.9**
WRA	**Warramunga Arr**	**19.26**	**176**	P	**P**	**13 10 53.0**	**-0.9**
WRA				S	**S**	**13 14 25.5**	**-3.9**
WB2	**Warramunga Arr**	**19.26**	**176**	*eP*	**Pn**	**13 10 55.0**	**-0.3**
KMMI	**Kalianget** comp=Z,80nm,1.3s,comp=Z,3µm	**20.00**	**251**	P	P	13 11 10.6	+8.5
BLJI	**Banyuglugur** comp=Z,124nm,1.1s	**20.57**	**249**	P	pP	13 11 18.1	-1.8
QIS	**Mount Isa**	**20.86**	**162**	*eP*	**P**	**13 11 11.1**	**-0.2**
GMJI	**Gumukmas** comp=Z,95nm,1.2s,comp=Z,2µm	**20.89**	**248**	P	Pn	13 11 19.0	+4.3
SBUM	**Sibu** comp=Z,33nm,1.1s,comp=Z,1µm	**20.97**	**278**	P	**P**	**13 11 16.4**	**+3.9**
PBKI	**Pangkalan Bun** comp=Z,167nm,1.2s	**21.39**	**264**	P	pP	13 11 28.8	0.0
STKI	**Sintang** comp=Z,52nm,0.8s	**21.51**	**272**	P	pP	13 11 29.7	-0.3
SJI	**Sawahan** comp=Z,53nm,1.5s	**22.29**	**251**	P	P	13 11 36.3	+10
AS31	**Alice Springs**	**22.93**	**178**	*eP*	**P**	**13 11 34.6**	**+1.2**
ASAR	**Alice Springs** comp=Z,44nm,0.8s,baz=3.8,slow=9.7,SNR=34	**22.93**	**178**	P	**P**	**13 11 33.8**	**+0.3**
ASAR	**Alice Springs**	**22.93**	**178**	P	**P**	**13 11 33.8**	**+0.3**
ASAR	**Alice Springs**	**22.93**	**178**	P	**P**	**13 11 33.8**	**+0.3**
CTAO	**Charters Tower**	**23.32**	**147**	*eP*	**P**	**13 11 38.1**	**+0.9**
CTAO	comp=Z,38nm,0.9s	

comp=Z,56nm,0.6s
GYA Guiyang 36.98 319⇑ *i*P **P 13 13 38.4 +0.1**
GYA pP **pP 13 13 49.0 -2.6**
GYA PP **PnPn 13 15 04.2 +0.2**
GYA S **S 13 19 20.0 -0.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,490nm,17.5s
GYA LR LR
comp=E,380nm,17.7s
GYA LR LR
comp=Z,440nm,17.6s
MJAR Matsushiro Arr 37.28 7 P **P 13 13 40.9 +0.3**
comp=Z,1.7nm,1.0s,baz=172,slow=8.7,SNR=3.2
MJAR LR LR 13 25 55.9
comp=Z,1μm,21.1s,baz=185,slow=31
MJAR Matsushiro Arr 37.28 7 P **P 13 13 40.9 +0.3**
MJAR Matsushiro Arr 37.28 7 P **P 13 13 40.9 +0.3**
KSRS Korea Array 38.16 353 LR LR 13 29 26.3
comp=Z,530nm,18.0s,baz=176,slow=36
CM31 Chiang Mai Arr 38.44 301 *e*P **P 13 13 49.9 -0.7**
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 38.44 301 P **P 13 13 49.2 -1.3**
comp=Z,12nm,1.0s,baz=122,slow=6.6,SNR=48
CMAR PcP **PcP 13 16 04.1 +0.9**
comp=Z,2.1nm,1.0s,baz=158,slow=1.5,SNR=4.6
CMAR Chiang Mai Arr 38.44 301 P **P 13 13 49.3 -1.3**
CMAR 13 16 04.1
CMAR Chiang Mai Arr 38.44 301 P **P 13 13 49.2 -1.3**
CMAR PcP **PcP 13 16 04.1 +0.9**
TOO Toolangi 38.55 164 *e*P **P 13 13 52.2 +0.9**
comp=Z,42nm,0.8s
CHTO Chiang Mai 38.60 302 *e*P **P 13 13 50.3 -1.6**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 38.60 302 *e*P **P 13 13 50.3 -1.6**
comp=Z,15nm,1.1s
CHTO Chiang Mai 38.60 302 P **P 13 13 51.5 -0.4**
comp=Z,14nm,1.1s
KMI Kunming 38.86 313 P **P 13 13 52.9 -1.4**
KMI PP **PnPn 13 15 26.2 -0.6**
KMI S **S 13 19 49.4 +0.3**
KMI pmax pmax
comp=Z,13nm,1.1s
KMI pmax pmax
comp=Z,170nm,6.0s
KMI LR LR
comp=N,330nm,17.1s
KMI LR LR
comp=E,350nm,14.5s
KMI LR LR
comp=Z,290nm,14.5s
DZM Mont Dzumac 38.95 126 *e*LR LR 13 24 23.4
comp=Z,660nm,23.1s
XAN Xi'an 41.21 329 P **P 13 14 12.3 -1.1**
XAN SS SS 13 23 24.3 -4.1
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,49nm,9.4s
XAN LR LR
comp=N,280nm,19.6s
XAN LR LR
comp=E,170nm,20.1s
XAN LR LR
comp=Z,97nm,17.2s
BJT Baijiatuau 43.25 341 P **P 13 14 28.8 -1.1**
BJT Baijiatuau 43.25 341 P **P 13 14 28.8 -1.1**
BJI Beijing 43.27 341 P **P 13 14 28.7 -1.3**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI pmax pmax
comp=Z,210nm,7.9s
BJI LR LR
comp=N,190nm,22.5s
BJI LR LR
comp=E,630nm,19.7s
BJI LR LR
comp=Z,280nm,29.6s
USRK Ussuriysk Arra 44.62 359 LR LR 13 29 47.9
comp=Z,318nm,20.1s,baz=347,slow=31
CN2 Changchun 44.73 352 *e*P **P 13 14 44.6 +2.9**
CN2 *ep*P **pP 13 14 54.5 -0.7**
CN2 *e*S **S 13 21 18.9 +4.1**
CN2 SS **ScS 13 24 31.5 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,14.0s
CN2 LR LR
comp=E,500nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
MDJ Mudanjiang 45.13 357 P **P 13 14 46.0 +1.1**
MDJ PcS **PcS 13 20 19.7 +1.3**
MDJ S **S 13 21 24.4 +3.7**
MDJ pmax pmax
comp=Z,4.0nm,1.4s
MDJ pmax pmax
comp=Z,50nm,4.1s
MDJ LR LR
comp=N,370nm,22.6s
MDJ LR LR
comp=E,200nm,18.4s
MDJ LR LR
comp=Z,450nm,27.4s
LZH Lanzhou 45.47 326 *e*P P 13 14 52.9 +5.0
LZH pP pP 13 15 02.0 +0.5
LZH sP sP 13 15 06.8 -0.6
LZH PcP **PP 13 16 38.9 +3.8**
LZH *e*S **S 13 21 29.0 +2.8**
LZH sS sS 13 21 46.1 -2.9
LZH SS **ScS 13 24 42.3 +2.0**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,92nm,4.0s
LZH LR LR
comp=N,340nm,13.0s
LZH LR LR
comp=E,160nm,11.0s
LZH LR LR
comp=Z,490nm,14.8s
HHC Hu-ho-hao-te 45.63 337 *e*P **P 13 14 50.2 +1.2**
HHC pP **pP 13 15 02.6 0.0**
HHC PP **PP 13 16 37.5 +0.8**
HHC S **S 13 21 28.5 +0.3**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,320nm,5.5s
HHC LR LR
comp=N,310nm,15.0s
HHC LR LR
comp=E,230nm,14.6s
HHC LR LR
comp=Z,300nm,17.6s
MSVF Nonsavu 47.45 114 *e*P **P 13 15 05.6 +1.9**
MSVF pmax pmax
comp=Z,12nm,1.0s
MSVF Nonsavu 47.45 114 *e*P **P 13 15 05.5 +1.9**
comp=Z,12nm,1.0s
SHL Shillong 47.46 306 *e*P **P 13 15 06.0 +2.3**
KLR Kul'dur 49.66 359 *e*P P 13 15 15.8 -4.2
LSA Lhasa 49.98 311 P **P 13 15 22.4 -0.9**
LSA Lhasa 49.98 311 *e*P **P 13 15 22.2 -1.1**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 49.98 311 *e*P **P 13 15 22.2 -1.1**
comp=Z,11nm,0.8s
GTA Gaotai 50.07 326 *e*P **P 13 15 23.8 +0.3**
GTA S **S 13 22 33.4 +2.1**
GTA SS **SS 13 26 04.1 -1.1**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=N,270nm,15.2s
GTA LR LR
comp=E,170nm,16.1s
GTA LR LR
comp=Z,240nm,15.2s
ULN Ulaanbaatar 53.29 338 *e*P **P 13 15 47.1 -0.3**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 53.29 338 *e*P **P 13 15 47.1 -0.3**
comp=Z,8.2nm,1.0s
SONM Songino Array 53.51 338 P **P 13 15 47.9 -1.1**
comp=Z,1.3nm,0.8s,baz=155,slow=5.5,SNR=6.8
SONM Songino Array 53.51 338 P **P 13 15 47.9 -1.1**
SONM Songino Array 53.51 338 P **P 13 15 47.9 -1.1**
RPZ Rata Peaks 54.69 147 LR LR 13 39 09.0
comp=Z,829nm,18.8s,baz=314,slow=36
URZ Urewera 55.15 138 LR LR 13 39 46.0
comp=Z,566nm,18.3s,baz=314,slow=36
HYB Hyderabad 56.48 291 *i*P **P 13 16 08.0 -2.8**
ZAK Zakamensk 56.77 338 *e*P P 13 16 07.1 -5.3
ZAK pmax pmax
comp=Z,5.0nm,1.6s
PETK Petropavlovsk- 57.38 17 P **P 13 16 17.4 +1.0**
comp=Z,6.0nm,0.9s,baz=186,slow=10,SNR=3.7
PETK LR LR 13 37 09.9
comp=Z,382nm,21.7s,baz=206,slow=32
PETK Petropavlovsk- 57.38 17 P **P 13 16 17.5 +1.0**
PETK Petropavlovsk- 57.38 17 P **P 13 16 17.4 +1.0**
MOY Mondy 58.67 337 *e*P **P 13 16 26.2 +0.5**
MOY pmax pmax
comp=Z,27nm,2.7s
WMQ Urumqi 59.87 324 P **P 13 16 34.4 +0.3**
WMQ PcP **PcP 13 17 22.4 +2.2**
WMQ S **S 13 24 41.1 -1.2**
WMQ SS **SS 13 28 38.4 -1.0**
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,220nm,4.6s
WMQ LR LR
comp=N,210nm,26.6s
WMQ LR LR
comp=E,150nm,22.2s
WMQ LR LR
comp=Z,180nm,22.3s
BOD Bodaibo 60.19 348 *e*P **P 13 16 34.4 -1.5**
BOD pmax pmax
comp=Z,9.0nm,1.2s
YAK Yakutsk 62.53 358 *e*P P 13 16 56.3 +4.7
YAK pmax pmax
comp=Z,12nm,1.1s
YAK Yakutsk 62.53 358 P **P 13 16 53.9 +2.3**
comp=Z,13nm,0.8s
MK31 Makanchi Array 64.69 324 *e*P **P 13 17 04.8 -1.4**
MK31 Makanchi Array 64.69 324 *e*P **P 13 17 04.8 -1.4**
MKAR Makanchi Array 64.69 324 P **P 13 17 05.0 -1.2**
comp=Z,3.8nm,0.7s,baz=115,slow=8.2,SNR=20
MKAR Makanchi Array 64.69 324 P **P 13 17 05.0 -1.2**
MKAR Makanchi Array 64.69 324 P **P 13 17 05.0 -1.2**
SEY Seymchan 65.04 10⇑ *e*P **P 13 17 05.9 -2.2**
KSH Kashi 65.51 315 *e*P **P 13 17 12.3 +0.4**
KSH *e*PcP **PcP 13 17 44.4 +1.1**
KSH *e*PP **PP 13 19 37.4 +0.8**
KSH *e*PcS 13 21 47.5
KSH *e*S **S 13 25 50.5 -2.9**
KSH *e*ScS **SKSac 13 27 00.7 -2.6**
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH pmax pmax
comp=Z,160nm,4.3s
KSH LR LR
comp=N,110nm,6.8s
KSH LR LR
comp=E,170nm,6.7s
KSH LR LR
comp=Z,140nm,7.4s
TKM2 Tokmak 2 67.12 318 *e*P **P 13 17 20.5 -1.7**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 67.12 318 *e*P **P 13 17 20.5 -1.7**
comp=Z,4.6nm,0.9s
ZAA0 Zalesovo Array 67.31 331 *e*P **P 13 17 20.0 -2.9**
ZALV Zalesovo Beam 67.31 331 P **P 13 17 20.5 -2.4**
comp=Z,3.2nm,1.0s,baz=108,slow=4.8,SNR=16
ZALV Zalesovo Beam 67.31 331 P **P 13 17 20.5 -2.4**
ZALV Zalesovo Beam 67.31 331 P **P 13 17 20.5 -2.4**
AAK Ala-Archa 67.75 317 *e*P **P 13 17 25.8 -0.4**
AAK pmax pmax
comp=Z,20nm,1.2s
AAK Ala-Archa 67.75 317 *e*P **P 13 17 25.8 -0.4**
comp=Z,20nm,1.2s
EKS2 Erkin-Say 68.25 317 *e*P **P 13 17 29.3 +0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 68.25 317 *e*P **P 13 17 29.3 +0.1**
comp=Z,4.0nm,0.8s
NVS Novosibirsk 68.58 332 *e*P **P 13 17 28.1 -2.7**
NVS *e*S **S 13 26 27.3 -2.2**
NVS pmax pmax
comp=Z,54nm,2.3s
NVS smax smax
comp=N,46nm,4.0s
KURK Kurchatov 68.76 326 P **P 13 17 31.0 -1.0**
comp=N,15nm,1.0s,baz=119,slow=5.7,SNR=50
KURK Kurchatov 68.76 326*c i*P **P 13 17 30.7 -1.3**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 68.76 326 *e*P **P 13 17 31.6 -0.4**
KBL Kabul 69.10 307 *e*P **P 13 17 32.9 -1.9**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 69.10 307 *e*P **P 13 17 32.9 -1.9**
comp=Z,10nm,1.1s
KKAR Karatay Array 70.65 317 *e*P **P 13 17 42.2 -1.7**
KKAR pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 70.65 317 *e*P **P 13 17 42.2 -1.7**
comp=Z,9.2nm,1.0s
BVAR Borovoye Array 74.36 326 P **P 13 18 04.5 -1.2**
comp=Z,15nm,0.9s,baz=115,slow=7.0,SNR=39
BVAR Borovoye Array 74.36 326 P **P 13 18 04.5 -1.2**
BVAR Borovoye Array 74.36 326 P **P 13 18 04.5 -1.2**
BRVK Borovoye 74.43 326*c i*P **P 13 18 05.0 -1.1**
BRVK pmax pmax
comp=Z,24nm,1.1s
BRVK Borovoye 74.43 326 *e*P **P 13 18 04.8 -1.3**
comp=Z,20nm,1.0s
PPT2 Papeete2 77.85 108 *e*S **S 13 28 12.7 -3.4**
comp=Z,316nm,26.5s
PPT2 *e*LQ LQ 13 39 15.5
comp=Z,676nm,32.8s
PPT2 *e*LR LR 13 42 35.2
comp=Z,173nm,21.2s
TBI Tubuai 78.34 114 *e*LR LR 13 42 41.7
comp=Z,176nm,26.8s
VNDA Vanda 78.41 174 *e*P **P 13 18 28.8 +0.6**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 78.41 174 *e*P **P 13 18 28.8 +0.6**
comp=Z,5.3nm,0.8s
SBA Scott Base 79.26 173 *e*P **P 13 18 34.7 +1.9**
SBA pmax pmax
comp=Z,9.0nm,1.0s
SBA Scott Base 79.26 173 *e*P **P 13 18 34.7 +1.9**
comp=Z,9.1nm,1.0s
ABKAR Akbulak array 79.44 320 *e*P **P 13 18 33.0 -1.5**
comp=Z,9.5nm,0.8s
SVE Sverdlovsk 80.91 328⇓ *i*P **P 13 18 41.5 -0.7**
SVE pmax pmax
comp=Z,20nm,1.5s
AKTO Aktyubinsk 80.92 321 P **P 13 18 40.5 -1.9**
comp=Z,5.7nm,0.9s,baz=152,slow=4.0,SNR=13
AKTO Aktyubinsk 80.92 321 P **P 13 18 40.5 -1.9**
AKTO Aktyubinsk 80.92 321 P **P 13 18 40.5 -1.9**
ARU Arti 81.93 327*d i*P **P 13 18 47.2 -0.3**
ARU 13 21 50.9
ARU S **S 13 29 00.3 +2.9**
ARU SS SS 13 34 09.0 -7.8
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 81.93 327 *e*P **P 13 18 46.3 -1.2**
comp=Z,13nm,0.9s
SOKR Solikamsk 83.55 330 *e*P **P 13 18 55.6 -0.2**
SOKR S S 13 29 03.2 -10
SOKR pmax pmax
comp=Z,10.0nm,1.2s
SOKR MLR MLR
comp=Z,250nm,19.0s
COLD Coldfoot 85.47 22 P **P 13 19 07.5 +2.0**
comp=Z,6.0nm,1.1s
ILAR Eielson Array 86.34 25 P **P 13 19 11.8 +2.0**
comp=Z,3.8nm,0.9s,baz=255,slow=4.6,SNR=13
ILAR LR LR 13 58 32.3
comp=Z,135nm,18.5s,baz=280,slow=36
ILAR Eielson Array 86.34 25 P **P 13 19 11.8 +2.0**
ILAR Eielson Array 86.34 25 P **P 13 19 11.8 +2.0**
TAOE Nuku Hiva Isla 86.82 99 *e*LR LR 13 46 35.8
comp=Z,336nm,22.9s
MAK Makhachkala 87.09 313 *e*P **P 13 19 10.9 -3.0**
MAK *e* 13 22 35.6
MAK *e*S S 13 29 32.9 -16
MAK pmax pmax
comp=Z,92nm,1.1s
OBN Obninsk 94.17 325 *e*P **P 13 19 45.3 -1.4**
OBN pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 96.63 340 LR LR 14 06 30.9
comp=Z,294nm,21.8s,baz=265,slow=37
BRTR Keskin Array B 97.58 310 P **P 13 20 00.8 -1.9**
comp=Z,1.3nm,0.9s,baz=115,slow=5.9,SNR=4.1
BRTR LR LR 14 08 06.0
comp=Z,62nm,21.0s,baz=248,slow=38
BRTR Keskin Array B 97.58 310 P **P 13 20 00.9 -1.9**
BRTR Keskin Array B 97.58 310 P **P 13 20 00.8 -1.9**
FINES FINESS Array B 98.57 332 LR LR 14 07 17.3
comp=Z,252nm,19.0s,baz=306,slow=37
TXAR Lajitas Array 119.03 57 PKP **PKPdf 13 25 16.4 -1.0**
comp=Z,0.4nm,0.8s,baz=194,slow=1.0,SNR=4.2
TXAR Lajitas Array 119.03 57 PKIKP **PKPdf 13 25 16.4 -1.0**
TXAR Lajitas Array 119.03 57 PKP **PKPdf 13 25 16.4 -1.0**
TORD Torodi Ar. Bea 130.17 287 PKP **PKPdf 13 25 37.9 -1.1**
comp=Z,1.1nm,1.0s,baz=27,slow=1.3,SNR=4.1
TORD Torodi Ar. Bea 130.17 287 PKP **PKPdf 13 25 37.9 -1.1**
PLCA Paso Flores 133.62 155 PKP **PKPdf 13 25 44.3 -0.6**
comp=Z,1.0nm,0.6s,baz=2.1,slow=17,SNR=3.8
PLCA Paso Flores 133.62 155 PKIKP **PKPdf 13 25 44.3 -0.6**
PLCA Paso Flores 133.62 155 PKP **PKPdf 13 25 44.3 -0.6**
CPUP Villa Florida 151.43 160 PKPbc **PKPbc 13 26 21.9 -0.6**
comp=Z,6.0nm,0.8s,baz=190,slow=1.7,SNR=13
CPUP Villa Florida 151.43 160 PKIKP **PKPbc 13 26 21.9 -0.6**
CPUP Villa Florida 151.43 160 PKPbc **PKPbc 13 26 21.9 -0.6**
LPAZ La Paz 153.25 130 PKPbc **PKPbc 13 26 30.4 +2.8**
comp=Z,2.1nm,0.9s,baz=338,slow=5.7,SNR=5.0
LPAZ La Paz 153.25 130 PKIKP **PKPbc 13 26 30.4 +2.8**
LPAZ La Paz 153.25 130 PKPbc **PKPbc 13 26 30.4 +2.8**

*ISK **04** 13:07:09.1,38˚.34N×38˚.05E,h5km,MD2.8*
*CSEM **04** 13:07:09.9±0.2,38˚.33N×38˚.08E,h11km±1km,MD2.8, Error ellipse: s-maj=5.8km s-min=4.0km az=140.0*
*DDA **04** 13:07:10.5,38˚.27N×38˚.11E,h7km,MD2.8*
*ISCJB **04** 13:07:10.2±0.6,38˚.31N±0˚.05×38˚.08E±0˚.04,h11km±4km, Error ellipse: s-maj=9.1km s-min=5.5km az=166.3*

ISC 04 13:07:10.5±0.9,38˚.31N±0˚.05×38˚.10E±0˚.03,h12km±7km, n20,σ0.73/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.14**	**263**	*i* P		**Pg**	**13 07 13.7**	**-0.2**
AKCD				*i* S		**Sg**	**13 07 16.8**	**+0.4**
AKCD	**Akcadag**	**0.14**	**263**	*i* P		**Pg**	**13 07 13.7**	**-0.2**
AKCD				*i* S		**Sg**	**13 07 16.8**	**+0.4**
MYA	**Malataya**	**0.26**	**87**	*e*PG		**Pg**	**13 07 15.5**	**-0.3**
MYA	**Malataya**	**0.26**	**87**	*e*Pg		**Pg**	**13 07 15.5**	**-0.3**
MALT	**Malatya**	**0.26**	**90**	*e*PG		**Pg**	**13 07 15.8**	**-0.1**
MALT				*e*SG		**Sg**	**13 07 20.1**	**+0.6**
MALT	**Malatya**	**0.26**	**90**	*e*Pg		**Pg**	**13 07 15.8**	**-0.1**
MALT				*e*Sg		**Sg**	**13 07 20.1**	**+0.6**
DARE	**Darende-Malaty**	**0.68**	**340**	*e*PG		Pg	13 07 19.4	-4.3
KEMA	**Kemaliye**	**1.00**	**18**	*i* P		**Pb**	**13 07 29.5**	**-0.3**
KEMA				*i* S		**Sn**	**13 07 45.7**	**+1.1**
KEMA	**Kemaliye**	**1.00**	**18**	*i* P		**Pb**	**13 07 29.5**	**-0.3**
KEMA				*i* S		**Sn**	**13 07 45.7**	**+1.1**
URFA	**Urfa**	**1.04**	**147**	*e*PN		**Pg**	**13 07 30.3**	**-0.2**
URFA	**Urfa**	**1.04**	**147**	*e*Pn		**Pg**	**13 07 30.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.16**	**289**	*e*PN		**Pn**	**13 07 34.2**	**+1.5**
PTK	**Pertek**	**1.17**	**60**	*e*PN		**Pg**	**13 07 32.2**	**-0.7**
PTK				*e*SN		**Sn**	**13 07 49.9**	**+1.1**
PTK	**Pertek**	**1.17**	**60**	*e*Pn		**Pg**	**13 07 32.2**	**-0.7**
PTK				*e*Sn		**Sn**	**13 07 49.9**	**+1.1**
ILIC	**ilic-Erzincan**	**1.19**	**18**	*e*PN		**Pb**	**13 07 31.9**	**-1.2**
ILIC				*e*SN		**Sn**	**13 07 49.0**	**-0.5**
ILIC	**ilic-Erzincan**	**1.19**	**18**	*e*Pn		**Pb**	**13 07 31.9**	**-1.2**
ILIC				*e*Sn		**Sn**	**13 07 49.0**	**-0.5**
KMRS	**Kahramanmaras**	**1.25**	**230**	*e*PN		**Pn**	**13 07 33.3**	**-0.5**
KMRS	**Kahramanmaras**	**1.25**	**230**	*e*Pn		**Pn**	**13 07 33.3**	**-0.5**
GAZ	**Gaziantep**	**1.34**	**212**	*e*PN		**Pn**	**13 07 35.3**	**+0.2**
GAZ	**Gaziantep**	**1.34**	**212**	*e*Pn		**Pn**	**13 07 35.3**	**+0.2**

*IDC **04** 13:10:42.8±0.6,0˚.16S×132˚.74E,h0km,mb4.5/12, mb1 4.7/14,mb1mx4.5/20,mbtmp4.6/14,ML4.0/2,Error ellipse: s-maj=32.6km s-min=14.6km az=69.0*
*BJI **04** 13:10:43.6,0˚.49S×132˚.89E,h35km,mB5.0/24,mb4.8/41, Ms4.7/23,Ms7 4.4/23*
*ISCJB **04** 13:10:43.5±1.6,0˚.18S±0˚.05×132˚.72E±0˚.07,h15km±11km, mb4.8/51,MS4.4/11,Error ellipse: s-maj=11.7km s-min=7.4km az=153.8*
*MOS **04** 13:10:46.1±1.1,0˚.13S×132˚.71E,h33km,mb5.1/19,Error ellipse: s-maj=17.6km s-min=7.1km az=117.6*
*NEIC **04** 13:10:48.1±0.2,0˚.22S×132˚.71E,h35km,mb4.8/17,Error ellipse: s-maj=9.5km s-min=4.9km az=61.0*
*DJA **04** 13:10:49,0˚.17S×132˚.59E,h30km,mb5.5/6*

ISC 04 13:10:47.5±0.4,0˚.32S±0˚.04×132˚.71E±0˚.08,h35km±2km, h35km:pP-P,n148,σ1.43/206,mb4.9/51,MS4.4/11,5C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**12.54**	**187**	*e*P		**Pn**	**13 13 44.4**	**+0.8**
MTN				*e*S		**Sn**	**13 15 57.8**	**-4.4**
PMG	**Port Moresby**	**16.98**	**123**	P		**Pn**	**13 14 42.8**	**+0.2**
	0.3nm,0.3s,baz=236,slow=0.6,SNR=5.2							
PMG	**Port Moresby**	**16.98**	**123***c i*P			**P**	**13 14 44.3**	**+0.2**
PMG				pmax	pmax			
	comp=Z,20nm,1.0s							
PMG	**Port Moresby**	**16.98**	**123**	*e*P		**P**	**13 14 44.0**	**-0.2**
	comp=Z,27nm,0.8s							
COEN	**Coen**	**17.06**	**143**	P		**P**	**13 14 45.5**	**+0.5**
WRA	**Warramunga Arr**	**19.57**	**175**	P		**Pn**	**13 15 14.0**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=354,slow=11,SNR=5.9							
WRA				S		**S**	**13 18 45.9**	**-5.9**
	comp=Z,0.9nm,0.3s,baz=357,slow=23,SNR=5.6							
WRA	**Warramunga Arr**	**19.57**	**175**	P		**Pn**	**13 15 14.0**	**-0.1**
WRA				S		**S**	**13 18 45.9**	**-5.9**
WRA	**Warramunga Arr**	**19.57**	**175**	P		**Pn**	**13 15 14.0**	**-0.1**
WRA				S		**S**	**13 18 45.9**	**-5.9**
KSM	**Kuching**	**22.47**	**275**	*e*P		**P**	**13 15 44.5**	**+0.6**
AS31	**Alice Springs**	**23.24**	**177**	*e*P		**P**	**13 15 52.5**	**+0.6**
ASAR	**Alice Springs**	**23.24**	**177**	P		**P**	**13 15 54.2**	**+2.3**
	comp=Z,39nm,0.8s,baz=0.7,slow=11,SNR=17							
ASAR	**Alice Springs**	**23.24**	**177**	P		**P**	**13 15 54.2**	**+2.3**
ASAR	**Alice Springs**	**23.24**	**177**	P		**P**	**13 15 54.2**	**+2.3**
CTAO	**Charters Tower**	**23.71**	**147**	*e*P		**P**	**13 15 59.6**	**+3.2**
CTAO				pmax	pmax			
	comp=Z,25nm,1.0s							
CTAO	**Charters Tower**	**23.71**	**147**	*e*P		**P**	**13 15 59.6**	**+3.2**
	comp=Z,25nm,1.0s							
MBWA	**Marble Bar**	**24.28**	**211**	*e*P		**P**	**13 16 04.3**	**+2.6**
MBWA	**Marble Bar**	**24.28**	**211**	*e*P		**P**	**13 16 03.0**	**+1.3**
IPM	**Ipoh**	**32.01**	**279**	*e*P		**P**	**13 17 11.7**	**+0.8**
	comp=Z,25nm,1.2s							
STKA	**Stephens Creek**	**32.50**	**166**	P		**P**	**13 17 16.4**	**+1.4**
	comp=Z,5.5nm,0.6s,baz=354,slow=11,SNR=4.4							
STKA	**Stephens Creek**	**32.50**	**166**	*e*P		**P**	**13 17 16.0**	**+1.0**
	comp=Z,6.1nm,0.8s							
STKA	**Stephens Creek**	**32.50**	**166**	*e*P		**P**	**13 17 15.4**	**+0.4**
STKA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
STKA	**Stephens Creek**	**32.50**	**166**	*e*P		**P**	**13 17 15.4**	**+0.4**
	comp=Z,6.2nm,1.5s							
NJ2	**Nanjing**	**34.76**	**339**	*e*P		**P**	**13 17 35.7**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,20nm,0.8s							
ARMA	**Armidale**	**34.92**	**151**	*e*P		**P**	**13 17 38.0**	**+1.7**
WHN	**Wuhan**	**35.31**	**332**	⇑P		**P**	**13 17 40.7**	**+1.3**
GYA	**Guiyang**	**36.58**	**319**	⇑*i*P		**P**	**13 17 51.4**	**+0.8**
GYA				pP		**pP**	**13 18 01.6**	**+0.9**
GYA				sP		**sP**	**13 18 09.4**	**+4.4**

GYA				PP	PP	13 19 17.6	+3.3	
GYA				S	**S**	**13 23 31.7**	**+0.5**	
GYA				sS	**sS**	**13 23 50.0**	**+2.0**	
GYA				ScP	**ScP**	**13 23 57.3**	**-0.5**	
GYA				SS	SS	13 26 01.2	-11	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.9s							
GYA				LR	LR			
	comp=N,490nm,17.3s							
GYA				LR	LR			
	comp=E,360nm,17.5s							
GYA				LR	LR			
	comp=Z,480nm,17.0s							
ARPS	**Mount Arapiles**	**37.24**	**168**	*e*P	P	13 18 00.1	+4.2	
	comp=Z,82nm,1.8s							
ENH	**Enshi**	**37.60**	**326**	*e*P	**P**	**13 17 58.6**	**-0.4**	
	comp=Z,21nm,1.2s							
ENH				*e*		13 18 06.2		
KSAR	**Wonju Array Be**	**37.84**	**354**	P	**P**	**13 17 58.4**	**-2.4**	
KSAR	**Wonju Array Be**	**37.84**	**354**	P	**P**	**13 17 58.4**	**-2.4**	
KSRS	**Korea Array**	**37.84**	**354**	P	**P**	**13 17 58.4**	**-2.5**	
	comp=Z,2.1nm,1.0s,baz=185,slow=11,SNR=5.5							
CM31	**Chiang Mai Arr**	**38.06**	**301**	*e*P	**P**	**13 18 03.6**	**+0.5**	
	comp=Z,1.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	**P**	**13 18 02.5**	**-0.6**	
	comp=Z,4.8nm,1.0s,baz=121,slow=7.2,SNR=16							
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	**P**	**13 18 02.5**	**-0.6**	
CMAR	**Chiang Mai Arr**	**38.06**	**301**	P	**P**	**13 18 02.5**	**-0.6**	
CHTO	**Chiang Mai**	**38.21**	**302**	*e*P	**P**	**13 18 04.5**	**+0.1**	
CHTO				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CHTO	**Chiang Mai**	**38.21**	**302**	*e*P	**P**	**13 18 04.5**	**+0.1**	
	comp=Z,8.1nm,1.0s							
KMI	**Kunming**	**38.47**	**313**	P	**P**	**13 18 07.3**	**+0.7**	
KMI				pP	**pP**	**13 18 17.8**	**+0.9**	
KMI				sP	**sP**	**13 18 22.5**	**+1.4**	
KMI				PP	PP	13 19 39.8	+4.7	
KMI				S	**S**	**13 24 01.3**	**+1.2**	
KMI				SS	SS	13 26 42.2	-8.2	
KMI				pmax	pmax			
	comp=Z,11nm,1.2s							
KMI				LR	LR			
	comp=N,220nm,14.1s							
KMI				LR	LR			
	comp=E,280nm,17.6s							
KMI				LR	LR			
	comp=Z,220nm,13.4s							
XAN	**Xi'an**	**40.82**	**329**	P	**P**	**13 18 24.6**	**-1.3**	
XAN				pP	pP	13 18 30.9	-5.3	
XAN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
XAN				LR	LR			
	comp=N,160nm,16.7s							
XAN				LR	LR			
	comp=E,110nm,15.3s							
CD2	**Chengdu**	**41.47**	**321**	P	**P**	**13 18 31.3**	**0.0**	
CD2				pP	**pP**	**13 18 41.5**	**-0.1**	
CD2				sP	**sP**	**13 18 45.8**	**0.0**	
CD2				PP	PP	13 20 10.9	+3.3	
CD2				S	**S**	**13 24 44.1**	**-0.5**	
CD2				sS	**sS**	**13 25 01.1**	**-0.4**	
CD2				SS	SS	13 27 44.0	-6.0	
CD2				pmax	pmax			
	comp=Z,20nm,1.0s							
CD2				pmax	pmax			
	comp=Z,130nm,7.4s							
CD2				LR	LR			
	comp=N,450nm,11.3s							
CD2				LR	LR			
	comp=Z,570nm,13.1s							
BJI	**Beijing**	**42.91**	**341**	P	**P**	**13 18 43.1**	**+0.3**	
BJI				pmax	pmax			
	comp=Z,26nm,1.2s							
CN2	**Changchun**	**44.40**	**352**	*e*P	**P**	**13 18 55.2**	**+0.4**	
CN2				*e*S	**S**	**13 25 27.3**	**+0.2**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,400nm,14.0s							
CN2				LR	LR			
	comp=E,400nm,14.0s							
CN2				LR	LR			
	comp=Z,500nm,15.0s							
MDJ	**Mudanjiang**	**44.83**	**357**	P	**P**	**13 18 58.1**	**0.0**	
MDJ				pP	**pP**	**13 19 07.2**	**-1.3**	
MDJ				sP	**sP**	**13 19 10.9**	**-1.8**	
MDJ				ScP	**ScP**	**13 24 30.1**	**+0.6**	
MDJ				PcS	**PcS**	**13 24 33.5**	**+0.4**	
MDJ				S	**S**	**13 25 33.9**	**+0.7**	
MDJ				sS	**sS**	**13 25 49.3**	**-1.0**	
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,110nm,5.3s							
MDJ				LR	LR			
	comp=N,220nm,14.6s							
MDJ				LR	LR			
	comp=E,170nm,18.2s							
MDJ				LR	LR			
	comp=Z,320nm,15.7s							
LZH	**Lanzhou**	**45.08**	**326**	*e*P	**P**	**13 19 01.5**	**+1.0**	
LZH				pP	**pP**	**13 19 10.3**	**-0.6**	
LZH				sP	**sP**	**13 19 14.9**	**-0.1**	
LZH				PP	PP	13 20 46.0	-0.4	
LZH				*e*S	**S**	**13 25 36.0**	**-1.5**	
LZH				sS	**sS**	**13 25 53.5**	**-1.1**	
LZH				SS	**ScS**	**13 28 50.2**	**-5.1**	
LZH				pmax	pmax			
	comp=Z,35nm,1.2s							
LZH				pmax	pmax			
	comp=Z,100nm,4.9s							
LZH				LR	LR			
	comp=N,310nm,11.5s							
LZH				LR	LR			
	comp=E,150nm,4.8s							
LZH				LR	LR			
	comp=Z,430nm,11.0s							
HHC	**Hu-ho-hao-te**	**45.26**	**337**	*e*P	**P**	**13 19 02.1**	**+0.3**	
HHC				pP	**pP**	**13 19 12.1**	**0.0**	
HHC				sP	**sP**	**13 19 16.1**	**-0.2**	
HHC				S	**S**	**13 25 40.4**	**+0.6**	
HHC				sS	**sS**	**13 25 56.8**	**-0.1**	
HHC				SS	**ScS**	**13 28 55.9**	**-0.2**	
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,5.2s							
HHC				LR	LR			
	comp=N,310nm,14.1s							
HHC				LR	LR			
	comp=E,240nm,13.6s							
HHC				LR	LR			
	comp=Z,300nm,15.7s							
HABR	**Khabarovsk**	**48.64**	**2**	*e*P	**P**	**13 19 25.6**	**-2.3**	
HABR				*e**PP	**pP**	**13 19 35.5**	**-2.8**	
HABR				*e**SP	**sP**	**13 19 39.7**	**-2.8**	
HABR				*e*		13 20 51.0		
HABR						13 21 18.8		
HABR				PPP	PPP	13 22 08.7		
HABR				*e*S	**S**	**13 26 25.3**	**-2.3**	
HABR				*e**SS	**sS**	**13 26 42.3**	**-2.5**	
HABR				*e*		13 29 15.6		
HABR				*e*SSS	SSS	13 31 10.5		
HABR				pmax	pmax			
	comp=E,92nm,2.4s							
HABR				pmax	pmax			
	comp=Z,76nm,2.1s							
HABR				pmax	pmax			
	comp=N,60nm,2.7s							
HABR				MLR	MLR			
	comp=Z,203nm,16.0s							
KLR	**Kul'dur**	**49.36**	**359**	*e*P	**P**	**13 19 30.6**	**-2.8**	
LSA	**Lhasa**	**49.58**	**311**	*e*P	**P**	**13 19 36.7**	**+0.6**	
LSA				pmax	pmax			
	comp=Z,7.0nm,0.8s							
LSA	**Lhasa**	**49.58**	**311**	*e*P	**P**	**13 19 36.7**	**+0.6**	
	comp=Z,6.6nm,0.8s							
GTA	**Gaotai**	**49.68**	**327**	P	**P**	**13 19 36.5**	**+0.2**	
GTA				pP	**pP**	**13 19 46.5**	**-0.2**	
GTA				sP	**sP**	**13 19 50.4**	**-0.5**	
GTA				S	**S**	**13 26 42.7**	**-0.2**	
GTA				sS	**sS**	**13 26 59.1**	**-1.0**	
GTA				SS	SS	13 30 12.5	-3.2	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,69nm,5.2s							
GTA				LR	LR			
	comp=N,190nm,15.2s							
GTA				LR	LR			
	comp=E,200nm,14.5s							
GTA				LR	LR			
	comp=Z,370nm,16.9s							
TAPN	**Taplejung**	**51.21**	**306**	*e*P	**P**	**13 19 47.9**	**-0.3**	
	comp=Z,44nm,1.2s							
TAPN	**Taplejung**	**51.21**	**306**	*e*P	**P**	**13 19 47.9**	**-0.3**	
ODAN	**Odare**	**51.27**	**305**	*e*P	**P**	**13 19 48.4**	**-0.2**	
	comp=Z,35nm,0.9s							
ODAN	**Odare**	**51.27**	**305**	*e*P	**P**	**13 19 48.4**	**-0.2**	
RAMN	**Ramite**	**51.95**	**305**	*e*P	**P**	**13 19 53.5**	**-0.2**	
	comp=Z,86nm,1.2s							
RAMN	**Ramite**	**51.95**	**305**	*e*P	**P**	**13 19 53.5**	**-0.2**	
JIRN	**Jiri**	**52.57**	**306**	*e*P	**P**	**13 19 58.2**	**-0.2**	
	comp=Z,28nm,0.9s							
JIRN	**Jiri**	**52.57**	**306**	*e*P	**P**	**13 19 58.2**	**-0.2**	
GUN	**Gumba**	**52.92**	**306**	*e*P	**P**	**13 20 00.6**	**-0.4**	
	comp=Z,29nm,0.8s							
GUN	**Gumba**	**52.92**	**306**	*e*P	**P**	**13 20 00.6**	**-0.4**	
ULN	**Ulaanbaatar**	**52.92**	**339**	*e*P	**P**	**13 20 01.3**	**+0.9**	
ULN				pmax	pmax			
	comp=Z,16nm,1.2s							
ULN	**Ulaanbaatar**	**52.92**	**339**	*e*P	**P**	**13 20 01.3**	**+0.9**	
	comp=Z,16nm,1.2s							
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**13 20 02.1**	**+0.1**	
	comp=Z,5.8nm,1.2s,baz=156,slow=6.4,SNR=16							
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**13 20 02.1**	**+0.1**	
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**13 20 02.1**	**+0.1**	
PKI	**Pulchoki**	**53.17**	**305**	*e*P	**P**	**13 20 02.2**	**-0.6**	
PKI	**Pulchoki**	**53.17**	**305**	*e*P	**P**	**13 20 02.2**	**-0.6**	
PKI	**Pulchoki**	**53.17**	**305**	*e*P	**P**	**13 20 02.2**	**-0.6**	
KKN	**Kakani**	**53.36**	**306**	*e*P	**P**	**13 20 03.7**	**-0.4**	
	comp=Z,24nm,1.0s							
KKN	**Kakani**	**53.36**	**306**	*e*P	**P**	**13 20 03.7**	**-0.4**	
KKN	**Kakani**	**53.36**	**306**	*e*P	**P**	**13 20 03.7**	**-0.4**	
DMN	**Daman**	**53.43**	**305**	*e*P	**P**	**13 20 04.2**	**-0.4**	
	comp=Z,37nm,1.0s							
DMN	**Daman**	**53.43**	**305**	*e*P	**P**	**13 20 04.2**	**-0.4**	
GKN	**Gorkha**	**53.96**	**306**	*e*P	**P**	**13 20 08.0**	**-0.4**	
	comp=Z,41nm,1.1s							
GKN	**Gorkha**	**53.96**	**306**	*e*P	**P**	**13 20 08.0**	**-0.4**	
KOLN	**Koldanda**	**54.72**	**305**	*e*P	**P**	**13 20 13.9**	**-0.1**	
	comp=Z,47nm,0.9s							
KOLN	**Koldanda**	**54.72**	**305**	*e*P	**P**	**13 20 13.9**	**-0.1**	
DANN	**Dangsing**	**54.81**	**306**	*e*P	**P**	**13 20 14.3**	**-0.5**	
	comp=Z,75nm,0.9s							
DANN	**Dangsing**	**54.81**	**306**	*e*P	**P**	**13 20 14.3**	**-0.5**	
HYB	**Hyderabad**	**56.12**	**291**	*i* P	**P**	**13 20 23.0**	**-1.0**	
ZAK	**Zakamensk**	**56.40**	**338**	*e*P	**P**	**13 20 24.7**	**-0.8**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
PETK	**Petropavlovsk-**	**57.18**	**18**	P	**P**	**13 20 31.6**	**+0.7**	
	comp=Z,7.6nm,1.0s,baz=236,slow=15,SNR=4.6							
PETK	**Petropavlovsk-**	**57.18**	**18**	P	**P**	**13 20 31.6**	**+0.7**	
PETK	**Petropavlovsk-**	**57.18**	**18**	P	**P**	**13 20 31.6**	**+0.7**	
MOY	**Mondy**	**58.30**	**337**	*e*P	**P**	**13 20 39.5**	**+0.6**	
MOY				pmax	pmax			
	comp=Z,25nm,2.5s							
WMQ	**Urumqi**	**59.48**	**324**	P	**P**	**13 20 48.4**	**+1.2**	
WMQ				pP	**pP**	**13 20 58.4**	**+0.5**	
WMQ				sP	**sP**	**13 21 02.4**	**+0.4**	
WMQ				PcP	**PcP**	**13 21 34.4**	**-0.2**	
WMQ				pmax	pmax			
	comp=Z,31nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.8s							
WMQ				LR	LR			
	comp=N,150nm,20.2s							
WMQ				LR	LR			
	comp=E,150nm,21.0s							
WMQ				LR	LR			
	comp=Z,180nm,23.5s							
BOD	**Bodaibo**	**59.85**	**349**	*e*P	**P**	**13 20 49.7**	**+0.3**	
BOD				pmax	pmax			
	comp=Z,13nm,1.5s							
YAK	**Yakutsk**	**62.23**	**358**	*e*P	**P**	**13 21 03.9**	**-1.5**	
YAK				pmax	pmax			
	comp=Z,15nm,1.1s							
MK31	**Makanchi Array**	**64.29**	**324**	*e*P	**P**	**13 21 19.9**	**+0.4**	
MK31	**Makanchi Array**	**64.29**	**324**	*e*P	**P**	**13 21 19.9**	**+0.4**	
MKAR	**Makanchi Array**	**64.29**	**324**	P	**P**	**13 21 20.0**	**+0.5**	
	comp=Z,8.5nm,0.7s,baz=110,slow=8.8,SNR=50							
MKAR	**Makanchi Array**	**64.29**	**324**	P	**P**	**13 21 20.0**	**+0.5**	
MKAR	**Makanchi Array**	**64.29**	**324**	P	**P**	**13 21 20.0**	**+0.5**	
SEY	**Seymchan**	**64.80**	**10**	*e*P	**P**	**13 21 23.5**	**+1.1**	
KSH	**Kashi**	**65.11**	**315**	*e*P	**P**	**13 21 27.1**	**+2.0**	
KSH				*e*pP	**pP**	**13 21 37.2**	**+1.3**	
KSH				*e*sP	**sP**	**13 21 41.3**	**+1.3**	
KSH				*e*PcP	**PcP**	**13 21 59.3**	**+1.6**	
KSH				*e*PP	**PP**	**13 23 52.0**	**+3.3**	
KSH				*e*ScP		13 25 58.1		
KSH				*e*PcS		13 26 02.1		
KSH				*e*S	**S**	**13 30 04.0**	**-1.7**	
KSH				*e*sS	**sS**	**13 30 22.0**	**-1.4**	
KSH				*e*ScS	**SKSac**	**13 31 15.5**	**-2.3**	
KSH				*e*SS	**SS**	**13 34 19.1**	**+0.6**	
KSH				pmax	pmax			
	comp=Z,16nm,0.9s							
KSH				LR	LR			
	comp=N,110nm,6.8s							
KSH				LR	LR			
	comp=E,170nm,6.7s							
KSH				LR	LR			
	comp=Z,140nm,7.4s							
KZA	**Kyzart**	**66.62**	**317**	P	**P**	**13 21 37.0**	**+1.9**	
	SNR=12							
KZA				P	**P**	**13 21 37.0**	**+1.9**	
	SNR=12							
TKM2	**Tokmak 2**	**66.72**	**318**	P	**P**	**13 21 36.2**	**+0.7**	
	SNR=7.0							
TKM2				P	**P**	**13 21 36.2**	**+0.7**	
	SNR=7.0							
TKM2	**Tokmak 2**	**66.72**	**318**	*i* P	**P**	**13 21 36.2**	**+0.7**	
TKM2	**Tokmak 2**	**66.72**	**318**	*e*P	**P**	**13 21 35.5**	**0.0**	
	comp=Z,35nm,1.8s							
ZAA0	**Zalesovo Array**	**66.92**	**332**	*e*P	**P**	**13 21 35.8**	**-0.5**	
ZALV	**Zalesovo Beam**	**66.92**	**332**	P	**P**	**13 21 35.8**	**-0.5**	
	comp=Z,4.9nm,0.7s,baz=124,slow=6.8,SNR=23							
ZALV	**Zalesovo Beam**	**66.92**	**332**	P	**P**	**13 21 35.8**	**-0.5**	
ZALV	**Zalesovo Beam**	**66.92**	**332**	P	**P**	**13 21 35.8**	**-0.5**	
AAK	**Ala-Archa**	**67.35**	**317**	*d* iP	**P**	**13 21 40.2**	**+0.7**	
AAK				pmax	pmax			
	comp=Z,29nm,2.5s							
AAK	**Ala-Archa**	**67.35**	**317**	*e*P	**P**	**13 21 40.4**	**+0.9**	
	comp=Z,44nm,1.3s							
USP	**Ospenovka**	**67.60**	**318**	P	**P**	**13 21 41.5**	**+0.6**	
	SNR=9.0							
USP				P	**P**	**13 21 41.5**	**+0.6**	
	SNR=9.0							
AML	**Almayashu**	**67.71**	**316**	P	**P**	**13 21 43.3**	**+1.3**	
	SNR=9.8							
AML				P	**P**	**13 21 43.3**	**+1.3**	
	SNR=9.8							
EKS2	**Erkin-Say**	**67.85**	**317**	P	**P**	**13 21 43.8**	**+1.2**	
	SNR=5.9							
EKS2				P	**P**	**13 21 43.8**	**+1.2**	
	SNR=5.9							
EKS2	**Erkin-Say**	**67.85**	**317**	*e*P	**P**	**13 21 43.6**	**+1.0**	
EKS2				pmax	pmax			
	comp=Z,7.0nm,0.9s							
EKS2	**Erkin-Say**	**67.85**	**317**	*e*P	**P**	**13 21 43.6**	**+1.0**	
	comp=Z,6.7nm,0.9s							
NVS	**Novosibirsk**	**68.20**	**332**	*e*P	**P**	**13 21 43.0**	**-1.3**	
NVS				pmax	pmax			
	comp=Z,32nm,1.5s							
NVS				pmax	pmax			
	comp=N,13nm,1.6s							
NVS				pmax	pmax			
	comp=E,18nm,1.5s							
KURK	**Kurchatov**	**68.37**	**326**	P	**P**	**13 21 45.8**	**+0.3**	
	comp=E,13nm,0.9s,baz=120,slow=5.8,SNR=33							
KURK	**Kurchatov**	**68.37**	**326**	*d* iP	**P**	**13 21 45.4**	**0.0**	
KURK				pmax	pmax			
	comp=Z,27nm,1.2s							
KURK	**Kurchatov**	**68.37**	**326**	*e*P	**P**	**13 21 45.9**	**+0.4**	
KBL	**Kabul**	**68.71**	**307**	*e*P	**P**	**13 21 48.0**	**-0.2**	
KBL				pmax	pmax			
	comp=Z,15nm,1.0s							
KBL	**Kabul**	**68.71**	**307**	*e*P	**P**	**13 21 48.0**	**-0.2**	
	comp=Z,15nm,1.0s							
KKAR	**Karatay Array**	**70.25**	**317**	*e*P	**P**	**13 21 57.5**	**+0.2**	
KKAR				*e*		13 22 04.8		
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**70.25**	**317**	*e*P	**P**	**13 21 57.5**	**+0.2**	
	comp=Z,3.5nm,0.7s							
KKAR				*e*		13 22 04.8		
BVAR	**Borovoye Array**	**73.97**	**326**	P	**P**	**13 22 19.9**	**+0.6**	
	comp=Z,10nm,0.9s,baz=120,slow=5.8,SNR=25							
BVAR	**Borovoye Array**	**73.97**	**326**	P	**P**	**13 22 19.9**	**+0.6**	
BVAR	**Borovoye Array**	**73.97**	**326**	P	**P**	**13 22 19.9**	**+0.6**	
BRVK	**Borovoye**	**74.04**	**326**	*d* iP	**P**	**13 22 19.8**	**+0.1**	
BRVK				pmax	pmax			
	comp=Z,26nm,1.2s							
BRVK	**Borovoye**	**74.04**	**326**	*e*P	**P**	**13 22 20.0**	**+0.2**	
	comp=Z,21nm,1.1s							
ABKAR	**Akbulak array**	**79.05**	**320**	*e*P	**P**	**13 22 48.2**	**+0.1**	
SVE	**Sverdlovsk**	**80.52**	**328**	*e*P	**P**	**13 22 56.2**	**+0.2**	
SVE				pmax	pmax			
	comp=Z,21nm,1.5s							
AKTO	**Aktyubinsk**	**80.53**	**321**	P	**P**	**13 22 56.6**	**+0.4**	
	comp=Z,2.8nm,1.0s,baz=94,slow=5.5,SNR=6.2							
AKTO	**Aktyubinsk**	**80.53**	**321**	P	**P**	**13 22 56.6**	**+0.4**	
AKTO	**Aktyubinsk**	**80.53**	**321**	P	**P**	**13 22 56.6**	**+0.4**	
ARU	**Arti**	**81.53**	**327**	*d* iP	**P**	**13 23 01.1**	**-0.3**	
ARU						13 26 04.1		
ARU				S	**S**	**13 33 11.6**	**+0.9**	
ARU				SS	**SS**	**13 38 24.1**	**-3.8**	
ARU				pmax	pmax			
	comp=Z,16nm,1.2s							
RSO	**Redoubt South**	**82.69**	**29**	*e*P	**P**	**13 23 07.6**	**0.0**	
	comp=Z,138nm,0.4s							
SOKR	**Solikamsk**	**83.16**	**330**	*e*P	**P**	**13 23 09.5**	**-0.2**	
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MCK	**McKinley**	**85.13**	**26**	*e*P	**P**	**13 23 19.4**	**-0.4**	
MCK				pmax	pmax			
	comp=Z,18nm,1.5s							
MCK	**McKinley**	**85.13**	**26**	*e*P	**P**	**13 23 19.4**	**-0.4**	
	comp=Z,18nm,1.5s							
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**13 23 24.2**	**-0.8**	
	comp=Z,1.8nm,0.9s,baz=255,slow=5.1,SNR=6.1							
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**13 23 24.3**	**-0.8**	
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**13 23 24.2**	**-0.8**	
QSPA	**South Pole Qui**	**89.61**	**180**	P	**P**	**13 23 42.1**	**+0.6**	
	comp=Z,7.4nm,1.1s							
TXAR	**Lajitas Array**	**119.09**	**56**	PKP	**PKPdf**	**13 29 34.4**	**+0.8**	
	comp=Z,0.1nm,0.4s,baz=211,slow=4.9,SNR=2.8							
TXAR	**Lajitas Array**	**119.09**	**56**	PKIKP	**PKPdf**	**13 29 34.4**	**+0.8**	
TXAR	**Lajitas Array**	**119.09**	**56**	PKP	**PKPdf**	**13 29 34.4**	**+0.8**	
TORD	**Torodi Ar. Bea**	**129.83**	**287**	PKP	**PKPdf**	**13 29 53.7**	**-0.7**	
	comp=Z,0.6nm,0.8s,baz=270,slow=5.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**129.83**	**287**	PKP	**PKPdf**	**13 29 53.7**	**-0.7**	
CPUP	**Villa Florida**	**151.79**	**161**	PKPbc	**PKPbc**	**13 30 39.1**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=295,slow=4.2,SNR=3.5							
CPUP	**Villa Florida**	**151.79**	**161**	PKIKP	**PKPbc**	**13 30 39.2**	**-0.2**	
CPUP	**Villa Florida**	**151.79**	**161**	PKPbc	**PKPbc**	**13 30 39.1**	**-0.2**	
LPAZ	**La Paz**	**153.64**	**130**	PKPbc	**PKPbc**	**13 30 46.3**	**+1.8**	
	comp=Z,1.0nm,0.6s,baz=216,slow=6.0,SNR=3.9							
LPAZ	**La Paz**	**153.64**	**130**	PKIKP	**PKPbc**	**13 30 46.3**	**+1.8**	
LPAZ	**La Paz**	**153.64**	**130**	PKPbc	**PKPbc**	**13 30 46.3**	**+1.8**	

BJI ***04*** *13:14:37.8, 2.˚20N×128.˚60E, h43km, mB5.0/3, mb4.5/9*
ISCJB ***04*** *13:14:40.0±1.3, 2.˚24N±0.˚04×128.˚63E±0.˚07, h72km±12km, mb4.5/25, Error ellipse: s-maj=12.2km s-min=6.7km az=167.4*
DJA ***04*** *13:14:40, 2.˚12N×128.˚45E, h30km, mb4.9/7*
IDC ***04*** *13:14:42.3±0.8, 2.˚19N×128.˚49E, h80km±6km, mb4.0/17, mb1 4.2/17, mb1mx4.1/21, mbtmp4.0/17, MS4.0/2, Ms1 4.0/2, ms1mx3.3/24, Error ellipse: s-maj=25.2km s-min=9.7km az=75.0*

ISC 04 13:14:42.2±0.9, 2.˚17N±0.˚06×128.˚57E±0.˚09, h77km±8km, n51, σ1$16/51, mb4.6/25, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**221**	P		P	**Pn**	**13 15 07.7**	**-4.1**
LBMI	**Labuha**	**2.99**	**201**	P		P	**Pn**	**13 15 27.7**	**+0.3**
SGSI	**Sangihe**	**3.39**	**296**	P		P	Pn	13 15 39.9	+7.1
KMSI	**Cibinong**	**4.85**	**251**	P		P	**Pn**	**13 15 55.1**	**+2.4**
DMPH	**Davao City--Mi**	**5.75**	**328**	*e*P		Pn	13 16 09.7	+4.6	
DMPH				*e*S		**Sn**	**13 17 09.2**	**-0.5**	
CTBH	**Cotabato--PC H**	**6.61**	**320**	*i*P		**Pn**	**13 16 16.6**	**-0.2**	
MRSI	**Marisa**	**6.83**	**256**	P		**Pn**	**13 16 20.3**	**+0.5**	
	74nm,0.7s,0.3nm								
BBSI	**Bau Bau**	**9.68**	**218**	P		Pn	13 17 07.9	+9.1	
TTSI	**Tana Toraja**	**10.16**	**239**	P		**Pn**	**13 17 02.9**	**-2.4**	
	42nm,1.1s								
SPSI	**Sidrap Palu**	**10.70**	**235**	P		**Pn**	**13 17 11.9**	**-0.7**	
	58nm,0.6s,1μm								
BKSI	**Bulukumba**	**11.25**	**229**	P		**Pn**	**13 17 20.0**	**-0.1**	
	62nm,0.7s								
SBUM	**Sibu**	**16.34**	**271**	P		**P**	**13 18 29.4**	**+0.8**	
	53nm,1.1s								
SJI	**Sawahan**	**19.43**	**239**	P		**Pn**	**13 19 05.1**	**+0.5**	
	119nm,0.9s								
PWJI	**Pagerwojo**	**19.55**	**239**	P		**P**	**13 19 04.3**	**+0.4**	
	103nm,0.8s								
GUMO	**Guam**	**19.71**	**54**	LR		LR	13 25 52.0		
	comp=Z,382nm,18.1s,baz=297,slow=34								
PCJI	**Pacitan**	**20.17**	**239**	P		Pn	13 19 13.8	+0.7	
	137nm,1.1s								
BJII	**Banjamegara**	**21.05**	**243**	P		**P**	**13 19 21.0**	**+0.8**	
	86nm,1.4s								
WRA	**Warramunga Arr**	**22.70**	**166**	P		**P**	**13 19 36.9**	**-0.8**	
	11nm,0.7s,baz=339,slow=11,SNR=6.2								
WRA				S		**S**	**13 23 41.0**	**+0.5**	
	1.5nm,0.8s,baz=332,slow=15,SNR=2.7								
LEM	**Lembang**	**22.74**	**247**	P		**P**	**13 19 40.1**	**+1.7**	
PPBI	**Pangkal Pinang**	**22.83**	**259**	P		**P**	**13 19 37.6**	**-1.6**	
QIS	**Mount Isa**	**25.05**	**155**	*e*P		**P**	**13 20 00.1**	**+0.6**	
LWLI	**Liwa**	**25.50**	**254**	P		**P**

ZALV Zalesovo Beam 62.80 333 P P 13 24 58.3 -1.2
comp=Z,1.1nm,0.8s,baz=136,slow=8.7,SNR=4.4
KURK Kurchatov 64.03 327 P P 13 25 07.0 -0.7
comp=Z,3.1nm,0.5s,baz=126,slow=6.1,SNR=44
KURK pP pP 13 25 26.7 -1.0
comp=Z,4.1nm,0.6s,baz=126,slow=6.0,SNR=6.5
BVAR Borovoye Array 69.62 327 P P 13 25 42.7 -0.6
comp=Z,0.6nm,0.3s,baz=70,slow=4.7,SNR=7.1
AKTO Aktyubinsk 76.01 322 P P 13 26 20.6 -0.5
comp=Z,2.0nm,0.8s,baz=89,slow=8.9,SNR=6.4
KDAK Kodiak Island 82.22 32 P P 13 26 55.0 +0.1
comp=Z,8.8nm,0.5s,baz=249,slow=1.6,SNR=10
ILAR Eielson Array 85.72 25 P P 13 27 13.2 +0.7
comp=Z,0.3nm,0.4s,baz=251,slow=5.0,SNR=7.1
ARCES ARCESS Array B 92.53 340 P P 13 27 43.5 -1.2
comp=Z,7.2nm,1.0s,baz=62,slow=8.4,SNR=4.7
TXAR Lajitas Array 121.07 54 PKP PKPdf 13 33 27.3 +0.4
comp=Z,0.5nm,0.8s,baz=289,slow=0.9,SNR=6.0
TORD Torodi Ar. Bea 125.14 288 PKP PKPdf 13 33 34.1 -0.8
comp=Z,0.6nm,0.4s,baz=94,slow=2.1,SNR=8.4

IDC 04 13:18:34.8±2.2, 0.18S×133.10E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=132.6km s-min=23.0km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.68	177	P		P		13 23 05.5	-0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=4.0								
ASAR	Alice Springs	23.36	178	P		P		13 23 45.3	+0.1
	3.0nm,0.6s,baz=357,slow=11,SNR=8.2								
MKAR	Makanchi Array	64.41	324	P		P		13 29 12.0	-0.9
	0.2nm,0.6s,baz=107,slow=7.7,SNR=5.1								
ZALV	Zalesovo Beam	66.99	331	P		P		13 29 30.2	+0.8
	0.5nm,0.8s,baz=108,slow=7.7,SNR=2.7								

MAN 04 13:19:06, 12.45N×120.30E, h27km, mb4.4, ML3.3, MS3.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.46	193	eP		P	Pn	13 19 17.2	+0.4
BUSP				eS			Sn	13 19 25.8	+1.8
LUBP	Lubang	1.28	358	eP		P	Pn	13 19 28.2	+0.1
LUBP				eS			Sn	13 19 36.7	-7.7
ENPP	El Nido	1.50	215	eP		P	Pb	13 19 34.4	+1.1
OTRP	Odiongan	1.68	93	eP		P	Pn	13 19 33.8	+0.1
OTRP				eS			Sn	13 19 44.9	-9.5
CUYO	Cuyo Island	1.74	156	eP		P	Pn	13 19 35.1	+0.6
BOAC	Boac	1.81	56	eP		P	Pn	13 19 36.1	+0.7
RCP	Roxas	2.55	110	↑iP		P	Pn	13 19 46.7	+1.1
GUIM	Jordan	2.88	129	eP		P	Pn	13 19 51.9	+1.7

IDC 04 13:19:49.3±12.0, 0.96S×133.60E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.5/17, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=188.4km s-min=115.6km az=155.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	178	P		P	Pn	13 24 11.9	+0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=3.1								
ASAR	Alice Springs	22.57	179	P		P		13 24 51.2	-0.2
	1.5nm,0.5s,baz=355,slow=10,SNR=5.5								
STKA	Stephens Creek	31.66	167	P		P		13 26 14.3	-0.2
	1.1nm,0.4s,baz=346,slow=9.5,SNR=9.2								

*IDC **04** 13:22:10.5±0.7, 10.27N×93.86E, h0km, mb4.0/16, mb1 4.0/17, mb1mx3.9/27, mbtmp3.9/17, ML3.6/1, Error ellipse: s-maj=23.2km s-min=15.0km az=55.0*
*ISCJB **04** 13:22:12.2±0.5, 10.18N±0.07×93.98E±0.08, h25km, mb4.1/21, Error ellipse: s-maj=13.9km s-min=6.1km az=141.9*
*NEIC **04** 13:22:15.6±0.3, 10.25N×93.94E, h35km, mb4.9/4, Error ellipse: s-maj=11.1km s-min=5.4km az=53.0*

ISC 04 13:22:14.2±0.6, 10.21N±0.09×93.95E±0.10, h25km, n70, σ1§03/74, mb4.1/21, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.25	126	ePn			Pn	13 24 11.9	-0.4
IPM	Ipoh	9.04	129	eP			Pn	13 24 22.1	-1.2
CMAR	Chiang Mai Arr	9.52	30	Pn			Pn	13 24 30.6	+0.9
	0.1nm,0.3s,baz=221,slow=15,SNR=3.0								
CMAR	Chiang Mai Arr	9.52	30	Pn			Pn	13 24 30.6	+0.9
ODAN	Odare	17.68	340	eP		P		13 26 22.4	+2.6
ODAN	Odare	17.68	340	eP		P		13 26 22.4	+2.6
TAPN	Taplejung	18.03	342	eP		P		13 26 25.6	+1.8
	171nm,1.6s								
TAPN	Taplejung	18.03	342	eP		P		13 26 25.6	+1.8
RAMN	Ramite	18.04	338	eP		P		13 26 26.4	+2.6
	18nm,0.5s								
RAMN	Ramite	18.04	338	eP		P		13 26 26.4	+2.6
JIRN	Jiri	18.83	338	eP		P	Pn	13 26 34.4	+1.1
	47nm,1.1s								
JIRN	Jiri	18.83	338	eP		P	Pn	13 26 34.4	+1.1
PKI	Pulchoki	19.05	336	eP		P	Pn	13 26 36.8	+0.9
PKI	Pulchoki	19.05	336	eP		P	Pn	13 26 36.8	+0.9
GUN	Gumba	19.17	338	eP		P	Pn	13 26 37.5	+0.1
GUN	Gumba	19.17	338	eP		P	Pn	13 26 37.5	+0.1
DMN	Daman	19.20	336	eP		P	Pn	13 26 38.2	+0.5
	64nm,1.4s								
DMN	Daman	19.20	336	eP		P	Pn	13 26 38.2	+0.5
KKN	Kakani	19.30	336	eP		P	Pn	13 26 39.1	+0.4
KKN	Kakani	19.30	336	eP		P	Pn	13 26 39.1	+0.4
LSA	Lhasa	19.57	353	P		P	Pn	13 26 41.6	-0.5
GKN	Gorkha	19.75	335	eP		P	Pn	13 26 43.3	-0.7
	64nm,1.3s								
GKN	Gorkha	19.75	335	eP		P	Pn	13 26 43.3	-0.7
KOLN	Koldanda	20.00	332	eP		P	Pn	13 26 45.6	-1.5
	7.9nm,0.5s								
KOLN	Koldanda	20.00	332	eP		P	Pn	13 26 45.6	-1.5
DANN	Dangsing	20.42	333	eP		P	Pn	13 26 51.3	-0.9
	19nm,0.6s								
DANN	Dangsing	20.42	333	eP		P	Pn	13 26 51.3	-0.9
NDI	New Delhi	24.16	322	eP		P		13 27 29.0	+0.5
LZH	Lanzhou	27.28	18	eP		P		13 27 58.0	+1.1
LZH				pP		pP		13 28 03.5	-0.8
LZH				sP		sP		13 28 05.3	-2.1
LZH				pmax		pmax			
	comp=Z,15nm,1.1s								
LZH				pmax		pmax			
	comp=Z,100nm,4.7s								
JOW	Kunigami	36.35	58	P		P		13 29 15.7	-0.8
	comp=Z,15nm,1.0s,baz=149,slow=17,SNR=4.7								
JOW	Kunigami	36.35	58	P		P		13 29 15.7	-0.8
AAK	Ala-Archa	36.50	336	eP		P		13 29 16.8	-0.9
	comp=Z,28nm,1.2s								
MK31	Makanchi Array	37.78	347	eP		P		13 29 27.3	-1.1
MKAR	Makanchi Array	37.78	347	P		P		13 29 27.5	-0.8
	comp=Z,0.5nm,0.5s,baz=171,slow=8.8,SNR=13								
MKAR				PcP		PcP		13 31 45.2	+0.4
	comp=Z,0.2nm,0.5s,baz=203,slow=3.9,SNR=5.0								
MKAR	Makanchi Array	37.78	347	P		P		13 29 27.5	-0.8
MKAR				PcP		PcP		13 31 45.2	+0.4
KKAR	Karatay Array	38.61	332	eP		P		13 29 35.9	+0.5
SONM	Songino Array	38.94	13	P		P		13 29 37.7	-0.5
	comp=Z,0.7nm,0.7s,baz=194,slow=9.8,SNR=8.2								
SONM	Songino Array	38.94	13	P		P		13 29 37.7	-0.5
KSAR	Wonju Array Be	40.83	43	P		P		13 29 53.9	0.0
KSRS	Korea Array	40.87	43	P		P		13 29 53.9	-0.3
	comp=Z,0.7nm,0.5s,baz=244,slow=8.7,SNR=4.9								
KURK	Kurchatov	42.31	346	P		P		13 30 05.1	-0.7
	comp=Z,0.5nm,0.5s,baz=156,slow=7.2,SNR=6.8								
KURK				PcP		PcP		13 31 59.1	0.0
	comp=Z,0.4nm,0.5s,baz=157,slow=2.1,SNR=6.5								
KURK	Kurchatov	42.31	346	P		P		13 30 05.1	-0.7
KURK				PcP		PcP		13 31 59.1	0.0
ZALV	Zalesovo Beam	44.23	352	P		P		13 30 21.2	-0.1
	comp=Z,1.6nm,0.6s,baz=179,slow=8.7,SNR=11								
ZALV	Zalesovo Beam	44.23	352	P		P		13 30 21.2	-0.1
BVAR	Borovoye Array	46.73	341	P		P		13 30 41.1	0.0
	comp=Z,0.5nm,0.5s,baz=137,slow=8.6,SNR=6.1								
BVAR	Borovoye Array	46.73	341	P		P		13 30 41.1	0.0
ABKAR	Akbulak array	48.11	331	eP		P		13 30 51.6	-0.2
	comp=Z,1.3nm,0.5s								
WRA	Warramunga Arr	49.79	127	P		P		13 31 06.3	+1.1
	comp=Z,1.5nm,0.8s,baz=306,slow=8.5,SNR=14								
WRA	Warramunga Arr	49.79	127	P		P		13 31 06.3	+1.1
WRAB	Tennant Creek	49.80	127	eP		P		13 31 06.0	+0.7
	comp=Z,9.8nm,1.2s								
WB2	Warramunga Arr	49.80	127	eP		P		13 31 06.5	+1.2
AKTO	Aktyubinsk	49.82	331	P		P		13 31 04.5	-0.6
	comp=Z,0.7nm,0.5s,baz=104,slow=13,SNR=5.5								
AKTO	Aktyubinsk	49.82	331	P		P		13 31 04.5	-0.6
ASAR	Alice Springs	51.57	131	P		P		13 31 19.9	+1.2
	comp=Z,1.8nm,1.0s,baz=303,slow=6.5,SNR=11								
ASAR	Alice Springs	51.57	131	P		P		13 31 19.9	+1.2
KIV	Kislovodsk	55.48	317	P		P		13 31 47.2	+0.1
	comp=Z,21nm,1.0s								
BRTR	Keskin Array B	60.78	310	P		P		13 32 23.4	-1.0
	comp=Z,1.4nm,0.9s,baz=105,slow=6.6,SNR=4.9								
BRTR	Keskin Array B	60.78	310	P		P		13 32 23.4	-1.0
STKA	Stephens Creek	61.86	135	P		P		13 32 32.3	+0.7
	comp=Z,1.8nm,0.7s,baz=304,slow=5.6,SNR=4.1								
STKA	Stephens Creek	61.86	135	P		P		13 32 32.3	+0.7
FINES	FINESS Array B	70.57	332	P		P		13 33 26.1	-0.8
	comp=Z,2.6nm,1.0s,baz=108,slow=6.2,SNR=3.8								
FINES	FINESS Array B	70.57	332	P		P		13 33 26.1	-0.8
ARCES	ARCESS Array B	73.02	340	P		P		13 33 41.5	0.0
	comp=Z,2.5nm,0.8s,baz=79,slow=8.8,SNR=4.9								
ARCES	ARCESS Array B	73.02	340	P		P		13 33 41.5	0.0
GERES	GERESS Array B	75.97	318	P		P		13 33 58.2	-1.1
	comp=Z,0.7nm,0.6s,baz=65,slow=6.3,SNR=6.3								
GERES	GERESS Array B	75.97	318	P		P		13 33 58.2	-1.1
BOSA	Boshof	76.67	237	P		P		13 34 04.1	+0.6
	comp=Z,1.4nm,0.6s,baz=97,slow=7.8,SNR=4.2								
BOSA	Boshof	76.67	237	P		P		13 34 04.1	+0.6
TXAR	Lajitas Array	137.17	23	PKP		PKPdf		13 41 36.5	+0.4
	comp=Z,0.3nm,0.6s,baz=111,slow=2.0,SNR=6.9								
TXAR	Lajitas Array	137.17	23	PKP		PKPdf		13 41 36.5	+0.4

*CSEM **04** 13:23:28.7, 35.15N×0.00E, h0km, mb3.5/6, After MDD*
MDD 04 13:23:28.7±2.5, 35.15N×0.00E, h0km, mb3.5/6, Error ellipse: s-maj=24.1km s-min=9.4km az=160.0, PRXIMO SOLUCIN POBRE, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKGL	Djebel Kef Gue	1.03	30	P		Pg		13 23 47.3	-1.3
	9.5nm,0.1s,SNR=7.9								
OKGL				S		Sg		13 24 02.5	+0.5
	82nm,0.3s,SNR=7.9								
OKGL	Djebel Kef Gue	1.03	30	P		Pg		13 23 47.3	-1.3
	9.5nm,0.1s,SNR=7.9								
OKGL				S		Sg		13 24 02.5	+0.4
	82nm,0.3s,SNR=7.9								
EBER	Berja	2.93	308	P		Pn		13 24 14.6	-2.1
	0.9nm,0.2s,SNR=7.9								
EBER				S		Sn		13 24 48.9	-3.9
	0.3nm,0.2s,SNR=4.0								
EBER	Berja	2.93	308	P		Pn		13 24 14.6	-2.1
	0.9nm,0.2s,SNR=7.9								
EBER				S		Sn		13 24 48.9	-3.9
	0.3nm,0.2s,SNR=4.0								
EHUE	Huescar	3.39	323	P		Pn		13 24 21.6	-1.4
	0.1nm,0.1s,SNR=7.9								
EHUE				S		Sn		13 25 00.0	-3.9
	0.4nm,0.1s,SNR=7.9								
EHUE	Huescar	3.39	323	P		Pn		13 24 21.6	-1.4
	0.1nm,0.1s,SNR=7.9								
EHUE				S		Sn		13 25 00.0	-4.0
	0.4nm,0.1s,SNR=7.9								
EQUE	Quentar	3.46	307	P		Pn		13 24 23.6	-0.4
	0.8nm,0.2s,SNR=6.7								
EQUE	Quentar	3.46	307	P		Pn		13 24 23.6	-0.4
	0.8nm,0.2s,SNR=6.7								
ERON	Agron	3.61	302	P		Pn		13 24 24.6	-1.4
	0.9nm,0.2s,SNR=7.9								
ERON	Agron	3.61	302	P		Pn		13 24 24.6	-1.4
	0.9nm,0.2s,SNR=7.9								
EQES	Quesada	3.63	318	P		Pn		13 24 26.2	-0.1
	0.5nm,0.1s,SNR=7.9								
EQES				S		Sn		13 25 06.4	-3.6
	0.1nm,0.2s,SNR=7.9								
EQES	Quesada	3.63	318	P		Pn		13 24 26.2	-0.1
	0.5nm,0.1s,SNR=7.9								
EQES				S		Sn		13 25 06.4	-3.6
	0.1nm,0.2s,SNR=7.9								
ETOB	Tobarra	3.71	341	P		Pn		13 24 26.0	-1.4
	1.1nm,0.1s,SNR=13								
ETOB				S		Sn		13 25 07.7	-4.1
	0.1nm,0.1s,SNR=7.9								
ETOB	Tobarra	3.71	341	P		Pn		13 24 26.0	-1.4
	1.1nm,0.1s,SNR=13								
ETOB				S		Sn		13 25 07.7	-4.1
	0.1nm,0.1s,SNR=7.9								
EIBI	Ibiza	4.02	15	P		Pn		13 24 29.7	-1.8
	3.2nm,0.1s,SNR=7.9								
EIBI	Ibiza	4.02	15	P		Pn		13 24 29.7	-1.8
	3.2nm,0.1s,SNR=7.9								
EVIA	Vianos	4.02	331	P		Pn		13 24 31.4	-0.3
	0.6nm,0.1s,SNR=7.9								
EVIA				S		Sn		13 25 17.2	-2.5
	0.3nm,0.1s,SNR=7.9								
EVIA	Vianos	4.02	331	P		Pn		13 24 31.4	-0.3
	0.6nm,0.1s,SNR=7.9								
EVIA				S		Sn		13 25 17.2	-2.5
	0.3nm,0.1s,SNR=7.9								

*IDC **04** 13:26:53.9±0.7, 30.30S×177.53W, h0km, mb4.5/8, mb1 4.6/9, mb1mx4.3/16, mbtmp4.4/9, ML4.4/1, Error ellipse: s-maj=26.1km s-min=22.6km az=145.0*
*NEIC **04** 13:26:57.7±3.0, 30.31S×177.49W, h25km±20km, mb4.8/5, Error ellipse: s-maj=12.9km s-min=8.8km az=101.0*
*ISCJB **04** 13:26:59.3±0.6, 30.69S±0.05×177.8W±0.1, h33km, mb4.6/15, Error ellipse: s-maj=12.9km s-min=6.2km az=12.1*

ISC 04 13:26:59.0±0.6, 30.57S±0.07×177.6W±0.1, h33km, n71, σ1§61/64, mb4.7/15, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.35	347	eP			Pn	13 27 17.6	-4.0
MXZ	Matakaoa Point	7.76	205	ePN		Pn		13 28 47.2	-2.4
MXZ				eSN		Sn		13 30 16.2	-0.1
PUZ	Puketiti	8.23	204	ePN		Pn		13 28 52.5	-3.6
PUZ				SN		Sn		13 30 28.4	+0.4
CNGZ	Carnagh Statio	8.62	203	ePN		Pn		13 28 58.5	-2.9
MWZ	Matawai	8.73	206	ePN		Pn		13 28 59.1	-3.8
MWZ				eSN		Sn		13 30 39.0	-1.2
OUZ	Omahuta	8.75	236	eP		Pn		13 29 11.0	+7.9
	35nm,1.0s								
URZ	Urewera	8.83	208	Pn		Pn		13 29 00.9	-3.3
	1.1nm,0.3s,baz=260,slow=21,SNR=12								
URZ				Sn		Sn		13 30 43.4	+0.8
	5.8nm,0.3s,baz=13,slow=20,SNR=13								
URZ	Urewera	8.83	208	eP		P	Pn	13 29 01.5	-2.7
URZ				Sn		Sn		13 30 43.4	+0.8
URZ	Urewera	8.83	208	ePN		Pn		13 29 00.7	-3.5
URZ				eSN		Sn		13 30 40.4	-2.3
PXZ	Pawanui	10.47	204	ePN		Pn		13 29 23.6	-3.1
BFZ	Birch Farm	11.26	205	eSN		Sn		13 31 36.4	-5.9
HOWZ	Holdsworth Sta	11.73	207	eSN		Sn		13 31 46.8	-6.8
NNZ	Nelson	12.90	212	eSN		Sn		13 32 14.4	-7.8
MSVF	Nonsavu	13.39	342	eP		Pn		13 30 02.7	-4.1
MQZ	McQueen's Vall	15.23	208	SN		Sn		13 33 06.8	-12
RPZ	Rata Peaks	15.92	211	Pn		P		13 30 42.3	-1.6
	1.5nm,0.3s,baz=111,slow=12,SNR=10								
RPZ				Sn		Sn		13 33 25.0	-11
	0.4nm,0.3s,baz=346,slow=21,SNR=42								
RPZ	Rata Peaks	15.92	211	eP		P		13 30 43.3	-0.5
RPZ				Sn		Sn		13 33 25.0	-11
ARMA	Armidale	26.50	262	eP		P		13 32 37.1	+3.6
EIDS	Eidsvold	28.11	273	P		P		13 32 49.2	+1.4
RMQ	Roma	29.79	269	eP		P		13 33 06.1	+3.3
	45nm,1.7s								
QLP	Quilpie	33.66	267	eP		P		13 33 38.3	+1.4
CTAO	Charters Tower	34.19	279	eP		P		13 33 43.0	+1.5
	9.0nm,0.5s								
STKA	Stephens Creek	34.79	257	P		P		13 33 48.2	+1.6
	11nm,0.7s,baz=99,slow=10,SNR=41								
STKA	Stephens Creek	34.79	257	eP		P		13 33 48.8	+2.2
	15nm,0.8s								
STKA	Stephens Creek	34.79	257	eP		P		13 33 49.1	+2.5
BBOO	Buckleboo	39.27	254	eP		P		13 34 25.4	+0.7
	30nm,0.6s								
COEN	Coen	39.67	286	P		P		13 34 27.0	-1.1
AS31	Alice Springs	43.46	267	eP		P		13 34 59.5	+0.3
ASAR	Alice Springs	43.46	267	P		P		13 34 59.0	-0.2
	2.8nm,0.5s,baz=106,slow=7.2,SNR=33								
ASAR	Alice Springs	43.46	267	P		P		13 34 59.0	-0.2
WB2	Warramunga Arr	44.46	272	eP		P		13 35 06.7	-0.4
WRAB	Tennant Creek	44.46	272	eP		P		13 35 06.9	-0.3
	9.1nm,0.7s								
WRA	Warramunga Arr	44.47	272	P		P		13 35 07.0	-0.3
	7.8nm,0.6s,baz=110,slow=8.1,SNR=24								
WRA	Warramunga Arr	44.47	272	P		P		13 35 07.0	-0.3
CASY	Casey	55.16	208	eP		P		13 36 29.3	+1.4
	9.3nm,0.9s								
QSPA	South Pole Qui	59.54	180	P		P		13 37 01.6	+2.6
	2.1nm,0.3s,baz=58,slow=3.0,SNR=11								
QSPA	South Pole Qui	59.54	180	eP		P		13 37 00.8	+1.8
	8.9nm,0.7s								
SNAA	Sanae	77.97	178	e		P		13 38 55.8	+2.3
SNAA	Sanae	77.97	178	eP		P		13 38 55.4	+1.9
	1.8nm,0.8s								
VNA3	Neumayer Olymp	78.11	176	e		P		13 38 56.7	+2.5
VNA2	Neumayer--Watz	78.55	177	e		P		13 38 59.5	+2.9
VNA1	Neumayer--Stat	78.77	176	e		P		13 39 01.2	+3.4
PETK	Petropavlovsk-	86.07	345	P		P		13 39 35.9	0.0
	3.5nm,0.6s,baz=133,slow=7.8,SNR=8.8								
PETK	Petropavlovsk-	86.07	345	P		P		13 39 35.9	0.0
NVAR	Mina Array Bea	88.12	42	P		P		13 39 45.9	-0.6
	0.5nm,0.7s,baz=206,slow=8.0,SNR=3.9								
NVAR	Mina Array Bea	88.12	42	P		P		13 39 45.9	-0.6
GYA	Guiyang	91.95	300	↑iP		P		13 40 05.8	+1.2
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
CMAR	Chiang Mai Arr	93.80	289	P		P		13 40 14.0	+0.9
	comp=Z,0.2nm,0.4s,baz=156,slow=3.6,SNR=3.0								
CMAR	Chiang Mai Arr	93.80	289	P		P		13 40 14.0	+0.9
LPAZ	La Paz	97.74	114	P		P		13 40 33.0	+1.0
	comp=Z,1.2nm,0.7s,baz=259,slow=4.7,SNR=4.4								
LPAZ	La Paz	97.74	114	P		P		13 40 33.0	+1.0
MKAR	Makanchi Array	118.16	310	PKP		PKPdf		13 45 41.4	-1.0
	comp=Z,0.4nm,0.6s,baz=148,slow=1.1,SNR=4.1								
MKAR	Makanchi Array	118.16	310	PKP		PKPdf		13 45 41.4	-1.0
ZALV	Zalesovo Beam	118.40	318	PKP		PKPdf		13 45 41.3	-1.2
	comp=Z,0.3nm,0.5s,baz=132,slow=2.1,SNR=2.2								
ZALV	Zalesovo Beam	118.40	318	PKP		PKPdf		13 45 41.3	-1.2
KAF	Kangasniemi	144.83	341	ep		PKPdf		13 46 28.3	-3.4
	comp=Z,2.6nm,0.5s								
KAF	Kangasniemi	144.83	341	ep		PKPdf		13 46 28.3	-3.4
	comp=Z,2.6nm,0.5s								
FINES	FINESS Array B	145.43	340	PKPbc		PKPbc		13 46 31.8	-1.0
	comp=Z,7.9nm,0.5s,baz=52,slow=4.1,SNR=116								
FINES	FINESS Array B	145.43	340	PKPbc		PKPbc		13 46 31.8	-1.0
NB2	NORSAR Subarra	148.98	352	PKP		PKPbc		13 46 41.4	-1.5
	comp=Z,2.3nm,0.9s,baz=17,slow=2.6								
NOA	NORSAR Array B	148.98	352	PKPbc		PKPbc		13 46 42.1	-0.8
	comp=Z,2.3nm,0.8s,baz=14,slow=4.4,SNR=8.5								
NOA	NORSAR Array B	148.98	352	PKPbc		PKPbc		13 46 42.1	-0.8
AKASG	Malin Array Be	151.66	323	PKPbc		PKPbc		13 46 48.9	-0.6
	comp=Z,2.0nm,0.4s,baz=47,slow=3.0,SNR=18								
AKASG	Malin Array Be	151.66	323	PKPbc		PKPbc		13 46 48.9	-0.6
BR131	Keskin Array S	153.00	298	ePKPbc		PKPbc		13 46 52.5	-0.6
BRTR	Keskin Array B	153.00	298	PKPbc		PKPbc		13 46 52.6	-0.6
	comp=Z,1.2nm,0.6s,baz=140,slow=4.7,SNR=7.1								
BRTR	Keskin Array B	153.00	298	PKPbc		PKPbc		13 46 52.6	-0.6
GERES	GERESS Array B	159.84	338	PKPab		PKPab		13 47 32.1	-1.3
	comp=Z,0.4nm,0.7s,baz=100,slow=2.4,SNR=3.2								
GERES	GERESS Array B	159.84	338	PKPab		PKPab		13 47 32.1	-1.3
TORD	Torodi Ar. Bea	162.64	178	PKPab		PKPab		13 47 45.9	-0.4
	comp=Z,1.0nm,0.8s,baz=174,slow=3.9,SNR=4.8								
TORD	Torodi Ar. Bea	162.64	178	PKPab		PKPab		13 47 45.9	-0.4

IDC 04 13:29:14.9±2.7, 0.30S×133.23E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=137.8km s-min=25.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.56	177	P		P		13 33 43.9	-0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=6.0								
ASAR	Alice Springs	23.24	178	P		P		13 34 24.4	+0.4
	0.9nm,0.6s,baz=357,slow=10,SNR=20								
MKAR	Makanchi Array	64.58	324	P		P		13 39 54.1	0.0
	0.2nm,0.6s,baz=113,slow=7.9,SNR=3.5								

*DJA **04** 13:33:02, 0.65S×133.28E, h41km, mb4.7/6*
**IDC 04 13:32:55.1±2.9, 0.63S×133.44E, h0km, mb4.1/

KSAR	**Wonju Array Be**	**13.90**	**14**	Pn		**Pn**	**13 39 35.5**	**-1.7**
KSRS	**Korea Array**	**13.92**	**14**	Pn		**Pn**	**13 39 35.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=3.2							
KSRS				LR		LR	13 44 39.2	
	comp=Z,158nm,20.2s,baz=95,slow=36							
CBIJ	**Chichi jima**	**17.07**	**76**	LR		LR	13 45 45.0	
	comp=Z,172nm,19.9s,baz=163,slow=33							
MJAR	**Matsushiro Arr**	**17.75**	**42**	P		**Pn**	**13 40 27.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=239,slow=9.7,SNR=3.7							
MJAR	**Matsushiro Arr**	**17.75**	**42**	P		**Pn**	**13 40 27.1**	**0.0**
HHC	**Hu-ho-hao-te**	**19.60**	**332**	*e*P		**Pn**	**13 40 53.1**	**+3.5**
HHC				PP		pP	13 41 11.7	+16
HHC				S		**Sn**	**13 44 32.2**	**+3.3**
HHC				SS		S	13 44 58.2	+30
HHC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,290nm,5.7s							
HHC				LR		LR		
	comp=N,310nm,11.4s							
HHC				LR		LR		
	comp=E,280nm,11.4s							
HHC				LR		LR		
	comp=Z,220nm,13.0s							
LZH	**Lanzhou**	**20.87**	**310**	*e*P		Pn	13 41 06.7	+2.0
LZH				pmax		pmax		
	comp=Z,19nm,1.1s							
GUMO	**Guam**	**22.62**	**113**	LR		LR	13 48 14.3	
	comp=Z,185nm,18.4s,baz=84,slow=32							
CMAR	**Chiang Mai Arr**	**23.61**	**261**	P		**P**	**13 41 32.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=61,slow=8.0,SNR=10							
CMAR				LR		LR	13 51 55.1	
	comp=Z,124nm,19.7s,baz=100,slow=40							
CMAR	**Chiang Mai Arr**	**23.61**	**261**	P		**P**	**13 41 32.0**	**+1.2**
GTA	**Gaotai**	**25.30**	**313**	*e*P		**P**	**13 41 46.2**	**-0.1**
GTA				pP		**pP**	**13 41 54.5**	**-0.5**
GTA				sP		**sP**	**13 41 57.9**	**-0.8**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
SONM	**Songino Array**	**27.44**	**334**	P		**P**	**13 42 05.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=154,slow=11,SNR=19							
SONM	**Songino Array**	**27.44**	**334**	P		**P**	**13 42 05.0**	**-0.6**
LSA	**Lhasa**	**29.43**	**288**	P		**P**	**13 42 25.5**	**+1.6**
TAPN	**Taplejung**	**32.44**	**284**	*e*P		**P**	**13 42 51.6**	**+1.3**
	comp=Z,15nm,0.8s							
TAPN	**Taplejung**	**32.44**	**284**	*e*P		**P**	**13 42 51.6**	**+1.3**
ODAN	**Odare**	**32.75**	**283**	*e*P		**P**	**13 42 54.0**	**+1.1**
	comp=Z,10nm,0.7s							
ODAN	**Odare**	**32.75**	**283**	*e*P		**P**	**13 42 54.0**	**+1.1**
RAMN	**Ramite**	**33.45**	**283**	*e*P		**P**	**13 42 59.3**	**+0.3**
RAMN	**Ramite**	**33.45**	**283**	*e*P		**P**	**13 42 59.3**	**+0.3**
JIRN	**Jiri**	**33.78**	**284**	*e*P		**P**	**13 43 03.0**	**+1.0**
	comp=Z,6.8nm,0.5s							
JIRN	**Jiri**	**33.78**	**284**	*e*P		**P**	**13 43 03.0**	**+1.0**
GUN	**Gumba**	**34.04**	**285**	*e*P		**P**	**13 43 05.1**	**+0.8**
	comp=Z,10nm,0.6s							
GUN	**Gumba**	**34.04**	**285**	*e*P		**P**	**13 43 05.1**	**+0.8**
PKI	**Pulchoki**	**34.47**	**284**	*e*P		**P**	**13 43 08.3**	**+0.3**
PKI	**Pulchoki**	**34.47**	**284**	*e*P		**P**	**13 43 08.3**	**+0.3**
KKN	**Kakani**	**34.58**	**285**	*e*P		**P**	**13 43 09.5**	**+0.7**
KKN	**Kakani**	**34.58**	**285**	*e*P		**P**	**13 43 09.5**	**+0.7**
DMN	**Daman**	**34.74**	**284**	*e*P		**P**	**13 43 10.8**	**+0.6**
	comp=Z,12nm,0.7s							
DMN	**Daman**	**34.74**	**284**	*e*P		**P**	**13 43 10.8**	**+0.6**
GKN	**Gorkha**	**35.14**	**285**	*e*P		**P**	**13 43 13.8**	**+0.3**
GKN	**Gorkha**	**35.14**	**285**	*e*P		**P**	**13 43 13.8**	**+0.3**
KOLN	**Koldanda**	**36.06**	**285**	*e*P		**P**	**13 43 22.0**	**+0.4**
	comp=Z,14nm,0.8s							
KOLN	**Koldanda**	**36.06**	**285**	*e*P		**P**	**13 43 22.0**	**+0.4**
PETK	**Petropavlovsk-**	**38.82**	**33**	P		**P**	**13 43 43.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=200,slow=6.5,SNR=7.1							
PETK				LR		LR	13 59 56.3	
	comp=Z,104nm,18.8s,baz=311,slow=37							
PETK	**Petropavlovsk-**	**38.82**	**33**	P		**P**	**13 43 43.4**	**-1.0**
MK31	**Makanchi Array**	**40.01**	**315**	*e*P		**P**	**13 43 53.6**	**-0.8**
MKAR	**Makanchi Array**	**40.01**	**315**	P		**P**	**13 43 53.9**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=101,slow=7.9,SNR=39							
MKAR				PcP		**PcP**	**13 45 58.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=94,slow=4.5,SNR=3.9							
MKAR	**Makanchi Array**	**40.01**	**315**	P		**P**	**13 43 53.9**	**-0.5**
MKAR				PcP		**PcP**	**13 45 58.9**	**-0.2**
ZAA0	**Zalesovo Array**	**41.61**	**326**	*e*P		**P**	**13 44 05.0**	**-2.4**
ZALV	**Zalesovo Beam**	**41.61**	**326**	P		**P**	**13 44 05.6**	**-1.8**
	comp=Z,3.9nm,0.5s,baz=114,slow=8.6,SNR=30							
ZALV				LR		LR	14 02 20.2	
	comp=Z,93nm,19.5s,baz=249,slow=38							
ZALV	**Zalesovo Beam**	**41.61**	**326**	P		**P**	**13 44 05.6**	**-1.8**
TKM2	**Tokmak 2**	**43.62**	**308**	*e*P		**P**	**13 44 24.5**	**+0.4**
	comp=Z,3.1nm,0.7s							
WRAB	**Tennant Creek**	**44.90**	**166**	*e*P		**P**	**13 44 34.0**	**-0.3**
	comp=Z,6.7nm,1.0s							
WRA	**Warramunga Arr**	**44.91**	**166**	P		**P**	**13 44 34.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=348,slow=8.5,SNR=8.6							
WRA	**Warramunga Arr**	**44.91**	**166**	P		**P**	**13 44 34.4**	**0.0**
WB2	**Warramunga Arr**	**44.91**	**166**	*e*P		**P**	**13 44 34.5**	**+0.1**
KKAR	**Karatay Array**	**47.33**	**307**	*e*P		**P**	**13 44 53.9**	**+0.5**
	comp=Z,1.2nm,0.6s							
KBL	**Kabul**	**48.23**	**296**	*e*P		**P**	**13 45 01.2**	**+0.5**
	comp=Z,5.6nm,0.7s							
ASAR	**Alice Springs**	**48.42**	**167**	P		**P**	**13 45 02.2**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=358,slow=14,SNR=11							
ASAR	**Alice Springs**	**48.42**	**167**	P		**P**	**13 45 02.2**	**+0.3**
BRVK	**Borovoye**	**49.29**	**320**	*e*P		**P**	**13 45 07.1**	**-1.1**
	comp=Z,2.8nm,0.4s							
ABKAR	**Akbulak array**	**55.15**	**314**	*e*P		**P**	**13 45 51.8**	**-0.1**
	comp=Z,2.5nm,0.5s							
ARU	**Arti**	**56.58**	**323**	*e*P		**P**	**13 46 00.2**	**-1.7**
	comp=Z,6.0nm,0.6s							
STKA	**Stephens Creek**	**58.16**	**162**	P		**P**	**13 46 13.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=188,slow=21,SNR=3.7							
STKA	**Stephens Creek**	**58.16**	**162**	P		**P**	**13 46 13.5**	**+0.2**
ILAR	**Eielson Array**	**68.37**	**27**	P		**P**	**13 47 21.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=274,slow=4.7,SNR=5.7							
ILAR	**Eielson Array**	**68.37**	**27**	P		**P**	**13 47 21.8**	**+1.2**
ARCES	**ARCESS Array B**	**70.53**	**338**	P		**P**	**13 47 32.8**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=59,slow=3.3,SNR=5.1							
ARCES	**ARCESS Array B**	**70.53**	**338**	P		**P**	**13 47 32.8**	**-1.1**
INK	**Inuvik**	**72.57**	**22**	*e*P		**P**	**13 47 46.0**	**-0.2**
	comp=Z,3.2nm,0.8s							
FINES	**FINESS Array B**	**72.71**	**330**	P		**P**	**13 47 46.8**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=54,slow=5.6,SNR=4.0							
FINES	**FINESS Array B**	**72.71**	**330**	P		**P**	**13 47 46.8**	**-0.4**
AKASG	**Malin Array Be**	**74.47**	**319**	P		**P**	**13 47 56.7**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=59,slow=5.9,SNR=5.2							
AKASG	**Malin Array Be**	**74.47**	**319**	P		**P**	**13 47 56.7**	**-0.9**
BRTR	**Keskin Array B**	**75.05**	**307**	P		**P**	**13 48 01.9**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=93,slow=5.4,SNR=12							
BRTR	**Keskin Array B**	**75.05**	**307**	P		**P**	**13 48 01.9**	**+0.4**
NB2	**NORSAR Subarra**	**79.41**	**333**	P		**P**	**13 48 24.6**	**-0.7**
	comp=Z,3.6nm,0.5s,baz=53,slow=5.9							
NOA	**NORSAR Array B**	**79.41**	**333**	P		**P**	**13 48 24.8**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=56,slow=5.7,SNR=19							
NOA	**NORSAR Array B**	**79.41**	**333**	P		**P**	**13 48 24.8**	**-0.5**
OJC	**Ojcow**	**80.22**	**321**	*e*PX		**P**	**13 48 30.1**	**+0.2**
GERES	**GERESS Array B**	**84.37**	**321**	P		**P**	**13 48 51.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=46,slow=5.8,SNR=8.1							
GERES	**GERESS Array B**	**84.37**	**321**	P		**P**	**13 48 51.8**	**0.0**
LPG	**La Plagne**	**90.17**	**321**	*e*P		**P**	**13 49 19.7**	**-0.5**
	comp=Z,8.7nm,0.7s							
LPL	**La Plagne**	**90.17**	**321**	*e*P		**P**	**13 49 19.7**	**-0.4**
	comp=Z,6.6nm,0.8s							
NVAR	**Mina Array Bea**	**95.06**	**44**	P		**P**	**13 49 43.5**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=250,slow=5.4,SNR=2.6							
NVAR	**Mina Array Bea**	**95.06**	**44**	P		**P**	**13 49 43.5**	**+0.8**

IDC 04 13:39:15.4±8.7, 6.87S×126.90E, h379km±105km, mb3.1/3, mb1 3.2/5, mb1mx2.9/15, mbtmp3.1/5, Error ellipse: s-maj=114.0km s-min=32.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.87**	**152**	P	P	13 42 26.5	-0.8
	0.8nm,0.3s,baz=332,slow=11,SNR=35						
WRA				S	S	13 45 12.4	+6.1
	0.2nm,0.3s,baz=320,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**18.00**	**159**	P	P	13 43 01.8	+0.7
	0.6nm,0.3s,baz=341,slow=13,SNR=14						
STKA	**Stephens Creek**	**28.41**	**153**	P	P	13 44 36.0	-0.8
	1.0nm,0.7s,baz=342,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**66.47**	**328**	P	P	13 49 25.8	+0.4
	0.4nm,0.4s,baz=122,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**70.14**	**335**	P	P	13 49 47.3	-0.5
	0.6nm,0.5s,baz=136,slow=6.6,SNR=4.8						

IDC 04 13:48:33.3±7.8, 0.34N×133.43E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, Error ellipse: s-maj=470.2km s-min=26.7km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.18**	**178**	P	P	13 53 07.8	-1.8
	0.6nm,0.7s,baz=358,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**23.87**	**179**	P	P	13 53 49.9	+1.2
	1.0nm,0.9s,baz=3.5,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**64.19**	**324**	P	P	13 59 09.9	-0.1
	0.3nm,0.8s,baz=104,slow=6.1,SNR=3.5						

*NNC **04** 13:52:00.2±8.7, 37.37N×69.87E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=66.9km s-min=62.6km az=157.0*
ISC 04 13:51:52.3±2.9, 36.6N±0.2×69.7E±0.1, h48km, n21, σ2s21/21, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.32**	**28**	P	**Pn**	**13 53 25.9**	**+2.7**
	SNR=50						
AML				P	**Pn**	**13 53 25.9**	**+2.7**
	SNR=50						
KK31	**Karatay Array**	**6.51**	**5**	Pn	Pn	13 53 30.8	+5.3
	0.7nm,0.2s,baz=177,slow=13,SNR=79						
KK31				⇑Sn	**Sn**	**13 54 39.6**	**+1.3**
	8.5nm,0.8s,baz=183,slow=22,SNR=7.7						
UCH	**Uchtor**	**6.73**	**32**	P	**Sn**	**13 54 43.5**	**-1.0**
	SNR=10						
UCH				P	**Sn**	**13 54 43.5**	**-1.0**
	SNR=10						
EKS2	**Erkin-Say**	**6.81**	**26**	P	**Pn**	**13 53 32.8**	**+3.1**
	SNR=18						
EKS2				P	**Pn**	**13 53 32.8**	**+3.1**
	SNR=18						
AAK	**Ala-Archa**	**7.06**	**30**	P	**Pn**	**13 53 35.6**	**+2.4**
	SNR=12						
AAK				P	**Pn**	**13 53 35.6**	**+2.4**
	SNR=12						
KBK	**Karagaybulak**	**7.27**	**32**	P	**Pn**	**13 53 37.9**	**+1.8**
	SNR=5.5						
KBK				P	**Pn**	**13 53 37.9**	**+1.8**
	SNR=5.5						
USP	**Ospenovka**	**7.60**	**28**	P	**Pn**	**13 53 42.2**	**+1.8**
	SNR=15						
USP				P	**Pn**	**13 53 42.2**	**+1.8**
	SNR=15						
TKM2	**Tokmak 2**	**7.77**	**34**	P	**Pn**	**13 53 44.1**	**+1.2**
	SNR=12						
TKM2				P	**Pn**	**13 53 44.1**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.77**	**34**	⇑Pn	**Pn**	**13 53 43.6**	**+0.7**
	5.0nm,0.5s						
TKM2				⇓Sn	**Sn**	**13 55 06.1**	**-3.5**
	3.4nm,0.8s						
DANN	**Dangsing**	**14.45**	**121**	*e*P	Pn	13 55 07.0	-7.4
AB31	**Akbulak array**	**14.48**	**334**	Pn	**P**	**13 55 17.6**	**-2.3**
	0.8nm,0.6s,baz=154,slow=13,SNR=18						
AB31				⇓Sn	**Sn**	**13 57 54.0**	**+0.6**
	0.6nm,0.7s,baz=158,slow=23						
GKN	**Gorkha**	**15.28**	**120**	*e*P	Pn	13 55 16.7	-8.3
	10nm,0.3s						
DMN	**Daman**	**15.84**	**120**	*e*P	Pn	13 55 23.0	-9.5
	4.0nm,0.3s						
KKN	**Kakani**	**15.86**	**119**	*e*P	Pn	13 55 23.7	-8.8
	14nm,0.4s						
PKI	**Pulchoki**	**16.08**	**120**	*e*P	Pn	13 55 25.7	-10
	13nm,0.5s						
AKTO	**Aktyubinsk**	**16.16**	**332**	⇓Pn	**Pn**	**13 55 36.6**	**+0.6**
	0.5nm,0.9s						
AKTO				⇑Sn	**Sn**	**13 58 32.0**	**-2.1**
	0.3nm,1.2s						
GUN	**Gumba**	**16.21**	**118**	*e*P	Pn	13 55 27.3	-10
JIRN	**Jiri**	**16.58**	**118**	*e*P	Pn	13 55 30.4	-11
	25nm,0.5s						
RAMN	**Ramite**	**17.30**	**119**	*e*P	Pn	13 55 38.6	-12
	14nm,0.6s						
TAPN	**Taplejung**	**17.85**	**116**	*e*P	Pn	13 55 43.8	-14
	6.3nm,0.5s						
ODAN	**Odare**	**17.91**	**118**	*e*P	Pn	13 55 45.2	-13

IDC 04 13:53:07.8±3.0, 0.35S×133.29E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=158.1km s-min=26.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.50**	**177**	P	P	13 57 36.2	-0.5
	0.1nm,0.3s,baz=356,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**23.19**	**179**	P	P	13 58 16.8	+0.5
	0.6nm,0.7s,baz=2.8,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**64.66**	**324**	P	P	14 03 47.5	-0.1
	0.2nm,0.6s,baz=122,slow=6.9,SNR=2.9						

*ISCJB **04** 14:00:26.7±0.7, 33.82N±0.04×45.61E±0.04, h8km±6km, mb3.4/2, Error ellipse: s-maj=8.4km s-min=4.3km az=145.4*
*TEH **04** 14:00:27.5, 33.77N×45.54E, h8km, ML3.6*
*CSEM **04** 14:00:27.6±0.3, 33.85N×45.59E, h5km, ML3.6, Error ellipse: s-maj=7.7km s-min=4.4km az=130.0*
*IDC **04** 14:00:27.8±2.1, 33.85N×45.65E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.5/3, Error ellipse: s-maj=58.4km s-min=30.6km az=158.0*
*THR **04** 14:00:29.2±0.4, 33.85N×45.65E, h14km±6km, ML3.5*
ISC 04 14:00:27.6±1.4, 33.84N±0.05×45.59E±0.04, h1km±12km, n45, σ0s82/56, 2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.94**	**59**	⇓*e*Pg	**Pg**	**14 00 45.6**	**-0.1**
IGHG				*e*		14 00 52.6	
	comp=Z,9μm,0.1s						
IGHG				*e*Sg	**Sb**	**14 00 59.9**	**-0.2**
IGHG	**Ghaleghazi**	**0.94**	**59**	⇓*e*Pg	**Pg**	**14 00 45.6**	**-0.1**
IGHG				*e*Sg	**Sb**	**14 00 59.9**	**-0.2**
IDHR	**Dehrash**	**1.08**	**37**	*e*Pg	**Pg**	**14 00 48.5**	**+0.2**
IDHR				*e*Sg	**Sb**	**14 01 04.3**	**+0.3**
IDHR				*e*		14 01 09.7	
	comp=Z,14μm,0.1s						
IDHR	**Dehrash**	**1.08**	**37**	*e*Pg	**Pg**	**14 00 48.5**	**+0.2**
IDHR				*e*Sg	**Sb**	**14 01 04.3**	**+0.3**
BHD	**Baghdad**	**1.16**	**241**	*i*Pg	**Pg**	**14 00 50.0**	**+0.2**
BHD				*i*Sg	**Sb**	**14 01 06.0**	**0.0**
BHD	**Baghdad**	**1.16**	**241**	*i*Pg	**Pg**	**14 00 50.0**	**+0.2**
BHD				*i*Sg	**Sb**	**14 01 06.0**	**0.0**
IVIS	**Veis**	**1.25**	**56**	*e*Pg	**Pg**	**14 00 51.6**	**+0.1**
IVIS				*e*Sg	**Sb**	**14 01 08.4**	**-0.2**
IVIS				*e*		14 01 12.5	
	comp=Z,10μm,0.2s						
IVIS	**Veis**	**1.25**	**56**	*e*Pg	**Pg**	**14 00 51.6**	**+0.1**
IVIS				*e*Sg	**Sb**	**14 01 08.4**	**-0.2**
ILIN	**Lien**	**1.56**	**46**	*e*Pn	**Pb**	**14 00 57.1**	**-0.4**
ILIN				*e*		14 01 21.9	
	comp=Z,11μm,0.2s						
ILIN	**Lien**	**1.56**	**46**	*e*Pn	**Pb**	**14 00 57.1**	**-0.4**
IKOM	**Komasi**	**1.63**	**78**	*e*Pn	**Pn**	**14 00 57.2**	**-0.4**
IKOM				*e*Sg	**Sg**	**14 01 20.1**	**+0.2**
IKOM				*e*		14 01 23.8	
	comp=Z,10μm,0.1s						
IKOM	**Komasi**	**1.63**	**78**	*e*Pn	**Pn**	**14 00 57.2**	**-0.4**
IKOM				*e*Sg	**Sg**	**14 01 20.1**	**+0.2**
SNGE	**Sanandaj**	**1.91**	**49**	*e*Pg	**Pb**	**14 01 03.2**	**-0.2**
SNGE				*e*Sg	**Sb**	**14 01 28.4**	**+0.5**
SNGE				AML	AML	14 01 31.4	
	comp=E,498nm,0.6s						
SNGE	**Sanandaj**	**1.91**	**49**	*e*Pg	**Pb**	**14 01 03.2**	**-0.2**
SNGE				*e*Sg	**Sb**	**14 01 28.4**	**+0.5**
SHGR	**Shooshtar-Gavs**	**3.20**	**122**	*e*Pn	**Pn**	**14 01 20.6**	**+1.5**
SHGR				AML	AML	14 02 27.8	
	comp=N,118nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.20**	**122**	*e*Pn	**Pn**	**14 01 20.6**	**+1.5**
ASAO	**Ashtian**	**3.74**	**78**	*e*Pn	**Pn**	**14 01 27.9**	**+1.2**
ASAO	**Ashtian**	**3.74**	**78**	*e*Pn	**Pn**	**14 01 27.9**	**+1.2**
ZNJK	**Zanjan**	**3.79**	**41**	*e*PN5	**Pn**	**14 01 29.0**	**+1.6**
IBST	**Bostanabad**	**3.99**	**15**	*e*Pn	**Pn**	**14 01 29.1**	**-1.1**
IBST				*e*		14 02 49.9	
	comp=Z,357nm,0.3s						
IBST	**Bostanabad**	**3.99**	**15**	*e*Pn	**Pn**	**14 01 29.1**	**-1.1**
MIB	**Mutribah**	**4.29**	**159**	*e*P	**Pn**	**14 01 33.5**	**-0.6**
MIB				AML	AML	14 02 35.4	
	comp=Z,33nm,0.5s						
MIB	**Mutribah**	**4.29**	**159**	*e*P	**Pn**	**14 01 33.5**	**-0.6**
RST	**Umm Al-Ruwaisa**	**4.49**	**164**	AML	AML	14 02 58.4	
	comp=Z,9.9nm,0.6s						
IPIR	**Pirpir**	**4.59**	**103**	*e*Pn	**Pn**	**14 01 37.6**	**-0.8**
IPIR	**Pirpir**	**4.59**	**103**	*e*Pn	**Pn**	**14 01 37.6**	**-0.8**
IHRS	**Heris**	**4.62**	**14**	*e*Pn	**Pn**	**14 01 38.1**	**-0.7**
IHRS				*e*		14 03 17.6	
	comp=Z,483nm,0.4s						
IHRS	**Heris**	**4.62**	**14**	*e*Pn	**Pn**	**14 01 38.1**	**-0.7**
GHVR	**GHOM**	**4.77**	**81**	*e*Pn	**Pn**	**14 01 41.4**	**+0.7**
GHVR	**GHOM**	**4.77**	**81**	*e*Pn	**Pn**	**14 01 41.4**	**+0.7**
NAY	**Al-Naaiem**	**4.79**	**162**	*e*P	**Pn**	**14 01 40.1**	**-0.8**
NAY				AML	AML	14 02 36.6	
	comp=Z,15nm,0.5s						
NAY	**Al-Naaiem**	**4.79**	**162**	*e*P	**Pn**	**14 01 40.1**	**-0.8**
KBD	**Kabd**	**4.98**	**158**	*e*P	**Pn**	**14 01 42.5**	**-1.0**
KBD	**Kabd**	**4.98**	**158**	*e*P	**Pn**	**14 01 42.5**	**-1.0**
IKLH	**Kolahrood**	**5.02**	**94**	*e*Pn	**Pn**	**14 01 43.6**	**-0.8**
IKLH				*e*		14 02 49.9	
	comp=Z,295nm,0.2s						
IKLH	**Kolahrood**	**5.02**	**94**	*e*Pn	**Pn**	**14 01 43.6**	**-0.8**
IDMV	**Damavand**	**5.58**	**70**	*e*Pn	**Pn**	**14 01 51.0**	**-1.0**
IDMV				*e*		14 02 15.4	
	comp=Z,276nm,0.3s						
IDMV	**Damavand**	**5.58**	**70**	*e*Pn	**Pn**	**14 01 51.0**	**-1.0**
IZEF	**Zefreh**	**5.71**	**98**	*e*Pn	**Pn**	**14 01 52.1**	**-1.8**
IZEF				*e*		14 03 01.9	
	comp=Z,155nm,0.2s						
IZEF	**Zefreh**	**5.71**	**98**	*e*Pn	**Pn**	**14 01 52.1**	**-1.8**
IFIR	**Firoozkooh**	**6.16**	**71**	*e*Pn	**Pn**	**14 01 58.8**	**-1.2**
IFIR				*e*		14 02 01.6	
	comp=Z,67nm,0.1s						
IFIR	**Firoozkooh**	**6.16**	**71**	*e*Pn	**Pn**	**14 01 58.8**	**-1.2**
AKASG	**Malin Array Be**	**20.67**	**329**	P	**P**	**14 05 09.3**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=138,slow=9.6,SNR=6.1						
MKAR	**Makanchi Array**	**30.54**	**54**	P	**P**	**14 06 42.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=249,slow=9.2,SNR=12						
TORD	**Torodi Ar. Bea**	**44.80**	**253**	P	**P**	**14 08 43.9**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=55,slow=7.0,SNR=4.1						

IDC 04 14:03:25.8±2.7, 0.09S×133.33E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=140.1km s-min=25.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.75**	**177**	P	P	14 07 57.0	-0.5
	0.3nm,0.3s,baz=356,slow=12,SNR=12						
ASAR	**Alice Springs**	**23.44**	**179**	P	P	14 08 37.4	+0.4
	3.4nm,0.8s,baz=360,slow=11,SNR=30						
MKAR	**Makanchi Array**	**64.47**	**324**	P	P	14 14 04.3	-0.1
	0.2nm,0.6s,baz=119,slow=7.8,SNR=3.2						

*CRAAG **04** 14:04:40.4, 35.71N×0.24E, Ml3.4*
*CSEM **04** 14:04:40.6±0.3, 35.97N×0.11E, h10km, ML3.4, Error ellipse: s-maj=9.5km s-min=5.0km az=10.0*
*MDD **04** 14:04:41.3±0.8, 36.00N×0.04E, h0km, mbLg2.3/9, Error ellipse: s-maj=11.8km s-min=3.7km az=12.0, PRXIMO*
ISC 04 14:04:37.7±1.6, 35.97N±0.04×0.09E±0.03, h3km±14km, n57, σ1s77/83, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJBR	**Djebel Berber**	**0.44**	**152**	P	**Pn**	**14 04 53.0**	**+2.0**
OJBR	**Djebel Berber**	**0.44**	**152**	P	**Pn**	**14 04 53.0**	**+2.0**
OKGL	**Djebel Kef Gue**	**0.45**	**81**	⇑P	**Pn**	**14 04 50.2**	**-1.0**
	543nm,0.2s,SNR=18						
OKGL				S	**Sb**	**14 04 57.8**	**+2.3**
	5μm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.45**	**81**	P	**Pn**	**14 04 51.0**	**-0.1**
OKGL	**Djebel Kef Gue**	**0.45**	**81**	P	**Pn**	**14 04 50.2**	**-1.0**
	543nm,0.2s,SNR=18						
OKGL				S	**Sb**	**14 04 57.8**	**+2.3**
	5μm,0.3s,SNR=7.9						
USTO	**Oran**	**0.57**	**246**	P	**Pn**	**14 04 55.0**	**+2.2**
ODJA	**Bouhanifia**	**0.67**	**197**	P	**Pg**	**14 04 50.0**	**-0.5**
ODJA	**Bouhanifia**	**0.67**	**197**	P	**P

EVIA	**Vianos**	**3.37 323**	P	**Pn**	**14 05 33.8**	**+2.4**
	2.7nm,0.1s,SNR=7.9					
EVIA			S	**Sn**	**14 06 12.0**	**0.0**
	7.2nm,0.3s,SNR=6.8					
EVIA	**Vianos**	**3.37 323**	P	**Pn**	**14 05 33.8**	**+2.4**
	2.7nm,0.1s,SNR=7.9					
EVIA			S	**Sn**	**14 06 12.0**	**0.0**
	7.2nm,0.3s,SNR=6.8					
EMIJ	**Mijas**	**3.98 280**	P	**Pn**	**14 05 41.8**	**+2.2**
	0.8nm,0.3s,SNR=7.9					
EMIJ			S	**Sn**	**14 06 24.5**	**-2.3**
	1.8nm,0.3s,SNR=7.9					
EMIJ	**Mijas**	**3.98 280**	P	**Pn**	**14 05 41.8**	**+2.2**
	0.8nm,0.3s,SNR=7.9					
EMIJ			S	**Sn**	**14 06 24.5**	**-2.3**
	1.8nm,0.3s,SNR=7.9					
EADA	**Adamuz**	**4.33 302**	P	**Pn**	**14 05 45.5**	**+1.0**
	0.2nm,0.2s,SNR=7.9					
EADA			S	**Sn**	**14 06 33.4**	**-2.2**
	0.4nm,0.2s,SNR=7.9					
EADA	**Adamuz**	**4.33 302**	P	**Pn**	**14 05 45.5**	**+1.0**
	0.2nm,0.2s,SNR=7.9					
EADA			S	**Sn**	**14 06 33.4**	**-2.2**
	0.4nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**4.41 354**	P	**Pn**	**14 05 47.3**	**+1.6**
	0.3nm,0.3s,SNR=7.9					
EMOS			S	**Sn**	**14 06 35.6**	**-2.1**
	0.3nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**4.41 354**	P	**Pn**	**14 05 47.3**	**+1.6**
	0.3nm,0.3s,SNR=7.9					
EMOS			S	**Sn**	**14 06 35.6**	**-2.1**
	0.3nm,0.2s,SNR=7.9					
ETOR	**Torete**	**5.13 341**	P	Pn	14 05 59.5	+4.0
	0.8nm,0.2s,SNR=7.9					
ETOR			S	**Sn**	**14 06 53.3**	**-2.0**
	1.9nm,0.3s,SNR=7.9					
ETOR	**Torete**	**5.13 341**	P	Pn	14 05 59.5	+4.0
	0.8nm,0.2s,SNR=7.9					
ETOR			S	**Sn**	**14 06 53.3**	**-2.0**
	1.9nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**5.43 8**	P	**Pn**	**14 06 00.5**	**+0.9**
	0.7nm,0.3s,SNR=4.0					
EPOB			S	**Sn**	**14 07 00.8**	**-1.9**
	0.4nm,0.2s,SNR=7.9					
EPOB	**Poblet**	**5.43 8**	P	**Pn**	**14 06 00.5**	**+0.9**
	0.7nm,0.3s,SNR=4.0					
EPOB			S	**Sn**	**14 07 00.8**	**-1.9**
	0.4nm,0.2s,SNR=7.9					
EMIR	**Miracle**	**6.04 10**	P	**Pn**	**14 06 10.4**	**+2.4**
	0.3nm,0.2s,SNR=4.0					
EMIR	**Miracle**	**6.04 10**	P	**Pn**	**14 06 10.4**	**+2.4**
	0.3nm,0.2s,SNR=4.0					
EBAD	**Badajoz**	**6.31 298**	S	**Sn**	**14 07 20.6**	**-3.5**
	0.7nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**6.31 298**	S	**Sn**	**14 07 20.6**	**-3.5**
	0.7nm,0.2s,SNR=7.9					
ECAL	**Calabor**	**7.99 320**	P	**Pn**	**14 06 37.6**	**+2.8**
	6.9nm,1.0s,SNR=5.2					
ECAL	**Calabor**	**7.99 320**	P	**Pn**	**14 06 37.6**	**+2.8**
	6.9nm,1.0s,SNR=5.2					

*IDC **04** 14:05:13.8±0.8,0.°58S×133.°51E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=43.8km s-min=12.6km az=77.0*
*ISCJB **04** 14:05:16.1±0.7, 0.°52S±0.°07×133.°54E±0.°09, h28km, mb4.0/9, Error ellipse: s-maj=13.6km s-min=9.5km az=4.8*
*DJA **04** 14:05:20,0.°71S×133.°33E, h30km, mb5.2/8*

ISC 04 14:05:18.4±0.7, 0.°53S±0.°09×133.°46E±0.°09, h28km, n21, σ1§10/20, mb4.1/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.67**	**207**	P	**Pn**	**14 05 59.1**	**-0.4**
BAKI	**Biak**	**2.73**	**104**	P	**Pb**	**14 06 07.9**	**+1.3**
TLE	**Tual**	**5.13**	**188**	P	**Pn**	**14 06 34.4**	**+1.0**
MSAI	**Masohi**	**5.32**	**238**	P	**Pn**	**14 06 37.8**	**+1.7**
LBMI	**Labuha**	**5.96**	**269**	P	**Pn**	**14 06 45.9**	**+1.1**
	124nm,0.6s,1μm0.4nm						
AAI	**Ambon**	**6.12**	**239**	P	**Pn**	**14 06 46.6**	**-0.5**
	276nm,0.8s,3μm0.9nm						
NLAI	**Namlea**	**6.90**	**247**	P	**Pn**	**14 06 59.7**	**+1.9**
	103nm,0.6s,1μm0.4nm						
JAY	**Jayapura**	**7.51**	**105**	P	Px	14 07 19.7	
GUMO	**Guam**	**18.02**	**38**	LR	LR	14 15 42.8	
	comp=Z,115nm,18.6s,baz=85,slow=35						
WRA	**Warramunga Arr**	**19.32**	**177**	P	**P**	**14 09 40.4**	**-1.2**
	0.6nm,0.3s,baz=359,slow=11,SNR=18						
WRA				S	Sn	14 13 03.0	-16
	baz=356,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**23.01**	**179**	P	**P**	**14 10 21.1**	**-0.2**
	8.2nm,0.7s,baz=358,slow=12,SNR=36						
ASAR				S	**S**	**14 14 31.6**	**+1.3**
	0.8nm,0.8s,baz=8.8,slow=25,SNR=4.6						
STKA	**Stephens Creek**	**32.12**	**167**	P	**P**	**14 11 42.3**	**-1.2**
	1.7nm,0.7s,baz=332,slow=11,SNR=8.4						
CMAR	**Chiang Mai Arr**	**38.81**	**301**	P	**P**	**14 12 40.3**	**-0.9**
	0.3nm,0.5s,baz=113,slow=6.3,SNR=4.0						
SONM	**Songino Array**	**53.62**	**338**	P	**P**	**14 14 37.1**	**-0.2**
	0.8nm,1.0s,baz=137,slow=5.4,SNR=5.4						
MKAR	**Makanchi Array**	**64.90**	**324**	P	**P**	**14 15 56.4**	**+1.0**
	2.2nm,0.7s,baz=116,slow=7.9,SNR=27						
ZALV	**Zalesovo Beam**	**67.47**	**331**	P	**P**	**14 16 10.7**	**-0.9**
	0.6nm,0.6s,baz=103,slow=6.4,SNR=5.0						
KURK	**Kurchatov**	**68.96**	**326**	P	**P**	**14 16 21.5**	**+0.5**
	3.4nm,0.8s,baz=120,slow=5.8,SNR=33						
BVAR	**Borovoye Array**	**74.56**	**326**	P	**P**	**14 16 55.5**	**+0.8**
	0.9nm,0.6s,baz=118,slow=5.7,SNR=8.3						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**14 17 55.4**	**-0.9**
	0.8nm,0.7s,baz=245,slow=4.9,SNR=16						
DBIC	**Dimbokro**	**137.97**	**279**	PKP	**PKPdf**	**14 24 41.2**	**-0.4**
	7.0nm,1.2s,baz=221,slow=9.3,SNR=3.0						
LPAZ	**La Paz**	**152.93**	**129**	PKPbc	**PKPbc**	**14 25 15.7**	**+0.8**
	0.5nm,0.3s,baz=5.4,slow=1.9,SNR=4.0						

IDC 04 14:13:56.3±3.1, 0.°84S×133.°84E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=161.2km s-min=25.9km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**179**	P	Pn	14 18 19.9	-0.2
	0.6nm,0.3s,baz=358,slow=11,SNR=35						
ASAR	**Alice Springs**	**22.69**	**180**	P	P	14 18 59.5	-0.1
	0.7nm,0.4s,baz=2.0,slow=11,SNR=15						
MKAR	**Makanchi Array**	**65.38**	**324**	P	P	14 24 40.6	-0.1
	0.2nm,0.5s,baz=124,slow=7.2,SNR=3.4						

IDC 04 14:17:20.4±2.2, 0.°10S×132.°90E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=120.9km s-min=24.0km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**176**	P	P	14 21 52.7	+0.4
	0.1nm,0.3s,baz=355,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**23.45**	**178**	P	P	14 22 31.4	-0.2
	0.6nm,0.4s,baz=356,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.66**	**166**	P	P	14 23 54.3	0.0
	1.5nm,0.8s,baz=329,slow=6.7,SNR=5.3						
MKAR	**Makanchi Array**	**64.23**	**324**	P	P	14 27 57.3	0.0
	0.3nm,0.9s,baz=115,slow=6.5,SNR=2.8						

*IDC **04** 14:22:17.5±1.3, 30.°51S×178.°56W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.3/15, mbtmp4.4/6, Error ellipse: s-maj=31.1km s-min=29.3km az=179.0*
*ISCJB **04** 14:22:35.3±0.9, 31.°66S±0.°06×179.°0W±0.°1, h145km, mb4.3/5, Error ellipse: s-maj=18.5km s-min=6.5km az=18.1*

ISC 04 14:22:36.1±1.5, 31.°6S±0.°1×179.°2W±0.°2, h145km, n38, σ2§44/37, mb4.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.33**	**198**	*e*PN	**Pn**	**14 24 06.6**	**-0.4**
MXZ				*e*SN	**Sn**	**14 25 20.9**	**+2.7**
PUZ	**Puketiti**	**6.82**	**197**	*e*PN	**Pn**	**14 24 12.0**	**-1.7**
PUZ				*e*SN	**Sn**	**14 25 28.8**	**-1.3**
CNGZ	**Carnagh Statio**	**7.22**	**196**	*e*PN	**Pn**	**14 24 17.5**	**-1.6**
MWZ	**Matawai**	**7.27**	**201**	*e*PN	**Pn**	**14 24 18.0**	**-1.7**
MWZ				*e*SN	**Sn**	**14 25 43.8**	**+2.9**
URZ	**Urewera**	**7.33**	**203**	Pn	**Pn**	**14 24 20.0**	**-0.5**
	baz=52,slow=17,SNR=2.0						
URZ				Sn	**Sn**	**14 25 46.1**	**+3.7**
	15nm,0.3s,baz=161,slow=20,SNR=12						
URZ	**Urewera**	**7.33**	**203**	PN	**Pn**	**14 24 19.3**	**-1.2**
URZ				*e*SN	**Sn**	**14 25 44.0**	**+1.6**
PRGZ	**Paritu Road**	**7.72**	**197**	*e*PN	**Pn**	**14 24 23.2**	**-2.5**
KNZ	**Kokohu**	**7.87**	**198**	*e*PN	**Pn**	**14 24 25.8**	**-1.8**
KNZ				SN	**Sn**	**14 25 54.6**	**-0.6**
RAHZ	**Arahi**	**7.94**	**202**	SN	**Sn**	**14 26 01.5**	**+4.5**
NMHZ	**Naumai**	**8.19**	**202**	SN	Sn	14 26 09.6	+6.4
BKZ	**Black Stump Fm**	**8.36**	**204**	SN	**Sn**	**14 26 10.3**	**+3.0**
MCHZ	**McNeill Hill**	**8.54**	**202**	SN	**Sn**	**14 26 16.0**	**+4.5**
CKHZ	**Cape Kidnapper**	**8.63**	**200**	SN	**Sn**	**14 26 16.7**	**+3.2**
PRHZ	**Porangahau**	**9.32**	**200**	SN	**Sn**	**14 26 31.3**	**+1.2**
TSZ	**Takapari Road**	**9.34**	**204**	SN	**Sn**	**14 26 32.9**	**+2.0**
BFZ	**Birch Farm**	**9.81**	**201**	*e*SN	**Sn**	**14 26 38.8**	**-3.3**
MRZ	**Mangatainoka R**	**10.01**	**204**	*e*SN	**Sn**	**14 26 42.4**	**-4.5**
HOWZ	**Holdsworth Sta**	**10.24**	**203**	SN	**Sn**	**14 26 51.1**	**-1.5**
MTW	**Mount Morrison**	**10.48**	**203**	SN	**Sn**	**14 26 57.4**	**-0.9**
CAW	**Cannon Point**	**10.59**	**204**	SN	**Sn**	**14 27 00.2**	**-0.6**
SNZO	**South Karori**	**10.89**	**205**	SN	**Sn**	**14 27 06.4**	**-1.7**
TCW	**Tory Channel**	**10.97**	**207**	*e*SN	**Sn**	**14 27 09.3**	**-0.7**
NNZ	**Nelson**	**11.34**	**210**	*e*SN	**Sn**	**14 27 16.2**	**-2.6**
QRZ	**Quartz Range**	**11.40**	**214**	*e*SN	**Sn**	**14 27 23.0**	**+2.6**
THZ	**Tophouse**	**11.99**	**210**	*e*SN	**Sn**	**14 27 32.3**	**-2.3**
KHZ	**Kahutara**	**12.28**	**206**	SN	**Sn**	**14 27 39.5**	**-2.1**
DSZ	**Denniston Nort**	**12.46**	**213**	SN	**Sn**	**14 27 44.7**	**-1.3**
MQZ	**McQueen's Vall**	**13.72**	**206**	*e*SN	Sn	14 28 08.1	-8.3
STKA	**Stephens Creek**	**33.24**	**259**	P	P	14 29 03.2	+3.7
	9.3nm,0.7s,baz=101,slow=13,SNR=39						
ASAR	**Alice Springs**	**42.05**	**269**	P	P	14 30 15.7	+2.0
	5.0nm,0.5s,baz=106,slow=7.3,SNR=128						
WRA	**Warramunga Arr**	**43.14**	**274**	P	**P**	**14 30 24.0**	**+1.5**
	5.3nm,0.5s,baz=112,slow=8.2,SNR=64						
QSPA	**South Pole Qui**	**58.54**	**180**	P	P	14 32 23.4	+6.3
	4.6nm,0.6s,baz=43,slow=1.9,SNR=20						
SNAA	**Sanae**	**77.01**	**177**	*e*	P	14 34 18.4	+5.9
VNA3	**Neumayer Olymp**	**77.21**	**177**	*e*	**P**	**14 34 15.5**	**+2.0**
VNA2	**Neumayer--Watz**	**77.63**	**177**	*e*	**P**	**14 34 18.3**	**+2.5**
VNA1	**Neumayer--Stat**	**77.86**	**177**	*e*	**P**	**14 34 17.3**	**+0.2**
NVAR	**Mina Array Bea**	**89.78**	**43**	P	P	14 35 13.0	-5.3
	0.5nm,0.7s,baz=231,slow=9.4,SNR=3.8						
FINES	**FINESS Array B**	**145.88**	**339**	PKPbc	**PKPdf**	**14 41 53.7**	**-3.1**
	1.2nm,0.6s,baz=26,slow=3.4,SNR=7.3						

WEL 04 14:22:38.3±0.3, 37.°50S×177.°06E, h164km±2km, ML3.6/6, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.53**	**229**	PN	**Pn**	**14 23 01.3**	**0.0**
MARZ	**Manawahe**	**0.57**	**212**	PN	Pn	14 23 01.7	+0.1
TGRZ	**Tauranga**	**0.67**	**250**	PN	Pn	14 23 02.3	+0.2
URZ	**Urewera**	**0.76**	**177**	PN	Pn	14 23 02.4	-0.3
URZ				SN	Sn	14 23 20.9	-0.6
MWZ	**Matawai**	**0.92**	**156**	PN	Pn	14 23 03.7	-0.1
RRRZ	**Republican Roa**	**0.94**	**207**	*e*PN	Pn	14 23 04.1	+0.1
MXZ	**Matakaoa Point**	**0.99**	**94**	PN	Pn	14 23 04.5	+0.2
MXZ				SN	Sn	14 23 24.1	-0.2
PUZ	**Puketiti**	**1.11**	**122**	PN	Pn	14 23 05.4	+0.1
PRRZ	**Plateau Road**	**1.13**	**208**	PN	Pn	14 23 05.6	+0.2
KUZ	**Kuaotunu**	**1.31**	**305**	PN	Pn	14 23 06.9	-0.1
CNGZ	**Carnagh Statio**	**1.34**	**138**	PN	Pn	14 23 08.0	+0.7
RAHZ	**Arahi**	**1.42**	**179**	PN	Pn	14 23 08.4	+0.3
PRGZ	**Paritu Road**	**1.56**	**156**	PN	Pn	14 23 10.0	+0.3
KNZ	**Kokohu**	**1.60**	**163**	PN	Pn	14 23 09.9	+0.1
NMHZ	**Naumai**	**1.61**	**187**	PN	Pn	14 23 10.6	+0.4
BKZ	**Black Stump Fm**	**1.73**	**195**	PN	Pn	14 23 10.6	-0.7
MHGZ	**Mahia Peninsul**	**1.78**	**158**	PN	Pn	14 23 12.1	+0.3
MCHZ	**McNeill Hill**	**1.96**	**188**	PN	Pn	14 23 13.9	0.0
OTVZ	**Oturere**	**1.99**	**213**	PN	Pn	14 23 14.1	-0.2
BHHZ	**Black Hill Sta**	**2.14**	**201**	PN	Pn	14 23 14.9	-1.0
WNVZ	**Wahianoa**	**2.16**	**212**	PN	Pn	14 23 15.5	-0.8
CKHZ	**Cape Kidnapper**	**2.16**	**180**	PN	Pn	14 23 15.8	-0.3
PKVZ	**Pokaka**	**2.24**	**216**	PN	Pn	14 23 16.5	-0.6
MTVZ	**Mangateitei**	**2.26**	**213**	PN	Pn	14 23 16.8	-0.5
KAHZ	**Kahuranaki**	**2.30**	**183**	PN	Pn	14 23 17.3	-0.5
PNHZ	**Pukenui**	**2.50**	**195**	PN	Pn	14 23 18.9	-1.3
WPHZ	**Waipukurau**	**2.61**	**190**	PN	Pn	14 23 20.1	-1.3
TSZ	**Takapari Road**	**2.70**	**198**	PN	Pn	14 23 20.8	-1.7
WAZ	**Wanganui**	**2.78**	**215**	PN	Pn	14 23 22.5	-0.9
PRHZ	**Porangahau**	**2.79**	**187**	PN	Pn	14 23 22.2	-1.4
DVHZ	**Dannevirke**	**2.88**	**194**	PN	Pn	14 23 22.8	-1.9
POWZ	**Post Office Ro**	**3.06**	**199**	PN	Pn	14 23 25.0	-1.9
BFZ	**Birch Farm**	**3.24**	**191**	PN	Pn	14 23 27.0	-2.3
MRZ	**Mangatainoka R**	**3.36**	**200**	PN	Pn	14 23 28.2	-2.5
TIWZ	**Tintock**	**3.40**	**195**	PN	Pn	14 23 28.9	-2.3
HOWZ	**Holdsworth Sta**	**3.60**	**199**	PN	Pn	14 23 30.9	-2.9
OGWZ	**Otaki Gorge**	**3.63**	**203**	PN	Pn	14 23 31.5	-2.6
KIW	**Kapiti Island**	**3.75**	**206**	PN	Pn	14 23 32.7	-3.0
MTW	**Mount Morrison**	**3.85**	**198**	PN	Pn	14 23 33.8	-3.2
CAW	**Cannon Point**	**3.92**	**203**	PN	Pn	14 23 34.6	-3.3
DUWZ	**D'Urville Isla**	**4.10**	**215**	PN	Pn	14 23 37.0	-3.3
WEL	**Wellington**	**4.18**	**209**	PN	Pn	14 23 37.7	-3.4
SNZO	**South Karori**	**4.22**	**205**	PN	Pn	14 23 38.1	-3.6
TCW	**Tory Channel**	**4.29**	**209**	PN	Pn	14 23 38.9	-3.7
PLWZ	**Palliser**	**4.30**	**198**	PN	Pn	14 23 39.1	-3.7
NNZ	**Nelson**	**4.68**	**216**	PN	Pn	14 23 43.8	-3.9
QRZ	**Quartz Range**	**4.84**	**225**	PN	Pn	14 23 45.7	-4.2
BSWZ	**Blackbirch Sta**	**4.88**	**209**	PN	Pn	14 23 47.1	-3.2
THZ	**Tophouse**	**5.33**	**216**	PN	Pn	14 23 52.0	-4.3
KHZ	**Kahutara**	**5.61**	**208**	PN	Pn	14 23 55.6	-4.3
LTZ	**Lake Taylor**	**6.43**	**213**	PN	Pn	14 24 05.7	-5.1
MQZ	**McQueen's Vall**	**7.05**	**207**	PN	Pn	14 24 13.1	-5.9
ODZ	**Otahua Downs**	**8.95**	**211**	PN	Pn	14 24 38.9	-5.2

*DDA **04** 14:29:02.1, 39.°06N×42.°71E, h7km, MD3.2*
*ISK **04** 14:29:02.2, 39.°08N×42.°68E, h5km, MD3.4*
*CSEM **04** 14:29:03.2±0.2, 39.°07N×42.°71E, h2km, MD3.4, Error ellipse: s-maj=4.5km s-min=4.2km az=39.0*

ISC 04 14:29:02.6±1.1, 39.°05N±0.°02×42.°73E±0.°03, h7km±11km, n53, σ1§03/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.56**	**21**	*e*PG	**Pg**	**14 29 13.9**	**+0.3**
AGRB				*e*SG	**Sb**	**14 29 22.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.56**	**21**	*e*Pg	**Pg**	**14 29 13.9**	**+0.3**
AGRB				*e*Sg	**Sb**	**14 29 22.6**	**-0.8**
TATV	**Tatvan**	**0.65**	**214**	*i* P	**Pg**	**14 29 14.5**	**-0.6**
TATV				*i* S	**Sg**	**14 29 23.1**	**-0.6**
TATV	**Tatvan**	**0.65**	**214**	*i* P	**Pg**	**14 29 14.5**	**-0.6**
TATV				*i* S	**Sg**	**14 29 23.1**	**-0.6**
VANB	**Van**	**0.69**	**131**	*e*PG	**Pn**	**14 29 18.1**	**-0.8**
VANB	**Van**	**0.69**	**131**	*e*Pg	**Pn**	**14 29 18.1**	**-0.8**
VANT	**Van**	**0.75**	**146**	*e*PG	**Pb**	**14 29 18.4**	**+0.2**
VANT	**Van**	**0.75**	**146**	*e*Pg	**Pb**	**14 29 18.4**	**+0.2**
DYDN	**Diyadin**	**0.89**	**56**	*i* P	**Pg**	**14 29 19.4**	**-0.4**
DYDN				*i* S	**Sg**	**14 29 32.2**	**+0.8**
DYDN	**Diyadin**	**0.89**	**56**	*i* P	**Pg**	**14 29 19.4**	**-0.4**
DYDN				*i* S	**Sg**	**14 29 32.2**	**+0.8**
CLDR	**Caldiran**	**0.93**	**84**	*e*PG	**Pb**	**14 29 21.1**	**-0.1**
CLDR	**Caldiran**	**0.93**	**84**	*e*Pg	**Pb**	**14 29 21.1**	**-0.1**
HOMI	**Horasan**	**1.18**	**328**	*i* P	**Pg**	**14 29 24.1**	**-1.3**
HOMI				*i* S	**Sn**	**14 29 41.5**	**-0.8**
BNGL	**BINGOL**	**1.24**	**266**	*i* P	**Pb**	**14 29 24.5**	**-2.0**
BNGL				*i* S	**Sg**	**14 29 41.4**	**-1.0**
ERZM	**Erzurum**	**1.36**	**309**	*i* P	**Pn**	**14 29 27.7**	**-0.6**
ERZM				*i* S	**Sn**	**14 29 46.4**	**-0.4**
ERZM	**Erzurum**	**1.36**	**309**	*i* P	**Pn**	**14 29 27.7**	**-0.6**
ERZM				*i* S	**Sn**	**14 29 46.4**	**-0.4**
EZM	**Erzurum**	**1.36**	**309**	*e*Pn	**Pg**	**14 29 28.2**	**-0.6**
SIRN	**S¯¯rnak**	**1.57**	**189**	*i* P	**Pb**	**14 29 32.2**	**+0.1**
SIRN				*i* S	**Sg**	**14 29 51.7**	**+2.7**
SIRN	**S¯¯rnak**	**1.57**	**189**	*i* P	**Pg**	**14 29 32.2**	**+0.1**
SIRN				*i* S	**Sg**	**14 29 55.7**	**+2.7**
KARS	**Kars**	**1.60**	**10**	*e*PN	**Pg**	**14 29 32.5**	**-0.8**
KARS	**Kars**	**1.60**	**10**	*e*Pn	**Pg**	**14 29 32.5**	**-0.8**
BEST	**Besiri**	**1.63**	**225**	*i* P	**Pb**	**14 29 32.5**	**-0.5**
BEST				*i* S	**Sg**	**14 29 54.9**	**0.0**
HAKT	**HAKKARI**	**1.67**	**152**	*i* P	**Pb**	**14 29 34.0**	**+0.1**
HAKT	**HAKKARI**	**1.67**	**152**	*i* P	**Pb**	**14 29 34.0**	**+0.1**
GNI	**Garni**	**1.90**	**54**	*e*PN	**Pb**	**14 29 37.6**	**-0.2**
GNI	**Garni**	**1.90**	**54**	*e*Pn	**Pb**	**14 29 37.6**	**-0.2**
CUKT	**Cukurca**	**1.93**	**159**	*e*PN	**Pb**	**14 29 38.1**	**-0.1**
CUKT	**Cukurca**	**1.93**	**159**	*e*Pn	**Pb**	**14 29 38.1**	**-0.1**
KOPT	**Kop Dagi**	**1.98**	**300**	*i* P	**Pb**	**14 29 39.3**	**+0.1**
KOPT	**Kop Dagi**	**1.98**	**300**	*i* P	**Pb**	**14 29 39.3**	**+0.1**
ERZN	**Erzincan**	**2.40**	**284**	*e*PN	**Pn**	**14 29 43.1**	**+0.7**
AKH	**Akhalkalaki**	**2.43**	**14**	P	**Pb**	**14 29 47.3**	**+0.5**
BCA	**Borcka**	**2.54**	**341**	*e*PN	**Pn**	**14 29 45.3**	**+1.0**
BCA	**Borcka**	**2.54**	**341**	*e*Pn	**Pn**	**14 29 45.3**	**+1.0**
PZAR	**Pazar-Rize**	**2.55**	**327**	*e*PN	**Pn**	**14 29 45.7**	**+1.3**
PZAR	**Pazar-Rize**	**2.55**	**327**	*e*Pn	**Pn**	**14 29 45.7**	**+1.3**
PTK	**Pertek**	**2.61**	**268**	*e*PN	**Pn**	**14 29 46.6**	**+1.2**
PTK	**Pertek**	**2.61**	**268**	*e*Pn	**Pn**	**14 29 46.6**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.76**	**257**	*e*PN	**Pn**	**14 29 48.5**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.76**	**257**	*e*Pn	**Pn**	**14 29 48.6**	**+1.1**
GUMT	**Gumushane**	**2.88**	**300**	*e*PN	**Pn**	**14 29 50.2**	**+1.2**
GUMT	**Gumushane**	**2.88**	**300**	*e*Pn	**Pn**	**14 29 50.2**	**+1.2**
KTUT	**Trabzon**	**2.99**	**311**	*e*PN	**Pn**	**14 29 51.7**	**+1.2**
KTUT	**Trabzon**	**2.99**	**311**	*e*Pn	**Pn**	**14 29 51.7**	**+1.2**
TBLG	**Delisi**	**3.09**	**29**	P	**Pg**	**14 30 00.9**	**-0.9**
GOR	**Gori**	**3.12**	**19**	P	**Pg**	**14 30 00.8**	**-1.6**
ILIC	**ilic-Erzincan**	**3.26**	**278**	*e*PN	**Pn**	**14 29 55.6**	**+1.3**
ILIC	**ilic-Erzincan**	**3.26**	**278**	*e*Pn	**Pn**	**14 29 55.6**	**+1.3**
MALT	**Malatya**	**3.45**	**259**	*e*PN	**Pn**	**14 29 58.5**	**+1.6**
MALT	**Malatya**	**3.45**	**259**	*e*Pn	**Pn**	**14 29 58.5**	**+1.6**
ONI	**Oni**	**3.58**	**9**	P	**Pb**	**14 30 06.1**	**-0.3**
RSDY	**Resadiye-TOKAT**	**4.38**	**290**	*e*PN	**Pn**	**14 30 11.5**	**+1.9**
RSDY	**Resadiye-TOKAT**	**4.38**	**290**	*e*Pn	**Pn**	**14 30 11.5**	**+1.9**

IDC 04 14:30:12.1±2.9, 0.°97S×133.°76E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=142.4km s-min=26.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**178**	P	Pn	14 34 34.4	-0.2
	0.2nm,0.3s,baz=358,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.56**	**180**	P	P	14 35 14.0	-0.2
	1.2nm,0.6s,baz=357,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**65.44**	**324**	P	P	14 40 56.9	0.0
	0.3nm,0.6s,baz=114,slow=7.3,SNR=7.9						

IDC 04 14:33:36.2±3.8, 0.°77S×133.°94E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=216.2km s-min=24.1km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.06**	**179**	P	P	14 38 00.2	0.0
	0.3nm,0.3s,baz=358,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.76**	**180**	P	P	14 38 40.5	+0.1
	0.4nm,0.4s,baz=1.0,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**65.38**

0.7nm,0.7s,baz=256,slow=4.1,SNR=6.0

*DJA **04** 14:38:48, 0.°31S × 132.°48E, h177km, MLv4.6/10*
*IDC **04** 14:38:51.2 ± 1.4, 0.°47S × 132.°85E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, ML4.4/1, MS3.6/1, Ms1 3.5/1, ms1mx2.4/30, Error ellipse: s-maj=83.6km s-min=16.9km az=71.0*
ISC 04 14:38:56.2 ± 1.4, **0.7S** ± 0.°2 × **132.°5E** ± 0.°5, **h33**km, **n9, σ1s73/10, mb4.0/7, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**175**	P		P	**Pn**	**14 43 19.9**	**+1.1**
	1.2nm,0.3s,baz=354,slow=11,SNR=11								
WRA				S			**S**	**14 46 50.3**	**-3.4**
	0.6nm,0.3s,baz=360,slow=23,SNR=5.6								
ASAR	**Alice Springs**	**22.88**	**177**	P		P	**P**	**14 43 59.0**	**+1.9**
	16nm,0.6s,baz=355,slow=9.5,SNR=31								
STKA	**Stephens Creek**	**32.18**	**165**	P		P	**P**	**14 45 21.5**	**+0.3**
	7.4nm,0.8s,baz=352,slow=6.6,SNR=15								
STKA				LR		LR		14 58 10.2	
	comp=Z,120nm,21.8s,baz=22,slow=36								
CMAR	**Chiang Mai Arr**	**38.11**	**302**	P		P	**P**	**14 46 12.8**	**+0.4**
	0.7nm,0.7s,baz=106,slow=6.4,SNR=5.7								
SONM	**Songino Array**	**53.42**	**338**	P		P	**P**	**14 48 11.7**	**-1.3**
	0.6nm,1.0s,baz=134,slow=4.2,SNR=3.3								
MKAR	**Makanchi Array**	**64.49**	**324**	P		P	**P**	**14 49 30.5**	**+0.8**
	1.0nm,0.7s,baz=108,slow=9.5,SNR=7.0								
KURK	**Kurchatov**	**68.58**	**327**	P		P	**P**	**14 49 57.0**	**+1.3**
	2.1nm,0.9s,baz=122,slow=5.8,SNR=7.6								
BVAR	**Borovoye Array**	**74.18**	**326**	P		P	**P**	**14 50 28.9**	**-0.6**
	1.0nm,0.8s,baz=126,slow=7.5,SNR=3.9								
TORD	**Torodi Ar. Bea**	**129.77**	**287**	PKP		**PKiKP**		**14 58 03.2**	**-0.7**
	0.7nm,1.1s,baz=65,slow=2.5,SNR=2.1								

*CSEM **04** 14:41:22.7 ± 0.1, 38.°75N × 23.°45E, h12km, ML3.8/12, Error ellipse: s-maj=3.2km s-min=2.3km az=96.0*
*IDC **04** 14:41:22.0 ± 1.0, 38.°80N × 23.°41E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.6/25, mbtmp3.6/10, ML2.9/2, Error ellipse: s-maj=25.1km s-min=14.3km az=126.0*
*ATH **04** 14:41:22.2, 38.°79N × 23.°48E, h22km, ML3.9*
*ISCJB **04** 14:41:22.4 ± 0.7, 38.°77N ± 0.°01 × 23.°49E ± 0.°02, h12km ± 5km, mb3.6/8, Error ellipse: s-maj=2.9km s-min=2.1km az=9.0*
*THE **04** 14:41:23.2, 38.°77N × 23.°44E, h13km, ML3.8/12, Error ellipse: s-maj=0.5km s-min=0.3km az=112.0*
ISC 04 14:41:23.2 ± 0.8, **38.°77N** ± 0.°01 × **23.°46E** ± 0.°02, **h12**km ± 6km, **n165, σ0s83/220, mb3.6/8, 5C-9D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.12**	**122**	P		P	**Pg**	**14 41 26.4**	**0.0**
MRKA	**Markates**	**0.12**	**122**	P		P	**Pg**	**14 41 26.4**	**0.0**
ATAL	**Atalanti**	**0.35**	**257**	P		P	**Pg**	**14 41 29.9**	**-0.3**
ATAL	**Atalanti**	**0.35**	**257**	P		P	**Pg**	**14 41 29.9**	**-0.3**
LKR	**Lokris**	**0.38**	**252**	P		P	**Pg**	**14 41 30.3**	**-0.4**
LKR				S		S	**Sg**	**14 41 36.0**	**+0.3**
LKR	**Lokris**	**0.38**	**252**	*e*PB		P	**Pg**	**14 41 30.3**	**-0.4**
LKR				*e*SB		S	**Sg**	**14 41 36.5**	**+0.8**
LKR	**Lokris**	**0.38**	**252**	P		P	**Pg**	**14 41 30.3**	**-0.4**
LKR				S		S	**Sg**	**14 41 36.0**	**+0.3**
LKR				*e*Sb		S	**Sg**	**14 41 36.5**	**+0.8**
SKIA	**Skiathos**	**0.40**	**1**	P		P	**Pb**	**14 41 31.6**	**-0.5**
SKIA	**Skiathos**	**0.40**	**1**	P		P	**Pb**	**14 41 31.6**	**-0.5**
ERET	**Eretria**	**0.43**	**140**	P		P	**Pg**	**14 41 31.6**	**0.0**
ERET				S		S	**Sb**	**14 41 38.6**	**-0.4**
ERET	**Eretria**	**0.43**	**140**	P		P	**Pg**	**14 41 31.6**	**0.0**
ERET				S		S	**Sb**	**14 41 38.6**	**-0.4**
AOS	**Alonnisos**	**0.52**	**39**	P		P	**Pg**	**14 41 33.2**	**-0.2**
AOS				S		S	**Sg**	**14 41 40.6**	**+0.3**
AOS	**Alonnisos**	**0.52**	**39**	P		P	**Pg**	**14 41 33.2**	**-0.2**
AOS				S		S	**Sg**	**14 41 40.6**	**+0.3**
NEO	**Neokhori**	**0.57**	**341**	P		P	**Pg**	**14 41 34.3**	**0.0**
NEO	**Neokhori**	**0.57**	**341**	*e*PN		P	**Pg**	**14 41 34.3**	**0.0**
NEO				*e*SN		S	**Sg**	**14 41 41.2**	**-0.6**
NEO	**Neokhori**	**0.57**	**341**	P		P	**Pg**	**14 41 34.3**	**0.0**
NEO				*e*Sn		S	**Sg**	**14 41 41.2**	**-0.6**
VIL1	**Vilia, Western**	**0.61**	**190**	*e*PB		P	**Pg**	**14 41 34.3**	**-0.8**
VIL1				*e*SN		S	**Sb**	**14 41 44.0**	**-0.3**
VIL1	**Vilia, Western**	**0.61**	**190**	*e*Pb		P	**Pg**	**14 41 34.3**	**-0.8**
VIL1				*e*Sn		S	**Sb**	**14 41 44.0**	**-0.3**
XOR	**Xorichti**	**0.63**	**341**	P		P	**Pg**	**14 41 35.3**	**-0.2**
XOR				S		S	**Sg**	**14 41 44.1**	**+0.3**
XOR	**Xorichti**	**0.63**	**341**	P		P	**Pg**	**14 41 35.3**	**-0.2**
XOR				S		S	**Sg**	**14 41 44.1**	**+0.3**
PTL	**Penteli**	**0.79**	**156**	P		P	**Pg**	**14 41 37.9**	**-0.5**
PTL	**Penteli**	**0.79**	**156**	*e*PN		P	**Pg**	**14 41 38.1**	**-0.3**
PTL				*e*SN		S	**Sg**	**14 41 48.9**	**+0.2**
PTL	**Penteli**	**0.79**	**156**	P		P	**Pg**	**14 41 37.9**	**-0.5**
PTL				*e*Sn		S	**Sg**	**14 41 48.9**	**+0.2**
ATH	**Athens Observa**	**0.82**	**165**	*e*PN		P	**Pg**	**14 41 38.7**	**-0.4**
ATH				*e*SN		S	**Sb**	**14 41 50.6**	**+0.3**
ATH	**Athens Observa**	**0.82**	**165**	*e*Pn		P	**Pg**	**14 41 38.7**	**-0.4**
ATH				*e*Sn		S	**Sb**	**14 41 50.6**	**+0.3**
LTK	**Loutraki**	**0.84**	**207**	P		P	**Pg**	**14 41 38.4**	**-0.9**
LTK				S		S	**Sb**	**14 41 51.1**	**+0.3**
LTK	**Loutraki**	**0.84**	**207**	*e*PN		P	**Pg**	**14 41 38.5**	**-0.9**
LTK				*e*SN		S	**Sb**	**14 41 51.1**	**+0.3**
LTK	**Loutraki**	**0.84**	**207**	P		P	**Pg**	**14 41 38.4**	**-0.9**
LTK				S		S	**Sb**	**14 41 51.1**	**+0.3**
AGG	**Agios Georgios**	**0.91**	**286**	P		P	**Pg**	**14 41 39.9**	**-0.9**
AGG				S		S	**Sb**	**14 41 53.5**	**+0.4**
AGG	**Agios Georgios**	**0.91**	**286**	*e*PN		P	**Pg**	**14 41 40.0**	**-0.9**
AGG				*e*SN		S	**Sg**	**14 41 52.8**	**0.0**
AGG	**Agios Georgios**	**0.91**	**286**	P		P	**Pg**	**14 41 39.9**	**-0.9**
AGG				*e*Sn		S	**Sg**	**14 41 52.8**	**0.0**
AGG				S		S	**Sb**	**14 41 53.5**	**+0.4**
VLY	**Voula,Athens**	**0.95**	**164**	P		P	**Pb**	**14 41 40.8**	**-0.8**
VLY				S		S	**Sb**	**14 41 54.8**	**+0.7**
VLY	**Voula,Athens**	**0.95**	**164**	*e*PN		P	**Pb**	**14 41 40.8**	**-0.8**
VLY				*e*SN		S	**Sg**	**14 41 53.5**	**-0.5**
VLY	**Voula,Athens**	**0.95**	**164**	P		P	**Pb**	**14 41 40.8**	**-0.8**
VLY				*e*Sn		S	**Sg**	**14 41 53.5**	**-0.5**
VLY				S		S	**Sb**	**14 41 54.8**	**+0.7**
THAL	**Thalero**	**0.96**	**221**	P		P	**Pb**	**14 41 40.8**	**-0.9**
THAL	**Thalero**	**0.96**	**221**	P		P	**Pb**	**14 41 40.8**	**-0.9**
NAIG	**Nisos Aigina**	**1.01**	**179**	*e*PN		P	**Pb**	**14 41 42.0**	**-0.5**
NAIG	**Nisos Aigina**	**1.01**	**179**	*e*Pn		P	**Pb**	**14 41 42.0**	**-0.5**
MRMA	**Marmari**	**1.02**	**134**	P		P	**Pb**	**14 41 42.0**	**-0.7**
MRMA	**Marmari**	**1.02**	**134**	P		P	**Pb**	**14 41 42.0**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.06**	**284**	P		P	**Pb**	**14 41 42.6**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.06**	**284**	P		P	**Pb**	**14 41 42.6**	**-0.9**
TRIZ	**Trizonia**	**1.16**	**250**	P		P	**Pb**	**14 41 43.5**	**-1.5**
TRIZ				S		S	**Sb**	**14 42 00.3**	**+0.3**
TRIZ	**Trizonia**	**1.16**	**250**	P		P	**Pb**	**14 41 43.5**	**-1.5**
TRIZ				S		S	**Sb**	**14 42 00.3**	**+0.3**
PAIG	**Paliouri**	**1.17**	**8**	P		P	**Pb**	**14 41 44.7**	**-0.6**
PAIG				S		S	**Sn**	**14 42 01.3**	**+0.2**
PAIG	**Paliouri**	**1.17**	**8**	P		P	**Pb**	**14 41 44.7**	**-0.6**
PAIG				S		S	**Sn**	**14 42 01.3**	**+0.2**
GUR	**Goura**	**1.21**	**227**	P		P	**Pn**	**14 41 45.2**	**-0.7**
GUR				S		S	**Sb**	**14 42 01.8**	**+0.2**
GUR	**Goura**	**1.21**	**227**	*e*PN		P	**Pn**	**14 41 45.5**	**-0.4**
GUR				*e*SN		S	**Sn**	**14 42 02.3**	**+0.1**
GUR	**Goura**	**1.21**	**227**	P		P	**Pn**	**14 41 45.2**	**-0.7**
GUR	**Goura**	**1.21**	**227**	*e*Pn		P	**Pn**	**14 41 45.5**	**-0.4**
GUR				S		S	**Sb**	**14 42 01.8**	**+0.2**
GUR				*e*Sn		S	**Sn**	**14 42 02.3**	**+0.1**
LAKA	**Lakka**	**1.27**	**246**	P		P	**Pn**	**14 41 45.6**	**-1.2**
LAKA				S		S	**Sb**	**14 42 03.5**	**+0.1**
LAKA	**Lakka**	**1.27**	**246**	P		P	**Pn**	**14 41 45.6**	**-1.2**
LAKA				S		S	**Sb**	**14 42 03.5**	**+0.1**
EVR	**Evrytania**	**1.29**	**277**	*e*PN		P	**Pb**	**14 41 47.7**	**+0.2**
EVR	**Evrytania**	**1.29**	**277**	*e*Pn		P	**Pb**	**14 41 47.7**	**+0.2**
DIDY	**Didyma**	**1.30**	**189**	P		P	**Pn**	**14 41 46.0**	**-1.3**
DIDY				S		S	**Sb**	**14 42 04.4**	**0.0**
DIDY	**Didyma**	**1.30**	**189**	P		P	**Pn**	**14 41 46.0**	**-1.3**
DIDY				S		S	**Sb**	**14 42 04.4**	**0.0**
THL	**Klokotos Trika**	**1.37**	**306**	P		P	**Pn**	**14 41 47.2**	**-0.9**
THL				S		S	**Sn**	**14 42 05.6**	**-0.6**
THL	**Klokotos Trika**	**1.37**	**306**	*e*PN		P	**Pn**	**14 41 47.9**	**-0.2**
THL				*e*SN		S	**Sg**	**14 42 07.4**	**0.0**
THL	**Klokotos Trika**	**1.37**	**306**	P		P	**Pn**	**14 41 47.2**	**-0.9**
THL	**Klokotos Trika**	**1.37**	**306**	*e*Pn		P	**Pn**	**14 41 47.9**	**-0.2**
THL				S		S	**Sn**	**14 42 05.6**	**-0.6**
THL				*e*Sn		S	**Sg**	**14 42 07.4**	**0.0**
UPR	**University Cam**	**1.40**	**250**	*e*PN		P	**Pb**	**14 41 49.0**	**-0.1**
UPR				*e*SN		S	**Sg**	**14 42 08.5**	**+0.4**
UPR	**University Cam**	**1.40**	**250**	*e*Pn		P	**Pb**	**14 41 49.0**	**-0.1**
UPR				*e*Sn		S	**Sg**	**14 42 08.5**	**+0.4**
PLG	**Polygyros**	**1.60**	**360**	P		P	**Pn**	**14 41 50.5**	**-0.8**
PLG	**Polygyros**	**1.60**	**360**	*e*PN		P	**Pn**	**14 41 50.9**	**-0.4**
PLG				*e*SN		S	**Sn**	**14 42 11.1**	**-0.8**
PLG	**Polygyros**	**1.60**	**360**	P		P	**Pn**	**14 41 50.5**	**-0.8**
PLG	**Polygyros**	**1.60**	**360**	*e*Pn		P	**Pn**	**14 41 50.9**	**-0.4**
PLG				*e*Sn		S	**Sn**	**14 42 11.1**	**-0.8**
OUR	**Ouranopolis**	**1.61**	**14**	P		P	**Pn**	**14 41 51.1**	**-0.3**
OUR				S		S	**Sn**	**14 42 11.4**	**-0.7**
OUR	**Ouranopolis**	**1.61**	**14**	P		P	**Pn**	**14 41 51.1**	**-0.3**
OUR				S		S	**Sn**	**14 42 11.4**	**-0.7**
VLX	**Vlachokerasia**	**1.64**	**212**	*e*PN		P	**Pn**	**14 41 52.2**	**+0.4**
VLX				*e*SN		S	**Sb**	**14 42 13.7**	**-0.2**
VLX	**Vlachokerasia**	**1.64**	**212**	*e*Pn		P	**Pn**	**14 41 52.2**	**+0.4**
VLX				*e*Sn		S	**Sb**	**14 42 13.7**	**-0.2**
RLS	**Riolos of Patr**	**1.72**	**246**	*e*PN		P	**Pb**	**14 41 53.8**	**-0.8**
RLS				*e*SN		S	**Sb**	**14 42 15.6**	**-0.5**
RLS	**Riolos of Patr**	**1.72**	**246**	*e*Pn		P	**Pb**	**14 41 53.8**	**-0.8**
LIA	**Limnos Island**	**1.75**	**49**	P		P	**Pn**	**14 41 52.8**	**-0.5**
LIA	**Limnos Island**	**1.75**	**49**	*e*PB		P	**Pn**	**14 41 52.5**	**-0.8**
LIA	**Limnos Island**	**1.75**	**49**	*e*Pb		P	**Pn**	**14 41 52.5**	**-0.8**
LIA	**Limnos Island**	**1.75**	**49**	P		P	**Pn**	**14 41 52.8**	**-0.5**
HORT	**Hortiatis**	**1.85**	**352**	P		P	**Pn**	**14 41 54.3**	**-0.4**
HORT				S		S	**Sn**	**14 42 17.9**	**-0.1**
HORT	**Hortiatis**	**1.85**	**352**	P		P	**Pn**	**14 41 54.3**	**-0.4**
HORT				S		S	**Sn**	**14 42 17.9**	**-0.1**
THE	**Thessaloniki**	**1.90**	**349**	P		P	**Pn**	**14 41 54.6**	**-0.7**
THE				S		S	**Sn**	**14 42 19.1**	**0.0**
THE	**Thessaloniki**	**1.90**	**349**	P		P	**Pn**	**14 41 54.6**	**-0.7**
THE				S		S	**Sn**	**14 42 19.1**	**0.0**
ITM	**Ithomi**	**2.00**	**218**	*e*PN		P	**Pn**	**14 41 57.7**	**+1.0**
ITM	**Ithomi**	**2.00**	**218**	*e*Pn		P	**Pn**	**14 41 57.7**	**+1.0**
KZN	**Kozani**	**2.01**	**320**	*e*PN		P	**Pn**	**14 41 57.8**	**+0.8**
KZN	**Kozani**	**2.01**	**320**	*e*Pn		P	**Pn**	**14 41 57.8**	**+0.8**
SOH	**Sokhos**	**2.05**	**358**	P		P	**Pn**	**14 41 56.9**	**-0.6**
SOH	**Sokhos**	**2.05**	**358**	*e*PN		P	**Pn**	**14 41 57.6**	**+0.1**
SOH	**Sokhos**	**2.05**	**358**	P		P	**Pn**	**14 41 56.9**	**-0.6**
SOH	**Sokhos**	**2.05**	**358**	*e*Pn		P	**Pn**	**14 41 57.6**	**+0.1**
CHOS	**Chios island**	**2.07**	**100**	P		P	**Pn**	**14 41 57.5**	**-0.3**
CHOS	**Chios island**	**2.07**	**100**	*e*PN		P	**Pn**	**14 41 57.6**	**-0.3**
CHOS	**Chios island**	**2.07**	**100**	P		P	**Pn**	**14 41 57.5**	**-0.3**
VLI	**Veliai**	**2.09**	**192**	*e*PB		P	**Pn**	**14 41 57.6**	**-0.3**
VLI	**Veliai**	**2.09**	**192**	*e*Pb		P	**Pn**	**14 41 57.6**	**-0.3**
JAN	**Janina**	**2.21**	**294**	*e*PB		P	**Pn**	**14 42 00.5**	**+0.9**
JAN	**Janina**	**2.21**	**294**	*e*Pb		P	**Pn**	**14 42 00.5**	**+0.9**
PRK	**Paraskevi**	**2.25**	**77**	P		P	**Pn**	**14 41 59.7**	**-0.4**
PRK	**Paraskevi**	**2.25**	**77**	*e*PN		P	**Pn**	**14 41 59.9**	**-0.2**
PRK	**Paraskevi**	**2.25**	**77**	P		P	**Pn**	**14 41 59.7**	**-0.4**
PYL	**PYLOS**	**2.31**	**216**	*e*PB		P	**Pn**	**14 42 02.3**	**+1.3**
PYL	**PYLOS**	**2.31**	**216**	*e*Pb		P	**Pn**	**14 42 02.3**	**+1.3**
VLS	**Valsamata**	**2.33**	**256**	*e*PB		P	**Pn**	**14 42 02.6**	**+1.4**
VLS	**Valsamata**	**2.33**	**256**	*e*Pb		P	**Pn**	**14 42 02.6**	**+1.4**
APE	**Apeiranthos**	**2.36**	**135**	P		P	**Pn**	**14 42 01.6**	**-0.2**
APE	**Apeiranthos**	**2.36**	**135**	*e*PN		P	**Pn**	**14 42 01.5**	**-0.2**
APE	**Apeiranthos**	**2.36**	**135**	*e*Pn		P	**Pn**	**14 42 01.8**	**+0.1**
APE	**Apeiranthos**	**2.36**	**135**	S		S	**Sg**	**14 42 38.1**	**-0.9**
APE	**Apeiranthos**	**2.36**	**135**	*e*Pn		P	**Pn**	**14 42 01.5**	**-0.2**
NVR	**Nevrokopi**	**2.60**	**7**	*e*PN		P	**Pn**	**14 42 04.9**	**-0.1**
NVR	**Nevrokopi**	**2.60**	**7**	*e*Pn		P	**Pn**	**14 42 04.9**	**-0.1**
VAY	**Valandovo**	**2.64**	**345**	*e*Pn		P	**Pn**	**14 42 05.9**	**+0.4**
VAY	**Valandovo**	**2.64**	**345**	*e*Pn		Pn		14 42 01.4	-4.1
BIA	**Bitola**	**2.78**	**325**	*e*Pn		P	**Pb**	**14 42 11.1**	**-1.8**
BIA	**Bitola**	**2.78**	**325**	*e*Pn		P	**Pb**	**14 42 11.0**	**-1.8**
MMB	**Musomiste**	**2.82**	**4**	*i* P		P	**Pn**	**14 42 08.0**	**-0.1**
MMB	**Musomiste**	**2.82**	**4**	*i* P		P	**Pn**	**14 42 08.0**	**-0.1**
RDO	**Rodhopi**	**2.86**	**33**	*e*PN		P	**Pn**	**14 42 07.9**	**-0.7**
RDO	**Rodhopi**	**2.86**	**33**	*e*Pn		P	**Pn**	**14 42 07.9**	**-0.7**
SMG	**Samos**	**2.87**	**111**	*e*PB		P	**Pn**	**14 42 09.9**	**+1.3**
SMG	**Samos**	**2.87**	**111**	*e*Pb		P	**Pn**	**14 42 09.9**	**+1.3**
ALN	**Alexandroupoli**	**2.91**	**42**	*e*PN		P	**Pn**	**14 42 08.9**	**-0.4**
ALN	**Alexandroupoli**	**2.91**	**42**	*e*Pn		P	**Pn**	**14 42 08.9**	**-0.4**
RZN	**Rozhen**	**3.07**	**18**	*i* P		P	**Pn**	**14 42 12.0**	**+0.4**
RZN	**Rozhen**	**3.07**	**18**	*i* P		P	**Pn**	**14 42 12.0**	**+0.4**
KRUS	**Krusevo**	**3.10**	**328**	*e*Pn		P	**Pn**	**14 42 12.2**	**+0.2**
KRUS	**Krusevo**	**3.10**	**328**	*e*Pn		P	**Pn**	**14 42 12.1**	**+0.2**
KKB	**Krupnik**	**3.11**	**355**	P		P	**Pn**	**14 42 13.3**	**+1.3**
KKB	**Krupnik**	**3.11**	**355**	P		P	**Pn**	**14 42 13.3**	**+1.3**
KDZ	**Kurdzhali**	**3.25**	**27**	*i* P		P	**Pn**	**14 42 12.9**	**-1.0**
KDZ	**Kurdzhali**	**3.25**	**27**	*i* P		P	**Pn**	**14 42 12.9**	**-1.0**
VAM	**Vamos**	**3.41**	**170**	*e*PN		P	**Pn**	**14 42 16.8**	**+0.7**
VAM	**Vamos**	**3.41**	**170**	*e*Pn		P	**Pn**	**14 42 16.8**	**+0.7**
SKO	**Skopje**	**3.55**	**335**	*e*Pn		P	**Pn**	**14 42 16.2**	**-1.8**
SKO	**Skopje**	**3.55**	**335**	*e*Pn		P	**Pn**	**14 42 16.7**	**-1.3**
VTS	**Vitosha**	**3.82**	**357**	∥		P	**Pn**	**14 42 24.4**	**+2.5**
VTS	**Vitosha**	**3.82**	**357**	∥		P	**Pn**	**14 42 24.4**	**+2.5**
SIVA	**Sivas**	**3.90**	**163**	*e*PN		P	**Pn**	**14 42 24.8**	**+2.0**
SIVA	**Sivas**	**3.90**	**163**	*e*Pn		P	**Pn**	**14 42 24.8**	**+2.0**
BARS	**Barje**	**4.23**	**343**	*e*Pn		P	**Pn**	**14 42 28.3**	**+0.9**
ZKR	**Zakros**	**4.27**	**148**	*e*PN		P	**Pn**	**14 42 28.7**	**+0.8**
ZKR	**Zakros**	**4.27**	**148**	*e*Pn		P	**Pn**	**14 42 28.7**	**+0.8**
BOLS	**Boljevac**	**5.18**	**348**	∥		*e*Pn	**Pn**	**14 42 41.7**	**+1.3**
GZR	**Gura Zlata**	**6.64**	**356**	∥		*e*P	**Pn**	**14 43 01.0**	**+0.5**
GZR	**Gura Zlata**	**6.64**	**356**	∥		*e*P	**Pn**	**14 43 01.0**	**+0.5**
LOT	**Lotru**	**6.68**	**2**	∥		*e*P	**Pn**	**14 43 04.2**	**+3.1**
VOIR		**6.77**	**10**	∥		*e*P	**Pn**	**14 43 03.4**	**+1.1**
VOIR		**6.77**	**10**	∥		*e*P	**Pn**	**14 43 03.4**	**+1.1**
MLR	**Muntele Rosu**	**6.97**	**15**			Pn	**Pn**	**14 43 06.3**	**+1.2**
	0.1nm,0.3s,baz=225,slow=1.4,SNR=4.0								
MLR						Sn	**Sn**	**14 44 25.6**	**+1.4**
	0.1nm,0.3s,baz=253,slow=20,SNR=2.4								
MLR	**Muntele Rosu**	**6.97**	**15**	∥		*e*P	Pn	14 43 10.8	+5.7
BZS	**Buzias**	**6.98**	**349**	∥		*e*P	**Pn**	**14 43 04.4**	**-0.7**
BZS	**Buzias**	**6.98**	**349**	∥		*e*P	**Pn**	**14 43 04.4**	**-0.7**
PLOR	**Plostina**	**7.46**	**17**	∥		*e*P	Pn	14 43 17.0	+5.2
VRI	**Vrincioaia**	**7.49**	**18**	∥		*e*P	Pn	14 43 18.4	+6.2
BRTR	**Keskin Array B**	**7.96**	**80**			Pn	**Pn**	**14 43 20.9**	**+2.1**
	0.2nm,0.3s,baz=261,slow=13,SNR=8.6								
KHC	**Kasperske Hory**	**12.55**	**329**	*e*P			**Pn**	**14 44 21.0**	**-0.5**
KHC	**Kasperske Hory**	**12.55**	**329**	P			**Pn**	**14 44 21.0**	**-0.5**
CMAH	**Djebel Manchou**	**12.88**	**265**	P			**Pn**	**14 44 23.6**	**-2.5**
CMAH	**Djebel Manchou**	**12.88**	**265**	P			**Pn**	**14 44 23.6**	**-2.5**
ESDC	**Sonseca Array**	**21.23**	**281**	P			**P**	**14 46 09.7**	**+0.7**
	1.5nm,0.6s,baz=75,slow=11,SNR=12								
FINES	**FINESS Array B**	**22.76**	**3**	P			**P**	**14 46 25.3**	**+0.4**
	2.4nm,1.0s,baz=162,slow=15,SNR=3.4								
NOA	**NORSAR Array B**	**23.57**	**345**	P			**P**	**14 46 32.0**	**-1.3**
	0.6nm,0.7s,baz=159,slow=9.9,SNR=4.0								
TORD	**Torodi Ar. Bea**	**31.99**	**223**	P			**P**	**14 47 49.0**	**-0.2**
	1.3nm,0.6s,baz=33,slow=8.7,SNR=12								
KURK	**Kurchatov**	**40.07**	**54**	P			**P**	**14 48 57.8**	**-0.2**
	0.2nm,0.5s,baz=278,slow=8.9,SNR=4.5								
DBIC	**Dimbokro**	**40.92**	**226**	P			**P**	**14 49 07.8**	**+2.3**
	3.0nm,1.0s,baz=5.0,slow=14,SNR=3.5								
MKAR	**Makanchi Array**	**43.02**	**60**	P			**P**	**14 49 23.1**	**+0.6**
	0.8nm,0.7s,baz=273,slow=7.1,SNR=8.2								
ZALV	**Zalesovo Beam**	**43.58**	**49**	P			**P**	**14 49 27.3**	**+0.6**
	0.9nm,0.5s,baz=272,slow=8.5,SNR=5.9								

*IDC **04** 14:43:03.3 ± 1.1, 38.°76N × 23.°35E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.6/26, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=23.2km s-min=16.9km az=131.0*
*ATH **04** 14:43:04.3, 38.°78N × 23.°47E, h24km ± 1km, ML4.2*
*CSEM **04** 14:43:04.3, 38.°78N × 23.°47E, h24km, ML4.2, After ATH*
ISC 04 14:43:04.6 ± 1.2, **38.°76N** ± 0.°02 × **23.°47E** ± 0.°03, **h10**km ± 8km, **n84, σ1s04/109, mb3.7/8, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.39**	**253**	*e*PB		P	**Pg**	**14 43 12.2**	**0.0**
LKR				*e*SB		S	**Sg**	**14 43 17.9**	**+0.6**
LKR	**Lokris**	**0.39**	**253**	*e*Pb		P	**Pg**	**14 43 12.2**	**0.0**
LKR				*e*Sb		S	**Sg**	**14 43 17.9**	**+0.6**
NEO	**Neokhori**	**0.57**	**341**	*e*PN		P	**Pb**	**14 43 16.0**	**-0.9**
NEO				*e*SN		S	**Sb**	**14 43 24.6**	**-0.5**
NEO	**Neokhori**	**0.57**	**341**	*e*Pn		P	**Pb**	**14 43 16.0**	**-0.9**
NEO				*e*Sn		S	**Sb**	**14 43 24.6**	**-0.5**
VIL1	**Vilia, Western**	**0.61**	**191**	*e*PB		P	**Pg**	**14 43 16.0**	**-0.4**
VIL1				*e*SN		S	**Sb**	**14 43 25.2**	**-0.8**
VIL1	**Vilia, Western**	**0.61**	**191**	*e*Pb		P	**Pg**	**14 43 16.0**	**-0.4**
VIL1				*e*Sn		S	**Sb**	**14 43 25.2**	**-0.8**
PTL	**Penteli**	**0.78**	**156**	*e*PN		P	**Pb**	**14 43 20.0**	**-0.3**
PTL				*e*SN		S	**Sb**	**14 43 30.7**	**-0.2**
PTL	**Penteli**	**0.78**	**156**	*e*Pn		P	**Pb**	**14 43 20.0**	**-0.3**
PTL				*e*Sn		S	**Sb**	**14 43 30.7**	**-0.2**
ATH	**Athens Observa**	**0.81**	**166**	*e*PN		P	**Pn**	**14 43 20.7**	**-1.5**
ATH				*e*SN		S	**Sn**	**14 43 32.6**	**-1.7**
ATH	**Athens Observa**	**0.81**	**166**	*e*Pn		P	**Pn**	**14 43 20.7**	**-1.5**
ATH				*e*Sn		S	**Sn**	**14 43 32.6**	**-1.7**
LTK	**Loutraki**	**0.84**	**208**	*e*PN		P	**Pb**	**14 43 20.4**	**-0.9**
LTK				*e*SN		S	**Sn**	**14 43 33.2**	**-1.8**
LTK	**Loutraki**	**0.84**	**208**	*e*Pn		P	**Pb**	**14 43 20.4**	**-0.9**
LTK				*e*Sn		S	**Sn**	**14 43 33.2**	**-1.8**
AGG	**Agios Georgios**	**0.93**	**287**	*e*PN		P	**Pg**	**14 43 21.7**	**-0.8**
AGG				*e*SN		S	**Sb**	**14 43 34.8**	**-0.4**
AGG	**Agios Georgios**	**0.93**	**287**	*e*Pn		P	**Pg**	**14 43 21.7**	**-0.8**
AGG				*e*Sn		S	**Sb**	**14 43 34.8**	**-0.4**
VLY	**Voula,Athens**	**0.94**	**164**

Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.60**	**179**	P	Pn	15 04 19.1	+0.4
	0.0nm,0.3s,baz=355,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**22.31**	**180**	P	P	15 04 59.1	+0.3
	1.1nm,0.9s,baz=358,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**31.33**	**167**	P	P	15 06 21.1	-0.6
	1.1nm,0.8s,baz=354,slow=6.7,SNR=3.8						
MKAR	**Makanchi Array**	**65.75**	**324**	P	P	15 10 46.3	0.0
	0.4nm,1.0s,baz=103,slow=4.6,SNR=1.9						

*DJA **04** 15:09:23.0˝17S×132˚74E,h30km,mb4.7/6*
IDC 04 15:09:18.8±2.1,0˚37S×132˚81E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.5/16,mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=116.3km s-min=23.7km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.52**	**176**	P	Pn	15 13 48.9	-0.2
	0.3nm,0.3s,baz=355,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.19**	**177**	P	P	15 14 27.9	+0.6
	1.4nm,0.4s,baz=355,slow=9.7,SNR=27						
STKA	**Stephens Creek**	**32.42**	**166**	P	P	15 15 49.5	-1.1
	0.7nm,0.3s,baz=342,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**64.39**	**324**	P	P	15 19 56.9	+0.1
	0.4nm,0.7s,baz=122,slow=7.4,SNR=7.2						

IDC 04 15:16:33.6±2.6,49˚13N×151˚00E,h339km±35km,mb2.9/4, mb1 3.0/6,mb1mx2.6/24,mbtmp2.8/6,Error ellipse: s-maj=40.8km s-min=25.0km az=85.0,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.80**	**44**	P	Pn	15 18 01.5	0.0
	0.1nm,0.3s,baz=214,slow=10,SNR=3.4						
MJAR	**Matsushiro Arr**	**15.67**	**221**	P	P	15 19 56.0	+0.1
	0.2nm,0.3s,baz=16,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**44.62**	**294**	P	P	15 24 12.9	-0.3
	0.2nm,0.6s,baz=63,slow=7.3,SNR=2.4						
KURK	**Kurchatov**	**44.89**	**301**	P	P	15 24 15.8	+0.6
	0.2nm,0.7s,baz=70,slow=8.6,SNR=6.1						
FINES	**FINESS Array B**	**61.28**	**333**	P	P	15 26 13.3	0.0
	2.8nm,0.9s,baz=27,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**74.06**	**196**	P	P	15 27 32.9	0.0
	0.3nm,0.4s,baz=11,slow=5.9,SNR=4.9						

*DJA **04** 15:21:32.0˝01N×133˚14E,h30km,mb4.4/6*
IDC 04 15:21:32.6±2.3,0˚35S×132˚98E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/17,mbtmp3.4/4,Error ellipse: s-maj=114.5km s-min=27.5km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.52**	**176**	P	P	15 26 02.3	+0.5
	0.1nm,0.3s,baz=356,slow=12,SNR=9.6						
WRA				S	Sn	15 29 32.3	-10
	0.1nm,0.3s,baz=356,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**23.20**	**178**	P	P	15 26 41.9	+0.6
	1.1nm,0.5s,baz=357,slow=9.5,SNR=27						
STKA	**Stephens Creek**	**32.40**	**166**	P	P	15 28 03.2	-1.1
	0.4nm,0.5s,baz=340,slow=10.0,SNR=3.4						
MKAR	**Makanchi Array**	**64.48**	**324**	P	P	15 32 11.3	+0.1
	0.1nm,0.5s,baz=125,slow=7.9,SNR=2.6						

*NEIC **04** 15:29:27.0,41˚33N×114˚84W,h9km,ML3.6(REN),After REN.*
NEIC Felt at Wells. Also felt at Oakley, Idaho.
*IDC **04** 15:29:29.1±1.7,41˚24N×115˚08W,h0km,mb2.9/1, mb1 3.7/3,mb1mx3.3/23,mbtmp3.2/3,ML3.4/2,Error ellipse: s-maj=24.0km s-min=13.7km az=141.0*
ISC 04 15:29:28.0±1.2,41˚19N±0˚02×114˚77W±0˚02,h0km±10km, n80,σ1s32/105,22C-28D,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.57**	**219**	*e*Pg	**Pb**	**15 29 39.8**	**-1.1**
ELK				*e*Sg	**Sg**	**15 29 47.4**	**+1.3**
L14A	**Malta**	**1.43**	**53**	⇓P	**Pn**	**15 29 53.6**	**-1.7**
	baz=1.4,SNR=111						
L14A				⇓S	**Sn**	**15 30 12.4**	**-2.5**
	baz=1.4						
HVU	**Hansel Valley**	**1.61**	**68**	*e*Pn	**Pn**	**15 29 56.5**	**-1.4**
HVU				*e*Sn	**Sn**	**15 30 17.2**	**-2.3**
N15A	**Stansbury Isla**	**1.73**	**99**	⇓Pb	**Pn**	**15 29 58.3**	**-1.2**
	baz=1.8,SNR=467						
N15A				⇓S	**Sn**	**15 30 19.8**	**-2.4**
	baz=1.8						
M15A	**Larsen Ranch,**	**1.77**	**80**	⇑Pb	**Pn**	**15 29 59.0**	**-1.0**
	baz=1.8,SNR=433						
M15A				⇓S	**Sn**	**15 30 22.0**	**-1.3**
	baz=1.8						
DUG	**Dugway**	**1.79**	**123**	*e*Pn	**Pn**	**15 29 58.3**	**-1.9**
DUG				*e*Sg	**Sb**	**15 30 25.3**	**+0.5**
DUG	**Dugway**	**1.79**	**123**	⇓P	**Pn**	**15 29 58.5**	**-1.7**
	baz=1.9,SNR=1000						
DUG				⇑S	**Sn**	**15 30 22.3**	**-1.5**
	baz=1.9						
K14A	**Jones Ranch, D**	**1.81**	**41**	⇓P	**Pn**	**15 29 59.1**	**-1.4**
	baz=1.7,SNR=196						
K14A				⇓S	**Sn**	**15 30 23.2**	**-1.0**
	baz=1.7						
L15A	**Malad City**	**1.97**	**65**	⇓Pb	**Pn**	**15 30 02.5**	**-0.3**
	baz=1.9,SNR=254						
L15A				⇓Sb	**Sn**	**15 30 28.3**	**0.0**
	baz=1.9						
O15A	**The Old Anders**	**1.97**	**117**	⇓P	**Pn**	**15 30 01.2**	**-1.6**
	baz=2.1,SNR=146						
BMN	**Battle Mountai**	**2.01**	**249**	*e*Pn	**Pn**	**15 30 01.4**	**-1.9**
K15A	**Arbon**	**2.25**	**47**	⇓P	**Pn**	**15 30 05.5**	**-1.0**
	baz=2.2,SNR=154						
K15A				⇑Sb	**Sb**	**15 30 36.5**	**-1.4**
	baz=2.2						
J13A	**Cove Ranch, Pi**	**2.25**	**11**	⇑P	**Pn**	**15 30 06.0**	**-0.7**
	baz=2.1,SNR=432						
J13A				⇑Sn	**Sb**	**15 30 35.5**	**-2.7**
	baz=2.1						
J14A	**Carey**	**2.33**	**23**	⇑P	**Pn**	**15 30 07.2**	**-0.6**
	baz=2.2,SNR=188						
J14A				⇑Sn	**Sn**	**15 30 37.1**	**0.0**
	baz=2.2						
CTU	**Camp Tracy**	**2.34**	**101**	*e*Pn	**Pn**	**15 30 07.8**	**-0.1**
MFID	**Camas Ranch**	**2.36**	**341**	*e*Pn	**Pn**	**15 30 07.0**	**-1.1**
MFID	**Camas Ranch**	**2.36**	**341**	⇓P	**Pn**	**15 30 08.3**	**+0.2**
	baz=2.2						
HLID	**Hailey**	**2.39**	**6**	*e*Pn	**Pn**	**15 30 07.8**	**-0.8**
HLID				*e*Sn	**Sn**	**15 30 38.6**	**-0.1**
HLID	**Hailey**	**2.39**	**6**	⇑P	**Pn**	**15 30 08.0**	**-0.6**
	baz=2.3,SNR=642						
HLID				⇑Sn	**Sn**	**15 30 38.7**	**+0.1**
	baz=2.3						
P15A	**Leamington**	**2.50**	**129**	⇓P	**Pn**	**15 30 08.4**	**-1.6**
	baz=2.6,SNR=107						
N16A	**Rees Ranch, Co**	**2.54**	**96**	⇓Sg	**Sb**	**15 30 48.1**	**+1.6**
	baz=2.6						
JLU	**Jordanelle**	**2.58**	**102**	*e*Pn	**Pn**	**15 30 10.2**	**-1.1**
I12A	**Atlanta**	**2.62**	**354**	⇑P	**Pn**	**15 30 12.3**	**+0.5**
	baz=2.5						
L16A	**Fish Haven**	**2.64**	**71**	⇑Sb	**Sb**	**15 30 47.7**	**-1.6**
	baz=2.6						
MPU	**Maple Canyon**	**2.66**	**115**	*e*Pn	**Pn**	**15 30 10.7**	**-1.6**
MPU				*e*Pg	**Pg**	**15 30 19.3**	**+0.3**
MPU				*e*Sg	**Sg**	**15 30 53.4**	**-0.1**
I13A	**Wildhorse Cree**	**2.77**	**10**	⇓P	**Pn**	**15 30 13.3**	**-0.5**
	baz=2.6,SNR=168						
DAU	**Daniels Canyon**	**2.78**	**105**	*e*Pn	**Pn**	**15 30 13.0**	**-1.0**
DAU				*e*Pg	**Pg**	**15 30 21.4**	**+0.1**
DAU				*e*Sg	**Sg**	**15 30 58.9**	**+1.6**
J15A	**Blackfoot**	**2.81**	**37**	⇓P	**Pn**	**15 30 13.6**	**-0.8**
	baz=2.7,SNR=61						
J15A				⇓Sb	**Sb**	**15 30 53.8**	**-0.4**
	baz=2.7						
P16A	**Fountain Green**	**2.85**	**123**	⇓P	**Pn**	**15 30 13.6**	**-1.4**
	baz=3.0,SNR=18						
P16A				⇑Sg	**Sg**	**15 30 59.2**	**-0.4**
	baz=3.0						
K16A	**Soda Springs**	**2.89**	**54**	⇓Pb	**Pb**	**15 30 18.4**	**-2.0**
	baz=2.8						
K16A				⇑Sb	**Sb**	**15 30 55.9**	**-0.5**
	baz=2.8						
I14A	**Mackay**	**2.91**	**19**	⇓Pb	**Pb**	**15 30 19.9**	**-1.0**
	baz=2.8						
I14A				⇓Sb	**Sb**	**15 30 56.2**	**-0.9**
	baz=2.8						
N17A	**Moffit Pass**	**2.99**	**93**	⇓Pb	**Pb**	**15 30 19.6**	**-2.6**
	baz=3.0						
N17A				⇓Sg	**Sb**	**15 31 02.1**	**+2.7**
	baz=3.0						
L17A	**Cokeville**	**3.06**	**71**	⇑Sb	**Sb**	**15 31 01.3**	**-0.1**
	baz=3.1						
R13A	**O'Grain Ranch,**	**3.07**	**168**	⇑Pg	**Pg**	**15 30 26.2**	**-0.6**
	baz=3.2						
R13A				⇑Sg	**Sg**	**15 31 08.1**	**+1.6**
	baz=3.2						
WVOR	**Wild Horse Val**	**3.15**	**295**	*e*Pn	**Pn**	**15 30 19.1**	**+0.2**
WVOR				P	**Pb**	**15 30 22.4**	**-2.5**
O17A	**Robinson Place**	**3.22**	**107**	⇓Sg	**Sg**	**15 31 11.0**	**-0.6**
	baz=3.3						
K17A	**Gardner Place,**	**3.27**	**60**	⇑Sb	**Sb**	**15 31 07.4**	**-0.1**
	baz=3.2						
I15A	**Monteview**	**3.28**	**30**	⇑Sb	**Sb**	**15 31 07.1**	**-0.6**
	baz=3.2						
TMUT	**Trail Mountain**	**3.32**	**124**	*e*Pn	**Pn**	**15 30 21.2**	**-0.2**
MSU	**Marysvale**	**3.33**	**142**	*e*Pn	**Pn**	**15 30 20.7**	**-0.9**
RRI2	**Red Ridge**	**3.35**	**49**	*e*Pn	**Pn**	**15 30 21.3**	**-0.6**
P17A	**Butcher Ranch,**	**3.52**	**118**	⇓Sg	**Sg**	**15 31 20.0**	**-1.2**
	baz=3.6						
ARUT	**Antelope Range**	**3.55**	**163**	*e*Pn	**Pn**	**15 30 23.8**	**-0.6**
Q16A	**Castle Valley**	**3.57**	**128**	⇑Sg	**Sg**	**15 31 22.6**	**-0.2**
	baz=3.7						
H14A	**Leadore**	**3.58**	**16**	⇑Sb	**Sb**	**15 31 16.1**	**-0.2**
	baz=3.5						
DCID1	**Drake Creek**	**3.58**	**47**	*e*Pn	Pb	15 30 28.3	-4.0
I16A	**Newdale**	**3.62**	**41**	⇓Sb	**Sb**	**15 31 18.8**	**+1.3**
	baz=3.5						
SNOW	**Snow King Moun**	**3.75**	**51**	*e*Pn	Pn	15 30 29.8	+2.5
H15A	**Lima**	**3.77**	**24**	⇑Sb	**Sb**	**15 31 22.6**	**+0.8**
	baz=3.7						
P18A	**Preston Nutter**	**3.79**	**113**	⇑Sg	**Sg**	**15 31 28.4**	**-1.3**
	baz=3.9						
CCUT	**Cedar City**	**3.79**	**163**	*e*Pn	**Pn**	**15 30 27.1**	**-0.8**
SRU	**San Rafael**	**3.86**	**121**	*e*Pn	**Pn**	**15 30 28.2**	**-0.6**
SRU				*e*Pg	**Pb**	**15 30 39.9**	**+2.8**
NVAR	**Mina Array Bea**	**3.87**	**226**	Pn	**Pn**	**15 30 28.1**	**-0.8**
	3.4nm,0.3s,baz=39,slow=13,SNR=155						
NVAR				Pg	**Pb**	**15 30 34.6**	**-2.6**
	12nm,0.3s,baz=42,slow=16,SNR=33						
NVAR				Sn	**Sn**	**15 31 14.6**	**-0.6**
	13nm,0.3s,baz=32,slow=24,SNR=2.5						
NVAR				Lg	Lg	15 31 28.4	
	20nm,0.3s,baz=40,slow=30,SNR=3.2						
NVAR	**Mina Array Bea**	**3.87**	**226**	Pn	**Pn**	**15 30 28.1**	**-0.8**
NVAR				Pg	**Pb**	**15 30 34.6**	**-2.6**
NVAR				Sn	**Sn**	**15 31 14.6**	**-0.6**
NVAR				Lg	Lg	15 31 28.4	
MCMT	**McKenzie Canyo**	**3.90**	**21**	*e*Pn	**Pn**	**15 30 30.8**	**+1.4**
MCMT				*e*Sg	**Sb**	**15 31 25.3**	**-0.3**
G13A	**Cobalt**	**3.92**	**6**	⇓Sb	**Sb**	**15 31 27.3**	**+1.1**
	baz=3.8						
LOHW	**Long Hollow**	**3.92**	**50**	Pn	**Pn**	**15 30 30.3**	**+0.6**
BMO	**Blue Mountains**	**4.11**	**334**	*e*Pn	**Pn**	**15 30 32.4**	**+0.3**
FLWY	**Flagg Ranch**	**4.17**	**45**	*e*Pn	**Pn**	**15 30 33.6**	**+0.5**
BW06	**Boulder Array**	**4.20**	**66**	*e*Pn	**Pn**	**15 30 35.2**	**+1.8**
MOD	**Modoc**	**4.21**	**282**	*e*Pn	**Pn**	**15 30 32.9**	**-0.7**
WCN	**Washoe City**	**4.25**	**245**	*e*Pn	**Pn**	**15 30 32.8**	**-1.4**
QLMT	**Earthquake Lak**	**4.39**	**33**	*e*Pn	Pn	15 30 38.8	+2.7
YMR	**Madison River**	**4.46**	**38**	Pn	**Pn**	**15 30 38.5**	**+1.4**
DLMT	**Dillon**	**4.47**	**20**	*e*Pn	**Pn**	**15 30 36.2**	**-0.9**
YNR	**Norris Junctio**	**4.63**	**39**	Pn	**Pn**	**15 30 39.8**	**+0.4**
LRM	**Limekiln Ridge**	**4.93**	**19**	P	**Pn**	**15 30 42.1**	**-1.5**
BOZ	**Bozeman (W)**	**5.01**	**26**	*e*Pn	**Pn**	**15 30 45.6**	**+1.1**
CMB	**Columbia Colle**	**5.36**	**236**	*e*Pn	**Pn**	**15 30 48.6**	**-0.6**
	28nm,0.5s						
CMB				*e*Pg	Pg	15 31 07.4	-3.2
RLMT	**Red Lodge**	**5.63**	**44**	Pn	**Pn**	**15 30 55.2**	**+2.1**
	4.8nm,0.5s						
RWWY	**Rawlins**	**5.71**	**82**	P	**Pn**	**15 30 53.4**	**-0.8**
	4.9nm,0.5s						
CHMT	**Chamberlain Mo**	**5.83**	**10**	*e*P	**Pn**	**15 30 56.1**	**+0.2**
	3.4nm,0.5s						
BSMT	**Bassoo Peak**	**6.66**	**360**	*e*Pn	**Pn**	**15 31 08.8**	**+1.5**
	4.9nm,0.8s						
OD2	**Odessa Site #2**	**6.81**	**337**	*e*Pn	Pn	15 31 11.1	+1.9
	12nm,0.9s						
ANMO	**Albuquerque**	**9.04**	**131**	Pg	Pn	15 32 17.1	+37
	0.3nm,0.3s,baz=339,slow=14,SNR=6.4						
ANMO	**Albuquerque**	**9.04**	**131**	Pg	Pn	15 32 17.1	+37
TXAR	**Lajitas Array**	**14.89**	**139**	Pn	**P**	**15 33 07.9**	**+2.1**
	0.0nm,0.3s,baz=323,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**14.89**	**139**	Pn	**P**	**15 33 07.9**	**+2.1**
ILAR	**Eielson Array**	**29.93**	**333**	P	**P**	**15 35 38.1**	**+0.8**
	0.1nm,0.6s,baz=139,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	**29.93**	**333**	P	**P**	**15 35 38.1**	**+0.8**

*DJA **04** 15:29:40,0˚01N×133˚28E,h30km,mb4.6/4*
IDC 04 15:29:42.5±2.0,0˚53S×132˚88E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/16,mbtmp3.9/4,ML4.0/1,Error ellipse: s-maj=110.0km s-min=23.3km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.34**	**176**	P	Pn	15 34 10.3	-0.4
	0.5nm,0.3s,baz=356,slow=11,SNR=45						
ASAR	**Alice Springs**	**23.02**	**178**	P	P	15 34 49.8	+0.4
	4.5nm,0.7s,baz=354,slow=9.9,SNR=87						
STKA	**Stephens Creek**	**32.24**	**166**	P	P	15 36 12.2	-0.7
	2.0nm,0.3s,baz=339,slow=7.5,SNR=25						
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	15 40 21.7	0.0
	0.2nm,0.7s,baz=111,slow=7.9,SNR=3.6						

IDC 04 15:30:26.0±1.3,0˚31S×133˚86E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.6/16,mbtmp3.6/5,ML3.9/1,Error ellipse: s-maj=70.0km s-min=22.5km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.52**	**179**	P	P	15 34 54.6	-0.5
	0.3nm,0.3s,baz=357,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**23.22**	**180**	P	P	15 35 35.5	+0.6
	2.1nm,0.7s,baz=358,slow=12,SNR=3.5						
SONM	**Songino Array**	**53.57**	**337**	P	P	15 39 49.3	+0.4
	0.4nm,0.9s,baz=145,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**64.97**	**324**	P	P	15 41 07.6	-0.1
	0.3nm,0.5s,baz=119,slow=7.2,SNR=7.4						
ILAR	**Eielson Array**	**85.69**	**25**	P	P	15 43 06.0	-0.6
	0.3nm,0.7s,baz=268,slow=4.6,SNR=4.3						

*MOS **04** 15:30:28.8±1.1,47˚25N×9˚31E,h11km,mb4.0/7,Error ellipse: s-maj=3.9km s-min=3.0km az=50.5*
*IDC **04** 15:30:29.9±1.2,47˚21N×9˚35E,h0km,mb3.7/7, mb1 3.7/13,mb1mx3.6/30,mbtmp3.6/13,ML3.7/6,MS3.1/1, Ms1 3.1/1,ms1mx2.2/42,Error ellipse: s-maj=13.7km s-min=8.2km az=85.0*
*ISCJB **04** 15:30:29.1±0.2,47˚215N±0˚008×9˚30E±0˚01,h6km±1km, mb3.8/10,Error ellipse: s-maj=1.4km s-min=1.2km az=1.5*
*CSEM **04** 15:30:30.3±0.1,47˚23N×9˚30E,h2km,mb3.8/4,ML4.7/17, Error ellipse: s-maj=1.6km s-min=1.3km az=5.0*
*LEDBW **04** 15:30:30.4±0.2,47˚161N±0˚009×9˚389E±0˚008, h7km±3km,ML4.4,Error ellipse: s-maj=3.2km s-min=2.6km az=148.0*
*PRU **04** 15:30:30.4,47˚30N×9˚32E,h0km*
*NEIC **04** 15:30:30.0,47˚18N×9˚36E,h3km,ML4.5(LDG), ML4.3(VIE),ML4.1(ZUR),ML3.9(STR),After ZUR.*
NEIC Felt in Voralberg, Austria.
*ZUR **04** 15:30:30.1,47˚18N×9˚36E,h4km,ML4.1/31*
*GEN **04** 15:30:30.4,47˚28N×9˚49E,h1km,ML4.1*
*IPEC **04** 15:30:30.8±0.1,47˚24N×9˚32E,h11km±1km,ML4.3/3, Error ellipse: s-maj=1.3km s-min=0.5km az=145.0*
*LDG **04** 15:30:30.0±0.1,47˚24N×9˚37E,h3km,Md4.2/5,Ml4.5/40, Error ellipse: s-maj=1.6km s-min=1.4km az=179.0*
*VIE **04** 15:30:31.3±0.5,47˚27N×9˚39E,h9km±1km,mb3.9/18, ML4.3/20,Error ellipse: s-maj=3.8km s-min=2.4km az=48.0 16 km S of St Gallen felt 4-5 ems98 in Vorarlberg*
*BNS **04** 15:30:32.0±0.3,47˚19N×9˚45E,h10km,ML4.1*
*BGR **04** 15:30:32.5±0.4,47˚27N×9˚41E,h10km,ML4.4/14,Error ellipse: s-maj=7.8km s-min=3.3km az=31.0*
ISC 04 15:30:28.5±0.5,47˚198N±0˚009×9˚301E±0˚009,h0km±3km, n857,σ1s77/1189,mb3.8/10,108C-160D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLONS	**Plons/SG**	**0.16**	**160**	⇓*i*P*	**Pg**	**15 30 33.1**	**+1.6**
PLONS				S*	**Sg**	**15 30 35.4**	**+1.9**
PLONS	**Plons/SG**	**0.16**	**160**	⇓*i*Pg	**Pg**	**15 30 33.1**	**+1.6**
PLONS	**Plons/SG**	**0.16**	**160**	⇓*i*Pg	**Pg**	**15 30 33.1**	**+1.6**
	63µm,0.6s						
PLONS				*e*Sg	**Pg**	**15 30 33.1**	**+1.6**
	63µm,0.6s						
PLONS	**Plons/SG**	**0.16**	**160**	⇓*i*Pg	**Pg**	**15 30 33.1**	**+1.6**
PLONS				Sg	**Sg**	**15 30 35.8**	**+2.2**
PLONS	**Plons/SG**	**0.16**	**160**	*e*Sg	Sg	15 30 33.1	-0.7
	63µm,0.6s						
PLONS	**Plons/SG**	**0.16**	**160**	⇓*i*Pg	**Pg**	**15 30 33.1**	**+1.6**
	63µm,0.6s						
LIENZ	**Kamor/St.Gall**	**0.16**	**53**	⇑*i*P*	**Pg**	**15 30 33.1**	**+1.5**
LIENZ	**Kamor/St.Gall**	**0.16**	**53**	⇑*i*Pg	**Pg**	**15 30 33.1**	**+1.5**
LIENZ	**Kamor/St.Gall**	**0.16**	**53**	⇑*i*Pg	Pg	15 30 35.8	+4.1
	88µm,0.8s						
LIENZ	**Kamor/St.Gall**	**0.16**	**53**	⇑*i*Px	**Pg**	**15 30 33.1**	**+1.5**
LIENZ				x	x	15 30 35.5	
LIENZ	**Kamor/St.Gall**	**0.16**	**53**	⇑*i*Pg	**Pg**	**15 30 33.1**	**+1.5**
WILA	**Wila**	**0.34**	**309**	⇓*i*P*	**Pb**	**15 30 38.4**	**+0.8**
WILA				*i* S*	**Sb**	**15 30 44.7**	**+1.1**
WILA	**Wila**	**0.34**	**309**	⇓*i*Pg	**Pg**	**15 30 35.8**	**+0.7**
WILA	**Wila**	**0.34**	**309**	⇓*i*Pg	**Pb**	**15 30 38.2**	**+0.6**
	101µm,0.8s						
WILA				*i* Sg	**Sb**	**15 30 44.4**	**+0.8**
	101µm,0.8s						
WILA	**Wila**	**0.34**	**309**	⇓*i*Pg	**Pb**	**15 30 38.4**	**+0.8**
WILA				*i* Sg	**Sb**	**15 30 44.7**	**+1.1**
WILA	**Wila**	**0.34**	**309**	P	**Pb**	**15 30 39.5**	**+1.9**
WILA				S	**Sb**	**15 30 48.1**	**+4.5**
WILA	**Wila**	**0.34**	**309**	⇓*i*Pg	**Pb**	**15 30 38.2**	**+0.6**
	101µm,0.8s						
WILA				*i* Sg	**Sb**	**15 30 44.4**	**+0.8**
	101µm,0.8s						
WILA				Sb	**Sb**	**15 30 44.7**	**+1.1**
WEIN	**Weingarten**	**0.39**	**327**	⇓*i*Pg	**Pn**	**15 30 44.4**	**+2.9**
WEIN	**Weingarten**	**0.39**	**327**	⇓*i*Pg	**Pb**	**15 30 38.4**	**0.0**
	12µm,0.6s						
WEIN	**Weingarten**	**0.39**	**327**	⇓*i*Pg	**Pb**	**15 30 38.4**	**0.0**
	12µm,0.6s						
LLS	**Linth-Limmern**	**0.40**	**210**	⇑*i*P	**Pg**	**15 30 38.2**	**+2.0**
LLS	**Linth-Limmern**	**0.40**	**210**	⇑*i*P*	**Pg**	**15 30 38.2**	**+2.0**
LLS				*i* S*	**Sg**	**15 30 44.4**	**+2.9**
LLS	**Linth-Limmern**	**0.40**	**210**	⇑*i*Pg	**Pg**	**15 30 38.2**	**+2.0**
LLS	**Linth-Limmern**	**0.40**	**210**	⇑*i*Pg	**Pg**	**15 30 38.4**	**+2.2**
	41µm,0.2s						
LLS				*i* Sg	**Sg**	**15 30 44.7**	**+3.3**
	41µm,0.2s						
LLS	**Linth-Limmern**	**0.40**	**210**	⇑*i*Pg	**Pg**	**15 30 38.2**	**+2.0**
LLS				*i* Sg	**Sg**	**15 30 44.4**	**+2.9**
DAVA	**Damuels**	**0.41**	**77**	*i* P*	**Pg**	**15 30 37.4**	**+1.1**
DAVA				*e*Sg	**Sg**	**15 30 43.6**	**+2.1**
DAVA	**Damuels**	**0.41**	**77**	⇓*e*Pg	**Pg**	**15 30 37.5**	**+1.2**
DAVA				*i* Sg	**Sg**	**15 30 43.1**	**+1.6**
DAVA	**Damuels**	**0.41**	**77**	⇓*e*Pg	**Pg**	**15 30 37.5**	**+1.2**
	772nm,0.2s,SNR=2466						
DAVA				⇑*i*Sg	**Sg**	**15 30 43.1**	**+1.6**
	13µm,0.4s						
DAVA	**Damuels**	**0.41**	**77**	⇑*i*Pg	**Pg**	**15 30 37.3**	**+1.1**
DAVA				Sg	**Sg**	**15 30 44.0**	**+2.5**
DAVA	**Damuels**	**0.41**	**77**	Pb	**Pg**	**15 30 37.4**	**+1.1**
DAVA	**Damuels**	**0.41**	**77**	*e*Pg	**Pg**	**15 30 37.7**	**+1.5**
	baz=263						
DAVA				*e*Sg	**Sg**	**15 30 43.7**	**+2.2**
	baz=263						
MUO	**Muotathal**	**0.51**	**243**	⇑*i*P*	**Pb**	**15 30 41.1**	**+0.7**
MUO				S*	**Sb**	**15 30 49.4**	**+1.0**
MUO	**Muotathal**	**0.51**	**243**	⇑*i*Pg	**Pn**	**15 30 44.7**	**+1.5**
MUO	**Muotathal**	**0.51**	**243**	⇑*i*Pg	**Pg**	**15 30 39.3**	**+1.1**
	48µm,0.7s						
MUO				*e*Sg	Sg	15 30 40.7	-4.2
	48µm,0.7s						
MUO	**Muotathal**	**0.51**	**243**	⇑*i*Pg	**Pb**	**15 30 41.1**	**+0.7**
MUO				Sg	**Sb**	**15 30 49.4**	**+1.0**
MUO	**Muotathal**	**0.51**	**243**	P	**Pb**	**15 30 41.9**	**+1.5**
MUO	**Muotathal**	**0.51**	**243**	⇑*i*Pg	**Pg**	**15 30 39.3**	**+1.1**
	48µm,0.7s						
MUO	**Muotathal**	**0.51**	**243**	Pb	**Pb**	**15 30 41.1**	**+0.7**
ZUR	**Degenried**	**0.52**	**290**	⇓*i*P	**Pg**	**15 30 38.4**	**0.0**
ZUR	**Degenried**	**0.52**	**290**	⇓*i*P*	**Pb**	**15 30 41.8**	**+1.3**
ZUR				S*	**Sb**	**15 30 50.1**	**+1.5**
ZUR	**Degenried**	**0.52**	**290**	⇓*i*Pg	**Pg**

UBR *i* SmS 15 31 00.0
UBR Ueberruh 0.73 48⇑*i*Pg **Pb 15 30 44.8 +0.7**
UBR Sg **Sg 15 30 52.6 +0.6**
UBR S **Sb 15 30 55.5 +0.8**
UBR Ueberruh 0.73 48 PmP 15 30 47.3
UBR Ueberruh 0.73 48 Pb **Pb 15 30 44.8 +0.7**
UBR Sb **Sb 15 30 55.5 +0.8**
SLE Schleitheim 0.79 316⇓*i*P **Pg 15 30 41.8 -1.8**
SLE Schleitheim 0.79 316⇓*i*P* **Pb 15 30 46.4 +1.3**
SLE ⇓*i*PmP 15 30 48.1
SLE S* **Sb 15 30 57.7 +1.3**
SLE SmS 15 31 00.3
SLE Schleitheim 0.79 316⇓*i*Pg **Pg 15 30 41.8 -1.8**
SLE Schleitheim 0.79 316⇓*i*Pg **Pb 15 30 46.1 +1.0**
21µm,0.5s
SLE Schleitheim 0.79 316⇓*i*Pg **Pb 15 30 46.4 +1.3**
SLE Sx Sx 15 30 57.7
SLE SmS 15 31 00.8
SLE Schleitheim 0.79 316 *i*P **Pg 15 30 41.8 -1.8**
SLE Schleitheim 0.79 316 Pb **Pb 15 30 46.4 +1.3**
SLE Sb **Sb 15 30 57.7 +1.3**
HTN Hohentengen 0.83 4 Pg **Pb 15 30 46.8 +0.9**
HTN Sg **Sn 15 30 58.8 -1.7**
FUSIO Fusio 0.86 211⇑*i*Pg **Pg 15 30 43.5 -1.5**
FUSIO Fusio 0.86 211⇑*i*Pg **Pg 15 30 47.0 +2.0**
12µm,0.5s
FUSIO Fusio 0.86 211⇑*i*Pg **Pg 15 30 47.0 +2.0**
12µm,0.5s
SULZ Cheisacher 0.87 293⇓*i*Pg **Pg 15 30 44.1 -1.1**
SULZ Cheisacher 0.87 293⇓*i*Pg **Pb 15 30 47.9 +1.4**
25µm,0.7s
SULZ Cheisacher 0.87 293⇓*i*Pg **Pn 15 30 48.2 +0.1**
SULZ Cheisacher 0.87 293 PmP 15 30 49.8
SULZ Cheisacher 0.87 293⇓*i*Pg **Pb 15 30 47.9 +1.4**
25µm,0.7s
FUORN Ofenpass-Fuorn 0.88 131⇓*i*Pg Pg 15 30 42.3 -3.0
FUORN Ofenpass-Fuorn 0.88 131⇓*i*Pg **Pg 15 30 46.4 +1.1**
5µm,0.7s
FUORN Ofenpass-Fuorn 0.88 131⇓*i*Pg **Pg 15 30 46.4 +1.1**
5µm,0.7s
GUT Gutenstein 0.88 352⇓*i*Pn **Pn 15 30 47.8 -0.4**
GUT ⇑*i*Pg **Pb 15 30 49.3 +2.5**
GUT Sn **Sn 15 31 00.3 -1.4**
GUT *i* Sg **Sb 15 31 02.5 +3.4**
GUT Gutenstein 0.88 352⇓*i*Pg **Pn 15 30 47.8 -0.4**
GUT Sg **Sn 15 31 00.3 -1.4**
GUT Gutenstein 0.88 352⇑*i*PmP 15 30 49.3
GUT *i* SmS 15 31 02.6
GUT Gutenstein 0.88 352 Pn **Pn 15 30 47.8 -0.4**
HASLI Hasliberg/Brie 0.90 241⇑*i*Pg **Pg 15 30 46.1 +0.3**
HASLI Hasliberg/Brie 0.90 241⇑*i*Pg **Pb 15 30 48.3 +1.2**
17µm,0.5s
HASLI Hasliberg/Brie 0.90 241⇑*i*Pg **Pb 15 30 48.3 +1.2**
17µm,0.5s
BERNI Berninapass 0.93 147⇓*i*Pg Pg 15 30 43.6 -2.7
BERNI Berninapass 0.93 147⇓*i*Pg **Pg 15 30 47.1 +0.8**
3µm,0.5s
BERNI Berninapass 0.93 147⇓*i*Pg **Pg 15 30 47.1 +0.8**
3µm,0.5s
SPAK Spaichingen-Ko 0.97 339⇓*i*Pn **Pn 15 30 49.7 +0.2**
SPAK Spaichingen-Ko 0.97 339 Pg **Pn 15 30 49.5 0.0**
SPAK Sg **Sn 15 31 03.5 -0.5**
SPAK Spaichingen-Ko 0.97 339⇓*i*Pn **Pn 15 30 49.7 +0.2**
SPAK Spaichingen-Ko 0.97 339 PmP 15 30 50.9
SPAK Spaichingen-Ko 0.97 339 Pg **Pn 15 30 49.5 0.0**
SPAK Sg **Sn 15 31 03.5 -0.5**
FETA Feichten 0.99 100⇑*e*Pg **Pg 15 30 48.5 +1.0**
FETA *i* Sg **Sb 15 31 02.9 +0.6**
FETA Feichten 0.99 100⇑*e*Pg **Pg 15 30 48.5 +1.0**
224nm,0.3s,SNR=166
FETA ⇑*i*Sg **Sb 15 31 02.9 +0.6**
1µm,0.5s
FETA Feichten 0.99 100 Pg **Pg 15 30 48.5 +1.0**
224nm,0.3s,SNR=166
FETA Sg **Sb 15 31 02.9 +0.6**
1µm,0.5s
MSS Messtetten 1.01 347⇓*i*Pg **Sb 15 31 02.3 -0.4**
RETA Reutte 1.03 73⇑*e*Pg **Pb 15 30 49.6 +0.3**
RETA *i* Sg **Sb 15 31 03.6 +0.1**
RETA Reutte 1.03 73⇑*e*Pg **Pb 15 30 49.6 +0.3**
751nm,0.3s,SNR=2158
RETA ⇑*i*Sg **Sb 15 31 03.6 +0.1**
2µm,0.4s
RETA Reutte 1.03 73 Pg **Pb 15 30 49.6 +0.3**
750nm,0.2s,SNR=1000
RETA Sg **Sb 15 31 03.6 +0.1**
2µm,0.4s
BHBD Braunhartsberg 1.07 349⇓Pg **Pn 15 30 51.4 +0.6**
BHBD Braunhartsberg 1.07 349 PmP 15 30 52.1
BALST Balsthal 1.10 278⇓*i*Pg **Pg 15 30 46.4 -3.2**
BALST Balsthal 1.10 278⇓*i*Pg **Pn 15 30 52.3 +1.1**
12µm,1.2s
BALST Balsthal 1.10 278⇓Pg **Pn 15 30 52.3 +1.1**
BALST Balsthal 1.10 278 Px **Pn 15 30 53.5 +2.3**
BALST Balsthal 1.10 278⇓*i*Pg **Pn 15 30 52.3 +1.1**
12µm,1.2s
HSND Hausen 1.11 356⇓Pg **Pg 15 30 46.8 -3.0**
FELD Feldberg im Sc 1.11 308⇓*i*Pn **Pn 15 30 52.4 +0.9**
FELD Feldberg im Sc 1.11 308 Pg **Pn 15 30 52.3 +0.9**
FELD Sg **Sb 15 31 06.7 +1.0**
FELD Feldberg im Sc 1.11 308⇓*i*Pg **Pn 15 30 52.4 +0.9**
FELD Feldberg im Sc 1.11 308 Px **Pn 15 30 53.4 +2.0**
FELD Feldberg im Sc 1.11 308 Pg **Pn 15 30 52.3 +0.9**
FELD Sg **Sb 15 31 06.7 +1.0**
WYH Wyhlen 1.14 289 Pn **Pn 15 30 53.1 +1.3**
WYH Wyhlen 1.14 289 PmP 15 30 53.8
JUND Jungingen 1.15 351 Px **Pn 15 30 52.5 +0.7**
JUND Jungingen 1.15 351 Px **Pn 15 30 53.3 +1.5**
ENGD Engstlatt 1.15 346⇓Pn **Pn 15 30 52.7 +0.8**
ENGD Engstlatt 1.15 346 P **Pn 15 30 53.5 +1.5**
ENDD Endenburg 1.18 297⇑Pn **Pn 15 30 53.5 +1.2**
ENDD Endenburg 1.18 297 P **Pn 15 30 54.2 +1.9**
LOES Loerrach-Stett 1.18 291 Px **Pn 15 30 53.8 +1.5**
LOES Loerrach-Stett 1.18 291 PmP 15 30 55.1
KIZ Kirchzarten 1.21 310⇓*i*Pn **Pn 15 30 53.6 +1.0**
KIZ Sg **Sn 15 31 11.0 +1.3**
KIZ Kirchzarten 1.21 310⇓*i*Pn **Pn 15 30 53.6 +1.0**
KIZ S **Sn 15 31 11.0 +1.3**
KIZ Kirchzarten 1.21 310 Pn **Pn 15 30 53.7 +1.0**
KIZ Sg **Sn 15 31 11.0 +1.3**
MSG Moessingen 1.22 352⇓Pn **Pn 15 30 53.5 +0.7**
WEIL Weil am Rhein 1.22 290 Px **Pn 15 30 54.4 +1.6**
MOTA Moosalm 1.24 83⇑*e*P **Pg 15 30 52.7 +0.5**
MOTA *i* 15 31 10.3
MOTA Moosalm 1.24 83⇑*e*Pg **Pg 15 30 52.7 +0.5**
MOTA *i* Sg **Sn 15 31 10.2 -0.4**
MOTA Moosalm 1.24 83⇑*e*Pg **Pg 15 30 52.7 +0.5**
718nm,0.2s,SNR=2720
MOTA ⇑*i*Sg **Sn 15 31 10.2 -0.4**
2µm,0.2s
MOTA Moosalm 1.24 83 Pg **Pg 15 30 52.7 +0.5**
718nm,0.1s,SNR=1000
MOTA Sg **Sn 15 31 10.2 -0.4**
2µm,0.2s
BBS Basel-Blauen 1.25 283 P **Pg 15 30 53.8 +1.4**
BBS 15 31 12.0
BBS Basel-Blauen 1.25 283⇓*i*Pn **Pg 15 30 54.8 +2.4**
BBS Basel-Blauen 1.25 283 Pg **Pg 15 30 53.8 +1.4**
BBS Sg **Sn 15 31 12.0 +1.2**
BBS Basel-Blauen 1.25 283⇓*i*Pn **Pg 15 30 54.8 +2.4**
BBS Basel-Blauen 1.25 283 Pg **Pg 15 30 53.8 +1.4**
BBS Basel-Blauen 1.25 283 Pn **Pg 15 30 54.8 +2.4**
BBS Sg **Sn 15 31 12.0 +1.2**
BUCH Bad Urach 1.25 2⇓*i*Pn **Pn 15 30 53.9 +0.6**
BUCH Sn **Sn 15 31 10.5 -0.4**
BUCH Bad Urach 1.25 2⇓*i*Pn **Pn 15 30 53.9 +0.6**
BUCH Sn **Sn 15 31 10.5 -0.4**
BUCH Bad Urach 1.25 2 Pn **Pn 15 30 53.9 +0.6**
BUCH Sn **Sn 15 31 10.5 -0.4**
FBB Freiburg im Br 1.27 310 Pn **Pg 15 30 54.6 +1.8**
FBB Freiburg im Br 1.27 310 Px **Pg 15 30 54.6 +1.8**
FBB Freiburg im Br 1.27 310 Pn **Pg 15 30 54.6 +1.8**
WIMIS Wimmis 1.27 246⇑*i*P Pn 15 30 47.1 -6.4
WIMIS Wimmis 1.27 246⇑*i*P **Pg 15 30 55.2 +2.5**
6µm,0.7s
WIMIS Wimmis 1.27 246⇑*i*P **Pg 15 30 55.2 +2.5**
6µm,0.7s
PART Garmisch-Parte 1.27 76⇑*i*Pn **Pn 15 30 53.6 +0.1**
PART Garmisch-Parte 1.27 76 Pn **Pn 15 30 53.6 +0.1**
MUGIO Muggio 1.29 188⇓*i*P Pn 15 30 47.0 -6.8
MUGIO Muggio 1.29 188⇓*i*P **Pn 15 30 54.3 +0.5**
6µm,0.7s
MUGIO Muggio 1.29 188⇓*i*P **Pn 15 30 54.3 +0.5**
6µm,0.7s
BFO Black Forest 1.31 330 *e*P **Pg 15 30 55.0 +1.4**
BFO *e* 15 31 13.0
BFO Black Forest 1.31 330⇓*i*Pn **Pg 15 30 55.0 +1.4**
BFO *e*Sg **Sn 15 31 13.0 +0.7**
BFO Black Forest 1.31 330⇓*i*Pn **Pg 15 30 55.0 +1.4**
BFO Black Forest 1.31 330 Px **Pg 15 30 56.3 +2.7**
BFO Black Forest 1.31 330 Pn **Pg 15 30 55.0 +1.4**
BFO Sg **Sn 15 31 13.0 +0.7**
TUBL Tuebingen-Lenn 1.33 354⇓*i*Pn **Pg 15 30 55.2 +1.2**
TUBL Sn **Sn 15 31 12.3 -0.5**
TUBL Tuebingen-Lenn 1.33 354⇓*i*Pn **Pg 15 30 55.2 +1.2**
TUBL Sn **Sn 15 31 12.3 -0.5**
TUBL Tuebingen-Lenn 1.33 354 Pn **Pg 15 30 55.2 +1.2**
TUBL Sn **Sn 15 31 12.3 -0.5**
LKBD2 Leukerbad 2 1.41 235⇑*i*P **Pg 15 30 57.2 +1.8**
LKBD2 Leukerbad 2 1.41 235⇑*i*Pg **Pg 15 30 57.2 +1.8**
LKBD Leukerbad 1.41 235⇑*i*P Pn 15 30 48.3 -7.2
LKBD Leukerbad 1.41 235⇑*i*Pg **Pg 15 30 57.3 +1.9**
4µm,0.9s
LKBD Leukerbad 1.41 235⇑*i*Pg **Pg 15 30 57.3 +1.9**
4µm,0.9s
BOURR Bourrignon 1.42 279⇓*i*P **Pn 15 30 52.3 -3.4**
BOURR Bourrignon 1.42 279⇓*i*P **Pg 15 30 57.3 +1.6**
10µm,0.7s
BOURR Bourrignon 1.42 279⇓Pn **Pg 15 30 57.2 +1.4**
BOURR Bourrignon 1.42 279⇓*i*P **Pg 15 30 57.3 +1.6**
10µm,0.7s
MMK Mattmark 1.47 219⇑*i*P **Pn 15 30 54.3 -2.2**
MMK Mattmark 1.47 219⇑*i*P **Pn 15 30 54.3 -2.2**
MMK Mattmark 1.47 219⇑*i*P **Pb 15 30 57.8 +0.9**
6µm,0.6s
MMK Mattmark 1.47 219⇑*i*P **Pb 15 30 57.8 +0.9**
6µm,0.6s
MMK Mattmark 1.47 219 *e*Pn **Pb 15 30 58.1 +1.2**
baz=38
MMK *e*Sg **Sn 15 31 17.4 +0.8**
baz=38
LIBD Limburg 1.49 310 P **Pg 15 30 57.9 +0.9**
LIBD Limburg 1.49 310⇓*e*Pn **Pg 15 30 57.9 +0.9**
LIBD Limburg 1.49 310 Pn **Pg 15 30 57.9 +0.9**
LIBD Limburg 1.49 310⇓*e*Pn **Pg 15 30 57.9 +0.9**
LIBD Limburg 1.49 310 P **Pg 15 30 57.9 +0.9**
LBG Lerchenberg 1.51 347⇓*i*Pn **Pb 15 30 57.4 +0.1**
LBG Sn **Sn 15 31 16.5 -0.6**
LBG Lerchenberg 1.51 347⇓*i*Pn **Pb 15 30 57.4 +0.1**
LBG Sn **Sn 15 31 16.5 -0.6**
LBG Lerchenberg 1.51 347 Pn **Pb 15 30 57.4 +0.1**
LBG Sn **Sn 15 31 16.5 -0.6**
HDH Heidenheim-Cha 1.52 23⇑*i*Pn **Pn 15 30 56.8 -0.1**
HDH Sg **Sg 15 31 19.6 +2.4**
HDH Heidenheim-Cha 1.52 23⇑*i*Pn **Pn 15 30 56.8 -0.1**
HDH S **Sg 15 31 19.6 +2.4**
HDH Heidenheim-Cha 1.52 23 Pn **Pn 15 30 56.8 -0.1**
HDH Sg **Sg 15 31 19.5 +2.4**
OFBG Offenburg 1.53 325 Px **Pb 15 30 58.3 +0.5**
WATA Walderalm 1.56 84⇓*e*P **Pb 15 30 58.6 +0.3**
WATA *i* 15 31 18.7
WATA Walderalm 1.56 84⇓*e*Pn **Pb 15 30 58.6 +0.3**
WATA ⇓*i*Pg **Pg 15 30 59.9 +1.6**
WATA *i* Sn **Sb 15 31 18.7 +0.1**
WATA *i* Sg **Sg 15 31 21.1 +2.6**
WATA Walderalm 1.56 84⇓*e*Pn **Pb 15 30 58.6 +0.3**
SNR=740
WATA ⇓*i*Pg **Pg 15 30 59.9 +1.6**
479nm,0.4s
WATA ⇓*i*Sn **Sb 15 31 18.7 +0.1**
WATA ⇑*i*Sg **Sg 15 31 21.1 +2.6**
686nm,0.2s
WATA Walderalm 1.56 84 Pn **Pb 15 30 58.6 +0.3**
SNR=740
WATA Walderalm 1.56 84 Pg **Pg 15 30 59.9 +1.6**
479nm,0.4s
WATA Sn **Sb 15 31 18.7 +0.1**
WATA Sg **Sg 15 31 21.1 +2.6**
686nm,0.2s
STU Stuttgart 1.58 357 *e*P **Pn 15 30 58.1 +0.4**
STU *e* 15 31 18.0
STU Stuttgart 1.58 357⇓Pn **Pn 15 30 58.2 +0.5**
STU *e*Sg **Sg 15 31 21.6 +2.5**
STU Stuttgart 1.58 357 *e*Pn **Pn 15 30 58.1 +0.4**
STU *e*Sn **Sn 15 31 18.0 -0.8**
STU Stuttgart 1.58 357⇓Pn **Pn 15 30 58.2 +0.5**
STU Stuttgart 1.58 357 *e*P **Pn 15 30 58.1 +0.4**
STU *e*S **Sn 15 31 18.0 -0.8**
STU Sg **Sg 15 31 21.6 +2.5**
WTTA Wattenberg 1.59 87⇑*e*P **Pb 15 30 59.1 +0.2**
WTTA *i* 15 31 19.3
WTTA Wattenberg 1.59 87⇑*e*Pn **Pb 15 30 59.1 +0.2**
WTTA ⇑*i*Pg **Pg 15 31 00.8 +1.8**
WTTA *i* Sn **Sn 15 31 18.0 -0.2**
WTTA *i* Sg **Sg 15 31 22.3 +2.7**
WTTA Wattenberg 1.59 87⇑*e*Pn **Pb 15 30 59.1 +0.2**
SNR=1310
WTTA ⇑*i*Pg **Pg 15 31 00.8 +1.8**
346nm,0.2s
WTTA ⇓*i*Sn **Sn 15 31 19.3 -0.2**
WTTA ⇓*i*Sg **Sg 15 31 22.3 +2.7**
3µm,0.4s
WTTA Wattenberg 1.59 87 Pn **Pb 15 30 59.1 +0.2**
SNR=1000
MOF Molkenrain 1.61 295 P **Pb 15 30 59.6 +0.5**
MOF 15 31 23.7
MOF Molkenrain 1.61 295⇓*i*Pn **Pb 15 30 59.7 +0.6**
MOF Molkenrain 1.61 295 Pn **Pb 15 30 59.6 +0.5**
MOF Sg **Sg 15 31 23.7 +3.6**
MOF Molkenrain 1.61 295⇓*i*Pn **Pb 15 30 59.7 +0.6**
MOF Molkenrain 1.61 295 Pn **Pb 15 30 59.6 +0.5**
MOF Sg **Sg 15 31 23.7 +3.6**
SENIN Lac Senin/Sane 1.61 239⇓*i*P **Pn 15 30 55.2 -3.1**
SENIN Lac Senin/Sane 1.61 239⇓*i*Pn **Pb 15 31 00.4 +1.2**
4µm,0.5s
SENIN Lac Senin/Sane 1.61 239⇓*i*P **Pn 15 30 55.2 -3.1**
SENIN Lac Senin/Sane 1.61 239⇓*i*Pn **Pb 15 31 00.4 +1.2**
4µm,0.5s
FUR Furstenfeldbru 1.65 53 *e*P **Pg 15 31 01.4 +1.3**
FUR *e* 15 31 22.8
FUR Furstenfeldbru 1.65 53 *e*Pn **Pb 15 30 59.6 -0.2**
FUR *e*Pg **Pg 15 31 01.4 +1.3**
FUR *e*Sg **Sg 15 31 22.8 +1.3**
FUR Furstenfeldbru 1.65 53 Pn **Pb 15 30 59.6 -0.2**
SCE Schlegeis 1.65 95⇓*i*Pn **Pb 15 31 00.4 +0.5**
SCE Schlegeis 1.65 95 Pn **Pb 15 31 00.4 +0.5**
TORNY Torny/Romont 1.66 256⇓*i*Pn **Pn 15 30 57.2 -1.7**
TORNY Torny/Romont 1.66 256⇓*i*Pn **Pb 15 31 00.7 +0.8**
13µm,0.5s
TORNY Torny/Romont 1.66 256⇓*i*Pn **Pb 15 31 00.7 +0.8**
13µm,0.5s
LOMF Lomont 1.69 276 P **Pb 15 31 00.9 +0.4**
LOMF Lomont 1.69 276⇓*i*Pn **Pb 15 31 01.1 +0.6**
LOMF Lomont 1.69 276 Pn **Pb 15 31 00.9 +0.4**
LOMF Lomont 1.69 276⇓*i*Pn **Pb 15 31 01.1 +0.6**
LOMF Lomont 1.69 276 Pn **Pb 15 31 00.9 +0.4**
DIX Grande Dixence 1.72 230⇑*i*P **Pn 15 30 57.3 -2.6**
DIX Grande Dixence 1.72 230⇑*i*Pn **Pn 15 30 57.3 -2.6**
DIX Grande Dixence 1.72 230⇑*i*Pn **Pb 15 31 02.6 +1.5**
3µm,0.3s
DIX Grande Dixence 1.72 230 *i* P **Pn 15 30 57.3 -2.6**
DIX Grande Dixence 1.72 230⇑*i*Pn **Pb 15 31 02.6 +1.5**
3µm,0.3s
DIX *e*Sg **Sg 15 31 27.1 +3.5**
baz=48
NORI Noerdlinger Ri 1.76 30⇑*i*Pn **Pn 15 31 00.1 -0.2**
NORI ⇑*i*Sg **Sg 15 31 27.0 +1.8**
NORI Noerdlinger Ri 1.76 30 Pn **Pn 15 31 00.1 -0.2**
NORI Sg **Sg 15 31 27.0 +1.8**
ECH Echery 1.77 306 P **Pn 15 31 01.6 +1.2**
ECH Echery 1.77 306⇓*e*Pn **Pn 15 31 01.6 +1.2**
ECH Echery 1.77 306 Pn **Pn 15 31 01.6 +1.2**
ECH Echery 1.77 306⇓*i*Pn **Pn 15 31 01.6 +1.2**
ECH Echery 1.77 306 P **Pn 15 31 01.6 +1.2**
HINF Hinteralfeld 1.77 291 *e*P **Pn 15 31 01.7 +1.3**
HINF Hinteralfeld 1.77 291 *e*Pg **Pg 15 31 04.5 +2.1**
HINF *e*Sg **Sg 15 31 26.8 +1.4**
2µm,0.5s,SNR=1.0
HINF Hinteralfeld 1.77 291 *e*P **Pn 15 31 01.7 +1.3**
HINF *e* 15 31 26.8
HINF Hinteralfeld 1.77 291 *e*P **Pn 15 31 01.7 +1.3**
HINF *e*Pg **Pg 15 31 04.5 +2.1**
HINF *e*Sg **Sg 15 31 26.8 +1.4**
HINF Hinteralfeld 1.77 291 *e*P **Pn 15 31 01.7 +1.3**
HINF Hinteralfeld 1.77 291 *e*Pg **Pg 15 31 04.5 +2.1**
HINF *e*Sg **Sg 15 31 26.8 +1.4**
882nm,0.5s,SNR=1.0
GRYON Gryon 1.78 239⇓*i*Pn **Pn 15 30 57.3 -3.3**
GRYON Gryon 1.78 239⇓*i*Pn **Pb 15 31 02.6 +0.6**
812nm,0.7s
GRYON Gryon 1.78 239⇓*i*Pn **Pb 15 31 02.6 +0.6**
812nm,0.7s
AIGLE Aigle 1.83 243 *e*Pn **Pn 15 30 57.8 -3.4**
AIGLE Aigle 1.83 243 *e*Pn **Pb 15 31 03.1 +0.3**
6µm,1.1s
AIGLE Aigle 1.83 243 *e*Pn **Pb 15 31 03.1 +0.3**
6µm,1.1s
CDF Champ du Feu 1.83 312 *e*P **Pn 15 31 02.4 +1.2**
CDF Champ du Feu 1.83 312 *e*Pg **Pg 15 31 05.7 +2.2**
SNR=1.0
CDF *e*Sg **Sg 15 31 28.8 +1.6**
2µm,0.6s,SNR=1.0
CDF Champ du Feu 1.83 312 *e*P **Pn 15 31 02.4 +1.2**
CDF *e* 15 31 28.8
CDF Champ du Feu 1.83 312 *e*P **Pn 15 31 02.4 +1.2**
CDF *e*Pg **Pg 15 31 05.7 +2.2**
CDF *e*Sg **Sg 15 31 28.8 +1.6**
CDF Champ du Feu 1.83 312 *e*P **Pn 15 31 02.4 +1.2**
CDF Champ du Feu 1.83 312 *e*Pg **Pg 15 31 05.7 +2.2**
SNR=1.0
CDF *e*Sg **Sg 15 31 28.8 +1.6**
826nm,0.6s,SNR=1.0
RISI Rein 1.92 96⇑*e*Pn **Pg 15 31 06.1 +0.9**
RISI *e*Sn **Sg 15 31 31.8 +1.8**
SALAN Lac Salanfe 1.92 238 *e*P **Pn 15 31 00.4 -2.2**
SALAN Lac Salanfe 1.92 238 *e*Pn **Pb 15 31 04.7 +0.2**
549nm,1.2s
SALAN Lac Salanfe 1.92 238 *e*P **Pn 15 31 00.4 -2.2**
SALAN Lac Salanfe 1.92 238 *e*Pn **Pb 15 31 04.7 +0.2**
549nm,1.2s
OG01 Vacheresse 2.00 245 Pg **Pg 15 31 09.1 +2.3**
OG01 Vacheresse 2.00 245 Pg **Pg 15 31 09.1 +2.3**
TRAV Traversella 2.00 213 P **Pb 15 31 07.6 +1.8**
TRAV S **Sb 15 31 31.7 +0.5**
LANF Langenberg 2.05 331 P **Pn 15 31 05.5 +1.3**
LANF Langenberg 2.05 331⇓*i*Pn **Pn 15 31 05.5 +1.3**
LANF Langenberg 2.05 331 Pn **Pn 15 31 05.5 +1.3**
LANF Langenberg 2.05 331⇓*i*Pn **Pn 15 31 05.5 +1.3**
LANF Langenberg 2.05 331 P **Pn 15 31 05.5 +1.3**
AFL Alpe Faloria 2.09 108⇑*e*Pn **Pb 15 31 07.8 +0.4**
AFL Alpe Faloria 2.09 108 *e*Pn **Pb 15 31 07.8 +0.4**
AGOR Agordo 2.10 115⇑*e*Pn **Pb 15 31 07.8 +0.4**
AGOR *e*Sn **Sg 15 31 37.2 +1.3**
HAU Haudompre 2.15 293 *e*P **Pn 15 31 07.1 +1.4**
HAU Haudompre 2.15 293 *e*Pg **Pg 15 31 11.6 +1.8**
HAU *e*Sg **Sg 15 31 39.2 +1.5**
792nm,0.3s,SNR=1.0
HAU Haudompre 2.15 293 *e*P **Pn 15 31 07.1 +1.4**
HAU *e* 15 31 39.2
HAU Haudompre 2.15 293 *e*P **Pn 15 31 07.1 +1.4**
HAU *e*Pg **Pg 15 31 11.6 +1.8**
HAU *e*Sg **Sg 15 31 39.2 +1.5**
HAU Haudompre 2.15 293 *e*P **Pn 15 31 07.1 +1.4**
HAU Haudompre 2.15 293 *e*Pg **Pg 15 31 11.6 +1.8**
HAU *e*Sg **Sg 15 31 39.2 +1.5**
396nm,0.3s,SNR=1.0
SIND Sindeldorf 2.16 5⇓*e*Pn **Pn 15 31 05.5 -0.3**
SIND Sindeldorf 2.16 5⇓*e*Pn **Pn 15 31 05.5 -0.3**
SIND Sindeldorf 2.16 5 Pn **Pn 15 31 05.5 -0.3**
CGRP Cima Grappa 2.17 126⇑*e*Pn **Pb 15 31 09.1 +0.3**
CGRP *e*Sn **Sg 15 31 38.8 +0.6**
CGRP Cima Grappa 2.17 126 *e*Pn **Pb 15 31 09.1 +0.3**
CGRP *e*Sn **Sg 15 31 38.8 +0.6**
GIMEL St. Georges / 2.19 253 *e*Pn Pn 15 31 00.7 -5.5
GIMEL St. Georges / 2.19 253 *e*Pn **Pn 15 31 07.8 +1.6**
2µm,0.4s
GIMEL St. Georges / 2.19 253 *e*Pn **Pn 15 31 07.8 +1.6**
2µm,0.4s
HEI Heidelberg (Ko 2.24 350 Px Px 15 31 07.5
ABTA Abfaltersbach 2.25 100⇑*e*Pg **Sg 15 31 12.7 +1.2**
ABTA *i* Sg **Sg 15 31 43.7 +3.1**
ABTA Abfaltersbach 2.25 100⇑*e*Pg **Pg 15 31 12.7 +1.2**
563nm,0.5s,SNR=882
ABTA ⇓*i*Sg **Sg 15 31 43.7 +3.1**
1µm,0.5s
ABTA Abfaltersbach 2.25 100 Pg **Pg 15 31 12.7 +1.2**
563nm,0.5s,SNR=882
ABTA Sg **Sg 15 31 43.7 +3.1**
1µm,0.5s
KTD Kalmit 2.27 340 P **Pn 15 31 08.3 +1.0**
KTD Kalmit 2.27 340⇓*e*Pn **Pn 15 31 08.4 +1.1**
KTD Kalmit 2.27 340 Pn **Pn 15 31 08.3 +1.0**
KTD Kalmit 2.27 340⇓*e*Pn **Pn 15 31 08.4 +1.1**
KTD Kalmit 2.27 340 Pn **Pn 15 31 08.3 +1.0**
CSO Casso 2.28 113 *e*Pn **Pb 15 31 11.0 +0.5**
CSO *e*Sn **Sg 15 31 41.9 +0.3**
CSO Casso 2.28 113 *e*Pn **Pb 15 31 11.0 +0.5**
CSO *e*Sn **Sg 15 31 41.9 +0.3**
VARN Col Varnada, M 2.28 121⇑*e*Pn **Pb 15 31 10.1 -0.4**
VARN *e*S **Sb 15 31 41.1 +1.8**
VARN Col Varnada, M 2.28 121 *e*P **Pb 15 31 10.1 -0.4**
VARN *e*Sn **Sb 15 31 41.0 +1.8**
CABF La Chapelle 2.28 256 *e*P **Pn 15 31 08.9 +1.4**
SNR=1.0
CABF La Chapelle 2.28 256 *e*Pg **Pg 15 31 14.2 +2.0**
CABF *e*Sg **Sg 15 31 43.2 +1.5**
1µm,0.5s,SNR=1.0
CABF La Chapelle 2.28 256 *e*P **Pn 15 31 08.9 +1.4**
CABF *e* 15 31 43.2
CABF La Chapelle 2.28 256 *e*P **Pn 15 31 08.9 +1.4**
CABF *e*Pg **Pg 15 31 14.2 +2.0**
CABF *e*Sg **Sg 15 31 43.2 +1.5**
CABF La Chapelle 2.28 256 *e*P **Pn 15 31 08.9 +1.4**
SNR=1.0
CABF La Chapelle 2.28 256 *e*Pg **Pg 15 31 14.2 +2.0**
CABF *e*Sg **Sg 15 31 43.2 +1.5**
638nm,0.5s,SNR=1.0
CIMO Cimolais 2.33 111⇓*e*Pn **Pb 15 31 11.3 -0.2**
CIMO *e*Sn **Sg 15 31 43.3 -0.1**
CIMO Cimolais 2.33 111 *e*Pn **Pb 15 31 11.3 -0.2**
CIMO *e*Sn **Sg 15 31 43.3 -0.1**
RSL Roselend 2.39 232 P **Pg 15 31 17.1 +2.9**
RSL Roselend 2.39 232 Pg **Pg 15 31 17.1 +2.9**
RSL Roselend 2.39 232 Pg **Pg 15 31 17.1 +2.9**
CSMI Casera Mimoias 2.40 105⇑*e*Pn **Pb 15 31 12.6 -0.1**
CSMI *e*Sn **Sg 15 31 47.1 +1.5**
CSMI Casera Mimoias 2.40 105 *e*Pn **Pb 15 31 12.6 -0.1**
RJOB Jochberg 2.43 76 *e*Pn **Pn 15 31 11.6 +2.1**
RJOB Jochberg 2.43 76 Pn **Pn 15 31 11.6 +2.1**
TOD Tromm 2.43 352 P **Pn 15 31 08.9 -0.6**
TOD Tromm 2.43 352⇓*i*Pn **Pn 15 31 09.9 +0.4**
TOD Tromm 2.43 352 Pn **Pn 15 31 08.9 -0.6**
TOD Tromm 2.43 352⇓*i*Pn **Pn 15 31 09.9 +0.4**
TOD Tromm 2.43 352 Pn **Pn 15 31 08.9 -0.6**
ROTM Rocchetta Tana 2.44 196 P **Pb 15 31 13.2 0.0**
ROTM S **Sn 15 31 42.0 +1.9**
LPL La Plagne 2.45 228 *e*P **Pn 15 31 11.9 +2.0**
LPL La Plagne 2.45 228 *e*Pg **Pg 15 31 16.4 +1.0**
LPL *e*Sg **Sg 15 31 48.3 +1.2**
1µm,0.7s,SNR=1.0
LPL La Plagne 2.45 228 *e*P **Pn 15 31 11.9 +2.0**
LPL *e* 15 31 48.3
LPL La Plagne 2.45 228 *e*P **Pn 15 31 11.9 +2.0**
LPL *e*Pg **Pg 15 31 16.4 +1.0**
LPL *e*Sg **Sg 15 31 48.3 +1.2**
LPL La Plagne 2.45 228 *e*P **Pn 15 31 11.9 +2.0**
LPL La Plagne 2.45 228 *e*Pg **Pg 15 31 16.4 +1.0**
LPL *e*Sg **Sg 15 31 48.3 +1.2**
532nm,0.7s,SNR=1.0
LPG La Plagne 2.45 227 *e*P **Pn 15 31 12.2 +2.2**
LPG La Plagne 2.45 227 *e*Pg **Pg 15 31 16.7 +1.2**
LPG *e*Sn **Sn 15 31 38.2 -2.6**
LPG *e*Sg **Sg 15 31 49.0 +1.8**
582nm,0.4s,SNR=1.0
LPG La Plagne 2.45 227 *e*P **Pn 15 31 12.2 +2.2**
LPG *e* 15 31 38.2
LPG La Plagne 2.45 227 *e*P **Pn 15 31 12.2 +2.2**
LPG *e*Pg **Pg 15 31 16.7 +1.2**
LPG *e*Sn **Sn 15 31 38.2 -2.6**
LPG *e*Sg **Sg 15 31 49.0 +1.8**
LPG La Plagne 2.45 227 *e*P **Pn 15 31 12.2 +2.2**
LPG La Plagne 2.45 227 *e*Pg **Pg 15 31 16.7 +1.2**
LPG *e*Sn **Sn 15 31 38.2 -2.6**
LPG *e*Sg **Sg 15 31 49.0 +1.8**
291nm,0.4s,SNR=1.0
THEF They Montfort 2.46 296 P **Pn 15 31 11.5 +1.6**

THEF 15 31 50.7
THEF They Montfort 2.46 296 *e*Pn **Pn 15 31 11.6 +1.7**
THEF They Montfort 2.46 296 Pn **Pn 15 31 11.5 +1.6**
THEF Sg **Sg 15 31 50.7 +3.1**
THEF They Montfort 2.46 296 *e*Pn **Pn 15 31 11.6 +1.7**
THEF They Montfort 2.46 296 Pn **Pn 15 31 11.5 +1.6**
THEF Sg **Sg 15 31 50.7 +3.1**
TEOL Teolo 2.47 137 *e*Pn **Pb 15 31 14.2 +0.6**
TEOL Teolo 2.47 137 *e*Pn **Pb 15 31 14.2 +0.6**
CAE Caneva 2.47 118 *e*Pn **Pb 15 31 13.1 -0.6**
CAE *e*Sn **Sb 15 31 46.8 +2.0**
CAE Caneva 2.47 118 *e*Pn **Pb 15 31 13.1 -0.6**
CAE *e*Sn **Sb 15 31 46.7 +2.0**
RSP Reno Superiore 2.49 215 P **Pb 15 31 13.5 -0.7**
RSP S **Sn 15 31 42.3 +0.8**
POLC Polcenigo 2.50 117 *e*Pn **Pb 15 31 13.7 -0.5**
POLC *e*Sn **Sb 15 31 47.1 +1.6**
MLNI Malnisio 2.51 113 *e*Pn **Pb 15 31 13.8 -0.6**
MLNI *e*Sn **Sg 15 31 48.4 -0.7**
MLNI Malnisio 2.51 113 *e*Pn **Pb 15 31 13.8 -0.6**
MLNI *e*Sn **Sg 15 31 48.3 -0.7**
ZOU Zoufplan 2.60 103 *e*Pn **Pb 15 31 14.7 -1.3**
ZOU Zoufplan 2.60 103 *e*Pn **Pb 15 31 15.0 -1.1**
ZOU Zoufplan 2.60 103 *e*Pn **Pb 15 31 15.0 -1.1**
FUSE Fusea 2.66 106 *e*Pn **Pb 15 31 15.8 -1.2**
FUSE *e*Sn **Sg 15 31 53.5 -0.4**
FUSE Fusea 2.66 106 *e*Pn **Pb 15 31 15.8 -1.2**
PCP Piancastagn 2.71 192 P **Pb 15 31 16.8 -1.0**
PCP S **Sn 15 31 46.0 -0.8**
MPRI Monte Prat 2.71 109 *e*Pn **Pb 15 31 16.4 -1.5**
MPRI *e*Sn **Sb 15 31 50.6 -1.1**
MPRI Monte Prat 2.71 109 *e*Pn **Pb 15 31 16.4 -1.5**
MPRI *e*Sn **Sb 15 31 50.6 -1.1**
PLRO Paularo 2.72 102 *e*Pn **Pb 15 31 16.8 -1.2**
PLRO Paularo 2.72 102 *e*Pn **Pb 15 31 16.8 -1.2**
GRAM Graiana 2.76 169 P **Pn 15 31 17.0 +3.0**
GRAM S **Sn 15 31 47.5 -0.6**
KBA Koelnbreinsper 2.76 91 *e*P **Pn 15 31 16.9 +2.7**
KBA Koelnbreinsper 2.76 91 *e*Pn **Pn 15 31 16.9 +2.7**
KBA *e*Sg **Sg 15 31 57.6 +0.4**
KBA Koelnbreinsper 2.76 91 *e*Pn **Pn 15 31 16.9 +2.7**
KBA Koelnbreinsper 2.76 91 *e*Pn **Pn 15 31 16.9 +2.7**
SNR=580
KBA Koelnbreinsper 2.76 91 *e*P **Pn 15 31 16.9 +2.7**
KBA Koelnbreinsper 2.76 91 *e*Pg **Pb 15 31 20.8 +2.0**
baz=275
KBA *e*Sg **Sg 15 31 56.7 -0.5**
baz=275
PAGF Fort de Pagny 2.76 301 *e*Pn **Pn 15 31 13.7 -0.3**
PAGF Fort de Pagny 2.76 301 *e*P **Pn 15 31 16.1 +2.1**
baz=131
PAGF Fort de Pagny 2.76 301 *e*Pg **Pg 15 31 21.9 +0.5**
baz=123
PAGF *e*Sg **Sg 15 31 58.3 +1.1**
364nm,0.8s
PAGF Fort de Pagny 2.76 301 *e*Pn **Pn 15 31 13.7 -0.3**
PAGF *e*Pg **Pg 15 31 21.9 +0.5**
PAGF *e*Sg **Sg 15 31 58.3 +1.1**
PAGF Fort de Pagny 2.76 301 *e*Pn **Pn 15 31 13.7 -0.3**
PAGF Fort de Pagny 2.76 301 *e*P **Pn 15 31 16.1 +2.1**
baz=131
PAGF Fort de Pagny 2.76 301 *e*Pg **Pg 15 31 21.9 +0.5**
baz=123
PAGF *e*Sg **Sg 15 31 58.3 +1.1**
182nm,0.8s
SC2M Scurtabo 2.80 177 P **Pn** 15 31 17.8 +3.3
SC2M S **Sn 15 31 49.3 +0.3**
GENL Genova Univers 2.80 185 P **Pn 15 31 17.5 +2.5**
GENL S **Sn 15 31 47.7 -1.3**
GRFO Grafenberg 2.80 26 *e*P **Pn 15 31 13.4 -1.2**
GRFO Grafenberg 2.80 26 *e*Pn **Pn 15 31 13.4 -1.2**
GRFO *e*Pg **Pg 15 31 22.3 +0.1**
GRFO Grafenberg 2.80 26 *e*P **Pn 15 31 13.4 -1.2**
GRA1 Grafenberg Arr 2.80 26 Pn **Pn 15 31 13.4 -1.2**
GRF Grafenberg Arr 2.80 26 *e*P **Pn 15 31 13.4 -1.2**
GRF Grafenberg Arr 2.80 26 *e*Pn **Pn 15 31 13.4 -1.2**
BNI Bardonecchia 2.82 221 P **Pb 15 31 22.4 +2.7**
BNI Bardonecchia 2.82 221 Pg **Pb 15 31 22.4 +2.7**
BNI Bardonecchia 2.82 221 Pg **Pb 15 31 22.4 +2.7**
CODM Codolo 2.83 172 P **Pb 15 31 18.6 -1.4**
CODM S **Sn 15 31 49.4 -0.5**
BAD Bernadia 2.88 108 *e*Pn **Pn 15 31 18.4 +2.8**
BAD Bernadia 2.88 108 *e*Pn **Pn 15 31 18.4 +2.8**
VINO Villanova 2.90 108 *e*Pn **Pb 15 31 18.3 +2.4**
VINO Villanova 2.90 108 *e*Pn **Pn 15 31 18.3 +2.4**
RUP Ruppelstein 2.92 330 Pn **Pn 15 31 18.0 +1.8**
RUP Ruppelstein 2.92 330 Pn **Pn 15 31 18.0 +1.8**
RUP Ruppelstein 2.92 330 Pn **Pn 15 31 18.0 +1.8**
ABH Alteburg 2.93 337 *i*Pn **Pn 15 31 17.9 +1.5**
ABH Alteburg 2.93 337 Pn **Pn 15 31 16.7 +0.4**
ABH Alteburg 2.93 337 *i*Pn **Pn 15 31 17.9 +1.5**
ABH Alteburg 2.93 337 Pn **Pn 15 31 16.7 +0.4**
ACOM Acomizza, Ital 2.96 101 *e*Pn **Pn 15 31 20.0 +3.1**
ACOM Acomizza, Ital 2.96 101 *e*Pn **Pn 15 31 20.0 +3.1**
LSR Lussari 2.99 102 *e*Pn **Pn 15 31 20.3 +3.0**
LSR Lussari 2.99 102 *e*Pn **Pn 15 31 20.3 +3.0**
COLI Coloredo 3.00 109 *e*Pn **Pn 15 31 19.9 +2.7**
COLI Coloredo 3.00 109 *e*Pn **Pn 15 31 20.0 +2.7**
MYKA Terra Mystica 3.03 99 *i*Pn **Pn 15 31 20.7 +3.0**
MYKA Terra Mystica 3.03 99 *i*Pn **Pn 15 31 20.7 +3.0**
MYKA Terra Mystica 3.03 99 Pn **Pn 15 31 20.7 +3.0**
MBDF Montbardon 3.04 216 *e*P **Pn 15 31 20.8 +2.9**
MBDF Montbardon 3.04 216 *e*Pg **Pg 15 31 27.1 +0.4**
MBDF *e*Sg **Sb 15 32 05.2 +4.1**
808nm,0.5s
MBDF Montbardon 3.04 216 *e*P **Pn 15 31 20.8 +2.9**
MBDF *e* 15 32 05.2
MBDF Montbardon 3.04 216 *e*P **Pn 15 31 20.8 +2.9**
MBDF *e*Pg **Pg 15 31 27.1 +0.4**
MBDF *e*Sg **Sb 15 32 05.2 +4.1**
MBDF Montbardon 3.04 216 *e*P **Pn 15 31 20.8 +2.9**
MBDF Montbardon 3.04 216 *e*Pg **Pg 15 31 27.1 +0.4**
MBDF *e*Sg **Sb 15 32 05.2 +4.1**
404nm,0.5s
ROBS Robic 3.05 107 *i*Pn **Pn 15 31 20.4 +2.5**
ROBS Robic 3.05 107 *i*Pn **Pn 15 31 20.4 +2.5**
SFTF Sexfontaines 3.05 291 *e*Pn **Pn 15 31 17.9 -0.1**
baz=119
SFTF Sexfontaines 3.05 291 *e*P **Pn 15 31 19.9 +1.9**
baz=113
SFTF Sexfontaines 3.05 291 *e*Pg **Pg 15 31 27.4 +0.5**
baz=112
SFTF *e*Sn **Sn 15 31 52.9 -2.3**
SFTF *e*Sg **Sg 15 32 07.2 +0.8**
1µm,0.9s
SFTF Sexfontaines 3.05 291 *e*Pn **Pn 15 31 17.9 -0.1**
SFTF *e*Pg **Pg 15 31 27.4 +0.5**
SFTF *e*Sn **Sn 15 31 52.9 -2.3**
SFTF *e*Sg **Sg 15 32 07.2 +0.8**
SFTF Sexfontaines 3.05 291 *e*Pn **Pn 15 31 17.9 -0.1**
baz=119
SFTF Sexfontaines 3.05 291 *e*P **Pn 15 31 19.9 +1.9**
baz=113
SFTF Sexfontaines 3.05 291 *e*Pg **Pg 15 31 27.4 +0.5**
baz=112
SFTF *e*Sn **Sn 15 31 52.9 -2.3**
SFTF *e*Sg **Sg 15 32 07.2 +0.8**
707nm,0.9s
TNS Taunus Mts 3.08 350 *e*P **Pn 15 31 19.3 +0.9**
TNS Taunus Mts 3.08 350 *e*Pn **Pn 15 31 19.1 +0.6**
TNS *e*Sg **Sg 15 32 09.1 +1.7**
TNS Taunus Mts 3.08 350 *e*Pn **Pn 15 31 19.1 +0.6**
TNS Taunus Mts 3.08 350 *e*P **Pn 15 31 19.3 +0.9**
TNS Sg **Sg 15 32 09.1 +1.7**
WET Wettzell 3.09 50 *e*P **Pn 15 31 18.8 +0.3**
WET Wettzell 3.09 50 *e*Pn **Pn 15 31 18.8 +0.3**
WET Wettzell 3.09 50 Pn **Pn 15 31 18.8 +0.3**
PZZ Stroppo 3.09 210 P **Pn 15 31 20.8 +2.1**
PZZ S **Sn 15 31 55.6 -0.8**
DRE Drenchia 3.16 107 *e*Pn **Pn 15 31 21.7 +2.2**
DRE Drenchia 3.16 107 *e*Pn **Pn 15 31 21.7 +2.2**
CADS Cadrg 3.20 106 *i*Pn **Pn 15 31 22.0 +1.9**
CADS
comp=Z,580nm,0.7s
CADS Cadrg 3.20 106 *i*Pn **Pn 15 31 22.0 +1.9**
comp=Z,580nm,0.7s
RORO Rocca Rossa 3.21 196 P **Pn 15 31 22.7 +2.6**
RORO S **Sn 15 31 57.3 -1.7**
SABO M.te Sabotino 3.21 111 *e*Pn **Pn 15 31 22.7 +2.6**
SABO M.te Sabotino 3.21 111 *e*Pn **Pn 15 31 22.7 +2.6**
ROTZ Rotzenmuhle 3.22 36 *e*Pn **Pn 15 31 19.2 -1.0**
ROTZ Rotzenmuhle 3.22 36 Pn **Pn 15 31 19.2 -1.0**
WLF Walferdange 3.24 321 P **Pn 15 31 22.1 +1.5**
WLF S **Sg 15 32 14.1 +1.6**
comp=N,164nm,0.0s
WLF Walferdange 3.24 321 *e*P **Pn 15 31 22.1 +1.5**
WLF Walferdange 3.24 321 *e*Pn **Pn 15 31 23.0 +2.5**
WLF Walferdange 3.24 321 *e*Pn **Pn 15 31 22.1 +1.5**
WLF Walferdange 3.24 321 *e*Pn **Pn 15 31 23.0 +2.5**
WLF Walferdange 3.24 321 *e*Pn **Pn 15 31 22.1 +1.5**
STV Sant Anna di V 3.26 206 P **Pn 15 31 22.5 +1.6**
STV S **Sn 15 31 57.7 -2.8**
BGG Burgeitz 3.28 337 *e*Pn **Pn 15 31 22.8 +1.7**
BGG Burgeitz 3.28 337 Pn **Pn 15 31 22.8 +1.7**
CRDM Cardoso 3.28 165 P **Pn** 15 31 24.6 +3.5
ORIF Oris-en-Rattie 3.30 227 *e*P **Pn 15 31 23.5 +2.1**
ORIF Oris-en-Rattie 3.30 227 *e*Pg **Pg 15 31 32.5 +0.9**
ORIF *e*Sn **Sn 15 31 58.3 -3.1**
SNR=1.0
ORIF *e*Sg **Sg 15 32 14.6 +0.2**
comp=N,746nm,0.7s,SNR=1.0
ORIF Oris-en-Rattie 3.30 227 *e*P **Pn 15 31 23.5 +2.1**
ORIF *e* 15 31 58.3
ORIF Oris-en-Rattie 3.30 227 *e*P **Pn 15 31 23.5 +2.1**
ORIF *e*Pg **Pg 15 31 32.5 +0.9**
ORIF *e*Sn **Sn 15 31 58.3 -3.1**
ORIF *e*Sg **Sg 15 32 14.6 +0.2**
SNR=1.0
ORIF *e*Sg **Sg 15 32 14.6 +0.2**
comp=N,373nm,0.7s,SNR=1.0
GORS Gorjuse 3.34 104 *i*Pn **Pn 15 31 24.3 +2.2**
GORS Gorjuse 3.34 104 *i*Pn **Pn 15 31 24.3 +2.2**
VOJS Vojsko 3.37 109 *i*Pn **Pn 15 31 24.6 +2.2**
VOJS *i*Sn **Sn 15 32 03.2 +0.1**
VOJS
comp=Z,758nm,1.3s
VOJS Vojsko 3.37 109 *i*Pn **Pn 15 31 24.6 +2.2**
VOJS *i*Sn **Sn 15 32 03.2 +0.1**
comp=Z,758nm,1.3s
GEC2 GERESS Array S 3.38 59 *e*P **Pn 15 31 23.1 +0.5**
GEC2 GERESS Array S 3.38 59 *e*Pn **Pn 15 31 23.1 +0.5**
GEC2 *e*Sg **Sg 15 32 16.0 -1.1**
GEC2 GERESS Array S 3.38 59 Pn **Pn 15 31 23.1 +0.5**
GEC2 Sg **Sg 15 32 16.0 -1.1**
GERES GERESS Array B 3.38 59 Pn **Pn 15 31 23.1 +0.5**
comp=Z,9.0nm,0.3s,baz=246,slow=14,SNR=333
GERES Pg **Pb 15 31 30.7 +1.4**
comp=Z,100nm,0.3s,baz=244,slow=16,SNR=84
GERES Lg Lg 15 32 15.5
comp=Z,70nm,0.3s,baz=242,slow=28,SNR=9.8
GERES GERESS Array B 3.38 59 P **Pn 15 31 23.1 +0.5**
GERES pmax pmax
comp=Z,9.0nm,0.3s
GERES pmax pmax
comp=Z,101nm,0.3s
GERES GERESS Array B 3.38 59 Pn **Pn 15 31 23.1 +0.5**
GERES Pg **Pb 15 31 30.7 +1.4**
GERES Lg Lg 15 32 15.5
GERES GERESS Array B 3.38 59 P **Pn 15 31 23.1 +0.5**
GERES GERESS Array B 3.38 59 Pg **Pb 15 31 30.7 +1.4**
MAIM Mastiano 3.39 165 P **Pn** 15 31 26.5 +3.9
KOE Koeppel 3.39 343 *e*Pn **Pn 15 31 24.3 +1.6**
KOE Koeppel 3.39 343 Pn **Pn 15 31 24.3 +1.6**
TRI Trieste 3.43 114 *e*P **Pn 15 31 24.8 +1.7**
TRI Trieste 3.43 114 *e*Pn **Pn 15 31 24.8 +1.7**
TRI *e*Pg **Pb 15 31 32.9 +2.9**
TRI Trieste 3.43 114 *e*P **Pn 15 31 24.8 +1.7**
MOA Molln 3.43 77 *e*Pn **Pn 15 31 24.6 +1.4**
MOA *e*Pg **Pg 15 31 33.3 -0.9**
MOA *e*Sg **Sg 15 32 19.5 +0.9**
MOA Molln 3.43 77 *i*Pn **Pn 15 31 24.2 +1.0**
MOA Molln 3.43 77 *i*Pn **Pn 15 31 24.2 +1.0**
SNR=14
MOA Molln 3.43 77 Pn **Pn 15 31 24.2 +1.0**
SNR=14
MOA Molln 3.43 77 *e*Pg **Pg 15 31 32.9 -1.2**
baz=262
MOA *e*Sg **Sg 15 32 18.7 +0.2**
baz=262
IMI Imperia 3.43 197 P **Pn 15 31 25.0 +1.7**
SAOF Saorge 3.44 202 P **Pn 15 31 25.5 +2.2**
SAOF Saorge 3.44 202 Pn **Pn 15 31 25.5 +2.2**
SAOF Saorge 3.44 202 Pn **Pn 15 31 25.5 +2.2**
KHC Kasperske Hory 3.46 54 *e*P **Pn 15 31 23.9 +0.3**
KHC *e* 15 32 03.9
KHC smax smax
comp=N,577nm,0.5s
KHC Kasperske Hory 3.46 54 *e*Pn **Pn 15 31 23.9 +0.3**
KHC Kasperske Hory 3.46 54 *e*PN **Pn 15 31 23.9 +0.3**
KHC *e*PG **Pg 15 31 33.5 -1.2**
KHC *e*SN **Sn 15 32 03.9 -1.3**
KHC *e*SG **Sg 15 32 17.9 -1.5**
comp=N,577nm,0.5s
KHC Kasperske Hory 3.46 54 *e*P **Pn 15 31 23.9 +0.3**
KHC Kasperske Hory 3.46 54 Pg **Pg 15 31 33.5 -1.2**
KHC Sn **Sn 15 32 03.9 -1.3**
KHC *e*Sg **Sg 15 32 16.9 -2.5**
baz=238
AUTN L'Aution 3.46 203 P **Pn 15 31 26.8 +3.0**
AUTN L'Aution 3.46 203 Pn **Pn 15 31 26.8 +3.0**
AUTN L'Aution 3.46 203 Pn **Pn 15 31 26.8 +3.0**
TOUF Mont Tournerai 3.50 205 P **Pn 15 31 26.6 +2.3**
TOUF Mont Tournerai 3.50 205 Pn **Pn 15 31 26.6 +2.3**
TOUF Mont Tournerai 3.50 205 Pn **Pn 15 31 26.6 +2.3**
RONM Roccetta Nervi 3.53 200 P **Pn 15 31 27.1 +2.5**
NEGI Seborga 3.53 199 P **Pn 15 31 27.0 +2.4**
JAVS Javornik 3.54 110 *i*Pn **Pn 15 31 26.7 +2.0**
JAVS Javornik 3.54 110 *i*Pn **Pn 15 31 26.7 +2.0**
HILG Hillesheim 3.55 332 *e*Pn **Pn 15 31 26.5 +1.7**
HILG Hillesheim 3.55 332 Pn **Pn 15 31 26.5 +1.7**
SBF Sospel 3.58 202 *e*P **Pn 15 31 28.0 +2.6**
SBF *e*Sn **Sn 15 32 04.3 -4.1**
SBF *e*Sg **Sb 15 32 21.7 +4.9**
comp=N,376nm,0.5s
SBF Sospel 3.58 202 *e*P **Pn 15 31 28.0 +2.6**
SBF *e* 15 32 04.3
SBF Sospel 3.58 202 *e*P **Pn 15 31 28.0 +2.6**
SBF *e*Sn **Sn 15 32 04.3 -4.1**
SBF *e*Sg **Sb 15 32 21.7 +4.9**
SBF Sospel 3.58 202 *e*P **Pn 15 31 28.0 +2.6**
SBF *e*Sg **Sb 15 32 21.7 +4.9**
comp=N,188nm,0.5s
CRNS Crni Vrh 3.59 106 *i*Pn **Pn 15 31 27.3 +1.8**
CRNS *e*Sn **Sn 15 32 09.4 +0.8**
CRNS
comp=Z,625nm,1.0s
MVIF Mont Vial 3.63 205 P **Pn 15 31 28.8 +2.7**
MVIF Mont Vial 3.63 205 Pn **Pn 15 31 28.8 +2.7**
MVIF Mont Vial 3.63 205 Pn **Pn 15 31 28.8 +2.7**
UBBA Unterbreizbach 3.65 7 *e*Pn **Pn 15 31 26.2 +0.1**
UBBA *e*Pg **Pg 15 31 40.2 +1.7**
UBBA *e*Sg **Sg 15 32 26.4 +0.6**
UBBA Unterbreizbach 3.65 7 Pn **Pn 15 31 26.2 +0.1**
SKDS Skadanscina 3.66 115 *i*Pn **Pn 15 31 28.0 +1.7**
SKDS *e*Sn **Sn 15 32 09.5 -0.7**
SKDS
comp=Z,338nm,0.6s
SKDS Skadanscina 3.66 115 *i*Pn **Pn 15 31 28.0 +1.7**
SKDS *e*Sn **Sn 15 32 09.5 -0.7**
comp=Z,338nm,0.6s
OBKA Obir 3.67 99 *e*Pn **Pn 15 31 29.0 +2.4**
OBKA *e*Pg **Pg 15 31 37.9 -0.8**
OBKA Obir 3.67 99 *i*Pn **Pn 15 31 28.8 +2.3**
OBKA Obir 3.67 99 *i*Pn **Pn 15 31 28.8 +2.3**
SNR=32
OBKA Obir 3.67 99 Pn **Pn 15 31 28.8 +2.3**
SNR=32
NKC Novy Kostel 3.68 33 *e*P **Pn 15 31 25.1 -1.6**
NKC Novy Kostel 3.68 33 *e*PN **Pn 15 31 25.1 -1.6**
NKC *e*SG **Sb 15 32 23.0 +3.4**
comp=Z,405nm,0.4s
NKC Novy Kostel 3.68 33 Pn **Pn 15 31 25.1 -1.6**
LOR Lormes 3.71 273 *e*Pn **Pn 15 31 26.9 -0.1**
baz=93,SNR=1.0
LOR Lormes 3.71 273 *e*Pg **Pg 15 31 39.8 +0.3**
baz=91
LOR Lormes 3.71 273 *e*Sn **Sn 15 32 08.7 -2.7**
SNR=1.0
LOR Lormes 3.71 273 *e*Sg **Sg 15 32 26.9 -0.7**
comp=Z,390nm,0.9s
REVF Revere 3.72 202 P **Pn** 15 31 30.6 +3.4
REVF Revere 3.72 202 Pn **Pn** 15 31 30.6 +3.4
REVF Revere 3.72 202 Pn **Pn** 15 31 30.6 +3.4
MOX Moxa 3.77 23 *e*P **Pn 15 31 26.2 -1.7**
MOX Moxa 3.77 23 *e*Pn **Pn 15 31 26.2 -1.7**
MOX Moxa 3.77 23 Pn **Pn 15 31 26.2 -1.7**
LJU Ljubljana 3.78 106 *e*Pn **Pn** 15 31 32.0 +4.0
SMF Signal de Mont 3.78 264 *e*Pn **Pn 15 31 28.8 +0.8**
SNR=1.0
SMF Signal de Mont 3.78 264 *e*Pg **Pg 15 31 42.1 +1.2**
SMF *e*Sg **Sg 15 32 29.9 0.0**
comp=Z,294nm,0.4s,SNR=1.0
SMF Signal de Mont 3.78 264 *e*P **Pn 15 31 28.8 +0.8**
SMF Signal de Mont 3.78 264 *e*Pn **Pn 15 31 28.8 +0.8**
SMF *e*Pg **Pg 15 31 42.1 +1.2**
SMF *e*Sg **Sg 15 32 29.9 0.0**
SMF Signal de Mont 3.78 264 *e*Pn **Pn 15 31 28.8 +0.8**
SNR=1.0
SMF Signal de Mont 3.78 264 *e*Pg **Pg 15 31 42.1 +1.2**
SMF *e*Sg **Sg 15 32 29.9 0.0**
comp=Z,147nm,0.4s,SNR=1.0
SSB Saint Sauveur 3.82 242 *e*P **Pn 15 31 28.4 -0.2**
SSB Saint Sauveur 3.82 242 *e*Pn **Pn 15 31 28.4 -0.2**
SSB Saint Sauveur 3.82 242 *e*P **Pn 15 31 28.4 -0.2**
TANN Tannenbergstha 3.84 32 *e*Pn **Pn 15 31 27.0 -1.9**
TANN Tannenbergstha 3.84 32 Pn **Pn 15 31 27.0 -1.9**
SSF Saint Saulge 3.96 270 *e*Pn **Pn 15 31 30.4 0.0**
SNR=1.0
SSF Saint Saulge 3.96 270 *e*P **Pn 15 31 32.9 +2.5**
SSF *e*Sn **Sn 15 32 14.6 -2.9**
SNR=1.0
SSF *e*Sg **Sg 15 32 34.9 -0.7**
comp=Z,252nm,0.6s,SNR=1.0
SSF Saint Saulge 3.96 270 *e*P **Pn 15 31 30.4 0.0**
SSF *e* 15 32 14.6
SSF Saint Saulge 3.96 270 *e*Pn **Pn 15 31 30.4 0.0**
SSF *e*Sn **Sn 15 32 14.6 -2.9**
SSF *e*Sg **Sg 15 32 34.9 -0.7**
SSF Saint Saulge 3.96 270 *e*Pn **Pn 15 31 30.4 0.0**
SNR=1.0
SSF Saint Saulge 3.96 270 *e*P **Pn 15 31 32.9 +2.5**
SSF *e*Sg **Sg 15 32 34.9 -0.7**
comp=Z,126nm,0.6s,SNR=1.0
SOKA Soboth 3.96 95 *i*Pn **Pn 15 31 32.3 +1.8**
SOKA Soboth 3.96 95 *i*Pn **Pn 15 31 32.3 +1.8**
SOKA Soboth 3.96 95 Pn **Pn 15 31 32.3 +1.8**
KLL Kalltalsperre 3.97 331 *e*Pn **Pn 15 31 32.3 +1.6**
KLL Kalltalsperre 3.97 331 Pn **Pn 15 31 32.3 +1.6**
VIVF Saint-Julien-l 3.98 236 *e*Pn **Pn 15 31 31.2 +0.4**
SNR=1.0
VIVF Saint-Julien-l 3.98 236 *e*P **Pn 15 31 33.5 +2.7**
VIVF Saint-Julien-l 3.98 236 *e*Pg **Pg 15 31 44.1 -0.7**
VIVF *e*Sn **Sn 15 32 14.9 -3.3**
SNR=1.0
VIVF *e*Sg **Sg 15 32 35.6 -0.8**
comp=Z,202nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 3.98 236 *e*P **Pn 15 31 31.2 +0.4**
VIVF *e* 15 32 14.9
VIVF Saint-Julien-l 3.98 236 *e*Pn **Pn 15 31 31.2 +0.4**
VIVF *e*Pg **Pg 15 31 44.1 -0.7**
VIVF *e*Sn **Sn 15 32 14.9 -3.3**
VIVF *e*Sg **Sg 15 32 35.6 -0.8**
VIVF Saint-Julien-l 3.98 236 *e*Pn **Pn 15 31 31.2 +0.4**
SNR=1.0
VIVF Saint-Julien-l 3.98 236 *e*P **Pn 15 31 33.5 +2.7**
VIVF Saint-Julien-l 3.98 236 *e*Pg **Pg 15 31 44.1 -0.7**
VIVF *e*Sg **Sg 15 32 35.6 -0.8**
comp=Z,101nm,0.4s,SNR=1.0
HOBG Hohbusch 4.00 342 *e*Pn **Pn 15 31 32.6 +1.6**
HOBG Hohbusch 4.00 342 Pn **Pn 15 31 32.6 +1.6**
DREG Dreilaegerbach 4.01 331 *e*Pn **Pn 15 31 33.2 +2.0**
DREG Dreilaegerbach 4.01 331 Pn **Pn 15 31 33.2 +2.0**
BNS Bensberg 4.02 340 *e*Pn **Pn 15 31 33.0 +1.7**
BNS *e*Sn **Sn 15 32 19.4 +0.4**
comp=Z,317nm,0.3s
BNS Bensberg 4.02 340 Pn **Pn 15 31 33.0 +1.7**
BNS Sn **Sn 15 32 19.4 +0.4**
comp=Z,317nm,0.3s
MEM Membach 4.05 329 P **Pn 15 31 33.7 +2.0**
MEM S **Sn 15 32 18.3 -1.4**
comp=E,74nm,0.0s
MEM Membach 4.05 329 P **Pn 15 31 33.6 +2.0**
MEM S **Sn 15 32 18.2 -1.4**
AVF Avril sur Loir 4.09 266 *e*Pn **Pn 15 31 32.4 +0.2**
SNR=1.0
AVF Avril sur Loir 4.09 266 *e*Pg **Pg 15 31 46.0 -0.9**
AVF *e*Sn **Sn 15 32 17.9 -2.9**
SNR=1.0
AVF *e*Sg **Sg 15 32 38.9 -0.9**
comp=E,625nm,1.2s,SNR=1.0
AVF Avril sur Loir 4.09 266 *e*P **Pn 15 31 32.4 +0.2**
AVF *e* 15 32 17.9
AVF Avril sur Loir 4.09 266 *e*Pn **Pn 15 31 32.4 +0.2**
AVF *e*Pg **Pg 15 31 46.0 -0.9**
AVF *e*Sn **Sn 15 32 17.9 -2.9**
AVF *e*Sg **Sg 15 32 38.9 -0.9**
AVF Avril sur Loir 4.09 266 *e*Pn **Pn 15 31 32.4 +0.2**
SNR=1.0
AVF Avril sur Loir 4.09 266 *e*Pg **Pg 15 31 46.0 -0.9**
AVF *e*Sg **Sg 15 32 38.9 -0.9**
comp=E,312nm,1.2s,SNR=1.0
SMRF Simiane la Rot 4.15 220 *e*Pn **Pn 15 31 32.2 -0.9**
SNR=1.0
SMRF Simiane la Rot 4.15 220 *e*P **Pn 15 31 36.0 +2.9**
SMRF Simiane la Rot 4.15 220 *e*Pg **Pg 15 31 46.6 -1.4**
SMRF *e*Sn **Sn 15 32 19.1 -3.2**
SNR=1.0
SMRF *e*Sg **Sg 15 32 39.8 -1.9**
comp=E,118nm,0.6s
SMRF Simiane la Rot 4.15 220 *e*Pn **Pn 15 31 32.2 -0.9**
SMRF *e*Pg **Pg 15 31 46.6 -1.4**
SMRF *e*Sn **Sn 15 32 19.1 -3.2**
SMRF *e*Sg **Sg 15 32 39.8 -1.9**
SMRF Simiane la Rot 4.15 220 *e*Pn **Pn 15 31 32.2 -0.9**
SNR=1.0
SMRF Simiane la Rot 4.15 220 *e*P **Pn 15 31 36.0 +2.9**
SMRF Simiane la Rot 4.15 220 *e*Pg **Pg 15 31 46.6 -1.4**
SMRF *e*Sn **Sn 15 32 19.1 -3.2**
SNR=1.0
SMRF *e*Sg **Sg 15 32 39.8 -1.9**
comp=E,59nm,0.6s
GIVF Givet 4.15 316 *e*P **Pn 15 31 36.2 +3.1**
GIVF *e*Sn **Sn 15 32 19.0 -3.3**
SNR=1.0
GIVF *e*Sg **Sg 15 32 39.7 -2.2**
comp=E,320nm,0.7s,SNR=1.0
GIVF Givet 4.15 316 *e*P **Pn 15 31 36.2 +3.1**
GIVF *e* 15 32 19.0
GIVF Givet 4.15 316 *e*P **Pn 15 31 36.2 +3.1**
GIVF *e*Sn **Sn 15 32 19.0 -3.3**
GIVF *e*Sg **Sg 15 32 39.7 -2.2**
GIVF Givet 4.15 316 *e*P **Pn 15 31 36.2 +3.1**
GIVF *e*Sg **Sg 15 32 39.7 -2.2**
comp=E,160nm,0.7s,SNR=1.0
GBRS Gornja Briga 4.16 112 *i*Pn **Pn 15 31 35.9 +2.6**
BCLA Clavier 4.17 322 P **Pn 15 31 35.6 +2.2**
BCLA S **Sn 15 32 21.4 -1.3**
comp=E,58nm,0.0s
BCLA Clavier 4.17 322 P **Pn 15 31 35.5 +2.2**
BCLA S **Sn 15 32 21.3 -1.3**
HGN Heimansgroeve 4.20 329 *e*Pn **Pn 15 31 35.9 +2.1**
comp=E,127nm,0.4s
HGN *e*X 15 31 37.8
HGN *e*Sn **Sn 15 32 25.3 +1.8**
HGN Heimansgroeve 4.20 329 *e*P **Pn 15 31 35.8 +2.1**
HGN *e*S **Sn 15 32 24.1 +0.6**
comp=E,263nm,0.5s
HGN *e*Sn **Sn 15 32 25.3 +1.8**
COLF Collangettes 4.23 249 Pn **Pn 15 31 34.7 +0.5**
COLF Collangettes 4.23 249 Pn **Pn 15 31 34.7 +0.5**

ARSA Arzberg 4.24 87 *e*Pn **Pn** 15 31 35.7 +1.4
ARSA Arzberg 4.24 87⇑ *i*Pn **Pn** 15 31 35.7 +1.4
ARSA Arzberg 4.24 87⇑ *i*Pn **Pn** 15 31 35.7 +1.4
SNR=109
ARSA Arzberg 4.24 87⇑ *i*Pn **Pn** 15 31 35.7 +1.4
ARSA Arzberg 4.24 87 *e*Pg **Pg** 15 31 48.1 -1.6
baz=272
DOU Dourbes 4.26 315 P **Pn** 15 31 36.9 +2.3
DOU S **Sn** 15 32 25.2 +0.2
comp=E,37nm,0.0s
DOU Dourbes 4.26 315 P **Pn** 15 31 36.8 +2.3
DOU S **Sn** 15 32 25.1 +0.2
BEBN Eben Emael 4.32 328 P **Pn** 15 31 37.9 +2.5
BEBN S **Sn** 15 32 25.9 -0.5
comp=N,54nm,0.0s
BEBN Eben Emael 4.32 328 P **Pn** 15 31 37.8 +2.5
BEBN S **Sn** 15 32 25.9 -0.5
LMR La Mourre 4.34 208 *e*P Pn 15 31 39.2 +3.6
LMR *e*Sn **Sn** 15 32 24.0 -2.9
SNR=1.0
LMR *e*Sg **Sg** 15 32 45.7 -2.1
comp=N,203nm,1.0s
LMR La Mourre 4.34 208 *e*P Pn 15 31 39.2 +3.6
LMR *e* 15 32 24.0
LMR La Mourre 4.34 208 *e*P Pn 15 31 39.2 +3.6
LMR *e*Sn **Sn** 15 32 24.0 -2.9
LMR *e*Sg **Sg** 15 32 45.7 -2.1
LMR La Mourre 4.34 208 *e*P Pn 15 31 39.2 +3.6
LMR *e*Sn **Sn** 15 32 24.0 -2.9
SNR=1.0
LMR *e*Sg **Sg** 15 32 45.7 -2.1
comp=N,102nm,1.0s
AGO Saint Agoulin 4.40 257 Pn **Pn** 15 31 37.0 +0.4
AGO Saint Agoulin 4.40 257 Pn **Pn** 15 31 37.0 +0.4
BAIF Baives 4.43 312 *e*P **Pn** 15 31 39.8 +2.1
BAIF *e*Sn **Sn** 15 32 25.8 -3.3
SNR=1.0
BAIF *e*Sg **Sg** 15 32 49.9 -0.7
comp=N,309nm,0.9s
BAIF Baives 4.43 312 *e*P **Pn** 15 31 39.0 +2.1
BAIF *e* 15 32 25.8
BAIF Baives 4.43 312 *e*P **Pn** 15 31 39.0 +2.1
BAIF *e*Sn **Sn** 15 32 25.8 -3.3
BAIF *e*Sg **Sg** 15 32 49.9 -0.7
BAIF Baives 4.43 312 *e*P **Pn** 15 31 39.0 +2.1
BAIF *e*Sg **Sg** 15 32 49.9 -0.7
comp=N,154nm,0.9s
LAUG Laupendahl 4.43 341 *e*Pn **Pn** 15 31 38.5 +1.6
LAUG Laupendahl 4.43 341 Pn **Pn** 15 31 38.5 +1.6
BUG Bochum--Univer 4.45 343 *e*Pn **Pn** 15 31 38.5 +1.4
BOJS Bojanci 4.46 110 *i* Pn **Pn** 15 31 39.4 +2.1
BOJS Bojanci 4.46 110 *i* Pn **Pn** 15 31 39.4 +2.1
PRU Pruhonice 4.46 49 *e*P **Pn** 15 31 36.6 -0.7
PRU MLR MLR
comp=Z,500nm,4.6s
PRU Pruhonice 4.46 49 *e*PN **Pn** 15 31 36.6 -0.7
PRU *e*SG **Sg** 15 32 49.2 -2.5
comp=Z,410nm,0.7s
PRU AMS AMS 15 34 00.0
comp=Z,500nm,4.6s
PRU Pruhonice 4.46 49 Pn **Pn** 15 31 36.6 -0.7
PRU Pruhonice 4.46 49 *e*Pg **Pg** 15 31 51.6 -2.3
baz=234
PRU *e*Sg **Sg** 15 32 49.1 -2.6
baz=234
BGF Bois d'Agland 4.47 264 *e*Pn **Pn** 15 31 38.5 +1.0
SNR=1.0
BGF Bois d'Agland 4.47 264 *e*Pg **Pg** 15 31 54.4 +0.2
BGF *e*Sn **Sn** 15 32 26.9 -3.3
BGF *e*Sg **Sg** 15 32 50.8 -1.3
comp=Z,168nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.47 264 *e*P **Pn** 15 31 38.5 +1.0
BGF *e* 15 32 26.9
BGF Bois d'Agland 4.47 264 *e*Pn **Pn** 15 31 38.5 +1.0
BGF *e*Pg **Pg** 15 31 54.4 +0.2
BGF *e*Sn **Sn** 15 32 26.9 -3.3
BGF *e*Sg **Sg** 15 32 50.8 -1.3
BGF Bois d'Agland 4.47 264 *e*Pn **Pn** 15 31 38.5 +1.0
SNR=1.0
BGF Bois d'Agland 4.47 264 *e*Pg **Pg** 15 31 54.4 +0.2
BGF *e*Sg **Sg** 15 32 50.8 -1.3
comp=Z,84nm,0.4s,SNR=1.0
CONA Conrad Observa 4.50 78 *i* Pn **Pn** 15 31 39.0 +1.0
CONA Conrad Observa 4.50 78 *i* Pn **Pn** 15 31 39.0 +1.0
SNR=75
CONA Conrad Observa 4.50 78 Pn **Pn** 15 31 39.0 +1.0
SNR=75
HYF Humbligny 4.54 273 *e*P Pn 15 31 41.9 +3.5
HYF *e*Sg **Sg** 15 32 53.3 -0.9
HYF Humbligny 4.54 273 *e*P Pn 15 31 41.9 +3.5
HYF *e*Sg **Sg** 15 32 53.3 -0.9
HYF Humbligny 4.54 273 *e*P Pn 15 31 41.9 +3.5
HYF *e*Sg **Sg** 15 32 53.3 -0.9
GCIS Gornji Cirnik 4.56 105 *i* Pn **Pn** 15 31 40.5 +1.7
GCIS Gornji Cirnik 4.56 105 *i* Pn **Pn** 15 31 40.5 +1.7
PYM Petit Puy Mans 4.58 254 P **Pn** 15 31 39.3 +0.2
PYM Petit Puy Mans 4.58 254 Pn **Pn** 15 31 39.3 +0.2
PYM Petit Puy Mans 4.58 254 Pn **Pn** 15 31 39.3 +0.2
TREC Trest 4.63 61 *e*P **Pn** 15 31 40.1 +0.3
TREC Trest 4.63 61 *e*PN **Pn** 15 31 40.1 +0.3
TREC Trest 4.63 61 Pn **Pn** 15 31 40.1 +0.3
LBL Lubilhac 4.64 247 P **Pn** 15 31 40.4 +0.5
LBL Lubilhac 4.64 247 Pn **Pn** 15 31 40.4 +0.5
LBL Lubilhac 4.64 247 Pn **Pn** 15 31 40.4 +0.5
PGF Pioggiola 4.65 183 *e*P **Pn** 15 31 43.0 +2.9
PGF Pioggiola 4.65 183 *e*P **Pn** 15 31 43.0 +2.9
PGF Pioggiola 4.65 183 *e*P **Pn** 15 31 43.0 +2.9
PGF Pioggiola 4.65 183 *e*P **Pn** 15 31 43.0 +2.9
SNF Seneffe 4.68 317 P **Pn** 15 31 43.3 +2.9
SNF Seneffe 4.68 317 P **Pn** 15 31 43.2 +2.9
NVLJ Novalja 4.70 122 *e*Pn **Pn** 15 31 43.0 +2.5
NVLJ Sn **Sn** 15 32 37.5 +1.8
NVLJ Novalja 4.70 122 *e*Pn **Pn** 15 31 43.0 +2.5
NVLJ Sn **Sn** 15 32 37.5 +1.8
CLZ Clausthal 4.70 8 *e*P **Pn** 15 31 40.8 +0.1
CLZ Clausthal 4.70 8 *e*Pn **Pn** 15 31 40.8 +0.1
CLZ Clausthal 4.70 8 Pn **Pn** 15 31 40.8 +0.1
CLL Collm 4.77 29 *e*P **Pn** 15 31 39.0 -2.6
CLL Collm 4.77 29 *e*Pn **Pn** 15 31 39.6 -2.0
CLL Collm 4.77 29 *e*Pn **Pn** 15 31 39.0 -2.6
CLL *e*Pg **Pg** 15 32 03.0 +3.1
CLL *i* Sg **Sg** 15 33 02.2 +0.4
comp=Z,442nm,0.7s
CLL Collm 4.77 29 *e*P **Pn** 15 31 39.0 -2.6
CLL Collm 4.77 29 Pn **Pn** 15 31 39.6 -2.0
BRG Berggiesshubel 4.78 38 PN **Pn** 15 31 40.6 -1.1
comp=Z,27nm,0.5s
BRG PG **Pg** 15 32 00.1 +0.1
BRG SG **Sg** 15 32 59.7 -2.3
comp=Z,262nm,0.8s
BRG Berggiesshubel 4.78 38 P **Pn** 15 31 40.6 -1.1
BRG pmax pmax
comp=Z,27nm,0.5s
BRG Berggiesshubel 4.78 38 *e*Pn **Pn** 15 31 40.6 -1.1
BRG Berggiesshubel 4.78 38 Pn **Pn** 15 31 40.6 -1.1
PVCC Panska Ves 4.82 44 *e*P **Pn** 15 31 41.3 -0.9
PVCC Panska Ves 4.82 44 *e*PN **Pn** 15 31 41.3 -0.9
PVCC *e*SG **Sg** 15 32 59.6 -3.5
comp=Z,543nm,0.5s
PVCC Panska Ves 4.82 44 Pn **Pn** 15 31 41.3 -0.9
VERF Verneugheol 4.93 255 Pn **Pn** 15 31 45.1 +1.3
VERF Verneugheol 4.93 255 Pn **Pn** 15 31 45.1 +1.3
LASF Ste Croix 4.93 233 *e*Pn **Pn** 15 31 43.0 -0.8
SNR=1.0
LASF Ste Croix 4.93 233 *e*P **Pn** 15 31 45.8 +2.0
LASF Ste Croix 4.93 233 *e*Pg **Pg** 15 32 01.4 -1.5
LASF *e*Sn **Sn** 15 32 37.4 -4.2
SNR=1.0
LASF *e*Sg **Sg** 15 33 05.3 -1.5
comp=Z,112nm,0.5s,SNR=1.0
LASF Ste Croix 4.93 233 *e*Pn **Pn** 15 31 43.0 -0.8
LASF *e*Pg **Pg** 15 32 01.4 -1.5
LASF *e*Sn **Sn** 15 32 37.4 -4.2
LASF *e*Sg **Sg** 15 33 05.3 -1.5
LASF Ste Croix 4.93 233 *e*Pn **Pn** 15 31 43.0 -0.8
SNR=1.0
LASF Ste Croix 4.93 233 *e*P **Pn** 15 31 45.8 +2.0
LASF Ste Croix 4.93 233 *e*Pg **Pg** 15 32 01.4 -1.5
LASF *e*Sg **Sg** 15 33 05.3 -1.5
comp=Z,56nm,0.5s,SNR=1.0
SOP Sopron 4.95 82⇑ *e*Pn **Pn** 15 31 45.0 +1.0
SOP *e*Sn **Sg** 15 33 05.4 -2.0
TCF Toulx Ste Croi 4.96 262 *e*Pn **Pn** 15 31 44.6 +0.4
SNR=1.0
TCF *e*Sn **Sn** 15 32 38.6 -3.7
TCF *e*Sg **Sg** 15 33 06.6 -1.1
comp=Z,246nm,0.6s,SNR=1.0
TCF Toulx Ste Croi 4.96 262 *e*P **Pn** 15 31 44.6 +0.4
TCF *e* 15 32 38.6
TCF Toulx Ste Croi 4.96 262 *e*Pn **Pn** 15 31 44.6 +0.4
TCF *e*Sn **Sn** 15 32 38.6 -3.7
TCF *e*Sg **Sg** 15 33 06.6 -1.1
TCF Toulx Ste Croi 4.96 262 *e*Pn **Pn** 15 31 44.6 +0.4
SNR=1.0
TCF *e*Sg **Sg** 15 33 06.6 -1.1
comp=Z,123nm,0.6s,SNR=1.0
WTSB Winterswijk 5.04 342 *e*Pn **Pn** 15 31 47.5 +2.2
comp=Z,22nm,0.5s
WTSB *e*Sn **Sn** 15 32 42.7 -1.5
WTSB Winterswijk 5.04 342 *e*Pn **Pn** 15 31 47.5 +2.2
comp=Z,22nm,0.5s
WTSB *e*Sn **Sn** 15 32 42.7 -1.5
KRUC Moravsky 5.10 66 *e*Pn **Pn** 15 31 46.5 +0.3
baz=252
KRUC *e*Sg **Sg** 15 33 09.8 -2.5
comp=Z,424nm,1.0s,baz=252
VRAC Vranov 5.31 64 Pn **Pn** 15 31 49.3 +0.2
comp=Z,3.0nm,0.3s,baz=252,slow=14,SNR=28
VRAC Lg Lg 15 33 17.1
comp=Z,22nm,0.3s,baz=334,slow=17,SNR=8.7
VRAC LR LR 15 34 18.7
comp=Z,173nm,18.2s,baz=67,slow=43
VRAC Vranov 5.31 64 ⇑P **Pn** 15 31 49.2 +0.2
VRAC S **Sn** 15 32 50.9 0.0
VRAC Vranov 5.31 64 Pn **Pn** 15 31 49.3 +0.2
VRAC Lg Lg 15 33 17.1
VRAC Vranov 5.31 64 ⇑ *i*P **Pn** 15 31 49.2 +0.2
VRAC Vranov 5.31 64 S 15 32 50.9
VRAC Vranov 5.31 64 ⇑ *i*P **Pn** 15 31 49.2 +0.2
VRAC S **Sn** 15 32 50.9 0.0
VRAC Lg Lg 15 33 17.1
CAF Calviac 5.52 248 *e*Pn **Pn** 15 31 52.5 +0.5
SNR=1.0
CAF *e*Sn **Sn** 15 32 51.3 -4.9
SNR=1.0
CAF *e*Sg **Sg** 15 33 22.6 -3.3
comp=Z,169nm,0.9s
CAF Calviac 5.52 248 *e*P **Pn** 15 31 52.5 +0.5
CAF *e* 15 32 51.3
CAF Calviac 5.52 248 *e*Pn **Pn** 15 31 52.5 +0.5
CAF *e*Sn **Sn** 15 32 51.3 -4.9
CAF *e*Sg **Sg** 15 33 22.6 -3.3
OSPF L'Ospedale 5.53 181 Pn **Pn** 15 31 55.2 +3.0
DPC Dobruska-Polom 5.61 53 *e*P **Pn** 15 31 52.7 -0.5
DPC Dobruska-Polom 5.61 53 *e*PN **Pn** 15 31 52.7 -0.5
DPC *e*SG **Sg** 15 33 25.7 -2.9
comp=Z,182nm,0.6s
SMOL Smolenice 5.63 73 *e*P **Pn** 15 31 53.9 +0.5
SMOL Smolenice 5.63 73 *e*PN **Pn** 15 31 53.9 +0.5
SMOL *e*SG **Sg** 15 33 32.8 +3.6
AQU L'Aquila 5.65 147 ⇑P **Pn** 15 31 58.3 +4.5
AQU L'Aquila 5.65 147 ⇑ *i*P **Pn** 15 31 58.3 +4.5
RJF Les Rejaudoux 5.72 254 *e*Pn **Pn** 15 31 55.2 +0.5
RJF Les Rejaudoux 5.72 254 *e*Pg **Pg** 15 32 16.8 -1.3
RJF *e*Sg **Sg** 15 33 29.8 -2.4
comp=Z,281nm,0.9s
RJF Les Rejaudoux 5.72 254 *e*P **Pn** 15 31 55.2 +0.5
RJF Les Rejaudoux 5.72 254 *e*Pn **Pn** 15 31 55.2 +0.5
RJF *e*Pg **Pg** 15 32 16.8 -1.3
RJF *e*Sg **Sg** 15 33 29.8 -2.4
KSP Ksiaz 5.87 49 *e*Pn **Pn** 15 31 57.0 +0.3
KSP *e*Pg **Pg** 15 32 23.1 +2.2
KSP *e*Sn **Sg** 15 33 34.6 -2.3
KSP *e*Sg Sb 15 33 47.1 +25
KSP Ksiaz 5.87 49 *e*Pn **Pn** 15 31 57.0 +0.3
KSP *e*Pg **Pg** 15 32 21.3 +0.4
KSP *e*Sg **Sg** 15 33 34.6 -2.3
KSP Ksiaz 5.87 49 *e*P **Pn** 15 31 57.0 +0.3
KSP Ksiaz 5.87 49 *e*Pn **Pn** 15 31 57.0 +0.3
MORC Moravsky Berou 6.06 62 ⇓P **Pn** 15 31 59.5 +0.2
MORC S **Sn** 15 33 06.6 -2.7
MORC Moravsky Berou 6.06 62 *e*Pn **Pn** 15 31 59.2 -0.1
comp=Z,38nm,0.6s
MORC Moravsky Berou 6.06 62 ⇓ *i*P **Pn** 15 31 59.5 +0.2
MORC Moravsky Berou 6.06 62 S 15 33 06.6
MORC Moravsky Berou 6.06 62 ⇓ *i*P **Pn** 15 31 59.5 +0.2
PKS9 Tamasi 6.18 92 *e*Pn **Pn** 15 32 01.2 +0.2
PKSG 6.19 85⇓ *e*Pn **Pn** 15 32 02.2 +1.2
KOLL Kolacno 6.28 74 *e*P **Pn** 15 32 02.3 0.0
KOLL *e* 15 33 10.5
KOLL Kolacno 6.28 74 *e*PN **Pn** 15 32 02.3 0.0
KOLL *e*SN **Sn** 15 33 10.5 -4.1
KOLL *e*SG **Sg** 15 33 52.7 -4.7
MTLF Montolieu 6.31 235 *e*Pn **Pn** 15 32 03.1 +0.3
MTLF Montolieu 6.31 235 *e*Pg Pg 15 32 27.3 -2.1
MTLF *e*Sn **Sn** 15 33 10.4 -5.2
SNR=1.0
MTLF *e*Sg **Sg** 15 33 47.5 -3.6
comp=Z,69nm,0.7s
MTLF Montolieu 6.31 235 *e*P **Pn** 15 32 03.1 +0.3
MTLF *e* 15 33 10.4
MTLF Montolieu 6.31 235 *e*Pn **Pn** 15 32 03.1 +0.3
MTLF *e*Pg Pg 15 32 27.3 -2.1
MTLF *e*Sn **Sn** 15 33 10.4 -5.2
MTLF *e*Sg **Sg** 15 33 47.5 -3.6
LFF La Frestale 6.37 252 *e*Pn **Pn** 15 32 04.1 +0.6
LFF La Frestale 6.37 252 *e*Pg **Pg** 15 32 29.5 -1.0
LFF *e*Sg **Sg** 15 33 50.8 -2.2
comp=Z,278nm,0.8s
LFF La Frestale 6.37 252 *e*P **Pn** 15 32 04.1 +0.6
LFF La Frestale 6.37 252 *e*Pn **Pn** 15 32 04.1 +0.6
LFF *e*Pg **Pg** 15 32 29.5 -1.0
LFF *e*Sg **Sg** 15 33 50.8 -2.2
LDF La Druitiere 6.49 286 *e*Pn **Pn** 15 32 06.2 +1.0
SNR=1.0
LDF *e*Sn **Sn** 15 33 15.6 -4.3
SNR=1.0
LDF *e*Sg **Sg** 15 33 54.6 -2.2
comp=Z,163nm,0.7s
LDF La Druitiere 6.49 286 *e*P **Pn** 15 32 06.2 +1.0
LDF *e* 15 33 15.6
LDF La Druitiere 6.49 286 *e*Pn **Pn** 15 32 06.2 +1.0
LDF *e*Sn **Sn** 15 33 15.6 -4.3
LDF *e*Sg **Sg** 15 33 54.6 -2.2
PKSM Moragy 6.50 95 ⇓P **Pn** 15 32 05.8 +0.5
PKSM Moragy 6.50 95 ⇓ *i*P **Pn** 15 32 05.8 +0.5
PKSM Moragy 6.50 95 *e*Pn **Pn** 15 32 05.2 -0.1
PKSM *e*Sn **Sn** 15 33 16.8 -3.3
PKSM Moragy 6.50 95 ⇓ *i*P **Pn** 15 32 05.8 +0.5
MFF Saint Martin d 6.50 268 *e*Pn **Pn** 15 32 05.9 +0.6
SNR=1.0
MFF *e*Sn **Sn** 15 33 15.3 -4.9
SNR=1.0
MFF *e*Sg **Sg** 15 33 54.6 -2.6
comp=Z,144nm,0.9s
MFF Saint Martin d 6.50 268 *e*P **Pn** 15 32 05.9 +0.6
MFF *e* 15 33 15.3
MFF Saint Martin d 6.50 268 *e*Pn **Pn** 15 32 05.9 +0.6
MFF *e*Sn **Sn** 15 33 15.3 -4.9
MFF *e*Sg **Sg** 15 33 54.6 -2.6
VYHS Vyhne 6.55 75 *e*P **Pn** 15 32 05.8 -0.2
VYHS *e* 15 33 17.6
VYHS Vyhne 6.55 75 *e*PN **Pn** 15 32 05.8 -0.2
VYHS *e*SN **Sn** 15 33 17.6 -3.8
VYHS *e*SG **Sg** 15 34 01.9 +3.2
FLN La Foliniere 6.75 287 *e*Pn **Pn** 15 32 09.0 +0.2
baz=104,SNR=1.0
FLN *e*Sn **Sn** 15 33 21.6 -4.7
SNR=1.0
FLN *e*Sg **Sg** 15 34 02.5 -2.7
comp=Z,190nm,0.7s
FLN La Foliniere 6.75 287 *e*P **Pn** 15 32 09.0 +0.2
FLN *e* 15 33 21.6
FLN La Foliniere 6.75 287 *e*Pn **Pn** 15 32 09.0 +0.2
FLN *e*Sn **Sn** 15 33 21.6 -4.7
FLN *e*Sg **Sg** 15 34 02.5 -2.7
LIKS Likavka 6.82 71 *e*P **Pn** 15 32 12.2 +2.5
LIKS Likavka 6.82 71 *e*PN **Pn** 15 32 12.2 +2.5
LIKS Likavka 6.82 71 *e*SG 15 34 13.9
GRR Gorron 6.95 284 *e*Pn **Pn** 15 32 11.3 -0.2
SNR=1.0
GRR *e*Sn **Sn** 15 33 26.4 -4.7
SNR=1.0
GRR *e*Sg **Sg** 15 33 26.4 -4.7
comp=Z,187nm,1.0s
GRR Gorron 6.95 284 *e*P **Pn** 15 32 11.3 -0.2
GRR *e* 15 33 26.4
GRR Gorron 6.95 284 *e*Pn **Pn** 15 32 11.3 -0.2
GRR *e*Sn **Sn** 15 33 26.4 -4.7
GRR *e*Sg **Sg** 15 34 08.7 -2.8
PSZ Piszkesteto 7.21 80 ⇑P **Pn** 15 32 15.7 +0.6
PSZ Piszkesteto 7.21 80 *e*Pn **Pn** 15 32 14.8 -0.2
comp=Z,17nm,0.7s
PSZ Piszkesteto 7.21 80 ⇑ *i*P **Pn** 15 32 15.7 +0.6
PSZ Piszkesteto 7.21 80⇓ *e*Pn **Pn** 15 32 15.5 +0.4
PSZ Piszkesteto 7.21 80 ⇑ *i*P **Pn** 15 32 15.7 +0.6
OJC Ojcow 7.57 63 *e*Pn **Pn** 15 32 21.2 +1.1
OJC *e*PP Pb 15 32 28.8 -12
OJC *e* 15 34 12.3
OJC *e*Sg **Sg** 15 34 29.8 -1.8
OJC Ojcow 7.57 63 *e*P **Pn** 15 32 21.2 +1.1
FGSL Fruska Gora 7.58 102 ⇑P **Pn** 15 32 20.9 +0.8
EPF Esparros 7.58 240 *e*Pn **Pn** 15 32 20.6 +0.3
EPF Esparros 7.58 240 *e*Pg **Pg** 15 32 52.2 -1.5
EPF *e*Sn Sn 15 33 40.7 -6.2
SNR=1.0
EPF *e*Sg Sg 15 34 26.8 -5.1
comp=Z,90nm,0.9s
EPF Esparros 7.58 240 *e*P **Pn** 15 32 20.6 +0.3
EPF *e* 15 33 40.7
EPF Esparros 7.58 240 *e*Pn **Pn** 15 32 20.6 +0.3
EPF *e*Pg **Pg** 15 32 52.2 -1.5
EPF *e*Sn Sn 15 33 40.7 -6.2
EPF *e*Sg Sg 15 34 26.8 -5.1
KECS Kecovo 7.64 76 *e*P **Pn** 15 32 21.1 +0.2
KECS Kecovo 7.64 76 *e*PN **Pn** 15 32 21.1 +0.2
KECS Kecovo 7.64 76 *e*SG 15 34 39.7
NIE Niedzica 7.67 69 *e*Pn **Pn** 15 32 22.8 +1.3
NIE *e*Sg **Sg** 15 34 31.3 -3.4
NIE Niedzica 7.67 69 *e*P **Pn** 15 32 22.8 +1.3
SGMF Saint Gilles 8.07 282 *e*Pn **Pn** 15 32 26.6 -0.2
SNR=1.0
SGMF *e*Sn **Sn** 15 33 53.5 -5.2
SGMF *e*Sg **Sg** 15 34 44.1 -3.3
comp=Z,364nm,1.4s
SGMF Saint Gilles 8.07 282 *e*P **Pn** 15 32 26.6 -0.2
SGMF *e* 15 33 53.5
SGMF Saint Gilles 8.07 282 *e*Pn **Pn** 15 32 26.6 -0.2
SGMF *e*Sn **Sn** 15 33 53.5 -5.2
SGMF *e*Sg **Sg** 15 34 44.1 -3.3
DIVS Divibare 8.11 109 ⇓ *i*P **Pn** 15 32 28.4 +0.9
ETSF Etsaut 8.20 242 *e*Pn **Pn** 15 32 29.0 +0.3
ETSF *e*Sg Sg 15 34 46.5 -5.1
comp=Z,66nm,1.0s
ETSF Etsaut 8.20 242 *e*P **Pn** 15 32 29.0 +0.3
ETSF Etsaut 8.20 242 *e*Pn **Pn** 15 32 29.0 +0.3
ETSF *e*Sg Sg 15 34 46.5 -5.1
STHS Stebnicka Huta 8.27 70 *e*P **Pn** 15 32 31.2 +1.6
STHS MLR MLR
comp=Z,100nm,1.0s
STHS Stebnicka Huta 8.27 70 *e*PN **Pn** 15 32 31.2 +1.6
STHS Stebnicka Huta 8.27 70 *e*SG 15 34 58.1
CRVS Cervenica-Dubn 8.33 74 *e*P **Pn** 15 32 30.7 +0.3
CRVS Cervenica-Dubn 8.33 74 *e*PN **Pn** 15 32 30.7 +0.3
CRVS Cervenica-Dubn 8.33 74 *e*SG 15 34 59.1
QUIF Quistinic 8.46 279 *e*Pn **Pn** 15 32 32.2 -0.1
SNR=1.0
QUIF *e*Sn **Sn** 15 34 03.1 -5.3
QUIF *e*Sg **Sg** 15 34 56.9 -3.2
comp=Z,201nm,1.1s
QUIF Quistinic 8.46 279 *e*P **Pn** 15 32 32.2 -0.1
QUIF *e* 15 34 03.1
QUIF Quistinic 8.46 279 *e*Pn **Pn** 15 32 32.2 -0.1
QUIF *e*Sn **Sn** 15 34 03.1 -5.3
QUIF *e*Sg **Sg** 15 34 56.9 -3.2
SJPF Ste Jean 8.48 245 *e*Pn **Pn** 15 32 32.5 -0.1
SJPF *e*Sg **Sg** 15 34 56.9 -3.9
comp=Z,193nm,1.4s
SJPF Ste Jean 8.48 245 *e*P **Pn** 15 32 32.5 -0.1
SJPF Ste Jean 8.48 245 *e*Pn **Pn** 15 32 32.5 -0.1
SJPF *e*Sg **Sg** 15 34 56.9 -3.9
ROSF Rostrenen 8.55 282 *e*Pn **Pn** 15 32 33.1 -0.3
SNR=1.0
ROSF *e*Sn **Sn** 15 34 04.9 -5.6
ROSF *e*Sg **Sg** 15 34 59.1 -3.7
comp=Z,236nm,1.3s
ROSF Rostrenen 8.55 282 *e*P **Pn** 15 32 33.1 -0.3
ROSF *e* 15 34 04.9
ROSF Rostrenen 8.55 282 *e*Pn **Pn** 15 32 33.1 -0.3
ROSF *e*Sn **Sn** 15 34 04.9 -5.6
ROSF *e*Sg **Sg** 15 34 59.1 -3.7
BZS Buzias 8.66 96 ⇓P **Pn** 15 32 36.8 +1.9
BZS Buzias 8.66 96 ⇓ *i*P **Pn** 15 32 36.8 +1.9
BZS Buzias 8.66 96 ⇓ *i*P **Pn** 15 32 36.8 +1.9
GRUS Gruza 8.67 108 *e*P **Pn** 15 32 37.3 +2.2
UZH Uzhgorod 8.85 76 *e*P **Pn** 15 32 37.9 +0.4
UZH *e*S **Sn** 15 34 17.7 -0.1
UZH MLR MLR
comp=N,260nm,6.0s
UZH MLR MLR
comp=E,450nm,6.0s
UZH MLR MLR
comp=Z,250nm,6.0s
DRGR 9.18 88 ⇑P **Pn** 15 32 43.0 +0.9
DRGR 9.18 88 ⇑ *i*P **Pn** 15 32 43.0 +0.9
DRGR 9.18 88 ⇑ *i*P **Pn** 15 32 43.0 +0.9
SELS Selova 9.24 111 *e*P **Pn** 15 32 44.9 +1.9
GZR Gura Zlata 9.50 96 ⇓ *i*P **Pn** 15 32 48.6 +2.0
GZR Gura Zlata 9.50 96 ⇓ *i*P **Pn** 15 32 48.6 +2.0
BARS Barje 9.88 112 ⇑ *i*P Pn 15 32 55.4 +3.6
BURAR Bucovina Array 10.80 82 ⇓P **Pn** 15 33 06.3 +1.9
BURAR Bucovina Array 10.80 82 ⇓ *i*P **Pn** 15 33 06.3 +1.9
BURAR Bucovina Array 10.80 82 ⇓ *i*P **Pn** 15 33 06.3 +1.9
KEST Kesra 11.46 180 Pn Pn 15 33 20.9 +7.5
comp=Z,0.6nm,0.3s,baz=305,slow=3.1,SNR=21
KEST Kesra 11.46 180 Pn Pn 15 33 20.9 +7.5
DLF Lyons Farm 11.82 307 ⇓ *i*P **Pn** 15 33 18.7 +0.6
ESDC Sonseca Array 12.22 237 Pn **Pn** 15 33 24.5 +0.8
comp=Z,0.2nm,0.3s,baz=49,slow=14,SNR=4.9
ESDC Sonseca Array 12.22 237 Pn **Pn** 15 33 24.5 +0.8
KIEV Kiev 13.54 68⇑ *e*P **Pn** 15 33 41.4 -0.2
AKASG Malin Array Be 13.55 68 Pn **Pn** 15 33 41.4 -0.4
comp=Z,0.3nm,0.3s,baz=260,slow=11,SNR=3.9
AKASG Lg Lg 15 37 38.5
comp=Z,0.3nm,0.3s,baz=264,slow=26,SNR=5.3
AKASG Malin Array Be 13.55 68 P **Pn** 15 33 41.4 -0.4
AKASG Malin Array Be 13.55 68 Pn **Pn** 15 33 41.4 -0.4
AKASG Lg Lg 15 37 38.5
FINES FINESS Array B 17.22 28 P **P** 15 34 33.1 +1.4
comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=8.6
FINES FINESS Array B 17.22 28 P **P** 15 34 33.2 +1.4
FINES FINESS Array B 17.22 28 P **P** 15 34 33.1 +1.4
OBN Obninsk 18.75 55⇓ *e*P **P** 15 34 46.9 -1.8
OBN pmax pmax
comp=Z,22nm,1.6s
BRTR Keskin Array B 19.13 104 P **Pn** 15 34 54.2 +0.3
comp=Z,0.1nm,0.3s,baz=295,slow=8.0,SNR=2.7
BRTR Keskin Array B 19.13 104 P **Pn** 15 34 54.2 +0.3
BRTR Keskin Array B 19.13 104 P **Pn** 15 34 54.2 +0.3
KIV Kislovodsk 23.49 86⇓ *e*P **P** 15 35 41.0 +1.2
KIV pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 26.41 92 P **P** 15 36 06.7 -0.1
comp=Z,2.3nm,0.6s,baz=360,slow=19,SNR=2.1
GNI Garni 26.41 92 P **P** 15 36 06.8 -0.1
GNI Garni 26.41 92 P **P** 15 36 06.8 -0.1
AKTO Aktyubinsk 31.78 66 P **P** 15 36 55.2 +0.9
comp=Z,0.6nm,0.5s,baz=263,slow=7.4,SNR=4.3
AKTO Aktyubinsk 31.78 66 P **P** 15 36 55.2 +0.9
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 31.78 66 P **P** 15 36 55.2 +0.9
TORD Torodi Ar. Bea 34.54 193 P **P** 15 37 20.1 +1.5
comp=Z,0.5nm,0.6s,baz=6.8,slow=8.5,SNR=4.9
TORD Torodi Ar. Bea 34.54 193 P **P** 15 37 20.1 +1.5
BRVK Borovoye 38.48 58⇑ *e*P **P** 15 37 53.3 +1.4
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 38.48 58 *e*P **P** 15 37 53.3 +1.4
comp=Z,2.0nm,1.2s
BVAR Borovoye Array 38.55 58 P **P** 15 37 54.4 +1.8
comp=Z,0.5nm,0.5s,baz=286,slow=7.6,SNR=6.4
BVAR Borovoye Array 38.55 58 P **P** 15 37 54.4 +1.8
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 38.55 58 P **P** 15 37 54.4 +1.8
BVAR Borovoye Array 38.55 58 P **P** 15 37 54.4 +1.8
comp=Z,1.0nm,0.5s
KURK Kurchatov 44.13 59 P **P** 15 38 38.8 +0.4

comp=Z,0.8nm,0.6s,baz=296,slow=8.8,SNR=12
KURK Kurchatov 44.13 59⇑ *e*P P 15 38 39.1 +0.7
KURK pmax pmax
comp=Z,2.0nm,1.2s
KURK Kurchatov 44.13 59 P P 15 38 38.8 +0.4
KURK Kurchatov 44.13 59 *e*P P 15 38 39.1 +0.7
comp=Z,2.0nm,1.2s
AAK Ala-Archa 45.19 71⇑ *e*P P 15 38 46.3 -0.9
AAK pmax pmax
comp=Z,7.0nm,1.7s
MKAR Makanchi Array 48.05 62 P P 15 39 10.3 +0.9
comp=Z,0.5nm,0.9s,baz=293,slow=7.3,SNR=4.1
MKAR Makanchi Array 48.05 62 *i* P P 15 39 10.8 +1.5
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 48.05 62 P P 15 39 10.3 +0.9
MKAR Makanchi Array 48.05 62 *i* P P 15 39 10.8 +1.5
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 76.45 78 P P 15 42 22.6 +2.5
comp=Z,0.3nm,0.7s,baz=309,slow=8.0,SNR=4.2
CMAR Chiang Mai Arr 76.45 78 P P 15 42 22.7 +2.5
CMAR Chiang Mai Arr 76.45 78 P P 15 42 22.6 +2.5
CMAR Chiang Mai Arr 76.45 78 P P 15 42 22.6 +2.5

*DJA **04** 15:36:39.0 0.42N× 134.89E, h15km, mb4.8/8*
IDC 04 15:36:57.0±0.9, 0.73S×133.68E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML3.9/1, Error ellipse: s-maj=51.2km s-min=16.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**178**	P		Pn	15 41 22.1	-0.1
	0.4nm,0.3s,baz=356,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.80**	**179**	P		P	15 42 01.9	+0.4
	2.4nm,0.6s,baz=0.3,slow=10,SNR=21						
STKA	**Stephens Creek**	**31.87**	**167**	P		P	15 43 23.2	-0.7
	0.4nm,0.5s,baz=342,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**39.10**	**301**	P		P	15 44 25.6	-0.8
	0.4nm,0.8s,baz=112,slow=6.9,SNR=4.3						
SONM	**Songino Array**	**53.89**	**338**	P		P	15 46 22.7	+0.4
	0.9nm,1.0s,baz=155,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**65.20**	**324**	P		P	15 47 40.8	+0.5
	2.9nm,0.7s,baz=111,slow=8.6,SNR=40						
ZALV	**Zalesovo Beam**	**67.75**	**331**	P		P	15 47 55.9	-0.5
	0.3nm,0.5s,baz=110,slow=5.8,SNR=3.6						
KURK	**Kurchatov**	**69.25**	**326**	P		P	15 48 05.9	+0.1
	2.4nm,0.7s,baz=120,slow=5.7,SNR=24						
BVAR	**Borovoye Array**	**74.85**	**326**	P		P	15 48 39.2	-0.1
	1.5nm,0.6s,baz=125,slow=7.3,SNR=15						
ILAR	**Eielson Array**	**86.16**	**25**	P		P	15 49 39.7	-0.1
	0.5nm,0.7s,baz=246,slow=4.4,SNR=8.0						

IDC 04 15:41:04.7±2.3, 0.81S×133.30E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/18, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=141.9km s-min=22.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.04**	**177**	P		P	15 45 28.0	-0.6
	0.1nm,0.3s,baz=356,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**22.73**	**179**	P		P	15 46 09.1	+0.7
	1.0nm,0.7s,baz=2.3,slow=12,SNR=6.4						
SONM	**Songino Array**	**53.82**	**338**	P		P	15 50 29.8	+0.5
	0.2nm,0.6s,baz=134,slow=6.2,SNR=3.1						
MKAR	**Makanchi Array**	**65.04**	**324**	P		P	15 51 47.2	+0.4
	0.3nm,0.5s,baz=109,slow=9.1,SNR=6.5						
KURK	**Kurchatov**	**69.19**	**326**	P		P	15 52 12.3	-0.2
	0.3nm,0.7s,baz=120,slow=6.1,SNR=5.4						
BVAR	**Borovoye Array**	**74.70**	**326**	P		P	15 52 45.1	-1.1
	0.2nm,0.6s,baz=118,slow=12,SNR=1.9						

*BJI **04** 15:42:56.0, 1.60S× 134.11E, h35km, mB5.1/11, mb4.5/23, Ms4.6/7, Ms7 4.2/7*
*IDC **04** 15:43:00.4±0.7, 0.66S× 133.63E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/19, mbtmp4.2/14, ML4.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.2/25, Error ellipse: s-maj=34.0km s-min=14.6km az=77.0*
*ISCJB **04** 15:43:02.9±0.4, 0.70S±0.04× 133.58E±0.06, h29km, mb4.4/33, MS4.0/6, Error ellipse: s-maj=8.3km s-min=5.0km az=3.3*
*NEIC **04** 15:43:05.8±0.3, 0.71S× 133.46E, h35km, mb4.6/12, Error ellipse: s-maj=12.2km s-min=5.8km az=75.0*
*DJA **04** 15:43:09, 0.80S× 133.25E, h30km, mb5.1/19*
ISC 04 15:43:04.9±0.4, 0.77S±0.05×133.66E±0.07, h29km, n101, σ1§63/117, mb4.5/33, MS4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.49**	**100**	P		Pb	15 43 48.6	-0.3
FAKI	**Fak Fak**	**2.56**	**213**	P		Pn	15 43 44.9	+0.5
TLE	**Tual**	**4.92**	**191**	P		Pn	15 44 19.5	+2.5
MSAI	**Masohi**	**5.37**	**241**	P		Pn	15 44 23.5	+0.3
	212nm,0.8s,2μm0.6nm						
LBMI	**Labuha**	**6.16**	**271**	P		Pn	15 44 31.9	-2.1
	236nm,0.8s,2μm0.7nm						
AAI	**Ambon**	**6.18**	**242**	P		Pn	15 44 32.7	-1.6
	847nm,0.8s,6μm2.7nm						
TNTI	**Ternate**	**6.47**	**284**	P		Pn	15 44 45.6	+7.3
NLAI	**Namlea**	**7.00**	**249**	P		Pn	15 44 43.5	-2.0
	296nm,0.9s,3μm1.0nm						
LUWI	**Luwuk**	**10.89**	**269**	P		Pn	15 45 36.0	-2.9
	153nm,1.2s,2μm						
MRSI	**Marisa**	**11.78**	**276**	P		Pn	15 45 53.2	+2.1
	43nm,0.8s,376nm						
TTSI	**Tana Toraja**	**14.01**	**261**	P		Pn	15 46 24.3	+2.7
SPSI	**Sidrap Palu**	**14.23**	**257**	P		Pn	15 46 25.5	+0.9
	26nm,0.9s,416nm						
BKSI	**Bulukumba**	**14.25**	**251**	P		Pn	15 46 24.8	-0.1
	46nm,0.8s,515nm						
KAPI	**Kappang**	**14.51**	**253**	*e*P		Pn	15 46 26.1	-2.3
	156nm,1.4s						
KAPI	**Kappang**	**14.51**	**253**	P		Pn	15 46 29.2	+0.8
	81nm,1.1s,756nm						
COEN	**Coen**	**16.14**	**145**	*e*P		P	15 46 54.7	+1.9
	58nm,0.8s						
SMKI	**Samarinda**	**16.45**	**271**	P		P	15 46 58.5	+2.2
WRAB	**Tennant Creek**	**19.06**	**178**	*e*P		Pn	15 47 25.3	-0.7
	23nm,0.8s						
WB2	**Warramunga Arr**	**19.07**	**178**	*e*P		Pn	15 47 25.4	-0.7
WRA	**Warramunga Arr**	**19.07**	**178**	P		P	15 47 25.2	0.0
	1.4nm,0.3s,baz=356,slow=12,SNR=26						
WRA				S		Sn	15 50 50.0	-9.0
	0.6nm,0.3s,baz=360,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**19.07**	**178**	P		P	15 47 25.2	0.0
WRA				S		Sn	15 50 50.0	-9.0
KHKI	**Kahang-Kahang**	**19.50**	**247**	P		Pn	15 47 31.7	+0.4
	57nm,1.5s						
BLJI	**Banyuglugur**	**21.16**	**250**	P		P	15 47 53.3	+5.3
AS31	**Alice Springs**	**22.76**	**179**	*e*P		P	15 48 05.5	+0.3
ASAR	**Alice Springs**	**22.76**	**179**	P		P	15 48 06.0	+0.8
	16nm,0.7s,baz=4.5,slow=12,SNR=52						
ASAR				S		S	15 52 08.7	-3.6
	2.2nm,1.1s,baz=357,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**22.76**	**179**	P		P	15 48 06.0	+0.8
ASAR				S		S	15 52 08.7	-3.6
MBWA	**Marble Bar**	**24.40**	**213**	*e*P		P	15 48 20.9	-0.1
	22nm,0.8s						
JOW	**Kunigami**	**27.93**	**350**	LR		LR	15 57 22.2	
	comp=Z,252nm,21.6s,baz=146,slow=31						
FORT	**Forest**	**30.31**	**190**	*e*P		P	15 49 15.0	+1.1
	22nm,0.8s						
STKA	**Stephens Creek**	**31.84**	**167**	P		P	15 49 28.1	+0.7
	3.8nm,0.6s,baz=334,slow=8.7,SNR=24						
STKA				LR		LR	16 04 02.4	
	comp=Z,418nm,18.2s,baz=21,slow=40						
STKA	**Stephens Creek**	**31.84**	**167**	*e*P		P	15 49 28.0	+0.7
	4.3nm,0.7s						
STKA	**Stephens Creek**	**31.84**	**167**	*e*P		P	15 49 27.6	+0.2
	1.0nm,0.7s						
KLBR	**Kellerberrin**	**34.15**	**205**	*e*P		P	15 49 47.6	0.0
	5.2nm,0.4s						
MJAR	**Matsushiro Arr**	**37.36**	**6**	P		P	15 50 13.1	-2.0
	2.0nm,0.8s,baz=191,slow=9.6,SNR=7.1						
MJAR				LR		LR	16 02 17.0	
	comp=Z,142nm,20.1s,baz=205,slow=31						
MJAR	**Matsushiro Arr**	**37.36**	**6**	P		P	15 50 13.1	-2.0
GYA	**Guiyang**	**37.55**	**318**	P		P	15 50 17.0	0.0
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**38.40**	**353**	LR		LR	16 05 12.7	
	comp=Z,85nm,18.2s,baz=56,slow=35						
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P		P	15 50 29.1	-1.0
	comp=Z,0.5nm,0.8s,baz=112,slow=6.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**39.11**	**301**	P		P	15 50 29.1	-1.0
KMI	**Kunming**	**39.47**	**313**	P		P	15 50 36.2	+3.0
KMI				pP		pP	15 50 43.7	+1.8
KMI				sP		sP	15 50 47.7	+2.3
KMI				pmax	pmax			
	comp=Z,6.0nm,0.9s						
CD2	**Chengdu**	**42.42**	**321**	P		P	15 50 58.2	+0.9
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**43.64**	**340**	P		P	15 51 06.1	-0.8
BJI				pmax	pmax			
	comp=Z,25nm,0.8s						
USRK	**Ussuriysk Arra**	**44.80**	**358**	P		P	15 51 15.7	-0.4
	comp=Z,1.8nm,0.6s,baz=164,slow=9.1,SNR=4.3						
CN2	**Changchun**	**44.98**	**352**	*e*P		P	15 51 18.0	+0.4
CN2				*e*S		S	15 57 54.2	0.0
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax			
	comp=Z,200nm,4.0s						
CN2				LR	LR			
	comp=N,200nm,14.0s						
CN2				LR	LR			
	comp=E,200nm,14.0s						
CN2				LR	LR			
	comp=Z,200nm,15.0s						
MDJ	**Mudanjiang**	**45.33**	**356**	P		P	15 51 20.7	+0.3
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax			
	comp=Z,84nm,4.0s						
HHC	**Hu-ho-hao-te**	**46.04**	**337**	*e*P		P	15 51 26.0	-0.2
HHC				pP		pP	15 51 35.9	+0.9
HHC				sP		sP	15 51 39.8	+1.4
HHC				PP		PP	15 53 14.5	-0.1
HHC				S		S	15 58 08.2	-1.7
HHC				pmax	pmax			
	comp=Z,12nm,0.9s						
HHC				pmax	pmax			
	comp=Z,80nm,5.1s						
HHC				LR	LR			
	comp=N,130nm,13.1s						
HHC				LR	LR			
	comp=E,160nm,12.6s						
HHC				LR	LR			
	comp=Z,130nm,13.9s						
GTA	**Gaotai**	**50.58**	**326**	*e*P		P	15 52 00.9	-0.4
GTA				pP		pP	15 52 11.1	+0.9
GTA				sP		sP	15 52 14.9	+1.3
GTA				pmax	pmax			
	comp=Z,2.0nm,1.3s						
LSA	**Lhasa**	**50.60**	**310**	P		P	15 52 01.1	-0.9
LSA	**Lhasa**	**50.60**	**310**	*e*P		P	15 52 01.0	-0.9
	comp=Z,2.9nm,0.3s						
TAPN	**Taplejung**	**52.24**	**306**	*e*P		P	15 52 11.8	-2.4
	comp=Z,15nm,1.1s						
TAPN	**Taplejung**	**52.24**	**306**	*e*P		P	15 52 11.8	-2.4
ODAN	**Odare**	**52.30**	**305**	*e*P		P	15 52 12.7	-1.8
	comp=Z,17nm,0.9s						
ODAN	**Odare**	**52.30**	**305**	*e*P		P	15 52 12.7	-1.8
RAMN	**Ramite**	**52.98**	**305**	*e*P		P	15 52 17.7	-1.9
	comp=Z,9.1nm,0.7s						
RAMN	**Ramite**	**52.98**	**305**	*e*P		P	15 52 17.7	-1.9
JIRN	**Jiri**	**53.60**	**306**	*e*P		P	15 52 21.6	-2.7
	comp=Z,5.0nm,0.6s						
JIRN	**Jiri**	**53.60**	**306**	*e*P		P	15 52 21.6	-2.7
ULN	**Ulaanbaatar**	**53.69**	**338**	*e*P		P	15 52 22.5	-1.8
	comp=Z,13nm,1.5s						
ULN	**Ulaanbaatar**	**53.69**	**338**	P		P	15 52 24.8	+0.5
SONM	**Songino Array**	**53.91**	**338**	P		P	15 52 25.6	-0.3
	comp=Z,1.2nm,0.7s,baz=153,slow=8.0,SNR=11						
SONM				PcP		PcP	15 53 30.6	-0.6
	comp=Z,0.4nm,0.6s,baz=150,slow=2.5,SNR=3.5						
SONM	**Songino Array**	**53.91**	**338**	P		P	15 52 25.6	-0.3
SONM				PcP		PcP	15 53 30.6	-0.6
GUN	**Gumba**	**53.95**	**306**	*e*P		P	15 52 24.7	-2.1
	comp=Z,18nm,0.8s						
GUN	**Gumba**	**53.95**	**306**	*e*P		P	15 52 24.7	-2.1
PKI	**Pulchoki**	**54.20**	**305**	*e*P		P	15 52 26.0	-2.6
PKI	**Pulchoki**	**54.20**	**305**	*e*P		P	15 52 26.0	-2.6
KKN	**Kakani**	**54.39**	**305**	*e*P		P	15 52 28.5	-1.4
KKN	**Kakani**	**54.39**	**305**	*e*P		P	15 52 28.5	-1.4
DMN	**Daman**	**54.46**	**305**	*e*P		P	15 52 29.3	-1.1
DMN	**Daman**	**54.46**	**305**	*e*P		P	15 52 29.3	-1.1
GKN	**Gorkha**	**55.00**	**305**	*e*P		P	15 52 32.5	-1.7
	comp=Z,12nm,0.8s						
GKN	**Gorkha**	**55.00**	**305**	*e*P		P	15 52 32.5	-1.7
KOLN	**Koldanda**	**55.76**	**305**	*e*P		P	15 52 37.0	-2.7
	comp=Z,11nm,0.6s						
KOLN	**Koldanda**	**55.76**	**305**	*e*P		P	15 52 37.0	-2.7
DANN	**Dangsing**	**55.85**	**305**	*e*P		P	15 52 39.4	-1.1
DANN	**Dangsing**	**55.85**	**305**	*e*P		P	15 52 39.4	-1.1
PETK	**Petropaviovsk-**	**57.33**	**17**	P		P	15 52 49.8	-0.4
	comp=Z,3.8nm,0.9s,baz=191,slow=3.0,SNR=4.5						
PETK	**Petropavlovsk-**	**57.33**	**17**	P		P	15 52 49.8	-0.4
WMQ	**Urumqi**	**60.40**	**323**	*e*P		P	15 53 13.1	+1.3
WMQ				pP		pP	15 53 23.1	+2.3
WMQ				sP		sP	15 53 27.1	+2.9
WMQ				pmax	pmax			
	comp=Z,8.0nm,1.0s						
MK31	**Makanchi Array**	**65.21**	**324**	*e*P		P	15 53 42.6	-1.2
MKAR	**Makanchi Array**	**65.21**	**324**	P		P	15 53 42.9	-0.9
	comp=Z,2.9nm,0.7s,baz=116,slow=7.7,SNR=36						
MKAR	**Makanchi Array**	**65.21**	**324**	P		P	15 53 42.9	-0.9
KSH	**Kashi**	**66.11**	**314**	*e*P		P	15 53 50.3	+0.5
KSH				*e*pP		pP	15 54 00.1	+1.2
KSH				*e*sP		sP	15 54 04.2	+1.9
KSH				*e*PcP		PcP	15 54 20.1	0.0
KSH				*e*PP		PP	15 56 17.3	+1.7
KSH				*e*ScP			15 58 20.1	
KSH				*e*PcS			15 58 23.3	
KSH				*e*S		S	16 02 32.1	-4.5
KSH				*e*ScS		SKSac	16 03 39.2	-5.0
KSH				pmax	pmax			
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax			
	comp=Z,110nm,4.9s						
KSH				LR	LR			
	comp=N,100nm,5.4s						
KSH				LR	LR			
	comp=E,99nm,5.3s						
KSH				LR	LR			
	comp=Z,160nm,5.3s						
TKM2	**Tokmak 2**	**67.70**	**318**	*e*P		P	15 53 59.3	-0.7
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**67.77**	**331**	P		P	15 53 58.7	-1.2
	comp=Z,1.3nm,0.8s,baz=114,slow=7.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**67.77**	**331**	P		P	15 53 58.7	-1.2
EKS2	**Erkin-Say**	**68.83**	**317**	*e*P		P	15 54 06.5	-0.4
	comp=Z,3.7nm,0.9s						
KURK	**Kurchatov**	**69.27**	**326**	P		P	15 54 08.8	-0.5
	comp=Z,5.3nm,0.9s,baz=120,slow=5.7,SNR=35						
KURK	**Kurchatov**	**69.27**	**326**	*e*P		P	15 54 08.6	-0.8
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**71.23**	**316**	*e*P		P	15 54 20.6	-0.9
	comp=Z,2.6nm,0.6s						
BVAR	**Borovoye Array**	**74.87**	**326**	P		P	15 54 41.9	-1.0
	comp=Z,3.6nm,0.8s,baz=120,slow=8.8,SNR=11						
BVAR	**Borovoye Array**	**74.87**	**326**	P		P	15 54 41.9	-1.0
BRVK	**Borovoye**	**74.94**	**326**	*e*P		P	15 54 42.2	-1.0
	comp=Z,5.8nm,0.8s						
ABKAR	**Akbulak array**	**80.00**	**320**	*e*P		P	15 55 10.3	-1.3
	comp=Z,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**81.47**	**321**	P		P	15 55 20.4	+0.9
	comp=Z,1.2nm,0.9s,baz=61,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**81.47**	**321**	P		P	15 55 20.4	+0.9
ILAR	**Eielson Array**	**86.20**	**25**	P		P	15 55 43.0	-0.4
	comp=Z,1.3nm,0.6s,baz=251,slow=5.1,SNR=28						
ILAR	**Eielson Array**	**86.20**	**25**	P		P	15 55 43.0	-0.4
CPUP	**Villa Florida**	**151.05**	**159**	PKPbc		**PKPbc**	16 02 56.6	+0.7
	comp=Z,1.3nm,0.6s,baz=170,slow=2.2,SNR=5.9						
CPUP	**Villa Florida**	**151.05**	**159**	PKPbc		**PKPbc**	16 02 56.6	+0.7
LPAZ	**La Paz**	**152.62**	**129**	PKPbc		**PKPbc**	16 03 00.8	+0.2
	comp=Z,1.1nm,0.7s,baz=241,slow=10,SNR=3.0						
LPAZ	**La Paz**	**152.62**	**129**	PKPbc		**PKPbc**	16 03 00.8	+0.2

*GEN **04** 15:48:45.3, 47.35N× 9.46E, h0km, ML3.0*
*LDG **04** 15:48:47.4±0.1, 47.21N× 9.41E, h4km, Md3.5/3, Ml3.3/35, Error ellipse: s-maj=1.8km s-min=1.5km az=155.0*
*ZUR **04** 15:48:47.2, 47.18N× 9.37E, h4km±1km, ML3.1/23*

*CSEM **04** 15:48:47.3±0.1, 47.18N× 9.34E, h10km, ML3.1/23, Error ellipse: s-maj=2.5km s-min=2.0km az=10.0*
*LEDBW **04** 15:48:47.6±0.2, 47.150N±0.009× 9.39E±0.02, h10km, ML3.2, Error ellipse: s-maj=8.0km s-min=4.0km az=68.0*
*VIE **04** 15:48:48.9±0.6, 47.14N× 9.45E, h7km±2km, mb2.8/16, ML3.2/18, Error ellipse: s-maj=3.4km s-min=2.5km az=51.0 6 km W of Vaduz*
*IPEC **04** 15:48:48.3±0.1, 47.19N× 9.37E, h4km, ML2.8/2, Error ellipse: s-maj=1.0km s-min=0.5km az=149.0*
*BGR **04** 15:48:49.9±0.4, 47.25N× 9.43E, h10km, ML3.1/13, Error ellipse: s-maj=7.8km s-min=4.4km az=30.0*
*PRU **04** 15:48:49.0, 47.31N× 9.40E, h7km*
ISC 04 15:48:46.7±0.8, 47.19N±0.01× 9.29E±0.01, h9km±6km, n297, σ1§44/413, 41C-72D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLONS	**Plons/SG**	**0.15**	**157**	⇓ *i*P*		Pg	15 48 50.3	+0.2
PLONS				*i* S*		Sg	15 48 52.8	+0.5
PLONS	**Plons/SG**	**0.15**	**157**	⇓ *i*Pg		Pg	15 48 50.2	+0.2
	4μm,0.1s						
PLONS	**Plons/SG**	**0.15**	**157**	⇓ *i*Pg		Pg	15 48 50.3	+0.2
PLONS				*i* Sg		Sg	15 48 52.8	+0.5
PLONS	**Plons/SG**	**0.15**	**157**	⇓ *i*Pg		Pg	15 48 50.2	+0.2
	4μm,0.1s						
LIENZ	**Kamor/St.Gall**	**0.17**	**51**	⇑ *i*P*		Pg	15 48 50.2	-0.3
LIENZ	**Kamor/St.Gall**	**0.17**	**51**	⇑ *i*Pg		Pg	15 48 50.3	-0.3
	8μm,0.4s						
LIENZ	**Kamor/St.Gall**	**0.17**	**51**	⇑ *i*Px		Pg	15 48 50.2	-0.3
LIENZ				x		x	15 48 52.9	
LIENZ	**Kamor/St.Gall**	**0.17**	**51**	⇑ *i*Pg		Pg	15 48 50.3	-0.3
	8μm,0.4s						
WILA	**Wila**	**0.35**	**311**	⇓ *i*P*		Pb	15 48 55.7	+0.6
WILA				*i* S*		Sb	15 49 02.0	+1.2
WILA	**Wila**	**0.35**	**311**	⇓ *i*Pg		Pg	15 48 52.8	-0.9
	12μm,0.3s						
WILA	**Wila**	**0.35**	**311**	⇓ *i*Pg		Pb	15 48 55.7	+0.6
WILA				*i* Sg		Sb	15 49 02.0	+1.2
WILA	**Wila**	**0.35**	**311**	Pb		Pb	15 48 55.7	+0.6
WILA				Sb		Sb	15 49 02.0	+1.2
LLS	**Linth-Limmern**	**0.39**	**210**	⇓ *e*P*		Pg	15 48 55.3	+0.9
LLS				*S**		Sb	15 49 01.5	-0.6
LLS	**Linth-Limmern**	**0.39**	**210**	⇓ *i*Pg		Pg	15 48 55.4	+0.9
	3μm,0.2s						
LLS	**Linth-Limmern**	**0.39**	**210**	⇓ *e*Pg		Pg	15 48 55.3	+0.9
LLS				Sg		Sb	15 49 01.5	-0.6
WEIN	**Weingarten**	**0.40**	**329**	⇓ *i*Pg		Pb	15 48 55.5	-0.5
	2μm,0.3s						
WEIN	**Weingarten**	**0.40**	**329**	⇓ *i*Pg		Pb	15 48 55.5	-0.5
	2μm,0.3s						
DAVA	**Damuels**	**0.41**	**76**	*i* P*		Pg	15 48 54.5	-0.4
DAVA				*e*Sg		Sg	15 49 00.7	+0.4
DAVA	**Damuels**	**0.41**	**76**	*e*Pg		Pg	15 48 54.5	-0.4
	74nm,0.1s,SNR=120						
DAVA				⇑ *i*Sg		Sg	15 49 00.5	+0.2
	375nm,0.2s						
DAVA	**Damuels**	**0.41**	**76**	Pb		Pg	15 48 54.5	-0.4
DAVA				Sg		Sg	15 49 00.5	+0.2
	375nm,0.2s						
MUO	**Muotathal**	**0.50**	**244**	⇑ *i*Pg		Pn	15 49 02.0	+1.8
	4μm,0.9s						
MUO	**Muotathal**	**0.50**	**244**	⇑ *e*Pg		Pb	15 48 58.4	+0.7
MUO				Sg		Sb	15 49 06.9	+1.8
ZUR	**Degenried**	**0.52**	**291**	⇑ *i*Pg		Pg	15 48 56.5	-0.3
	4μm,0.5s						
ZUR	**Degenried**	**0.52**	**291**	⇑ *i*Pg		Pb	15 48 59.0	+1.0
ZUR				Sg		Sb	15 49 07.6	+1.9
ZUR	**Degenried**	**0.52**	**291**	⇑ *i*Pg		Pg	15 48 56.5	-0.3
	4μm,0.5s						
SISB	**Singen-Schiene**	**0.55**	**336**	⇓ *i*P*		Pb	15 48 59.1	+0.6
SISB				*i* S*		Sb	15 49 08.0	+1.5
SISB	**Singen-Schiene**	**0.55**	**336**	⇓ *i*Pg		Pb	15 48 59.1	+0.6
SISB				*i* Sg		Sb	15 49 08.0	+1.5
SISB	**Singen-Schiene**	**0.55**	**336**	Pb		Pb	15 48 59.1	+0.6
SISB				Sb		Sb	15 49 08.0	+1.5
STEIN	**Stein am Rhein**	**0.56**	**329**	⇓ *i*Pg		Pn	15 49 03.4	+2.5
	789nm,0.7s						
DAVOX	**Davos/Dischmat**	**0.57**	**135**	⇓ *i*Pg		Pg	15 48 55.7	-2.1
	709nm,0.5s						
DAVOX	**Davos/Dischmat**	**0.57**	**135**	⇓ *i*Pg		Pg	15 48 55.7	-2.1
	709nm,0.5s						
TRULL	**Truellikon**	**0.62**	**318**	⇓ *i*Pg		Pg	15 48 57.8	-1.0
	961nm,0.3s						
TRULL	**Truellikon**	**0.62**	**318**	⇓ *i*Pg		Pg	15 48 57.8	-1.0
	961nm,0.3s						
FLACH	**Flaach**	**0.63**	**308**	⇓ *i*Pg		Pn	15 49 05.9	+4.1
	938nm,0.3s						
BNALP	**Bannalp**	**0.67**	**242**	⇑ *i*Pg		Pn	15 49 07.0	+4.5
	1μm,0.5s						
VDL	**Val di Lei**	**0.71**	**171**	⇓ *i*Pg		Pg	15 48 58.4	-2.0
	223nm,0.2s						
VDL	**Val di Lei**	**0.71**	**171**	⇓ *i*Pg		Pg	15 48 58.4	-2.0
	223nm,0.2s						
OBER	**Oberstdorf**	**0.71**	**72**	⇓ *i*Pg		Pg	15 49 01.0	+0.5
OBER				⇓ *i*Sg		Sb	15 49 11.3	0.0

BALST	Balsthal	1.10	278	P	Pn	15 49 09.4	+1.1
BALST	Balsthal	1.10	278	Px	Pg	15 49 10.8	+2.9
BALST				Sx	Sn	15 49 26.0	+2.4
FELD	Feldberg im Sc	1.11	309⇑	ePn	Pn	15 49 09.7	+1.1
FELD	Feldberg im Sc	1.11	309⇑	ePn	Pn	15 49 09.7	+1.1
FELD	Feldberg im Sc	1.11	309	Pn	Pn	15 49 09.7	+1.1
FELD	Feldberg im Sc	1.11	309	Pg	Pn	15 49 10.0	+1.4
FELD				Sg	Sn	15 49 25.0	+0.9
ENDD	Endenburg	1.18	297	Pn	Pg	15 49 10.8	+1.4
KIZ	Kirchzarten	1.21	310⇓	ePn	Pg	15 49 10.9	+0.9
KIZ	Kirchzarten	1.21	310⇓	ePn	Pg	15 49 10.9	+0.9
KIZ	Kirchzarten	1.21	310	Px	Pg	15 49 11.5	+1.6
KIZ	Kirchzarten	1.21	310	Px	Pg	15 49 13.2	+3.3
KIZ				Sx	Sg	15 49 28.2	+2.5
KIZ	Kirchzarten	1.21	310	Pn	Pg	15 49 10.9	+0.9
MOTA	Moosalm	1.24	82⇑	ePg	Pn	15 49 10.3	0.0
	89nm,0.1s,SNR=454						
MOTA	Moosalm	1.24	82	Sg	Sb	15 49 26.2	-0.3
	247nm,0.3s						
MOTA	Moosalm	1.24	82⇑	ePg	Pn	15 49 10.3	0.0
BBS	Basel-Blauen	1.25	284⇑	iPn	Pg	15 49 12.9	+2.3
BBS	Basel-Blauen	1.25	284⇑	iPn	Pg	15 49 12.9	+2.3
BBS	Basel-Blauen	1.25	284	Pg	Pg	15 49 12.0	+1.4
WIMIS	Wimmis	1.26	246⇑	iP	Pn	15 49 03.5	-7.0
	674nm,0.6s						
BUCH	Bad Urach	1.27	2⇓	iPn	Pg	15 49 11.2	+0.1
BUCH	Bad Urach	1.27	2⇓	iPn	Pg	15 49 11.2	+0.1
BUCH	Bad Urach	1.27	2	Pn	Pg	15 49 11.1	+0.1
MUGIO	Muggio	1.28	188	eP	Pn	15 49 01.5	-9.2
	451nm,0.6s						
PART	Garmisch-Parte	1.28	75⇑	ePn	Pb	15 49 10.9	0.0
BFO	Black Forest	1.32	331⇓	ePn	Pg	15 49 12.3	+0.3
BFO				Pg	Pg	15 49 13.3	+1.3
BFO				eSg	Sg	15 49 31.8	+2.7
BFO	Black Forest	1.32	331⇓	ePn	Pg	15 49 12.3	+0.3
BFO	Black Forest	1.32	331	P	Pg	15 49 13.3	+1.3
BFO	Black Forest	1.32	331	Pn	Pg	15 49 12.3	+0.3
TUBL	Tuebingen-Lenn	1.35	354	Pn	Pg	15 49 12.5	-0.1
TUBL	Tuebingen-Lenn	1.35	354	Pn	Pg	15 49 12.5	-0.1
TUBL	Tuebingen-Lenn	1.35	354	Pn	Pg	15 49 12.5	-0.1
ABSI	Aberstueckl	1.46	107⇑	ePg	Pb	15 49 14.2	+0.1
ABSI				eSg	Sg	15 49 34.1	+0.4
ROSI	Rosskopf	1.47	99⇓	ePg	Pb	15 49 14.4	+0.1
ROSI				eSg	Sg	15 49 36.6	+2.6
LIBD	Limburg	1.50	311	P	Pg	15 49 17.2	+1.8
LIBD	Limburg	1.50	311	Px	Pg	15 49 17.2	+1.8
LBG	Lerchenberg	1.52	347⇓	ePn	Pb	15 49 14.7	-0.3
LBG				Sn	Sn	15 49 33.7	-0.2
LBG	Lerchenberg	1.52	347⇓	ePn	Pb	15 49 14.7	-0.3
LBG				Sn	Sn	15 49 33.7	-0.2
LBG	Lerchenberg	1.52	347	Pn	Pb	15 49 14.7	-0.3
LBG				Sn	Sn	15 49 33.7	-0.2
RNI	Roncone	1.52	142	ePg	Pg	15 49 16.3	+0.4
RNI	Roncone	1.52	142	ePg	Pg	15 49 16.3	+0.4
HDH	Heidenheim-Cha	1.53	23⇓	iPn	Pn	15 49 14.0	-0.2
HDH				iSg	Sg	15 49 37.1	+1.2
HDH	Heidenheim-Cha	1.53	23⇓	iPn	Pn	15 49 14.0	-0.2
HDH				iS	Sg	15 49 37.1	+1.2
HDH	Heidenheim-Cha	1.53	23	Pn	Pn	15 49 14.0	-0.2
WATA	Walderalm	1.56	84⇑	ePn	Pb	15 49 15.9	+0.1
	SNR=126						
WATA				⇑iPg	Pg	15 49 17.0	+0.3
	34nm,0.1s						
WATA				⇑iSg	Sg	15 49 36.9	0.0
	48nm,0.1s						
WATA	Walderalm	1.56	84⇑	ePn	Pb	15 49 15.9	+0.1
WATA				iSg	Sg	15 49 36.9	0.0
STU	Stuttgart	1.59	358	Pn	Pn	15 49 15.2	+0.1
STU				eSg	Sg	15 49 38.9	+1.1
STU	Stuttgart	1.59	358	Px	Pn	15 49 15.2	+0.1
STU	Stuttgart	1.59	358	Pn	Pb	15 49 15.1	+0.1
WTTA	Wattenberg	1.60	86	ePn	Pn	15 49 15.9	+0.7
WTTA	Wattenberg	1.60	86⇓	ePn	Pb	15 49 16.4	-0.1
	SNR=145						
WTTA				⇓iPg	Pg	15 49 17.4	+0.1
	49nm,0.2s						
WTTA	Wattenberg	1.60	86⇓	ePn	Pb	15 49 16.4	-0.1
KOSI	Kohlern	1.60	116⇓	ePg	Pb	15 49 17.2	+0.7
MOF	Molkenrain	1.61	295	Pn	Pg	15 49 17.8	+0.2
MOF	Molkenrain	1.61	295	Pn	Pg	15 49 17.8	+0.2
MOF	Molkenrain	1.61	295	Pn	Pb	15 49 16.9	+0.3
SCE	Schlegeis	1.66	94⇑	iPn	Pb	15 49 17.6	+0.1
SCE	Schlegeis	1.66	94⇑	iPn	Pb	15 49 17.6	+0.1
FUR	Furstenfeldbru	1.66	53	ePn	Pg	15 49 18.5	-0.1
FUR				eSg	Sg	15 49 40.6	+0.5
LOMF	Lomont	1.69	277	Pn	Pb	15 49 18.1	+0.2
LOMF	Lomont	1.69	277	Pn	Pb	15 49 18.1	+0.2
LOMF	Lomont	1.69	277	Pn	Pb	15 49 18.1	+0.2
HINF	Hinteralfeld	1.77	292	ePn	Pb	15 49 18.6	-0.7
	SNR=1.0						
HINF				eSg	Sg	15 49 45.1	+1.5
	161nm,0.5s						
HINF	Hinteralfeld	1.77	292	ePn	Pb	15 49 18.6	-0.7
	SNR=1.0						
ECH	Echery	1.77	306⇓	ePn	Pb	15 49 18.9	-0.5
ECH	Echery	1.77	306⇓	ePn	Pb	15 49 18.9	-0.5
ECH	Echery	1.77	306	Pn	Pb	15 49 18.9	-0.5
NORI	Noerdlinger Ri	1.78	30⇑	iPn	Pn	15 49 17.5	-0.1
NORI				⇑iSg	Sg	15 49 44.2	+0.4
NORI	Noerdlinger Ri	1.78	30	Pn	Pn	15 49 17.5	-0.1
PANI	Panarotta	1.79	129	ePg	Pg	15 49 22.5	+1.4
PANI	Panarotta	1.79	129	ePg	Pg	15 49 22.5	+1.4
CDF	Champ du Feu	1.83	313	ePn	Pn	15 49 18.9	+0.5
	SNR=1.0						
CDF	Champ du Feu	1.83	313	ePg	Pg	15 49 23.1	+1.3
CDF				eSg	Sg	15 49 46.8	+1.2
	182nm,0.7s						
CDF	Champ du Feu	1.83	313	ePn	Pn	15 49 18.9	+0.5
	SNR=1.0						
DDS	Dosso del Somm	1.85	134	ePg	Pg	15 49 23.7	+1.6
DDS				eSg	Sg	15 49 49.4	+3.2
DDS	Dosso del Somm	1.85	134	ePn	Pg	15 49 23.7	+1.6
DDS				eSn	Sg	15 49 49.3	+3.2
RISI	Rein	1.92	96⇓	ePn	Pb	15 49 22.6	+0.7
RISI				eSn	Sg	15 49 49.3	+0.9
TRAV	Traversella	1.99	213	P	Pb	15 49 22.4	-0.6
TRAV				S	Sb	15 49 47.3	-0.6
LANF	Langenberg	2.06	331	Pn	Pn	15 49 22.8	+1.4
FAU	Forcella Aurin	2.08	116	ePn	Pg	15 49 27.0	+0.4
FAU	Forcella Aurin	2.08	116	ePn	Pg	15 49 27.0	+0.4
AGOR	Agordo	2.10	114⇑	ePn	Pg	15 49 26.2	-0.7
AGOR				eSn	Sg	15 49 53.6	-0.5
HAU	Haudompre	2.16	293	ePn	Pn	15 49 24.1	+1.3
	SNR=1.0						
HAU				eSg	Sg	15 49 57.1	+1.1
	79nm,0.3s,SNR=1.0						
HAU	Haudompre	2.16	293	ePn	Pn	15 49 24.1	+1.3
	SNR=1.0						
CGRP	Cima Grappa	2.17	126⇓	ePn	Pb	15 49 27.1	+0.9
CGRP				eSn	Sg	15 49 55.9	-0.4
CGRP	Cima Grappa	2.17	126⇓	ePn	Pb	15 49 27.1	+0.9
CGRP				eSn	Sg	15 49 55.9	-0.4
SIND	Sindeldorf	2.17	5⇓	ePn	Pn	15 49 22.7	-0.3
SIND	Sindeldorf	2.17	5⇓	ePn	Pn	15 49 22.7	-0.3
SIND	Sindeldorf	2.17	5	Pn	Pn	15 49 22.7	-0.3
ABTA	Abfaltersbach	2.25	100⇓	ePg	Pg	15 49 29.4	-0.4
	29nm,0.4s,SNR=79						
ABTA				⇓iSg	Sg	15 49 59.4	+0.5
	52nm,0.4s						
ABTA	Abfaltersbach	2.25	100⇓	ePg	Pg	15 49 29.4	-0.4
ABTA				iSg	Sg	15 49 59.4	+0.5
CABF	La Chapelle	2.27	257	ePn	Pn	15 49 26.0	+1.6
	SNR=1.0						
CABF	La Chapelle	2.27	257	ePg	Pg	15 49 31.3	+1.0
CABF				eSg	Sg	15 50 01.1	+1.4
	86nm,0.3s,SNR=1.0						
CABF	La Chapelle	2.27	257	ePn	Pn	15 49 26.0	+1.6
	SNR=1.0						
VARN	Col Varnada, M	2.27	121	ePn	Pb	15 49 28.1	+0.2
VARN				eSn	Sb	15 49 57.3	+1.1
VARN	Col Varnada, M	2.27	121	ePn	Pb	15 49 28.1	+0.2
VARN				eSn	Sb	15 49 57.3	+1.1
CIMO	Cimolais	2.33	111⇓	ePn	Pb	15 49 28.8	-0.1
CIMO	Cimolais	2.33	111⇓	ePn	Pb	15 49 28.8	-0.1
CSMI	Casera Mimoias	2.40	105⇓	ePn	Pb	15 49 30.0	-0.1
CSMI				eSn	Sg	15 50 03.7	-0.1
CSMI	Casera Mimoias	2.40	105⇓	ePn	Pb	15 49 30.0	-0.1
CSMI				eSn	Sg	15 50 03.7	-0.1
ROTM	Rocchetta Tana	2.43	196	P	Pb	15 49 28.7	-1.8
ROTM				S	Sb	15 49 58.5	-1.9
LPL	La Plagne	2.44	228	ePn	Pn	15 49 27.7	+0.9
	SNR=1.0						
LPL	La Plagne	2.44	228	ePg	Pg	15 49 34.2	+0.8
LPL				eSg	Sg	15 50 05.7	+0.7
	65nm,0.7s,SNR=1.0						
LPL	La Plagne	2.44	228	ePn	Pn	15 49 27.7	+0.9
	SNR=1.0						
RJOB	Jochberg	2.44	76	ePn	Pb	15 49 28.9	-1.8
RJOB				eSg	Sg	15 50 05.4	+0.4
LPG	La Plagne	2.44	227	ePn	Pn	15 49 28.3	+1.4
	SNR=1.0						
LPG	La Plagne	2.44	227	ePg	Pg	15 49 34.5	+1.0
LPG				eSg	Sg	15 50 05.6	+0.5
	40nm,0.4s,SNR=1.0						
THEF	They Montfort	2.46	296	Pn	Pn	15 49 29.1	+2.1
RSP	Reno Superiore	2.48	215	P	Pn	15 49 29.1	+1.8
RSP				S	Sn	15 49 58.4	+0.7
MLNI	Malnisio	2.51	113⇓	ePn	Pb	15 49 33.4	+1.5
MLNI				eSn	Sg	15 50 05.6	-1.6
MLNI	Malnisio	2.51	113⇓	ePn	Pb	15 49 33.4	+1.5
MLNI				eSn	Sg	15 50 05.6	-1.6
ZOU	Zoufplan	2.60	103⇓	ePn	Pb	15 49 32.6	-0.9
FUSE	Fusea	2.66	105⇑	ePn	Pb	15 49 33.1	-1.4
FUSE	Fusea	2.66	105⇑	ePn	Pb	15 49 33.1	-1.4
PCP	Piancastagn	2.70	191	P	Pn	15 49 32.0	+1.8
PAGF	Fort de Pagny	2.77	301	ePn	Pn	15 49 30.7	-0.5
PAGF				eSg	Sg	15 50 15.8	+0.3
	24nm,0.7s						
PAGF	Fort de Pagny	2.77	301	ePn	Pn	15 49 30.7	-0.5
KBA	Koelnbreinsper	2.77	91	ePn	Pn	15 49 33.8	+2.5
KBA				ePg	Pb	15 49 38.0	+1.6
KBA	Koelnbreinsper	2.77	91⇓	ePn	Pn	15 49 33.3	+2.0
	SNR=70						
KBA	Koelnbreinsper	2.77	91⇓	ePn	Pn	15 49 33.3	+2.0
GRF	Grafenberg Arr	2.82	26	ePg	Pg	15 49 40.2	-0.5
RUP	Ruppelstein	2.92	330	Pn	Pn	15 49 34.7	+1.3
ACOM	Acomizza, Ital	2.96	101⇑	ePn	Pb	15 49 37.3	-2.4
ACOM	Acomizza, Ital	2.96	101⇑	ePn	Pb	15 49 37.3	-2.4
MBDF	Montbardon	3.02	217	eP	Pb	15 49 38.0	-2.7
	SNR=1.0						
MBDF				eSg	Sg	15 50 23.2	-0.6
	45nm,0.5s						
SFTF	Sexfontaines	3.05	291	ePn	Pn	15 49 36.1	+1.0
	baz=115						
SFTF				eSg	Sg	15 50 24.7	+0.1
	81nm,0.7s						
SFTF	Sexfontaines	3.05	291	ePn	Pn	15 49 36.1	+1.0
	baz=115						
TNS	Taunus Mts	3.09	350	P	Pn	15 49 36.4	+0.8
TNS				ePg	Pg	15 49 47.2	+1.3
TNS				eSg	Sg	15 50 27.4	+1.4
TNS	Taunus Mts	3.09	350	Px	Pn	15 49 36.4	+0.8
TNS	Taunus Mts	3.09	350	P	Pn	15 49 36.4	+0.8
WET	Wettzell	3.10	49	ePn	Pn	15 49 35.9	+0.2
WET	Wettzell	3.10	49	Pn	Pn	15 49 35.9	+0.2
ROTZ	Rotzenmuhle	3.23	36	ePn	Pn	15 49 37.1	-0.4
ROTZ	Rotzenmuhle	3.23	36	Pn	Pn	15 49 37.1	-0.4
WLF	Walferdange	3.25	321	P	Pn	15 49 35.8	-2.0
WLF	Walferdange	3.25	321	Pn	Pn	15 49 40.6	+2.9
WLF	Walferdange	3.25	321	Px	Pn	15 49 40.6	+2.9
WLF	Walferdange	3.25	321	P	Pn	15 49 35.7	-2.0
ORIF	Oris-en-Rattie	3.29	228	ePn	Pn	15 49 39.7	+1.3
	SNR=1.0						
ORIF	Oris-en-Rattie	3.29	228	ePg	Pg	15 49 49.9	+0.3
ORIF				eSn	Sn	15 50 16.5	-1.1
	SNR=1.0						
ORIF				eSg	Sg	15 50 32.0	-0.2
	49nm,0.6s,SNR=1.0						
VOY	Vojsko	3.37	108	ePn	Pn	15 49 42.3	+2.7
VOY				eSn	Sn	15 50 23.2	+3.5
VOY				e		15 50 32.0	
VOY	Vojsko	3.37	108	Pn	Pn	15 49 42.3	+2.7
VOY				eSn	Sn	15 50 23.2	+3.5
GEC2	GERESS Array S	3.39	59	ePn	Pn	15 49 40.3	+0.4
GEC2				ePg	Pb	15 49 49.4	+2.4
GEC2				eSg	Sb	15 50 32.1	+3.7
IMI	Imperia	3.42	197	P	Pn	15 49 41.0	+0.8
MOA	Molln	3.43	77	ePn	Pn	15 49 41.7	+1.4
MOA				ePg	Pg	15 49 50.2	-2.2
MOA	Molln	3.43	77⇑	iPn	Pn	15 49 41.5	+1.2
	SNR=10						
MOA				⇑iSn	Sn	15 50 21.7	+0.6
MOA	Molln	3.43	77⇑	iPn	Pn	15 49 41.5	+1.2
MOA				iSn	Sn	15 50 21.7	+0.6
KHC	Kasperske Hory	3.47	54	ePN	Pn	15 49 41.2	+0.4
KHC				ePG	Pb	15 49 48.5	+0.3
KHC				eSN	Sn	15 50 20.8	-1.1
KHC				eSG	Sg	15 50 35.1	-2.9
	comp=Z,50nm,0.6s						
KHC	Kasperske Hory	3.47	54	ePn	Pn	15 49 41.1	+0.3
	baz=237						
JAVS	Javornik	3.54	110	iPn	Pn	15 49 43.8	+1.9
JAVS	Javornik	3.54	110	iPn	Pn	15 49 43.8	+1.9
SBF	Sospel	3.57	202	ePn	Pn	15 49 42.4	+0.1
	SNR=1.0						
SBF	Sospel	3.57	202	eP	Pn	15 49 45.8	+3.5
SBF				eSn	Sn	15 50 22.9	-1.6
	49nm,0.7s						
SBF	Sospel	3.57	202	ePn	Pn	15 49 42.4	+0.1
	SNR=1.0						
SBF				eSn	Sn	15 50 22.9	-1.6
	24nm,0.7s						
CRNS	Crni Vrh	3.60	106	iPn	Pn	15 49 44.7	+2.1
UBBA	Unterbreizbach	3.67	7	ePn	Pn	15 49 44.2	+0.8
UBBA	Unterbreizbach	3.67	7	Pn	Pn	15 49 44.2	+0.8
OBKA	Obir	3.67	99	ePn	Pn	15 49 46.4	+2.7
NKC	Novy Kostel	3.70	33	ePN	Pn	15 49 45.3	+1.3
NKC				eSN	Sn	15 50 26.0	-1.6
NKC				eSG	Sg	15 50 41.6	-3.8
	comp=Z,42nm,0.4s						
NKC	Novy Kostel	3.70	33	Sn	Sn	15 50 26.0	-1.6
LOR	Lormes	3.71	273	ePn	Pn	15 49 44.4	+0.3
	baz=90,SNR=1.0						
LOR	Lormes	3.71	273	ePg	Pg	15 49 57.2	-0.5
	baz=89						
LOR				eSg	Sg	15 50 45.5	-0.1
	18nm,0.3s						
LOR	Lormes	3.71	273	ePn	Pn	15 49 44.4	+0.3
	baz=90,SNR=1.0						
SMF	Signal de Mont	3.78	264	ePn	Pn	15 49 46.1	+1.1
	SNR=1.0						
SMF	Signal de Mont	3.78	264	ePg	Pg	15 49 59.4	+0.4
SMF				eSg	Sg	15 50 48.5	+0.6
	20nm,0.3s,SNR=1.0						
SMF	Signal de Mont	3.78	264	ePn	Pn	15 49 46.1	+1.1
	SNR=1.0						
MOX	Moxa	3.79	23	ePn	Pn	15 49 43.8	-1.4
MOX	Moxa	3.79	23	Pn	Pn	15 49 43.8	-1.4
TANN	Tannenbergstha	3.85	32	ePg	Pg	15 50 01.1	+0.6
TANN				eSg	Sg	15 50 49.3	-1.0
SSF	Saint Saulge	3.95	270	ePn	Pn	15 49 48.5	+1.0
	SNR=1.0						
SSF				eSg	Sg	15 50 53.5	-0.1
	12nm,0.3s,SNR=1.0						
SSF	Saint Saulge	3.95	270	ePn	Pn	15 49 48.5	+1.0
	SNR=1.0						
SOKA	Soboth	3.96	95⇑	iPn	Pn	15 49 50.0	+2.3
SOKA	Soboth	3.96	95⇑	iPn	Pn	15 49 50.0	+2.3
VIVF	Saint-Julien-l	3.97	236	ePn	Pn	15 49 48.9	+1.1
	SNR=1.0						
VIVF	Saint-Julien-l	3.97	236	ePg	Pg	15 50 03.1	+0.3
VIVF				eSg	Sg	15 50 53.1	-1.2
	18nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	3.97	236	ePn	Pn	15 49 48.9	+1.1
	SNR=1.0						
MEM	Membach	4.05	329	P	Pn	15 49 51.0	+2.1
MEM	Membach	4.05	329	P	Pn	15 49 50.9	+2.1
VISS	Visnje	4.07	108	iPn	Pn	15 49 51.3	+2.2
VISS	Visnje	4.07	108	iPn	Pn	15 49 51.3	+2.2
AVF	Avril sur Loir	4.09	267	ePn	Pn	15 49 49.4	+0.1
	SNR=1.0						
AVF	Avril sur Loir	4.09	267	ePg	Pg	15 50 03.8	-1.1
AVF				eSg	Sg	15 50 58.1	+0.3
	24nm,0.7s,SNR=1.0						
AVF	Avril sur Loir	4.09	267	ePn	Pn	15 49 49.4	+0.1
	SNR=1.0						
SMRF	Simiane la Rot	4.14	220	ePn	Pn	15 49 50.8	+0.8
SMRF	Simiane la Rot	4.14	220	ePg	Pg	15 50 04.7	-1.2
SMRF				eSg	Sg	15 50 58.5	-1.0
	13nm,0.8s,SNR=1.0						
SMRF	Simiane la Rot	4.14	220	ePn	Pn	15 49 50.8	+0.8
GIVF	Givet	4.16	316	ePn	Pn	15 49 52.8	+2.5
	SNR=1.0						
GIVF				eSg	Sg	15 50 56.7	-3.5
	46nm,0.9s						
BCLA	Clavier	4.17	322	P	Pn	15 49 53.0	+2.5
ARSA	Arzberg	4.25	87	iPn	Pn	15 49 53.5	+2.0
	SNR=11						
ARSA				⇑iSg	Sg	15 51 05.0	+2.0
ARSA	Arzberg	4.25	87	iPn	Pn	15 49 53.5	+2.0
DOU	Dourbes	4.26	315	P	Pn	15 49 54.3	+2.6
LMR	La Mourre	4.32	208	eP	Pn	15 49 56.6	+4.1
LMR				eSn	Sn	15 50 40.3	-2.7
	5.2nm,0.4s						
BAIF	Baives	4.43	312	ePn	Pn	15 49 56.4	+2.4
	SNR=1.0						
BAIF				eSg	Sg	15 51 07.5	-1.5
	16nm,0.6s,SNR=1.0						
BOJS	Bojanci	4.46	110	iPn	Pn	15 49 57.2	+2.9
BOJS	Bojanci	4.46	110	iPn	Pn	15 49 57.2	+2.9
BGF	Bois d'Agland	4.47	264	ePn	Pn	15 49 55.7	+1.2
	SNR=1.0						
BGF	Bois d'Agland	4.47	264	ePg	Pg	15 50 11.6	-0.6
BGF				eSn	Sn	15 50 45.4	-1.2
	SNR=1.0						
BGF				eSg	Sg	15 51 09.6	-0.5
	26nm,0.4s						
BGF	Bois d'Agland	4.47	264	ePn	Pn	15 49 55.7	+1.2
	SNR=1.0						
BGF				eSn	Sn	15 50 45.4	-1.2
	SNR=1.0						
PRU	Pruhonice	4.47	49	ePN	Pn	15 49 54.6	0.0
PRU				eSG	Sg	15 51 06.2	-4.0
	comp=Z,28nm,0.6s						
PRU	Pruhonice	4.47	49	Pn	Pn	15 49 54.6	0.0
CONA	Conrad Observa	4.51	78⇓	iPn	Pn	15 49 56.1	+0.9
	SNR=11						
CONA	Conrad Observa	4.51	78⇓	iPn	Pn	15 49 56.1	+0.9
HYF	Humbligny	4.54	273	eP	Pn	15 49 59.2	+3.7
HYF				eSg	Sg	15 51 11.9	-0.4
NVLJ	Novalja	4.70	122	ePn	Pn	15 49 59.3	+1.7
NVLJ				Sn	Sn	15 50 53.5	+1.4
CLL	Collm	4.79	29	ePn	Pn	15 49 57.0	-1.9
CLL				ePg	Pg	15 50 18.0	-0.4
CLL				eSg	Sg	15 51 18.0	-2.3
	comp=Z,29nm,0.7s						
BRG	Berggiesshubel	4.79	38	PN	Pn	15 49 58.7	-0.3
	comp=Z,1.7nm,0.5s						
BRG				PG	Pg	15 50 19.1	+0.6
BRG				e		15 51 07.8	
BRG	Berggiesshubel	4.79	38	SG	Sg	15 51 18.1	-2.4
	comp=Z,26nm,0.4s						
PVCC	Panska Ves	4.83	44	eSG	Sg	15 51 18.8	-2.8
	comp=Z,33nm,0.3s						
LASF	Ste Croix	4.92	233	ePn	Pn	15 50 01.9	+1.1
LASF	Ste Croix	4.92	233	ePg	Pg	15 50 19.6	-1.3
LASF				eSg	Sg	15 51 23.1	-1.5
	comp=Z,8.4nm,0.5s						
LASF	Ste Croix	4.92	233	ePn	Pn	15 50 01.9	+1.1
TCF	Toulx Ste Croi	4.95	262	ePn	Pn	15 50 01.6	+0.4
	SNR=1.0						
TCF				eSn	Sn	15 50 57.2	-1.4
	SNR=1.0						
TCF				eSg	Sg	15 51 23.9	-1.8
	comp=Z,13nm,0.6s,SNR=1.0						
TCF	Toulx Ste Croi	4.95	262	ePn	Pn	15 50 01.6	+0.4
	SNR=1.0						
TCF				eSn	Sn	15 50 57.2	-1.4
	SNR=1.0						
CAF	Calviac	5.52	248	ePn	Pn	15 50 09.5	+0.5
CAF				eSg	Sg	15 51 42.5	-1.2
	comp=Z,15nm,0.8s						
DPC	Dobruska-Polom	5.62	53	eSG	Sg	15 51 42.5	-4.6
	comp=Z,14nm,0.5s						
SMOL	Smolenice	5.63	73	ePN	Pn	15 50 12.1	+1.5
RJF	Les Rejaudoux	5.71	254	ePn	Pn	15 50 12.3	+0.7
RJF				eSg	Sg	15 51 47.3	-2.7
	comp=Z,5.7nm,0.4s						
KOLL	Kolacno	6.28	74	ePN	Pn	15 50 19.0	-0.4
LFF	La Frestale	6.36	252	ePn	Pn	15 50 21.2	+0.7
LFF				eSg	Sg	15 52 09.5	-1.3
	comp=Z,9.7nm,0.6s						
LDF	La Druitiere	6.49	286	ePn	Pn	15 50 23.3	+1.0
LDF				eSn	Sn	15 51 34.4	-1.9
LDF				eSg	Sg	15 52 11.6	-3.3
	comp=Z,12nm,0.6s						
MFF	Saint Martin d	6.50	268	ePn	Pn	15 50 23.0	+0.6
	SNR=1.0						
MFF				eSn	Sn	15 51 32.4	-4.1
	SNR=1.0						
MFF				eSg	Sg	15 52 12.9	-2.2
	comp=Z,7.9nm,0.7s						
VYHS	Vyhne	6.56	75	ePN	Pn	15 50 23.1	-0.1
VYHS				eSG	Sg	15 52 22.0	+5.0
FLN	La Foliniere	6.75	287	ePn	Pn	15

comp=Z,1.0nm,0.1s
PDKS Podkum 0.37 244 *i* Pg Pg 15 58 33.5 +0.5
PDKS *i* Sg Sg 15 58 38.8 +0.8
VISS Visnje 0.61 227 *i* Sg Sg 15 58 45.5 0.0

IDC 04 15:58:37.4±3.1, 0.82S×133.20E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.0/16, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=167.5km s-min=26.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.04**	**177**	P	P	16 03 00.5	-0.7
	0.0nm,0.3s,baz=356,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**22.73**	**178**	P	P	16 03 41.8	+0.6
	0.1nm,0.4s,baz=359,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**64.98**	**324**	P	P	16 09 19.1	-0.1
	0.3nm,0.7s,baz=116,slow=6.8,SNR=4.5						

*DJA **04** 16:01:20, 0.08S×132.41E, h30km, mb4.8/3*
IDC 04 16:01:18.6±1.0, 0.30S×132.49E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=68.0km s-min=18.0km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**175**	P	P	16 05 48.5	-0.1
	0.4nm,0.3s,baz=355,slow=12,SNR=16						
ASAR	**Alice Springs**	**23.27**	**177**	P	P	16 06 28.2	+0.2
	1.6nm,0.5s,baz=357,slow=7.3,SNR=48						
STKA	**Stephens Creek**	**32.56**	**166**	P	P	16 07 51.4	-0.3
	0.6nm,0.5s,baz=350,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**53.05**	**338**	P	P	16 10 37.4	-0.2
	0.4nm,0.6s,baz=151,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**64.15**	**324**	P	P	16 11 55.1	0.0
	0.5nm,0.5s,baz=113,slow=8.3,SNR=9.8						
KURK	**Kurchatov**	**68.24**	**326**	P	P	16 12 21.1	0.0
	0.6nm,0.7s,baz=125,slow=5.8,SNR=8.8						
ILAR	**Eielson Array**	**86.27**	**25**	P	P	16 14 02.1	+0.1
	0.5nm,0.9s,baz=258,slow=5.5,SNR=4.9						

*IDC **04** 16:03:20.8±0.9, 0.18S×133.25E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=48.2km s-min=16.2km az=72.0*
*ISCJB **04** 16:03:23.6±0.8, 0.36S±0.08×133.2E±0.2, h32km, mb3.8/9, MS3.5/3, Error ellipse: s-maj=28.5km s-min=7.6km az=162.9*
*DJA **04** 16:03:24, 0.17S×133.05E, h11km, mb5.1/7*
ISC 04 16:03:25.2±1.0, 0.5S±0.1×133.1E±0.3, h32km, n25, σ1s72/23, mb3.8/9, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.19**	**40**	LR	LR	16 12 32.9	
	comp=Z,129nm,21.2s,baz=135,slow=31						
WRA	**Warramunga Arr**	**19.41**	**176**	P	**Pn**	**16 07 51.6**	**+1.3**
	0.7nm,0.3s,baz=354,slow=11,SNR=15						
WRA				S	**S**	**16 11 22.1**	**-4.8**
	0.3nm,0.3s,baz=354,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**23.09**	**178**	P	**P**	**16 08 31.1**	**+2.6**
	3.3nm,0.5s,baz=356,slow=10,SNR=22						
ASAR				S	**S**	**16 12 33.9**	**-3.9**
	0.7nm,1.0s,baz=360,slow=23,SNR=2.8						
JOW	**Kunigami**	**27.51**	**351**	LR	LR	16 18 33.2	
	comp=Z,110nm,19.5s,baz=135,slow=33						
STKA	**Stephens Creek**	**32.28**	**166**	P	**P**	**16 09 53.3**	**+2.1**
	4.9nm,0.5s,baz=341,slow=8.1,SNR=23						
MJAR	**Matsushiro Arr**	**37.11**	**7**	LR	LR	16 23 00.7	
	comp=Z,88nm,19.0s,baz=170,slow=32						
KSRS	**Korea Array**	**38.01**	**353**	LR	LR	16 24 05.4	
	comp=Z,67nm,19.0s,baz=172,slow=33						
CMAR	**Chiang Mai Arr**	**38.45**	**301**	P	**P**	**16 10 44.4**	**-0.1**
	1.5nm,0.9s,baz=122,slow=7.1,SNR=13						
TAPN	**Taplejung**	**51.59**	**306**	*e*P	**P**	**16 12 29.1**	**-0.1**
	7.9nm,1.0s						
ODAN	**Odare**	**51.65**	**305**	*e*P	**P**	**16 12 29.7**	**+0.1**
	12nm,0.8s						
RAMN	**Ramite**	**52.33**	**305**	*e*P	**P**	**16 12 35.0**	**+0.3**
	17nm,1.0s						
JIRN	**Jiri**	**52.95**	**306**	*e*P	**P**	**16 12 39.7**	**+0.3**
GUN	**Gumba**	**53.30**	**306**	*e*P	**P**	**16 12 42.1**	**+0.2**
	10nm,0.7s						
SONM	**Songino Array**	**53.40**	**338**	P	**P**	**16 12 41.2**	**-0.8**
	0.1nm,0.6s,baz=157,slow=7.0,SNR=2.6						
PKI	**Pulchoki**	**53.55**	**305**	*e*P	**P**	**16 12 44.9**	**+1.2**
KKN	**Kakani**	**53.74**	**306**	*e*P	**P**	**16 12 45.9**	**+0.9**
DMN	**Daman**	**53.81**	**305**	*e*P	**P**	**16 12 45.9**	**+0.3**
GKN	**Gorkha**	**54.34**	**305**	*e*P	**P**	**16 12 49.6**	**+0.2**
KOLN	**Koldanda**	**55.10**	**305**	*e*P	**P**	**16 12 55.5**	**+0.6**
	8.9nm,0.6s						
DANN	**Dangsing**	**55.19**	**306**	*e*P	**P**	**16 12 55.9**	**+0.2**
MKAR	**Makanchi Array**	**64.62**	**324**	P	**P**	**16 14 00.1**	**+0.3**
	0.4nm,0.5s,baz=110,slow=7.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.22**	**331**	P	**P**	**16 14 14.5**	**-1.8**
	0.3nm,0.5s,baz=128,slow=5.9,SNR=2.4						
KURK	**Kurchatov**	**68.68**	**326**	P	**P**	**16 14 26.5**	**+0.9**
	1.6nm,1.0s,baz=120,slow=5.6,SNR=8.2						
BVAR	**Borovoye Array**	**74.28**	**326**	P	**P**	**16 14 58.9**	**-0.5**
	1.4nm,0.8s,baz=131,slow=6.1,SNR=5.4						
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**16 16 02.0**	**-1.0**
	0.4nm,0.8s,baz=246,slow=4.4,SNR=4.1						

*THR **04** 16:04:44.1±0.3, 32.16N×47.20E, h18km±5km, ML3.9*
*IDC **04** 16:04:44.3±1.7, 32.44N×47.39E, h0km, mb3.8/10, mb1 3.8/12, mb1mx3.7/27, mbtmp3.8/12, ML3.9/2, MS2.6/2, Ms1 2.6/2, ms1mx2.2/41, Error ellipse: s-maj=37.3km s-min=16.6km az=168.0*
*CSEM **04** 16:04:45.9±0.2, 32.33N×47.44E, h2km, ML3.9, Error ellipse: s-maj=5.5km s-min=3.8km az=59.0*
*TEH **04** 16:04:45.7, 32.23N×47.36E, h6km, ML3.7*
*ISCJB **04** 16:04:46.4±0.4, 32.33N±0.04×47.43E±0.04, h23km, mb3.7/10, Error ellipse: s-maj=5.7km s-min=4.5km az=40.0*
ISC 04 16:04:47.6±0.7, 32.31N±0.03×47.44E±0.04, h23km, n76, σ1s55/86, mb3.8/10, 2C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.18**	**100**	*e*Pg	**Pn**	**16 05 09.2**	**+0.6**
SHGR				*e*Sg	**Sb**	**16 05 27.6**	**+3.6**
SHGR				AML	AML	16 05 30.7	
	comp=N,6μm,0.4s						
SHGR				AML	AML	16 05 30.7	
	comp=E,2μm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.18**	**100**	*e*Pg	**Pn**	**16 05 09.2**	**+0.6**
IKOM	**Komasi**	**1.86**	**2**	*e*Pn	**Pn**	**16 05 19.4**	**+1.2**
IKOM				*e*Sg	**Sb**	**16 05 46.6**	**+2.8**
IKOM				*e*		16 05 54.4	
	comp=Z,9μm,0.2s						
IKOM	**Komasi**	**1.86**	**2**	*e*Pn	**Pn**	**16 05 19.4**	**+1.2**
IKOM				*e*Sg	**Sb**	**16 05 46.6**	**+2.8**
IGHG	**Ghaleghazi**	**2.14**	**340**	*e*Pn	**Pn**	**16 05 23.0**	**+0.9**
IGHG				*e*		16 06 11.2	
	comp=Z,11μm,0.5s						
IGHG	**Ghaleghazi**	**2.14**	**340**	*e*Pn	**Pn**	**16 05 23.0**	**+0.9**
IVIS	**Veis**	**2.26**	**348**	*e*Pn	**Pn**	**16 05 24.3**	**+0.6**
IVIS				*e*Sg	**Sb**	**16 05 57.7**	**+2.3**
IVIS				*e*		16 06 05.2	
	comp=Z,3μm,0.3s						
IVIS	**Veis**	**2.26**	**348**	*e*Pn	**Pn**	**16 05 24.3**	**+0.6**
IVIS				*e*Sg	**Sb**	**16 05 57.7**	**+2.3**
MIB	**Mutribah**	**2.50**	**182**	*e*P	**Pn**	**16 05 28.8**	**+1.9**
MIB				AML	AML	16 06 12.4	
	comp=Z,472nm,0.5s						
MIB	**Mutribah**	**2.50**	**182**	*e*P	**Pn**	**16 05 28.8**	**+1.9**
IDHR	**Dehrash**	**2.54**	**340**	*e*Pn	**Pn**	**16 05 28.1**	**+0.5**
IDHR				*e*Sg	**Sb**	**16 06 05.8**	**+2.4**
IDHR				*e*		16 06 16.9	
	comp=Z,5μm,0.2s						
IDHR	**Dehrash**	**2.54**	**340**	*e*Pn	**Pn**	**16 05 28.1**	**+0.5**
IDHR				*e*Sg	**Sb**	**16 06 05.8**	**+2.4**
ILIN	**Lien**	**2.63**	**351**	*e*Pn	**Pn**	**16 05 29.8**	**+0.9**
ILIN				*e*Sg	**Sb**	**16 06 10.8**	**+4.7**
ILIN				*e*		16 06 17.6	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.63**	**351**	*e*Pn	**Pn**	**16 05 29.8**	**+0.9**
ILIN				*e*Sg	**Sb**	**16 06 10.8**	**+4.7**
BHD	**Baghdad**	**2.75**	**291**	*e*Pn	**Pn**	**16 05 29.0**	**-1.2**
BHD				*e*Sn	**Sn**	**16 06 02.0**	**-0.7**
BHD	**Baghdad**	**2.75**	**291**	*e*Pn	**Pn**	**16 05 29.0**	**-1.2**
BHD				*e*Sn	**Sn**	**16 06 02.0**	**-0.7**
BHD				*i* Sg	**Sb**	**16 06 13.0**	**+3.8**
UMR	**Umm Al-Rimmam**	**2.76**	**175**	*e*P	**Pn**	**16 05 32.1**	**+1.7**
UMR				AML	AML	16 06 08.1	
	comp=Z,127nm,0.4s						
UMR	**Umm Al-Rimmam**	**2.76**	**175**	*e*P	**Pn**	**16 05 32.1**	**+1.7**
SNGE	**Sanandaj**	**2.77**	**358**	*e*Pn	**Pn**	**16 05 32.2**	**+1.4**
SNGE	**Sanandaj**	**2.77**	**358**	*e*Pn	**Pn**	**16 05 32.2**	**+1.4**
IPIR	**Pirpir**	**2.94**	**82**	*e*Pn	**Pn**	**16 05 35.0**	**+1.8**
IPIR				*e*		16 06 37.3	
	comp=Z,3μm,0.3s						
IPIR	**Pirpir**	**2.94**	**82**	*e*Pn	**Pn**	**16 05 35.0**	**+1.8**
NAY	**Al-Naaiem**	**3.06**	**183**	*e*P	**Pn**	**16 05 36.1**	**+1.6**
NAY	**Al-Naaiem**	**3.06**	**183**	*e*P	**Pn**	**16 05 36.1**	**+1.6**
ASAO	**Ashtian**	**3.11**	**43**	*e*Pn	**Pn**	**16 05 38.0**	**+2.6**
ASAO				*e*Sg	Sb	16 06 28.9	+9.0
ASAO				AML	AML	16 06 42.6	
	comp=N,156nm,0.6s						
ASAO	**Ashtian**	**3.11**	**43**	*e*Pn	**Pn**	**16 05 38.0**	**+2.6**
KBD	**Kabd**	**3.13**	**176**	*e*P	**Pn**	**16 05 37.2**	**+1.6**
KBD				AML	AML	16 06 16.8	
	comp=Z,70nm,0.5s						
KBD	**Kabd**	**3.13**	**176**	*e*P	**Pn**	**16 05 37.2**	**+1.6**
IKLH	**Kolahrood**	**3.63**	**73**	*e*Pn	**Pn**	**16 05 43.5**	**+0.9**
IKLH				*e*		16 05 54.7	
	comp=Z,1μm,0.1s						
IKLH	**Kolahrood**	**3.63**	**73**	*e*Pn	**Pn**	**16 05 43.5**	**+0.9**
GHVR	**GHOM**	**3.88**	**55**	*e*Pn	**Pn**	**16 05 48.1**	**+2.1**
GHVR				AML	AML	16 06 58.6	
	comp=N,85nm,0.6s						
GHVR				AML	AML	16 07 03.6	
	comp=E,94nm,0.5s						
GHVR	**GHOM**	**3.88**	**55**	*e*Pn	**Pn**	**16 05 48.1**	**+2.1**
IGAR	**Gharneh**	**3.90**	**87**	*e*Pn	**Pn**	**16 05 46.8**	**+0.5**
IGAR				*e*		16 06 41.4	
	comp=Z,1μm,0.1s						
IZEF	**Zefreh**	**4.17**	**81**	*e*Pn	**Pn**	**16 05 50.7**	**+0.6**
IZEF				*e*		16 05 52.1	
	comp=Z,1μm,0.1s						
IZEF	**Zefreh**	**4.17**	**81**	*e*Pn	**Pn**	**16 05 50.7**	**+0.6**
IMHD	**Mahdasht**	**4.30**	**38**	*e*Pn	**Pn**	**16 05 52.9**	**+1.2**
IMHD				*e*		16 06 20.0	
	comp=Z,590nm,0.2s						
IMHD	**Mahdasht**	**4.30**	**38**	*e*Pn	**Pn**	**16 05 52.9**	**+1.2**
IR3	**Iran Long-Peri**	**4.34**	**42**	*e*Pn	**Pn**	**16 05 53.1**	**+0.8**
IR3	**Iran Long-Peri**	**4.34**	**42**	*e*Pn	**Pn**	**16 05 53.1**	**+0.8**
IDMV	**Damavand**	**5.02**	**48**	*e*		16 06 06.1	
	comp=Z,578nm,0.1s						
IDMV				*e*Pn	**Pn**	**16 06 02.4**	**+0.7**
ISAD	**Sadrabad**	**5.32**	**93**	*e*Pn	**Pn**	**16 06 06.1**	**+0.3**
ISAD				*e*		16 07 14.9	
	comp=Z,415nm,0.3s						
ISAD	**Sadrabad**	**5.32**	**93**	*e*Pn	**Pn**	**16 06 06.1**	**+0.3**
IBST	**Bostanabad**	**5.39**	**355**	*e*		16 06 43.7	
	comp=Z,144nm,0.3s						
IBST				*e*Pn	**Pn**	**16 06 07.2**	**+0.4**
IPAR	**Pars**	**5.41**	**116**	*e*Pn	**Pn**	**16 06 07.0**	**-0.1**
IPAR				*e*		16 07 13.8	
	comp=Z,440nm,0.3s						
IPAR	**Pars**	**5.41**	**116**	*e*Pn	**Pn**	**16 06 07.0**	**-0.1**
ISRB	**Sarab**	**5.50**	**2**	*e*		16 06 33.5	
	comp=Z,194nm,0.3s						
ISRB				*e*Pn	**Pn**	**16 06 08.7**	**+0.4**
ILAS	**Lasjerd**	**5.52**	**55**	*e*		16 06 10.0	
	comp=Z,846nm,0.1s						
ILAS				*e*Pn	**Pn**	**16 06 08.9**	**+0.3**
IFIR	**Firoozkooh**	**5.53**	**52**	*e*		16 06 17.8	
	comp=Z,408nm,0.1s						
IFIR				*e*Pn	**Pn**	**16 06 09.3**	**+0.6**
ISRV	**Sarvestan**	**5.69**	**119**	*e*Pn	**Pn**	**16 06 10.9**	**-0.1**
ISRV				*e*		16 07 26.0	
	comp=Z,574nm,0.1s						
ISRV	**Sarvestan**	**5.69**	**119**	*e*Pn	**Pn**	**16 06 10.9**	**-0.1**
ICHK	**Chekchek**	**5.90**	**89**	*e*Pn	**Pn**	**16 06 13.8**	**-0.1**
ICHK				*e*		16 07 29.9	
	comp=Z,298nm,0.2s						
ICHK	**Chekchek**	**5.90**	**89**	*e*Pn	**Pn**	**16 06 13.8**	**-0.1**
ISHM	**Shahmirzad**	**5.98**	**53**	*e*Pn	**Pn**	**16 06 15.5**	**+0.6**
ISHM				*e*		16 06 17.1	
	comp=Z,637nm,0.2s						
ISHM	**Shahmirzad**	**5.98**	**53**	*e*Pn	**Pn**	**16 06 15.5**	**+0.6**
IHRS	**Heris**	**6.00**	**357**	*e*Pn	**Pn**	**16 06 15.6**	**+0.4**
IHRS				*e*		16 06 36.3	
	comp=Z,118nm,0.2s						
IHRS	**Heris**	**6.00**	**357**	*e*Pn	**Pn**	**16 06 15.6**	**+0.4**
IMEH	**Mehriz**	**6.17**	**97**	*e*Pn	**Pn**	**16 06 17.3**	**-0.3**
IMEH				*e*		16 07 32.5	
	comp=Z,138nm,0.1s						
IMEH	**Mehriz**	**6.17**	**97**	*e*Pn	**Pn**	**16 06 17.3**	**-0.3**
IANJ	**Anjilo**	**6.24**	**58**	*e*Pn	**Pn**	**16 06 18.9**	**+0.5**
IANJ				*e*		16 06 21.8	
	comp=Z,366nm,0.3s						
IANJ	**Anjilo**	**6.24**	**58**	*e*Pn	**Pn**	**16 06 18.9**	**+0.5**
IBAF	**Bafgh**	**6.95**	**94**	*e*Pn	**Pn**	**16 06 27.8**	**-0.3**
IBAF				*e*		16 06 40.6	
	comp=Z,94nm,0.1s						
IBAF	**Bafgh**	**6.95**	**94**	*e*Pn	**Pn**	**16 06 27.8**	**-0.3**
ASF	**Jabal al Asfar**	**8.93**	**272**	Pn	**Pn**	**16 06 53.4**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=146,slow=15,SNR=9.6						
ASF				Sn	Sn	16 08 27.5	-7.6
	comp=Z,0.4nm,0.3s,baz=103,slow=18,SNR=2.5						
ASF				Lg	Lg	16 09 25.8	
	comp=Z,0.6nm,0.3s,baz=127,slow=20,SNR=2.3						
MMAI	**Mount Meron Ar**	**10.17**	**277**	Lg	Lg	16 10 00.7	
	comp=Z,1.2nm,0.3s,baz=99,slow=27,SNR=2.8						
MMAI				LR	LR	16 10 47.4	
	comp=Z,35nm,18.6s,baz=125,slow=36						
EIL	**Elat**	**11.03**	**259**	LR	LR	16 11 55.3	
	comp=Z,27nm,18.1s,baz=86,slow=39						
AKTO	**Aktyubinsk**	**19.73**	**20**	P	**P**	**16 09 14.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=10						
AKASG	**Malin Array Be**	**22.77**	**329**	P	**P**	**16 09 47.0**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=134,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	**26.50**	**32**	P	**P**	**16 10 22.4**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=248,slow=7.8,SNR=13						
KURK	**Kurchatov**	**29.41**	**42**	P	**P**	**16 10 48.4**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=247,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**30.24**	**51**	P	**P**	**16 10 56.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=246,slow=10,SNR=14						
FINES	**FINESS Array B**	**32.28**	**341**	P	**P**	**16 11 13.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=142,slow=8.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**34.23**	**40**	P	**P**	**16 11 30.8**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=256,slow=9.0,SNR=7.9						
NOA	**NORSAR Array B**	**37.14**	**332**	P	**P**	**16 11 54.8**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=124,slow=8.5,SNR=2.7						
ARCES	**ARCESS Array B**	**39.26**	**348**	P	**P**	**16 12 13.3**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=158,slow=10.0,SNR=16						
TORD	**Torodi Ar. Bea**	**45.90**	**256**	P	**P**	**16 13 09.2**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=62,slow=5.6,SNR=5.2						
SONM	**Songino Array**	**46.58**	**53**	P	**P**	**16 13 13.1**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=265,slow=9.7,SNR=2.7						

JMA 04 16:09:12.3±0.3, 44.00N×148.11E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.83**	**251**	P	Pn	16 09 45.3	+0.3
NEM2				*e*S	Sb	16 10 09.5	-0.6
JRA	**Rausu**	**2.16**	**269**	P	Pn	16 09 50.1	+0.6
JRA				*e*S	Sb	16 10 18.3	-1.2
JNK	**Nakash**	**2.49**	**262**	P	Pn	16 09 54.9	+0.8
JAK	**Akkeshi**	**2.68**	**249**	P	Pn	16 09 57.5	+0.9
JAK				*e*S	Sn	16 10 30.8	+1.0
JAR	**Ashorobuto**	**3.23**	**259**	P	Pn	16 10 06.0	+1.8
JCH	**Churui**	**3.73**	**250**	P	Pn	16 10 12.4	+1.3
JKK2	**Kamakawa 2**	**3.88**	**270**	P	Pn	16 10 15.8	+2.7
JFR	**Furan**	**4.09**	**260**	P	Pn	16 10 18.7	+2.5
JKB	**Kayabe**	**5.61**	**250**	P	Pn	16 10 38.6	+1.7
JKB				*e*S	Sn	16 11 43.1	+1.1
JOT	**Ohata**	**5.82**	**246**	P	Pn	16 10 41.2	+1.3
JOT				*e*S	Sn	16 11 47.8	+0.5

*DJA **04** 16:10:12, 0.90S×132.93E, h30km, mb4.5/4*
IDC 04 16:10:02.1±1.6, 0.69S×133.25E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=108.9km s-min=17.3km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.17**	**177**	P	Pn	16 14 27.9	-0.4
	0.5nm,0.3s,baz=356,slow=11,SNR=22						
WRA				S	Sn	16 17 54.1	-10
	0.1nm,0.3s,baz=350,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**22.85**	**178**	P	P	16 15 07.4	+0.2
	2.5nm,0.3s,baz=358,slow=12,SNR=40						
STKA	**Stephens Creek**	**32.01**	**167**	P	P	16 16 29.9	-0.4
	2.4nm,0.5s,baz=339,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	16 20 43.8	+0.3
	1.2nm,0.7s,baz=115,slow=7.9,SNR=18						
ZALV	**Zalesovo Beam**	**67.51**	**331**	P	P	16 20 59.4	-0.6
	0.2nm,0.3s,baz=111,slow=6.3,SNR=2.6						
KURK	**Kurchatov**	**68.98**	**326**	P	P	16 21 09.4	+0.1
	2.0nm,0.9s,baz=120,slow=5.9,SNR=22						
BVAR	**Borovoye Array**	**74.57**	**326**	P	P	16 21 42.9	0.0
	0.6nm,0.6s,baz=119,slow=8.9,SNR=4.2						

IDC 04 16:20:21.1±7.1, 0.66S×132.85E, h0km, mb2.9/2, mb1 3.2/3, mb1mx3.0/16, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=435.5km s-min=30.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.22**	**176**	P	Pn	16 24 47.7	-0.1
	0.0nm,0.3s,baz=356,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**22.89**	**178**	P	P	16 25 26.3	-0.4
	0.2nm,0.7s,baz=360,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**64.65**	**324**	P	P	16 31 00.8	-0.1
	0.2nm,0.7s,baz=119,slow=5.1,SNR=2.5						

KRSC 04 16:22:36.3±0.3, 55.12N×162.58E, h23km±23km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.75**	**221**	*e*P	Pn	16 22 51.5	+0.1
MKZ				*i* S	Sn	16 23 02.7	+0.7
KBTR	**Krutoberegovo**	**1.10**	**7**	*e*P	Pn	16 22 55.3	-1.0
KBTR				*i* S	Sb	16 23 09.5	-1.0
TUMR	**Tumrok**	**1.41**	**278**	*e*P	Pb	16 23 02.0	0.0
TUMR				*i* S	Sb	16 23 20.3	+0.7
KMNR	**Kamenistaya**	**1.48**	**296**	*e*P	Pb	16 23 02.7	-0.5
KMNR				*i* S	Sb	16 23 21.9	+0.2
SMKR	**Semkarok**	**1.59**	**337**	*e*P	Pb	16 23 04.2	-1.0
SMKR				*i* S	Sn	16 23 23.9	+0.8
KLY	**Klyuchi**	**1.62**	**318**	*e*P	Pn	16 23 03.3	-0.1
KLY				*i* S	Sn	16 23 23.4	-0.1
BDR	**Baidarnaya**	**1.65**	**333**	*e*P	Pb	16 23 05.1	-0.9
BDR				*i* S	Sb	16 23 26.8	+0.4
SRKR	**Sorokina**	**1.73**	**333**	*e*P	Pb	16 23 06.4	-1.1
SRKR				*i* S	Sn	16 23 27.6	+1.1
KOZ	**Kozyrevsk**	**1.80**	**303**	*e*P	Pb	16 23 08.0	-0.6
KOZ				*i* S	Sb	16 23 30.4	-0.4
SRDR	**Sredinnyy**	**2.02**	**308**	*e*P	Pn	16 23 09.9	+0.9
ESO	**Esso**	**2.35**	**292**	*e*P	Pn	16 23 14.3	+0.8
ESO				*i* S	Sn	16 23 42.1	+0.5
SPN	**Mys Shipunski**	**2.52**	**218**	*e*P	Pn	16 23 16.1	+0.3
SPN				*i* S	Sn	16 23 45.2	-0.6
AVH	**Avacha**	**2.92**	**232**	*e*P	Pn	16 23 24.0	+2.5
AVH				*i* S	Sn	16 23 58.9	+3.0
KOK	**Koryaka**	**2.95**	**233**	*e*P	Pn	16 23 24.2	+2.3
PET	**Petropavlovsk**	**3.12**	**229**	*e*P	Pn	16 23 26.2	+2.1
PET				*i* S	Sn	16 24 02.0	+1.4
MTVR	**Mutnovka**	**3.71**	**226**	*e*P	Pn	16 23 33.5	+1.1
MTVR				*i* S	Sn	16 24 15.2	-0.3
ASAK	**Asacha**	**3.90**	**227**	*e*P	Pn	16 23 38.1	+3.2

IDC 04 16:24:18.0±2.9, 0.96S×133.89E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/15, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=133.1km s-min=28.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.88**	**179**	P	Pn	16 28 40.5	-0.1
	0.1nm,0.3s,baz=358,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**22.58**	**180**	P	P	16 29 19.8	-0.4
	0.3nm,0.7s,baz=0.0,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**65.50**	**324**	P	P	16 35 03.2	0.0
	0.1nm,0.5s,baz=115,slow=7.9,SNR=4.0						

IDC 04 16:25:00.9±2.5, 0.33S×132.76E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=109.7km s-min=20.8km az=66.0, Irian Jaya region

| Code | Station Name | Δ° | AZ°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.58**	**175**	P	P	16 41 35.4	0.0
	0.2nm,0.3s,baz=354,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**23.24**	**177**	P	P	16 42 14.7	-0.1
	0.5nm,0.4s,baz=359,slow=8.7,SNR=11						
HNR	**Honiara**	**28.73**	**109**	LR	LR	16 54 16.6	
	comp=Z,46nm,21.1s,baz=294,slow=36						
ASAJ	**Asahikawa**	**45.15**	**10**	LR	LR	17 01 34.1	
	comp=Z,100nm,19.2s,baz=159,slow=32						
MKAR	**Makanchi Array**	**64.20**	**324**	P	P	16 47 42.5	+0.1
	0.5nm,0.8s,baz=111,slow=7.2,SNR=5.9						

IDC 04 16:45:21.5±2.8,0.69S×133.41E,h0km,mb3.0/2, mb1 3.2/3,mb1mx3.1/16,mbtmp3.0/3,ML2.8/1,Error ellipse: s-maj=144.2km s-min=26.7km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**177**	P	P	16 49 46.5	-0.1
	0.0nm,0.3s,baz=357,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**22.85**	**179**	P	P	16 50 26.9	+0.3
	0.2nm,0.4s,baz=358,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**65.00**	**324**	P	P	16 56 03.4	-0.1
	0.1nm,0.5s,baz=120,slow=6.5,SNR=3.1						

IDC 04 16:51:26.9±2.9,0.33S×132.60E,h0km,mb3.0/2, mb1 3.3/3,mb1mx3.2/17,mbtmp3.1/3,ML3.3/1,Error ellipse: s-maj=148.1km s-min=29.5km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.57**	**175**	P	P	16 55 56.8	+0.2
	0.1nm,0.3s,baz=354,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**23.22**	**177**	P	P	16 56 36.0	0.0
	0.3nm,0.4s,baz=355,slow=12,SNR=17						
MKAR	**Makanchi Array**	**64.24**	**324**	P	P	17 02 03.8	-0.1
	0.1nm,0.6s,baz=134,slow=6.2,SNR=2.6						

*IDC **04** 16:55:08.8±1.5,0.29S×132.99E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/16,mbtmp3.8/7,ML4.0/1,MS3.7/1, Ms1 3.6/1,ms1mx2.4/32,Error ellipse: s-maj=80.6km s-min=17.4km az=70.0*
*DJA **04** 16:55:13,0.03S×132.90E,h30km,MLv4.5/8*
ISC 04 16:55:13.9±1.5,0.5S±0.2×132.8E±0.4,h35km,n18, σ1§33/20,mb3.8/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.40**	**176**	P	**Pn**	**16 59 39.1**	**+0.7**
	0.5nm,0.3s,baz=355,slow=12,SNR=13						
WRA				S	**S**	**17 03 10.5**	**-4.2**
	0.3nm,0.3s,baz=354,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**23.07**	**177**	P	**P**	**17 00 18.8**	**+2.3**
	4.6nm,0.6s,baz=358,slow=11,SNR=44						
ASAR				S	**S**	**17 04 26.2**	**+0.9**
	0.4nm,1.1s,baz=354,slow=25,SNR=3.1						
STKA	**Stephens Creek**	**32.31**	**166**	P	**P**	**17 01 39.8**	**+0.1**
	4.1nm,0.7s,baz=327,slow=8.6,SNR=12						
STKA				LR	LR	17 16 13.1	
	comp=Z,127nm,19.0s,baz=267,slow=39						
CMAR	**Chiang Mai Arr**	**38.25**	**301**	P	**P**	**17 02 30.4**	**-0.6**
	1.1nm,0.8s,baz=117,slow=6.8,SNR=11						
TAPN	**Taplejung**	**51.41**	**306**	*eP*	**P**	**17 04 16.8**	**+0.7**
	9.5nm,1.0s						
ODAN	**Odare**	**51.46**	**306**	*eP*	**P**	**17 04 16.7**	**+0.3**
	10nm,0.9s						
RAMN	**Ramite**	**52.14**	**305**	*eP*	**P**	**17 04 22.2**	**+0.7**
	13nm,1.0s						
JIRN	**Jiri**	**52.76**	**306**	*eP*	**P**	**17 04 26.7**	**+0.4**
	6.6nm,0.8s						
GUN	**Gumba**	**53.12**	**306**	*eP*	**P**	**17 04 29.3**	**+0.5**
	10nm,0.8s						
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**17 04 28.7**	**-1.2**
	0.2nm,0.7s,baz=146,slow=8.1,SNR=3.2						
PKI	**Pulchoki**	**53.36**	**305**	*eP*	**P**	**17 04 30.8**	**+0.2**
KKN	**Kakani**	**53.55**	**306**	*eP*	**P**	**17 04 32.1**	**+0.2**
DMN	**Daman**	**53.62**	**305**	*eP*	**P**	**17 04 32.8**	**+0.3**
GKN	**Gorkha**	**54.16**	**306**	*eP*	**P**	**17 04 36.3**	**0.0**
	8.8nm,0.9s						
KOLN	**Koldanda**	**54.92**	**305**	*eP*	**P**	**17 04 42.5**	**+0.7**
	11nm,0.7s						
DANN	**Dangsing**	**55.01**	**306**	*eP*	**P**	**17 04 43.2**	**+0.6**
MKAR	**Makanchi Array**	**64.50**	**324**	P	**P**	**17 05 48.2**	**+1.0**
	0.6nm,0.7s,baz=112,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**67.13**	**332**	P	**P**	**17 06 03.0**	**-0.9**
	0.4nm,0.6s,baz=129,slow=6.8,SNR=3.4						

GUC 04 16:59:38.5±0.8,34.08S×70.07W,h15km±5km,MD4.0, ML3.3,10C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.26**	**334**	*iP*	Pg	16 59 43.8	-0.5
LMEL				*i* S	Sg	16 59 47.8	-0.4
LMEL				AML	AML	16 59 48.4	
	comp=E,18μm,0.2s						
CACH	**El Canelo**	**0.44**	**265**	⇓*iP*	Pg	16 59 47.0	-0.5
CACH				*i* S	Sg	16 59 53.1	-0.6
CHCH	**Chadas Angostu**	**0.51**	**287**	⇑*iP*	Pg	16 59 48.4	-0.2
CHCH				*i* S	Sg	16 59 55.4	-0.1
PCH	**Pirque**	**0.59**	**321**	⇓*iP*	Pg	16 59 49.8	-0.4
PCH				*i* S	Sg	16 59 58.0	-0.2
ANTU	**Antumapu**	**0.69**	**317**	⇑*iP*	Pg	16 59 51.7	-0.4
ANTU				*i* S	Sg	17 00 01.3	0.0
ANTU				AML	AML	17 00 02.6	
	comp=N,2μm,0.5s						
FSR	**Penalolen**	**0.71**	**327**	⇑*iP*	Pg	16 59 52.0	-0.5
FSR				*i* S	Sg	17 00 02.0	0.0
FCH	**Farellones**	**0.77**	**346**	⇑*iP*	Pg	16 59 52.3	-1.7
FCH				*i* S	Sg	17 00 04.0	-0.5
FCH				AML	AML	17 00 05.1	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**0.79**	**330**	⇑*iP*	Pg	16 59 53.4	-0.5
CLCH				*i* S	Sb	17 00 04.5	0.0
CLCH				AML	AML	17 00 07.1	
	comp=E,3μm,0.6s						
SAN	**Santiago**	**0.80**	**322**	*eP*	Pg	16 59 53.4	-0.7
SAN				*i* S	Sg	17 00 04.5	-0.1
SAN				AML	AML	17 00 05.3	
	comp=N,999nm,0.3s						
STL	**Santa Lucia**	**0.80**	**323**	⇑*iP*	Pg	16 59 53.3	-0.8
STL				*e*S	Sg	17 00 04.5	-0.3
PEL	**Peldehue**	**1.07**	**331**	⇑*iP*	Pb	16 59 58.3	-0.4
PEL				*i* S	Sg	17 00 13.1	-0.1
PEL				AML	AML	17 00 14.3	
	comp=N,1μm,0.9s						
LNV	**Longovilo**	**1.12**	**276**	⇑*iP*	Pb	16 59 58.8	-0.8
ROCH	**El Roble**	**1.36**	**324**	⇑*iP*	Pn	17 00 02.8	-0.5
ROCH				*i* S	Sb	17 00 21.9	+0.6
ROCH				AML	AML	17 00 26.2	
	comp=N,667nm,0.5s						
JACH	**Jahuel**	**1.46**	**342**	*eP*	Pn	17 00 04.9	+0.4
PTCH	**Petorca**	**1.95**	**338**	*eP*	Pb	17 00 12.9	-1.0
PTCH				*i* S	Sb	17 00 39.3	+1.3
PTCH				AML	AML	17 00 43.5	
	comp=N,555nm,0.3s						
CHNG	**Los Chungos**	**2.50**	**331**	⇓*iP*	Pb	17 00 21.7	-1.4
CHNG				*i* S	Sb	17 00 54.6	+0.9
CHNG				AML	AML	17 00 56.6	
	comp=E,222nm,0.6s						

*IDC **04** 17:05:06.8±1.0,34.54N×26.51E,h0km,mb3.8/12, mb1 3.9/18,mb1mx3.8/27,mbtmp3.8/18,ML3.8/5,Error ellipse: s-maj=22.6km s-min=16.5km az=2.0*
*ATH **04** 17:05:07.9,34.34N×26.50E,h23km±4km,MD3.7/10*
*CSEM **04** 17:05:08.1±0.1,34.37N×26.58E,h5km,MD3.7,Error ellipse: s-maj=4.4km s-min=3.1km az=60.0*
*ISCJB **04** 17:05:09.0±0.2,34.33N±0.02×26.60E±0.03,h33km, mb3.7/18,Error ellipse: s-maj=3.6km s-min=3.0km az=146.0*
*HLW **04** 17:05:11.5,34.33N×26.77E,h32km±19km,Md0.0,Ml3.4*
*DDA **04** 17:05:44.9,35.88N×28.90E,h33km,MD3.4*
ISC 04 17:05:10.4±0.5,34.37N±0.04×26.58E±0.04,h33km,n85, σ1§55/92,mb3.7/17,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.81**	**338**	*e*PB	**Pn**	**17 05 23.1**	**-2.4**
ZKR				*e*SN	**Sb**	**17 05 35.5**	**-1.1**
ZKR	**Zakros**	**0.81**	**338**	*e*Pb	**Pn**	**17 05 23.1**	**-2.4**
ZKR				*e*Sn	**Sb**	**17 05 35.5**	**-1.1**
NPS	**Neapolis**	**1.20**	**319**	*e*PN	**Pb**	**17 05 31.0**	**-1.6**
NPS	**Neapolis**	**1.20**	**319**	*e*Pn	**Pb**	**17 05 31.0**	**-1.6**
KARP	**Karpathos**	**1.27**	**22**	*e*PN	**Pb**	**17 05 32.9**	**-0.9**
KARP	**Karpathos**	**1.27**	**22**	*e*Pn	**Pb**	**17 05 32.9**	**-0.9**
SIVA	**Sivas**	**1.60**	**295**	*e*PN	**Pn**	**17 05 35.6**	**-0.8**
SIVA	**Sivas**	**1.60**	**295**	*e*Pn	**Pn**	**17 05 35.6**	**-0.8**
GVD	**Gavdhos**	**2.11**	**284**	*e*PN	**Pn**	**17 05 44.0**	**+0.6**
GVD	**Gavdhos**	**2.11**	**284**	*e*Pn	**Pn**	**17 05 44.0**	**+0.6**
VAM	**Vamos**	**2.22**	**299**	*e*PN	**Pn**	**17 05 45.2**	**+0.4**
VAM	**Vamos**	**2.22**	**299**	*e*Pn	**Pn**	**17 05 45.3**	**+0.4**
ARG	**Arkhangelos**	**2.24**	**34**	*e*PB	**Pb**	**17 05 47.2**	**-3.0**
ARG	**Arkhangelos**	**2.24**	**34**	*e*Pb	**Pb**	**17 05 47.2**	**-3.0**
APE	**Apeiranthos**	**2.83**	**343**	*e*PN	**Pn**	**17 05 54.0**	**+0.6**
APE	**Apeiranthos**	**2.83**	**343**	*e*Pn	**Pn**	**17 05 54.0**	**+0.6**
SLUM		**3.09**	**202**	P	**Pn**	**17 05 58.4**	**+1.5**
SLUM				S	**Sn**	**17 06 33.0**	**+0.3**
AKAS	**Kas**	**3.10**	**52**	*i* P	**Pn**	**17 05 58.1**	**+1.0**
AKAS				*i* S	**Sn**	**17 06 30.6**	**-2.4**
AKAS	**Kas**	**3.10**	**52**	*i* P	**Pn**	**17 05 58.1**	**+1.0**
AKAS				*i* S	**Sn**	**17 06 30.6**	**-2.4**
HMAT	**Matruh**	**3.29**	**172**	P	**Pn**	**17 05 59.9**	**+0.2**
HMAT				S	**Sn**	**17 06 35.4**	**-2.3**
KYTH	**Kithira**	**3.47**	**304**	*e*PN	**Pn**	**17 06 03.3**	**+1.1**
KYTH	**Kithira**	**3.47**	**304**	*e*Pn	**Pn**	**17 06 03.3**	**+1.1**
GOLH	**Golhisar**	**3.75**	**39**	*i* P	Pn	17 06 08.0	+1.9
GOLH				*i* S	**Sn**	**17 06 50.3**	**+1.1**
GOLH	**Golhisar**	**3.75**	**39**	*i* P	Pn	17 06 08.0	+1.9
GOLH				*i* S	**Sn**	**17 06 50.3**	**+1.1**
VLI	**Veliai**	**3.79**	**309**	*e*PN	**Pn**	**17 06 07.1**	**+0.6**
VLI	**Veliai**	**3.79**	**309**	*e*Pn	**Pn**	**17 06 07.1**	**+0.6**
KORT	**Korkueli**	**4.04**	**48**	*i* P	Pn	17 06 11.8	+1.7
KORT				*i* S	**Sn**	**17 06 58.7**	**+2.4**
KORT	**Korkueli**	**4.04**	**48**	*i* P	Pn	17 06 11.8	+1.7
KORT				*i* S	**Sn**	**17 06 58.7**	**+2.4**
DID	**Didima**	**4.15**	**320**	*e*PN	**Pn**	**17 06 12.2**	**+0.8**
DID	**Didima**	**4.15**	**320**	*e*Pn	**Pn**	**17 06 12.2**	**+0.8**
LTK	**Loutraki**	**4.68**	**322**	*e*PN	**Pn**	**17 06 19.5**	**+0.8**
LTK	**Loutraki**	**4.68**	**322**	*e*Pn	**Pn**	**17 06 19.5**	**+0.8**
ITM	**Ithomi**	**4.71**	**308**	*e*PN	**Pn**	**17 06 20.1**	**+0.9**
ITM	**Ithomi**	**4.71**	**308**	*e*Pn	**Pn**	**17 06 20.1**	**+0.9**
GUR	**Goura**	**4.95**	**317**	*e*PN	**Pn**	**17 06 23.2**	**+0.7**
GUR	**Goura**	**4.95**	**317**	*e*Pn	**Pn**	**17 06 23.2**	**+0.7**
GAZI	**Gazipasa**	**5.05**	**67**	*i* P	Pb	17 06 29.9	-8.0
GAZI				*i* S	**Sn**	**17 07 24.1**	**+3.2**
GAZI	**Gazipasa**	**5.05**	**67**	*i* P	Pb	17 06 29.9	-8.0
GAZI				*i* S	**Sn**	**17 07 24.1**	**+3.2**
SWA2		**5.20**	**191**	P	**Pn**	**17 06 27.6**	**+1.8**
ERMK	**Ermenek**	**5.64**	**64**	*i* P	**Pn**	**17 06 33.4**	**+1.2**
ERMK				*i* S	**Sn**	**17 07 39.1**	**+3.2**
ERMK	**Ermenek**	**5.64**	**64**	*i* P	**Pn**	**17 06 33.4**	**+1.2**
ERMK				*i* S	**Sn**	**17 07 39.1**	**+3.2**
HNAT	**Natroun**	**5.83**	**143**	P	**Pn**	**17 06 35.8**	**+1.2**
AWBH		**6.34**	**161**	P	**Pn**	**17 06 42.9**	**+1.3**
GLL	**Jalalah**	**6.46**	**136**	P	**Pn**	**17 06 43.3**	**0.0**
SUZ		**6.96**	**129**	P	**Pn**	**17 06 50.7**	**+0.6**
HFRF	**Wahat Farafira**	**7.34**	**168**	P	**Pn**	**17 06 56.3**	**+0.9**
MMAI	**Mount Meron Ar**	**7.47**	**98**	Pn	**Pn**	**17 06 57.3**	**+0.1**
	2.3nm,0.3s,baz=283,slow=11,SNR=7.9						
MMAI				Sn	**Sn**	**17 08 19.6**	**-1.2**
	7.3nm,0.3s,baz=274,slow=22,SNR=9.8						
HNKL	**Nakhl**	**7.67**	**123**	P	**Pn**	**17 07 00.1**	**+0.2**
BRTR	**Keskin Array B**	**7.77**	**44**	Pn	**Pn**	**17 06 60.0**	**-1.4**
	0.2nm,0.3s,baz=218,slow=15,SNR=7.7						
ASUT		**8.16**	**147**	P	**Pn**	**17 07 07.1**	**+0.6**
EIL	**Elat**	**8.51**	**121**	Pn	**Pn**	**17 07 12.6**	**+1.3**
	1.2nm,0.3s,baz=337,slow=12,SNR=32						
EIL				Sn	**Sn**	**17 08 43.5**	**-2.7**
	2.9nm,0.3s,baz=323,slow=17,SNR=9.1						
TR2		**8.53**	**132**	P	**Pn**	**17 07 10.7**	**-0.9**
HKAT	**Jabal Katrina**	**8.60**	**131**	P	**Pn**	**17 07 12.6**	**-0.2**
ASF	**Jabal al Asfar**	**8.91**	**101**	Pn	**Pn**	**17 07 14.8**	**-2.1**
	0.2nm,0.3s,baz=288,slow=3.2,SNR=2.9						
ASF				Sn	**Sn**	**17 08 50.8**	**-5.4**
	0.5nm,0.3s,baz=178,slow=12,SNR=2.2						
HDK1	**Dakhla**	**9.12**	**164**	P	**Pn**	**17 07 21.0**	**+1.1**
HHRG	**Al Ghardaqah**	**9.31**	**138**	P	**Pn**	**17 07 23.0**	**+0.6**
HHRG				S	Sn	17 08 59.1	-7.0
GTR	**Jabal at Tayr**	**9.47**	**158**	P	**Pn**	**17 07 25.6**	**+1.0**
GNI	**Garni**	**15.56**	**63**	Pn	**P**	**17 08 50.7**	**-0.7**
	0.3nm,0.3s,baz=204,slow=17,SNR=3.1						
AKASG	**Malin Array Be**	**16.44**	**6**	Pn	**Pn**	**17 08 57.0**	**-1.4**
	0.5nm,0.3s,baz=191,slow=11,SNR=3.5						
GERES	**GERESS Array B**	**17.34**	**330**	P	**Pn**	**17 09 08.7**	**-1.3**
	0.2nm,0.3s,baz=144,slow=12,SNR=5.1						
LPL	**La Plagne**	**18.81**	**312**	*e*P	**Pn**	**17 09 27.9**	**-0.1**
HINF	**Hinteralfeld**	**19.97**	**318**	*e*P	**Pn**	**17 09 41.3**	**-0.4**
	5.8nm,0.7s						
CDF	**Champ du Feu**	**20.09**	**320**	*e*P	Pn	17 09 41.8	-1.4
	4.3nm,0.6s						
HAU	**Haudompre**	**20.35**	**318**	*e*P	Pn	17 09 45.8	-0.4
	2.5nm,0.4s						
PAGF	**Fort de Pagny**	**21.01**	**319**	*e*P		17 09 53.5	
	0.7nm,0.5s						
SFTF	**Sexfontaines**	**21.20**	**317**	*e*P	**P**	**17 09 54.7**	**+1.7**
	5.9nm,0.5s						
MEZF	**Maizieres J'vi**	**21.35**	**318**	*e*P	**P**	**17 09 55.8**	**+1.1**
LOR	**Lormes**	**21.40**	**314**	*e*P	**P**	**17 09 56.1**	**+0.9**
	2.8nm,0.6s						
SSF	**Saint Saulge**	**21.51**	**313**	*e*P	**P**	**17 09 57.3**	**+0.9**
	3.0nm,0.6s						
BAIF	**Baives**	**22.69**	**320**	*e*P	**P**	**17 10 08.1**	**-0.9**
	7.5nm,0.5s						
MFF	**Saint Martin d**	**23.60**	**309**	*e*P	**P**	**17 10 19.2**	**+1.0**
	2.4nm,0.6s						
LDF	**La Druitiere**	**24.39**	**314**	*e*P	**P**	**17 10 25.5**	**0.0**
FLN	**La Foliniere**	**24.67**	**314**	*e*P	**P**	**17 10 27.8**	**-0.3**
ESDC	**Sonseca Array**	**24.89**	**291**	P	**P**	**17 10 30.7**	**+0.4**
	0.3nm,0.4s,baz=76,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**27.10**	**359**	P	**P**	**17 10 48.8**	**-1.0**
	0.9nm,0.5s,baz=171,slow=13,SNR=5.5						
AKTO	**Aktyubinsk**	**27.95**	**45**	P	**P**	**17 10 58.6**	**+1.0**
	0.8nm,0.3s,baz=264,slow=12,SNR=5.5						
TORD	**Torodi Ar. Bea**	**30.91**	**233**	P	**P**	**17 11 25.9**	**+1.7**
	0.6nm,0.5s,baz=36,slow=8.9,SNR=5.4						
ARCES	**ARCESS Array B**	**35.23**	**359**	P	**P**	**17 11 59.1**	**-2.2**
	2.0nm,0.8s,baz=183,slow=8.4,SNR=9.6						
MKAR	**Makanchi Array**	**43.24**	**56**	P	**P**	**17 13 09.5**	**+1.0**
	0.6nm,0.6s,baz=276,slow=7.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**44.72**	**46**	P	**P**	**17 13 20.9**	**+0.6**
	0.8nm,0.3s,baz=271,slow=8.1,SNR=10.0						
SONM	**Songino Array**	**59.08**	**51**	P	P	17 15 09.5	+1.9
	0.9nm,0.6s,baz=282,slow=7.2,SNR=16						
SCHQ	**Schefferville**	**64.55**	**320**	P	**P**	**17 15 44.7**	**+0.7**
	1.4nm,0.4s,baz=178,slow=19,SNR=6.8						
CMAR	**Chiang Mai Arr**	**65.50**	**84**	P	**P**	**17 15 52.3**	**+1.6**
	0.3nm,0.7s,baz=301,slow=8.7,SNR=3.2						
USRK	**Ussuriysk Arra**	**76.57**	**45**	P	**P**	**17 16 58.2**	**+0.8**
	1.1nm,0.5s,baz=317,slow=5.2,SNR=5.3						
ILAR	**Eielson Array**	**81.06**	**357**	P	**P**	**17 17 22.0**	**+0.3**
	0.3nm,0.9s,baz=23,slow=2.9,SNR=3.2						

*DJA **04** 17:06:08,0.43S×132.64E,h30km,mb4.8/3*
IDC 04 17:05:60.0±1.2,0.24S×132.91E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.7/16,mbtmp3.9/5,ML4.2/1,Error ellipse: s-maj=71.4km s-min=21.7km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.64**	**176**	P	P	17 10 30.6	+0.2
	0.7nm,0.3s,baz=353,slow=11,SNR=27						
ASAR	**Alice Springs**	**23.31**	**178**	P	P	17 11 10.0	+0.2
	3.8nm,0.5s,baz=353,slow=9.1,SNR=112						
STKA	**Stephens Creek**	**32.53**	**166**	P	P	17 12 32.3	-0.4
	2.2nm,0.7s,baz=348,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**64.34**	**324**	P	P	17 16 38.2	+0.6
	0.5nm,0.7s,baz=116,slow=8.2,SNR=6.3						
ILAR	**Eielson Array**	**86.03**	**25**	P	P	17 18 41.6	-0.6
	0.3nm,0.8s,baz=240,slow=4.8,SNR=3.2						

*IDC **04** 17:13:05.9±0.5,0.75S×133.08E,h0km,mb4.7/13, mb1 4.8/15,mb1mx4.6/20,mbtmp4.7/15,ML4.1/2,MS3.8/8, Ms1 3.8/8,ms1mx3.5/28,Error ellipse: s-maj=27.9km s-min=10.2km az=76.0*
*MOS **04** 17:13:08.8±1.0,0.68S×133.22E,h33km,mb4.9/17,Error ellipse: s-maj=17.9km s-min=7.3km az=118.1*
*BJI **04** 17:13:09.5,0.70S×133.20E,h35km,mB5.0/19,mb4.6/33, Ms4.8/15,Ms7 4.3/16*
*ISCJB **04** 17:13:10.5±0.9,0.69S±0.04×133.26E±0.05,h45km±8km, mb4.6/58,MS3.9/14,Error ellipse: s-maj=9.2km s-min=5.7km az=144.7*
*NEIC **04** 17:13:11.4±0.2,0.74S×133.08E,h35km,mb4.7/15,Error ellipse: s-maj=10.9km s-min=4.6km az=66.0*
*DJA **04** 17:13:13,0.81S×133.30E,h30km,mb5.1/17*
ISC 04 17:13:11.4±0.4,0.66S±0.04×133.31E±0.05,h35km±1km, h35km:pP-P,n165,σ1§22/187,mb4.8/57,MS3.8/14,2C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.48**	**205**	P	**Pn**	**17 13 49.3**	**0.0**
BAKI	**Biak**	**2.85**	**101**	P	**Pn**	**17 13 55.4**	**+1.0**
TLE	**Tual**	**4.97**	**187**	P	**Pn**	**17 14 24.6**	**+1.0**
MSAI	**Masohi**	**5.12**	**239**	P	**Pn**	**17 14 27.6**	**+1.9**
	154nm,0.9s,2μm0.7nm						
LBMI	**Labuha**	**5.80**	**270**	P	**Pn**	**17 14 35.1**	**0.0**
	218nm,1.0s,2μm0.7nm						
AAI	**Ambon**	**5.92**	**239**	P	**Pn**	**17 14 36.7**	**0.0**
	530nm,0.9s,4μm1.7nm						
TNTI	**Ternate**	**6.11**	**283**	P	**Pn**	**17 14 40.3**	**+1.1**
	84nm,1.2s,2μm0.4nm						
LUWI	**Luwuk**	**10.54**	**268**	P	**Pn**	**17 15 39.7**	**-0.4**
	110nm,1.4s,1μm						
TTSI	**Tana Toraja**	**13.69**	**260**	P	**P**	**17 16 33.6**	**+2.2**
SPSI	**Sidrap Palu**	**13.92**	**256**	P	P	17 16 29.8	-4.1
	29nm,0.9s						
BKSI	**Bulukumba**	**13.95**	**250**	P	P	17 16 30.3	-4.0
	40nm,0.7s						
KAPI	**Kappang**	**14.21**	**252**	*e*P	**Pn**	**17 16 31.9**	**+1.6**
KAPI	**Kappang**	**14.21**	**252**	P	**P**	**17 16 35.6**	**-1.6**
PMG	**Port Moresby**	**16.29**	**123**	Pn	**P**	**17 16 59.9**	**-0.5**
	0.3nm,0.3s,baz=290,slow=3.8,SNR=3.4						
PMG	**Port Moresby**	**16.29**	**123**	‖*eP*	**Pn**	**17 16 56.0**	**-1.7**
PMG				pmax	pmax		
	comp=Z,37nm,1.9s						
PMG	**Port Moresby**	**16.29**	**123**	*eP*	**P**	**17 17 00.1**	**-0.2**
GUMO	**Guam**	**18.22**	**39**	LR	LR	17 23 17.8	
	comp=Z,222nm,18.6s,baz=185,slow=33						
WRAB	**Tennant Creek**	**19.18**	**177**	P	**P**	**17 17 30.9**	**-1.3**
WRAB	**Tennant Creek**	**19.18**	**177**	P	**P**	**17 17 30.9**	**-1.3**
WB2	**Warramunga Arr**	**19.19**	**177**	*eP*	**P**	**17 17 31.0**	**-1.3**
WB2				*e*S	Sn	17 20 55.7	-12
WRA	**Warramunga Arr**	**19.19**	**177**	P	**P**	**17 17 30.6**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=355,slow=12,SNR=52						
WRA				S	Sn	17 20 54.2	-13
	comp=Z,0.9nm,0.3s,baz=351,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**19.19**	**177**	P	**P**	**17 17 30.6**	**-1.7**
WRA				S	Sn	17 20 54.2	-13
WRA	**Warramunga Arr**	**19.19**	**177**	P	**P**	**17 17 30.6**	**-1.7**
WRA				S	Sn	17 20 54.2	-13
SBUM	**Sibu**	**21.31**	**278**	P	pP	17 18 01.8	-2.8
	comp=Z,29nm,1.3s						
AS31	**Alice Springs**	**22.87**	**179**	*eP*	**P**	**17 18 10.9**	**-1.1**
ASAR	**Alice Springs**	**22.87**	**179**	P	**P**	**17 18 10.9**	**-1.1**
	comp=Z,38nm,0.8s,baz=356,slow=8.9,SNR=148						
ASAR				S	**S**	**17 22 20.2**	**+0.8**
	comp=Z,6.5nm,1.0s,baz=354,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**22.87**	**179**	P	**P**	**17 18 10.9**	**-1.1**
ASAR				S	**S**	**17 22 20.3**	**+0.8**
ASAR	**Alice Springs**	**22.87**	**179**	P	**P**	**17 18 10.9**	**-1.1**
ASAR				S	**S**	**17 22 20.2**	**+0.8**
CTAO	**Charters Tower**	**23.09**	**148**	*eP*	**P**	**17 18 15.2**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**23.09**	**148**	*eP*	**P**	**17 18 15.2**	**+0.9**
	comp=Z,17nm,0.8s						
MBWA	**Marble Bar**	**24.30**	**212**	*eP*	**P**	**17 18 25.0**	**-0.8**
	comp=Z,45nm,1.0s						
BJII	**Banjamegara**	**24.44**	**254**	P	**P**	**17 18 30.0**	**+2.7**
	comp=Z,58nm,1.7s						
CISI	**Cisompet, Garu**	**26.32**	**254**	P	**P**	**17 18 45.2**	**+0.9**
	comp=Z,104nm,0.7s						
JOW	**Kunigami**	**27.76**	**350**	LR	LR	17 27 49.4	
	comp=Z,436nm,20.8s,baz=94,slow=32						
HNR	**Honiara**	**27.91**	**109**	LR	LR

MDJ sP sP 17 21 41.2 +1.8
MDJ PcS **PcS** **17 27 00.9 +2.4**
MDJ S S 17 28 09.0 +6.4
MDJ sS sS 17 28 24.5 +5.0
MDJ pmax pmax
comp=Z,5.0nm,1.8s
MDJ pmax pmax
comp=Z,55nm,3.2s
MDJ LR LR
comp=Z,62nm,18.2s
LZH Lanzhou 45.70 326 *e*P **P** **17 21 30.0 +0.7**
LZH pP **pP** **17 21 39.7 +0.1**
LZH sP **sP** **17 21 46.9 +3.2**
LZH PP PP 17 23 18.3 +1.5
LZH pmax pmax
comp=Z,16nm,1.2s
LZH pmax pmax
comp=Z,55nm,5.4s
LZH LR LR
comp=N,330nm,10.2s
LZH LR LR
comp=E,380nm,12.9s
LZH LR LR
comp=Z,390nm,16.7s
HHC Hu-ho-hao-te 45.81 337 *e*P **P** **17 21 30.1 +0.1**
HHC pP **pP** **17 21 39.9 -0.4**
HHC sP **sP** **17 21 43.8 -0.6**
HHC PP PP 17 23 18.3 +0.5
HHC S **S** **17 28 12.3 +0.6**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=N,170nm,13.5s
HHC LR LR
comp=E,170nm,13.6s
HHC LR LR
comp=Z,120nm,14.2s
MSVF Nonsavu 47.13 114 P **P** **17 21 43.1 +2.4**
MSVF Nonsavu 47.13 114 P **P** **17 21 43.1 +2.4**
HABR Khabarovsk 48.97 2 *e*P **P** **17 21 51.9 -2.4**
HABR *e**PP **pP** **17 22 01.8 -2.8**
HABR *e**SP **sP** **17 22 06.1 -2.6**
HABR *e* 17 23 14.9
HABR 17 23 45.9
HABR *e*S **S** **17 28 55.2 -0.9**
HABR *e**SS **sS** **17 29 12.0 -1.1**
HABR *e* 17 31 41.5
HABR *e*SS SS 17 32 27.7 +0.3
HABR *e*SSS SKiKP 17 33 45.9 +9.3
HABR pmax pmax
comp=N,35nm,2.1s
HABR pmax pmax
comp=Z,39nm,1.8s
HABR pmax pmax
comp=E,48nm,1.8s
HABR MLR MLR
comp=Z,67nm,17.0s
LSA Lhasa 50.26 311 P **P** **17 22 04.9 -0.2**
LSA Lhasa 50.26 311 *e*P **P** **17 22 04.6 -0.5**
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 50.26 311 *e*P **P** **17 22 04.6 -0.5**
comp=Z,5.0nm,0.8s
GTA Gaotai 50.30 326 *e*P **P** **17 22 05.4 +0.6**
GTA pP **pP** **17 22 15.5 +0.3**
GTA sP **sP** **17 22 19.6 +0.3**
GTA S **S** **17 29 15.0 -0.4**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,64nm,4.5s
GTA LR LR
comp=N,130nm,15.2s
GTA LR LR
comp=E,78nm,14.5s
GTA LR LR
comp=Z,72nm,14.5s
TAPN Taplejung 51.90 306 *e*P **P** **17 22 15.9 -1.4**
comp=Z,13nm,1.0s
TAPN Taplejung 51.90 306 *e*P **P** **17 22 15.9 -1.4**
ODAN Odare 51.95 305 *e*P **P** **17 22 16.6 -1.0**
comp=Z,17nm,0.7s
ODAN Odare 51.95 305 *e*P **P** **17 22 16.6 -1.0**
RAMN Ramite 52.63 305 *e*P **P** **17 22 21.8 -0.9**
comp=Z,14nm,0.6s
RAMN Ramite 52.63 305 *e*P **P** **17 22 21.8 -0.9**
JIRN Jiri 53.26 306 *e*P **P** **17 22 26.4 -1.0**
comp=Z,7.1nm,0.6s
JIRN Jiri 53.26 306 *e*P **P** **17 22 26.4 -1.0**
ULN Ulaanbaatar 53.46 338 *e*P **P** **17 22 28.8 +0.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 53.46 338 *e*P **P** **17 22 28.8 +0.5**
comp=Z,4.1nm,0.9s
ULN Ulaanbaatar 53.46 338 P **P** **17 22 30.1 +1.8**
comp=Z,6.6nm,1.7s
GUN Gumba 53.61 306 *e*P **P** **17 22 29.0 -1.0**
comp=Z,12nm,0.7s
GUN Gumba 53.61 306 *e*P **P** **17 22 29.0 -1.0**
SONM Songino Array 53.68 338 P **P** **17 22 30.2 +0.3**
comp=Z,0.7nm,0.7s,baz=148,slow=6.6,SNR=8.1
SONM PcP **PcP** **17 23 35.7 -0.1**
comp=Z,1.2nm,0.6s,baz=157,slow=3.0,SNR=5.7
SONM LR LR 17 44 42.8
comp=Z,73nm,18.8s,baz=234,slow=35
SONM Songino Array 53.68 338 P **P** **17 22 30.2 +0.3**
SONM 17 23 35.7
SONM Songino Array 53.68 338 P **P** **17 22 30.2 +0.3**
SONM PcP **PcP** **17 23 35.7 -0.1**
PKI Pulchoki 53.85 305 *e*P **P** **17 22 30.4 -1.3**
PKI Pulchoki 53.85 305 *e*P **P** **17 22 30.4 -1.3**
PKI Pulchoki 53.85 305 *e*P **P** **17 22 30.4 -1.3**
KKN Kakani 54.05 306 *e*P **P** **17 22 31.8 -1.2**
KKN Kakani 54.05 306 *e*P **P** **17 22 31.8 -1.2**
KKN Kakani 54.05 306 *e*P **P** **17 22 31.8 -1.2**
DMN Daman 54.12 305 *e*P **P** **17 22 32.5 -1.1**
comp=Z,4.7nm,0.5s
DMN Daman 54.12 305 *e*P **P** **17 22 32.5 -1.1**
RPZ Rata Peaks 54.46 147 P **P** **17 22 36.1 +0.6**
comp=Z,22nm,1.1s,baz=7,9,slow=14,SNR=4.7
RPZ Rata Peaks 54.46 147 P **P** **17 22 36.1 +0.6**
GKN Gorkha 54.65 306 *e*P **P** **17 22 36.2 -1.2**
comp=Z,4.4nm,0.5s
GKN Gorkha 54.65 306 *e*P **P** **17 22 36.2 -1.2**
URZ Urewera 54.89 138 P **P** **17 22 39.7 +1.1**
comp=Z,7.3nm,0.7s,baz=325,slow=3.3,SNR=7.3
URZ Urewera 54.89 138 P **P** **17 22 39.7 +1.1**
KOLN Koldanda 55.41 305 *e*P **P** **17 22 42.2 -0.7**
comp=Z,15nm,0.6s
KOLN Koldanda 55.41 305 *e*P **P** **17 22 42.2 -0.7**
DANN Dangsing 55.50 306 *e*P **P** **17 22 42.8 -0.8**
DANN Dangsing 55.50 306 *e*P **P** **17 22 42.8 -0.8**
ZAK Zakamensk 56.95 338 *e*P **P** **17 22 53.0 -0.3**
ZAK *e* 17 23 47.5
ZAK pmax pmax
comp=Z,8.0nm,1.6s
PETK Petropavlovsk- 57.33 17 P **P** **17 22 56.3 +0.5**
comp=Z,6.4nm,1.0s,baz=209,slow=2.7,SNR=3.7
PETK Petropavlovsk- 57.33 17 P **P** **17 22 56.3 +0.5**
PETK Petropavlovsk- 57.33 17 P **P** **17 22 56.3 +0.5**
WMQ Urumqi 60.11 323 P **P** **17 23 15.9 +0.5**
WMQ pP **pP** **17 23 25.9 -0.1**
WMQ sP **sP** **17 23 29.9 -0.2**
WMQ PcP **PcP** **17 24 01.9 +0.9**
WMQ pmax pmax
comp=Z,21nm,0.7s
BOD Bodaibo 60.31 348 *e*P **P** **17 23 16.4 0.0**
BOD pmax pmax
comp=Z,7.0nm,1.8s
YAK Yakutsk 62.59 358 *e*P **P** **17 23 31.7 0.0**
YAK pmax pmax
comp=Z,13nm,0.6s
YAK Yakutsk 62.59 358 *e*P **P** **17 23 31.7 0.0**
comp=Z,13nm,0.6s
MK31 Makanchi Array 64.92 324 *e*P **P** **17 23 47.2 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 64.92 324 *e*P **P** **17 23 47.7 +0.2**
MKAR Makanchi Array 64.92 324 P **P** **17 23 47.7 +0.2**
comp=Z,8.8nm,0.7s,baz=114,slow=7.9,SNR=108
MKAR Makanchi Array 64.92 324 P **P** **17 23 47.7 +0.2**
MKAR Makanchi Array 64.92 324 P **P** **17 23 47.7 +0.2**

KSH Kashi 65.78 314 *e*P **P** **17 23 54.7 +1.4**
KSH *e*pP **pP** **17 24 04.6 +0.6**
KSH *e*sP **sP** **17 24 08.6 +0.5**
KSH *e*PcP **PcP** **17 24 24.5 +0.2**
KSH *e*PP **PP** **17 26 20.6 +2.1**
KSH *e*ScP 17 28 24.5
KSH *e*PcS 17 28 27.8
KSH *e*S **S** **17 32 34.9 -2.9**
KSH *e*ScS **SKSac** **17 33 43.7 -3.1**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,79nm,6.3s
KSH LR LR
comp=N,89nm,6.1s
KSH LR LR
comp=E,100nm,5.8s
KSH LR LR
comp=Z,110nm,4.5s
TKM2 Tokmak 2 67.38 318 *e*P **P** **17 24 03.7 +0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 67.38 318 *e*P **P** **17 24 03.7 +0.1**
comp=Z,3.4nm,0.6s
ZAA0 Zalesovo Array 67.51 331 *e*P **P** **17 24 03.1 -0.8**
ZALV Zalesovo Beam 67.51 331 P **P** **17 24 03.4 -0.5**
comp=Z,4.2nm,0.9s,baz=118,slow=6.1,SNR=18
ZALV Zalesovo Beam 67.51 331 P **P** **17 24 03.4 -0.5**
ZALV Zalesovo Beam 67.51 331 P **P** **17 24 03.4 -0.5**
AAK Ala-Archa 68.02 317‖ *e*P **P** **17 24 07.4 -0.2**
AAK pmax pmax
comp=Z,10.0nm,1.3s
EKS2 Erkin-Say 68.52 317 *e*P **P** **17 24 11.0 +0.4**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 68.52 317 *e*P **P** **17 24 11.0 +0.4**
comp=Z,4.2nm,0.7s
NVS Novosibirsk 68.79 332 *e*P **P** **17 24 10.0 -1.9**
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
KURK Kurchatov 68.99 326 P **P** **17 24 13.1 -0.1**
comp=E,11nm,0.8s,baz=122,slow=5.7,SNR=115
KURK Kurchatov 68.99 326 *d* iP **P** **17 24 13.1 -0.1**
KURK pmax pmax
comp=Z,24nm,1.2s
KURK Kurchatov 68.99 326 *e*P **P** **17 24 12.9 -0.3**
comp=Z,11nm,0.8s
KK31 Karatay Array 70.91 316 *i* P **P** **17 24 24.7 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 70.91 316 *e*P **P** **17 24 24.7 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 70.91 316 *e*P **P** **17 24 24.7 -0.6**
comp=Z,5.9nm,0.6s
VOSK Vostochnaya 74.14 326 P **P** **17 24 42.8 -1.4**
VOSK pmax pmax
comp=Z,4.0nm,0.4s
BVA0 Borovoye Array 74.58 326 *i* P **P** **17 24 45.9 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 74.66 326 *d* iP **P** **17 24 46.8 -0.4**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 74.66 326 *e*P **P** **17 24 47.0 -0.2**
comp=Z,6.6nm,0.6s
VNDA Vanda 78.33 174 *e*P **P** **17 25 07.7 +0.1**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 78.33 174 *e*P **P** **17 25 07.7 +0.1**
comp=Z,3.8nm,0.8s
AB31 Akbulak array 79.69 320 *e*P **P** **17 25 14.5 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 79.69 320 *e*P **P** **17 25 14.4 -1.2**
comp=Z,2.3nm,0.6s
AKTO Aktyubinsk 81.17 321 P **P** **17 25 22.7 -0.8**
comp=Z,0.6nm,0.4s,baz=90,slow=7.5,SNR=4.5
AKTO Aktyubinsk 81.17 321 P **P** **17 25 22.5 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,2.1s
AKTO Aktyubinsk 81.17 321 P **P** **17 25 22.7 -0.8**
MAW Mawson 82.01 201 P **P** **17 25 27.6 +0.1**
comp=Z,4.0nm,0.7s,baz=360,slow=0.0
MAW Mawson 82.01 201 P **P** **17 25 27.6 +0.1**
MAW Mawson 82.01 201 P **P** **17 25 27.6 +0.1**
ARU Arti 82.15 327 *d* iP **P** **17 25 27.7 -0.8**
ARU 17 28 32.9
ARU S **S** **17 35 41.8 +0.8**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 86.25 25 P **P** **17 25 48.3 -0.9**
comp=Z,1.9nm,0.6s,baz=249,slow=5.1,SNR=42
ILAR Eielson Array 86.25 25 P **P** **17 25 48.3 -0.9**
ILAR Eielson Array 86.25 25 P **P** **17 25 48.3 -0.9**
QSPA South Pole Qui 89.27 180 *e*P **P** **17 26 03.5 -0.3**
comp=Z,7.7nm,0.9s
ARCES ARCESS Array B 96.79 340 P **P** **17 26 36.6 -1.7**
comp=Z,4.7nm,0.8s,baz=65,slow=5.8,SNR=8.0
ARCES ARCESS Array B 96.79 340 P **P** **17 26 36.6 -1.7**
ARCES ARCESS Array B 96.79 340 P **P** **17 26 36.6 -1.7**
TORD Torodi Ar. Bea 130.50 287 PKP **PKPdf** **17 32 18.2 -1.3**
comp=Z,0.6nm,0.6s,baz=42,slow=2.5,SNR=3.9
TORD Torodi Ar. Bea 130.50 287 PKP **PKPdf** **17 32 18.2 -1.3**
CPUP Villa Florida 151.27 160 PKPbc **PKPbc** **17 33 02.3 +0.2**
comp=Z,3.4nm,0.6s,baz=183,slow=2.1,SNR=11
CPUP Villa Florida 151.27 160 PKIKP **PKPbc** **17 33 02.3 +0.2**
CPUP Villa Florida 151.27 160 PKPbc **PKPbc** **17 33 02.3 +0.2**
LPAZ La Paz 152.96 129 PKPbc **PKPbc** **17 33 08.9 +2.0**
comp=Z,2.2nm,0.8s,baz=243,slow=1.2,SNR=7.5
LPAZ La Paz 152.96 129 PKIKP **PKPbc** **17 33 08.9 +2.0**
LPAZ La Paz 152.96 129 PKPbc **PKPbc** **17 33 08.9 +2.0**

*DJA **04** 17:14:18, 0.26N×100.32E, h164km, MLv3.2/5*
IDC 04 17:13:53.2±11.0, **0.41S×100.49E, h0**km, **mb3.6**/4, **mb1 3.6**/5, **mb1mx3.4**/22, **mbtmp3.5**/5, **ML3.7**/1, **Error ellipse: s-maj=290.6km s-min=68.5km az=122.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.81**	**355**	P	P	17 18 14.5	0.0
	0.1nm,0.3s,baz=181,slow=15.3,SNR=4.2						
MKAR	**Makanchi Array**	**49.64**	**344**	P	P	17 22 46.6	0.0
	0.4nm,0.6s,baz=155,slow=8.9,SNR=11						
KURK	**Kurchatov**	**54.23**	**343**	P	P	17 23 20.1	-0.6
	0.2nm,0.3s,baz=155,slow=6.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**55.71**	**349**	P	P	17 23 31.3	-0.1
	0.5nm,0.3s,baz=163,slow=7.7,SNR=6.0						
BRTR	**Keskin Array B**	**72.62**	**312**	P	P	17 25 23.1	0.0
	0.5nm,0.7s,baz=99,slow=7.4,SNR=3.1						

*ATH **04** 17:21:35.3, 38.24N×20.19E, h14km±1km, MD3.6/16*
*ISCJB **04** 17:21:35.6±0.8, 38.29N±0.03×20.23E±0.04, h6km±4km, Error ellipse: s-maj=7.0km s-min=3.4km az=139.8*
*CSEM **04** 17:21:37.1±0.2, 38.34N×20.33E, h5km, ML3.1/7, Error ellipse: s-maj=5.5km s-min=2.6km az=50.0*
*THE **04** 17:21:38.1, 38.36N×20.39E, h9km, ML3.1/7, Error ellipse: s-maj=0.8km s-min=0.3km az=241.0*
ISC 04 17:21:37.8±1.1, **38.36N**±0.03×**20.37E**±0.04, **h8**km±8km, **n75**, σ**1903**/109, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.26**	**137**	P	**Pg**	**17 21 42.8**	**-0.1**
VLS				S	**Sg**	**17 21 46.9**	**+0.6**
VLS	**Valsamata**	**0.26**	**137**	*e*PB	**Pg**	**17 21 43.1**	**+0.2**
VLS				*e*SB	**Sg**	**17 21 46.8**	**+0.5**
VLS	**Valsamata**	**0.26**	**137**	P	**Pg**	**17 21 42.8**	**-0.1**
VLS	**Valsamata**	**0.26**	**137**	*e*Pb	**Pg**	**17 21 43.1**	**+0.2**
VLS				S	**Sg**	**17 21 46.9**	**+0.6**
KFL	**Anninata**	**0.42**	**127**	P	**Pg**	**17 21 45.7**	**-0.2**
KFL				S	**Sg**	**17 21 51.7**	**+0.3**
KFL	**Anninata**	**0.42**	**127**	P	**Pg**	**17 21 45.7**	**-0.2**
KFL				S	**Sg**	**17 21 51.7**	**+0.3**
LKD2	**Lefkada island**	**0.48**	**28**	P	**Pg**	**17 21 46.8**	**-0.3**
LKD2				S	**Sg**	**17 21 54.1**	**+0.6**
LKD2	**Lefkada island**	**0.48**	**28**	P	**Pg**	**17 21 46.8**	**-0.3**
LKD2				S	**Sg**	**17 21 54.1**	**+0.6**
RLS	**Riolos of Patr**	**0.92**	**109**	P	**Pg**	**17 21 54.6**	**-0.8**
RLS				S	**Sb**	**17 22 08.4**	**+0.1**
RLS	**Riolos of Patr**	**0.92**	**109**	*e*PG	**Pg**	**17 21 54.6**	**-0.8**
RLS				*e*SB	**Sb**	**17 22 09.1**	**+0.8**
RLS	**Riolos of Patr**	**0.92**	**109**	P	**Pg**	**17 21 54.6**	**-0.8**
RLS				S	**Sb**	**17 22 08.4**	**+0.1**
RLS				*e*Sb	**Sb**	**17 22 09.1**	**+0.8**
RGA	**Parga**	**0.96**	**359**	P	**Pb**	**17 21 56.5**	**-0.1**
RGA				S	**Sb**	**17 22 10.4**	**+0.9**
RGA	**Parga**	**0.96**	**359**	P	**Pb**	**17 21 56.5**	**-0.1**
RGA				S	**Sb**	**17 22 10.4**	**+0.9**
IGT	**Igoumenitsa**	**1.17**	**359**	P	**Pg**	**17 21 59.6**	**-0.6**
IGT				S	**Sn**	**17 22 16.9**	**+0.3**
IGT	**Igoumenitsa**	**1.17**	**359**	P	**Pg**	**17 21 59.6**	**-0.6**
IGT				S	**Sn**	**17 22 16.9**	**+0.3**
EFP	**Efpalio**	**1.21**	**87**	P	**Pg**	**17 21 59.9**	**-1.1**
EFP				S	**Sb**	**17 22 17.4**	**+0.6**
EFP	**Efpalio**	**1.21**	**87**	*e*PB	**Pn**	**17 22 00.9**	**-0.1**
EFP				*e*SB	**Sn**	**17 22 20.2**	**+2.6**
EFP	**Efpalio**	**1.21**	**87**	P	**Pg**	**17 21 59.9**	**-1.1**
EFP	**Efpalio**	**1.21**	**87**	*e*Pb	**Pn**	**17 22 00.9**	**-0.1**
EFP				S	**Sb**	**17 22 17.4**	**+0.6**
EFP				*e*Sb	**Sn**	**17 22 20.2**	**+2.6**
EVR	**Evrytania**	**1.26**	**64**	P	**Pn**	**17 22 00.9**	**-0.9**
EVR	**Evrytania**	**1.26**	**64**	*e*PG	**Pg**	**17 22 02.0**	**+0.1**
EVR				*e*SB	**Sn**	**17 22 22.3**	**+3.4**
EVR	**Evrytania**	**1.26**	**64**	P	**Pn**	**17 22 00.9**	**-0.9**
EVR	**Evrytania**	**1.26**	**64**	*e*Pg	**Pg**	**17 22 02.0**	**+0.1**
EVR				*e*Sb	**Sn**	**17 22 22.3**	**+3.4**
LAKA	**Lakka**	**1.27**	**95**	P	**Pn**	**17 22 00.7**	**-1.2**
LAKA				S	**Sb**	**17 22 18.7**	**+0.1**
LAKA	**Lakka**	**1.27**	**95**	P	**Pn**	**17 22 00.7**	**-1.2**
LAKA				S	**Sb**	**17 22 18.7**	**+0.1**
TRIZ	**Trizonia**	**1.34**	**89**	P	**Pn**	**17 22 01.7**	**-1.1**
TRIZ				S	**Sb**	**17 22 20.5**	**0.0**
TRIZ	**Trizonia**	**1.34**	**89**	P	**Pn**	**17 22 01.7**	**-1.1**
TRIZ				S	**Sb**	**17 22 20.5**	**0.0**
JAN	**Janina**	**1.34**	**16**	*e*PB	**Pg**	**17 22 03.5**	**-0.1**
JAN	**Janina**	**1.34**	**16**	*e*Pb	**Pg**	**17 22 03.5**	**-0.1**
KALE	**Kalithea**	**1.40**	**88**	P	**Pn**	**17 22 02.8**	**-0.8**
KALE				S	**Sb**	**17 22 21.7**	**-0.4**
KALE	**Kalithea**	**1.40**	**88**	P	**Pn**	**17 22 02.8**	**-0.8**
KALE				S	**Sb**	**17 22 21.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.53**	**64**	P	**Pn**	**17 22 04.4**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.53**	**64**	P	**Pn**	**17 22 04.4**	**-1.0**
SRN	**Sarande**	**1.54**	**349**	P	**Pn**	**17 22 05.1**	**-0.4**
SRN				S	**Sn**	**17 22 26.0**	**+0.3**
SRN	**Sarande**	**1.54**	**349**	P	**Pn**	**17 22 05.1**	**-0.4**
SRN				S	**Sn**	**17 22 26.0**	**+0.3**
GUR	**Goura**	**1.62**	**105**	P	**Pn**	**17 22 06.1**	**-0.6**
GUR	**Goura**	**1.62**	**105**	*e*PN	**Pn**	**17 22 06.1**	**-0.6**
GUR	**Goura**	**1.62**	**105**	P	**Pn**	**17 22 06.1**	**-0.6**
AGG	**Agios Georgios**	**1.67**	**66**	P	**Pn**	**17 22 06.7**	**-0.7**
AGG				S	**Sn**	**17 22 29.1**	**+0.1**
AGG	**Agios Georgios**	**1.67**	**66**	*e*PN	**Pb**	**17 22 09.0**	**+0.2**
AGG	**Agios Georgios**	**1.67**	**66**	P	**Pn**	**17 22 06.7**	**-0.7**
AGG	**Agios Georgios**	**1.67**	**66**	*e*Pn	**Pb**	**17 22 09.0**	**+0.2**
AGG				S	**Sn**	**17 22 29.1**	**+0.1**
ITM	**Ithomi**	**1.71**	**133**	P	**Pn**	**17 22 07.1**	**-0.8**
ITM				S	**Sn**	**17 22 29.6**	**-0.4**
ITM	**Ithomi**	**1.71**	**133**	*e*PG	**Pb**	**17 22 08.9**	**-0.6**
ITM	**Ithomi**	**1.71**	**133**	P	**Pn**	**17 22 07.1**	**-0.8**
ITM	**Ithomi**	**1.71**	**133**	*e*Pg	**Pb**	**17 22 08.9**	**-0.6**
ITM				S	**Sn**	**17 22 29.6**	**-0.4**
THL	**Klokotos Trika**	**1.76**	**46**	*e*PN	**Pb**	**17 22 09.8**	**-0.5**
THL	**Klokotos Trika**	**1.76**	**46**	*e*Pn	**Pb**	**17 22 09.8**	**-0.5**
VLX	**Vlachokerasia**	**1.88**	**121**	*e*PN	**Pn**	**17 22 10.4**	**+0.1**
VLX	**Vlachokerasia**	**1.88**	**121**	*e*Pn	**Pn**	**17 22 10.4**	**+0.1**
LTK	**Loutraki**	**2.08**	**99**	*e*PN	**Pb**	**17 22 14.2**	**-1.5**
LTK	**Loutraki**	**2.08**	**99**	*e*Pn	**Pb**	**17 22 14.2**	**-1.5**
LKR	**Lokris**	**2.09**	**81**	*e*PN	**Pb**	**17 22 14.4**	**-1.5**
LKR	**Lokris**	**2.09**	**81**	*e*Pn	**Pb**	**17 22 14.4**	**-1.5**
KZN	**Kozani**	**2.23**	**29**	*e*PN	**Pb**	**17 22 16.7**	**-1.6**
KZN	**Kozani**	**2.23**	**29**	*e*Pn	**Pb**	**17 22 16.7**	**-1.6**
VIL1	**Vilia, Western**	**2.34**	**94**	*e*PB	**Pn**	**17 22 17.2**	**+0.6**
VIL1	**Vilia, Western**	**2.34**	**94**	*e*Pb	**Pn**	**17 22 17.2**	**+0.6**
DID	**Didima**	**2.43**	**110**	*e*PN	**Pn**	**17 22 18.9**	**+1.1**
DID	**Didima**	**2.43**	**110**	*e*Pn	**Pn**	**17 22 18.9**	**+1.1**
NAIG	**Nisos Aigina**	**2.54**	**103**	*e*PN	**Pn**	**17 22 19.4**	**+0.1**
NAIG	**Nisos Aigina**	**2.54**	**103**	*e*Pn	**Pn**	**17 22 19.4**	**+0.1**
BIA	**Bitola**	**2.75**	**15**	*e*Pn	**Pb**	**17 22 27.6**	**+0.3**
BIA				*e*Sn	**Sn**	**17 22 55.6**	**-0.2**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**17 22 28.0**	**+1.2**
KRUS	**Krusevo**	**3.08**	**12**	*e*Pn	**Pn**	**17 22 27.9**	**+1.2**
NVLJ	**Novalja**	**7.44**	**328**	*e*Pn	**Pn**	**17 23 26.1**	**-0.5**
NVLJ				Sn	**Sn**	**17 24 46.2**	**-4.9**
NVLJ	**Novalja**	**7.44**	**328**	*e*Pn	Pb	17 23 38.8	-8.3
NVLJ				Sg	Sn	17 24 05.2	-46
NVLJ	**Novalja**	**7.44**	**328**	*e*Pn	**Pn**	**17 23 26.1**	**-0.5**
BOJS	**Bojanci**	**8.09**	**334**	*i* Pn	**Pn**	**17 23 35.3**	**-0.1**
BOJS				*e*Sn	Sn	17 24 09.7	-57
BOJS							
	comp=Z,7.0nm,0.3s						
BOJS	**Bojanci**	**8.09**	**334**	*i* Pn	**Pn**	**17 23 35.3**	**-0.1**
GBRS	**Gornja Briga**	**8.27**	**332**	*i* Pn	**Pn**	**17 23 38.1**	**+0.1**
SKDS	**Skadanscina**	**8.59**	**329**	*i* Pn	**Pn**	**17 23 41.4**	**-1.0**
SKDS	**Skadanscina**	**8.59**	**329**	*i* Pn	**Pn**	**17 23 41.4**	**-1.0**
PDKS	**Podkum**	**8.66**	**334**	*i* Pn	**Pn**	**17 23 43.5**	**+0.1**
PDKS	**Podkum**	**8.66**	**334**	*i* Pn	**Pn**	**17 23 43.5**	**+0.1**

*ISK **04** 17:22:45.6, 40.34N×25.83E, h4km, MD2.9*
*CSEM **04** 17:22:45.9±0.4, 40.34N×25.80E, h5km, MD2.9, Error ellipse: s-maj=8.0km s-min=4.0km az=92.0*
*ISCJB **04** 17:22:45.9±1.1, 40.35N±0.03×25.80E±0.08, h6km±5km, Error ellipse: s-maj=10.3km s-min=5.0km az=8.6*
*DDA **04** 17:22:47.3, 40.32N×25.95E, h7km, MD3.1*
ISC 04 17:22:46.6±1.5, **40.35N**±0.03×**25.83E**±0.06, **h10**km±10km, **n43**, σ**057**/56, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.46**	**32**	*e*PG	**Pg**	**17 22 55.3**	**-0.3**
ENEZ				*e*SG	**Sg**	**17 23 02.5**	**+0.8**
ENEZ	**Enez**	**0.46**	**32**	*e*Pg	**Pg**	**17 22 55.3**	**-0.3**
ENEZ				*e*Sg	**Sg**	**17 23 02.5**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.49**	**84**	*e*PG	**Pg**	**17 22 56.1**	**-0.1**
GELI				*e*SG	**Sg**	**17 23 03.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.49**	**84**	*e*Pg	**Pg**	**17 22 56.1**	**-0.1**
GELI				*e*Sg	**Sg**	**17 23 03.4**	**+0.6**
BOZC	**Bozcaada**	**0.53**	**161**	*i* P	**Pg**	**17 22 57.0**	**0.0**
BOZC				*i* S	**Sg**	**17 23 04.0**	**0.0**
ERIK	**Erikli-Kesan**	**0.61**	**58**	*e*PG	**Pg**	**17 22 58.0**	**-0.5**
ERIK				*e*SG	**Sg**	**17 23 07.1**	**+0.6**
ERIK	**Erikli-Kesan**	**0.61**	**58**	*e*Pg	**Pg**	**17 22 58.0**	**-0.5**
ERIK				*e*Sg	**Sg**	**17 23 07.1**	**+0.6**
EZN	**Ezine**	**0.64**	**144**	*e*PG	**Pg**	**17 22 58.6**	**-0.5**
EZN	**Ezine**	**0.64**	**144**	*e*Pg	**Pg**	**17 22 58.6**	**-0.5**
LPK	**Lapseki**	**0.71**	**88**	*e*PG	**Pg**	**17 22 59.9**	**-0.4**
LPK	**Lapseki**	**0.71**	**88**	*e*Pg	**Pg**	**17 22 59.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*PN	**Pg**	**17 23 06.4**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.08**	**71**	*e*Pn	**Pg**	**17 23 06.4**	**-1.0**
SART	**Tekirdag**	**1.08**	**71**	*i* P	**Pg**	**17 23 06.4**	**-1.0**
SART				*i* S	**Sg**	**17 23 21.1**	**-0.5**
SART	**Tekirdag**	**1.08**	**71**	*i* P	**Pg**	**17 23 06.4**	**-1.0**
SART				*i* S	**Sg**	**17 23 21.1**	**-0.5**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*PN	**Pg**	**17 23 07.4**	**-0.7**
KRBG	**Karabiga-Canak**	**1.12**	**87**	*e*Pn	**Pg**	**17 23 07.4**	**-0.7**
AYVA	**Ayvalik**	**1.23**	**147**	*i* P	**Pg**	**17 23 09.5**	**-0.7**
AYVA				*i* S	**Sb**	**17 23 25.7**	**-0.1**
AYVA	**Ayvalik**	**1.23**	**147**	*i* P	**Pg**	**17 23 09.5**	**-0.7**
AYVA				*i* S	**Sb**	**17 23 25.7**	**-0.1**
TKR	**Tekirdag**	**1.45**	**63**	*e*PN	**Pb**	**17 23 13.5**	**-0.1**
TKR	**Tekirdag**	**1.45**	**63**	*e*Pn	**Pb**	**17 23 13.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*PN	**Pb**	**17 23 13.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.45**	**101**	*e*Pn	**Pb**	**17 23 13.3**	**-0.4**
BALY	**Balya**	**1.50**	**113**	*i* P	**Pb**	**17 23 14.3**	**-0.2**
BALY				*i* S	**Sn**	**17 23 33.3**	**+0.1**
BALY	**Balya**	**1.50**	**113**	*i* P	**Pb**	**17 23 14.3**	**-0.2**
BALY				*i* S	**Sn**	**17 23 33.3**	**+0.1**
EDC

BALB	**Balikesir**	**1.73**	**114**	*e*PN		**Pn**	**17 23 17.2**	**+0.6**
BALB	**Balikesir**	**1.73**	**114**	*e*Pn		**Pn**	**17 23 17.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.93**	**92**	*e*PN		**Pn**	**17 23 20.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.93**	**92**	*e*Pn		**Pn**	**17 23 20.0**	**+0.5**
SLVT	**Silivri**	**2.01**	**63**	*e*PN		**Pn**	**17 23 21.2**	**+0.7**
SLVT	**Silivri**	**2.01**	**63**	*e*Pn		**Pn**	**17 23 21.2**	**+0.7**
CTKS	**Kestanelik-??a**	**2.22**	**66**	*e*PN		**Pn**	**17 23 24.0**	**+0.7**
CTKS	**Kestanelik-??a**	**2.22**	**66**	*e*Pn		**Pn**	**17 23 24.0**	**+0.7**
ARMT	**Armutlu**	**2.32**	**84**	*e*PN		**Pn**	**17 23 25.8**	**+0.9**
ARMT	**Armutlu**	**2.32**	**84**	*e*Pn		**Pn**	**17 23 25.8**	**+0.9**

*BJI **04** 17:27:09.0,38˚.49N×123˚.68W, h6km, mb4.8/3, Ms4.6/1, Ms7 4.6/2*

*NEIC **04** 17:27:10.0,38˚.78N×122˚.77W, h4km, MW4.2(BRK), After NCEDC.*

NEIC Felt [V] at Middletown, [IV] at Cobb, [III] at Pope Valley and [II] at Angwin, Calistoga, Clearlake, Cloverdale, Geyserville, Healdsburg, Hidden Valley Lake, Kelseyville, Kenwood, Lower Lake, Napa, Petaluma, Saint Helena, San Francisco, Santa Rosa, Sonoma and Windsor. Also felt at Antioch, Clearlake Oaks, Deer Park, Emeryville, Fairfield, Glen Ellen, Greenbrae, Guerneville, Lakeport, Novato, Oakley, Oakville, Rohnert Park, Rutherford, Sacramento, San Rafael, Sausalito, South Lake Tahoe, Suisun City, Vacaville and Yountville.

*ISCJB **04** 17:27:10.1±0.4,38˚.70N±0˚.04×122˚.83W±0˚.06, h10km, mb4.0/7, MS4.0/8, Error ellipse: s-maj=7.8km s-min=3.8km az=144.5*

*IDC **04** 17:27:12.6±2.1,38˚.89N×122˚.80W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/25, mbtmp3.9/8, ML3.3/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/38, Error ellipse: s-maj=50.7km s-min=11.3km az=21.0*

ISC 04 17:27:11.5±0.5, 38˚.69N±0˚.04×122˚.90W±0˚.05, h10km, n60, σ1§62/58, mb3.9/7, MS4.1/8, 2C-6D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.33**	**337**	*e*Pg	**Pg**	**17 27 17.2**	**-1.0**
MCCM	**Marconi Confer**	**0.54**	**178**	*e*Pg	**Pb**	**17 27 22.8**	**-0.3**
KCPM	**Cahto Peak**	**1.13**	**332**	*e*Pg	**Pb**	**17 27 31.4**	**-1.8**
SAC	**San Andreas**	**1.17**	**161**	*e*Pg	**Pb**	**17 27 31.8**	**-1.9**
KIPM	**Iron Peak**	**1.21**	**338**	*e*P	**Pb**	**17 27 32.1**	**-2.5**
WDC	**Whiskeytown Da**	**1.91**	**8**	*e*Pn	**Pn**	**17 27 40.9**	**-3.2**
CMB	**Columbia Colle**	**2.08**	**107**	*e*Pn	**Pn**	**17 27 44.1**	**-2.4**
SAO	**San Andreas Ge**	**2.24**	**149**	*e*Pn	**Pn**	**17 27 46.4**	**-2.3**
KHMM	**Horse Mountain**	**2.28**	**344**	*e*Pn	**Pn**	**17 27 48.4**	**-0.9**
WCN	**Washoe City**	**2.53**	**75**	*e*Pn	**Pn**	**17 27 50.8**	**-2.0**
WCN	**Washoe City**	**2.53**	**75**	⇓P	**Pn**	**17 27 50.9**	**-1.9**
	baz=2.4						
KRMB	**Red Mountain**	**2.94**	**345**	*e*Pn	**Pn**	**17 27 57.6**	**-0.7**
YBH	**Yreka Blue Hor**	**3.04**	**3**	*e*Pn	**Pn**	**17 27 59.1**	**-0.7**
MLAC	**Mammoth Lakes**	**3.37**	**107**	⇓P	**Pn**	**17 28 04.7**	**+0.2**
	baz=3.3						
NVAR	**Mina Array Bea**	**3.61**	**93**	Pn	**Pn**	**17 28 06.0**	**-1.7**
	3.6nm,0.3s,baz=274,slow=15,SNR=75						
NVAR				Pg	**Pb**	**17 28 14.4**	**-1.2**
	18nm,0.3s,baz=261,slow=18,SNR=54						
NVAR				Lg	Lg	17 29 03.6	
	11nm,0.3s,baz=219,slow=11,SNR=5.1						
NVAR				LR	LR	17 29 52.1	
	comp=Z,1μm,18.6s,baz=84,slow=44						
NVAR	**Mina Array Bea**	**3.61**	**93**	Pn	**Pn**	**17 28 06.0**	**-1.7**
NVAR				Pg	**Pb**	**17 28 14.4**	**-1.2**
NVAR				Lg	Lg	17 29 03.6	
KBO	**Bosley Butte**	**3.66**	**344**	*e*Pn	**Pn**	**17 28 07.8**	**-0.5**
MOD	**Modoc**	**3.78**	**31**	*e*Pn	**Pn**	**17 28 08.2**	**-1.7**
HUMO	**Hull Mountain**	**3.92**	**359**	*e*Pn	**Pn**	**17 28 12.9**	**+1.2**
TIN	**Tinemaha**	**4.04**	**112**	⇓Pb	Pb	17 28 19.4	-3.4
	baz=4.0						
VES	**Vestal, Richgr**	**4.16**	**132**	⇓P	**Pn**	**17 28 13.6**	**-1.5**
	baz=4.2						
KEBM	**Edson Butte**	**4.32**	**346**	*e*Pn	**Pn**	**17 28 16.9**	**-0.4**
ISA	**Isabella**	**4.65**	**129**	*e*Pn	**Pn**	**17 28 20.9**	**-0.9**
ISA	**Isabella**	**4.65**	**129**	⇑P	**Pn**	**17 28 21.1**	**-0.7**
	baz=4.6						
GRAC	**Grapevine Rang**	**4.69**	**109**	⇓Pb	**Pb**	**17 28 32.9**	**-1.0**
	baz=4.6						
BMN	**Battle Mountai**	**4.72**	**67**	Pn	**Pn**	**17 28 24.6**	**+1.7**
ARVC	**Arvin**	**4.83**	**136**	⇑P	**Pn**	**17 28 23.3**	**-0.9**
	baz=4.8						
WVOR	**Wild Horse Val**	**4.96**	**40**	Pn	Pn	17 28 22.6	-3.5
EDW2	**Edwards Air Fo**	**5.47**	**132**	⇓P	**Pn**	**17 28 32.4**	**-0.8**
	baz=5.5						
PASC	**Pasadena Art C**	**5.90**	**138**	*e*Pn	**Pn**	**17 28 39.0**	**+0.1**
	21nm,0.7s						
GSC	**Goldstone**	**5.93**	**123**	*e*Pn	**Pn**	**17 28 39.4**	**-0.1**
	30nm,1.0s						
ELK	**Elko**	**6.25**	**68**	*e*Pn	**Pn**	**17 28 43.7**	**-0.3**
CCUT	**Cedar City**	**7.61**	**96**	*e*Pn	Pn	17 29 05.4	+2.8
	55nm,1.8s						
DUG	**Dugway**	**7.95**	**76**	*e*P	**Pn**	**17 29 07.0**	**-0.3**
	9.3nm,0.9s						
MSU	**Marysvale**	**8.40**	**88**	*e*P	**Pn**	**17 29 13.5**	**0.0**
	11nm,1.1s						
ANMO	**Albuquerque**	**13.69**	**101**	Pn	**Pn**	**17 30 25.7**	**-0.2**
	0.1nm,0.3s,baz=270,slow=2.0,SNR=2.6						
ANMO				LR	LR	17 36 08.5	
	comp=Z,316nm,19.6s,baz=293,slow=39						
ANMO	**Albuquerque**	**13.69**	**101**	Pn	**Pn**	**17 30 25.7**	**-0.2**
TXAR	**Lajitas Array**	**18.45**	**115**	P	**P**	**17 31 29.1**	**+1.8**
	0.0nm,0.3s,baz=304,slow=8.7,SNR=22						
TXAR				LR	LR	17 39 49.5	
	comp=Z,203nm,20.7s,baz=245,slow=41						
TXAR	**Lajitas Array**	**18.45**	**115**	P	**P**	**17 31 29.1**	**+1.8**
ULM	**Lac du Bonnet**	**22.36**	**50**	P	**P**	**17 32 09.0**	**-0.5**
	4.2nm,0.9s,baz=233,slow=10,SNR=4.0						
ULM				LR	LR	17 41 01.9	
	comp=Z,254nm,19.9s,baz=309,slow=37						
ULM	**Lac du Bonnet**	**22.36**	**50**	P	**P**	**17 32 09.0**	**-0.5**
ILAR	**Eielson Array**	**29.67**	**339**	P	**P**	**17 33 19.4**	**+2.4**
	1.6nm,1.0s,baz=162,slow=7.7,SNR=8.2						
ILAR	**Eielson Array**	**29.67**	**339**	P	**P**	**17 33 19.4**	**+2.4**
RES	**Resolute Bay**	**38.39**	**12**	P	**P**	**17 34 32.3**	**-0.2**
	1.7nm,0.9s,baz=181,slow=10,SNR=5.2						
RES	**Resolute Bay**	**38.39**	**12**	P	**P**	**17 34 32.3**	**-0.2**
SCHQ	**Schefferville**	**40.49**	**48**	LR	LR	17 53 25.9	
	comp=Z,205nm,19.6s,baz=38,slow=39						
SPITS	**Spitsbergen Ar**	**60.87**	**9**	LR	LR	18 05 11.9	
	comp=Z,133nm,18.5s,baz=190,slow=38						
JMIC	**Jan Mayen**	**61.17**	**20**	LR	LR	18 02 29.3	
	comp=Z,90nm,19.1s,baz=190,slow=35						
ARCES	**ARCESS Array B**	**69.62**	**11**	LR	LR	18 09 51.6	
	comp=Z,86nm,18.1s,baz=351,slow=37						
FINES	**FINESS Array B**	**77.08**	**15**	P	**P**	**17 39 06.9**	**+2.5**
	1.4nm,0.7s,baz=227,slow=5.5,SNR=2.7						
FINES				LR	LR	18 11 42.8	
	comp=Z,100nm,18.2s,baz=134,slow=35						
FINES	**FINESS Array B**	**77.08**	**15**	P	**P**	**17 39 06.9**	**+2.5**
CN2	**Changchun**	**77.27**	**316**	*e*P	**P**	**17 39 06.1**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**83.33**	**329**	P	**P**	**17 39 40.2**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=45,slow=3.5,SNR=6.4						
SONM	**Songino Array**	**83.33**	**329**	P	**P**	**17 39 40.2**	**+1.6**
ZALV	**Zalesovo Beam**	**84.69**	**344**	P	**P**	**17 39 46.6**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=18,slow=6.2,SNR=7.0						
ZALV	**Zalesovo Beam**	**84.69**	**344**	P	**P**	**17 39 46.6**	**+1.4**
HHC	**Hu-ho-hao-te**	**86.53**	**322**	*e*P	**P**	**17 39 52.6**	**-2.3**
HHC				PP	**PP**	**17 43 15.6**	**-0.1**
HHC				SKS	**SKSac**	**17 50 17.0**	**-4.7**
HHC				S	**SKKSac**	**17 50 27.1**	**-2.6**
HHC				SS	**SS**	**17 56 09.5**	**-1.0**
HHC				LR	LR		
	comp=N,88nm,17.4s						
HHC				LR	LR		
	comp=E,100nm,17.7s						
HHC				LR	LR		
	comp=Z,95nm,16.3s						
BBTS	**Babate**	**93.26**	**68**	LR	LR	18 23 06.2	
	comp=Z,72nm,19.9s,baz=236,slow=36						
WMQ	**Urumqi**	**93.33**	**338**	*e*P	**P**	**17 40 28.0**	**+1.3**
CD2	**Chengdu**	**98.25**	**321**	P	**P**	**17 40 48.4**	**-0.9**

IDC 04 17:32:04.5±6.4, 1˚.02S×132˚.26E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=413.8km s-min=25.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.91**	**174**	P	P	17 36 27.2	+0.2
	0.1nm,0.3s,baz=353,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**22.57**	**176**	P	P	17 37 06.5	-0.1
	0.6nm,0.6s,baz=1.1,slow=12,SNR=9.4						
MKAR	**Makanchi Array**	**64.60**	**324**	P	P	17 42 43.8	-0.1
	0.5nm,0.5s,baz=112,slow=8.1,SNR=12						

*DJA **04** 17:36:14, 1˚.26N×121˚.53E, h10km, MLv4.3/3*

IDC 04 17:36:11.3±1.2, 1˚.16N×122˚.05E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/15, Error ellipse: s-maj=159.9km s-min=20.5km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**6.85**	**31**	LR	LR	17 39 49.8	
	comp=Z,123nm,18.9s,baz=232,slow=32						
WRA	**Warramunga Arr**	**24.18**	**151**	P	P	17 41 29.3	-0.4
	0.6nm,0.4s,baz=337,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**27.23**	**156**	P	P	17 41 57.0	-0.3
	0.5nm,0.5s,baz=345,slow=14,SNR=13						
SONM	**Songino Array**	**48.44**	**346**	P	P	17 44 56.5	+0.9
	0.5nm,1.0s,baz=191,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**57.14**	**328**	P	P	17 45 59.5	-0.4
	0.2nm,0.6s,baz=131,slow=8.1,SNR=6.0						

IDC 04 17:37:35.8±3.1, 0.99S×132.98E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/16, mbtmp3.1/3, ML2.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/11, Error ellipse: s-maj=162.0km s-min=28.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.89**	**176**	P	P	17 41 57.8	-0.1
	0.0nm,0.3s,baz=355,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**22.56**	**178**	P	P	17 42 38.0	+0.1
	0.7nm,0.8s,baz=353,slow=11,SNR=5.5						
JOW	**Kunigami**	**28.03**	**351**	LR	LR	17 53 00.8	
	comp=Z,74nm,18.3s,baz=148,slow=33						
MKAR	**Makanchi Array**	**64.99**	**324**	P	P	17 48 17.6	0.0
	0.3nm,0.7s,baz=110,slow=8.3,SNR=3.6						

*CSEM **04** 17:42:08.5±0.8, 40˚.38N×25˚.68E, h10km, ML1.9, Error ellipse: s-maj=15.5km s-min=12.2km az=85.0*

*ISCJB **04** 17:42:08.5±1.4, 40˚.40N±0˚.04×25˚.69E±0˚.09, h9km±5km, Error ellipse: s-maj=11.8km s-min=6.7km az=11.8*

*ISK **04** 17:42:09.2, 40˚.42N×25˚.77E, h17km, ML1.9*

*DDA **04** 17:42:10.5, 40˚.37N×25˚.88E, h6km, MD3.0*

ISC 04 17:42:09.3±1.8, 40˚.34N±0˚.04×25˚.79E±0˚.07, h7km±14km, n21, σ0§70/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.48**	**35**	*e*PG	**Pg**	**17 42 18.6**	**0.0**
ENEZ				*e*SG	**Sg**	**17 42 25.5**	**+0.6**
ENEZ	**Enez**	**0.48**	**35**	*e*Pg	**Pg**	**17 42 18.6**	**0.0**
ENEZ				*e*Sg	**Sg**	**17 42 25.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.53**	**84**	*e*PG	**Pb**	**17 42 20.6**	**-0.3**
GELI				*e*SG	**Sb**	**17 42 29.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.53**	**84**	*e*Pg	**Pb**	**17 42 20.6**	**-0.3**
GELI				*e*Sg	**Sb**	**17 42 29.2**	**+0.4**
BOZC	**Bozcaada**	**0.54**	**158**	*i* P	**Pb**	**17 42 21.4**	**+0.2**
BOZC				*i* S	**Sb**	**17 42 29.3**	**+0.1**
ERIK	**Erikli-Kesan**	**0.64**	**59**	*e*PG	**Pg**	**17 42 21.5**	**-0.2**
ERIK				*e*SG	**Sg**	**17 42 30.4**	**+0.3**
ERIK	**Erikli-Kesan**	**0.64**	**59**	*e*Pg	**Pg**	**17 42 21.5**	**-0.2**
ERIK				*e*Sg	**Sg**	**17 42 30.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.11**	**72**	*e*PN	**Pg**	**17 42 30.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.11**	**72**	*e*Pn	**Pg**	**17 42 30.1**	**-0.6**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pn**	**17 42 33.3**	**+1.8**
SART				*i* S	**Sg**	**17 42 45.6**	**+0.4**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pn**	**17 42 33.3**	**+1.8**
SART				*i* S	**Sg**	**17 42 45.6**	**+0.4**
KRBG	**Karabiga-Canak**	**1.16**	**87**	*e*PN	**Pg**	**17 42 30.6**	**-0.9**
KRBG	**Karabiga-Canak**	**1.16**	**87**	*e*Pn	**Pg**	**17 42 30.6**	**-0.9**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*PN	**Pn**	**17 42 36.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*Pn	**Pn**	**17 42 36.6**	**+0.2**
BALY	**Balya**	**1.53**	**113**	*i* P	**Pb**	**17 42 37.7**	**-0.4**
BALY				*i* S	**Sg**	**17 42 58.8**	**+0.3**
BALY	**Balya**	**1.53**	**113**	*i* P	**Pb**	**17 42 37.7**	**-0.4**
BALY				*i* S	**Sg**	**17 42 58.8**	**+0.3**
EDRB	**Edirne**	**1.67**	**25**	*e*PN	**Pn**	**17 42 38.6**	**-0.4**
EDRB	**Edirne**	**1.67**	**25**	*e*Pn	**Pn**	**17 42 38.6**	**-0.4**
CRLT	**Corlu**	**1.68**	**61**	*e*PN	**Pn**	**17 42 38.1**	**-1.0**
CRLT	**Corlu**	**1.68**	**61**	*e*Pn	**Pn**	**17 42 38.1**	**-1.0**

*IDC **04** 17:46:32.5±0.5, 58˚.27S×139˚.87W, h0km, mb4.6/8, mb1 4.8/8, mb1mx4.7/11, mbtmp4.6/8, MS4.6/12, Ms1 4.6/12, ms1mx4.6/16, Error ellipse: s-maj=26.8km s-min=15.5km az=179.0*

*ISCJB **04** 17:46:32.6±0.4, 58˚.28S±0˚.10×139˚.9W±0˚.1, h10km, mb4.8/18, MS4.7/16, Error ellipse: s-maj=13.8km s-min=9.8km az=179.9*

*MOS **04** 17:46:33.6±2.0, 58˚.25S×139˚.93W, h10km, mb5.0/6, Error ellipse: s-maj=29.8km s-min=20.8km az=77.4*

*NEIC **04** 17:46:34.1±0.3, 58˚.33S×139˚.86W, h10km, mb5.0/12, Error ellipse: s-maj=15.9km s-min=9.1km az=172.0*

ISC 04 17:46:34.3±0.3, 58˚.3S±0˚.1×139˚.69W±0˚.08, h10km, n145, σ1§39/152, mb5.0/18, MS4.7/17, 2C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.23**	**204**	*e*P	P	17 52 22.2	+4.4
VNDA				pmax	pmax		
	comp=Z,30nm,1.6s						
VNDA	**Vanda**	**27.23**	**204**	*e*P	P	17 52 22.2	+4.4
	comp=Z,30nm,1.6s						
QSPA	**South Pole Qui**	**31.82**	**180**	P	**P**	**17 53 00.5**	**+1.6**
	comp=Z,8.9nm,0.9s,baz=81,slow=4.0,SNR=21						
QSPA	**South Pole Qui**	**31.82**	**180**	*e*P	**P**	**17 52 59.9**	**+1.0**
	comp=Z,112nm,1.8s						
RPZ	**Rata Peaks**	**33.42**	**274**	LR	LR	18 03 25.3	
	comp=Z,2μm,21.1s,baz=110,slow=30						
RKT	**Rikitea**	**35.34**	**8**	*e*S	S	17 59 19.9	+16
	comp=Z,479nm,38.8s						
RKT				*e*LQ	LQ	18 01 27.5	
	comp=Z,645nm,30.8s						
RKT				*e*LR	LR	18 03 01.2	
	comp=Z,6μm,28.5s,baz=181						
TBI	**Tubuai**	**35.65**	**344**	*e*LR	LR	18 02 57.5	
	comp=Z,6μm,28.0s,baz=175						
USHA	**Ushuaia**	**37.72**	**116**	LR	LR	18 03 41.9	
	comp=Z,484nm,21.7s,baz=220,slow=27						
PPT2	**Papeete2**	**41.33**	**346**	*e*S	S	18 00 46.2	+12
	comp=Z,403nm,26.2s						
PPT2				*e*LQ	LQ	18 03 47.1	
	comp=Z,1μm,29.8s						
PPT2				*e*LR	LR	18 05 47.9	
	comp=Z,5μm,25.5s,baz=177						
PLCA	**Paso Flores**	**45.98**	**99**	P	**P**	**17 54 58.7**	**+1.3**
	comp=Z,16nm,1.2s,baz=218,slow=8.3,SNR=7.0						
PLCA				LR	LR	18 09 06.3	
	comp=Z,915nm,21.8s,baz=229,slow=29						
PLCA	**Paso Flores**	**45.98**	**99**	*e*P	**P**	**17 54 59.1**	**+1.7**
PLCA	**Paso Flores**	**45.98**	**99**	*e*P	**P**	**17 54 59.1**	**+1.7**
VNA3	**Neumayer Olymp**	**46.05**	**160**	*e*	**P**	**17 54 58.4**	**+0.9**
VNA2	**Neumayer--Watz**	**46.72**	**160**	*e*	**P**	**17 55 04.0**	**+1.3**
VNA1	**Neumayer--Stat**	**46.80**	**160**	*e*	**P**	**17 55 05.1**	**+1.8**
SNAA	**Sanae**	**46.84**	**163**	*e*	**P**	**17 55 04.4**	**+0.7**
SNAA	**Sanae**	**46.84**	**163**	*e*P	**P**	**17 55 03.9**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SNAA	**Sanae**	**46.84**	**163**	*e*P	**P**	**17 55 03.9**	**+0.2**
	comp=Z,4.0nm,0.6s						
TAOE	**Nuku Hiva Isla**	**49.36**	**359**	*e*S	S	18 02 44.0	+13
	comp=Z,422nm,26.9s						
TAOE				*e*LQ	LQ	18 07 47.1	
	comp=Z,2μm,27.3s						
TAOE				*e*LR	LR	18 09 29.1	
	comp=Z,4μm,27.7s						
TRQA	**Torquist**	**52.40**	**103**	*e*P	**P**	**17 55 46.4**	**-0.1**
	comp=Z,45nm,1.5s						
DZM	**Mont Dzumac**	**52.70**	**290**	*e*S	S	18 03 12.5	-4.2
	comp=Z,181nm,23.6s						
DZM				*e*LR	LR	18 10 40.6	
	comp=Z,2μm,25.9s						
SYO	**Syowa Base**	**52.96**	**180**	*e*P	**P**	**17 55 49.5**	**-0.6**
SYO	**Syowa Base**	**52.96**	**180**	*e*pP	pP	17 55 52.4	-0.9

MAW	**Mawson**	**53.27**	**191**	P		**P**	**17 55 53.3**	**+0.8**
	baz=151,slow=11								
MAW	**Mawson**	**53.27**	**191**	P		**P**	**17 55 53.3**	**+0.8**
MAW	**Mawson**	**53.27**	**191**	P		**P**	**17 55 53.3**	**+0.8**
LCO	**Las Campanas**	**54.86**	**89**	*e*P		**P**	**17 56 03.9**	**-1.0**
	comp=Z,10nm,0.9s								
STKA	**Stephens Creek**	**57.70**	**261**	P		**P**	**17 56 25.2**	**+0.3**
	comp=Z,10.0nm,1.1s,baz=125,slow=8.9,SNR=8.8								
STKA				LR		LR	18 18 27.4		
	comp=Z,320nm,18.5s,baz=301,slow=33								
STKA	**Stephens Creek**	**57.70**	**261**	*e*P		**P**	**17 56 24.6**	**-0.3**
STKA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
STKA	**Stephens Creek**	**57.70**	**261**	*e*P		**P**	**17 56 24.6**	**-0.3**
	comp=Z,2.7nm,1.2s								
LVC	**Limon Verde**	**60.97**	**86**	*e*P		**P**	**17 56 48.9**	**+1.1**
	comp=Z,12nm,0.8s								
CPUP	**Villa Florida**	**64.04**	**98**	P		**P**	**17 57 08.3**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=224,slow=6.7,SNR=3.4								
CPUP	**Villa Florida**	**64.04**	**98**	P		**P**	**17 57 08.4**	**+0.4**
CPUP	**Villa Florida**	**64.04**	**98**	P		**P**	**17 57 08.3**	**+0.4**
NNA	**Nana**	**65.74**	**73**	*e*P		**P**	**17 57 20.0**	**+0.8**
NNA				pmax		pmax			
	comp=Z,51nm,1.4s								
NNA	**Nana**	**65.74**	**73**	*e*P		**P**	**17 57 20.0**	**+0.8**
	comp=Z,51nm,1.4s								
LPAZ	**La Paz**	**66.61**	**83**	P		**P**	**17 57 26.9**	**+1.4**
	comp=Z,9.5nm,1.1s,baz=198,slow=3.6,SNR=23								
LPAZ				LR		LR	18 19 56.7		
	comp=Z,136nm,19.0s,baz=251,slow=30								
LPAZ	**La Paz**	**66.61**	**83**	P		**P**	**17 57 26.9**	**+1.4**
LPAZ	**La Paz**	**66.61**	**83**	P		**P**	**17 57 26.9**	**+1.4**
HNR	**Honiara**	**66.69**	**291**	LR		LR	18 19 34.4		
	comp=Z,208nm,19.9s,baz=153,slow=30								
AS31	**Alice Springs**	**68.32**	**260**	*e*P		**P**	**17 57 34.5**	**-1.1**
ASAR	**Alice Springs**	**68.32**	**260**	P		**P**	**17 57 35.2**	**-0.4**
	comp=Z,15nm,1.0s,baz=146,slow=6.4,SNR=48								
ASAR	**Alice Springs**	**68.32**	**260**	P		**P**	**17 57 35.2**	**-0.4**
ASAR	**Alice Springs**	**68.32**	**260**	P		**P**	**17 57 35.2**	**-0.4**
WB2	**Warramunga Arr**	**71.16**	**263**	*e*P		**P**	**17 57 53.1**	**0.0**
WRA	**Warramunga Arr**	**71.16**	**263**	P		**P**	**17 57 52.6**	**-0.5**
	comp=Z,12nm,1.0s,baz=147,slow=5.4,SNR=24								
WRA				LR		LR	18 26 00.8		
	comp=Z,356nm,20.7s,baz=160,slow=33								
WRA	**Warramunga Arr**	**71.16**	**263**	P		**P**	**17 57 52.6**	**-0.5**
WRA	**Warramunga Arr**	**71.16**	**263**	P		**P**	**17 57 52.6**	**-0.5**
WRAB	**Tennant Creek**	**71.16**	**263**	*e*P		**P**	**17 57 52.3**	**-0.8**
WRAB				pmax		pmax			
	comp=Z,12nm,0.9s								
WRAB	**Tennant Creek**	**71.16**	**263**	*e*P		**P**	**17 57 52.2**	**-0.8**
	comp=Z,12nm,0.9s								
PMG	**Port Moresby**	**73.21**	**279**	⇓*e*P		**P**	**17 58 06.4**	**+1.0**
PMG				pmax		pmax			
	comp=Z,45nm,1.7s								
SAML	**Samuel**	**75.35**	**83**	*e*P		**P**	**17 58 17.3**	**-0.5**
	comp=Z,26nm,1.5s								
ROSC	**El Rosal**	**81.50**	**66**	LR		LR	18 27 51.4		
	comp=Z,325nm,20.3s,baz=24,slow=30								
SDV	**Santo Domingo**	**86.79**	**68**	*e*P		**P**	**17 59 17.8**	**-1.0**
	comp=Z,12nm,0.9s								
TEIG	**Tepich**	**89.02**	**47**	P		**P**	**17 59 30.4**	**+1.3**
	comp=Z,32nm,1.3s								
RCBR	**Riachuelo**	**92.26**	**105**	LR		LR	18 37 24.1		
	comp=Z,511nm,20.1s,baz=208,slow=33								
TXAR	**Lajitas Array**	**92.38**	**31**	P		**P**	**17 59 45.6**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=187,slow=9.8,SNR=4.2								
TXAR				LR		LR	18 35 22.8		
	comp=Z,235nm,18.9s,baz=120,slow=32								
TXAR	**Lajitas Array**	**92.38**	**31**	P		**P**	**17 59 45.6**	**+1.0**
TXAR	**Lajitas Array**	**92.38**	**31**	P		**P**	**17 59 45.6**	**+1.0**
BOSA	**Boshof**	**92.47**	**167**	LR		LR	18 41 08.1		
	comp=Z,628nm,18.1s,baz=192,slow=35								
NVAR	**Mina Array Bea**	**98.05**	**17**	LR		LR	18 35 26.6		
	comp=Z,813nm,19.2s,baz=176,slow=30								
CMAR	**Chiang Mai Arr**	**121.87**	**253**	PKP		**

WMQ				LR	LR			
	comp=Z,140nm,19.4s							
KBL	**Kabul**	**149.47**	**231**	*e*PKP2	**PKPbc**	**18 06 22.5**	**-0.8**	
KBL	**Kabul**	**149.47**	**231**	*e*PKPbc	**PKPbc**	**18 06 22.5**	**-0.8**	
SJPF	**Ste Jean**	**150.19**	**102**	*e*PKIKP	**PKPbc**	**18 06 25.2**	**+0.7**	
	comp=Z,52nm,1.3s							
ETSF	**Etsaut**	**150.38**	**103**	*e*PKIKP	**PKPbc**	**18 06 25.5**	**+0.5**	
	comp=Z,40nm,1.3s							
KSH	**Kashi**	**150.45**	**246**	*e*PKPbc	**PKPbc**	**18 06 25.6**	**+0.2**	
KSH				*e*PKS	**PKSdf**	**18 09 57.6**	**+2.7**	
KSH				*e*SKS	**SKSdf**	**18 13 26.2**	**-1.4**	
KSH				AMB	AMB			
	comp=Z,89nm,4.5s							
KSH				LR	LR			
	comp=N,93nm,5.6s							
KSH				LR	LR			
	comp=E,120nm,6.1s							
KSH				LR	LR			
	comp=Z,140nm,4.9s							
SCO	**Scoresbysund**	**151.96**	**39**	*i* PKIKP	**PKPbc**	**18 06 28.6**	**+0.9**	
SCO				pmax	pmax			
	comp=Z,9.0nm,1.2s							
SCO	**Scoresbysund**	**151.96**	**39**	*i* P	**PKPbc**	**18 06 28.6**	**+0.9**	
	comp=Z,8.6nm,1.2s							
MK31	**Makanchi Array**	**152.46**	**264**	*e*PKIKP	**PKPbc**	**18 06 29.4**	**-0.2**	
MK31	**Makanchi Array**	**152.46**	**264**	*e*PKPbc	**PKPbc**	**18 06 29.5**	**-0.2**	
MKAR	**Makanchi Array**	**152.46**	**264**	PKIKP	**PKPbc**	**18 06 29.6**	**-0.1**	
	comp=Z,7.4nm,1.1s,baz=125,slow=3.6,SNR=26							
MKAR	**Makanchi Array**	**152.46**	**264**	PKIKP	**PKPbc**	**18 06 29.6**	**-0.1**	
MKAR	**Makanchi Array**	**152.46**	**264**	PKPbc	**PKPbc**	**18 06 29.6**	**-0.1**	
TKM2	**Tokmak 2**	**153.22**	**250**	*e*PKIKP	**PKPbc**	**18 06 31.6**	**-0.1**	
TKM2	**Tokmak 2**	**153.22**	**250**	*e*PKPbc	**PKPbc**	**18 06 31.6**	**-0.1**	
AAK	**Ala-Archa**	**153.55**	**249**	||*e*PKIKP	**PKPbc**	**18 06 30.4**	**-2.0**	
AAK	**Ala-Archa**	**153.55**	**249**	*e*PKPbc	**PKPbc**	**18 06 30.6**	**-1.8**	
AAK				*e*PKPab	**PKPab**	**18 06 44.8**	**-0.1**	
FRU	**Bishkek**	**153.64**	**249**	*e*PKIKP	**PKPbc**	**18 06 34.0**	**+1.6**	
EKS2	**Erkin-Say**	**153.93**	**248**	*e*PKIKP	**PKPbc**	**18 06 34.0**	**+0.9**	
EKS2				*e*		18 06 47.0		
EKS2	**Erkin-Say**	**153.93**	**248**	*e*PKPbc	**PKPbc**	**18 06 34.0**	**+0.9**	
EKS2				*e*PKPab	**PKPab**	**18 06 47.0**	**+0.5**	
ZALV	**Zalesovo Beam**	**155.18**	**279**	PKPbc	PKPdf	18 06 37.0	+11	
	comp=Z,0.4nm,0.4s,baz=101,slow=1.5,SNR=4.0							
ZALV				PKPab	**PKPab**	**18 06 49.0**	**-2.4**	
	comp=Z,5.3nm,0.8s,baz=116,slow=3.4,SNR=16							
ZALV	**Zalesovo Beam**	**155.18**	**279**	PKIKP	PKPdf	18 06 37.0	+11	
ZALV						18 06 49.0		
ZALV	**Zalesovo Beam**	**155.18**	**279**	PKPbc	PKPdf	18 06 37.0	+11	
ZALV				PKPab	**PKPab**	**18 06 49.0**	**-2.4**	
NVS	**Novosibirsk**	**156.41**	**280**	*e*PKP2	**PKPab**	**18 06 54.9**	**-1.7**	
NVS				pmax	pmax			
	comp=Z,15nm,1.3s							
NVS				pmax	pmax			
	comp=N,6.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,9.0nm,1.3s							
KURK	**Kurchatov**	**156.77**	**268**	PKP	**PKPdf**	**18 06 26.2**	**-2.3**	
	comp=E,0.3nm,0.9s,baz=117,slow=2.0,SNR=3.7							
KURK				PKPab	**PKPab**	**18 06 57.3**	**-0.9**	
	comp=E,3.7nm,1.1s,baz=131,slow=3.3,SNR=7.8							
KURK	**Kurchatov**	**156.77**	**268**	PKIKP	**PKPdf**	**18 06 26.2**	**-2.3**	
KURK	**Kurchatov**	**156.77**	**268**	PKP	**PKPdf**	**18 06 26.2**	**-2.3**	
KURK				PKPab	**PKPab**	**18 06 57.3**	**-0.9**	
DAVOX	**Davos/Dischmat**	**158.39**	**109**	PKP	**PKPdf**	**18 06 30.9**	**0.0**	
	comp=E,2.5nm,0.9s,baz=264,slow=3.9,SNR=5.5							
DAVOX				PKPab	**PKPab**	**18 07 04.1**	**-1.5**	
	comp=E,4.1nm,1.0s,baz=237,slow=3.3,SNR=5.0							
DAVOX	**Davos/Dischmat**	**158.39**	**109**	PKIKP	**PKPdf**	**18 06 30.9**	**0.0**	
DAVOX						18 07 04.1		
DAVOX	**Davos/Dischmat**	**158.39**	**109**	PKP	**PKPdf**	**18 06 30.9**	**0.0**	
DAVOX				PKPab	**PKPab**	**18 07 04.1**	**-1.5**	
BRTR	**Keskin Array B**	**160.89**	**164**	PKP	**PKPdf**	**18 06 32.9**	**-1.1**	
	comp=E,1.3nm,1.1s,baz=226,slow=5.8,SNR=3.1							
BRTR				PKPab	**PKPab**	**18 07 15.3**	**-1.2**	
	comp=E,1.2nm,0.8s,baz=188,slow=4.4,SNR=4.0							
BRTR	**Keskin Array B**	**160.89**	**164**	PKIKP	**PKPdf**	**18 06 32.9**	**-1.1**	
BRTR						18 07 15.3		
BRTR	**Keskin Array B**	**160.89**	**164**	PKP	**PKPdf**	**18 06 32.9**	**-1.1**	
BRTR				PKPab	**PKPab**	**18 07 15.3**	**-1.2**	
GERES	**GERESS Array B**	**161.69**	**110**	PKP	**PKPdf**	**18 06 34.9**	**+0.4**	
	comp=E,1.2nm,1.0s,baz=204,slow=2.9,SNR=4.8							
GERES				PKPab	**PKPab**	**18 07 17.9**	**-2.0**	
	comp=E,0.4nm,0.6s,baz=287,slow=5.4,SNR=4.0							
GERES	**GERESS Array B**	**161.69**	**110**	PKIKP	**PKPdf**	**18 06 34.9**	**+0.4**	
GERES						18 07 17.9		
GERES	**GERESS Array B**	**161.69**	**110**	PKP	**PKPdf**	**18 06 34.9**	**+0.4**	
GERES				PKPab	**PKPab**	**18 07 17.9**	**-2.0**	
KHC	**Kasperske Hory**	**161.81**	**109**	*e*PKP2	**PKPab**	**18 07 19.5**	**-0.8**	
KHC	**Kasperske Hory**	**161.81**	**109**	*e*PKPab	**PKPab**	**18 07 19.5**	**-0.8**	
BVAR	**Borovoye Array**	**162.32**	**266**	PKPab	**PKPab**	**18 07 19.5**	**-2.9**	
	comp=E,1.8nm,1.0s,baz=145,slow=5.4,SNR=5.9							
BVAR	**Borovoye Array**	**162.32**	**266**	PKP2	**PKPab**	**18 07 19.5**	**-2.9**	
BVAR	**Borovoye Array**	**162.32**	**266**	PKPab	**PKPab**	**18 07 19.5**	**-2.9**	
CLL	**Collm**	**162.85**	**102**	*e*PKIKP	**PKPdf**	**18 06 37.0**	**+1.6**	
CLL				*e*		18 07 26.0		
CLL				MLR	MLR			
	comp=Z,200nm,21.1s							
CLL	**Collm**	**162.85**	**102**	*e*PKPdf	**PKPdf**	**18 06 37.0**	**+1.6**	
CLL				*e*PKPab	**PKPab**	**18 07 26.0**	**+1.3**	
CLL				LmV		19 26 00.0		
	comp=Z,200nm,21.1s							
MLR	**Muntele Rosu**	**164.43**	**139**	PKP	**PKPdf**	**18 06 36.8**	**-0.4**	
	comp=Z,1.4nm,1.1s,baz=108,slow=8.1,SNR=3.3							
MLR				PKPab	**PKPab**	**18 07 30.3**	**-1.6**	
	baz=176,slow=16							
MLR	**Muntele Rosu**	**164.43**	**139**	PKIKP	**PKPdf**	**18 06 36.8**	**-0.4**	
MLR						18 07 30.3		
MLR	**Muntele Rosu**	**164.43**	**139**	PKP	**PKPdf**	**18 06 36.8**	**-0.4**	
MLR				PKPab	**PKPab**	**18 07 30.3**	**-1.6**	
AKTO	**Aktyubinsk**	**167.03**	**240**	PKPab	**PKPab**	**18 07 42.3**	**-0.9**	
	comp=Z,2.6nm,1.0s,baz=139,slow=3.8,SNR=7.4							
AKTO	**Aktyubinsk**	**167.03**	**240**	PKP2	**PKPab**	**18 07 42.3**	**-0.9**	
AKTO	**Aktyubinsk**	**167.03**	**240**	PKPab	**PKPab**	**18 07 42.3**	**-0.9**	
AKASG	**Malin Array Be**	**170.01**	**135**	PKPab	**PKPab**	**18 07 54.4**	**-1.9**	
	comp=Z,1.6nm,0.7s,baz=217,slow=3.9,SNR=6.7							
AKASG	**Malin Array Be**	**170.01**	**135**	PKP2	**PKPab**	**18 07 54.4**	**-1.9**	
AKASG	**Malin Array Be**	**170.01**	**135**	PKPab	**PKPab**	**18 07 54.4**	**-1.9**	

IDC 04 17:47:16.0±4.0, 0.61S×131.47E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/16, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=263.8km s-min=26.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.42**	**172**	P	P	17 51 42.5	-1.5
	0.0nm,0.3s,baz=354,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.04**	**174**	P	P	17 52 24.1	+1.0
	0.7nm,0.7s,baz=358,slow=9.9,SNR=7.7						
MKAR	**Makanchi Array**	**63.80**	**325**	P	P	17 57 50.1	0.0
	0.1nm,0.5s,baz=110,slow=8.4,SNR=6.3						

IDC 04 17:51:35.9±4.9, 0.88S×131.99E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=320.7km s-min=25.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**173**	P	P	17 55 60.0	-0.3
	0.2nm,0.3s,baz=354,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**22.73**	**175**	P	P	17 56 39.8	+0.1
	1.0nm,0.4s,baz=356,slow=10,SNR=40						
MKAR	**Makanchi Array**	**64.33**	**324**	P	P	18 02 13.5	0.0
	0.1nm,0.6s,baz=113,slow=6.9,SNR=2.9						

*DJA **04** 17:54:29, 9.57S×118.94E, h10km, MLv4.0/4*

IDC 04 17:54:24.9±2.3, 9.65S×118.78E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.4/16, mbtmp3.4/5, ML3.3/1, MS3.8/2, Ms1 3.9/2, ms1mx3.3/19, Error ellipse: s-maj=144.7km s-min=24.1km az=51.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.18**	**126**	P	Pn	17 58 38.3	-0.6
	0.1nm,0.3s,baz=299,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**20.07**	**136**	P	P	17 59 00.7	+0.6
	0.7nm,0.6s,baz=312,slow=9.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**34.11**	**325**	LR	LR	18 15 30.1	
	comp=Z,162nm,20.4s,baz=110,slow=37						
MJAR	**Matsushiro Arr**	**49.45**	**21**	LR	LR	18 25 31.8	
	comp=Z,100nm,18.9s,baz=190,slow=38						

SONM	**Songino Array**	**58.28**	**350**	P	P	18 04 21.6	+0.1	
	0.3nm,0.5s,baz=168,slow=8.0,SNR=7.7							
MKAR	**Makanchi Array**	**64.94**	**333**	P	P	18 05 06.6	+0.3	
	0.5nm,0.6s,baz=147,slow=6.0,SNR=9.3							
KURK	**Kurchatov**	**69.48**	**334**	P	P	18 05 34.3	-0.7	
	0.3nm,0.6s,baz=140,slow=5.5,SNR=8.0							

IDC 04 17:59:47.3±2.5, 0.36S×132.26E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/26, Error ellipse: s-maj=124.3km s-min=27.5km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**9.94**	**318**	LR	LR	18 06 24.2	
	comp=Z,532nm,18.8s,baz=15,slow=40						
WRA	**Warramunga Arr**	**19.57**	**174**	P	P	18 04 16.6	-0.4
	0.2nm,0.3s,baz=354,slow=12,SNR=10						
ASAR	**Alice Springs**	**23.22**	**176**	P	P	18 04 56.5	+0.2
	1.1nm,0.4s,baz=353,slow=9.1,SNR=33						
MKAR	**Makanchi Array**	**64.06**	**324**	P	P	18 10 23.2	0.0
	0.8nm,1.0s,baz=116,slow=7.8,SNR=4.1						

*MOS **04** 18:02:33.3±1.1, 2.54N×124.10E, h353km, mb4.7/22, Error ellipse: s-maj=15.3km s-min=6.2km az=115.8*
*BJI **04** 18:02:33.2, 2.43N×124.12E, h350km, mB4.5/13, mb4.4/28*
*NEIC **04** 18:02:34.6±0.5, 2.51N×124.13E, h354km±5km, mb4.7/29, Error ellipse: s-maj=6.6km s-min=4.4km az=77.0*
*IDC **04** 18:02:34.9±0.9, 2.50N×124.10E, h355km±7km, mb4.2/26, mb1 4.2/28, mb1mx4.2/28, mbtmp4.2/28, Error ellipse: s-maj=13.3km s-min=6.6km az=71.0*
*ISCJB **04** 18:02:34.3±0.2, 2.54N±0.02×124.22E±0.03, h364km±2km, mb4.5/92, Error ellipse: s-maj=4.6km s-min=3.2km az=175.4*
*DJA **04** 18:02:35, 2.56N×124.16E, h345km, Mw4.7/46*

ISC 04 18:02:35.0±0.4, 2.51N±0.03×124.17E±0.05, h356km±3km, n323, σ1°3°/398, mb4.6/90, 9C-8D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**1.26**	**148**	P	Pn	18 03 21.3	-1.2
SGSI	**Sangihe**	**1.79**	**49**	P	Pn	18 03 23.4	-2.0
KMSI	**Cibinong**	**1.94**	**186**	P	Pn	18 03 25.6	-0.8
MRSI	**Maisa**	**3.01**	**228**	P	Pn	18 03 34.5	-0.4
TNTI	**Ternate**	**3.63**	**118**	P	Pn	18 03 39.0	-1.7
LUWI	**Luwuk**	**3.80**	**202**	P	Pn	18 03 40.0	-2.3
LBMI	**Labuha**	**4.57**	**133**	P	Pn	18 03 48.6	-1.7
CTBH	**Cotabato--PC H**	**4.68**	**1**	||*iP*	Pn	18 03 51.4	0.0
DMPH	**Davao City--Mi**	**4.73**	**16**	||*eP*	Pn	18 03 51.3	-0.7
DMPH				*e*S	S	18 04 38.9	-15
DAV	**Davao City (W)**	**4.74**	**17**	P	Pn	18 03 52.6	+0.6
	52nm,0.3s,baz=83,slow=2.6,SNR=24						
DAV				S	S	18 04 54.2	-0.2
	68nm,0.3s,baz=128,slow=21,SNR=7.3						
DAV	**Davao City (W)**	**4.74**	**17**	*e*Pn	Pn	18 03 52.0	-0.1
DAV				P		18 03 52.6	
DAV				*e*Sn	S	18 04 53.4	-1.1
DAV	**Davao City (W)**	**4.74**	**17**	P	Pn	18 03 52.9	+0.8
	SNR=25						
DAV	**Davao City (W)**	**4.74**	**17**	P	Pn	18 03 54.9	+2.8
PAGZ	**Pagadian**	**5.36**	**352**	*e*P	Pn	18 03 59.6	+0.8
BUKP	**Musuan**	**5.40**	**9**	*e*P	Pn	18 03 59.7	+0.3
IPIL	**Ipil**	**5.48**	**343**	||*e*P	S	18 05 00.5	-8.6
CGP	**Cagayan de Oro**	**5.92**	**5**	||*e*P	Pn	18 04 06.0	+0.9
MYLDM	**Lahad Datu**	**6.24**	**295**	P	Pn	18 04 10.6	+1.7
MYLDM	**Lahad Datu**	**6.24**	**295**	P	Pn	18 04 10.8	+2.0
MYLDM	**Lahad Datu**	**6.24**	**295**	P	Pn	18 04 10.2	+1.4
	793nm,1.4s,10μm2.6nm						
TSM	**Tawau**	**6.53**	**286**	P	Pn	18 04 12.1	+0.1
TTSI	**Tana Toraja**	**7.03**	**218**	P	Pn	18 04 17.7	-0.2
	467nm,1.4s,7μm1.9nm						
AAI	**Ambon**	**7.36**	**147**	P	P	18 04 23.0	0.0
	202nm,0.7s,3μm1.7nm						
MSAI	**Masohi**	**7.52**	**141**	P	P	18 04 25.1	+0.2
	82nm,1.2s,1μm0.8nm						
SMKI	**Samarinda**	**7.55**	**247**	P	P	18 04 25.9	+0.6
	596nm,1.1s,5μm1.9nm						
MSLP	**Maasin**	**7.60**	**5**	*e*P	P	18 04 25.2	-0.6
SDKM	**Sandakan**	**7.62**	**294**	P	P	18 04 25.6	-0.4
SPSI	**Sidrap Palu**	**7.79**	**214**	P	Pn	18 04 26.2	-0.6
	234nm,1.1s,2μm0.8nm						
MJSI	**Majene**	**7.95**	**221**	P	Px	18 04 41.4	
BBSI	**Bau Bau**	**8.11**	**191**	P	P	18 04 37.9	+4.7
GUIM	**Jordan**	**8.21**	**349**	*e*P	Pn	18 04 31.6	-0.2
OCLP	**Ormoc**	**8.49**	**3**	*e*P	Pn	18 04 35.7	+0.6
KDM	**Kudat**	**8.52**	**301**	P	Pn	18 04 35.6	+0.2
KKM	**Kota Kinabalu**	**8.67**	**294**	*e*Pn	Pn	18 04 37.0	-0.3
	64nm,0.5s						
KKM	**Kota Kinabalu**	**8.67**	**294**	P	Pn	18 04 37.4	+0.1
KKM	**Kota Kinabalu**	**8.67**	**294**	P	Pn	18 04 37.9	+0.6
	125nm,1.3s,2μm0.7nm						
KAPI	**Kappang**	**8.68**	**211**	*e*Pn	Pn	18 04 36.1	-1.3
	456nm,1.3s						
KAPI	**Kappang**	**8.68**	**211**	P	Pn	18 04 36.7	-0.6
	SNR=15						
KAPI	**Kappang**	**8.68**	**211**	P	Pn	18 04 36.3	-1.0
	306nm,1.2s,3μm1.0nm						
BKSI	**Bulukumba**	**8.77**	**207**	P	Pn	18 04 38.5	+0.1
	272nm,1.3s,3μm0.9nm						
BATP	**Bataraza**	**8.89**	**315**	*e*P	Pn	18 04 38.5	-1.3
RCP	**Roxas**	**9.10**	**351**	||*e*P	Pn	18 04 42.0	-0.2
FAKI	**Fak Fak**	**9.71**	**124**	P	Pn	18 04 50.2	+0.6
	254nm,1.0s,2μm						
KBKI	**Kotabaru**	**9.86**	**234**	P	Pn	18 04 52.1	+0.7
	420nm,1.0s,3μm						
BUSP	**Coron**	**10.21**	**338**	*e*P	P	18 04 56.0	-0.6
AUQP	**San Andres**	**10.84**	**352**	*e*P	P	18 05 06.7	+3.1
PVCP	**Virac**	**11.01**	**360**	*e*P	P	18 05 06.8	+1.4
BBKI	**Banjar Baru**	**11.05**	**238**	P	P	18 05 07.2	+1.2
	225nm,1.3s,3μm						
BTM	**Bintulu**	**11.09**	**274**	P	P	18 05 07.7	+1.3
BOAC	**Boac**	**11.12**	**348**	*e*P	P	18 05 07.5	+1.0
MMRI	**Maumere**	**11.24**	**190**	P	P	18 05 08.9	+0.9
	373nm,1.5s,6μm						
TLE	**Tual**	**11.78**	**133**	P	Pn	18 05 16.5	+2.3
	454nm,1.2s,5μm						
SBUM	**Sibu**	**11.94**	**270**	P	Pn	18 05 18.7	+2.7
SBUM	**Sibu**	**11.94**	**270**	P	Pn	18 05 17.9	+1.9
	437nm,1.5s,7μm						
TGY	**Tagaytay City**	**11.95**	**345**	P	Pn	18 05 17.0	+0.9
	69nm,0.3s,baz=147,slow=19,SNR=6.0						
TGY	**Tagaytay City**	**11.95**	**345**	P	Pn	18 05 17.0	+0.9
TGY	**Tagaytay City**	**11.95**	**345**	P	Pn	18 05 17.0	+0.9
BAKI	**Biak**	**12.49**	**107**	P	Pn	18 05 25.2	+2.6
	1μm1.3s,9μm						
WSI	**Waingapu**	**12.70**	**198**	P	Pn	18 05 26.0	+1.0
	431nm,1.0s,5μm						
STKI	**Sintang**	**12.92**	**259**	P	Pn	18 05 29.0	+1.4
	173nm,1.5s,3μm						
BALP	**Baler**	**13.39**	**349**	*e*P	Pn	18 05 32.6	-0.4
PBKI	**Pangkalan Bun**	**13.53**	**248**	P	Pn	18 05 36.7	+2.0
	145nm,1.2s						
MTNI	**Mataram**	**13.65**	**216**	P	Pn	18 05 37.3	+1.2
	111nm,0.9s,2μm						
KHKI	**Kahang-Kahang**	**13.77**	**218**	P	Pn	18 05 38.5	+1.0
	156nm,1.1s,1μm						
SCZP	**Santa Cruz**	**13.83**	**343**	*e*P	P	18 05 36.3	-0.3
KSM	**Kuching**	**13.89**	**266**	*e*Pn	P	18 05 36.7	-0.6
	325nm,1.3s						
KSM	**Kuching**	**13.89**	**266**	P	Pn	18 05 39.6	+0.7
KSM	**Kuching**	**13.89**	**266**	P	Pn	18 05 39.5	+0.5
	271nm,1.3s,4μm						
KMMI	**Kalianget**	**13.93**	**227**	P	Pn	18 05 40.9	+1.5
	113nm,1.1s						
CAUP	**Cauayan**	**14.52**	**351**	*e*P	Pn	18 05 45.3	-0.9
BLJI	**Banyuglugur**	**14.67**	**226**	P	Pn	18 05 56.9	+9.0
GMJI	**Gumukmas**	**15.14**	**225**	P	Pn	18 05 59.2	+5.8
	122nm,0.9s						
SMPI	**Sarmi**	**15.21**	**107**	P	Pn	18 05 54.5	+0.3
	223nm,0.8s,2μm						
ABRA	**Dolores**	**15.42**	**348**	*e*P	P	18 05 54.2	+0.2
KRKI	**Karangkates**	**15.78**	**228**	P	Pn	18 06 00.5	-0.3
	410nm,1.1s,8μm						
SJI	**Sawahan**	**16.02**	**230**	P	Pn	18 06 02.4	-1.3
	184nm,1.0s,2μm						
PWJI	**Pagerwojo**	**16.18**	**230**	P	P	18 06 03.5	+1.3
	125nm,1.0s						
SMRI	**Semarang**	**16.67**	**235**	P	Pn	18 06 10.5	-0.7
	257nm,1.2s						
MTN	**Manton Dam**	**16.75**	**156**	*e*P	P	18 06 08.5	+0.1
MTN				*e*S	S	18 09 03.6	-1.8
JAY	**Jayapura**	**17.27**	**107**	P	Pn	18 06 23.5	+5.6
	44nm,0.9s,3μm						
BJII	**Banjamegara**	**17.43**	**236**	P	Pn	18 06 18.7	-1.1
	195nm,1.8s,4μm						
LEM	**Lembang**	**18.95**	**241**	P	P	18 06 34.5	+2.5
	225nm,1.2s,2μm						
CISI	**Cisompet, Garu**	**19.14**	**238**	P	P	18 06 35.8	+1.9
	130nm,1.3s						
CBJI	**Citeko**	**19.43**	**243**	P	P	18 06 39.9	+2.9
	529nm,0.9s,6μm						
SBJI	**Serang**	**19.95**	**244**	P	P	18 06 45.2	+3.0
	439nm,1.6s,7μm						
MYKOM	**Kota Tinggi**	**20.32**	**268**	P	P	18 06 47.8	+2.1
MYKOM	**Kota Tinggi**	**20.32**	**268**	P	P	18 06 47.4	+1.7
	135nm,1.6s,3μm						
TWG	**Pinlang**	**20.41**	**352**	*e*P	P	18 06 45.3	-1.2
	35nm,0.6s						
CGJI	**Cibinong**	**20.55**	**244**	P	P	18 06 47.8	0.0
	219nm,1.1s,3μm						
KLI	**Kotabumi**	**20.64**	**249**	P	P	18 06 50.3	+1.7
	120nm,1.3s,2μm						
KGM	**Kluang**	**20.84**	**269**	P	P	18 06 52.1	+1.7
YULB	**Yu-li**	**20.94**	**353**	*e*P	P	18 06 51.2	0.0
	26nm,0.6s						
TPUB	**Ta-pu**	**20.95**	**351**	*e*P	P	18 06 49.8	-1.5
	91nm,0.6s						
SSLB	**Suanglung**	**21.38**	**352**	*e*P	P	18 06 54.5	-0.7
	48nm,0.8s						
LWLI	**Liwa**	**21.44**	**250**	P	P	18 07 00.1	+4.1
	88nm,1.0s						
QIZ	**Qiongzhong**	**21.59**	**320**	P	P	18 06 54.2	-2.9
QIZ				S	S	18 10 33.7	+2.5
QIZ				pmax	pmax		
	comp=Z,270nm,5.5s						
YHNB	**Yeheng**	**22.19**	**353**	*e*P	P	18 07 00.8	-1.9
	comp=Z,50nm,0.8s						
KSI	**Kapahiang**	**22.42**	**254**	P	P	18 07 07.8	+2.9
	comp=Z,82nm,1.8s,comp=Z,2μm						
IPM	**Ipoh**	**23.18**	**275**	*e*P	P	18 07 11.8	0.0
	comp=Z,116nm,1.4s						
IPM	**Ipoh**	**23.18**	**275**	P	P	18 07 12.7	+0.9
IPM	**Ipoh**	**23.18**	**275**	P	P	18 07 12.7	+0.9
	comp=Z,53nm,1.5s,comp=Z,1μm						
BKNI	**Bangkinang**	**23.22**	**265**	P	P	18 07 13.8	+1.7
	comp=Z,211nm,1.4s,comp=Z,3μm						
KULM	**Kulim**	**23.62**	**277**	P	P	18 07 17.2	+1.4
KULM	**Kulim**	**23.62**	**277**	P	P	18 07 17.2	+1.4
KULM	**Kulim**	**23.62**	**277**	P	P	18 07 16.8	+1.1
	comp=Z,44nm,1.5s						
MBWA	**Marble Bar**	**23.93**	**190**	*e*P	P	18 07 18.8	+0.5
MBWA	**Marble Bar**	**23.93**	**190**	*e*P	P	18 07 17.6	-0.7
	comp=Z,65nm,0.9s						
PPI	**Padang Panjang**	**23.95**	**263**	P	P	18 07 19.3	+0.7
	comp=Z,39nm,1.8s						
WRAB	**Tennant Creek**	**24.45**	**156**	*e*P	P	18 07 22.8	-0.2
WRAB				*e*S	S	18 11 11.9	-4.6
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**24.45**	**156**	*e*P	P	18 07 22.8	-0.2
	comp=Z,28nm,0.8s						
WRAB				*e*S	S	18 11 11.9	-4.6
WRA	**Warramunga Arr**	**24.45**	**156**	P	P	18 07 22.6	-0.5
	comp=Z,11nm,0.4s,baz=337,slow=10,SNR=128						
WRA				S	S	18 11 12.9	-3.7
	comp=Z,9.1nm,0.8s,baz=333,slow=16,SNR=6.5						
WRA				ScP	ScP	18 13 56.4	+0.7
	comp=Z,3.0nm,0.6s,baz=342,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**24.45**	**156**	P	P	18 07 22.6	-0.5
WRA				S	S	18 11 12.9	-3.7
WRA	**Warramunga Arr**	**24.45**	**156**	P	P	18 07 22.6	-0.5
WRA				S	S	18 11 12.9	-3.7
WRA				ScP	ScP	18 13 56.4	+0.7
WB2	**Warramunga Arr**	**24.45**	**156**	*e*P	P	18 07 22.6	-0.5

STKA PP PP 18 10 53.8 -2.4
comp=Z,5.5nm,0.6s,baz=326,slow=14,SNR=3.1
STKA ScP **ScP** **18 14 41.5 +0.7**
comp=Z,3.6nm,0.6s,baz=343,slow=4.9,SNR=4.8
STKA Stephens Creek 38.00 156 *eP* **P 18 09 21.2 +1.0**
comp=Z,17nm,0.5s
STKA Stephens Creek 38.00 156 *eP* **P 18 09 20.2 0.0**
STKA 18 10 53.8
STKA 18 14 41.5
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA Stephens Creek 38.00 156 *eP* **P 18 09 20.2 0.0**
comp=Z,4.3nm,0.6s
STKA P P 18 09 21.3 +1.1
STKA PP PP 18 10 53.8 -2.4
STKA ScP **ScP** **18 14 41.5 +0.7**
LZH Lanzhou 38.34 333 ⇑P **P 18 09 25.0 +1.9**
LZH pP **pP** **18 10 33.0 +0.9**
LZH PP PP 18 11 03.0 +3.1
LZH sP **sP** **18 11 12.7 -0.2**
LZH PcP **PcP** **18 11 31.2 +2.5**
LZH S **S** **18 14 51.5 +0.7**
LZH sS **sS** **18 16 55.0 -0.6**
LZH ScS **ScS** **18 18 52.5 -1.0**
LZH pmax pmax
comp=Z,40nm,1.4s
LZH pmax pmax
comp=Z,97nm,4.0s
SHL Shillong 38.60 309 *eP* P 18 09 31.0 +5.5
SHL *eS* **S** **18 14 58.0 +2.9**
CMSA Cobar Meteorol 39.57 151 *eP* **P 18 09 35.2 +2.1**
comp=Z,59nm,0.7s
LSA Lhasa 41.38 314 P **P 18 09 49.6 +1.1**
LSA Lhasa 41.38 314 *eP* **P 18 09 49.5 +1.1**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 41.38 314 *eP* **P 18 09 49.5 +1.1**
comp=Z,19nm,0.6s
ARMA Armidale 41.94 143 *eP* **P 18 09 54.9 +2.4**
USRK Ussuriysk Arra 42.09 8 P **P 18 09 53.8 +0.5**
comp=Z,3.8nm,0.3s,baz=190,slow=7.4,SNR=34
GTA Gaotai 42.89 332 P **P 18 10 00.7 +0.7**
GTA pP **pP** **18 11 11.5 +1.0**
GTA PcP **PcP** **18 11 44.9 +1.4**
GTA ScP **ScP** **18 15 01.0 +0.9**
GTA S **S** **18 15 58.1 +0.6**
GTA sS **sS** **18 18 01.9 -2.7**
GTA SS **ScS** **18 19 15.3 -5.6**
GTA ScS ScS 18 19 19.9 -1.0
GTA pmax pmax
comp=Z,28nm,1.1s
GTA pmax pmax
comp=Z,58nm,3.8s
GTA LR LR
comp=N,130nm,13.5s
GTA LR LR
comp=E,140nm,13.8s
GTA LR LR
comp=Z,180nm,15.4s
CNB Canberra Magne 44.42 150 *eP* **P 18 10 13.7 +1.7**
comp=Z,20nm,0.4s
TOO Toolangi 44.52 156 *eP* **P 18 10 15.0 +2.3**
comp=Z,31nm,0.5s
MDRS Chennai 44.68 286 *i* P **P 18 10 13.7 -0.6**
MDRS AMb AMB 18 10 15.1
comp=Z,15nm,0.2s
HABR Khabarovsk 46.73 10 *eP* **P 18 10 28.0 -1.6**
HABR *e* 18 11 55.4
HABR S **S** **18 16 54.7 +3.0**
HABR *e* 18 19 48.9
HABR *e*SS SS 18 20 26.7 +3.2
HABR pmax pmax
comp=E,22nm,1.4s
HABR pmax pmax
comp=Z,54nm,2.0s
HABR pmax pmax
comp=N,25nm,2.0s
HABR MLR MLR
comp=Z,80nm,17.0s
HYB Hyderabad 47.15 291 *i* P **P 18 10 32.0 -1.3**
HYB *e*pP Px 18 10 45.0
ULN Ulaanbaatar 47.54 344 *eP* **P 18 10 36.8 +0.8**
ULN *e* 18 11 59.2
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 47.54 344 *eP* **P 18 10 36.8 +0.8**
comp=Z,8.9nm,1.0s
ULN *e*PcP **PcP** **18 11 59.2 -0.4**
SONM Songino Array 47.69 344 P **P 18 10 36.8 -0.2**
comp=Z,2.4nm,0.5s,baz=159,slow=7.8,SNR=33
SONM PcP **PcP** **18 12 00.2 +0.1**
comp=Z,2.0nm,0.6s,baz=166,slow=4.7,SNR=6.5
SONM ScP **ScP** **18 15 19.0 -0.8**
comp=Z,1.3nm,0.8s,baz=165,slow=4.4,SNR=4.4
SONM Songino Array 47.69 344 P **P 18 10 36.8 -0.2**
SONM 18 12 00.2
SONM Songino Array 47.69 344 P **P 18 10 36.8 -0.2**
SONM PcP **PcP** **18 12 00.2 +0.1**
SONM ScP **ScP** **18 15 19.0 -0.8**
BHPL Bhopal 49.70 299 *eP* **P 18 10 51.7 -0.9**
BHPL AMb AMB 18 10 54.5
comp=Z,66nm,1.3s
ZAK Zakamensk 50.87 343 *eP* **P 18 11 01.6 +0.7**
ZAK *e* 18 12 12.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s
NDI New Delhi 51.68 305 *eP* **P 18 11 07.0 -0.1**
POO Poona 51.76 292 *i* P **P 18 11 07.1 -0.7**
POO AMb AMB 18 11 08.8
comp=Z,51nm,0.8s
MOY Mondy 52.69 342 *eP* **P 18 11 15.9 +1.7**
MOY pmax pmax
comp=Z,19nm,1.6s
BOD Bodaibo 55.73 353 *eP* **P 18 11 37.6 +2.0**
BOD pmax pmax
comp=Z,12nm,1.3s
BHJ Bhuj 56.60 296 *i* P **P 18 11 41.5 -0.8**
BHJ AMb AMB 18 11 55.1
comp=Z,17nm,0.6s
KSH Kashi 57.13 317 P **P 18 11 47.6 +1.7**
KSH pmax pmax
comp=Z,91nm,1.9s
MK31 Makanchi Array 57.13 327 *eP* **P 18 11 45.4 -0.2**
MK31 *e* 18 12 36.0
MK31 Makanchi Array 57.13 327 *eP* **P 18 11 45.4 -0.2**
MK31 *e*PcP **PcP** **18 12 36.0 +0.2**
MKAR Makanchi Array 57.13 327 P **P 18 11 45.3 -0.3**
comp=Z,9.1nm,0.3s,baz=123,slow=7.8,SNR=139
MKAR PcP **PcP** **18 12 35.5 -0.3**
comp=Z,7.3nm,0.6s,baz=125,slow=4.3,SNR=11
MKAR ScP **ScP** **18 16 00.8 0.0**
comp=Z,7.8nm,0.8s,baz=119,slow=5.0,SNR=15
MKAR S **S** **18 19 11.8 -0.7**
comp=Z,1.5nm,1.0s,baz=118,slow=13,SNR=7.9
MKAR Makanchi Array 57.13 327 P **P 18 11 45.3 -0.3**
MKAR 18 12 35.6
MKAR S **S** **18 19 11.8 -0.7**
MKAR Makanchi Array 57.13 327 P **P 18 11 45.3 -0.3**
MKAR PcP **PcP** **18 12 35.5 -0.3**
MKAR ScP **ScP** **18 16 00.8 0.0**
MKAR S **S** **18 19 11.8 -0.7**
PEA0B Petropavlovsk- 57.53 23 *eP* **P 18 11 48.3 0.0**
PETK Petropavlovsk- 57.53 23 P **P 18 11 49.6 +1.4**
comp=Z,12nm,0.7s,baz=189,slow=4.2,SNR=29
PETK Petropavlovsk- 57.53 23 P **P 18 11 49.6 +1.4**
PETK Petropavlovsk- 57.53 23 P **P 18 11 49.6 +1.4**
KZA Kyzart 58.81 319 P **P 18 11 59.0 +1.3**
SNR=12
KZA P **P** **18 11 59.0 +1.3**
SNR=12
TKM2 Tokmak 2 58.99 320 P **P 18 11 58.6 -0.1**
SNR=16
TKM2 P **P** **18 11 58.6 -0.1**
SNR=16
TKM2 Tokmak 2 58.99 320 *eP* **P 18 11 58.6 -0.1**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 58.99 320 *eP* **P 18 11 58.6 -0.1**
comp=Z,13nm,0.8s
KBK Karagaybulak 59.28 319 P **P 18 12 01.7 +1.0**
SNR=13
KBK P **P** **18 12 01.7 +1.0**
SNR=13
YAK Yakutsk 59.52 3 *eP* **P 18 12 02.1 +0.5**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK Yakutsk 59.52 3 *eP* **P 18 12 02.1 +0.5**
comp=Z,12nm,0.9s
AAK Ala-Archa 59.57 319 P **P 18 12 03.4 +0.8**
SNR=6.7
AAK P **P** **18 12 03.4 +0.8**
SNR=6.7
AAK Ala-Archa 59.57 319 *d* iP **P 18 12 02.7 +0.1**
AAK pmax pmax
comp=Z,56nm,1.7s
AAK Ala-Archa 59.57 319 *eP* **P 18 12 02.4 -0.2**
AAK *e*PcP **PcP** **18 12 46.2 +0.4**
CHMS Chumysh 59.57 320 P **P 18 12 04.3 +1.8**
SNR=6.3
CHMS P **P** **18 12 04.3 +1.8**
SNR=6.3
FRU Bishkek 59.58 320 *eP* **P 18 12 04.0 +1.5**
AML Almayashu 59.86 318 P **P 18 12 05.7 +0.8**
SNR=20
AML P **P** **18 12 05.7 +0.8**
SNR=20
USP Ospenovka 59.86 320 P **P 18 12 04.4 0.0**
SNR=16
USP P **P** **18 12 04.4 0.0**
SNR=16
EKS2 Erkin-Say 60.05 319 P **P 18 12 06.8 +1.0**
SNR=16
EKS2 P **P** **18 12 06.8 +1.0**
SNR=16
EKS2 Erkin-Say 60.05 319 *eP* **P 18 12 06.1 +0.3**
EKS2 pmax pmax
comp=Z,17nm,0.9s
EKS2 Erkin-Say 60.05 319 *eP* **P 18 12 06.1 +0.3**
comp=Z,17nm,0.9s
KBL Kabul 60.25 309 *eP* **P 18 12 06.8 -0.6**
KBL pmax pmax
comp=Z,44nm,1.1s
KBL Kabul 60.25 309 *eP* **P 18 12 06.8 -0.6**
comp=Z,44nm,1.1s
ZAA0 Zalesovo Array 60.54 335 *eP* **P 18 12 07.8 -0.9**
ZALV Zalesovo Beam 60.54 335 P **P 18 12 07.7 -1.0**
comp=Z,3.2nm,0.4s,baz=127,slow=5.5,SNR=21
ZALV S **S** **18 19 51.3 -4.3**
comp=Z,1.2nm,0.7s,baz=149,slow=15,SNR=5.8
ZALV Zalesovo Beam 60.54 335 P **P 18 12 07.7 -1.0**
ZALV S **S** **18 19 51.3 -4.3**
ZALV Zalesovo Beam 60.54 335 P **P 18 12 07.7 -1.0**
ZALV S **S** **18 19 51.3 -4.3**
KURK Kurchatov 61.42 329 P **P 18 12 13.8 -0.7**
comp=Z,13nm,0.5s,baz=134,slow=6.7,SNR=128
KURK PP **PP** **18 14 32.7 -2.2**
comp=Z,1.1nm,0.5s,baz=129,slow=7.5,SNR=5.2
KURK Kurchatov 61.42 329 P **P 18 12 13.8 -0.7**
KURK 18 14 32.7
KURK Kurchatov 61.42 329 P **P 18 12 13.8 -0.7**
KURK *eP* **P 18 12 14.0 -0.5**
KURK PP **PP** **18 14 32.7 -2.2**
NVS Novosibirsk 61.83 335 *eP* **P 18 12 15.3 -1.9**
KK31 Karatay Array 62.40 318 *eP* **P 18 12 20.7 -0.6**
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 62.40 318 *eP* **P 18 12 20.9 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 62.40 318 *eP* **P 18 12 20.9 -0.4**
comp=Z,8.6nm,0.8s
VOSK Vostochnaya 66.50 328 P **P 18 12 46.1 -1.3**
VOSK pmax pmax
comp=Z,6.0nm,0.4s
BVA0 Borovoye Array 66.96 328 *i* P **P 18 12 49.9 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 66.96 328 P **P 18 12 49.4 -0.8**
comp=Z,5.3nm,0.6s,baz=132,slow=8.5,SNR=30
BVAR Borovoye Array 66.96 328 P **P 18 12 49.4 -0.8**
BVAR Borovoye Array 66.96 328 P **P 18 12 49.4 -0.8**
BRVK Borovoye 67.04 328 *de*P **P 18 12 50.1 -0.6**
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 67.04 328 *eP* **P 18 12 49.4 -1.3**
comp=Z,22nm,1.0s
BILL Bilibino 71.39 15⇑ *eP* **P 18 13 17.4 +0.6**
BILL pmax pmax
comp=Z,7.0nm,1.6s
AB31 Akbulak array 71.48 322 P **P 18 13 16.1 -1.7**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 71.48 322 *eP* **P 18 13 17.0 -0.8**
comp=Z,9.2nm,0.5s
AKTO Aktyubinsk 73.03 322 P **P 18 13 26.8 -0.1**
comp=Z,13nm,0.3s,baz=107,slow=6.9,SNR=57
AKTO Aktyubinsk 73.03 322 P **P 18 13 26.8 -0.1**
AKTO Aktyubinsk 73.03 322 P **P 18 13 26.8 -0.1**
SVE Sverdlovsk 73.67 329⇓ *iP* **P 18 13 29.9 -0.5**
SVE pmax pmax
comp=Z,24nm,0.8s
ARU Arti 74.61 328 *d* iP **P 18 13 34.8 -1.0**
ARU S **S** **18 22 43.1 +1.7**
ARU SS **SS** **18 27 33.3 -3.8**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU Arti 74.61 328 *eP* **P 18 13 34.3 -1.5**
comp=Z,14nm,0.8s
KBD Kabd 76.97 299 *eP* **P 18 13 48.5 -1.1**
MIB Mutribah 77.33 300 *eP* **P 18 13 50.2 -1.4**
MIB AMb AMB 18 13 53.0
comp=Z,58nm,0.6s
NAY Al-Naaiem 77.37 299 *eP* **P 18 13 50.2 -1.7**
NAY AMb AMB 18 13 53.5
comp=Z,23nm,0.8s
OPO Ambohidratompo 78.48 251 P **P 18 13 57.8 -0.5**
comp=Z,10nm,0.9s,baz=74,slow=3.3,SNR=7.9
OPO Ambohidratompo 78.48 251 P **P 18 13 57.8 -0.5**
ABPO Ambohimpanom 78.49 250 *eP* **P 18 13 58.0 -0.4**
ABPO Ambohimpanom 78.49 250 *eP* **P 18 13 58.0 -0.4**
ZEI Tsey 81.15 313 *eP* **P 18 14 11.3 -0.8**
ZEI pmax pmax
comp=Z,27nm,1.4s
KIV Kislovodsk 82.12 314⇑ *eP* **P 18 14 18.4 +1.4**
KIV pmax pmax
comp=Z,16nm,1.2s
VSR Storozhevoye 84.92 321 *eP* **P 18 14 29.5 -1.2**
VSR *e* 18 24 23.2
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,0.5s
VSR pmax pmax
comp=Z,20nm,0.5s
ANN Anapa 85.92 315 *eP* **P 18 14 34.1 -1.7**
ANN *e*S S 18 24 29.4 -9.3
ANN pmax pmax
comp=Z,54nm,1.0s
MOS Moscow 85.99 326 *eP* **P 18 14 35.1 -0.7**
ASF Jabal al Asfar 86.36 302 P **P 18 14 38.7 +0.4**
comp=Z,12nm,0.6s,baz=306,slow=3.2,SNR=16
ASF Jabal al Asfar 86.36 302 P **P 18 14 38.7 +0.4**
ASF Jabal al Asfar 86.36 302 P **P 18 14 38.7 +0.4**
OBN Obninsk 86.58 325 *c* iP **P 18 14 37.8 -0.9**
OBN pmax pmax
comp=Z,54nm,1.8s
OBN Obninsk 86.58 325 *eP* **P 18 14 37.1 -1.6**
comp=Z,13nm,0.5s
KMBO Kilima Mbogo 86.97 269 *eP* **P 18 14 42.3 +0.5**
KMBO pmax pmax
comp=Z,34nm,1.4s
KMBO Kilima Mbogo 86.97 269 *eP* **P 18 14 42.3 +0.5**
comp=Z,34nm,1.4s
ILAR Eielson Array 87.29 25 P **P 18 14 41.2 -0.7**
comp=Z,0.2nm,0.5s,baz=249,slow=4.4,SNR=5.7
ILAR PKKPbc **PKKPbc** **18 32 30.9 -2.9**
comp=Z,0.5nm,0.8s,baz=70,slow=1.4,SNR=4.8
ILAR Eielson Array 87.29 25 P **P 18 14 41.2 -0.7**
ILAR Eielson Array 87.29 25 P **P 18 14 41.2 -0.7**
ILAR PKKPbc **PKKPbc** **18 32 30.9 -2.9**
MMAI Mount Meron Ar 87.61 303 P **P 18 14 44.6 +0.4**
comp=Z,5.1nm,0.5s,baz=83,slow=8.8,SNR=15
MMAI Mount Meron Ar 87.61 303 P **P 18 14 44.6 +0.4**
EIL Elat 88.09 299 P **P 18 14 46.8 +0.4**
comp=Z,4.6nm,0.7s,baz=311,slow=4.5,SNR=5.0
EIL Elat 88.09 299 P **P 18 14 46.8 +0.4**
SIM Simferopol' 88.28 315 *d* iP **P 18 14 47.6 +0.6**
SIM pmax pmax
comp=Z,56nm,0.5s
BR131 Keskin Array S 88.82 310 *eP* **P 18 14 49.8 0.0**
comp=Z,4.4nm,1.0s
BRTR Keskin Array B 88.82 310 P **P 18 14 48.3 -1.6**
comp=Z,1.9nm,0.7s,baz=114,slow=3.4,SNR=9.0
BRTR Keskin Array B 88.82 310 *ce*P **P 18 14 48.2 -1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 88.82 310 P **P 18 14 48.3 -1.6**
JOF Joensuu 89.09 333 *eP* **P 18 14 47.8 -2.5**
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 89.09 333 *ep* **P 18 14 47.8 -2.5**
comp=Z,8.1nm,0.5s
JOF Joensuu 89.09 333 *ep* **P 18 14 47.8 -2.5**
comp=Z,8.1nm,0.5s
KEV Kevo 90.14 340 *eP* **P 18 14 54.2 -0.9**
KEV Kevo 90.14 340 *ep* **P 18 14 54.2 -0.9**
KEV Kevo 90.14 340 *ep* **P 18 14 54.2 -0.9**
ARCES ARCESS Array B 90.69 340 P **P 18 14 57.0 -0.7**
comp=Z,3.5nm,0.6s,baz=91,slow=5.5,SNR=12
ARCES ARCESS Array B 90.69 340 P **P 18 14 57.0 -0.7**
ARCES ARCESS Array B 90.69 340 P **P 18 14 57.0 -0.7**
SPITS Spitsbergen Ar 91.17 349 P **P 18 14 59.3 -0.4**
comp=Z,2.5nm,0.4s,baz=116,slow=8.9,SNR=21
SPITS Spitsbergen Ar 91.17 349 P **P 18 14 59.3 -0.4**
SPITS Spitsbergen Ar 91.17 349 P **P 18 14 59.3 -0.4**
AKASG Malin Array Be 91.21 321 P **P 18 14 59.1 -1.4**
comp=Z,1.7nm,0.5s,baz=74,slow=4.7,SNR=8.8
AKASG Malin Array Be 91.21 321 *ce*P **P 18 14 59.0 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 91.21 321 P **P 18 14 59.1 -1.4**
KIEV Kiev 91.22 321⇑ *eP* **P 18 14 59.1 -1.4**
KAF Kangasniemi 91.48 332 *eP* **P 18 14 59.3 -2.1**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 91.48 332 *ep* **P 18 14 59.3 -2.1**
comp=Z,5.9nm,0.5s
KAF Kangasniemi 91.48 332 *ep* **P 18 14 59.3 -2.1**
comp=Z,5.9nm,0.5s
FINES FINESS Array B 91.68 332 P **P 18 15 01.6 -0.8**
comp=Z,3.6nm,0.5s,baz=42,slow=4.6,SNR=19
FINES FINESS Array B 91.68 332 P **P 18 15 01.6 -0.8**
FINES FINESS Array B 91.68 332 P **P 18 15 01.6 -0.8**
BUR08 Bucovina Ar. S 94.20 318 *eP* **P 18 15 14.4 -0.1**
UZH Uzhgorod 95.96 319 *eP* **P 18 15 21.1 -1.1**
UZH *e* 18 26 09.3
OJC Ojcow 97.23 321 *eP* **P 18 15 27.7 -0.3**
OJC Ojcow 97.23 321 *eP* **P 18 15 27.7 -0.3**
NOA NORSAR Array B 98.72 333 P Pdif 18 15 32.5 -1.9
comp=Z,1.4nm,0.8s,baz=69,slow=4.6,SNR=4.3
NOA NORSAR Array B 98.72 333 P Pdif 18 15 32.6 -1.8
NOA NORSAR Array B 98.72 333 P Pdif 18 15 32.5 -1.9
BOSA Boshof 99.02 242 P **Pdif 18 15 36.0 -0.6**
comp=Z,3.3nm,1.1s,baz=124,slow=5.7,SNR=3.3
BOSA Boshof 99.02 242 P **Pdif 18 15 36.0 -0.6**
BOSA Boshof 99.02 242 P **Pdif 18 15 36.0 -0.6**
LPG La Plagne 107.01 319 *ePP* **PP 18 20 43.6 +1.0**
comp=Z,20nm,1.3s
LPL La Plagne 107.02 319 *ePP* **PP 18 20 44.2 +1.6**
comp=Z,20nm,1.1s
NVAR Mina Array Bea 109.61 48 PKiKP **PKiKP** **18 20 25.2 +0.7**
comp=Z,0.4nm,0.6s,baz=202,slow=1.6,SNR=4.4
NVAR PKKP **PKKPab** **18 31 43.4 0.0**
comp=Z,0.4nm,0.5s,baz=136,slow=5.1,SNR=4.1
NVAR Mina Array Bea 109.61 48 PKiKP **PKiKP** **18 20 25.2 +0.7**
NVAR PKiKP **PKKPab** **18 31 43.4 0.0**
ULM Lac du Bonnet 117.23 28 PKP **PKPdf** **18 20 38.0 -0.5**
comp=Z,1.6nm,0.6s,baz=341,slow=4.2,SNR=3.2
ULM Lac du Bonnet 117.23 28 PKiKP **PKPdf** **18 20 38.0 -0.5**
ULM Lac du Bonnet 117.23 28 PKP **PKPdf** **18 20 38.0 -0.5**
TORD Torodi Ar. Bea 120.84 287 PKP **PKPdf** **18 20 46.0 -0.4**
comp=Z,4.9nm,0.7s,baz=57,slow=1.5,SNR=29
TORD Torodi Ar. Bea 120.84 287 PKP **PKPdf** **18 20 46.0 -0.4**
SCHQ Schefferville 122.13 7 PKP **PKPdf** **18 20 48.2 +0.4**
comp=Z,4.3nm,0.5s,baz=284,slow=2.9,SNR=14
SCHQ Schefferville 122.13 7 PKP **PKPdf** **18 20 48.2 +0.4**
TXAR Lajitas Array 124.36 52 PKP **PKPdf** **18 20 54.1 +1.2**
comp=Z,0.6nm,0.7s,baz=203,slow=0.5,SNR=9.2
TXAR SKPbc SKiKP 18 23 33.4 -21
comp=Z,0.8nm,0.7s,baz=245,slow=2.3,SNR=9.7
TXAR PKKPbc **PKKPab** **18 30 38.2 -0.3**
comp=Z,0.1nm,0.4s,baz=130,slow=6.0,SNR=5.3
TXAR Lajitas Array 124.36 52 PKiKP **PKPdf** **18 20 54.1 +1.2**
TXAR Lajitas Array 124.36 52 PKP **PKPdf** **18 20 54.1 +1.2**
TXAR SKPbc SKiKP 18 23 33.4 -21
TXAR PKKPbc **PKKPab** **18 30 38.2 -0.3**
WMOK Wichita Mounta 125.28 43 *ePKiKP* **PKPdf** **18 20 53.7 -0.8**
WMOK Wichita Mounta 125.28 43 *ePKPdf* **PKPdf** **18 20 53.7 -0.8**
JCT Junction City 126.78 48 *ePKiKP* **PKPdf** **18 20 58.5 +1.1**
JCT Junction City 126.78 48 *ePKPdf* **PKPdf** **18 20 58.5 +1.1**
DBIC Dimbokro 128.30 280 PKP **PKPdf** **18 21 00.9 +0.2**
comp=Z,3.2nm,0.6s,baz=84,slow=4.4,SNR=11
DBIC PP **PP** **18 23 09.7 -0.4**
comp=Z,3.3nm,0.9s,baz=273,slow=3.7,SNR=3.0
DBIC SKPbc SKiKP 18 23 46.9 -16
comp=Z,6.5nm,0.7s,baz=77,slow=4.9,SNR=11
DBIC Dimbokro 128.30 280 PKiKP **PKPdf** **18 21 00.9 +0.2**
DBIC 18 23 09.7
DBIC Dimbokro 128.30 280 PKP **PKPdf** **18 21 00.9 +0.2**
DBIC PP **PP** **18 23 09.7 -0.4**
DBIC SKPbc SKiKP 18 23 46.9 -16
PLCA Paso Flores 139.69 163 PKP **PKPdf** **18 21 22.7 +1.3**
comp=Z,1.7nm,0.8s,baz=126,slow=9.9,SNR=3.7
PLCA SKPbc **SKiKP** **18 24 24.5 -1.2**
comp=Z,2.5nm,0.6s,baz=111,slow=12,SNR=6.4
PLCA Paso Flores 139.69 163 PKiKP **PKPdf** **18 21 22.7 +1.3**
PLCA 18 24 24.5
PLCA Paso Flores 139.69 163 PKP **PKPdf** **18 21 22.7 +1.3**
PLCA SKPbc **SKiKP** **18 24 24.5 -1.2**

*NNC **04** 18:18:47.5±2.1,40°.35N×76°.41E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=16.3km s-min=11.1km az=144.0
ISC 04 18:18:55.9±1.7,40°.59N±0°.09×76°.3E±0°.1,h10km,n14,
σ1s14/24,2C-3D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.10**	**193**	Pg	Pb	18 19 12.6	-4.6
KSH				Sg	**Sg**	**18 19 31.4**	**-0.1**
KSH				smax	smax		
	comp=N,220nm,0.6s						
KSH				smax	smax		
	comp=E,340nm,0.4s						
ULHL	**Ulahol**	**1.65**	**359**	P	**Pn**	**18 19 23.4**	**-1.8**
	SNR=57						
ULHL				P	**Pn**	**18 19 23.4**	**-1.8**
	SNR=57						
KZA	**Kyzart**	**1.68**	**333**	P	**Pn**	**18 19 24.4**	**-1.3**
	SNR=49						
KZA				P	**Pn**	**18 19 24.4**	**-1.3**
	SNR=49						
UCH	**Uchtor**	**2.11**	**321**	P	**Pn**	**18 19 32.3**	**+0.6**
	SNR=7.0						
UCH				P	**Pn**	**18 19 32.3**	**+0.6**
	SNR=7.0						
KBK	**Karagaybulak**	**2.29**	**334**	P	**Pn**	**18 19 35.5**	**+1.6**
	SNR=32						
KBK				P	**Pn**	**18 19 35.5**	**+1.6**
	SNR=32						
TKM2	**Tokmak 2**	**2.38**	**348**	P	**Pn**	**18 19 34.8**	**-0.4**
	SNR=24						
TKM2				P	**Pn**	**18 19 34.8**	**-0.4**
	SNR=24						
TKM2	**Tokmak 2**	**2.38**	**348**	⇓Pg	**Pn**	**18 19 35.2**	**-0.1**
	comp=E,26nm,0.7s						
TKM2				⇓Lg	Lg	18 20 11.9	
	comp=E,13nm,0.5s						
AAK	**Ala-Archa**	**2.44**	**327**	P	**Pn**	**18 19 37.9**	**+1.9**
	SNR=31						
AAK				P	**Pn**	**18 19 37.9**	**+1.9**
	SNR=31						
AML	**Almayashu**	**2.48**	**309**	P	**Pn**	**18 19 36.3**	**-0.5**
	SNR=23						
AML				P	**Pn**	**18 19 36.3**	**-0.5**
	SNR=23						
CHMS	**Chumysh**	**2.66**	**335**	P	**Pn**	**18 19 39.0**	**0.0**
	SNR=9.7						
CHMS				P	**Pn**	**18 19 39.0**	**0.0**
	SNR=9.7						
KNDC	**Almaty**	**2.67**	**11**	⇑Pg	**Pn**	**18 19 40.7**	**+1.7**
	comp=E,6.8nm,0.5s						
KNDC				⇑Lg	Lg	18 20 19.5	
	comp=E,27nm,0.7s						

EKS2	**Erkin-Say**	**2.79**	**318**	P		**Pn**	**18 19 41.4**	**+0.6**
	SNR=16							
EKS2				P		**Pn**	**18 19 41.4**	**+0.6**
	SNR=16							
USP	**Ospenovka**	**2.99**	**334**	P		**Pn**	**18 19 43.3**	**-0.1**
	SNR=5.6							
USP				P		**Pn**	**18 19 43.3**	**-0.1**
	SNR=5.6							
KK31	**Karatay Array**	**4.99**	**302**	⇓Pg		**Pb**	**18 20 23.0**	**-0.3**
	comp=E,0.5nm,0.4s,baz=120,slow=16,SNR=9.9							
KK31				Lg		Lg	18 21 30.8	
	comp=E,2.3nm,0.6s,baz=119,slow=27,SNR=5.5							

*IDC **04** 18:21:11.3±1.0, 0.°69S×133.°74E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML4.1/1, MS4.4/3, Ms1 4.4/3, ms1mx3.3/22, Error ellipse: s-maj=65.2km s-min=17.6km az=76.0*

*DJA **04** 18:21:11, 0.°23S×133.°61E, h56km, MLv4.5/8*

*NEIC **04** 18:21:16.7±0.4, 0.°78S×133.°49E, h35km, mb4.6/10, Error ellipse: s-maj=16.8km s-min=4.9km az=65.0*

ISC 04 18:21:15.9±0.8, 0.°7S±0.°1×133.°7E±0.°3, h32km, n38, σ0s68/35, mb4.2/15, MS4.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**16.15**	**145**	*e*Pn	**P**	**18 25 02.3**	**-1.4**
	28nm,1.2s						
WRAB	**Tennant Creek**	**19.09**	**178**	*e*P	**P**	**18 25 35.9**	**-0.1**
	4.9nm,0.7s						
WRA	**Warramunga Arr**	**19.09**	**178**	P	**P**	**18 25 35.8**	**-0.3**
	0.6nm,0.3s,baz=358,slow=12,SNR=18						
WRA	**Warramunga Arr**	**19.09**	**178**	P	**P**	**18 25 35.8**	**-0.3**
AS31	**Alice Springs**	**22.79**	**179**	*e*P	**P**	**18 26 15.9**	**-0.2**
ASAR	**Alice Springs**	**22.79**	**179**	P	**P**	**18 26 16.1**	**0.0**
	2.6nm,0.6s,baz=358,slow=8.7,SNR=44						
ASAR	**Alice Springs**	**22.79**	**179**	P	**P**	**18 26 16.1**	**0.0**
STKA	**Stephens Creek**	**31.86**	**167**	P	**P**	**18 27 39.1**	**+0.9**
	1.5nm,0.7s,baz=348,slow=13,SNR=7.2						
STKA	**Stephens Creek**	**31.86**	**167**	P	**P**	**18 27 39.1**	**+0.9**
TAU	**Tasmania Unive**	**43.73**	**165**	*e*P	**P**	**18 29 18.7**	**+0.5**
	13nm,1.0s						
ASAJ	**Asahikawa**	**45.37**	**9**	LR	LR	18 45 41.2	
	comp=Z,255nm,20.1s,baz=266,slow=32						
LSA	**Lhasa**	**50.59**	**310**	*e*P	**P**	**18 30 12.3**	**-0.3**
	1.5nm,0.6s						
TAPN	**Taplejung**	**52.24**	**306**	*e*P	**P**	**18 30 24.4**	**-0.3**
TAPN	**Taplejung**	**52.24**	**306**	*e*P	**P**	**18 30 24.4**	**-0.3**
ODAN	**Odare**	**52.30**	**305**	*e*P	**P**	**18 30 24.3**	**-0.8**
	4.2nm,0.5s						
ODAN	**Odare**	**52.30**	**305**	*e*P	**P**	**18 30 24.3**	**-0.8**
	4.2nm,0.5s						
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**18 30 28.9**	**-1.3**
	7.2nm,0.6s						
RAMN	**Ramite**	**52.98**	**305**	*e*P	**P**	**18 30 28.9**	**-1.3**
	7.2nm,0.6s						
JIRN	**Jiri**	**53.60**	**306**	*e*P	**P**	**18 30 34.1**	**-0.8**
	3.2nm,0.6s						
JIRN	**Jiri**	**53.60**	**306**	*e*P	**P**	**18 30 34.1**	**-0.8**
	3.2nm,0.6s						
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**18 30 36.9**	**+0.5**
	0.7nm,1.0s,baz=148,slow=7.5,SNR=3.6						
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**18 30 36.9**	**+0.5**
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**18 30 36.8**	**-0.6**
	6.2nm,0.7s						
GUN	**Gumba**	**53.95**	**306**	*e*P	**P**	**18 30 36.8**	**-0.6**
	6.2nm,0.7s						
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**18 30 40.1**	**-0.9**
	2.6nm,0.5s						
DMN	**Daman**	**54.46**	**305**	*e*P	**P**	**18 30 40.1**	**-0.9**
	2.6nm,0.5s						
KOLN	**Koldanda**	**55.76**	**305**	*e*P	**P**	**18 30 49.7**	**-0.6**
	4.2nm,0.5s						
KOLN	**Koldanda**	**55.76**	**305**	*e*P	**P**	**18 30 49.7**	**-0.6**
	4.2nm,0.5s						
MKAR	**Makanchi Array**	**65.20**	**324**	P	**P**	**18 31 54.9**	**+0.6**
	1.4nm,0.6s,baz=105,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**65.20**	**324**	P	**P**	**18 31 54.9**	**+0.6**
KURK	**Kurchatov**	**69.25**	**326**	P	**P**	**18 32 20.0**	**+0.2**
	1.4nm,0.7s,baz=121,slow=5.6,SNR=14						
KURK	**Kurchatov**	**69.25**	**326**	P	**P**	**18 32 20.0**	**+0.2**
BVAR	**Borovoye Array**	**74.85**	**326**	P	**P**	**18 32 53.3**	**0.0**
	1.4nm,0.5s,baz=134,slow=8.3,SNR=4.4						
BVAR	**Borovoye Array**	**74.85**	**326**	P	**P**	**18 32 53.3**	**0.0**
ILAR	**Eielson Array**	**86.16**	**25**	P	**P**	**18 33 53.6**	**-0.2**
	0.4nm,0.7s,baz=251,slow=4.6,SNR=7.7						
ILAR	**Eielson Array**	**86.16**	**25**	P	**P**	**18 33 53.6**	**-0.2**
FINES	**FINESS Array B**	**99.00**	**332**	LR	LR	19 27 24.3	
	comp=Z,419nm,19.9s,baz=307,slow=40						
AKASG	**Malin Array Be**	**99.70**	**321**	LR	LR	19 27 37.1	
	comp=Z,161nm,21.0s,baz=15,slow=40						

IDC 04 18:28:54.3±3.0, 1.°12S×132.°96E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=160.1km s-min=26.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.76**	**176**	P	Pn	18 33 15.7	+0.2
	0.0nm,0.3s,baz=355,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**22.44**	**178**	P	P	18 33 54.8	-0.3
	0.4nm,0.4s,baz=354,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**65.08**	**324**	P	P	18 39 36.7	-0.1
	0.1nm,0.5s,baz=116,slow=8.6,SNR=3.3						

*IDC **04** 18:29:03.8±1.4, 39.°21N×73.°64E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.6/29, mbtmp3.7/13, ML3.3/5, MS3.7/1, Ms1 3.9/1, ms1mx2.6/36, Error ellipse: s-maj=24.0km s-min=16.3km az=159.0*

*NNC **04** 18:29:09.5±1.4, 39.°72N×73.°43E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=13.5km s-min=6.2km az=13.0*

ISC 04 18:29:10.2±1.5, 39.°9N±0.°1×73.°80E±0.°06, h10km, n37, σ1s28/43, mb3.8/8, 11C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.23**	**358**	P	**Pb**	**18 29 51.7**	**+0.9**
	SNR=44						
AML				P	**Pb**	**18 29 51.7**	**+0.9**
	SNR=44						
UCH	**Uchtor**	**2.39**	**13**	P	**Pb**	**18 29 55.1**	**+1.6**
	SNR=16						
UCH				P	**Pb**	**18 29 55.1**	**+1.6**
	SNR=16						
KZA	**Kyzart**	**2.44**	**26**	P	**Pb**	**18 29 55.5**	**+1.1**
	SNR=18						
KZA				P	**Pb**	**18 29 55.5**	**+1.1**
	SNR=18						
EKS2	**Erkin-Say**	**2.76**	**360**	P	**Pb**	**18 29 59.4**	**-0.3**
	SNR=28						
EKS2				P	**Pb**	**18 29 59.4**	**-0.3**
	SNR=28						
AAK	**Ala-Archa**	**2.78**	**11**	P	**Pb**	**18 30 00.2**	**+0.1**
	SNR=83						
AAK				P	**Pb**	**18 30 00.2**	**+0.1**
	SNR=83						
KBK	**Karagaybulak**	**2.89**	**17**	P	**Pb**	**18 30 02.2**	**+0.4**
	SNR=9.2						
KBK				P	**Pb**	**18 30 02.2**	**+0.4**
	SNR=9.2						
ULHL	**Ulahol**	**2.98**	**37**	P	**Pb**	**18 30 04.2**	**+0.7**
	SNR=14						
ULHL				P	**Pb**	**18 30 04.2**	**+0.7**
	SNR=14						
CHMS	**Chumysh**	**3.18**	**13**	P	**Pb**	**18 30 05.2**	**-1.5**
	SNR=15						
CHMS				P	**Pb**	**18 30 05.2**	**-1.5**
	SNR=15						
TKM2	**Tokmak 2**	**3.31**	**24**	P	Pn	18 30 06.8	+4.6
	SNR=19						
TKM2				P	Pn	18 30 06.8	+4.6
	SNR=19						
TKM2	**Tokmak 2**	**3.31**	**24**	⇓Pn	Pn	18 30 06.3	+4.1
	14nm,0.6s						
TKM2				⇓Lg	Lg	18 31 02.7	
	40nm,0.6s						
USP	**Ospenovka**	**3.41**	**9**	P	**Pb**	**18 30 09.8**	**-0.8**
	SNR=9.1						
USP				P	**Pb**	**18 30 09.8**	**-0.8**
	SNR=9.1						
KK31	**Karatay Array**	**4.04**	**323**	Pn	**Pn**	**18 30 14.8**	**+2.7**
	2.4nm,0.3s,baz=130,slow=12,SNR=209						
KK31				⇓Pg	**Pb**	**18 30 24.0**	**+2.6**
	6.7nm,0.3s,baz=123,slow=17,SNR=4.8						
KK31				⇓Sn	**Sb**	**18 31 07.3**	**-3.1**
	16nm,0.6s						
KK31				⇓Lg	Lg	18 31 17.6	
	20nm,0.4s,baz=158,slow=31,SNR=4.9						
KNDC	**Almaty**	**4.08**	**35**	⇑Pg	**Pg**	**18 30 28.9**	**+0.6**
	35nm,0.8s						
KNDC				⇑Lg	Lg	18 31 26.9	
	95nm,0.6s						
MK31	**Makanchi Array**	**9.26**	**39**	⇑Pn	Pn	18 31 32.6	+9.0
	1.0nm,0.6s,baz=222,slow=14,SNR=4.7						
MK31				⇓Lg	Lg	18 34 09.7	
	4.3nm,1.1s						
MKAR	**Makanchi Array**	**9.26**	**39**	Pn	Pn	18 31 29.2	+5.5
	0.0nm,0.3s,baz=220,slow=15,SNR=4.7						
MKAR				Lg	Lg	18 34 05.6	
	0.1nm,0.3s,baz=222,slow=30,SNR=3.1						
KURBB	**Kurchatov Arra**	**11.23**	**16**	⇑Pn	Pn	18 31 53.9	+3.4
	0.4nm,0.9s						
KURBB				⇓Lg	Lg	18 35 13.8	
	4.8nm,1.3s						
KURK	**Kurchatov**	**11.33**	**16**	Pn	**Pn**	**18 31 53.6**	**+1.6**
	0.0nm,0.3s,baz=206,slow=12,SNR=6.7						
KURK				Lg	Lg	18 35 07.9	
	0.0nm,0.3s,baz=206,slow=29,SNR=5.0						
KURK	**Kurchatov**	**11.33**	**16**	⇑Pn	**Pn**	**18 31 54.4**	**+2.4**
	3.9nm,1.0s						
KURK				⇑Lg	Lg	18 35 17.2	
	14nm,1.1s						
VOSK	**Vostochnaya**	**12.97**	**352**	⇓Pn	**Pn**	**18 32 15.0**	**+0.6**
	1.9nm,0.8s						
VOSK				⇑Lg	Lg	18 36 07.3	
	1.0nm,0.8s						
BVA0	**Borovoye Array**	**13.34**	**351**	⇓Pn	**Pn**	**18 32 19.6**	**+0.3**
	0.3nm,0.8s,baz=163,slow=11,SNR=17						
BVA0				⇑Lg	Lg	18 36 16.4	
	0.7nm,1.1s						
BVAR	**Borovoye Array**	**13.34**	**351**	Pn	**Pn**	**18 32 20.0**	**+0.6**
	0.3nm,0.3s,baz=164,slow=13,SNR=18						
BRVK	**Borovoye**	**13.38**	**351**	⇓Pn	**Pn**	**18 32 20.4**	**+0.4**
	6.9nm,1.3s						
BRVK				⇑Lg	Lg	18 36 19.5	
	12nm,1.3s						
ZRNK	**Zerenda**	**13.46**	**347**	⇓Lg	**Pn**	**18 32 21.3**	**+0.2**
	1.7nm,0.7s						
ZRNK				⇓Lg	Lg	18 36 22.1	
	3.6nm,1.5s						
AB31	**Akbulak array**	**13.58**	**318**	Pn	**Pn**	**18 32 21.9**	**-0.8**
	3.0nm,0.8s,baz=127,slow=14,SNR=39						
AB31				⇑Sn	**Sn**	**18 34 55.2**	**+1.5**
	0.8nm,0.6s,baz=126,slow=26,SNR=4.4						
AKTO	**Aktyubinsk**	**15.29**	**319**	Pn	**Pn**	**18 32 44.7**	**-1.3**
	0.2nm,0.3s,baz=123,slow=15,SNR=7.5						
AKTO				Sn	**Sn**	**18 35 34.8**	**-0.5**
	0.1nm,0.3s,baz=22,slow=19,SNR=2.3						
AKTO	**Aktyubinsk**	**15.29**	**319**	⇑Pn	**Pn**	**18 32 45.1**	**-0.8**
	1.1nm,1.1s						
AKTO				⇓Sn	**Sn**	**18 35 36.8**	**+1.5**
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**15.91**	**24**	Pn	**P**	**18 32 57.0**	**-0.6**
	0.5nm,0.3s,baz=218,slow=11,SNR=7.2						
SONM	**Songino Array**	**24.66**	**60**	P	**P**	**18 34 30.3**	**-0.8**
	0.3nm,0.6s,baz=265,slow=10.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.45**	**127**	LR	LR	18 47 17.2	
	comp=Z,143nm,21.6s,baz=151,slow=36						
BRTR	**Keskin Array B**	**30.67**	**283**	P	P	18 35 20.9	-4.1
	0.7nm,0.8s,baz=99,slow=7.6,SNR=3.4						
FINES	**FINESS Array B**	**36.00**	**323**	P	**P**	**18 36 10.2**	**-0.8**
	3.4nm,1.0s,baz=111,slow=9.2,SNR=10						
ARCES	**ARCESS Array B**	**38.91**	**335**	P	**P**	**18 36 35.2**	**-0.4**
	4.5nm,0.9s,baz=108,slow=7.9,SNR=8.1						
NB2	**NORSAR Subarra**	**43.07**	**321**	P	**P**	**18 37 08.6**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.07**	**321**	P	**P**	**18 37 08.3**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=91,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**68.00**	**269**	P	P	18 40 04.4	-5.4
	comp=Z,0.8nm,0.6s,baz=22,slow=3.2,SNR=8.3						
INK	**Inuvik**	**70.18**	**10**	P	**P**	**18 40 21.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=131,slow=8.5,SNR=5.1						
ILAR	**Eielson Array**	**70.90**	**17**	P	**P**	**18 40 26.4**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=326,slow=3.9,SNR=4.7						

*DJA **04** 18:33:18, 0.°18S×132.°72E, h10km, MLv4.3/3*

IDC 04 18:33:16.9±0.9, 0.°21S×132.°90E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=49.5km s-min=16.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.66**	**176**	P	P	18 37 47.8	+0.2
	0.8nm,0.3s,baz=354,slow=12,SNR=30						
ASAR	**Alice Springs**	**23.34**	**178**	P	P	18 38 27.4	+0.4
	11nm,0.7s,baz=357,slow=11,SNR=90						
STKA	**Stephens Creek**	**32.55**	**166**	P	P	18 39 49.4	-0.5
	4.5nm,0.8s,baz=344,slow=5.6,SNR=7.7						
CMAR	**Chiang Mai Arr**	**38.17**	**301**	P	P	18 40 37.8	-0.7
	0.7nm,0.9s,baz=129,slow=7.6,SNR=7.3						
SONM	**Songino Array**	**53.11**	**338**	P	P	18 42 37.3	+0.9
	0.5nm,0.6s,baz=161,slow=8.7,SNR=4.7						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	18 43 55.0	+0.6
	1.7nm,0.7s,baz=115,slow=8.1,SNR=24						
ZALV	**Zalesovo Beam**	**66.92**	**331**	P	P	18 44 09.7	-1.3
	0.4nm,0.3s,baz=114,slow=7.3,SNR=4.0						
KURK	**Kurchatov**	**68.39**	**326**	P	P	18 44 20.5	+0.2
	2.0nm,0.8s,baz=121,slow=5.9,SNR=23						
BVAR	**Borovoye Array**	**73.98**	**326**	P	P	18 44 54.3	0.0
	1.1nm,0.7s,baz=111,slow=8.1,SNR=8.9						
ILAR	**Eielson Array**	**86.01**	**25**	P	P	18 45 58.9	-0.2
	0.7nm,0.8s,baz=264,slow=4.5,SNR=8.5						

*DJA **04** 18:43:43, 0.°39S×134.°16E, h30km, mb4.6/5*

IDC 04 18:43:45.7±2.9, 0.°77S×133.°66E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=144.4km s-min=25.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.07**	**178**	P	P	18 48 10.0	+0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.77**	**179**	P	P	18 48 49.8	-0.1
	0.6nm,0.4s,baz=4.7,slow=11,SNR=19						
MKAR	**Makanchi Array**	**65.21**	**324**	P	P	18 54 29.0	0.0
	0.3nm,0.6s,baz=113,slow=8.3,SNR=9.0						

IDC 04 18:47:32.3±4.9, 0.°66S×131.°10E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=347.4km s-min=26.1km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.43**	**171**	P	P	18 52 00.0	-0.5
	0.1nm,0.3s,baz=350,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**23.03**	**173**	P	P	18 52 39.6	+0.3
	0.8nm,0.8s,baz=358,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**63.63**	**325**	P	P	18 58 05.3	0.0
	0.2nm,0.8s,baz=119,slow=5.4,SNR=2.6						

IDC 04 18:49:12.5±3.5, 0.°58S×134.°06E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=182.6km s-min=26.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.25**	**179**	P	P	18 53 38.5	-0.2
	0.0nm,0.3s,baz=358,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.95**	**180**	P	P	18 54 19.0	+0.2
	0.6nm,0.9s,baz=6.0,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**65.30**	**324**	P	P	18 59 56.4	-0.1
	0.2nm,0.9s,baz=112,slow=9.4,SNR=2.9						

IDC 04 18:52:20.8±4.8, 0.°99S×131.°96E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=315.6km s-min=26.5km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**173**	P	P	18 56 43.7	-0.4
	0.1nm,0.3s,baz=354,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**22.63**	**175**	P	P	18 57 23.9	+0.3
	0.4nm,0.6s,baz=357,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**64.39**	**324**	P	P	19 02 58.8	-0.1
	0.1nm,0.6s,baz=107,slow=9.7,SNR=2.0						

WEL 04 18:53:48.2±0.1, 44.°74S×167.°80E, h62km±1km, ML3.7/13, 2C-1D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.11**	**55**	⇑PN	Pn	18 53 57.2	-0.2
MSZ				SN	Sn	18 54 04.0	-0.2
MLZ	**Mavora Lakes**	**0.67**	**157**	PN	Pn	18 54 01.8	-0.4
MLZ				SN	Sn	18 54 12.2	-0.3
WKZ	**Wanaka**	**0.87**	**96**	PN	Pn	18 54 04.7	0.0
DCZ	**Deep Cove**	**0.87**	**212**	PN	Pn	18 54 04.5	-0.2
DCZ				SN	Sn	18 54 16.8	0.0
JCZ	**Jackson Bay**	**0.95**	**46**	⇑PN	Pn	18 54 05.5	-0.3
JCZ				SN	Sn	18 54 18.9	+0.1
WHZ	**Wether Hill Ro**	**1.16**	**175**	PN	Pn	18 54 08.0	-0.4
WHZ				SN	Sn	18 54 23.4	-0.1
EAZ	**Earnscleugh**	**1.18**	**115**	PN	Pn	18 54 08.6	0.0
EAZ				SN	Sn	18 54 23.2	-0.7
PYZ	**Puysegur Point**	**1.64**	**208**	PN	Pn	18 54 14.7	0.0
LBZ	**Lake Benmore**	**1.74**	**79**	⇓PN	Pn	18 54 15.3	-0.8
TUZ	**Tuapeka**	**1.77**	**134**	PN	Pn	18 54 16.2	-0.4
FOZ	**Fox Glacier**	**1.79**	**50**	PN	Pn	18 54 16.6	-0.2
SYZ	**Scrubby Hill**	**2.03**	**153**	PN	Pn	18 54 19.5	-0.5
ODZ	**Otahua Downs**	**2.04**	**100**	PN	Pn	18 54 19.3	-0.9
APZ	**The Paps**	**2.10**	**177**	PN	Pn	18 54 20.4	-0.7
RPZ	**Rata Peaks**	**2.55**	**68**	PN	Pn	18 54 25.5	-1.6
WVZ	**Waitaha Valley**	**2.69**	**53**	PN	Pn	18 54 27.6	-1.4
MQZ	**McQueen's Vall**	**3.63**	**75**	PN	Pn	18 54 39.6	-2.3
LTZ	**Lake Taylor**	**3.78**	**60**	PN	Pn	18 54 41.4	-2.6
DSZ	**Dennistoun Nort**	**4.18**	**46**	PN	Pn	18 54 47.8	-1.7
THZ	**Tophouse**	**4.76**	**53**	PN	Pn	18 54 55.1	-2.4
NNZ	**Nelson**	**5.39**	**51**	*e*PN	Pn	18 55 05.5	-0.5

*ISCJB **04** 18:55:02.8±0.5, 53.°26N±0.°05×116.°8W±0.°1, h10km, mb3.4/6, Error ellipse: s-maj=10.0km s-min=5.4km az=147.8*

*IDC **04** 18:55:03.8±1.0, 53.°45N×116.°18W, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.6/25, mbtmp3.5/8, ML3.6/4, Error ellipse: s-maj=28.9km s-min=14.1km az=61.0*

ISC 04 18:55:05.3±0.7, 53.°28N±0.°08×116.°90W±0.°09, h10km, n65, σ0s97/65, mb3.3/6, 20C-24D, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
A14A	**Double T Ranch**	**4.84**	**152**	P	**Pn**	**18 56 18.9**	**+0.7**
	baz=5.4,SNR=453						
A15A	**Johnson Ranch,**	**5.05**	**147**	P	**Pn**	**18 56 21.6**	**+0.5**
	baz=5.6,SNR=28						
B14A	**Marquette Ranc**	**5.44**	**154**	P	**Pn**	**18 56 26.5**	**0.0**
	baz=6.0,SNR=118						
A16A	**West Butte Ran**	**5.48**	**140**	⇑P	**Pn**	**18 56 26.9**	**-0.1**
	baz=6.0						
B15A	**Bradely Ranch,**	**5.69**	**149**	⇑P	**Pn**	**18 56 29.7**	**-0.1**
	baz=6.2,SNR=148						
A17A	**Triple J Farms**	**5.84**	**136**	P	**Pn**	**18 56 31.9**	**-0.1**
	baz=6.4,SNR=16						
B16A	**M & M Farms, S**	**5.88**	**144**	P	**Pn**	**18 56 32.2**	**-0.3**
	baz=6.4,SNR=14						
C15A	**Salmond Ranch,**	**6.16**	**152**	⇓P	**Pn**	**18 56 35.8**	**-0.6**
	baz=6.7,SNR=8.2						
B17A	**L&G Farms, Che**	**6.32**	**140**	⇓P	**Pn**	**18 56 38.0**	**-0.5**
	baz=6.9,SNR=13						
D13A	**Huson**	**6.39**	**165**	⇑P	**Pn**	**18 56 37.7**	**-1.7**
	baz=6.9						
C16A	**Fuhringer Ranc**	**6.39**	**147**	⇑P	**Pn**	**18 56 39.2**	**-0.4**
	baz=7.0,SNR=60						
D14A	**Greenough**	**6.58**	**159**	⇓P	**Pn**	**18 56 41.1**	**-1.0**
	baz=7.1,SNR=14						
A19A	**Klindworth Far**	**6.74**	**127**	⇑P	**Pn**	**18 56 44.3**	**+0.1**
	baz=7.3						
D15A	**Lincoln**	**6.85**	**154**	P	**Pn**	**18 56 46.2**	**+0.4**
	baz=7.4,SNR=13						
C17A	**Wharram Farm,**	**6.88**	**143**	⇓P	**Pn**	**18 56 46.3**	**+0.1**
	baz=7.4,SNR=6.9						
B19A	**Brinkman Farms**	**6.98**	**131**	⇓P	**Pn**	**18 56 47.8**	**+0.2**
	baz=7.6,SNR=12						
E13A	**Victor**	**7.07**	**165**	⇓P	**Pn**	**18 56 48.3**	**-0.5**
	baz=7.6,SNR=19						
D16A	**Dana Ranch, Ca**	**7.14**	**149**	⇑P	**Pn**	**18 56 49.7**	**-0.1**
	baz=7.7,SNR=15						
A20A	**Cobblestone Ra**	**7.17**	**124**	P	**Pn**	**18 56 50.3**	**+0.2**
	baz=7.7,SNR=51						
E14A	**Clinton**	**7.22**	**161**	⇑P	**Pn**	**18 56 50.2**	**-0.7**
	baz=7.7						
D17A	**Six Diamond Ra**	**7.32**	**145**	⇓P	**Pn**	**18 56 52.6**	**+0.4**
	baz=7.9,SNR=48						
E15A	**Deer Lodge**	**7.39**	**156**	P	**Pn**	**18 56 52.5**	**-0.9**
	baz=7.9,SNR=23						
B20A	**Solberg Farm,**	**7.42**	**127**	⇓P	**Pn**	**18 56 53.4**	**-0.2**
	baz=8.0,SNR=27						
C19A	**Slack Wire Ran**	**7.47**	**135**	P	**Pn**	**18 56 53.9**	**-0.5**
	baz=8.0,SNR=12						
E16A	**East Helena**	**7.55**	**151**	⇓P	**Pn**	**18 56 54.9**	**-0.6**
	baz=8.1,SNR=26						
A21A	**Bergtoll Ranch**	**7.60**	**120**	P	**Pn**	**18 56 55.9**	**-0.2**
	baz=8.2,SNR=28

C24A	**Savage** baz=10	**9.82**	**121**	⇓P	**Pn**	**18 57 25.7**	**-0.8**
ULM	**Lac du Bonnet** 0.5nm,0.3s,baz=305,slow=13,SNR=11	**13.36**	**95**	Pn	Pn	18 58 11.3	-3.5
ULM				Lg	Lg	19 01 55.6	
	0.4nm,0.3s,baz=225,slow=4.3,SNR=2.1						
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=357,slow=13,SNR=2.6	**14.89**	**184**	Pn	**Pn**	**18 58 38.3**	**+2.4**
INK	**Inuvik** 0.5nm,0.3s,baz=150,slow=11,SNR=18	**17.01**	**339**	Pn	**Pn**	**18 58 59.8**	**-3.1**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=116,slow=10,SNR=14	**19.02**	**319**	P	**Pn**	**18 59 27.9**	**+0.2**
RES	**Resolute Bay** 1.6nm,0.6s,baz=190,slow=11,SNR=8.2	**23.24**	**15**	P	**P**	**19 00 14.3**	**+2.2**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=350,slow=8.9,SNR=8.0	**25.82**	**153**	P	**P**	**19 00 36.6**	**-0.1**
FINES	**FINESS Array B** 2.4nm,0.8s,baz=344,slow=15,SNR=3.1	**61.91**	**19**	P	**P**	**19 05 21.6**	**-2.7**
ESDC	**Sonseca Array** 0.1nm,0.4s,baz=321,slow=8.2,SNR=3.8	**70.86**	**49**	P	**P**	**19 06 23.2**	**+1.0**
SONM	**Songino Array** 0.1nm,0.6s,baz=5.3,slow=6.0,SNR=3.1	**72.75**	**331**	P	**P**	**19 06 34.9**	**+1.4**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=355,slow=4.8,SNR=4.5	**78.97**	**347**	P	**P**	**19 07 09.0**	**+0.1**

IDC 04 19:00:46.3±2.8, 0.79S×133.57E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=138.4km s-min=26.0km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=357,slow=11,SNR=11	**19.05**	**178**	P	P	19 05 10.1	-0.2
ASAR	**Alice Springs** 0.4nm,0.5s,baz=356,slow=11,SNR=12	**22.74**	**179**	P	P	19 05 50.5	+0.2
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=116,slow=6.6,SNR=2.6	**65.18**	**324**	P	P	19 11 29.4	-0.1

*NEIC **04** 19:02:23.0, 15°.23N×92°.06W, h178km, mb4.7/2, MD4.1(MEX), After MEX.*

MEX 04 19:02:23.0±0.6, 15°.23N×92°.06W, h178km±7km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.38**	**212**	*i* P	Pn	19 02 45.3	-1.8
THIG				*i* S	Sn	19 03 03.5	-2.1
THIG		**0.38**	**212**	*i* P	Pn	19 02 45.3	-1.8
THIG				*i* S	Sn	19 03 03.5	-2.1
CCIG	**Comitan**	**1.05**	**356**	*i* P	Pn	19 02 50.1	-0.9
CCIG				*e*S	Sn	19 03 10.4	-2.5
CCIG	**Comitan**	**1.05**	**356**	*i* P	Pn	19 02 50.1	-0.9
CCIG				*e*S	Sn	19 03 10.4	-2.5
PCIG		**1.22**	**293**	*i* P	Pn	19 02 51.5	-0.7
PCIG				*e*S	Sn	19 03 12.8	-1.9
PCIG		**1.22**	**293**	*i* P	Pn	19 02 51.5	-0.7
PCIG				*e*S	Sn	19 03 12.8	-1.9
TGIG		**1.85**	**326**	*i* P	Pn	19 02 57.6	-0.8
TGIG				*e*S	Sn	19 03 23.3	-2.6
TGIG		**1.85**	**326**	*i* P	Pn	19 02 57.6	-0.8
TGIG				*e*S	Sn	19 03 23.3	-2.6
CMIG	**Matias Romero**	**3.29**	**305**	*i* P	Pn	19 03 14.5	-0.6
CMIG				*i* S	Sn	19 03 52.8	-2.9
CMIG	**Matias Romero**	**3.29**	**305**	*i* P	Pn	19 03 14.5	-0.6
CMIG				*i* S	Sn	19 03 52.8	-2.9
HUIG	**Huatulco**	**3.94**	**278**	*i* P	Pn	19 03 22.1	-1.2
HUIG				*e*S	Sn	19 04 08.6	-1.9
HUIG	**Huatulco**	**3.94**	**278**	*i* P	Pn	19 03 22.1	-1.2
HUIG				*e*S	Sn	19 04 08.6	-1.9
TEIG	**Tepich**	**6.14**	**35**	*e*Pn	Pn	19 03 48.5	-3.2
JTS	**JuntasAbangare** 8.2nm,0.4s	**8.49**	**124**	*e*Pn	Pn	19 04 21.2	-1.6
SIUC	**Southern Illin** 22nm,0.6s	**22.54**	**6**	*e*P	P	19 07 08.2	+0.2

IDC 04 19:07:44.4±2.0, 0.32S×132.68E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=110.2km s-min=24.1km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=354,slow=12,SNR=32	**19.57**	**175**	P	P	19 12 14.7	+0.6
ASAR	**Alice Springs** 4.3nm,0.9s,baz=359,slow=9.4,SNR=35	**23.24**	**177**	P	P	19 12 54.1	+0.6
STKA	**Stephens Creek** 1.6nm,0.9s,baz=346,slow=12,SNR=2.3	**32.50**	**166**	P	P	19 14 15.8	-1.0
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=110,slow=8.2,SNR=6.6	**64.28**	**324**	P	P	19 18 21.7	+0.1

IDC 04 19:14:09.7±3.2, 1.73S×132.80E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=176.2km s-min=26.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=354,slow=11,SNR=4.5	**18.16**	**175**	P	P	19 18 24.5	+0.6
ASAR	**Alice Springs** 1.6nm,0.8s,baz=356,slow=11,SNR=10	**21.83**	**177**	P	P	19 19 03.2	-0.6
MKAR	**Makanchi Array** 0.5nm,1.0s,baz=105,slow=9.3,SNR=2.5	**65.48**	**324**	P	P	19 24 54.8	0.0

IDC 04 19:15:18.1±3.0, 0.56S×133.28E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML2.3/1, Error ellipse: s-maj=159.6km s-min=26.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=356,slow=11,SNR=2.3	**19.29**	**177**	P	P	19 19 43.5	-1.2
ASAR	**Alice Springs** 0.6nm,0.6s,baz=5.4,slow=10,SNR=4.4	**22.98**	**179**	P	P	19 20 25.5	+1.0
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=113,slow=7.9,SNR=2.4	**64.82**	**324**	P	P	19 25 58.8	-0.1

JSN 04 19:15:34.5±1.4, 17.63N×78.71W, h0km±33km, MD3.5, 1C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.01**	**73**	⇑*i*P	Pg	19 15 52.3	-1.8
MBJ	**Montego Bay**	**1.11**	**46**	*i* P	Pg	19 15 54.2	-1.7
MBJ				*i* S	Sg	19 16 09.8	-0.5
PCJ	**Portland Cotta**	**1.48**	**86**	*i* P	Pn	19 16 00.6	-1.9
BBJ	**Bamboo Saint A**	**1.56**	**61**	*i* P	Pn	19 16 02.2	-1.4
STH	**Stony Hill**	**1.86**	**76**	*i* P	Pn	19 16 07.0	-0.7

IDC 04 19:27:00.3±16.0, 0.32N×131.92E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=301.7km s-min=192.8km az=125.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=351,slow=11,SNR=7.1	**20.28**	**173**	P	P	19 31 38.1	+0.3
ASAR	**Alice Springs** 0.9nm,0.4s,baz=354,slow=11,SNR=23	**23.93**	**176**	P	P	19 32 16.7	+0.4
STKA	**Stephens Creek** 1.4nm,0.7s,baz=0.0,slow=7.1,SNR=4.4	**33.31**	**165**	P	P	19 33 39.1	-0.8

IDC 04 19:28:30.2±3.2, 0.29N×96.85E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/22, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=133.4km s-min=27.0km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=200,slow=10,SNR=2.9	**18.17**	**6**	P	Pn	19 32 43.8	-0.4
ASAR	**Alice Springs** 0.4nm,0.9s,baz=307,slow=9.2,SNR=4.2	**43.13**	**126**	P	P	19 36 32.8	-0.1
MKAR	**Makanchi Array**	**48.04**	**347**	P	P	19 37 11.6	+0.3
	0.2nm,0.5s,baz=168,slow=8.9,SNR=6.0						
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=175,slow=5.1,SNR=3.3	**54.40**	**351**	P	P	19 37 58.5	-0.4

*BJI **04** 19:33:32.8, 1°.38S×134°.57E, h12km, mB4.7/2, mb4.3/4*
*IDC **04** 19:33:38.0±0.7, 0°.84S×134°.12E, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.3/17, mbtmp4.4/10, ML3.8/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/29, Error ellipse: s-maj=38.2km s-min=15.0km az=70.0*
*NEIC **04** 19:33:39.7±5.2, 1°.04S×133°.76E, h7km±33km, mb4.5/10, Error ellipse: s-maj=14.9km s-min=8.5km az=62.0*
*ISCJB **04** 19:33:40.5±0.4, 1°.02S×133°.85E±0°.09, h27km, mb4.4/18, MS3.4/3, Error ellipse: s-maj=13.2km s-min=6.0km az=163.5*
*DJA **04** 19:33:44, 0°.88S×134°.23E, h30km, MLv4.7/10*

ISC 04 19:33:42.2±0.5, 0.955±0°.06×134.0E±0°.1, h27km, n57, σ1§24/55, mb4.4/18, MS3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**12.14**	**193**	*e*P	**Pn**	**19 36 35.4**	**+1.8**
MTN				*e*S	**Sn**	**19 38 45.8**	**-2.4**
PMG	**Port Moresby** 0.3nm,0.3s,baz=335,slow=12,SNR=2.6	**15.59**	**123**	Pn	**Pn**	**19 37 20.4**	**+0.1**
PMG	**Port Moresby**	**15.59**	**123**	*e*Pn	**P**	**19 37 21.9**	**-2.3**
COEN	**Coen** 31nm,0.8s	**15.82**	**145**	*e*P	**Pn**	**19 37 22.1**	**-1.1**
COEN	**Coen**	**15.82**	**145**	*e*Pn	**Pn**	**19 37 22.9**	**-0.3**
GUMO	**Guam** comp=Z,228nm,19.3s,baz=88,slow=31	**18.04**	**36**	LR	LR	19 42 43.9	
WRAB	**Tennant Creek** 11nm,7s	**18.87**	**179**	*e*Pn	**P**	**19 37 59.6**	**-1.0**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=356,slow=12,SNR=54	**18.88**	**179**	P	**Pn**	**19 38 00.8**	**-0.5**
WRA	**Warramunga Arr**	**18.88**	**179**	P	**Pn**	**19 38 00.8**	**-0.5**
WB2	**Warramunga Arr**	**18.88**	**179**	*e*Pn	**P**	**19 37 59.2**	**-1.4**
CTAO	**Charters Tower** 20nm,0.8s	**22.50**	**148**	*e*P	**P**	**19 38 42.5**	**+2.6**
AS31	**Alice Springs**	**22.58**	**180**	*e*P	**P**	**19 38 38.5**	**-2.2**
ASAR	**Alice Springs** 8.6nm,0.7s,baz=9.7,slow=10,SNR=70	**22.58**	**180**	P	**P**	**19 38 41.1**	**+0.5**
ASAR	**Alice Springs**	**22.58**	**180**	P	**P**	**19 38 41.2**	**+0.5**
QLP	**Quilpie**	**27.34**	**160**	*e*P	**P**	**19 39 25.5**	**+0.5**
JOW	**Kunigami** comp=Z,154nm,21.1s,baz=49,slow=31	**28.16**	**349**	LR	LR	19 48 19.2	
STKA	**Stephens Creek** 3.0nm,0.7s,baz=335,slow=5.6,SNR=10.0	**31.60**	**168**	P	**P**	**19 40 03.0**	**+0.3**
STKA	**Stephens Creek** 2.7nm,0.8s	**31.60**	**168**	*e*P	**P**	**19 40 02.6**	**-0.2**
STKA	**Stephens Creek**	**31.60**	**168**	P	**P**	**19 40 03.0**	**+0.3**
MJAR	**Matsushiro Arr** comp=Z,103nm,21.7s,baz=190,slow=33	**37.51**	**6**	LR	LR	19 53 57.3	
KSRS	**Korea Array** comp=Z,22nm,18.2s,baz=310,slow=36	**38.62**	**352**	LR	LR	19 57 00.6	
CM31	**Chiang Mai Arr** 8.4nm,0.9s	**39.46**	**301**	*e*P	**P**	**19 41 10.3**	**-0.2**
CMAR	**Chiang Mai Arr** 6.6nm,0.9s,baz=126,slow=7.2,SNR=21	**39.46**	**301**	P	**P**	**19 41 11.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**39.46**	**301**	P	**P**	**19 41 11.6**	**+1.1**
CHTO	**Chiang Mai**	**39.61**	**302**	*e*P	P	19 41 08.0	-3.8
MSVF	**Nonsavu** 15nm,1.2s	**46.41**	**114**	*e*P	**P**	**19 42 08.3**	**+1.3**
GTA	**Gaotai**	**50.90**	**326**	*e*P	**P**	**19 42 42.1**	**+0.9**
GTA				pP	**pP**	**19 42 46.8**	**-2.7**
GTA				sP	**sP**	**19 42 49.1**	**-3.7**
GTA	comp=Z,3.0nm,1.3s			pmax	pmax		
LSA	**Lhasa**	**50.94**	**310**	P	**P**	**19 42 42.8**	**+0.7**
LSA	**Lhasa** comp=Z,4.4nm,1.1s	**50.94**	**310**	*e*P	**P**	**19 42 41.3**	**-0.8**
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=157,slow=6.7,SNR=4.3	**54.20**	**337**	P	**P**	**19 43 05.6**	**+0.2**
SONM	**Songino Array**	**54.20**	**337**	P	**P**	**19 43 05.6**	**+0.2**
YAK	**Yakutsk** comp=Z,11nm,0.9s	**62.90**	**358**	*e*P	**P**	**19 44 08.1**	**+2.4**
MK31	**Makanchi Array**	**65.54**	**324**	*e*P	**P**	**19 44 23.0**	**-0.4**
MKAR	**Makanchi Array** comp=Z,4.0nm,0.9s,baz=111,slow=8.1,SNR=29	**65.54**	**324**	P	**P**	**19 44 23.8**	**+0.4**
MKAR	**Makanchi Array**	**65.54**	**324**	*e*P	**P**	**19 44 23.9**	**+0.6**
ZAA0	**Zalesovo Array**	**68.08**	**331**	*e*P	**P**	**19 44 40.3**	**+0.9**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.7s,baz=113,slow=7.2,SNR=8.0	**68.08**	**331**	P	**P**	**19 44 39.0**	**-0.4**
ZALV	**Zalesovo Beam**	**68.08**	**331**	P	**P**	**19 44 39.0**	**-0.4**
KURK	**Kurchatov** comp=Z,4.5nm,0.9s,baz=120,slow=5.8,SNR=24	**69.59**	**326**	P	**P**	**19 44 48.7**	**-0.1**
KURK	**Kurchatov** comp=Z,4.3nm,1.0s	**69.59**	**326**	*e*P	**P**	**19 44 49.4**	**+0.6**
KBL	**Kabul** comp=Z,2.9nm,0.8s	**70.08**	**307**	*e*P	**P**	**19 44 51.9**	**-0.6**
KKAR	**Karatay Array**	**71.57**	**316**	*e*P	**P**	**19 45 01.7**	**+0.6**
BRVK	**Borovoye** comp=Z,3.4nm,0.9s	**75.26**	**326**	*e*P	**P**	**19 45 22.4**	**-0.2**
CHGN	**Chignik**	**78.55**	**32**	*e*P	**P**	**19 45 39.9**	**-1.2**
ABKAR	**Akbulak array**	**80.33**	**320**	*e*P	**P**	**19 45 50.7**	**-0.2**
MAW	**Mawson** comp=Z,5.5nm,0.8s,baz=83,slow=8.1,SNR=6.4	**81.99**	**201**	P	**P**	**19 46 00.2**	**+0.8**
MAW	**Mawson**	**81.99**	**201**	P	**P**	**19 46 00.2**	**+0.8**
ILAR	**Eielson Array** comp=Z,1.7nm,1.0s,baz=252,slow=4.5,SNR=6.2	**86.23**	**25**	P	**P**	**19 46 19.6**	**-1.5**
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**19 46 19.6**	**-1.5**
QSPA	**South Pole Qui** comp=Z,13nm,1.2s	**88.99**	**180**	*e*P	**P**	**19 46 35.0**	**+0.6**
MPU	**Maple Canyon**	**109.14**	**48**	*e*Pdif	**Pdif**	**19 48 07.3**	**+1.2**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.1s,baz=43,slow=0.7,SNR=3.0	**131.21**	**287**	PKP	**PKPdf**	**19 52 53.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**131.21**	**287**	PKP	**PKPdf**	**19 52 53.6**	**+0.8**
CPUP	**Villa Florida** comp=Z,3.3nm,0.8s,baz=198,slow=5.4,SNR=5.8	**150.77**	**159**	PKPbc	**PKPbc**	**19 53 32.6**	**-0.2**
CPUP	**Villa Florida**	**150.77**	**159**	PKPbc	**PKPbc**	**19 53 32.6**	**-0.2**
LPAZ	**La Paz** comp=Z,3.7nm,0.9s,baz=14,slow=0.8,SNR=9.3	**152.27**	**129**	PKPbc	**PKPbc**	**19 53 38.4**	**+1.0**
LPAZ	**La Paz**	**152.27**	**129**	PKPbc	**PKPbc**	**19 53 38.4**	**+1.0**

IDC 04 19:42:06.6±5.2, 0.61N×131.00E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, Error ellipse: s-maj=373.4km s-min=26.2km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=352,slow=11,SNR=3.3	**20.69**	**171**	P	P	19 46 48.2	-0.4
ASAR	**Alice Springs** 1.0nm,0.7s,baz=351,slow=11,SNR=7.4	**24.30**	**174**	P	P	19 47 26.3	+0.3
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=100,slow=7.5,SNR=2.9	**62.54**	**324**	P	P	19 52 32.3	-0.1

IDC 04 19:42:50.3±2.3, 0.18S×133.39E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=125.6km s-min=24.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=357,slow=12,SNR=4.6	**19.66**	**177**	P	P	19 47 21.3	+0.3
ASAR	**Alice Springs** 1.4nm,0.9s,baz=359,slow=8.7,SNR=6.7	**23.35**	**179**	P	P	19 48 00.2	-0.3
STKA	**Stephens Creek** 0.6nm,0.7s,baz=3.9,slow=11,SNR=3.5	**32.47**	**167**	P	P	19 49 22.4	-0.1
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=99,slow=8.9,SNR=2.0	**64.58**	**324**	P	P	19 53 29.6	+0.1

IDC 04 19:45:03.9±1.9, 0.68S×133.24E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/29, Error ellipse: s-maj=115.7km s-min=20.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,55nm,19.0s,baz=94,slow=36	**18.27**	**39**	LR	LR	19 56 10.4	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=356,slow=11,SNR=9.4	**19.17**	**177**	P	P	19 49 29.6	+0.4
ASAR	**Alice Springs** 1.5nm,0.3s,baz=358,slow=11,SNR=25	**22.86**	**178**	P	P	19 50 09.4	+0.3
STKA	**Stephens Creek** 1.0nm,0.4s,baz=338,slow=8.1,SNR=13	**32.02**	**167**	P	P	19 51 31.9	-0.4
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=114,slow=8.2,SNR=4.3	**64.90**	**324**	P	P	19 55 45.2	0.0
KURK	**Kurchatov** 0.3nm,0.6s,baz=118,slow=5.7,SNR=5.4	**68.96**	**326**	P	P	19 56 11.0	0.0

IDC 04 19:47:54.3±1.1, 0.73S×133.58E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.5/6, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/17, Error ellipse: s-maj=62.9km s-min=20.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=358,slow=11,SNR=5.0	**19.11**	**178**	P	Pn	19 52 19.5	-0.3
ASAR	**Alice Springs** 0.5nm,0.4s,baz=1.0,slow=11,SNR=8.3	**22.80**	**179**	P	P	19 52 59.5	+0.6
STKA	**Stephens Creek** 1.1nm,0.9s,baz=9.5,slow=6.1,SNR=2.9	**31.89**	**167**	P	P	19 54 20.6	-0.9
ASAJ	**Asahikawa** comp=Z,55nm,18.3s,baz=10,slow=37	**45.37**	**9**	LR	LR	20 16 07.2	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=112,slow=8.1,SNR=7.6	**65.14**	**324**	P	P	19 58 37.5	+0.3
KURK	**Kurchatov** 0.2nm,0.5s,baz=122,slow=5.7,SNR=4.6	**69.19**	**326**	P	P	19 59 02.1	-0.7
ILAR	**Eielson Array** 0.2nm,0.5s,baz=230,slow=5.6,SNR=3.0	**86.19**	**25**	P	P	20 00 37.8	+0.4

MAN 04 20:04:26, 7.08N×126.00E, h32km, mb4.1, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.28**	**117**	*e*P	Pn	20 04 35.3	+1.4
MATI				*e*S	Sb	20 04 41.1	+2.6
DMPH	**Davao City--Mi**	**0.49**	**271**	⇑*e*P	Pn	20 04 37.6	+0.7
DMPH				*e*S	Sb	20 04 57.1	+14
BUKP	**Musuan**	**1.23**	**311**	*e*P	Pn	20 04 46.9	-0.1
BUKP				*e*S	Sn	20 04 59.6	-3.0

*DJA **04** 20:09:46, 1°.15N×133°.72E, h10km, MLv4.7/7*

IDC 04 20:10:07.6±6.4, 0.29S×132.62E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=425.6km s-min=23.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=356,slow=12,SNR=19	**19.60**	**175**	P	P	20 14 37.7	0.0
WRA	0.1nm,0.3s,baz=292,slow=6.8,SNR=4.8			S	Sn	20 18 08.0	-12
ASAR	**Alice Springs** 4.9nm,0.7s,baz=356,slow=11,SNR=44	**23.27**	**177**	P	P	20 15 17.1	0.0
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=111,slow=8.2,SNR=5.5	**64.22**	**324**	P	P	20 20 44.2	-0.3
KURK	**Kurchatov** 0.1nm,0.4s,baz=124,slow=5.8,SNR=4.0	**68.30**	**326**	P	P	20 21 10.8	+0.3

IDC 04 20:16:20.8±20.0, 0.25S×132.60E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.3/17, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=359.8km s-min=184.9km az=132.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=354,slow=11,SNR=3.6	**19.65**	**175**	P	P	20 20 51.9	+0.6
ASAR	**Alice Springs** 0.9nm,0.4s,baz=359,slow=12,SNR=18	**23.31**	**177**	P	P	20 21 30.9	+0.1
STKA	**Stephens Creek** 0.6nm,0.8s,baz=325,slow=12,SNR=3.7	**32.59**	**166**	P	P	20 22 53.6	-0.6

*DJA **04** 20:17:56, 2°.67S×131°.58E, h10km, MLv3.3/3*

IDC 04 20:17:22.4±2.7, 0.26S×132.75E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=190.9km s-min=20.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=352,slow=12,SNR=13	**19.62**	**176**	P	P	20 21 53.2	+0.6
WRA	0.1nm,0.3s,baz=6.6,slow=23,SNR=3.6			S	Sn	20 25 23.8	-11
ASAR	**Alice Springs** 3.2nm,0.7s,baz=360,slow=11,SNR=16	**23.30**	**177**	P	P	20 22 32.5	+0.4
STKA	**Stephens Creek** 1.0nm,0.6s,baz=350,slow=9.8,SNR=5.6	**32.54**	**166**	P	P	20 23 54.4	-0.9
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=107,slow=8.2,SNR=4.2	**64.27**	**324**	P	P	20 27 58.9	-0.6
KURK	**Kurchatov** 0.6nm,0.7s,baz=123,slow=5.4,SNR=6.9	**68.34**	**326**	P	P	20 28 26.1	+0.6

*IDC **04** 20:18:34.4±1.6, 39.99N×51.71E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/27, mbtmp3.6/9, Error ellipse: s-maj=35.3km s-min=13.3km az=157.0*
*NNC **04** 20:18:39.3±2.8, 40.84N×51.99E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=33.9km s-min=16.9km az=4.0*
*ISCJB **04** 20:18:39.4±0.8, 40.89N±0.08×51.75E±0.05, h10km, mb3.4/7, Error ellipse: s-maj=11.4km s-min=5.5km az=167.8*

ISC 04 20:18:40.2±1.3, 40.7N±0.1×51.81E±0.06, h10km, n19, σ1§64/22, mb3.4/7, 9C-6D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni** 0.6nm,0.3s,baz=194,slow=19,SNR=5.7	**5.42**	**266**	Pn	**Pn**	**20 20 00.2**	**-1.1**
KIV	**Kislovodsk** 6.0nm,1.2s	**7.50**	**299**	⇓Pn	**Pn**	**20 20 30.1**	**+0.4**
KIV				⇑Sn	**Sn**	**20 21 55.5**	**+0.7**
AB31	**Akbulak array** 14nm,0.9s	**10.29**	**31**	⇑Pn	**Pn**	**20 21 05.9**	**-2.0**
AB31	0.8nm,0.2s,baz=203,slow=14,SNR=191			⇓Sn	**Sn**	**20 23 02.1**	**-1.2**
AKTO	**Aktyubinsk** 2.5nm,0.4s,baz=209,slow=23,SNR=13	**10.64**	**22**	Pn	**Pn**	**20 21 15.6**	**+2.9**
AKTO	1.8nm,0.3s,baz=214,slow=11,SNR=53			Sn	**Sn**	**20 23 11.6**	**-0.3**
AKTO	**Aktyubinsk** 1.5nm,0.3s,baz=310,slow=22,SNR=9.4 0.4nm,0.3s	**10.64**	**22**	⇓Pn	Pn	20 21 11.1	-1.6
AKTO	1.3nm,0.7s			⇓Sn	Sn	20 23 09.6	-2.3
KK31	**Karatay Array** 0.6nm,0.6s,baz=266,slow=15,SNR=17	**14.13**	**74**	⇓Pn	**Pn**	**20 22 00.5**	**+0.1**
KK31	0.5nm,0.5s			⇑Sn	**Sn**	**20 24 39.6**	**+2.3**
ZRNK	**Zerenda** 1.7nm,0.8s	**16.92**	**38**	⇑P	**Pn**	**20 22 37.9**	**+0.9**
BRVK	**Borovoye** 5.7nm,1.1s	**17.59**	**39**	⇑Pn	**Pn**	**20 22 45.0**	**-0.3**
BRVK	0.7nm,0.4s			⇑Sn	**Sn**	**20 25 58.0**	**-3.1**
BVA0	**Borovoye Array** 0.3nm,0.8s,baz=227,slow=16,SNR=22	**17.62**	**39**	⇑Pn	**P**	**20 22 47.4**	**+0.7**
BVA0	0.3nm,0.9s			⇑Sn	**Sn**	**20 25 58.0**	**-3.9**
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=227,slow=12,SNR=20	**17.62**	**39**	Pn	**P**	**20 22 48.3**	**+1.6**
VOSK	**Vostochnaya** 4.4nm,1.4s	**17.74**	**41**

Northern Sumatera, Indonesia
BJI ***04*** *20:22:52.4, 6.04N×94.16E, h64km, mB5.1/34, mb5.3/62, Ms4.6/53, Ms7 4.3/51*
MOS ***04*** *20:22:53.4±1.0, 6.57N×94.27E, h33km, mb5.6/65, MS4.4/6, Error ellipse: s-maj=8.6km s-min=4.0km az=117.9*
NEIC ***04*** *20:22:54.7±0.1, 6.45N×94.17E, h35km, mb5.4/80, Error ellipse: s-maj=5.1km s-min=3.4km az=217.0*
NEIC Felt at Banda Aceh, Indonesia.
TEH ***04*** *20:22:57.0, 6.31N×94.13E, h67km, ML5.3*
ISCJB ***04*** *20:22:57.3±0.5, 6.52N±0.02×94.26E±0.02, h69km±4km, mb5.2/265, Error ellipse: s-maj=4.6km s-min=3.0km az=36.0*
IDC ***04*** *20:23:00.9±1.1, 6.55N×94.31E, h87km±8km, mb4.8/40, mb1 4.9/41, mb1mx4.9/41, mbtmp4.8/41, MS4.3/18, Ms1 4.3/18, ms1mx4.1/29, Error ellipse: s-maj=9.8km s-min=8.3km az=54.0*
DJA ***04*** *20:23:00, 6.53N×94.35E, h69km, Mw5.2/41*
ISC 04 20:22:58.8±0.3, 6.49N±0.03×94.30E±0.04, h72km±1km, h71km:pP-P,n993,σ1§21/1159, mb5.3/263, 184C-144D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.40**	**135**	P	**Pn**		**20 23 22.4**	**-0.1**
LHMI	**Lhok Sumawe**	**2.92**	**115**	P	**Pn**		**20 23 44.2**	**+1.3**
TPTI		**4.30**	**138**	P	**Pn**		**20 24 01.3**	**-0.6**
TSI	**Tuntungan**	**5.18**	**125**	P	**Pn**		**20 24 15.6**	**+1.7**
	2μm,1.0s,25μm67μm11nm							
PSI	**Prapat**	**5.89**	**128**	P	**Pn**		**20 24 24.8**	**+1.2**
	970nm,1.0s,9μm3.4nm							
KULM	**Kulim**	**6.43**	**100**	*e*Pn	**Pn**		**20 24 31.6**	**+0.7**
	200nm,0.6s							
KULM	**Kulim**	**6.43**	**100**	P	**Pn**		**20 24 32.1**	**+1.2**
KULM	**Kulim**	**6.43**	**100**	P	**Pn**		**20 24 31.6**	**+0.7**
	302nm,0.9s,4μm2.4nm							
IPM	**Ipoh**	**6.99**	**106**	*e*Pn	**Pn**		**20 24 38.5**	**-0.1**
	208nm,0.6s							
IPM	**Ipoh**	**6.99**	**106**	P	**Pn**		**20 24 39.3**	**+0.8**
IPM	**Ipoh**	**6.99**	**106**	P	**Pn**		**20 24 38.7**	**+0.1**
	275nm,0.7s,4μm4.1nm							
MNSI	**Mandailing Nat**	**7.73**	**137**	P	**Pn**		**20 24 47.4**	**-1.3**
	425nm,0.7s,12μm2.5nm							
BKNI	**Bangkinang**	**9.10**	**132**	P	**Pn**		**20 25 06.4**	**-1.0**
	646nm,0.9s,5μm11μm							
PPI	**Padang Panjang**	**9.20**	**138**	P	**Pn**		**20 25 07.7**	**-1.1**
	433nm,0.9s,4μm							
KGM	**Kluang**	**10.03**	**116**	P	**Pn**		**20 25 21.0**	**+0.8**
MYKOM	**Kota Tinggi**	**10.61**	**116**	P	**Pn**		**20 25 28.9**	**+0.9**
MYKOM	**Kota Tinggi**	**10.61**	**116**	P	**Pn**		**20 25 30.0**	**+2.0**
	87nm,0.9s,2μm							
KRJI	**Kerinci**	**11.13**	**140**	P	**Pn**		**20 25 37.4**	**+2.2**
	666nm,0.8s,9μm							
CM31	**Chiang Mai Arr**	**12.73**	**20**	*e*Pn	**Pn**		**20 25 58.5**	**+1.6**
	76nm,1.0s							
CMAR	**Chiang Mai Arr**	**12.73**	**20**	P	**Pn**		**20 25 58.4**	**+1.4**
	2.7nm,0.3s,baz=210,slow=13,SNR=122							
CMAR				LR	LR		20 31 02.2	
	comp=Z,1μm,18.5s,baz=203,slow=38							
CMAR				ScP	**ScP**		**20 34 55.4**	**-0.3**
	0.2nm,0.3s,baz=232,slow=3.2,SNR=17							
CMAR	**Chiang Mai Arr**	**12.73**	**20**	P	**Pn**		**20 25 58.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**12.73**	**20**	P	**Pn**		**20 25 58.4**	**+1.4**
KSI	**Kapahiang**	**13.04**	**140**	P	**Pn**		**20 26 00.3**	**-0.9**
	366nm,0.8s,4μm							
CHTO	**Chiang Mai**	**13.06**	**20**	*e*P	**Pn**		**20 26 02.3**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,61nm,1.1s							
CHTO	**Chiang Mai**	**13.06**	**20**	*e*Pn	**Pn**		**20 26 02.3**	**+0.9**
	comp=Z,61nm,1.1s							
CHTO	**Chiang Mai**	**13.06**	**20**	P	**Pn**		**20 26 03.5**	**+2.1**
MNAI	**Manna**	**13.81**	**141**	P	**Pn**		**20 26 12.4**	**+0.9**
	comp=Z,375nm,0.8s							
PPBI	**Pangkal Pinang**	**14.61**	**126**	P	**P**		**20 26 24.3**	**-2.1**
	comp=Z,73nm,1.1s,comp=Z,1μm							
LWLI	**Liwa**	**15.02**	**139**	P	**P**		**20 26 30.7**	**-0.4**
	comp=Z,265nm,0.7s,comp=Z,3μmcomp=Z,42μm							
BWNR	**Bhubaneshwar**	**16.01**	**330**	*e*P	**Pn**		**20 26 37.0**	**-2.7**
BWNR				*ex*	x		20 29 21.0	
TPI	**Tanjungpandan**	**16.19**	**124**	P	**P**		**20 26 44.5**	**+0.6**
	comp=Z,56nm,1.9s							
KSM	**Kuching**	**16.73**	**107**	*e*Pn	**Pn**		**20 26 48.2**	**-0.5**
	comp=Z,104nm,0.9s							
KSM	**Kuching**	**16.73**	**107**	P	**P**		**20 26 51.5**	**+1.6**
KSM	**Kuching**	**16.73**	**107**	P	**P**		**20 26 51.8**	**+1.9**
	comp=Z,126nm,1.0s,comp=Z,1μm							
CGJI	**Cibinong**	**17.28**	**139**	P	**P**		**20 26 56.9**	**+0.9**
	comp=Z,102nm,1.1s,comp=Z,1μm							
STKI	**Sintang**	**18.29**	**110**	P	**Pn**		**20 27 09.5**	**+1.6**
	comp=Z,121nm,1.6s,comp=Z,2μm							
SBUM	**Sibu**	**18.31**	**102**	P	**P**		**20 27 07.3**	**0.0**
SBUM	**Sibu**	**18.31**	**102**	P	**Pn**		**20 27 09.5**	**+1.4**
	comp=Z,36nm,1.1s,comp=Z,1μm							
LEM	**Lembang**	**18.75**	**135**	P	Pn		20 27 20.8	+7.3
HYB	**Hyderabad**	**18.83**	**307**	*i*P	**Pn**		**20 27 14.0**	**-0.3**
	comp=Z,245nm,1.0s							
HYB				*e*S	S		20 30 34.0	-9.5
BTM	**Bintulu**	**19.00**	**99**	P	**Pn**		**20 27 17.6**	**+1.2**
SHL	**Shillong**	**19.11**	**353**	*e*P	**P**		**20 27 16.3**	**0.0**
SHL				*ex*	x		20 30 43.0	
PBKI	**Pangkalan Bun**	**19.60**	**117**	P	**Pn**		**20 27 25.0**	**+1.5**
	comp=Z,204nm,1.1s,comp=Z,2μm							
QIZ	**Qiongzhong**	**19.60**	**49**	P	**Pn**		**20 27 23.5**	**+0.1**
QIZ				pP	**pP**		**20 27 36.5**	**+0.3**
QIZ				sP	**sP**		**20 27 45.0**	**-0.2**
QIZ				S	**S**		**20 31 00.5**	**+1.4**
QIZ				sS	**sS**		**20 31 22.9**	**-0.2**
QIZ				pmax	pmax			
	comp=Z,170nm,1.5s							
QIZ				LR	LR			
	comp=N,1μm,20.8s							
QIZ				LR	LR			
	comp=E,560nm,21.6s							
QIZ				LR	LR			
	comp=Z,1μm,20.6s							
QIZ	**Qiongzhong**	**19.60**	**49**	*e*P	**Pn**		**20 27 23.3**	**-0.1**
	comp=Z,339nm,1.4s							
KMI	**Kunming**	**20.22**	**23**	P	Pn		20 27 30.8	-0.1
KMI				pP	pP		20 27 49.2	+6.1
KMI				sP	sP		20 27 56.2	+4.1
KMI				S	**S**		**20 31 12.9**	**+1.4**
KMI				sS	sS		20 31 37.2	+1.5
KMI				SS	SnSn		20 31 47.9	+13
KMI				pmax	pmax			
	comp=Z,89nm,1.1s							
KMI				pmax	pmax			
	comp=Z,280nm,3.5s							
KMI				LR	LR			
	comp=N,540nm,20.8s							
KMI				LR	LR			
	comp=E,1μm,20.4s							
KMI				LR	LR			
	comp=Z,600nm,25.0s							
BJII	**Banjamegara**	**20.61**	**132**	P	Pn		20 27 42.9	+7.5
NGP	**Nagpur**	**20.75**	**316**	*e*P	**P**		**20 27 32.4**	**-1.5**
NGP				*ex*	x		20 27 38.9	
	comp=Z,250nm,1.1s							
NGP				*ex*	x		20 31 20.9	
LATR	**Latur**	**20.96**	**306**	*ex*	**P**		**20 27 38.0**	**+1.8**
LATR				*ex*	**S**		**20 31 22.5**	**-3.4**
SMRI	**Semarang**	**20.98**	**130**	P	Pn		20 27 43.9	+4.2
	comp=Z,228nm,1.1s							
ODAN	**Odare**	**21.30**	**343**	*e*P	**P**		**20 27 38.4**	**-1.6**
	comp=Z,71nm,0.3s							
RAMN	**Ramite**	**21.63**	**341**	*e*P	**P**		**20 27 42.8**	**-0.7**
	comp=Z,262nm,0.9s							
RAMN	**Ramite**	**21.63**	**341**	*e*P	**P**		**20 27 42.8**	**-0.7**
	comp=Z,262nm,0.9s							
TAPN	**Taplejung**	**21.67**	**344**	*e*P	**P**		**20 27 42.4**	**-1.6**
	comp=Z,304nm,0.8s							
TAPN	**Taplejung**	**21.67**	**344**	*e*P	**P**		**20 27 42.4**	**-1.6**
	comp=Z,304nm,0.8s							
KKM	**Kota Kinabalu**	**21.79**	**90**	P	**P**		**20 27 47.5**	**+2.3**
KDM	**Kudat**	**22.39**	**88**	P	**P**		**20 27 53.1**	**+1.6**
JIRN	**Jiri**	**22.42**	**341**	*e*P	**P**		**20 27 50.6**	**-1.5**
	comp=Z,160nm,0.8s							
JIRN	**Jiri**	**22.42**	**341**	*e*P	**P**		**20 27 50.6**	**-1.5**
	comp=Z,160nm,0.8s							
SJI	**Sawahan**	**22.43**	**129**	P	P		20 27 57.0	+4.9
	comp=Z,106nm,0.8s							
PKI	**Pulchoki**	**22.60**	**339**	*e*P	**P**		**20 27 52.4**	**-1.7**
	comp=Z,90nm,0.5s							
PKI	**Pulchoki**	**22.60**	**339**	*e*P	**P**		**20 27 52.4**	**-1.7**
PKI				pmax	pmax			
	comp=Z,90nm,0.5s							
PKI	**Pulchoki**	**22.60**	**339**	*e*P	**P**		**20 27 52.4**	**-1.7**
	comp=Z,90nm,0.5s							
PWJI	**Pagerwojo**	**22.64**	**129**	P	P		20 27 59.2	+5.0
	comp=Z,88nm,0.8s							
DMN	**Daman**	**22.75**	**338**	*e*P	**P**		**20 27 54.0**	**-1.5**
	comp=Z,20nm,0.4s							
GUN	**Gumba**	**22.75**	**340**	*e*P	**P**		**20 27 53.7**	**-1.9**
	comp=Z,155nm,0.8s							
GUN	**Gumba**	**22.75**	**340**	*e*P	**P**		**20 27 53.7**	**-1.9**
	comp=Z,155nm,0.8s							
BBKI	**Banjar Baru**	**22.77**	**115**	P	**P**		**20 27 55.7**	**+0.1**
	comp=Z,429nm,0.9s							
SDKM	**Sandakan**	**22.78**	**91**	P	**P**		**20 27 56.3**	**+0.5**
KKN	**Kakani**	**22.85**	**339**	*e*P	**P**		**20 27 54.9**	**-1.6**
	comp=Z,39nm,0.4s							
GYA	**Guiyang**	**23.09**	**29**	*i*P	**P**		**20 27 58.9**	**+0.1**
GYA				pP	**pP**		**20 28 15.4**	**+1.3**
GYA				sP	**sP**		**20 28 22.9**	**-0.1**
GYA				PP	PnPn		20 28 35.0	+7.7
GYA				PcP	**PcP**		**20 31 46.7**	**+1.0**
GYA				S	**S**		**20 32 02.0**	**-2.6**
GYA				sS	**sS**		**20 32 31.0**	**-1.4**
GYA				ScP	**ScP**		**20 35 15.7**	**-1.9**
GYA				PcS	**PcS**		**20 35 24.8**	**-0.3**
GYA				pmax	pmax			
	comp=Z,200nm,1.2s							
GYA				pmax	pmax			
	comp=Z,340nm,4.8s							
GYA				LR	LR			
	comp=N,820nm,13.3s							
GYA				LR	LR			
	comp=E,610nm,14.5s							
GYA				LR	LR			
	comp=Z,830nm,12.0s							
POO	**Poona**	**23.24**	**303**	*e*P	**P**		**20 28 00.3**	**0.0**
BHPL	**Bhopal**	**23.26**	**317**	*e*P	**P**		**20 28 00.1**	**-0.4**
BHPL				AMb	AMB		20 28 03.2	
	comp=Z,67nm,0.5s							
GKN	**Gorkha**	**23.28**	**338**	*e*P	**P**		**20 27 59.4**	**-1.2**
	comp=Z,68nm,0.3s							
LSA	**Lhasa**	**23.28**	**353**	P	**P**		**20 27 59.3**	**-1.6**
LSA				S	S		20 32 00.2	-7.9
LSA				LR	LR			
	comp=N,530nm,27.8s							
LSA				LR	LR			
	comp=E,950nm,36.3s							
LSA				LR	LR			
	comp=Z,1μm,27.8s							
LSA	**Lhasa**	**23.28**	**353**	*e*P	**P**		**20 27 59.8**	**-1.2**
LSA				pmax	pmax			
	comp=Z,98nm,0.8s							
LSA	**Lhasa**	**23.28**	**353**	*e*P	**P**		**20 27 59.8**	**-1.2**
	comp=Z,98nm,0.8s							
KOLN	**Koldanda**	**23.48**	**336**	*e*P	**P**		**20 28 02.2**	**-0.3**
	comp=Z,28nm,0.3s							
TSM	**Tawau**	**23.57**	**94**	P	**P**		**20 28 03.4**	**+0.2**
KMMI	**Kalianget**	**23.79**	**124**	P	**P**		**20 28 07.0**	**+1.8**
	comp=Z,190nm,0.7s,comp=Z,4μm							
SMKI	**Samarinda**	**23.88**	**106**	P	**P**		**20 28 08.2**	**+2.1**
	comp=Z,200nm,1.1s,comp=Z,2μm							
BLJI	**Banyuglugur**	**23.88**	**126**	P	**P**		**20 28 06.9**	**+0.9**
	comp=Z,613nm,0.8s,comp=Z,5μm							
KBKI	**Kotabaru**	**23.90**	**113**	P	**P**		**20 28 08.1**	**+1.9**
	comp=Z,53nm,1.1s							
DANN	**Dangsing**	**23.93**	**337**	*e*P	**P**		**20 28 06.4**	**-0.2**
	comp=Z,47nm,0.3s							
MYLDM	**Lahad Datu**	**24.11**	**92**	P	**P**		**20 28 10.0**	**+1.8**
MYLDM	**Lahad Datu**	**24.11**	**92**	P	**P**		**20 28 09.9**	**+1.8**
	comp=Z,279nm,1.2s,comp=Z,4μm							
NBBI	**Negara**	**25.07**	**126**	P	**P**		**20 28 16.9**	**+0.1**
	comp=Z,347nm,0.9s,comp=Z,3μm							
AGRA	**Agra**	**25.83**	**325**	*e*P	**P**		**20 28 22.1**	**-1.5**
AGRA				AMb	AMB		20 28 29.9	
	comp=Z,45nm,0.4s							
CD2	**Chengdu**	**25.86**	**19**	P	**P**		**20 28 24.0**	**+0.1**
CD2				pP	**pP**		**20 28 39.8**	**-1.0**
CD2				sP	**sP**		**20 28 48.2**	**-1.0**
CD2				PP	**PnPn**		**20 29 08.5**	**+3.5**
CD2				S	**S**		**20 32 49.1**	**+0.4**
CD2				sS	**sS**		**20 33 16.5**	**-1.3**
CD2				SS	**SnSn**		**20 34 01.4**	**+9.4**
CD2				pmax	pmax			
	comp=Z,130nm,0.9s							
CD2				pmax	pmax			
	comp=Z,300nm,5.4s							
CD2				LR	LR			
	comp=N,660nm,16.7s							
CD2				LR	LR			
	comp=Z,550nm,22.6s							
KHKI	**Kahang-Kahang**	**25.87**	**124**	P	**P**		**20 28 24.1**	**0.0**
	comp=Z,100nm,0.8s,comp=Z,2μm							
MJSI	**Majene**	**26.58**	**111**	P	**P**		**20 28 31.3**	**+0.7**
	comp=Z,179nm,0.9s,comp=Z,3μm							
TTSI	**Tana Toraja**	**27.18**	**110**	P	**P**		**20 28 37.6**	**+1.7**
	comp=Z,39nm,1.0s,comp=Z,561nm							
AYAN	**Aya Nagar**	**27.25**	**325**	*e*P	**P**		**20 28 36.8**	**+0.4**
AYAN				AMb	AMB		20 28 37.6	
	comp=Z,26nm,0.5s							
TGY	**Tagaytay City**	**27.26**	**72**	P	**P**		**20 28 38.9**	**+2.2**
	comp=Z,229nm,0.3s,baz=185,slow=16,SNR=6.4							
TGY	**Tagaytay City**	**27.26**	**72**	P	**P**		**20 28 38.9**	**+2.2**
TGY	**Tagaytay City**	**27.26**	**72**	P	**P**		**20 28 38.9**	**+2.2**
NDI	**New Delhi**	**27.36**	**326**	*e*P	**P**		**20 28 37.2**	**-0.1**
NDI				AMb	AMB		20 29 06.2	
	comp=Z,164nm,1.9s							
SPSI	**Sidrap Palu**	**27.47**	**112**	P	**P**		**20 28 41.5**	**+3.0**
	comp=Z,23nm,1.1s							
ENH	**Enshi**	**27.64**	**29**	*e*P	**P**		**20 28 39.6**	**-0.2**
	comp=Z,84nm,0.9s							
KHET	**Khetri**	**27.71**	**323**	*e*P	**P**		**20 28 41.0**	**+0.4**
KAPI	**Kappang**	**27.86**	**114**	*e*P	**P**		**20 28 40.5**	**-1.5**
	comp=Z,11nm,1.4s							
KAPI	**Kappang**	**27.86**	**114**	P	**P**		**20 28 43.4**	**+1.4**
	comp=Z,46nm,1.4s,comp=Z,583nm							
DDI	**Dehra Dun**	**28.20**	**329**	*ex*	**P**		**20 28 41.8**	**-3.1**
DDI				*ex*	**S**		**20 33 30.0**	**+4.4**
MRSI	**Marisa**	**28.22**	**101**	P	**P**		**20 28 45.2**	**0.0**
	comp=Z,186nm,0.9s							
BKSI	**Bulukumba**	**28.32**	**114**	P	**P**		**20 28 46.5**	**+0.4**
	comp=Z,135nm,0.8s,comp=Z,1μm							
KKR	**Kurukshetra**	**28.56**	**327**	*e*P	**P**		**20 28 49.2**	**+1.1**
LUWI	**Luwuk**	**29.39**	**104**	P	**P**		**20 28 56.2**	**+0.6**
	comp=Z,529nm,0.8s,comp=Z,4μm							
QZH	**Quanzhou**	**29.63**	**49**	*i*P	**P**		**20 28 59.1**	**+1.5**
QZH				*e*S	**S**		**20 33 51.0**	**+3.0**
QZH				LR	LR			
	comp=N,3μm,20.1s							
QZH				LR	LR			
	comp=E,880nm,12.1s							
QZH				LR	LR			
	comp=Z,1μm,20.2s							
SDNR	**Sundarnagar**	**29.70**	**329**	*ex*	**P**		**20 29 00.0**	**+1.8**
TPUB	**Ta-pu**	**30.35**	**54**	*e*P	**P**		**20 29 04.7**	**+0.6**
	comp=Z,39nm,0.9s							
WHN	**Wuhan**	**30.45**	**36**	P	**P**		**20 29 05.1**	**+0.3**
WHN				S	**S**		**20 33 57.8**	**-3.0**
WHN				pmax	pmax			
	comp=Z,160nm,1.1s							
WHN				LR	LR			
	comp=N,810nm,11.5s							
WHN				LR	LR			
	comp=E,850nm,7.2s							
WHN				LR	LR			
	comp=Z,1μm,16.2s							
TWG	**Pinlang**	**30.48**	**55**	*e*P	**P**		**20 29 06.9**	**+1.8**
	comp=Z,81nm,0.9s							
XAN	**Xi'an**	**30.57**	**24**	P	**P**		**20 29 05.3**	**-0.6**
XAN				S	S		20 33 55.2	-7.6
XAN				pmax	pmax			
	comp=Z,29nm,1.1s							
XAN				LR	LR			
	comp=N,670nm,23.1s							
XAN				LR	LR			
	comp=E,330nm,19.0s							
XAN				LR	LR			
	comp=Z,230nm,18.0s							
LZH	**Lanzhou**	**30.73**	**15**	*e*P	**P**		**20 29 07.5**	**+0.1**
LZH				pP	**pP**		**20 29 25.7**	**+1.3**
LZH				sP	**sP**		**20 29 33.5**	**+0.7**
LZH				PP	**PnPn**		**20 30 12.0**	**+1.9**
LZH				PcP	**PcP**		**20 32 05.1**	**+1.4**
LZH				*e*S	**S**		**20 34 07.3**	**+1.9**
LZH				SS	SS		20 35 55.6	-24
LZH				pmax	pmax			
	comp=Z,50nm,1.0s							
LZH				LR	LR			
	comp=E,3μm,13.5s							
LZH				LR	LR			
	comp=Z,4μm,14.4s							
SSLB	**Suanglung**	**30.85**	**53**	*e*P	**P**		**20 29 09.6**	**+1.2**
	comp=Z,80nm,1.1s							
YULB	**Yu-li**	**30.93**	**54**	*e*P	**P**		**20 29 10.5**	**+1.4**
	comp=Z,52nm,0.9s							
DAV	**Davao City (W)**	**31.07**	**87**	P	**P**		**20 29 13.5**	**+3.1**
	comp=Z,108nm,0.3s,baz=302,slow=15,SNR=4.7							
DAV	**Davao City (W)**	**31.07**	**87**	P	**P**		**20 29 13.5**	**+3.1**
YHNB	**Yeheng**	**31.62**	**52**	*e*P	**P**		**20 29 16.0**	**+0.7**
	comp=Z,147nm,1.5s							
MMRI	**Maumere**	**31.65**	**118**	P	P		20 29 18.8	+3.3
	comp=Z,60nm,1.3s							
GTA	**Gaotai**	**33.15**	**8**	P	**P**		**20 29 28.6**	**+0.1**
GTA				pP	**pP**		**20 29 45.1**	**-0.6**
GTA				sP	**sP**		**20 29 53.2**	**-0.8**
GTA				PcP	**PcP**		**20 32 11.1**	**+0.9**
GTA				S	**S**		**20 34 44.2**	**+1.2**
GTA				sS	**sS**		**20 35 12.9**	**+0.5**
GTA				ScP	**ScP**		**20 35 47.6**	**-0.8**
GTA				SS	**SnSn**		**20 36 50.1**	**+1.1**
GTA				ScS	**ScS**		**20 39 45.6**	**-3.4**
GTA				pmax	pmax			
	comp=Z,10.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,130nm,4.5s							
GTA				LR	LR			
	comp=N,340nm,19.9s							
GTA				LR	LR			
	comp=E,170nm,18.5s							
GTA				LR	LR			
	comp=Z,470nm,21.9s							
LBMI	**Labuha**	**33.88**	**101**	P	**P**		**20 29 36.8**	**+1.7**
	comp=Z,99nm,0.9s,comp=Z,1μm							
NJ2	**Nanjing**	**34.23**	**39**	*e*P	**P**		**20 29 39.0**	**+1.1**
NJ2				pP	**pP**		**20 29 54.1**	**-0.9**
NJ2				sP	**sP**		**20 30 01.1**	**-2.3**
NJ2				PP	**PP**		**20 30 58.9**	**+2.3**
NJ2				S	S		20 35 07.5	+7.9
NJ2				sS	**sS**		**20 35 33.5**	**+4.5**
NJ2				pmax	pmax			
	comp=Z,110nm,0.9s							
NJ2				pmax	pmax			
	comp=Z,290nm,5.8s							
NJ2				LR	LR			
	comp=N,520nm,18.8s							
NJ2				LR	LR			
	comp=E,430nm,18.0s							
NJ2				LR	LR			
	comp=Z,540nm,16.5s							
SSE	**Sheshan**	**35.12**	**42**	P	**P**		**20 29 42.4**	**-3.1**
SSE				sP	**sP**		**20 30 06.9**	**-4.2**
SSE				PcP	PcP		20 32 10.5	-5.3
SSE				S	**S**		**20 35 13.0**	**-0.3**
SSE				pmax	pmax			
	comp=Z,42nm,0.7s							
SSE				pmax	pmax			
	comp=Z,160nm,6.3s							
SSE				LR	LR			
	comp=N,670nm,19.1s							
SSE				LR	LR			
	comp=E,410nm,19.1s							
SSE				LR	LR			
	comp=Z,470nm,19.1s							
AAI	**Ambon**	**35.32**	**106**	P	**P**		**20 29 46.9**	**-0.6**
	comp=Z,168nm,0.9s,comp=Z,2μm							
MSAI	**Masohi**	**35.93**	**105**	P	**P**		**20 29 53.0**	**+0.3**
	comp=Z,20nm,0.9s,comp=Z,1μm							
KBL	**Kabul**	**36.37**	**324**	*e*P	**P**		**20 29 55.6**	**-0.8**
KBL				*e*			20 32 19.9	
KBL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KBL	**Kabul**	**36.37**	**324**	*e*P	**P**		**20 29 55.6**	**-0.8**
	comp=Z,9.7nm,0.8s							
KBL				*e*PcP	**PcP**		**20 32 19.9**	**+0.2**
BTO	**Baotou**	**36.77**	**20**	*e*P	**P**		**20 29 58.6**	**-1.1**
BTO				pmax	pmax			
	comp=Z,15nm,1.3s							
KSH	**Kashi**	**36.79**	**336**	P	**P**		**20 29 58.6**	**-1.3**
KSH				pmax	pmax			
	comp=Z,30nm,0.9s							
MBWA	**Marble Bar**	**37.12**	**138**	*e*P	**P**		**20 30 02.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**37.53**	**22**	*i*P	**P**		**20 30 07.2**	**+1.1**
HHC				pP	**pP**		**20 30 22.5**	**-1.0**
HHC				sP	**sP**		**20 30 29.8**	**-2.0**
HHC				PP	**PnPn**		**20 31 37.4**	**+2.7**
HHC				PcP	**PcP**		**20 32 24.1**	**+1.1**
HHC				S	**S**		**20 35 49.6**	**-0.6**
HHC				sS	**sS**		**20 36 19.7**	**-0.2**
HHC				SS	**SnSn**		**20 38 31.7**	**-3.2**
HHC				pmax	pmax			
	comp=Z,76nm,1.0s							
HHC				pmax	pmax			
	comp=Z,89nm,5.0s							
HHC				LR	LR			
	comp=N,450nm,15.9s							
HHC				LR	LR			
	comp=E,730nm,15.3s							
HHC				LR	LR			
	comp=Z,480nm,15.3s							
WMQ	**Urumqi**	**37.63**	**352**	P	**P**		**20 30 08.0**	**+1.1**
WMQ				pP	**pP**		**20 30 27.0**	**+2.8**
WMQ				sP	**sP**		**20 30 31.0**	**-1.5**
WMQ				PcP	**PcP**		**20 32 24.0**	**+0.8**
WMQ				S	**S**		**20 35 54.0**	**+2.5**
WMQ				SS	**SnSn**		**20 38 32.0**	**-5.1**
WMQ				LR	LR			
	comp=N,230nm,20.0s							
WMQ				LR	LR			
	comp=E,270nm,22.6s							
WMQ				LR	LR			
	comp=Z,220nm,25.0s							
JOW	**Kunigami**	**38.12**	**54**	P	**P**		**20 30 12.8**	**+1.6**
	comp=Z,89nm,0.9s,baz=255,slow=6.0,SNR=29							
JOW	**Kunigami**	**38.12**	**54**	*e*P	**P**		**20 30 12.0**	**+0.8**
	comp=Z,33nm,0.8s							
JOW				P	**P**		**20 30 12.8**	**+1.6**
BJT	**Baijiatuau**	**38.73**	**27**	*e*P	**P**		**20 30 17.7**	**+1.6**
BJT				pmax	pmax			
	comp=Z,177nm,1.1s							
BJT	**Baijiatuau**	**38.73**	**27**	*e*P	**P**		**20 30 17.7**	**+1.6**
	comp=Z,177nm,1.1s							
BJI	**Beijing**	**38.75**	**27

FRU *i* S **S** **20 36 31.0 +1.6**
FRU pmax pmax
comp=Z,80nm,2.2s
FRU smax smax
comp=N,180nm,2.0s
TLE Tual 40.21 107 P **P** **20 30 28.6 -0.2**
comp=N,148nm,1.0s,comp=N,2µm
CHMS Chumysh 40.25 338 P **P** **20 30 29.5 +0.8**
SNR=12
CHMS P **P** **20 30 29.5 +0.8**
SNR=12
EKS2 Erkin-Say 40.34 336 P **P** **20 30 31.8 +2.2**
SNR=5.4
EKS2 P **P** **20 30 31.8 +2.2**
SNR=5.4
EKS2 Erkin-Say 40.34 336 *e*P **P** **20 30 30.6 +1.1**
EKS2 pmax pmax
comp=Z,25nm,0.7s
EKS2 Erkin-Say 40.34 336 *e*P **P** **20 30 30.6 +1.1**
comp=Z,25nm,0.7s
USP Ospenovka 40.57 338 P **P** **20 30 32.0 +0.6**
SNR=34
USP P **P** **20 30 32.0 +0.6**
SNR=34
MORW Morawa 41.08 150 *e*P **P** **20 30 36.7 +1.0**
comp=Z,58nm,0.8s
IDAH Dahanechah 41.31 314 *e*P **P** **20 30 38.9 +1.0**
MTN Manton Dam 41.33 118 *e*P **P** **20 30 36.6 -1.4**
MK31 Makanchi Array 41.47 348 *e*P **P** **20 30 38.5 -0.1**
MK31 Makanchi Array 41.47 348 *e*P **P** **20 30 38.5 -0.1**
MKAR Makanchi Array 41.47 348 P **P** **20 30 38.6 -0.1**
comp=Z,13nm,0.6s,baz=170,slow=8.0,SNR=116
MKAR LR LR 20 52 23.8
comp=Z,186nm,19.6s,baz=158,slow=43
MKAR Makanchi Array 41.47 348 *ce*P **P** **20 30 38.5 -0.1**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 41.47 348 P **P** **20 30 38.6 -0.1**
IMON Monand 41.69 314 *e*P **P** **20 30 42.3 +1.3**
IKOO Kooshah 41.77 313 *e*P **P** **20 30 42.7 +1.0**
KK31 Karatay Array 42.06 334 *i* P **P** **20 30 43.8 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.3s
KKAR Karatay Array 42.06 334 *e*P **P** **20 30 43.6 0.0**
KKAR Karatay Array 42.06 334 *e*P **P** **20 30 43.6 0.0**
ITEG Tejag 42.20 313 *e*P **P** **20 30 45.7 +0.7**
BAKI Biak 42.42 99 P **P** **20 30 46.5 -0.4**
comp=Z,131nm,1.1s
SONM Songino Array 42.47 12 P **P** **20 30 46.9 -0.1**
comp=Z,21nm,1.0s,baz=192,slow=6.2,SNR=97
SONM PcP **PcP** **20 32 38.7 0.0**
comp=Z,12nm,0.8s,baz=197,slow=3.6,SNR=9.8
SONM ScP **ScP** **20 36 21.7 -1.6**
comp=Z,5.3nm,0.9s,baz=195,slow=3.5,SNR=10
SONM LR LR 20 51 28.2
comp=Z,407nm,21.7s,baz=342,slow=40
SONM Songino Array 42.47 12 P **P** **20 30 46.9 -0.1**
SONM 20 32 38.7
SONM Songino Array 42.47 12 P **P** **20 30 46.9 -0.1**
SONM PcP **PcP** **20 32 38.7 0.0**
SONM ScP **ScP** **20 36 21.7 -1.6**
INCN Inchon 42.61 39 *e*P **P** **20 30 48.7 +0.6**
comp=Z,163nm,1.1s
ULN Ulaanbaatar 42.64 13 *e*P **P** **20 30 47.2 -1.2**
ULN pmax pmax
comp=Z,38nm,1.3s
ULN Ulaanbaatar 42.64 13 *e*P **P** **20 30 47.2 -1.2**
comp=Z,38nm,1.3s
ULN Ulaanbaatar 42.64 13 P **P** **20 30 48.1 -0.3**
comp=Z,20nm,1.3s
JNU Nakatsue 43.06 47 *e*P **P** **20 30 52.8 +1.0**
comp=Z,50nm,0.9s
IMYA Miami 43.13 318 *e*P **P** **20 30 50.7 -1.8**
KSAR Wonju Array Be 43.38 40 P **P** **20 30 54.7 +0.4**
KSAR 20 32 41.2
KSAR Wonju Array Be 43.38 40 P **P** **20 30 54.6 +0.4**
KSAR PcP **PcP** **20 32 41.1 -0.6**
KSAR ScP **ScP** **20 36 24.6 -2.5**
KSRS Korea Array 43.41 40 P **P** **20 30 54.6 +0.1**
comp=Z,32nm,0.9s,baz=224,slow=8.7,SNR=58
KSRS PcP **PcP** **20 32 41.1 -0.7**
comp=Z,3.0nm,0.6s,baz=230,slow=3.3,SNR=6.1
KSRS ScP **ScP** **20 36 24.6 -2.6**
comp=Z,2.3nm,1.0s,baz=252,slow=2.5,SNR=6.7
IMOG Moghan 43.50 318 *e*P **P** **20 30 55.0 -0.7**
IPAY Payeh 43.92 318 *e*P **P** **20 30 58.5 -0.5**
IBAF Bafgh 43.94 310 *e*P **P** **20 30 59.3 +0.2**
KLBR Kellerberrin 44.00 151 *e*P **P** **20 30 59.4 +0.1**
comp=Z,18nm,0.9s
KLBR *ep*P **pP** **20 31 17.6 +0.6**
IAKL Akhelmad 44.17 318 *e*P **P** **20 31 01.0 0.0**
ZAK Zakamensk 44.39 8⇑ *i*P **P** **20 31 02.0 -0.3**
ZAK *i* 20 32 44.9
ZAK pmax pmax
comp=Z,7.0nm,1.5s
IKRD Kardeh 44.43 318 *e*P P 20 30 58.1 -4.9
IMEH Mehriz 44.59 309 *e*P **P** **20 31 03.4 -1.0**
IEMG Emamgholi 44.70 319 *e*P **P** **20 31 05.6 +0.4**
NWAO Narrogin (SRO) 44.85 152 *e*P **P** **20 31 06.1 +0.1**
NWAO *e* 20 31 23.5
NWAO pmax pmax
comp=Z,84nm,1.3s
NWAO Narrogin (SRO) 44.85 152 *e*P **P** **20 31 06.2 +0.1**
comp=Z,84nm,1.3s
NWAO *e* 20 31 23.5
ISFR Sfrayin 44.92 318 *e*P **P** **20 31 07.2 +0.2**
ISRV Sarvestan 44.97 306 *e*P **P** **20 31 08.3 +0.8**
ICHK Chekchek 45.12 310 *e*P **P** **20 31 08.4 -0.2**
SMPI Sarmi 45.13 99 P **P** **20 31 08.4 -0.2**
comp=Z,78nm,1.4s
IPAR Pars 45.20 306 *e*P **P** **20 31 08.8 -0.5**
ABKT Ailbek 45.34 319 P **P** **20 31 10.1 +0.1**
comp=Z,313nm,0.7s,SNR=36
MOY Mondy 45.37 6 *e*P **P** **20 31 08.5 -1.6**
ISHV Shirvan 45.39 318 *e*P **P** **20 31 11.5 +0.9**
ISAD Sadrabad 45.53 309 *e*P **P** **20 31 11.3 -0.6**
KURK Kurchatov 45.98 346 P **P** **20 31 14.7 -0.1**
comp=Z,16nm,0.6s,baz=172,slow=6.8,SNR=185
KURK PcP **PcP** **20 32 50.4 -0.1**
comp=Z,16nm,0.7s,baz=159,slow=3.1,SNR=6.4
KURK ScP **ScP** **20 36 36.3 -1.2**
comp=Z,7.6nm,1.0s,baz=170,slow=3.7,SNR=8.4
KURK S **S** **20 37 52.7 -1.7**
comp=Z,3.9nm,1.0s,baz=166,slow=14,SNR=10
KURK PKiKP **PKiKP** **20 39 45.5 -1.0**
comp=Z,0.6nm,0.6s,baz=167,slow=1.0,SNR=4.1
KURK Kurchatov 45.98 346 P **P** **20 31 14.7 -0.1**
KURK *e* 20 32 51.4
KURK S **S** **20 37 52.7 -1.7**
KURK Kurchatov 45.98 346 P **P** **20 31 14.7 -0.1**
KURK *e*P **P** **20 31 15.3 +0.6**
KURK PcP **PcP** **20 32 50.4 -0.1**
KURK *e* 20 32 51.4
KURK ScP **ScP** **20 36 36.3 -1.2**
KURK S **S** **20 37 52.7 -1.7**
KURK PKiKP **PKiKP** **20 39 45.5 -1.0**
KURK Kurchatov 45.98 346 P **P** **20 31 15.2 +0.4**
comp=Z,197nm,1.1s,SNR=31
IANJ Anjilo 46.95 314 *e*P **P** **20 31 22.7 -0.2**
IZEF Zefreh 46.98 310 *e*P **P** **20 31 22.8 -0.5**
WRA Warramunga Arr 47.34 125 P **P** **20 31 25.4 -0.5**
comp=Z,134nm,0.9s,baz=306,slow=9.1,SNR=401
WRA ScP **ScP** **20 36 42.6 -1.2**
comp=Z,9.6nm,0.9s,baz=314,slow=3.8,SNR=10.0
WRA S S 20 38 07.5 -7.2
comp=Z,13nm,1.1s,baz=297,slow=16,SNR=9.2
WRA Warramunga Arr 47.34 125 P **P** **20 31 25.4 -0.5**
WRA Warramunga Arr 47.34 125 P **P** **20 31 25.4 -0.5**
WRA ScP **ScP** **20 36 42.6 -1.2**
WRA S S 20 38 07.5 -7.2
WRAB Tennant Creek 47.35 125 *e*P **P** **20 31 25.7 -0.2**
WRAB pmax pmax
comp=Z,155nm,0.9s
WRAB Tennant Creek 47.35 125 *e*P **P** **20 31 25.7 -0.2**
comp=Z,155nm,0.9s
WRAB Tennant Creek 47.35 125 P **P** **20 31 25.0 -0.9**
comp=Z,1µm,0.6s,SNR=47
WB2 Warramunga Arr 47.35 125 *e*P **P** **20 31 25.5 -0.5**
ISHM Shahmirzad 47.55 314 *e*P **P** **20 31 27.3 -0.4**
ILAS Lasjerd 47.60 313 *e*P **P** **20 31 27.7 -0.3**
IKLH Kolahrood 47.73 310 *e*P **P** **20 31 28.5 -0.6**
HIA Hailar 47.73 22 *e*P **P** **20 31 28.9 +0.4**
HIA pmax pmax
comp=Z,59nm,0.8s

HIA Hailar 47.73 22 *e*P **P** **20 31 28.9 +0.4**
comp=Z,59nm,0.8s
ZAA0 Zalesovo Array 47.94 352 *e*P **P** **20 31 30.2 +0.2**
ZALV Zalesovo Beam 47.94 352 P **P** **20 31 30.2 +0.2**
comp=Z,11nm,0.4s,baz=177,slow=5.9,SNR=112
ZALV ScP **ScP** **20 36 43.5 -2.1**
comp=Z,4.2nm,1.0s,baz=160,slow=4.7,SNR=3.8
ZALV S **S** **20 38 17.9 -4.3**
comp=Z,1.8nm,0.8s,baz=152,slow=6.4,SNR=4.5
ZALV Zalesovo Beam 47.94 352 P **P** **20 31 30.2 +0.2**
ZALV S **S** **20 38 18.0 -4.3**
ZALV Zalesovo Beam 47.94 352 P **P** **20 31 30.2 +0.2**
ZALV ScP **ScP** **20 36 43.5 -2.1**
ZALV S **S** **20 38 17.9 -4.3**
IPIR Pirpir 48.00 309 *e*P **P** **20 31 31.0 -0.2**
CIT Chita 48.09 16 *e*P **P** **20 31 31.7 +0.4**
CIT *e* 20 31 39.4
CIT *e* 20 31 47.5
CIT pmax pmax
comp=Z,213nm,1.4s
IDMV Damavand 48.36 313 *e*P **P** **20 31 34.0 +0.1**
MDJ Mudanjiang 48.87 33 P **P** **20 31 38.3 +1.0**
MDJ pP **pP** **20 31 53.8 -1.5**
MDJ sP **sP** **20 32 01.0 -2.4**
MDJ PcS **PcS** **20 36 57.2 +0.1**
MDJ S **S** **20 38 39.4 +3.8**
MDJ sS **sS** **20 39 06.3 +0.1**
MDJ pmax pmax
comp=Z,98nm,1.6s
MDJ pmax pmax
comp=Z,130nm,4.8s
MDJ LR LR
comp=N,400nm,20.5s
MDJ LR LR
comp=E,330nm,18.8s
MDJ LR LR
comp=Z,530nm,21.1s
MDJ Mudanjiang 48.87 33 *e*P **P** **20 31 38.4 +1.1**
comp=Z,115nm,1.1s
AS31 Alice Springs 48.92 129 *e*P **P** **20 31 37.7 -0.3**
AS31 *e* 20 31 56.5
ASAR Alice Springs 48.92 129 P **P** **20 31 37.8 -0.3**
comp=Z,78nm,0.8s,baz=306,slow=7.4,SNR=447
ASAR ScP **ScP** **20 36 48.3 -2.1**
comp=Z,3.4nm,0.7s,baz=300,slow=4.5,SNR=4.8
ASAR S **S** **20 38 31.7 -5.3**
comp=Z,16nm,0.9s,baz=296,slow=13,SNR=26
ASAR Alice Springs 48.92 129 P **P** **20 31 37.8 -0.3**
ASAR Alice Springs 48.92 129 P **P** **20 31 37.8 -0.3**
ASAR ScP **ScP** **20 36 48.3 -2.1**
ASAR S **S** **20 38 31.7 -5.3**
NVS Novosibirsk 49.03 352⇑ *i*P **P** **20 31 37.1 -1.2**
NVS *e*S **S** **20 38 32.8 -4.7**
NVS pmax pmax
comp=Z,39nm,1.3s
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax smax
comp=E,107nm,2.1s
IR3 Iran Long-Peri 49.05 312 *e*P **P** **20 31 39.0 0.0**
FORT Forrest 49.17 141 *e*P **P** **20 31 40.4 +0.6**
comp=E,63nm,0.7s
FORT Forrest 49.17 141 *e*P **P** **20 31 40.1 +0.4**
comp=E,75nm,0.8s
VLA Vladivostok 49.23 36⇓ *i*P **P** **20 31 40.3 +0.2**
VLA *e* 20 32 59.2
VLA *e*S **S** **20 38 40.2 -0.6**
VLA pmax pmax
comp=Z,116nm,1.4s
RDF Al-Radifah 49.39 303 *e*P **P** **20 31 42.2 +0.6**
RDF AMb AMB 20 31 43.4
comp=Z,74nm,0.8s
UMR Umm Al-Rimmam 49.45 304 *e*P **P** **20 31 41.8 -0.1**
UMR AMb AMB 20 31 44.1
comp=Z,40nm,0.9s
NAY Al-Naaiem 49.75 303 *e*P **P** **20 31 44.2 0.0**
NAY AMb AMB 20 31 49.5
comp=Z,25nm,0.9s
MIB Mutribah 49.84 304 *e*P **P** **20 31 45.0 +0.1**
MIB AMb AMB 20 31 46.8
comp=Z,64nm,0.8s
CBIJ Chichi jima 49.84 60 P **P** **20 31 44.5 -0.6**
baz=265,slow=22,SNR=6.1
CBIJ Chichi jima 49.84 60 P **P** **20 31 44.5 -0.6**
VOSK Vostochnaya 49.90 342 P **P** **20 31 44.8 -0.2**
VOSK pmax pmax
comp=Z,33nm,0.6s
USRK Ussuriysk Arra 49.95 35 P **P** **20 31 46.1 +0.6**
comp=Z,33nm,0.9s,baz=236,slow=6.5,SNR=36
MAJO Matsushiro 49.98 47 *e*P **P** **20 31 46.7 +0.7**
MAJO Matsushiro 49.98 47 *e*P **P** **20 31 46.7 +0.7**
MAT Matsushiro 49.98 47 P **P** **20 31 46.3 +0.4**
MJAR Matsushiro Arr 49.98 47 P **P** **20 31 46.2 +0.3**
comp=Z,12nm,0.7s,baz=250,slow=8.8,SNR=18
MJAR PcP **PcP** **20 33 05.5 +0.3**
comp=Z,27nm,0.9s,baz=249,slow=4.7,SNR=13
MJAR ScP **ScP** **20 36 52.7 -2.1**
comp=Z,4.0nm,1.2s,baz=250,slow=5.6,SNR=4.1
MJAR LR LR 20 53 01.4
comp=Z,690nm,19.6s,baz=220,slow=36
MJAR Matsushiro Arr 49.98 47 P **P** **20 31 46.2 +0.3**
MJAR 20 33 05.5
MJAR Matsushiro Arr 49.98 47 P **P** **20 31 46.2 +0.3**
MJAR PcP **PcP** **20 33 05.5 +0.3**
MJAR ScP **ScP** **20 36 52.7 -2.1**
BVA2 Borovoye Array 50.34 341 P **P** **20 31 47.5 -0.8**
BVA2 pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 50.34 341 P **P** **20 31 48.3 -0.1**
comp=Z,13nm,0.6s,baz=144,slow=8.2,SNR=99
BVAR PcP **PcP** **20 33 06.6 +0.5**
comp=Z,9.2nm,0.6s,baz=162,slow=4.6,SNR=4.2
BVAR ScP **ScP** **20 36 54.4 -1.5**
comp=Z,4.5nm,1.0s,baz=174,slow=5.5,SNR=4.7
BVAR S **S** **20 38 53.5 -2.5**
comp=Z,5.4nm,0.8s,baz=135,slow=15,SNR=12
BVAR Borovoye Array 50.34 341 P **P** **20 31 48.3 -0.1**
BVAR 20 33 06.6
BVAR Borovoye Array 50.34 341 S **S** **20 38 53.5 -2.5**
BVAR Borovoye Array 50.34 341 P **P** **20 31 48.3 -0.1**
BVAR PcP **PcP** **20 33 06.6 +0.5**
BVAR ScP **ScP** **20 36 54.4 -1.5**
BVAR S **S** **20 38 53.5 -2.5**
BRVK Borovoye 50.41 341 *c* *i*P **P** **20 31 48.3 -0.5**
BRVK pmax pmax
comp=Z,40nm,1.2s
BRVK Borovoye 50.41 341 *e*P **P** **20 31 48.5 -0.3**
comp=Z,29nm,0.9s
BRVK Borovoye 50.41 341 P **P** **20 31 48.3 -0.5**
comp=Z,157nm,0.6s,SNR=23
AB31 Akbulak array 51.52 332 P **P** **20 31 56.9 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 51.52 332 *e*P **P** **20 31 57.7 +0.4**
comp=Z,12nm,0.6s
QIS Mount Isa 52.00 122 *e*P **P** **20 32 00.7 -0.6**
COEN Coen 52.59 113 *e*P **P** **20 32 05.7 -0.1**
comp=Z,68nm,0.8s
OPO Ambohidratompo 52.70 241 P **P** **20 32 06.4 -0.3**
comp=Z,2.4nm,0.5s,baz=59,slow=8.2,SNR=6.2
OPO LR LR 20 50 05.5
comp=Z,285nm,21.7s,baz=148,slow=31
OPO Ambohidratompo 52.70 241 P **P** **20 32 06.4 -0.3**
KLR Kul'dur 52.99 30 *e*P **P** **20 32 05.6 -2.6**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s
AKTO Aktyubinsk 53.23 332 P **P** **20 32 09.9 0.0**
comp=Z,11nm,0.7s,baz=115,slow=8.1,SNR=60
AKTO Aktyubinsk 53.23 332 P **P** **20 32 09.9 0.0**
AKTO Aktyubinsk 53.23 332 P **P** **20 32 09.9 0.0**
BHD Baghdad 53.32 307 *e*P **P** **20 32 10.0 -0.9**
BHD *e*S **S** **20 39 42.0 +4.5**
BOD Bodaibo 53.45 13 *e*P **P** **20 32 11.2 -0.2**
BOD pmax pmax
comp=Z,85nm,1.1s
HABR Khabarovsk 54.22 32 *ce*P **P** **20 32 14.9 -2.2**
HABR *e**PP **pP** **20 32 32.7 -2.7**
HABR *e* 20 33 17.5
HABR *e* 20 34 17.4
HABR *e*S **S** **20 39 48.6 -0.4**
HABR *e* 20 41 57.3

HABR *e*SS **SS** **20 43 34.2 +2.4**
HABR pmax pmax
comp=E,52nm,1.6s
HABR pmax pmax
comp=Z,104nm,1.3s
HABR pmax pmax
comp=N,48nm,2.3s
HABR MLR MLR
comp=Z,367nm,18.0s
GNI Garni 55.52 315⇑ *e*P **P** **20 32 26.1 -0.8**
GNI pmax pmax
comp=Z,37nm,1.7s
CLNS Chul'man 55.67 20 *e*P **P** **20 32 27.9 +0.3**
CLNS *e* 20 34 27.9
CLNS *e*S **S** **20 40 06.0 -2.4**
CLNS pmax pmax
comp=Z,61nm,1.1s
CLNS pmax pmax
comp=N,38nm,1.2s
CLNS pmax pmax
comp=E,31nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,1.2s
CLNS pmax pmax
comp=E,4.0nm,1.4s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS smax smax
comp=E,146nm,12.9s
CLNS smax smax
comp=N,147nm,15.4s
CLNS MLR MLR
comp=Z,207nm,12.0s
CLNS MLR MLR
comp=N,372nm,15.0s
CLNS MLR MLR
comp=E,266nm,15.0s
BBOO Buckleboo 55.69 137 *e*P **P** **20 32 27.8 -0.2**
comp=E,172nm,0.8s
BBOO *ep*P **pP** **20 32 46.1 -0.3**
BBOO Buckleboo 55.69 137 *e*P **P** **20 32 28.1 0.0**
comp=E,434nm,0.8s
ASAJ Asahikawa 56.36 40 P **P** **20 32 34.1 +1.5**
comp=E,37nm,0.8s,baz=250,slow=12,SNR=3.7
ASAJ Asahikawa 56.36 40 P **P** **20 32 34.1 +1.5**
SVE Sverdlovsk 56.74 339⇓ *i*P **P** **20 32 35.8 +0.7**
SVE pmax pmax
comp=Z,129nm,0.9s
SVE MLR MLR
comp=Z,475nm,20.0s
ZEI Tsey 57.16 318 *e*P **P** **20 32 36.6 -2.0**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 57.22 337 *c* *i*P **P** **20 32 38.4 -0.1**
ARU *e**PP **pP** **20 32 57.3 +0.4**
ARU *e* 20 33 32.6
ARU *e* 20 34 43.2
ARU S **S** **20 40 28.6 -0.1**
ARU SS **SS** **20 44 19.4 +0.6**
ARU SSS SSS 20 46 42.1
ARU pmax pmax
comp=Z,105nm,1.2s
ARU Arti 57.22 337 *e*P **P** **20 32 38.6 +0.1**
comp=Z,97nm,1.0s
ARU Arti 57.22 337 P **P** **20 32 38.2 -0.3**
comp=Z,477nm,0.8s,SNR=34
KMBO Kilima Mbogo 57.44 265 *e*P **P** **20 32 43.6 +2.5**
KMBO pmax pmax
comp=Z,26nm,1.1s
KMBO Kilima Mbogo 57.44 265 *e*P **P** **20 32 43.6 +2.5**
comp=Z,26nm,1.1s
YSS Yuzh-Sakhalins 57.78 37 *e*P P 20 32 39.0 -3.6
YSS *e* 20 32 44.0
YSS Yuzh-Sakhalins 57.78 37 *e*P **P** **20 32 43.6 +1.0**
comp=Z,132nm,1.4s
KIV Kislovodsk 58.45 318 *d* *i*P **P** **20 32 47.4 -0.1**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,100nm,22.0s
KIV Kislovodsk 58.45 318 *e*P **P** **20 32 46.4 -1.0**
comp=Z,21nm,0.9s
KIV Kislovodsk 58.45 318 P **P** **20 32 47.0 -0.5**
comp=Z,142nm,0.7s,SNR=5.8
YUK Yuzh-Kuril'sk 58.45 42 *d* *i*P **P** **20 32 50.3 +3.0**
YUK *i* 20 35 06.1
YUK *i* PPP PPP 20 36 21.2
YUK *i* S S 20 40 52.9 +7.7
YUK *i* SS **SS** **20 44 33.7 -4.9**
YUK pmax pmax
comp=Z,499nm,1.2s
YUK pmax pmax
comp=N,400nm,1.2s
YUK pmax pmax
comp=E,176nm,1.2s
YUK pmax pmax
comp=Z,1µm,1.5s
QLP Quilpie 58.48 126 *e*P **P** **20 32 48.1 +0.2**
QLP *ep*P **pP** **20 33 06.3 0.0**
STKA Stephens Creek 59.05 133 P **P** **20 32 51.7 -0.1**
comp=Z,38nm,0.8s,baz=305,slow=6.7,SNR=69
STKA LR LR 21 01 52.5
comp=Z,250nm,18.6s,baz=111,slow=40
STKA Stephens Creek 59.05 133 *e*P **P** **20 32 51.6 -0.1**
comp=Z,31nm,0.9s
STKA Stephens Creek 59.05 133 *e*P **P** **20 32 51.6 -0.1**
STKA pmax pmax
comp=Z,18nm,1.2s
STKA Stephens Creek 59.05 133 *e*P **P** **20 32 51.6 -0.1**
comp=Z,18nm,1.2s
ASF Jabal al Asfar 59.10 304 P **P** **20 32 53.7 +1.5**
comp=Z,7.0nm,0.9s,baz=31,slow=6.3,SNR=9.8
ASF Jabal al Asfar 59.10 304 P **P** **20 32 53.7 +1.5**
ASF Jabal al Asfar 59.10 304 P **P** **20 32 53.7 +1.5**
SOKR Solikamsk 60.14 339 *c* *i*P **P** **20 32 59.1 +0.4**
SOKR S **S** **20 41 05.2 -1.2**
SOKR pmax pmax
comp=Z,80nm,1.0s
SOKR MLR MLR
comp=Z,710nm,27.0s
EIL Elat 60.25 300 P **P** **20 33 00.5 +0.4**
comp=Z,15nm,0.7s,baz=74,slow=1.3,SNR=16
EIL Elat 60.25 300 P **P** **20 33 00.5 +0.4**
MMAI Mount Meron Ar 60.52 304 P **P** **20 33 03.5 +1.6**
comp=Z,6.3nm,0.7s,baz=100,slow=8.5,SNR=10
MMAI Mount Meron Ar 60.52 304 P **P** **20 33 03.5 +1.6**
YAK Yakutsk 61.25 18 *c* *i*P **P** **20 33 05.6 -0.6**
YAK *e**PP **pP** **20 33 22.4 -2.4**
YAK *e* 20 33 47.3
YAK *e* 20 35 21.4
YAK *e*PPP PPP 20 36 52.7
YAK *e*S **S** **20 41 16.4 -4.2**
YAK *e**SS sS 20 41 58.1 +5.9
YAK *e*SS **SS** **20 45 19.2 -2.7**
YAK *e*SSS SSS 20 48 07.9
YAK pmax pmax
comp=Z,136nm,0.9s
YAK pmax pmax
comp=N,66nm,1.4s
YAK pmax pmax
comp=E,63nm,1.2s
YAK pmax pmax
comp=Z,64nm,3.3s
YAK pmax pmax
comp=N,113nm,6.2s
YAK pmax pmax
comp=E,64nm,2.9s
YAK smax smax
comp=N,102nm,1.7s
YAK smax smax
comp=E,245nm,1.9s
YAK Yakutsk 61.25 18 *e*P **P** **20 33 04.6 -1.6**
comp=E,175nm,0.8s
ANN Anapa 62.26 318 *e*P **P** **20 33 10.8 -2.5**
ANN pmax pmax
comp=Z,29nm,1.0s
BR131 Keskin Array S 63.45 311 *e*P **P** **20 33 20.6 -1.0**
comp=Z,12nm,0.7s
BRTR Keskin Array B 63.45 311 P **P** **20 33 20.2 -1.3**
comp=Z,14nm,0.7s,baz=128,slow=7.3,SNR=74
BRTR LR LR 21 02 47.4
comp=Z,197nm,21.9s,baz=106,slow=38
BRTR Keskin Array B 63.45 311 P **P** **20 33 20.3 -1.3**
BRTR Keskin Array B 63.45 311 P **P** **20 33 20.2 -1.3**
VSR Storozhevoye 63.60 325 *e*P **P** **20 33 20.4 -1.7**
VSR *e**PP **pP** **20 33 38.7 -2.1**

VSR *e*S **S** **20 41 47.6 -2.9**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=N,60nm,2.3s
VSR smax smax
comp=E,20nm,1.1s
VSR smax smax
comp=Z,10.0nm,1.1s
SIM Simferopol' **64.54 317** *e*P **P** **20 33 29.8 +1.4**
SIM *e*S **S** **20 42 01.3 -1.1**
SIM pmax pmax
comp=Z,13nm,0.8s
TOO Toolangi **64.75 137** *e*P **P** **20 33 31.1 +1.2**
comp=Z,205nm,0.8s
ARMA Armidale **66.00 127** *e*P **P** **20 33 39.8 +1.6**
ARMA Armidale **66.00 127** *e*P **P** **20 33 39.4 +1.2**
comp=Z,163nm,1.5s
CAN Canberra **66.11 133** *e*P **P** **20 33 39.3 +0.5**
CAN pmax pmax
comp=Z,54nm,1.0s
CAN Canberra **66.11 133** *e*P **P** **20 33 39.3 +0.5**
comp=Z,54nm,1.0s
MOS Moscow **66.34 329** *e*P **P** **20 33 38.3 -1.5**
MOS *e* 20 34 05.6
MOS pmax pmax
comp=Z,114nm,1.3s
CNB Canberra Magne **66.38 133** *e*P **P** **20 33 40.7 +0.2**
comp=Z,176nm,0.9s
OBN Obninsk **66.63 328***c iP* **P** **20 33 41.2 -0.4**
OBN *e* 20 34 09.0
OBN pmax pmax
comp=Z,83nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk **66.63 328** *e*P **P** **20 33 41.3 -0.4**
comp=Z,131nm,1.4s
TLCR **68.22 316** ⇑P **P** **20 33 51.6 -0.3**
TLCR **68.22 316**⇑*iP* **P** **20 33 51.6 -0.3**
TIRR Tirgusor **68.34 315** ⇑P **P** **20 33 52.5 -0.2**
TIRR Tirgusor **68.34 315**⇑*iP* **P** **20 33 52.5 -0.2**
CFR Carcaliu **68.69 316** ⇑P **P** **20 33 54.1 -0.7**
CFR Carcaliu **68.69 316**⇑*iP* **P** **20 33 54.1 -0.7**
LEOM Leova **68.91 317** ⇓P **P** **20 33 55.9 -0.2**
LEOM Leova **68.91 317**⇓*iP* **P** **20 33 55.9 -0.2**
PETK Petropavlovsk- **69.03 35** P **P** **20 33 55.6 -1.2**
comp=Z,5.8nm,1.1s,baz=242,slow=3.1,SNR=4.6
PETK Petropavlovsk- **69.03 35** P **P** **20 33 55.6 -1.2**
PETK Petropavlovsk- **69.03 35** P **P** **20 33 55.6 -1.2**
AKASG Malin Array Be **69.33 322** P **P** **20 33 57.1 -1.6**
comp=Z,7.7nm,0.6s,baz=92,slow=5.4,SNR=25
AKASG LR LR 21 07 46.7
comp=Z,167nm,21.6s,baz=105,slow=39
AKASG Malin Array Be **69.33 322** P **P** **20 33 57.1 -1.6**
AKASG Malin Array Be **69.33 322** P **P** **20 33 57.1 -1.6**
AKBB Malin Array Si **69.33 322** *e*P **P** **20 33 55.9 -2.8**
AKBB Malin Array Si **69.33 322** *e*P **P** **20 33 55.9 -2.8**
KIEV Kiev **69.34 322***de*P **P** **20 33 57.9 -0.8**
KIEV Kiev **69.34 322** *e*P **P** **20 33 56.2 -2.5**
comp=Z,8.4nm,0.8s
ISR Istrita **69.78 316** ⇑P **P** **20 34 03.4 +1.7**
ISR Istrita **69.78 316**⇑*iP* **P** **20 34 03.4 +1.7**
VRI Vrincioaia **69.81 317** ⇓P **P** **20 34 02.4 +0.6**
VRI Vrincioaia **69.81 317**⇓*iP* **P** **20 34 02.4 +0.6**
PLOR Plostina **69.86 316** ⇑P **P** **20 34 02.3 +0.2**
PLOR Plostina **69.86 316**⇑*iP* **P** **20 34 02.3 +0.2**
TESR **69.99 317**⇑*iP* **P** **20 34 03.5 +0.6**
SEY Seymchan **70.11 24**⇓*e*P **P** **20 34 03.1 -0.2**
MLR Muntele Rosu **70.27 316** P **P** **20 34 04.8 +0.1**
comp=Z,3.3nm,0.8s,baz=110,slow=0.8,SNR=23
MLR Muntele Rosu **70.27 316** ⇓P **P** **20 34 05.2 +0.5**
MLR Muntele Rosu **70.27 316** P **P** **20 34 04.8 +0.1**
MLR Muntele Rosu **70.27 316**⇓*iP* **P** **20 34 05.2 +0.5**
HUMR Humele **70.76 315**⇓*iP* **P** **20 34 07.4 -0.2**
VOIR **70.88 316** ⇓P **P** **20 34 07.8 -0.6**
VOIR **70.88 316**⇓*iP* **P** **20 34 07.8 -0.6**
MICGM Minsk **71.15 326**⇓*e*P **P** **20 34 09.0 -0.7**
BURAR Bucovina Array **71.17 318** ⇑P **P** **20 34 10.5 +0.3**
BURAR Bucovina Array **71.17 318**⇑*iP* **P** **20 34 10.5 +0.3**
MNK Minsk **71.18 326**⇓*e*P **P** **20 34 09.0 -0.9**
MNK pmax pmax
comp=Z,140nm,1.0s
BUR08 Bucovina Ar. S **71.19 318** *e*P **P** **20 34 10.2 -0.1**
VTS Vitosha **71.73 313** ⇑P **P** **20 34 13.0 -0.7**
VTS Vitosha **71.73 313**⇑*iP* **P** **20 34 13.0 -0.7**
JOF Joensuu **72.16 335** *e*P **P** **20 34 14.4 -1.2**
JOF pmax pmax
comp=Z,46nm,0.6s
JOF Joensuu **72.16 335** *ep* **P** **20 34 14.4 -1.2**
comp=Z,46nm,0.6s
JOF Joensuu **72.16 335** *ep* **P** **20 34 14.4 -1.2**
comp=Z,46nm,0.6s
IIGN Ignalina **72.30 326** *e*P **P** **20 34 16.2 -0.4**
IIGN AMB AMB 20 34 18.7
comp=Z,23nm,1.4s
LVV L'vov **72.37 320** *e*P **P** **20 34 16.5 -0.7**
IZAR Zarasai **72.39 327** *e*P **P** **20 34 16.8 -0.4**
IZAR AMB AMB 20 34 19.1
comp=Z,20nm,1.2s
ISAL Salakas **72.41 326** *e*P **P** **20 34 16.9 -0.4**
ISAL AMB AMB 20 34 20.4
comp=Z,18nm,1.2s
GZR Gura Zlata **72.45 315** ⇓P **P** **20 34 18.3 +0.5**
GZR Gura Zlata **72.45 315**⇓*iP* **P** **20 34 18.3 +0.5**
DRGR **72.71 317** ⇑P **P** **20 34 19.4 0.0**
DRGR **72.71 317**⇑*iP* **P** **20 34 19.4 0.0**
VSU Vasula **72.85 329**⇑*iP* **P** **20 34 20.1 +0.3**
VSU pmax pmax
comp=Z,70nm,1.0s
LVZ Lovozero **72.91 340** P P 20 34 25.4 +5.4
comp=Z,672nm,0.4s,SNR=7.9
KRUS Krusevo **73.03 311** *e*P **P** **20 34 18.9 -2.4**
KWP Kalwaria Pacla **73.18 320** *e*P **P** **20 34 22.2 +0.2**
KWP Kalwaria Pacla **73.18 320** *e*P **P** **20 34 22.2 +0.2**
KWP Kalwaria Pacla **73.18 320** *e*P **P** **20 34 21.7 -0.3**
comp=Z,20nm,0.9s
KWP Kalwaria Pacla **73.18 320**⇑*iP* **P** **20 34 22.2 +0.2**
APA Apatity **73.19 339**⇑*iP* **P** **20 34 22.0 +0.3**
APA *i* S **S** **20 43 44.0 +0.1**
APA pmax pmax
comp=Z,65nm,1.0s
APA MLR MLR
comp=Z,900nm,19.0s
UZH Uzhgorod **73.28 319** *e*P **P** **20 34 21.5 -1.1**
UZH *e* 20 34 31.5
UZH *e* 20 34 44.3
UZH *e*S **S** **20 43 45.7 +0.1**
UZH *e* 20 44 37.1
BZS Buzias **73.29 316** ⇑P **P** **20 34 22.2 -0.5**
BZS Buzias **73.29 316**⇑*iP* **P** **20 34 22.2 -0.5**
KOLS Kolonicke sedl **73.34 319** *e*P **P** **20 34 23.4 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl **73.34 319** *e*P **P** **20 34 23.4 +0.4**
SUW Suwalki **73.72 324** *e*P **P** **20 34 24.9 -0.1**
SUW Suwalki **73.72 324** *e*P **P** **20 34 24.9 -0.1**
SUW Suwalki **73.72 324** *e*P **P** **20 34 24.0 -1.0**
comp=Z,179nm,1.3s
CRVS Cervenica-Dubn **73.87 319** *e*P **P** **20 34 26.6 +0.5**
CRVS pmax pmax
comp=Z,38nm,1.5s
CRVS Cervenica-Dubn **73.87 319** *e*P **P** **20 34 26.6 +0.5**
FINES FINESS Array B **74.00 332** P **P** **20 34 26.2 -0.2**
comp=Z,59nm,0.7s,baz=101,slow=5.5,SNR=190
FINES FINESS Array B **74.00 332** P **P** **20 34 26.3 -0.2**
FINES FINESS Array B **74.00 332** P **P** **20 34 26.2 -0.2**
KAF Kangasniemi **74.09 333** *e*P **P** **20 34 25.9 -1.1**
KAF pmax pmax
comp=Z,36nm,0.6s
KAF Kangasniemi **74.09 333** *ep* **P** **20 34 25.9 -1.1**
comp=Z,36nm,0.6s
KAF Kangasniemi **74.09 333** *ep* **P** **20 34 25.9 -1.1**
comp=Z,36nm,0.6s
STHS Stebnicka Huta **74.09 319** *e*P **P** **20 34 27.9 +0.6**
STHS pmax pmax
comp=Z,21nm,1.6s
STHS Stebnicka Huta **74.09 319** *e*P **P** **20 34 27.9 +0.6**
KECS Kecovo **74.45 318** *e*P **P** **20 34 29.1 -0.3**
KECS pmax pmax
comp=Z,15nm,1.6s
comp=Z,13nm,0.9s
CLL Collm **79.53 321**⇓*iP* **P** **20 34 58.1 +0.2**
CLL *e**PP **pP** **20 35 15.0 -2.2**
CLL pmax pmax
comp=Z,35nm,1.1s
CLL MLR MLR
comp=Z,200nm,19.7s
CLL Collm **79.53 321**⇓*iP* **P** **20 34 58.1 +0.2**
comp=Z,35nm,1.1s
CLL *e*(sP) sP 20 35 15.0 -10
CLL *e*SSS SSS 20 53 12.0
CLL *e*SSSS 20 55 48.0
CLL LmV 21 13 00.0
comp=Z,200nm,19.7s
SUR Sutherland **79.68 236** P **P** **20 35 00.3 +1.0**
comp=Z,34nm,0.9s,baz=78,slow=4.4,SNR=11
SUR LR LR 21 05 38.8
comp=Z,136nm,20.9s,baz=175,slow=32
SUR Sutherland **79.68 236** P **P** **20 35 00.3 +1.0**
TSUM Tsumeb **79.68 249** *e*P **P** **20 34 58.7 -0.8**
comp=Z,16nm,1.0s
HFS Hagfors **79.72 330** P **P** **20 34 58.5 -0.3**
comp=Z,18nm,0.5s,baz=108,slow=4.8,SNR=96
HFS Hagfors **79.72 330** P **P** **20 34 58.5 -0.3**
HFS Hagfors **79.72 330** P **P** **20 34 58.5 -0.3**
TANN Tannenbergstha **79.83 320** *e*P **P** **20 35 00.5 +0.9**
comp=Z,10.0nm,1.0s
NKC Novy Kostel **79.83 320** *i P* **P** **20 35 00.5 +0.9**
NKC Novy Kostel **79.83 320** *i P* **P** **20 35 00.5 +0.9**
STEI Steigen **79.91 338** *e*P **P** **20 34 59.5 -0.1**
ROTZ Rotzenmuhle **79.97 319** *e*P **P** **20 35 01.9 +1.6**
comp=Z,21nm,0.9s
DRV Dumont d'Urvil **80.01 163** S S 20 44 44.0 -14
DRV SS **SS** **20 50 10.0 +0.3**
DRV L L 20 56 00.0
DRV R 21 00 00.0
WTTA Wattenberg **80.29 317**⇑*iP* **P** **20 35 01.7 -0.6**
WTTA pmax pmax
comp=Z,56nm,1.0s
WTTA Wattenberg **80.29 317**⇑*iP* **P** **20 35 01.7 -0.6**
comp=Z,56nm,1.0s
WTTA Wattenberg **80.29 317**⇑*iP* **P** **20 35 01.7 -0.6**
comp=Z,56nm,1.0s,SNR=24
WATA Walderalm **80.33 317**⇑*iP* **P** **20 35 01.6 -0.9**
WATA pmax pmax
comp=Z,19nm,0.6s
WATA Walderalm **80.33 317**⇑*iP* **P** **20 35 01.6 -0.9**
comp=Z,19nm,0.6s
WATA Walderalm **80.33 317**⇑*iP* **P** **20 35 01.6 -0.9**
comp=Z,19nm,0.6s,SNR=21
MOX Moxa **80.38 320** *e*P **P** **20 35 03.7 +1.2**
comp=Z,12nm,0.9s
MOX Moxa **80.38 320** *e*P **P** **20 35 03.7 +1.2**
MOX pmax pmax
comp=Z,12nm,0.9s
FUR Furstenfeldbru **80.55 318** *e*P **P** **20 35 04.3 +0.8**
comp=Z,21nm,0.8s
FUR Furstenfeldbru **80.55 318** *e*P **P** **20 35 04.3 +0.8**
FUR pmax pmax
comp=Z,21nm,0.8s
GRF Grafenberg Arr **80.61 319** *e*P **P** **20 35 05.4 +1.6**
comp=Z,32nm,0.9s
GRF *e*L L 21 15 34.1
comp=Z,121nm,19.3s
GRF Grafenberg Arr **80.61 319** *e*P **P** **20 35 05.4 +1.6**
GRF pmax pmax
comp=Z,32nm,0.9s
GRF MLR MLR
comp=Z,100nm,19.3s
GRFO Grafenberg **80.61 319** *e*P **P** **20 35 04.0 +0.2**
GRFO pmax pmax
comp=Z,37nm,1.0s
GRFO Grafenberg **80.61 319** *e*P **P** **20 35 04.0 +0.2**
comp=Z,37nm,1.0s
MOTA Moosalm **80.66 317**⇑*iP* **P** **20 35 03.5 -0.8**
MOTA pmax pmax
comp=Z,38nm,0.9s
MOTA Moosalm **80.66 317**⇑*iP* **P** **20 35 03.5 -0.8**
comp=Z,38nm,0.9s
MOTA Moosalm **80.66 317**⇑*iP* **P** **20 35 03.4 -0.8**
comp=Z,38nm,0.9s,SNR=33
NC602 NORSAR Array S **80.83 330** *e*P **P** **20 35 04.3 -0.4**
NSS Namsos **80.88 334** *e*P **P** **20 35 03.6 -1.2**
RETA Reutte **80.89 317** *i* P **P** **20 35 05.0 -0.4**
comp=Z,66nm,1.1s
RETA Reutte **80.89 317** *i* P **P** **20 35 05.0 -0.4**
comp=Z,66nm,1.1s,SNR=52
FETA Feichten **80.91 316** *i* P **P** **20 35 05.0 -0.6**
comp=Z,39nm,1.0s
FETA Feichten **80.91 316** *i* P **P** **20 35 05.0 -0.6**
comp=Z,39nm,1.0s,SNR=34
NB2 NORSAR Subarra **81.01 331** P **P** **20 35 04.8 -0.9**
comp=Z,24nm,0.9s,baz=94,slow=5.6
NOA NORSAR Array B **81.01 331** P **P** **20 35 04.8 -0.9**
comp=Z,14nm,0.9s,baz=94,slow=5.5,SNR=37
NOA LR LR 21 16 56.6
comp=Z,179nm,19.0s,baz=90,slow=40
NOA NORSAR Array B **81.01 331** P **P** **20 35 04.8 -0.9**
NOA NORSAR Array B **81.01 331** P **P** **20 35 04.8 -0.9**
CLZ Clausthal **81.18 321** *e*P **P** **20 35 08.0 +1.2**
comp=Z,26nm,0.8s
CLZ Clausthal **81.18 321** *e*P **P** **20 35 08.0 +1.2**
CLZ pmax pmax
comp=Z,26nm,0.8s
OSL Oslo **81.20 330** *e*P **P** **20 35 06.7 0.0**
SPA0 Spitsbergen Ar **81.22 348** *e*P **P** **20 35 06.5 +0.1**
SPB4 Spitsbergen Ar **81.22 348** *e*P **P** **20 35 06.4 -0.1**
BSEG Bad Segeberg **81.25 323** *e*P **P** **20 35 08.4 +1.4**
comp=Z,60nm,0.8s
BSEG Bad Segeberg **81.25 323** *e*P **P** **20 35 08.4 +1.4**
BSEG pmax pmax
comp=Z,60nm,0.8s
UBBA Unterbreizbach **81.41 320** *e*P **P** **20 35 09.4 +1.6**
comp=Z,2.0nm,0.8s
DAVA Damuels **81.49 317** *i* P **P** **20 35 08.5 -0.2**
comp=Z,66nm,1.3s,SNR=26
DAVOX Davos/Dischmat **81.49 316** P **P** **20 35 08.9 +0.1**
comp=Z,56nm,0.9s,baz=122,slow=5.8,SNR=109
DAVOX Davos/Dischmat **81.49 316** P **P** **20 35 08.9 +0.1**
DAVOX Davos/Dischmat **81.49 316** P **P** **20 35 08.9 +0.1**
KONO Kongsberg **81.76 329** *e*P **P** **20 35 09.3 -0.3**
KONO Kongsberg **81.76 329** *e*P **P** **20 35 09.3 -0.3**
KONO pmax pmax
comp=Z,62nm,1.4s
KONO Kongsberg **81.76 329** *e*P **P** **20 35 09.3 -0.3**
comp=Z,62nm,1.4s
TUE Stuetta **81.86 316** *e*P **P** **20 35 09.8 -0.9**
comp=Z,23nm,0.9s
STU Stuttgart **81.94 318** *e*P **P** **20 35 11.6 +0.8**
comp=Z,14nm,0.7s
STU Stuttgart **81.94 318** *e*P **P** **20 35 11.4 +0.6**
STU pmax pmax
comp=Z,31nm,1.1s
STU Stuttgart **81.94 318** *e*P **P** **20 35 11.4 +0.6**
comp=Z,31nm,1.1s
KEST Kesra **82.16 305** P **P** **20 35 13.3 +0.9**
comp=Z,6.5nm,1.0s,baz=333,slow=2.2,SNR=20
KEST LR LR 21 13 58.9
comp=Z,102nm,18.9s,baz=321,slow=37
KEST Kesra **82.16 305** *e*P **P** **20 35 12.5 +0.2**
TOD Tromm **82.18 319** *e*P **P** **20 35 11.6 -0.5**
TOD Tromm **82.18 319** *e*P **P** **20 35 11.6 -0.5**
PGF Pioggiola **82.19 312** *e*P **P** **20 35 13.2 +0.8**
comp=Z,55nm,1.1s
KBS Kingsbay **82.20 349**⇑*e*P **P** **20 35 11.1 -0.5**
KBS pmax pmax
comp=Z,50nm,1.2s
TNS Taunus Mts **82.40 320** *e*P **P** **20 35 14.4 +1.1**
comp=Z,16nm,0.8s
TNS Taunus Mts **82.40 320** *e*P **P** **20 35 14.4 +1.1**
TNS pmax pmax
comp=Z,16nm,0.8s
BFO Black Forest **82.52 318** *e*P **P** **20 35 14.5 +0.6**
comp=Z,16nm,0.8s
BFO Black Forest **82.52 318** *e*P **P** **20 35 14.5 +0.6**
BFO pmax pmax
comp=Z,16nm,0.8s
BFO Black Forest **82.52 318** *e*P **P** **20 35 13.7 -0.2**
comp=Z,30nm,0.9s
BFO Black Forest **82.52 318** P **P** **20 35 13.2 -0.7**
comp=Z,176nm,0.9s,SNR=10
KTD Kalmit **82.66 319** *e*P **P** **20 35 15.5 +0.9**
KTD Kalmit **82.66 319** *e*P **P** **20 35 15.5 +0.9**
FELD Feldberg im Sc **82.75 317** *e*P **P** **20 35 15.5 +0.3**
IBBN Ibbenburen **82.80 322** *e*P **P** **20 35 16.4 +1.2**
comp=Z,36nm,0.8s

KECS Kecovo **74.45 318** *e*P **P** **20 34 29.1 -0.3**
NIE Niedzica **74.69 319** *e*P **P** **20 34 32.0 +1.2**
NIE Niedzica **74.69 319**⇓*e*P **P** **20 34 32.0 +1.2**
BEL Belsk **74.75 322** *e*P **P** **20 34 31.7 +0.7**
BEL Belsk **74.75 322** *e*P **P** **20 34 31.7 +0.7**
PSZ Piszkesteto **74.77 318** ⇓P **P** **20 34 31.4 0.0**
PSZ Piszkesteto **74.77 318** *e*P **P** **20 34 30.9 -0.4**
comp=Z,76nm,1.8s
PSZ Piszkesteto **74.77 318**⇓*iP* **P** **20 34 31.4 0.0**
PSZ Piszkesteto **74.77 318**⇓*eP* **P** **20 34 31.7 +0.3**
BOSA Boshof **74.99 238** P **P** **20 34 34.4 +1.4**
comp=Z,24nm,0.6s,baz=76,slow=6.0,SNR=23
BOSA LR LR 21 02 25.7
comp=Z,185nm,19.7s,baz=92,slow=32
BOSA Boshof **74.99 238** P **P** **20 34 34.4 +1.4**
BOSA Boshof **74.99 238** P **P** **20 34 34.4 +1.4**
OJC Ojcow **75.13 320** *e*P **P** **20 34 33.3 0.0**
OJC Ojcow **75.13 320** *e*P **P** **20 34 33.3 0.0**
PKSM Moragy **75.42 316** ⇓P **P** **20 34 34.3 -0.7**
PKSM Moragy **75.42 316**⇓*iP* **P** **20 34 34.3 -0.7**
PKSM Moragy **75.42 316**⇓*eP* **P** **20 34 34.5 -0.5**
VYHS Vyhne **75.54 318** *e*P **P** **20 34 35.6 -0.1**
VYHS pmax pmax
comp=Z,24nm,1.5s
VYHS Vyhne **75.54 318** *e*P **P** **20 34 35.6 -0.1**
RHK3 Tenkes **75.66 316**⇓*e*P **P** **20 34 35.9 -0.6**
PKS9 Tamasi **75.71 316** *e*P **P** **20 34 38.7 +2.0**
PKSG **75.71 317**⇓*e*P **P** **20 34 37.2 +0.5**
KOLL Kolacno **75.83 318** *e*P **P** **20 34 38.3 +0.9**
KOLL Kolacno **75.83 318** *e*P **P** **20 34 38.3 +0.9**
DZM Mont Dzumac **76.07 115** *e*P **P** **20 34 39.4 0.0**
comp=Z,42nm,1.3s
OKC Ostrava-Krasne **76.14 320** *i* P **P** **20 34 39.1 0.0**
OKC *e* 20 34 51.6
OKC Ostrava-Krasne **76.14 320** *i* P **P** **20 34 39.1 0.0**
OKC *ep*P **PcP** **20 34 51.6 +0.7**
KEV Kevo **76.19 341** *e*P **P** **20 34 38.5 -0.4**
KEV pmax pmax
comp=Z,23nm,0.7s
KEV Kevo **76.19 341** *ep* **P** **20 34 38.5 -0.4**
comp=Z,23nm,0.7s
KEV Kevo **76.19 341** *ep* **P** **20 34 38.5 -0.4**
comp=Z,23nm,0.7s
SMOL Smolenice **76.47 318** *e*P **P** **20 34 41.9 +0.9**
SMOL Smolenice **76.47 318** *e*P **P** **20 34 41.9 +0.9**
MORC Moravsky Berou **76.52 320** ⇑P **P** **20 34 41.5 +0.1**
MORC Moravsky Berou **76.52 320** *e*P **P** **20 34 41.4 +0.1**
comp=Z,72nm,1.4s
MORC Moravsky Berou **76.52 320**⇑*iP* **P** **20 34 41.5 +0.1**
ARCES ARCESS Array B **76.61 340** P **P** **20 34 41.5 +0.1**
comp=Z,31nm,0.8s,baz=104,slow=6.7,SNR=95
ARCES LR LR 21 11 21.1
comp=Z,464nm,19.4s,baz=96,slow=38
ARCES ARCESS Array B **76.61 340** P **P** **20 34 41.5 +0.1**
ARCES ARCESS Array B **76.61 340** P **P** **20 34 41.5 +0.1**
ARE0 ARCESS Array S **76.61 340** *e*P **P** **20 34 41.8 +0.4**
ARE0 ARCESS Array S **76.61 340** *e*P **P** **20 34 41.4 0.0**
BEHE Becsehely **76.73 316**⇓*eP* **P** **20 34 43.7 +1.2**
SOP Sopron **76.98 317**⇓*eP* **P** **20 34 43.8 -0.1**
GKP Gorka Klasztor **77.09 323** *e*P **P** **20 34 44.9 +0.5**
GKP Gorka Klasztor **77.09 323** *e*P **P** **20 34 44.9 +0.5**
VRAC Vranov **77.09 319** P **P** **20 34 45.1 +0.6**
comp=Z,2.7nm,0.3s,baz=111,slow=8.6,SNR=7.6
VRAC Vranov **77.09 319** P **P** **20 34 45.1 +0.6**
VRAC Vranov **77.09 319** P **P** **20 34 45.1 +0.6**
MAW Mawson **77.22 192** P **P** **20 34 46.7 +2.0**
comp=Z,7.4nm,0.6s,baz=45,slow=7.1,SNR=12
MAW LR LR 21 02 00.4
comp=Z,178nm,21.1s,baz=14,slow=30
MAW Mawson **77.22 192** P **P** **20 34 46.7 +2.0**
MAW Mawson **77.22 192** P **P** **20 34 46.7 +2.0**
BILL Bilibino **77.31 22***c iP* **P** **20 34 44.3 -1.0**
BILL pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino **77.31 22** *eP* **P** **20 34 44.7 -0.6**
comp=Z,34nm,1.4s
DPC Dobruska-Polom **77.36 320** *i* P **P** **20 34 47.4 +1.4**
DPC *e* 20 35 02.0
DPC Dobruska-Polom **77.36 320** *i* P **P** **20 34 47.4 +1.4**
DPC *es*P sP 20 35 02.0 -11
KSP Ksiaz **77.42 321** *eP* **P** **20 34 47.5 +1.2**
KSP Ksiaz **77.42 321**⇑*eP* **P** **20 34 46.7 +0.4**
CONA Conrad Observa **77.47 318**⇑*iP* **P** **20 34 46.5 -0.2**
comp=Z,21nm,1.2s
CONA Conrad Observa **77.47 318**⇑*iP* **P** **20 34 46.5 -0.2**
comp=Z,21nm,1.2s
UPC Upice **77.57 320** *i* P **P** **20 34 48.2 +1.0**
UPC Upice **77.57 320** *i* P **P** **20 34 48.2 +1.0**
ARSA Arzberg **77.65 317**⇑*iP* **P** **20 34 47.9 +0.3**
comp=Z,51nm,1.4s
ARSA Arzberg **77.65 317**⇑*iP* **P** **20 34 47.9 +0.3**
comp=Z,51nm,1.4s,SNR=19
BOJS Bojanci **77.73 315** *i* P **P** **20 34 47.9 -0.2**
TREC Trest **77.81 319** *i* P **P** **20 34 49.3 +0.8**
TREC Trest **77.81 319** *i* P **P** **20 34 49.3 +0.8**
SOKA Soboth **77.94 316**⇑*iP* **P** **20 34 49.7 +0.3**
comp=Z,62nm,1.2s
SOKA Soboth **77.94 316**⇑*iP* **P** **20 34 49.7 +0.3**
comp=Z,62nm,1.2s
VISS Visnje **78.03 315** *i* P **P** **20 34 49.7 -0.1**
LJU Ljubljana **78.26 316** *eP* **P** **20 34 52.0 +0.9**
OBKA Obir **78.27 316**⇑*iP* **P** **20 34 51.4 +0.2**
comp=Z,54nm,1.4s
OBKA Obir **78.27 316**⇑*iP* **P** **20 34 51.4 +0.2**
comp=Z,54nm,1.4s,SNR=9.0
CRNS Crni Vrh **78.45 316** *i* P **P** **20 34 52.4 +0.3**
PRU Pruhonice **78.47 320** *i* P **P** **20 34 52.6 +0.5**
PRU *e* 20 35 02.9
PRU Pruhonice **78.47 320** *i* P **P** **20 34 52.6 +0.5**
PRU *ep*P **PcP** **20 35 02.9 +1.8**
PVCC Panska Ves **78.49 320** *i* P **P** **20 34 53.2 +1.0**
PVCC Panska Ves **78.49 320** *i* P **P** **20 34 53.2 +1.0**
MOA Molln **78.53 317**⇑*iP* **P** **20 34 52.5 0.0**
comp=Z,22nm,1.0s
MOA Molln **78.53 317**⇑*iP* **P** **20 34 52.5 0.0**
comp=Z,22nm,1.0s,SNR=8.3
JAVS Javornik **78.58 315** *i* P **P** **20 34 53.2 +0.3**
VOY Vojsko **78.70 316** *eP* **P** **20 34 53.5 -0.1**
VOY *e* 20 35 13.7
TRO Tromso **78.87 340** *eP* **P** **20 34 54.6 +0.7**
TRO AMB AMB 20 34 56.6
comp=Z,109nm,1.2s
MYKA Terra Mystica **78.90 316**⇑*iP* **P** **20 34 54.7 0.0**
comp=Z,51nm,1.8s
MYKA Terra Mystica **78.90 316**⇑*iP* **P** **20 34 54.7 0.0**
comp=Z,51nm,1.8s
BRG Berggiesshubel **78.91 320** *i* P **P** **20 34 54.9 +0.4**
comp=Z,43nm,1.1s
BRG Berggiesshubel **78.91 320** *eP* **P** **20 34 55.9 +1.4**
comp=Z,17nm,0.9s
BRG Berggiesshubel **78.91 320** *i* P **P** **20 34 54.9 +0.4**
BRG pmax pmax
comp=Z,43nm,1.1s
HOPEN Hopen **78.95 347** *eP* **P** **20 34 54.4 +0.1**
GEC2 GERESS Array S **78.96 318** *eP* **P** **20 34 56.3 +1.3**
comp=Z,34nm,1.0s
GEC2 GERESS Array S **78.96 318** *eP* **P** **20 34 56.3 +1.3**
GEC2 pmax pmax
comp=Z,34nm,1.0s
GERES GERESS Array B **78.96 318** P **P** **20 34 55.2 +0.2**
comp=Z,25nm,0.9s,baz=94,slow=4.4,SNR=67
GERES LR LR 21 12 38.5
comp=Z,131nm,21.0s,baz=280,slow=38
GERES GERESS Array B **78.96 318** P **P** **20 34 55.2 +0.2**
GERES GERESS Array B **78.96 318** P **P** **20 34 55.2 +0.2**
KHC Kasperske Hory **79.05 319** *i* P **P** **20 34 55.5 +0.1**
KHC *e* 20 35 04.9
KHC Kasperske Hory **79.05 319** *eP* **P** **20 34 55.5 +0.1**
comp=Z,24nm,1.0s
KHC Kasperske Hory **79.05 319** *i* P **P** **20 34 55.5 +0.1**
KHC *ep*P **PcP** **20 35 04.9 +1.2**
KHC *ex* x 20 35 31.0
RUE Ruedersdorf **79.11 322** *eP* **P** **20 34 55.7 +0.2**
comp=Z,93nm,0.9s
KBA Koelnbreinsper **79.12 317**⇑*iP* **P** **20 34 55.5 -0.4**
SNR=14
WET Wettzell **79.51 319** *eP* **P** **20 34 59.3 +1.4**
comp=Z,22nm,0.9s
WET Wettzell **79.51 319** *eP* **P** **20 34 59.3 +1.4**
WET pmax pmax
comp=Z,22nm,0.9s
RJOB Jochberg **79.52 317** *eP* **P** **20 34 58.6 +0.6**
comp=Z,46nm,1.3s
CLL Collm **79.53 321** *eP* **P** **20 34 58.8 +0.9**

LANF Langenberg 82.85 318 eP P 20 35 16.3 +0.7
LANF Langenberg 82.85 318 eP P 20 35 16.3 +0.7
LANF Langenberg 82.85 318 eP P 20 35 16.3 +0.7
ABH Alteburg 82.99 319 eP P 20 35 16.1 -0.2
LIBD Limburg 83.01 318 eP P 20 35 17.4 +1.0
LIBD Limburg 83.01 318 eP P 20 35 17.4 +1.0
BBS Basel-Blauen 83.09 317 eP P 20 35 16.1 -0.8
BBS Basel-Blauen 83.09 317 eP P 20 35 16.1 -0.8
BUG Bochum--Univer 83.12 321 eP P 20 35 18.0 +1.1
comp=Z,22nm,0.9s
SAOF Saorge 83.20 313 eP P 20 35 17.8 +0.3
CDF Champ du Feu 83.22 318 eP P 20 35 17.0 -0.6
comp=Z,51nm,1.1s
ODD1 Odda 83.26 330 eP P 20 35 16.9 -0.6
SBF Sospel 83.29 313 eP P 20 35 17.8 -0.2
comp=Z,101nm,0.9s
ECH Echery 83.30 318 eP P 20 35 16.6 -1.4
ECH pmax pmax
comp=Z,18nm,0.9s
ECH Echery 83.30 318 eP P 20 35 16.6 -1.4
comp=Z,18nm,0.9s
ECH Echery 83.30 318 eP P 20 35 18.3 +0.3
RUP Ruppelstein 83.31 319 eP P 20 35 17.6 -0.4
RUP Ruppelstein 83.31 319 eP P 20 35 17.6 -0.4
MOF Molkenrain 83.33 317 eP P 20 35 18.5 +0.3
MOF Molkenrain 83.33 317 eP P 20 35 18.5 +0.3
MOF Molkenrain 83.33 317 eP P 20 35 18.5 +0.3
BLS5 Blasjo 83.36 329 eP P 20 35 18.0 0.0
BLS5 AMB AMB 20 35 19.9
comp=Z,36nm,0.8s
TOUF Mont Tournerai 83.42 314 eP P 20 35 19.6 +0.7
TOUF Mont Tournerai 83.42 314 eP P 20 35 19.6 +0.7
TOUF Mont Tournerai 83.42 314 eP P 20 35 19.6 +0.7
MVIF Mont Vial 83.49 313 eP P 20 35 19.9 +0.7
HINF Hinteralfeld 83.52 317 eP P 20 35 18.1 -1.0
comp=Z,9.1nm,0.7s
LOMF Lomont 83.56 317 eP P 20 35 19.6 +0.2
LOMF Lomont 83.56 317 eP P 20 35 19.6 +0.2
LOMF Lomont 83.56 317 eP P 20 35 19.6 +0.2
CALN Calern 83.69 313 eP P 20 35 21.1 +0.9
LPG La Plagne 83.70 315 eP P 20 35 20.3 -0.1
comp=Z,79nm,0.9s
OG01 Vacheresse 83.71 316 eP P 20 35 20.8 +0.6
OG01 Vacheresse 83.71 316 eP P 20 35 20.8 +0.6
LPL La Plagne 83.71 315 eP P 20 35 20.3 -0.1
comp=Z,99nm,0.8s
RSL Roselend 83.78 315 eP P 20 35 22.0 +1.4
HAU Haudompre 83.86 318 eP P 20 35 20.3 -0.5
comp=Z,110nm,0.9s
HAU eR
comp=Z,193nm,22.2s
RUND Rundenannen 83.88 330 eP P 20 35 19.8 -0.8
WLF Walferdange 83.90 319 P P 20 35 21.9 +1.0
comp=Z,32nm,1.7s
WLF Walferdange 83.90 319 eP P 20 35 22.5 +1.6
comp=Z,19nm,1.0s
MEM Membach 83.95 320 P P 20 35 21.7 +0.6
comp=Z,18nm,1.2s
THEF They Montfort 84.08 318 eP P 20 35 22.2 +0.3
THEF They Montfort 84.08 318 eP P 20 35 22.2 +0.3
THEF They Montfort 84.08 318 eP P 20 35 22.2 +0.3
CABF La Chapelle 84.11 316 eP P 20 35 22.1 -0.1
comp=Z,70nm,1.0s
SYO Syowa Base 84.14 197⇑ iP P 20 35 22.8 +1.2
PAGF Fort de Pagny 84.24 318 eP P 20 35 22.4 -0.3
comp=Z,7.5nm,1.0s
OG25 Le Caire 84.24 314 eP P 20 35 23.4 +0.5
ORIF Oris-en-Rattie 84.35 314 eP P 20 35 23.5 +0.1
comp=Z,29nm,0.9s
ORIF eR
comp=Z,220nm,19.8s
BCLA Clavier 84.41 320 P P 20 35 23.9 +0.4
comp=Z,23nm,1.6s
OG35 Corcelles 84.50 316 eP P 20 35 24.8 +0.7
SMRF Simiane la Rot 84.63 314 eP P 20 35 25.2 +0.4
comp=Z,81nm,1.2s
MEZF Maizieres J'vi 84.69 318 eP P 20 35 25.7 +0.7
comp=Z,68nm,1.1s
SFTF Sexfontaines 84.72 318 eP P 20 35 24.8 -0.3
comp=Z,116nm,0.9s
DOU Dourbes 84.88 320 P P 20 35 26.5 +0.6
RPZ Rata Peaks 84.97 135 P P 20 35 26.6 +0.2
comp=Z,22nm,1.0s,baz=124,slow=2.6,SNR=6.9
RPZ Rata Peaks 84.97 135 P P 20 35 26.6 +0.2
SNF Seneffe 85.05 320 P P 20 35 26.9 +0.2
comp=Z,23nm,1.5s
BAIF Baives 85.13 320 eP P 20 35 27.2 +0.1
comp=Z,77nm,1.0s
VIVF Saint-Julien-l 85.21 314 eP P 20 35 27.5 -0.2
comp=Z,64nm,1.0s
SSB Saint Sauveur 85.27 315 eP P 20 35 26.8 -1.2
SSB pmax pmax
comp=Z,30nm,1.0s
SSB Saint Sauveur 85.27 315 eP P 20 35 26.8 -1.2
comp=Z,30nm,1.0s
LOR Lormes 85.58 317 eP P 20 35 29.1 -0.4
comp=Z,113nm,1.1s
LOR eR
comp=Z,152nm,21.2s
SSF Saint Saulge 85.84 317 eP P 20 35 30.4 -0.3
comp=Z,43nm,1.0s
LASF Ste Croix 85.85 314 eP P 20 35 31.1 +0.2
comp=Z,58nm,1.1s
AVF Avril sur Loir 85.97 316 eP P 20 35 31.0 -0.4
comp=Z,61nm,1.0s
GAMB Gambell 86.00 26 eP P 20 35 31.1 0.0
comp=Z,44nm,1.2s
MSVF Nonsavu 86.04 108 P P 20 35 28.2 -4.2
comp=Z,180nm,0.9s,SNR=7.2
LBL Lubilhac 86.18 315 eP P 20 35 33.4 +0.8
LBL Lubilhac 86.18 315 eP P 20 35 33.4 +0.8
LBL Lubilhac 86.18 315 eP P 20 35 33.4 +0.8
AGO Saint Agoulin 86.19 316 eP P 20 35 33.0 +0.5
AGO Saint Agoulin 86.19 316 eP P 20 35 33.0 +0.5
BGF Bois d'Agland 86.34 316 eP P 20 35 33.2 0.0
comp=Z,87nm,1.1s
TAM Tamanrasset 86.40 292 eP P 20 35 33.9 -0.3
TAM pmax pmax
comp=Z,27nm,1.3s
TAM Tamanrasset 86.40 292 eP P 20 35 33.9 -0.3
comp=Z,27nm,1.3s
KHZ Kahutara 86.45 133 eP P 20 35 33.3 -0.5
comp=Z,101nm,1.4s
TCF Toulx Ste Croi 86.80 316 eP P 20 35 35.4 -0.1
comp=Z,38nm,1.1s
CAF Calviac 87.05 315 eP P 20 35 36.9 +0.1
comp=Z,29nm,1.0s
MTLF Montolieu 87.11 313 eP P 20 35 37.1 +0.1
comp=Z,42nm,1.0s
TNA Tin City 87.36 24 eP P 20 35 38.1 +0.4
comp=Z,23nm,1.1s
RJF Les Rejaudoux 87.39 315 eP P 20 35 38.6 +0.2
comp=Z,62nm,1.1s
RJF eR
comp=Z,172nm,20.1s
LDF La Druitiere 88.10 319 eP P 20 35 41.4 -0.3
comp=Z,23nm,0.8s
FLN La Foliniere 88.32 319 eP P 20 35 42.5 -0.2
comp=Z,103nm,1.1s
FLN eR
comp=Z,173nm,20.4s
URZ Urewera 88.36 129 P P 20 35 42.1 -0.9
comp=Z,34nm,0.9s,baz=303,slow=3.1,SNR=20
URZ Urewera 88.36 129 P P 20 35 42.1 -0.9
comp=Z,13nm,1.0s
MFF Saint Martin d 88.38 317 eP P 20 35 43.0 0.0
comp=Z,68nm,1.1s
EPF Esparros 88.51 313 eP P 20 35 43.2 -0.6
comp=Z,13nm,1.0s
GRR Gorron 88.62 318 eP P 20 35 44.1 0.0
comp=Z,52nm,1.2s
DAG Danmarks Havn 88.85 348 i P P 20 35 43.8 -0.8
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 88.85 348 i P P 20 35 43.8 -0.8
comp=Z,100nm,0.8s
DAG i 20 36 04.8
ETSF Etsaut 89.18 313 eP P 20 35 47.5 +0.5
comp=Z,19nm,0.7s
SJPF Ste Jean 89.63 313 eP P 20 35 49.6 +0.6
comp=Z,49nm,1.2s
SGMF Saint Gilles 89.76 318 eP P 20 35 49.4 0.0
comp=Z,62nm,1.0s
ROSF Rostrenen 90.22 319 eP P 20 35 51.6 0.0
comp=Z,89nm,1.2s
QUIF Quistinic 90.22 318 eP P 20 35 51.3 -0.3
comp=Z,30nm,0.8s
ALE Alert 90.49 357 P P 20 35 52.2 0.0
comp=Z,208nm,0.9s,SNR=10
TORD Torodi Ar. Bea 91.07 283 P P 20 35 57.0 +0.8
comp=Z,5.6nm,0.7s,baz=91,slow=4.5,SNR=41
TORD PP PP 20 39 36.1 +2.5
comp=Z,0.5nm,0.9s,baz=73,slow=3.6,SNR=3.6
TORD PKKPbc PKKPbc 20 53 19.6 +0.3
comp=Z,1.0nm,0.6s,baz=298,slow=2.5,SNR=9.1
TORD LR LR 21 14 45.5
comp=Z,179nm,20.8s,baz=105,slow=34
TORD Torodi Ar. Bea 91.07 283 P P 20 35 57.0 +0.8
TORD PP PP 20 39 36.1 +2.5
TORD PKKPbc PKKPbc 20 53 19.6 +0.3
VNDA Vanda 91.55 168 eP P 20 35 57.6 +0.5
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 91.55 168 eP P 20 35 57.6 +0.5
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 92.22 310 P P 20 36 01.5 +0.3
comp=Z,7.6nm,0.8s,baz=59,slow=4.5,SNR=41
ESDC PKKPbc PKKPbc 20 53 17.8 +0.5
comp=Z,0.1nm,0.4s,baz=237,slow=1.7,SNR=7.2
ESDC Sonseca Array 92.22 310 P P 20 36 01.5 +0.3
ESDC PKKPbc PKKPbc 20 53 17.8 +0.5
TTA Tatalina 93.06 26 eP P 20 36 05.1 +0.5
TTA pmax pmax
comp=Z,32nm,1.3s
TTA Tatalina 93.06 26 eP P 20 36 05.1 +0.5
comp=Z,32nm,1.3s
COLD Coldfoot 93.62 21 eP P 20 36 07.4 +0.5
comp=Z,7.3nm,1.0s
PBRG Braganca 93.88 313 eP P 20 36 09.9 +1.1
comp=Z,22nm,1.7s
MVO Moncorvo 94.23 312 eP P 20 36 11.9 +1.5
comp=Z,26nm,1.9s
PBAR Barrancos 94.87 309 eP P 20 36 14.9 +1.6
comp=Z,26nm,1.6s
SUMG Summit 95.52 347 eP P 20 36 16.6 +0.6
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 95.52 347 eP P 20 36 16.6 +0.6
comp=Z,21nm,1.1s
SUMG Summit 95.52 347 i P P 20 36 16.2 +0.2
comp=Z,11nm,1.0s
ILAR Eielson Array 95.96 22 P P 20 36 16.4 -1.3
comp=Z,1.5nm,0.7s,baz=294,slow=4.1,SNR=19
ILAR PP PP 20 39 58.2 -12
comp=Z,0.6nm,0.9s,baz=309,slow=8.9,SNR=4.4
ILAR PKKP PKKPdf 20 53 06.2 -2.1
comp=Z,1.2nm,0.8s,baz=151,slow=2.1,SNR=9.0
ILAR Eielson Array 95.96 22 P P 20 36 16.4 -1.3
ILAR Eielson Array 95.96 22 P P 20 36 16.4 -1.3
ILAR PP PP 20 39 58.2 -12
ILAR PKKP PKKPdf 20 53 06.2 -2.1
QSPA South Pole Qui 96.40 180 LR LR 21 13 59.3
comp=Z,226nm,18.9s,baz=139,slow=32
RC01 Rabbit Creek A 96.50 26 eP P 20 36 20.8 +0.6
INK Inuvik 96.27 16 P P 20 36 27.9 -0.1
comp=Z,5.9nm,0.9s,baz=328,slow=4.6,SNR=15
INK Inuvik 96.27 16 P P 20 36 27.9 -0.1
INK Inuvik 96.27 16 P P 20 36 27.9 -0.1
DBIC Dimbokro 98.28 278 P Pdif 20 36 30.9 +1.6
comp=Z,3.1nm,0.9s,baz=22,slow=3.9,SNR=4.8
DBIC LR LR 21 16 48.7
comp=Z,107nm,20.6s,baz=64,slow=33
DBIC Dimbokro 98.28 278 P Pdif 20 36 30.9 +1.6
DBIC Dimbokro 98.28 278 P Pdif 20 36 30.9 +1.6
RES Resolute Bay 98.77 2 eP Pdif 20 36 30.3 +0.2
RES e 20 36 47.6
RES pmax pmax
comp=Z,20nm,1.1s
RES Resolute Bay 98.77 2 eP Pdif 20 36 30.2 +0.1
comp=Z,20nm,1.1s
RES e 20 36 47.6
SCHQ Schefferville 116.90 348 PKP PKPdf 20 41 34.8 -0.5
comp=Z,3.5nm,0.5s,baz=332,slow=4.2,SNR=11
SCHQ Schefferville 116.90 348 PKP PKPdf 20 41 34.8 -0.5
E03A Lebam 117.40 28 ⇓P PKPdf 20 41 35.6 -0.8
baz=117
FFC Flin Flon 117.51 11 i PKIKP PKPdf 20 41 37.0 +0.6
WALA Waterton Lakes 119.44 21 ePKPdf PKPdf 20 41 39.5 -1.0
A14A Double T Ranch 119.68 21 ⇑P PKPdf 20 41 40.4 -0.5
baz=120
G06A Carlson Farm, 119.75 28 ⇑P PKPdf 20 41 40.9 -0.2
baz=120
A15A Johnson Ranch, 119.92 20 ⇑P PKPdf 20 41 41.1 -0.3
baz=120
BSMT Bassoo Peak 120.13 22 ePKPdf PKPdf 20 41 41.9 -0.1
LNOR Lincton Mounta 120.31 26 ePKIKP PKPdf 20 41 42.5 +0.3
LNOR Lincton Mounta 120.31 26 ePKPdf PKPdf 20 41 42.5 +0.3
LNOR e 20 42 00.8
B15A Bradely Ranch, 120.54 20 ⇑P PKPdf 20 41 42.0 -0.6
baz=120
A17A Triple J Farms 120.62 19 ⇓P PKPdf 20 41 42.6 -0.1
baz=120
B16A M & M Farms, S 120.75 20 ⇑P PKPdf 20 41 42.0 -1.0
baz=121
D13A Huson 120.88 23 ⇓P PKPdf 20 41 43.3 0.0
baz=121
A18A Metzger Ranch, 120.91 18 ⇓P PKPdf 20 41 43.2 0.0
baz=121
C15A Salmond Ranch, 120.98 21 ⇓P PKPdf 20 41 43.3 -0.2
baz=121
SLMT Seeley Lake 121.12 22 ePKPdf PKPdf 20 41 43.0 -0.9
I07A Izee 121.15 28 ⇓P PKPdf 20 41 43.8 -0.1
baz=121
B17A L&G Farms, Che 121.16 19 ⇓P PKPdf 20 41 43.7 -0.1
baz=121
D14A Greenough 121.25 22 ⇓P PKPdf 20 41 43.9 -0.1
baz=121
CHMT Chamberlain Mo 121.48 22 ePKPdf PKPdf 20 41 43.9 -0.8
E13A Victor 121.52 23 ⇑P PKPdf 20 41 44.4 -0.2
baz=121
A20A Cobblestone Ra 121.53 17 ⇓P PKPdf 20 41 44.4 -0.1
baz=121
D15A Lincoln 121.64 21 ⇓P PKPdf 20 41 44.6 -0.2
baz=122
F12A Elk City 121.67 24 ⇓P PKPdf 20 41 44.3 -0.6
baz=122
EGMT Eagleton 121.73 19 ePKPdf PKPdf 20 41 45.1 +0.2
EGMT e 20 42 02.6
EGMT Eagleton 121.73 19 ⇑P PKPdf 20 41 45.0 +0.2
baz=122
C17A Wharram Farm, 121.74 20 ⇓P PKPdf 20 41 44.8 -0.1
baz=122
E14A Clinton 121.81 22 ⇑P PKPdf 20 41 45.1 -0.1
baz=122
B20A Solberg Farm, 121.90 17 ⇑P PKPdf 20 41 45.1 -0.1
baz=122
F13A Darby 122.01 23 ⇓P PKPdf 20 41 45.3 -0.3
baz=122
E15A Deer Lodge 122.12 22 ⇓P PKPdf 20 41 45.7 -0.1
baz=122
D17A Six Diamond Ra 122.19 20 ⇓P PKPdf 20 41 45.8 0.0
baz=122
C19A Slack Wire Ran 122.21 18 ⇑P PKPdf 20 41 45.8 0.0
baz=122
E16A East Helena 122.38 21 ⇑P PKPdf 20 41 46.4 +0.2
baz=122
MOD Modoc 122.40 30 ePKPdf PKPdf 20 41 47.0 +0.5
D18A Linhart Farms, 122.44 19 ⇑P PKPdf 20 41 46.5 +0.2
baz=122
C20A Veseth Ranch, 122.55 18 ⇑P PKPdf 20 41 46.6 +0.1
baz=122
G13A Cobalt 122.62 24 ⇓P PKPdf 20 41 46.3 -0.4
baz=122
B23A Brockton 122.72 15 ⇑P PKPdf 20 41 47.2 +0.5
baz=123
C21A Desert Coulee 122.72 17 ⇑P PKPdf 20 41 46.9 +0.1
baz=123
D19A Tipps Ranch, 122.77 19 ⇓P PKPdf 20 41 47.2 +0.3
baz=123
G14A Jackson 122.80 23 ⇑P PKPdf 20 41 47.2 0.0
baz=123
ULM Lac du Bonnet 122.81 8 PKP PKPdf 20 41 46.6 -0.1
comp=Z,12nm,0.9s,baz=341,slow=3.6,SNR=15
ULM PKKPab PKKPab 20 51 38.0 -3.1
comp=Z,2.4nm,0.8s,baz=195,slow=6.8,SNR=3.6
ULM Lac du Bonnet 122.81 8 PKIKP PKPdf 20 41 46.7 -0.1
ULM Lac du Bonnet 122.81 8 PKP PKPdf 20 41 46.6 -0.1
ULM PKKPab PKKPab 20 51 38.0 -3.1
WVOR Wild Horse Val 122.81 29 ePKIKP PKPdf 20 41 47.2 0.0
WVOR Wild Horse Val 122.81 29 ePKPdf PKPdf 20 41 47.2 0.0
H12A Diamond D Ranc 122.82 24 ⇓P PKPdf 20 41 47.2 0.0
baz=123
DGMT Dagmar 122.91 15 ⇓P PKPdf 20 41 47.1 0.0
baz=123
E18A Harlowton 122.96 20 ⇓P PKPdf 20 41 47.4 0.0
baz=123
DLMT Dillon 123.04 22 ePKPdf PKPdf 20 41 47.8 +0.2
F16A Kennard Place, 123.04 21 ⇓P PKPdf 20 41 47.5 -0.1
baz=123
H13A Challis 123.05 24 ⇑P PKPdf 20 41 47.8 +0.2
baz=123
D20A Manuel Ranch, 123.07 18 ⇑P PKPdf 20 41 47.6 +0.2
baz=123
G15A Dillon 123.24 22 ⇑P PKPdf 20 41 48.2 +0.2
baz=123
C23A Lambert 123.27 16 ⇓P PKPdf 20 41 48.3 +0.5
baz=123
F17A Fitzpatrick Pl 123.28 21 ⇑P PKPdf 20 41 48.2 +0.2
baz=123
I12A Atlanta 123.32 25 ⇓P PKPdf 20 41 48.5 +0.3
baz=123
MFID Camas Ranch 123.33 26 ePKPdf PKPdf 20 41 48.6 +0.5
MFID Camas Ranch 123.33 26 ⇑P PKPdf 20 41 48.6 +0.5
baz=123
H14A Leadore 123.36 23 ⇑P PKPdf 20 41 48.5 +0.2
baz=123
E19A Rath Farm, Rou 123.42 19 ⇑P PKPdf 20 41 48.3 +0.1
baz=123
G16A Moss Hill, Enn 123.44 22 ⇑P PKPdf 20 41 48.4 0.0
baz=123
E20A Meyer Farm, Mu 123.59 18 ⇑P PKPdf 20 41 48.6 +0.1
baz=124
D22A Cohagen 123.59 17 ⇑P PKPdf 20 41 49.0 +0.6
baz=124
F18A Big Timber 123.60 20 ⇓P PKPdf 20 41 48.8 +0.3
baz=124
I13A Wildhorse Cree 123.64 24 ⇑P PKPdf 20 41 49.3 +0.4
baz=124
H15A Lima 123.64 23 ⇓P PKPdf 20 41 49.1 +0.3
baz=124
C24A Savage 123.72 15 ⇓P PKPdf 20 41 49.4 +0.7
baz=124
G17A Pierce Place, 123.75 21 ⇑P PKPdf 20 41 50.0 +1.0
baz=124
HLID Hailey 123.81 25 ePKPdf PKPdf 20 41 49.5 +0.3
HLID Hailey 123.81 25 ⇑P PKPdf 20 41 49.6 +0.4
baz=124
D23A Lindsay 123.84 16 ⇓P PKPdf 20 41 49.6 +0.7
baz=124
E21A Keefer Ranch, 123.88 18 ⇑P PKPdf 20 41 49.7 +0.7
baz=124
I14A Mackay 123.90 24 ⇑P PKPdf 20 41 49.2 -0.1
baz=124
F19A Roth Farm, Mol 123.91 19 ⇑P PKPdf 20 41 49.8 +0.6
baz=124
QLMT Earthquake Lak 123.92 22 ePKPdf PKPdf 20 41 50.1 +0.7
J13A Cove Ranch, Pi 124.04 25 ⇑P PKPdf 20 41 50.3 +0.8
baz=124
H16A Russell Place, 124.10 22 ⇑P PKPdf 20 41 50.7 +1.0
baz=124
G18A Lazy EL Ranch, 124.17 20 ⇑P PKPdf 20 41 50.1 +0.4
baz=124
F20A Billings 124.21 19 ⇓P PKPdf 20 41 50.5 +0.7
baz=124
I15A Monteview 124.23 23 ⇓P PKPdf 20 41 50.0 +0.2
baz=124
E22A Miles City 124.31 17 ⇑P PKPdf 20 41 50.6 +0.7
baz=124
J14A Carey 124.38 24 ⇑P PKPdf 20 41 50.8 +0.6
baz=124
E23A Ismay 124.44 16 ⇑P PKPdf 20 41 51.1 +1.0
baz=124
RLMT Red Lodge 124.44 20 ePKPdf PKPdf 20 41 50.9 +0.6
RLMT Red Lodge 124.44 20 ⇑P PKPdf 20 41 51.1 +0.7
baz=124
RLMT ⇑P PKPdf 20 41 51.1 +0.7
baz=124
WCN Washoe City 124.61 32 ⇓P PKPdf 20 41 51.3 +0.5
baz=124
E24A Baker 124.65 16 ⇑P PKPdf 20 41 50.7 +0.2
baz=124
G20A Bridger 124.70 19 ⇓P PKPdf 20 41 51.1 +0.4
baz=125
I16A Newdale 124.72 23 ⇑P PKPdf 20 41 51.1 +0.2
baz=125
F22A Rosebud 124.82 17 ⇑P PKPdf 20 41 51.4 +0.5
baz=125
G21A Lodge Grass 125.02 18 ⇓P PKPdf 20 41 51.8 +0.4
baz=125
F23A Volborg 125.12 17 ⇑P PKPdf 20 41 51.9 +0.5
baz=125
J16A Bone 125.18 23 ⇑P PKPdf 20 41 52.2 +0.4
baz=125
F24A Ekalaka 125.27 16 ⇑P PKPdf 20 41 51.7 -0.1
baz=125
G22A Birney 125.31 18 ⇓P PKPdf 20 41 52.1 +0.2
baz=125
SNOW Snow King Moun 125.34 22 ePKPdf PKPdf 20 41 52.8 +0.6
SNOW e 20 42 11.1
REDW Red Top Meadow 125.39 22 ePKPdf PKPdf 20 41 52.6 +0.3
H20A Greybull 125.43 19 ⇑P PKPdf 20 41 52.5 +0.4
baz=125
I18A Diamond G Ranc 125.48 21 ⇑P PKPdf 20 41 52.7 +0.3
baz=125
I19A Meeteetse 125.48 21 ⇓P PKPdf 20 41 52.4 0.0
baz=125
G23A Biddle 125.60 17 ⇓P PKPdf 20 41 52.6 +0.2
baz=126
ELK Elko 125.72 27 ePKIKP PKPdf 20 41 53.5 +0.5
ELK Elko 125.72 27 ePKPdf PKPdf 20 41 53.5 +0.5
ELK e 20 42 11.7
I20A Worland 125.86 20 ⇓P PKPdf 20 41 53.5 +0.5
baz=126
L15A Malad City 125.94 24 ⇑P PKPdf 20 41 53.5 +0.3
baz=126
NVAR Mina Array Bea 126.01 32 PKP PKPdf 20 41 54.4 +0.8
comp=Z,5.0nm,0.8s,baz=279,slow=1.8,SNR=28
NVAR Mina Array Bea 126.01 32 PKP PKPdf 20 41 54.4 +0.8
J19A Crowheart 126.14 21 ⇑P PKPdf 20 41 53.7 +0.1
baz=126
H23A Clabaugh Cattl 126.17 17 ⇑P PKPdf 20 41 53.7 +0.2
baz=126
H24A Dirks Ranch, A 126.25 17 ⇑P PKPdf 20 41 53.7 0.0
baz=126
I21A Big Trails, Te 126.26 19 ⇑P PKPdf 20 41 53.8 0.0
baz=126
BW06 Boulder Array 126.39 22 ⇓P PKPdf 20 41 54.2 0.0
baz=126
BW06 ⇓P PKPdf 20 41 54.2 0.0
baz=126
L17A Cokeville 126.46 23 ⇑P PKPdf 20 41 54.2 -0.1
baz=126
K19A Absolon Red Bu 126.60 21 ⇓P PKPdf 20 41 54.2 -0.4
baz=126
J21A Lysite 126.62 20 ⇑P PKPdf 20 41 54.6 +0.1
baz=126
J22A Midwest 126.88 19 ⇑P PKPdf 20 41 54.6 -0.4
baz=127
I24A Kuemmerle Ranc 127.04 17 ⇑P PKPdf 20 41 55.3 0.0
baz=127
M17A Scullys Gap (B 127.08 23 ⇑P PKPdf 20 41 55.1 -0.4
baz=127
DUG Dugway 127.25 26 ePKIKP PKPdf 20 41 55.8 0.0
DUG Dugway 127.25 26 ePKPdf PKPdf 20 41 55.8 0.0
DUG e 20 42 14.6
DUG Dugway 127.25 26 ⇑P PKPdf 20 41 56.3 +0.5
baz=127
N16A Rees Ranch, Co 127.26 24 ⇑P PKPdf 20 41 56.0 +0.1
baz=127
K21A Alcova 127.32 20 ⇓P PKPdf 20 41 55.9 0.0
baz=127
R11A Troy Canyon, C 127.45 30 ⇓P PKPdf 20 41 56.7 +0.4
baz=127
L20A Wamsutter 127.49 21 ⇑P PKPdf 20 41 56.4 +0.2
baz=127
J24A Dixon Ranch, L 127.52 17 ⇑P PKPdf 20 41 56.0 -0.2
baz=127
K22A Casper 127.55 19 ⇓P PKPdf 20 41 56.0 -0.3
baz=127
M19A Rock Springs 127.63 22 ⇑P PKPdf 20 41 56.9 +0.3
baz=128
DAU Daniels Canyon 127.73 25 ePKIKP PKPdf 20 41 57.2 +0.3
DAU Daniels Canyon 127.73 25 ePKPdf PKPdf 20 41 57.2 +0.3
K23A Bowen Ranch, D 127.75 19 ⇓P PKPdf 20 41 56.9 +0.2
baz=128
L21A Rawlins 127.87 20 ⇑P PKPdf 20 41 57.1 +0.1
baz=128
N18A Larsen Ranch, 127.89 23 ⇑P PKPdf 20 41 57.4 +0.4
baz=128

M20A	**Sweetwater, Wa**	**128.00**	**21**	⇑P		**PKPdf**	**20 41 57.2**	**-0.1**
	baz=128							
O17A	**Robinson Place**	**128.13**	**24**	⇓P		**PKPdf**	**20 41 57.5**	**0.0**
	baz=128							
L22A	**Ellis Ranch, M**	**128.13**	**20**	⇑P		**PKPdf**	**20 41 57.4**	**-0.1**
	baz=128							
N19A	**John Jarvie Ra**	**128.15**	**23**	⇓P		**PKPdf**	**20 41 57.7**	**+0.2**
	baz=128							
M21A	**Separation Pea**	**128.19**	**21**	⇓P		**PKPdf**	**20 41 57.7**	**0.0**
	baz=128							
L23A	**Garrett**	**128.30**	**19**	⇑P		**PKPdf**	**20 41 57.9**	**0.0**
	baz=128							
O18A	**Roosevelt**	**128.37**	**24**	⇓P		**PKPdf**	**20 41 58.3**	**+0.4**
	baz=128							
K26A	**Motz Farm, Whi**	**128.52**	**16**	⇓P		**PKPdf**	**20 41 58.4**	**+0.3**
	baz=128							
O19A	**Miners Draw (B**	**128.69**	**23**	⇑P		**PKPdf**	**20 41 58.6**	**+0.1**
	baz=129							
TMUT	**Trail Mountain**	**128.69**	**25**	*e*PKPdf		**PKPdf**	**20 41 59.6**	**+0.8**
P18A	**Preston Nutter**	**128.81**	**24**	⇑P		**PKPdf**	**20 41 59.3**	**+0.3**
	baz=129							
N21A	**Black Mountain**	**128.88**	**21**	⇓P		**PKPdf**	**20 41 59.3**	**+0.3**
	baz=129							
MSU	**Marysvale**	**128.92**	**27**	*e*PKIKP		**PKPdf**	**20 41 59.8**	**+0.7**
MSU	**Marysvale**	**128.92**	**27**	*e*PKPdf		**PKPdf**	**20 41 59.8**	**+0.7**
MSU				*e*PKPdf		**PKiKP**	**20 42 00.6**	**+0.8**
ECSD	**EROS Data Cent**	**129.04**	**10**	*e*PKPdf		**PKPdf**	**20 41 58.9**	**0.0**
O20A	**White River Ci**	**129.16**	**22**	⇓P		**PKPdf**	**20 41 59.7**	**+0.2**
	baz=129							
Q18A	**Rafter H Ranch**	**129.30**	**25**	⇑P		**PKPdf**	**20 42 00.2**	**+0.5**
	baz=129							
N23A	**Red Feather La**	**129.31**	**20**	⇓P		**PKPdf**	**20 42 00.1**	**+0.2**
	baz=129							
P19A	**Cripple Cowboy**	**129.31**	**23**	⇓P		**PKPdf**	**20 42 00.3**	**+0.5**
	baz=129							
L27A	**T5 Ranch, Ells**	**129.34**	**16**	⇓P		**PKPdf**	**20 42 00.0**	**+0.4**
	baz=129							
R16A	**Teasdale**	**129.41**	**26**	⇓P		**PKPdf**	**20 42 00.7**	**+0.6**
	baz=129							
R17A	**Hanksville Air**	**129.63**	**26**	⇓P		**PKPdf**	**20 42 00.9**	**+0.5**
	baz=130							
P20A	**De Beque**	**129.66**	**23**	⇑P		**PKPdf**	**20 42 00.9**	**+0.5**
	baz=130							
Q19A	**Hogan Spring (**	**129.78**	**24**	⇑P		**PKPdf**	**20 42 01.4**	**+0.8**
	baz=130							
S16A	**Weppner Ranch,**	**129.82**	**27**	⇓P		**PKPdf**	**20 42 01.0**	**+0.2**
	baz=130							
O23A	**Lake Granby, G**	**129.93**	**20**	⇓P		**PKPdf**	**20 42 01.5**	**+0.4**
	baz=130							
R18A	**Canyonlands Na**	**130.01**	**25**	⇓P		**PKPdf**	**20 42 01.6**	**+0.4**
	baz=130							
R19A	**Curley Farm, L**	**130.35**	**24**	⇑P		**PKPdf**	**20 42 02.5**	**+0.6**
	baz=130							
ISCO	**Idaho Springs**	**130.41**	**20**	⇓SKP		**SKPbc**	**20 45 17.1**	**-2.2**
	baz=130							
N27A	**Anderson Farm,**	**130.46**	**17**	⇓SKP		**SKPbc**	**20 45 16.8**	**-2.4**
	baz=130							
OGNE	**Ogallala**	**130.47**	**16**	⇑SKP		**SKPbc**	**20 45 17.0**	**-2.2**
	baz=130							
U15A	**North Rim**	**130.56**	**28**	⇑SKP		**SKPbc**	**20 45 17.8**	**-2.1**
	baz=130,SNR=28							
P23A	**Jefferson**	**130.71**	**21**	⇑P		**PKPdf**	**20 42 02.8**	**+0.1**
	baz=131							
R20A	**Redvale**	**130.79**	**24**	⇑SKP		**SKPbc**	**20 45 18.4**	**-2.2**
	baz=131,SNR=6.2							
W13A	**Hualapai Mount**	**130.84**	**31**	⇓SKP		**SKPbc**	**20 45 19.1**	**-1.8**
	baz=131,SNR=10							
S19A	**Harvey Farm, M**	**130.87**	**25**	⇑P		**PKPdf**	**20 42 03.1**	**+0.2**
	baz=131							
IRM	**Iron Mountain**	**130.90**	**33**	⇓P		**PKPdf**	**20 42 03.1**	**+0.3**
	baz=131							
IRM				⇓SKP		**SKPbc**	**20 45 19.0**	**-1.9**
	baz=131,SNR=9.6							
R21A	**Cimarron**	**130.96**	**23**	⇓SKP		**SKPbc**	**20 45 19.2**	**-2.1**
	baz=131,SNR=9.7							
BGNE	**Belgrade**	**130.99**	**12**	⇑SKP		**SKPbc**	**20 45 19.6**	**-1.4**
	baz=131,SNR=8.9							
T18A	**Mexican Hat**	**131.07**	**26**	⇓SKP		**SKPbc**	**20 45 19.0**	**-2.6**
	baz=131,SNR=8.7							
S20A	**Disappointment**	**131.11**	**24**	⇑P		**PKPdf**	**20 42 03.5**	**+0.1**
	baz=131							
S20A				⇓SKP		**SKPbc**	**20 45 19.2**	**-2.6**
	baz=131,SNR=8.4							
P25A	**Willow Gulch B**	**131.15**	**19**	⇑SKP		**SKPbc**	**20 45 19.6**	**-2.3**
	baz=131							
U17A	**Shonto**	**131.17**	**27**	⇑SKP		**SKPbc**	**20 45 20.5**	**-1.5**
	baz=131,SNR=7.3							
Q24A	**Divide**	**131.31**	**20**	⇑SKP		**SKPbc**	**20 45 20.3**	**-2.3**
	baz=131,SNR=6.4							
U16A	**Tuba City**	**131.34**	**28**	⇓SKP		**SKPbc**	**20 45 21.0**	**-1.6**
	baz=131,SNR=17							
P26A	**Davis Ranch, A**	**131.36**	**18**	⇑SKP		**SKPbc**	**20 45 20.2**	**-2.4**
	baz=131,SNR=5.3							
R22A	**Saguache, Gunn**	**131.39**	**22**	⇑P		**PKPdf**	**20 42 03.6**	**-0.4**
	baz=131							
R22A				⇑SKP		**SKPbc**	**20 45 21.4**	**-1.6**
	baz=131,SNR=8.1							
S21A	**Coal Bank Pass**	**131.48**	**23**	⇑SKP		**SKPbc**	**20 45 21.1**	**-2.1**
	baz=131,SNR=15							
Y12C	**Blythe**	**131.55**	**32**	⇓SKP		**SKPbc**	**20 45 21.5**	**-1.7**
	baz=132							
MVCO	**Mesa Verde**	**131.59**	**24**	⇑P		**PKPdf**	**20 42 04.4**	**+0.1**
	baz=132							
MVCO				⇑SKP		**SKPbc**	**20 45 20.8**	**-2.8**
	baz=132,SNR=5.5							
Q25A	**Bedland, Calha**	**131.66**	**19**	⇓SKP		**SKPbc**	**20 45 20.8**	**-3.0**
	baz=132,SNR=8.2							
T19A	**Beclabito**	**131.69**	**25**	⇑P		**PKPdf**	**20 42 04.8**	**+0.4**
	baz=132							
T19A				⇑SKP		**SKPbc**	**20 45 21.9**	**-2.0**
	baz=132,SNR=7.7							
WUAZ	**Wupatki**	**131.73**	**28**	SKP		**SKPbc**	**20 45 22.5**	**-1.6**
	baz=132,SNR=21							
R23A	**Moffat**	**131.76**	**21**	⇑SKP		**SKPbc**	**20 45 22.4**	**-1.9**
	baz=132,SNR=9.1							
S22A	**4UR Ranch, Cre**	**131.78**	**23**	⇓SKP		**SKPbc**	**20 45 22.1**	**-2.2**
	baz=132,SNR=12							
Q26A	**Hugo**	**131.89**	**19**	⇑SKP		**SKPbc**	**20 45 22.4**	**-2.1**
	baz=132,SNR=6.2							
V17A	**Tonalea, Kykot**	**131.92**	**28**	SKP		**SKPbc**	**20 45 23.1**	**-1.7**
	baz=132,SNR=20							
R24A	**Sanders Place,**	**131.98**	**21**	⇓SKP		**SKPbc**	**20 45 22.0**	**-3.0**
	baz=132,SNR=10							
KSCO	**Kaye Shedlock'**	**132.09**	**18**	⇓SKP		**SKPbc**	**20 45 23.9**	**-1.3**
	baz=132,SNR=5.6							
Y14A	**Wickenburg**	**132.20**	**31**	⇓SKP		**SKPbc**	**20 45 24.1**	**-1.6**
	baz=132							
V18A	**Ganado**	**132.24**	**27**	SKP		**SKPbc**	**20 45 24.2**	**-1.7**
	baz=132,SNR=9.5							
SDCO	**Great Sand Dun**	**132.28**	**21**	⇓P		**PKPdf**	**20 42 05.6**	**0.0**
	baz=132							
SDCO				⇓P		**PKPdf**	**20 42 05.6**	**0.0**
	baz=132							
SDCO				⇓SKP			20 45 23.7	
	baz=132,SNR=7.9							
SDCO				⇓SKP			20 45 23.7	
	baz=132,SNR=7.9							
U20A	**Newcomb**	**132.29**	**25**	⇓SKP		**SKPbc**	**20 45 24.5**	**-1.6**
	baz=132,SNR=7.9							
R25A	**Fountain Ranch**	**132.34**	**20**	⇑SKP		**SKPbc**	**20 45 24.1**	**-2.0**
	baz=132,SNR=5.5							
T22A	**Edith**	**132.40**	**23**	⇑SKP		**SKPbc**	**20 45 23.2**	**-3.3**
	baz=132,SNR=9.8							
Z13A	**Yuma Proving G**	**132.43**	**32**	⇑P		**PKPdf**	**20 42 06.9**	**+1.3**
	baz=132							
R26A	**Arlington**	**132.48**	**19**	⇓SKP		**SKPbc**	**20 45 24.9**	**-1.7**
	baz=132,SNR=8.5							
X16A	**Lo Mia Camp, P**	**132.59**	**29**	⇓P		**PKPdf**	**20 42 07.2**	**+1.0**
	baz=132							
X16A				⇓SKP		**SKPbc**	**20 45 25.9**	**-1.3**
	baz=132							
U21A	**Nageezi**	**132.60**	**24**	⇑P		**PKPdf**	**20 42 07.0**	**+0.8**
	baz=132							
U21A				⇑SKP		**SKPbc**	**20 45 25.7**	**-1.5**
	baz=132,SNR=15							
V19A	**Window Rock**	**132.63**	**26**	⇓SKP		**SKPbc**	**20 45 26.4**	**-0.9**
	baz=132,SNR=6.1							
R27A	**Eads**	**132.70**	**18**	⇑P		**PKPdf**	**20 42 06.7**	**+0.6**
	baz=133							
R27A				⇑SKP		**SKPbc**	**20 45 25.2**	**-2.1**
	baz=133,SNR=8.8							
S25A	**Robets Cordova**	**132.73**	**20**	⇓P		**PKPdf**	**20 42 05.7**	**-0.6**
	baz=133							
S25A				⇑SKP		**SKPbc**	**20 45 24.7**	**-2.9**
	baz=133							
T24A	**Torres, Weston**	**133.04**	**21**	⇓P		**PKPdf**	**20 42 07.4**	**+0.3**
	baz=133							
S26A	**Kim**	**133.09**	**19**	⇑SKP		**SKPbc**	**20 45 26.2**	**-2.5**
	baz=133							
114A	**Black Gap (USA**	**133.19**	**32**	⇓SKP		**SKPbc**	**20 45 27.9**	**-1.2**
	baz=133							
T25A	**Trinidad**	**133.21**	**21**	⇑P		**PKPdf**	**20 42 06.9**	**-0.4**
	baz=133							
T25A				⇓SKP		**SKPbc**	**20 45 27.1**	**-2.1**
	baz=133							
X18A	**Snowflake**	**133.21**	**28**	⇓SKP		**SKPbc**	**20 45 27.5**	**-1.8**
	baz=133							
U23A	**El Rito**	**133.27**	**23**	⇑SKP		**SKPbc**	**20 45 27.3**	**-2.2**
	baz=133							
V22A	**San Miguel Ran**	**133.35**	**24**	⇓P		**PKPdf**	**20 42 08.2**	**+0.6**
	baz=133							
V22A				⇑SKP		**SKPbc**	**20 45 28.4**	**-1.4**
	baz=133							
W20A	**Ramah**	**133.36**	**26**	⇓P		**PKPdf**	**20 42 08.4**	**+0.7**
	baz=133							
W20A				⇓SKP		**SKPbc**	**20 45 27.9**	**-1.9**
	baz=133,SNR=6.9							
Y17A	**Roosevelt**	**133.47**	**29**	⇑P		**PKPdf**	**20 42 08.8**	**+1.2**
	baz=133							
Y17A				⇓SKP		**SKPbc**	**20 45 28.2**	**-1.9**
	baz=133							
KSU1	**Kansas State U**	**133.53**	**12**	*e*PKPdf		**PKPdf**	**20 42 08.5**	**+1.0**
X19A	**St. Johns**	**133.60**	**27**	⇓P		**PKPdf**	**20 42 09.5**	**+1.4**
	baz=134							
X19A				⇑SKP		**SKPbc**	**20 45 29.5**	**-1.1**
	baz=134							
V23A	**Ortiz Mt. (NFS**	**133.78**	**23**	⇓P		**PKPdf**	**20 42 09.2**	**+0.8**
	baz=134							
V23A				⇓SKP		**SKPbc**	**20 45 31.1**	**-0.1**
	baz=134							
Y18A	**Canyon Day Jun**	**133.79**	**28**	⇑SKP		**SKPbc**	**20 45 30.0**	**-1.2**
	baz=134							
T27A	**Campo**	**133.84**	**19**	⇑P		**PKPdf**	**20 42 08.7**	**+0.4**
	baz=134							
T27A				⇓SKP		**SKPbc**	**20 45 29.4**	**-1.9**
	baz=134							
X20A	**Quemado**	**133.85**	**26**	⇓SKP		**SKPbc**	**20 45 30.2**	**-1.3**
	baz=134							
U25A	**Circle Dot Ran**	**133.87**	**21**	⇓P		**PKPdf**	**20 42 09.4**	**+0.9**
	baz=134							
Y19A	**Nutrioso**	**134.00**	**28**	⇑SKP		**SKPbc**	**20 45 30.9**	**-1.2**
	baz=134							
U26A	**Atchley Ranch,**	**134.11**	**20**	⇓P		**PKPdf**	**20 42 09.8**	**+0.8**
	baz=134							
U26A				⇓SKP		**SKPbc**	**20 45 30.0**	**-2.3**
	baz=134							
V24A	**Rampart Ranch,**	**134.15**	**22**	⇓SKP		**SKPbc**	**20 45 31.4**	**-1.1**
	baz=134							
X21A	**Alamocita Cree**	**134.25**	**26**	⇓SKP		**SKPbc**	**20 45 31.7**	**-1.1**
	baz=134							
V25A	**Rancho No Teng**	**134.30**	**22**	⇓P		**PKPdf**	**20 42 10.0**	**+0.6**
	baz=134							
ANMO	**Albuquerque**	**134.37**	**24**	*e*PKIKP		**PKPdf**	**20 42 09.9**	**+0.4**
ANMO	**Albuquerque**	**134.37**	**24**	*e*PKPdf		**PKPdf**	**20 42 09.9**	**+0.4**
ANMO				*e*			20 42 28.7	
W24A	**Lazy 6 Ranch,**	**134.56**	**23**	⇓P		**PKPdf**	**20 42 10.5**	**+0.7**
	baz=134							
TUC	**Tucson**	**134.62**	**30**	*e*PKIKP		**PKPdf**	**20 42 10.6**	**+0.7**
TUC	**Tucson**	**134.62**	**30**	*e*PKPdf		**PKPdf**	**20 42 10.6**	**+0.7**
LENM	**Lemitar**	**134.83**	**25**	*e*PKPdf		**PKPdf**	**20 42 10.7**	**+0.3**
W25A	**X Bar L Ranch,**	**134.91**	**22**	⇓P		**PKPdf**	**20 42 11.1**	**+0.7**
	baz=135							
BNM	**Barren Site**	**134.99**	**25**	*e*PKPdf		**PKPdf**	**20 42 11.4**	**+0.7**
BNM				*e*			20 45 34.0	
Z20A	**Nine Sixteen R**	**135.01**	**28**	⇓P		**PKPdf**	**20 42 11.5**	**+0.8**
	baz=135							
Y22A	**Socorro**	**135.03**	**25**	⇓P		**PKPdf**	**20 42 11.3**	**+0.6**
	baz=135							
Y23A	**Lovelace Mesa,**	**135.42**	**24**	⇓P		**PKPdf**	**20 42 12.5**	**+1.0**
	baz=135							
WCI	**Wyandotte Cave**	**135.51**	**1**	*e*PKIKP		**PKPdf**	**20 42 10.9**	**-0.4**
WCI	**Wyandotte Cave**	**135.51**	**1**	*e*PKPdf		**PKPdf**	**20 42 10.9**	**-0.4**
W27A	**Bowe Ranch, En**	**135.54**	**20**	⇓P		**PKPdf**	**20 42 12.3**	**+0.7**
	baz=135							
Y24A	**Capitan**	**135.67**	**24**	⇑P		**PKPdf**	**20 42 12.5**	**+0.5**
	baz=136							
X26A	**CR and CF Fran**	**135.74**	**22**	⇑P		**PKPdf**	**20 42 12.0**	**0.0**
	baz=136							
Y25A	**Mesa, Roswell**	**135.97**	**23**	⇓P		**PKPdf**	**20 42 12.9**	**+0.5**
	baz=136							
Z25A	**Roswell**	**136.52**	**23**	⇓P		**PKPdf**	**20 42 14.8**	**+1.3**
	baz=136							
Y27A	**Causey**	**136.57**	**21**	⇑P		**PKPdf**	**20 42 13.9**	**+0.4**
	baz=136							
MSTX	**Muleshoe**	**136.63**	**21**	⇑P		**PKPdf**	**20 42 13.7**	**+0.1**
	baz=136							
Z26A	**Caprock**	**136.82**	**23**	⇑P		**PKPdf**	**20 42 14.5**	**+0.5**
	baz=137							
Z27A	**Tatum**	**137.06**	**22**	⇑P		**PKPdf**	**20 42 14.9**	**+0.5**
	baz=137							
125A	**Gardner Draw,**	**137.09**	**24**	⇑P		**PKPdf**	**20 42 15.1**	**+0.6**
	baz=137							
WVT	**Waverly**	**137.56**	**3**	*e*PKIKP		**PKPdf**	**20 42 14.7**	**-0.4**
WVT	**Waverly**	**137.56**	**3**	*e*PKPdf		**PKPdf**	**20 42 14.7**	**-0.4**
WVT				*e*			20 45 40.9	
WVT				*e*			20 45 47.8	
324A	**Moseley Ranch,**	**137.81**	**26**	⇓P		**PKPdf**	**20 42 16.0**	**+0.1**
	baz=138							
226A	**Malaga, Loving**	**137.84**	**24**	⇑P		**PKPdf**	**20 42 16.1**	**+0.2**
	baz=138							
TKL	**Tuckaleechee C**	**138.04**	**358**	*e*PKIKP		**PKPdf**	**20 42 16.4**	**+0.4**
TKL	**Tuckaleechee C**	**138.04**	**358**	*e*PKPdf		**PKPdf**	**20 42 16.4**	**+0.4**
PLAL	**Pickwick Lake**	**138.69**	**3**	*e*PKPdf		**PKPdf**	**20 42 16.7**	**-0.5**
JSC	**Jenkinsville**	**139.23**	**354**	*e*PKIKP		**PKPdf**	**20 42 18.7**	**+0.5**
JSC	**Jenkinsville**	**139.23**	**354**	*e*PKPdf		**PKPdf**	**20 42 18.7**	**+0.5**
428A	**Kincaid Ranch,**	**139.58**	**23**	⇑P		**PKPdf**	**20 42 19.8**	**+0.7**
	baz=140							
TXAR	**Lajitas Array**	**140.41**	**25**	PKhKP		PKPpre	20 42 12.4	
	comp=Z,0.7nm,0.6s,baz=273,slow=1.4,SNR=16							
TXAR				PKP		**PKPdf**	**20 42 20.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=282,slow=0.8,SNR=15							
TXAR				PP		**PP**	**20 45 20.1**	**+1.8**
	comp=Z,3.2nm,1.0s,baz=355,slow=5.5,SNR=9.3							
TXAR				SKPbc		**SKPbc**	**20 45 49.2**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=288,slow=0.9,SNR=9.5							
TXAR	**Lajitas Array**	**140.41**	**25**	PKIKP		**PKPdf**	**20 42 20.7**	**0.0**
TXAR							20 45 20.1	
TXAR	**Lajitas Array**	**140.41**	**25**	PKP		**PKPdf**	**20 42 20.6**	**0.0**
TXAR				PP		**PP**	**20 45 20.1**	**+1.8**
TXAR				SKPbc		**SKPbc**	**20 45 49.2**	**-1.7**
JCT	**Junction City**	**140.84**	**19**	⇓P		**PKPdf**	**20 42 21.3**	**0.0**
	baz=141							
PLCA	**Paso Flores**	**143.31**	**199**	PKP		PKPbc	20 42 23.6	+0.9
	comp=Z,8.2nm,0.8s,baz=163,slow=2.5,SNR=12							
PLCA				SKPbc		**SKPbc**	**20 45 55.5**	**-2.3**
	comp=Z,2.9nm,0.8s,baz=114,slow=4.7,SNR=3.3							
PLCA	**Paso Flores**	**143.31**	**199**	PKIKP		PKPbc	20 42 23.6	+1.0
PLCA	**Paso Flores**	**143.31**	**199**	PKP		PKPbc	20 42 23.6	+0.9
PLCA				SKPbc		**SKPbc**	**20 45 55.5**	**-2.3**
CPUP	**Villa Florida**	**146.53**	**231**	PKPbc		**PKPbc**	**20 42 32.5**	**-0.2**
	comp=Z,15nm,0.6s,baz=83,slow=2.7,SNR=45							
CPUP	**Villa Florida**	**146.53**	**231**	PKP2		**PKPbc**	**20 42 32.6**	**-0.2**
CPUP	**Villa Florida**	**146.53**	**231**	PKPbc		**PKPbc**	**20 42 32.5**	**-0.2**
MTP	**Monte Pirata**	**148.50**	**321**	*e*PKPdf		**PKPdf**	**20 42 35.7**	**+0.9**
LRS	**Lares**	**149.14**	**323**	*e*PKPdf		**PKPdf**	**20 42 35.0**	**-0.9**
LRS				*e*PKPbc		**PKPbc**	**20 42 40.1**	**0.0**
OBIP	**Obispado Ponce**	**149.19**	**323**	*e*PKPdf		**PKPdf**	**20 42 36.3**	**+0.4**
OBIP				*e*PKPbc		**PKPbc**	**20 42 40.3**	**+0.2**
FCH	**Farellones**	**149.70**	**206**	*e*P		**PKPdf**	**20 42 38.3**	**+1.5**
SDDR	**Presa de Saban**	**150.97**	**331**	*e*PKPdf		**PKPdf**	**20 42 39.2**	**+0.5**
SDDR				*e*PKPbc		**PKPbc**	**20 42 44.6**	**0.0**
GTBY	**Guantanamo Bay**	**151.76**	**339**	*e*PKPbc		**PKPbc**	**20 42 46.5**	**+0.2**
TLL	**Tololo Astrono**	**152.59**	**209**	*e*P		**PKPbc**	**20 42 49.3**	**+1.1**
TEIG	**Tepich**	**153.33**	**5**	*e*PKPdf		**PKPdf**	**20 42 42.0**	**-0.1**
TEIG				*e*PKPbc		**PKPbc**	**20 42 49.7**	**-0.1**
TEIG				*e*			20 43 01.9	
LCO	**Las Campanas**	**153.49**	**211**	*e*PKPdf		**PKPdf**	**20 42 42.5**	**0.0**
LCO				*e*PKPbc		**PKiKP**	**20 42 51.0**	**+0.7**
LCO	**Las Campanas**	**153.49**	**211**	*e*P		**PKPbc**	**20 42 51.2**	**+1.0**
LVC	**Limon Verde**	**157.22**	**224**	*e*PKPdf		**PKPdf**	**20 42 48.5**	**+0.8**
SDV	**Santo Domingo**	**158.58**	**315**	*e*PKPdf		**PKPdf**	**20 42 49.4**	**-0.2**
LPAZ	**La Paz**	**160.23**	**239**	PKP		**PKPdf**	**20 42 52.3**	**+0.4**
	comp=Z,12nm,1.0s,baz=48,slow=2.9,SNR=28							
LPAZ				PKPab		**PKPab**	**20 43 33.1**	**+0.7**
	comp=Z,8.1nm,1.0s,baz=127,slow=6.6,SNR=5.6							
LPAZ				PKKP			20 51 09.1	
	comp=Z,2.4nm,0.3s,baz=293,slow=5.8,SNR=16							
LPAZ	**La Paz**	**160.23**	**239**	PKIKP		**PKPdf**	**20 42 52.3**	**+0.4**
LPAZ							20 43 33.1	
LPAZ	**La Paz**	**160.23**	**239**	PKP		**PKPdf**	**20 42 52.3**	**+0.4**
LPAZ				PKPab		**PKPab**	**20 43 33.1**	**+0.7**
LPAZ				PKKP			20 51 09.1	
ROSC	**El Rosal**	**164.00**	**315**	PKP		**PKPdf**	**20 42 55.8**	**+0.3**
	comp=Z,15nm,0.8s,baz=98,slow=22,SNR=9.0							
ROSC	**El Rosal**	**164.00**	**315**	*e*PKPdf		**PKPdf**	**20 42 55.9**	**+0.3**
OTAV	**Otavalo**	**170.15**	**312**	*e*PKPdf		**PKPdf**	**20 43 00.7**	**+0.5**
OTAV				*e*PKPab		**PKPab**	**20 44 16.5**	**+0.6**

NIED ***04*** *20:27:00.38˚.60N×143˚.20E,h26km,Mw3.8 Best double couple: M₀5.41000×10¹⁴ NP1:φ₀28.00000°,δ64.00000°, λ92.00000°. NP2:φ₀204.00000°,δ26.00000°,λ86.00000°.*

JMA ***04*** *20:27:39.1±0.1,38˚.56N×143˚.18E,h12km±2km,M4.0*

ISC 04 20:27:39.2±3.2,38°.57N±0˚.05×143˚.1E±0˚.1,h2km±13km, n15,σ1°43/27,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**1.22**	**295**	P		**Pg**	**20 28 02.8**	**+0.2**
OFUJ				*e*S		**Sb**	**20 28 19.5**	**+0.3**
JIO	**Ouri**	**1.37**	**266**	P		**Pn**	**20 28 05.0**	**-0.3**
JIO				S		**Sn**	**20 28 23.6**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.41**	**316**	P		**Pn**	**20 28 05.3**	**-0.6**
MIYJ				*e*S		**Sb**	**20 28 24.6**	**-0.1**
JMK	**Ichinoseki**	**1.51**	**285**	P		**Pn**	**20 28 07.3**	**0.0**
JMK				*e*S		**Sg**	**20 28 27.8**	**0.0**
JOM	**Ohasama**	**1.67**	**303**	P		**Pn**	**20 28 09.5**	**+0.1**
JOM				*e*S		**Sn**	**20 28 31.7**	**+0.4**
JOU	**Okura**	**1.92**	**265**	P		**Pn**	**20 28 13.5**	**+0.6**
JMM	**Marumori**	**1.94**	**249**	P		**Pn**	**20 28 13.2**	**0.0**
JMM				*e*S		**Sn**	**20 28 38.3**	**+0.2**
JFK	**Kawauchi**	**2.13**	**236**	P		**Pn**	**20 28 15.6**	**-0.2**
JYK	**Kaneyama**	**2.17**	**280**	P		**Pn**	**20 28 17.1**	**+0.8**
JYK				*e*S		**Sb**	**20 28 45.0**	**-1.4**
JANG	**Nango**	**2.17**	**326**	P		**Pn**	**20 28 15.7**	**-0.7**
JANG				*e*S		**Sn**	**20 28 43.0**	**-0.9**
JYS	**Shirataka**	**2.40**	**263**	P		**Pn**	**20 28 20.6**	**+1.0**
JYS				*e*S		**Sn**	**20 28 51.0**	**+1.5**
JFT	**Otama**	**2.42**	**245**	P		**Pn**	**20 28 20.7**	**+1.0**
JFT				*e*S		**Sn**	**20 28 50.4**	**+0.5**
JAH	**Hinai**	**2.50**	**311**	P		**Pn**	**20 28 21.6**	**+0.8**
JAH				*e*S		**Sn**	**20 28 53.4**	**+1.6**
JYA	**Atsumi**	**2.65**	**272**	P		**Pn**	**20 28 24.6**	**+1.7**
MAT	**Matsushiro**	**4.38**	**244**	P		**Pn**	**20 28 49.6**	**+2.9**
MAT				*e*S		**Sb**	**20 29 45.3**	**-4.8**

IDC 04 20:31:06.4±1.7,28°.99S×62˚.15E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.7/24,mbtmp3.8/8,Error ellipse: s-maj=54.9km s-min=30.2km az=14.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**59.06**	**42**	P		P	20 41 08.6	0.0
	0.3nm,0.4s,baz=228,slow=6.8,SNR=6.2							
ASAR	**Alice Springs**	**63.65**	**104**	P		P	20 41 39.8	0.0
	0.7nm,0.9s,baz=242,slow=6.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**71.83**	**297**	P		P	20 42 31.4	+0.1
	1.0nm,0.9s,baz=112,slow=4.4,SNR

MAJO **Matsushiro** 18.18 337 *e*Pn **P** **20 43 25.2 +0.6**
comp=Z,25nm,0.9s
MAT **Matsushiro** 18.18 337 P **P** **20 43 25.3 +0.7**
MAT *e*S **Sn** **20 46 45.0 -1.5**
JOW **Kunigami** 18.45 295 P **Pn** **20 43 28.9 +0.9**
comp=Z,1.7nm,0.3s,baz=124,slow=14,SNR=7.3
JOW **Kunigami** 18.45 295 P **Pn** **20 43 28.9 +0.9**
JNU **Nakatsue** 19.41 316 *e*Pn **Pn** **20 43 38.9 -0.6**
comp=Z,64nm,1.4s
SMPI **Sarmi** 23.32 201 P P 20 44 28.1 +8.1
YUK **Yuzh-Kuril'sk** 23.98 358 *d* *i*P **P** **20 44 21.3 -4.7**
YUK *i* 20 44 37.8
YUK *i*S **S** **20 48 46.3 +5.7**
YUK pmax pmax
comp=N,282nm,1.5s
YUK pmax pmax
comp=Z,599nm,1.5s
YUK pmax pmax
comp=E,245nm,1.5s
YUK pmax pmax
comp=Z,38nm,2.2s
YUK MLR MLR
comp=Z,412nm,17.0s
KSRS **Korea Array** 24.03 320 P **P** **20 44 26.8 +0.2**
comp=Z,14nm,0.8s,baz=138,slow=7.9,SNR=44
KSAR **Wonju Array Be** 24.05 320 P **P** **20 44 26.8 0.0**
KSAR **Wonju Array Be** 24.05 320 P **P** **20 44 26.8 0.0**
YHNB **Yeheng** 24.12 286 *e*P **P** **20 44 26.2 -1.5**
comp=Z,243nm,1.6s
ASAJ **Asahikawa** 24.32 352 P **P** **20 44 31.4 +2.3**
comp=Z,18nm,0.8s,baz=205,slow=14,SNR=3.0
ASAJ **Asahikawa** 24.32 352 P **P** **20 44 31.4 +2.3**
DAV **Davao City (W)** 24.42 241 LR LR 20 53 47.3
comp=Z,461nm,21.0s,baz=119,slow=36
SSLB **Suanglung** 24.43 284 *e*P **P** **20 44 30.2 -0.3**
comp=Z,68nm,1.1s
INCN **Inchon** 24.84 319 *e*P **P** **20 44 30.6 -3.5**
TGY **Tagaytay City** 25.57 261 P **P** **20 44 43.2 +2.3**
comp=Z,92nm,0.3s,baz=344,slow=7.4,SNR=4.0
TGY LR LR 20 52 52.2
comp=Z,16nm,21.9s,baz=106,slow=32
TGY **Tagaytay City** 25.57 261 P **P** **20 44 43.2 +2.3**
TGY **Tagaytay City** 25.57 261 P **P** **20 44 43.2 +2.3**
SSE **Sheshan** 25.70 301 P **P** **20 44 40.0 -1.8**
SSE pmax pmax
comp=Z,42nm,0.8s
SSE pmax pmax
comp=Z,330nm,12.0s
VLA **Vladivostok** 26.30 335⇓ *e*P **P** **20 44 46.2 -1.0**
VLA *e* 20 45 25.3
VLA *e* 20 48 12.3
VLA S **S** **20 49 19.8 +2.1**
VLA pmax pmax
comp=Z,26nm,1.4s
USRK **Ussuriysk Arra** 27.17 336 P **P** **20 44 56.0 +1.1**
comp=Z,4.4nm,0.8s,baz=147,slow=8.8,SNR=8.9
NJ2 **Nanjing** 27.89 301 *e*P **P** **20 45 01.1 -0.5**
NJ2 pmax pmax
comp=Z,30nm,1.0s
MDJ **Mudanjiang** 28.48 333 P **P** **20 45 07.6 +0.9**
MDJ pP **pP** **20 45 16.3 -0.1**
MDJ sP **sP** **20 45 20.2 -0.3**
MDJ S **S** **20 49 54.9 +2.8**
MDJ ScP **ScP** **20 51 56.8 0.0**
MDJ PcS **PcS** **20 52 00.3 0.0**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,75nm,6.1s
MDJ LR LR
comp=N,400nm,18.5s
MDJ LR LR
comp=E,290nm,23.2s
MDJ LR LR
comp=Z,530nm,18.2s
PMG **Port Moresby** 29.23 180 P **P** **20 45 12.4 -1.2**
comp=Z,69nm,0.9s,baz=0.5,slow=6.4,SNR=16
PMG **Port Moresby** 29.23 180 *e*P **P** **20 45 12.8 -0.8**
PMG **Port Moresby** 29.23 180 *e*P **P** **20 45 12.8 -0.8**
HABR **Khabarovsk** 29.98 344 P **P** **20 45 19.0 -1.0**
HABR *e* 20 46 15.3
HABR *e* 20 48 21.4
HABR *e*S **S** **20 50 18.2 +2.6**
HABR *e*SS SS 20 51 50.3 -34
HABR *i* 20 55 53.7
HABR pmax pmax
comp=E,31nm,1.6s
HABR pmax pmax
comp=Z,25nm,1.6s
HABR pmax pmax
comp=N,25nm,1.6s
HABR MLR MLR
comp=Z,360nm,18.0s
WHN **Wuhan** 31.22 296 P **P** **20 45 31.6 +0.5**
KLR **Kul'dur** 31.61 341 *e*P **P** **20 45 32.7 -1.6**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
BJI **Beijing** 33.07 314 P **P** **20 45 46.5 -0.7**
BJI pmax pmax
comp=Z,4.0nm,0.6s
COEN **Coen** 33.96 187 *e*P **P** **20 45 54.7 -0.5**
comp=Z,135nm,0.9s
COEN **Coen** 33.96 187 *e*P **P** **20 45 54.5 -0.7**
comp=Z,463nm,1.2s
PETK **Petropavlovsk-** 34.06 12 P **P** **20 45 57.4 +1.6**
comp=Z,3.8nm,0.6s,baz=190,slow=11,SNR=9.7
PETK LR LR 20 59 01.7
comp=Z,202nm,20.5s,baz=308,slow=35
PETK **Petropavlovsk-** 34.06 12 P **P** **20 45 57.4 +1.6**
PETK **Petropavlovsk-** 34.06 12 P **P** **20 45 57.4 +1.6**
QIZ **Qiongzhong** 34.98 275 P **P** **20 46 02.8 -1.3**
QIZ S **S** **20 51 34.4 +0.5**
QIZ pmax pmax
comp=Z,25nm,2.5s
QIZ pmax pmax
comp=Z,220nm,5.3s
QIZ LR LR
comp=Z,550nm,18.1s
HIA **Hailar** 36.42 330 *e*P **P** **20 46 15.8 -0.3**
HIA pmax pmax
comp=Z,57nm,1.6s
HIA **Hailar** 36.42 330 *e*P **P** **20 46 15.8 -0.3**
comp=Z,57nm,1.6s
XAN **Xi'an** 36.45 301 P **P** **20 46 16.7 0.0**
XAN pP **pP** **20 46 27.0 +0.6**
XAN S **S** **20 51 56.6 +0.2**
XAN pmax pmax
comp=Z,4.0nm,1.2s
XAN LR LR
comp=N,360nm,18.0s
XAN LR LR
comp=Z,130nm,17.0s
HHC **Hu-ho-hao-te** 36.59 312 *e*P **P** **20 46 16.6 -1.2**
HHC pP **pP** **20 46 26.5 -1.1**
HHC sP **sP** **20 46 30.3 -1.3**
HHC PP PP 20 47 42.1 +0.7
HHC S **S** **20 51 57.5 -0.9**
HHC sS **sS** **20 52 13.1 -1.5**
HHC SS SS 20 54 23.7 -15
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,400nm,5.8s
HHC LR LR
comp=N,440nm,13.7s
HHC LR LR
comp=E,370nm,14.3s
HHC LR LR
comp=Z,450nm,15.1s
GYA **Guiyang** 37.49 288⇑ *i*P **P** **20 46 26.5 +0.9**
GYA pP **pP** **20 46 35.7 +0.3**
GYA PP PP 20 47 52.3 +0.8
GYA S **S** **20 52 12.0 -0.5**
GYA ScP **ScP** **20 52 26.9 -1.7**
GYA SS SS 20 54 43.4 -14
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=N,520nm,16.3s
GYA LR LR
comp=E,510nm,17.5s
GYA LR LR
comp=Z,630nm,16.0s
SBUM **Sibu** 38.16 247 P **P** **20 46 32.5 +1.2**
comp=Z,38nm,0.7s
CD2 **Chengdu** 40.29 294 P **P** **20 46 48.9 -0.1**
CD2 pP **pP** **20 46 59.1 +0.3**
CD2 sP **sP** **20 47 03.4 +0.5**
CD2 PP PP 20 48 26.1 +4.1
CD2 S **S** **20 52 53.4 -1.1**
CD2 sS **sS** **20 53 10.3 -0.4**
CD2 SS SS 20 55 46.6 -7.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,190nm,5.3s
CD2 LR LR
comp=E,530nm,14.3s
CD2 LR LR
comp=Z,680nm,19.0s
LZH **Lanzhou** 40.95 302 *e*P **P** **20 46 55.2 +0.7**
LZH pP **pP** **20 47 06.0 +1.6**
LZH PP PP 20 48 32.1 +2.9
LZH PcP **PcP** **20 48 53.8 -0.7**
LZH *e*S **S** **20 53 02.5 -1.9**
LZH sS **sS** **20 53 18.3 -2.4**
LZH SS SS 20 56 00.5 -6.5
LZH pmax pmax
comp=Z,54nm,1.2s
LZH pmax pmax
comp=Z,240nm,5.2s
LZH LR LR
comp=N,190nm,11.5s
LZH LR LR
comp=E,300nm,13.2s
LZH LR LR
comp=Z,560nm,16.1s
KMI **Kunming** 41.04 286 P **P** **20 46 56.9 +1.5**
KMI pP **pP** **20 47 04.6 -0.7**
KMI sP **sP** **20 47 08.3 -1.0**
KMI PP PP 20 48 28.1 -2.3
KMI S **S** **20 53 05.9 -0.2**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,140nm,4.5s
KMI LR LR
comp=N,350nm,17.0s
KMI LR LR
comp=E,180nm,26.4s
KMI LR LR
comp=Z,240nm,25.3s
WRAB **Tennant Creek** 41.58 198 *e*P **P** **20 46 58.0 -1.6**
WRAB pmax pmax
comp=Z,44nm,1.1s
WRAB **Tennant Creek** 41.58 198 *e*P **P** **20 46 58.0 -1.6**
comp=Z,44nm,1.1s
WB2 **Warramunga Arr** 41.59 198 *e*P **P** **20 46 58.0 -1.6**
WRA **Warramunga Arr** 41.59 198 P **P** **20 46 58.5 -1.1**
comp=Z,26nm,1.0s,baz=19,slow=9.0,SNR=38
WRA PcP **PcP** **20 48 56.9 +0.4**
comp=Z,1.8nm,0.5s,baz=14,slow=3.6,SNR=4.9
WRA LR LR 21 04 33.5
comp=Z,548nm,20.3s,baz=50,slow=37
WRA **Warramunga Arr** 41.59 198 P **P** **20 46 58.5 -1.1**
WRA 20 48 56.9
WRA **Warramunga Arr** 41.59 198 P **P** **20 46 58.5 -1.1**
WRA PcP **PcP** **20 48 56.9 +0.4**
ULN **Ulaanbaatar** 42.52 320 *e*P **P** **20 47 05.9 -1.3**
ULN **Ulaanbaatar** 42.52 320 *e*P **P** **20 47 05.9 -1.3**
ULN **Ulaanbaatar** 42.52 320 P **P** **20 47 08.4 +1.2**
comp=Z,19nm,0.8s
SONM **Songino Array** 42.90 320 P **P** **20 47 10.6 +0.4**
comp=Z,6.9nm,0.8s,baz=136,slow=8.0,SNR=48
SONM PcP **PcP** **20 49 01.2 +0.6**
comp=Z,0.9nm,0.5s,baz=137,slow=3.4,SNR=4.7
SONM LR LR 21 06 13.2
comp=Z,678nm,18.4s,baz=119,slow=38
SONM **Songino Array** 42.90 320 P **P** **20 47 10.6 +0.4**
SONM 20 49 01.2
SONM **Songino Array** 42.90 320 P **P** **20 47 10.6 +0.4**
SONM PcP **PcP** **20 49 01.2 +0.6**
SEY **Seymchan** 43.05 4⇓ *e*P **P** **20 47 12.6 +1.6**
GTA **Gaotai** 44.74 306 P **P** **20 47 25.2 +0.1**
GTA pP **pP** **20 47 35.3 +0.2**
GTA sP **sP** **20 47 39.3 +0.2**
GTA S **S** **20 53 58.6 -1.3**
GTA sS **sS** **20 54 14.7 -1.6**
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,200nm,4.8s
GTA LR LR
comp=N,560nm,17.6s
GTA LR LR
comp=E,230nm,16.6s
GTA LR LR
comp=Z,240nm,19.0s
BOD **Bodaibo** 44.81 336 *e*P **P** **20 47 25.4 +0.2**
BOD pmax pmax
comp=Z,6.0nm,2.1s
CHTO **Chiang Mai** 45.20 277 *e*P **P** **20 47 27.5 -1.4**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO **Chiang Mai** 45.20 277 *e*P **P** **20 47 27.5 -1.4**
comp=Z,7.2nm,1.1s
CHTO **Chiang Mai** 45.20 277 P **P** **20 47 31.7 +2.8**
comp=Z,7.1nm,1.8s
ASAR **Alice Springs** 45.24 197 P **P** **20 47 28.1 -1.0**
comp=Z,5.7nm,0.8s,baz=20,slow=7.4,SNR=33
ASAR **Alice Springs** 45.24 197 P **P** **20 47 28.1 -1.0**
ASAR **Alice Springs** 45.24 197 P **P** **20 47 28.1 -1.0**
CM31 **Chiang Mai Arr** 45.26 276 *e*P **P** **20 47 29.6 +0.2**
comp=Z,1.7nm,0.5s
CMAR **Chiang Mai Arr** 45.26 276 P **P** **20 47 29.9 +0.6**
comp=Z,4.4nm,0.8s,baz=65,slow=7.9,SNR=32
CMAR LR LR 21 04 02.9
comp=Z,203nm,21.0s,baz=336,slow=33
CMAR **Chiang Mai Arr** 45.26 276 P **P** **20 47 30.0 +0.6**
CMAR **Chiang Mai Arr** 45.26 276 P **P** **20 47 29.9 +0.6**
ZAK **Zakamensk** 45.85 322⇑ *i*P **P** **20 47 33.6 -0.1**
ZAK *e* 20 49 24.3
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TLY **Talaya** 46.21 324 *e*P **pP** **20 47 48.4 +1.9**
TLY pmax pmax
comp=Z,15nm,1.1s
TLY MLR MLR
comp=Z,257nm,20.0s
QLP **Quilpie** 46.39 183 *e*P **P** **20 47 36.0 -2.0**
IPM **Ipoh** 47.30 257 P **P** **20 47 47.3 +1.8**
comp=Z,26nm,1.2s
KULM **Kulim** 47.33 258 P **P** **20 47 47.9 +2.2**
comp=Z,37nm,1.6s
MOY **Mondy** 47.70 323 *e*P **P** **20 47 49.1 +0.9**
MOY pmax pmax
comp=Z,15nm,2.0s
MSVF **Nonsavu** 48.34 139 *e*P **P** **20 47 52.9 -0.5**
MSVF pmax pmax
comp=Z,8.0nm,1.0s
MSVF **Nonsavu** 48.34 139 *e*P **P** **20 47 52.9 -0.5**
comp=Z,8.4nm,1.0s
BILL **Bilibino** 49.53 9 *d* *i*P **P** **20 48 02.9 +1.0**
BILL *e*S S 20 55 20.3 +13
BILL pmax pmax
comp=Z,26nm,1.6s
BILL MLR MLR
comp=Z,300nm,18.0s
BILL **Bilibino** 49.53 9 *e*P **P** **20 48 00.3 -1.6**
comp=Z,11nm,0.7s
PSI **Prapat** 49.89 256 P **P** **20 48 07.3 +1.8**
comp=Z,15nm,1.3s
ARMA **Armidale** 50.34 175 *e*P **P** **20 48 08.4 -0.1**
ARMA **Armidale** 50.34 175 *e*P **P** **20 48 07.8 -0.8**
comp=Z,38nm,1.5s
SHL **Shillong** 50.81 287 *e*P P 20 48 18.0 +5.6
LSA **Lhasa** 51.16 292 P **P** **20 48 16.4 +1.0**
LSA **Lhasa** 51.16 292 *e*P **P** **20 48 16.9 +1.5**
LSA pmax pmax
comp=Z,111nm,1.3s
LSA **Lhasa** 51.16 292 *e*P **P** **20 48 16.9 +1.5**
comp=Z,111nm,1.3s
STKA **Stephens Creek** 51.85 186 P **P** **20 48 18.6 -1.1**
comp=Z,9.3nm,0.7s,baz=348,slow=8.3,SNR=22
STKA LR LR 21 11 31.6
comp=Z,441nm,18.1s,baz=16,slow=38
STKA **Stephens Creek** 51.85 186 *e*P **P** **20 48 18.6 -1.1**
comp=Z,6.9nm,0.6s
STKA **Stephens Creek** 51.85 186 P **P** **20 48 18.6 -1.1**
STKA pmax pmax
comp=Z,39nm,1.3s
STKA **Stephens Creek** 51.85 186 P **P** **20 48 18.6 -1.1**
comp=Z,39nm,1.3s
BBOO **Buckleboo** 53.55 191 *e*P **P** **20 48 31.4 -0.9**
comp=Z,103nm,0.6s
BBOO *e* 20 48 40.8
MEEK **Meekatharra** 53.92 212 *e*P **P** **20 48 34.0 -1.2**
comp=Z,45nm,0.9s
YNG **Young** 54.02 179 *e*P **P** **20 48 35.9 +0.2**
comp=Z,11nm,0.7s
TAPN **Taplejung** 54.35 290 *e*P **P** **20 48 39.6 +0.8**
comp=Z,42nm,0.8s
WMQ **Urumqi** 54.39 310 P **P** **20 48 39.4 +0.9**
WMQ pP **pP** **20 48 49.4 +0.7**
WMQ sP **sP** **20 48 53.4 +0.7**
WMQ PcP **PcP** **20 49 41.4 -0.7**
WMQ pmax pmax
comp=Z,41nm,1.4s
WMQ LR LR
comp=N,160nm,17.0s
WMQ LR LR
comp=E,180nm,18.9s
WMQ LR LR
comp=Z,180nm,18.2s
ODAN **Odare** 54.69 289 *e*P **P** **20 48 41.6 +0.4**
comp=Z,63nm,1.1s
CAN **Canberra** 55.06 178 *e*P **P** **20 48 43.8 +0.5**
comp=Z,12nm,1.6s
CAN **Canberra** 55.06 178 *e*P **P** **20 48 42.7 -0.6**
CAN **Canberra** 55.06 178 *e*P **P** **20 48 42.7 -0.6**
RAMN **Ramite** 55.38 289 *e*P **P** **20 48 46.7 +0.5**
comp=Z,22nm,0.8s
JIRN **Jiri** 55.66 290 *e*P **P** **20 48 49.4 +1.0**
comp=Z,30nm,0.5s
GUN **Gumba** 55.91 291 *e*P **P** **20 48 50.8 +0.7**
PKI **Pulchoki** 56.36 290 *e*P **P** **20 48 53.6 +0.3**
comp=Z,32nm,0.9s
KKN **Kakani** 56.45 291 *e*P **P** **20 48 54.3 +0.5**
DMN **Daman** 56.62 290 *e*P **P** **20 48 55.7 +0.6**
comp=Z,36nm,0.9s
ARPS **Mount Arapiles** 56.68 185 *e*P **P** **20 48 54.3 -0.5**
comp=Z,48nm,0.6s
GKN **Gorkha** 56.99 291 *e*P **P** **20 48 58.1 +0.5**
comp=Z,42nm,0.8s
MORW **Morawa** 57.20 212 *e*P **P** **20 48 57.0 -1.7**
comp=Z,70nm,1.5s
KDAK **Kodiak Island** 57.60 33 P **P** **20 49 02.0 +0.8**
comp=Z,8.1nm,0.6s,baz=291,slow=11,SNR=6.7
KDAK **Kodiak Island** 57.60 33 *i*P **P** **20 49 03.0 +1.9**
KDAK **Kodiak Island** 57.60 33 P **P** **20 49 02.0 +0.8**
DANN **Dangsing** 57.72 291 *e*P **P** **20 49 03.8 +0.9**
comp=Z,84nm,0.6s
ZAA0 **Zalesovo Array** 57.73 322 *e*P **P** **20 49 01.4 -0.7**
ZALV **Zalesovo Beam** 57.73 322 P **P** **20 49 01.9 -0.3**
comp=Z,8.8nm,0.5s,baz=106,slow=7.5,SNR=44
ZALV **Zalesovo Beam** 57.73 322 P **P** **20 49 01.9 -0.3**
ZALV **Zalesovo Beam** 57.73 322 P **P** **20 49 01.9 -0.3**
KOLN **Koldanda** 57.93 291 *e*P **P** **20 49 04.2 -0.1**
comp=Z,12nm,0.6s
MK31 **Makanchi Array** 58.44 313 *e*P **P** **20 49 07.4 +0.1**
MK31 *e* 20 49 19.0
MK31 **Makanchi Array** 58.44 313 *e*P **P** **20 49 07.4 +0.1**
MK31 *e* 20 49 18.9
MKAR **Makanchi Array** 58.44 313 P **P** **20 49 07.7 +0.4**
comp=Z,7.0nm,0.7s,baz=90,slow=9.0,SNR=56
MKAR LR LR 21 14 49.6
comp=Z,159nm,18.1s,baz=267,slow=37
MKAR **Makanchi Array** 58.44 313 P **P** **20 49 07.7 +0.4**
MKAR **Makanchi Array** 58.44 313 P **P** **20 49 07.7 +0.4**
KLBR **Kellerberrin** 58.47 209 *e*P **P** **20 49 07.1 -0.4**
comp=Z,11nm,0.7s
NVS **Novosibirsk** 58.80 323 *e*P **P** **20 49 08.8 -0.8**
NVS *e*S **S** **20 57 16.1 +3.6**
NVS pmax pmax
comp=Z,62nm,1.6s
NVS pmax pmax
comp=E,51nm,1.9s
NVS smax smax
comp=N,35nm,2.9s
TRF **Thorofare Moun** 60.17 27 *e*P **P** **20 49 19.1 0.0**
comp=N,12nm,0.9s
TRF *e* 20 49 31.2
KURK **Kurchatov** 61.12 318 *e*P **P** **20 49 25.4 -0.2**
KURK pmax pmax
comp=Z,53nm,1.4s
KURK **Kurchatov** 61.12 318 *e*P **P** **20 49 25.4 -0.2**
comp=Z,53nm,1.4s
COLD **Coldfoot** 61.28 23 *e*P **P** **20 49 27.2 +0.8**
comp=Z,9.8nm,1.3s
ILAR **Eielson Array** 61.94 26 P **P** **20 49 30.0 -0.9**
comp=Z,5.0nm,0.7s,baz=258,slow=5.1,SNR=59
ILAR LR LR 21 15 15.8
comp=Z,211nm,18.0s,baz=68,slow=35
ILAR **Eielson Array** 61.94 26 P **P** **20 49 30.0 -0.9**
ILAR **Eielson Array** 61.94 26 P **P** **20 49 30.0 -0.9**
DDI **Dehra Dun** 62.41 294 *ex* **P** **20 49 37.0 +2.3**
DOT **Dot Lake** 62.93 28 *e*P **P** **20 49 37.2 -0.4**
comp=Z,3.2nm,0.7s
KSH **Kashi** 63.11 305⇓ *e*P P 20 49 42.7 +3.4
KSH *e*pP pP 20 49 52.7 +3.0
KSH *e*sP sP 20 49 56.7 +3.1
KSH *e*PcP **PcP** **20 50 18.5 +1.7**
KSH *e*PP **PP** **20 52 03.6 +5.4**
KSH *e*ScP 20 54 16.7
KSH *e*PcS 20 54 20.7
KSH *e*S **S** **20 58 10.3 +2.0**
KSH *e*sS sS 20 58 27.5 +2.2
KSH *e*ScS **SKKSac** **20 59 28.6 -1.5**
KSH *e*SS **SS** **21 02 19.6 +5.3**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,270nm,7.1s
KSH LR LR
comp=N,140nm,8.3s
KSH LR LR
comp=E,100nm,5.3s
KSH LR LR
comp=Z,120nm,5.7s
TKM2 **Tokmak 2** 63.17 309 P **P** **20 49 41.0 +1.2**
SNR=11
TKM2 P **P** **20 49 41.0 +1.2**
SNR=11
TKM2 **Tokmak 2** 63.17 309 *e*P **P** **20 49 40.2 +0.4**
TKM2 *e* 20 49 49.4
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 **Tokmak 2** 63.17 309 *e*P **P** **20 49 40.2 +0.4**
comp=Z,8.9nm,0.8s
TKM2 *e* 20 49 49.4
KZA **Kyzart** 63.48 308 P **P** **20 49 44.3 +2.2**
SNR=12
KZA P **P** **20 49 44.3 +2.2**
SNR=12
KBK **Karagaybulak** 63.67 308 P **P** **20 49 44.1 +1.1**
SNR=6.8
KBK P **P** **20 49 44.1 +1.1**
SNR=6.8
USP **Ospenovka** 63.96 309 P **P** **20 49 45.4 +0.6**
SNR=6.5
USP P **P** **20 49 45.4 +0.6**
SNR=6.5
AAK **Ala-Archa** 64.00 308⇓ *e*P **P** **20 49 47.2 +2.0**
AAK pmax pmax
comp=Z,17nm,1.2s
AAK **Ala-Archa** 64.00 308 *e*P **P** **20 49 45.3 +0.1**
comp=Z,19nm,0.9s
AAK *e* 20 49 56.7
AML **Almayashu** 64.63 308 P **P** **20 49 51.0 +1.4**
SNR=8.8
AML P **P** **20 49 51.0 +1.4**
SNR=8.8
DAWY **Dawson** 65.03 28 *e*P **P** **20 49 51.9 +0.5**
DAWY *e* 20 50 03.5
VOSK **Vostochnaya** 65.90 320 P **P** **20 49 56.6 -0.6**
VOSK pmax pmax
comp=Z,54nm,1.6s
BVA0 **Borovoye Array** 66.25 320 *i*P **P** **20 49 59.4 0.0**
BVA0 pmax pmax
comp=Z,11nm,1.4s
BRVK **Borovoye** 66.31 320 *d* *i*P **P** **20 50 00.0 +0.2**

BRVK pmax pmax
comp=Z,46nm,2.5s
BRVK Borovoye 66.31 320 *e*P **P 20 49 59.8 +0.1**
comp=Z,52nm,1.4s
BRVK *e* 20 50 10.5
KK31 Karatay Array 66.88 309 *i* P **P 20 50 04.0 +0.4**
KK31 pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 66.88 309 *e*P **P 20 50 04.1 +0.5**
KKAR pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 66.88 309 *e*P **P 20 50 04.1 +0.5**
comp=Z,9.9nm,0.7s
KBL Kabul 69.26 300 *e*P **P 20 50 18.9 -0.1**
KBL pmax pmax
comp=Z,24nm,0.8s
KBL Kabul 69.26 300 *e*P **P 20 50 18.9 -0.1**
comp=Z,24nm,0.8s
SVE Sverdlovsk 71.51 325⇑ *e*P **P 20 50 32.2 +0.1**
SVE pmax pmax
comp=Z,24nm,1.5s
ARU Arti 72.71 324 *e*P **P 20 50 39.1 -0.1**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 72.71 324 *e*P **P 20 50 39.0 -0.1**
comp=Z,6.9nm,0.6s
AB31 Akbulak array 73.22 317 *i* P **P 20 50 42.0 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 73.22 317 *e*P **P 20 50 42.3 -0.1**
comp=Z,5.6nm,0.6s
AKTO Aktyubinsk 74.20 318 P **P 20 50 47.7 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
GNW Green Mountain 75.63 44 *e*P **P 20 50 54.9 -1.5**
comp=Z,7.3nm,1.1s
GNW *e*pP **pP 20 51 07.3 +0.4**
KCPM Cahto Peak 77.08 52 *e*P **P 20 51 05.4 +0.4**
comp=Z,8.4nm,0.8s
KIPM Iron Peak 77.13 52 *e*P **P 20 51 03.9 -1.4**
ETW Emtiat 77.25 44 *e*P **P 20 51 04.7 -1.1**
comp=Z,20nm,0.7s
ETW *e* 20 54 20.5
G06A Carlson Farm, 77.70 46 ⇓P **P 20 51 08.2 0.0**
baz=78
RSW Rattlesnake Hi 78.08 45 *e*P **P 20 51 11.0 +0.6**
comp=Z,8.3nm,0.6s
K05A Summer Lake 78.21 49 ⇓P **P 20 51 11.5 +0.1**
baz=78
OD2 Odessa Site #2 78.37 44 *e*P **P 20 51 11.4 -0.5**
comp=Z,8.8nm,0.7s
OD2 *e* 20 51 22.5
C09A Chrisman Ranch 78.53 43⇑P **P 20 51 13.1 +0.4**
baz=78
I07A Izee 78.80 47⇑P **P 20 51 14.5 +0.1**
baz=79
E09A Wood Farm, Sta 79.00 45⇑P **P 20 51 15.6 +0.3**
baz=79
J08A Circle Bar Ran 79.72 48 ⇓P **P 20 51 19.6 +0.1**
baz=80
F10A Beach Ranch, E 79.77 45⇑P **P 20 51 19.4 -0.2**
baz=80
CMB Columbia Colle 79.94 53 *e*P **P 20 51 20.6 -0.1**
CMB pmax pmax
comp=Z,4.0nm,0.6s
CMB Columbia Colle 79.94 53 *e*P **P 20 51 20.6 -0.1**
comp=Z,4.5nm,0.6s
WCN Washoe City 80.03 52 ⇓P **P 20 51 21.6 +0.3**
baz=80
BMO Blue Mountains 80.06 46 *e*P **P 20 51 20.8 -0.5**
BMO pmax pmax
comp=Z,4.0nm,0.6s
BMO Blue Mountains 80.06 46 *e*P **P 20 51 20.8 -0.5**
comp=Z,4.4nm,0.6s
APA Apatity 80.23 339⇑ *i*P **P 20 51 21.4 -0.2**
APA pmax pmax
comp=Z,56nm,0.8s
APA MLR MLR
comp=Z,900nm,20.0s
C12B Naegeli Ranch, 80.36 43⇑P **P 20 51 23.3 +0.6**
baz=80
BSMT Bassoo Peak 80.75 42 *e*P **P 20 51 25.3 +0.3**
comp=Z,15nm,1.2s
BLMT Blacktail Moun 80.96 42 *e*P **P 20 51 24.5 -1.7**
comp=Z,9.5nm,0.7s
KEV Kevo 81.06 342 *e*P **P 20 51 25.8 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 81.06 342 *e*p **P 20 51 25.8 -0.2**
comp=Z,1.4nm,0.4s
KEV Kevo 81.06 342 *e*p **P 20 51 25.8 -0.2**
comp=Z,1.4nm,0.4s
JTMT Jette 81.11 42 *e*P **P 20 51 26.6 -0.3**
comp=Z,3.5nm,0.6s
F12A Elk City 81.14 45 ⇓P **P 20 51 26.8 -0.3**
baz=81
D13A Huson 81.21 43⇑P **P 20 51 26.7 -0.7**
baz=81
A14A Double T Ranch 81.22 41⇑P **P 20 51 27.8 +0.3**
baz=81,SNR=6.3
NVAR Mina Array Bea 81.38 52 P **P 20 51 29.3 +0.7**
comp=Z,6.3nm,0.6s,baz=268,slow=6.0,SNR=57
NVAR LR LR 21 25 52.5
comp=Z,193nm,18.6s,baz=37,slow=34
NVAR Mina Array Bea 81.38 52 P **P 20 51 29.3 +0.7**
MFID Camas Ranch 81.54 47 *e*P **P 20 51 28.6 -0.6**
comp=Z,7.2nm,1.0s
MFID Camas Ranch 81.54 47 ⇓P **P 20 51 29.2 0.0**
baz=81
E13A Victor 81.61 44 ⇓P **P 20 51 29.5 -0.1**
baz=82
ARCES ARCESS Array B 81.62 342 P **P 20 51 29.6 +0.6**
comp=Z,4.8nm,0.6s,baz=79,slow=6.4,SNR=14
ARCES ARCESS Array B 81.62 342 P **P 20 51 29.6 +0.6**
ARCES ARCESS Array B 81.62 342 P **P 20 51 29.6 +0.6**
F13A Darby 81.74 44 ⇓P **P 20 51 29.7 -0.6**
baz=82
SLMT Seeley Lake 81.78 43 *e*P **P 20 51 30.2 -0.3**
comp=Z,4.0nm,0.7s
H12A Diamond D Ranc 81.82 46⇑P **P 20 51 30.0 -0.7**
baz=82
I12A Atlanta 81.89 46 ⇓P **P 20 51 30.5 -0.7**
baz=82
B15A Bradely Ranch, 81.99 42⇑P **P 20 51 31.4 -0.1**
baz=82,SNR=5.5
G13A Cobalt 82.05 45⇑P **P 20 51 31.4 -0.5**
baz=82
C15A Salmond Ranch, 82.16 42⇑P **P 20 51 32.0 -0.4**
baz=82
H13A Challis 82.22 45⇑P **P 20 51 32.9 +0.1**
baz=82
A16A West Butte Ran 82.36 41⇑P **P 20 51 33.1 -0.3**
baz=82
HLID Hailey 82.45 46 ⇓P **P 20 51 33.8 -0.3**
baz=82
B16A M & M Farms, S 82.48 41 ⇓P **P 20 51 33.6 -0.5**
baz=82,SNR=11
I13A Wildhorse Cree 82.53 46 ⇓P **P 20 51 35.0 +0.4**
baz=82
E15A Deer Lodge 82.62 43 ⇓P **P 20 51 34.3 -0.6**
baz=82,SNR=6.9
J13A Cove Ranch, Pi 82.67 47⇑P **P 20 51 34.9 -0.4**
baz=82
C16A Fuhringer Ranc 82.69 42 ⇓P **P 20 51 34.4 -0.8**
baz=82
MPMC Manual Prospec 82.76 54 ⇓P **P 20 51 35.8 -0.2**
baz=83
EDW2 Edwards Air Fo 82.77 56⇑P **P 20 51 36.2 +0.4**
baz=83
H14A Leadore 82.79 45 ⇓P **P 20 51 35.9 +0.1**
baz=83
ELK Elko 82.85 49 *e*P **P 20 51 35.7 -0.6**
ELK Elko 82.85 49 *e*P **P 20 51 35.7 -0.6**
A17A Triple J Farms 82.91 40⇑P **P 20 51 35.1 -1.2**
baz=83
F15A Butte 82.93 44 ⇓P **P 20 51 35.6 -1.0**
baz=83
LRM Limekiln Ridge 82.96 44 *e*P **P 20 51 36.5 -0.3**
comp=Z,65nm,1.0s
I14A Mackay 82.98 46⇑P **P 20 51 36.4 -0.5**
baz=83
MCMT McKenzie Canyo 83.06 45 *e*P **P 20 51 36.7 -0.7**
comp=Z,1.3nm,0.7s
MCMT *e*pP **pP 20 51 49.0 +1.0**
B17A L&G Farms, Che 83.09 41 ⇓P **P 20 51 37.4 +0.2**
baz=83,SNR=6.2
J14A Carey 83.15 46 ⇓P **P 20 51 36.8 -0.9**
baz=83
G15A Dillon 83.17 44⇑P **P 20 51 37.5 -0.4**
baz=83
E16A East Helena 83.20 43 ⇓P **P 20 51 37.7 -0.1**
baz=83,SNR=8.2
JOF Joensuu 83.34 335 *e*P **P 20 51 36.3 -1.8**
JOF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 83.34 335 *e*p **P 20 51 36.3 -1.8**
comp=Z,15nm,0.7s
JOF Joensuu 83.34 335 *e*p **P 20 51 36.3 -1.8**
comp=Z,15nm,0.7s
C17A Wharram Farm, 83.36 42⇑P **P 20 51 38.6 -0.1**
baz=83
R11A Troy Canyon, C 83.42 52⇑P **P 20 51 39.2 0.0**
baz=83
A18A Metzger Ranch, 83.44 40⇑P **P 20 51 39.6 +0.6**
baz=83
F16A Kennard Place, 83.51 44 ⇓P **P 20 51 39.3 -0.2**
baz=83
D17A Six Diamond Ra 83.59 42⇑P **P 20 51 39.7 -0.2**
baz=83
G16A Moss Hill, Enn 83.60 44 ⇓P **P 20 51 39.6 -0.4**
baz=84,SNR=10
B18A Beardsley Farm 83.68 41⇑P **P 20 51 40.0 -0.3**
baz=84
J15A Blackfoot 83.86 46⇑P **P 20 51 42.0 +0.7**
baz=84
QLMT Earthquake Lak 84.00 44 *e*P **P 20 51 43.0 +0.8**
comp=Z,0.6nm,0.6s
QLMT *e*pP **pP 20 51 53.2 +0.4**
MOS Moscow 84.02 328 *e*P P 20 51 50.1 +8.4
MOS pmax pmax
comp=Z,68nm,1.6s
K15A Arbon 84.06 47⇑P **P 20 51 42.8 +0.5**
baz=84
A19A Kilndworth Far 84.10 40 ⇓P **P 20 51 40.9 -1.5**
baz=84
H16A Russell Place, 84.16 45⇑P **P 20 51 43.6 +0.6**
baz=84
E18A Harlowton 84.31 42 ⇓P **P 20 51 43.9 +0.3**
baz=84,SNR=10
C19A Slack Wire Ran 84.39 41⇑P **P 20 51 45.1 +1.2**
baz=84
J16A Bone 84.46 46 ⇓P **P 20 51 44.8 +0.3**
baz=84
M15A Larsen Ranch, 84.56 48 ⇓P **P 20 51 44.9 0.0**
baz=84
A20A Cobblestone Ra 84.61 40⇑P **P 20 51 44.9 0.0**
baz=84
RRI2 Red Ridge 84.63 46 *e*P **P 20 51 45.2 -0.2**
comp=Z,4.0nm,0.6s
K16A Soda Springs 84.64 46⇑P **P 20 51 47.0 +1.6**
baz=84
R13A O'Grain Ranch, 84.67 51 ⇓P **P 20 51 47.2 +1.5**
baz=84
F18A Big Timber 84.70 43 ⇓P **P 20 51 44.8 -0.7**
baz=84,SNR=6.0
D19A Cripps Ranch, 84.72 42⇑P **P 20 51 46.5 +0.9**
baz=85,SNR=7.2
FLWY Flagg Ranch 84.77 45 *e*P **P 20 51 45.7 -0.3**
comp=Z,9.2nm,0.8s
DUG Dugway 84.78 49 *e*P **P 20 51 45.2 -0.9**
DUG *e* 20 51 58.7
DUG pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway 84.78 49 *e*P **P 20 51 45.2 -0.9**
comp=Z,2.7nm,0.6s
DUG *e* 20 51 58.7
DUG Dugway 84.78 49 ⇓P **P 20 51 46.3 +0.2**
baz=85
OBN Obninsk 84.84 327⇑ *i*P **P 20 51 45.9 +0.1**
OBN *i* 20 51 57.5
OBN *e*S S 21 02 17.8 +6.2
OBN pmax pmax
comp=Z,18nm,1.2s
C20A Veseth Ranch, 85.05 41⇑P **P 20 51 48.2 +1.0**
baz=85,SNR=5.5
L16A Fish Haven 85.06 47⇑P **P 20 51 48.4 +0.8**
baz=85
E19A Rath Farm, Rou 85.07 42 ⇓P **P 20 51 48.2 +0.9**
baz=85
A21A Bergtoll Ranch 85.17 39 ⇓P **P 20 51 46.7 -1.1**
baz=85
F19A Roth Farm, Mol 85.21 43⇑P **P 20 51 48.7 +0.6**
baz=85
VSR Storozhevoye 85.21 323 *e*P **P 20 51 47.0 -0.8**
VSR pmax pmax
comp=N,1.0nm,0.5s
VSR pmax pmax
comp=E,1.0nm,0.5s
VSR pmax pmax
comp=Z,5.0nm,0.5s
H18A Shoshone NF, C 85.22 44⇑P **P 20 51 49.1 +0.8**
baz=85
D20A Manuel Ranch, 85.22 42⇑P **P 20 51 49.0 +0.9**
baz=85,SNR=9.0
RLMT Red Lodge 85.30 44 *e*P **P 20 51 49.2 +0.5**
comp=Z,9.7nm,0.6s
RLMT Red Lodge 85.30 44 ⇓P **P 20 51 49.8 +1.1**
baz=85,SNR=12
RLMT ⇓P **P 20 51 49.8 +1.1**
baz=85,SNR=12
FFC Flin Flon 85.34 33 *e*P **P 20 51 48.0 -0.4**
FFC pmax pmax
comp=Z,8.0nm,0.7s
FFC Flin Flon 85.34 33 *e*P **P 20 51 48.0 -0.4**
comp=Z,7.6nm,0.7s
C21A Desert Coulee 85.56 41 ⇓P **P 20 51 50.2 +0.5**
baz=85
J18A Kendall Valley 85.56 46⇑P **P 20 51 50.2 +0.2**
baz=85,SNR=11
H19A Powell 85.66 44⇑P **P 20 51 51.1 +0.7**
baz=86
KAF Kangasniemi 85.72 336 *e*P **P 20 51 48.4 -1.7**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 85.72 336 *e*p **P 20 51 48.4 -1.7**
comp=Z,3.9nm,0.6s
KAF Kangasniemi 85.72 336 *e*p **P 20 51 48.4 -1.7**
comp=Z,3.9nm,0.6s
K18A Toltan Ranch, 85.77 46 ⇓P **P 20 51 51.6 +0.6**
baz=86,SNR=5.0
DAU Daniels Canyon 85.80 49 *e*P **P 20 51 50.8 -0.6**
DAU pmax pmax
comp=Z,8.0nm,1.1s
DAU Daniels Canyon 85.80 49 *e*P **P 20 51 50.8 -0.6**
comp=Z,8.2nm,1.1s
M17A Scullys Gap (B 85.80 47⇑P **P 20 51 51.4 +0.1**
baz=86
I19A Meeteetse 85.91 45⇑P **P 20 51 52.0 +0.3**
baz=86
D21A La Casta Ranch 85.94 41⇑P **P 20 51 51.9 +0.2**
baz=86
BW06 Boulder Array 86.05 46⇑P **P 20 51 52.5 0.0**
baz=86
BW06 ⇑P **P 20 51 52.5 0.0**
baz=86
L18A Fontenelle, Gr 86.06 47⇑P **P 20 51 53.2 +0.7**
baz=86,SNR=6.4
J19A Crowheart 86.19 45⇑P **P 20 51 53.6 +0.5**
baz=86,SNR=12
FINES FINESS Array B 86.20 336 P **P 20 51 51.5 -1.0**
comp=Z,8.5nm,0.6s,baz=69,slow=4.8,SNR=31
FINES FINESS Array B 86.20 336 P **P 20 51 51.5 -1.0**
FINES FINESS Array B 86.20 336 P **P 20 51 51.5 -1.0**
M18A Lyman 86.23 47 ⇓P **P 20 51 53.6 +0.2**
baz=86
O17A Robinson Place 86.25 49 ⇓P **P 20 51 54.1 +0.6**
baz=86,SNR=5.3
D22A Cohagen 86.41 41 ⇓P **P 20 51 54.6 +0.7**
baz=86
Q16A Castle Valley 86.43 50⇑P **P 20 51 54.8 +0.4**
baz=86
R16A Teasdale 86.45 51⇑P **P 20 51 55.6 +1.1**
baz=86
K19A Absolon Red Bu 86.50 46 ⇓P **P 20 51 54.7 0.0**
baz=86
I20A Worland 86.52 44 ⇓P **P 20 51 55.2 +0.6**
baz=86
U15A North Rim 86.56 53 ⇓P **P 20 51 55.7 +0.5**
baz=86,SNR=6.7
S16A Weppner Ranch, 86.58 51 ⇓P **P 20 51 55.5 +0.3**
baz=86
N18A Larsen Ranch, 86.68 48⇑P **P 20 51 54.5 -1.1**
baz=86,SNR=7.6
Z13A Yuma Proving G 86.72 56 ⇓P **P 20 51 56.8 +1.1**
baz=87
C23A Lambert 86.73 40⇑P **P 20 51 56.4 +0.9**
baz=87
J20A Shoshoni 86.80 45⇑P **P 20 51 56.1 0.0**
baz=87
P18A Preston Nutter 86.82 49⇑P **P 20 51 56.3 -0.1**
baz=87
SRU San Rafael 86.82 50 *e*P **P 20 51 53.6 -2.7**
SRU pmax pmax
comp=Z,4.0nm,0.5s
SRU San Rafael 86.82 50 *e*P **P 20 51 53.6 -2.7**
comp=Z,3.8nm,0.5s
E22A Miles City 86.86 41 ⇓P **P 20 51 56.0 -0.1**
baz=87
H21A Big Horn, Sher 86.94 43 ⇓P **P 20 51 57.4 +0.7**
baz=87,SNR=8.7
Y14A Wickenburg 86.96 55 ⇓P **P 20 51 57.6 +0.7**
baz=87,SNR=5.3
R17A Hanksville Air 86.96 50⇑P **P 20 51 57.0 +0.1**
baz=87,SNR=7.5
N19A John Jarvie Ra 87.06 47 ⇓P **P 20 51 57.6 +0.2**
baz=87
I21A Big Trails, Te 87.12 44⇑P **P 20 51 57.9 +0.3**
baz=87
T17A Navajo Res., N 87.45 52⇑P **P 20 51 59.4 0.0**
baz=87
114A Black Gap (USA 87.50 56 ⇓P **P 20 51 59.8 +0.3**
baz=87
M20A Sweetwater, Wa 87.50 47⇑P **P 20 51 59.5 -0.1**
baz=87
U16A Tuba City 87.54 52⇑P **P 20 51 59.7 -0.1**
baz=87
R18A Canyonlands Na 87.56 50 ⇓P **P 20 51 59.7 -0.2**
baz=87
WUAZ Wupatki 87.60 53 *e*P **P 20 51 59.8 -0.3**
comp=Z,7.8nm,0.9s
WUAZ Wupatki 87.60 53 ⇓P **P 20 52 00.2 +0.1**
baz=88,SNR=8.0
K21A Alcova 87.65 45 ⇓P **P 20 52 00.1 -0.1**
baz=88,SNR=6.0
P19A Cripple Cowboy 87.71 49⇑P **P 20 52 00.6 0.0**
baz=88,SNR=12
N20A Spence Gulch, 87.72 47⇑P **P 20 52 00.5 -0.1**
baz=88
S18A Hurst Farm, Bl 87.77 51 ⇓P **P 20 52 00.5 -0.4**
baz=88
J22A Midwest 87.83 44 ⇓P **P 20 52 01.0 0.0**
baz=88
L21A Rawlins 87.86 46⇑P **P 20 52 00.9 -0.3**
baz=88,SNR=5.7
X16A Lo Mia Camp, P 87.97 54 ⇓P **P 20 52 02.4 +0.4**
baz=88
V17A Tonalea, Kykot 87.99 53⇑P **P 20 52 02.2 +0.2**
baz=88
UMR Umm Al-Rimmam 88.00 301 *e*P **P 20 52 01.1 -0.8**
UMR AMb AMB 20 52 04.7
comp=Z,43nm,1.4s
M21A Separation Pea 88.01 46⇑P **P 20 52 01.8 -0.2**
baz=88,SNR=6.4
O20A White River Ci 88.02 48 ⇓P **P 20 52 01.6 -0.5**
baz=88
R19A Curley Farm, L 88.06 50 ⇓P **P 20 52 01.8 -0.5**
baz=88
T18A Mexican Hat 88.08 51⇑P **P 20 52 02.0 -0.3**
baz=88
MIB Mutribah 88.21 301 *e*P **P 20 52 01.9 -1.0**
MIB AMb AMB 20 52 03.6
comp=Z,62nm,0.7s
N21A Black Mountain 88.26 47⇑P **P 20 52 03.0 -0.2**
baz=88,SNR=8.8
RDF Al-Radifah 88.36 300 *e*P **P 20 52 02.1 -1.6**
RDF AMb AMB 20 52 08.2
comp=Z,36nm,1.3s
Q20A Ridgley Place, 88.47 49 ⇓P **P 20 52 04.1 -0.1**
baz=88,SNR=9.6
NAY Al-Naaiem 88.49 301 *e*P **P 20 52 02.9 -1.3**
NAY AMb AMB 20 52 04.8
comp=Z,22nm,0.5s
M22A Cedar Creek Ra 88.62 46⇑P **P 20 52 04.8 -0.1**
baz=88
K23A Bowen Ranch, D 88.68 45⇑P **P 20 52 05.1 0.0**
baz=88
R20A Redvale 88.73 50 ⇓P **P 20 52 05.7 +0.2**
baz=89
T19A Beclabito 88.82 51 ⇓P **P 20 52 06.5 +0.6**
baz=89,SNR=5.4
L23A Garrett 88.91 45 ⇓P **P 20 52 05.6 -0.6**
baz=89
O22A Kremmling 89.19 47 ⇓P **P 20 52 07.6 -0.1**
baz=89
BHD Baghdad 89.21 305 *e*P P 20 52 00.0 -7.5
BHD *e*S S 21 02 48.0 -6.7
R21A Cimarron 89.25 49 ⇓P **P 20 52 08.1 +0.2**
baz=89,SNR=8.2
N23A Red Feather La 89.28 46 ⇓P **P 20 52 07.4 -0.7**
baz=89
Y18A Canyon Day Jun 89.30 54⇑P **P 20 52 08.3 +0.2**
baz=89,SNR=5.1
Q22A Crested Butte, 89.49 49⇑P **P 20 52 09.4 +0.2**
baz=89
O23A Lake Granby, G 89.60 47⇑P **P 20 52 10.3 +0.7**
baz=89
218A Dragoon 90.01 56 ⇓P **P 20 52 12.7 +1.2**
baz=90
P23A Jefferson 90.02 48 ⇓P **P 20 52 12.1 +0.4**
baz=90
X20A Quemado 90.15 53 ⇓P **P 20 52 12.8 +0.6**
baz=90
318A Bisbee 90.27 56⇑P **P 20 52 13.1 +0.4**
baz=90
Y20A Horse Springs, 90.50 54⇑P **P 20 52 13.8 -0.1**
baz=90
Z20A Nine Sixteen R 90.67 54⇑P **P 20 52 15.4 +0.8**
baz=90
ULM Lac du Bonnet 90.84 35 P **P 20 52 13.6 -1.2**
comp=Z,2.3nm,0.7s,baz=215,slow=4.4,SNR=4.2
ULM Lac du Bonnet 90.84 35 P **P 20 52 13.6 -1.2**
ULM Lac du Bonnet 90.84 35 P **P 20 52 13.6 -1.2**
120A U Bar Ranch, L 90.87 55 ⇓P **P 20 52 16.2 +0.7**
baz=91
O25A Wiggins 90.88 47 ⇓P **P 20 52 16.2 +0.8**
baz=91
AKASG Malin Array Be 90.92 326 P **P 20 52 13.8 -1.3**
comp=Z,0.7nm,0.4s,baz=54,slow=4.9,SNR=5.2
AKASG Malin Array Be 90.92 326 P **P 20 52 13.8 -1.3**
AKASG Malin Array Be 90.92 326 P **P 20 52 13.8 -1.3**
SDCO Great Sand Dun 90.97 49⇑P **P 20 52 15.9 -0.2**
baz=91
SDCO ⇑P **P 20 52 15.9 -0.2**
baz=91
NB2 NORSAR Subarra 91.77 340 P **P 20 52 18.6 -0.3**
comp=Z,2.7nm,1.0s,baz=44,slow=5.6
NOA NORSAR Array B 91.77 340 P **P 20 52 18.8 -0.1**
comp=Z,1.1nm,0.7s,baz=41,slow=5.0,SNR=3.9
NOA LR LR 21 38 43.3
comp=Z,125nm,18.4s,baz=195,slow=39
NOA NORSAR Array B 91.77 340 P **P 20 52 18.8 -0.1**
NOA NORSAR Array B 91.77 340 P **P 20 52 18.8 -0.1**
V24A Rampart Ranch, 92.03 51 ⇓P **P 20 52 21.3 +0.3**
baz=92
W24A Lazy 6 Ranch, 92.16 51 ⇓P **P 20 52 21.8 +0.3**
baz=92
R26A Arlington 92.17 48 ⇓P **P 20 52 20.8 -0.6**
baz=92
U25A Circle Dot Ran 92.36 50⇑P **P 20 52 22.1 -0.3**
baz=92
KSCO Kaye Shedlock' 92.41 47⇑P **P 20 52 22.6 +0.1**
baz=92
V25A Rancho No Teng 92.46 51 ⇓P **P 20 52 22.3 -0.6**
baz=92
S26A Kim 92.47 49⇑P **P 20 52 22.4 -0.4**
baz=92
Y24A Capitan 92.71 53 ⇓P **P 20 52 23.7 -0.4**
baz=93
U26A Atchley Ranch, 92.84 50 ⇓P **P 20 52 24.1 -0.5**
baz=93
W25A X Bar L Ranch, 92.85 51 ⇓P **P 20 52 24.1 -0.6**
baz=93
Z24A Sheeppen Canyo 93.02 53⇑P **P 20 52 25.2 -0.3**
baz=93
224A Cornudas Mount 93.45 54 ⇓P **P 20 52 27.3 -0.2**
baz=93
Z25A Roswell 93.53 53⇑P **P 20 52 27.0 -0.7**
baz=93
X26A CR and CF Fran 93.63 51⇑P **P 20 52 27.6 -0.6**
baz=94
T28A Walsh 93.66 48 ⇓P **P 20 52 28.6 +0.3**
baz=94
MNTX Cornudas Mount 93.73 54 ⇓P **P 20 52 29.2 +0.6**

baz=94
MNTX ⇓P P 20 52 29.2 +0.6
baz=94
BRTR Keskin Array B 94.06 315 P P 20 52 29.3 -0.8
comp=Z,0.6nm,0.7s,baz=125,slow=2.5,SNR=4.5
BRTR Keskin Array B 94.06 315 P P 20 52 29.3 -0.8
BRTR Keskin Array B 94.06 315 P P 20 52 29.3 -0.8
Z26A Caprock 94.08 53 ⇑P P 20 52 30.5 +0.2
baz=94
TXAR Lajitas Array 96.10 56 P P 20 52 40.2 +0.6
comp=Z,0.5nm,0.5s,baz=298,slow=6.0,SNR=6.3
TXAR Lajitas Array 96.10 56 P P 20 52 40.2 +0.6
TXAR Lajitas Array 96.10 56 P P 20 52 40.2 +0.6
GERES GERESS Array B 99.82 331 LR LR 21 43 59.2
comp=Z,191nm,19.1s,baz=72,slow=39
TORD Torodi Ar. Bea 132.54 311 PKP PKPdf 20 58 26.5 -0.3
comp=Z,0.5nm,0.4s,baz=31,slow=2.1,SNR=13
TORD Torodi Ar. Bea 132.54 311 PKP PKPdf 20 58 26.5 -0.3
LPAZ La Paz 146.47 89 PKPbc PKPab 20 58 54.8 -0.2
comp=Z,4.7nm,0.5s,baz=200,slow=3.1,SNR=5.8
LPAZ La Paz 146.47 89 PKP2 PKPab 20 58 54.8 -0.2
LPAZ La Paz 146.47 89 PKPbc PKPab 20 58 54.8 -0.2
SAML Samuel 148.85 74 *e*PKPdf PKPdf 20 58 53.0 -2.9
SAML *e*PKPbc PKPbc 20 58 59.8 -0.1
SAML *e*PKPab PKPab 20 59 03.1 -0.7

IDC 04 20:48:16.5±2.5, 19.90N×147.21E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=69.0km s-min=28.2km az=0.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSRS	Korea Array	24.25	320	P		P	P	20 53 37.1	+1.9
	1.4nm,0.7s,baz=152,slow=7.8,SNR=4.3								
SONM	Songino Array	43.12	320	P		P	P	20 56 17.9	-0.8
	0.3nm,0.5s,baz=126,slow=6.8,SNR=7.1								
CMAR	Chiang Mai Arr	45.48	277	P		P	P	20 56 37.6	-0.3
	0.2nm,0.4s,baz=61,slow=9.6,SNR=4.6								
ZALV	Zalesovo Beam	57.95	322	P		P	P	20 58 10.3	-0.2
	1.1nm,0.8s,baz=103,slow=7.6,SNR=5.2								
MKAR	Makanchi Array	58.67	313	P		P	P	20 58 15.3	-0.4
	0.6nm,0.6s,baz=97,slow=7.9,SNR=6.2								
ILAR	Eielson Array	61.94	26	P		P	P	20 58 36.9	-0.9
	0.8nm,0.9s,baz=269,slow=6.0,SNR=5.7								
NVAR	Mina Array Bea	81.28	52	P		P	P	21 00 35.9	+0.7
	1.5nm,0.8s,baz=262,slow=6.3,SNR=10.0								

IDC 04 20:50:52.1±2.6, 0.14S×132.62E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=140.2km s-min=25.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.76	175	P		P	P	20 55 23.8	-0.1
	0.2nm,0.3s,baz=354,slow=11,SNR=7.2								
ASAR	Alice Springs	23.42	177	P		P	P	20 56 03.2	+0.1
	2.7nm,0.8s,baz=359,slow=11,SNR=19								
MKAR	Makanchi Array	64.09	324	P		P	P	21 01 28.1	-0.1
	0.2nm,0.6s,baz=117,slow=7.5,SNR=3.0								

*NEIC **04** 20:53:26.5±0.2, 34.46S×70.58W, mb5.1/4, Error ellipse: s-maj=7.6km s-min=4.6km az=86.0*
NEIC Felt [III] at Curico, Rancagua and San Fernando; [II] at Puente Alto, San Javier, Santiago, Talagante and Talca.
*ISCJB **04** 20:53:26.0±0.3, 34.48S±0.03×70.60W±0.05, h95km±2km, mb4.4/13, Error ellipse: s-maj=7.6km s-min=4.4km az=6.5*
*GUC **04** 20:53:27.0±0.6, 34.44S×70.72W, h93km±3km, ML4.6*
*IDC **04** 20:53:27.0±0.5, 34.45S×70.59W, h93km±4km, mb4.3/13, mb1 4.2/15, mb1mx4.1/19, mbtmp4.2/15, MS3.1/2, Ms1 3.1/2, ms1mx2.7/23, Error ellipse: s-maj=15.5km s-min=9.8km az=104.0*

ISC 04 20:53:26.7±0.4, 34.44S±0.03×70.71W±0.05, h94km±3km, h87km: pP-P, n256, σ0s 86/194, mb4.7/13, 98C-109D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CACH	El Canelo	0.34	15	⇑*i*P		Pn	Pn	20 53 41.1	0.0
CACH	El Canelo	0.34	15	⇑*i*P		Pn	Pn	20 53 41.1	0.0
CHCH	Chadas Angostu	0.51	5	⇓*i*P		Pn	Pn	20 53 42.0	-0.1
CHCH	Chadas Angostu	0.51	5	⇓*i*P		Pn	Pn	20 53 42.0	-0.1
LMEL	Las Melosas	0.73	35	⇑*i*P		Pn	Pn	20 53 44.5	+0.4
LMEL				*e*S		Sn	Sn	20 53 57.4	+0.4
LMEL	Las Melosas	0.73	35	⇑*i*P		Pn	Pn	20 53 44.5	+0.4
LMEL				*e*S		Sn	Sn	20 53 57.4	+0.4
LMEL				AML		AML	AML	20 54 03.1	
	comp=N,37μm,0.2s								
LNV	Longovilo	0.76	310	⇑*i*P		Pn	Pn	20 53 44.1	-0.1
LNV	Longovilo	0.76	310	⇑*i*P		Pn	Pn	20 53 44.1	-0.1
TACH	Talagante	0.81	346	⇓*i*P		Pn	Pn	20 53 44.8	0.0
TACH				*i*S		Sn	Sn	20 53 58.2	0.0
TACH	Talagante	0.81	346	⇓*i*P		Pn	Pn	20 53 44.8	0.0
TACH				*i*S		Sn	Sn	20 53 58.2	0.0
PCH	Pirque	0.84	11	⇓*i*P		Pn	Pn	20 53 45.4	+0.3
PCH	Pirque	0.84	11	⇓*i*P		Pn	Pn	20 53 45.4	+0.3
ANTU	Antumapu	0.88	4	⇑*i*P		Pn	Pn	20 53 45.6	+0.2
ANTU				*i*S		Sn	Sn	20 53 59.8	+0.3
ANTU	Antumapu	0.88	4	⇑*i*P		Pn	Pn	20 53 45.6	+0.2
ANTU				*i*S		Sn	Sn	20 53 59.8	+0.3
ANTU				AML		AML	AML	20 54 00.9	
	comp=E,28μm,0.3s								
FSR	Penalolen	0.97	9	⇑*i*P		Pn	Pn	20 53 46.9	+0.3
FSR				*i*S		Sn	Sn	20 54 02.0	+0.7
FSR	Penalolen	0.97	9	⇑*i*P		Pn	Pn	20 53 46.9	+0.3
FSR				*i*S		Sn	Sn	20 54 02.0	+0.7
FSR				AML		AML	AML	20 54 03.0	
	comp=N,12μm,0.2s								
SAN	Santiago	0.99	2	⇓*i*P		Pn	Pn	20 53 46.9	+0.2
SAN				*i*S		Sn	Sn	20 54 02.0	+0.4
SAN	Santiago	0.99	2	⇓*i*P		Pn	Pn	20 53 46.9	+0.2
SAN				*i*S		Sn	Sn	20 54 02.0	+0.4
SAN				AML		AML	AML	20 54 02.6	
	comp=E,16μm,0.7s								
STL	Santa Lucia	1.01	3	⇑*i*P		Pn	Pn	20 53 46.7	-0.2
STL				*i*S		Sn	Sn	20 54 02.0	0.0
TALC	Talca	1.22	218	⇑*i*P		Pn	Pn	20 53 48.7	-0.5
TALC				*i*S		Sn	Sn	20 54 05.7	-0.5
TALC	Talca	1.22	218	⇑*i*P		Pn	Pn	20 53 48.7	-0.5
TALC				*i*S		Sn	Sn	20 54 05.7	-0.5
TALC				AML		AML	AML	20 54 07.2	
	comp=E,37μm,0.4s								
PEL	Peldehue	1.30	1	⇓*i*P		Pn	Pn	20 53 50.7	+0.4
PEL				*i*S		Sn	Sn	20 54 08.5	+0.5
PEL				AML		AML	AML	20 54 10.5	
	comp=N,27μm,0.3s								
ROCH	El Roble	1.49	350	AML		AML	AML	20 54 17.2	
	comp=N,11μm,0.6s								
LNCH	Linares	1.58	207	⇑*i*P		Pn	Pn	20 53 54.3	+0.6
LNCH				*e*S		Sn	Sn	20 54 14.7	+0.6
LNCH	Linares	1.58	207	⇑*i*P		Pn	Pn	20 53 54.3	+0.6
LNCH				*e*S		Sn	Sn	20 54 14.7	+0.6
LNCH				AML		AML	AML	20 54 18.7	
	comp=E,5μm,0.4s								
IHA	Instituto Hidr	1.61	331	*e*P		Pn	Pn	20 53 54.5	+0.4
IHA				*i*S		Sn	Sn	20 54 15.4	+0.5
IHA	Instituto Hidr	1.61	331	*e*P		Pn	Pn	20 53 54.5	+0.4
IHA				*i*S		Sn	Sn	20 54 15.4	+0.5
COCH	Cobquecura	2.39	225	AML		AML	AML	20 54 51.1	
	comp=E,1μm,0.6s								
CHNG	Los Chungos	2.64	345	⇓*i*P		Pn	Pn	20 54 07.6	+0.1
CHNG				*i*S		Sn	Sn	20 54 38.7	-0.1
CHNG	Los Chungos	2.64	345	⇓*i*P		Pn	Pn	20 54 07.6	+0.1
CHNG				*i*S		Sn	Sn	20 54 38.7	-0.1
CHNG				AML		AML	AML	20 54 40.0	
	comp=N,3μm,0.6s								
CFAA	Coronel Fontan	3.51	37	P		Pn	Pn	20 54 19.5	+0.2
	comp=N,1.6nm,0.3s,baz=212,slow=7.9,SNR=255								
CFAA				S		Sn	Sn	20 54 59.7	-0.2
	comp=N,1.8nm,0.3s,baz=243,slow=13,SNR=6.6								
CFAA	Coronel Fontan	3.51	37	P		Pn	Pn	20 54 19.5	+0.2
CFAA				S		Sn	Sn	20 54 59.7	-0.2
LCO	Las Campanas	5.42	0	*e*Pn		Pn	Pn	20 54 43.5	-1.8
	comp=N,70nm,0.3s								
LCO				*e*Sn		Sn	Sn	20 55 43.1	-3.4
PLCA	Paso Flores	6.28	179	P		Pn	Pn	20 54 56.8	0.0
	comp=N,2.4nm,0.3s,baz=343,slow=12,SNR=28								
PLCA				LR		LR	LR	20 57 39.6	
	comp=N,174nm,20.1s,baz=59,slow=40								
PLCA	Paso Flores	6.28	179	P		Pn	Pn	20 54 56.8	0.0
TRQA	Tornquist	7.92	120	*e*Pn		Pn	Pn	20 55 19.0	-0.1
	comp=N,64nm,0.8s								
CPUP	Villa Florida	14.09	59	P		Pn	Pn	20 56 38.4	-3.7
	comp=N,0.2nm,0.3s,baz=204,slow=17,SNR=2.6								
CPUP				LR		LR	LR	21 02 49.4	
	comp=N,62nm,18.7s,baz=196,slow=40								
CPUP	Villa Florida	14.09	59	P		Pn	Pn	20 56 38.4	-3.7
LPAZ	La Paz	18.23	8	P		Pn	Pn	20 57 34.0	-0.2
	comp=N,0.3nm,0.3s,baz=183,slow=7.8,SNR=12								
LPAZ	La Paz	18.23	8	P		Pn	Pn	20 57 34.0	-0.2
EFI	East Falkland	19.49	156	*e*P		P	P	20 57 45.4	-0.7
	comp=N,57nm,0.6s								
EFI	East Falkland	19.49	156	P		P	P	20 57 45.7	-0.4
	comp=N,763nm,0.8s,SNR=21								
SIV	San Ignacio	20.32	28	P		P	P	20 57 54.4	-0.9
	comp=N,8.5nm,0.8s,baz=214,slow=10,SNR=34								
SIV	San Ignacio	20.32	28	P		P	P	20 57 54.4	-0.9
USHA	Ushuaia	20.45	176	P		P	Pn	20 57 57.8	-1.5
	comp=N,159nm,0.6s,baz=352,slow=8.7,SNR=21								
USHA	Ushuaia	20.45	176	P		P	Pn	20 57 57.8	-1.5
SPB	Sao Paulo	23.00	68	*e*P		P	P	20 58 22.9	-0.7
NNA	Nana	23.04	345	P		P	P	20 58 26.0	+1.9
	comp=N,5.0nm,0.6s,baz=212,slow=14,SNR=3.9								
NNA	Nana	23.04	345	P		P	P	20 58 26.0	+1.9
RCBR	Riachuelo	42.95	56	P		P	P	21 01 16.3	-0.3
	comp=N,4.2nm,0.7s,baz=201,slow=9.3,SNR=4.3								
RCBR	Riachuelo	42.95	56	P		P	P	21 01 16.3	-0.3
VNA1	Neumayer--Stat	48.83	157	*e*		P	P	21 02 06.6	+4.5
VNA2	Neumayer--Watz	49.18	157	*e*		P	P	21 02 06.4	+1.7
SNAA	Sanae	50.76	158	*e*		P	P	21 02 18.0	+1.2
SNAA	Sanae	50.76	158	*e*P		P	P	21 02 16.9	+0.1
	comp=N,7.3nm,0.8s								
QSPA	South Pole Qui	55.79	180	P		P	P	21 02 55.1	+1.2
	comp=N,15nm,0.8s,baz=148,slow=2.4,SNR=46								
QSPA	South Pole Qui	55.79	180	*e*P		P	P	21 02 52.5	-1.3
	comp=N,17nm,0.8s								
TEIG	Tepich	56.88	340	P		P	P	21 03 01.8	0.0
	comp=N,11nm,0.8s,baz=96,slow=7.7,SNR=5.9								
TEIG				pP		pP	pP	21 03 24.0	-0.9
	comp=N,11nm,0.7s,baz=186,slow=4.7,SNR=4.4								
TEIG	Tepich	56.88	340	P		P	P	21 03 01.8	0.0
TEIG				pP		pP	pP	21 03 24.1	-0.9
SYO	Syowa Base	65.05	158	⇑*i*P		P	P	21 03 55.1	-1.4
JCT	Junction City	70.17	333	⇓pP		pP	pP	21 04 53.0	-0.3
	baz=70								
628A	Black Gap, Mar	70.48	330	⇓P		P	P	21 04 31.8	+0.6
	baz=71								
628A				⇑pP		pP	pP	21 04 55.2	0.0
	baz=71								
TXAR	Lajitas Array	70.67	330	P		P	P	21 04 33.9	+1.6
	comp=N,0.7nm,0.5s,baz=157,slow=8.7,SNR=9.6								
TXAR				pP		pP	pP	21 04 56.1	-0.3
	comp=N,0.9nm,0.5s,baz=159,slow=9.1,SNR=7.5								
TXAR	Lajitas Array	70.67	330	P		P	P	21 04 33.9	+1.6
TXAR				pP		pP	pP	21 04 56.1	-0.3
528A	Cox Ranch, San	71.03	331	⇓P		P	P	21 04 35.4	+0.8
	baz=71								
626A	Big Bend Ranch	71.05	330	⇑P		P	P	21 04 36.4	+1.7
	baz=71								
626A				⇓pP		pP	pP	21 04 58.9	+0.1
	baz=71								
527A	Woodward Ranch	71.35	330	⇑pP		pP	pP	21 05 00.4	-0.2
	baz=72								
526A	Mary Lane Ranc	71.48	330	⇓P		P	P	21 04 38.6	+1.3
	baz=72								
526A				⇓pP		pP	pP	21 05 01.7	+0.3
	baz=72								
426A	McDonald Obser	71.98	330	⇓P		P	P	21 04 41.7	+1.3
	baz=72								
426A				⇓pP		pP	pP	21 05 04.2	-0.3
	baz=72								
WVT	Waverly	72.01	345	*e*P		P	P	21 04 40.0	-0.1
	comp=N,3.8nm,0.8s								
WVT				*e*				21 05 03.3	
MAW	Mawson	72.44	163	P		P	P	21 04 42.9	+0.6
	comp=N,2.6nm,0.5s,baz=187,slow=6.9,SNR=6.7								
MAW	Mawson	72.44	163	P		P	P	21 04 42.9	+0.6
425A	Indio Mountain	72.48	329	⇑pP		pP	pP	21 05 06.8	-0.6
	baz=73								
326A	Caldwell Ranch	72.53	331	⇓pP		pP	pP	21 05 07.8	+0.2
	baz=73								
226A	Malaga, Loving	73.23	331	⇓pP		pP	pP	21 05 12.5	+0.7
	baz=74								
324A	Moseley Ranch,	73.26	329	⇑P		P	P	21 04 48.6	+0.7
	baz=74								
324A				⇓pP		pP	pP	21 05 10.9	-1.2
	baz=74								
SUR	Sutherland	73.65	118	P		P	P	21 04 50.1	-0.4
	comp=N,14nm,0.7s,baz=262,slow=3.2,SNR=18								
SUR	Sutherland	73.65	118	P		P	P	21 04 50.1	-0.4
TUL1	Tulsa	73.81	339	⇑pP		pP	pP	21 05 14.6	-0.4
	baz=74								
Z26A	Caprock	74.25	331	⇑P		P	P	21 04 54.4	+0.8
	baz=75								
Z26A				⇓pP		pP	pP	21 05 17.5	-0.3
	baz=75								
DBIC	Dimbokro	74.28	70	P		P	P	21 04 53.8	-0.2
	comp=N,7.4nm,0.6s,baz=205,slow=7.1,SNR=19								
DBIC	Dimbokro	74.28	70	P		P	P	21 04 53.8	-0.2
MSTX	Muleshoe	74.40	333	⇑pP		pP	pP	21 05 18.0	-0.7
	baz=75								
Z24A	Sheeppen Canyo	74.86	330	⇑pP		pP	pP	21 05 21.5	0.0
	baz=75								
319A	Douglas	74.87	326	⇑P		P	P	21 04 59.0	+1.8
	baz=75								
220A	Playas Peak, P	74.98	327	⇑pP		pP	pP	21 05 22.8	+0.6
	baz=75								
Z23A	Rita Site, Whi	75.15	330	⇓pP		pP	pP	21 05 23.7	+0.6
	baz=76								
121A	Cookes Peak, D	75.19	328	⇓pP		pP	pP	21 05 23.6	+0.2
	baz=76								
318A	Bisbee	75.25	326	⇑pP		pP	pP	21 05 23.7	-0.1
	baz=76								
X26A	CR and CF Fran	75.31	332	⇓P		P	P	21 05 01.3	+1.6
	baz=76								
Y24A	Capitan	75.40	331	⇑pP		pP	pP	21 05 24.4	-0.2
	baz=76								
120A	U Bar Ranch, L	75.57	328	⇑pP		pP	pP	21 05 26.1	+0.6
	baz=76								
Y23A	Lovelace Mesa,	75.66	330	⇓pP		pP	pP	21 05 26.9	+0.9
	baz=76								
218A	Dragoon	75.73	326	⇓pP		pP	pP	21 05 27.1	+0.6
	baz=76								
119A	Ashpeak Ranch,	76.06	327	⇑pP		pP	pP	21 05 27.8	-0.6
	baz=76								
DRV	Dumont d'Urvil	76.50	192	PP		PP	PP	21 07 19.0	-39
DRV	Dumont d'Urvil	76.50	192	SS		SS	SS	21 19 59.0	+20
DRV				L		L	L	21 25 00.0	
DRV				R				21 30 00.0	
W24A	Lazy 6 Ranch,	76.51	331	⇓pP		pP	pP	21 05 31.6	+0.7
	baz=77								
V25A	Rancho No Teng	76.75	332	⇓P		P	P	21 05 09.6	+1.6
	baz=77								
V25A				⇓pP		pP	pP	21 05 32.1	-0.2
	baz=77								
X21A	Alamocita Cree	76.83	329	⇓P		P	P	21 05 10.5	+2.1
	baz=77								
X21A				⇓pP		pP	pP	21 05 33.0	+0.2
	baz=77								
T28A	Walsh	76.97	335	⇑pP		pP	pP	21 05 33.1	-0.3
	baz=77								
Y19A	Nutrioso	77.04	328	⇓pP		pP	pP	21 05 35.0	+1.0
	baz=77								
T27A	Campo	77.13	334	⇓P		P	P	21 05 11.5	+1.5
	baz=78								
T27A				⇓pP		pP	pP	21 05 34.1	-0.3
	baz=78								
U25A	Circle Dot Ran	77.17	333	⇓P		P	P	21 05 12.0	+1.7
	baz=78								
X20A	Quemado	77.21	329	⇑pP		pP	pP	21 05 35.2	+0.3
	baz=78								
Y17A	Roosevelt	77.53	327	⇑pP		pP	pP	21 05 37.3	+0.7
	baz=78								
W20A	Ramah	77.71	329	⇓pP		pP	pP	21 05 38.3	+0.6
	baz=78								
V22A	San Miguel Ran	77.73	331	⇓pP		pP	pP	21 05 38.8	+1.0
	baz=78								
T25A	Trinidad	77.82	333	⇑P		P	P	21 05 15.9	+2.0
	baz=78								
T25A				⇑pP		pP	pP	21 05 38.7	+0.4
	baz=78								
X18A	Snowflake	77.83	328	⇑pP		pP	pP	21 05 38.9	+0.5
	baz=78								
S26A	Kim	77.90	334	⇑pP		pP	pP	21 05 38.8	+0.2
	baz=78								
T24A	Torres, Weston	78.01	333	⇑pP		pP	pP	21 05 39.8	+0.3
	baz=78								
W19A	Sanders	78.08	328	⇓pP		pP	pP	21 05 40.4	+0.6
	baz=78								
113A	Mohawk Valley,	78.14	324	⇑pP		pP	pP	21 05 40.5	+0.6
	baz=78								
R27A	Eads	78.25	335	⇑pP		pP	pP	21 05 40.4	-0.1
	baz=79								
S25A	Robets Cordova	78.29	333	⇓pP		pP	pP	21 05 41.1	+0.3
	baz=79								
X16A	Lo Mia Camp, P	78.41	327	⇓P		P	P	21 05 19.3	+2.2
	baz=79								
X16A				⇓pP		pP	pP	21 05 42.4	+0.8
	baz=79								
Z13A	Yuma Proving G	78.44	324	⇑P		P	P	21 05 19.5	+2.3
	baz=79								
Z13A				⇑pP		pP	pP	21 05 42.6	+1.0
	baz=79								
U21A	Nageezi	78.47	330	⇓P		P	P	21 05 19.3	+1.7
	baz=79								
U21A				⇓pP		pP	pP	21 05 42.6	+0.6
	baz=79								
R26A	Arlington	78.50	334	⇑P		P	P	21 05 19.2	+1.8
	baz=79								
R26A				⇑pP		pP	pP	21 05 43.0	+1.1
	baz=79								
S24A	Houchin Ranch,	78.56	333	⇑P		P	P	21 05 19.8	+1.7
	baz=79								
S24A				⇓pP		pP	pP	21 05 43.3	+0.7
	baz=79								
W17A	Winslow	78.63	327	⇓pP		pP	pP	21 05 43.5	+0.7
	baz=79								
T22A	Edith	78.67	331	⇓pP		pP	pP	21 05 43.8	+0.6
	baz=79								
SDCO	Great Sand Dun	78.77	333	⇓pP		pP	pP	21 05 44.1	+0.4
	baz=79								
SDCO				⇓pP		pP	pP	21 05 44.1	+0.4
	baz=79								
BOSA	Boshof	78.89	117	P		P	P	21 05 19.9	-0.2
	comp=N,14nm,0.8s,baz=245,slow=5.3,SNR=20								
BOSA	Boshof	78.89	117	P		P	P	21 05 19.9	-0.2
R24A	Sanders Place,	79.04	333	⇓P		P	P	21 05 22.5	+2.0
	baz=79								
R24A				⇑pP		pP	pP	21 05 45.2	+0.1
	baz=79								
V17A	Tonalea, Kykot	79.12	328	⇓pP		pP	pP	21 05 45.8	+0.3
	baz=80								
R23A	Moffat	79.28	333	⇑pP		pP	pP	21 05 46.2	-0.3
	baz=80								
S22A	4UR Ranch, Cre	79.28	332	⇑pP		pP	pP	21 05 46.4	-0.1
	baz=80								
WUAZ	Wupatki	79.29	327	⇓pP		pP	pP	21 05 46.9	+0.4
	baz=80								
Y12C	Blythe	79.31	324	⇓pP		pP	pP	21 05 47.5	+1.2
	baz=80								
T19A	Beclabito	79.38	330	⇑pP		pP	pP	21 05 47.2	+0.3
	baz=80								
S21A	Coal Bank Pass	79.59	331	⇓pP		pP	pP	21 05 48.4	+0.2
	baz=80								
R22A	Saguache, Gunn	79.67	332	⇑pP		pP	pP	21 05 49.9	+1.2
	baz=80								
BC3	Big Chuckawall	79.69	323	⇑pP		pP	pP	21 05 49.7	+1.2
	baz=80								
Q24A	Divide	79.70	333	⇓pP		pP	pP	21 05 49.3	+0.5
	baz=80								
U16A	Tuba City	79.71	328	⇓pP		pP	pP	21 05 49.3	+0.6
	baz=80								
P25A	Willow Gulch B	79.83	334	⇑pP		pP	pP	21 05 49.9	+0.6
	baz=80								
O27A	Beecher Island	79.84	336	⇓pP		pP	pP	21 05 50.0	+0.8
	baz=80								
IRM	Iron Mountain	79.94	324	⇑pP		pP	pP	21 05 50.6	+0.7
	baz=80								
S20A	Disappointment	79.97	331	⇑pP		pP	pP	21 05 51.1	+0.9
	baz=80								
T18A	Mexican Hat	80.00	329	⇓pP		pP	pP	21 05 50.7	+0.5
	baz=80								
W13A	Hualapai Mount	80.10	325	⇑P		P	P	21 05 28.5	+2.1
	baz=80								
W13A				⇑pP		pP	pP	21 05 52.2	+1.3
	baz=80								
R21A	Cimarron	80.10	331	⇑pP		pP	pP	21 05 51.9	+1.0
	baz=80								
PFO	Pinyon Flat Ob	80.15	323	⇑pP		pP	pP	21 05 52.6	+1.5
	baz=80								
S19A	Harvey Farm, M	80.21	330	⇓P		P	P	21 05 28.6	+1.7
	baz=81								
S19A				⇑pP		pP	pP	21 05 51.2	-0.2
	baz=81								
Q22A	Crested Butte,	80.28	332	⇓pP		pP	pP	21 05 52.4	+0.5
	baz=81								
R20A	Redvale	80.28	331	⇑pP		pP	pP	21 05 52.1	+0.2
	baz=81								
T17A	Navajo Res., N	80.28	328	⇓pP		pP	pP	21 05 52.2	+0.4
	baz=81								
O25A	Wiggins	80.34	335	⇑pP		pP	pP	21 05 53.5	+1.4
	baz=81								
U15A	North Rim	80.46	327	⇑pP		pP	pP	21 05 53.6	+0.6
	baz=81								
S18A	Hurst Farm, Bl	80.52	329	⇑pP		pP	pP	21 05 53.7	+0.5
	baz=81								
ISCO	Idaho Springs	80.61	333	⇑pP		pP	pP	21 05 54.0	+0.3
	baz=81								
R19A	Curley Farm, L	80.73	330	⇑pP		pP	pP	21 05 54.4	+0.2

TORD pP **pP** **21 06 08.6 +0.4**
comp=N,3.2nm,0.8s,baz=253,slow=5.4,SNR=5.8
TORD Torodi Ar. Bea 83.33 69 P **P** **21 05 43.2 -0.4**
TORD pP **pP** **21 06 08.6 +0.4**
R11A Troy Canyon, C 83.53 326 ⇑pP pP 21 06 09.8 +0.8
baz=84
K21A Alcova 83.68 334 ⇓pP pP 21 06 09.6 -0.1
baz=84
DUG Dugway 83.81 329 ⇓pP pP 21 06 11.1 +0.7
baz=84
N16A Rees Ranch, Co 83.82 330 ⇓pP pP 21 06 11.3 +0.8
baz=84
I24A Kuemmerle Ranc 83.84 336 ⇑pP pP 21 06 10.9 +0.6
baz=84
M17A Scullys Gap (B 84.00 331 ⇑pP pP 21 06 11.1 -0.3
baz=84
L19A Farson 84.02 332 ⇑pP pP 21 06 11.5 +0.1
baz=84
K20A Yellowstone Ra 84.11 333 ⇑pP pP 21 06 11.1 -0.7
baz=84
L18A Fontenelle, Gr 84.13 332 ⇑pP pP 21 06 12.0 0.0
baz=84
K19A Absolon Red Bu 84.44 333 ⇓pP pP 21 06 13.4 -0.2
baz=85
I22A 9 Mile Ranch, 84.50 335 ⇓pP pP 21 06 14.1 +0.3
baz=85
J20A Shoshoni 84.61 334 ⇓pP pP 21 06 14.7 +0.4
baz=85
M15A Larsen Ranch, 84.72 330 ⇑pP pP 21 06 14.9 0.0
baz=85
K18A Toltan Ranch, 84.74 332 ⇓pP pP 21 06 15.2 +0.1
baz=85
L16A Fish Haven 84.76 331 ⇑pP pP 21 06 14.8 -0.4
baz=85
NVAR Mina Array Bea 84.88 324 P **P** **21 05 52.7 +1.5**
comp=N,0.4nm,0.7s,baz=178,slow=3.5,SNR=3.1
NVAR pP **pP** **21 06 16.9 +1.0**
comp=N,1.4nm,0.8s,baz=157,slow=6.0,SNR=7.8
NVAR Mina Array Bea 84.88 324 P **P** **21 05 52.7 +1.5**
NVAR pP **pP** **21 06 16.9 +1.0**
J19A Crowheart 84.89 333 ⇑pP pP 21 06 15.6 -0.3
baz=85
L15A Malad City 85.14 330 ⇑pP pP 21 06 17.4 +0.3
baz=86
J18A Kendall Valley 85.22 332 ⇑pP pP 21 06 17.1 -0.5
baz=86
K16A Soda Springs 85.51 331 ⇓pP pP 21 06 19.0 0.0
baz=86
L14A Malta 85.52 330 ⇑pP pP 21 06 19.1 +0.1
baz=86
I18A Diamond G Ranc 85.56 333 ⇓P **P** **21 05 55.3 +0.9**
baz=86
I18A ⇓pP **pP** **21 06 18.9 -0.3**
baz=86
G22A Birney 85.60 336 ⇑pP pP 21 06 18.2 -1.0
baz=86
F23A Volborg 85.74 336 ⇑pP pP 21 06 20.1 +0.3
baz=86
J16A Bone 85.89 331 ⇓pP pP 21 06 20.6 -0.3
baz=86
K14A Jones Ranch, D 85.92 330 ⇓pP pP 21 06 20.7 -0.2
baz=86
I17A Pilgrim Ck. 86.03 332 ⇓P **P** **21 05 56.6 -0.2**
baz=86
I17A ⇑pP **pP** **21 06 21.9 +0.3**
baz=86
H19A Powell 86.08 334 ⇓pP pP 21 06 21.4 -0.3
baz=86
H18A Shoshone NF, C 86.33 333 ⇓P **P** **21 05 58.2 0.0**
baz=87
H18A ⇓pP **pP** **21 06 22.6 -0.5**
baz=87
RLMT Red Lodge 86.56 334 ⇓P **P** **21 05 59.9 +0.6**
baz=87
RLMT ⇓P **P** **21 05 59.9 +0.6**
baz=87
RLMT ⇓pP **pP** **21 06 23.8 -0.4**
baz=87
RLMT ⇓pP **pP** **21 06 23.8 -0.4**
baz=87
G18A Lazy EL Ranch, 86.84 334 ⇑P **P** **21 06 01.3 +0.7**
baz=87
G18A ⇑pP **pP** **21 06 26.0 +0.5**
baz=87
D23A Lindsay 86.96 337 ⇑pP pP 21 06 26.0 +0.1
baz=87
J13A Cove Ranch, Pi 87.03 330 ⇑pP pP 21 06 26.9 +0.4
baz=87
HLID Hailey 87.27 330 ⇓pP pP 21 06 27.8 +0.2
baz=88
I13A Wildhorse Cree 87.43 330 ⇓pP pP 21 06 29.0 +0.6
baz=88
E19A Rath Farm, Rou 87.54 335 ⇓P **P** **21 06 04.4 +0.6**
baz=88
E19A ⇓pP **pP** **21 06 28.3 -0.5**
baz=88
I12A Atlanta 87.76 330 ⇓pP pP 21 06 30.3 +0.3
baz=88
G15A Dillon 87.82 332 ⇑pP pP 21 06 30.0 -0.3
baz=88
D20A Manuel Ranch, 87.86 335 ⇑pP pP 21 06 29.7 -0.6
baz=88
C21A Desert Coulee 88.15 336 ⇓pP pP 21 06 31.7 +0.2
baz=88
H12A Diamond D Ranc 88.26 330 ⇑pP pP 21 06 32.7 +0.3
baz=89
ASAR Alice Springs 117.66 206 PKP **PKPdf** **21 12 01.6 -0.7**
comp=N,0.4nm,0.6s,baz=141,slow=2.2,SNR=8.1
ASAR pPKP **pPKPdf** **21 12 27.6 -0.8**
comp=N,0.3nm,0.6s,baz=182,slow=1.4,SNR=2.4
ASAR Alice Springs 117.66 206 PKP **PKPdf** **21 12 01.6 -0.7**
ASAR pPKP **pPKPdf** **21 12 27.6 -0.8**
WRA Warramunga Arr 120.90 208 PKP **PKPdf** **21 12 08.2 -0.4**
comp=N,1.2nm,0.5s,baz=158,slow=1.7,SNR=22
WRA Warramunga Arr 120.90 208 PKP **PKPdf** **21 12 08.2 -0.4**
BRTR Keskin Array B 121.09 61 PKP **PKPdf** **21 12 08.2 -0.2**
comp=N,0.7nm,0.8s,baz=198,slow=3.5,SNR=4.0
BRTR Keskin Array B 121.09 61 PKP **PKPdf** **21 12 08.2 -0.2**
AKASG Malin Array Be 121.68 47 PKP **PKPdf** **21 12 08.2 -0.8**
comp=N,0.8nm,0.6s,baz=271,slow=2.6,SNR=4.9
AKASG Malin Array Be 121.68 47 PKP **PKPdf** **21 12 08.2 -0.8**
FINES FINESS Array B 122.73 35 PKP **PKPdf** **21 12 09.6 -1.1**
comp=N,3.0nm,0.9s,baz=193,slow=2.4,SNR=4.3
FINES FINESS Array B 122.73 35 PKP **PKPdf** **21 12 09.6 -1.1**
ARCES ARCESS Array B 123.95 25 PKP **PKPdf** **21 12 12.1 -0.7**
comp=N,3.5nm,0.9s,baz=285,slow=2.4,SNR=3.5
ARCES ARCESS Array B 123.95 25 PKP **PKPdf** **21 12 12.1 -0.7**
AKTO Aktyubinsk 139.77 51 PKP **PKPdf** **21 12 42.8 -0.4**
comp=N,0.8nm,0.8s,baz=276,slow=4.1,SNR=4.5
AKTO Aktyubinsk 139.77 51 PKP **PKPdf** **21 12 42.8 -0.4**
BVAR Borovoye Array 146.84 44 PKPbc **PKPdf** **21 12 55.9 +0.4**
comp=N,5.8nm,0.6s,baz=280,slow=2.9,SNR=47
BVAR Borovoye Array 146.84 44 PKPbc **PKPdf** **21 12 55.9 +0.4**
KURK Kurchatov 152.44 44 PKPbc **PKPbc** **21 13 11.6 +0.2**
comp=N,4.9nm,0.5s,baz=300,slow=2.9,SNR=12
KURK PKPab **PKPab** **21 13 22.4 +0.5**
comp=N,2.9nm,0.8s,baz=290,slow=4.3,SNR=4.1
KURK pPKPbc **pPKPbc** **21 13 37.6 +0.3**
comp=N,1.9nm,0.6s,baz=299,slow=2.9,SNR=4.2
KURK Kurchatov 152.44 44 PKPbc **PKPbc** **21 13 11.6 +0.2**
KURK PKPab **PKPab** **21 13 22.4 +0.5**
KURK pPKPbc **pPKPbc** **21 13 37.6 +0.3**
ZALV Zalesovo Beam 153.99 34 PKP **PKPdf** **21 13 06.6 0.0**
comp=N,1.0nm,0.8s,baz=270,slow=1.5,SNR=4.9
ZALV PKPbc **PKiKP** **21 13 14.9 +0.1**
comp=N,3.3nm,0.5s,baz=314,slow=3.3,SNR=20
ZALV PKPab **PKPab** **21 13 29.0 +0.5**
comp=N,1.8nm,0.6s,baz=302,slow=4.7,SNR=5.6
ZALV pPKPbc **pPKPbc** **21 13 40.2 -0.4**
comp=N,0.9nm,0.5s,baz=293,slow=4.0,SNR=2.5
ZALV Zalesovo Beam 153.99 34 PKP **PKPdf** **21 13 06.6 0.0**
ZALV PKPbc **PKiKP** **21 13 14.9 +0.1**
ZALV PKPab **PKPab** **21 13 29.0 +0.5**
ZALV pPKPbc **pPKPbc** **21 13 40.2 -0.4**
MKAR Makanchi Array 156.21 51 PKP **PKPdf** **21 13 09.4 -0.5**
comp=N,0.3nm,0.7s,baz=350,slow=0.6,SNR=4.2
MKAR PKPbc PKPab 21 13 19.3 -19
comp=N,0.5nm,0.7s,baz=304,slow=1.0,SNR=5.2
MKAR PKPab PKPab 21 13 38.1 -0.2
comp=N,1.6nm,0.7s,baz=283,slow=3.6,SNR=11
MKAR pPKPab **pPKPab** **21 14 03.6 +0.2**
comp=N,1.2nm,0.8s,baz=308,slow=4.5,SNR=5.4
MKAR Makanchi Array 156.21 51 PKP **PKPdf** **21 13 09.4 -0.5**
MKAR PKPbc PKPab 21 13 19.3 -19
MKAR PKPab PKPab 21 13 38.1 -0.2
MKAR pPKPab **pPKPab** **21 14 03.6 +0.2**
CMAR Chiang Mai Arr 161.60 147 PKPab **PKPab** **21 14 01.7 -0.5**
comp=N,0.7nm,0.8s,baz=217,slow=5.5,SNR=7.1
CMAR Chiang Mai Arr 161.60 147 PKPab **PKPab** **21 14 01.7 -0.5**
SONM Songino Array 166.45 8 PKPab **PKPab** **21 14 23.5 +0.6**
comp=N,0.3nm,0.7s,baz=324,slow=5.2,SNR=3.1
SONM Songino Array 166.45 8 PKPab **PKPab** **21 14 23.5 +0.6**

IDC 04 20:54:33.3±3.1, 0.88S×132.87E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=168.4km s-min=27.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.00**	**176**	P	P	20 58 56.3	-0.4
	0.1nm,0.3s,baz=355,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**22.68**	**178**	P	P	20 59 37.0	+0.4
	0.8nm,0.5s,baz=360,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**64.84**	**324**	P	P	21 05 14.1	-0.1
	0.3nm,0.6s,baz=119,slow=7.8,SNR=4.4						

IDC 04 20:56:53.5±14.0, 0.51S×133.18E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=224.0km s-min=120.1km az=159.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.35**	**177**	P	Pn	21 01 21.5	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**23.03**	**178**	P	P	21 02 00.6	0.0
	0.5nm,0.3s,baz=358,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**32.20**	**166**	P	P	21 03 23.1	-0.4
	1.7nm,1.0s,baz=329,slow=14,SNR=3.5						

IDC 04 21:16:25.9±3.2, 0.37S×132.21E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=232.5km s-min=22.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.56**	**174**	P	P	21 20 55.1	-0.3
	0.2nm,0.3s,baz=352,slow=11,SNR=13						
WRA				S	Sn	21 24 24.9	-12
	0.1nm,0.3s,baz=4.5,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**23.21**	**176**	P	P	21 21 34.9	+0.2
	1.1nm,0.5s,baz=357,slow=11,SNR=26						
SONM	**Songino Array**	**53.01**	**338**	P	P	21 25 43.9	-0.7
	0.3nm,0.8s,baz=134,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**64.05**	**324**	P	P	21 27 02.0	+0.4
	0.3nm,0.5s,baz=116,slow=6.6,SNR=7.4						

*IDC **04** 21:17:55.1±5.9, 27.97N×129.93E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=126.9km s-min=29.5km az=116.0*
*JMA **04** 21:18:00.9, 28.08N×129.42E, h32km±1km, M3.5*
JMA Felt I J1.
*NIED **04** 21:18:00, 28.10N×129.40E, h41km, Mw3.8 Best double couple: M0 5.26000×10^14 NP1:ϕ=106.00000°, δ=78.00000°, λ=111.00000° NP2:ϕ=224.00000°, δ=24.00000°, λ=31.00000°.*
*ISCJB **04** 21:18:00.8±0.7, 28.08N±0.07×129.4E±0.1, h29km±5km, mb3.2/4, Error ellipse: s-maj=18.5km s-min=3.8km az=35.4*
ISC 04 21:18:01.2±1.0, 28.06N±0.08×129.44E±0.09, h22km±7km, n18, σ=0 78/26, mb3.1/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.38**	**22**	P	**Pb**	**21 18 09.2**	**-0.1**
JAM				eS	**Sb**	**21 18 15.1**	**+0.3**
JTK	**Tokunoshima**	**0.51**	**238**	P	**Pb**	**21 18 11.3**	**-0.2**
JTK				eS	**Sb**	**21 18 18.5**	**0.0**
JZK	**Kikaishima**	**0.53**	**61**	P	**Pb**	**21 18 11.7**	**-0.2**
JOW	**Kunigami**	**1.60**	**221**	Pn	**Pn**	**21 18 27.8**	**-0.4**
	115nm,0.3s,baz=91,slow=17,SNR=217						
JOW				Sn	**Sn**	**21 18 49.0**	**+0.8**
	67nm,0.3s,baz=109,slow=20,SNR=5.7						
JOW	**Kunigami**	**1.60**	**221**	P	**Pn**	**21 18 27.6**	**-0.6**
JOW				eS	**Sn**	**21 18 48.2**	**0.0**
JIH	**Iheya**	**1.66**	**232**	P	**Pn**	**21 18 28.8**	**-0.1**
JIH				eS	**Sn**	**21 18 49.7**	**+0.2**
JNN	**Nakanoshima**	**1.82**	**12**	P	**Pn**	**21 18 30.2**	**-0.9**
JNN				eS	**Sn**	**21 18 51.9**	**-1.6**
NAH1	**Naha**	**2.42**	**221**	P	**Pn**	**21 18 38.9**	**-0.5**
JJT2	**Tamagusuku 2**	**2.44**	**219**	P	**Pn**	**21 18 38.9**	**-0.7**
JJT2				eS	**Sn**	**21 19 08.5**	**-0.2**
JAGN	**Aguni-jima**	**2.44**	**234**	P	**Pn**	**21 18 39.9**	**+0.2**
JAGN				eS	**Sn**	**21 19 09.6**	**+0.7**
JKC	**Kuchinoerabu**	**2.48**	**15**	eS		21 19 09.4	
JTN	**Tanegashima 3**	**2.92**	**27**	P	**Pn**	**21 18 46.6**	**+0.4**
JTN				eS	**Sn**	**21 19 21.5**	**+0.9**
JKE	**Kume jima 2**	**2.93**	**234**	P	**Pn**	**21 18 46.1**	**-0.3**
JKE				eS	**Sn**	**21 19 20.8**	**-0.1**
KSRS	**Korea Array**	**9.46**	**353**	LR	LR	21 24 17.0	
	comp=Z,46nm,21.2s,baz=175,slow=40						
SONM	**Songino Array**	**26.66**	**324**	P	**P**	**21 23 39.7**	**+1.2**
	0.3nm,0.8s,baz=132,slow=10.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**29.53**	**295**	P	**P**	**21 24 05.8**	**+1.6**
	0.4nm,0.8s,baz=58,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**41.15**	**310**	P	**P**	**21 25 42.5**	**-1.3**
	0.1nm,0.5s,baz=88,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**71.81**	**331**	P	**P**	**21 29 20.9**	**-0.8**
	2.3nm,0.8s,baz=47,slow=6.5,SNR=8.0						

*IDC **04** 21:25:54.2±2.1, 30.44N×50.24E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, Error ellipse: s-maj=63.3km s-min=26.3km az=156.0*
*KISR **04** 21:25:56.7±0.7, 30.20N×50.41E, h27km±162km, ML2.9*
*CSEM **04** 21:25:57.2±0.2, 30.35N×50.33E, h2km, ML3.2, Error ellipse: s-maj=7.6km s-min=3.4km az=128.0*
ISC 04 21:25:56.7±0.9, 30.17N±0.07×50.31E±0.07, h25km, n17, σ=1 11/25, mb3.5/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**2.33**	**327**	*e*Pn	**Pn**	**21 26 34.4**	**+1.0**
SHGR				eSg	**Sb**	**21 27 06.6**	**+0.3**
KBD	**Kabd**	**2.48**	**247**	*e*P	**Pb**	**21 26 40.0**	**-0.6**
KBD				eS	**Sb**	**21 27 11.9**	**+1.2**
KBD				AML	AML	21 27 16.3	
	comp=Z,33nm,0.4s						
KBD	**Kabd**	**2.48**	**247**	*e*P	**Pb**	**21 26 40.0**	**-0.6**
KBD				eS	**Sb**	**21 27 11.9**	**+1.2**
	comp=Z,33nm,0.4s						
QRN	**Al-Qurain**	**2.52**	**236**	*e*P	**Pb**	**21 26 40.1**	**-1.2**
QRN				eS	**Sb**	**21 27 12.7**	**+0.9**
QRN				AML	AML	21 27 15.7	
	comp=Z,79nm,0.3s						
MIB	**Mutribah**	**2.60**	**263**	*e*P	**Pb**	**21 26 41.4**	**-1.3**
MIB				eS	**Sb**	**21 27 14.6**	**+0.4**
MIB				AML	AML	21 27 22.5	
	comp=Z,62nm,0.5s						
MIB	**Mutribah**	**2.60**	**263**	*e*P	**Pb**	**21 26 41.4**	**-1.3**
MIB				eS	**Sb**	**21 27 14.6**	**+0.4**
	comp=Z,62nm,0.5s						
NAY	**Al-Naaiem**	**2.82**	**252**	*e*P	**Pb**	**21 26 44.4**	**-2.0**
NAY				eS	**Sb**	**21 27 20.7**	**+0.3**
NAY				AML	AML	21 27 26.8	
	comp=Z,38nm,0.5s						
NAY	**Al-Naaiem**	**2.82**	**252**	*e*P	**Pb**	**21 26 44.4**	**-2.0**
NAY				eS	**Sb**	**21 27 20.7**	**+0.3**
NASN	**Na'in**	**3.38**	**39**	*e*Pn	**Pn**	**21 26 49.2**	**+0.9**
ASAO	**Ashtian**	**4.37**	**357**	*e*Pn	**Pn**	**21 27 02.9**	**+1.0**
GHVR	**GHOM**	**4.38**	**11**	*e*Pn	**Pn**	**21 27 02.5**	**+0.7**
SNGE	**Sanandaj**	**5.51**	**334**	*e*Pn	**Pn**	**21 27 18.5**	**+1.1**
MKAR	**Makanchi Array**	**29.77**	**47**	P	**P**	**21 32 00.1**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=242,slow=8.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**34.40**	**36**	P	**P**	**21 32 41.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=260,slow=9.9,SNR=5.3						
FINES	**FINESS Array B**	**35.12**	**340**	P	**P**	**21 32 46.6**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=133,slow=7.8,SNR=4.0						
SONM	**Songino Array**	**45.97**	**51**	P	**P**	**21 34 18.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=273,slow=8.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**47.87**	**260**	P	**P**	**21 34 34.0**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=55,slow=7.7,SNR=6.3						

*IDC **04** 21:29:52.9±7.3, 24.31S×179.31W, h431km±74km, mb3.5/7, mb1 3.7/8, mb1mx3.4/17, mbtmp3.5/8, Error ellipse: s-maj=44.9km s-min=22.6km az=42.0*
*ISCJB **04** 21:29:57.7±1.2, 24.35S±0.09×179.6W±0.2, h490km, mb4.2/10, Error ellipse: s-maj=22.9km s-min=11.0km az=169.3*
ISC 04 21:29:58.4±1.0, 24.49S±0.09×179.5W±0.2, h490km, n19, σ=1 9 46/22, mb4.3/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**13.17**	**188**	PN	**P**	**21 32 47.7**	**-1.6**
MXZ				SN	**S**	**21 35 11.5**	**+1.3**
URZ	**Urewera**	**14.04**	**191**	P	**P**	**21 32 55.7**	**-2.7**
	2.9nm,0.3s,baz=200,slow=2.3,SNR=12						
URZ				S	**S**	**21 35 27.4**	**+0.5**
	1.7nm,0.3s,baz=55,slow=23,SNR=14						
URZ	**Urewera**	**14.04**	**191**	PN	**P**	**21 32 55.3**	**-3.1**
URZ				SN	**S**	**21 35 29.0**	**+2.1**
RPZ	**Rata Peaks**	**20.70**	**200**	P	**P**	**21 34 03.1**	**-0.6**
	4.6nm,0.4s,baz=316,slow=2.8,SNR=6.5						
EIDS	**Eidsvold**	**26.71**	**262**	*e*P	**P**	**21 34 58.2**	**+0.6**
	25nm,0.5s						
CMSA	**Cobar Meteorol**	**31.46**	**249**	*e*P	**P**	**21 35 39.1**	**+0.1**
	18nm,0.6s						
MTSU	**Mount Surprise**	**34.27**	**274**	*e*P	**P**	**21 36 02.4**	**-0.6**
	22nm,0.7s						
STKA	**Stephens Creek**	**34.97**	**249**	P	**P**	**21 36 09.1**	**+0.4**
	1.5nm,0.3s,baz=88,slow=8.7,SNR=20						
STKA	**Stephens Creek**	**34.97**	**249**	*e*P	**P**	**21 36 09.0**	**+0.4**
	1.3nm,0.3s						
BBOO	**Buckleboo**	**39.67**	**248**	*e*P	**P**	**21 36 46.6**	**-0.8**
	12nm,0.3s						
ASAR	**Alice Springs**	**42.43**	**261**	P	**P**	**21 37 09.4**	**-0.1**
	2.1nm,0.5s,baz=84,slow=6.5,SNR=37						
WRA	**Warramunga Arr**	**42.86**	**267**	P	**P**	**21 37 12.4**	**-0.5**
	13nm,0.6s,baz=101,slow=8.3,SNR=112						
QSPA	**South Pole Qui**	**65.60**	**180**	P	**P**	**21 39 54.4**	**+1.5**
	1.4nm,0.5s,baz=359,slow=1.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**90.19**	**290**	P	**P**	**21 42 08.6**	**+2.2**
	0.4nm,0.8s,baz=135,slow=3.1,SNR=4.7						
ILAR	**Eielson Array**	**92.49**	**13**	P	**P**	**21 42 15.8**	**-0.1**
	0.6nm,1.1s,baz=231,slow=5.7,SNR=4.2						
BVAR	**Borovoye Array**	**121.21**	**318**	PKP	**PKPdf**	**21 47 54.9**	**+0.2**
	0.5nm,0.4s,baz=48,slow=2.2,SNR=4.6						
ARCES	**ARCESS Array B**	**132.56**	**348**	PKP	**PKPdf**	**21 48 17.1**	**+1.2**
	4.2nm,1.0s,baz=28,slow=2.5,SNR=4.0						
AKASG	**Malin Array Be**	**145.73**	**327**	PKPbc	**PKPbc**	**21 48 40.7**	**-1.0**
	0.7nm,0.4s,baz=39,slow=4.0,SNR=6.4						
BRTR	**Keskin Array B**	**148.33**	**307**	PKPbc	**PKPbc**	**21 48 47.4**	**-1.9**
	0.6nm,0.6s,baz=118,slow=3.1,SNR=4.3						

IDC 04 21:37:23.6±14.0, 0.74S×133.03E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=210.5km s-min=124.7km az=156.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.13**	**176**	P	Pn	21 41 49.2	0.0
	0.3nm,0.3s,baz=354,slow=12,SNR=9.8						
WRA				S	Sn	21 45 16.1	-8.2
	0.1nm,0.3s,baz=1.5,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**22.81**	**178**	P	P	21 42 28.9	+0.6
	0.8nm,0.3s,baz=357,slow=10,SNR=17						
STKA	**Stephens Creek**	**32.01**	**166**	P	P	21 43 50.7	-1.2
	0.6nm,0.6s,baz=343,slow=11,SNR=3.7						

IDC 04 21:42:20.7±8.6, 19.99N×147.29E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.6/5, Error ellipse: s-maj=331.7km s-min=28.7km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.66**	**198**	P	P	21 50 11.0	-0.2
	0.2nm,0.5s,baz=20,slow=8.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.92**	**322**	P	P	21 52 14.1	-0.5
	0.4nm,0.6s,baz=112,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**58.67**	**313**	P	P	21 52 20.3	+0.3
	0.5nm,0.8s,baz=94,slow=6.3,SNR=5.0						
KURK	**Kurchatov**	**61.33**	**318**	P	P	21 52 38.4	+0.3
	0.6nm,0.5s,baz=91,slow=7.6,SNR=12						
BVAR	**Borovoye Array**	**66.45**	**320**	P	P	21 53 11.9	+0.1
	0.8nm,0.4s,baz=94,slow=7.9,SNR=6.3						

*DJA **04** 21:49:10, 0.21S×133.04E, h9km, MLv4.6/5*
IDC 04 21:49:08.2±2.0, 0.31S×133.27E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/17, mbtmp4.1/4, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=116.0km s-min=22.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.97**	**39**	LR	LR	21 58 17.0	
	comp=Z,109nm,20.0s,baz=59,slow=30						
WRA	**Warramunga Arr**	**19.54**	**177**	P	P	21 53 37.6	+0.1
	0.7nm,0.3s,baz=356,slow=12,SNR=29						
WRA				S	Sn	21 57 07.2	-12
	0.1nm,0.3s,baz=356,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**23.22**	**179**	P	P	21 54 17.1	-0.1
	2.8nm,0.5s,baz=357,slow=10,SNR=40						
ASAR				S	S	21 58 23.9	-6.5
	0.2nm,0.7s,baz=358,slow=27,SNR=3.4						
JOW	**Kunigami**	**27.41**	**350**	LR	LR	22 03 27.5	
	comp=Z,125nm,19.0s,baz=115,slow=31						
STKA	**Stephens Creek**	**32.37**	**167**	P	P	21 55 39.7	+0.1
	4.3nm,0.7s,baz=356,slow=8.9,SNR=14						
KSRS	**Korea Array**	**37.90**	**353**	LR	LR	22 09 51.0	
	comp=Z,44nm,19.6s,baz=163,slow=33						
MKAR	**Makanchi Array**	**64.62**	**324**	P	P	21 59 47.7	-0.1
	0.6nm,0.7s,baz=109,slow=8.2,SNR=14						

*DJA **04** 22:00:05, 2.17S×99.42E, h20km, MLv4.4/8*
IDC 04 22:00:03.1±1.5, 2.13S×99.56E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, Error ellipse: s-maj=54.4km s-min=16.7km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.47**	**358**	P	P	22 04 42.4	-0.2
	1.3nm,0.6s,baz=187,slow=11,SNR=17						
WRA	**Warramunga Arr**	**38.31**	**120**	P	P	22 07 25.1	-0.8
	1.2nm,0.6s,baz=304,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**39.53**	**126**	P	P	22 07 35.9	-0.2
	1.0nm,0.5s,baz=302,slow=8.1,SNR=11						
KSRS	**Korea Array**	**47.36**	**31**	P	P	22 08 38.5	-0.5
	2.0nm,0.9s,baz=219,slow=9.4,SNR=5.4						
STKA	**Stephens Creek**	**49.39**	**131**	P	P	22 08 55.5	+0.7
	1.2nm,0.6s,baz=342,slow=7.1,SNR=5.6						
SONM	**Songino Array**	**50.12**	**6**	P	P	22 09 00.7	+0.4
	5.0nm,0.8s,baz=188,slow=8.9,SNR=44						
SONM				PcP	PcP	22 10 19.3	-0.6
	0.4nm,0.6s,baz=185,slow=4.0,SNR=2.6						
MKAR	**Makanchi Array**	**51.04**	**345**	P	P	22 09 07.1	0.0
	2.7nm,0.6s,baz=156,slow=8.6,SNR=61						
USRK	**Ussuriysk Arra**	**54.48**	**28**	P	P	22 09 32.3	-0.3
	4.3nm,0.8s,baz=215,slow=5.3,SNR=14						
ZALV	**Zalesovo Beam**	**57.22**	**350**	P	P	22 09 51.8	-0.2
	4.0nm,0.5s,baz=180,slow=5.3,SNR=32						
FINES	**FINESS Array B**	**84.02**	**332**	P	P	22 12

JMA ***04*** *22:12:51.3±0.2,22.°96N×122.°59E,h67km,M2.5*
TAP ***04*** *22:12:51.5,22.°95N×122.°42E,h57km±1km,ML3.4,D*
ISC 04 22:12:48.6±1.1,22.°89N±0.°04×122.°49E±0.°03,h20km±9km, n39,σ1§03/69,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.21**	**226**	***e*P**	**Pn**	**22 13 09.9**	**-0.5**
	baz=227						
LAY				*e*S	**Sn**	**22 13 23.0**	**-3.2**
	baz=227						
EHY	**Hungye**	**1.23**	**300**	P	**Pn**	**22 13 10.7**	**0.0**
	baz=303						
EHY				*e*S	**Sn**	**22 13 25.5**	**-1.3**
	baz=303						
TWG	**Pinlang**	**1.30**	**267**	P	**Pb**	**22 13 12.6**	**+0.1**
	baz=264						
TWG				S	**Sn**	**22 13 28.0**	**-0.6**
	baz=264						
ESL	**Shilin**	**1.33**	**314**	***e*P**	**Pn**	**22 13 11.9**	**-0.2**
	baz=314						
ESL				S	**Sn**	**22 13 26.8**	**-2.4**
	baz=314						
ELDTW	**Lidau**	**1.38**	**283**	P	**Pn**	**22 13 13.0**	**+0.1**
	baz=287						
ELDTW				*e*S	**Sn**	**22 13 29.3**	**-1.4**
	baz=287						
TWD	**Chiawan**	**1.44**	**326**	***e*P**	**Pn**	**22 13 14.1**	**+0.6**
	baz=334						
TWD				*e*S	**Sn**	**22 13 28.5**	**-3.3**
	baz=334						
ECL	**Taimali**	**1.44**	**259**	*e*S	**Sn**	**22 13 30.4**	**-1.5**
	baz=255						
YUS	**Yu-Shan**	**1.53**	**293**	***e*P**	**Pb**	**22 13 16.8**	**+0.2**
	baz=292						
YUS				*e*S	**Sn**	**22 13 34.8**	**0.0**
	baz=292						
EAST	**Anshuo**	**1.59**	**252**	P	**Pn**	**22 13 16.5**	**+0.8**
	baz=256						
EAST				*e*S	**Sn**	**22 13 36.3**	**+0.5**
	baz=256						
YOJ	**Yonaguni jima**	**1.64**	**17**	P	**Pb**	**22 13 17.3**	**-0.8**
YOJ				S	**Sn**	**22 13 36.5**	**-0.2**
ENA	**Nanau**	**1.68**	**336**	P	**Pn**	**22 13 17.5**	**+0.7**
	baz=331						
ENA				*e*S	**Sn**	**22 13 37.3**	**-0.4**
	baz=331						
WHF	**Hehuan Shan**	**1.68**	**318**	P	**Pn**	**22 13 17.5**	**+0.3**
	baz=318						
WHF				S	**Sn**	**22 13 36.8**	**-1.6**
	baz=318						
HATJ	**Hateruma jima**	**1.68**	**46**	P	**Pn**	**22 13 17.5**	**+0.7**
HATJ				S	**Sn**	**22 13 37.0**	**-0.7**
SSD	**Sandimen**	**1.72**	**266**	***e*P**	**Pn**	**22 13 18.2**	**+0.9**
	baz=268						
WTP	**Ta-pu**	**1.76**	**282**	***e*P**	**Pb**	**22 13 20.6**	**+0.4**
	baz=288						
WTP				*e*S	**Sn**	**22 13 40.6**	**+0.8**
	baz=288						
SMLT	**Sun Moon Lake**	**1.76**	**304**	***e*P**	**Pb**	**22 13 19.4**	**-0.8**
	baz=304						
SMLT				*e*S	**Sn**	**22 13 39.3**	**-0.6**
	baz=304						
SGST	**Jiashian**	**1.76**	**277**	***e*P**	**Pn**	**22 13 18.8**	**+0.8**
	baz=274						
SCZT	**Fangliau**	**1.80**	**254**	***e*P**	**Pb**	**22 13 20.0**	**-0.8**
	baz=250						
SCZT				*e*S	**Sn**	**22 13 40.8**	**+0.1**
	baz=250						
CHN4	**Tsaushan**	**1.80**	**285**	***e*P**	**Pb**	**22 13 20.5**	**-0.4**
	baz=289						
CHN5	**Tsauling**	**1.80**	**293**	P	**Pb**	**22 13 21.1**	**+0.1**
	baz=292						
CHN5				*e*S	**Sb**	**22 13 42.8**	**-0.4**
	baz=292						
TYC	**Yuchr**	**1.80**	**304**	***e*P**	**Pb**	**22 13 20.0**	**-1.0**
	baz=304						
TYC				*e*S	**Sn**	**22 13 39.8**	**-1.0**
	baz=304						
TWC	**Suao**	**1.81**	**341**	***e*P**	**Pn**	**22 13 19.3**	**+0.7**
	baz=351						
TWC				*e*S	**Sn**	**22 13 40.7**	**-0.2**
	baz=351						
TWT	**Tachien**	**1.81**	**319**	***e*P**	**Pn**	**22 13 19.6**	**+0.8**
	baz=318						
TWT				S	**Sn**	**22 13 40.8**	**-0.5**
	baz=318						
TWK1	**Hengchun**	**1.82**	**239**	***e*P**	**Pb**	**22 13 20.7**	**-0.5**
	baz=227						
TWK1				*e*S	**Sn**	**22 13 42.3**	**+1.1**
	baz=227						
CHN1	**Nanshi**	**1.83**	**280**	P	**Pb**	**22 13 22.3**	**+0.9**
	baz=287						
CHN1				*e*S	**Sb**	**22 13 44.4**	**+0.6**
	baz=287						
IRIF	**Iriomote-Funau**	**1.83**	**38**	P	**Pn**	**22 13 19.8**	**+0.8**
IRIF				S	**Sn**	**22 13 41.1**	**-0.5**
NNS	**Nan Shan**	**1.85**	**327**	P	**Pn**	**22 13 20.3**	**+1.0**
	baz=327						
NNS				S	**Sn**	**22 13 41.4**	**-0.7**
	baz=327						
TWM1	**Shoushan**	**1.90**	**268**	***e*P**	**Pb**	**22 13 24.3**	**+1.6**
	baz=266						
WNT	**Mingjian**	**1.92**	**301**	***e*P**	**Pb**	**22 13 23.4**	**+0.4**
	baz=300						
ENTT	**Nioudou**	**1.93**	**334**	***e*P**	**Pn**	**22 13 21.2**	**+0.8**
	baz=335						
ENTT				*e*S	**Sn**	**22 13 43.8**	**-0.2**
	baz=335						
JKRS	**Kuro-shima**	**1.94**	**46**	P	**Pn**	**22 13 21.3**	**+0.9**
JKRS				S	**Sn**	**22 13 43.3**	**-0.8**
TWE	**Neicheng**	**1.97**	**338**	***e*P**	**Pn**	**22 13 21.4**	**+0.6**
	baz=339						
TWE				*e*S	**Sn**	**22 13 44.6**	**-0.3**
	baz=339						
NSK	**Sanguang**	**2.06**	**330**	P	**Pn**	**22 13 23.5**	**+1.5**
	baz=331						
NSK				*e*S	**Sn**	**22 13 46.3**	**-0.9**
	baz=331						
JIJ	**Ishigaki jima**	**2.11**	**46**	P	**Pn**	**22 13 23.2**	**+0.4**
JIJ				S	**Sn**	**22 13 47.0**	**-1.4**
TWQ1	**Liyutan**	**2.14**	**313**	P	**Pb**	**22 13 26.1**	**-0.6**
	baz=313						
NSTT	**Nanjuang**	**2.20**	**322**	***e*P**	**Pn**	**22 13 25.5**	**+1.5**
	baz=322						
NSTT				*e*S	**Sn**	**22 13 49.9**	**-0.8**
	baz=322						
TWA	**Mucha**	**2.24**	**339**	***e*P**	**Pn**	**22 13 25.2**	**+0.7**
	baz=332						
JTJ	**Tarama**	**2.67**	**49**	P	**Pn**	**22 13 31.6**	**+1.1**
JTJ				S	**Sn**	**22 14 01.6**	**-0.7**
JOGS	**Gusukube**	**3.26**	**55**	*e*S	**Sn**	**22 14 16.8**	**+0.1**

IDC 04 22:14:08.0±1.1,0.°27S×133.°04E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.7/18,mbtmp3.7/6,MS4.2/1,Ms1 4.2/1, ms1mx2.8/29,Error ellipse: s-maj=66.8km s-min=19.7km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.59**	**176**	P	P	22 18 38.4	+0.4
	0.2nm,0.3s,baz=352,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.27**	**178**	P	P	22 19 17.9	+0.5
	3.6nm,0.7s,baz=358,slow=11,SNR=20						
CBIJ	**Chichi jima**	**28.60**	**17**	LR	LR	22 30 23.4	
	comp=Z,458nm,18.2s,baz=167,slow=34						
STKA	**Stephens Creek**	**32.46**	**166**	P	P	22 20 39.4	-0.8
	0.8nm,0.5s,baz=353,slow=9.9,SNR=5.4						
MKAR	**Makanchi Array**	**64.45**	**324**	P	P	22 24 46.4	-0.1
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.4						
KURK	**Kurchatov**	**68.52**	**326**	P	P	22 25 12.5	+0.2
	0.5nm,0.8s,baz=124,slow=5.8,SNR=4.7						
ILAR	**Eielson Array**	**86.01**	**25**	P	P	22 26 50.1	-0.1
	0.8nm,1.2s,baz=245,slow=6.5,SNR=3.1						

IDC 04 22:16:48.8±2.7,0.°55S×133.°49E,h0km,mb4.0/4, mb1 4.1/5,mb1mx3.7/18,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=188.5km s-min=19.4km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.29**	**178**	P	P	22 21 15.1	-0.3
	0.3nm,0.3s,baz=356,slow=13,SNR=13						
WRA				S	Sn	22 24 40.5	-13
	0.2nm,0.3s,baz=356,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**22.98**	**179**	P	P	22 21 55.6	+0.4
	2.9nm,0.3s,baz=357,slow=11,SNR=22						
ASAR				S	S	22 26 01.9	-5.0
	0.3nm,0.7s,baz=355,slow=27,SNR=2.2						
STKA	**Stephens Creek**	**32.08**	**167**	P	P	22 23 17.4	-0.2
	0.5nm,0.3s,baz=340,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	22 27 30.7	+0.3
	0.8nm,0.6s,baz=111,slow=7.7,SNR=11						
KURK	**Kurchatov**	**69.00**	**326**	P	P	22 27 55.7	-0.3
	1.0nm,0.8s,baz=122,slow=6.0,SNR=11						

IDC ***04*** *22:24:08.4±0.7,19.°94N×147.°06E,h0km,mb4.3/16, mb1 4.4/18,mb1mx4.3/24,mbtmp4.3/18,ML3.8/2,MS3.6/6, Ms1 3.6/6,ms1mx3.2/37,Error ellipse: s-maj=20.6km s-min=15.2km az=82.0*
BJI ***04*** *22:24:10.2,20.°01N×147.°35E,h35km,mB5.0/22,mb4.5/36, Ms4.5/16,Ms7 4.4/15*
NEIC ***04*** *22:24:13.8±0.3,19.°98N×146.°98E,h35km,mb4.5/19,Error ellipse: s-maj=9.9km s-min=6.5km az=80.0*
ISCJB ***04*** *22:24:13.0±0.3,19.°99N±0.°04×146.°96E±0.°06,h40km, mb4.4/44,MS3.7/8,Error ellipse: s-maj=8.4km s-min=5.6km az=172.4*
ISC 04 22:24:14.6±0.5,20.°10N±0.°05×146.°98E±0.°08,h40km,n101, σ1§62/114,mb4.5/44,MS3.7/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.78**	**198**	Pn	**Pn**	**22 25 51.3**	**-0.3**
	37nm,0.3s,baz=156,slow=23,SNR=6.4						
GUMO				Sn	**Sn**	**22 27 09.0**	**+1.3**
	21nm,0.3s,baz=313,slow=19,SNR=2.7						
GUMO	**Guam**	**6.78**	**198**	*e*Pn	**Pn**	**22 25 51.4**	**-0.3**
GUMO				*e*Sn	**Sn**	**22 27 08.9**	**+1.2**
MJAR	**Matsushiro Arr**	**18.09**	**337**	P	**P**	**22 28 23.5**	**+0.5**
	0.2nm,0.3s,baz=167,slow=12,SNR=7.4						
MJAR	**Matsushiro Arr**	**18.09**	**337**		**P**	**22 28 23.5**	**+0.5**
MAJO	**Matsushiro**	**18.09**	**337**	*e*Pn	**Pn**	**22 28 20.5**	**-2.4**
	5.9nm,0.6s						
MAT	**Matsushiro**	**18.09**	**337**	P	**P**	**22 28 26.7**	**+3.7**
JOW	**Kunigami**	**18.41**	**295**	P	**P**	**22 28 24.9**	**-1.6**
	0.6nm,0.3s,baz=118,slow=15,SNR=3.2						
JOW				LR	LR	22 34 14.0	
	comp=Z,136nm,19.8s,baz=53,slow=33						
JOW	**Kunigami**	**18.41**	**295**	*e*P	**Pn**	**22 28 27.5**	**+0.6**
JNU	**Nakatsue**	**19.34**	**315**	*e*Pn	**Pn**	**22 28 37.8**	**-0.3**
	24nm,1.4s						
KSRS	**Korea Array**	**23.96**	**320**	P	**P**	**22 29 26.0**	**+0.8**
	6.1nm,0.8s,baz=144,slow=8.5,SNR=17						
KSRS				LR	LR	22 39 14.4	
	comp=Z,176nm,18.5s,baz=125,slow=38						
KSAR	**Wonju Array Be**	**23.98**	**320**	P	**P**	**22 29 26.0**	**+0.6**
USRK	**Ussuriysk Arra**	**27.08**	**336**	P	**P**	**22 29 54.8**	**+1.4**
	2.6nm,0.8s,baz=156,slow=7.7,SNR=6.2						
NJ2	**Nanjing**	**27.84**	**301**	*e*P	**P**	**22 30 01.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**28.40**	**333**	P	**P**	**22 30 06.2**	**+1.0**
MDJ				pP	**pP**	**22 30 14.8**	**-1.4**
MDJ				sP	**sP**	**22 30 18.7**	**-2.3**
MDJ				S	**S**	**22 34 52.3**	**+2.8**
MDJ				sS	**sS**	**22 35 07.5**	**-0.3**
MDJ				ScP	**ScP**	**22 36 56.3**	**+1.3**
MDJ				PcS	**PcS**	**22 36 59.9**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,28nm,4.7s						
MDJ				LR	LR		
	comp=N,130nm,13.2s						
MDJ				LR	LR		
	comp=E,67nm,10.1s						
MDJ				LR	LR		
	comp=Z,140nm,10.5s						
PMG	**Port Moresby**	**29.32**	**180**	P	**P**	**22 30 15.7**	**+2.1**
	comp=Z,12nm,0.8s,baz=353,slow=17,SNR=3.3						
PMG	**Port Moresby**	**29.32**	**180**	P	P	22 30 10.1	-3.6
	comp=Z,18nm,0.9s						
CN2	**Changchun**	**29.70**	**328**	*e*P	**P**	**22 30 16.9**	**+0.1**
CN2				*e*S	**S**	**22 35 09.2**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
HNR	**Honiara**	**32.00**	**155**	*e*P	**P**	**22 30 37.3**	**-0.1**
BJI	**Beijing**	**33.00**	**314**	P	**P**	**22 30 46.0**	**+0.1**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PETK	**Petropavlovsk-**	**33.98**	**12**	P	P	22 30 58.2	+3.9
	comp=Z,1.9nm,0.7s,baz=188,slow=9.5,SNR=3.0						
PETK				LR	LR	22 44 54.8	
	comp=Z,76nm,18.8s,baz=257,slow=36						
PETK	**Petropavlovsk-**	**33.98**	**12**	P	P	22 30 58.2	+3.9
COEN	**Coen**	**34.05**	**187**	*e*P	**P**	**22 30 54.0**	**-1.2**
	comp=Z,37nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.52**	**312**	*e*P	**P**	**22 31 16.3**	**-0.1**
HHC				pP	**pP**	**22 31 26.2**	**-1.4**
HHC				sP	**sP**	**22 31 30.0**	**-2.4**
HHC				PP	PP	22 32 41.2	+1.2
HHC				S	**S**	**22 36 54.4**	**-1.7**
HHC				sS	**sS**	**22 37 10.8**	**-3.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
HHC				LR	LR		
	comp=N,120nm,13.9s						
HHC				LR	LR		
	comp=E,160nm,12.7s						
HHC				LR	LR		
	comp=Z,150nm,12.2s						
GYA	**Guiyang**	**37.46**	**288**	*e*P	**P**	**22 31 25.0**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**40.25**	**294**	P	**P**	**22 31 49.7**	**+1.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**40.90**	**302**	*e*P	P	22 31 56.8	+3.5
LZH				pP	pP	22 32 05.1	+0.6
LZH				sP	sP	22 32 10.5	+1.2
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,5.0s						
KMI	**Kunming**	**41.01**	**285**	P	P	22 31 59.2	+4.8
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRAB	**Tennant Creek**	**41.66**	**198**	*e*P	**P**	**22 31 56.3**	**-3.2**
	comp=Z,2.8nm,0.6s						
WB2	**Warramunga Arr**	**41.67**	**198**	*e*P	**P**	**22 31 57.8**	**-1.7**
WRA	**Warramunga Arr**	**41.68**	**198**	P	**P**	**22 31 57.7**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=25,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**41.68**	**198**	P	**P**	**22 31 57.7**	**-1.8**
ULN	**Ulaanbaatar**	**42.45**	**320**	*e*P	**P**	**22 32 06.8**	**+1.0**
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array**	**42.83**	**320**	P	**P**	**22 32 10.0**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=133,slow=7.6,SNR=12						
SONM	**Songino Array**	**42.83**	**320**	P	**P**	**22 32 10.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**43.35**	**210**	LR	LR	22 50 38.6	
	comp=Z,60nm,20.0s,slow=37						
CMAR	**Chiang Mai Arr**	**45.25**	**276**	P	**P**	**22 32 29.1**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=62,slow=8.6,SNR=9.8						
CMAR	**Chiang Mai Arr**	**45.25**	**276**	P	**P**	**22 32 29.1**	**+0.7**
ASAR	**Alice Springs**	**45.33**	**197**	P	**P**	**22 32 26.1**	**-2.9**
	comp=Z,0.9nm,0.8s,baz=10,slow=6.4,SNR=8.4						
ASAR	**Alice Springs**	**45.33**	**197**	P	**P**	**22 32 26.1**	**-2.9**
BILL	**Bilibino**	**49.44**	**9**	*e*P	**P**	**22 33 00.1**	**-0.2**
	comp=Z,5.9nm,0.7s						
LSA	**Lhasa**	**51.12**	**292**	P	**P**	**22 33 14.9**	**+0.6**
STKA	**Stephens Creek**	**51.94**	**186**	P	**P**	**22 33 18.6**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=353,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**51.94**	**186**	P	**P**	**22 33 18.6**	**-1.0**
TAPN	**Taplejung**	**54.32**	**290**	*e*P	**P**	**22 33 39.8**	**+2.1**
TAPN	**Taplejung**	**54.32**	**290**	*e*P	**P**	**22 33 39.8**	**+2.1**
WMQ	**Urumqi**	**54.32**	**310**	*e*P	**P**	**22 33 35.0**	**-2.2**
WMQ				pP	**pP**	**22 33 45.0**	**-3.9**
WMQ				sP	**sP**	**22 33 49.0**	**-4.5**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ODAN	**Odare**	**54.65**	**289**	*e*P	**P**	**22 33 41.5**	**+1.4**
	comp=Z,8.5nm,0.6s						
ODAN	**Odare**	**54.65**	**289**	*e*P	**P**	**22 33 41.5**	**+1.4**
RAMN	**Ramite**	**55.34**	**289**	*e*P	**P**	**22 33 46.4**	**+1.3**
	comp=Z,4.3nm,0.5s						
RAMN	**Ramite**	**55.34**	**289**	*e*P	**P**	**22 33 46.4**	**+1.3**
JIRN	**Jiri**	**55.62**	**290**	*e*P	**P**	**22 33 48.1**	**+0.8**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**55.62**	**290**	*e*P	**P**	**22 33 48.1**	**+0.8**
GUN	**Gumba**	**55.87**	**291**	*e*P	**P**	**22 33 50.2**	**+1.2**
GUN	**Gumba**	**55.87**	**291**	*e*P	**P**	**22 33 50.2**	**+1.2**
PKI	**Pulchoki**	**56.32**	**290**	*e*P	**P**	**22 33 52.6**	**+0.4**
PKI	**Pulchoki**	**56.32**	**290**	*e*P	**P**	**22 33 52.6**	**+0.4**
KKN	**Kakani**	**56.41**	**291**	*e*P	**P**	**22 33 53.0**	**+0.3**
	comp=Z,8.2nm,0.8s						
KKN	**Kakani**	**56.41**	**291**	*e*P	**P**	**22 33 53.0**	**+0.3**
DMN	**Daman**	**56.59**	**290**	*e*P	**P**	**22 33 54.9**	**+0.9**
DMN	**Daman**	**56.59**	**290**	*e*P	**P**	**22 33 54.9**	**+0.9**
GKN	**Gorkha**	**56.95**	**291**	*e*P	**P**	**22 33 56.7**	**+0.2**
	comp=Z,10.0nm,0.7s						
GKN	**Gorkha**	**56.95**	**291**	*e*P	**P**	**22 33 56.7**	**+0.2**
ZAA0	**Zalesovo Array**	**57.66**	**322**	*e*P	**P**	**22 34 01.3**	**+0.5**
ZALV	**Zalesovo Beam**	**57.66**	**322**	P	**P**	**22 34 01.4**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=105,slow=7.1,SNR=16						
ZALV				LR	LR	23 00 03.1	
	comp=Z,31nm,18.1s,baz=18,slow=37						
ZALV	**Zalesovo Beam**	**57.66**	**322**	P	**P**	**22 34 01.4**	**+0.6**
DANN	**Dangsing**	**57.68**	**291**	*e*P	**P**	**22 34 01.8**	**0.0**
	comp=Z,28nm,0.5s						
DANN	**Dangsing**	**57.68**	**291**	*e*P	**P**	**22 34 01.8**	**0.0**
KOLN	**Koldanda**	**57.89**	**291**	*e*P	**P**	**22 34 03.2**	**0.0**
	comp=Z,7.7nm,0.7s						
KOLN	**Koldanda**	**57.89**	**291**	*e*P	**P**	**22 34 03.2**	**0.0**
MK31	**Makanchi Array**	**58.38**	**313**	*e*P	**P**	**22 34 06.2**	**+0.2**
MKAR	**Makanchi Array**	**58.38**	**313**	P	**P**	**22 34 07.3**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=93,slow=8.6,SNR=35						
MKAR	**Makanchi Array**	**58.38**	**313**	*e*P	**P**	**22 34 07.0**	**+0.9**
KURK	**Kurchatov**	**61.05**	**318**	P	**P**	**22 34 25.3**	**+1.0**
	comp=Z,6.4nm,0.8s,baz=91,slow=7.6,SNR=59						
KURK	**Kurchatov**	**61.05**	**318**	*e*P	**P**	**22 34 25.0**	**+0.7**
	comp=Z,3.5nm,0.5s						
ILAR	**Eielson Array**	**61.86**	**26**	P	**P**	**22 34 28.9**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=258,slow=5.8,SNR=16						
ILAR				LR	LR	23 01 38.7	
	comp=Z,78nm,18.7s,baz=52,slow=36						
ILAR	**Eielson Array**	**61.86**	**26**	P	**P**	**22 34 28.9**	**-0.6**
KSH	**Kashi**	**63.05**	**305**	*e*P	P	22 34 42.5	+4.4
KSH				*e*pP	pP	22 34 52.6	+2.7
KSH				*e*sP	sP	22 34 56.6	+2.0
KSH				*e*PcP	**PcP**	**22 35 19.6**	**+3.9**
KSH				*e*PP	**PP**	**22 37 02.3**	**+5.3**
KSH				*e*ScP		22 39 17.6	
KSH				*e*PcS		22 39 21.6	
KSH				*e*S	**S**	**22 43 08.9**	**+2.7**
KSH				*e*sS	sS	22 43 26.5	+0.7
KSH				*e*ScS	**ScS**	**22 44 28.6**	**+0.5**
KSH				*e*SS	**SS**	**22 47 17.5**	**+5.3**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,100nm,4.9s						
KSH				LR	LR		
	comp=N,100nm,5.0s						
KSH				LR	LR		
	comp=E,99nm,5.0s						
KSH				LR	LR		
	comp=Z,120nm,4.7s						
BVAR	**Borovoye Array**	**66.18**	**320**	P	**P**	**22 34 59.0**	**+0.9**
	comp=Z,4.1nm,0.4s,baz=91,slow=7.2,SNR=25						
BVAR	**Borovoye Array**	**66.18**	**320**	P	**P**	**22 34 59.0**	**+0.9**
BRVK	**Borovoye**	**66.24**	**320**	*e*P	**P**	**22 34 59.0**	**+0.6**
	comp=Z,4.9nm,0.8s						
KKAR	**Karatay Array**	**66.82**	**309**	*e*P	**P**	**22 35 03.2**	**+0.8**
	comp=Z,2.6nm,0.6s						
INK	**Inuvik**	**67.62**	**23**	P	**P**	**22 35 06.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=276,slow=5.5,SNR=9.6						
INK	**Inuvik**	**67.62**	**23**	P	**P**	**22 35 06.8**	**-0.1**
KBL	**Kabul**	**69.21**	**300**	*e*P	**P**	**22 35 18.6**	**+0.7**
	comp=Z,9.8nm,0.8s						
ABKAR	**Akbulak array**	**73.15**	**317**	*e*P	**P**	**22 35 41.7**	**+0.6**
	comp=Z,1.4nm,0.5s						
CMB	**Columbia Colle**	**79.89**	**53**	*e*P	**P**	**22 36 19.7**	**+0.1**
	comp=Z,9.6nm,1.3s						
BMO	**Blue Mountains**	**80.01**	**46**	*e*P	**P**	**22 36 20.1**	**-0.1**
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**81.33**	**52**	P	**P**	**22 36 28.1**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=262,slow=6.4,SNR=16						
NVAR	**Mina Array Bea**	**81.33**	**52**	P	**P**	**22 36 28.1**	**+0.6**
ARCES	**ARCESS Array B**	**81.53**	**342**	P	**P**	**22 36 29.2**	**+1.6**
	comp=Z,5.9nm,0.9s,baz=63,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**81.53**	**342**	P	**P**	**22 36 29.2**	**+1.6**
ELK	**Elko**	**82.80**	**49**	*e*P	**P**	**22 36 35.2**	**0.0**
FLWY	**Flagg Ranch**	**84.70**	**45**	*e*P	**P**	**22 36 46.2**	**+1.4**
	comp=Z,3.8nm,0.8s						
RLMT	**Red Lodge**	**85.23**	**44**	*e*P	**P**	**22 36 48.7**	**+1.2**
	comp=Z,3.1nm,0.7s						
FFC	**Flin Flon**	**85.27**	**33**	*e*P	**P**	**22 36 47.7**	**+0.6**
	comp=Z,7.1nm,0.9s						
CCUT	**Cedar City**	**85.30**	**52**	*e*P	**P**	**22 36 48.1**	**+0.2**
	comp=Z,2.5nm,1.1s						
JLU	**Jordanelle**	**85.53**	**48**	*e*P	**P**	**22 36 49.5**	**+0.4**
	comp=Z,3.1nm,0.7s						
FINES	**FINESS Array B**	**86.12**	**336**	P	**P**	**22 36 50.5**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=66,slow=4.6,SNR=7.2						
FINES	**FINESS Array B**	**86.12**	**336**	P	**P**	**22 36 50.5**	**-0.7**
LPAZ	**La Paz**	**146.47**	**89**	PKPbc	**PKPab**	**22 43 53.9**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=237,slow=0.9,SNR=5.3						
LPAZ	**La Paz**	**146.47**	**89**	PKPbc	**PKPab**	**22 43 53.9**	**-0.3**

ISCJB ***04*** *22:25:44.1±0.8,32.°62S±0.°03×71.°90W±0.°05,h29km±4km, mb4.

ANTU					AML	AML	22 26 32.9		
	comp=N,10μm,0.5s								
FSR	**Penalolen**	**1.41**	**127**	*eP*	**Pn**	**22 26 09.0**	**+0.1**		
FSR				*i* S	**Sn**	**22 26 27.0**	**+0.3**		
FSR	**Penalolen**	**1.41**	**127**	*eP*	**Pn**	**22 26 09.0**	**+0.1**		
FSR				*i* S	**Sn**	**22 26 27.0**	**+0.3**		
FSR				AML	AML	22 26 33.7			
	comp=E,2μm,0.6s								
FCH	**Farellones**	**1.50**	**118**	⇓*iP*	**Pn**	**22 26 10.5**	**+0.1**		
FCH				*i* S	**Sn**	**22 26 29.4**	**+0.1**		
FCH				AML	AML	22 26 32.5			
	comp=N,8μm,0.7s								
CMCH	**Combarbala**	**1.64**	**27**	⇑*iP*	**Pn**	**22 26 11.9**	**-0.3**		
CMCH				*i* S	**Sn**	**22 26 32.9**	**+0.4**		
CMCH	**Combarbala**	**1.64**	**27**	⇑*iP*	**Pn**	**22 26 11.9**	**-0.3**		
CMCH				*i* S	**Sn**	**22 26 32.9**	**+0.4**		
CACH	**El Canelo**	**1.82**	**144**	⇑*iP*	**Pb**	**22 26 16.2**	**-1.2**		
CACH	**El Canelo**	**1.82**	**144**	⇑*iP*	**Pb**	**22 26 16.2**	**-1.2**		
LMEL	**Las Melosas**	**1.85**	**131**	⇓*iP*	**Pn**	**22 26 16.1**	**+1.0**		
LMEL	**Las Melosas**	**1.85**	**131**	⇓*iP*	**Pn**	**22 26 16.1**	**+1.0**		
LMEL				AML	AML	22 26 45.4			
	comp=N,4μm,0.9s								
CFAA	**Coronel Fontan**	**3.25**	**72**	P	**Pn**	**22 26 36.7**	**+2.3**		
	comp=N,4.2nm,0.3s,baz=248,slow=12,SNR=110								
CFAA				S	**Sb**	**22 27 21.9**	**+0.8**		
	comp=N,8.5nm,0.3s,baz=90,slow=17,SNR=8.0								
CFAA	**Coronel Fontan**	**3.25**	**72**	P	**Pn**	**22 26 36.7**	**+2.3**		
CFAA				S	**Sb**	**22 27 21.9**	**+0.8**		
LCO	**Las Campanas**	**3.75**	**16**	*e*Pn	**Pn**	**22 26 40.9**	**-0.5**		
LCO				*e*Sn	**Sn**	**22 27 25.6**	**+0.6**		
PLCA	**Paso Flores**	**8.15**	**173**	P	**Pn**	**22 27 42.2**	**+0.6**		
	comp=N,2.1nm,0.3s,baz=335,slow=11,SNR=31								
PLCA				LR	LR	22 31 32.9			
	comp=N,256nm,19.0s,baz=340,slow=43								
PLCA	**Paso Flores**	**8.15**	**173**	*e*Pn	**Pn**	**22 27 42.5**	**+1.0**		
PLCA				Sn	**Sn**	**22 29 11.9**	**-1.0**		
TRQA	**Tornquist**	**9.72**	**127**	*e*Pn	**Pn**	**22 28 03.3**	**+0.3**		
	comp=N,13nm,0.8s								
TRQA				*e*Sn	**Sn**	**22 29 50.6**	**-0.8**		
LVC	**Limon Verde**	**10.33**	**15**	*e*Pn	**Pn**	**22 28 13.2**	**+1.5**		
	comp=N,9.0nm,0.6s								
LVC				*e*Sn	**Sn**	**22 30 07.8**	**+1.0**		
CPUP	**Villa Florida**	**14.13**	**67**	P	**Pn**	**22 29 04.9**	**+1.4**		
	comp=N,1.7nm,0.3s,baz=216,slow=11,SNR=13								
CPUP				S	**Sn**	**22 31 39.2**	**-0.4**		
	comp=N,0.5nm,0.3s,baz=152,slow=18,SNR=2.0								
CPUP				LR	LR	22 34 44.9			
	comp=N,236nm,20.3s,baz=228,slow=38								
CPUP	**Villa Florida**	**14.13**	**67**	P	**Pn**	**22 29 04.9**	**+1.4**		
CPUP				S	**Sn**	**22 31 39.2**	**-0.4**		
LPAZ	**La Paz**	**16.63**	**13**	P	**Pn**	**22 29 37.0**	**0.0**		
	comp=N,0.2nm,0.3s,baz=176,slow=7.8,SNR=8.0								
LPAZ	**La Paz**	**16.63**	**13**	P	**Pn**	**22 29 37.0**	**0.0**		
SIV	**San Ignacio**	**19.25**	**33**	P	**P**	**22 30 06.1**	**-1.5**		
	comp=N,0.3nm,0.3s,baz=203,slow=8.4,SNR=7.7								
SIV				LR	LR	22 39 18.1			
	comp=N,167nm,18.7s,slow=42								
SIV	**San Ignacio**	**19.25**	**33**	P	**P**	**22 30 06.1**	**-1.5**		
SAML	**Samuel**	**24.91**	**21**	*eP*	P	22 30 59.3	-6.7		
	comp=N,2.2nm,0.6s								
ATAH	**Atahualpa**	**26.09**	**345**	LR	LR	22 40 05.6			
	comp=N,93nm,18.8s,baz=346,slow=33								
ROSC	**El Rosal**	**37.36**	**356**	LR	LR	22 48 40.6			
	comp=N,70nm,18.5s,baz=185,slow=37								
VNA3	**Neumayer Olymp**	**50.56**	**158**	*e*	**P**	**22 34 42.9**	**+2.0**		
VNA2	**Neumayer--Watz**	**51.21**	**158**	*e*	**P**	**22 34 47.8**	**+2.0**		
SNAA	**Sanae**	**52.79**	**158**	*e*	**P**	**22 34 59.1**	**+1.5**		
SNAA	**Sanae**	**52.79**	**158**	*eP*	**P**	**22 34 58.5**	**+0.8**		
	comp=N,3.9nm,1.0s								
QSPA	**South Pole Qui**	**57.59**	**180**	*eP*	**P**	**22 35 33.2**	**+0.8**		
	comp=N,7.0nm,0.8s								
TXAR	**Lajitas Array**	**68.62**	**330**	P	**P**	**22 36 46.4**	**+0.4**		
	comp=N,0.7nm,0.7s,baz=150,slow=7.8,SNR=6.6								
TXAR	**Lajitas Array**	**68.62**	**330**	P	**P**	**22 36 46.4**	**+0.4**		
MAW	**Mawson**	**74.44**	**164**	LR	LR	23 12 18.6			
	comp=N,110nm,18.6s,baz=32,slow=38								
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**22 37 21.7**	**-0.6**		
	comp=N,4.5nm,0.7s,baz=217,slow=3.7,SNR=11								
BOSA	**Boshof**	**80.58**	**118**	P	**P**	**22 37 54.6**	**-1.1**		
	comp=N,3.4nm,0.7s,baz=249,slow=5.3,SNR=7.9								
BOSA	**Boshof**	**80.58**	**118**	*eP*	**P**	**22 37 54.8**	**-0.9**		
	comp=N,13nm,1.2s								
NVAR	**Mina Array Bea**	**82.85**	**325**	P	P	22 38 12.9	+5.7		
	comp=N,0.4nm,0.7s,baz=162,slow=7.2,SNR=2.8								
NVAR	**Mina Array Bea**	**82.85**	**325**	P	P	22 38 12.9	+5.7		
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**22 38 10.8**	**-0.7**		
	comp=N,3.4nm,0.8s,baz=285,slow=5.1,SNR=24								
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**22 38 10.8**	**-0.7**		
WRA	**Warramunga Arr**	**122.01**	**209**	PKP	**PKPdf**	**22 44 36.8**	**-1.0**		
	comp=N,0.2nm,0.5s,baz=164,slow=1.6,SNR=4.8								
WRA	**Warramunga Arr**	**122.01**	**209**	PKP	**PKPdf**	**22 44 36.8**	**-1.0**		
BVAR	**Borovoye Array**	**146.18**	**42**	PKPbc	**PKPab**	**22 45 23.2**	**0.0**		
	comp=N,2.0nm,0.6s,baz=290,slow=3.3,SNR=12								
BVAR	**Borovoye Array**	**146.18**	**42**	PKPbc	**PKPab**	**22 45 23.2**	**0.0**		
KURK	**Kurchatov**	**151.78**	**41**	PKPbc	**PKPbc**	**22 45 37.0**	**+0.1**		
	comp=N,3.2nm,0.5s,baz=307,slow=2.8,SNR=49								
KURK	**Kurchatov**	**151.78**	**41**	PKPbc	**PKPbc**	**22 45 37.0**	**+0.1**		
ZALV	**Zalesovo Beam**	**153.00**	**31**	PKPbc	**PKPbc**	**22 45 39.6**	**+0.1**		
	comp=N,3.0nm,0.5s,baz=305,slow=3.3,SNR=21								
ZALV				PKPab	**PKPab**	**22 45 48.6**	**-2.3**		
	comp=N,1.9nm,0.6s,baz=298,slow=3.6,SNR=7.7								
ZALV	**Zalesovo Beam**	**153.00**	**31**	PKPbc	**PKPbc**	**22 45 39.6**	**+0.1**		
ZALV				PKPab	**PKPab**	**22 45 48.6**	**-2.3**		
MKAR	**Makanchi Array**	**155.75**	**47**	PKPbc	PKPdf	22 45 44.9	+8.5		
	comp=N,0.4nm,0.8s,baz=305,slow=0.9,SNR=3.9								
MKAR				PKPab	**PKPab**	**22 46 02.6**	**-0.3**		
	comp=N,1.0nm,0.6s,baz=288,slow=3.9,SNR=9.6								
MKAR	**Makanchi Array**	**155.75**	**47**	PKPbc	PKPdf	22 45 44.9	+8.5		
MKAR				PKPab	**PKPab**	**22 46 02.6**	**-0.3**		

IDC 04 22:36:56.4±12.0,**0°.87S**×**133°.48E**,**h0**km,**mb3.8**/2,
mb1 3.9/3,**mb1mx3.5**/17,**mbtmp3.7**/3,**Error ellipse:**
s-maj=192.9km s-min=115.6km az=156.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.97**	**178**	P	Pn	22 41 20.0	-0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.66**	**179**	P	P	22 41 59.9	+0.4
	1.8nm,0.8s,baz=355,slow=11,SNR=19						
STKA	**Stephens Creek**	**31.78**	**167**	P	P	22 43 22.0	-0.6
	1.0nm,0.4s,baz=344,slow=10.0,SNR=5.5						

IDC 04 22:40:48.6±2.3,**0°.69S**×**133°.36E**,**h0**km,**mb3.6**/4,
mb1 3.7/5,**mb1mx3.5**/18,**mbtmp3.6**/5,**ML3.5**/1,**MS3.3**/1,
Ms1 3.3/1,**ms1mx2.3**/29,**Error ellipse: s-maj=139.6km**
s-min=21.7km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**177**	P	Pn	22 45 14.7	+0.1
	0.2nm,0.3s,baz=356,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**22.85**	**179**	P	P	22 45 53.2	-0.4
	3.2nm,0.8s,baz=4.3,slow=11,SNR=16						
JOW	**Kunigami**	**27.80**	**350**	LR	LR	22 57 31.2	
	comp=Z,62nm,19.4s,baz=216,slow=36						
SONM	**Songino Array**	**53.73**	**338**	P	P	22 50 12.8	+0.2
	0.4nm,0.8s,baz=150,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**64.97**	**324**	P	P	22 51 30.5	+0.1
	0.2nm,0.5s,baz=107,slow=7.5,SNR=6.4						
KURK	**Kurchatov**	**69.04**	**326**	P	P	22 51 55.8	-0.3
	0.9nm,0.9s,baz=118,slow=6.5,SNR=8.2						

IDC 04 22:44:13.8±1.1,**19°.93N**×**147°.13E**,**h0**km,**mb3.7**/7,
mb1 3.9/7,**mb1mx3.7**/21,**mbtmp3.7**/7,**Error ellipse:**
s-maj=40.4km s-min=21.7km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.56**	**198**	P	P	22 52 02.7	-0.7
	1.0nm,1.1s,baz=21,slow=9.1,SNR=5.0						
SONM	**Songino Array**	**43.05**	**320**	P	P	22 52 16.0	+0.5
	0.3nm,0.4s,baz=131,slow=7.0,SNR=9.1						
ASAR	**Alice Springs**	**45.21**	**197**	P	P	22 52 33.4	+0.5
	0.2nm,0.5s,baz=24,slow=9.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**57.88**	**322**	P	P	22 54 07.0	-0.3
	0.9nm,0.7s,baz=107,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**58.59**	**313**	P	P	22 54 12.4	-0.1
	0.5nm,0.7s,baz=90,slow=8.5,SNR=6.0						
BVAR	**Borovoye Array**	**66.39**	**320**	P	P	22 55 04.3	-0.3
	1.0nm,0.5s,baz=87,slow=7.5,SNR=7.7						
NVAR	**Mina Array Bea**	**81.32**	**52**	P	P	22 56 32.8	+0.1
	1.0nm,0.8s,baz=273,slow=4.7,SNR=6.9						

*ISCJB **04** 22:52:44.9±1.1,23°.80N±0°.03×122°.68E±0°.02,h2km±8km,*
Error ellipse: s-maj=5.5km s-min=3.2km az=169.6
*TAP **04** 22:52:46.5,23°.82N×122°.58E,h8km±1km,ML3.1,D*
*JMA **04** 22:52:48.7±0.4,23°.99N×122°.71E,h16km,M2.2*
ISC 04 22:52:45.3±1.2,**23°.85N**±0°.04×**122°.66E**±0°.02,**h9**km±10km,
n25,σ**0°52**/43,**1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**28**	P	**Pb**	**22 52 59.3**	**-0.2**
YOJ				S	**Sg**	**22 53 06.7**	**-0.9**
TWD	**Chiawan**	**1.00**	**283**	P	**Pn**	**22 53 05.0**	**-0.6**
	baz=286						
TWD				*e*S	**Sb**	**22 53 17.9**	**-0.2**
	baz=286						
ENA	**Nanau**	**1.02**	**305**	P	**Pn**	**22 53 05.6**	**-0.3**
	baz=308						
ENA				*e*S	**Sn**	**22 53 20.5**	**+0.2**
	baz=308						
TWC	**Suao**	**1.06**	**316**	P	**Pn**	**22 53 06.1**	**-0.3**
	baz=320						
TWC				*e*S	**Sn**	**22 53 20.6**	**-0.7**
	baz=320						
HATJ	**Hateruma jima**	**1.07**	**79**	S	**Sb**	**22 53 20.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.09**	**64**	P	**Pn**	**22 53 07.0**	**+0.2**
IRIF				S	**Sb**	**22 53 20.6**	**-0.1**
ILA	**Ilan**	**1.23**	**318**	*e*S	**Sn**	**22 53 26.2**	**+0.6**
	baz=321						
TWE	**Neicheng**	**1.25**	**314**	P	**Pg**	**22 53 09.8**	**+0.3**
	baz=317						
TWE				S	**Sn**	**22 53 26.9**	**+0.8**
	baz=317						
ENTT	**Nioudou**	**1.27**	**308**	P	**Pg**	**22 53 10.0**	**+0.3**
	baz=311						
ENTT				*e*S	**Sn**	**22 53 28.3**	**+1.7**
	baz=311						
EHY	**Hungye**	**1.27**	**255**	*eP*	**Pg**	**22 53 10.0**	**+0.2**
	baz=254						
EHY				S	**Sg**	**22 53 26.1**	**-0.3**
	baz=254						
JKRS	**Kuro-shima**	**1.29**	**72**	P	**Pg**	**22 53 10.1**	**0.0**
JKRS				S	**Sb**	**22 53 26.4**	**-0.1**
WHF	**Hehuan Shan**	**1.31**	**283**	⇑*iP*	**Pb**	**22 53 10.2**	**-0.2**
	baz=285						
WHF				*e*S	**Sn**	**22 53 28.2**	**+0.1**
	baz=285						
NNS	**Nan Shan**	**1.31**	**297**	P	**Pg**	**22 53 10.5**	**-0.1**
	baz=299						
TWT	**Tachien**	**1.42**	**287**	P	**Pg**	**22 53 12.6**	**0.0**
	baz=288						
NSK	**Sanguang**	**1.45**	**305**	P	**Pb**	**22 53 12.0**	**-0.5**
	baz=307						
NSK				*e*S	**Sg**	**22 53 33.0**	**+1.1**
	baz=307						
JIJ	**Ishigaki jima**	**1.45**	**69**	P	**Pb**	**22 53 12.7**	**+0.2**
JIJ				S	**Sn**	**22 53 30.5**	**-0.4**
YUS	**Yu-Shan**	**1.61**	**257**	*eP*	**Pb**	**22 53 15.4**	**-0.1**
	baz=257						
YUS				*e*S	**Sn**	**22 53 35.2**	**-0.3**
	baz=257						
SMLT	**Sun Moon Lake**	**1.61**	**272**	*e*S	**Sn**	**22 53 34.8**	**-0.4**
	baz=272						
ELDTW	**Lidau**	**1.65**	**247**	*eP*	**Pn**	**22 53 14.9**	**+0.3**
	baz=246						
ELDTW				*e*S	**Sn**	**22 53 35.8**	**-0.2**
	baz=246						
TYC	**Yuchr**	**1.65**	**272**	*eP*	**Pb**	**22 53 15.9**	**-0.1**
	baz=273						
TWG	**Pinlang**	**1.79**	**235**	*eP*	**Pn**	**22 53 16.8**	**+0.4**
	baz=233						
TWG				S	**Sn**	**22 53 38.4**	**-0.8**
	baz=233						
CHN5	**Tsauling**	**1.83**	**262**	*eP*	**Pb**	**22 53 19.0**	**-0.2**
	baz=262						
CHN5				*e*S	**Sb**	**22 53 42.2**	**-0.1**
	baz=262						
CHN4	**Tsaushan**	**1.96**	**256**	*e*S	**Sb**	**22 53 45.9**	**+0.1**
	baz=255						
ECL	**Taimali**	**2.01**	**232**	*eP*	**Pn**	**22 53 19.9**	**+0.5**
	baz=230						
ECL				*e*S	**Sn**	**22 53 44.0**	**-0.7**
	baz=230						
CHN1	**Nanshi**	**2.07**	**252**	*eP*	**Pb**	**22 53 23.5**	**+0.4**
	baz=251						
CHN1				*e*S	**Sb**	**22 53 48.5**	**-0.4**
	baz=251						

*IDC **04** 23:01:11.3±2.3,39°.21N×73°.62E,h0km,mb3.9/2,*
mb1 3.4/7,mb1mx3.3/28,mbtmp3.4/7,ML2.9/5,Error
ellipse: s-maj=43.1km s-min=20.1km az=136.0
*NNC **04** 23:01:14.3±2.3,39°.28N×72°.86E,h0km,mb3.6,mpv3.5,*
Error ellipse: s-maj=19.6km s-min=10.2km az=10.0
ISC 04 23:01:09.6±2.7,**38°.7N**±0°.2×**73°.13E**±0°.09,**h103**km,**n22,**
σ2s20/30,**4C-8D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.45**	**7**	P	**Pn**	**23 01 59.0**	**-2.7**
	SNR=34						
AML				P	**Pn**	**23 01 59.0**	**-2.7**
	SNR=34						
UCH	**Uchtor**	**3.67**	**16**	P	**Pn**	**23 02 05.8**	**+1.1**
	SNR=11						
UCH				P	**Pn**	**23 02 05.8**	**+1.1**
	SNR=11						
KZA	**Kyzart**	**3.73**	**25**	P	**Pn**	**23 02 03.3**	**-2.3**
	SNR=11						
KZA				P	**Pn**	**23 02 03.3**	**-2.3**
	SNR=11						
EKS2	**Erkin-Say**	**3.98**	**7**	P	**Pn**	**23 02 06.7**	**-1.9**
	SNR=18						
EKS2				P	**Pn**	**23 02 06.7**	**-1.9**
	SNR=18						
AAK	**Ala-Archa**	**4.06**	**14**	P	**Pn**	**23 02 07.4**	**-2.3**
	SNR=20						
AAK				P	**Pn**	**23 02 07.4**	**-2.3**
	SNR=20						
KBK	**Karagaybulak**	**4.18**	**19**	P	**Pn**	**23 02 10.0**	**-1.4**
	SNR=9.8						
KBK				P	**Pn**	**23 02 10.0**	**-1.4**
	SNR=9.8						
ULHL	**Ulahol**	**4.26**	**33**	P	**Pn**	**23 02 10.8**	**-1.6**
	SNR=6.0						
ULHL				P	**Pn**	**23 02 10.8**	**-1.6**
	SNR=6.0						
CHMS	**Chumysh**	**4.46**	**16**	P	**Pn**	**23 02 12.5**	**-2.5**
	SNR=7.0						
CHMS				P	**Pn**	**23 02 12.5**	**-2.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.61**	**23**	⇓Pn	**Pn**	**23 02 18.9**	**+1.8**
	5.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**23 03 09.9**	**+0.3**
	18nm,0.6s						
USP	**Ospenovka**	**4.67**	**12**	P	**Pn**	**23 02 15.4**	**-2.4**
	SNR=10						
USP				P	**Pn**	**23 02 15.4**	**-2.4**
	SNR=10						
KK31	**Karatay Array**	**4.82**	**337**	⇓Pn	**Pn**	**23 02 22.2**	**+2.3**
	0.9nm,0.2s						
KK31				⇓Pg		23 02 33.4	
KK31				⇓Sn	**Sn**	**23 03 16.0**	**+1.6**
	2.9nm,0.3s						
KK31				⇓Lg	Lg	23 03 29.9	
	6.0nm,0.4s						
KNDC	**Almaty**	**5.36**	**32**	⇓Pn	Pn	23 02 31.4	+4.2
	10nm,0.5s						
KNDC				⇑Sn	**Sn**	**23 03 31.0**	**+3.3**
	32nm,0.7s						
MK31	**Makanchi Array**	**10.51**	**37**	⇑Pn	Pn	23 03 44.6	+7.4
	0.3nm,0.6s,baz=218,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**10.51**	**37**	Pn	**Pn**	**23 03 36.4**	**-0.7**
	0.0nm,0.3s,baz=226,slow=15,SNR=2.8						
KURK	**Kurchatov**	**12.62**	**16**	Pn	Pn	23 04 00.9	-4.2
	0.0nm,0.3s,baz=203,slow=12,SNR=3.2						
KURK				Lg	Lg	23 07 18.8	
	0.0nm,0.3s,baz=205,slow=29,SNR=3.5						
AB31	**Akbulak array**	**14.16**	**322**	⇑Pn	**P**	**23 04 29.2**	**-0.4**
	0.3nm,0.5s,baz=125,slow=14						
AB31				⇓Sn	**Sn**	**23 06 59.9**	**-1.3**
	1.8nm,1.1s,baz=135,slow=24,SNR=2.8						
BVAR	**Borovoye Array**	**14.44**	**353**	Pn	**Pn**	**23 04 28.2**	**-0.7**
	0.1nm,0.3s,baz=165,slow=14,SNR=3.9						
AKTO	**Aktyubinsk**	**15.88**	**322**	Pn	**P**	**23 04 52.7**	**+4.0**
	0.0nm,0.3s,baz=127,slow=17,SNR=3.2						
AKTO	**Aktyubinsk**	**15.88**	**322**	⇓Pn	**P**	**23 04 51.9**	**+3.2**
	0.5nm,1.2s						
ZALV	**Zalesovo Beam**	**17.21**	**24**	Pn	**P**	**23 05 03.7**	**+0.4**
	0.1nm,0.3s,baz=210,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**36.65**	**324**	P	P	23 08 16.9	+11
	2.4nm,0.8s,baz=108,slow=8.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**67.45**	**269**	P	P	23 12 11.7	+17
	0.5nm,0.5s,baz=49,slow=5.4,SNR=17						

*IDC **04** 23:01:10.7±1.0,31°.63N×104°.02E,h0km,mb3.6/8,*
mb1 3.8/10,mb1mx3.7/26,mbtmp3.7/10,ML3.4/2,Error
ellipse: s-maj=33.5km s-min=19.0km az=52.0
*ISCJB **04** 23:01:11.2±0.4,31°.70N±0°.04×104°.00E±0°.06,h14km,*
mb3.8/9,Error ellipse: s-maj=7.5km s-min=4.9km az=16.2
*BJI **04** 23:01:13.6,31°.73N×104°.15E,h16km,ML3.6/14*
ISC 04 23:01:12.9±0.6,**31°.60N**±0°.04×**103°.96E**±0°.06,**h14**km,**n24,**
σ1s41/30,mb3.8/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.70**	**194**	Pg	**Pn**	**23 01 29.1**	**+0.6**
CD2				Sg	**Sn**	**23 01 41.4**	**+2.2**
CD2				smax	smax		
	comp=N,2μm,0.6s						
CD2				smax	smax		
	comp=E,5μm,0.6s						
LZH	**Lanzhou**	**4.48**	**359**	*e*Pg	**Pg**	**23 02 37.1**	**-1.7**
LZH				Sg	**Sb**	**23 03 29.2**	**+3.8**
LZH				smax	smax		
	comp=N,81nm,1.0s						
LZH				smax	smax		
	comp=E,77nm,0.7s						
XAN	**Xi'an**	**4.84**	**58**	Pn	**Pn**	**23 02 24.5**	**-0.8**
XAN				Pg	**Pb**	**23 02 37.4**	**-0.1**
XAN				Sg	**Sb**	**23 03 38.2**	**+2.7**
XAN				smax	smax		
	comp=N,120nm,0.8s						
XAN				smax	smax		
	comp=E,61nm,0.8s						
GYA	**Guiyang**	**5.64**	**155**	Pn	Pn	23 02 41.0	+4.5
GYA				Sn	**Sn**	**23 03 42.4**	**+1.3**
GYA				Sg	**Sg**	**23 04 11.7**	**-2.3**
GYA				smax	smax		
	comp=N,80nm,0.8s						
GYA				smax	smax		
	comp=E,60nm,0.7s						
HHC	**Hu-ho-hao-te**	**11.08**	**31**	*e*P	**Pn**	**23 03 50.3**	**-0.8**
HHC				PP		23 03 58.7	
HHC				S	**Sn**	**23 05 55.3**	**+0.4**
HHC				SS		23 06 09.2	
CMAR	**Chiang Mai Arr**	**13.85**	**200**	Pn	**Pn**	**23 04 30.8**	**+1.9**
	comp=E,0.2nm,0.3s,baz=15,slow=14,SNR=3.1						
TAPN	**Taplejung**	**14.77**	**257**	*eP*	**P**	**23 04 46.5**	**-1.2**
	comp=E,32nm,1.5s						
GUN	**Gumba**	**16.12**	**261**	*eP*	**Pn**	**23 04 59.4**	**-0.2**
	comp=E,14nm,0.6s						
SONM	**Songino Array**	**16.32**	**6**	Pn	**Pn**	**23 05 02.2**	**+0.4**
	comp=E,0.0nm,0.3s,baz=187,slow=13,SNR=7.0						
PKI	**Pulchoki**	**16.63**	**261**	*eP*	**Pn**	**23 05 05.8**	**-0.1**
	comp=E,11nm,0.8s						
DMN	**Daman**	**16.87**	**261**	*eP*	**Pn**	**23 05 08.8**	**-0.2**
GKN	**Gorkha**	**17.15**	**263**	*eP*	**Pn**	**23 05 10.7**	**-1.7**
KOLN	**Koldanda**	**18.09**	**263**	*eP*	**Pn**	**23 05 22.2**	**-1.9**
	comp=E,5.3nm,0.6s						
KSRS	**Korea Array**	**20.57**	**67**	P	**P**	**23 05 50.3**	**-0.9**
	comp=E,2.1nm,0.7s,baz=257,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**22.53**	**319**	P	**P**	**23 06 13.2**	**+0.9**
	comp=E,2.1nm,0.9s,baz=123,slow=11,SNR=10.0						
ZALV	**Zalesovo Beam**	**26.23**	**334**	P	**P**	**23 06 47.2**	**0.0**
	comp=E,1.4nm,0.7s,baz=134,slow=8.2,SNR=7.3						
KURK	**Kurchatov**	**26.78**	**323**	P	**P**	**23 06 52.0**	**-0.3**
	comp=E,1.3nm,0.8s,baz=131,slow=9.4,SNR=10						
BRTR	**Keskin Array B**	**56.39**	**299**	P	**P**	**23 10 54.6**	**+0.5**
	comp=E,0.8nm,0.9s,baz=73,slow=5.0,SNR=3.3						
AKASG	**Malin Array Be**	**56.96**	**313**	P	**P**	**23 10 56.6**	**-1.1**
	comp=E,0.4nm,0.4s,baz=68,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**58.95**	**146**	P	**P**	**23 11 11.9**	**-0.1**
	comp=E,0.8nm,0.6s,baz=327,slow=9.0,SNR=16						
GERES	**GERESS Array B**	**67.11**	**314**	P	**P**	**23 12 06.1**	**-0.1**
	comp=E,0.3nm,0.6s,baz=58,slow=7.3,SNR=2.8						
LPG	**La Plagne**	**72.83**	**313**	*eP*	**P**	**23 12 41.9**	**+0.4**
	comp=E,5.2nm,0.5s						
LPL	**La Plagne**	**72.83**	**313**	*eP*	**P**	**23 12 41.9**	**+0.5**
	comp=E,5.7nm,0.5s						
ORIF	**Oris-en-Rattie**	**73.64**	**313**	*eP*	**P**	**23 12 46.2**	**+0.1**

IDC 04 23:08:40.8±2.2,**0°.49S**×**131°

KBL Kabul 2.48 218 *e*Pn **Pn** **23 13 42.8 -0.8**
KBL *e*Sn **Sn** **23 14 13.5 -4.0**
CEP Cherat 2.79 163 ⇓P **Pn** **23 13 47.3 +0.2**
CEP S **Sn** **23 14 22.0 -1.9**
CHCP Chirah Chowk 3.43 145 ⇓P **Pn** **23 13 55.0 +0.4**
NIL Nilore 3.43 145 *e*PN **Pn** **23 13 54.8 +0.2**
NIL *e* 23 14 35.3
NIL Nilore 3.43 145 *e*Pn **Pn** **23 13 54.8 +0.2**
NIL *e*Sn **Sn** **23 14 35.3 -2.0**
THW Thamme Wali 3.76 169 ⇓P **Pn** **23 13 58.6 -0.1**
SARP Sargodha 4.80 162 P **Pn** **23 14 10.9 -0.8**
KSH Kashi 5.00 52 P Pn 23 14 09.6 -4.8
KSH sP Sn 23 14 48.5
KSH S Sn 23 15 01.9 -11
DLH Dalhousie 5.75 132 *e*P **Pn** **23 14 23.0 -1.1**
DLH *e*S **Sn** **23 15 26.0 -4.4**
AML Almayashu 6.02 20 P **Pn** **23 14 27.1 -0.6**
AML P **Pn** **23 14 27.1 -0.6**
PONG Pong 6.16 136 *e*P Pn 23 14 26.0 -3.3
UCH Uchtor 6.36 25 P **Pn** **23 14 31.7 -0.5**
SNR=290
UCH P **Pn** **23 14 31.7 -0.5**
SNR=290
KZA Kyzart 6.50 30 P **Pn** **23 14 32.7 -1.3**
SNR=1907
KZA P **Pn** **23 14 32.7 -1.3**
SNR=1907
EKS2 Erkin-Say 6.54 19 P **Pn** **23 14 33.8 -0.5**
SNR=7478
EKS2 P **Pn** **23 14 33.8 -0.5**
SNR=7478
EKS2 Erkin-Say 6.54 19 *e*PN **Pn** **23 14 33.7 -0.5**
EKS2 Erkin-Say 6.54 19 *e*Pn **Pn** **23 14 33.7 -0.5**
EKS2 *e*Sn **Sn** **23 15 43.2 -5.6**
KK31 Karatay Array 6.60 357 Pn **Pn** **23 14 32.8 -2.1**
4μm,0.5s,baz=185,slow=12
KK31 Sn Sn 23 15 43.2 -7.0
14μm,1.1s,baz=191,slow=25,SNR=10.0
KKAR Karatay Array 6.60 357 *e*PN **Pn** **23 14 33.8 -1.1**
KKAR Karatay Array 6.60 357 *e*Pn **Pn** **23 14 33.8 -1.1**
KKAR *e*Sn **Sn** **23 15 41.7 -8.4**
AAK Ala-Archa 6.72 23 P **Pn** **23 14 36.3 -0.2**
SNR=4099
AAK P **Pn** **23 14 36.3 -0.2**
SNR=4099
AAK Ala-Archa 6.72 23 *d i*PN **Pn** **23 14 36.3 -0.2**
AAK Ala-Archa 6.72 23 *e*Pn **Pn** **23 14 36.4 -0.2**
AAK *e*Sn **Sn** **23 15 50.1 -3.0**
AAK Ala-Archa 6.72 23 P **Pn** **23 14 36.5 -0.1**
SNR=1911
KBK Karagaybulak 6.89 26 P **Pn** **23 14 38.6 -0.2**
SNR=1466
KBK P **Pn** **23 14 38.6 -0.2**
SNR=1466
FRU Bishkek 6.94 23 ⇓*i*PN **Pn** **23 14 39.5 +0.2**
FRU pmax pmax
comp=E,6μm,1.6s
ULHL Ulahol 7.07 34 P **Pn** **23 14 39.9 -1.2**
SNR=356
ULHL P **Pn** **23 14 39.9 -1.2**
SNR=356
CHMS Chumysh 7.13 23 P **Pn** **23 14 41.1 -0.7**
SNR=703
CHMS P **Pn** **23 14 41.1 -0.7**
SNR=703
USP Ospenovka 7.30 21 P **Pn** **23 14 42.7 -1.3**
SNR=4059
USP P **Pn** **23 14 42.7 -1.3**
SNR=4059
TKM2 Tokmak 2 7.36 28 P **Pn** **23 14 44.4 -0.6**
SNR=2505
TKM2 P **Pn** **23 14 44.4 -0.6**
SNR=2505
TKM2 Tokmak 2 7.36 28 ⇓Pn **Pn** **23 14 44.2 -0.8**
comp=E,7μm,0.6s
TKM2 ⇑Sn **Sn** **23 16 04.0 -4.2**
comp=E,2μm,0.9s
TKM2 Tokmak 2 7.36 28 *i* PN **Pn** **23 14 44.4 -0.6**
TKM2 Tokmak 2 7.36 28 *e*Pn **Pn** **23 14 44.3 -0.6**
KNDC Almaty 8.16 33 ⇓Pn **Pn** **23 14 54.7 -0.6**
comp=E,5μm,0.9s
KNDC ⇓Sn **Sn** **23 16 22.9 -4.2**
comp=E,2μm,0.8s
KKR Kurukshetra 8.19 141 *e*P **Pn** **23 14 54.1 -1.6**
KKR *ex* x 23 16 02.5
AAA Alma-Ata 8.20 33 *i* PN **Pn** **23 14 54.8 -1.0**
AAA *i* S **Sn** **23 16 25.1 -2.8**
AAA pmax pmax
comp=Z,16μm,1.3s
AAA smax smax
comp=E,16μm,3.1s
AAA MLR MLR
comp=Z,32μm,3.0s
DDI Dehra Dun 8.58 134 ⇓*i*P **Pn** **23 14 59.0 -1.9**
DDI *ex* x 23 16 23.5
KHET Khetri 9.37 152 *e*P **Pn** **23 15 08.8 -2.3**
KHET *e*S Sn 23 16 46.2 -10
KHET AML AML 23 16 50.1
comp=N,5μm,0.3s
KHET AML AML 23 16 54.0
comp=E,5μm,0.6s
NDI New Delhi 9.44 144 *e*P **Pn** **23 15 09.4 -2.5**
NDI *e*S Sn 23 16 49.0 -8.5
NDI AML AML 23 16 52.2
comp=E,6μm,0.7s
NDI AML AML 23 16 53.8
comp=N,5μm,0.4s
AYAN Aya Nagar 9.56 145 *e*P **Pn** **23 15 11.9 -1.7**
AYAN *e*S Sn 23 16 50.9 -10
AYAN AML AML 23 17 04.7
comp=Z,2μm,0.8s
IMON Monand 9.81 254 *e*P **Pn** **23 15 16.5 -0.6**
IDAH Dahanechah 9.84 251 *e*P **Pn** **23 15 16.7 -0.8**
IEMG Emamgholi 9.85 279 *e*P **Pn** **23 15 14.6 -3.0**
ABKT Ailbek 10.30 282 Pn **Pn** **23 15 20.4 -2.8**
comp=Z,7μm,0.7s
ISFR Sfrayin 10.37 277 *e*P **Pn** **23 15 22.0 -2.3**
PTH Pithoragarh 10.44 129 *ex* **Pn** **23 15 22.9 -2.3**
PTH *e*S Sn 23 17 11.3 -11
ISHV Shirvan 10.61 280 *e*P **Pn** **23 15 24.8 -2.6**
IKOO Kooshah 10.64 251 *e*P **Pn** **23 15 26.6 -1.2**
ITEG Tejag 10.64 254 *e*P **Pn** **23 15 26.3 -1.4**
AGRA Agra 11.00 145 *e*P **Pn** **23 15 31.9 -0.4**
AGRA *e*S Sn 23 17 23.4 -12
AGRA AML AML 23 17 29.1
comp=N,6μm,0.8s
AGRA AML AML 23 17 34.6
comp=E,5μm,1.2s
MK31 Makanchi Array 13.33 36 ⇓Pn **Pn** **23 16 01.3 -0.3**
comp=E,190nm,0.8s,baz=202,slow=12,SNR=1486
MK31 Makanchi Array 13.33 36 *e*P **Pn** **23 16 00.1 -1.6**
MK31 Makanchi Array 13.33 36 *e*Pn **Pn** **23 16 00.1 -1.6**
MKAR Makanchi Array 13.33 36 P **Pn** **23 16 01.5 -0.2**
comp=E,19nm,0.3s,baz=225,slow=9.3,SNR=411
MKAR sP 23 16 50.8
comp=E,16nm,0.3s,baz=217,slow=9.9,SNR=3.4
MKAR Makanchi Array 13.33 36 *ce*P **Pn** **23 16 00.1 -1.6**
MKAR pmax pmax
comp=Z,93nm,0.6s
MKAR Makanchi Array 13.33 36 P **Pn** **23 16 01.5 -0.2**
MKAR sP 23 16 50.8
IANJ Anjilo 13.80 271 *e*P **Pn** **23 16 07.3 -0.6**
KOLN Koldanda 13.82 125 *e*P **Pn** **23 16 06.0 -2.2**
comp=Z,2μm,0.4s
KOLN *e*S Sn 23 18 31.1 -12
KOLN Koldanda 13.82 125 *e*P **Pn** **23 16 06.0 -2.2**
comp=Z,2μm,0.4s
KOLN *e*S Sn 23 18 31.1 -12
ISHM Shahmirzad 14.26 272 *e*P **Pn** **23 16 12.7 -0.8**
GKN Gorkha 14.37 122 *e*P **Pn** **23 16 13.3 -1.5**
GKN *e*S S 23 18 42.5 -13
GKN Gorkha 14.37 122 *e*P **Pn** **23 16 13.3 -1.5**
GKN *e*S S 23 18 42.5 -13
ALBI Allahabad 14.55 137 *ex* Pn 23 16 13.0 -3.9
ILAS Lasjerd 14.59 271 *e*P **Pn** **23 16 16.6 -1.0**
IFIR Firoozkooh 14.71 272 *e*P **Pn** **23 16 19.2 +0.1**
WMQ Urumqi 14.76 55 P **Pn** **23 16 18.9 -0.5**
WMQ sP 23 17 07.9
WMQ S S 23 18 55.9 -7.9
WMQ pmax pmax
comp=Z,260nm,1.4s
DMN Daman 14.94 122 *e*P **Pn** **23 16 20.5 -1.4**
comp=Z,3μm,0.5s
DMN Daman 14.94 122 *e*P **Pn** **23 16 20.5 -1.4**
comp=Z,3μm,0.5s
KKN Kakani 14.94 121 *e*P **Pn** **23 16 19.8 -2.1**
comp=Z,5μm,0.6s
KKN Kakani 14.94 121 *e*P **Pn** **23 16 19.8 -2.1**
KKN pmax pmax
comp=Z,5μm,0.6s
KKN Kakani 14.94 121 *e*P **Pn** **23 16 19.8 -2.1**
comp=Z,5μm,0.6s
AB31 Akbulak array 15.05 331 Pn **Pn** **23 16 21.3 -1.5**
comp=Z,1μm,0.5s,baz=140,slow=9.2
AB31 ⇓Sn S 23 19 02.2 -8.0
comp=Z,187nm,0.5s,baz=152,slow=22,SNR=5.9
ABKAR Akbulak array 15.05 331 *e*Pn **Pn** **23 16 21.7 -1.1**
ABKAR *e*S S 23 19 02.8 -7.4
PKI Pulchoki 15.17 122 *e*P **Pn** **23 16 23.2 -1.6**
comp=Z,17μm,0.9s
PKI Pulchoki 15.17 122 *e*P **Pn** **23 16 23.2 -1.6**
PKI pmax pmax
comp=Z,10μm,0.9s
PKI Pulchoki 15.17 122 *e*P **Pn** **23 16 23.2 -1.6**
ABKAR comp=Z,17μm,0.9s
KURK Kurchatov 15.25 19 P **Pn** **23 16 21.9 -3.3**
comp=Z,5.5nm,0.3s,baz=208,slow=12,SNR=350
KURK sP sP 23 17 11.6 -11
comp=Z,5.6nm,0.3s,baz=211,slow=11,SNR=2.5
KURK PKiKP **PKiKP** **23 29 10.2 -1.3**
comp=Z,0.1nm,0.3s,baz=236,slow=0.6,SNR=6.7
KURK Kurchatov 15.25 19 ⇑Pn **Pn** **23 16 23.0 -2.3**
comp=Z,357nm,1.1s
KURK ⇑Sn **S** **23 19 11.3 -3.6**
comp=Z,1μm,1.2s
KURK Kurchatov 15.25 19 *d i*P **Pn** **23 16 22.9 -2.3**
KURK pmax pmax
comp=Z,420nm,1.2s
KURK Kurchatov 15.25 19 P **Pn** **23 16 21.9 -3.3**
KURK *e*Pn **Pn** **23 16 23.1 -2.3**
KURK *e*S **S** **23 19 13.5 -1.4**
KURK PKiKP **PKiKP** **23 29 10.2 -1.3**
KURK Kurchatov 15.25 19 Pn **Pn** **23 16 23.4 -1.9**
comp=Z,2μm,0.6s,SNR=78
GUN Gumba 15.28 120 *e*P **Pn** **23 16 25.1 -1.1**
GUN Gumba 15.28 120 *e*P **Pn** **23 16 25.1 -1.1**
JIRN Jiri 15.65 120 *e*P **Pn** **23 16 29.8 -0.9**
comp=Z,4μm,0.3s
IZEF Zefreh 15.70 262 *e*P **P** **23 16 31.4 +0.2**
IGAR Gharneh 16.09 261 *e*P **Pn** **23 16 35.9 0.0**
IR3 Iran Long-Peri 16.13 272 *e*P **P** **23 16 35.6 -0.1**
IKLH Kolahrood 16.17 264 *e*P **Pn** **23 16 37.1 +0.2**
VOSK Vostochnaya 16.22 0 ⇓Pn **P** **23 16 35.4 -1.1**
comp=Z,960nm,0.8s
VOSK ⇑Sn **S** **23 19 31.8 -4.3**
comp=Z,617nm,1.1s
IPAR Pars 16.35 251 *e*P **Pn** **23 16 39.1 0.0**
RAMN Ramite 16.38 121 *e*P **P** **23 16 37.7 -1.0**
comp=Z,4μm,0.7s
RAMN Ramite 16.38 121 *e*P **P** **23 16 37.7 -1.0**
comp=Z,4μm,0.7s
IMHD Mahdasht 16.39 273 *e*P **Pn** **23 16 39.4 +0.1**
ZRNK Zerenda 16.50 356 ⇓Pn **P** **23 16 38.8 -0.7**
comp=Z,360nm,0.5s
ZRNK ⇑Sn **S** **23 19 38.6 -3.3**
comp=Z,1μm,1.4s
BVA0 Borovoye Array 16.53 359 ⇓Pn **P** **23 16 39.5 -0.3**
comp=Z,82nm,0.9s,baz=168,slow=11,SNR=3205
BVA0 ⇑Sn **S** **23 19 39.8 -2.6**
comp=Z,152nm,1.2s,baz=168,slow=26,SNR=6.4
BVAR Borovoye Array 16.53 359 P **P** **23 16 40.2 +0.4**
comp=Z,75nm,0.3s,baz=165,slow=13,SNR=597
BVAR S **S** **23 19 43.6 +1.2**
comp=Z,8.3nm,0.3s,baz=172,slow=21,SNR=3.9
BVAR PKiKP **PKiKP** **23 29 11.1 -0.8**
comp=Z,0.4nm,0.3s,baz=129,slow=0.4,SNR=5.1
BVAR Borovoye Array 16.53 359 P **P** **23 16 40.2 +0.4**
BVAR S **S** **23 19 43.6 +1.2**
BVAR pmax pmax
comp=Z,75nm,0.3s
BVAR smax smax
comp=N,8.0nm,0.3s
BVAR Borovoye Array 16.53 359 P **P** **23 16 40.2 +0.4**
BVAR S **S** **23 19 43.6 +1.2**
BVAR PKiKP **PKiKP** **23 29 11.1 -0.8**
ISRV Sarvestan 16.53 250 *e*P **P** **23 16 40.4 0.0**
BRVK Borovoye 16.56 359 ⇓Pn **P** **23 16 40.3 +0.2**
comp=N,917nm,0.7s
BRVK ⇑Sn **S** **23 19 39.8 -3.3**
comp=N,853nm,1.2s
BRVK Borovoye 16.56 359 *d i*P **P** **23 16 40.1 0.0**
BRVK pmax pmax
comp=Z,981nm,1.2s
BRVK Borovoye 16.56 359 *e*P **P** **23 16 40.2 0.0**
comp=Z,860nm,0.8s
BRVK *e*S **S** **23 19 38.9 -4.3**
AKTO Aktyubinsk 16.74 330 P **Pn** **23 16 43.3 +0.1**
baz=141,slow=14
AKTO S **S** **23 19 46.0 -0.9**
comp=Z,15nm,0.3s,baz=282,slow=20,SNR=2.2
AKTO Aktyubinsk 16.74 330 ⇓Pn **P** **23 16 41.7 -0.5**
comp=Z,338nm,0.8s
AKTO ⇓Sn **S** **23 19 44.7 -2.2**
comp=Z,101nm,0.8s
AKTO Aktyubinsk 16.74 330 P **Pn** **23 16 43.3 +0.1**
AKTO S **S** **23 19 46.0 -0.9**
AKTO smax smax
comp=N,15nm,0.3s
AKTO Aktyubinsk 16.74 330 P **Pn** **23 16 43.3 +0.1**
AKTO S **S** **23 19 46.0 -0.9**
NGP Nagpur 16.86 153 *e*P **P** **23 16 42.5 -1.3**
NGP *ex* x 23 19 41.2
TAPN Taplejung 16.91 118 *e*P **Pn** **23 16 45.5 -0.3**
comp=N,2μm,0.4s
IPIR Pirpir 16.91 263 *e*P **Pn** **23 16 46.7 +0.9**
ODAN Odare 16.98 120 *e*P **P** **23 16 45.9 +0.6**
comp=N,5μm,0.7s
ODAN Odare 16.98 120 *e*P **P** **23 16 45.9 +0.6**
comp=N,5μm,0.7s
GTK Gangtok 17.57 116 *e*P **P** **23 16 51.0 -0.7**
GTK *ex* x 23 19 57.0
BOK Bokaro 18.08 130 *i* x **P** **23 17 00.0 +2.9**
BOK *i* x **S** **23 20 10.0 -4.2**
LSA Lhasa 18.25 106 P **Pn** **23 17 02.0 +0.3**
LSA S **S** **23 20 19.5 +1.3**
LSA pmax pmax
comp=Z,580nm,1.1s
LSA Lhasa 18.25 106 *e*P **Pn** **23 17 02.2 +0.5**
LSA *e*S **S** **23 20 16.3 -1.9**
LSA pmax pmax
comp=Z,461nm,0.8s
LSA Lhasa 18.25 106 *e*Pn **Pn** **23 17 02.2 +0.5**
comp=Z,461nm,0.8s
LSA *e*S **S** **23 20 16.3 -1.9**
LATR Latur 18.69 163 *ex* **P** **23 17 04.5 +0.8**
LATR *e*S **S** **23 20 26.1 -0.2**
MAK Makhachkala 19.09 297 *c i*P **P** **23 17 08.9 +1.1**
MAK *i* S **S** **23 20 36.4 +2.6**
MAK pmax pmax
comp=Z,1μm,0.7s
MAK MLR MLR
comp=Z,5μm,14.0s
ZAA0 Zalesovo Array 19.94 25 *e*P **P** **23 17 16.9 +0.1**
ZALV Zalesovo Beam 19.94 25 P **P** **23 17 17.1 +0.2**
comp=Z,63nm,0.3s,baz=221,slow=11,SNR=2419
ZALV S **S** **23 20 50.7 +0.5**
baz=212,slow=20,SNR=2.1
ZALV P3KP 23 52 03.5
comp=Z,0.2nm,0.3s,baz=321,slow=3.7,SNR=3.7
ZALV Zalesovo Beam 19.94 25 P **P** **23 17 17.1 +0.2**
ZALV S **S** **23 20 50.7 +0.5**
ZALV pmax pmax
comp=Z,63nm,0.3s
ZALV Zalesovo Beam 19.94 25 P **P** **23 17 17.1 +0.2**
ZALV S **S** **23 20 50.7 +0.5**
ZALV PKKKP 23 52 03.5
HYB Hyderabad 20.18 158 ⇓*i*P **P** **23 17 19.0 -0.7**
comp=Z,510nm,1.0s
HYB *e*S **S** **23 20 56.0 +0.5**
NVS Novosibirsk 20.20 21 ⇑*i*P **P** **23 17 19.1 -0.5**
NVS *e* 23 18 16.0
NVS *e*S **S** **23 20 51.6 -3.7**
NVS pmax pmax
comp=N,595nm,1.3s
NVS pmax pmax
comp=Z,851nm,1.3s
NVS smax smax
comp=E,2μm,2.6s
CAL Calcutta 20.53 128 ⇓*i*P **P** **23 17 22.8 -0.6**
CAL *e*S **S** **23 21 04.3 +2.1**
KBD Kabd 20.80 256 *e*P **P** **23 17 26.3 +0.1**
KBD AMb AMB 23 17 30.3
comp=Z,2μm,0.7s
MIB Mutribah 20.81 258 *e*P **P** **23 17 26.3 0.0**
MIB AMb AMB 23 17 29.7
comp=Z,5μm,1.0s
QRN Al-Qurain 20.82 255 *e*P **P** **23 17 26.3 -0.2**
QRN AMb AMB 23 17 29.5
comp=Z,3μm,1.1s
GNI Garni 20.82 288 P **P** **23 17 28.8 +2.2**
comp=Z,1μm,0.8s,baz=156,slow=8.5,SNR=67
GNI Garni 20.82 288 *e*P **P** **23 17 28.7 +2.2**
GNI Garni 20.82 288 *c i*P **P** **23 17 28.6 +2.0**
GNI pmax pmax
comp=Z,3μm,1.2s
GNI Garni 20.82 288 P **P** **23 17 28.8 +2.2**
GNI *e*P Pn 23 17 28.9 -3.5
GNI *es*P **sP** **23 18 22.8 -1.2**
TBLG Delisi 20.93 292 *i* P **P** **23 17 28.4 +0.9**
TBLG Delisi 20.93 292 P **P** **23 17 28.4 +0.9**
NAY Al-Naaiem 21.12 257 *e*P **P** **23 17 29.6 0.0**
NAY AMb AMB 23 17 32.5
comp=Z,2μm,1.1s
GOR Gori 21.42 293 P **P** **23 17 33.7 +1.0**
CLDR Calditan 21.46 285 *e*P **P** **23 17 34.6 +1.3**
SVE Sverdlovsk 21.47 344 *d i*P **P** **23 17 33.6 +0.6**
SVE *i* S **S** **23 21 20.4 +2.1**
SVE pmax pmax
comp=Z,1μm,1.2s
SVE pmax pmax
comp=Z,543nm,7.8s
SVE smax smax
comp=N,4μm,11.9s
SVE smax smax
comp=E,4μm,15.3s
ARU Arti 21.61 341 *c i*P **P** **23 17 34.7 +0.3**
ARU **PP* **pP** **23 18 06.3 -1.3**
ARU *e* 23 18 08.5
ARU S **S** **23 21 22.4 +2.0**
ARU SSS SSS 23 22 12.5
ARU pmax pmax
comp=Z,3μm,1.2s
ARU Arti 21.61 341 *e*P **P** **23 17 34.9 +0.5**
comp=Z,3μm,1.2s
ARU Arti 21.61 341 P **P** **23 17 34.5 +0.1**
comp=Z,9μm,1.0s
ZEI Tsey 21.67 295 ⇑*i*P **P** **23 17 35.4 -0.1**
ZEI pmax pmax
comp=Z,613nm,0.9s
CUKT Cukurca 21.83 280 *e*P **P** **23 17 37.8 +0.8**
AKH Akhalkalaki 21.83 291 P **P** **23 17 39.2 +2.1**
VANB Van 21.89 284 *e*P **P** **23 17 38.3 +0.7**
ONI Oni 21.98 295 P **P** **23 17 40.4 +2.1**
BHD Baghdad 21.98 269 *i* P **P** **23 17 34.0 -4.3**
BHD *i* pP sP 23 18 30.0 -6.3
BHD *i* S **S** **23 21 27.0 +0.2**
BHD *i* SS **sS** **23 22 30.0 +3.2**
VANT Van 22.00 283 *e*P **P** **23 17 41.5 +2.7**
KARS Kars 22.11 289 *e*P **P** **23 17 41.5 +1.8**
AGRB Hanur-Agry 22.17 286 *e*P **P** **23 17 42.5 +2.2**
KIV Kislovodsk 22.72 298 *c i*P **P** **23 17 45.8 +0.5**
KIV *i* **PP* **pP** **23 18 22.6 +2.6**
KIV *i* 23 18 48.2
KIV pmax pmax
comp=Z,468nm,0.6s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 22.72 298 *e*P **P** **23 17 45.6 +0.4**
comp=Z,604nm,0.8s
KIV Kislovodsk 22.72 298 P **P** **23 17 45.3 0.0**
comp=Z,5μm,0.7s
GTA Gaotai 22.93 74 ⇑P **P** **23 17 49.3 +2.1**
GTA pP **pP** **23 18 25.9 +3.5**
GTA sP **sP** **23 18 48.7 +1.9**
GTA S **S** **23 21 46.4 +3.9**
GTA pmax pmax
comp=Z,210nm,0.9s
GTA pmax pmax
comp=Z,860nm,5.0s
GTA LR LR
comp=N,2μm,14.3s
GTA LR LR
comp=E,2μm,14.7s
GTA LR LR
comp=Z,2μm,14.7s
BCA Borcka 23.24 291 *e*P **P** **23 17 50.7 +0.9**
EZM Erzurum 23.42 287 *e*P **P** **23 17 54.1 +2.4**
SARR Saratov 23.54 317 *ce*P **P** **23 17 53.6 +1.2**
SARR pmax pmax
comp=Z,3μm,1.0s
PZAP Pazar-Rize 23.77 291 *e*P **P** **23 17 56.6 +2.0**
KTUT Trabzon 24.63 290 *e*P **P** **23 18 04.3 +1.9**
ERZN Erzincan 24.69 287 *e*P **P** **23 18 05.0 +1.8**
MDRS Chennai 24.80 158 *ex* x 23 18 49.2
SOC Sochi 24.81 296 *c i*P **P** **23 18 04.5 +0.5**
SOC *i* **PP* **pP** **23 18 40.1 -2.2**
SOC *e* 23 18 54.1
SOC *i* **SP* **sP** **23 19 03.3 -2.4**
SOC *e* 23 21 30.3
SOC *e*S **S** **23 22 14.4 +2.5**
SOC *i* **SS* **sS** **23 23 19.6 -1.9**
SOC pmax pmax
comp=Z,726nm,0.9s
SOKR Solikamsk 24.83 343 *c i*P **P** **23 18 05.8 +1.8**
SOKR **PP* **pP** **23 18 42.7 +0.4**
SOKR pmax pmax
comp=Z,750nm,1.1s
SOKR MLR MLR
comp=Z,3μm,19.0s
GUMT Gumushane 24.85 289 *e*P **P** **23 18 06.3 +1.7**
PTK Pertek 24.99 285 *e*P **P** **23 18 07.1 +1.1**
SVRC Sivrice-ELAZID 25.10 284 *e*P **P** **23 18 07.6 +0.6**
ILIC ilic-Erzincan 25.59 286 *e*P **P** **23 18 12.9 +1.5**
MALT Malatya 25.80 284 *e*P **P** **23 18 13.4 +0.3**
MYA Malataya 25.80 284 *e*P **P** **23 18 15.5 +2.3**
MOY Mondy 26.16 45 *e*P **P** **23 18 18.3 +2.1**
MOY pmax pmax
comp=Z,134nm,1.9s
LZH Lanzhou 26.48 81 *e*P **P** **23 18 21.6 +2.2**
LZH pP **pP** **23 19 01.1 +2.4**
LZH PP **PnPn** **23 19 12.2 +0.3**
LZH sP **sP** **23 19 24.2 +3.0**
LZH PcP **PcP** **23 21 40.6 +1.6**
LZH *e*S **S** **23 22 40.0 +1.2**
LZH sS **sS** **23 23 44.2 -5.0**
LZH pmax pmax
comp=Z,130nm,1.3s
LZH pmax pmax
comp=Z,240nm,4.0s
RSDY Resadiye-TOKAT 26.49 289 *e*P **P** **23 18 20.2 +1.0**
ANN Anapa 26.57 299 *e*P **P** **23 18 19.2 -0.6**
ANN *e*PP* **pP** **23 18 57.9 -1.2**
ANN *e* 23 19 11.9
ANN *e*SP* **sP** **23 19 20.2 -1.6**
ANN *e*S **S** **23 22 43.1 +3.4**
ANN pmax pmax
comp=Z,564nm,1.4s
ANN pmax pmax
comp=N,169nm,1.5s
ANN pmax pmax
comp=E,129nm,1.5s
ANN MLR MLR
comp=N,1μm,16.0s
ANN MLR MLR
comp=E,871nm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
GAZ Gaziantep 26.90 282 *e*P **P** **23 18 24.6 +1.6**
VSR Storozhevoye 26.95 313 *c i*P **P** **23 18 23.4 +0.3**
VSR *e*PP* **pP** **23 19 02.1 -0.4**
VSR pmax pmax
comp=N,530nm,1.2s
VSR pmax pmax
comp=E,2μm,1.2s
VSR pmax pmax
comp=Z,2μm,1.2s
VSR pmax pmax
comp=N,340nm,1.1s
VSR pmax pmax
comp=E,1μm,1.1s
VSR pmax pmax
comp=Z,1μm,1.1s
ZAK Zakamensk 27.04 49 *e*P **P** **23 18 25.7 +1.6**

ZAK *e* 23 19 06.9
ZAK pmax pmax
comp=Z,44nm,1.2s
KMRS Kahramanmaras 27.10 282 *e*P **P** **23 18 25.9 +1.2**
SARI SarD1z-Kayseri 27.11 285 *e*P **P** **23 18 28.1 +3.2**
VOR Voronezh 27.11 314⇑ *i*P **P** **23 18 25.0 +0.4**
VOR pmax pmax
comp=Z,1μm,1.4s
KVT Kavak 27.44 290 *e*P **P** **23 18 27.4 -0.4**
TLY Talaya 27.69 46 *e*P **P** **23 18 30.9 +1.1**
TLY *e* 23 19 12.7
TLY *e*S **S** **23 23 01.8 +4.5**
TLY *e*SS SnSn 23 24 14.1 -20
TLY *e*SSS SSS 23 24 27.9
TLY pmax pmax
comp=Z,37nm,0.9s
TLY Talaya 27.69 46 *e*P **P** **23 18 31.8 +2.0**
comp=Z,235nm,1.4s
TLY *ep*P **pP** **23 19 13.1 +3.8**
TLY *e*PcP **PcP** **23 21 39.7 -1.8**
TLY Talaya 27.69 46 P **P** **23 18 31.1 +1.3**
comp=Z,253nm,0.6s,SNR=7.5
BNN Bunyan 27.75 286 *e*P **P** **23 18 31.6 +1.0**
CD2 Chengdu 27.80 92 P **P** **23 18 33.1 +2.0**
CD2 pP **pP** **23 19 11.7 +1.1**
CD2 PP **PnPn** **23 19 31.2 +2.2**
CD2 sP **sP** **23 19 33.7 +0.6**
CD2 S **S** **23 23 00.3 +0.7**
CD2 sS **sS** **23 24 08.4 -1.7**
CD2 SS SS 23 24 38.5 -27
CD2 pmax pmax
comp=Z,150nm,0.5s
CD2 pmax pmax
comp=Z,160nm,4.1s
KOZT Kozan 27.95 283 *e*P **P** **23 18 33.7 +1.5**
DIKM Dikmen 28.02 292 *e*P **P** **23 18 33.4 +0.6**
CEYT Ceyhan 28.08 282 *e*P **P** **23 18 34.7 +1.3**
FKH Fakeheh 28.14 276 *e*P **P** **23 18 35.1 +1.1**
MNCY Minicoy 28.17 176 *ex* **P** **23 18 37.0 +2.7**
MNCY *ex* x 23 22 43.0
IRK Irkutsk 28.25 46 *e*P **P** **23 18 34.3 -0.4**
IRK *e* 23 19 17.0
IRK pmax pmax
comp=Z,168nm,1.5s
ASF Jabal al Asfar 28.33 271 P **P** **23 18 36.9 +1.1**
comp=Z,20nm,1.0s,baz=101,slow=5.2,SNR=20
ASF Jabal al Asfar 28.33 271 P **P** **23 18 36.9 +1.1**
ASF Jabal al Asfar 28.33 271 P **P** **23 18 36.9 +1.1**
SONM Songino Array 28.39 55 P **P** **23 18 37.9 +1.7**
comp=Z,30nm,0.6s,baz=261,slow=9.6,SNR=388
SONM pP **pP** **23 19 18.2 +2.4**
comp=Z,62nm,0.8s,baz=259,slow=8.9,SNR=8.8
SONM P3KPbc 23 50 50.9
comp=Z,5.2nm,0.8s,baz=94,slow=2.8,SNR=22
SONM Songino Array 28.39 55 P **P** **23 18 37.9 +1.7**
SONM *PP **pP** **23 19 18.2 +2.4**
SONM pmax pmax
comp=Z,30nm,0.6s
SONM Songino Array 28.39 55 P **P** **23 18 37.9 +1.7**
SONM pP **pP** **23 19 18.2 +2.4**
SONM *e* 23 50 50.9
TRD Trivandrum 28.41 167⇑ *ex* x 23 18 48.7
TRD *e*S **S** **23 23 08.7 -0.3**
HWQ Hawqa 28.50 276 *e*P **P** **23 18 37.9 +0.6**
CORM Corum 28.57 289 *e*P **P** **23 18 38.4 +0.6**
BHL Bhannes 28.83 275 *e*P **P** **23 18 41.6 +1.5**
ULN Ulaanbaatar 28.84 55 *e*P **P** **23 18 41.3 +1.2**
ULN *e**PP **pP** **23 19 21.2 +1.4**
ULN pmax pmax
comp=Z,957nm,2.7s
ULN Ulaanbaatar 28.84 55 *e*P **P** **23 18 41.3 +1.2**
comp=Z,957nm,2.7s
ULN *ep*P **pP** **23 19 21.2 +1.4**
ULN Ulaanbaatar 28.84 55 P **P** **23 18 41.1 +1.0**
comp=Z,70nm,1.5s,comp=Z,2μm
SIM Simferopol' 28.93 298*c i*P **P** **23 18 42.1 +1.3**
SIM *i* *PP **pP** **23 19 23.0 +2.5**
SIM *e*S **S** **23 23 19.6 +2.7**
SIM pmax pmax
comp=Z,402nm,1.7s
BZK Bozkurt 28.95 292 *e*P **P** **23 18 41.9 +0.9**
TOS Tosya 28.97 290 *e*P **P** **23 18 42.1 +0.8**
MERS Mersin 29.07 282 *e*P **P** **23 18 41.6 -0.7**
MMAI Mount Meron Ar 29.28 274 P **P** **23 18 45.7 +1.6**
comp=Z,26nm,0.8s,baz=72,slow=10,SNR=28
MMAI PP **PnPn** **23 19 46.6 -1.1**
comp=Z,25nm,0.8s,baz=71,slow=9.8,SNR=6.2
MMAI PcP **PcP** **23 21 46.6 +0.7**
comp=Z,38nm,0.6s,baz=50,slow=4.5,SNR=16
MMAI ScP **ScP** **23 25 08.7 -0.3**
comp=Z,40nm,1.1s,baz=76,slow=6.1,SNR=5.0
MMAI Mount Meron Ar 29.28 274 P **P** **23 18 45.7 +1.6**
MMAI PP **PnPn** **23 19 46.6 -1.1**
MMAI PcP **PcP** **23 21 46.6 +0.7**
MMAI ScP **ScP** **23 25 08.7 -0.3**
CANT Cankiri 29.30 290 *e*P **P** **23 18 44.2 0.0**
KAMT Kaman 29.34 287 *e*P **P** **23 18 44.8 +0.1**
BR131 Keskin Array S 29.36 288 *e*P **P** **23 18 45.5 +0.6**
comp=Z,43nm,0.7s
BR131 *ep*P pP 23 19 19.4 -5.3
BRTR Keskin Array B 29.36 288 P **P** **23 18 45.7 +0.8**
comp=Z,50nm,0.7s,baz=104,slow=8.4,SNR=250
BRTR pP **pP** **23 19 25.7 +1.1**
comp=Z,38nm,0.8s,baz=96,slow=8.1,SNR=3.6
BRTR P3KPbc 23 50 49.4
comp=Z,0.9nm,0.9s,baz=289,slow=3.8,SNR=4.6
BRTR Keskin Array B 29.36 288 P **P** **23 18 45.7 +0.8**
BRTR *PP **pP** **23 19 25.7 +1.1**
BRTR pmax pmax
comp=Z,50nm,0.7s
BRTR Keskin Array B 29.36 288 P **P** **23 18 45.7 +0.8**
BRTR pP **pP** **23 19 25.7 +1.1**
BRTR *e* 23 50 49.4
MUKL Al Mukalla 29.38 227⇑ *e*P **P** **23 18 46.0 +1.0**
KMI Kunming 29.47 104 P **P** **23 18 47.4 +1.4**
KMI pP **pP** **23 19 28.4 +2.6**
KMI sP **sP** **23 19 48.3 +0.1**
KMI S **S** **23 23 27.3 +1.2**
KMI sS **sS** **23 24 37.0 +0.2**
KMI pmax pmax
comp=Z,25nm,0.7s
KMI pmax pmax
comp=Z,170nm,3.7s
KMI LR LR
comp=N,1μm,12.7s
KMI LR LR
comp=E,630nm,9.2s
KMI LR LR
comp=Z,710nm,12.4s
MOS Moscow 29.61 321 *e*P **P** **23 18 45.8 -0.9**
MOS *i* *PP **pP** **23 19 27.1 +0.7**
MOS *e* 23 19 45.6
MOS *e* 23 19 49.1
MOS *e*S **S** **23 23 24.7 -2.5**
HMDM Hanimaadhoo 29.66 175 P **P** **23 18 50.3 +2.8**
comp=Z,614nm,1.0s,comp=Z,6μm
HMDM Hanimaadhoo 29.66 175 P **P** **23 18 50.3 +2.8**
comp=Z,614nm,1.0s,comp=Z,6μm
AFSR Af'ar-Bala (A 29.83 287 *e*P **P** **23 18 47.1 -1.8**
OBN Obninsk 29.89 319*c i*P **P** **23 18 49.8 +0.7**
OBN *i* *PP **pP** **23 19 32.9 +4.0**
OBN *i* 23 19 53.8
OBN *i* S **S** **23 23 32.9 +1.4**
OBN MLR MLR
comp=Z,900nm,17.0s
OBN Obninsk 29.89 319 *e*P **P** **23 18 50.0 +0.9**
comp=Z,2μm,1.1s
OBN *ep*P **pP** **23 19 28.8 -0.1**
OBN Obninsk 29.89 319 P **P** **23 18 50.7 +1.6**
comp=Z,8μm,0.9s
CHTO Chiang Mai 30.28 118 *e*P **P** **23 18 53.7 +0.7**
CHTO *e**PP **pP** **23 19 33.6 +0.7**
CHTO pmax pmax
comp=Z,161nm,1.1s
CHTO Chiang Mai 30.28 118 *e*P **P** **23 18 53.7 +0.7**
comp=Z,161nm,1.1s
CHTO *ep*P **pP** **23 19 33.6 +0.7**
CHTO Chiang Mai 30.28 118 P **P** **23 18 54.5 +1.5**
SNR=20
CHTO Chiang Mai 30.28 118 P **P** **23 18 53.8 +0.7**
comp=Z,76nm,1.3s,comp=Z,2μmcomp=Z,0.7nm
CHTO Chiang Mai 30.28 118 P **P** **23 18 53.8 +0.7**
comp=Z,76nm,1.3s,comp=Z,2μm
CSS Prodhromos 30.42 278 *e*P **P** **23 18 53.6 -0.5**
comp=Z,151nm,1.6s
CSS *es*P **sP** **23 19 54.3 -2.1**
CSS *e*PcP **PcP** **23 21 48.0 -0.7**
CM31 Chiang Mai Arr 30.52 119 *e*P **P** **23 18 55.8 +0.7**
comp=Z,106nm,1.0s
CM31 *ep*P **pP** **23 19 36.7 +1.7**
CM31 *e*S **S** **23 23 42.9 +0.7**
CMAR Chiang Mai Arr 30.52 119 P **P** **23 18 56.3 +1.2**
comp=Z,67nm,0.9s,baz=313,slow=10,SNR=231
CMAR pP **pP** **23 19 35.5 +0.6**
comp=Z,67nm,1.0s,baz=309,slow=8.8,SNR=4.6
CMAR ScP **ScP** **23 25 11.8 -1.4**
comp=Z,13nm,1.0s,baz=312,slow=4.0,SNR=5.1
CMAR P3KPbc 23 50 43.9
comp=Z,2.8nm,1.0s,baz=149,slow=3.7,SNR=12
CMAR Chiang Mai Arr 30.52 119 P **P** **23 18 56.3 +1.2**
CMAR *PP **pP** **23 19 35.6 +0.6**
CMAR pmax pmax
comp=Z,67nm,0.9s
CMAR Chiang Mai Arr 30.52 119 P **P** **23 18 56.3 +1.2**
CMAR pP **pP** **23 19 35.5 +0.6**
CMAR ScP **ScP** **23 25 11.8 -1.4**
CMAR *e* 23 50 43.9
BTO Baotou 30.68 70 *e*P **P** **23 18 56.9 +0.4**
BTO pmax pmax
comp=Z,36nm,1.2s
EIL Elat 30.76 268 P **P** **23 18 58.2 +1.1**
comp=Z,107nm,1.1s,baz=64,slow=6.9,SNR=72
EIL pP **pP** **23 19 37.5 +0.5**
comp=Z,43nm,0.9s,baz=56,slow=3.6,SNR=3.6
EIL Elat 30.76 268 P **P** **23 18 58.2 +1.1**
EIL pP **pP** **23 19 37.5 +0.5**
XAN Xi'an 31.00 83 P **P** **23 19 00.2 +1.0**
XAN pP **pP** **23 19 39.3 +0.2**
XAN S **S** **23 23 49.9 +0.4**
XAN pmax pmax
comp=Z,58nm,1.0s
XAN LR LR
comp=E,510nm,17.4s
XAN LR LR
comp=Z,420nm,17.0s
HHC Hu-ho-hao-te 31.83 70⇑ *i*P **P** **23 19 08.4 +1.9**
HHC pP **pP** **23 19 48.3 +1.8**
HHC sP **sP** **23 20 10.3 +1.4**
HHC PP **PP** **23 20 23.0 +0.6**
HHC S **S** **23 24 04.5 +2.1**
HHC sS **sS** **23 25 15.3 +1.9**
HHC SS **SnSn** **23 26 12.7 -2.5**
HHC pmax pmax
comp=Z,69nm,1.4s
HHC pmax pmax
comp=Z,140nm,5.5s
HAJJ Hajjah 31.92 237⇑ *e*P **P** **23 19 07.9 +0.4**
HAJJ AMb AMB 23 19 09.7
comp=Z,968nm,1.4s
GYA Guiyang 31.94 98⇑ *i*P **P** **23 19 08.7 +1.1**
GYA pP **pP** **23 19 48.9 +1.3**
GYA sP **sP** **23 20 11.4 +1.5**
GYA PP **PP** **23 20 23.8 0.0**
GYA PcP **PcP** **23 21 55.3 +2.2**
GYA S **S** **23 24 04.5 +0.1**
GYA sS **sS** **23 25 15.5 +0.1**
GYA ScP **ScP** **23 25 20.6 +2.7**
GYA PcS **PcS** **23 25 39.0 +0.8**
GYA ScS **ScS** **23 29 17.3 +0.2**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,170nm,5.8s
GYA LR LR
comp=N,1μm,9.0s
GYA LR LR
comp=E,2μm,9.0s
GYA LR LR
comp=Z,1μm,13.3s
RADA Ahram - Rada'a 32.00 233⇑ *i*P **P** **23 19 08.6 +0.2**
ISP Isparta 32.04 285 ⇑P **P** **23 19 08.9 +0.5**
ISP Isparta 32.04 285 *e*P **P** **23 19 08.7 +0.3**
comp=Z,51nm,0.8s
ISP Isparta 32.04 285⇑ *i*P **P** **23 19 08.9 +0.5**
LBOS 32.17 232⇑ *e*P **P** **23 19 10.1 +0.2**
LBOS AMb AMB 23 19 11.3
comp=Z,219nm,2.1s
ENH Enshi 32.65 90 *e*P **P** **23 19 15.2 +1.5**
comp=Z,236nm,1.1s
ENH *ep*P **pP** **23 19 53.5 -0.2**
TLCR 32.69 299 ⇓P **P** **23 19 15.0 +1.2**
TLCR 32.69 299 ⇓*i*P **P** **23 19 15.0 +1.2**
KIS Kishinev 32.75 302*α i*P **P** **23 19 15.5 +1.2**
KIS *e**PP **pP** **23 19 56.0 +1.6**
KIS *e* 23 20 16.0
KIS *e*S **S** **23 24 18.0 +1.7**
KIS pmax pmax
comp=Z,1μm,1.4s
KIS pmax pmax
comp=E,800nm,1.2s
KIS pmax pmax
comp=Z,2μm,1.4s
KIS pmax pmax
comp=E,1μm,1.6s
KIS MLR MLR
comp=Z,1μm,17.0s
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,900nm,16.0s
KIS Kishinev 32.75 302 ⇓*i*P **P** **23 19 15.4 +1.2**
KIS Kishinev 32.75 302⇑ *i*P **P** **23 19 15.5 +1.2**
comp=Z,1μm,1.4s
KIS *ep*P **pP** **23 19 56.0 +1.6**
KIS Kishinev 32.75 302 *e*PP sP 23 20 16.0 -0.8
KIS Kishinev 32.75 302 *e*PcP PcP 23 21 30.0 -25
KIS *e*S S **23 24 18.0 +1.7**
KIS *e*sS ScP 23 25 09.0 -11
KIS *e*Li 23 27 58.0
KIS LRM MLR 23 36 12.0
comp=Z,900nm,16.0s
EFOR EFORIE 32.84 297 ⇓*i*P **P** **23 19 17.0 +2.0**
MANR Mangalia 32.88 296 ⇓*i*P **P** **23 19 16.7 +1.3**
AKASG Malin Array Be 32.89 309 P **P** **23 19 15.6 +0.2**
comp=Z,420nm,0.7s,baz=82,slow=8.1,SNR=1057
AKASG pP **pP** **23 19 56.3 +0.8**
comp=Z,33nm,0.5s,baz=82,slow=7.5,SNR=2.2
AKASG PP **PP** **23 20 34.1 +0.4**
comp=Z,227nm,0.8s,baz=96,slow=12,SNR=7.9
AKASG ScP **ScP** **23 25 19.2 -1.4**
comp=Z,12nm,0.9s,baz=79,slow=4.9,SNR=4.4
AKASG Malin Array Be 32.89 309 P **P** **23 19 15.6 +0.2**
AKASG *PP **pP** **23 19 56.3 +0.8**
AKASG 23 20 34.1
AKASG pmax pmax
comp=Z,420nm,0.7s
AKASG pmax pmax
comp=Z,227nm,0.8s
AKASG pmax pmax
comp=N,12nm,0.9s
AKASG Malin Array Be 32.89 309 P **P** **23 19 15.6 +0.2**
AKASG pP **pP** **23 19 56.3 +0.8**
AKASG PP **PP** **23 20 34.1 +0.4**
AKASG ScP **ScP** **23 25 19.2 -1.4**
AKBB Malin Array Si 32.89 309 *e*P **P** **23 19 14.8 -0.6**
AKBB *e* 23 20 33.5
AKBB Malin Array Si 32.89 309 *e*P **P** **23 19 14.8 -0.6**
AKBB *e*PP **PP** **23 20 33.5 -0.3**
KIEV Kiev 32.90 309*c i*P **P** **23 19 15.6 +0.1**
KIEV Kiev 32.90 309 *e*P **P** **23 19 15.7 +0.2**
comp=N,517nm,0.7s
KIEV *e*PP **PP** **23 20 34.2 +0.4**
TIRR Tirgusor 32.98 297 ⇑P **P** **23 19 17.1 +0.8**
TIRR Tirgusor 32.98 297 *e*P **P** **23 19 17.1 +0.8**
comp=N,132nm,1.3s
TIRR *ep*P **pP** **23 19 57.2 +0.7**
TIRR *e*PP **PP** **23 20 34.5 -0.5**
TIRR *e*ScP **ScP** **23 25 19.2 -1.8**
TIRR Tirgusor 32.98 297⇑ *i*P **P** **23 19 17.1 +0.8**
LEOM Leova 33.12 301 ⇑P **P** **23 19 18.5 +1.0**
LEOM Leova 33.12 301⇑ *i*P **P** **23 19 18.5 +1.0**
CFR Carcaliu 33.17 299 ⇑P **P** **23 19 18.7 +0.7**
CFR Carcaliu 33.17 299⇑ *i*P **P** **23 19 18.7 +0.7**
IAS Iasi 33.62 302 ⇓P **P** **23 19 22.7 +0.9**
IAS Iasi 33.62 302 ⇓*i*P **P** **23 19 22.7 +0.9**
CIT Chita 33.70 49 *e*P **P** **23 19 23.6 +1.0**
CIT pmax pmax
comp=Z,515nm,1.6s
AMRR Amara 33.75 298 ⇓P **P** **23 19 24.5 +1.5**
AMRR Amara 33.75 298 ⇓*i*P **P** **23 19 24.5 +1.5**
PRD Provadia 33.77 295 *i* P **P** **23 19 24.5 +1.4**
PETR 33.81 300⇑ *i*P **P** **23 19 25.4 +1.9**
PGOR Pogoanele 33.99 298 ⇓*i*P **P** **23 19 26.8 +1.8**
VRI Vrincioaia 34.16 300 ⇑P **P** **23 19 28.1 +1.6**
VRI Vrincioaia 34.16 300⇑ *i*P **P** **23 19 28.1 +1.6**
PLOR Plostina 34.22 300 P **P** **23 19 29.1 +2.1**
PLOR Plostina 34.22 300⇑ *i*P **P** **23 19 28.5 +1.5**
TESR 34.22 301⇑ *i*P **P** **23 19 29.0 +2.0**
ISR Istrita 34.30 299 ⇓P **P** **23 19 29.1 +1.3**
ISR Istrita 34.30 299 ⇓*i*P **P** **23 19 29.1 +1.3**
JMB Yambol 34.42 294 *i* P **P** **23 19 30.1 +1.3**
MICGM Minsk 34.45 315⇑ *i*P **P** **23 19 29.0 +0.2**
MNK Minsk 34.48 315*c i*P **P** **23 19 29.0 -0.1**
MNK *e**PP **pP** **23 20 06.0 -3.4**
MNK *e* 23 20 30.0
MNK *e*PPP PPP 23 20 49.0
MNK *e*S **S** **23 24 44.0 +1.3**
MNK pmax pmax
comp=N,560nm,1.2s
SULR 34.52 298 ⇓*i*P **P** **23 19 30.8 +1.2**
PRAR RASCA 34.53 303 ⇓*i*P **P** **23 19 31.0 +1.3**
SECR 34.64 298 ⇓*i*P **P** **23 19 32.5 +1.9**
BUC1 Bucharest 34.70 297 ⇑P **P** **23 19 33.1 +2.0**
BUC1 Bucharest 34.70 297⇑ *i*P **P** **23 19 33.1 +2.0**
MLR Muntele Rosu 34.72 299 ⇑P **P** **23 19 33.6 +2.2**
MLR Muntele Rosu 34.72 299⇑ *i*P **P** **23 19 33.6 +2.2**
CIOR Ciorogarla 34.80 297⇑ *i*P **P** **23 19 33.8 +1.8**
SZH Strazhica 34.83 295 *i* P **P** **23 19 33.1 +0.8**
PUL Pulkovo 34.87 325*c i*P **P** **23 19 33.3 +1.0**
PUL pmax pmax
comp=Z,2μm,1.2s
ALN Alexandroupoli 35.00 291 P **P** **23 19 34.4 +0.7**
ALN Alexandroupoli 35.00 291 P **P** **23 19 34.4 +0.7**
ALN Alexandroupoli 35.00 291 P **P** **23 19 34.4 +0.7**
DOPR Dopca 35.10 300⇑ *i*P **P** **23 19 36.1 +1.5**
NACGM Naroch 35.16 316 *e*P **P** **23 19 32.0 -2.9**
KARP Karpathos 35.17 282 P **P** **23 19 35.2 -0.1**
KARP Karpathos 35.17 282 P **P** **23 19 35.2 -0.1**
BURAR Bucovina Array 35.22 303 ⇑P **P** **23 19 37.1 +1.4**
BURAR Bucovina Array 35.22 303⇑ *i*P **P** **23 19 37.0 +1.4**
BUR08 Bucovina Ar. S 35.23 303 *e*P **P** **23 19 36.5 +0.6**
BUR08 *e*PP **PP** **23 20 59.0 -0.9**
PVL Pavlikeni 35.27 295 *i* P **P** **23 19 37.4 +1.4**
RDO Rodhopi 35.34 292 P **P** **23 19 37.7 +1.0**
RDO Rodhopi 35.34 292 P **P** **23 19 37.7 +1.0**
VOIR 35.35 299 ⇓P **P** **23 19 37.9 +1.1**
VOIR 35.35 299 ⇓*i*P **P** **23 19 37.8 +1.0**
KDZ Kurdzhali 35.37 293 *i* P **P** **23 19 37.9 +1.0**
BOD Bodaibo 35.39 39⇑ *i*P **P** **23 19 37.7 +0.8**
BOD *e* 23 20 20.0
BOD pmax pmax
comp=Z,93nm,1.6s
CHOS Chios island 35.40 287 P **P** **23 19 38.2 +0.9**
BJT Baijiatuan 35.42 70 *e*P **P** **23 19 39.0 +1.7**
BJT *e**PP **pP** **23 20 17.6 -0.2**
BJT *e* 23 22 03.0
BJT pmax pmax
comp=Z,58nm,0.6s
BJT Baijiatuan 35.42 70 *e*P **P** **23 19 39.0 +1.7**
comp=Z,58nm,0.6s
BJT *ep*P **pP** **23 20 17.6 -0.2**
BJT *e*PcP **PcP** **23 22 03.0 +0.4**
BJT *e*ScP **ScP** **23 25 28.9 -1.0**
BJI Beijing 35.42 70 P **P** **23 19 39.0 +1.7**
BJI pP **pP** **23 20 19.8 +2.0**
BJI PP **PP** **23 21 02.3 +0.4**
BJI PcP **PcP** **23 22 03.1 +0.5**
BJI S **S** **23 25 01.2 +3.7**
BJI ScP **ScP** **23 25 28.5 -1.3**
BJI sS **sS** **23 26 04.8 -4.3**
BJI pmax pmax
comp=Z,79nm,0.7s
BJI pmax pmax
comp=Z,270nm,6.2s
BJI LR LR
comp=N,550nm,13.3s
BJI LR LR
comp=E,1μm,13.8s
BJI LR LR
comp=Z,560nm,18.3s
HUMR Humele 35.44 298⇑ *i*P **P** **23 19 38.7 +1.3**
ATD Arta Tunnel 35.47 233 P **P** **23 19 39.7 +1.6**
comp=Z,192nm,1.1s,baz=47,slow=6.5,SNR=32
ATD Arta Tunnel 35.47 233 P **P** **23 19 39.7 +1.6**
IIGN Ignalina 35.58 316 *e*P **P** **23 19 39.8 +1.3**
IIGN AMB AMB 23 19 41.7
comp=Z,599nm,1.1s
IZAR Zarasai 35.66 317 *e*P **P** **23 19 40.6 +1.5**
IZAR AMB AMB 23 19 42.3
comp=Z,573nm,1.1s
ISAL Salakas 35.68 317 *e*P **P** **23 19 40.7 +1.4**
ISAL AMB AMB 23 19 42.6
comp=Z,430nm,1.1s
MDB Medias 35.80 300 P **P** **23 19 42.9 +2.4**
MDB Medias 35.80 300 ⇓*i*P **P** **23 19 42.3 +1.8**
JOF Joensuu 35.83 330 *e*P **P** **23 19 41.5 +1.0**
JOF pmax pmax
comp=Z,292nm,0.5s
JOF Joensuu 35.83 330 *ep* **P** **23 19 41.5 +1.0**
comp=Z,292nm,0.5s
JOF Joensuu 35.83 330 *ep* **P** **23 19 41.5 +1.0**
comp=Z,292nm,0.5s
PLD Plovdiv 35.85 293 P **P** **23 19 41.6 +0.7**
PLD Plovdiv 35.85 293 P **P** **23 19 41.6 +0.7**
PLD Plovdiv 35.85 293 P **P** **23 19 41.6 +0.7**
PLD Plovdiv 35.85 293 *i* P **P** **23 19 41.4 +0.5**
KAAM Kaadhehdhoo 35.88 176 P **P** **23 19 43.4 +2.0**
comp=Z,491nm,1.1s
RZN Rozhen 35.89 293 *i* P **P** **23 19 42.2 +0.7**
ZKR Zakros 36.03 281 P **P** **23 19 43.0 +0.4**
ZKR Zakros 36.03 281 P **P** **23 19 43.0 +0.4**
APE Apeiranthos 36.08 285 P **P** **23 19 43.5 +0.4**
APE Apeiranthos 36.08 285 P **P** **23 19 43.5 +0.4**
APE Apeiranthos 36.08 285 P **P** **23 19 43.5 +0.4**
APE Apeiranthos 36.08 285⇑ *i*P **P** **23 19 43.5 +0.4**
LVV L'vov 36.10 307*d i*P **P** **23 19 43.8 +0.8**
LVV *e**PP **pP** **23 20 28.8 +5.2**
LVV *e* 23 21 13.8
LVV *e* 23 22 05.4
LVV *e*S **S** **23 25 06.8 -0.8**
LVV pmax pmax
comp=Z,2μm,1.3s
LVV MLR MLR
comp=N,100nm,12.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,600nm,15.0s
KAVA Kavala 36.13 292 P **P** **23 19 43.6 +0.2**
KAVA Kavala 36.13 292 P **P** **23 19 43.6 +0.2**
VSU Vasula 36.14 322*c i*P **P** **23 19 43.6 +0.4**
VSU pmax pmax
comp=Z,2μm,1.2s
PGB Panagyurishte 36.19 294 *i* P **P** **23 19 45.7 +1.8**
LOT Lotru 36.25 299⇑ *i*P **P** **23 19 45.6 +1.1**
CRAR CRAIOVA 36.29 297 ⇑P **P** **23 19 46.2 +1.5**
CRAR CRAIOVA 36.29 297⇑ *i*P **P** **23 19 46.2 +1.5**
BMR Baia Mare 36.39 303 ⇑P **P** **23 19 47.1 +1.6**
BMR Baia Mare 36.39 303⇑ *i*P **P** **23 19 47.1 +1.6**
WHN Wuhan 36.46 86 ⇓P **P** **23 19 47.7 +1.4**
WHN pP **pP** **23 20 30.3 +3.3**
WHN S **S** **23 25 16.7 +3.2**
WHN pmax pmax
comp=Z,280nm,0.8s
WHN LR LR
comp=N,2μm,8.0s
WHN LR LR
comp=E,750nm,10.6s
WHN LR LR
comp=Z,1μm,16.2s
NPS Neapolis 36.47 282 P **P** **23 19 46.5 +0.2**
NPS Neapolis 36.47 282 P **P** **23 19 46.5 +0.2**
NPS Neapolis 36.47 282 P **P** **23 19 46.5 +0.2**
NVR Nevrokopi 36.57 292 P **P** **23 19 48.1 +1.0**
NVR Nevrokopi 36.57 292 P **P** **23 19 48.1 +1.0**
OUR Ouranopolis 36.63 291 P **P** **23 19 48.3 +0.7**
OUR Ouranopolis 36.63 291 P **P** **23 19 48.3 +0.7**
OUR Ouranopolis 36.63 291 P **P** **23 19 48.3 +0.7**
MMB Musomiste 36.63 293 *i* P **P** **23 19 48.7 +1.0**
MRMA Marmari 36.76 287 P **P** **23 19 49.9 +1.2**

SRS	**Serrai**	**36.80 292**		P	**P**	**23 19 49.5 +0.4**
SRS	**Serrai**	**36.80 292**		P	**P**	**23 19 49.5 +0.4**
SRS	**Serrai**	**36.80 292**		P	**P**	**23 19 49.5 +0.4**
DEV	**Deva**	**36.83 300**	⇓	P	**P**	**23 19 50.8 +1.5**
DEV	**Deva**	**36.83 300**	⇓	*i*P	**P**	**23 19 50.8 +1.5**
VTS	**Vitosha**	**36.89 295**	⇑	P	**P**	**23 19 50.8 +0.8**
VTS	**Vitosha**	**36.89 295**		P	**P**	**23 19 50.2 +0.2**
VTS	**Vitosha**	**36.89 295**		P	**P**	**23 19 50.2 +0.2**
VTS	**Vitosha**	**36.89 295**	⇑	*i*P	**P**	**23 19 50.8 +0.8**
VTS	**Vitosha**	**36.89 295**		*i* P	**P**	**23 19 50.9 +0.9**
PAIG	**Paliouri**	**36.93 290**		P	**P**	**23 19 51.0 +0.9**
PAIG	**Paliouri**	**36.93 290**		P	**P**	**23 19 51.0 +0.9**
PAIG	**Paliouri**	**36.93 290**		P	**P**	**23 19 51.0 +0.9**
DRGR		**36.93 302**	⇓	P	**P**	**23 19 51.6 +1.4**
DRGR		**36.93 302**	⇓	*i*P	**P**	**23 19 51.6 +1.4**
TIA	**Tai'an**	**36.94 76**	⇓	P	**P**	**23 19 51.3 +1.0**
TIA				pmax	pmax	
	comp=Z,170nm,1.1s					
TIA				pmax	pmax	
	comp=Z,750nm,5.0s					
TIA				LR	LR	
	comp=N,890nm,14.7s					
TIA				LR	LR	
	comp=E,760nm,14.7s					
TIA				LR	LR	
	comp=Z,720nm,13.7s					
GZR	**Gura Zlata**	**36.95 299**	⇑	P	**P**	**23 19 50.9 +0.6**
GZR	**Gura Zlata**	**36.95 299**	⇑	*i*P	**P**	**23 19 50.9 +0.6**
KWP	**Kalwaria Pacla**	**36.95 306**		*e*P	**P**	**23 19 51.4 +1.1**
KWP				*e*S	**S**	**23 25 24.6 +4.1**
KWP				LMZ	LR	23 38 27.0
	comp=Z,700nm,15.6s					
KWP	**Kalwaria Pacla**	**36.95 306**		*e*P	**P**	**23 19 51.1 +0.9**
KWP				*e**PP	**pP**	**23 20 27.8 -3.2**
KWP				*e**SP	**sP**	**23 20 52.2 -1.0**
KWP				*e*		23 21 21.6
KWP				pmax	pmax	
	comp=Z,2µm,1.6s					
KWP	**Kalwaria Pacla**	**36.95 306**		*e*P	**P**	**23 19 51.1 +0.9**
	comp=Z,2µm,1.6s					
KWP				*ep*P	**pP**	**23 20 27.8 -3.2**
KWP				*es*P	**sP**	**23 20 52.2 -1.0**
KWP				*e*PP	**PnPn**	**23 21 21.6 +0.2**
KWP	**Kalwaria Pacla**	**36.95 306**	⇑	*i*P	**P**	**23 19 51.3 +1.1**
SOH	**Sokhos**	**37.03 292**		P	**P**	**23 19 51.7 +0.7**
SOH	**Sokhos**	**37.03 292**		P	**P**	**23 19 51.7 +0.7**
SOH	**Sokhos**	**37.03 292**		P	**P**	**23 19 51.7 +0.7**
PLG	**Polygyros**	**37.03 291**		P	**P**	**23 19 51.9 +0.9**
PLG	**Polygyros**	**37.03 291**		P	**P**	**23 19 51.9 +0.9**
PLG	**Polygyros**	**37.03 291**		P	**P**	**23 19 51.9 +0.9**
SUW	**Suwalki**	**37.06 314**		*e*P	**P**	**23 19 51.4 +0.4**
SUW				*ep*P	**pP**	**23 20 30.3 -1.5**
SUW				*es*P	**sP**	**23 20 50.0 -4.0**
SUW				*e*S	**S**	**23 25 23.1 +1.1**
SUW				LMZ	LR	23 36 48.9
	comp=Z,800nm,23.8s					
SUW	**Suwalki**	**37.06 314**	⇑	*e*P	**P**	**23 19 51.4 +0.4**
SUW				*e**PP	**pP**	**23 20 30.3 -1.5**
SUW				*e*S	**S**	**23 25 23.1 +1.1**
SUW				MLR	MLR	
	comp=Z,800nm,23.8s					
SUW	**Suwalki**	**37.06 314**		*e*P	**P**	**23 19 51.4 +0.4**
	comp=Z,963nm,0.9s					
SUW				*e*PP	**PP**	**23 21 13.1 -6.5**
KKB	**Krupnik**	**37.08 293**		*i* P	**P**	**23 19 52.1 +0.7**
ERET	**Eretria**	**37.12 288**		P	**P**	**23 19 52.7 +0.9**
PTL	**Penteli**	**37.16 287**		P	**P**	**23 19 52.1 0.0**
PTL	**Penteli**	**37.16 287**		P	**P**	**23 19 52.1 0.0**
SIVA	**Sivas**	**37.16 282**		P	**P**	**23 19 52.3 +0.1**
SIVA	**Sivas**	**37.16 282**		P	**P**	**23 19 52.3 +0.1**
UZH	**Uzhgorod**	**37.20 305**		*e*P	**P**	**23 19 52.5 +0.2**
UZH				*e*		23 20 33.7
UZH				*e*		23 20 55.7
UZH				*e*		23 22 10.3
UZH				*e*S	**S**	**23 25 24.7 +0.4**
KOLS	**Kolonicke sedl**	**37.22 305**		*e*P	**P**	**23 19 53.6 +1.1**
KOLS				pmax	pmax	
	comp=Z,102nm,1.3s					
KOLS	**Kolonicke sedl**	**37.22 305**		*e*P	**P**	**23 19 53.6 +1.1**
KOLS				*e*PP	**PnPn**	**23 21 23.2 -1.3**
MRKA	**Markates**	**37.23 288**		P	**P**	**23 19 53.0 +0.3**
ATHU	**Athens Univers**	**37.24 287**		P	P	23 19 58.4 +5.6
HORT	**Hortiatis**	**37.25 291**		P	**P**	**23 19 53.2 +0.2**
HORT	**Hortiatis**	**37.25 291**		P	**P**	**23 19 53.2 +0.2**
VLY	**Voula,Athens**	**37.26 287**		P	**P**	**23 19 53.2 +0.3**
VLY	**Voula,Athens**	**37.26 287**		P	**P**	**23 19 53.2 +0.3**
ATH	**Athens Observa**	**37.29 287**		P	**P**	**23 19 53.3 +0.1**
ATH	**Athens Observa**	**37.29 287**		P	**P**	**23 19 53.3 +0.1**
ATH	**Athens Observa**	**37.29 287**		P	**P**	**23 19 53.3 +0.1**
KNT	**Kendrikon**	**37.31 292**		P	**P**	**23 19 53.1 -0.3**
KNT	**Kendrikon**	**37.31 292**		P	**P**	**23 19 53.1 -0.3**
KNT	**Kendrikon**	**37.31 292**		P	**P**	**23 19 53.1 -0.3**
HIA	**Hailar**	**37.35 54**		*e*P	**P**	**23 19 55.1 +1.5**
HIA				*e**PP	**pP**	**23 20 38.7 +4.3**
HIA				*e*		23 22 08.5
HIA				*e*		23 25 36.2
HIA				pmax	pmax	
	comp=Z,96nm,1.2s					
HIA	**Hailar**	**37.35 54**		*e*P	**P**	**23 19 55.1 +1.5**
	comp=Z,96nm,1.2s					
HIA				*ep*P	**pP**	**23 20 38.7 +4.3**
HIA				*e*PcP	**PcP**	**23 22 08.5 +0.2**
HIA				*e*ScP	**ScP**	**23 25 36.2 -0.7**
NEO	**Neokhori**	**37.39 289**		P	**P**	**23 19 54.4 +0.3**
NEO	**Neokhori**	**37.39 289**		P	**P**	**23 19 54.4 +0.3**
XOR	**Xorichti**	**37.41 289**		P	**P**	**23 19 54.2 0.0**
XOR	**Xorichti**	**37.41 289**		P	**P**	**23 19 54.2 0.0**
LVZ	**Lovozero**	**37.43 338**		*c i*P	**P**	**23 19 54.6 +0.6**
LVZ				pmax	pmax	
	comp=Z,856nm,1.3s					
LVZ	**Lovozero**	**37.43 338**		*e*P	**P**	**23 19 54.9 +0.8**
	comp=Z,670nm,1.1s					
LVZ				*e*PP	**PP**	**23 21 17.5 -6.0**
LVZ	**Lovozero**	**37.43 338**		P	**P**	**23 19 54.7 +0.7**
	comp=Z,3µm,0.8s,SNR=33					
FINES	**FINESS Array B**	**37.44 326**		P	**P**	**23 19 55.0 +0.9**
	comp=Z,461nm,0.8s,baz=116,slow=9.5,SNR=591					
FINES				pP	**pP**	**23 20 35.5 +0.5**
	comp=Z,55nm,0.5s,baz=107,slow=8.8,SNR=2.8					
FINES				PP	**PP**	**23 21 21.1 -2.5**
	comp=Z,226nm,1.0s,baz=115,slow=12,SNR=5.2					
FINES	**FINESS Array B**	**37.44 326**		P	**P**	**23 19 55.1 +0.9**
FINES				*PP	**pP**	**23 20 35.5 +0.5**
FINES	**FINESS Array B**	**37.44 326**		P	**P**	**23 19 55.0 +0.9**
FINES				pP	**pP**	**23 20 35.5 +0.5**
FINES				PP	**PP**	**23 21 21.1 -2.5**
VAY	**Valandovo**	**37.53 293**		*e*P	**P**	**23 19 54.8 -0.4**
VAM	**Vamos**	**37.54 283**		P	**P**	**23 19 55.0 -0.3**
VAM	**Vamos**	**37.54 283**		P	**P**	**23 19 55.0 -0.3**
VAM	**Vamos**	**37.54 283**		P	**P**	**23 19 55.0 -0.3**
KAF	**Kangasniemi**	**37.59 327**		*e*P	**P**	**23 19 56.4 +1.1**
KAF				pmax	pmax	
	comp=Z,266nm,0.9s					
KAF	**Kangasniemi**	**37.59 327**		*ep*	**P**	**23 19 56.4 +1.1**
	comp=Z,266nm,0.9s					
KAF	**Kangasniemi**	**37.59 327**		*ep*	**P**	**23 19 56.4 +1.1**
	comp=Z,266nm,0.9s					
FYTO	**Fytoko, Volos**	**37.59 289**		P	P	23 20 05.1 +9.4
APA	**Apatity**	**37.61 337**	⇑	*i*P	**P**	**23 19 56.6 +1.2**
APA				*i* *PP	**pP**	**23 20 32.8 -3.5**
APA				*i*		23 21 24.0
APA				*i* S	**S**	**23 25 30.0 +0.1**
APA				*i* SS	**SS**	**23 28 16.0 -7.3**
APA				pmax	pmax	
	comp=Z,486nm,1.2s					
APA				MLR	MLR	
	comp=Z,4µm,14.0s					
ATAL	**Atalanti**	**37.67 288**		P	**P**	**23 19 56.1 -0.3**
ATAL	**Atalanti**	**37.67 288**		P	**P**	**23 19 56.1 -0.3**
LKR	**Lokris**	**37.70 288**		P	**P**	**23 19 56.2 -0.4**
LKR	**Lokris**	**37.70 288**		P	**P**	**23 19 56.2 -0.4**
GRG	**Griva**	**37.72 292**		P	**P**	**23 19 56.9 +0.1**
GRG	**Griva**	**37.72 292**		P	**P**	**23 19 56.9 +0.1**
GRG	**Griva**	**37.72 292**		P	**P**	**23 19 56.9 +0.1**
BZS	**Buzias**	**37.75 300**	⇑	P	**P**	**23 19 58.2 +1.3**
BZS	**Buzias**	**37.75 300**	⇑	*i*P	**P**	**23 19 58.2 +1.3**
CRVS	**Cervenica-Dubn**	**37.75 305**		*e*P	**P**	**23 19 57.6 +0.7**
CRVS				pmax	pmax	
	comp=Z,210nm,1.8s					
CRVS	**Cervenica-Dubn**	**37.75 305**		*e*P	**P**	**23 19 57.6 +0.7**
CRVS				*e*PP	**PnPn**	**23 21 32.0 +1.1**
CRVS				*e*		23 28 07.7
DID	**Didima**	**37.76 286**		P	**P**	**23 19 55.7 -1.5**
GVD	**Gavdhos**	**37.78 282**		*e*P	**P**	**23 19 56.5 -0.9**
	comp=Z,1µm,1.0s					
GVD				*ep*P	**pP**	**23 20 40.5 +2.2**
GVD	**Gavdhos**	**37.78 282**		P	**P**	**23 19 57.2 -0.2**
DIDY	**Didyma**	**37.79 286**		P	**P**	**23 19 56.1 -1.4**
STHS	**Stebnicka Huta**	**37.90 306**		*e*P	**P**	**23 19 58.7 +0.5**
STHS				pmax	pmax	
	comp=Z,96nm,1.4s					
STHS	**Stebnicka Huta**	**37.90 306**		*e*P	**P**	**23 19 58.7 +0.5**
STHS				*e*PP	**PnPn**	**23 21 32.4 -0.2**
TIM	**Timisoara**	**38.02 300**	⇑	P	**P**	**23 20 00.8 +1.6**
TIM	**Timisoara**	**38.02 300**	⇑	*i*P	**P**	**23 20 00.8 +1.6**
DESF	**Desfina**	**38.10 288**		P	**P**	**23 19 58.3 -1.8**
BSI	**Banda Aceh**	**38.10 138**		P	**P**	**23 19 59.0 -1.2**
	comp=Z,238nm,1.3s,comp=Z,2µm					
BSI	**Banda Aceh**	**38.10 138**		P	**P**	**23 19 59.0 -1.2**
	comp=Z,238nm,1.3s,comp=Z,2µm					
DSF	**Desfina**	**38.11 288**		P	**P**	**23 19 58.9 -1.2**
DSF	**Desfina**	**38.11 288**		P	**P**	**23 19 58.9 -1.2**
AGG	**Agios Georgios**	**38.13 289**		P	**P**	**23 20 00.0 -0.3**
AGG	**Agios Georgios**	**38.13 289**		P	**P**	**23 20 00.0 -0.3**
AGG	**Agios Georgios**	**38.13 289**		P	**P**	**23 20 00.0 -0.3**
VLI	**Veliai**	**38.19 285**		P	**P**	**23 19 58.5 -2.2**
VLI	**Veliai**	**38.19 285**		P	**P**	**23 19 58.5 -2.2**
KYTH	**Kithira**	**38.22 284**		P	**P**	**23 20 00.3 -0.7**
KYTH	**Kithira**	**38.22 284**		P	**P**	**23 20 00.3 -0.7**
THL	**Klokotos Trika**	**38.26 290**		P	**P**	**23 20 00.9 -0.4**
SKO	**Skopje**	**38.27 294**		*e*P	P	23 19 57.7 -3.7
BEL	**Belsk**	**38.28 310**		*e*P	**P**	**23 20 02.1 +0.9**
BEL				*e*PP	**PP**	**23 21 32.3 -0.5**
BEL				LMZ	LR	23 40 42.5
	comp=Z,700nm,18.7s					
BEL	**Belsk**	**38.28 310**	⇑	*e*P	**P**	**23 20 02.2 +0.9**
BEL				*e*		23 21 32.3
BEL				MLR	MLR	
	comp=Z,700nm,18.7s					
MAKR	**Makrakomi, Fth**	**38.28 289**		P	**P**	**23 20 01.5 0.0**
MAKR	**Makrakomi, Fth**	**38.28 289**		P	**P**	**23 20 01.5 0.0**
QIZ	**Qiongzhong**	**38.29 106**		P	**P**	**23 20 03.1 +1.3**
QIZ				pP	**pP**	**23 20 41.2 -1.6**
QIZ				S	**S**	**23 25 40.5 -0.8**
QIZ				pmax	pmax	
	comp=Z,21nm,1.6s					
QIZ				LR	LR	
	comp=N,590nm,16.0s					
QIZ				LR	LR	
	comp=E,330nm,19.4s					
QIZ				LR	LR	
	comp=Z,960nm,13.2s					
QIZ	**Qiongzhong**	**38.29 106**		*e*P	**P**	**23 20 02.4 +0.6**
KZN	**Kozani**	**38.30 291**		P	**P**	**23 20 01.8 0.0**
KZN	**Kozani**	**38.30 291**		P	**P**	**23 20 01.8 0.0**
KZN	**Kozani**	**38.30 291**		P	**P**	**23 20 01.8 0.0**
GUR	**Goura**	**38.35 287**		P	**P**	**23 20 01.8 -0.4**
KECS	**Kecovo**	**38.40 304**		*e*P	**P**	**23 20 03.6 +1.2**
KECS				pmax	pmax	
	comp=Z,31nm,0.7s					
KECS	**Kecovo**	**38.40 304**		*e*P	**P**	**23 20 03.6 +1.2**
KECS				*e*PP	**PP**	**23 21 35.4 +1.1**
KALE	**Kalithea**	**38.41 288**		P	**P**	**23 20 00.9 -1.7**
KALE	**Kalithea**	**38.41 288**		P	**P**	**23 20 00.9 -1.7**
VLX	**Vlachokerasia**	**38.46 286**		P	**P**	**23 20 01.7 -1.4**
TRIZ	**Trizonia**	**38.47 288**		P	**P**	**23 20 01.3 -1.7**
NIE	**Niedzica**	**38.51 306**		*i* P	**P**	**23 20 05.0 +1.7**
NIE				*ep*P	**pP**	**23 20 47.3 +3.0**
NIE				*e*PP	**PnPn**	**23 21 38.6 -1.1**
NIE	**Niedzica**	**38.51 306**	⇑	*i*P	**P**	**23 20 05.0 +1.7**
NIE				*e**PP	**pP**	**23 20 47.3 +3.0**
NIE				*e*		23 21 38.6
KRUS	**Krusevo**	**38.51 293**		*e*P	**P**	**23 20 03.1 -0.3**
BIA	**Bitola**	**38.51 292**		*e*P	**P**	**23 20 03.0 -0.5**
BIA				*e*P	PP	23 21 44.3 +8.6
FNA	**Florina**	**38.51 292**		P	**P**	**23 20 03.6 +0.1**
FNA	**Florina**	**38.51 292**		P	**P**	**23 20 03.6 +0.1**
FNA	**Florina**	**38.51 292**		P	**P**	**23 20 03.6 +0.1**
EVR	**Evrytania**	**38.55 289**		P	**P**	**23 20 04.0 +0.2**
EVR	**Evrytania**	**38.55 289**		P	**P**	**23 20 04.0 +0.2**
LAKA	**Lakka**	**38.57 288**		P	**P**	**23 20 02.8 -1.1**
LAKA	**Lakka**	**38.57 288**		P	**P**	**23 20 02.8 -1.1**
EFP	**Efpalio**	**38.58 288**		P	**P**	**23 20 03.0 -1.0**
MEV	**Metsovon**	**38.81 290**		P	**P**	**23 20 06.3 +0.2**
MEV	**Metsovon**	**38.81 290**		P	**P**	**23 20 06.3 +0.2**
PSZ	**Piszkesteto**	**38.81 303**		*e*P	**P**	**23 20 07.1 +1.2**
PSZ				*e**PP	**pP**	**23 20 49.4 +2.5**
PSZ				*e*		23 21 37.5
PSZ				*e*		23 25 42.0
PSZ				pmax	pmax	
	comp=Z,975nm,2.1s					
PSZ	**Piszkesteto**	**38.81 303**		*e*P	**P**	**23 20 07.1 +1.2**
	comp=Z,975nm,2.1s					
PSZ				*ep*P	**pP**	**23 20 49.4 +2.5**
PSZ				*e*PP	**PP**	**23 21 37.5 -1.3**
PSZ				*e*ScP	**ScP**	**23 25 42.0 -0.5**
PSZ	**Piszkesteto**	**38.81 303**	⇑	*i*P	**P**	**23 20 06.9 +1.0**
PSZ	**Piszkesteto**	**38.81 303**	⇑	*e*	**P**	**23 20 07.2 +1.3**
NEST	**Nestorio**	**38.83 291**		P	**P**	**23 20 06.2 +0.1**
OJC	**Ojcow**	**38.84 307**		*i* P	**P**	**23 20 06.7 +0.7**
OJC				*ep*P	**pP**	**23 20 48.7 +1.6**
OJC				*es*P	**sP**	**23 21 09.1 -0.2**
OJC				*e*PP	**PP**	**23 21 40.0 +0.9**
OJC				*e*S	**S**	**23 25 49.2 +0.2**
OJC				L	L	23 39 49.5
	comp=Z,1.0nm,17.0s					
OJC	**Ojcow**	**38.84 307**	⇑	*i*P	**P**	**23 20 06.7 +0.7**
OJC				*e**PP	**pP**	**23 20 48.7 +1.6**
OJC				*e**SP	**sP**	**23 21 09.1 -0.2**
OJC				*e*		23 21 40.0
OJC				*e*S	**S**	**23 25 49.2 +0.2**
OJC				MLR	MLR	
	comp=Z,1µm,17.0s					
ITM	**Ithomi**	**38.86 286**		P	**P**	**23 20 04.6 -1.7**
ITM	**Ithomi**	**38.86 286**		P	**P**	**23 20 04.6 -1.7**
RLS	**Riolos of Patr**	**39.00 288**		P	**P**	**23 20 06.8 -0.7**
RLS	**Riolos of Patr**	**39.00 288**		P	**P**	**23 20 06.8 -0.7**
DIVS	**Divibare**	**39.04 297**		P	**P**	**23 20 08.4 +0.6**
PHP	**Peshkopia**	**39.06 294**		P	**P**	**23 20 07.0 -1.0**
PHP	**Peshkopia**	**39.06 294**		P	**P**	**23 20 07.0 -1.0**
PHP	**Peshkopia**	**39.06 294**		P	**P**	**23 20 07.0 -1.0**
PYL	**PYLOS**	**39.07 286**		P	**P**	**23 20 06.0 -2.1**
JAN	**Janina**	**39.12 290**		P	**P**	**23 20 08.5 0.0**
JAN	**Janina**	**39.12 290**		P	**P**	**23 20 08.5 0.0**
JAN	**Janina**	**39.12 290**		P	**P**	**23 20 08.5 0.0**
LHMI	**Lhok Sumawe**	**39.23 136**		P	**P**	**23 20 11.2 +1.6**
	comp=Z,430nm,1.0s,comp=Z,3µm					
PVY	**Plav**	**39.27 295**	⇑	*i*P	**P**	**23 20 09.9 +0.1**
IVA	**Berane**	**39.27 295**	⇑	*i*P	**P**	**23 20 10.2 +0.4**
LIKS	**Likavka**	**39.30 305**		*e*P	**P**	**23 20 10.7 +0.9**
LIKS				pmax	pmax	
	comp=Z,74nm,0.8s					
LIKS	**Likavka**	**39.30 305**		*e*P	**P**	**23 20 10.7 +0.9**
LIKS				*e*PP	**PP**	**23 21 45.8 +1.7**
PKS7	**Kunszentmiklos**	**39.35 302**	⇑	*e*P	**P**	**23 20 11.5 +1.3**
BUD	**Budapest**	**39.42 303**	⇑	*e*P	**P**	**23 20 12.0 +1.2**
LKD2	**Lefkada island**	**39.45 289**		P	**P**	**23 20 11.1 -0.1**
LKD2	**Lefkada island**	**39.45 289**		P	**P**	**23 20 11.1 -0.1**
VYHS	**Vyhne**	**39.50 304**		*e*P	**P**	**23 20 12.5 +1.0**
VYHS				pmax	pmax	
	comp=Z,177nm,1.6s					
VYHS	**Vyhne**	**39.50 304**		*e*P	**P**	**23 20 12.5 +1.0**
VYHS				*e*PP	**PP**	**23 21 44.9 -1.3**
VYHS				*e*S	**S**	**23 26 01.8 +3.0**
VYHS				*e*SS	**SS**	**23 28 58.8 -2.6**
KFL	**Anninata**	**39.51 288**		P	**P**	**23 20 11.2 -0.5**
IGT	**Igoumenitsa**	**39.54 290**		P	**P**	**23 20 11.1 -0.8**
IGT	**Igoumenitsa**	**39.54 290**		P	**P**	**23 20 11.1 -0.8**
IGT	**Igoumenitsa**	**39.54 290**		P	**P**	**23 20 11.1 -0.8**
NJ2	**Nanjing**	**39.55 82**		*e*P	**P**	**23 20 13.5 +1.5**
NJ2				pP	**pP**	**23 20 51.1 -2.1**
NJ2				sP	**sP**	**23 21 12.5 -2.8**
NJ2				PP	**PP**	**23 21 47.4 +0.4**
NJ2				S	**S**	**23 26 02.5 +2.7**
NJ2				sS	**sS**	**23 27 09.5 -3.0**
NJ2				pmax	pmax	
	comp=Z,180nm,0.8s					
NJ2				pmax	pmax	
	comp=Z,790nm,6.6s					
NJ2				LR	LR	
	comp=N,440nm,19.9s					
NJ2				LR	LR	
	comp=E,700nm,24.1s					
NJ2				LR	LR	
	comp=Z,530nm,25.7s					
RGA	**Parga**	**39.57 290**		P	**P**	**23 20 11.0 -1.2**
PLE	**Pljevlja**	**39.57 296**	⇑	*i*P	P	23 20 16.1 +3.8
VLS	**Valsamata**	**39.65 288**		P	**P**	**23 20 10.9 -1.9**
VLS	**Valsamata**	**39.65 288**		P	**P**	**23 20 10.9 -1.9**
VLS	**Valsamata**	**39.65 288**		P	**P**	**23 20 10.9 -1.9**
SRN	**Sarande**	**39.72 291**		P	**P**	**23 20 10.2 -3.2**
SRN	**Sarande**	**39.72 291**		P	**P**	**23 20 10.2 -3.2**
PKSM	**Moragy**	**39.77 301**	⇓	P	**P**	**23 20 14.4 +0.7**
PKSM	**Moragy**	**39.77 301**	⇓	*i*P	**P**	**23 20 14.4 +0.7**
PKSM	**Moragy**	**39.77 301**	⇑	*e*	**P**	**23 20 14.5 +0.7**
DL2	**Dalian**	**39.78 71**		P	**P**	**23 20 15.3 +1.4**
DL2				S	**S**	**23 26 06.7 +3.5**
DL2				pmax	pmax	
	comp=Z,90nm,0.8s					
KOLL	**Kolacno**	**39.78 305**		*e*P	**P**	**23 20 15.0 +1.2**
KOLL				*e*		23 21 48.4
KOLL	**Kolacno**	**39.78 305**		*e*P	**P**	**23 20 15.0 +1.2**
KOLL				*e*PP	**PP**	**23 21 48.4 -0.8**
TTG	**Podgorica**	**39.81 295**	⇑	*i*P	**P**	**23 20 13.4 -0.6**
PKSG		**39.85 303**	⇑	*e*	**P**	**23 20 15.3 +0.9**
RAC	**Raciborz**	**39.88 307**		*e*P	**P**	**23 20 15.9 +1.4**
RAC				*e**PP	**pP**	**23 20 58.0 +2.2**
ULC	**Ulcinj**	**39.89 294**	⇑	*i*P	**P**	**23 20 14.3 -0.5**
OKC	**Ostrava-Krasne**	**39.91 307**	⇑	*i*P	**P**	**23 20 15.6 +0.8**
OKC				*e*		23 29 10.8
OKC	**Ostrava-Krasne**	**39.91 307**	⇑	*i*P	**P**	**23 20 15.6 +0.8**
OKC				*e*PP	**PP**	**23 21 46.3 -4.3**
OKC				*e*SS	SS	23 29 10.8 +1.2
NKY	**Niksic**	**39.94 296**	⇑	*i*P	**P**	**23 20 13.7 -1.6**
UPM	**Unac-Piva**	**39.94 296**	⇑	*i*P	**P**	**23 20 15.5 +0.1**
VLO	**Vlora**	**39.98 292**		P	**P**	**23 20 14.8 -0.7**
VLO	**Vlora**	**39.98 292**		P	**P**	**23 20 14.8 -0.7**
VLO	**Vlora**	**39.98 292**		P	**P**	**23 20 14.8 -0.7**
PKS9	**Tamasi**	**39.99 301**	⇑	*e*P	**P**	**23 20 16.5 +1.0**
RHK3	**Tenkes**	**40.07 300**	⇑	*e*	**P**	**23 20 16.7 +0.5**
BUM	**Brajici-Budva**	**40.09 295**	⇑	*i*P	**P**	**23 20 16.4 -0.1**
BRY	**Bratogost**	**40.25 296**	⇑	*i*P	**P**	**23 20 18.1 +0.2**
MORC	**Moravsky Berou**	**40.30 306**		*e*P	**P**	**23 20 19.1 +1.0**
MORC				*e**PP	**pP**	**23 20 59.1 -0.4**
MORC				*e*		23 21 50.8
MORC				pmax	pmax	
	comp=Z,563nm,1.5s					
MORC	**Moravsky Berou**	**40.30 306**		*e*P	**P**	**23 20 19.1 +1.0**
	comp=Z,563nm,1.5s					
MORC				*ep*P	**pP**	**23 20 59.1 -0.4**
MORC				*e*PP	**PP**	**23 21 50.8 -4.1**
MORC				*e*ScP	**ScP**	**23 25 48.1 -0.1**
MORC	**Moravsky Berou**	**40.30 306**	⇓	*i*P	**P**	**23 20 19.1 +1.0**
HCY	**Herceg Novi**	**40.36 295**	⇑	*i*P	**P**	**23 20 17.8 -0.8**
SMOL	**Smolenice**	**40.43 305**		*e*P	**P**	**23 20 20.3 +1.2**
SMOL				*e*		23 21 58.8
SMOL	**Smolenice**	**40.43 305**		*e*P	**P**	**23 20 20.3 +1.2**
SMOL				*e*PP	**PP**	**23 21 58.8 +2.5**
GKP	**Gorka Klasztor**	**40.52 312**		*e*P	**P**	**23 20 20.5 +0.8**
GKP				*ep*P	**pP**	**23 21 02.7 +1.6**
GKP				*es*P	**sP**	**23 21 22.7 -0.5**
GKP				*e*S	**S**	**23 26 16.3 +2.6**
GKP				LMZ	LR	23 40 11.4
	comp=Z,1µm,21.1s					
GKP	**Gorka Klasztor**	**40.52 312**	⇑	*e*P	**P**	**23 20 20.5 +0.8**
GKP				*e**PP	**pP**	**23 21 02.7 +1.6**
GKP				*e**SP	**sP**	**23 21 22.7 -0.5**
GKP				*e*S	**S**	**23 26 16.3 +2.6**
SNY	**Shenyang**	**40.65 66**	⇑	P	**P**	**23 20 21.5 +0.5**
SNY				pP	**pP**	**23 21 02.8 +0.4**
SNY				sS	sS	23 27 29.9 +1.0
SNY				pmax	pmax	
	comp=Z,53nm,0.8s					
SNY				LR	LR	
	comp=N,510nm,6.9s					
SNY				LR	LR	
	comp=E,650nm,14.5s					
SNY				LR	LR	
	comp=Z,730nm,15.2s					
KEV	**Kevo**	**40.77 338**		*e*P	**P**	**23 20 22.6 +1.0**
KEV				*e**PP	**pP**	**23 21 00.7 -2.3**
KEV				pmax	pmax	
	comp=Z,399nm,0.9s					
KEV	**Kevo**	**40.77 338**		*e*P	**P**	**23 20 22.6 +1.0**
	comp=Z,399nm,0.9s					
KEV				*ep*P	**pP**	**23 21 00.7 -2.3**
KEV				*e*PP	PP	23 21 53.6 -5.9
KEV	**Kevo**	**40.77 338**		*ep*	**P**	**23 20 20.9 -0.7**
	comp=Z,210nm,0.7s					
KEV	**Kevo**	**40.77 338**		*ep*	**P**	**23 20 20.9 -0.7**
	comp=Z,210nm,0.7s					
STON	**Ston**	**40.87 296**		P	**P**	**23 20 22.7 0.0**
VRAC	**Vranov**	**40.94 306**	⇑	P	**P**	**23 20 24.6 +1.3**
VRAC	**Vranov**	**40.94 306**	⇑	*i*P	**P**	**23 20 24.6 +1.3**
CLNS	**Chul'

CONA **Conrad Observa** 41.52 304 *i* P **P** **23 20 28.9 +0.8**
comp=N,451nm,2.0s
CONA **Conrad Observa** 41.52 304 *i* P **P** **23 20 28.9 +0.8**
comp=N,451nm,2.0s,SNR=243
TREC **Trest** 41.66 306⇑ *i*P **P** **23 20 30.3 +1.1**
TREC *e**PP **pP** **23 21 13.0 +2.2**
TREC **Trest** 41.66 306⇑ *i*P **P** **23 20 30.3 +1.1**
TREC *ep*P **pP** **23 21 13.0 +2.2**
CN2 **Changchun** 41.67 63 *e*P **P** **23 20 28.9 -0.4**
CN2 *es*P **sP** **23 21 31.1 -1.8**
CN2 PP **PP** **23 22 11.1 +1.5**
CN2 PcP **PcP** **23 22 21.7 -0.4**
CN2 *e*S **S** **23 26 30.7 -0.3**
CN2 SS SS 23 29 36.9 -7.3
CN2 ScS **ScS** **23 30 09.5 -1.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
SSE **Sheshan** 41.74 82 P **P** **23 20 31.2 +1.2**
SSE *p*P **pP** **23 21 11.8 +0.2**
SSE S **S** **23 26 35.7 +3.3**
SSE *s*S **sS** **23 27 47.8 +2.2**
SSE ScS **ScS** **23 30 12.7 +0.9**
SSE pmax pmax
comp=Z,130nm,1.1s
SSE pmax pmax
comp=Z,220nm,5.3s
SSE LR LR
comp=N,580nm,15.4s
SSE LR LR
comp=E,290nm,15.4s
SSE LR LR
comp=Z,450nm,14.8s
ARSA **Arzberg** 41.81 303 *i* P **P** **23 20 31.2 +0.8**
comp=Z,92nm,1.4s
ARSA **Arzberg** 41.81 303 *i* P **P** **23 20 31.2 +0.8**
comp=Z,92nm,1.4s,SNR=46
BSD **Bornholm Skovb** 41.96 315⇑ *i*P **P** **23 20 30.9 -0.5**
BSD pmax pmax
comp=Z,370nm,1.0s
BSD **Bornholm Skovb** 41.96 315⇑ *i*P **P** **23 20 30.9 -0.5**
comp=Z,369nm,1.0s
PVCC **Panska Ves** 42.19 308⇑ *i*P **P** **23 20 34.5 +1.1**
PVCC **Panska Ves** 42.19 308⇑ *i*P **P** **23 20 34.5 +1.1**
QZH **Quanzhou** 42.20 92⇑ *i*P **P** **23 20 34.4 +0.7**
QZH *p*P **pP** **23 21 15.6 +0.2**
QZH ScP **ScP** **23 25 54.3 -1.8**
QZH S **S** **23 26 41.8 +2.7**
QZH pmax pmax
comp=Z,120nm,1.0s
QZH LR LR
comp=N,1µm,10.1s
QZH LR LR
comp=E,930nm,8.1s
QZH LR LR
comp=Z,1µm,26.6s
IPM **Ipoh** 42.20 132 *e*P **P** **23 20 34.5 +0.7**
comp=Z,406nm,1.2s
IPM *ep*P **pP** **23 21 14.5 -1.1**
IPM *e*ScP **ScP** **23 25 54.4 -1.8**
IPM **Ipoh** 42.20 132 P **P** **23 20 34.5 +0.7**
IPM **Ipoh** 42.20 132 P **P** **23 20 34.1 +0.2**
comp=Z,291nm,1.0s,comp=Z,3µm
IPM **Ipoh** 42.20 132 P **P** **23 20 34.1 +0.2**
comp=Z,291nm,1.0s,comp=Z,3µm
BOJS **Bojanci** 42.21 300 *i* P **P** **23 20 34.4 +0.8**
BOJS *ep*P **sP** **23 21 36.7 -0.6**
BOJS *i* PP **PP** **23 22 17.1 +1.7**
BOJS *e*S **SS** **23 30 00.7 +6.0**
SOKA **Soboth** 42.21 302⇑ *i*P **P** **23 20 34.6 +0.9**
comp=Z,193nm,0.7s
SOKA **Soboth** 42.21 302⇑ *i*P **P** **23 20 34.6 +0.9**
comp=Z,193nm,0.7s
PRU **Pruhonice** 42.23 307⇑ *i*P **P** **23 20 34.8 +1.1**
PRU *e**PP **pP** **23 21 16.8 +1.4**
PRU *e* 23 22 15.8
PRU *e*S **S** **23 26 42.2 +3.1**
PRU *e* 23 27 55.0
PRU *e* 23 29 54.5
PRU **Pruhonice** 42.23 307⇑ *i*P **P** **23 20 34.8 +1.1**
PRU *ep*P **pP** **23 21 16.8 +1.4**
PRU *e*PP **PP** **23 22 15.8 +0.2**
PRU *ex* x 23 22 49.4
PRU *e*S **S** **23 26 42.2 +3.1**
PRU *e*XS **sS** **23 27 55.0 +2.6**
PRU *e*SS **SS** **23 29 54.5 -0.5**
PRA **Prague** 42.30 307 ⇑P **P** **23 20 36.0 +1.7**
PRA *p*P **pP** **23 21 18.0 +2.0**
PRA PP **PcP** **23 22 24.0 -0.1**
PRA S **S** **23 26 41.0 +0.9**
PDKS **Podkum** 42.31 301 *i* P **P** **23 20 35.3 +0.9**
OBKA **Obir** 42.56 302 *i* P **P** **23 20 37.6 +1.0**
comp=Z,128nm,1.1s
OBKA **Obir** 42.56 302 *i* P **P** **23 20 37.6 +1.0**
comp=Z,128nm,1.1s,SNR=28
BRG **Berggiesshubel** 42.57 308⇑ *i*P **P** **23 20 37.6 +1.2**
comp=Z,343nm,1.0s
BRG *p*P **pP** **23 21 15.5 -2.7**
comp=Z,172nm,1.2s
BRG *s*P **sP** **23 21 41.2 +1.1**
comp=Z,216nm,1.2s
BRG PP **PP** **23 22 21.0 +1.9**
comp=Z,137nm,1.3s
BRG SCP **ScP** **23 25 56.6 -0.5**
comp=Z,66nm,1.3s
BRG S S 23 26 56.0 +12
BRG *s*S **sS** **23 28 01.0 +3.7**
BRG SS **SS** **23 30 03.0 +1.5**
BRG **Berggiesshubel** 42.57 308 *e*P **P** **23 20 37.5 +1.2**
comp=Z,41nm,0.8s
BRG **Berggiesshubel** 42.57 308⇑ *i*P **P** **23 20 37.6 +1.2**
BRG *PP **pP** **23 21 15.5 -2.7**
BRG *SP **sP** **23 21 41.2 +1.1**
BRG 23 22 21.0
BRG pmax pmax
comp=Z,343nm,1.0s
BRG pmax pmax
comp=N,66nm,1.3s
BRG pmax pmax
comp=Z,137nm,1.3s
MOA **Molln** 42.59 304 *i* P **P** **23 20 37.2 +0.5**
comp=Z,234nm,1.2s
MOA **Molln** 42.59 304 *i* P **P** **23 20 37.2 +0.5**
comp=Z,234nm,1.2s,SNR=175
RUE **Ruedersdorf** 42.60 311 *e*P **P** **23 20 36.9 +0.2**
comp=Z,619nm,1.1s
RUE *ep*P **pP** **23 21 18.5 +0.1**
RUE *es*P **sP** **23 21 40.9 +0.5**
RUE *e*PP **PP** **23 22 16.4 -3.1**
RUE *e*ScP **ScP** **23 25 56.1 -1.1**
NVLJ **Novalja** 42.62 299 P **P** **23 20 36.4 -0.5**
LJU **Ljubljana** 42.63 301 *i* P **P** **23 20 38.0 +1.0**
LJU *i* pP **sP** **23 21 40.6 -0.2**
LJU *i* PP **PP** **23 22 22.0 +2.1**
LJU *e*S **SS** **23 30 03.0 0.0**
CUC **Castrocucco** 42.83 292 *e*P **P** **23 20 39.4 +0.6**
comp=Z,240nm,0.8s
CUC *e* 23 20 59.4
CUC *es*P **sP** **23 21 40.1 -2.5**
RGN **Rugen** 42.86 314 *e*P **P** **23 20 40.0 +1.3**
comp=Z,3µm,1.2s
RGN *ep*P **pP** **23 21 20.6 +0.1**
RGN *es*P **sP** **23 21 43.5 +1.1**
GEC2 **GERESS Array S** 42.87 305 *e*P **P** **23 20 39.5 +0.5**
comp=Z,16nm,0.9s
GEC2 *ep*P **pP** **23 21 22.2 +1.4**
GEC2 **GERESS Array S** 42.87 305 *e*P **P** **23 20 39.5 +0.5**
GEC2 *e**PP **pP** **23 21 22.2 +1.4**
GERES **GERESS Array B** 42.87 305 P **P** **23 20 39.6 +0.7**
comp=Z,24nm,0.7s,baz=82,slow=7.0,SNR=100
GERES pP **pP** **23 21 22.2 +1.4**
comp=Z,18nm,0.8s,baz=79,slow=7.2,SNR=4.1
GERES PP **PP** **23 22 20.8 -1.7**
comp=Z,83nm,1.0s,baz=87,slow=7.1,SNR=7.3
GERES ScP **ScP** **23 25 57.8 -0.8**
comp=Z,9.5nm,0.9s,baz=90,slow=4.9,SNR=4.0
GERES **GERESS Array B** 42.87 305 P **P** **23 20 39.7 +0.7**
GERES *PP **pP** **23 21 22.2 +1.4**
GERES 23 22 20.8
GERES **GERESS Array B** 42.87 305 P **P** **23 20 39.6 +0.7**
GERES pP **pP** **23 21 22.2 +1.4**
GERES PP **PP** **23 22 20.8 -1.7**
GERES ScP **ScP** **23 25 57.8 -0.8**

KHC **Kasperske Hory** 42.92 306⇑ *i*P **P** **23 20 40.0 +0.6**
KHC *e**PP **pP** **23 21 22.7 +1.5**
KHC *e* 23 22 21.1
KHC *e*S **S** **23 26 51.9 +2.5**
KHC *e* 23 28 04.6
KHC **Kasperske Hory** 42.92 306 *e*P **P** **23 20 40.0 +0.6**
comp=Z,386nm,1.8s
KHC *ep*P **pP** **23 21 22.9 +1.7**
KHC *e*PP **PP** **23 22 21.1 -1.9**
KHC *e*ScP **ScP** **23 25 57.8 -0.9**
KHC **Kasperske Hory** 42.92 306⇑ *i*P **P** **23 20 40.0 +0.6**
KHC *ex* x 23 20 56.0
KHC *ep*P **pP** **23 21 22.7 +1.5**
KHC *es*P sP 23 21 37.5 -5.7
KHC *e*PP **PP** **23 22 21.1 -1.9**
KHC *ex* x 23 22 38.5
KHC *ex* x 23 22 56.5
KHC *e*S **S** **23 26 51.9 +2.5**
KHC *e*XS **sS** **23 28 04.6 +1.8**
JAVS **Javornik** 42.98 301 *i* P **P** **23 20 40.2 +0.3**
JAVS *i* pP **sP** **23 21 43.0 -0.7**
JAVS *i* PP **PP** **23 22 20.7 -3.0**
JAVS *e*S **SS** **23 30 14.6 +4.9**
HFS **Hagfors** 43.02 322 P **P** **23 20 40.3 +0.4**
comp=Z,823nm,0.7s,baz=98,slow=10,SNR=843
HFS pP **pP** **23 21 23.0 +1.3**
comp=Z,118nm,0.7s,baz=102,slow=11,SNR=2.6
HFS **Hagfors** 43.02 322 P **P** **23 20 40.3 +0.4**
HFS *PP **pP** **23 21 23.0 +1.3**
HFS **Hagfors** 43.02 322 P **P** **23 20 40.3 +0.4**
HFS pP **pP** **23 21 23.0 +1.3**
VOY **Vojsko** 43.07 301⇑ *i*P **P** **23 20 41.4 +0.7**
VOY *e* 23 20 50.0
VOY *e* 23 21 07.4
VOY *e* 23 21 23.9
VOY *e* 23 21 30.3
VOY *e* 23 21 43.0
VOY *e* 23 21 54.6
VOY *e* 23 22 24.0
CLL **Collm** 43.13 309 *e*P **P** **23 20 41.5 +0.5**
comp=Z,26nm,0.9s
CLL **Collm** 43.13 309⇑ *i*P **P** **23 20 41.4 +0.5**
CLL *e**PP **pP** **23 21 24.0 +1.2**
CLL *e*S **S** **23 26 48.0 -4.2**
CLL pmax pmax
comp=Z,275nm,1.2s
CLL **Collm** 43.13 309⇑ *i*P **P** **23 20 41.4 +0.5**
comp=Z,275nm,1.2s
CLL *ep*P **pP** **23 21 24.0 +1.2**
CLL *es*P **sP** **23 21 44.0 -0.8**
CLL *e*PP **PcP** **23 22 26.0 -0.9**
CLL *i* 23 22 37.4
CLL *ep*PP 23 22 56.0
CLL *e*PPP PPP 23 23 05.0
CLL *es*PP 23 23 22.0
CLL *e*S **S** **23 26 48.0 -4.2**
CLL *es*S **sS** **23 28 03.0 -2.7**
CLL *e* 23 28 48.0
CLL *e*(SS) 23 29 54.0
CLL *e*ScS **ScS** **23 30 26.0 +6.2**
CLL *es*SS 23 31 18.0
CLL *e* 23 32 54.0
MYKA **Terra Mystica** 43.16 302⇑ *i*P **P** **23 20 41.9 +0.6**
comp=Z,96nm,0.9s
MYKA **Terra Mystica** 43.16 302⇑ *i*P **P** **23 20 41.9 +0.6**
comp=Z,96nm,0.9s
CEL **Celeste** 43.21 290 *e*P **P** **23 20 42.0 +0.2**
comp=Z,313nm,1.3s
CEL *e*PcP **PcP** **23 22 26.9 -0.6**
CEL *e*ScP **ScP** **23 25 59.9 -0.2**
TRI **Trieste** 43.21 301 *e*P **P** **23 20 41.9 +0.2**
TRI *e**PP **pP** **23 21 20.9 -2.6**
TRI *e**SP **sP** **23 21 44.0 -1.4**
TRI *e* 23 22 27.6
TRI **Trieste** 43.21 301 *e*P **P** **23 20 41.9 +0.2**
TRI *ep*P **pP** **23 21 20.9 -2.6**
TRI *es*P **sP** **23 21 44.0 -1.4**
TRI *e*PcP **PcP** **23 22 27.6 +0.3**
TRO **Tromso** 43.24 336 *e*P **P** **23 20 43.4 +1.9**
TRO AMB AMB 23 20 45.4
comp=Z,564nm,1.3s
TRO *e*SS SS 23 30 24.1 +10
KBA **Koelnbreinsper** 43.31 303 *i* P **P** **23 20 43.0 +0.4**
KBA pmax pmax
comp=Z,155nm,1.3s
KBA **Koelnbreinsper** 43.31 303 *i* P **P** **23 20 43.0 +0.4**
comp=Z,155nm,1.3s
KBA **Koelnbreinsper** 43.31 303 *i* P **P** **23 20 43.0 +0.4**
comp=Z,155nm,1.3s,SNR=70
WET **Wettzell** 43.38 306 *e*P **P** **23 20 43.6 +0.6**
comp=Z.5.0nm,0.9s
WET **Wettzell** 43.38 306 *e*P **P** **23 20 43.6 +0.6**
COP **Copenhagen** 43.39 315⇑ *i*P **P** **23 20 44.1 +1.2**
COP *i* 23 21 46.0
COP *i*S **SS** **23 30 18.6 +1.7**
COP pmax pmax
comp=Z,400nm,1.0s
COP **Copenhagen** 43.39 315⇑ *i*P **P** **23 20 44.1 +1.2**
comp=Z,402nm,1.0s
COP *i* 23 21 46.0
TANN **Tannenbergstha** 43.54 308 *e*P **P** **23 20 45.4 +1.1**
comp=Z,24nm,0.9s
NKC **Novy Kostel** 43.56 307⇑ *i*P **P** **23 20 45.4 +1.0**
NKC *e**PP **pP** **23 21 28.4 +2.1**
NKC **Novy Kostel** 43.56 307⇑ *i*P **P** **23 20 45.4 +1.0**
NKC *ep*P **pP** **23 21 28.4 +2.1**
RJOB **Jochberg** 43.59 304 *e*P **P** **23 20 45.6 +0.8**
comp=Z,33nm,0.8s
ROTZ **Rotzenmuhle** 43.76 307 *e*P **P** **23 20 47.7 +1.7**
comp=Z,44nm,1.1s
ABTA **Abfaltersbach** 43.92 302 *i* P **P** **23 20 47.1 -0.2**
comp=Z,80nm,0.8s
ABTA **Abfaltersbach** 43.92 302 *i* P **P** **23 20 47.1 -0.2**
comp=Z,80nm,0.8s,SNR=30
STEI **Steigen** 43.94 333⇑ *i*P **P** **23 20 47.9 +0.8**
STEI AMB AMB 23 20 48.7
comp=Z,581nm,1.1s
INCN **Inchon** 43.95 71 *e*P **P** **23 20 48.1 +0.3**
comp=Z,50nm,1.0s
INCN *ep*P **pP** **23 21 32.5 +2.7**
INCN *e*PcP **PcP** **23 22 29.4 -0.6**
INCN *e*ScP **ScP** **23 26 00.8 -2.3**
YAK **Yakutsk** 44.01 35c *i*P **P** **23 20 48.0 +0.3**
YAK *e**PP **pP** **23 21 30.5 +0.8**
YAK *e* 23 22 31.5
YAK *e* 23 22 35.2
YAK *e*PPP PPP 23 23 18.3
YAK *e*S **S** **23 27 04.2 -0.3**
YAK *e**SS **sS** **23 28 18.7 +0.4**
YAK *e* 23 30 19.6
YAK pmax pmax
comp=Z,116nm,0.8s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=E,71nm,1.5s
YAK pmax pmax
comp=Z,178nm,1.6s
YAK pmax pmax
comp=N,115nm,1.6s
YAK pmax pmax
comp=E,254nm,1.9s
YAK smax smax
comp=N,230nm,1.4s
YAK smax smax
comp=E,193nm,1.5s
YAK **Yakutsk** 44.01 35 *e*P **P** **23 20 48.1 +0.3**
comp=E,231nm,0.8s
YAK *ep*P **pP** **23 21 31.2 +1.5**
YAK *e*ScP **ScP** **23 26 02.5 -0.3**
MOX **Moxa** 44.06 308 *e*P **P** **23 20 49.4 +1.1**
comp=Z,28nm,0.8s
MOX **Moxa** 44.06 308 *e*P **P** **23 20 49.4 +1.1**
MOX pmax pmax
comp=Z,28nm,0.8s
AQU **L'Aquila** 44.08 296 ⇓P **P** **23 20 49.3 +0.6**
AQU **L'Aquila** 44.08 296 *e*P **P** **23 20 49.0 +0.3**
comp=Z,142nm,0.9s
AQU **L'Aquila** 44.08 296⇓ *i*P **P** **23 20 49.3 +0.6**
NC602 **NORSAR Array S** 44.15 323⇑ *i*P **P** **23 20 48.8 -0.1**
FLOS **Flostrand** 44.24 331⇑ *i*P **P** **23 20 50.1 +0.6**
FLOS AMB AMB 23 20 51.0
comp=Z,673nm,1.2s

NB2 **NORSAR Subarra** 44.34 323 P **P** **23 20 50.6 +0.2**
comp=Z,928nm,0.8s,baz=96,slow=7.9
NOA **NORSAR Array B** 44.34 323 P **P** **23 20 50.4 -0.1**
comp=Z,728nm,0.7s,baz=96,slow=7.8,SNR=2499
NOA pP **pP** **23 21 33.5 +1.0**
comp=Z,106nm,0.7s,baz=97,slow=8.1,SNR=3.2
NOA **NORSAR Array B** 44.34 323 P **P** **23 20 50.4 -0.1**
NOA *PP **pP** **23 21 33.5 +1.0**
NOA **NORSAR Array B** 44.34 323 P **P** **23 20 50.4 -0.1**
NOA pP **pP** **23 21 33.5 +1.0**
MNSI **Mandailing Nat** 44.35 137 P **P** **23 20 51.4 +0.4**
comp=Z,542nm,0.9s,comp=Z,5µm
STOK **Stokkvaagen** 44.38 331⇑ *i*P **P** **23 20 51.1 +0.6**
STOK AMB AMB 23 20 52.0
comp=Z,475nm,1.1s
GRF **Grafenberg Arr** 44.40 307 *e*P **P** **23 20 52.9 +1.8**
comp=Z,38nm,0.9s
GRF **Grafenberg Arr** 44.40 307 *e*P **P** **23 20 52.9 +1.8**
GRF pmax pmax
comp=Z,38nm,0.9s
GRFO **Grafenberg** 44.40 307 *e*P **P** **23 20 52.8 +1.7**
GRFO *e* 23 22 38.3
GRFO pmax pmax
comp=Z,676nm,1.5s
GRFO **Grafenberg** 44.40 307 *e*P **P** **23 20 52.8 +1.7**
comp=Z,676nm,1.5s
GRFO *e*PP **PP** **23 22 38.3 -0.3**
WTTA **Wattenberg** 44.44 303 *i* P **P** **23 20 51.3 -0.3**
WTTA pmax pmax
comp=Z,199nm,1.1s
WTTA **Wattenberg** 44.44 303 *i* P **P** **23 20 51.3 -0.3**
comp=Z,199nm,1.1s
WTTA **Wattenberg** 44.44 303 *i* P **P** **23 20 51.3 -0.3**
comp=Z,199nm,1.1s,SNR=121
NSS **Namsos** 44.46 328 *e*P **P** **23 20 50.0 -1.2**
NSS AMB AMB 23 20 51.1
comp=Z,314nm,1.2s
MDJ **Mudanjiang** 44.47 61 P **P** **23 20 52.2 +0.5**
MDJ pP **pP** **23 21 31.5 -2.2**
MDJ sP **sP** **23 21 52.0 -3.6**
MDJ ScP **ScP** **23 26 07.4 +2.4**
MDJ S **S** **23 27 13.7 +2.0**
MDJ *s*S **sS** **23 28 22.5 -3.0**
MDJ ScS **ScS** **23 30 30.4 +1.9**
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,140nm,3.6s
MDJ LR LR
comp=N,470nm,16.4s
MDJ LR LR
comp=E,370nm,14.9s
MDJ LR LR
comp=Z,630nm,13.5s
MDJ **Mudanjiang** 44.47 61 *e*P **P** **23 20 52.2 +0.5**
comp=Z,36nm,1.1s
MDJ *ep*P **pP** **23 21 38.2 +4.4**
MDJ *e*ScP **ScP** **23 26 04.0 -1.1**
WATA **Walderalm** 44.47 303 *i* P **P** **23 20 51.4 -0.4**
WATA pmax pmax
comp=Z,102nm,0.8s
WATA **Walderalm** 44.47 303 *i* P **P** **23 20 51.4 -0.4**
comp=Z,102nm,0.8s
WATA **Walderalm** 44.47 303 *i* P **P** **23 20 51.4 -0.4**
comp=Z,102nm,0.8s,SNR=114
NAO01 **NORSAR Array S** 44.48 323 *e*P **P** **23 20 51.2 -0.4**
comp=Z,50nm,1.3s
NAO01 *es*P **sP** **23 21 55.7 +0.2**
NAO01 *e*PcP **PcP** **23 22 31.4 +0.1**
NAO01 *e*PP **PP** **23 22 38.3 -0.9**
OSL **Oslo** 44.49 321 *e*P **P** **23 20 51.9 +0.3**
FUR **Furstenfeldbru** 44.55 305 *e*P **P** **23 20 53.3 +1.0**
comp=Z,42nm,0.8s
FUR **Furstenfeldbru** 44.55 305 *e*P **P** **23 20 53.3 +1.0**
FUR pmax pmax
comp=Z,42nm,0.8s
YHNB **Yeheng** 44.56 91 *e*P **P** **23 20 54.9 +2.1**
TPUB **Ta-pu** 44.61 93 *e*P **P** **23 20 54.9 +1.8**
comp=Z,52nm,0.8s
BSEG **Bad Segeberg** 44.64 313 *e*P **P** **23 20 54.0 +1.2**
comp=Z,90nm,0.9s
BSEG **Bad Segeberg** 44.64 313 *e*P **P** **23 20 54.0 +1.2**
BSEG pmax pmax
comp=Z,90nm,0.9s
SSLB **Suanglung** 44.64 92 *e*P **P** **23 20 55.6 +2.3**
comp=Z,135nm,0.8s
SSLB *ep*P **pP** **23 21 38.5 +3.0**
SSLB *e*PcP **PcP** **23 22 31.6 -1.0**
CLZ **Clausthal** 44.73 310 *e*P **P** **23 20 54.7 +1.0**
comp=Z,36nm,0.9s
CLZ **Clausthal** 44.73 310 *e*P **P** **23 20 54.7 +1.0**
CLZ pmax pmax
comp=Z,36nm,0.9s
MOTA **Moosalm** 44.78 303 *i* P **P** **23 20 53.7 -0.6**
MOTA pmax pmax
comp=Z,115nm,0.7s
MOTA **Moosalm** 44.78 303 *i* P **P** **23 20 53.7 -0.6**
comp=Z,115nm,0.7s
MOTA **Moosalm** 44.78 303 *i* P **P** **23 20 53.7 -0.6**
comp=Z,115nm,0.7s,SNR=126
KSAR **Wonju Array Be** 44.92 71 P **P** **23 20 55.9 +0.5**
KSAR *PP **pP** **23 21 38.9 +1.4**
KSAR **Wonju Array Be** 44.92 71 P **P** **23 20 55.9 +0.5**
KSAR pP **pP** **23 21 38.9 +1.4**
WDD **Wield Dalam** 44.95 287 *e*P **P** **23 20 55.9 +0.3**
comp=Z,532nm,0.8s
KSRS **Korea Array** 44.95 71 P **P** **23 20 55.9 +0.3**
comp=Z,29nm,1.0s,baz=285,slow=6.9,SNR=42
KSRS pP **pP** **23 21 38.9 +1.2**
comp=Z,13nm,0.7s,baz=282,slow=6.5,SNR=6.7
KSRS **Korea Array** 44.95 71 P **P** **23 20 55.9 +0.3**
KSRS *PP **pP** **23 21 38.9 +1.2**
KSRS pmax pmax
comp=Z,29nm,1.0s
NACB **Ninganchiao** 44.97 91 *e*P **P** **23 20 57.2 +1.3**
HOPEN **Hopen** 44.98 346 *e*P **P** **23 20 57.7 +2.4**
HOPEN AMB AMB 23 20 59.6
comp=Z,778nm,1.3s
RETA **Reutte** 44.99 304 *i* P **P** **23 20 55.3 -0.5**
comp=Z,90nm,1.1s
RETA **Reutte** 44.99 304 *i* P **P** **23 20 55.3 -0.5**
comp=Z,90nm,1.1s,SNR=88
TBLU **Trondheim** 45.02 326⇑ *i*P **P** **23 20 54.0 -1.7**
KONO **Kongsberg** 45.04 321⇑ *i*P **P** **23 20 56.1 +0.3**
KONO AMB AMB 23 20 57.0
comp=Z,458nm,1.0s
KONO **Kongsberg** 45.04 321 *e*P **P** **23 20 56.2 +0.3**
KONO *PP **pP** **23 21 38.2 +0.1**
KONO *e* 23 22 43.7
KONO pmax pmax
comp=Z,492nm,0.9s
KONO **Kongsberg** 45.04 321 *e*P **P** **23 20 56.2 +0.3**
comp=Z,492nm,0.9s
KONO *ep*P **pP** **23 21 38.2 +0.1**
KONO *e*PP **PP** **23 22 43.7 -1.4**
UBBA **Unterbreizbach** 45.06 308 *e*P **P** **23 20 58.0 +1.9**
comp=Z,15nm,0.8s
FETA **Feichten** 45.08 303 *i* P **P** **23 20 56.2 -0.5**
comp=Z,150nm,1.1s
FETA **Feichten** 45.08 303 *i* P **P** **23 20 56.2 -0.5**
comp=Z,150nm,1.1s,SNR=183
YULB **Yu-li** 45.10 92 *e*P **P** **23 20 59.4 +2.4**
comp=Z,91nm,0.9s
TWG **Pinlang** 45.20 93 *e*P **P** **23 21 00.5 +2.7**
comp=Z,268nm,1.0s
TWG *ep*P **pP** **23 21 45.0 +5.1**
KLR **Kul'dur** 45.20 54⇓ *i*P **P** **23 20 56.3 -1.1**
KLR *e* 23 21 40.7
KLR *e*S **S** **23 27 21.5 -0.6**
KLR *e* 23 28 38.0
KLR *e* 23 30 26.7
KLR *e* 23 30 48.5
KLR pmax pmax
comp=E,100nm,1.6s
KLR pmax pmax
comp=Z,290nm,1.6s
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,3µm,13.0s
MUD **Monsted U'grnd** 45.22 316⇑ *i*P **P** **23 20 58.4 +1.0**
MUD *i* 23 22 00.0
MUD *e*S **SS** **23 30 51.8 +4.2**
MUD pmax pmax
comp=Z,250nm,1.1s

MUD Monsted U'grnd 45.22 316⇑ *i*P **P 23 20 58.4 +1.0**
comp=Z,250nm,1.1s
MUD *i* 23 22 00.0
DOMB Dombas 45.45 324 *e*P **P 23 20 59.6 +0.4**
KGM Kluang 45.53 131 P **P 23 21 01.6 +1.3**
BKNI Bangkinang 45.55 135 P **P 23 21 00.7 +0.2**
HOMB Homborsund 45.57 319 *e*P **P 23 21 00.3 +0.2**
DAVA Damuels 45.61 304 *i* P **P 23 21 00.8 -0.1**
comp=Z,297nm,0.6s
DAVA Damuels 45.61 304 *i* P **P 23 21 00.8 -0.1**
comp=Z,297nm,0.6s,SNR=115
STU Stuttgart 45.84 306 *e*P **P 23 21 03.4 +1.0**
comp=Z,29nm,0.8s
STU Stuttgart 45.84 306 *e*P **P 23 21 02.9 +0.5**
STU *e**SP **sP 23 22 03.7 -2.8**
STU *e* 23 22 33.8
STU pmax pmax
comp=Z,168nm,0.8s
STU Stuttgart 45.84 306 *e*P **P 23 21 02.9 +0.5**
comp=Z,168nm,0.8s
STU *es*P **sP 23 22 03.7 -2.8**
STU *e*PcP **PcP 23 22 33.8 -2.5**
STU *e*ScP **ScP 23 26 09.8 -0.9**
PPI Padang Panjang 45.84 137 P **P 23 21 02.9 +0.1**
comp=Z,380nm,0.8s,comp=Z,3µm
TOD Tromm 45.97 307 *e*P **P 23 21 03.3 -0.2**
TOD Tromm 45.97 307 *e*P **P 23 21 03.3 -0.2**
MYKOM Kota Tinggi 46.03 131 P **P 23 21 05.6 +1.3**
MYKOM Kota Tinggi 46.03 131 P **P 23 21 05.4 +1.1**
comp=Z,194nm,0.9s,comp=Z,2µm
TUE Stuetta 46.11 303 *e*P **P 23 21 04.3 -0.5**
TNS Taunus Mts 46.12 308 *e*P **P 23 21 05.6 +1.0**
comp=Z,18nm,1.0s
TNS Taunus Mts 46.12 308 *e*P **P 23 21 05.6 +1.0**
USRK Ussuriysk Arra 46.24 61 P **P 23 21 05.7 +0.1**
comp=Z,23nm,1.0s,baz=283,slow=8.6,SNR=32
USRK pP **pP 23 21 49.5 +1.6**
comp=Z,11nm,0.7s,baz=291,slow=5.2,SNR=4.1
USRK LR LR 23 42 26.8
comp=Z,279nm,18.2s,baz=91,slow=38
IBBN Ibbenburen 46.30 311 *e*P **P 23 21 06.8 +0.9**
comp=Z,56nm,0.8s
VLA Vladivostok 46.41 62⇓ *i*P **P 23 21 06.6 -0.3**
VLA *i* 23 22 37.2
VLA *i* 23 22 57.1
VLA *i* S **S 23 27 39.2 -0.3**
VLA pmax pmax
comp=Z,179nm,1.5s
BFO Black Forest 46.47 305 *e*P **P 23 21 07.6 +0.2**
comp=Z,15nm,0.9s
BFO Black Forest 46.47 305 *e*P **P 23 21 07.3 -0.1**
BFO pmax pmax
comp=Z,383nm,1.8s
BFO Black Forest 46.47 305 *e*P **P 23 21 07.3 -0.1**
comp=Z,383nm,1.8s
BFO *e*ScP **ScP 23 26 12.6 -0.8**
KTD Kalmit 46.48 307 *e*P **P 23 21 08.3 +0.9**
KTD Kalmit 46.48 307 *e*P **P 23 21 08.3 +0.9**
ODD1 Odda 46.55 321⇑ *i*P **P 23 21 07.8 0.0**
ODD1 AMB AMB 23 21 10.0
comp=Z,466nm,1.3s
BLS5 Blasjo 46.63 321 *e*P **P 23 21 09.3 +0.9**
BLS5 AMB AMB 23 21 11.5
comp=Z,275nm,1.2s
BUG Bochum--Univer 46.70 310 *e*P **P 23 21 09.9 +0.9**
comp=Z,38nm,0.9s
LANF Langenberg 46.71 306 *e*P **P 23 21 10.2 +1.0**
LANF Langenberg 46.71 306 *e*P **P 23 21 10.2 +1.0**
LANF Langenberg 46.71 306 *e*P **P 23 21 10.2 +1.0**
ABH Alteburg 46.74 307 *e*P **P 23 21 09.4 0.0**
FELD Feldberg im Sc 46.76 305 *e*P **P 23 21 09.8 0.0**
STR Strasbourg 46.80 306 *e*P **P 23 21 10.5 +0.6**
STR Strasbourg 46.80 306 *e*P **P 23 21 10.5 +0.6**
STR Strasbourg 46.80 306 *e*P **P 23 21 10.5 +0.6**
WIT Witteveen 46.90 312 *i* P **P 23 21 11.5 +0.9**
comp=Z,1µm,1.2s
WTSB Winterswijk 46.92 310 *i* P **P 23 21 11.7 +0.9**
comp=Z,1µm,1.5s
LIBD Limburg 46.98 305 *e*P **P 23 21 11.5 +0.2**
LIBD Limburg 46.98 305 *e*P **P 23 21 11.5 +0.2**
STAV Stavanger 47.03 320 *e*P **P 23 21 12.5 +1.0**
STAV AMB AMB 23 21 13.2
comp=Z,196nm,1.0s
RUP Ruppelstein 47.08 307 *e*P **P 23 21 12.0 -0.1**
RUP Ruppelstein 47.08 307 *e*P **P 23 21 12.0 -0.1**
CDF Champ du Feu 47.15 305⇑ *i*P **P 23 21 12.6 -0.1**
comp=Z,136nm,0.9s
BBS Basel-Blauen 47.17 304 *e*P **P 23 21 11.5 -1.3**
BBS Basel-Blauen 47.17 304 *e*P **P 23 21 11.5 -1.3**
RUND Rundenannen 47.18 322 *e*P **P 23 21 12.4 -0.2**
BER Bergen 47.19 322 *e*P **P 23 21 12.2 -0.5**
BER AMB AMB 23 21 13.2
comp=Z,535nm,0.9s
BER *e*SS SS 23 31 37.8 +18
PGF Pioggiola 47.20 297⇑ *i*P **P 23 21 13.8 +0.6**
comp=Z,311nm,0.8s
KMY Karmoy 47.26 320 *e*P **P 23 21 14.0 +0.8**
KMY AMB AMB 23 21 15.9
comp=Z,362nm,1.2s
ASK Askoy 47.26 322 *e*P **P 23 21 12.9 -0.3**
ECH Echery 47.26 305 *e*P **P 23 21 13.3 -0.2**
ECH pmax pmax
comp=Z,166nm,1.4s
ECH Echery 47.26 305 *e*P **P 23 21 13.3 -0.2**
comp=Z,166nm,1.4s
ECH Echery 47.26 305 *e*P **P 23 21 13.5 0.0**
OSPF L'Ospedale 47.29 296 *e*P **P 23 21 12.9 -1.0**
FOO Floro 47.34 324 *e*P **P 23 21 11.8 -2.0**
FOO AMB AMB 23 21 14.2
comp=Z,839nm,1.1s
FOO *e*SS SS 23 31 31.4 +10
MOF Molkenrain 47.35 305 *e*P **P 23 21 14.3 +0.1**
MOF Molkenrain 47.35 305 *e*P **P 23 21 14.3 +0.1**
MOF Molkenrain 47.35 305 *e*P **P 23 21 14.3 +0.1**
HABR Khabarovsk 47.47 54 *ce*P **P 23 21 13.8 -1.2**
HABR *e**PP **pP 23 21 55.5 -2.1**
HABR *e**SP **sP 23 22 16.7 -2.7**
HABR *e* 23 22 40.3
HABR *e* 23 23 06.6
HABR *e*S **S 23 27 54.5 +0.1**
HABR *e**SS **sS 23 29 08.5 -0.5**
HABR *e* 23 30 45.9
HABR *e*SS **SS 23 31 25.9 +1.4**
HABR pmax pmax
comp=Z,258nm,1.5s
HABR pmax pmax
comp=Z,155nm,1.4s
HABR MLR MLR
comp=Z,423nm,15.0s
SPA0 Spitsbergen Ar 47.47 347 *e*P **P 23 21 16.1 +1.5**
SPITS Spitsbergen Ar 47.47 347 P **P 23 21 16.7 +2.0**
comp=Z,208nm,0.8s,baz=133,slow=11,SNR=146
SPITS Spitsbergen Ar 47.47 347 P **P 23 21 16.7 +2.0**
SPITS Spitsbergen Ar 47.47 347 P **P 23 21 16.7 +2.0**
SPB4 Spitsbergen Ar 47.48 347 *e*P **P 23 21 16.5 +1.8**
SPB4 *es*P **sP 23 22 17.5 -1.6**
HINF Hinteralfeld 47.54 305⇑ *i*P **P 23 21 15.6 0.0**
comp=Z,240nm,0.9s
MEM Membach 47.61 309 P **P 23 21 16.8 +0.7**
comp=Z,104nm,1.6s
HGN Heimansgroeve 47.63 309 *i* P **P 23 21 16.5 +0.3**
comp=Z,328nm,1.7s
LOMF Lomont 47.64 304 *e*P **P 23 21 16.3 -0.2**
LOMF Lomont 47.64 304 *e*P **P 23 21 16.3 -0.2**
LOMF Lomont 47.64 304 *e*P **P 23 21 16.3 -0.2**
WLF Walferdange 47.66 307 P **P 23 21 17.6 +1.1**
comp=Z,264nm,1.6s
WLF Walferdange 47.66 307 *e*P **P 23 21 17.9 +1.4**
comp=Z,44nm,0.9s
WLF Walferdange 47.66 307 *e*P **P 23 21 17.6 +1.1**
WLF *e**PP **pP 23 22 02.2 +3.0**
WLF pmax pmax
comp=Z,393nm,1.2s
WLF Walferdange 47.66 307 *e*P **P 23 21 17.6 +1.1**
comp=Z,394nm,1.2s
WLF *ep*P **pP 23 22 02.2 +3.0**
VSL Villasalto 47.75 293 *e*P **P 23 21 17.1 -0.3**
VSL *e*PcP **PcP 23 22 42.1 -1.2**
VSL *e*ScP **ScP 23 26 15.6 -3.3**
KRJI Kerinci 47.78 137 P pP 23 22 02.1 +1.5
KRJI Kerinci 47.78 137 P **P 23 21 18.6 +0.7**
comp=Z,863nm,1.0s,comp=Z,17µm
KRJI Kerinci 47.78 137 P **P 23 21 18.6 +0.7**
comp=Z,863nm,1.0s,comp=Z,17µm

BEBN Eben Emael 47.78 309 P **P 23 21 17.8 +0.4**
comp=Z,44nm,1.9s
HAU Haudompre 47.84 305⇑ *i*P **P 23 21 18.1 +0.2**
comp=Z,278nm,0.8s
HAU *e*R
comp=Z,605nm,18.0s
SAOF Saorge 47.88 300 *e*P **P 23 21 18.8 +0.5**
SAOF Saorge 47.88 300 *e*P **P 23 21 18.8 +0.5**
SAOF Saorge 47.88 300 *e*P **P 23 21 18.8 +0.5**
OG01 Vacheresse 47.95 303 *e*P **P 23 21 19.3 +0.4**
AUTN L'Aution 47.97 300 *e*P **P 23 21 19.8 +0.6**
AUTN L'Aution 47.97 300 *e*P **P 23 21 19.8 +0.6**
AUTN L'Aution 47.97 300 *e*P **P 23 21 19.8 +0.6**
SBF Sospel 47.99 299⇑ *i*P **P 23 21 19.4 +0.2**
comp=Z,398nm,0.8s
THEF They Montfort 48.03 305 *e*P **P 23 21 19.8 +0.4**
THEF They Montfort 48.03 305 *e*P **P 23 21 19.8 +0.4**
THEF They Montfort 48.03 305 *e*P **P 23 21 19.8 +0.4**
REVF Revere 48.07 299 *e*P **P 23 21 19.9 +0.1**
REVF Revere 48.07 299 *e*P **P 23 21 19.9 +0.1**
REVF Revere 48.07 299 *e*P **P 23 21 19.9 +0.1**
BCLA Clavier 48.08 308 P **P 23 21 20.2 +0.5**
comp=Z,47nm,1.5s
LPG La Plagne 48.09 302⇑ *i*P **P 23 21 20.5 +0.3**
comp=Z,491nm,0.8s
TOUF Mont Tournerai 48.09 300 *e*P **P 23 21 20.6 +0.5**
TOUF Mont Tournerai 48.09 300 *e*P **P 23 21 20.6 +0.5**
TOUF Mont Tournerai 48.09 300 *e*P **P 23 21 20.6 +0.5**
LPL La Plagne 48.09 302⇑ *i*P **P 23 21 20.5 +0.3**
comp=Z,240nm,0.7s
RSL Roselend 48.13 302 *e*P **P 23 21 21.5 +1.1**
PAGF Fort de Pagny 48.14 306⇑ *i*P **P 23 21 21.1 +0.9**
comp=Z,115nm,0.8s
PAGF *ep*P **pP 23 22 04.9 +2.0**
MVIF Mont Vial 48.18 300 *e*P **P 23 21 21.2 +0.4**
MVIF Mont Vial 48.18 300 *e*P **P 23 21 21.2 +0.4**
MVIF Mont Vial 48.18 300 *e*P **P 23 21 21.2 +0.4**
BNI Bardonecchia 48.24 301 *e*P **P 23 21 20.7 -0.5**
BNI *e**PP **pP 23 22 00.9 -3.0**
BNI *e* 23 23 18.0
BNI pmax pmax
comp=Z,474nm,1.9s
BNI Bardonecchia 48.24 301 *e*P **P 23 21 20.6 -0.5**
comp=Z,474nm,1.9s
BNI *ep*P **pP 23 22 00.9 -3.0**
BNI *e*PP **PP 23 23 18.0 +2.8**
CABF La Chapelle 48.29 303⇑ *i*P **P 23 21 21.7 +0.2**
comp=Z,415nm,0.9s
CALN Calern 48.40 299 *e*P **P 23 21 22.7 +0.3**
CALN Calern 48.40 299 *e*P **P 23 21 22.7 +0.3**
CALN Calern 48.40 299 *e*P **P 23 21 22.7 +0.3**
DOU Dourbes 48.58 308 P **P 23 21 24.3 +0.8**
comp=Z,164nm,1.8s
MEZF Maizieres J'vi 48.59 306⇑ *i*P **P 23 21 25.3 +1.7**
comp=Z,529nm,1.0s
MEZF *ep*P **pP 23 22 09.3 +2.9**
KBS Kingsbay 48.59 347⇑ *i*P **P 23 21 24.9 +1.7**
KBS AMB AMB 23 21 26.8
comp=Z,687nm,1.3s
KBS *e*SS SS 23 32 01.9 +20
KBS Kingsbay 48.59 347 *c i*P **P 23 21 24.4 +1.2**
KBS pmax pmax
comp=Z,987nm,1.3s
KBS Kingsbay 48.59 347 *e*P **P 23 21 24.9 +1.7**
comp=Z,743nm,1.1s
KBS *ep*P **pP 23 22 06.0 0.0**
KBS *e*PcP **PcP 23 22 44.2 -1.4**
SFTF Sexfontaines 48.66 306⇑ *i*P **P 23 21 24.5 +0.3**
comp=Z,470nm,1.1s
JNU Nakatsue 48.66 75 *e*P **P 23 21 24.9 +0.5**
comp=Z,121nm,1.5s
JNU *ep*P **pP 23 22 10.4 +3.1**
SNF Seneffe 48.71 309 P **P 23 21 25.1 +0.7**
comp=Z,202nm,1.7s
KMBO Kilima Mbogo 48.78 227⇑ *i*P **P 23 21 27.1 +1.4**
KMBO Kilima Mbogo 48.78 227 *e*P **P 23 21 27.1 +1.4**
KMBO *e* 23 22 48.6
KMBO pmax pmax
comp=Z,122nm,0.9s
KMBO Kilima Mbogo 48.78 227 *e*P **P 23 21 27.1 +1.4**
comp=Z,122nm,0.9s
KMBO *e*PcP **PcP 23 22 48.6 +1.1**
KMBO *e*ScP **ScP 23 26 23.1 -0.7**
ORIF Oris-en-Rattie 48.82 301⇑ *i*P **P 23 21 24.9 -0.6**
comp=Z,115nm,0.8s
ORIF *e*R
comp=Z,579nm,20.2s
BAIF Baives 48.84 308⇑ *i*P **P 23 21 26.3 +0.8**
comp=Z,790nm,1.2s
KEST Kesra 48.97 288 P **P 23 21 27.2 +0.4**
comp=Z,54nm,0.8s,baz=36,slow=4.1,SNR=168
KEST Kesra 48.97 288 P **P 23 21 27.2 +0.4**
KEST *e*P **P 23 21 27.7 +0.9**
JOW Kunigami 49.14 84 P **P 23 21 28.4 +0.2**
comp=Z,30nm,0.3s,baz=304,slow=7.6,SNR=36
JOW Kunigami 49.14 84 *e*P **P 23 21 28.2 +0.1**
comp=Z,12nm,0.4s
JOW P **P 23 21 28.4 +0.2**
JOW *ep*P **pP 23 22 11.3 +0.3**
JOW *e*PcP **PcP 23 22 48.6 +0.1**
JOW *e*ScP **ScP 23 26 21.9 -3.1**
SMRF Simiane la Rot 49.27 300⇑ *i*P **P 23 21 29.0 +0.1**
comp=Z,136nm,1.1s
OG26 St.-Nazaire-De 49.30 301 *e*P **P 23 21 29.8 +0.6**
LOR Lormes 49.64 305⇑ *i*P **P 23 21 31.2 -0.4**
comp=Z,107nm,0.9s
LOR *e*R
comp=Z,424nm,19.8s
SSB Saint Sauveur 49.65 302 *e*P **P 23 21 31.9 +0.1**
SSB *e* 23 23 28.5
SSB pmax pmax
comp=Z,115nm,0.8s
SSB Saint Sauveur 49.65 302 *e*P **P 23 21 31.9 +0.1**
comp=Z,115nm,0.8s
SSB *ep*P **PP 23 23 28.5 +0.6**
SSB *e*ScP **ScP 23 26 25.4 -1.5**
VIVF Saint-Julien-l 49.67 301⇑ *i*P **P 23 21 32.2 +0.3**
comp=Z,326nm,0.8s
KSI Kapahiang 49.70 137 P pP 23 22 15.8 +0.3
comp=Z,2µm,0.9s,comp=Z,16µm
KSI Kapahiang 49.70 137 P **P 23 21 31.5 -1.0**
SSF Saint Saulge 49.92 304⇑ *i*P **P 23 21 33.6 -0.1**
comp=Z,324nm,1.2s
AVF Avril sur Loir 50.08 304⇑ *i*P **P 23 21 35.0 +0.1**
comp=Z,383nm,0.8s
AVF *ep*P **pP 23 22 19.2 +1.2**
PLDF La Plantade 50.10 303 *e*P **P 23 21 35.4 +0.2**
PLDF La Plantade 50.10 303 *e*P **P 23 21 35.4 +0.2**
PLDF La Plantade 50.10 303 *e*P **P 23 21 35.4 +0.2**
COLF Collangettes 50.17 302 *e*P **P 23 21 36.1 +0.4**
AEU East Anglia Un 50.20 312⇑ *e*P **P 23 21 35.7 0.0**
AEU East Anglia Un 50.20 312 P **P 23 21 35.7 0.0**
KSM Kuching 50.39 125 *e*P **P 23 21 38.7 +1.1**
comp=Z,528nm,2.0s
KSM *ep*P **pP 23 22 21.4 +0.7**
KSM Kuching 50.39 125 P **P 23 21 38.8 +1.2**
KSM Kuching 50.39 125 P pP 23 22 22.3 +1.6
comp=Z,118nm,1.4s,comp=Z,2µm
KSM Kuching 50.39 125 P **P 23 21 38.9 +1.2**
comp=Z,62nm,1.1s,comp=Z,2µm
AGO Saint Agoulin 50.41 303 *e*P **P 23 21 37.8 +0.3**
AGO Saint Agoulin 50.41 303 *e*P **P 23 21 37.8 +0.3**
LASF Ste Croix 50.43 301⇑ *i*P **P 23 21 38.1 +0.4**
comp=Z,434nm,1.1s
LASF *ep*P **pP 23 22 22.5 +1.7**
LRW Lerwick 50.45 322⇑ *e*P **P 23 21 37.8 +0.3**
LRW AMB AMB 23 21 39.1
comp=Z,521nm,1.1s
LRW Lerwick 50.45 322 P **P 23 21 37.8 +0.3**
LRW AMB AMB 23 21 39.1
comp=Z,521nm,1.1s
BGF Bois d'Agland 50.48 304⇑ *i*P **P 23 21 37.8 -0.1**
comp=Z,162nm,0.9s
PPBI Pangkal Pinang 50.54 132 P pP 23 22 22.8 +0.9
comp=Z,214nm,1.2s,comp=Z,4µm
ELSH Elham, Standar 50.55 310 *e*P **P 23 21 38.1 -0.2**
ELSH AMB AMB 23 21 40.3
comp=Z,642nm,1.4s
ELSH Elham, Standar 50.55 310 P **P 23 21 38.1 -0.2**
ELSH AMB AMB 23 21 40.3
comp=Z,642nm,1.4s
LBL Lubilhac 50.55 302 *e*P **P 23 21 38.9 +0.4**
LBL Lubilhac 50.55 302 *e*P **P 23 21 38.9 +0.4**
LBL Lubilhac 50.55 302 *e*P **P 23 21 38.9 +0.4**

CKFL Kef-Lekhel 50.73 290 P **P 23 21 49.0 +8.9**
VERF Verneugheol 50.93 303 *e*P **P 23 21 42.5 +1.1**
CASM Ain Smara 50.95 290 P **P 23 21 41.0 -0.7**
SBUM Sibu 50.96 122 P **P 23 21 43.6 +1.7**
SBUM Sibu 50.96 122 P pP 23 22 26.9 +1.8
comp=Z,158nm,1.1s,comp=Z,2µm
SBUM Sibu 50.96 122 P **P 23 21 43.6 +1.7**
comp=Z,52nm,1.0s,comp=Z,2µm
BTM Bintulu 51.02 120 P **P 23 21 43.8 +1.4**
KKM Kota Kinabalu 51.28 115 *e*P **P 23 21 45.9 +1.5**
comp=Z,776nm,1.3s
KKM *ep*P **pP 23 22 28.1 +0.5**
KKM *e*PcP **PcP 23 22 53.7 -3.0**
KKM Kota Kinabalu 51.28 115 P **P 23 21 45.4 +1.0**
KKM Kota Kinabalu 51.28 115 P P 23 21 48.4 +4.0
comp=Z,108nm,1.2s,comp=Z,6µm
DFRA Djebel Bou Aff 51.32 291 P **P 23 21 44.0 -0.5**
CAF Calviac 51.44 302⇑ *i*P **P 23 21 45.6 +0.5**
comp=Z,171nm,0.8s
SJAF Saint Jean de 51.57 299 *e*P **P 23 21 45.9 -0.2**
SJAF Saint Jean de 51.57 299 *e*P **P 23 21 45.9 -0.2**
SKP1 Kophill 51.62 311⇑ *e*P **P 23 21 46.0 -0.2**
SKP1 Kophill 51.62 311 P **P 23 21 46.0 -0.2**
LRDF Laroque-de-Fa 51.68 300 *e*P **P 23 21 47.2 +0.3**
LRDF Laroque-de-Fa 51.68 300 *e*P **P 23 21 47.2 +0.3**
RJF Les Rejaudoux 51.70 303⇑ *i*P **P 23 21 47.7 +0.6**
comp=Z,338nm,1.1s
RJF *ep*P **pP 23 22 32.3 +1.9**
RJF *e*R
comp=Z,421nm,18.8s
KBI1 Birley Grange 51.72 313⇑ *e*P **P 23 21 46.6 -0.4**
KBI1 Birley Grange 51.72 313 P **P 23 21 46.6 -0.4**
MME1 Meikle Cairn 51.76 318⇑ *e*P **P 23 21 48.1 +0.8**
MME1 Meikle Cairn 51.76 318 P **P 23 21 48.1 +0.8**
FILF Fillols 51.77 299 *e*P **P 23 21 48.1 +0.4**
FILF Fillols 51.77 299 *e*P **P 23 21 48.1 +0.4**
MTLF Montolieu 51.78 300⇑ *i*P **P 23 21 47.8 +0.1**
comp=Z,135nm,0.9s
XAL Allendale 51.80 315⇑ *e*P **P 23 21 47.6 0.0**
XAL Allendale 51.80 315 P **P 23 21 47.6 0.0**
SET Setif 51.80 290 P **P 23 21 49.0 +1.0**
ESY Stoneypath 51.82 317⇑ *e*P **P 23 21 47.6 -0.1**
ESY Stoneypath 51.82 317 P **P 23 21 47.6 -0.1**
MCD Coleburn Disti 51.87 319⇑ *e*P **P 23 21 49.3 +1.2**
MCD Coleburn Disti 51.87 319 P **P 23 21 49.3 +1.2**
LDF La Druitiere 51.92 307⇑ *i*P **P 23 21 48.3 -0.3**
comp=Z,47nm,0.4s
TPI Tanjungpandan 51.93 131 P pP 23 22 33.8 +1.4
comp=Z,195nm,1.3s,comp=Z,2µm
KWE Weaver Farm 51.95 313 *e*P **P 23 21 48.5 -0.2**
KWE Weaver Farm 51.95 313 P **P 23 21 48.5 -0.2**
WOL Wolverton 51.96 311⇑ *e*P **P 23 21 49.0 +0.2**
WOL AMB AMB 23 21 50.5
comp=Z,745nm,1.4s
WOL Wolverton 51.96 311 P **P 23 21 49.0 +0.2**
WOL AMB AMB 23 21 50.5
comp=Z,745nm,1.4s
KLI Kotabumi 51.96 135 P pP 23 22 39.7 +7.1
CARF Carcanieres 52.05 299 *e*P **P 23 21 49.5 -0.3**
CARF Carcanieres 52.05 299 *e*P **P 23 21 49.5 -0.3**
EBL Broad Law 52.09 317⇑ *e*P **P 23 21 49.4 -0.3**
EBL Broad Law 52.09 317 P **P 23 21 49.4 -0.3**
FLN La Foliniere 52.11 307⇑ *i*P **P 23 21 49.7 -0.3**
comp=Z,288nm,0.9s
FLN *ep*P **pP 23 22 34.2 +0.9**
FLN *e*R
comp=Z,577nm,19.5s
EDI Edinburgh 52.13 317⇑ *e*P **P 23 21 50.1 +0.1**
EDI AMB AMB 23 21 51.8
comp=Z,337nm,1.1s
EDI Edinburgh 52.13 317 P **P 23 21 50.1 +0.1**
EDI AMB AMB 23 21 51.8
comp=Z,337nm,1.1s
STNC Stoke 52.15 313 *e*P **P 23 21 50.1 -0.1**
STNC AMB AMB 23 21 52.0
comp=Z,428nm,1.6s
STNC Stoke 52.15 313 P **P 23 21 50.1 -0.1**
STNC AMB AMB 23 21 52.0
comp=Z,428nm,1.6s
SSW Stow on the Wo 52.19 312⇑ *e*P **P 23 21 50.2 -0.3**
SSW Stow on the Wo 52.19 312 P **P 23 21 50.2 -0.3**
VALF Valcebollere 52.21 299 *e*P **P 23 21 51.1 +0.1**
VALF Valcebollere 52.21 299 *e*P **P 23 21 51.1 +0.1**
ESK Eskdalemuir 52.26 316⇑ *e*P **P 23 21 51.0 0.0**
ESK AMB AMB 23 21 52.4
comp=Z,357nm,1.3s
ESK Eskdalemuir 52.26 316 P **P 23 21 51.0 0.0**
ESK AMB AMB 23 21 52.4
comp=Z,357nm,1.3s
ESK Eskdalemuir 52.26 316 *e*P **P 23 21 50.7 -0.3**
ESK *e**PP **pP 23 22 33.6 -0.8**
ESK pmax pmax
comp=Z,456nm,1.2s
ESK Eskdalemuir 52.26 316 *e*P **P 23 21 50.7 -0.3**
comp=Z,456nm,1.2s
ESK *ep*P **pP 23 22 33.6 -0.8**
ESK Eskdalemuir 52.26 316 P **P 23 21 51.5 +0.5**
comp=Z,2µm,1.2s,SNR=31
SWN1 Swindon 52.26 311⇑ *e*P **P 23 21 50.9 -0.1**
SWN1 AMB AMB 23 21 52.7
comp=Z,624nm,1.5s
SWN1 Swindon 52.26 311 P **P 23 21 50.9 -0.1**
SWN1 AMB AMB 23 21 52.7
comp=Z,624nm,1.5s
SDKM Sandakan 52.27 115 P **P 23 21 52.5 +0.9**
EAU Auchinoon 52.29 317⇑ *e*P **P 23 21 51.2 0.0**
EAU Auchinoon 52.29 317 P **P 23 21 51.2 0.0**
MVH1 Achvaich 52.30 319⇑ *i*P **P 23 21 51.9 +0.7**
MVH1 Achvaich 52.30 319 P **P 23 21 51.9 +0.7**
KESW Keswick, Cumbr 52.36 315⇑ *e*P **P 23 21 51.6 -0.1**
KESW AMB AMB 23 21 53.5
comp=Z,406nm,1.4s
KESW Keswick, Cumbr 52.36 315 P **P 23 21 51.6 -0.1**
KESW AMB AMB 23 21 53.5
comp=Z,406nm,1.4s
GRR Gorron 52.45 307⇑ *i*P **P 23 21 52.1 -0.3**
comp=Z,289nm,0.9s
GRR *ep*P **pP 23 22 36.7 +0.8**
MBAR Mbarara 52.45 234⇑ *i*P **P 23 21 52.9 -0.2**
MFF Saint Martin d 52.46 305⇑ *i*P **P 23 21 52.2 -0.4**
comp=Z,271nm,1.1s
MDO Dochfour 52.48 319⇑ *i*P **P 23 21 53.4 +0.8**
MDO Dochfour 52.48 319 P **P 23 21 53.4 +0.8**
JMIC Jan Mayen 52.55 336 *e*P **P 23 21 54.8 +1.9**
JMIC AMB AMB 23 21 57.1
comp=Z,380nm,2.0s
XDE Dent Fell 52.59 315⇑ *e*P **P 23 21 53.5 +0.1**
XDE Dent Fell 52.59 315 P **P 23 21 53.5 +0.1**
SALF Salau 52.68 300 *e*P **P 23 21 53.2 -1.1**
SALF Salau 52.68 300 *e*P **P 23 21 53.2 -1.1**
HLM1 Long Mynd 52.68 312⇑ *e*P **P 23 21 53.8 -0.4**
HLM1 AMB AMB 23 21 54.9
comp=Z,248nm,1.6s
HLM1 Long Mynd 52.68 312 P **P 23 21 53.8 -0.4**
HLM1 AMB AMB 23 21 54.9
comp=Z,248nm,1.6s
EAB Aberfoyle 52.72 317⇑ *e*P **P 23 21 54.0 -0.3**
EAB Aberfoyle 52.72 317 P **P 23 21 54.0 -0.3**
GCD Castle Douglas 52.77 316⇑ *e*P **P 23 21 54.7 0.0**
GCD Castle Douglas 52.77 316 P **P 23 21 54.7 0.0**
FOEL Foel Wylfa 52.78 313⇑ *e*P **P 23 21 54.5 -0.4**
FOEL AMB AMB 23 21 56.7
comp=Z,304nm,1.9s
FOEL Foel Wylfa 52.78 313 P **P 23 21 54.5 -0.4**
FOEL AMB AMB 23 21 56.7
comp=Z,304nm,1.9s
HGH Gray Hill 52.84 311⇑ *e*P **P 23 21 55.0 -0.3**
HGH Gray Hill 52.84 311 P **P 23 21 55.0 -0.3**
MCH1 Michaelchurch 52.87 312⇑ *e*P **P 23 21 55.3 -0.2**
MCH1 AMB AMB 23 21 56.8
comp=Z,435nm,1.3s
MCH1 Michaelchurch 52.87 312 P **P 23 21 55.3 -0.2**
MCH1 AMB AMB 23 21 56.8
comp=Z,435nm,1.3s
PGBU Glenifferbraes 52.87 317⇑ *e*P **P 23 21 55.6 +0.1**
PGBU AMB AMB 23 21 56.5
comp=Z,437nm,1.4s
PGBU Glenifferbraes 52.87 317 P **P 23 21 55.6 +0.1**
PGBU AMB AMB 23 21 56.5
comp=Z,437nm,1.4s
YSS Yuzh-Sakhalins 52.88 55⇑ *i*P **P 23 21 56.0 +0.3**
YSS *i* *PP **pP 23 22 41.0 +1.9**
YSS *e*S **S 23 29 09.0 -0.2**

YSS pmax pmax
comp=Z,140nm,1.1s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 52.88 55 *e*P **P 23 21 56.3 +0.7**
YSS *e*pP **pP 23 22 41.7 +2.5**
YSS *e*PcP **PcP 23 23 04.0 +1.9**
MAJO Matsushiro 53.02 68 *e*P **P 23 21 56.9 0.0**
MAJO *e**PP **pP 23 22 42.4 +2.0**
MAJO *e* 23 23 02.5
MAJO pmax pmax
comp=Z,108nm,1.0s
MAJO Matsushiro 53.02 68 *e*P **P 23 21 56.9 0.0**
comp=Z,108nm,1.0s
MAJO *e*pP **pP 23 22 42.4 +2.0**
MAJO *e*PcP **PcP 23 23 02.5 -0.3**
MAT Matsushiro 53.02 68 P **P 23 21 56.3 -0.6**
MAT S **S 23 29 06.0 -5.4**
MJAR Matsushiro Arr 53.02 68 P **P 23 21 56.9 0.0**
comp=Z,20nm,1.0s,baz=288,slow=9.9,SNR=35
MJAR pP **pP 23 22 42.0 +1.6**
comp=Z,78nm,0.9s,baz=286,slow=7.5,SNR=17
MJAR Matsushiro Arr 53.02 68 P **P 23 21 56.9 0.0**
MJAR *PP **pP 23 22 42.0 +1.6**
MJAR Matsushiro Arr 53.02 68 P **P 23 21 56.9 0.0**
MJAR pP **pP 23 22 42.0 +1.6**
EPF Esparros 53.18 300⇑ *i*P **P 23 21 57.1 -0.9**
comp=Z,110nm,1.1s
KPL Plockton 53.19 319⇑ *e*P **P 23 21 57.8 +0.1**
KPL AMB AMB 23 21 59.3
comp=Z,411nm,1.2s
KPL Plockton 53.19 319 P **P 23 21 57.8 +0.1**
KPL AMB AMB 23 21 59.3
comp=Z,411nm,1.2s
GIM North Isle of 53.20 315⇑ *e*P **P 23 21 57.9 +0.1**
GIM North Isle of 53.20 315 P **P 23 21 57.9 +0.1**
GAL1 Galloway 53.21 316⇑ *e*P **P 23 21 57.6 -0.3**
GAL1 AMB AMB 23 21 58.8
comp=Z,243nm,1.5s
GAL1 Galloway 53.21 316 P **P 23 21 57.6 -0.3**
GAL1 AMB AMB 23 21 58.8
comp=Z,243nm,1.5s
RESF Ens 53.26 300 *e*P **P 23 21 59.0 +0.4**
RESF Ens 53.26 300 *e*P **P 23 21 59.0 +0.4**
VIEF Viey 53.45 300 *e*P **P 23 22 00.3 +0.3**
VIEF Viey 53.45 300 *e*P **P 23 22 00.3 +0.3**
MYLDM Lahad Datu 53.53 114 P **P 23 22 02.3 +1.5**
MYLDM Lahad Datu 53.53 114 P P 23 22 07.5 +6.7
SGMF Saint Gilles 53.57 307⇑ *i*P **P 23 22 00.7 0.0**
comp=Z,283nm,0.9s
SGMF *e*pP **pP 23 22 45.5 +1.2**
HEX Exmoor 53.59 311⇑ *e*P **P 23 21 59.6 -1.1**
HEX Exmoor 53.59 311 P **P 23 21 59.6 -1.1**
ASAJ Asahikawa 53.62 58 P **P 23 22 01.8 +0.7**
comp=Z,5.7nm,0.6s,baz=284,slow=12,SNR=3.0
ASAJ Asahikawa 53.62 58 P **P 23 22 01.8 +0.7**
ASAJ Asahikawa 53.62 58 P **P 23 22 01.8 +0.7**
ASAJ *e*P **P 23 22 02.6 +1.5**
ASAJ *e*pP **pP 23 22 44.8 +0.1**
TSM Tawau 53.67 115 P **P 23 22 02.4 +0.6**
REYF Montagne du Re 53.68 301 *e*P **P 23 22 00.8 -0.9**
REYF Montagne du Re 53.68 301 *e*P **P 23 22 00.8 -0.9**
DYA Yadsworthy 53.84 310⇑ *e*P **P 23 22 01.6 -1.0**
DYA AMB AMB 23 22 02.9
comp=Z,211nm,1.7s
DYA Yadsworthy 53.84 310 P **P 23 22 01.6 -1.0**
DYA AMB AMB 23 22 02.9
comp=Z,211nm,1.7s
ETSF Etsaut 53.85 300⇑ *i*P **P 23 22 03.2 +0.3**
comp=Z,77nm,0.5s
ROSF Rostrenen 54.01 307⇑ *i*P **P 23 22 03.7 -0.1**
comp=Z,246nm,0.8s
ORDF Ordiarp 54.01 301 *e*P **P 23 22 03.3 -0.7**
ORDF Ordiarp 54.01 301 *e*P **P 23 22 03.3 -0.7**
HTL Hartland 54.03 311 *e*P **P 23 22 03.1 -0.8**
HTL AMB AMB 23 22 04.4
comp=Z,122nm,1.9s
HTL Hartland 54.03 311 P **P 23 22 03.1 -0.8**
HTL AMB AMB 23 22 04.4
comp=Z,122nm,1.9s
GMM Mts of Mourne 54.05 315⇑ *e*P **P 23 22 03.9 -0.2**
GMM Mts of Mourne 54.05 315 P **P 23 22 03.9 -0.2**
QUIF Quistinic 54.06 307⇑ *i*P **P 23 22 03.7 -0.5**
comp=Z,214nm,0.9s
OSSF Osses 54.22 301 *e*P **P 23 22 04.9 -0.6**
OSSF Osses 54.22 301 *e*P **P 23 22 04.9 -0.6**
SJPF Ste Jean 54.24 301⇑ *i*P **P 23 22 05.9 +0.2**
comp=Z,91nm,1.0s
SEY Seymchan 54.46 34*c i*P **P 23 22 07.5 +0.7**
BST Brest 54.52 308 *e*P **P 23 22 07.4 -0.2**
BST Brest 54.52 308 *e*P **P 23 22 07.4 -0.2**
DSB Dublin 54.55 314 *e*P **P 23 22 07.7 0.0**
comp=Z,208nm,1.5s
DSB *e*pP **pP 23 22 53.3 +1.9**
DSB *e*PcP **PcP 23 23 08.2 -0.1**
DSB *e*PP **PP 23 24 12.8 +0.9**
DLF Lyons Farm 54.63 314⇑ *i*P **P 23 22 08.2 0.0**
EBNR Beni Rached 54.67 292 P **P 23 22 08.5 -0.4**
ERM Erimo 54.69 60 *e*P **P 23 22 10.2 +1.4**
ERM *e**PP **pP 23 22 52.0 -0.6**
ERM *e* 23 23 09.4
ERM Erimo 54.69 60 *e*P **P 23 22 10.2 +1.4**
ERM *e*pP **pP 23 22 52.0 -0.6**
ERM *e*PcP **PcP 23 23 09.4 +0.4**
DAG Danmarks Havn 54.71 344⇑ *i*P **P 23 22 09.6 +1.2**
DAG *e* 23 22 53.2
DAG pmax pmax
comp=Z,270nm,0.9s
DAG Danmarks Havn 54.71 344⇑ *i*P **P 23 22 09.6 +1.2**
comp=Z,3µm,0.9s
DAG *e* 23 22 53.2
ECHA Ech Chlef 54.85 292 P **P 23 22 10.0 0.0**
MSLP Maasin 55.22 104 *e*P **pP 23 22 58.8 +2.0**
MSLP *e*S **PcP 23 23 10.0 -1.5**
YUK Yuzh-Kuril'sk 55.87 57 P P 23 22 13.6 -3.6
YUK *i* *PP pP 23 22 55.4 -5.7
YUK S **S 23 29 47.5 -1.6**
CTBH Cotabato--PC H 56.54 107⇓ *e*P pP 23 23 07.9 +1.5
BUKP Musuan 56.76 106 *e*P **pP 23 23 10.0 +1.9**
BUKP *e*S sP 23 23 28.6 -0.7
SCO Scoresbysund 57.02 336⇑ *i*P **P 23 22 26.8 +1.9**
SCO pmax pmax
comp=Z,43nm,0.9s
SCO Scoresbysund 57.02 336⇑ *i*P **P 23 22 26.8 +1.9**
comp=Z,43nm,0.9s
ESDC Sonseca Array 57.39 298 P **P 23 22 27.9 -0.2**
comp=Z,101nm,0.9s,baz=63,slow=6.6,SNR=230
ESDC pP **pP 23 23 13.4 +1.1**
comp=Z,74nm,1.0s,baz=55,slow=7.7,SNR=4.7
ESDC PKP2bc 23 52 29.6
comp=Z,0.3nm,0.6s,baz=259,slow=2.4,SNR=4.7
ESDC Sonseca Array 57.39 298 P **P 23 22 27.9 -0.2**
ESDC pP **pP 23 23 13.4 +1.1**
ESDC ⇑*e* 23 52 29.6
ESLA Sonseca Array 57.39 298 *e*P **P 23 22 27.9 -0.2**
comp=Z,66nm,1.2s
ESLA *e*pP **pP 23 23 12.6 +0.3**
ESLA *e*ScP **ScP 23 26 58.8 -2.0**
TAM Tamanrasset 57.47 276 *e*P **P 23 22 28.6 -0.4**
TAM pmax pmax
comp=Z,216nm,1.4s
TAM Tamanrasset 57.47 276 *e*P **P 23 22 28.6 -0.4**
comp=Z,216nm,1.4s
DAV Davao City (W) 57.66 107 *e*PcP **PcP 23 23 19.5 -1.6**
PAB San Pablo 57.72 298 *e*P **P 23 22 30.1 -0.3**
PAB *e* 23 23 15.2
PAB *e**SP **sP 23 23 33.4 -2.6**
PAB pmax pmax
comp=Z,300nm,1.4s
PAB San Pablo 57.72 298 *e*P **P 23 22 30.1 -0.3**
comp=Z,300nm,1.4s
PAB *e*PcP **pP 23 23 15.2 +0.6**
PAB *e*sP **sP 23 23 33.4 -2.6**
PAB *e*PP PP 23 24 34.7 -5.7
PAB *e*ScP **ScP 23 27 01.0 -1.3**
MRIV Mauritius Mete 57.90 195 *e*P **P 23 22 32.2 +0.5**
MRIV *e*PcP **pP 23 23 16.4 +0.4**
PBRG Braganca 58.52 301 *e*P **P 23 22 35.8 -0.1**
comp=Z,144nm,1.8s
BORG Borgarnes 58.57 330 *e*P **P 23 22 38.5 +2.8**
BORG *e* 23 23 23.1
BORG pmax pmax
comp=Z,348nm,1.3s
BORG *e*PcP **PcP 23 23 23.1 -0.7**
BORG *e*PP **PP 23 24 43.0 -4.2**
BORG *e*ScP **ScP 23 27 01.4 -4.0**
BILL Bilibino 58.64 26*c i*P **P 23 22 37.6 +1.3**
BILL *i* *PP **PcP 23 23 22.4 -1.7**
BILL *i* *SP **sP 23 23 41.6 -0.3**
BILL *i* S **S 23 30 27.7 +3.1**
BILL pmax pmax
comp=Z,273nm,1.3s
BILL MLR MLR
comp=Z,700nm,20.0s
BILL Bilibino 58.64 26 *e*P **P 23 22 37.5 +1.3**
comp=Z,237nm,1.1s
BILL *e*PcP **PcP 23 23 22.6 -1.5**
MVO Moncorvo 58.97 300 *e*P **P 23 22 39.2 +0.1**
comp=Z,165nm,1.4s
ALE Alert 59.03 354 P **P 23 22 40.0 +1.3**
comp=Z,547nm,1.1s,SNR=51
RER Riviere de l'E 59.11 197 *e*P **P 23 22 41.0 +0.9**
comp=Z,114nm,0.9s
RER *e*PcP **PcP 23 23 25.8 -0.8**
RER *e*sP **sP 23 23 48.9 +3.1**
OPO Ambohidratompo 59.19 206 P **P 23 22 41.9 +1.2**
comp=Z,44nm,0.9s,baz=26,slow=8.0,SNR=31
OPO pP **PcP 23 23 26.8 -0.3**
comp=Z,28nm,0.9s,baz=38,slow=6.8,SNR=3.7
OPO Ambohidratompo 59.19 206 P **P 23 22 41.9 +1.2**
OPO pP **PcP 23 23 26.8 -0.3**
PVRL Vila Real 59.40 301 *e*P **P 23 22 42.0 0.0**
comp=Z,133nm,1.7s
POLO Lamas de Olo 59.42 301 *e*P **P 23 22 42.1 -0.1**
comp=Z,52nm,1.7s
PCAB Cabril 59.45 301 *e*P **P 23 22 42.7 +0.4**
comp=Z,271nm,1.7s
PGAV Gavieira, Arco 59.51 302 *e*P **P 23 22 42.9 +0.1**
comp=Z,214nm,2.0s
ABPO Ambohimpanom 59.58 206 *e*P **P 23 22 44.4 +0.9**
ABPO *e* 23 23 29.9
ABPO pmax pmax
comp=Z,92nm,1.0s
ABPO Ambohimpanom 59.58 206 *e*P **P 23 22 44.4 +0.9**
comp=Z,92nm,1.0s
ABPO *e*PcP **PcP 23 23 29.9 +1.2**
MTE Manteigas 59.63 300 *e*P **P 23 22 44.1 +0.5**
comp=Z,336nm,1.3s
MTE Manteigas 59.63 300 *e*P **P 23 22 44.0 +0.4**
comp=Z,245nm,1.1s
MTE *e*PcP **pP 23 23 28.1 -0.1**
PVIS Viseu 59.75 300 *e*P **P 23 22 44.8 +0.4**
comp=Z,270nm,1.3s
PCBR Castelo Branco 59.81 299 *e*P **P 23 22 44.7 0.0**
comp=Z,148nm,1.5s
PMRV Marv??o 59.92 299 *e*P **P 23 22 45.5 0.0**
comp=Z,190nm,1.4s
PEA0B Petropavlovsk- 60.02 44 *e*P **P 23 22 46.1 +0.2**
PETK Petropavlovsk- 60.02 44 P **P 23 22 45.6 -0.3**
comp=Z,9.9nm,0.8s,baz=315,slow=5.9,SNR=12
PETK pP **pP 23 23 31.6 +1.1**
comp=Z,13nm,0.9s,baz=229,slow=4.0,SNR=3.7
PETK Petropavlovsk- 60.02 44 P **P 23 22 45.6 -0.3**
PETK *PP **pP 23 23 31.6 +1.1**
PETK Petropavlovsk- 60.02 44 P **P 23 22 45.6 -0.3**
PETK pP **pP 23 23 31.6 +1.1**
PTO Porto 60.07 301 *e*P **P 23 22 47.3 +0.9**
comp=Z,151nm,1.4s
PBAR Barrancos 60.19 297 *e*P **P 23 22 47.5 +0.2**
comp=Z,366nm,1.3s
PESTR Estremoz 60.30 298 *e*P **P 23 22 48.0 -0.1**
comp=Z,227nm,1.2s
SFS San Fernando 60.31 295 *e*P **P 23 22 47.9 -0.2**
SFS San Fernando 60.31 295 *e*P **P 23 22 47.9 -0.2**
PTOM Tomar 60.56 299 *e*P **P 23 22 50.2 +0.4**
comp=Z,368nm,1.2s
PMTG Montargil 60.66 299 *e*P **P 23 22 50.3 -0.2**
comp=Z,147nm,1.6s
EVO Evora 60.73 298⇑ *i*P **P 23 22 51.5 +0.5**
comp=Z,479nm,1.3s
EVO *e*R
comp=Z,447nm,22.2s
PBEJ Beja 60.84 298 *e*P **P 23 22 51.9 +0.1**
comp=Z,227nm,1.3s
PVAQ Vaqueiros 61.00 297 *e*P **P 23 22 52.9 +0.1**
comp=Z,319nm,1.4s
SUMG Summit 61.04 341⇑ *i*P **P 23 22 54.5 +1.5**
SUMG pmax pmax
comp=Z,220nm,1.0s
SUMG Summit 61.04 341 *e*P **P 23 22 53.8 +0.8**
comp=Z,492nm,1.1s
SUMG *e*PcP **pP 23 23 38.4 +0.7**
SUMG *e*PP **PP 23 25 10.0 +0.7**
SUMG Summit 61.04 341⇑ *i*P **P 23 22 54.5 +1.5**
comp=Z,225nm,1.0s
PCVE Castro Verde 61.14 297 *e*P **P 23 22 53.8 +0.1**
comp=Z,156nm,1.6s
MESJ Messejana 61.18 297 *e*P **P 23 22 54.3 +0.3**
MESJ AMb AMB 23 22 55.7
comp=Z,256nm,1.3s
MESJ *e*S **S 23 31 00.7 +2.8**
MESJ Messejana 61.18 297 *e*P **P 23 22 54.3 +0.3**
comp=Z,256nm,1.3s
MESJ *e*S **S 23 31 00.7 +2.8**
MESJ Messejana 61.18 297 *e*P **P 23 22 54.2 +0.3**
MESJ *e*S **S 23 31 00.7 +2.8**
PBDV Barranco-do-Ve 61.23 297 *e*P **P 23 22 54.5 +0.1**
comp=Z,414nm,1.1s
PNCL Nicolau / Gran 61.28 298 *e*P **P 23 22 54.9 +0.2**
comp=Z,234nm,1.3s
PMAFR Mafra 61.45 299 *e*P **P 23 22 55.7 -0.2**
comp=Z,312nm,1.2s
LIS Lisbon 61.46 299 *e*P **P 23 22 56.0 +0.1**
LIS AMb AMB 23 22 57.8
comp=Z,356nm,1.8s
LIS Lisbon 61.46 299 *e*P **P 23 22 56.0 +0.1**
comp=Z,356nm,1.8s
LIS Lisbon 61.46 299 *e*P **P 23 22 55.9 +0.1**
KAPI Kappang 61.52 121 *e*P **P 23 22 56.0 -0.5**
comp=Z,276nm,1.2s
KAPI *e*PcP **pP 23 23 39.9 -1.4**
KAPI Kappang 61.52 121 P **P 23 22 59.4 +2.9**
comp=Z,56nm,1.1s,comp=Z,2µm
PTEO Sao Teotonio 61.66 297 *e*P **P 23 22 57.6 +0.3**
comp=Z,253nm,1.1s
MORF Marmelete 61.72 297 *e*P **P 23 22 57.1 -0.6**
comp=Z,138nm,1.6s
MORF Marmelete 61.72 297 *e*P **P 23 22 58.1 +0.4**
PFVI Vila Bisbo 61.92 297 *e*P **P 23 22 59.3 +0.3**
comp=Z,280nm,1.4s
TORD Torodi Ar. Bea 65.65 269 P **P 23 23 21.9 -1.6**
comp=Z,173nm,0.6s,baz=55,slow=5.9,SNR=1212
TORD pP **pP 23 24 10.9 +2.0**
comp=Z,56nm,0.8s,baz=48,slow=5.3,SNR=1.9
TORD PKP2bc 23 52 01.9
comp=Z,6.9nm,1.2s,baz=248,slow=2.4,SNR=13
TORD Torodi Ar. Bea 65.65 269 P **P 23 23 21.9 -1.6**
TORD pP **pP 23 24 10.9 +2.0**
TORD ⇑*e* 23 52 01.9
SFJD Kangerlussuaq 67.73 339 *i* P **P 23 23 36.4 +0.5**
SFJD pmax pmax
comp=Z,88nm,1.1s
SFJD Kangerlussuaq 67.73 339 *e*P **P 23 23 36.4 +0.5**
SFJD *e*pP **pP 23 24 21.8 +0.2**
SFJD *e*PP **PP 23 26 07.0 -0.3**
SFJD Kangerlussuaq 67.73 339 *i* P **P 23 23 36.4 +0.5**
comp=Z,88nm,1.1s
GAMB Gambell 68.53 25 *e*P **P 23 23 41.7 +0.7**
comp=Z,114nm,1.2s
GAMB *e*PcP **PcP 23 24 05.4 +0.7**
GAMB *e*pP **pP 23 24 27.8 +1.1**
TNA Tin City 68.59 22 *e*P **P 23 23 43.2 +2.0**
comp=Z,170nm,1.2s
TNA *e*pP **pP 23 24 29.2 +2.2**
RES Resolute Bay 68.69 356 *e*P **P 23 23 42.5 +0.7**
RES *e**PP **pP 23 24 28.3 +0.8**
RES pmax pmax
comp=Z,40nm,0.9s
RES Resolute Bay 68.69 356 *e*P **P 23 23 42.5 +0.7**
comp=Z,40nm,0.9s
RES *e*pP **pP 23 24 28.3 +0.8**
PMAR Madeira 69.85 296 *e*P **P 23 23 50.1 +0.2**
comp=Z,742nm,1.1s
FUL Funchal 69.88 296 *e*P **P 23 23 50.4 +0.6**
comp=Z,234nm,1.3s
PMOZ Porto Moniz, M 70.01 296 *e*P **P 23 23 51.1 +0.4**
comp=Z,220nm,0.9s
MSNA Messina 70.12 220⇑ *i*P **P 23 23 51.9 +0.6**
MSNA AMB AMB 23 23 53.6
comp=Z,317nm,1.5s
MOPA Mopani 70.39 218⇑ *i*P **P 23 23 53.0 +0.2**
MOPA AMB AMB 23 23 53.8
comp=Z,301nm,1.2s
COLD Coldfoot 71.99 16 *e*P **P 23 24 03.0 +1.1**
comp=Z,204nm,1.0s
COLD *e*pP **pP 23 24 49.0 +0.9**
COLD eS **S 23 33 06.1 -0.7**
POGA Pongola 73.52 216⇑ *i*P **P 23 24 11.7 +0.3**
POGA AMB AMB 23 24 12.3
comp=Z,342nm,1.1s
MBWA Marble Bar 73.58 133 *e*P **P 23 24 11.6 -0.3**
MBWA *e*pP **pP 23 24 57.6 -0.7**
MBWA Marble Bar 73.58 133 *e*P **P 23 24 11.5 -0.3**
comp=Z,88nm,1.0s
MBWA *e*pP **pP 23 24 57.4 -0.9**
SLR Silverton 73.80 220⇑ *i*P **P 23 24 13.6 +0.4**
SLR AMB AMB 23 24 15.3
comp=Z,268nm,1.8s
INK Inuvik 73.91 9 *e*P **P 23 24 14.1 +1.0**
INK *e**PP **pP 23 25 00.7 +1.2**
INK pmax pmax
comp=Z,543nm,1.2s
INK Inuvik 73.91 9 *e*P **P 23 24 14.1 +1.0**
comp=Z,543nm,1.2s
INK *e*pP **pP 23 25 00.7 +1.2**
TTA Tatalina 74.05 20 *e*P **P 23 24 15.1 +1.0**
TTA Tatalina 74.05 20 *e*P **P 23 24 15.1 +1.0**
ERPM east rand prop 74.32 219⇑ *i*P **P 23 24 16.2 -0.1**
ERPM AMB AMB 23 24 17.0
comp=Z,252nm,1.2s
COLA College 74.50 16 *e*P **P 23 24 17.3 +0.8**
COLA *e**PP **pP 23 25 02.2 -0.8**
COLA pmax pmax
comp=Z,277nm,1.0s
COLA College 74.50 16 *e*P **P 23 24 17.3 +0.8**
comp=Z,277nm,1.0s
COLA *e*pP **pP 23 25 02.1 -0.8**
DBIC Dimbokro 74.63 267 P **P 23 24 16.9 -1.3**
comp=Z,82nm,0.9s,baz=30,slow=6.5,SNR=94
DBIC pP **pP 23 25 04.9 +0.3**
comp=Z,28nm,0.8s,baz=48,slow=9.0,SNR=2.6
DBIC Dimbokro 74.63 267 P **P 23 24 16.9 -1.3**
DBIC *PP **pP 23 25 04.9 +0.3**
DBIC Dimbokro 74.63 267 P **P 23 24 16.9 -1.3**
DBIC pP **pP 23 25 04.9 +0.3**
KLOF Kloof 74.65 220 *e*P **P 23 24 18.5 +0.3**
KLOF AMB AMB 23 24 19.3
comp=Z,263nm,0.9s
ILAR Eielson Array 74.80 16 P **P 23 24 18.2 -0.1**
comp=Z,60nm,0.8s,baz=315,slow=4.9,SNR=413
ILAR pP **pP 23 25 04.3 -0.5**
comp=Z,44nm,1.0s,baz=313,slow=5.1,SNR=4.9
ILAR Eielson Array 74.80 16 P **P 23 24 18.3 -0.1**
ILAR *PP **pP 23 25 04.3 -0.5**
ILAR Eielson Array 74.80 16 P **P 23 24 18.2 -0.1**
ILAR pP **pP 23 25 04.3 -0.5**
TSUM Tsumeb 74.86 232 *e*P **P 23 24 19.6 +0.1**
comp=Z,341nm,1.1s
TSUM *e*pP **pP 23 25 07.2 +1.1**
LIC Lamto 75.02 267⇑ *i*P **P 23 24 19.1 -1.3**
comp=Z,291nm,1.1s
LIC ⇑*i*pP **pP 23 25 05.4 -1.6**
LIC *e*R
comp=Z,302nm,19.8s
PPLA Purkeypile 75.11 19 *e*P **P 23 24 20.8 +0.5**
PPLA *e*pP **pP 23 25 07.7 +0.8**
TRF Thorofare Moun 75.13 18 *e*P **P 23 24 20.4 -0.1**
comp=Z,58nm,1.1s
TRF *e*pP **pP 23 25 07.3 +0.3**
TRF *e*PP **PP 23 27 11.6 +1.0**
MCK McKinley 75.22 17 *e*P **P 23 24 20.5 -0.3**
MCK *e**PP **pP 23 25 08.1 +0.8**
MCK pmax pmax
comp=Z,183nm,1.2s
MCK McKinley 75.22 17 *e*P **P 23 24 20.5 -0.3**
comp=Z,183nm,1.2s
MCK *e*pP **pP 23 25 08.1 +0.8**
PRYS Parys 75.25 220⇑ *i*P **P 23 24 21.5 -0.1**
PRYS AMB AMB 23 24 22.9
comp=Z,209nm,1.7s
SVW2 Sparrevohn 75.63 21 *e*P **P 23 24 24.5 +1.3**
comp=Z,122nm,1.7s
EGAK Eagle 75.96 14 *e*P **P 23 24 25.6 +0.7**
comp=Z,378nm,1.5s
EGAK *e*pP **pP 23 25 11.5 -0.1**
DOT Dot Lake 76.39 15 *e*P **P 23 24 27.9 +0.5**
comp=Z,140nm,1.7s
DOT *e*pP **pP 23 25 13.8 -0.3**
DOT *e*PP **PP 23 27 20.9 -0.1**
PAX Paxson 76.68 16 *e*P **P 23 24 29.5 +0.4**
PAX *e**PP **pP 23 25 15.9 +0.1**
PAX Paxson 76.68 16 *e*P **P 23 24 29.5 +0.4**
PAX *e*pP **pP 23 25 15.9 +0.1**
DAWY Dawson 76.94 13 *e*P **P 23 24 31.0 +0.5**
DAWY *e*pP **pP 23 25 17.7 +0.4**
RSO Redoubt South 76.96 21 *e*P **P 23 24 31.7 +0.8**
RSO *e*pP **pP 23 25 17.2 -0.5**
PMR Palmer 76.99 18 *e*P **P 23 24 30.9 +0.2**
PMR pmax pmax
comp=Z,185nm,1.1s
PMR Palmer 76.99 18 *e*P **P 23 24 30.9 +0.2**
comp=Z,185nm,1.1s
SML Sawmill 77.00 18 *e*P **P 23 24 31.4 +0.5**
SML *PP **pP 23 25 17.3 -0.4**
SML pmax pmax
comp=Z,126nm,1.3s
SML Sawmill 77.00 18 *e*P **P 23 24 31.4 +0.5**
comp=Z,126nm,1.3s
SML *e*pP **pP 23 25 17.3 -0.4**
MENT Mentasta 77.09 15 *e*P **P 23 24 32.4 +1.0**
RC01 Rabbit Creek A 77.26 19 *e*P **P 23 24 32.4 +0.2**
RC01 *e*pP **pP 23 25 19.4 +0.4**
RC01 *e*PP **PP 23 27 28.3 0.0**
SLKM Skilak Lake 77.62 19 *e*P **P 23 24 34.3 0.0**
SLKM *e**PP **pP 23 25 20.6 -0.6**
SLKM *e* 23 27 31.1
SLKM Skilak Lake 77.62 19 *e*P **P 23 24 34.3 0.0**
SLKM *e*pP **pP 23 25 20.6 -0.6**
SLKM *e*PP **PP 23 27 31.1 -0.2**
BOSA Boshof 77.70 220 P **P 23 24 35.4 +0.2**
comp=Z,229nm,0.9s,baz=34,slow=4.2,SNR=235
BOSA pP **pP 23 25 23.1 +0.9**
comp=Z,65nm,0.7s,baz=41,slow=7.9,SNR=2.6
BOSA Boshof 77.70 220⇑ *i*P **P 23 24 35.5 +0.2**
BOSA AMB AMB 23 24 36.0
comp=Z,321nm,1.1s
BOSA Boshof 77.70 220 *e*P **P 23 24 35.5 +0.2**
BOSA *e**PP **pP 23 25 22.3 +0.2**
BOSA pmax pmax
comp=Z,403nm,1.1s
BOSA Boshof 77.70 220 *e*P **P 23 24 35.5 +0.3**
comp=Z,403nm,1.1s
BOSA *e*pP **pP 23 25 22.3 +0.2**
BOSA pP **pP 23 25 23.1 +0.9**
SEW Seward 78.17 19 *e*P **P 23 24 37.9 +0.6**
SEW *e*pP **pP 23 25 24.8 +0.6**
DIV Divide 78.22 17 *e*P **P 23 24 38.5 +0.9**
comp=Z,87nm,0.7s
DIV *e*pP **pP 23 25 25.3 +0.7**
DIV *e*PP **PP 23 27 38.3 +2.0**
BMRM Bremner River 78.63 17 *e*P **P 23 24 41.0 +1.1**
comp=Z,329nm,1.3s
BMRM *e*pP **pP 23 25 25.7 -1.2**
HVD Gariep Dam 79.19 219⇑ *i*P **P 23 24 42.9 -0.4**
HVD AMB AMB 23 24 44.2
comp=Z,218nm,1.3s
KDAK Kodiak Island 79.22 22 *e*P **P 23 24 43.6 +0.5**
KDAK *e**PP **pP 23 25 30.5 +0.4**
KDAK pmax pmax
comp=Z,468nm,1.3s
KDAK Kodiak Island 79.22 22 *e*P **P 23 24 43.6 +0.5**
comp=Z,468nm,1.3s
KDAK *e*pP **pP 23 25 30.5 +0.4**
KLBR Kellerberrin 80.70 141 *e*P **P 23 24 49.7 -1.6**
comp=Z,23nm,0.7s
KLBR *e*pP **pP 23 25 37.6 -0.9**
SOE Somerset East 80.86 217 *e*P **P 23 24 52.4 +0.3**
SOE AMB AMB 23 24 53.5
comp=Z,170nm,1.4s
GRM Grahamstown 80.89 216⇑ *i*P **P 23 24 52.8 +0.5**
GRM AMB AMB 23 24 53.5

comp=Z,172nm,1.3s
PNL Peninsula 80.95 15 *e*P **P** **23 24 52.5 +0.1**
comp=Z,228nm,1.2s
PNL *ep*P **pP** **23 25 40.6 +1.0**
PNL *e*PP **PP** **23 28 02.2 +3.3**
NWAO Narrogin (SRO) 81.51 142 *e*P **P** **23 24 54.5 -1.0**
NWAO *e**PP **pP** **23 25 42.7 -0.1**
NWAO Narrogin (SRO) 81.51 142 *e*P **P** **23 24 54.5 -1.0**
NWAO *ep*P **pP** **23 25 42.7 -0.1**
SKAG Skagway 81.94 13 *e*P **P** **23 24 59.0 +1.5**
comp=Z,304nm,1.4s
WRA Warramunga Arr 82.05 122 P **P** **23 24 57.0 -1.6**
comp=Z,74nm,0.4s,baz=324,slow=5.0,SNR=715
WRA pP **pP** **23 25 45.5 -0.5**
comp=Z,65nm,1.0s,baz=319,slow=5.0,SNR=6.3
WRA S **S** **23 34 51.7 -5.1**
comp=Z,9.3nm,1.3s,baz=325,slow=11,SNR=8.9
WRA PKKPbc **PKKPbc** **23 43 27.0 +0.9**
comp=Z,8.7nm,0.9s,baz=130,slow=2.0,SNR=17
WRA PKPPKP **P'P'df** **23 51 26.7 -4.5**
comp=Z,6.1nm,1.1s,baz=127,slow=1.8,SNR=6.6
WRA Warramunga Arr 82.05 122 P **P** **23 24 57.0 -1.6**
WRA *PP **pP** **23 25 45.5 -0.5**
WRA S **S** **23 34 51.7 -5.1**
WRA Warramunga Arr 82.05 122 P **P** **23 24 57.0 -1.6**
WRA pP **pP** **23 25 45.5 -0.5**
WRA S **S** **23 34 51.7 -5.1**
WRA PKKPbc **PKKPbc** **23 43 27.0 +0.9**
WRA P'P' 23 51 26.7
WRAB Tennant Creek 82.05 122 *e*P **P** **23 24 57.9 -0.7**
WRAB *e**PP **pP** **23 25 46.1 +0.1**
WRAB *e*S S 23 34 50.6 -6.2
WRAB Tennant Creek 82.05 122 *e*P **P** **23 24 57.9 -0.7**
WRAB *ep*P **pP** **23 25 46.1 +0.1**
WRAB *e*S S 23 34 50.6 -6.2
WRAB Tennant Creek 82.05 122 P **P** **23 24 58.0 -0.7**
comp=Z,2µm,0.4s
WB2 Warramunga Arr 82.06 122 *e*P **P** **23 24 57.8 -0.9**
WB2 *ep*P **pP** **23 25 46.2 +0.1**
WB2 *e*S **S** **23 34 51.0 -5.9**
SCHQ Schefferville 82.07 337 P **P** **23 24 58.7 +0.5**
comp=Z,73nm,0.9s,baz=33,slow=5.1,SNR=39
SCHQ pP **pP** **23 25 47.4 +1.8**
comp=Z,44nm,0.8s,baz=34,slow=7.7,SNR=4.2
SCHQ PP **PP** **23 28 05.6 -2.6**
comp=Z,46nm,1.0s,baz=18,slow=11,SNR=3.9
SCHQ LR LR 00 00 46.7
comp=Z,542nm,20.2s,baz=168,slow=35
SCHQ Schefferville 82.07 337 P **P** **23 24 58.7 +0.5**
SCHQ pP **pP** **23 25 47.4 +1.8**
SCHQ PP **PP** **23 28 05.6 -2.6**
RKGY Rocky Gully 82.75 143 *e*P **P** **23 25 01.9 0.0**
comp=Z,54nm,0.9s
RKGY *ep*P **pP** **23 25 50.6 +1.3**
KOMG Komaggas 82.85 225 *e*P **P** **23 25 03.2 +0.7**
KOMG AMB AMB 23 25 03.9
comp=Z,194nm,1.3s
CVNA Calvinia 82.88 222 *e*P **P** **23 25 00.4 -2.4**
CVNA ⇑*i*P **PcP** **23 25 03.1 -3.9**
CVNA AMB AMB 23 25 04.0
comp=Z,202nm,1.3s
SUR Sutherland 83.01 221 ⇑*i*P **P** **23 25 04.5 +0.9**
SUR AMB AMB 23 25 05.2
comp=Z,86nm,1.1s
SUR Sutherland 83.01 221 *e*P **P** **23 25 04.4 +0.9**
SUR *ep*P **pP** **23 25 53.8 +2.7**
DLBC Dease Lake 83.81 11 *e*P **P** **23 25 08.1 +0.9**
DLBC *ep*P **pP** **23 25 55.7 +1.0**
AS31 Alice Springs 84.31 125 *e*P **P** **23 25 09.2 -1.0**
AS31 *ep*P **pP** **23 25 57.5 -0.3**
ASAR Alice Springs 84.31 125 P **P** **23 25 09.3 -0.8**
comp=Z,86nm,0.7s,baz=313,slow=5.1,SNR=756
ASAR pP **pP** **23 25 57.9 +0.1**
comp=Z,51nm,0.8s,baz=322,slow=5.5,SNR=7.6
ASAR S S 23 35 10.1 -9.4
comp=Z,2.7nm,1.1s,baz=302,slow=4.5,SNR=4.6
ASAR PKKPbc **PKKPbc** **23 43 21.5 +0.5**
comp=Z,3.2nm,0.9s,baz=135,slow=2.5,SNR=7.5
ASAR PKPPKP **P'P'df** **23 51 26.8 0.0**
comp=Z,4.4nm,0.9s,baz=126,slow=3.4,SNR=5.5
ASAR Alice Springs 84.31 125 P **P** **23 25 09.4 -0.8**
ASAR *PP **pP** **23 25 57.9 +0.1**
ASAR S S 23 35 10.1 -9.4
ASAR Alice Springs 84.31 125 P **P** **23 25 09.3 -0.8**
ASAR pP **pP** **23 25 57.9 +0.1**
ASAR S S 23 35 10.1 -9.4
ASAR PKKPbc **PKKPbc** **23 43 21.5 +0.5**
ASAR P'P' 23 51 26.8
COEN Coen 84.47 112 *e*P **P** **23 25 10.3 -0.8**
comp=Z,380nm,0.9s
COEN *ep*P **pP** **23 25 59.9 +1.2**
COEN Coen 84.47 112 *e*P **P** **23 25 10.3 -0.8**
comp=Z,442nm,0.9s
COEN *ep*P **pP** **23 26 00.0 +1.2**
CER Ceres 84.58 221 *e*P **P** **23 25 09.9 -1.4**
CER AMB AMB 23 25 13.1
comp=Z,25nm,1.4s
PMG Port Moresby 84.67 106 P **P** **23 25 11.9 -0.3**
comp=Z,51nm,1.0s,baz=335,slow=6.9,SNR=9.5
PMG pP **pP** **23 26 00.4 +0.6**
comp=Z,126nm,0.9s,baz=351,slow=4.8,SNR=12
PMG Port Moresby 84.67 106*d* *i*P **P** **23 25 11.2 -0.9**
PMG pmax pmax
comp=Z,87nm,1.1s
PMG Port Moresby 84.67 106 P **P** **23 25 11.9 -0.3**
PMG pP **pP** **23 26 00.4 +0.6**
ELIM Elim 85.29 220 ⇑*i*P **P** **23 25 15.3 +0.5**
WRAK Wrangell Islan 85.35 13 *e*P **P** **23 25 16.1 +1.2**
comp=Z,162nm,1.1s
WRAK *ep*P **pP** **23 26 04.2 +1.7**
FORT Forrest 85.72 134 *e*P **P** **23 25 16.6 -0.3**
comp=Z,123nm,0.6s
FFC Flin Flon 88.93 356 *e*P **P** **23 25 31.8 -0.3**
FFC *e**PP **pP** **23 26 21.2 +1.0**
FFC Flin Flon 88.93 356 *e*P **P** **23 25 31.8 -0.3**
FFC *ep*P **pP** **23 26 21.2 +1.0**
CTAO Charters Tower 90.61 115 *e*P **P** **23 25 39.6 -0.8**
CTAO *e**PP **pP** **23 26 28.7 +0.2**
CTAO Charters Tower 90.61 115 *e*P **P** **23 25 39.6 -0.8**
CTAO *ep*P **pP** **23 26 28.7 +0.2**
PKME Peaks-Kenny Pk 91.02 333 *e*P **P** **23 25 42.2 +0.2**
PKME *e*PP **PP** **23 29 18.5 -1.7**
BBOO Buckleboo 91.96 130 *e*P **P** **23 25 44.6 -1.7**
BBOO *ep*P **pP** **23 26 35.3 +0.7**
BBOO *e*PP **PP** **23 29 24.7 -4.4**
ULM Lac du Bonnet 92.84 352 P **P** **23 25 50.0 -0.2**
comp=Z,76nm,1.0s,baz=12,slow=6.6,SNR=60
ULM pP **pP** **23 26 38.8 +0.3**
comp=Z,22nm,0.9s,baz=353,slow=4.4,SNR=4.9
ULM PP **PP** **23 29 34.5 +0.4**
comp=Z,18nm,1.0s,baz=1.0,slow=8.6,SNR=6.0
ULM Lac du Bonnet 92.84 352 *e*P **P** **23 25 49.8 -0.5**
ULM *e**PP **pP** **23 26 38.7 +0.3**
ULM *e* 23 29 34.6
ULM pmax pmax
comp=Z,108nm,1.2s
ULM Lac du Bonnet 92.84 352 *e*P **P** **23 25 49.8 -0.5**
comp=Z,108nm,1.2s
ULM *ep*P **pP** **23 26 38.7 +0.3**
ULM *e*PP **PP** **23 29 34.6 +0.4**
QLP Quilpie 93.24 121 *e*P **P** **23 25 51.6 -0.8**
QLP *ep*P **pP** **23 26 41.4 +0.8**
LONY Lake Ozonia 93.42 336 *e*P **P** **23 25 53.5 +0.4**
LONY *ep*P **pP** **23 26 39.5 -1.8**
MDV Middlebury 93.50 335 *e*P **P** **23 25 54.5 +1.1**
ACCN Adirondack Com 94.20 335 *e*P **P** **23 25 56.7 -0.1**
ACCN *ep*P **pP** **23 26 43.2 -1.7**
EYMN Ely 94.47 348 *e*P **P** **23 25 58.5 +0.7**
EYMN *ep*P **pP** **23 26 44.9 -1.2**
WALA Waterton Lakes 94.71 3 *e*P **P** **23 25 59.2 +0.1**
comp=Z,3.1nm,1.1s
WALA *ep*P **pP** **23 26 47.6 +0.3**
AGMN Agassiz Nation 94.75 351 *e*P **P** **23 25 59.1 -0.1**
AGMN *ep*P **pP** **23 26 47.1 -0.2**
AGMN *e*PP **PP** **23 29 50.8 +1.7**
A14A Double T Ranch 94.81 3 ⇑P **P** **23 25 59.7 +0.1**
baz=94
A14A ⇑P **P** **23 25 59.7 +0.1**
baz=94
A24A Westby 94.83 357 ⇑P **P** **23 26 00.3 +0.8**
baz=94,SNR=13
A24A ⇑P **P** **23 26 00.3 +0.8**
baz=94,SNR=13
A23A Redstone 94.83 357 ⇑P **P** **23 26 00.5 +1.0**
baz=94,SNR=5.8
A23A ⇑P **P** **23 26 00.5 +1.0**
baz=94,SNR=5.8
A15A Johnson Ranch, 94.83 2 ⇓P **P** **23 26 00.2 +0.6**
baz=94
A15A ⇓P **P** **23 26 00.2 +0.6**
baz=94
A22A Carney Farms, 94.83 358 ⇑P **P** **23 26 00.6 +1.0**
baz=94,SNR=11
A22A ⇑P **P** **23 26 00.6 +1.0**
baz=94,SNR=11
STKA Stephens Creek 94.85 126 P **P** **23 25 58.4 -1.3**
comp=Z,9.6nm,0.4s,baz=328,slow=7.7,SNR=74
STKA pP **pP** **23 26 48.1 +0.2**
comp=Z,9.3nm,0.8s,baz=318,slow=7.8,SNR=3.9
STKA PP **PP** **23 29 51.1 -0.5**
comp=Z,9.4nm,0.8s,baz=317,slow=9.2,SNR=3.2
STKA PKKPbc **PKKPbc** **23 42 54.8 -0.2**
comp=Z,3.9nm,1.1s,baz=108,slow=3.2,SNR=4.3
STKA Stephens Creek 94.85 126 *e*P **P** **23 25 57.8 -1.8**
comp=Z,8.1nm,0.4s
STKA *ep*P **pP** **23 26 47.8 -0.1**
STKA Stephens Creek 94.85 126 *e*P **P** **23 25 57.8 -1.8**
STKA *e**PP **pP** **23 26 47.1 -0.8**
STKA *e* 23 29 53.8
STKA Stephens Creek 94.85 126 *e*P **P** **23 25 57.8 -1.8**
STKA *ep*P **pP** **23 26 47.1 -0.8**
STKA pP **pP** **23 26 48.1 +0.2**
STKA PP **PP** **23 29 51.1 -0.5**
STKA *e*PP **PP** **23 29 53.8 +2.2**
STKA PKKPbc **PKKPbc** **23 42 54.8 -0.2**
A21A Bergtoll Ranch 94.86 359 ⇑P **P** **23 26 00.3 +0.6**
baz=94,SNR=19
A21A ⇑P **P** **23 26 00.3 +0.6**
baz=94,SNR=19
A16A West Butte Ran 94.89 2 ⇑P **P** **23 26 00.2 +0.3**
baz=95
A16A ⇑P **P** **23 26 00.2 +0.3**
baz=95
A17A Triple J Farms 94.92 1 P **P** **23 26 00.6 +0.6**
baz=95,SNR=53
A17A P **P** **23 26 00.6 +0.6**
baz=95,SNR=53
A19A Klindworth Far 94.94 360 ⇑P **P** **23 26 00.8 +0.7**
baz=95
A19A ⇑P **P** **23 26 00.8 +0.7**
baz=95
A18A Metzger Ranch, 94.95 1 ⇓P **P** **23 26 00.4 +0.3**
baz=95,SNR=53
A18A ⇓P **P** **23 26 00.4 +0.3**
baz=95,SNR=53
A20A Cobblestone Ra 94.99 359 P **P** **23 26 01.3 +1.0**
baz=95,SNR=25
A20A P **P** **23 26 01.3 +1.0**
baz=95,SNR=25
NLW Nelson Butte 95.20 8 P **P** **23 26 02.2 +0.9**
NEW Newport 95.31 5 *e*P **P** **23 26 02.0 +0.3**
NEW *e**PP **pP** **23 26 50.0 +0.1**
NEW pmax pmax
comp=Z,54nm,1.1s
NEW Newport 95.31 5 *e*P **P** **23 26 02.0 +0.3**
comp=Z,54nm,1.1s
NEW *ep*P **pP** **23 26 50.0 +0.1**
B23A Brockton 95.33 357 ⇑P **P** **23 26 02.6 +0.8**
baz=95,SNR=13
B23A ⇑P **P** **23 26 02.6 +0.8**
baz=95,SNR=13
GNW Green Mountain 95.41 9 *e*P **P** **23 26 04.0 +1.9**
GNW *e*PKPdf **PKiKP** **23 30 40.4 -0.9**
B19A Brinkman Farms 95.42 360 ⇓P **P** **23 26 02.4 +0.1**
baz=95,SNR=21
B19A ⇓P **P** **23 26 02.4 +0.1**
baz=95,SNR=21
B16A M & M Farms, S 95.43 2 ⇓P **P** **23 26 02.5 +0.2**
baz=95,SNR=12
B16A ⇓P **P** **23 26 02.5 +0.2**
baz=95,SNR=12
B20A Solberg Farm, 95.43 359 ⇑P **P** **23 26 02.4 +0.1**
baz=95,SNR=7.3
B20A ⇑P **P** **23 26 02.4 +0.1**
baz=95,SNR=7.3
B14A Marquette Ranc 95.43 3 ⇓P **P** **23 26 02.3 -0.1**
baz=95,SNR=37
B14A ⇓P **P** **23 26 02.3 -0.1**
baz=95,SNR=37
B18A Beardsley Farm 95.48 0 ⇑P **P** **23 26 02.6 +0.1**
baz=95,SNR=30
B18A ⇑P **P** **23 26 02.6 +0.1**
baz=95,SNR=30
B15A Bradely Ranch, 95.50 2 ⇓P **P** **23 26 02.7 0.0**
baz=95,SNR=65
B15A ⇓P **P** **23 26 02.7 0.0**
baz=95,SNR=65
B22A Reddig Ranch S 95.53 358 ⇓P **P** **23 26 03.2 +0.5**
baz=95,SNR=12
B22A ⇓P **P** **23 26 03.2 +0.5**
baz=95,SNR=12
B17A L&G Farms, Che 95.57 1 ⇑P **P** **23 26 03.5 +0.6**
baz=95,SNR=22
B17A ⇑P **P** **23 26 03.5 +0.6**
baz=95,SNR=22
MDND Maddock 95.60 354 ⇑P **P** **23 26 03.2 +0.2**
baz=95
MDND ⇑P **P** **23 26 03.2 +0.2**
baz=95
C09A Chrisman Ranch 95.67 6 ⇓P **P** **23 26 04.0 +0.7**
baz=95
C09A ⇓P **P** **23 26 04.0 +0.7**
baz=95
BLMT Blacktail Moun 95.73 4 *e*P **P** **23 26 04.8 +0.9**
BLMT *ep*P **pP** **23 26 52.2 +0.1**
BLMT *e*PP **PP** **23 29 56.1 -0.8**
EGMT Eagleton 95.85 0 *e*P **P** **23 26 05.1 +0.9**
EGMT *ep*P **pP** **23 26 53.8 +1.4**
EGMT *e*PP PP 23 29 51.7 -6.0
EGMT Eagleton 95.85 0 ⇑P **P** **23 26 05.1 +0.9**
baz=96,SNR=21
EGMT ⇑P **P** **23 26 05.1 +0.9**
baz=96,SNR=21
C12B Naegeli Ranch, 95.97 4 ⇓P **P** **23 26 06.4 +1.7**
baz=96,SNR=7.3
C12B ⇓P **P** **23 26 06.4 +1.7**
baz=96,SNR=7.3
C23A Lambert 96.00 357 ⇑P **P** **23 26 06.2 +1.4**
baz=96,SNR=20
C23A ⇑P **P** **23 26 06.2 +1.4**
baz=96,SNR=20
JTMT Jette 96.00 4 *e*P **P** **23 26 05.5 +0.5**
JTMT *ep*P **pP** **23 26 51.5 -1.7**
JTMT *e*PP **PP** **23 29 53.9 -4.9**
C21A Desert Coulee 96.03 359 ⇓P **P** **23 26 06.3 +1.3**
baz=96
C21A ⇓P **P** **23 26 06.3 +1.3**
baz=96
BINY Binghamton 96.04 336 *e*P **P** **23 26 04.9 -0.2**
comp=Z,12nm,0.8s
C16A Fuhringer Ranc 96.04 2 ⇓P **P** **23 26 05.2 +0.1**
baz=96,SNR=21
C16A ⇓P **P** **23 26 05.2 +0.1**
baz=96,SNR=21
OD2 Odessa Site #2 96.04 7 *e*P **P** **23 26 06.0 +0.9**
OD2 *ep*P **pP** **23 26 53.9 +0.6**
C15A Salmond Ranch, 96.04 2 ⇓P **P** **23 26 05.3 +0.1**
baz=96,SNR=24
C15A ⇓P **P** **23 26 05.3 +0.1**
baz=96,SNR=24
TBM Table Mountain 96.07 8 P **P** **23 26 05.8 +0.6**
C22A Vida 96.08 358 ⇓P **P** **23 26 06.2 +1.0**
baz=96,SNR=24
C22A ⇓P **P** **23 26 06.2 +1.0**
baz=96,SNR=24
C19A Slack Wire Ran 96.14 360 ⇑P **P** **23 26 05.7 +0.2**
baz=96,SNR=22
C19A ⇑P **P** **23 26 05.7 +0.2**
baz=96,SNR=22
C20A Veseth Ranch, 96.16 359 ⇓P **P** **23 26 06.4 +0.8**
baz=96,SNR=21
C20A ⇓P **P** **23 26 06.4 +0.8**
baz=96,SNR=21
C17A Wharram Farm, 96.23 1 ⇓P **P** **23 26 06.2 +0.3**
baz=96,SNR=20
C17A ⇓P **P** **23 26 06.2 +0.3**
baz=96,SNR=20
C24A Savage 96.24 357 ⇑P **P** **23 26 07.2 +1.3**
baz=96,SNR=6.6
C24A ⇑P **P** **23 26 07.2 +1.3**
baz=96,SNR=6.6
EBG Ellensburg 96.33 8 P **P** **23 26 07.2 +0.8**
LON Longmire 96.34 9 *e*P **P** **23 26 05.5 -1.0**
LON *e**PP **pP** **23 26 54.9 +0.2**
LON *e* 23 29 59.1
LON pmax pmax
comp=Z,19nm,0.9s
LON Longmire 96.34 9 *e*P **P** **23 26 05.5 -1.0**
comp=Z,19nm,0.9s
LON *ep*P **pP** **23 26 54.9 +0.2**
LON *e*PP **PP** **23 29 59.1 -2.3**
WPW White Pass 96.42 9 P **P** **23 26 08.1 +1.2**
SLMT Seeley Lake 96.54 3 *ep*P pP 23 26 52.8 -2.9
D23A Lindsay 96.63 357 ⇑P **P** **23 26 09.1 +1.3**
baz=96,SNR=11
D23A ⇑P **P** **23 26 09.1 +1.3**
baz=96,SNR=11
D13A Huson 96.64 4 ⇑P **P** **23 26 07.3 -0.6**
baz=96,SNR=8.0
D13A ⇑P **P** **23 26 07.3 -0.6**
baz=96,SNR=8.0
D24A Glendive 96.65 357 ⇑P **P** **23 26 08.6 +0.7**
baz=96,SNR=5.2
D24A ⇑P **P** **23 26 08.6 +0.7**
baz=96,SNR=5.2
D18A Linhart Farms, 96.67 0 ⇑P **P** **23 26 09.1 +1.1**
baz=96,SNR=6.3
D18A ⇑P **P** **23 26 09.1 +1.1**
baz=96,SNR=6.3
D22A Cohagen 96.68 358 ⇓P **P** **23 26 09.4 +1.4**
baz=96,SNR=18
D22A ⇓P **P** **23 26 09.4 +1.4**
baz=96,SNR=18
MXC Moxie City 96.69 8 P **P** **23 26 09.1 +1.1**
D14A Greenough 96.70 3 ⇑P **P** **23 26 08.2 +0.1**
baz=96,SNR=19
D14A ⇑P **P** **23 26 08.2 +0.1**
baz=96,SNR=19
D17A Six Diamond Ra 96.71 1 ⇓P **P** **23 26 08.3 +0.1**
baz=96,SNR=34
D17A ⇓P **P** **23 26 08.3 +0.1**
baz=96,SNR=34
D19A Cripps Ranch, 96.71 360 ⇓P **P** **23 26 09.0 +0.9**
baz=96,SNR=18
D19A ⇓P **P** **23 26 09.0 +0.9**
baz=96,SNR=18
D15A Lincoln 96.78 2 ⇑P **P** **23 26 09.0 +0.5**
baz=96,SNR=8.4
D15A ⇑P **P** **23 26 09.0 +0.5**
baz=96,SNR=8.4
D20A Manuel Ranch, 96.78 359 ⇑P **P** **23 26 09.2 +0.8**
baz=96,SNR=11
D20A ⇑P **P** **23 26 09.2 +0.8**
baz=96,SNR=11
D21A La Casta Ranch 96.79 359 ⇑P **P** **23 26 09.7 +1.2**
baz=96,SNR=13
D21A ⇑P **P** **23 26 09.7 +1.2**
baz=96,SNR=13
D16A Dana Ranch, Ca 96.81 2 ⇑P **P** **23 26 09.3 +0.6**
baz=96,SNR=7.4
D16A ⇑P **P** **23 26 09.3 +0.6**
baz=96,SNR=7.4
CHMT Chamberlain Mo 96.88 3 *e*P **P** **23 26 09.6 +0.5**
comp=Z,4µm,1.0s
CHMT *ep*P **pP** **23 26 57.3 0.0**
CHMT *e*PP **PP** **23 30 01.5 -4.2**
ASR Mount Adams--S 96.96 9 P **P** **23 26 10.6 +1.2**
E09A Wood Farm, Sta 96.96 6 ⇑P **P** **23 26 09.8 +0.7**
baz=97,SNR=17
E09A ⇑P **P** **23 26 09.8 +0.7**
baz=97,SNR=17
E24A Baker 97.20 357 ⇓P Pdif 23 26 11.8 +1.4
baz=97
E24A ⇓P Pdif 23 26 11.8 +1.4
baz=97
E13A Victor 97.31 4 ⇓P Pdif 23 26 11.2 +0.3
baz=97,SNR=6.7
E13A ⇓P Pdif 23 26 11.2 +0.3
baz=97,SNR=6.7
E18A Harlowton 97.31 1 ⇓P Pdif 23 26 11.4 +0.5
baz=97,SNR=14
E18A ⇓P Pdif 23 26 11.4 +0.5
baz=97,SNR=14
E23A Ismay 97.31 357 ⇓P Pdif 23 26 11.5 +0.7
baz=97,SNR=5.6
E23A ⇓P Pdif 23 26 11.5 +0.7
baz=97,SNR=5.6
E16A East Helena 97.31 2 ⇑P Pdif 23 26 11.8 +0.8
baz=97,SNR=25
E16A ⇑P Pdif 23 26 11.8 +0.8
baz=97,SNR=25
SPMN St. Paul 97.33 348 ⇑P Pdif 23 26 11.2 +0.3
baz=97
SPMN ⇑P Pdif 23 26 11.2 +0.3
baz=97
CMSA Cobar Meteorol 97.33 124 *e*P **P** **23 26 09.5 -1.4**
comp=Z,50nm,0.8s
CMSA *ep*P **pP** **23 26 59.1 -0.2**
E14A Clinton 97.36 3 ⇓P Pdif 23 26 11.4 +0.2
baz=97,SNR=16
E14A ⇓P Pdif 23 26 11.4 +0.2
baz=97,SNR=16
E20A Meyer Farm, Mu 97.37 359 ⇑P Pdif 23 26 11.8 +0.7
baz=97,SNR=8.1
E20A ⇑P Pdif 23 26 11.8 +0.7
baz=97,SNR=8.1
E22A Miles City 97.39 358 ⇓P Pdif 23 26 12.4 +1.2
baz=97
E22A ⇓P Pdif 23 26 12.4 +1.2
baz=97
E15A Deer Lodge 97.39 2 ⇓P Pdif 23 26 11.5 +0.1
baz=97,SNR=18
E15A ⇓P Pdif 23 26 11.5 +0.1
baz=97,SNR=18
E17A Martinsdale 97.40 1 ⇑P Pdif 23 26 12.0 +0.5
baz=97,SNR=16
E17A ⇑P Pdif 23 26 12.0 +0.5
baz=97,SNR=16
E19A Rath Farm, Rou 97.41 360 ⇓P Pdif 23 26 11.5 +0.1
baz=97,SNR=9.8
E19A ⇓P Pdif 23 26 11.5 +0.1
baz=97,SNR=9.8
F10A Beach Ranch, E 97.57 6 ⇓P Pdif 23 26 12.6 +0.5
baz=97,SNR=5.9
F10A ⇓P Pdif 23 26 12.6 +0.5
baz=97,SNR=5.9
F24A Ekalaka 97.92 357 ⇓P **P** **23 26 13.1 -0.5**
baz=98
F24A ⇓P **P** **23 26 13.1 -0.5**
baz=98
F12A Elk City 97.93 4 ⇑P **P** **23 26 12.8 -1.0**
baz=98,SNR=8.9
F12A ⇑P **P** **23 26 12.8 -1.0**
baz=98,SNR=8.9
F13A Darby 97.95 4 ⇑P Pdif 23 26 13.9 0.0
baz=98,SNR=14
F13A ⇑P Pdif 23 26 13.9 0.0
baz=98,SNR=14
F17A Fitzpatrick Pl 97.96 1 ⇓P Pdif 23 26 14.9 +1.0
baz=98,SNR=12
F17A ⇓P Pdif 23 26 14.9 +1.0
baz=98,SNR=12
F18A Big Timber 97.97 0 ⇑P Pdif 23 26 14.1 +0.2
baz=98,SNR=14
F18A ⇑P Pdif 23 26 14.1 +0.2
baz=98,SNR=14
F14A Wisdom 97.97 3 ⇓P Pdif 23 26 14.8 +0.8
baz=98,SNR=8.2
F14A ⇓P Pdif 23 26 14.8 +0.8
baz=98,SNR=8.2
F15A Butte 97.98 2 ⇑P Pdif 23 26 14.2 +0.2
baz=98,SNR=14
F15A ⇑P Pdif 23 26 14.2 +0.2
baz=98,SNR=14
LRM Limekiln Ridge 98.00 2 *e*P Pdif 23 26 15.0 +0.8
LRM *ep*P pP 23 27 00.3 -2.2
F19A Roth Farm, Mol 98.02 360 ⇓P Pdif 23 26 14.9 +0.8
baz=98,SNR=14
F19A ⇓P Pdif 23 26 14.9 +0.8
baz=98,SNR=14
F16A Kennard Place, 98.06 2 ⇓P Pdif 23 26 15.0 +0.7
baz=98,SNR=11
F16A ⇓P Pdif 23 26 15.0 +0.7
baz=98,SNR=11
F20A Billings 98.07 359 ⇓P Pdif 23 26 15.5 +1.2
baz=98,SNR=6.0
F20A ⇓P Pdif 23 26 15.5 +1.2
baz=98,SNR=6.0
F23A Volborg 98.09 357 ⇓P Pdif 23 26 15.0 +0.6

baz=98
F23A ⇓P Pdif 23 26 15.0 +0.6
baz=98
BOZ Bozeman (W) 98.19 2 ⇓P Pdif 23 26 16.4 +1.4
baz=98,SNR=16
BOZ ⇓P Pdif 23 26 16.4 +1.4
baz=98,SNR=16
BOZ ⇓P Pdif 23 26 16.4 +1.4
baz=98,SNR=16
BOZ ⇓P Pdif 23 26 16.4 +1.4
baz=98,SNR=16
DLMT Dillon 98.45 2 *e*P ⇓P Pdif 23 26 16.6 +0.5
comp=Z,61nm,1.5s
G14A Jackson 98.53 3 ⇓P Pdif 23 26 17.3 +0.7
baz=98,SNR=6.2
G14A ⇓P Pdif 23 26 17.3 +0.7
baz=98,SNR=6.2
G18A Lazy EL Ranch, 98.56 0 ⇓P Pdif 23 26 17.3 +0.7
baz=98
G18A ⇓P Pdif 23 26 17.3 +0.7
baz=98
G23A Biddle 98.61 357 ⇑P Pdif 23 26 17.6 +0.9
baz=98
G23A ⇑P Pdif 23 26 17.6 +0.9
baz=98
G16A Moss Hill, Enn 98.61 2 ⇑P Pdif 23 26 16.9 +0.1
baz=98,SNR=6.1
G16A ⇑P Pdif 23 26 16.9 +0.1
baz=98,SNR=6.1
G22A Birney 98.62 358 ⇑P **P 23 26 16.6 -0.1**
baz=98
G22A ⇑P **P 23 26 16.6 -0.1**
baz=98
G13A Cobalt 98.65 4 ⇓P **P 23 26 16.8 -0.1**
baz=98,SNR=14
G13A ⇓P **P 23 26 16.8 -0.1**
baz=98,SNR=14
G15A Dillon 98.65 2 ⇓P Pdif 23 26 17.1 0.0
baz=98,SNR=9.8
G15A ⇓P Pdif 23 26 17.1 0.0
baz=98,SNR=9.8
RLMT Red Lodge 98.75 0 *e*P Pdif 23 26 18.6 +1.1
comp=Z,77nm,1.6s
RLMT *ep*P pP 23 27 07.1 +1.2
MCMT McKenzie Canyo 98.97 3 *e*P Pdif 23 26 18.7 +0.1
comp=Z,8.5nm,1.3s
MCMT *ep*P pP 23 27 06.5 -0.4
MCMT *es*P sP 23 27 24.4 -2.8
MCMT *e*PP **PP 23 30 21.8 +0.1**
H16A Russell Place, 99.15 2 ⇑P **Pdif 23 26 20.1 +0.8**
baz=99,SNR=6.1
H16A ⇑P **Pdif 23 26 20.1 +0.8**
baz=99,SNR=6.1
H14A Leadore 99.17 3 ⇓P **Pdif 23 26 19.9 +0.5**
baz=99,SNR=10
H14A ⇓P **Pdif 23 26 19.9 +0.5**
baz=99,SNR=10
H13A Challis 99.17 4 ⇑P **Pdif 23 26 19.4 0.0**
baz=99
H13A ⇑P **Pdif 23 26 19.4 0.0**
baz=99
H15A Lima 99.19 3 ⇑P **Pdif 23 26 19.7 +0.3**
baz=99,SNR=6.5
H15A ⇑P **Pdif 23 26 19.7 +0.3**
baz=99,SNR=6.5
H19A Powell 99.20 360 ⇓P **Pdif 23 26 21.1 +1.6**
baz=99
H19A ⇓P **Pdif 23 26 21.1 +1.6**
baz=99
I07A Izee 99.24 8 ⇓P **Pdif 23 26 19.5 -0.1**
baz=99,SNR=7.3
I07A ⇓P **Pdif 23 26 19.5 -0.1**
baz=99,SNR=7.3
ECSD EROS Data Cent 99.34 351 *e*Pdif **Pdif 23 26 19.8 -0.1**
ECSD *ep*P **pP 23 27 09.0 +0.7**
ECSD *e*PP **PP 23 30 19.4 -4.9**
H20A Greybull 99.38 359 ⇓P **Pdif 23 26 21.4 +1.2**
baz=99
H20A ⇓P **Pdif 23 26 21.4 +1.2**
baz=99
YFT Old Faithful 99.41 1 *e*Pdif **Pdif 23 26 21.8 +1.3**
comp=Z,112nm,2.1s
YFT *e*PP **PP 23 30 24.0 -1.0**
H17A Grant Village 99.47 1 ⇓P **Pdif 23 26 22.8 +2.1**
baz=99,SNR=5.7
H17A ⇓P **Pdif 23 26 22.8 +2.1**
baz=99,SNR=5.7
FLWY Flagg Ranch 99.78 1 *e*Pdif **Pdif 23 26 24.1 +1.9**
comp=Z,110nm,1.9s
FLWY *e*PP **PP 23 30 31.4 +3.5**
I13A Wildhorse Cree 99.83 4 ⇓P **Pdif 23 26 22.5 +0.1**
baz=100
I13A ⇓P **Pdif 23 26 22.5 +0.1**
baz=100
I14A Mackay 99.85 3 ⇑P **Pdif 23 26 23.4 +1.0**
baz=100,SNR=20
I14A ⇑P **Pdif 23 26 23.4 +1.0**
baz=100,SNR=20
I12A Atlanta 99.89 4 ⇑P **Pdif 23 26 23.4 +0.8**
baz=100
I12A ⇑P **Pdif 23 26 23.4 +0.8**
baz=100
I20A Worland 99.92 359 ⇓P **Pdif 23 26 23.9 +1.2**
baz=100
I20A ⇓P **Pdif 23 26 23.9 +1.2**
baz=100
I16A Newdale 99.97 2 ⇓P **Pdif 23 26 24.4 +1.5**
baz=100,SNR=9.5
I16A ⇓P **Pdif 23 26 24.4 +1.5**
baz=100,SNR=9.5
I21A Big Trails, Te 100.05 359 ⇑P **Pdif 23 26 24.1 +0.9**
baz=100
I21A ⇑P **Pdif 23 26 24.1 +0.9**
baz=100
J08A Circle Bar Ran 100.06 7 ⇓P **Pdif 23 26 24.5 +1.2**
baz=100
J08A ⇓P **Pdif 23 26 24.5 +1.2**
baz=100
HLID Hailey 100.17 4 ⇑P **Pdif 23 26 24.9 +1.1**
baz=100,SNR=5.7
HLID ⇑P **Pdif 23 26 24.9 +1.1**
baz=100,SNR=5.7
MFID Camas Ranch 100.22 5 *e*Pdif **Pdif 23 26 25.2 +1.2**
comp=Z,5.8nm,0.9s
MFID *e*PP PP 23 30 24.8 -6.2
MFID Camas Ranch 100.22 5 ⇓P **Pdif 23 26 25.4 +1.4**
baz=100,SNR=8.8
MFID ⇓P **Pdif 23 26 25.4 +1.4**
baz=100,SNR=8.8
DCID1 Drake Creek 100.26 2 *e*Pdif **Pdif 23 26 24.5 +0.3**
comp=Z,30nm,0.4s
J13A Cove Ranch, Pi 100.34 4 ⇑P **Pdif 23 26 25.7 +1.2**
baz=100
J13A ⇑P **Pdif 23 26 25.7 +1.2**
baz=100
J15A Blackfoot 100.42 2 ⇑P **Pdif 23 26 26.6 +1.7**
baz=100
J15A ⇑P **Pdif 23 26 26.6 +1.7**
baz=100
J19A Crowheart 100.61 360 ⇑P **Pdif 23 26 26.9 +1.1**
baz=100
J19A ⇑P **Pdif 23 26 26.9 +1.1**
baz=100
K16A Soda Springs 101.01 2 ⇓P **Pdif 23 26 29.4 +1.8**
baz=101
K16A ⇓P **Pdif 23 26 29.4 +1.8**
baz=101
K20A Yellowstone Ra 101.21 359 ⇓P **Pdif 23 26 29.9 +1.4**
baz=101
K20A ⇓P **Pdif 23 26 29.9 +1.4**
baz=101
K14A Jones Ranch, D 101.24 3 ⇓P **Pdif 23 26 29.8 +1.2**
baz=101
K14A ⇓P **Pdif 23 26 29.8 +1.2**
baz=101
L19A Farson 101.77 0 ⇓P **Pdif 23 26 31.1 0.0**
baz=102
L19A ⇓P **Pdif 23 26 31.1 0.0**
baz=102
L15A Malad City 101.81 3 ⇑P **Pdif 23 26 31.8 +0.7**
baz=102
L15A ⇑P **Pdif 23 26 31.8 +0.7**
baz=102
BGNE Belgrade 101.82 352 ⇑P **Pdif 23 26 31.5 +0.5**
baz=102
BGNE ⇑P **Pdif 23 26 31.5 +0.5**
baz=102
M15A Larsen Ranch, 102.35 3 ⇑P **Pdif 23 26 34.4 +0.9**
baz=102
M15A ⇑P **Pdif 23 26 34.4 +0.9**
baz=102
DAU Daniels Canyon 103.43 2 *e*P **Pdif 23 26 40.6 +2.0**
DAU *e* 23 30 53.5
DAU pmax pmax
comp=Z,19nm,1.2s
DAU Daniels Canyon 103.43 2 *e*Pdif **Pdif 23 26 40.6 +2.0**
comp=Z,19nm,1.2s
DAU *e*PP **PP 23 30 53.5 -1.9**
DUG Dugway 103.60 3 *e*P **Pdif 23 26 40.5 +1.4**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway 103.60 3 *e*Pdif **Pdif 23 26 40.5 +1.4**
comp=Z,10.0nm,1.2s
DUG Dugway 103.60 3 ⇑P **Pdif 23 26 40.1 +1.0**
baz=103
DUG ⇑P **Pdif 23 26 40.1 +1.0**
baz=103
KSU1 Kansas State U 103.89 350 *e*PKiKP **PKiKP 23 30 57.5 +0.7**
comp=Z,64nm,1.2s
Q16A Castle Valley 104.93 2 ⇑P **Pdif 23 26 46.4 +1.3**
baz=105
Q16A ⇑P **Pdif 23 26 46.4 +1.3**
baz=105
NVAR Mina Array Bea 104.95 7 Pdiff **Pdif 23 26 46.7 +1.4**
comp=Z,6.0nm,1.1s,baz=357,slow=3.7,SNR=14
NVAR PKiKP **PKiKP 23 30 59.7 +0.6**
comp=Z,3.5nm,0.8s,baz=354,slow=1.8,SNR=6.6
NVAR Mina Array Bea 104.95 7 Pdif **Pdif 23 26 46.7 +1.4**
NVAR PKiKP **PKiKP 23 30 59.7 +0.6**
Q22A Crested Butte, 104.98 358 ⇑P **Pdif 23 26 46.3 +0.8**
baz=105
Q22A ⇑P **Pdif 23 26 46.3 +0.8**
baz=105
Q21A Lamborn Mesa, 105.02 359 ⇑P **Pdif 23 26 47.0 +1.5**
baz=105
Q21A ⇑P **Pdif 23 26 47.0 +1.5**
baz=105
R11A Troy Canyon, C 105.28 5 ⇑P **Pdif 23 26 48.1 +1.5**
baz=105
R11A ⇑P **Pdif 23 26 48.1 +1.5**
baz=105
MSU Marysvale 105.30 3 *e*PKPdf **PKiKP 23 31 00.1 +0.4**
MSU *e*PP **PP 23 31 09.8 +0.7**
NHSC New Hope 105.67 335 *e*PP **PP 23 31 15.1 +3.3**
HBAR Harrisburg 106.29 344 *e*PP **PP 23 31 17.6 +1.5**
MVCO Mesa Verde 106.66 360 *e*PKPdf 23 30 52.9
GSC Goldstone 108.20 7 *e*P **Pdif 23 27 00.5 +0.9**
GSC *e* 23 31 30.1
GSC Goldstone 108.20 7 *e*Pdif **Pdif 23 27 00.5 +0.9**
GSC *e*PP **PP 23 31 30.1 -0.1**
ANMO Albuquerque 108.87 358 Pdiff **Pdif 23 27 04.3 +1.6**
baz=359,slow=5.2
ANMO Albuquerque 108.87 358 P **Pdif 23 27 04.3 +1.6**
ANMO Albuquerque 108.87 358 Pdif **Pdif 23 27 04.3 +1.6**
MWC Mount Wilson 109.14 8 *e*PP **PP 23 31 35.4 -1.7**
RFTA Plano 109.88 349 *e*PP **PP 23 31 43.0 +0.8**
NATX Nacogdoches 110.76 347 *e*PKPdf **PKiKP 23 31 10.2 +0.4**
NATX *e*PP **PP 23 31 50.4 +1.8**
GDL2 Guadalupe Moun 111.51 356 *e*PKPdf **PKiKP 23 31 11.2 -0.2**
HKT Hockley 112.74 348 *e*PKiKP **PKiKP 23 31 13.1 -0.4**
HKT *e* 23 32 02.7
HKT *e* 23 34 26.1
HKT Hockley 112.74 348 *e*PKPdf **PKiKP 23 31 13.1 -0.4**
HKT *e*PP **PP 23 32 02.7 +0.2**
HKT *e*SKPdf **SKPdf 23 34 26.1 -4.3**
JCT Junction City 112.80 351 *e*PKiKP **PKiKP 23 31 13.3 -0.5**
JCT Junction City 112.80 351 *e*PKPdf **PKiKP 23 31 13.3 -0.5**
MSVF Nonsavu 113.93 95 *e*PKiKP **PKiKP 23 31 15.8 -0.3**
MSVF *e* 23 32 12.0
MSVF Nonsavu 113.93 95 *e*PKPdf **PKiKP 23 31 15.8 -0.3**
MSVF *e*PP **PP 23 32 12.0 -1.1**
TXAR Lajitas Array 114.31 355 Pdiff **Pdif 23 27 30.3 +3.4**
comp=Z,0.7nm,0.7s,baz=35,slow=4.6,SNR=5.7
TXAR PKP **PKiKP 23 31 16.7 -0.1**
comp=Z,1.3nm,0.8s,baz=29,slow=2.1,SNR=6.9
TXAR PKKPbc **PKKPbc 23 41 55.5 -1.0**
comp=Z,2.3nm,1.0s,baz=191,slow=3.8,SNR=7.4
TXAR Lajitas Array 114.31 355 P **Pdif 23 27 30.3 +3.4**
TXAR 23 31 16.7
TXAR 23 41 55.5
TXAR Lajitas Array 114.31 355 Pdif **Pdif 23 27 30.3 +3.4**
TXAR PKP **PKiKP 23 31 16.7 -0.1**
TXAR PKKPbc **PKKPbc 23 41 55.5 -1.0**
NVL N'lazarevskaya 114.94 198 *j*PKiKP PKPdf 23 31 18.9 +2.5
NVL pmax pmax
comp=Z,31nm,1.3s
DRV Dumont d'Urvil 115.39 156 Pdif **Pdif 23 27 26.0 -4.3**
DRV Dumont d'Urvil 115.39 156 PP PP 23 32 04.0 -18
DRV SKS SKSac 23 37 38.0 -9.4
DRV SP SP 23 41 21.0 -20
DRV SS SS 23 47 21.0 -44
SNAA Sanae 119.37 200 *e* **PKPdf 23 31 25.1 +0.1**
SNAA Sanae 119.37 200 *e* **PKPdf 23 31 25.1 +0.1**
SNAA *e* 23 32 16.7
SNAA *e* 23 41 38.8
SNAA Sanae 119.37 200 *e*P **PKPdf 23 31 25.1 +0.1**
SNAA Sanae 119.37 200 *e*PKiKP **PKPdf 23 31 24.8 -0.2**
SNAA *e* 23 32 14.6
SNAA Sanae 119.37 200 *e*PKPdf **PKPdf 23 31 24.8 -0.2**
SNAA *ep*PKPdf **pPKPdf 23 32 14.6 -0.9**
TEIG Tepich 120.25 337 PKP **PKPdf 23 31 27.0 -1.2**
comp=Z,22nm,1.0s,baz=23,slow=1.4,SNR=7.1
TEIG Tepich 120.25 337 PKP **PKPdf 23 31 27.0 -1.2**
TEIG *e*PKPdf **PKiKP 23 31 27.2 -1.2**
VNA2 Neumayer--Watz 120.37 202 *e* **PKPdf 23 31 27.8 +0.9**
baz=57,slow=4.3
VNA2 Neumayer--Watz 120.37 202 *e* **PKPdf 23 31 27.8 +0.9**
baz=22,slow=4.3
VNA2 *e* 23 32 19.1
VNA2 *e* 23 41 35.4
VNA1 Neumayer--Stat 120.53 202 *e* **PKPdf 23 31 28.2 +1.1**
VNA1 Neumayer--Stat 120.53 202 *e* **PKPdf 23 31 28.2 +1.1**
VNA1 *e* 23 32 19.5
VNA1 *e* 23 41 34.9
RPZ Rata Peaks 120.71 124 PKP **PKPdf 23 31 26.1 -2.3**
comp=Z,13nm,0.5s,baz=281,slow=3.1,SNR=15
RPZ pPKP **pPKPdf 23 32 17.4 -1.4**
comp=Z,18nm,0.9s,baz=131,slow=4.1,SNR=2.1
RPZ Rata Peaks 120.71 124 PKP **PKPdf 23 31 26.1 -2.3**
RPZ *e*PKPdf **PKiKP 23 31 27.3 -1.2**
RPZ pPKP pPKP 23 32 17.4
RPZ *ep*PKPdf **pPKPdf 23 32 19.1 +0.3**
VNA3 Neumayer Olymp 121.18 202 *e* **PKPdf 23 31 29.1 +0.7**
VNA3 Neumayer Olymp 121.18 202 *e* **PKPdf 23 31 29.1 +0.7**
VNA3 *e* 23 32 19.7
VNA3 *e* 23 41 32.4
KHZ Kahutara 121.90 122 *e*PKPdf **PKPdf 23 31 29.6 -1.1**
KHZ *ep*PKPdf **pPKPdf 23 32 17.9 -3.2**
SDV Santo Domingo 122.18 313 *e*PKPdf **PKPdf 23 31 30.8 -1.5**
SDV *ep*PKPdf **pPKPdf 23 32 21.9 -0.9**
URZ Urewera 122.83 116 PKP **PKPdf 23 31 29.8 -2.8**
comp=Z,36nm,0.7s,baz=274,slow=3.2,SNR=46
URZ pPKP **pPKPdf 23 32 19.9 -3.2**
comp=Z,15nm,0.7s,baz=127,slow=1.6,SNR=3.1
URZ Urewera 122.83 116 *e*PKPdf **PKPdf 23 31 29.4 -3.2**
URZ PKP **PKPdf 23 31 29.8 -2.8**
URZ *ep*PKPdf **pPKPdf 23 32 18.5 -4.5**
URZ pPKP pPKP 23 32 19.9
CMIG Matias Romero 125.03 343 PKP **PKPdf 23 31 36.9 -0.6**
comp=Z,12nm,0.8s,baz=9.4,slow=1.6,SNR=23
CMIG pPKP **pPKPdf 23 32 27.6 -0.4**
comp=Z,4.9nm,0.7s,baz=354,slow=1.9,SNR=3.1
CMIG Matias Romero 125.03 343 PKP **PKPdf 23 31 36.9 -0.6**
CMIG pPKP **pPKPdf 23 32 27.6 -0.4**
VNDA Vanda 125.52 165 *e*PKiKP **PKPdf 23 31 35.3 -1.3**
VNDA *e* 23 32 27.1
VNDA Vanda 125.52 165 *e*PKPdf **PKPdf 23 31 35.3 -1.3**
VNDA *ep*PKPdf **pPKPdf 23 32 27.1 0.0**
TGUH Tegucigalpa,Un 125.66 334 *e*PKPdf **PKPdf 23 31 39.0 +0.2**
TGUH *ep*PKPdf **pPKPdf 23 32 30.6 +1.4**
QSPA South Pole Qui 126.30 180 PKP **PKPdf 23 31 37.2 -1.2**
comp=Z,32nm,0.8s,baz=300,slow=0.5,SNR=54
QSPA pPKP **pPKPdf 23 32 29.6 +0.6**
comp=Z,44nm,1.1s,baz=302,slow=1.7,SNR=5.7
QSPA South Pole Qui 126.30 180 *e*PKPdf **PKPdf 23 31 37.0 -1.4**
QSPA PKP **PKPdf 23 31 37.2 -1.2**
QSPA *ep*PKPdf **pPKPdf 23 32 28.5 -0.4**
QSPA pPKP 23 32 29.6
QSPA *es*PKPdf **sPKPdf 23 32 45.1 -3.6**
BCIP Isla Barro Col 126.90 323 *e*PKPdf **PKPdf 23 31 40.2 -0.9**
ROSC El Rosal 127.58 314 PKP **PKPdf 23 31 43.2 +0.3**
comp=Z,114nm,0.9s,baz=114,slow=2.5,SNR=59
ROSC pPKP **pPKPdf 23 32 34.9 +1.5**
comp=Z,25nm,0.8s,baz=84,slow=4.3,SNR=2.7
ROSC El Rosal 127.58 314 *e*PKPdf **PKPdf 23 31 43.2 +0.3**
ROSC *ep*PKPdf **pPKPdf 23 32 32.2 -1.3**
ROSC pPKP pPKP 23 32 34.9
SAML Samuel 130.20 292 *e*PKPdf **PKPdf 23 31 47.0 -0.4**
SAML *ep*PKPdf **pPKPdf 23 32 36.3 -1.5**
SAML *e*PP **PP 23 34 03.4 +0.8**
SAML *e*SKPbc **SKPbc 23 34 51.3 -0.7**
SIV San Ignacio 132.88 283 PKP **PKPdf 23 31 52.0 -0.4**
comp=Z,49nm,1.2s,baz=66,slow=1.6,SNR=45
SIV pPKP **pPKPdf 23 32 42.8 -0.1**
comp=Z,4.0nm,0.7s,baz=61,slow=8.7,SNR=2.3
SIV PP **PP 23 34 17.1 -3.1**
comp=Z,14nm,1.0s,baz=75,slow=8.3,SNR=7.2
SIV SKPbc **SKPbc 23 35 00.5 -1.1**
comp=Z,11nm,1.0s,baz=69,slow=2.4,SNR=6.0
SIV San Ignacio 132.88 283 PKP **PKPdf 23 31 52.0 -0.4**
SIV pPKP **pPKPdf 23 32 42.8 -0.1**
SIV PP **PP 23 34 17.1 -3.1**
SIV SKPbc **SKPbc 23 35 00.5 -1.1**
OTAV Otavalo 133.69 315 *e*PKPdf **PKPdf 23 31 54.9 +0.3**
OTAV *ep*PKPdf **pPKPdf 23 32 43.3 -1.8**
OTAV *e*SKPbc **SKPbc 23 35 04.2 -0.9**
CPUP Villa Florida 135.14 268 PKP **PKPdf 23 31 55.5 -0.8**
comp=Z,15nm,0.8s,baz=47,slow=3.8,SNR=5.7
CPUP pPKP **pPKPdf 23 32 45.9 -0.9**
comp=Z,5.6nm,0.7s,baz=149,slow=2.2,SNR=2.6
CPUP Villa Florida 135.14 268 PKiKP **PKPdf 23 31 55.5 -0.8**
CPUP 23 32 45.9
CPUP Villa Florida 135.14 268 PKP **PKPdf 23 31 55.5 -0.8**
CPUP pPKP **pPKPdf 23 32 45.9 -0.9**
LPAZ La Paz 138.54 288 PKP **PKPdf 23 32 02.2 -1.4**
comp=Z,52nm,1.2s,baz=60,slow=4.0,SNR=5.9
LPAZ PP **PP 23 34 53.3 -2.9**
comp=Z,14nm,1.1s,baz=27,slow=7.4,SNR=4.7
LPAZ La Paz 138.54 288 PKiKP **PKPdf 23 32 02.3 -1.4**
LPAZ 23 34 53.3
LPAZ La Paz 138.54 288 PKP **PKPdf 23 32 02.2 -1.4**
LPAZ *e*PKPdf **PKiKP 23 32 03.2 -2.6**
LPAZ *e*PP **PP 23 34 52.3 -4.0**
LPAZ PP PP 23 34 53.3 -3.0
ATAH Atahualpa 139.52 309 PKP **PKPdf 23 32 04.8 -0.5**
comp=Z,21nm,1.2s,baz=72,slow=3.2,SNR=7.5
ATAH Atahualpa 139.52 309 PKP **PKPdf 23 32 04.8 -0.5**
PPT2 Papeete2 139.68 73 *e*PKiKP **PKPdf 23 32 05.4 +0.4**
comp=Z,65nm,1.2s
NNA Nana 142.09 302 PKP **PKPdf 23 32 10.4 +1.0**
comp=Z,32nm,1.0s,baz=31,slow=5.9,SNR=8.0
NNA Nana 142.09 302 PKiKP **PKPdf 23 32 10.4 +1.0**
NNA pmax pmax
comp=Z,32nm,1.0s
NNA Nana 142.09 302 *e*PKPdf **PKPdf 23 32 09.0 -0.5**
NNA PKP **PKPdf 23 32 10.4 +1.0**
LVC Limon Verde 142.68 280 *e*PKPdf PKPdf 23 32 05.1 -5.4
LVC *e*PP **PP 23 35 17.9 -3.3**
LVC *e*SKPbc **SKPbc 23 35 29.8 -0.3**
TRQA Tornquist 142.79 253 *e*PKPdf **PKPdf 23 32 05.7 -4.3**
TRQA *ep*PKPdf **pPKPdf 23 32 58.1 -2.4**
TRQA *e*SKPdf **SKPdf 23 35 26.0 +0.1**
TBI Tubuai 142.90 81 *e*PKiKP **PKPdf 23 32 07.9 -2.6**
comp=Z,213nm,1.0s
CFAA Coronel Fontan 145.99 266 PKPbc **PKPbc 23 32 16.4 -0.5**
comp=Z,11nm,0.6s,baz=71,slow=4.0,SNR=227
CFAA pPKPbc pPKPbc 23 33 06.8 +0.2
comp=Z,7.9nm,0.8s,baz=23,slow=3.3,SNR=3.4
CFAA Coronel Fontan 145.99 266 PKPbc **PKPbc 23 32 16.4 -0.5**
CFAA pPKPbc pPKPbc 23 33 06.8 +0.2
LCO Las Campanas 147.03 272 *e*PKPdf **PKPdf 23 32 18.4 +0.6**
LCO *ep*PKPdf **pPKPdf 23 33 08.6 +0.1**
LCO Las Campanas 147.03 272 ⇑P **PKPdf 23 32 18.2 +0.3**
TLL Tololo Astrono 147.55 270 ⇑P **PKPdf 23 32 19.1 +0.5**
FCH Farellones 148.17 264 ⇑P **PKPdf 23 32 19.4 -0.3**
CLCH Cerro Calan 148.39 264 ⇑P **PKPdf 23 32 20.1 +0.4**
PLCA Paso Flores 149.76 250 PKP **PKPdf 23 32 21.8 +0.1**
comp=Z,23nm,0.9s,baz=71,slow=2.2,SNR=17
PLCA PKPbc **PKiKP 23 32 27.1 -0.5**
comp=Z,181nm,1.0s,baz=77,slow=2.9,SNR=55
PLCA Paso Flores 149.76 250 *e*PKHKP **PKPdf 23 32 21.6 -0.1**
PLCA 23 32 21.8
PLCA *e* 23 33 12.2
PLCA Paso Flores 149.76 250 *e*PKPdf **PKPdf 23 32 21.6 -0.1**
PLCA PKP **PKPdf 23 32 21.8 +0.1**
PLCA *e*PKPbc **PKiKP 23 32 26.6 -0.9**
PLCA PKPbc **PKiKP 23 32 27.1 -0.5**
PLCA *ep*PKPdf **pPKPdf 23 33 12.2 -0.1**
RKT Rikitea 153.98 66 *e*PKiKP **PKPdf 23 32 28.6 +0.2**
comp=Z,42nm,1.1s
RKT Rikitea 153.98 66 *e*PKPab **PKPab 23 32 52.2 +1.5**
comp=Z,75nm,1.2s

*DJA **04** 23:31:23.0˝69S×133°44E,h47km,MLv4.1/3*
IDC 04 23:31:17.8±2.5,0.74S×133°16E,h0km,mb3.4/2,
mb1 3.8/4,mb1mx3.5/18,mbtmp3.6/4,ML3.6/1,Error
ellipse: s-maj=97.2km s-min=27.5km az=78.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.77**	**203**	P	Pn	23 35 39.4	+0.3
FITZ				S	Sn	23 38 57.5	-12
WRA	**Warramunga Arr**	**19.12**	**177**	P	P	23 35 42.0	-0.6
	0.2nm,0.3s,baz=355,slow=12,SNR=7.9						
WRA				S	Sn	23 39 04.5	-14
	0.1nm,0.3s,baz=348,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	23 36 22.6	+0.2
	1.2nm,0.7s,baz=360,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**64.90**	**324**	P	P	23 41 59.0	-0.2
	0.3nm,0.8s,baz=113,slow=6.6,SNR=3.7						

NEIC 04 23:36:02.2,41°55N×115°88W,h2km,ML3.7(REN),After REN., Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**0.94**	**149**	*e*Pg	Pg	23 36 19.5	-1.1
ELK				*e*Sg	Sg	23 36 32.4	-0.6
BMN	**Battle Mountai**	**1.51**	**223**	*e*Pn	Pn	23 36 27.9	-2.5
BMN				*e*Sb	Sn	23 36 49.0	-1.9
MFID	**Camas Ranch**	**1.86**	**1**	*e*Pn	Pn	23 36 32.5	-2.7
MFID				*e*Sn	Sn	23 36 56.3	-3.1
WVOR	**Wild Horse Val**	**2.24**	**294**	*e*Pn	Pn	23 36 39.4	-1.0
WVOR				*e*Sn	Sn	23 37 07.3	-1.4
HLID	**Hailey**	**2.28**	**28**	*e*Pn	Pn	23 36 39.3	-1.8
HLID				*e*Sn	Sn	23 37 07.7	-2.2
HVU	**Hansel Valley**	**2.33**	**83**	*e*Pn	Pn	23 36 40.7	-1.1
HVU				*e*Sn	Sn	23 37 09.5	-1.6
DUG	**Dugway**	**2.69**	**119**	*e*Pn	Pn	23 36 45.9	-0.8
DUG				*e*Sn	Sn	23 37 18.4	-1.5
MOD	**Modoc**	**3.33**	**277**	*e*Pn	Pn	23 36 52.6	-2.8
MOD				*e*Sn	Sn	23 37 34.0	-1.8
BMO	**Blue Mountains**	**3.46**	**343**	*e*Pn	Pn	23 36 57.0	-0.2
BMO				*e*Sn	Sn	23 37 37.7	-1.1
JLU	**Jordanelle**	**3.48**	**104**	*e*Pn	Pn	23 36 52.3	-5.3
JLU				*e*Sn	Sn	23 37 39.3	-0.2
MPU	**Maple Canyon**	**3.57**	**114**	*e*Pn	Pn	23 36 56.2	-2.6
MPU				*e*Sg	Sg	23 37 56.2	-1.2
DAU	**Daniels Canyon**	**3.68**	**107**	*e*Pn	Pn	23 37 02.5	+2.1
DAU				*e*Sg	Sg	23 37 59.6	-1.5
WCN	**Washoe City**	**3.72**	**234**	*e*Pn	Pn	23 36 58.1	-2.7
WCN				*e*Sn	Sn	23 37 44.9	-0.5
MSU	**Marysvale**	**4.16**	**136**	*e*Pn	Pn	23 37 05.2	-1.7
MSU				*e*Sn	Sn	23 37 57.6	+1.3
ARUT	**Antelope Range**	**4.20**	**153**	*e*Pn	Pn	23 37 06.6	-0.9
ARUT				*e*Sg	Sg	23 38 15.8	-1.9
TMUT	**Trail Mountain**	**4.22**	**121**	*e*Pb	Pb	23 37 18.4	+1.0
TMUT				*e*Sg	Sg	23 38 17.2	-1.1
CCUT	**Cedar City**	**4.44**	**153**	*e*Pn	Pn	23 37 10.4	-0.5
CCUT				*e*Sg	Sg	23 38 22.2	-3.4
SRU	**San Rafael**	**4.76**	**119**	*e*Pb	Pb	23 37 22.1	-4.5
SRU				*e*Sb	Sb	23 38 22.8	-1.7
CMB	**Columbia Colle**	**4.94**	**226**	*e*Pn	Pn	23 37 17.1	-0.3
CMB				*e*Sb	Sb	23 38 27.9	-1.4
YBH	**Yreka Blue Hor**	**5.12**	**274**	*e*Pg	Pg	23 37 40.1	-0.4
	6.3nm,0.8s						
YBH				*e*Sg	Sg	23 38 47.9	+0.9
CHMT	**Chamberlain Mo**	**5.68**	**18**	*e*Pn	Pn	23 37 27.3	-0.5
	1.7nm,0.4s						
CHMT				*e*Sn	Sn	23 38 31.3	-2.5
GSC	**Goldstone**	**6.28**	**187**	*e*Pg	Pg	23 38 00.3	-2.4

2.5nm,0.4s

GSC			*e*Sg	Sg	23 39 22.2	-2.1

IDC 04 23:36:39.3±0.9,0°43S×133°14E,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.0/20,mbtmp4.0/10,ML4.4/1, MS3.8/1,Ms1 3.8/1,ms1mx2.7/32,Error ellipse: s-maj=40.7km s-min=15.2km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**10.60**	**315**	LR	LR	23 42 42.9	
	comp=Z,595nm,21.5s,baz=271,slow=34						
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	P	23 41 03.2	-0.1
WRA	**Warramunga Arr**	**19.43**	**177**	P	P	23 41 07.5	0.0
	1.1nm,0.3s,baz=356,slow=11,SNR=24						
ASAR	**Alice Springs**	**23.11**	**178**	P	P	23 41 47.5	+0.3
	5.1nm,0.3s,baz=357,slow=11,SNR=40						
CTA	**Charters Tower**	**23.38**	**147**	P	P	23 41 50.4	+0.5
	9.4nm,0.9s,baz=334,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**32.29**	**166**	P	P	23 43 09.4	-0.6
	7.8nm,0.7s,baz=341,slow=9.5,SNR=21						
CMAR	**Chiang Mai Arr**	**38.49**	**301**	P	P	23 44 03.1	-0.5
	0.4nm,0.5s,baz=128,slow=7.2,SNR=6.1						
MKAR	**Makanchi Array**	**64.63**	**324**	P	P	23 47 19.4	+0.5
	0.4nm,0.5s,baz=109,slow=8.5,SNR=9.2						
ZALV	**Zalesovo Beam**	**67.23**	**331**	P	P	23 47 35.2	-0.2
	0.7nm,0.6s,baz=107,slow=4.8,SNR=4.5						
KURK	**Kurchatov**	**68.70**	**326**	P	P	23 47 44.9	+0.2
	1.3nm,0.8s,baz=121,slow=6.1,SNR=8.5						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	23 49 21.6	-0.3
	0.2nm,0.7s,baz=258,slow=4.2,SNR=3.7						

*IDC **04** 23:39:28.9±0.7,0°35S×132°95E,h0km,mb4.2/10, mb1 4.4/12,mb1mx4.2/21,mbtmp4.3/12,ML4.5/2,MS3.9/2, Ms1 3.9/2,ms1mx3.0/29,Error ellipse: s-maj=34.5km s-min=11.5km az=76.0*

*ISCJB **04** 23:39:32.0±0.3,0°36S±0°04×132°91E±0°04,h32km, mb4.5/29,MS3.8/2,Error ellipse: s-maj=6.6km s-min=4.8km az=144.4*

*DJA **04** 23:39:33,0°51S×132°86E,h10km,mb5.1/16*

*NEIC **04** 23:39:34.5±1.3,0°41S×132°97E,h38km±12km,mb4.6/15, Error ellipse: s-maj=9.8km s-min=5.1km az=53.0*

ISC 04 23:39:34.0±0.5,0°45S±0°05×132°81E±0°06,h32km,n111, σ1s67/109,mb4.7/29,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.52**	**193**	P	**Pn**	**23 40 15.1**	**+2.4**
BAKI	**Biak**	**3.38**	**103**	P	**Pn**	**23 40 24.9**	**+0.3**
MSAI	**Masohi**	**4.83**	**233**	P	Pn	23 40 48.1	+3.5
TLE	**Tual**	**5.15**	**181**	P	**Pn**	**23 40 52.2**	**+3.2**
	553nm,0.8s,6µm2.4nm						
LBMI	**Labuha**	**5.31**	**268**	P	**Pn**	**23 40 51.4**	**+0.2**
	426nm,0.8s,3µm1.3nm						
AAI	**Ambon**	**5.62**	**235**	P	**Pn**	**23 40 57.4**	**+1.9**
	854nm,0.9s,8µm3.0nm						
SMPI	**Sarmi**	**6.09**	**105**	P	**Pn**	**23 41 04.4**	**+2.4**
	54nm,0.7s,0.2nm						
NLAI	**Namlea**	**6.34**	**244**	P	**Pn**	**23 41 07.1**	**+1.7**
	166nm,0.7s,3µm0.7nm						
SGSI	**Sangihe**	**8.36**	**300**	P	**Pn**	**23 41 33.1**	**+0.1**
	368nm,0.5s,6µm1.8nm						
GTOI	**Gorontalo**	**9.86**	**276**	P	**Pn**	**23 41 56.8**	**+3.2**
	129nm,1.0s,1µm						
LUWI	**Luwuk**	**10.05**	**267**	P	**Pn**	**23 41 56.2**	**-0.1**
	214nm,0.9s,2µm						
MRSI	**Marisa**	**10.91**	**275**	P	Pn	23 42 13.6	+5.6
	44nm,1.1s						
MTN	**Manton Dam**	**12.43**	**188**	*e*P	**Pn**	**23 42 28.1**	**-0.7**
MTN				*e*S	**Sn**	**23 44 40.3**	**-5.9**
TTSI	**Tana Toraja**	**13.24**	**259**	P	**Pn**	**23 42 42.1**	**+2.2**
	52nm,0.9s						
SPSI	**Sidrap Palu**	**13.49**	**255**	P	**Pn**	**23 42 45.4**	**+2.1**
	86nm,1.0s						
BKSI	**Bulukumba**	**13.56**	**249**	P	**P**	**23 42 49.9**	**-3.0**
	75nm,0.7s						
KAPI	**Kappang**	**13.80**	**251**	*e*Pn	Pn	23 42 51.2	+3.5
KAPI	**Kappang**	**13.80**	**251**	P	**P**	**23 42 53.0**	**-2.7**
	82nm,1.1s						
MJSI	**Majene**	**14.16**	**257**	P	**Pn**	**23 42 55.5**	**+3.0**
	96nm,0.8s,2µm						
MYLDM	**Lahad Datu**	**15.35**	**292**	P	**P**	**23 43 17.1**	**+4.3**
SMKI	**Samarinda**	**15.60**	**270**	P	P	23 43 20.8	+5.1
PMG	**Port Moresby**	**16.83**	**122**	Pn	**Pn**	**23 43 25.9**	**-1.5**
COEN	**Coen**	**16.89**	**143**	*e*Pn	**Pn**	**23 43 27.1**	**-1.1**
	72nm,1.0s						
BBKI	**Banjar Baru**	**18.20**	**260**	P	**P**	**23 43 48.7**	**+4.2**
	73nm,1.3s,3µm						
KHKI	**Kahang-Kahang**	**18.85**	**245**	P	**Pn**	**23 43 53.3**	**+0.9**
	76nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.91**	**201**	P	**P**	**23 43 50.8**	**-1.3**
	0.8nm,0.3s,baz=26,slow=11,SNR=7.9						
FITZ				S	Sn	23 47 14.8	-9.0
	0.7nm,0.3s,baz=24,slow=20,SNR=3.9						
FITZ	**Fitzroy Crossi**	**18.91**	**201**	*e*P	**P**	**23 43 49.4**	**-2.7**
	25nm,0.6s						
FITZ				*e*S	Sn	23 47 10.5	-13
FITZ	**Fitzroy Crossi**	**18.91**	**201**	P	**P**	**23 43 50.8**	**-1.3**
FITZ				S	Sn	23 47 14.8	-9.0
WRAB	**Tennant Creek**	**19.42**	**176**	*e*Pn	**Pn**	**23 43 58.7**	**-0.5**
	19nm,0.8s						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**P**	**23 43 58.4**	**+0.4**
	1.8nm,0.3s,baz=354,slow=11,SNR=35						
WRA				S	S	23 47 28.0	-8.0
	0.6nm,0.3s,baz=357,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**19.43**	**176**	P	**P**	**23 43 58.4**	**+0.4**
WRA				S	S	23 47 28.0	-8.0
WB2	**Warramunga Arr**	**19.43**	**176**	*e*Pn	**P**	**23 43 58.5**	**+0.6**
SBUM	**Sibu**	**20.78**	**278**	P	Pn	23 44 16.3	+1.0
	30nm,1.4s						
STKI	**Sintang**	**21.34**	**271**	P	P	23 44 24.2	+5.5
	46nm,0.9s						
KSM	**Kuching**	**22.58**	**275**	*e*P	**P**	**23 44 34.0**	**+1.9**
	15nm,0.8s						
AS31	**Alice Springs**	**23.10**	**177**	*e*P	**P**	**23 44 37.8**	**+0.4**
AS31				S	**S**	**23 48 48.2**	**+1.6**
ASAR	**Alice Springs**	**23.10**	**177**	P	**P**	**23 44 38.4**	**+1.0**
	18nm,0.6s,baz=360,slow=11,SNR=68						
ASAR				S	**S**	**23 48 52.0**	**+5.4**
	4.7nm,1.0s,baz=1.6,slow=23,SNR=7.4						
ASAR	**Alice Springs**	**23.10**	**177**	P	**P**	**23 44 38.4**	**+1.0**
ASAR				S	**S**	**23 48 52.0**	**+5.4**
CTA	**Charters Tower**	**23.54**	**147**	P	**P**	**23 44 42.2**	**+0.5**
	16nm,1.0s,baz=337,slow=12,SNR=4.3						
CTA	**Charters Tower**	**23.54**	**147**	*e*P	**P**	**23 44 42.4**	**+0.7**
	13nm,0.8s						
CTA	**Charters Tower**	**23.54**	**147**	P	**P**	**23 44 42.2**	**+0.5**
CTAO	**Charters Tower**	**23.54**	**147**	*e*P	**P**	**23 44 40.9**	**-0.8**
	12nm,0.6s						
BJII	**Banjamegara**	**24.03**	**253**	P	**P**	**23 44 50.2**	**+3.7**
	62nm,1.7s						
MBWA	**Marble Bar**	**24.22**	**211**	*e*P	**P**	**23 44 48.9**	**+0.8**
MBWA	**Marble Bar**	**24.22**	**211**	*e*P	**P**	**23 44 49.1**	**+1.0**
	60nm,1.2s						
CISI	**Cisompet, Garu**	**25.90**	**254**	P	**P**	**23 45 04.4**	**+0.9**
	86nm,0.9s,2µm						
FORT	**Forrest**	**30.50**	**188**	*e*P	**P**	**23 45 44.2**	**-0.1**
	13nm,0.7s						
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**	**23 46 00.6**	**0.0**
	5.1nm,0.5s,baz=341,slow=8.7,SNR=16						
STKA	**Stephens Creek**	**32.34**	**166**	*e*P	**P**	**23 46 00.5**	**0.0**
	6.4nm,0.6s						
STKA	**Stephens Creek**	**32.34**	**166**	*e*P	**P**	**23 46 00.6**	**0.0**
	2.3nm,0.8s						
PPI	**Padang Panjang**	**32.41**	**270**	P	**P**	**23 46 01.1**	**-0.3**
	15nm,1.2s						
MORW	**Morawa**	**32.65**	**208**	*e*P	**P**	**23 46 03.7**	**+0.4**
	30nm,0.6s						
PSI	**Prapat**	**34.03**	**276**	P	**P**	**23 46 16.1**	**+0.5**
	13nm,0.9s						
KLBR	**Kellerberrin**	**34.09**	**203**	*e*P	**P**	**23 46 16.0**	**+0.2**
	5.6nm,0.4s						
ARMA	**Armidale**	**34.76**	**151**	*e*P	**P**	**23 46 22.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.48**	**203**	P	**P**	**23 46 28.3**	**+0.5**
	6.6nm,0.7s,baz=29,slow=10,SNR=4.4						
NWAO	**Narrogin (SRO)**	**35.48**	**203**	*e*P	**P**	**23 46 28.3**	**+0.5**
	6.9nm,0.7s						
MJAR	**Matsushiro Arr**	**37.15**	**7**	LR	LR	00 00 43.2	
	comp=Z,148nm,18.3s,baz=200,slow=34						
ENH	**Enshi**	**37.77**	**326**	*e*P	**P**	**23 46 47.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**38.22**	**301**	P	**P**	**23 46 51.5**	**+0.3**
	2.9nm,0.7s,baz=119,slow=7.3,SNR=25						
CMAR	**Chiang Mai Arr**	**38.22**	**301**	P	**P**	**23 46 51.5**	**+0.3**
	6.9nm,0.9s						
CHTO	**Chiang Mai**	**38.37**	**302**	*e*P	**P**	**23 46 52.7**	**+0.1**
CHTO	**Chiang Mai**	**38.37**	**302**	P	**P**	**23 46 52.5**	**-0.1**
	12nm,1.1s						
LSA	**Lhasa**	**49.75**	**311**	P	**P**	**23 48 24.0**	**-0.2**
LSA	**Lhasa**	**49.75**	**311**	*e*P	**P**	**23 48 25.2**	**+0.9**
	6.3nm,0.7s						
GTA	**Gaotai**	**49.85**	**326**	*e*P	**P**	**23 48 25.0**	**+0.6**
GTA				pP	**pP**	**23 48 29.9**	**-4.2**
GTA				sP	sP	23 48 32.0	-5.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
TAPN	**Taplejung**	**51.37**	**306**	*e*P	**P**	**23 48 35.6**	**-0.8**
TAPN	**Taplejung**	**51.37**	**306**	*e*P	**P**	**23 48 35.6**	**-0.8**
ODAN	**Odare**	**51.43**	**306**	*e*P	**P**	**23 48 36.1**	**-0.6**
ODAN	**Odare**	**51.43**	**306**	*e*P	**P**	**23 48 36.1**	**-0.6**
RAMN	**Ramite**	**52.11**	**305**	*e*P	**P**	**23 48 41.3**	**-0.5**
	comp=Z,17nm,0.7s						
RAMN	**Ramite**	**52.11**	**305**	*e*P	**P**	**23 48 41.3**	**-0.5**
GUN	**Gumba**	**53.08**	**306**	*e*P	**P**	**23 48 48.4**	**-0.7**
	comp=Z,14nm,0.7s						
GUN	**Gumba**	**53.08**	**306**	*e*P	**P**	**23 48 48.4**	**-0.7**
ULN	**Ulaanbaatar**	**53.08**	**339**	*e*P	**P**	**23 48 48.5**	**0.0**
	comp=Z,2.8nm,0.9s						
ULN	**Ulaanbaatar**	**53.08**	**339**	P	P	23 48 55.3	+6.8
	comp=Z,20nm,2.4s						
SONM	**Songino Array**	**53.30**	**338**	P	**P**	**23 48 50.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=158,slow=7.0,SNR=6.1						
SONM	**Songino Array**	**53.30**	**338**	P	**P**	**23 48 50.8**	**+0.7**
PKI	**Pulchoki**	**53.33**	**305**	*e*P	**P**	**23 48 49.8**	**-1.1**
PKI	**Pulchoki**	**53.33**	**305**	*e*P	**P**	**23 48 49.8**	**-1.1**
KKN	**Kakani**	**53.52**	**306**	*e*P	**P**	**23 48 51.3**	**-0.9**
	comp=Z,14nm,0.9s						
KKN	**Kakani**	**53.52**	**306**	*e*P	**P**	**23 48 51.3**	**-0.9**
DMN	**Daman**	**53.59**	**305**	*e*P	**P**	**23 48 52.0**	**-0.7**
DMN	**Daman**	**53.59**	**305**	*e*P	**P**	**23 48 52.0**	**-0.7**
GKN	**Gorkha**	**54.12**	**306**	*e*P	**P**	**23 48 55.5**	**-1.0**
	comp=Z,16nm,1.0s						
GKN	**Gorkha**	**54.12**	**306**	*e*P	**P**	**23 48 55.5**	**-1.0**
KOLN	**Koldanda**	**54.88**	**305**	*e*P	**P**	**23 49 01.7**	**-0.4**
	comp=Z,18nm,0.6s						
KOLN	**Koldanda**	**54.88**	**305**	*e*P	**P**	**23 49 01.7**	**-0.4**
DANN	**Dangsing**	**54.97**	**306**	*e*P	**P**	**23 49 02.4**	**-0.5**
	comp=Z,32nm,0.8s						
DANN	**Dangsing**	**54.97**	**306**	*e*P	**P**	**23 49 02.4**	**-0.5**
PETK	**Petropavlovsk-**	**57.27**	**18**	LR	LR	00 09 51.8	
	comp=Z,89nm,19.4s,baz=112,slow=32						
MK31	**Makanchi Array**	**64.46**	**324**	*e*P	**P**	**23 50 07.6**	**+0.1**
MKAR	**Makanchi Array**	**64.46**	**324**	P	**P**	**23 50 07.7**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=118,slow=4.9,SNR=25						
MKAR	**Makanchi Array**	**64.46**	**324**	P	**P**	**23 50 07.7**	**+0.1**
KSH	**Kashi**	**65.28**	**315**	P	**P**	**23 50 14.5**	**+1.4**
KSH				pmax	pmax		
	comp=Z,120nm,6.4s						
TKM2	**Tokmak 2**	**66.89**	**318**	*e*P	**P**	**23 50 24.0**	**+0.4**
	comp=Z,2.3nm,0.5s						
ZALV	**Zalesovo Beam**	**67.09**	**332**	P	**P**	**23 50 23.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=126,slow=7.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**67.09**	**332**	P	**P**	**23 50 23.4**	**-0.9**
EKS2	**Erkin-Say**	**68.02**	**317**	*e*P	**P**	**23 50 31.0**	**+0.4**
	comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**68.53**	**326**	P	**P**	**23 50 33.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=126,slow=5.9,SNR=17						
KURK	**Kurchatov**	**68.53**	**326**	*e*P	**P**	**23 50 33.6**	**+0.2**
KBL	**Kabul**	**68.87**	**307**	*e*P	**P**	**23 50 35.8**	**-0.4**
	comp=Z,3.8nm,0.7s						
KKAR	**Karatay Array**	**70.42**	**317**	*e*P	**P**	**23 50 45.4**	**+0.1**
BRVK	**Borovoye**	**74.20**	**326**	*e*P	**P**	**23 51 07.7**	**0.0**
	comp=Z,18nm,1.8s						
VNDA	**Vanda**	**78.59**	**174**	*e*P	**P**	**23 51 32.1**	**+0.1**
ABKAR	**Akbulak array**	**79.22**	**320**	*e*P	**P**	**23 51 35.7**	**-0.3**
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**23 52 10.6**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=260,slow=5.1,SNR=8.9						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**23 52 10.6**	**-1.7**
QSPA	**South Pole Qui**	**89.48**	**180**	P	**P**	**23 52 28.1**	**+0.3**
	comp=Z,3.4nm,0.8s						
CPUP	**Villa Florida**	**151.64**	**161**	PKPbc	**PKPbc**	**23 59 26.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=20,slow=6.8,SNR=4.3						
CPUP				PKPab	**PKPab**	**23 59 33.1**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=234,slow=2.4,SNR=5.0						
CPUP	**Villa Florida**	**151.64**	**161**	PKPbc	**PKPbc**	**23 59 26.5**	**+0.5**
CPUP				PKPab	**PKPab**	**23 59 33.1**	**-1.4**

IDC 04 23:45:29.1±2.1,0°52S×132°95E,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.6/18,mbtmp3.7/5,ML3.5/2,MS3.6/1, Ms1 3.6/1,ms1mx2.6/28,Error ellipse: s-maj=81.5km s-min=27.1km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**10.53**	**316**	LR	LR	23 52 37.6	
	comp=Z,308nm,18.0s,baz=192,slow=41						
FITZ	**Fitzroy Crossi**	**18.90**	**202**	P	Pn	23 49 51.9	0.0
	0.1nm,0.3s,baz=26,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**19.36**	**176**	P	Pn	23 49 57.3	-0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=4.6						
WRA				S	Sn	23 53 24.0	-11
	0.1nm,0.3s,baz=356,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**23.03**	**178**	P	P	23 50 35.6	-0.6
	1.5nm,0.4s,baz=359,slow=9.7,SNR=10						
STKA	**Stephens Creek**	**32.25**	**166**	P	P	23 51 59.2	-0.3
	2.9nm,0.8s,baz=335,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**64.59**	**324**	P	P	23 56 08.5	0.0
	0.1nm,0.4s,baz=116,slow=7.0,SNR=3.0						

IDC 04 23:48:57.0±2.3,1°19N×127°65E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/18,mbtmp3.3/4,Error ellipse: s-maj=217.5km s-min=22.1km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**163**	P	P	23 53 52.9	-0.1
	0.5nm,0.6s,baz=342,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**25.44**	**167**	P	P	23 54 26.8	+0.1
	0.5nm,0.7s,baz=346,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**60.16**	**326**	P	P	23 59 06.3	-0.4
	0.2nm,0.5s,baz=117,slow=7.9,SNR=5.8						
KURK	**Kurchatov**	**64.37**	**328**	P	P	23 59 35.0	+0.3
	0.2nm,0.3s,baz=128,slow=5.7,SNR=4.8						

IDC 04 23:55:36.1±3.3,31°20N×88°17E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/26,mbtmp3.4/5,ML3.8/1,Error ellipse: s-maj=205.4km s-min=25.7km az=63.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.50**	**149**	*e*P	Pn	23 57 17.0	+3.7
SHL				*e*P	x	00 01 05.0	
CMAR	**Chiang Mai Arr**	**16.00**	**140**	Pn	Pn	23 59 23.9	+1.1
	0.1nm,0.3s,baz=316,slow=13,SNR=9.5						
MKAR	**Makanchi Array**	**16.22**	**345**	Pn	Pn	23 59 24.2	-1.2
	baz=156,slow=13,SNR=2.6						
KURK	**Kurchatov**	**20.75**	**343**	P	P	00 00 17.2	-1.1
	0.8nm,0.6s,baz=156,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**67.45**	**133**	P	P	00 06 32.7	-1.2
	0.2nm,0.4s,baz=329,slow=6.6,SNR=6.4						
ASAR	**Alice Springs**	**69.96**	**136**	P	P	00 06 51.0	+1.4
	0.3nm,0.8s,baz=334,slow=6.2,SNR=3.4						

IDC 05 00:11:40.1±1.8,0°68S×133°27E,h0km,mb3.9/4, mb1 4.0/6,mb1mx3.7/19,mbtmp3.9/6,ML3.7/1,Error ellipse: s-maj=93.4km s-min=19.3km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.86**	**203**	P	P	00 16 01.9	-0.2
	baz=23,slow=10						
FITZ				S	Sn	00 19 21.7	-13
	baz=256,slow=19						
WRA	**Warramunga Arr**	**19.17**	**177**	P	P	00 16 05.5	0.0
	0.2nm,0.3s,baz=354,slow=11,SNR=7.2						
WRA				S	Sn	00 19 28.0	-14
	0.1nm,0.3s,baz=354,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**22.85**	**179**	P	P	00 16 45.9	+0.6
	3.0nm,0.5s,baz=0.7,slow=10,SNR=31						
STKA	**Stephens Creek**	**32.01**	**167**	P	P	00 18 07.8	-0.6
	1.0nm,0.5s,baz=346,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**64.92**	**324**	P	P	00 22 22.5	+0.9
	0.8nm,0.7s,baz=112,slow=8.2,SNR=13						
KURK	**Kurchatov**	**68.98**	**326**	P	P	00 22 46.1	-1.2
	0.9nm,0.8s,baz=118,slow=5.9,SNR=4.9						

*IDC **05** 00:12:44.1±2.8,28°36N×86°69E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/26,mbtmp3.7/6,ML4.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/39,Error ellipse: s-maj=60.4km s-min=34.8km az=130.0*

*DMN **05** 00:12:51.6±0.0,28°59N×86°84E,h60km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*ISCJB **05** 00:12:52.4±0.7,28°52N±0°09×86°80E±0°05,h79km±14km, mb3.3/5,Error ellipse: s-maj=16.5km s-min=6.2km az=17.8*

ISC 05 00:12:52.4±1.2,28°6N±0°1×86°84E±0°05,h63km±20km, n19,σ1s39/28,mb3.3/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**1.08**	**232**	*e*Pg	**Pn**	**00 13 12.7**	**+0.7**
GUN				*e*Sg	**Sn**	**00 13 27.0**	**+0.5**
	10µm,0.4s						
JIRN	**Jiri**	**1.09**	**212**	*e*Pg	**Pn**	**00 13 12.7**	**+0.6**
JIRN				*e*Sg	**Sn**	**00 13 27.3**	**+0.7**
	25µm,0.4s						
TAPN	**Taplejung**	**1.46**	**148**	*e*Pg	**Pn**	**00 13 17.4**	**+0.5**
TAPN				*e*Sg	**Sn**	**00 13 34.9**	**-0.3**
	3µm,0.4s						
KKN	**Kakani**	**1.59**	**240**	*e*Pg	**Pn**	**00 13 19.0**	**+0.4**
KKN				*e*Sg	**Sn**	**00 13 38.7**	**+0.4**
	916nm,0.2s						
RAMN	**Ramite**	**1.65**	**187**	*e*Pg	**Pn**	**00 13 18.7**	**-0.7**
RAMN				*e*Sn	**Sn**	**00 13 38.8**	**-0.9**
	3µm,0.4s						
ODAN	**Odare**	**1.79**	**164**	*e*Pn	**Pn**	**00 13 20.8**	**-0.5**
ODAN				*e*Sn	**Sn**	**00 13 41.8**	**-1.4**
	2µm,0.4s						
DMN	**Daman**	**1.81**	**238**	*e*Pn	**Pn**	**00 13 21.7**	**0.0**
DMN				*e*Sn	**Sn**	**00 13 43.8**	**0.0**
	816nm,0.4s						
GTK	**Gangtok**	**2.01**	**128**	*e*P	**Pn**	**00 13 24.5**	**+0.3**
GTK				*e*S	**Sn**	**00 13 44.5**	**-3.9**
GKN	**Gorkha**	**2.03**	**254**	*e*Pn	**Pn**	**00 13 23.8**	**-0.6**
GKN				*e*Sn	**Sn**	**00 13 48.5**	**-0.3**
	869nm,0.3s						
DANN	**Dangsing**	**2.72**	**266**	*e*Pn	**Pn**	**00 13 32.7**	**-1.3**
DANN				*e*Sn	**Sn**	**00 14 04.3**	**-1.6**
	383nm,0.4s						
KOLN	**Koldanda**	**2.97**	**255**	*e*Pn	**Pn**	**00 13 36.0**	**-1.4**
KOLN				*e*Sn	**Sn**	**00 14 08.3**	**-3.7**
	280nm,0.3s						
NDI	**New Delhi**	**8.46**	**273**	*e*P		00 16 18.0	
MKAR	**Makanchi Array**	**18.52**	**350**	P	**Pn**	**00 17 04.8**	**+0.3**
	1.0nm,0.3s,baz=173,slow=10,SNR=84						
KURK	**Kurchatov**	**22.96**	**347**	P	**P**	**00 17 51.3**	**-0.1**
	4.1nm,0.9s,baz=164,slow=11,SNR=31						
SONM	**Songino Array**	**24.48**	**33**	P	**P**	**00 18 07.4**	**+1.7**
	0.6nm,0.5s,baz=224,slow=10,SNR=6.8						
ZALV	**Zalesovo Beam**	**25.38**	**357**	P	**P**	**00 18 14.7**	**+1.1**
	0.7nm,0.4s,baz=186,slow=9.3,SNR=7.5						
BVAR	**Borovoye Array**	**27.27**	**338**	P	**P**	**00 18 31.2**	**+0.6**
	0.2nm,0.4s,baz=154,slow=12,SNR=4.4						
KSRS	**Korea Array**	**35.34**	**65**	LR	LR	00 35 44.4	
	comp=Z,33nm,20.4s,baz=130,slow=39						
TORD	**Torodi Ar. Bea**	**79.62**	**279**	P	**P**	**00 24 53.5**	**0.0**
	0.2nm,0.5s,baz=43,slow=3.5,SNR=3.4						

IDC 05 00:26:20.1±2.3,35°68N×81°54E,h0km,mb3.2/4, mb1 3.3/8,mb1mx3.2/28,mbtmp3.3/8,ML3.1/4,Error ellipse: s-maj=42.8km s-min=25.6km az=132.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.12**	**3**	Pn	Pn	00 28 59.2	-1.1
	0.3nm,0.3s,baz=182,slow=13,SNR=24						
MKAR				Sn	Sn	00 31 03.9	-1.4
	0.1nm,0.3s,baz=182,slow=24,SNR=3.8						
KURK	**Kurchatov**	**15.18**	**353**	Pn	Pn	00 29 52.1	-3.5
	0.0nm,0.3s,baz=168,slow=12,SNR=4.6						
ZALV	**Zalesovo Beam**	**18.41**	**6**	P	Pn	00 30 36.2	-0.3
	0.1nm,0.3s,baz=195,slow=12,SNR=4.0						
BVAR	**Borovoye Array**	**19.05**	**339**	P	Pn	00 30 44.3	0.0
	0.1nm,0.3s,baz=155,slow=10,SNR=7.0						
SONM	**Songino Array**	**22.05**	**49**	P	P	00 31 16.8	+0.3
	0.7nm,1.0s,baz=246,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**22.51**	**318**	P	P	00 31 22.0	+0.8
	0.3nm,0.5s,baz=90,slow=10,SNR=2.8						
BRTR	**Keskin Array B**	**37.76**	**

ellipse: s-maj=13.3km s-min=5.1km az=75.0

ISC 05 00:44:32.2±0.5,0°60S±0°06×132°1E±0°1,h31km,n46, σ2s51/47,mb4.5/21,MS3.6/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**9.99**	**320**	LR	LR	00 50 42.3	
	comp=Z,141nm,19.2s,baz=203,slow=38						
COEN	**Coen**	**17.24**	**141**	*eP*	**P**	**00 48 32.4**	**+0.3**
	68nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.51**	**200**	P	**Pn**	**00 48 47.4**	**+1.1**
	0.4nm,0.3s,baz=17,slow=11,SNR=12						
FITZ				S	**Sn**	**00 52 05.9**	**-6.5**
	0.2nm,0.3s,baz=242,slow=21,SNR=3.8						
FITZ	**Fitzroy Crossi**	**18.51**	**200**	*eP*	**Pn**	**00 48 49.0**	**+2.7**
	31nm,1.6s						
FITZ				Sn	**Sn**	**00 52 07.7**	**-4.7**
GUMO	**Guam**	**18.97**	**42**	LR	LR	00 55 00.8	
	comp=Z,118nm,20.9s,baz=235,slow=34						
WRAB	**Tennant Creek**	**19.35**	**173**	*eP*	**Pn**	**00 48 58.9**	**+2.3**
	33nm,1.4s						
WRAB				*eS*	**Sn**	**00 52 26.5**	**-6.3**
WRA	**Warramunga Arr**	**19.36**	**174**	P	**Pn**	**00 48 58.1**	**+1.5**
	0.4nm,0.3s,baz=353,slow=11,SNR=16						
WRA				S	**Sn**	**00 52 27.6**	**-5.4**
	0.4nm,0.3s,baz=356,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**19.36**	**174**	P	**Pn**	**00 48 58.1**	**+1.5**
WRA				S	**Sn**	**00 52 27.6**	**-5.4**
AS31	**Alice Springs**	**23.00**	**176**	*eP*	**P**	**00 49 37.5**	**+2.9**
ASAR	**Alice Springs**	**23.00**	**176**	P	**P**	**00 49 37.6**	**+3.0**
	21nm,0.9s,baz=350,slow=9.1,SNR=76						
ASAR				S	**S**	**00 53 47.6**	**+4.4**
	0.9nm,0.8s,baz=357,slow=17,SNR=4.8						
ASAR	**Alice Springs**	**23.00**	**176**	P	**P**	**00 49 37.6**	**+3.0**
ASAR				S	**S**	**00 53 47.6**	**+4.4**
CTA	**Charters Tower**	**23.84**	**145**	LR	LR	00 59 59.3	
	comp=Z,227nm,21.2s,baz=138,slow=39						
HNR	**Honiara**	**29.10**	**108**	LR	LR	01 02 03.6	
	comp=Z,140nm,18.9s,baz=116,slow=36						
STKA	**Stephens Creek**	**32.39**	**165**	P	P	00 51 02.4	+3.2
	2.8nm,1.0s,baz=321,slow=6.5,SNR=4.5						
MJAR	**Matsushiro Arr**	**37.39**	**8**	P	**P**	**00 51 39.6**	**-2.7**
	0.9nm,0.7s,baz=196,slow=8.0,SNR=4.5						
MJAR	**Matsushiro Arr**	**37.39**	**8**	P	**P**	**00 51 39.6**	**-2.7**
CMAR	**Chiang Mai Arr**	**37.66**	**302**	P	**P**	**00 51 45.5**	**+0.7**
	0.4nm,0.3s,baz=111,slow=4.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**37.66**	**302**	P	**P**	**00 51 45.5**	**+0.7**
KSRS	**Korea Array**	**38.05**	**355**	LR	LR	01 07 05.1	
	comp=Z,41nm,19.4s,baz=166,slow=36						
USRK	**Ussuriysk Arra**	**44.60**	**360**	P	**P**	**00 52 42.5**	**+1.1**
	3.2nm,0.8s,baz=194,slow=6.2,SNR=6.6						
ULN	**Ulaanbaatar**	**52.95**	**339**	*eP*	**P**	**00 53 45.9**	**+0.1**
	10nm,1.1s						
SONM	**Songino Array**	**53.16**	**339**	P	**P**	**00 53 47.5**	**+0.1**
	3.8nm,1.1s,baz=160,slow=6.5,SNR=17						
SONM	**Songino Array**	**53.16**	**339**	P	**P**	**00 53 47.5**	**+0.1**
PETK	**Petropavlovsk-**	**57.64**	**18**	P	**P**	**00 54 17.9**	**-1.4**
	2.2nm,0.6s,baz=182,slow=4.5,SNR=3.5						
PETK	**Petropavlovsk-**	**57.64**	**18**	P	**P**	**00 54 17.9**	**-1.4**
YAK	**Yakutsk**	**62.49**	**359**	*eP*	**P**	**00 54 52.6**	**+0.2**
	36nm,0.8s						
MK31	**Makanchi Array**	**64.14**	**324**	*eP*	**P**	**00 55 04.4**	**+0.8**
MKAR	**Makanchi Array**	**64.14**	**324**	P	**P**	**00 55 04.3**	**+0.6**
	3.5nm,0.7s,baz=118,slow=8.2,SNR=44						
MKAR	**Makanchi Array**	**64.14**	**324**	P	**P**	**00 55 04.3**	**+0.6**
TKM2	**Tokmak 2**	**66.50**	**318**	*eP*	**P**	**00 55 20.5**	**+1.2**
	5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**66.86**	**332**	*eP*	**P**	**00 55 20.5**	**-0.6**
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**00 55 20.8**	**-0.3**
	1.9nm,0.8s,baz=102,slow=5.1,SNR=11						
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**00 55 20.8**	**-0.3**
EKS2	**Erkin-Say**	**67.62**	**317**	*eP*	**P**	**00 55 26.5**	**+0.2**
	3.0nm,0.7s						
KURK	**Kurchatov**	**68.24**	**327**	*eP*	**P**	**00 55 30.0**	**+0.1**
	19nm,1.4s						
KBL	**Kabul**	**68.37**	**308**	*eP*	**P**	**00 55 31.0**	**-0.3**
	2.7nm,0.9s						
KKAR	**Karatay Array**	**70.01**	**317**	*eP*	**P**	**00 55 41.2**	**+0.2**
	3.8nm,0.9s						
BRVK	**Borovoye**	**73.91**	**326**	*eP*	**P**	**00 56 03.8**	**-0.4**
	12nm,1.3s						
ABKAR	**Akbulak array**	**78.85**	**321**	*eP*	**P**	**00 56 32.9**	**+0.6**
	5.2nm,0.9s						
ARU	**Arti**	**81.42**	**327**	*eP*	**P**	**00 56 45.8**	**-0.2**
	12nm,1.1s						
ILAR	**Eielson Array**	**86.71**	**25**	P	**P**	**00 57 12.2**	**-0.6**
	1.3nm,0.9s,baz=249,slow=5.1,SNR=8.1						
ILAR	**Eielson Array**	**86.71**	**25**	P	**P**	**00 57 12.2**	**-0.6**
ARCES	**ARCESS Array B**	**96.31**	**340**	P	**P**	**00 57 56.4**	**-1.0**
	5.4nm,0.9s,baz=81,slow=5.6,SNR=3.9						
ARCES	**ARCESS Array B**	**96.31**	**340**	P	**P**	**00 57 56.4**	**-1.0**
CPUP	**Villa Florida**	**151.74**	**162**	PKPbc	**PKPbc**	**01 04 26.1**	**+1.6**
	1.1nm,0.6s,baz=214,slow=2.5,SNR=5.6						
CPUP	**Villa Florida**	**151.74**	**162**	PKPbc	**PKPbc**	**01 04 26.1**	**+1.6**

IDC 05 00:52:32.9±5.7,0°40S×132°46E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.3/17,mbtmp3.2/3,ML2.8/1,Error ellipse: s-maj=360.4km s-min=26.6km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.51**	**175**	P	P	00 57 00.9	-1.0
	0.0nm,0.3s,baz=354,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**23.17**	**177**	P	P	00 57 42.0	+0.7
	1.5nm,1.0s,baz=5.3,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**64.22**	**324**	P	P	01 03 09.7	0.0
	0.1nm,0.6s,baz=116,slow=7.5,SNR=3.6						

IDC 05 00:58:34.7±2.2,0°32S×132°22E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.5/17,mbtmp3.5/5,ML3.7/1,Error ellipse: s-maj=178.3km s-min=19.7km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.61**	**174**	P	P	01 03 04.2	-0.7
	0.2nm,0.3s,baz=352,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.27**	**176**	P	P	01 03 44.0	-0.2
	0.8nm,0.6s,baz=359,slow=7.4,SNR=13						
STKA	**Stephens Creek**	**32.62**	**165**	P	P	01 05 08.4	+0.1
	1.7nm,1.0s,baz=319,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**64.01**	**324**	P	P	01 09 11.0	+0.8
	0.2nm,0.4s,baz=116,slow=8.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**66.69**	**332**		P	01 09 26.8	-0.6
	0.1nm,0.4s,baz=143,slow=5.2,SNR=2.7						

IDC 05 00:58:46.5±1.1,0°38S×132°31E,h0km,mb3.9/5, mb1 4.1/7,mb1mx3.9/18,mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=62.5km s-min=19.2km az=82.0

NEIC 05 00:58:51.6±0.5,0°41S×132°26E,h35km,mb4.1/5,Error ellipse: s-maj=28.6km s-min=6.1km az=79.0

ISC 05 00:58:50.8±0.9,0°55S±0°09×132°3E±0°3,h33km,n21, σ1s56/23,mb4.1/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.64**	**200**	P	**P**	**01 03 05.6**	**-0.3**
	0.2nm,0.3s,baz=16,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**18.64**	**200**	*eP*	**Pn**	**01 03 07.1**	**+0.8**
	7.0nm,1.3s						
WRAB	**Tennant Creek**	**19.37**	**174**	*eP*	**Pn**	**01 03 15.8**	**+0.6**
	8.0nm,1.0s						
WRA	**Warramunga Arr**	**19.38**	**174**	P	**Pn**	**01 03 16.4**	**+1.2**
	0.3nm,0.3s,baz=353,slow=11,SNR=11						
WRA				S	**S**	**01 06 48.0**	**-3.4**
	0.1nm,0.3s,baz=356,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**19.38**	**174**	P	**Pn**	**01 03 16.4**	**+1.2**
WRA				S	**S**	**01 06 48.0**	**-3.4**
WB2	**Warramunga Arr**	**19.38**	**174**	*eP*	**Pn**	**01 03 16.1**	**+0.9**
AS31	**Alice Springs**	**23.03**	**176**	*eP*	**P**	**01 03 55.2**	**+1.9**
ASAR	**Alice Springs**	**23.03**	**176**	P	**P**	**01 03 56.0**	**+2.7**
	5.1nm,0.7s,baz=350,slow=8.9,SNR=24						
ASAR	**Alice Springs**	**23.03**	**176**	P	**P**	**01 03 56.0**	**+2.7**
ULN	**Ulaanbaatar**	**53.00**	**339**	*eP*	**P**	**01 08 03.5**	**-1.0**
	2.0nm,0.7s						
SONM	**Songino Array**	**53.21**	**338**	P	**P**	**01 08 06.3**	**+0.2**
	0.8nm,0.7s,baz=154,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**53.21**	**338**	P	**P**	**01 08 06.3**	**+0.2**
MK31	**Makanchi Array**	**64.25**	**324**	*eP*	**P**	**01 09 22.0**	**-0.7**
MKAR	**Makanchi Array**	**64.25**	**324**	P	**P**	**01 09 22.8**	**0.0**
	2.6nm,0.7s,baz=117,slow=8.0,SNR=27						
MKAR	**Makanchi Array**	**64.25**	**324**	P	**P**	**01 09 22.8**	**0.0**
ZALV	**Zalesovo Beam**	**66.95**	**332**	P	**P**	**01 09 39.3**	**-0.7**
	0.6nm,0.6s,baz=126,slow=8.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**66.95**	**332**	P	**P**	**01 09 39.3**	**-0.7**
KURK	**Kurchatov**	**68.35**	**327**	*eP*	**P**	**01 09 48.3**	**-0.6**
	2.8nm,0.9s						
ABKAR	**Akbulak array**	**78.98**	**320**	*eP*	**P**	**01 10 51.3**	**0.0**
	1.6nm,0.8s						
ILAR	**Eielson Array**	**86.56**	**25**	P	**P**	**01 11 30.0**	**-0.3**
	0.5nm,0.9s,baz=239,slow=6.6,SNR=3.4						
ILAR	**Eielson Array**	**86.56**	**25**	P	**P**	**01 11 30.0**	**-0.3**

DJA 05 01:02:44,1°19S×130°91E,h99km,MLv4.0/7

IDC 05 01:02:37.6±1.6,0°62S×133°34E,h0km,mb3.9/4, mb1 4.0/6,mb1mx3.8/18,mbtmp3.9/6,ML3.9/1,Error ellipse: s-maj=77.6km s-min=14.5km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**203**	P	Pn	01 07 01.5	+0.4
	baz=36,slow=14						
WRA	**Warramunga Arr**	**19.23**	**177**	P	Pn	01 07 04.1	-0.4
	0.4nm,0.3s,baz=354,slow=11,SNR=6.9						
WRA				S	Sn	01 10 28.9	-12
	0.2nm,0.3s,baz=357,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**22.92**	**179**	P	P	01 07 43.6	+0.2
	2.2nm,0.3s,baz=358,slow=12,SNR=27						
ASAR				S	S	01 11 55.7	+1.1
	1.0nm,1.0s,baz=355,slow=27,SNR=4.2						
STKA	**Stephens Creek**	**32.05**	**167**	P	P	01 09 05.4	-0.8
	1.7nm,0.6s,baz=342,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	01 13 18.9	0.0
	0.6nm,0.6s,baz=113,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**67.49**	**331**	P	P	01 13 35.4	0.0
	0.1nm,0.3s,baz=116,slow=5.3,SNR=3.0						

IDC 05 01:15:15.4±2.4,0°72S×133°54E,h0km,mb3.4/2, mb1 3.5/4,mb1mx3.4/18,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=97.2km s-min=24.5km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.94**	**204**	P	Pn	01 19 39.7	+1.0
	0.2nm,0.3s,baz=28,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**19.12**	**178**	P	P	01 19 40.2	+0.1
	0.1nm,0.3s,baz=355,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**22.82**	**179**	P	P	01 20 19.2	-0.9
	3.8nm,0.4s,baz=359,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**65.10**	**324**	P	P	01 25 57.9	-0.1
	0.5nm,0.6s,baz=115,slow=8.1,SNR=9.3						

IDC 05 01:22:47.9±2.9,0°88S×132°69E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=135.5km s-min=25.6km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.46**	**202**	P	P	01 27 05.5	+0.1
	0.1nm,0.3s,baz=13,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**19.01**	**175**	P	P	01 27 11.1	-0.5
	0.2nm,0.3s,baz=352,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**22.68**	**177**	P	P	01 27 51.5	+0.2
	0.9nm,0.5s,baz=359,slow=11,SNR=18						
MKAR	**Makanchi Array**	**64.73**	**324**	P	P	01 33 28.1	-0.1
	0.2nm,0.5s,baz=110,slow=7.4,SNR=6.0						

IDC 05 01:25:15.1±2.8,0°81S×133°78E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=108.8km s-min=26.8km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.96**	**204**	P	Pn	01 29 38.8	+0.2
	0.1nm,0.3s,baz=45,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**19.03**	**178**	P	P	01 29 37.2	-1.6
	0.1nm,0.3s,baz=356,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**22.73**	**180**	P	P	01 30 19.5	+0.7
	0.8nm,0.8s,baz=357,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**65.31**	**324**	P	P	01 35 59.0	-0.1
	0.4nm,0.6s,baz=118,slow=7.0,SNR=5.7						

ISCJB 05 01:28:53.5±0.7,25°40S±0°09×179°6E±0°1,h493km, mb3.7/10,Error ellipse: s-maj=15.4km s-min=11.5km az=177.5

IDC 05 01:28:54.1±2.4,25°33S×179°74E,h496km±24km, mb3.3/10,mb1 3.5/11,mb1mx3.4/18,mbtmp3.4/11,Error ellipse: s-maj=21.6km s-min=18.4km az=166.0

ISC 05 01:28:53.8±0.6,25°42S±0°10×179°7E±0°1,h493km,n23, σ1s23/24,mb3.7/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.00**	**189**	P	**P**	**01 31 42.4**	**-0.3**
	7.6nm,0.3s,baz=28,slow=2.1,SNR=39						
URZ				S	**S**	**01 33 59.9**	**-2.2**
	1.1nm,0.3s,baz=54,slow=20,SNR=5.4						
CTA	**Charters Tower**	**31.28**	**273**	P	**P**	**01 34 33.6**	**+0.8**
	0.4nm,0.4s,baz=98,slow=9.5,SNR=8.2						
STKA	**Stephens Creek**	**33.96**	**250**	P	**P**	**01 34 56.8**	**+1.4**
	0.7nm,0.5s,baz=95,slow=12,SNR=5.6						
PMG	**Port Moresby**	**34.79**	**291**	P	**P**	**01 35 01.5**	**-1.1**
	3.9nm,0.6s,baz=145,slow=13,SNR=2.4						
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**01 35 58.2**	**+0.2**
	0.8nm,0.3s,baz=93,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**42.09**	**268**	P	**P**	**01 36 01.4**	**-0.6**
	1.2nm,0.5s,baz=103,slow=8.0,SNR=8.9						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	P	**P**	**01 37 06.1**	**+0.1**
	1.5nm,0.6s,baz=108,slow=9.5,SNR=4.6						
MAW	**Mawson**	**76.25**	**201**	P	**P**	**01 39 51.7**	**+1.1**
	1.9nm,0.7s,baz=155,slow=5.6,SNR=6.3						
SNAA	**Sanae**	**83.16**	**179**	*e*	**P**	**01 40 28.9**	**+1.8**
VNA3	**Neumayer Olymp**	**83.38**	**177**	*e*	**P**	**01 40 29.6**	**+1.4**
VNA2	**Neumayer--Watz**	**83.79**	**178**	*e*	**P**	**01 40 29.4**	**-0.8**
	baz=199,slow=4.8						
NVAR	**Mina Array Bea**	**86.01**	**44**	P	**P**	**01 40 42.5**	**+0.8**
	1.7nm,0.8s,baz=222,slow=8.5,SNR=14						
TXAR	**Lajitas Array**	**91.43**	**58**	P	**P**	**01 41 08.7**	**+1.5**
	1.2nm,0.3s,baz=216,slow=6.2,SNR=7.1						
ILAR	**Eielson Array**	**93.56**	**14**	P	**P**	**01 41 14.5**	**-1.4**
	0.3nm,0.6s,baz=229,slow=5.3,SNR=6.0						
ARCES	**ARCESS Array B**	**133.32**	**348**	SKPbc	SKPbc	01 49 53.7	-0.6
	2.8nm,0.8s,baz=83,slow=3.7,SNR=6.2						
FINES	**FINESS Array B**	**139.80**	**341**	PKP	**PKPdf**	**01 47 25.6**	**+1.1**
	0.0nm,0.1s,baz=40,slow=2.4,SNR=6.4						
FINES				SKPbc	**SKPbc**	**01 50 12.5**	**-1.1**
	1.4nm,0.6s,baz=69,slow=2.7,SNR=3.7						
NB2	**NORSAR Subarra**	**143.54**	**351**	PKP	PKPab	01 47 28.3	-1.4
	comp=Z,2.0nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.54**	**351**	PKP	PKPab	01 47 29.2	-0.5
	comp=Z,4.3nm,0.8s,baz=22,slow=3.8,SNR=18						
AKASG	**Malin Array Be**	**146.10**	**326**	PKPbc	**PKPdf**	**01 47 36.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=40,slow=4.8,SNR=6.5						
BRTR	**Keskin Array B**	**148.28**	**305**	PKPbc	**PKPbc**	**01 47 42.9**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=140,slow=3.0,SNR=10						
BRTR				PKPab	**PKPab**	**01 47 48.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=76,slow=3.9,SNR=6.2						
GERES	**GERESS Array B**	**154.19**	**339**	PKPbc	**PKPbc**	**01 47 56.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=51,slow=6.4,SNR=2.5						
ESDC	**Sonseca Array**	**165.45**	**11**	PKPab	**PKPab**	**01 49 00.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=246,slow=24,SNR=4.0						
TORD	**Torodi Ar. Bea**	**167.66**	**189**	PKP	**PKPdf**	**01 48 03.0**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=286,slow=1.0,SNR=2.9						
TORD				PKPab	**PKPab**	**01 49 12.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=160,slow=3.5,SNR=7.5						

NIED 05 01:36:00,37°00N×141°80E,h23km,Mw4.5 Best double couple: Mo6.98000×10^15 NP1:φ±25.00000°,δ69.00000°, λ90.00000°. NP2:φ±205.00000°,δ21.00000°,λ90.00000°.

BJI 05 01:36:25.7,36°99N×141°75E,h20km,mB4.8/30,mb4.8/48, Ms4.2/38,Ms7 4.0/36

ISCJB 05 01:36:28.4±0.6,36°96N±0°03×141°76E±0°04,h39km±4km, mb4.7/90,MS4.0/29,Error ellipse: s-maj=6.1km s-min=4.2km az=43.0

JMA 05 01:36:28.2±0.2,36°97N×141°76E,h50km±3km,M4.8

JMA Felt II J1.

MOS 05 01:36:28.5±1.2,37°07N×141°81E,h40km,mb4.9/35,Error ellipse: s-maj=8.4km s-min=5.1km az=119.5

NEIC 05 01:36:29.1±0.8,36°88N×141°88E,h39km±7km,mb4.8/36, MW4.5(NIED),Error ellipse: s-maj=8.5km s-min=6.1km az=120.0

NEIC Felt at Narita. Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Gumma, Kanagawa, Miyagi and Saitama.

IDC 05 01:36:30.9±2.3,36°96N×141°67E,h46km±20km,mb4.3/20, mb1 4.5/23,mb1mx4.3/28,mbtmp4.3/23,ML4.5/2,MS3.8/19, Ms1 3.8/19,ms1mx3.6/37,Error ellipse: s-maj=17.2km s-min=13.9km az=106.0

ISC 05 01:36:29.2±0.5,36°99N±0°04×141°76E±0°03,h32km±2km, h32km:pP-P,n330,σ1s28/401,mb4.8/90,MS4.0/29, 27C-42D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.78**	**278**	⇓P	**Pn**	**01 36 43.0**	**-1.0**
ONAJ				*eS*	**Sn**	**01 36 53.5**	**-1.1**
JFK	**Kawauchi**	**0.80**	**298**	⇓P	**Pn**	**01 36 43.3**	**-1.0**
JHO	**Hitachi**	**1.03**	**249**	⇓P	**Pn**	**01 36 46.1**	**-1.3**
JHO				S	**Sn**	**01 36 59.3**	**-1.4**
JMM	**Marumori**	**1.16**	**319**	⇓P	**Pn**	**01 36 48.7**	**-0.5**
JMM				*eS*	**Sn**	**01 37 03.5**	**-0.5**
JFT	**Otama**	**1.25**	**295**	⇓P	**Pn**	**01 36 50.8**	**+0.4**
JFT				*eS*	**Sb**	**01 37 07.1**	**-1.0**
JIO	**Ouri**	**1.49**	**347**	⇓P	**Pn**	**01 36 53.1**	**-0.6**
JIO				S	**Sn**	**01 37 10.6**	**-1.5**
JOU	**Okura**	**1.62**	**328**	⇓P	**Pn**	**01 36 55.6**	**0.0**
JOU				S	**Sn**	**01 37 16.4**	**+1.0**
JFY	**Yanaizu**	**1.69**	**285**	⇓P	**Pn**	**01 36 57.0**	**+0.5**
JFY				*eS*	**Sn**	**01 37 18.5**	**+1.4**
JYS	**Shirataka**	**1.82**	**313**	⇓P	**Pn**	**01 36 58.8**	**+0.5**
JAG	**Ashikaga**	**1.94**	**254**	⇓P	**Pn**	**01 36 59.6**	**-0.3**
JMK	**Ichinoseki**	**2.00**	**348**	⇓P	**Pn**	**01 37 00.7**	**0.0**
JMK				*eS*	**Sn**	**01 37 25.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.89**	**262**	P	**Pn**	**01 37 14.1**	**+1.1**
	169nm,0.3s,baz=92,slow=14,SNR=537						
MJAR				S	**Sb**	**01 37 54.1**	**-0.9**
	88nm,0.3s,baz=77,slow=24,SNR=9.4						
MJAR	**Matsushiro Arr**	**2.89**	**262**	P	**Pn**	**01 37 14.1**	**+1.1**
MJAR				S	**Sb**	**01 37 54.1**	**-0.9**
MJAR	**Matsushiro Arr**	**2.89**	**262**	P	**Pn**	**01 37 14.1**	**+1.1**
MJAR				S	**Sb**	**01 37 54.1**	**-0.9**
MAJO	**Matsushiro**	**2.89**	**262**	*eP*	**Pn**	**01 37 14.6**	**+1.6**
MAJO	**Matsushiro**	**2.89**	**262**	*ePn*	**Pn**	**01 37 14.6**	**+1.6**
MAT	**Matsushiro**	**2.89**	**262**	P	**Pn**	**01 37 14.4**	**+1.4**
MAT				S	**Sb**	**01 37 51.4**	**-3.6**
ERM	**Erimo**	**5.13**	**12**	*eP*	**Pn**	**01 37 42.5**	**-1.2**
ERM				*eS*	**Sn**	**01 38 45.8**	**+4.1**
ERM				pmax	pmax		
	comp=Z,198nm,1.2s						
ERM	**Erimo**	**5.13**	**12**	*ePn*	**Pn**	**01 37 42.5**	**-1.2**
	comp=Z,198nm,1.2s						
ERM				*eS*	**Sn**	**01 38 45.8**	**+4.1**
ASAJ	**Asahikawa**	**7.14**	**5**	P	**Pn**	**01 38 11.3**	**0.0**
	comp=Z,6.0nm,0.3s,baz=193,slow=8.0,SNR=13						
ASAJ				S	**Sn**	**01 39 31.2**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=293,slow=28,SNR=3.2						
ASAJ				LR	LR	01 41 45.2	
	comp=Z,543nm,20.4s,baz=172,slow=44						
ASAJ	**Asahikawa**	**7.14**	**5**	P	**Pn**	**01 38 11.4**	**0.0**
ASAJ				S	**Sn**	**01 39 31.2**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,543nm,20.4s						
ASAJ	**Asahikawa**	**7.14**	**5**	*ePn*	**Pn**	**01 38 11.1**	**-0.2**
ASAJ				*eS*	**Sn**	**01 39 30.5**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**7.69**	**23**	*i* P	**Pn**	**01 38 16.5**	**-2.4**
YUK				*i* S	**Sn**	**01 39 39.9**	**-4.9**
YUK				pmax	pmax		
	comp=E,80nm,0.7s						
YUK				pmax	pmax		
	comp=N,47nm,0.7s						
YUK				pmax	pmax		
	comp=Z,91nm,0.7s						
YUK				pmax	pmax		
	comp=N,1μm,2.3s						
YUK				pmax	pmax		
	comp=E,2μm,2.2s						
YUK				MLR	MLR		
	comp=Z,320nm,14.0s						
JNU	**Nakatsue**	**9.72**	**250**	*ePn*	**Pn**	**01 38 49.7**	**+2.9**
VLA	**Vladivostok**	**9.73**	**312**	⇓*iP*	**Pn**	**01 38 46.9**	**+0.2**
VLA				*i* S	**Sn**	**01 40 32.9**	**-1.9**
VLA				pmax	pmax		
	comp=Z,17nm,0.7s						
CBIJ	**Chichi jima**	**9.88**	**178**	P	Pn	01

SNY LR LR
comp=Z,810nm,15.7s
JOW Kunigami 15.28 232 P **P** **01 40 06.0 -1.0**
comp=Z,1.2nm,0.3s,baz=39,slow=14,SNR=4.8
JOW LR LR 01 45 35.8
comp=Z,190nm,20.7s,baz=100,slow=36
JOW Kunigami 15.28 232 *e*P **P** **01 40 07.5 +0.6**
NJ2 Nanjing 19.49 262 *e*P **P** **01 40 52.8 -0.7**
NJ2 pP **pP** **01 41 00.0 -2.1**
NJ2 sP **sP** **01 41 04.4 -1.8**
NJ2 PP **PnPn** **01 41 11.5 +3.0**
NJ2 S **S** **01 44 25.3 -6.7**
NJ2 sS **Sn** **01 44 37.5 +4.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=N,140nm,15.9s
NJ2 LR LR
comp=E,440nm,17.0s
NJ2 LR LR
comp=Z,840nm,14.4s
PETK Petropavlovsk- 19.58 30 P P 01 41 02.9 +8.6
comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=3.6
PETK LR LR 01 48 12.8
comp=Z,118nm,18.9s,baz=219,slow=36
PETK Petropavlovsk- 19.58 30 P P 01 41 02.9 +8.6
PETK Petropavlovsk- 19.58 30 P P 01 41 02.9 +8.6
PET Petropavlovsk 19.91 31 *e*P **P** **01 40 57.2 -0.6**
PET pmax pmax
comp=Z,63nm,1.2s
PET Petropavlovsk 19.91 31 *e*P **P** **01 40 57.1 -0.6**
comp=Z,63nm,1.2s
HIA Hailar 20.13 314 *e*P **P** **01 40 57.6 -2.8**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA Hailar 20.13 314 *e*P **P** **01 40 57.6 -2.8**
comp=Z,3.5nm,0.4s
BJI Beijing 20.23 286 P **P** **01 40 59.1 -2.4**
BJI S **S** **01 44 47.5 +0.8**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,120nm,4.4s
BJI LR LR
comp=N,240nm,12.2s
BJI LR LR
comp=E,93nm,12.2s
BJI LR LR
comp=Z,120nm,22.8s
BJT Baijiatuau 20.24 286 *e*P **P** **01 41 00.0 -1.5**
BJT pmax pmax
comp=Z,19nm,1.0s
BJT Baijiatuau 20.24 286 *e*P **P** **01 41 00.0 -1.5**
comp=Z,18nm,1.0s
TATO Taipei 21.06 241 *e*P **P** **01 41 10.3 -0.2**
comp=Z,809nm,2.1s
YHNB Yeheng 21.33 241 *e*P **P** **01 41 13.5 -0.1**
comp=Z,86nm,1.3s
NACB Ninganchiao 21.50 239 *e*P **P** **01 41 14.3 -1.0**
comp=Z,314nm,1.2s
SSLB Suanglung 22.20 239 *e*P **P** **01 41 20.1 -2.7**
comp=Z,5.3nm,0.3s
TPUB Ta-pu 22.74 239 *e*P **P** **01 41 25.6 -3.0**
comp=Z,311nm,1.9s
CLNS Chul'man 22.83 336 *e*P **P** **01 41 30.0 +0.7**
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS MLR MLR
comp=Z,238nm,14.0s
CLNS MLR MLR
comp=E,248nm,13.0s
CLNS MLR MLR
comp=N,235nm,15.0s
GUMO Guam 23.47 172 LR LR 01 48 48.4
comp=N,192nm,21.1s,baz=59,slow=32
WHN Wuhan 23.63 262 P **P** **01 41 35.7 -1.7**
WHN S **S** **01 45 46.3 -3.6**
WHN pmax pmax
comp=Z,59nm,0.8s
WHN LR LR
comp=N,440nm,17.2s
WHN LR LR
comp=E,640nm,16.0s
WHN LR LR
comp=Z,670nm,14.2s
HHC Hu-ho-hao-te 23.75 289 *e*P **P** **01 41 36.9 -1.7**
HHC pP **pP** **01 41 46.4 -1.4**
HHC sP **sP** **01 41 50.3 -1.5**
HHC PP **PnPn** **01 42 10.6 +3.8**
HHC S **S** **01 45 48.1 -3.8**
HHC sS sS 01 46 02.0 -5.3
HHC SS SS 01 46 37.3
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,90nm,5.2s
HHC LR LR
comp=N,200nm,9.3s
HHC LR LR
comp=E,200nm,9.8s
HHC LR LR
comp=Z,160nm,11.6s
YAK Yakutsk 26.17 347 *e*P **P** **01 41 59.0 -1.3**
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=Z,48nm,1.0s
YAK Yakutsk 26.17 347 *e*P **P** **01 42 00.1 -0.2**
comp=Z,47nm,0.8s
SEY Seymchan 26.78 11⇑ *e*P **P** **01 42 07.5 +1.7**
XAN Xi'an 26.82 274 P **P** **01 42 05.9 -0.7**
XAN pP **pP** **01 42 11.6 -4.3**
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,30nm,6.1s
XAN LR LR
comp=N,110nm,14.7s
XAN LR LR
comp=E,53nm,18.0s
XAN LR LR
comp=Z,62nm,16.3s
ENH Enshi 27.61 265 *e*P **P** **01 42 13.2 -0.4**
comp=Z,41nm,0.7s
ULN Ulaanbaatar 27.61 304 *e*P **P** **01 42 13.4 -0.2**
ULN pmax pmax
comp=Z,28nm,1.3s
ULN Ulaanbaatar 27.61 304 *e*P **P** **01 42 13.4 -0.2**
comp=Z,28nm,1.3s
SONM Songino Array 28.04 304 P **P** **01 42 17.2 -0.3**
comp=Z,21nm,0.8s,baz=106,slow=7.4,SNR=121
SONM PcP **PcP** **01 45 31.3 -0.2**
comp=Z,0.9nm,0.7s,baz=67,slow=2.1,SNR=3.8
SONM Songino Array 28.04 304 P **P** **01 42 17.2 -0.3**
SONM 01 45 31.3
SONM Songino Array 28.04 304 P **P** **01 42 17.2 -0.3**
SONM PcP **PcP** **01 45 31.3 -0.2**
LZH Lanzhou 30.35 280 *e*P **P** **01 42 38.0 -0.1**
LZH pP **pP** **01 42 47.0 -0.5**
LZH sP **sP** **01 42 52.3 +0.9**
LZH *e*S **S** **01 47 35.1 -1.4**
LZH sS **sS** **01 47 50.6 -1.4**
LZH SS **ScP** **01 49 16.4 -1.2**
LZH pmax pmax
comp=Z,68nm,1.6s
LZH pmax pmax
comp=Z,97nm,5.0s
LZH LR LR
comp=N,370nm,16.9s
LZH LR LR
comp=E,400nm,11.9s
LZH LR LR
comp=Z,520nm,20.1s
ZAK Zakamensk 30.51 308⇑ *i*P **P** **01 42 39.4 +0.1**
ZAK pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 30.57 311 *e*P **P** **01 42 38.1 -1.6**
TLY *e*SS SS 01 49 23.1 -27
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,194nm,18.0s
TLY Talaya 30.57 311 *e*P **P** **01 42 40.2 +0.5**
comp=Z,10nm,0.8s
GYA Guiyang 31.49 261⇑ *i*P **P** **01 42 48.8 +0.6**
GYA pP **pP** **01 42 58.6 +1.0**
GYA PP **PnPn** **01 43 53.4 +1.6**
GYA S **S** **01 47 53.2 -1.2**
GYA ScP **ScP** **01 49 20.0 -1.4**
GYA SS **SnSn** **01 49 42.4 +1.9**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=N,520nm,16.8s
GYA LR LR
comp=E,480nm,17.7s
GYA LR LR
comp=Z,530nm,16.6s
CD2 Chengdu 31.95 270 P **P** **01 42 51.4 -0.8**
CD2 pP **pP** **01 43 01.3 -0.3**
CD2 sP **sP** **01 43 05.5 0.0**
CD2 PP **PnPn** **01 43 57.8 +0.2**
CD2 S **S** **01 47 59.0 -2.4**
CD2 sS **sS** **01 48 15.6 -1.3**
CD2 SS **SnSn** **01 49 51.8 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,90nm,4.8s
CD2 LR LR
comp=N,400nm,7.1s
CD2 LR LR
comp=Z,300nm,14.3s
MOY Mondy 32.18 310 *e*P **P** **01 42 54.4 +0.4**
GTA Gaotai 32.84 287⇑ P **P** **01 43 00.0 0.0**
GTA pP **pP** **01 43 09.7 +0.3**
GTA sP **sP** **01 43 13.6 +0.3**
GTA PcP **PcP** **01 45 45.5 +1.2**
GTA S **S** **01 48 15.1 -0.2**
GTA sS **sS** **01 48 31.1 +0.3**
GTA SS **SnSn** **01 50 15.8 +2.8**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=N,170nm,16.6s
GTA LR LR
comp=E,140nm,16.4s
GTA LR LR
comp=Z,180nm,18.1s
BILL Bilibino 33.99 16⇓ *e*P **P** **01 43 09.3 -0.1**
BILL *e**PP **pP** **01 43 20.3 +1.4**
BILL *e* 01 45 46.1 -3
BILL *e*SS SS 01 50 41.0 -19
BILL pmax pmax
comp=Z,17nm,2.5s
BILL MLR MLR
comp=Z,100nm,19.0s
KMI Kunming 35.23 262 P **P** **01 43 20.2 -0.7**
KMI pP **pP** **01 43 31.7 +1.3**
KMI sP **sP** **01 43 36.0 +1.7**
KMI PP **PP** **01 44 41.6 +0.5**
KMI S **S** **01 48 51.6 -1.0**
KMI sS **sS** **01 49 08.1 -0.1**
KMI SS **SnSn** **01 51 08.5 -3.0**
KMI pmax pmax
comp=Z,31nm,1.0s
KMI pmax pmax
comp=Z,100nm,5.9s
KMI LR LR
comp=N,130nm,17.2s
KMI LR LR
comp=E,170nm,17.4s
KMI LR LR
comp=Z,250nm,19.2s
WMQ Urumqi 41.11 297 P **P** **01 44 11.3 +1.3**
WMQ pP **pP** **01 44 21.3 +1.7**
WMQ sP **sP** **01 44 25.3 +1.8**
WMQ PP **PnPn** **01 45 47.3 -2.3**
WMQ pmax pmax
comp=Z,31nm,0.9s
WMQ pmax pmax
comp=Z,280nm,4.3s
WMQ LR LR
comp=N,100nm,24.0s
WMQ LR LR
comp=E,170nm,23.0s
CHTO Chiang Mai 41.55 256 *e*P **P** **01 44 13.7 -0.2**
CHTO pmax pmax
comp=Z,11nm,1.3s
CHTO Chiang Mai 41.55 256 *e*P **P** **01 44 13.7 -0.2**
comp=Z,11nm,1.3s
CMAR Chiang Mai Arr 41.76 256 P **P** **01 44 15.0 -0.5**
comp=Z,7.2nm,0.8s,baz=51,slow=5.8,SNR=29
CMAR LR LR 02 03 24.0
comp=Z,142nm,18.7s,baz=60,slow=39
CMAR Chiang Mai Arr 41.76 256 P **P** **01 44 15.0 -0.5**
CMAR Chiang Mai Arr 41.76 256 P **P** **01 44 15.0 -0.5**
ZAA0 Zalesovo Array 42.15 312 *e*P **P** **01 44 18.4 +0.1**
ZAA0 *e*PcP **PcP** **01 46 11.1 -1.1**
ZALV Zalesovo Beam 42.15 312 P **P** **01 44 18.2 -0.1**
comp=Z,19nm,0.8s,baz=94,slow=7.2,SNR=84
ZALV PcP **PcP** **01 46 11.9 -0.3**
comp=Z,3.1nm,0.6s,baz=93,slow=3.4,SNR=3.8
ZALV Zalesovo Beam 42.15 312 P **P** **01 44 18.2 -0.1**
ZALV 01 46 11.9
ZALV Zalesovo Beam 42.15 312 P **P** **01 44 18.2 -0.1**
ZALV PcP **PcP** **01 46 11.9 -0.3**
LSA Lhasa 42.49 275 P **P** **01 44 23.1 +1.1**
LSA Lhasa 42.49 275 *e*P **P** **01 44 23.4 +1.4**
LSA pmax pmax
comp=Z,15nm,1.0s
LSA Lhasa 42.49 275 *e*P **P** **01 44 23.4 +1.4**
comp=Z,15nm,1.0s
NVS Novosibirsk 43.07 314 *i* P **P** **01 44 24.9 -0.9**
NVS pmax pmax
comp=Z,23nm,1.1s
NVS pmax pmax
comp=E,13nm,1.0s
MK31 Makanchi Array 44.38 302 *e*P **P** **01 44 36.5 +0.1**
MK31 Makanchi Array 44.38 302 *e*P **P** **01 44 36.5 +0.1**
MKAR Makanchi Array 44.38 302 P **P** **01 44 36.5 +0.1**
comp=E,17nm,0.8s,baz=86,slow=9.3,SNR=154
MKAR PcP **PcP** **01 46 19.6 -0.4**
comp=E,1.5nm,0.7s,baz=50,slow=4.5,SNR=2.1
MKAR LR LR 02 04 20.0
comp=E,79nm,18.5s,baz=270,slow=38
MKAR Makanchi Array 44.38 302 *e*P **P** **01 44 36.6 +0.1**
MKAR 01 46 19.6
MKAR Makanchi Array 44.38 302 *e*P **P** **01 44 36.6 +0.1**
MKAR PcP **PcP** **01 46 19.6 -0.4**
KURK Kurchatov 46.18 308 P **P** **01 44 50.4 -0.2**
comp=E,23nm,0.6s,baz=83,slow=8.1,SNR=98
KURK Kurchatov 46.18 308 *c* *i*P **P** **01 44 50.2 -0.4**
KURK pmax pmax
comp=Z,34nm,0.8s
KURK Kurchatov 46.18 308 *e*P **P** **01 44 50.3 -0.4**
comp=Z,30nm,0.6s
TAPN Taplejung 46.22 274 *e*P **P** **01 44 52.2 +0.5**
comp=Z,16nm,0.5s
TAPN Taplejung 46.22 274 *e*P **P** **01 44 52.2 +0.5**
ODAN Odare 46.69 274 *e*P **P** **01 44 55.6 +0.3**
ODAN Odare 46.69 274 *e*P **P** **01 44 55.6 +0.3**
RAMN Ramite 47.28 274 *e*P **P** **01 45 00.3 +0.4**
comp=Z,42nm,0.6s
RAMN Ramite 47.28 274 *e*P **P** **01 45 00.3 +0.4**
JIRN Jiri 47.30 275 *e*P **P** **01 45 00.8 +0.6**
comp=Z,25nm,0.4s
GUN Gumba 47.44 276 *e*P **P** **01 45 01.4 +0.2**
comp=Z,40nm,0.4s
PKI Pulchoki 47.96 276 *e*P **P** **01 45 05.4 +0.1**
comp=Z,22nm,0.6s
PKI Pulchoki 47.96 276 *e*P **P** **01 45 05.4 +0.1**
PKI Pulchoki 47.96 276 *e*P **P** **01 45 05.4 +0.1**
KKN Kakani 47.97 276 *e*P **P** **01 45 05.5 +0.3**
comp=Z,60nm,1.1s
KKN Kakani 47.97 276 *e*P **P** **01 45 05.5 +0.3**
KKN Kakani 47.97 276 *e*P **P** **01 45 05.5 +0.3**
DMN Daman 48.19 276 *e*P **P** **01 45 07.1 +0.2**
comp=Z,12nm,0.4s
GKN Gorkha 48.39 276 *e*P **P** **01 45 08.5 +0.2**
comp=Z,56nm,0.7s
GKN Gorkha 48.39 277 *e*P **P** **01 45 08.5 +0.2**
DANN Dangsing 48.93 277 *e*P **P** **01 45 13.3 +0.6**
comp=Z,85nm,0.7s
DANN Dangsing 48.93 277 *e*P **P** **01 45 13.3 +0.6**
HNR Honiara 49.23 156 LR LR 02 02 54.1
comp=Z,129nm,19.1s,baz=115,slow=32
KOLN Koldanda 49.31 277 *e*P **P** **01 45 15.9 +0.4**
comp=Z,21nm,0.7s
KOLN Koldanda 49.31 277 *e*P **P** **01 45 15.9 +0.4**
ILAR Eielson Array 49.38 32 P **P** **01 45 15.6 +0.4**
comp=Z,2.9nm,0.8s,baz=269,slow=6.5,SNR=32
ILAR LR LR 02 07 04.1
comp=Z,64nm,20.9s,baz=323,slow=37
ILAR Eielson Array 49.38 32 P **P** **01 45 15.6 +0.4**
ILAR Eielson Array 49.38 32 P **P** **01 45 15.6 +0.4**
TKM2 Tokmak 2 49.89 299 *e*P **P** **01 45 20.4 +0.7**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 49.89 299 *e*P **P** **01 45 20.4 +0.7**
comp=Z,11nm,0.8s
VOSK Vostochnaya 50.52 312 P **P** **01 45 23.2 -0.9**
VOSK pmax pmax
comp=Z,20nm,1.5s
KSH Kashi 50.68 294 *e*P P 01 45 29.8 +4.2
KSH *e*pP pP 01 45 38.5 +3.1
KSH *e*sP sP 01 45 42.6 +3.3
KSH *e*PcP **PcP** **01 46 45.3 +2.6**
KSH PP **PP** **01 47 26.6 +5.0**
KSH *e*ScP **ScP** **01 50 37.7 +1.4**
KSH *e*PcS **PcS** **01 50 41.6 +1.4**
KSH *e*S **S** **01 52 42.5 +3.9**
KSH *e*sS sS 01 52 59.6 +4.9
KSH *e*ScS **ScS** **01 55 14.5 +0.4**
KSH *e*SS **SS** **01 56 15.3 +2.4**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,180nm,4.8s
KSH LR LR
comp=N,92nm,6.3s
KSH LR LR
comp=E,100nm,5.8s
KSH LR LR
comp=Z,120nm,7.2s
AAK Ala-Archa 50.76 298 *e*P **P** **01 45 26.1 -0.1**
AAK pmax pmax
comp=Z,20nm,0.5s
AAK Ala-Archa 50.76 298 *e*P **P** **01 45 26.1 -0.1**
comp=Z,20nm,0.5s
BVAR Borovoye Array 50.80 312 P **P** **01 45 26.1 -0.1**
comp=Z,2.6nm,0.5s,baz=69,slow=7.6,SNR=16
BVAR PcP **PcP** **01 46 42.8 +0.1**
comp=Z,2.5nm,0.6s,baz=90,slow=4.4,SNR=4.7
BVAR Borovoye Array 50.80 312 P **P** **01 45 26.1 -0.1**
BVAR 01 46 42.8
BVAR Borovoye Array 50.80 312 P **P** **01 45 26.1 -0.1**
BVAR PcP **PcP** **01 46 42.8 +0.1**
BRVK Borovoye 50.86 312 *c* *i*P **P** **01 45 26.3 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 51.25 299 *e*P **P** **01 45 30.2 +0.3**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 51.25 299 *e*P **P** **01 45 30.2 +0.3**
comp=Z,4.2nm,0.7s
ZRNK Zerenda 51.64 313 P **P** **01 45 32.0 -0.5**
ZRNK pmax pmax
comp=Z,18nm,1.7s
KK31 Karatay Array 53.39 300 *i* P **P** **01 45 45.4 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 53.39 300 *e*P **P** **01 45 45.3 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 53.39 300 *e*P **P** **01 45 45.3 -0.3**
comp=Z,3.1nm,0.5s
INK Inuvik 54.30 27 P **P** **01 45 52.6 +0.8**
comp=Z,2.4nm,0.5s,baz=295,slow=7.2,SNR=16
INK Inuvik 54.30 27 P **P** **01 45 52.6 +0.8**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 54.30 27 *e*P **P** **01 45 52.5 +0.8**
comp=Z,2.6nm,0.6s
SVE Sverdlovsk 55.36 319 *c* *i*P **P** **01 46 00.4 +0.7**
SVE *e*PPP PPP 01 49 19.0
SVE *e*S S 01 53 58.4 +17
SVE pmax pmax
comp=Z,19nm,0.9s
SVE MLR MLR
comp=Z,240nm,18.0s
ARU Arti 56.57 319 *c* *i*P **P** **01 46 08.2 -0.2**
ARU *e* 01 48 12.0
ARU S **S** **01 53 56.4 -1.3**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 56.57 319 *e*P **P** **01 46 08.2 -0.2**
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 56.87 198 P **P** **01 46 10.7 -0.1**
comp=Z,4.8nm,0.6s,baz=27,slow=6.4,SNR=2.8
FITZ Fitzroy Crossi 56.87 198 P **P** **01 46 10.7 -0.1**
WRA Warramunga Arr 57.06 188 P **P** **01 46 11.5 -0.7**
comp=Z,1.6nm,0.4s,baz=6.4,slow=7.2,SNR=3.1
WRA Warramunga Arr 57.06 188 P **P** **01 46 11.5 -0.7**
WRA Warramunga Arr 57.06 188 P **P** **01 46 11.5 -0.7**
KBL Kabul 57.69 291 *e*P **P** **01 46 16.3 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 57.69 291 *e*P **P** **01 46 16.3 -0.6**
comp=Z,8.7nm,0.8s
AB31 Akbulak array 58.18 310 *i* P **P** **01 46 19.1 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 58.18 310 *e*P **P** **01 46 19.4 -0.5**
HYB Hyderabad 58.48 269 *i* P **P** **01 46 21.0 -1.4**
AKTO Aktyubinsk 58.91 312 P **P** **01 46 23.0 -1.9**
AKTO pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 60.79 188 P **P** **01 46 37.5 -0.5**
comp=Z,2.2nm,0.7s,baz=13,slow=8.6,SNR=7.6
ASAR Alice Springs 60.79 188 P **P** **01 46 37.6 -0.5**
ASAR Alice Springs 60.79 188 P **P** **01 46 37.5 -0.5**
RES Resolute Bay 62.57 14 *e*P **P** **01 46 49.3 -0.1**
RES pmax pmax
comp=Z,7.0nm,1.2s
RES Resolute Bay 62.57 14 *e*P **P** **01 46 49.3 -0.1**
comp=Z,7.1nm,1.2s
DZM Mont Dzumac 63.19 154 *e*LR LR 02 05 46.2
comp=Z,154nm,21.7s
KEV Kevo 63.58 339 *e*P **P** **01 46 54.4 -1.7**
KEV pmax pmax
comp=Z,8.0nm,0.9s
KEV Kevo 63.58 339 *e*p **P** **01 46 54.4 -1.7**
comp=Z,8.3nm,0.9s
KEV Kevo 63.58 339 *e*p **P** **01 46 54.4 -1.7**
comp=Z,8.3nm,0.9s
ARCES ARCESS Array B 64.13 339 P **P** **01 46 60.0 +0.1**
comp=Z,12nm,1.1s,baz=78,slow=7.6,SNR=7.4
ARCES LR LR 02 17 17.4
comp=Z,130nm,18.1s,baz=53,slow=38
ARCES ARCESS Array B 64.13 339 P **P** **01 47 00.0 +0.1**
ARCES ARCESS Array B 64.13 339 P **P** **01 46 60.0 +0.1**
JOF Joensuu 66.13 332 *e*P **P** **01 47 11.7 -1.2**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 66.13 332 *e*p **P** **01 47 11.7 -1.2**
comp=Z,4.5nm,0.5s
JOF Joensuu 66.13 332 *e*p **P** **01 47 11.7 -1.2**
comp=Z,4.5nm,0.5s
OBN Obninsk 68.29 323 *c* *e*P **P** **01 47 26.4 -0.3**
OBN *e**PP **pP** **01 47 37.5 +0.7**
OBN *e* 01 47 53.7
OBN *e* 01 49 56.1
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 68.29 323 *e*P **P** **01 47 26.9 +0.2**
comp=Z,14nm,0.8s
KAF Kangasniemi 68.47 333 *e*P **P** **01 47 27.0 -0.7**
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF Kangasniemi 68.47 333 *e*p **P** **01 47 27.0 -0.7**
comp=Z,8.3nm,0.5s
KAF Kangasniemi 68.47 333 *e*p **P** **01 47 27.0 -0.7**
comp=Z,8.3nm,0.5s

FINES	**FINESS Array B**	**68.98**	332	P		**P**	**01 47 30.7**	**-0.2**
	comp=Z,12nm,0.7s,baz=64,slow=6.8,SNR=20							
FINES				LR		LR	02 20 49.4	
	comp=Z,90nm,19.1s,baz=134,slow=38							
FINES	**FINESS Array B**	**68.98**	332	P		**P**	**01 47 30.7**	**-0.2**
FINES	**FINESS Array B**	**68.98**	332	P		**P**	**01 47 30.7**	**-0.2**
VSR	**Storozhevoye**	**69.14**	319	*eP*		**P**	**01 47 31.3**	**-0.8**
VSR					pmax	pmax		
	comp=N,2.0nm,0.6s							
VSR					pmax	pmax		
	comp=E,2.0nm,0.6s							
VSR					pmax	pmax		
	comp=Z,10.0nm,0.6s							
VSU	**Vasula**	**70.63**	330⇓	*eP*		**P**	**01 47 40.8**	**-0.3**
VSU					pmax	pmax		
	comp=Z,14nm,1.0s							
KIV	**Kislovodsk**	**71.14**	311	*c iP*		**P**	**01 47 44.8**	**+0.2**
KIV				*e*			01 47 57.3	
KIV					pmax	pmax		
	comp=Z,14nm,1.0s							
KIV	**Kislovodsk**	**71.14**	311	*eP*		**P**	**01 47 45.0**	**+0.4**
	comp=Z,12nm,0.8s							
GNI	**Garni**	**71.95**	307	LR		LR	02 22 04.5	
	comp=Z,70nm,18.1s,baz=163,slow=38							
IZAR	**Zarasai**	**72.59**	328	*eP*		**P**	**01 47 53.0**	**+0.1**
IZAR					AMB	AMB	01 47 54.0	
	comp=Z,5.6nm,0.6s							
ISAL	**Salakas**	**72.76**	328	*eP*		**P**	**01 47 54.0**	**+0.1**
ISAL					AMB	AMB	01 47 56.0	
	comp=Z,10nm,1.0s							
IIGN	**Ignalina**	**72.86**	327	*eP*		**P**	**01 47 54.6**	**+0.1**
IIGN					AMB	AMB	01 47 55.7	
	comp=Z,4.6nm,0.7s							
NWAO	**Narrogin (SRO)**	**73.23**	201	P		**P**	**01 47 55.6**	**-1.2**
	comp=Z,5.5nm,0.7s,baz=80,slow=1.3,SNR=4.1							
NWAO	**Narrogin (SRO)**	**73.23**	201	P		**P**	**01 47 55.7**	**-1.2**
NWAO	**Narrogin (SRO)**	**73.23**	201	P		**P**	**01 47 55.6**	**-1.2**
ANN	**Anapa**	**73.76**	314	*eP*		**P**	**01 48 02.7**	**+2.7**
ANN					pmax	pmax		
	comp=Z,66nm,2.1s							
NB2	**NORSAR Subarra**	**74.33**	337	P		**P**	**01 48 03.3**	**+0.1**
	comp=Z,9.5nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.33**	337	P		**P**	**01 48 03.2**	**+0.1**
	comp=Z,9.8nm,0.8s,baz=39,slow=5.8,SNR=33							
NOA					LR	LR	02 23 00.6	
	comp=Z,118nm,20.6s,baz=225,slow=38							
NOA	**NORSAR Array B**	**74.33**	337	P		**P**	**01 48 03.2**	**+0.1**
NOA	**NORSAR Array B**	**74.33**	337	P		**P**	**01 48 03.2**	**+0.1**
AKASG	**Malin Array Be**	**74.50**	322	P		**P**	**01 48 04.0**	**-0.2**
	comp=Z,7.4nm,0.6s,baz=46,slow=5.9,SNR=29							
AKASG					LR	LR	02 23 51.0	
	comp=Z,133nm,18.0s,baz=225,slow=38							
AKASG	**Malin Array Be**	**74.50**	322	P		**P**	**01 48 04.0**	**-0.2**
AKASG	**Malin Array Be**	**74.50**	322	P		**P**	**01 48 04.0**	**-0.2**
AKBB	**Malin Array Si**	**74.50**	322	*eP*		**P**	**01 48 03.4**	**-0.9**
AKBB	**Malin Array Si**	**74.50**	322	*eP*		**P**	**01 48 03.4**	**-0.9**
KIEV	**Kiev**	**74.51**	322	*c iP*		**P**	**01 48 04.0**	**-0.3**
KIEV	**Kiev**	**74.51**	322	*eP*		**P**	**01 48 03.9**	**-0.4**
	comp=Z,10nm,0.7s							
NVAR	**Mina Array Bea**	**74.79**	53	P		**P**	**01 48 07.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=260,slow=8.2,SNR=5.7							
NVAR	**Mina Array Bea**	**74.79**	53	P		**P**	**01 48 07.6**	**+1.2**
SUW	**Suwalki**	**75.07**	328	*eP*		**P**	**01 48 07.8**	**+0.3**
SUW	**Suwalki**	**75.07**	328	*eP*		**P**	**01 48 07.8**	**+0.3**
LVV	**L'vov**	**77.58**	324	*eP*		**P**	**01 48 22.4**	**+0.6**
IAS	**Iasi**	**77.62**	320	⇓P		**P**	**01 48 22.6**	**+0.5**
IAS	**Iasi**	**77.62**	320	⇓*iP*		**P**	**01 48 22.6**	**+0.5**
BEL	**Belsk**	**77.63**	327	*eP*		**P**	**01 48 22.5**	**+0.4**
BEL	**Belsk**	**77.63**	327	*eP*		**P**	**01 48 22.5**	**+0.4**
LEOM	**Leova**	**77.75**	320	⇓P		**P**	**01 48 23.3**	**+0.5**
LEOM	**Leova**	**77.75**	320	⇓*iP*		**P**	**01 48 23.3**	**+0.5**
KWP	**Kalwaria Pacla**	**78.32**	325	*eP*		**P**	**01 48 26.4**	**+0.5**
KWP	**Kalwaria Pacla**	**78.32**	325	⇓P		**P**	**01 48 27.4**	**+1.4**
KWP	**Kalwaria Pacla**	**78.32**	325	*eP*		**P**	**01 48 26.9**	**+0.9**
	comp=Z,40nm,1.3s							
KWP	**Kalwaria Pacla**	**78.32**	325	⇓*iP*		**P**	**01 48 27.4**	**+1.4**
BURAR	**Bucovina Array**	**78.52**	322	⇓P		**P**	**01 48 28.1**	**+0.9**
BURAR	**Bucovina Array**	**78.52**	322	⇓*iP*		**P**	**01 48 28.1**	**+0.9**
TESR		**78.54**	320	⇑*iP*		**P**	**01 48 28.4**	**+1.2**
PETR		**78.77**	319	⇑*iP*		**P**	**01 48 28.7**	**+1.2**
VRI	**Vrincioaia**	**78.94**	320	⇓P		**P**	**01 48 30.1**	**+0.7**
VRI	**Vrincioaia**	**78.94**	320	⇓*iP*		**P**	**01 48 30.1**	**+0.7**
PLOR	**Plostina**	**78.99**	320	⇓P		**P**	**01 48 27.7**	**-2.0**
PLOR	**Plostina**	**78.99**	320	⇓*iP*		**P**	**01 48 27.7**	**-2.0**
TIRR	**Tirgusor**	**78.99**	318	⇑P		pP	01 48 40.8	+0.9
TIRR	**Tirgusor**	**78.99**	318	⇑*iP*		pP	01 48 40.8	+0.9
BRTR	**Keskin Array B**	**79.09**	312	P		**P**	**01 48 30.8**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=92,slow=4.8,SNR=8.9							
BRTR	**Keskin Array B**	**79.09**	312	P		**P**	**01 48 30.8**	**+0.2**
BRTR	**Keskin Array B**	**79.09**	312	P		**P**	**01 48 30.8**	**+0.2**
STHS	**Stebnicka Huta**	**79.15**	325	*eP*		**P**	**01 48 32.0**	**+1.4**
STHS					pmax	pmax		
	comp=Z,6.0nm,1.0s							
STHS	**Stebnicka Huta**	**79.15**	325	*eP*		**P**	**01 48 32.0**	**+1.4**
OJC	**Ojcow**	**79.23**	326	*eP*		**P**	**01 48 31.5**	**+0.6**
OJC	**Ojcow**	**79.23**	326	*eP*		**P**	**01 48 31.5**	**+0.6**
OJC	**Ojcow**	**79.23**	326	*eP*		**P**	**01 48 31.3**	**+0.4**
	comp=Z,9.7nm,0.8s							
CRVS	**Cervenica-Dubn**	**79.42**	325	*eP*		**P**	**01 48 31.1**	**-0.9**
CRVS					pmax	pmax		
	comp=Z,9.0nm,1.8s							
CRVS	**Cervenica-Dubn**	**79.42**	325	*eP*		**P**	**01 48 31.1**	**-0.9**
PGOR	**Pogoanele**	**79.45**	319	⇓*iP*		**P**	**01 48 33.8**	**+1.6**
ISR	**Istrita**	**79.54**	319	⇑P		**P**	**01 48 34.4**	**+1.6**
ISR	**Istrita**	**79.54**	319	⇑*iP*		**P**	**01 48 34.4**	**+1.6**
NIE	**Niedzica**	**79.58**	325	*eP*		**P**	**01 48 34.0**	**+1.1**
NIE	**Niedzica**	**79.58**	325	*eP*		**P**	**01 48 34.0**	**+1.1**
MLR	**Muntele Rosu**	**79.59**	320	⇑P		P	01 48 29.1	-4.1
MLR	**Muntele Rosu**	**79.59**	320	⇑*iP*		P	01 48 29.1	-4.1
VOIR		**80.09**	320	⇑P		**P**	**01 48 37.0**	**+1.2**
VOIR		**80.09**	320	⇑*iP*		**P**	**01 48 37.0**	**+1.2**
KECS	**Kecovo**	**80.17**	325	*eP*		P	01 48 32.9	-3.2
KECS					pmax	pmax		
	comp=Z,2.0nm,1.1s							
KECS	**Kecovo**	**80.17**	325	*eP*		P	01 48 32.9	-3.2
OKC	**Ostrava-Krasne**	**80.23**	327	*i P*		**P**	**01 48 37.3**	**+0.9**
OKC	**Ostrava-Krasne**	**80.23**	327	*i P*		**P**	**01 48 37.3**	**+0.9**
GLA	**Glamis**	**80.25**	56	*eP*		**P**	**01 48 37.0**	**+0.1**
GLA					pmax	pmax		
	comp=Z,16nm,0.4s							
GLA	**Glamis**	**80.25**	56	*eP*		**P**	**01 48 37.0**	**+0.1**
	comp=Z,16nm,0.4s							
KSP	**Ksiaz**	**80.28**	328	*eP*		**P**	**01 48 37.4**	**+0.8**
KSP	**Ksiaz**	**80.28**	328	*eP*		**P**	**01 48 37.4**	**+0.8**
KSP				*e**PP		**pP**	**01 48 48.4**	**+1.5**
DRGR		**80.32**	322	⇓P		**P**	**01 48 37.7**	**+0.7**
DRGR		**80.32**	322	⇓*iP*		**P**	**01 48 37.7**	**+0.7**
MORC	**Moravsky Berou**	**80.54**	327	⇑P		**P**	**01 48 38.7**	**+0.6**
MORC	**Moravsky Berou**	**80.54**	327	*eP*		**P**	**01 48 37.9**	**-0.2**
	comp=Z,67nm,2.5s							
MORC	**Moravsky Berou**	**80.54**	327	⇑*iP*		**P**	**01 48 38.7**	**+0.6**
DPC	**Dobruska-Polom**	**80.64**	328	*i P*		**P**	**01 48 39.2**	**+0.6**
DPC				*e**PP		**pP**	**01 48 50.1**	**+1.2**
DPC	**Dobruska-Polom**	**80.64**	328	*eP*		**P**	**01 48 39.7**	**+1.1**
	comp=Z,8.2nm,1.0s							
DPC	**Dobruska-Polom**	**80.64**	328	*i P*		**P**	**01 48 39.2**	**+0.6**
DPC				*ep*P		**pP**	**01 48 50.1**	**+1.2**
UPC	**Upice**	**80.65**	328	*i P*		**P**	**01 48 39.4**	**+0.8**
UPC				*e**PP		**pP**	**01 48 50.4**	**+1.5**
UPC	**Upice**	**80.65**	328	*i P*		**P**	**01 48 39.4**	**+0.8**
UPC				*ep*P		**pP**	**01 48 50.4**	**+1.5**
VYHS	**Vyhne**	**80.92**	326	*eP*		**P**	**01 48 40.7**	**+0.6**
VYHS	**Vyhne**	**80.92**	326	*eP*		**P**	**01 48 40.7**	**+0.6**
BRG	**Berggiesshubel**	**81.23**	330	*eP*		**P**	**01 48 42.2**	**+0.5**
	comp=Z,7.6nm,1.1s							
BRG	**Berggiesshubel**	**81.23**	330	*eP*		**P**	**01 48 42.2**	**+0.5**
BRG					pmax	pmax		
	comp=Z,8.0nm,1.1s							
PVCC	**Panska Ves**	**81.24**	329	*i P*		**P**	**01 48 41.7**	**0.0**
PVCC	**Panska Ves**	**81.24**	329	*i P*		**P**	**01 48 41.7**	**0.0**
CLL	**Collm**	**81.27**	330	⇓*iP*		**P**	**01 48 42.0**	**+0.1**
CLL				*e*			01 48 53.0	
CLL					pmax	pmax		
	comp=Z,14nm,1.1s							
CLL	**Collm**	**81.27**	330	⇓*iP*		**P**	**01 48 42.0**	**+0.1**
	comp=Z,14nm,1.1s							
CLL				*ep*P		**pP**	**01 48 53.0**	**+0.9**
GZR	**Gura Zlata**	**81.27**	321	⇓P		**P**	**01 48 42.7**	**+0.6**
GZR	**Gura Zlata**	**81.27**	321	⇓*iP*		**P**	**01 48 42.7**	**+0.6**
VRAC	**Vranov**	**81.31**	327	⇓P		**P**	**01 48 43.1**	**+1.0**
VRAC	**Vranov**	**81.31**	327	⇓*iP*		**P**	**01 48 43.1**	**+1.0**
PRU	**Pruhonice**	**81.66**	329	*i P*		**P**	**01 48 44.7**	**+0.7**
PRU				*e**PP		**pP**	**01 48 55.6**	**+1.3**
PRU	**Pruhonice**	**81.66**	329	*i P*		**P**	**01 48 44.7**	**+0.7**
PRU				*ep*P		**pP**	**01 48 55.6**	**+1.3**
BZS	**Buzias**	**81.69**	322	⇑P		**P**	**01 48 44.1**	**-0.1**
BZS	**Buzias**	**81.69**	322	⇑*iP*		**P**	**01 48 44.1**	**-0.1**
MMAI	**Mount Meron Ar**	**82.22**	306	LR		LR	02 29 16.4	
	comp=Z,54nm,18.2s,baz=270,slow=38							
NKC	**Novy Kostel**	**82.33**	330	*eP*		P	01 48 44.1	-3.4
NKC				*e**PP		**PcP**	**01 48 51.4**	**-1.3**
NKC	**Novy Kostel**	**82.33**	330	*eP*		P	01 48 44.1	-3.4
NKC				*e*PCP		**PcP**	**01 48 51.4**	**-1.3**
CONA	**Conrad Observa**	**82.67**	327	⇓*iP*		**P**	**01 48 50.1**	**+0.7**
	comp=Z,9.2nm,1.5s							
CONA	**Conrad Observa**	**82.67**	327	⇓*iP*		**P**	**01 48 50.1**	**+0.7**
	comp=Z,9.2nm,1.5s							
KHC	**Kasperske Hory**	**82.72**	329	*i P*		**P**	**01 48 49.8**	**+0.2**
KHC				*e**PP		**pP**	**01 49 01.0**	**+1.1**
KHC	**Kasperske Hory**	**82.72**	329	*eP*		**P**	**01 48 49.9**	**+0.2**
	comp=Z,5.1nm,1.0s							
KHC	**Kasperske Hory**	**82.72**	329	*i P*		**P**	**01 48 49.8**	**+0.2**
KHC				*ep*P		**pP**	**01 49 01.0**	**+1.1**
GERES	**GERESS Array B**	**82.89**	328	P		**P**	**01 48 50.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=39,slow=6.3,SNR=9.2							
GERES					LR	LR	02 30 07.9	
	comp=Z,113nm,18.9s,baz=34,slow=39							
GERES	**GERESS Array B**	**82.89**	328	P		**P**	**01 48 50.3**	**-0.3**
GERES	**GERESS Array B**	**82.89**	328	P		**P**	**01 48 50.3**	**-0.3**
VTS	**Vitosha**	**83.03**	319	⇓P		**P**	**01 48 52.5**	**+1.0**
VTS	**Vitosha**	**83.03**	319	⇓*iP*		**P**	**01 48 52.5**	**+1.0**
PMOR	**Pomariorio Ree**	**83.91**	114	*eT*		T	03 21 10.7	
	comp=Z,7.2nm,0.2s							
SOKA	**Soboth**	**83.98**	326	⇓*iP*		**P**	**01 48 56.3**	**+0.1**
	comp=Z,8.7nm,1.1s							
SOKA	**Soboth**	**83.98**	326	⇓*iP*		**P**	**01 48 56.3**	**+0.1**
	comp=Z,8.7nm,1.1s							
PPT2	**Papeete2**	**84.38**	117	*e*LR		LR	02 15 32.0	
	comp=Z,106nm,24.0s							
RETA	**Reutte**	**85.18**	329	⇑*iP*		**P**	**01 49 02.3**	**+0.1**
	comp=Z,9.1nm,1.5s							
RETA	**Reutte**	**85.18**	329	⇑*i*PcP		**P**	**01 49 02.3**	**+0.1**
	comp=Z,9.1nm,1.5s							
BFO	**Black Forest**	**85.47**	331	*eP*		**P**	**01 49 03.3**	**-0.4**
BFO				*e*			01 49 15.4	
BFO					pmax	pmax		
	comp=Z,8.0nm,1.2s							
BFO	**Black Forest**	**85.47**	331	*eP*		**P**	**01 49 03.2**	**-0.4**
	comp=Z,7.6nm,1.2s							
BFO				*e*			01 49 15.4	
CDF	**Champ du Feu**	**85.81**	332	*eP*		**P**	**01 49 04.5**	**-0.9**
	comp=Z,11nm,1.0s							
TAOE	**Nuku Hiva Isla**	**85.89**	104	*e*LR		LR	02 16 13.9	
	comp=Z,288nm,26.1s							
PAGF	**Fort de Pagny**	**86.28**	332	*eP*		**P**	**01 49 07.5**	**-0.1**
HAU	**Haudompre**	**86.50**	332	*eP*		**P**	**01 49 09.3**	**+0.6**
MEZF	**Maizieres J'vi**	**86.57**	333	*eP*		**P**	**01 49 09.9**	**+0.9**
SFTF	**Sexfontaines**	**86.82**	333	*eP*		**P**	**01 49 09.1**	**-1.2**
	comp=Z,12nm,0.9s							
LOR	**Lormes**	**88.04**	333	*eP*		**P**	**01 49 17.0**	**+0.8**
TBI	**Tubuai**	**88.27**	121	*e*LR		LR	02 17 19.7	
	comp=Z,119nm,25.8s							
TBI				*e*T		T	03 26 38.8	
	comp=Z,12nm,0.3s							
SSF	**Saint Saulge**	**88.35**	333	*eP*		**P**	**01 49 18.8**	**+1.2**
	comp=Z,12nm,1.1s							
LPG	**La Plagne**	**88.42**	330	*eP*		**P**	**01 49 19.1**	**+0.8**
BGF	**Bois d'Agland**	**89.01**	333	*eP*		**P**	**01 49 22.0**	**+1.3**
	comp=Z,14nm,1.0s							
TXAR	**Lajitas Array**	**89.92**	53	P		**P**	**01 49 25.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=278,slow=0.6,SNR=6.5							
TXAR					LR	LR	02 25 28.3	
	comp=Z,76nm,19.5s,baz=190,slow=33							
TXAR	**Lajitas Array**	**89.92**	53	P		**P**	**01 49 25.9**	**+0.4**
TXAR	**Lajitas Array**	**89.92**	53	P		**P**	**01 49 25.9**	**+0.4**
ATD	**Arta Tunnel**	**90.15**	284	LR		LR	02 32 17.1	
	comp=Z,44nm,18.3s,baz=120,slow=37							
TORD	**Torodi Ar. Bea**	**117.56**	315	PKP		**PKPdf**	**01 55 11.0**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=110,slow=1.6,SNR=2.8							
TORD					PP	**PP**	**01 56 24.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=24,slow=6.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**117.56**	315	PKP		**PKPdf**	**01 55 11.0**	**-1.3**
TORD					PP	**PP**	**01 56 24.4**	**+0.7**
DBIC	**Dimbokro**	**126.51**	317	PKP		**PKPdf**	**01 55 29.2**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=124,slow=1.2,SNR=4.6							
DBIC	**Dimbokro**	**126.51**	317	PKIKP		**PKPdf**	**01 55 29.2**	**-0.3**
DBIC	**Dimbokro**	**126.51**	317	PKP		**PKPdf**	**01 55 29.2**	**-0.3**
LPAZ	**La Paz**	**146.47**	60	PKPbc		**PKPbc**	**01 56 08.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=7.3,slow=4.8,SNR=4.1							
LPAZ	**La Paz**	**146.47**	60	PKP2		**PKPbc**	**01 56 08.2**	**-0.1**
LPAZ	**La Paz**	**146.47**	60	PKPbc		**PKPbc**	**01 56 08.2**	**-0.1**
PLCA	**Paso Flores**	**154.64**	108	*e*PKIKP		**PKPdf**	**01 56 15.2**	**-2.9**
PLCA	**Paso Flores**	**154.64**	108	*e*PKPdf		**PKPdf**	**01 56 15.2**	**-2.9**

*IDC **05** 01:36:56.4±0.8,0.˚46S×132.˚39E, h0km, mb4.3/10,*
mb1 4.4/12,mb1mx4.3/21,mbtmp4.3/12, ML4.5/2, Error
ellipse: s-maj=46.4km s-min=14.1km az=75.0
*DJA **05** 01:36:59, 0.˚39S×132.˚43E, h10km, MLv4.8/7*
*NEIC **05** 01:37:01.6±0.5, 0.˚47S×132.˚45E, h35km, mb4.5/8, Error*
ellipse: s-maj=24.7km s-min=6.6km az=78.0

ISC 05 01:37:01.4±0.7, 0.˚76S±0.˚07×132.˚0E±0.˚2, h35km, n39, σ2s39/37, mb4.4/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.17**	**173**	P		P	Pn	01 37 40.5	+5.5
MSAI	**Masohi**	**3.97**	**230**	P		P	Pn	01 38 11.3	+11
AAI	**Ambon**	**4.77**	**232**	P		P	Pn	01 38 20.6	+10
TLE	**Tual**	**4.91**	**171**	P		P	Pn	01 38 19.4	+6.7
NLAI	**Namlea**	**5.46**	**243**	P		P	Pn	01 38 33.7	+13
FITZ	**Fitzroy Crossi**	**18.33**	**199**	P		P	**Pn**	**01 41 15.2**	**+2.3**
	0.6nm,0.3s,baz=44,slow=8.7,SNR=21								
FITZ					S		**Sn**	**01 44 32.1**	**-4.6**
FITZ	**Fitzroy Crossi**	**18.33**	**199**	*eP*		P	**Pn**	**01 41 15.5**	**+2.6**
	5.3nm,0.7s								
FITZ					S		**Sn**	**01 44 32.1**	**-4.6**
WRAB	**Tennant Creek**	**19.20**	**173**	*eP*		P	**Pn**	**01 41 24.6**	**+1.1**
	14nm,0.8s								
WRAB					*e*S		**Sn**	**01 44 53.4**	**-4.5**
WRA	**Warramunga Arr**	**19.21**	**173**	P		P	**Pn**	**01 41 25.4**	**+1.7**
	2.4nm,0.3s,baz=353,slow=12,SNR=34								
WRA					S		**Sn**	**01 44 53.5**	**-4.5**
	0.7nm,0.3s,baz=357,slow=23,SNR=6.4								
WRA	**Warramunga Arr**	**19.21**	**173**	P		P	**Pn**	**01 41 25.4**	**+1.7**
WRA					S		**Sn**	**01 44 53.5**	**-4.5**
WB2	**Warramunga Arr**	**19.21**	**173**	*eP*		P	**Pn**	**01 41 25.3**	**+1.7**
WB2					*e*S		**Sn**	**01 44 54.9**	**-3.2**
AS31	**Alice Springs**	**22.85**	**175**	*eP*		P		**01 42 04.5**	**+2.8**
ASAR	**Alice Springs**	**22.85**	**175**	P		P		**01 42 04.8**	**+2.9**
	7.9nm,0.4s,baz=0.9,slow=8.3,SNR=94								
ASAR					S		Sn	01 46 22.0	-3.6
	1.3nm,0.8s,baz=338,slow=16,SNR=5.0								
ASAR	**Alice Springs**	**22.85**	**175**	P		P		**01 42 04.8**	**+2.9**
ASAR					S		Sn	01 46 22.0	-3.6
CTA	**Charters Tower**	**23.76**	**145**	P		P		**01 42 11.3**	**+0.6**
	4.5nm,0.7s,baz=314,slow=12,SNR=3.9								
CTA	**Charters Tower**	**23.76**	**145**	P		P		**01 42 11.3**	**+0.6**
FORT	**Forrest**	**30.09**	**187**	*eP*		P		01 43 11.8	+4.1
	27nm,0.7s								
STKA	**Stephens Creek**	**32.26**	**165**	P		P		**01 43 28.2**	**+1.5**
	4.9nm,0.6s,baz=352,slow=8.4,SNR=20								
STKA	**Stephens Creek**	**32.26**	**165**	*eP*		P		**01 43 28.1**	**+1.4**
	1.0nm,0.6s								
NWAO	**Narrogin (SRO)**	**34.88**	**202**	P		P		01 43 55.8	+6.2
	4.7nm,0.8s,baz=29,slow=3.6,SNR=3.1								
NWAO	**Narrogin (SRO)**	**34.88**	**202**	P		P		01 43 55.8	+6.2
USRK	**Ussuriysk Arra**	**44.76**	**0**	P		P		**01 45 09.3**	**-2.1**
	2.1nm,0.7s,baz=153,slow=39,SNR=3.3								
ULN	**Ulaanbaatar**	**53.06**	**339**	*eP*		P		**01 46 15.8**	**+0.4**
	3.9nm,0.9s								
SONM	**Songino Array**	**53.27**	**339**	P		P		**01 46 16.7**	**-0.1**
	1.2nm,0.6s,baz=160,slow=8.2,SNR=7.8								
SONM	**Songino Array**	**53.27**	**339**	P		P		**01 46 16.7**	**-0.1**
MK31	**Makanchi Array**	**64.22**	**324**	*eP*		P		**01 47 33.5**	**+0.6**
MKAR	**Makanchi Array**	**64.22**	**324**	P		P		**01 47 33.7**	**+0.8**
	3.9nm,0.6s,baz=112,slow=8.1,SNR=12								
MKAR	**Makanchi Array**	**64.22**	**324**	P		P		**01 47 33.7**	**+0.8**
TKM2	**Tokmak 2**	**66.56**	**318**	*eP*		P		**01 47 49.6**	**+1.3**
	4.7nm,0.7s								
ZAA0	**Zalesovo Array**	**66.96**	**332**	*eP*		P		**01 47 49.6**	**-0.7**
ZALV	**Zalesovo Beam**	**66.96**	**332**	P		P		**01 47 49.6**	**-0.8**
	2.2nm,0.6s,baz=125,slow=6.1,SNR=4.7								
ZALV	**Zalesovo Beam**	**66.96**	**332**	P		P		**01 47 49.6**	**-0.8**
KURK	**Kurchatov**	**68.33**	**327**	P		P		**01 47 59.5**	**+0.5**
	5.5nm,0.7s,baz=122,slow=5.9,SNR=11								
KURK	**Kurchatov**	**68.33**	**327**	*eP*		P		**01 47 59.2**	**+0.1**
	5.2nm,0.7s								
BVAR	**Borovoye Array**	**73.92**	**326**	P		P		**01 48 33.3**	**+0.3**
	2.9nm,0.6s,baz=130,slow=6.4,SNR=7.4								
BVAR	**Borovoye Array**	**73.92**	**326**	P		P		**01 48 33.3**	**+0.3**
ILAR	**Eielson Array**	**86.89**	**25**	P		P		**01 49 39.5**	**-2.9**
	0.8nm,0.9s,baz=252,slow=6.5,SNR=4.7								
ILAR	**Eielson Array**	**86.89**	**25**	P		P		**01 49 39.5**	**-2.9**
QSPA	**South Pole Qui**	**89.18**	**180**	*eP*		P		**01 49 55.0**	**+1.6**
	5.8nm,0.9s								

IDC 05 01:55:09.7±6.9, 6.˚20S×148.˚66E, h92km±55km, mb3.3/2, mb1 3.6/4, mb1mx3.2/16, mbtmp3.4/4, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/13, Error ellipse: s-maj=86.9km s-min=50.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.51**	**205**	P		P	Pn	01 56 02.1	-0.1
	4.8nm,0.3s,baz=9.4,slow=7.0,SNR=11								
PMG					S		Sn	01 56 43.4	+0.6
	7.3nm,0.3s,baz=18,slow=13,SNR=13								
WRA	**Warramunga Arr**	**19.49**	**224**	P		P		01 59 29.8	+0.2
	0.4nm,0.3s,baz=51,slow=11,SNR=7.6								
GUMO	**Guam**	**20.02**	**349**	LR		LR		02 06 33.2	
	comp=Z,40nm,21.3s,baz=79,slow=34								
ASAR	**Alice Springs**	**22.42**	**218**	P		P		02 00 01.0	0.0
	0.5nm,0.6s,baz=52,slow=8.9,SNR=6.8								
FITZ	**Fitzroy Crossi**	**25.38**	**240**	P		P		02 00 28.4	-0.1
	1.2nm,0.3s								
TORD	**Torodi Ar. Bea**	**146.74**	**284**	PKPbc		PKPbc		02 14 41.2	-0.8
	0.2nm,0.4s,baz=60,slow=4.0,SNR=2.6								

*DJA **05** 02:05:56, 0.˚04N×133.˚42E, h30km, mb4.9/11*
*IDC **05** 02:05:59.7±0.8, 0.˚71S×132.˚54E, h0km, mb4.0/11,*
mb1 4.3/13, mb1mx4.1/22, mbtmp4.1/13, ML4.3/1, Error
*ellipse: s

GRUS	**Gruza**	**2.68**	**85**	*e*Pn	**Pn**	**02 18 00.2**	**+1.9**
GRUS				*e*Sn	**Sb**	**02 18 35.9**	**-0.1**
GRUS	**Gruza**	**2.68**	**85**	*e*Pn	**Pn**	**02 18 00.2**	**+1.9**

DJA ***05*** *02:20:03, 1.44S×133.95E, h10km, MLv4.2/4*
IDC 05 02:20:04.1±0.7, 0.82S×133.83E, h0km, mb4.1/10, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, ML4.2/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/25, Error ellipse: s-maj=34.4km s-min=13.8km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**15.77**	**123**	Pn	Pn	02 23 48.7	+0.8
	baz=315,slow=3.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.97**	**205**	P	Pn	02 24 28.4	+0.6
	0.6nm,0.3s,baz=29,slow=8.4,SNR=14						
FITZ				S	Sn	02 27 52.0	-8.9
	0.4nm,0.3s,baz=4.7,slow=18,SNR=5.8						
FITZ				LR	LR	02 31 26.3	
	comp=Z,91nm,21.1s,baz=17,slow=36						
WRA	**Warramunga Arr**	**19.01**	**179**	P	P	02 24 26.8	-1.0
	0.7nm,0.3s,baz=357,slow=12,SNR=12						
CTA	**Charters Tower**	**22.69**	**148**	P	P	02 25 08.5	+1.0
	5.1nm,0.7s,baz=344,slow=18,SNR=5.8						
ASAR	**Alice Springs**	**22.71**	**180**	P	P	02 25 07.2	-0.5
	3.5nm,0.7s,baz=359,slow=11,SNR=36						
JOW	**Kunigami**	**28.01**	**349**	LR	LR	02 34 17.0	
	comp=Z,144nm,20.4s,baz=60,slow=30						
STKA	**Stephens Creek**	**31.75**	**167**	P	P	02 26 28.6	-1.5
	1.3nm,0.7s,baz=0.3,slow=3.6,SNR=4.2						
STKA				LR	LR	02 40 43.0	
	comp=Z,130nm,18.1s,baz=26,slow=39						
KSRS	**Korea Array**	**38.47**	**352**	LR	LR	02 43 14.9	
	comp=Z,49nm,19.4s,baz=336,slow=36						
CMAR	**Chiang Mai Arr**	**39.28**	**301**	P	P	02 27 36.2	+1.2
	4.6nm,0.6s,baz=122,slow=7.1,SNR=23						
USRK	**Ussuriysk Arra**	**44.85**	**358**	LR	LR	02 45 59.5	
	comp=Z,31nm,18.4s,baz=74,slow=35						
SONM	**Songino Array**	**54.02**	**337**	P	P	02 29 29.8	-0.6
	0.4nm,0.9s,baz=147,slow=8.8,SNR=3.8						
SONM				PcP	PcP	02 30 34.7	-0.8
	0.3nm,0.6s,baz=152,slow=3.1,SNR=2.5						
MKAR	**Makanchi Array**	**65.35**	**324**	P	P	02 30 48.6	+0.2
	4.2nm,0.8s,baz=120,slow=7.8,SNR=34						
ZALV	**Zalesovo Beam**	**67.90**	**331**	P	P	02 31 03.2	-1.3
	1.1nm,0.8s,baz=122,slow=5.4,SNR=5.2						
KURK	**Kurchatov**	**69.40**	**326**	P	P	02 31 13.7	-0.2
	3.1nm,0.8s,baz=118,slow=5.8,SNR=24						
BVAR	**Borovoye Array**	**75.00**	**326**	P	P	02 31 47.1	-0.3
	1.6nm,0.7s,baz=120,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**86.17**	**25**	P	P	02 32 48.0	+0.9
	1.4nm,1.0s,baz=255,slow=5.5,SNR=6.2						
CPUP	**Villa Florida**	**150.94**	**159**	PKPbc	PKPbc	02 39 59.7	0.0
	2.7nm,0.8s,baz=20,slow=3.3,SNR=4.9						
LPAZ	**La Paz**	**152.46**	**129**	PKPbc	PKPbc	02 40 04.7	+0.4
	1.9nm,0.8s,baz=174,slow=4.2,SNR=5.5						

OMAN ***05*** *02:23:16.8±99.0, 27.28N×54.69E, h35km±702km, Error ellipse: s-maj=95.3km s-min=18.8km az=329.0*
THR ***05*** *02:23:20.8±0.3, 26.53N×54.94E, h16km±8km, ML3.7*
IDC ***05*** *02:23:20.5±0.9, 26.74N×54.93E, h0km, mb3.8/16, mb1 3.9/17, mb1mx3.8/29, mbtmp3.8/17, ML3.8/1, Error ellipse: s-maj=23.8km s-min=16.0km az=148.0*
TEH ***05*** *02:23:20.6, 26.64N×54.96E, h16km, ML3.7*
CSEM ***05*** *02:23:23.2±0.1, 26.66N×55.00E, h10km, ML3.9/5, Error ellipse: s-maj=4.4km s-min=2.6km az=76.0*
ISC 05 02:23:21.6±1.5, 26.55N±0.04×54.98E±0.06, h15km±11km, n80, σ1s08/73, mb3.8/18, 2C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.34**	**118**	P	**Pg**	**02 23 47.7**	**+0.3**
	SNR=412						
BANOM				P	**Pg**	**02 23 48.1**	**+0.6**
	SNR=143						
BANOM	**Banah**	**1.34**	**118**	Pn	**Pg**	**02 23 47.6**	**+0.2**
	SNR=412						
BANOM	**Banah**	**1.34**	**118**	P	**Pg**	**02 23 48.1**	**+0.6**
	SNR=143						
BANOM				Sn	**Sg**	**02 24 05.4**	**+0.5**
BNDS	**Bandar-Abbas**	**1.35**	**51**	*e*Pg	**Pg**	**02 23 46.7**	**-1.1**
BNDS				*e*Sg	**Sg**	**02 24 05.6**	**+0.2**
BNDS				AML	AML	02 24 10.6	
	comp=N,1μm,0.3s						
BNDS				AML	AML	02 24 16.1	
	comp=E,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.35**	**51**	*e*Pg	**Pg**	**02 23 46.7**	**-1.1**
BNDS				*e*Sg	**Sg**	**02 24 05.6**	**+0.2**
IBND	**Bandar-abas**	**1.65**	**57**	*e*Pn	**Pb**	**02 23 51.2**	**-0.5**
IBND				*e*Sg	**Sg**	**02 24 15.3**	**+0.5**
IBND				*e*		02 24 30.4	
	comp=Z,26μm,0.3s						
IBND	**Bandar-abas**	**1.65**	**57**	*e*Pn	**Pb**	**02 23 51.2**	**-0.5**
IBND				*e*Sg	**Sg**	**02 24 15.3**	**+0.5**
NAZ	**Nazwa, Dubai**	**1.67**	**158**	P	**Pg**	**02 23 54.6**	**+0.8**
	SNR=10						
NAZ	**Nazwa, Dubai**	**1.67**	**158**	Pn	**Pg**	**02 23 54.3**	**+0.5**
NAZ	**Nazwa, Dubai**	**1.67**	**158**	P	**Pg**	**02 23 54.6**	**+0.8**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**1.88**	**163**	Pn	**Pg**	**02 23 57.5**	**-0.3**
	SNR=6.9						
ASUD	**Al Ashush, Dub**	**1.94**	**171**	Pn	**Pg**	**02 23 58.7**	**-0.3**
HATD	**Hatta, Dubai**	**2.01**	**149**	P	**Pg**	**02 23 58.5**	**-1.7**
	SNR=27						
HATD	**Hatta, Dubai**	**2.01**	**149**	Pn	**Pg**	**02 23 58.2**	**-2.0**
HATD	**Hatta, Dubai**	**2.01**	**149**	P	**Pg**	**02 23 58.5**	**-1.7**
	SNR=27						
ASHO	**Ashiyiah**	**2.10**	**152**	P	**Pg**	**02 23 59.7**	**-2.3**
	SNR=16						
ASHO				P	**Pg**	**02 23 59.8**	**-2.1**
	SNR=35						
ASHO	**Ashiyiah**	**2.10**	**152**	P	**Pg**	**02 23 59.8**	**-2.1**
	SNR=35						
ISRV	**Sarvestan**	**3.27**	**330**	*e*Pn	Pn	02 24 14.2	+1.6
ISRV				*e*		02 25 38.3	
	comp=Z,3μm,0.6s						
ISRV	**Sarvestan**	**3.27**	**330**	*e*Pn	Pn	02 24 14.2	+1.6
IPAR	**Pars**	**3.69**	**333**	*e*Pn	**Pn**	**02 24 19.8**	**+1.3**
IPAR				*e*		02 25 31.8	
	comp=Z,863nm,0.4s						
IPAR	**Pars**	**3.69**	**333**	*e*Pn	**Pn**	**02 24 19.8**	**+1.3**
KRBR	**Kerman**	**3.76**	**24**	*e*Pn	**Pn**	**02 24 21.0**	**+1.7**
KRBR				AML	AML	02 25 38.8	
	comp=N,82nm,0.6s						
KRBR	**Kerman**	**3.76**	**24**	*e*Pn	**Pn**	**02 24 21.0**	**+1.7**
SMDO	**Samad**	**4.46**	**141**	P	Pn	02 24 32.4	+3.6
	SNR=9.6						
SMDO				P	Pn	02 24 32.4	+3.6
	SNR=18						
SMDO	**Samad**	**4.46**	**141**	P	Pn	02 24 32.3	+3.6
	SNR=9.6						
IMEH	**Mehriz**	**4.83**	**356**	*e*Pn	**Pn**	**02 24 34.8**	**+0.8**
IMEH				*e*		02 25 33.2	
	comp=Z,304nm,0.3s						
IMEH	**Mehriz**	**4.83**	**356**	*e*Pn	**Pn**	**02 24 34.8**	**+0.8**
IBAF	**Bafgh**	**5.04**	**6**	*e*Pn	**Pn**	**02 24 37.7**	**+0.8**
IBAF	**Bafgh**	**5.04**	**6**	*e*Pn	**Pn**	**02 24 37.7**	**+0.8**
ICHK	**Chekchek**	**5.69**	**355**	*e*Pn	**Pn**	**02 24 46.4**	**+0.6**
ICHK				*e*		02 25 53.2	
	comp=Z,199nm,0.3s						
ICHK	**Chekchek**	**5.69**	**355**	*e*Pn	**Pn**	**02 24 46.4**	**+0.6**
NASN	**Na'in**	**6.50**	**344**	*e*Pn	**Pn**	**02 24 58.7**	**+1.6**
NASN	**Na'in**	**6.50**	**344**	*e*Pn	**Pn**	**02 24 58.7**	**+1.6**
IZEF	**Zefreh**	**6.73**	**341**	*e*Pn	**Pn**	**02 25 00.9**	**+0.8**
IZEF				*e*		02 25 17.5	
	comp=Z,88nm,0.2s						
IZEF	**Zefreh**	**6.73**	**341**	*e*Pn	**Pn**	**02 25 00.9**	**+0.8**
IKOO	**Kooshah**	**6.82**	**30**	*e*		02 25 06.0	
	comp=Z,110nm,0.4s						
IKOO				*e*Pn	**Pn**	**02 25 02.2**	**+0.9**
KBD	**Kabd**	**6.96**	**294**	*e*P	Pn	02 25 05.2	+2.1
IPIR	**Pirpir**	**7.07**	**331**	*e*Pn	**Pn**	**02 25 05.9**	**+1.1**
IPIR	**Pirpir**	**7.07**	**331**	*e*Pn	**Pn**	**02 25 05.9**	**+1.1**
ITEG	**Tejag**	**7.12**	**26**	*e*Pn	**Pn**	**02 25 06.3**	**+0.9**
ITEG				*e*		02 27 36.2	
	comp=Z,93nm,0.5s						
ITEG	**Tejag**	**7.12**	**26**	*e*Pn	**Pn**	**02 25 06.3**	**+0.9**
TABS	**Tabas**	**7.31**	**14**	*e*Pn	**Pn**	**02 25 09.7**	**+1.8**
TABS	**Tabas**	**7.31**	**14**	*e*Pn	**Pn**	**02 25 09.7**	**+1.8**
NAY	**Al-Naaiem**	**7.36**	**293**	*e*P	Pn	02 25 10.3	+1.8
NAY				AML	AML	02 26 32.5	
	comp=Z,14nm,0.6s						

IKLH	**Kolahrood**	**7.36**	**337**	*e*Pn	**Pn**	**02 25 09.9**	**+1.1**
IKLH				*e*		02 26 48.9	
	comp=Z,70nm,0.2s						
IKLH	**Kolahrood**	**7.36**	**337**	*e*Pn	**Pn**	**02 25 09.9**	**+1.1**
MIB	**Mutribah**	**7.48**	**297**	*e*P	Pn	02 25 12.1	+1.9
MIB				AML	AML	02 26 37.8	
	comp=Z,31nm,0.6s						
IDAH	**Dahanechah**	**7.49**	**33**	*e*Pn	**Pn**	**02 25 11.6**	**+1.1**
IDAH				*e*		02 27 35.5	
	comp=Z,64nm,0.3s						
IDAH	**Dahanechah**	**7.49**	**33**	*e*Pn	**Pn**	**02 25 11.6**	**+1.1**
IMON	**Monand**	**7.76**	**30**	*e*Pn	**Pn**	**02 25 15.5**	**+1.2**
IMON				*e*		02 25 22.7	
	comp=Z,80nm,0.2s						
IMON	**Monand**	**7.76**	**30**	*e*Pn	**Pn**	**02 25 15.5**	**+1.2**
RBK	**Rabkut**	**9.04**	**185**	P	Pn	02 25 35.5	+3.9
	SNR=7.0						
RBK	**Rabkut**	**9.04**	**185**	P	Pn	02 25 35.5	+3.9
	SNR=7.0						
ABTO	**Aybut**	**9.29**	**190**	P	Pn	02 25 37.6	+2.5
	SNR=11						
ABTO	**Aybut**	**9.29**	**190**	P	Pn	02 25 37.6	+2.5
	SNR=11						
IKOM	**Komasi**	**9.96**	**321**	*e*Pn	**Pn**	**02 25 44.7**	**+0.3**
IKOM				*e*		02 25 54.1	
	comp=Z,192nm,0.2s						
IKOM	**Komasi**	**9.96**	**321**	*e*Pn	**Pn**	**02 25 44.7**	**+0.3**
IDHR	**Dehrash**	**10.98**	**320**	*e*Pn	**Pn**	**02 25 58.9**	**+0.5**
IDHR				*e*		02 26 03.6	
	comp=Z,183nm,0.2s						
IDHR	**Dehrash**	**10.98**	**320**	*e*Pn	**Pn**	**02 25 58.9**	**+0.5**
BHD	**Baghdad**	**11.37**	**309**	*e*P	Pn	02 26 05.0	+1.5
BHD				*e*S	Sn	02 28 02.0	-8.3
BHD				*e*LQ	LQ	02 32 12.0	
BHD				*e*RM		02 34 12.0	
GNI	**Garni**	**16.02**	**330**	Pn	**P**	**02 27 11.4**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=162,slow=19,SNR=6.2						
MMAI	**Mount Meron Ar**	**18.16**	**295**	P	**P**	**02 27 34.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=100,slow=15,SNR=3.2						
BRTR	**Keskin Array B**	**22.11**	**312**	P	**P**	**02 28 17.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=132,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**23.96**	**5**	P	**P**	**02 28 35.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=166,slow=8.3,SNR=7.6						
BVAR	**Borovoye Array**	**28.84**	**19**	P	**P**	**02 29 19.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=209,slow=8.3,SNR=9.8						
MKAR	**Makanchi Array**	**29.55**	**40**	P	**P**	**02 29 26.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=224,slow=8.1,SNR=11						
KURK	**Kurchatov**	**30.13**	**31**	P	**P**	**02 29 30.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=230,slow=8.6,SNR=7.8						
AKASG	**Malin Array Be**	**31.11**	**328**	P	**P**	**02 29 38.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=138,slow=8.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**35.12**	**31**	P	**P**	**02 30 14.3**	**0.0**
	comp=Z,2.5nm,0.5s,baz=237,slow=9.6,SNR=20						
FINES	**FINESS Array B**	**39.94**	**339**	P	**P**	**02 30 54.6**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=161,slow=12,SNR=4.9						
FETA	**Feichten**	**40.25**	**312**	⇑*i*P	**P**	**02 30 57.8**	**-0.2**
	comp=Z,1.6nm,0.6s						
DAVA	**Damuels**	**40.88**	**313**	⇑*i*P	**P**	**02 31 02.8**	**-0.3**
	comp=Z,4.2nm,0.6s						
SONM	**Songino Array**	**45.17**	**48**	P	**P**	**02 31 38.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=271,slow=9.8,SNR=8.3						
NOA	**NORSAR Array B**	**45.31**	**332**	P	**P**	**02 31 36.7**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=126,slow=7.6,SNR=3.3						
ESDC	**Sonseca Array**	**50.26**	**301**	P	**P**	**02 32 16.6**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=64,slow=7.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**51.53**	**266**	P	**P**	**02 32 27.8**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=68,slow=6.8,SNR=8.0						
DBIC	**Dimbokro**	**60.11**	**262**	P	**P**	**02 33 29.5**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=72,slow=13,SNR=4.3						
BOSA	**Boshof**	**61.83**	**210**	P	P	02 33 43.5	+3.2
	comp=Z,2.9nm,0.9s,baz=14,slow=4.2,SNR=4.0						
ILAR	**Eielson Array**	**87.39**	**9**	P	**P**	**02 36 07.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=341,slow=5.2,SNR=3.7						
ASAR	**Alice Springs**	**91.13**	**116**	P	P	02 36 27.9	+1.8
	comp=Z,0.2nm,0.8s,baz=306,slow=5.2,SNR=3.2						

ISCJB ***05*** *02:30:52.4±0.4, 23.94S±0.04×66.64W±0.04, h181km, mb3.7/8, Error ellipse: s-maj=6.9km s-min=4.1km az=44.4*
IDC ***05*** *02:30:53.8±1.5, 23.90S×66.69W, h194km±14km, mb3.6/8, mb1 3.7/13, mb1mx3.7/17, mbtmp3.6/13, Error ellipse: s-maj=18.9km s-min=12.4km az=84.0*
GUC ***05*** *02:30:56.5±0.9, 23.74S×67.31W, h241km±8km, ML4.9*
ISC 05 02:30:52.9±0.5, 23.91S±0.05×66.68W±0.07, h181km, n38, σ1s73/47, mb3.9/8, 8C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.71**	**305**	*i* S	Sn	02 32 01.4	+7.3
LVC	**Limon Verde**	**2.42**	**302**	*e*P	Pn	02 31 38.6	+3.5
LVC				*i* S	**Sn**	**02 32 10.8**	**+3.0**
LVC				AML	AML	02 32 14.1	
	comp=E,782nm,0.7s						
PB09	**Plate Boundary**	**3.16**	**311**	⇑*i*P	**Pn**	**02 31 47.0**	**+3.1**
PB09				*i* S	**Sn**	**02 32 24.9**	**+1.4**
PB09				AML	AML	02 32 28.0	
	comp=N,4μm,0.8s						
CEN1	**Los Morros**	**3.27**	**278**	⇓*i*P	Pn	02 31 49.1	+4.1
CEN1				*i* S	**Sn**	**02 32 27.5**	**+1.8**
CEN1				AML	AML	02 32 31.1	
	comp=N,2μm,0.6s						
MACH	**Maria Elena**	**3.31**	**300**	⇑*i*P	**Pn**	**02 31 48.1**	**+2.5**
MACH				*i* S	**Sn**	**02 32 27.0**	**+0.3**
ANCH	**Antofagasta**	**3.42**	**273**	⇑*i*P	**Pn**	**02 31 49.0**	**+2.1**
ANCH				*i* S	**Sn**	**02 32 28.4**	**-0.5**
MECH	**Mejillones**	**3.55**	**282**	⇑*i*P	**Pn**	**02 31 50.8**	**+2.4**
MECH				*i* S	**Sn**	**02 32 32.1**	**+0.4**
MECH				AML	AML	02 32 36.4	
	comp=N,3μm,0.1s						
PB07	**Plate Boundary**	**3.67**	**306**	⇑*i*P	**Pn**	**02 31 52.0**	**+1.9**
PB07				*i* S	**Sn**	**02 32 34.4**	**-0.4**
PB07				AML	AML	02 32 36.5	
	comp=E,1μm,0.9s						
PB01	**Plate Boundary**	**3.86**	**317**	*i* P	**Pn**	**02 31 54.1**	**+1.7**
PB01				*e*S	**Sn**	**02 32 38.8**	**-0.1**
PB01				AML	AML	02 32 42.6	
	comp=E,615nm,0.1s						
HMBC	**Humberstone**	**4.68**	**320**	⇑*i*P	**Pn**	**02 32 03.2**	**+0.3**
HMBC				*i* S	**Sn**	**02 32 56.2**	**-1.7**
PSGC	**Pisagua**	**5.35**	**323**	⇑*i*P	**Pn**	**02 32 11.1**	**-0.6**
PSGC				*i* S	**Sn**	**02 33 10.2**	**-3.3**
MNMC	**Minimini**	**5.47**	**330**	*e*P	**Pn**	**02 32 14.4**	**+1.0**
MNMC				*e*S	**Sn**	**02 33 15.5**	**-1.2**
LPAZ	**La Paz**	**7.71**	**350**	P	**Pn**	**02 32 45.0**	**+2.0**
	comp=E,2.3nm,0.3s,baz=168,slow=6.0,SNR=40						
LPAZ				S	**Sn**	**02 34 10.3**	**+0.3**
	comp=E,0.2nm,0.3s,baz=198,slow=20,SNR=3.0						
CFAA	**Coronel Fontan**	**7.79**	**190**	P	**Pn**	**02 32 43.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=19,slow=12,SNR=98						
CFAA				S	**Sn**	**02 34 05.6**	**-5.4**
	comp=E,0.8nm,0.3s,baz=126,slow=23,SNR=20						
CPUP	**Villa Florida**	**8.81**	**108**	P	**Pn**	**02 32 58.5**	**+1.6**
	comp=E,1.7nm,0.3s,baz=270,slow=11,SNR=46						
SIV	**San Ignacio**	**9.48**	**35**	P	**Pn**	**02 33 06.5**	**+0.8**
	comp=E,1.1nm,0.3s,baz=224,slow=14,SNR=47						
PLCA	**Paso Flores**	**17.09**	**190**	P	**P**	**02 34 40.3**	**+0.2**
	comp=E,0.3nm,0.3s,baz=11,slow=12,SNR=10.0						
USHA	**Ushuaia**	**30.91**	**182**	P	**P**	**02 36 52.6**	**+0.2**
	comp=E,9.2nm,0.8s,baz=18,slow=9.6,SNR=2.9						
VNA3	**Neumayer Olymp**	**57.14**	**161**	*e*	**P**	**02 40 22.2**	**+1.9**
VNA1	**Neumayer--Stat**	**57.33**	**160**	*e*	**P**	**02 40 24.1**	**+2.5**
VNA2	**Neumayer--Watz**	**57.70**	**160**	*e*	**P**	**02 40 26.2**	**+2.0**
	baz=288,slow=7.3						
SNAA	**Sanae**	**59.34**	**161**	*e*	**P**	**02 40 37.0**	**+1.5**
TXAR	**Lajitas Array**	**63.78**	**324**	P	**P**	**02 41 05.7**	**-0.1**
	comp=E,0.4nm,0.5s,baz=141,slow=5.8,SNR=4.2						
DBIC	**Dimbokro**	**67.50**	**71**	P	**P**	**02 41 27.8**	**-2.1**
	comp=E,1.5nm,0.7s,baz=226,slow=5.6,SNR=3.9						
SYO	**Syowa Base**	**73.53**	**159**	⇑*e*P	**P**	**02 42 04.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**76.26**	**69**	P	**P**	**02 42 21.3**	**-0.8**
	comp=E,1.3nm,0.6s,baz=257,slow=5.9,SNR=31						
ULM	**Lac du Bonnet**	**78.24**	**341**	P	**P**	**02 42 31.4**	**-0.8**
	comp=E,1.6nm,0.5s,baz=161,slow=4.7,SNR=5.4						
NVAR	**Mina Array Bea**	**78.65**	**321**	P	**P**	**02 42 32.6**	**-2.5**
	comp=E,4.4nm,0.7s,baz=142,slow=5.5,SNR=3.3						
BOSA	**Boshof**	**80.51**	**117**	P	**P**	**02 42 45.0**	**-0.4**
	comp=E,1.7nm,0.7s,baz=244,slow=6.4,SNR=7.2						
ESDC	**Sonseca Array**	**86.13**	**43**	P	**P**	**02 43 14.0**	**+0.4**
	comp=E,0.4nm,0.6s,baz=242,slow=5.2,SNR=5.2						
ASAR	**Alice Springs**	**128.66**	**204**	PKP	**PKPdf**	**02 49 38.5**	**-0.7**
	comp=E,1.6nm,0.7s,baz=157,slow=2.4,SNR=16						
AKTO	**Aktyubinsk**	**130.02**	**43**	PKP	**PKPdf**	**02 49 41.1**	**+0.2**
	comp=E,0.6nm,0.6s,baz=333,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**131.84**	**207**	PKP	**PKPdf**	**02 49 44.2**	**-1.1**
	comp=E,1.2nm,0.6s,baz=169,slow=1.8,SNR=6.0						

BVAR	**Borovoye Array**	**136.55**	**37**	PKP	**PKPdf**	**02 49 53.8**	**+0.7**
	comp=E,0.6nm,0.7s,baz=299,slow=3.0,SNR=3.9						
KURK	**Kurchatov**	**142.13**	**36**	PKhKP	PKPpre	02 49 58.5	
	comp=E,0.2nm,0.5s,baz=298,slow=2.8,SNR=6.0						
KURK				PKP	**PKPdf**	**02 50 03.8**	**+0.5**
	comp=E,0.7nm,0.6s,baz=299,slow=2.7,SNR=9.9						
ZALV	**Zalesovo Beam**	**143.18**	**28**	PKP	PKPbc	02 50 02.3	-0.2
	comp=E,2.6nm,0.7s,baz=298,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc	**PKPdf**	**02 50 10.8**	**+0.2**
	comp=E,4.5nm,0.6s,baz=315,slow=2.6,SNR=48						
SONM	**Songino Array**	**155.50**	**11**	PKPab	**PKPab**	**02 50 51.3**	**-0.1**
	comp=E,0.8nm,0.7s,baz=355,slow=3.8,SNR=6.0						

MEX 05 02:34:07.9±0.5, 17.16N×94.74W, h140km±7km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.15**	**242**	*i* P	Pn	02 34 25.6	-1.2
CMIG				*i* S	Sn	02 34 39.0	-2.2
TGIG		**1.60**	**104**	*i* P	Pn	02 34 36.4	-1.4
TGIG				*e*S	Sn	02 34 59.3	-1.4
VHO	**Vista Hermosa**	**1.90**	**268**	*i* P	Pn	02 34 40.8	-0.7
VHO				*i* S	Sn	02 35 05.4	-1.9
HUIG	**Huatulco**	**1.91**	**224**	*i* P	Pn	02 34 39.6	-1.8
HUIG				*i* S	Sn	02 35 05.7	-1.3

DJA ***05*** *02:44:43, 0.59S×133.04E, h30km, MLv3.7/4*
IDC 05 02:44:35.8±3.1, 0.62S×132.96E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=208.2km s-min=24.1km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.81**	**202**	LR	LR	02 56 31.1	
	comp=Z,71nm,20.2s,baz=129,slow=38						
WRA	**Warramunga Arr**	**19.25**	**176**	P	P	02 49 01.7	-0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	02 49 41.9	+0.2
	1.3nm,0.6s,baz=360,slow=10,SNR=13						
STKA	**Stephens Creek**	**32.15**	**166**	P	P	02 51 05.2	0.0
	0.6nm,0.6s,baz=354,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**64.68**	**324**	P	P	02 55 15.6	0.0
	0.1nm,0.5s,baz=108,slow=9.3,SNR=2.5						

DJA ***05*** *02:51:37, 0.35S×133.45E, h58km, mb4.9/11*
IDC 05 02:51:35.2±1.0, 0.65S×133.42E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.8/18, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=56.7km s-min=13.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	P	02 55 56.1	-2.0
	0.2nm,0.3s,baz=21,slow=13,SNR=5.4						
FITZ				S	Sn	02 59 13.8	-18
	0.2nm,0.3s,baz=163,slow=20,SNR=6.7						
WRA	**Warramunga Arr**	**19.20**	**177**	P	P	02 56 00.4	-0.4
	0.3nm,0.3s,baz=359,slow=13,SNR=7.5						
WRA				S	Sn	02 59 27.7	-10
	0.2nm,0.3s,baz=349,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**22.89**	**179**	P	P	02 56 40.5	-0.2
	3.7nm,0.8s,baz=4.4,slow=9.7,SNR=26						
ASAR				S	S	03 00 54.0	+2.3
	1.3nm,1.1s,baz=0.2,slow=24,SNR=4.6						
STKA	**Stephens Creek

0.5nm,0.3s,baz=358,slow=23,SNR=5.1
MTSU Mount Surprise 20.37 148 *e*P **P 03 45 36.9 -0.1**
16nm,0.7s
ASAR Alice Springs 22.71 178 P **P 03 46 02.5 +0.4**
9.2nm,0.4s,baz=355,slow=11,SNR=87
CTA Charters Tower 23.01 147 P **P 03 46 06.1 +0.9**
9.8nm,0.7s,baz=319,slow=13,SNR=8.2
CTA LR LR 03 56 40.6
comp=Z,205nm,18.2s,baz=328,slow=41
CTA Charters Tower 23.01 147 *e*P **P 03 46 07.0 +1.8**
9.6nm,0.9s
FORT Forrest 30.18 189 *e*P **P 03 47 11.3 +1.1**
11nm,0.7s
STKA Stephens Creek 31.88 166 P **P 03 47 25.1 -0.1**
7.5nm,0.5s,baz=336,slow=8.2,SNR=51
STKA Stephens Creek 31.88 166 *e*P **P 03 47 25.1 -0.1**
6.8nm,0.5s
KMBL Kambalda 32.20 198 *e*P **P 03 47 29.0 +1.0**
54nm,0.4s
ARMA Armidale 34.24 151 *e*P **P 03 47 47.0 +1.1**
ARPS Mount Arapiles 36.64 168 *e*P **P 03 48 07.4 +1.0**
71nm,0.6s
SONM Songino Array 53.80 338 P **P 03 50 21.3 -1.2**
0.3nm,0.7s,baz=132,slow=2.2,SNR=3.9
SONM PcP **PcP 03 51 27.9 -0.1**
0.3nm,0.6s,baz=165,slow=4.0,SNR=3.7
MKAR Makanchi Array 64.99 324 P **P 03 51 40.1 +0.4**
4.0nm,0.5s,baz=113,slow=7.7,SNR=17
ZALV Zalesovo Beam 67.61 331 P **P 03 51 54.9 -1.4**
1.2nm,0.5s,baz=117,slow=6.7,SNR=10
BVAR Borovoye Array 74.66 326 P **P 03 52 38.6 -0.4**
2.7nm,0.7s,baz=123,slow=7.2,SNR=16
AKTO Aktyubinsk 81.23 321 P **P 03 53 14.3 -1.3**
1.1nm,0.8s,baz=90,slow=7.1,SNR=3.1
ILAR Eielson Array 86.45 25 P **P 03 53 40.5 -1.4**
0.4nm,0.5s,baz=242,slow=4.7,SNR=10
TORD Torodi Ar. Bea 130.44 287 PKP **PKPdf 04 00 10.2 -0.9**
0.7nm,0.7s,baz=68,slow=1.7,SNR=6.4
CPUP Villa Florida 151.15 160 PKPbc **PKPbc 04 00 54.5 +1.1**
3.2nm,0.7s,baz=141,slow=2.5,SNR=11
LPAZ La Paz 152.93 130 PKPbc **PKPbc 04 01 00.1 +1.5**
1.7nm,0.8s,baz=228,slow=2.8,SNR=5.9

*DJA **05** 03:45:14, 1.63S×131.92E, h10km, MLv4.3/6*
IDC 05 03:44:49.7±0.9, 0.36S×132.86E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.0/30, Error ellipse: s-maj=48.1km s-min=13.6km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.26**	**40**	LR	LR	03 54 21.7	
	comp=Z,171nm,19.9s,baz=102,slow=31						
FITZ	**Fitzroy Crossi**	**19.01**	**202**	LR	LR	03 57 34.2	
	comp=Z,112nm,18.9s,baz=22,slow=40						
WRA	**Warramunga Arr**	**19.52**	**176**	P	P	03 49 18.7	-0.1
	0.9nm,0.3s,baz=354,slow=11,SNR=5.6						
WRA				S	Sn	03 52 49.9	-10
	0.3nm,0.3s,baz=2.3,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**23.20**	**178**	P	P	03 49 59.0	+0.7
	5.6nm,0.6s,baz=1.8,slow=9.8,SNR=12						
ASAR				S	S	03 54 13.0	+1.6
	0.8nm,0.8s,baz=3.9,slow=28,SNR=2.6						
JOW	**Kunigami**	**27.39**	**351**	LR	LR	03 59 39.5	
	comp=Z,145nm,18.7s,baz=134,slow=32						
STKA	**Stephens Creek**	**32.42**	**166**	P	P	03 51 20.4	-1.1
	9.4nm,0.9s,baz=350,slow=6.7,SNR=12						
MJAR	**Matsushiro Arr**	**37.05**	**7**	LR	LR	04 04 27.1	
	comp=Z,104nm,20.1s,baz=205,slow=32						
KSRS	**Korea Array**	**37.90**	**354**	LR	LR	04 06 11.8	
	comp=Z,77nm,18.5s,baz=311,slow=34						
CMAR	**Chiang Mai Arr**	**38.21**	**301**	P	P	03 52 11.9	+0.3
	0.7nm,0.3s,baz=126,slow=6.9,SNR=8.2						
SONM	**Songino Array**	**53.23**	**338**	P	P	03 54 10.6	+0.5
	0.5nm,0.7s,baz=166,slow=7.3,SNR=4.0						
SONM				PcP	PcP	03 55 17.7	-0.4
	0.3nm,0.8s,baz=129,slow=3.9,SNR=2.4						
MKAR	**Makanchi Array**	**64.41**	**324**	P	P	03 55 27.6	-0.2
	0.4nm,0.4s,baz=109,slow=8.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**67.03**	**331**	P	P	03 55 43.4	-1.1
	1.0nm,0.6s,baz=109,slow=7.0,SNR=4.6						
BVAR	**Borovoye Array**	**74.08**	**326**	P	P	03 56 27.5	-0.1
	1.7nm,0.9s,baz=123,slow=5.5,SNR=6.6						
ILAR	**Eielson Array**	**86.16**	**25**	P	P	03 57 33.4	+0.8
	0.8nm,0.9s,baz=252,slow=5.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**129.99**	**287**	PKP	PKPdf	04 04 02.6	0.0
	0.7nm,1.1s,baz=85,slow=3.0,SNR=2.7						

*IDC **05** 03:50:55.8±1.6, 0.39S×132.81E, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.0/19, mbtmp4.4/6, ML4.4/2, Error ellipse: s-maj=56.6km s-min=19.9km az=76.0*
*DJA **05** 03:51:01, 0.58S×132.79E, h10km, MLv4.6/4*
ISC 05 03:51:05.7±2.7, 1.10S±0.2×132.66E±0.2, h35km, n10, σ2s55/13, mb4.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**11.82**	**187**	*e*P	**Pn**	**03 53 53.8**	**+1.9**
MTN				*e*S	**Sn**	**03 56 06.3**	**+3.7**
FITZ	**Fitzroy Crossi**	**18.28**	**202**	P	**Pn**	**03 55 18.3**	**+1.6**
	0.4nm,0.3s,baz=41,slow=12,SNR=12						
FITZ				S	**Sn**	**03 58 35.8**	**-4.0**
	0.2nm,0.3s,baz=37,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.28**	**202**	*e*P	**Pn**	**03 55 19.1**	**+2.4**
	5.3nm,0.4s						
FITZ				*e*S	**Sn**	**03 58 36.4**	**-3.5**
WRA	**Warramunga Arr**	**18.87**	**175**	P	**Pn**	**03 55 23.9**	**+0.1**
	1.7nm,0.3s,baz=352,slow=11,SNR=24						
WRA				S	**Sn**	**03 58 51.8**	**-2.3**
	0.6nm,0.3s,baz=357,slow=22,SNR=7.1						
QIS	**Mount Isa**	**20.58**	**161**	*e*P	**P**	**03 55 41.5**	**-0.2**
ASAR	**Alice Springs**	**22.53**	**177**	P	**P**	**03 56 03.9**	**+1.1**
	11nm,0.5s,baz=355,slow=10,SNR=51						
ASAR				S	Sn	04 00 19.4	-2.9
	1.8nm,0.9s,baz=359,slow=26,SNR=6.2						
CTA	**Charters Tower**	**23.18**	**146**	P	**P**	**03 56 09.3**	**-0.1**
	6.8nm,1.0s,baz=333,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**31.83**	**165**	P	**P**	**03 57 25.9**	**-1.4**
	3.9nm,0.5s,baz=5.5,slow=7.8,SNR=22						
STKA	**Stephens Creek**	**31.83**	**165**	*e*P	**P**	**03 57 26.0**	**-1.4**
	4.6nm,0.7s						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	04 01 34.4	-6.5
	0.3nm,0.5s,baz=120,slow=7.2,SNR=4.9						

CASC 05 04:01:10.9±2.5, 13.89N×89.11W, h235km±13km, MD3.6, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFU	**La Fuente**	**0.14**	**181**	*e*P	Pn	04 01 41.4	-0.1
LBRS	**Las Brisas**	**0.17**	**157**	*e*P	Pn	04 01 41.5	0.0
BOQS	**Boqueron**	**0.23**	**226**	*e*P	Pn	04 01 41.5	-0.3
SNET	**Serv Nac Est T**	**0.24**	**210**	*e*P	Pn	04 01 41.2	-0.3
LFRS	**El Faro**	**0.27**	**170**	*e*P	Pn	04 01 41.3	-0.4
SNVI	**San Vicente**	**0.39**	**137**	*e*P	Pn	04 01 41.5	-0.4
SNVI				*e*S	S	04 02 07.2	+0.9
SNJE	**San Jose**	**0.48**	**267**	*e*P	Pn	04 01 42.2	0.0
SBLS	**San Blas**	**0.50**	**264**	*e*P	Pn	04 01 42.7	+0.4
RTR	**El Retiro**	**0.52**	**270**	*e*P	Pn	04 01 42.7	+0.3
MTO2	**Montecristo 2**	**0.56**	**334**	*e*P	Pn	04 01 43.1	+0.6
RBDL	**Robledal**	**0.60**	**291**	*e*P	Pn	04 01 43.0	+0.4
CAHU	**Cacacuatique**	**0.88**	**98**	*e*P	Pn	04 01 44.0	+0.1
VSM	**San Miguel**	**0.94**	**120**	*e*P	Pn	04 01 44.3	0.0
BLLM	**Bellamira**	**0.96**	**118**	*e*P	Pn	04 01 44.0	-0.1
CNCH	**Conchagua**	**1.39**	**116**	*e*P	Pn	04 01 47.3	+0.2
TGUH	**Tegucigalpa,Un**	**1.79**	**85**	*e*P	Pn	04 01 51.7	+1.5
JCR	**Jicaral**	**5.61**	**135**↑	*e*P	Pn	04 02 37.5	+3.5
LAJ	**Bijagual**	**6.32**	**129**	*e*P	Pn	04 02 43.7	+0.6
LAJ				*e*S	P	04 03 43.9	
URSC	**Urasca**	**6.60**	**127**↑	*e*P	Pn	04 02 52.0	+5.4
URSC				*e*S	S	04 04 02.1	-0.9
BUS	**Buena Vista**	**6.79**	**129**	*e*P	Pn	04 02 53.9	+4.5

*IDC **05** 04:07:20.8±0.7, 0.22S×133.09E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/19, mbtmp4.2/10, ML4.3/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/29, Error ellipse: s-maj=35.8km s-min=12.7km az=75.0*
*ISCJB **05** 04:07:24.0±0.6, 0.30S±0.07×132.79E±0.1, h32km, mb4.3/11, MS3.5/4, Error ellipse: s-maj=17.6km s-min=9.3km az=162.1*

*DJA **05** 04:07:30, 0.43S×133.15E, h48km, mb4.9/12*
ISC 05 04:07:25.8±0.7, 0.30S±0.07×133.0E±0.2, h32km, n26, σ1s34/25, mb4.2/11, MS3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**12.60**	**188**	*e*P	**Pn**	**04 10 23.0**	**+0.1**
MTN				*e*S	**Sn**	**04 12 39.5**	**-2.7**
PMG	**Port Moresby**	**16.77**	**123**	Pn	**P**	**04 11 20.4**	**0.0**
	0.5nm,0.3s,baz=292,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**19.10**	**202**	P	**P**	**04 11 46.4**	**+0.3**
	0.4nm,0.3s,baz=54,slow=12,SNR=8.1						
FITZ				LR	LR	04 18 42.2	
	comp=Z,139nm,21.9s,baz=32,slow=35						
FITZ	**Fitzroy Crossi**	**19.10**	**202**	*e*P	**Pn**	**04 11 47.3**	**+0.2**
	8.2nm,0.6s						
FITZ				*e*S	Sn	04 15 09.1	-11
WRA	**Warramunga Arr**	**19.57**	**176**	P	**P**	**04 11 51.3**	**0.0**
	1.4nm,0.3s,baz=353,slow=11,SNR=40						
WRA				S	**S**	**04 15 29.6**	**-0.9**
	0.3nm,0.3s,baz=357,slow=23,SNR=5.2						
QIS	**Mount Isa**	**21.15**	**163**	*e*P	**P**	**04 12 08.6**	**+0.1**
ASAR	**Alice Springs**	**23.25**	**178**	P	**P**	**04 12 30.8**	**+0.2**
	13nm,0.7s,baz=1.0,slow=11,SNR=125						
ASAR				S	**S**	**04 16 46.0**	**+5.3**
	4.0nm,1.2s,baz=3.0,slow=20,SNR=4.4						
CTA	**Charters Tower**	**23.58**	**147**	P	**P**	**04 12 33.8**	**-0.1**
	4.1nm,0.7s,baz=341,slow=11,SNR=4.9						
MBWA	**Marble Bar**	**24.43**	**211**	*e*P	**P**	**04 12 43.0**	**+1.2**
JOW	**Kunigami**	**27.35**	**351**	LR	LR	04 21 18.1	
	comp=Z,136nm,21.1s,baz=153,slow=31						
QLP	**Quilpie**	**28.29**	**158**	*e*P	**P**	**04 13 16.3**	**-0.3**
FORT	**Forrest**	**30.67**	**188**	*e*P	P	04 13 44.9	+7.3
	6.6nm,0.7s						
STKA	**Stephens Creek**	**32.45**	**166**	P	**P**	**04 13 53.1**	**-0.2**
	19nm,0.6s,baz=342,slow=8.8,SNR=44						
STKA				LR	LR	04 28 39.7	
	comp=Z,132nm,19.1s,baz=16,slow=39						
STKA	**Stephens Creek**	**32.45**	**166**	*e*P	**P**	**04 13 52.9**	**-0.4**
	12nm,0.8s						
CMSA	**Cobar Meteorol**	**33.32**	**160**	*e*P	**P**	**04 14 00.7**	**-0.2**
	22nm,1.2s						
MJAR	**Matsushiro Arr**	**36.98**	**7**	LR	LR	04 26 27.5	
	comp=Z,70nm,20.4s,baz=185,slow=31						
ARPS	**Mount Arapiles**	**37.21**	**168**	*e*P	**P**	**04 14 35.0**	**+0.7**
	36nm,0.8s						
KSRS	**Korea Array**	**37.85**	**353**	LR	LR	04 28 54.6	
	comp=Z,46nm,19.9s,baz=332,slow=34						
CMAR	**Chiang Mai Arr**	**38.28**	**301**	P	**P**	**04 14 43.9**	**+0.3**
	1.0nm,0.3s,baz=123,slow=6.0,SNR=10						
SONM	**Songino Array**	**53.22**	**338**	P	**P**	**04 16 41.0**	**-0.3**
	0.4nm,0.6s,baz=153,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**64.43**	**324**	P	**P**	**04 17 59.2**	**+0.1**
	1.2nm,0.5s,baz=113,slow=7.9,SNR=24						
ZALV	**Zalesovo Beam**	**67.04**	**331**	P	**P**	**04 18 15.2**	**-0.5**
	0.6nm,0.6s,baz=120,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**04 20 02.5**	**-0.7**
	0.5nm,0.6s,baz=255,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**130.08**	**287**	PKP	**PKPdf**	**04 26 33.0**	**-0.6**
	0.6nm,0.7s,baz=41,slow=1.3,SNR=5.3						
CPUP	**Villa Florida**	**151.72**	**160**	PKPbc	**PKPbc**	**04 27 18.2**	**+0.3**
	1.3nm,0.6s,baz=263,slow=1.6,SNR=5.0						
LPAZ	**La Paz**	**153.44**	**129**	PKPbc	**PKPbc**	**04 27 23.1**	**+0.3**
	0.5nm,0.5s,baz=262,slow=7.1,SNR=3.4						

CASC 05 04:16:23.7±1.6, 8.39N×82.89W, h0km±4km, MD3.4, MW3.9, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.39**	**314**	*i* P	Pg	04 16 33.2	+2.1
ACR				*i* S	Sg	04 16 39.2	+2.9
BRU2	**Volcan**	**0.45**	**25**	*e*P	Pg	04 16 34.0	+1.4
BRU2				*e*S	Sg	04 16 42.4	+3.8
TBS2		**0.47**	**29**	*e*P	Pg	04 16 34.0	+1.1
TBS2				*e*S	Sg	04 16 43.3	+4.2
BUS	**Buena Vista**	**1.45**	**324**	*e*P	Pn	04 16 50.9	-0.9
BUS				*i* S	Sn	04 17 12.5	+0.7
QCR	**Quepos**	**1.63**	**309**	*i* P	Pn	04 16 52.8	-0.9
QCR				*i* S	Sg	04 17 17.3	+1.1
URSC	**Urasca**	**1.69**	**329**	*i* P	Pn	04 16 54.8	0.0
URSC				*i* S	Sg	04 17 18.6	+0.2
LAJ	**Bijagual**	**1.91**	**320**	*e*P	Pb	04 17 00.1	+0.4
LAJ				*i* S	S	04 17 33.3	
PTP	**Ponta Puerca**	**19.43**	**58**	*i* P	x	04 16 28.1	
PTP				*e*S	x	04 16 32.1	

KRSC 05 04:35:00.0±0.4, 55.44N×162.25E, h5km±5km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.83**	**22**	*e*P	Pg	04 35 16.5	+0.5
KBTR				*i* S	Sb	04 35 29.1	+0.6
MKZ	**Mys Kozlova**	**0.94**	**199**	*e*P	Pg	04 35 17.5	-0.4
MKZ				*i* S	Sg	04 35 29.4	-0.6
KMNR	**Kamenistaya**	**1.19**	**286**	*e*P	Pg	04 35 22.9	0.0
KMNR				*i* S	Sn	04 35 39.9	-0.1
TUMR	**Tumrok**	**1.21**	**263**	*e*P	Pb	04 35 23.6	0.0
TUMR				*i* S	Sn	04 35 41.1	+0.4
SMKR	**Semkarok**	**1.23**	**339**	*e*P	Pg	04 35 23.4	-0.2
SMKR				*i* S	Sn	04 35 41.5	+0.6
KLY	**Klyuchi**	**1.26**	**315**	*e*P	Pg	04 35 23.7	-0.4
KLY				*i* S	Sg	04 35 40.1	-0.2
BDR	**Baidarnaya**	**1.27**	**333**	*e*P	Pg	04 35 24.2	-0.3
BDR				*i* S	Sb	04 35 41.3	0.0
SRKR	**Sorokina**	**1.36**	**334**	*e*P	Pn	04 35 24.9	-0.8
SRKR				*i* S	Sb	04 35 43.8	0.0
KOZ	**Kozyrevsk**	**1.48**	**296**	P	Pb	04 35 27.8	-0.2
SRDR	**Sredinnyy**	**1.68**	**303**	*e*P	Pb	04 35 30.8	-0.6
SRDR				*i* S	Sb	04 35 53.4	+0.5
SPN	**Mys Shipunski**	**2.69**	**210**	*e*P	Pn	04 35 43.3	-0.5
SPN				*i* S	Sn	04 36 14.2	-2.5
AVH	**Avacha**	**3.00**	**225**	*e*P	Pn	04 35 50.9	+2.7
AVH				*e*S	Sn	04 36 27.1	+2.6
KOK	**Koryaka**	**3.02**	**226**	*e*P	Pn	04 35 51.2	+2.7
KOK				*e*S	Sn	04 36 27.9	+2.8
RUS	**Russkaya**	**3.73**	**218**	P	Pn	04 36 01.6	+3.4
MTVR	**Mutnovka**	**3.81**	**221**	P	Pn	04 36 01.9	+2.4
ASAK	**Asacha**	**4.00**	**222**	P	Pn	04 36 03.8	+1.8

NNC 05 04:36:19.9±2.5, 50.77N×89.02E, h0km±12km, mb3.6, mpv3.2, 7C-2D, Error ellipse: s-maj=17.1km s-min=12.5km az=66.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.97**	**231**	↑Pn	Pn	04 37 50.0	+0.5
	3.3nm,0.6s,baz=0.0,slow=0.1,SNR=55						
MK31				↑Sn	Sn	04 38 59.2	+0.8
	1.1nm,0.5s,baz=0.0,slow=0.1,SNR=6.9						
MK31				↓Lg	Lg	04 39 30.4	
	2.7nm,0.5s,baz=50,slow=30,SNR=6.1						
KURK	**Kurchatov**	**6.60**	**274**	↑Pn	Pn	04 37 57.2	-0.9
	4.6nm,1.5s						
KURK				↑Sn	Sn	04 39 15.5	+1.4
	4.8nm,0.7s						
KURK				↓Lg	Lg	04 39 48.9	
	6.6nm,0.7s						
KURBB	**Kurchatov Arra**	**6.67**	**273**	↑Pn	Pn	04 37 59.4	+0.4
	0.2nm,0.4s						
KURBB				↑Sn	Sn	04 39 17.0	+1.4
	0.8nm,0.4s						
KURBB				↑Lg	Lg	04 39 51.1	
	2.0nm,0.6s						

IDC 05 04:42:18.8±22.0, 19.62N×145.45E, h660km±237km, mb3.1/5, mb1 3.2/5, mb1mx2.7/21, mbtmp3.1/5, Error ellipse: s-maj=172.9km s-min=31.2km az=175.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**57.66**	**313**	P	P	04 51 08.4	-0.3
	0.2nm,0.4s,baz=93,slow=7.8,SNR=7.5						
KURK	**Kurchatov**	**60.43**	**318**	P	P	04 51 27.8	+0.8
	1.6nm,0.4s,baz=96,slow=7.5,SNR=32						
ILAR	**Eielson Array**	**62.93**	**26**	P	P	04 51 43.0	+0.1
	0.2nm,0.5s,baz=240,slow=6.2,SNR=9.0						
NVAR	**Mina Array Bea**	**82.76**	**52**	P	P	04 53 36.5	+0.2
	0.8nm,0.7s,baz=271,slow=5.3,SNR=6.9						
FINES	**FINESS Array B**	**85.95**	**335**	P	P	04 53 50.8	-0.2
	1.8nm,0.9s,baz=94,slow=6.0,SNR=3.4						

*IDC **05** 04:47:50.8±2.6, 14.51S×167.13E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS3.3/2, Ms1 3.2/2, ms1mx2.8/26, Error ellipse: s-maj=89.5km s-min=25.0km az=134.0*
*NOU **05** 04:47:53.8±0.8, 14.73S×169.84E, h30km, MD3.4*
ISC 05 04:47:55.9±2.4, 14.6S±0.6×167.2E±0.5, h35km, n13, σ1s34/4, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.50**	**185**	*e*P	Pn	04 49 47.4	+4.3
DZM				*e*S	Sn	04 51 11.4	+4.4
DZM				AMP		04 51 19.7	
	comp=Z,241nm,5.2s						
NOUC	**Port Laguerre**	**7.55**	**186**	*e*P	Pn	04 49 48.4	+4.8
NOUC				*e*S	Sn	04 51 14.1	+6.1
NOUC				AMP		04 51 17.9	
	comp=Z,16nm,6.0s						
NORM	**Noumea**	**7.66**	**185**	*e*P	Pn	04 49 49.7	+4.6
HNR	**Honiara**	**8.73**	**305**	LR	LR	04 52 55.2	
	comp=Z,100nm,19.3s,baz=149,slow=35						
CTA	**Charters Tower**	**20.72**	**252**	P	**P**	**04 52 34.5**	**+0.9**
	comp=Z,13nm,1.0s,baz=81,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**29.05**	**229**	P	**P**	**04 53 53.2**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=24,slow=8.1,SNR=5.8						
STKA				LR	LR	05 05 25.4	
	comp=Z,84nm,18.4s,baz=26,slow=36						
WRA	**Warramunga Arr**	**31.80**	**256**	P	P	04 54 16.3	-1.2
	comp=Z,2.3nm,0.9s,baz=85,slow=8.7,SNR=8.9						
ASAR	**Alice Springs**	**32.66**	**249**	P	**P**	**04 54 24.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=76,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**39.97**	**259**	P	P	04 55 26.2	-1.3
	comp=Z,3.7nm,0.9s,baz=71,slow=6.7,SNR=5.8						
SONM	**Songino Array**	**82.32**	**324**	P	P	05 00 15.1	+1.0
	comp=Z,0.3nm,0.7s,baz=157,slow=7.9,SNR=2.7						
ILAR	**Eielson Array**	**86.39**	**18**	P	**P**	**05 00 34.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=228,slow=5.4,SNR=6.2						
MKAR	**Makanchi Array**	**97.03**	**316**	P	P	05 01 23.8	-0.5
	comp=Z,0.4nm,0.9s,baz=89,slow=2.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**97.21**	**324**	P	P	05 01 24.6	-0.2
	comp=Z,0.3nm,0.4s,baz=112,slow=1.6,SNR=2.7						

WEL 05 04:50:16.9±0.1, 39.73S×176.30E, h43km±2km, ML3.5/11, 11C-4D, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNHZ	**Pukenui**	**0.20**	**203**	↑PN	Pn	04 50 23.5	-1.1
PNHZ					Sn	04 50 29.2	-0.8
BHHZ	**Black Hill Sta**	**0.30**	**322**	↑PN	Pn	04 50 23.9	-1.6
WPHZ	**Waipukurau**	**0.35**	**163**	↑PN	Pn	04 50 25.8	-0.2
MCHZ	**McNeill Hill**	**0.42**	**47**	↓PN	Pn	04 50 26.8	+0.1
TSZ	**Takapari Road**	**0.42**	**218**	↓PN	Pn	04 50 26.0	-0.8
TSZ					Sn	04 50 32.8	-1.0
KAHZ	**Kahuranaki**	**0.45**	**99**	↓PN	Pn	04 50 27.4	+0.3
PXZ	**Pawanui**	**0.53**	**125**	PN	Pn	04 50 28.2	+0.1
MOVZ	**Moawhango**	**0.53**	**307**	↑PN	Pn	04 50 27.3	-1.0
MOVZ					Sn	04 50 35.4	-0.9
DVHZ	**Dannevirke**	**0.58**	**190**	↑PN	Pn	04 50 28.6	-0.2
BKZ	**Black Stump Fm**	**0.58**	**15**	PN	Pn	04 50 27.9	-1.0
BKZ					Sn	04 50 36.8	-0.6
PRHZ	**Porangahau**	**0.59**	**155**	PN	Pn	04 50 29.2	+0.2
CKHZ	**Cape Kidnapper**	**0.60**	**84**	PN	Pn	04 50 29.1	+0.1
WNVZ	**Wahianoa**	**0.68**	**306**	↑PN	Pn	04 50 29.9	-0.4
TUVZ	**Tukino**	**0.68**	**312**	↑PN	Pn	04 50 30.0	-0.3
TRVZ	**Turoa**	**0.72**	**306**	↑PN	Pn	04 50 30.7	-0.4
DRZ	**Dome Shelter**	**0.73**	**308**	PN	Pn	04 50 30.8	-0.4
MTVZ	**Mangateitei**	**0.73**	**298**	PN	Pn	04 50 30.8	-0.1
NMHZ	**Naumai**	**0.74**	**32**	↓PN	Pn	04 50 31.4	+0.4
FWVZ	**Far West T-bar**	**0.75**	**309**	↑PN	Pn	04 50 30.9	-0.4
OTVZ	**Oturere**	**0.75**	**319**	↑PN	Pn	04 50 31.1	-0.2
NGZ	**Ngauruhoe**	**0.78**	**315**	↑PN	Pn	04 50 31.4	-0.2
POWZ	**Post Office Ro**	**0.78**	**212**	PN	Pn	04 50 31.8	+0.3
WPVZ	**Whakapapa**	**0.79**	**312**	PN	Pn	04 50 31.6	-0.1
KRVZ	**Karewarewa**	**0.81**	**321**	PN	Pn	04 50 31.9	-0.2
WTVZ	**West Tongariro**	**0.82**	**318**	PN	Pn	04 50 32.0	-0.2
RITZ	**Rihia Road**	**0.83**	**335**	PN	Pn	04 50 32.2	+0.1
HATZ	**Hinemaiaia**	**0.85**	**349**	PN	Pn	04 50 32.2	-0.3
PKVZ	**Pokaka**	**0.86**	**300**	PN	Pn	04 50 32.6	-0.1
KATZ	**Kakaramea**	**0.89**	**328**	PN	Pn	04 50 32.9	-0.2
TWVZ	**Tawhiwhi**	**0.94**	**314**	PN	Pn	04 50 33.2	-0.5
BFZ	**Birch Farm**	**0.95**	**183**	PN	Pn	04 50 33.5	-0.3
RATZ	**Rangitukua**	**0.95**	**334**	PN	Pn	04 50 33.7	-0.2
RAHZ	**Arahi**	**1.01**	**37**	PN	Pn	04 50 34.4

FINES FINESS Array B 86.45 335 P P 05 05 34.2 +0.5
0.9nm,0.4s,baz=62,slow=4.8,SNR=12
BRTR Keskin Array B 93.57 314 P P 05 06 07.5 +0.1
0.4nm,0.7s,baz=80,slow=4.6,SNR=3.0
TORD Torodi Ar. Bea 131.90 309 PKP PKPdf 05 12 01.3 0.0
0.3nm,0.8s,baz=71,slow=1.7,SNR=2.6

*DJA **05** 05:06:22,0.87S×133.09E,h7km,MLv3.8/3*
IDC 05 05:06:16.0±1.0,0.71S×133.36E,h0km,mb3.9/6, mb1 4.0/8,mb1mx3.8/20,mbtmp3.8/8,ML3.8/2,Error ellipse: s-maj=56.0km s-min=18.2km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.88**	**203**	P	P	05 10 36.6	-1.5
	0.1nm,0.3s,baz=24,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**19.14**	**177**	P	P	05 10 41.4	+0.3
	0.4nm,0.3s,baz=354,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**22.83**	**179**	P	P	05 11 21.4	+0.5
	1.8nm,0.4s,baz=357,slow=9.7,SNR=32						
STKA	**Stephens Creek**	**31.97**	**167**	P	P	05 12 43.9	0.0
	0.8nm,0.5s,baz=345,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**64.98**	**324**	P	P	05 16 58.5	+0.6
	0.8nm,0.6s,baz=115,slow=7.5,SNR=5.4						
KURK	**Kurchatov**	**69.05**	**326**	P	P	05 17 23.5	-0.1
	1.3nm,0.7s,baz=120,slow=5.7,SNR=7.1						
BVAR	**Borovoye Array**	**74.65**	**326**	P	P	05 17 57.1	-0.1
	0.2nm,0.4s,baz=117,slow=6.2,SNR=3.5						
ILAR	**Eielson Array**	**86.26**	**25**	P	P	05 18 58.9	-0.5
	0.4nm,0.9s,baz=261,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**130.56**	**287**	PKP	PKPdf	05 25 29.8	-0.2
	0.1nm,0.5s,baz=80,slow=2.3,SNR=2.6						

*DJA **05** 05:08:18,0.14S×133.00E,h10km,MLv4.4/8*
IDC 05 05:08:16.9±1.5,0.31S×133.07E,h0km,mb4.0/6, mb1 4.0/8,mb1mx3.8/20,mbtmp3.9/8,ML4.0/2,MS3.5/1, Ms1 3.5/1,ms1mx2.4/28,Error ellipse: s-maj=84.5km s-min=17.1km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.13**	**202**	P	P	05 12 41.3	-0.4
	0.3nm,0.3s,baz=39,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**19.55**	**176**	P	P	05 12 46.5	+0.1
	0.5nm,0.3s,baz=355,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**23.23**	**178**	P	P	05 13 26.2	+0.3
	2.3nm,0.6s,baz=358,slow=10,SNR=11						
STKA	**Stephens Creek**	**32.42**	**166**	P	P	05 14 48.5	-0.2
	3.9nm,0.7s,baz=350,slow=9.3,SNR=7.3						
STKA				LR	LR	05 27 37.5	
	comp=Z,89nm,19.7s,baz=215,slow=36						
MKAR	**Makanchi Array**	**64.50**	**324**	P	P	05 18 56.2	+0.6
	1.8nm,0.3s,baz=114,slow=8.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**67.09**	**331**	P	P	05 19 11.5	-0.5
	0.3nm,0.5s,baz=136,slow=3.5,SNR=2.4						
KURK	**Kurchatov**	**68.56**	**326**	P	P	05 19 21.3	-0.1
	0.5nm,0.7s,baz=122,slow=5.7,SNR=5.0						
BVAR	**Borovoye Array**	**74.16**	**326**	P	P	05 19 55.4	+0.1
	1.3nm,0.9s,baz=116,slow=6.9,SNR=5.1						

*NNC **05** 05:08:37.4±3.4,30.65N×69.53E,h0km,mb3.6,Error ellipse: s-maj=43.3km s-min=38.2km az=88.0*
ISC 05 05:08:37.4±3.7,30.5N±0.2×69.5E±0.4,h10km,n5,σ0.59/4, 2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**6.95**	**103**	*e*P	Pb	05 10 35.0	-3.2
NDI				*e*S	Sg	05 12 13.0	-7.5
KK31	**Karatay Array**	**12.59**	**3**	⇓P	**Pn**	**05 11 36.0**	**-0.4**
	1.6nm,0.5s,baz=197,slow=15,SNR=34						
KK31				⇑S	**Sn**	**05 13 56.9**	**+0.2**
	1.5nm,0.6s						
TKM2	**Tokmak 2**	**13.30**	**20**	⇑P	Pn	05 11 45.6	-0.8
	3.8nm,1.0s						
MK31	**Makanchi Array**	**19.03**	**28**	P	**P**	**05 12 59.6**	**+0.2**
	0.8nm,0.7s,baz=0.0,slow=0.1,SNR=8.2						
AB31	**Akbulak array**	**20.07**	**341**	⇓P	**P**	**05 13 11.0**	**+0.2**
	0.5nm,0.5s,baz=151,slow=13,SNR=13						

IDC 05 05:20:06.7±11.0,0.41N×133.07E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=172.7km s-min=84.3km az=168.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.79**	**201**	P	P	05 24 38.9	+0.2
	0.1nm,0.3s,baz=22,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**20.26**	**177**	P	P	05 24 44.1	+0.1
	0.5nm,0.4s,baz=356,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.94**	**178**	P	P	05 25 22.8	0.0
	0.7nm,0.4s,baz=356,slow=9.2,SNR=13						
STKA	**Stephens Creek**	**33.11**	**167**	P	P	05 26 44.2	-0.4
	0.9nm,0.7s,baz=335,slow=10.0,SNR=4.4						

*NIED **05** 05:21:00,47.20N×153.00E,h17km,Mw4.0 Best double couple: Mo1.19000×10^15 NP1:φs351.00000°,δ55.00000°, λ74.00000°. NP2:φs198.00000°,δ38.00000°,λ112.00000°.*
*ISCJB **05** 05:21:09.6±0.5,46.86N±0.09×153.21E±0.09,h10km, mb4.1/21,MS3.5/4,Error ellipse: s-maj=13.3km s-min=8.2km az=157.6*
*IDC **05** 05:21:14.7±0.7,46.90N×152.90E,h31km±5km,mb3.9/17, mb1 4.0/18,mb1mx4.0/25,mbtmp3.9/18,ML3.8/1,MS3.3/8, Ms1 3.3/8,ms1mx3.0/47,Error ellipse: s-maj=18.0km s-min=14.4km az=143.0*
*MOS **05** 05:21:30.3±1.8,46.71N×152.50E,h188km,mb3.9/15, Error ellipse: s-maj=17.3km s-min=10.0km az=88.5*
*BJI **05** 05:21:40.5,46.90N×151.90E,h281km,mB4.5/3,mb4.3/6*
ISC 05 05:21:13.4±0.6,46.91N±0.08×153.00E±0.07,h10km, h9km:pP-P,n83,σ2.29/66,mb4.0/21,MS3.5/4,14C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**247**	PN	**Pn**	**05 22 17.0**	**+3.1**
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR	**Severo-Kuril's**	**4.30**	**27**	*e*PN	Pg	05 22 43.0	+7.3
SKR				*e*S	**Sg**	**05 23 30.9**	**-0.5**
SKR				smax	smax		
	comp=N,150nm,0.5s						
SKR				smax	smax		
	comp=E,180nm,0.5s						
SKR				smax	smax		
	comp=Z,50nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.79**	**243**	*d i*PN	**Pg**	**05 23 05.3**	**+1.2**
YUK				pmax	pmax		
	comp=N,120nm,0.4s						
YUK				pmax	pmax		
	comp=E,155nm,0.4s						
YUK				pmax	pmax		
	comp=Z,144nm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
PETK	**Petropavlovsk-**	**6.90**	**24**	Pn	**Pn**	**05 22 57.4**	**+2.8**
	comp=E,1.1nm,0.3s,baz=182,slow=14,SNR=9.4						
PETK				LR	LR	05 25 36.9	
	comp=E,63nm,21.1s,baz=185,slow=38						
PETK	**Petropavlovsk-**	**6.90**	**24**	*e*PN	**Pg**	**05 23 27.6**	**+2.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**7.12**	**29**	*e*PN	**Pb**	**05 23 16.5**	**-0.5**
ASAJ	**Asahikawa**	**7.83**	**253**	Pn	**Pn**	**05 23 09.2**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=86,slow=17,SNR=10						
ASAJ				LR	LR	05 25 55.3	
	comp=Z,115nm,20.4s,baz=47,slow=36						
ASAJ	**Asahikawa**	**7.83**	**253**	PN	**Pn**	**05 23 09.2**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,115nm,20.4s						
HABR	**Khabarovsk**	**12.20**	**284**	*e*PN	Pn	05 24 19.9	+13
HABR				S	**Sn**	**05 26 28.4**	**+5.4**
HABR				pmax	pmax		
	comp=Z,27nm,1.9s						
HABR				pmax	pmax		
	comp=N,13nm,0.7s						
HABR				pmax	pmax		
	comp=E,11nm,0.8s						
HABR				MLR	MLR		
	comp=Z,98nm,15.0s						
FX1	**Attu Island--F**	**14.28**	**58**	LR	LR	05 28 38.1	
	comp=Z,491nm,22.0s,baz=142,slow=31						
USRK	**Ussuriysk Arra**	**14.96**	**267**	Pn	**Pn**	**05 24 45.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=66,slow=15,SNR=9.4						
USRK				LR	LR	05 29 49.8	
	comp=Z,66nm,19.3s,baz=275,slow=35						
MJAR	**Matsushiro Arr**	**15.12**	**232**	Pn	**Pn**	**05 24 47.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.9,SNR=8.2						
MJAR	**Matsushiro Arr**	**15.12**	**232**	P	**Pn**	**05 24 47.2**	**+0.3**
KSRS	**Korea Array**	**20.77**	**252**	P	**P**	**05 25 54.2**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=58,slow=8.9,SNR=5.5						
KSRS	**Korea Array**	**20.77**	**252**	P	**P**	**05 25 54.2**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**22.25**	**13**	*i* P	P	05 26 21.9	+12
BILL				pmax	pmax		
	comp=Z,11nm,1.9s						
SONM	**Songino Array**	**31.21**	**289**	P	**P**	**05 27 31.6**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=72,slow=9.5,SNR=4.7						
SONM	**Songino Array**	**31.21**	**289**	P	**P**	**05 27 31.6**	**-1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
LZH	**Lanzhou**	**37.81**	**272**	*e*P	**P**	**05 28 29.0**	**-1.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
INK	**Inuvik**	**41.56**	**32**	P	**P**	**05 29 00.4**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=289,slow=6.9,SNR=10.0						
INK	**Inuvik**	**41.56**	**32**	P	**P**	**05 29 00.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.46**	**306**	PcP	**PcP**	**05 30 58.2**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=4.0						
ZALV				LR	LR	05 48 05.5	
	comp=Z,49nm,19.0s,baz=61,slow=38						
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**05 29 40.8**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=69,slow=6.4,SNR=6.2						
MKAR	**Makanchi Array**	**46.80**	**297**	*e*P	**P**	**05 29 40.8**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**47.21**	**303**	P	**P**	**05 29 43.8**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=67,slow=8.4,SNR=5.8						
KURK	**Kurchatov**	**47.21**	**303**	*e*P	P	05 29 43.3	-2.7
KURK				pmax	pmax		
	comp=Z,6.0nm,2.4s						
BVAR	**Borovoye Array**	**50.70**	**309**	PcP	**PcP**	**05 31 27.7**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=37,slow=3.6,SNR=4.0						
RES	**Resolute Bay**	**50.71**	**19**	P	**P**	**05 30 11.2**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=287,slow=9.0,SNR=4.5						
RES	**Resolute Bay**	**50.71**	**19**	P	**P**	**05 30 11.2**	**-1.3**
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**52.34**	**256**	P	**P**	**05 30 23.6**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=35,slow=6.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**52.34**	**256**	P	**P**	**05 30 23.6**	**-1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**61.16**	**334**	*e*P	P	05 31 24.5	-3.0
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**61.16**	**334**	*e*p	P	05 31 24.5	-3.0
	comp=Z,0.8nm,0.5s						
JOF	**Joensuu**	**61.16**	**334**	*e*p	P	05 31 24.5	-3.0
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**62.43**	**62**	P	**P**	**05 31 35.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=294,slow=7.1,SNR=5.2						
NVAR				pP	**pP**	**05 31 44.8**	**+4.8**
	comp=Z,0.4nm,0.6s,baz=298,slow=8.5,SNR=2.9						
FINES	**FINESS Array B**	**63.86**	**335**	P	P	05 31 42.5	-3.1
	comp=Z,2.3nm,0.5s,baz=33,slow=7.0,SNR=18						
FINES	**FINESS Array B**	**63.86**	**335**	P	P	05 31 42.5	-3.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OBN	**Obninsk**	**65.14**	**325**	*e*P	**P**	**05 31 52.0**	**-2.0**
OBN				*e**PP	PcP	05 32 54.2	+28
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.05**	**341**	P	P	05 32 10.4	-2.2
	comp=Z,2.2nm,0.6s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**05 32 10.8**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=28,slow=6.3,SNR=13						
NOA				pP	**pP**	**05 32 20.2**	**+4.4**
	comp=Z,0.5nm,0.5s,baz=27,slow=6.2,SNR=2.1						
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**05 32 10.8**	**-1.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.28**	**339**	P	P	05 32 11.9	-2.1
	comp=Z,5.2nm,0.5s,baz=46,slow=6.4,SNR=26						
HFS	**Hagfors**	**68.28**	**339**	P	P	05 32 11.9	-2.1
HFS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**68.64**	**199**	P	P	05 32 12.8	-3.8
	comp=Z,0.4nm,0.4s,baz=4.9,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**68.64**	**199**	P	P	05 32 12.8	-3.8
AKASG	**Malin Array Be**	**71.37**	**326**	P	P	05 32 30.6	-2.5
	comp=Z,2.8nm,0.5s,baz=33,slow=6.4,SNR=9.2						
AKASG	**Malin Array Be**	**71.37**	**326**	P	P	05 32 30.6	-2.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**72.33**	**198**	P	**P**	**05 32 37.1**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=12,slow=5.6,SNR=9.0						
ASAR				pP	**pP**	**05 32 47.2**	**+4.8**
	comp=Z,0.5nm,0.7s,baz=13,slow=6.2,SNR=2.8						
ASAR	**Alice Springs**	**72.33**	**198**	P	**P**	**05 32 37.2**	**-2.0**
ASAR				*PP	**pP**	**05 32 47.2**	**+4.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GNI	**Garni**	**72.37**	**310**	LR	LR	06 07 10.7	
	comp=Z,32nm,21.4s,baz=106,slow=38						
BURAR	**Bucovina Array**	**75.41**	**326**	⇑P	**P**	**05 32 55.6**	**-1.6**
BURAR	**Bucovina Array**	**75.41**	**326**	⇑*i*P	**P**	**05 32 55.5**	**-1.6**
TESR		**75.77**	**325**	⇑*i*P	**P**	**05 32 58.5**	**-0.6**
TRPA	**Tarpa**	**75.97**	**328**	⇑*i*P	**P**	**05 32 58.8**	**-1.4**
MORC	**Moravsky Berou**	**76.26**	**332**	⇑P	**P**	**05 33 00.3**	**-1.6**
MORC	**Moravsky Berou**	**76.26**	**332**	⇑*i*P	**P**	**05 33 00.3**	**-1.6**
CLL	**Collm**	**76.29**	**335**	⇓*i*P	P	05 32 59.7	-2.3
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MLR	**Muntele Rosu**	**76.89**	**325**	⇑P	**P**	**05 33 04.4**	**-1.3**
MLR	**Muntele Rosu**	**76.89**	**325**	⇑*i*P	**P**	**05 33 04.3**	**-1.4**
VRAC	**Vranov**	**76.98**	**332**	LR	LR	06 10 04.0	
	comp=Z,44nm,18.2s,baz=199,slow=38						
DRGR		**77.04**	**327**	⇓P	P	05 33 04.3	-2.1
DRGR		**77.04**	**327**	⇓*i*P	P	05 33 04.3	-2.1
VOIR		**77.29**	**325**	⇑P	**P**	**05 33 06.9**	**-0.9**
VOIR		**77.29**	**325**	⇑*i*P	**P**	**05 33 06.9**	**-0.9**
TXAR	**Lajitas Array**	**77.48**	**61**	P	**P**	**05 33 08.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=302,slow=4.9,SNR=17						
TXAR				pP	**pP**	**05 33 17.2**	**+4.8**
	comp=Z,1.7nm,0.7s,baz=299,slow=4.7,SNR=8.6						
TXAR	**Lajitas Array**	**77.48**	**61**	P	**P**	**05 33 08.1**	**-1.1**
TXAR				*PP	**pP**	**05 33 17.3**	**+4.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GZR	**Gura Zlata**	**78.20**	**327**	⇑P	**P**	**05 33 11.2**	**-1.7**
GZR	**Gura Zlata**	**78.20**	**327**	⇑*i*P	**P**	**05 33 11.2**	**-1.7**
BRTR	**Keskin Array B**	**78.22**	**317**	P	**P**	**05 33 11.3**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=90,slow=4.9,SNR=6.1						
BRTR	**Keskin Array B**	**78.22**	**317**	*e*P	**P**	**05 33 11.3**	**-1.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.28**	**334**	P	P	05 33 10.8	-2.5
	comp=Z,0.5nm,0.6s,baz=46,slow=3.9,SNR=3.8						
GERES	**GERESS Array B**	**78.28**	**334**	P	P	05 33 10.8	-2.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BZS	**Buzias**	**78.44**	**327**	⇓P	**P**	**05 33 12.5**	**-1.7**
BZS	**Buzias**	**78.44**	**327**	⇓*i*P	**P**	**05 33 12.4**	**-1.7**
VTS	**Vitosha**	**80.40**	**325**	⇑P	**P**	**05 33 23.9**	**-1.2**
VTS	**Vitosha**	**80.40**	**325**	⇑*i*P	**P**	**05 33 23.9**	**-1.2**
ASF	**Jabal al Asfar**	**82.54**	**310**	LR	LR	06 17 17.9	
	comp=Z,16nm,21.1s,baz=65,slow=41						
DBIC	**Dimbokro**	**123.15**	**333**	PKP	**PKPdf**	**05 40 06.8**	**-3.8**
	comp=Z,2.3nm,1.0s,baz=201,slow=11,SNR=3.6						
DBIC	**Dimbokro**	**123.15**	**333**	PKIKP	**PKPdf**	**05 40 06.8**	**-3.8**
DBIC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	**148.30**	**95**	PKPbc	**PKPdf**	**05 40 57.0**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=254,slow=6.3,SNR=2.9						
PLCA	**Paso Flores**	**148.30**	**95**	PKP2	**PKPdf**	**05 40 57.1**	**+1.1**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	**Villa Florida**	**148.45**	**60**	PKPbc	**PKPdf**	**05 40 57.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=255,slow=5.5,SNR=3.9						
CPUP	**Villa Florida**	**148.45**	**60**	PKP2	**PKPdf**	**05 40 57.4**	**+0.9**

*ISCJB **05** 05:26:49.5±0.5,10.80N±0.03×62.31W±0.02,h93km±6km, Error ellipse: s-maj=4.5km s-min=4.0km az=161.0*
*FUNV **05** 05:26:51.1,10.85N×62.24W,h81km,MW3.4*
*TRN **05** 05:26:52.5,10.83N×62.14W,h83km,MD3.4*
ISC 05 05:26:49.6±1.2,10.80N±0.03×62.28W±0.03,h94km±9km, n29,σ1.14/49,2C-3D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.17**	**159**	⇑*i*P	**Pn**	**05 27 03.4**	**+0.4**
GUIV				*e*S	**Sn**	**05 27 11.3**	**-1.5**
ALNG	**Atlantic LNG**	**0.85**	**137**	*e*P	**Pn**	**05 27 09.8**	**+1.7**
ALNG				*e*S	**Sn**	**05 27 22.7**	**+1.0**
TRN	**Trinidad (W)**	**0.88**	**100**	⇑P	**Pn**	**05 27 08.7**	**+0.4**
TRN				*e*S	**Sn**	**05 27 20.6**	**-1.7**
BUAY	**Buenos Aires**	**0.91**	**140**	*e*P	**Pn**	**05 27 10.2**	**+1.6**
BUAY				*e*S	**Sn**	**05 27 22.9**	**+0.1**
GUNV	**Guanoco**	**0.91**	**225**	*e*P	**Pn**	**05 27 10.3**	**+1.7**
GUNV				*e*S	**Sn**	**05 27 23.4**	**+0.6**
CRUV	**Carupano**	**0.94**	**262**	*e*P	**Pn**	**05 27 10.0**	**+1.0**
CRUV				*e*S	**Sn**	**05 27 22.9**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.95**	**121**	*e*P	**Pn**	**05 27 10.5**	**+1.5**
TPP				*e*S	**Sn**	**05 27 23.8**	**+0.2**
ITEV	**Isla Los Testi**	**1.00**	**303**	*e*P	**Pn**	**05 27 09.9**	**+0.4**
ITEV				*e*S	**Sn**	**05 27 23.1**	**-1.4**
SIPA	**Siparia**	**1.01**	**131**	*e*P	**Pn**	**05 27 11.3**	**+1.6**
SIPA				*e*S	**Sn**	**05 27 23.7**	**-1.1**
TBH	**Brigand Hill**	**1.24**	**105**	*e*P	**Pn**	**05 27 12.9**	**+0.5**
TBH				*e*S	**Sn**	**05 27 28.6**	**-0.9**
GRW	**Mount Saint Ca**	**1.48**	**24**	*e*P	**Pn**	**05 27 16.1**	**+0.7**
GRW				*e*S	**Sn**	**05 27 34.2**	**-0.7**
TPR	**Prospect**	**1.53**	**75**	*e*P	**Pn**	**05 27 16.5**	**+0.5**
TPR				*e*S	**Sn**	**05 27 35.0**	**-0.8**
GRHS	**Sauteurs**	**1.54**	**24**	*e*P	**Pn**	**05 27 17.4**	**+1.2**
GRHS				*e*S	**Sn**	**05 27 36.3**	**0.0**
GRIC	**Isle de Caille**	**1.62**	**25**	*e*P	**Pn**	**05 27 19.2**	**+2.1**
GRIC				*e*S	**Sn**	**05 27 38.4**	**+0.4**
GRSS	**Sisters**	**1.62**	**24**	⇓*e*P	**Pn**	**05 27 19.5**	**+2.4**
GRSS				*e*S	**Sn**	**05 27 39.1**	**+1.1**
ORIV	**Oritupano**	**2.05**	**213**	*e*P	**Pn**	**05 27 24.4**	**+1.7**
ORIV				*e*S	**Sn**	**05 27 48.6**	**+0.8**
PCRV	**Puerto La Cruz**	**2.40**	**255**	⇓*e*P	**Pn**	**05 27 28.8**	**+1.5**
PCRV				*e*S	**Sn**	**05 27 55.7**	**-0.4**
IBAV	**Isla La Blanqu**	**2.47**	**294**	*e*P	**Pn**	**05 27 29.6**	**+1.5**
IBAV				*e*S	**Sn**	**05 27 56.7**	**-0.9**
RIOV	**Rio Grande**	**2.76**	**170**	⇓*e*P	**Pn**	**05 27 33.4**	**+1.3**
RIOV				*e*S	**Sn**	**05 28 04.0**	**-0.6**
GURV	**El Guri**	**3.13**	**195**	*e*P	**Pn**	**05 27 37.3**	**+0.3**
CUPV	**Cepira**	**3.53**	**258**	*e*P	**Pn**	**05 27 43.7**	**+1.3**
CUPV				*e*S	**Sn**	**05 28 21.9**	**-1.4**
BIRV	**Birongo**	**3.93**	**266**	*e*P	**Pn**	**05 27 49.1**	**+1.3**
MERV	**Las Mercedes**	**4.24**	**249**	*e*P	**Pn**	**05 27 52.3**	**+0.2**
LUEV	**Luepa**	**5.00**	**171**	*e*P	**Pn**	**05 28 02.0**	**-0.5**
BAUV	**El Baul**	**5.97**	**252**	*e*P	**Pn**	**05 28 15.6**	**+0.1**
MAPV	**Macapo**	**6.15**	**262**	*e*P	**Pn**	**05 28 17.9**	**-0.1**
TEPV	**Terepaima**	**6.85**	**264**	*e*P	**Pn**	**05 28 27.1**	**-0.5**
MONV	**Montecano**	**7.62**	**279**	*e*P	**Pn**	**05 28 38.2**	**+0.1**
SOCV	**Socops**	**8.82**	**254**	*e*P	**Pn**	**05 28 53.3**	**-1.1**

*DJA **05** 05:33:47,1.84S×130.97E,h10km,MLv3.7/3*
IDC 05 05:33:31.3±2.5,0.33S×132.80E,h0km,mb4.0/2, mb1 4.0/4,mb1mx3.6/18,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=110.7km s-min=24.9km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.02**	**201**	P	P	05 37 54.3	-0.6
	0.2nm,0.3s,baz=40,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**19.55**	**176**	P	P	05 38 00.5	-0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**23.23**	**177**	P	P	05 38 40.8	+0.5
	1.7nm,0.7s,baz=355,slow=10,SNR=17						
MKAR	**Makanchi Array**	**64.35**	**324**	P	P	05 44 09.0	0.0
	2.3nm,0.5s,baz=121,slow=6.6,SNR=3.0						

IDC 05 05:37:28.1±0.9,5.19N×128.04E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.8/19,mbtmp3.8/8,MS3.7/1,Ms1 3.7/1, ms1mx2.4/28,Error ellipse: s-maj=61.4km s-min=16.3km az=75.0,East of Philippine Islands

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

ASAR	**Alice Springs**	**22.86**	**178**	P	**P**	**05**	**45**	**33.2 +0.5**
ASAR				S	**S**	**05**	**49**	**41.3 +0.9**
CTA	**Charters Tower**	**23.16**	**147**	P	**P**	**05**	**45**	**36.2 +0.3**
	9.5nm,1.0s,baz=338,slow=12,SNR=4.6							
CTA	**Charters Tower**	**23.16**	**147**	P	**P**	**05**	**45**	**36.2 +0.3**
JOW	**Kunigami**	**27.76**	**351**	LR	LR	05	55	28.9
	comp=Z,98nm,18.4s,baz=137,slow=32							
STKA	**Stephens Creek**	**32.03**	**166**	P	**P**	**05**	**46**	**54.9 -0.8**
	4.1nm,0.7s,baz=332,slow=8.9,SNR=13							
STKA	**Stephens Creek**	**32.03**	**166**	*eP*	**P**	**05**	**46**	**54.6 -1.1**
	3.4nm,0.6s							
STKA	**Stephens Creek**	**32.03**	**166**	*eP*	**P**	**05**	**46**	**54.8 -0.9**
	0.9nm,0.8s							
BBOO	**Buckleboo**	**32.07**	**175**	*eP*	**P**	**05**	**46**	**55.3 -0.8**
	24nm,0.6s							
KSRS	**Korea Array**	**38.26**	**353**	LR	LR	06	03	51.3
	comp=Z,41nm,18.8s,baz=175,slow=37							
SONM	**Songino Array**	**53.64**	**338**	P	**P**	**05**	**49**	**50.9 +0.3**
	0.2nm,0.5s,baz=96,slow=4.5,SNR=4.2							
SONM				PcP	**PcP**	**05**	**50**	**56.2 -0.5**
	0.5nm,0.7s,baz=165,slow=4.3,SNR=5.1							
SONM	**Songino Array**	**53.64**	**338**	P	**P**	**05**	**49**	**50.9 +0.3**
SONM				PcP	**PcP**	**05**	**50**	**56.2 -0.5**
PETK	**Petropavlovsk-**	**57.39**	**17**	P	**P**	**05**	**50**	**17.2 -0.1**
	5.9nm,0.9s,baz=194,slow=8.5,SNR=3.0							
PETK	**Petropavlovsk-**	**57.39**	**17**	P	**P**	**05**	**50**	**17.2 -0.1**
MKAR	**Makanchi Array**	**64.85**	**324**	P	**P**	**05**	**51**	**09.1 +1.1**
	3.8nm,0.6s,baz=114,slow=7.9,SNR=60							
MKAR	**Makanchi Array**	**64.85**	**324**	P	**P**	**05**	**51**	**09.1 +1.1**
ZALV	**Zalesovo Beam**	**67.46**	**331**	P	**P**	**05**	**51**	**24.6 +0.1**
	1.0nm,0.9s,baz=116,slow=6.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**67.46**	**331**	P	**P**	**05**	**51**	**24.6 +0.1**
KURK	**Kurchatov**	**68.92**	**326**	*eP*	**P**	**05**	**51**	**34.0 +0.2**
	3.5nm,0.9s							
KKAR	**Karatay Array**	**70.82**	**316**	*eP*	**P**	**05**	**51**	**46.5 +0.9**
	2.5nm,0.6s							
MCK	**McKinley**	**85.27**	**26**	*eP*	**P**	**05**	**53**	**05.3 0.0**
	3.8nm,0.3s							
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**05**	**53**	**09.3 -1.2**
	0.9nm,0.7s,baz=246,slow=5.1,SNR=14							
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**05**	**53**	**09.3 -1.2**
TORD	**Torodi Ar. Bea**	**130.36**	**287**	PKP	**PKPdf**	**05**	**59**	**40.2 -0.1**
	0.4nm,0.7s,baz=57,slow=0.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**130.36**	**287**	PKP	**PKPdf**	**05**	**59**	**40.2 -0.1**
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc	**PKPbc**	**06**	**00**	**23.1 0.0**
	0.2nm,0.4s,baz=159,slow=3.0,SNR=4.0							
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc	**PKPbc**	**06**	**00**	**23.1 0.0**

PGC 05 05:48:23.8±0.5, 50.56N×130.36W, h10km, ML2.9/6, Mw3.6,3D, 208km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
HOLB	**Holberg**	**1.42**	**86**	↑Pn	Pn	05	48	47.5 -2.2
HOLB				↑Sn	Sn	05	49	04.6 -4.0
BPBC	**Brooks Peninsu**	**1.71**	**103**	↓Pn	Pn	05	48	51.4 -2.3
PHC	**Port Hardy**	**1.87**	**84**	Pn	Pn	05	48	54.0 -1.8
PHC				↑Sn	Sn	05	49	15.6 -3.9
MAYB	**Maynard**	**2.04**	**93**	Pn	Pn	05	48	56.5 -1.9
BBB	**Bella Bella**	**2.15**	**40**	↑Pn	Pn	05	48	58.0 -1.8
BBB				↓Sn	Sn	05	49	22.7 -3.7
WOSB	**Woss**	**2.46**	**98**	↓Pn	Pn	05	49	02.8 -1.3

*DJA **05** 05:49:05.0˚41S×132˚86E,h10km,MLv4.2/3*

IDC 05 05:48:59.8±1.6, 0˚36S×133˚02E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/18, mbtmpg3.9/7, ML4.0/2, Error ellipse: s-maj=69.1km s-min=17.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**19.07**	**202**	P	Pn	05	53	24.5 -0.2
	0.3nm,0.3s,baz=26,slow=10.0,SNR=9.0							
FITZ				S	Sn	05	56	47.7 -11
	0.1nm,0.3s,baz=180,slow=18,SNR=3.6							
WRA	**Warramunga Arr**	**19.51**	**176**	P	P	05	53	29.3 +0.5
	0.6nm,0.3s,baz=354,slow=11,SNR=9.9							
WRA				S	Sn	05	56	58.7 -11
	0.3nm,0.3s,baz=356,slow=24,SNR=4.1							
ASAR	**Alice Springs**	**23.19**	**178**	P	P	05	54	08.5 +0.1
	3.6nm,0.5s,baz=355,slow=7.1,SNR=46							
STKA	**Stephens Creek**	**32.38**	**166**	P	P	05	55	30.7 -0.6
	2.4nm,0.5s,baz=335,slow=12,SNR=8.3							
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P	P	05	56	22.2 -0.6
	0.7nm,0.3s,baz=116,slow=6.5,SNR=4.0							
SONM	**Songino Array**	**53.29**	**338**	P	P	05	58	21.0 +0.3
	0.1nm,0.4s,baz=106,slow=5.1,SNR=3.0							
MKAR	**Makanchi Array**	**64.51**	**324**	P	P	05	59	38.5 0.0
	0.5nm,0.6s,baz=107,slow=8.5,SNR=6.3							

*IDC **05** 06:03:32.8±0.8, 0˚73S×133˚02E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.1/22, mbtmpg4.2/10, ML4.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=43.3km s-min=12.5km az=78.0*

*ISCJB **05** 06:03:36.9±0.7, 0˚92S±0˚06×132˚6E±0˚1, h32km, mb4.5/11, MS3.1/1, Error ellipse: s-maj=20.7km s-min=8.6km az=178.9*

*NEIC **05** 06:03:38.2±0.5, 0˚74S×132˚94E, h35km, mb4.2/3, Error ellipse: s-maj=20.6km s-min=7.9km az=76.0*

*DJA **05** 06:03:38, 0˚74S×133˚13E, h10km, mb4.8/5*

ISC 05 06:03:38.7±0.9, 0˚89S±0˚08×132˚6E±0˚2, h32km, n34, σ1§90/37, mb4.5/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MTN	**Manton Dam**	**11.96**	**187**	*eP*	**Pn**	**06**	**06**	**28.6 +1.5**
MTN				*eS*	**Sn**	**06**	**08**	**38.9 -0.6**
FITZ	**Fitzroy Crossi**	**18.41**	**201**	P	**Pn**	**06**	**07**	**52.5 +0.9**
	0.5nm,0.3s,baz=44,slow=11,SNR=11							
FITZ				S	**Sn**	**06**	**11**	**11.4 -5.1**
	0.5nm,0.3s,baz=177,slow=17,SNR=4.5							
FITZ	**Fitzroy Crossi**	**18.41**	**201**	*eP*	**Pn**	**06**	**07**	**51.8 +0.2**
	8.4nm,0.5s							
FITZ				*eS*	Sn	06	11	07.8 -8.7
FITZ	**Fitzroy Crossi**	**18.41**	**201**	P	**Pn**	**06**	**07**	**52.5 +0.9**
FITZ				*eP*	**P**	**06**	**07**	**53.7 +2.3**
FITZ				S	**Sn**	**06**	**11**	**11.4 -5.1**
WRAB	**Tennant Creek**	**19.00**	**175**	*eP*	**Pn**	**06**	**07**	**58.4 -0.4**
	8.5nm,0.6s							
WRA	**Warramunga Arr**	**19.01**	**175**	P	**Pn**	**06**	**07**	**58.8 -0.2**
	2.1nm,0.3s,baz=355,slow=11,SNR=32							
WRA				S	Sn	06	11	22.1 -9.0
	0.6nm,0.3s,baz=358,slow=23,SNR=8.5							
WRA	**Warramunga Arr**	**19.01**	**175**	P	**Pn**	**06**	**07**	**58.8 -0.2**
WRA				S	Sn	06	11	22.1 -9.0
WB2	**Warramunga Arr**	**19.02**	**175**	*eP*	**Pn**	**06**	**07**	**59.0 +0.1**
AS31	**Alice Springs**	**22.68**	**177**	*eP*	**P**	**06**	**08**	**38.2 +0.6**
ASAR	**Alice Springs**	**22.68**	**177**	P	**P**	**06**	**08**	**38.2 +0.6**
	11nm,0.3s,baz=358,slow=12,SNR=140							
ASAR				S	**S**	**06**	**12**	**48.5 +4.5**
	3.2nm,0.8s,baz=3.4,slow=26,SNR=8.2							
ASAR	**Alice Springs**	**22.68**	**177**	P	**P**	**06**	**08**	**38.2 +0.6**
ASAR				S	**S**	**06**	**12**	**48.5 +4.5**
CTA	**Charters Tower**	**23.30**	**146**	P	**P**	**06**	**08**	**42.9 -1.1**
	13nm,0.7s,baz=323,slow=11,SNR=15							
CTA				LR	LR	06	18	19.4
	comp=Z,61nm,19.6s,baz=147,slow=38							
CTA	**Charters Tower**	**23.30**	**146**	*eP*	**P**	**06**	**08**	**42.6 -1.5**
	13nm,0.9s							
CTA	**Charters Tower**	**23.30**	**146**	P	**P**	**06**	**08**	**42.9 -1.1**
CTAO	**Charters Tower**	**23.30**	**146**	*eP*	**P**	**06**	**08**	**43.0 -1.1**
	7.6nm,0.6s							
FORT	**Forrest**	**30.03**	**188**	*eP*	**P**	**06**	**09**	**46.9 +2.1**
	7.6nm,0.5s							
KMBL	**Kambalda**	**31.96**	**197**	*eP*	P	06	10	04.3 +2.5
	22nm,0.4s							
STKA	**Stephens Creek**	**31.98**	**165**	P	**P**	**06**	**10**	**01.1 -0.9**
	5.8nm,0.3s,baz=337,slow=8.5,SNR=61							
STKA	**Stephens Creek**	**31.98**	**165**	*eP*	**P**	**06**	**10**	**00.7 -1.3**
	5.3nm,0.3s							
STKA	**Stephens Creek**	**31.98**	**165**	*eP*	**P**	**06**	**10**	**01.1 -0.9**
	1.2nm,0.4s							
ARMA	**Armidale**	**34.49**	**150**	*eP*	**P**	**06**	**10**	**22.5 -1.6**
ARPS	**Mount Arapiles**	**36.72**	**168**	*eP*	**P**	**06**	**10**	**42.6 -0.3**
	48nm,0.5s							
MKAR	**Makanchi Array**	**64.68**	**324**	P	**P**	**06**	**14**	**14.0 +0.4**
	0.8nm,0.5s,baz=109,slow=8.5,SNR=14							
MKAR	**Makanchi Array**	**64.68**	**324**	P	**P**	**06**	**14**	**14.0 +0.4**
KURK	**Kurchatov**	**68.77**	**327**	P	**P**	**06**	**14**	**39.5 0.0**
	0.7nm,0.6s,baz=122,slow=5.8,SNR=8.3							
KURK	**Kurchatov**	**68.77**	**327**	P	**P**	**06**	**14**	**39.5 0.0**
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**06**	**15**	**13.2 -0.1**
	0.7nm,0.5s,baz=133,slow=8.6,SNR=6.5							
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**06**	**15**	**13.2 -0.1**
ILAR	**Eielson Array**	**86.76**	**25**	P	P	06	16	15.7 -3.7
	0.3nm,0.6s,baz=260,slow=4.7,SNR=6.4							
ILAR	**Eielson Array**	**86.76**	**25**	P	P	06	16	15.7 -3.7
QSPA	**South Pole Qui**	**89.05**	**180**	P	**P**	**06**	**16**	**30.2 -0.3**
	1.8nm,0.7s,baz=345,slow=4.7,SNR=5.4							
QSPA	**South Pole Qui**	**89.05**	**180**	P	**P**	**06**	**16**	**30.2 -0.3**
CPUP	**Villa Florida**	**151.30**	**161**	PKPbc	**PKPbc**	**06**	**23**	**28.6 -1.2**
	0.6nm,0.5s,baz=313,slow=4.2,SNR=6.5							
CPUP	**Villa Florida**	**151.30**	**161**	PKPbc	**PKPbc**	**06**	**23**	**28.6 -1.2**

IDC 05 06:12:38.2±2.4, 0˚30S×133˚49E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/18, mbtmpg3.7/5, ML3.4/1, Error ellipse: s-maj=151.4km s-min=21.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**19.54**	**178**	P	Pn	06	17	08.2 -0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**23.23**	**179**	P	P	06	17	47.2 -0.1
	1.6nm,0.8s,baz=8.5,slow=11,SNR=8.7							
STKA	**Stephens Creek**	**32.33**	**167**	P	P	06	19	08.9 -0.4
	1.4nm,0.7s,baz=322,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	06	23	18.6 +0.1
	0.3nm,0.7s,baz=124,slow=6.8,SNR=3.5							
BVAR	**Borovoye Array**	**74.39**	**326**	P	P	06	24	17.9 -0.1
	0.7nm,0.6s,baz=132,slow=8.9,SNR=4.0							

IDC 05 06:20:36.5±2.5, 0˚69S×133˚96E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmpg3.4/4, ML3.6/2, Error ellipse: s-maj=95.6km s-min=25.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**19.14**	**205**	P	P	06	25	01.3 -0.2
	0.1nm,0.3s,baz=45,slow=10.0,SNR=3.2							
WRA	**Warramunga Arr**	**19.14**	**179**	P	P	06	25	01.4 -0.1
	0.3nm,0.3s,baz=358,slow=12,SNR=6.3							
ASAR	**Alice Springs**	**22.84**	**180**	P	P	06	25	41.9 +0.4
	0.9nm,0.6s,baz=359,slow=12,SNR=7.0							
MKAR	**Makanchi Array**	**65.33**	**324**	P	P	06	31	20.5 -0.1
	0.2nm,0.4s,baz=113,slow=8.1,SNR=6.4							

IDC 05 06:23:52.2±2.6, 0˚32S×132˚90E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/18, mbtmpg3.4/4, ML3.7/2, Error ellipse: s-maj=103.0km s-min=28.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	P	06	28	15.4 -0.8
	0.1nm,0.3s,baz=42,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**19.55**	**176**	P	P	06	28	21.2 -0.5
	0.7nm,0.3s,baz=356,slow=12,SNR=5.1							
ASAR	**Alice Springs**	**23.23**	**178**	P	P	06	29	01.9 +0.7
	0.9nm,0.4s,baz=356,slow=11,SNR=14							
MKAR	**Makanchi Array**	**64.41**	**324**	P	P	06	34	30.2 -0.1
	0.1nm,0.4s,baz=107,slow=9.5,SNR=2.9							

*DJA **05** 06:41:27.0˚68S×133˚60E, h60km, mb4.7/11*

IDC 05 06:41:21.6±1.2, 0˚84S×133˚52E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/19, mbtmpg3.8/7, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/29, Error ellipse: s-maj=56.9km s-min=17.8km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DAV	**Davao City (W)**	**11.16**	**315**	LR	LR	06	48	22.1
	comp=Z,97nm,21.6s,baz=108,slow=38							
FITZ	**Fitzroy Crossi**	**18.82**	**204**	P	Pn	06	45	44.6 +1.2
	0.4nm,0.3s,baz=31,slow=15,SNR=7.8							
WRA	**Warramunga Arr**	**19.00**	**178**	P	P	06	45	45.2 +0.2
	0.7nm,0.3s,baz=356,slow=11,SNR=16							
ASAR	**Alice Springs**	**22.69**	**179**	P	P	06	46	24.7 -0.3
	4.0nm,0.7s,baz=3.7,slow=12,SNR=34							
CTA	**Charters Tower**	**22.83**	**148**	P	P	06	46	27.6 +1.2
	2.8nm,0.7s,baz=310,slow=7.9,SNR=3.4							
STKA	**Stephens Creek**	**31.80**	**167**	P	P	06	47	46.1 -1.8
	1.1nm,0.8s,baz=336,slow=10.0,SNR=5.3							
STKA				LR	LR	07	02	27.7
	comp=Z,101nm,19.1s,baz=207,slow=40							
SONM	**Songino Array**	**53.93**	**338**	P	P	06	50	47.2 +0.1
	0.1nm,0.5s,baz=148,slow=6.0,SNR=2.1							
MKAR	**Makanchi Array**	**65.19**	**324**	P	P	06	52	04.6 -0.2
	0.2nm,0.5s,baz=107,slow=9.2,SNR=7.8							

*IDC **05** 07:04:04.9±0.9, 23˚05N×88˚50E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/27, mbtmpg4.0/16, ML4.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/38, Error ellipse: s-maj=30.5km s-min=17.6km az=50.0*

*DMN **05** 07:04:06.2±0.6, 22˚73N×88˚97E, h10km, Ml4.7/5, Error ellipse: s-maj=16.7km s-min=11.1km az=48.0*

*ISCJB **05** 07:04:07.6±0.4, 22˚93N±0˚04×88˚66E±0˚05, h33km, mb4.0/18, MS3.5/2, Error ellipse: s-maj=7.9km s-min=4.5km az=136.0*

*NEIC **05** 07:04:10.3±0.6, 23˚01N×88˚71E, h35km, mb4.2/5, Error ellipse: s-maj=15.6km s-min=6.6km az=45.0*

*NDI **05** 07:04:15.3±9.9, 23˚51N×88˚43E, h33km, ML4.2, mb4.2(NEIC)*

ISC 05 07:04:09.6±0.6, 22˚93N±0˚06×88˚62E±0˚06, h35km, n74, σ1§49/81, mb4.0/18, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
BOK	**Bokaro**	**2.66**	**289**	*eP*	**Pn**	**07**	**04**	**52.5 +2.6**
BOK				AMb	AMB	07	04	53.9
BOK				*eS*	**Sn**	**07**	**05**	**19.4 -1.5**
SHL	**Shillong**	**3.97**	**48**	*eP*	**Pn**	**07**	**05**	**10.6 +2.4**
SHL				*ex*	x	07	05	44.0
SHL				AML	AML	07	05	47.7
	comp=Z,6μm,0.0s							
SHL				AML	AML	07	05	47.7
	comp=N,9μm,0.0s							
ODAN	**Odare**	**4.07**	**344**	*ePn*	**Pn**	**07**	**05**	**10.3 +0.7**
ODAN				*eSn*	**Sn**	**07**	**05**	**57.6 +1.5**
	comp=N,752nm,0.4s							
ODAN	**Odare**	**4.07**	**344**	*ePn*	**Pn**	**07**	**05**	**10.3 +0.7**
ODAN				*eSn*	**Sn**	**07**	**05**	**57.6 +1.5**
GTK	**Gangtok**	**4.39**	**360**	*ex*	x	07	05	39.0
RAMN	**Ramite**	**4.40**	**336**	*ePn*	**Pn**	**07**	**05**	**15.9 +1.7**
RAMN	**Ramite**	**4.40**	**336**	*ePn*	**Pn**	**07**	**05**	**15.9 +1.7**
TAPN	**Taplejung**	**4.48**	**350**	*ePn*	**Pn**	**07**	**05**	**15.6 +0.3**
TAPN	**Taplejung**	**4.48**	**350**	*ePn*	**Pn**	**07**	**05**	**15.6 +0.3**
JIRN	**Jiri**	**5.20**	**335**	*ePn*	**Pn**	**07**	**05**	**27.0 +1.8**
JIRN	**Jiri**	**5.20**	**335**	*ePn*	**Pn**	**07**	**05**	**27.0 +1.8**
IMP	**Imphal**	**5.20**	**68**	*eP*	Pn	07	05	30.0 +5.0
IMP				*ex*	x	07	07	41.0
PKI	**Pulchoki**	**5.46**	**328**	*ePn*	**Pn**	**07**	**05**	**30.2 +1.4**
PKI				*eSn*	**Sn**	**07**	**06**	**32.5 +1.9**
	comp=N,168nm,0.5s							
PKI	**Pulchoki**	**5.46**	**328**	*ePn*	**Pn**	**07**	**05**	**30.2 +1.4**
PKI				*eSn*	**Sn**	**07**	**06**	**32.5 +1.9**
GUN	**Gumba**	**5.54**	**334**	*ePn*	**Pn**	**07**	**05**	**32.2 +2.2**
GUN	**Gumba**	**5.54**	**334**	*ePn*	**Pn**	**07**	**05**	**32.2 +2.2**
DMN	**Daman**	**5.64**	**326**	*ePn*	**Pn**	**07**	**05**	**32.7 +1.5**
DMN	**Daman**	**5.64**	**326**	*ePn*	**Pn**	**07**	**05**	**32.7 +1.5**
KKN	**Kakani**	**5.71**	**329**	*ePn*	**Pn**	**07**	**05**	**33.4 +1.4**
KKN				*eSn*	**Sn**	**07**	**06**	**39.3 +2.9**
	comp=N,100nm,0.4s							
KKN	**Kakani**	**5.71**	**329**	*ePn*	**Pn**	**07**	**05**	**33.4 +1.4**
KKN				*eSn*	**Sn**	**07**	**06**	**39.3 +2.9**
GKN	**Gorkha**	**6.20**	**325**	*ePn*	**Pn**	**07**	**05**	**40.3 +1.5**
GKN				*eSn*	**Sn**	**07**	**06**	**50.3 +1.7**
	comp=N,85nm,0.3s							
GKN	**Gorkha**	**6.20**	**325**	*ePn*	**Pn**	**07**	**05**	**40.3 +1.5**
GKN				*eSn*	**Sn**	**07**	**06**	**50.3 +1.7**
KOLN	**Koldanda**	**6.62**	**318**	*ePn*	**Pn**	**07**	**05**	**46.2 +1.6**
KOLN				*eSn*	**Sn**	**07**	**07**	**01.9 +2.9**
	comp=N,65nm,0.3s							
KOLN	**Koldanda**	**6.62**	**318**	*ePn*	**Pn**	**07**	**05**	**46.2 +1.6**
KOLN				*eSn*	**Sn**	**07**	**07**	**01.9 +2.9**
ALBI	**Allahabad**	**6.66**	**292**	*ex*	Pn	07	05	45.0 +0.1
ALBI				*ex*	x	07	07	18.0

DANN	**Dangsing**	**6.96**	**322**	*ePn*	**Pn**	**07**	**05**	**50.2 +0.9**
DANN	**Dangsing**	**6.96**	**322**	*ePn*	**Pn**	**07**	**05**	**50.2 +0.9**
LSA	**Lhasa**	**7.12**	**18**	*ePn*	**Pn**	**07**	**05**	**50.5 -1.1**
	comp=N,18nm,0.4s							
LSA				*eSn*	**Sn**	**07**	**07**	**10.7 -0.8**
VIS	**Vishakhapatnam**	**7.17**	**225**	*eP*	Pn	07	05	42.9 -9.1
VIS				*eS*	Sn	07	06	54.6 -18
VIS				AML	AML	07	07	54.6
	comp=E,32nm,0.4s							
VIS				AML	AML	07	07	55.7
	comp=N,25nm,0.5s							
NGP	**Nagpur**	**9.05**	**261**	*ex*	**Pn**	**07**	**06**	**19.0 +1.2**
NGP				*ex*	**Sn**	**07**	**07**	**57.3 -1.3**
BHPL	**Bhopal**	**10.31**	**274**	*eP*	**Pn**	**07**	**06**	**36.0 +0.8**
BHPL				*eS*	Sn	07	08	22.7 -6.8
CHTO	**Chiang Mai**	**10.48**	**111**	*eP*	**Pn**	**07**	**06**	**38.7 +1.2**
	comp=N,4.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**10.63**	**113**	Pn	**Pn**	**07**	**06**	**40.4 +0.9**
	comp=N,0.9nm,0.3s,baz=294,slow=14,SNR=5.9							
CMAR	**Chiang Mai Arr**	**10.63**	**113**	Pn	**Pn**	**07**	**06**	**40.4 +0.9**
HYB	**Hyderabad**	**10.93**	**242**	*i* P	Pn	07	06	50.0 +6.5
POO	**Poona**	**14.49**	**255**	*eS*	S	07	10	17.4 -13
ENH	**Enshi**	**20.02**	**64**	*eP*	**P**	**07**	**08**	**37.0 -2.5**
	comp=N,8.3nm,0.8s							
MK31	**Makanchi Array**	**24.35**	**349**	*eP*	**P**	**07**	**09**	**24.1 -0.1**
MKAR	**Makanchi Array**	**24.35**	**349**	P	**P**	**07**	**09**	**23.9 -0.3**
	comp=N,2.5nm,0.5s,baz=167,slow=9.6,SNR=38							
MKAR	**Makanchi Array**	**24.35**	**349**	P	**P**	**07**	**09**	**23.9 -0.3**
SONM	**Songino Array**	**28.63**	**25**	P	**P**	**07**	**10**	**01.4 -1.4**
	comp=N,0.2nm,0.4s,baz=211,slow=10,SNR=3.6							
SONM	**Songino Array**	**28.63**	**25**	P	**P**	**07**	**10**	**01.4 -1.4**
KURK	**Kurchatov**	**28.81**	**347**	P	**P**	**07**	**10**	**03.2 -1.0**
	comp=N,2.0nm,0.7s,baz=165,slow=8.7,SNR=13							
KURK	**Kurchatov**	**28.81**	**347**	*eP*	**P**	**07**	**10**	**04.2 0.0**
	comp=N,3.1nm,0.9s							
ZALV	**Zalesovo Beam**	**31.11**	**356**	P	**P**	**07**	**10**	**24.0 -0.5**
	comp=N,1.7nm,0.4s,baz=183,slow=9.5,SNR=7.6							
ZALV	**Zalesovo Beam**	**31.11**	**356**	P	**P**	**07**	**10**	**24.0 -0.5**
BVAR	**Borovoye Array**	**33.11**	**340**	P	**P**	**07**	**10**	**41.7 -0.4**
	comp=N,0.8nm,0.5s,baz=147,slow=9.9,SNR=7.1							
BVAR	**Borovoye Array**	**33.11**	**340**	P	**P**	**07**	**10**	**41.7 -0.4**
BRVK	**Borovoye**	**33.17**	**340**	*eP*	**P**	**07**	**10**	**41.9 -0.8**
	comp=N,0.8nm,0.6s							
ABKAR	**Akbulak array**	**34.66**	**326**	*eP*	**P**	**07**	**10**	**56.0 +0.4**
	comp=N,2.8nm,0.6s							
KSRS	**Korea Array**	**36.65**	**58**	LR	LR	07	26	19.9
	comp=N,37nm,18.9s,baz=140,slow=36							
BRTR	**Keskin Array B**	**49.11**	**303**	P	**P**	**07**	**12**	**54.4 +0.5**
	comp=N,1.8nm,0.8s,baz=96,slow=8.6,SNR=8.7							
BRTR	**Keskin Array B**	**49.11**	**303**	P	**P**	**07**	**12**	**54.4 +0.5**
AKASG	**Malin Array Be**	**53.31**	**317**	P	**P**	**07**	**13**	**23.9 -1.1**
	comp=N,1.1nm,0.5s,baz=86,slow=6.8,SNR=3.9							
AKASG	**Malin Array Be**	**53.31**	**317**	P	**P**	**07**	**13**	**23.9 -1.1**
FINES	**FINESS Array B**	**57.05**	**329**	P	**P**	**07**	**13**	**50.9 -0.9**
	comp=N,3.0nm,0.7s,baz=122,slow=7.2,SNR=7.2							
FINES				LR	LR	07	41	03.8
	comp=N,62nm,18.7s,baz=136,slow=39							
FINES	**FINESS Array B**	**57.05**	**329**	P	**P**	**07**	**13**	**50.9 -0.9**
ARCES	**ARCESS Array B**	**59.39**	**339**	P	**P**	**07**	**14**	**07.6 -0.5**
	comp=N,9.2nm,1.0s,baz=96,slow=9.2,SNR=4.9							
ARCES	**ARCESS Array B**	**59.39**	**339**	P	**P**	**07**	**14**

comp=Z,2.8nm,0.7s,baz=158,slow=9.2,SNR=2.9
NJ2 Nanjing 27.89 301 *e*P **P 07 17 07.8 +3.9**
NJ2 pmax pmax
comp=Z,20nm,0.5s
MDJ Mudanjiang 28.44 333 P **P 07 17 09.6 +0.9**
MDJ pP **pP 07 17 18.1 -1.6**
MDJ sP **sP 07 17 22.0 -2.5**
MDJ PcP **PcP 07 20 21.2 +1.1**
MDJ S **S 07 21 55.2 +1.9**
MDJ pmax pmax
comp=Z,8.0nm,1.5s
MDJ pmax pmax
comp=Z,70nm,6.7s
PMG Port Moresby 29.29 180 P **P 07 17 16.8 +0.3**
comp=Z,5.9nm,0.5s,baz=337,slow=5.9,SNR=5.2
PMG Port Moresby 29.29 180 P **P 07 17 16.8 +0.3**
PMG Port Moresby 29.29 180 P **P 07 17 16.8 +0.3**
CN2 Changchun 29.74 328 *e*P P 07 17 23.9 +3.6
CN2 *es*P sP 07 17 37.5 +1.4
CN2 *e*S **S 07 22 17.0 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,19.0s
PETK Petropavlovsk- 33.99 12 P **P 07 17 58.1 +0.6**
comp=Z,4.0nm,0.7s,baz=193,slow=5.9,SNR=3.6
PETK Petropavlovsk- 33.99 12 P **P 07 17 58.1 +0.6**
PETK Petropavlovsk- 33.99 12 P **P 07 17 58.1 +0.6**
COEN Coen 34.03 187 *e*P **P 07 17 56.4 -1.7**
comp=Z,34nm,1.0s
HHC Hu-ho-hao-te 36.57 312 *e*P **P 07 18 20.0 +0.1**
HHC pP **pP 07 18 29.7 -1.4**
HHC sP **sP 07 18 33.7 -2.2**
HHC PP PP 07 19 45.1 +1.5
HHC PcP **PcP 07 20 43.8 +1.0**
HHC S **S 07 23 59.4 -0.6**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,84nm,5.5s
HHC LR LR
comp=N,160nm,15.1s
HHC LR LR
comp=E,180nm,15.0s
HHC LR LR
comp=Z,100nm,15.8s
GYA Guiyang 37.50 288⇑ *i*P **P 07 18 28.6 +0.5**
GYA pP **pP 07 18 38.4 -0.9**
GYA PP PP 07 19 56.8 +2.7
GYA S **S 07 24 15.0 +0.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,420nm,16.9s
GYA LR LR
comp=E,380nm,17.5s
GYA LR LR
comp=Z,430nm,16.7s
MTSU Mount Surprise 38.06 184 *e*P **P 07 18 30.4 -2.2**
comp=Z,22nm,0.8s
CTA Charters Tower 39.92 181 P **P 07 18 48.5 +0.4**
comp=Z,2.8nm,0.6s,baz=50,slow=12,SNR=4.7
CTA Charters Tower 39.92 181 *e*P **P 07 18 48.6 +0.4**
comp=Z,6.0nm,1.3s
CTA Charters Tower 39.92 181 P **P 07 18 48.5 +0.4**
CTA Charters Tower 39.92 181 P **P 07 18 48.5 +0.4**
CD2 Chengdu 40.30 294 P **P 07 18 51.8 +0.5**
CD2 pP **pP 07 19 02.0 -0.6**
CD2 sP **sP 07 19 06.3 -1.0**
CD2 PP PP 07 20 28.9 +4.4
CD2 S **S 07 24 56.3 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,4.2s
CD2 LR LR
comp=N,250nm,5.4s
CD2 LR LR
comp=Z,180nm,6.5s
LZH Lanzhou 40.95 302 *e*P **P 07 18 58.0 +1.2**
LZH pP **pP 07 19 08.0 0.0**
LZH sP **sP 07 19 12.0 -0.8**
LZH pmax pmax
comp=Z,16nm,1.5s
LZH pmax pmax
comp=Z,57nm,4.6s
KMI Kunming 41.05 285 P **P 07 18 55.3 -2.6**
KMI pmax pmax
comp=Z,16nm,1.1s
WRAB Tennant Creek 41.65 198 *e*P **P 07 19 03.6 +1.2**
WRAB pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 41.65 198 *e*P **P 07 19 03.5 +1.2**
comp=Z,4.2nm,0.6s
WRA Warramunga Arr 41.66 198 P **P 07 19 00.8 -1.7**
comp=Z,2.9nm,0.8s,baz=19,slow=8.8,SNR=7.3
WRA Warramunga Arr 41.66 198 P **P 07 19 00.8 -1.7**
WRA Warramunga Arr 41.66 198 P **P 07 19 00.8 -1.7**
ULN Ulaanbaatar 42.50 320 *e*P **P 07 19 09.7 +0.4**
ULN pmax pmax
comp=Z,28nm,2.3s
ULN Ulaanbaatar 42.50 320 *e*P **P 07 19 09.7 +0.4**
comp=Z,28nm,2.3s
SONM Songino Array 42.88 320 P **P 07 19 12.8 +0.4**
comp=Z,1.9nm,0.4s,baz=125,slow=7.4,SNR=23
SONM LR LR 07 38 21.9
comp=Z,76nm,19.4s,baz=225,slow=38
SONM Songino Array 42.88 320 P **P 07 19 12.8 +0.4**
SONM Songino Array 42.88 320 P **P 07 19 12.8 +0.4**
SEY Seymchan 42.99 4*c**e*P **P 07 19 12.9 +0.1**
FITZ Fitzroy Crossi 43.35 210 P **P 07 19 15.3 -1.0**
comp=Z,4.1nm,0.7s,baz=44,slow=8.6,SNR=8.8
FITZ Fitzroy Crossi 43.35 210 P **P 07 19 15.3 -1.0**
GTA Gaotai 44.73 306 *e*P P 07 19 31.8 +4.5
GTA pP pP 07 19 41.8 +3.1
GTA sP sP 07 19 45.8 +2.4
GTA S S 07 26 08.8 +7.2
GTA sS sS 07 26 25.0 +4.6
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,78nm,6.4s
GTA LR LR
comp=N,120nm,17.6s
GTA LR LR
comp=E,200nm,17.6s
GTA LR LR
comp=Z,77nm,15.2s
CMAR Chiang Mai Arr 45.29 276 P **P 07 19 32.1 +0.1**
comp=Z,1.2nm,0.3s,baz=61,slow=8.0,SNR=8.6
CMAR Chiang Mai Arr 45.29 276 P **P 07 19 32.1 +0.1**
CMAR Chiang Mai Arr 45.29 276 P **P 07 19 32.1 +0.1**
AS31 Alice Springs 45.31 197 *e*P **P 07 19 31.6 -0.3**
ASAR Alice Springs 45.31 197 P **P 07 19 30.9 -1.0**
comp=Z,1.4nm,0.6s,baz=22,slow=9.9,SNR=13
ASAR Alice Springs 45.31 197 P **P 07 19 30.9 -1.0**
ASAR Alice Springs 45.31 197 P **P 07 19 30.9 -1.0**
ZAK Zakamensk 45.82 322 *e*P **P 07 19 34.7 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 49.47 9⇑ *e*P **P 07 20 03.6 0.0**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,100nm,15.0s
BILL Bilibino 49.47 9 *e*P **P 07 20 03.9 +0.2**
comp=Z,9.9nm,0.8s
LSA Lhasa 51.17 292 P **P 07 20 20.1 +2.4**
LSA Lhasa 51.17 292 *e*P P 07 20 20.6 +2.9
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 51.17 292 *e*P P 07 20 20.6 +2.9
comp=Z,10nm,0.7s
CMSA Cobar Meteorol 51.33 181 *e*P **P 07 20 17.3 -0.8**
comp=Z,12nm,0.9s
STKA Stephens Creek 51.91 186 P **P 07 20 22.1 -0.4**
comp=Z,2.1nm,0.5s,baz=5.3,slow=8.9,SNR=8.2
STKA Stephens Creek 51.91 186 *e*P **P 07 20 21.8 -0.7**
comp=Z,1.8nm,0.6s
STKA Stephens Creek 51.91 186 *e*P **P 07 20 22.7 +0.2**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 51.91 186 *e*P **P 07 20 22.7 +0.2**
comp=Z,1.2nm,1.1s
BBOO Buckleboo 53.62 191 *e*P **P 07 20 34.8 -0.3**
comp=Z,18nm,0.9s
TAPN Taplejung 54.36 290 *e*P **P 07 20 41.5 +0.3**
comp=Z,11nm,0.4s
WMQ Urumqi 54.37 310 *e*P **P 07 20 42.0 +1.3**
WMQ pP **pP 07 20 52.0 -0.3**
WMQ sP **sP 07 20 56.0 -1.0**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ pmax pmax
comp=Z,220nm,5.0s
WMQ LR LR
comp=N,61nm,21.6s
WMQ LR LR
comp=Z,59nm,19.3s
ODAN Odare 54.70 289 *e*P **P 07 20 43.0 -0.5**
comp=Z,8.9nm,0.5s
ODAN Odare 54.70 289 *e*P **P 07 20 43.0 -0.5**
comp=Z,8.9nm,0.5s
RAMN Ramite 55.39 289 *e*P **P 07 20 49.0 +0.5**
comp=Z,6.8nm,0.5s
RAMN Ramite 55.39 289 *e*P **P 07 20 49.0 +0.5**
comp=Z,6.8nm,0.5s
JIRN Jiri 55.67 290 *e*P **P 07 20 51.2 +0.5**
comp=Z,12nm,0.5s
JIRN Jiri 55.67 290 *e*P **P 07 20 51.2 +0.5**
comp=Z,12nm,0.5s
GUN Gumba 55.92 291 *e*P **P 07 20 53.6 +1.2**
comp=Z,14nm,0.6s
GUN Gumba 55.92 291 *e*P **P 07 20 53.6 +1.2**
comp=Z,14nm,0.6s
PKI Pulchoki 56.37 290 *e*P **P 07 20 56.2 +0.5**
comp=Z,5.6nm,0.4s
KKN Kakani 56.46 291 *e*P **P 07 20 57.3 +1.1**
KKN Kakani 56.46 291 *e*P **P 07 20 57.3 +1.1**
KKN Kakani 56.46 291 *e*P **P 07 20 57.3 +1.1**
DMN Daman 56.63 290 *e*P **P 07 20 57.9 +0.5**
DMN Daman 56.63 290 *e*P **P 07 20 57.9 +0.5**
GKN Gorkha 57.00 291 *e*P **P 07 21 01.6 +1.7**
comp=Z,14nm,0.6s
GKN Gorkha 57.00 291 *e*P **P 07 21 01.6 +1.7**
comp=Z,14nm,0.6s
ZAA0 Zalesovo Array 57.70 322 *e*P **P 07 21 04.5 +0.3**
ZALV Zalesovo Beam 57.70 322 P **P 07 21 04.2 0.0**
comp=Z,4.1nm,0.7s,baz=104,slow=7.1,SNR=12
ZALV Zalesovo Beam 57.70 322 P **P 07 21 04.2 0.0**
ZALV Zalesovo Beam 57.70 322 P **P 07 21 04.2 0.0**
DANN Dangsing 57.73 291 *e*P **P 07 21 06.5 +1.3**
comp=Z,48nm,0.5s
DANN Dangsing 57.73 291 *e*P **P 07 21 06.5 +1.3**
comp=Z,48nm,0.5s
KOLN Koldanda 57.94 291 *e*P **P 07 21 08.9 +2.3**
comp=Z,8.3nm,0.6s
KOLN Koldanda 57.94 291 *e*P **P 07 21 08.9 +2.3**
comp=Z,8.3nm,0.6s
MK31 Makanchi Array 58.43 313 *e*P **P 07 21 10.4 +0.9**
MK31 Makanchi Array 58.43 313 *e*P **P 07 21 10.4 +0.9**
MKAR Makanchi Array 58.43 313 P **P 07 21 10.2 +0.7**
comp=Z,2.0nm,0.6s,baz=91,slow=9.1,SNR=23
MKAR LR LR 07 47 34.7
comp=Z,50nm,18.3s,baz=351,slow=37
MKAR Makanchi Array 58.43 313 P **P 07 21 10.2 +0.7**
MKAR Makanchi Array 58.43 313 P **P 07 21 10.2 +0.7**
NVS Novosibirsk 58.77 323 *e*P **P 07 21 10.8 -0.8**
NVS pmax pmax
comp=Z,14nm,1.5s
NWAO Narrogin (SRO) 59.90 209 P **P 07 21 19.6 -0.1**
comp=Z,3.8nm,0.9s,baz=203,slow=12,SNR=2.8
NWAO Narrogin (SRO) 59.90 209 P **P 07 21 19.6 -0.1**
NWAO Narrogin (SRO) 59.90 209 P **P 07 21 19.6 -0.1**
TRF Thorofare Moun 60.09 27 *e*P **P 07 21 20.9 0.0**
KURK Kurchatov 61.10 318 P **P 07 21 28.4 +0.8**
comp=Z,3.7nm,0.5s,baz=92,slow=7.6,SNR=25
KURK Kurchatov 61.10 318⇑ *i*P **P 07 21 27.5 -0.2**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 61.10 318 P **P 07 21 28.4 +0.8**
ILAR Eielson Array 61.87 26 P **P 07 21 31.5 -1.2**
comp=Z,4.1nm,0.8s,baz=256,slow=5.2,SNR=39
ILAR LR LR 07 50 46.3
comp=Z,82nm,18.1s,baz=131,slow=38
ILAR Eielson Array 61.87 26 P **P 07 21 31.5 -1.2**
ILAR Eielson Array 61.87 26 P **P 07 21 31.5 -1.2**
BMRM Bremner River 62.17 31 *e*P **P 07 21 35.6 +0.7**
KSH Kashi 63.10 305 *e*P P 07 21 45.6 +4.0
KSH *ep*P pP 07 21 55.6 +2.2
KSH *es*P sP 07 21 59.6 +1.6
KSH *e*PcP **PcP 07 22 18.7 -0.3**
KSH *e*ScP 07 26 17.6
KSH *e*PcS 07 26 20.6
KSH *e*S **S 07 30 12.3 +2.4**
KSH *es*S sS 07 30 38.6 +9.1
KSH *e*ScS **ScS 07 31 33.6 +2.0**
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,160nm,4.3s
KSH LR LR
comp=N,110nm,5.9s
KSH LR LR
comp=E,140nm,4.9s
KSH LR LR
comp=Z,210nm,5.8s
TKM2 Tokmak 2 63.16 309 *e*P **P 07 21 43.2 +1.2**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 63.16 309 *e*P **P 07 21 43.2 +1.2**
comp=Z,3.2nm,0.8s
BRVK Borovoye 66.29 320*c i*P **P 07 22 02.1 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 66.29 320 *e*P **P 07 22 02.5 +0.6**
comp=Z,4.2nm,0.7s
KKAR Karatay Array 66.87 309 *e*P **P 07 22 06.8 +1.0**
KKAR Karatay Array 66.87 309 *e*P **P 07 22 06.8 +1.0**
ARU Arti 72.68 324 P **P 07 22 42.6 +1.3**
ABKAR Akbulak array 73.19 317 *e*P **P 07 22 44.6 +0.1**
KCPM Cahto Peak 77.02 52 *e*P **P 07 23 07.4 +0.5**
comp=Z,10.0nm,0.7s
G06A Carlson Farm, 77.63 46⇓P **P 07 23 10.1 0.0**
baz=78
K05A Summer Lake 78.14 49⇓P **P 07 23 13.2 0.0**
baz=78
C09A Chrisman Ranch 78.46 43⇑P **P 07 23 15.2 +0.5**
baz=78
I07A Izee 78.73 47⇑P **P 07 23 16.5 +0.3**
baz=79
E09A Wood Farm, Sta 78.93 45⇑P **P 07 23 17.6 +0.5**
baz=79
J08A Circle Bar Ran 79.66 48⇑P **P 07 23 21.6 +0.3**
baz=80
F10A Beach Ranch, E 79.70 45⇓P **P 07 23 21.9 +0.4**
baz=80
WVOR Wild Horse Val 79.82 49 *e*P **P 07 23 22.5 +0.2**
WVOR pmax pmax
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 79.82 49 *e*P **P 07 23 22.5 +0.2**
comp=Z,5.8nm,0.8s
CMB Columbia Colle 79.88 53 *e*P **P 07 23 22.7 +0.1**
CMB pmax pmax
comp=Z,8.0nm,0.8s
CMB Columbia Colle 79.88 53 *e*P **P 07 23 22.7 +0.1**
comp=Z,8.2nm,0.8s
WCN Washoe City 79.97 52 *e*P **P 07 23 23.8 +0.6**
WCN pmax pmax
comp=Z,50nm,2.5s
WCN Washoe City 79.97 52 *e*P **P 07 23 23.8 +0.6**
comp=Z,50nm,2.5s
WCN Washoe City 79.97 52⇑P **P 07 23 23.7 +0.6**
baz=80
BMO Blue Mountains 80.00 46 *e*P **P 07 23 23.6 +0.5**
BMO pmax pmax
comp=Z,7.0nm,0.8s
BMO Blue Mountains 80.00 46 *e*P **P 07 23 23.6 +0.5**
comp=Z,6.6nm,0.8s
C12B Naegeli Ranch, 80.29 43⇓P **P 07 23 25.1 +0.5**
baz=80
BSMT Bassoo Peak 80.68 42 *e*P **P 07 23 27.6 +0.7**
SMMC Simmler 81.00 56⇑P **P 07 23 29.2 +0.6**
baz=81
F12A Elk City 81.07 45⇓P **P 07 23 28.9 -0.1**
baz=81
D13A Huson 81.14 43⇓P **P 07 23 29.3 0.0**
baz=81
A14A Double T Ranch 81.15 41⇑P **P 07 23 29.8 +0.5**
baz=81
MLAC Mammoth Lakes 81.17 53⇑P **P 07 23 30.2 +0.4**
baz=81
PKM Peak Mountain 81.27 56⇑P **P 07 23 30.7 +0.4**
baz=81
RCTC Rector, Farmer 81.28 55⇑P **P 07 23 30.3 +0.3**
baz=81
NVAR Mina Array Bea 81.31 52 P **P 07 23 30.8 +0.3**
comp=Z,9.2nm,0.8s,baz=263,slow=6.4,SNR=66
NVAR LR LR 07 57 11.8
comp=Z,69nm,18.2s,baz=209,slow=34
NVAR Mina Array Bea 81.31 52 P **P 07 23 30.8 +0.3**
B14A Marquette Ranc 81.46 42⇑P **P 07 23 31.5 +0.6**
baz=81
MFID Camas Ranch 81.47 47⇑P **P 07 23 31.1 0.0**
baz=81,SNR=5.1
E13A Victor 81.54 44⇓P **P 07 23 31.1 -0.3**
baz=81
VES Vestal, Richgr 81.55 55⇓P **P 07 23 31.5 0.0**
baz=81
ARCES ARCESS Array B 81.57 342 P **P 07 23 31.6 +0.7**
comp=Z,10nm,0.9s,baz=28,slow=5.5,SNR=4.0
ARCES ARCESS Array B 81.57 342 P **P 07 23 31.7 +0.7**
ARCES ARCESS Array B 81.57 342 P **P 07 23 31.6 +0.7**
A15A Johnson Ranch, 81.58 41⇓P **P 07 23 31.6 +0.1**
baz=81
F13A Darby 81.67 44⇓P **P 07 23 31.9 -0.2**
baz=82,SNR=12
D14A Greenough 81.76 43⇓P **P 07 23 31.9 -0.7**
baz=82
TIN Tinemaha 81.81 54⇑P **P 07 23 33.2 +0.2**
baz=82
B15A Bradely Ranch, 81.92 42⇑P **P 07 23 33.3 0.0**
baz=82,SNR=5.3
ARVC Arvin 81.97 56⇑P **P 07 23 33.7 0.0**
baz=82
G13A Cobalt 81.98 45⇓P **P 07 23 33.7 -0.1**
baz=82,SNR=15
CHMT Chamberlain Mo 81.98 43 *e*P **P 07 23 33.4 -0.5**
comp=Z,42nm,2.3s
E14A Clinton 82.00 44⇑P **P 07 23 33.5 -0.3**
baz=82
ISA Isabella 82.07 55⇓P **P 07 23 34.2 -0.1**
baz=82
C15A Salmond Ranch, 82.08 42⇓P **P 07 23 34.2 -0.1**
baz=82
H13A Challis 82.14 45⇓P **P 07 23 34.8 +0.2**
baz=82
A16A West Butte Ran 82.29 41⇓P **P 07 23 35.5 +0.2**
baz=82
F14A Wisdom 82.29 44⇓P **P 07 23 35.5 0.0**
baz=82
HLID Hailey 82.39 46 *e*P **P 07 23 36.2 +0.3**
comp=Z,35nm,2.3s
HLID Hailey 82.39 46⇓P **P 07 23 36.1 +0.1**
baz=82,SNR=5.3
B16A M & M Farms, S 82.42 41⇑P **P 07 23 36.0 +0.1**
baz=82
I13A Wildhorse Cree 82.46 46⇓P **P 07 23 37.0 +0.6**
baz=82
E15A Deer Lodge 82.55 43⇓P **P 07 23 36.7 0.0**
baz=82,SNR=5.3
J13A Cove Ranch, Pi 82.61 47⇑P **P 07 23 37.4 +0.3**
baz=82
C16A Fuhringer Ranc 82.62 42⇑P **P 07 23 36.8 -0.2**
baz=82
MPMC Manual Prospec 82.70 54⇑P **P 07 23 38.1 +0.3**
baz=83
EDW2 Edwards Air Fo 82.70 56⇓P **P 07 23 37.9 +0.2**
baz=83
H14A Leadore 82.72 45⇓P **P 07 23 38.1 +0.3**
baz=83,SNR=6.0
LRMC Laurel Mountai 82.74 55⇑P **P 07 23 38.1 +0.2**
baz=83
ELK Elko 82.78 49 *e*P **P 07 23 38.7 +0.5**
ELK Elko 82.78 49 *e*P **P 07 23 38.7 +0.5**
A17A Triple J Farms 82.84 40⇑P **P 07 23 38.2 +0.1**
baz=83
F15A Butte 82.86 44⇑P **P 07 23 38.4 0.0**
baz=83,SNR=6.2
CIS Catalina Islan 82.86 57⇓P **P 07 23 38.7 +0.3**
baz=83
LRM Limekiln Ridge 82.89 44 *e*P **P 07 23 38.8 +0.2**
I14A Mackay 82.91 46⇑P **P 07 23 38.9 +0.2**
baz=83
MCMT McKenzie Canyo 82.99 45 *e*P **P 07 23 39.4 +0.2**
comp=Z,1.5nm,0.9s
B17A L&G Farms, Che 83.02 41⇓P **P 07 23 39.2 +0.2**
baz=83,SNR=6.0
FURC Furnace Creek, 83.04 54⇓P **P 07 23 39.4 +0.1**
baz=83
J14A Carey 83.08 46⇑P **P 07 23 40.2 +0.6**
baz=83
G15A Dillon 83.11 44⇑P **P 07 23 39.7 0.0**
baz=83
E16A East Helena 83.13 43⇑P **P 07 23 40.0 +0.3**
baz=83
H15A Lima 83.20 45⇓P **P 07 23 40.6 +0.4**
baz=83
JOF Joensuu 83.30 335 *e*P **P 07 23 39.6 -0.5**
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 83.30 335 *ep* **P 07 23 39.6 -0.5**
comp=Z,6.0nm,0.8s
JOF Joensuu 83.30 335 *ep* **P 07 23 39.6 -0.5**
comp=Z,6.0nm,0.8s
R11A Troy Canyon, C 83.36 52⇑P **P 07 23 41.3 +0.2**
baz=83,SNR=7.2
A18A Metzger Ranch, 83.36 40⇑P **P 07 23 41.1 +0.3**
baz=83
GSC Goldstone 83.48 55⇑P **P 07 23 41.9 +0.2**
baz=83
BOZ Bozeman (W) 83.49 44 *e*P P 07 23 44.8 +3.2
BOZ pmax pmax
comp=Z,18nm,0.7s
BOZ Bozeman (W) 83.49 44 *e*P P 07 23 44.8 +3.2
comp=Z,18nm,0.7s
D17A Six Diamond Ra 83.53 42⇑P **P 07 23 42.3 +0.5**
baz=83
G16A Moss Hill, Enn 83.53 44⇓P **P 07 23 42.1 +0.2**
baz=83
K14A Jones Ranch, D 83.59 47⇓P **P 07 23 42.9 +0.7**
baz=84,SNR=5.2
B18A Beardsley Farm 83.61 41⇑P **P 07 23 42.1 0.0**
baz=84
L14A Malta 83.73 48⇑P **P 07 23 43.6 +0.6**
baz=84,SNR=5.7
MURC Murrieta 83.75 57⇑P **P 07 23 43.2 +0.2**
baz=84
EGMT Eagleton 83.77 41⇑P **P 07 23 43.0 +0.1**
baz=84
J15A Blackfoot 83.79 46⇑P **P 07 23 44.0 +0.8**
baz=84,SNR=8.2
QLMT Earthquake Lak 83.93 45 *e*P **P 07 23 44.7 +0.7**
comp=Z,0.6nm,0.8s
K15A Arbon 83.99 47⇓P **P 07 23 44.8 +0.6**
baz=84
HEC Hector,Ludlow 84.00 55⇓P **P 07 23 44.7 +0.3**
baz=84
F17A Fitzpatrick Pl 84.02 43⇓P **P 07 23 44.5 +0.1**
baz=84
A19A Klindworth Far 84.03 40⇑P **P 07 23 44.7 +0.5**
baz=84
H16A Russell Place, 84.09 45⇓P **P 07 23 45.4 +0.6**
baz=84
B19A Brinkman Farms 84.10 40⇓P **P 07 23 44.7 +0.1**
baz=84
TUQ Turquoise Moun 84.11 55⇑P **P 07 23 45.4 +0.4**
baz=84
HVU Hansel Valley 84.15 48 *e*P **P 07 23 45.9 +0.8**
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 84.15 48 *e*P **P 07 23 45.9 +0.8**
comp=Z,10nm,1.1s
E18A Harlowton 84.24 42⇑P **P 07 23 46.1 +0.6**
baz=84,SNR=7.2
I16A Newdale 84.25 45⇑P **P 07 23 46.3 +0.7**
baz=84
C19A Slack Wire Ran 84.32 41⇓P **P 07 23 46.2 +0.5**
baz=84
PFO Pinyon Flat Ob 84.33 56⇓P **P 07 23 46.1 0.0**
baz=84

L15A	Malad City	84.34	47	⇑P		P	07 23 46.0	0.0
	baz=84							
J16A	Bone	84.39	46	⇑P		P	07 23 46.6	+0.3
	baz=84							
YFT	Old Faithful	84.46	45	*e*P		P	07 23 49.6	+2.8
	comp=Z,8.9nm,1.0s							
YNR	Norris Junctio	84.47	44	*e*P		P	07 23 49.1	+2.4
	comp=Z,12nm,0.9s							
A20A	Cobblestone Ra	84.54	40	⇓P		P	07 23 46.8	0.0
	baz=84							
K16A	Soda Springs	84.58	46	⇑P		P	07 23 48.4	+1.2
	baz=84							
MONP	Monument Peak	84.60	57	⇓P		P	07 23 47.8	+0.1
	baz=84							
R13A	O'Grain Ranch,	84.61	51	⇓P		P	07 23 48.3	+0.8
	baz=84							
F18A	Big Timber	84.63	43	⇓P		P	07 23 47.9	+0.5
	baz=84							
D19A	Cripps Ranch,	84.66	42	⇓P		P	07 23 47.7	+0.3
	baz=84,SNR=8.4							
B20A	Solberg Farm,	84.67	40	⇑P		P	07 23 47.8	+0.4
	baz=84							
FLWY	Flagg Ranch	84.70	45	*e*P		P	07 23 49.1	+1.2
	comp=Z,8.9nm,0.8s							
DUG	Dugway	84.71	49	*e*P		P	07 23 48.3	+0.4
DUG					pmax	pmax		
	comp=Z,4.0nm,0.9s							
DUG	Dugway	84.71	49	*e*P		P	07 23 48.3	+0.4
	comp=Z,3.6nm,0.9s							
DUG	Dugway	84.71	49	⇑P		P	07 23 48.3	+0.4
	baz=85							
OBN	Obninsk	84.81	327	P		P	07 23 48.0	+0.1
OBN				*e*			07 27 01.4	
OBN					pmax	pmax		
	comp=Z,5.0nm,1.1s							
I17A	Pilgrim Ck.	84.84	45	⇓P		P	07 23 49.4	+0.8
	baz=85							
G18A	Lazy EL Ranch,	84.96	44	⇑P		P	07 23 49.2	+0.1
	baz=85							
C20A	Veseth Ranch,	84.97	41	⇓P		P	07 23 49.5	+0.5
	baz=85,SNR=5.1							
E19A	Rath Farm, Rou	85.00	42	⇑P		P	07 23 49.4	+0.2
	baz=85							
BC3	Big Chuckawall	85.09	56	⇑P		P	07 23 50.2	+0.3
	baz=85							
A21A	Bergtoll Ranch	85.10	39	⇑P		P	07 23 49.8	+0.3
	baz=85							
ARUT	Antelope Range	85.14	52	*e*P		P	07 23 50.9	+0.7
ARUT					pmax	pmax		
	comp=Z,7.0nm,0.8s							
ARUT	Antelope Range	85.14	52	*e*P		P	07 23 50.9	+0.7
	comp=Z,7.1nm,0.8s							
F19A	Roth Farm, Mol	85.14	43	⇑P		P	07 23 50.5	+0.5
	baz=85							
D20A	Manuel Ranch,	85.15	42	⇑P		P	07 23 50.3	+0.4
	baz=85,SNR=7.6							
IRM	Iron Mountain	85.15	56	⇓P		P	07 23 50.3	+0.1
	baz=85							
FFC	Flin Flon	85.27	33	*e*P		P	07 23 50.6	+0.3
FFC					pmax	pmax		
	comp=Z,8.0nm,0.8s							
FFC	Flin Flon	85.27	33	*e*P		P	07 23 50.5	+0.3
	comp=Z,8.4nm,0.8s							
B21A	Ellsworth Farm	85.28	40	⇑P		P	07 23 51.0	+0.5
	baz=85							
CCUT	Cedar City	85.28	52	*e*P		P	07 23 51.6	+0.6
	comp=Z,3.2nm,0.8s							
P15A	Leamington	85.32	50	⇑P		P	07 23 51.1	+0.1
	baz=85							
L17A	Cokeville	85.34	47	⇑P		P	07 23 51.4	+0.3
	baz=85							
E20A	Meyer Farm, Mu	85.39	42	⇑P		P	07 23 51.2	+0.1
	baz=85							
N16A	Rees Ranch, Co	85.42	48	⇓P		P	07 23 51.3	-0.2
	baz=85							
I18A	Diamond G Ranc	85.43	45	⇓P		P	07 23 52.0	+0.3
	baz=85							
C21A	Desert Coulee	85.48	41	⇑P		P	07 23 51.9	+0.4
	baz=85,SNR=5.9							
J18A	Kendall Valley	85.49	46	⇓P		P	07 23 52.1	+0.1
	baz=85,SNR=9.8							
JLU	Jordanelle	85.52	48	*e*P		P	07 23 52.5	+0.3
	comp=Z,6.7nm,0.8s							
H19A	Powell	85.59	44	⇑P		P	07 23 53.1	+0.9
	baz=85							
O16A	Springville	85.63	49	⇓P		P	07 23 52.7	0.0
	baz=86							
F20A	Billings	85.67	43	⇑P		P	07 23 52.5	-0.1
	baz=86							
KAF	Kangasniemi	85.68	336	*e*P		P	07 23 46.6	-5.5
KAF					pmax	pmax		
	comp=Z,2.0nm,0.6s							
KAF	Kangasniemi	85.68	336	*e*p		P	07 23 46.6	-5.5
	comp=Z,1.9nm,0.6s							
KAF	Kangasniemi	85.68	336	*e*p		P	07 23 46.6	-5.5
	comp=Z,1.9nm,0.6s							
A22A	Carney Farms,	85.70	39	⇑P		P	07 23 52.8	+0.2
	baz=86							
K18A	Toltan Ranch,	85.70	46	⇓P		P	07 23 53.3	+0.3
	baz=86,SNR=5.3							
DAU	Daniels Canyon	85.73	49	*e*P		P	07 23 53.6	+0.3
DAU					pmax	pmax		
	comp=Z,7.0nm,1.1s							
DAU	Daniels Canyon	85.73	49	*e*P		P	07 23 53.5	+0.3
	comp=Z,7.2nm,1.1s							
M17A	Scullys Gap (B	85.73	47	⇓P		P	07 23 53.2	+0.1
	baz=86							
Y12C	Blythe	85.78	56	⇑P		P	07 23 53.5	+0.2
	baz=86							
W13A	Hualapai Mount	85.79	54	⇓P		P	07 23 53.3	-0.2
	baz=86							
N17A	Moffit Pass	85.82	48	⇑P		P	07 23 53.7	0.0
	baz=86							
I19A	Meeteetse	85.84	45	⇓P		P	07 23 54.0	+0.4
	baz=86							
D21A	La Casta Ranch	85.87	41	⇓P		P	07 23 53.7	+0.2
	baz=86							
G20A	Bridger	85.87	43	⇓P		P	07 23 54.0	+0.4
	baz=86							
PDMCI	Parker Dam,Lak	85.88	55	⇓P		P	07 23 54.0	+0.3
	baz=86							
B22A	Reddig Ranch S	85.95	40	⇓P		P	07 23 54.2	+0.3
	baz=86							
BW06	Boulder Array	85.98	46	⇑P		P	07 23 54.1	-0.3
BW06					⇑P	P	07 23 54.1	-0.3
	baz=86							
L18A	Fontenelle, Gr	85.99	47	⇓P		P	07 23 55.0	+0.6
	baz=86,SNR=7.4							
J19A	Crowheart	86.12	45	⇑P		P	07 23 55.5	+0.5
	baz=86,SNR=14							
FINES	FINESS Array B	86.16	336	P		P	07 23 53.8	-0.7
	comp=Z,2.3nm,0.7s,baz=67,slow=5.0,SNR=12							
FINES	FINESS Array B	86.16	336	P		P	07 23 53.8	-0.7
FINES	FINESS Array B	86.16	336	P		P	07 23 53.8	-0.7
M18A	Lyman	86.16	47	⇑P		P	07 23 55.4	+0.1
	baz=86							
O17A	Robinson Place	86.18	49	⇑P		P	07 23 55.6	+0.2
	baz=86							
C22A	Vida	86.26	40	⇓P		P	07 23 55.3	0.0
	baz=86							
H20A	Greybull	86.31	44	⇑P		P	07 23 56.3	+0.5
	baz=86							
D22A	Cohagen	86.34	41	⇑P		P	07 23 56.4	+0.6
	baz=86							
Q16A	Castle Valley	86.36	50	⇑P		P	07 23 56.4	+0.1
	baz=86,SNR=5.2							
L19A	Farson	86.38	46	⇓P		P	07 23 56.9	+0.6
	baz=86							
R16A	Teasdale	86.38	51	⇓P		P	07 23 56.9	+0.4
	baz=86,SNR=6.0							
I20A	Worland	86.45	44	⇓P		P	07 23 57.2	+0.7
	baz=86							
P17A	Butcher Ranch,	86.46	49	⇑P		P	07 23 57.1	+0.4
	baz=86							
B23A	Brockton	86.48	39	⇓P		P	07 23 56.9	+0.5
	baz=86							
U15A	North Rim	86.50	53	⇑P		P	07 23 57.5	+0.4
	baz=86,SNR=6.1							
G21A	Lodge Grass	86.51	43	⇓P		P	07 23 57.1	+0.4
	baz=86							
S16A	Weppner Ranch,	86.52	51	⇑P		P	07 23 57.3	+0.3
	baz=86							
N18A	Larsen Ranch,	86.61	48	⇓P		P	07 23 57.2	-0.2
	baz=86							
C23A	Lambert	86.66	40	⇓P		P	07 23 57.9	+0.6
	baz=86							
Z13A	Yuma Proving G	86.66	56	⇑P		P	07 23 58.0	+0.4
	baz=86							
O18A	Roosevelt	86.66	48	⇑P		P	07 23 58.2	+0.6
	baz=86							
J20A	Shoshoni	86.72	45	⇑P		P	07 23 57.8	0.0
	baz=87							
113A	Mohawk Valley,	86.73	56	⇓P		P	07 23 58.1	+0.2
	baz=87							
P18A	Preston Nutter	86.75	49	⇓P		P	07 23 57.9	-0.4
	baz=87							
E22A	Miles City	86.79	41	⇑P		P	07 23 58.0	0.0
	baz=87							
K20A	Yellowstone Ra	86.84	46	⇑P		P	07 23 58.4	-0.1
	baz=87,SNR=8.1							
A24A	Westby	86.86	39	⇓P		P	07 23 58.4	+0.1
	baz=87							
H21A	Big Horn, Sher	86.87	43	⇑P		P	07 23 59.1	+0.5
	baz=87,SNR=5.8							
F22A	Rosebud	86.88	42	⇓P		P	07 23 59.0	+0.6
	baz=87							
R17A	Hanksville Air	86.89	50	⇑P		P	07 23 58.7	-0.1
	baz=87							
Y14A	Wickenburg	86.89	55	⇓P		P	07 23 59.0	+0.2
	baz=87,SNR=6.4							
D23A	Lindsay	86.92	41	⇓P		P	07 23 59.3	+0.7
	baz=87							
N19A	John Jarvie Ra	86.99	47	⇑P		P	07 23 59.3	0.0
	baz=87							
I21A	Big Trails, Te	87.06	44	⇑P		P	07 23 59.9	+0.4
	baz=87							
G22A	Birney	87.10	43	⇑P		P	07 23 59.2	-0.4
	baz=87							
L20A	Wamsutter	87.11	46	⇑P		P	07 23 59.7	-0.1
	baz=87							
S17A	Black Ridge (B	87.13	51	⇓P		P	07 23 59.9	-0.1
	baz=87							
J21A	Lysite	87.15	45	⇓P		P	07 23 59.7	-0.4
	baz=87							
E23A	Ismay	87.16	41	⇓P		P	07 24 00.0	+0.2
	baz=87							
O19A	Miners Draw (B	87.27	48	⇓P		P	07 24 00.2	-0.5
	baz=87							
T17A	Navajo Res., N	87.38	52	⇑P		P	07 24 01.5	+0.2
	baz=87,SNR=6.2							
M20A	Sweetwater, Wa	87.43	47	⇑P		P	07 24 01.3	-0.2
	baz=87							
114A	Black Gap (USA	87.43	56	⇓P		P	07 24 02.0	+0.6
	baz=87							
F23A	Volborg	87.44	42	⇑P		P	07 24 01.6	+0.4
	baz=87							
U16A	Tuba City	87.47	52	⇓P		P	07 24 02.1	+0.4
	baz=87,SNR=6.2							
D24A	Glendive	87.48	40	⇑P		P	07 24 01.8	+0.5
	baz=87							
R18A	Canyonlands Na	87.49	50	⇑P		P	07 24 01.3	-0.4
	baz=87,SNR=5.6							
WUAZ	Wupatki	87.53	53	*e*P		P	07 24 02.7	+0.7
	comp=Z,8.3nm,0.8s							
WUAZ	Wupatki	87.53	53	⇓P		P	07 24 02.4	+0.4
	baz=87,SNR=7.6							
K21A	Alcova	87.58	45	⇓P		P	07 24 02.1	0.0
	baz=87							
U17A	Shonto	87.64	52	⇑P		P	07 24 02.9	+0.4
	baz=88,SNR=5.3							
P19A	Cripple Cowboy	87.64	49	⇑P		P	07 24 02.5	0.0
	baz=88,SNR=11							
N20A	Spence Gulch,	87.65	47	⇑P		P	07 24 02.5	-0.1
	baz=88							
S18A	Hurst Farm, Bl	87.70	51	⇑P		P	07 24 02.7	-0.2
	baz=88							
Q19A	Hogan Spring (	87.72	49	⇑P		P	07 24 02.9	+0.2
	baz=88							
214A	Organ Pipe Nat	87.78	57	⇓P		P	07 24 03.4	+0.3
	baz=88							
L21A	Rawlins	87.78	46	⇓P		P	07 24 03.2	+0.1
	baz=88							
X16A	Lo Mia Camp, P	87.91	54	⇓P		P	07 24 04.2	+0.4
	baz=88							
V17A	Tonalea, Kykot	87.93	53	⇑P		P	07 24 04.2	+0.3
	baz=88							
M21A	Separation Pea	87.94	46	⇓P		P	07 24 04.1	+0.2
	baz=88							
O20A	White River Ci	87.95	48	⇑P		P	07 24 04.2	+0.2
	baz=88							
R19A	Curley Farm, L	87.99	50	⇓P		P	07 24 04.3	+0.1
	baz=88,SNR=5.2							
T18A	Mexican Hat	88.01	51	⇓P		P	07 24 04.0	-0.2
	baz=88							
K22A	Casper	88.06	45	⇑P		P	07 24 04.4	0.0
	baz=88							
P20A	De Beque	88.11	49	⇑P		P	07 24 04.9	+0.2
	baz=88							
N21A	Black Mountain	88.19	47	⇑P		P	07 24 05.1	0.0
	baz=88,SNR=7.7							
W17A	Winslow	88.20	53	⇓P		P	07 24 04.9	-0.2
	baz=88							
S19A	Harvey Farm, M	88.30	50	⇓P		P	07 24 05.5	-0.2
	baz=88							
Q20A	Ridgley Place,	88.41	49	⇓P		P	07 24 06.4	+0.3
	baz=88,SNR=18							
V18A	Ganado	88.53	52	⇓P		P	07 24 07.0	+0.2
	baz=88,SNR=7.1							
M22A	Cedar Creek Ra	88.55	46	⇑P		P	07 24 07.0	+0.1
	baz=88							
Y17A	Roosevelt	88.64	55	⇓P		P	07 24 07.6	+0.4
	baz=88							
R20A	Redvale	88.66	50	⇑P		P	07 24 07.3	0.0
	baz=88							
T19A	Beclabito	88.75	51	⇓P		P	07 24 07.9	+0.2
	baz=89,SNR=7.8							
U19A	Dine' College,	88.84	52	⇑P		P	07 24 08.4	+0.2
	baz=89,SNR=5.2							
L23A	Garrett	88.84	45	⇓P		P	07 24 08.3	+0.2
	baz=89							
N22A	Wattenberg Ran	88.91	47	⇑P		P	07 24 08.9	+0.4
	baz=89							
W18A	Petrified Fore	88.92	53	⇓P		P	07 24 08.6	0.0
	baz=89							
Q21A	Lamborn Mesa,	88.97	49	⇓P		P	07 24 09.5	+0.7
	baz=89							
MVCO	Mesa Verde	88.98	51	*e*P		P	07 24 09.7	+0.8
	comp=Z,24nm,1.9s							
MVCO	Mesa Verde	88.98	51	⇑P		P	07 24 09.2	+0.3
	baz=89							
X18A	Snowflake	89.00	54	⇓P		P	07 24 09.4	+0.5
	baz=89							
O22A	Kremmling	89.12	47	⇓P		P	07 24 09.6	0.0
	baz=89							
R21A	Cimarron	89.18	49	⇓P		P	07 24 10.4	+0.5
	baz=89,SNR=11							
W19A	Sanders	89.18	53	⇑P		P	07 24 10.2	+0.3
	baz=89							
V19A	Window Rock	89.19	52	⇑P		P	07 24 10.2	+0.3
	baz=89							
N23A	Red Feather La	89.21	46	⇓P		P	07 24 10.6	+0.6
	baz=89							
P22A	Eagle	89.22	48	⇓P		P	07 24 10.4	+0.4
	baz=89,SNR=5.7							
Y18A	Canyon Day Jun	89.23	54	⇓P		P	07 24 10.4	+0.4
	baz=89							
SMCO	Snowmass	89.24	48	*e*P		P	07 24 10.8	+0.5
	comp=Z,5.5nm,1.0s							
S21A	Coal Bank Pass	89.30	50	⇓P		P	07 24 10.3	-0.2
	baz=89							
U20A	Newcomb	89.31	51	⇓P		P	07 24 10.4	0.0
	baz=89							
Q22A	Crested Butte,	89.42	49	⇓P		P	07 24 11.5	+0.5
	baz=89,SNR=5.8							
X19A	St. Johns	89.53	53	⇑P		P	07 24 12.1	+0.6
	baz=89							
V20A	Brimhall	89.59	52	⇓P		P	07 24 11.7	-0.1
	baz=90							
M24A	Cheyenne	89.72	46	⇓P		P	07 24 12.4	+0.2
	baz=90							
Y19A	Nutrioso	89.75	54	⇑P		P	07 24 13.4	+0.7
	baz=90							
W20A	Ramah	89.84	53	⇑P		P	07 24 13.4	+0.4
	baz=90							
ISCO	Idaho Springs	89.92	47	⇓P		P	07 24 13.8	+0.4
	baz=90							
218A	Dragoon	89.94	56	⇓P		P	07 24 14.3	+0.9
	baz=90							
P23A	Jefferson	89.95	48	⇓P		P	07 24 14.3	+0.7
	baz=90							
S22A	4UR Ranch, Cre	89.96	50	⇓P		P	07 24 14.2	+0.7
	baz=90							
N24A	Carr	89.97	46	⇓P		P	07 24 14.1	+0.7
	baz=90							
X20A	Quemado	90.08	53	⇑P		P	07 24 14.8	+0.7
	baz=90							
O24A	Longmont	90.15	47	⇑P		P	07 24 14.9	+0.7
	baz=90							
119A	Ashpeak Ranch,	90.20	55	⇓P		P	07 24 15.5	+0.9
	baz=90							
318A	Bisbee	90.20	56	⇓P		P	07 24 15.2	+0.6
	baz=90							
T22A	Edith	90.22	50	⇓P		P	07 24 15.1	+0.4
	baz=90							
K26A	Motz Farm, Whi	90.24	44	⇑P		P	07 24 14.9	+0.4
	baz=90							
Y20A	Horse Springs,	90.44	54	⇓P		P	07 24 16.7	+0.9
	baz=90							
Z20A	Nine Sixteen R	90.60	54	⇑P		P	07 24 17.2	+0.7
	baz=90							
120A	U Bar Ranch, L	90.81	55	⇑P		P	07 24 18.6	+1.2
	baz=91							
T23A	Casias Ranch,	90.83	50	⇑P		P	07 24 17.9	+0.3
	baz=91							
K27A	Flueckinger Fa	90.85	44	⇑P		P	07 24 17.4	+0.1
	baz=91							
SDCO	Great Sand Dun	90.91	49	⇓P		P	07 24 18.3	+0.3
SDCO					⇓P	P	07 24 18.3	+0.3
	baz=91							
R24A	Sanders Place,	90.97	49	⇑P		P	07 24 18.5	+0.4
	baz=91							
U23A	El Rito	91.03	51	⇓P		P	07 24 18.7	+0.3
	baz=91							
P25A	Willow Gulch B	91.05	47	⇑P		P	07 24 19.1	+0.7
	baz=91							
220A	Playas Peak, P	91.15	55	⇑P		P	07 24 19.9	+0.9
	baz=91							
S24A	Houchin Ranch,	91.16	49	⇑P		P	07 24 19.9	+0.8
	baz=91							
Z21A	St. Cloud Mine	91.22	54	⇑P		P	07 24 20.1	+0.6
	baz=91							
320A	Kipp Ranch, An	91.38	56	⇓P		P	07 24 20.9	+0.7
	baz=91							
W23A	Werner Place,	91.57	52	⇑P		P	07 24 21.0	0.0
	baz=91							
P26A	Davis Ranch, A	91.59	47	⇓P		P	07 24 21.4	+0.5
	baz=91							
Q26A	Hugo	91.77	47	⇑P		P	07 24 21.8	+0.1
	baz=92							
T25A	Trinidad	91.95	49	⇑P		P	07 24 23.1	+0.4
	baz=92							
V24A	Rampart Ranch,	91.97	51	⇑P		P	07 24 23.6	+0.7
	baz=92							
122A	Conniff Cattle	91.99	54	⇓P		P	07 24 23.9	+1.0
	baz=92							
W24A	Lazy 6 Ranch,	92.09	51	⇑P		P	07 24 23.8	+0.4
	baz=92							
Y23A	Lovelace Mesa,	92.17	53	⇓P		P	07 24 24.3	+0.5
	baz=92							
U25A	Circle Dot Ran	92.29	50	⇓P		P	07 24 24.4	+0.1
	baz=92							
Z23A	Rita Site, Whi	92.33	53	⇑P		P	07 24 24.7	+0.2
	baz=92							
KSCO	Kaye Shedlock'	92.34	47	⇓P		P	07 24 24.9	+0.6
	baz=92							
S26A	Kim	92.40	49	⇑P		P	07 24 24.8	+0.1
	baz=92							
R27A	Eads	92.56	48	⇓P		P	07 24 25.5	+0.1
	baz=92							
Y24A	Capitan	92.64	53	⇑P		P	07 24 25.9	0.0
	baz=92							
U26A	Atchley Ranch,	92.77	50	⇑P		P	07 24 26.7	+0.2
	baz=93							
W25A	X Bar L Ranch,	92.78	51	⇓P		P	07 24 26.5	-0.1
	baz=93							
Z24A	Sheeppen Canyo	92.96	53	⇓P		P	07 24 27.7	+0.2
	baz=93							
T27A	Campo	93.19	49	⇑P		P	07 24 28.5	+0.2
	baz=93							
Y25A	Mesa, Roswell	93.19	52	⇓P		P	07 24 28.9	+0.4
	baz=93							
224A	Cornudas Mount	93.39	54	⇓P		P	07 24 29.9	+0.6
	baz=93							
Z25A	Roswell	93.46	53	⇑P		P	07 24 30.2	+0.6
	baz=93							
X26A	CR and CF Fran	93.56	51	⇑P		P	07 24 30.2	+0.1
	baz=93							
MNTX	Cornudas Mount	93.66	55	⇓P		P	07 24 30.9	+0.5
	baz=94							
MNTX					⇓P	P	07 24 30.9	+0.5
	baz=94							
324A	Moseley Ranch,	93.69	55	⇓P		P	07 24 31.1	+0.3
	baz=94							
W27A	Bowe Ranch, En	93.87	51	⇑P		P	07 24 31.9	+0.4
	baz=94							
425A	Indio Mountain	94.37	55	⇓P		P	07 24 34.2	+0.3
	baz=94							
426A	McDonald Obser	95.16	55	⇑P		P	07 24 37.8	+0.2
	baz=95							
526A	Mary Lane Ranc	95.38	55	⇑P		P	07 24 38.8	+0.3
	baz=95							
427A	Hayter Ranch,	95.56	55	⇑P		P	07 24 39.9	+0.7
	baz=95							
626A	Big Bend Ranch	95.57	56	⇓P		P	07 24 39.7	+0.3
	baz=96							
TXAR	Lajitas Array	96.04	56	P		P	07 24 41.6	+0.1
	comp=Z,0.4nm,0.7s,baz=288,slow=3.8,SNR=3.6							
TXAR	Lajitas Array	96.04	56	P		P	07 24 41.6	+0.1
TXAR	Lajitas Array	96.04	56	P		P	07 24 41.6	+0.1
628A	Black Gap, Mar	96.57	56	⇓P		P	07 24 44.4	+0.6
	baz=96							
TORD	Torodi Ar. Bea	132.53	311	PKP		PKPdf	07 30 29.0	+0.1
	comp=Z,0.3nm,0.6s,baz=195,slow=0.7,SNR=2.6							
TORD	Torodi Ar. Bea	132.53	311	PKP		PKPdf	07 30 29.0	+0.1
DBIC	Dimbokro	141.64	311	PKhKP	PKPpre		07 30 40.5	
	comp=Z,4.0nm,1.0s,baz=162,slow=3.5,SNR=3.6							
DBIC	Dimbokro	141.64	311	PKIKP	PKPpre		07 30 40.5	
DBIC	Dimbokro	141.64	311	PKPpre	PKPpre		07 30 40.5	
LCO	Las Campanas	144.67	112	*e*PKPdf		PKPdf	07 30 50.8	-0.2
CFAA	Coronel Fontan	146.39	117	PKPbc		PKPab	07 30 54.6	-1.2
	comp=Z,0.4nm,0.8s,baz=246,slow=6.6,SNR=8.1							
CFAA	Coronel Fontan	146.39	117	PKPbc		PKPab	07 30 54.6	-1.2
LPAZ	La Paz	146.43	89	PKPbc		PKPab	07 30 56.6	-0.4
	comp=Z,4.3nm,0.9s,baz=246,slow=2.9,SNR=12							
LPAZ	La Paz	146.43	89	PKP2		PKPab	07 30 56.6	-0.4
LPAZ	La Paz	146.43	89	PKPbc		PKPab	07 30 56.6	-0.4
SAML	Samuel	148.80	74	*e*PKPbc		PKPbc	07 31 01.7	-0.1

IDC 05 07:19:32.1±6.1, 31°.90N×141°.85E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/20, mbtmp3.8/4, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/40, Error ellipse: s-maj=151.1km s-min=49.0km az=37.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.53	328	P	Pn	Pn	07 20 55.7	+0.1
	0.3nm,0.3s,baz=151,slow=11,SNR=5.2							
USRK	Ussuriysk Arra	14.51	331	P	L

RSPR ***05*** *07:25:27.7, 19°.24N×64°.60W, h20km±12km, MD3.0/3*
TRN 05 07:25:26.1, 19°.17N×64°.67W, h34km, MD3.0(RSPR),
4C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.86**	**199**⇑	*eP*	Pb	07 25 43.1	+0.5
STVI	**Saint Thomas**	**0.86**	**199**⇑	*eP*	Pb	07 25 43.1	+0.5
STVI				*eS*	Sb	07 25 55.8	+1.9
MTP	**Monte Pirata**	**1.36**	**218**⇓	*eP*	Pb	07 25 50.5	-0.6
MTP	**Monte Pirata**	**1.36**	**218**⇓	*eP*	Pb	07 25 50.5	-0.6
MTP				*eS*	Sb	07 26 07.9	-0.3
CBYP	**Canovanas**	**1.44**	**232**⇑	*eP*	Pb	07 25 51.2	-1.3
CBYP	**Canovanas**	**1.44**	**232**⇑	*eP*	Pb	07 25 51.2	-1.3
CBYP				*eS*	Sb	07 26 09.8	-0.7

DJA ***05*** *07:40:18, 1°.23S×135°.39E, h10km, MLv5.1/3*
IDC 05 07:40:43.1±1.2, 0°.55S×133°.73E, h0km, mb3.7/4,
mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse:
s-maj=67.4km s-min=21.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.29**	**178**	P	Pn	07 45 10.4	-0.2
	0.3nm,0.3s,baz=356,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**22.98**	**180**	P	P	07 45 49.7	+0.1
	2.3nm,0.6s,baz=1.2,slow=11,SNR=21						
STKA	**Stephens Creek**	**32.04**	**167**	P	P	07 47 10.9	-0.7
	0.4nm,0.4s,baz=336,slow=9.6,SNR=2.7						
MKAR	**Makanchi Array**	**65.08**	**324**	P	P	07 51 25.7	+0.1
	0.6nm,0.5s,baz=110,slow=8.1,SNR=14						
ILAR	**Eielson Array**	**85.96**	**25**	P	P	07 53 24.8	-0.2
	0.3nm,0.6s,baz=246,slow=5.8,SNR=4.9						

NIED ***05*** *07:51:00, 30°.60N×140°.80E, h5km, Mw4.4 Best double couple: M0=4.85000×10¹⁵ NP1:φs=217.00000°, δ77.00000°, λ=-66.00000°. NP2:φs=334.00000°, δ27.00000°, λ=-150.00000°.*
IDC ***05*** *07:51:34.5±0.6, 30°.42N×140°.19E, h0km, mb4.2/17, mb1 4.3/20, mb1mx4.3/25, mbtmp4.2/20, MS3.6/12, Ms1 3.6/12, ms1mx3.4/31, Error ellipse: s-maj=18.7km s-min=14.0km az=88.0*
JMA ***05*** *07:51:36.5±0.1, 30°.61N×140°.80E, h36km, M4.0*
ISCJB ***05*** *07:51:36.4±1.7, 30°.46N±0°.04×140°.37E±0°.08, h27km±13km, mb4.2/23, MS3.8/6, Error ellipse: s-maj=11.8km s-min=5.7km az=163.9*
NEIC ***05*** *07:51:39.7±0.3, 30°.38N×140°.19E, h35km, mb4.4/6, Error ellipse: s-maj=9.6km s-min=7.2km az=69.0*
ISC 05 07:51:37.8±0.6, 30°.50N±0°.04×140°.36E±0°.09, h19km±10km,
n77, σ1°.48/78, mb4.2/23, MS3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.65**	**350**	P	**Pn**	**07 52 18.7**	**-0.8**
JHJ2				*eS*	**Sn**	**07 52 48.0**	**-3.1**
CBIJ	**Chichi jima**	**3.74**	**154**	Pn	**Pn**	**07 52 33.8**	**-0.8**
	baz=288,slow=20						
CBIJ				Sn	**Sn**	**07 53 16.1**	**-1.9**
	38nm,0.3s,baz=289,slow=22,SNR=7.8						
CBIJ				LR	LR	07 54 01.3	
	comp=Z,708nm,19.6s,baz=129,slow=39						
CBIJ	**Chichi jima**	**3.74**	**154**	Pn	**Pn**	**07 52 33.8**	**-0.8**
CBIJ				Sn	**Sn**	**07 53 16.1**	**-1.9**
CBIJ	**Chichi jima**	**3.74**	**154**	P	**Pn**	**07 52 33.6**	**-0.9**
CBIJ				*eS*	**Sn**	**07 53 15.7**	**-2.4**
BSO1	**Boso 1**	**4.18**	**7**	P	**Pn**	**07 52 38.1**	**-1.9**
BSO1				*eS*	Sn	07 53 22.4	-5.6
BSO3	**Boso 3**	**4.30**	**2**	P	**Pn**	**07 52 40.8**	**-1.1**
BSO3				*eS*	**Sn**	**07 53 28.3**	**-3.0**
BSO4	**Boso 4**	**4.48**	**360**	P	**Pn**	**07 52 44.3**	**-0.3**
BSO4				*eS*	**Sn**	**07 53 32.8**	**-3.3**
JOD2	**Odawara 2**	**4.88**	**348**	P	**Pn**	**07 52 51.7**	**+1.6**
HMMJ	**Hamamatsu 2**	**4.89**	**334**	P	Pn	07 52 55.1	+4.9
JIE	**Ise**	**4.97**	**322**	P	**Pn**	**07 52 54.3**	**+3.0**
JWZ	**Kozaga**	**4.97**	**309**	P	**Pn**	**07 52 53.9**	**+2.5**
JKN2	**Miekihoku**	**5.09**	**318**	P	Pn	07 52 56.3	+3.3
JAO	**Obara**	**5.43**	**332**	P	Pn	07 53 02.0	+4.3
JHO	**Hitachi**	**6.10**	**2**	P	**Pn**	**07 53 06.9**	**0.0**
JHO				*eS*	**Sn**	**07 54 13.1**	**-3.1**
MJAR	**Matsushiro Arr**	**6.29**	**344**	Pn	**Pn**	**07 53 10.5**	**+0.9**
	1.1nm,0.3s,baz=164,slow=12,SNR=23						
MJAR				Sn	**Sn**	**07 54 23.6**	**+2.7**
	baz=148,slow=13,SNR=1.6						
MJAR	**Matsushiro Arr**	**6.29**	**344**	Pn	**Pn**	**07 53 10.5**	**+0.9**
MJAR				Sn	**Sn**	**07 54 23.6**	**+2.7**
MAJO	**Matsushiro**	**6.29**	**344**	*e*Pn	**Pn**	**07 53 12.3**	**+2.7**
	35nm,0.9s						
MAT	**Matsushiro**	**6.29**	**344**	P	**Pn**	**07 53 10.0**	**+0.4**
MAT				*eS*	**Sn**	**07 54 21.8**	**+0.8**
JWT	**Wachi**	**6.34**	**320**	P	Pn	07 53 15.7	+5.5
JOW	**Kunigami**	**11.23**	**254**	LR	LR	07 58 12.7	
	comp=Z,273nm,19.3s,baz=112,slow=36						
KSRS	**Korea Array**	**12.44**	**307**	Pn	**Pn**	**07 54 33.0**	**-0.6**
	0.3nm,0.3s,baz=140,slow=42,SNR=2.6						
KSRS				LR	LR	07 59 07.6	
	comp=Z,306nm,19.1s,baz=161,slow=37						
KSAR	**Wonju Array Be**	**12.46**	**307**	Pn	**Pn**	**07 54 33.0**	**-0.9**
ASAJ	**Asahikawa**	**13.71**	**7**	LR	LR	07 59 56.4	
	comp=Z,83nm,18.7s,baz=178,slow=36						
USRK	**Ussuriysk Arra**	**15.20**	**336**	Pn	**Pn**	**07 55 12.1**	**+0.9**
	0.0nm,0.3s,baz=161,slow=12,SNR=3.2						
USRK				LR	LR	08 00 24.5	
	comp=Z,81nm,20.9s,baz=173,slow=35						
GUMO	**Guam**	**17.33**	**165**	LR	LR	08 01 48.7	
	comp=Z,196nm,19.2s,baz=336,slow=36						
ENH	**Enshi**	**26.60**	**277**	*e*P	**P**	**07 57 14.6**	**-0.4**
	18nm,0.9s						
SONM	**Songino Array**	**31.19**	**313**	P	**P**	**07 57 55.5**	**-0.3**
	0.8nm,0.8s,baz=113,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**31.19**	**313**	P	**P**	**07 57 55.5**	**-0.3**
CHTO	**Chiang Mai**	**39.20**	**263**	*e*P	**P**	**07 59 04.6**	**-0.2**
	17nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.35**	**262**	P	**P**	**07 59 05.5**	**-0.6**
	4.6nm,0.8s,baz=63,slow=6.1,SNR=13						
CMAR				LR	LR	08 16 16.1	
	comp=Z,101nm,18.9s,baz=258,slow=38						
CMAR	**Chiang Mai Arr**	**39.35**	**262**	P	**P**	**07 59 05.5**	**-0.6**
HNR	**Honiara**	**43.93**	**152**	LR	LR	08 15 19.0	
	comp=Z,83nm,20.3s,baz=244,slow=32						
ZALV	**Zalesovo Beam**	**45.90**	**317**	PcP	**PcP**	**08 01 35.3**	**-0.4**
	2.5nm,0.7s,baz=102,slow=3.4,SNR=12						
ZALV				LR	LR	08 19 21.4	
	comp=Z,84nm,18.9s,baz=79,slow=36						
ZALV	**Zalesovo Beam**	**45.90**	**317**	PcP	**PcP**	**08 01 35.3**	**-0.4**
MKAR	**Makanchi Array**	**47.12**	**307**	P	**P**	**08 00 07.0**	**-1.6**
	0.6nm,0.7s,baz=88,slow=8.7,SNR=8.0						
MKAR				PcP	**PcP**	**08 01 39.8**	**-0.4**
	0.6nm,0.7s,baz=80,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**47.12**	**307**	P	**P**	**08 00 07.0**	**-1.6**
MKAR				PcP	**PcP**	**08 01 39.8**	**-0.4**
KURK	**Kurchatov**	**49.49**	**313**	*e*P	**P**	**08 00 25.2**	**-1.6**
	5.4nm,1.3s						
WRA	**Warramunga Arr**	**50.48**	**187**	P	**P**	**08 00 32.9**	**-1.7**
	1.8nm,0.6s,baz=7.7,slow=7.7,SNR=8.3						
WRA				PcP	**PcP**	**08 01 53.5**	**+0.9**
	0.7nm,0.5s,baz=358,slow=3.9,SNR=4.8						
WRA	**Warramunga Arr**	**50.48**	**187**	P	**P**	**08 00 32.9**	**-1.7**
WRA				PcP	**PcP**	**08 01 53.5**	**+0.9**
KDAK	**Kodiak Island**	**52.65**	**38**	P	**P**	**08 00 51.0**	**+0.6**
	26nm,1.1s,baz=88,slow=3.5,SNR=3.9						
KDAK	**Kodiak Island**	**52.65**	**38**	P	**P**	**08 00 51.0**	**+0.6**
ASAR	**Alice Springs**	**54.21**	**187**	P	**P**	**08 01 00.6**	**-1.6**
	1.0nm,0.9s,baz=12,slow=4.7,SNR=6.7						
ASAR	**Alice Springs**	**54.21**	**187**	P	**P**	**08 01 00.6**	**-1.6**
MCK	**McKinley**	**54.61**	**31**	*e*P	**P**	**08 01 06.8**	**+2.0**
	3.6nm,0.8s						
ILAR	**Eielson Array**	**55.53**	**30**	P	**P**	**08 01 11.2**	**-0.1**
	2.6nm,1.0s,baz=270,slow=6.0,SNR=20						
ILAR	**Eielson Array**	**55.53**	**30**	P	**P**	**08 01 11.2**	**-0.1**
KKAR	**Karatay Array**	**55.84**	**304**	*e*P	**P**	**08 01 12.4**	**-1.6**
	1.1nm,0.6s						
DZM	**Mont Dzumac**	**57.96**	**151**	*e*LR	LR	08 18 33.1	
	137nm,24.9s						
INK	**Inuvik**	**60.63**	**25**	P	**P**	**08 01 47.8**	**+0.9**
	baz=291,slow=5.5						
INK	**Inuvik**	**60.63**	**25**	P	**P**	**08 01 47.8**	**+0.9**
ABKAR	**Akbulak array**	**61.60**	**313**	*e*P	**P**	**08 01 53.5**	**-0.4**
	1.0nm,0.6s						
STKA	**Stephens Creek**	**62.04**	**179**	P	**P**	**08 01 56.5**	**-0.4**
	1.3nm,0.8s,baz=349,slow=5.1,SNR=3.9						
STKA	**Stephens Creek**	**62.04**	**179**	P	**P**	**08 01 56.5**	**-0.4**
RES	**Resolute Bay**	**69.14**	**14**	P	**P**	**08 02 42.9**	**+0.6**
	2.4nm,0.8s,baz=352,slow=5.0,SNR=11						
RES	**Resolute Bay**	**69.14**	**14**	P	**P**	**08 02 42.9**	**+0.6**
FINES	**FINESS Array B**	**74.20**	**333**	P	**P**	**08 03 12.3**	**-0.6**
	2.0nm,0.7s,baz=62,slow=4.5,SNR=7.7						
FINES	**FINESS Array B**	**74.20**	**333**	P	**P**	**08 03 12.3**	**-0.6**
AKASG	**Malin Array Be**	**78.95**	**323**	P	**P**	**08 03 38.8**	**-1.1**
	0.4nm,0.4s,baz=50,slow=6.4,SNR=4.5						
AKASG	**Malin Array Be**	**78.95**	**323**	P	**P**	**08 03 38.8**	**-1.1**
NVAR	**Mina Array Bea**	**79.67**	**52**	P	**P**	**08 03 46.0**	**+1.5**
	2.1nm,0.8s,baz=296,slow=6.2,SNR=12						
NVAR	**Mina Array Bea**	**79.67**	**52**	P	**P**	**08 03 46.0**	**+1.5**
NOA	**NORSAR Array B**	**79.87**	**337**	P	**P**	**08 03 44.3**	**-0.6**
	0.6nm,0.6s,baz=43,slow=5.5,SNR=3.3						
NOA				LR	LR	08 38 39.1	
	comp=Z,38nm,20.2s,baz=130,slow=35						
NOA	**NORSAR Array B**	**79.87**	**337**	P	**P**	**08 03 44.3**	**-0.6**
PMOR	**Pomariorio Ree**	**82.45**	**112**	*e*T	T	09 34 46.0	
	15nm,0.2s						
BRTR	**Keskin Array B**	**82.54**	**312**	P	**P**	**08 03 59.6**	**0.0**
	1.4nm,0.7s,baz=100,slow=3.7,SNR=5.8						
BRTR	**Keskin Array B**	**82.54**	**312**	P	**P**	**08 03 59.6**	**0.0**
PPT2	**Papeete2**	**82.58**	**115**	*e*LR	LR	08 30 00.0	
	69nm,25.0s						
PPT2				*e*T	T	09 34 56.0	
	5.3nm,0.3s						
PAE	**Paea**	**82.62**	**115**	*e*T	T	09 34 59.9	
	1.0nm,0.2s						
FRB	**Frobisher Bay**	**83.33**	**13**	P	**P**	**08 04 03.6**	**+0.6**
	5.9nm,0.8s,baz=25,slow=7.3,SNR=11						
FRB	**Frobisher Bay**	**83.33**	**13**	P	**P**	**08 04 03.6**	**+0.6**
GERES	**GERESS Array B**	**87.79**	**328**	P	**P**	**08 04 23.9**	**-1.8**
	0.4nm,0.6s,baz=35,slow=4.9,SNR=4.5						
GERES				LR	LR	08 47 18.9	
	comp=Z,51nm,18.3s,baz=295,slow=38						
GERES	**GERESS Array B**	**87.79**	**328**	P	**P**	**08 04 23.9**	**-1.8**
ANMO	**Albuquerque**	**89.49**	**49**	LR	LR	08 39 31.9	
	comp=Z,72nm,20.3s,baz=34,slow=32						
TXAR	**Lajitas Array**	**94.81**	**52**	P	**P**	**08 05 01.0**	**+2.3**
	1.6nm,0.8s,baz=298,slow=3.3,SNR=17						
TXAR	**Lajitas Array**	**94.81**	**52**	P	**P**	**08 05 01.0**	**+2.3**
TORD	**Torodi Ar. Bea**	**121.15**	**311**	PKP	**PKPdf**	**08 10 29.5**	**-0.6**
	0.4nm,0.8s,baz=40,slow=3.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.15**	**311**	PKP	**PKPdf**	**08 10 29.5**	**-0.6**

IDC 05 08:01:39.8±0.7, 30°.43N×140°.14E, h0km, mb3.8/11,
mb1 4.1/11, mb1mx4.0/20, mbtmp3.8/11, MS3.0/4,
Ms1 3.0/4, ms1mx2.6/38, Error ellipse: s-maj=22.7km
s-min=19.0km az=91.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.77**	**151**	Pn	Pn	08 02 38.5	-0.8
CBIJ				Sn	Sn	08 03 21.1	-3.3
MJAR	**Matsushiro Arr**	**6.30**	**346**	Pn	Pn	08 03 16.8	+2.7
	0.6nm,0.3s,baz=176,slow=12,SNR=19						
MJAR				LR	LR	08 05 42.0	
	comp=Z,220nm,18.7s,baz=110,slow=39						
JOW	**Kunigami**	**11.03**	**254**	LR	LR	08 07 38.4	
	comp=Z,98nm,18.7s,baz=30,slow=32						
KSRS	**Korea Array**	**12.32**	**308**	Pn	Pn	08 04 46.2	+10
	0.2nm,0.3s,baz=116,slow=13,SNR=11						
KSRS				LR	LR	08 08 13.0	
	comp=Z,26nm,19.7s,baz=343,slow=32						
USRK	**Ussuriysk Arra**	**15.18**	**337**	LR	LR	08 09 55.3	
	comp=Z,42nm,19.1s,baz=4.2,slow=33						
SONM	**Songino Array**	**31.10**	**314**	P	P	08 07 59.7	-0.3
	0.7nm,0.9s,baz=115,slow=9.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**39.15**	**262**	P	P	08 09 11.1	+1.6
	1.1nm,0.6s,baz=56,slow=6.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.82**	**317**	PcP	PcP	08 11 40.0	-0.7
	1.1nm,0.6s,baz=79,slow=3.2,SNR=7.3						
MKAR	**Makanchi Array**	**47.00**	**307**	P	P	08 10 11.9	-0.9
	0.9nm,0.8s,baz=88,slow=8.7,SNR=11						
MKAR				PcP	PcP	08 11 44.2	-0.9
	0.4nm,0.9s,baz=67,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**50.39**	**187**	P	P	08 10 38.0	-0.9
	1.5nm,0.9s,baz=4.2,slow=7.8,SNR=8.2						
ASAR	**Alice Springs**	**54.12**	**187**	P	P	08 11 06.3	-0.4
	0.6nm,0.8s,baz=358,slow=4.9,SNR=5.6						
ILAR	**Eielson Array**	**55.68**	**30**	P	P	08 11 15.7	-1.8
	2.2nm,1.0s,baz=258,slow=6.0,SNR=9.3						
INK	**Inuvik**	**60.77**	**25**	P	P	08 11 53.1	+0.1
	0.5nm,0.3s,baz=326,slow=17,SNR=4.8						
FINES	**FINESS Array B**	**74.17**	**333**	P	P	08 13 17.7	-0.2
	1.9nm,1.0s,baz=5.7,slow=4.2,SNR=2.7						
NVAR	**Mina Array Bea**	**79.86**	**51**	P	P	08 13 52.5	+1.7
	0.2nm,0.2s,baz=289,slow=5.5,SNR=7.7						
BRTR	**Keskin Array B**	**82.44**	**312**	P	P	08 14 04.2	-0.2
	0.6nm,0.7s,baz=90,slow=4.5,SNR=3.1						
TXAR	**Lajitas Array**	**95.00**	**52**	P	P	08 15 06.1	+1.2
	0.7nm,0.9s,baz=319,slow=5.1,SNR=5.4						

IDC 05 08:14:12.8±2.0, 0°.15S×133°.07E, h0km, mb3.6/3,
mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, ML3.6/1, Error
ellipse: s-maj=89.1km s-min=23.3km az=75.0, Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.27**	**202**	P	P	08 18 39.4	+0.2
	0.1nm,0.3s,baz=25,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**19.71**	**176**	P	P	08 18 44.4	+0.4
	0.3nm,0.3s,baz=354,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**23.39**	**178**	P	P	08 19 23.4	0.0
	1.4nm,0.5s,baz=355,slow=10,SNR=24						
STKA	**Stephens Creek**	**32.57**	**166**	P	P	08 20 45.5	-0.4
	0.9nm,0.7s,baz=336,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**64.37**	**324**	P	P	08 24 50.6	0.0
	0.3nm,0.8s,baz=116,slow=7.0,SNR=3.7						

IDC 05 08:21:13.1±11.0, 1°.35S×133°.27E, h0km, mb3.5/2,
mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.6/2, MS3.4/1,
Ms1 3.4/1, ms1mx2.5/25, Error ellipse: s-maj=165.5km
s-min=82.9km az=165.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.26**	**204**	P	Pn	08 25 27.1	-1.0
	0.2nm,0.3s,baz=43,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**18.51**	**177**	P	P	08 25 29.6	-1.6
	0.1nm,0.3s,baz=356,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**22.20**	**178**	P	P	08 26 13.2	+1.9
	0.5nm,0.3s,baz=355,slow=12,SNR=14						
STKA	**Stephens Creek**	**31.37**	**166**	P	P	08 27 34.9	-0.8
	0.8nm,0.8s,baz=354,slow=10,SNR=4.5						
MJAR	**Matsushiro Arr**	**37.97**	**6**	LR	LR	08 39 55.0	
	comp=Z,56nm,21.9s,baz=225,slow=30						

IDC ***05*** *08:23:36.5±0.5, 8°.21N×121°.66E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, MS3.4/6, Ms1 3.4/6, ms1mx3.1/35, Error ellipse: s-maj=36.5km s-min=13.2km az=69.0*
MAN ***05*** *08:23:38, 8°.15N×121°.50E, h32km, mb4.7, ML3.6, MS3.6*
NEIC ***05*** *08:23:42.2±0.4, 8°.10N×121°.44E, h35km, mb4.5/8, Error ellipse: s-maj=14.1km s-min=8.0km az=58.0*
ISC 05 08:23:41.2±0.9, 8°.24N±0°.04×121°.59E±0°.04, h31km±6km,
n64, σ1°.27/78, mb4.4/25, MS3.2/4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.07**	**115**	*e*P	**Pn**	**08 23 56.9**	**-3.2**
IPIL				*e*S	**Sn**	**08 24 09.5**	**-4.5**
PAGZ	**Pagadian**	**1.82**	**102**	*e*P	**Pn**	**08 24 08.9**	**-1.4**
PAGZ				*e*S	**Sn**	**08 24 31.3**	**-1.1**
GUIM	**Jordan**	**2.57**	**22**	*e*P	**Pn**	**08 24 19.8**	**-1.0**
GUIM				*e*S	**Sn**	**08 24 48.8**	**-2.2**
CUYO	**Cuyo Island**	**2.66**	**348**	*e*P	**Pn**	**08 24 20.9**	**-1.1**
CUYO				*e*S	**Sn**	**08 24 50.8**	**-2.5**
CTBH	**Cotabato--PC H**	**2.82**	**111**⇑	*i*P	**Pn**	**08 24 22.3**	**-1.9**
CGP	**Cagayan de Oro**	**3.08**	**86**⇑	*i*P	**Pn**	**08 24 27.4**	**-0.3**
CGP				*i* S	**Sn**	**08 25 03.1**	**-0.5**
BUKP	**Musuan**	**3.46**	**96**	*e*P	**Pn**	**08 24 33.0**	**0.0**
ENPP	**El Nido**	**3.64**	**324**	*e*P	**Pn**	**08 24 33.3**	**-2.2**
ENPP				*e*S	**Sn**	**08 25 12.6**	**-4.9**
MSLP	**Maasin**	**3.74**	**59**	*e*P	**Pn**	**08 24 36.5**	**-0.4**
MSLP				*e*S	**Sn**	**08 25 21.3**	**+1.5**
DAV	**Davao City (W)**	**4.12**	**106**	Pn	Pn	08 24 47.4	+5.3
	82nm,0.3s,baz=82,slow=7.4,SNR=4.3						
DAV				LR	LR	08 26 23.2	
	comp=Z,800nm,19.4s,baz=86,slow=41						
DAV	**Davao City (W)**	**4.12**	**106**	Pn	Pn	08 24 47.4	+5.3
OTRP	**Odiongan**	**4.12**	**6**	*e*P	**Pn**	**08 24 41.4**	**-0.8**
OTRP				*e*S	**Sn**	**08 25 28.0**	**-1.3**
KKM	**Kota Kinabalu**	**5.76**	**248**	*e*Pn	**Pn**	**08 25 04.0**	**-0.8**
	27nm,0.6s						
KKM				*e*Sn	**Sn**	**08 26 10.1**	**+0.2**
JOW	**Kunigami**	**19.55**	**18**	LR	LR	08 35 48.9	
	comp=Z,72nm,20.2s,baz=5.5,slow=38						
GUMO	**Guam**	**23.46**	**75**	LR	LR	08 36 56.1	
	comp=Z,82nm,19.0s,baz=218,slow=34						
CMAR	**Chiang Mai Arr**	**24.23**	**297**	P	**P**	**08 28 56.5**	**+0.8**
	1.5nm,0.4s,baz=124,slow=9.1,SNR=6.1						
CMAR				LR	LR	08 37 25.7	
	comp=Z,79nm,19.0s,baz=130,slow=34						
CMAR	**Chiang Mai Arr**	**24.23**	**297**	P	**P**	**08 28 56.5**	**+0.8**
ENH	**Enshi**	**24.68**	**334**	*e*P	**P**	**08 28 59.9**	**+0.3**
	7.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.48**	**171**	P	**P**	**08 29 16.4**	**+0.6**
	6.4nm,0.8s,baz=352,slow=10,SNR=8.1						
FITZ	**Fitzroy Crossi**	**26.48**	**171**	*e*P	**P**	**08 29 16.5**	**+0.6**
	12nm,0.9s						
FITZ				*e*pP	**pP**	**08 29 25.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**26.48**	**171**	*e*P	**P**	**08 29 16.7**	**+0.9**
	5.1nm,0.7s						
CBIJ	**Chichi jima**	**27.06**	**44**	LR	LR	08 39 49.3	
	comp=Z,67nm,18.7s,baz=154,slow=36						
WRAB	**Tennant Creek**	**30.68**	**156**	*e*P	**P**	**08 29 52.1**	**-1.3**
	17nm,1.6s						
WRA	**Warramunga Arr**	**30.69**	**156**	P	**P**	**08 29 52.1**	**-1.3**
	0.6nm,0.5s,baz=337,slow=9.4,SNR=4.2						
WRA				PcP	**PcP**	**08 32 50.5**	**-0.6**
	1.4nm,0.7s,baz=352,slow=3.0,SNR=6.9						
WRA	**Warramunga Arr**	**30.69**	**156**	P	**P**	**08 29 52.1**	**-1.3**
WRA				PcP	**PcP**	**08 32 50.5**	**-0.6**
WB2	**Warramunga Arr**	**30.69**	**156**	*e*P	**P**	**08 29 52.1**	**-1.4**
ASAR	**Alice Springs**	**33.92**	**159**	P	**P**	**08 30 20.9**	**-0.8**
	1.3nm,0.7s,baz=340,slow=7.3,SNR=18						
ASAR				PcP	**PcP**	**08 32 59.2**	**-0.7**
	1.6nm,0.7s,baz=340,slow=2.7,SNR=13						
ASAR	**Alice Springs**	**33.92**	**159**	P	**P**	**08 30 20.9**	**-0.8**
ASAR				PcP	**PcP**	**08 32 59.2**	**-0.7**
FORT	**Forrest**	**39.29**	**171**	*e*P	**P**	**08 31 06.4**	**-1.0**
	11nm,0.7s						
KMBL	**Kambalda**	**39.38**	**180**	*e*P	**P**	**08 31 07.1**	**-1.1**
	43nm,0.9s						
NWAO	**Narrogin (SRO)**	**41.14**	**186**	P	**P**	**08 31 22.3**	**-0.5**
	4.5nm,0.6s,baz=5.6,slow=11,SNR=3.9						
NWAO	**Narrogin (SRO)**	**41.14**	**186**	P	**P**	**08 31 22.3**	**-0.5**
SONM	**Songino Array**	**41.52**	**345**	P	**P**	**08 31 27.1**	**+1.2**
	1.1nm,0.7s,baz=167,slow=9.5,SNR=9.3						
SONM				PcP	**PcP**	**08 33 23.0**	**0.0**
	0.4nm,0.6s,baz=157,slow=4.4,SNR=3.1						
SONM	**Songino Array**	**41.52**	**345**	P	**P**	**08 31 27.1**	**+1.2**
SONM				PcP	**PcP**	**08 33 23.0**	**0.0**
STKA	**Stephens Creek**	**44.23**	**155**	P	**P**	**08 31 48.1**	**+0.2**
	4.6nm,0.8s,baz=324,slow=8.5,SNR=11						
STKA				PcP	PP	08 33 31.3	-0.2
	1.7nm,0.6s,baz=339,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**44.23**	**155**	*e*P	**P**	**08 31 47.8**	**-0.1**
	3.3nm,0.8s						
STKA				*e*pP	**pP**	**08 31 56.9**	**-0.1**
STKA	**Stephens Creek**	**44.23**	**155**	*e*P	**P**	**08 31 47.6**	**-0.2**
	1.4nm,1.0s						
STKA				PcP	PP	08 33 31.3	-0.2
CMSA	**Cobar Meteorol**	**45.78**	**151**	*e*P	**P**	**08 32 00.6**	**+0.4**
	49nm,0.8s						
CMSA				*e*pP	**pP**	**08 32 09.3**	**-0.1**
ARPS	**Mount Arapiles**	**48.63**	**158**	*e*P	**P**	**08 32 22.5**	**+0.2**
	11nm,0.6s						
CAN	**Canberra**	**50.46**	**151**	*e*P	**P**	**08 32 36.9**	**+0.5**
	5

Ms1 3.7/6,ms1mx3.2/35,Error ellipse: s-maj=37.4km s-min=11.4km az=79.0
*ISCJB **05** 08:40:29.7±0.4,0.°51S×0.°03×132.°30E±0.°08,h31km, mb4.6/31,MS3.9/8,Error ellipse: s-maj=12.4km s-min=4.5km az=168.8*
*DJA **05** 08:40:30,0.°40S×132.°35E,h10km,MLv4.7/9*
*BJI **05** 08:40:30.6,0.°50S×132.°00E,h35km,mB5.0/17,mb4.7/23, Ms4.7/13,Ms7 4.3/13*
*NEIC **05** 08:40:32.1±0.4,0.°39S×132.°32E,h35km,mb4.9/11,Error ellipse: s-maj=14.2km s-min=6.8km az=74.0*
ISC 05 08:40:32.3±0.4,0.°67S±0.°05×131.°98E±0.°08,h31km,n88, σ1ᵍ74/114,mb4.8/31,MS3.9/9,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.25**	**173**	P	**Pb**	**08 41 11.4**	**-0.9**
MSAI	**Masohi**	**4.04**	**229**	P	Pb	08 41 39.5	-3.4
BAKI	**Biak**	**4.16**	**97**	P	**Pn**	**08 41 33.3**	**-0.4**
AAI	**Ambon**	**4.83**	**232**	P	Pb	08 41 50.7	-5.5
	146nm,1.1s,0.6nm						
NLAI	**Namlea**	**5.50**	**242**	P	Pb	08 42 03.9	-3.8
	42nm,0.7s,4μm0.3nm						
DAV	**Davao City (W)**	**10.00**	**320**	LR	LR	08 46 49.2	
	comp=Z,407nm,18.3s,baz=238,slow=38						
MTN	**Manton Dam**	**12.12**	**184**	*e*P	**Pn**	**08 43 25.3**	**+2.3**
TTSI	**Tana Toraja**	**12.38**	**259**	P	Px	08 43 45.6	
KAPI	**Kappang**	**12.95**	**250**	Pn	**P**	**08 43 42.8**	**-1.7**
	0.6nm,0.3s,baz=102,slow=10,SNR=4.4						
KAPI				LR	LR	08 49 32.9	
	comp=Z,211nm,19.1s,baz=85,slow=41						
KAPI	**Kappang**	**12.95**	**250**	Pn	**P**	**08 43 42.8**	**-1.7**
PMG	**Port Moresby**	**17.42**	**120**	P	**P**	**08 44 35.9**	**+1.7**
	0.6nm,0.3s,baz=286,slow=9.6,SNR=4.8						
PMG	**Port Moresby**	**17.42**	**120**	*e*Pn	**Pn**	**08 44 32.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.41**	**199**	P	**Pn**	**08 44 45.7**	**+0.4**
	0.8nm,0.3s,baz=47,slow=14,SNR=16						
FITZ				S	**Sn**	**08 48 10.3**	**+0.2**
	0.4nm,0.3s,baz=144,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**18.41**	**199**	*e*P	**Pn**	**08 44 45.6**	**+0.4**
	7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.41**	**199**	P	**Pn**	**08 44 45.7**	**+0.4**
FITZ				S	**Sn**	**08 48 10.3**	**+0.2**
WRAB	**Tennant Creek**	**19.28**	**173**	*e*P	**Pn**	**08 44 55.6**	**-0.3**
	45nm,1.5s						
WRAB				*e*S	**Sn**	**08 48 25.4**	**-5.9**
WRA	**Warramunga Arr**	**19.29**	**173**	P	**Pn**	**08 44 56.5**	**+0.6**
	0.7nm,0.3s,baz=354,slow=12,SNR=27						
WRA				S	**Sn**	**08 48 25.6**	**-5.9**
	0.4nm,0.3s,baz=352,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**19.29**	**173**	P	**Pn**	**08 44 56.5**	**+0.6**
WRA				S	**Sn**	**08 48 25.6**	**-5.9**
WB2	**Warramunga Arr**	**19.29**	**173**	*e*P	**Pn**	**08 44 57.1**	**+1.2**
STKI	**Sintang**	**20.52**	**272**	P	Pn	08 45 16.7	+6.2
	33nm,0.5s,16μm						
SJI	**Sawahan**	**21.33**	**250**	P	P	08 45 23.1	+6.0
	110nm,0.8s,5μm						
PWJI	**Pagerwojo**	**21.39**	**249**	P	Px	08 45 34.7	
AS31	**Alice Springs**	**22.93**	**175**	*e*P	**P**	**08 45 35.7**	**+1.7**
ASAR	**Alice Springs**	**22.93**	**175**	P	**P**	**08 45 35.4**	**+1.4**
	8.8nm,0.6s,baz=351,slow=7.6,SNR=123						
ASAR				S	S	08 49 49.9	+7.6
	2.7nm,1.1s,baz=359,slow=29,SNR=4.8						
ASAR	**Alice Springs**	**22.93**	**175**	P	**P**	**08 45 35.4**	**+1.4**
ASAR				S	S	08 49 49.9	+7.6
QIZ	**Qiongzhong**	**29.26**	**313**	P	**P**	**08 46 32.4**	**+0.6**
QIZ				S	**S**	**08 51 25.0**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,170nm,5.1s						
FORT	**Forrest**	**30.17**	**187**	*e*P	**P**	**08 46 42.1**	**+2.3**
	comp=Z,20nm,0.7s						
FORT	**Forrest**	**30.17**	**187**	*e*P	**P**	**08 46 42.5**	**+2.7**
	comp=Z,21nm,0.7s						
STKA	**Stephens Creek**	**32.34**	**165**	P	**P**	**08 46 59.5**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=348,slow=9.2,SNR=8.1						
STKA				LR	LR	09 02 05.3	
	comp=Z,186nm,18.0s,baz=209,slow=40						
STKA	**Stephens Creek**	**32.34**	**165**	*e*P	**P**	**08 46 59.3**	**+0.4**
	comp=Z,2.3nm,0.9s						
STKA	**Stephens Creek**	**32.34**	**165**	P	**P**	**08 46 59.5**	**+0.6**
NJ2	**Nanjing**	**34.84**	**340**	*e*P	**P**	**08 47 21.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**34.96**	**202**	P	**P**	**08 47 24.1**	**+2.4**
	comp=Z,5.5nm,0.8s,baz=28,slow=10,SNR=2.9						
NWAO	**Narrogin (SRO)**	**34.96**	**202**	P	**P**	**08 47 24.1**	**+2.4**
ARMA	**Armidale**	**34.98**	**150**	*e*P	**P**	**08 47 22.3**	**+0.3**
GYA	**Guiyang**	**36.38**	**320**	⁞	⁞P	**P**	**08 47 34.8**	**+0.7**
GYA				pP	**pP**	**08 47 44.9**	**+1.7**
GYA				PP	PP	08 48 58.3	+1.1
GYA				S	**S**	**08 53 12.8**	**-0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,16.8s						
GYA				LR	LR		
	comp=E,390nm,17.3s						
GYA				LR	LR		
	comp=Z,440nm,16.9s						
CMAR	**Chiang Mai Arr**	**37.63**	**302**	P	**P**	**08 47 44.2**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=108,slow=8.6,SNR=3.1						
CMAR				LR	LR	09 02 41.6	
	comp=Z,42nm,18.4s,baz=110,slow=35						
CMAR	**Chiang Mai Arr**	**37.63**	**302**	P	**P**	**08 47 44.2**	**-0.5**
KMI	**Kunming**	**38.19**	**314**	P	**P**	**08 47 51.8**	**+2.2**
KMI				pP	**pP**	**08 48 00.8**	**+2.1**
KMI				sP	**sP**	**08 48 04.8**	**+2.3**
KMI				PP	PP	08 49 20.6	+3.3
KMI				S	**S**	**08 53 41.2**	**-0.3**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,17nm,3.1s						
KMI				LR	LR		
	comp=N,57nm,6.7s						
KMI				LR	LR		
	comp=E,210nm,11.1s						
KMI				LR	LR		
	comp=Z,170nm,19.1s						
CD2	**Chengdu**	**41.30**	**322**	P	**P**	**08 48 15.6**	**+0.4**
CD2				pP	**pP**	**08 48 25.8**	**+1.4**
CD2				sP	**sP**	**08 48 30.1**	**+2.0**
CD2				PP	PP	08 49 54.7	+3.8
CD2				S	**S**	**08 54 27.1**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,6.5s						
CD2				LR	LR		
	comp=N,210nm,5.9s						
CD2				LR	LR		
	comp=Z,180nm,10.7s						
CN2	**Changchun**	**44.66**	**353**	*e*P	**P**	**08 48 43.8**	**+1.7**
CN2				*es*P	**sP**	**08 48 57.6**	**+2.5**
CN2				*e*S	**S**	**08 55 16.9**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
USRK	**Ussuriysk Arra**	**44.67**	**0**	P	**P**	**08 48 39.8**	**-2.4**
	comp=Z,2.1nm,0.6s,baz=165,slow=8.3,SNR=6.6						
LZH	**Lanzhou**	**44.98**	**327**	*e*P	**P**	**08 48 44.5**	**-0.5**
LZH				pP	**pP**	**08 48 53.3**	**-1.0**
LZH				sP	**sP**	**08 48 58.5**	**+0.5**
LZH				pmax	pmax		
	comp=Z,28nm,1.6s						
LZH				pmax	pmax		
	comp=Z,130nm,4.4s						
LZH				LR	LR		
	comp=N,180nm,6.5s						
LZH				LR	LR		
	comp=E,170nm,7.1s						
LZH				LR	LR		
	comp=Z,190nm,7.1s						
MDJ	**Mudanjiang**	**45.14**	**358**	P	**P**	**08 48 46.5**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,90nm,4.7s						
HHC	**Hu-ho-hao-te**	**45.31**	**338**	*e*P	**P**	**08 48 47.9**	**+0.4**
HHC				pP	**pP**	**08 48 58.3**	**+1.5**
HHC				sP	**sP**	**08 49 01.7**	**+1.2**
HHC				PP	PP	08 50 35.0	+1.1
HHC				S	**S**	**08 55 25.2**	**-1.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,95nm,5.7s						
HHC				LR	LR		
	comp=N,100nm,13.5s						
HHC				LR	LR		
	comp=E,160nm,13.7s						
HHC				LR	LR		
	comp=Z,72nm,14.9s						
GTA	**Gaotai**	**49.58**	**327**	*e*P	P	08 49 28.0	+7.2
GTA				pP	pP	08 49 37.9	+7.8
GTA				sP	sP	08 49 42.0	+8.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	**Ulaanbaatar**	**52.99**	**339**	*e*P	**P**	**08 49 45.0**	**-1.2**
	comp=Z,5.2nm,0.7s						
ULN	**Ulaanbaatar**	**52.99**	**339**	P	**P**	**08 49 45.1**	**-1.1**
SONM	**Songino Array**	**53.20**	**339**	P	**P**	**08 49 46.2**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=154,slow=8.1,SNR=21						
SONM				PcP	**PcP**	**08 50 53.7**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=150,slow=5.3,SNR=2.6						
SONM	**Songino Array**	**53.20**	**339**	P	**P**	**08 49 46.2**	**-1.6**
SONM				PcP	**PcP**	**08 50 53.7**	**-1.8**
URZ	**Urewera**	**55.77**	**138**	LR	LR	09 13 42.8	
	comp=Z,102nm,19.6s,baz=123,slow=36						
WMQ	**Urumqi**	**59.33**	**324**	*e*P	**P**	**08 50 31.0**	**-0.5**
WMQ				pP	**pP**	**08 50 41.0**	**0.0**
WMQ				sP	**sP**	**08 50 45.0**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,11nm,0.6s						
WMQ				LR	LR		
	comp=N,41nm,18.0s						
WMQ				LR	LR		
	comp=E,42nm,18.7s						
WMQ				LR	LR		
	comp=Z,49nm,18.0s						
YAK	**Yakutsk**	**62.56**	**359**	*e*P	**P**	**08 50 50.8**	**-2.2**
	comp=Z,39nm,0.6s						
MK31	**Makanchi Array**	**64.15**	**324**	*e*P	**P**	**08 51 02.9**	**-1.0**
MKAR	**Makanchi Array**	**64.15**	**324**	P	**P**	**08 51 02.8**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=115,slow=8.0,SNR=56						
MKAR				LR	LR	09 18 24.3	
	comp=Z,52nm,19.8s,baz=175,slow=36						
MKAR	**Makanchi Array**	**64.15**	**324**	*e*P	**P**	**08 51 02.9**	**-1.0**
KSH	**Kashi**	**64.85**	**315**	*e*P	**P**	**08 51 09.0**	**+0.3**
KSH				*ep*P	**pP**	**08 51 19.0**	**+0.7**
KSH				*es*P	**sP**	**08 51 23.0**	**+1.0**
KSH				*e*PcP	**PcP**	**08 51 43.0**	**+1.1**
KSH				*e*PP	**PP**	**08 53 32.1**	**+0.5**
KSH				*e*ScP		08 55 41.0	
KSH				*e*PcS		08 55 45.1	
KSH				*e*S	**S**	**08 59 42.8**	**-5.3**
KSH				*e*ScS	**SKSac**	**09 00 56.1**	**-5.4**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,130nm,5.2s						
KSH				LR	LR		
	comp=N,150nm,5.8s						
KSH				LR	LR		
	comp=E,140nm,5.1s						
KSH				LR	LR		
	comp=Z,100nm,5.1s						
KZA	**Kyzart**	**66.39**	**317**	P	**P**	**08 51 18.7**	**-0.3**
	SNR=8.2						
KZA				P	**P**	**08 51 18.7**	**-0.3**
	SNR=8.2						
TKM2	**Tokmak 2**	**66.50**	**318**	P	**P**	**08 51 18.9**	**-0.6**
	SNR=10						
TKM2				P	**P**	**08 51 18.9**	**-0.6**
	SNR=10						
TKM2	**Tokmak 2**	**66.50**	**318**	*e*P	**P**	**08 51 19.0**	**-0.4**
	comp=Z,6.1nm,0.8s						
ZAA0	**Zalesovo Array**	**66.89**	**332**	*e*P	**P**	**08 51 19.2**	**-2.2**
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**08 51 19.0**	**-2.4**
	comp=Z,1.3nm,0.6s,baz=117,slow=6.6,SNR=10						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**08 51 19.0**	**-2.4**
AAK	**Ala-Archa**	**67.12**	**318**	*e*P	**P**	**08 51 23.1**	**-0.3**
	comp=Z,90nm,2.0s						
USP	**Ospenovka**	**67.38**	**318**	P	**P**	**08 51 24.2**	**-0.6**
	SNR=14						
USP				P	**P**	**08 51 24.2**	**-0.6**
	SNR=14						
AML	**Almayashu**	**67.47**	**317**	P	**P**	**08 51 25.7**	**-0.1**
	SNR=7.3						
AML				P	**P**	**08 51 25.7**	**-0.1**
	SNR=7.3						
EKS2	**Erkin-Say**	**67.62**	**317**	P	**P**	**08 51 26.1**	**-0.3**
	SNR=7.2						
EKS2				P	**P**	**08 51 26.1**	**-0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**67.62**	**317**	*e*P	**P**	**08 51 26.6**	**+0.1**
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**68.26**	**327**	P	**P**	**08 51 28.9**	**-1.2**
	comp=Z,4.2nm,0.6s,baz=126,slow=5.7,SNR=6.2						
KURK	**Kurchatov**	**68.26**	**327**	*e*P	**P**	**08 51 28.8**	**-1.4**
	comp=Z,14nm,1.2s						
KKAR	**Karatay Array**	**70.01**	**317**	*e*P	**P**	**08 51 40.2**	**-1.0**
BVAR	**Borovoye Array**	**73.86**	**326**	P	**P**	**08 52 03.1**	**-0.9**
	baz=119,slow=8.4						
BVAR	**Borovoye Array**	**73.86**	**326**	P	**P**	**08 52 03.1**	**-0.9**
BRVK	**Borovoye**	**73.93**	**326**	*e*P	**P**	**08 52 03.0**	**-1.4**
	comp=Z,10.0nm,1.2s						
ABKAR	**Akbulak array**	**78.86**	**321**	*e*P	**P**	**08 52 31.3**	**-1.1**
ARU	**Arti**	**81.44**	**327**	*e*P	**P**	**08 52 44.8**	**-1.5**
	comp=Z,8.1nm,0.8s						
ILAR	**Eielson Array**	**86.82**	**25**	P	P	08 53 09.6	-3.8
	comp=Z,0.5nm,0.7s,baz=244,slow=3.9,SNR=8.6						
ILAR	**Eielson Array**	**86.82**	**25**	P	P	08 53 09.6	-3.8
QSPA	**South Pole Qui**	**89.26**	**180**	*e*P	**P**	**08 53 26.0**	**+0.8**
	comp=Z,13nm,1.2s						
TMUT	**Trail Mountain**	**110.94**	**48**	*e*Pdif	**Pdif**	**08 55 02.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**129.23**	**286**	PKP	**PKPdf**	**08 59 38.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=73,slow=1.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**129.23**	**286**	PKP	**PKPdf**	**08 59 38.0**	**-0.6**
PLCA	**Paso Flores**	**133.97**	**156**	PKP	**PKPdf**	**08 59 48.3**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=1.9,slow=0.9,SNR=4.1						
PLCA	**Paso Flores**	**133.97**	**156**	PKP	**PKPdf**	**08 59 48.3**	**+1.3**
CPUP	**Villa Florida**	**151.69**	**162**	PKPbc	**PKPbc**	**09 00 24.2**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=192,slow=1.8,SNR=8.6						
CPUP	**Villa Florida**	**151.69**	**162**	PKPbc	**PKPbc**	**09 00 24.2**	**-0.3**
LPAZ	**La Paz**	**153.96**	**131**	PKPbc	**PKPbc**	**09 00 31.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=236,slow=5.2,SNR=5.2						
LPAZ				PKPab	**PKPab**	**09 00 46.0**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=260,slow=5.6,SNR=4.2						
LPAZ	**La Paz**	**153.96**	**131**	PKPbc	**PKPbc**	**09 00 31.5**	**+0.9**
LPAZ				PKPab	**PKPab**	**09 00 46.0**	**+2.2**

*DJA **05** 09:02:41,0.°52S×132.°89E,h21km,MLv4.4/7*
IDC 05 09:02:36.8±0.8,0.°42S×132.°90E,h0km,mb4.0/8, mb1 4.2/10,mb1mx3.9/20,mbtmp4.0/10,ML4.0/2,Error ellipse: s-maj=41.2km s-min=15.1km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**202**	P	P	09 06 58.7	-1.1
	0.3nm,0.3s,baz=27,slow=18,SNR=14						
WRA	**Warramunga Arr**	**19.45**	**176**	P	P	09 07 04.6	-0.5
	0.5nm,0.3s,baz=355,slow=13,SNR=14						
ASAR	**Alice Springs**	**23.12**	**178**	P	P	09 07 45.0	+0.2
	3.7nm,0.4s,baz=356,slow=11,SNR=61						
CTA	**Charters Tower**	**23.51**	**147**	P	P	09 07 50.0	+1.3
	3.9nm,0.8s,baz=333,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**32.34**	**166**	P	P	09 09 07.6	-0.4
	2.6nm,0.5s,baz=342,slow=9.7,SNR=9.7						
CMAR	**Chiang Mai Arr**	**38.28**	**301**	P	P	09 09 59.5	+0.1
	1.0nm,0.4s,baz=131,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**64.49**	**324**	P	P	09 13 15.8	+0.3
	0.7nm,0.6s,baz=112,slow=8.4,SNR=15						
ZALV	**Zalesovo Beam**	**67.11**	**331**	P	P	09 13 32.3	+0.2
	0.2nm,0.3s,baz=106,slow=9.4,SNR=4.0						
KURK	**Kurchatov**	**68.57**	**326**	P	P	09 13 41.5	+0.1
	1.2nm,0.8s,baz=122,slow=6.3,SNR=3.1						
ILAR	**Eielson Array**	**86.20**	**25**	P	P	09 15 18.8	-1.2
	0.7nm,0.9s,baz=238,slow=5.4,SNR=5.7						
CPUP	**Villa Florida**	**151.63**	**160**	PKPbc	PKPbc	09 22 33.9	-0.1
	1.1nm,0.6s,baz=32,slow=3.2,SNR=4.4						

JMA 05 09:04:59.3±1.0,44.°10N×151.°07E,h30km,M4.1,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.93**	**261**	P	Pn	09 05 56.6	-0.9
NEM2				*e*S	Sn	09 06 39.1	-3.5
JNK	**Nakash**	**4.62**	**266**	P	Pn	09 06 06.6	-0.5
JAK	**Akkeshi**	**4.76**	**259**	P	Pn	09 06 08.0	-1.0
JAK				*e*S	Sn	09 06 59.3	-3.8
JTKR	**Abashiri--Toko**	**5.17**	**271**	P	Pn	09 06 15.3	+0.8
JAR	**Ashorobuto**	**5.35**	**264**	P	Pn	09 06 17.0	-0.1
JOB	**Onbets**	**5.40**	**260**	P	Pn	09 06 17.0	-0.7
JCH	**Churui**	**5.81**	**258**	P	Pn	09 06 22.6	-0.8
JFR	**Furan**	**6.22**	**264**	P	Pn	09 06 29.3	+0.2
JNBK	**Urakawa-nobuka**	**6.35**	**256**	P	Pn	09 06 30.0	-0.7
JBT2	**Biratori 2**	**6.47**	**261**	P	Pn	09 06 31.9	-0.6
JWK2	**Keihoku**	**6.65**	**284**	P	Pn	09 06 38.8	+3.9
JNB	**Noboribetsu**	**7.50**	**261**	P	Pn	09 06 46.4	-0.2
JKB	**Kayabe**	**7.68**	**257**	P	Pn	09 06 48.7	-0.4
JANG	**Nango**	**8.01**	**246**	P	Pn	09 06 50.8	-2.8
JANG				*e*S	Sn	09 08 13.8	-9.3
OFUJ	**Ofunato**	**8.64**	**238**	P	Pn	09 06 59.4	-2.9

*IDC **05** 09:09:33.0±0.7,0.°34S×132.°76E,h0km,mb4.2/9, mb1 4.4/13,mb1mx4.2/23,mbtmp4.2/13,ML3.9/3,MS3.7/11, Ms1 3.7/11,ms1mx3.4/32,Error ellipse: s-maj=31.6km s-min=14.0km az=68.0*
*BJI **05** 09:09:34.0,0.°30S×132.°90E,h19km,mB4.9/1,mb4.7/4, Ms4.8/1*
*ISCJB **05** 09:09:35.8±0.4,0.°31S±0.°05×132.°91E±0.°06,h32km, mb4.3/14,MS3.7/9,Error ellipse: s-maj=8.8km s-min=6.8km az=145.3*
*DJA **05** 09:09:36,0.°34S×132.°83E,h10km,mb5.2/7*
*NEIC **05** 09:09:38.1±0.4,0.°42S×132.°73E,h35km,mb4.3/5,Error ellipse: s-maj=11.7km s-min=6.3km az=64.0*
ISC 05 09:09:37.6±0.6,0.°32S±0.°07×132.°89E±0.°07,h32km,n62, σ1ᵍ29/52,mb4.3/14,MS3.8/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.66**	**194**	P	**Pn**	**09 10 18.6**	**+0.3**
BAKI	**Biak**	**3.33**	**105**	P	**Pn**	**09 10 27.4**	**-0.1**
MSAI	**Masohi**	**4.97**	**233**	P	Pn	09 10 53.3	+3.2
TLE	**Tual**	**5.28**	**182**	P	**Pn**	**09 10 56.6**	**+2.2**
	308nm,0.8s,3μm1.0nm						
LBMI	**Labuha**	**5.40**	**267**	P	**Pn**	**09 10 57.6**	**+1.6**
	116nm,0.9s,2μm0.5nm						
AAI	**Ambon**	**5.76**	**234**	P	**Pn**	**09 11 03.0**	**+2.1**
	283nm,1.0s,3μm0.9nm						
SMPI	**Sarmi**	**6.05**	**106**	P	Pn	09 11 09.1	+4.2
	67nm,0.9s,4μm404μm0.2nm						
JAY	**Jayapura**	**8.11**	**106**	P	Pn	09 11 39.6	+6.4
LUWI	**Luwuk**	**10.14**	**266**	P	**Pn**	**09 12 02.4**	**+1.3**
	64nm,1.0s						
DAV	**Davao City (W)**	**10.35**	**315**	LR	LR	09 15 39.1	
	comp=Z,204nm,20.0s,baz=166,slow=36						
TTSI	**Tana Toraja**	**13.34**	**258**	P	P	09 12 49.9	-4.2
	22nm,1.1s						
KAPI	**Kappang**	**13.93**	**250**	Pn	**Pn**	**09 12 52.0**	**-0.9**
	baz=73,slow=17						
KAPI				LR	LR	09 17 40.9	
	comp=Z,144nm,21.1s,baz=254,slow=35						
KAPI	**Kappang**	**13.93**	**250**	*e*Pn	**Pn**	**09 12 50.5**	**-2.4**
	47nm,1.2s						
KAPI				Pn	**Pn**	**09 12 52.0**	**-0.9**
KAPI	**Kappang**	**13.93**	**250**	P	**P**	**09 12 58.5**	**-2.1**
	32nm,1.3s						
PMG	**Port Moresby**	**16.83**	**123**	Pn	**P**	**09 13 32.0**	**-0.8**
	0.6nm,0.3s,baz=309,slow=6.5,SNR=3.1						
PMG	**Port Moresby**	**16.83**	**123**	Pn	**P**	**09 13 32.0**	**-0.8**
BBKI	**Banjar Baru**	**18.31**	**260**	P	**Pn**	**09 13 53.2**	**+3.9**
	60nm,1.2s,3μm						
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	**P**	**09 13 55.9**	**-1.4**
	0.2nm,0.3s,baz=359,slow=16,SNR=6.2						
FITZ	**Fitzroy Crossi**	**19.05**	**202**	*e*P	**Pn**	**09 13 57.4**	**-0.9**
	9.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	**P**	**09 13 55.9**	**-1.4**
WRAB	**Tennant Creek**	**19.54**	**176**	*e*P	**P**	**09 14 02.3**	**-0.4**
	38nm,1.3s						
WRA	**Warramunga Arr**	**19.55**	**176**	P	**P**	**09 14 02.2**	**-0.6**
	0.9nm,0.3s,baz=352,slow=11,SNR=35						
WRA	**Warramunga Arr**	**19.55**	**176**	P	**P**	**09 14 02.2**	**-0.6**
WB2	**Warramunga Arr**	**19.55**	**176**	*e*P	**P**	**09 14 01.8**	**-1.0**
AS31	**Alice Springs**	**23.23**	**178**	*e*P	**P**	**09 14 41.5**	**-0.7**
ASAR	**Alice Springs**	**23.23**	**178**	P	**P**	**09 14 41.5**	**-0.7**
	21nm,0.7s,baz=3.8,slow=11,SNR=88						
ASAR	**Alice Springs**	**23.23**	**178**	P	**P**	**09 14 41.5**	**-0.7**
CTA	**Charters Tower**	**23.60**	**147**	P	**P**	**09 14 46.8**	**+0.9**
	5.9nm,0.9s,baz=340,slow=11,SNR=3.8						
CTA				LR	LR	09 24 55.4	
	comp=Z,255nm,20.3s,baz=323,slow=39						
CTA	**Charters Tower**	**23.60**	**147**	P	**P**	**09 14 46.8**	**+0.9**
CTAO	**Charters Tower**	**23.60**	**147**	*e*P	**P**	**09 14 45.3**	**-0.5**
	5.9nm,0.8s						
MBWA	**Marble Bar**	**24.37**	**211**	*e*P	**P**	**09 14 53.3**	**+0.3**
JOW	**Kunigami**	**27.36**	**351**	LR	LR	09 24 27.7	
	comp=Z,310nm,18.8s,baz=318,slow=33						
EIDS	**Eidsvold**	**30.48**	**146**	*e*P	**P**	**09 15 47.6**	**-0.1**
	26nm,1.2s						
FORT	**Forrest**	**30.64**	**188**	*e*P	**P**	**09 15 49.9**	**+0.8**
	13nm,0.7s						
STKA	**Stephens Creek**	**32.45**	**166**	P	**P**	**09 16 04.6**	**-0.4**
	5.6nm,0.7s,baz=336,slow=10,SNR=17						
STKA				LR	LR	09 30 18.3	
	comp=Z,214nm,20.8s,baz=213,slow=38						
STKA	**Stephens Creek**	**32.45**	**166**	*e*P	**P**	**09 16 04.3**	**-0.7**
	3.8nm,0.6s						
STKA	**Stephens Creek

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.53 189**		P	**P**	**09 14 18.0**	**+0.4**
	1.2nm,0.3s,baz=113,slow=4.6,SNR=11						
URZ				S	**S**	**09 16 47.8**	**-2.2**
	0.6nm,0.3s,baz=46,slow=23,SNR=12						
RPZ	**Rata Peaks**	**21.11 199**		P	**P**	**09 15 21.6**	**+1.2**
	3.0nm,0.4s,baz=25,slow=6.4,SNR=5.8						
ARMA	**Armidale**	**26.12 249**		*e*P	**P**	**09 16 06.3**	**+0.9**
CTA	**Charters Tower**	**31.59 270**		P	**P**	**09 16 53.3**	**+0.4**
	10.0nm,0.5s,baz=97,slow=11,SNR=18						
PMG	**Port Moresby**	**34.61 289**		P	**P**	**09 17 18.4**	**-0.1**
	5.2nm,0.5s,baz=147,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**34.82 248**		P	**P**	**09 17 20.5**	**+0.4**
	1.6nm,0.7s,baz=78,slow=9.9,SNR=3.2						
ASAR	**Alice Springs**	**42.14 261**		P	**P**	**09 18 19.4**	**-0.4**
	2.4nm,0.7s,baz=92,slow=8.0,SNR=12						
ASAR				ScP	**ScP**	**09 23 04.7**	**+1.2**
	1.6nm,0.8s,baz=107,slow=4.2,SNR=9.4						
WRA	**Warramunga Arr**	**42.52 266**		P	**P**	**09 18 21.8**	**-0.9**
	4.1nm,0.3s,baz=96,slow=8.4,SNR=50						
WRA				ScP	**ScP**	**09 23 07.2**	**+2.1**
	1.5nm,1.0s,baz=97,slow=3.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**50.94 266**		P	**P**	**09 19 26.2**	**-0.3**
	0.8nm,0.3s,baz=104,slow=8.3,SNR=5.4						
QSPA	**South Pole Qui**	**66.17 180**		P	**P**	**09 21 09.7**	**+1.1**
	2.9nm,0.6s,baz=65,slow=1.4,SNR=7.5						
MJAR	**Matsushiro Arr**	**71.98 326**		P	**P**	**09 21 43.6**	**-0.2**
	1.2nm,0.7s,baz=170,slow=7.2,SNR=5.0						
MAW	**Mawson**	**77.77 200**		P	**P**	**09 22 16.7**	**+0.9**
	2.2nm,0.8s,baz=131,slow=11,SNR=3.3						
PETK	**Petropavlovsk-**	**79.14 346**		P	**P**	**09 22 23.7**	**+0.5**
	12nm,1.2s,baz=109,slow=8.8,SNR=4.4						
NVAR	**Mina Array Bea**	**84.69 44**		P	**P**	**09 22 52.7**	**+0.6**
	0.9nm,0.7s,baz=226,slow=7.8,SNR=7.0						
TXAR	**Lajitas Array**	**90.34 58**		P	**PcP**	**09 23 20.2**	**+0.6**
	1.3nm,0.7s,baz=212,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**92.02 14**		P	**P**	**09 23 24.8**	**-0.8**
	0.4nm,0.7s,baz=218,slow=5.7,SNR=3.4						
MKAR	**Makanchi Array**	**112.25 313**		PKiKP	**PKiKP**	**09 28 48.0**	**-1.4**
	0.4nm,0.6s,baz=132,slow=1.1,SNR=6.4						
BVAR	**Borovoye Array**	**120.53 319**		PKP	**PKPdf**	**09 29 04.1**	**-1.0**
	1.0nm,0.4s,baz=45,slow=0.2,SNR=6.8						
SCHQ	**Schefferville**	**122.42 39**		PKP	**PKPdf**	**09 29 07.5**	**-1.2**
	7.1nm,1.0s,baz=37,slow=17,SNR=2.6						
AKTO	**Aktyubinsk**	**128.39 316**		PKP	**PKPdf**	**09 29 19.9**	**-0.3**
	1.1nm,0.3s,baz=131,slow=5.6,SNR=4.3						
ARCES	**ARCESS Array B**	**131.93 348**		PKP	**PKPdf**	**09 29 26.1**	**-0.3**
	10nm,1.1s,baz=60,slow=3.4,SNR=4.9						
FINES	**FINESS Array B**	**138.50 341**		PKhKP	PKPpre	09 29 27.5	
	3.4nm,1.1s,baz=339,slow=10,SNR=2.8						
FINES				PKP	**PKPdf**	**09 29 39.3**	**+0.5**
	0.6nm,0.3s,baz=76,slow=2.6,SNR=6.1						
NOA	**NORSAR Array B**	**142.12 351**		PKhKP	PKPpre	09 29 41.4	
	1.4nm,0.9s,baz=3.4,slow=2.3,SNR=3.7						
AKASG	**Malin Array Be**	**145.05 327**		PKP	**PKPdf**	**09 29 50.4**	**-0.3**
	1.3nm,0.3s,baz=43,slow=4.0,SNR=8.3						
BRTR	**Keskin Array B**	**147.68 307**		PKPbc	**PKPbc**	**09 29 58.6**	**-0.6**
	1.3nm,0.7s,baz=145,slow=5.3,SNR=5.8						
BRTR				PKPab	**PKPab**	**09 30 03.2**	**-0.2**
	1.4nm,0.7s,baz=105,slow=3.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**169.19 188**		PKPab	**PKPab**	**09 31 36.0**	**-0.5**
	0.5nm,0.6s,baz=170,slow=3.3,SNR=4.4						

IDC 05 09:12:17.0±2.2, 0.62S×133.82E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=82.2km s-min=27.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.14 204**		P	Pn	09 16 43.6	+0.8
	0.2nm,0.3s,baz=42,slow=21,SNR=1.6						
WRA	**Warramunga Arr**	**19.21 176**		P	P	09 16 42.9	+0.1
	0.5nm,0.3s,baz=356,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**22.91 180**		P	P	09 17 22.2	-0.6
	2.6nm,0.5s,baz=1.0,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**31.95 167**		P	P	09 18 44.4	-0.3
	0.8nm,0.5s,baz=348,slow=9.3,SNR=1.8						
MKAR	**Makanchi Array**	**65.19 324**		P	P	09 23 00.1	-0.1
	0.5nm,0.7s,baz=130,slow=7.9,SNR=2.3						

NNC 05 09:17:53.0±4.0, 53.94N×87.04E, h0km±20km, mb3.6, mpv3.2, 4C-7D, Error ellipse: s-maj=28.6km s-min=23.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.08 241**		⇓Pn	Pn	09 19 24.3	+0.2
	5.8nm,1.4s						
KURK				⇑Lg	Lg	09 21 06.4	
	11nm,1.0s						
KURBB	**Kurchatov Arra**	**6.18 241**		⇑Pn	Pn	09 19 26.4	+0.9
	0.2nm,0.4s						
KURBB				⇓Sn	Sn	09 20 36.8	-0.1
	0.8nm,0.7s						
KURBB				⇓Lg	Lg	09 21 09.7	
	2.0nm,0.6s						
MK31	**Makanchi Array**	**7.77 205**		⇑Pn	Pn	09 19 48.2	+1.0
	1.3nm,1.1s,baz=26,slow=13,SNR=8.6						
MK31				⇓Pg	Pb	09 20 12.6	+4.1
	4.5nm,1.0s,baz=112,slow=7.8,SNR=16						
MK31				⇓Sn	Sn	09 21 15.9	0.0
	1.0nm,0.7s,baz=28,slow=14,SNR=4.5						
MK31				⇓Lg	Lg	09 22 00.9	
	2.0nm,0.7s,baz=45,slow=34,SNR=3.5						
VOSK	**Vostochnaya**	**9.69 269**		⇓Pn	Pn	09 20 12.4	-1.1
	2.2nm,1.1s						
VOSK				⇑Sn	Sn	09 22 02.7	-0.2
	6.2nm,1.0s						

*BJI **05** 09:40:15.4, 0.70S×133.16E, h35km, mB5.0/28, mb4.9/46, Ms4.7/27, Ms7 4.2/28*

*IDC **05** 09:40:15.2±0.5, 0.48S×132.72E, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.7/24, mbtmp4.7/20, ML4.8/2, MS3.9/14, Ms1 3.9/14, ms1mx3.7/27, Error ellipse: s-maj=25.9km s-min=9.6km az=77.0*

*MOS **05** 09:40:18.3±0.8, 0.37S×132.77E, h31km, mb5.0/24, Error ellipse: s-maj=16.9km s-min=6.4km az=116.4*

*ISCJB **05** 09:40:19.6±0.8, 0.40S±0.04×132.90E±0.04, h44km±8km, mb4.8/70, MS4.0/22, Error ellipse: s-maj=7.8km s-min=5.7km az=146.7*

*NEIC **05** 09:40:20.6±0.2, 0.38S×132.87E, h35km, mb4.9/21, Error ellipse: s-maj=8.2km s-min=4.2km az=70.0*

*DJA **05** 09:40:20, 0.53S×132.83E, h10km, mb5.0/21*

ISC 05 09:40:20.6±0.4, 0.39S±0.04×132.88E±0.06, h34km±1km, h34km:pP-P, n205, σ1§20/260, mb4.9/70, MS3.9/23, 6C-6D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.59 194**		P	**Pn**	**09 41 00.3**	**+0.2**
BAKI	**Biak**	**3.32 104**		P	**Pn**	**09 41 10.7**	**+0.5**
MSAI	**Masohi**	**4.92 233**		P	**Pn**	**09 41 34.7**	**+2.5**
TLE	**Tual**	**5.21 182**		P	**Pn**	**09 41 37.5**	**+1.3**
	1μm,1.0s,16μm5.2nm						
LBMI	**Labuha**	**5.39 267**		P	**Pn**	**09 41 37.8**	**-0.8**
	387nm,0.8s,3μm1.1nm						
AAI	**Ambon**	**5.71 235**		P	**Pn**	**09 41 44.0**	**+0.9**
	495nm,0.9s,5μm1.4nm						
SMPI	**Sarmi**	**6.04 105**		P	Pn	09 41 53.0	+5.4
	58nm,1.0s,0.3nm						
NLAI	**Namlea**	**6.43 244**		P	**Pn**	**09 41 55.6**	**+2.6**
	113nm,0.8s,3μm0.7nm						
LUWI	**Luwuk**	**10.13 266**		P	**Pn**	**09 42 42.4**	**-1.4**
	214nm,0.9s,2μm						
DAV	**Davao City (W)**	**10.39 316**		LR	LR	09 47 14.4	
	comp=Z,667nm,18.7s,baz=169,slow=40						
TTSI	**Tana Toraja**	**13.32 258**		P	**Pn**	**09 43 28.4**	**+1.0**
	37nm,0.8s,958nm						
SPSI	**Sidrap Palu**	**13.57 255**		P	**Pn**	**09 43 31.9**	**+1.0**
	74nm,1.0s,645nm						
BKSI	**Bulukumba**	**13.65 249**		P	**P**	**09 43 37.1**	**-3.2**
KAPI	**Kappang**	**13.89 250**		Pn	**Pn**	**09 43 37.5**	**+2.2**
	2.5nm,0.3s,baz=98,slow=5.6,SNR=9.3						
KAPI	**Kappang**	**13.89 250**		*e*Pn	**Pn**	**09 43 35.8**	**+0.6**
KAPI				Pn	**Pn**	**09 43 37.5**	**+2.2**
KAPI	**Kappang**	**13.89 250**		P	P	09 43 39.3	-3.7
	54nm,1.3s,613nm						
MYLDM	**Lahad Datu**	**15.39 291**		P	**P**	**09 44 02.4**	**+2.7**
PMG	**Port Moresby**	**16.80 123**		Pn	**P**	**09 44 14.5**	**-0.8**
	0.5nm,0.3s,baz=304,slow=8.3,SNR=8.3						
PMG	**Port Moresby**	**16.80 123**		P	**P**	**09 44 14.5**	**-0.8**
PMG	**Port Moresby**	**16.80 123**		Pn	**P**	**09 44 14.5**	**-0.8**
PMG				*e*P	**Pn**	**09 44 15.0**	**+1.6**
COEN	**Coen**	**16.90 143**		*e*Pn	**Pn**	**09 44 13.2**	**-1.4**
	362nm,1.4s						
GUMO	**Guam**	**18.27 40**		LR	LR	09 50 36.6	
	comp=Z,224nm,21.3s,baz=300,slow=34						
BBKI	**Banjar Baru**	**18.29 260**		P	**Pn**	**09 44 35.2**	**+3.4**
	62nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.99 202**		P	**P**	**09 44 37.0**	**-2.4**
	1.2nm,0.3s,baz=35,slow=16,SNR=18						
FITZ				S	Sn	09 47 58.3	-14
	0.5nm,0.3s,baz=139,slow=8.7,SNR=4.1						
FITZ				LR	LR	09 51 10.6	
	comp=Z,136nm,21.8s,baz=18,slow=35						
FITZ	**Fitzroy Crossi**	**18.99 202**		*e*P	**P**	**09 44 36.0**	**-3.4**
	42nm,0.7s						
FITZ				*e*S	Sn	09 47 56.6	-15
FITZ	**Fitzroy Crossi**	**18.99 202**		P	**P**	**09 44 37.0**	**-2.4**
FITZ				*e*P	**Pn**	**09 44 38.8**	**-1.5**
FITZ				S	Sn	09 47 58.3	-14
WRAB	**Tennant Creek**	**19.48 176**		*e*P	**P**	**09 44 45.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,83nm,0.8s						
WRAB	**Tennant Creek**	**19.48 176**		*e*P	**P**	**09 44 45.1**	**+0.4**
	comp=Z,83nm,0.8s						
WRA	**Warramunga Arr**	**19.48 176**		P	**P**	**09 44 44.1**	**-0.7**
	comp=Z,4.9nm,0.3s,baz=354,slow=12,SNR=185						
WRA				S	S	09 48 12.7	-11
	comp=Z,0.9nm,0.3s,baz=358,slow=22,SNR=8.0						
WRA	**Warramunga Arr**	**19.48 176**		P	**P**	**09 44 44.1**	**-0.7**
WRA				S	S	09 48 12.7	-11
WRA	**Warramunga Arr**	**19.48 176**		P	**P**	**09 44 44.1**	**-0.7**
WRA				S	S	09 48 12.7	-11
WB2	**Warramunga Arr**	**19.48 176**		*e*P	**P**	**09 44 44.7**	**-0.1**
SBUM	**Sibu**	**20.85 278**		P	Pn	09 45 01.4	-1.0
	comp=Z,34nm,1.7s,comp=Z,541nm						
STKI	**Sintang**	**21.41 271**		P	**P**	**09 45 09.9**	**+4.1**
	comp=Z,64nm,1.0s,comp=Z,19μm						
KSM	**Kuching**	**22.65 275**		*e*P	**P**	**09 45 19.1**	**0.0**
	comp=Z,21nm,0.7s						
KSM	**Kuching**	**22.65 275**		P	**P**	**09 45 20.4**	**+1.3**
	comp=Z,31nm,1.4s						
AS31	**Alice Springs**	**23.16 178**		*e*P	**P**	**09 45 23.9**	**-0.4**
ASAR	**Alice Springs**	**23.16 178**		P	**P**	**09 45 23.7**	**-0.6**
	comp=Z,29nm,0.6s,baz=354,slow=8.7,SNR=533						
ASAR				S	**S**	**09 49 34.5**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=340,slow=18,SNR=3.8						
ASAR	**Alice Springs**	**23.16 178**		P	**P**	**09 45 23.7**	**-0.6**
ASAR				S	**S**	**09 49 34.5**	**+0.8**
ASAR	**Alice Springs**	**23.16 178**		P	**P**	**09 45 23.7**	**-0.6**
ASAR				S	**S**	**09 49 34.5**	**+0.8**
CTA	**Charters Tower**	**23.55 147**		P	**P**	**09 45 29.5**	**+1.4**
	comp=Z,58nm,0.9s,baz=331,slow=12,SNR=14						
CTA				LR	LR	09 55 37.8	
	comp=Z,767nm,20.6s,baz=321,slow=39						
CTA	**Charters Tower**	**23.55 147**		*e*P	**P**	**09 45 29.3**	**+1.2**
	comp=Z,42nm,0.8s						
CTA	**Charters Tower**	**23.55 147**		P	**P**	**09 45 29.5**	**+1.4**
CTA	**Charters Tower**	**23.55 147**		P	**P**	**09 45 29.5**	**+1.4**
CTAO	**Charters Tower**	**23.55 147**		*e*P	**P**	**09 45 29.5**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,64nm,0.9s						
CTAO	**Charters Tower**	**23.55 147**		*e*P	**P**	**09 45 29.5**	**+1.4**
	comp=Z,64nm,0.9s						
BJII	**Banjamegara**	**24.11 253**		P	**P**	**09 45 36.5**	**+2.9**
	comp=Z,39nm,1.7s						
MBWA	**Marble Bar**	**24.31 211**		*e*P	**P**	**09 45 35.2**	**0.0**
MBWA	**Marble Bar**	**24.31 211**		*e*P	**P**	**09 45 34.8**	**-0.4**
	comp=Z,38nm,1.1s						
PPBI	**Pangkal Pinang**	**26.80 266**		P	P	09 46 06.3	+8.4
JOW	**Kunigami**	**27.43 351**		P	**P**	**09 46 04.3**	**+1.0**
	comp=Z,15nm,0.8s,baz=244,slow=24,SNR=2.7						
JOW				LR	LR	09 55 07.9	
	comp=Z,552nm,19.1s,baz=123,slow=32						
JOW	**Kunigami**	**27.43 351**		P	**P**	**09 46 04.3**	**+1.0**
QLP	**Quilpie**	**28.24 158**		*e*P	**P**	**09 46 10.0**	**-0.6**
QIZ	**Qiongzhong**	**29.73 312**		P	**P**	**09 46 25.9**	**+1.9**
QIZ				S	**S**	**09 51 20.3**	**+2.2**
QIZ				LR	LR		
	comp=Z,170nm,24.5s						
FORT	**Forrest**	**30.57 188**		*e*P	**P**	**09 46 31.6**	**+0.4**
	comp=Z,19nm,0.7s						
FORT	**Forrest**	**30.57 188**		*e*P	**P**	**09 46 31.7**	**+0.6**
	comp=Z,45nm,0.9s						
STKA	**Stephens Creek**	**32.38 166**		P	**P**	**09 46 46.5**	**-0.7**
	comp=Z,20nm,0.6s,baz=338,slow=8.3,SNR=76						
STKA				LR	LR	10 00 22.3	
	comp=Z,139nm,19.0s,baz=23,slow=37						
STKA	**Stephens Creek**	**32.38 166**		*e*P	**P**	**09 46 46.4**	**-0.8**
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**32.38 166**		*e*P	**P**	**09 46 46.5**	**-0.7**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**32.38 166**		*e*P	**P**	**09 46 46.5**	**-0.7**
	comp=Z,6.2nm,0.8s						
BBOO	**Buckleboo**	**32.38 175**		*e*P	**P**	**09 46 49.8**	**+2.6**
	comp=Z,336nm,0.9s						
KMBL	**Kambalda**	**32.52 198**		*e*P	**P**	**09 46 47.9**	**-0.5**
	comp=Z,42nm,0.6s						
PSI	**Prapat**	**34.09 276**		P	**P**	**09 47 01.1**	**-1.4**
	comp=Z,23nm,1.1s						
KLBR	**Kellerberrin**	**34.18 203**		*e*P	**P**	**09 47 02.7**	**-0.1**
	comp=Z,25nm,1.2s						
ARMA	**Armidale**	**34.77 151**		*e*P	**P**	**09 47 08.1**	**-0.1**
ARMA	**Armidale**	**34.77 151**		*e*P	**P**	**09 47 08.2**	**+0.1**
NJ2	**Nanjing**	**34.89 339**		*e*P	**P**	**09 47 09.6**	**+0.6**
NJ2				S	**S**	**09 52 40.5**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,190nm,15.0s						
NJ2				LR	LR		
	comp=E,130nm,14.4s						
WHN	**Wuhan**	**35.46 332**		⇓P	**P**	**09 47 15.0**	**+1.1**
WHN				pmax	pmax		
	comp=Z,49nm,1.0s						
WHN				LR	LR		
	comp=Z,370nm,24.3s						
GYA	**Guiyang**	**36.76 319**		⇑*i*P	**P**	**09 47 26.8**	**+1.6**
GYA				pP	**pP**	**09 47 36.9**	**+1.7**
GYA				PP	PP	09 48 52.4	+3.0
GYA				S	**S**	**09 53 08.5**	**+1.3**
GYA				ScP	**ScP**	**09 53 31.6**	**-0.1**
GYA				SS	SS	09 55 37.3	-12
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,420nm,16.9s						
GYA				LR	LR		
	comp=E,380nm,17.5s						
GYA				LR	LR		
	comp=Z,430nm,16.7s						
MJAR	**Matsushiro Arr**	**37.08 7**		P	**P**	**09 47 27.6**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=198,slow=9.0,SNR=6.0						
MJAR				LR	LR	09 59 37.2	
	comp=Z,263nm,21.9s,baz=180,slow=31						
MJAR	**Matsushiro Arr**	**37.08 7**		P	**P**	**09 47 27.6**	**-0.1**
MJAR	**Matsushiro Arr**	**37.08 7**		P	**P**	**09 47 27.6**	**-0.1**
ARPS	**Mount Arapiles**	**37.14 168**		*e*P	**P**	**09 47 28.2**	**0.0**
	comp=Z,38nm,0.7s						
ENH	**Enshi**	**37.76 326**		*e*P	**P**	**09 47 32.9**	**-0.7**
	comp=Z,16nm,0.8s						
KSAR	**Wonju Array Be**	**37.93 354**		P	**P**	**09 47 34.9**	**+0.1**
KSAR	**Wonju Array Be**	**37.93 354**		P	**P**	**09 47 34.9**	**+0.1**
KSRS	**Korea Array**	**37.94 354**		P	**P**	**09 47 34.9**	**0.0**
	comp=Z,1.7nm,0.9s,baz=183,slow=11,SNR=3.7						
KSRS				LR	LR	10 04 42.4	
	comp=Z,189nm,18.1s,baz=175,slow=39						
CM31	**Chiang Mai Arr**	**38.25 301**		*e*P	**P**	**09 47 37.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.25 301**		P	**P**	**09 47 37.6**	**-0.3**
	comp=Z,11nm,1.0s,baz=119,slow=6.7,SNR=9.0						
CMAR	**Chiang Mai Arr**	**38.25 301**		P	**P**	**09 47 37.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**38.25 301**		P	**P**	**09 47 37.6**	**-0.3**
CHTO	**Chiang Mai**	**38.40 302**		*e*P	**P**	**09 47 38.6**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
CHTO	**Chiang Mai**	**38.40 302**		*e*P	**P**	**09 47 38.6**	**-0.5**
	comp=Z,14nm,1.0s						
KMI	**Kunming**	**38.65 313**		P	**P**	**09 47 41.3**	**-0.1**
KMI				pP	**pP**	**09 47 52.2**	**+0.9**
KMI				sP	**sP**	**09 47 57.6**	**+2.2**
KMI				PP	PP	09 49 15.2	+4.9
KMI				S	**ScP**	**09 53 37.9**	**-1.1**
KMI				pmax	pmax		
	comp=Z,20nm,1.3s						
KMI				pmax	pmax		
	comp=Z,61nm,3.6s						
KMI				LR	LR		
	comp=N,180nm,14.7s						
KMI				LR	LR		
	comp=E,130nm,17.8s						
KMI				LR	LR		
	comp=Z,180nm,22.9s						
XAN	**Xi'an**	**40.97 329**		P	**P**	**09 47 59.5**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CD2	**Chengdu**	**41.64 321**		P	**P**	**09 48 05.6**	**-0.3**
CD2				pP	**pP**	**09 48 15.8**	**-0.1**
CD2				sP	**sP**	**09 48 20.1**	**+0.1**
CD2				PP	PP	09 49 46.0	+3.4
CD2				S	**S**	**09 54 20.0**	**-0.4**
CD2				sS	**sS**	**09 54 37.2**	**+0.3**
CD2				pmax	pmax		
	comp=Z,41nm,0.9s						
CD2				pmax	pmax		
	comp=Z,100nm,4.2s						
CD2				LR	LR		
	comp=N,230nm,5.3s						
CD2				LR	LR		
	comp=Z,250nm,13.7s						
SNY	**Shenyang**	**42.86 350**		⇓P	**P**	**09 48 15.3**	**-0.3**
SNY				S	**S**	**09 54 43.7**	**+5.8**
SNY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,100nm,3.3s						
SNY				LR	LR		
	comp=N,280nm,16.3s						
SNY				LR	LR		
	comp=Z,240nm,25.5s						
BJT	**Baijiatuau**	**43.02 341**		*e*P	**P**	**09 48 16.9**	**0.0**
BJT				pmax	pmax		
	comp=Z,57nm,0.9s						
BJT	**Baijiatuau**	**43.02 341**		*e*P	**P**	**09 48 16.9**	**0.0**
	comp=Z,57nm,0.9s						
BJI	**Beijing**	**43.03 341**		P	**P**	**09 48 16.9**	**-0.1**
BJI				pmax	pmax		
	comp=Z,58nm,1.0s						
USRK	**Ussuriysk Arra**	**44.40 359**		P	**P**	**09 48 28.8**	**+0.8**
	comp=Z,5.2nm,0.9s,baz=178,slow=7.2,SNR=8.8						
USRK				LR	LR	10 05 46.8	
	comp=Z,119nm,19.6s,baz=148,slow=34						
CN2	**Changchun**	**44.50 352**		*e*P	**P**	**09 48 29.0**	**+0.3**
CN2				*es*P	**sP**	**09 48 42.8**	**-0.1**
CN2				*e*S	**S**	**09 55 02.1**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
MDJ	**Mudanjiang**	**44.91 357**		P	**P**	**09 48 32.6**	**+0.6**
MDJ				pP	**pP**	**09 48 41.4**	**-0.7**
MDJ				sP	**sP**	**09 48 45.5**	**-0.7**
MDJ				PcP	**PcP**	**09 50 13.5**	**+0.4**
MDJ				PP	PP	09 50 17.4	0.0
MDJ				ScP	**ScP**	**09 54 03.7**	**+0.5**
MDJ				PcS	**PcS**	**09 54 07.3**	**+0.7**
MDJ				S	**S**	**09 55 12.8**	**+5.1**
MDJ				ScS	**ScS**	**09 58 27.6**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,49nm,4.8s						
ASAJ	**Asahikawa**	**45.15 10**		LR	LR	10 05 59.7	
	comp=Z,135nm,19.0s,baz=186,slow=34						
LZH	**Lanzhou**	**45.24 326**		*e*P	**P**	**09 48 35.5**	**+0.5**
LZH				pP	**pP**	**09 48 46.0**	**+0.9**
LZH				sP	**sP**	**09 48 49.2**	**+0.1**
LZH				pmax	pmax		
	comp=Z,37nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.0s						
HHC	**Hu-ho-hao-te**	**45.39 337**		*e*P	**P**	**09 48 36.5**	**+0.4**
HHC				pP	**pP**	**09 48 46.3**	**+0.1**
HHC				sP	**sP**	**09 48 50.3**	**+0.1**
HHC				PcP	**PcP**	**09 50 15.5**	**+0.4**
HHC				PP	PP	09 50 23.5	+0.8
HHC				S	**S**	**09 55 15.3**	**+0.2**
HHC				sS	**sS**	**09 55 31.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,6.5s						
HHC				LR	LR		
	comp=N,120nm,14.6s						
HHC				LR	LR		
	comp=E,160nm,14.6s						
HHC				LR	LR		
	comp=Z,120nm,15.5s						
HABR	**Khabarovsk**	**48.71 2**		*e*P	**P**	**09 49 00.6**	**-1.0**
HABR				*e**PP	**pP**	**09 49 10.5**	**-1.3**
HABR				*e*		09 50 24.9	
HABR				*e*		09 50 53.8	
HABR				*e*PPP	PPP	09 51 44.7	
HABR				*e*S	**S**	**09 56 02.2**	**+0.4**
HABR				*e**SS	**sS**	**09 56 18.6**	**0.0**
HABR				*e*SSS	SSS	10 00 49.4	
HABR				pmax	pmax		
	comp=N,19nm,1.6s						
HABR				pmax	pmax		
	comp=E,20nm,1.6s						
HABR				pmax	pmax		
	comp=Z,27nm,1.6s						
HABR				MLR	MLR		
	comp=Z,92nm,19.0s						
KLR	**Kul'dur**	**49.44 359**		*e*P	P	09 49 03.2

comp=Z,1.8nm,0.7s,baz=146,slow=4.3,SNR=5.4
SONM LR LR 10 11 39.0
comp=Z,106nm,20.5s,baz=138,slow=35
SONM Songino Array 53.27 338 P **P** **09 49 36.6 +0.4**
SONM 09 50 43.3
SONM Songino Array 53.27 338 P **P** **09 49 36.6 +0.4**
SONM PcP **PcP** **09 50 43.3 -0.3**
PKI Pulchoki 53.35 305 *e*P **P** **09 49 36.0 -1.4**
PKI Pulchoki 53.35 305 *e*P **P** **09 49 36.0 -1.4**
PKI Pulchoki 53.35 305 *e*P **P** **09 49 36.0 -1.4**
KKN Kakani 53.54 306 *e*P **P** **09 49 37.6 -1.1**
KKN Kakani 53.54 306 *e*P **P** **09 49 37.6 -1.1**
KKN Kakani 53.54 306 *e*P **P** **09 49 37.6 -1.1**
DMN Daman 53.62 305 *e*P **P** **09 49 38.2 -1.0**
comp=Z,48nm,1.0s
DMN Daman 53.62 305 *e*P **P** **09 49 38.2 -1.0**
GKN Gorkha 54.15 306 *e*P **P** **09 49 41.8 -1.2**
comp=Z,33nm,0.9s
GKN Gorkha 54.15 306 *e*P **P** **09 49 41.8 -1.2**
KOLN Koldanda 54.91 305 *e*P **P** **09 49 47.9 -0.7**
comp=Z,50nm,0.7s
KOLN Koldanda 54.91 305 *e*P **P** **09 49 47.9 -0.7**
DANN Dangsing 55.00 306 *e*P **P** **09 49 48.4 -0.9**
comp=Z,62nm,0.8s
DANN Dangsing 55.00 306 *e*P **P** **09 49 48.4 -0.9**
ZAK Zakamensk 56.54 338⇑ *i*P **P** **09 49 59.6 -0.1**
ZAK *e* 09 50 05.6
ZAK *e* 09 50 56.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PETK Petropavlovsk- 57.20 18 P **P** **09 50 05.0 +0.8**
comp=Z,9.1nm,0.9s,baz=193,slow=5.8,SNR=5.4
PETK Petropavlovsk- 57.20 18 P **P** **09 50 05.0 +0.8**
PETK Petropavlovsk- 57.20 18 P **P** **09 50 05.0 +0.8**
CLNS Chul'man 57.41 355 *e*P **P** **09 50 05.2 -0.5**
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,1.0s
MOY Mondy 58.43 337 *e*P **P** **09 50 13.9 +0.8**
MOY pmax pmax
comp=Z,29nm,2.7s
WMQ Urumqi 59.64 323 P **P** **09 50 22.9 +1.4**
WMQ pP **pP** **09 50 32.9 +1.0**
WMQ sP **sP** **09 50 36.9 +1.0**
WMQ PcP **PcP** **09 51 06.9 -1.5**
WMQ pmax pmax
comp=Z,48nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.4s
WMQ LR LR
comp=N,47nm,22.7s
WMQ LR LR
comp=E,54nm,21.0s
WMQ LR LR
comp=Z,68nm,23.2s
BOD Bodaibo 59.96 348⇓ *i*P **P** **09 50 23.1 -0.2**
BOD pmax pmax
comp=Z,20nm,1.2s
YAK Yakutsk 62.31 358 *e*P **P** **09 50 38.3 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
MK31 Makanchi Array 64.45 324 *e*P **P** **09 50 53.5 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 64.45 324 *e*P **P** **09 50 53.7 -0.1**
MKAR Makanchi Array 64.45 324 P **P** **09 50 53.8 0.0**
comp=Z,5.5nm,0.6s,baz=115,slow=7.8,SNR=90
MKAR LR LR 10 20 19.6
comp=Z,81nm,18.6s,baz=169,slow=37
MKAR Makanchi Array 64.45 324 P **P** **09 50 53.8 0.0**
MKAR Makanchi Array 64.45 324 P **P** **09 50 53.8 0.0**
SEY Seymchan 64.84 10⇓ *i*P **P** **09 50 56.2 +0.3**
KSH Kashi 65.29 314 *e*P **P** **09 51 00.5 +1.0**
KSH *e*pP **pP** **09 51 10.6 +0.6**
KSH *e*sP **sP** **09 51 14.6 +0.6**
KSH *e*PcP **PcP** **09 51 33.2 +1.6**
KSH *e*PP **PP** **09 53 25.6 +2.1**
KSH *e*ScP 09 55 32.1
KSH PcS 09 55 35.1
KSH S **S** **09 59 38.0 -3.2**
KSH ScS **SKSac** **10 00 49.3 -3.2**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,64nm,3.4s
KSH LR LR
comp=N,120nm,4.0s
KSH LR LR
comp=E,130nm,5.0s
KSH LR LR
comp=Z,86nm,4.5s
KZA Kyzart 66.80 317 P **P** **09 51 10.2 +0.8**
SNR=11
KZA P **P** **09 51 10.2 +0.8**
SNR=11
TKM2 Tokmak 2 66.90 318 P **P** **09 51 10.0 +0.1**
SNR=8.7
TKM2 P **P** **09 51 10.0 +0.1**
SNR=8.7
TKM2 Tokmak 2 66.90 318 *e*P **P** **09 51 09.6 -0.2**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 66.90 318 *e*P **P** **09 51 09.6 -0.2**
comp=Z,3.4nm,0.6s
ZAA0 Zalesovo Array 67.07 331 *e*P **P** **09 51 09.3 -1.2**
ZALV Zalesovo Beam 67.07 331 *e*P **P** **09 51 09.5 -0.9**
comp=Z,5.0nm,0.8s,baz=115,slow=5.7,SNR=24
ZALV LR LR 10 24 00.0
comp=Z,34nm,18.1s,baz=65,slow=39
ZALV Zalesovo Beam 67.07 331 P **P** **09 51 09.5 -0.9**
ZALV Zalesovo Beam 67.07 331 P **P** **09 51 09.5 -0.9**
AAK Ala-Archa 67.53 317⇓ *i*P **P** **09 51 13.7 -0.1**
AAK pmax pmax
comp=Z,17nm,1.9s
AAK Ala-Archa 67.53 317 *e*P **P** **09 51 14.1 +0.2**
comp=Z,29nm,1.4s
USP Ospenovka 67.77 318 P **P** **09 51 15.3 +0.1**
SNR=12
USP P **P** **09 51 15.3 +0.1**
SNR=12
AML Almayashu 67.89 316 P **P** **09 51 16.9 +0.6**
SNR=12
AML P **P** **09 51 16.9 +0.6**
SNR=12
EKS2 Erkin-Say 68.03 317 P **P** **09 51 17.4 +0.5**
SNR=9.1
EKS2 P **P** **09 51 17.4 +0.5**
SNR=9.1
EKS2 Erkin-Say 68.03 317 *e*P **P** **09 51 17.1 +0.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 68.03 317 *e*P **P** **09 51 17.1 +0.2**
comp=Z,5.6nm,0.8s
NVS Novosibirsk 68.35 332⇑ *i*P **P** **09 51 16.6 -1.8**
NVS *e*S **S** **10 00 18.1 +0.9**
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS smax smax
comp=E,62nm,3.9s
KURK Kurchatov 68.53 326 P **P** **09 51 19.4 -0.3**
comp=E,7.9nm,0.8s,baz=122,slow=5.8,SNR=52
KURK Kurchatov 68.53 326⇑ *i*P **P** **09 51 19.5 -0.1**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 68.53 326 P **P** **09 51 19.4 -0.3**
KURK *e*P **P** **09 51 19.6 -0.1**
KBL Kabul 68.89 307 *e*P **P** **09 51 21.9 -0.7**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 68.89 307 *e*P **P** **09 51 21.9 -0.7**
comp=Z,12nm,0.8s
KK31 Karatay Array 70.43 316 P **P** **09 51 31.1 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 70.43 316 *e*P **P** **09 51 31.2 -0.4**
KKAR pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 70.43 316 *e*P **P** **09 51 31.2 -0.4**
comp=Z,12nm,1.0s
BILL Bilibino 72.08 13 *e*P P 09 51 36.2 -4.8
BILL pmax pmax
comp=Z,3.0nm,1.7s
BVA0 Borovoye Array 74.12 326 P **P** **09 51 52.7 -0.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 74.12 326 P **P** **09 51 53.2 -0.3**
comp=Z,9.4nm,0.8s,baz=116,slow=6.8,SNR=50
BVAR Borovoye Array 74.12 326 P **P** **09 51 53.2 -0.3**
BVAR Borovoye Array 74.12 326 P **P** **09 51 53.2 -0.3**
BRVK Borovoye 74.20 326 *e*P **P** **09 51 53.5 -0.4**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 74.20 326 *e*P **P** **09 51 53.5 -0.4**
comp=Z,14nm,0.9s
AB31 Akbulak array 79.22 320 P **P** **09 52 21.5 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 79.22 320 *e*P **P** **09 52 21.2 -1.1**
comp=Z,6.4nm,0.9s
SVE Sverdlovsk 80.68 328⇑ *i*P **P** **09 52 30.1 +0.1**
SVE pmax pmax
comp=Z,18nm,1.3s
AKTO Aktyubinsk 80.69 321 P **P** **09 52 29.5 -0.8**
comp=Z,3.8nm,0.9s,baz=84,slow=5.8,SNR=8.8
AKTO Aktyubinsk 80.69 321 P **P** **09 52 29.5 -0.8**
AKTO Aktyubinsk 80.69 321 P **P** **09 52 29.5 -0.8**
ARU Arti 81.69 327 *d i*P **P** **09 52 34.9 -0.5**
ARU 09 55 41.3
ARU S **S** **10 02 46.7 +1.1**
ARU SS **SS** **10 08 02.9 -0.7**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 81.69 327 *e*P **P** **09 52 34.6 -0.8**
comp=Z,14nm,1.1s
ILAR Eielson Array 86.18 25 P **P** **09 52 57.1 -1.1**
comp=Z,2.8nm,0.8s,baz=260,slow=4.6,SNR=25
ILAR Eielson Array 86.18 25 P **P** **09 52 57.1 -1.1**
ILAR Eielson Array 86.18 25 P **P** **09 52 57.1 -1.1**
QSPA South Pole Qui 89.54 180 *e*P **P** **09 53 13.5 -0.9**
comp=Z,6.7nm,1.0s
RKT Rikitea 91.82 113 *e*T T 09 53 07.0
comp=Z,1.3nm,0.3s
OBN Obninsk 93.94 325 *e*P **P** **09 53 32.9 -1.9**
OBN *e* 09 57 18.3
OBN pmax pmax
comp=Z,6.0nm,1.1s
DLBC Dease Lake 94.05 32 P **P** **09 53 33.0 -2.4**
ARCES ARCESS Array B 96.39 340 P **P** **09 53 45.2 -0.6**
comp=Z,7.5nm,1.0s,baz=87,slow=5.7,SNR=4.4
ARCES LR LR 10 40 27.6
comp=Z,154nm,18.0s,baz=30,slow=38
ARCES ARCESS Array B 96.39 340 P **P** **09 53 45.2 -0.6**
ARCES ARCESS Array B 96.39 340 P **P** **09 53 45.2 -0.6**
TORD Torodi Ar. Bea 130.02 287 PKP **PKPdf** **09 59 27.6 -0.3**
comp=Z,1.1nm,0.8s,baz=158,slow=0.2,SNR=7.6
TORD Torodi Ar. Bea 130.02 287 PKP **PKPdf** **09 59 27.6 -0.3**
CPUP Villa Florida 151.67 160 PKPbc **PKPbc** **10 00 12.7 +0.4**
comp=Z,2.5nm,0.7s,baz=199,slow=2.0,SNR=9.4
CPUP PKPab **PKPab** **10 00 19.8 -1.0**
comp=Z,3.2nm,0.7s,baz=185,slow=2.8,SNR=9.1
CPUP Villa Florida 151.67 160 PKIKP **PKPbc** **10 00 12.7 +0.4**
CPUP 10 00 19.8
CPUP Villa Florida 151.67 160 PKPbc **PKPbc** **10 00 12.7 +0.4**
CPUP PKPab **PKPab** **10 00 19.8 -1.0**
LPAZ La Paz 153.46 130 PKPab **PKPab** **10 00 29.0 -0.5**
comp=Z,1.2nm,0.6s,baz=224,slow=4.6,SNR=3.9
LPAZ La Paz 153.46 130 PKP2 **PKPab** **10 00 29.0 -0.5**
LPAZ La Paz 153.46 130 PKPab **PKPab** **10 00 29.0 -0.5**

MAN 05 09:53:04, 16°.19N×120°.83E, h16km, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.31**	**310**	⇑ *i*P		Pg	09 53 10.0	-0.8
BCPH				*i* S		Sg	09 53 12.8	-2.6
BALP	**Baler**	**0.84**	**121**	*e*P		Pb	09 53 19.9	-0.4
BALP				*e*S		Sn	09 53 32.5	-0.8
BOLP	**Bolinao**	**0.90**	**283**	*e*P		Pg	09 53 21.4	-0.1
BOLP				*e*S		Sn	09 53 35.0	+0.3
SCZP	**Santa Cruz**	**0.97**	**245**	*e*P		Pb	09 53 22.6	+0.2
CAUP	**Cauayan**	**1.22**	**52**	*e*P		Pn	09 53 25.3	-1.1
CAUP				*e*S		Sg	09 53 44.0	+0.6

PGC 05 10:01:40.8±2.0, 48°.97N×128°.65W, h10km, ML3.0/5, Mw3.6,5D,200km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.32**	**25**	⇑Pn		Pn	10 02 02.4	-2.9
HOLB	**Holberg**	**1.70**	**11**	⇑Pn		Pn	10 02 09.8	-0.9
HOLB				⇓Sn		Sn	10 02 28.1	-4.5
MAYB	**Maynard**	**1.72**	**33**	⇓Pn		Pn	10 02 09.0	-2.0
WOSB	**Woss**	**1.80**	**48**	⇓Pn		Pn	10 02 10.6	-1.5
WOSB				⇓Sn		Sn	10 02 32.0	-3.0
PHC	**Port Hardy**	**1.91**	**24**	⇓Pn		Pn	10 02 11.4	-1.9
PHC				⇑Sn		Sn	10 02 33.8	-3.6
BBB	**Bella Bella**	**3.23**	**6**	⇑Pn		Pn	10 02 30.3	-1.3
BBB				⇑Sn		Sn	10 03 06.9	-3.2

IDC 05 10:19:05.5±4.5, 14°.46S×68°.78W, h141km±66km, mb3.4/4, mb1 3.5/4, mb1mx3.3/15, mbtmp3.4/4, Error ellipse: s-maj=113.5km s-min=28.6km az=28.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.92**	**161**	P		Pn	10 19 41.0	+1.0
	23nm,0.3s,baz=292,slow=6.1,SNR=421							
LPAZ				S		Sn	10 20 06.2	-0.2
	3.5nm,0.3s,baz=47,slow=24,SNR=7.6							
TXAR	**Lajitas Array**	**55.05**	**322**	P		P	10 28 23.0	+0.1
	0.2nm,0.7s,baz=123,slow=6.6,SNR=2.4							
DBIC	**Dimbokro**	**66.78**	**76**	P		P	10 29 42.7	+0.3
	0.9nm,0.5s,baz=259,slow=7.7,SNR=3.1							
ULM	**Lac du Bonnet**	**68.69**	**342**	P		P	10 29 52.8	-0.8
	0.9nm,0.4s,baz=129,slow=3.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**74.97**	**72**	P		P	10 30 31.8	-0.1
	0.5nm,0.5s,baz=255,slow=5.0,SNR=8.6							
SONM	**Songino Array**	**146.49**	**6**	PKPbc		PKPbc	10 38 30.1	-0.4
	0.6nm,0.3s,baz=308,slow=1.8,SNR=7.5							

*DJA **05** 10:22:08, 0°.76S×133°.35E, h18km, MLv4.5/12*
IDC 05 10:22:03.5±1.1, 0°.60S×133°.63E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, ML4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/35, Error ellipse: s-maj=46.3km s-min=19.3km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KAPI	**Kappang**	**14.54**	**252**	Pn		Pn	10 25 30.5	-0.3
	1.4nm,0.3s,baz=91,slow=10,SNR=6.2							
FITZ	**Fitzroy Crossi**	**19.09**	**204**	P		P	10 26 27.9	0.0
	0.5nm,0.3s,baz=42,slow=14,SNR=9.1							
WRA	**Warramunga Arr**	**19.24**	**178**	P		P	10 26 28.7	-1.0
	0.4nm,0.3s,baz=356,slow=13,SNR=22							
ASAR	**Alice Springs**	**22.93**	**179**	P		P	10 27 10.7	+1.2
	1.0nm,0.4s,baz=357,slow=11,SNR=28							
JOW	**Kunigami**	**27.75**	**350**	LR		LR	10 37 05.1	
	comp=Z,79nm,19.5s,baz=122,slow=32							
STKA	**Stephens Creek**	**32.01**	**167**	P		P	10 28 31.1	-0.7
	0.7nm,0.8s,baz=319,slow=16,SNR=2.2							
MKAR	**Makanchi Array**	**65.06**	**324**	P		P	10 32 46.1	+0.2
	0.6nm,0.5s,baz=114,slow=8.0,SNR=8.1							
ZALV	**Zalesovo Beam**	**67.61**	**331**	P		P	10 33 01.7	-0.3
	0.2nm,0.4s,baz=119,slow=5.1,SNR=2.6							
ILAR	**Eielson Array**	**86.05**	**25**	P		P	10 34 46.0	+0.1
	0.5nm,0.9s,baz=248,slow=5.1,SNR=4.3							

IDC 05 10:25:01.8±1.7, 0°.33S×133°.93E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=73.0km s-min=26.9km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.45**	**204**	P		Pn	10 29 31.7	+0.4
	0.2nm,0.3s,baz=24,slow=12,SNR=3.1							
WRA	**Warramunga Arr**	**19.50**	**179**	P		P	10 29 30.6	-0.1
	0.2nm,0.3s,baz=357,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**23.20**	**180**	P		P	10 30 09.8	-0.8
	4.0nm,0.9s,baz=356,slow=11,SNR=11							
STKA	**Stephens Creek**	**32.20**	**168**	P		P	10 31 32.2	+0.4
	3.1nm,0.8s,baz=343,slow=7.9,SNR=6.6							
MKAR	**Makanchi Array**	**65.03**	**324**	P		P	10 35 44.1	+0.2
	0.2nm,0.5s,baz=118,slow=6.4,SNR=2.7							
CPUP	**Villa Florida**	**151.35**	**159**	PKPbc		PKPbc	10 44 57.5	-0.9
	0.5nm,0.5s,baz=170,slow=6.1,SNR=2.8							

*DJA **05** 10:31:27, 1°.33S×131°.65E, h63km, MLv4.3/6*
IDC 05 10:30:58.7±1.0, 0°.34S×133°.16E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=53.3km s-min=16.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**18.06**	**40**	LR		LR	10 41 30.7	
	comp=Z,68nm,19.0s,baz=87,slow=35							
FITZ	**Fitzroy Crossi**	**19.14**	**202**	P		P	10 35 23.7	0.0
	0.2nm,0.3s,baz=32,slow=11,SNR=4.6							
FITZ				S		Sn	10 38 42.9	-17
	0.2nm,0.3s,baz=323,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**19.52**	**177**	P		P	10 35 28.4	+0.5
	0.3nm,0.3s,baz=358,slow=13,SNR=16							
WRA				S		Sn	10 38 54.0	-15
	0.2nm,0.3s,baz=348,slow=24,SNR=7.8							
ASAR	**Alice Springs**	**23.20**	**178**	P		P	10 36 07.5	0.0
	6.2nm,0.8s,baz=359,slow=11,SNR=38							
CTA	**Charters Tower**	**23.44**	**148**	P		P	10 36 10.2	+0.3
	3.8nm,1.1s,baz=338,slow=11,SNR=1.7							
STKA	**Stephens Creek**	**32.37**	**167**	P		P	10 37 29.7	-0.4
	1.9nm,0.3s,baz=349,slow=10,SNR=18							
SONM	**Songino Array**	**53.33**	**338**	P		P	10 40 20.8	+0.9
	1.0nm,1.2s,baz=148,slow=8.7,SNR=4.1							
MKAR	**Makanchi Array**	**64.57**	**324**	P		P	10 41 37.6	-0.4
	0.3nm,0.5s,baz=109,slow=7.0,SNR=7.0							
ZALV	**Zalesovo Beam**	**67.16**	**331**	P		P	10 41 54.1	-0.3
	0.2nm,0.3s,baz=116,slow=6.6,SNR=3.7							
ILAR	**Eielson Array**	**86.02**	**25**	P		P	10 43 40.7	-0.3
	0.2nm,0.6s,baz=256,slow=6.1,SNR=3.1							

*NEIC **05** 10:44:42.6, 35°.78S×178°.56E, h227km, MG4.1(WEL), After WEL.*
WEL 05 10:44:43.0±0.4, 35°.82S×178°.48E, h227km±3km, ML4.1/13, Error ellipse: s-maj=5.8km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.75**	**185**	PN		Pn	10 45 21.4	+0.2
MXZ				SN		S	10 45 51.4	+0.1
MXZ	**Matakaoa Point**	**1.75**	**185**	Pn		Pn	10 45 21.4	+0.2
MXZ				Sn		S	10 45 51.4	+0.1
PUZ	**Puketiti**	**2.26**	**185**	PN		Pn	10 45 26.3	+0.1
PUZ				SN		S	10 45 59.9	-0.1
PUZ	**Puketiti**	**2.26**	**185**	Pn		Pn	10 45 26.3	+0.1
OPRZ	**Ohinepanea**	**2.55**	**217**	PN		Pn	10 45 29.8	+0.7
OPRZ	**Ohinepanea**	**2.55**	**217**	Pn		Pn	10 45 29.9	+0.7
MWZ	**Matawai**	**2.63**	**197**	PN		Pn	10 45 30.5	+0.4
MWZ				SN		S	10 46 07.1	+0.1
MWZ	**Matawai**	**2.63**	**197**	Pn		Pn	10 45 30.5	+0.4
MWZ				Sn		S	10 46 08.0	+1.0
CNGZ	**Carnagh Statio**	**2.67**	**185**	PN		Pn	10 45 30.9	+0.4
CNGZ	**Carnagh Statio**	**2.67**	**185**	Pn		Pn	10 45 31.4	+0.9
URZ	**Urewera**	**2.68**	**204**	PN		Pn	10 45 30.3	-0.2
URZ				SN		S	10 46 07.4	-0.4
URZ	**Urewera**	**2.68**	**204**	Pn		Pn	10 45 30.3	-0.2
TARZ	**Mount Tarawera**	**2.89**	**213**	Pn		Pn	10 45 34.7	+1.7
RRRZ	**Republican Roa**	**2.97**	**211**	PN		Pn	10 45 34.6	+0.8
RRRZ	**Republican Roa**	**2.97**	**211**	Pn		Pn	10 45 34.6	+0.8
PRGZ	**Paritu Road**	**3.14**	**189**	PN		Pn	10 45 35.9	+0.2
PRGZ	**Paritu Road**	**3.14**	**189**	Pn		Pn	10 45 36.0	+0.2
KNZ	**Kokohu**	**3.27**	**191**	PN		Pn	10 45 36.7	-0.4
KNZ	**Kokohu**	**3.27**	**191**	Pn		Pn	10 45 36.7	-0.4
RAHZ	**Arahi**	**3.29**	**199**	PN		Pn	10 45 37.6	+0.1
RAHZ	**Arahi**	**3.29**	**199**	Pn		Pn	10 45 37.6	+0.1
MHGZ	**Mahia Peninsul**	**3.36**	**188**	PN		Pn	10 45 38.5	+0.2
MHGZ	**Mahia Peninsul**	**3.36**	**188**	Pn		Pn	10 45 38.5	+0.2
NMHZ	**Naumai**	**3.54**	**202**	PN		Pn	10 45 40.7	+0.3
NMHZ	**Naumai**	**3.54**	**202**	Pn		Pn	10 45 40.7	+0.3
BKZ	**Black Stump Fm**	**3.70**	**205**	PN		Pn	10 45 41.7	-0.7
BKZ	**Black Stump Fm**	**3.70**	**205**	Pn		Pn	10 45 41.6	-0.7
MCHZ	**McNeill Hill**	**3.89**	**201**	PN		Pn	10 45 44.3	-0.1
MCHZ	**McNeill Hill**	**3.89**	**201**	Pn		Pn	10 45 44.3	-0.1
CKHZ	**Cape Kidnapper**	**4.00**	**196**	PN		Pn	10 45 45.4	-0.3
CKHZ	**Cape Kidnapper**	**4.00**	**196**	Pn		Pn	10 45 45.5	-0.2
BHHZ	**Black Hill Sta**	**4.14**	**207**	Pn		Pn	10 45 42.3	-5.3
KAHZ	**Kahuranaki**	**4.17**	**197**	PN		Pn	10 45 47.3	-0.6
KAHZ	**Kahuranaki**	**4.17**	**197**	Pn		Pn	10 45 47.3	-0.6
WNVZ	**Wahianoa**	**4.19**	**212**	PN		Pn	10 45 47.7	-0.6
WNVZ	**Wahianoa**	**4.19**	**212**	Pn		Pn	10 45 47.7	-0.6
MOVZ	**Moawhango**	**4.19**	**210**	PN		Pn	10 45 46.8	-1.4
MOVZ	**Moawhango**	**4.19**	**210**	Pn		Pn	10 45 46.8	-1.4
MTVZ	**Mangateitei**	**4.29**	**213**	PN		Pn	10 45 49.0	-0.5
MTVZ	**Mangateitei**	**4.29**	**213**	Pn		Pn	10 45 49.0	-0.4
PXZ	**Pawanui**	**4.40**	**196**	PN		Pn	10 45 49.4	-1.2
PXZ				SN		S	10 46 42.5	-1.5
PXZ	**Pawanui**	**4.40**	**196**	Pn		Pn	10 45 49.4	-1.2
PXZ				Sn		S	10 46 42.5	-1.5
PNHZ	**Pukenui**	**4.47**	**203**	PN		Pn	10 45 50.1	-1.5
PNHZ	**Pukenui**	**4.47**	**203**	Pn		Pn	10 45 50.1	-1.5
WPHZ	**Waipukurau**	**4.54**	**200**	PN		Pn	10 45 51.6	-0.8
WPHZ	**Waipukurau**	**4.54**	**200**	Pn		Pn	10 45 51.6	-0.8
PRHZ	**Porangahau**	**4.68**	**198**	PN		Pn	10 45 52.9	-1.1
PRHZ	**Porangahau**	**4.68**	**198**	Pn		Pn	10 45 53.0	-1.1
TSZ	**Takapari Road**	**4.68**	**204**	PN		Pn	10 45 52.7	-1.5
TSZ	**Takapari Road**	**4.68**	**204**	Pn		Pn	10 45 52.7	-1.5
WAZ	**Wanganui**	**4.81**	**214**	PN		Pn	10 45 54.9	-0.8
WAZ	**Wanganui**	**4.81**	**214**	Pn		Pn	10 45 54.9	-0.8
DVHZ	**Dannevirke**	**4.84**	**202**	PN		Pn	10 45 54.3	-1.7
DVHZ	**Dannevirke**	**4.84**	**202**	Pn		Pn	10 45 54.3	-1.7
POWZ	**Post Office Ro**	**5.05**	**204**	PN		Pn	10 45 57.3	-1.4
POWZ	**Post Office Ro**	**5.05**	**204**	Pn		Pn	10 45 57.3	-1.4
BFZ	**Birch Farm**	**5.17**	**199**	*e*PN		Pn	10 45 58.4	-1.8
BFZ	**Birch Farm**	**5.17**	**199**	Pn		Pn	10 45 58.1	-2.1
MRZ	**Mangatainoka R**	**5.35**	**204**	PN		Pn	10 46 00.2	-2.2
MRZ	**Mangatainoka R**	**5.35**	**204**	Pn		Pn	10 46 00.2	-2.2
TIWZ	**Tintock**	**5.36**	**202**	PN		Pn	10 46 00.9	-1.7
TIWZ	**Tintock**	**5.36**	**202**	Pn		Pn	10 46 00.9	-1.7
HOWZ	**Holdsworth Sta**	**5.59**	**204**	PN		Pn	10 46 03.1	-2.4
HOWZ	**Holdsworth Sta**	**5.59**	**204**	Pn		Pn	10 46 03.1	-2.4
OGWZ	**Otaki Gorge**	**5.63**	**207**	PN		Pn	10 46 03.5	-2.5
OGWZ	**Otaki Gorge**	**5.63**	**207**	Pn		Pn	10 46 03.5	-2.5
KIW	**Kapiti Island**	**5.77**	**208**	PN		Pn	10 46 05.2	-2.5
KIW	**Kapiti Island**	**5.77**	**208**	Pn		Pn	10 46 05.2	-2.5
MTW	**Mount Morrison**	**5.83**	**203**	PN		Pn	10 46 06.0	-2.4
MTW	**Mount Morrison**	**5.83**	**203**	Pn		Pn	10 46 06.0	-2.4
CAW	**Cannon Point**	**5.92**	**206**	PN		Pn	10 46 06.7	-3.0
CAW	**Cannon Point**	**5.92**	**206**	Pn		Pn	10 46 06.7	-3.0
PLWZ	**Palliser**	**6.28**	**203**	PN		Pn	10 46 11.5	-2.7
PLWZ	**Palliser**	**6.28**	**203**	Pn		Pn	10 46 11.5	-2.7
TCW	**Tory Channel**	**6.32**	**210**	PN		Pn	10 46 11.4	-3.3
TCW	**Tory Channel**	**6.32**	**210**	Pn		Pn	10 46 11.4	-3.3
NNZ	**Nelson**	**6.72**	**215**	PN		Pn	10 46 16.1	-3.6
NNZ	**Nelson**	**6.72**	**215**	Pn		Pn	10 46 16.1	-3.6
THZ	**Tophouse**	**7.36**	**215**	PN		Pn	10 46 24.5	-3.6
THZ	**Tophouse**	**7.36**	**215**	Pn		Pn	10 46 24.5	-3.6
KHZ	**Kahutara**	**7.63**	**209**	PN		Pn	10 46 27.9	-3.5
**KHZ

ellipse: s-maj=4.9km s-min=4.4km az=93.0
*ISCJB **05** 10:48:58.5±0.5, 37.84N±0.02×29.14E±0.04, h10km, Error ellipse: s-maj=4.7km s-min=3.5km az=11.9*

ISC 05 10:48:58.2±0.8, 37.85N±0.02×29.15E±0.03, h10km, n26, σ0.92/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DENT	**Denizli**	**0.13**	**226**	*e*PG		**Pg**	**10 49 01.6**	**+0.3**
DENT	**Denizli**	**0.13**	**226**	*e*Pg		**Pg**	**10 49 01.6**	**+0.3**
DNZL	**Cakiroluk**	**0.18**	**209**	*i* P		**Pg**	**10 49 03.5**	**+1.4**
DNZL				*i* S		**Sg**	**10 49 06.2**	**+1.4**
DNZL	**Cakiroluk**	**0.18**	**209**	*i* P		**Pg**	**10 49 03.5**	**+1.4**
DNZL				*i* S		**Sg**	**10 49 06.2**	**+1.4**
KHAL	**Karahalli**	**0.59**	**27**	*i* P		**Pg**	**10 49 10.2**	**+0.5**
KHAL				*e*S		**Sb**	**10 49 19.0**	**-0.2**
KHAL	**Karahalli**	**0.59**	**27**	*i* P		**Pg**	**10 49 10.2**	**+0.5**
KHAL				*e*S		**Sb**	**10 49 19.0**	**-0.2**
GOLH	**Golhisar**	**0.69**	**152**	*e*P		**Pb**	**10 49 12.5**	**+0.1**
GOLH				*e*S		**Sb**	**10 49 24.3**	**+2.3**
GOLH	**Golhisar**	**0.69**	**152**	*e*P		**Pb**	**10 49 12.5**	**+0.1**
GOLH				*e*S		**Sb**	**10 49 24.3**	**+2.3**
GLHS	**Glhisar (BURDU**	**0.74**	**158**	*e*PG		**Pg**	**10 49 11.4**	**-1.2**
GLHS	**Glhisar (BURDU**	**0.74**	**158**	*e*Pg		**Pg**	**10 49 11.4**	**-1.2**
KULA	**Kula-Manisa**	**0.77**	**330**	*e*PG		**Pb**	**10 49 14.5**	**+0.6**
KULA				*e*SG		**Sb**	**10 49 25.1**	**+0.6**
KULA	**Kula-Manisa**	**0.77**	**330**	*e*Pg		**Pb**	**10 49 14.5**	**+0.6**
KULA				*e*Sg		**Sb**	**10 49 25.1**	**+0.6**
MANT	**Manisa**	**0.80**	**324**	*e*P		**Pg**	**10 49 13.7**	**+0.1**
MANT				*e*S		**Sg**	**10 49 23.7**	**-0.4**
MANT	**Manisa**	**0.80**	**324**	*e*P		**Pg**	**10 49 13.7**	**+0.1**
MANT				*e*S		**Sg**	**10 49 23.7**	**-0.4**
YER	**Yerkesik**	**0.99**	**225**	*e*PG		**Pg**	**10 49 16.6**	**-0.7**
YER				*e*SG		**Sb**	**10 49 30.8**	**+0.1**
YER	**Yerkesik**	**0.99**	**225**	*e*Pg		**Pg**	**10 49 16.6**	**-0.7**
YER				*e*Sg		**Sb**	**10 49 30.8**	**+0.1**
AYDN	**Tasoluk**	**1.03**	**260**	*e*P		**Pg**	**10 49 17.7**	**-0.3**
AYDN				*e*S		**Sg**	**10 49 30.5**	**-0.8**
AYDN	**Tasoluk**	**1.03**	**260**	*e*P		**Pg**	**10 49 17.7**	**-0.3**
AYDN				*e*S		**Sg**	**10 49 30.5**	**-0.8**
ISP	**Isparta**	**1.08**	**91**	*e*PG		**Pg**	**10 49 18.2**	**-0.9**
ISP	**Isparta**	**1.08**	**91**	*e*Pg		**Pg**	**10 49 18.2**	**-0.9**
ELL	**Elmali**	**1.25**	**151**	*e*PN		**Pn**	**10 49 20.8**	**-1.1**
ELL	**Elmali**	**1.25**	**151**	*e*Pn		**Pn**	**10 49 20.8**	**-1.1**
SHUT	**Suhut-Afyon**	**1.31**	**57**	*e*PN		**Pg**	**10 49 24.0**	**+0.6**
SHUT	**Suhut-Afyon**	**1.31**	**57**	*e*Pn		**Pg**	**10 49 24.0**	**+0.6**
ALT	**Altintas**	**1.42**	**32**	*e*PN		**Pg**	**10 49 25.8**	**+0.3**
ALT	**Altintas**	**1.42**	**32**	*e*Pn		**Pg**	**10 49 25.8**	**+0.3**

IDC 05 10:54:22.3±2.0, 0.64S×133.30E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=83.7km s-min=23.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P		Pn	10 58 45.5	+0.2
	0.1nm,0.3s,baz=35,slow=12,SNR=4.3							
FITZ				S		Sn	11 02 03.1	-15
	0.1nm,0.3s,baz=126,slow=17,SNR=3.2							
WRA	**Warramunga Arr**	**19.21**	**177**	P		P	10 58 47.5	-0.5
	0.3nm,0.3s,baz=355,slow=11,SNR=18							
WRA				S		Sn	11 02 16.1	-8.9
	0.1nm,0.3s,baz=0.1,slow=23,SNR=4.7							
ASAR	**Alice Springs**	**22.90**	**179**	P		P	10 59 28.1	+0.3
	1.7nm,0.3s,baz=359,slow=11,SNR=58							
STKA	**Stephens Creek**	**32.04**	**167**	P		P	11 00 50.4	-0.4
	1.2nm,0.5s,baz=344,slow=9.1,SNR=3.9							
MKAR	**Makanchi Array**	**64.90**	**324**	P		P	11 05 03.5	0.0
	0.6nm,0.5s,baz=108,slow=8.4,SNR=8.1							

*BJI **05** 10:59:28.6, 23.68N×108.94W, h20km, mB5.7/19, mb5.4/13, Ms5.4/20, Ms7 5.1/19*
*MOS **05** 10:59:28.4±1.3, 23.81N×108.77W, h10km, mb5.7/43, MS5.3/23, Error ellipse: s-maj=7.1km s-min=3.9km az=92.5*
*NEIC **05** 10:59:30.5±0.2, 23.81N×108.76W, h10km, mb5.7/126, MS5.2/133, MW5.5, Error ellipse: s-maj=4.7km s-min=2.8km az=221.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; Mrr0.65; Mθθ-2.20; Mφφ1.55; Mrθ0.08; Mrφ-0.87; Mθφ-0.29; Best double couple: M=2.20000×10^{17} NP1:φ=213.00000°, δ79.00000°, λ10.00000°. NP2:φ122.00000°, δ80.00000°, λ169.00000°. Principal axes: T 1.8200, Plg14.0000°, Azm77.0000°; N 0.5700, Plg75.0000°, Azm259.0000°; P -2.3900, Plg0.0000°, Azm167.0000°;*
NEIC Felt [II] at Cabo San Lucas, La Paz and Los Cabos, Mexico.
*MEX **05** 10:59:30.6±0.6, 23.82N×108.94W, h19km±44km, MD5.5*
*ISCJB **05** 10:59:30.6±0.2, 23.89N±0.02×108.71W±0.02, h20km, mb5.5/197, MS5.2/178, Error ellipse: s-maj=2.9km s-min=2.0km az=136.0*
*IDC **05** 10:59:31.7±0.4, 23.89N×108.82W, h19km±2km, mb4.7/23, mb1 4.8/27, mb1mx4.8/30, mbtmp4.7/27, ML3.8/4, MS5.0/27, Ms1 5.0/27, ms1mx5.0/30, Error ellipse: s-maj=16.0km s-min=8.2km az=60.0*
*SZGRF **05** 10:59:36.6, 26.04N×112.59W, h33km, mb5.5, MS5.4, Baja California, Mexico*

ISC 05 10:59:31.6±0.3, 23.90N±0.04×108.82W±0.04, h19km±1km, h19km:pP-P, n1089, σ1.940/1789, mb5.6/197, MS5.2/179, 404C-422D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LPIG	**La Paz**	**1.37**	**279**	*i* P		Pn	10 59 51.0	-4.7
LPIG				*e*S		Sn	11 00 05.2	-8.2
LPIG	**La Paz**	**1.37**	**279**	*i* P		Pn	10 59 51.0	-4.7
LPIG				*e*S		Sn	11 00 05.2	-8.2
MAIG	**Mazatlaan**	**2.31**	**107**	*i* P		**Pn**	**11 00 05.8**	**-2.9**
MAIG				*e*S		**Sn**	**11 00 34.3**	**-2.2**
MAIG	**Mazatlaan**	**2.31**	**107**	*i* P		**Pn**	**11 00 05.8**	**-2.9**
MAIG				*e*S		**Sn**	**11 00 34.3**	**-2.2**
SRIG	**Santa Rosalia**	**4.59**	**319**	*i* P		Pn	11 00 35.7	-4.3
SRIG				*e*S		**Sn**	**11 01 29.2**	**-3.7**
SRIG	**Santa Rosalia**	**4.59**	**319**	*i* P		Pn	11 00 35.7	-4.3
SRIG				*e*S		**Sn**	**11 01 29.2**	**-3.7**
ANIG	**Ahuacatlan**	**4.88**	**125**	*i* P		**Pn**	**11 00 41.5**	**-2.6**
ANIG				*e*S		**Sn**	**11 01 39.6**	**-0.7**
ANIG	**Ahuacatlan**	**4.88**	**125**	*i* P		**Pn**	**11 00 41.5**	**-2.6**
ANIG				*e*S		**Sn**	**11 01 39.6**	**-0.7**
HSIG		**5.44**	**340**	*i* P		**Pn**	**11 00 50.3**	**-1.4**
HSIG				*e*S		**Sn**	**11 01 50.1**	**-3.7**
HSIG		**5.44**	**340**	*i* P		**Pn**	**11 00 50.3**	**-1.4**
HSIG				*e*S		**Sn**	**11 01 50.1**	**-3.7**
626A	**Big Bend Ranch**	**7.02**	**36**	P		**Pn**	**11 01 11.9**	**-1.5**
	baz=7.1,SNR=40							
626A				P		**Pn**	**11 01 11.9**	**-1.5**
	baz=7.1,SNR=40							
626A				P		**Pn**	**11 01 11.9**	**-1.5**
	baz=7.1,SNR=40							
TXAR	**Lajitas Array**	**7.11**	**39**	Pn		**Pn**	**11 01 12.3**	**-2.4**
	3.1nm,0.3s,baz=208,slow=14,SNR=158							
TXAR				Sn		**Sn**	**11 02 32.9**	**-2.1**
	4.7nm,0.3s,baz=204,slow=27,SNR=3.7							
TXAR				Lg		Lg	11 03 11.5	
	7.3nm,0.3s,baz=220,slow=31,SNR=4.1							
TXAR				LR		LR	11 04 17.6	
	comp=Z,11μm,19.7s,baz=275,slow=40							
TXAR	**Lajitas Array**	**7.11**	**39**	P		**Pn**	**11 01 12.3**	**-2.4**
TXAR							11 02 32.9	
TXAR	**Lajitas Array**	**7.11**	**39**	Pn		**Pn**	**11 01 12.3**	**-2.4**
TXAR				Sn		**Sn**	**11 02 32.9**	**-2.1**
TXAR				Lg		Lg	11 03 11.5	
627A	**Terlingua Ranc**	**7.36**	**40**	P		**Pn**	**11 01 16.0**	**-2.1**
	baz=7.4,SNR=14							
627A				P		**Pn**	**11 01 16.0**	**-2.1**
	baz=7.4,SNR=14							
627A				P		**Pn**	**11 01 16.0**	**-2.1**
	baz=7.4,SNR=14							
320A	**Kipp Ranch, An**	**7.41**	**2**	P		**Pn**	**11 01 17.8**	**-1.1**
	baz=7.5,SNR=110							
320A				P		**Pn**	**11 01 17.8**	**-1.1**
	baz=7.5,SNR=110							
320A				P		**Pn**	**11 01 17.8**	**-1.1**
	baz=7.5,SNR=110							
526A	**Mary Lane Ranc**	**7.45**	**34**	⇓P		**Pn**	**11 01 17.9**	**-1.4**
	baz=7.5,SNR=37							
526A				⇓P		**Pn**	**11 01 17.9**	**-1.4**
	baz=7.5,SNR=37							
319A	**Douglas**	**7.46**	**357**	P		**Pn**	**11 01 18.4**	**-1.1**
	baz=7.6,SNR=40							
319A				P		**Pn**	**11 01 18.4**	**-1.1**
	baz=7.6,SNR=40							
319A				P		**Pn**	**11 01 18.4**	**-1.1**
	baz=7.6,SNR=40							
318A	**Bisbee**	**7.58**	**352**	⇓P		**Pn**	**11 01 20.4**	**-0.8**
	baz=7.7,SNR=85							
318A				⇓P		**Pn**	**11 01 20.4**	**-0.8**
	baz=7.7,SNR=85							
318A				⇓P		**Pn**	**11 01 20.4**	**-0.8**
	baz=7.7,SNR=85							
425A	**Indio Mountain**	**7.66**	**26**	⇓P		**Pn**	**11 01 21.0**	**-1.2**
	baz=7.7,SNR=90							
425A				⇓P		**Pn**	**11 01 21.0**	**-1.2**
	baz=7.7,SNR=90							
425A				⇓P		**Pn**	**11 01 21.0**	**-1.2**
	baz=7.7,SNR=90							
628A	**Black Gap, Mar**	**7.69**	**42**	P		**Pn**	**11 01 20.5**	**-2.1**
	baz=7.7,SNR=41							
628A				P		**Pn**	**11 01 20.5**	**-2.1**
	baz=7.7,SNR=41							
628A				P		**Pn**	**11 01 20.5**	**-2.1**
	baz=7.7,SNR=41							
527A	**Woodward Ranch**	**7.76**	**36**	⇓P		**Pn**	**11 01 21.7**	**-2.0**
	baz=7.8							
527A				⇓P		**Pn**	**11 01 21.7**	**-2.0**
	baz=7.8							
527A				⇓P		**Pn**	**11 01 21.7**	**-2.0**
	baz=7.8							
426A	**McDonald Obser**	**7.97**	**31**	⇑P		**Pn**	**11 01 25.5**	**-1.2**
	baz=8.0,SNR=40							
426A				⇑P		**Pn**	**11 01 25.5**	**-1.2**
	baz=8.0,SNR=40							
426A				⇑P		**Pn**	**11 01 25.5**	**-1.2**
	baz=8.0,SNR=40							
220A	**Playas Peak, P**	**7.98**	**2**	⇓P		**Pn**	**11 01 26.0**	**-0.6**
	baz=8.1,SNR=58							
220A				⇓P		**Pn**	**11 01 26.0**	**-0.6**
	baz=8.1,SNR=58							
220A				⇓P		**Pn**	**11 01 26.0**	**-0.6**
	baz=8.1,SNR=58							
324A	**Moseley Ranch,**	**8.07**	**21**	⇓P		**Pn**	**11 01 26.5**	**-1.4**
	baz=8.2,SNR=68							
324A				⇓P		**Pn**	**11 01 26.5**	**-1.4**
	baz=8.2,SNR=68							
324A				⇓P		**Pn**	**11 01 26.5**	**-1.4**
	baz=8.2,SNR=68							
218A	**Dragoon**	**8.11**	**353**	⇓P		**Pn**	**11 01 28.9**	**+0.3**
	baz=8.2,SNR=22							
218A				⇓P		**Pn**	**11 01 28.9**	**+0.3**
	baz=8.2,SNR=22							
218A				⇓P		**Pn**	**11 01 28.9**	**+0.3**
	baz=8.2,SNR=22							
221A	**Mesquite Ranch**	**8.13**	**6**	P		**Pn**	**11 01 28.1**	**-0.6**
	baz=8.2,SNR=24							
221A				P		**Pn**	**11 01 28.1**	**-0.6**
	baz=8.2,SNR=24							
221A				P		**Pn**	**11 01 28.1**	**-0.6**
	baz=8.2,SNR=24							
325A	**Bean Ranch, Si**	**8.19**	**24**	P		**Pn**	**11 01 28.6**	**-1.0**
	baz=8.3,SNR=20							
325A				P		**Pn**	**11 01 28.6**	**-1.0**
	baz=8.3,SNR=20							
325A				P		**Pn**	**11 01 28.6**	**-1.0**
	baz=8.3,SNR=20							
528A	**Cox Ranch, San**	**8.23**	**39**	⇓P		**Pn**	**11 01 29.1**	**-1.0**
	baz=8.3							
528A				⇓P		**Pn**	**11 01 29.1**	**-1.0**
	baz=8.3							
528A				⇓P		**Pn**	**11 01 29.1**	**-1.0**
	baz=8.3							
222A	**Williams Famil**	**8.31**	**10**	⇑P		**Pn**	**11 01 30.4**	**-0.8**
	baz=8.4							
222A				⇑P		**Pn**	**11 01 30.4**	**-0.8**
	baz=8.4							
222A				⇑P		**Pn**	**11 01 30.4**	**-0.8**
	baz=8.4							
MNTX	**Cornudas Mount**	**8.34**	**21**	*e*Pn		**Pn**	**11 01 30.3**	**-1.2**
	244nm,1.3s							
MNTX	**Cornudas Mount**	**8.34**	**21**	P		**Pn**	**11 01 30.3**	**-1.2**
	baz=8.4,SNR=148							
MNTX				P		**Pn**	**11 01 30.3**	**-1.2**
	baz=8.4,SNR=148							
MNTX				P		**Pn**	**11 01 30.3**	**-1.2**
	baz=8.4,SNR=148							
MNTX				P		**Pn**	**11 01 30.3**	**-1.2**
	baz=8.4,SNR=148							
MNTX				P		**Pn**	**11 01 30.3**	**-1.2**
	baz=8.4,SNR=148							
223A	**Chaparral, Ant**	**8.35**	**14**	⇑P		**Pn**	**11 01 30.8**	**-0.9**
	baz=8.5,SNR=6.3							
223A				⇑P		**Pn**	**11 01 30.8**	**-0.9**
	baz=8.5,SNR=6.3							
223A				⇑P		**Pn**	**11 01 30.8**	**-0.9**
	baz=8.5,SNR=6.3							
427A	**Hayter Ranch,**	**8.43**	**34**	⇓P		**Pn**	**11 01 31.3**	**-1.5**
	baz=8.5,SNR=31							
427A				⇓P		**Pn**	**11 01 31.3**	**-1.5**
	baz=8.5,SNR=31							
427A				⇓P		**Pn**	**11 01 31.3**	**-1.5**
	baz=8.5,SNR=31							
427A				⇓S		**Sn**	**11 03 09.5**	**+1.9**
	baz=8.5							
427A				⇓S		**Sn**	**11 03 09.5**	**+1.9**
	baz=8.5							
427A				⇓S		**Sn**	**11 03 09.5**	**+1.9**
	baz=8.5							
326A	**Caldwell Ranch**	**8.54**	**29**	P		**Pn**	**11 01 33.5**	**-0.9**
	baz=8.6,SNR=24							
326A				P		**Pn**	**11 01 33.5**	**-0.9**
	baz=8.6,SNR=24							
326A				P		**Pn**	**11 01 33.5**	**-0.9**
	baz=8.6,SNR=24							
326A				⇑S		**Sn**	**11 03 11.9**	**+1.6**
	baz=8.6							
326A				⇑S		**Sn**	**11 03 11.9**	**+1.6**
	baz=8.6							
326A				⇑S		**Sn**	**11 03 11.9**	**+1.6**
	baz=8.6							
120A	**U Bar Ranch, L**	**8.61**	**1**	⇑P		**Pn**	**11 01 35.2**	**-0.2**
	baz=8.7,SNR=50							
120A				⇑P		**Pn**	**11 01 35.2**	**-0.2**
	baz=8.7,SNR=50							
120A				⇑P		**Pn**	**11 01 35.2**	**-0.2**
	baz=8.7,SNR=50							
121A	**Cookes Peak, D**	**8.65**	**6**	⇑P		**Pn**	**11 01 36.1**	**+0.3**
	baz=8.8,SNR=36							
121A				⇑P		**Pn**	**11 01 36.1**	**+0.3**
	baz=8.8,SNR=36							
121A				⇑P		**Pn**	**11 01 36.1**	**+0.3**
	baz=8.8,SNR=36							
224A	**Cornudas Mount**	**8.65**	**19**	P		**Pn**	**11 01 34.8**	**-1.1**
	baz=8.7,SNR=68							
224A				P		**Pn**	**11 01 34.8**	**-1.1**
	baz=8.7,SNR=68							
224A				P		**Pn**	**11 01 34.8**	**-1.1**
	baz=8.7,SNR=68							
428A	**Kincaid Ranch,**	**8.72**	**37**	P		**Pn**	**11 01 36.0**	**-0.8**
	baz=8.8,SNR=27							
428A				P		**Pn**	**11 01 36.0**	**-0.8**
	baz=8.8,SNR=27							
428A				P		**Pn**	**11 01 36.0**	**-0.8**
	baz=8.8,SNR=27							
214A	**Organ Pipe Nat**	**8.76**	**337**	⇑P		**Pn**	**11 01 37.9**	**+0.5**
	baz=8.9,SNR=17							
214A				⇑P		**Pn**	**11 01 37.9**	**+0.5**
	baz=8.9,SNR=17							
214A				⇑P		**Pn**	**11 01 37.9**	**+0.5**
	baz=8.9,SNR=17							
327A	**Balmorhea Ranc**	**8.81**	**31**	⇑P		**Pn**	**11 01 38.5**	**+0.5**
	baz=8.9,SNR=13							
327A				⇑P		**Pn**	**11 01 38.5**	**+0.5**
	baz=8.9,SNR=13							
327A				⇑P		**Pn**	**11 01 38.5**	**+0.5**
	baz=8.9,SNR=13							
119A	**Ashpeak Ranch,**	**8.84**	**357**	⇓P		**Pn**	**11 01 38.8**	**+0.3**
	baz=9.0,SNR=30							
119A				⇓P		**Pn**	**11 01 38.8**	**+0.3**
	baz=9.0,SNR=30							
119A				⇓P		**Pn**	**11 01 38.8**	**+0.3**
	baz=9.0,SNR=30							
225A	**Deer Hill, Car**	**8.91**	**22**	P		**Pn**	**11 01 38.9**	**-0.5**
	baz=9.0,SNR=106							
225A				P		**Pn**	**11 01 38.9**	**-0.5**
	baz=9.0,SNR=106							
122A	**Conniff Cattle**	**8.91**	**10**	P		**Pn**	**11 01 39.3**	**-0.2**
	baz=9.0,SNR=24							
122A				P		**Pn**	**11 01 39.3**	**-0.2**
	baz=9.0,SNR=24							
122A				P		**Pn**	**11 01 39.3**	**-0.2**
	baz=9.0,SNR=24							
123A	**Bell Site, Whi**	**8.99**	**14**	⇓P		**Pn**	**11 01 40.3**	**-0.2**
	baz=9.1							
123A				⇓P		**Pn**	**11 01 40.3**	**-0.2**
	baz=9.1							
123A				⇓P		**Pn**	**11 01 40.3**	**-0.2**
	baz=9.1							
GDL2	**Guadalupe Moun**	**9.15**	**24**	*e*Pn		**Pn**	**11 01 42.4**	**-0.5**
328A	**Wristen Ranch,**	**9.16**	**34**	⇑P		**Pn**	**11 01 42.7**	**-0.1**
	baz=9.2,SNR=12							
328A				⇑P		**Pn**	**11 01 42.7**	**-0.1**
	baz=9.2,SNR=12							
328A				⇑P		**Pn**	**11 01 42.7**	**-0.1**
	baz=9.2,SNR=12							
Z20A	**Nine Sixteen R**	**9.18**	**1**	⇑P		**Pn**	**11 01 43.2**	**0.0**
	baz=9.3,SNR=53							
Z20A				⇑P		**Pn**	**11 01 43.2**	**0.0**
	baz=9.3,SNR=53							
Z20A				⇑P		**Pn**	**11 01 43.2**	**0.0**
	baz=9.3,SNR=53							
Z18A	**Geronimo**	**9.21**	**354**	P		**Pn**	**11 01 44.2**	**+0.7**
	baz=9.3,SNR=21							
Z18A				P		**Pn**	**11 01 44.2**	**+0.7**
	baz=9.3,SNR=21							
Z18A				P		**Pn**	**11 01 44.2**	**+0.7**
	baz=9.3,SNR=21							
Z19A	**T-Link Ranch,**	**9.36**	**358**	⇑P		**Pn**	**11 01 46.6**	**+0.9**
	baz=9.5							
Z19A				⇑P		**Pn**	**11 01 46.6**	**+0.9**
	baz=9.5							
Z19A				⇑P		**Pn**	**11 01 46.6**	**+0.9**
	baz=9.5							
CLNB	**Carlsbad**	**9.40**	**27**	*e*Pn		**Pn**	**11 01 47.6**	**+1.4**
	18nm,0.2s							
Z21A	**St. Cloud Mine**	**9.43**	**6**	⇓P		**Pn**	**11 01 46.7**	**+0.1**
	baz=9.5,SNR=100							
Z21A				⇓P		**Pn**	**11 01 46.7**	**+0.1**
	baz=9.5,SNR=100							
Z21A				⇓P		**Pn**	**11 01 46.7**	**+0.1**
	baz=9.5,SNR=100							
227A	**Bennet, Jal**	**9.44**	**30**	⇓P		**Pn**	**11 01 46.7**	**0.0**
	baz=9.5,SNR=8.7							
227A				⇓P		**Pn**	**11 01 46.7**	**0.0**
	baz=9.5,SNR=8.7							
227A				⇓P		**Pn**	**11 01 46.7**	**0.0**
	baz=9.5,SNR=8.7							
Z22A	**Elephant Butte**	**9.46**	**10**	⇑P		**Pn**	**11 01 46.9**	**-0.2**
	baz=9.6,SNR=35							
Z22A				⇑P		**Pn**	**11 01 46.9**	**-0.2**
	baz=9.6,SNR=35							
Z22A				⇑P		**Pn**	**11 01 46.9**	**-0.2**
	baz=9.6,SNR=35							
Z17A	**San Carlos Hig**	**9.47**	**352**	⇓P		**Pn**	**11 01 48.3**	**+1.2**
	baz=9.6,SNR=25							
Z17A				⇓P		**Pn**	**11 01 48.3**	**+1.2**
	baz=9.6,SNR=25							
Z17A				⇓P		**Pn**	**11 01 48.3**	**+1.2**
	baz=9.6,SNR=25							
114A	**Black Gap (USA**	**9.51**	**339**	⇑P		**Pn**	**11 01 48.5**	**+0.9**
	baz=9.7,SNR=22							
114A				⇑P		**Pn**	**11 01 48.5**	**+0.9**
	baz=9.7,SNR=22							
114A				⇑P		**Pn**	**11 01 48.5**	**+0.9**
	baz=9.7,SNR=22							
Z23A	**Rita Site, Whi**	**9.60**	**13**	P		**Pn**	**11 01 48.9**	**0.0**
	baz=9.7,SNR=27							
Z23A				P		**Pn**	**11 01 48.9**	**0.0**
	baz=9.7,SNR=27							
Z23A				P		**Pn**	**11 01 48.9**	**0.0**
	baz=9.7,SNR=27							
126A	**Clayton Basin,**	**9.68**	**25**	⇑P		**Pn**	**11 01 50.8**	**+0.7**
	baz=9.8,SNR=11							
126A				⇑P		**Pn**	**11 01 50.8**	**+0.7**
	baz=9.8,SNR=11							
126A				⇑P		**Pn**	**11 01 50.8**	**+0.7**
	baz=9.8,SNR=11							
113A	**Mohawk Valley,**	**9.85**	**335**	⇑P		**Pn**	**11 01 54.0**	**+1.9**
	baz=10.0,SNR=49							
113A				⇑P		**Pn**	**11 01 54.0**	**+1.9**
	baz=10.0,SNR=49							
113A				⇑P		**Pn**	**11 01 54.0**	**+1.9**
	baz=10.0,SNR=49							
Z24A	**Sheeppen Canyo**	**9.87**	**17**	⇓P		**Pn**	**11 01 52.7**	**+0.1**
	baz=10.0,SNR=44							
Z24A				⇓P		**Pn**	**11 01 52.7**	**+0.1**
	baz=10.0,SNR=44							
Z24A				⇓P		**Pn**	**11 01 52.7**	**+0.1**
	baz=10.0,SNR=44							
Y18A	**Canyon Day Jun**	**9.90**	**354**	P		**Pn**	**11 01 53.5**	**+0.5**
	baz=10.0,SNR=47							
Y18A				P		**Pn**	**11 01 53.5**	**+0.5**
	baz=10.0,SNR=47							
Y18A				P		**Pn**	**11 01 53.5**	**+0.5**
	baz=10.0,SNR=47							
Y17A	**Roosevelt**	**9.92**	**350**	P		**Pn**	**11 01 54.5**	**+1.2**
	baz=10,SNR=41							
Y17A				P		**Pn**	**11 01 54.5**	**+1.2**
	baz=10,SNR=41							
Y17A				P		**Pn**	**11 01 54.5**	**+1.2**
	baz=10,SNR=41							
127A	**Arkansas Junct**	**9.98**	**28**	⇓P		**Pn**	**11 01 53.9**	**-0.1**
	baz=10,SNR=12							
127A				⇓P		**Pn**	**11 01 53.9**	**-0.1**
	baz=10,SNR=12							
127A				⇓P		**Pn**	**11 01 53.9**	**-0.1**
	baz=10,SNR=12							
Y20A	**Horse Springs,**	**9.98**	**2**	⇓P		**Pn**	**11 01 55.5**	**+1.3**
	baz=10,SNR=46							
Y20A				⇓P		**Pn**	**11 01 55.5**	**+1.3**
	baz=10,SNR=46							
Y20A				⇓P		**Pn**	**11 01 55.5**	**+1.3**
	baz=10,SNR=46							
Z25A	**Roswell**	**10.01**	**20**	⇓P		**Pn**	**11 01 55.1**	**+0.5**
	baz=10,SNR=82							
Z25A				⇓P		**Pn**	**11 01 55.1**	**+0.5**
	baz=10,

Y23A	baz=10,SNR=62			⇓P		Pn	11 01 59.0	+0.7
LENM	baz=10,SNR=62 **Lemitar**	10.35	9	*e*Pn		Pn	11 02 01.5	+2.2
JCT	**Junction City**	10.36	49	*e*P		Pn	11 01 59.7	+0.5
JCT	**Junction City**	10.36	49	*e*Pn		Pn	11 01 59.7	+0.5
JCT	**Junction City**	10.36	49	⇑P		Pn	11 01 59.0	-0.2
JCT	baz=10,SNR=35			⇑P		Pn	11 01 59.0	-0.2
JCT	baz=10,SNR=35			⇑P		Pn	11 01 59.0	-0.2
BNM	baz=10,SNR=35 **Barren Site** 2µm,1.1s	10.39	10	*e*Pn		Pn	11 02 01.5	+1.7
Y24A	**Capitan** baz=10,SNR=24	10.42	16	P		Pn	11 02 00.8	+0.6
Y24A	baz=10,SNR=24			P		Pn	11 02 00.8	+0.6
Y24A	baz=10,SNR=24			P		Pn	11 02 00.8	+0.6
X19A	**St. Johns** baz=11,SNR=32	10.50	358	⇓P		Pn	11 02 03.0	+1.7
X19A	baz=11,SNR=32			⇓P		Pn	11 02 03.0	+1.7
X19A	baz=11,SNR=32			⇓P		Pn	11 02 03.0	+1.7
GLA	**Glamis**	10.53	331	*e*P		Pn	11 02 04.3	+2.7
GLA	**Glamis**	10.53	331	*e*Pn		Pn	11 02 04.3	+2.7
GLA	**Glamis** baz=11,SNR=11	10.53	331	⇑P		Pn	11 02 03.5	+1.9
GLA	baz=11,SNR=11			⇑P		Pn	11 02 03.5	+1.9
GLA	baz=11,SNR=11			⇑P		Pn	11 02 03.5	+1.9
LPM	**Los Pinos Moun**	10.55	10	*e*Pn		Pn	11 02 04.2	+2.2
LAZ	**Ladron** 4µm,1.2s	10.56	8	*e*Pn		Pn	11 02 04.5	+2.3
X20A	**Quemado** baz=11,SNR=34	10.61	1	⇓P		Pn	11 02 04.7	+1.9
X20A	baz=11,SNR=34			⇓P		Pn	11 02 04.7	+1.9
X20A	baz=11,SNR=34			⇓P		Pn	11 02 04.7	+1.9
Y25A	**Mesa, Roswell** baz=11,SNR=19	10.62	19	⇑P		Pn	11 02 03.6	+0.7
Y25A	baz=11,SNR=19			⇑P		Pn	11 02 03.6	+0.7
Y25A	baz=11,SNR=19			⇑P		Pn	11 02 03.6	+0.7
X18A	**Snowflake** baz=11,SNR=56	10.63	355	⇑P		Pn	11 02 04.2	+1.1
X18A	baz=11,SNR=56			⇑P		Pn	11 02 04.2	+1.1
X18A	baz=11,SNR=56			⇑P		Pn	11 02 04.2	+1.1
Y14A	**Wickenburg** baz=11,SNR=72	10.65	341	⇓P		Pn	11 02 05.5	+2.3
Y14A	baz=11,SNR=72			⇓P		Pn	11 02 05.5	+2.3
Y14A	baz=11,SNR=72			⇓P		Pn	11 02 05.5	+2.3
X22A	**Bernardo** baz=11,SNR=23	10.68	8	⇑P		Pn	11 02 05.1	+1.3
X22A	baz=11,SNR=23			⇑P		Pn	11 02 05.1	+1.3
X22A	baz=11,SNR=23			⇑P		Pn	11 02 05.1	+1.3
X16A	**Lo Mia Camp, P** baz=11,SNR=59	10.72	348	⇓P		Pn	11 02 06.1	+1.7
X16A	baz=11,SNR=59			⇓P		Pn	11 02 06.1	+1.7
X16A	baz=11,SNR=59			⇓P		Pn	11 02 06.1	+1.7
DVTC	**Desert V Tower** baz=11,SNR=17	10.82	325	⇓P		Pn	11 02 07.4	+1.8
DVTC	baz=11,SNR=17			⇓P		Pn	11 02 07.4	+1.8
DVTC	baz=11,SNR=17			⇓P		Pn	11 02 07.4	+1.8
X23A	**Hourglass Bar** baz=11	10.89	12	⇓P		Pn	11 02 07.9	+1.3
X23A	baz=11			⇓P		Pn	11 02 07.9	+1.3
X23A	baz=11			⇓P		Pn	11 02 07.9	+1.3
SWSC	**Sam W. Stewart** baz=11,SNR=9.5	10.89	327	⇓P		Pn	11 02 08.5	+2.0
SWSC	baz=11,SNR=9.5			⇓P		Pn	11 02 08.5	+2.0
SWSC	baz=11,SNR=9.5			⇓P		Pn	11 02 08.5	+2.0
Y12C	**Blythe** baz=11,SNR=152	11.01	334	⇑P		Pn	11 02 10.2	+2.1
Y12C	baz=11,SNR=152			⇑P		Pn	11 02 10.2	+2.1
Y12C	baz=11,SNR=152			⇑P		Pn	11 02 10.2	+2.1
X24A	**Lazy VL Ranch,** baz=11	11.03	15	⇑P		Pn	11 02 09.3	+0.8
X24A	baz=11			⇑P		Pn	11 02 09.3	+0.8
X24A	baz=11			⇑P		Pn	11 02 09.3	+0.8
Y27A	**Causey** baz=11,SNR=21	11.11	25	⇓P		Pn	11 02 10.4	+0.8
Y27A	baz=11,SNR=21			⇓P		Pn	11 02 10.4	+0.8
Y27A	baz=11,SNR=21			⇓P		Pn	11 02 10.4	+0.8
BAR	**Barrett**	11.14	323	*e*Pn		Pn	11 02 12.1	+2.1
MONP	**Monument Peak** baz=11,SNR=14	11.17	325	P		Pn	11 02 12.6	+2.1
MONP	baz=11,SNR=14			P		Pn	11 02 12.6	+2.1
MONP	baz=11,SNR=14			P		Pn	11 02 12.6	+2.1
W19A	**Sanders** baz=11,SNR=24	11.18	358	⇑P		Pn	11 02 12.7	+2.0
W19A	baz=11,SNR=24			⇑P		Pn	11 02 12.7	+2.0
W19A	baz=11,SNR=24			⇑P		Pn	11 02 12.7	+2.0
W20A	**Ramah** baz=11,SNR=16	11.19	1	⇑P		Pn	11 02 12.8	+2.0
W20A	baz=11,SNR=16			⇑P		Pn	11 02 12.8	+2.0
W20A	baz=11,SNR=16			⇑P		Pn	11 02 12.8	+2.0
X25A	**Clemmons Ranch** baz=11	11.19	18	⇓P		Pn	11 02 12.1	+1.3
X25A	baz=11			⇓P		Pn	11 02 12.1	+1.3
X25A	baz=11			⇓P		Pn	11 02 12.1	+1.3
ANMO	**Albuquerque** 0.1nm,0.3s,baz=194,slow=13,SNR=31	11.20	10	Pn		Pn	11 02 12.9	+2.1
ANMO	0.1nm,0.3s,baz=342,slow=4.2,SNR=4.0			Lg LR		Lg LR	11 05 27.9 11 06 43.0	
ANMO	comp=Z,11µm,20.2s,baz=195,slow=38 **Albuquerque**	11.20	10	*e*P		Pn	11 02 13.0	+2.1
ANMO	comp=Z,3.0nm,0.8s			pmax		pmax		
ANMO	**Albuquerque** comp=Z,3.5nm,0.8s	11.20	10	*e*P		Pn	11 02 13.0	+2.1
ANMO				Lg		Lg	11 05 27.9	
W18A	**Petrified Fore** baz=11,SNR=57	11.21	356	⇓P		Pn	11 02 13.0	+2.1
W18A	baz=11,SNR=57			⇓P		Pn	11 02 13.0	+2.1
W18A	baz=11,SNR=57			⇓P		Pn	11 02 13.0	+2.1
W21A	**San Fidel** baz=11,SNR=14	11.22	5	⇑P		Pn	11 02 12.5	+1.3
W21A	baz=11,SNR=14			⇑P		Pn	11 02 12.5	+1.3
W21A	baz=11,SNR=14			⇑P		Pn	11 02 12.5	+1.3
W17A	**Winslow** baz=11,SNR=11	11.26	352	⇑P		Pn	11 02 13.1	+1.4
W17A	baz=11,SNR=11			⇑P		Pn	11 02 13.1	+1.4
W17A	baz=11,SNR=11			⇑P		Pn	11 02 13.1	+1.4
W22A	**Albuquerque** baz=11,SNR=11	11.26	8	⇑P		Pn	11 02 13.1	+1.4
W22A	baz=11,SNR=11			⇑P		Pn	11 02 13.1	+1.4
BC3	**Big Chuckawall** baz=12,SNR=30	11.32	331	P		Pn	11 02 14.8	+2.3
BC3	baz=12,SNR=30			P		Pn	11 02 14.8	+2.3
BC3	baz=12,SNR=30			P		Pn	11 02 14.8	+2.3
MSTX	**Muleshoe** baz=11,SNR=39	11.34	26	P		Pn	11 02 13.7	+0.9
MSTX	baz=11,SNR=39			P		Pn	11 02 13.7	+0.9
MSTX	baz=11,SNR=39			P		Pn	11 02 13.7	+0.9
PDMCI	**Parker Dam,Lak** baz=12,SNR=46	11.35	337	⇑P		Pn	11 02 14.8	+2.0
PDMCI	baz=12,SNR=46			⇑P		Pn	11 02 14.8	+2.0
PDMCI	baz=12,SNR=46			⇑P		Pn	11 02 14.8	+2.0
W23A	**Werner Place,** baz=12,SNR=18	11.46	11	⇑P		Pn	11 02 16.3	+1.9
W23A	baz=12,SNR=18			⇑P		Pn	11 02 16.3	+1.9
W23A	baz=12,SNR=18			⇑P		Pn	11 02 16.3	+1.9
X26A	**CR and CF Fran** baz=12,SNR=23	11.47	21	P		Pn	11 02 15.9	+1.3
X26A	baz=12,SNR=23			P		Pn	11 02 15.9	+1.3
X26A	baz=12,SNR=23			P		Pn	11 02 15.9	+1.3
109C	**Camp Elliot, M** baz=12	11.54	323	⇑P		Pn	11 02 16.3	+1.0
109C	baz=12			⇑P		Pn	11 02 16.3	+1.0
109C	baz=12			⇑P		Pn	11 02 16.3	+1.0
IRM	**Iron Mountain** baz=12,SNR=192	11.62	333	⇑P		Pn	11 02 19.0	+2.5
IRM	baz=12,SNR=192			⇑P		Pn	11 02 19.0	+2.5
IRM	baz=12,SNR=192			⇑P		Pn	11 02 19.0	+2.5
W24A	**Lazy 6 Ranch,** baz=12,SNR=34	11.65	14	⇓P		Pn	11 02 18.2	+1.1
W24A	baz=12,SNR=34			⇓P		Pn	11 02 18.2	+1.1
W24A	baz=12,SNR=34			⇓P		Pn	11 02 18.2	+1.1
PFO	**Pinyon Flat Ob**	11.76	327	*e*P		Pn	11 02 20.4	+1.9
PFO	comp=Z,248nm,1.7s			pmax		pmax		
PFO	**Pinyon Flat Ob** comp=Z,248nm,1.7s	11.76	327	*e*Pn		Pn	11 02 20.4	+1.9
PFO	**Pinyon Flat Ob** comp=Z,286nm,1.6s,SNR=16	11.76	327	Pn		Pn	11 02 20.0	+1.5
PFO	**Pinyon Flat Ob** baz=12,SNR=17	11.76	327	⇑P		Pn	11 02 20.6	+2.2
PFO	baz=12,SNR=17			⇑P		Pn	11 02 20.6	+2.2
PFO	baz=12,SNR=17			⇑P		Pn	11 02 20.6	+2.2
WUAZ	**Wupatki**	11.79	350	*e*Pn		Pn	11 02 21.9	+3.0
WUAZ	**Wupatki** baz=12,SNR=61	11.79	350	⇓P		Pn	11 02 21.6	+2.7
WUAZ	baz=12,SNR=61			⇓P		Pn	11 02 21.6	+2.7
WUAZ	baz=12,SNR=61			⇓P		Pn	11 02 21.6	+2.7
V17A	**Tonalea, Kykot** baz=12,SNR=102	11.80	352	⇑P		Pn	11 02 21.5	+2.4
V17A	baz=12,SNR=102			⇑P		Pn	11 02 21.5	+2.4
V17A	baz=12,SNR=102			⇑P		Pn	11 02 21.5	+2.4
V18A	**Ganado** baz=12,SNR=30	11.81	356	⇑P		Pn	11 02 21.0	+1.8
V18A	baz=12,SNR=30			⇑P		Pn	11 02 21.0	+1.8
V18A	baz=12,SNR=30			⇑P		Pn	11 02 21.0	+1.8
X27A	**F and S Farms,** baz=12,SNR=17	11.81	24	P		Pn	11 02 20.1	+1.0
X27A	baz=12,SNR=17			P		Pn	11 02 20.1	+1.0
X27A	baz=12,SNR=17			P		Pn	11 02 20.1	+1.0
BELC	**Belle Mtn. Jos** baz=12	11.86	330	⇓P		Pn	11 02 22.2	+2.4
BELC	baz=12			⇓P		Pn	11 02 22.2	+2.4
BELC	baz=12			⇓P		Pn	11 02 22.2	+2.4
V20A	**Brimhall** baz=12,SNR=17	11.86	1	⇑P		Pn	11 02 22.0	+2.1
V20A	baz=12,SNR=17			⇑P		Pn	11 02 22.0	+2.1
V20A	baz=12,SNR=17			⇑P		Pn	11 02 22.0	+2.1
W25A	**X Bar L Ranch,** baz=12,SNR=22	11.90	18	⇑P		Pn	11 02 22.0	+1.6
W25A	baz=12,SNR=22			⇑P		Pn	11 02 22.0	+1.6
W25A	baz=12,SNR=22			⇑P		Pn	11 02 22.0	+1.6
V21A	**Milan** baz=12,SNR=27	11.91	5	⇓P		Pn	11 02 23.2	+2.6
V21A	baz=12,SNR=27			⇓P		Pn	11 02 23.2	+2.6
V21A	baz=12,SNR=27			⇓P		Pn	11 02 23.2	+2.6
NEE2	**Needles Airpor** baz=12	11.95	336	⇓P		Pn	11 02 23.8	+2.9
NEE2	baz=12			⇓P		Pn	11 02 23.8	+2.9
NEE2	baz=12			⇓P		Pn	11 02 23.8	+2.9
W26A	**Owens Ranch, T** baz=12,SNR=12	11.98	20	P		Pn	11 02 22.6	+1.0
W26A	baz=12,SNR=12			P		Pn	11 02 22.6	+1.0
W26A	baz=12,SNR=12			P		Pn	11 02 22.6	+1.0
W13A	**Hualapai Mount** baz=12,SNR=68	11.99	340	P		Pn	11 02 24.6	+2.8
W13A	baz=12,SNR=68			P		Pn	11 02 24.6	+2.8
W13A	baz=12,SNR=68			P		Pn	11 02 24.6	+2.8
V23A	**Ortiz Mt. (NFS** baz=12,SNR=19	12.02	10	⇑P		Pn	11 02 24.2	+2.1
V23A	baz=12,SNR=19			⇑P		Pn	11 02 24.2	+2.1
V23A	baz=12,SNR=19			⇑P		Pn	11 02 24.2	+2.1
V22A	**San Miguel Ran** baz=12	12.09	7	⇓P		Pn	11 02 25.9	+2.9
V22A	baz=12			⇓P		Pn	11 02 25.9	+2.9
V22A	baz=12			⇓P		Pn	11 02 25.9	+2.9
MURC	**Murrieta** baz=12	12.13	325	⇑P		Pn	11 02 25.3	+1.8
MURC	baz=12			⇑P		Pn	11 02 25.3	+1.8
MURC	baz=12			⇑P		Pn	11 02 25.3	+1.8
V24A	**Rampart Ranch,** baz=12,SNR=42	12.18	14	⇑P		Pn	11 02 25.5	+1.2
V24A	baz=12,SNR=42			⇑P		Pn	11 02 25.5	+1.2
V24A	baz=12,SNR=42			⇑P		Pn	11 02 25.5	+1.2
W27A	**Bowe Ranch, En** baz=12	12.20	23	⇑P		Pn	11 02 25.7	+1.2
W27A	baz=12			⇑P		Pn	11 02 25.7	+1.2
W27A	baz=12			⇑P		Pn	11 02 25.7	+1.2
U19A	**Dine' College,** baz=12,SNR=25	12.35	359	⇑P		Pn	11 02 28.4	+1.8
U19A	baz=12,SNR=25			⇑P		Pn	11 02 28.4	+1.8
U19A	baz=12,SNR=25			⇑P		Pn	11 02 28.4	+1.8
U16A	**Tuba City** baz=12,SNR=143	12.36	351	P		Pn	11 02 29.8	+3.1
U16A	baz=12,SNR=143			P		Pn	11 02 29.8	+3.1
U16A	baz=12,SNR=143			P		Pn	11 02 29.8	+3.1
LDFC	**Landfair**	12.40	335	*e*Pn		Pn	11 02 31.4	+4.1
U20A	**Newcomb** baz=13,SNR=15	12.44	1	⇓P		Pn	11 02 29.5	+1.8
U20A	baz=13,SNR=15			⇓P		Pn	11 02 29.5	+1.8
U20A	baz=13,SNR=15			⇓P		Pn	11 02 29.5	+1.8
SCI	**San Clemente I** baz=13	12.44	319	⇓P		Pn	11 02 29.3	+1.6
SCI	baz=13			⇓P		Pn	11 02 29.3	+1.6
SCI	baz=13			⇓P		Pn	11 02 29.3	+1.6
BBRC	**Big Bear Solar** baz=13,SNR=22	12.51	327	⇓P		Pn	11 02 31.4	+2.5
BBRC	baz=13,SNR=22			⇓P		Pn	11 02 31.4	+2.5
BBRC	baz=13,SNR=22			⇓P		Pn	11 02 31.4	+2.5
U21A	**Nageezi** baz=13,SNR=30	12.52	4	P		Pn	11 02 31.9	+2.9
U21A	baz=13,SNR=30			P		Pn	11 02 31.9	+2.9
U21A	baz=13,SNR=30			P		Pn	11 02 31.9	+2.9
U22A	**Llaves** baz=13,SNR=22	12.55	7	⇓P		Pn	11 02 31.3	+1.9
U22A	baz=13,SNR=22			⇓P		Pn	11 02 31.3	+1.9
U22A	baz=13,SNR=22			⇓P		Pn	11 02 31.3	+1.9
AMTX	**Amarillo**	12.58	28	*e*Pn		Pn	11 02 30.0	+0.3
AMTX	**Amarillo** baz=13,SNR=38	12.58	28	⇑P		Pn	11 02 29.9	+0.2
AMTX	baz=13,SNR=38			⇑P		Pn	11 02 29.9	+0.2
AMTX	baz=13,SNR=38			⇑P		Pn	11 02 29.9	+0.2
AMTX	baz=13,SNR=38			⇑P		Pn	11 02 29.9	+0.2
AMTX	baz=13,SNR=38			⇑P		Pn	11 02 29.9	+0.2
U23A	**El Rito** baz=13,SNR=20	12.59	10	⇑P		Pn	11 02 31.8	+1.8
U23A	baz=13,SNR=20			⇑P		Pn	11 02 31.8	+1.8
U23A	baz=13,SNR=20			⇑P		Pn	11 02 31.8	+1.8
CIS	**Catalina Islan** baz=13	12.66	321	⇓P		Pn	11 02 34.1	+3.5
CIS	baz=13			⇓P		Pn	11 02 34.1	+3.5
CIS	baz=13			⇓P		Pn	11 02 34.1	+3.5
HEC	**Hector,Ludlow** baz=13,SNR=17	12.70	331	⇓P		Pn	11 02 33.4	+2.1
HEC	baz=13,SNR=17			⇓P		Pn	11 02 33.4	+2.1
HEC	baz=13,SNR=17			⇓P		Pn	11 02 33.4	+2.1
U17A	**Shonto** baz=13,SNR=16	12.75	353	⇑P		Pn	11 02 34.0	+1.9
U17A	baz=13,SNR=16			⇑P		Pn	11 02 34.0	+1.9
U17A	baz=13,SNR=16			⇑P		Pn	11 02 34.0	+1.9
FMP	**Fort Macarthur** baz=13	12.82	322	⇑P		Pn	11 02 35.2	+2.4
FMP	baz=13			⇑P		Pn	11 02 35.2	+2.4
FMP	baz=13			⇑P		Pn	11 02 35.2	+2.4
U24A	**Moreno Valley** baz=13,SNR=31	12.84	13	⇓P		Pn	11 02 35.9	+2.6
U24A	baz=13,SNR=31			⇓P		Pn	11 02 35.9	+2.6
U24A	baz=13,SNR=31			⇓P		Pn	11 02 35.9	+2.6
U15A	**North Rim** baz=13,SNR=86	12.84	347	⇓P		Pn	11 02 36.0	+2.7
U15A	baz=13,SNR=86			⇓P		Pn	11 02 36.0	+2.7
U15A	baz=13,SNR=86			⇓P		Pn	11 02 36.0	+2.7
BFSC	**Mount Baldy Ra** baz=13	12.87	325	⇑P		Pn	11 02 35.5	+1.9
BFSC	baz=13			⇑P		Pn	11 02 35.5	+1.9
BFSC	baz=13			⇑P		Pn	11 02 35.5	+1.9
T19A	**Beclabito** baz=13	12.89	359	⇓P		Pn	11 02 35.5	+1.6
T19A	baz=13			⇓P		Pn	11 02 35.5	+1.6
T19A	baz=13			⇓P		Pn	11 02 35.5	+1.6
U25A	**Circle Dot Ran** baz=13,SNR=43	13.03	16	⇓P		Pn	11 02 36.9	+1.0
U25A	baz=13,SNR=43			⇓P		Pn	11 02 36.9	+1.0
U25A	baz=13,SNR=43			⇓P		Pn	11 02 36.9	+1.0
TUQ	**Turquoise Moun** baz=13,SNR=60	13.04	333	P		Pn	11 02 38.8	+2.8
TUQ	baz=13,SNR=60			P		Pn	11 02 38.8	+2.8
TUQ	baz=13,SNR=60			P		Pn	11 02 38.8	+2.8
RRX	**Edison Barstow** baz=13	13.05	329	⇑P		Pn	11 02 38.4	+2.4
RRX	baz=13			⇑P		Pn	11 02 38.4	+2.4
RRX	baz=13			⇑P		Pn	11 02 38.4	+2.4
HKT	**Hockley**	13.05	60	*e*P		Pn	11 02 34.1	-1.9
HKT	**Hockley**	13.05	60	*e*Pn		Pn	11 02 34.0	-1.9
MWC	**Mount Wilson**	13.07	324	*e*P		Pn	11 02 38.2	+1.8
MWC	**Mount Wilson**	13.07	324	*e*Pn		Pn	11 02 38.2	+1.8
T21A	**Navajo Lake** baz=13	13.09	5	⇓P		Pn	11 02 39.2	+2.4
T21A	baz=13			⇓P		Pn	11 02 39.2	+2.4
T21A	baz=13			⇓P		Pn	11 02 39.2	+2.4
PASC	**Pasadena Art C**	13.10	323	*e*Pn		Pn	11 02 38.6	+2.0
T17A	**Navajo Res., N** baz=13,SNR=58	13.16	353	⇑P		Pn	11 02 39.6	+1.9
T17A	baz=13,SNR=58			⇑P		Pn	11 02 39.6	+1.9
T17A	baz=13,SNR=58			⇑P		Pn	11 02 39.6	+1.9
T22A	**Edith** baz=13,SNR=24	13.17	7	⇑P		Pn	11 02 40.1	+2.2
T22A	baz=13,SNR=24			⇑P		Pn	11 02 40.1	+2.2
T22A	baz=13,SNR=24			⇑P		Pn	11 02 40.1	+2.2
U26A	**Atchley Ranch,** baz=13,SNR=20	13.20	18	⇓P		Pn	11 02 39.4	+1.2
U26A	baz=13,SNR=20			⇓P		Pn	11 02 39.4	+1.2
U26A	baz=13,SNR=20			⇓P		Pn	11 02 39.4	+1.2
T18A	**Mexican Hat** baz=13,SNR=40	13.22	356	P		Pn	11 02 40.0	+1.6
T18A	baz=13,SNR=40			P		Pn	11 02 40.0	+1.6
T18A	baz=13,SNR=40			P		Pn	11 02 40.0	+1.6
DECC	**Green Verdugo** baz=13	13.24	323	⇓P		Pn	11 02 39.8	+1.3
DECC	baz=13			⇓P		Pn	11 02 39.8	+1.3
DECC	baz=13			⇓P		Pn	11 02 39.8	+1.3
MVCO	**Mesa Verde**	13.27	1	*e*Pn		Pn	11 02 40.7	+1.5
MVCO	**Mesa Verde** baz=13,SNR=37	13.27	1	⇓P		Pn	11 02 40.4	+1.2
MVCO	baz=13,SNR=37			⇓P		Pn	11 02 40.4	+1.2
MVCO	baz=13,SNR=37			⇓P		Pn	11 02 40.4	+1.2

GSC	Goldstone	13.31	330	ePn	Pn	11 02 42.2	+2.6		
GSC	Goldstone	13.31	330	ePn	Pn	11 02 42.2	+2.6		
GSC	Goldstone	13.31	330	⇓P	Pn	11 02 41.5	+1.9		
	baz=13,SNR=32								
GSC				⇓P	Pn	11 02 41.5	+1.9		
	baz=13,SNR=32								
GSC				⇓P	Pn	11 02 41.5	+1.9		
	baz=13,SNR=32								
T23A	Casias Ranch,	13.31	10	⇓P	Pn	11 02 41.3	+1.6		
	baz=13,SNR=19								
T23A				⇓P	Pn	11 02 41.3	+1.6		
	baz=13,SNR=19								
T23A				⇓P	Pn	11 02 41.3	+1.6		
	baz=13,SNR=19								
T24A	Torres, Weston	13.52	13	⇑P	Pn	11 02 44.8	+2.1		
	baz=14,SNR=40								
T24A				⇑P	Pn	11 02 44.8	+2.1		
	baz=14,SNR=40								
T24A				⇑P	Pn	11 02 44.8	+2.1		
	baz=14,SNR=40								
EDW2	Edwards Air Fo	13.54	326	⇓P	Pn	11 02 44.7	+2.0		
	baz=14,SNR=12								
EDW2				⇓P	Pn	11 02 44.7	+2.0		
	baz=14,SNR=12								
EDW2				⇓P	Pn	11 02 44.7	+2.0		
	baz=14,SNR=12								
SHOC	Shoshone	13.59	333	⇓P	Pn	11 02 45.7	+2.4		
	baz=14,SNR=57								
SHOC				⇓P	Pn	11 02 45.7	+2.4		
	baz=14,SNR=57								
SHOC				⇓P	Pn	11 02 45.7	+2.4		
	baz=14,SNR=57								
T25A	Trinidad	13.73	15	⇑P	Pn	11 02 47.4	+2.0		
	baz=14,SNR=26								
T25A				⇑P	Pn	11 02 47.4	+2.0		
	baz=14,SNR=26								
T25A				⇑P	Pn	11 02 47.4	+2.0		
	baz=14,SNR=26								
S21A	Coal Bank Pass	13.74	3	P	Pn	11 02 47.6	+1.8		
	baz=14,SNR=47								
S21A				P	Pn	11 02 47.6	+1.8		
	baz=14,SNR=47								
S21A				P	Pn	11 02 47.6	+1.8		
	baz=14,SNR=47								
S18A	Hurst Farm, Bl	13.78	356	⇓P	Pn	11 02 47.5	+1.3		
	baz=14,SNR=47								
S18A				⇓P	Pn	11 02 47.5	+1.3		
	baz=14,SNR=47								
S18A				⇓P	Pn	11 02 47.5	+1.3		
	baz=14,SNR=47								
S17A	Black Ridge (B	13.79	353	⇑P	Pn	11 02 48.3	+2.0		
	baz=14,SNR=152								
S17A				⇑P	Pn	11 02 48.3	+2.0		
	baz=14,SNR=152								
S17A				⇑P	Pn	11 02 48.3	+2.0		
	baz=14,SNR=152								
BSC	Santa Cruz Isl	13.80	319	⇓P	Pn	11 02 46.9	+0.7		
	baz=14								
BSC				⇓P	Pn	11 02 46.9	+0.7		
	baz=14								
BSC				⇓P	Pn	11 02 46.9	+0.7		
	baz=14								
S19A	Harvey Farm, M	13.80	359	P	Pn	11 02 48.1	+1.6		
	baz=14,SNR=24								
S19A				P	Pn	11 02 48.1	+1.6		
	baz=14,SNR=24								
S19A				P	Pn	11 02 48.1	+1.6		
	baz=14,SNR=24								
LRMC	Laurel Mountai	13.86	328	⇓P	Pn	11 02 49.0	+1.8		
	baz=14,SNR=15								
LRMC				⇓P	Pn	11 02 49.0	+1.8		
	baz=14,SNR=15								
LRMC				⇓P	Pn	11 02 49.0	+1.8		
	baz=14,SNR=15								
S20A	Disappointment	13.89	2	⇑P	Pn	11 02 48.6	+1.0		
	baz=14,SNR=24								
S20A				⇑P	Pn	11 02 48.6	+1.0		
	baz=14,SNR=24								
S20A				⇑P	Pn	11 02 48.6	+1.0		
	baz=14,SNR=24								
WMOK	Wichita Mounta	13.89	37	eP	Pn	11 02 47.1	-0.4		
WMOK	Wichita Mounta	13.89	37	ePn	Pn	11 02 47.1	-0.4		
S22A	4UR Ranch, Cre	13.90	7	⇓P	Pn	11 02 50.2	+2.3		
	baz=14,SNR=17								
S22A				⇓P	Pn	11 02 50.2	+2.3		
	baz=14,SNR=17								
S22A				⇓P	Pn	11 02 50.2	+2.3		
	baz=14,SNR=17								
S23A	Nye Farm, Mont	13.97	9	⇑P	Pn	11 02 51.1	+2.4		
	baz=14,SNR=12								
S23A				⇑P	Pn	11 02 51.1	+2.4		
	baz=14,SNR=12								
S23A				⇑P	Pn	11 02 51.1	+2.4		
	baz=14,SNR=12								
S16A	Weppner Ranch,	13.98	351	⇑P	Pn	11 02 51.1	+2.2		
	baz=14,SNR=126								
S16A				⇑P	Pn	11 02 51.1	+2.2		
	baz=14,SNR=126								
S16A				⇑P	Pn	11 02 51.1	+2.2		
	baz=14,SNR=126								
RFTA	Plano	14.00	47	ePn	Pn	11 02 50.6	+1.7		
S24A	Houchin Ranch,	14.04	12	⇑P	Pn	11 02 51.6	+1.9		
	baz=14,SNR=11								
S24A				⇑P	Pn	11 02 51.6	+1.9		
	baz=14,SNR=11								
S24A				⇑P	Pn	11 02 51.6	+1.9		
	baz=14,SNR=11								
SDCO	Great Sand Dun	14.09	11	ePn	Pn	11 02 54.3	+3.9		
SDCO	Great Sand Dun	14.09	11	⇓P	Pn	11 02 51.6	+1.2		
	baz=14,SNR=61								
SDCO				⇓P	Pn	11 02 51.6	+1.2		
	baz=14,SNR=61								
SDCO				⇓P	Pn	11 02 51.6	+1.2		
	baz=14,SNR=61								
SDCO				⇓P	Pn	11 02 51.6	+1.2		
	baz=14,SNR=61								
SDCO				⇓P	Pn	11 02 51.6	+1.2		
	baz=14,SNR=61								
T27A	Campo	14.12	20	⇑P	Pn	11 02 52.5	+1.7		
	baz=14,SNR=16								
T27A				⇑P	Pn	11 02 52.5	+1.7		
	baz=14,SNR=16								
T27A				⇑P	Pn	11 02 52.5	+1.7		
	baz=14,SNR=16								
CCUT	Cedar City	14.15	345	ePn	Pn	11 02 54.6	+3.4		
SBC	Santa Barbara	14.16	320	⇓P	Pn	11 02 52.1	+1.0		
	baz=14								
SBC				⇓P	Pn	11 02 52.1	+1.0		
	baz=14								
SBC				⇓P	Pn	11 02 52.1	+1.0		
	baz=14								
ARVC	Arvin	14.17	324	⇓P	Pn	11 02 52.6	+1.4		
	baz=14,SNR=12								
ARVC				⇓P	Pn	11 02 52.6	+1.4		
	baz=14,SNR=12								
ARVC				⇓P	Pn	11 02 52.6	+1.4		
	baz=14,SNR=12								
S25A	Robets Cordova	14.22	14	⇓P	Pn	11 02 53.8	+1.6		
	baz=14,SNR=29								
S25A				⇓P	Pn	11 02 53.8	+1.6		
	baz=14,SNR=29								
S25A				⇓P	Pn	11 02 53.8	+1.6		
	baz=14,SNR=29								
MPMC	Manual Prospec	14.24	330	P	Pn	11 02 54.5	+2.0		
	baz=14,SNR=49								
MPMC				P	Pn	11 02 54.5	+2.0		
	baz=14,SNR=49								
MPMC				P	Pn	11 02 54.5	+2.0		
	baz=14,SNR=49								
R20A	Redvale	14.25	1	⇓P	Pn	11 02 53.7	+1.1		
	baz=14,SNR=38								
R20A				⇓P	Pn	11 02 53.7	+1.1		
	baz=14,SNR=38								
R20A				⇓P	Pn	11 02 53.7	+1.1		
	baz=14,SNR=38								
FURC	Furnace Creek,	14.31	333	P	Pn	11 02 55.8	+2.6		
	baz=14,SNR=34								
FURC				P	Pn	11 02 55.8	+2.6		
	baz=14,SNR=34								
FURC				P	Pn	11 02 55.8	+2.6		
	baz=14,SNR=34								
R19A	Curley Farm, L	14.35	359	⇓P	Pn	11 02 54.7	+0.8		
	baz=14,SNR=21								
R19A				⇓P	Pn	11 02 54.7	+0.8		
	baz=14,SNR=21								
R19A				⇓P	Pn	11 02 54.7	+0.8		
	baz=14,SNR=21								
T28A	Walsh	14.38	22	⇓P	Pn	11 02 55.2	+0.9		
	baz=14,SNR=15								
T28A				⇓P	Pn	11 02 55.2	+0.9		
	baz=14,SNR=15								
T28A				⇓P	Pn	11 02 55.2	+0.9		
	baz=14,SNR=15								
R22A	Saguache, Gunn	14.39	7	⇓P	Pn	11 02 56.5	+1.9		
	baz=14,SNR=20								
R22A				⇓P	Pn	11 02 56.5	+1.9		
	baz=14,SNR=20								
R22A				⇓P	Pn	11 02 56.5	+1.9		
	baz=14,SNR=20								
ARUT	Antelope Range	14.39	345	eP	Pn	11 02 57.2	+2.7		
ARUT				pmax	pmax				
	comp=Z,7μm,1.3s								
ARUT	Antelope Range	14.39	345	ePn	Pn	11 02 57.2	+2.7		
	comp=Z,7μm,1.3s								
ISA	Isabella	14.40	327	eP	Pn	11 02 55.8	+1.3		
ISA	Isabella	14.40	327	ePn	Pn	11 02 55.8	+1.3		
ISA	Isabella	14.40	327	⇑P	Pn	11 02 55.5	+1.0		
	baz=14,SNR=13								
ISA				⇑P	Pn	11 02 55.5	+1.0		
	baz=14,SNR=13								
ISA				⇑P	Pn	11 02 55.5	+1.0		
	baz=14,SNR=13								
S26A	Kim	14.42	17	P	Pn	11 02 56.9	+2.0		
	baz=14,SNR=33								
S26A				P	Pn	11 02 56.9	+2.0		
	baz=14,SNR=33								
S26A				P	Pn	11 02 56.9	+2.0		
	baz=14,SNR=33								
R21A	Cimarron	14.46	4	⇑P	Pn	11 02 56.9	+1.4		
	baz=15,SNR=24								
R21A				⇑P	Pn	11 02 56.9	+1.4		
	baz=15,SNR=24								
R21A				⇑P	Pn	11 02 56.9	+1.4		
	baz=15,SNR=24								
R18A	Canyonlands Na	14.47	357	⇑P	Pn	11 02 56.7	+1.1		
	baz=15,SNR=37								
R18A				⇑P	Pn	11 02 56.7	+1.1		
	baz=15,SNR=37								
R18A				⇑P	Pn	11 02 56.7	+1.1		
	baz=15,SNR=37								
R16A	Teasdale	14.52	352	⇓P	Pn	11 02 58.4	+2.1		
	baz=15,SNR=80								
R16A				⇓P	Pn	11 02 58.4	+2.1		
	baz=15,SNR=80								
R16A				⇓P	Pn	11 02 58.4	+2.1		
	baz=15,SNR=80								
PKM	Peak Mountain	14.54	321	⇓P	Pn	11 02 57.7	+1.1		
	baz=15								
PKM				⇓P	Pn	11 02 57.7	+1.1		
	baz=15								
PKM				⇓P	Pn	11 02 57.7	+1.1		
	baz=15								
R17A	Hanksville Air	14.56	354	⇓P	Pn	11 02 58.6	+1.8		
	baz=15,SNR=144								
R17A				⇓P	Pn	11 02 58.6	+1.8		
	baz=15,SNR=144								
R17A				⇓P	Pn	11 02 58.6	+1.8		
	baz=15,SNR=144								
R15A	Junction	14.56	349	P	Pn	11 02 60.0	+3.1		
	baz=15,SNR=68								
R15A				P	Pn	11 02 60.0	+3.1		
	baz=15,SNR=68								
R15A				P	Pn	11 02 60.0	+3.1		
	baz=15,SNR=68								
R24A	Sanders Place,	14.63	12	⇓P	Pn	11 02 59.7	+1.9		
	baz=15,SNR=18								
R24A				⇓P	Pn	11 02 59.7	+1.9		
	baz=15,SNR=18								
R24A				⇓P	Pn	11 02 59.7	+1.9		
	baz=15,SNR=18								
S27A	Las Animas	14.64	19	⇓P	Pn	11 02 58.9	+1.0		
	baz=15,SNR=6.6								
S27A				⇓P	Pn	11 02 58.9	+1.0		
	baz=15,SNR=6.6								
S27A				⇓P	Pn	11 02 58.9	+1.0		
	baz=15,SNR=6.6								
CMIG	Matias Romero	14.71	115	Pn	Pn	11 02 59.1	+0.4		
	comp=Z,1.0nm,0.3s,baz=294,slow=11,SNR=53								
CMIG				Lg	Lg	11 07 20.5			
	comp=Z,0.1nm,0.3s,baz=172,slow=24,SNR=2.5								
CMIG				LR	LR	11 08 35.6			
	comp=Z,13μm,20.6s,baz=280,slow=37								
CMIG	Matias Romero	14.71	115	Pn	Pn	11 02 59.1	+0.4		
CMIG				Lg	Lg	11 07 20.5			
R25A	Fountain Ranch	14.72	14	⇑P	Pn	11 03 00.6	+1.7		
	baz=15,SNR=46								
R25A				⇑P	Pn	11 03 00.6	+1.7		
	baz=15,SNR=46								
R25A				⇑P	Pn	11 03 00.6	+1.7		
	baz=15,SNR=46								
NATX	Nacogdoches	14.76	55	ePn	Pn	11 02 58.2	-1.2		
CWC	Cottonwood Cre	14.83	330	⇑P	Pn	11 03 01.8	+1.4		
	baz=15,SNR=32								
CWC				⇑P	Pn	11 03 01.8	+1.4		
	baz=15,SNR=32								
CWC				⇑P	Pn	11 03 01.8	+1.4		
	baz=15,SNR=32								
MSU	Marysvale	14.84	350	eP	Pn	11 03 03.2	+2.5		
MSU	Marysvale	14.84	350	ePn	Pn	11 03 03.2	+2.5		
VES	Vestal, Richgr	14.85	326	⇓P	Pn	11 03 01.5	+1.0		
	baz=15,SNR=20								
VES				⇓P	Pn	11 03 01.5	+1.0		
	baz=15,SNR=20								
VES				⇓P	Pn	11 03 01.5	+1.0		
	baz=15,SNR=20								
R13A	O'Grain Ranch,	14.90	344	P	P	11 03 04.8	-2.2		
	baz=15,SNR=175								
R13A				P	P	11 03 04.8	-2.2		
	baz=15,SNR=175								
R13A				P	P	11 03 04.8	-2.2		
	baz=15,SNR=175								
Q21A	Lamborn Mesa,	14.93	4	⇓P	Pn	11 03 03.2	+1.5		
	baz=15,SNR=44								
Q21A				⇓P	Pn	11 03 03.2	+1.5		
	baz=15,SNR=44								
Q21A				⇓P	Pn	11 03 03.2	+1.5		
	baz=15,SNR=44								
SMMC	Simmler	14.94	322	⇓P	Pn	11 03 02.8	+1.0		
	baz=15								
SMMC				⇓P	Pn	11 03 02.8	+1.0		
	baz=15								
SMMC				⇓P	Pn	11 03 02.8	+1.0		
	baz=15								
GRAC	Grapevine Rang	14.98	333	⇓P	Pn	11 03 04.4	+2.0		
	baz=15								
GRAC				⇓P	Pn	11 03 04.4	+2.0		
	baz=15								
GRAC				⇓P	Pn	11 03 04.4	+2.0		
	baz=15								
Q22A	Crested Butte,	15.00	6	⇑P	Pn	11 03 04.1	+1.2		
	baz=15,SNR=41								
Q22A				⇑P	Pn	11 03 04.1	+1.2		
	baz=15,SNR=41								
Q22A				⇑P	Pn	11 03 04.1	+1.2		
	baz=15,SNR=41								
Q19A	Hogan Spring (	15.01	359	⇑P	Pn	11 03 04.0	+1.2		
	baz=15,SNR=62								
Q19A				⇑P	Pn	11 03 04.0	+1.2		
	baz=15,SNR=62								
Q19A				⇑P	Pn	11 03 04.0	+1.2		
	baz=15,SNR=62								
Q20A	Ridgley Place,	15.01	2	⇓P	Pn	11 03 04.0	+1.0		
	baz=15,SNR=64								
Q20A				⇓P	Pn	11 03 04.0	+1.0		
	baz=15,SNR=64								
Q20A				⇓P	Pn	11 03 04.0	+1.0		
	baz=15,SNR=64								
R26A	Arlington	15.07	16	P	Pn	11 03 05.3	+1.7		
	baz=15,SNR=35								
R26A				P	Pn	11 03 05.3	+1.7		
	baz=15,SNR=35								
R26A				P	Pn	11 03 05.3	+1.7		
	baz=15,SNR=35								
Q16A	Castle Valley	15.10	353	P	Pn	11 03 05.9	+1.8		
	baz=15,SNR=148								
Q16A				P	Pn	11 03 05.9	+1.8		
	baz=15,SNR=148								
Q16A				P	Pn	11 03 05.9	+1.8		
	baz=15,SNR=148								
Q23A	Hartsel	15.17	9	⇓P	Pn	11 03 06.6	+1.4		
	baz=15								
Q23A				⇓P	Pn	11 03 06.6	+1.4		
	baz=15								
Q23A				⇓P	Pn	11 03 06.6	+1.4		
	baz=15								
SRU	San Rafael	15.23	355	eP	Pn	11 03 08.0	+2.2		
SRU				pmax	pmax				
	comp=Z,284nm,1.3s								
SRU	San Rafael	15.23	355	ePn	Pn	11 03 08.0	+2.2		
	comp=Z,284nm,1.3s								
R27A	Eads	15.23	18	⇓P	Pn	11 03 06.8	+1.1		
	baz=15,SNR=69								
R27A				⇓P	Pn	11 03 06.8	+1.1		
	baz=15,SNR=69								
R27A				⇓P	Pn	11 03 06.8	+1.1		
	baz=15,SNR=69								
SMCO	Snowmass	15.31	5	ePn	Pn	11 03 09.3	+2.3		
Q24A	Divide	15.34	11	⇑P	Pn	11 03 08.7	+1.4		
	baz=16,SNR=11								
Q24A				⇑P	Pn	11 03 08.7	+1.4		
	baz=16,SNR=11								
Q24A				⇑P	Pn	11 03 08.7	+1.4		
	baz=16,SNR=11								
TIN	Tinemaha	15.40	331	⇓P	Pn	11 03 10.1	+2.1		
	baz=16,SNR=12								
TIN				⇓P	Pn	11 03 10.1	+2.1		
	baz=16,SNR=12								
TIN				⇓P	Pn	11 03 10.1	+2.1		
	baz=16,SNR=12								
Q25A	Bedland, Calha	15.46	13	⇓P	Pn	11 03 10.5	+1.6		
	baz=16,SNR=57								
Q25A				⇓P	Pn	11 03 10.5	+1.6		
	baz=16,SNR=57								
Q25A				⇓P	Pn	11 03 10.5	+1.6		
	baz=16,SNR=57								
TMUT	Trail Mountain	15.48	353	ePn	Pn	11 03 11.1	+1.9		
	comp=Z,774nm,1.6s								
R11A	Troy Canyon, C	15.51	340	P	Pn	11 03 11.5	+2.0		
	baz=16,SNR=75								
R11A				P	Pn	11 03 11.5	+2.0		
	baz=16,SNR=75								
R11A				P	Pn	11 03 11.5	+2.0		
	baz=16,SNR=75								
P20A	De Beque	15.55	1	⇓P	Pn	11 03 11.6	+1.5		
	baz=16								
P20A				⇓P	Pn	11 03 11.6	+1.5		
	baz=16								
P20A				⇓P	Pn	11 03 11.6	+1.5		
	baz=16								
P17A	Butcher Ranch,	15.61	354	⇓P	Pn	11 03 12.2	+1.4		
	baz=16,SNR=37								
P17A				⇓P	Pn	11 03 12.2	+1.4		
	baz=16,SNR=37								
P17A				⇓P	Pn	11 03 12.2	+1.4		
	baz=16,SNR=37								
P21A	Newcastle	15.62	4	P	P	11 03 13.5	-1.5		
	baz=16,SNR=84								
P21A				P	P	11 03 13.5	-1.5		
	baz=16,SNR=84								
P21A				P	P	11 03 13.5	-1.5		
	baz=16,SNR=84								
P23A	Jefferson	15.63	9	⇓P	P	11 03 13.9	-1.4		
	baz=16,SNR=60								
P23A				⇓P	P	11 03 13.9	-1.4		
	baz=16,SNR=60								
P23A				⇓P	P	11 03 13.9	-1.4		
	baz=16,SNR=60								
Q26A	Hugo	15.64	16	⇑P	Pn	11 03 12.2	+1.1		
	baz=16,SNR=27								
Q26A				⇑P	Pn	11 03 12.2	+1.1		
	baz=16,SNR=27								
Q26A				⇑P	Pn	11 03 12.2	+1.1		
	baz=16,SNR=27								
P19A	Cripple Cowboy	15.69	360	P	Pn	11 03 12.7	+0.9		
	baz=16,SNR=35								
P19A				P	Pn	11 03 12.7	+0.9		
	baz=16,SNR=35								
P19A				P	Pn	11 03 12.7	+0.9		
	baz=16,SNR=35								
P18A	Preston Nutter	15.72	356	⇓P	Pn	11 03 13.6	+1.3		
	baz=16,SNR=114								
P18A				⇓P	Pn	11 03 13.6	+1.3		
	baz=16,SNR=114								
P18A				⇓P	Pn	11 03 13.6	+1.3		
	baz=16,SNR=114								
P22A	Eagle	15.74	6	⇑P	Pn	11 03 14.5	+2.0		
	baz=16,SNR=99								
P22A				⇑P	Pn	11 03 14.5	+2.0		
	baz=16,SNR=99								
P22A				⇑P	Pn	11 03 14.5	+2.0		
	baz=16,SNR=99								
MTUM	Tungsten Hills	15.80	330	ePn	P	11 03 15.3	-1.7		
P15A	Leamington	15.89	350	⇓P	Pn	11 03 16.0	+1.6		
	baz=16,SNR=36								
P15A				⇓P	Pn	11 03 16.0	+1.6		
	baz=16,SNR=36								
P15A				⇓P	Pn	11 03 16.0	+1.6		
	baz=16,SNR=36								
P24A	Kohler Place,	15.91	11	⇓P	Pn	11 03 16.2	+1.5		
	baz=16,SNR=18								
P24A				⇓P	Pn	11 03 16.2	+1.5		
	baz=16,SNR=18								
P24A				⇓P	Pn	11 03 16.2	+1.5		
	baz=16,SNR=18								
KSCO	Kaye Shedlock'	15.96	18	⇓P	Pn	11 03 16.5	+1.3		
	baz=16,SNR=20								
KSCO				⇓P	Pn	11 03 16.5	+1.3		
	baz=16,SNR=20								
KSCO				⇓P	Pn	11 03 16.5	+1.3		
	baz=16,SNR=20								
P25A	Willow Gulch B	16.05	13	⇑P	Pn	11 03 17.6	+1.1		
	baz=16,SNR=65								
P25A				⇑P	Pn	11 03 17.6	+1.1		
	baz=16,SNR=65								
P25A				⇑P	Pn	11 03 17.6	+1.1		
	baz=16,SNR=65								
ISCO	Idaho Springs	16.08	9	eP	P	11 03 20.1	-0.2		
ISCO				pmax	pmax				
	comp=Z,639nm,1.4s								
ISCO	Idaho Springs	16.08	9	ePn	P	11 03 20.1	-0.2		
	comp=Z,639nm,1.4s								
ISCO	Idaho Springs	16.08	9	⇓P	Pn	11 03 18.4	+1.5		
	baz=16,SNR=97								
ISCO				⇓P	Pn	11 03 18.4	+1.5		
	baz=16,SNR=97								
ISCO				⇓P	Pn	11 03 18.4	+1.5		
	baz=16,SNR=97								
MLAC	Mammoth Lakes	16.15	330	⇓P	P	11 03 19.6	-1.3		
	baz=16,SNR=6.8								
MLAC				⇓P	P	11 03 19.6	-1.3		
	baz=16,SNR=6.8								
MLAC				⇓P	P	11 03 19.6	-1.3		
	baz=16,SNR=6.8								
O20A	White River Ci	16.19	2	P	P	11 03 20.1	-1.3		
	baz=16,SNR=96								
O20A				P	P	11 03 20.1	-1.3		
	baz=16,SNR=96								
O20A				P	P	11 03 20.1	-1.3		
	baz=16,SNR=96								
MPU	Maple Canyon	16.24	352	ePn	P	11 03 21.2	-0.7		
	comp=Z,421nm,1.3s								
P26A	Davis Ranch, A	16.29	15	⇓P	Pn	11 03 20.8	+1.4		
	baz=16,SNR=84								
P26A				⇓P	Pn	11 03 20.8	+1.4		
	baz=16,SNR=84								
P26A				⇓P	Pn	11 03 20.8	+1.4		
	baz=16,SNR=84								
O21A	Pagoda	16.30	4	⇓P	P	11 03 21.5	-1.1		
	baz=16,SNR=48								
O21A				⇓P	P	11 03 21.5	-1.1		
	baz=16,SNR=48								
O21A				⇓P	P	11 03 21.5	-1.1		
	baz=16,SNR=48								
O17A	Robinson Place	16.32	355	⇑P	Pn	11 03 21.4	+1.4		
	baz=16,SNR=67								
O17A				⇑P	Pn	11 03 21.4	+1.4		
	baz=16,SNR=67								
O17A				⇑P	P

baz=16,SNR=127
O19A ⇑P Pn 11 03 21.6 +1.4
baz=16,SNR=127
O19A ⇑P Pn 11 03 21.6 +1.4
baz=16,SNR=127
O16A Springville 16.41 353 ⇑P P 11 03 22.6 -1.1
baz=17
O16A ⇑P P 11 03 22.6 -1.1
baz=17
O16A ⇑P P 11 03 22.6 -1.1
baz=17
TUL1 Tulsa 16.44 40 ⇓P Pn 11 03 21.1 -0.1
baz=16,SNR=32
TUL1 ⇓P Pn 11 03 21.1 -0.1
baz=16,SNR=32
TUL1 ⇓P Pn 11 03 21.1 -0.1
baz=16,SNR=32
O23A Lake Granby, G 16.45 8 ⇓P P 11 03 23.2 -1.0
baz=17,SNR=56
O23A ⇓P P 11 03 23.2 -1.0
baz=17,SNR=56
O23A ⇓P P 11 03 23.2 -1.0
baz=17,SNR=56
O24A Longmont 16.48 10 ⇓P P 11 03 23.3 -1.1
baz=17,SNR=29
O24A ⇓P P 11 03 23.3 -1.1
baz=17,SNR=29
O24A ⇓P P 11 03 23.3 -1.1
baz=17,SNR=29
NVAR Mina Array Bea 16.58 333 Pn P 11 03 25.3 -0.5
comp=Z,0.7nm,0.3s,baz=152,slow=10.0,SNR=68
NVAR Mina Array Bea 16.58 333 Pn P 11 03 25.2 -0.5
DAU Daniels Canyon 16.59 353 *e*P P 11 03 25.1 -0.8
DAU Daniels Canyon 16.59 353 *e*Pn P 11 03 25.1 -0.8
DUG Dugway 16.59 349 *e*P P 11 03 25.5 -0.2
DUG pmax pmax
comp=Z,887nm,1.5s
DUG Dugway 16.59 349 *e*Pn P 11 03 25.5 -0.2
comp=Z,887nm,1.5s
DUG Dugway 16.59 349 P P 11 03 25.6 -0.2
baz=17,SNR=95
DUG P P 11 03 25.6 -0.2
baz=17,SNR=95
DUG P P 11 03 25.6 -0.2
baz=17,SNR=95
O15A The Old Anders 16.62 350 ⇓P P 11 03 25.6 -0.4
baz=17,SNR=102
O15A ⇓P P 11 03 25.6 -0.4
baz=17,SNR=102
O15A ⇓P P 11 03 25.6 -0.4
baz=17,SNR=102
O25A Wiggins 16.64 13 ⇓P P 11 03 25.2 -1.1
baz=17,SNR=93
O25A ⇓P P 11 03 25.2 -1.1
baz=17,SNR=93
O25A ⇓P P 11 03 25.2 -1.1
baz=17,SNR=93
CBKS Cedar Bluff 16.75 25 *e*P Pn 11 03 25.8 +0.6
CBKS pmax pmax
comp=Z,305nm,1.0s
CBKS Cedar Bluff 16.75 25 *e*Pn Pn 11 03 25.8 +0.6
comp=Z,304nm,1.0s
CBKS Cedar Bluff 16.75 25 ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
CBKS ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
CBKS ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
CBKS ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
CBKS ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
CBKS ⇑P P 11 03 26.9 -0.5
baz=17,SNR=62
JLU Jordanelle 16.80 353 *e*Pn P 11 03 27.6 -0.5
comp=Z,1µm,2.1s
SAO San Andreas Ge 16.80 323 *e*P P 11 03 27.4 -0.6
SAO pmax pmax
comp=Z,235nm,1.8s
SAO San Andreas Ge 16.80 323 *e*Pn P 11 03 27.4 -0.6
comp=Z,235nm,1.8s
N21A Black Mountain 16.84 3 ⇓P P 11 03 28.3 -0.4
baz=17,SNR=96
N21A ⇓P P 11 03 28.3 -0.4
baz=17,SNR=96
N21A ⇓P P 11 03 28.3 -0.4
baz=17,SNR=96
N20A Spence Gulch, 16.89 1 P P 11 03 29.2 +0.1
baz=17,SNR=59
N20A P P 11 03 29.2 +0.1
baz=17,SNR=59
N20A P P 11 03 29.2 +0.1
baz=17,SNR=59
CTU Camp Tracy 16.92 352 *e*Pn P 11 03 29.4 -0.1
comp=Z,548nm,1.6s
O26A Horse Wrangler 16.94 15 ⇓P P 11 03 28.9 -0.7
baz=17
O26A ⇓P P 11 03 28.9 -0.7
baz=17
O26A ⇓P P 11 03 28.9 -0.7
baz=17
N19A John Jarvie Ra 16.95 359 ⇑P P 11 03 29.1 -0.5
baz=17,SNR=60
N19A ⇑P P 11 03 29.1 -0.5
baz=17,SNR=60
N19A ⇑P P 11 03 29.1 -0.5
baz=17,SNR=60
N22A Wattenberg Ran 16.97 6 ⇑P P 11 03 30.2 +0.2
baz=17,SNR=96
N22A ⇑P P 11 03 30.2 +0.2
baz=17,SNR=96
N22A ⇑P P 11 03 30.2 +0.2
baz=17,SNR=96
MIAR Mount Ida 17.00 48 *e*P Pn 11 03 28.1 -0.2
MIAR pmax pmax
comp=Z,222nm,1.5s
MIAR Mount Ida 17.00 48 *e*Pn Pn 11 03 28.1 -0.2
comp=Z,222nm,1.5s
N18A Larsen Ranch, 17.04 358 ⇑P P 11 03 30.6 -0.1
baz=17,SNR=149
N18A ⇑P P 11 03 30.6 -0.1
baz=17,SNR=149
N18A ⇑P P 11 03 30.6 -0.1
baz=17,SNR=149
N17A Moffit Pass 17.08 355 P P 11 03 31.6 +0.3
baz=17,SNR=42
N17A P P 11 03 31.6 +0.3
baz=17,SNR=42
N17A P P 11 03 31.6 +0.3
baz=17,SNR=42
N16A Rees Ranch, Co 17.08 353 P P 11 03 31.4 +0.2
baz=17,SNR=53
N16A P P 11 03 31.4 +0.2
baz=17,SNR=53
N16A P P 11 03 31.4 +0.2
baz=17,SNR=53
O27A Beecher Island 17.10 17 ⇑P P 11 03 30.5 -0.7
baz=17,SNR=29
O27A ⇑P P 11 03 30.5 -0.7
baz=17,SNR=29
O27A ⇑P P 11 03 30.5 -0.7
baz=17,SNR=29
N23A Red Feather La 17.12 7 ⇑P P 11 03 31.7 0.0
baz=17,SNR=41
N23A ⇑P P 11 03 31.7 0.0
baz=17,SNR=41
N23A ⇑P P 11 03 31.7 0.0
baz=17,SNR=41
N24A Carr 17.20 10 ⇓P P 11 03 32.6 +0.2
baz=17,SNR=19
N24A ⇓P P 11 03 32.6 +0.2
baz=17,SNR=19
N24A ⇓P P 11 03 32.6 +0.2
baz=17,SNR=19
CMB Columbia Colle 17.20 328 *e*P P 11 03 32.0 -0.4
CMB pmax pmax
comp=Z,147nm,1.6s
CMB Columbia Colle 17.20 328 *e*Pn P 11 03 32.0 -0.4
comp=Z,147nm,1.6s
N15A Stansbury Isla 17.22 350 ⇑P P 11 03 33.1 +0.4
baz=17,SNR=12
N15A ⇑P P 11 03 33.1 +0.4
baz=17,SNR=12
N15A ⇑P P 11 03 33.1 +0.4
baz=17,SNR=12
N25A Grover 17.32 12 ⇑P P 11 03 33.9 +0.1
baz=17
N25A ⇑P P 11 03 33.9 +0.1
baz=17
N25A ⇑P P 11 03 33.9 +0.1
baz=17
M18A Lyman 17.51 357 ⇑P P 11 03 35.9 0.0
baz=18,SNR=33
M18A ⇑P P 11 03 35.9 0.0
baz=18,SNR=33
M18A ⇑P P 11 03 35.9 0.0
baz=18,SNR=33
N26A Koester Ranch, 17.52 14 ⇑P P 11 03 36.1 +0.2
baz=18,SNR=11
N26A ⇑P P 11 03 36.1 +0.2
baz=18,SNR=11
N26A ⇑P P 11 03 36.1 +0.2
baz=18,SNR=11
M20A Sweetwater, Wa 17.55 2 P P 11 03 36.8 +0.4
baz=18,SNR=31
M20A P P 11 03 36.8 +0.4
baz=18,SNR=31
M20A P P 11 03 36.8 +0.4
baz=18,SNR=31
M22A Cedar Creek Ra 17.55 6 ⇓P P 11 03 37.7 +1.2
baz=18,SNR=55
M22A ⇓P P 11 03 37.7 +1.2
baz=18,SNR=55
M22A ⇓P P 11 03 37.7 +1.2
baz=18,SNR=55
M19A Rock Springs 17.56 359 ⇓P P 11 03 36.5 0.0
baz=18,SNR=52
M19A ⇓P P 11 03 36.5 0.0
baz=18,SNR=52
M19A ⇓P P 11 03 36.5 0.0
baz=18,SNR=52
PHWY Pilot Hill 17.58 8 *e*Pn P 11 03 37.5 +0.7
M17A Scullys Gap (B 17.59 355 P P 11 03 37.2 +0.3
baz=18,SNR=29
M17A P P 11 03 37.2 +0.3
baz=18,SNR=29
M17A P P 11 03 37.2 +0.3
baz=18,SNR=29
ELK Elko 17.64 344 *e*P P 11 03 38.1 +0.7
ELK Elko 17.64 344 *e*Pn P 11 03 38.1 +0.7
N27A Anderson Farm, 17.66 16 ⇑P P 11 03 37.2 -0.3
baz=18,SNR=12
N27A ⇑P P 11 03 37.2 -0.3
baz=18,SNR=12
N27A ⇑P P 11 03 37.2 -0.3
baz=18,SNR=12
M21A Separation Pea 17.70 4 ⇓P P 11 03 38.3 +0.2
baz=18,SNR=14
M21A ⇓P P 11 03 38.3 +0.2
baz=18,SNR=14
M21A ⇓P P 11 03 38.3 +0.2
baz=18,SNR=14
M23A Laramie 17.71 8 ⇑P P 11 03 39.0 +0.9
baz=18,SNR=32
M23A ⇑P P 11 03 39.0 +0.9
baz=18,SNR=32
M23A ⇑P P 11 03 39.0 +0.9
baz=18,SNR=32
M15A Larsen Ranch, 17.77 351 ⇓P P 11 03 39.8 +1.1
baz=18,SNR=39
M15A ⇓P P 11 03 39.8 +1.1
baz=18,SNR=39
M15A ⇓P P 11 03 39.8 +1.1
baz=18,SNR=39
RWWY Rawlins 17.79 4 *e*Pn P 11 03 40.0 +0.9
M24A Cheyenne 17.83 10 ⇑P P 11 03 40.3 +0.8
baz=18,SNR=33
M24A ⇑P P 11 03 40.3 +0.8
baz=18,SNR=33
M24A ⇑P P 11 03 40.3 +0.8
baz=18,SNR=33
OGNE Ogallala 17.92 17 *e*Pn P 11 03 40.9 +0.5
comp=Z,712nm,1.4s
OGNE Ogallala 17.92 17 ⇓P P 11 03 40.7 +0.3
baz=18,SNR=13
OGNE ⇓P P 11 03 40.7 +0.3
baz=18,SNR=13
OGNE ⇓P P 11 03 40.7 +0.3
baz=18,SNR=13
M25A Palm-Egli Farm 17.93 12 P P 11 03 41.7 +1.2
baz=18,SNR=22
M25A P P 11 03 41.7 +1.2
baz=18,SNR=22
M25A P P 11 03 41.7 +1.2
baz=18,SNR=22
WCN Washoe City 17.93 331 *e*P P 11 03 41.7 +1.1
WCN pmax pmax
comp=Z,153nm,1.3s
WCN Washoe City 17.93 331 *e*Pn P 11 03 41.7 +1.1
comp=Z,153nm,1.3s
WCN Washoe City 17.93 331 ⇑P P 11 03 42.1 +1.5
baz=18,SNR=15
WCN ⇑P P 11 03 42.1 +1.5
baz=18,SNR=15
WCN ⇑P P 11 03 42.1 +1.5
baz=18,SNR=15
BMN Battle Mountai 17.93 339 *e*P P 11 03 42.0 +1.5
BMN Battle Mountai 17.93 339 *e*Pn P 11 03 42.0 +1.5
UALR University of 17.97 49 *e*Pn Pn 11 03 39.2 -1.1
L18A Fontenelle, Gr 18.00 357 P P 11 03 42.0 +0.6
baz=18,SNR=93
L18A P P 11 03 42.0 +0.6
baz=18,SNR=93
L18A P P 11 03 42.0 +0.6
baz=18,SNR=93
L21A Rawlins 18.05 3 ⇑P P 11 03 42.0 +0.1
baz=18,SNR=33
L21A ⇑P P 11 03 42.0 +0.1
baz=18,SNR=33
L21A ⇑P P 11 03 42.0 +0.1
baz=18,SNR=33
L20A Wamsutter 18.06 1 ⇑P P 11 03 42.3 +0.3
baz=18,SNR=20
L20A ⇑P P 11 03 42.3 +0.3
baz=18,SNR=20
L20A ⇑P P 11 03 42.3 +0.3
baz=18,SNR=20
HVU Hansel Valley 18.13 350 *e*P P 11 03 44.3 +1.6
HVU pmax pmax
comp=Z,269nm,1.1s
HVU Hansel Valley 18.13 350 *e*Pn P 11 03 44.3 +1.6
comp=Z,269nm,1.1s
VBMS Vicksburg 18.14 59 *e*Pn Pn 11 03 42.4 -0.1
M26A McRoberts Ranc 18.15 14 ⇑P P 11 03 43.6 +0.8
baz=18,SNR=19
M26A ⇑P P 11 03 43.6 +0.8
baz=18,SNR=19
M26A ⇑P P 11 03 43.6 +0.8
baz=18,SNR=19
L19A Farson 18.16 359 P P 11 03 44.0 +1.0
baz=18,SNR=108
L19A P P 11 03 44.0 +1.0
baz=18,SNR=108
L19A P P 11 03 44.0 +1.0
baz=18,SNR=108
L22A Ellis Ranch, M 18.19 6 ⇑P P 11 03 45.1 +1.7
baz=18,SNR=69
L22A ⇑P P 11 03 45.1 +1.7
baz=18,SNR=69
L22A ⇑P P 11 03 45.1 +1.7
baz=18,SNR=69
L16A Fish Haven 18.19 354 P P 11 03 44.5 +1.1
baz=18,SNR=40
L16A P P 11 03 44.5 +1.1
baz=18,SNR=40
L16A P P 11 03 44.5 +1.1
baz=18,SNR=40
L17A Cokeville 18.23 355 P P 11 03 44.5 +0.6
baz=18,SNR=50
L17A P P 11 03 44.5 +0.6
baz=18,SNR=50
L17A P P 11 03 44.5 +0.6
baz=18,SNR=50
L15A Malad City 18.30 352 P P 11 03 45.9 +1.3
baz=18,SNR=40
L15A P P 11 03 45.9 +1.3
baz=18,SNR=40
L15A P P 11 03 45.9 +1.3
baz=18,SNR=40
L23A Garrett 18.35 7 ⇓P Pn 11 03 45.9 +0.8
baz=18,SNR=78
L23A ⇓P Pn 11 03 45.9 +0.8
baz=18,SNR=78
L23A ⇓P Pn 11 03 45.9 +0.8
baz=18,SNR=78
KSU1 Kansas State U 18.36 32 *e*Pn Pn 11 03 46.0 +0.9
comp=Z,389nm,1.0s
L24A Wheatland 18.38 9 ⇑P Pn 11 03 46.4 +0.9
baz=18,SNR=13
L24A ⇑P Pn 11 03 46.4 +0.9
baz=18,SNR=13
L24A ⇑P Pn 11 03 46.4 +0.9
baz=18,SNR=13
M27A Reverse DX Ran 18.38 15 P Pn 11 03 46.2 +0.7
baz=18,SNR=13
M27A P Pn 11 03 46.2 +0.7
baz=18,SNR=13
M27A P Pn 11 03 46.2 +0.7
baz=18,SNR=13
L14A Malta 18.45 350 ⇑P P 11 03 45.7 -0.6
baz=19,SNR=19
L14A ⇑P P 11 03 45.7 -0.6
baz=19,SNR=19
L14A ⇑P P 11 03 45.7 -0.6
baz=19,SNR=19
L14A ⇑P Pn 11 03 48.3 +1.9
baz=19
L14A ⇑P Pn 11 03 48.3 +1.9
baz=19
L14A ⇑P Pn 11 03 48.3 +1.9
baz=19
MCCM Marconi Confer 18.59 323 *e*Pn Pn 11 03 49.3 +1.4
comp=Z,632nm,2.1s
L25A Engebretsen Ra 18.65 11 ⇑P Pn 11 03 48.9 +0.1
baz=19,SNR=14
L25A ⇑P Pn 11 03 48.9 +0.1
baz=19,SNR=14
L25A ⇑P Pn 11 03 48.9 +0.1
baz=19,SNR=14
L26A Underwood Farm 18.71 13 ⇑P Pn 11 03 50.1 +0.7
baz=19,SNR=13
L26A ⇑P Pn 11 03 50.1 +0.7
baz=19,SNR=13
L26A ⇑P Pn 11 03 50.1 +0.7
baz=19,SNR=13
K20A Yellowstone Ra 18.71 1 P Pn 11 03 49.8 +0.2
baz=19,SNR=46
K20A P Pn 11 03 49.8 +0.2
baz=19,SNR=46
K20A P Pn 11 03 49.8 +0.2
baz=19,SNR=46
K18A Toltan Ranch, 18.71 357 P Pn 11 03 50.4 +0.8
baz=19,SNR=82
K18A P Pn 11 03 50.4 +0.8
baz=19,SNR=82
K18A P Pn 11 03 50.4 +0.8
baz=19,SNR=82
K21A Alcova 18.73 4 P Pn 11 03 50.0 +0.2
baz=19,SNR=20
K21A P Pn 11 03 50.0 +0.2
baz=19,SNR=20
K21A P Pn 11 03 50.0 +0.2
baz=19,SNR=20
OHCM Honcut 18.76 328 *e*P Pn 11 03 51.4 +1.5
K22A Casper 18.80 5 ⇓P Pn 11 03 50.7 +0.1
baz=19,SNR=108
K22A ⇓P Pn 11 03 50.7 +0.1
baz=19,SNR=108
K22A ⇓P Pn 11 03 50.7 +0.1
baz=19,SNR=108
BW06 Boulder Array 18.82 358 *e*P Pn 11 03 50.9 -0.1
comp=Z,331nm,1.4s
BW06 Boulder Array 18.82 358 P Pn 11 03 51.1 +0.1
baz=19,SNR=54
BW06 P Pn 11 03 51.1 +0.1
baz=19,SNR=54
BW06 P Pn 11 03 51.1 +0.1
baz=19,SNR=54
BW06 P Pn 11 03 51.1 +0.1
baz=19,SNR=54
BW06 P Pn 11 03 51.1 +0.1
baz=19,SNR=54
K17A Gardner Place, 18.88 355 P Pn 11 03 51.6 0.0
baz=19,SNR=50
K17A P Pn 11 03 51.6 0.0
baz=19,SNR=50
K17A P Pn 11 03 51.6 0.0
baz=19,SNR=50
AHID Auburn Hatcher 18.91 355 *e*P Pn 11 03 52.5 +0.5
comp=Z,989nm,1.8s
L27A T5 Ranch, Ells 18.92 15 ⇓P Pn 11 03 52.1 0.0
baz=19,SNR=10
L27A ⇓P Pn 11 03 52.1 0.0
baz=19,SNR=10
L27A ⇓P Pn 11 03 52.1 0.0
baz=19,SNR=10
K14A Jones Ranch, D 18.94 350 P Pn 11 03 52.8 +0.5
baz=19,SNR=66
K14A P Pn 11 03 52.8 +0.5
baz=19,SNR=66
K14A P Pn 11 03 52.8 +0.5
baz=19,SNR=66
K15A Arbon 18.98 352 P Pn 11 03 53.6 +0.8
baz=19,SNR=12
K15A P Pn 11 03 53.6 +0.8
baz=19,SNR=12
K15A P Pn 11 03 53.6 +0.8
baz=19,SNR=12
K23A Bowen Ranch, D 18.99 7 ⇑P Pn 11 03 53.4 +0.5
baz=19
K23A ⇑P Pn 11 03 53.4 +0.5
baz=19
K23A ⇑P Pn 11 03 53.4 +0.5
baz=19
K16A Soda Springs 19.02 354 P Pn 11 03 53.5 +0.2
baz=19,SNR=49
K16A P Pn 11 03 53.5 +0.2
baz=19,SNR=49
K16A P Pn 11 03 53.5 +0.2
baz=19,SNR=49
K24A Anderson Ranch 19.06 9 ⇑P Pn 11 03 53.8 0.0
baz=19
K24A ⇑P Pn 11 03 53.8 0.0
baz=19
K24A ⇑P Pn 11 03 53.8 0.0
baz=19
K25A Mack Ranch, Ha 19.11 11 ⇑P Pn 11 03 54.4 +0.1
baz=19,SNR=14
K25A ⇑P Pn 11 03 54.4 +0.1
baz=19,SNR=14
K25A ⇑P Pn 11 03 54.4 +0.1
baz=19,SNR=14
J18A Kendall Valley 19.29 357 P Pn 11 03 56.3 -0.3
baz=19,SNR=153
J18A P Pn 11 03 56.3 -0.3
baz=19,SNR=153
J18A P Pn 11 03 56.3 -0.3
baz=19,SNR=153
HOPS Hopland 19.30 325 *e*P Pn 11 03 57.9 +1.3
comp=Z,356nm,1.8s
J19A Crowheart 19.31 359 P P 11 03 56.4 +0.6
baz=20,SNR=147
J19A P P 11 03 56.4 +0.6
baz=20,SNR=147
J19A P P 11 03 56.4 +0.6
baz=20,SNR=147
K26A Motz Farm, Whi 19.32 13 ⇑P Pn 11 03 56.7 -0.2
baz=19,SNR=21
K26A ⇑P Pn 11 03 56.7 -0.2
baz=19,SNR=21
K26A ⇑P Pn 11 03 56.7 -0.2
baz=19,SNR=21
TEIG Tepich 19.39 97 P P 11 03 56.5 0.0
comp=Z,0.5nm,0.3s,baz=287,slow=11,SNR=8.9
TEIG LR LR 11 12 55.8
comp=Z,4µm,18.3s,baz=16,slow=42
TEIG Tepich 19.39 97 *e*P P 11 03 56.3 -0.2
comp=Z,114nm,1.4s
J20A Shoshoni 19.41 2 P Pn 11 03 58.1 +0.1
baz=20,SNR=129
J20A P Pn 11 03 58.1 +0.1
baz=20,SNR=129
J20A P Pn 11 03 58.1 +0.1
baz=20,SNR=129
J21A Lysite 19.43 3 P Pn 11 03 58.1 -0.1
baz=20,SNR=41
J21A P Pn 11 03 58.1 -0.1
baz=20,SNR=41
J21A P Pn 11 03 58.1 -0.1
baz=20,SNR=41
J16A Bone 19.46 354 P Pn 11 03 58.9 +0.3
baz=20,SNR=48

J16A P **Pn** **11 03 58.9 +0.3**
baz=20,SNR=48
J16A P **Pn** **11 03 58.9 +0.3**
baz=20,SNR=48
J17A **Brown Place, J** **19.47 356** P **P** **11 03 58.1 +0.6**
baz=20,SNR=50
J17A P **P** **11 03 58.1 +0.6**
baz=20,SNR=50
J17A P **P** **11 03 58.1 +0.6**
baz=20,SNR=50
REDW **Red Top Meadow** **19.48 356** *e*P **Pn** **11 03 58.5 -0.4**
RRI2 **Red Ridge** **19.50 355** *e*P **Pn** **11 03 59.6 +0.4**
K27A **Flueckinger Fa** **19.53 15** P **Pn** **11 03 59.0 -0.3**
baz=20,SNR=40
K27A P **Pn** **11 03 59.0 -0.3**
baz=20,SNR=40
K27A P **Pn** **11 03 59.0 -0.3**
baz=20,SNR=40
HBAR **Harrisburg** **19.55 49** *e*P **P** **11 03 58.7 +0.5**
J22A **Midwest** **19.56 5** ⇑P **P** **11 03 58.9 +0.5**
baz=20,SNR=30
J22A ⇑P **P** **11 03 58.9 +0.5**
baz=20,SNR=30
J22A ⇑P **P** **11 03 58.9 +0.5**
baz=20,SNR=30
SNOW **Snow King Moun** **19.57 356** *e*P **Pn** **11 03 59.8 -0.3**
comp=Z,757nm,1.5s
BGNE **Belgrade** **19.61 25** ⇓P **P** **11 03 59.3 +0.6**
baz=20,SNR=21
BGNE ⇓P **P** **11 03 59.3 +0.6**
baz=20,SNR=21
BGNE ⇓P **P** **11 03 59.3 +0.6**
baz=20,SNR=21
J23A **Dilts Ranch, B** **19.64 7** ⇑P **Pn** **11 04 00.5 -0.2**
baz=20,SNR=13
J23A ⇑P **Pn** **11 04 00.5 -0.2**
baz=20,SNR=13
J23A ⇑P **Pn** **11 04 00.5 -0.2**
baz=20,SNR=13
J15A **Blackfoot** **19.67 352** P **Pn** **11 04 01.2 +0.1**
baz=20,SNR=67
J15A P **Pn** **11 04 01.2 +0.1**
baz=20,SNR=67
J15A P **Pn** **11 04 01.2 +0.1**
baz=20,SNR=67
J24A **Dixon Ranch, L** **19.68 9** P **Pn** **11 04 00.9 -0.2**
baz=20,SNR=23
J24A P **Pn** **11 04 00.9 -0.2**
baz=20,SNR=23
J24A P **Pn** **11 04 00.9 -0.2**
baz=20,SNR=23
LOHW **Long Hollow** **19.71 356** *e*P **Pn** **11 04 01.2 -0.5**
comp=Z,254nm,1.2s
DCID1 **Drake Creek** **19.74 355** *e*P **Pn** **11 04 01.7 -0.2**
comp=Z,1μm,1.4s
J14A **Carey** **19.75 350** ⇓P **Pn** **11 04 01.8 -0.3**
baz=20
J14A ⇓P **Pn** **11 04 01.8 -0.3**
baz=20
J14A ⇓P **Pn** **11 04 01.8 -0.3**
baz=20
I18A **Diamond G Ranc** **19.77 358** P **P** **11 04 01.6 +0.8**
baz=20,SNR=196
I18A P **P** **11 04 01.6 +0.8**
baz=20,SNR=196
I18A P **P** **11 04 01.6 +0.8**
baz=20,SNR=196
LBCM **Butte Creek Ri** **19.89 331** P **Pn** **11 04 03.9 +0.2**
I21A **Big Trails, Te** **19.90 3** P **P** **11 04 02.8 +0.7**
baz=20,SNR=64
I21A P **P** **11 04 02.8 +0.7**
baz=20,SNR=64
I21A P **P** **11 04 02.8 +0.7**
baz=20,SNR=64
OXF **Oxford** **19.94 54** *e*P **P** **11 04 02.2 -0.3**
OXF pmax pmax
comp=Z,211nm,1.3s
OXF **Oxford** **19.94 54** *e*P **P** **11 04 02.1 -0.3**
comp=Z,212nm,1.3s
J13A **Cove Ranch, Pi** **19.94 349** P **Pn** **11 04 04.0 -0.2**
baz=20,SNR=68
J13A P **Pn** **11 04 04.0 -0.2**
baz=20,SNR=68
J13A P **Pn** **11 04 04.0 -0.2**
baz=20,SNR=68
I20A **Worland** **20.00 1** P Pn 11 04 04.5 -0.6
baz=20,SNR=115
I20A P Pn 11 04 04.5 -0.6
baz=20,SNR=115
I20A P Pn 11 04 04.5 -0.6
baz=20,SNR=115
I17A **Pilgrim Ck.** **20.02 356** P Pn 11 04 05.1 -0.3
baz=20,SNR=83
I17A P Pn 11 04 05.1 -0.3
baz=20,SNR=83
I17A P Pn 11 04 05.1 -0.3
baz=20,SNR=83
I22A **9 Mile Ranch,** **20.03 5** P Pn 11 04 04.8 -0.6
baz=20,SNR=32
I22A P Pn 11 04 04.8 -0.6
baz=20,SNR=32
I22A P Pn 11 04 04.8 -0.6
baz=20,SNR=32
I16A **Newdale** **20.04 354** P Pn 11 04 05.3 -0.2
baz=20,SNR=55
I16A P Pn 11 04 05.3 -0.2
baz=20,SNR=55
I16A P Pn 11 04 05.3 -0.2
baz=20,SNR=55
KCPM **Cahto Peak** **20.08 325** *e*P Pn 11 04 05.9 0.0
comp=Z,316nm,2.0s
I19A **Meeteetse** **20.08 360** P Pn 11 04 05.3 -0.8
baz=20,SNR=51
I19A P Pn 11 04 05.3 -0.8
baz=20,SNR=51
I19A P Pn 11 04 05.3 -0.8
baz=20,SNR=51
KIPM **Iron Peak** **20.12 325** *e*P Pn 11 04 06.7 +0.2
comp=Z,311nm,1.5s
HLID **Hailey** **20.14 348** *e*P Pn 11 04 06.1 -0.7
comp=Z,264nm,1.4s
HLID LR LR
comp=Z,606nm,19.0s
HLID **Hailey** **20.14 348** P Pn 11 04 06.3 -0.5
baz=20,SNR=63
HLID P Pn 11 04 06.3 -0.5
baz=20,SNR=63
HLID P Pn 11 04 06.3 -0.5
baz=20,SNR=63
FLWY **Flagg Ranch** **20.19 356** *e*P Pn 11 04 06.8 -0.5
comp=Z,1μm,1.4s
I23A **Meade Ranch, G** **20.20 7** ⇑P **P** **11 04 06.3 +1.0**
baz=20
I23A ⇑P **P** **11 04 06.3 +1.0**
baz=20
I23A ⇑P **P** **11 04 06.3 +1.0**
baz=20
WVOR **Wild Horse Val** **20.20 339** *e*P **P** **11 04 06.3 +0.9**
WVOR pmax pmax
comp=Z,320nm,1.7s
WVOR MLR MLR
comp=Z,4μm,20.0s
WVOR **Wild Horse Val** **20.20 339** *e*P **P** **11 04 06.3 +0.9**
comp=Z,320nm,1.7s
WVOR LR LR
comp=Z,4μm,20.0s
I24A **Kuemmerle Ranc** **20.20 9** ⇑P **P** **11 04 05.7 +0.3**
baz=20,SNR=18
I24A ⇑P **P** **11 04 05.7 +0.3**
baz=20,SNR=18
I24A ⇑P **P** **11 04 05.7 +0.3**
baz=20,SNR=18
GNAR **Gosnell** **20.21 49** *e*P **P** **11 04 06.4 +1.0**
comp=Z,8μm,1.2s
WDC **Whiskeytown Da** **20.23 329** *e*P **P** **11 04 05.5 -0.1**
WDC pmax pmax
comp=Z,323nm,2.3s
WDC **Whiskeytown Da** **20.23 329** *e*P **P** **11 04 05.5 -0.1**
comp=Z,323nm,2.3s
I15A **Monteview** **20.27 352** P Pn 11 04 08.0 -0.2
baz=20,SNR=34
I15A P Pn 11 04 08.0 -0.2
baz=20,SNR=34
I15A P Pn 11 04 08.0 -0.2
baz=20,SNR=34
MFID **Camas Ranch** **20.30 345** *e*P **P** **11 04 07.2 +0.8**
comp=Z,155nm,1.3s
MFID **Camas Ranch** **20.30 345** ⇑P Pn 11 04 07.7 -0.9
baz=20,SNR=24
MFID ⇑P Pn 11 04 07.7 -0.9
baz=20,SNR=24
MFID ⇑P Pn 11 04 07.7 -0.9
baz=20,SNR=24
I14A **Mackay** **20.34 350** P Pn 11 04 08.6 -0.4
baz=20,SNR=32
I14A P Pn 11 04 08.6 -0.4
baz=20,SNR=32
I14A P Pn 11 04 08.6 -0.4
baz=20,SNR=32
MOD **Modoc** **20.34 335** *e*P Pn 11 04 08.9 -0.2
comp=Z,316nm,1.6s
I13A **Wildhorse Cree** **20.43 349** P Pn 11 04 09.4 -0.7
baz=21,SNR=60
I13A P Pn 11 04 09.4 -0.7
baz=21,SNR=60
I13A P Pn 11 04 09.4 -0.7
baz=21,SNR=60
H17A **Grant Village** **20.49 356** P Pn 11 04 10.3 -0.7
baz=21,SNR=85
H17A P Pn 11 04 10.3 -0.7
baz=21,SNR=85
H17A P Pn 11 04 10.3 -0.7
baz=21,SNR=85
H20A **Greybull** **20.55 2** ⇓P **P** **11 04 10.1 +1.0**
baz=21,SNR=50
H20A ⇓P **P** **11 04 10.1 +1.0**
baz=21,SNR=50
H20A ⇓P **P** **11 04 10.1 +1.0**
baz=21,SNR=50
RSSD **Black Hills** **20.55 10** *e*P **P** **11 04 09.7 +0.5**
RSSD pmax pmax
comp=Z,199nm,1.2s
RSSD **Black Hills** **20.55 10** *e*P **P** **11 04 09.7 +0.5**
comp=Z,199nm,1.2s
BRAL **Brewton** **20.55 65** *e*P **P** **11 04 09.8 +0.6**
comp=Z,898nm,1.5s
BRAL LR LR
comp=Z,7μm,19.0s
YFT **Old Faithful** **20.57 356** *e*P Pn 11 04 11.7 -0.1
comp=Z,366nm,1.2s
LKWY **Lake** **20.65 357** PFAKE 11 04 20.0 +7.2
LKWY LR LR
comp=Z,9μm,19.0s
HALT **Halls** **20.66 50** *e*P **P** **11 04 10.4 +0.2**
H19A **Powell** **20.72 360** P Pn 11 04 12.3 -1.1
baz=21,SNR=140
H19A P Pn 11 04 12.3 -1.1
baz=21,SNR=140
H19A P Pn 11 04 12.3 -1.1
baz=21,SNR=140
H21A **Big Horn, Sher** **20.73 4** P **P** **11 04 11.8 +0.7**
baz=21,SNR=32
H21A P **P** **11 04 11.8 +0.7**
baz=21,SNR=32
H21A P **P** **11 04 11.8 +0.7**
baz=21,SNR=32
H22A **Clearmont** **20.74 5** P **P** **11 04 12.3 +1.2**
baz=21,SNR=70
H22A P **P** **11 04 12.3 +1.2**
baz=21,SNR=70
H22A P **P** **11 04 12.3 +1.2**
baz=21,SNR=70
PARMO **Parma** **20.76 48** *e*P **P** **11 04 11.8 +0.5**
YMR **Madison River** **20.79 356** *e*P Pn 11 04 13.3 -1.1
comp=Z,806nm,1.5s
H23A **Clabaugh Cattl** **20.80 7** ⇓P **P** **11 04 12.6 +0.8**
baz=21
H23A ⇓P **P** **11 04 12.6 +0.8**
baz=21
H23A ⇓P **P** **11 04 12.6 +0.8**
baz=21
YNR **Norris Junctio** **20.82 356** *e*P Pn 11 04 14.2 -0.5
H16A **Russell Place,** **20.85 355** ⇑P Pn 11 04 14.2 -0.8
baz=21,SNR=65
H16A ⇑P Pn 11 04 14.2 -0.8
baz=21,SNR=65
H16A ⇑P Pn 11 04 14.2 -0.8
baz=21,SNR=65
GLAT **Glass** **20.87 49** *e*P **P** **11 04 12.8 +0.3**
H15A **Lima** **20.90 352** ⇑P Pn 11 04 14.8 -0.8
baz=21,SNR=84
H15A ⇑P Pn 11 04 14.8 -0.8
baz=21,SNR=84
H15A ⇑P Pn 11 04 14.8 -0.8
baz=21,SNR=84
J08A **Circle Bar Ran** **20.98 340** ⇓P **P** **11 04 14.8 +1.1**
baz=21,SNR=35
J08A ⇓P **P** **11 04 14.8 +1.1**
baz=21,SNR=35
J08A ⇓P **P** **11 04 14.8 +1.1**
baz=21,SNR=35
QLMT **Earthquake Lak** **20.99 355** *e*P Pn 11 04 15.8 -0.9
H14A **Leadore** **21.00 351** P Pn 11 04 16.0 -0.7
baz=21,SNR=34
H14A P Pn 11 04 16.0 -0.7
baz=21,SNR=34
H14A P Pn 11 04 16.0 -0.7
baz=21,SNR=34
KHMM **Horse Mountain** **21.04 327** *e*P **P** **11 04 15.6 +1.1**
comp=Z,417nm,1.4s
H13A **Challis** **21.09 349** ⇑P **P** **11 04 15.7 +0.8**
baz=21,SNR=38
H13A ⇑P **P** **11 04 15.7 +0.8**
baz=21,SNR=38
H13A ⇑P **P** **11 04 15.7 +0.8**
baz=21,SNR=38
H24A **Dirks Ranch, A** **21.09 8** P **P** **11 04 15.2 +0.4**
baz=21,SNR=46
H24A P **P** **11 04 15.2 +0.4**
baz=21,SNR=46
H24A P **P** **11 04 15.2 +0.4**
baz=21,SNR=46
MCMT **McKenzie Canyo** **21.13 352** P **P** **11 04 17.6 +2.0**
PLAL **Pickwick Lake** **21.13 54** *e*P **P** **11 04 14.5 -0.8**
PLAL LR LR
comp=Z,11μm,20.0s
RLMT **Red Lodge** **21.17 359** *e*P **P** **11 04 16.9 +0.9**
comp=Z,295nm,1.3s
RLMT **Red Lodge** **21.17 359** P **P** **11 04 16.9 +0.9**
baz=21,SNR=32
RLMT P **P** **11 04 16.9 +0.9**
baz=21,SNR=32
RLMT P **P** **11 04 16.9 +0.9**
baz=21,SNR=32
RLMT P **P** **11 04 16.9 +0.9**
baz=21,SNR=32
RLMT P **P** **11 04 16.9 +0.9**
baz=21,SNR=32
LRAL **Lakeview Retre** **21.20 60** *e*P **P** **11 04 16.0 -0.1**
comp=Z,56nm,0.8s
LRAL LR LR
comp=Z,2μm,19.0s
UTMT **University of** **21.20 50** *e*P **P** **11 04 17.3 +1.2**
comp=Z,1μm,1.3s
YBH **Yreka Blue Hor** **21.22 330** *e*P P 11 04 21.3 +4.9
YBH **Yreka Blue Hor** **21.22 330** *e*P P 11 04 21.2 +4.9
K05A **Summer Lake** **21.27 335** ⇓P **P** **11 04 18.0 +1.0**
baz=21,SNR=14
K05A ⇓P **P** **11 04 18.0 +1.0**
baz=21,SNR=14
K05A ⇓P **P** **11 04 18.0 +1.0**
baz=21,SNR=14
G20A **Bridger** **21.27 1** P **P** **11 04 17.1 +0.1**
baz=21,SNR=34
G20A P **P** **11 04 17.1 +0.1**
baz=21,SNR=34
G20A P **P** **11 04 17.1 +0.1**
baz=21,SNR=34
G21A **Lodge Grass** **21.31 3** P **P** **11 04 18.1 +0.7**
baz=22,SNR=31
G21A P **P** **11 04 18.1 +0.7**
baz=22,SNR=31
G21A P **P** **11 04 18.1 +0.7**
baz=22,SNR=31
G22A **Birney** **21.37 5** ⇓P **P** **11 04 18.5 +0.6**
baz=22,SNR=77
G22A ⇓P **P** **11 04 18.5 +0.6**
baz=22,SNR=77
G22A ⇓P **P** **11 04 18.5 +0.6**
baz=22,SNR=77
G18A **Lazy EL Ranch,** **21.37 359** ⇓P **P** **11 04 19.0 +0.9**
baz=22,SNR=34
G18A ⇓P **P** **11 04 19.0 +0.9**
baz=22,SNR=34
G16A **Moss Hill, Enn** **21.41 354** ⇓P **P** **11 04 20.5 +2.0**
baz=22,SNR=82
G16A ⇓P **P** **11 04 20.5 +2.0**
baz=22,SNR=82
G16A ⇓P **P** **11 04 20.5 +2.0**
baz=22,SNR=82
G15A **Dillon** **21.42 353** P **P** **11 04 20.5 +1.9**
baz=22,SNR=74
G15A P **P** **11 04 20.5 +1.9**
baz=22,SNR=74
G15A P **P** **11 04 20.5 +1.9**
baz=22,SNR=74
G17A **Pierce Place,** **21.43 356** ⇑P **P** **11 04 20.1 +1.5**
baz=22,SNR=28
G17A ⇑P **P** **11 04 20.1 +1.5**
baz=22,SNR=28
G17A ⇑P **P** **11 04 20.1 +1.5**
baz=22,SNR=28
G23A **Biddle** **21.43 7** P **P** **11 04 19.3 +0.7**
baz=22,SNR=60
G23A P **P** **11 04 19.3 +0.7**
baz=22,SNR=60
G23A P **P** **11 04 19.3 +0.7**
baz=22,SNR=60
SLM **Saint Louis** **21.58 43** *e*P **P** **11 04 20.1 0.0**
SLM pmax pmax
comp=Z,269nm,1.3s
SLM **Saint Louis** **21.58 43** *e*P **P** **11 04 20.1 0.0**
comp=Z,269nm,1.3s
G13A **Cobalt** **21.59 350** P **P** **11 04 21.6 +1.2**
baz=22,SNR=83
G13A P **P** **11 04 21.6 +1.2**
baz=22,SNR=83
G13A P **P** **11 04 21.6 +1.2**
baz=22,SNR=83
KRMB **Red Mountain** **21.62 328** *e*P **P** **11 04 21.4 +0.8**
comp=Z,328nm,2.0s
G14A **Jackson** **21.62 351** ⇑P **P** **11 04 21.7 +0.9**
baz=22,SNR=5.2
G14A ⇑P **P** **11 04 21.7 +0.9**
baz=22,SNR=5.2
G14A ⇑P **P** **11 04 21.7 +0.9**
baz=22,SNR=5.2
DLMT **Dillon** **21.63 353** *e*P **P** **11 04 22.8 +2.0**
comp=Z,262nm,1.3s
G24A **Alzada** **21.67 8** P **P** **11 04 22.0 +0.8**
baz=22,SNR=28
G24A P **P** **11 04 22.0 +0.8**
baz=22,SNR=28
G24A P **P** **11 04 22.0 +0.8**
baz=22,SNR=28
SIUC **Southern Illin** **21.69 46** *e*P **P** **11 04 21.9 +0.6**
comp=Z,610nm,1.2s
BOZ **Bozeman (W)** **21.81 355** *e*P **P** **11 04 24.3 +1.6**
BOZ pmax pmax
comp=Z,451nm,1.5s
BOZ MLR MLR
comp=Z,5μm,20.0s
BOZ **Bozeman (W)** **21.81 355** *e*P **P** **11 04 24.3 +1.6**
comp=Z,451nm,1.5s
BOZ LR LR
comp=Z,5μm,20.0s
BOZ **Bozeman (W)** **21.81 355** ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
BOZ ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
BOZ ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
BOZ ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
BOZ ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
BOZ ⇓P **P** **11 04 23.5 +0.7**
baz=22,SNR=9.0
WVT **Waverly** **21.83 51** *e*P **P** **11 04 22.3 -0.6**
WVT **Waverly** **21.83 51** *e*P **P** **11 04 22.3 -0.6**
GCMT **Greycliff** **21.85 358** *e*P **P** **11 04 24.0 +0.8**
comp=Z,750nm,1.5s
F20A **Billings** **21.86 1** ⇑P **P** **11 04 23.6 +0.4**
baz=22
F20A ⇑P **P** **11 04 23.6 +0.4**
baz=22
F20A ⇑P **P** **11 04 23.6 +0.4**
baz=22
F19A **Roth Farm, Mol** **21.90 360** ⇓P **P** **11 04 23.7 +0.1**
baz=22,SNR=28
F19A ⇓P **P** **11 04 23.7 +0.1**
baz=22,SNR=28
F19A ⇓P **P** **11 04 23.7 +0.1**
baz=22,SNR=28
F21A **Absaloka Mine,** **21.91 3** ⇓P **P** **11 04 24.1 +0.3**
baz=22,SNR=11
F21A ⇓P **P** **11 04 24.1 +0.3**
baz=22,SNR=11
F21A ⇓P **P** **11 04 24.1 +0.3**
baz=22,SNR=11
F22A **Rosebud** **21.93 5** P **P** **11 04 24.2 +0.4**
baz=22,SNR=25
F22A P **P** **11 04 24.2 +0.4**
baz=22,SNR=25
F22A P **P** **11 04 24.2 +0.4**
baz=22,SNR=25
F23A **Volborg** **21.94 6** P **P** **11 04 24.5 +0.4**
baz=22,SNR=89
F23A P **P** **11 04 24.5 +0.4**
baz=22,SNR=89
F23A P **P** **11 04 24.5 +0.4**
baz=22,SNR=89
F16A **Kennard Place,** **21.95 355** ⇑P **P** **11 04 25.1 +0.9**
baz=22,SNR=9.6
F16A ⇑P **P** **11 04 25.1 +0.9**
baz=22,SNR=9.6
F16A ⇑P **P** **11 04 25.1 +0.9**
baz=22,SNR=9.6
I07A **Izee** **21.95 339** ⇓P **P** **11 04 25.0 +0.7**
baz=22
I07A ⇓P **P** **11 04 25.0 +0.7**
baz=22
I07A ⇓P **P** **11 04 25.0 +0.7**
baz=22
F18A **Big Timber** **21.96 358** ⇓P **P** **11 04 24.8 +0.5**
baz=22,SNR=76
F18A ⇓P **P** **11 04 24.8 +0.5**
baz=22,SNR=76
F18A ⇓P **P** **11 04 24.8 +0.5**
baz=22,SNR=76
F17A **Fitzpatrick Pl** **22.00 357** ⇑P **P** **11 04 26.4 +1.6**
baz=22,SNR=67
F17A ⇑P **P** **11 04 26.4 +1.6**
baz=22,SNR=67
F17A ⇑P **P** **11 04 26.4 +1.6**
baz=22,SNR=67
BMO **Blue Mountains** **22.02 344** *e*P **P** **11 04 25.1 +0.2**
BMO LR LR
comp=Z,2μm,22.0s
BRSD **Miller** **22.02 19** P **P** **11 04 25.8 +0.9**
baz=22,SNR=19
BRSD P **P** **11 04 25.8 +0.9**
baz=22,SNR=19
BRSD P **P** **11 04 25.8 +0.9**
baz=22,SNR=19
HUMO **Hull Mountain** **22.03 331** *e*P **P** **11 04 26.0 +1.1**
comp=Z,90nm,1.5s
LRM **Limekiln Ridge** **22.07 353** *e*P **P** **11 04 26.6 +1.1**
F15A **Butte** **22.09 353** P **P** **11 04 26.9 +1.1**
baz=22,SNR=24
F15A P **P** **11 04 26.9 +1.1**
baz=22,SNR=24
F15A P **P** **11 04 26.9 +1.1**
baz=22,SNR=24
SCIA **State Center** **22.16 32** *e*P **P** **11 04 27.1 +0.7**
SCIA LR LR
comp=Z,2μm,19.0s
F14A **Wisdom** **22.17 352** ⇑P **P** **11 04 27.2 +0.6**
baz=22,SNR=5.4
F14A ⇑P **P** **11 04 27.2 +0.6**
baz=22,SNR=5.4
F14A ⇑P **P** **11 04 27.2 +0.6**
baz=22,SNR=5.4
F24A **Ekalaka** **22.18 8** P **P** **11 04 27.1 +0.4**
baz=22,SNR=25
F24A P **P** **11 04 27.1 +0.4**
baz=22,SNR=25
F24A P **P** **11 04 27.1 +0.4**
baz=22,SNR=25
ECSD **EROS Data Cent** **22.18 24** *e*P **P** **11 04 26.6 0.0**

comp=Z,506nm,1.3s
F13A Darby 22.29 350 P **P 11 04 28.4 +0.6**
baz=22,SNR=31
F13A P **P 11 04 28.4 +0.6**
baz=22,SNR=31
F13A P **P 11 04 28.4 +0.6**
baz=22,SNR=31
KBO Bosley Butte 22.30 329 *e*P **P 11 04 29.2 +1.3**
comp=Z,270nm,1.5s
F12A Elk City 22.42 348 ⇓P **P 11 04 29.8 +0.5**
baz=23,SNR=23
F12A ⇓P **P 11 04 29.8 +0.5**
baz=23,SNR=23
F12A ⇓P **P 11 04 29.8 +0.5**
baz=23,SNR=23
E19A Rath Farm, Rou 22.51 0 P **P 11 04 30.4 +0.2**
baz=23,SNR=51
E19A P **P 11 04 30.4 +0.2**
baz=23,SNR=51
E19A P **P 11 04 30.4 +0.2**
baz=23,SNR=51
E20A Meyer Farm, Mu 22.56 1 P **P 11 04 31.2 +0.5**
baz=23,SNR=59
E20A P **P 11 04 31.2 +0.5**
baz=23,SNR=59
E20A P **P 11 04 31.2 +0.5**
baz=23,SNR=59
E17A Martinsdale 22.57 356 P **P 11 04 31.8 +0.8**
baz=23,SNR=48
E17A P **P 11 04 31.8 +0.8**
baz=23,SNR=48
E17A P **P 11 04 31.8 +0.8**
baz=23,SNR=48
TGUH Tegucigalpa,Un 22.58 112 *e*P **P 11 04 31.5 +0.4**
comp=Z,135nm,1.1s
TGUH LR LR
comp=Z,9µm,20.0s
E22A Miles City 22.61 5 P **P 11 04 31.1 0.0**
baz=23,SNR=50
E22A P **P 11 04 31.1 0.0**
baz=23,SNR=50
E22A P **P 11 04 31.1 0.0**
baz=23,SNR=50
E18A Harlowton 22.63 358 P **P 11 04 32.2 +0.7**
baz=23,SNR=65
E18A P **P 11 04 32.2 +0.7**
baz=23,SNR=65
E18A P **P 11 04 32.2 +0.7**
baz=23,SNR=65
E21A Keefer Ranch, 22.63 3 P **P 11 04 32.0 +0.6**
baz=23,SNR=13
E21A P **P 11 04 32.0 +0.6**
baz=23,SNR=13
E21A P **P 11 04 32.0 +0.6**
baz=23,SNR=13
E15A Deer Lodge 22.68 353 ⇓P **P 11 04 32.6 +0.6**
baz=23,SNR=31
E15A ⇓P **P 11 04 32.6 +0.6**
baz=23,SNR=31
E15A ⇓P **P 11 04 32.6 +0.6**
baz=23,SNR=31
E16A East Helena 22.70 355 P **P 11 04 33.0 +0.8**
baz=23,SNR=30
E16A P **P 11 04 33.0 +0.8**
baz=23,SNR=30
E16A P **P 11 04 33.0 +0.8**
baz=23,SNR=30
VIPM Ingram Point 22.71 338 P **P 11 04 33.6 +1.2**
VIPM Ingram Point 22.71 338 P **P 11 04 33.5 +1.2**
E23A Ismay 22.72 6 P **P 11 04 32.5 +0.2**
baz=23,SNR=9.1
E23A P **P 11 04 32.5 +0.2**
baz=23,SNR=9.1
E23A P **P 11 04 32.5 +0.2**
baz=23,SNR=9.1
E14A Clinton 22.78 352 ⇓P **P 11 04 33.2 +0.1**
baz=23,SNR=11
E14A ⇓P **P 11 04 33.2 +0.1**
baz=23,SNR=11
E14A ⇓P **P 11 04 33.2 +0.1**
baz=23,SNR=11
SWET Sewanee 22.83 55 *e*P **P 11 04 33.1 -0.5**
KEBM Edson Butte 22.86 330 *e*P P 11 04 39.0 +5.2
comp=Z,463nm,1.4s
USIN University of 22.86 47 *e*P **P 11 04 34.6 +0.7**
E24A Baker 22.90 8 P **P 11 04 34.1 -0.1**
baz=23,SNR=12
E24A P **P 11 04 34.1 -0.1**
baz=23,SNR=12
E24A P **P 11 04 34.1 -0.1**
baz=23,SNR=12
E13A Victor 22.90 350 ⇓P **P 11 04 34.5 +0.2**
baz=23,SNR=32
E13A ⇓P **P 11 04 34.5 +0.2**
baz=23,SNR=32
E13A ⇓P **P 11 04 34.5 +0.2**
baz=23,SNR=32
OLIL Olney 22.99 45 *e*P **P 11 04 35.5 +0.3**
F10A Beach Ranch, E 23.05 345 P **P 11 04 35.5 -0.3**
baz=23,SNR=13
F10A P **P 11 04 35.5 -0.3**
baz=23,SNR=13
F10A P **P 11 04 35.5 -0.3**
baz=23,SNR=13
D20A Manuel Ranch, 23.15 1 P **P 11 04 37.1 +0.4**
baz=23,SNR=72
D20A P **P 11 04 37.1 +0.4**
baz=23,SNR=72
D20A P **P 11 04 37.1 +0.4**
baz=23,SNR=72
D21A La Casta Ranch 23.16 3 P **P 11 04 37.9 +0.9**
baz=23,SNR=34
D21A P **P 11 04 37.9 +0.9**
baz=23,SNR=34
D21A P **P 11 04 37.9 +0.9**
baz=23,SNR=34
D16A Dana Ranch, Ca 23.18 355 P **P 11 04 37.8 +0.5**
baz=23,SNR=29
D16A P **P 11 04 37.8 +0.5**
baz=23,SNR=29
D16A P **P 11 04 37.8 +0.5**
baz=23,SNR=29
D19A Cripps Ranch, 23.21 360 ⇑P **P 11 04 38.0 +0.5**
baz=23,SNR=82
D19A ⇑P **P 11 04 38.0 +0.5**
baz=23,SNR=82
D19A ⇑P **P 11 04 38.0 +0.5**
baz=23,SNR=82
LNOR Lincton Mounta 23.22 343 *e*P **P 11 04 38.6 +1.1**
LNOR Lincton Mounta 23.22 343 *e*P **P 11 04 38.5 +1.1**
CHMT Chamberlain Mo 23.24 352 *e*P **P 11 04 38.2 +0.3**
D17A Six Diamond Ra 23.25 357 P **P 11 04 38.5 +0.6**
baz=23,SNR=23
D17A P **P 11 04 38.5 +0.6**
baz=23,SNR=23
D17A P **P 11 04 38.5 +0.6**
baz=23,SNR=23
D18A Linhart Farms, 23.26 358 ⇑P **P 11 04 38.4 +0.4**
baz=23,SNR=26
D18A ⇑P **P 11 04 38.4 +0.4**
baz=23,SNR=26
D18A ⇑P **P 11 04 38.4 +0.4**
baz=23,SNR=26
D15A Lincoln 23.28 354 P **P 11 04 38.6 +0.4**
baz=23,SNR=40
D15A P **P 11 04 38.6 +0.4**
baz=23,SNR=40
D15A P **P 11 04 38.6 +0.4**
baz=23,SNR=40
D22A Cohagen 23.29 5 P **P 11 04 38.9 +0.7**
baz=23,SNR=69
D22A P **P 11 04 38.9 +0.7**
baz=23,SNR=69
D22A P **P 11 04 38.9 +0.7**
baz=23,SNR=69
G06A Carlson Farm, 23.35 339 ⇑P **P 11 04 38.9 +0.1**
baz=24
G06A ⇑P **P 11 04 38.9 +0.1**
baz=24
G06A ⇑P **P 11 04 38.9 +0.1**
baz=24
D23A Lindsay 23.40 6 P **P 11 04 39.5 +0.2**
baz=24,SNR=28
D23A P **P 11 04 39.5 +0.2**
baz=24,SNR=28
D23A P **P 11 04 39.5 +0.2**
baz=24,SNR=28
D14A Greenough 23.43 352 P **P 11 04 40.0 +0.3**
baz=24,SNR=62
D14A P **P 11 04 40.0 +0.3**
baz=24,SNR=62
D14A P **P 11 04 40.0 +0.3**
baz=24,SNR=62
D24A Glendive 23.44 8 P **P 11 04 39.7 0.0**
baz=24,SNR=12
D24A P **P 11 04 39.7 0.0**
baz=24,SNR=12
D24A P **P 11 04 39.7 0.0**
baz=24,SNR=12
D13A Huson 23.58 350 P **P 11 04 40.8 -0.3**
baz=24,SNR=15
D13A P **P 11 04 40.8 -0.3**
baz=24,SNR=15
D13A P **P 11 04 40.8 -0.3**
baz=24,SNR=15
SLMT Seeley Lake 23.59 352 *e*P **P 11 04 41.2 0.0**
C17A Wharram Farm, 23.73 357 P **P 11 04 43.0 +0.5**
baz=24,SNR=25
C17A P **P 11 04 43.0 +0.5**
baz=24,SNR=25
C17A P **P 11 04 43.0 +0.5**
baz=24,SNR=25
C20A Veseth Ranch, 23.77 1 P **P 11 04 43.5 +0.6**
baz=24,SNR=70
C20A P **P 11 04 43.5 +0.6**
baz=24,SNR=70
C20A P **P 11 04 43.5 +0.6**
baz=24,SNR=70
E09A Wood Farm, Sta 23.78 344 ⇑P **P 11 04 43.5 +0.5**
baz=24
E09A ⇑P **P 11 04 43.5 +0.5**
baz=24
E09A ⇑P **P 11 04 43.5 +0.5**
baz=24
C19A Slack Wire Ran 23.78 360 P **P 11 04 43.4 +0.4**
baz=24,SNR=45
C19A P **P 11 04 43.4 +0.4**
baz=24,SNR=45
C19A P **P 11 04 43.4 +0.4**
baz=24,SNR=45
C24A Savage 23.84 7 ⇓P **P 11 04 43.7 +0.2**
baz=24,SNR=6.4
C24A ⇓P **P 11 04 43.7 +0.2**
baz=24,SNR=6.4
C24A ⇓P **P 11 04 43.7 +0.2**
baz=24,SNR=6.4
C22A Vida 23.91 5 P **P 11 04 44.6 +0.4**
baz=24,SNR=41
C22A P **P 11 04 44.6 +0.4**
baz=24,SNR=41
C22A P **P 11 04 44.6 +0.4**
baz=24,SNR=41
C21A Desert Coulee 23.91 3 P **P 11 04 44.5 +0.2**
baz=24,SNR=45
C21A P **P 11 04 44.5 +0.2**
baz=24,SNR=45
C21A P **P 11 04 44.5 +0.2**
baz=24,SNR=45
SWMT Swartz Lake 23.92 351 *e*P **P 11 04 44.0 -0.4**
WCI Wyandotte Cave 23.92 48 *e*P **P 11 04 44.9 +0.5**
WCI pmax pmax
comp=Z,458nm,1.4s
WCI Wyandotte Cave 23.92 48 *e*P **P 11 04 44.9 +0.5**
comp=Z,458nm,1.4s
REDWA Red Mountain 23.93 342 P **P 11 04 44.2 -0.1**
C16A Fuhringer Ranc 23.96 355 ⇑P **P 11 04 44.8 0.0**
baz=24,SNR=17
C16A ⇑P **P 11 04 44.8 0.0**
baz=24,SNR=17
C16A ⇑P **P 11 04 44.8 0.0**
baz=24,SNR=17
CPCT Cooper Cave 23.98 56 *e*P **P 11 04 44.4 -0.6**
C15A Salmond Ranch, 24.01 354 ⇑P **P 11 04 45.2 -0.1**
baz=24,SNR=28
C15A ⇑P **P 11 04 45.2 -0.1**
baz=24,SNR=28
C15A ⇑P **P 11 04 45.2 -0.1**
baz=24,SNR=28
C23A Lambert 24.03 6 P **P 11 04 45.5 +0.1**
baz=24,SNR=30
C23A P **P 11 04 45.5 +0.1**
baz=24,SNR=30
C23A P **P 11 04 45.5 +0.1**
baz=24,SNR=30
HAWA Hanford 24.04 342 *e*P **P 11 04 45.5 0.0**
comp=Z,194nm,1.5s
HAWA LR LR
comp=Z,5µm,19.0s
RSW Rattlesnake Hi 24.06 342 *e*P **P 11 04 46.0 +0.3**
EGMT Eagleton 24.08 358 *e*P **P 11 04 46.0 +0.1**
comp=Z,1µm,1.4s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 24.08 358 P **P 11 04 46.1 +0.2**
baz=24,SNR=58
EGMT P **P 11 04 46.1 +0.2**
baz=24,SNR=58
EGMT P **P 11 04 46.1 +0.2**
baz=24,SNR=58
GOGA Godfrey 24.13 61 *e*P **P 11 04 45.9 -0.5**
GOGA pmax pmax
comp=Z,686nm,1.8s
GOGA MLR MLR
comp=Z,11µm,19.0s
GOGA Godfrey 24.13 61 *e*P **P 11 04 45.9 -0.5**
comp=Z,686nm,1.8s
GOGA LR LR
comp=Z,11µm,19.0s
SNIWA Snively Ranch 24.14 341 P **P 11 04 46.8 +0.4**
JTMT Jette 24.19 351 *e*P **P 11 04 47.9 +0.9**
BLO Bloomington 24.26 46 *e*P **P 11 04 47.8 +0.3**
BLO pmax pmax
comp=Z,636nm,1.8s
BLO Bloomington 24.26 46 *e*P **P 11 04 47.8 +0.3**
comp=Z,636nm,1.8s
YBMT Yellow Bay 24.27 351 *e*P **P 11 04 48.0 +0.3**
C12B Naegeli Ranch, 24.34 349 P **P 11 04 47.6 -0.6**
baz=24,SNR=10
C12B P **P 11 04 47.6 -0.6**
baz=24,SNR=10
C12B P **P 11 04 47.6 -0.6**
baz=24,SNR=10
BSMT Bassoo Peak 24.37 350 *e*P **P 11 04 50.8 +2.2**
B17A L&G Farms, Che 24.39 357 P **P 11 04 48.5 -0.2**
baz=24,SNR=23
B17A P **P 11 04 48.5 -0.2**
baz=24,SNR=23
B17A P **P 11 04 48.5 -0.2**
baz=24,SNR=23
JFWS Jewell Farm 24.40 35 *e*P **P 11 04 49.9 +1.2**
JFWS Jewell Farm 24.40 35 *e*P **P 11 04 49.9 +1.2**
B22A Reddig Ranch S 24.45 5 P **P 11 04 49.4 +0.1**
baz=25,SNR=32
B22A P **P 11 04 49.4 +0.1**
baz=25,SNR=32
B22A P **P 11 04 49.4 +0.1**
baz=25,SNR=32
B18A Beardsley Farm 24.45 358 ⇓P **P 11 04 49.6 +0.3**
baz=25,SNR=12
B18A ⇓P **P 11 04 49.6 +0.3**
baz=25,SNR=12
B18A ⇓P **P 11 04 49.6 +0.3**
baz=25,SNR=12
BLMT Blacktail Moun 24.46 351 *e*P **P 11 04 51.8 +2.2**
comp=Z,24nm,0.6s
B20A Solberg Farm, 24.50 1 P **P 11 04 49.8 +0.1**
baz=25,SNR=42
B20A P **P 11 04 49.8 +0.1**
baz=25,SNR=42
B20A P **P 11 04 49.8 +0.1**
baz=25,SNR=42
B19A Brinkman Farms 24.50 360 ⇓P **P 11 04 50.1 +0.3**
baz=25,SNR=15
B19A ⇓P **P 11 04 50.1 +0.3**
baz=25,SNR=15
B19A ⇓P **P 11 04 50.1 +0.3**
baz=25,SNR=15
B21A Ellsworth Farm 24.52 3 P **P 11 04 49.9 +0.1**
baz=25,SNR=11
B21A P **P 11 04 49.9 +0.1**
baz=25,SNR=11
B21A P **P 11 04 49.9 +0.1**
baz=25,SNR=11
B15A Bradely Ranch, 24.54 354 ⇓P **P 11 04 49.9 -0.3**
baz=25,SNR=36
B15A ⇓P **P 11 04 49.9 -0.3**
baz=25,SNR=36
SFIN Scholer Farm 24.56 43 ⇑P **P 11 04 50.0 -0.2**
baz=25,SNR=17
SFIN ⇑P **P 11 04 50.0 -0.2**
baz=25,SNR=17
SFIN ⇑P **P 11 04 50.0 -0.2**
baz=25,SNR=17
B16A M & M Farms, S 24.57 355 ⇑P **P 11 04 49.5 -0.9**
baz=25,SNR=11
B16A ⇑P **P 11 04 49.5 -0.9**
baz=25,SNR=11
B16A ⇑P **P 11 04 49.5 -0.9**
baz=25,SNR=11
TKL Tuckaleechee C 24.62 56 P **P 11 04 50.8 -0.1**
comp=Z,48nm,1.0s,baz=221,slow=8.7,SNR=33
TKL pP **pP 11 04 57.0 +0.3**
comp=Z,138nm,1.2s,baz=232,slow=6.6,SNR=15
TKL PcP **PcP 11 08 28.2 -0.1**
comp=Z,6.9nm,0.8s,baz=162,slow=3.2,SNR=3.2
TKL pPcP 11 08 34.8
comp=Z,28nm,1.1s,baz=184,slow=2.6,SNR=4.5
TKL LR LR 11 15 22.4
comp=Z,8µm,19.6s,baz=252,slow=39
TKL Tuckaleechee C 24.62 56 *e*P **P 11 04 50.6 -0.3**
TKL *PP **pP 11 04 57.0 +0.3**
TKL 11 08 28.3
TKL Tuckaleechee C 24.62 56 *e*P **P 11 04 50.6 -0.3**
TKL pP **pP 11 04 57.0 +0.3**
TKL PcP **PcP 11 08 28.2 -0.1**
TKL pPcP 11 08 34.8
B14A Marquette Ranc 24.66 353 ⇑P **P 11 04 50.7 -0.5**
baz=25,SNR=10.0
B14A ⇑P **P 11 04 50.7 -0.5**
baz=25,SNR=10.0
B14A ⇑P **P 11 04 50.7 -0.5**
baz=25,SNR=10.0
B23A Brockton 24.70 6 P **P 11 04 51.9 +0.4**
baz=25,SNR=29
B23A P **P 11 04 51.9 +0.4**
baz=25,SNR=29
B23A P **P 11 04 51.9 +0.4**
baz=25,SNR=29
OD2 Odessa Site #2 24.74 344 *e*P **P 11 04 51.9 +0.1**
DGMT Dagmar 24.79 7 *e*P **P 11 04 52.8 +0.5**
DGMT LR LR
comp=Z,8µm,22.0s
DGMT Dagmar 24.79 7 P **P 11 04 52.5 +0.3**
baz=25,SNR=30
DGMT P **P 11 04 52.5 +0.3**
baz=25,SNR=30
DGMT P **P 11 04 52.5 +0.3**
baz=25,SNR=30
A20A Cobblestone Ra 24.94 1 ⇓P **P 11 04 54.0 +0.3**
baz=25
A20A ⇓P **P 11 04 54.0 +0.3**
baz=25
A20A ⇓P **P 11 04 54.0 +0.3**
baz=25
SPMN St. Paul 24.94 28 ⇑P **P 11 04 53.2 -0.4**
baz=25,SNR=21
SPMN ⇑P **P 11 04 53.2 -0.4**
baz=25,SNR=21
SPMN ⇑P **P 11 04 53.2 -0.4**
baz=25,SNR=21
DWPF Disney 24.95 74 *e*P **P 11 04 52.5 -1.3**
comp=Z,209nm,1.4s
A19A Klindworth Far 24.98 0 ⇑P **P 11 04 54.1 +0.1**
baz=25,SNR=32
A19A ⇑P **P 11 04 54.1 +0.1**
baz=25,SNR=32
A19A ⇑P **P 11 04 54.1 +0.1**
baz=25,SNR=32
A18A Metzger Ranch, 24.98 358 P **P 11 04 54.0 -0.1**
baz=25,SNR=36
A18A P **P 11 04 54.0 -0.1**
baz=25,SNR=36
A18A P **P 11 04 54.0 -0.1**
baz=25,SNR=36
MDND Maddock 25.00 15 ⇑P **P 11 04 53.8 -0.4**
baz=25,SNR=11
MDND ⇑P **P 11 04 53.8 -0.4**
baz=25,SNR=11
MDND ⇑P **P 11 04 53.8 -0.4**
baz=25,SNR=11
C09A Chrisman Ranch 25.01 345 ⇑P **P 11 04 55.3 +1.1**
baz=25
C09A ⇑P **P 11 04 55.3 +1.1**
baz=25
C09A ⇑P **P 11 04 55.3 +1.1**
baz=25
A17A Triple J Farms 25.04 357 P **P 11 04 54.5 0.0**
baz=25,SNR=44
A17A P **P 11 04 54.5 0.0**
baz=25,SNR=44
A17A P **P 11 04 54.5 0.0**
baz=25,SNR=44
LON Longmire 25.07 339 *e*P **P 11 04 56.2 +1.3**
LON pmax pmax
comp=Z,380nm,1.8s
LON Longmire 25.07 339 *e*P **P 11 04 56.2 +1.3**
comp=Z,380nm,1.8s
A21A Bergtoll Ranch 25.09 3 P **P 11 04 55.1 +0.2**
baz=25,SNR=17
A21A P **P 11 04 55.1 +0.2**
baz=25,SNR=17
A21A P **P 11 04 55.1 +0.2**
baz=25,SNR=17
A16A West Butte Ran 25.09 356 ⇑P **P 11 04 54.9 -0.3**
baz=25
A16A ⇑P **P 11 04 54.9 -0.3**
baz=25
A16A ⇑P **P 11 04 54.9 -0.3**
baz=25
TZTN Tazewell 25.13 54 *e*P **P 11 04 55.6 +0.2**
comp=Z,714nm,1.6s
A22A Carney Farms, 25.15 5 P **P 11 04 56.0 +0.5**
baz=25,SNR=21
A22A P **P 11 04 56.0 +0.5**
baz=25,SNR=21
A22A P **P 11 04 56.0 +0.5**
baz=25,SNR=21
NEW Newport 25.19 347 *e*P **P 11 04 55.6 -0.3**
NEW pmax pmax
comp=Z,141nm,1.4s
NEW MLR MLR
comp=Z,2µm,22.0s
NEW Newport 25.19 347 *e*P **P 11 04 55.6 -0.3**
comp=Z,141nm,1.4s
NEW LR LR
comp=Z,2µm,22.0s
A23A Redstone 25.20 6 ⇓P **P 11 04 56.4 +0.4**
baz=25,SNR=6.2
A23A ⇓P **P 11 04 56.4 +0.4**
baz=25,SNR=6.2
A23A ⇓P **P 11 04 56.4 +0.4**
baz=25,SNR=6.2
A15A Johnson Ranch, 25.22 354 P **P 11 04 55.6 -0.6**
baz=25,SNR=35
A15A P **P 11 04 55.6 -0.6**
baz=25,SNR=35
A15A P **P 11 04 55.6 -0.6**
baz=25,SNR=35
A24A Westby 25.26 7 ⇓P **P 11 04 56.2 -0.3**
baz=25,SNR=11
A24A ⇓P **P 11 04 56.2 -0.3**
baz=25,SNR=11
A24A ⇓P **P 11 04 56.2 -0.3**
baz=25,SNR=11
A14A Double T Ranch 25.28 353 ⇑P **P 11 04 57.2 +0.4**
baz=25,SNR=12
A14A ⇑P **P 11 04 57.2 +0.4**
baz=25,SNR=12
A14A ⇑P **P 11 04 57.2 +0.4**
baz=25,SNR=12
ETW Entiat 25.37 342 *e*P **P 11 04 58.2 +0.5**
WALA Waterton Lakes 25.43 352 *e*P **P 11 04 58.5 +0.3**
comp=Z,9.3nm,1.4s
NLW Nelson Butte 25.80 342 P **P 11 05 02.1 +0.5**
JSC Jenkinsville 26.14 60 *e*P **P 11 05 04.8 +0.2**
JSC Jenkinsville 26.14 60 *e*P **P 11 05 04.8 +0.2**
NLWA Neilton Lookou 26.34 337 PFAKE 11 05 20.0 +14
NLWA LR LR
comp=Z,5µm,19.0s
AGMN Agassiz Nation 26.43 20 *e*P **P 11 05 06.8 -0.3**
comp=Z,672nm,1.4s
AGMN LR LR

comp=Z,2µm,19.0s
JTS JuntasAbangare 26.47 117 P **P 11 05 08.0 +0.2**
comp=Z,32nm,0.8s,baz=315,slow=7.6,SNR=17
JTS LR LR 11 15 33.0
comp=Z,4µm,20.9s,baz=314,slow=36
JTS JuntasAbangare 26.47 117 *e*P **P 11 05 07.7 -0.1**
JTS pmax pmax
comp=Z,70nm,1.0s
JTS JuntasAbangare 26.47 117 *e*P **P 11 05 07.7 -0.1**
comp=Z,70nm,1.0s
JTS JuntasAbangare 26.47 117 P **P 11 05 08.9 +1.1**
comp=Z,348nm,0.9s,SNR=5.7
RPW Rockport 26.48 341 *e*P P 11 05 12.8 +5.2
comp=Z,14nm,1.0s
NHSC New Hope 26.72 63 *e*P **P 11 05 10.4 +0.6**
comp=Z,384nm,1.4s
NHSC LR LR
comp=Z,6µm,19.0s
EYMN Ely 27.67 26 *e*P **P 11 05 17.5 -0.7**
comp=Z,601nm,1.3s
BLA Blacksburg 27.70 55 *e*P **P 11 05 19.2 +0.5**
BLA pmax pmax
comp=Z,470nm,1.9s
BLA MLR MLR
comp=Z,8µm,22.0s
BLA Blacksburg 27.70 55 *e*P **P 11 05 19.2 +0.5**
comp=Z,470nm,1.9s
BLA LR LR
comp=Z,8µm,22.0s
AAM Ann Arbor 27.79 43 *e*P **P 11 05 19.2 -0.1**
AAM pmax pmax
comp=Z,19nm,0.4s
AAM MLR MLR
comp=Z,11µm,19.0s
AAM Ann Arbor 27.79 43 *e*P **P 11 05 19.2 -0.1**
comp=Z,19nm,0.4s
AAM LR LR
comp=Z,11µm,19.0s
ULM Lac du Bonnet 28.17 18 P **P 11 05 21.9 -0.7**
comp=Z,13nm,0.6s,baz=215,slow=9.7,SNR=17
ULM pP **pP 11 05 28.7 +0.2**
comp=Z,149nm,1.1s,baz=210,slow=8.7,SNR=33
ULM pPcP 11 08 41.0
comp=Z,28nm,1.2s,baz=228,slow=2.7,SNR=3.4
ULM Lg Lg 11 14 08.0
comp=Z,7.6nm,1.3s,baz=284,slow=11,SNR=3.5
ULM LR LR 11 16 28.2
comp=Z,3µm,18.7s,baz=22,slow=36
ULM Lac du Bonnet 28.17 18 *e*P **P 11 05 22.0 -0.7**
ULM *PP **pP 11 05 28.7 +0.2**
ULM 11 08 41.1
ULM pmax pmax
comp=Z,535nm,1.5s
ULM Lac du Bonnet 28.17 18 *e*P **P 11 05 22.0 -0.7**
comp=Z,535nm,1.5s
ULM pP **pP 11 05 28.7 +0.2**
ULM pPcP 11 08 41.0
ULM Lg Lg 11 14 08.0
GLMI Grayling 28.70 37 *e*P **P 11 05 28.3 +0.8**
comp=Z,522nm,1.8s
CNNC Cliffs of the 29.07 60 *e*P **P 11 05 30.6 -0.2**
CNNC LR LR
comp=Z,6µm,22.0s
LMGC Las Mercedes 29.72 91 *e*P **P 11 05 37.4 +0.7**
ERPA Erie 30.03 46 *e*P **P 11 05 39.9 +0.6**
comp=Z,216nm,1.6s
ERPA LR LR
comp=Z,6µm,19.0s
CBN Corbin 30.31 55 *e*P **P 11 05 42.2 +0.4**
comp=Z,312nm,1.4s
CBN LR LR
comp=Z,6µm,19.0s
HLGC Holguin 30.40 89 *e*P **P 11 05 42.1 -0.7**
SSPA Standing Stone 30.82 50 *e*P **P 11 05 46.2 -0.1**
comp=Z,544nm,1.8s
RCC Rio Carpintero 30.93 91 *e*P **P 11 05 47.2 -0.3**
RCC *eS **S 11 10 51.6 +0.5**
comp=N,2µm,18.0s
RCC *e*
comp=E,2µm,18.0s
SDMD Soldier's Deli 31.11 53 *e*P **P 11 05 48.8 0.0**
comp=E,62nm,1.1s
FFC Flin Flon 31.20 8 *i*P **P 11 05 49.2 -0.3**
FFC Flin Flon 31.20 8 *e*P **P 11 05 49.1 -0.5**
comp=E,334nm,1.5s
FFC LR LR
comp=Z,5µm,22.0s
FFC Flin Flon 31.20 8 P **P 11 05 49.0 -0.5**
comp=Z,603nm,1.5s,SNR=11
BCIP Isla Barro Col 31.32 113 PFAKE 11 06 00.0 +9.1
BCIP LR LR
comp=Z,3µm,21.0s
GTBY Guantanamo Bay 31.48 91 PFAKE 11 06 00.0 +7.7
GTBY LR LR
comp=Z,2µm,19.0s
MASC Masc 32.23 90 *e*P P 11 05 54.5 -4.4
BINY Binghamton 32.75 48 *e*P **P 11 06 03.4 +0.1**
comp=Z,400nm,1.5s
BINY LR LR
comp=Z,6µm,19.0s
CPNY Central Park 33.66 52 *e*P **P 11 06 11.3 +0.2**
comp=Z,380nm,1.8s
TRY Troy 34.54 48 *e*P **P 11 06 18.6 -0.2**
comp=Z,104nm,0.8s
YLE Yale 34.56 51 *e*P **P 11 06 19.2 +0.2**
comp=Z,5µm,2.1s
MSNY Massena 34.66 44 *e*P **P 11 06 18.4 -1.4**
comp=Z,737nm,1.3s
LONY Lake Ozonia 34.68 45 PFAKE 11 06 30.0 +10
LONY LR LR
comp=Z,6µm,20.0s
SDDR Presa de Saban 35.21 91 *e*P **P 11 06 24.7 -0.2**
comp=Z,17nm,1.0s
SDDR LR LR
comp=Z,2µm,20.0s
QUA2 Belchertown 35.29 50 *e*P **P 11 06 25.8 +0.5**
comp=Z,780nm,1.5s
MDV Middlebury 35.34 47 *e*P **P 11 06 25.6 -0.1**
comp=Z,20µm,1.2s
LBNH Lisbon 36.27 47 PFAKE 11 06 50.0 +16
LBNH LR LR
comp=Z,7µm,20.0s
DLBC Dease Lake 37.68 342 P **P 11 06 46.4 +0.8**
comp=Z,9.8nm,0.7s,baz=161,slow=6.7,SNR=18
DLBC PcP **PcP 11 09 03.0 +0.4**
comp=Z,5.2nm,0.8s,baz=148,slow=4.1,SNR=4.8
DLBC pPcP 11 09 10.2
comp=Z,16nm,0.9s,baz=215,slow=2.3,SNR=4.5
DLBC Dease Lake 37.68 342 *e*P **P 11 06 46.7 +1.2**
DLBC PcP **PcP 11 09 03.0 +0.4**
DLBC pPcP 11 09 10.2
OTAV Otavalo 37.69 124 *e*P **P 11 06 47.9 +1.3**
comp=Z,358nm,1.8s
OTAV LR LR
comp=Z,1µm,20.0s
ROSC El Rosal 38.23 114 P **P 11 06 53.6 +2.5**
comp=Z,21nm,0.9s,baz=87,slow=18,SNR=22
ROSC LR LR 11 23 55.5
comp=Z,2µm,20.0s,baz=352,slow=38
ROSC El Rosal 38.23 114 *e*P **P 11 06 50.7 -0.4**
PKME Peaks-Kenny Pk 38.39 46 PFAKE 11 07 00.0 +8.4
PKME LR LR
comp=Z,8µm,21.0s
CRPR Cabo Rojo, PR 39.29 90 *e*P **P 11 06 58.6 -0.8**
comp=Z,30nm,1.2s
SDV Santo Domingo 39.41 106 *e*P **P 11 07 00.9 +0.2**
comp=Z,118nm,1.0s
SDV LR LR
comp=Z,761nm,19.0s
LRS Lares 39.45 90 *e*P **P 11 07 00.2 -0.7**
BBSR BB Station 39.59 68 PFAKE 11 07 10.0 +8.1
BBSR LR LR
comp=Z,2µm,20.0s
OBIP Obispado Ponce 39.74 90 *e*P **P 11 07 02.6 -0.6**
comp=Z,39nm,0.9s
CELP Cerrillos 39.76 90 *e*P **P 11 07 03.1 -0.3**
MTP Monte Pirata 40.69 90 *e*P **P 11 07 10.9 -0.2**
comp=Z,200nm,1.5s
CDVI St. Croix 41.50 90 *e*P **P 11 07 17.5 -0.3**
comp=Z,76nm,0.8s
ATAH Atahualpa 42.83 132 P **P 11 07 30.7 +1.6**
comp=Z,20nm,1.0s,baz=335,slow=7.5,SNR=17
ATAH Atahualpa 42.83 132 P **P 11 07 30.7 +1.6**
SCHQ Schefferville 43.76 34 P **P 11 07 37.2 +1.5**
comp=Z,18nm,1.1s,baz=280,slow=2.5,SNR=7.6
SCHQ LR LR 11 26 41.5
comp=Z,2µm,21.3s,baz=243,slow=37
SCHQ Schefferville 43.76 34 P **P 11 07 37.2 +1.5**
TAOE Nuku Hiva Isla 44.68 227 *e*S **S 11 14 21.1 +1.6**
comp=Z,337nm,28.9s
TAOE *e*LQ LQ 11 18 20.0
comp=Z,4µm,26.2s
TAOE *e*LR LR 11 20 05.3
comp=Z,5µm,26.2s,baz=45
DAWY Dawson 44.90 342 *e*P **P 11 07 45.2 +0.4**
KIP Kipapa 45.28 277 PFAKE 11 08 00.0 +12
KIP LR LR
comp=Z,5µm,20.0s
FDF Fort de France 45.72 92 PFAKE 11 08 00.0 +8.0
FDF LR LR
comp=Z,1µm,20.0s
EGAK Eagle 45.94 341 *e*P **P 11 07 53.1 +0.2**
comp=Z,221nm,2.0s
EGAK LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 46.03 329 P **P 11 07 55.4 +1.7**
comp=Z,60nm,1.2s,baz=95,slow=10.0,SNR=3.1
KDAK Kodiak Island 46.03 329 P **P 11 07 55.4 +1.7**
KDAK MLR MLR
comp=Z,2µm,20.0s
KDAK Kodiak Island 46.03 329 P **P 11 07 55.4 +1.7**
KDAK LR LR
comp=Z,2µm,20.0s
DOT Dot Lake 46.04 339 *e*P **P 11 07 54.5 +0.7**
comp=Z,95nm,2.0s
GRGR Grenville 46.16 96 PFAKE 11 08 10.0 +15
GRGR LR LR
comp=Z,1µm,19.0s
SML Sawmill 46.38 335 *e*P **P 11 07 55.8 -0.7**
SML pmax pmax
comp=Z,17nm,1.2s
SML Sawmill 46.38 335 *e*P **P 11 07 55.8 -0.7**
comp=Z,17nm,1.2s
PMR Palmer 46.56 335 *e*P **P 11 07 57.9 +0.1**
PMR pmax pmax
comp=Z,39nm,1.5s
PMR Palmer 46.56 335 *e*P **P 11 07 57.9 +0.1**
comp=Z,39nm,1.5s
INK Inuvik 46.91 348 P **P 11 08 00.3 -0.1**
comp=Z,8.1nm,0.9s,baz=150,slow=9.7,SNR=25
INK pP **pP 11 08 07.5 +1.1**
comp=Z,48nm,1.2s,baz=146,slow=8.1,SNR=26
INK LR LR 11 28 37.3
comp=Z,2µm,19.2s,baz=138,slow=37
INK Inuvik 46.91 348 *e*P **P 11 08 00.3 -0.1**
INK *PP **pP 11 08 07.6 +1.1**
INK pmax pmax
comp=Z,223nm,1.6s
INK Inuvik 46.91 348 *e*P **P 11 08 00.3 -0.1**
comp=Z,223nm,1.6s
INK pP **pP 11 08 07.5 +1.1**
RSO Redoubt South 47.42 332 *e*P **P 11 08 05.5 +0.6**
comp=Z,154nm,1.2s
NNA Nana 47.43 135 P **P 11 08 06.4 +1.1**
comp=Z,17nm,0.9s,baz=325,slow=9.0,SNR=7.4
NNA Nana 47.43 135 *e*P **P 11 08 05.5 +0.2**
NNA pmax pmax
comp=Z,76nm,1.3s
NNA MLR MLR
comp=Z,780nm,21.0s
NNA Nana 47.43 135 *e*P **P 11 08 05.5 +0.2**
comp=Z,76nm,1.3s
NNA LR LR
comp=Z,780nm,21.0s
BBGH Gun Hill 47.71 94 PFAKE 11 08 20.0 +13
BBGH LR LR
comp=Z,4µm,21.0s
ILAR Eielson Array 47.71 339 P **P 11 08 06.9 +0.1**
comp=Z,6.2nm,0.7s,baz=150,slow=6.7,SNR=81
ILAR pP **pP 11 08 13.9 +1.1**
comp=Z,20nm,0.9s,baz=151,slow=3.6,SNR=27
ILAR LR LR 11 27 55.7
comp=Z,1µm,19.1s,baz=143,slow=36
ILAR Eielson Array 47.71 339 P **P 11 08 06.9 +0.1**
ILAR *PP **pP 11 08 13.9 +1.1**
ILAR Eielson Array 47.71 339 P **P 11 08 06.9 +0.1**
ILAR pP **pP 11 08 13.9 +1.1**
MCK McKinley 47.76 337 *e*P **P 11 08 07.7 +0.5**
MCK pmax pmax
comp=Z,142nm,1.3s
MCK McKinley 47.76 337 *e*P **P 11 08 07.7 +0.5**
comp=Z,142nm,1.3s
TRF Thorofare Moun 48.08 336 *e*P **P 11 08 10.1 +0.3**
comp=Z,257nm,1.1s
COLA College 48.09 339 *e*P **P 11 08 09.5 -0.2**
COLA pmax pmax
comp=Z,88nm,1.6s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 48.09 339 *e*P **P 11 08 09.5 -0.2**
comp=Z,88nm,1.6s
COLA LR LR
comp=Z,1µm,19.0s
PPLA Purkeypile 48.48 335 *e*P **P 11 08 13.1 +0.2**
comp=Z,476nm,1.5s
TTA Tatalina 50.00 334 *e*P **P 11 08 24.3 -0.2**
TTA pmax pmax
comp=Z,90nm,1.2s
TTA Tatalina 50.00 334 *e*P **P 11 08 24.3 -0.2**
comp=Z,90nm,1.2s
COLD Coldfoot 50.32 340 *e*P **P 11 08 27.3 +0.6**
comp=Z,70nm,1.5s
RPN Rapa Nui 50.73 181 PFAKE 11 08 40.0 +10
RPN LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 51.35 5 *e*P **P 11 08 33.2 -1.2**
RES pmax pmax
comp=Z,88nm,1.4s
RES Resolute Bay 51.35 5 *e*P **P 11 08 33.1 -1.2**
comp=Z,88nm,1.4s
XMAS Kiritimati 51.77 253 PFAKE 11 08 50.0 +12
XMAS LR LR
comp=Z,7µm,20.0s
RKT Rikitea 53.20 210 *e*S **S 11 16 20.8 +2.0**
comp=Z,496nm,28.0s
RKT *e*LQ LQ 11 21 56.7
comp=Z,1µm,31.8s
RKT *e*LR LR 11 24 11.3
comp=Z,2µm,27.8s,baz=30
SAML Samuel 55.25 121 *e*P **P 11 09 01.7 -2.2**
comp=Z,190nm,1.5s
SAML LR LR
comp=Z,1µm,22.0s
TNA Tin City 55.81 334 *e*P **P 11 09 07.6 +0.4**
comp=Z,59nm,1.4s
SFJD Kangerlussuaq 55.94 24 *e*P **P 11 09 09.1 +1.0**
SFJD pmax pmax
comp=Z,343nm,1.6s
SFJD Kangerlussuaq 55.94 24 *e*P **P 11 09 09.1 +1.0**
comp=Z,343nm,1.6s
LPAZ La Paz 56.35 131 P **P 11 09 11.7 -0.7**
comp=Z,13nm,1.0s,baz=338,slow=8.5,SNR=32
LPAZ pP **pP 11 09 17.8 -0.8**
comp=Z,10nm,0.9s,baz=344,slow=7.8,SNR=7.7
LPAZ La Paz 56.35 131 P **P 11 09 11.7 -0.7**
LPAZ *PP **pP 11 09 17.8 -0.8**
LPAZ La Paz 56.35 131 P **P 11 09 11.7 -0.7**
LPAZ pP **pP 11 09 17.8 -0.8**
GAMB Gambell 56.88 332 *e*P **P 11 09 14.3 -0.5**
comp=Z,54nm,1.5s
JOHN Johnston Islan 57.02 275 PFAKE 11 09 30.0 +13
JOHN LR LR
comp=Z,20µm,22.0s
PPT2 Papeete2 57.30 228 *e*S **S 11 17 15.9 +1.8**
comp=Z,1µm,26.8s
PPT2 *e*LQ LQ 11 23 40.6
comp=Z,1µm,26.8s
PPT2 *e*LR LR 11 25 57.6
comp=Z,5µm,26.8s,baz=31
LVC Limon Verde 60.35 137 *e*P **P 11 09 41.0 +1.1**
comp=Z,218nm,1.6s
LVC LR LR
comp=Z,544nm,19.0s
ALE Alert 61.17 6 P **P 11 09 42.0 -2.4**
comp=Z,382nm,1.1s,SNR=12
SIV San Ignacio 61.21 126 P **P 11 09 44.7 -0.9**
comp=Z,49nm,1.0s,baz=318,slow=7.2,SNR=115
SIV pP **pP 11 09 51.0 -0.7**
comp=Z,48nm,1.0s,baz=326,slow=7.4,SNR=16
SIV San Ignacio 61.21 126 P **P 11 09 44.7 -0.9**
SIV pP **pP 11 09 51.0 -0.7**
TBI Tubuai 61.34 223 *e*S **S 11 18 06.9 +0.8**
comp=Z,497nm,32.2s
TBI *e*LQ LQ 11 25 23.2
comp=Z,1µm,35.0s
TBI *e*LR LR 11 27 42.8
comp=Z,3µm,29.2s,baz=39
SUMG Summit 61.52 19 *i*P **P 11 09 46.5 -0.9**
SUMG *i* 11 09 53.6
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 61.52 19 *e*P **P 11 09 46.6 -0.8**
comp=Z,191nm,1.4s
SUMG Summit 61.52 19 *i*P **P 11 09 46.5 -0.9**
comp=Z,33nm,1.0s
SUMG *i* 11 09 53.6
LCO Las Campanas 64.13 143 *e*P **P 11 10 05.5 +0.4**
comp=Z,217nm,1.8s
LCO LR LR
comp=Z,773nm,22.0s
LCO Las Campanas 64.13 143 *e*P **P 11 10 05.6 +0.4**
TLL Tololo Astrono 64.98 144 *e*P **P 11 10 10.7 0.0**
BILL Bilibino 66.18 336 *i*P **P 11 10 16.3 -1.3**
BILL *e* 11 10 47.9
BILL pmax pmax
comp=Z,53nm,1.6s
BILL Bilibino 66.18 336 *e*P **P 11 10 17.3 -0.3**
comp=Z,157nm,1.5s
BILL LR LR
comp=Z,968nm,21.0s
SCO Scoresbysund 66.66 21 *e*P **P 11 10 19.6 -1.0**
SCO *i* 11 10 26.4
SCO pmax pmax
comp=Z,15nm,1.1s
SCO Scoresbysund 66.66 21 *i*P **P 11 10 19.6 -1.0**
comp=Z,15nm,1.1s
SCO *i* 11 10 26.4
RAR Rarotonga 66.86 232 PFAKE 11 10 30.0 +7.4
RAR LR LR
comp=Z,1µm,22.0s
DAG Danmarks Havn 66.95 14 *i*P **P 11 10 20.9 -1.5**
DAG *i* 11 10 28.0
DAG pmax pmax
comp=Z,32nm,1.1s
DAG Danmarks Havn 66.95 14 *i*P **P 11 10 20.9 -1.5**
comp=Z,320nm,1.1s
DAG *i* 11 10 28.0
CFAA Coronel Fontan 67.48 143 P **P 11 10 27.2 +0.8**
comp=Z,5.0nm,1.0s,baz=305,slow=4.9,SNR=35
CFAA pP **pP 11 10 33.3 +0.6**
comp=Z,5.3nm,0.9s,baz=327,slow=5.6,SNR=11
CFAA Coronel Fontan 67.48 143 P **P 11 10 27.2 +0.8**
CFAA pP **pP 11 10 33.3 +0.6**
FCH Farellones 67.72 146 *e*P P 11 10 32.9 +4.7
CPUP Villa Florida 70.51 132 P **P 11 10 45.2 -0.1**
comp=Z,16nm,0.8s,baz=297,slow=6.3,SNR=36
CPUP pP **pP 11 10 51.1 -0.4**
comp=Z,12nm,0.6s,baz=304,slow=7.1,SNR=11
CPUP LR LR 11 43 44.1
comp=Z,377nm,19.8s,baz=315,slow=38
CPUP Villa Florida 70.51 132 P **P 11 10 45.2 -0.1**
CPUP *PP **pP 11 10 51.1 -0.4**
CPUP Villa Florida 70.51 132 P **P 11 10 45.2 -0.1**
CPUP pP **pP 11 10 51.1 -0.4**
KBS Kingsbay 72.25 10 *i*P P 11 11 01.7 +6.6
KBS Kingsbay 72.25 10 PFAKE 11 11 10.0 +15
KBS LR LR
comp=Z,2µm,21.0s
PET Petropavlovsk 72.74 321 PFAKE 11 11 10.0 +12
PET LR LR
comp=Z,1µm,20.0s
SEY Seymchan 72.89 332 *i*P **P 11 10 57.9 -1.2**
PEA0B Petropavlovsk- 73.26 321 P **P 11 11 01.2 -0.3**
PETK Petropavlovsk- 73.26 321 P **P 11 11 01.3 -0.2**
comp=Z,9.9nm,0.9s,baz=97,slow=6.4,SNR=5.3
PETK pP **pP 11 11 08.2 +0.4**
comp=Z,26nm,0.9s,baz=85,slow=6.4,SNR=9.1
PETK LR LR 11 36 58.1
comp=Z,488nm,20.9s,baz=264,slow=31
PETK Petropavlovsk- 73.26 321 P **P 11 11 01.3 -0.2**
PETK *PP **pP 11 11 08.2 +0.4**
PETK Petropavlovsk- 73.26 321 P **P 11 11 01.3 -0.2**
PETK pP **pP 11 11 08.2 +0.4**
SPB4 Spitsbergen Ar 73.41 10 *e*P **P 11 11 01.8 -0.2**
PLCA Paso Flores 73.49 151 P **P 11 11 04.0 +1.1**
comp=Z,19nm,1.0s,baz=321,slow=6.5,SNR=13
PLCA pP **pP 11 11 09.7 +0.5**
comp=Z,33nm,1.2s,baz=337,slow=7.5,SNR=7.8
PLCA LR LR 11 38 48.4
comp=Z,438nm,18.5s,baz=91,slow=32
PLCA Paso Flores 73.49 151 *e*P **P 11 11 03.5 +0.5**
PLCA *PP **pP 11 11 09.7 +0.5**
PLCA Paso Flores 73.49 151 *e*P **P 11 11 03.5 +0.5**
PLCA pP **pP 11 11 09.7 +0.5**
TRQA Tornquist 75.71 144 *e*P **P 11 11 15.5 -0.3**
comp=Z,201nm,1.7s
TRQA LR LR
comp=Z,507nm,20.0s
SPB Sao Paulo 76.01 124 *e*P **P 11 11 17.5 -0.3**
comp=Z,181nm,1.4s
SPB LR LR
comp=Z,1µm,19.0s
RCBR Riachuelo 76.89 102 PFAKE 11 11 30.0 +6.9
RCBR LR LR
comp=Z,954nm,21.0s
FUNA Funafuti 77.25 255 PFAKE 11 11 40.0 +15
FUNA LR LR
comp=Z,5µm,19.0s
TARA Tarawa 78.71 266 PFAKE 11 11 50.0 +17
TARA LR LR
comp=Z,98nm,20.0s
ESK Eskdalemuir 79.06 34 PFAKE 11 11 50.0 +16
ESK LR LR
comp=Z,1µm,19.0s
SACV Santiago Islan 79.79 78 PFAKE 11 11 50.0 +11
SACV LR LR
comp=Z,924nm,20.0s
ARCES ARCESS Array B 81.24 15 P **P 11 11 45.6 -0.3**
comp=Z,6.9nm,0.7s,baz=338,slow=5.2,SNR=5.1
ARCES pP **pP 11 11 52.6 +0.3**
comp=Z,46nm,1.2s,baz=310,slow=5.7,SNR=5.5
ARCES LR LR 11 51 30.6
comp=Z,1µm,19.1s,baz=204,slow=38
ARCES ARCESS Array B 81.24 15 P **P 11 11 45.7 -0.3**
ARCES *PP **pP 11 11 52.7 +0.3**
ARCES ARCESS Array B 81.24 15 P **P 11 11 45.6 -0.3**
ARCES pP **pP 11 11 52.6 +0.3**
KEV Kevo 81.42 14 *e*P **P 11 11 44.3 -2.6**
KEV pmax pmax
comp=Z,9.0nm,0.7s
KEV Kevo 81.42 14 *e*p **P 11 11 44.3 -2.6**
comp=Z,8.9nm,0.7s
KEV Kevo 81.42 14 *e*p **P 11 11 44.3 -2.6**
comp=Z,8.9nm,0.7s
PGAV Gavieira, Arco 81.75 48 *e*P P 11 11 55.4 +6.0
comp=Z,137nm,1.6s
PGAV *e*LQ LQ 11 33 35.5
PGAV *e*LR LR 11 38 33.4
comp=Z,2µm,22.0s
PCAB Cabril 82.03 48 *e*P P 11 11 57.6 +6.9
comp=Z,149nm,1.5s
ROSF Rostrenen 82.16 40 *e*P **P 11 11 51.3 +0.1**
comp=Z,322nm,1.6s
POLO Lamas de Olo 82.33 48 *e*P P 11 11 59.1 +6.7
comp=Z,59nm,1.4s
QUIF Quistinic 82.42 41 *e*P **P 11 11 52.9 +0.4**
comp=Z,510nm,1.6s
PVRL Vila Real 82.42 48 *e*P P 11 11 59.5 +6.7
comp=Z,120nm,1.5s
MSVF Nonsavu 82.46 247 PFAKE 11 12 10.0 +17
MSVF LR LR
comp=Z,2µm,22.0s
PVIS Viseu 82.53 49 *e*P P 11 12 00.8 +7.4
comp=Z,88nm,1.5s
YAK Yakutsk 82.54 336 *e*P **P 11 11 51.2 -1.7**
YAK *e* 11 11 54.7
YAK *e**PP **pP 11 11 59.3 +0.1**
YAK *e* 11 14 59.5
YAK *e*PPP PPP 11 16 51.3
YAK *e*S **S 11 22 06.6 -2.0**
YAK *e*SS **SS 11 27 38.0 +9.0**
YAK *e*SSS SSS 11 31 02.2
YAK pmax pmax
comp=E,15nm,1.7s
YAK pmax pmax
comp=Z,27nm,1.5s
YAK pmax pmax
comp=Z,39nm,2.5s
YAK smax smax

comp=N,147nm,14.1s
YAK smax smax
comp=E,52nm,8.2s
YAK MLR MLR
comp=N,413nm,17.0s
YAK MLR MLR
comp=Z,799nm,20.0s
YAK MLR MLR
comp=E,338nm,16.0s
YAK Yakutsk 82.54 336 *eP* **P 11 11 52.6 -0.3**
YAK LR LR
comp=E,32nm,0.8s
comp=Z,562nm,21.0s
NAO01 NORSAR Array S 82.58 25 P **P 11 11 54.8 +1.6**
comp=Z,190nm,1.6s
NB2 NORSAR Subarra 82.59 25 P **P 11 11 53.1 -0.2**
comp=Z,201nm,1.7s,baz=310,slow=4.8
NOA NORSAR Array B 82.59 25 P **P 11 11 53.7 +0.4**
comp=Z,7.9nm,1.1s,baz=309,slow=5.0,SNR=6.4
NOA pP **pP 11 12 00.2 +0.6**
comp=Z,31nm,1.1s,baz=308,slow=5.0,SNR=26
NOA NORSAR Array B 82.59 25 P **P 11 11 53.7 +0.4**
NOA *PP **pP 11 12 00.2 +0.6**
NOA NORSAR Array B 82.59 25 P **P 11 11 53.7 +0.4**
NOA pP **pP 11 12 00.2 +0.6**
SGMF Saint Gilles 82.62 40 *eP* **P 11 11 53.8 +0.2**
comp=Z,462nm,1.6s
PTOM Tomar 82.64 50 *eP* P 11 12 01.6 +7.7
comp=Z,108nm,1.8s
KONO Kongsberg 82.77 27 *eP* **P 11 11 54.9 +0.7**
KONO pmax pmax
comp=Z,374nm,1.4s
KONO MLR MLR
comp=Z,2µm,21.0s
KONO Kongsberg 82.77 27 *eP* **P 11 11 54.9 +0.7**
comp=Z,374nm,1.4s
KONO LR LR
comp=Z,2µm,21.0s
PBRG Braganca 82.86 47 *eP* P 11 12 01.9 +6.8
comp=Z,77nm,2.0s
MTE Manteigas 82.91 49 *eP* P 11 12 02.1 +6.7
comp=Z,81nm,1.8s
MTE *eLR LR 11 39 31.8
comp=Z,3µm,18.0s
MTE Manteigas 82.91 49 *eP* **P 11 11 56.0 +0.7**
comp=Z,115nm,1.5s
MTE LR LR
comp=Z,3µm,20.0s
MVO Moncorvo 82.94 48 *eP* P 11 12 02.2 +6.7
comp=Z,186nm,1.8s
MVO *eLQ LQ 11 37 07.7
MVO *eLR LR 11 39 21.8
comp=Z,2µm,22.0s
PMTG Montargil 83.00 50 *eP* P 11 11 59.3 +3.5
comp=Z,128nm,1.6s
PNCL Nicolau / Gran 83.19 51 *eP* P 11 12 03.4 +6.6
comp=Z,87nm,1.8s
PCBR Castelo Branco 83.20 49 *eP* P 11 12 03.0 +6.2
comp=Z,84nm,1.9s
PTEO Sao Teotonio 83.28 52 *eP* P 11 12 04.5 +7.2
comp=Z,224nm,1.8s
EVO Evora 83.38 51 *eP* P 11 12 04.7 +7.0
comp=Z,157nm,1.7s
EVO Evora 83.38 51 *eP* **P 11 11 58.7 +1.0**
comp=Z,463nm,1.7s
EVO *eR
comp=Z,2µm,19.2s
PMRV Marv??o 83.43 50 *eP* P 11 12 04.7 +6.7
comp=Z,198nm,1.7s
PMRV *eLR LR 11 39 39.8
comp=Z,2µm,18.0s
MORF Marmelete 83.44 52 *eP* P 11 12 05.1 +6.9
comp=Z,131nm,1.7s
PESTR Estremoz 83.53 50 *eP* P 11 12 05.2 +6.6
comp=Z,152nm,1.6s
GRR Gorron 83.56 40 *eP* **P 11 11 58.9 +0.4**
comp=Z,665nm,1.5s
FLN La Foliniere 83.60 39 *eP* **P 11 11 59.2 +0.5**
comp=Z,1µm,1.5s
FLN *eR
comp=Z,2µm,19.8s
PBEJ Beja 83.70 51 *eP* P 11 12 06.8 +7.4
comp=Z,99nm,1.6s
PCVE Castro Verde 83.74 52 *eP* P 11 12 06.8 +7.2
comp=Z,195nm,1.6s
LDF La Druitiere 83.89 39 *eP* **P 11 12 00.7 +0.5**
comp=Z,368nm,1.5s
PBDV Barranco-do-Ve 83.98 52 *eP* P 11 12 08.1 +7.2
comp=Z,210nm,1.6s
YUK Yuzh-Kuril'sk 83.99 316 *c iP* P 11 12 10.5 +10
YUK pmax pmax
comp=N,519nm,1.6s
YUK pmax pmax
comp=Z,958nm,1.6s
YUK pmax pmax
comp=E,680nm,1.6s
YUK pmax pmax
comp=Z,1µm,1.8s
PVAQ Vaqueiros 84.07 52 *eP* P 11 12 08.0 +6.7
comp=Z,191nm,1.6s
PVAQ *eLQ LQ 11 39 03.6
PVAQ *eLR LR 11 41 34.0
comp=Z,1µm,20.0s
PBAR Barrancos 84.22 51 *eP* P 11 12 08.9 +6.8
comp=Z,143nm,1.7s
MUD Monsted U'grnd 84.46 30 *eP* P 11 12 07.2 +4.4
MUD pmax pmax
comp=Z,31nm,1.1s
MUD Monsted U'grnd 84.46 30 *i* P P 11 12 07.2 +4.4
comp=Z,31nm,1.1s
YSS Yuzh-Sakhalins 84.53 319 *eP* **P 11 12 04.0 +0.6**
YSS pmax pmax
comp=Z,92nm,1.1s
YSS MLR MLR
comp=Z,159nm,20.0s
YSS Yuzh-Sakhalins 84.53 319 *eP* **P 11 12 04.0 +0.6**
comp=Z,92nm,1.1s
YSS LR LR
comp=Z,159nm,20.0s
LVZ Lovozero 84.57 13⇓ *eP* **P 11 12 02.8 -0.5**
LVZ Lovozero 84.57 13 *eP* **P 11 12 04.1 +0.8**
comp=Z,148nm,1.3s
APA Apatity 84.58 14⇓ *eP* P 11 12 09.0 +5.7
APA MLR MLR
comp=Z,2µm,16.0s
MFF Saint Martin d 84.85 41 *eP* **P 11 12 05.2 +0.1**
comp=Z,461nm,1.8s
RAO Raoul Island 84.86 235 PFAKE 11 12 20.0 +15
RAO LR LR
comp=Z,1µm,20.0s
SNF Seneffe 85.37 36 P **P 11 12 08.2 +0.6**
comp=Z,30nm,1.7s
PAB San Pablo 85.49 49 *eP* **P 11 12 09.1 +0.5**
PAB pmax pmax
comp=Z,212nm,1.6s
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 85.49 49 *eP* **P 11 12 09.1 +0.5**
comp=Z,212nm,1.6s
PAB LR LR
comp=Z,2µm,20.0s
BAIF Baives 85.57 37 *eP* **P 11 12 07.6 -1.0**
comp=Z,175nm,1.5s
SFS San Fernando 85.57 52 PFAKE 11 12 20.0 +11
SFS LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 85.70 48 P **P 11 12 10.0 +0.4**
comp=Z,1.3nm,0.6s,baz=306,slow=5.4,SNR=8.1
ESDC pP **pP 11 12 15.8 -0.1**
comp=Z,7.7nm,0.9s,baz=306,slow=4.9,SNR=15
ESDC LR LR 11 47 25.1
comp=Z,2µm,21.6s,baz=295,slow=34
ESDC Sonseca Array 85.70 48 P **P 11 12 10.0 +0.4**
ESDC pP **pP 11 12 15.8 -0.1**
ESLA Sonseca Array 85.70 48 *eP* **P 11 12 11.9 +2.4**
comp=Z,50nm,1.6s
ESLA LR LR
comp=Z,12µm,21.0s
DOU Dourbes 85.76 36 P **P 11 12 10.2 +0.6**
comp=Z,27nm,1.8s
SJPF Ste Jean 85.89 44 *eP* **P 11 12 10.7 +0.3**
comp=Z,183nm,1.7s
BCLA Clavier 85.96 36 P **P 11 12 11.2 +0.6**
comp=Z,29nm,1.5s
RTC Rabat Centre 86.19 55 PFAKE 11 12 20.0 +8.0
RTC LR LR
comp=Z,891nm,21.0s

MEM Membach 86.23 35 P **P 11 12 11.4 -0.4**
comp=Z,34nm,1.4s
ETSF Etsaut 86.42 44 *eP* **P 11 12 12.4 -0.7**
comp=Z,90nm,1.5s
RJF Les Rejaudoux 86.50 42 *eP* **P 11 12 12.4 -1.0**
comp=Z,51nm,1.0s
RJF *eR
comp=Z,2µm,23.0s
BGF Bois d'Agland 86.65 40 *eP* **P 11 12 12.9 -1.1**
comp=Z,143nm,1.5s
ERM Erimo 86.69 315 PFAKE 11 12 30.0 +16
ERM LR LR
comp=Z,642nm,20.0s
SSF Saint Saulge 86.77 39 *eP* **P 11 12 13.5 -1.1**
comp=Z,108nm,1.1s
AVF Avril sur Loir 86.83 40 *eP* **P 11 12 13.4 -1.5**
comp=Z,86nm,1.3s
WLF Walferdange 86.84 36 P **P 11 12 15.4 +0.5**
comp=Z,40nm,1.6s
WLF Walferdange 86.84 36 *eP* **P 11 12 15.2 +0.3**
WLF pmax pmax
comp=Z,100nm,1.5s
WLF MLR MLR
comp=Z,2µm,22.0s
WLF Walferdange 86.84 36 *eP* **P 11 12 15.2 +0.3**
comp=Z,100nm,1.5s
WLF LR LR
comp=Z,2µm,22.0s
VERF Verneugheol 86.86 41 *eP* **P 11 12 18.0 +2.9**
VERF Verneugheol 86.86 41 *eP* **P 11 12 18.0 +2.9**
LOR Lormes 86.86 39 *eP* **P 11 12 14.1 -1.0**
comp=Z,125nm,1.2s
LOR *eR
comp=Z,2µm,19.0s
EPF Esparros 86.92 44 *eP* **P 11 12 14.6 -0.9**
comp=Z,42nm,1.3s
SFTF Sexfontaines 87.03 38 *eP* **P 11 12 14.6 -1.3**
comp=Z,125nm,1.4s
CAF Calviac 87.03 42 *eP* **P 11 12 14.8 -1.2**
comp=Z,76nm,1.4s
KAF Kangasniemi 87.10 19 *eP* P 11 12 21.7 +5.8
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 87.10 19 *ep* P 11 12 21.7 +5.8
comp=Z,5.7nm,0.8s
KAF Kangasniemi 87.10 19 *ep* P 11 12 21.7 +5.8
comp=Z,5.7nm,0.8s
PYM Petit Puy Mans 87.17 41 *eP* **P 11 12 19.2 +2.5**
PYM Petit Puy Mans 87.17 41 *eP* **P 11 12 19.2 +2.5**
PYM Petit Puy Mans 87.17 41 *eP* **P 11 12 19.2 +2.5**
PAGF Fort de Pagny 87.22 37 *eP* **P 11 12 15.8 -1.0**
comp=Z,60nm,1.5s
RUP Ruppelstein 87.31 36 *eP* **P 11 12 19.9 +2.7**
RUP Ruppelstein 87.31 36 *eP* **P 11 12 19.9 +2.7**
ABH Alteburg 87.46 35 *eP* P 11 12 21.4 +3.4
FINES FINESS Array B 87.54 20 P **P 11 12 17.6 -0.4**
comp=Z,3.2nm,0.8s,baz=329,slow=2.2,SNR=5.2
FINES pP **pP 11 12 23.7 -0.7**
comp=Z,14nm,1.0s,baz=25,slow=5.0,SNR=8.0
FINES LR LR 11 53 04.3
comp=Z,1µm,19.3s,baz=314,slow=37
FINES FINESS Array B 87.54 20 P **P 11 12 17.6 -0.4**
FINES *PP **pP 11 12 23.7 -0.7**
FINES FINESS Array B 87.54 20 P **P 11 12 17.6 -0.4**
FINES pP **pP 11 12 23.7 -0.7**
THEF They Montfort 87.55 37 *eP* P 11 12 22.3 +3.9
THEF They Montfort 87.55 37 *eP* P 11 12 22.3 +3.9
THEF They Montfort 87.55 37 *eP* P 11 12 22.3 +3.9
LBL Lubilhac 87.59 41 *eP* P 11 12 22.0 +3.3
LBL Lubilhac 87.59 41 *eP* P 11 12 22.0 +3.3
LBL Lubilhac 87.59 41 *eP* P 11 12 22.0 +3.3
CLNS Chul'man 87.77 334 *eP* P 11 12 24.7 +5.4
CLNS *e* 11 12 31.8
CLNS *e* 11 15 50.2
CLNS *ePPP PPP 11 17 45.3
CLNS *eS **SKSac 11 22 49.3 +2.8**
CLNS *eSSS SSS 11 32 23.4
CLNS pmax pmax
comp=Z,29nm,1.4s
CLNS pmax pmax
comp=E,16nm,1.5s
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.5s
CLNS pmax pmax
comp=Z,5.0nm,1.4s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS smax smax
comp=N,193nm,12.7s
CLNS smax smax
comp=E,123nm,13.4s
CLNS MLR MLR
comp=E,457nm,16.0s
CLNS MLR MLR
comp=N,286nm,17.0s
CLNS MLR MLR
comp=Z,294nm,18.0s
HAU Haudompre 87.87 37 *eP* **P 11 12 18.6 -1.4**
comp=Z,192nm,1.6s
HAU *eR
comp=Z,2µm,18.5s
JOF Joensuu 87.90 17 *eP* **P 11 12 17.7 -2.0**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 87.90 17 *ep* **P 11 12 17.7 -2.0**
comp=Z,2.0nm,0.7s
JOF Joensuu 87.90 17 *ep* **P 11 12 17.7 -2.0**
comp=Z,2.0nm,0.7s
MTLF Montolieu 87.95 43 *eP* **P 11 12 19.4 -1.0**
comp=Z,135nm,1.4s
LANF Langenberg 88.12 36 *eP* P 11 12 24.6 +3.5
LANF Langenberg 88.12 36 *eP* P 11 12 24.6 +3.5
LANF Langenberg 88.12 36 *eP* P 11 12 24.6 +3.5
HABR Khabarovsk 88.14 323 *eP* **P 11 12 20.1 -1.0**
HABR 11 15 45.3
HABR *e*SS **SKSac 11 22 51.7 +2.9**
HABR *e* 11 23 08.4
HABR *eSS **SS 11 28 51.5 -0.5**
HABR *eSSS SSS 11 32 25.6
HABR pmax pmax
comp=Z,41nm,1.7s
HABR pmax pmax
comp=E,35nm,1.7s
HABR pmax pmax
comp=N,28nm,2.3s
HABR MLR MLR
comp=Z,246nm,16.0s
CDF Champ du Feu 88.16 37 *eP* **P 11 12 19.8 -1.6**
comp=Z,90nm,1.6s
ECH Echery 88.20 37 PFAKE 11 12 30.0 +8.5
ECH LR LR
comp=Z,2µm,19.0s
HINF Hinteralfeld 88.26 37 *eP* **P 11 12 20.2 -1.6**
comp=Z,121nm,1.7s
TOD Tromm 88.29 35 *eP* P 11 12 25.2 +3.3
TOD Tromm 88.29 35 *eP* P 11 12 25.2 +3.3
SSB Saint Sauveur 88.33 40 PFAKE 11 12 30.0 +7.8
SSB LR LR
comp=Z,969nm,20.0s
MOF Molkenrain 88.39 37 *eP* P 11 12 25.8 +3.3
MOF Molkenrain 88.39 37 *eP* P 11 12 25.8 +3.3
MOF Molkenrain 88.39 37 *eP* P 11 12 25.8 +3.3
CABF La Chapelle 88.50 39 *eP* **P 11 12 21.9 -1.2**
comp=Z,104nm,1.6s
LOMF Lomont 88.51 38 *eP* **P 11 12 25.6 +2.5**
LOMF Lomont 88.51 38 *eP* **P 11 12 25.6 +2.5**
LOMF Lomont 88.51 38 *eP* **P 11 12 25.6 +2.5**
OG35 Corcelles 88.52 39 *eP* P 11 12 26.5 +3.4
LASF Ste Croix 88.57 42 *eP* **P 11 12 22.6 -0.7**
comp=Z,122nm,1.5s
VIVF Saint-Julien-l 88.64 41 *eP* **P 11 12 22.8 -0.9**
comp=Z,115nm,1.5s
BFO Black Forest 88.78 36 PFAKE 11 12 40.0 +16
BFO LR LR
comp=Z,1µm,20.0s
BBS Basel-Blauen 88.83 37 *eP* **P 11 12 27.0 +2.5**
BBS Basel-Blauen 88.83 37 *eP* **P 11 12 27.0 +2.5**
FELD Feldberg im Sc 88.86 37 *eP* **P 11 12 27.5 +2.7**
ORIF Oris-en-Rattie 89.33 40 *eP* **P 11 12 26.1 -0.9**
comp=Z,114nm,1.6s
ORIF *eR
comp=Z,2µm,22.8s
RSL Roselend 89.33 39 *eP* P 11 12 30.3 +3.2

RSL Roselend 89.33 39 *eP* P 11 12 30.3 +3.2
RSL Roselend 89.33 39 *eP* P 11 12 30.3 +3.2
CLL Collm 89.39 32 *eP* **P 11 12 27.0 0.0**
CLL *eS **S 11 23 17.0 +0.9**
CLL pmax pmax
comp=Z,40nm,1.4s
CLL MLR MLR
comp=Z,2µm,19.1s
CLL Collm 89.39 32 *eP* **P 11 12 27.0 0.0**
CLL ⇑*iP*max 11 12 31.9
comp=Z,40nm,1.4s
CLL *ePP **PP 11 15 58.0 +0.6**
CLL *eS **S 11 23 17.0 +0.9**
CLL *e*(PS) 11 24 12.0
CLL *eSSSS 11 36 03.0
CLL LmV 11 56 00.0
comp=Z,2µm,19.1s
LPL La Plagne 89.49 39 *eP* **P 11 12 27.5 -0.4**
comp=Z,144nm,1.6s
GRF Grafenberg Arr 89.50 34 *eP* **P 11 12 29.7 +2.1**
comp=Z,43nm,1.3s
GRF *eL* L 11 51 04.4
comp=Z,1µm,18.3s
GRF Grafenberg Arr 89.50 34 *eP* **P 11 12 29.7 +2.1**
GRF pmax pmax
comp=Z,43nm,1.3s
GRF MLR MLR
comp=Z,1µm,18.3s
GRFO Grafenberg 89.50 34 *eP* **P 11 12 27.3 -0.3**
GRFO pmax pmax
comp=Z,113nm,1.7s
GRFO Grafenberg 89.50 34 *eP* **P 11 12 27.3 -0.3**
comp=Z,113nm,1.7s
LPG La Plagne 89.51 39 *eP* **P 11 12 27.7 -0.4**
comp=Z,185nm,1.5s
SMRF Simiane la Rot 89.67 41 *eP* **P 11 12 28.1 -0.4**
comp=Z,126nm,1.6s
BNI Bardonecchia 89.72 40 *eP* **P 11 12 29.3 +0.4**
BNI pmax pmax
comp=Z,63nm,1.5s
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 89.72 40 *eP* **P 11 12 29.3 +0.4**
comp=Z,62nm,1.5s
BNI LR LR
comp=Z,1µm,22.0s
NKC Novy Kostel 89.79 33 *eP* **P 11 12 29.8 +0.9**
NKC *e*PP **pP 11 12 34.0 -1.3**
NKC MLR MLR
comp=Z,2µm,21.1s
NKC Novy Kostel 89.79 33 *eP* **P 11 12 29.8 +0.9**
NKC *epP* **pP 11 12 34.0 -1.3**
NKC AMS AMS 11 52 00.0
comp=Z,2µm,21.1s
BRG Berggiesshubel 90.12 32 *eP* **P 11 12 29.5 -0.9**
comp=Z,14nm,1.7s
BRG *e* 11 12 35.7
comp=Z,66nm,1.7s
BRG *e* 11 15 41.6
comp=Z,1.8nm,0.6s
BRG
comp=Z,2µm,16.7s
BRG
comp=N,1µm,17.9s
BRG
comp=E,1µm,17.9s
BRG Berggiesshubel 90.12 32 *eP* **P 11 12 29.5 -0.9**
BRG *e* 11 12 35.7
BRG pmax pmax
comp=Z,14nm,1.7s
BRG pmax pmax
comp=Z,66nm,1.7s
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG MLR MLR
comp=Z,2µm,16.7s
BRG MLR MLR
comp=N,1µm,17.9s
BRG MLR MLR
comp=E,1µm,17.9s
TUE Stuetta 90.43 38 P **P 11 12 34.9 +2.7**
comp=E,75nm,2.0s
TUE LR LR
comp=Z,2µm,20.0s
CALN Calern 90.58 41 *eP* P 11 12 36.9 +4.0
CALN Calern 90.58 41 *eP* P 11 12 36.9 +4.0
CALN Calern 90.58 41 *eP* P 11 12 36.9 +4.0
TOUF Mont Tournerai 90.64 40 *eP* P 11 12 36.9 +3.6
TOUF Mont Tournerai 90.64 40 *eP* P 11 12 36.9 +3.6
TOUF Mont Tournerai 90.64 40 *eP* P 11 12 36.9 +3.6
PVCC Panska Ves 90.65 32 *eP* **P 11 12 34.8 +1.9**
PVCC *e*PP **pP 11 12 38.3 -1.0**
PVCC MLR MLR
comp=Z,1µm,15.5s
PVCC Panska Ves 90.65 32 *eP* **P 11 12 34.8 +1.9**
PVCC *epP* **pP 11 12 38.3 -1.0**
PVCC AMS AMS 11 56 50.0
comp=Z,1µm,15.5s
MVIF Mont Vial 90.65 41 *eP* P 11 12 37.2 +3.9
MVIF Mont Vial 90.65 41 *eP* P 11 12 37.2 +3.9
MVIF Mont Vial 90.65 41 *eP* P 11 12 37.2 +3.9
AUTN L'Aution 90.76 40 *eP* P 11 12 37.7 +3.9
AUTN L'Aution 90.76 40 *eP* P 11 12 37.7 +3.9
AUTN L'Aution 90.76 40 *eP* P 11 12 37.7 +3.9
SBF Sospel 90.84 40 *eP* **P 11 12 32.7 -1.3**
comp=Z,108nm,1.3s
SAOF Saorge 90.84 40 *eP* P 11 12 37.8 +3.8
SAOF Saorge 90.84 40 *eP* P 11 12 37.8 +3.8
SAOF Saorge 90.84 40 *eP* P 11 12 37.8 +3.8
FETA Feichten 90.86 37⇑ *i*sP sP 11 12 40.3 -2.5
comp=Z,11nm,1.6s
REVF Revere 90.87 41 *eP* P 11 12 38.0 +3.9
REVF Revere 90.87 41 *eP* P 11 12 38.0 +3.9
REVF Revere 90.87 41 *eP* P 11 12 38.0 +3.9
PRA Prague 90.88 33 P P 11 12 39.0 +5.1
PRU Pruhonice 90.98 33 *eP* **P 11 12 33.9 -0.6**
PRU *e*PP **pP 11 12 40.1 -0.7**
PRU MLR MLR
comp=N,1µm,14.7s
PRU Pruhonice 90.98 33 *eP* **P 11 12 33.9 -0.6**
PRU *epP* **pP 11 12 40.1 -0.7**
PRU AMS AMS 11 50 40.0
KHC Kasperske Hory 91.05 34 *eP* **P 11 12 34.3 -0.5**
KHC *e*PP **pP 11 12 40.0 -1.2**
KHC *e* 11 16 09.5
KHC MLR MLR
comp=Z,1µm,18.7s
KHC Kasperske Hory 91.05 34 *eP* **P 11 12 34.3 -0.5**
KHC *epP* **pP 11 12 40.0 -1.2**
KHC *ePP **PP 11 16 09.5 -1.2**
KHC AMS AMS 11 50 30.0
comp=Z,1µm,18.7s
GERES GERESS Array B 91.30 34 P **P 11 12 34.6 -1.4**
comp=Z,0.8nm,0.7s,baz=316,slow=5.6,SNR=6.6
GERES pP **pP 11 12 41.1 -1.4**
comp=Z,1.8nm,0.9s,baz=318,slow=3.8,SNR=6.3
GERES LR LR 11 53 18.8
comp=Z,1µm,19.7s,baz=300,slow=35
GERES GERESS Array B 91.30 34 P **P 11 12 34.7 -1.4**
GERES *PP **pP 11 12 41.1 -1.4**
GERES GERESS Array B 91.30 34 P **P 11 12 34.6 -1.4**
GERES pP **pP 11 12 41.1 -1.4**
UPC Upice 91.36 32 *eP* **P 11 12 39.3 +3.1**
UPC *e*PP **pP 11 12 47.5 +4.9**
UPC Upice 91.36 32 *eP* **P 11 12 39.3 +3.1**
UPC *ex* x 11 12 47.5
DPC Dobruska-Polom 91.61 32 *eP* **P 11 12 35.0 -2.4**
DPC *e*PP **pP 11 12 43.1 -0.7**
DPC MLR MLR
comp=Z,2µm,14.8s
DPC Dobruska-Polom 91.61 32 *eP* **P 11 12 35.0 -2.4**
DPC *epP* **pP 11 12 43.1 -0.7**
DPC AMS AMS 11 55 50.0
comp=Z,2µm,14.8s
TREC Trest 91.90 33 AMS AMS 11 53 20.0
comp=Z,2µm,18.0s
IZAR Zarasai 91.95 24 *eP* P 11 12 44.3 +5.5
IZAR AMB AMB 11 12 46.2
comp=Z,9.0nm,1.5s
KRLC Kraliky 92.02 32 *eP* **P 11 12 37.2 -2.1**
KRLC *epP* **pP 11 12 44.4 -1.3**
ISAL Salakas 92.04 24 *eP* P 11 12 44.7 +5.5
ISAL AMB AMB 11 12 46.6
comp=Z,18nm,1.6s

KBA Koelnbreinsper 92.23 35⇑ *i*P P 11 12 45.8 +5.3
KBA pmax pmax
comp=Z,10.0nm,1.6s
KBA Koelnbreinsper 92.23 35⇑ *i*P P 11 12 45.8 +5.3
comp=Z,10nm,1.6s
KBA Koelnbreinsper 92.23 35⇑ *is*P P 11 12 45.8 +5.3
comp=Z,10nm,1.6s
IIGN Ignalina 92.25 24 *e*P P 11 12 45.6 +5.5
IIGN AMB AMB 11 12 48.9
comp=Z,12nm,1.6s
USRK Ussuriysk Arra 92.35 321 P P 11 12 40.8 -0.1
comp=Z,2.3nm,0.7s,baz=55,slow=8.2,SNR=5.9
USRK pP **pP 11 12 47.5 +0.3**
comp=Z,12nm,0.9s,baz=56,slow=4.8,SNR=12
USRK LR LR 11 56 50.1
comp=Z,129nm,18.5s,baz=110,slow=37
MJAR Matsushiro Arr 92.80 312 P P 11 12 42.9 -0.3
comp=Z,5.7nm,1.1s,baz=68,slow=2.5,SNR=13
MJAR pP **pP 11 12 50.0 +0.4**
comp=Z,28nm,1.2s,baz=31,slow=1.9,SNR=18
MJAR LR LR 11 50 09.9
comp=Z,624nm,18.6s,baz=75,slow=33
MJAR Matsushiro Arr 92.80 312 P P 11 12 42.9 -0.3
MJAR *PP **pP 11 12 50.0 +0.4**
MJAR Matsushiro Arr 92.80 312 P P 11 12 42.9 -0.3
MJAR pP **pP 11 12 50.0 +0.4**
MAJO Matsushiro 92.80 312 *e*P P 11 12 43.0 -0.1
MAJO pmax pmax
comp=Z,67nm,1.3s
MAJO MLR MLR
comp=Z,882nm,19.0s
MAJO Matsushiro 92.80 312 *e*P P 11 12 43.0 -0.1
comp=Z,67nm,1.3s
MAJO LR LR
comp=Z,882nm,19.0s
MAT Matsushiro 92.80 312 P P 11 12 42.4 -0.8
MAT S **S 11 23 42.0 -5.8**
OKC Ostrava-Krasne 92.83 31 AMS AMS 11 58 30.0
comp=Z,1μm,15.1s
CADS Cadrg 92.98 36 *i* P P 11 12 48.6 +4.8
CONA Conrad Observa 92.99 34⇑ *i*P P 11 12 48.8 +4.9
comp=Z,14nm,1.4s
CONA Conrad Observa 92.99 34⇑ *is*P P 11 12 48.8 +4.9
comp=Z,14nm,1.4s
VLA Vladivostok 93.06 320⇓ *e*P P 11 12 42.5 -1.7
VLA *i* 11 12 42.9
VLA *e*S **SKSac 11 23 16.2 -1.2**
VLA pmax pmax
comp=Z,19nm,0.6s
TRI Trieste 93.32 36 PFAKE 11 13 00.0 +15
TRI LR LR
comp=Z,2μm,19.0s
SOKA Soboth 93.38 35 P 11 12 50.4 +4.7
comp=Z,19nm,1.6s
MDJ Mudanjiang 93.46 322 P P 11 12 45.9 -0.1
MDJ pP **PcP 11 12 49.2 +2.6**
MDJ PP **PP 11 16 30.5 +0.8**
MDJ S **S 11 23 53.4 +0.1**
MDJ SS **SS 11 30 10.1 +1.2**
MDJ pmax pmax
comp=Z,6.0nm,1.5s
MDJ pmax pmax
comp=Z,63nm,5.7s
MDJ LR LR
comp=N,250nm,23.4s
MDJ LR LR
comp=E,140nm,32.2s
MDJ LR LR
comp=Z,310nm,29.3s
MDJ Mudanjiang 93.46 322 PFAKE 11 13 00.0 +14
MDJ LR LR
comp=Z,407nm,20.0s
SKDS Skadanscina 93.56 36 *i* P P 11 12 52.1 +5.6
VISS Visnje 93.84 36 *i* P P 11 12 53.2 +5.5
VYHS Vyhne 94.08 32 *e*P P 11 12 54.1 +5.3
VYHS Vyhne 94.08 32 *e*P P 11 12 54.1 +5.3
DZM Mont Dzumac 94.16 248 *e*SS SS 11 30 25.5 +3.9
comp=Z,1μm,33.3s
DZM *e*LR LR 11 43 10.2
comp=Z,3μm,24.1s
VSL Villasalto 94.56 43 *e*P P 11 12 51.4 +0.2
comp=Z,116nm,1.8s
VSL LR LR
comp=Z,472nm,20.0s
STHS Stebnicka Huta 94.57 30 *e*P P 11 12 56.8 +5.8
STHS pmax pmax
comp=Z,10.0nm,1.2s
STHS Stebnicka Huta 94.57 30 *e*P P 11 12 56.8 +5.8
CBIJ Chichi jima 94.76 302 LR LR 11 47 16.2
comp=Z,956nm,20.2s,baz=93,slow=30
KECS Kecovo 94.87 31 *e*P P 11 12 57.4 +5.0
KECS pmax pmax
comp=Z,6.0nm,1.5s
KECS Kecovo 94.87 31 *e*P P 11 12 57.4 +5.0
HNR Honiara 94.88 262 LR LR 11 48 44.3
comp=Z,2μm,19.2s,baz=94,slow=31
HNR Honiara 94.88 262 PFAKE 11 13 00.0 +7.0
HNR LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 94.99 32 PFAKE 11 13 00.0 +6.9
PSZ LR LR
comp=Z,1μm,20.0s
CRVS Cervenica-Dubn 95.03 30 *e*P P 11 12 59.1 +5.9
CRVS pmax pmax
comp=Z,20nm,1.6s
CRVS Cervenica-Dubn 95.03 30 *e*P P 11 12 59.0 +5.9
KWP Kalwaria Pacla 95.08 29 PFAKE 11 13 10.0 +17
KWP LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 95.24 39 PFAKE 11 13 10.0 +16
AQU LR LR
comp=Z,1μm,19.0s
HIA Hailar 95.30 330 PFAKE 11 13 10.0 +16
HIA LR LR
comp=Z,619nm,20.0s
LVV L'vov 95.52 28 *e*P P 11 13 00.6 +5.2
UZH Uzhgorod 95.61 30 *e*P P 11 13 00.7 +4.9
UZH *e* 11 16 50.0
UZH *e*S **S 11 24 14.3 +2.4**
UZH MLR MLR
comp=N,500nm,15.0s
UZH MLR MLR
comp=E,1μm,15.0s
UZH MLR MLR
comp=Z,700nm,15.0s
OBN Obninsk 95.91 19 *e*P P 11 12 58.2 +1.2
OBN *e* 11 16 52.7
OBN *e*PS PS 11 25 37.6 +3.1
OBN pmax pmax
comp=Z,14nm,1.2s
OBN Obninsk 95.91 19 PFAKE 11 13 10.0 +13
OBN LR LR
comp=Z,1μm,21.0s
SNZO South Karori 95.95 227 PFAKE 11 13 10.0 +13
SNZO LR LR
comp=Z,761nm,19.0s
SOKR Solikamsk 96.00 7 *e*P P 11 13 01.3 +4.1
SOKR pmax pmax
comp=Z,30nm,1.6s
CN2 Changchun 96.26 324 *e*P P 11 12 59.8 +0.9
CN2 *es*P **sP 11 13 06.8 -0.7**
CN2 *e*S **S 11 24 15.4 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,22.0s
CN2 LR LR
comp=E,300nm,22.0s
CN2 LR LR
comp=Z,400nm,22.0s
KEST Kesra 96.73 46 LR LR 11 57 13.7
comp=Z,344nm,19.1s,baz=281,slow=36
KIEV Kiev 97.00 25⇓ *e*P Pdif 11 13 02.3 +0.2
KIEV Kiev 97.00 25 PFAKE 11 13 10.0 +7.9
KIEV LR LR
comp=Z,1μm,19.0s
AKASG Malin Array Be 97.00 25 pP pP 11 13 06.3 -2.1
comp=Z,0.9nm,0.5s,baz=307,slow=4.0,SNR=12
AKASG PP **PP 11 16 52.3 -4.6**
comp=Z,0.7nm,0.5s,baz=314,slow=6.8,SNR=5.7
AKASG LR LR 11 58 57.3
comp=Z,1μm,18.6s,baz=305,slow=37
AKASG Malin Array Be 97.00 25 P Pdif 11 13 06.3 +4.2
AKASG Malin Array Be 97.00 25 pP pP 11 13 06.3 -2.1
AKASG PP **PP 11 16 52.3 -4.6**
CUC Castrocucco 98.15 40 PFAKE 11 13 20.0 +12
CUC LR LR
comp=Z,842nm,19.0s
KSRS Korea Array 98.94 318 LR LR 11 54 33.6
comp=Z,286nm,19.2s,baz=50,slow=33
GUMO Guam 98.97 289 LR LR 11 49 24.4
comp=Z,811nm,19.7s,baz=342,slow=30
GUMO Guam 98.97 289 PFAKE 11 13 20.0 +8.4
GUMO LR LR
comp=Z,1μm,20.0s
SVE Sverdlovsk 99.10 6 *e*P Pdif 11 13 16.9 +5.6
SVE pmax pmax
comp=Z,32nm,1.7s
TIP Timpagrande 99.23 40 PFAKE 11 13 20.0 +7.6
TIP LR LR
comp=Z,1μm,19.0s
ARU Arti 99.27 7 P Pdif 11 13 16.5 +4.4
ARU 11 17 23.5
ARU PPP PPP 11 19 30.8
ARU S **SKSac 11 23 55.6 +6.1**
ARU SS SS 11 31 43.2 +13
ARU Arti 99.27 7 PFAKE 11 13 20.0 +7.9
ARU LR LR
comp=Z,1μm,22.0s
CEL Celeste 99.32 41 PFAKE 11 13 20.0 +7.2
CEL LR LR
comp=Z,522nm,20.0s
TLY Talaya 99.53 340 *e*P Pdif 11 13 15.0 +1.6
TLY *e*S **S 11 24 44.0 -1.3**
TLY *e*PS PS 11 26 11.6 -2.3
TLY *e*SS **SS 11 31 41.4 +7.5**
TLY pmax pmax
comp=Z,22nm,1.6s
TLY MLR MLR
comp=Z,800nm,20.0s
TLY Talaya 99.53 340 PFAKE 11 13 30.0 +17
TLY LR LR
comp=Z,469nm,20.0s
TIR Tirane 99.53 37 PFAKE 11 13 30.0 +16
TIR LR LR
comp=Z,1μm,22.0s
INCN Inchon 99.71 318 PFAKE 11 13 30.0 +15
INCN LR LR
comp=Z,366nm,19.0s
DBIC Dimbokro 99.96 78 LR LR 12 00 02.9
comp=Z,877nm,18.7s,baz=290,slow=36
WDD Wield Dalam 100.00 44 PFAKE 11 13 30.0 +14
WDD LR LR
comp=Z,739nm,19.0s
VSR Storozhevoye 100.07 20 *e*P Pdif 11 13 16.9 +1.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,3.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.3s
VSR MLR MLR
comp=N,310nm,15.0s
VSR MLR MLR
comp=E,810nm,15.0s
VSR MLR MLR
comp=Z,950nm,15.0s
MOY Mondy 100.33 342 *e*P Pdif 11 13 24.1 +7.0
MOY pmax pmax
comp=Z,30nm,1.9s
TAM Tamanrasset 101.13 59 PFAKE 11 13 30.0 +8.7
TAM LR LR
comp=Z,898nm,19.0s
ULN Ulaanbaatar 101.62 336 PFAKE 11 13 40.0 +17
ULN LR LR
comp=Z,686nm,21.0s
SONM Songino Array 101.89 337 P Pdif 11 13 25.7 +1.5
comp=Z,1.8nm,1.2s,baz=15,slow=6.2,SNR=4.3
SONM pP pP 11 13 31.3 +0.5
comp=Z,5.0nm,1.2s,baz=52,slow=2.0,SNR=8.5
SONM PKKPbc **PKKPbc 11 29 29.4 -0.6**
comp=Z,0.4nm,0.8s,baz=205,slow=3.1,SNR=3.8
SONM Songino Array 101.89 337 P Pdif 11 13 25.7 +1.5
SONM Songino Array 101.89 337 P Pdif 11 13 25.7 +1.5
SONM pP pP 11 13 31.3 +0.5
SONM PKKPbc **PKKPbc 11 29 29.4 -0.6**
TORD Torodi Ar. Bea 102.79 69 P Pdif 11 13 28.3 -0.3
comp=Z,2.3nm,1.2s,baz=290,slow=4.0,SNR=7.1
TORD pP 11 13 35.2
comp=Z,3.2nm,1.1s,baz=323,slow=2.7,SNR=11
TORD PP **PP 11 17 36.0 -6.3**
comp=Z,1.6nm,1.1s,baz=280,slow=8.6,SNR=4.0
TORD Torodi Ar. Bea 102.79 69 P Pdif 11 13 28.3 -0.3
TORD pP 11 13 35.2
TORD PP **PP 11 17 36.0 -6.3**
BRVK Borovoye 103.36 1 P Pdif 11 13 41.8 +11
BRVK pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye 103.36 1 PFAKE 11 13 40.0 +10
BRVK LR LR
comp=Z,1μm,19.0s
BVA0 Borovoye Array 103.40 0 P Pdif 11 13 41.8 +11
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
ZRNK Zerenda 103.45 1 P Pdif 11 13 36.8 +6.0
ZRNK pmax pmax
comp=Z,21nm,1.5s
VOSK Vostochnaya 103.70 0 P Pdif 11 13 38.8 +6.9
VOSK pmax pmax
comp=Z,14nm,1.4s
BJT Baijiatuau 103.83 326 PFAKE 11 13 40.0 +7.2
BJT LR LR
comp=Z,617nm,20.0s
KURK Kurchatov 105.42 355 PFAKE 11 18 10.0
KURK LR LR
comp=Z,629nm,20.0s
HHC Hu-ho-hao-te 105.45 329 Pdif Pdif 11 13 37.4 -2.7
HHC PP **PP 11 18 01.7 +0.7**
HHC S 11 25 28.7
HHC SS **SS 11 32 55.4 -1.1**
HHC AMB AMB
comp=Z,140nm,5.6s
HHC LR LR
comp=N,310nm,20.0s
HHC LR LR
comp=E,450nm,22.9s
HHC LR LR
comp=Z,410nm,27.0s
PMG Port Moresby 106.51 267 PFAKE 11 18 10.0
PMG LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 107.59 21 PFAKE 11 18 10.0
KIV LR LR
comp=Z,905nm,20.0s
ISP Isparta 107.69 33 PFAKE 11 18 10.0
ISP LR LR
comp=Z,1μm,19.0s
WMQ Urumqi 110.92 347 *e*PKP PKiKP 11 18 03.8 0.0
WMQ PP **PP 11 18 42.2 +1.7**
WMQ LR LR
comp=N,430nm,23.3s
WMQ LR LR
comp=E,410nm,20.0s
WMQ LR LR
comp=Z,570nm,22.1s
CTAO Charters Tower 111.05 257 PFAKE 11 18 20.0
CTAO LR LR
comp=Z,705nm,21.0s
CSS Prodhromos 111.33 33 PFAKE 11 18 20.0
CSS LR LR
comp=Z,442nm,20.0s
YHNB Yeheng 111.46 311 PFAKE 11 18 20.0
YHNB LR LR
comp=Z,515nm,19.0s
GNI Garni 111.68 22 PFAKE 11 18 20.0
GNI LR LR
comp=Z,534nm,20.0s
SBA Scott Base 112.02 193 PFAKE 11 18 20.0
SBA LR LR
comp=Z,286nm,20.0s
LZH Lanzhou 112.82 332 *e*PKP PKiKP 11 18 07.0 -0.7
LZH sPKP 11 18 13.0
LZH PP **PP 11 18 58.7 +4.2**
LZH SKKS 11 25 46.3
LZH SS **SS 11 34 38.0 +2.3**
LZH AMB AMB
comp=Z,160nm,4.0s
LZH LR LR
comp=N,120nm,13.8s
LZH LR LR
comp=E,340nm,14.8s
LZH LR LR
comp=Z,430nm,20.4s
CAN Canberra 112.94 240 PFAKE 11 18 20.0
CAN LR LR
comp=Z,841nm,22.0s
TKM2 Tokmak 2 113.39 356 PFAKE 11 18 20.0
TKM2 LR LR
comp=Z,1μm,19.0s
EKS2 Erkin-Say 113.73 358 PFAKE 11 18 20.0
EKS2 LR LR
comp=Z,931nm,19.0s
AAK Ala-Archa 113.73 357 PFAKE 11 18 20.0
AAK LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 113.78 180 PFAKE 11 18 20.0
QSPA LR LR
comp=Z,361nm,19.0s
ENH Enshi 114.78 324 PFAKE 11 18 20.0 +8.5
ENH LR LR
comp=Z,446nm,21.0s
CD2 Chengdu 117.19 329 PKP PKPdf 11 18 15.4 -0.7
CD2 PP **PP 11 19 29.9 +4.6**
CD2 PKS **PKSdf 11 21 50.8 -2.2**
CD2 SKS **SKSdf 11 25 25.2 -2.4**
CD2 SKKS **SKKSac 11 26 21.6 -5.0**
CD2 SS **SS 11 35 34.3 +1.2**
CD2 AMB AMB
comp=Z,190nm,6.5s
CD2 LR LR
comp=N,450nm,15.5s
CD2 LR LR
comp=Z,560nm,15.5s
DAV Davao City (W) 118.65 293 PFAKE 11 18 30.0 +11
DAV LR LR
comp=Z,2μm,21.0s
GYA Guiyang 119.31 323 Pdif Pdif 11 14 42.0 0.0
GYA PKP **PKPdf 11 18 19.8 -0.6**
GYA PP **PP 11 19 44.6 +4.3**
GYA PKS **PKSdf 11 21 55.4 -2.0**
GYA SKKS 11 25 35.7
GYA SS **SS 11 36 03.9 +2.8**
GYA AMB AMB
comp=Z,180nm,7.6s
GYA LR LR
comp=N,320nm,20.9s
GYA LR LR
comp=E,280nm,21.5s
GYA LR LR
comp=Z,430nm,20.7s
DRV Dumont d'Urvil 120.08 205 PP PP 11 18 59.0 -46
DRV Dumont d'Urvil 120.08 205 SS SS 11 36 16.0 +5.1
WRAB Tennant Creek 121.68 261 PFAKE 11 18 40.0 +15
WRAB LR LR
comp=Z,892nm,22.0s
WRA Warramunga Arr 121.69 261 PKP PKPdf 11 18 24.0 -0.9
comp=Z,0.9nm,0.5s,baz=76,slow=2.5,SNR=13
WRA pPKP **pPKPdf 11 18 30.4 -1.1**
comp=Z,3.4nm,0.8s,baz=74,slow=2.3,SNR=15
WRA Warramunga Arr 121.69 261 PKIKP PKPdf 11 18 24.0 -0.9
WRA 11 18 30.4
WRA Warramunga Arr 121.69 261 PKP PKPdf 11 18 24.0 -0.9
WRA pPKP **pPKPdf 11 18 30.4 -1.1**
KMI Kunming 122.47 326 Pdif Pdif 11 14 56.2 0.0
KMI PKP **PKiKP 11 18 29.7 +2.9**
KMI sPKP 11 18 37.6
KMI PP **PP 11 20 10.0 +8.1**
KMI SKKS 11 27 00.1
KMI SS **SS 11 36 45.2 +3.5**
KMI AMB AMB
comp=Z,230nm,4.5s
KMI LR LR
comp=N,480nm,19.5s
KMI LR LR
comp=E,270nm,20.7s
KMI LR LR
comp=Z,400nm,17.2s
ASAR Alice Springs 123.05 256 PKP PKPdf 11 18 25.3 -2.2
comp=Z,1.0nm,0.6s,baz=80,slow=2.6,SNR=10
ASAR pPKP **pPKPdf 11 18 33.2 -0.8**
comp=Z,2.4nm,0.7s,baz=81,slow=2.2,SNR=11
ASAR PKKPbc **PKKPbc 11 28 21.6 +3.4**
comp=Z,1.0nm,1.0s,baz=259,slow=2.5,SNR=5.6
ASAR Alice Springs 123.05 256 PKIKP PKPdf 11 18 25.3 -2.2
ASAR 11 18 33.3
ASAR Alice Springs 123.05 256 PKP PKPdf 11 18 25.3 -2.2
ASAR pPKP **pPKPdf 11 18 33.2 -0.8**
ASAR PKKPbc **PKKPbc 11 28 21.6 +3.4**
QIZ Qiongzhong 123.06 315 PKP PKPdf 11 18 27.2 -0.4
QIZ PP **PP 11 20 07.1 +1.0**
QIZ LR LR
comp=E,250nm,25.1s
QIZ LR LR
comp=Z,680nm,26.6s
QIZ Qiongzhong 123.06 315 PFAKE 11 18 40.0 +12
QIZ LR LR
comp=Z,539nm,22.0s
LSA Lhasa 123.35 339 PFAKE 11 18 40.0 +11
LSA LR LR
comp=Z,471nm,22.0s
KKM Kota Kinabalu 126.95 298 PFAKE 11 18 50.0 +15
KKM LR LR
comp=Z,429nm,22.0s
CHTO Chiang Mai 129.64 325 PFAKE 11 18 50.0 +10
CHTO LR LR
comp=Z,287nm,19.0s
KAPI Kappang 129.66 284 PFAKE 11 18 50.0 +10
KAPI LR LR
comp=Z,391nm,21.0s
CMAR Chiang Mai Arr 129.94 325 PKP PKPdf 11 18 41.5 +0.7
comp=Z,1.0nm,0.4s,baz=344,slow=1.4,SNR=9.9
CMAR pPKP **pPKPdf 11 18 48.2 +0.9**
comp=Z,10nm,1.0s,baz=333,slow=1.4,SNR=7.5
CMAR Chiang Mai Arr 129.94 325 PKIKP PKPdf 11 18 41.5 +0.7
CMAR 11 18 48.2
CMAR Chiang Mai Arr 129.94 325 PKP PKPdf 11 18 41.5 +0.7
CMAR pPKP **pPKPdf 11 18 48.2 +0.9**
TSUM Tsumeb 130.17 96 PFAKE 11 18 50.0 +8.7
TSUM LR LR
comp=Z,378nm,21.0s
CASY Casey 130.90 200 PFAKE 11 18 50.0 +8.9
CASY LR LR
comp=Z,447nm,20.0s
KSM Kuching 134.38 298 PFAKE 11 19 00.0 +11
KSM LR LR
comp=Z,526nm,21.0s
MBAR Mbarara 134.49 65 PFAKE 11 19 00.0 +10
MBAR LR LR
comp=Z,775nm,20.0s
SUR Sutherland 135.13 113 PFAKE 11 19 00.0 +10
SUR LR LR
comp=Z,610nm,19.0s
MBWA Marble Bar 135.24 264 PFAKE 11 19 00.0 +9.4
MBWA LR LR
comp=Z,1μm,22.0s
MAW Mawson 135.99 175 pPKP pPKPdf 11 18 57.1 -0.1
comp=Z,4.0nm,0.8s,baz=219,slow=6.1,SNR=4.5
MAW Mawson 135.99 175 PKIKP pPKPdf 11 18 57.1 -0.1
MAW Mawson 135.99 175 pPKP pPKPdf 11 18 57.1 -0.1
BOSA Boshof 138.74 107 PFAKE 11 19 10.0 +13
BOSA LR LR
comp=Z,432nm,22.0s
NWAO Narrogin (SRO) 138.78 247 PFAKE 11 19 10.0 +13
NWAO LR LR
comp=Z,892nm,21.0s
KULM Kulim 139.16 311 PFAKE 11 19 10.0 +12
KULM LR LR
comp=Z,440nm,20.0s
KMBO Kilima Mbogo 140.10 60 PFAKE 11 19 10.0 +10
KMBO LR LR
comp=Z,509nm,19.0s
COCO West Island 153.02 291 PFAKE 11 19 30.0 +1.4
COCO LR LR
comp=Z,772nm,22.0s
MSEY Mahe Island 155.62 41 PFAKE 11 19 40.0 -11
MSEY LR LR
comp=Z,447nm,21.0s
ABPO Ambohimpanom 157.20 82 PFAKE 11 19 40.0 +13
ABPO LR LR
comp=Z,602nm,19.0s

*BJI **05** 11:02:02.2,0.86S×133.48E,h20km,mB4.9/5,mb4.6/14, Ms4.5/3,Ms7 4.2/2*
*IDC **05** 11:02:03.6±0.5,0.70S×133.31E,h0km,mb4.5/15, mb1 4.7/19,mb1mx4.6/23,mbtmp4.6/19,ML4.7/3,MS3.7/10, Ms1 3.7/10,ms1mx3.4/29,Error ellipse: s-maj=25.0km s-min=10.0km az=82.0*
*ISCJB **05** 11:02:06.0±0.3,0.66S±0.04×133.36E±0.04,h28km, mb4.7/34,MS3.8/7,Error ellipse: s-maj=6.3km s-min=5.2km az=164.4*
*NEIC **05** 11:02:08.7±0.2,0.70S×133.32E,h35km,mb4.7/11,Error ellipse: s-maj=9.4km s-min=5.0km az=74.0*
*DJA **05** 11:02:08,0.75S×133.19E,h22km,mb5.1/25*

ISC 05 11:02:07.7±0.4,0.64S±0.05×133.38E±0.06,h28km,n106, σ1ᵠ45/105,mb4.8/33,MS3.8/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.54**	**207**	P	**Pn**	**11 02 46.2**	**-0.9**
BAKI	**Biak**	**2.78**	**101**	P	**Pb**	**11 02 55.3**	**-1.5**
TLE	**Tual**	**5.01**	**187**	P	**Pn**	**11 03 22.9**	**+1.8**
MSAI	**Masohi**	**5.20**	**239**	P	**Pn**	**11 03 24.2**	**+0.4**
	463nm,0.6s,4μm1.6nm						
SMPI	**Sarmi**	**5.49**	**104**	P	**Pb**	**11 03 43.0**	**0.0**
LBMI	**Labuha**	**5.88**	**270**	P	**Pn**	**11 03 32.1**	**-1.0**
	337nm,0.8s,4μm1.3nm						
AAI	**Ambon**	**6.00**	**240**	P	**Pn**	**11 03 33.1**	**-1.7**
	2μm,0.7s,14μm5.7nm						
TNTI	**Ternate**	**6.18**	**283**	P	**Pn**	**11 03 37.1**	**-0.1**
	106nm,1.0s,0.4nm						
NLAI	**Namlea**	**6.79**	**248**	P	**Pn**	**11 03 43.9**	**-1.7**
	947nm,0.6s,8μm3.1nm						
KMSI	**Cibinong**	**9.48**	**277**	P	Px	11 04 32.3	
LUWI	**Luwuk**	**10.62**	**268**	P	**Pn**	**11 04 36.3**	**-1.8**
	151nm,1.3s,2μm						
DAV	**Davao City (W)**	**10.92**	**315**	LR	LR	11 09 06.3	
	comp=Z,204nm,19.2s,baz=178,slow=39						
MRSI	**Marisa**	**11.49**	**275**	P	Pn	11 04 53.6	+3.4
	38nm,0.8s						
MTN	**Manton Dam**	**12.33**	**190**	*eP*	**Pn**	**11 04 58.7**	**-2.9**
MTN				*eS*	Sn	11 07 09.4	-8.8
PCI	**Palu**	**13.55**	**269**	P	Pn	11 05 14.3	-3.9
TTSI	**Tana Toraja**	**13.77**	**260**	P	**Pn**	**11 05 22.7**	**+1.5**
	30nm,1.3s						
SPSI	**Sidrap Palu**	**14.00**	**256**	P	**Pn**	**11 05 25.3**	**+0.9**
	56nm,0.7s						
BKSI	**Bulukumba**	**14.03**	**250**	P	**Pn**	**11 05 26.5**	**+1.6**
	111nm,0.7s,884nm						
KAPI	**Kappang**	**14.29**	**252**	Pn	**Pn**	**11 05 28.0**	**-0.4**
	5.4nm,0.3s,baz=99,slow=7.8,SNR=36						
KAPI				LR	LR	11 11 01.8	
	comp=Z,85nm,21.5s,baz=360,slow=38						
KAPI	**Kappang**	**14.29**	**252**	Pn	**Pn**	**11 05 28.0**	**-0.4**
KAPI	**Kappang**	**14.29**	**252**	P	**Pn**	**11 05 29.5**	**+1.1**
	105nm,0.9s,814nm						
SMKI	**Samarinda**	**16.18**	**271**	P	**P**	**11 05 59.7**	**+3.5**
PMG	**Port Moresby**	**16.24**	**123**	Pn	**Pn**	**11 05 54.2**	**0.0**
	0.2nm,0.3s,baz=293,slow=18,SNR=1.9						
PMG	**Port Moresby**	**16.24**	**123**	Pn	**Pn**	**11 05 53.8**	**-0.3**
	28nm,1.0s						
GUMO	**Guam**	**18.15**	**38**	LR	LR	11 11 33.6	
	comp=Z,258nm,20.3s,baz=156,slow=31						
BBKI	**Banjar Baru**	**18.74**	**261**	P	**Pn**	**11 06 25.7**	**+0.5**
	55nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.95**	**203**	P	**P**	**11 06 23.5**	**-3.3**
	1.3nm,0.3s,baz=44,slow=11,SNR=21						
FITZ				S	Sn	11 09 39.8	-19
	0.9nm,0.3s,baz=137,slow=16,SNR=4.7						
FITZ				LR	LR	11 14 08.1	
	comp=Z,197nm,19.8s,baz=23,slow=38						
FITZ	**Fitzroy Crossi**	**18.95**	**203**	*eP*	**P**	**11 06 22.6**	**-4.2**
	49nm,0.9s						
FITZ				*eS*	Sn	11 09 39.8	-19
FITZ	**Fitzroy Crossi**	**18.95**	**203**	*eP*	**P**	**11 06 23.6**	**-3.3**
FITZ				S	Sn	11 09 39.8	-19
WRAB	**Tennant Creek**	**19.20**	**177**	*eP*	**P**	**11 06 29.5**	**-0.1**
	23nm,0.6s						
WB2	**Warramunga Arr**	**19.21**	**177**	*eP*	**P**	**11 06 29.6**	**-0.1**
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**11 06 28.9**	**-0.8**
	2.2nm,0.3s,baz=355,slow=11,SNR=71						
WRA				S	Sn	11 09 52.7	-13
	2.0nm,0.3s,baz=357,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**11 06 28.9**	**-0.8**
WRA				S	Sn	11 09 52.7	-13
KHKI	**Kahang-Kahang**	**19.30**	**246**	P	**P**	**11 06 30.4**	**-0.3**
	110nm,1.4s						
BLJI	**Banyuglugur**	**20.95**	**250**	P	Pn	11 06 50.1	-1.2
	93nm,0.8s,4μm						
GMJI	**Gumukmas**	**21.26**	**249**	P	P	11 07 00.2	+8.1
SBUM	**Sibu**	**21.38**	**278**	P	**P**	**11 06 57.6**	**+4.3**
	45nm,1.2s,563nm						
SJI	**Sawahan**	**22.67**	**251**	P	P	11 07 13.3	+6.0
AS31	**Alice Springs**	**22.90**	**179**	*eP*	**P**	**11 07 09.2**	**-0.3**
ASAR	**Alice Springs**	**22.90**	**179**	P	**P**	**11 07 09.2**	**-0.3**
	23nm,0.7s,baz=358,slow=11,SNR=148						
ASAR				S	**S**	**11 11 19.3**	**+1.6**
	12nm,0.9s,baz=3.3,slow=24,SNR=10						
ASAR	**Alice Springs**	**22.90**	**179**	P	**P**	**11 07 09.2**	**-0.3**
ASAR				S	**S**	**11 11 19.3**	**+1.6**
CTA	**Charters Tower**	**23.07**	**148**	P	**P**	**11 07 12.1**	**+0.7**
	13nm,0.8s,baz=321,slow=13,SNR=9.1						
CTA				LR	LR	11 17 35.6	
	comp=Z,463nm,19.1s,baz=108,slow=40						
CTA	**Charters Tower**	**23.07**	**148**	*eP*	**P**	**11 07 13.9**	**+2.6**
	13nm,0.9s						
CTA	**Charters Tower**	**23.07**	**148**	P	**P**	**11 07 12.1**	**+0.7**
CTAO	**Charters Tower**	**23.07**	**148**	*eP*	**P**	**11 07 11.0**	**-0.3**
	28nm,1.1s						
MBWA	**Marble Bar**	**24.37**	**212**	*eP*	**P**	**11 07 22.7**	**-1.0**
MBWA	**Marble Bar**	**24.37**	**212**	*eP*	**P**	**11 07 22.7**	**-1.0**
	23nm,0.8s						
BJII	**Banjamegara**	**24.52**	**254**	P	**P**	**11 07 26.9**	**+1.6**
	57nm,1.7s						
CISI	**Cisompet, Garu**	**26.40**	**254**	P	**P**	**11 07 42.0**	**-0.2**
	119nm,1.1s,2μm						
JOW	**Kunigami**	**27.75**	**350**	LR	LR	11 17 37.2	
	comp=Z,262nm,18.7s,baz=216,slow=34						
QLP	**Quilpie**	**27.83**	**159**	*eP*	**P**	**11 07 55.1**	**+0.2**
FORT	**Forrest**	**30.40**	**189**	*eP*	**P**	**11 08 17.7**	**0.0**
	13nm,0.6s						
FORT	**Forrest**	**30.40**	**189**	*eP*	**P**	**11 08 17.1**	**-0.5**
	18nm,0.7s						
STKA	**Stephens Creek**	**32.03**	**167**	P	**P**	**11 08 31.8**	**-0.2**
	5.7nm,0.3s,baz=341,slow=8.6,SNR=16						
STKA				LR	LR	11 21 48.9	
	comp=Z,193nm,20.2s,baz=217,slow=37						
STKA	**Stephens Creek**	**32.03**	**167**	*eP*	**P**	**11 08 31.8**	**-0.2**
	6.8nm,0.8s						
STKA	**Stephens Creek**	**32.03**	**167**	*eP*	**P**	**11 08 31.8**	**-0.2**
BBOO	**Buckleboo**	**32.10**	**176**	*eP*	**P**	**11 08 32.4**	**-0.3**
	64nm,0.8s						
KMBL	**Kambalda**	**32.45**	**199**	*eP*	**P**	**11 08 35.3**	**-0.4**
	43nm,0.4s						
ARMA	**Armidale**	**34.32**	**151**	*eP*	**P**	**11 08 53.8**	**+1.6**
ARPS	**Mount Arapiles**	**36.80**	**169**	*eP*	**P**	**11 09 13.5**	**+0.3**
	66nm,0.6s						
MJAR	**Matsushiro Arr**	**37.26**	**6**	P	**P**	**11 09 16.5**	**-0.7**
	1.8nm,0.7s,baz=194,slow=9.4,SNR=7.4						
MJAR				LR	LR	11 21 21.7	
	comp=Z,163nm,20.6s,baz=185,slow=31						
MJAR	**Matsushiro Arr**	**37.26**	**6**	P	**P**	**11 09 16.5**	**-0.7**
KSRS	**Korea Array**	**38.24**	**353**	LR	LR	11 23 18.4	
	comp=Z,99nm,18.5s,baz=340,slow=33						
CMAR	**Chiang Mai Arr**	**38.80**	**301**	P	**P**	**11 09 31.4**	**+0.9**
	1.3nm,0.3s,baz=117,slow=6.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**38.80**	**301**	P	**P**	**11 09 31.4**	**+0.9**
XAN	**Xi'an**	**41.44**	**329**	P	**P**	**11 09 51.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				LR	LR		
	comp=N,280nm,17.1s						
XAN				LR	LR		
	comp=Z,120nm,17.1s						
BJI	**Beijing**	**43.43**	**341**	P	**P**	**11 10 08.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,36nm,0.7s						
USRK	**Ussuriysk Arra**	**44.66**	**359**	P	**P**	**11 10 18.8**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=182,slow=9.7,SNR=4.3						
ASAJ	**Asahikawa**	**45.31**	**9**	LR	LR	11 29 37.3	
	comp=Z,73nm,18.5s,baz=60,slow=36						
LZH	**Lanzhou**	**45.72**	**326**	*eP*	**P**	**11 10 27.5**	**+0.7**
LZH				pP	**pP**	**11 10 31.5**	**-3.7**
LZH				sP	**sP**	**11 10 34.0**	**-4.6**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**50.32**	**326**	*eP*	**P**	**11 11 02.8**	**+0.5**
GTA				pP	**pP**	**11 11 11.2**	**+0.4**
GTA				sP	**sP**	**11 11 15.6**	**+1.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ULN	**Ulaanbaatar**	**53.47**	**338**	*eP*	**P**	**11 11 25.8**	**+0.2**
	comp=Z,16nm,1.5s						
ULN	**Ulaanbaatar**	**53.47**	**338**	P	**P**	**11 11 27.0**	**+1.4**
SONM	**Songino Array**	**53.69**	**338**	P	**P**	**11 11 28.0**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=152,slow=7.2,SNR=12						
SONM				PcP	**PcP**	**11 12 33.4**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=149,slow=4.5,SNR=4.2						
SONM	**Songino Array**	**53.69**	**338**	P	**P**	**11 11 28.0**	**+0.7**
SONM				PcP	**PcP**	**11 12 33.4**	**+0.2**
URZ	**Urewera**	**54.85**	**138**	P	**P**	**11 11 35.4**	**-0.3**
PETK	**Petropavlovsk-**	**57.28**	**17**	P	**P**	**11 11 54.7**	**+2.0**
	comp=Z,5.1nm,0.8s,baz=203,slow=7.0,SNR=3.2						
PETK	**Petropavlovsk-**	**57.28**	**17**	P	**P**		
MK31	**Makanchi Array**	**64.94**	**324**	*eP*	**P**	**11 11 54.7**	**+2.0**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**11 12 45.1**	**+0.2**
	comp=Z,11nm,0.6s,baz=111,slow=8.4,SNR=126					**11 12 45.2**	**+0.2**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**11 12 45.2**	**+0.2**
KSH	**Kashi**	**65.82**	**314**	P	**P**	**11 12 52.3**	**+1.4**
KSH				*ep*P	**pP**	**11 12 56.9**	**-2.8**
KSH				*es*P	**sP**	**11 12 59.1**	**-3.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,56nm,5.4s						
TKM2	**Tokmak 2**	**67.41**	**318**	*eP*	**P**	**11 13 00.5**	**-0.6**
	comp=Z,2.3nm,0.6s						
ZAA0	**Zalesovo Array**	**67.53**	**331**	*eP*	**P**	**11 13 00.7**	**-0.6**
ZALV	**Zalesovo Beam**	**67.53**	**331**	P	**P**	**11 13 00.9**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=118,slow=5.9,SNR=24						
ZALV	**Zalesovo Beam**	**67.53**	**331**	P	**P**	**11 13 00.9**	**-0.4**
KURK	**Kurchatov**	**69.01**	**326**	*eP*	**P**	**11 13 10.6**	**-0.1**
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**70.95**	**316**	*eP*	**P**	**11 13 22.6**	**-0.2**
	comp=Z,5.7nm,0.8s						
BRVK	**Borovoye**	**74.68**	**326**	*eP*	**P**	**11 13 44.6**	**0.0**
	comp=Z,7.7nm,0.8s						
ABKAR	**Akbulak array**	**79.72**	**320**	*eP*	**P**	**11 14 11.9**	**-1.2**
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**11 14 46.3**	**0.0**
	comp=Z,2.2nm,0.6s,baz=251,slow=5.1,SNR=23						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**11 14 46.3**	**0.0**
QSPA	**South Pole Qui**	**89.30**	**180**	P	**P**	**11 15 01.8**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=348,slow=1.4,SNR=10						
QSPA	**South Pole Qui**	**89.30**	**180**	*eP*	**P**	**11 15 01.8**	**+0.5**
INK	**Inuvik**	**91.74**	**22**	P	**P**	**11 15 12.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=180,slow=4.0,SNR=5.7						
INK	**Inuvik**	**91.74**	**22**	P	**P**	**11 15 12.0**	**-0.4**
ARCES	**ARCESS Array B**	**96.79**	**340**	P	**P**	**11 15 35.5**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=76,slow=5.1,SNR=5.1						
ARCES	**ARCESS Array B**	**96.79**	**340**	P	**P**	**11 15 35.5**	**-0.2**
AKASG	**Malin Array Be**	**99.44**	**321**	P	**Pdif**	**11 15 49.1**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=69,slow=5.1,SNR=3.5						
AKASG	**Malin Array Be**	**99.44**	**321**	P	**Pdif**	**11 15 49.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**130.57**	**287**	PKP	**PKPdf**	**11 21 16.3**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=76,slow=1.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**130.57**	**287**	PKP	**PKPdf**	**11 21 16.3**	**-0.8**
CPUP	**Villa Florida**	**151.27**	**160**	PKPbc	**PKPbc**	**11 22 00.5**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=189,slow=3.1,SNR=6.9						
CPUP	**Villa Florida**	**151.27**	**160**	PKPbc	**PKPbc**	**11 22 00.5**	**+1.0**
LPAZ	**La Paz**	**152.91**	**129**	PKPbc	**PKPbc**	**11 22 05.0**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=260,slow=6.4,SNR=5.4						
LPAZ	**La Paz**	**152.91**	**129**	PKPbc	**PKPbc**	**11 22 05.0**	**+0.8**

IDC 05 11:25:48.3±2.5,0.17S×133.10E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.5/18,mbtmp3.6/4,ML3.4/1,Error ellipse: s-maj=96.8km s-min=27.5km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.27**	**202**	P	P	11 30 14.5	-0.2
	0.1nm,0.3s,baz=19,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**19.69**	**177**	P	P	11 30 19.4	+0.1
	0.4nm,0.3s,baz=356,slow=11,SNR=19						
ASAR	**Alice Springs**	**23.37**	**178**	P	P	11 30 58.8	+0.1
	1.2nm,0.6s,baz=360,slow=11,SNR=38						
MKAR	**Makanchi Array**	**64.40**	**324**	P	P	11 36 26.3	-0.1
	0.3nm,0.7s,baz=119,slow=7.8,SNR=3.5						

IDC 05 11:28:49.3±2.3,0.70S×133.18E,h0km,mb3.3/3, mb1 3.4/5,mb1mx3.3/19,mbtmp3.3/5,ML3.1/2,Error ellipse: s-maj=100.8km s-min=23.7km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.81**	**203**	P	P	11 33 09.9	-0.8
	0.1nm,0.3s,baz=34,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**19.16**	**177**	P	Pn	11 33 14.9	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**22.84**	**178**	P	P	11 33 54.5	+0.2
	0.3nm,0.4s,baz=359,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**64.88**	**324**	P	P	11 39 30.6	+0.1
	0.2nm,0.5s,baz=113,slow=7.3,SNR=3.7						
KURK	**Kurchatov**	**68.95**	**326**	P	P	11 39 56.1	-0.2
	0.3nm,0.7s,baz=120,slow=5.5,SNR=3.5						

IDC 05 11:32:05.8±2.5,0.01S×133.22E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=100.1km s-min=27.3km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.46**	**202**	P	P	11 36 33.8	-0.4
	0.2nm,0.3s,baz=36,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**19.84**	**177**	P	P	11 36 38.4	-0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.52**	**178**	P	P	11 37 18.1	+0.3
	0.4nm,0.5s,baz=358,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**64.35**	**324**	P	P	11 42 43.5	0.0
	0.4nm,0.8s,baz=138,slow=7.6,SNR=4.3						

*BEO **05** 11:32:33.5±1.1,43.29N×16.87E,h0km,ML2.7/5*
*PDG **05** 11:32:34.6±0.3,43.26N×17.46E,h6km±1km,ML2.7/10, Error ellipse: s-maj=1.3km s-min=1.7km az=0.0*
*CSEM **05** 11:32:35.7±0.2,43.31N×17.47E,h2km,ML2.7/10,Error ellipse: s-maj=7.9km s-min=3.3km az=42.0*
*VIE **05** 11:32:37.9±0.7,43.55N×17.73E,h10km,mb2.5/2,ML2.4/3, Error ellipse: s-maj=10.3km s-min=4.9km az=59.0 64 km WSW of Sarajevo*

ISC 05 11:32:34.2±1.2,43.30N±0.03×17.44E±0.03,h0km±10km, n50,σ1ᵠ49/90,14C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.47**	**156**	*ePg*	**Pg**	**11 32 43.4**	**+0.2**
STON				Sg	**Sb**	**11 32 51.6**	**-1.2**
STON	**Ston**	**0.47**	**156**	*eP*g	**Pg**	**11 32 43.4**	**+0.2**
STON				Sg	**Sb**	**11 32 51.6**	**-1.2**
BRY	**Bratogost**	**0.90**	**116**	⇓*i*Pg	**Pg**	**11 32 50.2**	**-1.2**
BRY				*e*Sg	**Sb**	**11 33 04.6**	**-0.8**
UPM	**Unac-Piva**	**1.08**	**95**	⇑*i*Pg	**Pg**	**11 32 53.2**	**-1.6**
UPM				*e*Sg	**Sn**	**11 33 10.8**	**-1.7**
HCY	**Herceg Novi**	**1.15**	**137**	⇓*i*Pg	**Pb**	**11 32 54.6**	**-2.4**
HCY				*e*Sg	**Sn**	**11 33 13.0**	**-1.1**
NKY	**Niksic**	**1.24**	**113**	⇓*i*Pg	**Pn**	**11 32 57.2**	**-1.7**
NKY				*e*Sg	**Sn**	**11 33 15.9**	**-0.5**
PLE	**Pljevlja**	**1.42**	**88**	⇑*i*Pg	**Pn**	**11 33 00.6**	**-0.8**
PLE				*e*Sg	**Sg**	**11 33 22.2**	**+2.3**
PLE	**Pljevlja**	**1.42**	**88**	⇑*i*Pg	**Pn**	**11 33 00.6**	**-0.8**
PLE				*e*Sg	**Sg**	**11 33 22.2**	**+2.3**
BLY	**Banja Luka**	**1.46**	**353**	*e*Pg	**Pn**	**11 33 01.4**	**-0.4**
BLY				*e*Sg	**Sb**	**11 33 21.6**	**+0.3**
BLY	**Banja Luka**	**1.46**	**353**	*eP*g	**Pn**	**11 33 01.4**	**-0.4**
BLY				*e*Sg	**Sb**	**11 33 21.6**	**+0.3**
BUM	**Brajici-Budva**	**1.47**	**133**	⇓*i*Pg	**Pn**	**11 33 00.9**	**-1.1**
BUM				*e*Sg	**Sg**	**11 33 23.6**	**+2.3**
PDG	**Podgorica**	**1.59**	**122**	⇑*i*Pg	**Pg**	**11 33 04.3**	**-0.5**
PDG				*e*Sg	**Sg**	**11 33 27.4**	**+2.0**
TTG	**Podgorica**	**1.60**	**122**	⇑*i*Pg	**Pg**	**11 33 04.3**	**-0.5**
TTG				*e*Sg	**Sg**	**11 33 27.4**	**+1.9**
BEY	**Berane**	**1.85**	**103**	⇑*i*Pn	**Pb**	**11 33 08.6**	**-0.3**
IVA	**Berane**	**1.85**	**103**	⇑*i*Pn	**Pb**	**11 33 08.6**	**-0.4**
IVA				*e*Sn	**Sg**	**11 33 35.3**	**+1.6**
ULC	**Ulcinj**	**1.89**	**134**	⇓*i*Pn	**Pb**	**11 33 08.4**	**-1.1**
ULC				*e*Sn	**Sg**	**11 33 34.6**	**-0.2**
ULC	**Ulcinj**	**1.89**	**134**	⇓*i*Pn	**Pb**	**11 33 08.4**	**-1.1**
ULC				*e*Sn	**Sg**	**11 33 34.6**	**-0.2**
PVY	**Plav**	**1.98**	**110**	⇑*i*Pn	**Pb**	**11 33 10.8**	**-0.4**
PVY				*e*Sn	**Sg**	**11 33 38.7**	**+0.9**
PVY	**Plav**	**1.98**	**110**	⇑*i*Pn	**Pb**	**11 33 10.8**	**-0.4**
PVY				*e*Sn	**Sg**	**11 33 38.7**	**+0.9**
IVAS	**Ivanjica**	**2.00**	**81**	*e*Pn	**Pb**	**11 33 10.8**	**-0.6**
IVAS				*e*Sn	**Sg**	**11 33 39.2**	**+0.9**
IVAS	**Ivanjica**	**2.00**	**81**	*e*Pn	**Pb**	**11 33 10.8**	**-0.6**
IVAS				*e*Sn	**Sg**	**11 33 39.2**	**+0.9**
DIVS	**Divibare**	**2.02**	**66**	*e*Pn	**Pb**	**11 33 11.0**	**-0.8**
DIVS				*e*Sn	**Sb**	**11 33 38.2**	**+0.7**
DIVS	**Divibare**	**2.02**	**66**	*e*Pn	**Pb**	**11 33 11.0**	**-0.8**
DIVS				*e*Sn	**Sb**	**11 33 38.2**	**+0.7**
NVLJ	**Novalja**	**2.24**	**305**	*e*Pn	**Pb**	**11 33 14.7**	**-0.9**
NVLJ				Sn	**Sg**	**11 33 46.5**	**+0.2**
NVLJ	**Novalja**	**2.24**	**305**	*e*Pn	**Pb**	**11 33 14.7**	**-0.9**
NVLJ				Sn	**Sg**	**11 33 46.4**	**+0.2**
TRUS	**Trudelj**	**2.34**	**66**	*e*Pn	**Pb**	**11 33 15.3**	**-1.9**
TRUS	**Trudelj**	**2.34**	**66**	*e*Pn	**Pb**	**11 33 15.3**	**-1.9**
GRUS	**Gruza**	**2.45**	**75**	*e*Pn	**Pn**	**11 33 16.3**	**+0.8**
GRUS	**Gruza**	**2.45**	**75**	*e*Pn	**Pn**	**11 33 16.3**	**+0.8**
SELS	**Selova**	**2.69**	**90**	*e*Pn	**Pn**	**11 33 19.8**	**+1.0**
SELS	**Selova**	**2.69**	**90**	*e*Pn	**Pn**	**11 33 19.8**	**+1.0**
BOJS	**Bojanci**	**2.70**	**325**	*e*Pn	**Pn**	**11 33 20.8**	**+1.9**
BOJS				*e*Sn	**Sb**	**11 33 55.8**	**-1.3**
BOJS	**Bojanci**	**2.70**	**325**	Pn	**Pn**	**11 33 20.8**	**+1.9**
BOJS				*e*Sn	**Sb**	**11 33 55.8**	**-1.3**
CRES	**Cresnjev**	**2.89**	**331**	*e*Pn	**Pn**	**11 33 23.1**	**+1.5**
CRES				*e*Sn	**Sb**	**11 33 60.0**	**-2.6**
CRES	**Cresnjev**	**2.89**	**331**	*e*Pn	**Pn**	**11 33 23.1**	**+1.5**
CRES				*e*Sn	**Sb**	**11 34 00.0**	**-2.6**
GBRS	**Gornja Briga**	**2.92**	**321**	*e*Pn	**Pb**	**11 33 25.0**	**-2.1**
BARS	**Barje**	**3.24**	**97**	*e*Pn	**Pn**	**11 33 26.8**	**+0.4**
BARS				*e*Sn	**Sn**	**11 34 07.4**	**+1.7**
BARS	**Barje**	**3.24**	**97**	*e*Pn	**Pn**	**11 33 26.8**	**+0.4**
BARS				*e*Sn	**Sn**	**11 34 07.4**	**+1.7**
VOY	**Vojsko**	**3.72**	**318**	*e*Pn	**Pn**	**11 33 35.2**	**+2.2**
VOY				*e*Sn	**Sn**	**11 34 21.8**	**+4.2**
VOY	**Vojsko**	**3.72**	**318**	*e*Pn	**Pn**	**11 33 35.2**	**+2.2**
VOY				*e*Sn	**Sn**	**11 34 21.8**	**+4.2**
BZS	**Buzias**	**3.78**	**51**	⇓*i*P	**Pb**	**11 33 42.0**	**+0.2**
BZS				S	**Sn**	**11 34 15.2**	**-3.7**
SOKA	**Soboth**	**3.78**	**334**	⇑*i*Pn	**Pn**	**11 33 34.3**	**+0.5**
SOKA				⇓*i*Sn	**Sn**	**11 34 18.4**	**-0.7**
SOKA	**Soboth**	**3.78**	**334**	Pn	**Pn**	**11 33 34.3**	**+0.5**
SOKA				Sn	**Sn**	**11 34 18.4**	**-0.7**
ZAPS	**Zavoj**	**3.79**	**89**	*e*Pn	**Pn**	**11 33 35.0**	**+1.1**
ZAPS				*e*Sn	**Sn**	**11 34 21.4**	**+2.1**
ZAPS	**Zavoj**	**3.79**	**89**	*e*Pn	**Pn**	**11 33 35.0**	**+1.1**
ZAPS				*e*Sn	**Sn**	**11 34 21.4**	**+2.1**
ARSA	**Arzberg**	**4.17**	**342**	⇑*i*Pn	**Pn**	**11 33 39.4**	**+0.2**
ARSA				⇑*i*Sn	**Sn**	**11 34 27.6**	**-1.1**
ARSA	**Arzberg**	**4.17**	**342**	Pn	**Pn**	**11 33 39.4**	**+0.2**
ARSA				Sn	**Sn**	**11 34 27.6**	**-1.1**
MOA	**Molln**	**5.06**	**335**	⇑*i*Pn	**Pn**	**11 33 52.9**	**+1.5**
MOA				⇑*i*Sn	**Sn**	**11 34 51.2**	**+0.6**
MOA	**Molln**	**5.06**	**335**	Pn	**Pn**	**11 33 52.9**	**+1.5**
MOA				Sn	**Sn**	**11 34 51.2**	**+0.6**
DRV	**Dumont d'Urvil**	**141.57**	**147**	L	L	11 49 00.0	
DRV			

AOPR eS Sn 11 46 26.9 -0.9
CBYP Canovanas 1.30 163 ||eP Pn 11 46 11.6 -0.6
CBYP Canovanas 1.30 163 eS Sn 11 46 28.4 -0.5
CBYP Canovanas 1.30 163 ||eP Pn 11 46 11.6 -0.6
CBYP eS Sn 11 46 28.4 -0.5
LRS Lares 1.34 204 ||eP Pn 11 46 11.7 -1.0
LRS eS Sn 11 46 29.4 -0.4
LRS Lares 1.34 204 ||eP Pn 11 46 11.7 -1.0
LRS eS Sn 11 46 29.4 -0.4
HUMP Col San Antoni 1.43 164 ⇑eP Pn 11 46 13.0 -0.8
HUMP Col San Antoni 1.43 164 ⇑eP Pn 11 46 13.0 -0.8
MTP Monte Pirata 1.57 155 ||eP Pn 11 46 15.1 -0.6
MTP Monte Pirata 1.57 155 eS Sn 11 46 34.1 -1.0
MTP Monte Pirata 1.57 155 ||eP Pn 11 46 15.1 -0.6
MTP eS Sn 11 46 34.1 -1.0
CRPR Cabo Rojo, PR 1.71 208 ⇑eP Pn 11 46 17.3 -0.2
CRPR Cabo Rojo, PR 1.71 208 ⇑eP Pn 11 46 17.3 -0.2

IDC 05 11:46:20.0±3.6,**5°69'S**×**107°79'E**,**h322**km±42km,**mb3.2**/4,
mb1 3.3/4,**mb1mx2.9**/19,**mbtmp3.2**/4,**Error ellipse:**
s-maj=144.7km s-min=14.4km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.45**	**121**	P	P		11 51 55.0	-0.1
	0.3nm,0.3s,baz=292,slow=8.9,SNR=14							
ASAR	**Alice Springs**	**30.85**	**128**	P	P		11 52 07.0	-0.3
	0.5nm,0.4s,baz=301,slow=7.8,SNR=36							
ASAR				S	S		11 56 47.7	+0.6
	0.7nm,1.1s,baz=297,slow=16,SNR=4.3							
STKA	**Stephens Creek**	**40.96**	**134**	P	P		11 53 32.4	+0.1
	1.8nm,0.5s,baz=302,slow=8.4,SNR=12							
MKAR	**Makanchi Array**	**56.93**	**339**	P	P		11 55 32.3	-0.1
	0.6nm,0.5s,baz=155,slow=8.2,SNR=13							

NIED ***05*** *11:47:00,34.°00N×141.°30E,h14km,Mw4.2 Best double couple: M₀2.59000×10¹⁵ NP1:φ₅=87.00000°,δ70.00000°, λ-83.00000°. NP2:φ₅248.00000°,δ21.00000°, λ-108.00000°.*
IDC ***05*** *11:47:25.8±0.5,34.°09N×141.°26E,h0km,mb4.0/20, mb1 4.2/22,mb1mx4.2/28,mbtmp4.1/22,ML4.0/1,Error ellipse: s-maj=18.3km s-min=13.2km az=84.0*
JMA ***05*** *11:47:28.1±0.2,34.°03N×141.°35E,h32km±3km,M3.9*
ISCJB ***05*** *11:47:28.2±1.0,34.°02N±0.°04×141.°34E±0.°05,h30km±6km, mb4.0/20,Error ellipse: s-maj=8.5km s-min=5.9km az=41.0*

ISC 05 11:47:27.4±2.0,**34.°02N**±0.°05×**141.°31E**±0.°06,**h13**km±12km,
n41,σ**0°87/50**,**mb4.0**/20,**1D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.69**	**337**	P	**Pb**		**11 47 41.3**	**+0.3**
BSO1				*e*S	**Sn**		**11 47 50.9**	**-1.8**
BSO2	**Boso 2**	**0.86**	**328**	*e*S			11 47 56.5	
BSO3	**Boso 3**	**1.02**	**320**	||P	**Pg**	**11 47 46.9**	**-0.2**
BSO4	**Boso 4**	**1.26**	**321**	P	**Pb**		**11 47 50.9**	**0.0**
KTR	**Katsuura**	**1.39**	**324**	P	**Pb**		**11 47 52.9**	**-0.4**
KTR				*e*S	**Sb**		**11 48 11.3**	**+0.3**
JMY	**Miyakejima3**	**1.49**	**273**	P	**Pn**		**11 47 54.3**	**+0.4**
JHJ2	**Mitsune**	**1.54**	**234**	P	**Pb**		**11 47 55.6**	**-0.2**
TATJ	**Tateyama 2**	**1.55**	**311**	P	**Pb**		**11 47 55.5**	**-0.4**
JIM2	**Oshima 3**	**1.70**	**295**	P	**Pn**		**11 47 56.1**	**-0.7**
JIM2				*e*S	**Sn**		**11 48 18.3**	**-0.2**
JKO	**Kozu shima**	**1.81**	**276**	P	**Pn**		**11 47 58.6**	**+0.3**
JKO				*e*S	**Sn**		**11 48 21.0**	**-0.1**
KTJJ	**Kamata 2**	**2.06**	**297**	P	**Pn**		**11 48 01.4**	**-0.4**
KTJJ				*e*S	**Sn**		**11 48 24.7**	**-2.7**
JIZS	**Izushimoda**	**2.13**	**290**	P	**Pn**		**11 48 02.9**	**+0.2**
JIZS				*e*S	**Sn**		**11 48 28.9**	**0.0**
JOD2	**Odawara 2**	**2.21**	**305**	P	**Pn**		**11 48 03.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.57**	**316**	P	**Pn**		**11 48 23.9**	**+1.3**
	11nm,0.3s,baz=156,slow=14,SNR=99							
MJAR				Pn	**Sn**		**11 49 04.9**	**+0.2**
	5.3nm,0.3s,baz=137,slow=17,SNR=5.3							
MAT	**Matsushiro**	**3.58**	**316**	P	**Pn**		**11 48 24.0**	**+1.4**
MAT				S	**Sn**		**11 49 04.7**	**0.0**
CBIJ	**Chichi jima**	**6.94**	**174**	Pn	**Pn**		**11 49 09.2**	**+0.4**
	26nm,0.3s,baz=295,slow=19,SNR=8.4							
CBIJ				Sn	**Sn**		**11 50 25.2**	**-2.4**
	baz=300,slow=20							
ASAJ	**Asahikawa**	**10.13**	**5**	Pn	**Pn**		**11 49 50.9**	**-1.7**
	1.7nm,0.3s,baz=205,slow=26,SNR=15							
ASAJ				Sn	Sn		11 51 39.0	-7.0
	1.2nm,0.3s,baz=348,slow=33,SNR=4.1							
USRK	**Ussuriysk Arra**	**12.46**	**327**	Pn	**Pn**		**11 50 24.4**	**0.0**
	0.2nm,0.3s,baz=138,slow=13,SNR=8.5							
SONM	**Songino Array**	**29.50**	**308**	P	**P**		**11 53 32.0**	**+0.7**
	1.4nm,0.6s,baz=113,slow=8.2,SNR=8.4							
CMAR	**Chiang Mai Arr**	**40.73**	**259**	P	**P**		**11 55 07.8**	**-0.3**
	0.3nm,0.3s,baz=50,slow=8.4,SNR=3.9							
ZALV	**Zalesovo Beam**	**43.93**	**315**	P	**P**		**11 55 33.8**	**0.0**
	1.6nm,0.6s,baz=95,slow=8.0,SNR=8.5							
ZALV				PcP	**PcP**		**11 57 19.3**	**-0.3**
	1.0nm,0.5s,baz=97,slow=3.7,SNR=4.2							
MKAR	**Makanchi Array**	**45.70**	**305**	P	**P**		**11 55 48.4**	**+0.3**
	0.6nm,0.4s,baz=84,slow=10.0,SNR=15							
KURK	**Kurchatov**	**47.77**	**310**	P	**P**		**11 56 04.4**	**+0.3**
	1.6nm,0.4s,baz=84,slow=7.7,SNR=22							
KDAK	**Kodiak Island**	**49.43**	**40**	P	**P**		**11 56 17.6**	**+0.9**
	12nm,1.0s,baz=265,slow=8.1,SNR=6.6							
ILAR	**Eielson Array**	**52.10**	**31**	P	**P**		**11 56 36.6**	**-0.2**
	1.3nm,0.7s,baz=266,slow=6.3,SNR=16							
BVAR	**Borovoye Array**	**52.57**	**314**	P	**P**		**11 56 40.1**	**-0.4**
	0.9nm,0.6s,baz=81,slow=9.1,SNR=5.5							
FITZ	**Fitzroy Crossi**	**53.94**	**199**	P	**P**		**11 56 52.1**	**+1.3**
	3.1nm,0.6s,baz=29,slow=13,SNR=6.1							
WRA	**Warramunga Arr**	**54.07**	**188**	P	**P**		**11 56 52.4**	**+0.6**
	3.5nm,0.6s,baz=3.8,slow=7.5,SNR=28							
INK	**Inuvik**	**57.12**	**26**	P	**P**		**11 57 13.2**	**+0.1**
	1.1nm,0.8s,baz=276,slow=7.4,SNR=3.1							
ASAR	**Alice Springs**	**57.80**	**188**	P	**P**		**11 57 19.5**	**+1.1**
	0.8nm,0.5s,baz=3.3,slow=8.9,SNR=20							
STKA	**Stephens Creek**	**65.54**	**180**	P	**P**		**11 58 11.8**	**+1.2**
	1.6nm,0.7s,baz=330,slow=14,SNR=3.9							
FINES	**FINESS Array B**	**71.44**	**333**	P	**P**		**11 58 46.9**	**-0.3**
	1.1nm,0.5s,baz=39,slow=7.3,SNR=7.7							
AKASG	**Malin Array Be**	**76.63**	**323**	P	**P**		**11 59 17.1**	**-0.6**
	1.1nm,0.5s,baz=47,slow=6.2,SNR=8.0							
NVAR	**Mina Array Bea**	**76.88**	**52**	P	**P**		**11 59 20.4**	**+0.8**
	0.6nm,0.7s,baz=282,slow=5.7,SNR=4.7							
NB2	**NORSAR Subarra**	**76.93**	**338**	P	**P**		**11 59 18.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**76.93**	**338**	P	**P**		**11 59 19.2**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=39,slow=5.7,SNR=6.8							
BRTR	**Keskin Array B**	**80.79**	**312**	P	**P**		**11 59 40.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=53,slow=7.4,SNR=2.2							
GERES	**GERESS Array B**	**85.23**	**328**	P	**P**		**12 00 03.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=35,slow=5.6,SNR=6.5							
TXAR	**Lajitas Array**	**92.03**	**52**	P	**P**		**12 00 36.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=309,slow=4.1,SNR=4.8							
TORD	**Torodi Ar. Bea**	**119.37**		PKP		**PKPdf**	**12 06 16.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=33,slow=1.5,SNR=8.9							
LPAZ	**La Paz**	**148.20**	**64**	PKPbc		**PKPbc**	**12 07 14.7**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=320,slow=1.4,SNR=11							

DJA ***05*** *12:09:47,0.°51S×132.°85E,h30km,MLv4.4/7*

IDC 05 12:09:40.7±1.3,**0.°38S**×**133.°18E**,**h0**km,**mb3.8**/4,
mb1 4.0/6,**mb1mx3.7**/18,**mbtmp3.8**/6,**ML3.9/2**,**MS3.5**/1,
Ms1 3.5/1,**ms1mx2.8**/33,**Error ellipse: s-maj=57.7km**
s-min=17.3km az=83.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.11**	**202**	P	P		12 14 04.5	-0.8
	0.2nm,0.3s,baz=34,slow=12,SNR=4.9							
FITZ				S	Sn		12 17 22.4	-18
	0.1nm,0.3s,baz=88,slow=14,SNR=2.8							
WRA	**Warramunga Arr**	**19.47**	**177**	P	P		12 14 09.4	+0.1
	0.4nm,0.3s,baz=357,slow=12,SNR=23							
WRA				S	Sn		12 17 35.5	-14
	0.2nm,0.3s,baz=0.9,slow=23,SNR=7.7							
ASAR	**Alice Springs**	**23.16**	**178**	P	P		12 14 49.5	+0.6
	3.0nm,0.7s,baz=360,slow=8.0,SNR=30							
ASAR				S	S		12 19 02.7	+0.9
	0.7nm,0.9s,baz=7.3,slow=21,SNR=4.6							
CTA	**Charters Tower**	**23.40**	**148**	LR	LR		12 24 01.0	
	comp=Z,137nm,21.5s,baz=196,slow=37							
STKA	**Stephens Creek**	**32.32**	**167**	P	P		12 16 11.7	+0.1
	0.8nm,0.3s,baz=342,slow=10.0,SNR=6.9							
MKAR	**Makanchi Array**	**64.62**	**324**	P	P		12 20 19.9	-0.3
	0.3nm,0.5s,baz=113,slow=8.2,SNR=6.9							

ILAR Eielson Array 86.05 25 P P 12 22 23.5 +0.5
0.9nm,1.1s,baz=258,slow=4.5,SNR=3.1

IDC 05 12:21:22.7±1.9,**0.°55S**×**133.°22E**,**h0**km,**mb3.5**/3,
mb1 3.8/5,**mb1mx3.5**/18,**mbtmp3.6**/5,**ML3.7**/2,**Error**
ellipse: s-maj=77.8km s-min=23.1km az=75.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.97**	**203**	P	P	Pn	12 25 46.3	-0.1
	0.1nm,0.3s,baz=12,slow=12,SNR=3.3							
WRA	**Warramunga Arr**	**19.31**	**177**	P	P		12 25 49.9	+0.4
	0.3nm,0.3s,baz=355,slow=11,SNR=18							
ASAR	**Alice Springs**	**22.99**	**178**	P	P		12 26 29.4	0.0
	1.1nm,0.5s,baz=359,slow=11,SNR=25							
STKA	**Stephens Creek**	**32.15**	**167**	P	P		12 27 51.7	-0.5
	1.4nm,0.9s,baz=349,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**64.78**	**324**	P	P		12 32 03.2	0.0
	0.2nm,0.8s,baz=123,slow=5.3,SNR=2.3							

IDC 05 12:24:06.9±3.1,**0.°18S**×**133.°09E**,**h0**km,**mb3.2**/2,
mb1 3.3/3,**mb1mx3.2**/17,**mbtmp3.1**/3,**ML2.8/1**,**MS3.3**/1,
Ms1 3.3/1,**ms1mx2.4**/18,**Error ellipse: s-maj=153.6km**
s-min=30.4km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.16**	**250**	LR	LR		12 32 51.1	
	comp=Z,114nm,19.1s,baz=285,slow=37							
WRA	**Warramunga Arr**	**19.68**	**177**	P	P		12 28 37.2	-0.6
	0.0nm,0.3s,baz=356,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**23.36**	**178**	P	P		12 29 17.6	+0.4
	0.3nm,0.4s,baz=357,slow=10,SNR=5.5							
MKAR	**Makanchi Array**	**64.40**	**324**	P	P		12 34 44.9	0.0
	0.2nm,0.5s,baz=116,slow=8.5,SNR=2.7							

ISCJB ***05*** *12:31:49.3±1.2,36.°92N±0.°08×28.°32E±0.°09,h14km,Error ellipse: s-maj=14.0km s-min=6.4km az=37.2*
DDA ***05*** *12:31:50.1,36.°98N×28.°28E,h7km,MD2.6*

ISC 05 12:31:49.7±1.6,**36.°95N**±0.°08×**28.°33E**±0.°06,**h14**km,**n4,**
σ**0°82/7**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**348**	*e*PG	**Pg**		**12 31 54.5**	**+0.3**
YER				*e*SG	**Sg**		**12 31 58.1**	**+0.9**
TURN	**Turunc**	**0.23**	**108**	*i* P	**Pg**		**12 31 54.7**	**+0.1**
TURN				*i* S	**Sg**		**12 31 57.8**	**-0.2**
AYDN	**Tasoluk**	**0.80**	**333**	*i* P	**Pg**		**12 32 05.2**	**0.0**
AYDN				*i* S	**Sg**		**12 32 14.5**	**-1.3**
BODT	**Bodrum**	**0.83**	**278**	*e*PG	**Pg**		**12 32 05.9**	**+0.2**

DJA ***05*** *12:41:49,0.°77S×133.°28E,h10km,MLv4.1/7*

IDC 05 12:41:45.9±1.4,**0.°77S**×**133.°36E**,**h0**km,**mb3.6**/5,
mb1 3.8/7,**mb1mx3.7**/19,**mbtmp3.7**/7,**ML3.9**/2,**Error**
ellipse: s-maj=76.3km s-min=17.2km az=77.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	P		12 46 07.3	-0.1
	0.3nm,0.3s,baz=27,slow=11,SNR=10							
FITZ				S	Sn		12 49 24.0	-15
	0.2nm,0.3s,baz=319,slow=20,SNR=3.3							
WRA	**Warramunga Arr**	**19.08**	**177**	P	Pn		12 46 10.7	-0.3
	0.4nm,0.3s,baz=356,slow=12,SNR=21							
WRA				S	Sn		12 49 35.0	-10
	0.2nm,0.3s,baz=353,slow=24,SNR=5.8							
ASAR	**Alice Springs**	**22.77**	**179**	P	P		12 46 50.1	0.0
	1.9nm,0.6s,baz=359,slow=12,SNR=45							
STKA	**Stephens Creek**	**31.91**	**167**	P	P		12 48 13.1	-0.1
	0.7nm,0.4s,baz=336,slow=7.8,SNR=5.3							
SONM	**Songino Array**	**53.80**	**338**	P	P		12 51 10.4	-0.2
	0.2nm,0.8s,baz=150,slow=9.2,SNR=2.1							
MKAR	**Makanchi Array**	**65.04**	**324**	P	P		12 52 28.3	+0.1
	0.6nm,0.5s,baz=113,slow=8.3,SNR=22							
KURK	**Kurchatov**	**69.10**	**326**	P	P		12 52 53.7	-0.2
	0.5nm,0.6s,baz=122,slow=5.7,SNR=6.6							

DJA ***05*** *12:46:13,0.°68S×133.°57E,h41km,MLv4.2/9*

IDC 05 12:46:08.9±2.8,**0.°67S**×**133.°33E**,**h0**km,**mb3.3**/3,
mb1 3.6/5,**mb1mx3.4**/19,**mbtmp3.4**/5,**ML3.4/2**,**Error**
ellipse: s-maj=135.0km s-min=23.1km az=79.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.90**	**203**	P	P	Pn	12 50 31.7	-0.1
	0.1nm,0.3s,baz=44,slow=12,SNR=2.0							
WRA	**Warramunga Arr**	**19.18**	**177**	P	P		12 50 34.2	-0.2
	0.1nm,0.3s,baz=356,slow=13,SNR=2.7							
ASAR	**Alice Springs**	**22.87**	**179**	P	P		12 51 14.2	-0.1
	0.7nm,0.7s,baz=356,slow=10,SNR=7.4							
MKAR	**Makanchi Array**	**64.94**	**324**	P	P		12 56 49.5	-1.1
	0.1nm,0.5s,baz=115,slow=8.3,SNR=6.0							
KURK	**Kurchatov**	**69.00**	**326**	P	P		12 57 17.6	+1.4
	0.2nm,0.6s,baz=131,slow=6.3,SNR=3.3							

IDC 05 12:55:46.0±2.6,**0.°53N**×**133.°07E**,**h0**km,**mb3.2**/3,
mb1 3.6/4,**mb1mx3.4**/18,**mbtmp3.4**/4,**ML3.5/1**,**MS3.5**/1,
Ms1 3.5/1,**ms1mx2.6**/18,**Error ellipse: s-maj=101.8km**
s-min=28.6km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.90**	**201**	P	P		13 00 19.3	0.0
	0.1nm,0.3s,baz=26,slow=12,SNR=2.7							
WRA	**Warramunga Arr**	**20.38**	**177**	P	P		13 00 23.9	-0.6
	0.4nm,0.6s,baz=356,slow=12,SNR=4.5							
WRA				LR	LR		13 08 08.4	
	comp=Z,160nm,21.2s,baz=320,slow=36							
ASAR	**Alice Springs**	**24.06**	**178**	P	P		13 01 03.4	+0.2
	0.8nm,0.6s,baz=354,slow=8.3,SNR=9.6							
MKAR	**Makanchi Array**	**63.83**	**324**	P	P		13 06 20.4	+0.1
	0.2nm,0.7s,baz=114,slow=8.5,SNR=2.9							

IDC 05 13:05:30.7±56.0,**16.°67S**×**175.°99E**,**h0**km,**mb3.8**/3,
mb1 4.0/3,**mb1mx3.7**/15,**mbtmp3.8**/3,**Error ellipse:**
s-maj=991.9km s-min=145.4km az=74.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.64**	**238**	P	P		13 12 21.3	-0.7
	2.1nm,0.9s,baz=68,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**39.60**	**259**	P	P		13 13 04.5	+0.2
	0.3nm,0.5s,baz=87,slow=8.4,SNR=5.4							
ASAR	**Alice Springs**	**40.00**	**253**	P	P		13 13 07.5	0.0
	1.9nm,0.6s,baz=87,slow=9.1,SNR=46							

NIED ***05*** *13:07:00,33.°70N×141.°20E,h41km,Mw4.5 Best double couple: M₀6.69000×10¹⁵ NP1:φ₅=327.00000°,δ78.00000°, λ33.00000°. NP2:φ₅230.00000°,δ58.00000°,λ166.00000°.*
MOS ***05*** *13:07:24.5±1.0,33.°62N×141.°22E,h33km,mb4.8/14,Error ellipse: s-maj=16.1km s-min=6.8km az=125.9*
JMA ***05*** *13:07:25.5±0.2,33.°74N×141.°24E,h74km±3km,M4.5*
ISCJB ***05*** *13:07:26.4±0.8,33.°66N±0.°04×141.°17E±0.°06,h48km±6km, mb4.4/43,MS3.7/9,Error ellipse: s-maj=8.0km s-min=6.0km az=0.8*
NEIC ***05*** *13:07:27.1±0.9,33.°65N×141.°22E,h38km±8km,mb4.8/15, MW4.5(NIED),Error ellipse: s-maj=10.5km s-min=6.7km az=75.0*
IDC ***05*** *13:07:27.8±2.6,33.°60N×141.°06E,h41km±23km,mb3.9/16, mb1 4.0/18,mb1mx4.0/24,mbtmp3.9/18,ML4.5/1,MS3.7/13, Ms1 3.7/13,ms1mx3.5/32,Error ellipse: s-maj=20.1km s-min=12.2km az=78.0*

ISC 05 13:07:27.8±1.4,**33.°75N**±0.°05×**141.°15E**±0.°07,**h41**km±12km,
n128,σ1§**19**/132,**mb4.5**/43,**MS3.5**/9,**1C-4D**,**Off east**
coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.92**	**351**	P	**Pn**		**13 07 43.4**	**-0.3**
BSO1				*e*S	**Sn**		**13 07 58.3**	**+2.8**
BSO3	**Boso 3**	**1.18**	**333**	||P	**Pn**	**13 07 47.4**	**-0.2**
BSO3				*e*S	**Sn**		**13 08 03.2**	**+0.9**
JHJ2	**Mitsune**	**1.28**	**241**	⇑P	**Pn**		**13 07 49.2**	**0.0**
JHJ2				*e*S	**Sn**		**13 08 06.7**	**+1.5**
JMY	**Miyakejima3**	**1.40**	**284**	P	**Pn**		**13 07 50.9**	**0.0**
JMY				*e*S	**Sn**		**13 08 09.0**	**+0.8**
BSO4	**Boso 4**	**1.41**	**332**	P	**Pn**		**13 07 51.0**	**+0.1**
BSO4				*e*S	**Sn**		**13 08 11.2**	**+2.9**
KTR	**Katsuura**	**1.56**	**334**	P	**Pn**		**13 07 52.9**	**-0.1**
KTR				*e*S	**Sn**		**13 08 13.6**	**+1.5**
TATJ	**Tateyama 2**	**1.66**	**321**	P	**Pn**		**13 07 54.1**	**-0.2**
TATJ				*e*S	**Sn**		**13 08 15.9**	**+1.5**
JIM2	**Oshima 3**	**1.73**	**305**	||P	**Pn**	**13 07 54.7**	**-0.6**
JIM2				*e*S	**Sn**		**13 08 16.3**	**+0.1**
JKO	**Kozu shima**	**1.73**	**285**	P	**Pn**		**13 07 55.3**	**-0.1**
JKO				*e*S	**Sn**		**13 08 17.6**	**+1.3**
KTJJ	**Kamata 2**	**2.09**	**305**	||P	**Pn**	**13 07 59.8**	**-0.5**
KTJJ				*e*S	**Sn**		**13 08 24.5**	**-0.7**
JIZS	**Izushimoda**	**2.12**	**298**	||P	**Pn**	**13 08 00.8**	**+0.1**
JIZS				*e*S	**Sn**		**13 08 26.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.69**	**320**	P	**Pn**		**13 08 23.2**	**+0.9**
	39nm,0.3s,baz=153,slow=12,SNR=253							
MJAR	**Matsushiro Arr**	**3.69**	**320**	P	**Pn**		**13 08 23.2**	**+0.9**
MJAR	**Matsushiro Arr**	**3.69**	**320**	P	**Pn**		**13 08 23.2**	**+0.9**
MAJO	**Matsushiro**	**3.69**	**320**	*e*P	**Pn**		**13 08 23.6**	**+1.3**
MAJO	**Matsushiro**	**3.69**	**320**	*e*Pn	**Pn**		**13 08 23.6**	**+1.3**
MAT	**Matsushiro**	**3.69**	**320**	P	**Pn**		**13 08 23.6**	**+1.3**
MAT				S	**Sn**		**13 09 06.5**	**+1.9**
CBIJ	**Chichi jima**	**6.69**	**172**	P	Pn		13 08 59.8	-3.7
	75nm,0.3s,baz=339,slow=8.6,SNR=26							
CBIJ				S	Sn		13 10 10.1	-8.3
	62nm,0.3s,baz=285,slow=20,SNR=8.1							
CBIJ				LR	LR		13 11 21.7	
	comp=Z,436nm,21.2s,baz=6.5,slow=36							
CBIJ	**Chichi jima**	**6.69**	**172**	P	Pn		13 08 59.8	-3.7
CBIJ				S	Sn		13 10 10.1	-8.3
JNU	**Nakatsue**	**8.61**	**269**	*e*P	**Pn**		**13 09 30.9**	**+1.0**
ASAJ	**Asahikawa**	**10.42**	**6**	P	**Pn**		**13 09 52.2**	**-2.3**
	4.4nm,0.3s,baz=211,slow=12,SNR=37							
ASAJ				S	**Sn**		**13 11 45.5**	**-4.3**
	1.5nm,0.3s,baz=106,slow=20,SNR=5.7							
ASAJ				LR	LR		13 14 42.1	
	comp=Z,368nm,21.2s,baz=189,slow=41							
ASAJ	**Asahikawa**	**10.42**	**6**	P	**Pn**		**13 09 52.2**	**-2.3**
ASAJ				S	**Sn**		**13 11 45.6**	**-4.3**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,2.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,368nm,21.2s							
ASAJ	**Asahikawa**	**10.42**	**6**	*e*P	**Pn**		**13 09 52.2**	**-2.3**
ASAJ				S	**Sn**		**13 11 45.5**	**-4.3**
KSRS	**Korea Array**	**11.39**	**293**	P	Pn		13 10 11.6	+3.8
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=12							
KSRS				LR	LR		13 14 25.6	
	comp=Z,232nm,19.3s,baz=333,slow=37							
KSRS	**Korea Array**	**11.39**	**293**	P	Pn		13 10 11.6	+3.8
KSRS				MLR	MLR			
	comp=Z,233nm,19.3s							
KSAR	**Wonju Array Be**	**11.41**	**293**	P	Pn		13 10 11.6	+3.4
KSAR	**Wonju Array Be**	**11.41**	**293**	P	Pn		13 10 11.6	+3.4
USRK	**Ussuriysk Arra**	**12.63**	**328**	P	**Pn**		**13 10 26.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=4.4							
JOW	**Kunigami**	**13.08**	**242**	LR	LR		13 15 09.1	
	comp=Z,315nm,19.9s,baz=139,slow=36							
GUMO	**Guam**	**20.35**	**170**	P	**P**		**13 12 01.2**	**+0.4**
	comp=Z,319nm,0.9s,baz=120,slow=1.2,SNR=4.2							
GUMO				LR	LR		13 18 50.3	
	comp=Z,197nm,20.2s,baz=49,slow=34							
GUMO	**Guam**	**20.35**	**170**	P	**P**		**13 12 01.2**	**+0.4**
GUMO	**Guam**	**20.35**	**170**	P	**P**		**13 12 01.2**	**+0.4**
HIA	**Hailar**	**22.19**	**321**	*e*P	**P**		**13 12 20.7**	**+0.3**
HIA	**Hailar**	**22.19**	**321**	*e*P	**P**		**13 12 20.7**	**+0.3**
PETK	**Petropavlovsk-**	**22.68**	**26**	LR	LR		13 19 42.2	
	comp=Z,138nm,20.3s,baz=76,slow=32							
ENH	**Enshi**	**27.02**	**271**	*e*P	**P**		**13 13 04.1**	**-2.0**
	comp=Z,3.2nm,0.6s							
ULN	**Ulaanbaatar**	**29.15**	**309**	*e*P	**P**		**13 13 25.9**	**+0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ULN	**Ulaanbaatar**	**29.15**	**309**	*e*P	**P**		**

comp=Z,286nm,19.6s,baz=40,slow=32
WRA Warramunga Arr 53.78 188 P **P** 13 16 44.6 **-1.6**
WRA Warramunga Arr 53.78 188 P **P** 13 16 44.6 **-1.6**
KK31 Karatay Array 54.64 302 *i* P P 13 16 55.9 +3.5
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 54.64 302 *eP* **P** 13 16 52.4 **0.0**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 54.64 302 *eP* **P** 13 16 52.4 **0.0**
comp=Z,4.6nm,0.6s
INK Inuvik 57.42 26 P **P** 13 17 12.8 **+1.0**
comp=Z,1.4nm,1.0s,baz=292,slow=4.7,SNR=4.3
INK Inuvik 57.42 26 P **P** 13 17 12.8 **+1.0**
INK pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 57.42 26 P **P** 13 17 12.1 **+0.3**
SVE Sverdlovsk 57.50 320 *eP* P 13 17 27.1 +15
SVE pmax pmax
comp=Z,12nm,0.8s
ASAR Alice Springs 57.51 188 P **P** 13 17 11.9 **-1.0**
comp=Z,5.6nm,0.7s,baz=5.9,slow=7.4,SNR=81
ASAR Alice Springs 57.51 188 P **P** 13 17 12.0 **-1.0**
ASAR Alice Springs 57.51 188 P **P** 13 17 11.9 **-1.0**
MBWA Marble Bar 58.29 204 *eP* **P** 13 17 17.5 **-1.0**
MBWA Marble Bar 58.29 204 *eP* **P** 13 17 17.3 **-1.2**
comp=Z,9.7nm,0.6s
ARU Arti 58.71 320 *eP* **P** 13 17 20.7 **-0.3**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 58.71 320 *eP* **P** 13 17 20.7 **-0.3**
comp=Z,15nm,0.8s
AB31 Akbulak array 59.93 312 *i* P **P** 13 17 29.1 **-0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 59.93 312 *eP* **P** 13 17 29.1 **-0.4**
comp=Z,3.7nm,0.6s
ABKAR *e* 13 17 42.5
AKTO Aktyubinsk 60.74 313 P P 13 17 50.3 +15
AKTO pmax pmax
comp=Z,1.0nm,0.7s
CMSA Cobar Meteorol 65.08 176 *eP* **P** 13 18 04.2 **+0.2**
comp=Z,34nm,0.7s
STKA Stephens Creek 65.27 180 P **P** 13 18 04.6 **-0.7**
comp=Z,3.7nm,0.5s,baz=4.0,slow=9.0,SNR=9.9
STKA Stephens Creek 65.27 180 *eP* **P** 13 18 04.6 **-0.7**
comp=Z,2.4nm,0.4s
STKA Stephens Creek 65.27 180 P **P** 13 18 04.6 **-0.7**
STKA Stephens Creek 65.27 180 P **P** 13 18 04.6 **-0.7**
FORT Forrest 65.36 192 *eP* **P** 13 18 05.5 **-0.3**
comp=Z,30nm,0.5s
FORT Forrest 65.36 192 *eP* **P** 13 18 05.0 **-0.8**
comp=Z,31nm,0.6s
RES Resolute Bay 65.83 14 P **P** 13 18 10.6 **+2.2**
comp=Z,2.0nm,0.8s,baz=327,slow=3.3,SNR=6.6
RES Resolute Bay 65.83 14 P **P** 13 18 10.6 **+2.2**
RES Resolute Bay 65.83 14 P **P** 13 18 10.6 **+2.2**
ARCES ARCESS Array B 67.00 340 LR LR 13 47 52.2
comp=Z,221nm,21.9s,baz=60,slow=36
FINES FINESS Array B 71.63 333 P **P** 13 18 45.1 **+0.4**
comp=Z,1.9nm,0.7s,baz=46,slow=8.0,SNR=3.8
FINES LR LR 13 55 26.0
comp=Z,105nm,18.4s,baz=309,slow=40
FINES FINESS Array B 71.63 333 P **P** 13 18 45.1 **+0.4**
FINES FINESS Array B 71.63 333 P **P** 13 18 45.1 **+0.4**
AKASG Malin Array Be 76.77 323 P **P** 13 19 14.9 **+0.1**
comp=Z,2.0nm,0.7s,baz=46,slow=6.4,SNR=5.8
AKASG Malin Array Be 76.77 323 P **P** 13 19 14.9 **+0.1**
AKASG Malin Array Be 76.77 323 P **P** 13 19 14.9 **+0.1**
HLID Hailey 76.78 46 P **P** 13 19 15.9 **+0.6**
comp=Z,1.3nm,0.9s
KIEV Kiev 76.78 323 *eP* **P** 13 19 14.3 **-0.6**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 76.78 323 *eP* **P** 13 19 14.3 **-0.6**
comp=Z,5.8nm,0.8s
NB2 NORSAR Subarra 77.13 337 P **P** 13 19 17.4 **+0.6**
comp=Z,5.7nm,1.2s,baz=42,slow=5.9
NOA NORSAR Array B 77.13 337 P **P** 13 19 17.2 **+0.4**
comp=Z,1.4nm,0.8s,baz=40,slow=5.7,SNR=4.4
NOA LR LR 13 55 45.2
comp=Z,40nm,18.6s,baz=0.0,slow=38
NOA NORSAR Array B 77.13 337 P **P** 13 19 17.2 **+0.4**
NOA NORSAR Array B 77.13 337 P **P** 13 19 17.2 **+0.4**
NVAR Mina Array Bea 77.14 52 P **P** 13 19 18.3 **+0.8**
comp=Z,0.5nm,0.7s,baz=289,slow=5.6,SNR=4.2
NVAR Mina Array Bea 77.14 52 P **P** 13 19 18.3 **+0.8**
BRTR Keskin Array B 80.88 312 P **P** 13 19 38.5 **+0.7**
comp=Z,2.6nm,0.8s,baz=92,slow=4.3,SNR=9.4
BRTR Keskin Array B 80.88 312 P **P** 13 19 38.6 **+0.7**
BRTR Keskin Array B 80.88 312 P **P** 13 19 38.5 **+0.7**
GERES GERESS Array B 85.39 328 P **P** 13 20 01.2 **+0.4**
comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=3.9
GERES GERESS Array B 85.39 328 P **P** 13 20 01.3 **+0.4**
GERES GERESS Array B 85.39 328 P **P** 13 20 01.2 **+0.4**
TXAR Lajitas Array 92.30 52 P **P** 13 20 34.5 **+0.4**
comp=Z,0.3nm,0.6s,baz=274,slow=4.2,SNR=5.0
TXAR Lajitas Array 92.30 52 P **P** 13 20 34.5 **+0.4**
TXAR Lajitas Array 92.30 52 P **P** 13 20 34.5 **+0.4**

*IDC **05** 13:22:39.3±1.0, 0.°37S×132.°02E, h0km, mb3.8/7, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.9/3, MS3.9/13, Ms1 3.8/13, ms1mx3.6/35, Error ellipse: s-maj=40.1km s-min=16.8km az=76.0*
*ISCJB **05** 13:22:42.0±0.4, 0.°41S±0.°05×131.°91E±0.°06, h31km, mb4.2/14, MS3.9/11, Error ellipse: s-maj=8.7km s-min=7.0km az=149.4*
*DJA **05** 13:22:41, 0.43S×131.88E, h10km, MLv4.7/6*
*NEIC **05** 13:22:43.1±5.0, 0.40S×131.98E, h26km±36km, mb4.6/9, Error ellipse: s-maj=18.9km s-min=8.5km az=55.0*
ISC 05 13:22:43.5±0.6, 0.53S±0.07×131.97E±0.09, h31km, n51, σ1s13/38, mb4.4/14, MS3.8/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**2.40**	**173**	P		**Pb**	**13 23 23.6**	**-2.4**
MSAI	**Masohi**	**4.13**	**227**	P		**Pn**	**13 23 46.6**	**+2.1**
BAKI	**Biak**	**4.19**	**99**	P		Pn	13 23 48.8	+3.5
LBMI	**Labuha**	**4.47**	**269**	P		**Pn**	**13 23 48.3**	**-0.8**
AAI	**Ambon**	**4.91**	**230**	P		**Pn**	**13 23 56.0**	**+0.8**
	202nm,0.9s,3µm0.6nm							
TLE	**Tual**	**5.14**	**171**	P		**Pb**	**13 24 09.8**	**-2.8**
JAY	**Jayapura**	**8.96**	**103**	P		**Pn**	**13 24 51.7**	**+0.9**
	76nm,0.6s,12µm							
KAPI	**Kappang**	**12.99**	**250**	Pn		**Pn**	**13 25 47.3**	**+1.3**
	0.6nm,0.3s,baz=74,slow=17,SNR=4.0							
KAPI	**Kappang**	**12.99**	**250**	Pn		**Pn**	**13 25 47.3**	**+1.3**
COEN	**Coen**	**17.35**	**141**	*eP*		**P**	**13 26 44.5**	**-0.1**
	84nm,1.0s							
FITZ	**Fitzroy Crossi**	**18.54**	**199**	P		**Pn**	**13 26 58.4**	**+0.3**
	0.2nm,0.3s,baz=29,slow=11,SNR=6.4							
FITZ				LR		LR	13 34 26.7	
	comp=Z,178nm,18.4s,baz=28,slow=38							
FITZ	**Fitzroy Crossi**	**18.54**	**199**	P		**Pn**	**13 26 58.4**	**+0.3**
GUMO	**Guam**	**18.98**	**42**	LR		LR	13 33 24.5	
	comp=Z,135nm,19.2s,baz=220,slow=34							
WRAB	**Tennant Creek**	**19.43**	**173**	*eP*		**Pn**	**13 27 09.2**	**+0.4**
	16nm,1.1s							
WRA	**Warramunga Arr**	**19.44**	**173**	P		**Pn**	**13 27 08.8**	**-0.1**
	0.4nm,0.3s,baz=351,slow=11,SNR=18							
WRA	**Warramunga Arr**	**19.44**	**173**	P		**Pn**	**13 27 08.8**	**-0.1**
WB2	**Warramunga Arr**	**19.44**	**173**	*eP*		**Pn**	**13 27 08.5**	**-0.4**
AS31	**Alice Springs**	**23.08**	**175**	*eP*		**P**	**13 27 47.6**	**+0.9**
ASAR	**Alice Springs**	**23.08**	**175**	P		**P**	**13 27 47.9**	**+1.2**
	4.0nm,0.8s,baz=356,slow=10,SNR=39							
ASAR	**Alice Springs**	**23.08**	**175**	P		**P**	**13 27 47.9**	**+1.2**
TGJI	**Tegal**	**23.64**	**254**	P		**P**	**13 27 51.1**	**-1.2**
JOW	**Kunigami**	**27.43**	**353**	LR		LR	13 36 14.8	
	comp=Z,228nm,21.7s,baz=117,slow=30							
CBIJ	**Chichi jima**	**29.17**	**19**	LR		LR	13 37 49.3	
	comp=Z,211nm,21.1s,baz=208,slow=31							
STKA	**Stephens Creek**	**32.48**	**165**	P		P	13 29 14.5	+3.2
	2.0nm,0.7s,baz=324,slow=8.7,SNR=4.1							
STKA				LR		LR	13 43 50.6	
	comp=Z,203nm,19.7s,baz=8.7,slow=39							
STKA	**Stephens Creek**	**32.48**	**165**	P		P	13 29 14.5	+3.2
MJAR	**Matsushiro Arr**	**37.33**	**8**	LR		LR	13 42 24.0	
	comp=Z,146nm,19.4s,baz=220,slow=32							
CMAR	**Chiang Mai Arr**	**37.54**	**302**	P		**P**	**13 29 56.3**	**+1.2**
	2.3nm,1.0s,baz=114,slow=7.4,SNR=6.1							
CMAR	**Chiang Mai Arr**	**37.54**	**302**	P		**P**	**13 29 56.3**	**+1.2**
KSRS	**Korea Array**	**37.98**	**355**	LR		LR	13 47 09.6	
	comp=Z,105nm,18.2s,baz=9.0,slow=39							
ASAJ	**Asahikawa**	**45.45**	**11**	LR		LR	13 46 39.8	
	comp=Z,181nm,21.4s,baz=349,slow=32							
ULN	**Ulaanbaatar**	**52.85**	**339**	*eP*		**P**	**13 31 55.6**	**-0.8**
	5.8nm,0.9s							
SONM	**Songino Array**	**53.06**	**339**	P		**P**	**13 31 57.5**	**-0.4**
	0.9nm,1.0s,baz=146,slow=7.4,SNR=6.0							
SONM				LR		LR	13 55 47.4	
	comp=Z,60nm,18.3s,baz=200,slow=38							
SONM	**Songino Array**	**53.06**	**339**	P		**P**	**13 31 57.5**	**-0.4**
RPZ	**Rata Peaks**	**55.32**	**146**	LR		LR	13 54 54.3	
	comp=Z,178nm,19.0s,baz=303,slow=35							
PETK	**Petropavlovsk-**	**57.60**	**18**	LR		LR	13 58 19.2	
	comp=Z,74nm,18.1s,baz=76,slow=37							
MKAR	**Makanchi Array**	**64.03**	**324**	P		**P**	**13 33 14.1**	**-0.2**
	2.6nm,0.8s,baz=109,slow=7.8,SNR=9.0							
MKAR	**Makanchi Array**	**64.03**	**324**	P		**P**	**13 33 14.1**	**-0.2**
TKM2	**Tokmak 2**	**66.38**	**318**	*eP*		**P**	**13 33 29.7**	**-0.2**
	2.5nm,0.8s							
ZALV	**Zalesovo Beam**	**66.76**	**332**	P		**P**	**13 33 30.7**	**-1.0**
	0.4nm,0.4s,baz=113,slow=7.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**66.76**	**332**	P		**P**	**13 33 30.7**	**-1.0**
KURK	**Kurchatov**	**68.13**	**327**	*eP*		**P**	**13 33 40.2**	**-0.3**
	11nm,1.1s							
KKAR	**Karatay Array**	**69.89**	**317**	*eP*		**P**	**13 33 51.7**	**0.0**
	2.5nm,0.8s							
ABKAR	**Akbulak array**	**78.74**	**321**	P		**P**	**13 34 41.5**	**-1.5**
	4.4nm,0.9s							
ARU	**Arti**	**81.31**	**327**	P		**P**	**13 34 56.0**	**-0.7**
	12nm,1.0s							
MAW	**Mawson**	**81.66**	**201**	LR		LR	14 10 37.4	
	comp=Z,122nm,18.2s,baz=297,slow=35							
KDAK	**Kodiak Island**	**82.71**	**32**	LR		LR	14 09 40.7	
	comp=Z,138nm,21.6s,baz=309,slow=34							
ILAR	**Eielson Array**	**86.69**	**25**	P		**P**	**13 35 24.6**	**+0.6**
	0.4nm,0.8s,baz=264,slow=3.6,SNR=3.3							
ILAR	**Eielson Array**	**86.69**	**25**	P		**P**	**13 35 24.6**	**+0.6**
QSPA	**South Pole Qui**	**89.41**	**180**	*eP*		**P**	**13 35 39.5**	**+2.4**
	5.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**129.18**	**287**	PKP		**PKPdf**	**13 41 49.1**	**-0.6**
	0.1nm,0.4s,baz=96,slow=1.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**129.18**	**287**	PKP		**PKPdf**	**13 41 49.1**	**-0.6**

IDC 05 13:28:57.1±2.2, 0.°82S×131.°46E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=124.2km s-min=21.6km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.10**	**198**	P		P	13 33 10.8	+0.2
	0.2nm,0.3s,baz=23,slow=12,SNR=3.9							
WRA	**Warramunga Arr**	**19.21**	**172**	P		P	13 33 22.8	-0.1
	0.1nm,0.3s,baz=351,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**22.84**	**174**	P		P	13 34 01.7	-0.4
	3.1nm,0.8s,baz=353,slow=10,SNR=5.2							
MKAR	**Makanchi Array**	**63.97**	**325**	P		P	13 39 31.6	-0.8
	0.4nm,0.7s,baz=106,slow=6.9,SNR=3.9							
ZALV	**Zalesovo Beam**	**66.78**	**332**	P		P	13 39 51.3	+1.0
	0.7nm,0.8s,baz=132,slow=8.3,SNR=4.2							

*ATH **05** 13:38:25.8, 35.°82N×27.°83E, h17km±2km, MD2.9/3*
*ISCJB **05** 13:38:25.6±0.8, 36.°04N±0.°07×27.°52E±0.°09, h19km, Error ellipse: s-maj=12.8km s-min=6.0km az=39.8*
*DDA **05** 13:38:31.8, 36.°50N×27.°71E, h7km, MD2.7*
ISC 05 13:38:25.9±1.1, 36.°07N±0.°07×27.°57E±0.°07, h19km, n6, σ0s87/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARG	**Arkhangelos**	**0.48**	**72**	*e*PB		**Pg**	**13 38 35.4**	**-0.2**
ARG				*e*SB		**Sg**	**13 38 42.0**	**-0.2**
KARP	**Karpathos**	**0.61**	**212**	*e*PB		**Pb**	**13 38 37.4**	**-0.6**
KARP				*e*SN		**Sb**	**13 38 46.2**	**0.0**
TURN	**Turunc**	**1.16**	**46**	*i* P		Pn	13 38 41.4	-5.7
TURN				*i* S		Sb	13 38 53.2	-8.8
AYDN	**Tasoluk**	**1.61**	**9**	*i* P		**Pb**	**13 38 54.6**	**-0.5**
AYDN				*i* S		**Sn**	**13 39 12.9**	**-0.7**
NPS	**Neapolis**	**1.78**	**244**	*e*PN		**Pb**	**13 38 59.0**	**+1.0**
GOLH	**Golhisar**	**1.98**	**53**	*i* P		**Pb**	**13 39 01.7**	**+0.2**
GOLH				*i* S		**Sb**	**13 39 27.3**	**+1.5**

IDC 05 13:41:26.4±2.9, 0.°42S×132.°79E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=159.0km s-min=26.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.46**	**176**	P		P	13 45 55.0	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**23.14**	**177**	P		P	13 46 34.6	+0.1
	0.4nm,0.3s,baz=357,slow=12,SNR=19							
MKAR	**Makanchi Array**	**64.42**	**324**	P		P	13 52 04.5	-0.1
	0.2nm,0.4s,baz=111,slow=5.9,SNR=6.5							

IDC 05 13:42:39.9±4.9, 0.°78S×131.°69E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=325.1km s-min=28.2km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.22**	**172**	P		P	13 47 05.2	-0.5
	0.1nm,0.3s,baz=352,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**22.85**	**175**	P		P	13 47 45.2	+0.3
	0.6nm,0.6s,baz=357,slow=12,SNR=6.6							
MKAR	**Makanchi Array**	**64.07**	**325**	P		P	13 53 15.7	-0.1
	0.1nm,0.6s,baz=113,slow=8.0,SNR=4.1							

*IDC **05** 13:49:53.2±2.2, 19.°98N×147.°33E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, MS3.5/1, Ms1 3.5/1, ms1mx2.5/36, Error ellipse: s-maj=78.6km s-min=15.7km az=79.0*
*ISCJB **05** 13:49:55.8±1.7, 20.°0N±0.°1×147.°5E±0.°4, h34km, mb4.0/13, Error ellipse: s-maj=54.8km s-min=10.6km az=166.4*
*NEIC **05** 13:49:58.4±1.2, 19.°96N×147.°36E, h35km, mb4.5/2, Error ellipse: s-maj=39.8km s-min=8.0km az=77.0*
ISC 05 13:49:58.2±2.0, 20.°0N±0.°2×147.°4E±0.°4, h34km, n28, σ0s53/27, mb4.1/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**6.81**	**201**	LR		LR	13 53 47.4	
	comp=Z,360nm,19.2s,baz=256,slow=34							
KSRS	**Korea Array**	**24.29**	**320**	P		**P**	**13 55 12.0**	**-0.4**
	2.2nm,0.9s,baz=146,slow=9.7,SNR=5.8							
KSAR	**Wonju Array Be**	**24.30**	**320**	P		**P**	**13 55 12.0**	**-0.6**
COEN	**Coen**	**33.99**	**187**	*eP*		**P**	**13 56 39.6**	**+0.7**
WRAB	**Tennant Creek**	**41.68**	**199**	*eP*		**P**	**13 57 42.3**	**-1.5**
WRA	**Warramunga Arr**	**41.70**	**199**	P		**P**	**13 57 43.8**	**-0.2**
	1.5nm,0.8s,baz=16,slow=8.1,SNR=9.1							
WRA	**Warramunga Arr**	**41.70**	**199**	P		**P**	**13 57 43.8**	**-0.2**
SONM	**Songino Array**	**43.16**	**320**	P		**P**	**13 57 55.3**	**-0.4**
	0.6nm,0.7s,baz=130,slow=7.3,SNR=7.2							
SONM	**Songino Array**	**43.16**	**320**	P		**P**	**13 57 55.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.46**	**211**	P		**P**	**13 57 57.6**	**-0.6**
	3.2nm,0.8s,baz=22,slow=10,SNR=5.8							
FITZ	**Fitzroy Crossi**	**43.46**	**211**	P		**P**	**13 57 57.6**	**-0.6**
ASAR	**Alice Springs**	**45.34**	**197**	P		**P**	**13 58 12.8**	**-0.5**
	0.4nm,0.5s,baz=31,slow=7.0,SNR=12							
ASAR	**Alice Springs**	**45.34**	**197**	P		**P**	**13 58 12.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**45.64**	**277**	P		**P**	**13 58 15.8**	**-0.1**
	0.3nm,0.4s,baz=67,slow=5.8,SNR=4.6							
CMAR	**Chiang Mai Arr**	**45.64**	**277**	P		**P**	**13 58 15.8**	**-0.1**
LSA	**Lhasa**	**51.51**	**292**	*eP*		**P**	**13 59 02.5**	**+1.0**
	4.5nm,0.7s							
STKA	**Stephens Creek**	**51.87**	**186**	P		**P**	**13 59 03.5**	**+0.1**
	1.7nm,0.6s,baz=358,slow=8.4,SNR=11							
STKA	**Stephens Creek**	**51.87**	**186**	P		**P**	**13 59 03.5**	**+0.1**
ZALV	**Zalesovo Beam**	**57.98**	**322**	P		**P**	**13 59 47.3**	**0.0**
	1.2nm,0.6s,baz=108,slow=8.1,SNR=8.2							
ZALV	**Zalesovo Beam**	**57.98**	**322**	P		**P**	**13 59 47.3**	**0.0**
MK31	**Makanchi Array**	**58.73**	**313**	*eP*		**P**	**13 59 53.1**	**+0.3**
MKAR	**Makanchi Array**	**58.73**	**313**	P		**P**	**13 59 52.9**	**+0.1**
	0.7nm,0.7s,baz=92,slow=8.8,SNR=9.3							
MKAR	**Makanchi Array**	**58.73**	**313**	P		**P**	**13 59 52.9**	**+0.1**
KURK	**Kurchatov**	**61.39**	**318**	P		**P**	**14 00 11.1**	**+0.3**
	1.2nm,0.5s,baz=90,slow=7.5,SNR=31							
KURK	**Kurchatov**	**61.39**	**318**	*eP*		**P**	**14 00 10.7**	**-0.1**
	0.8nm,0.6s							
BVAR	**Borovoye Array**	**66.50**	**320**	P		**P**	**14 00 44.8**	**+0.3**
	1.7nm,0.5s,baz=88,slow=7.4,SNR=15							
BVAR	**Borovoye Array**	**66.50**	**320**	P		**P**	**14 00 44.8**	**+0.3**
KBL	**Kabul**	**69.59**	**300**	*eP*		**P**	**14 01 04.5**	**+0.1**
	3.6nm,0.8s							

*ISCJB **05** 13:52:27.3±0.3, 12.°38N±0.°05×143.°39E±0.°06, h27km, mb4.5/27, MS3.4/6, Error ellipse: s-maj=9.0km s-min=6.8km az=17.6*
*IDC **05** 13:52:33.0±1.8, 12.°44N×143.°53E, h63km±17km, mb4.1/18, mb1 4.3/18, mb1mx4.1/26, mbtmp4.1/18, MS3.4/6, Ms1 3.5/6, ms1mx3.1/35, Error ellipse: s-maj=17.2km s-min=10.4km az=102.0*
*NEIC **05** 13:52:33.3±1.1, 12.°41N×143.°53E, h66km±11km, mb4.5/7, Error ellipse: s-maj=10.9km s-min=5.9km az=94.0*
ISC 05 13:52:29.0±0.5, 12.°40N±0.°08×143.°46E±0.°09, h27km, n86, σ0s82/85, mb4.6/27, MS3.3/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.81**	**49**	P		**Pb**	**13 53 01.5**	**0.0**
	221nm,0.3s,baz=283,slow=0.2,SNR=129							
GUMO				S		**Sn**	**13 53 22.3**	**+1.6**
	785nm,0.3s,baz=51,slow=22,SNR=48							
GUMO	**Guam**	**1.81**	**49**	P		**Pb**	**13 53 01.6**	**0.0**
GUMO				S		**Sn**	**13 53 22.3**	**+1.6**
JOW	**Kunigami**	**20.23**	**317**	LR		LR	14 03 39.9	
	comp=Z,75nm,21.2s,baz=150,slow=33							
MJAR	**Matsushiro Arr**	**24.50**	**350**	P		**P**	**13 57 46.1**	**0.0**
	0.8nm,0.6s,baz=161,slow=9.4,SNR=3.2							
MJAR				LR		LR	14 05 25.4	
	comp=Z,121nm,19.6s,baz=155,slow=32							
MJAR	**Matsushiro Arr**	**24.50**	**350**	P		**P**	**13 57 46.1**	**0.0**
COEN	**Coen**	**26.19**	**181**	*eP*		**P**	**13 58 02.0**	**+0.4**
	133nm,1.0s							
KSRS	**Korea Array**	**28.56**	**334**	LR		LR	14 07 56.9	
	comp=Z,30nm,20.8s,baz=175,slow=32							
CTA	**Charters Tower**	**32.40**	**175**	P		**P**	**13 58 57.0**	**+0.2**
	6.4nm,0.7s,baz=351,slow=9.9,SNR=7.0							
CTA	**Charters Tower**	**32.40**	**175**	*eP*		**P**	**13 58 57.3**	**+0.5**
	4.8nm,0.8s							
CTA	**Charters Tower**	**32.40**	**175**	P		**P**	**13 58 57.0**	**+0.2**
WRAB	**Tennant Creek**	**33.36**	**196**	*eP*		**P**	**13 59 05.6**	**+0.4**
	19nm,0.6s							
WB2	**Warramunga Arr**	**33.37**	**196**	*eP*		**P**	**13 59 05.5**	**+0.3**
WRA	**Warramunga Arr**	**33.37**	**196**	P		**P**	**13 59 05.7**	**+0.4**
	15nm,0.5s,baz=23,slow=9.6,SNR=59							
WRA	**Warramunga Arr**	**33.37**	**196**	P		**P**	**13 59 05.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**35.04**	**210**	P		**P**	**13 59 20.2**	**+0.5**
	1.3nm,0.5s,baz=47,slow=9.0,SNR=5.3							
FITZ	**Fitzroy Crossi**	**35.04**	**210**	*eP*		**P**	**13 59 20.3**	**+0.5**
	9.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**35.04**	**210**	P		**P**	**13 59 20.2**	**+0.5**
ASAR	**Alice Springs**	**37.04**	**195**	P		**P**	**13 59 37.5**	**+0.6**
	4.2nm,0.5s,baz=19,slow=11,SNR=78							
ASAR				PcP		**PcP**	**14 01 57.9**	**+0.4**
	1.7nm,0.6s,baz=36,slow=2.8,SNR=12							
ASAR	**Alice Springs**	**37.04**	**195**	P		**P**	**13 59 37.5**	**+0.6**
ASAR				PcP		**PcP**	**14 01 57.9**	**+0.4**
QLP	**Quilpie**	**38.76**	**179**	*eP*		**P**	**13 59 50.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**43.25**	**284**	P		**P**	**14 00 30.0**	**+1.5**
	1.0nm,0.5s,baz=84,slow=6.9,SNR=7.9							
CMAR				LR		LR	14 18 40.9	
	comp=Z,28nm,20.6s,baz=60,slow=36							
CMAR	**Chiang Mai Arr**	**43.25**	**284**	P		**P**	**14 00 30.0**	**+1.5**
STKA	**Stephens Creek**	**44.06**	**182**	P		**P**	**14 00 34.2**	**-0.6**
	5.0nm,0.9s,baz=0.2,slow=9.4,SNR=8.9							
STKA	**Stephens Creek**	**44.06**	**182**	*eP*		**P**	**14 00 34.1**	**-0.7**
	3.4nm,0.8s							
STKA	**Stephens Creek**	**44.06**	**182**	P		**P**	**14 00 34.2**	**-0.6**
BBOO	**Buckleboo**	**45.51**	**189**	*eP*		**P**	**14 00 45.9**	**-0.4**
	32nm,0.6s							
ULN	**Ulaanbaatar**	**46.59**	**327**	*eP*		**P**	**14 00 55.4**	**+0.5**
SONM	**Songino Array**	**46.93**	**326**	P		**P**	**14 00 58.2**	**+0.7**
	1.3nm,0.5s,baz=148,slow=8.9,SNR=24							
SONM				LR		LR	14 20 29.0	
	comp=Z,50nm,18.2s,baz=287,slow=36							
SONM	**Songino Array**	**46.93**	**326**	P		**P**	**14 00 58.2**	**+0.7**
LSA	**Lhasa**	**51.32**	**298**	*eP*		**P**	**14 01 33.3**	**+1.4**
	2.6nm,0.6s							
TAPN	**Taplejung**	**54.08**	**295**	*eP*		**P**	**14 01 52.0**	**-0.1**
	4.2nm,0.5s							
TAPN	**Taplejung**	**54.08**	**295**	*eP*		**P**	**14 01 52.0**	**-0.1**
ODAN	**Odare**	**54.33**	**294**	*eP*		**P**	**14 01 54.5**	**+0.6**
ODAN	**Odare**	**54.33**	**294**	*eP*		**P**	**14 01 54.5**	**+0.6**
RAMN	**Ramite**	**55.04**	**294**	*eP*		**P**	**14 01 59.1**	**+0.1**
RAMN	**Ramite**	**55.04**	**294**	*eP*		**P**	**14 01 59.1**	**+0.1**
JIRN	**Jiri**	**55.45**	**295**	*eP*		**P**	**14 02 02.6**	**+0.5**
	13nm,0.5s							
JIRN	**Jiri**	**55.45**	**295**	*eP*		**P**	**14 02 02.6**	**+0.5**
GUN

*IDC **05** 14:06:12.8±1.7, 42°.49N×79°.17E, h0km, mb3.5/1, mb1 3.3/6, mb1mx3.2/28, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=24.5km s-min=15.8km az=130.0*
*NNC **05** 14:06:14.4±1.2, 42°.58N×79°.03E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=11.2km s-min=4.9km az=163.0*
*ISCJB **05** 14:06:15.8±0.8, 42°.56N±0°.06×79°.10E±0°.07, h33km, mb3.3/1, Error ellipse: s-maj=9.3km s-min=5.5km az=141.5*

ISC 05 14:06:17.3±1.4, 42°.43N±0°.09×79°.09E±0°.07, h35km, n24, σ1§44/34, 15C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**1.75**	**297**	⇑P	**Pn**	**14 06 43.7**	**-1.6**
	37nm,0.2s						
KNDC				⇑S	**Sn**	**14 07 06.7**	**+0.4**
	487nm,0.6s						
ULHL	**Ulahol**	**2.12**	**266**	P	**Pn**	**14 06 48.8**	**-1.7**
	SNR=38						
ULHL				P	**Pn**	**14 06 48.8**	**-1.7**
	SNR=38						
TKM2	**Tokmak 2**	**2.62**	**282**	P	**Pn**	**14 06 56.9**	**-0.6**
	SNR=97						
TKM2				P	**Pn**	**14 06 56.9**	**-0.6**
	SNR=97						
TKM2	**Tokmak 2**	**2.62**	**282**	⇓Pn	**Pn**	**14 06 56.9**	**-0.6**
	35nm,0.5s						
TKM2				⇓Sn	**Sn**	**14 07 31.5**	**+3.3**
	280nm,0.5s						
KZA	**Kyzart**	**2.88**	**264**	P	**Pn**	**14 07 00.8**	**-0.2**
	SNR=33						
KZA				P	**Pn**	**14 07 00.8**	**-0.2**
	SNR=33						
KBK	**Karagaybulak**	**3.07**	**276**	P	**Pn**	**14 07 03.1**	**-0.4**
	SNR=17						
KBK				P	**Pn**	**14 07 03.1**	**-0.4**
	SNR=17						
CHMS	**Chumysh**	**3.25**	**281**	P	**Pn**	**14 07 07.9**	**+2.1**
	SNR=11						
CHMS				P	**Pn**	**14 07 07.9**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**3.41**	**275**	P	**Pn**	**14 07 07.9**	**-0.2**
	SNR=17						
AAK				P	**Pn**	**14 07 07.9**	**-0.2**
	SNR=17						
USP	**Ospenovka**	**3.48**	**285**	P	**Pn**	**14 07 08.2**	**-0.9**
	SNR=15						
USP				P	**Pn**	**14 07 08.2**	**-0.9**
	SNR=15						
EKS2	**Erkin-Say**	**3.94**	**275**	P	Pn	14 07 21.0	+5.6
	SNR=10						
EKS2				P	Pn	14 07 21.0	+5.6
	SNR=10						
AML	**Almayashu**	**4.02**	**268**	P	Pn	14 07 20.3	+3.6
	SNR=40						
AML				P	Pn	14 07 20.3	+3.6
	SNR=40						
MK31	**Makanchi Array**	**4.92**	**27**	Pn	**Pn**	**14 07 29.1**	**+0.3**
	1.3nm,0.3s,baz=205,slow=13,SNR=64						
MK31				⇓Sn	**Sn**	**14 08 27.3**	**+2.9**
	3.3nm,0.3s,baz=160,slow=40,SNR=3.6						
MK31				⇑Lg	Lg	14 08 45.4	
	16nm,0.6s,baz=206,slow=26,SNR=6.1						
MKAR	**Makanchi Array**	**4.92**	**27**	Pn	**Pn**	**14 07 29.0**	**+0.2**
	2.1nm,0.3s,baz=205,slow=13,SNR=45						
MKAR				Sn	**Sn**	**14 08 25.8**	**+1.3**
	3.7nm,0.3s,baz=209,slow=17,SNR=6.7						
MKAR				Lg	Lg	14 08 43.7	
	5.4nm,0.3s,baz=206,slow=31,SNR=13						
KK31	**Karatay Array**	**6.35**	**279**	Pn	**Pn**	**14 07 48.1**	**-0.4**
KK31				⇑Pg		14 08 08.0	
	3.8nm,0.6s,baz=90,slow=16,SNR=34						
KK31				⇑Lg	Lg	14 09 32.2	
	16nm,0.6s,baz=98,slow=29,SNR=15						
KURK	**Kurchatov**	**8.29**	**358**	Pn	**Pn**	**14 08 12.7**	**-2.3**
	0.1nm,0.3s,baz=182,slow=11,SNR=7.7						
KURK				Lg	Lg	14 10 28.6	
	0.3nm,0.3s,baz=185,slow=30,SNR=11						
KURK	**Kurchatov**	**8.29**	**358**	⇓Pn	**Pn**	**14 08 15.0**	**+0.1**
	2.9nm,1.0s						
KURK				⇑Sn	**Sn**	**14 09 45.8**	**-1.4**
	2.5nm,0.5s						
KURK				⇑Lg	Lg	14 10 34.2	
	17nm,1.0s						
VOSK	**Vostochnaya**	**11.65**	**335**	⇑Pn	**Pn**	**14 09 00.2**	**-0.7**
	4.6nm,1.6s						
VOSK				⇑Lg	Lg	14 12 19.5	
	8.4nm,1.4s						
BVA0	**Borovoye Array**	**12.10**	**334**	⇑Pn	**Pn**	**14 09 04.5**	**-2.5**
	0.7nm,1.4s						
BVA0				⇑Sn	**Sn**	**14 11 20.8**	**+0.2**
	0.3nm,0.9s						
BVA0				⇑Lg	Lg	14 12 32.4	
	1.1nm,1.2s						
BVAR	**Borovoye Array**	**12.10**	**334**	Pn	**Pn**	**14 09 04.4**	**-2.7**
	0.3nm,0.3s,baz=149,slow=12,SNR=7.6						
BVAR				Lg	Lg	14 12 37.3	
	0.2nm,0.3s,baz=148,slow=30,SNR=4.1						
ZALV	**Zalesovo Beam**	**12.13**	**16**	Pn	**Pn**	**14 09 07.8**	**+0.3**
	0.1nm,0.3s,baz=202,slow=14,SNR=4.2						
ZRNK	**Zerenda**	**12.51**	**331**	⇑Pn	Pn	14 09 09.6	-3.1
	3.5nm,0.7s						
ZRNK				⇑Sn	**Sn**	**14 11 30.8**	**0.0**
	1.6nm,0.8s						
ZRNK				⇓Lg	Lg	14 12 45.6	
	6.7nm,1.2s						
AB31	**Akbulak array**	**14.97**	**304**	⇑P	Pn	14 09 42.4	-3.7
	1.8nm,1.0s,baz=111,slow=13,SNR=8.9						
SONM	**Songino Array**	**19.95**	**65**	P	**P**	**14 10 46.0**	**-0.3**
	0.2nm,0.3s,baz=266,slow=11,SNR=7.6						
TORD	**Torodi Ar. Bea**	**71.98**	**271**	P	**P**	**14 17 38.4**	**+0.8**
	0.3nm,0.7s,baz=54,slow=4.5,SNR=2.8						

*DJA **05** 14:11:38, 0°.63S×133°.05E, h25km, mb4.7/3*
IDC 05 14:11:30.8±2.0, 0°.59S×133°.19E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=80.0km s-min=25.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P	Pn	14 15 53.6	-0.2
	0.2nm,0.3s,baz=35,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**19.27**	**177**	P	P	14 15 56.6	-0.5
	0.3nm,0.3s,baz=355,slow=11,SNR=21						
WRA				S	Sn	14 19 22.3	-13
	0.1nm,0.3s,baz=1.0,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**22.95**	**178**	P	P	14 16 37.2	+0.4
	1.4nm,0.3s,baz=358,slow=11,SNR=71						
STKA	**Stephens Creek**	**32.12**	**166**	P	P	14 17 59.7	-0.2
	0.6nm,0.3s,baz=331,slow=10,SNR=10						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	14 22 11.3	-0.1
	0.5nm,0.8s,baz=108,slow=7.9,SNR=4.4						

IDC 05 14:16:13.4±2.5, 0°.71S×133°.54E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=97.1km s-min=26.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.95**	**204**	P	Pn	14 20 36.7	-0.1
	0.1nm,0.3s,baz=22,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**19.13**	**178**	P	P	14 20 38.1	-0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.83**	**179**	P	P	14 21 18.1	-0.2
	1.0nm,0.8s,baz=1.0,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**65.09**	**324**	P	P	14 26 55.9	0.0
	0.3nm,0.6s,baz=107,slow=7.7,SNR=4.9						

*NIED **05** 14:27:00, 36°.70N×142°.60E, h5km, Mw3.8 Best double couple: M₀6.34000×10¹⁴ NP1:φ₁119.00000°, δ64.00000°, λ47.00000°. NP2:φ₂3.00000°, δ49.00000°, λ144.00000°.*
*IDC **05** 14:27:23.3±0.9, 36°.63N×142°.57E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/44, Error ellipse: s-maj=22.7km s-min=21.0km az=82.0*
*ISCJB **05** 14:27:23.9±0.6, 36°.66N±0°.04×142°.58E±0°.05, h15km, mb3.7/8, Error ellipse: s-maj=5.7km s-min=4.9km az=135.6*
*JMA **05** 14:27:24.5±0.2, 36°.66N×142°.64E, h33km, M3.9*

ISC 05 14:27:25.7±0.9, 36°.68N±0°.05×142°.53E±0°.07, h15km, n27, σ0§84/37, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.45**	**287**	P	**Pn**	**14 27 50.4**	**-1.1**
ONAJ				*e*S	**Sn**	**14 28 09.6**	**-0.7**
JFK	**Kawauchi**	**1.49**	**298**	P	**Pn**	**14 27 51.0**	**-1.0**
JFK				*e*S	**Sn**	**14 28 10.2**	**-1.1**
JHO	**Hitachi**	**1.58**	**268**	P	**Pn**	**14 27 52.0**	**-1.2**
CHOJ	**Chosi**	**1.67**	**235**	P	**Pn**	**14 27 53.7**	**-0.7**
CHOJ				*e*S	**Sn**	**14 28 15.1**	**-0.4**
JMM	**Marumori**	**1.82**	**311**	P	**Pn**	**14 27 55.6**	**-1.0**
JFT	**Otama**	**1.94**	**296**	P	**Pn**	**14 27 58.3**	**+0.1**
JFT				*e*S	**Sn**	**14 28 23.1**	**+0.7**
JIO	**Ouri**	**2.01**	**332**	P	**Pn**	**14 27 57.8**	**-1.3**
JOU	**Okura**	**2.25**	**319**	P	**Pn**	**14 28 01.9**	**-0.5**
BSO1	**Boso 1**	**2.38**	**212**	P	**Pn**	**14 28 03.2**	**-0.5**
BSO1				*e*S	**Sn**	**14 28 33.4**	**+1.0**
JAG	**Ashikaga**	**2.49**	**265**	P	**Pn**	**14 28 05.3**	**-0.4**
JAG				*e*S	**Sn**	**14 28 35.4**	**-0.5**
JMK	**Ichinoseki**	**2.50**	**336**	P	**Pn**	**14 28 05.0**	**-0.8**
JNS	**Sasagawa**	**2.81**	**295**	*e*S	**Sn**	**14 28 45.3**	**+1.7**
JYK	**Kaneyama**	**2.82**	**323**	P	**Pn**	**14 28 10.1**	**-0.2**
JOM	**Ohasama**	**2.96**	**341**	P	**Pn**	**14 28 11.8**	**-0.3**
JRY	**Ryogami san**	**3.00**	**258**	P	**Pn**	**14 28 12.1**	**-0.7**
JRY				*e*S	**Sn**	**14 28 47.9**	**-0.7**
JOD2	**Odawara 2**	**3.13**	**244**	P	**Pn**	**14 28 14.2**	**-0.3**
JOD2				*e*S	**Sn**	**14 28 50.2**	**-1.4**
MJAR	**Matsushiro Arr**	**3.48**	**269**	Pn	**Pn**	**14 28 20.1**	**+0.8**
	5.8nm,0.3s,baz=88,slow=15,SNR=74						
MJAR				Sn	**Sn**	**14 29 00.1**	**-0.2**
	3.7nm,0.3s,baz=309,slow=15,SNR=5.7						
MAT	**Matsushiro**	**3.48**	**269**	P	**Pn**	**14 28 20.4**	**+1.0**
MAT				S	**Sn**	**14 29 01.7**	**+1.4**
ASAJ	**Asahikawa**	**7.43**	**0**	Pn	**Pn**	**14 29 12.7**	**-0.9**
	1.6nm,0.3s,baz=198,slow=22,SNR=16						
ASAJ				LR	LR	14 33 13.0	
	comp=Z,79nm,18.2s,baz=172,slow=47						
SONM	**Songino Array**	**28.73**	**304**	P	**P**	**14 33 23.3**	**+0.8**
	2.6nm,0.8s,baz=103,slow=9.0,SNR=22						
ZALV	**Zalesovo Beam**	**42.81**	**313**	P	**P**	**14 35 23.2**	**+0.4**
	1.1nm,0.8s,baz=97,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**14 35 41.0**	**+0.1**
	0.8nm,0.7s,baz=88,slow=9.8,SNR=11						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**14 36 14.2**	**+0.3**
	1.8nm,0.8s,baz=262,slow=5.9,SNR=26						
WRA	**Warramunga Arr**	**56.84**	**189**	P	**P**	**14 37 09.6**	**-0.1**
	0.7nm,0.9s,baz=8.6,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**60.57**	**189**	P	**P**	**14 37 34.7**	**-0.9**
	0.1nm,0.5s,baz=3.8,slow=6.8,SNR=4.8						
AKASG	**Malin Array Be**	**75.12**	**323**	P	**P**	**14 39 06.7**	**-0.3**
	0.3nm,0.3s,baz=42,slow=5.5,SNR=5.2						
TXAR	**Lajitas Array**	**89.62**	**53**	P	**P**	**14 40 23.7**	**+0.4**
	0.3nm,0.7s,baz=290,slow=3.7,SNR=3.8						

*IDC **05** 14:40:11.2±0.9, 6°.66S×155°.29E, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.2/18, mbtmp4.3/11, ML3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=37.8km s-min=16.3km az=131.0*

ISC 05 14:40:17.7±1.0, 6°.8S±0°.2×155°.3E±0°.1, h50km, n21, σ1§08/17, mb4.3/10, MS3.5/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.28**	**120**	LR	LR	14 42 59.1	
	comp=Z,98nm,18.7s,baz=306,slow=31						
PMG	**Port Moresby**	**8.46**	**252**	Pn	**Pn**	**14 42 17.2**	**-0.6**
	3.9nm,0.3s,baz=56,slow=11,SNR=20						
PMG				Sn	**Sn**	**14 43 52.9**	**+0.9**
	1.4nm,0.3s,baz=270,slow=20,SNR=3.8						
CTA	**Charters Tower**	**15.85**	**213**	Pn	**P**	**14 43 58.8**	**-1.8**
	0.2nm,0.3s,baz=26,slow=14,SNR=8.5						
CTA				LR	LR	14 48 58.7	
	comp=Z,134nm,21.5s,baz=202,slow=33						
CTA	**Charters Tower**	**15.85**	**213**	*e*P	**P**	**14 43 59.1**	**-1.5**
	10nm,0.8s						
QIS	**Mount Isa**	**20.44**	**227**	*e*P	Pn	14 44 52.0	-1.7
QLP	**Quilpie**	**22.30**	**207**	*e*P	**P**	**14 45 11.9**	**+0.8**
WRA	**Warramunga Arr**	**24.17**	**235**	P	**P**	**14 45 30.0**	**+0.4**
	2.1nm,0.5s,baz=59,slow=9.6,SNR=38						
WRA				PcP	**PcP**	**14 49 10.3**	**+0.7**
	1.4nm,0.5s,baz=57,slow=2.3,SNR=13						
WRA				LR	LR	14 54 06.9	
	comp=Z,140nm,18.5s,baz=5.0,slow=34						
CMSA	**Cobar Meteorol**	**26.18**	**199**	*e*P	**P**	**14 45 50.0**	**+2.3**
	22nm,0.8s						
ASAR	**Alice Springs**	**26.52**	**229**	P	**P**	**14 45 50.5**	**-0.4**
	2.2nm,0.6s,baz=62,slow=8.7,SNR=40						
ASAR				PcP	**PcP**	**14 49 15.2**	**+0.4**
	0.7nm,0.7s,baz=59,slow=3.5,SNR=5.1						
STKA	**Stephens Creek**	**28.02**	**205**	P	P	14 46 06.9	+2.7
	1.0nm,0.7s,baz=49,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**28.02**	**205**	*e*P	P	14 46 06.7	+2.5
	2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.00**	**246**	P	**P**	**14 46 30.7**	**-0.1**
	1.7nm,0.4s,baz=74,slow=9.6,SNR=4.8						
FITZ	**Fitzroy Crossi**	**31.00**	**246**	*e*P	**P**	**14 46 30.5**	**-0.3**
	7.0nm,0.6s						
RPZ	**Rata Peaks**	**39.27**	**162**	LR	LR	15 02 18.7	
	comp=Z,67nm,19.9s,baz=119,slow=34						
PETK	**Petropavlovsk-**	**59.73**	**2**	P	**P**	**14 50 17.6**	**+0.4**
	5.2nm,0.8s,baz=169,slow=8.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**60.98**	**295**	P	**P**	**14 50 26.9**	**+0.4**
	6.7nm,0.7s,baz=120,slow=5.4,SNR=60						
ILAR	**Eielson Array**	**83.10**	**21**	P	**P**	**14 52 36.8**	**-1.0**
	1.6nm,0.6s,baz=252,slow=5.5,SNR=28						
MKAR	**Makanchi Array**	**83.48**	**319**	LR	LR	15 27 01.4	
	comp=Z,45nm,21.6s,baz=111,slow=34						
INK	**Inuvik**	**89.45**	**21**	P	**P**	**14 53 09.2**	**+0.3**
	1.1nm,0.5s,baz=272,slow=4.8,SNR=9.5						
NVAR	**Mina Array Bea**	**91.37**	**52**	P	P	14 53 20.1	+1.2
	0.3nm,0.5s,baz=264,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**153.27**	**286**	PKPbc	**PKPbc**	**15 00 10.4**	**-0.9**
	1.4nm,0.6s,baz=54,slow=1.6,SNR=13						

CASC 05 14:43:07.7±1.8, 8°.36N×82°.86W, h17km±9km, MD3.5, MW4.1, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.42**	**314**	*i*P	Pg	14 43 15.5	-0.9
ACR				*i*S	Sg	14 43 22.5	+0.3
BRU2	**Volcan**	**0.46**	**21**	⇓*i*P	Pg	14 43 17.3	0.0
BRU2				*e*S	Sb	14 43 25.4	+1.1
TBS2		**0.47**	**25**	*e*P	Pb	14 43 18.9	+1.0
TBS2				*e*S	Sb	14 43 26.2	+1.4
BUS	**Buena Vista**	**1.48**	**323**	*e*P	Pn	14 43 33.4	-0.8
BUS				*i*S	Sn	14 43 53.1	-0.5
URSC	**Urasca**	**1.72**	**328**	*e*P	Pn	14 43 37.2	0.0
URSC				*i*S	Sb	14 44 00.4	-0.3
LAJ	**Bijagual**	**1.94**	**320**	*e*P	Pb	14 43 43.0	0.0
LAJ				*i*S	Sg	14 44 14.9	+4.1
SJS	**Escuela Geolog**	**1.96**	**323**	*e*P	Pg	14 43 49.8	+4.1
PTP	**Ponta Puerca**	**19.42**	**58**	*e*P	x	14 43 11.6	
PTP				*e*S	x	14 43 15.9	

*BJI **05** 14:43:04.8, 4°.60N×94°.84E, h23km, mB4.8/2, mb4.6/9*
*IDC **05** 14:43:06.6±0.7, 5°.04N×94°.40E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.1/27, mbtmp4.3/14, Error ellipse: s-maj=34.8km s-min=14.9km az=56.0*
*ISCJB **05** 14:43:10.8±0.6, 5°.00N±0°.09×94°.42E±0°.08, h43km, mb4.3/17, Error ellipse: s-maj=15.5km s-min=8.1km az=39.9*
*DJA **05** 14:43:14, 4°.94N×94°.71E, h8km, mb4.6/4*

ISC 05 14:43:12.6±0.7, 5°.0N±0°.1×94°.4E±0°.1, h43km, n40, σ0§84/41, mb4.5/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.27**	**87**	P	**Pn**	**14 44 42.5**	**-0.1**
IPM	**Ipoh**	**6.66**	**94**	P	**Pn**	**14 44 48.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.09**	**18**	Pn	**Pn**	**14 46 31.8**	**+2.2**
	0.9nm,0.3s,baz=214,slow=12,SNR=46						
ODAN	**Odare**	**22.72**	**344**	*e*P	**P**	**14 48 09.6**	**-1.5**
	18nm,0.7s						
RAMN	**Ramite**	**23.03**	**342**	*e*P	**P**	**14 48 13.6**	**-0.8**
	23nm,0.5s						
TAPN	**Taplejung**	**23.10**	**345**	*e*P	**P**	**14 48 13.4**	**-1.7**
	13nm,0.5s						
JIRN	**Jiri**	**23.82**	**342**	*e*P	**P**	**14 48 21.3**	**-0.9**
PKI	**Pulchoki**	**24.00**	**340**	*e*P	**P**	**14 48 23.3**	**-0.4**
	12nm,0.7s						
DMN	**Daman**	**24.13**	**340**	*e*P	**P**	**14 48 24.8**	**-0.1**
	18nm,0.7s						
GUN	**Gumba**	**24.16**	**341**	*e*P	**P**	**14 48 24.5**	**-0.7**
	32nm,0.7s						
KKN	**Kakani**	**24.24**	**340**	*e*P	**P**	**14 48 25.2**	**-0.6**
	19nm,0.7s						
GKN	**Gorkha**	**24.66**	**339**	*e*P	**P**	**14 48 29.9**	**+0.3**
LSA	**Lhasa**	**24.74**	**353**	P	**P**	**14 48 31.2**	**+0.6**
KOLN	**Koldanda**	**24.84**	**337**	*e*P	**P**	**14 48 31.7**	**+0.5**
	16nm,0.7s						
DANN	**Dangsing**	**25.30**	**338**	*e*P	**P**	**14 48 36.0**	**+0.5**
	57nm,0.7s						
XAN	**Xi'an**	**31.89**	**23**	P	**P**	**14 49 32.0**	**-1.9**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA	**Gaotai**	**34.59**	**7**	*e*P	**P**	**14 49 57.1**	**-0.4**
GTA				pP	pP	14 50 01.9	-7.3
GTA				sP	sP	14 50 04.2	-10
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH	**Kashi**	**38.16**	**337**	P	**P**	**14 50 29.2**	**+1.2**
KSH				pmax	pmax		
	comp=Z,63nm,6.5s						
MKAR	**Makanchi Array**	**42.91**	**348**	P	**P**	**14 51 07.3**	**+0.3**
	comp=Z,7.1nm,0.7s,baz=165,slow=8.0,SNR=91						
SONM	**Songino Array**	**43.89**	**12**	P	**P**	**14 51 14.1**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=191,slow=8.4,SNR=14						
SONM				PcP	**PcP**	**14 53 00.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=192,slow=3.5,SNR=8.6						
WRA	**Warramunga Arr**	**46.47**	**124**	P	**P**	**14 51 35.4**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=303,slow=9.2,SNR=49						
KURK	**Kurchatov**	**47.42**	**346**	P	**P**	**14 51 42.9**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=168,slow=7.1,SNR=53						
ASAR	**Alice Springs**	**47.96**	**128**	P	**P**	**14 51 46.9**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=299,slow=7.9,SNR=40						
ZALV	**Zalesovo Beam**	**49.40**	**353**	P	**P**	**14 51 58.0**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=176,slow=6.8,SNR=35						
BVAR	**Borovoye Array**	**51.75**	**342**	P	**P**	**14 52 15.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=145,slow=9.6,SNR=14						
AKTO	**Aktyubinsk**	**54.55**	**332**	P	**P**	**14 52 36.6**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=40,slow=2.9,SNR=12						
STKA	**Stephens Creek**	**58.01**	**133**	P	**P**	**14 53 01.6**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=333,slow=9.0,SNR=2.9						
BRTR	**Keskin Array B**	**64.47**	**312**	P	**P**	**14 53 45.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=110,slow=7.5,SNR=5.4						
AKASG	**Malin Array Be**	**70.52**	**322**	P	**P**	**14 54 21.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=89,slow=5.4,SNR=5.4						
FINES	**FINESS Array B**	**75.33**	**333**	P	**P**	**14 54 51.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=112,slow=6.2,SNR=5.6						
OJC	**Ojcow**	**76.29**	**320**	*e*P	**P**	**14 54 57.9**	**+1.0**
GERES	**GERESS Array B**	**80.09**	**319**	P	**P**	**14 55 19.2**	**+1.1**
	comp=Z,4.5nm,0.8s,baz=101,slow=5.1,SNR=32						
DAVOX	**Davos/Dischmat**	**82.59**	**316**	P	**P**	**14 55 32.5**	**+1.0**
	comp=Z,3.9nm,0.4s,baz=117,slow=9.0,SNR=15						
CDF	**Champ du Feu**	**84.34**	**318**	*e*P	**P**	**14 55 40.3**	**-0.1**
HAU	**Haudompre**	**84.98**	**318**	*e*P	**P**	**14 55 43.4**	**-0.1**
	comp=Z,1.1nm,0.9s						
ORIF	**Oris-en-Rattie**	**85.42**	**315**	*e*P	**P**	**14 55 45.7**	**-0.2**
AVF	**Avril sur Loir**	**87.07**	**317**	*e*P	**P**	**14 55 54.0**	**+0.2**
NVAR	**Mina Array Bea**	**127.22**	**32**	PKP	**PKPdf**	**15 02 14.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=349,slow=2.3,SNR=3.4						
CPUP	**Villa Florida**	**145.63**	**229**	PKPbc	**PKPbc**	**15 02 47.4**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=268,slow=19,SNR=5.0						
CFAA	**Coronel Fontan**	**148.92**	**210**	PKPbc	**PKPbc**	**15 02 57.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=202,slow=3.2,SNR=5.4						

*DJA **05** 14:48:43, 0°.10S×126°.20E, h4km, MLv4.0/10*
IDC 05 14:48:37.5±0.7, 0°.06S×125°.88E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/21, mbtmp4.1/12, Error ellipse: s-maj=39.0km s-min=14.4km az=71.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.43**	**158**	P	P	14 53 26.5	-0.9
	2.9nm,0.4s,baz=338,slow=11,SNR=22						
ASAR	**Alice Springs**	**24.73**	**162**	P	P	14 54 02.0	+1.2
	1.5nm,0.3s,baz=344,slow=11,SNR=21						
ASAR				PcP	PcP	14 57 37.2	-0.9
	0.4nm,0.6s,baz=353,slow=2.1,SNR=5.7						
STKA	**Stephens Creek**	**34.96**	**156**	P	P	14 55 31.0	-0.5
	2.4nm,0.8s,baz=339,slow=9.0,SNR=8.3						
KSRS	**Korea Array**	**37.38**	**3**	P	P	14 55 52.6	+0.6
	1.9nm,0.9s,baz=181,slow=8.9,SNR=4.1						
MJAR	**Matsushiro Arr**	**38.17**	**16**	P	P	14 55 58.5	-0.4
	0.8nm,0.5s,baz=187,slow=8.7,SNR=3.9						
SONM	**Songino Array**	**50.62**	**343**	P	P	14 57 38.5	0.0
	1.6nm,0.6s,baz=158,slow=8.5,SNR=18						
PETK	**Petropavlovsk-**	**59.24**	**22**	P	P	14 58 40.7	+0.1
	1.5nm,0.7s,baz=210,

CMIG **Matias Romero** 7.85 302 P Pn 14 54 57.3 0.0
comp=Z,1.4nm,0.3s,baz=123,slow=10,SNR=38
CMIG S Sn 14 56 16.0 -8.9
comp=Z,1.4nm,0.3s,baz=311,slow=20,SNR=7.6
CMIG LR LR 14 58 07.9
comp=Z,52nm,19.5s,baz=122,slow=38
CMIG Matias Romero 7.85 302 P **Pn** 14 54 57.3 0.0
CMIG S Sn 14 56 16.0 -8.9
DWPF Disney 16.14 21 P **P** 14 56 45.2 +0.4
SDV Santo Domingo 17.44 102 *e*P **Pn** 14 57 00.4 0.0
comp=Z,300nm,0.8s
VBMS Vicksburg 19.22 353 P **P** 14 57 19.1 +0.6
LRAL Lakeview Retre 19.90 2 *e*P **P** 14 57 27.2 +1.3
comp=Z,18nm,0.8s
GOGA Godfrey 20.66 11 *e*P **P** 14 57 35.0 +1.0
comp=Z,46nm,0.6s
OXF Oxford 21.40 357 *e*P **P** 14 57 41.0 -0.9
comp=Z,45nm,1.0s
628A Black Gap, Mar 21.47 322 ⇓P **P** 14 57 43.3 +0.6
baz=22
627A Terlingua Ranc 21.75 321 ⇓P **P** 14 57 46.6 +0.9
baz=22
TXAR Lajitas Array 21.83 320 P **P** 14 57 46.9 +0.3
comp=Z,3.1nm,0.6s,baz=138,slow=11,SNR=46
TXAR pP **pP** 14 58 14.5 +1.3
comp=Z,3.4nm,0.7s,baz=144,slow=9.8,SNR=8.0
TXAR ScP **ScP** 15 05 04.2 0.0
comp=Z,0.5nm,0.7s,baz=151,slow=6.2,SNR=7.6
TXAR Lajitas Array 21.83 320 P **P** 14 57 46.9 +0.3
TXAR pP **pP** 14 58 14.5 +1.3
TXAR ScP **ScP** 15 05 04.2 0.0
528A Cox Ranch, San 21.90 323 ⇓P **P** 14 57 48.3 +1.0
baz=22
JSC Jenkinsville 21.97 15 *e*P **P** 14 57 48.5 +0.7
MIAR Mount Ida 22.00 347 *e*P **P** 14 57 48.3 +0.1
comp=Z,30nm,0.6s
MTP Monte Pirata 22.09 74 *e*P **P** 14 57 48.5 -0.7
comp=Z,13nm,0.5s
ATAH Atahualpa 22.17 154 LR LR 15 04 54.1
comp=Z,79nm,18.6s,baz=69,slow=32
428A Kincaid Ranch, 22.26 325 ⇓P **P** 14 57 52.2 +1.3
baz=22
626A Big Bend Ranch 22.28 320 ⇑P **P** 14 57 51.7 +0.6
baz=22
527A Woodward Ranch 22.38 322 ⇑P **P** 14 57 53.0 +0.9
baz=22
CPCT Cooper Cave 22.50 7 *e*P **P** 14 57 53.6 +0.6
526A Mary Lane Ranc 22.61 321 ⇓P **P** 14 57 54.7 +0.5
baz=23
427A Hayter Ranch, 22.76 324 ⇑P **P** 14 57 56.6 +0.9
baz=23
TKL Tuckaleechee C 22.81 9 P **P** 14 57 56.5 +0.5
comp=Z,28nm,0.8s,baz=185,slow=12,SNR=28
TKL Tuckaleechee C 22.81 9 *e*P **P** 14 57 56.6 +0.7
328A Wristen Ranch, 22.83 325 ⇑P **P** 14 57 56.9 +0.7
baz=23,SNR=18
426A McDonald Obser 23.00 322 ⇓P **P** 14 57 59.5 +1.5
baz=23
326A Caldwell Ranch 23.44 323 ⇓P **P** 14 58 02.9 +1.0
baz=24
227A Bennet, Jal 23.57 326 ⇑P **P** 14 58 04.2 +1.1
baz=24
425A Indio Mountain 23.66 321 ⇓P **P** 14 58 05.0 +1.0
baz=24
TZTN Tazewell 23.71 9 *e*P **P** 14 58 04.6 +0.5
comp=Z,22nm,0.9s
WMOK Wichita Mounta 23.73 337 *e*P **P** 14 58 03.9 -0.5
comp=Z,15nm,1.0s
TUL1 Tulsa 23.84 344 ⇑P **P** 14 58 06.8 +1.4
baz=24
325A Bean Ranch, Si 24.07 322 ⇑P **P** 14 58 08.2 +0.5
baz=24
127A Arkansas Junct 24.12 327 ⇓P **P** 14 58 08.6 +0.5
baz=24
324A Moseley Ranch, 24.43 321 ⇓P **P** 14 58 11.7 +0.8
baz=24
126A Clayton Basin, 24.45 326 ⇓P **P** 14 58 11.6 +0.5
baz=24
225A Deer Hill, Car 24.51 323 ⇑P **P** 14 58 12.5 +0.8
baz=25
MNTX Cornudas Mount 24.55 322 ⇓P **P** 14 58 12.6 +0.7
baz=25
MNTX ⇓P **P** 14 58 12.6 +0.7
baz=25
CPRX Cap Rock 24.66 326 *e*P **P** 14 58 14.1 +1.1
comp=Z,1.3nm,0.5s
MSTX Muleshoe 24.83 329 ⇓P **P** 14 58 15.0 +0.5
baz=25,SNR=8.1
224A Cornudas Mount 24.90 322 ⇓P **P** 14 58 15.8 +0.5
baz=25
Y27A Causey 24.96 329 ⇓P **P** 14 58 16.0 +0.3
baz=25,SNR=7.8
WCI Wyandotte Cave 25.11 3 *e*P **P** 14 58 16.2 -0.6
comp=Z,16nm,0.6s
Z25A Roswell 25.32 325 ⇓P **P** 14 58 19.8 +0.9
baz=25,SNR=5.9
Z24A Sheeppen Canyo 25.71 325 ⇓P **P** 14 58 24.3 +1.6
baz=26
Y25A Mesa, Roswell 25.79 326 ⇑P **P** 14 58 24.8 +1.6
baz=26
X26A CR and CF Fran 25.81 329 ⇑P **P** 14 58 24.6 +1.1
baz=26
W27A Bowe Ranch, En 25.85 331 ⇑P **P** 14 58 24.9 +1.2
baz=26
Y24A Capitan 26.20 325 ⇓P **P** 14 58 27.9 +0.9
baz=26
Y23A Lovelace Mesa, 26.55 325 ⇑P **P** 14 58 31.1 +1.0
baz=27
Z22A Elephant Butte 26.59 322 ⇓P **P** 14 58 32.2 +1.8
baz=27
121A Cookes Peak, D 26.59 320 ⇓P **P** 14 58 32.6 +2.1
baz=27
W25A X Bar L Ranch, 26.66 329 ⇑P **P** 14 58 32.0 +0.9
baz=27
Y22A Socorro 27.07 323 ⇓P **P** 14 58 35.6 +0.8
baz=27
W24A Lazy 6 Ranch, 27.15 327 ⇓P **P** 14 58 36.4 +0.9
baz=27
W23A Werner Place, 27.51 326 ⇑P **P** 14 58 40.5 +1.8
baz=28
Y21A Point of Rocks 27.54 323 ⇑P **P** 14 58 40.7 +1.7
baz=28
Y20A Horse Springs, 27.89 322 ⇑P **P** 14 58 43.5 +1.3
baz=28
R27A Eads 28.41 335 ⇑P **P** 14 58 48.2 +1.6
baz=28
U23A El Rito 28.41 328 ⇑P **P** 14 58 48.0 +1.2
baz=28,SNR=7.3
SSPA Standing Stone 28.84 16 *e*P **P** 14 58 50.4 +0.3
comp=Z,7.1nm,0.6s
SDCO Great Sand Dun 29.17 331 *e*P **P** 14 58 55.3 +1.8
comp=Z,1.6nm,0.8s
SDCO Great Sand Dun 29.17 331 ⇓P **P** 14 58 54.8 +1.2
baz=29
SDCO ⇓P **P** 14 58 54.8 +1.2
baz=29
W19A Sanders 29.32 322 ⇓P **P** 14 58 56.3 +1.5
baz=29
S22A 4UR Ranch, Cre 29.83 329 ⇑P **P** 14 59 00.9 +1.6
baz=30
W17A Winslow 30.10 321 ⇓P **P** 14 59 03.7 +2.0
baz=30
S21A Coal Bank Pass 30.26 328 ⇓P **P** 14 59 04.4 +1.3
baz=30
MVCO Mesa Verde 30.30 326 ⇓P **P** 14 59 04.9 +1.5
baz=30
V17A Tonalea, Kykot 30.51 321 ⇓P **P** 14 59 06.6 +1.4
baz=31
Q22A Crested Butte, 30.73 330 ⇑P **P** 14 59 08.7 +1.3
baz=31
S19A Harvey Farm, M 31.04 326 ⇑P **P** 14 59 10.9 +1.0
baz=31
T17A Navajo Res., N 31.45 323 ⇑P **P** 14 59 14.9 +1.5
baz=32
S18A Hurst Farm, Bl 31.47 325 ⇑P **P** 14 59 14.8 +1.1
baz=32,SNR=5.6
R18A Canyonlands Na 31.91 326 ⇑P **P** 14 59 18.8 +1.3
baz=32
P20A De Beque 31.96 329 ⇑P **P** 14 59 19.2 +1.3
baz=32
Q19A Hogan Spring (31.99 328 ⇑P **P** 14 59 19.5 +1.4
baz=32
O20A White River Ci 32.37 330 ⇑P **P** 14 59 23.6 +2.0
baz=32
R17A Hanksville Air 32.38 325 ⇑P **P** 14 59 22.9 +1.3
baz=32
IRM Iron Mountain 32.46 315 ⇑P **P** 14 59 24.1 +2.0
baz=32

L23A Garrett 32.83 335 ⇓P **P** 14 59 27.1 +1.6
baz=33
N20A Spence Gulch, 32.92 331 ⇓P **P** 14 59 27.6 +1.3
baz=33
O19A Miners Draw (B 32.93 329 ⇓P **P** 14 59 27.9 +1.6
baz=33
P18A Preston Nutter 33.00 327 ⇓P **P** 14 59 28.3 +1.1
baz=33
P17A Butcher Ranch, 33.15 327 ⇑P **P** 14 59 29.9 +1.6
baz=33
N19A John Jarvie Ra 33.41 330 ⇑P **P** 14 59 31.8 +1.3
baz=34
O17A Robinson Place 33.67 328 ⇑P **P** 14 59 34.2 +1.3
baz=34
I24A Kuemmerle Ranc 33.90 338 ⇑P **P** 14 59 36.2 +1.6
baz=34
N17A Moffit Pass 34.27 328 ⇓P **P** 14 59 39.6 +1.5
baz=34
N16A Rees Ranch, Co 34.54 328 ⇑P **P** 14 59 41.7 +1.3
baz=35
J21A Lysite 34.57 335 ⇑P **P** 14 59 41.7 +1.2
baz=35
M17A Scullys Gap (B 34.58 329 ⇓P **P** 14 59 41.2 +0.5
baz=35,SNR=6.7
L18A Fontenelle, Gr 34.61 330 ⇑P **P** 14 59 42.1 +1.1
baz=35
H24A Dirks Ranch, A 34.64 339 ⇑P **P** 14 59 42.3 +1.4
baz=35
I21A Big Trails, Te 34.89 335 ⇑P **P** 14 59 44.2 +1.0
baz=35
BW06 Boulder Array 35.04 332 ⇑P **P** 14 59 45.5 +0.9
baz=35
BW06 ⇑P **P** 14 59 45.5 +0.9
baz=35
LPAZ La Paz 35.10 146 P **P** 14 59 47.4 +1.6
comp=Z,0.7nm,0.4s,baz=331,slow=10,SNR=3.6
LPAZ La Paz 35.10 146 P **P** 14 59 47.4 +1.6
K18A Toltan Ranch, 35.16 331 ⇓P **P** 14 59 47.6 +2.0
baz=35
J19A Crowheart 35.20 333 ⇑P **P** 14 59 46.8 +0.9
baz=35
G23A Biddle 35.33 338 ⇑P **P** 14 59 47.7 +0.9
baz=35
I20A Worland 35.35 334 ⇑P **P** 14 59 48.0 +0.9
baz=35
L16A Fish Haven 35.37 329 ⇓P **P** 14 59 48.3 +0.8
baz=35
H21A Big Horn, Sher 35.46 336 ⇓P **P** 14 59 48.8 +0.7
baz=36
M15A Larsen Ranch, 35.49 327 ⇓P **P** 14 59 49.8 +1.4
baz=36
F24A Ekalaka 35.56 340 ⇑P **P** 14 59 49.7 +0.9
baz=36
J18A Kendall Valley 35.59 332 ⇑P **P** 14 59 50.1 +0.7
baz=36,SNR=8.9
F23A Volborg 35.78 339 ⇓P **P** 14 59 51.9 +1.1
baz=36
I19A Meeteetse 35.79 334 ⇓P **P** 14 59 51.9 +0.9
baz=36
L15A Malad City 35.84 328 ⇓P **P** 14 59 52.1 +0.7
baz=36,SNR=7.6
I18A Diamond G Ranc 35.88 332 ⇓P **P** 14 59 52.8 +1.0
baz=36
J17A Brown Place, J 36.03 331 ⇓P **P** 14 59 53.9 +0.8
baz=36,SNR=8.5
MDND Maddock 36.04 347 ⇑P **P** 14 59 52.8 0.0
baz=36,SNR=8.4
REDW Red Top Meadow 36.10 331 *e*P **P** 14 59 54.8 +1.1
comp=Z,14nm,0.8s
REDW *e*pP **pP** 15 00 27.1 +1.4
F22A Rosebud 36.14 338 ⇑P **P** 14 59 54.0 +0.3
baz=36
E24A Baker 36.15 341 ⇑P **P** 14 59 54.5 +0.7
baz=36
L14A Malta 36.31 327 ⇓P **P** 14 59 56.6 +1.3
baz=36
J16A Bone 36.39 330 ⇑P **P** 14 59 57.1 +1.0
baz=36
K15A Arbon 36.41 329 ⇓P **P** 14 59 57.2 +1.0
baz=36
E23A Ismay 36.42 340 ⇑P **P** 14 59 56.9 +0.8
baz=36
E22A Miles City 36.59 339 ⇓P **P** 14 59 58.4 +0.8
baz=37
K14A Jones Ranch, D 36.64 328 ⇑P **P** 14 59 58.9 +0.8
baz=37,SNR=6.1
D24A Glendive 36.65 341 ⇑P **P** 14 59 58.9 +0.9
baz=37
J15A Blackfoot 36.89 330 ⇓P **P** 15 00 01.0 +0.8
baz=37,SNR=6.6
NVAR Mina Array Bea 36.96 319 P **P** 15 00 02.5 +1.4
comp=Z,0.6nm,0.4s,baz=128,slow=7.0,SNR=6.3
NVAR Mina Array Bea 36.96 319 P **P** 15 00 02.5 +1.4
D23A Lindsay 36.98 340 ⇓P **P** 15 00 01.6 +0.8
baz=37
C24A Savage 37.05 341 ⇑P **P** 15 00 02.4 +1.1
baz=37
F19A Roth Farm, Mol 37.23 335 ⇓P **P** 15 00 03.5 +0.4
baz=37
D22A Cohagen 37.29 339 ⇑P **P** 15 00 04.3 +0.9
baz=37
H16A Russell Place, 37.31 332 ⇓P **P** 15 00 05.1 +1.2
baz=37
E20A Meyer Farm, Mu 37.45 337 ⇓P **P** 15 00 05.6 +0.8
baz=38,SNR=7.3
D21A La Casta Ranch 37.50 338 ⇓P **P** 15 00 06.1 +0.9
baz=38
C23A Lambert 37.53 341 ⇓P **P** 15 00 06.3 +0.9
baz=38
F18A Big Timber 37.59 335 ⇑P **P** 15 00 07.0 +0.9
baz=38
ULM Lac du Bonnet 37.66 352 P **P** 15 00 04.8 -1.7
comp=Z,7.7nm,0.5s,baz=168,slow=11,SNR=20
ULM Lac du Bonnet 37.66 352 P **P** 15 00 04.8 -1.7
E19A Rath Farm, Rou 37.67 336 ⇑P **P** 15 00 07.8 +1.1
baz=38
C22A Vida 37.70 340 ⇑P **P** 15 00 07.7 +0.7
baz=38,SNR=7.6
J13A Cove Ranch, Pi 37.76 328 ⇓P **P** 15 00 08.5 +0.9
baz=38
I14A Mackay 37.78 329 ⇑P **P** 15 00 09.5 +1.7
baz=38
DGMT Dagmar 37.81 342 *e*P **P** 15 00 08.2 +0.3
comp=Z,32nm,0.6s
DGMT Dagmar 37.81 342 ⇓P **P** 15 00 08.8 +0.9
baz=38
H15A Lima 37.89 331 ⇑P **P** 15 00 10.2 +1.5
baz=38,SNR=7.4
D20A Manuel Ranch, 37.94 337 ⇑P **P** 15 00 10.7 +1.7
baz=38
F17A Fitzpatrick Pl 37.99 334 ⇑P **P** 15 00 10.7 +1.2
baz=38
HLID Hailey 38.00 328 ⇑P **P** 15 00 10.5 +0.8
baz=38
B23A Brockton 38.05 341 ⇑P **P** 15 00 10.7 +0.9
baz=38,SNR=8.2
I13A Wildhorse Cree 38.10 329 ⇑P **P** 15 00 11.4 +0.9
baz=38
MCMT McKenzie Canyo 38.15 331 *e*P **P** 15 00 12.7 +1.7
comp=Z,5.7nm,0.7s
MCMT *e*pP **pP** 15 00 45.2 +2.0
A24A Westby 38.16 343 ⇑P **P** 15 00 11.2 +0.4
baz=38
C21A Desert Coulee 38.19 339 ⇑P **P** 15 00 12.0 +1.0
baz=38
E18A Harlowton 38.21 335 ⇑P **P** 15 00 12.0 +0.7
baz=38
B22A Reddig Ranch S 38.23 340 ⇓P **P** 15 00 12.1 +0.8
baz=38
G15A Dillon 38.23 332 ⇑P **P** 15 00 12.9 +1.3
baz=38,SNR=7.6
H14A Leadore 38.24 330 ⇑P **P** 15 00 12.9 +1.2
baz=38
D19A Cripps Ranch, 38.29 337 ⇑P **P** 15 00 12.8 +0.9
baz=38
C20A Veseth Ranch, 38.42 338 ⇓P **P** 15 00 13.5 +0.6
baz=38
E17A Martinsdale 38.51 334 ⇑P **P** 15 00 15.1 +1.2
baz=39
H13A Challis 38.64 329 ⇓P **P** 15 00 15.9 +1.0
baz=39,SNR=7.4
D18A Linhart Farms, 38.67 336 ⇓P **P** 15 00 16.0 +0.9
baz=39
F15A Butte 38.75 332 ⇓P **P** 15 00 16.6 +0.7
baz=39
A22A Carney Farms, 38.80 341 ⇑P **P** 15 00 17.1 +1.0
baz=39
C19A Slack Wire Ran 38.82 337 ⇓P **P** 15 00 17.3 +1.0
baz=39
E16A East Helena 38.92 334 ⇓P **P** 15 00 17.9 +0.7
baz=39,SNR=5.1
D17A Six Diamond Ra 38.99 335 ⇓P **P** 15 00 18.8 +1.0
baz=39
G13A Cobalt 39.01 330 ⇑P **P** 15 00 18.9 +0.9
baz=39
B20A Solberg Farm, 39.03 339 ⇓P **P** 15 00 19.2 +1.1
baz=39
F14A Wisdom 39.13 332 ⇓P **P** 15 00 19.9 +0.9
baz=39
A21A Bergtoll Ranch 39.13 340 ⇑P **P** 15 00 20.0 +1.1
baz=39
SIV San Ignacio 39.20 137 P **P** 15 00 19.1 -0.6
comp=Z,0.9nm,0.4s,baz=283,slow=16,SNR=4.4
SIV San Ignacio 39.20 137 P **P** 15 00 19.1 -0.6
D16A Dana Ranch, Ca 39.26 334 ⇑P **P** 15 00 21.1 +1.1
baz=39
E15A Deer Lodge 39.26 333 ⇑P **P** 15 00 20.9 +0.8
baz=39
A20A Cobblestone Ra 39.38 339 ⇓P **P** 15 00 21.7 +0.9
baz=39,SNR=5.2
B19A Brinkman Farms 39.38 338 ⇓P **P** 15 00 22.0 +1.1
baz=39
F13A Darby 39.56 331 ⇑P **P** 15 00 23.1 +0.5
baz=40,SNR=7.7
E14A Clinton 39.64 332 ⇑P **P** 15 00 24.1 +0.9
baz=40
B18A Beardsley Farm 39.64 337 ⇓P **P** 15 00 23.9 +0.8
baz=40
D15A Lincoln 39.68 333 ⇑P **P** 15 00 24.5 +0.9
baz=40
A19A Klindworth Far 39.70 338 ⇑P **P** 15 00 24.8 +1.2
baz=40
CHMT Chamberlain Mo 39.91 333 *e*P **P** 15 00 26.0 +0.6
C16A Fuhringer Ranc 39.95 335 ⇑P **P** 15 00 26.5 +0.9
baz=40
E13A Victor 39.98 332 ⇑P **P** 15 00 26.5 +0.6
baz=40,SNR=5.4
F12A Elk City 39.98 330 ⇑P **P** 15 00 26.7 +0.6
baz=40,SNR=12
A18A Metzger Ranch, 40.10 337 ⇑P **P** 15 00 27.6 +0.7
baz=40
D14A Greenough 40.15 333 ⇓P **P** 15 00 27.8 +0.4
baz=40
C15A Salmond Ranch, 40.29 334 ⇓P **P** 15 00 29.7 +1.2
baz=40
A17A Triple J Farms 40.45 337 ⇑P **P** 15 00 30.3 +0.6
baz=40
D13A Huson 40.59 332 ⇑P **P** 15 00 31.6 +0.7
baz=41
B15A Bradely Ranch, 40.69 335 ⇓P **P** 15 00 32.6 +0.9
baz=41
A16A West Butte Ran 40.80 336 ⇑P **P** 15 00 33.6 +1.0
baz=41
F10A Beach Ranch, E 41.12 329 ⇓P **P** 15 00 36.0 +0.7
baz=41
A15A Johnson Ranch, 41.28 335 ⇓P **P** 15 00 37.4 +0.9
baz=41
C12B Naegeli Ranch, 41.51 332 ⇓P **P** 15 00 39.4 +1.0
baz=42
A14A Double T Ranch 41.56 335 ⇓P **P** 15 00 40.0 +1.1
baz=42
FFC Flin Flon 43.02 348 *e*P **P** 15 00 50.1 -0.3
comp=Z,8.1nm,0.6s
SCHQ Schefferville 44.83 17 P **P** 15 01 03.8 -1.0
comp=Z,24nm,1.0s,baz=219,slow=9.2,SNR=23
SCHQ Schefferville 44.83 17 P **P** 15 01 03.8 -1.0
RES Resolute Bay 61.74 358 *e*P **P** 15 03 06.4 -1.6
comp=Z,2.3nm,0.6s
INK Inuvik 62.50 343 P **P** 15 03 12.8 -0.4
comp=Z,0.6nm,0.5s,baz=109,slow=5.1,SNR=5.6
INK Inuvik 62.50 343 P **P** 15 03 12.8 -0.4
ILAR Eielson Array 65.29 336 P **P** 15 03 29.8 -1.7
comp=Z,0.5nm,0.6s,baz=161,slow=4.6,SNR=14
ILAR pP **pP** 15 04 06.0 -1.1
comp=Z,1.3nm,1.1s,baz=146,slow=4.7,SNR=4.0
ILAR Eielson Array 65.29 336 P **P** 15 03 29.8 -1.7
ILAR pP **pP** 15 04 06.0 -1.1
CN2 Changchun 115.76 334 *e*PKP **PKPdf** 15 11 29.7 -1.2
WMQ Urumqi 123.25 4 *e*PKP **PKPdf** 15 11 43.7 -1.7
HHC Hu-ho-hao-te 123.42 342 *e*PKP **PKPdf** 15 11 43.1 -2.8
HHC sPKP 15 12 42.8
HHC PP **PP** 15 13 29.1 +1.6
HHC PKS **PKSdf** 15 15 18.2 -4.4
HHC SKS SKSdf 15 18 37.3 -7.0
HHC AMB AMB
comp=Z,130nm,5.3s
LZH Lanzhou 129.88 348 *e*PKP **PKPdf** 15 11 58.5 0.0
LZH sPKP 15 12 51.5
STKA Stephens Creek 131.04 239 PKP **PKPdf** 15 12 01.7 +1.2
comp=Z,2.0nm,0.6s,baz=104,slow=5.0,SNR=14
STKA Stephens Creek 131.04 239 PKP **PKPdf** 15 12 01.7 +1.2
CD2 Chengdu 134.87 346 PKP **PKPdf** 15 12 07.1 -0.8
GYA Guiyang 138.25 340 *e*Pdif **Pdif** 15 09 22.7 -2.2
GYA PKP **PKPdf** 15 12 13.5 -0.8
GYA sPKP 15 13 08.0
GYA PP **PP** 15 15 06.8 +3.5
GYA AMB AMB
comp=Z,80nm,7.6s
WRA Warramunga Arr 139.02 255 PKhKP PKPpre 15 12 08.3
comp=Z,0.5nm,0.8s,baz=87,slow=3.5,SNR=8.3
WRA PKP **PKPdf** 15 12 16.9 +1.2
comp=Z,1.7nm,0.5s,baz=90,slow=2.5,SNR=34
WRA pPKP pPKPdf 15 12 56.9 +1.8
comp=Z,1.0nm,0.7s,baz=88,slow=2.6,SNR=4.0
WRA Warramunga Arr 139.02 255 PKPpre PKPpre 15 12 08.3
WRA PKP **PKPdf** 15 12 16.9 +1.2
WRA pPKP pPKPdf 15 12 56.9 +1.8
AS31 Alice Springs 139.09 249 *e*PKPdf **PKPdf** 15 12 17.4 +1.6
ASAR Alice Springs 139.09 249 PKhKP PKPpre 15 12 09.3
comp=Z,0.5nm,0.6s,baz=104,slow=3.0,SNR=11
ASAR PKP **PKiKP** 15 12 17.4 -0.7
comp=Z,1.8nm,0.6s,baz=93,slow=1.8,SNR=30
ASAR pPKP pPKPdf 15 12 57.0 +1.9
comp=Z,0.9nm,0.9s,baz=97,slow=2.2,SNR=3.8
ASAR Alice Springs 139.09 249 PKPpre PKPpre 15 12 09.3
ASAR PKP **PKiKP** 15 12 17.4 -0.7
ASAR pPKP pPKPdf 15 12 57.0 +1.9

IDC 05 15:24:04.9±6.9, 16°.92S×177°.06W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/15, mbtmp3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=339.9km s-min=53.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**28.55**	**198**	LR	LR	15 39 53.7	
	comp=Z,68nm,19.0s,baz=16,slow=33						
WRA	**Warramunga Arr**	**46.08**	**258**	P	P	15 32 31.2	+0.1
	0.2nm,0.5s,baz=94,slow=7.1,SNR=5.3						
ASAR	**Alice Springs**	**46.30**	**253**	P	P	15 32 32.5	-0.3
	0.9nm,0.5s,baz=87,slow=9.0,SNR=30						
GERES	**GERESS Array B**	**146.97**	**347**	PKPbc	PKPbc	15 43 48.8	-0.8
	0.2nm,0.6s,baz=20,slow=3.1,SNR=4.2						

*BJI **05** 15:28:15.4, 1°.23S×133°.82E, h24km, mB5.0/24, mb4.8/43, Ms4.7/21, Ms7 4.2/21*
*MOS **05** 15:28:20.8±0.9, 0°.74S×133°.45E, h33km, mb5.2/22, Error ellipse: s-maj=14.9km s-min=6.4km az=113.3*
*ISCJB **05** 15:28:21.3±1.1, 0°.78S±0°.04×133°.60E±0°.05, h39km±9km, mb4.9/71, MS4.0/14, Error ellipse: s-maj=9.3km s-min=5.0km az=156.0*
*NEIC **05** 15:28:22.2±2.6, 0°.76S×133°.48E, h30km±18km, mb5.0/24, Error ellipse: s-maj=8.7km s-min=5.1km az=63.0*
*IDC **05** 15:28:22.6±3.4, 0°.76S×133°.48E, h33km±26km, mb4.5/17, mb1 4.7/20, mb1mx4.6/24, mbtmp4.6/20, ML4.8/3, MS4.0/7, Ms1 3.9/7, ms1mx3.5/29, Error ellipse: s-maj=21.0km s-min=9.6km az=78.0*
*DJA **05** 15:28:25, 0°.95S×133°.47E, h28km, mb5.1/28*
ISC 05 15:28:22.1±0.3, 0°.83S±0°.04×133°.50E±0°.05, h30km±2km, h29km:pP-P, n215, σ1§41/262, mb5.0/70, MS3.9/14, 4C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.42**	**211**	P	**Pn**	**15 29 01.6**	**+1.9**
TLE	**Tual**	**4.83**	**189**	P	Pn	15 29 36.4	+3.5
MSAI	**Masohi**	**5.20**	**241**	P	Pn	15 29 41.9	+4.0
SMPI	**Sarmi**	**5.34**	**103**	P	**Pb**	**15 29 53.4**	**-1.3**
	80nm,1.1s,2µm0.4nm						
LBMI	**Labuha**	**6.00**	**272**	P	**Pn**	**15 29 50.8**	**+1.9**

362nm,1.0s,3µm1.0nm
AAI Ambon 6.01 242 P **Pn** **15 29 51.2 +2.2**
676nm,0.7s,9µm2.6nm
TNTI Ternate 6.33 285 P **Pb** **15 30 08.5 -3.1**
NLAI Namlea 6.83 249 P **Pn** **15 30 01.9 +1.7**
359nm,0.6s,4µm1.6nm
KMSI Cibinong 9.62 278 P Px 15 30 54.6
LUWI Luwuk 10.72 269 P **Pn** **15 30 54.7 +0.9**
83nm,0.8s,1µm
MRSI Marisa 11.63 276 P Pn 15 31 12.7 +6.6
32nm,0.6s
TTSI Tana Toraja 13.84 261 P P 15 31 47.9 +3.5
SPSI Sidrap Palu 14.06 257 P **P** **15 31 44.8 -2.0**
32nm,0.9s,429nm
BKSI Bulukumba 14.08 251 P **P** **15 31 45.0 -2.0**
62nm,0.6s,691nm
KAPI Kappang 14.34 253 Pn **Pn** **15 31 45.1 +1.9**
5.9nm,0.3s,baz=96,slow=5.4,SNR=20
KAPI Kappang 14.34 253 *e*P **Pn** **15 31 43.9 +0.7**
32nm,0.6s
KAPI Pn **Pn** **15 31 45.1 +1.9**
KAPI Kappang 14.34 253 P **P** **15 31 47.7 -2.2**
63nm,0.8s,556nm
PMG Port Moresby 16.05 123 Pn **P** **15 32 07.9 -1.0**
0.5nm,0.3s,baz=312,slow=5.6,SNR=4.5
PMG Port Moresby 16.05 123 P **P** **15 32 07.9 -1.0**
PMG Port Moresby 16.05 123 Pn **P** **15 32 07.9 -1.0**
PMG *e*P **Pn** **15 32 08.8 +3.0**
MYLDM Lahad Datu 16.12 292 P P 15 32 14.6 +4.8
42nm,1.6s
COEN Coen 16.18 144 *e*P **Pn** **15 32 06.7 -0.8**
93nm,0.6s
FITZ Fitzroy Crossi 18.82 204 P **P** **15 32 38.7 -0.8**
2.3nm,0.3s,baz=31,slow=11,SNR=41
FITZ S Sn 15 35 59.2 -11
1.5nm,0.3s,baz=139,slow=15,SNR=9.8
FITZ LR LR 15 40 41.8
comp=Z,176nm,20.8s,baz=32,slow=39
FITZ Fitzroy Crossi 18.82 204 *e*P **P** **15 32 38.9 -0.6**
30nm,0.5s
FITZ *e*S Sn 15 35 54.9 -15
FITZ Fitzroy Crossi 18.82 204 *e*P **P** **15 32 38.5 -1.0**
28nm,0.8s
FITZ P **P** **15 32 38.7 -0.8**
FITZ S Sn 15 35 59.2 -11
MTNI Mataram 18.91 245 P **Pn** **15 32 44.3 +2.9**
129nm,0.9s
WRAB Tennant Creek 19.00 178 *e*P **P** **15 32 41.9 +0.4**
WRAB pmax pmax
comp=Z,37nm,0.6s
WRAB Tennant Creek 19.00 178 *e*P **P** **15 32 41.9 +0.4**
comp=Z,37nm,0.6s
WRAB Tennant Creek 19.00 178 P **P** **15 32 42.0 +0.4**
comp=Z,348nm,0.4s,SNR=49
WB2 Warramunga Arr 19.01 178 *e*P **P** **15 32 42.0 +0.3**
WRA Warramunga Arr 19.01 178 P **Pn** **15 32 42.5 0.0**
comp=Z,2.9nm,0.3s,baz=355,slow=11,SNR=81
WRA S **Sn** **15 36 09.1 -5.7**
comp=Z,1.1nm,0.3s,baz=357,slow=23,SNR=5.7
WRA Warramunga Arr 19.01 178 P **Pn** **15 32 42.5 0.0**
WRA S **Sn** **15 36 09.1 -5.7**
WRA Warramunga Arr 19.01 178 P **Pn** **15 32 42.5 0.0**
WRA S **Sn** **15 36 09.1 -5.7**
KHKI Kahang-Kahang 19.33 247 P **Pn** **15 32 47.4 +1.1**
comp=Z,79nm,0.9s
KMMI Kalianget 20.43 252 P Pn 15 33 04.1 +4.7
comp=Z,72nm,1.0s
JAGI Jajag, Banyuwa 20.71 248 P Pn 15 33 07.8 +5.1
comp=Z,80nm,1.0s
BLJI Banyuglugur 20.99 250 P Pn 15 33 10.2 +4.3
comp=Z,72nm,0.9s
SBUM Sibu 21.52 279 P P 15 33 18.3 +9.4
comp=Z,29nm,1.4s
AS31 Alice Springs 22.70 179 *e*P **P** **15 33 22.1 +0.5**
ASAR Alice Springs 22.70 179 P **P** **15 33 22.4 +0.8**
comp=Z,43nm,0.5s,baz=2.3,slow=11,SNR=224
ASAR S **S** **15 37 30.1 +1.8**
comp=Z,2.2nm,0.9s,baz=357,slow=28,SNR=4.9
ASAR Alice Springs 22.70 179 P **P** **15 33 22.4 +0.8**
ASAR S **S** **15 37 30.1 +1.8**
ASAR Alice Springs 22.70 179 P **P** **15 33 22.4 +0.8**
ASAR S **S** **15 37 30.1 +1.8**
CTA Charters Tower 22.85 148 P **P** **15 33 24.8 +1.6**
comp=Z,13nm,0.8s,baz=330,slow=12,SNR=17
CTA Charters Tower 22.85 148 *e*P **P** **15 33 25.3 +2.2**
comp=Z,22nm,0.8s
CTA Charters Tower 22.85 148 P **P** **15 33 24.8 +1.6**
CTA Charters Tower 22.85 148 P **P** **15 33 24.8 +1.6**
CTAO Charters Tower 22.85 148 *e*P **P** **15 33 24.2 +1.1**
CTAO *e* 15 33 31.6
CTAO *e* 15 33 38.0
CTAO pmax pmax
comp=Z,35nm,0.8s
CTAO Charters Tower 22.85 148 *e*P **P** **15 33 24.2 +1.1**
comp=Z,35nm,0.8s
CTAO *e* 15 33 31.6
CTAO *e* 15 33 38.0
MBWA Marble Bar 24.26 213 *e*P **P** **15 33 38.1 +1.3**
MBWA Marble Bar 24.26 213 *e*P **P** **15 33 37.8 +1.0**
comp=Z,43nm,0.8s
BJII Banjamegara 24.58 254 P **P** **15 33 43.2 +3.4**
JOW Kunigami 27.96 350 LR LR 15 42 37.8
comp=Z,363nm,19.7s,baz=126,slow=31
MEEK Meekatharra 29.38 208 *e*P **P** **15 34 23.2 +0.3**
comp=Z,21nm,0.4s
FORT Forrest 30.23 189 *e*P **P** **15 34 31.7 +1.5**
comp=Z,37nm,0.7s
FORT Forrest 30.23 189 *e*P **P** **15 34 31.4 +1.2**
comp=Z,41nm,0.7s
QIZ Qiongzhong 30.48 312 P **P** **15 34 34.7 +2.1**
QIZ S **S** **15 39 33.0 +0.7**
QIZ LR LR
comp=Z,86nm,27.2s
STKA Stephens Creek 31.81 167 P **P** **15 34 43.9 -0.3**
comp=Z,5.9nm,0.3s,baz=338,slow=10.0,SNR=37
STKA LR LR 15 49 13.4
comp=Z,857nm,18.6s,baz=135,slow=39
STKA Stephens Creek 31.81 167 *e*P **P** **15 34 43.8 -0.5**
comp=Z,4.7nm,0.3s
STKA Stephens Creek 31.81 167 *e*P **P** **15 34 43.7 -0.5**
STKA pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 31.81 167 *e*P **P** **15 34 43.7 -0.5**
comp=Z,1.2nm,0.4s
STKA P **P** **15 34 43.9 -0.3**
BBOO Buckleboo 31.90 176 *e*P **P** **15 34 45.4 +0.4**
comp=Z,239nm,0.9s
KMBL Kambalda 32.30 199 *e*P **P** **15 34 49.9 +1.4**
comp=Z,187nm,0.6s
KLBR Kellerberrin 34.03 204 *e*P **P** **15 35 04.5 +0.9**
comp=Z,18nm,0.5s
ARMA Armidale 34.10 151 *e*P **P** **15 35 05.1 +0.7**
ARMA Armidale 34.10 151 *e*P **P** **15 35 05.0 +0.7**
comp=Z,8.5nm,0.6s
NWAO Narrogin (SRO) 35.41 204 *e*P **P** **15 35 16.6 +1.1**
NWAO pmax pmax
comp=Z,9.0nm,0.7s
NWAO Narrogin (SRO) 35.41 204 *e*P **P** **15 35 16.6 +1.1**
comp=Z,9.5nm,0.7s
NJ2 Nanjing 35.52 338 *e*P **P** **15 35 18.1 +1.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
WHN Wuhan 36.13 331 P **P** **15 35 22.0 +0.3**
ARPS Mount Arapiles 36.59 169 *e*P **P** **15 35 26.0 +0.5**
comp=Z,34nm,0.5s
MJAR Matsushiro Arr 37.44 6 P **P** **15 35 30.6 -2.2**
comp=Z,1.0nm,0.7s,baz=185,slow=11,SNR=5.4
MJAR LR LR 15 48 03.0
comp=Z,140nm,18.8s,baz=190,slow=32
MJAR Matsushiro Arr 37.44 6 P **P** **15 35 30.6 -2.2**
MJAR Matsushiro Arr 37.44 6 P **P** **15 35 30.6 -2.2**
GYA Guiyang 37.49 318 ⇑ *i*P **P** **15 35 35.6 +2.1**
GYA pP **pP** **15 35 44.2 +1.9**
GYA PP PP 15 37 03.6 +4.2
GYA S **S** **15 41 22.5 +1.8**
GYA ScP **ScP** **15 41 38.0 +1.0**
GYA SS SS 15 43 55.6 -10
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,620nm,16.6s
GYA LR LR
comp=E,580nm,17.0s
GYA LR LR
comp=Z,730nm,16.8s
KSRS Korea Array 38.44 353 LR LR 15 50 57.7
comp=Z,109nm,18.6s,baz=170,slow=35
ENH Enshi 38.47 326 *e*P **P** **15 35 41.2 -0.4**
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 39.00 301 P **P** **15 35 46.2 0.0**
comp=Z,2.8nm,0.8s,baz=112,slow=6.4,SNR=24
CMAR Chiang Mai Arr 39.00 301 P **P** **15 35 46.2 0.0**
CMAR Chiang Mai Arr 39.00 301 P **P** **15 35 46.2 0.0**
CHTO Chiang Mai 39.15 302 *e*P **P** **15 35 46.4 -1.1**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 39.15 302 *e*P **P** **15 35 46.4 -1.1**
comp=Z,3.4nm,0.7s
KMI Kunming 39.39 313 P **P** **15 35 49.1 -0.6**
KMI pP **pP** **15 35 57.7 -0.7**
KMI sP **sP** **15 36 00.7 -1.3**
KMI PP PP 15 37 26.1 +5.7
KMI S **S** **15 41 52.0 +2.3**
KMI sS **sS** **15 42 04.2 0.0**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI pmax pmax
comp=Z,50nm,3.9s
KMI LR LR
comp=N,130nm,23.0s
KMI LR LR
comp=E,160nm,19.5s
KMI LR LR
comp=Z,110nm,24.4s
XAN Xi'an 41.66 329 P **P** **15 36 07.2 -0.9**
XAN pP **pP** **15 36 14.4 -2.5**
XAN pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 42.37 321 P **P** **15 36 13.7 -0.2**
CD2 pP **pP** **15 36 18.2 -4.5**
CD2 sP sP 15 36 20.7 -5.6
CD2 PP PP 15 37 55.0 +2.6
CD2 S **S** **15 42 36.0 +2.5**
CD2 SS SS 15 45 38.6 -4.6
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,130nm,7.1s
CD2 LR LR
comp=N,290nm,7.1s
CD2 LR LR
comp=Z,200nm,6.0s
BJT Baijiatuau 43.63 341 *e*P **P** **15 36 23.8 -0.1**
BJT pmax pmax
comp=Z,31nm,0.6s
BJT Baijiatuau 43.63 341 *e*P **P** **15 36 23.8 -0.1**
comp=Z,31nm,0.6s
BJI Beijing 43.65 341 P **P** **15 36 23.9 -0.1**
BJI pmax pmax
comp=Z,51nm,1.1s
BJI LR LR
comp=Z,71nm,17.9s
USRK Ussuriysk Arra 44.85 358 P **P** **15 36 32.9 -0.7**
comp=Z,3.9nm,0.8s,baz=186,slow=12,SNR=6.6
CN2 Changchun 45.01 352 *e*P P 15 36 38.8 +3.9
MDJ Mudanjiang 45.38 356 P **P** **15 36 39.7 +1.9**
MDJ pP **pP** **15 36 46.1 -0.6**
MDJ sP **sP** **15 36 48.6 -1.7**
MDJ PcP **PcP** **15 38 17.8 +0.9**
MDJ PP PP 15 38 26.4 +2.0
MDJ ScP **ScP** **15 42 09.9 +2.2**
MDJ PcS **PcS** **15 42 12.1 +1.4**
MDJ S **S** **15 43 21.6 +4.6**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,80nm,4.7s
LZH Lanzhou 45.94 326 *e*P **P** **15 36 43.7 +1.1**
LZH pP **pP** **15 36 50.0 -1.5**
LZH sP **sP** **15 36 53.0 -2.1**
LZH pmax pmax
comp=Z,15nm,1.0s
YUK Yuzh-Kuril'sk 46.02 12 P P 15 36 48.1 +5.3
YUK S S 15 43 34.7 +8.6
YUK *e*SSS 15 47 45.2
YUK pmax pmax
comp=Z,748nm,1.6s
YUK MLR MLR
comp=Z,270nm,22.0s
HHC Hu-ho-hao-te 46.03 337 *e*P **P** **15 36 43.9 +0.7**
HHC pP **pP** **15 36 53.7 +1.6**
HHC sP **sP** **15 36 57.8 +2.1**
HHC PcP **PcP** **15 38 19.7 +0.3**
HHC PP PP 15 38 32.3 +0.8
HHC S **S** **15 43 27.1 +0.4**
HHC sS **sS** **15 43 43.1 +1.7**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=N,260nm,14.3s
HHC LR LR
comp=E,390nm,14.5s
HHC LR LR
comp=Z,160nm,15.6s
HABR Khabarovsk 49.12 1 *e*P **P** **15 37 05.3 -1.6**
HABR *e**PP **pP** **15 37 14.9 -1.0**
HABR *e**SP **sP** **15 37 19.1 -0.3**
HABR *e* 15 38 28.3
HABR S **S** **15 44 08.7 -1.5**
HABR *e**SS **sS** **15 44 25.4 +0.5**
HABR *e* 15 46 54.5
HABR *e*SS SS 15 47 41.5 -0.3
HABR *e*SSS SKiKP 15 48 59.2 +10
HABR pmax pmax
comp=E,45nm,2.2s
HABR pmax pmax
comp=Z,31nm,2.2s
HABR pmax pmax
comp=N,24nm,2.5s
HABR MLR MLR
comp=Z,72nm,17.0s
LSA Lhasa 50.51 311 P **P** **15 37 18.8 +0.4**
LSA pmax pmax
comp=Z,40nm,0.8s
LSA Lhasa 50.51 311 *e*P **P** **15 37 18.9 +0.5**
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 50.51 311 *e*P **P** **15 37 18.9 +0.5**
comp=Z,27nm,0.8s
GTA Gaotai 50.54 326 *e*P **P** **15 37 18.4 +0.3**
GTA pP **pP** **15 37 28.0 +0.9**
GTA sP **sP** **15 37 32.5 +1.9**
GTA S **S** **15 44 32.0 +1.4**
GTA sS **sS** **15 44 49.1 +3.7**
GTA SS SS 15 48 04.6 -0.6
GTA pmax pmax
comp=Z,9.0nm,1.4s
GTA pmax pmax
comp=Z,68nm,4.7s
GTA LR LR
comp=N,94nm,16.9s
GTA LR LR
comp=E,99nm,15.9s
GTA LR LR
comp=Z,120nm,15.0s
TAPN Taplejung 52.15 306 *e*P **P** **15 37 30.3 -0.2**
comp=Z,17nm,0.4s
ODAN Odare 52.20 305 *e*P **P** **15 37 30.6 -0.3**
comp=Z,50nm,0.5s
ODAN Odare 52.20 305 *e*P **P** **15 37 30.6 -0.3**
RAMN Ramite 52.89 305 *e*P **P** **15 37 35.9 0.0**
comp=Z,81nm,0.6s
RAMN Ramite 52.89 305 *e*P **P** **15 37 35.9 0.0**
JIRN Jiri 53.51 306 *e*P **P** **15 37 40.4 -0.2**
comp=Z,22nm,0.5s
JIRN Jiri 53.51 306 *e*P **P** **15 37 40.4 -0.2**
ULN Ulaanbaatar 53.69 338 *e*P **P** **15 37 41.6 +0.3**
ULN pmax pmax
comp=Z,22nm,1.4s
ULN Ulaanbaatar 53.69 338 *e*P **P** **15 37 41.6 +0.3**
comp=Z,22nm,1.4s
GUN Gumba 53.86 306 *e*P **P** **15 37 42.9 -0.3**
comp=Z,30nm,0.5s
GUN Gumba 53.86 306 *e*P **P** **15 37 42.9 -0.3**
SONM Songino Array 53.91 338 P **P** **15 37 43.3 +0.4**
comp=Z,5.2nm,1.0s,baz=152,slow=7.2,SNR=30
SONM PcP **PcP** **15 38 48.1 -0.1**
comp=Z,2.5nm,0.6s,baz=154,slow=3.7,SNR=8.1
SONM LR LR 16 02 23.6
comp=Z,103nm,18.7s,baz=177,slow=38
SONM Songino Array 53.91 338 P **P** **15 37 43.3 +0.4**
SONM 15 38 48.1
SONM Songino Array 53.91 338 P **P** **15 37 43.3 +0.4**
SONM PcP **PcP** **15 38 48.1 -0.1**
PKI Pulchoki 54.10 305 *e*P **P** **15 37 44.3 -0.7**
comp=Z,15nm,0.6s
PKI Pulchoki 54.10 305 *e*P **P** **15 37 44.3 -0.7**
PKI Pulchoki 54.10 305 *e*P **P** **15 37 44.3 -0.7**
RPZ Rata Peaks 54.22 147 P **P** **15 37 45.7 +0.5**
comp=Z,12nm,0.8s,baz=26,slow=13,SNR=4.4
RPZ Rata Peaks 54.22 147 P **P** **15 37 45.7 +0.5**
KKN Kakani 54.30 306 *e*P **P** **15 37 45.7 -0.5**
comp=Z,17nm,0.5s
KKN Kakani 54.30 306 *e*P **P** **15 37 45.7 -0.5**
KKN Kakani 54.30 306 *e*P **P** **15 37 45.7 -0.5**
DMN Daman 54.37 305 *e*P **P** **15 37 46.3 -0.5**
comp=Z,25nm,0.5s
DMN Daman 54.37 305 *e*P **P** **15 37 46.3 -0.5**
URZ Urewera 54.64 138 P **P** **15 37 49.3 +1.1**
comp=Z,9.4nm,0.7s,baz=173,slow=18,SNR=19
URZ Urewera 54.64 138 P **P** **15 37 49.3 +1.1**
GKN Gorkha 54.90 306 *e*P **P** **15 37 50.1 -0.5**
comp=Z,28nm,0.7s
GKN Gorkha 54.90 306 *e*P **P** **15 37 50.1 -0.5**
KOLN Koldanda 55.66 305 *e*P **P** **15 37 56.0 -0.1**
comp=Z,58nm,0.6s
KOLN Koldanda 55.66 305 *e*P **P** **15 37 56.0 -0.1**
DANN Dangsing 55.75 306 *e*P **P** **15 37 56.6 -0.2**
comp=Z,51nm,0.7s
DANN Dangsing 55.75 306 *e*P **P** **15 37 56.6 -0.2**
HYB Hyderabad 57.04 291 *i*P **P** **15 38 04.0 -1.9**
ZAK Zakamensk 57.17 337 *e*P **P** **15 38 06.2 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
PETK Petropavlovsk- 57.43 17 P **P** **15 38 08.1 +0.2**
comp=Z,6.2nm,0.9s,baz=153,slow=4.2,SNR=6.1
PETK Petropavlovsk- 57.43 17 P **P** **15 38 08.1 +0.2**
PETK Petropavlovsk- 57.43 17 P **P** **15 38 08.1 +0.2**
TLY Talaya 58.08 339 *e*P **P** **15 38 12.0 -0.6**
TLY *e* 15 39 10.5
TLY pmax pmax
comp=Z,7.0nm,0.9s
IRK Irkutsk 58.32 339 *e*P **P** **15 38 14.3 +0.1**
IRK pmax pmax
comp=Z,22nm,1.3s
MOY Mondy 59.07 337 *e*P **P** **15 38 20.3 +0.7**
MOY pmax pmax
comp=Z,15nm,1.8s
WMQ Urumqi 60.35 323 P **P** **15 38 29.0 +0.5**
WMQ pP **pP** **15 38 37.0 -0.7**
WMQ sP **sP** **15 38 40.0 -1.2**
WMQ PcP **PcP** **15 39 12.0 -1.4**
WMQ pmax pmax
comp=Z,38nm,0.8s
WMQ pmax pmax
comp=Z,140nm,4.0s
BOD Bodaibo 60.51 348 *e*P **P** **15 38 28.8 -0.4**
BOD pmax pmax
comp=Z,7.0nm,1.3s
DDI Dehra Dun 61.10 306 *e*x x 15 38 34.1
YAK Yakutsk 62.76 358 *e*P **P** **15 38 43.2 -1.1**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 62.76 358 *e*P **P** **15 38 43.6 -0.7**
comp=Z,12nm,0.4s
MK31 Makanchi Array 65.17 324 *e*P **P** **15 39 00.7 +0.2**
MK31 Makanchi Array 65.17 324 *e*P **P** **15 39 00.7 +0.2**
MKAR Makanchi Array 65.17 324 P **P** **15 39 00.9 +0.4**
comp=Z,21nm,0.6s,baz=111,slow=8.4,SNR=289
MKAR Makanchi Array 65.17 324 *ce*P **P** **15 39 00.9 +0.4**
MKAR pmax pmax
comp=Z,21nm,0.6s
MKAR Makanchi Array 65.17 324 P **P** **15 39 00.9 +0.4**
KSH Kashi 66.03 314 P **P** **15 39 07.9 +1.5**
KSH *e*pP **pP** **15 39 15.3 -0.3**
KSH *e*sP **sP** **15 39 19.1 0.0**
KSH *e*PcP **PcP** **15 39 38.1 +1.3**
KSH *e*ScP 15 43 39.3
KSH *e*PcS 15 43 41.9
KSH *e*S **S** **15 47 50.8 -1.9**
KSH *e*ScS **SKSac** **15 48 58.1 -2.6**
KSH pmax pmax
comp=Z,19nm,2.2s
KSH LR LR
comp=N,130nm,6.2s
KSH LR LR
comp=E,140nm,5.8s
KSH LR LR
comp=Z,120nm,5.7s
KZA Kyzart 67.53 317 P **P** **15 39 17.4 +1.2**
SNR=18
KZA P **P** **15 39 17.4 +1.2**
SNR=18
TKM2 Tokmak 2 67.63 318 P **P** **15 39 17.1 +0.5**
SNR=21
TKM2 P **P** **15 39 17.1 +0.5**
SNR=21
TKM2 Tokmak 2 67.63 318 *i*P **P** **15 39 17.1 +0.5**
TKM2 Tokmak 2 67.63 318 *e*P **P** **15 39 16.8 +0.2**
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 67.75 331 *e*P **P** **15 39 15.8 -1.0**
ZALV Zalesovo Beam 67.75 331 P **P** **15 39 15.9 -0.9**
comp=Z,4.4nm,0.7s,baz=124,slow=6.9,SNR=32
ZALV Zalesovo Beam 67.75 331 P **P** **15 39 15.9 -0.9**
ZALV Zalesovo Beam 67.75 331 P **P** **15 39 15.9 -0.9**
KBK Karagaybulak 67.97 317 P **P** **15 39 19.4 +0.7**
SNR=8.2
KBK P **P** **15 39 19.4 +0.7**
SNR=8.2
CHMS Chumysh 68.23 318 P **P** **15 39 20.4 +0.2**
SNR=5.3
CHMS P **P** **15 39 20.4 +0.2**
SNR=5.3
AAK Ala-Archa 68.27 317 *e*P **P** **15 39 20.8 +0.3**
AAK pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 68.27 317 *e*P **P** **15 39 20.8 +0.3**
comp=Z,30nm,1.0s
USP Ospenovka 68.51 318 P **P** **15 39 22.3 +0.4**
SNR=22
USP P **P** **15 39 22.3 +0.4**
SNR=22
AML Almayashu 68.62 316 P **P** **15 39 24.0 +1.0**
SNR=26
AML P **P** **15 39 24.0 +1.0**
SNR=26
EKS2 Erkin-Say 68.77 317 P **P** **15 39 24.5 +0.9**
SNR=20
EKS2 P **P** **15 39 24.5 +0.9**
SNR=20
EKS2 Erkin-Say 68.77 317 *e*P **P** **15 39 24.2 +0.6**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 68.77 317 *e*P **P** **15 39 24.2 +0.6**
comp=Z,16nm,0.8s
NVS Novosibirsk 69.02 332 ⇓ *i*P **P** **15 39 23.0 -1.7**
NVS *e*S **S** **15 48 26.8 -0.9**
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,26nm,1.4s
NVS smax smax
comp=N,14nm,3.3s
NVS smax smax
comp=E,55nm,3.6s
KURK Kurchatov 69.23 326 ⇓ *i*P **P** **15 39 25.5 -0.6**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK Kurchatov 69.23 326 *e*P **P** **15 39 26.1 0.0**
comp=Z,23nm,0.8s
KURK Kurchatov 69.23 326 P **P** **15 39 26.1 0.0**
comp=Z,202nm,0.7s,SNR=20
KBL Kabul 69.64 307 *e*P **P** **15 39 28.8 -0.6**
KBL pmax pmax
comp=Z,17nm,0.7s
KBL Kabul 69.64 307 *e*P **P** **15 39 28.8 -0.6**
comp=Z,17nm,0.7s
KK31 Karatay Array 71.17 316 P **P** **15 39 38.0 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.5s

BILL	**Bilibino**	**72.37**	**12**	*e*P		**P**	**15 39 45.8**	**+0.9**
BILL				*e*			15 40 01.8	
BILL				*e*			15 42 20.5	
BILL				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BVA0	**Borovoye Array**	**74.83**	**326**	P		**P**	**15 39 59.1**	**-0.5**
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**74.90**	**326**	P		**P**	**15 40 00.1**	**+0.1**
	comp=Z,229nm,0.6s,SNR=18							
VNDA	**Vanda**	**78.14**	**174**	*e*P		**P**	**15 40 19.1**	**+1.1**
VNDA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
VNDA	**Vanda**	**78.14**	**174**	*e*P		**P**	**15 40 19.1**	**+1.1**
	comp=Z,8.4nm,1.0s							
AB31	**Akbulak array**	**79.94**	**320**	*i* P		**P**	**15 40 27.7**	**-0.7**
AB31				pmax	pmax			
	comp=Z,8.0nm,0.6s							
SVE	**Sverdlovsk**	**81.37**	**328**	⇑ *i* P		**P**	**15 40 36.0**	**+0.2**
SVE				pmax	pmax			
	comp=Z,14nm,0.8s							
MAW	**Mawson**	**81.93**	**201**	P		**P**	**15 40 38.1**	**-0.4**
	comp=Z,6.5nm,0.9s,baz=71,slow=7.4,SNR=6.0							
MAW				LR	LR		16 13 05.5	
	comp=Z,94nm,19.2s,baz=283,slow=33							
MAW	**Mawson**	**81.93**	**201**	P		**P**	**15 40 38.1**	**-0.4**
MAW	**Mawson**	**81.93**	**201**	P		**P**	**15 40 38.1**	**-0.4**
KDAK	**Kodiak Island**	**82.17**	**31**	P		**P**	**15 40 39.6**	**-0.4**
	comp=Z,14nm,0.8s,baz=216,slow=5.3,SNR=4.9							
KDAK	**Kodiak Island**	**82.17**	**31**	P		**P**	**15 40 39.6**	**-0.4**
KDAK	**Kodiak Island**	**82.17**	**31**	P		**P**	**15 40 39.6**	**-0.4**
ARU	**Arti**	**82.39**	**327**	*c i* P		**P**	**15 40 40.1**	**-1.1**
ARU							15 43 46.4	
ARU				S		**S**	**15 50 54.0**	**-1.3**
ARU				SS		**SS**	**15 56 09.6**	**-6.8**
ARU				pmax	pmax			
	comp=Z,17nm,1.0s							
ARU	**Arti**	**82.39**	**327**	*e*P		**P**	**15 40 40.4**	**-0.8**
	comp=Z,11nm,0.6s							
ARU	**Arti**	**82.39**	**327**	P		**P**	**15 40 40.8**	**-0.4**
	comp=Z,120nm,0.7s,SNR=6.1							
SOKR	**Solikamsk**	**83.99**	**330**	*e*P		**P**	**15 40 49.7**	**+0.4**
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
COLA	**College**	**85.93**	**25**	*e*P		**P**	**15 40 58.3**	**-0.7**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
COLA	**College**	**85.93**	**25**	*e*P		**P**	**15 40 58.3**	**-0.7**
	comp=Z,4.9nm,0.6s							
ILAR	**Eielson Array**	**86.32**	**25**	P		**P**	**15 40 59.8**	**-1.2**
	comp=Z,5.1nm,0.7s,baz=253,slow=4.9,SNR=80							
ILAR	**Eielson Array**	**86.32**	**25**	P		**P**	**15 40 59.8**	**-1.2**
ILAR	**Eielson Array**	**86.32**	**25**	P		**P**	**15 40 59.8**	**-1.2**
QSPA	**South Pole Qui**	**89.10**	**180**	*e*P		**P**	**15 41 15.3**	**+0.8**
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**91.88**	**22**	P		**P**	**15 41 25.6**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=280,slow=5.4,SNR=6.2							
INK	**Inuvik**	**91.88**	**22**	P		**P**	**15 41 25.6**	**-1.5**
INK	**Inuvik**	**91.88**	**22**	P		**P**	**15 41 25.6**	**-1.5**
OBN	**Obninsk**	**94.65**	**325**	*e*P		**P**	**15 41 38.3**	**-1.9**
OBN				*e*			15 45 29.3	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ARCES	**ARCESS Array B**	**97.01**	**340**	P		**P**	**15 41 49.7**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=69,slow=5.9,SNR=5.8							
ARCES	**ARCESS Array B**	**97.01**	**340**	P		**P**	**15 41 49.7**	**-1.0**
ARCES	**ARCESS Array B**	**97.01**	**340**	P		**P**	**15 41 49.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**130.73**	**287**	PKP		**PKPdf**	**15 47 30.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=68,slow=2.0,SNR=13							
TORD	**Torodi Ar. Bea**	**130.73**	**287**	PKP		**PKPdf**	**15 47 30.9**	**-0.6**
PLCA	**Paso Flores**	**133.20**	**155**	PKP		**PKPdf**	**15 47 35.7**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=214,slow=3.6,SNR=3.0							
PLCA	**Paso Flores**	**133.20**	**155**	PKIKP		**PKPdf**	**15 47 35.7**	**+0.1**
PLCA	**Paso Flores**	**133.20**	**155**	PKP		**PKPdf**	**15 47 35.7**	**+0.1**
LVC	**Limon Verde**	**148.07**	**138**	*e*PKPbc		**PKPab**	**15 48 08.2**	**-0.6**
CPUP	**Villa Florida**	**151.05**	**160**	PKPbc		**PKPbc**	**15 48 13.7**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=170,slow=1.8,SNR=11							
CPUP	**Villa Florida**	**151.05**	**160**	PKIKP		**PKPbc**	**15 48 13.7**	**+0.7**
CPUP	**Villa Florida**	**151.05**	**160**	PKPbc		**PKPbc**	**15 48 13.7**	**+0.7**
LPAZ	**La Paz**	**152.71**	**129**	PKPbc		**PKPbc**	**15 48 19.3**	**+1.5**
	comp=Z,4.6nm,0.6s,baz=226,slow=1.7,SNR=19							
LPAZ	**La Paz**	**152.71**	**129**	*e*PKIKP		**PKPbc**	**15 48 19.1**	**+1.3**
LPAZ	**La Paz**	**152.71**	**129**	*e*PKPbc		**PKPbc**	**15 48 19.1**	**+1.3**

*DJA **05** 15:57:56,0.64S×133.36E,h62km,MLv4.4/11*
IDC 05 15:57:50.9±2.1,0.66S×133.24E,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.5/18,mbtmp3.7/5,ML3.5/2,MS3.4/1, Ms1 3.4/1,ms1mx2.5/30,Error ellipse: s-maj=85.3km s-min=25.6km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.87**	**203**	P	P	16 02 12.6	-0.4
	0.1nm,0.3s,baz=34,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**19.19**	**177**	P	P	16 02 16.5	0.0
	0.1nm,0.3s,baz=357,slow=12,SNR=11						
WRA				LR	LR	16 09 39.0	
	comp=Z,113nm,19.9s,baz=45,slow=37						
ASAR	**Alice Springs**	**22.88**	**178**	P	P	16 02 56.4	+0.1
	2.0nm,0.5s,baz=360,slow=12,SNR=44						
STKA	**Stephens Creek**	**32.03**	**167**	P	P	16 04 19.6	+0.2
	0.7nm,0.5s,baz=352,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	16 08 32.0	-0.1
	0.3nm,0.6s,baz=113,slow=7.9,SNR=4.1						

IDC 05 15:58:26.9±2.0,0.19S×132.93E,h0km,mb3.9/4, mb1 4.1/6,mb1mx3.8/18,mbtmp4.0/6,ML4.3/2,Error ellipse: s-maj=79.1km s-min=19.8km az=70.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.19**	**202**	P	P	16 02 52.5	+0.1
	0.5nm,0.3s,baz=24,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**19.68**	**176**	P	P	16 02 57.6	-0.3
	1.1nm,0.3s,baz=354,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.36**	**178**	P	P	16 03 38.0	+0.7
	8.3nm,0.7s,baz=359,slow=11,SNR=24						
STKA	**Stephens Creek**	**32.57**	**166**	P	P	16 04 59.5	-0.6
	1.4nm,0.6s,baz=4.5,slow=9.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P	P	16 05 48.4	-0.2
	0.2nm,0.7s,baz=108,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**64.31**	**324**	P	P	16 09 04.5	0.0
	0.8nm,0.7s,baz=110,slow=7.3,SNR=10						

IDC 05 15:59:44.3±2.2,0.36S×133.00E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.8/17,mbtmp4.0/5,ML3.8/1,Error ellipse: s-maj=92.8km s-min=21.5km az=66.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.51**	**176**	P	P	16 04 13.7	+0.4
	0.3nm,0.3s,baz=355,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**23.19**	**178**	P	P	16 04 53.1	+0.2
	5.0nm,0.5s,baz=356,slow=11,SNR=11						
STKA	**Stephens Creek**	**32.39**	**166**	P	P	16 06 15.4	-0.4
	4.9nm,0.6s,baz=334,slow=7.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	P	16 07 07.2	0.0
	0.5nm,0.8s,baz=120,slow=6.9,SNR=4.8						
MKAR	**Makanchi Array**	**64.49**	**324**	P	P	16 10 22.8	-0.2
	0.7nm,0.8s,baz=110,slow=7.0,SNR=5.8						

WEL 05 16:20:54.6±0.4,34.89S×178.52E,h220km±4km,ML4.2/13, Error ellipse: s-maj=12.1km s-min=5.5km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.67**	**184**	PN	Pn	16 21 42.0	+0.4
MXZ				SN	S	16 22 18.2	-0.1
MWZ	**Matawai**	**3.53**	**193**	*e*PN	Pn	16 21 51.5	+0.1
MWZ				*e*SN	S	16 22 37.2	+1.1
URZ	**Urewera**	**3.55**	**198**	PN	Pn	16 21 52.4	+0.7
URZ				*e*SN	S	16 22 36.7	+0.3
CNGZ	**Carnagh Statio**	**3.59**	**184**	*e*PN	Pn	16 21 51.8	-0.4
RAHZ	**Arahi**	**4.18**	**196**	*e*PN	Pn	16 22 00.1	+0.8
MHGZ	**Mahia Peninsul**	**4.28**	**186**	*e*PN	Pn	16 22 01.2	+0.7
NMHZ	**Naumai**	**4.42**	**198**	PN	Pn	16 22 02.8	+0.5
BKZ	**Black Stump Fm**	**4.56**	**200**	PN	Pn	16 22 04.3	+0.2
MCHZ	**McNeill Hill**	**4.77**	**197**	PN	Pn	16 22 07.8	+1.2
BHHZ	**Black Hill Sta**	**4.99**	**202**	PN	Pn	16 22 10.2	+0.8
KAHZ	**Kahuranaki**	**5.07**	**194**	*e*PN	Pn	16 22 09.6	-0.7
MTVZ	**Mangateitei**	**5.10**	**208**	*e*PN	Pn	16 22 12.2	+1.4
PXZ	**Pawanui**	**5.30**	**194**	*e*PN	Pn	16 22 11.4	-1.7
PXZ				*e*SN	S	16 23 14.0	-1.3
PNHZ	**Pukenui**	**5.34**	**200**	*e*PN	Pn	16 22 13.1	-0.7
TSZ	**Takapari Road**	**5.54**	**201**	*e*PN	Pn	16 22 15.7	-0.7
PRHZ	**Porangahau**	**5.57**	**195**	*e*PN	Pn	16 22 15.2	-1.5
WAZ	**Wanganui**	**5.61**	**209**	*e*PN	Pn	16 22 17.9	+0.7
BFZ	**Birch Farm**	**6.05**	**197**	*e*PN	Pn	16 22 21.6	-1.2
MRZ	**Mangatainoka R**	**6.21**	**201**	*e*PN	Pn	16 22 23.6	-1.2
MRZ				SN	S	16 23 33.2	-3.4
HOWZ	**Holdsworth Sta**	**6.45**	**201**	*e*PN	Pn	16 22 26.4	-1.5
OGMZ	**Otaki Gorge**	**6.48**	**203**	*e*PN	Pn	16 22 26.8	-1.5
KIW	**Kapiti Island**	**6.61**	**205**	*e*PN	Pn	16 22 28.8	-1.1
MTW	**Mount Morrison**	**6.69**	**200**	*e*PN	Pn	16 22 29.1	-1.9
CAW	**Cannon Point**	**6.78**	**203**	*e*PN	Pn	16 22 30.1	-1.9
DUWZ	**D'Urville Isla**	**6.93**	**210**	*e*PN	Pn	16 22 33.4	-0.7
SNZO	**South Karori**	**7.08**	**204**	*e*PN	Pn	16 22 34.5	-1.4
TCW	**Tory Channel**	**7.14**	**207**	*e*PN	Pn	16 22 35.0	-1.7
PLWZ	**Palliser**	**7.14**	**200**	*e*PN	Pn	16 22 35.0	-1.8
NNZ	**Nelson**	**7.50**	**211**	*e*PN	Pn	16 22 39.8	-1.6
QRZ	**Quartz Range**	**7.58**	**217**	*e*PN	Pn	16 22 41.8	-0.7
THZ	**Tophouse**	**8.15**	**211**	*e*PN	Pn	16 22 48.0	-1.8
KHZ	**Kahutara**	**8.46**	**206**	PN	Pn	16 22 51.0	-2.6
DSZ	**Denniston Nort**	**8.64**	**216**	*e*PN	Pn	16 22 54.5	-1.6
LTZ	**Lake Taylor**	**9.26**	**210**	*e*PN	Pn	16 23 02.7	-1.3
MQZ	**McQueen's Vall**	**9.90**	**206**	*e*PN	Pn	16 23 09.2	-3.0

IDC 05 16:21:47.7±12.0,0.62N×132.90E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/18,mbtmp3.5/3,Error ellipse: s-maj=191.6km s-min=129.7km az=163.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.48**	**176**	P	P	16 26 26.6	-0.7
	0.2nm,0.4s,baz=356,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**24.16**	**178**	P	P	16 27 05.7	-0.1
	1.1nm,0.6s,baz=0.7,slow=5.3,SNR=31						
STKA	**Stephens Creek**	**33.35**	**166**	P	P	16 28 28.3	+0.6
	1.2nm,0.9s,baz=343,slow=9.5,SNR=3.0						

IDC 05 16:36:51.9±2.4,0.77S×133.24E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.3/16,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=131.2km s-min=32.0km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**177**	P	P	16 41 16.6	+0.3
	0.1nm,0.3s,baz=356,slow=12,SNR=7.2						
SONM	**Songino Array**	**53.75**	**338**	P	P	16 46 16.2	0.0
	0.3nm,0.9s,baz=165,slow=6.0,SNR=2.7						
MKAR	**Makanchi Array**	**64.97**	**324**	P	P	16 47 33.4	-0.3
	0.3nm,0.5s,baz=115,slow=8.0,SNR=5.2						

*ISK **05** 16:38:30.9,39.08N×28.61E,h19km,MD2.9*
*DDA **05** 16:38:30.9,39.10N×28.59E,h8km,MD2.8*
*CSEM **05** 16:38:30.9±0.1,39.11N×28.63E,h10km,MD2.8,Error ellipse: s-maj=2.7km s-min=2.4km az=91.0*
*ISCJB **05** 16:38:31.1±0.5,39.10N±0.03×28.63E±0.04,h13km±5km, Error ellipse: s-maj=5.7km s-min=3.9km az=144.8*
ISC 05 16:38:31.1±0.8,39.11N±0.03×28.61E±0.03,h11km±7km, n38,σ0s40/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.11**	**129**	*i* P	**Pg**	**16 38 33.9**	**-0.1**
DEMI				*i* S	**Sg**	**16 38 36.0**	**-0.1**
DEMI	**Demirci**	**0.11**	**129**	*i* P	**Pg**	**16 38 33.9**	**-0.1**
DEMI				*i* S	**Sg**	**16 38 36.0**	**-0.1**
DURS	**Dursunbey**	**0.50**	**348**	*i* P	**Pg**	**16 38 40.5**	**-0.4**
DURS	**Dursunbey**	**0.50**	**348**	*i* P	**Pg**	**16 38 40.5**	**-0.4**
KULA	**Kula-Manisa**	**0.60**	**176**	*e*Pg	**Pg**	**16 38 42.6**	**-0.1**
KULA				*e*Sg	**Sg**	**16 38 51.0**	**+0.4**
KULA	**Kula-Manisa**	**0.60**	**176**	*e*Pg	**Pg**	**16 38 42.6**	**-0.1**
KULA				*e*Sg	**Sg**	**16 38 51.0**	**+0.4**
MANT	**Manisa**	**0.62**	**184**	*i* P	**Pg**	**16 38 43.3**	**+0.1**
MANT				*i* S	**Sg**	**16 38 51.2**	**-0.2**
MANT	**Manisa**	**0.62**	**184**	*i* P	**Pg**	**16 38 43.3**	**+0.1**
MANT				*i* S	**Sg**	**16 38 51.2**	**-0.2**
AKHS	**Akhisar**	**0.66**	**250**	*i* P	**Pg**	**16 38 43.7**	**-0.2**
AKHS	**Akhisar**	**0.66**	**250**	*i* P	**Pg**	**16 38 43.7**	**-0.2**
AKS	**Akhisar**	**0.66**	**250**	*e*PG	**Pg**	**16 38 43.6**	**-0.3**
AKS	**Akhisar**	**0.66**	**250**	*e*Pg	**Pg**	**16 38 43.6**	**-0.3**
GDZ	**Gediz**	**0.68**	**92**	*i* P	**Pg**	**16 38 44.6**	**+0.3**
GDZ				*i* S	**Sg**	**16 38 52.6**	**-0.6**
GDZ	**Gediz**	**0.68**	**92**	*i* P	**Pg**	**16 38 44.6**	**+0.3**
GDZ				*i* S	**Sg**	**16 38 52.6**	**-0.6**
BALB	**Balikesir**	**0.77**	**313**	*e*PG	**Pb**	**16 38 47.1**	**+0.5**
BALB				*e*SG	**Sn**	**16 38 58.9**	**-0.7**
BALB	**Balikesir**	**0.77**	**313**	*e*Pg	**Pb**	**16 38 47.1**	**+0.5**
BALB				*e*Sg	**Sn**	**16 38 58.9**	**-0.7**
BALY	**Balya**	**0.99**	**310**	*i* P	**Pn**	**16 38 51.3**	**+0.3**
BALY				*i* S	**Sb**	**16 39 04.2**	**+0.8**
BALY	**Balya**	**0.99**	**310**	*i* P	**Pn**	**16 38 51.3**	**+0.3**
BALY				*i* S	**Sb**	**16 39 04.2**	**+0.8**
ALT	**Altintas**	**1.17**	**92**	*e*PN	**Pg**	**16 38 53.6**	**0.0**
ALT	**Altintas**	**1.17**	**92**	*e*Pn	**Pg**	**16 38 53.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.17**	**350**	*e*PN	**Pn**	**16 38 53.4**	**0.0**
KCTX				*e*SN	**Sg**	**16 39 09.3**	**+0.5**
KCTX	**Karacabey (Bur**	**1.17**	**350**	*e*Pn	**Pn**	**16 38 53.4**	**0.0**
KCTX				*e*Sn	**Sg**	**16 39 09.3**	**+0.5**
GONE	**Gonen-Balikesi**	**1.18**	**323**	*e*PN	**Pn**	**16 38 53.5**	**+0.1**
GONE				*e*SN	**Sb**	**16 39 08.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.18**	**323**	*e*Pn	**Pn**	**16 38 53.6**	**+0.1**
GONE				*e*Sn	**Sb**	**16 39 08.7**	**0.0**
IZM	**Izmir**	**1.27**	**236**	*e*PN	**Pb**	**16 38 54.9**	**-0.2**
IZM	**Izmir**	**1.27**	**236**	*e*Pn	**Pb**	**16 38 54.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**9**	*e*PN	**Pn**	**16 38 53.9**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.27**	**9**	*e*Pn	**Pn**	**16 38 53.9**	**-0.9**
CAVI	**Cavuskoy**	**1.45**	**41**	*e*PN	**Pn**	**16 38 57.1**	**-0.2**
CAVI	**Cavuskoy**	**1.45**	**41**	*e*Pn	**Pn**	**16 38 57.1**	**-0.2**
ARMT	**Armutlu**	**1.47**	**8**	*e*PN	**Pn**	**16 38 57.3**	**-0.2**
ARMT	**Armutlu**	**1.47**	**8**	*e*Pn	**Pn**	**16 38 57.3**	**-0.2**
YLV	**Yalova**	**1.57**	**22**	*e*PN	**Pn**	**16 38 59.4**	**+0.5**
YLV	**Yalova**	**1.57**	**22**	*e*Pn	**Pn**	**16 38 59.4**	**+0.5**
ADVT	**Abdulvahap**	**1.58**	**33**	*e*PN	**Pn**	**16 38 58.7**	**-0.4**
ADVT	**Abdulvahap**	**1.58**	**33**	*e*Pn	**Pn**	**16 38 58.7**	**-0.4**
GULT	**Gulveren**	**1.98**	**47**	*e*PN	**Pn**	**16 39 04.7**	**+0.1**
GULT	**Gulveren**	**1.98**	**47**	*e*Pn	**Pn**	**16 39 04.7**	**+0.1**

*DJA **05** 16:48:30,0.86S×133.26E,h62km,MLv4.3/8*
IDC 05 16:48:22.4±1.0,0.64S×133.54E,h0km,mb4.0/5, mb1 4.2/7,mb1mx3.9/17,mbtmp4.0/7,ML4.2/2,Error ellipse: s-maj=57.3km s-min=16.9km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.02**	**204**	P	P	16 52 45.6	-0.4
	0.5nm,0.3s,baz=18,slow=12,SNR=14						
WRA	**Warramunga Arr**	**19.20**	**178**	P	P	16 52 48.4	+0.3
	0.7nm,0.3s,baz=356,slow=12,SNR=9.5						
WRA				S	Sn	16 56 14.1	-11
	0.1nm,0.3s,baz=10,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**22.89**	**179**	P	P	16 53 28.3	+0.3
	2.0nm,0.4s,baz=359,slow=12,SNR=40						
STKA	**Stephens Creek**	**31.99**	**167**	P	P	16 54 50.3	-0.2
	1.8nm,0.7s,baz=340,slow=7.5,SNR=7.0						
SONM	**Songino Array**	**53.75**	**338**	P	P	16 57 47.4	+0.8
	0.2nm,0.7s,baz=127,slow=5.7,SNR=2.5						
MKAR	**Makanchi Array**	**65.04**	**324**	P	P	16 59 04.6	0.0
	1.8nm,0.6s,baz=112,slow=8.2,SNR=31						
ZALV	**Zalesovo Beam**	**67.60**	**331**	P	P	16 59 20.2	-0.7
	0.4nm,0.8s,baz=96,slow=7.6,SNR=4.3						
ILAR	**Eielson Array**	**86.12**	**25**	P	P	17 01 05.0	-0.2
	0.3nm,0.6s,baz=243,slow=5.4,SNR=5.8						

*BJI **05** 16:54:36.9,4.09S×100.74E,h27km,mB5.4/45,mb5.2/60, Ms5.3/61,Ms7 5.1/57*
*IDC **05** 16:54:39.2±0.5,3.55S×100.73E,h0km,mb4.9/28, mb1 5.0/29,mb1mx4.9/32,mbtmp4.9/29,ML5.1/1,MS4.7/19, Ms1 4.7/19,ms1mx4.4/40,Error ellipse: s-maj=17.3km s-min=8.8km az=43.0*

*DJA **05** 16:54:42,3.66S×100.48E,h21km,Mw5.1/39*
*ISCJB **05** 16:54:43.3±0.6,3.54S±0.03×100.70E±0.03,h39km±4km, mb5.2/115,MS4.9/45,Error ellipse: s-maj=6.3km s-min=3.7km az=40.5*
*MOS **05** 16:54:43.1±1.1,3.39S×100.86E,h33km,mb5.4/37, MS4.8/11,Error ellipse: s-maj=9.7km s-min=5.0km az=111.6*
*NEIC **05** 16:54:43.3±0.2,3.53S×100.72E,mb5.2/37,Error ellipse: s-maj=6.6km s-min=4.0km az=54.0*
ISC 05 16:54:43.6±0.4,3.56S±0.04×100.65E±0.04,h28km±1km, h28km:pP-P,n514,σ1s26/572,mb5.2/115,MS4.9/45, 57C-57D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.67**	**29**	P	**Pn**	**16 55 11.7**	**+0.6**
KSI	**Kapahiang**	**1.94**	**93**	P	**Pn**	**16 55 14.6**	**-0.2**
MNAI	**Manna**	**2.44**	**109**	P	**Pb**	**16 55 27.0**	**+0.3**
PPI	**Padang Panjang**	**3.10**	**355**	P	**Pn**	**16 55 30.8**	**+0.2**
RGRI	**Rengat**	**3.61**	**28**	P	**Pn**	**16 55 39.4**	**+1.7**
LWLI	**Liwa**	**3.70**	**113**	P	**Pn**	**16 55 39.1**	**+0.1**
BKNI	**Bangkinang**	**3.88**	**6**	P	**Pn**	**16 55 42.0**	**+0.6**
KLI	**Kotabumi**	**4.39**	**107**	P	Pb	16 55 54.5	-5.6
MNSI	**Mandailing Nat**	**4.46**	**346**	P	**Pn**	**16 55 48.7**	**-0.6**
RBSI	**Rajabasa**	**5.56**	**114**	P	Pb	16 56 12.7	-7.3
PPBI	**Pangkal Pinang**	**5.66**	**76**	P	**Pn**	**16 56 08.0**	**+2.2**
	90nm,1.0s,2μm1.2nm						
CGJI	**Cibinong**	**5.87**	**121**	P	**Pn**	**16 56 07.2**	**-1.5**
	431nm,1.1s,6μm1.8nm						
SBJI	**Serang**	**6.03**	**115**	P	Pb	16 56 22.1	-5.8
KGM	**Kluang**	**6.15**	**26**	P	**Pn**	**16 56 14.4**	**+1.8**
MYKOM	**Kota Tinggi**	**6.21**	**31**	P	**Pn**	**16 56 15.3**	**+1.9**
MYKOM	**Kota Tinggi**	**6.21**	**31**	P	**Pn**	**16 56 14.8**	**+1.4**
	196nm,1.4s,2μm2.9nm						
TNG	**Tangerang**	**6.52**	**114**	P	Pn	16 56 21.9	+4.3
	1μm,1.1s,23μm8.9nm						
TNG	**Tangerang**	**6.52**	**114**	P	Pn	16 56 22.0	+4.3
	2μm,0.8s,35μm14nm						
PSI	**Prapat**	**6.55**	**345**	P	**Pn**	**16 56 17.6**	**-0.6**
	66nm,0.9s,1μm0.6nm						
TSI	**Tuntungan**	**7.32**	**343**	P	**Pn**	**16 56 31.6**	**+3.0**
	238nm,1.0s,4μm1.2nm						
TPTI		**7.61**	**333**	P	**Pn**	**16 56 34.5**	**+1.8**
	151nm,0.8s,12μm0.6nm						
LEM	**Lembang**	**7.66**	**115**	P	**Pn**	**16 56 34.9**	**+1.4**
	296nm,1.2s,6μm1.5nm						
IPM	**Ipoh**	**8.00**	**3**	*e*P	**Pn**	**16 56 39.0**	**+1.0**
	115nm,1.1s						
IPM	**Ipoh**	**8.00**	**3**	P	**Pn**	**16 56 41.1**	**+3.1**
IPM	**Ipoh**	**8.00**	**3**	P	**Pn**	**16 56 40.5**	**+2.5**
	94nm,1.2s,1μm0.4nm						
CISI	**Cisompet, Garu**	**8.16**	**119**	P	**Pn**	**16 56 38.5**	**-1.8**
	421nm,0.7s,6μm1.5nm						
KULM	**Kulim**	**8.79**	**0**	*e*P	**Pn**	**16 56 48.7**	**-0.2**
	112nm,1.0s						
KULM	**Kulim**	**8.79**	**0**	P	**Pn**	**16 56 50.0**	**+1.0**
KULM	**Kulim**	**8.79**	**0**	P	**Pn**	**16 56 49.9**	**+1.0**
	126nm,1.3s,1μm0.5nm						
BJII	**Banjamegara**	**9.77**	**113**	P	**Pn**	**16 57 04.0**	**+1.7**
	141nm,1.5s,2μm						
SMRI	**Semarang**	**10.35**	**110**	P	Pn	16 57 13.7	+3.4
	323nm,1.1s						
BSI	**Banda Aceh**	**10.47**	**329**	P	**Pn**	**16 57 11.6**	**-0.3**
	138nm,1.0s,1μm						
KSM	**Kuching**	**10.88**	**63**	P	Pn	16 57 20.7	+3.2
PBKI	**Pangkalan Bun**	**11.04**	**86**	P	Pn	16 57 24.5	+4.8
	211nm,1.1s,2μm						
NGJI	**Ngawi**	**11.41**	**110**	P	**Pn**	**16 57 22.1**	**-2.7**
	4μm,0.9s,83μm						
STKI	**Sintang**	**11.41**	**72**	P	Pn	16 57 32.5	+7.7
PCJI	**Pacitan**	**11.44

comp=Z,409nm,20.2s,baz=309,slow=38
FITZ Fitzroy Crossi 28.42 122 eP P 17 00 35.5 -0.5
comp=Z,41nm,1.1s
FITZ eS **S** **17 05 21.2 -0.5**
FITZ Fitzroy Crossi 28.42 122 eP P 17 00 35.0 -1.0
comp=Z,39nm,1.1s
FITZ P **P** **17 00 35.6 -0.5**
KMI Kunming 28.59 4 P **P** **17 00 37.9 +0.2**
KMI pP **pP** **17 00 48.1 +2.1**
KMI sP **sP** **17 00 51.4 +2.0**
KMI PP PP 17 01 33.2 -9.4
KMI S **S** **17 05 25.9 +1.3**
KMI sS **sS** **17 05 39.5 +1.3**
KMI pmax pmax
comp=Z,25nm,1.2s
KMI pmax pmax
comp=Z,230nm,6.0s
KMI LR LR
comp=N,840nm,18.4s
KMI LR LR
comp=E,3μm,17.1s
KMI LR LR
comp=Z,4μm,14.2s
HYB Hyderabad 30.17 314 *i* P **P** **17 00 52.0 +0.4**
SHL Shillong 30.18 344 ⇑*i*P **P** **17 00 52.0 +0.2**
SHL ex x 17 06 04.0
GYA Guiyang 30.41 11 ⇑*i*P **P** **17 00 55.6 +1.9**
GYA pP **pP** **17 01 03.7 +1.7**
GYA PP PP 17 01 56.8 -5.9
GYA S **S** **17 05 55.3 +2.4**
GYA ScP **ScP** **17 07 33.9 0.0**
GYA SS SS 17 07 35.6 -28
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,820nm,16.5s
GYA LR LR
comp=E,780nm,17.1s
GYA LR LR
comp=Z,930nm,16.9s
MNGI Mangalore 30.44 303 eP **P** **17 00 54.7 +0.7**
MNGI AMb AMB 17 01 02.1
comp=Z,32nm,0.4s
ODAN Odare 32.85 338 eP **P** **17 01 16.3 +1.0**
comp=Z,254nm,1.0s
ODAN Odare 32.85 338 eP **P** **17 01 16.3 +1.0**
NWAO Narrogin (SRO) 33.08 154 LR LR 17 14 28.2
comp=Z,2μm,18.6s,baz=329,slow=36
TAPN Taplejung 33.17 339 eP **P** **17 01 19.8 +1.6**
comp=Z,506nm,0.9s
TAPN Taplejung 33.17 339 eP **P** **17 01 19.8 +1.6**
RAMN Ramite 33.23 337 eP **P** **17 01 20.2 +1.5**
comp=Z,131nm,1.1s
RAMN Ramite 33.23 337 eP **P** **17 01 20.2 +1.5**
JIRN Jiri 34.03 337 eP **P** **17 01 27.0 +1.2**
comp=Z,200nm,0.9s
JIRN Jiri 34.03 337 eP **P** **17 01 27.0 +1.2**
PKI Pulchoki 34.26 336 eP **P** **17 01 28.7 +0.9**
comp=Z,68nm,1.0s
PKI Pulchoki 34.26 336 eP **P** **17 01 28.7 +0.9**
PKI Pulchoki 34.26 336 eP **P** **17 01 28.7 +0.9**
LSA Lhasa 34.30 345 P **P** **17 01 28.7 +0.5**
LSA Lhasa 34.30 345 eP **P** **17 01 28.6 +0.4**
LSA *e* 17 01 37.6
LSA pmax pmax
comp=Z,124nm,1.4s
LSA Lhasa 34.30 345 eP **P** **17 01 28.6 +0.4**
comp=Z,124nm,1.4s
LSA *e* 17 01 37.6
POO Poona 34.33 311 eP **P** **17 01 29.0 +0.9**
GUN Gumba 34.37 336 eP **P** **17 01 30.0 +1.3**
comp=Z,261nm,0.9s
GUN Gumba 34.37 336 eP **P** **17 01 30.0 +1.3**
CD2 Chengdu 34.41 5 P **P** **17 01 27.6 -1.0**
CD2 pP **pP** **17 01 35.8 -1.2**
CD2 sP **sP** **17 01 39.4 -1.0**
CD2 PP PP 17 02 44.1 -2.9
CD2 S **S** **17 06 53.7 -1.3**
CD2 sS **sS** **17 07 07.3 -1.5**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,350nm,4.3s
CD2 LR LR
comp=N,4μm,16.0s
CD2 LR LR
comp=Z,3μm,14.3s
DMN Daman 34.42 335 eP **P** **17 01 30.1 +1.0**
comp=Z,91nm,0.9s
DMN Daman 34.42 335 eP **P** **17 01 30.1 +1.0**
KKN Kakani 34.51 336 eP **P** **17 01 30.7 +0.9**
comp=Z,157nm,0.8s
KKN Kakani 34.51 336 eP **P** **17 01 30.7 +0.9**
KKN Kakani 34.51 336 eP **P** **17 01 30.7 +0.9**
ENH Enshi 34.69 14 eP **P** **17 01 29.9 -1.1**
comp=Z,16nm,0.4s
GKN Gorkha 34.97 335 eP **P** **17 01 34.7 +1.1**
comp=Z,104nm,0.8s
GKN Gorkha 34.97 335 eP **P** **17 01 34.7 +1.1**
KOLN Koldanda 35.22 333 eP **P** **17 01 36.9 +1.0**
comp=Z,99nm,0.8s
KOLN Koldanda 35.22 333 eP **P** **17 01 36.9 +1.0**
DANN Dangsing 35.65 334 eP **P** **17 01 40.7 +1.1**
comp=Z,234nm,0.9s
DANN Dangsing 35.65 334 eP **P** **17 01 40.7 +1.1**
WHN Wuhan 36.35 20 P **P** **17 01 45.8 +0.5**
WHN S **S** **17 07 29.1 +4.3**
WHN LR LR
comp=N,7μm,13.3s
WHN LR LR
comp=E,2μm,9.9s
WHN LR LR
comp=Z,9μm,14.6s
WRA Warramunga Arr 36.66 119 P **P** **17 01 47.0 -1.1**
comp=Z,9.5nm,0.3s,baz=284,slow=7.8,SNR=109
WRA PcP **PcP** **17 04 11.4 +0.5**
comp=Z,1.2nm,0.5s,baz=320,slow=2.0,SNR=3.7
WRA S **S** **17 07 29.6 -0.4**
comp=Z,5.5nm,1.0s,baz=293,slow=16,SNR=8.7
WRA LR LR 17 17 38.0
comp=Z,476nm,19.7s,baz=295,slow=38
WRA Warramunga Arr 36.66 119 P **P** **17 01 47.0 -1.1**
WRA 17 04 11.4
WRA S **S** **17 07 29.6 -0.4**
WRA Warramunga Arr 36.66 119 P **P** **17 01 47.0 -1.1**
WRA PcP **PcP** **17 04 11.4 +0.5**
WRA S **S** **17 07 29.6 -0.4**
WRAB Tennant Creek 36.67 119 eP **P** **17 01 47.0 -1.2**
WRAB pmax pmax
comp=Z,14nm,0.6s
WRAB Tennant Creek 36.67 119 eP **P** **17 01 47.0 -1.2**
comp=Z,14nm,0.6s
WRAB Tennant Creek 36.67 119 P **P** **17 01 47.0 -1.2**
comp=Z,160nm,0.4s,SNR=64
WB2 Warramunga Arr 36.67 119 eP **P** **17 01 46.9 -1.4**
FORT Forrest 37.44 139 eP **P** **17 01 55.2 +0.6**
comp=Z,9.1nm,0.5s
FORT Forrest 37.44 139 eP **P** **17 01 54.5 -0.1**
comp=Z,149nm,1.6s
ASAR Alice Springs 37.83 125 P **P** **17 01 57.6 -0.4**
comp=Z,18nm,0.4s,baz=302,slow=7.6,SNR=181
ASAR PP PP 17 03 26.8 +2.0
comp=Z,7.3nm,0.9s,baz=308,slow=11,SNR=4.6
ASAR PcP **PcP** **17 04 14.8 +0.4**
comp=Z,1.8nm,0.5s,baz=292,slow=2.4,SNR=4.5
ASAR S **S** **17 07 49.0 +1.4**
comp=Z,5.5nm,1.2s,baz=295,slow=15,SNR=8.0
ASAR Alice Springs 37.83 125 P **P** **17 01 57.6 -0.4**
ASAR 17 03 26.8
ASAR 17 04 14.8
ASAR S **S** **17 07 49.0 +1.4**
ASAR Alice Springs 37.83 125 P **P** **17 01 57.6 -0.4**
ASAR PP PP 17 03 26.8 +2.0
ASAR PcP **PcP** **17 04 14.8 +0.4**
ASAR S **S** **17 07 49.0 +1.4**
AS31 Alice Springs 37.83 125 eP **P** **17 01 57.3 -0.7**
XAN Xi'an 38.21 11 P **P** **17 02 00.3 -0.7**
XAN pP **pP** **17 02 08.5 -0.9**
XAN PP PP 17 03 29.9 +1.1
XAN S S 17 08 00.1 +7.1
XAN pmax pmax
comp=Z,43nm,0.9s
XAN pmax pmax
comp=Z,56nm,5.0s
XAN LR LR
comp=N,2μm,14.3s
XAN LR LR
comp=Z,900nm,13.7s
NDI New Delhi 39.18 326 eP **P** **17 02 08.0 -1.2**
NDI ex x 17 07 53.0
NJ2 Nanjing 39.42 25 eP **P** **17 02 11.6 +0.4**
NJ2 pP **pP** **17 02 19.5 -0.1**
NJ2 sP **sP** **17 02 22.3 -0.7**
NJ2 PP PP 17 03 45.4 +3.4
NJ2 S **S** **17 08 12.5 +1.2**
NJ2 sS **sS** **17 08 28.5 +3.4**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,280nm,5.4s
NJ2 LR LR
comp=N,2μm,14.5s
NJ2 LR LR
comp=E,1μm,14.3s
NJ2 LR LR
comp=Z,7μm,14.9s
LZH Lanzhou 39.56 4 ⇑P **P** **17 02 12.7 +0.2**
LZH pP **pP** **17 02 22.0 +1.1**
LZH sP **sP** **17 02 24.0 -0.3**
LZH S **S** **17 08 15.0 +1.4**
LZH sS **sS** **17 08 28.1 +0.7**
LZH pmax pmax
comp=Z,85nm,1.0s
LZH pmax pmax
comp=Z,570nm,4.0s
LZH LR LR
comp=N,3μm,13.6s
LZH LR LR
comp=E,4μm,18.1s
LZH LR LR
comp=Z,4μm,15.6s
SSE Sheshan 39.64 28 P **P** **17 02 12.0 -1.0**
SSE PP PP 17 03 43.1 -1.4
SSE S **S** **17 08 13.6 -1.0**
SSE sS **sS** **17 08 26.9 -1.6**
SSE pmax pmax
comp=Z,64nm,0.8s
SSE pmax pmax
comp=Z,220nm,4.3s
SSE LR LR
comp=N,2μm,16.2s
SSE LR LR
comp=E,2μm,16.2s
SSE LR LR
comp=Z,3μm,13.9s
DDI Dehra Dun 40.02 329 eP **P** **17 02 17.2 +0.9**
DDI ex x 17 06 35.8
TIA Tai'an 42.46 20 ⇑P **P** **17 02 35.1 -1.1**
TIA pmax pmax
comp=Z,30nm,1.0s
TIA pmax pmax
comp=Z,290nm,6.4s
TIA LR LR
comp=N,2μm,13.7s
TIA LR LR
comp=E,3μm,14.7s
TIA LR LR
comp=Z,4μm,14.2s
GTA Gaotai 42.77 359 ⇑P **P** **17 02 39.0 +0.2**
GTA pP **pP** **17 02 49.1 +1.8**
GTA sP **sP** **17 02 53.1 +2.4**
GTA S **S** **17 09 00.4 -0.7**
GTA sS **sS** **17 09 16.3 +1.2**
GTA SS SS 17 12 05.9 -6.9
GTA pmax pmax
comp=Z,52nm,1.4s
GTA pmax pmax
comp=Z,430nm,5.0s
GTA LR LR
comp=N,2μm,16.2s
GTA LR LR
comp=E,2μm,19.0s
GTA LR LR
comp=Z,2μm,16.1s
BTO Baotou 44.79 10 eP **P** **17 02 53.5 -1.5**
BJT Baijiatuau 45.65 17 eP **P** **17 03 01.9 +0.2**
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 45.65 17 eP **P** **17 03 01.9 +0.2**
comp=Z,21nm,0.6s
BJI Beijing 45.67 17 P **P** **17 03 02.1 +0.2**
BJI PP PP 17 04 50.8 +1.6
BJI pmax pmax
comp=Z,56nm,0.8s
BJI pmax pmax
comp=Z,430nm,7.3s
BJI LR LR
comp=N,3μm,16.0s
BJI LR LR
comp=E,740nm,16.0s
BJI LR LR
comp=Z,1μm,17.3s
JNU Nakatsue 46.36 36 eP **P** **17 03 07.0 -0.5**
comp=Z,49nm,1.1s
PMG Port Moresby 46.54 100 P **P** **17 03 08.9 -0.3**
comp=Z,4.4nm,0.4s,baz=133,slow=3.2,SNR=9.0
PMG Port Moresby 46.54 100 P **P** **17 03 07.0 -2.2**
PMG pmax pmax
comp=Z,28nm,1.1s
PMG Port Moresby 46.54 100 P **P** **17 03 07.0 -2.2**
comp=Z,28nm,1.1s
PMG P **P** **17 03 08.9 -0.3**
CTA Charters Tower 47.36 114 P **P** **17 03 15.2 -0.4**
comp=Z,12nm,0.8s,baz=294,slow=10,SNR=5.9
CTA Charters Tower 47.36 114 eP **P** **17 03 15.5 -0.1**
comp=Z,8.8nm,0.6s
CTA eS S 17 09 47.9 -20
CTA Charters Tower 47.36 114 P **P** **17 03 15.2 -0.4**
CTA Charters Tower 47.36 114 P **P** **17 03 15.2 -0.4**
STKA Stephens Creek 47.64 131 P **P** **17 03 18.2 +0.7**
comp=Z,7.1nm,0.7s,baz=300,slow=7.8,SNR=24
STKA LR LR 17 24 43.1
comp=Z,2μm,21.6s,baz=298,slow=38
STKA Stephens Creek 47.64 131 eP **P** **17 03 18.1 +0.6**
comp=Z,8.8nm,0.6s
STKA Stephens Creek 47.64 131 eP **P** **17 03 17.6 +0.1**
STKA pmax pmax
comp=Z,7.0nm,1.2s
STKA Stephens Creek 47.64 131 P **P** **17 03 18.2 +0.7**
STKA pmax pmax
comp=Z,7.0nm,0.7s
STKA MLR MLR
comp=Z,2μm,21.6s
STKA Stephens Creek 47.64 131 eP **P** **17 03 17.6 +0.1**
comp=Z,7.1nm,1.2s
STKA P **P** **17 03 18.2 +0.7**
KSAR Wonju Array Be 48.01 29 P **P** **17 03 20.2 0.0**
KSAR Wonju Array Be 48.01 29 P **P** **17 03 20.2 0.0**
KSRS Korea Array 48.04 29 P **P** **17 03 20.2 -0.2**
comp=Z,42nm,1.0s,baz=220,slow=8.4,SNR=65
KSRS LR LR 17 25 44.1
comp=Z,697nm,18.1s,baz=225,slow=39
KSRS Korea Array 48.04 29 P **P** **17 03 20.2 -0.2**
KSRS pmax pmax
comp=Z,42nm,1.0s
KSRS MLR MLR
comp=Z,697nm,18.1s
KBL Kabul 48.17 325 eP **P** **17 03 20.9 -0.9**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 48.17 325 eP **P** **17 03 20.9 -0.9**
comp=Z,7.6nm,0.8s
KSH Kashi 48.51 334 ⇑*i*P **P** **17 03 23.0 -1.2**
KSH e pP **pP** **17 03 30.5 -2.3**
KSH e PcP **PcP** **17 04 50.0 0.0**
KSH e PP PP 17 05 14.5 -2.8
KSH e ScP **ScP** **17 08 42.1 -0.9**
KSH e PcS **PcS** **17 08 44.1 -2.0**
KSH e S **S** **17 10 19.0 -5.0**
KSH e ScS **ScS** **17 13 11.6 -3.7**
KSH e SS SS 17 13 44.2 -10
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,86nm,3.3s
KSH LR LR
comp=N,130nm,4.3s
KSH LR LR
comp=E,300nm,7.7s
KSH LR LR
comp=Z,980nm,18.6s
WMQ Urumqi 48.59 348 P **P** **17 03 25.7 +1.0**
WMQ pP **pP** **17 03 33.7 +0.5**
WMQ sP **sP** **17 03 36.5 -0.1**
WMQ PcP **PcP** **17 04 51.7 +1.6**
WMQ S **S** **17 10 24.3 -0.5**
WMQ SS SS 17 13 49.3 -6.0
WMQ pmax pmax
comp=Z,110nm,0.8s
WMQ pmax pmax
comp=Z,410nm,4.0s
WMQ LR LR
comp=N,730nm,22.0s
WMQ LR LR
comp=E,760nm,21.8s
WMQ LR LR
comp=Z,710nm,25.5s
SNY Shenyang 49.76 22 ⇓P **P** **17 03 33.0 -0.6**
SNY pmax pmax
comp=Z,26nm,1.7s
SNY pmax pmax
comp=Z,300nm,6.9s
SNY LR LR
comp=N,2μm,14.2s
SNY LR LR
comp=E,2μm,15.7s
SNY LR LR
comp=Z,2μm,14.7s
KZA Kyzart 50.95 336 P **P** **17 03 44.0 +0.9**
SNR=14
KZA P **P** **17 03 44.0 +0.9**
SNR=14
SONM Songino Array 51.43 5 P **P** **17 03 47.1 +0.9**
comp=Z,62nm,0.9s,baz=185,slow=9.0,SNR=468
SONM Songino Array 51.43 5 P **P** **17 03 47.1 +0.9**
SONM Songino Array 51.43 5 P **P** **17 03 47.1 +0.9**
TKM2 Tokmak 2 51.51 337 P **P** **17 03 47.8 +0.7**
SNR=60
TKM2 P **P** **17 03 47.8 +0.7**
SNR=60
TKM2 Tokmak 2 51.51 337 eP **P** **17 03 47.6 +0.5**
TKM2 pmax pmax
comp=Z,57nm,0.9s
TKM2 Tokmak 2 51.51 337 eP **P** **17 03 47.5 +0.5**
comp=Z,58nm,0.9s
ULN Ulaanbaatar 51.52 6 eP **P** **17 03 47.5 +0.5**
ULN *e* 17 03 55.8
ULN pmax pmax
comp=Z,66nm,1.0s
ULN Ulaanbaatar 51.52 6 eP **P** **17 03 47.5 +0.5**
comp=Z,66nm,1.0s
ULN *e* 17 03 55.8
KBK Karagaybulak 51.55 336 P **P** **17 03 48.6 +1.3**
SNR=21
KBK P **P** **17 03 48.6 +1.3**
SNR=21
AML Almayashu 51.65 335 P **P** **17 03 49.1 +0.8**
SNR=30
AML P **P** **17 03 49.1 +0.8**
SNR=30
AAK Ala-Archa 51.72 336 P **P** **17 03 49.5 +1.0**
SNR=10
AAK P **P** **17 03 49.5 +1.0**
SNR=10
AAK Ala-Archa 51.72 336 eP **P** **17 03 49.3 +0.7**
AAK pmax pmax
comp=Z,212nm,1.6s
AAK Ala-Archa 51.72 336 eP **P** **17 03 49.3 +0.7**
comp=Z,212nm,1.6s
AAK Ala-Archa 51.72 336 P **P** **17 03 49.0 +0.4**
comp=Z,78nm,1.2s,SNR=11
FRU Bishkek 51.84 336 ⇑*i*P **P** **17 03 51.0 +1.7**
FRU pmax pmax
comp=Z,185nm,2.5s
CHMS Chumysh 51.92 336 P **P** **17 03 50.3 +0.4**
SNR=11
CHMS P **P** **17 03 50.3 +0.4**
SNR=11
EKS2 Erkin-Say 52.04 335 P **P** **17 03 52.0 +1.1**
SNR=55
EKS2 P **P** **17 03 52.0 +1.1**
SNR=55
EKS2 Erkin-Say 52.04 335 eP **P** **17 03 51.7 +0.8**
EKS2 pmax pmax
comp=Z,40nm,0.8s
EKS2 Erkin-Say 52.04 335 eP **P** **17 03 51.7 +0.8**
comp=Z,40nm,0.8s
CN2 Changchun 52.16 23 ⇑P **P** **17 03 50.5 -1.1**
CN2 epP **pP** **17 03 58.1 -2.1**
CN2 eS **S** **17 11 12.2 -2.1**
CN2 SS SS 17 14 47.9 -4.2
CN2 pmax pmax
comp=Z,80nm,0.9s
CN2 pmax pmax
comp=Z,700nm,12.0s
CN2 LR LR
comp=N,1μm,15.0s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
USP Ospenovka 52.24 336 P **P** **17 03 52.8 +0.5**
SNR=32
USP P **P** **17 03 52.8 +0.5**
SNR=32
MK31 Makanchi Array 52.70 344 P **P** **17 03 55.3 -0.3**
MK31 pmax pmax
comp=Z,60nm,0.9s
MK31 Makanchi Array 52.70 344 eP **P** **17 03 55.5 -0.1**
MKAR Makanchi Array 52.70 344 P **P** **17 03 55.7 +0.1**
comp=Z,40nm,0.8s,baz=148,slow=7.9,SNR=368
MKAR LR LR 17 31 13.1
comp=Z,557nm,18.1s,baz=160,slow=42
MKAR Makanchi Array 52.70 344 *i* P **P** **17 03 55.7 +0.1**
MKAR pmax pmax
comp=Z,40nm,0.8s
MKAR Makanchi Array 52.70 344 P **P** **17 03 55.7 +0.1**
MAJO Matsushiro 53.09 38 eP **P** **17 03 57.1 -1.6**
MAJO *e* 17 04 05.1
MAJO pmax pmax
comp=Z,84nm,1.6s
MAJO Matsushiro 53.09 38 eP **P** **17 03 57.1 -1.6**
comp=Z,84nm,1.6s
MAJO *e* 17 04 05.1
MAT Matsushiro 53.09 38 P **P** **17 03 56.9 -1.8**
MAT S **S** **17 11 29.0 +1.7**
MJAR Matsushiro Arr 53.09 38 P **P** **17 03 57.1 -1.6**
comp=Z,20nm,1.0s,baz=222,slow=8.4,SNR=40
MJAR Matsushiro Arr 53.09 38 P **P** **17 03 57.1 -1.6**
MJAR Matsushiro Arr 53.09 38 P **P** **17 03 57.1 -1.6**
ZAK Zakamensk 53.78 2 eP **P** **17 04 03.4 -0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
YNG Young 53.83 131 eP **P** **17 04 04.9 +0.7**
comp=Z,18nm,1.0s
KK31 Karatay Array 53.83 333 *i* P **P** **17 04 03.1 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 53.83 333 eP **P** **17 04 03.4 -0.6**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 53.83 333 eP **P** **17 04 03.4 -0.6**
comp=Z,8.4nm,0.8s
OPO Ambohidratompo 54.32 250 P **P** **17 04 09.4 +1.2**
comp=Z,1.5nm,0.7s,baz=10,slow=7.2,SNR=4.1
OPO Ambohidratompo 54.32 250 P **P** **17 04 09.4 +1.2**
VLA Vladivostok 54.35 28 ⇓*i*P **P** **17 04 04.9 -2.8**
VLA *i* 17 05 08.1
VLA *i* 17 06 07.0
VLA S **S** **17 11 39.8 -4.3**
VLA pmax pmax
comp=Z,43nm,1.3s
MDJ Mudanjiang 54.51 25 P **P** **17 04 08.8 -0.1**
MDJ pP **pP** **17 04 14.9 -2.6**
MDJ sP **sP** **17 04 17.8 -3.1**
MDJ PcP **PcP** **17 05 11.9 -0.1**
MDJ PP PP 17 06 12.3 +0.9
MDJ ScP **ScP** **17 09 08.7 +0.1**
MDJ PcS **PcS** **17 09 11.9 +0.4**
MDJ S **S** **17 11 50.8 +4.6**
MDJ SS SS 17 15 31.4 +2.2
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,210nm,7.0s

MDJ LR LR
comp=N,650nm,12.8s
MDJ LR LR
comp=E,2µm,15.4s
MDJ LR LR
comp=Z,2µm,10.3s
MDJ Mudanjiang 54.51 25 *e*P **P 17 04 08.5 -0.3**
comp=Z,35nm,1.4s
CAN Canberra 54.70 132 *e*P **P 17 04 10.8 +0.3**
CAN Canberra 54.70 132 *e*P **P 17 04 10.8 +0.3**
ARMA Armidale 54.98 125 *e*P **P 17 04 14.5 +1.8**
ARMA Armidale 54.98 125 *e*P **P 17 04 13.6 +0.9**
comp=Z,77nm,1.6s
MOY Mondy 55.02 0 *e*P **P 17 04 12.3 -0.3**
MOY pmax pmax
comp=Z,53nm,2.8s
TLY Talaya 55.09 2 *e*P **P 17 04 12.8 -0.2**
TLY *e* 17 06 16.4
TLY *e*SS SS 17 15 33.4 -4.8
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,906nm,15.0s
TLY Talaya 55.09 2 *e*P **P 17 04 13.6 +0.6**
comp=Z,23nm,0.9s
TLY Talaya 55.09 2 P **P 17 04 13.7 +0.7**
comp=Z,151nm,0.9s,SNR=5.4
HIA Hailar 55.17 15 *e*P **P 17 04 12.9 -0.7**
HIA pmax pmax
comp=Z,47nm,1.4s
HIA Hailar 55.17 15 *e*P **P 17 04 12.9 -0.7**
comp=Z,47nm,1.4s
USRK Ussuriysk Arra 55.24 27 P **P 17 04 13.9 -0.2**
comp=Z,38nm,0.7s,baz=217,slow=4.8,SNR=68
USRK LR LR 17 31 01.0
comp=Z,747nm,18.1s,baz=151,slow=40
IBAF Bafgh 55.30 313 *e*Pn **P 17 04 15.0 -0.1**
IRK Irkutsk 55.68 3 *e*P **P 17 04 17.4 +0.2**
IRK pmax pmax
comp=Z,88nm,2.2s
CIT Chita 56.45 10 *e*P **P 17 04 23.2 +0.4**
CIT *e* 17 04 31.8
ISHV Shirvan 57.09 320 *e*P **P 17 04 28.3 +0.5**
KURK Kurchatov 57.28 344 P **P 17 04 28.1 -0.4**
comp=Z,32nm,0.9s,baz=162,slow=6.6,SNR=241
KURK PcP **PcP 17 05 23.2 +0.6**
comp=Z,4.6nm,0.8s,baz=150,slow=3.3,SNR=4.3
KURK LR LR 17 33 31.5
comp=Z,808nm,20.6s,baz=165,slow=41
KURK Kurchatov 57.28 344*c i*P **P 17 04 28.7 +0.1**
KURK pmax pmax
comp=Z,65nm,0.9s
KURK Kurchatov 57.28 344 P **P 17 04 28.1 -0.4**
KURK *e*P pP 17 04 28.3 -9.0
KURK PcP **PcP 17 05 23.2 +0.6**
KURK Kurchatov 57.28 344 P **P 17 04 28.7 +0.1**
comp=Z,386nm,0.9s,SNR=50
IANJ Anjilo 58.48 316 *e*Pn **P 17 04 36.8 -0.9**
ZAA0 Zalesovo Array 58.81 349 *e*P **P 17 04 39.0 -0.2**
ZALV Zalesovo Beam 58.81 349 P **P 17 04 39.1 -0.2**
comp=Z,57nm,0.9s,baz=160,slow=4.7,SNR=253
ZALV LR LR 17 33 26.3
comp=Z,268nm,18.3s,baz=318,slow=40
ZALV Zalesovo Beam 58.81 349 P **P 17 04 39.1 -0.2**
ZALV Zalesovo Beam 58.81 349 P **P 17 04 39.1 -0.2**
IKIA Kiasar 59.03 316 *e*P **P 17 04 41.5 +0.1**
KLR Kul'dur 59.09 23 *e*P **P 17 04 38.7 -2.6**
KLR *e*S S 17 12 53.5 +6.9
KLR pmax pmax
comp=E,54nm,2.0s
KLR pmax pmax
comp=Z,150nm,2.0s
IFIR Firoozkooh 59.38 315 *e*P **P 17 04 44.2 +0.3**
IALA Alasht 59.57 316 *e*P **P 17 04 44.7 -0.6**
IDMV Damavand 59.86 315 *e*P **P 17 04 47.4 +0.1**
HABR Khabarovsk 59.87 26*e*P P 17 04 43.5 -3.2
HABR *e**PP pP 17 04 53.5 -1.9
HABR *e**SP sP 17 04 57.7 -1.1
HABR *e* 17 05 30.0
HABR *e* 17 06 55.3
HABR *e*S **S 17 12 52.6 -4.0**
HABR *e*S S 17 13 05.1 +8.4
HABR *e**SS sS 17 13 09.8 -1.3
HABR *e* 17 14 31.1
HABR *e*SS **SS 17 16 50.0 -3.4**
HABR pmax pmax
comp=Z,76nm,2.1s
HABR pmax pmax
comp=E,55nm,2.1s
HABR pmax pmax
comp=N,34nm,2.1s
HABR MLR MLR
comp=Z,1µm,22.0s
NVS Novosibirsk 59.97 348⇑ *i*P P 17 04 42.9 -4.3
NVS pmax pmax
comp=N,32nm,1.5s
NVS pmax pmax
comp=E,23nm,1.5s
NVS pmax pmax
comp=Z,71nm,1.5s
NVS pmax pmax
comp=Z,27nm,2.0s
NVS pmax pmax
comp=N,36nm,2.7s
NVS pmax pmax
comp=E,22nm,3.0s
UMR Umm Al-Rimmam 60.40 307 *e*P **P 17 04 50.1 -0.6**
UMR AMb AMB 17 04 52.1
comp=Z,52nm,1.1s
ASAJ Asahikawa 60.54 34 *e*P **P 17 04 50.7 -0.6**
comp=Z,10nm,0.8s
NAY Al-Naaiem 60.66 306 *e*P **P 17 04 52.1 -0.4**
NAY AMb AMB 17 04 53.2
comp=Z,18nm,1.1s
MIB Mutribah 60.80 307 *e*P **P 17 04 53.1 -0.4**
MIB AMb AMB 17 05 08.2
comp=Z,57nm,1.0s
BVA0 Borovoye Array 61.86 340 P **P 17 04 59.1 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 61.86 340 P **P 17 04 59.5 -0.7**
comp=Z,20nm,0.7s,baz=143,slow=8.5,SNR=181
BVAR LR LR 17 37 44.9
comp=Z,420nm,18.5s,baz=150,slow=42
BVAR Borovoye Array 61.86 340 P **P 17 04 59.5 -0.7**
BVAR Borovoye Array 61.86 340 P **P 17 04 59.5 -0.7**
BRVK Borovoye 61.93 340 P **P 17 05 00.7 +0.1**
comp=Z,174nm,0.8s,SNR=18
BOD Bodaibo 62.12 8⇓ *i*P **P 17 05 01.4 -0.4**
BOD pmax pmax
comp=Z,32nm,1.2s
YUK Yuzh-Kuril'sk 62.33 35*d i*P P 17 05 14.6 +11
YUK *e*PPP PPP 17 08 48.7
YUK *i*S S 17 13 52.6 +24
YUK pmax pmax
comp=Z,574nm,1.4s
YUK pmax pmax
comp=N,364nm,1.4s
YUK pmax pmax
comp=E,426nm,1.4s
YUK pmax pmax
comp=Z,1µm,2.0s
YSS Yuzh-Sakhalins 62.47 31⇓ *e*P **P 17 05 04.1 -0.2**
YSS *e* 17 05 13.0
YSS *e* 17 14 56.0
YSS pmax pmax
comp=Z,70nm,0.9s
YSS Yuzh-Sakhalins 62.47 31 *e*P **P 17 05 03.6 -0.7**
comp=Z,62nm,0.8s
IGHG Ghaleghazi 63.26 311 *e*P **P 17 05 09.5 -0.7**
AB31 Akbulak array 63.31 331 *i*P **P 17 05 09.4 -0.5**
AB31 pmax pmax
comp=Z,36nm,0.8s
ABKAR Akbulak array 63.31 331 *e*P **P 17 05 09.2 -0.7**
comp=Z,39nm,0.8s
ABKAR *e* 17 05 17.7
CLNS Chul'man 63.35 15 *e*P **P 17 05 09.0 -1.0**
CLNS *e**PP **pP 17 05 18.2 -0.6**
CLNS *e* 17 05 43.2
CLNS *e* 17 07 30.2
CLNS *e*PPP PPP 17 09 00.7
CLNS *e*S **S 17 13 45.2 +4.7**
CLNS *e* 17 14 59.3
CLNS *e*SS **SS 17 17 45.9 -1.8**
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=Z,3.0nm,0.7s
CLNS pmax pmax
comp=N,5.0nm,1.2s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS smax smax
comp=N,53nm,12.6s
CLNS smax smax
comp=E,343nm,13.4s
CLNS MLR MLR
comp=E,721nm,17.0s
CLNS MLR MLR
comp=Z,2µm,16.0s
CLNS MLR MLR
comp=N,1µm,17.0s
BHD Baghdad 64.49 309 *e*P P 17 05 14.0 -4.0
BHD *e*S **S 17 13 53.0 -2.5**
AKTO Aktyubinsk 65.03 331 P **P 17 05 20.4 -0.8**
comp=N,9.4nm,1.0s,baz=131,slow=7.5,SNR=19
AKTO Aktyubinsk 65.03 331 P **P 17 05 20.4 -0.8**
AKTO Aktyubinsk 65.03 331 P **P 17 05 20.4 -0.8**
IMRD Marand 65.79 315 *e*P **P 17 05 27.3 +0.7**
DZM Mont Dzumac 66.26 112 *e*S **S 17 14 14.0 -3.8**
comp=N,489nm,27.4s
DZM *e*LR LR 17 25 29.2
comp=N,784nm,25.2s
SVE Sverdlovsk 68.36 338⇓ *i*P **P 17 05 42.3 0.0**
SVE *e* 17 08 15.0
SVE *e*S **S 17 14 47.3 +5.7**
SVE pmax pmax
comp=Z,55nm,1.0s
SVE MLR MLR
comp=Z,1µm,20.0s
DRV Dumont d'Urvil 68.65 164 P P 17 05 52.0 +8.1
DRV Dumont d'Urvil 68.65 164 PP PP 17 08 33.0 +17
DRV S S 17 14 20.0 -25
DRV SS SS 17 18 34.0 -35
DRV L L 17 23 00.0
DRV R 17 26 00.0
ZEI Tsey 68.82 319 *e*P **P 17 05 45.9 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 68.89 336*c i*P **P 17 05 45.4 -0.2**
ARU 17 06 10.4
ARU *e* 17 08 15.2
ARU PPP PPP 17 09 53.1
ARU S **S 17 14 47.8 -0.1**
ARU SS **SS 17 19 18.8 +5.1**
ARU pmax pmax
comp=Z,44nm,1.7s
ARU Arti 68.89 336 *e*P **P 17 05 44.9 -0.7**
comp=Z,28nm,1.1s
ARU *e* 17 05 53.5
ARU Arti 68.89 336 P **P 17 05 45.4 -0.2**
comp=Z,148nm,1.0s,SNR=5.8
MAW Mawson 68.94 195 LR LR 17 29 24.7
comp=Z,829nm,21.8s,baz=35,slow=30
YAK Yakutsk 69.08 14*c i*P **P 17 05 45.2 -1.4**
YAK *e**PP **pP 17 05 53.1 -2.4**
YAK *e* 17 06 08.2
YAK *e* 17 08 18.0
YAK *e*S **S 17 14 49.1 -0.9**
YAK *e**SS sS 17 15 12.5 +7.9
YAK *e* 17 15 40.9
YAK pmax pmax
comp=Z,63nm,1.0s
YAK pmax pmax
comp=E,15nm,0.9s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=N,306nm,7.2s
YAK pmax pmax
comp=E,202nm,7.2s
YAK pmax pmax
comp=Z,202nm,6.9s
YAK smax smax
comp=N,100nm,14.4s
YAK smax smax
comp=E,36nm,9.1s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=N,641nm,15.0s
YAK MLR MLR
comp=E,581nm,14.0s
YAK Yakutsk 69.08 14 *e*P **P 17 05 45.3 -1.4**
comp=E,65nm,0.9s
YAK *e* 17 05 53.6
ASF Jabal al Asfar 70.02 306 LR LR 17 36 30.2
comp=E,659nm,19.4s,baz=147,slow=36
KIV Kislovodsk 70.14 319 *e*P **P 17 05 54.8 +1.1**
KIV *e**PP **pP 17 06 05.4 +2.8**
KIV *e* 17 06 15.9
KIV *e* 17 08 28.4
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,200nm,18.0s
MMAI Mount Meron Ar 71.48 306 LR LR 17 37 19.7
comp=Z,790nm,19.9s,baz=135,slow=36
SOKR Solikamsk 71.75 338*d i*P **P 17 06 03.8 +0.9**
SOKR pmax pmax
comp=Z,30nm,0.6s
SOKR MLR MLR
comp=Z,910nm,24.0s
PETK Petropavlovsk- 73.86 32 P **P 17 06 14.7 -1.0**
comp=Z,7.8nm,0.7s,baz=210,slow=3.4,SNR=9.7
PETK Petropavlovsk- 73.86 32 P **P 17 06 14.7 -1.0**
PETK Petropavlovsk- 73.86 32 P **P 17 06 14.7 -1.0**
VRHR Novokhopersk 73.98 326 *e*P **P 17 06 15.5 -0.9**
VRHR *e**PP **pP 17 06 25.1 -0.2**
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.6s
PET Petropavlovsk 74.32 32 *e*P P 17 06 13.0 -5.3
PET pmax pmax
comp=Z,38nm,0.7s
BR131 Keskin Array S 74.85 313 *e*P **P 17 06 21.3 -0.6**
comp=Z,8.2nm,0.9s
BR131 *e* 17 06 28.4
BRTR Keskin Array B 74.85 313 P **P 17 06 21.0 -0.9**
comp=Z,5.0nm,0.8s,baz=135,slow=7.6,SNR=32
BRTR Keskin Array B 74.85 313 P **P 17 06 21.0 -0.9**
BRTR Keskin Array B 74.85 313 P **P 17 06 21.0 -0.9**
VSR Storozhevoye 75.42 325 *e*P **P 17 06 24.0 -0.8**
VSR *e**PP **pP 17 06 31.7 -2.0**
BOSA Boshof 75.48 242 P **P 17 06 26.0 +0.2**
comp=Z,5.1nm,0.9s,baz=101,slow=8.0,SNR=6.8
BOSA LR LR 17 32 43.3
comp=Z,535nm,21.4s,baz=98,slow=30
BOSA Boshof 75.48 242 P **P 17 06 26.0 +0.2**
BOSA Boshof 75.48 242 P **P 17 06 26.0 +0.2**
SIM Simferopol' 76.18 318*c i*P **P 17 06 29.0 -0.3**
SIM pmax pmax
comp=Z,15nm,0.8s
SYO Syowa Base 76.61 199⇓ *e*PcP **PcP 17 06 42.0 -0.6**
MOS Moscow 78.16 329 *e*P **P 17 06 38.1 -2.0**
OBN Obninsk 78.45 328⇑ *i*P **P 17 06 41.5 -0.2**
OBN *e* 17 06 51.0
OBN *e* 17 09 34.5
OBN pmax pmax
comp=Z,56nm,1.5s
OBN MLR MLR
comp=Z,300nm,22.0s
OBN Obninsk 78.45 328 *e*P **P 17 06 41.7 0.0**
comp=Z,15nm,0.8s
OBN *e* 17 06 50.7
AKASG Malin Array Be 81.11 322 P **P 17 06 55.9 -0.4**
comp=Z,4.6nm,0.8s,baz=88,slow=5.0,SNR=10
AKASG LR LR 17 47 22.5
comp=Z,386nm,21.2s,baz=70,slow=39
AKASG Malin Array Be 81.11 322 P **P 17 06 55.9 -0.4**
AKASG Malin Array Be 81.11 322 P **P 17 06 55.9 -0.4**
KIEV Kiev 81.12 322⇓ *i*P **P 17 06 55.2 -1.1**
SZH Strazhica 81.37 315 *e*P **P 17 07 01.0 +3.2**
VRI Vrincioaia 81.43 317⇓ P **P 17 06 58.7 +0.6**
VRI Vrincioaia 81.43 317⇓ *i*P **P 17 06 58.7 +0.6**
PLOR Plostina 81.48 317⇑ *i*P **P 17 06 58.7 +0.3**
PLOR Plostina 81.48 317⇑ *i*P **P 17 06 58.7 +0.3**
TESR 81.64 318⇑ *i*P **P 17 07 01.2 +2.0**
MLR Muntele Rosu 81.87 317⇑ P **P 17 07 01.1 +0.5**
MLR Muntele Rosu 81.87 317⇑ *i*P **P 17 07 01.1 +0.5**
VOIR 82.47 317⇑ P **P 17 07 05.1 +1.4**
VOIR 82.47 317⇑ *i*P **P 17 07 05.1 +1.4**
BURAR Bucovina Array 82.85 319⇓ P **P 17 07 06.5 +0.8**
BURAR Bucovina Array 82.85 319⇓ *i*P **P 17 07 06.5 +0.8**
BUR08 Bucovina Ar. S 82.87 319 *e*P **P 17 07 06.5 +0.7**
MPEP Malo Peshtene 82.95 314 *e*P P 17 07 00.0 -6.1
VTS Vitosha 83.18 313⇓ P **P 17 07 07.5 -0.1**
VTS Vitosha 83.18 313⇓ *i*P **P 17 07 07.5 -0.1**
VTS Vitosha 83.18 313 *e*P **P 17 07 06.1 -1.5**
JOF Joensuu 83.90 334 *e*P **P 17 07 11.0 +0.5**
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 83.90 334 *ep* **P 17 07 11.0 +0.5**
comp=Z,5.9nm,0.8s
JOF Joensuu 83.90 334 *ep* **P 17 07 11.0 +0.5**
comp=Z,5.9nm,0.8s
BMR Baia Mare 84.00 319⇓ P **P 17 07 12.8 +1.4**
BMR Baia Mare 84.00 319⇓ *i*P **P 17 07 12.8 +1.4**
GZR Gura Zlata 84.03 316⇓ P **P 17 07 11.2 -0.5**
GZR Gura Zlata 84.03 316⇓ *i*P **P 17 07 11.2 -0.5**
DRGR 84.35 318⇓ P **P 17 07 14.1 +0.8**
DRGR 84.35 318⇓ *i*P **P 17 07 14.1 +0.8**
BILL Bilibino 84.39 20⇑ *i*P **P 17 07 11.5 -1.5**
BILL *e**PP **pP 17 07 23.6 +1.6**
BILL *e* 17 10 26.3
BILL pmax pmax
comp=Z,26nm,2.1s
BILL Bilibino 84.39 20 *e*P **P 17 07 12.2 -0.8**
comp=Z,7.1nm,0.9s
TRPA Tarpa 84.72 319⇑ *e*P **P 17 07 15.6 +0.6**
BZS Buzias 84.87 316⇓ P **P 17 07 16.1 +0.2**
BZS Buzias 84.87 316⇓ *i*P **P 17 07 16.1 +0.2**
KWP Kalwaria Pacla 84.91 320⇓ P **P 17 07 17.0 +1.0**
KWP Kalwaria Pacla 84.91 320⇓ *i*P **P 17 07 17.0 +1.0**
UZH Uzhgorod 84.98 319 *e*P **P 17 07 17.0 +0.7**
UZH *i* 17 07 27.2
KOLS Kolonicke sedl 85.05 320 *e*P **P 17 07 18.0 +1.3**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 85.05 320 *e*P **P 17 07 18.0 +1.3**
SUW Suwalki 85.53 325 *e*P **P 17 07 19.1 +0.1**
SUW pmax pmax
comp=Z,30nm,1.0s
SUW Suwalki 85.53 325 *e*P **P 17 07 19.1 +0.1**
comp=Z,30nm,1.0s
CRVS Cervenica-Dubn 85.57 319 *e*P **P 17 07 20.1 +0.8**
CRVS Cervenica-Dubn 85.57 319 *e*P **P 17 07 20.1 +0.8**
FINES FINESS Array B 85.79 332 P **P 17 07 20.8 +0.7**
comp=Z,7.1nm,0.9s,baz=64,slow=4.4,SNR=8.5
FINES LR LR 17 50 02.5
comp=Z,490nm,18.0s,baz=305,slow=39
FINES FINESS Array B 85.79 332 P **P 17 07 20.8 +0.7**
FINES FINESS Array B 85.79 332 P **P 17 07 20.8 +0.7**
STHS Stebnicka Huta 85.81 320 *e*P **P 17 07 21.5 +1.0**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 85.81 320 *e*P **P 17 07 21.5 +1.0**
KAF Kangasniemi 85.86 333 *e*P **P 17 07 19.4 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 85.86 333 *ep* **P 17 07 19.4 -1.0**
comp=Z,4.8nm,0.8s
KAF Kangasniemi 85.86 333 *ep* **P 17 07 19.4 -1.0**
comp=Z,4.8nm,0.8s
KECS Kecovo 86.14 319 *e*P **P 17 07 22.3 +0.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 86.14 319 *e*P **P 17 07 22.3 +0.2**
PSZ Piszkesteto 86.43 318⇓ P **P 17 07 23.4 -0.3**
PSZ Piszkesteto 86.43 318⇓ *i*P **P 17 07 23.4 -0.3**
PSZ Piszkesteto 86.43 318⇓ *e*P **P 17 07 24.7 +1.0**
PKSM Moragy 87.02 316⇑ P **P 17 07 26.9 +0.4**
PKSM Moragy 87.02 316⇑ *i*P **P 17 07 26.9 +0.4**
PKSM Moragy 87.02 316⇑ *e*P **P 17 07 26.6 +0.1**
VYHS Vyhne 87.22 319 *e*P **P 17 07 27.8 +0.3**
VYHS pmax pmax
comp=Z,71nm,3.3s
VYHS Vyhne 87.22 319 *e*P **P 17 07 27.8 +0.3**
OKC Ostrava-Krasne 87.86 320 *e*P **P 17 07 31.4 +0.9**
OKC *e**PP **pP 17 07 38.3 -1.3**
OKC Ostrava-Krasne 87.86 320 *e*P **P 17 07 31.4 +0.9**
OKC *ep*P **pP 17 07 38.3 -1.3**
ARCES ARCESS Array B 88.15 340 P **P 17 07 31.9 +0.4**
comp=Z,14nm,0.8s,baz=40,slow=4.7,SNR=7.9
ARCES LR LR 17 51 13.8
comp=Z,790nm,18.5s,baz=236,slow=38
ARCES ARCESS Array B 88.15 340 P **P 17 07 31.9 +0.4**
ARCES ARCESS Array B 88.15 340 P **P 17 07 31.9 +0.4**
MORC Moravsky Berou 88.24 320⇑ P **P 17 07 33.3 +0.9**
MORC Moravsky Berou 88.24 320 *e*P **P 17 07 32.5 +0.1**
comp=Z,12nm,1.4s
MORC Moravsky Berou 88.24 320⇑ *i*P **P 17 07 33.3 +0.9**
BEHE Becsehely 88.34 317⇑ *e*P **P 17 07 33.8 +1.0**
KOGS Kog 88.69 317 *e*P **P 17 07 35.0 +0.5**
KOGS *e* 17 07 43.0
KRLC Kraliky 88.77 320 *e*P **P 17 07 35.8 +1.0**
DPC Dobruska-Polom 89.09 320 *e*P **P 17 07 37.0 +0.6**
DPC *e**PP **pP 17 07 44.7 -0.8**
DPC Dobruska-Polom 89.09 320 *e*P **P 17 07 37.0 +0.6**
DPC *ep*P **pP 17 07 44.7 -0.8**
KSP Ksiaz 89.17 321 *e*P **P 17 07 37.5 +0.9**
GROS Grobnik 89.21 316 *e*P **P 17 07 37.6 +0.6**
TREC Trest 89.51 319 *e*P **P 17 07 38.6 +0.3**
TREC Trest 89.51 319 *e*P **P 17 07 38.6 +0.3**
LJU Ljubljana 89.84 316 *e*P **P 17 07 40.8 +0.9**
PRU Pruhonice 90.19 320 *e*P **P 17 07 42.5 +1.1**
PRU *e**PP **pP 17 07 53.6 +3.0**
PRU Pruhonice 90.19 320 *e*P **P 17 07 42.5 +1.1**
PRU *ep*P **pP 17 07 53.6 +3.0**
AQU L'Aquila 90.34 312 P **P 17 07 43.7 +1.4**
AQU L'Aquila 90.34 312 P **P 17 07 43.7 +1.4**
GERES GERESS Array B 90.64 319 P **P 17 07 44.5 +0.8**
comp=Z,3.2nm,0.9s,baz=90,slow=4.4,SNR=26
GERES GERESS Array B 90.64 319 P **P 17 07 44.5 +0.8**
GERES GERESS Array B 90.64 319 P **P 17 07 44.5 +0.8**
KHC Kasperske Hory 90.75 319 *e*P **P 17 07 43.8 -0.3**
KHC *e**PP **pP 17 07 54.1 +0.9**
KHC Kasperske Hory 90.75 319 *e*P **P 17 07 43.8 -0.3**
KHC *ep*P **pP 17 07 54.1 +0.9**
SNAA Sanae 90.86 198 *e* **P 17 07 47.0 +2.7**
SNAA *e* 17 07 54.5
SNAA Sanae 90.86 198 P **P 17 07 44.5 +0.3**
SNAA pmax pmax
comp=Z,5.0nm,1.3s
SNAA Sanae 90.86 198 P **P 17 07 44.5 +0.3**
comp=Z,5.3nm,1.3s
CLL Collm 91.28 321 *e*P **P 17 07 46.0 -0.4**
CLL *e*S **S 17 18 46.0 +2.7**
CLL pmax pmax
comp=Z,22nm,1.9s
CLL MLR MLR
comp=Z,200nm,20.0s
CLL Collm 91.28 321 *e*P **P 17 07 46.0 -0.4**
comp=Z,22nm,1.9s
CLL *e*S **S 17 18 46.0 +2.7**
CLL LmV 17 59 00.0
comp=Z,200nm,20.0s
HFS Hagfors 91.54 330 P **P 17 07 48.3 +0.8**
comp=Z,5.1nm,0.9s,baz=92,slow=13,SNR=4.6
HFS Hagfors 91.54 330 P **P 17 07 48.3 +0.8**
HFS Hagfors 91.54 330 P **P 17 07 48.3 +0.8**
NKC Novy Kostel 91.56 320 *e*P **P 17 07 47.1 -0.7**
NKC Novy Kostel 91.56 320 *e*P **P 17 07 47.1 -0.7**
GAMB Gambell 92.13 26 *e*P **P 17 07 49.8 -0.2**
comp=Z,7.9nm,1.1s
SPITS Spitsbergen Ar 92.28 348 P **P 17 07 50.3 -0.3**
comp=Z,8.2nm,0.8s,baz=0.0,slow=8.6,SNR=5.2
SPITS Spitsbergen Ar 92.28 348 P **P 17 07 50.3 -0.3**
SPITS Spitsbergen Ar 92.28 348 P **P 17 07 50.3 -0.3**
VNA2 Neumayer--Watz 92.48 198 *e* **P 17 07 52.5 +0.8**
VNA2 *e* 17 08 01.8
NOA NORSAR Array B 92.81 331 P **P 17 07 52.9 -0.5**
comp=Z,2.5nm,1.0s,baz=94,slow=4.6,SNR=4.4
NOA NORSAR Array B 92.81 331 P **P 17 07 52.9 -0.5**
NOA NORSAR Array B 92.81 331 P **P 17 07 52.9 -0.5**

VNA1	Neumayer--Stat	92.84	198	*e*		P	17 08 04.2	+11
DAVOX	Davos/Dischmat	93.10	317	P		P	17 07 55.5	+0.2
	comp=Z,1.9nm,0.7s,baz=117,slow=6.8,SNR=5.0							
DAVOX	Davos/Dischmat	93.10	317	P		P	17 07 55.5	+0.2
DAVOX	Davos/Dischmat	93.10	317	P		P	17 07 55.5	+0.2
TORD	Torodi Ar. Bea	99.51	283	LR		LR	17 49 56.4	
	comp=Z,316nm,21.4s,baz=95,slow=33							
ILAR	Eielson Array	102.66	24	PP		PP	17 12 50.8	-0.3
	comp=Z,0.5nm,1.0s,baz=277,slow=6.9,SNR=4.5							
ILAR	Eielson Array	102.66	24	PP		PP	17 12 50.8	-0.3
TBI	Tubuai	106.73	116	eLR		LR	17 44 10.4	
	comp=Z,644nm,22.8s							
PPT2	Papeete2	107.67	110	*e*Sdif		Sdif	17 20 52.0	-13
	comp=Z,237nm,26.2s							
PPT2				*e*LR		LR	17 44 39.9	
	comp=Z,265nm,22.0s							
YKA	Yellowknife Ar	115.66	17	PKP		PKPdf	17 13 22.4	-0.5
	comp=Z,0.9nm,0.8s,baz=327,slow=1.8,SNR=12							
YKA				PP		PP	17 14 21.3	-3.8
	comp=Z,0.4nm,0.8s,baz=323,slow=6.2,SNR=4.6							
YKA	Yellowknife Ar	115.66	17	PKIKP		PKPdf	17 13 22.4	-0.5
YKA							17 14 21.3	
YKA	Yellowknife Ar	115.66	17	PKP		PKPdf	17 13 22.4	-0.5
YKA				PP		PP	17 14 21.3	-3.8
RKT	Rikitea	119.66	119	eLR		LR	17 50 13.9	
	comp=Z,442nm,26.2s							
F10A	Beach Ranch, E	126.42	32	⇑P		PKPdf	17 13 44.4	+0.1
	baz=126							
D13A	Huson	127.08	30	⇑P		PKPdf	17 13 45.1	-0.4
	baz=127							
B15A	Bradely Ranch,	127.11	27	⇑P		PKPdf	17 13 45.1	-0.4
	baz=127							
A17A	Triple J Farms	127.47	26	⇓P		PKPdf	17 13 46.5	+0.4
	baz=127							
C15A	Salmond Ranch,	127.48	28	⇑P		PKPdf	17 13 46.2	0.0
	baz=127							
E13A	Victor	127.67	30	⇓P		PKPdf	17 13 46.3	-0.3
	baz=128							
CHMT	Chamberlain Mo	127.80	29	*e*PKPdf		PKPdf	17 13 47.1	+0.1
F14A	Wisdom	128.52	30	⇓P		PKPdf	17 13 48.4	0.0
	baz=128							
EGMT	Eagleton	128.58	26	⇑P		PKPdf	17 13 48.4	+0.1
	baz=128							
H12A	Diamond D Ranc	128.62	32	⇓P		PKPdf	17 13 48.5	-0.1
	baz=128							
MFID	Camas Ranch	128.84	34	⇓P		PKPdf	17 13 49.0	0.0
	baz=129							
H13A	Challis	128.93	32	⇓P		PKPdf	17 13 49.7	+0.6
	baz=129							
I12A	Atlanta	128.97	33	⇑P		PKPdf	17 13 49.5	+0.2
	baz=129							
A21A	Bergtoll Ranch	128.99	23	⇓P		PKPdf	17 13 49.3	+0.3
	baz=129							
B20A	Solberg Farm,	128.99	24	⇑P		PKPdf	17 13 49.1	+0.1
	baz=129							
C19A	Slack Wire Ran	129.11	26	⇑P		PKPdf	17 13 49.6	+0.3
	baz=129							
DLMT	Dillon	129.22	30	*e*PKPdf		PKPdf	17 13 50.7	+1.0
G15A	Dillon	129.41	30	⇑P		PKPdf	17 13 50.3	+0.2
	baz=129							
I13A	Wildhorse Cree	129.44	32	⇓P		PKPdf	17 13 50.5	+0.2
	baz=129							
J13A	Cove Ranch, Pi	129.75	33	⇑P		PKPdf	17 13 51.3	+0.5
	baz=130							
NVAR	Mina Array Bea	130.38	40	PKP		PKPdf	17 13 54.1	+1.9
	comp=Z,1.7nm,0.6s,baz=292,slow=1.8,SNR=14							
NVAR	Mina Array Bea	130.38	40	PKP		PKPdf	17 13 54.1	+1.9
D22A	Cohagen	130.77	24	⇑P		PKPdf	17 13 52.8	+0.3
	baz=131							
ULM	Lac du Bonnet	131.42	14	PKP		PKPdf	17 13 53.6	+0.1
	comp=Z,4.5nm,0.8s,baz=15,slow=2.7,SNR=6.8							
ULM	Lac du Bonnet	131.42	14	PKIKP		PKPdf	17 13 53.6	+0.1
ULM	Lac du Bonnet	131.42	14	PKP		PKPdf	17 13 53.6	+0.1
R11A	Troy Canyon, C	132.16	39	⇓P		PKPdf	17 13 56.5	+1.0
	baz=132							
MPMC	Manual Prospec	132.24	43	⇑P		PKPdf	17 13 56.5	+0.8
	baz=132							
N15A	Stansbury Isla	132.35	34	⇓P		PKPdf	17 13 56.9	+1.2
	baz=132							
EDW2	Edwards Air Fo	132.54	44	⇓P		PKPdf	17 13 56.9	+0.7
	baz=132							
DUG	Dugway	132.65	35	⇓P		PKPdf	17 13 57.1	+0.8
	baz=132							
I21A	Big Trails, Te	132.92	28	⇓P		PKPdf	17 13 56.9	+0.2
	baz=133							
H23A	Clabaugh Cattl	133.17	25	⇑P		PKPdf	17 13 56.9	-0.2
	baz=133							
N20A	Spence Gulch,	134.68	31	⇑P		PKPdf	17 14 00.9	+0.6
	baz=134							
R16A	Teasdale	134.69	36	⇑P		PKPdf	17 14 01.3	+1.0
	baz=134							
S16A	Weppner Ranch,	134.99	37	⇓P		PKPdf	17 14 01.9	+1.0
	baz=135							
R17A	Hanksville Air	135.05	35	⇓P		PKPdf	17 14 01.7	+0.8
	baz=135							
O20A	White River Ci	135.20	32	⇑P		PKPdf	17 14 00.7	-0.5
	baz=135							
U15A	North Rim	135.40	39	⇓P		PKPdf	17 14 01.3	-0.5
	baz=135							
Q19A	Hogan Spring (	135.50	34	⇓P		PKPdf	17 14 02.1	+0.4
	baz=135							
S21A	Coal Bank Pass	137.23	34	⇑P		PKPdf	17 14 05.8	+0.6
	baz=137							
X21A	Alamocita Cree	139.47	37	⇓P		PKPdf	17 14 09.9	+0.6
	baz=139							
220A	Playas Peak, P	140.69	41	⇑P		PKPdf	17 14 12.1	+0.6
	baz=140							
Y25A	Mesa, Roswell	141.66	35	⇑P		PKPdf	17 14 13.4	+0.3
	baz=142							
224A	Cornudas Mount	142.47	38	⇓P		PKPdf	17 14 11.4	-3.3
	baz=142							
MNTX	Cornudas Mount	142.82	38	⇑P		PKPdf	17 14 12.2	-2.9
	baz=143							
MNTX				⇑P		PKPdf	17 14 12.2	-2.9
	baz=143							
325A	Bean Ranch, Si	143.30	38	⇓P		PKPbc	17 14 14.5	+1.3
	baz=143							
CPUP	Villa Florida	143.43	214	PKP		PKPdf	17 14 21.5	+5.2
	comp=Z,4.5nm,0.9s,baz=114,slow=2.6,SNR=8.3							
CPUP	Villa Florida	143.43	214	PKIKP		PKPdf	17 14 21.5	+5.2
CPUP	Villa Florida	143.43	214	PKP		PKPdf	17 14 21.5	+5.2
425A	Indio Mountain	143.69	39	⇑P		PKPbc	17 14 14.6	+0.3
	baz=144							
326A	Caldwell Ranch	143.94	37	⇑P		PKPbc	17 14 15.5	+0.5
	baz=144							
WMOK	Wichita Mounta	144.12	28	*e*PKIKP		PKPab	17 14 14.2	-0.6
WMOK	Wichita Mounta	144.12	28	*e*PKP		PKPab	17 14 14.2	-0.6
426A	McDonald Obser	144.37	38	⇓P		PKPbc	17 14 16.7	+0.2
	baz=144							
TUL1	Tulsa	144.41	23	⇓P		PKPab	17 14 15.7	-0.2
	baz=144							
328A	Wristen Ranch,	144.59	36	⇓P		PKPbc	17 14 17.0	0.0
	baz=144							
427A	Hayter Ranch,	144.62	37	⇓P		PKPbc	17 14 17.4	+0.2
	baz=144							
526A	Mary Lane Ranc	144.75	39	⇑P		PKPdf	17 14 18.2	-0.5
	baz=145							
SIUC	Southern Illin	144.83	14	*e*PKP		PKPab	17 14 17.4	0.0
WCI	Wyandotte Cave	144.92	10	*e*PKIKP		PKPab	17 14 17.1	-0.6
WCI	Wyandotte Cave	144.92	10	*e*PKP		PKPab	17 14 17.1	-0.6
527A	Woodward Ranch	144.99	38	⇓P		PKPdf	17 14 18.9	-0.2
	baz=145							
626A	Big Bend Ranch	145.07	40	⇓P		PKPdf	17 14 19.1	-0.1
	baz=145							
428A	Kincaid Ranch,	145.14	37	⇓P		PKPdf	17 14 19.8	+0.5
	baz=145							
528A	Cox Ranch, San	145.49	37	⇓P		PKPab	17 14 20.3	+0.1
	baz=145							
TXAR	Lajitas Array	145.52	39	PKPbc		PKPab	17 14 20.6	+0.3
	comp=Z,47nm,0.8s,baz=296,slow=1.2,SNR=340							
TXAR	Lajitas Array	145.52	39	PKIKP		PKPab	17 14 20.6	+0.3
TXAR	Lajitas Array	145.52	39	PKPbc		PKPab	17 14 20.6	+0.3
627A	Terlingua Ranc	145.61	39	⇑P		PKPab	17 14 20.9	+0.2
	baz=145							
PARMO	Parma	145.69	15	*e*PKP		PKPbc	17 14 20.1	-0.1
628A	Black Gap, Mar	145.90	38	⇓P		PKPab	17 14 21.7	+0.1
	baz=146							
GNAR	Gosnell	146.28	16	*e*PKPbc		PKPbc	17 14 22.3	+0.2
MIAR	Mount Ida	146.46	22	*e*PKP2		PKPbc	17 14 22.2	-0.4
MIAR	Mount Ida	146.46	22	*e*PKPbc		PKPbc	17 14 22.2	-0.4
BLA	Blacksburg	146.50	2	*e*PKP2		PKPdf	17 14 21.9	+0.6
BLA	Blacksburg	146.50	2	*e*PKPbc		PKPdf	17 14 21.9	+0.6
WVT	Waverly	146.66	13	*e*PKP2		PKPbc	17 14 22.4	-0.7
WVT	Waverly	146.66	13	*e*PKPbc		PKPbc	17 14 22.4	-0.7
UALR	University of	146.68	20	*e*PKPbc		PKPbc	17 14 22.5	-0.8
TZTN	Tazewell	146.95	6	*e*PKPbc		PKPbc	17 14 23.2	-0.8
JCT	Junction City	146.98	34	*e*PKP2		PKPdf	17 14 22.8	+0.4
JCT	Junction City	146.98	34	*e*PKPdf		PKPdf	17 14 22.8	+0.4
JCT	Junction City	146.98	34	⇑P		PKPdf	17 14 22.5	+0.2
	baz=147							
PLAL	Pickwick Lake	147.71	13	*e*PKPbc		PKPbc	17 14 24.9	-1.2
TKL	Tuckaleechee C	147.80	7	*e*PKP2		PKPbc	17 14 25.7	-0.7
TKL	Tuckaleechee C	147.80	7	*e*PKPbc		PKPbc	17 14 25.7	-0.7
SWET	Sewanee	147.92	10	*e*PKPbc		PKPbc	17 14 25.4	-1.4
JSC	Jenkinsville	149.38	3	*e*PKP2		PKPbc	17 14 30.5	0.0
JSC	Jenkinsville	149.38	3	*e*PKPbc		PKPbc	17 14 30.5	0.0
HKT	Hockley	149.47	29	*e*PKP2		PKPbc	17 14 31.5	+0.8
HKT	Hockley	149.47	29	*e*PKPbc		PKPbc	17 14 31.5	+0.8
VBMS	Vicksburg	149.63	19	PKPbc		PKPbc	17 14 31.0	-0.1
LRAL	Lakeview Retre	149.82	13	*e*PKPbc		PKPbc	17 14 31.1	-0.5
LPAZ	La Paz	157.37	209	PKPbc		PKPdf	17 14 48.0	+9.1
	comp=Z,0.6nm,0.6s,baz=252,slow=1.7,SNR=3.6							
LPAZ	La Paz	157.37	209	PKIKP		PKPdf	17 14 48.0	+9.1
LPAZ	La Paz	157.37	209	PKPbc		PKPdf	17 14 48.0	+9.1

IDC 05 17:04:25.9±0.9, 32°.01N×84°.88E, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.6/10, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx3.1/35, Error ellipse: s-maj=31.9km s-min=18.3km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	14.89	353	P	Pn	17 07 58.4	+0.6
	0.1nm,0.3s,baz=181,slow=12,SNR=5.4						
MKAR				LR	LR	17 14 12.6	
	comp=Z,94nm,21.5s,baz=357,slow=39						
CMAR	Chiang Mai Arr	18.52	133	P	Pn	17 08 45.1	+1.1
	0.2nm,0.3s,baz=320,slow=12,SNR=15						
ZALV	Zalesovo Beam	21.93	360	P	P	17 09 22.2	+1.5
	1.1nm,0.7s,baz=187,slow=10.0,SNR=4.2						
ZALV				LR	LR	17 18 41.6	
	comp=Z,88nm,20.7s,baz=349,slow=39						
SONM	Songino Array	22.73	40	P	P	17 09 28.6	-1.1
	2.7nm,0.9s,baz=233,slow=9.9,SNR=9.8						
BVAR	Borovoye Array	23.47	338	P	P	17 09 38.7	+1.7
	0.7nm,0.8s,baz=153,slow=13,SNR=2.9						
WRA	Warramunga Arr	70.09	130	P	P	17 15 40.3	+0.1
	0.4nm,0.6s,baz=326,slow=6.5,SNR=8.0						
ASAR	Alice Springs	72.53	133	P	P	17 15 55.5	+0.5
	0.3nm,0.6s,baz=318,slow=5.8,SNR=13						
ILAR	Eielson Array	75.44	20	P	P	17 16 10.4	-1.0
	0.4nm,0.8s,baz=300,slow=5.3,SNR=4.3						
TORD	Torodi Ar. Bea	77.44	278	P	P	17 16 22.9	-0.6
	0.3nm,0.7s,baz=58,slow=6.0,SNR=2.4						
YKA	Yellowknife Ar	84.53	9	P	P	17 16 59.5	-1.0
	0.3nm,0.6s,baz=337,slow=5.2,SNR=4.3						

*CSEM **05** 17:06:14.1, 43°.14N×13°.53E, h27km, MD2.0/10, After ROM*

ROM 05 17:06:14.1±0.2, 43°.14N×13°.53E, h27km±3km, Md2.0/10, Ml1.5/6, Error ellipse: s-maj=2.8km s-min=2.0km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	Offida	0.23	150	Pg	Pb	17 06 20.9	+0.5
OFFI	Offida	0.23	150	Pg	Pb	17 06 20.9	+0.5
GUMA	Gualdo di Mace	0.31	103	Pg	Pb	17 06 19.3	-2.2
GUMA				Sg	Sb	17 06 23.7	-2.8
	278nm,0.3s						
GUMA	Gualdo di Mace	0.31	103	Pg	Pb	17 06 19.3	-2.2
GUMA				Sg	Sb	17 06 23.7	-2.8
	278nm,0.3s						
CING	Cingoli	0.34	315	Pg	Pb	17 06 21.8	-0.2
CING				Sg	Sb	17 06 28.1	+0.8
	67nm,0.3s						
CING	Cingoli	0.34	315	Pg	Pb	17 06 21.8	-0.2
CING				Sg	Sb	17 06 28.1	+0.8
	67nm,0.3s						
AOI	Ancona	0.42	8	Pg	Pb	17 06 23.1	-0.1
AOI				Sg	Sn	17 06 30.7	-0.7
	40nm,1.0s						
AOI	Ancona	0.42	8	Pg	Pb	17 06 23.1	-0.1
AOI				Sg	Sn	17 06 30.7	-0.7
	40nm,1.0s						
NRCA	Norcia	0.43	225	Pg	Pb	17 06 23.2	-0.1
NRCA	Norcia	0.43	225	Pg	Pb	17 06 23.2	-0.1
SNTG	Esanatoglia	0.45	286	Pg	Pb	17 06 23.4	-0.2
SNTG				Sg	Sn	17 06 31.1	-0.9
	29nm,0.4s						
SNTG	Esanatoglia	0.45	286	Pg	Pb	17 06 23.4	-0.2
SNTG				Sg	Sn	17 06 31.1	-0.9
	29nm,0.4s						
CESI	CESI - Serrava	0.47	254	Pg	Pb	17 06 23.8	-0.3
CESI				Sg	Sb	17 06 31.5	+0.7
	12nm,0.5s						
CESI	CESI - Serrava	0.47	254	Pg	Pb	17 06 23.8	-0.3
CESI				Sg	Sb	17 06 31.5	+0.7
	12nm,0.5s						
TERO	Teramo	0.52	174	Pg	Pb	17 06 24.2	-0.5
	23nm,0.2s						
TERO	Teramo	0.52	174	Pg	Pb	17 06 24.2	-0.5
	23nm,0.2s						
CAMP	Campotosto	0.60	188	Pg	Pb	17 06 26.6	+0.3
CAMP	Campotosto	0.60	188	Pg	Pb	17 06 26.6	+0.3
LNSS	Leonessa	0.64	214	Pg	Pn	17 06 28.0	+0.4
LNSS	Leonessa	0.64	214	Pg	Pn	17 06 28.0	+0.4
PIEI	Pieia	0.83	299	Pg	Pn	17 06 30.1	0.0
	7.0nm,0.2s						
PIEI	Pieia	0.83	299	Pg	Pn	17 06 30.1	0.0
	7.0nm,0.2s						

IDC 05 17:25:20.3±2.1, 8°.97S×120°.98E, h168km±22km, mb3.3/2, mb1 3.2/6, mb1mx3.0/18, mbtmp3.1/6, Error ellipse: s-maj=91.9km s-min=12.8km az=58.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	4.11	343	P	Pn	17 26 22.7	+0.2
	0.6nm,0.3s,baz=184,slow=11,SNR=3.8						
FITZ	Fitzroy Crossi	10.15	154	P	Pn	17 27 42.9	+0.8
	0.2nm,0.3s,baz=312,slow=21,SNR=9.4						
FITZ				S	Sn	17 29 31.1	-3.6
	0.6nm,0.3s,baz=198,slow=8.1,SNR=6.1						
WRA	Warramunga Arr	16.91	132	P	P	17 29 04.8	-1.8
	0.4nm,0.3s,baz=313,slow=12,SNR=14						
WRA				S	S	17 32 00.9	-13
	0.5nm,0.3s,baz=97,slow=23,SNR=11						
ASAR	Alice Springs	19.15	141	P	P	17 29 31.9	+0.9
	0.2nm,0.3s,baz=329,slow=14,SNR=15						
ASAR				S	S	17 32 59.7	+0.5
	0.2nm,0.3s,baz=310,slow=22,SNR=8.9						
STKA	Stephens Creek	29.77	143	P	P	17 31 11.8	+0.6
	0.8nm,0.3s,baz=318,slow=9.7,SNR=8.4						
MKAR	Makanchi Array	65.33	332	P	P	17 35 44.0	-0.5
	0.2nm,0.5s,baz=150,slow=6.8,SNR=5.2						

*IDC **05** 17:26:42.4±2.1, 25°.33N×95°.22E, h90km±16km, mb3.3/9, mb1 3.5/10, mb1mx3.3/28, mbtmp3.3/10, Error ellipse: s-maj=38.8km s-min=14.5km az=63.0*

ISC 05 17:26:41.7±1.3, 25°.3N±0°.1×94°.8E±0°.1, h88km±12km, n23, σ1§40/40, mb3.6/9, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	2.66	277	*e*PN	Pn	17 27 24.0	+1.2
SHL				*e*SN	Sn	17 27 54.5	+0.2
TAPN	Taplejung	6.69	290	*e*Pn	Pn	17 28 18.9	+1.2
TAPN				*e*Sn	Sn	17 29 32.9	+0.3
	139nm,0.4s						
ODAN	Odare	6.85	285	*e*Pn	Pn	17 28 20.6	+0.8
ODAN				*e*Sn	Sn	17 29 37.0	+0.6
	218nm,0.5s						
RAMN	Ramite	7.56	285	*e*Pn	Pn	17 28 31.3	+1.8
RAMN				*e*Sn	Sn	17 29 53.9	+0.1
	76nm,0.3s						
CMAR	Chiang Mai Arr	7.80	150	P	Pn	17 28 32.4	-0.2
	0.5nm,0.3s,baz=325,slow=13,SNR=41						
JIRN	Jiri	8.08	289	*e*Pn	Pn	17 28 37.7	+1.1
JIRN				*e*Sn	Sn	17 30 04.9	-1.6
	156nm,0.5s						
GUN	Gumba	8.41	290	*e*Pn	Pn	17 28 41.9	+0.8
GUN				*e*Sn	Sn	17 30 12.9	-1.7
	239nm,0.7s						
PKI	Pulchoki	8.73	287	*e*Pn	Pn	17 28 45.6	+0.1
PKI				*e*Sn	Sn	17 30 20.8	-1.5
	34nm,0.4s						
KKN	Kakani	8.89	288	*e*Pn	Pn	17 28 48.1	+0.5
KKN				*e*Sn	Sn	17 30 24.6	-1.6
	62nm,0.4s						
DMN	Daman	9.00	287	*e*Pn	Pn	17 28 49.5	+0.4
DMN				*e*Sn	Sn	17 30 27.3	-1.6
	67nm,0.6s						
GKN	Gorkha	9.49	289	*e*Pn	Pn	17 28 56.3	+0.5
GKN				*e*Sn	Sn	17 30 38.5	-2.3
	71nm,0.3s						
DANN	Dangsing	10.33	290	*e*Pn	Pn	17 29 06.6	-0.7
DANN				*e*Sn	Sn	17 30 57.9	-3.5
	54nm,0.4s						
KOLN	Koldanda	10.34	286	*e*Pn	Pn	17 29 07.6	+0.3
KOLN				*e*Sn	Sn	17 30 57.9	-3.5
	36nm,0.4s						
MKAR	Makanchi Array	23.68	338	P	P	17 31 46.6	+1.3
	3.2nm,0.7s,baz=154,slow=9.2,SNR=36						
MKAR				ScP	ScP	17 38 58.3	+0.6
	0.3nm,0.6s,baz=114,slow=5.6,SNR=4.5						
SONM	Songino Array	24.31	19	P	P	17 31 50.7	-0.4
	0.5nm,0.7s,baz=188,slow=6.5,SNR=6.6						
KURK	Kurchatov	28.29	338	P	P	17 32 27.4	+0.7
	0.6nm,0.7s,baz=148,slow=9.3,SNR=7.6						
KURK				PcP	PcP	17 35 38.0	+0.3
	0.1nm,0.3s,baz=152,slow=2.0,SNR=4.3						
KURK				ScP	ScP	17 39 11.7	+0.7
	0.6nm,0.7s,baz=155,slow=3.0,SNR=8.8						
ZALV	Zalesovo Beam	29.59	348	P	P	17 32 39.1	+0.9
	0.4nm,0.3s,baz=160,slow=9.1,SNR=3.9						
BVAR	Borovoye Array	33.24	333	P	P	17 33 12.2	+1.9
	0.3nm,0.3s,baz=137,slow=12,SNR=7.1						
BVAR				PcP	PcP	17 35 51.8	+1.0
	0.5nm,0.6s,baz=159,slow=5.7,SNR=4.1						
BVAR				ScP	ScP	17 39 27.3	0.0
	0.9nm,0.9s,baz=116,slow=5.0,SNR=4.4						
WRA	Warramunga Arr	59.14	136	P	P	17 36 32.1	-1.5
	0.5nm,0.6s,baz=325,slow=7.2,SNR=3.6						
ASAR	Alice Springs	61.66	139	P	P	17 36 49.7	-0.9
	1.0nm,0.9s,baz=324,slow=6.7,SNR=2.0						
ILAR	Eielson Array	78.48	23	P	P	17 38 31.3	-1.6
	0.8nm,1.0s,baz=300,slow=4.6,SNR=5.6						
TORD	Torodi Ar. Bea	87.24	283	P	P	17 39 20.7	+1.6
	0.1nm,0.5s,baz=63,slow=4.4,SNR=2.8						
TXAR	Lajitas Array	122.88	19	PKP	PKPdf	17 45 27.6	-0.7
	0.2nm,0.5s,baz=11,slow=1.3,SNR=3.7						

*DJA **05** 17:30:37, 0°.22S×132°.06E, h61km, MLv4.2/7*

IDC 05 17:30:29.8±0.9, 0°.19S×132°.50E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=49.6km s-min=16.9km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.71	175	P	P	17 35 00.3	-0.8
	0.2nm,0.3s,baz=354,slow=11,SNR=6.4						
ASAR	Alice Springs	23.38	177	P	P	17 35 39.5	-0.8
	6.3nm,1.0s,baz=358,slow=9.9,SNR=19						
STKA	Stephens Creek	32.67	166	P	P	17 37 05.5	+1.6
	0.7nm,0.6s,baz=354,slow=10,SNR=3.8						
CMAR	Chiang Mai Arr	37.82	301	P	P	17 37 48.2	-0.2
	0.3nm,0.7s,baz=119,slow=7.4,SNR=5.4						
SONM	Songino Array	52.95	338	P	P	17 39 48.6	+0.4
	1.5nm,0.9s,baz=156,slow=8.0,SNR=9.7						
MKAR	Makanchi Array	64.07	324	P	P	17 41 05.9	+0.2
	2.3nm,0.7s,baz=116,slow=8.1,SNR=32						
ZALV	Zalesovo Beam	66.72	332	P	P	17 41 22.0	-0.7
	1.2nm,0.6s,baz=112,slow=6.0,SNR=9.5						
KURK	Kurchatov	68.15	326	P	P	17 41 32.0	+0.2
	2.1nm,0.7s,baz=124,slow=5.7,SNR=24						
BVAR	Borovoye Array	73.75	326	P	P	17 42 05.9	+0.1
	1.0nm,0.7s,baz=111,slow=8.1,SNR=8.0						
ILAR	Eielson Array	86.16	25	P	P	17 43 12.3	-0.4
	0.6nm,0.7s,baz=250,slow=4.3,SNR=11						

*ISCJB **05** 17:51:25.5±0.4, 36°.46N±0°.02×70°.74E±0°.05, h199km±5km, mb3.9/24, Error ellipse: s-maj=6.3km s-min=3.5km az=160.5*

*MOS **05** 17:51:25.1±1.0, 36°.41N×70°.66E, h195km, mb4.3/15, Error ellipse: s-maj=13.2km s-min=6.5km az=91.1*

*IDC **05** 17:51:28.0±0.9, 36°.45N×70°.72E, h208km±8km, mb3.7/19, mb1 3.8/22, mb1mx3.7/31, mbtmp3.7/22, Error ellipse: s-maj=10.4km s-min=9.4km az=35.0*

*NNC **05** 17:51:32.7±2.1, 36°.99N×70°.76E, h216km±18km, mb3.6, mpv5.2, Error ellipse: s-maj=19.6km s-min=10.9km az=24.0*

ISC 05 17:51:27.0±0.5, 36°.47N±0°.04×70°.72E±0°.06, h199km±5km, h198km:pP-P, n108, σ1§33/138, mb4.0/24, 7C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.81	159	⇓P	Pn	17 52 14.9	+0.4
CE

comp=E,87nm,0.6s
DDI Dehra Dun 8.67 133 *e*P Pn 17 53 34.1 +5.1
DDI *e*S **Sn** **17 55 05.6 -0.7**
KHET Khetri 9.41 151 *e*P **Pn** **17 53 35.9 -2.7**
KHET *e*S Sn 17 55 13.7 -10
KHET AML AML 17 55 19.0
comp=E,134nm,0.4s
KHET AML AML 17 55 19.6
comp=N,123nm,0.4s
NDI New Delhi 9.50 143 *e*P **Pn** **17 53 39.0 -0.7**
NDI *e*S Sn 17 55 17.0 -9.0
AYAN Aya Nagar 9.62 144 *e*P **Pn** **17 53 39.9 -1.5**
AYAN *e*S Sn 17 55 19.7 -9.3
AYAN AML AML 17 55 23.7
comp=Z,32nm,0.4s
MK31 Makanchi Array 13.45 36 P **Pn** **17 54 29.0 -1.1**
comp=Z,15nm,0.8s,baz=220,slow=11,SNR=121
MK31 Makanchi Array 13.45 36 *i* P **Pn** **17 54 28.9 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.3s
MKAR Makanchi Array 13.45 36 P **Pn** **17 54 29.4 -0.6**
comp=Z,1.0nm,0.3s,baz=217,slow=13,SNR=81
MKAR Makanchi Array 13.45 36 *i* P **Pn** **17 54 29.6 -0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
DANN Dangsing 13.66 123 *e*P **Pn** **17 54 31.3 -1.7**
comp=Z,47nm,0.5s
KOLN Koldanda 13.93 125 *e*P **Pn** **17 54 35.5 -0.8**
comp=Z,12nm,0.3s
GKN Gorkha 14.48 122 *e*P **Pn** **17 54 42.4 -0.6**
comp=Z,61nm,0.4s
AB31 Akbulak array 15.01 332 P **Pn** **17 54 47.6 -1.5**
comp=Z,8.0nm,0.7s,baz=144,slow=13,SNR=138
AB31 ⇓S S 17 57 28.9 -6.8
comp=Z,4.4nm,0.5s
AB31 Akbulak array 15.01 332 *e*P **Pn** **17 54 47.6 -1.5**
AB31 17 57 27.5
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 smax smax
comp=N,3.0nm,0.3s
DMN Daman 15.05 122 *e*P **Pn** **17 54 49.5 -0.6**
comp=N,38nm,0.5s
KKN Kakani 15.05 121 *e*P **Pn** **17 54 49.4 -0.7**
comp=N,31nm,0.5s
KURBB Kurchatov Arra 15.23 19 ⇑P **Pn** **17 54 49.6 -2.1**
comp=N,1.5nm,0.3s
PKI Pulchoki 15.28 121 *e*P **Pn** **17 54 52.2 -0.8**
comp=N,86nm,0.7s
KURK Kurchatov 15.34 19 P **Pn** **17 54 49.6 -3.5**
comp=N,0.7nm,0.3s,baz=209,slow=12,SNR=59
KURK S Sn 17 57 53.4 +8.6
comp=N,0.0nm,0.3s,baz=217,slow=30,SNR=3.1
KURK Kurchatov 15.34 19 ⇑P **Pn** **17 54 51.2 -1.9**
comp=N,8.6nm,0.7s
KURK Kurchatov 15.34 19 P **Pn** **17 54 49.6 -3.5**
KURK pmax pmax
comp=Z,1.0nm,0.3s
GUN Gumba 15.40 119 *e*P **Pn** **17 54 53.7 -0.7**
comp=Z,24nm,0.3s
JIRN Jiri 15.77 119 *e*P **P** **17 54 58.7 -0.1**
comp=Z,45nm,0.4s
JIRN S S 17 57 44.6 -10
VOSK Vostochnaya 16.26 1 ⇓P **P** **17 55 02.8 -0.7**
comp=Z,8.9nm,0.4s
RAMN Ramite 16.49 121 *e*P **P** **17 55 07.0 +0.3**
comp=Z,30nm,0.4s
RAMN *e*S S 17 58 01.5 -7.7
ZRNK Zerenda 16.53 356 ⇑P **Pn** **17 55 07.0 -0.5**
comp=Z,11nm,0.4s
BVA0 Borovoye Array 16.56 359 ⇓P **P** **17 55 07.2 +0.3**
comp=Z,0.9nm,0.3s
BVA0 Borovoye Array 16.56 359 P **P** **17 55 06.7 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 16.56 359 P **P** **17 55 07.0 +0.1**
comp=Z,7.5nm,0.3s,baz=155,slow=8.6,SNR=166
BVAR S **S** **17 58 10.2 +0.5**
comp=Z,1.0nm,0.3s,baz=165,slow=23,SNR=6.1
BVAR Borovoye Array 16.56 359 P **P** **17 55 07.0 +0.1**
BVAR S **S** **17 58 10.2 +0.5**
BVAR pmax pmax
comp=Z,8.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BRVK Borovoye 16.59 359*c* *i*P **Pn** **17 55 07.7 -0.5**
BRVK pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 16.70 331 P **Pn** **17 55 09.2 -0.3**
comp=Z,2.8nm,0.3s,baz=140,slow=10,SNR=88
AKTO S **S** **17 58 12.0 -0.6**
comp=Z,0.6nm,0.3s,baz=331,slow=23,SNR=5.8
AKTO Aktyubinsk 16.70 331 ⇓P **Pn** **17 55 09.1 -0.5**
comp=Z,5.2nm,0.9s
AKTO Aktyubinsk 16.70 331 P **Pn** **17 55 09.2 -0.3**
AKTO S **S** **17 58 12.0 -0.6**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
TAPN Taplejung 17.03 117 *e*P **Pn** **17 55 13.9 -0.1**
comp=N,16nm,0.4s
ODAN Odare 17.10 119 *e*P **Pn** **17 55 14.9 +0.2**
comp=N,35nm,0.6s
ZALV Zalesovo Beam 20.04 25 P **P** **17 55 44.7 +0.1**
comp=N,19nm,0.3s,baz=216,slow=10,SNR=206
ZALV S **S** **17 59 17.7 -0.9**
comp=N,2.9nm,0.7s,baz=216,slow=20,SNR=6.7
ZALV Zalesovo Beam 20.04 25 P **P** **17 55 44.7 +0.1**
ZALV S **S** **17 59 17.7 -0.9**
ZALV pmax pmax
comp=Z,19nm,0.3s
ZALV smax smax
comp=N,3.0nm,0.7s
NVS Novosibirsk 20.29 21 ⇑*i*P **P** **17 55 47.3 0.0**
NVS *i* S **S** **17 59 22.6 -0.9**
NVS *i* 17 59 52.3
NVS *e*SS Sn 18 00 04.2 +22
NVS pmax pmax
comp=Z,42nm,1.5s
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS smax smax
comp=N,15nm,1.8s
NVS smax smax
comp=E,21nm,2.5s
UMR Umm Al-Rimmam 20.46 257 *e*P **P** **17 55 49.5 +0.2**
UMR AMb AMB 17 55 56.9
comp=Z,26nm,0.4s
MIB Mutribah 20.65 258 *e*P **P** **17 55 51.4 0.0**
MIB AMb AMB 17 55 54.9
comp=Z,34nm,0.7s
QRN Al-Qurain 20.66 255 *e*P **P** **17 55 51.1 -0.4**
NAY Al-Naaiem 20.96 257 *e*P **P** **17 55 54.5 -0.2**
NAY AMb AMB 17 55 57.0
comp=Z,14nm,0.6s
SHL Shillong 21.10 115 *ex* **P** **17 55 57.0 +0.7**
SVE Sverdlovsk 21.47 345 ⇓*i*P **P** **17 56 00.1 +0.5**
SVE *e*S S 17 59 56.1 +12
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 21.59 341*d* *i*P **P** **17 56 02.3 +1.4**
ARU 17 56 35.9
ARU S **S** **17 59 48.7 +2.1**
ARU pmax pmax
comp=Z,15nm,1.2s
ANN Anapa 26.45 299 *e*P **P** **17 56 45.5 +0.1**
ANN pmax pmax
comp=Z,33nm,1.0s
SONM Songino Array 28.54 55 P **P** **17 57 06.1 +2.0**
comp=Z,0.2nm,0.5s,baz=269,slow=7.4,SNR=3.5
SONM pP **pP** **17 57 47.8 +3.4**
comp=Z,0.7nm,0.9s,baz=263,slow=8.6,SNR=3.8
SONM Songino Array 28.54 55 P **P** **17 57 06.1 +2.0**
SONM *PP **pP** **17 57 47.8 +3.4**
SONM pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 29.23 288 P **P** **17 57 12.3 +2.0**
comp=Z,0.4nm,0.6s,baz=104,slow=9.5,SNR=3.3
BRTR Keskin Array B 29.23 288 P **P** **17 57 12.3 +2.0**
OBN Obninsk 29.82 320 *e*P **P** **17 57 15.2 +0.1**
OBN *e* 18 00 12.2
OBN pmax pmax
comp=Z,6.0nm,1.0s

CMAR Chiang Mai Arr 30.64 118 P **P** **17 57 24.2 +1.4**
comp=Z,1.4nm,0.8s,baz=296,slow=8.3,SNR=20
CMAR Chiang Mai Arr 30.64 118 P **P** **17 57 24.2 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 32.79 309 P **P** **17 57 41.8 +0.6**
comp=Z,2.0nm,0.7s,baz=83,slow=6.5,SNR=4.9
AKASG Malin Array Be 32.79 309*ce* **P** **17 57 41.7 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 35.79 330 *e*P **P** **17 58 07.7 +1.0**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 35.79 330 *ep* **P** **17 58 07.7 +1.0**
comp=Z,2.9nm,0.4s
JOF Joensuu 35.79 330 *ep* **P** **17 58 07.7 +1.0**
comp=Z,2.9nm,0.4s
FINES FINESS Array B 37.39 326 P **P** **17 58 20.9 +0.6**
comp=Z,2.5nm,0.7s,baz=118,slow=8.4,SNR=14
FINES FINESS Array B 37.39 326 P **P** **17 58 20.9 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 41.09 338 P **P** **17 58 51.9 +1.1**
comp=Z,7.7nm,0.9s,baz=92,slow=7.3,SNR=3.7
ARCES ARCESS Array B 41.09 338 P **P** **17 58 51.9 +1.1**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 42.95 322 P **P** **17 59 06.5 +0.5**
comp=Z,2.0nm,0.4s,baz=98,slow=9.8,SNR=13
HFS Hagfors 42.95 322 P **P** **17 59 06.5 +0.5**
HFS pmax pmax
comp=Z,2.0nm,0.4s
NB2 NORSAR Subarra 44.27 323 P **P** **17 59 16.6 +0.1**
comp=Z,1.7nm,0.5s,baz=98,slow=7.9
NOA NORSAR Array B 44.27 323 P **P** **17 59 16.7 +0.1**
comp=Z,1.4nm,0.4s,baz=97,slow=7.7,SNR=8.0
NOA NORSAR Array B 44.27 323 P **P** **17 59 16.7 +0.2**
NOA pmax pmax
comp=Z,1.0nm,0.4s
DAVOX Davos/Dischmat 45.59 303 P **P** **17 59 27.4 +0.1**
comp=Z,1.4nm,0.8s,baz=126,slow=13,SNR=3.9
ESDC Sonseca Array 57.27 298 P **P** **18 00 54.0 +0.1**
comp=Z,0.4nm,0.5s,baz=56,slow=7.7,SNR=6.3
TORD Torodi Ar. Bea 65.49 268 P **P** **18 01 47.7 -1.5**
comp=Z,5.2nm,0.6s,baz=50,slow=5.7,SNR=55
DBIC Dimbokro 74.47 267 P **P** **18 02 42.9 -0.9**
comp=Z,0.7nm,0.5s,baz=50,slow=6.3,SNR=4.6
DBIC Dimbokro 74.47 267 P **P** **18 02 42.9 -0.9**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 74.87 16 P **P** **18 02 45.1 -0.2**
comp=Z,1.0nm,0.8s,baz=307,slow=4.5,SNR=10
ILAR pP **pP** **18 03 34.0 +1.3**
comp=Z,0.4nm,0.7s,baz=336,slow=6.7,SNR=3.6
ILAR Eielson Array 74.87 16 P **P** **18 02 45.1 -0.2**
ILAR *PP **pP** **18 03 34.0 +1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
FITZ Fitzroy Crossi 75.05 126 P **P** **18 02 47.3 +0.4**
comp=Z,1.9nm,0.5s,baz=320,slow=7.5,SNR=6.6
BOSA Boshof 77.58 220 P **P** **18 03 01.2 +0.1**
comp=Z,2.0nm,0.3s,baz=15,slow=5.1,SNR=10
BOSA Boshof 77.58 220 P **P** **18 03 01.2 +0.1**
BOSA pmax pmax
comp=Z,2.0nm,0.3s
YKA Yellowknife Ar 81.29 2 P **P** **18 03 21.1 +0.6**
comp=Z,1.6nm,0.7s,baz=349,slow=5.4,SNR=27
YKA pP **pP** **18 04 09.6 +0.9**
comp=Z,0.6nm,0.6s,baz=350,slow=7.7,SNR=4.7
YKA Yellowknife Ar 81.29 2 P **P** **18 03 21.1 +0.6**
YKA *PP **pP** **18 04 09.6 +0.9**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 82.16 122 P **P** **18 03 24.6 -1.2**
comp=Z,2.8nm,0.5s,baz=324,slow=5.0,SNR=89
WRA Warramunga Arr 82.16 122 P **P** **18 03 24.6 -1.2**
WRA pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 84.42 125 P **P** **18 03 36.2 -1.1**
comp=Z,2.4nm,0.7s,baz=315,slow=4.9,SNR=67
ASAR Alice Springs 84.42 125 P **P** **18 03 36.2 -1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
CTA Charters Tower 90.73 114 P **P** **18 04 06.9 -0.6**
comp=Z,2.3nm,0.5s,baz=5.7,slow=10,SNR=3.2
CTA Charters Tower 90.73 114 P **P** **18 04 06.9 -0.6**
CTA pmax pmax
comp=Z,2.0nm,0.5s

IDC 05 18:11:12.3±2.4,**1.14S**×**133.80E**,**h0km**,**mb3.3**/2,
mb1 3.6/4,**mb1mx3.3**/17,**mbtmp3.4**/4,**ML3.4**/2,**Error ellipse: s-maj=94.2km s-min=24.9km az=80.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.66**	**205**	P		P	18 15 30.7	-1.3
	0.2nm,0.3s,baz=42,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**18.69**	**178**	P		P	18 15 32.0	-0.4
	0.1nm,0.3s,baz=358,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**22.39**	**180**	P		P	18 16 13.3	+0.9
	0.6nm,0.4s,baz=359,slow=12,SNR=15						
MKAR	**Makanchi Array**	**65.60**	**324**	P		P	18 21 58.1	0.0
	0.3nm,0.7s,baz=103,slow=7.9,SNR=3.4						

*MOS **05** 18:15:36.0±1.2,43.19N×46.36E,h16km,mb3.9/1,Error ellipse: s-maj=21.1km s-min=8.4km az=13.8*
*CSEM **05** 18:15:36.9±0.2,43.26N×46.49E,h30km,mb3.9,Error ellipse: s-maj=7.2km s-min=4.2km az=9.0*
*NNC **05** 18:15:41.1±2.2,44.15N×46.36E,h0km,mb3.5,mpv3.2,Error ellipse: s-maj=54.5km s-min=5.7km az=161.0*
ISC 05 18:15:36.2±0.9,**43.27N**±0.06×**46.38E**±0.03,**h26**km±9km,
n32,σ1**28/56**,**8C-5D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.28**	**137**	*e*PG		**Pb**	**18 15 42.5**	**-0.5**
DLMR				*e*S		**Sb**	**18 15 47.5**	**-0.2**
DLMR				pmax	pmax			
	comp=Z,232nm,0.4s							
DLMR	**Dylym**	**0.28**	**137**	*e*Pg		**Pb**	**18 15 42.5**	**-0.5**
	comp=Z,232nm,0.4s							
DLMR				*e*Sg		**Sb**	**18 15 47.5**	**-0.2**
DBC	**Dubki**	**0.42**	**127**	*i* PG		**Pb**	**18 15 45.5**	**+0.3**
DBC				*i* S		**Sb**	**18 15 52.9**	**+1.6**
DBC	**Dubki**	**0.42**	**127**	*i* Pg		**Pb**	**18 15 45.5**	**+0.3**
DBC				*i* Sg		**Sb**	**18 15 52.9**	**+1.6**
GRO	**Groznyy**	**0.46**	**276**	⇑*i*PG		**Pb**	**18 15 43.5**	**-2.3**
KRNR	**Karanay**	**0.59**	**139**	*e*PG		**Pb**	**18 15 48.2**	**+0.1**
KRNR				*e*S		**Sb**	**18 15 57.8**	**+1.6**
KRNR	**Karanay**	**0.59**	**139**	*e*Pg		**Pb**	**18 15 48.2**	**+0.1**
KRNR				*e*Sg		**Sb**	**18 15 57.8**	**+1.6**
SNJR	**Sundja**	**1.16**	**260**	*e*PG		**Pn**	**18 15 56.5**	**-0.3**
SNJR				*e*S		**Sb**	**18 16 11.4**	**-0.9**
SNJR	**Sundja**	**1.16**	**260**	*e*Pg		**Pn**	**18 15 56.5**	**-0.3**
TRKR	**Terskaya**	**1.28**	**291**	⇓*i*PG		**Pb**	**18 16 00.3**	**+0.7**
TRKR				*i* S		**Sb**	**18 16 18.2**	**+2.6**
TRKR	**Terskaya**	**1.28**	**291**	*i* Pg		**Pb**	**18 16 00.3**	**+0.7**
TRKR				*i* Sg		**Sb**	**18 16 18.2**	**+2.6**
KMSR	**Komsomolskaya**	**1.52**	**274**	⇑*i*PG		**Pb**	**18 16 03.5**	**-0.3**
KMSR				*i* S		**Sb**	**18 16 23.5**	**+0.8**
KMSR	**Komsomolskaya**	**1.52**	**274**	*i* Pg		**Pb**	**18 16 03.5**	**-0.3**
KMSR				*i* Sg		**Sb**	**18 16 23.5**	**+0.8**
ARNR	**Ardon**	**1.53**	**268**	⇓*i*PG		**Pb**	**18 16 03.0**	**-1.0**
ARNR				*e*S		**Sb**	**18 16 23.0**	**0.0**
ARNR	**Ardon**	**1.53**	**268**	*i* Pg		**Pb**	**18 16 03.0**	**-1.0**
ARNR				*e*Sg		**Sb**	**18 16 23.0**	**0.0**
LACR	**Lac**	**1.59**	**254**	⇓*i*PG		**Pn**	**18 16 03.2**	**+0.4**
LACR				*i* S		**Sn**	**18 16 23.3**	**+0.8**
LACR	**Lac**	**1.59**	**254**	*i* Pg		**Pn**	**18 16 03.2**	**+0.4**
LACR				*i* Sg		**Sn**	**18 16 23.3**	**+0.8**
PRTR	**Priterechnaya**	**1.60**	**288**	⇑*i*PG		**Pb**	**18 16 05.3**	**+0.3**
PRTR				*i* S		**Sb**	**18 16 26.9**	**+2.2**
PRTR	**Priterechnaya**	**1.60**	**288**	*i* Pg		**Pb**	**18 16 05.3**	**+0.3**
PRTR				*i* Sg		**Sb**	**18 16 26.9**	**+2.2**
KORR	**Kora**	**1.70**	**264**	⇑*i*PN		**Pb**	**18 16 05.8**	**-1.0**
KORR				*e*S		**Sb**	**18 16 27.6**	**-0.1**
KORR	**Kora**	**1.70**	**264**	*i* Pn		**Pb**	**18 16 05.8**	**-1.0**
KORR				*e*Sg		**Sb**	**18 16 27.6**	**-0.1**
LSNR	**Lesken**	**1.87**	**271**	*e*PN		**Pb**	**18 16 09.0**	**-0.7**
LSNR	**Lesken**	**1.87**	**271**	*e*Pn		**Pb**	**18 16 09.0**	**-0.7**
ZEI	**Tsey**	**1.89**	**255**	*e*PN		**Pn**	**18 16 07.7**	**+0.8**
ZEI	**Tsey**	**1.89**	**255**	*e*Pn		**Pn**	**18 16 07.7**	**+0.8**
DIGR	**Digorskoe uzhe**	**2.08**	**261**	*e*PN		**Pn**	**18 16 11.5**	**+1.9**
DIGR	**Digorskoe uzhe**	**2.08**	**261**	*e*Pn		**Pn**	**18 16 11.5**	**+1.9**
KIV	**Kislovodsk**	**2.76**	**286**	⇑Pn		**Pb**	**18 16 25.7**	**+0.7**
	comp=Z,11nm,0.8s							
KIV				⇓Sn		**Sb**	**18 16 59.1**	**+0.6**
	comp=Z,20nm,0.5s							
AKTO	**Aktyubinsk**	**10.71**	**44**	⇑Pn		**Pn**	**18 18 07.7**	**-0.1**
	comp=Z,0.5nm,1.5s							
AKTO				⇓Sn		**Sn**	**18 20 03.5**	**-3.2**
	comp=Z,0.3nm,1.4s							
AKTO	**Aktyubinsk**	**10.71**	**44**	Pn		**Pn**	**18 18 07.7**	**-0.1**
	comp=Z,0.5nm,1.5s							
AKTO				Sn		**Sn**	**18 20 03.5**	**-3.2**
	comp=Z,0.3nm,1.4s							
AB31	**Akbulak array**	**11.13**	**53**	⇑Pn		**Pn**	**18 18 13.4**	**-0.1**
	comp=Z,2.2nm,1.1s,baz=0.0,slow=0.1,SNR=5.0							
AB31				⇑Sn		**Sn**	**18 20 15.4**	**-1.6**
	comp=Z,2.3nm,1.2s,baz=246,slow=24,SNR=6.3							
AB31	**Akbulak array**	**11.13**	**53**	Pn		**Pn**	**18 18 13.4**	**-0.1**
	comp=Z,2.2nm,1.1s,SNR=5.0							
AB31				Sn		**Sn**	**18 20 15.4**	**-1.6**
	comp=Z,2.3nm,1.2s,baz=246,SNR=6.3							

*ISCJB **05** 18:18:58.3±0.3,2.79N×0.04×126.25E±0.08,h63km,mb4.4/18,Error ellipse: s-maj=11.6km s-min=4.6km az=161.8*
*IDC **05** 18:18:59.9±4.0,2.78N×126.23E,h64km±38km,mb3.9/16,mb1 4.0/17,mb1mx4.0/23,mbtmp3.9/17,ML3.6/1,MS2.9/1,Ms1 2.9/1,ms1mx2.3/36,Error ellipse: s-maj=28.5km s-min=12.5km az=72.0*
*DJA **05** 18:19:01,2.89N×126.41E,h55km,mb4.6/13*
ISC 05 18:19:00.2±0.6,**2.78N**±0.06×**126.2E**±0.1,**h63**km,**n54**,
σ0**95/51**,**mb4.3**/18,**1C-2D**,**Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.12**	**323**	P		**Pn**	**18 19 19.6**	**-0.3**
MNI	**Manado**	**1.91**	**226**	P		Pn	18 19 34.9	+4.5
TNTI	**Ternate**	**2.31**	**150**	P		**Pn**	**18 19 36.0**	**+0.1**
KMSI	**Cibinong**	**3.12**	**225**	P		Pn	18 19 52.0	+5.0
GSPH	**General Santos**	**3.51**	**339**	⇓*i*P		**Pn**	**18 19 52.1**	**-0.4**
GSPH				*i* S		**Sn**	**18 20 29.7**	**-3.2**
LBMI	**Labuha**	**3.64**	**159**	P		**Pn**	**18 19 55.7**	**+1.7**
MATI	**Mati**	**4.14**	**1**	*e*P		**Pn**	**18 19 59.9**	**-1.0**
DAV	**Davao City (W)**	**4.30**	**352**	LR		LR	18 21 29.5
	comp=Z,156nm,19.5s,baz=102,slow=35						
DMPH	**Davao City--Mi**	**4.33**	**351**	⇑*e*P		**Pn**	**18 20 04.9**	**+1.4**
DMPH				*e*S		**Sn**	**18 20 54.6**	**+1.9**
CTBH	**Cotabato--PC H**	**4.82**	**336**	⇓*e*P		**Pn**	**18 20 11.2**	**+0.9**
MRSI	**Marisa**	**4.84**	**242**	P		Pn	18 20 14.6	+4.1
	144nm,0.5s,3μm0.6nm							
LUWI	**Luwuk**	**5.12**	**222**	P		Pn	18 20 22.4	+8.1
	162nm,0.9s,2μm0.7nm							
BUKP	**Musuan**	**5.19**	**347**	*e*P		**Pn**	**18 20 17.1**	**+1.7**
PAGZ	**Pagadian**	**5.76**	**331**	*e*P		**Pn**	**18 20 23.5**	**+0.3**
IPIL	**Ipil**	**6.15**	**324**	*e*P		**Pn**	**18 20 29.5**	**+1.0**
AAI	**Ambon**	**6.73**	**163**	P		Pn	18 20 41.8	+5.4
	28nm,0.5s,0.1nm							
TTSI	**Tana Toraja**	**8.62**	**228**	P		Pn	18 21 09.7	+7.4
	50nm,0.9s							
SPSI	**Sidrap Palu**	**9.29**	**224**	P		Pn	18 21 19.8	+8.4
KAPI	**Kappang**	**10.08**	**220**	P		**Pn**	**18 21 22.5**	**+0.3**
	0.6nm,0.3s,baz=138,slow=11,SNR=3.8							
FITZ	**Fitzroy Crossi**	**20.76**	**182**	P		**P**	**18 23 36.1**	**+0.1**
	4.5nm,0.6s,baz=7.9,slow=5.9,SNR=18							
FITZ	**Fitzroy Crossi**	**20.76**	**182**	*e*P		**P**	**18 23 35.4**	**-0.6**
	7.2nm,0.6s							
WRA	**Warramunga Arr**	**23.95**	**161**	P		**P**	**18 24 07.8**	**-1.0**
	17nm,0.5s,baz=341,slow=11,SNR=171							
ASAR	**Alice Springs**	**27.34**	**164**	P		**P**	**18 24 38.7**	**-0.8**
	3.5nm,0.5s,baz=346,slow=12,SNR=45							
CMAR	**Chiang Mai Arr**	**30.91**	**302**	P		**P**	**18 25 12.0**	**+0.8**
	0.8nm,0.7s,baz=106,slow=6.2,SNR=9.1							
FORT	**Forrest**	**33.42**	**177**	*e*P		**P**	**18 25 32.9**	**-0.1**
	7.2nm,0.5s							
KSRS	**Korea Array**	**34.54**	**2**	P		**P**	**18 25 43.5**	**+0.9**
	2.8nm,0.8s,baz=185,slow=9.8,SNR=9.4							
MJAR	**Matsushiro Arr**	**35.37**	**17**	P		**P**	**18 25 48.1**	**-1.8**
	2.3nm,0.9s,baz=193,slow=10,SNR=6.3							
RMQ	**Roma**	**36.36**	**145**	*e*P		**P**	**18 25 57.3**	**-1.1**
	28nm,1.5s							
BBOO	**Buckleboo**	**36.61**	**166**	*e*P		**P**	**18 26 00.0**	**-0.5**
	36nm,0.4s							
STKA	**Stephens Creek**	**37.44**	**158**	P		**P**	**18 26 07.0**	**-0.5**
	3.2nm,0.8s,baz=333,slow=6.1,SNR=9.2							
STKA				PcP		**PcP**	**18 28 25.7**	**+0.6**
	2.2nm,0.9s,baz=21,slow=9.0,SNR=2.8							
STKA	**Stephens Creek**	**37.44**	**158**	*e*P		**P**	**18 26 07.1**	**-0.5**
	2.6nm,0.8s							
ARMA	**Armidale**	**40.98**	**146**	*e*P		**P**	**18 26 37.5**	**+0.3**
USRK	**Ussuriysk Arra**	**41.56**	**6**	P		**P**	**18 26 42.2**	**+0.6**
	2.4nm,0.6s,baz=185,slow=8.8,SNR=5.9							
LSA	**Lhasa**	**42.68**	**313**	P		**P**	**18 26 51.8**	**+0.2**
TAPN	**Taplejung**	**44.16**	**307**	*e*P		**P**	**18 27 03.1**	**-0.3**
	8.4nm,0.4s							
ODAN	**Odare**	**44.20**	**307**	*e*P		**P**	**18 27 03.3**	**-0.3**
	6.8nm,0.3s							
RAMN	**Ramite**	**44.87**	**306**	*e*P		**P**	**18 27 09.4**	**+0.4**
	7.1nm,0.5s							
JIRN	**Jiri**	**45.51**	**307**	*e*P		**P**	**18 27 13.3**	**-0.9**
	12nm,0.4s							
GUN	**Gumba**	**45.87**	**307**	*e*P		**P**	**18 27 16.3**	**-0.6**
	22nm,0.5s							
PKI	**Pulchoki**	**46.10**	**306**	*e*P		**P**	**18 27 18.0**	**-0.7**
	4.6nm,0.3s							
KKN	**Kakani**	**46.29**	**307**	*e*P		**P**	**18 27 19.6**	**-0.6**
	7.0nm,0.4s							
DMN	**Daman**	**46.36**	**306**	*e*P		**P**	**18 27 20.5**	**-0.2**
GKN	**Gorkha**	**46.90**	**307**	*e*P		**P**	**18 27 24.5**	**-0.3**
	6.9nm,0.5s							
KOLN	**Koldanda**	**47.64**	**306**	*e*P		**P**	**18 27 30.3**	**-0.3**
	34nm,0.5s							
DANN	**Dangsing**	**47.75**	**307**	*e*P		**P**	**18 27 31.2**	**-0.4**
	40nm,0.6s							
SONM	**Songino Array**	**48.03**	**342**	P		**P**	**18 27 32.8**	**-0.4**
	1.6nm,0.6s,baz=162,slow=9.2,SNR=19							
MKAR	**Makanchi Array**	**58.03**	**326**	P		**P**	**18 28 46.1**	**-0.7**
	2.3nm,0.4s,baz=120,slow=7.8,SNR=131							
MKAR				PcP		**PcP**	**18 29 38.2**	**+0.2**
	1.0nm,0.5s,baz=126,slow=3.5,SNR=8.2							
KSH	**Kashi**	**58.35**	**316**	P		**P**	**18 28 50.5**	**+1.3**
KSH				pmax	pmax			
	comp=Z,52nm,4.4s							
ZALV	**Zalesovo Beam**	**61.19**	**334**	P		**P**	**18 29 06.8**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=122,slow=5.6,SNR=6.3							
ZALV				PcP		**PcP**	**18 29 50.9**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=152,slow=4.3,SNR=2.7							
KURK	**Kurchatov**	**62.26**	**328**	P		**P**	**18 29 14.7**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=132,slow=6.1,SNR=63							
BVAR	**Borovoye Array**	**67.83**	**327**	P		**P**	**18 29 50.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=138,slow=9.1,SNR=11							
AKTO	**Aktyubinsk**	**74.07**	**322**	P		**P**	**18 30 29.3**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=108,slow=6.6,SNR=18							
BRTR	**Keskin Array B**	**90.22**	**310**	P		**P**	**18 31 53.6**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=150,slow=5.1,SNR=4.1							
FINES	**FINESS Array B**	**92.41**	**332**	P		**P**	**18 32 03.6**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=90,slow=5.7,SNR=4.7							

*DJA **05** 18:28:40,0.15S×132.53E,h25km,mb4.4/4*
IDC 05 18:28:34.9±2.0,**0.10S**×**132.68E**,**h0km**,**mb3.3**/2,
mb1 3.6/4,**mb1mx3.4**/18,**mbtmp3.4**/4,**ML3.7**/2,**Error ellipse: s-maj=93.8km s-min=24.4km az=83.0**,**Irian Jaya region**

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

Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.08**	**177**	P	P	18 39 04.1	-0.1
	0.0nm,0.3s,baz=358,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**22.77**	**179**	P	P	18 39 44.2	+0.1
	0.2nm,0.5s,baz=0.5,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	18 45 21.8	-0.1
	0.3nm,0.7s,baz=119,slow=7.5,SNR=5.2						

*IDC **05** 18:39:26.3±0.7, 0°.68S×133°.23E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/19, mbtmp4.2/10, ML4.4/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/29, Error ellipse: s-maj=35.2km s-min=12.0km az=77.0*

*ISCJB **05** 18:39:28.0±0.5, 0°.66S±0°.04×133°.47E±0°.07, h28km, mb4.4/19, MS3.5/4, Error ellipse: s-maj=10.7km s-min=6.4km az=172.4*

*BJI **05** 18:39:29.3, 0°.60S×133°.30E, h35km, mB4.9/2, mb4.4/5*

*NEIC **05** 18:39:31.3±0.4, 0°.71S×133°.34E, h35km, mb4.6/8, Error ellipse: s-maj=15.3km s-min=7.1km az=77.0*

*DJA **05** 18:39:32, 0°.81S×133°.31E, h75km, MLv4.7/10*

ISC 05 18:39:30.9±0.5, **0°.63S**±0°.06×**133°.38E**±0°.08, **h28**km, **n56, σ1°38/58, mb4.6**/19, **MS3.5/4, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.54**	**206**	P	**Pn**	**18 40 10.3**	**0.0**
BAKI	**Biak**	**2.79**	**102**	P	**Pb**	**18 40 21.3**	**+1.2**
TLE	**Tual**	**5.02**	**187**	P	**Pn**	**18 40 45.4**	**+1.0**
MSAI	**Masohi**	**5.20**	**239**	P	**Pn**	**18 40 48.9**	**+2.0**
LBMI	**Labuha**	**5.88**	**270**	P	**Pn**	**18 40 56.4**	**+0.2**
	125nm,1.0s,1µm0.4nm						
AAI	**Ambon**	**6.00**	**240**	P	**Pn**	**18 40 58.1**	**+0.1**
	183nm,0.7s,2µm0.6nm						
LUWI	**Luwuk**	**10.61**	**268**	P	**Pn**	**18 42 01.0**	**-0.2**
	59nm,1.2s,593nm						
BKSI	**Bulukumba**	**14.03**	**250**	P	**P**	**18 42 57.2**	**+1.7**
KAPI	**Kappang**	**14.29**	**252**	*eP*	**Pn**	**18 42 52.8**	**+1.3**
	17nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	**P**	**18 43 47.1**	**-2.9**
	0.9nm,0.3s,baz=43,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**18.96**	**203**	*eP*	**P**	**18 43 46.6**	**-3.5**
	17nm,0.6s						
FITZ				*eS*	Sn	18 47 04.9	-18
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	**P**	**18 43 47.1**	**-2.9**
WRAB	**Tennant Creek**	**19.21**	**177**	*eP*	**P**	**18 43 50.9**	**-2.0**
	20nm,0.9s						
WB2	**Warramunga Arr**	**19.22**	**177**	*eP*	**P**	**18 43 51.4**	**-1.6**
WRA	**Warramunga Arr**	**19.22**	**177**	P	**P**	**18 43 51.1**	**-1.8**
	1.0nm,0.3s,baz=356,slow=12,SNR=55						
WRA				S	Sn	18 47 15.6	-13
	0.5nm,0.3s,baz=354,slow=25,SNR=5.5						
WRA	**Warramunga Arr**	**19.22**	**177**	P	**P**	**18 43 51.1**	**-1.8**
WRA				S	Sn	18 47 15.6	-13
QIS	**Mount Isa**	**20.72**	**163**	*eP*	**P**	**18 44 08.6**	**-0.8**
AS31	**Alice Springs**	**22.91**	**179**	*eP*	**P**	**18 44 31.5**	**-1.2**
ASAR	**Alice Springs**	**22.91**	**179**	P	**P**	**18 44 31.4**	**-1.4**
	16nm,0.6s,baz=2.8,slow=9.2,SNR=91						
ASAR				S	**S**	**18 48 42.8**	**+1.7**
	2.9nm,1.1s,baz=360,slow=19,SNR=6.4						
ASAR	**Alice Springs**	**22.91**	**179**	P	**P**	**18 44 31.4**	**-1.4**
ASAR				S	**S**	**18 48 42.8**	**+1.7**
CTA	**Charters Tower**	**23.08**	**148**	P	**P**	**18 44 36.1**	**+1.6**
	7.7nm,0.9s,baz=311,slow=15,SNR=3.4						
CTA				LR	LR	18 54 59.9	
	comp=Z,216nm,19.4s,baz=219,slow=40						
CTA	**Charters Tower**	**23.08**	**148**	P	**P**	**18 44 36.1**	**+1.6**
MBWA	**Marble Bar**	**24.37**	**212**	*eP*	**P**	**18 44 46.2**	**-0.6**
MBWA	**Marble Bar**	**24.37**	**212**	*eP*	**P**	**18 44 44.3**	**-2.5**
	46nm,1.3s						
FORT	**Forrest**	**30.41**	**189**	*eP*	**P**	**18 45 40.3**	**-0.6**
	7.2nm,0.5s						
STKA	**Stephens Creek**	**32.04**	**167**	P	**P**	**18 45 54.2**	**-1.0**
	4.1nm,0.7s,baz=336,slow=8.0,SNR=17						
STKA				LR	LR	19 00 14.7	
	comp=Z,193nm,19.2s,baz=23,slow=39						
STKA	**Stephens Creek**	**32.04**	**167**	*eP*	**P**	**18 45 53.7**	**-1.6**
	3.6nm,0.7s						
STKA	**Stephens Creek**	**32.04**	**167**	P	**P**	**18 45 54.2**	**-1.0**
KMBL	**Kambalda**	**32.45**	**199**	*eP*	**P**	**18 45 58.0**	**-0.9**
	46nm,0.6s						
KSRS	**Korea Array**	**38.23**	**353**	LR	LR	19 00 08.9	
	comp=Z,57nm,19.4s,baz=165,slow=32						
CMAR	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**18 46 52.9**	**-0.7**
	0.7nm,0.7s,baz=118,slow=6.6,SNR=8.1						
CMAR	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**18 46 52.9**	**-0.7**
BJI	**Beijing**	**43.42**	**341**	P	**P**	**18 47 31.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
USRK	**Ussuriysk Arra**	**44.65**	**359**	LR	LR	19 06 43.9	
	comp=Z,30nm,18.6s,baz=156,slow=37						
LSA	**Lhasa**	**50.29**	**311**	P	**P**	**18 48 25.0**	**-0.8**
GTA	**Gaotai**	**50.31**	**326**	*eP*	**P**	**18 48 27.8**	**+2.4**
GTA				pP	**pP**	**18 48 34.9**	**+1.0**
GTA				sP	**sP**	**18 48 39.2**	**+1.9**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.9s						
SONM	**Songino Array**	**53.68**	**338**	P	**P**	**18 48 49.6**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=161,slow=7.9,SNR=4.4						
SONM	**Songino Array**	**53.68**	**338**	P	**P**	**18 48 49.6**	**-0.7**
YAK	**Yakutsk**	**62.56**	**358**	*eP*	**P**	**18 49 52.6**	**+0.6**
	comp=Z,6.3nm,0.6s						
MK31	**Makanchi Array**	**64.94**	**324**	*eP*	**P**	**18 50 08.0**	**0.0**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**18 50 08.1**	**0.0**
	comp=Z,5.9nm,0.7s,baz=114,slow=8.1,SNR=30						
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**18 50 08.1**	**0.0**
TKM2	**Tokmak 2**	**67.40**	**318**	*eP*	**P**	**18 50 23.7**	**-0.6**
	comp=Z,3.4nm,0.7s						
ZAA0	**Zalesovo Array**	**67.52**	**331**	*eP*	**P**	**18 50 23.4**	**-1.0**
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**18 50 23.3**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=102,slow=6.2,SNR=10						
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**18 50 23.3**	**-1.1**
EKS2	**Erkin-Say**	**68.54**	**317**	*eP*	**P**	**18 50 31.5**	**+0.2**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**69.00**	**326**	*eP*	**P**	**18 50 33.4**	**-0.4**
	comp=Z,8.1nm,0.8s						
KKAR	**Karatay Array**	**70.94**	**316**	*eP*	**P**	**18 50 45.3**	**-0.6**
	comp=Z,5.4nm,0.8s						
ABKAR	**Akbulak array**	**79.71**	**320**	*eP*	**P**	**18 51 35.1**	**-1.1**
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**18 52 08.4**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=254,slow=4.7,SNR=15						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**18 52 08.4**	**-1.0**
CPUP	**Villa Florida**	**151.28**	**160**	PKPbc	**PKPbc**	**18 59 23.3**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=105,slow=2.9,SNR=5.1						
CPUP	**Villa Florida**	**151.28**	**160**	PKPbc	**PKPbc**	**18 59 23.3**	**+0.7**
LPAZ	**La Paz**	**152.93**	**129**	PKPbc	**PKPbc**	**18 59 28.1**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=233,slow=7.4,SNR=3.9						
LPAZ	**La Paz**	**152.93**	**129**	PKPbc	**PKPbc**	**18 59 28.1**	**+0.7**

*NIED **05** 18:40:00, 38°.40N×143°.30E, h26km, Mw3.5 Best double couple: M0 2.30000×10^14 NP1:φ=25.00000°, δ=67.00000°, λ=115.00000°. NP2:φ=155.00000°, δ=34.00000°, λ=45.00000°.*

JMA 05 18:40:36.9±0.1, **38°.42N×143°.26E, h12**km±3km, **M3.8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.41**	**298**	P	Pn	18 41 02.3	-0.1
OFUJ				S	Sn	18 41 20.2	-0.7
JIO	**Ouri**	**1.50**	**272**	P	Pn	18 41 03.7	+0.1
JIO				S	Sn	18 41 23.0	-0.1
JMK	**Ichinoseki**	**1.68**	**289**	P	Pn	18 41 06.3	+0.2
JMK				S	Sn	18 41 27.8	+0.2
JOM	**Ohasama**	**1.86**	**305**	P	Pn	18 41 09.0	+0.4
JOM				*eS*	Sn	18 41 32.2	+0.2
JMM	**Marumori**	**2.02**	**255**	P	Pn	18 41 11.0	+0.2
JMM				*eS*	Sn	18 41 36.7	+0.7
JOU	**Okura**	**2.04**	**269**	P	Pn	18 41 11.9	+0.8
JOU				*eS*	Sn	18 41 37.8	+1.3
JFK	**Kawauchi**	**2.16**	**242**	P	Pn	18 41 13.0	+0.2
JFK				*eS*	Sn	18 41 39.8	+0.3
JYK	**Kaneyama**	**2.33**	**283**	P	Pn	18 41 16.0	+1.0
JYK				*eS*	Sn	18 41 44.7	+1.2
JFT	**Otama**	**2.48**	**250**	P	Pn	18 41 18.7	+1.6
JFT				*eS*	Sn	18 41 49.1	+1.7
JYS	**Shirataka**	**2.52**	**266**	P	Pn	18 41 18.9	+1.2
JYS				*eS*	Sn	18 41 50.2	+1.9
JAH	**Hinai**	**2.69**	**312**	P	Pn	18 41 22.0	+1.9
MAT	**Matsushiro**	**4.43**	**247**	P	Pn	18 41 46.9	+2.9
MAT				S	Sn	18 42 40.7	+5.1

IDC 05 18:41:11.1±7.0, **1°.69N×96°.85E, h0**km, **mb4.0**/4, **mb1 4.0**/5, **mb1mx3.7**/23, **mbtmp3.9**/5, **ML3.4**/1, **Error ellipse: s-maj=177.5km s-min=68.7km az=129.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.79**	**7**	Pn	Pn	18 45 08.0	+0.1
	0.1nm,0.3s,baz=196,slow=12,SNR=10						
MKAR	**Makanchi Array**	**46.69**	**346**	P	P	18 49 41.8	+0.1
	1.6nm,0.7s,baz=160,slow=7.9,SNR=21						
SONM	**Songino Array**	**46.70**	**9**	P	P	18 49 42.0	0.0
	1.0nm,0.8s,baz=190,slow=8.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**53.02**	**351**	P	P	18 50 29.3	-0.4
	7.2nm,0.7s,baz=174,slow=6.9,SNR=31						
GERES	**GERESS Array B**	**84.21**	**319**	P	P	18 53 44.9	+0.1
	0.1nm,0.3s,baz=76,slow=4.1,SNR=3.7						

*CSEM **05** 18:47:41.8±0.2, 40°.09N×24°.41E, h15km, ML2.2/5, Error ellipse: s-maj=4.6km s-min=3.8km az=14.0*

*ATH **05** 18:47:41.5, 40°.13N×24°.44E, h31km±2km, MD3.1/6*

*ISCJB **05** 18:47:42.1±0.4, 40°.08N±0°.03×24°.40E±0°.03, h26km±5km, Error ellipse: s-maj=5.1km s-min=4.0km az=17.4*

*THE **05** 18:47:42.2, 40°.08N×24°.38E, h21km±1km, ML2.2/5, Error ellipse: s-maj=1.4km s-min=0.5km az=298.0*

*SOF **05** 18:47:43.2, 40°.26N×24°.38E, h12km, MD2.6*

ISC 05 18:47:41.7±1.1, **40°.11N**±0°.03×**24°.40E**±0°.02, **h16**km±9km, **n39, σ0°.45/66, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.39**	**305**	P	**Pb**	**18 47 50.2**	**-0.1**
OUR				S	**Sb**	**18 47 56.3**	**+0.2**
OUR	**Ouranopolis**	**0.39**	**305**	P	**Pb**	**18 47 50.2**	**-0.1**
OUR				S	**Sb**	**18 47 56.3**	**+0.2**
PAIG	**Paliouri**	**0.58**	**252**	P	**Pg**	**18 47 52.8**	**-0.4**
PAIG				S	**Sb**	**18 48 01.4**	**-0.2**
PAIG	**Paliouri**	**0.58**	**252**	P	**Pg**	**18 47 52.8**	**-0.4**
PAIG				S	**Sb**	**18 48 01.4**	**-0.2**
LIA	**Limnos Island**	**0.64**	**109**	P	**Pb**	**18 47 54.5**	**0.0**
LIA				S	**Sb**	**18 48 03.8**	**+0.6**
LIA	**Limnos Island**	**0.64**	**109**	*ePN*	**Pg**	**18 47 54.2**	**-0.1**
LIA				*eSN*	**Sb**	**18 48 03.3**	**+0.1**
LIA	**Limnos Island**	**0.64**	**109**	*ePn*	**Pg**	**18 47 54.2**	**-0.1**
LIA	**Limnos Island**	**0.64**	**109**	P	**Pb**	**18 47 54.5**	**0.0**
LIA				*eSn*	**Sb**	**18 48 03.3**	**+0.1**
LIA				S	**Sb**	**18 48 03.8**	**+0.6**
PLG	**Polygyros**	**0.78**	**290**	P	**Pg**	**18 47 57.0**	**+0.1**
PLG				S	**Sg**	**18 48 07.5**	**+0.3**
PLG	**Polygyros**	**0.78**	**290**	*ePN*	**Pg**	**18 47 56.9**	**+0.1**
PLG				*eSN*	**Sg**	**18 48 07.3**	**+0.1**
PLG	**Polygyros**	**0.78**	**290**	P	**Pg**	**18 47 57.0**	**+0.1**
PLG				S	**Sg**	**18 48 07.5**	**+0.3**
KAVA	**Kavala**	**0.89**	**6**	P	**Pn**	**18 47 59.2**	**+0.1**
KAVA				S	**Sn**	**18 48 12.0**	**-0.2**
KAVA	**Kavala**	**0.89**	**6**	P	**Pn**	**18 47 59.7**	**+0.1**
KAVA				S	**Sn**	**18 48 12.0**	**-0.2**
AOS	**Alonnisos**	**1.02**	**203**	P	**Pb**	**18 47 59.8**	**-1.3**
AOS				S	**Sb**	**18 48 14.4**	**+0.2**
AOS	**Alonnisos**	**1.02**	**203**	P	**Pb**	**18 47 59.8**	**-1.3**
AOS				S	**Sb**	**18 48 14.4**	**+0.2**
SOH	**Sokhos**	**1.07**	**312**	P	**Pg**	**18 48 02.5**	**+0.1**
SOH				S	**Sn**	**18 48 16.9**	**+0.2**
SOH	**Sokhos**	**1.07**	**312**	*ePN*	**Pg**	**18 48 02.7**	**+0.3**
SOH				*eSN*	**Sn**	**18 48 16.9**	**+0.2**
SOH	**Sokhos**	**1.07**	**312**	*ePn*	**Pg**	**18 48 02.7**	**+0.3**
SOH				S	**Sn**	**18 48 16.9**	**+0.2**
SRS	**Serrai**	**1.18**	**329**	P	**Pn**	**18 48 03.3**	**-0.3**
SRS	**Serrai**	**1.18**	**329**	P	**Pn**	**18 48 03.3**	**-0.3**
NVR	**Nevrokopi**	**1.30**	**342**	*ePN*	**Pb**	**18 48 05.9**	**0.0**
NVR				*eSN*	**Sn**	**18 48 22.2**	**-0.3**
NVR	**Nevrokopi**	**1.30**	**342**	*ePn*	**Pb**	**18 48 05.9**	**0.0**
NVR				*eSn*	**Sn**	**18 48 22.2**	**-0.3**
RDO	**Rodhopi**	**1.35**	**40**	P	**Pn**	**18 48 05.7**	**-0.2**
RDO				S	**Sb**	**18 48 23.4**	**-0.2**
RDO	**Rodhopi**	**1.35**	**40**	*ePB*	**Pn**	**18 48 04.9**	**-1.0**
RDO				*eSN*	**Sb**	**18 48 23.5**	**-0.2**
RDO	**Rodhopi**	**1.35**	**40**	*ePb*	**Pn**	**18 48 04.9**	**-1.0**
RDO	**Rodhopi**	**1.35**	**40**	P	**Pn**	**18 48 05.7**	**-0.2**
RDO				*eSn*	**Sb**	**18 48 23.5**	**-0.2**
ALN	**Alexandroupoli**	**1.48**	**57**	P	**Pn**	**18 48 07.4**	**-0.3**
ALN				S	**Sn**	**18 48 26.8**	**+0.1**
ALN	**Alexandroupoli**	**1.48**	**57**	*ePN*	**Pn**	**18 48 07.4**	**-0.3**
ALN				*eSN*	**Sn**	**18 48 26.0**	**-0.7**
ALN	**Alexandroupoli**	**1.48**	**57**	P	**Pn**	**18 48 07.4**	**-0.3**
ALN				*eSn*	**Sn**	**18 48 26.0**	**-0.7**
ALN				S	**Sn**	**18 48 26.8**	**+0.1**
MMB	**Musomiste**	**1.56**	**341**	*i* P	**Pn**	**18 48 09.1**	**+0.2**
MMB	**Musomiste**	**1.56**	**341**	*i* P	**Pn**	**18 48 09.1**	**+0.2**
RZN	**Rozhen**	**1.59**	**9**	*i* P	**Pn**	**18 48 10.2**	**+0.7**
RZN	**Rozhen**	**1.59**	**9**	*i* P	**Pn**	**18 48 10.2**	**+0.7**
KDZ	**Kurdzhali**	**1.72**	**26**	*eP*	**Pb**	**18 48 12.7**	**-0.3**
KDZ	**Kurdzhali**	**1.72**	**26**	*eP*	**Pb**	**18 48 12.7**	**-0.3**
KKB	**Krupnik**	**2.02**	**331**	*i* P	**Pb**	**18 48 17.9**	**-0.2**
KKB	**Krupnik**	**2.02**	**331**	*i* P	**Pb**	**18 48 17.9**	**-0.2**
APE	**Apeiranthos**	**3.16**	**163**	*ePN*	**Pn**	**18 48 31.9**	**+1.0**
APE	**Apeiranthos**	**3.16**	**163**	*ePn*	**Pn**	**18 48 31.9**	**+1.0**

*BJI **05** 18:56:02.7, 42°.40N×30°.50W, h10km, mB5.2/13, mb4.9/23, Ms5.2/13, Ms7 4.8/13*

*IDC **05** 18:56:03.9±0.5, 42°.43N×30°.57W, h0km, mb4.3/28, mb1 4.4/28, mb1mx4.4/35, mbtmp4.3/28, MS4.2/23, Ms1 4.2/23, ms1mx4.2/30, Error ellipse: s-maj=15.3km s-min=10.8km az=9.0*

*ISCJB **05** 18:56:04.4±0.1, 42°.34N±0°.03×30°.56W±0°.02, h15km, mb4.6/144, MS4.3/39, Error ellipse: s-maj=4.1km s-min=1.8km az=5.0*

*NEIC **05** 18:56:05.6±0.2, 42°.42N×30°.54W, h10km, mb4.9/72, Error ellipse: s-maj=6.9km s-min=2.9km az=179.0*

*CSEM **05** 18:56:05.3±0.1, 42°.37N×30°.55W, h10km, mb4.8/79, Mw5.1, Error ellipse: s-maj=4.3km s-min=2.7km az=7.0*

*MOS **05** 18:56:07.5±0.8, 42°.49N×30°.56W, h33km, mb4.9/38, MS4.2/8, Error ellipse: s-maj=8.7km s-min=5.5km az=46.1*

*SZGRF **05** 18:56:55.0, 46°.31N×24°.53W, h10km, mb4.0, MS3.9, Northern Mid-Atlantic Ridge*

ISC 05 18:56:06.8±0.4, **42°.43N**±0°.06×**30°.49W**±0°.05, **h18**km±1km, **h18**km:**pP-P, n809**, σ0°.94/833, **mb4.6**/144, **MS4.3**/39, **173C-165D, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**4.04**	**160**	*eP*	**Pn**	**18 57 05.9**	**-1.7**
PCED	**Cedros**	**4.04**	**160**	*eP*	**Pn**	**18 57 05.9**	**-1.7**
CALA	**Caldeira**	**4.08**	**160**	*eP*	**Pn**	**18 57 06.6**	**-1.7**
CALA	**Caldeira**	**4.08**	**160**	*eP*	**Pn**	**18 57 06.6**	**-1.7**
ROSA	**Rosais**	**4.08**	**154**	*eP*	**Pn**	**18 57 06.3**	**-2.0**
ROSA	**Rosais**	**4.08**	**154**	*eP*	**Pn**	**18 57 06.3**	**-2.0**
HOR	**Horta**	**4.15**	**159**	*eP*	**Pn**	**18 57 07.3**	**-1.9**
HOR	**Horta**	**4.15**	**159**	*eP*	**Pn**	**18 57 07.3**	**-1.9**
PMAN	**Manadas**	**4.21**	**153**	*eP*	**Pn**	**18 57 07.9**	**-2.2**
PMAN	**Manadas**	**4.21**	**153**	*eP*	**Pn**	**18 57 07.9**	**-2.2**
PICO	**Pico**	**4.23**	**157**	*eP*	**Pn**	**18 57 08.3**	**-2.1**
PICO	**Pico**	**4.23**	**157**	*eP*	**Pn**	**18 57 08.3**	**-2.1**
PCAN	**Candelaria**	**4.25**	**158**	*eP*	**Pn**	**18 57 08.6**	**-2.0**
PCAN	**Candelaria**	**4.25**	**158**	*eP*	**Pn**	**18 57 08.6**	**-2.0**
PID	**Ribeirinha**	**4.38**	**155**	*eP*	**Pn**	**18 57 10.2**	**-2.1**
ADH	**Angra Heroismo**	**4.52**	**146**	*eP*	**Pn**	**18 57 12.1**	**-2.1**
ADH	**Angra Heroismo**	**4.52**	**146**	*eP*	**Pn**	**18 57 12.1**	**-2.1**
PDA	**Ponta Delgada**	**5.97**	**140**	*eP*	**Pn**	**18 57 31.4**	**-2.7**
CMLA	**Cha da Macela**	**6.02**	**139**	*eP*	**Pn**	**18 57 33.2**	**-1.7**
BART	**Pico Bartolome**	**6.19**	**137**	*eP*	Pn	18 57 34.0	-3.2
PSMA	**Santa Maria**	**6.82**	**141**	*eP*	**Pn**	**18 57 44.8**	**-1.1**
PSMN	**Pico do Norte,**	**6.85**	**141**	*eP*	**Pn**	**18 57 45.4**	**-0.9**
PGAV	**Gavieira, Arco**	**16.47**	**84**	*eP*	**P**	**18 59 59.8**	**+0.2**
	49nm,1.3s						
PGAV	**Gavieira, Arco**	**16.47**	**84**	*eP*	**P**	**18 59 59.8**	**+0.2**
	49nm,1.3s						
PVIS	**Viseu**	**16.99**	**88**	*eP*	**P**	**19 00 05.0**	**-0.3**
	39nm,1.8s						
PVIS	**Viseu**	**16.99**	**88**	*eP*	**P**	**19 00 05.0**	**-0.3**
	39nm,1.8s						
PMTG	**Montargil**	**17.20**	**94**	*eP*	**P**	**19 00 06.8**	**-0.6**
	39nm,1.4s						
PMTG	**Montargil**	**17.20**	**94**	*eP*	**P**	**19 00 06.8**	**-0.6**
	39nm,1.4s						
MTE	**Manteigas**	**17.33**	**89**	*ePn*	**P**	**19 00 10.4**	**+1.4**
	287nm,2.8s						
MTE	**Manteigas**	**17.33**	**89**	*ePn*	**P**	**19 00 10.4**	**+1.4**
	287nm,2.8s						
MORF	**Marmelete**	**17.52**	**100**	*eP*	**P**	**19 00 11.7**	**+0.6**
	61nm,1.6s						
MORF	**Marmelete**	**17.52**	**100**	*eP*	**P**	**19 00 11.7**	**+0.6**
	61nm,1.6s						
PCBR	**Castelo Branco**	**17.52**	**91**	*eP*	**P**	**19 00 10.9**	**-0.1**
	25nm,1.9s						
PCBR	**Castelo Branco**	**17.52**	**91**	*eP*	**P**	**19 00 10.9**	**-0.1**
	25nm,1.9s						
EVO	**Evora**	**17.53**	**95**	*eP*	**P**	**19 00 11.7**	**+0.6**
	39nm,1.8s						
EVO	**Evora**	**17.53**	**95**	*eP*	**P**	**19 00 13.6**	**+2.5**
	42nm,1.2s						
EVO				*eR*			
	1µm,20.8s						
EVO	**Evora**	**17.53**	**95**	*eP*	**P**	**19 00 11.7**	**+0.6**
	39nm,1.8s						
MVO	**Moncorvo**	**17.54**	**86**	*eP*	**P**	**19 00 13.0**	**+1.7**
	31nm,1.5s						
MVO	**Moncorvo**	**17.54**	**86**	*eP*	**P**	**19 00 13.0**	**+1.7**
	31nm,1.5s						
PBRG	**Braganca**	**17.63**	**84**	*eP*	**P**	**19 00 13.4**	**+1.2**
	24nm,1.5s						
PBRG	**Braganca**	**17.63**	**84**	*eP*	**P**	**19 00 13.4**	**+1.2**
	24nm,1.5s						
PMRV	**Marv??o**	**17.70**	**92**	*eP*	**P**	**19 00 12.9**	**-0.2**
	31nm,1.5s						
PMRV	**Marv??o**	**17.70**	**92**	*eP*	**P**	**19 00 12.9**	**-0.2**
	31nm,1.5s						
PESTR	**Estremoz**	**17.73**	**94**	*eP*	**P**	**19 00 14.6**	**+1.2**
	29nm,2.1s						
PESTR	**Estremoz**	**17.73**	**94**	*eP*	**P**	**19 00 14.6**	**+1.2**
	29nm,2.1s						
PCVE	**Castro Verde**	**17.84**	**98**	*eP*	**P**	**19 00 16.1**	**+1.6**
	61nm,1.7s						
PCVE	**Castro Verde**	**17.84**	**98**	*eP*	**P**	**19 00 16.1**	**+1.6**
	61nm,1.7s						
PBDV	**Barranco-do-Ve**	**18.07**	**99**	*eP*	**P**	**19 00 18.6**	**+1.5**
	71nm,2.0s						
PBDV	**Barranco-do-Ve**	**18.07**	**99**	*eP*	**P**	**19 00 18.6**	**+1.5**
	71nm,2.0s						
PBAR	**Barrancos**	**18.37**	**96**	*eP*	**Pn**	**19 00 21.4**	**+0.9**
	24nm,2.1s						
PBAR	**Barrancos**	**18.37**	**96**	*eP*	**Pn**	**19 00 21.4**	**+0.9**
	24nm,2.1s						
DLF	**Lyons Farm**	**19.31**	**48**	*‖i* P	**Pn**	**19 00 33.1**	**+1.4**
PAB	**San Pablo**	**19.92**	**90**	*eP*	**P**	**19 00 35.0**	**-2.5**
PAB				pmax	pmax		
	comp=Z,151nm,2.5s						
PAB	**San Pablo**	**19.92**	**90**	*eP*	**P**	**19 00 35.0**	**-2.5**
	comp=Z,151nm,2.5s						
PAB	**San Pablo**	**19.92**	**90**	*eP*	**P**	**19 00 35.0**	**-2.5**
	comp=Z,151nm,2.5s						
ROSF	**Rostrenen**	**19.95**	**63**	*eP*	**Pn**	**19 00 38.9**	**-0.5**
	comp=Z,56nm,0.9s						
QUIF	**Quistinic**	**19.98**	**65**	*eP*	**P**	**19 00 38.3**	**+0.4**
ESDC	**Sonseca Array**	**20.17**	**89**	P	**P**	**19 00 40.8**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=291,slow=9.8,SNR=25						
ESDC				LR	LR	19 06 44.7	
	comp=Z,266nm,21.4s,baz=295,slow=32						
ESDC	**Sonseca Array**	**20.17**	**89**	P	**P**	**19 00 40.8**	**+0.6**
ESDC	**Sonseca Array**	**20.17**	**89**	P	**P**	**19 00 40.8**	**+0.6**
ESLA	**Sonseca Array**	**20.17**	**89**	*eP*	**P**	**19 00 40.7**	**+0.5**
	comp=Z,77nm,2.1s						
ESLA	**Sonseca Array**	**20.17**	**89**	*eP*	**P**	**19 00 40.7**	**+0.5**
	comp=Z,77nm,2.1s						
SGMF	**Saint Gilles**	**20.42**	**64**	*eP*	**P**	**19 00 43.1**	**+0.4**
	comp=Z,57nm,1.0s						
SJPF	**Ste Jean**	**21.45**	**78**	*eP*	**P**	**19 00 56.5**	**+2.5**
	comp=Z,94nm,1.6s						
GRR	**Gorron**	**21.56**	**64**	*eP*	**P**	**19 00 55.5**	**+0.5**
FLN	**La Foliniere**	**21.84**	**63**	*eP*	**P**	**19 00 57.3**	**-0.7**
	comp=Z,65nm,1.1s						
FLN				*

DAVOX **Davos/Dischmat** 28.84 67 P P 19 02 05.2 +1.1
FETA **Feichten** 29.39 67⇓*i*P P 19 02 09.8 +0.8
comp=Z,8.3nm,0.9s
FETA **Feichten** 29.39 67⇓*i*P P 19 02 09.8 +0.8
comp=Z,8.3nm,0.9s,SNR=9.8
FETA **Feichten** 29.39 67⇓*i*P P 19 02 09.8 +0.8
comp=Z,8.3nm,0.9s
GRA1 **Grafenberg Arr** 29.53 61 *e*P P 19 02 10.6 +0.6
comp=Z,400nm,19.3s
GRF **Grafenberg Arr** 29.53 61 *e*P P 19 02 10.6 +0.6
comp=Z,5.0nm,1.0s
GRF *e*L L 19 12 35.4
comp=Z,352nm,19.3s
GRF **Grafenberg Arr** 29.53 61 *e*P P 19 02 10.6 +0.6
GRF pmax pmax
comp=Z,5.0nm,1.0s
GRF MLR MLR
comp=Z,400nm,19.3s
MOTA **Moosalm** 29.61 66⇑*i*P P 19 02 11.6 +0.7
MOTA pmax pmax
comp=Z,5.0nm,0.8s
MOTA **Moosalm** 29.61 66⇑*i*P P 19 02 11.6 +0.7
comp=Z,5.4nm,0.8s
MOTA **Moosalm** 29.61 66⇑*i*P P 19 02 11.6 +0.7
comp=Z,5.4nm,0.8s
MOTA **Moosalm** 29.61 66⇑*i*P P 19 02 11.6 +0.7
comp=Z,5.4nm,0.8s
WTTA **Wattenberg** 29.98 66⇑*i*P P 19 02 14.7 +0.5
WTTA pmax pmax
comp=Z,9.0nm,0.6s
WTTA **Wattenberg** 29.98 66⇑*i*P P 19 02 14.7 +0.5
comp=Z,8.7nm,0.6s
WTTA **Wattenberg** 29.98 66⇑*i*P P 19 02 14.7 +0.5
comp=Z,8.7nm,0.6s
WTTA **Wattenberg** 29.98 66⇑*i*P P 19 02 14.7 +0.5
comp=Z,8.7nm,0.6s
NKC **Novy Kostel** 30.31 60 *e*P P 19 02 17.6 +0.7
NKC **Novy Kostel** 30.31 60 *e*P P 19 02 17.6 +0.7
NKC **Novy Kostel** 30.31 60 *e*P P 19 02 17.6 +0.7
SUMG **Summit** 30.47 355 *e*P P 19 02 18.6 +0.1
SUMG pmax pmax
comp=Z,33nm,1.5s
SUMG **Summit** 30.47 355 *e*P P 19 02 18.6 +0.1
comp=Z,33nm,1.5s
SUMG **Summit** 30.47 355 *i*P P 19 02 18.6 +0.1
comp=Z,7.0nm,0.9s
SUMG **Summit** 30.47 355 *e*P P 19 02 18.6 +0.1
comp=Z,33nm,1.5s
FRB **Frobisher Bay** 30.53 327 P P 19 02 18.8 +0.2
comp=Z,3.6nm,0.6s,baz=16,slow=20,SNR=7.9
FRB LR LR 19 10 59.6
comp=Z,369nm,21.3s,baz=99,slow=29
FRB **Frobisher Bay** 30.53 327 P P 19 02 18.8 +0.2
FRB **Frobisher Bay** 30.53 327 P P 19 02 18.8 +0.2
FRB **Frobisher Bay** 30.53 327 P P 19 02 18.8 +0.2
CLL **Collm** 30.64 58 *e*P P 19 02 25.0 +5.3
CLL MLR MLR
comp=Z,300nm,19.1s
CLL **Collm** 30.64 58 *e*(sP) P 19 02 25.0 +5.3
CLL *e*S S 19 07 34.0 +13
CLL *e*(SS) 19 08 42.0
ABTA **Abfaltersbach** 30.64 67⇓*i*P P 19 02 20.5 +0.6
comp=Z,7.4nm,0.8s
ABTA **Abfaltersbach** 30.64 67⇓*i*P P 19 02 20.5 +0.6
comp=Z,7.4nm,0.8s,SNR=12
ABTA **Abfaltersbach** 30.64 67⇓*i*P P 19 02 20.5 +0.6
comp=Z,7.4nm,0.8s
KHC **Kasperske Hory** 31.10 62 *e*P P 19 02 24.6 +0.7
KHC MLR MLR
comp=Z,500nm,10.8s
KHC **Kasperske Hory** 31.10 62 *e*P P 19 02 24.5 +0.7
comp=Z,72nm,2.3s
KHC **Kasperske Hory** 31.10 62 *e*P P 19 02 24.6 +0.7
comp=Z,72nm,2.3s
KHC *ep*P pP 19 02 28.0 -1.5
KHC AMS AMS 19 13 40.0
comp=Z,500nm,10.8s
KHC **Kasperske Hory** 31.10 62 *e*P P 19 02 24.5 +0.7
comp=Z,72nm,2.3s
NOA **NORSAR Array B** 31.10 39 LR LR 19 13 03.6
comp=Z,299nm,18.9s,baz=270,slow=33
KBA **Koelnbreinsper** 31.16 66⇑*i*P P 19 02 25.4 +0.7
KBA pmax pmax
comp=Z,21nm,1.1s
KBA **Koelnbreinsper** 31.16 66⇑*i*P P 19 02 25.4 +0.7
comp=Z,21nm,1.1s
KBA **Koelnbreinsper** 31.16 66⇑*i*P P 19 02 25.4 +0.7
comp=Z,21nm,1.1s,SNR=7.6
KBA **Koelnbreinsper** 31.16 66⇑*i*P P 19 02 25.4 +0.7
comp=Z,21nm,1.1s
GERES **GERESS Array B** 31.20 63 P P 19 02 25.4 +0.5
comp=Z,2.6nm,0.6s,baz=277,slow=8.5,SNR=39
GERES LR LR 19 13 23.7
comp=Z,215nm,19.8s,baz=272,slow=33
GERES **GERESS Array B** 31.20 63 P P 19 02 25.4 +0.5
GERES **GERESS Array B** 31.20 63 P P 19 02 25.4 +0.5
GERES **GERESS Array B** 31.20 63 P P 19 02 25.4 +0.5
ROBS **Robic** 31.40 68 *e*P P 19 02 26.5 0.0
KEST **Kesra** 31.42 89 P P 19 02 25.6 -1.3
comp=Z,1.6nm,0.8s,baz=228,slow=4.5,SNR=4.5
KEST **Kesra** 31.42 89 *e*P P 19 02 25.6 -1.3
KEST **Kesra** 31.42 89 *e*P P 19 02 25.6 -1.3
CADS **Cadrg** 31.56 68 *e*P P 19 02 27.9 0.0
PVCC **Panska Ves** 31.65 59 AMS AMS 19 13 50.0
comp=Z,700nm,14.9s
PRU **Pruhonice** 31.66 60 *e*P P 19 02 30.2 +1.4
PRU MLR MLR
comp=Z,500nm,19.1s
PRU **Pruhonice** 31.66 60 *e*P P 19 02 30.2 +1.4
PRU AMS AMS 19 14 00.0
comp=Z,500nm,19.1s
PRU **Pruhonice** 31.66 60 *e*P P 19 02 30.2 +1.4
comp=Z,500nm,19.1s
MOA **Molln** 31.68 65⇑*i*P P 19 02 29.5 +0.5
comp=Z,6.4nm,0.7s
MOA **Molln** 31.68 65⇑*i*P P 19 02 29.5 +0.5
comp=Z,6.4nm,0.7s
MOA **Molln** 31.68 65⇑*i*P P 19 02 29.5 +0.5
comp=Z,6.4nm,0.7s
JAVS **Javornik** 31.84 68 *e*P P 19 02 30.6 +0.1
OBKA **Obir** 32.07 67⇓*i*P P 19 02 32.5 0.0
comp=Z,22nm,0.7s
OBKA **Obir** 32.07 67⇓*i*P P 19 02 32.5 0.0
comp=Z,22nm,0.7s,SNR=32
OBKA **Obir** 32.07 67⇓*i*P P 19 02 32.5 0.0
comp=Z,22nm,0.7s
LJU **Ljubljana** 32.13 68 *e*P P 19 02 33.2 +0.3
TREC **Trest** 32.33 62 *e*P P 19 02 35.4 +0.7
TREC **Trest** 32.33 62 *e*P P 19 02 35.4 +0.7
TREC **Trest** 32.33 62 *e*P P 19 02 35.4 +0.7
UPC **Upice** 32.57 59 *e*P P 19 02 37.2 +0.4
UPC **Upice** 32.57 59 *e*P P 19 02 37.2 +0.4
UPC **Upice** 32.57 59 *e*P P 19 02 37.2 +0.4
ARSA **Arzberg** 32.61 65⇑*i*P P 19 02 37.1 0.0
comp=Z,6.8nm,1.2s
ARSA **Arzberg** 32.61 65⇑*i*P P 19 02 37.2 0.0
comp=Z,6.8nm,1.2s
ARSA **Arzberg** 32.61 65⇑*i*P P 19 02 37.2 0.0
comp=Z,6.8nm,1.2s
CONA **Conrad Observa** 32.74 64⇑*i*P P 19 02 38.2 -0.2
comp=Z,6.3nm,0.8s
CONA **Conrad Observa** 32.74 64⇑*i*P P 19 02 38.2 -0.2
comp=Z,6.3nm,0.8s
CONA **Conrad Observa** 32.74 64⇑*i*P P 19 02 38.2 -0.2
comp=Z,6.3nm,0.8s
DPC **Dobruska-Polom** 32.78 60 *e*P P 19 02 38.1 -0.5
DPC MLR MLR
comp=Z,500nm,16.5s
DPC **Dobruska-Polom** 32.78 60 *e*P P 19 02 38.1 -0.5
DPC AMS AMS 19 14 20.0
comp=Z,500nm,16.5s
DPC **Dobruska-Polom** 32.78 60 *e*P P 19 02 38.1 -0.5
comp=Z,500nm,16.5s
VRAC **Vranov** 33.05 62 ⇓P P 19 02 42.0 +1.0
VRAC **Vranov** 33.05 62⇓*i*P P 19 02 42.0 +1.0
VRAC **Vranov** 33.05 62 P P 19 02 42.0 +1.0
KRLC **Kraliky** 33.10 60 *e*P P 19 02 42.6 +1.2
GKP **Gorka Klasztor** 33.22 54 *e*P P 19 02 44.2 +1.8
GKP **Gorka Klasztor** 33.22 54 *e*P P 19 02 44.2 +1.8
GKP **Gorka Klasztor** 33.22 54 *e*P P 19 02 44.2 +1.8
MORC **Moravsky Berou** 33.62 61 ⇑P P 19 02 46.4 +0.5
MORC **Moravsky Berou** 33.62 61 *e*P P 19 02 45.7 -0.2
comp=Z,10.0nm,1.3s
MORC **Moravsky Berou** 33.62 61⇑*i*P P 19 02 46.4 +0.5
MORC **Moravsky Berou** 33.62 61 P P 19 02 46.4 +0.5
VYHS **Vyhne** 34.63 63 *e*P P 19 02 55.0 +0.3
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS **Vyhne** 34.63 63 *e*P P 19 02 55.0 +0.3
VYHS **Vyhne** 34.63 63 *e*P P 19 02 55.0 +0.3
comp=Z,2.0nm,0.8s
DAG **Danmarks Havn** 34.81 5 *i*P P 19 02 56.4 +0.5
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG **Danmarks Havn** 34.81 5 *i*P P 19 02 56.4 +0.5
comp=Z,69nm,1.0s
PKSM **Moragy** 34.91 67⇓P P 19 02 57.1 0.0
PKSM **Moragy** 34.91 67⇓*i*P P 19 02 57.1 0.0
PKSM **Moragy** 34.91 67⇑*e*P P 19 02 57.4 +0.3
PKSM **Moragy** 34.91 67 P P 19 02 57.1 0.0
BUD **Budapest** 34.92 64⇑*e*P P 19 02 57.8 +0.6
BUD **Budapest** 34.92 64⇑*e*P P 19 02 57.8 +0.6
OJC **Ojcow** 35.01 59 *e*P P 19 02 58.6 +0.6
OJC **Ojcow** 35.01 59 *e*P P 19 02 58.6 +0.6
OJC **Ojcow** 35.01 59 *e*P P 19 02 58.6 +0.6
PSZ **Piszkesteto** 35.42 63⇑*e*P P 19 03 02.4 +0.8
PSZ **Piszkesteto** 35.42 63⇑*e*P P 19 03 02.4 +0.8
NIE **Niedzica** 35.45 61 *e*P P 19 03 03.5 +1.7
NIE **Niedzica** 35.45 61 *e*P P 19 03 03.5 +1.7
NIE **Niedzica** 35.45 61 *e*P P 19 03 03.5 +1.7
KECS **Kecovo** 35.71 62 *e*P P 19 03 04.9 +0.9
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 35.71 62 *e*P P 19 03 04.8 +0.8
KECS **Kecovo** 35.71 62 *e*P P 19 03 04.9 +0.9
comp=Z,3.0nm,0.9s
TAM **Tamanrasset** 35.75 112 *e*P P 19 03 06.1 +1.3
TAM pmax pmax
comp=Z,7.0nm,1.2s
TAM **Tamanrasset** 35.75 112 *e*P P 19 03 06.1 +1.3
comp=Z,7.4nm,1.2s
TAM **Tamanrasset** 35.75 112 *e*P P 19 03 06.1 +1.3
comp=Z,7.3nm,1.2s
STHS **Stebnicka Huta** 36.05 61 *e*P P 19 03 08.8 +1.9
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS **Stebnicka Huta** 36.05 61 *e*P P 19 03 08.8 +1.9
STHS **Stebnicka Huta** 36.05 61 *e*P P 19 03 08.8 +1.9
comp=Z,4.0nm,0.9s
CRVS **Cervenica-Dubn** 36.28 61 *e*P P 19 03 10.1 +1.2
CRVS **Cervenica-Dubn** 36.28 61 *e*P P 19 03 10.1 +1.2
CRVS **Cervenica-Dubn** 36.28 61 *e*P P 19 03 10.1 +1.2
KWP **Kalwaria Pacla** 36.96 60 ⇓P P 19 03 16.2 +1.5
KWP **Kalwaria Pacla** 36.96 60 *e*P P 19 03 16.0 +1.3
comp=Z,22nm,1.1s
KWP **Kalwaria Pacla** 36.96 60 ⇓*i*P P 19 03 16.2 +1.5
KWP **Kalwaria Pacla** 36.96 60 *e*P P 19 03 16.0 +1.3
comp=Z,22nm,1.1s
BZS **Buzias** 37.06 67 ⇓P P 19 03 16.1 +0.5
BZS **Buzias** 37.06 67⇓*i*P P 19 03 16.1 +0.5
BZS **Buzias** 37.06 67 P P 19 03 16.1 +0.5
TRPA **Tarpa** 37.12 62⇓*e*P P 19 03 17.0 +1.0
TRPA **Tarpa** 37.12 62⇓*e*P P 19 03 17.0 +1.0
DRGR 37.52 65 ⇑P P 19 03 19.5 -0.1
DRGR 37.52 65⇑*i*P P 19 03 19.5 -0.1
DRGR 37.52 65 P P 19 03 19.5 -0.1
GZR **Gura Zlata** 37.91 67 ⇑P P 19 03 23.8 +1.0
GZR **Gura Zlata** 37.91 67⇑*i*P P 19 03 23.8 +1.0
GZR **Gura Zlata** 37.91 67 P P 19 03 23.8 +1.0
FINES **FINESS Array B** 38.23 40 P P 19 03 25.7 +0.5
comp=Z,5.4nm,0.7s,baz=254,slow=6.8,SNR=11
FINES LR LR 19 18 27.8
comp=Z,515nm,18.5s,baz=286,slow=35
FINES **FINESS Array B** 38.23 40 P P 19 03 25.7 +0.5
FINES **FINESS Array B** 38.23 40 P P 19 03 25.7 +0.5
FINES **FINESS Array B** 38.23 40 P P 19 03 25.7 +0.5
KAF **Kangasniemi** 38.38 39 *e*P P 19 03 25.5 -1.0
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF **Kangasniemi** 38.38 39 *ep* P 19 03 25.5 -1.0
comp=Z,6.0nm,0.7s
KAF **Kangasniemi** 38.38 39 *ep* P 19 03 25.5 -1.0
comp=Z,6.0nm,0.7s
KAF **Kangasniemi** 38.38 39 *e*P P 19 03 25.5 -1.0
comp=Z,6.0nm,0.7s
BUR08 **Bucovina Ar. S** 38.98 63 *e*P P 19 03 32.7 +0.9
BUR08 **Bucovina Ar. S** 38.98 63 *e*P P 19 03 32.7 +0.9
BURAR **Bucovina Array** 38.99 63 ⇓P P 19 03 33.0 +1.0
BURAR **Bucovina Array** 38.99 63⇓*i*P P 19 03 33.0 +1.0
ARCES **ARCESS Array B** 39.20 27 P P 19 03 32.9 -0.5
comp=Z,6.9nm,1.0s,baz=262,slow=4.3,SNR=4.6
ARCES LR LR 19 17 01.3
comp=Z,396nm,20.7s,baz=240,slow=32
ARCES **ARCESS Array B** 39.20 27 P P 19 03 32.9 -0.5
ARCES **ARCESS Array B** 39.20 27 P P 19 03 32.9 -0.5
ARCES **ARCESS Array B** 39.20 27 P P 19 03 32.8 -0.5
VOIR 39.44 66 ⇑P P 19 03 36.3 +0.6
VOIR 39.44 66⇑*i*P P 19 03 36.3 +0.6
VOIR 39.44 66 P P 19 03 36.3 +0.6
MLR **Muntele Rosu** 40.03 66 ⇓P P 19 03 41.0 +0.3
MLR **Muntele Rosu** 40.03 66⇓*i*P P 19 03 41.0 +0.3
MLR **Muntele Rosu** 40.03 66 P P 19 03 41.0 +0.3
JSC **Jenkinsville** 40.12 276 *e*P P 19 03 42.2 +0.8
JSC **Jenkinsville** 40.12 276 *e*P P 19 03 42.2 +0.8
JSC **Jenkinsville** 40.12 276 *e*P P 19 03 42.2 +0.8
TORD **Torodi Ar. Bea** 40.34 127 P P 19 03 43.3 0.0
comp=Z,5.2nm,0.8s,baz=317,slow=7.0,SNR=23
TORD LR LR 19 18 01.9
comp=Z,251nm,21.3s,baz=320,slow=33
TORD **Torodi Ar. Bea** 40.34 127 P P 19 03 43.3 0.0
TORD **Torodi Ar. Bea** 40.34 127 P P 19 03 43.3 0.0
SPITS **Spitsbergen Ar** 40.34 13 P P 19 03 44.6 +1.9
comp=Z,6.3nm,0.7s,baz=198,slow=7.9,SNR=4.2
SPITS **Spitsbergen Ar** 40.34 13 P P 19 03 44.6 +1.9
SPITS **Spitsbergen Ar** 40.34 13 P P 19 03 44.6 +1.9
SPITS **Spitsbergen Ar** 40.34 13 P P 19 03 44.6 +1.9
JOF **Joensuu** 40.73 38 *e*P P 19 03 46.6 +0.6
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF **Joensuu** 40.73 38 *ep* P 19 03 46.6 +0.6
comp=Z,2.5nm,0.6s
JOF **Joensuu** 40.73 38 *ep* P 19 03 46.6 +0.6
comp=Z,2.5nm,0.6s
JOF **Joensuu** 40.73 38 *e*P P 19 03 46.6 +0.6
comp=Z,3.0nm,0.6s
KIEV **Kiev** 40.86 57⇑*i*P P 19 03 46.9 -0.4
KIEV **Kiev** 40.86 57 *e*P P 19 03 47.2 -0.1
comp=Z,9.9nm,1.0s
KIEV **Kiev** 40.86 57 *e*P P 19 03 47.2 -0.1
comp=Z,9.9nm,1.0s
AKASG **Malin Array Be** 40.87 57 P P 19 03 47.4 +0.1
comp=Z,5.8nm,0.7s,baz=275,slow=8.8,SNR=13
AKASG LR LR 19 20 21.7
comp=Z,345nm,18.8s,baz=285,slow=36
AKASG **Malin Array Be** 40.87 57 P P 19 03 47.4 +0.1
AKASG **Malin Array Be** 40.87 57 P P 19 03 47.4 +0.1
AKASG **Malin Array Be** 40.87 57 P P 19 03 47.4 +0.1
SFIN **Scholer Farm** 41.83 287 ⇑P P 19 03 55.5 +0.1
baz=42
CPCT **Cooper Cave** 41.99 279 *e*P P 19 03 57.4 +0.6
CPCT **Cooper Cave** 41.99 279 *e*P P 19 03 57.4 +0.6
DBIC **Dimbokro** 42.22 140 P P 19 03 59.4 +0.6
comp=Z,4.9nm,1.0s,baz=323,slow=6.9,SNR=8.2
DBIC LR LR 19 19 29.0
comp=Z,353nm,19.0s,baz=311,slow=33
DBIC **Dimbokro** 42.22 140 *e*P P 19 03 58.9 +0.1
DBIC pmax pmax
comp=Z,14nm,1.2s
DBIC **Dimbokro** 42.22 140 *e*P P 19 03 58.9 +0.1
comp=Z,14nm,1.2s
DBIC **Dimbokro** 42.22 140 *e*P P 19 03 58.9 +0.1
comp=Z,14nm,1.2s
EYMN **Ely** 42.36 299 *e*P P 19 03 59.7 +0.1
comp=Z,366nm,2.9s
EYMN **Ely** 42.36 299 *e*P P 19 03 59.7 +0.1
comp=Z,366nm,2.9s
LIC **Lamto** 42.53 141 *e*P P 19 04 06.6 +5.3
LIC *e*R
comp=Z,606nm,20.8s
RES **Resolute Bay** 42.86 339 P P 19 04 03.7 +0.4
comp=Z,2.4nm,0.8s,baz=104,slow=11,SNR=8.0
RES **Resolute Bay** 42.86 339 P P 19 04 03.7 +0.4
RES **Resolute Bay** 42.86 339 P P 19 04 03.7 +0.4
RES **Resolute Bay** 42.86 339 P P 19 04 03.7 +0.4
SWET **Sewanee** 43.13 279 *e*P P 19 04 06.4 +0.3
comp=Z,12nm,1.0s
SWET **Sewanee** 43.13 279 *e*P P 19 04 06.4 +0.3
comp=Z,12nm,1.0s
SPMN **St. Paul** 44.05 296 ⇑P P 19 04 13.5 +0.2
baz=44
WVT **Waverly** 44.10 282 *e*P P 19 04 13.0 -0.8
WVT pmax pmax
comp=Z,44nm,1.8s
WVT **Waverly** 44.10 282 *e*P P 19 04 13.0 -0.8
comp=Z,44nm,1.8s
WVT **Waverly** 44.10 282 *e*P P 19 04 13.0 -0.8
comp=Z,44nm,1.8s
OBN **Obninsk** 44.28 49 *e*P P 19 04 13.9 -1.0
OBN *e* 19 05 59.6
OBN *e*S S 19 10 43.6 -4.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,500nm,17.0s
OBN **Obninsk** 44.28 49 *e*P P 19 04 13.9 -1.0
comp=Z,4.0nm,0.7s
ULM **Lac du Bonnet** 44.49 304 P P 19 04 16.1 -0.6
comp=Z,1.8nm,0.5s,baz=46,slow=8.7,SNR=4.8
ULM LR LR 19 21 36.0
comp=Z,596nm,19.2s,baz=43,slow=34
ULM **Lac du Bonnet** 44.49 304 P P 19 04 16.1 -0.6
ULM **Lac du Bonnet** 44.49 304 P P 19 04 16.1 -0.6
ULM **Lac du Bonnet** 44.49 304 P P 19 04 16.1 -0.6
PLAL **Pickwick Lake** 44.80 280 *e*P P 19 04 18.9 -0.5
comp=Z,9.6nm,0.9s
PLAL **Pickwick Lake** 44.80 280 *e*P P 19 04 18.9 -0.5
comp=Z,9.6nm,0.9s
AGMN **Agassiz Nation** 45.05 301 *e*P P 19 04 21.4 +0.1
comp=Z,7.7nm,0.6s
AGMN **Agassiz Nation** 45.05 301 *e*P P 19 04 21.4 +0.1
comp=Z,7.7nm,0.6s
SCIA **State Center** 45.52 292 *e*P P 19 04 25.6 +0.5
comp=Z,151nm,1.9s
SCIA **State Center** 45.52 292 *e*P P 19 04 25.6 +0.5
comp=Z,151nm,1.9s
OXF **Oxford** 45.99 280 *e*P P 19 04 28.5 -0.4
OXF pmax pmax
comp=Z,36nm,0.8s
OXF **Oxford** 45.99 280 *e*P P 19 04 28.4 -0.4
comp=Z,36nm,0.8s
OXF **Oxford** 45.99 280 *e*P P 19 04 28.5 -0.4
comp=Z,36nm,0.8s
VSR **Storozhevoye** 46.80 54 *e*P P 19 04 35.4 +0.4
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR **Storozhevoye** 46.80 54 *e*P P 19 04 35.4 +0.4
FFC **Flin Flon** 46.85 311 *i*P P 19 04 36.3 +1.0
FFC **Flin Flon** 46.85 311 *e*P P 19 04 35.8 +0.5
comp=Z,11nm,1.1s
FFC **Flin Flon** 46.85 311 *e*P P 19 04 35.8 +0.5
comp=Z,11nm,1.1s
ECSD **EROS Data Cent** 47.13 295 *e*P P 19 04 37.0 -0.7
comp=Z,20nm,1.0s
ECSD **EROS Data Cent** 47.13 295 *e*P P 19 04 37.0 -0.7
comp=Z,20nm,1.0s
BR131 **Keskin Array S** 47.39 71 *e*P P 19 04 37.6 -2.3
comp=Z,1.9nm,0.8s
BR131 **Keskin Array S** 47.39 71 *e*P P 19 04 37.7 -2.3
comp=Z,1.9nm,0.8s
BRTR **Keskin Array B** 47.39 71 P P 19 04 40.8 +0.8
comp=Z,2.6nm,0.8s,baz=276,slow=6.3,SNR=12
BRTR PcP PcP 19 06 10.6 +0.2
comp=Z,1.4nm,0.8s,baz=204,slow=2.7,SNR=4.6
BRTR **Keskin Array B** 47.39 71 P P 19 04 40.8 +0.8
BRTR 19 06 10.6
BRTR **Keskin Array B** 47.39 71 P P 19 04 40.8 +0.8
BRTR PcP PcP 19 06 10.6 +0.2
BRTR **Keskin Array B** 47.39 71 P P 19 04 40.8 +0.8
VRHR **Novokhopersk** 48.31 53 *e*P P 19 04 47.4 +0.7
VRHR *e**SP sP 19 04 59.0 +4.2
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,1.0s
VRHR **Novokhopersk** 48.31 53 *e*P P 19 04 47.4 +0.7
comp=E,8.0nm,0.9s
SDV **Santo Domingo** 48.52 238 *e*P P 19 04 50.4 +1.5
comp=E,8.7nm,0.9s
SDV **Santo Domingo** 48.52 238 *e*P P 19 04 50.4 +1.5
comp=E,8.7nm,0.9s
MIAR **Mount Ida** 48.99 283 *e*P P 19 04 51.7 -0.5
MIAR pmax pmax
comp=Z,39nm,1.3s
MIAR **Mount Ida** 48.99 283 *e*P P 19 04 51.7 -0.5
comp=Z,40nm,1.3s
MIAR **Mount Ida** 48.99 283 *e*P P 19 04 51.7 -0.5
comp=Z,40nm,1.3s
KSU1 **Kansas State U** 49.04 290 *e*P P 19 04 51.9 -0.7
comp=Z,24nm,0.9s
KSU1 **Kansas State U** 49.04 290 *e*P P 19 04 51.9 -0.7
comp=Z,24nm,0.9s
BGNE **Belgrade** 49.11 293 ⇑P P 19 04 52.8 -0.2
baz=49
TUL1 **Tulsa** 49.93 285 ⇓P P 19 04 58.8 -0.6
baz=50
DGMT **Dagmar** 50.21 304 ⇓P P 19 05 01.2 -0.1
baz=50
B23A **Brockton** 50.70 304 ⇓P P 19 05 05.7 +0.7
baz=50
D24A **Glendive** 50.82 302 ⇑P P 19 05 06.7 +0.7
baz=51
YKA **Yellowknife Ar** 50.90 323 P P 19 05 05.9 -0.4
comp=Z,0.8nm,0.5s,baz=70,slow=8.0,SNR=21
YKA PcP PcP 19 06 21.3 -1.2
comp=Z,1.3nm,0.9s,baz=72,slow=4.4,SNR=6.2
YKA LR LR 19 25 21.9
comp=Z,17nm,18.5s,baz=155,slow=35
YKA **Yellowknife Ar** 50.90 323 P P 19 05 05.9 -0.4
YKA 19 06 21.3
YKA **Yellowknife Ar** 50.90 323 P P 19 05 05.9 -0.4
YKA PcP PcP 19 06 21.3 -1.2
YKA **Yellowknife Ar** 50.90 323 P P 19 05 05.9 -0.4
YKA **Yellowknife Ar** 50.90 323 PcP PcP 19 06 21.3 -1.2
A22A **Carney Farms,** 51.06 305 ⇓P P 19 05 08.3 +0.6
baz=51
C23A **Lambert** 51.08 303 ⇑P P 19 05 08.8 +0.9
baz=51
KIV **Kislovodsk** 51.71 62 *e*P P 19 05 17.9 +5.1
KIV *e* 19 07 10.3
KIV pmax pmax
KIV comp=Z,7.0nm,1.2s MLR MLR
comp=Z,100nm,17.0s
H24A **Dirks Ranch, A** 51.94 300 ⇑P P 19 05 13.8 -0.6
baz=52
OGNE **Ogallala** 51.94 294 *e*P P 19 05 13.8 -0.8
comp=Z,38nm,1.3s
OGNE **Ogallala** 51.94 294 ⇑P P 19 05 14.4 -0.1
baz=52
OGNE **Ogallala** 51.94 294 *e*P P 19 05 13.8 -0.8
comp=Z,38nm,1.3s
D22A **Cohagen** 51.96 303 ⇑P P 19 05 15.1 +0.5
baz=52,SNR=5.7
F23A **Volborg** 52.07 301 ⇓P P 19 05 15.4 0.0
baz=52
E22A **Miles City** 52.11 302 ⇑P P 19 05 15.9 +0.3
baz=52
G23A **Biddle** 52.28 300 ⇑P P 19 05 16.9 -0.1
baz=52
A20A **Cobblestone Ra** 52.32 305 ⇓P P 19 05 17.7 +0.5
baz=52
N27A **Anderson Farm,** 52.35 294 ⇓P P 19 05 17.6 0.0
baz=52
K25A **Mack Ranch, Ha** 52.42 297 ⇓P P 19 05 18.4 +0.3
baz=52
M26A **McRoberts Ranc** 52.45 295 ⇑P P 19 05 18.3 -0.1
baz=52
B20A **Solberg Farm,** 52.56 305 ⇑P P 19 05 19.3 +0.3
baz=52
F22A **Rosebud** 52.58 301 ⇓P P 19 05 19.3 +0.1
baz=52
WMOK **Wichita Mounta** 52.63 286 *e*P P 19 05 18.8 -0.9
WMOK pmax pmax
comp=Z,20nm,1.4s
WMOK **Wichita Mounta** 52.63 286 *e*P P 19 05 18.8 -0.9
comp=Z,20nm,1.4s
WMOK **Wichita Mounta** 52.63 286 *e*P P 19 05 18.8 -0.9
comp=Z,20nm,1.4s
L25A **Engebretsen Ra** 52.69 296 ⇑P P 19 05 20.3 +0.2
baz=52
N26A **Koester Ranch,** 52.80 295 ⇓P P 19 05 20.8 -0.1
baz=53

G22A	**Birney**	52.85	301	⇑P		P	19 05 21.1	-0.2		
	baz=53,SNR=5.6									
ZEI	**Tsey**	53.02	63	*e*P		P	19 05 23.3	+0.6		
ZEI				pmax		pmax				
	comp=Z,11nm,0.8s									
M25A	**Palm-Egli Farm**	53.08	296	⇑P		P	19 05 23.6	+0.6		
	baz=53									
O26A	**Horse Wrangler**	53.13	294	⇑P		P	19 05 23.3	-0.1		
	baz=53									
D20A	**Manuel Ranch,**	53.20	304	⇓P		P	19 05 24.1	+0.4		
	baz=53									
SOKR	**Solikamsk**	53.38	39	*e*P		P	19 05 29.2	+4.5		
SOKR				S		S	19 13 14.7	+19		
SOKR				pmax		pmax				
	comp=Z,10.0nm,1.1s									
SOKR				MLR		MLR				
	comp=Z,340nm,18.0s									
L24A	**Wheatland**	53.38	297	⇓P		P	19 05 24.8	-0.4		
	baz=53									
G21A	**Lodge Grass**	53.43	301	⇓P		P	19 05 25.6	+0.1		
	baz=53									
E20A	**Meyer Farm, Mu**	53.45	303	⇓P		P	19 05 25.2	-0.4		
	baz=53									
P26A	**Davis Ranch, A**	53.48	293	⇑P		P	19 05 25.7	-0.3		
	baz=53									
C19A	**Slack Wire Ran**	53.48	305	⇑P		P	19 05 25.7	-0.1		
	baz=53,SNR=5.8									
K23A	**Bowen Ranch, D**	53.51	298	⇓P		P	19 05 26.2	0.0		
	baz=53									
I22A	**9 Mile Ranch,**	53.56	299	⇓P		P	19 05 26.2	-0.3		
	baz=53,SNR=6.5									
M24A	**Cheyenne**	53.58	296	⇓P		P	19 05 26.8	0.0		
	baz=53									
B18A	**Beardsley Farm**	53.64	306	⇑P		P	19 05 26.8	-0.1		
	baz=53									
R27A	**Eads**	53.71	292	⇑P		P	19 05 27.0	-0.7		
	baz=54,SNR=12									
F20A	**Billings**	53.77	302	⇑P		P	19 05 27.9	-0.1		
	baz=54									
T28A	**Walsh**	53.80	290	⇑P		P	19 05 27.8	-0.6		
	baz=54,SNR=5.7									
L23A	**Garrett**	53.86	297	⇓P		P	19 05 28.2	-0.6		
	baz=54									
Q26A	**Hugo**	53.90	293	⇑P		P	19 05 28.9	-0.2		
	baz=54,SNR=6.0									
ROSC	**El Rosal**	53.94	239	LR		LR	19 25 18.2			
	comp=Z,197nm,18.7s,baz=16,slow=33									
A17A	**Triple J Farms**	53.95	307	⇓P		P	19 05 29.1	-0.1		
	baz=54									
P25A	**Willow Gulch B**	54.06	294	⇑P		P	19 05 29.9	-0.4		
	baz=54									
G20A	**Bridger**	54.06	301	⇓P		P	19 05 30.1	-0.1		
	baz=54									
S27A	**Las Animas**	54.07	291	⇑P		P	19 05 29.9	-0.5		
	baz=54,SNR=8.0									
I21A	**Big Trails, Te**	54.12	300	⇓P		P	19 05 29.8	-0.8		
	baz=54,SNR=9.9									
R26A	**Arlington**	54.15	292	⇓P		P	19 05 30.3	-0.6		
	baz=54,SNR=11									
K22A	**Casper**	54.15	298	⇓P		P	19 05 30.6	-0.3		
	baz=54									
M23A	**Laramie**	54.17	296	⇑P		P	19 05 30.9	-0.2		
	baz=54									
F19A	**Roth Farm, Mol**	54.24	302	⇑P		P	19 05 31.5	+0.1		
	baz=54									
T27A	**Campo**	54.26	290	⇑P		P	19 05 31.6	-0.1		
	baz=54									
H20A	**Greybull**	54.26	301	⇓P		P	19 05 31.6	0.0		
	baz=54									
B17A	**L&G Farms, Che**	54.29	306	⇑P		P	19 05 31.6	-0.1		
	baz=54									
Q25A	**Bedland, Calha**	54.40	293	⇑P		P	19 05 32.2	-0.6		
	baz=54,SNR=5.2									
J21A	**Lysite**	54.43	299	⇑P		P	19 05 32.6	-0.4		
	baz=54									
S26A	**Kim**	54.50	291	⇑P		P	19 05 32.9	-0.6		
	baz=54,SNR=8.3									
E18A	**Harlowton**	54.52	304	⇓P		P	19 05 33.6	+0.1		
	baz=54									
I20A	**Worland**	54.59	300	⇓P		P	19 05 33.7	-0.4		
	baz=54,SNR=6.1									
N23A	**Red Feather La**	54.59	296	⇓P		P	19 05 34.2	0.0		
	baz=54,SNR=8.2									
AMTX	**Amarillo**	54.62	287	*e*P		P	19 05 34.0	-0.3		
	comp=Z,25nm,1.0s									
AMTX	**Amarillo**	54.62	287	⇓P		P	19 05 34.1	-0.3		
	baz=54,SNR=8.1									
AMTX				⇓P		P	19 05 34.1	-0.3		
	baz=54,SNR=8.1									
AMTX	**Amarillo**	54.62	287	*e*P		P	19 05 34.0	-0.3		
	comp=Z,25nm,1.0s									
F18A	**Big Timber**	54.70	303	⇑P		P	19 05 35.3	+0.5		
	baz=54									
D17A	**Six Diamond Ra**	54.73	305	⇓P		P	19 05 34.9	-0.1		
	baz=54									
M22A	**Cedar Creek Ra**	54.78	297	⇑P		P	19 05 35.8	+0.2		
	baz=55									
B16A	**M & M Farms, S**	54.78	306	⇓P		P	19 05 35.5	+0.2		
	baz=55									
R25A	**Fountain Ranch**	54.80	292	⇓P		P	19 05 35.4	-0.3		
	baz=55									
H19A	**Powell**	54.80	301	⇓P		P	19 05 35.6	0.0		
	baz=55									
GNI	**Garni**	54.80	65	⇓*i*P		P	19 05 38.0	+2.3		
GNI				pmax		pmax				
	comp=Z,52nm,1.4s									
J20A	**Shoshoni**	54.84	299	⇑P		P	19 05 35.8	0.0		
	baz=55,SNR=11									
ISCO	**Idaho Springs**	54.90	294	*e*P		P	19 05 36.6	+0.1		
ISCO				pmax		pmax				
	comp=Z,78nm,2.6s									
ISCO	**Idaho Springs**	54.90	294	*e*P		P	19 05 36.6	+0.1		
	comp=Z,78nm,2.6s									
ISCO	**Idaho Springs**	54.90	294	⇑P		P	19 05 36.3	-0.2		
	baz=55									
ISCO	**Idaho Springs**	54.90	294	*e*P		P	19 05 36.6	+0.1		
	comp=Z,78nm,2.6s									
O23A	**Lake Granby, G**	54.90	295	⇑P		P	19 05 36.5	-0.1		
	baz=55									
N22A	**Wattenberg Ran**	54.98	296	⇓P		P	19 05 37.2	+0.1		
	baz=55									
Q24A	**Divide**	54.99	293	⇓P		P	19 05 37.2	0.0		
	baz=55									
L21A	**Rawlins**	55.03	298	⇑P		P	19 05 36.8	-0.5		
	baz=55,SNR=5.3									
C16A	**Fuhringer Ranc**	55.08	306	⇑P		P	19 05 37.6	+0.1		
	baz=55									
I19A	**Meeteetse**	55.10	300	⇓P		P	19 05 37.8	-0.1		
	baz=55									
A15A	**Johnson Ranch,**	55.14	307	⇑P		P	19 05 37.9	0.0		
	baz=55									
S25A	**Robets Cordova**	55.14	292	⇑P		P	19 05 38.0	-0.2		
	baz=55,SNR=5.4									
E17A	**Martinsdale**	55.15	304	⇑P		P	19 05 37.8	-0.3		
	baz=55									
M21A	**Separation Pea**	55.19	297	⇓P		P	19 05 38.5	-0.1		
	baz=55									
H18A	**Shoshone NF, C**	55.23	301	⇑P		P	19 05 38.9	+0.1		
	baz=55									
P23A	**Jefferson**	55.26	294	⇓P		P	19 05 39.2	0.0		
	baz=55,SNR=7.7									
F17A	**Fitzpatrick Pl**	55.28	303	⇑P		P	19 05 39.3	+0.2		
	baz=55									
U26A	**Atchley Ranch,**	55.30	290	⇓P		P	19 05 39.0	-0.3		
	baz=55									
D16A	**Dana Ranch, Ca**	55.31	305	⇓P		P	19 05 39.3	+0.1		
	baz=55									
R24A	**Sanders Place,**	55.32	293	⇓P		P	19 05 39.4	-0.1		
	baz=55									
B15A	**Bradely Ranch,**	55.34	307	⇑P		P	19 05 39.0	-0.3		
	baz=55									
O22A	**Kremmling**	55.35	295	⇓P		P	19 05 39.7	0.0		
	baz=55,SNR=6.1									
T25A	**Trinidad**	55.39	291	⇑P		P	19 05 40.3	+0.3		
	baz=55,SNR=7.7									
W27A	**Bowe Ranch, En**	55.50	288	⇓P		P	19 05 40.4	-0.4		
	baz=55,SNR=8.1									
J19A	**Crowheart**	55.50	300	⇓P		P	19 05 40.6	-0.1		
	baz=55									
ARU	**Arti**	55.55	42	*d i*P		P	19 05 41.0	+0.4		
ARU							19 07 43.7			
ARU				PPP			19 08 56.3			
ARU				S		S	19 13 21.3	-3.6		
ARU				SS		SS	19 17 02.3	-6.9		
ARU				pmax		pmax				
	comp=Z,8.0nm,0.7s									
ARU	**Arti**	55.55	42	*e*P		P	19 05 41.3	+0.7		
	comp=Z,9.6nm,0.9s									
ARU	**Arti**	55.55	42	*e*P		P	19 05 41.3	+0.7		
	comp=Z,9.6nm,0.9s									
A14A	**Double T Ranch**	55.55	308	⇑P		P	19 05 40.6	-0.3		
	baz=55									
JCT	**Junction City**	55.59	282	*e*P		P	19 05 40.3	-1.1		
JCT				pmax		pmax				
	comp=Z,8.0nm,0.6s									
JCT	**Junction City**	55.59	282	*e*P		P	19 05 40.2	-1.1		
	comp=Z,8.5nm,0.6s									
JCT	**Junction City**	55.59	282	⇑P		P	19 05 40.8	-0.6		
	baz=55									
JCT	**Junction City**	55.59	282	*e*P		P	19 05 40.2	-1.1		
	comp=Z,8.5nm,0.6s									
E16A	**East Helena**	55.62	304	⇓P		P	19 05 41.3	-0.2		
	baz=55									
L20A	**Wamsutter**	55.64	298	⇑P		P	19 05 41.7	-0.1		
	baz=55									
N21A	**Black Mountain**	55.70	296	⇑P		P	19 05 42.5	+0.2		
	baz=56,SNR=7.0									
X27A	**F and S Farms,**	55.74	288	⇓P		P	19 05 42.2	-0.2		
	baz=56,SNR=5.3									
U25A	**Circle Dot Ran**	55.76	290	⇑P		P	19 05 43.0	+0.3		
	baz=56,SNR=22									
P22A	**Eagle**	55.77	295	⇓P		P	19 05 42.3	-0.4		
	baz=56									
M20A	**Sweetwater, Wa**	55.79	297	⇓P		P	19 05 43.1	+0.2		
	baz=56,SNR=7.7									
INK	**Inuvik**	55.80	334	P		P	19 05 41.5	-0.7		
	comp=Z,2.0nm,0.5s,baz=32,slow=10,SNR=8.3									
INK	**Inuvik**	55.80	334	P		P	19 05 41.5	-0.7		
INK	**Inuvik**	55.80	334	P		P	19 05 41.5	-0.7		
INK	**Inuvik**	55.80	334	P		P	19 05 41.5	-0.7		
R23A	**Moffat**	55.83	293	⇓P		P	19 05 43.5	+0.2		
	baz=56,SNR=5.8									
SDCO	**Great Sand Dun**	55.83	292	*e*P		P	19 05 43.3	0.0		
	comp=Z,78nm,2.8s									
SDCO	**Great Sand Dun**	55.83	292	⇓P		P	19 05 43.0	-0.3		
	baz=56,SNR=5.4									
SDCO				⇓P		P	19 05 43.0	-0.3		
	baz=56,SNR=5.4									
SDCO	**Great Sand Dun**	55.83	292	*e*P		P	19 05 43.3	0.0		
	comp=Z,78nm,2.8s									
T24A	**Torres, Weston**	55.86	291	⇓P		P	19 05 44.6	+1.1		
	baz=56,SNR=6.7									
MSTX	**Muleshoe**	55.86	287	⇓P		P	19 05 42.9	-0.4		
	baz=56,SNR=11									
D15A	**Lincoln**	55.90	305	⇓P		P	19 05 43.0	-0.4		
	baz=56									
W26A	**Owens Ranch, T**	55.98	289	⇑P		P	19 05 44.2	0.0		
	baz=56									
BOZ	**Bozeman (W)**	56.01	303	*e*P		P	19 05 45.8	+1.6		
BOZ				pmax		pmax				
	comp=Z,21nm,0.8s									
BOZ	**Bozeman (W)**	56.01	303	*e*P		P	19 05 45.8	+1.6		
	comp=Z,21nm,0.8s									
BOZ	**Bozeman (W)**	56.01	303	⇑P		P	19 05 45.0	+0.8		
	baz=56,SNR=5.3									
BOZ				⇑P		P	19 05 45.0	+0.8		
	baz=56,SNR=5.3									
BOZ	**Bozeman (W)**	56.01	303	*e*P		P	19 05 45.8	+1.6		
	comp=Z,21nm,0.8s									
PD02	**Pinedale Array**	56.07	299	*e*P		P	19 05 43.3	-1.5		
PD02	**Pinedale Array**	56.07	299	*e*P		P	19 05 43.3	-1.5		
PDAR	**Pinedale Array**	56.07	299	P		P	19 05 43.6	-1.2		
	comp=Z,4.7nm,0.9s,baz=66,slow=6.9,SNR=27									
PDAR				LR		LR	19 29 44.5			
	comp=Z,289nm,18.4s,baz=65,slow=36									
PDAR	**Pinedale Array**	56.07	299	P		P	19 05 43.6	-1.2		
PDAR	**Pinedale Array**	56.07	299	P		P	19 05 43.7	-1.2		
BW06	**Boulder Array**	56.07	299	*e*P		P	19 05 43.6	-1.2		
	comp=Z,8.2nm,1.0s									
BW06	**Boulder Array**	56.07	299	⇑P		P	19 05 44.1	-0.7		
	baz=56,SNR=7.4									
BW06				⇑P		P	19 05 44.1	-0.7		
	baz=56,SNR=7.4									
BW06	**Boulder Array**	56.07	299	*e*P		P	19 05 43.6	-1.2		
	comp=Z,8.2nm,1.0s									
PD01	**Pinedale Array**	56.08	299	*e*P		P	19 05 43.5	-1.4		
PD01	**Pinedale Array**	56.08	299	*e*P		P	19 05 43.5	-1.4		
J18A	**Kendall Valley**	56.15	300	⇓P		P	19 05 44.7	-0.7		
	baz=56,SNR=5.1									
N20A	**Spence Gulch,**	56.16	297	⇑P		P	19 05 45.8	+0.2		
	baz=56,SNR=6.7									
Y27A	**Causey**	56.19	287	⇓P		P	19 05 44.7	-0.9		
	baz=56,SNR=7.1									
H16A	**Russell Place,**	56.21	302	⇑P		P	19 05 45.7	-0.1		
	baz=56									
Q22A	**Crested Butte,**	56.23	294	⇑P		P	19 05 46.4	+0.2		
	baz=56,SNR=7.2									
L19A	**Farson**	56.26	299	⇓P		P	19 05 46.1	-0.1		
	baz=56									
E15A	**Deer Lodge**	56.26	305	⇓P		P	19 05 46.1	+0.1		
	baz=56									
P21A	**Newcastle**	56.27	295	⇑P		P	19 05 46.8	+0.5		
	baz=56,SNR=5.9									
X26A	**CR and CF Fran**	56.29	288	⇑P		P	19 05 46.7	+0.3		
	baz=56									
LOHW	**Long Hollow**	56.33	301	*e*P		P	19 05 46.7	0.0		
	comp=Z,83nm,2.6s									
LOHW	**Long Hollow**	56.33	301	*e*P		P	19 05 46.7	0.0		
	comp=Z,83nm,2.6s									
CHMT	**Chamberlain Mo**	56.40	305	*e*P		P	19 05 47.0	-0.1		
	comp=Z,11nm,1.6s									
CHMT	**Chamberlain Mo**	56.40	305	*e*P		P	19 05 47.0	-0.1		
	comp=Z,11nm,1.6s									
W25A	**X Bar L Ranch,**	56.40	289	⇓P		P	19 05 47.3	0.0		
	baz=56									
M19A	**Rock Springs**	56.42	298	⇑P		P	19 05 47.4	+0.1		
	baz=56									
F15A	**Butte**	56.45	304	⇑P		P	19 05 47.6	+0.1		
	baz=56									
R22A	**Saguache, Gunn**	56.45	293	⇑P		P	19 05 48.3	+0.6		
	baz=56,SNR=6.9									
D14A	**Greenough**	56.47	306	⇑P		P	19 05 47.1	-0.5		
	baz=56									
O20A	**White River Ci**	56.49	296	⇑P		P	19 05 48.3	+0.4		
	baz=56									
J17A	**Brown Place, J**	56.52	300	⇑P		P	19 05 47.8	-0.2		
	baz=56									
SWMT	**Swartz Lake**	56.57	306	*e*P		P	19 05 47.6	-0.6		
	comp=Z,3.3nm,0.8s									
SWMT	**Swartz Lake**	56.57	306	*e*P		P	19 05 47.6	-0.6		
	comp=Z,3.3nm,0.8s									
REDW	**Red Top Meadow**	56.61	301	*e*P		P	19 05 48.7	0.0		
	comp=Z,26nm,1.4s									
REDW	**Red Top Meadow**	56.61	301	*e*P		P	19 05 48.7	0.0		
	comp=Z,26nm,1.4s									
Q21A	**Lamborn Mesa,**	56.69	294	⇑P		P	19 05 49.8	+0.5		
	baz=56									
V24A	**Rampart Ranch,**	56.70	290	⇓P		P	19 05 49.7	+0.2		
	baz=56									
N19A	**John Jarvie Ra**	56.73	297	⇓P		P	19 05 49.5	0.0		
	baz=56									
S22A	**4UR Ranch, Cre**	56.74	293	⇓P		P	19 05 49.7	-0.1		
	baz=56									
G15A	**Dillon**	56.77	303	⇑P		P	19 05 49.9	+0.1		
	baz=56,SNR=5.1									
E14A	**Clinton**	56.78	305	⇓P		P	19 05 49.9	+0.1		
	baz=57									
L18A	**Fontenelle, Gr**	56.79	299	⇑P		P	19 05 49.9	0.0		
	baz=57									
X25A	**Clemmons Ranch**	56.90	289	⇓P		P	19 05 51.2	+0.4		
	baz=57									
P20A	**De Beque**	56.91	295	⇑P		P	19 05 51.0	+0.2		
	baz=57,SNR=7.7									
R21A	**Cimarron**	56.91	294	⇑P		P	19 05 51.3	+0.4		
	baz=57									
K17A	**Gardner Place,**	56.95	300	⇑P		P	19 05 50.5	-0.6		
	baz=57									
127A	**Arkansas Junct**	56.96	286	⇓P		P	19 05 51.0	-0.2		
	baz=57									
O19A	**Miners Draw (B**	56.99	297	⇓P		P	19 05 51.4	0.0		
	baz=57									
U23A	**El Rito**	57.03	291	⇓P		P	19 05 52.3	+0.5		
	baz=57									
D13A	**Huson**	57.04	306	⇑P		P	19 05 51.7	+0.2		
	baz=57,SNR=6.1									
M18A	**Lyman**	57.05	298	⇓P		P	19 05 52.2	+0.3		
	baz=57									
W24A	**Lazy 6 Ranch,**	57.07	290	⇓P		P	19 05 52.7	+0.6		
	baz=57,SNR=9.6									
Q20A	**Ridgley Place,**	57.12	295	⇑P		P	19 05 52.6	+0.3		
	baz=57									
J16A	**Bone**	57.13	301	⇓P		P	19 05 52.2	-0.2		
	baz=57									
T22A	**Edith**	57.17	292	⇓P		P	19 05 53.7	+1.0		
	baz=57,SNR=9.1									
Y25A	**Mesa, Roswell**	57.24	288	⇑P		P	19 05 53.2	0.0		
	baz=57,SNR=9.2									
I15A	**Monteview**	57.33	302	⇓P		P	19 05 54.5	+0.8		
	baz=57									
M17A	**Scullys Gap (B**	57.42	299	⇓P		P	19 05 54.5	0.0		
	baz=57									
X24A	**Lazy VL Ranch,**	57.43	289	⇑P		P	19 05 54.5	-0.1		
	baz=57									
S21A	**Coal Bank Pass**	57.44	293	⇓P		P	19 05 55.5	+0.8		
	baz=57,SNR=13									
428A	**Kincaid Ranch,**	57.54	284	⇑P		P	19 05 55.1	-0.1		
	baz=57									
R20A	**Redvale**	57.57	294	⇓P		P	19 05 56.0	+0.4		
	baz=57									
H14A	**Leadore**	57.58	303	⇑P		P	19 05 55.8	+0.3		
	baz=57									
O18A	**Roosevelt**	57.60	297	⇑P		P	19 05 55.9	+0.3		
	baz=57									
F13A	**Darby**	57.60	305	⇑P		P	19 05 55.8	+0.3		
	baz=57									
Z25A	**Roswell**	57.60	287	⇑P		P	19 05 56.3	+0.5		
	baz=57,SNR=9.0									
T21A	**Navajo Lake**	57.61	292	⇑P		P	19 05 56.1	+0.3		
	baz=57									
W23A	**Werner Place,**	57.61	290	⇑P		P	19 05 55.5	-0.3		
	baz=57									
L16A	**Fish Haven**	57.65	299	⇑P		P	19 05 55.7	-0.3		
	baz=57									
S20A	**Disappointment**	57.74	294	⇑P		P	19 05 56.8	0.0		
	baz=58									
Y24A	**Capitan**	57.77	288	⇑P		P	19 05 57.0	+0.1		
	baz=58,SNR=5.8									
Q19A	**Hogan Spring (**	57.77	295	⇓P		P	19 05 57.1	+0.3		
	baz=58									
N17A	**Moffit Pass**	57.80	298	⇓P		P	19 05 57.1	0.0		
	baz=58									
PV04	**Paradox Valley**	57.82	295	*e*P		P	19 05 57.9	+0.7		
PV04	**Paradox Valley**	57.82	295	*e*P		P	19 05 57.9	+0.7		
G13A	**Cobalt**	57.88	304	⇓P		P	19 05 57.6	0.0		
	baz=58									
528A	**Cox Ranch, San**	57.92	283	⇓P		P	19 05 57.5	-0.5		
	baz=58,SNR=7.7									
GDL2	**Guadalupe Moun**	57.94	286	*e*P		P	19 05 58.5	+0.4		
GDL2	**Guadalupe Moun**	57.94	286	*e*P		P	19 05 58.5	+0.4		
ANMO	**Albuquerque**	57.94	290	P		P	19 05 57.8	-0.3		
	comp=Z,2.7nm,0.7s,baz=83,slow=7.1,SNR=7.5									
ANMO	**Albuquerque**	57.94	290	P		P	19 05 57.8	-0.3		
ANMO	**Albuquerque**	57.94	290	P		P	19 05 57.8	-0.3		
I14A	**Mackay**	57.97	302	⇑P		P	19 05 58.4	+0.2		
	baz=58									
427A	**Hayter Ranch,**	57.98	284	⇑P		P	19 05 57.9	-0.5		
	baz=58,SNR=12									
U21A	**Nageezi**	57.99	292	⇑P		P	19 05 59.0	+0.4		
	baz=58									
Z24A	**Sheeppen Canyo**	58.03	288	⇓P		P	19 05 59.6	+0.7		
	baz=58									
AKTO	**Aktyubinsk**	58.05	49	P		P	19 05 59.0	+0.5		
AKTO				pmax		pmax				
	comp=Z,2.0nm,1.1s									
P18A	**Preston Nutter**	58.08	296	⇓P		P	19 05 58.9	-0.3		
	baz=58									
R19A	**Curley Farm, L**	58.11	295	⇑P		P	19 05 59.8	+0.5		
	baz=58									
O17A	**Robinson Place**	58.11	297	⇑P		P	19 05 59.6	+0.3		
	baz=58									
326A	**Caldwell Ranch**	58.14	285	⇓P		P	19 05 59.6	+0.1		
	baz=58,SNR=9.1									
Y23A	**Lovelace Mesa,**	58.20	289	⇑P		P	19 06 00.2	+0.2		
	baz=58									
N16A	**Rees Ranch, Co**	58.22	298	⇑P		P	19 06 00.1	+0.1		
	baz=58									
L15A	**Malad City**	58.26	300	⇑P		P	19 06 00.5	+0.2		
	baz=58									
Q18A	**Rafter H Ranch**	58.27	296	⇓P		P	19 05 59.1	-1.2		
	baz=58									
S19A	**Harvey Farm, M**	58.31	294	⇓P		P	19 06 00.8	+0.1		
	baz=58,SNR=6.1									
225A	**Deer Hill, Car**	58.31	286	⇓P		P	19 06 00.8	0.0		
	baz=58,SNR=14									
DAU	**Daniels Canyon**	58.34	298	*e*P		P	19 06 01.5	+0.5		
DAU	**Daniels Canyon**	58.34	298	*e*P		P	19 06 01.5	+0.5		
DAU	**Daniels Canyon**	58.34	298	*e*P		P	19 06 01.5	+0.5		
628A	**Black Gap, Mar**	58.37	283	⇓P		P	19 06 00.5	-0.5		
	baz=58,SNR=6.5									
I13A	**Wildhorse Cree**	58.40	303	⇑P		P	19 06 01.4	+0.2		
	baz=58,SNR=5.8									
BNM	**Barren Site**	58.48	289	*e*P		P	19 06 02.4	+0.4		
	comp=Z,4.6nm,0.9s									
BNM	**Barren Site**	58.48	289	*e*P		P	19 06 02.4	+0.4		
	comp=Z

W20A Ramah 59.26 291 ⇑P P 19 06 07.2 -0.2
baz=59
Y21A Point of Rocks 59.29 290 ⇑P P 19 06 08.1 +0.5
baz=59
P15A Leamington 59.45 297 ⇓P P 19 06 08.5 -0.1
baz=59
DUG Dugway 59.47 298 *e*P P 19 06 08.7 0.0
DUG pmax pmax
comp=Z,27nm,1.4s
DUG Dugway 59.47 298 *e*P P 19 06 08.7 0.0
comp=Z,27nm,1.4s
DUG Dugway 59.47 298 ⇑P P 19 06 08.8 0.0
baz=59,SNR=14
DUG Dugway 59.47 298 *e*P P 19 06 08.7 0.0
comp=Z,27nm,1.4s
S17A Black Ridge (B 59.49 295 ⇓P P 19 06 09.1 +0.3
baz=59
E09A Wood Farm, Sta 59.53 307 ⇓P P 19 06 08.8 0.0
baz=59
X20A Quemado 59.57 291 ⇓P P 19 06 10.5 +0.9
baz=59
Z21A St. Cloud Mine 59.67 289 ⇓P P 19 06 10.8 +0.6
baz=60,SNR=6.7
MFID Camas Ranch 59.72 303 ⇑P P 19 06 10.6 +0.3
baz=60
AB31 Akbulak array 59.73 49 *i* P P 19 06 11.0 +0.9
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 59.73 49 *e*P P 19 06 11.2 +1.1
ABKAR Akbulak array 59.73 49 *e*P P 19 06 11.2 +1.1
T17A Navajo Res., N 59.83 294 ⇓P P 19 06 11.8 +0.5
baz=60
Y20A Horse Springs, 59.83 290 ⇓P P 19 06 12.2 +0.8
baz=60,SNR=6.4
W19A Sanders 59.88 292 ⇑P P 19 06 11.5 -0.1
baz=60
V18A Ganado 59.93 292 ⇑P P 19 06 12.4 +0.5
baz=60
MSU Marysvale 59.94 296 *e*P P 19 06 12.5 +0.5
MSU Marysvale 59.94 296 *e*P P 19 06 12.5 +0.5
MSU Marysvale 59.94 296 *e*P P 19 06 12.5 +0.5
U17A Shonto 59.95 294 ⇓P P 19 06 12.4 +0.4
baz=60
S16A Weppner Ranch, 59.98 295 ⇑P P 19 06 12.5 +0.3
baz=60
W18A Petrified Fore 60.12 292 ⇑P P 19 06 13.8 +0.6
baz=60
121A Cookes Peak, D 60.17 288 ⇑P P 19 06 14.4 +0.8
baz=60,SNR=7.7
X19A St. Johns 60.18 291 ⇓P P 19 06 14.3 +0.6
baz=60,SNR=5.7
Y19A Nutrioso 60.42 290 ⇑P P 19 06 16.6 +1.2
baz=60,SNR=8.5
Z20A Nine Sixteen R 60.42 289 ⇓P P 19 06 15.6 +0.3
baz=60
U16A Tuba City 60.51 293 ⇓P P 19 06 16.5 +0.6
baz=60
V17A Tonalea, Kykot 60.57 293 ⇓P P 19 06 16.9 +0.6
baz=60,SNR=9.0
X18A Snowflake 60.58 291 ⇑P P 19 06 16.6 +0.2
baz=60
ELK Elko 60.75 300 *e*P P 19 06 17.9 +0.3
ELK pmax pmax
comp=Z,85nm,2.5s
ELK Elko 60.75 300 *e*P P 19 06 17.9 +0.3
comp=Z,85nm,2.5s
ELK Elko 60.75 300 *e*P P 19 06 17.9 +0.3
comp=Z,85nm,2.5s
120A U Bar Ranch, L 60.76 289 ⇓P P 19 06 17.9 +0.2
baz=61
Z19A T-Link Ranch, 60.79 290 ⇓P P 19 06 18.3 +0.5
baz=61
W17A Winslow 60.81 292 ⇑P P 19 06 18.6 +0.7
baz=61
WUAZ Wupatki 61.02 293 *e*P P 19 06 20.6 +1.2
comp=Z,59nm,2.0s
WUAZ Wupatki 61.02 293 ⇓P P 19 06 20.0 +0.6
baz=61
WUAZ Wupatki 61.02 293 *e*P P 19 06 20.6 +1.2
comp=Z,59nm,2.0s
220A Playas Peak, P 61.05 288 ⇑P P 19 06 20.3 +0.8
baz=61,SNR=6.0
Y18A Canyon Day Jun 61.06 291 ⇓P P 19 06 20.5 +0.9
baz=61,SNR=9.0
119A Ashpeak Ranch, 61.11 289 ⇑P P 19 06 21.0 +1.0
baz=61
U15A North Rim 61.14 294 ⇓P P 19 06 20.5 +0.1
baz=61,SNR=9.0
ARUT Antelope Range 61.17 296 *e*P P 19 06 19.9 -0.5
ARUT pmax pmax
comp=Z,11nm,1.2s
ARUT Antelope Range 61.17 296 *e*P P 19 06 19.9 -0.5
comp=Z,11nm,1.2s
ARUT Antelope Range 61.17 296 *e*P P 19 06 19.9 -0.5
comp=Z,11nm,1.2s
CCUT Cedar City 61.25 296 *e*P P 19 06 21.4 +0.4
comp=Z,6.7nm,0.8s
CCUT Cedar City 61.25 296 *e*P P 19 06 21.4 +0.4
comp=Z,6.7nm,0.8s
R13A O'Grain Ranch, 61.31 297 ⇓P P 19 06 21.7 +0.4
baz=61
J08A Circle Bar Ran 61.38 304 ⇓P P 19 06 22.3 +0.7
baz=61,SNR=7.5
COLD Coldfoot 61.55 337 *e*P P 19 06 22.8 +0.5
comp=Z,9.8nm,1.2s
COLD Coldfoot 61.55 337 *e*P P 19 06 22.8 +0.5
comp=Z,9.8nm,1.2s
Z17A San Carlos Hig 61.63 290 ⇓P P 19 06 24.3 +0.9
baz=61
Y17A Roosevelt 61.66 291 ⇓P P 19 06 24.5 +0.9
baz=62,SNR=6.5
X16A Lo Mia Camp, P 61.67 292 ⇓P P 19 06 24.3 +0.5
baz=62
WVOR Wild Horse Val 61.99 303 *e*P P 19 06 26.2 +0.5
WVOR pmax pmax
comp=Z,14nm,1.2s
WVOR Wild Horse Val 61.99 303 *e*P P 19 06 26.2 +0.5
comp=Z,14nm,1.2s
WVOR Wild Horse Val 61.99 303 *e*P P 19 06 26.2 +0.5
comp=Z,14nm,1.2s
ILAR Eielson Array 62.20 334 P P 19 06 26.5 -0.2
comp=Z,1.6nm,0.7s,baz=40,slow=5.3,SNR=19
ILAR LR LR 19 30 42.5
comp=Z,146nm,19.8s,baz=77,slow=33
ILAR Eielson Array 62.20 334 P P 19 06 26.5 -0.2
ILAR Eielson Array 62.20 334 P P 19 06 26.5 -0.2
ILAR Eielson Array 62.20 334 P P 19 06 26.5 -0.2
R11A Troy Canyon, C 62.28 298 ⇑P P 19 06 27.0 -0.9
baz=62
TUC Tucson 62.40 290 *e*P P 19 06 29.4 +0.8
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 62.40 290 *e*P P 19 06 29.4 +0.8
comp=Z,5.9nm,0.9s
TUC Tucson 62.40 290 *e*P P 19 06 29.4 +0.8
comp=Z,5.9nm,0.9s
ZRNK Zerenda 62.53 42 P P 19 06 27.9 -1.1
ZRNK pmax pmax
comp=Z,6.0nm,1.4s
W13A Hualapai Mount 62.96 294 ⇑P P 19 06 33.0 +0.6
baz=63,SNR=6.7
Y14A Wickenburg 63.01 292 ⇑P P 19 06 33.5 +0.9
baz=63
BRVK Borovoye 63.10 42 ⇑*i*P P 19 06 33.6 +0.8
BRVK pmax pmax
comp=Z,13nm,2.2s
BRVK Borovoye 63.10 42 *e*P P 19 06 33.8 +1.0
comp=Z,6.4nm,1.1s
BRVK Borovoye 63.10 42 *e*P P 19 06 33.8 +1.0
comp=Z,6.4nm,1.1s
BVA0 Borovoye Array 63.17 42 P P 19 06 33.4 +0.1
BVA0 pmax pmax
comp=Z,1.0nm,1.3s
K05A Summer Lake 63.22 304 ⇑P P 19 06 34.9 +0.8
baz=63
Z14A Wintersburg 63.30 292 ⇑P P 19 06 35.6 +1.1
baz=63
114A Black Gap (USA 63.60 291 ⇑P P 19 06 37.6 +1.1
baz=63,SNR=5.1
VOSK Vostochnaya 63.64 42 P P 19 06 36.8 +0.4
VOSK pmax pmax
comp=Z,3.0nm,1.2s
Z13A Yuma Proving G 63.88 292 ⇑P P 19 06 39.3 +1.0
baz=64,SNR=6.6
NVAR Mina Array Bea 64.00 299 P P 19 06 39.0 -0.3
comp=Z,1.1nm,0.7s,baz=55,slow=6.6,SNR=8.9
NVAR Mina Array Bea 64.00 299 P P 19 06 39.0 -0.3

NVAR Mina Array Bea 64.00 299 P P 19 06 39.0 -0.3
214A Organ Pipe Nat 64.01 290 ⇓P P 19 06 40.2 +1.0
baz=64
TUQ Turquoise Moun 64.14 295 ⇓P P 19 06 40.8 +0.6
baz=64
Y12C Blythe 64.16 293 ⇓P P 19 06 40.9 +0.8
baz=64
113A Mohawk Valley, 64.20 292 ⇓P P 19 06 41.0 +0.6
baz=64
GRAC Grapevine Rang 64.21 297 ⇑P P 19 06 40.9 +0.4
baz=64
IRM Iron Mountain 64.35 294 ⇓P P 19 06 42.1 +0.6
baz=64
GLA Glamis 64.77 292 ⇓P P 19 06 45.1 +0.9
baz=65
GSC Goldstone 64.81 296 *e*P P 19 06 45.3 +0.8
GSC pmax pmax
comp=Z,14nm,1.0s
GSC Goldstone 64.81 296 *e*P P 19 06 45.2 +0.8
comp=Z,14nm,1.0s
GSC Goldstone 64.81 296 ⇓P P 19 06 45.2 +0.8
baz=65
GSC Goldstone 64.81 296 *e*P P 19 06 45.2 +0.8
comp=Z,14nm,1.0s
MPMC Manual Prospec 64.82 297 ⇓P P 19 06 45.3 +0.6
baz=65,SNR=9.8
BC3 Big Chuckawall 64.84 293 ⇑P P 19 06 45.4 +0.6
baz=65
BELC Belle Mtn. Jos 65.01 294 ⇑P P 19 06 46.5 +0.6
baz=65
LRMC Laurel Mountai 65.29 296 ⇓P P 19 06 48.3 +0.6
baz=65
SWSC Sam W. Stewart 65.49 293 ⇑P P 19 06 50.1 +1.3
baz=65
ISA Isabella 65.70 297 *e*P P 19 06 51.0 +0.7
ISA pmax pmax
comp=Z,80nm,2.7s
ISA Isabella 65.70 297 *e*P P 19 06 51.0 +0.7
comp=Z,80nm,2.7s
ISA Isabella 65.70 297 ⇓P P 19 06 50.8 +0.5
baz=66
ISA Isabella 65.70 297 *e*P P 19 06 51.0 +0.7
comp=Z,80nm,2.7s
MONP Monument Peak 65.95 293 ⇓P P 19 06 53.0 +0.9
baz=66
PKM Peak Mountain 67.05 297 ⇓P P 19 06 59.5 +0.5
baz=67
NVS Novosibirsk 67.91 35 ⇓*i*P P 19 07 03.4 -0.5
NVS pmax pmax
comp=N,21nm,2.5s
NVS pmax pmax
comp=Z,32nm,2.5s
LPAZ La Paz 67.94 219 P P 19 07 05.8 +0.6
comp=Z,2.7nm,1.0s,baz=11,slow=9.7,SNR=4.7
LPAZ LR LR 19 34 35.6
comp=Z,158nm,18.3s,baz=216,slow=34
LPAZ La Paz 67.94 219 *e*P P 19 07 05.4 +0.2
LPAZ pmax pmax
comp=Z,10.0nm,1.4s
LPAZ La Paz 67.94 219 *e*P P 19 07 05.4 +0.2
comp=Z,10nm,1.4s
LPAZ La Paz 67.94 219 *e*P P 19 07 05.4 +0.2
comp=Z,10nm,1.4s
KURK Kurchatov 68.61 40 P P 19 07 09.1 +0.8
comp=Z,3.4nm,0.8s,baz=314,slow=6.5,SNR=30
KURK Kurchatov 68.61 40 ⇓*i*P P 19 07 06.8 -1.5
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 68.61 40 *e*P P 19 07 07.4 -0.9
comp=Z,6.3nm,1.0s
KURK Kurchatov 68.61 40 *e*P P 19 07 07.4 -0.9
comp=Z,6.3nm,1.0s
BILL Bilibino 69.13 353 *i*P P 19 07 10.8 -0.5
BILL *e* 19 07 36.5
BILL *e* 19 09 41.0
BILL *e*S S 19 16 10.4 -5.1
BILL pmax pmax
comp=Z,17nm,2.6s
BILL Bilibino 69.13 353 *e*P P 19 07 10.9 -0.4
comp=Z,2.6nm,0.6s
BILL Bilibino 69.13 353 *e*P P 19 07 10.9 -0.4
comp=Z,2.6nm,0.6s
ZAA0 Zalesovo Array 69.20 35 *e*P P 19 07 12.2 +0.3
ZAA0 Zalesovo Array 69.20 35 *e*P P 19 07 12.2 +0.3
ZALV Zalesovo Beam 69.20 35 P P 19 07 12.2 +0.3
comp=Z,3.0nm,0.7s,baz=298,slow=8.4,SNR=21
ZALV LR LR 19 37 20.3
comp=Z,197nm,19.1s,baz=45,slow=36
ZALV Zalesovo Beam 69.20 35 P P 19 07 12.2 +0.3
ZALV Zalesovo Beam 69.20 35 P P 19 07 12.2 +0.3
ZALV Zalesovo Beam 69.20 35 P P 19 07 12.2 +0.3
EKS2 Erkin-Say 71.38 49 *e*P P 19 07 27.8 +2.1
EKS2 pmax pmax
comp=Z,74nm,2.3s
EKS2 Erkin-Say 71.38 49 *e*P P 19 07 27.8 +2.1
comp=Z,74nm,2.3s
EKS2 Erkin-Say 71.38 49 *e*P P 19 07 27.8 +2.1
comp=Z,74nm,2.3s
AAK Ala-Archa 71.80 49 ⇑*i*P P 19 07 30.4 +2.1
AAK Ala-Archa 71.80 49 *e*P P 19 07 30.3 +2.1
comp=Z,57nm,1.6s
AAK Ala-Archa 71.80 49 *e*P P 19 07 30.3 +2.0
comp=Z,57nm,1.6s
TKM2 Tokmak 2 72.22 48 *e*P P 19 07 32.2 +1.4
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 72.22 48 *e*P P 19 07 32.2 +1.4
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 72.22 48 *e*P P 19 07 32.2 +1.4
comp=Z,5.0nm,1.0s
CPUP Villa Florida 72.77 205 P P 19 07 34.2 +0.5
comp=Z,0.6nm,0.4s,baz=5.7,slow=10,SNR=2.8
CPUP LR LR 19 36 03.9
comp=Z,133nm,18.6s,baz=350,slow=33
CPUP Villa Florida 72.77 205 P P 19 07 34.3 +0.5
CPUP Villa Florida 72.77 205 P P 19 07 34.2 +0.5
CPUP Villa Florida 72.77 205 P P 19 07 34.2 +0.5
MK31 Makanchi Array 73.06 41 *e*P P 19 07 35.5 0.0
MK31 Makanchi Array 73.06 41 *e*P P 19 07 35.5 0.0
MK31 Makanchi Array 73.06 41 *e*P P 19 07 35.5 0.0
MKAR Makanchi Array 73.06 41 P P 19 07 35.3 -0.2
comp=Z,4.6nm,0.7s,baz=318,slow=5.6,SNR=59
MKAR LR LR 19 40 41.8
comp=Z,152nm,18.2s,baz=315,slow=37
MKAR Makanchi Array 73.06 41 *ce*P P 19 07 35.7 +0.3
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 73.06 41 *e*P P 19 07 35.8 +0.3
MKAR Makanchi Array 73.06 41 *e*P P 19 07 35.8 +0.3
KBL Kabul 73.85 58 *e*P P 19 07 41.5 +0.9
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 73.85 58 *e*P P 19 07 41.5 +0.9
comp=Z,3.9nm,0.8s
KBL Kabul 73.85 58 *e*P P 19 07 41.5 +0.9
comp=Z,3.9nm,0.8s
YAK Yakutsk 74.66 10 *e*P P 19 07 43.7 -0.9
YAK pmax pmax
comp=Z,11nm,0.8s
KSH Kashi 74.71 50 ⇓*i*P P 19 07 47.3 +1.9
KSH *e*pP pP 19 07 51.7 +0.2
KSH *e*sP sP 19 07 54.4 +0.7
KSH *e*PcP PcP 19 08 01.3 +1.7
KSH *e*PP PP 19 10 36.7 +4.7
KSH *e*S S 19 17 21.5 +0.7
KSH *e*SKS SKSac 19 17 50.3 -2.8
KSH *e*ScS ScS 19 17 55.1 -1.2
KSH pmax pmax
comp=Z,14nm,1.0s
KSH pmax pmax
comp=Z,81nm,5.3s
KSH LR LR
comp=N,140nm,5.1s
KSH LR LR
comp=E,150nm,4.8s
KSH LR LR
comp=Z,120nm,7.6s
BOD Bodaibo 75.80 19 *e*P P 19 07 50.2 -1.0
BOD pmax pmax
comp=Z,8.0nm,1.8s
WMQ Urumqi 77.84 41 *e*P P 19 08 04.0 +0.9
WMQ pP pP 19 08 09.0 -0.1
WMQ sP sP 19 08 11.0 -0.3
WMQ S S 19 18 00.5 +5.6
WMQ pmax pmax
comp=Z,7.0nm,1.3s
WMQ LR LR
comp=N,200nm,17.0s
WMQ LR LR
comp=E,190nm,18.5s
WMQ LR LR
comp=Z,230nm,20.5s
SONM Songino Array 82.38 28 P P 19 08 28.1 +0.5
comp=Z,1.4nm,0.8s,baz=315,slow=5.2,SNR=12
SONM Songino Array 82.38 28 P P 19 08 28.1 +0.5
SONM Songino Array 82.38 28 P P 19 08 28.1 +0.5
SONM Songino Array 82.38 28 P P 19 08 28.1 +0.5
ULN Ulaanbaatar 82.58 27 *e*P P 19 08 29.1 +0.5
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 82.58 27 *e*P P 19 08 29.1 +0.5
comp=Z,2.8nm,0.9s
ULN Ulaanbaatar 82.58 27 *e*P P 19 08 29.1 +0.5
comp=Z,2.8nm,0.9s
GTA Gaotai 86.90 36 *e*P P 19 08 50.1 -0.5
GTA pP pP 19 08 56.6 -0.1
GTA sP sP 19 08 59.2 +0.3
GTA pmax pmax
comp=Z,2.0nm,2.0s
BOSA Boshof 87.36 133 LR LR 19 43 44.1
comp=Z,281nm,21.8s,baz=346,slow=33
HHC Hu-ho-hao-te 90.28 28 *e*P P 19 09 05.0 -1.5
HHC sP sP 19 09 12.1 -2.7
HHC PP PP 19 12 40.3 +0.7
HHC SKS SKSac 19 19 33.1 -3.8
HHC S SKSSac 19 19 54.7 +4.1
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,73nm,4.2s
HHC LR LR
comp=N,400nm,16.1s
HHC LR LR
comp=E,240nm,15.9s
HHC LR LR
comp=Z,450nm,19.0s
PLCA Paso Flores 90.36 209 LR LR 19 50 59.3
comp=Z,149nm,18.4s,baz=237,slow=36
LZH Lanzhou 91.43 35 *e*P P 19 09 12.5 +0.5
LZH pP pP 19 09 17.0 -1.1
LZH sP sP 19 09 18.6 -1.7
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=N,460nm,16.7s
LZH LR LR
comp=E,430nm,18.7s
LZH LR LR
comp=Z,680nm,20.5s
CN2 Changchun 91.48 17 *e*P P 19 09 11.9 0.0
CN2 *es*P sP 19 09 18.9 -1.3
CN2 *e*S S 19 20 07.2 -3.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,19.0s
MDJ Mudanjiang 91.52 14 P P 19 09 11.2 -0.9
MDJ pmax pmax
comp=Z,5.0nm,1.7s
MDJ pmax pmax
comp=Z,76nm,5.4s
BJI Beijing 92.53 25 P P 19 09 15.6 -1.2
BJI PP PP 19 12 59.2 +2.1
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI pmax pmax
comp=Z,130nm,9.9s
BJI LR LR
comp=N,400nm,21.5s
BJI LR LR
comp=E,240nm,19.6s
BJI LR LR
comp=Z,460nm,26.4s
CD2 Chengdu 95.76 38 P P 19 09 31.4 -0.5
CD2 pP pP 19 09 36.2 -1.8
CD2 sP sP 19 09 38.4 -1.8
CD2 PP PP 19 13 24.5 +1.7
CD2 SKS SKSac 19 20 06.1 -1.3
CD2 S S 19 20 44.8 -4.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=N,410nm,14.3s
CD2 LR LR
comp=Z,580nm,14.9s
KMI Kunming 100.13 42 P Pdif 19 09 51.1 -0.7
KMI pP pP 19 09 55.1 -2.9
KMI sP sP 19 09 56.9 -3.3
KMI pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 100.88 38 *e*P Pdif 19 09 54.5 -0.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
VNA1 Neumayer--Stat 113.91 172 *e* PKiKP 19 14 43.2 +0.1
VNA2 Neumayer--Watz 114.27 172 *e* PKPdf 19 14 43.9 +0.1
VNA3 Neumayer Olymp 114.35 173 *e* PKPdf 19 14 42.6 -1.4
QSPA South Pole Qui 132.31 180 *e*PKPdf **PKPdf 19 15 18.2 -0.4**
QSPA South Pole Qui 132.31 180 *e*PKIKP **PKPdf 19 15 18.2 -0.4**
VNDA Vanda 144.44 185 *e*PKIKP **PKPdf 19 15 40.2 -0.2**
VNDA Vanda 144.44 185 *e*PKPdf **PKPdf 19 15 40.2 -0.2**
VNDA Vanda 144.44 185 *e*PKPdf **PKPdf 19 15 40.2 -0.2**
MSVF Nonsavu 145.42 307 *e*PKIKP **PKPab 19 15 45.0 +0.9**
MSVF Nonsavu 145.42 307 *e*PKPdf **PKPab 19 15 45.0 +0.9**
MSVF Nonsavu 145.42 307 *e*PKIKP **PKPab 19 15 45.0 +0.9**
WRA Warramunga Arr 154.18 34 PKPbc **PKPbc 19 16 05.0 -0.8**
comp=Z,0.9nm,0.8s,baz=343,slow=2.5,SNR=5.4
WRA Warramunga Arr 154.18 34 PKIKP **PKPbc 19 16 05.0 -0.8**
WRA Warramunga Arr 154.18 34 PKPbc **PKPbc 19 16 05.0 -0.8**
WRA Warramunga Arr 154.18 34 PKPbc **PKPbc 19 16 05.0 -0.8**
ASAR Alice Springs 157.24 40 PKPab **PKPab 19 16 32.1 -0.4**
comp=Z,1.0nm,0.8s,baz=334,slow=4.2,SNR=5.4
ASAR Alice Springs 157.24 40 PKP2 **PKPab 19 16 32.1 -0.4**
ASAR Alice Springs 157.24 40 PKPab **PKPab 19 16 32.1 -0.4**
ASAR Alice Springs 157.24 40 PKPab **PKPab 19 16 32.1 -0.4**

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*IDC **05** 19:00:45.7S 3.4, 54.7E 16N 161.54W, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/29, mbtmp3.7/8, ML3.2/3, Error ellipse: s-maj=88.9km s-min=19.1km az=152.0*
*ISCJB **05** 19:00:48.3S 0.9, 54.29N 0.07E 161.26W 0.07, h23km, mb3.7/5, Error ellipse: s-maj=9.6km s-min=5.3km az=167.9*
*NEIC **05** 19:00:50.2, 54.41N 161.48W, h5km, ML3.5(AEIC), After AEIC.*

ISC 05 19:00:49.9±1.0, 54°36N±0.09 161°44W±0.05, h23km, n28, σ0s 82/34, mb3.7/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**0.77**	**322**	P	**Pb**	**19 01 04.8**	**+0.1**
DOL	**Dolgoi Island**	**0.83**	**343**	P	**Pb**	**19 01 05.5**	**-0.1**
DT1	**Dutton Round H**	**0.89**	**327**	P	**Pb**	**19 01 06.4**	**-0.3**
DTNA	**Dutton South F**	**0.92**	**329**	P	**Pn**	**19 01 07.0**	**-0.4**
DTNA				S	**Sb**	**19 01 19.4**	**+0.4**
HAG	**Hague Volcano**	**0.99**	**344**	P	**Pb**	**19 01 09.1**	**+0.6**
PS4A	**Pavlof South-4**	**1.02**	**346**	P	**Pb**	**19 01 08.9**	**+0.1**
PVV	**Pavlof Volcano**	**1.03**	**349**	P	**Pb**	**19 01 09.2**	**+0.1**
SDPT	**Sand Point**	**1.13**	**29**	P	**Pb**	**19 01 10.9**	**+0.1**
SDPT				S	**Sb**	**19 01 25.5**	**+0.4**
FALS	**False Pass**	**1.25**	**294**	P	**Pb**	**19 01 13.0**	**+0.2**
FALS				S	**Sb**	**19 01 29.7**	**+1.2**
BRPK	**Brown Peak**	**1.38**	**283**	P	**Pb**	**19 01 14.6**	**-0.3**
SSLS	**Shishaldin Sou**	**1.54**	**284**	P	**Pb**	**19 01 17.6**	**-0.1**
SSLS				S	**Sb**	**19 01 38.5**	**+1.9**
CHGN	**Chignik**	**2.60**	**40**	*e*P	**Pn**	**19 01 32.2**	**+1.8**
KDAK	**Kodiak Island**	**6.03**	**52**	Pn	**Pn**	**19 02 17.9**	**+0.4**
KDAK	0.5nm,0.3s,baz=205,slow=5.3,SNR=9.6			Sn	**Sn**	**19 03 24.9**	**-0.7**
	baz=151,slow=19,SNR=2.0						
KDAK	**Kodiak Island**	**6.03**	**52**	Pn	**Pn**	**19 02 17.9**	**+0.4**
KDAK				Sn	**Sn**	**19 03 24.9**	**-0.7**
ILAR	**Eielson Array**	**12.74**	**29**	Pn	**Pn**	**19 03 47.6**	**-1.8**
	0.0nm,0.3s,baz=212,slow=12,SNR=3.3						

ILAR	**Eielson Array**	**12.74**	**29**	Pn	**Pn**	**19 03 47.6**	**-1.8**
INK	**Inuvik**	**19.09**	**32**	P	**Pn**	**19 05 11.6**	**+0.2**
	0.1nm,0.3s,baz=231,slow=17,SNR=5.0						
INK	**Inuvik**	**19.09**	**32**	P	**Pn**	**19 05 11.6**	**+0.2**
PETK	**Petropavlovsk-**	**23.97**	**284**	P	**P**	**19 06 01.8**	**-0.5**
	2.1nm,0.5s,baz=85,slow=13,SNR=10						
PETK	**Petropavlovsk-**	**23.97**	**284**	P	**P**	**19 06 01.8**	**-0.5**
SONM	**Songino Array**	**54.25**	**304**	P	**P**	**19 10 13.3**	**-0.4**
	0.6nm,0.9s,baz=43,slow=8.7,SNR=3.3						
SONM	**Songino Array**	**54.25**	**304**	P	**P**	**19 10 13.3**	**-0.4**
FINES	**FINESS Array B**	**64.39**	**356**	P	**P**	**19 11 22.5**	**-0.9**
	3.7nm,1.0s,baz=12,slow=9.8,SNR=4.2						
FINES	**FINESS Array B**	**64.39**	**356**	P	**P**	**19 11 22.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**80.66**	**288**	P	**P**	**19 13 00.9**	**0.0**
	0.7nm,1.0s,baz=6.4,slow=5.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**80.66**	**288**	P	**P**	**19 13 00.9**	**0.0**
ESDC	**Sonseca Array**	**84.35**	**17**	P	**P**	**19 13 20.8**	**+0.9**
	0.1nm,0.4s,baz=36,slow=5.1,SNR=3.5						
ESDC	**Sonseca Array**	**84.35**	**17**	P	**P**	**19 13 20.8**	**+0.9**

DJA ***05*** *19:22:27,0.60S×132.12E,h5km,MLv5.3/6*
IDC 05 19:22:20.2±2.0,0.50S×131.83E,h0km,mb3.8/3, mb1 3.9/5,mb1mx3.6/18,mbtmp3.8/5,ML3.8/2,Error ellipse: s-maj=101.0km s-min=22.7km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**4.64**	**286**	P	Sb	19 24 39.9	+0.8
SGSI	**Sangihe**	**7.55**	**303**	P	Pb	19 24 23.1	-9.0
LUWI	**Luwuk**	**9.08**	**267**	P	Pn	19 24 50.2	+18
DAV	**Davao City (W)**	**9.77**	**320**	P	Pn	19 24 51.5	+9.4
BBKI	**Banjar Baru**	**17.23**	**260**	P	P	19 26 24.2	0.0
FITZ	**Fitzroy Crossi**	**18.52**	**199**	P	Pn	19 26 38.8	+0.3
	0.2nm,0.3s,baz=31,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**19.48**	**173**	P	P	19 26 48.4	-0.6
	0.3nm,0.3s,baz=351,slow=12,SNR=17						
ASAR	**Alice Springs**	**23.12**	**175**	P	P	19 27 28.2	+0.1
	3.5nm,0.9s,baz=353,slow=10,SNR=22						
STKA	**Stephens Creek**	**32.55**	**164**	P	P	19 28 53.1	0.0
	1.2nm,0.8s,baz=348,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**63.92**	**324**	P	P	19 32 55.1	-0.1
	0.7nm,0.5s,baz=113,slow=8.2,SNR=9.2						

IDC ***05*** *19:23:58.2±0.4,0.62S×133.25E,h0km,mb5.1/18, mb1 5.2/22,mb1mx5.1/24,mbtmp5.1/22,ML5.0/3,MS4.6/11, Ms1 4.6/11,ms1mx4.2/24,Error ellipse: s-maj=21.6km s-min=10.6km az=78.0*
BJI ***05*** *19:23:59.8,0.83S×133.49E,h36km,mB5.2/43,mb5.1/61, Ms4.7/53,Ms7 4.5/52*
NEIC ***05*** *19:24:00.8±2.7,0.65S×133.28E,h17km±16km,mb5.3/54, MS4.8/61,Error ellipse: s-maj=6.7km s-min=4.0km az=63.0*
ISCJB ***05*** *19:24:01.7±0.8,0.64S±0.03×133.39E±0.03,h36km±6km, mb5.3/129,MS4.7/84,Error ellipse: s-maj=5.8km s-min=4.3km az=144.7*
MOS ***05*** *19:24:01.5±1.0,0.64S×133.19E,h33km,mb5.6/34, MS4.6/25,Error ellipse: s-maj=11.6km s-min=5.4km az=109.6*
TEH ***05*** *19:24:03.0,6.82S×133.26E,h35km, ML5.3*
DJA ***05*** *19:24:08,0.78S×133.27E,h56km,Mw5.3/42*
ISC 05 19:24:03.3±0.3,0.64S±0.03×133.30E±0.04,h33km±1km, h34km:pP-P,n418,σ1s32/464,mb5.3/129,MS4.7/86, 20C-4D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.49**	**205**	P	**Pn**	**19 24 42.1**	**+0.5**
BAKI	**Biak**	**2.85**	**101**	P	**Pn**	**19 24 47.9**	**+1.4**
TLE	**Tual**	**4.99**	**186**	P	**Pn**	**19 25 17.0**	**+1.0**
	4µm,0.7s,28µm11nn						
MSAI	**Masohi**	**5.13**	**238**	P	**Pn**	**19 25 20.2**	**+2.3**
	369nm,0.6s,5µm2.2nm						
MSAI	**Masohi**	**5.13**	**238**	P	**Pn**	**19 25 20.2**	**+2.3**
SMPI	**Sarmi**	**5.57**	**104**	P	Pb	19 25 31.7	-8.1
LBMI	**Labuha**	**5.80**	**270**	P	**Pn**	**19 25 28.3**	**+1.2**
	662nm,0.9s,7µm2.6nm						
AAI	**Ambon**	**5.93**	**239**	P	**Pn**	**19 25 29.6**	**+0.7**
	2µm,1.2s,16µm5.0nm						
AAI	**Ambon**	**5.93**	**239**	P	**Pn**	**19 25 29.6**	**+0.7**
	2µm,1.2s,16µm5.0nm						
MNI	**Manado**	**8.71**	**284**	P	Pn	19 26 16.0	+8.9
KMSI	**Cibinong**	**9.40**	**277**	P	Pn	19 26 32.3	+16
LUWI	**Luwuk**	**10.54**	**268**	P	**Pn**	**19 26 33.2**	**+1.1**
	384nm,1.2s,3µm						
DAV	**Davao City (W)**	**10.87**	**315**	LR	LR	19 30 35.8	
	comp=Z,2µm,18.3s,baz=134,slow=37						
DAV	**Davao City (W)**	**10.87**	**315**	P	Pn	19 26 43.7	+7.1
	SNR=5.9						
MRSI	**Marisa**	**11.42**	**276**	P	Pn	19 26 49.4	+5.3
	79nm,1.2s,825nm						
MMRI	**Maumere**	**13.58**	**234**	P	**Pn**	**19 27 16.9**	**+3.1**
	244nm,1.1s,2µm						
TTSI	**Tana Toraja**	**13.69**	**260**	P	**P**	**19 27 25.8**	**+2.3**
SPSI	**Sidrap Palu**	**13.92**	**256**	P	**Pn**	**19 27 21.3**	**+3.0**
	66nm,1.0s,1µm						
BKSI	**Bulukumba**	**13.96**	**250**	P	**Pn**	**19 27 21.0**	**+2.1**
	163nm,1.1s,2µm						
KAPI	**Kappang**	**14.21**	**252**	Pn	**Pn**	**19 27 21.9**	**-0.5**
KAPI	4.0nm,0.3s,baz=95,slow=5.8,SNR=29			LR	LR	19 33 03.5	
	comp=Z,762nm,18.3s,baz=86,slow=38						
KAPI	**Kappang**	**14.21**	**252**	Pn	**Pn**	**19 27 21.9**	**-0.5**
KAPI	**Kappang**	**14.21**	**252**	P	Pn	19 27 25.8	+3.4
	SNR=13						
KAPI	**Kappang**	**14.21**	**252**	P	**Pn**	**19 27 24.9**	**+2.5**
	137nm,0.9s,1µm						
MJSI	**Majene**	**14.60**	**258**	P	P	19 27 37.7	+4.1
WSI	**Waingapu**	**15.74**	**235**	P	**P**	**19 27 46.7**	**+0.4**
	344nm,1.0s,5µm						
MYLDM	**Lahad Datu**	**15.88**	**292**	P	**P**	**19 27 47.2**	**-0.6**
MYLDM	**Lahad Datu**	**15.88**	**292**	P	**P**	**19 27 51.3**	**+3.5**
	104nm,1.2s,3µm						
SMKI	**Samarinda**	**16.10**	**271**	P	**P**	**19 27 52.2**	**+1.9**
	255nm,1.0s,4µm						
TSM	**Tawau**	**16.18**	**288**	P	**Pn**	**19 27 49.4**	**+1.1**
PMG	**Port Moresby**	**16.31**	**123**	Pn	**Pn**	**19 27 49.4**	**-0.5**
	0.7nm,0.3s,baz=308,slow=5.6,SNR=11						
PMG	**Port Moresby**	**16.31**	**123**	*c iP*	**P**	**19 27 52.6**	**0.0**
PMG	comp=Z,114nm,1.5s			pmax	pmax		
PMG	**Port Moresby**	**16.31**	**123**	Pn	**Pn**	**19 27 49.4**	**-0.5**
COEN	**Coen**	**16.45**	**144**	*eP*	**Pn**	**19 27 49.5**	**-2.2**
	comp=Z,170nm,0.6s						
SDKM	**Sandakan**	**17.25**	**291**	P	**P**	**19 28 04.9**	**+1.7**
KKM	**Kota Kinabalu**	**18.31**	**292**	*eP*	**Pn**	**19 28 15.2**	**+0.3**
	comp=Z,111nm,1.3s						
KKM	**Kota Kinabalu**	**18.31**	**292**	P	**Pn**	**19 28 16.6**	**+1.7**
KKM	**Kota Kinabalu**	**18.31**	**292**	P	**Pn**	**19 28 16.8**	**+1.8**
	comp=Z,80nm,1.5s,comp=Z,1µm						
BBKI	**Banjar Baru**	**18.66**	**261**	P	**Pn**	**19 28 21.6**	**+2.4**
	comp=Z,127nm,0.8s,comp=Z,2µm						
MTNI	**Mataram**	**18.82**	**245**	P	**Pn**	**19 28 21.3**	**+0.2**
	comp=Z,206nm,0.8s,comp=Z,2µm						
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P	**P**	**19 28 19.2**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=30,slow=14,SNR=29						
FITZ	comp=Z,2.5nm,0.3s,baz=105,slow=15,SNR=4.2			S	Sn	19 31 38.7	-14
FITZ	comp=Z,895nm,18.8s,baz=29,slow=41			LR	LR	19 36 53.8	
FITZ	**Fitzroy Crossi**	**18.91**	**203**	*eP*	**P**	**19 28 17.7**	**-3.6**
	comp=Z,134nm,0.8s						
FITZ				*eS*	Sn	19 31 36.8	-16
FITZ	**Fitzroy Crossi**	**18.91**	**203**	*eP*	**P**	**19 28 17.8**	**-3.6**
	comp=Z,71nm,0.8s						
FITZ				S	Sn	19 31 38.7	-14
WRAB	**Tennant Creek**	**19.20**	**177**	*eP*	**P**	**19 28 23.6**	**-0.9**
WRAB	comp=Z,194nm,1.2s			pmax	pmax		
WRAB	**Tennant Creek**	**19.20**	**177**	*eP*	**P**	**19 28 23.6**	**-0.9**
	comp=Z,194nm,1.2s						
WRAB	**Tennant Creek**	**19.20**	**177**	P	**P**	**19 28 24.2**	**-0.3**
	comp=Z,667nm,0.7s,SNR=26						
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**19 28 23.8**	**-0.8**
	comp=Z,8.3nm,0.3s,baz=357,slow=11,SNR=94						
WRA	comp=Z,2.0nm,0.3s,baz=352,slow=23,SNR=4.7			S	Sn	19 31 48.2	-12
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**19 28 23.8**	**-0.8**
WRA				S	Sn	19 31 48.3	-12
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**19 28 23.8**	**-0.8**
WRA				S	Sn	19 31 48.2	-12
WB2	**Warramunga Arr**	**19.21**	**177**	*eP*	**P**	**19 28 23.8**	**-0.8**
KHKI	**Kahang-Kahang**	**19.22**	**246**	P	**Pn**	**19 28 25.9**	**0.0**
	comp=Z,166nm,1.3s,comp=Z,2µm						
NBBI	**Negara**	**20.13**	**247**	P	Pn	19 28 41.6	+4.9
	comp=Z,255nm,1.4s						
KMMI	**Kalianget**	**20.31**	**251**	P	Pn	19 28 40.1	+1.3
	comp=Z,198nm,1.4s,comp=Z,3µm						
BTM	**Bintulu**	**20.57**	**281**	P	**P**	**19 28 40.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**20.60**	**247**	P	Pn	19 28 43.1	+0.9
	comp=Z,160nm,1.4s						
QIS	**Mount Isa**	**20.73**	**163**	*eP*	**P**	**19 28 40.3**	**-0.9**
BLJI	**Banyuglugur**	**20.87**	**250**	P	Pn	19 28 45.1	-0.3
	comp=Z,174nm,1.5s,comp=Z,2µm						
GMJI	**Gumukmas**	**21.19**	**248**	P	P	19 28 53.6	+7.5
SBUM	**Sibu**	**21.30**	**278**	P	**P**	**19 28 49.4**	**+2.0**
SBUM	**Sibu**	**21.30**	**278**	P	**P**	**19 28 49.4**	**+2.0**
	comp=Z,82nm,1.0s,comp=Z,1µm						
PBKI	**Pangkalan Bun**	**21.72**	**264**	P	P	19 28 57.5	+5.6
	comp=Z,175nm,1.5s,comp=Z,2µm						
STKI	**Sintang**	**21.84**	**272**	P	**P**	**19 28 54.9**	**+1.7**
	comp=Z,59nm,1.0s,comp=Z,5µm						
SJI	**Sawahan**	**22.59**	**251**	P	**P**	**19 29 01.6**	**+0.3**
	comp=Z,128nm,1.5s,comp=Z,2µm						
PWJI	**Pagerwojo**	**22.64**	**251**	P	**P**	**19 29 01.5**	**-0.3**
	comp=Z,66nm,0.9s						
AS31	**Alice Springs**	**22.89**	**179**	*eP*	**P**	**19 29 03.4**	**-0.9**
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**19 29 02.5**	**-1.8**
	comp=Z,133nm,0.6s,baz=0.1,slow=11,SNR=193						
ASAR	comp=Z,43nm,1.1s,baz=360,slow=17,SNR=9.7			S	**S**	**19 33 09.2**	**-2.8**
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**19 29 02.6**	**-1.8**
ASAR				S	**S**	**19 33 09.3**	**-2.8**
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**19 29 02.5**	**-1.8**
ASAR				S	**S**	**19 33 09.2**	**-2.8**
KSM	**Kuching**	**23.09**	**275**	*eP*	**P**	**19 29 06.7**	**+0.3**
	comp=Z,120nm,1.3s						
KSM	comp=Z,829nm,21.0s			LR	LR		
KSM	**Kuching**	**23.09**	**275**	P	**P**	**19 29 06.9**	**+0.5**
KSM	**Kuching**	**23.09**	**275**	P	**P**	**19 29 07.9**	**+1.5**
	comp=Z,87nm,1.4s,comp=Z,1µm						
CTA	**Charters Tower**	**23.11**	**148**	P	**P**	**19 29 07.7**	**+1.1**
	comp=Z,131nm,1.0s,baz=332,slow=12,SNR=55						
CTA	comp=Z,2µm,21.9s,baz=325,slow=38			LR	LR	19 38 37.4	
CTA	**Charters Tower**	**23.11**	**148**	*eP*	**P**	**19 29 07.1**	**+0.5**
	comp=Z,85nm,0.9s						
CTA	**Charters Tower**	**23.11**	**148**	P	**P**	**19 29 07.7**	**+1.1**
CTA	**Charters Tower**	**23.11**	**148**	P	**P**	**19 29 07.7**	**+1.1**
CTAO	**Charters Tower**	**23.11**	**148**	*eP*	**P**	**19 29 07.3**	**+0.7**
CTAO				pmax	pmax		
CTAO	comp=Z,148nm,1.0s			MLR	MLR		
	comp=Z,4µm,22.0s						
CTAO	**Charters Tower**	**23.11**	**148**	*eP*	**P**	**19 29 07.3**	**+0.7**
	comp=Z,148nm,1.0s						
CTAO	comp=Z,4µm,22.0s			LR	LR		
PCJI	**Pacitan**	**23.29**	**251**	P	P	19 29 17.3	+8.9
SMRI	**Semarang**	**23.67**	**254**	P	**P**	**19 29 14.7**	**+2.6**
	comp=Z,259nm,1.2s						
MBWA	**Marble Bar**	**24.32**	**212**	*eP*	**P**	**19 29 18.2**	**+0.1**
MBWA	**Marble Bar**	**24.32**	**212**	*eP*	**P**	**19 29 17.9**	**-0.2**
	comp=Z,220nm,1.3s						
MBWA	comp=Z,2µm,20.0s			LR	LR		
BJII	**Banjamegara**	**24.44**	**254**	P	**P**	**19 29 20.0**	**+0.6**
	comp=Z,206nm,1.9s,comp=Z,5µm						
CISI	**Cisompet, Garu**	**26.32**	**254**	P	**P**	**19 29 35.0**	**-1.4**
	comp=Z,356nm,0.7s,comp=Z,3µm						
LEM	**Lembang**	**26.34**	**256**	P	**P**	**19 29 38.6**	**+1.9**
	comp=Z,92nm,1.8s,comp=Z,2µm						
CBJI	**Citeko**	**27.01**	**257**	P	**P**	**19 29 45.5**	**+3.0**
	comp=Z,237nm,1.1s						
SSLB	**Suanglung**	**27.09**	**335**	*eP*	**P**	**19 29 41.7**	**-1.4**
	comp=Z,64nm,1.2s						
YHNB	**Yeheng**	**27.69**	**336**	PFAKE		19 30 00.0	+11
YHNB				LR	LR		
	comp=Z,1µm,19.0s						
JOW	**Kunigami**	**27.74**	**350**	LR	LR	19 39 00.2	
	comp=Z,3µm,20.2s,baz=295,slow=32						
QLP	**Quilpie**	**27.85**	**159**	*eP*	**P**	**19 29 48.9**	**-1.0**
HNR	**Honiara**	**27.91**	**109**	PFAKE		19 30 00.0	+9.4
HNR	comp=Z,945nm,19.0s			LR	LR		
KLI	**Kotabumi**	**28.71**	**261**	P	**P**	**19 29 58.5**	**+0.7**
	comp=Z,82nm,1.3s,comp=Z,3µm						
EIDS	**Eidsvold**	**29.98**	**146**	*eP*	**P**	**19 30 08.6**	**-0.3**
	comp=Z,28nm,0.8s						
QIZ	**Qiongzhong**	**30.21**	**312**	P	**P**	**19 30 10.8**	**-0.2**
QIZ				sP	**sP**	**19 30 25.0**	**+0.2**
QIZ				S	**S**	**19 35 09.3**	**+0.8**
QIZ				sS	**sS**	**19 35 25.6**	**+1.1**
QIZ	comp=Z,33nm,1.2s			pmax	pmax		
QIZ	comp=N,500nm,18.8s			LR	LR		
QIZ	comp=Z,680nm,26.1s			LR	LR		
QIZ	**Qiongzhong**	**30.21**	**312**	PFAKE		19 30 20.0	+9.0
QIZ				LR	LR		
	comp=Z,736nm,20.0s						
FORT	**Forrest**	**30.38**	**189**	*eP*	**P**	**19 30 12.7**	**+0.4**
	comp=Z,69nm,0.5s						
FORT	**Forrest**	**30.38**	**189**	*eP*	**P**	**19 30 12.3**	**0.0**
	comp=Z,128nm,0.8s						
KSI	**Kapahiang**	**30.83**	**264**	P	**P**	**19 30 16.2**	**-0.4**
	comp=Z,147nm,0.7s						
STKA	**Stephens Creek**	**32.04**	**167**	P	**P**	**19 30 26.0**	**-0.9**
	comp=Z,49nm,0.6s,baz=340,slow=8.1,SNR=206						
STKA	comp=Z,4µm,18.1s,baz=246,slow=39			LR	LR	19 44 56.7	
STKA	**Stephens Creek**	**32.04**	**167**	*eP*	**P**	**19 30 25.8**	**-1.1**
	comp=Z,40nm,0.6s						
STKA	**Stephens Creek**	**32.04**	**167**	*eP*	**P**	**19 30 25.6**	**-1.4**
STKA	comp=Z,10.0nm,0.6s			pmax	pmax		
STKA	**Stephens Creek**	**32.04**	**167**	*eP*	**P**	**19 30 25.6**	**-1.4**
	comp=Z,9.6nm,0.6s						
BBOO	**Buckleboo**	**32.10**	**176**	*eP*	**P**	**19 30 26.7**	**-0.8**
	comp=Z,2µm,0.8s						
IPM	**Ipoh**	**32.65**	**279**	*eP*	**P**	**19 30 32.1**	**-0.5**
	comp=Z,34nm,1.1s						
IPM				*e*PcP	**PcP**	**19 33 18.2**	**-0.1**
IPM	**Ipoh**	**32.65**	**279**	P	**P**	**19 30 32.6**	**0.0**
IPM	**Ipoh**	**32.65**	**279**	P	**P**	**19 30 32.5**	**-0.1**
	comp=Z,43nm,1.2s						
KULM	**Kulim**	**33.14**	**281**	*eP*	**P**	**19 30 36.4**	**-0.5**
	comp=Z,15nm,0.8s						
KULM	comp=Z,507nm,22.0s			LR	LR		
KULM	**Kulim**	**33.14**	**281**	P	**P**	**19 30 36.6**	**-0.3**
KULM	**Kulim**	**33.14**	**281**	P	**P**	**19 30 36.5**	**-0.3**
	comp=Z,32nm,1.0s						
SSE	**Sheshan**	**33.60**	**341**	P	**P**	**19 30 39.2**	**-1.4**
SSE				sP	**sP**	**19 30 51.6**	**-2.7**
SSE				S	**S**	**19 36 01.1**	**+0.1**
SSE				sS	**sS**	**19 36 17.7**	**+0.7**
SSE	comp=Z,17nm,0.6s			pmax	pmax		
SSE	comp=Z,160nm,6.8s			pmax	pmax		
SSE	comp=N,430nm,23.7s			LR	LR		
SSE	comp=E,370nm,23.8s			LR	LR		
SSE	comp=Z,660nm,17.1s			LR	LR		
MNSI	**Mandailing Nat**	**33.75**	**272**	P	**P**	**19 30 42.2**	**0.0**
	comp=Z,22nm,0.8s,comp=Z,1µm						
KLBR	**Kellerberin**	**34.12**	**204**	*eP*	**P**	**19 30 44.8**	**-0.3**
	comp=Z,26nm,0.6s						
ARMA	**Armidale**	**34.35**	**151**	*eP*	**P**	**19 30 47.3**	**0.0**
ARMA	**Armidale**	**34.35**	**151**	*eP*	**P**	**19 30 47.2**	**0.0**
	comp=Z,52nm,0.9s						
PSI	**Prapat**	**34.54**	**276**	P	**P**	**19 30 47.9**	**-1.3**
	comp=Z,55nm,1.1s						
TSI	**Tuntungan**	**34.96**	**277**	P	**P**	**19 30 52.8**	**+0.1**
	comp=Z,88nm,0.9s						
NJ2	**Nanjing**	**35.28**	**338**	*eP*	**P**	**19 30 56.2**	**+1.1**
NJ2				pP	**pP**	**19 31 06.9**	**+2.1**
NJ2				sP	**sP**	**19 31 10.1**	**+1.2**
NJ2				PP	**PP**	**19 32 16.2**	**+0.6**
NJ2				S	**S**	**19 36 26.5**	**-0.4**
NJ2				sS	**sS**	**19 36 42.0**	**-1.0**
NJ2	comp=Z,30nm,0.9s			pmax	pmax		
NJ2	comp=Z,290nm,5.4s			pmax	pmax		
NJ2	comp=N,600nm,16.8s			LR	LR		
NJ2	comp=E,690nm,21.2s			LR	LR		
NJ2	comp=Z,8µm,22.0s			LR	LR		
NWAO	**Narrogin (SRO)**	**35.50**	**204**	P	**P**	**19 30 56.2**	**-0.8**
	comp=Z,25nm,0.8s,baz=27,slow=10,SNR=13						
NWAO	**Narrogin (SRO)**	**35.50**	**204**	*eP*	**P**	**19 30 56.1**	**-0.9**
NWAO	comp=Z,28nm,0.9s			pmax	pmax		
NWAO	comp=Z,553nm,21.0s			MLR	MLR		
NWAO	**Narrogin (SRO)**	**35.50**	**204**	*eP*	**P**	**19 30 56.1**	**-0.9**
	comp=Z,28nm,0.9s						
NWAO	comp=Z,553nm,21.0s			LR	LR		
WHN	**Wuhan**	**35.88**	**331**	⇑P	**P**	**19 31 01.3**	**+1.0**
WHN	comp=Z,79nm,1.2s			pmax	pmax		
WHN	comp=N,690nm,20.2s			LR	LR		
WHN	comp=E,990nm,25.0s			LR	LR		
WHN	comp=Z,1µm,17.2s			LR	LR		
ARPS	**Mount Arapiles**	**36.81**	**169**	*eP*	**P**	**19 31 07.7**	**-0.4**
	comp=Z,463nm,1.0s						
GYA	**Guiyang**	**37.22**	**318**	⇑*iP*	**P**	**19 31 12.8**	**+0.8**
GYA				pP	**pP**	**19 31 22.4**	**+0.6**
GYA				PP	**PnPn**	**19 32 41.6**	**+3.7**
GYA				S	**S**	**19 36 58.8**	**+1.7**
GYA				ScP	**ScP**	**19 37 15.4**	**-0.9**
GYA				SS	**SnSn**	**19 39 30.2**	**-3.9**
GYA	comp=Z,30nm,0.8s			pmax	pmax		
GYA	comp=Z,150nm,4.7s			pmax	pmax		
GYA	comp=N,940nm,17.5s			LR	LR		
GYA	comp=E,790nm,18.1s			LR	LR		
GYA	comp=Z,910nm,17.9s			LR	LR		
MAJO	**Matsushiro**	**37.28**	**7**	*eP*	**P**	**19 31 10.2**	**-2.0**
MAJO	comp=Z,6.0nm,0.6s			pmax	pmax		
MAJO	comp=Z,1µm,21.0s			MLR	MLR		
MAJO	**Matsushiro**	**37.28**	**7**	*eP*	**P**	**19 31 10.2**	**-2.0**
	comp=Z,6.4nm,0.6s						
MAJO	comp=Z,1µm,21.0s			LR	LR		
MAT	**Matsushiro**	**37.28**	**7**	P	**P**	**19 31 10.1**	**-2.1**
MAT				S	**S**	**19 36 56.0**	**-1.4**
MJAR	**Matsushiro Arr**	**37.28**	**7**	P	**P**	**19 31 10.6**	**-1.5**
	comp=Z,7.3nm,0.9s,baz=193,slow=9.2,SNR=17						
MJAR				PcP	**PcP**	**19 33 30.3**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=204,slow=4.1,SNR=5.0						
MJAR	**Matsushiro Arr**	**37.28**	**7**	P	**P**	**19 31 10.6**	**-1.5**
MJAR						19 33 30.3	
MJAR	**Matsushiro Arr**	**37.28**	**7**	P	**P**	**19 31 10.6**	**-1.5**
MJAR				PcP	**PcP**	**19 33 30.3**	**-1.0**
CAN	**Canberra**	**37.47**	**159**	*eP*	**P**	**19 31 13.8**	**-0.1**
CAN	comp=Z,22nm,1.0s			pmax	pmax		
CAN	comp=Z,2µm,20.0s			MLR	MLR		
CAN	**Canberra**	**37.47**	**159**	*eP*	**P**	**19 31 13.8**	**-0.1**
	comp=Z,22nm,1.0s						
CAN	comp=Z,2µm,20.0s			LR	LR		
CNB	**Canberra Magne**	**37.60**	**158**	*eP*	**P**	**19 31 14.9**	**-0.1**
	comp=Z,31nm,0.6s						
ENH	**Enshi**	**38.20**	**326**	*eP*	**P**	**19 31 20.1**	**-0.1**
	comp=Z,16nm,1.1s						
ENH	comp=Z,402nm,21.0s			LR	LR		
KSAR	**Wonju Array Be**	**38.23**	**353**	P	**P**	**19 31 18.1**	**-2.1**
KSAR						19 33 33.8	
KSAR	**Wonju Array Be**	**38.23**	**353**	P	**P**	**19 31 18.1**	**-2.1**
KSAR				PcP	**PcP**	**19 33 33.8**	**-0.3**
KSRS	**Korea Array**	**38.23**	**353**	P	**P**	**19 31 18.0**	**-2.1**
	comp=Z,3.8nm,1.0s,baz=172,slow=11,SNR=8.8						
KSRS	comp=Z,2.7nm,1.1s,baz=193,slow=3.9,SNR=4.6			PcP	**PcP**	**19 33 33.8**	**-0.3**
KSRS	**Korea Array**	**38.23**	**353**	P	**P**	**19 31 18.0**	**-2.1**
KSRS						19 33 33.8	
KSRS	comp=Z,4.0nm,1.0s			pmax	pmax		
KSRS	comp=Z,3.0nm,1.1s			pmax	pmax		
TOO	**Toolangi**	**38.43**	**164**	*eP*	**P**	**19 31 22.4**	**+0.5**
	comp=Z,114nm,1.1s						
INCN	**Inchon**	**38.44**	**351**	PFAKE		19 31 30.0	+8.1
INCN	comp=Z,1µm,22.0s			LR	LR		
DZM	**Mont Dzumac**	**38.66**	**126**	*e*LR	LR	19 42 02.4	
	comp=Z,583nm,23.7s						
CM31	**Chiang Mai Arr**	**38.74**	**301**	*eP*	**P**	**19 31 25.0**	**+0.2**
	comp=Z,2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.74**	**301**	P	**P**	**19 31 24.9**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=116,slow=6.4,SNR=30						
CMAR	**Chiang Mai Arr**	**38.74**	**301**	P	**P**	**19 31 25.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.74**	**301**	P	**P**	**19 31 24.9**	**+0.2**
CHTO	**Chiang Mai**	**38.89**	**302**	*eP*	**P**	**19 31 25.3**	**-0.8**
CHTO	comp=Z,7.0nm,0.8s			pmax	pmax		
CHTO	comp=Z,386nm,21.0s			MLR	MLR		
CHTO	**Chiang Mai**	**38.89**	**302**	*eP*	**P**	**19 31 25.3**	**-0.8**
	comp=Z,6.9nm,0.8s						
CHTO	comp=Z,386nm,21.0s			LR	LR		
CHTO	**Chiang Mai**	**38.89**	**302**	P	**P**	**19 31 25.8**	**-0.3**
	comp=Z,15nm,0.9s						
KMI	**Kunming**	**39.12**	**313**	P	**P**	**19 31 28.7**	**+0.5**
KMI				pP	**pP**	**19 31 36.6**	**-1.4**
KMI				sP	**sP**	**19 31 40.3**	**-1.7**
KMI				PP	**PnPn**	**19 33 01.3**	**+0.3**
KMI				S	**S**	**19 37 26.7**	**+0.6**
KMI				sS	**sS**	**19 37 39.7**	**-2.6

CD2 pmax pmax
comp=Z,280nm,7.1s
CD2 LR LR
comp=N,580nm,11.3s
CD2 LR LR
comp=Z,480nm,17.2s
SNY Shenyang 43.18 349 ⇑P **P 19 32 00.4 -0.6**
SNY S **S 19 38 29.6 +4.2**
SNY pmax pmax
comp=Z,18nm,2.0s
SNY pmax pmax
comp=Z,170nm,2.8s
SNY LR LR
comp=N,640nm,22.1s
SNY LR LR
comp=E,460nm,17.1s
SNY LR LR
comp=Z,850nm,22.6s
ERM Erimo 43.39 11 PFAKE 19 32 10.0 +7.4
ERM LR LR
comp=Z,731nm,20.0s
BJT Baijiatuau 43.39 341 *e*P **P 19 32 03.0 +0.3**
BJT pmax pmax
comp=Z,178nm,1.1s
BJT MLR MLR
comp=Z,452nm,19.0s
BJT Baijiatuau 43.39 341 *e*P **P 19 32 03.0 +0.3**
comp=Z,178nm,1.1s
BJT LR LR
comp=Z,452nm,19.0s
BJI Beijing 43.41 341 P **P 19 32 03.2 +0.4**
BJI S **S 19 38 26.9 -1.9**
BJI pmax pmax
comp=Z,140nm,1.2s
BJI pmax pmax
comp=Z,270nm,4.1s
BJI LR LR
comp=N,320nm,20.2s
BJI LR LR
comp=E,320nm,22.1s
BJI LR LR
comp=Z,380nm,23.9s
TAU Tasmania Unive 43.92 165 PFAKE 19 32 20.0 +13
TAU LR LR
comp=Z,2µm,20.0s
USRK Ussuriysk Arra 44.66 359 P **P 19 32 13.0 +0.2**
comp=Z,15nm,1.0s,baz=180,slow=6.9,SNR=15
CN2 Changchun 44.80 352 *e*P **P 19 32 13.4 -0.6**
CN2 *e*pP **pP 19 32 23.3 -0.6**
CN2 *e*S **S 19 38 49.1 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,600nm,20.0s
MDJ Mudanjiang 45.18 356 P **P 19 32 17.4 +0.4**
MDJ pP **pP 19 32 26.1 -0.8**
MDJ sP **sP 19 32 30.0 -0.9**
MDJ PcP **PcP 19 33 57.2 +0.3**
MDJ PP **PP 19 34 02.0 -1.1**
MDJ ScP **ScP 19 37 46.7 -0.5**
MDJ PcS **PcS 19 37 51.1 +0.5**
MDJ S **S 19 38 57.4 +2.9**
MDJ ScS **ScS 19 42 11.7 +0.3**
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ pmax pmax
comp=Z,130nm,4.7s
MDJ LR LR
comp=N,71nm,19.8s
MDJ LR LR
comp=E,63nm,21.8s
MDJ LR LR
comp=Z,70nm,19.8s
MDJ Mudanjiang 45.18 356 *e*P **P 19 32 17.3 +0.4**
comp=Z,17nm,1.2s
MDJ LR LR
comp=Z,401nm,20.0s
LZH Lanzhou 45.68 326 ⇑P **P 19 32 22.2 +0.9**
LZH pP **pP 19 32 29.0 -2.2**
LZH sP **sP 19 32 33.0 -2.2**
LZH PP **PP 19 34 07.0 -1.7**
LZH S **S 19 39 05.0 +2.7**
LZH sS **sS 19 39 19.5 +0.8**
LZH pmax pmax
comp=Z,69nm,1.5s
LZH pmax pmax
comp=Z,210nm,5.0s
LZH LR LR
comp=N,310nm,15.1s
LZH LR LR
comp=E,370nm,18.9s
LZH LR LR
comp=Z,550nm,16.8s
HHC Hu-ho-hao-te 45.79 337 *e*P **P 19 32 22.9 +0.9**
HHC sP **sP 19 32 36.5 +0.6**
HHC PcP **PcP 19 33 58.6 -0.6**
HHC PP **PP 19 34 11.0 +1.3**
HHC S **S 19 39 05.2 +1.6**
HHC ScS **ScS 19 42 13.1 -2.6**
HHC pmax pmax
comp=Z,53nm,1.1s
HHC pmax pmax
comp=Z,310nm,4.9s
HHC LR LR
comp=N,400nm,17.8s
HHC LR LR
comp=E,240nm,16.3s
HHC LR LR
comp=Z,450nm,18.6s
MSVF Nonsavu 47.14 114 *e*P **P 19 32 34.6 +1.7**
MSVF pmax pmax
comp=Z,28nm,1.0s
MSVF MLR MLR
comp=Z,304nm,22.0s
MSVF Nonsavu 47.14 114 *e*P **P 19 32 34.6 +1.7**
comp=Z,28nm,1.0s
MSVF LR LR
comp=Z,304nm,22.0s
YSS Yuzh-Sakhalins 48.12 9⇑*e*P **P 19 32 41.0 +1.1**
YSS *e* 19 32 52.1
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=N,30nm,0.9s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 48.12 9 *e*P **P 19 32 40.0 0.0**
comp=Z,28nm,0.6s
YSS LR LR
comp=Z,375nm,20.0s
HABR Khabarovsk 48.94 2 *e*P **P 19 32 45.0 -1.2**
HABR *e**PP **pP 19 32 54.7 -1.6**
HABR *e**SP **sP 19 32 58.9 -1.3**
HABR *e* 19 34 08.5
HABR *e* 19 34 38.6
HABR *e*PPP PPP 19 35 29.8
HABR *e*S **S 19 39 48.4 +0.4**
HABR *e**SS **sS 19 40 04.8 +0.3**
HABR *e* 19 42 34.2
HABR *e*SS **SS 19 43 20.1 +0.8**
HABR *e*SSS SSS 19 44 36.4
HABR pmax pmax
comp=E,35nm,1.9s
HABR pmax pmax
comp=Z,61nm,1.6s
HABR pmax pmax
comp=N,10.0nm,1.0s
HABR MLR MLR
comp=Z,265nm,18.0s
KLR Kul'dur 49.70 359 *e*P **P 19 32 49.0 -3.0**
KLR pmax pmax
comp=Z,85nm,1.8s
LSA Lhasa 50.25 311 P **P 19 32 57.0 -0.1**
LSA pmax pmax
comp=Z,30nm,1.4s
LSA Lhasa 50.25 311 *e*P **P 19 32 57.3 +0.2**
LSA pmax pmax
comp=Z,58nm,1.4s
LSA MLR MLR
comp=Z,353nm,21.0s
LSA Lhasa 50.25 311 *e*P **P 19 32 57.3 +0.2**
comp=Z,58nm,1.4s
LSA LR LR
comp=Z,353nm,21.0s
GTA Gaotai 50.28 326 ⇑P **P 19 32 57.6 +0.8**
GTA pP **pP 19 33 07.3 +0.4**
GTA sP **sP 19 33 11.5 +0.7**
GTA PcP **PcP 19 34 16.6 +1.2**
GTA S **S 19 40 09.7 +2.3**
GTA sS **sS 19 40 25.8 +1.9**
GTA SS **SS 19 43 42.3 +0.9**
GTA pmax pmax
comp=Z,24nm,1.5s
GTA pmax pmax
comp=Z,250nm,5.2s
GTA LR LR
comp=N,220nm,19.0s
GTA LR LR
comp=E,270nm,18.1s
GTA LR LR
comp=Z,370nm,18.8s
HIA Hailar 51.07 349 *e*P **P 19 33 02.6 +0.1**
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA MLR MLR
comp=Z,783nm,21.0s
HIA Hailar 51.07 349 *e*P **P 19 33 02.6 +0.1**
comp=Z,5.3nm,0.4s
HIA LR LR
comp=Z,783nm,21.0s
TAPN Taplejung 51.88 306 *e*P **P 19 33 08.5 -0.8**
TAPN Taplejung 51.88 306 *e*P **P 19 33 08.5 -0.8**
ODAN Odare 51.94 305 *e*P **P 19 33 09.0 -0.6**
comp=Z,43nm,0.6s
ODAN Odare 51.94 305 *e*P **P 19 33 09.0 -0.6**
RAMN Ramite 52.62 305 *e*P **P 19 33 14.3 -0.4**
comp=Z,45nm,0.6s
RAMN Ramite 52.62 305 *e*P **P 19 33 14.3 -0.4**
JIRN Jiri 53.24 306 *e*P **P 19 33 19.1 -0.3**
comp=Z,28nm,0.6s
JIRN Jiri 53.24 306 *e*P **P 19 33 19.1 -0.3**
ULN Ulaanbaatar 53.44 338 *e*P **P 19 33 21.0 +0.7**
ULN pmax pmax
comp=Z,90nm,1.6s
ULN MLR MLR
comp=Z,377nm,22.0s
ULN Ulaanbaatar 53.44 338 *e*P **P 19 33 21.0 +0.7**
comp=Z,90nm,1.6s
ULN LR LR
comp=Z,377nm,22.0s
GUN Gumba 53.59 306 *e*P **P 19 33 21.7 -0.3**
comp=Z,44nm,0.8s
GUN Gumba 53.59 306 *e*P **P 19 33 21.7 -0.3**
SONM Songino Array 53.66 338 P **P 19 33 22.8 +1.0**
comp=Z,5.2nm,0.8s,baz=155,slow=6.5,SNR=44
SONM PcP **PcP 19 34 27.5 -0.4**
comp=Z,8.1nm,0.7s,baz=151,slow=4.2,SNR=13
SONM LR LR 19 55 22.1
comp=Z,474nm,19.7s,baz=126,slow=35
SONM Songino Array 53.66 338 P **P 19 33 22.8 +1.0**
SONM 19 34 27.5
SONM Songino Array 53.66 338 P **P 19 33 22.8 +1.0**
SONM PcP **PcP 19 34 27.5 -0.4**
PKI Pulchoki 53.84 305 *e*P **P 19 33 23.0 -0.8**
comp=Z,15nm,0.7s
PKI Pulchoki 53.84 305 *e*P **P 19 33 23.0 -0.8**
PKI Pulchoki 53.84 305 *e*P **P 19 33 23.0 -0.8**
KKN Kakani 54.03 306 *e*P **P 19 33 24.6 -0.4**
comp=Z,19nm,0.7s
KKN Kakani 54.03 306 *e*P **P 19 33 24.6 -0.4**
KKN Kakani 54.03 306 *e*P **P 19 33 24.6 -0.4**
DMN Daman 54.10 305 *e*P **P 19 33 25.1 -0.5**
comp=Z,30nm,0.7s
DMN Daman 54.10 305 *e*P **P 19 33 25.1 -0.5**
RPZ Rata Peaks 54.48 147 P **P 19 33 29.1 +1.3**
comp=Z,63nm,1.0s,baz=354,slow=9.6,SNR=10
RPZ Rata Peaks 54.48 147 P **P 19 33 29.1 +1.3**
GKN Gorkha 54.64 305 *e*P **P 19 33 28.9 -0.5**
comp=Z,28nm,0.8s
GKN Gorkha 54.64 305 *e*P **P 19 33 28.9 -0.5**
URZ Urewera 54.90 138 *e*P **P 19 33 30.9 0.0**
comp=Z,14nm,0.6s
CIT Chita 55.06 345 *e*P **P 19 33 32.3 +0.5**
CIT *e* 19 34 33.6
CIT pmax pmax
comp=Z,184nm,1.8s
SNZO South Karori 55.08 143 PFAKE 19 33 40.0 +7.9
SNZO LR LR
comp=Z,1µm,20.0s
KOLN Koldanda 55.40 305 *e*P **P 19 33 34.9 0.0**
comp=Z,65nm,0.6s
KOLN Koldanda 55.40 305 *e*P **P 19 33 34.9 0.0**
DANN Dangsing 55.49 306 *e*P **P 19 33 35.6 0.0**
comp=Z,74nm,0.7s
DANN Dangsing 55.49 306 *e*P **P 19 33 35.6 0.0**
HYB Hyderabad 56.79 291 *i* P **P 19 33 43.0 -1.8**
ZAK Zakamensk 56.93 338⇑*i*P **P 19 33 45.4 +0.1**
ZAK *e* 19 34 40.7
ZAK pmax pmax
comp=Z,17nm,1.8s
PETK Petropavlovsk- 57.31 17 P **P 19 33 47.9 +0.1**
comp=Z,19nm,0.9s,baz=182,slow=4.3,SNR=18
PETK Petropavlovsk- 57.31 17 P **P 19 33 47.9 +0.1**
PETK Petropavlovsk- 57.31 17 P **P 19 33 47.9 +0.1**
CLNS Chul'man 57.70 355 *e*P **P 19 33 50.8 +0.3**
CLNS pmax pmax
comp=E,3.0nm,1.1s
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.2s
TLY Talaya 57.84 339 *e*P **P 19 33 52.8 +1.2**
TLY *e* 19 35 57.3
TLY *e*S S 19 41 39.7 -9.2
TLY pmax pmax
comp=Z,10.0nm,0.8s
IRK Irkutsk 58.08 339 *e*P **P 19 33 53.8 +0.6**
IRK *e* 19 34 44.4
IRK pmax pmax
comp=Z,67nm,1.7s
MOY Mondy 58.83 337 *e*P **P 19 33 59.9 +1.3**
MOY pmax pmax
comp=Z,82nm,3.2s
WMQ Urumqi 60.09 323 P **P 19 34 09.1 +1.7**
WMQ pP **pP 19 34 19.2 +1.5**
WMQ sP **sP 19 34 23.1 +1.5**
WMQ PcP **PcP 19 34 54.1 +1.1**
WMQ pmax pmax
comp=Z,100nm,0.8s
WMQ pmax pmax
comp=Z,440nm,4.4s
WMQ LR LR
comp=N,200nm,25.6s
WMQ LR LR
comp=E,170nm,21.8s
WMQ LR LR
comp=Z,250nm,21.8s
BOD Bodaibo 60.29 348⇑*i*P **P 19 34 08.7 +0.3**
BOD pmax pmax
comp=Z,37nm,1.5s
DDI Dehra Dun 60.84 306 *ex* **P 19 34 13.3 +0.5**
YAK Yakutsk 62.57 358*c i*P **P 19 34 24.1 +0.4**
YAK *e**PP **pP 19 34 34.2 +0.2**
YAK *e* 19 35 02.7
YAK *e* 19 36 42.0
YAK *e*S **S 19 42 50.2 +1.1**
YAK *e**SS sS 19 43 12.2 +6.2
YAK *e* 19 44 11.3
YAK *e*SS **SS 19 46 50.6 -3.2**
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=Z,11nm,1.1s
YAK smax smax
comp=N,209nm,5.1s
YAK smax smax
comp=E,213nm,4.7s
YAK MLR MLR
comp=Z,304nm,18.0s
YAK MLR MLR
comp=N,241nm,17.0s
YAK Yakutsk 62.57 358 *e*P **P 19 34 23.8 +0.1**
comp=N,82nm,0.8s
YAK LR LR
comp=Z,424nm,19.0s
MK31 Makanchi Array 64.90 324 P **P 19 34 39.4 -0.1**
MK31 pmax pmax
comp=Z,47nm,0.7s
MK31 Makanchi Array 64.90 324 *e*P **P 19 34 39.7 +0.2**
MKAR Makanchi Array 64.90 324 P **P 19 34 40.0 +0.5**
comp=Z,44nm,0.6s,baz=115,slow=7.9,SNR=380
MKAR Makanchi Array 64.90 324 P **P 19 34 40.0 +0.5**
MKAR Makanchi Array 64.90 324 P **P 19 34 40.0 +0.5**
SEY Seymchan 65.01 9*ce*P **P 19 34 40.1 +0.3**
KSH Kashi 65.77 314⇑*i*P **P 19 34 46.7 +1.3**
KSH *e*pP **pP 19 34 57.2 +1.5**
KSH *e*sP **sP 19 35 00.0 +0.4**
KSH *e*PcP **PcP 19 35 18.0 +1.6**
KSH *e*ScP 19 39 16.9
KSH *e*PcS 19 39 21.3
KSH *e*S **S 19 43 28.0 -1.8**
KSH *e*ScS **SKSac 19 44 35.7 -3.2**
KSH pmax pmax
comp=Z,30nm,1.0s
KSH LR LR
comp=N,170nm,5.7s
KSH LR LR
comp=E,100nm,5.6s
KSH LR LR
comp=Z,120nm,5.2s
DRV Dumont d'Urvil 66.06 177 P sP 19 35 09.0 +8.3
DRV Dumont d'Urvil 66.06 177 PP PP 19 37 18.0 +5.8
DRV S S 19 43 17.0 -15
DRV SS SS 19 47 28.0 -20
DRV L L 19 52 00.0
DRV R 19 57 00.0
KZA Kyzart 67.27 317 P **P 19 34 57.1 +1.9**
SNR=45
KZA P **P 19 34 57.1 +1.9**
SNR=45
TKM2 Tokmak 2 67.36 318 P **P 19 34 56.0 +0.3**
SNR=39
TKM2 P **P 19 34 56.0 +0.3**
SNR=39
TKM2 Tokmak 2 67.36 318 *e*P **P 19 34 55.8 +0.2**
TKM2 pmax pmax
comp=Z,24nm,0.6s
TKM2 MLR MLR
comp=Z,266nm,20.0s
TKM2 Tokmak 2 67.36 318 *e*P **P 19 34 55.8 +0.2**
comp=Z,24nm,0.6s
TKM2 LR LR
comp=Z,266nm,20.0s
CASY Casey 67.47 190 *e*P **P 19 34 55.7 +0.2**
CASY Casey 67.47 190 *e*P **P 19 34 55.7 +0.2**
comp=Z,67nm,1.3s
CASY LR LR
comp=Z,484nm,19.0s
ZAA0 Zalesovo Array 67.49 331 *e*P **P 19 34 55.3 -0.6**
ZALV Zalesovo Beam 67.49 331 P **P 19 34 55.8 -0.1**
comp=Z,29nm,1.0s,baz=106,slow=5.3,SNR=87
ZALV PKP2bc 20 03 22.9
comp=Z,2.8nm,1.1s,baz=291,slow=4.1,SNR=5.7
ZALV Zalesovo Beam 67.49 331 P **P 19 34 55.8 -0.1**
ZALV Zalesovo Beam 67.49 331 P **P 19 34 55.8 -0.1**
ZALV ⇑*e* 20 03 22.9
KBK Karagaybulak 67.70 317 P **P 19 34 59.0 +1.4**
SNR=20
KBK P **P 19 34 59.0 +1.4**
SNR=20
UCH Uchtor 67.83 317 P **P 19 35 00.2 +1.3**
SNR=7.0
UCH P **P 19 35 00.2 +1.3**
SNR=7.0
CHMS Chumysh 67.97 318 P **P 19 34 59.7 +0.5**
SNR=15
CHMS P **P 19 34 59.7 +0.5**
SNR=15
FRU Bishkek 67.99 317 *e*P **P 19 35 01.0 +1.6**
AAK Ala-Archa 68.00 317 P **P 19 35 00.5 +1.0**
SNR=15
AAK P **P 19 35 00.5 +1.0**
SNR=15
AAK Ala-Archa 68.00 317 *e*P **P 19 35 00.1 +0.5**
AAK pmax pmax
comp=Z,88nm,1.0s
AAK MLR MLR
comp=Z,246nm,19.0s
AAK Ala-Archa 68.00 317 *e*P **P 19 35 00.1 +0.5**
comp=Z,88nm,1.0s
AAK LR LR
comp=Z,246nm,19.0s
AAK Ala-Archa 68.00 317 P **P 19 35 00.9 +1.3**
comp=Z,90nm,1.0s,SNR=12
USP Ospenovka 68.24 318 P **P 19 35 01.4 +0.5**
SNR=63
USP P **P 19 35 01.4 +0.5**
SNR=63
AML Almayashu 68.36 316 P **P 19 35 03.1 +1.0**
SNR=42
AML P **P 19 35 03.1 +1.0**
SNR=42
EKS2 Erkin-Say 68.50 317 P **P 19 35 03.6 +1.0**
SNR=36
EKS2 P **P 19 35 03.6 +1.0**
SNR=36
EKS2 Erkin-Say 68.50 317 *e*P **P 19 35 03.5 +0.8**
EKS2 pmax pmax
comp=Z,26nm,0.7s
EKS2 MLR MLR
comp=Z,398nm,21.0s
EKS2 Erkin-Say 68.50 317 *e*P **P 19 35 03.5 +0.8**
comp=Z,26nm,0.7s
EKS2 LR LR
comp=Z,398nm,21.0s
NVS Novosibirsk 68.77 332⇑*i*P **P 19 35 02.7 -1.1**
NVS *i* 19 35 11.1
NVS *e* 19 35 24.0
NVS *e* 19 37 40.3
NVS pmax pmax
comp=Z,158nm,2.0s
NVS pmax pmax
comp=N,48nm,1.8s
NVS pmax pmax
comp=E,61nm,1.8s
KURK Kurchatov 68.97 326 PKP2bc 20 03 28.3
comp=E,0.3nm,0.2s,baz=306,slow=3.2,SNR=4.2
KURK LR LR 20 04 05.2
comp=E,119nm,20.1s,baz=115,slow=35
KURK Kurchatov 68.97 326*c i*P **P 19 35 05.5 +0.3**
KURK pmax pmax
comp=Z,145nm,1.3s
KURK Kurchatov 68.97 326 *e*P **P 19 35 05.3 +0.1**
comp=Z,85nm,0.9s
KURK ⇑*e* 20 03 28.3
KURK Kurchatov 68.97 326 P **P 19 35 05.7 +0.5**
comp=Z,600nm,0.8s,SNR=68
KBL Kabul 69.38 307 *e*P **P 19 35 07.4 -1.0**
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 69.38 307 *e*P **P 19 35 07.4 -1.0**
comp=Z,11nm,0.9s
KIP Kipapa 70.45 67*ce*P **P 19 35 15.5 +0.6**
KIP pmax pmax
comp=Z,171nm,1.7s
KK31 Karatay Array 70.90 316 *i* P **P 19 35 17.6 +0.3**
KK31 pmax pmax
comp=Z,42nm,0.7s
KKAR Karatay Array 70.90 316 *e*P **P 19 35 17.3 0.0**
KKAR pmax pmax
comp=Z,44nm,0.7s
KKAR Karatay Array 70.90 316 *e*P **P 19 35 17.3 0.0**
comp=Z,44nm,0.7s
MIR Mirnyy 71.61 196⇓*i*P **P 19 35 21.4 +0.4**
MIR *i* 19 35 28.0
MIR pmax pmax
comp=Z,70nm,1.0s
MIR pmax pmax
comp=Z,606nm,2.0s
BILL Bilibino 72.23 12⇓*i*P **P 19 35 24.3 -0.4**
BILL *e* 19 35 43.0
BILL *e* 19 38 10.6
BILL *e*SS SS 19 49 20.0 -3.1
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 72.23 12 *e*P **P 19 35 24.5 -0.3**
comp=Z,10.0nm,1.2s

BILL LR LR
comp=Z,335nm,21.0s
VOSK Vostochnaya 74.12 326 P P 19 35 36.2 0.0
VOSK pmax pmax
comp=Z,26nm,0.7s
BVA0 Borovoye Array 74.57 326 P P 19 35 38.8 0.0
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 74.64 326 *c iP* **P 19 35 39.4 +0.2**
BRVK pmax pmax
comp=Z,77nm,1.2s
BRVK Borovoye 74.64 326 *eP* **P 19 35 39.1 -0.1**
comp=Z,89nm,1.1s
BRVK LR LR
comp=Z,312nm,20.0s
BRVK Borovoye 74.64 326 P P 19 35 39.5 +0.2
comp=Z,314nm,0.6s,SNR=35
ZRNK Zerenda 75.31 326 P P 19 35 42.9 -0.3
ZRNK pmax pmax
comp=Z,38nm,0.9s
GAMB Gambell 75.83 22 *eP* **P 19 35 46.6 +0.8**
comp=Z,31nm,1.4s
IDAH Dahanechah 76.45 304 *eP* **P 19 35 50.7 +0.3**
IMYA Miami 76.89 307 *eP* **P 19 35 52.7 0.0**
IKOO Kooshah 77.12 303 *eP* **P 19 35 54.3 +0.1**
ITEG Tejag 77.41 304 *eP* **P 19 35 55.9 +0.2**
PPT2 Papeete2 77.53 108 *eLR* LR 20 00 03.9
comp=Z,267nm,24.5s
TBI Tubuai 78.03 114 *eLR* LR 20 00 20.9
comp=Z,280nm,29.0s
IEMG Emamgholi 78.23 308 *eP* **P 19 36 01.1 +0.8**
VNDA Vanda 78.35 174 *eP* **P 19 36 00.0 +0.2**
VNDA pmax pmax
comp=Z,20nm,1.0s
VNDA MLR MLR
comp=Z,478nm,21.0s
VNDA Vanda 78.35 174 *eP* **P 19 36 00.0 +0.2**
comp=Z,20nm,1.0s
VNDA LR LR
comp=Z,478nm,21.0s
ABKT Ailbek 78.73 309 P P 19 36 03.1 +0.3
comp=Z,183nm,0.9s,SNR=7.9
SBA Scott Base 79.19 173 *eP* **P 19 36 05.2 +0.8**
SBA pmax pmax
comp=Z,61nm,1.5s
SBA MLR MLR
comp=Z,571nm,19.0s
SBA Scott Base 79.19 173 *eP* **P 19 36 05.2 +0.8**
comp=Z,61nm,1.5s
SBA LR LR
comp=Z,571nm,19.0s
AB31 Akbulak array 79.68 320 *i P* **P 19 36 07.5 -0.1**
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 79.68 320 *eP* **P 19 36 07.0 -0.6**
comp=Z,11nm,0.6s
SVE Sverdlovsk 81.11 328 *i iP* **P 19 36 15.3 +0.1**
SVE *e* 19 36 23.7
SVE pmax pmax
comp=Z,38nm,1.4s
AKTO Aktyubinsk 81.15 321 P P 19 36 15.8 +0.2
comp=Z,16nm,1.2s,baz=97,slow=6.6,SNR=25
AKTO Aktyubinsk 81.15 321 P P 19 36 15.8 +0.2
AKTO Aktyubinsk 81.15 321 P P 19 36 15.8 +0.2
ISRV Sarvestan 81.76 300 *eP* **P 19 36 18.4 -1.2**
IPAR Pars 81.86 300 *eP* **P 19 36 18.8 -1.3**
TTA Tatalina 81.87 26 *eP* **P 19 36 20.2 +1.0**
TTA pmax pmax
comp=Z,26nm,1.1s
TTA Tatalina 81.87 26 *eP* **P 19 36 20.2 +1.0**
comp=Z,26nm,1.1s
IGLO Ghaloghah 81.92 307 *eP* **P 19 36 21.3 +1.1**
IKIA Kiasar 82.00 307 *eP* **P 19 36 22.0 +1.4**
MAW Mawson 82.03 201 *eP* **P 19 36 20.7 +0.9**
comp=Z,20nm,0.9s
MAW Mawson 82.03 201 *eP* **P 19 36 20.6 +0.9**
MAW pmax pmax
comp=Z,7.0nm,1.0s
MAW MLR MLR
comp=Z,282nm,21.0s
MAW Mawson 82.03 201 *eP* **P 19 36 20.6 +0.9**
comp=Z,6.8nm,1.0s
MAW LR LR
comp=Z,282nm,21.0s
KDAK Kodiak Island 82.11 31 *i P* **P 19 36 21.2 +0.8**
KDAK Kodiak Island 82.11 31 P P 19 36 21.0 +0.6
comp=Z,451nm,1.0s,SNR=5.3
ARU Arti 82.13 327 *c iP* **P 19 36 19.2 -1.3**
ARU 19 39 25.2
ARU PPP PPP 19 41 14.9
ARU S **S** 19 46 34.0 +1.0
ARU SS **SS** 19 51 46.8 -6.1
ARU pmax pmax
comp=Z,84nm,2.5s
ARU Arti 82.13 327 *eP* **P 19 36 20.1 -0.4**
comp=Z,41nm,1.4s
ARU Arti 82.13 327 P P 19 36 20.8 +0.3
comp=Z,122nm,0.8s,SNR=8.4
ISHM Shahmirzad 82.27 306 *eP* **P 19 36 22.4 +0.3**
IDMV Damavand 83.27 306 *eP* **P 19 36 26.9 -0.4**
PPLA Purkeypile 83.55 26 *eP* **P 19 36 28.5 +0.5**
comp=Z,82nm,1.6s
SOKR Solikamsk 83.73 330 *eP* **P 19 36 29.2 +0.5**
SOKR pmax pmax
comp=Z,40nm,1.1s
SLKM Skilak Lake 83.91 29 *eP* **P 19 36 29.3 -0.4**
SLKM Skilak Lake 83.91 29 *eP* **P 19 36 29.3 -0.4**
IPIR Pirpir 83.95 303 *eP* **P 19 36 30.9 0.0**
RC01 Rabbit Creek A 84.27 28 *eP* **P 19 36 30.2 -1.2**
comp=Z,25nm,0.9s
PMR Palmer 84.65 28 *eP* **P 19 36 32.7 -0.7**
PMR pmax pmax
comp=Z,66nm,1.6s
PMR Palmer 84.65 28 *eP* **P 19 36 32.7 -0.7**
comp=Z,66nm,1.6s
SML Sawmill 85.07 28 *eP* **P 19 36 35.3 -0.3**
SML pmax pmax
comp=Z,41nm,1.4s
SML Sawmill 85.07 28 *eP* **P 19 36 35.3 -0.3**
comp=Z,41nm,1.4s
MCK McKinley 85.16 26 *eP* **P 19 36 35.5 -0.5**
MCK pmax pmax
comp=Z,140nm,1.5s
MCK McKinley 85.16 26 *eP* **P 19 36 35.5 -0.5**
comp=Z,140nm,1.5s
COLD Coldfoot 85.38 22 *eP* **P 19 36 37.8 +0.9**
comp=Z,15nm,1.2s
COLA College 85.84 25 *eP* **P 19 36 38.4 -0.9**
COLA pmax pmax
comp=Z,8.0nm,0.6s
COLA MLR MLR
comp=Z,554nm,20.0s
COLA College 85.84 25 *eP* **P 19 36 38.4 -0.9**
comp=Z,7.8nm,0.6s
COLA LR LR
comp=Z,554nm,20.0s
DIV Divide 86.17 29 *eP* **P 19 36 41.8 +0.7**
comp=Z,111nm,1.1s
ILAR Eielson Array 86.23 25 P P 19 36 40.8 -0.5
comp=Z,11nm,0.7s,baz=249,slow=5.1,SNR=150
ILAR PKKP **PKKPbc 19 54 39.8 -2.6**
comp=Z,0.4nm,0.7s,baz=306,slow=2.7,SNR=4.8
ILAR Eielson Array 86.23 25 P P 19 36 40.8 -0.5
ILAR Eielson Array 86.23 25 P P 19 36 40.8 -0.5
ILAR PKKP **PKKPbc 19 54 39.8 -2.6**
TAOE Nuku Hiva Isla 86.49 99 *eLR* LR 20 04 22.9
comp=Z,409nm,22.2s
PAX Paxson 86.57 27 *eP* **P 19 36 43.8 +0.7**
PAX pmax pmax
comp=Z,129nm,1.7s
PAX Paxson 86.57 27 *eP* **P 19 36 43.8 +0.7**
comp=Z,129nm,1.7s
RDF Al-Radifah 86.59 299 *eP* **P 19 36 43.0 -0.8**
RDF AMb AMB 19 36 49.2
comp=Z,53nm,1.4s
MIB Mutribah 86.81 300 *eP* **P 19 36 43.9 -1.0**
MIB AMb AMB 19 36 46.3
comp=Z,62nm,1.3s
NAY Al-Naaiem 86.87 299 *eP* **P 19 36 44.0 -1.1**
NAY AMb AMB 19 36 46.6
comp=Z,44nm,0.9s
QSPA South Pole Qui 89.29 180 *eP* **P 19 36 55.7 -0.3**
comp=Z,39nm,1.1s
QSPA LR LR
comp=Z,1µm,20.0s
BHD Baghdad 89.45 303 *eP* P 19 36 54.0 -3.3
BHD *eS* S 19 47 34.0 -12
SYO Syowa Base 90.74 201 *i iP* **P 19 37 01.5 -1.0**
OBN Obninsk 94.39 325 *d iP* **P 19 37 17.6 -2.0**
OBN *e* 19 41 06.0
OBN *ePS* **PS 19 49 47.0 -1.7**
OBN pmax pmax
comp=Z,74nm,2.8s
JOF Joensuu 96.03 333 *eP* **P 19 37 25.1 -1.9**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 96.03 333 *ep* **P 19 37 25.1 -1.9**
comp=Z,4.2nm,0.6s
JOF Joensuu 96.03 333 *ep* **P 19 37 25.1 -1.9**
comp=Z,4.2nm,0.6s
ARCES ARCESS Array B 96.77 340 P P 19 37 28.7 -1.6
comp=Z,9.4nm,0.7s,baz=99,slow=7.6,SNR=12
ARCES LR LR 20 23 59.3
comp=Z,412nm,19.9s,baz=226,slow=37
ARCES ARCESS Array B 96.77 340 P P 19 37 28.7 -1.6
ARCES ARCESS Array B 96.77 340 P P 19 37 28.7 -1.6
BRTR Keskin Array B 97.85 310 P P 19 37 34.3 -1.7
comp=Z,0.5nm,0.8s,baz=46,slow=4.0,SNR=3.1
BRTR Keskin Array B 97.85 310 P P 19 37 34.3 -1.7
BRTR Keskin Array B 97.85 310 P P 19 37 34.3 -1.7
FINES FINESS Array B 98.75 332 P P 19 37 37.5 -1.7
comp=Z,4.1nm,0.9s,baz=64,slow=4.4,SNR=7.4
FINES LR LR 20 24 58.0
comp=Z,512nm,18.1s,baz=312,slow=37
FINES FINESS Array B 98.75 332 P P 19 37 37.6 -1.7
FINES FINESS Array B 98.75 332 P P 19 37 37.5 -1.7
AKASG Malin Array Be 99.40 321 LR LR 20 31 08.6
comp=Z,154nm,18.1s,baz=65,slow=41
YKA Yellowknife Ar 100.63 26 P Pdif 19 37 47.6 0.0
comp=Z,1.9nm,0.7s,baz=292,slow=4.7,SNR=26
YKA Yellowknife Ar 100.63 26 P Pdif 19 37 47.6 0.0
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 100.63 26 P Pdif 19 37 47.6 0.0
SNAA Sanae 102.56 193 *e* **Pdif 19 37 59.4 +3.2**
VNA2 Neumayer--Watz 104.11 192 *e* **Pdif 19 38 03.9 +0.8**
HFS Hagfors 104.89 333 Pdiff **Pdif 19 38 04.6 -2.1**
comp=Z,3.4nm,0.7s,baz=79,slow=7.7,SNR=9.9
HFS Hagfors 104.89 333 P Pdif 19 38 04.6 -2.1
HFS Hagfors 104.89 333 Pdif **Pdif 19 38 04.6 -2.1**
NOA NORSAR Array B 105.56 335 Pdiff **Pdif 19 38 08.2 -1.6**
comp=Z,1.4nm,0.8s,baz=63,slow=4.7,SNR=4.2
NOA NORSAR Array B 105.56 335 P Pdif 19 38 08.2 -1.6
NOA NORSAR Array B 105.56 335 Pdif **Pdif 19 38 08.2 -1.6**
LBTB Lobatse 105.74 244 PFAKE 19 42 40.0
LBTB LR LR
comp=Z,240nm,20.0s
HLID Hailey 106.46 45 PFAKE 19 42 40.0
HLID LR LR
comp=Z,389nm,19.0s
DUG Dugway 108.50 48 PFAKE 19 42 40.0
DUG LR LR
comp=Z,346nm,19.0s
CLL Collm 108.99 325 *e*PP PP 19 42 59.0 +2.0
CLL *e*SSS SSS 20 02 48.0
CLL Lm MLR 20 34 00.0
comp=N,200nm,18.6s
CLL Lm MLR 20 34 00.0
comp=E,200nm,19.9s
CLL Lm MLR 20 34 00.0
comp=Z,300nm,19.1s
AHID Auburn Hatcher 109.01 45 PFAKE 19 42 40.0
AHID LR LR
comp=Z,378nm,21.0s
MVU Marysvale 109.39 49 PFAKE 19 42 40.0
MVU LR LR
comp=Z,353nm,22.0s
GERES GERESS Array B 109.55 322 PKiKP **PKiKP 19 42 30.2 -0.6**
comp=Z,0.3nm,0.7s,baz=90,slow=2.2,SNR=3.6
GERES GERESS Array B 109.55 322 PKiKP **PKiKP 19 42 30.2 -0.6**
PDAR Pinedale Array 110.09 44 PKKPbc PKKPbc 19 53 33.4 -2.0
comp=Z,0.6nm,0.8s,baz=108,slow=4.8,SNR=3.6
PDAR Pinedale Array 110.09 44 PKKPbc PKKPbc 19 53 33.4 -2.0
TRI Trieste 110.69 319 PFAKE 19 42 40.0
TRI LR LR
comp=Z,344nm,20.0s
TIP Timpagrande 110.75 312 PFAKE 19 42 40.0
TIP LR LR
comp=Z,192nm,21.0s
WUAZ Wupatki 110.81 52 PFAKE 19 42 50.0
WUAZ LR LR
comp=Z,404nm,19.0s
CEL Celeste 111.67 311 PFAKE 19 42 50.0
CEL LR LR
comp=Z,235nm,21.0s
AQU L'Aquila 112.15 316 PFAKE 19 42 50.0
AQU LR LR
comp=Z,243nm,20.0s
TUE Stuetta 113.21 321 PFAKE 19 42 50.0
TUE LR LR
comp=Z,349nm,20.0s
ISCO Idaho Springs 113.88 46 PFAKE 19 42 50.0
ISCO LR LR
comp=Z,329nm,21.0s
ANMO Albuquerque 114.83 51 PFAKE 19 42 50.0 +8.6
ANMO LR LR
comp=Z,297nm,21.0s
LPG La Plagne 115.26 321 *e*PKIKP **PKPdf 19 42 41.6 -0.4**
comp=Z,7.2nm,0.8s
LPL La Plagne 115.27 321 *e*PKIKP **PKPdf 19 42 41.0 -0.9**
ULM Lac du Bonnet 115.35 33 PKKPbc PKKPbc 19 53 15.8 -1.9
comp=Z,4.6nm,0.9s,baz=310,slow=6.4,SNR=3.1
ULM Lac du Bonnet 115.35 33 PKKPbc PKKPbc 19 53 15.8 -1.9
OGNE Ogallala 115.98 44 PFAKE 19 42 50.0 +6.7
OGNE LR LR
comp=Z,406nm,22.0s
TXAR Lajitas Array 118.77 57 PKP **PKPdf 19 42 48.5 -0.5**
comp=Z,0.5nm,0.7s,baz=297,slow=1.6,SNR=6.4
TXAR PKKPbc **PKKPab 19 53 06.8 -0.4**
comp=Z,0.6nm,0.6s,baz=121,slow=6.5,SNR=7.4
TXAR Lajitas Array 118.77 57 PKIKP **PKPdf 19 42 48.5 -0.5**
TXAR Lajitas Array 118.77 57 PKP **PKPdf 19 42 48.5 -0.5**
TXAR PKKPbc **PKKPab 19 53 06.8 -0.4**
JCT Junction City 121.59 54 *e*PKIKP **PKPdf 19 42 54.4 +0.1**
JCT MLR MLR
comp=Z,341nm,19.0s
JCT Junction City 121.59 54 *eP* **PKPdf 19 42 54.4 +0.1**
JCT LR LR
comp=Z,341nm,19.0s
ESDC Sonseca Array 125.03 320 PKP **PKPdf 19 43 00.8 +0.1**
comp=Z,0.1nm,0.4s,baz=89,slow=4.5,SNR=3.2
ESDC Sonseca Array 125.03 320 PKP **PKPdf 19 43 00.8 +0.1**
LRAL Lakeview Retre 130.29 45 *eP* **PKPdf 19 43 11.7 +0.9**
LRAL LR LR
comp=Z,341nm,19.0s
TORD Torodi Ar. Bea 130.49 287 PKP **PKPdf 19 43 10.9 -0.8**
comp=Z,3.3nm,0.7s,baz=61,slow=1.7,SNR=29
TORD Torodi Ar. Bea 130.49 287 PKP **PKPdf 19 43 10.9 -0.8**
PKME Peaks-Kenny Pk 131.29 21 PFAKE 19 43 20.0 +7.7
PKME LR LR
comp=Z,2µm,22.0s
PLCA Paso Flores 133.45 155 PKP **PKPdf 19 43 18.4 +1.7**
comp=Z,4.1nm,0.7s,baz=224,slow=2.7,SNR=6.9
PLCA Paso Flores 133.45 155 PKIKP **PKPdf 19 43 18.4 +1.7**
PLCA MLR MLR
comp=Z,367nm,19.0s
PLCA Paso Flores 133.45 155 PKP **PKPdf 19 43 18.4 +1.7**
PLCA LR LR
comp=Z,367nm,19.0s
TEIG Tepich 134.93 62 PFAKE 19 43 30.0 +10
TEIG LR LR
comp=Z,234nm,19.0s
CNNC Cliffs of the 134.96 37 PFAKE 19 43 30.0 +10
CNNC LR LR
comp=Z,428nm,19.0s
DBIC Dimbokro 137.84 279 PKP **PKPdf 19 43 26.4 +0.9**
comp=Z,2.3nm,0.7s,baz=91,slow=3.2,SNR=5.5
DBIC Dimbokro 137.84 279 PKIKP **PKPdf 19 43 26.4 +0.9**
DBIC MLR MLR
comp=Z,147nm,19.0s
DBIC Dimbokro 137.84 279 PKP **PKPdf 19 43 26.4 +0.9**
DBIC LR LR
comp=Z,147nm,19.0s
LIC Lamto 138.06 279 *e*PKIKP **PKPdf 19 43 23.3 -2.6**
comp=Z,18nm,1.0s
BCIP Isla Barro Col 145.94 75 PFAKE 19 43 50.0 +8.9
BCIP LR LR
comp=Z,316nm,22.0s
NNA Nana 147.54 114 *e*PKIKP **PKPdf 19 43 42.7 +0.1**
NNA MLR MLR
comp=Z,225nm,20.0s
NNA Nana 147.54 114 *eP* **PKPdf 19 43 42.7 +0.1**
NNA LR LR
comp=Z,225nm,20.0s
OTAV Otavalo 148.24 91 *e*PKPdf **PKPdf 19 43 44.4 0.0**
OTAV LR LR
comp=Z,194nm,21.0s
LVC Limon Verde 148.34 138 *eP* **PKPdf 19 43 43.1 -0.9**
SDDR Presa de Saban 149.77 51 *e*PKPab **PKPab 19 43 56.2 0.0**
SDDR LR LR
comp=Z,210nm,21.0s
CPUP Villa Florida 151.29 160 PKP **PKPdf 19 43 49.5 +1.2**
comp=Z,0.4nm,0.3s,baz=0.3,slow=1.4,SNR=5.4
CPUP PKPbc **PKiKP 19 43 55.0 +0.3**
comp=Z,21nm,0.8s,baz=188,slow=1.6,SNR=50
CPUP Villa Florida 151.29 160 PKIKP **PKPdf 19 43 49.5 +1.2**
CPUP 19 43 55.0
CPUP Villa Florida 151.29 160 PKP **PKPdf 19 43 49.5 +1.2**
CPUP PKPbc **PKiKP 19 43 55.0 +0.3**
LPAZ La Paz 152.97 129 PKP **PKPdf 19 43 53.0 +1.2**
comp=Z,4.3nm,0.9s,baz=1,slow=1.4,SNR=16
LPAZ PKPbc **PKiKP 19 44 00.3 +1.0**
comp=Z,14nm,1.0s,baz=250,slow=2.3,SNR=24
LPAZ La Paz 152.97 129 *e*PKIKP **PKPdf 19 43 52.6 +0.8**
LPAZ 19 43 53.0
LPAZ 19 44 00.3
LPAZ MLR MLR
comp=Z,167nm,19.0s
LPAZ La Paz 152.97 129 *e*PKPdf **PKPdf 19 43 52.5 +0.8**
LPAZ PKP **PKPdf 19 43 53.0 +1.2**
LPAZ PKPbc **PKiKP 19 44 00.3 +1.0**
LPAZ LR LR
comp=Z,167nm,19.0s
SDV Santo Domingo 154.80 70 *e*PKPdf **PKPdf 19 43 54.4 +0.4**
SDV LR LR
comp=Z,115nm,19.0s
SAML Samuel 161.01 120 *e*PKPdf **PKPdf 19 44 01.5 +0.2**
SAML LR LR
comp=Z,253nm,20.0s

TIR **05** *19:25:08.2±2.1,40.68N±20.54E,h0km±931km,ML2.6*
SKO **05** *19:25:10.4,40.62N±20.74E,h0km,M1.9,ML2.2*
ISCJB **05** *19:25:11.9±0.4,40.63N±0.02±20.86E±0.03,h9km±3km,*
Error ellipse: s-maj=4.0km s-min=3.2km az=168.0
ATH **05** *19:25:12.0,40.66N±20.90E,h19km±2km,MD3.3/10*
CSEM **05** *19:25:12.1±0.2,40.61N±20.85E,h8km,ML2.6,Error*
ellipse: s-maj=4.4km s-min=3.5km az=82.0
THE **05** *19:25:12.9,40.63N±20.91E,h13km±2km,ML2.5/3,Error*
ellipse: s-maj=3.3km s-min=0.6km az=122.0

ISC 05 19:25:12.1±0.8,40.62N±0.02±20.84E±0.02,h10km±5km,
n53,σ0.87/83,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	IC	Time h m s	Res ISC
KBN	**Korca**	**0.04**	**277**	*e*PG		**Pg**		**19 25 14.2**	**0.0**
KBN				*e*SG		**Sg**		**19 25 15.6**	**-0.1**
KBN	**Korca**	**0.04**	**277**	*e*Pg		**Pg**		**19 25 14.2**	**0.0**
	SNR=9.0								
KBN				*e*Sg		**Sg**		**19 25 15.6**	**-0.1**
	SNR=9.0								
NEST	**Nestorio**	**0.26**	**142**	P		**Pg**		**19 25 17.5**	**+0.1**
NEST				S		**Sg**		**19 25 22.0**	**+1.0**
NEST	**Nestorio**	**0.26**	**142**	P		**Pg**		**19 25 17.5**	**+0.1**
NEST				S		**Sg**		**19 25 22.0**	**+1.0**
FNA	**Florina**	**0.44**	**68**	P		**Pg**		**19 25 20.2**	**-0.6**
FNA				S		**Sg**		**19 25 27.0**	**+0.4**
FNA	**Florina**	**0.44**	**68**	P		**Pg**		**19 25 20.2**	**-0.6**
FNA				S		**Sg**		**19 25 27.0**	**+0.4**
BIA	**Bitola**	**0.54**	**42**	*e*Pg		**Pg**		**19 25 21.3**	**-1.4**
BIA				*e*Sg		**Sg**		**19 25 29.3**	**-0.6**
BIA				*e*Lg		Lg		19 25 29.4	
	comp=N,118nm,0.2s								
BIA				*e*Lg		Lg		19 25 29.9	
	comp=E,111nm,0.2s								
BIA	**Bitola**	**0.54**	**42**	*e*Pg		**Pg**		**19 25 21.3**	**-1.4**
BIA				*e*Sg		**Sg**		**19 25 29.3**	**-0.6**
BIA				*e*Lg		Lg		19 25 29.9	
	comp=E,111nm,0.2s								
KZN	**Kozani**	**0.78**	**113**	P		**Pg**		**19 25 26.6**	**-0.5**
KZN				S		**Sg**		**19 25 37.7**	**-0.6**
KZN	**Kozani**	**0.78**	**113**	*e*PN		**Pg**		**19 25 26.5**	**-0.5**
KZN				*e*SN		**Sb**		**19 25 37.8**	**-0.6**
KZN	**Kozani**	**0.78**	**113**	P		**Pg**		**19 25 26.6**	**-0.5**
KZN				S		**Sb**		**19 25 37.7**	**-0.6**
MEV	**Metsovon**	**0.89**	**160**	P		**Pb**		**19 25 29.7**	**+0.1**
MEV	**Metsovon**	**0.89**	**160**	P		**Pb**		**19 25 29.7**	**+0.1**
JAN	**Janina**	**0.96**	**179**	*e*PN		**Pb**		**19 25 31.2**	**+0.4**
JAN	**Janina**	**0.96**	**179**	*e*Pn		**Pb**		**19 25 31.2**	**+0.4**
SRN	**Sarande**	**0.98**	**221**	*e*PG		**Pg**		**19 25 30.0**	**-0.9**
SRN				*e*SG		**Sn**		**19 25 46.0**	**+0.3**
SRN	**Sarande**	**0.98**	**221**	P		**Pg**		**19 25 29.7**	**-1.2**
SRN	**Sarande**	**0.98**	**221**	P		**Pg**		**19 25 29.7**	**-1.2**
SRN	**Sarande**	**0.98**	**221**	*e*Pg		**Pg**		**19 25 30.0**	**-0.9**
	SNR=9.0								
SRN				*e*Sg		**Sn**		**19 25 46.0**	**+0.3**
	SNR=9.0								
PHP	**Peshkopia**	**1.11**	**344**	*e*PG		**Pb**		**19 25 33.4**	**+0.1**
PHP				*e*SG		**Sn**		**19 25 49.8**	**+0.8**
PHP	**Peshkopia**	**1.11**	**344**	P		**Pb**		**19 25 33.2**	**-0.1**
PHP				S		**Sn**		**19 25 49.6**	**+0.6**
PHP	**Peshkopia**	**1.11**	**344**	*e*Pg		**Pb**		**19 25 33.4**	**+0.1**
	SNR=9.0								
PHP				S		**Sn**		**19 25 49.6**	**+0.6**
IGT	**Igoumenitsa**	**1.15**	**200**	P		**Pn**		**19 25 34.5**	**+0.2**
IGT	**Igoumenitsa**	**1.15**	**200**	P		**Pn**		**19 25 34.5**	**+0.2**
THL	**Klokotos Trika**	**1.39**	**139**	*e*PN		**Pn**		**19 25 37.4**	**0.0**
THL				*e*SN		**Sg**		**19 25 57.7**	**+1.0**
THL	**Klokotos Trika**	**1.39**	**139**	*e*Pn		**Pn**		**19 25 37.4**	**0.0**
THL				*e*Sn		**Sg**		**19 25 57.7**	**+1.0**
SKO	**Skopje**	**1.43**	**18**	*e*Pn		**Pn**		**19 25 38.7**	**0.0**
SKO				*e*Sn		**Sg**		**19 25 58.1**	**+0.1**
SKO				*e*Lg		Lg		19 25 58.3	
	comp=E,41nm,0.4s								
SKO				*e*Lg		Lg		19 25 58.5	
	comp=N,44nm,0.4s								
SKO	**Skopje**	**1.43**	**18**	*e*Pn		**Pb**		**19 25 38.5**	**-0.3**
SKO				*e*Sn		**Sg**		**19 25 58.6**	**+0.6**
SKO				*e*Lg		Lg		19 25 59.0	
	comp=N,44nm,0.4s								
VAY	**Valandovo**	**1.49**	**61**	*e*Pn		**Pn**		**19 25 38.4**	**-0.4**
VAY				*e*Sn		**Sg**		**19 26 01.2**	**+1.3**
VAY				*e*Lg		Lg		19 26 01.3	
	comp=N,80nm,1.8s								
VAY				*e*Lg		Lg		19 26 01.5	
	comp=E,44nm,1.1s								
VAY	**Valandovo**	**1.49**	**61**	*e*Pn		**Pn**		**19 25 38.9**	**+0.1**
VAY				*e*Sn		**Sg**		**19 26 01.6**	**+1.7**
VAY				*e*Lg		Lg		19 26 01.8	
	comp=E,80nm,1.8s								
PUK	**Puka**	**1.59**	**334**	*e*PG		**Pg**		**19 25 44.2**	**+1.6**
PUK	**Puka**	**1.59**	**334**	*e*Pg		**Pg**		**19 25 44.2**	**+1.6**
	SNR=9.0								
EVR	**Evrytania**	**1.86**	**156**	*e*PN		**Pb**		**19 25 45.4**	**-0.8**
EVR	**Evrytania**	**1.86**	**156**	*e*Pn		**Pb**		**19 25 45.4**	**-0.8**
SOH	**Sokhos**	**1.92**	**83**	*e*PN		**Pn**		**19 25 44.9**	**0.0**
SOH	**Sokhos**	**1.92**	**83**	*e*Pn		**Pn**		**19 25 44.9**	**0.0**
AGG	**Agios Georgios**	**1.96**	**144**	*e*PN		**Pb**		**19 25 47.0**	**-1.0**
AGG				*e*SN		**Sn**		**19 26 11.3**	**+1.2**
AGG	**Agios Georgios**	**1.96**	**144**	*e*Pn		**Pb**		**19 25 47.0**	**-1.0**
AGG				*e*Sn		**Sn**		**19 26 11.3**	**+1.2**
PLG	**Polygyros**	**2.00**	**96**	*e*PN		**Pn**		**19 25 46.7**	**+0.7**
PLG	**Polygyros**	**2.00**	**96**	*e*Pn		**Pn**		**19 25 46.7**	**+0.7**
PDG	**Podgorica**	**2.17**	**327**	*e*Pn		**Pb**		**19 25 50.5**	**-0.8**
BARS	**Barje**	**2.31**	**18**	*i* Pn		**Pn**		**19 25 50.5**	**+0.3**
EFP	**Efpalio**	**2.34**	**159**	*e*PB		**Pn**		**19 25 52.4**	**+1.9**
EFP	**Efpalio**	**2.34**	**159**	*e*Pb		**Pn**		**19 25 52.4**	**+1.9**
NVR	**Nevrokopi**	**2.40**	**71**	*e*PB		**Pn**		**19 25 52.1**	**+0.6**
NVR	**Nevrokopi**	**2.40**	**71**	*e*Pb		**Pn**		**19 25 52.1**	**+0.6**
VLS	**Valsamata**	**2.45**	**185**	*e*PN		**Pn**		**19 25 50.5**	**-1.5**
VLS				*e*SN		**Sb**		**19 26 25.6**	**-0.7**
VLS	**Valsamata**	**2.45**	**185**	*e*Pn		**Pn**		**19 25 50.5**	**-1.5**
VLS				*e*Sn		**Sb**		**19 26 25.6**	**-0.7**
STON	**Ston**	**3.25**	**315**	*e*Pn		**Pn**		**19 26 04.2**	**+1.0**
STON				Sn		**Sn**		**19 26 42.7**	**+0.8**
STON	**Ston**	**3.25**	**315**	*e*Pn		**Pn**		**19 26 04.1**	**+1.0**
STON				Sn		**Sn**		**19 26 42.6**	**+0.8**
GRUS	**Gruza**	**3.27**	**358**	*e*Pn		**Pn**		**19 26 01.3**	**-2.0**
NVLJ	**Novalja**	**5.91**	**314**	*e*Pn		**Pn**		**19 26 40.2**	**+0.6**
NVLJ				Sn		**Sn**		**19 27 46.2**	**-1.2**
NVLJ	**Novalja**	**5.91**	**314**	*e*Pn		**Pn**		**19 26 40.2**	**+0.6**
NVLJ				Sn		**Sn**		**19 27 46.1**	**-1.2**

JMA 05 19:42:24.3±0.4, 43.90N×147.77E, h0km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.57**	**251**	P	Pn	19 42 53.6	+0.3
NEM2				*e*S	Sn	19 43 14.3	0.0
JRA	**Rausu**	**1.91**	**272**	P	Pn	19 42 58.5	+0.4
JNK	**Nakash**	**2.23**	**263**	P	Pn	19 43 03.3	+0.7
JAK	**Akkeshi**	**2.41**	**249**	P	Pn	19 43 05.8	+0.8
JAK				*e*S	Sn	19 43 36.3	+1.1
JAR	**Ashorobuto**	**2.97**	**260**	P	Pn	19 43 14.2	+1.6
JCH	**Churui**	**3.47**	**250**	P	Pn	19 43 20.9	+1.4
JCH				*e*S	Sn	19 44 01.9	+0.7

*IDC **05** 19:43:04.3±0.7, 0.43S×131.90E, h0km, mb4.0/10, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, ML3.9/4, MS3.8/6, Ms1 3.8/6, ms1mx3.4/31, Error ellipse: s-maj=31.8km s-min=13.8km az=68.0*

*ISCJB **05** 19:43:06.9±0.4, 0.50S±0.06×131.80E±0.09, h31km, mb4.2/15, MS3.8/5, Error ellipse: s-maj=14.0km s-min=6.9km az=156.7*

*NEIC **05** 19:43:09.3±3.5, 0.49S×131.87E, h35km±25km, mb4.6/7, Error ellipse: s-maj=11.1km s-min=6.5km az=50.0*

*DJA **05** 19:43:10, 0.61S×131.84E, h11km, MLv4.6/8*

ISC 05 19:43:08.9±0.6, 0.46S±0.09×131.9E±0.1, h31km, n48, σ0.8 79/42, mb4.2/15, MS3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**12.91**	**249**	Pn	**Pn**	**19 46 10.2**	**-0.2**
	0.8nm,0.3s,baz=119,slow=13,SNR=2.2						
KAPI	**Kappang**	**12.91**	**249**	Pn	**Pn**	**19 46 10.2**	**-0.2**
COEN	**Coen**	**17.47**	**141**	*e*P	**Pn**	**19 47 09.6**	**-0.8**
	94nm,0.8s						
PMG	**Port Moresby**	**17.63**	**121**	P	**Pn**	**19 47 12.3**	**-0.1**
	0.5nm,0.3s,baz=335,slow=9.9,SNR=3.8						
PMG	**Port Moresby**	**17.63**	**121**	P	**Pn**	**19 47 12.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.57**	**199**	P	**P**	**19 47 22.6**	**-0.8**
	0.5nm,0.3s,baz=52,slow=14,SNR=11						
FITZ				LR	LR	19 55 31.4	
	comp=Z,142nm,19.4s,baz=25,slow=40						
FITZ	**Fitzroy Crossi**	**18.57**	**199**	*e*P	**P**	**19 47 20.5**	**-2.9**
	15nm,1.2s						
FITZ				*e*S	Sn	19 50 37.2	-13
FITZ	**Fitzroy Crossi**	**18.57**	**199**	P	**P**	**19 47 22.6**	**-0.8**
WRAB	**Tennant Creek**	**19.50**	**173**	*e*P	**P**	**19 47 33.6**	**-0.1**
	36nm,1.4s						
WRA	**Warramunga Arr**	**19.51**	**173**	P	**P**	**19 47 32.6**	**-1.2**
	0.5nm,0.3s,baz=356,slow=12,SNR=40						
WRA	**Warramunga Arr**	**19.51**	**173**	P	**P**	**19 47 32.6**	**-1.2**
WB2	**Warramunga Arr**	**19.52**	**173**	*e*P	**P**	**19 47 33.6**	**-0.2**
AS31	**Alice Springs**	**23.15**	**175**	*e*P	**P**	**19 48 12.3**	**-0.5**
ASAR	**Alice Springs**	**23.15**	**175**	P	**P**	**19 48 12.8**	**0.0**
	7.1nm,0.8s,baz=356,slow=9.7,SNR=37						
ASAR	**Alice Springs**	**23.15**	**175**	P	**P**	**19 48 12.8**	**0.0**
CTA	**Charters Tower**	**24.06**	**145**	P	**P**	**19 48 22.4**	**+0.8**
	5.5nm,0.8s,baz=333,slow=9.0,SNR=3.4						
CTA				LR	LR	19 58 04.1	
	comp=Z,372nm,21.3s,baz=312,slow=37						
CTA	**Charters Tower**	**24.06**	**145**	P	**P**	**19 48 22.4**	**+0.8**
JOW	**Kunigami**	**27.36**	**353**	LR	LR	19 57 48.3	
	comp=Z,184nm,18.9s,baz=131,slow=32						
CBIJ	**Chichi jima**	**29.14**	**19**	LR	LR	19 58 13.8	
	comp=Z,247nm,20.8s,baz=40,slow=31						
STKA	**Stephens Creek**	**32.58**	**164**	P	**P**	**19 49 37.9**	**+0.3**
	2.1nm,0.8s,baz=8.1,slow=6.7,SNR=6.7						
STKA	**Stephens Creek**	**32.58**	**164**	*e*P	**P**	**19 49 37.8**	**+0.3**
	2.2nm,0.9s						
STKA	**Stephens Creek**	**32.58**	**164**	P	**P**	**19 49 37.9**	**+0.3**
ARMA	**Armidale**	**35.22**	**150**	*e*P	**P**	**19 50 01.7**	**+1.0**
MJAR	**Matsushiro Arr**	**37.29**	**8**	LR	LR	20 02 14.2	
	comp=Z,226nm,21.2s,baz=145,slow=31						
CMAR	**Chiang Mai Arr**	**37.41**	**302**	P	**P**	**19 50 20.1**	**+0.6**
	0.4nm,0.4s,baz=106,slow=8.6,SNR=6.4						
CMAR	**Chiang Mai Arr**	**37.41**	**302**	P	**P**	**19 50 20.1**	**+0.6**
KSRS	**Korea Array**	**37.90**	**355**	LR	LR	20 04 22.9	
	comp=Z,138nm,18.5s,baz=347,slow=34						
LZH	**Lanzhou**	**44.73**	**327**	*e*P	P	19 51 27.2	+7.5
LZH				pP	pP	19 51 31.7	+2.8
LZH				sP	sP	19 51 34.3	+1.6
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
GTA	**Gaotai**	**49.34**	**327**	*e*P	P	19 52 02.8	+7.3
GTA				pP	pP	19 52 07.5	+2.6
GTA				sP	sP	19 52 09.9	+1.3
ULN	**Ulaanbaatar**	**52.75**	**339**	*e*P	**P**	**19 52 21.7**	**+0.6**
	comp=Z,5.5nm,0.9s						
SONM	**Songino Array**	**52.96**	**339**	P	**P**	**19 52 23.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=152,slow=6.4,SNR=6.4						
SONM	**Songino Array**	**52.96**	**339**	P	**P**	**19 52 23.5**	**+1.0**
YAK	**Yakutsk**	**62.35**	**359**	*e*P	**P**	**19 53 27.3**	**-0.9**
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**63.91**	**324**	*e*P	**P**	**19 53 38.7**	**-0.2**
MKAR	**Makanchi Array**	**63.91**	**324**	P	**P**	**19 53 39.2**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=115,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**63.91**	**324**	P	**P**	**19 53 39.2**	**+0.3**
ZAA0	**Zalesovo Array**	**66.65**	**332**	*e*P	**P**	**19 53 55.7**	**-0.8**
ZALV	**Zalesovo Beam**	**66.65**	**332**	P	**P**	**19 53 56.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=122,slow=7.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**66.65**	**332**	P	**P**	**19 53 56.6**	**+0.2**
KURK	**Kurchatov**	**68.02**	**327**	P	**P**	**19 54 05.0**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=120,slow=5.9,SNR=17						
KURK	**Kurchatov**	**68.02**	**327**	*e*P	**P**	**19 54 05.1**	**-0.1**
	comp=Z,12nm,1.0s						
BVAR	**Borovoye Array**	**73.61**	**326**	P	**P**	**19 54 39.5**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=124,slow=7.4,SNR=9.6						
BVAR	**Borovoye Array**	**73.61**	**326**	P	**P**	**19 54 39.5**	**+0.4**
BRVK	**Borovoye**	**73.69**	**326**	*e*P	**P**	**19 54 39.8**	**+0.2**
	comp=Z,2.6nm,1.1s						
ABKAR	**Akbulak array**	**78.62**	**321**	*e*P	**P**	**19 55 08.4**	**+0.7**
	comp=Z,4.3nm,0.9s						
ILAR	**Eielson Array**	**86.68**	**25**	P	**P**	**19 55 48.4**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=257,slow=3.6,SNR=4.9						
ILAR	**Eielson Array**	**86.68**	**25**	P	**P**	**19 55 48.4**	**-1.0**
QSPA	**South Pole Qui**	**89.47**	**180**	*e*P	**P**	**19 56 01.8**	**-1.0**

*DJA **05** 19:46:31, 0.58S×133.36E, h96km, MLv4.9/8*

IDC 05 19:46:24.4±0.8, 0.58S×133.45E, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML4.0/2, Error ellipse: s-maj=52.0km s-min=15.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.03**	**203**	P	P	19 50 47.7	-0.4
	0.5nm,0.3s,baz=33,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**19.26**	**177**	P	P	19 50 49.5	-1.2
	0.4nm,0.3s,baz=357,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.95**	**179**	P	P	19 51 30.9	+0.4
	4.0nm,0.5s,baz=360,slow=12,SNR=18						
STKA	**Stephens Creek**	**32.07**	**167**	P	P	19 52 53.1	0.0
	1.6nm,0.4s,baz=345,slow=6.6,SNR=7.9						
SONM	**Songino Array**	**53.66**	**338**	P	P	19 55 48.4	+0.4
	0.2nm,0.6s,baz=152,slow=6.5,SNR=3.0						
SONM				PcP	PcP	19 56 54.8	+0.4
	0.6nm,0.6s,baz=138,slow=4.8,SNR=5.5						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	19 57 06.5	+0.6
	1.5nm,0.8s,baz=113,slow=8.1,SNR=15						
ZALV	**Zalesovo Beam**	**67.51**	**331**	P	P	19 57 21.5	-0.7
	0.3nm,0.4s,baz=145,slow=3.5,SNR=2.4						
KURK	**Kurchatov**	**69.00**	**326**	P	P	19 57 30.8	-0.8
	1.5nm,0.9s,baz=121,slow=5.6,SNR=5.7						
BVAR	**Borovoye Array**	**74.59**	**326**	P	P	19 58 05.5	+0.2
	0.7nm,0.7s,baz=132,slow=6.0,SNR=5.0						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	19 59 06.5	-0.6
	0.4nm,0.8s,baz=227,slow=6.0,SNR=4.1						
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc	PKPbc	20 06 21.4	+0.6
	0.7nm,0.5s,baz=270,slow=2.0,SNR=5.5						

*BJI **05** 19:48:54.9, 1.41S×134.20E, h10km, mb4.4/7*

*IDC **05** 19:49:02.9±0.6, 0.80S×133.07E, h0km, mb4.3/12, mb1 4.4/15, mb1mx4.3/23, mbtmp4.4/15, ML4.7/2, Error ellipse: s-maj=30.1km s-min=13.0km az=71.0*

*NEIC **05** 19:49:08.3±0.3, 0.78S×133.12E, h35km, mb4.6/8, Error ellipse: s-maj=11.5km s-min=6.3km az=74.0*

*DJA **05** 19:49:10, 0.93S×133.15E, h13km, mb5.2/12*

ISC 05 19:49:07.9±0.5, 0.89S±0.06×133.11E±0.09, h35km, n72, σ1.9 69/68, mb4.5/25, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.20**	**203**	P	Pn	19 49 46.8	+4.8
TLE	**Tual**	**4.73**	**185**	P	Pn	19 50 21.5	+4.6
MSAI	**Masohi**	**4.84**	**240**	P	Pn	19 50 24.8	+6.4
LBMI	**Labuha**	**5.62**	**272**	P	Pn	19 50 34.5	+5.5
	172nm,0.9s,2μm0.5nm						
AAI	**Ambon**	**5.65**	**240**	P	Pn	19 50 33.6	+4.2
	734nm,0.7s,7μm2.5nm						
KMSI	**Cibinong**	**9.25**	**279**	P	Pn	19 51 28.0	+9.1
	144nm,0.6s,1μm						
LUWI	**Luwuk**	**10.34**	**269**	P	Px	19 51 52.8	
MRSI	**Marisa**	**11.25**	**277**	P	Pn	19 51 53.5	+7.1
	33nm,0.7s,656nm						
SPSI	**Sidrap Palu**	**13.68**	**257**	P	**P**	**19 52 25.4**	**-2.4**
	32nm,0.6s						
BKSI	**Bulukumba**	**13.70**	**251**	P	**P**	**19 52 26.9**	**-1.1**
	50nm,0.7s						
KAPI	**Kappang**	**13.96**	**253**	Pn	**Pn**	**19 52 25.4**	**+2.0**
	1.9nm,0.3s,baz=127,slow=6.9,SNR=15						
KAPI	**Kappang**	**13.96**	**253**	Pn	**Pn**	**19 52 25.4**	**+2.0**
KAPI	**Kappang**	**13.96**	**253**	P	**P**	**19 52 29.4**	**-1.5**
PMG	**Port Moresby**	**16.34**	**122**	Pn	**P**	**19 52 57.1**	**-0.3**
	0.2nm,0.3s,baz=255,slow=3.5,SNR=4.7						
PMG	**Port Moresby**	**16.34**	**122**	Pn	**P**	**19 52 57.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.62**	**203**	P	**P**	**19 53 22.3**	**-0.2**
	2.4nm,0.3s,baz=34,slow=13,SNR=16						
FITZ				S	Sn	19 56 38.2	-12
	0.7nm,0.3s,baz=115,slow=11,SNR=4.1						
FITZ	**Fitzroy Crossi**	**18.62**	**203**	*e*P	**P**	**19 53 22.8**	**+0.3**
	12nm,0.3s						
FITZ				*e*S	Sn	19 56 37.4	-13
FITZ	**Fitzroy Crossi**	**18.62**	**203**	P	**P**	**19 53 22.3**	**-0.2**
FITZ				S	Sn	19 56 38.2	-12
WRAB	**Tennant Creek**	**18.97**	**176**	*e*P	**Pn**	**19 53 28.4**	**+1.1**
	16nm,0.7s						
WRA	**Warramunga Arr**	**18.98**	**176**	P	**Pn**	**19 53 27.5**	**+0.1**
	1.8nm,0.3s,baz=358,slow=12,SNR=17						
WRA				S	**Sn**	**19 56 52.3**	**-6.7**
	0.8nm,0.3s,baz=359,slow=23,SNR=5.1						
WRA	**Warramunga Arr**	**18.98**	**176**	P	**Pn**	**19 53 27.5**	**+0.1**
WRA				S	**Sn**	**19 56 52.3**	**-6.7**
WB2	**Warramunga Arr**	**18.98**	**176**	*e*P	**Pn**	**19 53 29.1**	**+1.7**
AS31	**Alice Springs**	**22.66**	**178**	*e*P	**P**	**19 54 08.3**	**+2.0**
ASAR	**Alice Springs**	**22.66**	**178**	P	**P**	**19 54 07.8**	**+1.4**
	4.6nm,0.4s,baz=359,slow=11,SNR=29						
ASAR	**Alice Springs**	**22.66**	**178**	P	**P**	**19 54 07.8**	**+1.4**
CTA	**Charters Tower**	**23.01**	**147**	P	**P**	**19 54 12.2**	**+2.2**
	7.1nm,0.7s,baz=335,slow=10,SNR=6.7						
CTA	**Charters Tower**	**23.01**	**147**	*e*P	**P**	**19 54 12.4**	**+2.4**
	6.1nm,0.8s						
CTA	**Charters Tower**	**23.01**	**147**	P	**P**	**19 54 12.2**	**+2.2**
MBWA	**Marble Bar**	**24.01**	**212**	*e*P	**P**	**19 54 22.9**	**+3.2**
MBWA	**Marble Bar**	**24.01**	**212**	*e*P	**P**	**19 54 21.9**	**+2.2**
	55nm,1.4s						
FORT	**Forrest**	**30.11**	**189**	*e*P	**P**	**19 55 16.2**	**+1.8**
	4.5nm,0.4s						
STKA	**Stephens Creek**	**31.85**	**166**	P	**P**	**19 55 29.8**	**+0.1**
	3.4nm,0.5s,baz=334,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**31.85**	**166**	*e*P	**P**	**19 55 30.7**	**+1.0**
	2.7nm,0.6s						
STKA	**Stephens Creek**	**31.85**	**166**	P	**P**	**19 55 29.8**	**+0.1**
BBOO	**Buckleboo**	**31.88**	**175**	*e*P	**P**	**19 55 30.2**	**+0.3**
	24nm,0.5s						
KMBL	**Kambalda**	**32.13**	**198**	*e*P	**P**	**19 55 34.1**	**+1.9**
	27nm,0.4s						
ARPS	**Mount Arapiles**	**36.61**	**168**	*e*P	**P**	**19 56 12.1**	**+1.2**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.70**	**302**	P	**P**	**19 56 27.4**	**-1.5**
	0.5nm,0.8s,baz=122,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**38.70**	**302**	P	**P**	**19 56 27.4**	**-1.5**
BJI	**Beijing**	**43.58**	**341**	P	**P**	**19 57 07.7**	**-0.9**
BJI				pmax	pmax		
	comp=Z,23nm,0.8s						
LSA	**Lhasa**	**50.26**	**311**	*e*P	**P**	**19 58 01.4**	**-0.2**
	comp=Z,2.9nm,0.8s						
GTA	**Gaotai**	**50.38**	**326**	*e*P	**P**	**19 58 02.2**	**+0.2**
GTA				pP	pP	19 58 07.1	-5.3
GTA				sP	sP	19 58 09.2	-7.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	**Ulaanbaatar**	**53.60**	**338**	*e*P	**P**	**19 58 26.6**	**+0.8**
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**53.82**	**338**	P	**P**	**19 58 27.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=153,slow=7.2,SNR=8.4						
SONM				PcP	**PcP**	**19 59 32.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=143,slow=2.7,SNR=3.8						
SONM	**Songino Array**	**53.82**	**338**	P	**P**	**19 58 27.9**	**+0.5**
SONM				PcP	**PcP**	**19 59 32.7**	**-0.1**
PETK	**Petropavlovsk-**	**57.60**	**17**	P	**P**	**19 58 54.9**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=149,slow=3.1,SNR=6.3						
PETK	**Petropavlovsk-**	**57.60**	**17**	P	**P**	**19 58 54.9**	**+0.7**
YAK	**Yakutsk**	**62.81**	**358**	*e*P	**P**	**19 59 28.7**	**-1.0**
	comp=Z,7.2nm,0.6s						
MK31	**Makanchi Array**	**64.99**	**324**	*e*P	**P**	**19 59 44.9**	**+0.4**
MKAR	**Makanchi Array**	**64.99**	**324**	P	**P**	**19 59 45.0**	**+0.6**
	comp=Z,8.1nm,0.6s,baz=111,slow=8.4,SNR=116						
MKAR	**Makanchi Array**	**64.99**	**324**	P	**P**	**19 59 45.0**	**+0.6**
TKM2	**Tokmak 2**	**67.42**	**318**	*e*P	**P**	**20 00 01.2**	**+0.8**
	comp=Z,4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**67.62**	**331**	P	**P**	**20 00 00.8**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=119,slow=5.8,SNR=11						
ZALV	**Zalesovo Beam**	**67.62**	**331**	P	**P**	**20 00 00.8**	**-0.3**
KURK	**Kurchatov**	**69.06**	**326**	P	**P**	**20 00 10.6**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=121,slow=5.8,SNR=68						
KURK	**Kurchatov**	**69.06**	**326**	P	**P**	**20 00 10.6**	**+0.4**
KKAR	**Karatay Array**	**70.94**	**317**	*e*P	**P**	**20 00 22.4**	**+0.4**
	comp=Z,4.7nm,0.6s						
BVAR	**Borovoye Array**	**74.66**	**326**	P	**P**	**20 00 44.0**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=117,slow=7.1,SNR=27						
BVAR	**Borovoye Array**	**74.66**	**326**	P	**P**	**20 00 44.0**	**+0.2**
ABKAR	**Akbulak array**	**79.74**	**320**	*e*P	**P**	**20 01 11.6**	**-0.8**
	comp=Z,2.4nm,0.7s						
AKTO	**Aktyubinsk**	**81.22**	**321**	P	**P**	**20 01 19.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=98,slow=5.6,SNR=6.6						
AKTO	**Aktyubinsk**	**81.22**	**321**	P	**P**	**20 01 19.9**	**-0.4**
ILAR	**Eielson Array**	**86.53**	**25**	P	**P**	**20 01 45.4**	**-1.7**
	comp=Z,2.2nm,0.7s,baz=254,slow=4.8,SNR=25						
ILAR	**Eielson Array**	**86.53**	**25**	P	**P**	**20 01 45.4**	**-1.7**
YKA	**Yellowknife Ar**	**100.93**	**26**	P	**Pdif**	**20 02 52.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=293,slow=4.8,SNR=5.8						
YKA	**Yellowknife Ar**	**100.93**	**26**	P	**Pdif**	**20 02 52.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**130.38**	**286**	PKP	**PKPdf**	**20 08 14.2**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=85,slow=1.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**130.38**	**286**	PKP	**PKPdf**	**20 08 14.2**	**-1.6**
CPUP	**Villa Florida**	**151.12**	**160**	PKPbc	**PKPbc**	**20 08 58.6**	**+0.4**
LPAZ	**La Paz**	**152.96**	**130**	PKPbc	**PKPbc**	**20 09 03.5**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=241,slow=1.7,SNR=5.3						
LPAZ	**La Paz**	**152.96**	**130**	PKPbc	**PKPbc**	**20 09 03.5**	**+0.1**

TAP 05 20:03:02.3, 24.55N×121.61E, h64km, ML4.0, 10C-10D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENTT	**Nioudou**	**0.10**	**339**	⇓*i*P	Pn	20 03 12.2	+0.4
	baz=342						
ENA	**Nanau**	**0.17**	**134**	⇓*i*P	Pn	20 03 12.0	0.0
	baz=133						
TWE	**Neicheng**	**0.18**	**18**	⇓*i*P	Pn	20 03 12.6	+0.5
	baz=16						
TWE				S	Sn	20 03 19.4	+0.3
	baz=16						
TWC	**Suao**	**0.23**	**74**	⇓*i*P	Pn	20 03 12.6	+0.3
	baz=75						
TWC				*e*S	Sn	20 03 19.0	-0.6
	baz=75						
NNS	**Nan Shan**	**0.24**	**243**	⇓*i*P	Pn	20 03 13.2	+0.7
	baz=242						
NNS				*e*S	Sn	20 03 20.8	+0.8
	baz=242						
ILA	**Ilan**	**0.25**	**31**	P	Pn	20 03 13.1	+0.6
	baz=27						
ILA				*i* S	Sn	20 03 20.7	+0.9
	baz=27						
NSK	**Sanguang**	**0.26**	**300**	⇓*i*P	Pn	20 03 12.7	+0.1
	baz=309						
NSK				S	Sn	20 03 19.7	-0.4
	baz=309						
EHP	**Heping Village**	**0.27**	**152**	*e*P	Pn	20 03 11.6	-1.0
	baz=156						
TWA	**Mucha**	**0.43**	**357**	⇑*i*P	Pn	20 03 14.0	+0.1
	baz=358						
TWA				S	Sn	20 03 21.9	-0.4
	baz=358						
TWD	**Chiawan**	**0.47**	**181**	⇓*i*P	Pn	20 03 13.7	-0.5
	baz=180						
TWD				S	Sn	20 03 22.4	-0.4
	baz=180						
TWT	**Tachien**	**0.49**	**233**	⇓*i*P	Pn	20 03 16.0	+1.4
	baz=231						
TWT				S	Sn	20 03 25.2	+1.5
	baz=231						
TAP1	**Taipei**	**0.50**	**351**	*i* P	Pn	20 03 14.4	-0.1
	baz=351						
TAP1				S	Sn	20 03 22.8	-0.6
	baz=351						
WHF	**Hehuan Shan**	**0.51**	**218**	⇓*i*P	Pn	20 03 15.9	+0.7
	baz=211						
WHF				S	Sn	20 03 25.3	+0.7
	baz=211						
NWF	**Wu-fen Shan**	**0.55**	**17**	⇑*i*P	Pn	20 03 15.2	+0.1
	baz=8.0						
NWF				*i* S	Sn	20 03 23.9	-0.6
	baz=8.0						
NSTT	**Nanjuang**	**0.56**	**279**	P	Pn	20 03 15.4	+0.2
	baz=287						
NSTT				S	Sn	20 03 25.0	+0.4
	baz=287						
HWA	**Hwalien**	**0.57**	**180**	*e*P	Pn	20 03 13.9	-1.4
	baz=179						
NCU	**National Centr**	**0.57**	**318**	P	Pn	20 03 15.5	+0.2
	baz=318						
NCU				S	Sn	20 03 25.3	+0.5
	baz=318						
TWB1	**Santiao Chiao**	**0.58**	**37**	⇑*i*P	Pn	20 03 15.6	+0.3
	baz=31						
TWB1				*e*S	Sn	20 03 23.9	-1.0
	baz=31						
TWS1	**Kuangyinshan**	**0.58**	**343**	⇑*i*P	Pn	20 03 15.6	+0.2
	baz=334						
TWS1				*e*S	Sn	20 03 25.2	+0.3
	baz=334						
HSN	**Hsinchu**	**0.63**	**294**	*e*P	Pn	20 03 16.2	+0.3
	baz=308						
HSN				*e*S	Sn	20 03 26.0	+0.1
	baz=308						
ESF	**Shoufeng Towns**	**0.68**	**188**	*e*P	Pn	20 03 16.0	-0.6
	baz=180						
TWY	**Chenhua**	**0.73**	**360**	P	Pn	20 03 17.1	0.0
	baz=353						
TWY				*e*S	Sn	20 03 27.4	-0.5
	baz=353						
ESL	**Shilin**	**0.75**	**192**	⇓*i*P	Pn	20 03 16.4	-0.9
	baz=184						
NSY	**Sanyi**	**0.78**	**261**	*e*P	Pn	20 03 18.5	+0.7
	baz=260						
NSY				*e*S	Sn	20 03 30.6	+1.5
	baz=260						
TWQ1	**Liyutan**	**0.79**	**256**	⇑P	Pn	20 03 18.6	+0.8
	baz=255						
TWQ1				*e*S	Sn	20 03 29.9	+0.7
	baz=255						
SMLT	**Sun Moon Lake**	**0.92**	**224**	⇑*i*P	Pn	20 03 20.8	+1.2
	baz=231						
SMLT				*e*S	Sn	20 03 34.1	+1.6
	baz=231						
TCU	**Taichung**	**0.94**	**245**	⇑P	Pn	20 03 20.6	+0.9
	baz=244						
TYC	**Yuchr**	**0.94**	**227**	⇑P	Pn	20 03 20.7	+1.1
	baz=226						
TYC				*e*S	Sn	20 03 34.2	+1.7
	baz=226						
EHY	**Hungye**	**1.07**	**194**	*e*P	Pn	20 03 20.2	-1.2
	baz=185						
WNT	**Mingjian**	**1.07**	**232**	*e*P	Pn	20 03 22.4	+1.0
	baz=242						
WNT				*e*S	Sn	20 03 37.2	+1.6
	baz=242						
YUS	**Yu-Shan**	**1.21**	**210**	P	Pn	20 03 25.6	+1.8
	baz=221						
YUS				*e*S	Sn	20 03 42.8	+2.8
	baz=221						
CHN5	**Tsauling**	**1.27**	**222**	*i* P	Pn	20 03 25.2	+1.0
	baz=222						
CHN5				*e*S	Sn	20 03 42.0	+1.6
	baz=222						
WGK	**Gukeng**	**1.28**	**228**	*e*P	Pn	20 03 25.1	+1.0
	baz=239						
WGK				*e*S	Sn	20 03 42.3	+1.8
	baz=239						
YOJ	**Yonaguni jima**	**1.28**	**94**	*e*P	Pn	20 03 24.1	-0.1
	baz=85						
ELDTW	**Lidau**	**1.46**	**202**	*e*P	Pn	20 03 26.3	-0.3
	baz=193						
CHY	**Chiayi**	**1.50**	**226**	⇑*i*P	Pn	20 03 28.2	+1.1
	baz=235						
CHY				*e*S	Sn	20 03 46.9	+1.1
	baz=235						
WSF	**Szhu**	**1.56**	**235**	*e*P	Pn	20 03 28.4	+0.6

	baz=222								
ENA	**Nanau**	**0.26**	**355**	⇑	*i*P	**Pg**	**20 21 27.3**	**+0.2**
	baz=3.0								
ENA					*e*S	**Sg**	**20 21 31.0**	**+0.3**
	baz=3.0								
ESF	**Shoufeng Towns**	**0.38**	**219**		*e*P	**Pg**	**20 21 28.8**	**-0.4**
	baz=217								
ESF					*e*S	**Sg**	**20 21 33.6**	**-0.6**
	baz=217								
TWC	**Suao**	**0.45**	**9**	⇑	*i*P	**Pg**	**20 21 30.8**	**+0.3**
	baz=8.0								
TWC					*e*S	**Sg**	**20 21 36.2**	**-0.3**
	baz=8.0								
NNS	**Nan Shan**	**0.45**	**307**	⇑	*i*P	**Pg**	**20 21 30.4**	**-0.2**
	baz=311								
NNS					S	**Sg**	**20 21 36.0**	**-0.6**
	baz=311								
WHF	**Hehuan Shan**	**0.46**	**268**	⇑	*i*P	**Pg**	**20 21 30.3**	**-0.5**
	baz=268								
WHF					*e*S	**Sg**	**20 21 35.8**	**-1.2**
	baz=268								
ESL	**Shilin**	**0.46**	**221**	⇑	*i*P	**Pg**	**20 21 30.3**	**-0.5**
	baz=229								
ESL					*e*S	**Sg**	**20 21 37.2**	**+0.2**
	baz=229								
TEGC	**Jichi Village**	**0.50**	**205**		*e*P	**Pb**	**20 21 32.6**	**+0.1**
	baz=189								
TEGC					*e*S	**Sb**	**20 21 41.0**	**+1.2**
	baz=189								
ENTT	**Nioudou**	**0.51**	**339**	⇑	*i*P	**Pg**	**20 21 31.9**	**+0.3**
	baz=342								
ENTT					*e*S	**Sg**	**20 21 38.7**	**+0.3**
	baz=342								
TWT	**Tachien**	**0.55**	**279**	⇑	*i*P	**Pg**	**20 21 32.6**	**+0.2**
	baz=280								
TWT					*e*S	**Sg**	**20 21 39.2**	**-0.5**
	baz=280								
TWE	**Neicheng**	**0.56**	**351**	⇑	*i*P	**Pg**	**20 21 33.0**	**+0.4**
	baz=355								
TWE					S	**Sg**	**20 21 40.9**	**+0.9**
	baz=355								
ILA	**Ilan**	**0.60**	**358**		*e*P	**Pg**	**20 21 33.7**	**+0.3**
	baz=1.0								
ILA					*e*S	**Sg**	**20 21 41.9**	**+0.7**
	baz=1.0								
NSK	**Sanguang**	**0.63**	**324**	⇑	*i*P	**Pg**	**20 21 34.1**	**+0.1**
	baz=327								
NSK					S	**Sg**	**20 21 41.8**	**-0.5**
	baz=327								
EHY	**Hungye**	**0.77**	**212**		P	**Pg**	**20 21 36.0**	**-0.7**
	baz=220								
EHY					*e*S	**Sg**	**20 21 47.5**	**+0.8**
	baz=220								
TWA	**Mucha**	**0.83**	**348**	⇑	*i*P	**Pb**	**20 21 38.3**	**+0.1**
	baz=350								
TWA					*e*S	**Sb**	**20 21 49.2**	**-0.2**
	baz=350								
NSTT	**Nanjuang**	**0.84**	**304**		*e*P	**Pg**	**20 21 38.0**	**+0.1**
	baz=305								
NSTT					S	**Sg**	**20 21 48.4**	**-0.5**
	baz=305								
SMLT	**Sun Moon Lake**	**0.84**	**251**	⇑	*i*P	**Pg**	**20 21 37.6**	**-0.4**
	baz=251								
SMLT					*e*S	**Sg**	**20 21 48.3**	**-0.6**
	baz=251								
TWB1	**Santiao Chiao**	**0.86**	**13**		*e*P	**Pg**	**20 21 38.0**	**-0.3**
	baz=6.0								
TWB1					*e*S	**Sb**	**20 21 50.6**	**+0.2**
	baz=6.0								
TYC	**Yuchr**	**0.87**	**253**	⇑	*i*P	**Pg**	**20 21 38.0**	**-0.5**
	baz=245								
TYC					*e*S	**Sg**	**20 21 48.5**	**-1.4**
	baz=245								
TAP1	**Taipei**	**0.90**	**346**		*e*P	**Pb**	**20 21 39.5**	**+0.2**
	baz=346								
TAP1					*e*S	**Sg**	**20 21 50.6**	**-0.1**
	baz=346								
NWF	**Wu-fen Shan**	**0.90**	**1**	⇑	*i*P	**Pb**	**20 21 39.7**	**+0.2**
	baz=353								
NWF					*e*S	**Sg**	**20 21 50.2**	**-0.7**
	baz=353								
TWQ1	**Liyutan**	**0.93**	**282**		*e*P	**Pg**	**20 21 39.8**	**+0.2**
	baz=283								
NSY	**Sanyi**	**0.95**	**285**		*e*P	**Pb**	**20 21 40.7**	**+0.4**
	baz=287								
NSY					*e*S	**Sn**	**20 21 54.9**	**+0.2**
	baz=287								
NCU	**National Centr**	**0.96**	**327**		*e*P	**Pn**	**20 21 41.3**	**+0.1**
	baz=328								
NCU					*e*S	**Sn**	**20 21 54.7**	**-0.1**
	baz=328								
HSN	**Hsinchu**	**0.96**	**311**		*e*P	**Pn**	**20 21 41.5**	**+0.3**
	baz=315								
HSN					*e*S	**Sn**	**20 21 55.3**	**+0.3**
	baz=315								
TWS1	**Kuangyinshan**	**0.98**	**341**		P	**Pn**	**20 21 41.6**	**+0.1**
	baz=352								
TWS1					*e*S	**Sn**	**20 21 55.1**	**-0.4**
	baz=352								
TCU	**Taichung**	**1.00**	**269**	⇓	P	**Pn**	**20 21 42.2**	**+0.5**
	baz=270								
TCU					S	**Sn**	**20 21 55.5**	**-0.3**
	baz=270								
YUS	**Yu-Shan**	**1.00**	**228**	⇑	P	**Pb**	**20 21 41.4**	**-0.1**
	baz=229								
YUS					*e*S	**Sg**	**20 21 55.5**	**+1.2**
	baz=229								
WNT	**Mingjian**	**1.03**	**254**	⇑	P	**Pn**	**20 21 42.3**	**+0.2**
	baz=250								
WNT					*e*S	**Sn**	**20 21 56.0**	**-0.6**
	baz=250								
TWY	**Chenhua**	**1.12**	**352**		*e*P	**Pb**	**20 21 42.6**	**-0.5**
	baz=352								
CHN5	**Tsauling**	**1.15**	**241**	⇑	P	**Pn**	**20 21 44.0**	**+0.2**
	baz=242								
CHN5					*e*S	**Sn**	**20 22 00.3**	**+0.8**
	baz=242								
YOJ	**Yonaguni jima**	**1.17**	**75**		*e*P	**Pn**	**20 21 43.8**	**-0.2**
	baz=59								
ELDTW	**Lidau**	**1.19**	**215**		*e*P	**Pn**	**20 21 42.6**	**-1.9**
	baz=220								
WGK	**Gukeng**	**1.20**	**247**		*e*P	**Pg**	**20 21 45.1**	**+0.3**
	baz=249								
WGK					*e*S	**Sn**	**20 22 01.5**	**+0.7**
	baz=249								
STYT	**Tauyuan**	**1.36**	**223**	⇑	P	**Pn**	**20 21 46.9**	**+0.2**
	baz=226								
STYT					S	**Sg**	**20 22 05.7**	**+0.2**
	baz=226								
WTCT	**Ta-ch'eng**	**1.39**	**258**		*e*P	**Pn**	**20 21 46.3**	**-0.8**
	baz=261								
CHY	**Chiayi**	**1.40**	**242**	⇑	P	**Pg**	**20 21 49.1**	**+0.5**
	baz=244								
CHY					*e*S	**Sb**	**20 22 06.1**	**+0.3**
	baz=244								
WTP	**Ta-pu**	**1.40**	**229**	⇓	P	**Pb**	**20 21 47.9**	**0.0**
	baz=232								
WTP					*e*S	**Sg**	**20 22 07.7**	**+1.0**
	baz=232								
TWG	**Pinlang**	**1.48**	**206**		*e*P	**Pn**	**20 21 46.4**	**-2.0**
	baz=212								
CHN1	**Nanshi**	**1.50**	**230**		*e*P	**Pb**	**20 21 49.5**	**0.0**
	baz=233								
CHN1					*e*S	**Sg**	**20 22 11.1**	**+1.2**
	baz=233								
WSF	**Szhu**	**1.51**	**250**		*e*P	**Pn**	**20 21 49.0**	**+0.3**
	baz=252								
WSF					*e*S	**Sg**	**20 22 10.9**	**+0.6**
	baz=252								
TTN	**Taitung**	**1.52**	**202**		*e*P	**Pn**	**20 21 47.0**	**-1.8**
	baz=209								
CHN8	**Yiju**	**1.64**	**241**		*e*P	**Pb**	**20 21 51.5**	**-0.5**
	baz=229								
CHN8					*e*S	**Sg**	**20 22 14.5**	**0.0**
	baz=229								
CHN3	**Shinhua**	**1.68**	**230**		*e*P	**Pb**	**20 21 52.9**	**+0.2**
	baz=235								
CHN3					*e*S	**Sg**	**20 22 16.8**	**+0.9**
	baz=235								
SCLT	**Jiali**	**1.75**	**236**		*e*P	**Pn**	**20 21 50.7**	**-1.3**
	baz=240								
SCLT					*e*S	**Sg**	**20 22 18.0**	**+0.1**
	baz=240								
SSD	**Sandimen**	**1.76**	**217**		*e*P	**Pn**	**20 21 52.5**	**+0.4**
	baz=233								
SSD					*e*S	**Sb**	**20 22 17.1**	**+1.0**
	baz=233								
TAI1	**Yung-k'ang**	**1.80**	**232**		*e*P	**Pb**	**20 21 54.2**	**-0.5**
	baz=239								
TWM1	**Shoushan**	**1.82**	**223**		*e*P	**Pb**	**20 21 55.4**	**+0.3**
	baz=231								
SGLT	**Jiouru**	**1.85**	**220**		*e*P	**Pb**	**20 21 55.2**	**-0.4**
	baz=217								
EAST	**Anshuo**	**1.96**	**206**		*e*P	**Pn**	**20 21 55.1**	**+0.1**
	baz=201								
TAW	**Tawu**	**1.97**	**204**		*e*P	**Pn**	**20 21 55.7**	**+0.6**
	baz=199								
SCZT	**Fangliau**	**2.07**	**211**		*e*P	**Pn**	**20 21 58.1**	**+1.7**
	baz=203								
PNG	**Penghu**	**2.11**	**254**		*e*P	**Pn**	**20 21 57.9**	**+0.9**
	baz=257								
PNG					*e*S	**Sn**	**20 22 24.3**	**+1.1**
	baz=257								
LAY	**Lan-yu**	**2.12**	**185**		*e*P	**Pn**	**20 21 54.7**	**-2.5**
	baz=194								
TWP	**Hsiaoliuchiu**	**2.22**	**216**		*e*P	**Pb**	**20 22 01.5**	**-0.5**
	baz=242								
HEN	**Hengchun**	**2.35**	**204**		*e*P	**Pn**	**20 22 01.8**	**+1.5**
	baz=202								
TWK1	**Hengchun**	**2.38**	**202**		*e*P	**Pn**	**20 22 02.5**	**+1.8**
	baz=198								
TWK1					*e*S	**Sn**	**20 22 31.7**	**+1.7**
	baz=198								
QZH	**Quanzhou**	**2.99**	**286**	⇑	*i*Pn	**Pn**	**20 22 09.0**	**-0.1**
QZH					Sn	**Sn**	**20 22 40.8**	**-4.3**
QZH					smax	smax		
	comp=N,430nm,0.7s								
QZH					smax	smax			
	comp=E,240nm,0.7s								
KNM	**Kinmen**	**3.05**	**275**		*e*P	**Pn**	**20 22 11.2**	**+1.2**
	baz=276								
KSRS	**Korea Array**	**14.26**	**20**		P	**P**	**20 24 51.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=12								
USRK	**Ussuriysk Arra**	**21.67**	**20**		LR	LR	20 35 09.2		
	comp=E,50nm,18.1s,baz=5.9,slow=38								
CMAR	**Chiang Mai Arr**	**22.00**	**259**		P	**P**	**20 26 17.6**	**+1.5**
	comp=E,0.3nm,0.7s,baz=58,slow=8.6,SNR=4.1								
GTA	**Gaotai**	**23.98**	**315**		*e*P	P	20 26 42.0	+5.6	
GTA					pP	pP	20 26 50.3	+11	
GTA					sP	sP	20 26 54.6	+14	
GTA					pmax	pmax			
	comp=Z,2.0nm,1.3s								
SONM	**Songino Array**	**26.59**	**336**		P	**P**	**20 26 59.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=157,slow=12,SNR=6.3								
LSA	**Lhasa**	**27.80**	**288**		P	P	20 27 17.5	+6.0	
MKAR	**Makanchi Array**	**38.72**	**316**		P	**P**	**20 28 46.0**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=108,slow=9.2,SNR=11								
ZALV	**Zalesovo Beam**	**40.55**	**327**		P	**P**	**20 29 01.8**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=104,slow=7.3,SNR=9.4								
WRA	**Warramunga Arr**	**45.52**	**163**		P	**P**	**20 29 40.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=344,slow=8.7,SNR=7.3								
ASAR	**Alice Springs**	**48.98**	**165**		P	**P**	**20 30 08.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=341,slow=6.8,SNR=5.9								
HNR	**Honiara**	**50.05**	**127**		LR	LR	20 51 17.0		
	comp=Z,140nm,18.6s,baz=122,slow=36								
STKA	**Stephens Creek**	**58.86**	**160**		P	**P**	**20 31 20.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=346,slow=4.2,SNR=3.4								
ILAR	**Eielson Array**	**68.99**	**27**		P	**P**	**20 32 26.1**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=276,slow=5.3,SNR=5.2								
YKA	**Yellowknife Ar**	**82.78**	**23**		P	**P**	**20 33 44.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=312,slow=5.0,SNR=8.8								

IDC ***05*** *20:32:11.0±0.6,0.°69S×133.°17E,h0km,mb4.6/10, mb1 4.7/14,mb1mx4.5/23,mbtmp4.6/14,ML4.4/4,MS3.7/4, Ms1 3.7/4,ms1mx3.2/27,Error ellipse: s-maj=27.5km s-min=13.2km az=68.0*

BJI ***05*** *20:32:11.6,0.°88S×133.°35E,h28km,mB5.1/9,mb4.8/26, Ms5.0/1,Ms7 4.5/1*

ISCJB ***05*** *20:32:13.0±0.3,0.°65S±0.°03×133.°38E±0.°04,h28km, mb4.8/61,MS3.8/2,Error ellipse: s-maj=5.5km s-min=4.3km az=158.1*

MOS ***05*** *20:32:13.8±0.9,0.°79S×133.°14E,h33km,mb5.0/15,Error ellipse: s-maj=17.9km s-min=7.2km az=118.3*

NEIC ***05*** *20:32:14.5±3.0,0.°75S×133.°21E,h25km±22km,mb4.9/27, Error ellipse: s-maj=10.8km s-min=5.4km az=50.0*

DJA ***05*** *20:32:18,0.°96S×133.°22E,h30km,mb5.2/33*

ISC 05 20:32:14.8±0.3,0.°69S±0.°05×133.°33E±0.°05,h28km,n213, σ1°35/226,mb4.9/61,4C-2D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.46**	**206**	P	**Pn**	**20 32 54.0**	**+0.8**
BAKI	**Biak**	**2.82**	**100**	P	**Pb**	**20 33 02.5**	**-2.0**
TLE	**Tual**	**4.95**	**187**	P	**Pn**	**20 33 29.4**	**+2.0**
MSAI	**Masohi**	**5.13**	**239**	P	**Pn**	**20 33 31.8**	**+1.9**
	174nm,0.6s,3µm1.2nm						
SMPI	**Sarmi**	**5.53**	**104**	P	**Pb**	**20 33 48.8**	**-1.9**
LBMI	**Labuha**	**5.83**	**270**	P	**Pn**	**20 33 39.7**	**+0.1**
	843nm,1.0s,6µm2.3nm						
AAI	**Ambon**	**5.94**	**240**	P	**Pn**	**20 33 40.9**	**-0.1**
	669nm,0.8s,7µm2.3nm						
TNTI	**Ternate**	**6.14**	**284**	P	**Pn**	**20 33 44.3**	**+0.5**
	190nm,0.8s,2µm0.8nm						
MNI	**Manado**	**8.75**	**284**	P	**Pn**	**20 34 21.9**	**+2.2**
	510nm,0.9s,4µm1.7nm						
KMSI	**Cibinong**	**9.44**	**278**	P	**Pn**	**20 34 31.6**	**+2.6**
	367nm,0.9s,3µm						
LUWI	**Luwuk**	**10.57**	**268**	P	**Pn**	**20 34 44.5**	**0.0**
	336nm,1.1s,3µm						
DAV	**Davao City (W)**	**10.92**	**315**	LR	LR	20 37 55.8	
	comp=Z,234nm,20.9s,baz=151,slow=32						
MRSI	**Marisa**	**11.45**	**276**	P	**Pn**	**20 34 59.6**	**+2.9**
	61nm,0.8s,548nm						
MMRI	**Maumere**	**13.58**	**234**	P	P	20 35 37.8	+3.3
TTSI	**Tana Toraja**	**13.71**	**260**	P	**P**	**20 35 35.0**	**-0.9**
SPSI	**Sidrap Palu**	**13.94**	**256**	P	**Pn**	**20 35 32.7**	**+2.1**
	51nm,0.7s,598nm						
BKSI	**Bulukumba**	**13.97**	**251**	P	**Pn**	**20 35 32.6**	**+1.5**
	89nm,1.1s,810nm						
KAPI	**Kappang**	**14.23**	**252**	Pn	**Pn**	**20 35 33.0**	**-1.6**
	2.2nm,0.3s,baz=107,slow=5.7,SNR=26						
KAPI	**Kappang**	**14.23**	**252**	Pn	**Pn**	**20 35 33.0**	**-1.6**
KAPI	**Kappang**	**14.23**	**252**	P	**Pn**	**20 35 36.7**	**+2.1**
	69nm,0.9s,616nm						
MJSI	**Majene**	**14.62**	**259**	P	**P**	**20 35 48.7**	**+2.7**
MYLDM	**Lahad Datu**	**15.92**	**292**	P	**Pn**	**20 35 57.4**	**+0.3**
MYLDM	**Lahad Datu**	**15.92**	**292**	P	**P**	**20 36 02.1**	**+1.6**
	97nm,1.5s,1µm						
SMKI	**Samarinda**	**16.13**	**271**	P	**P**	**20 36 03.1**	**+0.3**
	310nm,1.0s,4µm						
TSM	**Tawau**	**16.22**	**288**	P	**Pn**	**20 36 00.9**	**-0.1**
PMG	**Port Moresby**	**16.26**	**123**	Pn	**P**	**20 36 04.4**	**+0.2**
	0.7nm,0.3s,baz=324,slow=14,SNR=2.6						
PMG	**Port Moresby**	**16.26**	**123**	*e*P	**Pn**	**20 36 02.7**	**+1.3**
PMG	**Port Moresby**	**16.26**	**123**	P	**Pn**	**20 36 01.0**	**-0.4**
	34nm,1.0s						
COEN	**Coen**	**16.39**	**144**	*e*P	**Pn**	**20 36 03.1**	**+0.1**
	62nm,0.7s						
SDKM	**Sandakan**	**17.30**	**292**	P	**P**	**20 36 15.5**	**-0.3**
KBKI	**Kotabaru**	**17.35**	**261**	P	**P**	**20 36 19.8**	**+3.5**
GUMO	**Guam**	**18.22**	**38**	LR	LR	20 41 41.9	
	comp=Z,192nm,18.6s,baz=213,slow=31						
KKM	**Kota Kinabalu**	**18.35**	**292**	*e*P	**Pn**	**20 36 28.3**	**+0.6**
	110nm,1.4s						
KKM	**Kota Kinabalu**	**18.35**	**292**	P	**Pn**	**20 36 29.0**	**+1.3**
KKM	**Kota Kinabalu**	**18.35**	**292**	P	**Pn**	**20 36 28.9**	**+1.3**
	79nm,1.4s,1µm						
BBKI	**Banjar Baru**	**18.68**	**261**	P	**Pn**	**20 36 33.5**	**+1.9**
	120nm,1.3s						
MTNI	**Mataram**	**18.83**	**245**	P	**Pn**	**20 36 35.0**	**+1.7**
	85nm,0.9s,2µm						
FITZ	**Fitzroy Crossi**	**18.88**	**203**	P	**P**	**20 36 30.5**	**-2.7**
	1.4nm,0.3s,baz=34,slow=12,SNR=32						
FITZ				S	Sn	20 39 48.6	-16
	2.1nm,0.3s,baz=151,slow=9.7,SNR=7.7						
FITZ	**Fitzroy Crossi**	**18.88**	**203**	*e*P	**P**	**20 36 30.3**	**-2.9**
	31nm,0.4s						
FITZ				*e*S	Sn	20 39 46.0	-19
FITZ	**Fitzroy Crossi**	**18.88**	**203**	P	**P**	**20 36 30.5**	**-2.7**
FITZ				S	Sn	20 39 48.6	-16
WRAB	**Tennant Creek**	**19.15**	**177**	*e*P	**P**	**20 36 34.1**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**19.15**	**177**	*e*P	**P**	**20 36 34.1**	**-2.0**
	comp=Z,32nm,0.8s						
WB2	**Warramunga Arr**	**19.16**	**177**	*e*P	**P**	**20 36 35.5**	**-0.7**
WRA	**Warramunga Arr**	**19.16**	**177**	P	**P**	**20 36 35.1**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=356,slow=11,SNR=49						
WRA				S	Sn	20 39 59.2	-12
	comp=Z,2.4nm,0.3s,baz=346,slow=25,SNR=9.9						
WRA	**Warramunga Arr**	**19.16**	**177**	P	**P**	**20 36 35.1**	**-1.2**
WRA				S	Sn	20 39 59.2	-12
WRA	**Warramunga Arr**	**19.16**	**177**	P	**P**	**20 36 35.1**	**-1.2**
WRA				S	Sn	20 39 59.1	-12
KHKI	**Kahang-Kahang**	**19.23**	**246**	P	**P**	**20 36 37.7**	**+0.6**
	comp=Z,104nm,1.3s,comp=Z,1µm						
KMMI	**Kalianget**	**20.32**	**251**	P	Pn	20 36 51.6	+0.5
	comp=Z,111nm,1.1s						
BTM	**Bintulu**	**20.61**	**281**	P	Pn	20 36 53.8	-0.7
BLJI	**Banyuglugur**	**20.88**	**250**	P	**P**	**20 36 56.6**	**+1.5**
	comp=Z,82nm,0.9s						
SBUM	**Sibu**	**21.34**	**278**	P	**P**	**20 37 01.1**	**+1.2**
SBUM	**Sibu**	**21.34**	**278**	P	**P**	**20 37 01.5**	**+1.5**
	comp=Z,67nm,1.8s,comp=Z,927nm						
PBKI	**Pangkalan Bun**	**21.75**	**264**	P	P	20 37 09.2	+4.8
	comp=Z,202nm,1.1s,comp=Z,2µmcomp=Z,19µm						
STKI	**Sintang**	**21.87**	**272**	P	**P**	**20 37 06.2**	**+0.5**
	comp=Z,40nm,1.4s,comp=Z,4µm						
SJI	**Sawahan**	**22.61**	**251**	P	**P**	**20 37 13.4**	**-0.3**
	comp=Z,59nm,1.7s,comp=Z,2µm						
PWJI	**Pagerwojo**	**22.66**	**251**	P	**P**	**20 37 16.8**	**+2.7**
	comp=Z,51nm,1.2s						
AS31	**Alice Springs**	**22.84**	**179**	*e*P	**P**	**20 37 15.6**	**-0.5**
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**20 37 15.7**	**-0.4**
	comp=Z,26nm,0.8s,baz=358,slow=12,SNR=85						
ASAR				S	**S**	**20 41 20.6**	**-3.3**
	comp=Z,3.3nm,0.8s,baz=336,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**20 37 15.7**	**-0.4**
ASAR				S	**S**	**20 41 20.6**	**-3.3**
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**20 37 15.7**	**-0.4**
ASAR				S	**S**	**20 41 20.6**	**-3.3**
CTA	**Charters Tower**	**23.05**	**148**	P	**P**	**20 37 20.9**	**+2.8**
	comp=Z,18nm,0.9s,baz=328,slow=12,SNR=8.4						
CTA	**Charters Tower**	**23.05**	**148**	*e*P	**P**	**20 37 21.2**	**+3.0**
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**23.05**	**148**	P	**P**	**20 37 21.0**	**+2.8**
CTA	**Charters Tower**	**23.05**	**148**	P	**P**	**20 37 20.9**	**+2.8**
CTAO	**Charters Tower**	**23.05**	**148**	*e*P	**P**	**20 37 19.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,21nm,1.0s						
CTAO	**Charters Tower**	**23.05**	**148**	*e*P	**P**	**20 37 19.1**	**+0.9**
	comp=Z,21nm,1.0s						
KSM	**Kuching**	**23.12**	**275**	*e*P	**P**	**20 37 17.7**	**-1.3**
	comp=Z,53nm,1.2s						
KSM	**Kuching**	**23.12**	**275**	P	**P**	**20 37 18.8**	**-0.2**
KSM	**Kuching**	**23.12**	**275**	P	**P**	**20 37 19.8**	**+0.8**
	comp=Z,44nm,1.3s						
SMRI	**Semarang**	**23.69**	**254**	P	**P**	**20 37 25.9**	**+1.4**
	comp=Z,184nm,1.0s						
MBWA	**Marble Bar**	**24.29**	**212**	*e*P	**P**	**20 37 29.9**	**-0.2**
MBWA	**Marble Bar**	**24.29**	**212**	*e*P	**P**	**20 37 29.7**	**-0.4**
	comp=Z,67nm,1.1s						
BJII	**Banjamegara**	**24.46**	**254**	P	**P**	**20 37 32.8**	**+1.0**
	comp=Z,141nm,2.1s,comp=Z,2µm						
CISI	**Cisompet, Garu**	**26.34**	**254**	P	**P**	**20 37 48.6**	**-0.2**
	comp=Z,173nm,1.0s						
CBJI	**Citeko**	**27.03**	**257**	P	**P**	**20 37 56.7**	**+1.7**
	comp=Z,122nm,0.8s						
QLP	**Quilpie**	**27.80**	**159**	*e*P	**P**	**20 38 01.1**	**-0.6**
MYKOM	**Kota Tinggi**	**29.58**	**275**	P	**P**	**20 38 17.8**	**+0.1**
QIZ	**Qiongzhong**	**30.27**	**312**	P	**P**	**20 38 22.7**	**-1.1**
QIZ				S	**S**	**20 43 22.0**	**-0.1**
FORT	**Forrest**	**30.34**	**189**	*e*P	**P**	**20 38 24.4**	**+0.2**
	comp=Z,15nm,0.7s						
FORT	**Forrest**	**30.34**	**189**	*e*P	**P**	**20 38 24.4**	**+0.2**
	comp=Z,29nm,0.6s						
KSI	**Kapahiang**	**30.86**	**264**	P	**P**	**20 38 30.8**	**+1.7**
	comp=Z,63nm,0.9s						
STKA	**Stephens Creek**	**31.99**	**167**	P	**P**	**20 38 38.8**	**0.0**
	comp=Z,4.6nm,0.4s,baz=337,slow=8.1,SNR=29						
STKA	**Stephens Creek**	**31.99**	**167**	*e*P	**P**	**20 38 38.5**	**-0.2**
	comp=Z,4.2nm,0.4s						
STKA	**Stephens Creek**	**31.99**	**167**	*e*P	**P**	**20 38 38.3**	**-0.5**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**31.99**	**167**	*e*P	**P**	**20 38 38.3**	**-0.5**
	comp=Z,2.9nm,1.0s						
BBOO	**Buckleboo**	**32.05**	**176**	*e*P	**P**	**20 38 39.1**	**-0.2**
	comp=Z,61nm,0.9s						
BBOO	**Buckleboo**	**32.05**	**176**	*e*P	**P**	**20 38 37.5**	**-1.8**
	comp=Z,203nm,0.8s						
KMBL	**Kambalda**	**32.38**	**198**	*e*P	**P**	**20 38 42.1**	**-0.1**
	comp=Z,133nm,1.0s						
IPM	**Ipoh**	**32.69**	**279**	*e*P	**P**	**20 38 44.0**	**-1.2**
	comp=Z,36nm,1.3s						
IPM	**Ipoh**	**32.69**	**279**	P	**P**	**20 38 44.4**	**-0.7**
IPM	**Ipoh**	**32.69**	**279**	P	**P**	**20 38 44.6**	**-0.6**
	comp=Z,31nm,1.0s						
KULM	**Kulim**	**33.18**	**281**	*e*P	**P**	**20 38 48.1**	**-1.3**
	comp=Z,33nm,1.5s						
KULM	**Kulim**	**33.18**	**281**	P	**P**	**20 38 48.6**	**-0.8**
KULM	**Kulim**	**33.18**	**281**	P	**P**	**20 38 49.1**	**-0.3**
	comp=Z,23nm,1.1s						
SSE	**Sheshan**	**33.65**	**341**	P	**P**	**20 38 53.9**	**+0.6**
SSE				sP	**sP**	**20 39 05.9**	**+0.9**
SSE				S	**S**	**20 44 17.6**	**+3.0**
SSE				pmax	pmax		
	comp=Z,15nm,1.0s						
KLBR	**K

	comp=Z,16nm,1.4s									
GUN	**Gumba**	**53.65**	**306**	*e*P		**P**	**20 41 33.9**	**-0.7**
	comp=Z,21nm,0.8s									
GUN	**Gumba**	**53.65**	**306**	*e*P		**P**	**20 41 33.9**	**-0.7**
SONM	**Songino Array**	**53.72**	**338**	P		**P**	**20 41 35.1**	**+0.6**
	comp=Z,4.0nm,1.2s,baz=160,slow=6.4,SNR=15									
SONM				PcP		**PcP**	**20 42 40.4**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=149,slow=4.0,SNR=4.9									
SONM	**Songino Array**	**53.72**	**338**	P		**P**	**20 41 35.1**	**+0.6**
SONM							20 42 40.4			
SONM	**Songino Array**	**53.72**	**338**	P		**P**	**20 41 35.1**	**+0.6**
SONM				PcP		**PcP**	**20 42 40.4**	**-0.1**
PKI	**Pulchoki**	**53.89**	**305**	*e*P		**P**	**20 41 35.1**	**-1.3**
PKI	**Pulchoki**	**53.89**	**305**	*e*P		**P**	**20 41 35.1**	**-1.3**
PKI	**Pulchoki**	**53.89**	**305**	*e*P		**P**	**20 41 35.1**	**-1.3**
KKN	**Kakani**	**54.08**	**306**	*e*P		**P**	**20 41 36.7**	**-1.0**
	comp=Z,12nm,0.9s									
KKN	**Kakani**	**54.08**	**306**	*e*P		**P**	**20 41 36.7**	**-1.0**
KKN	**Kakani**	**54.08**	**306**	*e*P		**P**	**20 41 36.7**	**-1.0**
DMN	**Daman**	**54.16**	**305**	*e*P		**P**	**20 41 37.3**	**-1.0**
	comp=Z,20nm,1.0s									
DMN	**Daman**	**54.16**	**305**	*e*P		**P**	**20 41 37.3**	**-1.0**
RPZ	**Rata Peaks**	**54.43**	**147**	P		**P**	**20 41 41.3**	**+1.7**
	comp=Z,17nm,0.9s,baz=5.0,slow=14,SNR=3.9									
RPZ				LR		LR	21 06 21.1			
	comp=Z,148nm,18.7s,baz=270,slow=38									
RPZ	**Rata Peaks**	**54.43**	**147**	P		**P**	**20 41 41.3**	**+1.7**
GKN	**Gorkha**	**54.69**	**306**	*e*P		**P**	**20 41 41.2**	**-0.8**
	comp=Z,22nm,1.1s									
GKN	**Gorkha**	**54.69**	**306**	*e*P		**P**	**20 41 41.2**	**-0.8**
KOLN	**Koldanda**	**55.45**	**305**	*e*P		**P**	**20 41 47.0**	**-0.6**
	comp=Z,19nm,0.7s									
KOLN	**Koldanda**	**55.45**	**305**	*e*P		**P**	**20 41 47.0**	**-0.6**
DANN	**Dangsing**	**55.54**	**306**	*e*P		**P**	**20 41 47.6**	**-0.7**
DANN	**Dangsing**	**55.54**	**306**	*e*P		**P**	**20 41 47.6**	**-0.7**
HYB	**Hyderabad**	**56.84**	**291**	*i* P		P	**20 41 55.0**	**-2.5**
ZAK	**Zakamensk**	**56.98**	**338**	*e*P		P	20 41 49.2	-8.8
ZAK				pmax		pmax				
	comp=Z,3.0nm,1.4s									
MOY	**Mondy**	**58.88**	**337**	*e*P		**P**	**20 42 12.9**	**+1.6**
BOD	**Bodaibo**	**60.34**	**348**	*e*P		**P**	**20 42 20.9**	**-0.2**
BOD				pmax		pmax				
	comp=Z,6.0nm,1.3s									
DDI	**Dehra Dun**	**60.89**	**306**	*ex*		**P**	**20 42 25.6**	**+0.1**
YAK	**Yakutsk**	**62.62**	**358**	*e*P		**P**	**20 42 36.8**	**+0.5**
YAK				pmax		pmax				
	comp=Z,10.0nm,0.9s									
MK31	**Makanchi Array**	**64.96**	**324**	*i* P		**P**	**20 42 52.2**	**0.0**
MK31				pmax		pmax				
	comp=Z,9.0nm,0.6s									
MK31	**Makanchi Array**	**64.96**	**324**	*e*P		**P**	**20 42 52.4**	**+0.2**
MKAR	**Makanchi Array**	**64.96**	**324**	P		**P**	**20 42 52.6**	**+0.4**
	comp=Z,11nm,0.7s,baz=116,slow=7.9,SNR=142									
MKAR	**Makanchi Array**	**64.96**	**324**	P		**P**	**20 42 52.6**	**+0.4**
MKAR	**Makanchi Array**	**64.96**	**324**	P		**P**	**20 42 52.6**	**+0.4**
SEY	**Seymchan**	**65.06**	**9**	*i* P		**P**	**20 42 53.2**	**+0.8**
KSH	**Kashi**	**65.82**	**314**	P		**P**	**20 42 59.3**	**+1.3**
KSH				pmax		pmax				
	comp=Z,130nm,2.9s									
KZA	**Kyzart**	**67.32**	**317**	P		**P**	**20 43 09.2**	**+1.3**
	SNR=15									
KZA				P		**P**	**20 43 09.2**	**+1.3**
	SNR=15									
TKM2	**Tokmak 2**	**67.42**	**318**	P		**P**	**20 43 08.7**	**+0.4**
	SNR=7.8									
TKM2				P		**P**	**20 43 08.7**	**+0.4**
	SNR=7.8									
TKM2	**Tokmak 2**	**67.42**	**318**	*e*P		**P**	**20 43 08.4**	**+0.1**
TKM2				pmax		pmax				
	comp=Z,9.0nm,0.8s									
TKM2	**Tokmak 2**	**67.42**	**318**	*e*P		**P**	**20 43 08.4**	**+0.1**
	comp=Z,8.7nm,0.8s									
ZAA0	**Zalesovo Array**	**67.55**	**331**	*e*P		**P**	**20 43 07.8**	**-0.8**
ZALV	**Zalesovo Beam**	**67.55**	**331**	P		**P**	**20 43 08.2**	**-0.4**
	comp=Z,12nm,1.0s,baz=104,slow=6.3,SNR=39									
ZALV	**Zalesovo Beam**	**67.55**	**331**	P		**P**	**20 43 08.2**	**-0.4**
ZALV	**Zalesovo Beam**	**67.55**	**331**	P		**P**	**20 43 08.2**	**-0.4**
AAK	**Ala-Archa**	**68.05**	**317**	⇓*i* P		**P**	**20 43 12.4**	**+0.2**
AAK				pmax		pmax				
	comp=Z,22nm,1.5s									
AAK	**Ala-Archa**	**68.05**	**317**	*e*P		**P**	**20 43 12.7**	**+0.4**
	comp=Z,39nm,1.1s									
USP	**Ospenovka**	**68.30**	**318**	P		**P**	**20 43 14.0**	**+0.4**
	SNR=18									
USP				P		**P**	**20 43 14.0**	**+0.4**
	SNR=18									
AML	**Almayashu**	**68.41**	**316**	P		**P**	**20 43 15.6**	**+0.8**
	SNR=9.2									
AML				P		**P**	**20 43 15.6**	**+0.8**
	SNR=9.2									
EKS2	**Erkin-Say**	**68.55**	**317**	P		**P**	**20 43 16.6**	**+1.3**
	SNR=10.0									
EKS2				P		**P**	**20 43 16.6**	**+1.3**
	SNR=10.0									
EKS2	**Erkin-Say**	**68.55**	**317**	*e*P		**P**	**20 43 14.5**	**-0.8**
EKS2				pmax		pmax				
	comp=Z,11nm,0.8s									
EKS2	**Erkin-Say**	**68.55**	**317**	*e*P		**P**	**20 43 14.5**	**-0.8**
	comp=Z,10nm,0.8s									
NVS	**Novosibirsk**	**68.82**	**332**	*i* P		**P**	**20 43 15.2**	**-1.3**
NVS				*e*			20 43 29.0			
NVS				pmax		pmax				
	comp=Z,18nm,1.1s									
NVS				pmax		pmax				
	comp=N,10.0nm,1.3s									
NVS				pmax		pmax				
	comp=E,12nm,1.3s									
KURK	**Kurchatov**	**69.03**	**326**	*c* P		**P**	**20 43 18.1**	**+0.2**
KURK				pmax		pmax				
	comp=Z,47nm,1.2s									
KURK	**Kurchatov**	**69.03**	**326**	*e*P		**P**	**20 43 17.9**	**0.0**
	comp=Z,28nm,0.9s									
KBL	**Kabul**	**69.43**	**307**	*e*P		**P**	**20 43 19.8**	**-1.2**
KBL				pmax		pmax				
	comp=Z,5.0nm,1.0s									
KBL	**Kabul**	**69.43**	**307**	*e*P		**P**	**20 43 19.8**	**-1.2**
	comp=Z,5.1nm,1.0s									
KK31	**Karatay Array**	**70.95**	**316**	*i* P		**P**	**20 43 30.2**	**+0.3**
KK31				pmax		pmax				
	comp=Z,15nm,0.8s									
KKAR	**Karatay Array**	**70.95**	**316**	*e*P		**P**	**20 43 29.9**	**-0.1**
KKAR				pmax		pmax				
	comp=Z,19nm,0.9s									
KKAR	**Karatay Array**	**70.95**	**316**	*e*P		**P**	**20 43 29.9**	**-0.1**
	comp=Z,19nm,0.9s									
BILL	**Bilibino**	**72.27**	**12**	*e*P		**P**	**20 43 39.0**	**+1.7**
BILL				pmax		pmax				
	comp=Z,1.0nm,0.8s									
BVA0	**Borovoye Array**	**74.62**	**326**	*i* P		**P**	**20 43 51.0**	**-0.5**
BVA0				pmax		pmax				
	comp=Z,3.0nm,1.4s									
BRVK	**Borovoye**	**74.69**	**326**	P		**P**	**20 43 51.7**	**-0.2**
BRVK				pmax		pmax				
	comp=Z,16nm,0.8s									
BRVK	**Borovoye**	**74.69**	**326**	*e*P		**P**	**20 43 52.1**	**+0.2**
	comp=Z,11nm,0.8s									
VNDA	**Vanda**	**78.30**	**174**	*e*P		**P**	**20 44 13.1**	**+1.2**
VNDA				pmax		pmax				
	comp=Z,6.0nm,1.1s									
VNDA	**Vanda**	**78.30**	**174**	*e*P		**P**	**20 44 13.1**	**+1.2**
	comp=Z,6.0nm,1.1s									
AB31	**Akbulak array**	**79.73**	**320**	*i* P		**P**	**20 44 19.7**	**-0.6**
AB31				pmax		pmax				
	comp=Z,8.0nm,0.8s									
ABKAR	**Akbulak array**	**79.73**	**320**	*e*P		**P**	**20 44 19.7**	**-0.5**
	comp=Z,6.5nm,0.8s									
SVE	**Sverdlovsk**	**81.17**	**328**	⇑*i* P		**P**	**20 44 27.8**	**0.0**
SVE				pmax		pmax				
	comp=Z,12nm,1.1s									
ARU	**Arti**	**82.19**	**327**	*d* iP		**P**	**20 44 33.9**	**+0.7**
ARU							20 47 41.0			
ARU				S		**S**	**20 54 49.6**	**+3.2**
ARU				SS		**SS**	**21 00 02.0**	**-4.5**
ARU				pmax		pmax				
	comp=Z,15nm,1.7s									
ARU	**Arti**	**82.19**	**327**	*e*P		**P**	**20 44 31.6**	**-1.6**
	comp=Z,7.0nm,0.8s									
ILAR	**Eielson Array**	**86.26**	**25**	P		**P**	**20 44 53.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=252,slow=4.3,SNR=8.7									
ILAR	**Eielson Array**	**86.26**	**25**	P		**P**	**20 44 53.5**	**-0.3**
ILAR	**Eielson Array**	**86.26**	**25**	P		**P**	**20 44 53.5**	**-0.3**
QSPA	**South Pole Qui**	**89.24**	**180**	*e*P		**P**	**20 45 08.4**	**+0.2**
	comp=Z,11nm,1.1s									
INK	**Inuvik**	**91.81**	**22**	P		**P**	**20 45 19.6**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=232,slow=5.4,SNR=3.9									
INK	**Inuvik**	**91.81**	**22**	P		**P**	**20 45 19.7**	**-0.2**
INK	**Inuvik**	**91.81**	**22**	P		**P**	**20 45 19.6**	**-0.2**
YKA	**Yellowknife Ar**	**100.66**	**26**	P		**Pdif**	**20 46 00.1**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=295,slow=4.8,SNR=3.9									
YKA	**Yellowknife Ar**	**100.66**	**26**	P		**Pdif**	**20 46 00.1**	**-0.1**
YKA	**Yellowknife Ar**	**100.66**	**26**	P		**Pdif**	**20 46 00.1**	**-0.1**
LVV	**L'vov**	**102.90**	**321**	*e*P		pPdif	20 46 22.3	+2.8
VNA2	**Neumayer--Watz**	**104.07**	**192**	*e*		**PKiKP**	**20 50 32.9**	**+0.7**
	comp=Z,210,slow=3.9									
VNA3	**Neumayer Olymp**	**104.30**	**192**	*e*		**PKiKP**	**20 50 30.5**	**-2.2**
TORD	**Torodi Ar. Bea**	**130.53**	**287**	PKP		**PKPdf**	**20 51 23.6**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=63,slow=1.7,SNR=12									
TORD	**Torodi Ar. Bea**	**130.53**	**287**	PKP		**PKPdf**	**20 51 23.6**	**-0.6**
LPAZ	**La Paz**	**152.92**	**129**	PKPbc		**PKPbc**	**20 52 13.3**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=221,slow=4.3,SNR=7.4									
LPAZ	**La Paz**	**152.92**	**129**	PKiKP		**PKPbc**	**20 52 13.4**	**+2.0**
LPAZ	**La Paz**	**152.92**	**129**	PKPbc		**PKPbc**	**20 52 13.3**	**+2.0**

IDC 05 20:37:48.8±3.6, 18°.21S×177°.82W, h104km±33km, mb3.8/9, mb1 4.1/10, mb1mx3.9/19, mbtmp3.8/10, MS2.9/1, Ms1 2.9/1, ms1mx2.5/30, Error ellipse: s-maj=55.5km s-min=14.6km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.21**	**55**	P		Pn	20 39 31.3	-0.3
	12nm,0.3s,baz=39,slow=22,SNR=5.5							
AFI				LR		LR	20 42 05.0	
	comp=Z,81nm,18.6s,baz=72,slow=36							
CTA	**Charters Tower**	**33.96**	**261**	P		P	20 44 24.2	+1.8
	4.2nm,0.8s,baz=31,slow=5.9,SNR=3.1							
STKA	**Stephens Creek**	**38.98**	**242**	P		P	20 45 04.8	-0.2
	3.6nm,0.5s,baz=98,slow=9.1,SNR=13							
WRA	**Warramunga Arr**	**45.13**	**260**	P		P	20 45 54.5	-0.8
	0.4nm,0.3s,baz=97,slow=7.0,SNR=13							
ASAR	**Alice Springs**	**45.26**	**254**	P		P	20 45 55.3	-0.9
	6.7nm,0.6s,baz=91,slow=8.2,SNR=23							
MJAR	**Matsushiro Arr**	**68.48**	**323**	P		P	20 48 40.0	+0.1
	0.3nm,0.4s,baz=20,slow=3.0,SNR=4.0							
NVAR	**Mina Array Bea**	**79.25**	**44**	P		P	20 49 43.8	+0.8
	0.7nm,0.6s,baz=222,slow=8.8,SNR=6.0							
TXAR	**Lajitas Array**	**85.68**	**57**	P		P	20 50 16.8	+0.4
	0.9nm,0.7s,baz=218,slow=6.1,SNR=12							
ILAR	**Eielson Array**	**86.05**	**13**	P		P	20 50 16.3	-1.0
	0.2nm,0.4s,baz=218,slow=5.0,SNR=8.7							
PDAR	**Pinedale Array**	**87.18**	**43**	P		P	20 50 22.9	-0.7
	0.6nm,0.6s,baz=204,slow=2.7,SNR=3.7							

*BJI **05** 20:41:46.3, 0°.51S×133°.24E, h28km, mB5.0/15, mb4.8/32, Ms4.5/5, Ms7 4.1/6*

*IDC **05** 20:41:46.0±0.5, 0°.30S×133°.05E, h0km, mb4.5/14, mb1 4.6/18, mb1mx4.6/22, mbtmp4.5/18, ML4.2/4, MS4.1/19, Ms1 4.1/19, ms1mx4.0/29, Error ellipse: s-maj=24.0km s-min=11.8km az=75.0*

*MOS **05** 20:41:48.9±0.8, 0°.32S×133°.03E, h33km, mb5.0/16, Error ellipse: s-maj=18.8km s-min=7.0km az=112.9*

*ISCJB **05** 20:41:48.8±0.2, 0°.28S±0°.03×133°.15E±0°.04, h32km, mb4.7/56, MS4.2/17, Error ellipse: s-maj=5.9km s-min=4.4km az=171.7*

*NEIC **05** 20:41:50.5±2.9, 0°.36S×133°.01E, h32km±21km, mb4.8/19, Error ellipse: s-maj=10.1km s-min=5.7km az=55.0*

*DJA **05** 20:41:54, 0.57S×133°.13E, h30km, mb5.0/33*

ISC 05 20:41:50.6±0.3, 0°.43S±0°.04×132°.96E±0°.06, h32km, n194, σ1°35/178, mb4.8/53, MS4.1/18, 5C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.57**	**196**	P		**Pn**	**20 42 32.6**	**+2.5**
BAKI	**Biak**	**3.24**	**104**	P		**Pn**	**20 42 39.3**	**+0.1**
MSAI	**Masohi**	**4.96**	**234**	P		Pn	20 43 07.1	+4.2
	266nm,0.8s,3µm1.3nm							
TLE	**Tual**	**5.18**	**182**	P		Pn	20 43 10.0	+4.1
	653nm,0.9s,10µm3.6nm							
LBMI	**Labuha**	**5.46**	**268**	P		**Pn**	**20 43 11.3**	**+1.5**
	287nm,1.4s,3µm1.1nm							
TNTI	**Ternate**	**5.72**	**282**	P		Pn	20 43 21.2	+7.9
	119nm,1.3s,0.6nm							
AAI	**Ambon**	**5.75**	**236**	P		Pn	20 43 16.9	+3.0
	845nm,1.0s,9µm2.7nm							
SMPI	**Sarmi**	**5.95**	**105**	P		**Pn**	**20 43 19.1**	**+2.5**
	85nm,1.2s,0.4nm							
KMSI	**Cibinong**	**9.03**	**276**	P		Pn	20 44 07.6	+8.7
	187nm,1.4s,2µm							
LUWI	**Luwuk**	**10.21**	**267**	P		Pn	20 44 19.4	+4.5
	161nm,1.3s,2µm							
DAV	**Davao City (W)**	**10.47**	**315**	LR		LR	20 48 36.8	
	comp=Z,383nm,19.9s,baz=168,slow=39							
MRSI	**Marisa**	**11.05**	**275**	P		Pn	20 44 32.6	+6.0
	53nm,1.0s,524nm							
MTN	**Manton Dam**	**12.46**	**188**	*e*P		**Pn**	**20 44 45.2**	**-0.7**
MTN				*e*S		**Sn**	**20 46 58.9**	**-4.8**
TTSI	**Tana Toraja**	**13.39**	**259**	P		**P**	**20 45 05.7**	**-1.9**
	44nm,1.2s,462nm							
MMRI	**Maumere**	**13.43**	**232**	P		**P**	**20 45 09.1**	**+1.0**
SPSI	**Sidrap Palu**	**13.64**	**255**	P		Pn	20 45 05.7	+3.8
	38nm,1.5s,678nm							
BKSI	**Bulukumba**	**13.71**	**249**	P		P	20 45 07.4	-3.7
	46nm,1.2s,705nm							
KAPI	**Kappang**	**13.95**	**251**	Pn		**Pn**	**20 45 07.9**	**+1.7**
	1.2nm,0.3s,baz=105,slow=7.2,SNR=14							
KAPI				LR		LR	20 50 52.3	
	comp=Z,338nm,19.0s,baz=85,slow=39							
KAPI	**Kappang**	**13.95**	**251**	Pn		**Pn**	**20 45 07.9**	**+1.7**
KAPI	**Kappang**	**13.95**	**251**	P		**P**	**20 45 11.5**	**-2.4**
	60nm,1.0s,784nm							
MJSI	**Majene**	**14.31**	**257**	P		**P**	**20 45 17.5**	**-0.3**
	59nm,1.6s							
SMKI	**Samarinda**	**15.75**	**270**	P		P	20 45 41.0	+7.1
PMG	**Port Moresby**	**16.71**	**123**	Pn		**Pn**	**20 45 42.4**	**-0.1**
	0.3nm,0.3s,baz=347,slow=6.5,SNR=3.9							
PMG	**Port Moresby**	**16.71**	**123**	*ce*P		**P**	**20 45 46.0**	**+1.5**
PMG				pmax		pmax		
	comp=Z,30nm,1.7s							
PMG	**Port Moresby**	**16.71**	**123**	Pn		**Pn**	**20 45 42.4**	**-0.1**
COEN	**Coen**	**16.82**	**143**	*e*P		**Pn**	**20 45 43.8**	**0.0**
KBKI	**Kotabaru**	**17.02**	**260**	P		**P**	**20 45 51.5**	**+3.5**
	comp=Z,29nm,1.4s							
GUMO	**Guam**	**18.26**	**40**	LR		LR	20 52 01.8	
	comp=Z,522nm,18.8s,baz=113,slow=34							
BBKI	**Banjar Baru**	**18.35**	**260**	P		Pn	20 46 08.3	+5.4
	comp=Z,70nm,1.6s,comp=Z,1µm							
MTNI	**Mataram**	**18.60**	**244**	P		Pn	20 46 12.0	+6.1
	comp=Z,79nm,1.0s,comp=Z,1µm							
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		**P**	**20 46 09.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=28,slow=16,SNR=16							
FITZ				S		Sn	20 49 33.8	-8.3
	comp=Z,0.7nm,0.3s,baz=129,slow=13,SNR=8.1							
FITZ				LR		LR	20 53 42.5	
	comp=Z,240nm,19.5s,baz=21,slow=38							
FITZ	**Fitzroy Crossi**	**18.98**	**202**	*e*P		**Pn**	**20 46 09.8**	**-0.6**
	comp=Z,26nm,0.9s							
FITZ				*e*S		Sn	20 49 29.8	-12
FITZ	**Fitzroy Crossi**	**18.98**	**202**	*e*P		**P**	**20 46 08.2**	**-1.3**
	comp=Z,14nm,0.7s							
FITZ				S		Sn	20 49 33.8	-8.3
KHKI	**Kahang-Kahang**	**19.00**	**245**	P		**Pn**	**20 46 13.5**	**+2.8**
	comp=Z,78nm,1.6s,comp=Z,2µm							
WRAB	**Tennant Creek**	**19.43**	**176**	*e*P		**Pn**	**20 46 15.3**	**-0.5**
WRAB	**Tennant Creek**	**19.43**	**176**	*e*P		**Pn**	**20 46 15.3**	**-0.5**
WRA	**Warramunga Arr**	**19.44**	**176**	P		**Pn**	**20 46 15.9**	**0.0**
	comp=Z,1.9nm,0.3s,baz=351,slow=12,SNR=25							
WRA				S		S	20 49 42.4	-10
	comp=Z,0.4nm,0.3s,baz=351,slow=23,SNR=5.9							
WRA	**Warramunga Arr**	**19.44**	**176**	P		**Pn**	**20 46 15.9**	**0.0**
WRA				S		S	20 49 42.4	-10
WRA	**Warramunga Arr**	**19.44**	**176**	P		**Pn**	**20 46 15.9**	**0.0**
WRA				S		S	20 49 42.4	-10
WB2	**Warramunga Arr**	**19.44**	**176**	*e*P		**Pn**	**20 46 15.4**	**-0.5**
KMMI	**Kalianget**	**20.05**	**250**	P		Pn	20 46 32.2	+9.0
BLJI	**Banyuglugur**	**20.62**	**249**	P		Pn	20 46 37.7	+7.8
SBUM	**Sibu**	**20.93**	**278**	P		Pn	20 46 34.9	+1.4
	comp=Z,42nm,1.5s,comp=Z,504nm							
GMJI	**Gumukmas**	**20.95**	**248**	P		Pn	20 46 39.6	+5.9
	comp=Z,83nm,1.2s							
STKI	**Sintang**	**21.49**	**271**	P		P	20 46 44.9	+8.0
	comp=Z,30nm,0.6s,comp=Z,17µm							
SJI	**Sawahan**	**22.34**	**251**	P		pP	20 46 58.8	+4.2
KSM	**Kuching**	**22.73**	**275**	*e*P		**P**	**20 46 50.2**	**+0.1**
	comp=Z,35nm,1.2s							
KSM	**Kuching**	**22.73**	**275**	P		**P**	**20 46 54.3**	**+4.1**
	comp=Z,22nm,1.1s,comp=Z,472nm							
AS31	**Alice Springs**	**23.11**	**178**	*e*P		**P**	**20 46 54.3**	**+0.2**
ASAR	**Alice Springs**	**23.11**	**178**	P		**P**	**20 46 54.7**	**+0.6**
	comp=Z,37nm,0.8s,baz=3.7,slow=9.3,SNR=46							
ASAR				S		**S**	**20 50 60.0**	**-3.4**
	comp=Z,1.8nm,0.8s,baz=350,slow=14,SNR=3.4							
ASAR	**Alice Springs**	**23.11**	**178**	P		**P**	**20 46 54.7**	**+0.6**
ASAR				S		**S**	**20 51 00.0**	**-3.4**
ASAR	**Alice Springs**	**23.11**	**178**	P		**P**	**20 46 54.7**	**+0.6**
ASAR				S		**S**	**20 50 60.0**	**-3.4**
CTA	**Charters Tower**	**23.47**	**147**	P		**P**	**20 46 57.5**	**-0.1**
	comp=Z,16nm,1.1s,baz=331,slow=10,SNR=6.2							
CTA	**Charters Tower**	**23.47**	**147**	*e*P		**P**	**20 46 59.5**	**+1.9**
	comp=Z,18nm,0.9s							
CTA	**Charters Tower**	**23.47**	**147**	P		**P**	**20 46 57.5**	**-0.1**
CTA	**Charters Tower**	**23.47**	**147**	P		**P**	**20 46 57.5**	**-0.1**
CTAO	**Charters Tower**	**23.47**	**147**	*e*P		**P**	**20 46 59.5**	**+1.9**
CTAO				pmax		pmax		
	comp=Z,30nm,1.0s							
CTAO	**Charters Tower**	**23.47**	**147**	*e*P		**P**	**20 46 59.5**	**+1.9**
	comp=Z,30nm,1.0s							
BJII	**Banjamegara**	**24.18**	**253**	P		P	20 47 12.6	+8.2
	comp=Z,51nm,1.9s							
MBWA	**Marble Bar**	**24.32**	**211**	*e*P		**P**	**20 47 08.6**	**+3.1**
MBWA	**Marble Bar**	**24.32**	**211**	*e*P		**P**	**20 47 06.7**	**+1.2**
	comp=Z,50nm,1.0s							
CISI	**Cisompet, Garu**	**26.05**	**254**	P		sP	20 47 35.4	+0.9
LEM	**Lembang**	**26.06**	**255**	P		sP	20 47 38.6	+3.8
JOW	**Kunigami**	**27.48**	**351**	LR		LR	20 56 46.1	
	comp=Z,754nm,19.2s,baz=158,slow=33							
CBIJ	**Chichi jima**	**28.77**	**17**	LR		LR	20 56 37.5	
	comp=Z,294nm,18.8s,baz=185,slow=31							
FORT	**Forrest**	**30.54**	**188**	*e*P		pP	20 48 13.0	+2.5
	comp=Z,14nm,0.8s							
STKA	**Stephens Creek**	**32.33**	**166**	P		**P**	**20 48 17.4**	**+0.5**
	comp=Z,17nm,0.8s,baz=344,slow=7.4,SNR=38							
STKA				LR		LR	21 02 53.6	
	comp=Z,652nm,18.7s,baz=356,slow=39							
STKA	**Stephens Creek**	**32.33**	**166**	*e*P		**P**	**20 48 17.1**	**+0.2**
	comp=Z,7.9nm,0.4s							
STKA	**Stephens Creek**	**32.33**	**166**	*e*P		**P**	**20 48 16.9**	**0.0**
STKA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
STKA	**Stephens Creek**	**32.33**	**166**	*e*P		**P**	**20 48 16.9**	**0.0**
	comp=Z,4.7nm,1.0s							
PSI	**Prapat**	**34.17**	**276**	P		**P**	**20 48 34.7**	**+1.2**
	comp=Z,17nm,1.0s							
ARMA	**Armidale**	**34.70**	**151**	*e*P		**P**	**20 48 38.7**	**+0.9**
WHN	**Wuhan**	**35.53**	**332**	P		**P**	**20 48 45.6**	**+0.8**
ARPS	**Mount Arapiles**	**37.08**	**168**	*e*P		**P**	**20 48 59.1**	**+1.1**
	comp=Z,55nm,0.9s							
MJAR	**Matsushiro Arr**	**37.11**	**7**	P		**P**	**20 48 55.9**	**-2.3**
	comp=Z,3.2nm,0.9s,baz=195,slow=9.4,SNR=8.7							
MJAR				LR		LR	21 00 52.4	
	comp=Z,462nm,21.9s,baz=185,slow=31							
MJAR	**Matsushiro Arr**	**37.11**	**7**	P		**P**	**20 48 55.9**	**-2.3**
MJAR	**Matsushiro Arr**	**37.11**	**7**	P		**P**	**20 48 55.9**	**-2.3**
ENH	**Enshi**	**37.84**	**326**	*e*P		**P**	**20 49 04.1**	**-0.4**
	comp=Z,7.3nm,0.9s							
KSAR	**Wonju Array Be**	**37.98**	**353**	P		**P**	**20 49 05.2**	**-0.3**
KSAR	**Wonju Array Be**	**37.98**	**353**	P		**P**	**20 49 05.2**	**-0.3**
KSRS	**Korea Array**	**37.98**	**353**	P		**P**	**20 49 05.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=166,slow=7.7,SNR=4.6							
KSRS				LR		LR	21 02 27.2	
	comp=Z,290nm,21.0s,baz=166,slow=33							
CM31	**Chiang Mai Arr**	**38.34**	**301**	*e*P		**P**	**20 49

KKN	**Kakani**	**53.63 306**	*e*P		**P**	**20 51 09.1**	**-0.5**	
	comp=Z,21nm,0.8s							
KKN	**Kakani**	**53.63 306**	*e*P		**P**	**20 51 09.1**	**-0.5**	
KKN	**Kakani**	**53.63 306**	*e*P		**P**	**20 51 09.1**	**-0.5**	
DMN	**Daman**	**53.70 305**	*e*P		**P**	**20 51 09.8**	**-0.3**	
	comp=Z,33nm,0.9s							
DMN	**Daman**	**53.70 305**	*e*P		**P**	**20 51 09.8**	**-0.3**	
GKN	**Gorkha**	**54.24 306**	*e*P		**P**	**20 51 13.7**	**-0.2**	
	comp=Z,29nm,0.9s							
GKN	**Gorkha**	**54.24 306**	*e*P		**P**	**20 51 13.7**	**-0.2**	
CIT	**Chita**	**54.77 345**	*e*P		**P**	**20 51 17.6**	**+0.4**	
CIT			*e*			20 51 28.6		
CIT				pmax	pmax			
	comp=Z,78nm,1.6s							
KOLN	**Koldanda**	**54.99 305**	*e*P		**P**	**20 51 19.8**	**+0.3**	
	comp=Z,42nm,0.7s							
KOLN	**Koldanda**	**54.99 305**	*e*P		**P**	**20 51 19.8**	**+0.3**	
DANN	**Dangsing**	**55.08 306**	*e*P		**P**	**20 51 20.2**	**0.0**	
	comp=Z,64nm,0.8s							
DANN	**Dangsing**	**55.08 306**	*e*P		**P**	**20 51 20.2**	**0.0**	
URZ	**Urewera**	**55.29 138**	P		**P**	**20 51 23.2**	**+2.1**	
	comp=Z,43nm,0.8s,baz=272,slow=4.6,SNR=3.8							
URZ	**Urewera**	**55.29 138**	P		**P**	**20 51 23.2**	**+2.1**	
ZAK	**Zakamensk**	**56.60 338**	*e*P		**P**	**20 51 30.2**	**-0.3**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.8s							
PETK	**Petropavlovsk-**	**57.21 17**	P		**P**	**20 51 32.9**	**-1.7**	
	comp=Z,16nm,1.0s,baz=192,slow=4.2,SNR=6.1							
PETK				LR	LR	21 12 28.4		
	comp=Z,177nm,19.0s,baz=215,slow=32							
PETK	**Petropavlovsk-**	**57.21 17**	P		**P**	**20 51 32.9**	**-1.7**	
PETK	**Petropavlovsk-**	**57.21 17**	P		**P**	**20 51 32.9**	**-1.7**	
MOY	**Mondy**	**58.50 337**	*e*P		**P**	**20 51 44.7**	**+0.9**	
MOY				pmax	pmax			
	comp=Z,24nm,2.7s							
BOD	**Bodaibo**	**60.01 348**⇑	*i*P		**P**	**20 51 53.7**	**-0.3**	
BOD				pmax	pmax			
	comp=Z,16nm,1.1s							
YAK	**Yakutsk**	**62.35 358**	*e*P		**P**	**20 52 08.8**	**-0.9**	
YAK				pmax	pmax			
	comp=Z,24nm,1.0s							
MK31	**Makanchi Array**	**64.53 324**	*e*P		**P**	**20 52 24.8**	**+0.3**	
MK31				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MK31	**Makanchi Array**	**64.53 324**	*e*P		**P**	**20 52 24.6**	**+0.1**	
MKAR	**Makanchi Array**	**64.53 324**	P		**P**	**20 52 25.1**	**+0.5**	
	comp=Z,2.5nm,0.4s,baz=107,slow=8.8,SNR=49							
MKAR	**Makanchi Array**	**64.53 324**	P		**P**	**20 52 25.1**	**+0.5**	
MKAR	**Makanchi Array**	**64.53 324**	P		**P**	**20 52 25.1**	**+0.5**	
SEY	**Seymchan**	**64.86 10**	*ce*P		**P**	**20 52 25.8**	**-0.5**	
KSH	**Kashi**	**65.37 314**	P		**P**	**20 52 31.8**	**+1.5**	
ZAA0	**Zalesovo Array**	**67.14 331**	*e*P		**P**	**20 52 40.4**	**-0.7**	
ZALV	**Zalesovo Beam**	**67.14 331**	P		**P**	**20 52 40.7**	**-0.5**	
	comp=Z,2.9nm,0.6s,baz=115,slow=6.1,SNR=26							
ZALV				LR	LR	21 21 18.4		
	comp=Z,70nm,18.9s,baz=88,slow=35							
ZALV	**Zalesovo Beam**	**67.14 331**	P		**P**	**20 52 40.7**	**-0.5**	
ZALV	**Zalesovo Beam**	**67.14 331**	P		**P**	**20 52 40.7**	**-0.5**	
NVS	**Novosibirsk**	**68.42 332**⇓	*i*P		**P**	**20 52 48.0**	**-1.2**	
NVS			*e*			20 53 13.0		
NVS				*e*S	S	21 01 41.7	-6.8	
NVS				pmax	pmax			
	comp=N,8.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,8.0nm,1.2s							
NVS				pmax	pmax			
	comp=Z,15nm,1.2s							
NVS				smax	smax			
	comp=N,22nm,3.3s							
NVS				smax	smax			
	comp=E,68nm,3.9s							
KURK	**Kurchatov**	**68.60 326**	P		**P**	**20 52 50.8**	**+0.4**	
KURK				pmax	pmax			
	comp=Z,29nm,1.5s							
KURK	**Kurchatov**	**68.60 326**	*e*P		**P**	**20 52 50.5**	**0.0**	
	comp=Z,28nm,1.4s							
KBL	**Kabul**	**68.98 307**	*e*P		**P**	**20 52 52.9**	**-0.5**	
KBL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KBL	**Kabul**	**68.98 307**	*e*P		**P**	**20 52 52.9**	**-0.5**	
	comp=Z,3.6nm,0.8s							
KKAR	**Karatay Array**	**70.51 316**	*e*P		**P**	**20 53 02.6**	**+0.2**	
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**70.51 316**	*e*P		**P**	**20 53 02.6**	**+0.2**	
	comp=Z,4.4nm,0.9s							
BILL	**Bilibino**	**72.10 13**⇑	*e*P		**P**	**20 53 10.6**	**-0.9**	
BILL				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BVA0	**Borovoye Array**	**74.20 326**	*i*P		**P**	**20 53 24.0**	**-0.2**	
BVA0				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BRVK	**Borovoye**	**74.27 326**	*ce*P		**P**	**20 53 24.1**	**-0.5**	
BRVK				pmax	pmax			
	comp=Z,19nm,1.0s							
BRVK	**Borovoye**	**74.27 326**	*e*P		**P**	**20 53 24.6**	**0.0**	
	comp=Z,16nm,0.9s							
GAMB	**Gambell**	**75.76 22**	*e*P		**P**	**20 53 33.8**	**+0.9**	
	comp=Z,14nm,1.1s							
AB31	**Akbulak array**	**79.30 320**	*i*P		**P**	**20 53 52.9**	**-0.1**	
AB31				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ABKAR	**Akbulak array**	**79.30 320**	*e*P		**P**	**20 53 52.5**	**-0.5**	
	comp=Z,5.7nm,0.8s							
SVE	**Sverdlovsk**	**80.75 328**⇓	*i*P		**P**	**20 54 01.4**	**+0.7**	
SVE				pmax	pmax			
	comp=Z,18nm,1.5s							
ARU	**Arti**	**81.77 327**	*d i*P		**P**	**20 54 06.3**	**+0.2**	
ARU						20 57 12.2		
ARU				S	**S**	**21 04 17.5**	**+0.6**	
ARU				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ARU	**Arti**	**81.77 327**	*e*P		**P**	**20 54 05.5**	**-0.6**	
	comp=Z,13nm,1.0s							
MAW	**Mawson**	**82.10 201**	LR		LR	21 28 49.0		
	comp=Z,68nm,18.3s,baz=274,slow=34							
KDAK	**Kodiak Island**	**82.11 31**	LR		LR	21 23 51.7		
	comp=Z,261nm,21.2s,baz=180,slow=31							
ILAR	**Eielson Array**	**86.19 25**	P		**P**	**20 54 27.5**	**-1.0**	
	comp=Z,3.3nm,0.9s,baz=259,slow=4.9,SNR=24							
ILAR				LR	LR	21 26 34.8		
	comp=Z,101nm,21.1s,baz=183,slow=31							
ILAR	**Eielson Array**	**86.19 25**	P		**P**	**20 54 27.5**	**-1.0**	
ILAR	**Eielson Array**	**86.19 25**	P		**P**	**20 54 27.5**	**-1.0**	
QSPA	**South Pole Qui**	**89.50 180**	*e*P		**P**	**20 54 45.0**	**+0.5**	
	comp=Z,11nm,1.3s							
KIV	**Kislovodsk**	**90.49 314**	*e*P		**P**	**20 54 51.7**	**+2.1**	
KIV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
VRHR	**Novokhopersk**	**91.17 321**	*e*P		**P**	**20 54 50.2**	**-2.2**	
VRHR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.8s							
VRHR				pmax	pmax			
	comp=E,10.0nm,1.8s							
OBN	**Obninsk**	**94.02 325**	*e*P		**P**	**20 55 04.3**	**-1.2**	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**95.72 349**	LR		LR	21 39 07.0		
	comp=Z,141nm,18.9s,baz=140,slow=36							
ARCES	**ARCESS Array B**	**96.46 340**	LR		LR	21 39 18.8		
	comp=Z,212nm,22.0s,baz=52,slow=36							
BRTR	**Keskin Array B**	**97.45 310**	P		**P**	**20 55 20.1**	**-1.6**	
	comp=Z,0.8nm,0.9s,baz=1.7,slow=4.1,SNR=3.6							
BRTR	**Keskin Array B**	**97.45 310**	P		**P**	**20 55 20.1**	**-1.6**	
BRTR	**Keskin Array B**	**97.45 310**	P		**P**	**20 55 20.1**	**-1.6**	
FINES	**FINESS Array B**	**98.40 332**	LR		LR	21 41 49.8		
	comp=Z,216nm,19.1s,baz=317,slow=37							
PD01	**Pinedale Array**	**110.15 44**	*e*PKiKP		**PKiKP**	**21 00 17.8**	**-2.0**	
PD02	**Pinedale Array**	**110.17 44**	*e*PKiKP		**PKiKP**	**21 00 17.5**	**-2.3**	
TORD	**Torodi Ar. Bea**	**130.10 287**	PKP		**PKPdf**	**21 00 58.5**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=79,slow=1.5,SNR=5.3							
TORD	**Torodi Ar. Bea**	**130.10 287**	PKP		**PKPdf**	**21 00 58.5**	**0.0**	
OTAV	**Otavalo**	**148.59 90**	*e*PKPbc		**PKPbc**	**21 01 35.7**	**-0.4**	
CPUP	**Villa Florida**	**151.60 160**	PKPbc		**PKPbc**	**21 01 43.9**	**+1.4**	
	comp=Z,1.9nm,0.6s,baz=155,slow=1.2,SNR=10							
CPUP	**Villa Florida**	**151.60 160**	PKIKP		**PKPbc**	**21 01 43.9**	**+1.4**	
CPUP	**Villa Florida**	**151.60 160**	PKPbc		**PKPbc**	**21 01 43.9**	**+1.4**	
ROSC	**El Rosal**	**152.40 80**	PKPbc		**PKPbc**	**21 01 46.1**	**+1.0**	
	comp=Z,11nm,0.6s,baz=269,slow=19,SNR=4.9							
ROSC	**El Rosal**	**152.40 80**	PKPbc		**PKPbc**	**21 01 46.1**	**+1.0**	
LPAZ	**La Paz**	**153.37 130**	PKPbc		**PKPbc**	**21 01 48.7**	**+1.2**	
	comp=Z,1.4nm,0.9s,baz=13,slow=6.4,SNR=4.0							
LPAZ	**La Paz**	**153.37 130**	*e*PKIKP		**PKPdf**	**21 01 41.1**	**+1.2**	
LPAZ						21 01 48.7		
LPAZ	**La Paz**	**153.37 130**	*e*PKPdf		**PKPdf**	**21 01 41.1**	**+1.2**	
LPAZ				PKPbc	**PKPbc**	**21 01 48.7**	**+1.2**	

IDC 05 20:56:21.1±1.6, 0.10S×133.01E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/18, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=94.3km s-min=17.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.31**	**202**	P	P	21 00 47.7	-0.2
	0.2nm,0.3s,baz=47,slow=9.6,SNR=3.8						
FITZ				S	Sn	21 04 11.1	-15
	0.2nm,0.3s,baz=53,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**19.77**	**176**	P	P	21 00 53.1	+0.2
	0.4nm,0.3s,baz=352,slow=12,SNR=21						
WRA				S	S	21 04 25.1	-12
	0.2nm,0.3s,baz=354,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**23.45**	**178**	P	P	21 01 32.3	+0.1
	1.3nm,0.4s,baz=21,slow=12,SNR=38						
STKA	**Stephens Creek**	**32.64**	**166**	P	P	21 02 54.6	-0.2
	1.1nm,0.4s,baz=328,slow=14,SNR=6.4						
SONM	**Songino Array**	**53.05**	**338**	P	P	21 05 40.3	+0.1
	0.3nm,0.6s,baz=116,slow=6.8,SNR=4.2						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	21 06 58.6	+0.2
	1.4nm,0.6s,baz=116,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**66.88**	**331**	P	P	21 07 14.5	-0.4
	0.7nm,0.4s,baz=117,slow=7.2,SNR=6.1						

IDC 05 21:03:52.8±3.5, 0.05S×133.12E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=193.2km s-min=26.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.81**	**177**	P	Pn	21 08 27.0	+0.4
	0.1nm,0.3s,baz=356,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**23.49**	**178**	P	P	21 09 03.1	-1.3
	0.5nm,0.8s,baz=356,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	21 14 30.4	+0.1
	0.2nm,0.5s,baz=114,slow=7.6,SNR=4.0						

IDC 05 21:07:28.8±1.2, 0.63S×133.66E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=65.8km s-min=19.5km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.07**	**204**	P	P	21 11 52.9	-0.1
	0.1nm,0.3s,baz=2.6,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**19.21**	**178**	P	P	21 11 55.0	+0.4
	0.3nm,0.3s,baz=356,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.91**	**179**	P	P	21 12 34.8	+0.3
	3.8nm,0.8s,baz=5.1,slow=11,SNR=19						
STKA	**Stephens Creek**	**31.98**	**167**	P	P	21 13 56.0	-0.7
	0.9nm,0.7s,baz=315,slow=13,SNR=2.5						
SONM	**Songino Array**	**53.78**	**338**	P	P	21 16 53.4	+0.1
	0.2nm,0.4s,baz=141,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**65.10**	**324**	P	P	21 18 11.2	-0.2
	0.5nm,0.7s,baz=118,slow=7.1,SNR=6.7						
ILAR	**Eielson Array**	**86.07**	**25**	P	P	21 20 11.4	+0.1
	0.2nm,0.7s,baz=281,slow=5.4,SNR=2.8						

*BJI **05** 21:18:28.7, 0.74S×133.54E, h29km, mB4.8/5, mb4.6/10*
*IDC **05** 21:18:30.3±0.6, 0.33S×133.13E, h0km, mb4.3/12, mb1 4.5/15, mb1mx4.3/22, mbtmp4.3/15, ML4.3/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/34, Error ellipse: s-maj=30.0km s-min=13.3km az=73.0*
*ISCJB **05** 21:18:32.9±0.3, 0.34S±0.04×133.17E±0.06, h32km, mb4.4/26, MS3.9/5, Error ellipse: s-maj=8.3km s-min=4.9km az=164.6*
*NEIC **05** 21:18:34.1±2.6, 0.37S×133.15E, h26km±19km, mb4.5/14, Error ellipse: s-maj=8.9km s-min=5.0km az=53.0*
*DJA **05** 21:18:35, 0.57S×133.15E, h10km, mb4.8/20*
ISC 05 21:18:34.9±0.4, 0.39S±0.06×133.15E±0.07, h32km, n97, σ1§16/91, mb4.5/25, MS4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.67**	**200**	P	**Pn**	**21 19 16.7**	**+1.0**
BAKI	**Biak**	**3.06**	**105**	P	**Pb**	**21 19 27.0**	**-1.6**
MSAI	**Masohi**	**5.14**	**235**	P	Pn	21 19 52.2	+2.5
	108nm,0.9s,0.5nm						
TLE	**Tual**	**5.23**	**185**	P	Pn	21 19 53.1	+2.2
	757nm,0.7s,10μm2.6nm						
LBMI	**Labuha**	**5.66**	**267**	P	**Pn**	**21 19 57.0**	**+0.2**
	170nm,1.0s,1μm0.5nm						
AAI	**Ambon**	**5.94**	**236**	P	**Pn**	**21 20 01.3**	**+0.6**
	260nm,0.7s,3μm1.1nm						
JAY	**Jayapura**	**7.84**	**106**	P	**Pn**	**21 20 26.2**	**-0.6**
	110nm,0.6s,11μm0.9nm						
DAV	**Davao City (W)**	**10.59**	**315**	LR	LR	21 24 24.2	
	comp=Z,190nm,21.6s,baz=133,slow=34						
MTN	**Manton Dam**	**12.53**	**189**	*e*P	**Pn**	**21 21 29.6**	**-1.5**
MTN				*e*S	Sn	21 23 41.9	-7.8
SPSI	**Sidrap Palu**	**13.84**	**255**	P	P	21 21 51.7	-5.1
KAPI	**Kappang**	**14.15**	**251**	P	**Pn**	**21 21 52.5**	**-0.7**
	0.6nm,0.3s,baz=127,slow=16,SNR=2.2						
KAPI	**Kappang**	**14.15**	**251**	Pn	**Pn**	**21 21 52.5**	**-0.7**
PMG	**Port Moresby**	**16.57**	**123**	Pn	**P**	**21 22 27.5**	**+0.3**
	0.5nm,0.3s,baz=153,slow=4.5,SNR=3.1						
PMG	**Port Moresby**	**16.57**	**123**	Pn	**Pn**	**21 22 24.9**	**0.0**
GUMO	**Guam**	**18.10**	**39**	LR	LR	21 28 42.2	
	comp=Z,140nm,20.9s,baz=270,slow=34						
FITZ	**Fitzroy Crossi**	**19.09**	**202**	P	**Pn**	**21 22 54.6**	**-1.4**
	0.7nm,0.3s,baz=27,slow=10.0,SNR=11						
FITZ				S	Sn	21 26 16.8	-12
	0.6nm,0.3s,baz=112,slow=16,SNR=4.7						
FITZ				LR	LR	21 30 57.8	
	comp=Z,42nm,20.3s,baz=23,slow=39						
FITZ	**Fitzroy Crossi**	**19.09**	**202**	*e*P	**Pn**	**21 22 54.5**	**-1.4**
	18nm,0.6s						
FITZ				*e*S	Sn	21 26 16.8	-12
FITZ	**Fitzroy Crossi**	**19.09**	**202**	*e*P	**Pn**	**21 22 54.9**	**-1.0**
	9.0nm,0.6s						
FITZ				*e*S	Sn	21 26 15.8	-13
WRAB	**Tennant Creek**	**19.46**	**177**	*e*P	**Pn**	**21 22 59.6**	**-0.8**
	22nm,0.7s						
WRAB				*e*S	**S**	**21 26 31.6**	**-5.8**
WRA	**Warramunga Arr**	**19.46**	**177**	P	**Pn**	**21 22 59.5**	**-1.0**
	1.4nm,0.3s,baz=356,slow=11,SNR=65						
WRA				S	S	21 26 27.6	-10
	0.3nm,0.3s,baz=1.2,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**19.46**	**177**	P	**Pn**	**21 22 59.5**	**-1.0**
WRA				S	S	21 26 27.6	-10
AS31	**Alice Springs**	**23.15**	**178**	*e*P	**P**	**21 23 39.0**	**+0.3**
AS31				*e*S	**S**	**21 27 51.9**	**+3.7**
ASAR	**Alice Springs**	**23.15**	**178**	P	**P**	**21 23 39.0**	**+0.3**
	22nm,0.9s,baz=0.0,slow=14,SNR=82						
ASAR				S	**S**	**21 27 46.2**	**-2.0**
	0.8nm,0.7s,baz=353,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**23.15**	**178**	P	**P**	**21 23 39.0**	**+0.3**
ASAR				S	**S**	**21 27 46.2**	**-2.0**
CTA	**Charters Tower**	**23.40**	**148**	P	**P**	**21 23 43.5**	**+2.3**
	11nm,0.7s,baz=327,slow=12,SNR=9.2						
CTA				LR	LR	21 33 57.9	
	comp=Z,525nm,18.9s,baz=326,slow=40						
CTA	**Charters Tower**	**23.40**	**148**	*e*P	**P**	**21 23 43.5**	**+2.3**
	10.0nm,0.9s						
CTA	**Charters Tower**	**23.40**	**148**	P	**P**	**21 23 43.5**	**+2.3**
CTAO	**Charters Tower**	**23.40**	**148**	*e*P	**P**	**21 23 42.1**	**+0.9**
	16nm,1.0s						
MBWA	**Marble Bar**	**24.45**	**212**	*e*P	**P**	**21 23 52.8**	**+1.8**
MBWA	**Marble Bar**	**24.45**	**212**	*e*P	**P**	**21 23 52.0**	**+1.0**
	34nm,1.1s						
JOW	**Kunigami**	**27.47**	**351**	LR	LR	21 33 42.4	
	comp=Z,240nm,19.6s,baz=138,slow=33						
FORT	**Forrest**	**30.61**	**189**	*e*P	P	21 24 48.8	+2.7
	10nm,0.7s						
STKA	**Stephens Creek**	**32.32**	**166**	P	**P**	**21 25 01.3**	**+0.2**
	8.6nm,0.7s,baz=334,slow=9.0,SNR=27						
STKA				LR	LR	21 39 36.3	
	comp=Z,342nm,20.3s,baz=13,slow=39						
STKA	**Stephens Creek**	**32.32**	**166**	*e*P	**P**	**21 25 01.0**	**-0.1**
	4.9nm,0.6s						
STKA	**Stephens Creek**	**32.32**	**166**	*e*P	**P**	**21 25 00.6**	**-0.6**
	2.1nm,0.8s						
ARPS	**Mount Arapiles**	**37.08**	**168**	*e*P	**P**	**21 25 42.8**	**+0.6**
	26nm,0.6s						
KSRS	**Korea Array**	**37.97**	**353**	LR	LR	21 40 49.7	
	comp=Z,94nm,18.2s,baz=359,slow=35						
CM31	**Chiang Mai Arr**	**38.48**	**301**	*e*P	**P**	**21 25 55.1**	**+0.8**
	4.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P	**P**	**21 25 54.2**	**-0.2**
	3.5nm,1.1s,baz=126,slow=6.8,SNR=16						
CMAR				PcP	**PcP**	**21 28 08.1**	**+0.9**
	0.5nm,0.9s,baz=131,slow=3.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P	**P**	**21 25 54.2**	**-0.2**
CMAR				PcP	**PcP**	**21 28 08.1**	**+0.9**
CHTO	**Chiang Mai**	**38.63**	**301**	*e*P	**P**	**21 25 55.0**	**-0.7**
	11nm,1.4s						
BJT	**Baijiatuan**	**43.11**	**341**	*e*P	**P**	**21 26 32.3**	**+0.1**
	6.3nm,0.4s						
BJI	**Beijing**	**43.12**	**341**	P	**P**	**21 26 31.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,1.2s						
USRK	**Ussuriysk Array**	**44.41**	**359**	P	**P**	**21 26 42.4**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=163,slow=14,SNR=3.6						
LZH	**Lanzhou**	**45.39**	**326**	*e*P	P	21 26 54.0	+3.3
LZH				pP	pP	21 27 01.5	+1.2
LZH				sP	sP	21 27 03.5	-0.6
LZH				pmax	pmax		
	comp=Z,28nm,1.5s						
LZH				pmax	pmax		
	comp=Z,150nm,5.6s						
LSA	**Lhasa**	**49.97**	**311**	P	**P**	**21 27 27.0**	**+0.2**
LSA	**Lhasa**	**49.97**	**311**	*e*P	**P**	**21 27 26.7**	**-0.1**
	comp=Z,6.4nm,0.9s						
GTA	**Gaotai**	**49.99**	**326**	*e*P	**P**	**21 27 26.7**	**+0.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TAPN	**Taplejung**	**51.62**	**306**	*e*P	**P**	**21 27 38.4**	**-0.6**
	comp=Z,49nm,1.4s						
TAPN	**Taplejung**	**51.62**	**306**	*e*P	**P**	**21 27 38.4**	**-0.6**
ODAN	**Odare**	**51.67**	**305**	*e*P	**P**	**21 27 38.4**	**-1.0**
	comp=Z,21nm,0.9s						
ODAN	**Odare**	**51.67**	**305**	*e*P	**P**	**21 27 38.4**	**-1.0**
RAMN	**Ramite**	**52.35**	**305**	*e*P	**P**	**21 27 43.7**	**-0.8**
	comp=Z,55nm,1.2s						
RAMN	**Ramite**	**52.35**	**305**	*e*P	**P**	**21 27 43.7**	**-0.8**
JIRN	**Jiri**	**52.97**	**306**	*e*P	**P**	**21 27 48.0**	**-1.2**
JIRN	**Jiri**	**52.97**	**306**	*e*P	**P**	**21 27 48.0**	**-1.2**
ULN	**Ulaanbaatar**	**53.16**	**338**	*e*P	**P**	**21 27 49.8**	**-0.1**
	comp=Z,8.9nm,1.4s						
GUN	**Gumba**	**53.33**	**306**	*e*P	**P**	**21 27 50.7**	**-1.1**
	comp=Z,21nm,0.8s						
GUN	**Gumba**	**53.33**	**306**	*e*P	**P**	**21 27 50.7**	**-1.1**
SONM	**Songino Array**	**53.38**	**338**	P	**P**	**21 27 51.9**	**+0.4**
	comp=Z,2.2nm,1.1s,baz=154,slow=9.4,SNR=6.4						
SONM	**Songino Array**	**53.38**	**338**	P	**P**	**21 27 51.9**	**+0.4**
PKI	**Pulchoki**	**53.57**	**305**	*e*P	**P**	**21 27 52.6**	**-1.0**
PKI	**Pulchoki**	**53.57**	**305**	*e*P	**P**	**21 27 52.6**	**-1.0**
KKN	**Kakani**	**53.77**	**305**	*e*P	**P**	**21 27 54.0**	**-0.8**
	comp=Z,19nm,1.0s						
KKN	**Kakani**	**53.77**	**305**	*e*P	**P**	**21 27 54.0**	**-0.8**
DMN	**Daman**	**53.84**	**305**	*e*P	**P**	**21 27 54.2**	**-1.2**
	comp=Z,21nm,1.0s						
DMN	**Daman**	**53.84**	**305**	*e*P	**P**	**21 27 54.2**	**-1.2**
GKN	**Gorkha**	**54.37**	**305**	*e*P	**P**	**21 27 58.1**	**-1.1**
	comp=Z,28nm,1.3s						
GKN	**Gorkha**	**54.37**	**305**	*e*P	**P**	**21 27 58.1**	**-1.1**
KOLN	**Koldanda**	**55.13**	**305**	*e*P	**P**	**21 28 04.1**	**-0.7**
	comp=Z,20nm,0.7s						
KOLN	**Koldanda**	**55.13**	**305**	*e*P	**P**	**21 28 04.1**	**-0.7**
DANN	**Dangsing**	**55.22**	**305**	*e*P	**P**	**21 28 05.0**	**-0.5**
DANN	**Dangsing**	**55.22**	**305**	*e*P	**P**	**21 28 05.0**	**-0.5**
MK31	**Makanchi Array**	**64.61**	**324**	*e*P	**P**	**21 29 09.2**	**-0.1**
MKAR	**Makanchi Array**	**64.61**	**324**	P	**P**	**21 29 09.8**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=112,slow=8.9,SNR=8.9						
MKAR	**Makanchi Array**	**64.61**	**324**	P	**P**	**21 29 09.8**	**+0.4**
KSH	**Kashi**	**65.48**	**314**	P	**P**	**21 29 13.8**	**-1.5**
KSH				pmax	pmax		
	comp=Z,65nm,4.8s						
ZALV	**Zalesovo Beam**	**67.20**	**331**	P	**P**	**21 29 25.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=114,slow=6.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**67.20**	**331**	P	**P**	**21 29 25.2**	**-0.6**
KURK	**Kurchatov**	**68.68**	**326**	P	**P**	**21 29 35.1**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=121,slow=5.8,

ULN	**Ulaanbaatar**	**29.12**	**309**	*eP*	**P**	**21 25 29.4**	**+0.1**
	1.3nm,0.4s						
SONM	**Songino Array**	**29.54**	**308**	P	**P**	**21 25 34.1**	**+1.0**
	1.5nm,0.8s,baz=113,slow=7.7,SNR=8.4						
SONM	**Songino Array**	**29.54**	**308**	P	**P**	**21 25 34.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**40.80**	**259**	P	**P**	**21 27 10.9**	**+0.9**
	0.4nm,0.6s,baz=46,slow=6.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**40.80**	**259**	P	**P**	**21 27 10.9**	**+0.9**
ZALV	**Zalesovo Beam**	**43.97**	**315**	P	**P**	**21 27 35.7**	**+0.3**
	0.9nm,0.5s,baz=96,slow=6.7,SNR=3.7						
ZALV				PcP	**PcP**	**21 29 20.9**	**-0.3**
	1.1nm,0.6s,baz=122,slow=2.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.97**	**315**	P	**P**	**21 27 35.7**	**+0.3**
ZALV				PcP	**PcP**	**21 29 20.9**	**-0.3**
MK31	**Makanchi Array**	**45.75**	**305**	*eP*	**P**	**21 27 49.9**	**+0.1**
MKAR	**Makanchi Array**	**45.75**	**305**	P	**P**	**21 27 50.1**	**+0.3**
	0.5nm,0.5s,baz=84,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**45.75**	**305**	P	**P**	**21 27 50.1**	**+0.3**
KURK	**Kurchatov**	**47.81**	**310**	P	**P**	**21 28 06.4**	**+0.6**
	0.8nm,0.4s,baz=84,slow=7.8,SNR=23						
KURK	**Kurchatov**	**47.81**	**310**	*eP*	**P**	**21 28 05.7**	**-0.1**
	3.0nm,0.7s						
KDAK	**Kodiak Island**	**49.38**	**40**	P	**P**	**21 28 19.4**	**+1.6**
	7.1nm,0.9s,baz=236,slow=18,SNR=4.8						
KDAK	**Kodiak Island**	**49.38**	**40**	*eP*	**P**	**21 28 18.7**	**+0.9**
	7.8nm,0.7s						
AAK	**Ala-Archa**	**51.95**	**300**	*eP*	**P**	**21 28 37.4**	**-0.2**
ILAR	**Eielson Array**	**52.06**	**31**	P	**P**	**21 28 38.5**	**+0.6**
	1.3nm,0.9s,baz=263,slow=5.9,SNR=10						
ILAR	**Eielson Array**	**52.06**	**31**	P	**P**	**21 28 38.5**	**+0.6**
BVAR	**Borovoye Array**	**52.61**	**314**	P	**P**	**21 28 41.8**	**-0.4**
	0.4nm,0.5s,baz=98,slow=9.2,SNR=6.1						
BVAR	**Borovoye Array**	**52.61**	**314**	P	**P**	**21 28 41.8**	**-0.4**
WRA	**Warramunga Arr**	**54.08**	**188**	P	**P**	**21 28 54.5**	**+1.3**
	4.4nm,0.8s,baz=5.9,slow=7.5,SNR=5.9						
WRA	**Warramunga Arr**	**54.08**	**188**	P	**P**	**21 28 54.5**	**+1.3**
INK	**Inuvik**	**57.09**	**26**	P	**P**	**21 29 12.6**	**-1.8**
	0.7nm,0.7s,baz=158,slow=8.2,SNR=3.5						
INK	**Inuvik**	**57.09**	**26**	P	**P**	**21 29 12.6**	**-1.8**
ASAR	**Alice Springs**	**57.81**	**188**	P	**P**	**21 29 19.9**	**0.0**
	1.3nm,0.7s,baz=5.2,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**57.81**	**188**	P	**P**	**21 29 19.9**	**0.0**
ABKAR	**Akbulak array**	**59.89**	**311**	*eP*	**P**	**21 29 34.2**	**0.0**
	0.5nm,0.3s						
RES	**Resolute Bay**	**65.52**	**14**	P	**P**	**21 30 12.2**	**+0.8**
	2.2nm,0.9s,baz=318,slow=4.4,SNR=7.6						
RES	**Resolute Bay**	**65.52**	**14**	P	**P**	**21 30 12.2**	**+0.8**
STKA	**Stephens Creek**	**65.55**	**180**	P	**P**	**21 30 14.6**	**+2.6**
	1.3nm,0.6s,baz=63,slow=6.8,SNR=2.2						
YKA	**Yellowknife Ar**	**66.43**	**29**	P	**P**	**21 30 17.6**	**+0.2**
	0.1nm,0.3s,baz=300,slow=6.6,SNR=4.5						
YKA	**Yellowknife Ar**	**66.43**	**29**	P	**P**	**21 30 17.6**	**+0.2**
FINES	**FINESS Array B**	**71.47**	**333**	P	**P**	**21 30 48.7**	**0.0**
	3.4nm,1.0s,baz=1.3,slow=6.0,SNR=4.5						
FINES	**FINESS Array B**	**71.47**	**333**	P	**P**	**21 30 48.7**	**0.0**
AKASG	**Malin Array Be**	**76.67**	**323**	P	**P**	**21 31 18.6**	**-0.8**
	0.8nm,0.5s,baz=46,slow=6.2,SNR=6.3						
AKASG	**Malin Array Be**	**76.67**	**323**	P	**P**	**21 31 18.6**	**-0.8**
NB2	**NORSAR Subarra**	**76.95**	**338**	P	**P**	**21 31 21.0**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**21 31 19.5**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=40,slow=5.7,SNR=3.9						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**21 31 19.5**	**-1.3**
FRB	**Frobisher Bay**	**79.71**	**13**	P	**P**	**21 31 35.6**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=322,slow=6.1,SNR=4.7						
FRB	**Frobisher Bay**	**79.71**	**13**	P	**P**	**21 31 35.6**	**-0.3**
GERES	**GERESS Array B**	**85.26**	**328**	P	**P**	**21 32 05.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=4.0						
GERES	**GERESS Array B**	**85.26**	**328**	P	**P**	**21 32 05.1**	**-0.3**
TXAR	**Lajitas Array**	**91.98**	**52**	P	**P**	**21 32 38.6**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=270,slow=2.5,SNR=3.8						
TXAR	**Lajitas Array**	**91.98**	**52**	P	**P**	**21 32 38.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**119.41**	**314**	PKP	**PKPdf**	**21 38 18.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=17,slow=0.9,SNR=7.6						
TORD	**Torodi Ar. Bea**	**119.41**	**314**	PKP	**PKPdf**	**21 38 18.2**	**-0.6**
LPAZ	**La Paz**	**148.14**	**64**	PKPbc	**PKPbc**	**21 39 16.9**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=18,slow=3.2,SNR=5.6						
LPAZ	**La Paz**	**148.14**	**64**	PKPbc	**PKPbc**	**21 39 16.9**	**+1.1**

MAN 05 21:23:30, 11.45N×126.14E, h31km, mb4.6, ML3.5, MS3.5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.70**	**282**	*eP*	Pb	21 23 44.8	+1.0
BESP				*eS*	Sn	21 23 56.4	+2.7
PLP	**Palo**	**1.17**	**256**	*eP*	Pn	21 23 49.8	-0.5
MSLP	**Maasin**	**1.82**	**224**	*eP*	Pn	21 23 59.2	0.0
MSLP				*eS*	Sn	21 24 23.1	+1.9
BUTP	**Butuan**	**2.52**	**192**	*eP*	Pb	21 24 13.1	-1.5
BUTP				*eS*	Sn	21 24 38.3	-0.3
PVCP	**Virac**	**2.88**	**318**	*eP*	Pn	21 24 15.1	+1.3
PVCP				*eS*	Sb	21 25 06.5	+11

IDC 05 21:29:01.1±2.1, 0.68S×133.33E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=81.2km s-min=25.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.89**	**203**	P	P	21 33 22.2	-1.2
	0.1nm,0.3s,baz=24,slow=10.0,SNR=2.3						
FITZ				S	Sn	21 36 42.1	-14
	0.1nm,0.3s,baz=204,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**19.17**	**177**	P	Pn	21 33 27.1	-0.2
	0.2nm,0.3s,baz=356,slow=11,SNR=11						
WRA				S	Sn	21 36 55.1	-7.8
	0.1nm,0.3s,baz=8.2,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**22.86**	**179**	P	P	21 34 07.7	+1.3
	1.0nm,0.5s,baz=358,slow=10,SNR=13						
STKA	**Stephens Creek**	**32.00**	**167**	P	P	21 35 28.0	-1.3
	0.4nm,0.4s,baz=310,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	21 39 42.8	+0.1
	0.3nm,0.6s,baz=112,slow=8.8,SNR=3.9						

MAN 05 21:30:24, 7.49N×122.22E, h15km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.46**	**50**	*eP*	Pb	21 30 34.6	+0.8
IPIL				*eS*	Sb	21 30 43.8	+3.3
PAGZ	**Pagadian**	**1.21**	**73**	*eP*	Pn	21 30 45.7	-0.7
PAGZ				*eS*	Sg	21 31 04.4	+1.2
GUIM	**Jordan**	**3.13**	**7**	*eP*	Pn	21 31 14.4	+1.5
GUIM				*eS*	Sn	21 31 52.7	+2.6

IDC 05 21:37:22.1±2.2, 0.31S×133.24E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=119.2km s-min=24.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.54**	**177**	P	P	21 41 51.5	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.22**	**178**	P	P	21 42 30.9	-0.3
	0.5nm,0.6s,baz=356,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**32.38**	**167**	P	P	21 43 53.5	-0.1
	0.7nm,0.5s,baz=14,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**64.60**	**324**	P	P	21 48 01.6	+0.1
	0.2nm,0.8s,baz=102,slow=6.3,SNR=3.0						

IDC 05 21:52:32.7±2.4, 0.27S×132.64E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=138.1km s-min=23.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.62**	**175**	P	P	21 57 02.9	0.0
	0.1nm,0.3s,baz=354,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**23.29**	**177**	P	P	21 57 42.5	+0.1
	1.6nm,0.7s,baz=0.8,slow=12,SNR=18						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	22 03 09.7	+0.2
	0.6nm,0.6s,baz=112,slow=7.8,SNR=4.7						
KURK	**Kurchatov**	**68.29**	**326**	P	P	22 03 35.4	-0.2
	0.3nm,0.7s,baz=129,slow=6.3,SNR=4.0						

ISCJB ***05*** *21:52:51.5±0.4, 33.14N±0.04×100.82E±0.05, h10km, mb3.8/10, MS3.1/2, Error ellipse: s-maj=6.6km s-min=4.7km az=148.3*

IDC ***05*** *21:52:51.3±0.9, 33.08N×100.69E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/27, mbtmp3.6/11, ML3.6/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=31.6km s-min=17.4km az=59.0*

NEIC ***05*** *21:52:53.0±3.7, 33.16N×100.79E, h10km±26km, mb4.1/4, Error ellipse: s-maj=8.8km s-min=7.4km az=72.0*

BJI ***05*** *21:52:57.1, 33.20N×100.87E, h8km, mb3.7/1, ML3.9/15, Ms4.0/4, Ms7 3.8/5*

ISC 05 21:52:53.6±0.5, 33.17N±0.04×100.86E±0.04, h10km, n37, σ1§81/44, mb3.8/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**3.33**	**132**	Pg	**Pg**	**21 53 55.5**	**-1.9**
CD2				Sg	**Sg**	**21 54 42.7**	**+2.1**
CD2				smax	smax		
	comp=N,800nm,0.9s						
CD2				smax	smax		
	comp=E,1μm,0.7s						
LZH	**Lanzhou**	**3.81**	**39**	Pn	**Pn**	**21 53 54.0**	**+1.5**
LZH				Pg	**Pb**	**21 54 03.2**	**+2.1**
LZH				Sn	**Sn**	**21 54 38.8**	**+1.3**
LZH				Sg	**Sg**	**21 54 54.0**	**-2.1**
LZH				smax	smax		
	comp=N,930nm,1.1s						
LZH				smax	smax		
	comp=E,750nm,1.2s						
LZH				LR	LR		
	comp=Z,940nm,5.9s						
GTA	**Gaotai**	**6.29**	**353**	Pn	Pn	21 54 30.9	+4.4
GTA				Sn	**Sn**	**21 55 43.6**	**+5.1**
GTA				Sg	**Sg**	**21 56 14.5**	**-1.0**
GTA				smax	smax		
	comp=N,26nm,1.3s						
GTA				smax	smax		
	comp=E,39nm,1.2s						
GTA				LR	LR		
	comp=N,350nm,9.5s						
GTA				LR	LR		
	comp=E,900nm,11.4s						
GTA				LR	LR		
	comp=Z,440nm,9.3s						
XAN	**Xi'an**	**6.78**	**80**	Pn	**Pn**	**21 54 32.9**	**-0.3**
XAN				Sg	**Sg**	**21 56 26.8**	**-4.4**
XAN				smax	smax		
	comp=N,52nm,1.3s						
XAN				smax	smax		
	comp=E,25nm,1.1s						
ENH	**Enshi**	**7.89**	**109**	*ePn*	**Pn**	**21 54 48.8**	**+0.3**
	comp=E,30nm,0.7s						
ENH				*eSn*	**Sn**	**21 56 22.3**	**+4.5**
KMI	**Kunming**	**8.18**	**168**	Pn	Pb	21 55 11.0	-4.5
KMI				Sn	**Sn**	**21 56 27.5**	**+2.3**
KMI				smax	smax		
	comp=N,18nm,1.4s						
KMI				smax	smax		
	comp=E,15nm,1.4s						
KMI				LR	LR		
	comp=N,380nm,8.6s						
KMI				LR	LR		
	comp=E,1μm,9.8s						
KMI				LR	LR		
	comp=Z,270nm,7.4s						
LSA	**Lhasa**	**8.99**	**250**	P	**Pn**	**21 55 05.7**	**+1.8**
LSA				S	**Sg**	**21 57 42.3**	**+0.2**
LSA				LR	LR		
	comp=N,620nm,13.6s						
LSA				LR	LR		
	comp=E,450nm,17.3s						
LSA	**Lhasa**	**8.99**	**250**	*ePn*	**Pn**	**21 55 02.0**	**-1.9**
	comp=E,3.9nm,0.6s						
LSA				*eSn*	Sn	21 56 36.4	-9.0
CHTO	**Chiang Mai**	**14.39**	**187**	*ePn*	**Pn**	**21 56 17.8**	**+0.2**
	comp=E,5.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.75**	**187**	Pn	**Pn**	**21 56 20.5**	**-1.8**
	comp=E,0.2nm,0.3s,baz=48,slow=7.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**14.75**	**187**	Pn	**Pn**	**21 56 20.5**	**-1.8**
SONM	**Songino Array**	**15.24**	**14**	Pn	**Pn**	**21 56 27.9**	**-1.0**
	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=11						
SONM				LR	LR	22 02 39.5	
	comp=E,116nm,20.6s,baz=357,slow=38						
SONM	**Songino Array**	**15.24**	**14**	Pn	**Pn**	**21 56 27.9**	**-1.0**
ULN	**Ulaanbaatar**	**15.41**	**16**	*ePn*	**Pn**	**21 56 30.6**	**-0.5**
	comp=E,3.8nm,0.7s						
MK31	**Makanchi Array**	**19.63**	**319**	*eP*	**P**	**21 57 21.7**	**-0.5**
MKAR	**Makanchi Array**	**19.63**	**319**	P	**P**	**21 57 21.1**	**-1.1**
	comp=E,0.1nm,0.3s,baz=128,slow=13,SNR=21						
MKAR				LR	LR	22 05 39.9	
	comp=E,119nm,18.9s,baz=125,slow=39						
MKAR	**Makanchi Array**	**19.63**	**319**	P	**P**	**21 57 21.1**	**-1.1**
KSH	**Kashi**	**20.99**	**295**	P	Pn	21 57 43.2	+3.3
KSH				pmax	pmax		
	comp=Z,42nm,3.3s						
KSAR	**Wonju Array Be**	**22.43**	**71**	P	**P**	**21 57 54.0**	**+1.5**
KSRS	**Korea Array**	**22.46**	**71**	P	**P**	**21 57 54.0**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=249,slow=9.8,SNR=3.2						
AAK	**Ala-Archa**	**22.78**	**302**	*eP*	**P**	**21 57 56.4**	**0.0**
	comp=Z,21nm,0.9s						
ZAA0	**Zalesovo Array**	**23.70**	**336**	*eP*	**P**	**21 58 03.9**	**-1.5**
ZALV	**Zalesovo Beam**	**23.70**	**336**	P	**P**	**21 58 04.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=149,slow=12,SNR=3.8						
ZALV				LR	LR	22 07 51.0	
	comp=Z,77nm,20.5s,baz=102,slow=38						
ZALV	**Zalesovo Beam**	**23.70**	**336**	P	**P**	**21 58 04.2**	**-1.2**
KURK	**Kurchatov**	**23.96**	**324**	P	**P**	**21 58 07.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=128,slow=11,SNR=9.1						
KURK				LR	LR	22 08 33.0	
	comp=Z,67nm,18.3s,baz=115,slow=39						
KURK	**Kurchatov**	**23.96**	**324**	*eP*	**P**	**21 58 06.5**	**-1.4**
	comp=Z,2.5nm,0.8s						
KBL	**Kabul**	**26.41**	**282**	*eP*	**P**	**21 58 30.6**	**0.0**
	comp=Z,6.1nm,0.8s						
FINES	**FINESS Array B**	**54.32**	**325**	P	**P**	**22 02 19.3**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=94,slow=8.4,SNR=5.7						
FINES	**FINESS Array B**	**54.32**	**325**	P	**P**	**22 02 19.3**	**-0.5**
WRA	**Warramunga Arr**	**61.73**	**144**	P	**P**	**22 03 10.3**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=320,slow=9.6,SNR=6.6						
WRA	**Warramunga Arr**	**61.73**	**144**	P	**P**	**22 03 10.3**	**-1.9**
ASAR	**Alice Springs**	**64.70**	**146**	P	**P**	**22 03 32.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=334,slow=6.6,SNR=7.0						
ASAR	**Alice Springs**	**64.70**	**146**	P	**P**	**22 03 32.2**	**+0.3**
ILAR	**Eielson Array**	**69.16**	**25**	P	**P**	**22 04 00.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=310,slow=4.2,SNR=4.7						
ILAR	**Eielson Array**	**69.16**	**25**	P	**P**	**22 04 00.8**	**+1.0**
YKA	**Yellowknife Ar**	**80.50**	**16**	P	**P**	**22 05 04.6**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=327,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**80.50**	**16**	P	**P**	**22 05 04.6**	**-0.8**

CASC 05 22:09:52.2±1.2, 13.37N×90.27W, h29km±3km, MD3.5, ML3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.78**	**53**	*eP*	Pb	22 10 07.2	-0.3
SBLS				*eS*	Sn	22 10 18.4	-0.3
SNJE	**San Jose**	**0.81**	**52**	*eP*	Pn	22 10 07.5	-0.5
SNJE				*eS*	Sn	22 10 19.3	0.0
IXG	**Ixpaco**	**0.82**	**347**	*eP*	Pn	22 10 07.4	-0.7
IXG				*eS*	Sb	22 10 18.2	-0.9
RBDL	**Robledal**	**0.93**	**37**	*eP*	Pn	22 10 09.4	-0.2
BOQS	**Boqueron**	**1.03**	**69**	*eP*	Pn	22 10 10.9	-0.1
BOQS				*eS*	Sb	22 10 25.4	+0.4
SNET	**Serv Nac Est T**	**1.05**	**72**	*eP*	Pn	22 10 11.5	+0.3
SNET				AML	AML	22 10 29.1	
	comp=Z,968nm,0.5s						
PCG	**Pacaya**	**1.07**	**342**	*eP*	Pn	22 10 11.6	-0.1
PCG				*eS*	Sb	22 10 26.3	-0.1
LFRS	**El Faro**	**1.20**	**78**	*eP*	Pn	22 10 12.6	-0.6
LFRS				*eS*	Sb	22 10 29.7	0.0
FUG	**Fuego 3**	**1.21**	**333**	*eP*	Pn	22 10 12.4	-1.0
FUG				*eS*	Sn	22 10 27.2	-1.9
NBG	**Las Nubes**	**1.21**	**356**	*eP*	Pb	22 10 14.6	-0.4
NBG				*eS*	Sb	22 10 31.6	+1.1
LBRS	**Las Brisas**	**1.24**	**73**	*eP*	Pn	22 10 14.1	+0.2
LBRS				*eS*	Sb	22 10 30.7	-0.3
MTO2	**Montecristo 2**	**1.35**	**40**	*eP*	Pn	22 10 14.9	-0.5
MTO2				*eS*	Sn	22 10 32.9	+0.3
JAT	**Jato**	**1.63**	**305**	*eP*	Pn	22 10 18.3	-0.7
CAHU	**Cacacuatique**	**2.04**	**78**	*eP*	Pn	22 10 24.5	-0.4
CNCH	**Conchagua**	**2.37**	**92**	*eP*	Pn	22 10 29.5	+0.2
CNCH				*eS*	Sn	22 10 58.5	+0.9

IDC ***05*** *22:27:06.9±0.5, 27.45S×176.60W, h0km, mb5.0/18, mb1 5.1/18, mb1mx5.1/19, mbtmp5.0/18, MS4.8/24, Ms1 4.8/24, ms1mx4.7/31, Error ellipse: s-maj=16.9km s-min=16.3km az=157.0*

ISCJB ***05*** *22:27:10.9±2.8, 27.45S±0.04×176.77W±0.04, h30km±19km, mb5.3/87, MS4.8/42, Error ellipse: s-maj=7.9km s-min=5.9km az=142.9*

BJI ***05*** *22:27:11.7, 27.01S×175.83W, h49km, mB5.5/27, mb5.5/47, Ms5.2/32, Ms7 4.9/33*

MOS ***05*** *22:27:11.6±1.1, 27.38S×176.78W, h33km, mb5.4/28, MS4.9/8, Error ellipse: s-maj=11.2km s-min=9.2km az=97.5*

NEIC ***05*** *22:27:13.9±1.2, 27.48S×176.71W, h47km±10km, mb5.2/47, Error ellipse: s-maj=7.2km s-min=5.9km az=153.0*

DJA ***05*** *22:27:35, 27.61S×177.33W, h217km, mb4.9/15*

ISC 05 22:27:13.2±0.3, 27.54S±0.04×176.56W±0.05, h43km±2km, h42km:pP-P, n565, σ1§43/611, mb5.3/87, MS4.8/43, 110C-97D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.08**	**215**	*eP*	**Pn**	**22 27 46.8**	**+1.2**
RAO				*eS*	**Sn**	**22 28 10.9**	**+0.5**
RAO	**Raoul Island**	**2.08**	**215**	*ePn*	**Pn**	**22 27 46.8**	**+1.2**
RAO				*eS*	**Sn**	**22 28 10.9**	**+0.5**
MSVF	**Nonsavu**	**10.96**	**332**	*eP*	**Pn**	**22 29 48.3**	**+0.8**
MSVF	**Nonsavu**	**10.96**	**332**	*ePn*	**Pn**	**22 29 48.3**	**+0.8**
MSVF	**Nonsavu**	**10.96**	**332**	Pn	**Pn**	**22 29 48.0**	**+0.6**
	2μm,0.9s,SNR=18						
OUZ	**Omahuta**	**11.37**	**225**	*ePn*	**Pn**	**22 29 54.5**	**+1.6**
URZ	**Urewera**	**11.94**	**205**	Pn	Pn	22 29 53.0	-7.7
	0.7nm,0.3s,baz=330,slow=14,SNR=4.8						
URZ				Sn	Sn	22 32 03.5	-8.9
	3.9nm,0.3s,baz=212,slow=21,SNR=8.4						
URZ	**Urewera**	**11.94**	**205**	Pn	Pn	22 29 53.0	-7.7
URZ				*ePn*	Pn	22 29 53.5	-7.2
URZ				*eS*	Sn	22 32 04.4	-8.0
AFI	**Afiamalu**	**14.28**	**19**	Pn	Pn	22 30 23.8	-9.0
	7.0nm,0.3s,baz=298,slow=4.6,SNR=6.1						
AFI				Sn	Sn	22 32 47.4	-23
	5.6nm,0.3s,baz=49,slow=18,SNR=3.3						
AFI	**Afiamalu**	**14.28**	**19**	P	Pn	22 30 23.8	-9.0
AFI	**Afiamalu**	**14.28**	**19**	Pn	Pn	22 30 23.8	-9.0
AFI				Sn	Sn	22 32 47.4	-23
SNZO	**South Karori**	**15.50**	**205**	*ePn*	**Pn**	**22 30 47.3**	**-1.3**
SNZO				*eS*	Sn	22 33 26.5	-13
DZM	**Mont Dzumac**	**16.36**	**286**	*eP*	**P**	**22 31 04.8**	**+2.4**
	443nm,1.3s						
DZM				*eLR*	LR	22 34 58.9	
	12μm,23.9s						
DZM	**Mont Dzumac**	**16.36**	**286**	Pn	**P**	**22 31 04.7**	**+2.4**
	0.8nm,0.3s,baz=87,slow=17,SNR=25						
DZM				LR	LR	22 36 01.6	
	comp=Z,8μm,20.7s,baz=58,slow=33						
DZM	**Mont Dzumac**	**16.36**	**286**	*eP*	**P**	**22 31 03.1**	**+0.7**
DZM	**Mont Dzumac**	**16.36**	**286**	*ePn*	**P**	**22 31 03.6**	**+1.2**
	211nm,1.2s						
DZM				Pn	**P**	**22 31 04.7**	**+2.4**
NOUC	**Port Laguerre**	**16.47**	**285**	*eP*	**P**	**22 31 04.2**	**+0.8**
RAR	**Rarotonga**	**16.53**	**71**	Pn	Pn	22 30 52.5	-9.5
	6.7nm,0.3s,baz=235,slow=10.0,SNR=12						
RAR				Sn	Sn	22 33 40.0	-24
	3.3nm,0.3s,baz=80,slow=17,SNR=4.0						
RAR				T		22 47 49.1	
	20nm,0.3s,baz=119,slow=6.8,SNR=5.1						
RAR	**Rarotonga**	**16.53**	**71**	*eP*	Pn	22 30 52.6	-9.4
RAR	**Rarotonga**	**16.53**	**71**	*ePn*	Pn	22 30 52.5	-9.4
RAR				Sn	Sn	22 33 40.0	-24
RAR				*eS*	S	22 33 40.7	-34
RAR				TT		22 47 49.1	
KHZ	**Kahutara**	**16.90**	**206**	*ePn*	**Pn**	**22 31 02.4**	**-4.0**
	516nm,2.0s						
KHZ				*eS*	Sn	22 33 59.8	-13
RPZ	**Rata Peaks**	**18.99**	**209**	P	**P**	**22 31 28.1**	**-3.0**
	1.3nm,0.3s,baz=48,slow=14,SNR=3.1						
RPZ	**Rata Peaks**	**18.99**	**209**	P	**P**	**22 31 28.1**	**-3.0**
RPZ				*eP*	**Pn**	**22 31 31.6**	**-0.5**
FUNA	**Funafuti**	**19.34**	**347**	*eP*	**P**	**22 31 33.2**	**-1.8**
	123nm,0.9s						
ODZ	**Otahua Downs**	**20.24**	**207**	*eP*	**P**	**22 31 45.0**	**+0.3**
	58nm,0.9s						
TBI	**Tubuai**	**24.80**	**86**	*eLQ*	LQ	22 37 08.6	
	2μm,30.0s						
TBI				*eLR*	LR	22 38 32.9	
	5μm,28.8s,baz=256						
PAE	**Paea**	**26.72**	**74**	*eP*	**P**	**22 32 46.1**	**-2.6**
	16nm,1.3s						
PPT2	**Papeete2**	**26.76**	**74**	*eP*	**P**	**22 32 46.9**	**-2.2**
	67nm,1.5s						
PPT2				*eLQ*	LQ	22 37 58.8	
	3μm,25.0s						
PPT2				*eLR*	LR	22 39 23.

WRAB e 22 37 07.3
WRAB pmax pmax
comp=Z,21nm,0.9s
WRAB Tennant Creek 45.34 269 eP **P** **22 35 25.7 -1.7**
comp=Z,21nm,0.9s
WRAB epP **pP** **22 35 36.7 -2.6**
WRAB ePcP **PcP** **22 37 07.3 +0.8**
WRAB Tennant Creek 45.34 269 P **P** **22 35 25.5 -1.9**
comp=Z,127nm,0.9s,SNR=5.5
WRA Warramunga Arr 45.34 269 P **P** **22 35 25.9 -1.5**
comp=Z,14nm,0.8s,baz=105,slow=8.0,SNR=49
WRA PcP **PcP** **22 37 06.7 +0.2**
comp=Z,15nm,1.0s,baz=106,slow=3.5,SNR=8.0
WRA ScP **ScP** **22 40 58.5 +2.7**
comp=Z,2.3nm,1.1s,baz=113,slow=3.5,SNR=4.2
WRA LR LR 22 52 32.8
comp=Z,1μm,21.2s,baz=115,slow=34
WRA Warramunga Arr 45.34 269 P **P** **22 35 25.9 -1.5**
WRA 22 37 06.7
WRA Warramunga Arr 45.34 269 P **P** **22 35 25.9 -1.5**
WRA PcP **PcP** **22 37 06.7 +0.2**
WRA ScP **ScP** **22 40 58.5 +2.7**
DRV Dumont d'Urvil 47.26 202 S **S** **22 42 28.0 -3.6**
DRV L L 22 47 00.0
DRV R 22 51 00.0
FORT Forrest 48.06 252 eP **P** **22 35 46.3 -2.2**
comp=Z,51nm,0.8s
FORT Forrest 48.06 252 eP **P** **22 35 46.4 -2.1**
comp=Z,100nm,1.0s
SBA Scott Base 50.98 184 eP P 22 36 13.5 +3.5
SBA pmax pmax
comp=Z,48nm,1.0s
SBA Scott Base 50.98 184 eP P 22 36 13.5 +3.5
comp=Z,48nm,1.0s
VNDA Vanda 51.06 186 eP **P** **22 36 12.3 +1.6**
VNDA e 22 37 24.1
VNDA pmax pmax
comp=Z,22nm,1.3s
VNDA Vanda 51.06 186 eP **P** **22 36 12.2 +1.6**
comp=Z,22nm,1.3s
VNDA ePcP **PcP** **22 37 24.1 -1.9**
FITZ Fitzroy Crossi 53.70 267 LR LR 22 59 01.7
comp=Z,2μm,18.3s,baz=122,slow=36
FITZ Fitzroy Crossi 53.70 267 eP **P** **22 36 29.7 -1.4**
comp=Z,23nm,1.1s
FITZ Fitzroy Crossi 53.70 267 eP **P** **22 36 29.5 -1.6**
comp=Z,23nm,1.2s
GUMO Guam 55.41 313 LR LR 22 57 11.0
comp=Z,978nm,21.8s,baz=230,slow=33
KLBR Kellerberrin 56.52 249 eP **P** **22 36 48.3 -3.0**
comp=Z,35nm,1.0s
NWAO Narrogin (SRO) 56.63 247 P **P** **22 36 50.8 -1.2**
NWAO Narrogin (SRO) 56.63 247 P **P** **22 36 50.8 -1.2**
MBWA Marble Bar 57.85 261 eP **P** **22 36 59.0 -1.8**
comp=Z,9.7nm,0.9s
CASY Casey 58.25 207 eP **P** **22 37 03.7 +0.8**
comp=Z,30nm,0.9s
QSPA South Pole Qui 62.56 180 P **P** **22 37 33.5 +0.9**
comp=Z,13nm,1.0s,baz=34,slow=2.9,SNR=22
QSPA South Pole Qui 62.56 180 eP **P** **22 37 33.3 +0.8**
comp=Z,29nm,1.0s
QSPA P **P** **22 37 33.5 +0.9**
KAPI Kappang 64.41 278 eP **P** **22 37 43.8 -1.5**
comp=Z,55nm,1.5s
KAPI Kappang 64.41 278 P **P** **22 37 45.0 -0.3**
comp=Z,24nm,1.5s
MIR Mirnyy 65.24 206 ⇓*i*P **P** **22 37 50.4 +0.5**
MIR pmax pmax
comp=Z,129nm,1.2s
MIR pmax pmax
comp=Z,505nm,3.0s
CBIJ Chichi jima 67.25 320 LR LR 23 05 39.1
comp=Z,459nm,18.9s,baz=150,slow=34
KKM Kota Kinabalu 72.92 286 eP **P** **22 38 38.0 -0.5**
comp=Z,33nm,1.2s
SBUM Sibu 74.57 281 P **P** **22 38 48.2 +0.1**
comp=Z,26nm,1.3s
MAW Mawson 75.42 200 P **P** **22 38 53.4 +1.3**
comp=Z,28nm,0.9s,baz=102,slow=6.9,SNR=20
MAW LR LR 23 11 15.9
comp=Z,927nm,18.8s,baz=122,slow=35
MAW Mawson 75.42 200 P **P** **22 38 53.4 +1.3**
MAW Mawson 75.42 200 P **P** **22 38 53.4 +1.3**
MAW eP **P** **22 38 53.8 +1.8**
JOW Kunigami 75.72 311 LR LR 23 08 50.5
comp=Z,438nm,20.0s,baz=122,slow=33
KSM Kuching 75.77 279 eP **P** **22 38 54.4 -0.7**
comp=Z,43nm,1.1s
KSM Kuching 75.77 279 P **P** **22 38 54.7 -0.3**
comp=Z,50nm,1.2s
MJAR Matsushiro Arr 76.65 324 P **P** **22 38 58.9 -0.6**
comp=Z,42nm,0.9s,baz=168,slow=6.0,SNR=88
MJAR LR LR 23 07 03.7
comp=Z,352nm,21.7s,baz=125,slow=31
MJAR Matsushiro Arr 76.65 324 P **P** **22 38 58.9 -0.6**
MJAR Matsushiro Arr 76.65 324 P **P** **22 38 58.9 -0.6**
MAJO Matsushiro 76.65 324 eP **P** **22 38 58.9 -0.6**
MAJO pmax pmax
comp=Z,80nm,1.1s
MAJO Matsushiro 76.65 324 eP **P** **22 38 58.9 -0.6**
comp=Z,80nm,1.1s
MAT Matsushiro 76.65 324 P **P** **22 38 58.9 -0.6**
MAT eS **S** **22 48 48.0 +5.1**
YUK Yuzh-Kuril'sk 79.11 333 *d*iP **P** **22 39 11.3 -1.6**
YUK S S 22 49 02.8 -6.2
YUK e 22 49 33.0
YUK pmax pmax
comp=N,432nm,1.6s
YUK pmax pmax
comp=E,498nm,1.6s
YUK pmax pmax
comp=Z,1μm,1.6s
YUK pmax pmax
comp=Z,2μm,2.2s
YUK MLR MLR
comp=Z,1μm,23.0s
SYO Syowa Base 80.17 192 ⇑eP **P** **22 39 17.0 -1.5**
SYO Syowa Base 80.17 192 ⇓ePcP **PcP** **22 39 25.0 -0.7**
ASAJ Asahikawa 80.52 331 P **P** **22 39 19.9 -0.6**
comp=Z,32nm,1.0s,baz=210,slow=12,SNR=5.2
ASAJ LR LR 23 15 17.6
comp=Z,598nm,18.3s,baz=165,slow=36
ASAJ Asahikawa 80.52 331 P **P** **22 39 20.0 -0.6**
ASAJ pmax pmax
comp=Z,32nm,1.0s
ASAJ MLR MLR
comp=Z,598nm,18.3s
ASAJ Asahikawa 80.52 331 P **P** **22 39 19.9 -0.6**
FX1 Attu Island--F 80.58 354 LR LR 23 11 18.6
comp=Z,740nm,19.0s,baz=344,slow=33
SNAA Sanae 80.96 178 e **P** **22 39 24.3 +1.4**
SNAA Sanae 80.96 178 eP **P** **22 39 24.2 +1.4**
SNAA pmax pmax
comp=Z,22nm,1.0s
SNAA Sanae 80.96 178 eP **P** **22 39 24.2 +1.4**
comp=Z,22nm,1.0s
VNA3 Neumayer Olymp 81.06 176 e **P** **22 39 24.7 +1.4**
VNA3 e 22 39 42.9
VNA2 Neumayer--Watz 81.51 176 e **P** **22 39 27.5 +1.8**
baz=184,slow=4.6
VNA2 e 22 39 46.6
MYKOM Kota Tinggi 81.60 276 P P 22 39 33.1 +6.0
comp=Z,48nm,1.1s
VNA1 Neumayer--Stat 81.73 176 e **P** **22 39 28.9 +2.1**
MAIT Maitri 81.78 183 eP **P** **22 39 28.7 +1.6**
MAIT e 22 39 38.5
NVL N'lazarevskaya 81.79 183 eP P 22 39 30.6 +3.5
NVL e 22 39 39.3
NVL e*PP pP 22 39 42.8 +2.9
YSS Yuzh-Sakhalins 82.75 333 ⇑eP **P** **22 39 33.9 +1.6**
YSS e 22 39 42.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 82.75 333 eP **P** **22 39 33.3 +1.0**
comp=Z,86nm,0.9s
MONP Monument Peak 82.91 47 ⇓P **P** **22 39 34.9 +1.1**
baz=83
BFSC Mount Baldy Ra 82.97 46 ⇑P **P** **22 39 35.3 +1.4**
baz=83
KSRS Korea Array 83.02 319 P **P** **22 39 34.8 +0.9**
comp=Z,26nm,1.0s,baz=142,slow=6.1,SNR=48
KSRS LR LR 23 15 32.1
comp=Z,334nm,18.9s,baz=138,slow=35
KSRS Korea Array 83.02 319 P **P** **22 39 34.8 +0.9**
KSRS pmax pmax
comp=Z,26nm,1.0s
KSRS MLR MLR
comp=Z,334nm,19.0s
KSAR Wonju Array Be 83.03 319 P **P** **22 39 34.8 +0.8**
KSAR Wonju Array Be 83.03 319 P **P** **22 39 34.8 +0.8**
VES Vestal, Richgr 83.12 44 ⇑P **P** **22 39 35.6 +1.1**
baz=83
EDW2 Edwards Air Fo 83.17 45 ⇑P **P** **22 39 36.0 +1.1**
baz=83
SSE Sheshan 83.21 310 P **P** **22 39 35.4 +0.4**
SSE S **S** **22 49 53.4 +1.2**
SSE SS **SS** **22 55 20.3 +2.2**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,160nm,3.9s
SSE LR LR
comp=N,210nm,30.7s
SSE LR LR
comp=E,170nm,30.7s
SSE LR LR
comp=Z,350nm,33.2s
ISA Isabella 83.38 44 eP **P** **22 39 36.8 +0.9**
ISA pmax pmax
comp=Z,31nm,1.5s
ISA Isabella 83.38 44 eP **P** **22 39 36.8 +0.9**
comp=Z,31nm,1.5s
ISA Isabella 83.38 44 ⇑P **P** **22 39 37.0 +1.1**
baz=84
PETK Petropavlovsk- 83.38 345 P **P** **22 39 35.6 +0.2**
comp=Z,29nm,0.9s,baz=131,slow=8.1,SNR=14
PETK LR LR 23 09 15.2
comp=Z,298nm,21.0s,baz=172,slow=30
PETK Petropavlovsk- 83.38 345 P **P** **22 39 35.6 +0.2**
PETK Petropavlovsk- 83.38 345 P **P** **22 39 35.6 +0.2**
PLCA Paso Flores 83.52 133 P **P** **22 39 38.6 +1.9**
comp=Z,2.7nm,0.8s,baz=32,slow=3.5,SNR=4.6
PLCA LR LR 23 08 03.1
comp=Z,439nm,20.2s,baz=100,slow=29
PLCA Paso Flores 83.52 133 P **P** **22 39 38.7 +1.9**
PLCA Paso Flores 83.52 133 P **P** **22 39 38.6 +1.9**
LRMC Laurel Mountai 83.75 45 ⇑P **P** **22 39 38.8 +0.9**
baz=84
CMB Columbia Colle 83.79 41 eP **P** **22 39 38.5 +0.6**
CMB pmax pmax
comp=Z,21nm,1.2s
CMB Columbia Colle 83.79 41 eP **P** **22 39 38.5 +0.6**
comp=Z,21nm,1.2s
BELC Belle Mtn. Jos 83.88 47 ⇑P **P** **22 39 39.9 +1.2**
baz=84
BC3 Big Chuckawall 84.02 47 ⇑P **P** **22 39 40.8 +1.5**
baz=84
GLA Glamis 84.06 48 ⇓P **P** **22 39 40.9 +1.4**
baz=84
GSC Goldstone 84.19 45 eP **P** **22 39 40.7 +0.6**
GSC pmax pmax
comp=Z,25nm,1.3s
GSC Goldstone 84.19 45 eP **P** **22 39 40.6 +0.6**
comp=Z,25nm,1.3s
GSC Goldstone 84.19 45 ⇑P **P** **22 39 41.4 +1.3**
baz=84
HEC Hector,Ludlow 84.19 46 ⇑P **P** **22 39 41.0 +0.9**
baz=84
MPMC Manual Prospec 84.24 44 ⇑P **P** **22 39 41.1 +0.6**
baz=84,SNR=11
WDC Whiskeytown Da 84.30 38 eP **P** **22 39 40.8 +0.4**
WDC pmax pmax
comp=Z,33nm,1.2s
WDC Whiskeytown Da 84.30 38 eP **P** **22 39 40.8 +0.4**
comp=Z,33nm,1.2s
IRM Iron Mountain 84.53 47 ⇓P **P** **22 39 43.1 +1.3**
baz=85
113A Mohawk Valley, 84.59 49 ⇑P **P** **22 39 43.8 +1.7**
baz=85
Y12C Blythe 84.69 48 ⇓P **P** **22 39 44.4 +1.9**
baz=85
214A Organ Pipe Nat 84.74 50 ⇓P **P** **22 39 44.0 +1.1**
baz=85
VLA Vladivostok 84.78 325 ⇓*i*P **P** **22 39 41.5 -1.2**
VLA eS **S** **22 50 02.8 -4.6**
VLA pmax pmax
comp=Z,43nm,1.4s
TUQ Turquoise Moun 84.83 46 ⇓P **P** **22 39 44.1 +0.7**
baz=85,SNR=5.0
FURC Furnace Creek, 84.90 44 ⇓P **P** **22 39 44.8 +1.3**
baz=85
SHOC Shoshone 84.90 45 ⇑P **P** **22 39 44.7 +1.1**
baz=85
GRAC Grapevine Rang 84.92 44 ⇓P **P** **22 39 44.8 +1.1**
baz=85,SNR=7.3
Z13A Yuma Proving G 84.92 49 ⇓P **P** **22 39 45.1 +1.3**
baz=85
QIZ Qiongzhong 84.95 294 P P 22 39 48.0 +3.8
QIZ S **S** **22 50 14.3 +4.2**
QIZ LR LR
comp=Z,330nm,20.2s
WCN Washoe City 85.00 41 ⇓P **P** **22 39 45.5 +1.3**
baz=85
LDFC Landfair 85.13 46 eP **P** **22 39 46.4 +1.5**
PDMCI Parker Dam,Lak 85.27 47 ⇓P **P** **22 39 46.8 +1.4**
baz=86
NVAR Mina Array Bea 85.28 42 P **P** **22 39 45.8 +0.1**
comp=Z,5.9nm,1.0s,baz=223,slow=8.4,SNR=26
NVAR PKPPKP P'P'df 23 06 00.4 +5.8
comp=Z,2.1nm,1.1s,baz=128,slow=2.6,SNR=6.0
NVAR LR LR 23 10 47.7
comp=Z,832nm,18.6s,baz=121,slow=31
NVAR Mina Array Bea 85.28 42 P **P** **22 39 45.8 +0.1**
NVAR P'P' 23 06 00.4
IPM Ipoh 85.35 277 P **P** **22 39 46.8 +0.4**
comp=Z,24nm,1.3s
NJ2 Nanjing 85.37 310 eP **P** **22 39 46.8 +0.8**
NJ2 pP **pP** **22 39 58.3 -0.6**
NJ2 pmax pmax
comp=Z,30nm,0.9s
Z14A Wintersburg 85.50 49 ⇓P **P** **22 39 48.2 +1.6**
baz=86
USRK Ussuriysk Arra 85.50 326 P **P** **22 39 46.9 +0.6**
comp=Z,27nm,1.0s,baz=134,slow=3.2,SNR=39
USRK LR LR 23 12 26.2
comp=Z,404nm,20.4s,baz=122,slow=32
Y14A Wickenburg 85.80 48 ⇓P **P** **22 39 49.2 +1.0**
baz=86
W13A Hualapai Mount 85.93 47 ⇑P **P** **22 39 49.9 +0.9**
baz=86,SNR=7.2
KULM Kulim 86.06 278 eP **P** **22 39 50.0 +0.2**
comp=Z,16nm,1.1s
KULM Kulim 86.06 278 P P 22 39 57.0 +7.1
comp=Z,21nm,1.5s
TUC Tucson 86.34 51 eP **P** **22 39 52.0 +1.1**
TUC pmax pmax
comp=Z,13nm,1.3s
TUC Tucson 86.34 51 eP **P** **22 39 52.0 +1.1**
comp=Z,13nm,1.3s
PSI Prapat 86.42 275 P **P** **22 39 50.5 -1.3**
comp=Z,33nm,1.0s
R11A Troy Canyon, C 86.87 44 ⇓P **P** **22 39 54.7 +1.2**
baz=87
MDJ Mudanjiang 87.01 325 P **P** **22 39 54.4 +0.7**
MDJ pP **pP** **22 40 07.7 +1.0**
MDJ sP **sP** **22 40 11.8 +0.3**
MDJ PP **PP** **22 43 15.4 -2.5**
MDJ S **S** **22 50 31.5 +2.2**
MDJ ScS **ScS** **22 50 36.3 -0.4**
MDJ SS **SS** **22 56 10.0 -3.7**
MDJ pmax pmax
comp=Z,38nm,1.0s
MDJ pmax pmax
comp=Z,160nm,4.8s
MDJ LR LR
comp=N,250nm,25.1s
MDJ LR LR
comp=E,80nm,22.2s
MDJ LR LR
comp=Z,340nm,26.3s
MDJ Mudanjiang 87.01 325 eP **P** **22 39 54.5 +0.7**
comp=Z,37nm,0.9s
X16A Lo Mia Camp, P 87.13 49 ⇑P **P** **22 39 56.0 +1.1**
baz=87,SNR=9.5
HABR Khabarovsk 87.19 330 *c*eP **P** **22 39 53.2 -1.3**
HABR e*PP **pP** **22 40 03.7 -3.7**
HABR e*SP **sP** **22 40 07.8 -4.4**
HABR ePPP PPP 22 45 11.5
HABR eS **SKSac** **22 50 17.2 -0.9**
HABR eS **S** **22 50 31.4 +0.7**
HABR eSS **SS** **22 56 15.0 -1.0**
HABR pmax pmax
comp=Z,400nm,2.7s
HABR pmax pmax
comp=Z,120nm,1.6s
HABR pmax pmax
comp=N,47nm,2.6s
HABR pmax pmax
comp=E,48nm,1.7s
HABR MLR MLR
comp=Z,276nm,17.0s
WHN Wuhan 87.66 306 ⇓*i*P **P** **22 39 57.5 +0.3**
WHN S **S** **22 50 41.5 +5.4**
WHN pmax pmax
comp=Z,61nm,0.9s
WHN LR LR
comp=N,900nm,27.2s
WHN LR LR
comp=E,1μm,30.6s
WHN LR LR
comp=Z,2μm,25.4s
220A Playas Peak, P 87.67 52 ⇓P **P** **22 39 58.8 +1.4**
baz=88
Y18A Canyon Day Jun 87.70 50 ⇑P **P** **22 39 59.1 +1.5**
baz=88
R13A O'Grain Ranch, 87.76 44 ⇑P **P** **22 39 59.4 +1.6**
baz=88
U15A North Rim 87.76 47 ⇑P **P** **22 39 58.7 +0.7**
baz=88,SNR=11
120A U Bar Ranch, L 87.96 52 ⇓P **P** **22 40 00.2 +1.3**
baz=88
X18A Snowflake 88.19 49 ⇓P **P** **22 40 01.6 +1.6**
baz=88
221A Mesquite Ranch 88.25 52 ⇓P **P** **22 40 02.1 +1.9**
baz=88
Z20A Nine Sixteen R 88.31 51 ⇓P **P** **22 40 02.1 +1.6**
baz=89
I07A Izee 88.33 37 ⇑P **P** **22 40 01.8 +1.6**
baz=89
Y19A Nutrioso 88.33 50 ⇓P **P** **22 40 01.8 +1.0**
baz=89,SNR=6.3
U16A Tuba City 88.35 47 ⇓P **P** **22 40 01.6 +1.0**
baz=89,SNR=5.9
SNY Shenyang 88.42 320 ⇑P **P** **22 40 00.7 +0.1**
SNY S S 22 50 32.2 -11
SNY pmax pmax
comp=Z,32nm,1.2s
SNY pmax pmax
comp=Z,210nm,3.7s
SNY LR LR
comp=N,230nm,19.6s
SNY LR LR
comp=E,240nm,14.9s
SNY LR LR
comp=Z,340nm,21.1s
G06A Carlson Farm, 88.50 36 ⇑P **P** **22 40 03.0 +2.0**
baz=89
121A Cookes Peak, D 88.54 52 ⇑P **P** **22 40 02.9 +1.3**
baz=89
CN2 Changchun 88.65 322 ⇑P **P** **22 40 01.6 0.0**
CN2 e*p*P **pP** **22 40 15.1 +0.5**
CN2 e*S* **S** **22 50 42.5 -2.5**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,200nm,24.0s
W18A Petrified Fore 88.67 49 ⇑P **P** **22 40 03.6 +1.4**
baz=89
W19A Sanders 88.90 49 ⇑P **P** **22 40 04.6 +1.3**
baz=89
Y20A Horse Springs, 88.91 51 ⇓P **P** **22 40 04.3 +0.9**
baz=89,SNR=11
U17A Shonto 88.92 47 ⇓P **P** **22 40 04.7 +1.4**
baz=89
S16A Weppner Ranch, 88.98 46 ⇓P **P** **22 40 05.0 +1.4**
baz=89
Z21A St. Cloud Mine 89.06 51 ⇑P **P** **22 40 05.5 +1.4**
baz=89
X20A Quemado 89.18 50 ⇑P **P** **22 40 05.7 +1.0**
baz=89,SNR=7.8
KLR Kul'dur 89.23 329 eP **P** **22 40 02.2 -2.0**
KLR eS **S** **22 50 51.0 +0.9**
S17A Black Ridge (B 89.44 46 ⇑P **P** **22 40 06.8 +1.1**
baz=90
Y21A Point of Rocks 89.44 51 ⇑P **P** **22 40 07.0 +1.1**
baz=90,SNR=13
Z22A Elephant Butte 89.52 52 ⇓P **P** **22 40 06.8 +0.6**
baz=90,SNR=8.3
626A Big Bend Ranch 89.55 56 ⇓P **P** **22 40 06.9 +0.6**
baz=90,SNR=5.7
324A Moseley Ranch, 89.58 54 ⇓P **P** **22 40 07.4 +0.9**
baz=90
425A Indio Mountain 89.58 55 ⇓P **P** **22 40 07.9 +1.4**
baz=90
U19A Dine' College, 89.70 48 ⇓P **P** **22 40 08.1 +1.0**
baz=90
T18A Mexican Hat 89.75 47 ⇑P **P** **22 40 08.3 +1.2**
baz=90
TXAR Lajitas Array 89.77 57 P **P** **22 40 07.8 +0.5**
comp=Z,3.7nm,1.1s,baz=205,slow=5.5,SNR=19
TXAR LR LR 23 11 42.3
comp=Z,301nm,19.1s,baz=140,slow=30
TXAR Lajitas Array 89.77 57 P **P** **22 40 07.9 +0.5**
TXAR Lajitas Array 89.77 57 P **P** **22 40 07.8 +0.5**
526A Mary Lane Ranc 89.85 56 ⇑P **P** **22 40 08.7 +0.9**
baz=90
224A Cornudas Mount 89.89 53 ⇑P **P** **22 40 08.7 +0.8**
baz=90
Y22A Socorro 89.89 51 ⇑P **P** **22 40 08.7 +0.8**
baz=90,SNR=6.7
325A Bean Ranch, Si 89.90 54 ⇑P **P** **22 40 08.8 +0.7**
baz=90
V20A Brimhall 89.91 49 ⇓P **P** **22 40 09.0 +0.9**
baz=90
MFID Camas Ranch 89.92 39 ⇑P **P** **22 40 09.0 +1.2**
baz=90
R17A Hanksville Air 89.95 46 ⇑P **P** **22 40 08.7 +0.6**
baz=90
S18A Hurst Farm, Bl 89.99 47 ⇑P **P** **22 40 08.8 +0.4**
baz=90
LENM Lemitar 90.01 51 eP **P** **22 40 09.3 +0.8**
comp=Z,12nm,1.3s
627A Terlingua Ranc 90.04 57 ⇑P **P** **22 40 09.1 +0.5**
baz=90,SNR=7.2
T19A Beclabito 90.13 48 ⇑P **P** **22 40 10.0 +1.0**
baz=90
U20A Newcomb 90.20 48 ⇓P **P** **22 40 10.5 +1.1**
baz=90
426A McDonald Obser 90.21 55 ⇑P **P** **22 40 10.1 +0.5**
baz=90,SNR=6.2
BNM Barren Site 90.25 51 eP **P** **22 40 10.3 +0.6**
comp=Z,2.4nm,1.1s
ETW Entiat 90.26 34 P **P** **22 40 09.6 +0.3**
comp=Z,209nm,2.0s
LPM Los Pinos Moun 90.33 51 eP **P** **22 40 11.2 +1.2**
comp=Z,3.7nm,1.0s
225A Deer Hill, Car 90.41 54 ⇓P **P** **22 40 10.6 +0.2**
baz=91
628A Black Gap, Mar 90.43 57 ⇓P **P** **22 40 11.2 +0.8**
baz=91
R18A Canyonlands Na 90.46 46 ⇑P **P** **22 40 11.4 +0.9**
baz=91
O16A Springville 90.51 44 ⇑P **P** **22 40 11.6 +0.9**
baz=91
Y23A Lovelace Mesa, 90.52 52 ⇓P **P** **22 40 11.8 +0.9**
baz=91
L14A Malta 90.56 42 ⇓P **P** **22 40 11.7 +0.9**
baz=91
S19A Harvey Farm, M 90.58 47 ⇑P **P** **22 40 11.9 +0.8**
baz=91
CMIG Matias Romero 90.65 71 LR LR 23 10 44.1
comp=Z,183nm,21.2s,baz=247,slow=29
E09A Wood Farm, Sta 90.65 36 ⇓P **P** **22 40 12.3 +1.3**
baz=91
M15A Larsen Ranch, 90.69 43 ⇓P **P** **22 40 12.3 +0.9**
baz=91
Q18A Rafter H Ranch 90.72 45 ⇑P **P** **22 40 12.0 +0.4**
baz=91
427A Hayter Ranch, 90.77 55 ⇓P **P** **22 40 12.6 +0.6**
baz=91,SNR=6.3
GDL2 Guadalupe Moun 90.78 54 eP **P** **22 40 12.6 +0.5**
comp=Z,25nm,0.6s
F10A Beach Ranch, E 90.79 37 ⇑P **P** **22 40 12.3 +0.6**
baz=91

ANMO Albuquerque 90.80 51 *e*P P 22 40 12.6 +0.4
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 90.80 51 *e*P P 22 40 12.6 +0.4
comp=Z,7.5nm,1.0s
U21A Nageezi 90.81 49 ⇓P P 22 40 12.9 +0.7
baz=91
R19A Curley Farm, L 90.81 47 ⇓P P 22 40 12.5 +0.3
baz=91
HLID Hailey 90.81 40 *e*P P 22 40 12.5 +0.5
comp=Z,9.3nm,1.1s
J13A Cove Ranch, Pi 90.85 40 ⇓P P 22 40 12.9 +0.8
baz=91
528A Cox Ranch, San 90.86 56 ⇓P P 22 40 12.7 +0.3
baz=91,SNR=6.5
K14A Jones Ranch, D 90.91 41 ⇑P P 22 40 13.1 +0.7
baz=91
OD2 Odessa Site #2 90.94 35 *e*P P 22 40 12.4 +0.1
comp=Z,7.6nm,0.5s
OD2 *e* 22 40 25.5
Y24A Capitan 90.95 52 ⇓P P 22 40 13.3 +0.4
baz=91,SNR=7.7
O17A Robinson Place 90.98 44 ⇑P P 22 40 13.8 +0.9
baz=91
L15A Malad City 91.05 42 ⇓P P 22 40 14.0 +0.9
baz=91
ENH Enshi 91.05 304 *e*P P 22 40 13.9 +0.7
comp=Z,166nm,1.3s
GAMB Gambell 91.09 2 *e*P P 22 40 13.1 +0.6
comp=Z,30nm,1.4s
Z25A Roswell 91.11 53 ⇓P P 22 40 14.8 +1.2
baz=91
S20A Disappointment 91.13 47 ⇑P P 22 40 14.1 +0.4
baz=91
PV01 Paradox Valley 91.17 47 *e*P P 22 40 13.9 +0.1
comp=Z,747nm,1.3s
H12A Diamond D Ranc 91.18 39 ⇓P P 22 40 14.5 +0.8
baz=92
I13A Wildhorse Cree 91.20 40 ⇓P P 22 40 14.4 +0.6
baz=92
428A Kincaid Ranch, 91.23 56 ⇑P P 22 40 14.9 +0.8
baz=92
GYA Guiyang 91.25 299 P P 22 40 15.7 +1.3
GYA pP **pP** 22 40 31.2 +3.9
GYA sP **sP** 22 40 36.8 +4.7
GYA PP **PP** 22 43 56.3 +4.1
GYA SKS **SKSac** 22 50 41.0 -2.5
GYA S **S** 22 51 07.8 -2.2
GYA SS **SS** 22 57 15.6 -0.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,540nm,20.5s
GYA LR LR
comp=E,490nm,21.1s
GYA LR LR
comp=Z,510nm,20.9s
R20A Redvale 91.32 47 ⇓P P 22 40 15.5 +1.0
baz=92
N17A Moffit Pass 91.36 44 ⇓P P 22 40 15.7 +0.9
baz=92
K15A Arbon 91.37 42 ⇑P P 22 40 15.5 +0.9
baz=92
S21A Coal Bank Pass 91.41 48 ⇑P P 22 40 15.8 +0.7
baz=92
C09A Chrisman Ranch 91.43 35 ⇓P P 22 40 15.2 +0.7
baz=92
Y25A Mesa, Roswell 91.47 52 ⇑P P 22 40 15.7 +0.4
baz=92,SNR=6.7
H13A Challis 91.53 39 ⇑P P 22 40 16.1 +0.8
baz=92
I14A Mackay 91.59 40 ⇓P P 22 40 16.4 +0.7
baz=92
L16A Fish Haven 91.62 43 ⇑P P 22 40 16.8 +0.9
baz=92
W24A Lazy 6 Ranch, 91.67 51 ⇓P P 22 40 16.8 +0.6
baz=92
BJT Baijiatuau 91.79 315 *e*P P 22 40 17.0 +0.7
BJT pmax pmax
comp=Z,36nm,0.8s
BJT Baijiatuau 91.79 315 *e*P P 22 40 17.0 +0.7
comp=Z,36nm,0.8s
BJI Beijing 91.79 315 P P 22 40 16.8 +0.4
BJI S S 22 51 02.4 -12
BJI pmax pmax
comp=Z,53nm,1.0s
BJI pmax pmax
comp=Z,250nm,4.2s
BJI LR LR
comp=N,230nm,19.9s
BJI LR LR
comp=E,250nm,19.0s
BJI LR LR
comp=Z,190nm,27.3s
Q20A Ridgley Place, 91.81 46 ⇑P P 22 40 17.5 +0.8
baz=92
X25A Clemmons Ranch 91.81 52 ⇑P P 22 40 17.8 +0.9
baz=92
G13A Cobalt 91.86 39 ⇑P P 22 40 17.6 +0.8
baz=92
R21A Cimarron 91.96 47 ⇓P P 22 40 18.2 +0.7
baz=92
K16A Soda Springs 92.02 42 ⇑P P 22 40 18.3 +0.7
baz=92
P20A De Beque 92.06 46 ⇓P P 22 40 18.9 +1.0
baz=92
H14A Leadore 92.06 40 ⇓P P 22 40 18.6 +0.9
baz=92
S22A 4UR Ranch, Cre 92.09 48 ⇑P P 22 40 19.2 +0.9
baz=92
M18A Lyman 92.11 44 ⇑P P 22 40 18.9 +0.8
baz=92
F13A Darby 92.24 38 ⇓P P 22 40 19.0 +0.5
baz=92
J16A Bone 92.26 41 ⇓P P 22 40 19.2 +0.4
baz=92
W25A X Bar L Ranch, 92.32 51 ⇑P P 22 40 20.4 +1.2
baz=93
H15A Lima 92.47 40 ⇑P P 22 40 20.8 +1.1
baz=93
MCMT McKenzie Canyo 92.48 40 *e*P P 22 40 20.6 +0.9
comp=Z,5.8nm,1.2s
Y27A Causey 92.53 53 ⇓P P 22 40 20.8 +0.7
baz=93
Q22A Crested Butte, 92.65 47 ⇑P P 22 40 21.6 +0.8
baz=93
I16A Newdale 92.69 41 ⇓P P 22 40 22.1 +1.4
baz=93
K18A Toltan Ranch, 92.83 43 ⇓P P 22 40 22.3 +0.9
baz=93
J17A Brown Place, J 92.85 42 ⇓P P 22 40 22.8 +1.3
baz=93
G15A Dillon 92.89 40 ⇑P P 22 40 22.4 +0.9
baz=93
N20A Spence Gulch, 92.89 45 ⇑P P 22 40 22.7 +1.0
baz=93
L19A Farson 92.93 43 ⇑P P 22 40 23.0 +1.1
baz=93
SDCO Great Sand Dun 92.97 49 *e*P P 22 40 23.1 +0.8
comp=Z,2.2nm,1.1s
TNA Tin City 93.04 4 *e*P P 22 40 22.4 +1.0
comp=Z,20nm,1.1s
TNA *e*PP PP 22 44 05.1 -0.2
TRF Thorofare Moun 93.04 11 *e*P P 22 40 20.4 -1.4
comp=Z,14nm,0.9s
J18A Kendall Valley 93.17 42 ⇑P P 22 40 23.6 +0.6
baz=93
PDAR Pinedale Array 93.19 43 P P 22 40 22.6 -0.5
comp=Z,1.3nm,0.9s,baz=214,slow=4.5,SNR=7.8
PDAR LR LR 23 15 12.0
comp=Z,450nm,19.0s,baz=252,slow=31
PDAR Pinedale Array 93.19 43 P P 22 40 22.6 -0.5
W27A Bowe Ranch, En 93.22 52 ⇓P P 22 40 24.1 +0.8
baz=94
I17A Pilgrim Ck. 93.25 41 ⇓P P 22 40 24.2 +0.9
baz=94
FLWY Flagg Ranch 93.28 41 *e*P P 22 40 23.6 +0.2
comp=Z,16nm,1.1s
G16A Moss Hill, Enn 93.31 40 ⇑P P 22 40 24.0 +0.5
baz=94
H16A Russell Place, 93.32 40 ⇓P P 22 40 24.7 +1.1
baz=94
T25A Trinidad 93.38 50 ⇑P P 22 40 24.7 +0.6
baz=94
XAN Xi'an 93.41 307 P P 22 40 24.9 +0.8
XAN pP **pP** 22 40 37.5 +0.4
XAN SKS **SKSac** 22 50 56.2 +1.1
XAN pmax pmax
comp=Z,5.0nm,1.3s
XAN pmax pmax
comp=Z,42nm,8.5s
XAN LR LR
comp=N,190nm,23.8s
XAN LR LR
comp=E,150nm,23.8s
XAN LR LR
comp=Z,150nm,23.8s
U26A Atchley Ranch, 93.44 51 ⇑P P 22 40 25.1 +0.8
baz=94
D14A Greenough 93.48 38 ⇑P P 22 40 25.3 +1.1
baz=94
SEY Seymchan 93.50 346*c e*P P 22 40 23.3 -0.4
L20A Wamsutter 93.50 44 ⇓P P 22 40 25.4 +0.9
baz=94
H17A Grant Village 93.53 41 ⇓P P 22 40 25.6 +1.0
baz=94
E15A Deer Lodge 93.56 38 ⇓P P 22 40 25.9 +1.3
baz=94
I18A Diamond G Ranc 93.57 42 ⇑P P 22 40 25.3 +0.5
baz=94
O22A Kremmling 93.60 46 ⇑P P 22 40 25.5 +0.3
baz=94
CM31 Chiang Mai Arr 93.67 289 *e*P P 22 40 26.0 +0.5
CMAR Chiang Mai Arr 93.67 289 P P 22 40 26.1 +0.5
comp=Z,4.5nm,0.8s,baz=140,slow=3.4,SNR=29
CMAR Chiang Mai Arr 93.67 289 P P 22 40 26.1 +0.5
CMAR Chiang Mai Arr 93.67 289 P P 22 40 26.1 +0.5
KMI Kunming 93.68 296 P P 22 40 27.1 +1.3
KMI pP **pP** 22 40 39.5 +0.8
KMI sP **sP** 22 40 44.6 +1.1
KMI PP PP 22 44 17.0 +5.5
KMI SKS **SKSac** 22 50 56.5 -0.8
KMI S **S** 22 51 26.8 -5.2
KMI sS **sS** 22 51 52.7 -1.1
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,87nm,3.1s
KMI LR LR
comp=N,170nm,17.5s
KMI LR LR
comp=E,180nm,19.7s
KMI LR LR
comp=Z,290nm,20.4s
CHTO Chiang Mai 93.83 289 *e*P P 22 40 27.2 +0.9
CHTO pmax pmax
comp=Z,17nm,1.3s
CHTO Chiang Mai 93.83 289 *e*P P 22 40 27.2 +0.9
comp=Z,17nm,1.3s
CHTO Chiang Mai 93.83 289 P P 22 40 27.4 +1.1
comp=Z,16nm,1.2s
C15A Salmond Ranch, 94.39 37 ⇓P P 22 40 29.0 +0.7
baz=95
J20A Shoshoni 94.41 43 ⇓P P 22 40 29.4 +0.8
baz=95
A14A Double T Ranch 94.68 36 ⇓P P 22 40 31.5 +1.8
baz=95
I20A Worland 94.72 42 ⇑P P 22 40 31.2 +1.2
baz=95
ILAR Eielson Array 94.87 12 P P 22 40 29.1 -0.9
comp=Z,3.2nm,0.9s,baz=226,slow=5.7,SNR=13
ILAR PP PP 22 44 20.6 +0.9
comp=Z,1.6nm,1.0s,baz=219,slow=7.4,SNR=4.3
ILAR LR LR 23 17 21.8
comp=Z,176nm,18.9s,baz=235,slow=32
ILAR Eielson Array 94.87 12 P P 22 40 29.1 -0.9
ILAR 22 44 20.6
ILAR Eielson Array 94.87 12 P P 22 40 29.1 -0.9
ILAR PP PP 22 44 20.6 +0.9
D17A Six Diamond Ra 95.07 39 ⇓P P 22 40 33.3 +1.7
baz=95
I21A Big Trails, Te 95.15 43 ⇑P P 22 40 32.5 +0.5
baz=95
HHC Hu-ho-hao-te 95.17 314 *e*P P 22 40 33.0 +0.9
HHC pP **pP** 22 40 46.5 +1.4
HHC sP **sP** 22 40 51.6 +1.7
HHC PP **PP** 22 44 25.1 +2.4
HHC SKS **SKSac** 22 51 03.5 -1.0
HHC S **S** 22 51 41.5 -2.6
HHC sS **sS** 22 52 05.0 -1.0
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.3s
HHC LR LR
comp=N,190nm,18.6s
HHC LR LR
comp=E,260nm,17.3s
HHC LR LR
comp=Z,340nm,20.2s
M24A Cheyenne 95.41 46 ⇓P P 22 40 33.8 +0.6
baz=96
CD2 Chengdu 95.65 302 P P 22 40 35.5 +1.1
CD2 pP **pP** 22 40 49.3 +1.9
CD2 sP **sP** 22 40 54.6 +2.4
CD2 PP **PP** 22 44 29.3 +2.7
CD2 SKS **SKSac** 22 51 06.3 -1.0
CD2 S **S** 22 51 45.5 -3.1
CD2 sS **sS** 22 52 09.0 -1.4
CD2 SS **SS** 22 58 18.9 +0.1
CD2 pmax pmax
comp=Z,160nm,4.1s
CD2 LR LR
comp=N,330nm,5.4s
CD2 LR LR
comp=Z,270nm,7.7s
BILL Bilibino 96.14 354*c i*P P 22 40 35.4 -0.3
BILL *e* 22 40 49.0
BILL *e* 22 44 28.5
BILL pmax pmax
comp=Z,18nm,1.1s
BILL Bilibino 96.14 354 *e*P P 22 40 35.3 -0.4
comp=Z,12nm,1.0s
RSSD Black Hills 97.30 44 *e*P Pdif 22 40 42.0 +0.1
RSSD pmax pmax
comp=Z,14nm,1.3s
RSSD Black Hills 97.30 44 *e*P Pdif 22 40 42.0 +0.1
comp=Z,14nm,1.3s
TEIG Tepich 97.65 71 LR LR 23 15 10.5
comp=Z,95nm,20.2s,baz=303,slow=30
LZH Lanzhou 98.04 306 *e*P Pdif 22 40 45.5 +0.2
LZH pP pP 22 40 59.0 +0.7
LZH sP sP 22 41 04.0 +0.9
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,63nm,8.7s
LZH LR LR
comp=N,230nm,13.4s
LZH LR LR
comp=E,250nm,14.7s
LZH LR LR
comp=Z,700nm,20.7s
LPAZ La Paz 98.12 113 LR LR 23 15 16.4
comp=Z,304nm,22.0s,baz=270,slow=29
SONM Songino Array 101.88 318 P **Pdif** **22 41 02.2 +0.1**
comp=Z,1.3nm,1.0s,baz=132,slow=2.2,SNR=7.2
SONM PP PP 22 45 08.0 -5.9
comp=Z,0.8nm,1.0s,baz=141,slow=9.1,SNR=2.6
SONM Songino Array 101.88 318 P **Pdif** **22 41 02.2 +0.1**
SONM 22 45 08.0
SONM Songino Array 101.88 318 P **Pdif** **22 41 02.2 +0.1**
SONM PP PP 22 45 08.0 -5.9
YKA Yellowknife Ar 102.33 25 P **Pdif** **22 41 03.7 +0.2**
comp=Z,0.4nm,0.8s,baz=236,slow=4.2,SNR=5.7
YKA PP PP 22 45 07.4 -9.2
comp=Z,0.1nm,0.6s,baz=237,slow=7.0,SNR=3.1
YKA PKKPbc **PKKPbc** **22 57 04.0 -3.3**
comp=Z,0.5nm,0.9s,baz=42,slow=3.0,SNR=6.2
YKA Yellowknife Ar 102.33 25 P **Pdif** **22 41 03.7 +0.2**
YKA Yellowknife Ar 102.33 25 P **Pdif** **22 41 03.7 +0.2**
YKA PP PP 22 45 07.5 -9.2
YKA PKKPbc **PKKPbc** **22 57 04.0 -3.3**
GTA Gaotai 102.39 308⇓ *e*P **Pdif** **22 41 05.5 +1.0**
GTA pP 22 41 19.0
GTA sP 22 41 24.2
GTA PP **PP** **22 45 20.2 +2.3**
GTA S **Sdif** **22 52 40.6 -4.7**
GTA sS sS 22 53 03.7 -3.9
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,100nm,7.8s
GTA LR LR
comp=N,190nm,19.0s
GTA LR LR
comp=E,310nm,20.0s
GTA LR LR
comp=Z,410nm,21.4s
SWET Sewanee 105.78 58 *e*PKPdf **PKiKP** **22 45 32.4 +0.2**
WMQ Urumqi 112.44 309 *e*PKP **PKiKP** **22 45 45.0 +0.5**
WMQ LR LR
comp=N,120nm,20.1s
WMQ LR LR
comp=E,280nm,25.4s
WMQ LR LR
comp=Z,400nm,26.6s
ZAA0 Zalesovo Array 116.72 319 *e*PKPdf **PKPdf** **22 45 51.3 -1.0**
ZALV Zalesovo Beam 116.72 319 PKP **PKPdf** **22 45 50.8 -1.5**
comp=Z,2.0nm,0.7s,baz=118,slow=0.9,SNR=12
ZALV Zalesovo Beam 116.72 319 PKIKP **PKPdf** **22 45 50.8 -1.5**
ZALV Zalesovo Beam 116.72 319 PKP **PKPdf** **22 45 50.8 -1.5**
MK31 Makanchi Array 116.88 311 *e*PKIKP **PKPdf** **22 45 51.4 -1.5**
MK31 Makanchi Array 116.88 311 *e*PKPdf **PKPdf** **22 45 51.4 -1.5**
MKAR Makanchi Array 116.88 311 PKP **PKPdf** **22 45 51.8 -1.1**
comp=Z,3.8nm,0.9s,baz=72,slow=4.0,SNR=23
MKAR Makanchi Array 116.88 311 PKIKP **PKPdf** **22 45 51.8 -1.1**
MKAR Makanchi Array 116.88 311 PKP **PKPdf** **22 45 51.8 -1.1**
NVS Novosibirsk 117.79 320 *e*PKIKP **PKPdf** **22 45 50.7 -3.6**
NVS *e* 22 47 08.8
NVS *e* 22 52 41.3
NVS pmax pmax
comp=Z,27nm,2.0s
NVS pmax pmax
comp=N,4.0nm,1.7s
NVS pmax pmax
comp=E,11nm,2.1s
KSH Kashi 119.85 302 PKP **PKPdf** **22 45 59.1 +0.1**
KSH *es*PKP 22 46 13.1
KSH *e*PKS **PKSdf** **22 49 34.2 -1.5**
KSH *e*SKS **SKSdf** **22 53 06.1 -1.6**
KSH AMB AMB
comp=Z,96nm,5.4s
KSH LR LR
comp=N,160nm,4.1s
KSH LR LR
comp=E,160nm,5.1s
KSH LR LR
comp=Z,210nm,5.0s
KURK Kurchatov 119.96 315*c i*PKIKP **PKPdf** **22 45 57.4 -1.2**
KURK pmax pmax
comp=Z,13nm,1.2s
KURK Kurchatov 119.96 315 *e*PKPdf **PKPdf** **22 45 57.5 -1.2**
BOSA Boshof 120.38 202 PKP **PKPdf** **22 46 00.8 +0.3**
comp=Z,4.1nm,0.9s,baz=254,slow=2.7,SNR=5.0
BOSA Boshof 120.38 202 PKIKP **PKPdf** **22 46 00.8 +0.3**
BOSA Boshof 120.38 202 PKP **PKPdf** **22 46 00.8 +0.3**
KBL Kabul 124.22 295 *e*PKIKP **PKPdf** **22 46 07.9 +0.2**
KBL *e* 22 46 20.2
KBL Kabul 124.22 295 *e*PKPdf **PKPdf** **22 46 07.9 +0.2**
KBL *ep*PKPdf **pPKPdf** **22 46 20.1 -0.9**
BRVK Borovoye 125.28 317*c i*PKIKP **PKPdf** **22 46 07.9 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 125.28 317 *e*PKPdf **PKPdf** **22 46 08.4 -0.4**
SVE Sverdlovsk 130.44 323 *i* PKIKP **PKPdf** **22 46 18.4 -0.1**
SVE pmax pmax
comp=Z,15nm,1.5s
SVE MLR MLR
comp=Z,703nm,21.0s
ARU Arti 131.65 322 *i* PKIKP **PKPdf** **22 46 20.7 -0.1**
ARU 22 48 40.5
ARU SS SS 23 06 17.8 +5.2
ARU Arti 131.65 322 *e*PKPdf **PKPdf** **22 46 20.7 -0.1**
ABKAR Akbulak array 131.96 313 *e*PKPdf **PKPdf** **22 46 21.6 -0.1**
RDF Al-Radifah 141.28 283 *e*P PKPpre 22 46 32.9
RDF AMb AMB 22 46 44.5
comp=Z,79nm,1.9s
MIB Mutribah 141.59 284 *e*P PKPpre 22 46 33.3
MIB AMb AMB 22 46 36.5
comp=Z,31nm,1.0s
NAY Al-Naaiem 141.60 283 *e*P PKPpre 22 46 32.7
NAY AMb AMB 22 46 37.0
comp=Z,13nm,1.3s
VRHR Novokhopersk 142.85 320 *e*PKHKP PKPpre 22 46 35.4
VRHR pmax pmax
comp=Z,6.0nm,0.5s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
FINES FINESS Array B 142.86 342 PKhKP PKPpre 22 46 37.3
comp=E,7.2nm,0.9s,baz=77,slow=3.0,SNR=36
FINES FINESS Array B 142.86 342 PKHKP PKPpre 22 46 37.3
FINES FINESS Array B 142.86 342 PKPpre PKPpre 22 46 37.3
OBN Obninsk 143.48 328 *e*PKIKP PKPbc 22 46 39.8 -0.1
OBN *e* 22 49 51.3
OBN pmax pmax
comp=Z,13nm,1.2s
TBLG Delisi 143.55 304 *e*PKIKP PKPbc 22 46 40.6 -0.1
TBLG Delisi 143.55 304 P PKPbc 22 46 40.6 -0.1
GOR Gori 143.97 304 P PKPbc 22 46 42.5 +0.6
ZEI Tsey 143.97 306 *i* PKIKP PKPab 22 46 41.5 -0.1
ZEI pmax pmax
comp=Z,30nm,1.5s
VSR Storozhevoye 144.19 321 *e*PKIKP **PKPab** **22 46 41.0 -0.8**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
BHD Baghdad 144.40 289 *i* PKP **PKPab** **22 46 41.0 -2.2**
AKH Akhalkalaki 144.52 303 P **PKPdf** **22 46 44.6 -0.6**
CLDR Calderan 144.53 300 *e*P **PKPdf** **22 46 44.8 -0.5**
KIV Kislovodsk 144.57 308 *e*PKIKP PKPbc 22 46 44.0 +0.2
KIV *e* 22 46 51.5
KIV pmax pmax
comp=Z,26nm,1.2s
KIV Kislovodsk 144.57 308 *e*PKPdf PKPbc 22 46 43.9 +0.1
CUKT Cukurca 144.95 296 *e*P PKPbc 22 46 45.3 0.0
KARS Kars 144.96 302 *e*P **PKPdf** **22 46 46.0 +0.1**
VANB Van 145.00 299 *e*P **PKPbc** **22 46 45.2 -0.2**
AGRB Hanur-Agry 145.19 300 *e*P **PKPdf** **22 46 46.2 -0.2**
BCA Borcka 145.90 304 *e*P **PKPab** **22 46 48.2 -0.3**
NB2 NORSAR Subarra 146.10 353 PKP **PKPdf** **22 46 47.0 0.0**
comp=Z,381nm,2.5s,baz=12,slow=3.0
NB2 NORSAR Subarra 146.10 353 PKP **PKPdf** **22 46 47.0 0.0**
baz=12,slow=3.0
NOA NORSAR Array B 146.10 353 PKPbc **PKPdf** **22 46 47.2 +0.1**
comp=Z,16nm,0.9s,baz=16,slow=4.2,SNR=33
NOA NORSAR Array B 146.10 353 PKIKP **PKPdf** **22 46 47.2 +0.1**
NOA NORSAR Array B 146.10 353 PKPbc **PKPdf** **22 46 47.2 +0.1**
NAO01 NORSAR Array S 146.32 353 *e*PKPdf **PKPbc** **22 46 48.1 -0.5**
EZM Erzurum 146.38 301 *e*P **PKPab** **22 46 50.3 -0.4**
SOC Sochi 146.74 308 *i* PKIKP **PKPdf** **22 46 48.5 -0.1**
SOC *e*PPP PPP 22 53 30.1
SOC MLR MLR
comp=Z,331nm,21.0s
IZAR Zarasai 147.37 336 *e*P **PKPbc** **22 46 51.3 -0.4**
IZAR AMB AMB 22 46 52.5
comp=Z,28nm,1.0s
ISAL Salakas 147.55 336 *e*P **PKPbc** **22 46 51.4 -0.8**
ISAL AMB AMB 22 46 55.6
comp=Z,22nm,1.1s
KONO Kongsberg 147.62 354 *e*PKP2 **PKPbc** **22 46 51.6 -0.7**
KONO Kongsberg 147.62 354 *e*PKPbc **PKPbc** **22 46 51.6 -0.7**
IIGN Ignalina 147.69 336 *e*P **PKPbc** **22 46 51.9 -0.7**
IIGN AMB AMB 22 46 53.3
comp=Z,28nm,1.1s
GUMT Gumushane 147.69 303 *e*P **PKPab** **22 46 54.5 -1.2**
ANN Anapa 147.90 311 *i* PKP2 **PKPbc** **22 46 53.0 -0.5**
ANN *e* 22 50 21.6
ANN pmax pmax
comp=Z,82nm,1.2s
PTK Pertek 148.06 300 *e*P **PKPbc** **22 46 55.3 +0.8**
SVRC Sivrice-ELAZID 148.21 299 *e*P **PKPbc** **22 46 55.9 +1.0**
ILIC ilic-Erzincan 148.58 301 *e*P **PKPbc** **22 46 56.6 +1.0**
DARE Darende-Malaty 149.26 301 *e*P **PKPbc** **22 46 58.6 +1.2**
RSDY Resadiye-TOKAT 149.30 303 *e*P **PKPbc** **22 46 57.4 +0.1**
AKASG Malin Array Be 149.70 327 PKPbc **PKPbc** **22 46 57.0 -0.9**
comp=Z,25nm,1.1s,baz=47,slow=2.3,SNR=27
AKASG Malin Array Be 149.70 327 PKP2 **PKPbc** **22 46 57.0 -0.9**
AKASG Malin Array Be 149.70 327 PKPbc **PKPbc** **22 46 57.0 -0.9**
AKBB Malin Array Si 149.70 327 *e*PKHKP PKPpre 22 46 54.0

AKBB	**Malin Array Si**	**149.70**	**327**	*e*PKPdf	**PKPdf**	**22 46 54.0**	**+0.8**
AKBB				*e*PKPbc	**PKPbc**	**22 46 57.1**	**-0.9**
KIEV	**Kiev**	**149.71**	**327**	*e*PKHKP	PKPpre	22 46 53.8	
KIEV	**Kiev**	**149.71**	**327**	*e*PKPdf	**PKPdf**	**22 46 53.8**	**+0.6**
KIEV				*e*PKPbc	**PKPbc**	**22 46 57.3**	**-0.6**
SUW	**Suwalki**	**149.83**	**337**	*e*PKPbc	**PKPbc**	**22 46 58.0**	**-0.2**
SUW	**Suwalki**	**149.83**	**337**	*e*PKP2	**PKPbc**	**22 46 58.3**	**+0.2**
SUW	**Suwalki**	**149.83**	**337**	*e*PKPbc	**PKPbc**	**22 46 58.3**	**+0.2**
SIM	**Simferopol'**	**150.02**	**314***c*	*i*PKP2	**PKPbc**	**22 46 59.0**	**+0.1**
SIM				pmax	pmax		
	comp=Z,140nm,18.8s						
KMRS	**Kahramanmaras**	**150.23**	**298**	*e*P	**PKPbc**	**22 47 00.4**	**+0.7**
MUD	**Monsted U'grnd**	**150.81**	**353**	*i*PKIKP	**PKPbc**	**22 47 00.4**	**0.0**
MUD				pmax	pmax		
	comp=Z,21nm,1.0s						
MUD	**Monsted U'grnd**	**150.81**	**353**	*i*P	**PKPbc**	**22 47 00.4**	**0.0**
	comp=Z,21nm,1.0s						
COP	**Copenhagen**	**151.13**	**349**	*i*PKIKP	**PKPbc**	**22 47 00.9**	**-0.2**
COP				pmax	pmax		
	comp=Z,19nm,0.8s						
COP	**Copenhagen**	**151.13**	**349**	*i*P	**PKPbc**	**22 47 00.9**	**-0.2**
	comp=Z,19nm,0.8s						
BSD	**Bornholm Skovb**	**151.21**	**346**	*i*PKIKP	**PKPbc**	**22 46 59.5**	**-1.9**
BSD				pmax	pmax		
	comp=Z,33nm,1.0s						
BSD	**Bornholm Skovb**	**151.21**	**346**	*i*P	**PKPbc**	**22 46 59.5**	**-1.9**
	comp=Z,33nm,1.0s						
CORM	**Corum**	**151.35**	**304**	*e*P	**PKPbc**	**22 47 03.2**	**+0.8**
BR131	**Keskin Array S**	**152.21**	**304**	*e*PKPbc	**PKPbc**	**22 47 04.1**	**-0.3**
BRTR	**Keskin Array B**	**152.21**	**304**	PKPbc	**PKPbc**	**22 47 03.8**	**-0.6**
	comp=Z,8.4nm,1.0s,baz=145,slow=1.6,SNR=26						
BRTR				PKPab	**PKPab**	**22 47 13.5**	**-0.8**
	comp=Z,26nm,0.9s,baz=83,slow=2.3,SNR=13						
BRTR				PP	**PP**	**22 50 43.8**	**-3.0**
	comp=Z,1.4nm,1.0s,baz=111,slow=6.9,SNR=3.5						
BRTR	**Keskin Array B**	**152.21**	**304**	PKIKP	**PKPbc**	**22 47 03.8**	**-0.6**
BRTR						22 47 13.5	
BRTR						22 50 43.8	
BRTR	**Keskin Array B**	**152.21**	**304**	PKPbc	**PKPbc**	**22 47 03.8**	**-0.6**
BRTR				PKPab	**PKPab**	**22 47 13.5**	**-0.8**
BRTR				PP	**PP**	**22 50 43.8**	**-3.0**
KAMT	**Kaman**	**152.26**	**303**	*e*P	**PKPbc**	**22 47 04.1**	**-0.3**
GKP	**Gorka Klasztor**	**152.34**	**342**	*e*PKPbc	**PKPbc**	**22 47 04.3**	**+0.3**
GKP	**Gorka Klasztor**	**152.34**	**342**	*e*PKIKP	**PKPbc**	**22 47 04.3**	**+0.3**
SAFT	**Safranbolu**	**152.42**	**307**	*e*P	**PKPbc**	**22 47 04.5**	**-0.1**
BEL	**Belsk**	**152.45**	**336**	*e*PKPbc	**PKPbc**	**22 47 04.8**	**+0.5**
BEL	**Belsk**	**152.45**	**336**	*e*PKIKP	**PKPbc**	**22 47 04.8**	**+0.5**
LVV	**L'vov**	**152.73**	**330**	*i*PKIKP	**PKPbc**	**22 47 05.1**	**+0.1**
LEOM	**Leova**	**152.81**	**321**	⇑PKIKP	**PKPbc**	**22 47 05.2**	**-0.1**
LEOM	**Leova**	**152.81**	**321**	⇑*i*P	**PKPbc**	**22 47 05.2**	**-0.1**
KWP	**Kalwaria Pacla**	**153.44**	**331**	*e*PKPbc	**PKPbc**	**22 47 07.3**	**+0.7**
KWP	**Kalwaria Pacla**	**153.44**	**331**	*e*PKIKP	**PKPbc**	**22 47 07.1**	**+0.5**
KWP	**Kalwaria Pacla**	**153.44**	**331**	*e*PKPbc	**PKPbc**	**22 47 07.0**	**+0.5**
KWP	**Kalwaria Pacla**	**153.44**	**331**	⇓*i*P	**PKPbc**	**22 47 06.4**	**-0.2**
CSS	**Prodhromos**	**153.47**	**294**	*e*PKPbc	**PKPbc**	**22 47 07.5**	**+0.4**
CSS				*e*PKPab	**PKPab**	**22 47 19.4**	**-0.2**
TESR		**153.67**	**322**	⇑*i*P	**PKPab**	**22 47 18.9**	**-1.1**
BUR08	**Bucovina Ar. S**	**153.70**	**326**	*e*PKPbc	**PKPbc**	**22 47 08.0**	**+0.6**
BUR08				*e*PKPab	**PKPab**	**22 47 20.2**	**0.0**
BURAR	**Bucovina Array**	**153.71**	**325**	⇑PKIKP	**PKPbc**	**22 47 08.3**	**+0.9**
BURAR	**Bucovina Array**	**153.71**	**325**	⇑*i*P	**PKPbc**	**22 47 08.3**	**+0.9**
PETR		**153.82**	**320**	⇑*i*P	**PKPab**	**22 47 22.4**	**+1.8**
VRI	**Vrincioaia**	**154.02**	**321**	⇑PKIKP	**PKPbc**	**22 47 08.0**	**0.0**
VRI	**Vrincioaia**	**154.02**	**321**	⇑*i*P	**PKPbc**	**22 47 08.0**	**0.0**
PLOR	**Plostina**	**154.07**	**321**	⇑PKIKP	PKPbc	22 47 13.6	+5.5
PLOR	**Plostina**	**154.07**	**321**	⇑*i*P	PKPbc	22 47 13.6	+5.5
OJC	**Ojcow**	**154.13**	**336**	*e*PKPdf	**PKPdf**	**22 47 09.2**	**+0.1**
OJC	**Ojcow**	**154.13**	**336**	*e*PKIKP	**PKPdf**	**22 47 00.0**	**+0.1**
KOLS	**Kolonicke sedl**	**154.16**	**331**	*e*PKIKP	**PKPdf**	**22 47 01.3**	**+1.3**
KOLS				*e*		22 47 10.8	
KOLS	**Kolonicke sedl**	**154.16**	**331**	*e*PKP	**PKPdf**	**22 47 01.2**	**+1.3**
KOLS				*e*		22 47 10.8	
STHS	**Stebnicka Huta**	**154.22**	**333**	*e*PKIKP	**PKPbc**	**22 47 10.7**	**+2.4**
STHS				*e*		22 47 21.0	
STHS	**Stebnicka Huta**	**154.22**	**333**	*e*PKP	**PKPbc**	**22 47 10.7**	**+2.4**
STHS				*e*		22 47 21.0	
PSN	**Preselentsi**	**154.37**	**315**	*e*P	**PKPab**	**22 47 22.5**	**-0.6**
UZH	**Uzhgorod**	**154.37**	**330**	*e*PKIKP	**PKPbc**	**22 47 08.2**	**-0.4**
UZH				*e*		22 47 13.2	
UZH				*i*		22 47 19.8	
PGOR	**Pogoanele**	**154.43**	**319**	⇑*i*P	**PKPbc**	**22 47 13.5**	**+4.7**
BMR	**Baia Mare**	**154.52**	**327**	⇓PKIKP	**PKPbc**	**22 47 08.5**	**-0.5**
BMR	**Baia Mare**	**154.52**	**327**	⇓*i*P	**PKPbc**	**22 47 08.5**	**-0.5**
CRVS	**Cervenica-Dubn**	**154.53**	**332**	*e*PKIKP	**PKPdf**	**22 47 00.2**	**-0.3**
CRVS				*e*		22 47 10.4	
CRVS				*e*		22 47 23.5	
CRVS	**Cervenica-Dubn**	**154.53**	**332**	*e*PKP	**PKPdf**	**22 47 00.2**	**-0.3**
CRVS				*e*		22 47 10.4	
CRVS				*e*		22 47 23.5	
NIE	**Niedzica**	**154.59**	**334**	*e*PKPdf	**PKPdf**	**22 47 01.8**	**+1.2**
NIE	**Niedzica**	**154.59**	**334**	*e*PKIKP	**PKPdf**	**22 47 01.8**	**+1.2**
TRPA	**Tarpa**	**154.63**	**329**	⇓*e*	PKPab	22 47 17.0	-7.0
MLR	**Muntele Rosu**	**154.68**	**321**	⇓PKIKP	**PKPdf**	**22 47 01.3**	**+0.3**
MLR	**Muntele Rosu**	**154.68**	**321**	⇓*i*P	**PKPdf**	**22 47 01.3**	**+0.3**
KSP	**Ksiaz**	**154.76**	**341**	*e*PKPbc	**PKPbc**	**22 47 10.4**	**+1.1**
KSP				*e*PKPab	**PKPab**	**22 47 22.5**	**-2.0**
KSP	**Ksiaz**	**154.76**	**341**	*e*PKP2	**PKPab**	**22 47 24.5**	**+0.1**
SULR		**154.99**	**319**	⇓*i*P	PKPbc	22 47 16.1	+6.1
OKC	**Ostrava-Krasne**	**155.04**	**337**	*e*PKIKP	PKPdf	22 47 10.6	+9.4
OKC	**Ostrava-Krasne**	**155.04**	**337**	*e*PKP	PKPdf	22 47 10.6	+9.4
UPC	**Upice**	**155.14**	**341**	*e*PKIKP	PKPdf	22 47 10.9	+10
UPC				*e*		22 47 26.2	
UPC	**Upice**	**155.14**	**341**	⇑*e*PKP	PKPdf	22 47 10.9	+10
UPC				*e*PKPAB	**PKPab**	**22 47 26.2**	**+0.1**
UPC				*ex*	x	22 47 34.3	
CLL	**Collm**	**155.18**	**346**	*e*PKIKP	**PKPdf**	**22 47 01.0**	**-0.3**
CLL				*i*		22 47 10.2	
CLL				*i*		22 47 25.7	
CLL				pmax	pmax		
	comp=Z,15nm,1.1s						
CLL				pmax	pmax		
	comp=Z,16nm,1.0s						
CLL				MLR	MLR		
	comp=Z,300nm,18.0s						
DPC	**Dobruska-Polom**	**155.19**	**340**	*e*PKIKP	**PKPdf**	**22 47 06.1**	**+4.7**
DPC				*e*		22 47 22.9	
DPC	**Dobruska-Polom**	**155.19**	**340**	*e*PKPDF	**PKPdf**	**22 47 06.1**	**+4.7**
DPC				*e*pPKP	**PKPab**	**22 47 22.9**	**-3.4**
VOIR		**155.21**	**322**	⇑PKP2	**PKPab**	**22 47 21.8**	**-4.9**
VOIR		**155.21**	**322**	⇑*i*P	**PKPab**	**22 47 21.8**	**-4.9**
KECS	**Kecovo**	**155.26**	**332**	*e*PKIKP	**PKPdf**	**22 47 03.7**	**+2.2**
KECS				*e*		22 47 26.8	
KECS	**Kecovo**	**155.26**	**332**	*e*PKP	**PKPdf**	**22 47 03.7**	**+2.2**
KECS				*e*		22 47 26.8	
MORC	**Moravsky Berou**	**155.30**	**338**	⇓PKIKP	**PKPdf**	**22 47 01.3**	**-0.3**
MORC	**Moravsky Berou**	**155.30**	**338**	⇓*i*P	**PKPdf**	**22 47 01.3**	**-0.3**
BRG	**Berggiesshubel**	**155.37**	**344**	*e*PKP	**PKPdf**	**22 47 01.3**	**-0.3**
	comp=Z,6.5nm,1.1s						
BRG				*e*		22 47 10.9	
	comp=Z,8.9nm,1.2s						
BRG				*i*		22 47 26.4	
	comp=Z,34nm,1.2s						
BRG	**Berggiesshubel**	**155.37**	**344**	*e*PKIKP	**PKPdf**	**22 47 01.3**	**-0.3**
BRG				*e*		22 47 10.9	
BRG				*i*		22 47 26.4	
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,35nm,1.2s						
DRGR		**155.52**	**327**	⇓PKIKP	PKPdf	22 47 10.8	+8.8
DRGR		**155.52**	**327**	⇓*i*P	PKPdf	22 47 10.8	+8.8
PVCC	**Panska Ves**	**155.53**	**343**	*e*PKIKP	**PKPdf**	**22 47 01.8**	**0.0**
PVCC				*e*		22 47 28.2	
PVCC	**Panska Ves**	**155.53**	**343**	*e*PKPDF	**PKPdf**	**22 47 01.8**	**0.0**
PVCC				*e*pPKP	**pPKPdf**	**22 47 18.8**	**+3.6**
PVCC				*e*PKPAB	**PKPab**	**22 47 28.2**	**+0.5**
VYHS	**Vyhne**	**155.91**	**334**	*e*PKIKP	**PKPdf**	**22 47 02.5**	**+0.1**
VYHS				*e*		22 47 14.5	
VYHS				*e*		22 47 29.4	
VYHS	**Vyhne**	**155.91**	**334**	*e*PKP	**PKPdf**	**22 47 02.5**	**+0.1**
VYHS				*e*		22 47 14.5	
VYHS				*e*		22 47 29.4	
PSZ	**Piszkesteto**	**155.95**	**332**	⇑PKP2	PKPab	22 47 23.5	-6.2
PSZ	**Piszkesteto**	**155.95**	**332**	ePKPab	**PKPab**	**22 47 29.9**	**+0.2**
PSZ	**Piszkesteto**	**155.95**	**332**	⇑*i*P	PKPab	22 47 23.5	-6.2
PSZ	**Piszkesteto**	**155.95**	**332**	⇓*e*	**PKPab**	**22 47 29.9**	**+0.2**
KOLL	**Kolacno**	**156.00**	**335**	*e*PKIKP	PKPdf	22 47 08.4	+5.9
KOLL				*e*		22 47 24.9	
KOLL	**Kolacno**	**156.00**	**335**	*e*PKP	PKPdf	22 47 08.4	+5.9
VRAC	**Vranov**	**156.02**	**339**	⇓PKP2	**PKPab**	**22 47 29.5**	**-0.4**
VRAC	**Vranov**	**156.02**	**339**	⇓*i*P	**PKPab**	**22 47 29.5**	**-0.4**
PRU	**Pruhonice**	**156.03**	**342**	*e*PKIKP	PKPdf	22 47 12.3	+10
PRU				*e*		22 47 30.0	
PRU	**Pruhonice**	**156.03**	**342**	⇑*e*PKP	PKPdf	22 47 12.3	+10
PRU				*e*PKPAB	**PKPab**	**22 47 30.0**	**+0.1**
NKC	**Novy Kostel**	**156.32**	**346**	*e*PKIKP	PKPdf	22 47 12.9	+10
NKC				*e*		22 47 25.5	
NKC				*e*		22 47 30.9	
NKC	**Novy Kostel**	**156.32**	**346**	⇑*e*PKP	PKPdf	22 47 12.9	+10
NKC				*ex*	x	22 47 25.5	
NKC				*e*PKPAB	**PKPab**	**22 47 30.9**	**-0.2**
SMOL	**Smolenice**	**156.41**	**336**	*e*PKP2	**PKPab**	**22 47 32.6**	**+1.0**
SMOL	**Smolenice**	**156.41**	**336**	*e*PKP	**PKPab**	**22 47 32.6**	**+1.0**
DIM	**Dimitrovgrad**	**156.88**	**314**	*e*P	**PKPab**	**22 47 35.1**	**+1.2**
BZS	**Buzias**	**156.89**	**326**	⇑PKIKP	**PKPdf**	**22 47 03.7**	**0.0**
BZS	**Buzias**	**156.89**	**326**	⇑*i*P	**PKPdf**	**22 47 03.7**	**0.0**
KHC	**Kasperske Hory**	**157.06**	**343**	*e*PKIKP	PKPdf	22 47 14.6	+11
KHC				*e*		22 47 24.5	
KHC	**Kasperske Hory**	**157.06**	**343**	*e*PKPab	**PKPab**	**22 47 34.7**	**+0.3**
KHC	**Kasperske Hory**	**157.06**	**343**	*e*PKPDF	PKPdf	22 47 10.5	+6.6
KHC				*e*pPKP	pPKPdf	22 47 14.6	-2.7
KHC				*ex*	x	22 47 24.5	
KHC				*e*PKPAB	**PKPab**	**22 47 33.9**	**-0.5**
KHC				*e*pPKP		22 47 51.0	
GRF	**Grafenberg Arr**	**157.09**	**347**	*e*PKP2	**PKPab**	**22 47 34.5**	**+0.1**
GRF				pmax	pmax		
	comp=Z,12nm,1.0s						
GRF				MLR	MLR		
	comp=Z,200nm,21.3s						
MPEP	**Malo Peshtene**	**157.23**	**319**	*e*P	**PKPab**	**22 47 35.4**	**+0.1**
GERES	**GERESS Array B**	**157.29**	**342**	PKP	**PKPdf**	**22 47 03.3**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=247,slow=2.8,SNR=3.6						
GERES				PKPab	**PKPab**	**22 47 35.4**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=46,slow=3.9,SNR=7.6						
GERES				PP	**PP**	**22 51 17.1**	**+3.3**
	comp=Z,1.0nm,1.1s,baz=83,slow=9.3,SNR=3.8						
GERES	**GERESS Array B**	**157.29**	**342**	PKIKP	**PKPdf**	**22 47 03.3**	**-1.0**
GERES						22 51 17.2	
GERES	**GERESS Array B**	**157.29**	**342**	PKP	**PKPdf**	**22 47 03.3**	**-1.0**
GERES				PKPab	**PKPab**	**22 47 35.4**	**-0.1**
GERES				PP	**PP**	**22 51 17.1**	**+3.3**
PLD	**Plovdiv**	**157.38**	**315**	*e*P	**PKPab**	**22 47 35.9**	**-0.1**
SOP	**Sopron**	**157.43**	**336**	⇓*e*	**PKPab**	**22 47 36.7**	**+0.7**
PGB	**Panagyurishte**	**157.46**	**317**	*e*P	**PKPab**	**22 47 36.9**	**+0.5**
CONA	**Conrad Observa**	**157.46**	**338**	⇑*i*PKPab	**PKPab**	**22 47 36.7**	**+0.5**
	comp=Z,26nm,1.3s						
DBIC	**Dimbokro**	**157.80**	**158**	PKP	**PKPdf**	**22 47 05.2**	**-0.7**
	comp=Z,4.7nm,1.0s,baz=323,slow=3.6,SNR=4.6						
DBIC				PKPab	**PKPab**	**22 47 38.0**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=135,slow=4.7,SNR=3.1						
DBIC	**Dimbokro**	**157.80**	**158**	PKIKP	**PKPdf**	**22 47 05.2**	**-0.7**
DBIC						22 47 38.0	
DBIC	**Dimbokro**	**157.80**	**158**	PKP	**PKPdf**	**22 47 05.2**	**-0.7**
DBIC				PKPab	**PKPab**	**22 47 38.0**	**-0.4**
PKSM	**Moragy**	**157.82**	**331**	⇑PKIKP	**PKPdf**	**22 47 05.0**	**+0.1**
PKSM	**Moragy**	**157.82**	**331**	⇑*i*P	**PKPdf**	**22 47 05.0**	**+0.1**
PKSM	**Moragy**	**157.82**	**331**	⇓*e*PKPdf	**PKPdf**	**22 47 04.6**	**-0.3**
VTS	**Vitosha**	**158.00**	**318**	⇑PKP2	**PKPab**	**22 47 39.5**	**+0.6**
VTS	**Vitosha**	**158.00**	**318**	⇑*i*P	**PKPab**	**22 47 39.5**	**+0.6**
VTS	**Vitosha**	**158.00**	**318**	*e*P	**PKPab**	**22 47 38.9**	**0.0**
ARSA	**Arzberg**	**158.16**	**337**	⇓*i*PKPab	**PKPab**	**22 47 39.3**	**+0.1**
	comp=Z,6.9nm,1.1s						
MMB	**Musomiste**	**158.27**	**315**	*e*P	**PKPab**	**22 47 39.9**	**0.0**
KKB	**Krupnik**	**158.51**	**317**	*e*P	**PKPab**	**22 47 41.2**	**+0.3**
KOGS	**Kog**	**158.59**	**335**	*e*PKPab	**PKPab**	**22 47 40.8**	**-0.2**
KOGS				*e*pPKPab	**pPKPab**	**22 47 52.5**	**-1.5**
SOKA	**Soboth**	**158.82**	**337**	⇓*i*PKPab	**PKPab**	**22 47 42.1**	**-0.1**
	comp=Z,20nm,1.4s						
GROS	**Grobnik**	**158.85**	**336**	*e*PKPdf	**PKPdf**	**22 47 05.6**	**-0.6**
GROS				*e*PKPab	**PKPab**	**22 47 42.0**	**-0.2**
ABTA	**Abfaltersbach**	**159.54**	**342**	⇓*i*PKPab	**PKPab**	**22 47 43.9**	**-1.4**
	comp=Z,16nm,1.1s						
LJU	**Ljubljana**	**159.55**	**337**	*e*PKPab	**PKPab**	**22 47 44.8**	**-0.4**
AQU	**L'Aquila**	**163.14**	**334**	⇑*i*P	**PKPab**	**22 48 01.1**	**0.0**
TORD	**Torodi Ar. Bea**	**165.59**	**173**	PKP	**PKPdf**	**22 47 13.3**	**-0.5**
	comp=Z,4.5nm,1.1s,baz=262,slow=1.5,SNR=19						
TORD				PKPab	**PKPab**	**22 48 12.4**	**+0.1**
	comp=Z,14nm,1.0s,baz=195,slow=3.7,SNR=23						
TORD				PP	**PP**	**22 52 02.0**	**+4.1**
	comp=Z,2.5nm,1.2s,baz=162,slow=6.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.59**	**173**	PKP	**PKPdf**	**22 47 13.3**	**-0.5**
TORD				PKPab	**PKPab**	**22 48 12.4**	**+0.1**
TORD				PP	**PP**	**22 52 02.0**	**+4.1**
ESDC	**Sonseca Array**	**166.42**	**25**	PKP	**PKPdf**	**22 47 13.7**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=342,slow=3.0,SNR=9.7						
ESDC				PKPab	**PKPab**	**22 48 15.2**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=317,slow=3.9,SNR=8.6						
ESDC				PP	PP	22 52 13.7	+11
	comp=Z,1.0nm,1.0s,baz=321,slow=3.3,SNR=5.2						
ESDC	**Sonseca Array**	**166.42**	**25**	PKP	**PKPdf**	**22 47 13.7**	**-0.2**
ESDC				PKPab	**PKPab**	**22 48 15.2**	**-0.4**
ESDC				PP	PP	22 52 13.7	+11
TAM	**Tamanrasset**	**174.91**	**202**	*e*PKIKP	**PKPdf**	**22 47 19.8**	**+0.7**
TAM				*e*		22 48 55.2	
TAM	**Tamanrasset**	**174.91**	**202**	*e*PKPdf	**PKPdf**	**22 47 19.8**	**+0.7**
TAM				*e*PKPab	**PKPab**	**22 48 55.2**	**+1.5**

IDC 05 22:43:32.7±2.8, 0.°93S×132.°37E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=130.0km s-min=24.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.30**	**201**	P	Pn	22 47 47.7	-0.5
	0.1nm,0.3s,baz=0.0,slow=16,SNR=2.6						
FITZ				S	Sn	22 51 03.7	-10
	0.1nm,0.3s,baz=9.6,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**18.99**	**174**	P	P	22 47 56.0	-0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=11						
WRA				S	Sn	22 51 22.6	-7.5
	0.1nm,0.3s,baz=346,slow=21,SNR=4.0						
ASAR	**Alice Springs**	**22.65**	**176**	P	P	22 48 36.0	+0.3
	0.6nm,0.8s,baz=5.2,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**64.59**	**324**	P	P	22 54 11.9	-0.1
	0.1nm,0.4s,baz=140,slow=7.2,SNR=2.9						

*IDC **05** 23:04:49.7±1.5, 0.°67S×133.°30E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML4.1/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/33, Error ellipse: s-maj=89.0km s-min=15.7km az=77.0*

*NEIC **05** 23:04:55.2±0.8, 0.°72S×133.°12E, h35km, mb3.8/4, Error ellipse: s-maj=42.5km s-min=7.8km az=78.0*

ISC 05 23:04:58.1±1.1, 0.°89S±0.°08×131.°5E±0.°3, h35km, n31, σ2$18/22, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**17.69**	**119**	LR	LR	23 14 32.3	
	comp=Z,734nm,19.8s,baz=98,slow=36						
FITZ	**Fitzroy Crossi**	**18.06**	**198**	P	P	23 09 11.1	+4.5
	0.7nm,0.3s,baz=72,slow=9.1,SNR=11						
FITZ				S	**Sn**	**23 12 27.1**	**+0.2**
	0.3nm,0.3s,baz=193,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**18.06**	**198**	*e*P	P	23 09 11.0	+4.4
	7.5nm,0.9s						
FITZ				S	**Sn**	**23 12 27.1**	**+0.2**
WRAB	**Tennant Creek**	**19.12**	**172**	*e*P	**P**	**23 09 15.9**	**-2.4**
	4.3nm,0.7s						
WRA	**Warramunga Arr**	**19.13**	**172**	P	**P**	**23 09 15.1**	**-3.3**
	0.4nm,0.3s,baz=355,slow=11,SNR=30						
WRA				S	Sn	23 12 39.3	-14
	0.3nm,0.3s,baz=359,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**19.13**	**172**	P	**P**	**23 09 15.1**	**-3.3**
WRA				S	Sn	23 12 39.3	-14
ASI	**Alice Springs**	**22.75**	**174**	*e*P	**P**	**23 09 55.7**	**-1.8**
ASAR	**Alice Springs**	**22.75**	**174**	P	**P**	**23 09 55.8**	**-1.7**
	3.9nm,0.7s,baz=355,slow=8.9,SNR=34						
ASAR				S	**S**	**23 14 07.6**	**+3.5**
	1.9nm,1.1s,baz=6.1,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**22.75**	**174**	P	**P**	**23 09 55.8**	**-1.7**
ASAR				S	**S**	**23 14 07.6**	**+3.5**
STKA	**Stephens Creek**	**32.25**	**164**	P	P	23 11 17.6	-5.7
	1.5nm,0.3s,baz=346,slow=8.8,SNR=9.8						
STKA	**Stephens Creek**	**32.25**	**164**	*e*P	P	23 11 17.7	-5.7
	0.9nm,1.0s						
TAPN	**Taplejung**	**50.62**	**307**	*e*P	P	23 13 58.5	+4.2
ODAN	**Odare**	**50.66**	**306**	*e*P	P	23 14 01.3	+6.7
RAMN	**Ramite**	**51.33**	**306**	*e*P	P	23 14 05.9	+6.2
	18nm,0.8s						
JIRN	**Jiri**	**51.97**	**307**	*e*P	**P**	**23 14 05.1**	**+0.6**
	6.9nm,0.5s						
GUN	**Gumba**	**52.32**	**307**	*e*P	**P**	**23 14 04.8**	**-2.4**
KKN	**Kakani**	**52.75**	**306**	*e*P	**P**	**23 14 07.9**	**-2.3**
	4.8nm,0.5s						
DMN	**Gumba**	**52.82**	**306**	*e*P	**P**	**23 14 10.3**	**-0.4**
SONM	**Songino Array**	**53.25**	**339**	P	**P**	**23 14 13.0**	**-0.3**
	0.3nm,0.8s,baz=150,slow=6.7,SNR=2.5						
SONM	**Songino Array**	**53.25**	**339**	P	**P**	**23 14 13.0**	**-0.3**
GKN	**Gorkha**	**53.36**	**306**	*e*P	P	23 14 10.7	-3.9
	13nm,0.7s						
KOLN	**Koldanda**	**54.10**	**306**	*e*P	**P**	**23 14 17.3**	**-2.8**
	7.2nm,0.7s						
DANN	**Dangsing**	**54.20**	**306**	*e*P	P	23 14 14.0	-6.9
MKAR	**Makanchi Array**	**64.08**	**325**	P	P	23 15 31.6	+2.9
	1.7nm,0.7s,baz=110,slow=8.6,SNR=21						
MKAR	**Makanchi Array**	**64.08**	**325**	P	P	23 15 31.6	+2.9
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**23 15 47.1**	**+0.5**
	0.3nm,0.3s,baz=160,slow=4.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**	**23 15 47.1**	**+0.5**
KURK	**Kurchatov**	**68.20**	**327**	P	P	23 15 57.2	+2.2
	2.2nm,0.7s,baz=120,slow=5.8,SNR=23						
KURK	**Kurchatov**	**68.20**	**327**	*e*P	**P**	**23 15 56.6**	**+1.6**
	2.0nm,0.6s						
BVAR	**Borovoye Array**	**73.80**	**327**	P	**P**	**23 16 30.7**	**+1.8**
	0.7nm,0.6s,baz=126,slow=7.5,SNR=6.0						
BVAR	**Borovoye Array**	**73.80**	**327**	P	**P**	**23 16 30.7**	**+1.8**

*ISCJB **05** 23:05:42.4±0.5, 47.°82N±0.°08×147.°3E±0.°1, h435km±8km, mb3.4/20, Error ellipse: s-maj=15.3km s-min=8.8km az=141.2*

*IDC **05** 23:05:44.6±1.2, 48.°13N×147.°15E, h430km±14km, mb3.1/17, mb1 3.3/21, mb1mx3.2/30, mbtmp3.1/21, Error ellipse: s-maj=19.8km s-min=9.4km az=162.0*

*NEIC **05** 23:05:44.1±0.5, 48.°03N×147.°20E, h430km±8km, mb3.8/4, Error ellipse: s-maj=13.3km s-min=6.8km az=152.0*

ISC 05 23:05:42.9±0.8, 47.°7N±0.°1×147.°29E±0.°09, h431km±10km, n66, σ1$61/73, mb3.5/20, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**3.18**	**258**

ellipse: s-maj=93.6km s-min=22.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**202**	P	Pn	23 17 39.2	-0.1
	0.1nm,0.3s,baz=43,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**19.25**	**176**	P	P	23 17 43.3	-1.0
	0.1nm,0.3s,baz=355,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**22.92**	**178**	P	P	23 18 24.4	+0.4
	0.4nm,0.5s,baz=354,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**64.65**	**324**	P	P	23 23 59.6	+1.8
	0.2nm,0.5s,baz=109,slow=8.3,SNR=4.3						
KURK	**Kurchatov**	**68.73**	**326**	P	P	23 24 22.4	-1.3
	0.4nm,0.7s,baz=116,slow=5.5,SNR=3.9						

IDC 05 23:15:18.6±3.8, 0°28S×133°93E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/14, Error ellipse: s-maj=201.3km s-min=26.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.55**	**179**	P	Pn	23 19 48.8	-0.4
	0.0nm,0.3s,baz=359,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**23.25**	**180**	P	P	23 20 27.2	-0.6
	0.2nm,0.5s,baz=1.3,slow=9.9,SNR=4.3						
DZM	**Mont Dzumac**	**38.38**	**127**	LR	LR	23 37 43.9	
	comp=Z,72nm,18.1s,baz=217,slow=35						
MKAR	**Makanchi Array**	**64.98**	**324**	P	P	23 26 00.4	0.0
	0.3nm,0.7s,baz=115,slow=8.0,SNR=3.2						

IDC 05 23:24:38.7±1.2, 3.73N×126.85E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, Error ellipse: s-maj=106.7km s-min=14.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	P	23 29 32.6	+0.8
	1.5nm,0.8s,baz=11,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	23 29 59.9	-1.4
	1.2nm,0.4s,baz=338,slow=11,SNR=11						
ASAR	**Alice Springs**	**28.09**	**166**	P	P	23 30 33.2	+0.8
	0.2nm,0.3s,baz=347,slow=7.2,SNR=3.5						
STKA	**Stephens Creek**	**38.09**	**159**	P	P	23 31 59.3	-0.1
	0.6nm,0.4s,baz=358,slow=8.8,SNR=5.7						
SONM	**Songino Array**	**47.33**	**341**	P	P	23 33 15.9	+1.4
	0.3nm,0.6s,baz=160,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	23 34 29.9	-0.8
	0.5nm,0.4s,baz=117,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	P	23 34 51.3	-0.2
	0.4nm,0.3s,baz=126,slow=7.6,SNR=2.3						
KURK	**Kurchatov**	**61.80**	**327**	P	P	23 34 59.0	-0.4
	1.5nm,0.6s,baz=130,slow=6.3,SNR=22						
AKTO	**Aktyubinsk**	**73.73**	**322**	P	P	23 36 15.0	+0.3
	0.4nm,0.6s,baz=90,slow=13,SNR=4.1						

IDC 05 23:26:10.1±3.2, 0.05N×133.54E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=200.5km s-min=24.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**178**	P	Pn	23 30 44.2	-0.5
	0.3nm,0.3s,baz=351,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**23.57**	**179**	P	P	23 31 23.2	+0.6
	4.0nm,0.8s,baz=351,slow=9.3,SNR=23						
STKA	**Stephens Creek**	**32.65**	**167**	P	P	23 32 42.2	-1.8
	1.2nm,0.7s,baz=336,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**64.49**	**324**	P	P	23 36 48.9	+0.1
	0.2nm,0.4s,baz=118,slow=8.1,SNR=7.3						

IDC 05 23:32:19.9±1.3, 7.51S×128.70E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/16, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=84.9km s-min=20.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.95**	**196**	Pn	Pn	23 34 57.8	-0.1
	0.7nm,0.3s,baz=40,slow=12,SNR=26						
FITZ				Sn	Sn	23 36 51.3	-10
	3.1nm,0.3s,baz=160,slow=19,SNR=8.3						
WRA	**Warramunga Arr**	**13.52**	**157**	Pn	Pn	23 35 32.6	-0.6
	0.8nm,0.3s,baz=349,slow=13,SNR=20						
WRA				Sn	Sn	23 37 52.0	-12
	2.6nm,0.3s,baz=336,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.83**	**163**	Pn	Pn	23 36 16.7	-0.4
	0.1nm,0.3s,baz=346,slow=10,SNR=4.1						
ASAR				Sn	Sn	23 39 13.8	-11
	0.3nm,0.3s,baz=338,slow=16,SNR=4.6						
STKA	**Stephens Creek**	**27.06**	**155**	P	P	23 38 04.5	+0.3
	0.6nm,0.5s,baz=326,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**67.95**	**328**	P	P	23 43 20.8	+0.1
	0.1nm,0.3s,baz=118,slow=8.3,SNR=9.7						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	P	23 43 42.2	-0.1
	0.3nm,0.3s,baz=148,slow=9.2,SNR=2.8						

*ISCJB **05** 23:49:51.5±1.6, 36.58N±0.06×141.46E±0.09, h25km±7km, mb3.2/4, Error ellipse: s-maj=13.3km s-min=8.3km az=27.6*

*JMA **05** 23:49:52.6±0.1, 36.58N×141.36E, h45km±2km, M3.2*

*IDC **05** 23:50:01.0±1.7, 34.82N×137.79E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=45.6km s-min=24.5km az=83.0*

ISC 05 23:49:49.7±2.4, 36.56N±0.07×141.5E±0.1, h17km±11km, n14, σ0.84/18, mb3.5/4, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.77**	**274**	⇓P	**Pg**	**23 50 05.3**	**+0.5**
JHO				*eS*	**Sg**	**23 50 14.3**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.80**	**313**	⇓P	**Pg**	**23 50 05.8**	**+0.5**
ONAJ				*eS*	**Sg**	**23 50 15.4**	**-0.5**
JFK	**Kawauchi**	**0.96**	**327**	⇓P	**Pg**	**23 50 08.3**	**-0.1**
JFK				*eS*	**Sg**	**23 50 20.3**	**-0.8**
JYT	**Yasato**	**1.12**	**253**	P	**Pn**	**23 50 10.6**	**-0.1**
JFT	**Otama**	**1.35**	**316**	⇓P	**Pn**	**23 50 14.8**	**+0.9**
JFT				*eS*	**Sn**	**23 50 30.8**	**-0.7**
JMM	**Marumori**	**1.43**	**336**	⇓P	**Pn**	**23 50 15.2**	**+0.2**
JMM				*eS*	**Sn**	**23 50 32.6**	**-0.8**
JAG	**Ashikaga**	**1.67**	**266**	P	**Pn**	**23 50 18.8**	**+0.5**
JAG				*eS*	**Sn**	**23 50 38.0**	**-1.4**
JFY	**Yanaizu**	**1.69**	**301**	P	**Pn**	**23 50 19.8**	**+1.3**
MJAR	**Matsushiro Arr**	**2.67**	**271**	Pn	**Pn**	**23 50 32.9**	**+0.9**
	11nm,0.3s,baz=117,slow=8.8,SNR=90						
MJAR				Sn	**Sn**	**23 51 03.9**	**-0.1**
	3.6nm,0.3s,baz=227,slow=23,SNR=6.0						
MAT	**Matsushiro**	**2.67**	**271**	P	Pn	23 50 34.2	+2.2
MAT				S	Sn	23 51 06.9	+2.9
SONM	**Songino Array**	**28.13**	**305**	P	**P**	**23 55 41.7**	**+0.8**
	0.5nm,0.6s,baz=96,slow=8.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.30**	**313**	P	P	23 57 46.9	+4.6
	0.3nm,0.3s,baz=100,slow=7.9,SNR=2.3						
MKAR	**Makanchi Array**	**44.45**	**303**	P	P	23 58 01.5	+1.7
	0.1nm,0.6s,baz=86,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**56.60**	**188**	P	**P**	**23 59 31.0**	**-0.7**
	0.6nm,1.0s,baz=7.0,slow=7.6,SNR=3.7						

*NIED **05** 23:52:00, 37.60N×143.00E, h23km, Mw4.9 Best double couple: M0 2.20000×10^16 NP1:φs26.00000°, δ65.00000°, λ91.00000°. NP2:φs203.00000°, δ25.00000°, λ88.00000°.*

*ISCJB **05** 23:52:52.9±0.7, 37.64N±0.02×142.86E±0.02, h15km±4km, mb4.9/136, MS4.7/46, Error ellipse: s-maj=3.8km s-min=2.7km az=162.2*

*BJI **05** 23:52:53.8, 37.81N×142.72E, h18km, mB5.1/35, mb5.0/56, Ms4.8/51, MS7 4.7/51*

*JMA **05** 23:52:53.5±0.1, 37.59N×142.97E, h45km, M5.0*

JMA Felt I J1.

*DJA **05** 23:52:54, 37.64N×142.81E, h10km, mb5.1/8*

*MOS **05** 23:52:56.8±0.9, 37.89N×142.71E, h33km, mb5.2/46, MS4.8/9, Error ellipse: s-maj=7.8km s-min=4.5km az=111.0*

*IDC **05** 23:52:56.0±0.5, 37.59N×142.83E, h28km±2km, mb4.4/28, mb1 4.6/32, mb1mx4.5/34, mbtmp4.4/32, ML3.9/4, MS4.4/20, Ms1 4.4/20, ms1mx4.1/38, Error ellipse: s-maj=12.9km s-min=10.5km az=126.0*

*NEIC **05** 23:52:56.0±0.2, 37.64N×142.84E, mb5.1/28, MW4.8(NIED), Error ellipse: s-maj=6.1km s-min=4.3km az=131.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

*SZGRF **05** 23:53:11.2, 38.43N×142.93E, h30km, mb4.8, Near east coast of eastern Honshu, Japan*

ISC 05 23:52:55.2±0.3, 37.62N±0.03×142.84E±0.03, h22km±1km, h22km:pP-P, n530, σ1.29/658, mb5.0/136, MS4.7/46, 150C-65D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.44**	**306**	⇑P	**Pn**	**23 53 19.5**	**-0.5**
JIO				S	**Sn**	**23 53 38.2**	**0.0**
JFK	**Kawauchi**	**1.59**	**261**	⇑P	**Pn**	**23 53 21.1**	**-0.9**
JFK				S	**Sn**	**23 53 41.5**	**-0.4**
JMM	**Marumori**	**1.64**	**279**	⇑P	**Pn**	**23 53 22.1**	**-0.6**
JMM				S	**Sn**	**23 53 43.2**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.71**	**253**	⇑P	**Pn**	**23 53 22.9**	**-0.8**
OFUJ	**Ofunato**	**1.72**	**328**	⇑P	**Pn**	**23 53 22.6**	**-1.3**
JMK	**Ichinoseki**	**1.84**	**317**	⇑P	**Pn**	**23 53 24.8**	**-0.7**
JMK				S	**Sn**	**23 53 48.0**	**-0.1**
JOU	**Okura**	**1.87**	**294**	⇑P	**Pn**	**23 53 25.9**	**-0.1**
JFT	**Otama**	**1.99**	**268**	⇑P	**Pn**	**23 53 27.8**	**+0.2**
MIYJ	**Miyakonagasawa**	**2.11**	**338**	⇑P	**Pn**	**23 53 27.5**	**-1.7**
JOM	**Ohasama**	**2.21**	**327**	⇑P	**Pn**	**23 53 29.9**	**-0.7**
JYS	**Shirataka**	**2.28**	**286**	⇑P	**Pn**	**23 53 31.6**	**+0.1**
JYK	**Kaneyama**	**2.34**	**304**	⇑P	**Pn**	**23 53 32.3**	**-0.1**
JRG	**Rokugo**	**2.48**	**316**	⇑P	**Pn**	**23 53 33.9**	**-0.3**
JFY	**Yanaizu**	**2.50**	**266**	P	**Pn**	**23 53 34.8**	**+0.2**
JKZ	**Kuzumaki**	**2.64**	**334**	⇑P	**Pn**	**23 53 35.8**	**-0.7**
JYA	**Atsumi**	**2.65**	**292**	⇑P	**Pn**	**23 53 36.8**	**+0.2**
JNS	**Sasagawa**	**2.80**	**275**	P	**Pn**	**23 53 39.1**	**+0.4**
JANG	**Nango**	**2.93**	**340**	P	**Pn**	**23 53 38.8**	**-1.7**
JANG				S	**Sn**	**23 54 13.4**	**-1.7**
JAW	**Awa shima**	**2.96**	**287**	⇑P	**Pn**	**23 53 41.4**	**+0.6**
JAG	**Ashikaga**	**2.96**	**247**	⇑P	**Pn**	**23 53 40.8**	**-0.1**
JHK	**Hiroka**	**3.07**	**264**	⇑P	**Pn**	**23 53 42.7**	**+0.3**
JAH	**Hinai**	**3.09**	**327**	⇑P	**Pn**	**23 53 42.5**	**-0.1**
BSO1	**Boso 1**	**3.33**	**208**	⇑P	**Pn**	**23 53 44.8**	**-0.6**
BSO1				S	**Sn**	**23 54 22.7**	**-1.3**
BSO3	**Boso 3**	**3.39**	**215**	P	**Pn**	**23 53 46.3**	**-0.2**
JRY	**Ryogami san**	**3.55**	**244**	P	**Pn**	**23 53 48.8**	**-0.2**
JRY				S	**Sn**	**23 54 28.6**	**-1.6**
JOD2	**Odawara 2**	**3.84**	**233**	P	**Pn**	**23 53 52.5**	**-0.4**
JOD2				S	**Sn**	**23 54 37.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.86**	**255**	Pn	**Pn**	**23 53 53.9**	**+0.6**
	10nm,0.3s,baz=78,slow=13,SNR=115						
MJAR	**Matsushiro Arr**	**3.86**	**255**	P	**Pn**	**23 53 53.9**	**+0.6**
MJAR	**Matsushiro Arr**	**3.86**	**255**	Pn	**Pn**	**23 53 53.9**	**+0.6**
MAJO	**Matsushiro**	**3.86**	**255**	*e*P	**Pn**	**23 53 54.6**	**+1.3**
MAJO	**Matsushiro**	**3.86**	**255**	*e*Pn	**Pn**	**23 53 54.6**	**+1.3**
MAJO				*e*S	**Sb**	**23 54 50.2**	**+1.2**
MAT	**Matsushiro**	**3.86**	**255**	P	**Pn**	**23 53 54.5**	**+1.2**
MAT				S	**Sb**	**23 54 44.7**	**-4.2**
MAT	**Matsushiro**	**3.86**	**255**	P	**Pn**	**23 53 54.5**	**+1.2**
JOT	**Ohata**	**4.00**	**340**	P	**Pn**	**23 53 55.3**	**+0.1**
ERM	**Erimo**	**4.39**	**3**	*e*P	**Pn**	**23 53 58.8**	**-1.7**
ERM				*e*S	**Sn**	**23 54 51.3**	**+0.3**
ERM	**Erimo**	**4.39**	**3**	*e*Pn	**Pn**	**23 53 58.8**	**-1.7**
ERM				*e*S	**Sn**	**23 54 51.2**	**+0.3**
ERM	**Erimo**	**4.39**	**3**	Pn	**Pn**	**23 53 58.8**	**-1.7**
	669nm,0.9s,SNR=8.8						
JNY	**Yasuok**	**4.61**	**242**	P	**Pn**	**23 54 05.2**	**+1.6**
JGN	**Niukaw**	**4.64**	**254**	P	**Pn**	**23 54 06.0**	**+1.9**
JGM	**Miyama**	**5.29**	**251**	P	**Pn**	**23 54 14.7**	**+1.8**
ASAJ	**Asahikawa**	**6.49**	**358**	Pn	**Pn**	**23 54 28.8**	**-0.5**
	4.7nm,0.3s,baz=240,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**23 55 41.2**	**-1.5**
	5.4nm,0.3s,baz=217,slow=28,SNR=5.5						
ASAJ				LR	LR	23 57 50.4	
	comp=Z,3μm,19.1s,baz=181,slow=45						
ASAJ	**Asahikawa**	**6.49**	**358**	P	**Pn**	**23 54 28.8**	**-0.5**
ASAJ						23 55 41.2	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,19.1s						
ASAJ	**Asahikawa**	**6.49**	**358**	*e*Pn	**Pn**	**23 54 28.9**	**-0.5**
ASAJ				Sn	**Sn**	**23 55 41.2**	**-1.5**
ASAJ				*e*S	Sb	23 55 43.1	-21
YUK	**Yuzh-Kuril'sk**	**6.80**	**19**	*c* iP	**Pn**	**23 54 32.0**	**-1.6**
YUK				*i* S	Sn	23 55 42.6	-7.7
YUK				pmax	pmax		
	comp=E,175nm,0.5s						
YUK				pmax	pmax		
	comp=N,233nm,0.5s						
YUK				pmax	pmax		
	comp=Z,324nm,0.5s						
YUK				smax	smax		
	comp=N,738nm,0.7s						
YUK				smax	smax		
	comp=E,2μm,0.7s						
YUK				MLR	MLR		
	comp=N,1μm,13.0s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**9.32**	**360**	⇓*e*P	**Pn**	**23 55 08.9**	**+0.7**
YSS				*e*S	Sn	23 56 45.2	-7.1
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=N,90nm,1.0s						
YSS				smax	smax		
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.32**	**360**	*e*Pn	**Pn**	**23 55 07.9**	**-0.3**
VLA	**Vladivostok**	**9.99**	**307**	⇓ *i*P	**Pn**	**23 55 20.5**	**+3.1**
VLA				*e*S	Sn	23 57 15.7	+6.9
VLA				pmax	pmax		
	comp=Z,53nm,1.3s						
USRK	**Ussuriysk Arra**	**10.51**	**312**	Pn	**Pn**	**23 55 25.8**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=120,slow=13,SNR=31						
USRK				LR	LR	23 59 22.0	
	comp=Z,3μm,18.2s,baz=300,slow=37						
CBIJ	**Chichi jima**	**10.51**	**183**	Pn	Pn	23 55 20.1	-4.4
	baz=279,slow=19						
CBIJ				Sn	Sn	23 57 07.5	-14
	baz=24,slow=20						
CBIJ				LR	LR	23 59 23.8	
	comp=Z,561nm,18.4s,baz=351,slow=37						
CBIJ	**Chichi jima**	**10.51**	**183**	Pn	Pn	23 55 20.1	-4.4
CBIJ				Sn	Sn	23 57 07.5	-14
JNU	**Nakatsue**	**10.75**	**249**	*e*Pn	**Pn**	**23 55 28.1**	**+0.3**
KSRS	**Korea Array**	**11.85**	**274**	Pn	**Pn**	**23 55 43.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=90,slow=13,SNR=18						
KSRS				LR	LR	00 00 02.8	
	comp=Z,2μm,18.6s,baz=81,slow=36						
KSRS	**Korea Array**	**11.85**	**274**	P	**Pn**	**23 55 43.8**	**+1.0**
KSRS				MLR	MLR		
	comp=Z,2μm,18.6s						
KSAR	**Wonju Array Be**	**11.88**	**274**	P	**Pn**	**23 55 43.8**	**+0.6**
KSAR	**Wonju Array Be**	**11.88**	**274**	Pn	**Pn**	**23 55 43.8**	**+0.6**
MDJ	**Mudanjiang**	**12.18**	**309**	P	**Pn**	**23 55 47.9**	**+0.5**
MDJ				S	**Sn**	**23 58 04.4**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,300nm,9.7s						
MDJ				LR	LR		
	comp=N,990nm,19.3s						
MDJ				LR	LR		
	comp=E,1μm,18.5s						
MDJ				LR	LR		
	comp=Z,2μm,20.0s						
MDJ	**Mudanjiang**	**12.18**	**309**	*e*P	**Pn**	**23 55 48.4**	**+1.0**
	comp=Z,91nm,1.3s						
HABR	**Khabarovsk**	**12.24**	**335**	*ce*P	**Pn**	**23 55 46.1**	**-2.0**
HABR				*e*		23 58 02.7	
HABR				pmax	pmax		
	comp=Z,62nm,1.1s						
HABR				pmax	pmax		
	comp=N,38nm,1.4s						
HABR				pmax	pmax		
	comp=E,61nm,1.9s						
HABR				MLR	MLR		
	comp=Z,2μm,15.0s						
INCN	**Inchon**	**12.87**	**274**	Pn	**Pn**	**23 55 55.9**	**-0.9**
KLR	**Kul'dur**	**14.11**	**329**	*e*P	Pn	23 56 08.9	-4.7
KLR				pmax	pmax		
	comp=E,45nm,1.6s						
KLR				pmax	pmax		
	comp=Z,68nm,1.6s						
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,11μm,13.0s						
CN2	**Changchun**	**14.55**	**301**	*e*P	**Pn**	**23 56 17.8**	**-1.9**
CN2				*es*P		23 56 26.2	
CN2				*e*S	**Sn**	**23 59 00.2**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,800nm,15.0s						
CN2				LR	LR		
	comp=E,2μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
SNY	**Shenyang**	**15.40**	**292**	⇓P	**Pn**	**23 56 29.8**	**-1.3**
SNY				S	**Sn**	**23 59 25.3**	**+4.4**
SNY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SNY				pmax	pmax		
	comp=Z,340nm,4.7s						
SNY				LR	LR		
	comp=N,1μm,12.8s						
SNY				LR	LR		
	comp=E,3μm,16.2s						
SNY				LR	LR		
	comp=Z,4μm,16.7s						
DL2	**Dalian**	**16.71**	**281**	⇑P	**Pn**	**23 56 46.8**	**-1.1**
DL2				PP	**PnPn**	**23 56 59.9**	**+2.7**
DL2				S	**Sn**	**23 59 52.7**	**-0.1**
DL2				pmax	pmax		
	comp=Z,40nm,0.9s						
DL2				pmax	pmax		
	comp=Z,180nm,8.2s						
DL2				LR	LR		
	comp=N,410nm,13.7s						
DL2				LR	LR		
	comp=E,660nm,16.4s						
DL2				LR	LR		
	comp=Z,780nm,17.0s						
PETK	**Petropavlovsk-**	**18.61**	**29**	P	**Pn**	**23 57 11.3**	**0.0**
	baz=186,slow=10.0,SNR=3.3						
PETK	**Petropavlovsk-**	**18.61**	**29**	P	**Pn**	**23 57 11.3**	**0.0**
PETK	**Petropavlovsk-**	**18.61**	**29**	P	**Pn**	**23 57 11.3**	**0.0**
HIA	**Hailar**	**20.33**	**312**	*e*P	**P**	**23 57 26.9**	**-2.8**
HIA				pmax	pmax		
	comp=Z,39nm,1.0s						
HIA	**Hailar**	**20.33**	**312**	*e*P	**P**	**23 57 26.9**	**-2.8**
	comp=Z,39nm,1.0s						
NJ2	**Nanjing**	**20.44**	**261**	*e*P	**P**	**23 57 31.9**	**+0.9**
NJ2				pP	**pP**	**23 57 36.6**	**-0.6**
NJ2				sP	**sP**	**23 57 40.6**	**+0.6**
NJ2				PP	**PnPn**	**23 57 54.7**	**+6.3**
NJ2				S	**S**	**00 01 15.0**	**-3.9**
NJ2				sS	Sn	00 01 25.0	+2.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,320nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,13.6s						
NJ2				LR	LR		
	comp=E,1μm,14.7s						
NJ2				LR	LR		
	comp=Z,1μm,13.4s						
BJT	**Baijiatuau**	**20.90**	**285**	*e*P	**P**	**23 57 34.1**	**-1.9**
BJT				pmax	pmax		
	comp=Z,126nm,1.1s						
BJT	**Baijiatuau**	**20.90**	**285**	*e*P	**P**	**23 57 34.1**	**-1.9**
	comp=Z,126nm,1.1s						
CLNS	**Chul'man**	**22.63**	**334**	*e*P	**P**	**23 57 50.6**	**-3.9**
CLNS				*e**PP	**pP**	**23 57 58.8**	**-1.9**
CLNS				*e*PPP	**PnPn**	**23 58 23.6**	**+5.4**
CLNS				*e*S	**S**	**00 01 59.1**	**-1.9**
CLNS				*e*SS	SS	00 02 39.5	
CLNS				pmax	pmax		
	comp=N,65nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,92nm,1.1s						
CLNS				pmax	pmax		
	comp=E,21nm,1.2s						
CLNS				pmax	pmax		
	comp=E,26nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,58nm,1.1s						
CLNS				pmax	pmax		
	comp=N,98nm,1.1s						
CLNS				smax	smax		
	comp=E,288nm,12.8s						
CLNS				smax	smax		
	comp=N,244nm,11.5s						
CLNS				MLR	MLR		
	comp=E,804nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s						
CLNS				MLR	MLR		
	comp=N,2μm,15.0s						
SSLB	**Suanglung**	**23.26**	**240**	P	**P**	**23 58 02.8**	**+1.6**
TPUB	**Ta-pu**	**23.80**	**239**	*e*P	**P**	**23 58 05.9**	**-0.6**
	comp=N,115nm,1.0s						
TWG	**Pinlang**	**23.83**	**238**	*e*P	**P**	**23 58 07.4**	**+0.7**
	comp=N,44nm,0.8s						
GUMO	**Guam**	**24.00**	**175**	LR	LR	00 05 24.8	
	comp=N,414nm,19.9s,baz=64,slow=31						
QZH	**Quanzhou**	**24.20**	**245**	*e*P	**P**	**23 58 11.3**	**+1.2**
QZH				S	**S**	**00 02 24.1**	**-3.1**
QZH				LR	LR		
	comp=Z,1μm,23.4s						
HHC	**Hu-ho-hao-te**	**24.37**	**287**	*e*P	**P**	**23 58 09.7**	**-2.1**
HHC				sP	**pP**	**23 58 18.4**	**0.0**
HHC				PP	**PnPn**	**23 58 44.7**	**+2.4**
HHC				PcP	**PcP**	**00 01 51.0**	**+0.3**
HHC				S	**S**	**00 02 25.0**	**-5.1**
HHC				SS	**SnSn**	**00 03 18.3**	**+4.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,360nm,5.3s						
HHC				LR	LR		
	comp=N,650nm,16.1s						
HHC				LR	LR		
	comp=E,1μm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,15.0s						
WHN	**Wuhan**	**24.57**	**262**	⇓ *i*P	**P**	**23 58 13.0**	**-0.5**
WHN				S	S	00 02 21.2	-12
WHN				LR	LR		
	comp=N,2μm,12.6s						
WHN				LR	LR		
	comp=E,2μm,12.4s						
WHN				LR	LR		
	comp=Z,2μm,10.2s						
CIT	**Chita**	**25.06**	**314**	*e*P	**P**	**23 58 17.9**	**+0.1**
CIT				*e*		23

YAK pmax pmax
comp=Z,76nm,1.2s
YAK pmax pmax
comp=N,45nm,1.4s
YAK pmax pmax
comp=E,17nm,0.8s
YAK smax smax
comp=E,256nm,12.9s
YAK smax smax
comp=N,483nm,14.9s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,434nm,17.0s
YAK Yakutsk 25.76 346 eP **P 23 58 23.6 -0.3**
comp=E,95nm,0.9s
YAK eS **S 00 02 58.1 +6.5**
SEY Seymchan 26.00 10⇓eP **P 23 58 24.8 -1.4**
XAN Xi'an 27.65 273 P **P 23 58 40.5 -0.9**
XAN pP **pP 23 58 46.5 -1.5**
XAN sP **sP 23 58 48.4 -2.3**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,43nm,5.4s
BOD Bodaibo 27.66 326 eP **P 23 58 40.2 -0.9**
BOD pmax pmax
comp=Z,67nm,1.0s
ULN Ulaanbaatar 27.98 303 eP **P 23 58 44.8 +0.4**
ULN pmax pmax
comp=Z,45nm,1.3s
ULN Ulaanbaatar 27.98 303 eP **P 23 58 44.8 +0.4**
comp=Z,45nm,1.3s
ULN Ulaanbaatar 27.98 303 P **P 23 58 44.7 +0.4**
comp=Z,29nm,1.4s
SONM Songino Array 28.41 303 P **P 23 58 48.7 +0.5**
comp=Z,21nm,1.0s,baz=102,slow=7.8,SNR=126
SONM LR LR 00 10 26.5
comp=Z,1μm,18.6s,baz=185,slow=37
SONM Songino Array 28.41 303 P **P 23 58 48.7 +0.5**
SONM Songino Array 28.41 303 P **P 23 58 48.7 +0.5**
ENH Enshi 28.52 265 eP **P 23 58 48.7 -0.4**
comp=Z,87nm,1.1s
ZAK Zakamensk 30.81 307 eP **P 23 59 07.4 -1.9**
ZAK pmax pmax
comp=Z,17nm,1.2s
TLY Talaya 30.82 310 eP **P 23 59 09.6 +0.3**
TLY eS **S 00 04 08.3 -3.2**
TLY eSSS **SS 00 06 17.4 -5.7**
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY Talaya 30.82 310 eP **P 23 59 08.9 -0.4**
comp=Z,10nm,0.9s
LZH Lanzhou 31.09 279 eP **P 23 59 11.5 -0.6**
LZH pP **pP 23 59 18.0 -0.7**
LZH sP **sP 23 59 20.5 -1.0**
LZH eS **S 00 04 17.0 +0.6**
LZH pmax pmax
comp=Z,75nm,1.5s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=N,1μm,16.1s
LZH LR LR
comp=E,1μm,14.7s
LZH LR LR
comp=Z,2μm,14.9s
MOY Mondy 32.44 309 eP **P 23 59 23.4 -0.3**
MOY pmax pmax
comp=Z,40nm,3.6s
GYA Guiyang 32.44 261⇑iP **P 23 59 25.6 +1.7**
GYA PP **PnPn 00 00 33.8 +2.7**
GYA S **S 00 04 38.4 +0.9**
GYA ScP **ScP 00 05 53.9 +0.6**
GYA SS **SnSn 00 06 33.2 +2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=N,640nm,17.5s
GYA LR LR
comp=E,520nm,18.1s
GYA LR LR
comp=Z,570nm,17.9s
CD2 Chengdu 32.81 270 P **P 23 59 29.1 +2.0**
CD2 pP **pP 23 59 34.6 +0.8**
CD2 sP **sP 23 59 37.5 +1.0**
CD2 PP **PP 00 00 38.7 -2.6**
CD2 S **S 00 04 44.0 +0.9**
CD2 sS **sS 00 04 53.3 -0.8**
CD2 SS **SnSn 00 06 42.3 +2.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,170nm,4.8s
CD2 LR LR
comp=N,1μm,15.5s
CD2 LR LR
comp=Z,940nm,13.7s
BILL Bilibino 33.14 16⇑iP **P 23 59 28.8 -0.7**
BILL e*PP **pP 23 59 37.6 +1.4**
BILL pmax pmax
comp=Z,18nm,1.7s
BILL MLR MLR
comp=Z,300nm,18.0s
BILL Bilibino 33.14 16 eP **P 23 59 28.6 -0.8**
comp=Z,6.2nm,0.9s
GTA Gaotai 33.48 287 ⇑P **P 23 59 32.9 0.0**
GTA pP **pP 23 59 38.9 -0.7**
GTA sP **sP 23 59 41.8 -0.6**
GTA S **S 00 04 53.5 0.0**
GTA sS **sS 00 05 03.5 -1.0**
GTA SS **SnSn 00 06 58.0 +2.0**
GTA pmax pmax
comp=Z,21nm,1.3s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=N,470nm,18.8s
GTA LR LR
comp=E,1μm,17.8s
GTA LR LR
comp=Z,2μm,18.1s
QIZ Qiongzhong 34.21 246 P **P 23 59 41.0 +1.7**
QIZ S S 00 05 10.9 +6.1
QIZ LR LR
comp=N,500nm,16.4s
QIZ LR LR
comp=Z,530nm,13.3s
KMI Kunming 36.17 262 P **P 23 59 56.5 +0.1**
KMI pP **pP 00 00 03.5 +0.3**
KMI sP **sP 00 00 05.8 -0.1**
KMI S **S 00 05 37.4 +2.0**
KMI sS **sS 00 05 45.5 -1.0**
KMI SS **SnSn 00 07 58.7 -3.1**
KMI pmax pmax
comp=Z,22nm,1.2s
KMI pmax pmax
comp=Z,130nm,3.1s
KMI LR LR
comp=N,800nm,14.8s
KMI LR LR
comp=E,490nm,15.2s
KMI LR LR
comp=Z,850nm,19.6s
WMQ Urumqi 41.59 297 P **P 00 00 41.5 +0.1**
WMQ pP **pP 00 00 47.5 -0.7**
WMQ sP **sP 00 00 50.5 -0.5**
WMQ S **S 00 06 56.5 +0.1**
WMQ SS **SS 00 09 56.5 -4.9**
WMQ pmax pmax
comp=Z,76nm,0.8s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=N,360nm,21.8s
WMQ LR LR
comp=E,370nm,20.2s
WMQ LR LR
comp=Z,400nm,21.8s

WMQ Urumqi 41.59 297 P **P 00 00 41.5 +0.1**
WMQ pP **pP 00 00 47.5 -0.7**
WMQ sP **sP 00 00 50.5 -0.5**
WMQ S **S 00 06 56.5 +0.1**
WMQ SS **SS 00 09 56.5 -4.9**
WMQ pmax pmax
comp=Z,76nm,0.8s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=N,360nm,21.8s
WMQ LR LR
comp=E,370nm,20.2s
WMQ LR LR
comp=Z,400nm,21.8s
ZALV Zalesovo Beam 42.36 312 P **P 00 00 47.0 -0.5**
comp=Z,31nm,0.9s,baz=88,slow=6.7,SNR=100
ZALV PcP **PcP 00 02 40.3 -0.2**
comp=Z,6.7nm,0.8s,baz=105,slow=2.9,SNR=4.2
ZALV pPcP 00 02 49.9
comp=Z,9.4nm,0.6s,baz=94,slow=3.4,SNR=6.7
ZALV LR LR 00 19 13.1
comp=Z,823nm,18.1s,baz=107,slow=37
ZALV Zalesovo Beam 42.36 312 P **P 00 00 47.0 -0.5**
ZALV 00 02 40.3
ZALV Zalesovo Beam 42.36 312 P **P 00 00 47.0 -0.5**
ZALV PcP **PcP 00 02 40.3 -0.2**
ZALV pPcP 00 02 49.9
CHTO Chiang Mai 42.54 256 eP **P 00 00 48.9 -0.5**
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 42.54 256 eP **P 00 00 48.9 -0.5**
comp=Z,14nm,1.0s
CHTO Chiang Mai 42.54 256 P **P 00 00 50.0 +0.7**
comp=Z,17nm,1.2s
CM31 Chiang Mai Arr 42.75 256 eP **P 00 00 51.5 +0.5**
CMAR Chiang Mai Arr 42.75 256 P **P 00 00 51.0 0.0**
comp=Z,2.5nm,0.8s,baz=45,slow=6.0,SNR=17
CMAR LR LR 00 19 30.9
comp=Z,332nm,18.6s,baz=234,slow=37
CMAR Chiang Mai Arr 42.75 256 P **P 00 00 51.1 0.0**
CMAR Chiang Mai Arr 42.75 256 P **P 00 00 51.0 0.0**
LSA Lhasa 43.29 275 eP **P 00 00 56.8 +0.9**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 43.29 275 eP **P 00 00 56.8 +0.9**
comp=Z,21nm,0.8s
MK31 Makanchi Array 44.77 302 eP **P 00 01 07.0 -0.1**
MK31 Makanchi Array 44.77 302 eP **P 00 01 07.0 -0.1**
MKAR Makanchi Array 44.77 302 P **P 00 01 07.1 0.0**
comp=Z,11nm,0.8s,baz=87,slow=9.2,SNR=91
MKAR LR LR 00 21 15.2
comp=Z,290nm,18.8s,baz=266,slow=38
MKAR Makanchi Array 44.77 302ceP **P 00 01 07.0 0.0**
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 44.77 302 P **P 00 01 07.1 0.0**
RSO Redoubt South 45.73 39 eP **P 00 01 15.3 +0.7**
comp=Z,36nm,0.9s
KDAK Kodiak Island 45.90 42 P **P 00 01 16.6 +0.8**
comp=Z,10nm,0.9s,baz=281,slow=10,SNR=2.8
KDAK Kodiak Island 45.90 42 P **P 00 01 16.6 +0.8**
KDAK Kodiak Island 45.90 42 P **P 00 01 16.6 +0.8**
KURK Kurchatov 46.47 308c iP **P 00 01 20.2 -0.1**
KURK pmax pmax
comp=Z,104nm,1.2s
KURK Kurchatov 46.47 308 eP **P 00 01 20.1 -0.3**
comp=Z,59nm,0.9s
KURK Kurchatov 46.47 308 P **P 00 01 20.7 +0.4**
comp=Z,420nm,0.9s,SNR=33
KSM Kuching 46.79 228 eP **P 00 01 24.1 +0.9**
comp=Z,19nm,0.8s
TAPN Taplejung 47.03 274⇑iP **P 00 01 25.8 +0.3**
comp=Z,75nm,1.3s
TAPN Taplejung 47.03 274⇑iP **P 00 01 25.8 +0.3**
MCK McKinley 47.51 34 P **P 00 01 28.2 -0.1**
MCK McKinley 47.51 34 P **P 00 01 28.2 -0.1**
ODAN Odare 47.51 274⇑iP **P 00 01 29.2 +0.1**
comp=Z,64nm,1.1s
ODAN Odare 47.51 274⇑iP **P 00 01 29.2 +0.1**
KAPI Kappang 47.56 212 P **P 00 01 29.3 +0.1**
comp=Z,5.0nm,0.7s,baz=90,slow=4.0,SNR=2.5
KAPI Kappang 47.56 212 P **P 00 01 29.3 +0.1**
KAPI P **pP 00 01 31.4 -4.7**
KAPI Kappang 47.56 212 P P 00 01 35.5 +6.3
JIRN Jiri 48.10 275⇑iP **P 00 01 34.2 +0.4**
comp=Z,87nm,1.1s
JIRN Jiri 48.10 275⇑iP **P 00 01 34.2 +0.4**
RAMN Ramite 48.10 274⇑iP **P 00 01 33.7 0.0**
comp=Z,130nm,1.0s
RAMN Ramite 48.10 274⇑iP **P 00 01 33.7 0.0**
GUN Gumba 48.23 276⇑iP **P 00 01 35.1 +0.3**
comp=Z,127nm,1.0s
GUN Gumba 48.23 276⇑iP **P 00 01 35.1 +0.3**
ILAR Eielson Array 48.38 33 P **P 00 01 35.0 -0.1**
comp=Z,4.0nm,0.7s,baz=266,slow=6.4,SNR=46
ILAR LR LR 00 22 08.4
comp=Z,186nm,18.5s,baz=287,slow=36
ILAR Eielson Array 48.38 33 P **P 00 01 35.0 -0.1**
ILAR Eielson Array 48.38 33 P **P 00 01 35.0 -0.1**
PKI Pulchoki 48.76 276⇑iP **P 00 01 38.6 -0.2**
comp=Z,74nm,1.1s
PKI Pulchoki 48.76 276⇑iP **P 00 01 38.6 -0.2**
PKI Pulchoki 48.76 276⇑iP **P 00 01 38.6 -0.2**
KKN Kakani 48.76 276⇑iP **P 00 01 38.9 +0.2**
comp=Z,73nm,0.8s
KKN Kakani 48.76 276⇑iP **P 00 01 38.9 +0.2**
KKN Kakani 48.76 276⇑iP **P 00 01 38.9 +0.2**
DMN Daman 48.98 276⇑iP **P 00 01 40.5 +0.1**
DMN Daman 48.98 276⇑iP **P 00 01 40.5 +0.1**
GKN Gorkha 49.17 277⇑iP **P 00 01 41.9 +0.1**
comp=Z,168nm,1.0s
GKN Gorkha 49.17 277⇑iP **P 00 01 41.9 +0.1**
DANN Dangsing 49.70 278⇑iP **P 00 01 46.5 +0.5**
comp=Z,145nm,0.8s
DANN Dangsing 49.70 278⇑iP **P 00 01 46.5 +0.5**
KOLN Koldanda 50.09 277⇑iP **P 00 01 49.1 +0.2**
comp=Z,37nm,1.0s
KOLN Koldanda 50.09 277⇑iP **P 00 01 49.1 +0.2**
KULM Kulim 50.10 241 eP **P 00 01 48.4 -0.3**
comp=Z,13nm,1.0s
TKM2 Tokmak 2 50.35 298 P **P 00 01 51.5 +0.8**
SNR=14
TKM2 P **P 00 01 51.5 +0.8**
SNR=14
TKM2 Tokmak 2 50.35 298 i P **P 00 01 51.5 +0.8**
IPM Ipoh 50.42 240 P **P 00 01 52.3 +1.1**
comp=Z,35nm,1.1s
KZA Kyzart 50.86 297 P **P 00 01 56.0 +1.2**
SNR=7.6
KZA P **P 00 01 56.0 +1.2**
SNR=7.6
KBK Karagaybulak 50.89 298 P **P 00 01 55.4 +0.7**
SNR=19
KBK P **P 00 01 55.4 +0.7**
SNR=19
USP Ospenovka 51.01 299 P **P 00 01 55.8 +0.4**
SNR=10
USP P **P 00 01 55.8 +0.4**
SNR=10
BRVK Borovoye 51.07 312⇑iP **P 00 01 54.9 -0.8**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 51.07 312 P **P 00 01 55.1 -0.6**
comp=Z,167nm,0.8s,SNR=14
KSH Kashi 51.21 294⇓iP P 00 02 01.6 +4.5
KSH epP pP 00 02 07.6 +3.6
KSH esP sP 00 02 09.5 +2.8
KSH ePcP PcP 00 03 20.2 +8.0
KSH ePP PP 00 03 59.3 +5.5
KSH eScP **ScP 00 07 09.5 +2.2**
KSH ePcS **PcS 00 07 12.6 +2.6**
KSH eS **S 00 09 19.0 +4.7**
KSH esS sS 00 09 28.7 +3.0
KSH eScS **ScS 00 11 47.6 +1.2**
KSH eSS **SS 00 12 52.2 +2.7**
KSH pmax pmax
comp=Z,28nm,1.2s
KSH pmax pmax
comp=Z,190nm,3.9s
KSH LR LR
comp=N,310nm,10.7s
KSH LR LR
comp=E,790nm,13.3s
KSH LR LR

comp=Z,1μm,14.5s
KSH Kashi 51.21 294⇓iP P 00 02 01.6 +4.5
KSH epP pP 00 02 07.6 +3.6
KSH esP sP 00 02 09.5 +2.8
KSH ePP PP 00 03 59.3 +5.5
KSH eScP **ScP 00 07 09.5 +2.2**
KSH ePcS **PcS 00 07 12.6 +2.6**
KSH eS **S 00 09 19.0 +4.7**
KSH esS sS 00 09 28.7 +3.0
KSH eScS **ScS 00 11 47.6 +1.2**
KSH eSS **SS 00 12 52.2 +2.7**
KSH pmax pmax
comp=Z,28nm,1.2s
KSH pmax pmax
comp=Z,190nm,3.9s
KSH LR LR
comp=N,310nm,10.7s
KSH LR LR
comp=E,790nm,13.3s
KSH LR LR
comp=Z,1μm,14.5s
AAK Ala-Archa 51.21 298⇑iP **P 00 01 57.4 +0.3**
AAK pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 51.21 298 P **P 00 01 57.0 -0.1**
comp=Z,63nm,0.9s,SNR=6.2
AML Almayashu 51.94 298 P **P 00 02 03.9 +1.1**
SNR=11
AML P **P 00 02 03.9 +1.1**
SNR=11
PSI Prapat 53.07 240 P **P 00 02 11.7 +0.5**
comp=Z,15nm,1.0s
KIP Kipapa 53.12 90ceP **P 00 02 09.3 -2.0**
KIP pmax pmax
comp=Z,53nm,1.0s
DDI Dehra Dun 53.28 283 ex **P 00 02 13.0 +0.5**
INK Inuvik 53.34 27 P **P 00 02 12.7 +0.4**
comp=Z,3.1nm,0.8s,baz=280,slow=5.8,SNR=13
INK Inuvik 53.34 27 P **P 00 02 12.7 +0.4**
INK Inuvik 53.34 27 P **P 00 02 12.7 +0.4**
INK eP pP 00 02 12.8 -6.4
NDI New Delhi 54.68 281 eP **P 00 02 22.5 -0.2**
SVE Sverdlovsk 55.46 319d iP **P 00 02 28.4 +0.5**
SVE e 00 04 34.6
SVE pmax pmax
comp=Z,53nm,1.0s
SVE MLR MLR
comp=Z,2μm,17.0s
SOKR Solikamsk 56.56 323c iP **P 00 02 35.3 -0.3**
SOKR pmax pmax
comp=Z,30nm,1.2s
SOKR MLR MLR
comp=Z,490nm,21.0s
ARU Arti 56.67 319d iP **P 00 02 35.8 -0.7**
ARU 00 03 31.8
ARU e 00 04 39.5
ARU S **S 00 10 27.2 -0.2**
ARU SS **SS 00 14 12.9 -1.8**
ARU pmax pmax
comp=Z,58nm,1.2s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 56.67 319 P **P 00 02 36.0 -0.5**
comp=Z,228nm,1.0s,SNR=10
FITZ Fitzroy Crossi 57.75 199 P **P 00 02 44.6 +0.2**
comp=Z,2.4nm,0.6s,baz=5.7,slow=9.1,SNR=11
FITZ Fitzroy Crossi 57.75 199 eP **P 00 02 44.2 -0.2**
comp=Z,42nm,1.9s
WRAB Tennant Creek 57.80 189 eP **P 00 02 43.7 -1.2**
WRAB pmax pmax
comp=Z,27nm,1.1s
WRAB Tennant Creek 57.80 189 eP **P 00 02 43.7 -1.2**
comp=Z,27nm,1.1s
WRAB Tennant Creek 57.80 189 P **P 00 02 44.9 0.0**
comp=Z,80nm,0.7s,SNR=7.2
WB2 Warramunga Arr 57.81 189 eP **P 00 02 43.9 -1.1**
WRA Warramunga Arr 57.81 189 P **P 00 02 43.7 -1.2**
comp=Z,8.5nm,0.7s,baz=9.5,slow=7.3,SNR=69
WRA Warramunga Arr 57.81 189 P **P 00 02 43.7 -1.2**
WRA Warramunga Arr 57.81 189 P **P 00 02 43.7 -1.2**
ABKAR Akbulak array 58.43 310 eP **P 00 02 48.6 -0.5**
comp=Z,12nm,0.7s
ABKAR ePcP **PcP 00 03 39.3 -0.3**
ALE Alert 59.45 4 P **P 00 02 55.9 +0.2**
comp=Z,96nm,1.0s,SNR=7.7
AS31 Alice Springs 61.54 189 eP **P 00 03 10.6 0.0**
ASAR Alice Springs 61.54 189 P **P 00 03 09.9 -0.7**
comp=Z,4.1nm,0.7s,baz=13,slow=7.1,SNR=32
ASAR Alice Springs 61.54 189 P **P 00 03 09.9 -0.7**
ASAR Alice Springs 61.54 189 P **P 00 03 09.9 -0.7**
RES Resolute Bay 61.74 15 P **P 00 03 11.4 +0.1**
comp=Z,9.7nm,0.8s,baz=321,slow=6.7,SNR=22
RES Resolute Bay 61.74 15 P **P 00 03 11.4 +0.1**
RES pmax pmax
comp=Z,10.0nm,0.9s
RES Resolute Bay 61.74 15 eP **P 00 03 10.8 -0.5**
comp=Z,13nm,1.0s
MBWA Marble Bar 62.39 204 eP **P 00 03 16.6 +0.4**
MBWA e 00 03 26.9
POO Poona 62.48 273 ex **P 00 03 17.0 -0.2**
YKA Yellowknife Ar 62.72 31 P **P 00 03 17.9 -0.2**
comp=Z,1.8nm,0.8s,baz=303,slow=6.7,SNR=37
YKA Yellowknife Ar 62.72 31 P **P 00 03 17.9 -0.2**
YKA Yellowknife Ar 62.72 31 P **P 00 03 17.9 -0.2**
DZM Mont Dzumac 63.40 155 eLR LR 00 22 31.0
comp=Z,414nm,22.3s
ARCES ARCESS Array B 63.84 340 P **P 00 03 25.5 0.0**
comp=Z,7.2nm,1.0s,baz=44,slow=8.8,SNR=4.9
ARCES LR LR 00 36 54.2
comp=Z,407nm,18.7s,baz=42,slow=41
ARCES ARCESS Array B 63.84 340 P **P 00 03 25.5 0.0**
ARCES ARCESS Array B 63.84 340 P **P 00 03 25.5 0.0**
ABKT Ailbek 64.54 299 P **P 00 03 30.7 +0.1**
comp=Z,120nm,0.9s,SNR=8.9
DAG Danmarks Havn 65.28 355 i P **P 00 03 34.1 -0.6**
DAG i 00 03 42.3
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 65.28 355 i P **P 00 03 34.1 -0.6**
comp=Z,92nm,1.0s
DAG i pP **pP 00 03 42.3 +0.5**
JOF Joensuu 65.98 332 eP **P 00 03 38.0 -1.4**
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 65.98 332 ep **P 00 03 38.0 -1.4**
comp=Z,9.4nm,0.8s
JOF Joensuu 65.98 332 ep **P 00 03 38.0 -1.4**
comp=Z,9.4nm,0.8s
VRHR Novokhopersk 68.01 318 eP **P 00 03 51.8 -0.7**
VRHR e*SP **sP 00 04 00.7 -1.6**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.7s
VRHR pmax pmax
comp=E,10.0nm,1.2s
KAF Kangasniemi 68.30 333 eP **P 00 03 52.6 -1.5**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 68.30 333 ep **P 00 03 52.6 -1.5**
comp=Z,10nm,0.6s
KAF Kangasniemi 68.30 333 ep **P 00 03 52.6 -1.5**
comp=Z,10nm,0.6s
OBN Obninsk 68.30 324⇑iP **P 00 03 54.0 -0.2**
OBN e*PP **pP 00 04 03.3 +2.0**
OBN e 00 04 19.1
OBN pmax pmax
comp=Z,55nm,1.1s
OBN MLR MLR
comp=Z,600nm,13.0s
FINES FINESS Array B 68.82 333 P **P 00 03 57.3 -0.1**
comp=Z,24nm,0.8s,baz=36,slow=9.0,SNR=36
FINES pP **pP 00 04 06.3 +1.8**
comp=Z,23nm,0.8s,baz=39,slow=5.3,SNR=12
FINES LR LR 00 36 18.8
comp=Z,368nm,19.2s,baz=329,slow=38
FINES FINESS Array B 68.82 333 P **P 00 03 57.3 -0.1**
FINES *PP **pP 00 04 06.3 +1.8**
FINES FINESS Array B 68.82 333 P **P 00 03 57.3 -0.1**
FINES pP **pP 00 04 06.3 +1.8**
STKA Stephens Creek 69.15 181 P **P 00 03 59.4 -0.3**
comp=Z,2.2nm,0.8s,baz=340,slow=7.7,SNR=5.9
STKA Stephens Creek 69.15 181 P **P 00 03 59.4 -0.3**
STKA Stephens Creek 69.15 181 P **P 00 03 59.4 -0.3**
VSR Storozhevoye 69.23 319 eP **P 00 03 59.8 -0.3**

VSR e*PP **pP** 00 04 07.8 +0.5
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR MLR MLR
comp=N,990nm,18.0s
VSR MLR MLR
comp=E,1µm,18.0s
VSR MLR MLR
comp=Z,2µm,18.0s
SUMG Summit 70.09 0 *i* P **P** 00 04 06.0 +0.4
SUMG *i* 00 04 15.1
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 70.09 0 *i* P **P** 00 04 06.0 +0.4
comp=Z,9.8nm,0.9s
SUMG *i* pP **pP** 00 04 15.1 +2.4
ZEI Tsey 71.31 310 *e*P **P** 00 04 12.1 -1.2
ZEI pmax pmax
comp=Z,25nm,1.7s
KIV Kislovodsk 71.38 311*c i*P **P** 00 04 14.2 +0.7
KIV e*PP **pP** 00 04 21.1 +0.4
KIV pmax pmax
comp=Z,78nm,1.1s
KIV MLR MLR
comp=Z,500nm,16.0s
KIV Kislovodsk 71.38 311 P **P** 00 04 14.3 +0.7
comp=Z,350nm,0.8s,SNR=8.6
SCO Scoresbysund 71.64 355 *i* P **P** 00 04 14.1 -0.4
SCO pmax pmax
comp=Z,3.0nm,1.0s
SCO Scoresbysund 71.64 355 *i* P **P** 00 04 14.1 -0.4
comp=Z,3.0nm,1.0s
GNI Garni 72.26 307⇓ *e*P **P** 00 04 19.3 +0.3
GNI pmax pmax
comp=Z,43nm,1.4s
G13A Cobalt 72.34 46 ⇓P **P** 00 04 18.1 -1.3
baz=72
IZAR Zarasai 72.52 328 *e*P **P** 00 04 19.5 -0.5
IZAR AMB AMB 00 04 22.2
comp=Z,14nm,1.3s
FFC Flin Flon 72.59 33 *i* P **P** 00 04 21.0 +0.5
ISAL Salakas 72.69 328 *e*P **P** 00 04 20.5 -0.5
ISAL AMB AMB 00 04 22.3
comp=Z,20nm,1.1s
IIGN Ignalina 72.80 328 *e*P **P** 00 04 21.3 -0.4
IIGN AMB AMB 00 04 23.9
comp=Z,12nm,1.1s
I14A Mackay 73.48 47 ⇓P **P** 00 04 27.2 +1.0
baz=73
NVAR Mina Array Bea 73.72 54 P **P** 00 04 28.9 +1.1
comp=Z,2.7nm,0.8s,baz=282,slow=6.3,SNR=18
NVAR LR LR 00 33 21.2
comp=Z,111nm,20.6s,baz=161,slow=33
NVAR Mina Array Bea 73.72 54 P **P** 00 04 28.9 +1.1
J14A Carey 73.80 48 ⇓P **P** 00 04 28.5 +0.4
baz=74
NB2 NORSAR Subarra 74.08 338 P **P** 00 04 29.2 +0.1
comp=Z,20nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 74.08 338 P **P** 00 04 29.2 +0.1
comp=Z,13nm,0.8s,baz=38,slow=5.8,SNR=28
NOA pP **pP** 00 04 38.2 +1.9
comp=Z,15nm,0.8s,baz=38,slow=5.9,SNR=17
NOA LR LR 00 39 53.5
comp=Z,381nm,18.9s,baz=0.0,slow=38
NOA NORSAR Array B 74.08 338 P **P** 00 04 29.3 +0.1
NOA *PP **pP** 00 04 38.3 +1.9
NOA NORSAR Array B 74.08 338 P **P** 00 04 29.2 +0.1
NOA pP **pP** 00 04 38.2 +1.9
AKASG Malin Array Be 74.52 323 P **P** 00 04 31.7 -0.2
comp=Z,17nm,0.7s,baz=45,slow=5.8,SNR=57
AKASG pP **pP** 00 04 40.5 +1.4
comp=Z,17nm,0.8s,baz=46,slow=5.8,SNR=13
AKASG LR LR 00 40 08.5
comp=Z,576nm,18.7s,baz=50,slow=38
AKASG Malin Array Be 74.52 323 P **P** 00 04 31.7 -0.2
AKASG *PP **pP** 00 04 40.5 +1.4
AKASG Malin Array Be 74.52 323 P **P** 00 04 31.7 -0.2
AKASG pP **pP** 00 04 40.5 +1.4
AKBB Malin Array Si 74.52 323 *e*P **P** 00 04 31.1 -0.8
AKBB *e* 00 04 40.3
AKBB Malin Array Si 74.52 323 *e*P **P** 00 04 31.1 -0.8
AKBB *e* 00 04 40.3
KIEV Kiev 74.53 323⇓ *i*P **P** 00 04 31.1 -0.9
I16A Newdale 74.65 46 ⇓P **P** 00 04 33.7 +0.7
baz=74
H17A Grant Village 74.85 45 ⇑P **P** 00 04 35.7 +1.4
baz=75
J16A Bone 74.94 47 ⇓P **P** 00 04 35.2 +0.4
baz=75
SUW Suwalki 75.00 328 *e*P **P** 00 04 34.3 -0.3
SUW Suwalki 75.00 328 *e*P **P** 00 04 34.3 -0.3
SFJD Kangerlussuaq 75.20 5 *e*P **P** 00 04 35.4 -0.1
SFJD pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 75.20 5 *i* P **P** 00 04 35.4 -0.1
comp=Z,7.5nm,0.8s
R11A Troy Canyon, C 75.50 53 ⇓P **P** 00 04 38.1 +0.1
baz=75
C23A Lambert 75.60 40 ⇓P **P** 00 04 38.2 -0.1
baz=75
MPMC Manual Prospec 75.63 56 ⇓P **P** 00 04 39.1 +0.3
baz=75
SIM Simferopol' 75.70 316 *e*P **P** 00 04 39.0 +0.2
SIM pmax pmax
comp=Z,23nm,0.7s
SIM MLR MLR
comp=Z,440nm,16.0s
L16A Fish Haven 75.82 48 ⇑P **P** 00 04 40.4 +0.6
baz=76
FRB Frobisher Bay 75.94 14 P **P** 00 04 39.7 0.0
comp=Z,8.9nm,0.8s,baz=335,slow=5.8,SNR=13
FRB Frobisher Bay 75.94 14 P **P** 00 04 39.7 0.0
FRB Frobisher Bay 75.94 14 P **P** 00 04 39.7 0.0
L17A Cokeville 76.09 47 ⇓P **P** 00 04 40.5 -0.9
baz=76
K18A Toltan Ranch, 76.24 47 ⇑P **P** 00 04 41.3 -1.0
baz=76
PDAR Pinedale Array 76.44 46 P **P** 00 04 43.1 -0.3
comp=Z,2.0nm,0.7s,baz=269,slow=1.7,SNR=16
PDAR pP **pP** 00 04 52.4 +1.8
comp=Z,2.9nm,0.7s,baz=266,slow=2.8,SNR=13
PDAR Pinedale Array 76.44 46 P **P** 00 04 43.1 -0.3
PDAR pP **pP** 00 04 52.4 +1.8
MIB Mutribah 76.44 297 *e*P **P** 00 04 42.6 -0.6
MIB AMb AMB 00 04 44.6
comp=Z,54nm,1.1s
QRN Al-Qurain 76.65 296 *e*P **P** 00 04 44.3 -0.2
QRN AMb AMB 00 04 50.8
comp=Z,106nm,1.2s
L18A Fontenelle, Gr 76.69 47 ⇑P **P** 00 04 44.7 -0.1
baz=76
RDF Al-Radifah 76.80 296 *e*P **P** 00 04 45.2 -0.1
RDF AMb AMB 00 04 46.5
comp=Z,144nm,1.0s
NAY Al-Naaiem 76.83 297 *e*P **P** 00 04 44.9 -0.6
NAY AMb AMB 00 04 46.9
comp=Z,53nm,1.2s
F23A Volborg 76.84 42 ⇑P **P** 00 04 44.7 -0.7
baz=77
J20A Shoshoni 76.90 45 ⇑P **P** 00 04 45.0 -0.9
baz=77
BORG Borgarnes 77.21 353 P **P** 00 04 48.5 +1.6
comp=Z,22nm,1.0s,baz=346,slow=5.0,SNR=4.3
BORG Borgarnes 77.21 353 P **P** 00 04 48.6 +1.6
BORG Borgarnes 77.21 353 P **P** 00 04 48.5 +1.6
MALT Malatya 77.30 309 ⇑P **P** 00 04 50.7 +2.6
MALT Malatya 77.30 309⇑ *i*P **P** 00 04 50.7 +2.6
O17A Robinson Place 77.36 49 ⇓P **P** 00 04 48.7 +0.1
baz=77
I22A 9 Mile Ranch, 77.45 44 ⇓P **P** 00 04 48.7 -0.2
baz=77
BSD Bornholm Skovb 77.46 332 *e*P **P** 00 04 49.3 +0.8
BSD *i* 00 04 57.1
BSD pmax pmax
comp=Z,20nm,0.9s
BSD Bornholm Skovb 77.46 332 *i* P **P** 00 04 49.3 +0.8
comp=Z,20nm,0.9s
BSD *i* pP **pP** 00 04 57.1 +1.4
IAS Iasi 77.68 321 ⇑P **P** 00 04 50.8 +0.9
IAS Iasi 77.68 321⇑ *i*P **P** 00 04 50.8 +0.9
J22A Midwest 77.76 44 ⇑P **P** 00 04 50.7 0.0
baz=78

BELC Belle Mtn. Jos 77.84 56 ⇓P **P** 00 04 51.0 -0.3
baz=78
COP Copenhagen 77.91 334 *e*P **P** 00 04 49.1 -1.9
COP pmax pmax
comp=Z,16nm,0.8s
COP Copenhagen 77.91 334 *i* P **P** 00 04 49.1 -1.9
comp=Z,16nm,0.8s
H24A Dirks Ranch, A 77.94 42 ⇑P **P** 00 04 51.0 -0.6
baz=78
LLD Lille Linde 78.26 334 *i* P **P** 00 04 53.5 +0.5
KWP Kalwaria Pacla 78.31 325 *e*P **P** 00 04 54.3 +0.9
KWP Kalwaria Pacla 78.31 325 *e*P **P** 00 04 54.3 +0.9
KWP Kalwaria Pacla 78.31 325⇑ *i*P **P** 00 04 54.3 +0.9
ULM Lac du Bonnet 78.38 34 P **P** 00 04 52.8 -1.0
comp=Z,1.7nm,0.7s,baz=267,slow=4.4,SNR=4.5
ULM Lac du Bonnet 78.38 34 P **P** 00 04 52.8 -1.0
ULM Lac du Bonnet 78.38 34 P **P** 00 04 52.8 -1.0
MUD Monsted U'grnd 78.39 336 *e*P **P** 00 04 54.4 +0.7
MUD pmax pmax
comp=Z,10.0nm,0.9s
MUD Monsted U'grnd 78.39 336 *i* P **P** 00 04 54.4 +0.7
comp=Z,9.7nm,0.9s
N20A Spence Gulch, 78.41 47 ⇑P **P** 00 04 54.2 -0.3
baz=78
R17A Hanksville Air 78.49 50 ⇑P **P** 00 04 54.6 -0.2
baz=78
BUR08 Bucovina Ar. S 78.54 322 *e*P **P** 00 04 55.0 +0.2
BURAR Bucovina Array 78.55 322 ⇑P **P** 00 04 55.2 +0.3
BURAR Bucovina Array 78.55 322⇑ *i*P **P** 00 04 55.2 +0.3
W13A Hualapai Mount 78.55 55 ⇑P **P** 00 04 55.1 -0.2
baz=78
TESR 78.61 321⇑ *i*P **P** 00 04 56.3 +1.2
P19A Cripple Cowboy 78.76 48 ⇓P **P** 00 04 56.4 0.0
baz=78
PETR 78.85 320⇑ *i*P **P** 00 04 58.0 +1.6
S17A Black Ridge (B 78.92 51 ⇑P **P** 00 04 56.8 -0.4
baz=79
KOLS Kolonicke sedl 79.01 325 *e*P **P** 00 04 57.4 +0.1
KOLS pmax pmax
comp=Z,7.0nm,1.2s
VRI Vrincioaia 79.01 320 ⇓P **P** 00 04 58.2 +0.8
VRI Vrincioaia 79.01 320⇓ *i*P **P** 00 04 58.2 +0.8
Q19A Hogan Spring (79.02 49 ⇓P **P** 00 04 57.2 -0.5
baz=79
PLOR Plostina 79.06 320 ⇓P **P** 00 04 58.6 +0.9
PLOR Plostina 79.06 320⇓ *i*P **P** 00 04 58.6 +0.9
STHS Stebnicka Huta 79.13 326 *e*P **P** 00 04 58.6 +0.7
STHS pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 79.18 327 *e*P **P** 00 04 58.8 +0.6
OJC Ojcow 79.18 327 *e*P **P** 00 04 58.8 +0.6
UZH Uzhgorod 79.22 324⇓ *i*P **P** 00 04 58.2 -0.2
UZH *i* 00 05 05.4
UZH *i* 00 05 14.6
UZH MLR MLR
comp=N,700nm,16.0s
UZH MLR MLR
comp=E,800nm,16.0s
UZH MLR MLR
comp=Z,500nm,16.0s
BR131 Keskin Array S 79.31 312 *e*P **P** 00 04 59.8 +0.5
comp=Z,5.6nm,1.0s
BRTR Keskin Array B 79.31 312 P **P** 00 04 59.5 +0.3
comp=Z,11nm,1.1s,baz=101,slow=3.9,SNR=22
BRTR pP **PcP** 00 05 08.8 +1.4
comp=Z,8.5nm,1.1s,baz=120,slow=4.4,SNR=7.8
BRTR LR LR 00 48 20.9
comp=Z,151nm,18.0s,baz=218,slow=42
BRTR Keskin Array B 79.31 312*c e*P **P** 00 04 59.5 +0.3
BRTR pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 79.31 312 P **P** 00 04 59.5 +0.3
BRTR pP **PcP** 00 05 08.8 +1.4
S18A Hurst Farm, BI 79.38 50 ⇓P **P** 00 04 59.5 -0.4
baz=79
CRVS Cervenica-Dubn 79.40 325 *e*P **P** 00 05 00.0 +0.6
CRVS pmax pmax
comp=Z,9.0nm,1.3s
TRPA Tarpa 79.46 324⇓ *i*P **P** 00 05 00.6 +0.9
TRPA Tarpa 79.46 324⇓ *e*P **P** 00 05 00.7 +1.0
PGOR Pogoanele 79.54 319⇑ *i*P **P** 00 05 01.7 +1.5
NIE Niedzica 79.54 326 *e*P **P** 00 05 01.1 +0.9
NIE Niedzica 79.54 326 *e*P **P** 00 05 01.1 +0.9
Q20A Ridgley Place, 79.60 49 ⇓P **P** 00 05 01.5 +0.6
baz=79
ISR Istrita 79.62 320 ⇓P **P** 00 05 02.0 +1.3
ISR Istrita 79.62 320⇓ *i*P **P** 00 05 02.0 +1.3
MLR Muntele Rosu 79.67 320 ⇓P **P** 00 05 01.3 +0.2
MLR Muntele Rosu 79.67 320⇓ *i*P **P** 00 05 01.3 +0.2
P21A Newcastle 79.73 48 ⇓P **P** 00 05 01.4 -0.3
baz=80
T18A Mexican Hat 79.81 51 ⇑P **P** 00 05 02.2 +0.2
baz=80
Y14A Wickenburg 79.84 55 ⇑P **P** 00 05 02.3 +0.1
baz=80
O22A Kremmling 79.84 47 ⇓P **P** 00 05 01.8 -0.6
baz=80
Z13A Yuma Proving G 79.87 56 ⇓P **P** 00 05 02.5 +0.2
baz=80
S19A Harvey Farm, M 79.87 50 ⇑P **P** 00 05 01.9 -0.6
baz=80
BSEG Bad Segeberg 80.04 334 *e*P **P** 00 05 03.2 +0.5
comp=Z,21nm,0.9s
BSEG *e*pP **PcP** 00 05 11.8 +1.7
BSEG Bad Segeberg 80.04 334 *e*P **P** 00 05 03.2 +0.5
BSEG *e**PP **PcP** 00 05 11.8 +1.7
BSEG pmax pmax
comp=Z,21nm,0.9s
R20A Redvale 80.05 49 ⇓P **P** 00 05 03.7 +0.3
baz=80
SULR 80.07 320⇑ *i*P **P** 00 05 02.5 -0.6
KECS Kecovo 80.15 325 *e*P **P** 00 05 04.4 +0.9
KECS pmax pmax
comp=Z,3.0nm,1.1s
VOIR 80.15 321 ⇑P **P** 00 05 04.2 +0.5
VOIR 80.15 321⇑ *i*P **P** 00 05 04.2 +0.5
OKC Ostrava-Krasne 80.18 327 *i* P **P** 00 05 04.3 +0.7
OKC *e**PP **pP** 00 05 13.5 +2.7
OKC MLR MLR
comp=Z,700nm,11.7s
OKC Ostrava-Krasne 80.18 327⇑ *i*P **P** 00 05 04.3 +0.7
OKC *e*pP **pP** 00 05 13.5 +2.7
OKC AMS AMS 00 43 40.0
comp=Z,700nm,11.7s
KSP Ksiaz 80.19 329 *e*P **P** 00 05 04.4 +0.8
KSP Ksiaz 80.19 329⇑ *e*P **P** 00 05 04.3 +0.6
KSP *e**PP **pP** 00 05 12.5 +1.6
V17A Tonalea, Kykot 80.20 52 ⇓P **P** 00 05 04.9 +0.6
baz=80
DRGR 80.34 323 ⇑P **P** 00 05 05.1 +0.5
DRGR 80.34 323⇑ *i*P **P** 00 05 05.1 +0.5
MORC Moravsky Berou 80.48 328 ⇑P **P** 00 05 05.8 +0.5
MORC Moravsky Berou 80.48 328⇑ *i*P **P** 00 05 05.8 +0.5
Q22A Crested Butte, 80.48 48 ⇓P **P** 00 05 05.5 -0.4
baz=80
X16A Lo Mia Camp, P 80.55 54 ⇓P **P** 00 05 06.6 +0.5
baz=80
DPC Dobruska-Polom 80.56 329⇑ *i*P **P** 00 05 06.2 +0.5
DPC *e**PP **pP** 00 05 16.0 +3.1
DPC MLR MLR
comp=Z,500nm,13.9s
DPC Dobruska-Polom 80.56 329⇑ *i*P **P** 00 05 06.2 +0.5
DPC *e*pP **pP** 00 05 16.0 +3.1
DPC AMS AMS 00 43 50.0
comp=Z,500nm,13.9s
UPC Upice 80.57 329 *i* P **P** 00 05 06.7 +1.0
UPC *e**PP **pP** 00 05 15.7 +2.8
UPC Upice 80.57 329⇑ *i*P **P** 00 05 06.7 +1.0
UPC *e*pP **pP** 00 05 15.7 +2.8
KRLC Kraliky 80.58 328⇑ *i*P **P** 00 05 06.3 +0.5
KRLC *e*pP **pP** 00 05 15.8 +2.8
114A Black Gap (USA 80.66 56 ⇓P **P** 00 05 07.0 +0.5
baz=80
S21A Coal Bank Pass 80.74 49 ⇑P **P** 00 05 07.7 +0.4
baz=80
U19A Dine' College, 80.76 51 ⇓P **P** 00 05 07.8 +0.5
baz=80
HUMR Humele 80.83 320⇓ *i*P **P** 00 05 07.0 -0.2
PSZ Piszkesteto 80.83 325⇑ *i*P **P** 00 05 08.2 +0.9
PSZ Piszkesteto 80.83 325⇑ *i*P **P** 00 05 08.2 +0.9
PSZ Piszkesteto 80.83 325⇑ *e*P **P** 00 05 08.0 +0.7
VYHS Vyhne 80.88 326 *e*P **P** 00 05 08.2 +0.8
VYHS pmax pmax
comp=Z,7.0nm,1.2s

KOLL Kolacno 81.01 326 *e*P **P** 00 05 08.9 +0.8
KOLL *e* 00 05 17.2
BRG Berggiesshubel 81.12 330⇑ *i*P **P** 00 05 08.9 +0.2
comp=Z,11nm,1.0s
BRG *e* 00 05 18.2
comp=Z,7.8nm,1.0s
BRG
comp=Z,790nm,18.6s
BRG
comp=N,465nm,21.6s
BRG
comp=E,740nm,21.6s
BRG Berggiesshubel 81.12 330 *e*P **P** 00 05 08.8 +0.2
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 81.12 330⇑ *i*P **P** 00 05 08.9 +0.2
BRG *e* 00 05 18.2
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=Z,790nm,18.6s
BRG MLR MLR
comp=N,465nm,21.6s
BRG MLR MLR
comp=E,740nm,21.6s
U20A Newcomb 81.13 51 ⇑P **P** 00 05 09.2 0.0
baz=81
PVCC Panska Ves 81.14 330⇑ *i*P **P** 00 05 09.3 +0.6
PVCC *e**PP **pP** 00 05 17.1 +1.1
PVCC MLR MLR
comp=Z,900nm,20.5s
PVCC Panska Ves 81.14 330⇑ *i*P **P** 00 05 09.3 +0.6
PVCC *e*pP **pP** 00 05 17.1 +1.1
PVCC AMS AMS 00 44 10.0
comp=Z,900nm,20.5s
CLL Collm 81.15 331 *e*P **P** 00 05 08.7 0.0
comp=Z,18nm,1.1s
CLL Collm 81.15 331 *i* P **P** 00 05 08.4 -0.3
CLL *i* 00 05 17.9
CLL pmax pmax
comp=Z,22nm,1.0s
CLL Collm 81.15 331 *i* P **P** 00 05 08.4 -0.3
comp=Z,22nm,1.0s
CLL *i* pP **pP** 00 05 17.9 +1.9
CLL *e* 00 05 35.0
VRAC Vranov 81.24 328 ⇓P **P** 00 05 10.2 +0.9
VRAC Vranov 81.24 328⇓ *i*P **P** 00 05 10.2 +0.9
GZR Gura Zlata 81.31 322 ⇑P **P** 00 05 10.4 +0.6
GZR Gura Zlata 81.31 322⇑ *i*P **P** 00 05 10.4 +0.6
Y17A Roosevelt 81.39 54 ⇓P **P** 00 05 10.4 -0.1
baz=81
SMOL Smolenice 81.48 327 *e*P **P** 00 05 11.0 +0.4
SMOL *e* 00 05 20.6
V20A Brimhall 81.54 51 ⇓P **P** 00 05 10.8 -0.6
baz=81
PRU Pruhonice 81.57 329⇑ *i*P **P** 00 05 11.5 +0.5
PRU *e**PP **pP** 00 05 20.4 +2.1
PRU MLR MLR
comp=Z,700nm,8.8s
PRU Pruhonice 81.57 329⇑ *i*P **P** 00 05 11.5 +0.5
PRU *e*pP **pP** 00 05 20.4 +2.1
PRU AMS AMS 00 44 30.0
comp=Z,700nm,8.8s
CLZ Clausthal 81.71 332 *e*P **P** 00 05 12.3 +0.5
comp=Z,12nm,0.9s
CLZ Clausthal 81.71 332 *e*P **P** 00 05 12.3 +0.5
CLZ pmax pmax
comp=Z,12nm,0.9s
BZS Buzias 81.71 323 ⇑P **P** 00 05 11.6 -0.3
BZS Buzias 81.71 323⇑ *i*P **P** 00 05 11.6 -0.3
TREC Trest 81.72 328⇑ *i*P **P** 00 05 12.2 +0.3
TREC *e**PP **pP** 00 05 21.5 +2.4
TREC MLR MLR
comp=Z,500nm,19.1s
TREC Trest 81.72 328⇑ *i*P **P** 00 05 12.2 +0.3
TREC *e*pP **pP** 00 05 21.5 +2.4
TREC AMS AMS 00 44 30.0
comp=Z,500nm,19.1s
Y18A Canyon Day Jun 81.85 54 ⇑P **P** 00 05 13.6 +0.6
baz=82
X19A St. Johns 81.91 53 ⇓P **P** 00 05 14.1 +0.7
baz=82
TANN Tannenbergstha 82.06 331 *e*P **P** 00 05 14.0 +0.3
comp=Z,2.0nm,0.9s
MOX Moxa 82.21 331 *e*P **P** 00 05 14.6 +0.2
comp=Z,4.0nm,0.9s
MOX Moxa 82.21 331 *e*P **P** 00 05 14.6 +0.2
MOX pmax pmax
comp=Z,4.0nm,0.9s
NKC Novy Kostel 82.21 330 *i* P **P** 00 05 14.9 +0.5
NKC Novy Kostel 82.21 330⇑ *i*P **P** 00 05 14.9 +0.5
SOP Sopron 82.49 327⇓ *e*P **P** 00 05 16.9 +1.0
U23A El Rito 82.58 50 ⇓P **P** 00 05 17.4 +0.5
baz=82
CONA Conrad Observa 82.61 327⇑ *i*P **P** 00 05 17.4 +0.7
comp=Z,12nm,1.1s
CONA Conrad Observa 82.61 327⇑ *i*PcP **P** 00 05 17.4 +0.7
comp=Z,12nm,1.1s
KHC Kasperske Hory 82.63 329⇑ *i*P **P** 00 05 17.0 +0.3
KHC *e**PP **pP** 00 05 26.2 +2.3
KHC MLR MLR
comp=Z,600nm,16.6s
KHC Kasperske Hory 82.63 329⇑ *i*P **P** 00 05 17.0 +0.3
KHC *e*pP **pP** 00 05 26.2 +2.3
KHC AMS AMS 00 45 10.0
comp=Z,600nm,16.6s
PKSM Moragy 82.67 325⇑ *e*P **P** 00 05 16.6 -0.3
ROTZ Rotzenmuhle 82.68 330 *e*P **P** 00 05 17.6 +0.7
comp=Z,3.0nm,0.8s
UBBA Unterbreizbach 82.68 332 *e*P **P** 00 05 17.8 +1.1
comp=Z,2.0nm,0.8s
GEC2 GERESS Array S 82.80 329 *e*P **P** 00 05 17.6 -0.1
comp=Z,3.0nm,0.9s
GEC2 GERESS Array S 82.80 329 *e*P **P** 00 05 17.6 -0.1
GEC2 pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 82.80 329 P **P** 00 05 17.3 -0.3
comp=Z,3.2nm,0.8s,baz=33,slow=5.1,SNR=23
GERES pP **pP** 00 05 25.6 +0.7
comp=Z,3.1nm,0.8s,baz=46,slow=5.8,SNR=9.8
GERES LR LR 00 45 19.4
comp=Z,364nm,18.3s,baz=215,slow=38
GERES GERESS Array B 82.80 329 P **P** 00 05 17.3 -0.3
GERES *PP **pP** 00 05 25.6 +0.7
GERES GERESS Array B 82.80 329 P **P** 00 05 17.3 -0.3
GERES pP **pP** 00 05 25.6 +0.7
X21A Alamocita Cree 82.84 52 ⇑P **P** 00 05 18.1 -0.3
baz=83
R26A Arlington 82.88 47 ⇓P **P** 00 05 18.0 -0.3
baz=83
WET Wettzell 82.90 330 *e*P **P** 00 05 18.5 +0.4
comp=Z,3.0nm,1.0s
WET Wettzell 82.90 330 *e*P **P** 00 05 18.5 +0.4
WET pmax pmax
comp=Z,3.0nm,1.0s
V23A Ortiz Mt. (NFS 82.97 50 ⇑P **P** 00 05 18.9 0.0
baz=83
218A Dragoon 83.00 55 ⇓P **P** 00 05 19.4 +0.3
baz=83
VTS Vitosha 83.11 320 ⇑P **P** 00 05 20.3 +0.9
VTS Vitosha 83.11 320⇑ *i*P **P** 00 05 20.3 +0.9
GRF Grafenberg Arr 83.12 331 *e*P **P** 00 05 19.9 +0.7
comp=Z,9.0nm,0.9s
GRF Grafenberg Arr 83.12 331 *e*P **P** 00 05 19.9 +0.7
GRF pmax pmax
comp=Z,9.0nm,0.9s
BUG Bochum-Univer 83.15 334 *e*P **P** 00 05 19.5 +0.3
comp=Z,10.0nm,0.9s
Z20A Nine Sixteen R 83.20 53 ⇑P **P** 00 05 19.6 -0.5
baz=83
LAZ Ladron 83.27 51 *e*P **P** 00 05 18.3 -2.2
comp=Z,3.8nm,1.4s
ANMO Albuquerque 83.33 51 P **P** 00 05 22.0 +1.2
comp=Z,0.8nm,0.4s,baz=324,slow=5.9,SNR=4.3
ANMO Albuquerque 83.33 51 P **P** 00 05 22.0 +1.2
ANMO Albuquerque 83.33 51 P **P** 00 05 22.0 +1.2
318A Bisbee 83.38 55 ⇓P **P** 00 05 20.7 -0.3
baz=83
120A U Bar Ranch, L 83.55 54 ⇑P **P** 00 05 22.0 +0.2
baz=83
TNS Taunus Mts 83.74 333 *e*P **P** 00 05 22.4 0.0
comp=Z,3.0nm,0.7s
TNS Taunus Mts 83.74 333 *e*P **P** 00 05 22.4 0.0
TNS pmax pmax
comp=Z,3.0nm,0.7s

319A Douglas 83.89 55 ⇓P P 00 05 23.5 -0.1
baz=84

PPT2 Papeete2 83.90 118 *e*LR LR 00 31 48.2
comp=Z,246nm,25.0s

SOKA Soboth 83.93 327 ⇑*i*P P 00 05 23.5 0.0
comp=Z,16nm,1.2s

SOKA Soboth 83.93 327 ⇑*i*P P 00 05 23.5 0.0
comp=Z,16nm,1.2s

220A Playas Peak, P 84.03 54 ⇓P P 00 05 24.2 -0.1
baz=84

RJOB Jochberg 84.05 329 *e*P P 00 05 24.5 +0.5
comp=Z,8.0nm,0.9s

121A Cookes Peak, D 84.09 53 ⇓P P 00 05 24.7 0.0
baz=84

Y23A Lovelace Mesa, 84.26 51 ⇓P P 00 05 25.2 -0.3
baz=84

MEM Membach 84.29 334 P P 00 05 25.4 +0.3
FUR Furstenfeldbru 84.33 330 *e*P P 00 05 25.9 +0.5
comp=Z,16nm,1.0s

FUR Furstenfeldbru 84.33 330 *e*P P 00 05 25.9 +0.5
FUR pmax pmax
comp=Z,16nm,1.0s

KBA Koelnbreinsper 84.34 328 ⇑*i*P P 00 05 26.8 +1.1
KBA pmax pmax
comp=Z,8.0nm,0.8s

KBA Koelnbreinsper 84.34 328 ⇑*i*P P 00 05 26.8 +1.1
comp=Z,7.9nm,0.8s

KBA Koelnbreinsper 84.34 328 ⇑*i*PcP P 00 05 26.8 +1.1
comp=Z,7.9nm,0.8s,SNR=7.0

VAY Valandovo 84.36 319 *e*P P 00 05 25.4 -0.2
SCHQ Schefferville 84.45 17 LR LR 00 43 26.3
comp=Z,233nm,20.1s,baz=34,slow=36

STU Stuttgart 84.65 331 *e*P P 00 05 27.2 +0.2
comp=Z,12nm,1.0s

BCLA Clavier 84.69 334 P P 00 05 27.0 -0.2
comp=Z,8.9nm,1.1s

SNF Seneffe 84.96 335 P P 00 05 29.0 +0.5
comp=Z,21nm,2.8s

WLF Walferdange 85.03 333 P P 00 05 30.5 +1.6
comp=Z,20nm,2.2s

RETA Reutte 85.08 330 ⇓*i*P P 00 05 29.5 +0.3
comp=Z,22nm,1.3s

RETA Reutte 85.08 330 ⇓*i*PcP P 00 05 29.5 +0.3
comp=Z,22nm,1.3s,SNR=17

Y25A Mesa, Roswell 85.10 50 ⇓P P 00 05 29.9 +0.2
baz=85

DOU Dourbes 85.21 335 P P 00 05 29.4 -0.3
TAOE Nuku Hiva Isla 85.21 105 *e*LR LR 00 32 21.4
comp=Z,250nm,23.9s

BIA Bitola 85.22 320 *e*P P 00 05 29.3 -0.8
BFO Black Forest 85.34 331 *e*P P 00 05 30.7 +0.2
comp=Z,13nm,0.9s

BFO Black Forest 85.34 331 *e*P P 00 05 30.7 +0.2
BFO pmax pmax
comp=Z,13nm,0.9s

BFO Black Forest 85.34 331 *e*P P 00 05 29.6 -0.9
comp=Z,23nm,1.2s

BFO Black Forest 85.34 331 P P 00 05 30.2 -0.3
comp=Z,106nm,1.1s,SNR=6.3

BAIF Baives 85.37 335 *e*P P 00 05 30.6 0.0
FETA Feichten 85.47 329 ⇑*i*P P 00 05 31.4 +0.1
comp=Z,9.9nm,1.0s

FETA Feichten 85.47 329 ⇑*i*PcP P 00 05 31.4 +0.1
comp=Z,9.9nm,1.0s,SNR=12

DAVA Damuels 85.59 330 ⇑*i*P P 00 05 32.1 +0.2
comp=Z,23nm,1.0s

DAVA Damuels 85.59 330 ⇑*i*PcP P 00 05 32.1 +0.2
comp=Z,23nm,1.0s

CDF Champ du Feu 85.67 332 ⇑*i*P P 00 05 32.2 0.0
comp=Z,33nm,1.1s

PAGF Fort de Pagny 86.11 333 ⇑*i*P P 00 05 34.7 +0.4
comp=Z,23nm,1.2s

225A Deer Hill, Car 86.24 52 ⇑P P 00 05 34.6 -0.8
baz=86

HINF Hinteralfeld 86.32 332 *e*P P 00 05 35.0 -0.4
comp=Z,6.4nm,0.7s

HAU Haudompre 86.35 332 ⇑*i*P P 00 05 35.3 -0.2
comp=Z,17nm,0.9s

HAU *e*R
comp=Z,289nm,17.2s

Z27A Tatum 86.42 50 ⇑P P 00 05 35.7 -0.6
baz=86

SFTF Sexfontaines 86.66 333 ⇑*i*P P 00 05 37.1 +0.1
comp=Z,60nm,1.1s

CABF La Chapelle 87.61 332 *e*P P 00 05 42.4 +0.6
TBI Tubuai 87.86 122 *e*LR LR 00 33 36.6
comp=Z,150nm,23.0s

LOR Lormes 87.87 333 *e*P P 00 05 42.9 0.0
comp=Z,50nm,1.1s

LOR *e*R
comp=Z,315nm,21.2s

FLN La Foliniere 88.03 337 ⇑*i*P P 00 05 43.6 0.0
comp=Z,24nm,0.8s

FLN *e*R
comp=Z,425nm,18.2s

LDF La Druitiere 88.06 336 ⇑*i*P P 00 05 43.6 -0.1
comp=Z,14nm,0.9s

SSF Saint Saulge 88.17 334 ⇑*i*P P 00 05 44.4 +0.1
comp=Z,30nm,1.1s

LPL La Plagne 88.28 331 *e*P P 00 05 45.4 +0.2
comp=Z,16nm,1.0s

LPG La Plagne 88.29 331 *e*P P 00 05 45.6 +0.3
comp=Z,19nm,0.9s

AVF Avril sur Loir 88.46 333 ⇑*i*P P 00 05 45.9 +0.3
comp=Z,33nm,1.0s

GRR Gorron 88.48 337 *e*P P 00 05 46.0 +0.3
comp=Z,28nm,0.8s

528A Cox Ranch, San 88.84 52 ⇓P P 00 05 47.9 -0.1
baz=89

TXAR Lajitas Array 88.86 53 P P 00 05 48.5 +0.5
comp=Z,1.1nm,0.7s,baz=298,slow=3.5,SNR=16

TXAR pP pP 00 05 57.3 +2.0
comp=Z,2.0nm,0.7s,baz=312,slow=3.4,SNR=11

TXAR Lajitas Array 88.86 53 P P 00 05 48.5 +0.5
TXAR *PP pP 00 05 57.3 +2.0
TXAR Lajitas Array 88.86 53 P P 00 05 48.5 +0.5
TXAR pP pP 00 05 57.3 +2.0
628A Black Gap, Mar 89.25 53 ⇓P P 00 05 49.4 -0.3
baz=89

ROSF Rostrenen 89.26 338 *e*P P 00 05 49.7 +0.3
comp=Z,164nm,1.5s

MFF Saint Martin d 89.82 335 ⇑*i*P P 00 05 52.5 +0.5
comp=Z,53nm,1.2s

RJF Les Rejaudoux 90.39 334 *e*P P 00 05 55.2 +0.5
RJF *e*R
comp=Z,362nm,21.2s

CAF Calviac 90.52 333 ⇑*i*P P 00 05 56.2 +0.8
comp=Z,24nm,0.9s

MTLF Montolieu 91.84 332 *e*P P 00 06 01.7 +0.2
comp=Z,34nm,1.4s

KEST Kesra 95.23 324 LR LR 00 54 25.6
comp=Z,265nm,18.6s,baz=275,slow=39

ESDC Sonseca Array 97.25 335 P P 00 06 26.1 -0.4
comp=Z,1.2nm,0.7s,baz=18,slow=4.0,SNR=9.6

ESDC pP pP 00 06 35.6 +1.8
comp=Z,1.8nm,0.7s,baz=18,slow=4.4,SNR=9.5

ESDC LR LR 00 54 33.0
comp=Z,209nm,21.4s,baz=330,slow=38

ESDC Sonseca Array 97.25 335 P P 00 06 26.1 -0.4
ESDC pP pP 00 06 35.6 +1.8
RKT Rikitea 97.93 113 *e*LR LR 00 38 17.6
comp=Z,220nm,23.0s

TORD Torodi Ar. Bea 117.71 316 PKP PKPdf 00 11 39.3 -0.9
comp=Z,0.3nm,0.7s,baz=10,slow=2.1,SNR=2.8

TORD PP PP 00 12 45.4 -6.9
comp=Z,1.4nm,0.9s,baz=20,slow=8.9,SNR=4.4

TORD Torodi Ar. Bea 117.71 316 PKP PKPdf 00 11 39.3 -0.9
TORD PP PP 00 12 45.4 -6.9
DBIC Dimbokro 126.62 319 PKP PKPdf 00 11 56.0 -1.2
comp=Z,1.9nm,0.9s,baz=45,slow=2.9,SNR=2.9

DBIC pPKP pPKPdf 00 12 06.5 +1.7
comp=Z,1.8nm,0.6s,baz=326,slow=2.4,SNR=2.9

DBIC Dimbokro 126.62 319 PKIKP PKPdf 00 11 56.1 -1.2
DBIC 00 12 06.5
DBIC Dimbokro 126.62 319 PKP PKPdf 00 11 56.0 -1.2
DBIC pPKP pPKPdf 00 12 06.5 +1.7
SNAA Sanae 141.64 197 *e* PKPdf 00 12 21.2 -2.5
SNAA Sanae 141.64 197 *e*PKIKP PKPdf 00 12 21.2 -2.5
SNAA Sanae 141.64 197 *e*PKPdf PKPdf 00 12 21.2 -2.5
VNA2 Neumayer--Watz 143.20 196 *e* PKPbc 00 12 24.1 +0.7
baz=141,slow=2.1

VNA1 Neumayer--Stat 143.60 196 *e* PKPdf 00 12 26.6 -0.4
LPAZ La Paz 145.41 61 PKPbc PKPbc 00 12 32.4 -0.2
comp=Z,3.3nm,0.9s,baz=342,slow=3.5,SNR=12

LPAZ La Paz 145.41 61 PKIKP PKPbc 00 12 32.4 -0.2
LPAZ La Paz 145.41 61 PKPbc PKPbc 00 12 32.4 -0.2
LPAZ *e*PKPdf PKPdf 00 12 32.6 -0.1

IDC 06 00:02:25.1±2.6,0.°53S×133.°23E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.5/18,mbtmp3.6/4,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/27,Error ellipse: s-maj=97.4km s-min=28.1km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.99**	**203**	P	P	00 06 48.3	0.0
	0.2nm,0.3s,baz=32,slow=9.8,SNR=4.5						
FITZ				S	Sn	00 10 01.7	-21
	0.1nm,0.3s,baz=342,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**19.32**	**177**	P	P	00 06 52.0	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=11						
WRA				S	Sn	00 10 17.5	-13
	0.1nm,0.3s,baz=354,slow=24,SNR=5.1						
ASAR	**Alice Springs**	**23.01**	**178**	P	P	00 07 31.9	+0.1
	1.1nm,0.4s,baz=6.9,slow=11,SNR=11						
KSRS	**Korea Array**	**38.11**	**353**	LR	LR	00 23 40.5	
	comp=Z,38nm,19.7s,baz=0.0,slow=34						
MKAR	**Makanchi Array**	**64.77**	**324**	P	P	00 13 05.5	-0.1
	0.2nm,0.6s,baz=117,slow=6.6,SNR=3.0						

*MOS **06** 00:05:37.8±0.9,60.°12N×149.°28E,h16km,mb4.2/11,Error ellipse: s-maj=17.5km s-min=10.8km az=88.4*
MOS Felt (III) at Magadan, Karamken.
*NERS **06** 00:05:37.8,60.°13N×149.°30E,h2km,Felt I=III MSK at Magadan(105km)*
*NEIC **06** 00:05:40.8±0.7,60.°44N×149.°08E,h15km±4km,mb4.2/4, Error ellipse: s-maj=14.8km s-min=7.6km az=149.0*
*IDC **06** 00:05:41.2±1.0,60.°44N×149.°17E,h18km±4km,mb3.5/10, mb1 3.7/11,mb1mx3.6/24,mbtmp3.5/11,ML2.4/1,Error ellipse: s-maj=26.1km s-min=15.1km az=150.0*

ISC 06 00:05:39.7±0.5,60.°19N±0.°04×149.°42E±0.°03,h12km±3km, h11km:pP-P,n66,σ1°47/92,mb3.9/17,4C-6D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGD	**Magadan 1**	**0.67**	**102**	⇓*i*Pg	**Pg**	**00 05 50.8**	**-1.9**
MGD				Pgmax		00 05 51.1	
	340nm,0.2s						
MGD				Pgmax		00 05 51.1	
	240nm,0.2s						
MGD				Pgmax		00 05 51.1	
	2μm,0.2s						
MGD				*e*Sg	**Sg**	**00 05 59.8**	**-1.7**
MGD				Sgmax		00 06 00.6	
	18μm,0.3s						
MGD				Sgmax		00 06 00.6	
	10μm,0.2s						
OCHR	**Omchak**	**1.66**	**334**	⇑*i*P	**Pn**	**00 06 09.1**	**+0.4**
OCHR				⇑*i*Pg	**Pb**	**00 06 10.3**	**+0.1**
OCHR				Pgmax		00 06 10.9	
	230nm,0.1s						
OCHR				*e*Sg	**Sg**	**00 06 32.4**	**-0.7**
OCHR				Sgmax		00 06 35.3	
	990nm,0.1s						
OCHR				Sgmax		00 06 35.3	
	410nm,0.1s						
TLAR	**Talaya**	**1.74**	**56**	*e*P	**Pn**	**00 06 10.3**	**+0.5**
TLAR				*e*		00 06 35.4	
TLAR				pmax	pmax		
	comp=Z,200nm,0.3s						
TLAR				smax	smax		
	comp=E,1μm,0.2s						
TLAR	**Talaya**	**1.74**	**56**	*e*P	**Pn**	**00 06 10.3**	**+0.5**
TLAR				*e*Pg	**Pb**	**00 06 11.3**	**-0.3**
TLAR				Pgmax		00 06 12.5	
	comp=E,80nm,0.1s						
TLAR				*e*Sg	**Sg**	**00 06 35.5**	**-0.1**
TLAR				Sgmax		00 06 36.3	
	comp=E,730nm,0.1s						
TLAR				Sgmax		00 06 36.3	
	comp=E,700nm,0.1s						
SNGR	**Sinegor'e**	**1.94**	**14**	*e*P	**Pb**	**00 06 14.3**	**-0.6**
SNGR				*e*Pg	**Pg**	**00 06 15.4**	**-1.4**
SNGR				Pgmax		00 06 17.6	
	comp=E,140nm,0.2s						
SNGR				*e*Sg	**Sg**	**00 06 42.4**	**+0.5**
SNGR				Sgmax		00 06 44.0	
	comp=E,530nm,0.2s						
SNGR				Sgmax		00 06 44.0	
	comp=E,1μm,0.2s						
SUUS	**Susuman**	**2.67**	**348**	*e*P	**Pn**	**00 06 23.2**	**+0.8**
SUUS				*e*		00 07 02.9	
SUUS				pmax	pmax		
	comp=Z,120nm,0.3s						
SUUS				smax	smax		
	comp=N,810nm,0.4s						
SUUS	**Susuman**	**2.67**	**348**	⇓*i*P	**Pn**	**00 06 23.2**	**+0.8**
SUUS				*e*Pg	**Pb**	**00 06 27.3**	**0.0**
SUUS				Pgmax		00 06 30.8	
	comp=N,120nm,0.3s						
SUUS				*e*S	**Sn**	**00 06 54.7**	**+0.1**
SUUS				*e*Sg	**Sg**	**00 07 02.9**	**-2.3**
SUUS				Sgmax		00 07 08.1	
	comp=N,810nm,0.4s						
SEY	**Seymchan**	**3.09**	**26**	*e*P	**Pn**	**00 06 29.3**	**+1.0**
SEY				pmax	pmax		
	comp=Z,120nm,0.3s						
SEY	**Seymchan**	**3.09**	**26**	⇓*i*P	**Pn**	**00 06 29.3**	**+1.0**
SEY				⇑*i*Pg	**Pg**	**00 06 38.3**	**-0.6**
SEY				Pgmax		00 06 38.9	
	comp=Z,120nm,0.3s						
SEY				*e*Sg	**Sg**	**00 07 18.5**	**-0.4**
SEY				Sgmax		00 07 22.3	
	comp=Z,540nm,0.2s						
OHTR	**Okhotsk**	**3.19**	**257**	*e*Pg	**Pb**	**00 06 34.1**	**-2.1**
OHTR				*e*		00 06 39.4	
OHTR				*e*Sg	**Sb**	**00 07 17.0**	**+2.0**
OHTR				Sgmax		00 07 25.0	
	comp=Z,930nm,0.4s						
OMS	**Omsukchan**	**3.85**	**50**	*e*Pg	**Pg**	**00 06 50.7**	**-2.6**
OMS				Pgmax		00 06 51.9	
	comp=Z,50nm,0.8s						
OMS				*e*Sg	**Sg**	**00 07 41.0**	**-2.0**
OMS				Sgmax		00 07 41.0	
	comp=Z,270nm,0.7s						
OMS				Sgmax		00 07 41.0	
	comp=Z,150nm,0.7s						
EVEN	**Evensk**	**5.07**	**66**	*e*	**Pb**	**00 07 09.4**	**+1.2**
EVEN				*e*Pg	**Pg**	**00 07 14.6**	**-2.0**
EVEN				*e*Sg	**Sg**	**00 08 20.6**	**-1.6**
EVEN				Sgmax		00 08 28.8	
	comp=Z,200nm,0.7s						
BILL	**Bilibino**	**10.74**	**36**	⇑*e*P	**Pn**	**00 08 15.3**	**+2.3**
BILL				*e*S	**Sn**	**00 10 13.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s						
BILL	**Bilibino**	**10.74**	**36**	*e*Pn	**Pn**	**00 08 13.1**	**+0.1**
BILL				*e*Lg	Lg	00 11 21.3	
BILL	**Bilibino**	**10.74**	**36**	*e*Sg	Sx	00 11 22.6	
BILL				Sgmax		00 11 33.1	
	comp=Z,20nm,0.8s						
BOD	**Bodaibo**	**18.26**	**278**	*e*P	**P**	**00 09 52.8**	**+0.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s						
USRK	**Ussuriysk Arra**	**19.14**	**221**	P	**Pn**	**00 10 04.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=9.7,SNR=4.7						
MJA0	**Matsu Arr-Jizo**	**24.73**	**202**	*e*P	P	00 11 06.6	+5.9
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**24.74**	**202**	P	**P**	**00 11 03.8**	**+3.0**
	comp=Z,1.9nm,0.6s,baz=355,slow=9.7,SNR=5.9						
MJAR	**Matsushiro Arr**	**24.74**	**202**	P	**P**	**00 11 03.8**	**+3.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**24.74**	**202**	P	**P**	**00 11 03.8**	**+3.0**
ULN	**Ulaanbaatar**	**27.25**	**262**	*e*P	**P**	**00 11 23.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**27.25**	**262**	*e*P	**P**	**00 11 23.2**	**-0.4**
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**27.60**	**263**	P	**P**	**00 11 25.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=52,slow=7.2,SNR=4.6						
SONM				pP	**pP**	**00 11 31.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=60,slow=5.9,SNR=7.1						
SONM	**Songino Array**	**27.60**	**263**	P	**P**	**00 11 25.7**	**-1.0**
SONM				*PP	**pP**	**00 11 31.6**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**27.60**	**263**	P	**P**	**00 11 25.7**	**-1.0**
SONM				pP	**pP**	**00 11 31.6**	**+1.4**
ILAR	**Eielson Array**	**28.65**	**53**	P	**P**	**00 11 36.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=270,slow=7.4,SNR=8.2						
ILAR	**Eielson Array**	**28.65**	**53**	P	**P**	**00 11 36.1**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**28.65**	**53**	P	**P**	**00 11 36.0**	**+0.3**
ZALV	**Zalesovo Beam**	**34.37**	**289**	P	**P**	**00 12 24.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=31,slow=8.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**34.37**	**289**	P	**P**	**00 12 24.6**	**-1.5**
ZALV	**Zalesovo Beam**	**34.37**	**289**	P	**P**	**00 12 24.6**	**-1.5**
NVS	**Novosibirsk**	**34.58**	**291**	*e*P	P	00 12 37.3	+9.4
KURK	**Kurchatov**	**39.36**	**289**	⇓*i*P	**P**	**00 13 07.0**	**-1.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KURK	**Kurchatov**	**39.36**	**289**	*e*P	**P**	**00 13 07.8**	**-0.7**
	comp=Z,5.3nm,0.8s						
MK31	**Makanchi Array**	**40.29**	**282**	*e*P	**P**	**00 13 14.7**	**-1.6**
MK31	**Makanchi Array**	**40.29**	**282**	*e*P	**P**	**00 13 14.7**	**-1.6**
MKAR	**Makanchi Array**	**40.29**	**282**	*i*P	**P**	**00 13 14.8**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=50,slow=7.5,SNR=14						
MKAR				pP	**pP**	**00 13 21.6**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=56,slow=7.9,SNR=9.5						
MKAR	**Makanchi Array**	**40.29**	**282**	*i*P	**P**	**00 13 15.1**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**40.29**	**282**	P	P	**00 13 14.8**	**-1.5**
MKAR				pP	**pP**	**00 13 21.6**	**+1.6**
BRVK	**Borovoye**	**41.63**	**297**	⇓*e*P	**P**	**00 13 26.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**42.01**	**44**	P	P	**00 13 30.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=305,slow=8.3,SNR=4.4						
YKA				pP	**pP**	**00 13 34.5**	**+0.6**
	comp=Z,0.1nm,0.7s,baz=346,slow=24,SNR=4.5						
YKA				PcP	**PcP**	**00 15 28.5**	**+3.6**
	comp=Z,0.1nm,0.5s,baz=321,slow=3.3,SNR=4.0						
YKA	**Yellowknife Ar**	**42.01**	**44**	P	P	**00 13 30.8**	**+0.6**
YKA				*PP	**pP**	**00 13 34.5**	**+0.6**
YKA						00 15 28.5	
YKA	**Yellowknife Ar**	**42.01**	**44**	P	**P**	**00 13 30.8**	**+0.6**
YKA				pP	**pP**	**00 13 34.5**	**+0.6**
YKA				PcP	**PcP**	**00 15 28.5**	**+3.6**
KKAR	**Karatay Array**	**48.69**	**287**	*e*P	**P**	**00 14 22.7**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**48.69**	**287**	*e*P	**P**	**00 14 22.7**	**-0.7**
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**51.12**	**329**	P	**P**	**00 14 40.7**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=38,slow=13,SNR=6.9						
FINES				pP	**pP**	**00 14 46.2**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=30,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**51.12**	**329**	P	**P**	**00 14 40.7**	**-0.9**
FINES				*PP	**pP**	**00 14 46.2**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**51.12**	**329**	P	**P**	**00 14 40.7**	**-0.9**
FINES				pP	**pP**	**00 14 46.2**	**+0.9**
CHTO	**Chiang Mai**	**54.63**	**244**	*e*P	**P**	**00 15 08.5**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**54.63**	**244**	*e*P	**P**	**00 15 08.5**	**+0.4**
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**54.87**	**337**	P	**P**	**00 15 07.7**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=26,slow=7.3,SNR=2.7						
NOA	**NORSAR Array B**	**54.87**	**337**	P	**P**	**00 15 07.7**	**-1.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**54.87**	**337**	P	**P**	**00 15 07.7**	**-1.7**
NVAR	**Mina Array Bea**	**58.63**	**67**	pP	pP	00 15 42.2	+1.9
	comp=Z,1.0nm,0.9s,baz=311,slow=7.0,SNR=3.5						
NVAR	**Mina Array Bea**	**58.63**	**67**	pP	pP	00 15 42.2	+1.9
AKASG	**Malin Array Be**	**59.42**	**320**	*i*P	P	00 15 34.0	-7.6
KIV	**Kislovodsk**	**60.31**	**307**	⇓*e*P	**P**	**00 15 49.0**	**+1.0**
KIV				*e*S	**S**	**00 24 04.6**	**+2.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,500nm,17.0s						
SOC	**Sochi**	**61.79**	**309**	*e*P	**P**	**00 15 56.0**	**-1.9**
SOC				*e*PP	**pP**	**00 15 58.7**	**-3.0**
SOC				*e*S	S	00 24 11.5	-9.0
SOC				pmax	pmax		
	comp=Z,43nm,1.4s						
SOC				MLR	MLR		
	comp=Z,351nm,13.0s						
CLL	**Collm**	**63.44**	**331**	*e*P	**P**	**00 16 07.0**	**-1.7**
CLL	**Collm**	**63.44**	**331**	*e*P	**P**	**00 16 07.0**	**-1.7**
TXAR	**Lajitas Array**	**72.83**	**61**	P	**P**	**00 17 07.8**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=334,slow=6.0,SNR=2.2						
TXAR	**Lajitas Array**	**72.83**	**61**	P	**P**	**00 17 07.8**	**-0.3**
TXAR	**Lajitas Array**	**72.83**	**61**	P	**P**	**00 17 07.8**	**-0.3**
ESDC	**Sonseca Array**	**78.11**	**339**	P	**P**	**00 17 36.4**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=12,slow=6.0,SNR=5.5						
ESDC	**Sonseca Array**	**78.11**	**339**	P	**P**	**00 17 36.4**	**-1.8**

*IDC **06** 00:08:54.7±1.2,8.°54S×124.°06E,h0km,mb3.7/4, mb1 4.1/7,mb1mx3.9/18,mbtmp3.9/7,ML4.2/3,Error ellipse: s-maj=70.1km s-min=18.7km az=60.0*
*NEIC **06** 00:08:59.7±0.6,8.°54S×124.°16E,h35km,mb4.0/3,Error ellipse: s-maj=29.8km s-min=7.7km az=62.0*

ISC 06 00:09:03.7±0.9,8.°93S±0.°09×124.°6E±0.°2,h96km,n18, σ2s06/18,mb3.7/5,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.17**	**174**	Pn	**Pn**	**00 11 16.0**	**+2.8**
	2.2nm,0.3s,baz=359,slow=13,SNR=89						
FITZ				Sn	**Sn**	**00 12 52.5**	**-2.2**
	14nm,0.3s,baz=128,slow=10,SNR=15						
FITZ	**Fitzroy Crossi**	**9.17**	**174**	Pn	**Pn**	**00 11 16.0**	**+2.8**
FITZ				Sn	**Sn**	**00 12 52.5**	**-2.2**
WRA	**Warramunga Arr**	**14.43**	**140**	Pn	P	**00 12 29.1**	**+1.6**
	0.8nm,0.3s,baz=312,slow=14,SNR=26						
WRA				Sn	**Sn**	**00 15 00.3**	**-2.2**
	2.9nm,0.3s,baz=316,slow=24,SNR=12						
WRA	**Warramunga Arr**	**14.43**	**140**	Pn	**P**	**00 12 29.1**	**+1.6**
WRA				Sn	**Sn**	**00 15 00.3**	**-2.2**
WRAB	**Tennant Creek**	**14.43**	**140**	*e*P	**P**	**00 12 28.5**	**+0.9**
	8.5nm,0.3s						
AS31	**Alice Springs**	**17.14**	**150**	*e*Pn	P	00 13 03.6	+6.0
ASAR	**Alice Springs**	**17.14**	**150**	P	P	00 13 03.9	+6.4
	1.0nm,0.3s,baz=327,slow=13,SNR=30						
ASAR				S	**Sn**	**00 16 05.1**	**-2.8**
	0.7nm,0.3s,baz=322,slow=24,SNR=16						
ASAR	**Alice Springs**	**17.14**	**150**	P	P	00 13 04.0	+6.4
ASAR				S	**Sn**	**00 16 05.1**	**-2.8**
CTA	**Charters Tower**	**23.67**	**120**	P	P	00 14 14.9	+8.1
	2.4nm,0.5s,baz=282,slow=9.3,SNR=3.8						
CTA	**Charters Tower**	**23.67**	**120**	P	P	00 14 14.9	+8.1
CTAO	**Charters Tower**	**23.67**	**120**	*e*P	**P**	**00 14 08.4**	**+1.6**
	1.7nm,0.5s						
STKA	**Stephens Creek**	**27.75**	**148**	P	P	00 14 49.7	+6.3
	0.9nm,0.3s,baz=314,slow=6.7,SNR=5.4						
ULN	**Ulaanbaatar**	**58.65**	**346**	P	**P**	**00 18 49.6**	**-1.5**
SONM	**Songino Array**	**58.78**	**346**	P	**P**	**00 18 51.1**	**-0.8**
	0.2nm,0.5s,baz=152,slow=7.5,SNR=3.3						
SONM	**Songino Array**	**58.78**	**346**	P	**P**	**00 18 51.1**	**-0.8**
MKAR	**Makanchi Array**	**67.06**	**330**	P	**P**	**00 19 45.9**	**-0.8**
	0.3nm,0.6s,baz=132,slow=7.8,SNR=7.7						
MKAR	**Makanchi Array**	**67.06**	**330**	P	**P**	**00 19 45.9**	**-0.8**
KURK	**Kurchatov**	**71.50**	**331**	*e*P	**P**	**00 20 13.4**	**-0.6**
	0.6nm,0.5s						

**IDC

ASAR	**Alice Springs**	**17.78**	**166**	P	P	00 18 36.5	-0.4		
	0.4nm,0.3s,baz=342,slow=9.4,SNR=6.0								
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	00 25 19.5	0.0		
	0.1nm,0.3s,baz=110,slow=8.9,SNR=5.5								

IDC 06 00:21:10.7±2.4, 0.66S×132.92E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=95.5km s-min=25.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.75**	**202**	P	Pn	00 25 31.8	+0.1
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.2						
WRA	**Warramunga Arr**	**19.22**	**176**	P	P	00 25 36.1	-0.4
	0.1nm,0.3s,baz=355,slow=11,SNR=2.9						
WRA				S	Sn	00 28 58.6	-15
	0.1nm,0.3s,baz=355,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**22.89**	**178**	P	P	00 26 16.1	-0.2
	0.4nm,0.4s,baz=356,slow=8.5,SNR=8.8						
MKAR	**Makanchi Array**	**64.69**	**324**	P	P	00 31 50.6	0.0
	0.4nm,0.6s,baz=109,slow=8.3,SNR=6.5						

IDC 06 00:26:01.8±12.0, 0.84S×133.08E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=182.9km s-min=82.0km az=166.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.65**	**203**	P	P	00 30 21.1	-0.2
	0.1nm,0.3s,baz=23,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**19.03**	**176**	P	Pn	00 30 26.1	0.0
	0.2nm,0.3s,baz=355,slow=11,SNR=12						
WRA				S	Sn	00 33 54.1	-5.9
	0.1nm,0.3s,baz=357,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**22.71**	**178**	P	P	00 31 05.8	+0.4
	3.9nm,0.9s,baz=360,slow=11,SNR=22						
STKA	**Stephens Creek**	**31.90**	**166**	P	P	00 32 28.4	-0.7
	0.9nm,0.5s,baz=358,slow=10,SNR=3.1						

*IDC **06** 00:34:20.1±0.6, 0.44S×132.05E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.5/22, mbtmp4.5/16, ML4.2/2, MS3.9/16, Ms1 3.9/16, ms1mx3.6/36, Error ellipse: s-maj=28.2km s-min=11.1km az=76.0*

*BJI **06** 00:34:21.8, 0.83S×132.65E, h35km, mB5.1/27, mb4.6/37, Ms4.7/22, Ms7 4.5/24*

*DJA **06** 00:34:22, 0.40S×131.96E, h10km, MLv5.0/8*

*NEIC **06** 00:34:25.4±0.2, 0.49S×131.93E, h35km, mb4.9/28, Error ellipse: s-maj=6.0km s-min=3.1km az=61.0*

*ISCJB **06** 00:34:26.9±0.9, 0.62S±0.04×131.99E±0.05, h63km±8km, mb4.8/53, Error ellipse: s-maj=8.9km s-min=5.2km az=153.9*

ISC 06 00:34:26.3±0.4, 0.65S±0.04×131.97E±0.06, h41km±3km, n137, σ1§85/146, mb4.8/53, MS4.0/19, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.27**	**173**	P	**Pn**	**00 35 02.8**	**+1.4**
MSAI	**Masohi**	**4.05**	**229**	P	**Pn**	**00 35 27.8**	**+1.9**
TNTI	**Ternate**	**4.82**	**287**	P	Pn	00 35 46.0	+10
AAI	**Ambon**	**4.83**	**231**	P	**Pn**	**00 35 37.1**	**+0.5**
TLE	**Tual**	**5.02**	**171**	P	**Pn**	00 35 43.8	+4.7
NLAI	**Namlea**	**5.51**	**242**	P	Pn	00 35 49.2	+3.3
JAY	**Jayapura**	**8.92**	**102**	P	Pn	00 36 51.8	+19
	56nm,1.1s,10μm						
LUWI	**Luwuk**	**9.21**	**267**	P	Pn	00 36 41.5	+4.8
	70nm,1.2s,1μm0.3nm						
DAV	**Davao City (W)**	**9.97**	**320**	LR	LR	00 40 25.1	
	comp=Z,292nm,19.1s,baz=174,slow=37						
MRSI	**Marisa**	**10.09**	**276**	P	Pn	00 37 02.9	+14
	31nm,1.3s,594nm						
PCI	**Palu**	**12.14**	**269**	P	P	00 37 39.1	+10
MTN	**Manton Dam**	**12.15**	**184**	*e*P	**Pn**	**00 37 15.3**	**-1.6**
MTN				*e*S	Sn	00 39 25.0	-6.1
TTSI	**Tana Toraja**	**12.38**	**259**	P	**P**	**00 37 33.8**	**+2.5**
MMRI	**Maumere**	**12.53**	**230**	P	Pn	00 37 27.7	+5.5
SPSI	**Sidrap Palu**	**12.63**	**255**	P	P	00 37 29.7	-4.4
	38nm,1.1s,612nm						
BKSI	**Bulukumba**	**12.71**	**248**	P	P	00 37 30.6	-4.4
	28nm,1.2s,496nm						
KAPI	**Kappang**	**12.95**	**250**	Pn	**Pn**	**00 37 29.4**	**+1.4**
	0.5nm,0.3s,baz=66,slow=15,SNR=5.8						
KAPI	**Kappang**	**12.95**	**250**	*e*Pn	**Pn**	**00 37 27.1**	**-0.8**
KAPI				Sn	**Sn**	**00 39 51.5**	**+0.7**
KAPI	**Kappang**	**12.95**	**250**	P	Pn	00 37 32.4	+4.5
	70nm,1.2s,982nm						
MYLDM	**Lahad Datu**	**14.65**	**293**	P	**P**	**00 37 57.9**	**+1.3**
KBKI	**Kotabaru**	**16.01**	**260**	P	**P**	**00 38 14.4**	**+2.7**
	55nm,1.2s,3μm						
KKM	**Kota Kinabalu**	**17.08**	**293**	Pn	**Pn**	**00 38 20.9**	**-1.4**
COEN	**Coen**	**17.26**	**141**	*e*Pn	**Pn**	**00 38 24.7**	**+0.2**
	420nm,0.9s						
BBKI	**Banjar Baru**	**17.34**	**260**	P	P	00 38 34.2	+7.7
	75nm,1.6s,3μm						
PMG	**Port Moresby**	**17.44**	**120**	P	**P**	**00 38 29.0**	**+1.4**
	0.8nm,0.3s,baz=309,slow=7.8,SNR=7.4						
PMG	**Port Moresby**	**17.44**	**120**	*e*Pn	**P**	**00 38 27.8**	**+0.2**
	50nm,1.0s						
KHKI	**Kahang-Kahang**	**18.01**	**244**	P	P	00 38 42.2	+8.3
FITZ	**Fitzroy Crossi**	**18.43**	**199**	P	**P**	**00 38 35.8**	**-2.6**
	1.0nm,0.3s,baz=42,slow=13,SNR=15						
FITZ				S	Sn	00 41 53.5	-10
	0.4nm,0.3s,baz=54,slow=19,SNR=3.3						
FITZ				LR	LR	00 46 20.9	
	comp=Z,287nm,20.0s,baz=25,slow=39						
FITZ	**Fitzroy Crossi**	**18.43**	**199**	*e*P	**P**	**00 38 35.2**	**-3.2**
	30nm,0.8s						
FITZ				*e*S	Sn	00 41 52.9	-11
FITZ	**Fitzroy Crossi**	**18.43**	**199**	*e*Pn	**P**	**00 38 35.9**	**-2.5**
	18nm,0.8s						
FITZ				*e*S	**Sn**	**00 41 58.1**	**-5.7**
NBBI	**Negara**	**18.91**	**246**	P	Pn	00 38 51.5	+6.8
	216nm,1.5s,8μm						
GUMO	**Guam**	**19.06**	**42**	LR	LR	00 45 22.6	
	comp=Z,284nm,19.4s,baz=306,slow=35						
WRAB	**Tennant Creek**	**19.31**	**173**	*e*P	**P**	**00 38 48.7**	**+0.6**
	38nm,0.9s						
WRAB				*e*S	S	00 42 16.5	-8.2
WRA	**Warramunga Arr**	**19.32**	**173**	P	**P**	**00 38 48.9**	**+0.7**
	1.0nm,0.3s,baz=354,slow=12,SNR=103						
WRA				S	**S**	**00 42 18.9**	**-5.9**
	0.4nm,0.3s,baz=357,slow=22,SNR=4.6						
WRA	**Warramunga Arr**	**19.32**	**173**	P	**P**	**00 38 48.9**	**+0.7**
WRA				S	**S**	**00 42 18.9**	**-5.9**
WB2	**Warramunga Arr**	**19.32**	**173**	*e*P	**P**	**00 38 48.9**	**+0.7**
WB2				*e*S	S	00 42 14.6	-10
BLJI	**Banyuglugur**	**19.63**	**248**	P	Pn	00 38 59.3	+6.1
	81nm,1.1s						
GMJI	**Gumukmas**	**19.95**	**247**	P	**Pn**	**00 38 57.7**	**+0.6**
SJI	**Sawahan**	**21.33**	**250**	P	P	00 39 19.5	+9.3
	36nm,1.3s,3μm						
PWJI	**Pagerwojo**	**21.39**	**249**	P	P	00 39 16.2	+5.5
	53nm,1.2s						
YOGI	**Yogyakarta**	**22.75**	**251**	P	P	00 39 32.5	+7.2
	569nm,1.5s,8μm						
AS31	**Alice Springs**	**22.96**	**175**	*e*P	**P**	**00 39 28.6**	**+1.2**
ASAR	**Alice Springs**	**22.96**	**175**	P	**P**	**00 39 28.3**	**+0.9**
	34nm,0.8s,baz=355,slow=10,SNR=184						
ASAR				S	**S**	**00 43 41.7**	**+6.8**
	1.5nm,0.8s,baz=356,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**22.96**	**175**	P	**P**	**00 39 28.3**	**+0.9**
ASAR				S	**S**	**00 43 41.7**	**+6.8**
MBWA	**Marble Bar**	**23.63**	**210**	*e*P	**P**	**00 39 34.5**	**+0.6**
	59nm,1.2s						
CTA	**Charters Tower**	**23.85**	**145**	P	**P**	**00 39 38.0**	**+2.0**
	40nm,1.0s,baz=322,slow=11,SNR=17						
CTA				LR	LR	00 49 31.4	
	comp=Z,303nm,19.0s,baz=150,slow=38						
CTA	**Charters Tower**	**23.85**	**145**	*e*P	**P**	**00 39 37.6**	**+1.5**
	29nm,1.0s						
CTA	**Charters Tower**	**23.85**	**145**	P	**P**	**00 39 38.0**	**+2.0**
CTAO	**Charters Tower**	**23.85**	**145**	*e*P	**P**	**00 39 37.5**	**+1.5**
	61nm,1.1s						
TPI	**Tanjungpandan**	**24.40**	**265**	P	P	00 39 48.9	+7.8
PPBI	**Pangkal Pinang**	**25.87**	**266**	P	P	00 40 01.5	+7.0
JOW	**Kunigami**	**27.55**	**353**	LR	LR	00 49 13.0	
	comp=Z,270nm,19.1s,baz=135,slow=33						
CBIJ	**Chichi jima**	**29.28**	**19**	LR	LR	00 49 19.7	
	comp=Z,307nm,20.8s,baz=191,slow=31						
FORT	**Forrest**	**30.20**	**187**	*e*P	**P**	**00 40 34.0**	**+1.0**
	23nm,0.7s						
FORT	**Forrest**	**30.20**	**187**	*e*P	**P**	**00 40 34.5**	**+1.5**
	34nm,0.8s						
FORT				*e*PcP	**PcP**	**00 43 33.2**	**-0.2**
EIDS	**Eidsvold**	**30.73**	**145**	*e*P	**P**	**00 40 38.8**	**+1.0**
	25nm,0.9s						
IPM	**Ipoh**	**31.34**	**280**	*e*P	**P**	**00 40 42.5**	**-0.8**
	31nm,1.1s						
KULM	**Kulim**	**31.83**	**281**	*e*P	**P**	**00 40 46.5**	**-1.2**
	25nm,1.2s						
BBOO	**Buckleboo**	**32.22**	**174**	*e*P	**P**	**00 40 52.2**	**+1.4**
	415nm,1.0s						
STKA	**Stephens Creek**	**32.37**	**165**	P	**P**	**00 40 53.4**	**+1.3**
	10nm,0.8s,baz=342,slow=8.8,SNR=23						
STKA	**Stephens Creek**	**32.37**	**165**	*e*P	**P**	**00 40 52.5**	**+0.4**
	8.8nm,0.9s						
STKA	**Stephens Creek**	**32.37**	**165**	*e*P	**P**	**00 40 53.3**	**+1.3**
	2.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**34.98**	**202**	P	**P**	**00 41 15.6**	**+0.8**
	12nm,1.0s,baz=34,slow=6.2,SNR=4.5						
NWAO	**Narrogin (SRO)**	**34.98**	**202**	*e*P	**P**	**00 41 15.8**	**+1.1**
ARMA	**Armidale**	**35.01**	**150**	*e*P	**P**	**00 41 16.4**	**+1.2**
ARMA	**Armidale**	**35.01**	**150**	*e*P	**P**	**00 41 16.1**	**+0.9**
	37nm,0.8s						
WHN	**Wuhan**	**35.26**	**333**	P	P	00 41 23.5	+6.3
GYA	**Guiyang**	**36.35**	**320**	P	**P**	**00 41 28.0**	**+1.2**
GYA				pP	**pP**	**00 41 38.6**	**+0.5**
GYA				sP	**sP**	**00 41 43.4**	**+0.4**
GYA				PP	**PP**	**00 42 51.0**	**+0.9**
GYA				S	**S**	**00 47 05.6**	**+0.1**
GYA				ScP	**ScP**	**00 47 34.5**	**+0.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,680nm,17.7s						
GYA				LR	LR		
	comp=E,590nm,18.5s						
GYA				LR	LR		
	comp=Z,670nm,17.6s						
MJAR	**Matsushiro Arr**	**37.45**	**8**	LR	LR	00 53 43.6	
	comp=Z,257nm,21.6s,baz=240,slow=31						
CMAR	**Chiang Mai Arr**	**37.61**	**302**	P	**P**	**00 41 37.5**	**0.0**
	comp=Z,2.0nm,0.4s,baz=128,slow=8.1,SNR=6.9						
CMAR				PcP	**PcP**	**00 43 54.1**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=117,slow=1.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**37.61**	**302**	P	**P**	**00 41 37.5**	**0.0**
CMAR				PcP	**PcP**	**00 43 54.1**	**-0.7**
KSAR	**Wonju Array Be**	**38.09**	**355**	P	**P**	**00 41 42.9**	**+1.7**
KSRS	**Korea Array**	**38.10**	**355**	P	**P**	**00 41 42.9**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=170,slow=6.8,SNR=2.0						
KSRS				LR	LR	00 55 48.2	
	comp=Z,131nm,19.2s,baz=172,slow=34						
KMI	**Kunming**	**38.16**	**314**	P	**P**	**00 41 45.0**	**+2.7**
KMI				pP	**pP**	**00 41 52.3**	**-1.4**
KMI				sP	**sP**	**00 41 57.5**	**-1.0**
KMI				PP	**PnPn**	**00 43 14.4**	**+2.5**
KMI				S	**S**	**00 47 35.2**	**+1.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,130nm,4.4s						
KMI				LR	LR		
	comp=N,200nm,18.3s						
KMI				LR	LR		
	comp=E,140nm,15.5s						
KMI				LR	LR		
	comp=Z,140nm,16.6s						
CD2	**Chengdu**	**41.27**	**322**	P	**P**	**00 42 10.7**	**+2.8**
CD2				pP	**pP**	**00 42 20.9**	**+1.6**
CD2				sP	**sP**	**00 42 25.2**	**+1.1**
CD2				PP	**PnPn**	**00 43 49.7**	**+1.2**
CD2				S	**S**	**00 48 19.7**	**+0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.9s						
CD2				LR	LR		
	comp=N,350nm,5.4s						
CD2				LR	LR		
	comp=Z,290nm,7.7s						
SNY	**Shenyang**	**42.96**	**351**	↑P	P	00 42 31.6	+10
SNY				sP	sP	00 43 01.3	+24
SNY				S	S	00 48 50.5	+6.8
SNY				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SNY				pmax	pmax		
	comp=Z,170nm,4.6s						
SNY				LR	LR		
	comp=N,160nm,6.5s						
SNY				LR	LR		
	comp=E,230nm,4.6s						
SNY				LR	LR		
	comp=Z,170nm,5.6s						
BJT	**Baijiatuan**	**42.97**	**342**	P	**P**	**00 42 20.6**	**-0.9**
	comp=Z,20nm,1.3s						
BJI	**Beijing**	**42.99**	**342**	P	**P**	**00 42 20.4**	**-1.3**
BJI				S	**S**	**00 48 46.2**	**+1.9**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.6s						
BJI				pmax	pmax		
	comp=Z,160nm,5.4s						
CN2	**Changchun**	**44.63**	**353**	*e*P	**P**	**00 42 35.5**	**+0.7**
CN2				*es*P	**sP**	**00 42 49.4**	**-1.8**
CN2				*e*S	**S**	**00 49 08.7**	**+0.5**
USRK	**Ussuriysk Arra**	**44.65**	**0**	P	**P**	**00 42 34.0**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=190,slow=5.9,SNR=3.3						
LZH	**Lanzhou**	**44.95**	**327**	*e*P	**P**	**00 42 38.0**	**+0.3**
LZH				pP	**pP**	**00 42 50.5**	**+1.3**
LZH				sP	**sP**	**00 42 54.7**	**+0.7**
LZH				*e*S	**S**	**00 49 14.0**	**+0.6**
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,6.6s						
LZH				LR	LR		
	comp=N,220nm,10.0s						
LZH				LR	LR		
	comp=E,210nm,13.5s						
LZH				LR	LR		
	comp=Z,270nm,16.7s						
MDJ	**Mudanjiang**	**45.12**	**358**	P	**P**	**00 42 39.3**	**+0.6**
MDJ				pP	**pP**	**00 42 48.0**	**-2.2**
MDJ				ScP	**ScP**	**00 48 09.8**	**+1.5**
MDJ				S	**S**	**00 49 15.2**	**0.0**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,82nm,8.1s						
HHC	**Hu-ho-hao-te**	**45.28**	**338**	*e*P	**P**	**00 42 41.5**	**+1.3**
HHC				pP	**pP**	**00 42 51.6**	**-0.1**
HHC				sP	**sP**	**00 42 55.2**	**-1.3**
HHC				PP	**PP**	**00 44 29.1**	**+2.4**
HHC				S	**S**	**00 49 19.3**	**+1.4**
HHC				ScS	**ScS**	**00 52 33.2**	**-0.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,4.8s						
HHC				LR	LR		
	comp=N,170nm,14.4s						
HHC				LR	LR		
	comp=E,210nm,14.6s						
HHC				LR	LR		
	comp=Z,220nm,15.5s						
MSVF	**Nonsavu**	**48.36**	**113**	P	**P**	**00 43 05.5**	**+0.9**
	comp=Z,18nm,1.1s						
LSA	**Lhasa**	**49.24**	**311**	P	**P**	**00 43 08.9**	**-2.8**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**49.24**	**311**	*e*P	**P**	**00 43 09.9**	**-1.8**
	comp=Z,1.3nm,0.5s						
GTA	**Gaotai**	**49.55**	**327**	*e*P	**P**	**00 43 16.6**	**+3.1**
GTA				pP	**pP**	**00 43 26.2**	**+1.1**
GTA				sP	**sP**	**00 43 30.5**	**+0.6**
GTA				S	S	00 50 26.0	+7.2
GTA				sS	**sS**	**00 50 42.7**	**+4.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,6.2s						
GTA				LR	LR		
	comp=N,97nm,13.8s						
GTA				LR	LR		
	comp=E,110nm,14.7s						
GTA				LR	LR		
	comp=Z,75nm,15.4s						
ULN	**Ulaanbaatar**	**52.96**	**339**	*e*P	**P**	**00 43 38.1**	**-0.8**
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**53.17**	**339**	P	**P**	**00 43 39.4**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=155,slow=4.1,SNR=9.9						
SONM				LR	LR	01 06 19.5	
	comp=Z,80nm,19.2s,baz=191,slow=36						
SONM	**Songino Array**	**53.17**	**339**	P	**P**	**00 43 39.4**	**-1.0**
RPZ	**Rata Peaks**	**55.21**	**146**	LR	LR	01 07 22.8	
	comp=Z,145nm,19.2s,baz=104,slow=36						
HYB	**Hyderabad**	**55.56**	**292**	*i* P	P	00 43 55.0	-3.2
URZ	**Urewera**	**55.79**	**138**	*e*P	**P**	**00 44 00.8**	**+1.3**
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**57.71**	**18**	P	**P**	**00 44 10.4**	**-2.4**
	comp=Z,5.2nm,0.9s,baz=199,slow=7.6,SNR=3.0						
PETK				LR	LR	01 04 35.2	
	comp=Z,130nm,20.3s,baz=242,slow=32						
PETK	**Petropavlovsk-**	**57.71**	**18**	P	**P**	**00 44 10.4**	**-2.4**
WMQ	**Urumqi**	**59.30**	**324**	*e*P	**P**	**00 44 24.0**	**-0.2**
WMQ				pP	**pP**	**00 44 34.0**	**-2.1**
WMQ				pmax	pmax		
	comp=Z,11nm,1.4s						
WMQ				LR	LR		
	comp=N,89nm,20.8s						
WMQ				LR	LR		
	comp=E,65nm,16.5s						
WMQ				LR	LR		
	comp=Z,56nm,18.4s						
DDI	**Dehra Dun**	**59.76**	**306**	*ex*	**P**	**00 44 25.5**	**-2.1**
YAK	**Yakutsk**	**62.54**	**359**	P	**P**	**00 44 45.5**	**-0.2**
MK31	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**00 44 55.5**	**-1.1**
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**00 44 55.1**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=116,slow=8.4,SNR=18						
MKAR				LR	LR	01 12 46.4	
	comp=Z,62nm,18.2s,baz=344,slow=36						
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**00 44 55.1**	**-1.5**
KSH	**Kashi**	**64.82**	**315**	P	**P**	**00 45 01.6**	**+0.2**
KSH				*e*PcP	PcP	00 45 40.1	+5.5
KSH				*e*ScP		00 49 36.3	
KSH				*e*PcS		00 49 38.5	
KSH				*e*ScS	**SKSac**	**00 54 50.5**	**-2.7**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,86nm,4.4s						
KSH				LR	LR		
	comp=N,180nm,5.5s						
KSH				LR	LR		
	comp=E,160nm,4.6s						
KSH				LR	LR		
	comp=Z,210nm,5.6s						
TKM2	**Tokmak 2**	**66.48**	**318**	*e*P	**P**	**00 45 10.9**	**-1.2**
ZAA0	**Zalesovo Array**	**66.86**	**332**	*e*P	**P**	**00 45 12.2**	**-1.9**
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**00 45 12.4**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=116,slow=8.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**00 45 12.4**	**-1.6**
AAK	**Ala-Archa**	**67.10**	**318**	*e*P	**P**	**00 45 14.5**	**-1.5**
	comp=Z,74nm,1.5s						
CASY	**Casey**	**67.25**	**189**	P	**P**	**00 45 16.3**	**+0.1**
EKS2	**Erkin-Say**	**67.59**	**317**	*e*P	**P**	**00 45 17.9**	**-1.3**
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**68.24**	**327**	P	**P**	**00 45 21.9**	**-0.9**
	comp=Z,12nm,1.0s,baz=123,slow=5.7,SNR=35						
KURK	**Kurchatov**	**68.24**	**327**	*e*P	**P**	**00 45 21.7**	**-1.1**
	comp=Z,35nm,1.2s						
KBL	**Kabul**	**68.33**	**308**	*e*P	**P**	**00 45 22.2**	**-1.8**
	comp=Z,5.7nm,0.8s						
KKAR	**Karatay Array**	**69.98**	**317**	*e*P	**P**	**00 45 32.4**	**-1.5**
	comp=Z,7.7nm,0.9s						
BVAR	**Borovoye Array**	**73.83**	**326**	P	**P**	**00 45 55.8**	**-0.9**
	comp=Z,4.9nm,0.9s,baz=124,slow=7.2,SNR=18						
BVAR	**Borovoye Array**	**73.83**	**326**	P	**P**	**00 45 55.8**	**-0.9**
BRVK	**Borovoye**	**73.90**	**326**	*e*P	**P**	**00 45 56.1**	**-1.0**
	comp=Z,23nm,1.4s						
VNDA	**Vanda**	**78.49**	**174**	*e*P	**P**	**00 46 23.4**	**+0.7**
	comp=Z,4.9nm,0.8s						
ABKAR	**Akbulak array**	**78.83**	**321**	*e*P	**P**	**00 46 23.9**	**-1.2**
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**80.32**	**321**	P	**P**	**00 46 32.2**	**-1.0**
	comp=Z,12nm,1.2s,baz=66,slow=11,SNR=8.2						
AKTO	**Aktyubinsk**	**80.32**	**321**	P	**P**	**00 46 32.2**	**-1.0**
ARU	**Arti**	**81.41**	**327**	*e*P	**P**	**00 46 37.3**	**-1.6**
	comp=Z,24nm,1.0s						
MAW	**Mawson**	**81.55**	**201**	LR	LR	01 17 55.9	
	comp=Z,107nm,19.4s,baz=242,slow=32						
MAW	**Mawson**	**81.55**	**201**	*e*P	**P**	**00 46 39.9**	**+0.5**
KDAK	**Kodiak Island**	**82.81**	**32**	LR	LR	01 21 25.5	
	comp=Z,109nm,19.0s,baz=275,slow=34						
RDF	**Al-Radifah**	**85.42**	**299**	*e*P	**P**	**00 46 58.8**	**-1.4**
RDF				AMb	AMB	00 47 06.2	
	comp=Z,52nm,0.9s						
MIB	**Mutribah**	**85.66**	**300**	*e*P	**P**	**00 46 59.7**	**-1.6**
MIB				AMb	AMB	00 47 08.1	
	comp=Z,50nm,1.2s						
NAY	**Al-Naaiem**	**85.71**	**299**	*e*P	**P**	**00 47 00.0**	**-1.5**
NAY				AMb	AMB	00 47 08.2	
	comp=Z,46nm,1.5s						
ILAR	**Eielson Array**	**86.80**	**25**	P	**P**	**00 47 04.3**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=261,slow=6.0,SNR=6.1						
ILAR				LR	LR	01 25 48.6	
	comp=Z,83nm,19.5s,baz=193,slow=36						
ILAR	**Eielson Array**	**86.80**	**25**	P	**P**	**00 47 04.3**	**-1.9**
QSPA	**South Pole Qui**	**89.29**	**180**	LR	LR	01 26 16.3	
	comp=Z,47nm,18.8s,baz=154,slow=35						
QSPA	**South Pole Qui**	**89.29**	**180**	*e*P	**P**	**00 47 18.7**	**+0.6**
	comp=Z,20nm,1.1s						
BOZ	**Bozeman (W)**	**108.65**	**42**	Pdif	**Pdif**	**00 48 46.5**	**+0.4**
	comp=Z,3.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**129.22**	**286**	PKP	**PKPdf**	**00 53 30.1**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=58,slow=2.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**129.22**	**286**	PKP	**PKPdf**	**00 53 30.1**	**-1.1**
LPAZ	**La Paz**	**153.99**	**131**	PKPbc	**PKPbc**	**00 54 23.6**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=221,slow=9.3,SNR=5.3						
LPAZ	**La Paz**	**153.99**	**131**	PKPbc	**PKPbc**	**00 54 23.6**	**+0.2**
SAML	**Samuel**	**162.15**	**123**	*e*PKPdf	**PKPdf**	**00 54 24.1**	**-0.5**

**IDC 06 00:42:41.4±2.5, 0.49S×131.71E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3

*JMA **06** 00:48:53.8±0.3, 32.°96N×138.°15E, h340km, M3.3*
*ISCJB **06** 00:48:54.8±0.8, 33.°2N±0.°1×138.°09E±0.°09, h338km±6km, mb2.9/6, Error ellipse: s-maj=18.2km s-min=10.9km az=162.0*
*IDC **06** 00:48:56.2±2.0, 33.°22N×137.°83E, h335km±19km, mb2.6/5, mb1 2.8/7, mb1mx2.7/25, mbtmp2.6/7, Error ellipse: s-maj=23.1km s-min=20.0km az=79.0*

ISC 06 00:48:55.9±1.0, 33.°2N±0.°1×138.°02E±0.°09, h329km±8km, n18, σ1°55/23, mb2.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**1.60**	**317**	P	**Pn**	**00 49 43.6**	**+1.1**
JKN2	**Miekihoku**	**1.77**	**305**	P	**Pn**	**00 49 44.3**	**+0.6**
JWZ	**Kozaga**	**1.95**	**280**	P	**Pn**	**00 49 45.0**	**0.0**
JWY	**Kouya**	**2.25**	**297**	P	**Pn**	**00 49 48.1**	**+0.8**
BSO3	**Boso 3**	**2.60**	**52**	P	**Pn**	**00 49 49.5**	**-0.3**
BSO3				eS	**S**	**00 50 32.9**	**-0.1**
BSO4	**Boso 4**	**2.61**	**47**	P	**Pn**	**00 49 50.2**	**+0.2**
BSO4				eS	**S**	**00 50 34.2**	**+0.7**
BSO1	**Boso 1**	**2.84**	**59**	P	**Pn**	**00 49 51.4**	**-0.2**
BSO1				eS	**S**	**00 50 35.8**	**-0.6**
JRY	**Ryogami san**	**2.88**	**14**	P	**Pn**	**00 49 54.8**	**+2.2**
JRY				eS	**S**	**00 50 40.3**	**+2.2**
MJAR	**Matsushiro Arr**	**3.32**	**3**	P	**Pn**	**00 49 57.4**	**+0.7**
	0.3nm,0.3s,baz=181,slow=8.4,SNR=4.4						
JAG	**Ashikaga**	**3.41**	**20**	P	**Pn**	**00 49 57.6**	**0.0**
JAG				eS	**S**	**00 50 43.9**	**-3.2**
JHO	**Hitachi**	**3.98**	**31**	eS	**S**	**00 50 54.3**	**-3.4**
KSRS	**Korea Array**	**9.27**	**300**	P	**Pn**	**00 51 03.7**	**-1.2**
	0.4nm,0.3s,baz=118,slow=12,SNR=5.5						
SONM	**Songino Array**	**27.89**	**311**	P	**P**	**00 54 18.8**	**+2.3**
	1.0nm,0.7s,baz=118,slow=9.6,SNR=9.1						
MKAR	**Makanchi Array**	**43.90**	**305**	P	**P**	**00 56 29.7**	**-1.1**
	0.3nm,0.3s,baz=86,slow=9.5,SNR=16						
KURK	**Kurchatov**	**46.20**	**311**	P	**P**	**00 56 47.7**	**-0.9**
	0.4nm,0.4s,baz=89,slow=7.2,SNR=9.5						
WRA	**Warramunga Arr**	**52.98**	**184**	P	**P**	**00 57 39.3**	**-0.3**
	0.4nm,1.0s,baz=1.1,slow=7.4,SNR=2.3						
ILAR	**Eielson Array**	**54.19**	**31**	P	**P**	**00 57 48.6**	**+0.8**
	0.4nm,0.9s,baz=259,slow=4.4,SNR=5.2						
YKA	**Yellowknife Ar**	**68.49**	**28**	P	**P**	**00 59 22.4**	**-0.5**
	0.1nm,0.4s,baz=303,slow=5.9,SNR=3.6						

*IDC **06** 00:53:07.9±1.4, 30.°29S×177.°39W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/18, mbtmp4.2/6, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=47.0km s-min=25.8km az=143.0*
*NEIC **06** 00:53:08.8±1.9, 30.°24S×177.°39W, h7km±10km, mb4.6/2, Error ellipse: s-maj=17.2km s-min=7.9km az=102.0*
*ISCJB **06** 00:53:09.4±2.2, 30.°28S±0.°05×177.°3W±0.°3, h33km, mb4.2/7, Error ellipse: s-maj=38.1km s-min=6.9km az=0.8*

ISC 06 00:53:11.3±1.1, 30.°21S±0.°07×177.°3W±0.°2, h33km, n35, σ1°54/37, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**329**	*e*P	**Pn**	**00 53 29.4**	**-1.1**
RAO				eS	**Sn**	**00 53 43.6**	**-1.0**
URZ	**Urewera**	**9.28**	**209**	Pn	**Pn**	**00 55 21.6**	**-1.2**
	0.3nm,0.3s,baz=25,slow=17,SNR=4.5						
URZ				Sn	**Sn**	**00 57 06.0**	**0.0**
	1.7nm,0.3s,baz=66,slow=18,SNR=14						
URZ	**Urewera**	**9.28**	**209**	Pn	**Pn**	**00 55 21.6**	**-1.2**
URZ				Sn	**Sn**	**00 57 06.0**	**0.0**
SNZO	**South Karori**	**12.84**	**208**	*e*P	**Pn**	**00 56 11.3**	**-0.2**
MSVF	**Nonsavu**	**13.13**	**340**	P	**Pn**	**00 56 16.4**	**+0.8**
DZM	**Mont Dzumac**	**16.70**	**295**	LR	**LR**	01 01 43.3	
	comp=Z,122nm,18.2s,baz=206,slow=31						
ARMA	**Armidale**	**26.80**	**262**	*e*P	**P**	**00 58 48.2**	**-0.5**
	4.5nm,0.8s						
EIDS	**Eidsvold**	**28.35**	**272**	*e*P	**P**	**00 59 02.6**	**+0.1**
CAN	**Canberra**	**28.73**	**251**	*e*P	**P**	**00 59 05.6**	**-0.2**
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**00 59 56.9**	**+1.2**
	5.8nm,0.5s,baz=110,slow=11,SNR=6.3						
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**00 59 56.9**	**+1.2**
CTAO	**Charters Tower**	**34.39**	**278**	*e*P	**P**	**00 59 56.8**	**+1.2**
	7.2nm,0.7s						
STKA	**Stephens Creek**	**35.13**	**257**	P	**P**	**01 00 02.9**	**+0.9**
	1.9nm,0.5s,baz=96,slow=9.9,SNR=10						
STKA	**Stephens Creek**	**35.13**	**257**	*e*P	**P**	**01 00 03.1**	**+1.2**
	0.3nm,0.5s						
ASAR	**Alice Springs**	**43.74**	**266**	P	**P**	**01 01 13.8**	**-0.1**
	1.6nm,0.6s,baz=103,slow=7.5,SNR=8.8						
ASAR	**Alice Springs**	**43.74**	**266**	P	**P**	**01 01 13.8**	**-0.1**
WRAB	**Tennant Creek**	**44.71**	**272**	*e*P	**P**	**01 01 21.9**	**+0.2**
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**44.72**	**272**	P	**P**	**01 01 21.0**	**-0.7**
	3.1nm,0.4s,baz=110,slow=8.1,SNR=49						
WRA	**Warramunga Arr**	**44.72**	**272**	P	**P**	**01 01 21.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.39**	**269**	P	**P**	**01 02 26.5**	**+1.4**
	3.0nm,1.0s,baz=112,slow=5.4,SNR=4.4						
KURK	**Kurchatov**	**121.37**	**314**	PKP	**PKiKP**	**01 12 01.6**	**+0.8**
	0.6nm,0.7s,baz=111,slow=1.9,SNR=7.7						
KURK	**Kurchatov**	**121.37**	**314**	PKP	**PKiKP**	**01 12 01.6**	**+0.8**
BVAR	**Borovoye Array**	**126.70**	**316**	PKP	**PKiKP**	**01 12 12.6**	**+1.2**
	0.6nm,0.5s,baz=85,slow=2.4,SNR=3.9						
BVAR	**Borovoye Array**	**126.70**	**316**	PKP	**PKiKP**	**01 12 12.6**	**+1.2**
JOF	**Joensuu**	**142.47**	**339**	*e*pkp	**PKPdf**	**01 12 35.2**	**-4.8**
JOF	**Joensuu**	**142.47**	**339**	epkp	**PKPdf**	**01 12 35.2**	**-4.8**
KAF	**Kangasniemi**	**144.57**	**341**	epkp	**PKPdf**	**01 12 43.1**	**-0.6**
KAF	**Kangasniemi**	**144.57**	**341**	epkp	**PKPdf**	**01 12 43.1**	**-0.6**
FINES	**FINESS Array B**	**145.18**	**341**	PKPbc	**PKPdf**	**01 12 45.8**	**+1.1**
	2.4nm,0.3s,baz=56,slow=3.5,SNR=38						
FINES	**FINESS Array B**	**145.18**	**341**	PKPbc	**PKPdf**	**01 12 45.8**	**+1.1**
NB2	**NORSAR Subarra**	**148.65**	**352**	PKP	**PKPab**	**01 13 00.0**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=13,slow=3.4						
NOA	**NORSAR Array B**	**148.65**	**352**	PKPbc	**PKPab**	**01 12 56.6**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=14,slow=4.2,SNR=3.0						
NOA	**NORSAR Array B**	**148.65**	**352**	PKPbc	**PKPab**	**01 12 56.6**	**-1.5**
AKASG	**Malin Array Be**	**151.52**	**323**	PKPbc	**PKPbc**	**01 13 03.0**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=46,slow=3.0,SNR=5.9						
AKASG	**Malin Array Be**	**151.52**	**323**	PKPbc	**PKPbc**	**01 13 03.0**	**+1.4**

IDC 06 00:59:53.9±5.4, 50.°62N×179.°50E, h74km±36km, mb3.2/6, mb1 3.5/7, mb1mx3.2/29, mbtmp3.3/7, ML3.7/1, Error ellipse: s-maj=74.0km s-min=17.9km az=8.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**4.54**	**302**	P	Pn	01 00 59.3	-0.8
	12nm,0.3s,baz=48,slow=5.5,SNR=7.2						
FX1				S	Sn	01 01 52.5	+1.0
	2.1nm,0.3s,baz=198,slow=20,SNR=2.1						
ILAR	**Eielson Array**	**22.51**	**38**	P	P	01 04 46.9	-0.1
	0.9nm,1.1s,baz=243,slow=7.8,SNR=4.2						
PDAR	**Pinedale Array**	**47.57**	**71**	P	P	01 08 21.6	-0.5
	0.9nm,0.7s,baz=300,slow=4.1,SNR=7.3						
PDAR				pP	pP	01 08 36.1	-4.4
	1.4nm,0.7s,baz=312,slow=2.8,SNR=7.6						
KURK	**Kurchatov**	**58.73**	**313**	P	P	01 09 44.4	+0.6
	0.7nm,0.5s,baz=41,slow=6.5,SNR=12						
MKAR	**Makanchi Array**	**59.66**	**308**	P	P	01 09 49.8	-0.3
	0.3nm,0.4s,baz=49,slow=6.1,SNR=16						
TXAR	**Lajitas Array**	**59.84**	**80**	P	P	01 09 52.1	+0.5
	0.1nm,0.5s,baz=304,slow=5.3,SNR=4.6						
BVAR	**Borovoye Array**	**60.77**	**319**	P	P	01 09 57.7	+0.1
	0.7nm,0.5s,baz=49,slow=5.3,SNR=6.9						

RSPR 06 01:06:04.3, 17.°88N×66.°81W, h4km, MD2.2/8, 8C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBPR	**Guanica, Bosqu**	**0.12**	**323**	*e*P	Pg	01 06 07.0	+0.4
GBPR	**Guanica, Bosqu**	**0.12**	**323**	*e*P	Pg	01 06 07.0	+0.4
OBIP	**Obispado Ponce**	**0.25**	**50**	*e*P	Pg	01 06 09.4	+0.3
OBIP	**Obispado Ponce**	**0.25**	**50**	*e*P	Pg	01 06 09.4	+0.3
OBIP				eS	Sg	01 06 14.1	+1.7
ICM	**Isla Caja Muer**	**0.27**	**88**	*e*P	Pg	01 06 10.0	+0.4
ICM	**Isla Caja Muer**	**0.27**	**88**	*e*P	Pg	01 06 10.0	+0.4
ICM				eS	Sb	01 06 15.0	-1.7
CELP	**Cerrillos**	**0.29**	**49**	*e*P	Pg	01 06 10.2	+0.3
CELP				eS	Sg	01 06 15.3	+1.5
CELP	**Cerrillos**	**0.29**	**49**	*e*P	Pg	01 06 10.2	+0.3
CELP				eS	Sg	01 06 15.3	+1.5
CRPR	**Cabo Rojo, PR**	**0.31**	**293**	*e*P	Pg	01 06 10.9	+0.6
CRPR	**Cabo Rojo, PR**	**0.31**	**293**	*e*P	Pg	01 06 10.9	+0.6
CRPR				eS	Sb	01 06 16.3	-1.5
AOPR	**Arecibo Observ**	**0.46**	**6**	*e*P	Pg	01 06 13.5	+0.2
AOPR	**Arecibo Observ**	**0.46**	**6**	*e*P	Pg	01 06 13.5	+0.2
AOPR				eS	Sg	01 06 20.7	+1.3
HUMP	**Col San Antoni**	**0.95**	**74**	*e*P	Pg	01 06 21.2	-1.2
HUMP	**Col San Antoni**	**0.95**	**74**	*e*P	Pg	01 06 21.2	-1.2
HUMP				eS	Sg	01 06 34.6	-0.2
CBYP	**Canovanas**	**0.98**	**67**	eS	Sg	01 06 36.0	-0.2
CBYP	**Canovanas**	**0.98**	**67**	eS	Sg	01 06 36.0	-0.2
MTP	**Monte Pirata**	**1.21**	**80**	*e*P	Pg	01 06 25.8	-1.8
MTP	**Monte Pirata**	**1.21**	**80**	*e*P	Pg	01 06 25.8	-1.8
MTP				eS	Sg	01 06 41.5	-1.8

IDC 06 01:21:08.7±2.9, 0.°19S×132.°82E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=147.5km s-min=29.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.69**	**176**	P	P	01 25 39.7	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**23.36**	**177**	P	P	01 26 19.1	0.0
	1.0nm,0.6s,baz=357,slow=10.0,SNR=8.7						
MKAR	**Makanchi Array**	**64.26**	**324**	P	P	01 31 45.8	0.0
	0.2nm,0.6s,baz=114,slow=5.6,SNR=2.8						

*ISK **06** 01:28:43.6, 38.°91N×27.°11E, h5km, MD2.9*
*ATH **06** 01:28:43.3, 38.°95N×27.°17E, h18km±6km, MD3.1/4*
*ISCJB **06** 01:28:44.3±0.8, 38.°91N±0.°03×27.°05E±0.°06, h6km±7km, Error ellipse: s-maj=7.8km s-min=4.1km az=18.4*
*CSEM **06** 01:28:44.3±0.2, 38.°90N×27.°06E, h2km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.7km az=92.0*

ISC 06 01:28:43.1±1.4, 38.°92N±0.°02×27.°10E±0.°03, h10km±12km, n42, σ1°05/56, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.54**	**185**	*e*PG	**Pn**	**01 28 55.0**	**-1.8**
BLCB				eSG	**Sb**	**01 29 02.5**	**+0.1**
BLCB	**Balcova**	**0.54**	**185**	*e*Pg	**Pn**	**01 28 55.0**	**-1.8**
BLCB				eSg	**Sb**	**01 29 02.5**	**+0.1**
IZM	**Izmir**	**0.54**	**166**	*e*PG	**Pn**	**01 28 55.0**	**-1.9**
IZM	**Izmir**	**0.54**	**166**	*e*Pg	**Pn**	**01 28 55.0**	**-1.9**
AKS	**Akhisar**	**0.56**	**94**	*e*PG	**Pn**	**01 28 55.9**	**-1.2**
AKS				eSG	**Sb**	**01 29 04.0**	**+0.9**
AKS	**Akhisar**	**0.56**	**94**	*e*Pg	**Pn**	**01 28 55.9**	**-1.2**
AKS				eSg	**Sb**	**01 29 04.0**	**+0.9**
PRK	**Paraskevi**	**0.72**	**297**	*e*PN	**Pn**	**01 28 58.1**	**-1.2**
PRK				eSN	**Sb**	**01 29 08.2**	**+0.6**
PRK	**Paraskevi**	**0.72**	**297**	*e*Pn	**Pn**	**01 28 58.1**	**-1.2**
PRK				eSn	**Sb**	**01 29 08.2**	**+0.6**
BALB	**Balikesir**	**0.94**	**40**	*e*PG	**Pn**	**01 29 02.1**	**-0.2**
BALB				eSG	**Sn**	**01 29 16.5**	**+0.7**
BALB	**Balikesir**	**0.94**	**40**	*e*Pg	**Pn**	**01 29 02.1**	**-0.2**
BALB				eSg	**Sn**	**01 29 16.5**	**+0.7**
CHOS	**Chios island**	**0.98**	**237**	*e*PB	**Pn**	**01 29 02.5**	**-0.4**
CHOS				eSN	**Sn**	**01 29 18.2**	**+1.4**
CHOS	**Chios island**	**0.98**	**237**	*e*Pb	**Pn**	**01 29 02.5**	**-0.4**
CHOS				eSn	**Sn**	**01 29 18.2**	**+1.4**
EZN	**Ezine**	**1.08**	**327**	*e*PN	**Pn**	**01 29 05.3**	**+1.0**
EZN	**Ezine**	**1.08**	**327**	*e*Pn	**Pn**	**01 29 05.3**	**+1.0**
GONE	**Gonen-Balikesi**	**1.21**	**22**	*e*PN	**Pg**	**01 29 07.1**	**+0.7**
GONE	**Gonen-Balikesi**	**1.21**	**22**	*e*Pn	**Pg**	**01 29 07.1**	**+0.7**
SMG	**Samos**	**1.23**	**190**	*e*PN	**Pg**	**01 29 07.5**	**+0.8**
SMG				eSN	**Sn**	**01 29 24.3**	**+1.3**
SMG	**Samos**	**1.23**	**190**	*e*Pn	**Pg**	**01 29 07.5**	**+0.8**
SMG				eSn	**Sn**	**01 29 24.3**	**+1.3**
KULA	**Kula-Manisa**	**1.29**	**108**	*e*PN	**Pg**	**01 29 08.5**	**+0.7**
KULA	**Kula-Manisa**	**1.29**	**108**	*e*Pn	**Pg**	**01 29 08.5**	**+0.7**
LPK	**Lapseki**	**1.47**	**350**	*e*PN	**Pg**	**01 29 12.8**	**+1.5**
LPK	**Lapseki**	**1.47**	**350**	*e*Pn	**Pg**	**01 29 12.8**	**+1.5**
KRBG	**Karabiga-Canak**	**1.48**	**6**	*e*PN	**Pg**	**01 29 12.5**	**+1.1**
KRBG	**Karabiga-Canak**	**1.48**	**6**	*e*Pn	**Pg**	**01 29 12.5**	**+1.1**
EDC	**Edincik**	**1.54**	**22**	*e*PN	**Pg**	**01 29 13.3**	**+0.6**
EDC	**Edincik**	**1.54**	**22**	*e*Pn	**Pg**	**01 29 13.3**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.55**	**342**	*e*PN	**Pg**	**01 29 13.8**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.55**	**342**	*e*Pn	**Pg**	**01 29 13.8**	**+1.0**
KCTX	**Karacabey (Bur**	**1.66**	**36**	*e*PN	**Pg**	**01 29 14.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.66**	**36**	*e*Pn	**Pg**	**01 29 14.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.76**	**2**	*e*PN	**Pg**	**01 29 16.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.76**	**2**	*e*Pn	**Pg**	**01 29 16.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.80**	**346**	*e*PN	**Pg**	**01 29 17.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.80**	**346**	*e*Pn	**Pg**	**01 29 17.3**	**-0.4**
ENEZ	**Enez**	**1.95**	**338**	*e*PN	**Pg**	**01 29 19.4**	**-1.1**
ENEZ	**Enez**	**1.95**	**338**	*e*Pn	**Pg**	**01 29 19.4**	**-1.1**
ALN	**Alexandroupoli**	**2.13**	**338**	*e*PN	**Pb**	**01 29 21.0**	**-0.8**
ALN				eSN	**Sb**	**01 29 46.4**	**-1.9**
ALN	**Alexandroupoli**	**2.13**	**338**	*e*Pn	**Pb**	**01 29 21.0**	**-0.8**
ALN				eSn	**Sb**	**01 29 46.4**	**-1.9**
ARMT	**Armutlu**	**2.13**	**39**	*e*PN	**Pb**	**01 29 21.5**	**-0.3**
ARMT	**Armutlu**	**2.13**	**39**	*e*Pn	**Pb**	**01 29 21.5**	**-0.3**
YLV	**Yalova**	**2.40**	**46**	*e*PN	**Pb**	**01 29 26.1**	**-0.4**
YLV	**Yalova**	**2.40**	**46**	*e*Pn	**Pb**	**01 29 26.1**	**-0.4**

*ISCJB **06** 01:29:44.2±0.8, 22.°70N±0.°04×100.°78E±0.°05, h10km, mb3.5/4, MS3.3/2, Error ellipse: s-maj=7.5km s-min=5.0km az=139.2*
*BJI **06** 01:29:45.0, 22.°47N×100.°68E, h24km, mB4.4/2, mb4.4/2, ML4.0/5, Ms3.8/5, Ms7 3.7/4*
*IDC **06** 01:29:47.0±1.1, 22.°71N×100.°24E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/25, mbtmp3.5/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/31, Error ellipse: s-maj=29.6km s-min=15.9km az=87.0*
*PLV **06** 01:29:46.9±2.1, 22.°76N×100.°82E, h17km±21km, MD3.1*

ISC 06 01:29:46.6±0.9, 22.°70N±0.°04×100.°77E±0.°06, h10km, n11, σ2°27/18, mb3.5/4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCVN	**Lai Chau**	**2.30**	**106**	*e*Pg	**Pg**	**01 30 32.3**	**+1.5**
LCVN				eSg	**Sg**	**01 30 60.0**	**-0.6**
DBV	**Dienbien**	**2.46**	**122**	*e*Pg	**Pg**	**01 30 34.3**	**+0.4**
DBV				eSg	**Sg**	**01 31 06.5**	**+0.7**
TGV	**Tuan Giao**	**2.69**	**114**	*e*Pn	**Pn**	**01 30 28.2**	**-1.8**
TGV				*e*Pg	**Pg**	**01 30 38.0**	**-0.2**
TGV				eSg	**Sg**	**01 31 12.5**	**-0.6**
KMI	**Kunming**	**3.01**	**36**	Pg	**Pg**	**01 30 43.9**	**-0.4**
KMI				Sg	**Sg**	**01 31 24.5**	**+1.2**
KMI				smax	smax		
	comp=N,120nm,1.1s						
KMI				smax	smax		
	comp=E,160nm,1.1s						
KMI				LR	LR		
	comp=N,370nm,3.8s						
KMI				LR	LR		
	comp=E,580nm,4.2s						
KMI				LR	LR		
	comp=Z,370nm,4.9s						
CMAR	**Chiang Mai Arr**	**4.56**	**202**	Pn	**Pn**	**01 30 53.4**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=12,slow=13,SNR=3.4						
CMAR				Pg	**Pb**	**01 31 08.4**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=17,slow=17,SNR=33						
CMAR				Lg	Lg	01 32 03.8	
	comp=Z,9.7nm,0.3s,baz=12,slow=31,SNR=19						
HHC	**Hu-ho-hao-te**	**20.25**	**24**	*e*P	**P**	**01 34 21.2**	**-1.0**
HHC				pP	pP	01 34 30.0	+4.9
HHC				sP	sP	01 34 34.1	+9.0
HHC				PP	**PnPn**	**01 34 42.1**	**+3.2**
HHC				S	**S**	**01 38 03.2**	**-6.3**
HHC				sS	**sS**	**01 38 16.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,90nm,5.2s						
HHC				LR	LR		
	comp=N,160nm,11.6s						
HHC				LR	LR		
	comp=E,110nm,12.0s						
HHC				LR	LR		
	comp=Z,140nm,10.1s						
SONM	**Songino Array**	**25.48**	**9**	P	**P**	**01 35 16.2**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=187,slow=10,SNR=5.3						
KSRS	**Korea Array**	**27.59**	**52**	LR	LR	01 46 56.2	
	comp=Z,38nm,18.4s,baz=240,slow=37						
MKAR	**Makanchi Array**	**28.29**	**333**	P	**P**	**01 35 40.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=147,slow=9.6,SNR=8.8						
KURK	**Kurchatov**	**32.87**	**334**	P	**P**	**01 36 19.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=138,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**56.23**	**143**	P	P	01 39 32.7	+5.5
	comp=Z,0.2nm,0.3s,baz=320,slow=6.8,SNR=3.4						

*DJA **06** 01:41:42, 0.°56S×133.°17E, h23km, MLv4.4/6*
IDC 06 01:41:38.0±0.9, 0.°61S×133.°12E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=47.0km s-min=15.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.87**	**203**	P	P	01 45 59.7	-0.3
	0.3nm,0.3s,baz=22,slow=12,SNR=7.2						
FITZ				S	Sn	01 49 15.4	-17
	0.1nm,0.3s,baz=132,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**19.25**	**177**	P	P	01 46 04.2	0.0
	0.5nm,0.3s,baz=354,slow=11,SNR=25						
WRA				S	Sn	01 49 28.6	-13
	0.2nm,0.3s,baz=358,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	01 46 44.2	+0.2
	3.5nm,0.3s,baz=358,slow=11,SNR=29						
CTA	**Charters Tower**	**23.24**	**147**	P	P	01 46 47.9	+0.7
	4.3nm,0.7s,baz=336,slow=8.5,SNR=4.0						
STKA	**Stephens Creek**	**32.11**	**166**	P	P	01 48 06.6	-0.6
	2.6nm,0.7s,baz=335,slow=11,SNR=10						
MKAR	**Makanchi Array**	**64.77**	**324**	P	P	01 52 18.9	+0.4
	0.6nm,0.4s,baz=116,slow=8.3,SNR=17						
KURK	**Kurchatov**	**68.84**	**326**	P	P	01 52 44.4	0.0
	1.1nm,0.8s,baz=121,slow=5.8,SNR=9.0						
BVAR	**Borovoye Array**	**74.44**	**326**	P	P	01 53 18.0	-0.1
	0.7nm,0.7s,baz=116,slow=6.6,SNR=3.6						
ILAR	**Eielson Array**	**86.28**	**25**	P	P	01 54 21.1	-0.5
	0.3nm,1.0s,baz=263,slow=5.4,SNR=3.0						

IDC 06 01:55:44.9±4.6, 0.°92S×131.°29E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=317.6km s-min=25.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**171**	P	P	02 00 09.1	-0.8
	0.2nm,0.3s,baz=352,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.75**	**174**	P	P	02 00 49.5	+0.5
	1.1nm,0.6s,baz=352,slow=11,SNR=12						
MKAR	**Makanchi Array**	**63.95**	**325**	P	P	02 06 19.9	0.0
	0.2nm,0.7s,baz=124,slow=7.2,SNR=3.2						

*IDC **06** 02:15:56.7±0.9, 0.°17S×132.°99E, h0km, mb3.9/7, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.0/3, MS3.5/4, Ms1 3.5/4, ms1mx2.9/31, Error ellipse: s-maj=37.3km s-min=12.6km az=79.0*
*DJA **06** 02:16:17, 1.°16S×132.°01E, h21km, MLv4.5/11*

ISC 06 02:16:02.7±1.0, 0.°56S±0.°08×132.°3E±0.°1, h33km, n20, σ1°89/13, mb3.7/7, MS3.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.35**	**182**	P	**Pb**	**02 16 44.5**	**+0.1**
MSAI	**Masohi**	**4.40**	**231**	P	**Pb**	**02 17 18.3**	**-1.0**
LBMI	**Labuha**	**4.84**	**269**	P	**Pb**	**02 17 27.8**	**+0.9**
	54nm,0.8s,0.2nm						
TLE	**Tual**	**5.06**	**176**	P	Pn	02 17 22.6	+6.2
AAI	**Ambon**	**5.18**	**233**	P	Pb	02 17 28.2	-4.5
	320nm,0.7s,3µm1.0nm						
NLAI	**Namlea**	**5.88**	**243**	P	Px	02 17 38.1	
	53nm,0.6s,0.3nm						
KAPI	**Kappang**	**13.33**	**250**	Pn	**P**	**02 19 19.0**	**0.0**
	0.5nm,0.3s,baz=64,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**18.64**	**200**	P	**Pn**	**02 20 21.8**	**+3.5**
	0.4nm,0.3s,baz=24,slow=10.0,SNR=11						
FITZ				S	**Sn**	**02 23 42.4**	**-3.5**
	0.1nm,0.3s,baz=6.9,slow=19,SNR=2.5						
**WRA

Ms1 4.2/24,ms1mx4.1/28,Error ellipse: s-maj=24.0km s-min=10.3km az=79.0

BJI ***06*** *03:18:25.3,1.04S×133.45E,h30km,mB5.1/28,mb4.9/43, Ms4.6/35,Ms7 4.3/36*

ISCJB ***06*** *03:18:25.9±0.8,1.03S±0.03×133.62E±0.04,h33km±7km, mb5.0/81,MS4.2/35,Error ellipse: s-maj=7.4km s-min=5.0km az=153.3*

MOS ***06*** *03:18:26.4±1.4,1.00S×133.44E,h33km,mb5.3/18,Error ellipse: s-maj=16.4km s-min=7.2km az=113.8*

NEIC ***06*** *03:18:28.3±0.2,1.06S×133.45E,h35km,mb5.1/34,Error ellipse: s-maj=7.7km s-min=4.2km az=62.0*

DJA ***06*** *03:18:29,1.12S×133.51E,h29km,mb5.1/42*

ISC 06 03:18:28.5±0.4,1.10S±0.04×133.51E±0.05,h34km±1km, h35km:pP-P,n237,σ1§54/266,mb5.0/80,MS4.3/36,6C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
FAKI	**Fak Fak**	**2.20**	**215**	P		**Pn**	**03 19 02.8**	**+0.2**
BAKI	**Biak**	**2.60**	**92**	P		**Pn**	**03 19 09.2**	**+1.1**
TLE	**Tual**	**4.57**	**190**	P		**Pn**	**03 19 38.0**	**+2.8**
MSAI	**Masohi**	**5.09**	**244**	P		**Pn**	**03 19 43.7**	**+1.4**
	129nm,0.7s,2μm0.6nm							
SMPI	**Sarmi**	**5.28**	**100**	P		**Pb**	**03 19 59.8**	**-0.2**
AAI	**Ambon**	**5.90**	**244**	P		**Pn**	**03 19 53.9**	**+0.5**
	612nm,1.4s,10μm2.2nm							
LBMI	**Labuha**	**6.02**	**274**	P		**Pn**	**03 19 56.0**	**+0.8**
	382nm,1.1s,3μm1.2nm							
TNTI	**Ternate**	**6.42**	**287**	P		Pn	03 20 08.2	+7.6
NLAI	**Namlea**	**6.75**	**252**	P		**Pn**	**03 20 05.2**	**+0.1**
	342nm,0.9s,3μm1.1nm							
KMSI	**Cibinong**	**9.67**	**280**	P		Pn	03 20 51.5	+6.2
	582nm,1.1s,10μm							
LUWI	**Luwuk**	**10.73**	**270**	P		**Pn**	**03 20 58.8**	**-1.0**
	240nm,1.3s,2μm							
DAV	**Davao City (W)**	**11.33**	**316**	Pn		Pn	03 21 11.5	+3.4
	102nm,0.3s,baz=340,slow=8.0,SNR=6.1							
DAV				LR		LR	03 25 52.2	
	comp=Z,1μm,18.8s,baz=142,slow=40							
DAV	**Davao City (W)**	**11.33**	**316**	Pn		Pn	03 21 11.5	+3.4
MRSI	**Marisa**	**11.67**	**278**	P		Pn	03 21 21.6	+8.9
BBSI	**Bau Bau**	**11.75**	**248**	P		**Pn**	**03 21 16.7**	**+2.9**
	100nm,1.0s,1μm							
MMRI	**Maumere**	**13.49**	**236**	P		**P**	**03 21 43.8**	**-2.5**
TTSI	**Tana Toraja**	**13.81**	**262**	P		**P**	**03 21 47.2**	**-2.7**
	66nm,1.4s,1μm							
BKSI	**Bulukumba**	**14.00**	**252**	P		**Pn**	**03 21 44.5**	**-0.1**
	63nm,1.2s,739nm							
SPSI	**Sidrap Palu**	**14.02**	**258**	P		**Pn**	**03 21 47.4**	**+2.7**
	60nm,1.2s,1μm							
KAPI	**Kappang**	**14.27**	**254**	Pn		**Pn**	**03 21 45.9**	**-2.4**
	0.9nm,0.3s,baz=74,slow=11,SNR=7.5							
KAPI				LR		LR	03 27 39.2	
	comp=Z,207nm,21.0s,baz=91,slow=39							
KAPI	**Kappang**	**14.27**	**254**	*e*Pn		**Pn**	**03 21 45.7**	**-2.5**
KAPI				Pn		**Pn**	**03 21 45.9**	**-2.4**
KAPI	**Kappang**	**14.27**	**254**	P		**Pn**	**03 21 47.9**	**-0.3**
	85nm,1.2s,970nm							
MJSI	**Majene**	**14.72**	**260**	P		P	03 22 08.3	+8.3
PMG	**Port Moresby**	**15.89**	**122**	Pn		**Pn**	**03 22 09.1**	**-0.6**
	0.0nm,0.3s,baz=283,slow=14,SNR=2.5							
PMG	**Port Moresby**	**15.89**	**122**	*e*P		**Pn**	**03 22 09.2**	**-0.6**
PMG				pmax		pmax		
	comp=Z,24nm,0.8s							
PMG	**Port Moresby**	**15.89**	**122**	*e*Pn		**Pn**	**03 22 09.2**	**-0.6**
	comp=Z,24nm,0.8s							
COEN	**Coen**	**15.96**	**144**	*e*Pn		**Pn**	**03 22 10.6**	**+0.1**
	comp=Z,143nm,0.9s							
MYLDM	**Lahad Datu**	**16.24**	**293**	P		**P**	**03 22 20.0**	**+3.1**
	comp=Z,147nm,1.4s,comp=Z,3μm							
SMKI	**Samarinda**	**16.31**	**272**	P		**P**	**03 22 20.8**	**+3.1**
	comp=Z,281nm,1.1s							
KBKI	**Kotabaru**	**17.46**	**263**	P		**P**	**03 22 33.9**	**+3.4**
	comp=Z,27nm,1.7s,comp=Z,949nm							
GUMO	**Guam**	**18.44**	**37**	LR		LR	03 28 51.7	
	comp=Z,372nm,20.0s,baz=205,slow=34							
FITZ	**Fitzroy Crossi**	**18.58**	**204**	P		**P**	**03 22 41.6**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=36,slow=12,SNR=32							
FITZ				S		Sn	03 25 53.7	-16
	comp=Z,1.0nm,0.3s,baz=127,slow=11,SNR=6.8							
FITZ	**Fitzroy Crossi**	**18.58**	**204**	*e*P		**P**	**03 22 41.5**	**-1.2**
	comp=Z,50nm,0.8s							
FITZ				*e*S		Sn	03 25 56.2	-14
FITZ	**Fitzroy Crossi**	**18.58**	**204**	*e*Pn		**P**	**03 22 40.5**	**-2.2**
	comp=Z,65nm,1.3s							
FITZ				P		**P**	**03 22 41.6**	**-1.2**
FITZ				*e*S		Sn	03 25 59.7	-10
KKM	**Kota Kinabalu**	**18.67**	**293**	*e*P		**P**	**03 22 44.0**	**+0.1**
	comp=Z,170nm,1.5s							
KKM	**Kota Kinabalu**	**18.67**	**293**	P		**Pn**	**03 22 46.5**	**+2.1**
	comp=Z,78nm,1.4s,comp=Z,2μm							
WRAB	**Tennant Creek**	**18.73**	**178**	*e*P		**P**	**03 22 44.2**	**-0.3**
WRAB				*e*S		**Sn**	**03 26 07.9**	**-5.9**
WRAB				pmax		pmax		
	comp=Z,66nm,0.8s							
WRAB	**Tennant Creek**	**18.73**	**178**	*e*P		**P**	**03 22 44.2**	**-0.3**
	comp=Z,66nm,0.8s							
WRAB				*e*S		**Sn**	**03 26 07.9**	**-5.9**
WRAB	**Tennant Creek**	**18.73**	**178**	P		**P**	**03 22 44.0**	**-0.5**
	comp=Z,551nm,0.7s,SNR=80							
WRA	**Warramunga Arr**	**18.74**	**178**	P		**P**	**03 22 44.4**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=359,slow=12,SNR=79							
WRA				S		Sn	03 26 02.9	-11
	comp=Z,0.5nm,0.3s,baz=354,slow=23,SNR=6.9							
WRA	**Warramunga Arr**	**18.74**	**178**	P		**P**	**03 22 44.4**	**-0.2**
WRA				S		Sn	03 26 02.9	-11
WRA	**Warramunga Arr**	**18.74**	**178**	P		**P**	**03 22 44.4**	**-0.2**
WRA				S		Sn	03 26 02.9	-11
WB2	**Warramunga Arr**	**18.75**	**178**	*e*P		**P**	**03 22 43.8**	**-0.8**
WB2				*e*S		**Sn**	**03 26 13.0**	**-1.0**
BBKI	**Banjar Baru**	**18.80**	**263**	P		**Pn**	**03 22 49.2**	**+3.3**
	comp=Z,85nm,1.5s,comp=Z,3μm							
MTNI	**Mataram**	**18.81**	**246**	P		Pn	03 22 51.7	+5.6
KHKI	**Kahang-Kahang**	**19.23**	**247**	P		**Pn**	**03 22 51.0**	**-0.1**
	comp=Z,87nm,1.1s							
NBBI	**Negara**	**20.15**	**248**	P		Pn	03 23 06.3	+4.3
	comp=Z,171nm,1.2s							
BYJI	**Banyuwangi**	**20.34**	**249**	P		Pn	03 23 04.2	0.0
	comp=Z,302nm,1.2s							
KMMI	**Kalianget**	**20.36**	**253**	P		Pn	03 23 06.1	+1.7
	comp=Z,146nm,1.5s,comp=Z,2μm							
JAGI	**Jajag, Banyuwa**	**20.62**	**249**	P		Pn	03 23 08.7	+1.2
	comp=Z,71nm,1.0s,comp=Z,871nm							
BLJI	**Banyuglugur**	**20.91**	**251**	P		Pn	03 23 10.2	-0.7
	comp=Z,173nm,0.8s,comp=Z,3μm							
GMJI	**Gumukmas**	**21.21**	**250**	P		P	03 23 23.5	+12
SBUM	**Sibu**	**21.57**	**279**	P		**P**	**03 23 16.9**	**+1.6**
	comp=Z,68nm,1.7s,comp=Z,1μm							
STKI	**Sintang**	**22.06**	**273**	P		**P**	**03 23 22.1**	**+1.5**
AS31	**Alice Springs**	**22.43**	**179**	*e*P		**P**	**03 23 24.6**	**0.0**
AS31				*e*S		**S**	**03 27 28.1**	**-0.8**
ASAR	**Alice Springs**	**22.43**	**179**	P		**P**	**03 23 24.8**	**+0.2**
	comp=Z,55nm,0.7s,baz=5.0,slow=10,SNR=100							
ASAR				S		**S**	**03 27 31.0**	**+2.0**
	comp=Z,9.7nm,1.0s,baz=3.4,slow=26,SNR=5.7							
ASAR	**Alice Springs**	**22.43**	**179**	P		**P**	**03 23 24.8**	**+0.2**
ASAR				S		**S**	**03 27 31.0**	**+2.0**
ASAR	**Alice Springs**	**22.43**	**179**	P		**P**	**03 23 24.8**	**+0.2**
ASAR				S		**S**	**03 27 30.9**	**+2.0**
CTA	**Charters Tower**	**22.62**	**147**	P		**P**	**03 23 27.6**	**+1.1**
	comp=Z,19nm,0.8s,baz=332,slow=12,SNR=10							
CTA				LR		LR	03 33 01.3	
	comp=Z,1μm,20.5s,baz=331,slow=39							
CTA	**Charters Tower**	**22.62**	**147**	*e*P		**P**	**03 23 27.0**	**+0.5**
	comp=Z,21nm,1.0s							
CTA	**Charters Tower**	**22.62**	**147**	P		**P**	**03 23 27.6**	**+1.1**
CTA	**Charters Tower**	**22.62**	**147**	P		**P**	**03 23 27.6**	**+1.1**
CTAO	**Charters Tower**	**22.62**	**147**	*e*P		**P**	**03 23 27.6**	**+1.1**
CTAO				pmax		pmax		
	comp=Z,159nm,1.8s							
CTAO	**Charters Tower**	**22.62**	**147**	*e*P		**P**	**03 23 27.6**	**+1.1**
	comp=Z,159nm,1.8s							
SJI	**Sawahan**	**22.64**	**252**	P		**P**	**03 23 27.4**	**+0.5**
	comp=Z,64nm,1.4s							
PWJI	**Pagerwojo**	**22.69**	**252**	P		**P**	**03 23 30.4**	**+3.1**
	comp=Z,40nm,1.3s							
KSM	**Kuching**	**23.34**	**276**	*e*P		**P**	**03 23 33.8**	**-0.2**
	comp=Z,71nm,1.4s							
KSM	**Kuching**	**23.34**	**276**	P		**P**	**03 23 37.6**	**+3.7**
	comp=Z,40nm,1.4s,comp=Z,1μm							
SMRI	**Semarang**	**23.74**	**255**	P		**P**	**03 23 40.4**	**+2.5**
	comp=Z,165nm,0.9s							
MBWA	**Marble Bar**	**24.05**	**213**	*e*P		**P**	**03 23 40.8**	**+0.2**
MBWA	**Marble Bar**	**24.05**	**213**	*e*P		**P**	**03 23 40.5**	**-0.1**
	comp=Z,43nm,1.1s							
BJII	**Banjamegara**	**24.52**	**255**	P		**P**	**03 23 46.8**	**+1.7**
	comp=Z,230nm,1.5s,comp=Z,5μm							
TPI	**Tanjungpandan**	**25.89**	**266**	P		**P**	**03 23 59.4**	**+1.9**
	comp=Z,99nm,1.1s,comp=Z,1μm							
CISI	**Cisompet, Garu**	**26.39**	**255**	P		**P**	**03 24 02.8**	**+0.7**
	comp=Z,153nm,1.1s,comp=Z,2μm							
LEM	**Lembang**	**26.43**	**257**	P		**P**	**03 24 06.4**	**+3.8**
	comp=Z,79nm,0.9s							
PPBI	**Pangkal Pinang**	**27.38**	**267**	P		**P**	**03 24 14.6**	**+3.7**
	comp=Z,44nm,1.3s,comp=Z,2μm							
JOW	**Kunigami**	**28.23**	**350**	LR		LR	03 32 56.2	
	comp=Z,2μm,22.0s,baz=306,slow=31							
XMIS	**Christmas Isla**	**29.21**	**250**	*e*P		**P**	**03 24 26.8**	**-0.4**
	comp=Z,337nm,1.1s							
FORT	**Forrest**	**29.97**	**189**	*e*P		**P**	**03 24 36.1**	**+2.4**
	comp=Z,9.4nm,0.6s							
FORT	**Forrest**	**29.97**	**189**	*e*P		**P**	**03 24 35.6**	**+1.9**
	comp=Z,94nm,1.6s							
QIZ	**Qiongzhong**	**30.67**	**312**	P		**P**	**03 24 40.9**	**+0.8**
QIZ				S		**S**	**03 29 40.8**	**+0.2**
QIZ				pmax		pmax		
	comp=Z,180nm,4.4s							
QIZ				LR		LR		
	comp=N,440nm,19.8s							
QIZ				LR		LR		
	comp=Z,510nm,25.0s							
KSI	**Kapahiang**	**30.99**	**265**	P		**P**	**03 24 43.5**	**+0.5**
	comp=Z,117nm,1.0s							
STKA	**Stephens Creek**	**31.55**	**167**	P		**P**	**03 24 47.5**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=338,slow=8.2,SNR=16							
STKA				LR		LR	03 38 59.8	
	comp=Z,1μm,18.8s,baz=148,slow=39							
STKA	**Stephens Creek**	**31.55**	**167**	*e*P		**P**	**03 24 47.7**	**0.0**
	comp=Z,5.5nm,1.2s							
STKA	**Stephens Creek**	**31.55**	**167**	*e*P		**P**	**03 24 47.6**	**-0.1**
STKA				pmax		pmax		
	comp=Z,6.0nm,1.4s							
STKA	**Stephens Creek**	**31.55**	**167**	*e*P		**P**	**03 24 47.6**	**-0.1**
	comp=Z,5.6nm,1.4s							
BBOO	**Buckleboo**	**31.63**	**176**	*e*P		**P**	**03 24 48.8**	**+0.4**
	comp=Z,173nm,0.8s							
KRJI	**Kerinci**	**32.05**	**268**	P		**P**	**03 24 54.1**	**+1.7**
	comp=Z,309nm,1.1s,comp=Z,9μm							
IPM	**Ipoh**	**32.92**	**280**	P		**P**	**03 25 00.9**	**+0.9**
	comp=Z,20nm,1.5s							
PPI	**Padang Panjang**	**33.11**	**271**	P		**P**	**03 25 02.2**	**+0.6**
	comp=Z,29nm,1.4s							
KULM	**Kulim**	**33.43**	**281**	*e*P		**P**	**03 25 03.8**	**-0.6**
	comp=Z,15nm,0.9s							
KLBR	**Kellerberrin**	**33.79**	**205**	*e*P		**P**	**03 25 07.8**	**+0.5**
	comp=Z,49nm,1.4s							
ARMA	**Armidale**	**33.86**	**151**	*e*P		**P**	**03 25 08.8**	**+0.8**
SSE	**Sheshan**	**34.09**	**341**	P		P	03 25 06.3	-3.6
SSE				S		**S**	**03 30 33.3**	**-0.3**
SSE				sS		sS	03 30 48.3	-1.7
SSE				pmax		pmax		
	comp=Z,17nm,0.8s							
SSE				pmax		pmax		
	comp=Z,110nm,5.4s							
SSE				LR		LR		
	comp=N,320nm,34.3s							
SSE				LR		LR		
	comp=E,100nm,34.3s							
SSE				LR		LR		
	comp=Z,410nm,29.1s							
PSI	**Prapat**	**34.79**	**276**	P		**P**	**03 25 15.4**	**-1.0**
	comp=Z,23nm,1.1s							
NWAO	**Narrogin (SRO)**	**35.16**	**204**	LR		LR	03 41 45.4	
	comp=Z,185nm,18.1s,baz=8.3,slow=40							
NJ2	**Nanjing**	**35.77**	**338**	*e*P		**P**	**03 25 25.6**	**+1.2**
NJ2				pP		**pP**	**03 25 35.4**	**+1.0**
NJ2				sP		**sP**	**03 25 38.8**	**+0.3**
NJ2				PP		PP	03 26 46.3	+0.2
NJ2				S		**S**	**03 30 59.5**	**0.0**
NJ2				sS		**sS**	**03 31 13.5**	**-2.5**
NJ2				pmax		pmax		
	comp=Z,20nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,130nm,7.4s							
NJ2				LR		LR		
	comp=N,670nm,32.9s							
NJ2				LR		LR		
	comp=E,630nm,31.0s							
NJ2				LR		LR		
	comp=Z,610nm,23.0s							
WHN	**Wuhan**	**36.37**	**331**	⇓P		**P**	**03 25 31.5**	**+2.0**
WHN				S		**S**	**03 31 10.1**	**+1.4**
WHN				LR		LR		
	comp=Z,840nm,24.2s							
GYA	**Guiyang**	**37.70**	**319**	P		**P**	**03 25 42.3**	**+1.3**
GYA				pP		**pP**	**03 25 52.8**	**+1.7**
GYA				PP		PP	03 27 12.0	+4.4
GYA				S		**S**	**03 31 30.4**	**+1.2**
GYA				ScP		**ScP**	**03 31 44.2**	**+1.2**
GYA				SS		SS	03 34 05.9	-10
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.0s							
GYA				LR		LR		
	comp=N,650nm,17.6s							
GYA				LR		LR		
	comp=E,540nm,18.0s							
GYA				LR		LR		
	comp=Z,630nm,17.8s							
MJAR	**Matsushiro Arr**	**37.71**	**6**	LR		LR	03 38 10.8	
	comp=Z,513nm,20.0s,baz=195,slow=32							
DZM	**Mont Dzumac**	**38.23**	**125**	*e*LR		LR	03 36 17.8	
	comp=Z,236nm,21.2s							
CMAR	**Chiang Mai Arr**	**39.15**	**301**	P		**P**	**03 25 52.9**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=128,slow=6.8,SNR=7.0							
CMAR				PcP		**PcP**	**03 28 03.7**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=126,slow=2.6,SNR=3.4							
CMAR				LR		LR	03 41 17.0	
	comp=Z,124nm,21.2s,baz=115,slow=35							
CMAR	**Chiang Mai Arr**	**39.15**	**301**	P		**P**	**03 25 52.9**	**-0.3**
CMAR							03 28 03.7	
CMAR	**Chiang Mai Arr**	**39.15**	**301**	P		**P**	**03 25 52.9**	**-0.3**
CMAR				PcP		**PcP**	**03 28 03.7**	**+1.2**
CHTO	**Chiang Mai**	**39.30**	**302**	P		P	03 25 58.3	+3.8
	comp=Z,11nm,2.2s							
KMI	**Kunming**	**39.58**	**313**	P		**P**	**03 25 58.2**	**+1.2**
KMI				pmax		pmax		
	comp=Z,15nm,1.3s							
KMI				LR		LR		
	comp=N,220nm,18.9s							
KMI				LR		LR		
	comp=E,210nm,21.0s							
KMI				LR		LR		
	comp=Z,360nm,25.5s							
CD2	**Chengdu**	**42.58**	**321**	P		**P**	**03 26 21.6**	**+0.2**
CD2				pP		**pP**	**03 26 31.9**	**+0.4**
CD2				sP		**sP**	**03 26 36.1**	**+0.4**
CD2				PP		PP	03 28 03.6	+3.0
CD2				S		**S**	**03 32 41.8**	**-0.2**
CD2				sS		**sS**	**03 32 59.0**	**+0.3**
CD2				SS		SS	03 35 46.5	-6.4
CD2				pmax		pmax		
	comp=Z,20nm,1.6s							
CD2				pmax		pmax		
	comp=Z,90nm,4.2s							
CD2				LR		LR		
	comp=N,280nm,9.5s							
CD2				LR		LR		
	comp=Z,310nm,19.0s							
SNY	**Shenyang**	**43.67**	**349**	⇑P		**P**	**03 26 32.2**	**+2.3**
SNY				S		**S**	**03 32 56.8**	**-0.6**
SNY				pmax		pmax		
	comp=Z,12nm,0.5s							
SNY				pmax		pmax		
	comp=Z,230nm,4.0s							
SNY				LR		LR		
	comp=N,370nm,27.7s							
SNY				LR		LR		
	comp=E,240nm,24.3s							
SNY				LR		LR		
	comp=Z,480nm,24.5s							
BJT	**Baijiatuau**	**43.89**	**341**	*e*P		**P**	**03 26 31.6**	**-0.1**
BJT				pmax		pmax		
	comp=Z,93nm,1.1s							
BJT	**Baijiatuau**	**43.89**	**341**	*e*P		**P**	**03 26 31.6**	**-0.1**
	comp=Z,93nm,1.1s							
BJI	**Beijing**	**43.90**	**341**	P		**P**	**03 26 31.5**	**-0.3**
BJI				S		**S**	**03 33 03.2**	**+2.2**
BJI				pmax		pmax		
	comp=Z,58nm,1.1s							
BJI				pmax		pmax		
	comp=Z,310nm,3.7s							
BJI				LR		LR		
	comp=N,300nm,22.9s							
BJI				LR		LR		
	comp=E,200nm,26.4s							
BJI				LR		LR		
	comp=Z,320nm,25.6s							
USRK	**Ussuriysk Arra**	**45.12**	**358**	P		**P**	**03 26 39.6**	**-1.9**
	comp=Z,2.8nm,1.0s,baz=174,slow=9.4,SNR=4.7							
USRK				LR		LR	03 41 54.2	
	comp=Z,197nm,21.8s,baz=157,slow=31							
CN2	**Changchun**	**45.28**	**352**	*e*P		P	03 26 46.1	+3.3
CN2				*e*sP		sP	03 26 59.9	+2.8
MDJ	**Mudanjiang**	**45.65**	**356**	P		**P**	**03 26 48.5**	**+2.8**
MDJ				pP		**pP**	**03 26 57.5**	**+1.6**
MDJ				sP		**sP**	**03 27 01.3**	**+1.3**
MDJ				PcP		**PcP**	**03 28 24.0**	**+0.5**
MDJ				PP		PP	03 28 36.0	+2.9
MDJ				S		**S**	**03 33 31.2**	**+5.0**
MDJ				pmax		pmax		
	comp=Z,11nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,130nm,6.2s							
MDJ				LR		LR		
	comp=N,240nm,34.1s							
MDJ				LR		LR		
	comp=Z,280nm,34.1s							
LZH	**Lanzhou**	**46.17**	**326**	*e*P		**P**	**03 26 50.6**	**+0.4**
LZH				pP		**pP**	**03 27 00.5**	**+0.1**
LZH				sP		**sP**	**03 27 04.6**	**+0.1**
LZH				*e*S		**S**	**03 33 39.3**	**+5.0**
LZH				sS		**sS**	**03 33 50.0**	**-1.1**
LZH				pmax		pmax		
	comp=Z,34nm,1.1s							
LZH				LR		LR		
	comp=N,190nm,10.6s							
LZH				LR		LR		
	comp=E,240nm,15.2s							
LZH				LR		LR		
	comp=Z,280nm,16.0s							
HHC	**Hu-ho-hao-te**	**46.28**	**337**	*e*P		**P**	**03 26 52.3**	**+1.4**
HHC				pP		**pP**	**03 27 02.7**	**+1.6**
HHC				sP		**sP**	**03 27 06.3**	**+1.1**
HHC				PcP		**PcP**	**03 28 27.2**	**+1.2**
HHC				PP		PP	03 28 41.4	+1.3
HHC				S		**S**	**03 33 37.6**	**+1.9**
HHC				SS		SS	03 36 55.0	-6.7
HHC				pmax		pmax		
	comp=Z,46nm,1.5s							
HHC				pmax		pmax		
	comp=Z,120nm,5.2s							
HHC				LR		LR		
	comp=N,200nm,14.7s							
HHC				LR		LR		
	comp=E,300nm,15.2s							
HHC				LR		LR		
	comp=Z,210nm,15.5s							
MSVF	**Nonsavu**	**46.77**	**113**	*e*P		P	03 26 58.6	+3.6
MSVF				pmax		pmax		
	comp=Z,17nm,1.2s							
MSVF	**Nonsavu**	**46.77**	**113**	*e*P		P	03 26 58.6	+3.6
	comp=Z,17nm,1.2s							
SHL	**Shillong**	**48.17**	**306**	*e*P		**P**	**03 27 05.0**	**-1.0**
HABR	**Khabarovsk**	**49.39**	**1**	*e*P		**P**	**03 27 13.9**	**-0.8**
HABR				*e*			03 29 06.7	
HABR				*e*PPP		PPP	03 29 59.5	
HABR				*e*S		**S**	**03 34 19.2**	**0.0**
HABR				*e**SS		**sS**	**03 34 35.7**	**-0.5**
HABR				*e*			03 37 01.7	
HABR				*e*SS		SS	03 37 51.2	-0.3
HABR				*e*SSS		SSS	03 39 11.9	
HABR				pmax		pmax		
	comp=Z,44nm,1.9s							
HABR				pmax		pmax		
	comp=E,35nm,1.7s							
HABR				pmax		pmax		
	comp=N,21nm,1.8s							
HABR				MLR		MLR		
	comp=Z,145nm,18.0s							
KLR	**Kul'dur**	**50.16**	**358**	*e*P		**P**	**03 27 17.7**	**-2.8**
KLR				pmax		pmax		
	comp=Z,54nm,2.0s							
LSA	**Lhasa**	**50.70**	**311**	*e*P		**P**	**03 27 25.5**	**0.0**
LSA				pmax		pmax		
	comp=Z,42nm,1.3s							
LSA	**Lhasa**	**50.70**	**311**	*e*P		**P**	**03 27 25.5**	**0.0**
	comp=Z,42nm,1.3s							
GTA	**Gaotai**	**50.77**	**326**	⇑P		**P**	**03 27 25.5**	**0.0**
GTA				pP		**pP**	**03 27 35.5**	**-0.4**
GTA				sP		**sP**	**03 27 39.6**	**-0.3**
GTA				S		**S**	**03 34 37.9**	**-1.2**
GTA				sS		**sS**	**03 34 54.3**	**-1.8**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.3s							
GTA				pmax		pmax		
	comp=Z,100nm,5.2s							
GTA				LR		LR		
	comp=N,230nm,18.5s							
GTA				LR		LR		
	comp=E,190nm,19.0s							
GTA				LR		LR		
	comp=Z,250nm,18.8s							
TAPN	**Taplejung**	**52.31**	**306**	*e*P		**P**	**03 27 36.3**	**-1.2**
	comp=Z,82nm,1.3s							
TAPN	**Taplejung**	**52.31**	**306**	*e*P		**P**	**03 27 36.3**	**-1.2**
	comp=Z,82nm,1.3s							
ODAN	**Odare**	**52.37**	**306**	*e*P		**P**	**03 27 36.6**	**-1.2**
	comp=Z,50nm,0.8s							
ODAN	**Odare**	**52.37**	**306**	*e*P		**P**	**03 27 36.6**	**-1.2**
	comp=Z,50nm,0.8s							
RAMN	**Ramite**	**53.05**	**305**	*e*P		**P**	**03 27 41.9**	**-1.0**
	comp=Z,20nm,0.6s							
RAMN	**Ramite**	**53.05**	**305**	*e*P		**P**	**03 27 41.9**	**-1.0**
	comp=Z,20nm,0.6s							
JIRN	**Jiri**	**53.67**	**306**	*e*P		**P**	**03 27 46.5**	**-1.1**
	comp=Z,34nm,0.8s							
JIRN	**Jiri**	**53.67**	**306**	*e*P		**P**	**03 27 46.5**	**-1.1**
	comp=Z,34nm,0.8s							
ULN	**Ulaanbaatar**	**53.94**	**338**	*e*P		**P**	**03 27 48.3**	**-0.6**
ULN				pmax		pmax		
	comp=Z,54nm,1.8s							
ULN	**Ulaanbaatar**	**53.94**	**338**	*e*P		**P**	**03 27 48.3**

WMQ	**Urumqi**	**60.58**	**323**	P	**P**		**03 28 36.0**	**+0.2**
WMQ				pP	**pP**		**03 28 46.0**	**-0.3**
WMQ				sP	**sP**		**03 28 50.0**	**-0.3**
WMQ				PcP	**PcP**		**03 29 18.0**	**-2.0**
WMQ				S	**S**		**03 36 47.6**	**-2.0**
WMQ				SS	**SS**		**03 40 47.0**	**-1.4**
WMQ				pmax	pmax			
	comp=Z,31nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,380nm,4.0s							
WMQ				LR	LR			
	comp=N,170nm,21.4s							
WMQ				LR	LR			
	comp=E,120nm,20.7s							
WMQ				LR	LR			
	comp=Z,140nm,19.2s							
BOD	**Bodaibo**	**60.77**	**348**	*e*P	**P**		**03 28 37.8**	**+1.1**
BOD				pmax	pmax			
	comp=Z,12nm,1.8s							
DDI	**Dehra Dun**	**61.27**	**306**	*ex*	**P**		**03 28 42.2**	**+1.5**
MK31	**Makanchi Array**	**65.39**	**324**	*e*P	**P**		**03 29 07.3**	**-0.4**
MK31	**Makanchi Array**	**65.39**	**324**	*e*P	**P**		**03 29 07.3**	**-0.4**
MKAR	**Makanchi Array**	**65.39**	**324**	P	**P**		**03 29 07.3**	**-0.4**
	comp=Z,7.6nm,0.6s,baz=109,slow=8.6,SNR=116							
MKAR				LR	LR		03 58 57.0	
	comp=Z,102nm,19.2s,baz=354,slow=37							
MKAR	**Makanchi Array**	**65.39**	**324**	*ce*P	**P**		**03 29 07.3**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MKAR	**Makanchi Array**	**65.39**	**324**	P	**P**		**03 29 07.3**	**-0.4**
SEY	**Seymchan**	**65.43**	**9**	*ce*P	**P**		**03 29 08.1**	**+0.6**
KSH	**Kashi**	**66.23**	**315**	⇓*i*P	**P**		**03 29 14.2**	**+0.8**
KSH				epP	**pP**		**03 29 24.3**	**+0.3**
KSH				esP	**sP**		**03 29 28.2**	**+0.2**
KSH				*e*PcP	**PcP**		**03 29 44.3**	**+1.0**
KSH				*e*PP	**PP**		**03 31 41.3**	**+1.8**
KSH				*e*ScP			03 33 43.2	
KSH				*e*PcS			03 33 47.6	
KSH				*e*S	**S**		**03 37 56.8**	**-3.6**
KSH				*es*S	**sS**		**03 38 14.9**	**-3.0**
KSH				*e*ScS	**SKSac**		**03 39 03.7**	**-3.6**
KSH				pmax	pmax			
	comp=Z,20nm,1.2s							
KSH				pmax	pmax			
	comp=Z,170nm,5.9s							
KSH				LR	LR			
	comp=N,130nm,5.1s							
KSH				LR	LR			
	comp=E,160nm,5.9s							
KSH				LR	LR			
	comp=Z,110nm,5.9s							
ZAA0	**Zalesovo Array**	**67.99**	**331**	*e*P	**P**		**03 29 22.4**	**-1.6**
ZALV	**Zalesovo Beam**	**67.99**	**331**	P	**P**		**03 29 22.1**	**-1.9**
	comp=Z,1.4nm,0.5s,baz=124,slow=4.5,SNR=14							
ZALV				LR	LR		04 02 12.3	
	comp=Z,90nm,18.5s,baz=40,slow=39							
ZALV	**Zalesovo Beam**	**67.99**	**331**	P	**P**		**03 29 22.1**	**-1.9**
ZALV	**Zalesovo Beam**	**67.99**	**331**	P	**P**		**03 29 22.1**	**-1.9**
AAK	**Ala-Archa**	**68.47**	**317**	⇑*i*P	**P**		**03 29 27.4**	**-0.1**
AAK				pmax	pmax			
	comp=Z,37nm,1.7s							
AAK	**Ala-Archa**	**68.47**	**317**	*e*P	**P**		**03 29 27.6**	**0.0**
	comp=Z,72nm,1.4s							
EKS2	**Erkin-Say**	**68.97**	**317**	*e*P	**P**		**03 29 30.9**	**+0.3**
EKS2				pmax	pmax			
	comp=Z,31nm,1.5s							
EKS2	**Erkin-Say**	**68.97**	**317**	*e*P	**P**		**03 29 30.9**	**+0.3**
	comp=Z,31nm,1.5s							
NVS	**Novosibirsk**	**69.26**	**332**	*i* P	**P**		**03 29 30.3**	**-1.6**
NVS				*e*			03 32 10.8	
NVS				*e*			03 39 30.3	
NVS				pmax	pmax			
	comp=N,17nm,1.8s							
NVS				pmax	pmax			
	comp=Z,39nm,1.8s							
NVS				pmax	pmax			
	comp=E,25nm,2.0s							
KURK	**Kurchatov**	**69.46**	**326**	P	**P**		**03 29 32.5**	**-0.8**
	comp=E,4.3nm,0.5s,baz=121,slow=5.6,SNR=5.0							
KURK				LR	LR		04 01 28.5	
	comp=E,74nm,20.8s,baz=55,slow=37							
KURK	**Kurchatov**	**69.46**	**326**	⇓*i*P	**P**		**03 29 32.4**	**-0.8**
KURK				pmax	pmax			
	comp=Z,51nm,1.6s							
KURK	**Kurchatov**	**69.46**	**326**	P	**P**		**03 29 32.5**	**-0.8**
KBL	**Kabul**	**69.82**	**307**	*e*P	**P**		**03 29 35.5**	**-0.6**
KBL				pmax	pmax			
	comp=Z,13nm,1.1s							
KBL	**Kabul**	**69.82**	**307**	*e*P	**P**		**03 29 35.5**	**-0.6**
	comp=Z,13nm,1.1s							
KKAR	**Karatay Array**	**71.37**	**316**	*e*P	**P**		**03 29 44.5**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,11nm,0.9s							
KKAR	**Karatay Array**	**71.37**	**316**	*e*P	**P**		**03 29 44.5**	**-0.6**
	comp=Z,10nm,0.9s							
BILL	**Bilibino**	**72.63**	**12**	⇓*e*P	**P**		**03 29 51.5**	**-0.6**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BVAR	**Borovoye Array**	**75.06**	**326**	P	**P**		**03 30 06.2**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=124,slow=8.7,SNR=19							
BVAR				LR	LR		04 04 22.1	
	comp=Z,161nm,18.5s,baz=298,slow=37							
BVAR	**Borovoye Array**	**75.06**	**326**	P	**P**		**03 30 06.2**	**-0.5**
BVAR	**Borovoye Array**	**75.06**	**326**	P	**P**		**03 30 06.2**	**-0.5**
BRVK	**Borovoye**	**75.13**	**326**	⇑*i*P	**P**		**03 30 06.2**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,17nm,1.4s							
BRVK	**Borovoye**	**75.13**	**326**	*e*P	**P**		**03 30 06.6**	**-0.4**
	comp=Z,5.9nm,0.7s							
BRVK	**Borovoye**	**75.13**	**326**	P	**P**		**03 30 06.5**	**-0.6**
	comp=Z,53nm,0.8s,SNR=7.3							
PPT2	**Papeete2**	**77.20**	**108**	*e*LR	LR		03 54 19.3	
	comp=Z,250nm,32.0s							
TBI	**Tubuai**	**77.66**	**114**	*e*LR	LR		03 54 34.7	
	comp=Z,123nm,31.2s							
VNDA	**Vanda**	**77.88**	**174**	*e*P	**P**		**03 30 22.7**	**+0.5**
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**77.88**	**174**	*e*P	**P**		**03 30 22.6**	**+0.5**
	comp=Z,4.4nm,0.9s							
ABKAR	**Akbulak array**	**80.16**	**320**	*e*P	**P**		**03 30 34.4**	**-0.9**
	comp=Z,2.7nm,0.6s							
SVE	**Sverdlovsk**	**81.61**	**328**	*e*P	P		03 30 38.8	-4.0
SVE				pmax	pmax			
	comp=Z,18nm,1.6s							
AKTO	**Aktyubinsk**	**81.63**	**321**	LR	LR		04 06 55.9	
	comp=Z,125nm,19.0s,baz=282,slow=36							
MAW	**Mawson**	**81.68**	**201**	P	**P**		**03 30 44.0**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=65,slow=5.2,SNR=3.5							
MAW				LR	LR		04 06 31.0	
	comp=Z,94nm,18.9s,baz=242,slow=35							
MAW	**Mawson**	**81.68**	**201**	P	**P**		**03 30 44.0**	**+1.0**
MAW	**Mawson**	**81.68**	**201**	P	**P**		**03 30 44.0**	**+1.0**
ARU	**Arti**	**82.62**	**327**	P	**P**		**03 30 46.4**	**-1.7**
MCK	**McKinley**	**85.48**	**26**	*e*P	**P**		**03 31 01.6**	**-1.0**
MCK				pmax	pmax			
	comp=Z,44nm,1.6s							
MCK	**McKinley**	**85.48**	**26**	*e*P	**P**		**03 31 01.6**	**-1.0**
	comp=Z,44nm,1.6s							
ABPO	**Ambohimpanom**	**86.13**	**251**	*e*P	**P**		**03 31 07.8**	**+0.9**
ABPO				pmax	pmax			
	comp=Z,12nm,1.0s							
ABPO	**Ambohimpanom**	**86.13**	**251**	*e*P	**P**		**03 31 07.8**	**+0.9**
	comp=Z,12nm,1.0s							
ILAR	**Eielson Array**	**86.56**	**25**	P	**P**		**03 31 06.2**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=254,slow=4.6,SNR=21							
ILAR				LR	LR		04 04 18.4	
	comp=Z,99nm,20.9s,baz=275,slow=32							
ILAR	**Eielson Array**	**86.56**	**25**	P	**P**		**03 31 06.3**	**-1.6**
ILAR	**Eielson Array**	**86.56**	**25**	P	**P**		**03 31 06.2**	**-1.6**
KBD	**Kabd**	**86.87**	**299**	*e*P	**P**		**03 31 09.0**	**-1.1**
KBD				AMb	AMB		03 31 15.8	
	comp=Z,46nm,1.3s							
MIB	**Mutribah**	**87.21**	**300**	*e*P	**P**		**03 31 09.9**	**-1.9**
MIB				AMb	AMB		03 31 12.9	
	comp=Z,38nm,1.5s							
NAY	**Al-Naaiem**	**87.27**	**299**	*e*P	**P**		**03 31 10.7**	**-1.4**
NAY				AMb	AMB		03 31 17.0	
	comp=Z,19nm,1.5s							
QSPA	**South Pole Qui**	**88.84**	**180**	*e*P	**P**		**03 31 19.9**	**+1.0**
	comp=Z,18nm,1.0s							
SPITS	**Spitsbergen Ar**	**96.47**	**349**	LR	LR		04 17 55.1	
	comp=Z,197nm,18.1s,baz=65,slow=37							
ARCES	**ARCESS Array B**	**97.27**	**340**	LR	LR		04 18 26.8	
	comp=Z,219nm,18.3s,baz=71,slow=37							
BRTR	**Keskin Array B**	**98.30**	**310**	LR	LR		04 26 40.5	
	comp=Z,38nm,20.0s,baz=263,slow=42							
FINES	**FINESS Array B**	**99.24**	**332**	LR	LR		04 19 03.4	
	comp=Z,238nm,19.0s,baz=140,slow=37							
AKASG	**Malin Array Be**	**99.88**	**321**	LR	LR		04 23 09.6	
	comp=Z,102nm,18.2s,baz=45,slow=39							
TXAR	**Lajitas Array**	**118.85**	**57**	PKP	**PKPdf**		**03 37 13.6**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=220,slow=1.1,SNR=5.1							
TXAR	**Lajitas Array**	**118.85**	**57**	PKIKP	**PKPdf**		**03 37 13.6**	**-0.6**
TXAR	**Lajitas Array**	**118.85**	**57**	PKP	**PKPdf**		**03 37 13.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**130.82**	**286**	PKP	**PKPdf**		**03 37 35.8**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=64,slow=2.2,SNR=14							
TORD	**Torodi Ar. Bea**	**130.82**	**286**	PKP	**PKPdf**		**03 37 35.8**	**-1.5**
PLCA	**Paso Flores**	**132.95**	**155**	PKP	**PKPdf**		**03 37 41.0**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=227,slow=4.0,SNR=4.5							
PLCA	**Paso Flores**	**132.95**	**155**	PKIKP	**PKPdf**		**03 37 41.0**	**+0.2**
PLCA	**Paso Flores**	**132.95**	**155**	PKP	**PKPdf**		**03 37 41.0**	**+0.2**
DBIC	**Dimbokro**	**138.11**	**279**	PKP	**PKPdf**		**03 37 51.4**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=87,slow=5.1,SNR=4.1							
DBIC	**Dimbokro**	**138.11**	**279**	PKIKP	**PKPdf**		**03 37 51.4**	**+0.4**
DBIC	**Dimbokro**	**138.11**	**279**	PKP	**PKPdf**		**03 37 51.4**	**+0.4**
LVC	**Limon Verde**	**147.86**	**139**	*e*PKPbc	**PKPbc**		**03 38 11.4**	**+0.3**
LVC				*e*PKPab	**PKPab**		**03 38 14.2**	**+0.6**
OTAV	**Otavalo**	**148.03**	**91**	*e*PKPbc	**PKPbc**		**03 38 13.2**	**+1.0**
ROSC	**El Rosal**	**151.96**	**82**	PKPbc	**PKPbc**		**03 38 23.0**	**+1.4**
	comp=Z,14nm,0.8s,baz=252,slow=6.4,SNR=8.6							
ROSC	**El Rosal**	**151.96**	**82**	PKPbc	**PKPbc**		**03 38 23.0**	**+1.4**
LPAZ	**La Paz**	**152.53**	**130**	PKP	**PKPdf**		**03 38 16.9**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=22,slow=3.0,SNR=4.7							
LPAZ				PKPbc	**PKPbc**		**03 38 25.4**	**+2.3**
	comp=Z,11nm,1.0s,baz=246,slow=4.6,SNR=21							
LPAZ	**La Paz**	**152.53**	**130**	PKIKP	**PKPdf**		**03 38 16.9**	**+0.7**
LPAZ				*e*			03 38 18.4	
LPAZ				*e*			03 38 25.3	
LPAZ	**La Paz**	**152.53**	**130**	PKP	**PKPdf**		**03 38 16.9**	**+0.7**
LPAZ				*e*PKPdf	**PKPbc**		**03 38 18.4**	**-4.7**
LPAZ				*e*PKPbc	**PKiKP**		**03 38 25.3**	**+1.9**

NIED **06** *03:37:00.24˚20N×124˚10E,h14km,Mw4.4 Best double couple: M₀3.83000×10¹⁵ NP1:φ₀254.00000°,δ60.00000°, λ-142.00000°. NP2:φ₀142.00000°,δ58.00000°, λ-37.00000°.*

ISCJB **06** *03:37:39.9±0.4,24˚16N±0˚03×124˚09E±0˚02,h23km±2km, mb4.5/45,MS4.0/8,Error ellipse: s-maj=5.6km s-min=2.8km az=160.6*

BJI **06** *03:37:40.0,23˚89N×124˚18E,h35km,mB4.7/21,mb4.3/27, ML4.1/1,Ms4.3/27,Ms7 4.1/28*

JMA **06** *03:37:40.1±0.1,24˚20N×124˚12E,h17km±1km,M4.8*

JMA Felt II J1.

IDC **06** *03:37:41.7±4.0,24˚27N×124˚12E,h27km±27km,mb4.1/16, mb1 4.3/18,mb1mx4.2/24,mbtmp4.1/18,ML3.7/2,MS3.6/3, Ms1 3.7/3,ms1mx3.2/33,Error ellipse: s-maj=19.9km s-min=12.6km az=72.0*

MOS **06** *03:37:41.3±1.2,24˚17N×124˚05E,h33km,mb4.7/17,Error ellipse: s-maj=11.8km s-min=7.2km az=111.8*

NEIC **06** *03:37:43.6±0.7,24˚17N×124˚04E,h40km±6km,mb4.9/19, MW4.3(NIED),Error ellipse: s-maj=7.3km s-min=6.0km az=136.0*

NEIC Recorded [2 JMA] on Hateruma-jima, Iriomote-jima and Ishigaki-jima and [1 JMA] on Tarama-shima.

ISC 06 03:37:41.9±0.6,24˚20N±0˚04×124˚08E±0˚03,h25km±3km, n196,σ1§42/228,mb4.6/46,MS3.8/8,11C-9D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.08**	**303**	P		**Pb**		**03 37 43.7**	**-2.7**
JKRS				S		**Sb**		**03 37 46.5**	**-3.0**
JIJ	**Ishigaki jima**	**0.18**	**19**	P		**Pb**		**03 37 44.4**	**-3.0**
JIJ				S		**Sb**		**03 37 47.3**	**-3.7**
HATJ	**Hateruma jima**	**0.29**	**241**	P		**Pb**		**03 37 46.8**	**-1.9**
HATJ				*e*S		**Sb**		**03 37 51.8**	**-1.6**
IRIF	**Iriomote-Funau**	**0.35**	**294**	P		**Pb**		**03 37 47.7**	**-2.0**
IRIF				*e*S		**Sb**		**03 37 53.4**	**-1.6**
JTJ	**Tarama**	**0.72**	**52**	P		**Pb**		**03 37 53.4**	**-2.4**
JTJ				*e*S		**Sb**		**03 38 03.9**	**-1.4**
YOJ	**Yonaguni jima**	**1.01**	**285**	P		**Pn**		**03 37 59.0**	**-1.5**
YOJ				*e*S		**Sb**		**03 38 13.2**	**-0.4**
JMJ	**Miyako jima 2**	**1.27**	**61**	P		**Pn**		**03 38 03.6**	**-0.4**
JMJ				*e*S		**Sb**		**03 38 20.9**	**-0.1**
JOGS	**Gusukube**	**1.33**	**65**	P		**Pn**		**03 38 04.4**	**-0.5**
JOGS				*e*S		**Sb**		**03 38 23.4**	**+0.5**
NACB	**Ninganchiao**	**2.27**	**270**	*e*Pn		**Pn**		**03 38 17.3**	**-0.5**
TATO	**Taipei**	**2.48**	**289**	*e*Pn		**Pn**		**03 38 21.2**	**+0.5**
TATO				*e*S		**Sn**		**03 38 49.6**	**-0.7**
YHNB	**Yeheng**	**2.51**	**281**	*e*P		**Pn**		**03 38 22.4**	**+1.2**
YULB	**Yu-li**	**2.67**	**253**	*e*Pn		**Pn**		**03 38 21.9**	**-1.5**
YULB				*e*S		**Sn**		**03 38 53.5**	**-1.4**
SSLB	**Suanglung**	**2.89**	**263**	*e*Pn		**Pn**		**03 38 26.6**	**+0.3**
SSLB				*e*S		**Sn**		**03 39 02.1**	**+1.8**
TWG	**Pinlang**	**3.08**	**244**	*e*Pn		**Pn**		**03 38 27.6**	**-1.3**
TWG				*e*S		**Sn**		**03 39 03.5**	**-1.5**
JKE	**Kume jima 2**	**3.24**	**49**	P		**Pn**		**03 38 29.8**	**-1.4**
JKE				*e*S		**Sn**		**03 39 07.5**	**-1.5**
TPUB	**Ta-pu**	**3.29**	**255**	*e*Pn		**Pn**		**03 38 33.2**	**+1.4**
TPUB				*e*S		**Sn**		**03 39 11.6**	**+1.5**
JAGN	**Aguni-jima**	**3.72**	**50**	P		**Pn**		**03 38 37.2**	**-0.6**
JAGN				*e*S		**Sn**		**03 39 19.7**	**-1.1**
JJT2	**Tamagusuku 2**	**3.85**	**59**	P		**Pn**		**03 38 41.5**	**+2.0**
JOW	**Kunigami**	**4.61**	**54**	Pn		**Pn**		**03 38 49.2**	**-0.8**
	5.5nm,0.3s,baz=214,slow=12,SNR=14								
JOW	**Kunigami**	**4.61**	**54**	*e*Pn		**Pn**		**03 38 49.6**	**-0.4**
QZH	**Quanzhou**	**5.05**	**280**	*e*P		**Pn**		**03 38 57.4**	**+1.3**
QZH				S		**Sn**		**03 39 53.3**	**-0.3**
QZH				smax	smax				
	comp=N,270nm,1.0s								
QZH				smax	smax				
	comp=E,180nm,0.8s								
QZH				LR	LR				
	comp=Z,2μm,11.4s								
WHN	**Wuhan**	**10.71**	**308**	P		Pn		03 40 08.7	-5.0
WHN				S		**Sn**		**03 42 07.6**	**-5.2**
WHN				LR	LR				
	comp=N,1μm,11.4s								
WHN				LR	LR				
	comp=E,1μm,10.9s								
WHN				LR	LR				
	comp=Z,820nm,13.2s								
KSAR	**Wonju Array Be**	**13.60**	**13**	P		**Pn**		**03 40 55.9**	**+2.7**
KSAR	**Wonju Array Be**	**13.60**	**13**	Pn		**Pn**		**03 40 55.9**	**+2.7**
KSRS	**Korea Array**	**13.62**	**13**	Pn		**Pn**		**03 40 55.9**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=187,slow=12,SNR=11								
QIZ	**Qiongzhong**	**14.20**	**252**	P		**Pn**		**03 41 01.3**	**-0.2**
QIZ				S		**Sn**		**03 43 37.9**	**-0.4**
QIZ				LR	LR				
	comp=N,370nm,19.1s								
QIZ				LR	LR				
	comp=Z,500nm,16.4s								
GYA	**Guiyang**	**15.91**	**282**	P		**Pn**		**03 41 25.8**	**+1.5**
GYA				pP		**P**		**03 41 30.8**	**+3.0**
GYA				PP		**pP**		**03 41 38.0**	**+3.4**
GYA				S		**Sn**		**03 44 20.2**	**+0.2**
GYA				SS		**S**		**03 44 38.7**	**+4.9**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
GYA				pmax	pmax				
	comp=Z,120nm,4.5s								
GYA				LR	LR				
	comp=N,570nm,12.7s								
GYA				LR	LR				
	comp=E,490nm,10.5s								
GYA				LR	LR				
	comp=Z,670nm,12.6s								
CBIJ	**Chichi jima**	**16.58**	**76**	LR		LR		03 46 18.7	
	comp=Z,232nm,20.4s,baz=139,slow=31								
BJI	**Beijing**	**17.15**	**339**	P		**P**		**03 41 44.9**	**+3.7**
BJI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MAJO	**Matsushiro**	**17.30**	**41**	*e*P		**P**		**03 41 44.9**	**+1.9**
MAJO				pmax	pmax				
	comp=Z,65nm,2.0s								
MAJO	**Matsushiro**	**17.30**	**41**	*e*P		**P**		**03 41 44.9**	**+1.9**
	comp=Z,65nm,2.0s								
MAT	**Matsushiro**	**17.30**	**41**	P		**Pn**		**03 41 41.6**	**-0.1**
MJAR	**Matsushiro Arr**	**17.30**	**41**	P		**Pn**		**03 41 42.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=234,slow=10,SNR=12								
MJAR	**Matsushiro Arr**	**17.30**	**41**	P		**Pn**		**03 41 42.3**	**+0.6**
MJAR	**Matsushiro Arr**	**17.30**	**41**	P		**Pn**		**03 41 42.3**	**+0.6**
CD2	**Chengdu**	**19.21**	**295**	P		**Pn**		**03 42 05.7**	**+0.6**

CD2				pP	**pP**		**03 42 14.5**	**+3.5**
CD2				sP	sP		03 42 19.9	+5.7
CD2				PP	Px		03 42 23.1	
CD2				S	**Sn**		**03 45 34.1**	**-5.7**
CD2				sS	**sS**		**03 45 47.9**	**-3.7**
CD2				SS	SS		03 46 00.6	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,160nm,5.9s							
CD2				LR	LR			
	comp=N,490nm,9.5s							
CD2				LR	LR			
	comp=Z,560nm,11.9s							
KMI	**Kunming**	**19.42**	**277**	P	**Pn**		**03 42 10.1**	**+2.2**
KMI				pmax	pmax			
	comp=Z,18nm,1.5s							
KMI				LR	LR			
	comp=N,190nm,10.0s							
KMI				LR	LR			
	comp=E,360nm,11.3s							
KMI				LR	LR			
	comp=Z,430nm,10.3s							
CN2	**Changchun**	**19.59**	**3**	*e*P	**Pn**		**03 42 13.4**	**+3.9**
CN2				*ep*P	pP		03 42 22.0	+7.0
CN2				*e*S	**Sn**		**03 45 49.4**	**+0.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,500nm,11.0s							
CN2				LR	LR			
	comp=E,300nm,11.0s							
CN2				LR	LR			
	comp=Z,500nm,12.0s							
HHC	**Hu-ho-hao-te**	**19.64**	**331**	*e*P	**Pn**		**03 42 10.4**	**+0.1**
HHC				pP	**pP**		**03 42 18.9**	**+3.2**
HHC				sP	**sP**		**03 42 23.4**	**+4.4**
HHC				PP	Px		03 42 29.2	
HHC				S	**S**		**03 45 47.0**	**-2.1**
HHC				SS	SS		03 46 16.6	
HHC				PcP	**PcP**		**03 46 31.7**	**+4.0**
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,130nm,5.5s							
HHC				LR	LR			
	comp=N,250nm,10.7s							
HHC				LR	LR			
	comp=E,300nm,10.4s							
HHC				LR	LR			
	comp=Z,280nm,11.2s							
MDJ	**Mudanjiang**	**20.86**	**11**	P	Pn		03 42 24.7	+0.2
MDJ				pP	pP		03 42 31.5	+2.6
MDJ				S	**S**		**03 46 13.7**	**+0.4**
MDJ				ScS	**ScS**		**03 53 48.8**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,5.0nm,1.5s							
MDJ				pmax	pmax			
	comp=Z,82nm,5.2s							
MDJ				LR	LR			
	comp=N,270nm,11.9s							
MDJ				LR	LR			
	comp=E,200nm,13.2s							
MDJ				LR	LR			
	comp=Z,310nm,13.6s							
LZH	**Lanzhou**	**21.09**	**309**	*e*P	**P**		**03 42 25.0**	**+0.4**
LZH				sS	Sn		03 46 32.2	+6.8
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,100nm,4.3s							
LZH				LR	LR			
	comp=N,270nm,12.4s							
LZH				LR	LR			
	comp=E,180nm,9.7s							
LZH				LR	LR			
	comp=Z,300nm,11.0s							
CHTO	**Chiang Mai**	**23.98**	**262**	*e*P	**P**		**03 42 55.5**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CHTO	**Chiang Mai**	**23.98**	**262**	*e*P	**P**		**03 42 55.5**	**+0.9**
	comp=Z,7.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**24.08**	**261**	P	**P**		**03 42 56.7**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=64,slow=8.2,SNR=14							
CMAR				LR	LR		03 53 46.6	
	comp=Z,131nm,18.6s,baz=100,slow=40							
CMAR	**Chiang Mai Arr**	**24.08**	**261**	P	**P**		**03 42 56.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**24.08**	**261**	P	**P**		**03 42 56.7**	**+1.2**
HABR	**Khabarovsk**	**25.74**	**17**	*e*P	P		03 43 20.3	+10
HABR				*e**SP	sP		03 43 24.7	+3.9
HABR				*e*			03 43 49.5	
HABR				*e*PPP	PPP		03 43 58.0	
HABR				*e*			03 46 38.0	
HABR				*e*S	**S**		**03 47 39.9**	**+2.3**
HABR				*e**SS	sS		03 47 56.6	+6.6
HABR				*e*SS			03 48 40.6	
HABR				*e*SSS	SSS		03 48 55.6	
HABR				*e*			03 54 04.5	
HABR				pmax	pmax			
	comp=Z,36nm,2.1s							
HABR				pmax	pmax			
	comp=E,58nm,2.1s							
HABR				pmax	pmax			
	comp=N,38nm,2.1s							
HABR				MLR	MLR			
	comp=Z,106nm,16.0s							
ULN	**Ulaanbaatar**	**27.22**	**334**	*e*P	**P**		**03 43 26.3**	**+2.4**
ULN				pmax	pmax			
	comp=Z,46nm,2.7s							
ULN	**Ulaanbaatar**	**27.22**	**334**	*e*P	**P**		**03 43 26.3**	**+2.4**
	comp=Z,46nm,2.7s							
SONM	**Songino Array**	**27.46**	**334**	P	**P**		**03 43 25.6**	**-0.4**
	comp=Z,0.9nm,0

comp=Z,11nm,0.8s
WRAB Tennant Creek 44.99 166 *e*P **P** 03 45 54.2 -1.1
WRAB pmax pmax
comp=Z,13nm,1.0s
WRAB Tennant Creek 44.99 166 *e*P **P** 03 45 54.2 -1.1
comp=Z,13nm,1.0s
WRA Warramunga Arr 44.99 166 P **P** 03 45 55.3 -0.1
comp=Z,7.1nm,0.8s,baz=348,slow=8.9,SNR=37
WRA Warramunga Arr 44.99 166 P **P** 03 45 55.3 -0.1
WRA Warramunga Arr 44.99 166 P **P** 03 45 55.3 -0.1
WB2 Warramunga Arr 45.00 166 *e*P **P** 03 45 55.2 -0.1
KKAR Karatay Array 47.57 307 *e*P **P** 03 46 15.4 -0.1
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 47.57 307 *e*P **P** 03 46 15.4 -0.1
comp=Z,1.1nm,0.6s
AS31 Alice Springs 48.52 168 *e*P **P** 03 46 23.7 +0.7
ASAR Alice Springs 48.52 168 P **P** 03 46 23.4 +0.4
comp=Z,2.0nm,0.4s,baz=353,slow=6.7,SNR=34
ASAR ScP **ScP** 03 51 41.8 -0.1
comp=Z,0.6nm,0.8s,baz=337,slow=2.1,SNR=4.6
ASAR Alice Springs 48.52 168 P **P** 03 46 23.4 +0.4
ASAR Alice Springs 48.52 168 P **P** 03 46 23.4 +0.4
ASAR ScP **ScP** 03 51 41.8 -0.1
BRVK Borovoye 49.42 320 *i* P **P** 03 46 28.9 -0.7
BRVK pmax pmax
comp=Z,12nm,2.4s
BRVK Borovoye 49.42 320 *e*P **P** 03 46 28.8 -0.8
comp=Z,48nm,2.5s
FORT Forrest 54.79 176 *e*P **P** 03 47 10.5 +0.8
comp=Z,42nm,1.5s
ABKAR Akbulak array 55.33 314 *e*P **P** 03 47 13.2 -0.2
STKA Stephens Creek 58.22 162 P **P** 03 47 34.0 -0.1
comp=Z,6.6nm,0.8s,baz=344,slow=6.2,SNR=15
STKA Stephens Creek 58.22 162 *e*P **P** 03 47 33.9 -0.1
comp=Z,3.8nm,0.6s
STKA Stephens Creek 58.22 162 *e*P **P** 03 47 34.2 +0.2
STKA Stephens Creek 58.22 162 *e*P **P** 03 47 34.2 +0.2
CMSA Cobar Meteorol 59.15 159 *e*P **P** 03 47 40.0 -0.5
comp=Z,28nm,1.2s
COLA College 67.56 27 *e*P **P** 03 48 36.8 +1.0
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 67.56 27 *e*P **P** 03 48 36.8 +1.0
comp=Z,4.3nm,0.7s
ILAR Eielson Array 67.99 28 P **P** 03 48 36.9 -1.7
comp=Z,1.7nm,0.6s,baz=265,slow=4.5,SNR=37
ILAR Eielson Array 67.99 28 P **P** 03 48 36.9 -1.7
ILAR Eielson Array 67.99 28 P **P** 03 48 36.9 -1.7
APA Apatity 68.15 336⇓ *e*P P 03 48 43.6 +4.1
APA MLR MLR
comp=Z,3µm,15.0s
PAX Paxson 68.95 29 *e*P **P** 03 48 44.9 +0.2
PAX pmax pmax
comp=Z,161nm,3.0s
PAX Paxson 68.95 29 *e*P **P** 03 48 44.9 +0.2
comp=Z,161nm,3.0s
DIV Divide 69.19 31 *e*P **P** 03 48 46.4 +0.1
comp=Z,220nm,2.3s
DOT Dot Lake 69.42 28 *e*P **P** 03 48 47.3 -0.3
comp=Z,72nm,2.7s
JOF Joensuu 69.99 331 *e*P **P** 03 48 49.7 -1.3
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 69.99 331 *e*p **P** 03 48 49.7 -1.3
comp=Z,2.2nm,0.5s
JOF Joensuu 69.99 331 *e*p **P** 03 48 49.7 -1.3
comp=Z,2.2nm,0.5s
EGAK Eagle 70.38 27 *e*P **P** 03 48 53.5 +0.2
comp=Z,50nm,1.8s
DAWY Dawson 71.31 27 *e*P **P** 03 48 59.3 +0.1
INK Inuvik 72.22 22 *e*P **P** 03 49 04.0 -0.4
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 72.22 22 *e*P **P** 03 49 04.0 -0.4
comp=Z,7.4nm,1.0s
FINES FINESS Array B 72.76 330 P **P** 03 49 07.3 -0.4
comp=Z,3.2nm,0.7s,baz=32,slow=4.3,SNR=13
FINES FINESS Array B 72.76 330 P **P** 03 49 07.3 -0.4
FINES FINESS Array B 72.76 330 P **P** 03 49 07.3 -0.4
AKASG Malin Array Be 74.61 319 P **P** 03 49 17.5 -1.3
comp=Z,2.4nm,0.6s,baz=58,slow=6.5,SNR=7.1
AKASG Malin Array Be 74.61 319 P **P** 03 49 17.5 -1.3
AKASG Malin Array Be 74.61 319 P **P** 03 49 17.5 -1.3
KIEV Kiev 74.62 319 *i* P **P** 03 49 17.5 -1.4
BR131 Keskin Array S 75.28 307 *e*P **P** 03 49 23.0 -0.2
comp=Z,4.5nm,1.1s
BRTR Keskin Array B 75.28 307 P **P** 03 49 22.6 -0.6
comp=Z,2.2nm,0.8s,baz=89,slow=5.0,SNR=12
BRTR Keskin Array B 75.28 307 *i* P **P** 03 49 23.0 -0.2
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 75.28 307 P **P** 03 49 22.6 -0.6
TESR 77.88 315⇑ *i*P **P** 03 49 37.2 +0.7
VRI Vrincioaia 77.88 315⇑ *i*P **P** 03 49 37.1 -0.5
VRI Vrincioaia 77.88 315⇑ *i*P **P** 03 49 37.1 -0.5
BUR08 Bucovina Ar. S 78.17 317 *e*P **P** 03 49 39.0 -0.3
BURAR Bucovina Array 78.18 317⇑ *i*P **P** 03 49 39.0 -0.3
BURAR Bucovina Array 78.18 317⇑ *i*P **P** 03 49 39.0 -0.3
RES Resolute Bay 78.22 10 *e*P **P** 03 49 38.0 -0.8
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 78.22 10 *e*P **P** 03 49 38.0 -0.8
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 78.53 315⇑⇑ *i*P **P** 03 49 41.3 0.0
MLR Muntele Rosu 78.53 315⇑ *i*P **P** 03 49 41.3 0.0
KWP Kalwaria Pacla 78.90 319 *e*P **P** 03 49 43.2 +0.1
KWP Kalwaria Pacla 78.90 319 ⇓ P **P** 03 49 42.8 -0.3
KWP Kalwaria Pacla 78.90 319 ⇓ *i*P **P** 03 49 42.8 -0.3
NB2 NORSAR Subarra 79.44 333 P **P** 03 49 45.2 -0.7
comp=Z,3.3nm,0.9s,baz=59,slow=5.6
NOA NORSAR Array B 79.44 333 P **P** 03 49 44.7 -1.2
comp=Z,1.9nm,0.8s,baz=57,slow=5.5,SNR=5.1
NOA NORSAR Array B 79.44 333 P **P** 03 49 44.7 -1.2
NOA NORSAR Array B 79.44 333 P **P** 03 49 44.6 -1.2
KOLS Kolonicke sedl 79.45 319 *e*P **P** 03 49 46.8 +0.7
KOLS Kolonicke sedl 79.45 319 *e*P **P** 03 49 46.8 +0.7
HUMR Humele 79.54 314 ⇓ *i*P **P** 03 49 45.8 -0.9
STHS Stebnicka Huta 79.86 320 *e*P **P** 03 49 48.1 -0.2
STHS pmax pmax
comp=Z,4.0nm,1.4s
STHS Stebnicka Huta 79.86 320 *e*P **P** 03 49 48.1 -0.2
DRGR 80.07 317⇑ P **P** 03 49 49.4 -0.2
DRGR 80.07 317⇑ *i*P **P** 03 49 49.3 -0.3
OJC Ojcow 80.35 321 *e*P **P** 03 49 51.0 0.0
OJC Ojcow 80.35 321 *e*P **P** 03 49 50.9 0.0
OJC pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 80.35 321 *e*P **P** 03 49 50.9 0.0
comp=Z,7.2nm,0.8s
NIE Niedzica 80.40 320 *e*P **P** 03 49 51.7 +0.4
NIE Niedzica 80.40 320 *e*P **P** 03 49 51.7 +0.4
KECS Kecovo 80.71 319 *e*P **P** 03 49 52.5 -0.4
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 80.71 319 *e*P **P** 03 49 52.5 -0.4
VTS Vitosha 81.51 313 ⇓ P **P** 03 49 56.9 -0.6
VTS Vitosha 81.51 313 ⇓ *i*P **P** 03 49 56.9 -0.6
VYHS Vyhne 81.69 320 *e*P **P** 03 49 58.4 +0.3
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 81.69 320 *e*P **P** 03 49 58.4 +0.3
KOLL Kolacno 81.90 320 *e*P **P** 03 50 00.3 +1.0
KOLL Kolacno 81.90 320 *e*P **P** 03 50 00.3 +1.0
YKA Yellowknife Ar 81.92 24 P **P** 03 49 58.5 -0.5
comp=Z,3.0nm,0.7s,baz=304,slow=5.3,SNR=29
YKA Yellowknife Ar 81.92 24 P **P** 03 49 58.5 -0.5
YKA Yellowknife Ar 81.92 24 P **P** 03 49 58.5 -0.5
KSP Ksiaz 82.05 322 *e*P **P** 03 50 00.2 +0.2
KRLC Kraliky 82.14 322 *e*P **P** 03 50 00.5 0.0
DPC Dobruska-Polom 82.27 322 *e*P **P** 03 50 01.3 +0.1
DPC Dobruska-Polom 82.27 322 *e*P **P** 03 50 01.8 +0.6
DPC pmax pmax
comp=Z,113nm,2.7s
DPC Dobruska-Polom 82.27 322 *e*P **P** 03 50 01.8 +0.6
comp=Z,113nm,2.7s
DPC Dobruska-Polom 82.27 322 *e*P **P** 03 50 01.3 +0.1
DPC *e*PCP **PcP** 03 50 06.0 -0.5
SMOL Smolenice 82.51 320 *e*P **P** 03 50 03.8 +1.4
SMOL Smolenice 82.51 320 *e*P **P** 03 50 03.8 +1.4
VRAC Vranov 82.61 321 ⇓ P **P** 03 50 03.1 +0.1
VRAC Vranov 82.61 321 ⇓ *i*P **P** 03 50 03.1 +0.1
CLL Collm 83.62 324 *e*P **P** 03 50 07.0 -1.1
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL MLR MLR
comp=Z,200nm,18.3s
CLL Collm 83.62 324 *e*P **P** 03 50 07.0 -1.1
comp=Z,7.0nm,1.2s
CLL Lm MLR 04 28 00.0
comp=N,100nm,19.8s
CLL Lm MLR 04 28 00.0
comp=E,100nm,18.9s
CLL Lm MLR 04 28 00.0
comp=Z,200nm,18.3s
KHC Kasperske Hory 84.42 322 *e*P **P** 03 50 12.4 +0.1
KHC *e* 03 50 18.8
KHC Kasperske Hory 84.42 322 *e*P **P** 03 50 12.4 +0.1
KHC *ex* x 03 50 18.8
GERES GERESS Array B 84.50 322 P **P** 03 50 12.4 -0.4
comp=Z,2.6nm,0.7s,baz=50,slow=4.2,SNR=12
GERES GERESS Array B 84.50 322 P **P** 03 50 12.4 -0.4
GERES GERESS Array B 84.50 322 P **P** 03 50 12.4 -0.4
MOA Molln 84.68 320 ⇓ *i*P **P** 03 50 13.6 0.0
comp=Z,2.6nm,0.7s
BOJS Bojanci 85.27 318 *i* P P 03 50 19.9 +3.3
VISS Visnje 85.37 318 *i* P P 03 50 22.1 +5.0
CRNS Crni Vrh 85.58 319 *i* P P 03 50 22.6 +4.4
JAVS Javornik 85.79 319 *i* P P 03 50 28.0 +8.6
CDF Champ du Feu 88.31 323 *e*P **P** 03 50 30.4 -1.1
LPG La Plagne 90.30 321 *e*P **P** 03 50 40.3 -0.8
comp=Z,17nm,0.8s
LPL La Plagne 90.30 321 *e*P **P** 03 50 40.1 -0.9
comp=Z,21nm,1.2s
FFC Flin Flon 92.04 25 *i* P **P** 03 50 49.2 +0.6
HLID Hailey 93.84 38 *e*P **P** 03 50 58.9 +1.5
comp=Z,33nm,2.4s
NVAR Mina Array Bea 94.60 44 P **P** 03 51 00.9 -0.2
comp=Z,0.3nm,0.3s,baz=283,slow=7.2,SNR=3.8
NVAR Mina Array Bea 94.60 44 P **P** 03 51 00.9 -0.2
TXAR Lajitas Array 109.73 43 PKiKP **PKiKP** 03 56 10.8 -0.5
comp=Z,0.2nm,0.7s,baz=302,slow=1.7,SNR=2.9
TXAR Lajitas Array 109.73 43 PKiKP **PKiKP** 03 56 10.8 -0.5
TORD Torodi Ar. Bea 112.60 297 PKiKP **PKiKP** 03 56 15.8 -1.2
comp=Z,0.3nm,0.7s,baz=72,slow=2.3,SNR=5.6
TORD Torodi Ar. Bea 112.60 297 PKiKP **PKiKP** 03 56 15.8 -1.2
DBIC Dimbokro 121.54 295 PKIKP **PKPdf** 03 56 33.4 -0.7
comp=Z,3.5nm,1.1s,baz=22,slow=5.4,SNR=2.9
DBIC Dimbokro 121.54 295 PKIKP **PKPdf** 03 56 33.4 -0.7
DBIC Dimbokro 121.54 295 PKP **PKPdf** 03 56 33.4 -0.7
SDV Santo Domingo 144.12 25 *e*PKPdf **PKPab** 03 57 14.2 +0.1

IDC 06 03:55:37.2±2.8, 0.80S×133.02E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=146.3km s-min=26.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.07**	**176**	P	P	04 00 01.2	-0.3
	0.1nm,0.3s,baz=355,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.75**	**178**	P	P	04 00 41.5	+0.2
	0.7nm,0.6s,baz=0.6,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	04 06 18.3	0.0
	0.1nm,0.5s,baz=138,slow=5.3,SNR=2.1						

*CSEM **06** 04:00:06.0, 46.02N×14.40E, h0km, ML0.4, After LJU*
LJU 06 04:00:06.0, 46.02N×14.40E, h9km, ML0.4, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LJU	**Ljubljana**	**0.10**	**74**	*i* Pg	Pg	04 00 08.7	+0.2
LJU				*i* Sg	Sg	04 00 10.4	+0.2
LJU	comp=Z,14nm,0.1s						
LJU	**Ljubljana**	**0.10**	**74**	*i* Pg	Pg	04 00 08.7	+0.3
LJU				*i* Sg	Sg	04 00 10.4	+0.3
	comp=Z,14nm,0.1s						
CRNS	**Crni Vrh**	**0.11**	**304**⇑	*i*Pg	Pg	04 00 08.7	-0.1
CRNS				*i* Sg	Sg	04 00 10.7	0.0
CRNS	comp=Z,10.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.23**	**68**	*i* Pg	Pg	04 00 10.9	+0.2
VNDS				*i* Sg	Sg	04 00 14.1	+0.2
VNDS	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**0.26**	**242**	*i* Sg	Sg	04 00 15.3	+0.2
JAVS	comp=Z,1.0nm,0.1s						
JAVS	**Javornik**	**0.26**	**242**	*i* Sg	Sg	04 00 15.3	+0.2
	comp=Z,1.0nm,0.1s						
CEY	**Cerknica**	**0.28**	**176**	*i* Pg	Pg	04 00 11.7	0.0
CEY				*i* Sg	Sg	04 00 16.2	+0.7
CEY	comp=Z,3.0nm,0.1s						
CEY	**Cerknica**	**0.28**	**176**	*i* Pg	Pg	04 00 11.6	0.0
CEY				*i* Sg	Sg	04 00 16.2	+0.8
	comp=Z,3.0nm,0.1s						
MOZS	**Mozjanca**	**0.28**	**7**	*i* Pg	Pg	04 00 11.8	+0.1
MOZS	**Mozjanca**	**0.28**	**7**	*i* Pg	Pg	04 00 11.8	+0.1
VISS	**Visnje**	**0.38**	**125**	*i* Pg	Pg	04 00 13.6	+0.2
VISS				*i* Sg	Sg	04 00 18.4	-0.1
VISS	comp=Z,0.0nm,0.1s						
VISS	**Visnje**	**0.38**	**125**	*i* Pg	Pg	04 00 13.6	+0.2
VISS				*i* Sg	Sg	04 00 18.4	0.0

MEX 06 04:04:04.1±0.8, 16.33N×99.72W, h10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.55**	**347**	*e*P	Pg	04 04 13.4	-1.5
ACX				*i* S	Sg	04 04 20.9	-1.3
CAIG	**El Cayaco**	**0.88**	**324**	*e*P	Pg	04 04 19.1	-2.0
CAIG				*i* S	Sg	04 04 30.6	-2.1
PNIG	**Pinotepa**	**1.53**	**87**	*e*P	Pn	04 04 28.6	-3.0
PNIG				*i* S	Sn	04 04 46.6	-5.0
MEIG	**Mezcala**	**1.59**	**4**	*e*P	Pn	04 04 28.1	-4.3
MEIG				*e*S	Sn	04 04 48.9	-4.3
PLIG	**Platanillo**	**2.06**	**6**	*e*P	Pn	04 04 35.9	-3.0
PLIG				*e*S	Sn	04 05 00.7	-4.2
ZIIG	**Zihuatanejo**	**2.10**	**308**	*e*P	Pn	04 04 36.8	-2.5
ZIIG				*i* S	Sn	04 05 01.4	-4.0
UTMO	**Huajupan**	**2.37**	**51**	*i* P	Pn	04 04 40.7	-2.6
UTMO				*i* S	Sn	04 05 08.0	-4.6

*IDC **06** 04:08:52.3±1.7, 31.60S×71.91W, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/20, Error ellipse: s-maj=54.6km s-min=32.8km az=19.0*
*ISCJB **06** 04:08:54.6±1.2, 31.67S±0.03×71.93W±0.08, h20km±7km, mb3.8/3, MS3.6/1, Error ellipse: s-maj=12.2km s-min=4.2km az=173.3*
*GUC **06** 04:08:56.3±0.8, 31.70S×71.78W, h28km±3km, ML4.0*
ISC 06 04:08:54.6±2.0, 31.67S±0.04×71.89W±0.08, h17km±11km, n29, σ0.81/41, mb4.1/3, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.39**	**123** ⇓	*i*P	**Pb**	**04 09 03.7**	**+0.6**
CHNG				*i* S	**Sg**	**04 09 08.4**	**+0.3**
CHNG				AML	AML	04 09 09.6	
	comp=E,22µm,0.5s						
CMCH	**Combarbala**	**0.90**	**57**⇑	*i*P	**Pb**	**04 09 11.7**	**-0.3**
CMCH				*i* S	**Sb**	**04 09 23.4**	**-0.3**
CMCH				AML	AML	04 09 23.7	
	comp=E,24µm,0.5s						
PTCH	**Petorca**	**1.01**	**126**⇑	*i*P	**Pb**	**04 09 13.0**	**-0.7**
PTCH				*i* S	**Sb**	**04 09 25.3**	**-1.4**
PTCH				AML	AML	04 09 28.1	
	comp=N,9µm,0.3s						
OVCH	**Ovalle**	**1.21**	**29**⇑	*i*P	**Pb**	**04 09 17.5**	**+0.5**
OVCH				*i* S	**Sg**	**04 09 33.8**	**0.0**
OVCH				AML	AML	04 09 38.2	
	comp=N,4µm,0.2s						
IHA	**Instituto Hidr**	**1.37**	**171** ⇓	*i*P	**Pn**	**04 09 19.1**	**+0.1**
JACH	**Jahuel**	**1.49**	**133**	*e*P	**Pn**	**04 09 20.9**	**+0.1**
ROCH	**El Roble**	**1.50**	**151** ⇓	*i*P	**Pn**	**04 09 21.0**	**0.0**
ROCH				*i* S	**Sn**	**04 09 40.1**	**-0.2**
ROCH				AML	AML	04 09 45.9	
	comp=N,3µm,0.4s						
TLL	**Tololo Astrono**	**1.76**	**32**⇑	*i*P	**Pb**	**04 09 25.9**	**-0.8**
TLL				*i* S	**Sb**	**04 09 49.1**	**+0.5**
TLL				AML	AML	04 09 54.7	
	comp=N,2µm,0.5s						
PEL	**Peldehue**	**1.79**	**146**⇑	*i*P	**Pn**	**04 09 25.4**	**+0.5**
PEL				*i* S	**Sn**	**04 09 47.6**	**+0.4**
PEL				AML	AML	04 09 49.6	
	comp=E,5µm,0.3s						
SAN	**Santiago**	**2.06**	**150**	*e*P	**Pn**	**04 09 29.6**	**+1.1**
SAN				*e*S	**Sn**	**04 09 55.0**	**+1.1**
SAN				AML	AML	04 10 02.4	
	comp=N,1µm,0.4s						
FCH	**Farellones**	**2.13**	**141**	*e*P	**Pn**	**04 09 29.2**	**-0.6**
FCH				*i* S	**Sn**	**04 09 56.1**	**-0.1**
FCH				AML	AML	04 10 00.8	
	comp=E,1µm,0.5s						
TACH	**Talagante**	**2.14**	**158** ⇓	*i*P	**Pn**	**04 09 30.5**	**+0.9**
TACH				*i* S	**Sn**	**04 09 56.8**	**+1.1**
FSR	**Penalolen**	**2.14**	**148**	*i* S	**Sn**	**04 09 56.6**	**+0.7**
FSR				AML	AML	04 10 08.9	
	comp=N,563nm,0.6s						
ANTU	**Antumapu**	**2.17**	**151**	*e*P	**Pn**	**04 09 30.6**	**+0.5**
ANTU				*e*S	**Sn**	**04 09 56.4**	**-0.2**
PCH	**Pirque**	**2.27**	**150** ⇓	*i*P	**Pn**	**04 09 32.5**	**+1.0**
CHCH	**Chadas Angostu**	**2.49**	**156**	*e*P	**Pn**	**04 09 35.5**	**+1.0**
LMEL	**Las Melosas**	**2.59**	**147**	*e*P	**Pn**	**04 09 37.0**	**+0.9**
LMEL				*i* S	**Sn**	**04 10 08.0**	**+0.7**
LMEL				AML	AML	04 10 19.4	
	comp=N,932nm,0.5s						
CACH	**El Canelo**	**2.67**	**156** ⇓	*i*P	**Pn**	**04 09 38.8**	**+1.8**
CFAA	**Coronel Fontan**	**3.11**	**90**	Pn	**Pn**	**04 09 45.0**	**+2.0**
	comp=N,4.5nm,0.3s,baz=253,slow=10,SNR=106						
CFAA				Sn	**Sb**	**04 10 26.9**	**-0.4**
	comp=N,3.6nm,0.3s,baz=338,slow=9.6,SNR=3.3						
LPAZ	**La Paz**	**15.69**	**13**	Pn	**Pn**	**04 12 34.4**	**-1.2**
	comp=N,0.1nm,0.3s,baz=198,slow=11,SNR=3.4						
SIV	**San Ignacio**	**18.45**	**35**	P	**P**	**04 13 08.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=220,slow=12,SNR=4.8						
SIV				LR	LR	04 20 03.9	
	comp=N,48nm,18.5s,slow=36						
RCBR	**Riachuelo**	**42.34**	**60**	LR	LR	04 35 36.5	
	comp=N,79nm,18.2s,baz=294,slow=38						
TXAR	**Lajitas Array**	**67.77**	**330**	P	**P**	**04 19 52.0**	**+0.4**
	comp=N,0.1nm,0.7s,baz=146,slow=9.1,SNR=3.6						
DBIC	**Dimbokro**	**74.32**	**72**	P	**P**	**04 20 31.2**	**-0.4**
	comp=N,4.0nm,0.9s,baz=212,slow=8.0,SNR=8.7						
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**04 21 20.8**	**-0.1**
	comp=N,1.2nm,0.8s,baz=251,slow=5.3,SNR=9.2						
BVAR	**Borovoye Array**	**145.46**	**41**	PKPbc	**PKPab**	**04 28 32.2**	**+0.6**
	comp=N,1.9nm,0.6s,baz=277,slow=2.5,SNR=8.7						
KURK	**Kurchatov**	**151.06**	**40**	PKPbc	**PKPbc**	**04 28 46.5**	**+0.2**
	comp=N,0.7nm,0.7s,baz=302,slow=3.0,SNR=9.0						
ZALV	**Zalesovo Beam**	**152.17**	**30**	PKPbc	**PKPbc**	**04 28 48.9**	**+0.2**
	comp=N,2.1nm,0.5s,baz=309,slow=4.0,SNR=11						
MKAR	**Makanchi Array**	**155.09**	**45**	PKPab	**PKPab**	**04 29 10.3**	**-0.8**
	comp=N,0.5nm,0.9s,baz=306,slow=4.1,SNR=4.0						

IDC 06 04:10:43.6±2.3, 1.06S×133.43E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/27, Error ellipse: s-maj=94.2km s-min=24.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**14.21**	**254**	LR	LR	04 19 13.1	
	comp=Z,76nm,20.5s,baz=303,slow=36						
FITZ	**Fitzroy Crossi**	**18.58**	**204**	P	P	04 15 01.6	-0.9
	0.2nm,0.3s,baz=31,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**18.78**	**177**	P	P	04 15 04.5	-0.2
	0.4nm,0.3s,baz=357,slow=12,SNR=18						
WRA				S	Sn	04 18 24.6	-11
	0.1nm,0.3s,baz=357,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**22.47**	**179**	P	P	04 15 45.3	+0.6
	1.5nm,0.8s,baz=5.9,slow=11,SNR=15						
STKA	**Stephens Creek**	**31.60**	**167**	LR	LR	04 31 11.1	
	comp=Z,67nm,21.0s,baz=25,slow=39						
MKAR	**Makanchi Array**	**65.32**	**324**	P	P	04 21 27.6	-0.1
	0.8nm,0.6s,baz=112,slow=8.4,SNR=10						

*DJA **06** 04:19:25, 0.75S×133.52E, h20km, MLv4.2/4*
IDC 06 04:19:20.2±1.2, 0.66S×133.68E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=63.6km s-min=22.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.17**	**178**	P	P	04 23 45.1	-0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.87**	**179**	P	P	04 24 25.8	+0.2
	1.6nm,0.5s,baz=0.8,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**65.14**	**324**	P	P	04 30 03.7	+0.5
	0.9nm,0.7s,baz=115,slow=7.9,SNR=9.4						
KURK	**Kurchatov**	**69.19**	**326**	P	P	04 30 28.7	0.0
	1.0nm,0.9s,baz=118,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**86.09**	**25**	P	P	04 32 02.1	-0.7
	0.3nm,0.8s,baz=252,slow=4.6,SNR=5.3						

IDC 06 04:24:08.1±2.9, 0.65S×133.11E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=128.1km s-min=25.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.84**	**203**	P	P	04 28 29.6	-0.1
	0.2nm,0.3s,baz=34,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**19.22**	**176**	P	P	04 28 33.7	-0.2
	0.1nm,0.3s,baz=358,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**22.90**	**178**	P	P	04 29 13.9	+0.3
	0.4nm,0.4s,baz=356,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**64.79**	**324**	P	P	04 34 48.6	-0.1
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.5						

*IDC **06** 04:25:17.8±0.8, 59.34S×25.80W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, Error ellipse: s-maj=26.6km s-min=20.2km az=8.0*
ISC 06 04:25:20.6±0.7, 59.8S±0.2×25.7W±0.1, h26km, n15, σ1.88/13, mb4.1/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.04**	**154**	*e*P	**P**	04 28 30.9	-3.0
VNA3	**Neumayer Olymp**	**13.20**	**157**	*e*P	**P**	**04 28 33.3**	**-2.5**
VNA3				*e*		04 30 54.8	
VNA2	**Neumayer--Watz**	**13.44**	**154**	*e*P	**P**	**04 28 35.9**	**-2.5**
	baz=319,slow=14						
VNA2				*e*		04 30 58.4	
SNAA	**Sanae**	**15.02**	**152**	*e*P	**P**	**04 28 57.6**	**+1.6**
SNAA				*e*		04 31 34.9	
USHA	**Ushuaia**	**23.27**	**263**	P	**P**	**04 30 28.8**	**+3.0**
	5.6nm,0.6s,baz=93,slow=9.6,SNR=5.9						
QSPA	**South Pole Qui**	**30.44**	**180**	P	P	04 31 36.5	+5.8
	1.0nm,0.5s,baz=229,slow=1.8,SNR=8.5						
PLCA	**Paso Flores**	**33.56**	**284**	P	**P**	**04 31 57.5**	**-0.6**
	1.5nm,0.5s,baz=113,slow=4.6,SNR=12						
CFAA	**Coronel Fontan**	**39.84**	**296**	P	**P**	**04 32 50.5**	**-1.1**
	0.5nm,0.5s,baz=156,slow=7.6,SNR=12						
SUR	**Sutherland**	**41.05**	**69**	P	**P**	**04 33 02.1**	**+0.2**
	8.2nm,1.1s,baz=269,slow=4.4,SNR=3.5						
LPAZ	**La Paz**	**53.21**	**306**	P	**P**	**04 34 35.9**	**-1.3**
	0.6nm,0.3s,baz=174,slow=8.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**75.99**	**28**	P	**P**	**04 37 05.2**	**+0

ISC 06 04:31:27.3±0.9, 9.0N±0.1×128.0E±0.1, h35km, n14, σ0.82/14, mb4.0/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**2.33**	**270**	*eP*	**Sn**	**04 32 31.0**	**+0.5**
MATI	**Mati**	**2.63**	**220**	*eP*	Pn	04 32 12.1	+4.7
DAV	**Davao City (W)**	**3.03**	**232**	P	**Pn**	**04 32 12.4**	**-0.4**
	112nm,0.3s,baz=85,slow=2.6,SNR=5.8						
DAV				S	Sn	04 32 37.0	-11
	59nm,0.3s,baz=5.6,slow=7.1,SNR=6.0						
BUKP	**Musuan**	**3.08**	**250**	*eP*	**Pn**	**04 32 12.6**	**-0.9**
DMPH	**Davao City--Mi**	**3.08**	**233**	*iP*	**Pn**	**04 32 13.9**	**+0.4**
MSLP	**Maasin**	**3.28**	**291**	*eP*	Sn	04 32 57.9	+3.8
PAGZ	**Pagadian**	**4.68**	**257**	*eP*	Pn	04 32 31.1	-4.4
WRA	**Warramunga Arr**	**29.41**	**168**	P	**P**	**04 37 26.9**	**-0.7**
	0.3nm,0.7s,baz=343,slow=9.3,SNR=4.2						
WRA				pP	**pP**	**04 37 39.0**	**+1.3**
	0.6nm,0.6s,baz=349,slow=10,SNR=6.8						
SONM	**Songino Array**	**42.82**	**339**	P	**P**	**04 39 22.3**	**+0.4**
	0.6nm,0.6s,baz=155,slow=9.3,SNR=5.2						
MKAR	**Makanchi Array**	**54.07**	**323**	P	**P**	**04 40 48.9**	**+0.4**
	1.7nm,0.5s,baz=117,slow=7.4,SNR=46						
MKAR				PcP	**PcP**	**04 41 52.4**	**-0.7**
	0.7nm,0.7s,baz=119,slow=3.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**56.57**	**331**	P	**P**	**04 41 06.8**	**+0.5**
	0.4nm,0.3s,baz=114,slow=5.4,SNR=3.1						
KURK	**Kurchatov**	**58.08**	**325**	P	**P**	**04 41 17.4**	**+0.3**
	1.3nm,0.6s,baz=123,slow=6.9,SNR=11						
BVAR	**Borovoye Array**	**63.68**	**325**	P	**P**	**04 41 54.6**	**-0.5**
	0.4nm,0.3s,baz=79,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**87.82**	**332**	P	**P**	**04 44 11.7**	**-1.0**
	4.0nm,0.9s,baz=90,slow=4.6,SNR=5.6						
FINES				pP	**pP**	**04 44 25.0**	**+1.1**
	1.6nm,0.8s,baz=52,slow=2.3,SNR=3.6						

IDC 06 04:36:42.5±6.3, 5.72S×147.50E, h174km±65km, mb3.0/2, mb1 3.1/4, mb1mx2.8/17, mbtmp2.9/4, Error ellipse: s-maj=102.3km s-min=47.1km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.67**	**185**	P	Pn	04 37 40.5	+1.3
	2.7nm,0.3s,baz=0.0,slow=5.1,SNR=5.5						
PMG				S	Sn	04 38 23.6	-0.1
	0.6nm,0.3s,baz=162,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**19.07**	**221**	P	P	04 40 51.2	-0.6
	0.1nm,0.3s,baz=40,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**22.13**	**215**	P	P	04 41 24.9	+0.7
	0.5nm,0.6s,baz=49,slow=8.1,SNR=7.4						
FITZ	**Fitzroy Crossi**	**24.64**	**238**	P	P	04 41 47.1	0.0
	1.0nm,0.5s,baz=36,slow=15,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.50**	**285**	PKPbc	PKPdf	04 56 00.2	-0.7
	0.3nm,1.1s,baz=98,slow=4.3,SNR=3.1						

IDC 06 04:43:55.1±3.4, 0.57S×133.15E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=186.4km s-min=26.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.29**	**177**	P	P	04 48 21.5	-0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.98**	**178**	P	P	04 49 01.7	+0.2
	0.4nm,0.3s,baz=356,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**64.75**	**324**	P	P	04 54 35.4	0.0
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.7						

IDC 06 04:48:04.0±2.4, 0.34S×132.79E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=104.5km s-min=25.0km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.00**	**201**	P	P	04 52 27.2	-0.2
	0.1nm,0.3s,baz=12,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**19.55**	**176**	P	P	04 52 32.8	-0.6
	0.1nm,0.3s,baz=355,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.22**	**177**	P	P	04 53 13.4	+0.6
	0.6nm,0.7s,baz=0.5,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**64.35**	**324**	P	P	04 58 41.6	-0.1
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.5						

*TRN **06** 04:48:07.1, 19.15N×64.20W, h34km, MD3.4(RSPR)*
*RSPR **06** 04:48:08.6, 19.25N×64.17W, h36km±5km, MD3.4/5*
*NEIC **06** 04:48:08.6, 19.25N×64.17W, h36km, MD3.5(RSPR), After RSPR.*

ISC 06 04:48:08.0±4.2, 19.2N±0.2×64.2W±0.2, h40km±33km, n24, σ0.61/34, 14C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.49**	**201**	*eP*	**Pn**	**04 48 18.4**	**-0.3**
ABV				*eS*	**Sn**	**04 48 26.6**	**+0.4**
ABV	**Anegada**	**0.49**	**201**	*eP*	**Pn**	**04 48 18.4**	**-0.3**
ABV				*eS*	**Sn**	**04 48 26.6**	**+0.4**
TBVI	**Tortola**	**0.89**	**210**	*eP*	**Pn**	**04 48 23.7**	**-0.4**
TBVI	**Tortola**	**0.89**	**210**	*eP*	**Pn**	**04 48 23.7**	**-0.4**
TBVI	**Tortola**	**0.89**	**210**	*eP*	**Pn**	**04 48 23.7**	**-0.4**
STVI	**Saint Thomas**	**1.14**	**222**	*eP*	**Pn**	**04 48 26.9**	**-0.6**
STVI	**Saint Thomas**	**1.14**	**222**	*eS*	**Sn**	**04 48 41.4**	**-0.4**
STVI	**Saint Thomas**	**1.14**	**222**	*ePn*	**Pn**	**04 48 26.9**	**-0.6**
STVI				*eS*	**Sn**	**04 48 41.9**	**+0.1**
STVI	**Saint Thomas**	**1.14**	**222**	*eP*	**Pn**	**04 48 26.9**	**-0.6**
STVI				*eS*	**Sn**	**04 48 41.4**	**-0.4**
CDVI	**St. Croix**	**1.55**	**202**	*eP*	**Pn**	**04 48 33.4**	**+0.3**
CDVI	**St. Croix**	**1.55**	**202**	*eP*	**Pn**	**04 48 33.4**	**+0.3**
CDVI	**St. Croix**	**1.55**	**202**	*eP*	**Pn**	**04 48 33.4**	**+0.3**
MTP	**Monte Pirata**	**1.72**	**231**	*eP*	**Pn**	**04 48 35.6**	**+0.1**
MTP	**Monte Pirata**	**1.72**	**231**	*eS*	**Sn**	**04 48 56.3**	**0.0**
MTP	**Monte Pirata**	**1.72**	**231**	*ePn*	**Pn**	**04 48 35.7**	**+0.2**
MTP				*eS*	**Sn**	**04 48 56.3**	**0.0**
MTP				*eS*		04 48 56.6	
MTP	**Monte Pirata**	**1.72**	**231**	*eP*	**Pn**	**04 48 35.6**	**+0.1**
MTP				*eS*	**Sn**	**04 48 56.3**	**0.0**
CBYP	**Canovanas**	**1.86**	**241**	*eP*	**Pn**	**04 48 37.3**	**-0.2**
CBYP	**Canovanas**	**1.86**	**241**	*ePn*	**Pn**	**04 48 37.9**	**+0.4**
CBYP				*eS*	**Sn**	**04 49 02.6**	**+2.8**
CBYP	**Canovanas**	**1.86**	**241**	*eP*	**Pn**	**04 48 37.3**	**-0.2**
CBYP				*eS*	**Sn**	**04 48 59.2**	**-0.6**
HUMP	**Col San Antoni**	**1.92**	**237**	*eP*	**Pn**	**04 48 38.2**	**-0.1**
HUMP	**Col San Antoni**	**1.92**	**237**	*eS*	**Sn**	**04 49 01.1**	**-0.2**
HUMP	**Col San Antoni**	**1.92**	**237**	*eP*	**Pn**	**04 48 38.2**	**-0.1**
HUMP				*eS*	**Sn**	**04 49 01.7**	**+0.4**
HUMP	**Col San Antoni**	**1.92**	**237**	*eP*	**Pn**	**04 48 38.2**	**-0.1**
HUMP				*eS*	**Sn**	**04 49 01.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**3.05**	**248**	*ePn*	**Pn**	**04 48 53.4**	**-0.3**

IDC 06 04:55:05.7±1.3, 6.08S×129.52E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=72.4km s-min=21.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.54**	**197**	Pn	Pn	04 58 06.6	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=3.8						
FITZ				Sn	Sn	05 00 10.5	-15
	0.4nm,0.3s,baz=277,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**14.56**	**162**	Pn	Pn	04 58 32.9	-0.3
	0.4nm,0.3s,baz=340,slow=12,SNR=10.0						
WRA				Sn	Sn	05 01 01.1	-14
	0.4nm,0.3s,baz=67,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**17.99**	**167**	P	Pn	04 59 16.5	-0.9
	1.3nm,0.3s,baz=340,slow=9.7,SNR=82						
STKA	**Stephens Creek**	**28.04**	**158**	P	P	05 00 59.0	+0.1
	0.5nm,0.5s,baz=352,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	05 06 01.9	+0.2
	0.1nm,0.3s,baz=110,slow=7.7,SNR=4.5						
KURK	**Kurchatov**	**71.49**	**329**	P	P	05 06 28.0	-0.2
	0.2nm,0.4s,baz=121,slow=5.4,SNR=3.6						

CASC 06 05:08:47.9±2.6, 8.40N×82.80W, h34km±8km, MD3.0, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.41**	**15**	*eP*	Pb	05 08 57.0	-0.4
BRU2				*i S*	Sn	05 09 05.4	+1.2
TBS2		**0.42**	**19**	*eP*	Pn	05 08 58.2	+0.3
TBS2				*eS*	Sn	05 09 06.5	+2.0
ACR	**Cerro Adams**	**0.45**	**305**	*eP*	Pb	05 08 56.3	-1.6
ACR				*eS*	Sb	05 09 04.4	-0.3
BUS	**Buena Vista**	**1.49**	**320**	*eP*	Pn	05 09 12.5	-0.5
BUS				*eS*	Sb	05 09 33.9	-0.9
QCR	**Quepos**	**1.69**	**307**	*eP*	Pn	05 09 15.5	+0.3
URSC	**Urasca**	**1.73**	**326**	*eP*	Pn	05 09 16.4	+0.6
PTP	**Ponta Puerca**	**19.35**	**58**	*eP*	x	05 08 54.2	
PTP				*i S*	x	05 09 00.9	

*IDC **06** 05:10:00.1±0.9, 27.04N×100.39E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/25, mbtmp3.8/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/46, Error ellipse: s-maj=58.7km s-min=16.7km az=60.0*
*NEIC **06** 05:10:01.7±0.4, 27.06N×100.46E, h10km, mb4.2/2, Error ellipse: s-maj=13.8km s-min=7.6km az=55.0*
*BJI **06** 05:10:02.1, 27.07N×100.28E, h10km, mB4.5/1, mb4.1/3, ML3.4/13, Ms3.7/2, Ms7 3.4/2*

ISC 06 05:10:01.5±0.9, 26.96N±0.09×100.1E±0.1, h11km, n27, σ1.49/27, mb4.0/10, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.98**	**127**	Pg	**Pb**	**05 10 54.7**	**-0.1**
KMI				Sg	**Sb**	**05 11 31.0**	**-0.3**
KMI				smax	smax		
	comp=N,230nm,0.7s						
KMI				smax	smax		
	comp=E,250nm,0.9s						
GYA	**Guiyang**	**5.87**	**93**	*ePn*	**Pn**	**05 11 30.1**	**+1.5**
GYA				smax	smax		
	comp=N,30nm,0.7s						
GYA				smax	smax		
	comp=E,30nm,0.7s						
CMAR	**Chiang Mai Arr**	**8.53**	**188**	Pg	Pn	05 12 44.0	+39
	baz=3.3,slow=17,SNR=7.2						
CMAR				Lg	Lg	05 14 40.0	
	comp=E,0.1nm,0.3s,baz=5.3,slow=30,SNR=6.6						
ENH	**Enshi**	**8.86**	**66**	*ePn*	Pn	05 12 05.4	-4.3
HHC	**Hu-ho-hao-te**	**16.77**	**31**	*eP*	**Pn**	**05 13 55.0**	**-1.6**
HHC				PP	pP	05 14 08.8	+7.0
HHC				S	**Sn**	**05 16 59.6**	**-3.3**
HHC				SS	**S**	**05 17 19.0**	**+5.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,130nm,10.3s						
HHC				LR	LR		
	comp=E,130nm,9.3s						
HHC				LR	LR		
	comp=Z,86nm,10.0s						
SONM	**Songino Array**	**21.41**	**12**	P	**P**	**05 14 48.7**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=193,slow=12,SNR=4.0						
SONM	**Songino Array**	**21.41**	**12**	P	**P**	**05 14 48.7**	**-0.8**
MK31	**Makanchi Array**	**24.30**	**329**	*eP*	**P**	**05 15 19.7**	**+0.6**
MKAR	**Makanchi Array**	**24.30**	**329**	P	**P**	**05 15 20.5**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=127,slow=10,SNR=12						
MKAR	**Makanchi Array**	**24.30**	**329**	P	**P**	**05 15 20.5**	**+1.4**
KURK	**Kurchatov**	**28.84**	**331**	P	**P**	**05 16 00.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=136,slow=10,SNR=5.7						
KURK	**Kurchatov**	**28.84**	**331**	*eP*	**P**	**05 16 00.6**	**+0.8**
	comp=Z,2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**29.24**	**341**	P	**P**	**05 16 03.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=144,slow=10,SNR=6.4						
ZALV	**Zalesovo Beam**	**29.24**	**341**	P	**P**	**05 16 03.9**	**+0.6**
MJAR	**Matsushiro Arr**	**33.58**	**64**	LR	LR	05 31 08.6	
	comp=Z,67nm,18.4s,baz=215,slow=38						
WRAB	**Tennant Creek**	**57.21**	**141**	*eP*	**P**	**05 19 48.4**	**-0.6**
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**57.21**	**141**	P	**P**	**05 19 49.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=330,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	**57.21**	**141**	P	**P**	**05 19 49.0**	**-0.1**
WB2	**Warramunga Arr**	**57.22**	**141**	*eP*	**P**	**05 19 48.8**	**-0.3**
FINES	**FINESS Array B**	**59.12**	**327**	P	**P**	**05 20 02.5**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=129,slow=4.9,SNR=6.0						
FINES	**FINESS Array B**	**59.12**	**327**	P	**P**	**05 20 02.5**	**+0.6**
ASAR	**Alice Springs**	**59.98**	**144**	P	**P**	**05 20 07.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=327,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**59.98**	**144**	P	**P**	**05 20 07.9**	**-0.4**
NOA	**NORSAR Array B**	**66.29**	**328**	P	**P**	**05 20 49.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=77,slow=6.6,SNR=3.2						
NOA	**NORSAR Array B**	**66.29**	**328**	P	**P**	**05 20 49.9**	**+0.1**
YKA	**Yellowknife Ar**	**86.63**	**15**	P	**P**	**05 22 43.8**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=333,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**86.63**	**15**	P	**P**	**05 22 43.8**	**-1.1**

IGQ 06 05:12:29.0, 0.65S×77.50W, h10km±15km, Mb4.2, Ms4.0, 4C-23D, Error ellipse: s-maj=1.6km s-min=0.8km az=4.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAV4	**Lava4-Reventad**	**0.57**	**347**	*iP*	Pg	05 12 40.0	-0.5
CHAR	**Charly**	**0.58**	**343**	*iP*	Pg	05 12 40.6	-0.3
CONE	**Cono NE Rev Vo**	**0.59**	**346**	*iP*	Pg	05 12 40.6	-0.5
ANTI	**Antisana**	**0.69**	**287**	*iP*	Pg	05 12 43.0	-0.2
CAYR	**Refugio Cayamb**	**0.83**	**322**	*iP*	Pg	05 12 45.3	-0.7
COV1	**Cotopaxi Volc**	**0.84**	**269**	S	Sn	05 13 00.8	-0.1
CAYA	**Cayambe**	**0.87**	**326**	*iP*	Pg	05 12 45.7	-0.8
BTAM	**Cotopaxi Volca**	**0.90**	**268**	*iS*	Sg	05 12 59.4	+0.1
BTAM	**Cotopaxi Volca**	**0.90**	**268**	*iP*	Pb	05 12 47.3	-0.2
VC1	**Cotopaxi 1**	**0.90**	**270**	*iP*	Pb	05 12 47.4	-0.2
BVC2	**Cotopaxi Volca**	**0.91**	**269**	*iP*	Pb	05 12 47.6	-0.1
PITA	**Cotopaxi Volc**	**0.94**	**275**	*iP*	Pg	05 12 47.7	-0.1
BREF	**Cotopaxi Volca**	**0.94**	**269**	*iS*	Sg	05 13 00.4	-0.4
BREF	**Cotopaxi Volca**	**0.94**	**269**	*iP*	Pb	05 12 48.2	-0.1
MOV1	**Cotopaxi Vol s**	**0.94**	**266**	*iP*	Pg	05 12 47.9	-0.1
BMOR	**Cotopaxi Volca**	**0.96**	**265**	*iP*	Pg	05 12 48.2	-0.1
BMOR	**Cotopaxi Volca**	**0.96**	**265**	*iS*	Sg	05 13 00.6	-0.8
NAS2	**Nasa**	**0.97**	**270**	S	Sg	05 13 00.8	-0.7
NAS2	**Nasa**	**0.97**	**270**	P	Pb	05 12 48.6	0.0
PISA	**Pisayambo**	**0.97**	**245**	*iP*	Pg	05 12 48.5	0.0
BRUN	**Tungurahua Vol**	**1.19**	**230**	*iS*	Sb	05 13 08.1	+0.1
BRUN	**Tungurahua Vol**	**1.19**	**230**	*iP*	Pb	05 12 52.2	-0.1
GGP	**Refugio Guagua**	**1.19**	**293**	*iP*	Pg	05 12 53.0	+0.3
YANA	**Yana**	**1.19**	**296**	P	Pg	05 12 52.7	0.0
RUN5	**Runtun**	**1.20**	**231**	P	Pb	05 12 52.1	-0.2
RUN5	**Runtun**	**1.20**	**231**	S	Sg	05 13 08.5	+0.1
BULB	**Ulba Tungurahu**	**1.20**	**229**	*iP*	Pg	05 12 53.1	+0.5
BULB	**Ulba Tungurahu**	**1.20**	**229**	*iS*	Sn	05 13 09.6	+0.4
TERV	**Terraza Guagua**	**1.20**	**293**	S	Sn	05 13 10.0	+0.5
TERV	**Terraza Guagua**	**1.20**	**293**	P	Pg	05 12 53.1	+0.2
ULBA	**Ulba**	**1.21**	**229**	S	Sg	05 13 09.0	+0.2
ULBA	**Ulba**	**1.21**	**229**	P	Pb	05 12 52.3	-0.3
PINO	**Pino**	**1.21**	**294**	*iP*	Pn	05 12 52.7	-0.1
JUI6	**Juive**	**1.24**	**231**	S	Sb	05 13 09.3	0.0
JUI6	**Juive**	**1.24**	**231**	P	Pn	05 12 52.6	-0.2
PAT1	**Patacocha**	**1.27**	**228**	P	Pn	05 12 52.5	-1.0
BBIL	**Ulba Tungurahu**	**1.27**	**231**	P	Pn	05 12 53.0	-0.4
BBIL	**Ulba Tungurahu**	**1.27**	**231**	S	Sb	05 13 10.2	0.0
ARRY	**Arrayan**	**1.28**	**228**	S	Sb	05 13 10.1	-0.6
ARRY	**Arrayan**	**1.28**	**228**	P	Pn	05 12 53.3	-0.3
BIL2	**Estacion Bilba**	**1.28**	**231**	S	Sb	05 13 10.6	0.0
BIL2	**Estacion Bilba**	**1.28**	**231**	P	Pb	05 12 53.9	+0.1
COTA	**Cotacachi**	**1.29**	**319**	*iS*	Sg	05 13 12.3	+0.7
COTA	**Cotacachi**	**1.29**	**319**	*iP*	Pb	05 12 54.1	0.0
BMAS	**Trigal station**	**1.30**	**229**	*iS*	Sb	05 13 10.3	-0.8
BMAS	**Trigal station**	**1.30**	**229**	*iP*	Pn	05 12 53.7	-0.1
IGUA	**Igualata**	**1.41**	**234**	P	Pg	05 12 56.8	-0.2

IDC 06 05:18:17.4±1.1, 26.34N×142.97E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=31.4km s-min=20.9km az=51.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.03**	**317**	Pn	Pn	05 18 39.9	+0.7
	31nm,0.3s,baz=274,slow=7.2,SNR=23						
CBIJ				Sn	Sn	05 18 55.0	+0.6
	baz=287,slow=19						
WRA	**Warramunga Arr**	**46.76**	**191**	P	P	05 26 48.7	+0.1
	1.5nm,0.6s,baz=10.0,slow=8.7,SNR=5.3						
KURK	**Kurchatov**	**54.02**	**315**	P	P	05 27 42.9	-0.4
	0.2nm,0.3s,baz=89,slow=7.4,SNR=7.8						

ILAR	**Eielson Array**	**58.04**	**28**	P	P	05 28 11.6	-0.3
	0.3nm,0.8s,baz=274,slow=5.9,SNR=2.6						
BVAR	**Borovoye Array**	**59.07**	**318**	P	P	05 28 19.4	+0.1
	0.5nm,0.5s,baz=83,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**72.47**	**28**	P	P	05 29 45.8	+0.3
	0.1nm,0.5s,baz=299,slow=5.8,SNR=3.8						
FINES	**FINESS Array B**	**78.93**	**334**	P	P	05 30 22.4	-0.1
	4.7nm,1.0s,baz=76,slow=4.3,SNR=7.3						

*DJA **06** 05:20:52, 1.74N×122.13E, h17km, MLv4.2/3*

IDC 06 05:20:50.6±0.6, 1.85N×121.73E, h37km±5km, mb3.7/9, mb1 3.8/9, mb1mx3.6/22, mbtmp3.7/9, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=93.6km s-min=11.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**6.45**	**36**	LR	LR	05 24 44.1	
	comp=Z,99nm,20.0s,baz=236,slow=36						
FITZ	**Fitzroy Crossi**	**20.20**	**169**	P	P	05 25 22.4	0.0
	4.5nm,0.6s,baz=1.3,slow=8.0,SNR=40						
WRA	**Warramunga Arr**	**24.94**	**151**	P	P	05 26 09.7	-0.9
	1.3nm,0.5s,baz=332,slow=10,SNR=30						
WRA				pP	pP	05 26 21.4	+0.2
	3.1nm,0.6s,baz=319,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**27.99**	**156**	P	P	05 26 37.6	-0.6
	0.7nm,0.5s,baz=342,slow=14,SNR=13						
ASAR				pP	pP	05 26 49.0	+0.4
	1.4nm,0.6s,baz=332,slow=7.1,SNR=5.7						
ASAR				PcP	PcP	05 29 52.8	-0.1
	0.5nm,0.5s,baz=338,slow=2.9,SNR=5.0						
STKA	**Stephens Creek**	**38.47**	**152**	P	P	05 28 10.1	+0.9
	1.4nm,0.5s,baz=340,slow=13,SNR=4.1						
SONM	**Songino Array**	**47.69**	**346**	P	P	05 29 24.0	+0.3
	0.3nm,0.5s,baz=169,slow=12,SNR=4.2						
SONM				pP	pP	05 29 34.2	-0.4
	0.6nm,0.8s,baz=170,slow=6.2,SNR=3.9						
MKAR	**Makanchi Array**	**56.38**	**328**	P	P	05 30 29.0	+0.7
	0.7nm,0.6s,baz=125,slow=8.3,SNR=7.6						
MKAR				pP	pP	05 30 39.7	+0.3
	0.9nm,0.8s,baz=123,slow=8.8,SNR=6.7						
MKAR				PcP	PcP	05 31 24.6	-0.6
	0.6nm,0.8s,baz=128,slow=4.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**60.12**	**336**	P	P	05 30 53.9	-0.3
	1.7nm,0.8s,baz=124,slow=7.4,SNR=10						
ZALV				pP	pP	05 31 04.7	-0.7
	1.5nm,0.8s,baz=102,slow=6.2,SNR=3.4						
KURK	**Kurchatov**	**60.75**	**330**	P	P	05 30 58.1	-0.4
	1.4nm,0.8s,baz=124,slow=6.9,SNR=10						
KURK				pP	pP	05 31 09.5	-0.2
	2.2nm,1.0s,baz=123,slow=6.9,SNR=7.8						
BVAR	**Borovoye Array**	**66.25**	**329**	P	P	05 31 35.2	+0.2
	0.8nm,0.8s,baz=153,slow=7.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**118.69**	**286**	PKP	PKPdf	05 39 34.7	-1.2
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.9						
CFAA	**Coronel Fontan**	**148.94**	**163**	PKPbc	PKPbc	05 40 35.6	+0.2
	0.4nm,0.7s,baz=308,slow=1.8,SNR=8.5						

IDC 06 05:31:02.7±2.1, 0.56S×133.32E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=93.3km s-min=21.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.99**	**203**	P	Pn	05 35 26.9	+0.3
	0.1nm,0.3s,baz=45,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**19.29**	**177**	P	P	05 35 28.6	-0.7
	0.2nm,0.3s,baz=355,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.97**	**179**	P	P	05 36 09.1	-0.1
	1.0nm,0.3s,baz=357,slow=11,SNR=13						
MKAR	**Makanchi Array**	**64.85**	**324**	P	P	05 41 43.8	+0.1
	0.4nm,0.5s,baz=116,slow=8.6,SNR=3.8						
KURK	**Kurchatov**	**68.91**	**326**	P	P	05 42 09.4	-0.1
	0.3nm,0.6s,baz=125,slow=5.4,SNR=3.1						

*IDC **06** 05:32:16.7±0.8, 11.15N×60.35W, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/21, mbtmp3.9/11, MS3.2/2, Ms1

MTP	**Monte Pirata**	**8.52**	**323**	*e*Pn	**Pn**	05 34 23.5	**-0.4**
SANV	**Sanarito**	**9.32**	**260**	*e*P	**Pn**	05 34 32.4	**-2.6**
MONV	**Montecano**	**9.57**	**275**	*e*P	**Pn**	05 34 37.1	**-1.1**
CURV	**Curarigua**	**9.64**	**264**	*e*P	**Pn**	05 34 37.2	**-2.1**
SOCV	**Socops**	**10.88**	**255**	*e*P	Pn	05 34 53.0	-3.3
SAML	**Samuel** 3.4nm,0.6s	**20.29**	**188**	*e*P	**P**	**05 36 55.4**	**+0.1**
OTAV	**Otavalo** 55nm,1.8s	**21.16**	**240**	*e*P	**P**	**05 37 05.1**	**0.0**
SIV	**San Ignacio** 0.5nm,0.5s,baz=28,slow=8.9,SNR=4.1	**27.09**	**182**	P	**P**	**05 38 01.5**	**-0.4**
SIV	**San Ignacio**	**27.09**	**182**	P	**P**	**05 38 01.5**	**-0.4**
TEIG	**Tepich** comp=Z,27nm,18.4s,baz=4.0,slow=34	**28.39**	**292**	LR	LR	05 48 30.6	
RCBR	**Riachuelo** comp=Z,60nm,19.1s,baz=92,slow=42	**29.57**	**124**	LR	LR	05 53 14.4	
SCHQ	**Schefferville** 4.1nm,0.7s,baz=143,slow=5.1,SNR=7.0	**43.77**	**354**	P	**P**	**05 40 25.8**	**+1.5**
SCHQ	**Schefferville**	**43.77**	**354**	*e*P	**P**	**05 40 25.8**	**+1.5**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=136,slow=10,SNR=4.8	**44.23**	**301**	P	**P**	**05 40 26.6**	**-1.8**
TXAR	0.4nm,0.7s,baz=119,slow=6.4,SNR=4.3			PcP	**PcP**	**05 42 14.3**	**+1.7**
TXAR	**Lajitas Array**	**44.23**	**301**	P	**P**	**05 40 26.6**	**-1.8**
TXAR				PcP	**PcP**	**05 42 14.3**	**+1.7**
ULM	**Lac du Bonnet** 1.1nm,0.3s,baz=107,slow=5.8,SNR=6.2	**48.66**	**330**	P	**P**	**05 41 02.0**	**-0.6**
ULM	**Lac du Bonnet**	**48.66**	**330**	P	**P**	**05 41 02.0**	**-0.6**
FRB	**Frobisher Bay** 4.6nm,1.1s,baz=173,slow=8.1,SNR=3.9	**52.74**	**355**	P	**P**	**05 41 33.7**	**+0.5**
FRB	**Frobisher Bay**	**52.74**	**355**	P	**P**	**05 41 33.7**	**+0.5**
DBIC	**Dimbokro** 3.8nm,1.1s	**54.83**	**90**	*e*P	**P**	**05 41 49.6**	**+0.3**
ESDC	**Sonseca Array** 2.2nm,0.8s,baz=262,slow=7.5,SNR=15	**57.06**	**50**	P	**P**	**05 42 06.5**	**+1.6**
ESDC	**Sonseca Array**	**57.06**	**50**	P	**P**	**05 42 06.5**	**+1.6**
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=288,slow=6.7,SNR=7.6	**60.42**	**81**	P	**P**	**05 42 28.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**60.42**	**81**	P	**P**	**05 42 28.3**	**-0.4**
YKA	**Yellowknife Ar** 0.7nm,0.5s,baz=110,slow=7.5,SNR=11	**64.08**	**335**	P	**P**	**05 42 51.8**	**-0.5**
YKA	**Yellowknife Ar**	**64.08**	**335**	P	**P**	**05 42 51.8**	**-0.5**
GERES	**GERESS Array B** 0.8nm,0.5s,baz=257,slow=5.3,SNR=5.1	**71.03**	**42**	P	**P**	**05 43 37.4**	**+0.7**
GERES	**GERESS Array B**	**71.03**	**42**	P	**P**	**05 43 37.4**	**+0.7**
FINES	**FINESS Array B** 5.2nm,1.0s,baz=237,slow=6.6,SNR=7.1	**78.43**	**29**	P	**P**	**05 44 20.2**	**+1.2**
FINES	**FINESS Array B**	**78.43**	**29**	P	**P**	**05 44 20.2**	**+1.2**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=94,slow=4.5,SNR=17	**78.47**	**334**	P	**P**	**05 44 19.6**	**+0.4**
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=106,slow=3.8,SNR=6.3	**163.53**	**237**	PKPab	**PKPab**	**05 53 12.5**	**-1.1**
WRA	**Warramunga Arr**	**163.53**	**237**	PKPab	**PKPab**	**05 53 12.5**	**-1.1**

IDC 06 05:36:12.5±2.7, 0°41.5′ × 132°58.8′E, h0 km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=142.2km s-min=25.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=11,SNR=5.5	**19.49**	**175**	P		P		05 40 40.5	-0.8
ASAR	**Alice Springs** 2.1nm,0.8s,baz=354,slow=9.7,SNR=18	**23.15**	**177**	P		P		05 41 21.1	+0.4
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=120,slow=8.5,SNR=3.5	**64.29**	**324**	P		P		05 46 49.8	0.0

IDC 06 05:45:10.2±2.7, 0°20.5′ × 132°94.8′E, h0 km, mb3.2/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=140.2km s-min=26.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=11,SNR=6.8	**19.67**	**176**	P		P		05 49 41.4	+0.3
ASAR	**Alice Springs** 1.0nm,0.9s,baz=355,slow=9.3,SNR=6.8	**23.35**	**178**	P		P		05 50 20.2	-0.2
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=126,slow=7.3,SNR=2.1	**64.33**	**324**	P		P		05 55 47.8	0.0

IDC 06 06:12:39.4±2.9, 0°86.5′S × 132°90.6′E, h0 km, mb3.5/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=152.9km s-min=26.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=11,SNR=7.3	**19.01**	**176**	P		P		06 17 03.1	+0.2
ASAR	**Alice Springs** 1.2nm,0.7s,baz=2.6,slow=11,SNR=7.1	**22.69**	**178**	P		P		06 17 42.8	0.0
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=117,slow=8.2,SNR=8.1	**64.85**	**324**	P		P		06 23 20.3	-0.1

*DJA **06** 06:29:04, 1.97S × 129.77E, h23 km, MLv3.3/7*
IDC 06 06:29:04.8±2.4, 0.38S × 133.23E, h0 km, mb3.5/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=123.4km s-min=27.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=12,SNR=7.9	**19.47**	**177**	P		P		06 33 32.6	-0.9
ASAR	**Alice Springs** 0.6nm,0.5s,baz=358,slow=10,SNR=10	**23.16**	**178**	P		P		06 34 13.9	+0.8
STKA	**Stephens Creek** 0.8nm,0.7s,baz=336,slow=12,SNR=2.9	**32.31**	**167**	P		P		06 35 35.5	-0.2
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=108,slow=4.7,SNR=3.1	**64.65**	**324**	P		P		06 39 44.4	-0.1

IDC 06 06:36:06.7±3.0, 0.97S × 133.29E, h0 km, mb3.0/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=159.5km s-min=26.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=356,slow=11,SNR=2.9	**18.88**	**177**	P		P		06 40 29.5	+0.1
ASAR	**Alice Springs** 0.3nm,0.5s,baz=0.0,slow=11,SNR=2.9	**22.57**	**179**	P		P		06 41 08.4	-0.4
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=117,slow=8.0,SNR=2.2	**65.16**	**324**	P		P		06 46 49.7	-0.1

*DJA **06** 06:37:22, 0.73S × 133.37E, h25 km, MLv4.4/5*
IDC 06 06:37:16.4±1.0, 0.67S × 133.46E, h0 km, mb3.7/6, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=55.4km s-min=17.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=26,slow=13,SNR=4.5	**18.95**	**203**	P		P		06 41 38.0	-1.4
FITZ	0.3nm,0.3s,baz=18,slow=20,SNR=4.8			S		Sn		06 44 55.9	-17
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=355,slow=11,SNR=15	**19.18**	**177**	P		Pn		06 41 42.8	+0.1
WRA	0.0nm,0.3s,baz=358,slow=22,SNR=2.9			S		Sn		06 45 00.2	-18
ASAR	**Alice Springs** 2.8nm,0.6s,baz=0.3,slow=11,SNR=20	**22.87**	**179**	P		P		06 42 22.3	+0.6
ASAR	0.2nm,0.7s,baz=360,slow=27,SNR=3.2			S		S		06 46 18.3	-14
STKA	**Stephens Creek** 0.6nm,0.4s,baz=340,slow=12,SNR=3.8	**31.98**	**167**	P		P		06 43 43.8	-0.6
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=115,slow=7.8,SNR=19	**65.01**	**324**	P		P		06 47 59.0	+0.5
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=120,slow=8.5,SNR=2.1	**67.59**	**331**	P		P		06 48 14.6	-0.2
KURK	**Kurchatov** 0.3nm,0.5s,baz=119,slow=4.8,SNR=3.5	**69.07**	**326**	P		P		06 48 24.1	-0.1
ILAR	**Eielson Array** 0.4nm,1.1s,baz=274,slow=4.8,SNR=2.7	**86.19**	**25**	P		P		06 49 59.2	-0.2

IDC 06 06:44:59.2±8.6, 18.11S × 169.23E, h181 km±54 km, mb3.8/4, mb1 3.9/5, mb1mx3.5/18, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=120.5km s-min=69.7km az=107.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 4.2nm,0.3s,baz=32,slow=19,SNR=21	**4.73**	**213**	P		Pn		06 46 10.1	+0.2
DZM	1.5nm,0.3s,baz=41,slow=16,SNR=2.6			S		Sn		06 47 05.4	+0.1
DZM	**Mont Dzumac**	**4.73**	**213**	*e*P		Pn		06 46 08.6	-1.2
DZM				*e*S		Sn		06 46 59.0	-6.3
NOUC	**Port Laguerre**	**4.83**	**214**	*e*P		Pn		06 46 10.3	-0.7
NOUC				*e*S		Sn		06 47 04.5	-2.9
HNR	**Honiara** comp=Z,67nm,18.7s,baz=320,slow=35	**12.48**	**313**	LR		LR		06 52 13.5	
STKA	**Stephens Creek** 1.5nm,0.6s,baz=69,slow=9.3,SNR=6.2	**28.45**	**236**	P		P		06 50 36.5	-0.8
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=89,slow=8.5,SNR=17	**33.00**	**261**	P		P		06 51 17.0	-0.4
ASAR	**Alice Springs** 6.9nm,0.4s,baz=82,slow=8.8,SNR=131	**33.41**	**254**	P		P		06 51 20.6	-0.3
FITZ	**Fitzroy Crossi** 1.7nm,0.5s,baz=117,slow=6.7,SNR=6.6	**41.36**	**263**	P		P		06 52 28.8	+1.0

IDC 06 06:49:50.0±8.4, 10.33N × 93.19E, h102 km±72 km, mb3.7/13, mb1 3.8/14, mb1mx3.6/28, mbtmp3.7/14, ML4.7/1, Error ellipse: s-maj=68.7km s-min=12.9km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 1.8nm,0.3s,baz=225,slow=15,SNR=35	**9.81**	**34**	P		Pn		06 52 08.2	+0.1
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=172,slow=9.7,SNR=27	**37.50**	**348**	P		P		06 56 53.7	-0.2
SONM	**Songino Array** 0.3nm,0.3s,baz=210,slow=9.8,SNR=5.8	**39.01**	**14**	P		P		06 57 06.1	-0.5
KURK	**Kurchatov** 1.0nm,0.4s,baz=166,slow=7.4,SNR=18	**42.02**	**346**	P		P		06 57 30.4	-0.7
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=176,slow=8.7,SNR=7.0	**44.02**	**353**	P		P		06 57 47.1	-0.1
BVAR	**Borovoye Array** 0.8nm,0.4s,baz=139,slow=8.0,SNR=6.2	**46.38**	**341**	P		P		06 58 05.7	-0.2
AKTO	**Aktyubinsk** 0.6nm,0.4s,baz=102,slow=4.1,SNR=3.9	**49.36**	**331**	P		P		06 58 29.0	+0.1
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=301,slow=10.0,SNR=26	**50.46**	**127**	P		P		06 58 37.8	0.0
ASAR	**Alice Springs** 0.7nm,0.4s,baz=307,slow=6.8,SNR=16	**52.21**	**131**	P		P		06 58 50.9	0.0
STKA	**Stephens Creek** 0.4nm,0.3s,baz=303,slow=6.5,SNR=5.0	**62.48**	**134**	P		P		07 00 02.4	-0.4
FINES	**FINESS Array B** 7.9nm,1.1s,baz=98,slow=4.2,SNR=6.5	**70.12**	**332**	P		P		07 00 51.0	-0.1
ARCES	**ARCESS Array B** 3.8nm,0.9s,baz=97,slow=6.5,SNR=4.4	**72.65**	**340**	P		P		07 01 07.2	+1.0
GERES	**GERESS Array B** 0.3nm,0.3s,baz=96,slow=9.3,SNR=3.2	**75.38**	**318**	P		P		07 01 22.3	-0.3
HFS	**Hagfors** 6.0nm,1.1s,baz=116,slow=6.6,SNR=9.9	**75.88**	**330**	P		P		07 01 25.0	-0.1

*CSEM **06** 06:52:54.0±1.2, 51.56N × 16.21E, h1 km, Error ellipse: s-maj=18.6km s-min=9.5km az=4.0*
*PRU **06** 06:52:57.6, 51.44N × 16.13E, h0 km*
*WAR **06** 06:52:58.2, 51.44N × 16.20E*
ISC 06 06:52:56.6±2.4, 51.5N±0.1 × 16.12E±0.06, h0 km, n16, σ0 s 77/24, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg		**Pg**		**06 53 09.5**	**+0.9**
KSP				*e*Sg		**Sg**		**06 53 17.7**	**+1.0**
UPC	**Upice**	**0.96**	**184**	*e*PG		**Pg**		**06 53 15.4**	**+0.5**
UPC	**Upice**	**0.96**	**184**	Pg		**Pg**		**06 53 15.4**	**+0.5**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG		**Pg**		**06 53 17.9**	**-0.1**
DPC				*e*SG		**Sg**		**06 53 32.5**	**0.0**
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg		**Pg**		**06 53 17.9**	**-0.1**
DPC				Sg		**Sg**		**06 53 32.5**	**0.0**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG		**Pg**		**06 53 22.3**	**-0.2**
PVCC	comp=Z,12nm,0.3s			*e*SG		**Sg**		**06 53 40.5**	**+0.4**
PVCC	**Panska Ves**	**1.35**	**227**	Pg		**Pg**		**06 53 22.3**	**-0.2**
PVCC	12nm,0.3s			Sg		**Sg**		**06 53 40.5**	**+0.4**
KRLC	**Kraliky**	**1.45**	**163**	*e*PG		**Pn**		**06 53 23.7**	**-0.4**
KRLC				*e*SG		**Sg**		**06 53 43.4**	**+0.3**
KRLC	**Kraliky**	**1.45**	**163**	Pg		**Pn**		**06 53 23.7**	**-0.4**
KRLC				Sg		**Sg**		**06 53 43.4**	**+0.3**
BRG	**Berggiesshubel**	**1.49**	**248**	PG		**Pb**		**06 53 24.8**	**-0.4**
BRG	6.2nm,0.3s			SG		**Sg**		**06 53 44.6**	**+0.1**
PRU	**Pruhonice**	**1.78**	**215**	*e*SG		**Sg**		**06 53 52.7**	**-1.2**
PRU	**Pruhonice**	**1.78**	**215**	Sg		**Sg**		**06 53 52.7**	**-1.2**
NKC	**Novy Kostel**	**2.63**	**244**	*e*SG		**Sg**		**06 54 22.8**	**+1.6**
NKC	**Novy Kostel**	**2.63**	**244**	Sg		**Sg**		**06 54 22.8**	**+1.6**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*SG		**Sg**		**06 54 28.7**	**+0.7**
KHC	**Kasperske Hory**	**2.85**	**216**	Sg		**Sg**		**06 54 28.7**	**+0.7**

*IDC **06** 06:53:53.5±2.6, 26.32N × 128.52E, h0 km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=147.0km s-min=18.0km az=72.0*
*ISCJB **06** 06:53:54.1±0.6, 26.40N±0.06 × 129.00E±0.04, h27 km, mb3.1/3, Error ellipse: s-maj=8.1km s-min=5.4km az=7.6*
*JMA **06** 06:53:54.3±0.2, 26.39N × 129.01E, h31 km±3 km, M2.8*
ISC 06 06:53:55.0±0.9, 26.40N±0.06 × 128.96E±0.05, h27 km, n13, σ1 s 07/17, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami** 74nm,0.3s,baz=148,slow=15,SNR=198	**0.75**	**305**	Pn		**Pb**		**06 54 09.0**	**-0.4**
JOW	89nm,0.3s,baz=228,slow=1.9,SNR=16			Sn		**Sb**		**06 54 17.7**	**-1.7**
JOW	**Kunigami**	**0.75**	**305**	P		**Pb**		**06 54 09.1**	**-0.4**
JIH	**Iheya**	**1.09**	**305**	P		**Pb**		**06 54 14.5**	**-0.8**
JJT2	**Tamagusuku 2**	**1.12**	**257**	P		**Pb**		**06 54 14.8**	**-1.0**
NAH1	**Naha**	**1.16**	**260**	*e*S		**Sb**		**06 54 30.9**	**-0.1**
JTK	**Tokunoshima**	**1.38**	**360**	P		**Pn**		**06 54 18.4**	**-0.1**
JTK				*e*S		**Sn**		**06 54 35.9**	**0.0**
JAGN	**Aguni-jima**	**1.55**	**277**	P		**Pn**		**06 54 21.1**	**+0.2**
JAGN				*e*S		**Sb**		**06 54 41.0**	**-1.4**
JKE	**Kume jima 2**	**1.96**	**268**	P		**Pn**		**06 54 26.3**	**-0.2**
JAM	**Amami Oshima**	**2.08**	**16**	P		**Pn**		**06 54 28.0**	**-0.2**
JMZ	**Minamidaito 2**	**2.11**	**105**	P		**Pn**		**06 54 28.4**	**-0.2**
JMZ				*e*S		**Sn**		**06 54 52.1**	**-1.9**
SONM	**Songino Array** 0.4nm,0.5s,baz=133,slow=9.6,SNR=3.7	**27.77**	**326**	P		**P**		**06 59 43.7**	**+2.0**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=94,slow=9.2,SNR=3.3	**41.91**	**312**	P		**P**		**07 01 43.6**	**+0.4**
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=350,slow=8.5,SNR=3.2	**46.36**	**173**	P		**P**		**07 02 20.4**	**+1.3**

*TIR **06** 06:55:01.3±0.6, 41.45N × 19.79E, h19 km±3 km, ML3.0*
*ISCJB **06** 06:55:02.6±0.5, 41.46N±0.02 × 19.84E±0.03, h2 km±3 km, Error ellipse: s-maj=4.7km s-min=2.9km az=39.4*
*PDG **06** 06:55:03.2±0.3, 41.49N × 19.85E, h6 km, ML2.7/9, Error ellipse: s-maj=1.2km s-min=1.5km az=0.0*
*BEO **06** 06:55:03.7±0.3, 41.49N × 20.00E, h0 km±3 km, ML2.2/5*
*CSEM **06** 06:55:03.1±0.3, 41.47N × 19.84E, h2 km, ML3.0, Error ellipse: s-maj=6.4km s-min=3.7km az=47.0*
ISC 06 06:55:03.5±0.9, 41.47N±0.02 × 19.84E±0.02, h7 km±8 km, n59, σ1 s 08/104, 17C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.12**	**171**	*e*Pg		**Pg**		**06 55 05.7**	**-0.5**
TIR				*e*SG		**Sg**		**06 55 08.4**	**+0.4**
TIR	**Tirane**	**0.12**	**171**	*i*Pg		**Pg**		**06 55 05.9**	**-0.3**
TIR				*e*Sg		**Sg**		**06 55 10.0**	**+2.0**
TIR	**Tirane** SNR=14	**0.12**	**171**	*e*Pg		**Pg**		**06 55 05.7**	**-0.5**
TIR	SNR=14			*e*Sg		**Sg**		**06 55 08.4**	**+0.4**
PHP	**Peshkopia**	**0.50**	**65**	*e*PG		**Pg**		**06 55 12.5**	**-0.7**
PHP				*e*SG		**Sb**		**06 55 21.0**	**-1.3**
PHP	**Peshkopia** SNR=10.0	**0.50**	**65**	*e*Pg		**Pg**		**06 55 12.5**	**-0.7**
PUK	**Puka**	**0.57**	**4**	*e*PG		**Pg**		**06 55 13.9**	**-0.7**
PUK				*e*SG		**Sg**		**06 55 22.6**	**+0.5**
PUK	**Puka** SNR=10.0	**0.57**	**4**	*e*Pg		**Pg**		**06 55 13.9**	**-0.7**
PUK	SNR=10.0			*e*Sg		**Sg**		**06 55 22.6**	**+0.5**
ULC	**Ulcinj**	**0.66**	**318**	*i*Pg		**Pg**		**06 55 14.8**	**-1.5**
ULC				*e*Sg		**Sg**		**06 55 25.9**	**+0.9**
ULC	**Ulcinj**	**0.66**	**318**	*i*Pg		**Pg**		**06 55 14.8**	**-1.5**
BCI	**Bajram Curri**	**0.91**	**11**	*e*PG		**Pg**		**06 55 19.5**	**-1.5**
BCI				*e*SG		**Sb**		**06 55 34.1**	**0.0**
BCI	**Bajram Curri** SNR=9.0	**0.91**	**11**	*e*Pg		**Pg**		**06 55 19.5**	**-1.5**
BCI	SNR=9.0			*e*Sg		**Sb**		**06 55 34.1**	**0.0**
TTG	**Podgorica**	**1.05**	**336**	*i*Pg		**Pg**		**06 55 21.6**	**-2.1**
TTG				*e*Sg		**Sb**		**06 55 38.4**	**+0.4**
PDG	**Podgorica**	**1.05**	**336**	*e*Pg		**Pg**		**06 55 23.1**	**-0.6**
PDG				*e*Sg		**Sb**		**06 55 37.8**	**-0.3**
PDG	**Podgorica**	**1.05**	**336**	*e*Pg		**Pg**		**06 55 23.1**	**-0.6**
PDG				*e*Sg		**Sb**		**06 55 37.8**	**-0.3**
BUM	**Brajici-Budva**	**1.09**	**320**	*i*Pg		**Pg**		**06 55 22.9**	**-1.5**
BUM				*e*Sg		**Sn**		**06 55 40.6**	**-0.1**
BUM	**Brajici-Budva**	**1.09**	**320**	*i*Pg		**Pg**		**06 55 22.9**	**-1.5**
BUM				*e*Sg		**Sn**		**06 55 40.6**	**-0.1**
PVY	**Plav**	**1.13**	**5**	*i*Pg		**Pg**		**06 55 23.5**	**-1.7**
PVY				*e*Sg		**Sn**		**06 55 41.1**	**-0.6**
PVY	**Plav**	**1.13**	**5**	*i*Pg		**Pg**		**06 55 23.5**	**-1.7**
PVY				*e*Sg		**Sn**		**06 55 41.1**	**-0.6**
BIA	**Bitola**	**1.21**	**111**	*e*Pg		**Pg**		**06 55 26.1**	**-0.7**
BIA				*e*Sg		**Sb**		**06 55 42.6**	**0.0**
BIA	**Bitola**	**1.21**	**111**	*e*Pg		**Pg**		**06 55 26.0**	**-0.7**
BIA				*e*Sg		**Sb**		**06 55 42.6**	**0.0**
SKO	**Skopje**	**1.30**	**67**	*i* Pg		**Pg**		**06 55 28.6**	**+0.2**
SKO				*e*Sg		**Sn**		**06 55 46.4**	**+0.6**
SKO	**Skopje**	**1.30**	**67**	*i* Pg		**Pg**		**06 55 29.1**	**+0.7**
SKO				*e*Sg		**Sn**		**06 55 46.8**	**+1.0**
FNA	**Florina**	**1.35**	**120**	*e*PG		**Pn**		**06 55 28.0**	**-0.9**
FNA				*e*SG		**Sn**		**06 55 47.8**	**+0.7**
FNA	**Florina** SNR=9.0	**1.35**	**120**	*e*Pg		**Pn**		**06 55 28.0**	**-0.9**
FNA	SNR=9.0			*e*Sg		**Sn**		**06 55 47.8**	**+0.7**
HCY	**Herceg Novi**	**1.40**	**315**	*i*Pg		**Pn**		**06 55 29.5**	**0.0**
HCY				*e*Sg		**Sg**		**06 55 51.2**	**+2.7**
HCY	**Herceg Novi**	**1.40**	**315**	*i*Pg		**Pn**		**06 55 29.5**	**0.0**
HCY				*e*Sg		**Sg**		**06 55 51.2**	**+2.7**
BEY	**Berane**	**1.40**	**2**	*i*Pg		**Pn**		**06 55 28.6**	**-1.0**
BEY				*e*Sg		**Sg**		**06 55 50.7**	**+2.1**
IVA	**Berane**	**1.40**	**2**	*i*Pg		**Pn**		**06 55 28.6**	**-1.0**
IVA				*e*Sg		**Sg**		**06 55 50.7**	**+2.1**
NKY	**Niksic**	**1.48**	**335**	*i*Pg		**Pn**		**06 55 30.6**	**-0.1**
NKY				*e*Sg		**Sg**		**06 55 53.6**	**+2.4**
NKY	**Niksic**	**1.48**	**335**	*i*Pg		**Pn**		**06 55 30.6**	**-0.1**
NKY				*e*Sg		**Sg**		**06 55 53.6**	**+2.4**
BRY	**Bratogost**	**1.73**	**326**	*i*Pn		**Pn**		**06 55 34.8**	**+0.7**
BRY				*e*Sn		**Sg**		**06 55 59.4**	**+0.4**
BRY	**Bratogost**	**1.73**	**326**	*i*Pn		**Pn**		**06 55 34.8**	**+0.7**
BRY				*e*Sn		**Sg**		**06 55 59.4**	**+0.4**
UPM	**Unac-Piva**	**1.86**	**339**	*i*Pn		**Pn**		**06 55 35.8**	**-0.3**
UPM				*e*Sn		**Sb**		**06 56 02.7**	**+1.0**
UPM	**Unac-Piva**	**1.86**	**339**	*i*Pn		**Pn**		**06 55 35.8**	**-0.3**
UPM				*e*Sn		**Sb**		**06 56 02.7**	**+1.0**
PLE	**Pljevlja**	**1.89**	**350**	*i*Pn		**Pn**		**06 55 37.1**	**+0.8**
PLE				*e*Sn		**Sb**		**06 56 03.3**	**+1.0**
PLE	**Pljevlja**	**1.89**	**350**	*i*Pn		**Pn**		**06 55 37.1**	**+0.8**
PLE				*e*Sn		**Sb**		**06 56 03.3**	**+1.0**
SELS	**Selova**	**1.99**	**28**	*i* Pn		**Pn**		**06 55 37.9**	**+0.3**
SELS				*e*Sn		**Sn**		**06 56 03.0**	**+0.2**
BARS	**Barje**	**1.99**	**47**	*e*Pn		**Pn**		**06 55 36.1**	**-1.6**
BARS				*e*Sg		**Sn**		**06 56 03.7**	**+0.8**
BARS	**Barje**	**1.99**	**47**	*e*Pn		**Pn**		**06 55 36.1**	**-1.6**
BARS				*e*Sg		**Sn**		**06 56 03.7**	**+0.8**
VAY	**Valandovo**	**2.06**	**93**	*e*Pn		**Pb**		**06 55 40.8**	**-0.5**
VAY	**Valandovo**	**2.06**	**93**	*e*Pn		**Pb**		**06 55 41.2**	**-0.1**
IVAS	**Ivanjica**	**2.12**	**6**	*e*Pn		**Pn**		**06 55 40.5**	**+1.1**
IVAS				*e*Sn		**Sn**		**06 56 06.6**	**+0.5**
IVAS	**Ivanjica**	**2.12**	**6**	*e*Pn		**Pn**		**06 55 40.5**	**+1.1**
IVAS				*e*Sn		**Sn**		**06 56 06.6**	**+0.5**
STON	**Ston**	**2.12**	**312**	*e*Pn		**Pn**		**06 55 39.1**	**-0.2**
STON				Sn		**Sb**		**06 56 08.7**	**-0.1**
STON	**Ston**	**2.12**	**312**	*e*Pn		**Pn**		**06 55 39.1**	**-0.2**
STON				Sn		**Sb**		**06 56 08.6**	**-0.1**
GRUS	**Gruza**	**2.50**	**15**	*e*Pn		**Pn**		**06 55 45.5**	**+0.8**
GRUS	**Gruza**	**2.50**	**15**	*e*Pn		**Pn**		**06 55 45.5**	**+0.8**
DIVS	**Divibare**	**2.63**	**2**	*e*Pn		**Pn**		**06 55 46.7**	**+0.2**
DIVS				*e*Sn		**Sn**		**06 56 19.7**	**+1.0**
DIVS	**Divib

	comp=Z,34nm,0.7s						
BJI				LR	LR		
	comp=N,380nm,14.0s						
BJI				LR	LR		
	comp=E,210nm,12.6s						
BJI				LR	LR		
	comp=Z,110nm,16.5s						
USRK	**Ussuriysk Arra**	**17.95**	**7**	Pn	**P**	**07 00 59.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=6.4						
USRK				LR	LR	07 08 38.8	
	comp=Z,60nm,19.5s,baz=52,slow=40						
GUMO	**Guam**	**19.62**	**127**	LR	LR	07 07 39.3	
	comp=Z,74nm,21.9s,baz=82,slow=33						
ULN	**Ulaanbaatar**	**27.47**	**327**	*eP*	**P**	**07 02 36.4**	**+1.8**
	comp=Z,5.1nm,0.6s						
SONM	**Songino Array**	**27.77**	**326**	P	**P**	**07 02 38.3**	**+1.1**
	comp=Z,6.6nm,0.7s,baz=138,slow=9.9,SNR=58						
SONM	**Songino Array**	**27.77**	**326**	P	**P**	**07 02 38.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**28.77**	**260**	LR	LR	07 14 05.8	
	comp=Z,51nm,18.3s,baz=210,slow=36						
PMG	**Port Moresby**	**39.74**	**151**	P	**P**	**07 04 21.3**	**+0.2**
	comp=Z,4.3nm,0.3s,baz=324,slow=7.0,SNR=3.5						
PMG	**Port Moresby**	**39.74**	**151**	P	**P**	**07 04 21.3**	**+0.2**
MKAR	**Makanchi Array**	**41.91**	**312**	P	**P**	**07 04 37.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=89,slow=10,SNR=9.8						
MKAR				PcP	**PcP**	**07 06 34.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=108,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**41.91**	**312**	P	**P**	**07 04 37.8**	**-0.9**
MKAR				PcP	**PcP**	**07 06 34.0**	**0.0**
ZAA0	**Zalesovo Array**	**42.51**	**322**	*eP*	**P**	**07 04 41.6**	**-1.9**
ZALV	**Zalesovo Beam**	**42.51**	**322**	P	**P**	**07 04 42.1**	**-1.4**
	comp=Z,3.6nm,0.5s,baz=110,slow=8.6,SNR=20						
ZALV				PcP	**PcP**	**07 06 36.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.2,SNR=3.3						
ZALV				LR	LR	07 23 54.3	
	comp=Z,47nm,18.4s,baz=114,slow=38						
ZALV	**Zalesovo Beam**	**42.51**	**322**	P	**P**	**07 04 42.1**	**-1.4**
ZALV				PcP	**PcP**	**07 06 36.3**	**+0.5**
KURK	**Kurchatov**	**45.15**	**316**	P	**P**	**07 05 04.0**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=104,slow=8.8,SNR=13						
KURK	**Kurchatov**	**45.15**	**316**	*eP*	**P**	**07 05 03.6**	**-1.1**
	comp=Z,2.9nm,0.8s						
WRAB	**Tennant Creek**	**46.34**	**173**	*eP*	**P**	**07 05 15.4**	**+1.1**
	comp=Z,103nm,2.2s						
WRA	**Warramunga Arr**	**46.34**	**173**	P	**P**	**07 05 15.0**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=354,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**46.34**	**173**	P	**P**	**07 05 15.0**	**+0.5**
WB2	**Warramunga Arr**	**46.35**	**173**	*eP*	**P**	**07 05 15.2**	**+0.7**
AAK	**Ala-Archa**	**46.90**	**305**	*eP*	**P**	**07 05 18.3**	**-0.6**
	comp=Z,6.0nm,0.5s						
KKAR	**Karatay Array**	**49.84**	**305**	*eP*	**P**	**07 05 42.0**	**+0.6**
	comp=Z,2.3nm,0.7s						
ASAR	**Alice Springs**	**49.98**	**174**	P	**P**	**07 05 43.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=2.5,slow=12,SNR=14						
ASAR	**Alice Springs**	**49.98**	**174**	P	**P**	**07 05 43.6**	**+1.1**
BVAR	**Borovoye Array**	**50.58**	**318**	P	**P**	**07 05 46.1**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=78,slow=9.5,SNR=11						
BVAR				PcP	**PcP**	**07 07 04.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.4,SNR=2.4						
BVAR	**Borovoye Array**	**50.58**	**318**	P	**P**	**07 05 46.1**	**-0.7**
BVAR				PcP	**PcP**	**07 07 04.2**	**-0.1**
BRVK	**Borovoye**	**50.65**	**318**	*eP*	**P**	**07 05 47.0**	**-0.3**
	comp=Z,2.3nm,0.8s						
KBL	**Kabul**	**51.62**	**294**	*eP*	**P**	**07 05 56.4**	**+1.2**
	comp=Z,5.3nm,0.5s						
ABKAR	**Akbulak array**	**57.00**	**313**	*eP*	**P**	**07 06 33.8**	**0.0**
	comp=Z,2.1nm,0.6s						
AKTO	**Aktyubinsk**	**58.18**	**315**	P	**P**	**07 06 42.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=87,slow=11,SNR=4.6						
AKTO	**Aktyubinsk**	**58.18**	**315**	P	**P**	**07 06 42.8**	**+0.7**
ILAR	**Eielson Array**	**64.01**	**28**	P	**P**	**07 07 20.3**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=269,slow=6.5,SNR=7.7						
ILAR	**Eielson Array**	**64.01**	**28**	P	**P**	**07 07 20.3**	**-1.0**
SPITS	**Spitsbergen Ar**	**68.81**	**348**	P	**P**	**07 07 52.5**	**+0.6**
	comp=Z,5.9nm,1.0s,baz=108,slow=6.3,SNR=2.1						
SPITS	**Spitsbergen Ar**	**68.81**	**348**	P	**P**	**07 07 52.5**	**+0.6**
FINES	**FINESS Array B**	**73.04**	**331**	P	**P**	**07 08 17.9**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=79,slow=4.1,SNR=7.7						
FINES	**FINESS Array B**	**73.04**	**331**	P	**P**	**07 08 17.9**	**+0.1**
RES	**Resolute Bay**	**75.28**	**11**	P	**P**	**07 08 31.6**	**+0.9**
	comp=Z,6.7nm,0.7s,baz=326,slow=7.3,SNR=3.7						
RES	**Resolute Bay**	**75.28**	**11**	*eP*	P	07 08 34.9	+4.2
	comp=Z,6.5nm,0.7s						
AKASG	**Malin Array Be**	**75.83**	**320**	P	**P**	**07 08 34.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=60,slow=6.5,SNR=6.6						
AKASG	**Malin Array Be**	**75.83**	**320**	P	**P**	**07 08 34.0**	**-0.3**
BRTR	**Keskin Array B**	**77.44**	**308**	P	**P**	**07 08 44.4**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=97,slow=5.8,SNR=12						
BRTR	**Keskin Array B**	**77.44**	**308**	P	**P**	**07 08 44.4**	**+0.6**
YKA	**Yellowknife Ar**	**78.12**	**25**	P	**P**	**07 08 47.8**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=301,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**78.12**	**25**	P	**P**	**07 08 47.9**	**+0.9**
NOA	**NORSAR Array B**	**79.46**	**334**	P	**P**	**07 08 53.7**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=51,slow=5.6,SNR=3.6						
NOA	**NORSAR Array B**	**79.46**	**334**	P	**P**	**07 08 53.7**	**-0.6**
CLL	**Collm**	**84.39**	**325**	∥ *iP*	**P**	**07 09 21.4**	**+1.0**
	comp=Z,5.0nm,0.8s						
CLL				*es*P	**sP**	**07 09 30.0**	**-2.3**
GERES	**GERESS Array B**	**85.46**	**323**	P	**P**	**07 09 25.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=69,slow=5.4,SNR=3.3						
GERES	**GERESS Array B**	**85.46**	**323**	P	**P**	**07 09 25.6**	**-0.4**

*IDC **06** 07:23:27.6±0.7, 0.°99S×133.°61E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, ML4.4/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/27, Error ellipse: s-maj=40.2km s-min=15.9km az=77.0*

*ISCJB **06** 07:23:30.2±0.6, 1.°01S±0.°05×133.°66E±0.°09, h29km, mb4.2/11, MS3.3/3, Error ellipse: s-maj=12.7km s-min=6.9km az=164.4*

*DJA **06** 07:23:31, 0.°79S×133.°58E, h33km, MLv4.6/6*

*NEIC **06** 07:23:33.2±0.4, 1.°00S×133.°54E, h35km, mb4.5/8, Error ellipse: s-maj=13.7km s-min=7.2km az=68.0*

ISC 06 07:23:31.7±0.5, 1.°19S±0.°06×133.°58E±0.°06, h29km, n47, σ2s26/46, mb4.3/11, MS3.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.17**	**218**	P	**Pb**	**07 24 09.1**	**-1.2**
BAKI	**Biak**	**2.53**	**90**	P	**Pb**	**07 24 14.5**	**-2.0**
TLE	**Tual**	**4.49**	**191**	P	Pb	07 24 45.6	-4.3
MSAI	**Masohi**	**5.11**	**245**	P	Pn	07 24 52.6	+6.2
	15nm,0.5s,1μm0.1nm						
NLAI	**Namlea**	**6.78**	**252**	P	Pn	07 25 13.6	+4.2
	53nm,0.6s,0.2nm						
SGSI	**Sangihe**	**9.39**	**301**	P	Pn	07 25 49.6	+4.4
	505nm,0.4s,9μm						
APSI	**Ampana**	**11.93**	**271**	P	**Pn**	**07 26 19.0**	**-1.0**
PCI	**Palu**	**13.74**	**271**	P	P	07 27 01.0	+8.0
KAPI	**Kappang**	**14.31**	**254**	*e*Pn	**Pn**	**07 26 54.8**	**+2.2**
	13nm,0.4s						
COEN	**Coen**	**15.84**	**144**	*eP*	**P**	**07 27 17.2**	**+0.8**
	51nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.52**	**204**	P	**Pn**	**07 27 46.3**	**0.0**
	0.7nm,0.3s,baz=34,slow=13,SNR=17						
FITZ				S	Sn	07 31 00.9	-12
	0.6nm,0.3s,baz=349,slow=16,SNR=7.3						
FITZ	**Fitzroy Crossi**	**18.52**	**204**	*eP*	**Pn**	**07 27 48.3**	**+2.0**
	10nm,0.8s						
FITZ				*e*S	Sn	07 31 02.8	-10
WRAB	**Tennant Creek**	**18.64**	**178**	*eP*	**Pn**	**07 27 49.8**	**+2.0**
	14nm,0.6s						
WRAB				*e*S	**Sn**	**07 31 15.1**	**-0.4**
WRA	**Warramunga Arr**	**18.65**	**178**	P	**Pn**	**07 27 49.2**	**+1.4**
	1.3nm,0.3s,baz=356,slow=12,SNR=45						
WRA				S	**Sn**	**07 31 11.2**	**-4.5**
	0.2nm,0.3s,baz=351,slow=25,SNR=4.4						
WRA				LR	LR	07 34 35.3	
	comp=Z,88nm,19.2s,baz=205,slow=35						
WRA	**Warramunga Arr**	**18.65**	**178**	P	**Pn**	**07 27 49.2**	**+1.4**
WRA				S	**Sn**	**07 31 11.2**	**-4.5**
WB2	**Warramunga Arr**	**18.65**	**178**	*eP*	**Pn**	**07 27 49.8**	**+1.9**
WB2				*e*S	**Sn**	**07 31 09.7**	**-6.0**
AS31	**Alice Springs**	**22.34**	**179**	*eP*	**P**	**07 28 30.4**	**+3.0**
ASAR	**Alice Springs**	**22.34**	**179**	P	**P**	**07 28 29.6**	**+2.2**
	10nm,0.9s,baz=4.8,slow=12,SNR=62						
ASAR				S	**S**	**07 32 27.6**	**-4.0**
	0.3nm,0.8s,baz=3.1,slow=19,SNR=2.5						
ASAR	**Alice Springs**	**22.34**	**179**	P	**P**	**07 28 29.6**	**+2.2**
ASAR				S	**S**	**07 32 27.6**	**-4.0**
CTA	**Charters Tower**	**22.50**	**147**	P	**P**	**07 28 30.7**	**+1.5**
	4.5nm,0.8s,baz=318,slow=12,SNR=2.9						
CTA	**Charters Tower**	**22.50**	**147**	P	**P**	**07 28 30.7**	**+1.5**
CTAO	**Charters Tower**	**22.50**	**147**	*eP*	**P**	**07 28 33.5**	**+4.3**
	10.0nm,0.8s						

JOW	**Kunigami**	**28.33**	**350**	LR	LR	07 38 42.5	
	comp=Z,112nm,19.6s,baz=111,slow=32						
STKA	**Stephens Creek**	**31.44**	**167**	P	**P**	**07 29 52.7**	**+2.0**
	1.2nm,0.6s,baz=341,slow=9.7,SNR=5.0						
STKA				LR	LR	07 42 54.8	
	comp=Z,74nm,20.9s,baz=24,slow=37						
STKA	**Stephens Creek**	**31.44**	**167**	P	**P**	**07 29 52.7**	**+2.0**
KSRS	**Korea Array**	**38.81**	**353**	LR	LR	07 46 09.6	
	comp=Z,21nm,19.2s,baz=180,slow=35						
LSA	**Lhasa**	**50.81**	**311**	*eP*	**P**	**07 32 30.3**	**-0.1**
	3.1nm,0.5s						
SONM	**Songino Array**	**54.27**	**338**	P	**P**	**07 32 55.0**	**-0.4**
	0.6nm,0.8s,baz=152,slow=6.2,SNR=4.3						
SONM	**Songino Array**	**54.27**	**338**	P	**P**	**07 32 55.0**	**-0.4**
HYB	**Hyderabad**	**57.25**	**292**	*i* P	**P**	**07 33 14.5**	**-2.6**
MKAR	**Makanchi Array**	**65.51**	**324**	P	**P**	**07 34 12.5**	**0.0**
	1.9nm,0.5s,baz=108,slow=8.7,SNR=17						
MKAR	**Makanchi Array**	**65.51**	**324**	P	**P**	**07 34 12.5**	**0.0**
ZALV	**Zalesovo Beam**	**68.11**	**331**	P	**P**	**07 34 27.6**	**-1.2**
	0.5nm,0.5s,baz=106,slow=5.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**68.11**	**331**	P	**P**	**07 34 27.6**	**-1.2**
KURK	**Kurchatov**	**69.58**	**326**	*eP*	**P**	**07 34 36.5**	**-1.6**
	5.0nm,1.0s						
KKAR	**Karatay Array**	**71.48**	**316**	*eP*	**P**	**07 34 49.6**	**-0.2**
	6.3nm,1.2s						
ILAR	**Eielson Array**	**86.61**	**25**	P	**P**	**07 36 10.5**	**-1.7**
	0.9nm,0.9s,baz=256,slow=5.0,SNR=12						
ILAR	**Eielson Array**	**86.61**	**25**	P	**P**	**07 36 10.5**	**-1.7**
QSPA	**South Pole Qui**	**88.74**	**180**	*eP*	**P**	**07 36 24.6**	**+2.1**
	2.1nm,0.7s						
YKA	**Yellowknife Ar**	**101.00**	**26**	P	**Pdif**	**07 37 17.9**	**-0.5**
	0.1nm,0.7s,baz=299,slow=4.8,SNR=2.9						
YKA	**Yellowknife Ar**	**101.00**	**26**	P	**Pdif**	**07 37 17.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**130.91**	**286**	PKP	**PKPdf**	**07 42 41.5**	**0.0**
	0.4nm,0.6s,baz=48,slow=1.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**130.91**	**286**	PKP	**PKPdf**	**07 42 41.5**	**0.0**
ROSC	**El Rosal**	**151.90**	**82**	PKPbc	**PKPbc**	**07 43 26.6**	**+1.0**
	1.5nm,0.5s,baz=240,slow=0.9,SNR=4.4						
ROSC	**El Rosal**	**151.90**	**82**	PKPbc	**PKPbc**	**07 43 26.6**	**+1.0**
LPAZ	**La Paz**	**152.41**	**130**	PKPbc	**PKPbc**	**07 43 28.2**	**+1.3**
	2.1nm,0.9s,baz=351,slow=0.9,SNR=5.8						
LPAZ	**La Paz**	**152.41**	**130**	*e*PKPbc	**PKPbc**	**07 43 29.6**	**+2.6**

IDC 06 07:28:54.6±2.4, 0.°71S×130.°98E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=202.5km s-min=22.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.40**	**170**	P	P	07 33 22.7	+0.3
	0.1nm,0.3s,baz=350,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.00**	**173**	P	P	07 34 00.8	-0.4
	1.6nm,0.7s,baz=353,slow=9.5,SNR=6.9						
SONM	**Songino Array**	**52.87**	**339**	P	P	07 38 11.5	-0.8
	0.3nm,0.6s,baz=155,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**63.60**	**325**	P	P	07 39 28.1	+0.7
	0.6nm,0.6s,baz=112,slow=5.0,SNR=8.3						

*IDC **06** 07:48:54.6±1.3, 0.°69S×134.°15E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.7/2, MS3.4/5, Ms1 3.3/5, ms1mx2.9/44, Error ellipse: s-maj=58.4km s-min=20.3km az=86.0*

*ISCJB **06** 07:48:57.5±0.8, 0.°76S±0.°07×133.°8E±0.°1, h29km, mb3.6/4, MS3.5/4, Error ellipse: s-maj=20.7km s-min=10.2km az=5.8*

*NEIC **06** 07:49:00.1±0.6, 0.°70S×134.°01E, h35km, mb4.5/3, Error ellipse: s-maj=23.0km s-min=9.4km az=80.0*

ISC 06 07:48:59.2±1.0, 0.°83S±0.°09×133.°7E±0.°2, h29km, n20, σ1s51/18, mb3.7/4, MS3.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**16.05**	**145**	*eP*	**Pn**	**07 52 43.2**	**+0.2**
	52nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.92**	**204**	P	**Pn**	**07 53 19.2**	**+0.7**
	0.2nm,0.3s,baz=23,slow=11,SNR=3.5						
FITZ				S	**Sn**	**07 56 47.3**	**-2.4**
	0.1nm,0.3s,baz=41,slow=14,SNR=3.1						
FITZ				LR	LR	08 01 19.6	
	comp=Z,26nm,21.1s,baz=12,slow=39						
FITZ	**Fitzroy Crossi**	**18.92**	**204**	*eP*	**Pn**	**07 53 20.5**	**+2.0**
	8.0nm,1.1s						
FITZ				S	**Sn**	**07 56 47.3**	**-2.4**
WRAB	**Tennant Creek**	**19.00**	**178**	*eP*	**Pn**	**07 53 20.1**	**+0.6**
	66nm,1.9s						
WRA	**Warramunga Arr**	**19.01**	**178**	P	**Pn**	**07 53 19.9**	**+0.2**
	0.2nm,0.3s,baz=358,slow=12,SNR=12						
WRA	**Warramunga Arr**	**19.01**	**178**	P	**Pn**	**07 53 19.9**	**+0.2**
WB2	**Warramunga Arr**	**19.01**	**178**	*eP*	**Pn**	**07 53 20.5**	**+0.8**
AS31	**Alice Springs**	**22.70**	**180**	*eP*	**P**	**07 53 60.0**	**+1.2**
ASAR	**Alice Springs**	**22.71**	**180**	P	**P**	**07 54 00.2**	**+1.4**
	1.4nm,0.4s,baz=0.6,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.71**	**180**	P	**P**	**07 54 00.2**	**+1.4**
STKA	**Stephens Creek**	**31.77**	**167**	LR	LR	08 10 30.8	
	comp=Z,72nm,18.2s,baz=24,slow=41						
KSRS	**Korea Array**	**38.47**	**353**	LR	LR	08 11 11.0	
	comp=Z,49nm,18.2s,baz=229,slow=35						
SONM	**Songino Array**	**53.99**	**338**	LR	LR	08 22 22.6	
	comp=Z,32nm,18.2s,baz=151,slow=37						
PETK	**Petropavlovsk-**	**57.36**	**17**	LR	LR	08 20 34.1	
	comp=Z,75nm,18.4s,baz=23,slow=33						
MKAR	**Makanchi Array**	**65.30**	**324**	P	**P**	**07 59 39.2**	**+0.6**
	0.8nm,0.6s,baz=119,slow=7.9,SNR=8.9						
MKAR	**Makanchi Array**	**65.30**	**324**	P	**P**	**07 59 39.2**	**+0.6**
ZALV	**Zalesovo Beam**	**67.86**	**331**	P	**P**	**07 59 55.8**	**+1.1**
	0.2nm,0.4s,baz=140,slow=5.1,SNR=2.0						
ZALV	**Zalesovo Beam**	**67.86**	**331**	P	**P**	**07 59 55.8**	**+1.1**
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**08 01 35.5**	**-2.1**
	0.1nm,0.5s,baz=265,slow=5.1,SNR=4.3						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**08 01 35.5**	**-2.1**

*IDC **06** 07:49:57.5±1.9, 0.°64S×132.°90E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/43, Error ellipse: s-maj=81.0km s-min=23.4km az=75.0*

*ISCJB **06** 07:49:59.7±1.4, 0.°7S±0.°1×132.°9E±0.°1, h32km, mb4.0/3, Error ellipse: s-maj=24.6km s-min=15.4km az=44.2*

*NEIC **06** 07:50:02.3±1.3, 0.°65S×132.°90E, h35km, mb4.7/3, Error ellipse: s-maj=23.6km s-min=14.4km az=221.0*

ISC 06 07:50:02.0±1.5, 0.°7S±0.°2×132.°9E±0.°2, h32km, n13, σ0s74/13, mb4.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.79**	**252**	*e*Pn	**Pn**	**07 53 14.9**	**-0.5**
COEN	**Coen**	**16.65**	**143**	*eP*	**Pn**	**07 53 51.9**	**-1.3**
	62nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.70**	**202**	P	**Pn**	**07 54 18.0**	**-0.4**
	0.2nm,0.3s,baz=11,slow=10,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.70**	**202**	*eP*	**Pn**	**07 54 18.7**	**+0.3**
	54nm,1.9s						
WRA	**Warramunga Arr**	**19.18**	**176**	P	**Pn**	**07 54 24.6**	**+0.4**
	0.5nm,0.3s,baz=354,slow=11,SNR=6.7						
WRA				LR	LR	08 01 37.1	
	comp=Z,57nm,21.0s,baz=0.0,slow=36						
WRA	**Warramunga Arr**	**19.18**	**176**	*eP*	**Pn**	**07 54 24.6**	**+0.4**
WB2	**Warramunga Arr**	**19.18**	**176**	*eP*	**Pn**	**07 54 23.9**	**-0.2**
ASAR	**Alice Springs**	**22.85**	**178**	P	**P**	**07 55 03.9**	**+1.2**
	6.0nm,0.7s,baz=355,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**22.85**	**178**	P	**P**	**07 55 03.9**	**+1.2**
STKA	**Stephens Creek**	**32.08**	**166**	P	**P**	**07 56 25.8**	**-0.4**
	1.7nm,0.8s,baz=335,slow=13,SNR=4.4						
STKA	**Stephens Creek**	**32.08**	**166**	*eP*	**P**	**07 56 26.4**	**+0.2**
	32nm,2.5s						
MKAR	**Makanchi Array**	**64.70**	**324**	P	**P**	**08 00 37.3**	**+0.2**
	0.3nm,0.6s,baz=109,slow=6.8,SNR=2.2						
MKAR	**Makanchi Array**	**64.70**	**324**	P	**P**	**08 00 37.3**	**+0.2**

IDC 06 07:59:16.4±1.2, 0.°68S×133.°36E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/18, mbtmp3.7/6, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/38, Error ellipse: s-maj=56.0km s-min=20.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.90**	**203**	P	P	08 03 38.1	-0.7
	0.2nm,0.3s,baz=15,slow=11,SNR=5.0						
FITZ				S	Sn	08 06 53.0	-19
	0.1nm,0.3s,baz=37,slow=20,SNR=2.6						

WRA	**Warramunga Arr**	**19.17**	**177**	P	P	08 03 41.5	-0.2
	0.3nm,0.3s,baz=355,slow=11,SNR=15						
WRA				S	Sn	08 07 02.5	-15
	0.1nm,0.3s,baz=360,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**22.86**	**179**	P	P	08 04 21.8	+0.3
	1.1nm,0.6s,baz=359,slow=11,SNR=19						
JOW	**Kunigami**	**27.79**	**350**	LR	LR	08 13 55.9	
	comp=Z,60nm,21.1s,baz=101,slow=32						
STKA	**Stephens Creek**	**31.99**	**167**	P	P	08 05 44.8	+0.3
	0.3nm,0.3s,baz=330,slow=7.6,SNR=5.8						
MKAR	**Makanchi Array**	**64.97**	**324**	P	P	08 09 58.5	+0.3
	0.8nm,0.5s,baz=111,slow=7.9,SNR=13						
ILAR	**Eielson Array**	**86.24**	**25**	P	P	08 11 59.0	-0.7
	0.2nm,0.6s,baz=257,slow=5.8,SNR=4.0						

*IDC **06** 08:12:47.2±1.4, 16.°74S×172.°33W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, ML1.6/1, Error ellipse: s-maj=50.7km s-min=22.6km az=129.0*

*NEIC **06** 08:12:49.2±0.9, 16.°60S×172.°44W, h10km, mb4.2/1, Error ellipse: s-maj=30.1km s-min=11.6km az=120.0*

ISC 06 08:12:51.3±1.2, 16.°4S±0.°2×173.°1W±0.°3, h32km, n12, σ0s82/9, mb4.0/4, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.80**	**28**	Pn	**Pn**	**08 13 33.4**	**-0.5**
	4.7nm,0.3s,baz=203,slow=17,SNR=5.0						
AFI				Sn	**Sn**	**08 14 07.3**	**+0.7**
	14nm,0.3s,baz=112,slow=21,SNR=10						
AFI	**Afiamalu**	**2.80**	**28**	Pn	**Pn**	**08 13 33.4**	**-0.5**
AFI				Sn	**Sn**	**08 14 07.3**	**+0.7**
URZ	**Urewera**	**23.41**	**200**	P	**P**	**08 17 56.8**	**-0.7**
	5.4nm,0.9s,baz=177,slow=14,SNR=5.7						
URZ	**Urewera**	**23.41**	**200**	*eP*	**P**	**08 17 58.9**	**+1.4**
	4.4nm,0.6s						
WB2	**Warramunga Arr**	**49.86**	**258**	*eP*	P	08 21 47.8	+5.9
WRA	**Warramunga Arr**	**49.87**	**258**	P	P	08 21 47.8	+5.8
	1.1nm,0.7s,baz=92,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**49.87**	**258**	P	P	08 21 47.8	+5.8
ASAR	**Alice Springs**	**50.05**	**253**	P	P	08 21 49.2	+5.8
	2.2nm,0.7s,baz=88,slow=8.5,SNR=43						
ASAR	**Alice Springs**	**50.05**	**253**	P	P	08 21 49.2	+5.8
PVCP	**Virac**	**68.75**	**292**	∥ *iP*	**P**	**08 23 52.6**	**0.0**
NVAR	**Mina Array Bea**	**74.90**	**42**	P	**P**	**08 24 29.1**	**-0.2**
	0.2nm,0.4s,baz=224,slow=8.7,SNR=2.7						
NVAR	**Mina Array Bea**	**74.90**	**42**	P	**P**	**08 24 29.1**	**-0.2**

*ISCJB **06** 08:19:01.0±0.2, 62.°03N±0.°02×152.°32W±0.°05, h144km±2km, mb3.8/13, Error ellipse: s-maj=4.1km s-min=3.7km az=30.0*

*IDC **06** 08:19:01.6±0.7, 62.°01N×152.°33W, h135km±6km, mb3.5/13, mb1 3.7/17, mb1mx3.6/30, mbtmp3.6/17, Error ellipse: s-maj=10.0km s-min=9.4km az=96.0*

*NEIC **06** 08:19:02.7, 61.°98N×152.°30W, h142km, MG3.8(AEIC), After AEIC.*

ISC 06 08:19:02.4±0.5, 62.°00N±0.°03×152.°32W±0.°04, h143km±4km, h142km:pP-P, n110, σ1s26/138, mb3.9/13, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKT	**Skwentna**	**0.37**	**93**	P	**Pn**	**08 19 21.6**	**-0.8**
SKT				S	**Sn**	**08 19 36.9**	**-0.7**
STLK	**Strandline Lak**	**0.55**	**155**	P	**Pn**	**08 19 37.7**	**-0.7**
STLK				S	**Sn**	**08 19 38.4**	**-0.8**
SPNW	**Spurr Northwes**	**0.67**	**192**	P	**Pn**	**08 19 23.6**	**-0.5**
CKL	**Chakachamna La**	**

INK	**Inuvik**	**10.09**	**43**	P		**Pn**	**08 21 22.2**	**-1.2**
	0.8nm,0.3s,baz=247,slow=13,SNR=25							
INK				S		**Sn**	**08 23 11.4**	**-3.3**
	0.2nm,0.3s,baz=345,slow=18,SNR=3.9							
INK	**Inuvik**	**10.09**	**43**	*e*Pn		**Pn**	**08 21 22.0**	**-1.4**
INK				P			08 21 22.2	
INK				*e*Sn		**Sn**	**08 23 10.9**	**-3.8**
INK				S			08 23 11.4	
YKA	**Yellowknife Ar**	**17.41**	**72**	P		**Pn**	**08 22 55.9**	**-0.2**
	0.9nm,0.3s,baz=278,slow=11,SNR=109							
YKA				PcP		**PcP**	**08 27 28.1**	**-0.3**
	0.0nm,0.3s,baz=284,slow=1.5,SNR=5.4							
YKA				ScP		**ScP**	**08 30 48.8**	**-0.8**
	0.0nm,0.3s,baz=286,slow=2.3,SNR=9.8							
YKA	**Yellowknife Ar**	**17.41**	**72**	P		**Pn**	**08 22 56.0**	**-0.2**
YKA				PcP		**PcP**	**08 27 28.1**	**-0.3**
YKA				ScP		**ScP**	**08 30 48.9**	**-0.8**
RES	**Resolute Bay**	**23.44**	**34**	P		**P**	**08 23 58.4**	**+0.2**
	1.7nm,0.6s,baz=260,slow=12,SNR=7.7							
RES	**Resolute Bay**	**23.44**	**34**	P		**P**	**08 23 58.4**	**+0.2**
NVAR	**Mina Array Bea**	**31.46**	**123**	P		**P**	**08 25 12.4**	**+2.0**
	1.5nm,0.6s,baz=317,slow=9.0,SNR=6.9							
NVAR	**Mina Array Bea**	**31.46**	**123**	P		**P**	**08 25 12.4**	**+2.0**
PDAR	**Pinedale Array**	**31.61**	**107**	P		**P**	**08 25 13.5**	**+1.8**
	0.4nm,0.4s,baz=329,slow=4.0,SNR=9.1							
PDAR	**Pinedale Array**	**31.61**	**107**	P		**P**	**08 25 13.5**	**+1.8**
ULM	**Lac du Bonnet**	**32.49**	**85**	P		**P**	**08 25 19.5**	**+0.5**
	1.5nm,0.7s,baz=317,slow=2.9,SNR=3.6							
ULM	**Lac du Bonnet**	**32.49**	**85**	P		**P**	**08 25 19.5**	**+0.5**
TXAR	**Lajitas Array**	**45.41**	**113**	P		**P**	**08 27 08.4**	**+1.8**
	0.5nm,0.6s,baz=325,slow=6.2,SNR=9.6							
TXAR	**Lajitas Array**	**45.41**	**113**	P		**P**	**08 27 08.4**	**+1.8**
KSRS	**Korea Array**	**53.09**	**282**	P		**P**	**08 28 05.1**	**+0.5**
	2.1nm,0.7s,baz=36,slow=6.5,SNR=9.0							
KSAR	**Wonju Array Be**	**53.11**	**282**	P		**P**	**08 28 05.1**	**+0.3**
SONM	**Songino Array**	**53.90**	**305**	P		**P**	**08 28 11.6**	**+1.0**
	1.1nm,0.6s,baz=35,slow=7.5,SNR=10							
SONM				pP		**pP**	**08 28 44.8**	**+1.1**
	1.0nm,0.8s,baz=26,slow=8.9,SNR=5.5							
SONM	**Songino Array**	**53.90**	**305**	P		**P**	**08 28 11.6**	**+1.0**
SONM				pP		**pP**	**08 28 44.8**	**+1.1**
ZALV	**Zalesovo Beam**	**55.96**	**323**	P		**P**	**08 28 24.8**	**-0.3**
	1.0nm,0.5s,baz=26,slow=7.3,SNR=5.8							
ZALV	**Zalesovo Beam**	**55.96**	**323**	P		**P**	**08 28 24.8**	**-0.3**
CMIG	**Matias Romero**	**59.97**	**111**	P		**P**	**08 28 52.7**	**-0.8**
	2.2nm,0.8s,baz=340,slow=12,SNR=3.4							
CMIG	**Matias Romero**	**59.97**	**111**	P		**P**	**08 28 52.7**	**-0.8**
BVAR	**Borovoye Array**	**60.45**	**332**	P		**P**	**08 28 54.9**	**-1.4**
	0.6nm,0.6s,baz=46,slow=8.6,SNR=3.9							
BVAR				pP		**pP**	**08 29 29.5**	**-0.7**
	1.6nm,0.8s,baz=19,slow=9.4,SNR=5.5							
BVAR	**Borovoye Array**	**60.45**	**332**	P		**P**	**08 28 55.0**	**-1.4**
BVAR				pP		**pP**	**08 29 29.5**	**-0.7**
KURK	**Kurchatov**	**60.56**	**325**	P		**P**	**08 28 57.2**	**0.0**
	0.6nm,0.4s,baz=29,slow=6.8,SNR=7.1							
KURK				pP		**pP**	**08 29 31.6**	**+0.7**
	0.3nm,0.5s,baz=28,slow=6.8,SNR=3.3							
KURK	**Kurchatov**	**60.56**	**325**	P		**P**	**08 28 57.2**	**0.0**
KURK				pP		**pP**	**08 29 31.6**	**+0.7**
MKAR	**Makanchi Array**	**63.08**	**321**	P		**P**	**08 29 13.1**	**-1.0**
	0.6nm,0.5s,baz=36,slow=6.7,SNR=15							
MKAR				pP		**pP**	**08 29 48.1**	**0.0**
	0.9nm,0.9s,baz=46,slow=6.9,SNR=4.5							
MKAR	**Makanchi Array**	**63.08**	**321**	P		**P**	**08 29 13.1**	**-1.0**
MKAR				pP		**pP**	**08 29 48.1**	**0.0**
AKASG	**Malin Array Be**	**67.64**	**359**	pP		pP	08 30 17.0	-0.7
	0.5nm,0.3s,baz=0.8,slow=6.4,SNR=3.1							
AKASG	**Malin Array Be**	**67.64**	**359**	pP		pP	08 30 17.1	-0.7
CMAR	**Chiang Mai Arr**	**82.33**	**295**	P		**P**	**08 31 08.0**	**-0.1**
	0.9nm,0.3s,baz=8.6,slow=5.7,SNR=8.8							
CMAR	**Chiang Mai Arr**	**82.33**	**295**	P		**P**	**08 31 08.0**	**-0.1**

CASC 06 08:29:36.3±1.9, 8°36'N×83°05'W, h11km±6km, MD3.5, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.31**	**337**	*i* P	Pg	08 29 42.5	-0.3
ACR				*e*S	Sb	08 29 48.3	-0.9
BRU2	**Volcan**	**0.55**	**39**	*e*P	Pg	08 29 46.8	-0.6
BRU2				*i* S	Sb	08 29 56.4	0.0
TBS2		**0.58**	**42**	*e*P	Pg	08 29 48.1	+0.4
TBS2				*e*S	Sn	08 29 59.2	-1.1
BUS	**Buena Vista**	**1.38**	**329**	*e*P	Pn	08 30 01.0	-1.1
BUS				*e*S	Sb	08 30 28.1	+0.4
URSC	**Urasca**	**1.63**	**334**	*e*P	Pn	08 30 05.3	+0.1
URSC				*i* S	Sb	08 30 28.1	+0.6
PTP	**Ponta Puerca**	**19.58**	**58**	⇓*i*P	x	08 29 40.8	
PTP				*i* S	x	08 29 46.4	

*ISCJB **06** 08:32:19.1±0.9, 51°.43N±0°.04×16°.24E±0°.04, h0km, Error ellipse: s-maj=6.6km s-min=3.1km az=19.9*
*CSEM **06** 08:32:20.7±0.6, 51°.45N×16°.20E, h1km, ML3.2/5, Error ellipse: s-maj=9.7km s-min=5.2km az=11.0*
*PRU **06** 08:32:21.9, 51°.41N×16°.20E, h0km*
*WAR **06** 08:32:22.1, 51°.44N×16°.19E*

ISC 06 08:32:19.8±1.3, 51°.52N±0°.06×16°.25E±0°.03, h0km, n33, σ0°.94/57, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**178**	*e*Pg	**Pg**	**08 32 33.4**	**+0.7**
KSP				*e*Sg	**Sg**	**08 32 41.4**	**0.0**
KSP	**Ksiaz**	**0.68**	**178**	*i* Pg	**Pg**	**08 32 33.4**	**+0.7**
KSP				*e*Sg	**Sg**	**08 32 41.5**	**0.0**
KSP	**Ksiaz**	**0.68**	**178**	⇓*i*Pg	**Pg**	**08 32 33.4**	**+0.7**
KSP				*e*Sg	**Sg**	**08 32 41.5**	**0.0**
UPC	**Upice**	**1.02**	**189**	*e*PG	**Pg**	**08 32 39.4**	**0.0**
UPC	**Upice**	**1.02**	**189**	Pg	**Pg**	**08 32 39.4**	**0.0**
DPC	**Dobruska-Polom**	**1.17**	**178**	*e*PG	**Pg**	**08 32 42.1**	**-0.1**
DPC				*e*SG	**Sg**	**08 32 56.6**	**-0.7**
	comp=Z,27nm,0.6s						
DPC	**Dobruska-Polom**	**1.17**	**178**	Pg	**Pg**	**08 32 42.1**	**-0.1**
DPC				Sg	**Sg**	**08 32 56.6**	**-0.7**
	27nm,0.6s						
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG	**Pn**	**08 32 47.5**	**+0.2**
PVCC				*e*SG	**Sg**	**08 33 06.2**	**-0.2**
	comp=Z,85nm,0.5s						
PVCC	**Panska Ves**	**1.45**	**228**	Pg	**Pn**	**08 32 47.5**	**+0.2**
PVCC				Sg	**Sg**	**08 33 06.2**	**-0.2**
	85nm,0.5s						
KRLC	**Kraliky**	**1.48**	**167**	*e*PG	**Pn**	**08 32 48.0**	**+0.2**
KRLC				*e*SG	**Sg**	**08 33 06.7**	**-0.7**
KRLC	**Kraliky**	**1.48**	**167**	Pg	**Pn**	**08 32 48.0**	**+0.2**
KRLC				Sg	**Sg**	**08 33 06.7**	**-0.7**
BRG	**Berggiesshubel**	**1.59**	**247**	PG	**Pg**	**08 32 50.5**	**+0.3**
BRG				Sg	**Sn**	**08 33 10.7**	**+0.3**
	37nm,0.5s						
PRU	**Pruhonice**	**1.88**	**216**	*e*PN	**Pn**	**08 32 53.1**	**0.0**
PRU				*e*PG	**Pb**	**08 32 54.7**	**-0.2**
PRU				*e*SG	**Sn**	**08 33 17.8**	**+0.3**
	comp=Z,24nm,0.4s						
PRU	**Pruhonice**	**1.88**	**216**	Pn	**Pn**	**08 32 53.1**	**0.0**
PRU	**Pruhonice**	**1.88**	**216**	Pg	**Pb**	**08 32 54.7**	**-0.2**
PRU				Sg	**Sn**	**08 33 17.8**	**+0.3**
	24nm,0.4s						
MORC	**Moravsky Berou**	**1.93**	**154**	*e*Sg	**Sn**	**08 33 17.3**	**-1.5**
CLL	**Collm**	**2.05**	**265**	*e*Pg	**Pg**	**08 32 59.0**	**0.0**
CLL				*e*Sg	**Sg**	**08 33 25.0**	**-0.5**
	comp=Z,11nm,0.4s						
OKC	**Ostrava-Krasne**	**2.07**	**144**	*e*PG	**Pg**	**08 33 00.1**	**+0.7**
OKC				*e*SG	**Sb**	**08 33 25.0**	**+0.6**
OKC	**Ostrava-Krasne**	**2.07**	**144**	Pg	**Pg**	**08 33 00.1**	**+0.7**
OKC				Sg	**Sb**	**08 33 25.0**	**+0.6**
VRAC	**Vranov**	**2.22**	**174**	*e*Sg	**Sb**	**08 33 27.9**	**-1.0**
NKC	**Novy Kostel**	**2.73**	**243**	*e*PN	**Pn**	**08 33 05.9**	**+1.0**
NKC				*e*SG	**Sg**	**08 33 46.2**	**-1.3**
	comp=Z,26nm,0.3s						
NKC	**Novy Kostel**	**2.73**	**243**	Pn	**Pn**	**08 33 05.9**	**+1.0**
NKC				Sg	**Sg**	**08 33 46.2**	**-1.3**
	comp=Z,26nm,0.3s						
KHC	**Kasperske Hory**	**2.94**	**217**	*e*PN	**Pn**	**08 33 08.9**	**+1.1**
KHC				*e*PG	**Pb**	**08 33 13.6**	**+0.5**
KHC				*e*SN	**Sn**	**08 33 40.5**	**-3.3**
KHC				*e*SG	**Sb**	**08 33 51.2**	**+1.7**
	comp=Z,5.1nm,0.4s						
KHC	**Kasperske Hory**	**2.94**	**217**	Pn	**Pn**	**08 33 08.9**	**+1.1**
KHC	**Kasperske Hory**	**2.94**	**217**	Pg	**Pb**	**08 33 13.6**	**+0.5**
KHC				Sn	**Sn**	**08 33 40.5**	**-3.3**
KHC				Sg	**Sb**	**08 33 51.2**	**+1.7**
	comp=Z,5.1nm,0.4s						
SMOL	**Smolenice**	**3.10**	**165**	*e*SG	**Sg**	**08 33 59.3**	**-0.1**
SMOL	**Smolenice**	**3.10**	**165**	*e*Sg	**Sg**	**08 33 59.3**	**-0.1**
VYHS	**Vyhne**	**3.46**	**150**	*e*SG	**Sg**	**08 34 11.4**	**+0.7**
VYHS	**Vyhne**	**3.46**	**150**	*e*Sg	**Sg**	**08 34 11.4**	**+0.7**
STHS	**Stebnicka Huta**	**3.82**	**121**	*e*PN	**Pn**	**08 33 18.9**	**-1.0**
STHS				*e*		08 33 32.4	
STHS	**Stebnicka Huta**	**3.82**	**121**	*e*Pn	**Pn**	**08 33 18.9**	**-1.0**
STHS				*e*Sg	**Sg**	**08 34 22.7**	**+0.3**
KECS	**Kecovo**	**4.08**	**136**	*e*SG	**Sg**	**08 34 31.1**	**+0.2**
KECS	**Kecovo**	**4.08**	**136**	*e*Sg	**Sg**	**08 34 31.1**	**+0.2**

IDC 06 08:53:53.3±2.7, 0°.32S×132°.65E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.6/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/19, Error ellipse: s-maj=140.7km s-min=26.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.57**	**175**	P	P	08 58 23.1	+0.1
	0.2nm,0.3s,baz=354,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**23.24**	**177**	P	P	08 59 02.4	0.0
	0.5nm,0.5s,baz=356,slow=10.0,SNR=7.2						
CTA	**Charters Tower**	**23.74**	**147**	LR	LR	09 09 23.1	
	comp=Z,74nm,18.6s,baz=71,slow=39						
AFI	**Afiamalu**	**56.62**	**106**	LR	LR	09 24 14.9	
	comp=Z,169nm,19.5s,baz=82,slow=32						
MKAR	**Makanchi Array**	**64.26**	**324**	P	P	09 04 30.4	0.0
	0.2nm,0.7s,baz=122,slow=7.0,SNR=3.4						

*DJA **06** 08:58:56, 0°.72S×133°.45E, h45km, MLv4.0/3*
IDC 06 08:58:49.2±2.1, 0°.64S×133°.75E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=83.8km s-min=25.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.10**	**204**	P	P	09 03 13.3	-0.4
	0.2nm,0.3s,baz=16,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**19.20**	**178**	P	P	09 03 15.1	+0.3
	0.2nm,0.3s,baz=358,slow=12,SNR=5.2						
WRA				S	Sn	09 06 40.9	-11
	0.1nm,0.3s,baz=354,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**22.89**	**180**	P	P	09 03 54.9	+0.2
	1.1nm,0.6s,baz=4.1,slow=12,SNR=12						
STKA	**Stephens Creek**	**31.95**	**167**	P	P	09 05 16.8	-0.1
	1.6nm,0.9s,baz=349,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**65.16**	**324**	P	P	09 09 32.1	-0.1
	0.3nm,0.5s,baz=112,slow=8.1,SNR=4.7						

*NIED **06** 09:01:00, 36°.30N×142°.50E, h17km, Mw3.7 Best double couple: M₀4.12000×10¹⁴ NP1:ϕs169.00000°, δ47.00000°, λ-77.00000°. NP2:ϕs330.00000°, δ45.00000°, λ-104.00000°.*
*IDC **06** 09:01:20.4±0.9, 36°.23N×142°.54E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/25, mbtmp3.8/12, ML3.1/1, Error ellipse: s-maj=26.3km s-min=17.1km az=176.0*
*ISCJB **06** 09:01:21.3±0.5, 36°.30N±0°.04×142°.51E±0°.04, h15km, mb3.8/11, Error ellipse: s-maj=6.5km s-min=4.5km az=150.4*
*JMA **06** 09:01:22.8±0.1, 36°.30N×142°.53E, h69km, M3.7*

ISC 06 09:01:22.7±0.7, 36°.29N±0°.06×142°.51E±0°.07, h15km, n30, σ0°.90/37, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.47**	**247**	P	**Pn**	**09 01 48.0**	**-0.5**
CHOJ				S	**Sn**	**09 02 06.5**	**-0.9**
JHO	**Hitachi**	**1.60**	**282**	P	**Pn**	**09 01 49.4**	**-1.0**
JHO				S	**Sn**	**09 02 09.2**	**-1.6**
BSO1	**Boso 1**	**2.06**	**218**	P	**Pn**	**09 01 55.9**	**-0.3**
JMM	**Marumori**	**2.09**	**319**	P	**Pn**	**09 01 56.1**	**-1.0**
JMM				S	**Sn**	**09 02 21.3**	**-1.6**
JAG	**Ashikaga**	**2.47**	**274**	P	**Pn**	**09 02 02.1**	**-0.3**
JAG				S	**Sn**	**09 02 31.0**	**-1.4**
JMK	**Ichinoseki**	**2.85**	**339**	P	**Pn**	**09 02 07.1**	**-0.4**
JMK				*e*S	**Sn**	**09 02 40.4**	**-1.2**
JRY	**Ryogami san**	**2.94**	**266**	P	**Pn**	**09 02 08.5**	**-0.3**
JRY				S	**Sn**	**09 02 42.6**	**-1.2**
JOD2	**Odawara 2**	**2.97**	**251**	P	**Pn**	**09 02 09.0**	**-0.2**
JOD2				*e*S	**Sn**	**09 02 43.3**	**-1.3**
JYK	**Kaneyama**	**3.13**	**328**	P	**Pn**	**09 02 11.1**	**-0.4**
JYN	**Shimob**	**3.32**	**257**	P	**Pn**	**09 02 14.7**	**+0.6**
JOM	**Ohasama**	**3.32**	**343**	P	**Pn**	**09 02 13.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.48**	**275**	Pn	**Pn**	**09 02 16.8**	**+0.5**
	1.7nm,0.3s,baz=85,slow=15,SNR=29						
MJAR				Sn	**Sn**	**09 02 58.2**	**+0.9**
	3.0nm,0.3s,baz=58,slow=16,SNR=7.0						
MAT	**Matsushiro**	**3.48**	**275**	P	**Pn**	**09 02 16.9**	**+0.6**
MAT				*e*S	**Sn**	**09 02 57.4**	**+0.1**
MAT	**Matsushiro**	**3.48**	**275**	P	**Pn**	**09 02 16.8**	**+0.5**
JHJ2	**Mitsune**	**3.87**	**216**	P	**Pn**	**09 02 20.3**	**-1.3**
ASAJ	**Asahikawa**	**7.82**	**0**	Pn	**Pn**	**09 03 14.5**	**-1.3**
	baz=185,slow=12						
ASAJ				Sn	Sn	09 04 35.1	-8.9
USRK	**Ussuriysk Arra**	**11.26**	**318**	Pn	Pn	09 04 07.7	+4.8
	0.1nm,0.3s,baz=127,slow=14,SNR=3.3						
KSRS	**Korea Array**	**11.75**	**280**	Pn	Pn	09 04 13.3	+3.6
	0.1nm,0.3s,baz=115,slow=20,SNR=3.5						
SONM	**Songino Array**	**28.93**	**305**	P	**P**	**09 07 22.5**	**+1.2**
	0.4nm,0.5s,baz=100,slow=9.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**43.07**	**313**	P	**P**	**09 09 22.1**	**+0.4**
	0.9nm,0.7s,baz=78,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**45.26**	**303**	P	**P**	**09 09 40.0**	**+0.5**
	1.4nm,0.7s,baz=92,slow=8.0,SNR=11						
KDAK	**Kodiak Island**	**47.06**	**42**	P	**P**	**09 09 52.8**	**-0.6**
	9.0nm,0.8s,baz=263,slow=8.1,SNR=2.9						
KURK	**Kurchatov**	**47.09**	**309**	P	**P**	**09 09 53.9**	**+0.2**
	1.5nm,0.7s,baz=83,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**49.65**	**32**	P	**P**	**09 10 13.5**	**+0.2**
	0.9nm,0.7s,baz=268,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**56.46**	**189**	P	**P**	**09 11 02.7**	**-1.2**
	0.2nm,0.3s,baz=13,slow=7.5,SNR=4.8						
YKA	**Yellowknife Ar**	**64.00**	**30**	P	**P**	**09 11 55.2**	**+0.1**
	0.5nm,0.7s,baz=301,slow=6.9,SNR=9.9						
NVAR	**Mina Array Bea**	**74.72**	**53**	P	**P**	**09 13 03.0**	**+0.8**
	1.3nm,0.8s,baz=283,slow=7.3,SNR=6.8						
PDAR	**Pinedale Array**	**77.55**	**46**	P	**P**	**09 13 19.2**	**+1.0**
	0.3nm,0.7s,baz=204,slow=2.0,SNR=3.5						
TXAR	**Lajitas Array**	**89.87**	**53**	P	**P**	**09 14 22.0**	**+0.7**
	0.5nm,0.7s,baz=297,slow=3.9,SNR=8.0						
LPAZ	**La Paz**	**146.28**	**62**	PKPbc	**PKPab**	**09 21 04.4**	**-0.2**
	0.6nm,0.5s,baz=164,slow=1.7,SNR=3.5						

IDC 06 09:07:24.2±8.7, 6°.98S×129°.52E, h142km±87km, mb3.2/1, mb1 3.4/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=91.1km s-min=33.7km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	Pn	09 10 07.0	+0.4
	0.4nm,0.3s,baz=20,slow=7.8,SNR=15						
FITZ				S	Sn	09 12 09.1	-6.5
	0.3nm,0.3s,baz=292,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**13.71**	**161**	P	Pn	09 10 31.5	-1.3
	0.6nm,0.3s,baz=332,slow=14,SNR=21						
WRA				S	Sn	09 12 58.8	-5.7
	0.5nm,0.3s,baz=334,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**17.11**	**166**	P	Pn	09 11 16.3	+1.3
	0.2nm,0.3s,baz=337,slow=9.3,SNR=16						
ASAR				S	S	09 14 24.5	-1.2
	0.1nm,0.3s,baz=349,slow=25,SNR=2.4						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	09 18 07.6	-0.1
	0.2nm,0.3s,baz=118,slow=8.2,SNR=9.0						

MEX 06 09:15:11.4±0.7, 17°.91N×99°.75W, h60km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.12**	**83**	*i* P	Pn	09 15 19.1	-1.6
MEIG				*i* S	Sn	09 15 25.5	-1.8
PLIG	**Platanillo**	**0.53**	**26**	*e*P	Pn	09 15 22.6	-1.3
PLIG				*i* S	Sn	09 15 31.1	-1.8
CAIG	**El Cayaco**	**0.99**	**210**	*e*P	Pn	09 15 27.5	-1.9
CAIG				*e*S	Sn	09 15 41.2	-1.5
ZIIG	**Zihuatanejo**	**1.67**	**260**	*e*P	Pn	09 15 35.9	-2.4
ZIIG				*i* S	Sn	09 15 57.3	-1.4
PNIG	**Pinotepa**	**2.16**	**134**	*e*P	Pn	09 15 44.6	-0.5
PNIG				*e*S	Sn	09 16 08.6	-2.3

IDC 06 09:16:12.8±2.2, 0°.63S×132°.83E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=193.8km s-min=26.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.25**	**176**	P	Pn	09 20 39.7	-0.1
	0.1nm,0.3s,baz=352,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**22.92**	**177**	P	P	09 21 19.1	+0.5
	0.8nm,0.4s,baz=355,slow=11,SNR=14						
STKA	**Stephens Creek**	**32.16**	**166**	P	P	09 22 41.4	-1.0
	1.3nm,0.5s,baz=327,slow=9.4,SNR=7.0						
SONM	**Songino Array**	**53.48**	**338**	P	P	09 25 35.1	+0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.7						

IDC 06 09:16:58.6±8.1, 17°.76S×178°.58W, h612km±102km, mb3.1/7, mb1 3.3/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=98.4km s-min=36.4km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.31**	**260**	P	P	09 22 48.8	+0.9
	1.6nm,0.4s,baz=74,slow=15,SNR=2.8						
STKA	**Stephens Creek**	**38.56**	**241**	P	P	09 23 30.8	0.0
	0.9nm,0.3s,baz=96,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**44.50**	**259**	P	P	09 24 16.8	-0.8
	1.5nm,0.3s,baz=94,slow=7.4,SNR=61						
ASAR	**Alice Springs**	**44.67**	**254**	P	P	09 24 18.6	-0.4
	5.8nm,0.6s,baz=87,slow=8.7,SNR=76						
FITZ	**Fitzroy Crossi**	**52.89**	**260**	P	P	09 25 19.5	0.0
	2.0nm,1.0s,baz=100,slow=6.1,SNR=3.0						
TXAR	**Lajitas Array**	**86.06**	**58**	P	P	09 28 36.4	+0.2
	0.7nm,0.8s,baz=219,slow=6.4,SNR=8.2						
PDAR	**Pinedale Array**	**87.36**	**43**	P	P	09 28 41.7	-0.5
	0.3nm,0.6s,baz=247,slow=1.9,SNR=2.7						
BRTR	**Keskin Array B**	**144.56**	**315**	PKP	PKPbc	09 35 27.3	0.0
	0.8nm,0.7s,baz=350,slow=7.3,SNR=3.2						

*SZGRF **06** 09:20:58.6, 16°.08S×175°.85W, h285km, Tonga Islands*
*ISCJB **06** 09:21:25.9±0.3, 15°.34S±0°.07×174°.98W±0°.06, h259km, mb4.5/53, Error ellipse: s-maj=11.1km s-min=5.9km az=144.1*
*IDC **06** 09:21:25.6±0.5, 15°.31S×174°.83W, h250km±5km, mb4.0/23, mb1 4.1/26, mb1mx4.1/29, mbtmp4.0/26, Error ellipse: s-maj=13.3km s-min=8.0km az=143.0*
*NEIC **06** 09:21:25.3±0.7, 15°.32S×174°.90W, h245km±7km, mb4.6/20, Error ellipse: s-maj=9.8km s-min=5.1km az=150.0*
*BJI **06** 09:21:27.3, 15°.40S×175°.00W, h280km, mB4.9/11, mb4.5/21*

ISC 06 09:21:27.0±0.4, 15°.35S±0°.08×174°.63W±0°.06, h271km±3km, h271km: pP-P, n186, σ1s50/200, mb4.6/55, 13C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.11**	**63**	P	**Pn**	**09 22 20.7**	**-1.4**
	86nm,0.3s,baz=174,slow=1.3,SNR=98						
AFI				S	**S**	**09 23 02.8**	**-3.1**
	50nm,0.3s,baz=73,slow=20,SNR=5.6						
AFI	**Afiamalu**	**3.11**	**63**	P	**Pn**	**09 22 20.7**	**-1.4**
AFI				S	**S**	**09 23 02.8**	**-3.1**
MSVF	**Nonsavu**	**7.41**	**250**	*e*Pn	Pn	09 23 07.8	-5.3
RAR	**Rarotonga**	**15.26**	**115**	P	**Pn**	**09 24 50.0**	**+0.4**
	0.9nm,0.3s,baz=342,slow=20,SNR=3.3						
RAR	**Rarotonga**	**15.26**	**115**	P	**Pn**	**09 24 50.0**	**+0.4**
DZM	**Mont Dzumac**	**19.12**	**247**	*e*P	P	09 25 22.9	-7.7
	48nm,1.2s						
DZM				*e*LR	LR	09 28 39.3	
	251nm,24.4s						
DZM	**Mont Dzumac**	**19.12**	**247**	P	**P**	**09 25 29.9**	**-0.6**
	0.3nm,0.3s,baz=350,slow=6.1,SNR=3.8						
DZM	**Mont Dzumac**	**19.12**	**247**	P	**P**	**09 25 29.9**	**-0.6**
URZ	**Urewera**	**23.96**	**196**	P	**P**	**09 26 15.6**	**-1.4**
	28nm,0.6s,baz=357,slow=5.6,SNR=32					

KDAK	Kodiak Island	75.11	12	P		P	09 32 40.3	+1.2
KSRS	Korea Array	75.30	316	P		P	09 32 41.3	+0.7
	4.0nm,1.1s,baz=122,slow=6.6,SNR=8.1							
KSAR	Wonju Array Be	75.31	316	P		P	09 32 41.3	+0.5
TUC	Tucson	77.28	51	*e*P		P	09 32 55.6	+3.5
	4.3nm,0.9s							
MDJ	Mudanjiang	78.27	323	P		P	09 32 57.3	+0.3
MDJ				PcP		PcP	09 33 04.2	-1.1
MDJ				sP		sP	09 34 32.3	+3.2
MDJ				S		S	09 42 18.7	-10
MDJ				sS		sS	09 44 22.6	+1.9
MDJ				SS		SS	09 47 36.5	-1.9
MDJ				pmax	pmax			
	comp=Z,6.0nm,1.8s							
MDJ				pmax	pmax			
	comp=Z,100nm,5.4s							
MDJ				LR	LR			
	comp=N,31nm,26.6s							
MDJ				LR	LR			
	comp=E,26nm,24.7s							
MDJ				LR	LR			
	comp=Z,28nm,19.2s							
CN2	Changchun	80.29	321	*e*P		P	09 33 10.0	+2.1
HLID	Hailey	80.35	40	*e*P		P	09 33 10.7	+2.2
	comp=Z,25nm,2.3s							
TNA	Tin City	80.83	3	*e*P		P	09 33 11.6	+1.3
	comp=Z,23nm,1.3s							
PV01	Paradox Valley	81.55	47	*e*P		P	09 33 17.1	+2.0
TXAR	Lajitas Array	81.58	57	P		P	09 33 17.9	+2.7
	comp=Z,1.3nm,1.0s,baz=220,slow=7.6,SNR=9.2							
TXAR	Lajitas Array	81.58	57	P		P	09 33 17.9	+2.7
ANMO	Albuquerque	81.58	50	P		P	09 33 18.3	+2.6
	comp=Z,0.7nm,0.4s,baz=254,slow=6.0,SNR=5.0							
ANMO	Albuquerque	81.68	50	P		P	09 33 18.3	+2.6
RRI2	Red Ridge	82.17	41	*e*P		P	09 33 20.6	+2.4
	comp=Z,6.0nm,1.0s							
DLMT	Dillon	82.39	39	*e*P		P	09 33 21.3	+2.1
	comp=Z,71nm,2.7s							
ILAR	Eielson Array	82.63	12	P		P	09 33 19.9	+0.2
	comp=Z,2.5nm,0.5s,baz=221,slow=5.4,SNR=100							
ILAR				pP		pP	09 34 19.6	-4.3
	comp=Z,1.4nm,1.1s,baz=240,slow=5.7,SNR=3.5							
ILAR	Eielson Array	82.63	12	P		P	09 33 19.9	+0.2
ILAR				pP		pP	09 34 19.6	-4.3
LOHW	Long Hollow	82.76	41	*e*P		P	09 33 23.0	+1.9
	comp=Z,75nm,3.0s							
QLMT	Earthquake Lak	82.84	40	*e*P		P	09 33 24.0	+2.5
	comp=Z,0.6nm,0.6s							
CPRX	Cap Rock	82.86	53	*e*P		P	09 33 24.8	+3.0
	comp=Z,9.7nm,1.1s							
PD01	Pinedale Array	83.01	42	*e*P		P	09 33 24.4	+1.9
BW06	Boulder Array	83.03	42	*e*P		P	09 33 24.4	+1.8
	comp=Z,4.0nm,0.6s							
PD02	Pinedale Array	83.03	42	*e*P		P	09 33 24.2	+1.7
PDAR	Pinedale Array	83.03	42	P		P	09 33 23.9	+1.4
	comp=Z,4.3nm,0.6s,baz=206,slow=3.0,SNR=46							
PDAR				pP		pP	09 34 24.9	-1.8
	comp=Z,0.4nm,0.8s,baz=199,slow=2.5,SNR=1.5							
PDAR	Pinedale Array	83.03	42	P		P	09 33 23.9	+1.4
PDAR				pP		pP	09 34 24.9	-1.8
SMCO	Snowmass	83.14	46	*e*P		P	09 33 25.9	+2.5
	comp=Z,22nm,1.9s							
HRY	Holter Researc	83.54	38	*e*P		P	09 33 27.0	+2.1
	comp=Z,3.0nm,0.7s							
COLD	Coldfoot	84.28	9	*e*P		P	09 33 29.7	+1.7
	comp=Z,4.9nm,1.0s							
BILL	Bilibino	84.31	353	*e*P		P	09 33 28.8	+0.7
	comp=Z,268nm,3.0s							
BJI	Beijing	84.58	314	P		P	09 33 30.7	+0.6
BJI				pP		pP	09 34 35.5	+1.0
BJI				pmax	pmax			
	comp=Z,14nm,1.4s							
CMIG	Matias Romero	84.99	71	P		P	09 33 36.0	+3.4
	comp=Z,1.8nm,0.9s,baz=310,slow=7.9,SNR=3.5							
CMIG	Matias Romero	84.99	71	P		P	09 33 36.0	+3.4
GYA	Guiyang	86.97	298	P		P	09 33 41.2	-1.1
GYA				pP		pP	09 34 49.8	+2.7
GYA				sP		sP	09 35 19.3	+3.8
GYA				PP		PP	09 37 12.4	+2.5
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MAW	Mawson	87.46	199	P		P	09 33 45.5	+1.8
	comp=Z,17nm,1.1s,baz=126,slow=5.6,SNR=9.0							
MAW	Mawson	87.46	199	*e*P		P	09 33 45.8	+2.1
XAN	Xi'an	87.64	306	P		P	09 33 45.8	+0.6
XAN				pP		pP	09 34 50.2	+0.1
XAN				sP		sP	09 35 20.7	+2.2
XAN				pmax	pmax			
	comp=Z,3.0nm,1.3s							
XAN				pmax	pmax			
	comp=Z,30nm,5.9s							
HHC	Hu-ho-hao-te	88.12	313	*e*P		P	09 33 48.2	+0.8
HHC				pP		pP	09 34 57.1	+4.7
HHC				sP		sP	09 35 26.8	+6.1
HHC				PP		PP	09 37 22.1	+3.3
HHC				SKS		SKSac	09 43 49.1	-0.8
HHC				S		S	09 44 05.8	-2.4
HHC				SS		SS	09 50 06.1	+2.0
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,83nm,5.1s							
KMI	Kunming	89.93	296	P		P	09 33 57.9	+1.5
KMI				pP		pP	09 35 05.6	+4.1
KMI				pmax	pmax			
	comp=Z,15nm,1.4s							
YKA	Yellowknife Ar	90.53	24	P		P	09 33 58.8	+0.9
	comp=Z,0.3nm,0.6s,baz=236,slow=4.5,SNR=10							
YKA				pP		pP	09 35 00.1	-3.0
	comp=Z,0.2nm,0.8s,baz=248,slow=3.7,SNR=3.1							
YKA	Yellowknife Ar	90.53	24	P		P	09 33 58.9	+0.9
YKA				pP		pP	09 35 00.1	-3.0
CD2	Chengdu	90.77	302	P		P	09 34 00.9	+1.0
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CMAR	Chiang Mai Arr	91.47	289	P		P	09 34 04.7	+1.3
	comp=Z,6.1nm,0.9s,baz=97,slow=3.0,SNR=14							
CMAR	Chiang Mai Arr	91.47	289	P		P	09 34 04.7	+1.3
LZH	Lanzhou	92.24	307	*e*P		P	09 34 07.2	+0.5
LZH				pP		pP	09 35 18.0	+6.0
LZH				sP		sP	09 35 38.5	-1.7
LZH				pmax	pmax			
	comp=Z,15nm,1.1s							
VNA3	Neumayer Olymp	93.01	175	*e*		P	09 34 12.6	+3.1
VNA2	Neumayer--Watz	93.49	176	*e*		P	09 34 15.2	+3.5
	baz=182,slow=2.8							
SONM	Songino Array	94.02	318	P		P	09 34 14.4	-0.2
	comp=Z,0.4nm,0.8s,baz=116,slow=3.4,SNR=3.3							
SONM	Songino Array	94.02	318	P		P	09 34 14.4	-0.2
MKAR	Makanchi Array	109.95	315	PKiKP		PKiKP	09 39 25.9	-0.4
	comp=Z,0.5nm,0.6s,baz=153,slow=0.6,SNR=4.5							
MKAR	Makanchi Array	109.95	315	PKiKP		PKiKP	09 39 25.9	-0.4
KURK	Kurchatov	112.32	319	PKiKP		PKiKP	09 39 29.6	-0.9
	comp=Z,0.3nm,0.6s,baz=122,slow=2.3,SNR=4.0							
KURK	Kurchatov	112.32	319	PKiKP		PKiKP	09 39 29.6	-0.9
BVAR	Borovoye Array	117.11	322	PKP		PKPdf	09 39 39.7	0.0
	comp=Z,1.4nm,0.6s,baz=83,slow=1.5,SNR=7.2							
BVAR	Borovoye Array	117.11	322	PKP		PKPdf	09 39 39.7	0.0
ARCES	ARCESS Array B	124.39	352	PKP		PKPdf	09 39 52.8	-0.5
	comp=Z,9.0nm,1.0s,baz=46,slow=3.5,SNR=7.2							
ARCES	ARCESS Array B	124.39	352	PKP		PKPdf	09 39 52.8	-0.5
AKTO	Aktyubinsk	125.21	322	PKP		PKPdf	09 39 55.5	+0.2
	comp=Z,0.6nm,0.8s,baz=50,slow=3.4,SNR=3.6							
AKTO	Aktyubinsk	125.21	322	PKP		PKPdf	09 39 55.5	+0.2
FINES	FINESS Array B	131.63	347	PKP		PKPdf	09 40 08.3	+1.1
	comp=Z,1.2nm,0.6s,baz=54,slow=3.3,SNR=7.2							
FINES	FINESS Array B	131.63	347	PKP		PKPdf	09 40 08.3	+1.1
AKASG	Malin Array Be	139.83	337	PKP		PKPdf	09 40 23.1	+0.4
	comp=Z,0.2nm,0.3s,baz=24,slow=1.7,SNR=4.1							
AKASG	Malin Array Be	139.83	337	PKP		PKPdf	09 40 23.1	+0.4
TSUM	Tsumeb	143.62	200	*e*PKPdf		PKPdf	09 40 30.5	-0.2
BURAR	Bucovina Array	143.87	337	↑*i*P		PKPab	09 40 27.7	-0.4
BRG	Berggiesshubel	143.90	351	*e*PKP		PKPdf	09 40 28.9	-1.2
	comp=Z,15nm,1.4s							
DPC	Dobruska-Polom	143.98	348	*e*PKP		PKPdf	09 40 29.4	-0.8
DPC				*ex*		x	09 41 42.6	
CRVS	Cervenica-Dubn	144.03	342	*e*PKP		PKPdf	09 40 29.5	-0.8
OKC	Ostrava-Krasne	144.07	346	*e*PKP		PKPdf	09 40 29.6	-0.7
KRLC	Kraliky	144.15	347	*e*PKP		PKPdf	09 40 29.9	-0.6
MORC	Moravsky Berou	144.26	346	||*i*P		PKPdf	09 40 31.5	+0.7
TRPA	Tarpa	144.37	340	↑*i*P		PKPdf	09 40 30.3	-0.6
TRPA	Tarpa	144.37	340	↑*e*		PKPdf	09 40 30.6	-0.3
UBBA	Unterbreizbach	144.43	355	*e*PKPbc		PKPdf	09 40 31.3	+0.5
MOX	Moxa	144.44	353	*e*PKPbc		PKPdf	09 40 31.0	0.0
KMBO	Kilima Mbogo	144.48	245	*e*PKPdf		PKPdf	09 40 33.2	+0.8
TANN	Tannenbergstha	144.56	352	*e*PKPbc		PKPdf	09 40 31.4	+0.1
PRU	Pruhonice	144.66	350	*e*PKP		PKPdf	09 40 31.2	-0.2
VRI	Vrincioaia	144.69	334	↑||*i*P		PKPdf	09 40 31.2	-0.4
KECS	Kecovo	144.69	343	*e*PKP		PKPbc	09 40 30.5	-0.5
NKC	Novy Kostel	144.74	352	*e*PKP		PKPdf	09 40 32.3	+0.8
VRAC	Vranov	144.91	347	||*i*P		PKPab	09 40 33.0	+1.1
TIRR	Tirgusor	145.02	331	||*i*P		PKPab	09 40 32.9	+0.5
BCLA	Clavier	145.02	0	PKP		PKPab	09 40 32.6	+0.4
TNS	Taunus Mts	145.13	357	*e*PKPbc		PKPab	09 40 33.6	+0.9
TNS				*ep*PKPbc		pPKPbc	09 41 44.1	+4.2
VYHS	Vyhne	145.14	344	*e*PKP		PKPab	09 40 33.3	+0.5
TREC	Trest	145.15	348	*e*PKP		PKPab	09 40 33.1	+0.3
KOLL	Kolacno	145.17	345	*e*PKP		PKPab	09 40 33.9	+1.1
ROTZ	Rotzenmuhle	145.23	352	*e*PKPbc		PKPab	09 40 33.7	+0.7
MLR	Muntele Rosu	145.32	334	||*i*P		PKPab	09 40 34.5	+0.8
DOU	Dourbes	145.34	1	PKP		PKPab	09 40 33.5	+0.1
BR131	Keskin Array S	145.36	320	*e*PKPdf		PKPab	09 40 34.3	+0.2
BRTR	Keskin Array B	145.36	320	PKPbc		PKPab	09 40 33.7	-0.4
	comp=Z,6.5nm,1.0s,baz=112,slow=1.3,SNR=16							
BRTR				pPKPbc		pPKPbc	09 41 40.4	-0.7
	comp=Z,2.0nm,0.9s,baz=48,slow=1.8,SNR=3.8							
BRTR	Keskin Array B	145.36	320	PKPbc		PKPab	09 40 33.7	-0.4
BRTR				pPKPbc		pPKPbc	09 41 40.4	-0.7
PSZ	Piszkesteto	145.38	343	||*i*P		PKPab	09 40 35.2	+1.5
PSZ	Piszkesteto	145.38	343	||*e*		PKPab	09 40 33.9	+0.2
GRF	Grafenberg Arr	145.42	353	*e*PKPbc		PKPab	09 40 35.0	+1.2
GRFO	Grafenberg	145.42	353	*e*PKPdf		PKPab	09 40 34.9	+1.1
SMOI	Smolenice	145.47	346	*e*PKP		PKPab	09 40 35.1	+1.1
DRGR		145.48	339	||*i*P		PKPab	09 40 33.9	-0.3
KHC	Kasperske Hory	145.65	350	*e*PKPdf		PKPab	09 40 34.5	-0.3
KHC	Kasperske Hory	145.65	350	*e*PKP		PKPab	09 40 34.4	-0.3
KHC				*ep*PKP		pPKPdf	09 41 39.6	-2.3
VOIR		145.73	335	↑||*i*P		PKPab	09 40 35.8	+0.6
WET	Wettzell	145.74	351	*e*PKPbc		PKPab	09 40 35.4	+0.4
WLF	Walferdange	145.77	359	PKP		PKPab	09 40 35.3	+0.2
WLF	Walferdange	145.77	359	*e*PKPbc		PKPab	09 40 36.1	+1.0
WLF	Walferdange	145.77	359	*e*PKPdf		PKPab	09 40 36.0	+0.9
GEC2	GERESS Array S	145.91	350	*e*PKPbc		PKPab	09 40 35.8	0.0
GERES	GERESS Array B	145.91	350	PKPbc		PKPab	09 40 35.1	-0.7
	comp=Z,1.4nm,0.5s,baz=56,slow=3.4,SNR=14							
GERES	GERESS Array B	145.91	350	PKPbc		PKPab	09 40 35.1	-0.7
SOP	Sopron	146.45	346	||*e*		PKPab	09 40 37.8	0.0
STU	Stuttgart	146.52	355	*e*PKPbc		PKPab	09 40 37.9	-0.1
GZR	Gura Zlata	146.65	337	↑||*i*P		PKPab	09 40 37.5	-1.3
BZS	Buzias	146.88	339	↑||*i*P		PKPab	09 40 38.5	-1.0
FUR	Furstenfeldbru	146.92	353	*e*PKPbc		PKPab	09 40 39.0	-0.7
BFO	Black Forest	147.02	356	*e*PKPbc		PKPab	09 40 39.3	-0.8
BFO	Black Forest	147.02	356	*e*PKPdf		PKPbc	09 40 36.5	-1.4
BFO				*e*PKPbc		PKPab	09 40 39.0	-1.1
BFO				*e*PKPab		PKiKP	09 40 41.6	+1.5
RJOB	Jochberg	147.13	351	*e*PKPbc		PKPab	09 40 39.4	-1.1
PKSM	Moragy	147.28	343	||*i*P		PKPab	09 40 40.0	-1.1
PKSM	Moragy	147.28	343	||*e*		PKPbc	09 40 38.9	+0.3
BEHE	Becsehely	147.54	345	||*e*		PKPab	09 40 42.7	+0.5
MMAI	Mount Meron Ar	147.61	308	PKPbc		PKPbc	09 40 39.3	-0.7
	comp=Z,1.3nm,0.3s,baz=90,slow=4.3,SNR=6.3							
MMAI	Mount Meron Ar	147.61	308	PKPbc		PKPbc	09 40 39.4	-0.7
CRNS	Crni Vrh	148.47	348	*i* PKPdf		PKPbc	09 40 42.0	+0.2
FUORN	Ofenpass-Fuorn	148.56	354	*e*PKPdf		PKPbc	09 40 43.6	+1.3
VISK	Visnje	148.62	347	*i* PKPdf		PKPab	09 40 40.7	+0.2
JAVS	Javornik	148.69	348	*i* PKPdf		PKPbc	09 40 42.2	-0.2
TUE	Stuetta	148.79	355	*e*PKPdf		PKPbc	09 40 44.2	+1.3
BOJS	Bojanci	148.81	347	*i* PKPdf		PKPbc	09 40 44.3	+1.6
EIL	Elat	149.29	303	PKPbc		PKPbc	09 40 43.0	-1.4
	comp=Z,1.9nm,0.4s,baz=11,slow=12,SNR=4.9							
EIL	Elat	149.29	303	PKPbc		PKPbc	09 40 43.0	-1.4
TORD	Torodi Ar. Bea	175.82	121	PKP		PKPdf	09 41 05.0	-0.5
	comp=Z,1.3nm,1.0s,baz=326,slow=1.9,SNR=6.3							
TORD	Torodi Ar. Bea	175.82	121	PKP		PKPdf	09 41 05.0	-0.5

*ISCJB **06** 09:40:10.0±0.3, 48°.73N±0°.02×81°.22W±0°.03, h0km, mb3.2/3, Error ellipse: s-maj=3.1km s-min=2.2km az=138.0*

*IDC **06** 09:40:12.2±0.6, 48°.71N×81°.30W, h0km, mb3.3/4, mb1 3.8/9, mb1mx3.5/31, mbtmp3.6/9, ML3.1/4, Error ellipse: s-maj=8.8km s-min=6.7km az=72.0*

*OTT **06** 09:40:13.7±0.0, 48°.74N×81°.32W, h2km, MN3.8/43, Mining event, Timmins, On 29km northwest from Porcupine, On Mining induced.*

ISC 06 09:40:10.8±0.6, 48°.75N±0°.03×81°.23W±0°.03, h0km, n61, σ1§80/104, mb3.1/3, Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPO	Kapuskasing	1.10	311	PG		Pb		09 40 32.4	-0.3
KAPO				SG		Sg		09 40 46.5	+0.4
KAPO				Trac				09 40 52.0	
	comp=Z,808nm,0.3s								
MALO	McAlpine Lake	1.60	36	PN		Pg		09 40 43.5	+2.1
MALO				SN		Sg		09 41 05.2	+3.0
MALO				Trac				09 41 05.8	
	comp=Z,298nm,0.1s								
BELQ	Belleterre	2.17	127	PN		Pb		09 40 51.0	0.0
BELQ				SN		Sb		09 41 18.7	+0.2
BELQ				Trac				09 41 20.2	
	comp=Z,166nm,0.2s								
EEO	Eldee	2.56	144	PN		Pb		09 40 55.8	-1.8
EEO				SN		Sn		09 41 27.5	+2.1
EEO				Trac				09 41 33.8	
	comp=Z,236nm,0.2s								
MATQ	Matagami	2.56	65	PN		Pb		09 40 56.4	-1.3
MATQ				SN		Sb		09 41 28.3	-1.4
MATQ				Trac				09 41 36.5	
	comp=Z,108nm,0.2s								
VLDQ	Val d'Or	2.59	103	PN		Pn		09 40 54.0	0.0
VLDQ				SN		Sn		09 41 24.0	-2.2
VLDQ				Trac				09 41 29.8	
	comp=Z,187nm,0.2s								
RSPO	Restoule Provi	2.85	159	PN		Pn		09 40 59.9	+2.3
RSPO				SN		Sn		09 41 33.5	+0.9
RSPO				Trac				09 41 44.7	
	comp=Z,180nm,0.3s								
PNPO	Pukaskwa Natio	3.35	269	PN		Pn		09 41 05.3	+0.9
PNPO				SN		Sn		09 41 44.7	-0.1
PNPO				Trac				09 41 57.9	
	comp=Z,117nm,0.3s								
TOBO	Tobermory, Bru	3.53	183	PN		Pn		09 41 08.1	+1.3
TOBO				SN		Sn		09 41 50.8	+1.6
TOBO				Trac				09 42 02.4	
	comp=Z,177nm,0.4s								
ALGO	Algonquin Park	3.53	141	PN		Pn		09 41 09.4	+2.6
ALGO				SN		Sn		09 41 51.7	+2.4
ALGO				Trac				09 42 04.7	
	comp=Z,316nm,0.2s								
CRLO	Chalk River	3.77	135	PN		Pn		09 41 12.3	+2.3
CRLO				SN		Sn		09 41 56.6	+1.5
CRLO				Trac				09 42 12.5	
	comp=Z,162nm,0.3s								
GTO	Geraldton	3.88	287	PN		Pn		09 41 13.5	+1.8
GTO				SN		Sn		09 41 58.0	0.0
GTO				Trac				09 42 15.1	
	comp=Z,148nm,0.3s								
NANO	Nakina Ontario	4.07	295	PN		Pn		09 41 15.6	+1.4
NANO				SN		Sn		09 42 01.7	-0.8
NANO				Trac				09 42 17.6	
	comp=Z,144nm,0.4s								
PEMO	Pembroke	4.10	137	PN		Pn		09 41 17.1	+2.5
PEMO				SN		Sn		09 42 04.7	+1.4
PEMO				Trac				09 42 24.1	
	comp=Z,106nm,0.3s								
BMRO	Meriville Lake	4.15	180	PN		Pn		09 41 17.0	+1.7
BMRO				SN		Sn		09 42 04.4	-0.2
BMRO				Trac				09 42 21.6	
	comp=Z,454nm,0.7s								
GRQ	Grand Remous	4.21	119	PN		Pn		09 41 18.9	+2.7
GRQ				SN		Sn		09 42 07.5	+1.3
GRQ				Trac				09 42 28.9	
	comp=Z,102nm,0.3s								
SADO	Sadowa	4.23	159	Pn		Pn		09 41 18.1	+1.7
	1.5nm,0.3s,baz=351,slow=8.5,SNR=19								
SADO				Pg		Pb		09 41 25.6	-0.4
	4.0nm,0.3s,baz=350,slow=16,SNR=14								
SADO				SN		Sn		09 42 06.4	-0.1
	4.3nm,0.3s,baz=88,slow=23,SNR=7.2								
SADO				Lg		Lg		09 42 20.3	
	16nm,0.3s,baz=83,slow=22,SNR=7.2								
SADO	Sadowa	4.23	159	PN		Pn		09 41 18.2	+1.7
SADO				SN		Sn		09 42 06.7	+0.2
SADO				Trac				09 42 25.2	
	comp=Z,126nm,0.3s								
BANO	Bancroft	4.36	147	PN		Pn		09 41 20.3	+2.0
BANO				SN		Sn		09 42 10.1	+0.4
BANO				Trac				09 42 30.8	
	comp=Z,95nm,0.3s								
VIMO	Victor Mine	4.38	340	PN		Pn		09 41 20.2	+1.7
VIMO				SN		Sn		09 42 10.2	+0.1
VIMO				Trac				09 42 28.2	
	comp=Z,60nm,0.2s								
BRCO	Bruce Peninsul	4.50	182	PN		Pn		09 41 22.1	+1.9
BRCO				SN		Sn		09 42 13.3	0.0
BRCO				Trac				09 42 36.5	
	comp=Z,223nm,0.2s								
CHGQ	Chibougamau	4.63	73	PN		Pn		09 41 24.7	+2.7
CHGQ				SN		Sn		09 42 17.2	+0.7
CHGQ				Trac				09 42 40.0	
	comp=Z,120nm,0.4s								
PLVO	Plevna	4.67	141	PN		Pn		09 41 24.7	+2.1
PLVO				SN		Sn		09 42 17.3	-0.2
PLVO				Trac				09 42 38.5	
	comp=Z,77nm,0.3s								
BASO	Ashfield	4.74	184	PN		Pn		09 41 24.4	+0.9
BASO				SN		Sn		09 42 19.0	-0.2
BASO				Trac				09 42 41.0	
	comp=Z,158nm,0.4s								
WEMQ	Wemindji, Queb	4.78	24	PN		Pn		09 41 26.3	+2.3
WEMQ				SN		Sn		09 42 21.0	+0.9
WEMQ				Trac				09 42 44.5	
	comp=Z,37nm,0.2s								
DELO	Deloro Mine	4.91	148	PN		Pn		09 41 27.7	+2.0
DELO				SN		Sn		09 42 23.3	+0.1
DELO				Trac				09 42 44.9	
	comp=Z,58nm,0.3s								
GAC	Glen Almond	4.96	126	PN		Pn		09 41 28.4	+1.9
GAC				SN		Sn		09 42 22.4	-2.1
GAC				Trac				09 42 53.1	
	comp=Z,75nm,0.3s								
PKRO	Pickering	5.01	162	PN		Pn		09 41 28.7	+1.5
PKRO				SN		Sn		09 42 25.8	0.0
PKRO				Trac				09 42 50.4	
	comp=Z,207nm,0.3s								
OTT	Ottawa	5.04	130	SN		Sn		09 42 22.9	-3.6
OTT				SN		Sb		09 42 25.3	-16
OTT				SN		Sg		09 42 26.9	-26
OTT				Trac				09 42 55.1	
	comp=Z,112nm,0.4s								
OTT				Trac				09 42 55.1	
	comp=Z,70nm,0.3s								
ORHO	Orleans, Herit	5.09	128	PN		Pn		09 41 32.2	+3.9
ORHO				SN		Sn		09 42 28.6	+0.8
ORHO				Trac				09 43 03.2	
	comp=Z,398nm,0.2s								
ORIO	Orleans, Innes	5.11	128	PN		Pn		09 41 31.0	+2.5
ORIO				SN		Sn		09 42 28.4	+0.3
ORIO				Trac				09 42 56.5	
	comp=Z,90nm,0.4s								
DREO	Darlington Eas	5.18	159	SN		Sn		09 42 29.4	-0.5
DREO				SN		Sn		09 42 29.4	-0.5
DREO				Trac				09 42 58.8	
	comp=Z,56nm,0.2s								
TRQ	Mont Tremblant	5.18	117	PN		Pn		09 41 31.8	+2.2
TRQ				SN		Sn		09 42 29.3	-0.8
TRQ				Trac				09 42 58.9	
	comp=Z,43nm,0.2s								
ACTO	Acton	5.20	171	PN		Pn		09 41 31.5	+1.7
ACTO				SN		Sn		09 42 29.7	-0.8
ACTO				Trac				09 43 05.0	
	comp=Z,50nm,0.2s								
WLVO	Wesleyville	5.21	157	PN		Pn		09 41 31.8	+1.9
WLVO				SN		Sn		09 42 29.1	-1.4
WLVO				Trac				09 42 58.1	
	comp=Z,68nm,0.3s								
TORO	Toronto--Lesli	5.30	165	SN		Sn		09 42 32.0	-0.8
ALFO	Alfred	5.33	123	PN		Pn		09 41 33.9	+2.3
ALFO				Trac				09 43 00.9	
	comp=Z,66nm,0.4s								
WBO	Williamsburg	5.54	130	PN		Pn		09 41 36.9	+2.4
WBO				SN		Sn		09 42 37.5	-1.3
WBO				Trac				09 43 06.6	
	comp=Z,54nm,0.4s								
KGNO	Kingston	5.58	142	PN		Pn		09 41 36.5	+1.6
KGNO				SN		Sn		09 42

TXAR			Lg	Lg	09 53 40.1	
	0.1nm,0.8s,baz=42,slow=40,SNR=2.8					
RES	**Resolute Bay**	**26.68 352**	P	**P**	**09 45 51.2**	**+0.3**
	0.7nm,0.6s,baz=256,slow=17,SNR=4.5					
RES			Lg	Lg	09 54 00.5	
	1.6nm,0.8s,baz=85,slow=22,SNR=6.0					

*DJA **06** 09:52:21, 1.44S×129.51E, h7km, MLv3.4/9*
IDC 06 09:53:41.4±2.9, 0.32S×133.25E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=190.6km s-min=23.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.53**	**177**	P	P	09 58 11.0	+0.3
	0.3nm,0.3s,baz=355,slow=13,SNR=8.7						
ASAR	**Alice Springs**	**23.21**	**178**	P	P	09 58 50.4	0.0
	4.4nm,0.8s,baz=358,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.36**	**167**	P	P	10 00 12.5	-0.2
	1.6nm,0.5s,baz=344,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**64.61**	**324**	P	P	10 04 20.9	0.0
	0.2nm,0.6s,baz=124,slow=8.7,SNR=3.0						

WEL 06 10:02:31.0±0.6, 35.99S×178.49E, h198km±7km, ML3.5/5, Error ellipse: s-maj=14.0km s-min=9.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.58**	**185**	PN	Pn	10 03 05.5	+0.3
MXZ				SN	Sn	10 03 31.5	-0.4
MXZ				SN		10 03 31.6	
PUZ	**Puketiti**	**2.09**	**185**	PN	Pn	10 03 10.8	+0.5
PUZ				SN	Sn	10 03 40.8	-0.2
PUZ				*e*SN		10 03 41.0	
MWZ	**Matawai**	**2.46**	**198**	PN	Pn	10 03 14.9	+0.6
MWZ				*e*SN	Sn	10 03 48.8	+0.4
CNGZ	**Carnagh Statio**	**2.50**	**185**	*e*PN	Pn	10 03 15.7	+0.9
URZ	**Urewera**	**2.52**	**206**	PN	Pn	10 03 15.2	+0.2
KHZ	**Kokohu**	**3.10**	**192**	PN	Pn	10 03 21.3	-0.3
KAHZ	**Kahuranaki**	**4.01**	**198**	PN	Pn	10 03 32.4	-0.4
PXZ	**Pawanui**	**4.24**	**197**	PN	Pn	10 03 34.3	-1.3

*DDA **06** 10:13:19.8, 37.91N×29.22E, h5km, MD2.6*
*CSEM **06** 10:13:20.4±0.2, 37.94N×29.12E, h12km, MD2.8, Error ellipse: s-maj=9.7km s-min=4.5km az=100.0*
*ISCJB **06** 10:13:21.5±0.7, 37.88N±0.03×29.18E±0.08, h21km±10km, Error ellipse: s-maj=10.3km s-min=5.5km az=177.1*
*ISK **06** 10:13:22.5, 37.83N×29.04E, h9km, MD2.8*
ISC 06 10:13:20.8±1.0, 37.90N±0.03×29.23E±0.05, h10km±9km, n16, σ1.9s14/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.22**	**227**	*e*PG	**Pg**	**10 13 25.1**	**-0.2**
DENT	**Denizli**	**0.22**	**227**	*e*Pg	**Pg**	**10 13 25.1**	**-0.2**
DNZL	**Cakiroluk**	**0.26**	**214**	*i* P	**Pg**	**10 13 25.7**	**-0.4**
DNZL				*i* S	**Sg**	**10 13 30.6**	**+0.9**
DNZL	**Cakiroluk**	**0.26**	**214**	*i* P	**Pg**	**10 13 30.7**	**-0.4**
DNZL				*i* S	**Sg**	**10 13 30.6**	**+0.9**
KHAL	**Karahalli**	**0.51**	**24**	*i* P	**Pg**	**10 13 30.2**	**-0.6**
KHAL				*i* S	**Sg**	**10 13 39.1**	**+1.6**
KHAL	**Karahalli**	**0.51**	**24**	*i* P	**Pg**	**10 13 30.2**	**-0.6**
KHAL				*i* S	**Sg**	**10 13 39.1**	**+1.6**
GOLH	**Golhisar**	**0.71**	**158**	*i* P	Pg	10 13 30.3	-4.3
GOLH				*i* S	**Sb**	**10 13 45.7**	**+0.4**
KULA	**Kula-Manisa**	**0.76**	**324**	*e*PG	**Pn**	**10 13 37.9**	**+0.3**
KULA				*e*SG	**Sb**	**10 13 47.5**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*PG	**Pn**	**10 13 37.7**	**-0.1**
GLHS	**Glhisar (BURDU**	**0.78**	**164**	*e*Pg	**Pn**	**10 13 37.7**	**-0.1**
YER	**Yerkesik**	**1.07**	**225**	*e*PG	**Pb**	**10 13 40.4**	**-1.1**
YER	**Yerkesik**	**1.07**	**225**	*e*Pg	**Pb**	**10 13 40.4**	**-1.1**
GDZ	**Gediz**	**1.20**	**9**	*i* P	**Pb**	**10 13 42.2**	**-1.5**
GDZ				*i* S	**Sn**	**10 14 01.9**	**+1.7**
GDZ	**Gediz**	**1.20**	**9**	*i* P	**Pb**	**10 13 42.2**	**-1.5**
GDZ				*i* S	**Sn**	**10 14 01.9**	**+1.7**
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pb**	**10 13 42.7**	**-1.1**
DEMI				*i* S	**Sb**	**10 13 58.2**	**-1.3**
DEMI	**Demirci**	**1.21**	**341**	*i* P	**Pb**	**10 13 42.7**	**-1.1**
DEMI				*i* S	**Sb**	**10 13 58.2**	**-1.3**

*DJA **06** 10:15:05, 1.99S×130.23E, h13km, MLv3.5/10*
IDC 06 10:15:03.2±3.3, 1.06S×132.55E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/18, mbtmp3.6/4, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx2.7/25, Error ellipse: s-maj=91.4km s-min=30.5km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.25**	**201**	P	P	10 19 19.9	+1.6
	0.1nm,0.3s,baz=22,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**18.85**	**175**	P	Pn	10 19 26.2	+0.9
	0.2nm,0.3s,baz=354,slow=11,SNR=8.1						
WRA				S	Sn	10 22 57.8	+0.7
	0.1nm,0.3s,baz=351,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**22.51**	**177**	P	P	10 20 05.1	+0.4
	1.2nm,0.6s,baz=354,slow=8.2,SNR=14						
CTA	**Charters Tower**	**23.18**	**146**	LR	LR	10 28 19.5	
	comp=Z,55nm,18.9s,baz=32,slow=34						
STKA	**Stephens Creek**	**31.82**	**165**	P	P	10 21 28.1	-1.7
	0.5nm,0.3s,baz=333,slow=11,SNR=3.7						
PETK	**Petropavlovsk-**	**57.93**	**18**	LR	LR	10 45 56.5	
	comp=Z,124nm,19.5s,baz=77,slow=32						

*KRSC **06** 10:15:17.6±0.9, 49.39N×157.80E, h30km±30km, ML4.1*
*MOS **06** 10:15:17.6±1.0, 49.39N×157.80E, h30km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=27.3km az=87.0*
ISC 06 10:15:20.7±4.4, 49.5N±0.2×157.4E±0.2, h39km, n16, σ0.82/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.47**	**327**	*i* PN	Sn	10 16 01.6	-1.1
SKR				*e*		10 16 12.0	
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=N,170nm,0.3s						
SKR				pmax	pmax		
	comp=E,180nm,0.3s						
SKR				smax	smax		
	comp=N,1μm,0.4s						
SKR				smax	smax		
	comp=E,650nm,0.4s						
SKR				smax	smax		
	comp=Z,160nm,0.4s						
MIPR	**Malaya Ipel'ka**	**2.85**	**353**	*e*P	**Pn**	**10 16 02.7**	**-1.0**
ASAK	**Asacha**	**2.96**	**6**	*e*P	**Pn**	**10 16 05.2**	**0.0**
ASAK				*i* S	**Sn**	**10 16 40.4**	**+1.0**
RUS	**Russkaya**	**3.07**	**13**	PN	**Pn**	**10 16 05.8**	**-0.9**
RUS				S	**Sn**	**10 16 41.3**	**-0.9**
RUS	**Russkaya**	**3.07**	**13**	P	**Pn**	**10 16 05.8**	**-0.9**
RUS				*i* S	**Sn**	**10 16 41.3**	**-0.9**
MTVR	**Mutnovka**	**3.08**	**9**	*e*P	**Pn**	**10 16 07.3**	**+0.4**
MTVR				*i* S	**Sn**	**10 16 43.2**	**+0.6**
GRL	**Gorelyy**	**3.14**	**8**	*e*P	**Pn**	**10 16 08.0**	**+0.3**
GRL				*e*S	**Sn**	**10 16 43.9**	**0.0**
PET	**Petropavlovsk**	**3.67**	**12**	*e*PN	**Pn**	**10 16 15.3**	**+0.5**
PET				*e*S	**Sn**	**10 16 56.8**	**0.0**
PET				pmax	pmax		
	comp=Z,34nm,0.6s						
PET				smax	smax		
	comp=E,60nm,0.5s						
PET	**Petropavlovsk**	**3.67**	**12**	*e*P	**Pn**	**10 16 15.1**	**+0.2**
PET				*e*S	**Sn**	**10 16 58.2**	**+1.4**
AVH	**Avacha**	**3.92**	**12**	P	**Pn**	**10 16 19.1**	**+0.8**
NLC	**Nalytchevo**	**3.93**	**18**	PN	**Pn**	**10 16 17.9**	**-0.5**
NLC				S	**Sn**	**10 17 02.0**	**-1.2**
NLC	**Nalytchevo**	**3.93**	**18**	P	**Pn**	**10 16 17.9**	**-0.5**
NLC				*i* S	**Sn**	**10 17 02.0**	**-1.2**
KOK	**Koryaka**	**3.93**	**11**	P	**Pn**	**10 16 20.1**	**+1.6**
SDLR	**Sedlovina**	**3.95**	**13**	P	**Pn**	**10 16 19.4**	**+0.6**
SDLR				*i* S	**Sn**	**10 17 04.0**	**+0.1**
KBTR	**Krutoberegovo**	**7.53**	**24**	PN	**Pn**	**10 17 08.3**	**+0.5**
KBTR	**Krutoberegovo**	**7.53**	**24**	*e*P	**Pn**	**10 17 08.3**	**+0.5**

IDC 06 10:28:20.4±6.7, 21.92N×144.91E, h135km±62km, mb3.6/14, mb1 3.8/14, mb1mx3.7/24, mbtmp3.6/14, MS3.5/10, Ms1 3.5/10, ms1mx3.2/32, Error ellipse: s-maj=24.9km s-min=11.8km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.71**	**335**	LR	LR	10 31 29.8	
	comp=Z,188nm,19.7s,baz=310,slow=33						
GUMO	**Guam**	**8.29**	**180**	LR	LR	10 33 00.3	
	comp=Z,388nm,19.8s,baz=31,slow=34						
JOW	**Kunigami**	**15.92**	**291**	LR	LR	10 36 56.5	
	comp=Z,131nm,20.8s,baz=157,slow=32						
KSRS	**Korea Array**	**21.33**	**320**	P	P	10 32 57.4	+0.8
	3.9nm,0.8s,baz=146,slow=9.4,SNR=18						
KSRS				LR	LR	10 40 40.5	
	comp=Z,88nm,20.4s,baz=163,slow=35						
USRK	**Ussuriysk Arra**	**24.65**	**337**	P	P	10 33 30.2	+1.9
	1.6nm,0.7s,baz=148,slow=9.4,SNR=4.9						
USRK				LR	LR	10 42 15.0	
	comp=Z,62nm,18.1s,baz=176,slow=34						
HNR	**Honiara**	**34.48**	**153**	LR	LR	10 47 14.6	
	comp=Z,143nm,20.0s,baz=344,slow=33						
SONM	**Songino Array**	**40.20**	**319**	P	P	10 35 42.9	-0.7
	0.4nm,0.5s,baz=126,slow=7.2,SNR=5.1						
SONM				LR	LR	10 52 41.0	
	comp=Z,88nm,19.0s,baz=346,slow=36						
WRA	**Warramunga Arr**	**42.87**	**195**	P	P	10 36 05.0	-0.4
	2.7nm,0.5s,baz=12,slow=8.3,SNR=45						
FITZ	**Fitzroy Crossi**	**44.02**	**207**	P	P	10 36 14.8	+0.2
	7.7nm,0.6s,baz=20,slow=8.7,SNR=9.4						
ASAR	**Alice Springs**	**46.56**	**194**	P	P	10 36 34.4	-0.3
	2.5nm,0.6s,baz=16,slow=9.0,SNR=37						
DZM	**Mont Dzumac**	**48.51**	**153**	LR	LR	10 54 09.8	
	comp=Z,75nm,19.6s,baz=26,slow=32						
STKA	**Stephens Creek**	**53.59**	**183**	P	P	10 37 27.6	+0.1
	1.2nm,0.7s,baz=9.5,slow=6.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**55.03**	**321**	P	P	10 37 36.0	-1.7
	0.5nm,0.4s,baz=99,slow=9.3,SNR=4.6						
ZALV				PcP	PcP	10 38 37.9	+0.2
	0.6nm,0.6s,baz=112,slow=6.4,SNR=2.5						
ZALV				LR	LR	11 00 43.8	
	comp=Z,24nm,20.4s,baz=58,slow=35						
MKAR	**Makanchi Array**	**55.73**	**312**	P	P	10 37 43.1	+0.3
	2.3nm,0.9s,baz=92,slow=9.3,SNR=12						
MKAR				PcP	PcP	10 38 40.6	+0.1
	0.6nm,0.7s,baz=107,slow=3.8,SNR=3.8						
ILAR	**Eielson Array**	**61.11**	**27**	P	P	10 38 18.8	-1.1
	0.7nm,0.7s,baz=261,slow=5.5,SNR=15						
YKA	**Yellowknife Ar**	**75.51**	**28**	P	P	10 39 49.4	-0.1
	0.5nm,0.7s,baz=290,slow=5.4,SNR=9.3						
NVAR	**Mina Array Bea**	**81.75**	**52**	P	P	10 40 25.8	+1.3
	1.2nm,0.7s,baz=278,slow=6.0,SNR=8.2						
FINES	**FINESS Array B**	**83.66**	**335**	P	P	10 40 32.9	-0.6
	4.6nm,1.0s,baz=59,slow=5.4,SNR=6.0						
PDAR	**Pinedale Array**	**86.10**	**45**	P	P	10 40 47.0	+0.4
	0.3nm,0.6s,baz=169,slow=1.5,SNR=3.7						
NOA	**NORSAR Array B**	**89.31**	**339**	LR	LR	11 29 21.5	
	comp=Z,39nm,18.1s,baz=290,slow=41						

*DJA **06** 10:29:01, 11.20S×112.66E, h33km, MLv4.3/11*
IDC 06 10:28:58.2±2.3, 11.02S×113.11E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=104.2km s-min=21.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.02**	**122**	Pn	Pn	10 32 14.6	-3.6
	0.2nm,0.3s,baz=280,slow=12,SNR=4.5						
FITZ				Sn	Sn	10 34 39.7	-15
	0.2nm,0.3s,baz=40,slow=15,SNR=5.0						
WRA	**Warramunga Arr**	**22.28**	**175**	P	P	10 33 57.1	-0.1
	0.7nm,0.5s,baz=289,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**23.46**	**125**	P	P	10 34 09.7	+0.1
	0.5nm,0.6s,baz=303,slow=9.8,SNR=9.6						
SONM	**Songino Array**	**58.90**	**355**	P	P	10 38 59.5	+0.4
	0.3nm,0.4s,baz=174,slow=9.9,SNR=5.2						
SONM				PcP	PcP	10 39 48.5	+0.1
	0.4nm,1.0s,baz=157,slow=3.9,SNR=3.6						
MKAR	**Makanchi Array**	**63.81**	**337**	P	P	10 39 32.3	+0.1
	0.9nm,0.5s,baz=151,slow=7.3,SNR=8.4						
ZALV	**Zalesovo Beam**	**69.03**	**343**	P	P	10 40 04.8	-0.7
	0.7nm,0.5s,baz=150,slow=5.4,SNR=5.0						

*DJA **06** 10:46:39, 0.21S×132.97E, h12km, MLv4.7/7*
IDC 06 10:46:36.8±0.8, 0.44S±132.68E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML4.2/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/33, Error ellipse: s-maj=39.5km s-min=11.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.44**	**40**	LR	LR	10 56 17.8	
	comp=Z,93nm,19.7s,baz=93,slow=32						
FITZ	**Fitzroy Crossi**	**18.87**	**201**	P	Pn	10 51 00.6	+1.3
	0.5nm,0.3s,baz=48,slow=15,SNR=11						
FITZ				S	Sn	10 54 25.9	-5.3
	0.2nm,0.3s,baz=233,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**19.45**	**175**	P	Pn	10 51 06.6	+0.3
	0.7nm,0.3s,baz=354,slow=11,SNR=33						
WRA				S	Sn	10 54 39.0	-6.4
	0.5nm,0.3s,baz=1.6,slow=23,SNR=6.2						
WRA				LR	LR	10 57 09.9	
	comp=Z,72nm,21.8s,baz=340,slow=32						
ASAR	**Alice Springs**	**23.12**	**177**	P	P	10 51 45.9	+1.1
	16nm,0.9s,baz=360,slow=9.0,SNR=87						
ASAR				S	S	10 55 56.5	-0.8
	0.6nm,0.8s,baz=6.8,slow=9.3,SNR=4.9						
CTA	**Charters Tower**	**23.62**	**147**	P	P	10 51 50.9	+1.2
	7.0nm,0.9s,baz=317,slow=14,SNR=3.6						
CBIJ	**Chichi jima**	**28.86**	**18**	LR	LR	11 03 06.7	
	comp=Z,52nm,18.1s,baz=75,slow=34						
STKA	**Stephens Creek**	**32.39**	**166**	P	P	10 53 08.0	-0.3
	5.6nm,0.6s,baz=353,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**37.15**	**7**	LR	LR	11 05 07.0	
	comp=Z,63nm,21.0s,baz=20,slow=30						
KSRS	**Korea Array**	**37.96**	**354**	LR	LR	11 10 34.2	
	comp=Z,51nm,18.3s,baz=2.3,slow=38						
CMAR	**Chiang Mai Arr**	**38.10**	**301**	P	P	10 53 59.0	+1.3
	1.1nm,0.4s,baz=119,slow=6.5,SNR=6.6						
SONM	**Songino Array**	**53.24**	**338**	P	P	10 55 56.7	-0.6
	0.6nm,1.0s,baz=142,slow=5.4,SNR=3.1						
MKAR	**Makanchi Array**	**64.37**	**324**	P	P	10 57 14.3	-0.3
	1.4nm,1.0s,baz=120,slow=8.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**67.02**	**332**	P	P	10 57 30.4	-1.1
	0.3nm,0.4s,baz=115,slow=7.0,SNR=4.2						
ZALV				LR	LR	11 30 36.1	
	comp=Z,23nm,20.3s,baz=56,slow=39						
KURK	**Kurchatov**	**68.45**	**326**	P	P	10 57 40.2	-0.5
	1.4nm,1.0s,baz=118,slow=6.2,SNR=9.5						
KDAK	**Kodiak Island**	**82.26**	**31**	LR	LR	11 29 55.8	
	comp=Z,76nm,19.4s,baz=98,slow=32						
ILAR	**Eielson Array**	**86.31**	**25**	P	P	10 59 21.0	+0.6
	0.7nm,0.9s,baz=267,slow=6.2,SNR=3.7						

IDC 06 10:57:08.7±2.4, 0.30S×132.64E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=94.7km s-min=26.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.98**	**201**	P	P	11 01 30.9	-1.0
	0.1nm,0.3s,baz=41,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**19.59**	**175**	P	P	11 01 37.5	-1.1
	0.1nm,0.3s,baz=355,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**23.26**	**177**	P	P	11 02 19.4	+1.4
	1.1nm,0.9s,baz=356,slow=10,SNR=8.3						
MKAR	**Makanchi Array**	**64.24**	**324**	P	P	11 07 45.7	-0.1
	0.4nm,0.7s,baz=106,slow=6.8,SNR=5.4						

IDC 06 10:58:01.9±2.4, 0.72S×132.89E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/18, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=98.3km s-min=24.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**202**	P	P	11 02 22.0	+0.1
	0.2nm,0.3s,baz=30,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**19.16**	**176**	P	P	11 02 27.2	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	11 03 06.8	-0.1
	2.5nm,0.3s,baz=357,slow=11,SNR=31						
MKAR	**Makanchi Array**	**64.72**	**324**	P	P	11 08 42.0	-0.1
	0.1nm,0.5s,baz=134,slow=7.4,SNR=2.1						

IDC 06 11:00:42.1±1.6, 0.19S×132.95E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/28, Error ellipse: s-maj=77.9km s-min=15.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.08**	**40**	LR	LR	11 11 25.7	
	comp=Z,64nm,18.3s,baz=90,slow=36						
FITZ	**Fitzroy Crossi**	**19.19**	**202**	P	P	11 05 06.5	-1.2
	0.1nm,0.3s,baz=28,slow=15,SNR=4.3						
FITZ				S	Sn	11 08 35.6	-8.8
	0.2nm,0.3s,baz=148,slow=18,SNR=3.5						
FITZ				LR	LR	11 13 41.7	
	comp=Z,69nm,20.1s,baz=2.4,slow=41						
WRA	**Warramunga Arr**	**19.68**	**176**	P	P	11 05 12.2	-0.7
	0.3nm,0.3s,baz=354,slow=11,SNR=15						
WRA				S	S	11 08 46.8	-9.1
	0.2nm,0.3s,baz=357,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**23.35**	**178**	P	P	11 05 51.5	-1.0
	9.8nm,1.1s,baz=1.0,slow=9.6,SNR=20						
ASAR				S	S	11 10 09.7	+3.1
	1.8nm,1.0s,baz=358,slow=21,SNR=7.0						
STKA	**Stephens Creek**	**32.56**	**166**	P	P	11 07 13.7	-1.5
	1.4nm,0.3s,baz=327,slow=5.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**36.87**	**7**	LR	LR	11 21 47.5	
	comp=Z,70nm,20.1s,baz=195,slow=34						
KSRS	**Korea Array**	**37.75**	**353**	LR	LR	11 22 20.4	
	comp=Z,25nm,18.6s,baz=143,slow=34						
SONM	**Songino Array**	**53.11**	**338**	P	P	11 10 02.3	+0.6
	0.5nm,0.9s,baz=158,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**64.33**	**324**	P	P	11 11 19.9	+0.2
	0.9nm,0.8s,baz=122,slow=7.7,SNR=9.4						
BBB	**Bella Bella**	**95.64**	**38**	LR	LR	11 50 53.8	
	comp=Z,76nm,19.5s,baz=149,slow=32						

*NEIC **06** 11:07:36.7, 17.90N×66.80W, h6km, MD2.8(RSPR), After RSPR.*
RSPR 06 11:07:36.7, 17.90N×66.80W, h5km, 19C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBPR	**Guanica, Bosqu**	**0.11**	**315**	*e*P	Pg	11 07 39.2	+0.2
GBPR	**Guanica, Bosqu**	**0.11**	**315**	*e*P	Pg	11 07 39.2	+0.2
OBIP	**Obispado Ponce**	**0.23**	**52**	*e*P	Pg	11 07 41.6	+0.3
OBIP	**Obispado Ponce**	**0.23**	**52**	*e*P	Pg	11 07 41.8	+0.5
ICM	**Isla Caja Muer**	**0.27**	**91**	*e*P	Pg	11 07 42.3	+0.4
ICM	**Isla Caja Muer**	**0.27**	**91**	*e*S	Sb	11 07 47.1	-1.6
ICM	**Isla Caja Muer**	**0.27**	**91**	*e*P	Pg	11 07 42.3	+0.4
ICM	**Isla Caja Muer**	**0.27**	**91**	*e*S	Sg	11 07 46.9	+1.4
ICM	**Isla Caja Muer**	**0.27**	**91**	*e*P	Pg	11 07 42.3	+0.4
ICM				*e*S	Sg	11 07 46.9	+1.4
ICM				*e*S	Sb	11 07 47.1	-1.6
CELP	**Cerrillos**	**0.27**	**50**	*e*P	Pg	11 07 42.5	+0.5
CELP	**Cerrillos**	**0.27**	**50**	*e*P	Pg	11 07 42.6	+0.5
CELP	**Cerrillos**	**0.27**	**50**	*e*P	Pg	11 07 42.5	+0.5
CRPR	**Cabo Rojo, PR**	**0.31**	**290**	*e*P	Pg	11 07 43.1	+0.3
CRPR	**Cabo Rojo, PR**	**0.31**	**290**	*e*S	Sg	11 07 48.4	+1.5
CRPR	**Cabo Rojo, PR**	**0.31**	**290**	*e*P	Pg	11 07 43.0	+0.2
CRPR	**Cabo Rojo, PR**	**0.31**	**290**	*e*S	Sg	11 07 48.3	+1.3
CRPR	**Cabo Rojo, PR**	**0.31**	**290**	*e*P	Pg	11 07 43.0	+0.2
CRPR				*e*S	Sg	11 07 48.3	+1.3
CRPR				*e*S	Sb	11 07 48.4	-1.7
AOPR	**Arecibo Observ**	**0.45**	**6**	*e*P	Pg	11 07 45.6	+0.2
AOPR	**Arecibo Observ**	**0.45**	**6**	*e*S	Sg	11 07 52.3	+1.0
AOPR	**Arecibo Observ**	**0.45**	**6**	*e*P	Pg	11 07 45.6	+0.2
AOPR	**Arecibo Observ**	**0.45**	**6**	*e*S	Sb	11 07 52.9	-1.2
AOPR	**Arecibo Observ**	**0.45**	**6**	*e*P	Pg	11 07 45.6	+0.2
AOPR				*e*S	Sg	11 07 52.3	+1.0
AOPR				*e*S	Sb	11 07 52.9	-1.2
AGPR	**Aguadilla, PR**	**0.64**	**332**	*e*P	Pg	11 07 49.0	0.0
AGPR	**Aguadilla, PR**	**0.64**	**332**	*e*P	Pg	11 07 49.0	0.0
SJG	**San Juan**	**0.65**	**71**	*e*P	Pg	11 07 48.9	-0.4
SJG	**San Juan**	**0.65**	**71**	*e*P	Pg	11 07 48.9	-0.4
HUMP	**Col San Antoni**	**0.94**	**75**	*e*P	Pg	11 07 53.5	-1.2
HUMP	**Col San Antoni**	**0.94**	**75**	*e*P	Pg	11 07 53.5	-1.2
HUMP				*e*S	Sg	11 08 06.3	-0.5
CBYP	**Canovanas**	**0.97**	**67**	*e*P	Pg	11 07 53.5	-2.0
CBYP	**Canovanas**	**0.97**	**67**	*e*S	Sg	11 08 06.7	-1.5
CBYP	**Canovanas**	**0.97**	**67**	*e*P	Pg	11 07 54.7	-0.8
CBYP	**Canovanas**	**0.97**	**67**	*e*P	Pg	11 07 54.7	-0.8
CBYP				*e*S	Sg	11 08 06.7	-1.5
MTP	**Monte Pirata**	**1.20**	**80**	*e*P	Pg	11 07 58.4	-1.5
MTP	**Monte Pirata**	**1.20**	**80**	*e*P	Pg	11 07 58.4	-1.5

**IDC 06 11:18:31.7±13.0, 0.79S×133.09E, h0km, mb

IDC 06 12:05:56.8±2.4, 0°72'S×133°02'E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=96.0km s-min=25.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.73**	**202**	P	Pn	12 10 17.5	-0.1
	0.1nm,0.3s,baz=30,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**19.15**	**176**	P	P	12 10 22.2	+0.4
	0.1nm,0.3s,baz=355,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**22.82**	**178**	P	P	12 11 01.4	-0.3
	0.7nm,0.4s,baz=358,slow=12,SNR=17						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	12 16 37.4	-0.1
	0.4nm,0.6s,baz=112,slow=8.4,SNR=6.7						

*DJA **06** 12:07:30, 10°.96S×112°.76E, h10km, MLv4.3/16*
IDC 06 12:07:24.5±2.6, 11°.77S×112°.03E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=121.2km s-min=15.1km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.58**	**117**	Pn	Pn	12 10 47.5	-4.7
	0.3nm,0.3s,baz=296,slow=10,SNR=5.6						
FITZ				Sn	Sn	12 13 09.7	-25
	0.2nm,0.3s,baz=354,slow=21,SNR=4.3						
WRA	**Warramunga Arr**	**22.93**	**114**	P	P	12 12 32.3	+1.8
	2.9nm,0.7s,baz=284,slow=12,SNR=15						
WRA				S	S	12 16 32.5	-9.3
	0.6nm,0.9s,baz=296,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**23.92**	**123**	P	P	12 12 38.8	-1.6
	0.4nm,0.4s,baz=300,slow=9.4,SNR=11						
ASAR				S	S	12 16 59.2	+1.2
	0.3nm,0.5s,baz=282,slow=22,SNR=6.4						
STKA	**Stephens Creek**	**33.78**	**131**	P	P	12 14 08.3	0.0
	3.7nm,0.9s,baz=320,slow=7.9,SNR=3.9						
SONM	**Songino Array**	**59.55**	**356**	P	P	12 17 28.8	-1.1
	0.3nm,0.4s,baz=175,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**64.09**	**338**	P	P	12 18 01.1	+0.7
	1.7nm,0.7s,baz=146,slow=7.4,SNR=17						
ZALV	**Zalesovo Beam**	**69.44**	**343**	P	P	12 18 34.0	-0.3
	0.4nm,0.3s,baz=139,slow=5.7,SNR=4.2						

*DJA **06** 12:19:19, 0°.83N×126°.24E, h40km, MLv3.3/4*
IDC 06 12:19:13.9±2.1, 1°.11N×126°.66E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.1/13, Error ellipse: s-maj=162.4km s-min=26.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.24**	**161**	P	P	12 24 11.7	-0.8
	0.9nm,0.6s,baz=339,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**25.62**	**164**	P	P	12 24 46.0	+0.7
	0.3nm,0.5s,baz=347,slow=14,SNR=8.1						
JOW	**Kunigami**	**25.62**	**3**	LR	LR	12 35 41.0	
	comp=Z,66nm,18.3s,baz=187,slow=38						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	12 29 20.0	-0.1
	0.3nm,0.6s,baz=108,slow=7.8,SNR=4.3						

*IDC **06** 12:28:24.4±4.8, 23°.96N×122°.68E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=111.4km s-min=29.8km az=179.0*
*JMA **06** 12:28:27.9±0.2, 23°.80N×122°.58E, h55km, M3.3*
*ISCJB **06** 12:28:28.3±0.3, 23°.75N±0°.02×122°.63E±0°.02, h43km±7km, mb3.3/4, Error ellipse: s-maj=4.3km s-min=2.4km az=161.1*
*TAP **06** 12:28:28.9, 23°.80N×122°.57E, h39km±1km, ML3.9, D*
ISC 06 12:28:29.7±0.8, 23°.75N±0°.03×122°.65E±0°.02, h45km±11km, n56, σ1s70/95, mb3.3/4, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.78**	**25**	P	**Pn**	**12 28 42.9**	**-1.4**
YOJ				S	**Sn**	**12 28 53.7**	**-1.2**
HWA	**Hwalien**	**0.98**	**283**	*e*P	**Pn**	**12 28 44.8**	**-2.3**
	baz=270						
TWD	**Chiawan**	**1.02**	**289**	⇑*i*P	**Pn**	**12 28 45.1**	**-2.5**
	baz=276						
TWD				S	**Sn**	**12 28 56.9**	**-3.9**
	baz=276						
ENA	**Nanau**	**1.07**	**309**	*i* P	**Pn**	**12 28 46.8**	**-1.5**
	baz=309						
ENA				*e*S	**Sn**	**12 28 59.9**	**-2.1**
	baz=309						
HATJ	**Hateruma jima**	**1.10**	**74**	P	**Pn**	**12 28 48.0**	**-0.6**
HATJ				S	**Sn**	**12 29 02.8**	**+0.2**
ESL	**Shilin**	**1.12**	**273**	⇑*i*P	**Pn**	**12 28 46.2**	**-2.7**
	baz=270						
ESL				*e*S	**Sn**	**12 28 58.9**	**-4.2**
	baz=270						
TWC	**Suao**	**1.12**	**319**	P	**Pn**	**12 28 47.2**	**-1.7**
	baz=320						
TWC				*e*S	**Sn**	**12 29 01.4**	**-1.9**
	baz=320						
IRIF	**Iriomote-Funau**	**1.14**	**59**	P	**Pn**	**12 28 48.6**	**-0.6**
IRIF				S	**Sn**	**12 29 04.3**	**+0.6**
EHY	**Hungye**	**1.24**	**259**	⇑*i*P	**Pn**	**12 28 48.6**	**-2.0**
	baz=254						
EHY				*e*S	**Sn**	**12 29 03.6**	**-2.7**
	baz=254						
TWE	**Neicheng**	**1.32**	**317**	P	**Pn**	**12 28 50.5**	**-1.1**
	baz=317						
TWE				*e*S	**Sn**	**12 29 06.7**	**-1.3**
	baz=317						
ENTT	**Nioudou**	**1.33**	**312**	*i* P	**Pn**	**12 28 50.6**	**-1.2**
	baz=311						
ENTT				*e*S	**Sn**	**12 29 07.6**	**-0.7**
	baz=311						
WHF	**Hehuan Shan**	**1.33**	**287**	*i* P	**Pn**	**12 28 50.0**	**-2.2**
	baz=276						
WHF				*e*S	**Sn**	**12 29 06.2**	**-2.7**
	baz=276						
JKRS	**Kuro-shima**	**1.33**	**69**	P	**Pn**	**12 28 51.5**	**-0.3**
JKRS				S	**Sn**	**12 29 08.5**	**+0.1**
NNS	**Nan Shan**	**1.35**	**301**	P	**Pn**	**12 28 50.9**	**-1.4**
	baz=299						
NNS				*e*S	**Sn**	**12 29 06.9**	**-2.2**
	baz=299						
TWB1	**Santiao Chiao**	**1.39**	**334**	*e*P	**Pn**	**12 28 51.2**	**-1.4**
	baz=336						
TWT	**Tachien**	**1.44**	**290**	P	**Pn**	**12 28 52.3**	**-1.2**
	baz=279						
TWT				*e*S	**Sn**	**12 29 09.1**	**-2.1**
	baz=279						
JIJ	**Ishigaki jima**	**1.49**	**66**	P	**Pn**	**12 28 53.0**	**-1.0**
JIJ				S	**Sn**	**12 29 11.3**	**-1.0**
NSK	**Sanguang**	**1.50**	**308**	P	**Pn**	**12 28 53.1**	**-1.1**
	baz=307						
NSK				*e*S	**Sn**	**12 29 10.1**	**-2.4**
	baz=307						
NWF	**Wu-fen Shan**	**1.53**	**329**	P	**Pn**	**12 28 53.5**	**-1.1**
	baz=330						
TWA	**Mucha**	**1.56**	**322**	*e*P	**Pn**	**12 28 54.9**	**-0.1**
	baz=322						
TWA				*e*S	**Sn**	**12 29 13.2**	**-0.9**
	baz=322						
YUS	**Yu-Shan**	**1.58**	**261**	⇑*i*P	**Pn**	**12 28 55.1**	**-0.6**
	baz=248						
YUS				*e*S	**Sn**	**12 29 13.2**	**-2.1**
	baz=248						
ELDTW	**Lidau**	**1.60**	**250**	⇑*i*P	**Pn**	**12 28 53.6**	**-2.1**
	baz=235						
ELDTW				*e*S	**Sn**	**12 29 11.6**	**-3.6**
	baz=235						
SMLT	**Sun Moon Lake**	**1.61**	**275**	⇑*i*P	**Pn**	**12 28 54.5**	**-1.3**
	baz=265						
SMLT				*e*S	**Sn**	**12 29 13.7**	**-1.7**
	baz=265						
TYC	**Yuchr**	**1.65**	**276**	P	**Pn**	**12 28 54.8**	**-1.4**
	baz=272						
TYC				*e*S	**Sn**	**12 29 14.5**	**-1.7**
	baz=272						
TWG	**Pinlang**	**1.72**	**238**	P	**Pn**	**12 28 55.4**	**-1.8**
	baz=227						
TWG				*e*S	**Sn**	**12 29 15.1**	**-3.0**
	baz=227						
NSTT	**Nanjuang**	**1.74**	**300**	*e*P	**Pn**	**12 28 57.5**	**0.0**
	baz=298						
NSTT				S	**Sn**	**12 29 17.3**	**-1.2**
	baz=298						
TWS1	**Kuangyinshan**	**1.75**	**320**	*e*P	**Pn**	**12 28 56.8**	**-0.8**
	baz=320						
TWS1				*e*S	**Sn**	**12 29 18.5**	**-0.2**
	baz=320						
WNT	**Mingjian**	**1.81**	**274**	*e*P	**Pn**	**12 28 58.6**	**+0.3**
	baz=271						
WNT				*e*S	**Sn**	**12 29 20.5**	**+0.4**
	baz=271						
CHN5	**Tsauling**	**1.82**	**265**	⇑*i*P	**Pn**	**12 28 58.2**	**-0.4**
	baz=262						
CHN5				S	**Sn**	**12 29 20.1**	**-0.3**
	baz=262						
TWQ1	**Liyutan**	**1.82**	**289**	P	**Pn**	**12 28 58.7**	**+0.2**
	baz=287						
TWQ1				*e*S	**Sn**	**12 29 20.4**	**+0.1**
	baz=287						
STYT	**Tauyuan**	**1.84**	**252**	*i* P	**Pn**	**12 28 57.9**	**-1.0**
	baz=241						
STYT				*e*S	**Sn**	**12 29 18.4**	**-2.5**
	baz=241						
NSY	**Sanyi**	**1.85**	**291**	*e*P	**Pn**	**12 28 59.1**	**+0.2**
	baz=289						
NSY				*e*S	**Sn**	**12 29 21.5**	**+0.3**
	baz=289						
TCU	**Taichung**	**1.85**	**283**	*e*P	**Pn**	**12 28 59.5**	**+0.6**
	baz=280						
TCU				*e*S	**Sn**	**12 29 21.7**	**+0.6**
	baz=280						
CHN4	**Tsaushan**	**1.93**	**258**	P	**Pn**	**12 29 00.1**	**0.0**
	baz=249						
CHN4				*e*S	**Sn**	**12 29 23.6**	**+0.4**
	baz=249						
WTP	**Ta-pu**	**1.94**	**255**	P	**Pn**	**12 28 59.9**	**-0.3**
	baz=246						
WTP				*e*S	**Sn**	**12 29 23.2**	**-0.2**
	baz=246						
ECL	**Taimali**	**1.94**	**234**	*e*S	**Sn**	**12 29 19.7**	**-3.7**
	baz=230						
LAY	**Lan-yu**	**1.99**	**211**	P	**Pn**	**12 28 58.2**	**-2.6**
	baz=208						
LAY				*e*S	**Sn**	**12 29 19.5**	**-5.0**
	baz=208						
SGST	**Jiashian**	**2.02**	**251**	P	**Pn**	**12 29 01.5**	**+0.3**
	baz=240						
SGST				S	**Sn**	**12 29 25.9**	**+0.6**
	baz=240						
CHN1	**Nanshi**	**2.03**	**254**	P	**Pn**	**12 29 01.6**	**+0.2**
	baz=250						
CHN1				*e*S	**Sn**	**12 29 26.6**	**+1.0**
	baz=250						
CHY	**Chiayi**	**2.06**	**263**	*e*P	**Pn**	**12 29 02.4**	**+0.6**
	baz=260						
JTJ	**Tarama**	**2.07**	**64**	P	**Pn**	**12 29 01.3**	**-0.6**
JTJ				*e*S	**Sn**	**12 29 26.1**	**-0.4**
SSD	**Sandimen**	**2.11**	**242**	*e*P	**Pn**	**12 29 01.6**	**-1.0**
	baz=234						
EAST	**Anshuo**	**2.15**	**231**	P	**Pn**	**12 29 01.4**	**-1.6**
	baz=235						
EAST				*e*S	**Sn**	**12 29 26.0**	**-2.6**
	baz=235						
TWM1	**Shoushan**	**2.25**	**246**	*e*P	Pn	12 29 06.3	+1.9
	baz=243						
TWM1				*e*S	**Sn**	**12 29 34.3**	**+3.3**
	baz=243						
SCZT	**Fangliau**	**2.32**	**234**	*e*P	**Pn**	**12 29 05.7**	**+0.2**
	baz=231						
SCZT				*e*S	**Sn**	**12 29 32.8**	**0.0**
	baz=231						
HEN	**Hengchun**	**2.48**	**226**	*e*P	Pn	12 29 09.7	+2.1
	baz=223						
TWK1	**Hengchun**	**2.48**	**224**	*e*P	**Pn**	**12 29 07.8**	**+0.3**
	baz=221						
TWK1				*e*S	**Sn**	**12 29 35.4**	**-1.2**
	baz=221						
JMJ	**Miyako jima 2**	**2.63**	**66**	*e*S	**Sn**	**12 29 40.6**	**+0.2**
JOGS	**Gusukube**	**2.71**	**68**	P	**Pn**	**12 29 10.8**	**+0.1**
JKE	**Kume jima 2**	**4.54**	**55**	P	**Pn**	**12 29 34.9**	**-1.0**
JOW	**Kunigami**	**5.94**	**58**	Pn	**Pn**	**12 29 52.8**	**-2.3**
	1.0nm,0.3s,baz=162,slow=24,SNR=5.7						
JOW				Sn	**Sn**	**12 30 59.8**	**-2.1**
	1.2nm,0.3s,baz=110,slow=24,SNR=2.6						
KSRS	**Korea Array**	**14.38**	**17**	Pn	**P**	**12 31 54.4**	**-2.1**
	0.2nm,0.3s,baz=197,slow=11,SNR=5.3						
SONM	**Songino Array**	**27.30**	**336**	P	**P**	**12 34 09.2**	**-0.9**
	0.4nm,0.6s,baz=145,slow=9.8,SNR=5.1						
MKAR	**Makanchi Array**	**39.58**	**316**	P	**P**	**12 35 56.5**	**-0.1**
	0.2nm,0.4s,baz=98,slow=9.3,SNR=8.5						
ILAR	**Eielson Array**	**68.98**	**27**	P	**P**	**12 39 30.1**	**+0.2**
	0.2nm,0.5s,baz=284,slow=6.5,SNR=4.2						
YKA	**Yellowknife Ar**	**82.84**	**23**	P	**P**	**12 40 49.2**	**+0.2**
	0.4nm,0.7s,baz=312,slow=4.9,SNR=10						

IDC 06 12:42:01.6±2.1, 1°.10S×127°.38E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=147.3km s-min=27.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.93**	**160**	P	P	12 46 36.0	+0.7
	0.1nm,0.3s,baz=339,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**23.31**	**165**	P	P	12 47 10.9	-0.6
	0.2nm,0.4s,baz=347,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**61.89**	**327**	P	P	12 52 23.0	0.0
	0.2nm,0.5s,baz=122,slow=8.1,SNR=4.2						

*DJA **06** 12:53:27, 0°.74S×133°.35E, h10km, MLv3.8/3*
IDC 06 12:53:22.3±3.1, 0°.56S×133°.77E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=127.6km s-min=27.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.18**	**204**	P	P	12 57 47.7	+0.1
	0.3nm,0.3s,baz=42,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**19.27**	**178**	P	P	12 57 49.0	+0.3
	0.2nm,0.3s,baz=358,slow=12,SNR=7.5						
WRA				S	Sn	13 01 13.7	-13
	0.1nm,0.3s,baz=358,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**22.97**	**180**	P	P	12 58 28.4	-0.2
	1.2nm,0.4s,baz=359,slow=11,SNR=33						
DZM	**Mont Dzumac**	**38.34**	**126**	LR	LR	13 13 58.5	
	comp=Z,45nm,18.9s,baz=190,slow=32						
MKAR	**Makanchi Array**	**65.11**	**324**	P	P	13 04 05.0	0.0
	0.2nm,0.7s,baz=115,slow=8.4,SNR=3.7						

*ISCJB **06** 13:10:16.3±1.9, 35°.56N±0°.05×37°.2E±0°.1, h26km±12km, Error ellipse: s-maj=20.5km s-min=7.5km az=5.9*
*NSSC **06** 13:10:17.7±0.3, 35°.44N×37°.23E, h21km±8km, ML2.3*
*DDA **06** 13:10:17.2, 35°.69N×37°.16E, h7km, MD3.3*
ISC 06 13:10:16.0±2.7, 35°.56N±0°.07×37°.2E±0°.2, h26km±25km, n5, σ0s30/10, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KFRA	**Kufra**	**0.49**	**225**	*e*P	**Pb**	**13 10 26.3**	**+0.1**
KFRA				*e*S	**Sb**	**13 10 33.2**	**+0.1**
KFRA				AML	AML	13 10 34.8	
	comp=N,527nm,0.2s						
KFRA				AML	AML	13 10 35.9	
	comp=E,760nm,0.3s						
BIDA	**Albida**	**0.92**	**234**	*e*P	**Pb**	**13 10 33.3**	**-0.1**
BIDA				*e*S	**Sb**	**13 10 45.4**	**+0.1**
BIDA				AML	AML	13 10 47.1	
	comp=E,114nm,0.3s						
BIDA				AML	AML	13 10 47.5	
	comp=N,308nm,0.2s						
YAYL	**Yayladag**	**1.03**	**298**	*i* P	**Pb**	**13 10 34.7**	**-0.5**
YAYL				*i* S	**Sn**	**13 10 48.7**	**+0.2**
KUZU	**Kuzuini**	**1.22**	**354**	*e*P	**Pb**	**13 10 38.4**	**0.0**
KUZU				*i* S	**Sb**	**13 10 53.7**	**+0.1**
HAWK	**Haweek**	**1.24**	**213**	*e*P	**Pb**	**13 10 38.3**	**-0.4**
HAWK				*e*S	**Sb**	**13 10 54.3**	**-0.1**
HAWK				AML	AML	13 10 56.0	
	comp=E,27nm,0.4s						
HAWK				AML	AML	13 10 56.2	
	comp=N,16nm,0.5s						

IDC 06 13:10:15.3±1.9, 4°.84S×152°.77E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=102.6km s-min=25.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**229**	P	P	13 15 26.2	+0.1
	0.4nm,0.3s,baz=55,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.10**	**222**	P	P	13 15 51.8	+0.7
	0.2nm,0.4s,baz=57,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**29.62**	**241**	P	P	13 16 21.9	-0.7
	2.6nm,0.9s,baz=63,slow=9.0,SNR=4.5						
ILAR	**Eielson Array**	**82.21**	**22**	P	P	13 22 38.0	0.0
	0.1nm,0.3s,baz=246,slow=6.8,SNR=8.9						
TORD	**Torodi Ar. Bea**	**150.29**	**288**	PKPbc	PKPbc	13 30 08.6	-1.1
	0.4nm,0.5s,baz=78,slow=1.6,SNR=6.1						
TORD				PKPab	PKPab	13 30 16.1	+0.2
	0.5nm,0.6s,baz=80,slow=3.9,SNR=3.8						

KRSC 06 13:22:25.9±1.1, 52°.25N×159°.24E, h31km±31km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.48**	**293**	P	Pn	13 22 36.5	-0.1
RUS				*i* S	Sb	13 22 45.0	+2.0
MTVR	**Mutnovka**	**0.69**	**290**	*e*P	Pb	13 22 39.6	-0.1
MTVR				*e*S	Sb	13 22 49.1	0.0
GRL	**Gorelyy**	**0.78**	**293**	*e*P	Pb	13 22 41.4	+0.3
GRL				*i* S	Sn	13 22 52.5	+0.9
ASAK	**Asacha**	**0.83**	**280**	P	Pn	13 22 41.6	0.0
ASAK				*i* S	Sn	13 22 52.7	-0.2
PET	**Petropavlovsk**	**0.85**	**335**	P	Pb	13 22 42.3	+0.1
PET				*i* S	Sb	13 22 55.3	+2.0
NLC	**Nalytchevo**	**0.93**	**4**	P	Pn	13 22 42.4	-0.3
NLC				*i* S	Sb	13 22 55.4	+0.1
UGLR	**Uglovaya**	**0.99**	**345**	P	Pb	13 22 44.6	-0.1
UGLR				*i* S	Sb	13 22 59.1	+1.5
SDLR	**Sedlovina**	**1.05**	**348**	*e*P	Pn	13 22 44.9	+0.2
SDLR				*e*S	Sb	13 22 59.8	+0.5
AVH	**Avacha**	**1.06**	**343**	*e*P	Pb	13 22 45.5	-0.3
AVH				*e*S	Sb	13 23 00.3	+0.8
KOK	**Koryaka**	**1.11**	**341**	P	Pb	13 22 46.4	-0.2
KOK				*i* S	Sb	13 23 02.2	+1.4
MIPR	**Malaya Ipel'ka**	**1.53**	**272**	*e*P	Pn	13 22 50.8	-0.2
KBTR	**Krutoberegovo**	**4.49**	**26**	P	Pn	13 23 33.9	+2.2
KBTR				*i* S	Sn	13 24 24.5	+1.7

IDC 06 13:26:12.7±6.3, 52°.00N×168°.91W, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.4/29, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=113.0km s-min=47.1km az=86.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**11.03**	**52**	Pn	Pn	13 28 56.6	+5.1
	0.2nm,0.3s,baz=242,slow=5.2,SNR=4.9						
ILAR	**Eielson Array**	**17.10**	**33**	P	Pn	13 30 13.0	+0.1
	0.0nm,0.3s,baz=230,slow=11,SNR=4.0						
INK	**Inuvik**	**23.50**	**33**	P	P	13 31 23.9	+0.1
	0.6nm,0.4s,baz=247,slow=7.0,SNR=5.1						
YKA	**Yellowknife Ar**	**30.27**	**48**	P	P	13 32 24.4	-0.6
	0.1nm,0.6s,baz=272,slow=8.0,SNR=5.0						
PDAR	**Pinedale Array**	**40.19**	**79**	P	P	13 33 50.9	0.0
	0.5nm,0.7s,baz=299,slow=6.1,SNR=4.2						
TXAR	**Lajitas Array**	**52.47**	**89**	P	P	13 35 27.2	-0.1
	0.2nm,0.5s,baz=316,slow=6.5,SNR=5.3						

*ISCJB **06** 13:28:43.1±0.4, 7°.27S±0°.06×122°.28E±0°.08, h573km, mb3.4/6, Error ellipse: s-maj=11.4km s-min=6.8km az=155.2*
*DJA **06** 13:28:40.6, 7°.34S×122°.29E, h562km, MLv4.0/9*
*IDC **06** 13:28:44.1±1.2, 7°.32S×122°.36E, h562km±16km, mb2.9/6, mb1 3.1/10, mb1mx2.9/21, mbtmp2.9/10, Error ellipse: s-maj=41.8km s-min=9.4km az=59.0*
ISC 06 13:28:44.5±0.6, 7°.32S±0°.09×122°.3E±0°.1, h573km, n24, σ1s23/27, mb3.4/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.31**	**184**	P	**P**	**13 29 51.4**	**-2.5**
BKSI	**Bulukumba**	**2.96**	**312**	P	**P**	**13 29 59.2**	**-2.0**
WSI	**Waingapu**	**3.08**	**221**	P	**P**	**13 30 01.9**	**0.0**
KAPI	**Kappang**	**3.44**	**312**	P	**P**	**13 30 02.2**	**-2.0**
	4.1nm,0.3s,baz=142,slow=6.1,SNR=12						
KAPI	**Kappang**	**3.44**	**312**	P	**P**	**13 30 03.4**	**-0.8**
MTNI	**Mataram**	**6.24**	**257**	P	**P**	**13 30 25.1**	**-1.3**
	108nm,0.7s,0.5nm						
NLAI	**Namlea**	**6.24**	**50**	P	**P**	**13 30 24.8**	**-1.7**
	139nm,0.7s,2µm1.2nm						
LUWI	**Luwuk**	**6.25**	**4**	P	**P**	**13 30 25.4**	**-1.2**
	77nm,0.8s,1µm0.2nm						
KHKI	**Kahang-Kahang**	**6.74**	**261**	P	**P**	**13 30 29.8**	**-1.2**
	56nm,0.8s,0.2nm						
MRSI	**Marisa**	**7.75**	**357**	P	**P**	**13 30 38.9**	**-1.7**
	70nm,1.0s,1µm0.4nm						
KMSI	**Cibinong**	**8.01**	**12**	P	**P**	**13 30 42.8**	**-0.3**
	476nm,0.8s,4µm1.7nm						
LBMI	**Labuha**	**8.40**	**38**	P	**P**	**13 30 45.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.19**	**164**	P	**P**	**13 31 14.0**	**-0.9**
	1.5nm,0.3s,baz=356,slow=6.5,SNR=42						
WRA	**Warramunga Arr**	**17.12**	**138**	P	**P**	**13 32 13.6**	**+0.2**
	0.5nm,0.3s,baz=314,slow=11,SNR=25						
WRA				S	**S**	**13 35 03.2**	**-0.2**
	0.1nm,0.3s,baz=314,slow=18,SNR=7.7						
ASAR	**Alice Springs**	**19.69**	**147**	P	**P**	**13 32 37.4**	**+0.6**
	0.4nm,0.3s,baz=322,slow=8.7,SNR=48						
ASAR				S	**S**	**13 35 43.7**	**-1.2**
	0.1nm,0.3s,baz=340,slow=25,SNR=7.9						
ASAR				PcP	**PcP**	**13 36 28.9**	**+0.6**
	0.2nm,0.3s,baz=353,slow=1.5,SNR=12						
NWAO	**Narrogin (SRO)**	**25.92**	**190**	P	**P**	**13 33 32.2**	**+0.2**
	12nm,1.0s,baz=22,slow=8.7,SNR=4.0						
STKA	**Stephens Creek**	**30.32**	**146**	P	**P**	**13 34 11.4**	**+1.0**
	0.8nm,0.4s,baz=285,slow=18,SNR=7.2						
CMAR	**Chiang Mai Arr**	**34.47**	**318**	P	**P**	**13 34 45.9**	**+0.1**
	0.4nm,0.5s,baz=140,slow=6.9,SNR=5.0						
SONM	**Songino Array**	**56.69**	**347**	P	**P**	**13 37 34.4**	**+0.1**
	0.2nm,0.5s,baz=161,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**64.54**	**331**	P	**P**	**13 38 26.6**	**+0.7**
	0.9nm,0.7s,baz=138,slow=6.7,SNR=16						
ZALV	**Zalesovo Beam**	**68.71**	**337**	P	**P**	**13 38 50.9**	**-0.4**
	0.4nm,0.4s,baz=136,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**111.31**	**25**	PKiKP	**PKiKP**	**13 46 14.1**	**+0.7**
	0.3nm,0.5s,baz=299,slow=2.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**121.40**	**281**	PKP	**PKPdf**	**13 46 35.1**	**+0.8**
	0.5nm,0.5s,baz=44

*DJA **06** 13:40:12,0.06S×131.90E,h10km,MLv3.9/4*
IDC 06 13:40:14.8±2.1,0.40S×132.11E,h0km,mb3.8/4, mb1 3.9/6,mb1mx3.7/19,mbtmp3.8/6,ML3.5/2,Error ellipse: s-maj=115.2km s-min=19.1km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.70 200**		P	Pn	13 44 35.2	0.0
	0.1nm,0.3s,baz=20,slow=11,SNR=3.9						
FITZ				S	Sn	13 47 54.2	-11
	0.1nm,0.3s,baz=101,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**19.54 174**		P	P	13 44 43.8	-0.5
	0.2nm,0.3s,baz=352,slow=12,SNR=4.5						
WRA				S	Sn	13 48 14.4	-11
	0.2nm,0.3s,baz=357,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**23.19 176**		P	P	13 45 23.6	+0.1
	3.9nm,0.8s,baz=356,slow=11,SNR=19						
SONM	**Songino Array**	**53.00 339**		P	P	13 49 33.6	0.0
	0.4nm,0.6s,baz=158,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**64.01 324**		P	P	13 50 50.6	+0.3
	0.8nm,0.5s,baz=113,slow=8.4,SNR=14						
KURK	**Kurchatov**	**68.11 327**		P	P	13 51 16.2	-0.4
	0.7nm,0.5s,baz=126,slow=5.9,SNR=12						

IDC 06 13:48:40.4±2.5,0.30S×133.23E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/17,mbtmp3.3/4,ML3.4/1,Error ellipse: s-maj=144.6km s-min=24.4km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.56 177**		P	P	13 53 10.2	+0.3
	0.1nm,0.3s,baz=355,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**23.24 178**		P	P	13 53 49.8	+0.3
	0.5nm,0.5s,baz=355,slow=10,SNR=10						
STKA	**Stephens Creek**	**32.09 167**		P	P	13 55 11.4	-0.6
	0.8nm,0.7s,baz=346,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**64.58 324**		P	P	13 59 19.6	0.0
	0.1nm,0.6s,baz=108,slow=4.7,SNR=2.4						

*IDC **06** 13:59:01.8±1.5,0.42S×133.01E,h0km,mb3.9/6, mb1 4.1/8,mb1mx3.8/20,mbtmp4.0/8,ML4.1/2,Error ellipse: s-maj=67.7km s-min=13.6km az=75.0*
*DJA **06** 13:59:10,0.55S×132.74E,h69km,mb4.7/7*
ISC 06 13:59:10.4±2.5,0.9S±0.2×133.1E±0.2,h35km,n15, σ1s59/8,mb4.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.21 204**		P	Pn	13 59 47.1	+2.5
TLE	**Tual**	**4.74 185**		P	Pn	14 00 24.8	+5.4
	221nm,0.6s,3µm0.7nm						
MSAI	**Masohi**	**4.86 240**		P	**Pn**	**14 00 21.5**	**+0.3**
	24nm,0.5s,0.1nm						
LBMI	**Labuha**	**5.64 272**		P	Pn	14 00 25.0	-6.9
	85nm,0.8s,1µm0.4nm						
AAI	**Ambon**	**5.67 241**		P	**Pn**	**14 00 33.8**	**+1.6**
	53nm,0.6s,0.3nm						
LUWI	**Luwuk**	**10.36 269**		P	S	14 03 28.9	
FITZ	**Fitzroy Crossi**	**18.63 203**		P	**Pn**	**14 03 25.7**	**0.0**
	0.4nm,0.3s,baz=53,slow=9.2,SNR=12						
FITZ				S	Sn	14 06 40.1	-13
	0.1nm,0.3s,baz=255,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**18.98 177**		P	**Pn**	**14 03 30.5**	**+0.6**
	0.6nm,0.3s,baz=353,slow=12,SNR=27						
WRA				S	**Sn**	**14 06 59.1**	**-2.3**
	0.2nm,0.3s,baz=1.8,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**22.66 178**		P	**P**	**14 04 10.0**	**+1.2**
	6.0nm,0.7s,baz=1.9,slow=11,SNR=85						
ASAR				S	Sn	14 08 23.6	-6.5
	0.3nm,0.5s,baz=343,slow=13,SNR=4.4						
RGRI	**Rengat**	**30.80 271**		P	**P**	**14 05 21.6**	**-1.7**
STKA	**Stephens Creek**	**31.84 166**		P	**P**	**14 05 32.4**	**+0.2**
	1.3nm,0.4s,baz=345,slow=7.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**38.72 301**		P	P	14 06 24.9	-6.6
	0.4nm,0.3s,baz=111,slow=6.9,SNR=4.7						
MKAR	**Makanchi Array**	**65.00 324**		P	P	14 09 41.2	-5.8
	0.6nm,0.5s,baz=112,slow=8.4,SNR=14						
KURK	**Kurchatov**	**69.08 326**		P	P	14 10 06.9	-5.9
	0.4nm,0.3s,baz=123,slow=5.7,SNR=7.4						
BVAR	**Borovoye Array**	**74.67 326**		P	P	14 10 39.9	-6.5
	0.5nm,0.6s,baz=120,slow=8.8,SNR=5.8						

TAP 06 14:03:17.3,21.25N×122.22E,h153km±1km,ML3.5,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.00 322**		*e*P	Pn	14 03 42.7	+0.4
	baz=322						
LAY				*e*S	Sn	14 04 00.0	-1.6
	baz=322						
TSEB	**Hengchuen, Pin**	**1.38 298**		*e*P	Pn	14 03 46.2	+0.3
	baz=292						
TSEB				*e*S	Sn	14 04 07.4	-0.3
	baz=292						
TWK1	**Hengchun**	**1.48 298**		*e*P	Pn	14 03 47.5	+0.6
	baz=295						
TWK1				*e*S	Sn	14 04 09.2	-0.4
	baz=295						
HEN	**Hengchun**	**1.57 299**		*e*P	Pn	14 03 48.7	+0.9
	baz=299						
HEN				*e*S	Sn	14 04 10.6	-0.5
	baz=299						
EAST	**Anshuo**	**1.70 312**		P	Pn	14 03 49.5	+0.3
	baz=307						
EAST				*e*S	Sn	14 04 13.1	-0.7
	baz=307						
SCZT	**Fangliau**	**1.85 307**		P	Pn	14 03 51.1	+0.2
	baz=307						
SCZT				*e*S	Sn	14 04 16.0	-0.8
	baz=307						
TWG	**Pinlang**	**1.89 326**		P	Pn	14 03 51.5	+0.1
	baz=326						
TWG				*e*S	Sn	14 04 16.6	-0.9
	baz=326						
TWP	**Hsiaoliuchiu**	**2.04 303**		*e*P	Pn	14 03 53.2	+0.2
	baz=293						
TWP				*e*S	Sn	14 04 22.1	+1.5
	baz=293						
SSD	**Sandimen**	**2.09 316**		P	Pn	14 03 54.0	+0.3
	baz=316						
SSD				*e*S	Sn	14 04 20.8	-0.8
	baz=316						
ELDTW	**Lidau**	**2.22 330**		*e*P	Pn	14 03 56.0	+0.6
	baz=327						
TWM1	**Shoushan**	**2.28 314**		P	Pn	14 03 57.2	+1.2
	baz=321						
STYT	**Tauyuan**	**2.33 325**		*e*P	Pn	14 03 57.2	+0.6
	baz=329						
SGST	**Jiashian**	**2.37 321**		*e*P	Pn	14 03 57.9	+0.9
	baz=313						
SGST				*e*S	Sn	14 04 27.7	+0.1
	baz=313						
EHY	**Hungye**	**2.39 340**		*e*P	Pn	14 03 59.6	+2.4
	baz=342						
WTP	**Ta-pu**	**2.48 323**		P	Pn	14 03 58.6	+0.3
	baz=316						
CHN1	**Nanshi**	**2.48 321**		P	Pn	14 03 58.6	+0.3
	baz=314						
CHN1				*e*S	Sn	14 04 29.6	-0.4
	baz=314						
CHN4	**Tsaushan**	**2.57 325**		*e*P	Pn	14 03 58.8	-0.6
	baz=317						
ESL	**Shilin**	**2.65 344**		*e*P	Pn	14 04 01.6	+1.2
	baz=350						
CHN5	**Tsauling**	**2.73 329**		P	Pn	14 04 01.6	+0.1
	baz=329						
CHN5				*e*S	Sn	14 04 35.2	-0.6
	baz=329						
SMLT	**Sun Moon Lake**	**2.89 335**		*e*P	Pn	14 04 03.8	+0.3
	baz=326						
TYC	**Yuchr**	**2.92 335**		P	Pn	14 04 04.5	+0.7
	baz=326						
WHF	**Hehuan Shan**	**3.01 343**		*e*P	Pn	14 04 07.6	+2.2
	baz=349						
TWT	**Tachien**	**3.14 342**		*e*P	Pn	14 04 09.2	+2.5
	baz=347						

*IDC **06** 14:06:00.5±2.7,7.65S×106.93E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.6/19,mbtmp3.6/6,Error ellipse: s-maj=136.8km s-min=18.6km az=54.0*
*DJA **06** 14:06:10,7.88S×107.32E,h31km,MLv4.2/20*
ISC 06 14:06:06.7±1.2,7.9S±0.2×106.9E±0.2,h46km,n12, σ1s19/11,mb3.5/6,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.92 339**		P	Pn	14 06 30.2	+6.9
	6µm,0.6s,84µm						
CISI	**Cisompet, Garu**	**0.96 71**		P	**Pn**	**14 06 23.0**	**-0.9**
	3µm,0.6s,304µm						
LEM	**Lembang**	**1.26 35**		P	**Pn**	**14 06 29.4**	**+1.4**
	2µm,0.8s,20µm						
CBJI	**Citeko**	**1.44 358**		P	**Pn**	**14 06 31.2**	**+0.8**
	13µm,0.5s,278µm						
CGJI	**Cibinong**	**1.73 316**		P	Pn	14 06 42.1	+7.8
	600nm,0.6s,17µm						
WRA	**Warramunga Arr**	**29.16 117**		P	**P**	**14 12 04.1**	**+0.3**
	0.3nm,0.6s,baz=292,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**30.28 124**		P	**P**	**14 12 13.9**	**+0.2**
	0.6nm,1.0s,baz=304,slow=8.6,SNR=3.9						
STKA	**Stephens Creek**	**40.14 131**		P	**P**	**14 13 40.0**	**+1.7**
	3.3nm,0.6s,baz=310,slow=9.3,SNR=12						
SONM	**Songino Array**	**55.46 360**		P	**P**	**14 15 36.0**	**-0.8**
	0.2nm,0.5s,baz=175,slow=7.2,SNR=3.2						
SONM				PcP	**PcP**	**14 16 37.0**	**+0.5**
	0.9nm,0.4s,baz=178,slow=3.7,SNR=15						
MKAR	**Makanchi Array**	**58.67 340**		P	**P**	**14 15 57.9**	**-1.5**
	0.3nm,0.6s,baz=156,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**64.35 346**		P	**P**	**14 16 36.1**	**-1.4**
	0.4nm,0.3s,baz=156,slow=6.6,SNR=4.9						
TXAR	**Lajitas Array**	**144.21 49**		PKP	**PKPdf**	**14 25 38.1**	**-0.3**
	0.5nm,0.6s,baz=228,slow=0.9,SNR=7.2						

*IDC **06** 14:21:55.9±0.9,50.19N×176.88W,h0km,mb3.9/17, mb1 4.1/19,mb1mx4.0/32,mbtmp4.0/19,ML3.5/2,Error ellipse: s-maj=26.0km s-min=13.7km az=179.0*
*ISCJB **06** 14:21:58.4±0.6,50.36N±0.08×176.91W±0.08,h25km, mb3.9/21,Error ellipse: s-maj=12.5km s-min=5.3km az=155.0*
*NEIC **06** 14:21:59.4±2.1,50.29N×176.94W,h20km±14km,mb3.9/9, ML3.1(AEIC),Error ellipse: s-maj=12.7km s-min=5.5km az=174.0*
ISC 06 14:22:00.2±0.8,50.3N±0.1×176.88W±0.07,h25km,n57, σ0s98/60,mb3.9/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.53**	**41**	P	**Pn**	**14 22 38.4**	**-1.2**
ATKA				S	**Sn**	**14 23 07.1**	**-2.6**
KOKL	**Mount Kliuchef**	**2.62**	**39**	P	**Pn**	**14 22 40.9**	**0.0**
KOFP	**Korovin Flat P**	**2.63**	**41**	P	**Pn**	**14 22 41.0**	**0.0**
KOFP				S	**Sn**	**14 23 10.3**	**-1.8**
KOWE	**Korovin West**	**2.63**	**38**	P	**Pn**	**14 22 41.1**	**0.0**
KOWE				S	**Sn**	**14 23 13.5**	**+1.3**
NIKO	**Nikolski**	**5.66**	**59**	P	**Pn**	**14 23 22.2**	**-0.4**
NIKO				S	**Sn**	**14 24 23.9**	**-2.7**
OKWE	**Okmok W'ng Wal**	**6.21**	**56**	P	**Pn**	**14 23 30.9**	**+0.8**
FX1	**Attu Island--F**	**6.72**	**296**	Pn	**Pn**	**14 23 36.9**	**-0.2**
	3.1nm,0.3s,baz=26,slow=20,SNR=7.1						
FX1	**Attu Island--F**	**6.72**	**296**	Pn	**Pn**	**14 23 36.9**	**-0.2**
MSOM	**Makushin Julie**	**7.05**	**56**	P	**Pn**	**14 23 42.2**	**+0.6**
MSW	**Makushin Switc**	**7.18**	**56**	P	**Pn**	**14 23 44.3**	**+0.7**
UNV	**Unalaska Valle**	**7.30**	**57**	P	**Pn**	**14 23 45.8**	**+0.6**
UNV				S	**Sn**	**14 25 05.9**	**-1.2**
AKUT	**Akutan**	**7.82**	**56**	*e*Pn	**Pn**	**14 23 53.5**	**+1.3**
PETK	**Petropavlovsk-**	**15.98**	**290**	Pn	**Pn**	**14 25 42.5**	**-0.5**
	0.2nm,0.3s,baz=94,slow=19,SNR=6.9						
PETK	**Petropavlovsk-**	**15.98**	**290**	Pn	**Pn**	**14 25 42.5**	**-0.5**
KDAK	**Kodiak Island**	**16.04**	**53**	Pn	Pn	14 25 38.8	-5.0
	1.0nm,0.3s,baz=316,slow=23,SNR=16						
KDAK	**Kodiak Island**	**16.04**	**53**	Pn	Pn	14 25 38.8	-5.0
PPLA	**Purkeypile**	**18.38**	**37**	*e*P	**P**	**14 26 14.0**	**+1.0**
	2.4nm,0.4s						
BILL	**Bilibino**	**19.63**	**341**	*e*P	**P**	**14 26 26.9**	**+0.4**
	3.5nm,0.7s						
MCK	**McKinley**	**20.07**	**37**	*e*P	**P**	**14 26 31.2**	**-0.1**
	5.6nm,0.7s						
PAX	**Paxson**	**21.15**	**41**	*e*P	**P**	**14 26 44.1**	**+1.0**
	8.3nm,1.0s						
ILAR	**Eielson Array**	**21.35**	**36**	P	**P**	**14 26 44.0**	**-1.2**
	1.6nm,0.4s,baz=226,slow=11,SNR=23						
ILAR	**Eielson Array**	**21.35**	**36**	P	**P**	**14 26 44.0**	**-1.2**
COLD	**Coldfoot**	**21.58**	**28**	P	**P**	**14 26 47.8**	**+0.2**
	4.4nm,0.8s						
DOT	**Dot Lake**	**21.99**	**40**	*e*P	**P**	**14 26 52.5**	**+0.5**
	2.3nm,0.5s						
INK	**Inuvik**	**27.66**	**33**	P	**P**	**14 27 45.5**	**0.0**
	0.5nm,0.3s,baz=248,slow=8.7,SNR=7.4						
INK	**Inuvik**	**27.66**	**33**	*e*P	**P**	**14 27 45.3**	**-0.2**
	0.6nm,0.5s						
DLBC	**Dease Lake**	**27.95**	**55**	P	**P**	**14 27 50.4**	**+2.0**
	1.7nm,0.8s,baz=294,slow=10.0,SNR=3.0						
DLBC	**Dease Lake**	**27.95**	**55**	P	**P**	**14 27 50.4**	**+2.0**
YKA	**Yellowknife Ar**	**35.09**	**46**	P	**P**	**14 28 52.2**	**+1.4**
	2.7nm,0.7s,baz=276,slow=7.3,SNR=50						
YKA	**Yellowknife Ar**	**35.09**	**46**	P	**P**	**14 28 52.2**	**+1.4**
BW06	**Boulder Array**	**45.47**	**72**	*e*P	**P**	**14 30 17.6**	**+0.3**
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**45.47**	**72**	P	**P**	**14 30 17.9**	**+0.7**
	0.7nm,0.7s,baz=297,slow=3.8,SNR=6.4						
PDAR	**Pinedale Array**	**45.47**	**72**	P	**P**	**14 30 17.9**	**+0.7**
SONM	**Songino Array**	**48.22**	**298**	P	**P**	**14 30 39.4**	**+0.8**
	0.3nm,0.5s,baz=55,slow=7.9,SNR=5.0						
SONM	**Songino Array**	**48.22**	**298**	P	**P**	**14 30 39.4**	**+0.8**
TXAR	**Lajitas Array**	**57.60**	**82**	P	**P**	**14 31 47.8**	**-0.2**
	0.7nm,0.7s,baz=298,slow=4.6,SNR=8.9						
TXAR	**Lajitas Array**	**57.60**	**82**	P	**P**	**14 31 47.8**	**-0.2**
ARCES	**ARCESS Array B**	**59.34**	**351**	P	**P**	**14 31 59.0**	**-0.5**
	5.3nm,1.0s,baz=35,slow=8.0,SNR=3.0						
ARCES	**ARCESS Array B**	**59.34**	**351**	P	**P**	**14 31 59.0**	**-0.5**
KURK	**Kurchatov**	**60.64**	**315**	P	**P**	**14 32 08.3**	**-0.2**
	1.2nm,0.7s,baz=44,slow=6.8,SNR=9.9						
KURK	**Kurchatov**	**60.64**	**315**	P	**P**	**14 32 07.7**	**-0.9**
	2.9nm,0.8s						
MKAR	**Makanchi Array**	**61.65**	**310**	P	**P**	**14 32 14.4**	**-1.2**
	0.3nm,0.5s,baz=50,slow=7.9,SNR=7.0						
MKAR	**Makanchi Array**	**61.65**	**310**	P	**P**	**14 32 14.4**	**-1.2**
FINES	**FINESS Array B**	**67.08**	**348**	P	**P**	**14 32 50.6**	**-0.1**
	3.4nm,0.8s,baz=42,slow=3.1,SNR=4.8						
FINES	**FINESS Array B**	**67.08**	**348**	P	**P**	**14 32 50.6**	**-0.1**
NOA	**NORSAR Array B**	**68.81**	**356**	P	**P**	**14 33 01.9**	**+0.1**
	0.9nm,0.5s,baz=5.6,slow=6.7,SNR=5.0						
NOA	**NORSAR Array B**	**68.81**	**356**	P	**P**	**14 33 01.9**	**+0.1**
AKTO	**Aktyubinsk**	**69.25**	**326**	P	**P**	**14 33 05.2**	**+0.6**
	3.6nm,0.7s,baz=55,slow=7.5,SNR=21						
AKTO	**Aktyubinsk**	**69.25**	**326**	P	**P**	**14 33 05.2**	**+0.6**
AKASG	**Malin Array Be**	**76.93**	**343**	P	**P**	**14 33 50.1**	**+0.2**
	3.7nm,0.8s,baz=15,slow=5.2,SNR=6.7						
AKASG	**Malin Array Be**	**76.93**	**343**	P	**P**	**14 33 50.1**	**+0.2**
WRA	**Warramunga Arr**	**82.11**	**226**	P	**P**	**14 34 17.5**	**-0.9**
	0.2nm,0.6s,baz=35,slow=6.2,SNR=2.5						
WRA	**Warramunga Arr**	**82.11**	**226**	P	**P**	**14 34 17.5**	**-0.9**
ASAR	**Alice Springs**	**85.55**	**224**	P	**P**	**14 34 35.1**	**-0.9**
	0.3nm,0.8s,baz=21,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**85.55**	**224**	P	**P**	**14 34 35.1**	**-0.9**
BRTR	**Keskin Array B**	**86.41**	**337**	P	**P**	**14 34 40.5**	**+0.1**
	0.9nm,0.6s,baz=48,slow=1.8,SNR=3.9						
BRTR	**Keskin Array B**	**86.41**	**337**	P	**P**	**14 34 40.5**	**+0.1**

*ISK **06** 14:34:18.4,37.81N×29.33E,h6km,MD2.8*
*DDA **06** 14:34:19.8,37.90N×29.23E,h4km,MD2.6*
*CSEM **06** 14:34:19.5±0.1,37.86N×29.25E,h12km,MD2.8,Error ellipse: s-maj=3.4km s-min=2.3km az=111.0*
*ISCJB **06** 14:34:20.0±0.6,37.87N±0.03×29.25E±0.05,h9km±5km, Error ellipse: s-maj=7.0km s-min=4.1km az=16.0*
ISC 06 14:34:20.0±0.9,37.88N±0.02×29.25E±0.04,h11km±9km, n18,σ0s61/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**234**	*e*PG	**Pg**	**14 34 24.0**	**-0.4**
DENT				*e*SG	**Sg**	**14 34 27.2**	**-0.2**
DENT	**Denizli**	**0.21**	**234**	*e*Pg	**Pg**	**14 34 24.0**	**-0.4**
DENT				*e*Sg	**Sg**	**14 34 27.2**	**-0.2**
DNZL	**Cakiroluk**	**0.24**	**220**	*i* P	**Pg**	**14 34 25.0**	**-0.1**
DNZL				*i* S	**Sg**	**14 34 29.5**	**+0.9**
DNZL	**Cakiroluk**	**0.24**	**220**	*i* P	**Pg**	**14 34 25.0**	**-0.1**
DNZL				*i* S	**Sg**	**14 34 29.5**	**+0.9**
KHL	**Karahalli**	**0.50**	**26**	*e*PG	**Pg**	**14 34 29.1**	**-0.6**
KHL				*e*SG	**Sg**	**14 34 37.0**	**+0.7**
KHL	**Karahalli**	**0.50**	**26**	*e*Pg	**Pg**	**14 34 29.1**	**-0.6**
KHL				*e*Sg	**Sg**	**14 34 37.0**	**+0.7**
KHAL	**Karahalli**	**0.53**	**21**	*i* P	**Pg**	**14 34 30.0**	**-0.4**
KHAL				*i* S	**Sg**	**14 34 38.3**	**+0.9**
KHAL	**Karahalli**	**0.53**	**21**	*i* P	**Pg**	**14 34 30.0**	**-0.4**
KHAL				*i* S	**Sg**	**14 34 38.3**	**+0.9**
GOLH	**Golhisar**	**0.69**	**159**	*i* P	**Pg**	**14 34 32.7**	**-0.6**
GOLH				*i* S	**Sb**	**14 34 44.5**	**+1.0**
GOLH	**Golhisar**	**0.69**	**159**	*i* P	**Pg**	**14 34 32.7**	**-0.6**
GOLH				*i* S	**Sb**	**14 34 44.5**	**+1.0**
KULA	**Kula-Manisa**	**0.79**	**324**	*e*PG	**Pg**	**14 34 35.7**	**+0.5**
KULA				*e*SG	**Sn**	**14 34 48.4**	**-0.5**
KULA	**Kula-Manisa**	**0.79**	**324**	*e*Pg	**Pg**	**14 34 35.7**	**+0.5**
MANT	**Manisa**	**0.82**	**319**	*i* P	**Pg**	**14 34 35.6**	**-0.2**
MANT				*i* S	**Sg**	**14 34 46.0**	**-0.6**
MANT	**Manisa**	**0.82**	**319**	*i* P	**Pg**	**14 34 35.6**	**-0.2**
MANT				*i* S	**Sg**	**14 34 46.0**	**-0.6**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pb**	**14 34 43.1**	**-0.2**
GDZ				*i* S	**Sb**	**14 34 59.5**	**+0.4**
GDZ	**Gediz**	**1.23**	**9**	*i* P	**Pb**	**14 34 43.1**	**-0.2**
GDZ				*i* S	**Sb**	**14 34 59.5**	**+0.4**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*PN	**Pb**	**14 34 42.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.23**	**56**	*e*Pn	**Pb**	**14 34 42.8**	**-0.5**

WEL 06 14:34:56.2±0.9,37.17S×176.28E,h285km±14km, ML3.7/11,Error ellipse: s-maj=18.4km s-min=18.2km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.27 149**		PN	Pn	14 35 36.0	-0.3
URZ				SN	S	14 36 08.1	-0.1
MWZ	**Matawai**	**1.52 140**		PN	Pn	14 35 38.7	+0.6
MWZ				SN	S	14 36 10.7	-0.7
MXZ	**Matakaoa Point**	**1.66 104**		PN	Pn	14 35 39.6	+0.6
PUZ	**Puketiti**	**1.81 120**		PN	Pn	14 35 40.3	+0.2
PUZ				SN	S	14 36 13.7	-1.3
RAHZ	**Arahi**	**1.85 160**		PN	Pn	14 35 41.3	+0.8
BKZ	**Black Stump Fm**	**2.00 175**		PN	Pn	14 35 42.3	+0.7
BKZ				SN	S	14 36 17.5	-0.3
CNGZ	**Carnagh Statio**	**2.01 131**		*e*PN	Pn	14 35 42.3	+0.7
KNZ	**Kokohu**	**2.15 150**		PN	Pn	14 35 43.0	+0.2
KNZ				SN	S	14 36 19.2	-0.7
TUVZ	**Tukino**	**2.15 193**		PN	Pn	14 35 44.3	+1.2
WNVZ	**Wahianoa**	**2.22 194**		PN	Pn	14 35 44.8	+1.1
MCHZ	**McNeill Hill**	**2.29 172**		PN	Pn	14 35 45.0	+0.9
MTVZ	**Mangateitei**	**2.30 196**		PN	Pn	14 35 45.4	+1.1
BHHZ	**Black Hill Sta**	**2.32 184**		PN	Pn	14 35 45.0	+0.6
CKHZ	**Cape Kidnapper**	**2.56 166**		PN	Pn	14 35 46.9	+0.4
KAHZ	**Kahuranaki**	**2.66 170**		PN	Pn	14 35 47.9	+0.4
PNHZ	**Pukenui**	**2.74 181**		PN	Pn	14 35 48.3	0.0
WAZ	**Wanganui**	**2.77 201**		PN	Pn	14 35 49.7	+1.1
PXZ	**Pawanui**	**2.89 171**		PN	Pn	14 35 49.7	0.0
MRZ	**Mangatainoka R**	**3.53 189**		PN	Pn	14 35 55.4	-1.0
OGWZ	**Otaki Gorge**	**3.74 193**		PN	Pn	14 35 57.8	-0.8
KIW	**Kapiti Island**	**3.83 196**		PN	Pn	14 35 58.9	-0.9
MTW	**Mount Morrison**	**4.03 188**		PN	Pn	14 36 00.2	-1.7
DUWZ	**D'Urville Isla**	**4.07 206**		PN	Pn	14 36 01.4	-0.9
TCW	**Tory Channel**	**4.32 201**		PN	Pn	14 36 04.2	-1.0
NNZ	**Nelson**	**4.63 208**		PN	Pn	14 36 07.0	-1.6
QRZ	**Quartz Range**	**4.67 218**		PN	Pn	14 36 07.4	-1.9
THZ	**Tophouse**	**5.28 209**		PN	Pn	14 36 14.6	-1.9
KHZ	**Kahutara**	**5.65 201**		PN	Pn	14 36 19.1	-1.6
DSZ	**Denniston Nort**	**5.73 216**		PN	Pn	14 36 19.2	-2.6

*IDC **06** 14:36:04.5±0.6,7.75S×107.88E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.0/22,mbtmp4.0/14,MS2.9/3, Ms1 3.0/3,ms1mx2.6/32,Error ellipse: s-maj=30.8km s-min=14.6km az=51.0*
*NEIC **06** 14:36:11.0±3.3,7.77S×107.92E,h45km±29km,mb4.1/7, Error ellipse: s-maj=18.3km s-min=8.0km az=54.0*
NEIC Felt [III] at Pangandaran.
*DJA **06** 14:36:13.8,7.12S×107.98E,h33km,MLv4.7/17*
ISC 06 14:36:13.0±2.0,7.8S±0.1×107.9E±0.1,h64km±17km,n54, σ0s68/48,mb4.0/17,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.04 343**		P	Pn	14 36 35.5	+3.5
CLJI	**Cilicap**	**1.09 84**		P	Pn	14 36 42.2	+10
SKJI	**Sukabumi**	**1.58 301**		P	Pn	14 36 43.7	+4.8
CBJI	**Citeko**	**1.76 323**		P	**Pn**	**14 36 41.4**	**+0.1**
BJII	**Banjamegara**	**1.84 75**		P	**Pn**	**14 36 43.3**	**+0.8**
CGJI	**Cibinong**	**2.52 299**		P	Pn	14 36 54.0	+2.4
UGM	**Wanagama**	**2.58 92**		P	Pn	14 36 55.5	+3.0
PCJI	**Pacitan**	**3.25 97**		P	Pn	14 37 02.4	+0.8
SJI	**Sawahan**	**3.81 89**		P	Pn	14 37 10.8	+1.4
PWJI	**Pagerwojo**	**3.85 93**		P	Pn	14 37 11.7	+1.8
KAPI	**Kappang**	**12.09 77**		LR	LR	14 44 39.6	
	comp=Z,27nm,18.6s,baz=259,slow=43						
FITZ	**Fitzroy Crossi**	**20.04 122**		*e*P	Pn	14 40 41.3	-2.0
	2.4nm,0.6s,

PDAR	**Pinedale Array**	**132.11**	**37**	PKP	**PKPdf**	**14 55 20.0**	**-0.1**	
	0.2nm,0.5s,baz=199,slow=2.5,SNR=2.6							
PDAR	**Pinedale Array**	**132.11**	**37**	PKP	**PKPdf**	**14 55 20.0**	**-0.1**	
TXAR	**Lajitas Array**	**143.41**	**50**	PKP	PKPbc	14 55 39.5	+1.2	
	0.4nm,0.7s,baz=212,slow=1.1,SNR=8.1							
TXAR	**Lajitas Array**	**143.41**	**50**	PKP	PKPbc	14 55 39.5	+1.2	
JCT	**Junction City**	**145.64**	**45**	*e*PKP	**PKPab**	**14 55 46.3**	**+0.8**	
WVT	**Waverly**	**148.37**	**25**	*e*PKPbc	**PKPbc**	**14 55 53.0**	**+0.3**	
TKL	**Tuckaleechee C**	**150.30**	**19**	*e*PKPbc	**PKPbc**	**14 55 58.2**	**+0.7**	

ZUR ***06*** *14:51:38.6, 47.54N×8.18E, h1km±1km, ML1.8/3, Suspected Mining explosion.*
GEN ***06*** *14:52:25.6, 44.68N×6.81E, h5km, ML0.5*
CSEM ***06*** *14:52:25.2±0.2, 44.67N×6.82E, h5km, ML1.3/6, Error ellipse: s-maj=4.7km s-min=3.9km az=37.0*

LDG 06 14:52:25.8±0.1, 44.67N×6.81E, h4km, Md1.5/3, Ml1.7/2, Error ellipse: s-maj=1.6km s-min=1.3km az=62.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBDF	**Montbardon**	**0.06**	**332**	*e*Pg		Pg	14 52 27.7	+0.3
MBDF				*e*Sg		Sg	14 52 28.7	+0.2
	12nm,0.2s							
MBDF	**Montbardon**	**0.06**	**332**	*e*Pg		Pg	14 52 27.7	+0.3
MBDF				*e*Sg		Sg	14 52 28.7	+0.2
	6.1nm,0.2s							
OG22	**Abries**	**0.18**	**33**	Pg		Pg	14 52 30.0	+0.4
OG22				Sg		Sg	14 52 32.7	+0.6
PZZ	**Stroppo**	**0.27**	**127**	P		Pg	14 52 31.2	-0.1
PZZ				S		Sg	14 52 35.1	0.0
ORIF	**Oris-en-Rattie**	**0.71**	**291**	*e*Pg		Pg	14 52 39.3	-0.2
ORIF				*e*Sg		Sg	14 52 48.3	-0.5
	1.5nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.71**	**291**	*e*Pg		Pg	14 52 39.3	-0.2
ORIF				*e*Sg		Sg	14 52 48.3	-0.5
	0.8nm,0.2s							
LPG	**La Plagne**	**0.82**	**357**	*e*Pg		Pg	14 52 41.6	-0.5
LPG				*e*Sg		Sg	14 52 52.4	-0.7
	2.2nm,0.4s							
LPG	**La Plagne**	**0.82**	**357**	*e*Pg		Pg	14 52 41.6	-0.5
LPG				*e*Sg		Sg	14 52 52.4	-0.7
	1.1nm,0.4s							
LPL	**La Plagne**	**0.84**	**356**	*e*Pg		Pg	14 52 41.8	-0.6
LPL				*e*Sg		Sg	14 52 52.7	-0.9
	1.6nm,0.2s							
LPL	**La Plagne**	**0.84**	**356**	*e*Pg		Pg	14 52 41.8	-0.6
LPL				*e*Sg		Sg	14 52 52.7	-0.9
	0.8nm,0.2s							
SBF	**Sospel**	**0.93**	**151**	*e*Pg		Pg	14 52 43.2	-0.5
SBF				*e*Sg		Sg	14 52 55.3	-0.5
	2.9nm,0.3s							
SBF	**Sospel**	**0.93**	**151**	*e*Pg		Pg	14 52 43.2	-0.5
SBF				*e*Sg		Sg	14 52 55.3	-0.5
	1.5nm,0.3s							
VIVF	**Saint-Julien-l**	**1.53**	**278**	*e*Pg		Pb	14 52 54.5	-0.4
VIVF				*e*Sg		Sb	14 53 14.7	0.0
	1.6nm,0.4s							
VIVF	**Saint-Julien-l**	**1.53**	**278**	*e*Pg		Pb	14 52 54.5	-0.4
VIVF				*e*Sg		Sb	14 53 14.7	0.0
	0.8nm,0.4s							

CSEM ***06*** *14:54:03.9±0.4, 50.26N×18.77E, h2km, Error ellipse: s-maj=11.4km s-min=4.3km az=3.0*
WAR ***06*** *14:54:03.7, 50.23N×18.91E*

PRU 06 14:54:04.6, 50.23N×18.77E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OKC	**Ostrava-Krasne**	**0.56**	**226**	*e*Pg		Pg	14 54 15.3	-0.1
OKC	**Ostrava-Krasne**	**0.56**	**226**	Pg		Pg	14 54 15.3	-0.1
OJC	**Ojcow**	**0.66**	**91**	*e*Pg		Pg	14 54 23.3	-2.2
OJC				*e*Sg		Sg	14 54 23.6	-2.3
OJC	**Ojcow**	**0.66**	**91**	*e*Pg		Pg	14 54 15.1	-2.2
OJC				*e*Sg		Sg	14 54 23.6	-2.3
MORC	**Moravsky Berou**	**0.91**	**241**	*e*Pg		Pg	14 54 22.3	+0.1
MORC				*e*Sg		Sg	14 54 34.7	+0.6
KRLC	**Kraliky**	**1.29**	**264**	*e*PG		Pg	14 54 28.3	-1.1
KRLC				*e*SG		Sg	14 54 45.9	-0.3
KRLC	**Kraliky**	**1.29**	**264**	Pg		Pg	14 54 28.3	-1.1
KRLC				Sg		Sg	14 54 45.9	-0.3
NIE	**Niedzica**	**1.29**	**129**	*e*Pg		Pg	14 54 27.9	-1.5
NIE				*e*Sg		Sg	14 54 45.5	-0.6
NIE	**Niedzica**	**1.29**	**129**	*e*Pg		Pg	14 54 27.9	-1.5
NIE				*e*Sg		Sg	14 54 45.5	-0.6
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*PG		Pn	14 54 33.3	-0.6
DPC				*e*SG		Sg	14 54 55.8	+0.4
	comp=Z,7.1nm,0.2s							
DPC	**Dobruska-Polom**	**1.57**	**275**	Pg		Pn	14 54 33.3	-0.6
DPC				Sg		Sg	14 54 55.8	+0.4
	7.1nm,0.2s							
KOLL	**Kolacno**	**1.67**	**188**	*e*SN		Sn	14 54 54.6	-2.6
KOLL	**Kolacno**	**1.67**	**188**	*e*Sn		Sn	14 54 54.6	-2.6
VRAC	**Vranov**	**1.69**	**238**	*e*Sg		Sn	14 54 57.5	-0.2
KSP	**Ksiaz**	**1.69**	**292**	*e*Pg		Pg	14 54 37.0	-0.1
KSP				*e*Sg		Sg	14 55 00.3	+1.2
VYHS	**Vyhne**	**1.74**	**179**	*e*PN		Pn	14 54 35.3	-0.8
VYHS				*e*SN		Sn	14 54 56.9	-2.1
VYHS	**Vyhne**	**1.74**	**179**	*e*Pn		Pn	14 54 35.3	-0.8
UPC	**Upice**	**1.79**	**280**	*e*SG		Sg	14 55 02.3	+0.2
UPC	**Upice**	**1.79**	**280**	Sg		Sg	14 55 02.3	+0.2
STHS	**Stebnicka Huta**	**1.80**	**116**	*e*PN		Pn	14 54 36.8	-0.1
STHS				*e*SN		Sn	14 55 00.8	+0.4
STHS	**Stebnicka Huta**	**1.80**	**116**	*e*Pn		Pn	14 54 36.8	-0.1
STHS				*e*Sn		Sn	14 55 00.8	+0.4
SMOL	**Smolenice**	**1.93**	**208**	*e*SN		Sn	14 55 02.5	-1.1
SMOL	**Smolenice**	**1.93**	**208**	*e*Sn		Sn	14 55 02.5	-1.1
KECS	**Kecovo**	**2.08**	**147**	*e*PN		Pn	14 54 41.7	+1.0
KECS				*e*			14 55 03.6	
KECS	**Kecovo**	**2.08**	**147**	*e*Pn		Pn	14 54 41.7	+1.0
CRVS	**Cervenica-Dubn**	**2.20**	**126**	*e*PN		Pn	14 54 43.8	+1.4
CRVS	**Cervenica-Dubn**	**2.20**	**126**	*e*Pn		Pn	14 54 43.8	+1.4
PRU	**Pruhonice**	**2.73**	**267**	*e*SG		Sg	14 55 32.7	+0.3
PRU	**Pruhonice**	**2.73**	**267**	Sg		Sg	14 55 32.7	+0.3
KHC	**Kasperske Hory**	**3.55**	**254**	*e*PG		Pb	14 55 08.0	-0.3
KHC				*ex*		x	14 55 47.5	
KHC				*e*SG		Sg	14 55 57.0	-1.7
	comp=Z,6.1nm,0.7s							

ISCJB ***06*** *14:54:50.4±0.5, 55.36S±0.08×158.7E±0.2, h10km, mb4.2/7, MS4.0/8, Error ellipse: s-maj=16.5km s-min=8.6km az=29.0*
IDC ***06*** *14:54:50.5±0.7, 55.45S×158.40E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.2/13, mbtmp4.3/7, MS4.0/9, Ms1 4.0/9, ms1mx3.7/18, Error ellipse: s-maj=31.6km s-min=21.6km az=72.0*

ISC 06 14:54:51.7±0.6, 55.31S±0.09×158.7E±0.1, h10km, n31, σ1s74/26, mb4.2/7, MS4.0/8, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APZ	**The Paps**	**10.28**	**38**	*e*PN		**Pn**	**14 57 20.3**	**+1.2**
APZ				SN		**Sn**	**14 59 09.5**	**-4.8**
SYZ	**Scrubby Hill**	**10.95**	**41**	PN		**Pn**	**14 57 29.7**	**+1.5**
WHZ	**Wether Hill Ro**	**11.08**	**36**	*e*PN		**Pn**	**14 57 31.6**	**+1.5**
WHZ				SN		**Sn**	**14 59 31.1**	**-2.8**
TUZ	**Tuapeka**	**11.62**	**41**	*e*PN		Pn	14 57 41.1	+3.6
MLZ	**Mavora Lakes**	**11.64**	**35**	PN		Pn	14 57 41.4	+3.7
RPZ	**Rata Peaks**	**14.06**	**40**	LR		LR	15 02 47.1	
	comp=Z,500nm,20.4s,baz=302,slow=33							
URZ	**Urewera**	**21.08**	**44**	P		**P**	**14 59 39.7**	**+3.8**
	13nm,0.7s,baz=215,slow=6.8,SNR=9.6							
URZ				LR		LR	15 08 07.4	
	comp=Z,330nm,18.9s,baz=328,slow=37							
URZ	**Urewera**	**21.08**	**44**	PN		P	14 59 40.9	+5.0
STKA	**Stephens Creek**	**26.36**	**326**	P		**P**	**15 00 29.3**	**+1.4**
	3.0nm,0.8s,baz=138,slow=8.7,SNR=7.4							
STKA				LR		LR	15 09 55.2	
	comp=Z,187nm,19.7s,baz=205,slow=34							
QSPA	**South Pole Qui**	**34.80**	**180**	P		**P**	**15 01 42.9**	**+0.6**
	2.6nm,0.8s,baz=17,slow=5.0,SNR=6.5							
ASAR	**Alice Springs**	**36.56**	**320**	P		**P**	**15 01 58.2**	**+0.7**
	3.4nm,0.8s,baz=158,slow=8.2,SNR=34							
ASAR				PcP		**PcP**	**15 04 20.3**	**-0.6**
	0.5nm,0.7s,baz=141,slow=4.1,SNR=4.8							
WRA	**Warramunga Arr**	**39.82**	**323**	P		**P**	**15 02 24.8**	**-0.3**
	4.3nm,0.8s,baz=160,slow=7.1,SNR=20							
WRA				PcP		**PcP**	**15 04 30.8**	**-0.1**
	0.5nm,0.8s,baz=171,slow=5.9,SNR=4.8							
WRA				LR		LR	15 17 15.9	
	comp=Z,454nm,21.5s,baz=160,slow=34							
MAW	**Mawson**	**42.66**	**214**	LR		LR	15 19 59.2	
	comp=Z,135nm,19.1s,baz=304,slow=36							
TBI	**Tubuai**	**49.59**	**72**	*e*LR		LR	15 17 54.1	
	289nm,30.2s							
SNAA	**Sanae**	**52.66**	**187**	*e*		**P**	**15 04 04.8**	**-0.6**
VNA2	**Neumayer--Watz**	**53.68**	**186**	*e*		**P**	**15 04 13.2**	**+0.3**
	baz=155,slow=5.5							
VNA1	**Neumayer--Stat**	**54.00**	**185**	*e*		**P**	**15 04 16.2**	**+1.0**
PPT2	**Papeete2**	**54.23**	**67**	*e*S		S	15 12 02.8	+7.9
	90nm,28.5s							
PPT2				*e*LR		LR	15 20 13.5	
	326nm,22.5s,baz=212							
RKT	**Rikitea**	**57.86**	**85**	*e*T		T	16 07 27.2	
	2.3nm,0.3s							
PLCA	**Paso Flores**	**75.53**	**143**	LR		LR	15 35 53.1	
	comp=Z,54nm,18.7s,baz=229,slow=33							
BOSA	**Boshof**	**87.43**	**220**	P		**P**	**15 07 38.3**	**-1.0**
	1.4nm,0.7s,baz=192,slow=3.6,SNR=3.9							
BOSA				LR		LR	15 42 44.5	
	comp=Z,66nm,19.8s,baz=345,slow=33							
CMAR	**Chiang Mai Arr**	**89.15**	**305**	P		**P**	**15 07 48.2**	**+1.0**
	0.9nm,0.8s,baz=174,slow=3.8,SNR=9.0							
CMAR				LR		LR	15 43 59.7	
	comp=Z,97nm,20.2s,baz=170,slow=33							
LPAZ	**La Paz**	**98.44**	**135**	LR		LR	15 41 37.1	
	comp=Z,74nm,20.8s,baz=134,slow=28							
MKAR	**Makanchi Array**	**120.27**	**309**	PKP		**PKPdf**	**15 13 41.0**	**-1.0**
	0.2nm,0.5s,baz=202,slow=1.4,SNR=6.2							
PDAR	**Pinedale Array**	**124.58**	**63**	PKP		**PKPdf**	**15 13 50.2**	**-0.5**
	0.2nm,0.7s,baz=191,slow=3.0,SNR=3.8							
ILAR	**Eielson Array**	**126.76**	**26**	PKP		**PKPdf**	**15 13 54.2**	**+0.3**
	1.1nm,0.9s,baz=274,slow=3.8,SNR=8.7							
TORD	**Torodi Ar. Bea**	**134.29**	**212**	PKP		**PKPdf**	**15 14 07.3**	**-2.4**
	0.6nm,0.9s,baz=164,slow=1.4,SNR=4.6							
YKA	**Yellowknife Ar**	**135.33**	**41**	PKP		**PKPdf**	**15 14 11.5**	**+1.4**
	0.4nm,0.7s,baz=243,slow=1.4,SNR=8.0							
RES	**Resolute Bay**	**146.48**	**28**	PKPbc		**PKPab**	**15 14 31.9**	**-0.4**
	4.0nm,0.8s,baz=263,slow=2.6,SNR=10							
AKASG	**Malin Array Be**	**149.83**	**283**	PKPbc		**PKPbc**	**15 14 40.0**	**-0.8**
	0.7nm,0.6s,baz=146,slow=2.3,SNR=4.1							
FINES	**FINESS Array B**	**154.91**	**304**	PKPbc		**PKPbc**	**15 14 53.1**	**+1.2**
	1.5nm,0.8s,baz=144,slow=5.0,SNR=4.5							
FINES				PKPab		**PKPab**	**15 15 07.7**	**+0.2**
	6.4nm,1.0s,baz=98,slow=3.9,SNR=4.0							

IDC 06 14:59:05.5±5.9, 21.58N×143.07E, h341km±62km, mb2.8/9, mb1 3.0/10, mb1mx2.9/24, mbtmp2.8/10, Error ellipse: s-maj=25.7km s-min=15.1km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**15.49**	**345**	P		Pn	15 02 27.4	-1.0
	0.2nm,0.3s,baz=143,slow=5.1,SNR=3.0							
KSRS	**Korea Array**	**20.54**	**324**	P		P	15 03 17.6	-1.4
	0.8nm,0.6s,baz=148,slow=9.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**41.48**	**274**	P		P	15 06 22.2	+1.6
	0.4nm,0.5s,baz=82,slow=6.5,SNR=5.2							
WRA	**Warramunga Arr**	**42.15**	**192**	P		P	15 06 25.6	-0.3
	0.3nm,0.4s,baz=18,slow=9.5,SNR=5.9							
ASAR	**Alice Springs**	**45.85**	**192**	P		P	15 06 54.2	-0.7
	0.2nm,0.7s,baz=5.8,slow=7.2,SNR=5.2							
ZALV	**Zelesovo Beam**	**54.23**	**322**	P		P	15 07 57.0	0.0
	0.3nm,0.4s,baz=108,slow=7.7,SNR=2.6							
MKAR	**Makanchi Array**	**54.70**	**313**	P		P	15 07 59.4	-1.0
	0.2nm,0.5s,baz=87,slow=7.2,SNR=5.1							
ILAR	**Eielson Array**	**62.19**	**27**	P		P	15 08 51.2	-0.1
	0.3nm,0.6s,baz=251,slow=5.4,SNR=8.8							
YKA	**Yellowknife Ar**	**76.60**	**28**	P		P	15 10 19.4	+0.5
	0.4nm,0.5s,baz=292,slow=5.5,SNR=9.1							
FINES	**FINESS Array B**	**83.24**	**334**	P		P	15 10 53.8	-0.3
	2.7nm,0.8s,baz=78,slow=3.5,SNR=6.2							

IDC 06 15:35:05.7±2.4, 1.88N×128.02E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=190.9km s-min=24.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**164**	P		P	15 40 06.5	-1.1
	0.3nm,0.4s,baz=343,slow=10.0,SNR=4.5							
ASAR	**Alice Springs**	**26.03**	**168**	P		P	15 40 40.6	-0.2
	0.2nm,0.6s,baz=342,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**59.80**	**325**	P		P	15 45 13.3	+0.5
	0.9nm,0.5s,baz=114,slow=8.4,SNR=19							

CSEM ***06*** *15:41:47.7±1.6, 39.50N×19.22E, h2km, MD2.7, Error ellipse: s-maj=37.5km s-min=19.6km az=82.0*
ATH ***06*** *15:41:48.9, 39.41N×19.35E, h7km±2km, MD2.7/5*

ISC 06 15:41:49.2±2.2, 39.46N±0.06×19.4E±0.1, h14km, n12, σ0s70/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAN	**Janina**	**1.17**	**80**	*e*PN		**Pn**	**15 42 10.7**	**-0.4**
JAN				*e*SB		**Sg**	**15 42 27.6**	**+0.8**
JAN	**Janina**	**1.17**	**80**	*e*Pn		**Pn**	**15 42 10.7**	**-0.4**
JAN				*e*Sb		**Sg**	**15 42 27.6**	**+0.8**
VLS	**Valsamata**	**1.59**	**143**	*e*PB		**Pb**	**15 42 18.9**	**+0.5**
VLS				*e*SB		**Sg**	**15 42 40.3**	**-0.2**
VLS	**Valsamata**	**1.59**	**143**	*e*Pb		**Pb**	**15 42 18.9**	**+0.5**
VLS				*e*Sb		**Sg**	**15 42 40.3**	**-0.2**
EVR	**Evrytania**	**1.97**	**105**	*e*PN		**Pb**	**15 42 24.9**	**0.0**
EVR	**Evrytania**	**1.97**	**105**	*e*Pn		**Pb**	**15 42 24.9**	**0.0**
THL	**Klokotos Trika**	**2.05**	**86**	*e*PN		**Pb**	**15 42 26.3**	**+0.1**
THL	**Klokotos Trika**	**2.05**	**86**	*e*Pn		**Pb**	**15 42 26.3**	**+0.1**
AGG	**Agios Georgios**	**2.34**	**100**	*e*PN		**Pb**	**15 42 29.6**	**-1.6**
AGG				*e*SN		**Sb**	**15 43 00.4**	**+0.5**
AGG	**Agios Georgios**	**2.34**	**100**	*e*Pn		**Pb**	**15 42 29.6**	**-1.6**
AGG				*e*Sn		**Sb**	**15 43 00.4**	**+0.5**
KRUS	**Krusevo**	**2.39**	**36**	*e*Pn		**Pn**	**15 42 27.9**	**-0.1**
KRUS	**Krusevo**	**2.39**	**36**	*e*Pn		**Pn**	**15 42 27.9**	**-0.1**

IDC 06 15:45:33.6±2.9, 15.64S×175.44W, h256km±101km, mb3.1/3, mb1 3.4/4, mb1mx3.0/18, mbtmp3.1/4, Error ellipse: s-maj=352.7km s-min=26.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.94**	**65**	P		Pn	15 46 38.5	+1.4
	5.3nm,0.3s,baz=28,slow=19,SNR=7.1							
AFI				S		S	15 47 27.2	-0.3
	16nm,0.3s,baz=24,slow=23,SNR=9.3							
WRA	**Warramunga Arr**	**47.88**	**257**	P		P	15 53 46.6	0.0
	0.4nm,0.6s,baz=90,slow=7.3,SNR=2.0							
ASAR	**Alice Springs**	**48.17**	**252**	P		P	15 53 48.5	-0.3
	1.0nm,0.5s,baz=88,slow=7.8,SNR=41							
ILAR	**Eielson Array**	**83.07**	**12**	P		P	15 57 30.4	+0.1
	0.2nm,0.5s,baz=218,slow=5.0,SNR=6.1							

GUC 06 15:57:47.3±0.7, 32.56S×71.83W, h30km±3km, MD3.8, ML3.1, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHNG	**Los Chungos**	**0.73**	**23**	*i*P		Pn	15 58 01.2	-0.4
CHNG				*i* S		Sb	15 58 11.5	+0.2
CHNG				AML		AML	15 58 14.2	
	comp=E,374nm,0.6s							
ROCH	**El Roble**	**0.80**	**121**	*i*P		Pn	15 58 02.2	-0.7
ROCH				*i* S		Sb	15 58 13.0	-0.9
ROCH				AML		AML	15 58 14.3	
	comp=N,1μm,0.5s							
PTCH	**Petorca**	**0.82**	**69**	*i*P		Pn	15 58 02.9	0.0
PTCH				*i* S		Sn	15 58 14.0	+0.1
PTCH				AML		AML	15 58 16.9	
	comp=N,1μm,0.7s							
JACH	**Jahuel**	**1.05**	**97**	*i*P		Pn	15 58 06.1	0.0
JACH				*i* S		Sb	15 58 20.4	-0.3
PEL	**Peldehue**	**1.12**	**121**	*i*P		Pn	15 58 07.4	+0.3
PEL				*i* S		Sb	15 58 22.5	-0.1
PEL				AML		AML	15 58 23.2	
	comp=E,2μm,0.3s							
RCDM	**Rinconada Maip**	**1.26**	**137**	*i*P		Pn	15 58 09.2	+0.3
RCDM				*i* S		Sn	15 58 25.6	+0.6
RCDM				AML		AML	15 58 27.8	
	comp=E,532nm,0.1s							
TACH	**Talagante**	**1.32**	**146**	*e*P		Pn	15 58 10.3	+0.6
SAN	**Santiago**	**1.32**	**132**	*i*P		Pn	15 58 10.4	+0.6
SAN				*i* S		Sb	15 58 27.5	-0.8
SAN				AML		AML	15 58 30.7	
	comp=N,340nm,0.5s							
CLCH	**Cerro Calan**	**1.37**	**128**	*i*P		Pn	15 58 11.1	+0.6
CLCH				*i* S		Sb	15 58 29.1	-0.5
CLCH				AML		AML	15 58 31.2	
	comp=N,628nm,0.6s							
ANTU	**Antumapu**	**1.42**	**135**	*e*P		Pn	15 58 11.9	+0.8
ANTU				*i* S		Sb	15 58 30.5	-0.5
ANTU				AML		AML	15 58 37.6	
	comp=E,458nm,0.3s							
LNV	**Longovilo**	**1.43**	**166**	*e*P		Pn	15 58 11.8	+0.6
FCH	**Farellones**	**1.50**	**121**	AML		AML	15 58 23.8	
	comp=E,508nm,0.2s							
PCH	**Pirque**	**1.53**	**134**	*i*P		Pn	15 58 13.7	+1.0
PCH				*i* S		Sb	15 58 33.8	-0.4
CMCH	**Combarbala**	**1.56**	**27**	*i*P		Pn	15 58 13.5	+0.5
CMCH				*i* S		Sb	15 58 34.1	-0.8
CMCH				AML		AML	15 58 39.3	
	comp=E,982nm,0.5s							
CHCH	**Chadas Angostu**	**1.69**	**144**	*i*P		Pn	15 58 16.2	+1.5
CHCH				*i* S		Sb	15 58 38.1	-0.6
CACH	**El Canelo**	**1.86**	**147**	*i*P		Pb	15 58 19.2	-1.6
CACH				*i* S		Sb	15 58 43.5	-0.3
LMEL	**Las Melosas**	**1.87**	**134**	*i*P		Pn	15 58 19.2	+1.7
LMEL				*i* S		Sb	15 58 43.1	-1.1
LMEL				AML		AML	15 58 47.8	
	comp=N,326nm,0.2s							
TLL	**Tololo Astrono**	**2.54**	**20**	*e*P		Pn	15 58 28.1	+1.3
TLL				AML		AML	15 59 15.4	
	comp=N,101nm,0.5s							

DDA ***06*** *16:00:09.7, 37.06N×36.05E, h7km, MD3.2*
ISK ***06*** *16:00:09.8, 37.03N×36.06E, h14km, MD3.0*
ISCJB ***06*** *16:00:10.3±0.5, 37.04N±0.03×36.05E±0.03, h9km±5km, Error ellipse: s-maj=4.8km s-min=4.1km az=142.7*
CSEM ***06*** *16:00:10.5±0.1, 37.03N×36.04E, h12km, MD3.0, Error ellipse: s-maj=3.0km s-min=2.5km az=152.0*

ISC 06 16:00:10.4±0.9, 37.02N±0.03×36.06E±0.03, h14km±8km, n28, σ0s44/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEYT	**Ceyhan**	**0.25**	**267**	*e*PG		**Pg**	**16 00 15.4**	**-0.4**
CEYT				*e*SG		**Sg**	**16 00 19.6**	**+0.2**
CEYT	**Ceyhan**	**0.25**	**267**	*e*Pg		**Pg**	**16 00 15.4**	**-0.4**
CEYT				*e*Sg		**Sg**	**16 00 19.6**	**+0.2**
KOZT	**Kozan**	**0.49**	**338**	*e*PG		**Pg**	**16 00 19.9**	**-0.3**
KOZT				*e*SG		**Sg**	**16 00 27.6**	**+0.9**
KOZT	**Kozan**	**0.49**	**338**	*e*Pg		**Pg**	**16 00 19.9**	**-0.3**
KOZT				*e*Sg		**Sg**	**16 00 27.7**	**+0.9**
COBT	**Iskenderun**	**0.53**	**163**	*i* P		**Pg**	**16 00 20.9**	**+0.1**
COBT				*i* S		**Sb**	**16 00 29.2**	**+0.1**
COBT	**Iskenderun**	**0.53**	**163**	*i* P		**Pg**	**16 00 20.9**	**+0.1**
COBT				*i* S		**Sb**	**16 00 29.2**	**+0.1**
KRTS	**Karatas**	**0.71**	**231**	*e*PG		**Pg**	**16 00 24.0**	**-0.2**
KRTS	**Karatas**	**0.71**	**231**	*e*Pg		**Pg**	**16 00 24.0**	**-0.2**
KMRS	**Kahramanmaras**	**0.83**	**54**	*e*PG		**Pg**	**16 00 25.8**	**-0.6**
KMRS				*e*SG		**Sb**	**16 00 37.8**	**+0.2**
KMRS	**Kahramanmaras**	**0.83**	**54**	*e*Pg		**Pg**	**16 00 25.8**	**-0.6**
KMRS				*e*Sg		**Sb**	**16 00 37.8**	**+0.2**
KUZU	**Kuzuini**	**0.85**	**107**	*i* P		**Pb**	**16 00 27.2**	**+0.1**
KUZU				*i* S		**Sb**	**16 00 38.6**	**+0.2**
KUZU	**Kuzuini**	**0.85**	**107**	*i* P		**Pb**	**16 00 27.2**	**+0.1**
KUZU				*i* S		**Sb**	**16 00 38.6**	**+0.2**
HTY	**Hatay**	**0.90**	**176**	*e*PG		**Pn**	**16 00 28.1**	**-0.6**
HTY	**Hatay**	**0.90**	**176**	*e*Pg		**Pn**	**16 00 28.1**	**-0.6**
GAZ	**Gaziantep**	**0.93**	**80**	*e*PG		**Pn**	**16 00 28.8**	**-0.4**
GAZ				*e*SG		**Sb**	**16 00 41.3**	**+0.6**
GAZ	**Gaziantep**	**0.93**	**80**	*e*Pg		**Pn**	**16 00 28.8**	**-0.4**
GAZ				*e*Sg		**Sb**	**16 00 41.3**	**+0.6**
YAYL	**Yayladag**	**0.99**	**178**	*e*P		**Pb**	**16 00 29.3**	**-0.1**
YAYL				*e*S		**Sn**

HYB				*e*S		Sn	16 08 39.0	-2.3
MKAR	**Makanchi Array**	**23.32**	**347**	P		**P**	**16 08 32.8**	**-0.9**
	0.3nm,0.4s,baz=165,slow=9.6,SNR=5.7							
SONM	**Songino Array**	**27.04**	**25**	P		**P**	**16 09 07.1**	**-0.8**
	0.1nm,0.5s,baz=208,slow=12,SNR=2.4							
KURK	**Kurchatov**	**27.83**	**345**	P		**P**	**16 09 13.5**	**-1.3**
	0.2nm,0.4s,baz=170,slow=8.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**29.93**	**354**	P		**P**	**16 09 34.5**	**+1.1**
	0.2nm,0.3s,baz=185,slow=13,SNR=2.2							
AKTO	**Aktyubinsk**	**35.89**	**325**	P		P	16 10 29.6	+4.1
	0.6nm,0.5s,baz=97,slow=12,SNR=5.3							
WRA	**Warramunga Arr**	**61.74**	**131**	P		**P**	**16 13 45.4**	**+1.3**
	1.0nm,0.6s,baz=323,slow=6.9,SNR=8.7							
ASAR	**Alice Springs**	**64.03**	**135**	P		**P**	**16 14 00.7**	**+1.4**
	0.6nm,0.7s,baz=313,slow=6.4,SNR=12							

IDC 06 16:03:45.2±2.7, 0.96S×132.61E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=139.8km s-min=27.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.94**	**175**	P		Pn	16 08 08.8	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=3.1							
ASAR	**Alice Springs**	**22.61**	**177**	P		P	16 08 47.2	-0.5
	2.8nm,1.1s,baz=356,slow=9.9,SNR=6.1							
MKAR	**Makanchi Array**	**64.75**	**324**	P		P	16 14 25.6	0.0
	0.4nm,0.7s,baz=113,slow=7.4,SNR=4.6							

*GEN **06** 16:09:05.0, 44.64N×10.31E, h25km, ML2.4*
*CSEM **06** 16:09:06.9±0.1, 44.57N×10.26E, h20km, ML3.3/28, Error ellipse: s-maj=2.5km s-min=2.2km az=159.0*
*ISCJB **06** 16:09:06.6±0.2, 44.58N±0.02×10.22E±0.02, h28km±2km, Error ellipse: s-maj=2.9km s-min=2.1km az=156.4*
*ROM **06** 16:09:06.8±0.1, 44.55N×10.20E, h11km, Md3.0/10, Ml3.2/28, Error ellipse: s-maj=2.4km s-min=1.8km az=61.0*
*LDG **06** 16:09:07.8±0.1, 44.64N×10.40E, h20km, Ml3.2/31, Error ellipse: s-maj=3.7km s-min=2.6km az=19.0*
*MDD **06** 16:09:07.4±3.8, 44.56N×10.29E, h0km, mb4.1/9, Error ellipse: s-maj=61.2km s-min=34.9km az=162.0*
*PRU **06** 16:09:08.0, 44.56N×10.51E, h18km*
*BGR **06** 16:09:23.0±0.6, 45.84N×10.66E, h10km, ML3.1/7, Error ellipse: s-maj=21.1km s-min=12.2km az=37.0*

ISC 06 16:09:06.8±0.8, 44.57N±0.02×10.20E±0.02, h23km±5km, n230, σ1§63/323, 8C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRAM	**Graiana**	**0.12**	**232**	P		**Pb**	**16 09 11.0**	**-0.5**
GRAM				S		**Sb**	**16 09 15.2**	**+0.5**
ERBM	**Eremo**	**0.21**	**135**	*i*Pg		**Pb**	**16 09 11.4**	**-1.1**
ERBM				Sg		**Sb**	**16 09 16.4**	**+0.1**
ERBM	**Eremo**	**0.21**	**135**	*i*Pg		**Pb**	**16 09 11.4**	**-1.1**
ERBM				Sg		**Sb**	**16 09 16.4**	**+0.1**
PRMA	**PARMA**	**0.21**	**22**	Pg		**Pb**	**16 09 11.9**	**-0.5**
PRMA				Sg		**Sb**	**16 09 17.2**	**+1.0**
	5µm,0.3s							
PRMA	**PARMA**	**0.21**	**22**	Pg		**Pb**	**16 09 11.9**	**-0.5**
PRMA				Sg		**Sb**	**16 09 17.2**	**+1.0**
	5µm,0.3s							
CODM	**Codolo**	**0.31**	**235**	P		**Pb**	**16 09 13.6**	**-0.2**
CODM				S		**Sb**	**16 09 19.5**	**+0.9**
GSCL	**Gusciola**	**0.35**	**128**	Pg		**Pb**	**16 09 13.5**	**-1.0**
GSCL	**Gusciola**	**0.35**	**128**	Pg		**Pb**	**16 09 13.5**	**-1.0**
SC2M	**Scurtabo**	**0.51**	**251**	Pg		**Pb**	**16 09 17.0**	**-0.1**
SC2M				Sg		**Sb**	**16 09 25.5**	**+1.5**
	1µm,0.6s							
SC2M	**Scurtabo**	**0.51**	**251**	Pg		**Pb**	**16 09 17.0**	**-0.1**
SC2M				S		**Sb**	**16 09 24.8**	**+0.8**
SC2M				Sg		**Sb**	**16 09 25.5**	**+1.5**
	1µm,0.6s							
BOB	**Bobbio (Coli)**	**0.57**	**291**	Pg		**Pb**	**16 09 18.9**	**+0.7**
	1µm,0.6s							
BOB	**Bobbio (Coli)**	**0.57**	**291**	Pg		**Pb**	**16 09 18.9**	**+0.7**
	1µm,0.6s							
CRDM	**Cardoso**	**0.58**	**160**	P		**Pb**	**16 09 17.1**	**-1.1**
CRDM				S		**Sb**	**16 09 25.2**	**-0.8**
BDI	**Bagni Di Lucca**	**0.58**	**151**	Pg		**Pb**	**16 09 17.2**	**-1.1**
BDI				Sg		**Sb**	**16 09 25.5**	**-0.6**
	792nm,0.3s							
BDI	**Bagni Di Lucca**	**0.58**	**151**	Pg		**Pb**	**16 09 17.2**	**-1.1**
BDI				Sg		**Sb**	**16 09 25.5**	**-0.6**
	792nm,0.3s							
ZCCA	**Zocca**	**0.59**	**111**	Pg		**Pb**	**16 09 18.6**	**+0.1**
	1µm,0.6s							
ZCCA	**Zocca**	**0.59**	**111**	Pg		**Pb**	**16 09 18.6**	**+0.1**
	1µm,0.6s							
RAVA	**Ravarino**	**0.68**	**74**	Pg		**Pn**	**16 09 21.3**	**+0.4**
	2µm,0.8s							
MAIM	**Mastiano**	**0.69**	**162**	Pg		**Pb**	**16 09 18.9**	**-1.1**
MAIM				Sg		**Sb**	**16 09 29.2**	**+0.1**
	501nm,0.6s							
MAIM	**Mastiano**	**0.69**	**162**	Pg		**Pb**	**16 09 18.9**	**-1.1**
MAIM				S		**Sb**	**16 09 28.2**	**-0.9**
MAIM				Sg		**Sb**	**16 09 29.2**	**+0.1**
	501nm,0.6s							
SBPO	**S.Benedetto Po**	**0.70**	**46**	Pg		**Pn**	**16 09 22.5**	**+1.3**
	722nm,0.3s							
FIU	**Minerbio Fiu**	**0.92**	**85**	Pg		**Pn**	**16 09 25.1**	**+0.8**
	3µm,0.6s							
FIU	**Minerbio Fiu**	**0.92**	**85**	Pg		**Pn**	**16 09 25.1**	**+0.8**
	3µm,0.6s							
MTRZ	**Monterenzio**	**0.92**	**102**	Pg		**Pn**	**16 09 26.0**	**+1.7**
CRMI	**Carmignano**	**0.95**	**144**	Pg		**Pb**	**16 09 24.0**	**-0.6**
	254nm,0.5s							
CRMI	**Carmignano**	**0.95**	**144**	Pg		**Pb**	**16 09 24.0**	**-0.6**
	254nm,0.5s							
SEI	**Scarperia**	**0.97**	**121**	Pg		**Pb**	**16 09 24.5**	**-0.5**
	1µm,0.5s							
SEI	**Scarperia**	**0.97**	**121**	Pg		**Pb**	**16 09 24.5**	**-0.5**
	1µm,0.5s							
SALO	**Salr**	**1.07**	**12**	Pg		**Pb**	**16 09 27.1**	**+0.4**
	4µm,0.5s							
SALO	**Salr**	**1.07**	**12**	Pg		**Pb**	**16 09 27.1**	**+0.4**
	4µm,0.5s							
GROG	**Isola di Gorgo**	**1.16**	**191**	Pg		**Pb**	**16 09 28.2**	**0.0**
GROG	**Isola di Gorgo**	**1.16**	**191**	Pg		**Pb**	**16 09 28.2**	**0.0**
PCP	**Piancastagn**	**1.19**	**269**	Pg		**Pb**	**16 09 29.3**	**+0.7**
	326nm,0.8s							
PCP	**Piancastagn**	**1.19**	**269**	Pg		**Pb**	**16 09 29.3**	**+0.7**
	326nm,0.8s							
ROVR	**Rover¨¤ Verone**	**1.24**	**29**	Pg		**Pn**	**16 09 28.5**	**-0.3**
	4µm,0.2s							
ROVR	**Rover¨¤ Verone**	**1.24**	**29**	Pg		**Pn**	**16 09 28.5**	**-0.3**
	4µm,0.2s							
MDI	**Monti di Nese**	**1.26**	**344**	Pg		**Pb**	**16 09 29.6**	**-0.3**
	569nm,0.5s							
MDI	**Monti di Nese**	**1.26**	**344**	Pg		**Pb**	**16 09 29.6**	**-0.3**
	569nm,0.5s							
SFI	**Santa Sofia**	**1.35**	**119**	Pg		**Pb**	**16 09 32.1**	**+0.7**
	176nm,0.7s							
SFI	**Santa Sofia**	**1.35**	**119**	Pg		**Pb**	**16 09 32.1**	**+0.7**
	176nm,0.7s							
MABI	**Malga Bissina**	**1.50**	**8**	Pg		**Pn**	**16 09 32.7**	**+0.2**
	411nm,0.4s							
MABI	**Malga Bissina**	**1.50**	**8**	Pg		**Pn**	**16 09 32.7**	**+0.2**
	411nm,0.4s							
CRE	**Caprese Michel**	**1.58**	**126**	Pg		**Pb**	**16 09 35.2**	**-0.1**
	79nm,0.4s							
CRE	**Caprese Michel**	**1.58**	**126**	Pg		**Pb**	**16 09 35.2**	**-0.1**
	79nm,0.4s							
RORO	**Rocca Rossa**	**1.60**	**254**	Pg		**Pb**	**16 09 34.8**	**-0.8**
	90nm,0.3s							
RORO	**Rocca Rossa**	**1.60**	**254**	Pg		**Pb**	**16 09 34.8**	**-0.8**
	90nm,0.3s							
CGRP	**Cima Grappa**	**1.73**	**40**	Pg		**Pn**	**16 09 35.6**	**0.0**
	522nm,0.6s							
CGRP	**Cima Grappa**	**1.73**	**40**	Pg		**Pn**	**16 09 35.6**	**0.0**
	522nm,0.6s							
IMI	**Imperia**	**1.79**	**249**	Pg		**Pn**	**16 09 37.2**	**+1.0**
	158nm,0.6s							
IMI	**Imperia**	**1.79**	**249**	Pg		**Pn**	**16 09 37.2**	**+1.0**
	158nm,0.6s							
CTI	**Castel Tesino**	**1.80**	**34**	Pg		**Pn**	**16 09 36.0**	**-0.4**
CTI	**Castel Tesino**	**1.80**	**34**	Pg		**Pn**	**16 09 36.0**	**-0.4**
BADI	**Badiali**	**1.81**	**125**	Pg		**Pb**	**16 09 37.8**	**-1.4**
	67nm,0.5s							
BADI	**Badiali**	**1.81**	**125**	Pg		**Pb**	**16 09 37.8**	**-1.4**
	67nm,0.5s							
BRMO	**Bormio**	**1.91**	**4**	Pg		**Pb**	**16 09 39.6**	**-1.4**
	73nm,0.5s							
PIEI	**Pieia**	**1.97**	**121**	Pg		**Pb**	**16 09 41.3**	**-0.7**
	31nm,0.5s							
PIEI	**Pieia**	**1.97**	**121**	Pg		**Pb**	**16 09 41.3**	**-0.7**
	31nm,0.5s							
SAOF	**Saorge**	**1.99**	**254**	P		**Pb**	**16 09 40.8**	**-1.5**
TUE	**Stuetta**	**2.00**	**343**	Pg		**Pn**	**16 09 40.9**	**+1.6**
	116nm,0.4s							
TUE	**Stuetta**	**2.00**	**343**	Pg		**Pn**	**16 09 40.9**	**+1.6**
	116nm,0.4s							
APPI	**Appiano**	**2.04**	**20**	Pg		**Pn**	**16 09 40.4**	**+0.6**
APPI	**Appiano**	**2.04**	**20**	Pg		**Pn**	**16 09 40.4**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**2.05**	**1**	Pg		**Pn**	**16 09 41.8**	**+1.7**
FUORN	**Ofenpass-Fuorn**	**2.05**	**1**	Pg		**Pn**	**16 09 41.8**	**+1.7**
AUTN	**L'Aution**	**2.08**	**255**	P		**Pb**	**16 09 42.6**	**-1.2**
STV	**Sant Anna di V**	**2.09**	**262**	Pg		**Pn**	**16 09 42.0**	**+1.6**
	138nm,0.4s							
STV	**Sant Anna di V**	**2.09**	**262**	Pg		**Pn**	**16 09 42.0**	**+1.6**
	138nm,0.4s							
SBF	**Sospel**	**2.11**	**251**	*e*Pn		**Pn**	**16 09 41.6**	**+0.9**
SBF				*e*Sn		**Sb**	**16 10 09.2**	**-1.0**
	148nm,0.5s							
SBF	**Sospel**	**2.11**	**251**	*e*Pn		**Pn**	**16 09 41.6**	**+0.9**
SBF				*e*Sn		**Sb**	**16 10 09.2**	**-1.0**
	74nm,0.5s							
DOI	**San Damiano**	**2.12**	**269**	Pg		**Pb**	**16 09 43.1**	**-1.4**
	206nm,0.6s							
DOI	**San Damiano**	**2.12**	**269**	Pg		**Pb**	**16 09 43.1**	**-1.4**
	206nm,0.6s							
MURB	**Monte Urbino**	**2.12**	**127**	Pg		**Pn**	**16 09 42.2**	**+1.3**
	157nm,0.4s							
MURB	**Monte Urbino**	**2.12**	**127**	Pg		**Pn**	**16 09 42.2**	**+1.3**
	157nm,0.4s							
TOUF	**Mont Tournerai**	**2.19**	**256**	P		**Pn**	**16 09 44.0**	**+2.1**
PGF	**Pioggiola**	**2.20**	**204**	*e*Pn		**Pn**	**16 09 42.2**	**+0.2**
PGF				*e*Sn		**Sn**	**16 10 07.1**	**-1.4**
	26nm,0.3s							
PGF	**Pioggiola**	**2.20**	**204**	*e*Pn		**Pn**	**16 09 42.2**	**+0.2**
PGF				*e*Sn		**Sn**	**16 10 07.1**	**-1.4**
	13nm,0.3s							
REVF	**Revere**	**2.20**	**249**	P		**Pn**	**16 09 43.5**	**+1.6**
PZZ	**Stroppo**	**2.21**	**270**	Pg		**Pn**	**16 09 43.7**	**+1.6**
	180nm,0.7s							
PZZ	**Stroppo**	**2.21**	**270**	Pg		**Pn**	**16 09 43.7**	**+1.6**
	180nm,0.7s							
DAVOX	**Davos/Dischmat**	**2.23**	**354**	Pg		**Pn**	**16 09 44.3**	**+1.9**
DAVOX	**Davos/Dischmat**	**2.23**	**354**	Pg		**Pn**	**16 09 44.3**	**+1.9**
MVIF	**Mont Vial**	**2.29**	**254**	P		**Pn**	**16 09 45.4**	**+2.1**
MBDF	**Montbardon**	**2.46**	**275**	*e*Pn		**Pn**	**16 09 46.5**	**+1.0**
MBDF				*e*Sn		**Sn**	**16 10 16.0**	**+1.1**
	27nm,0.3s							
MBDF	**Montbardon**	**2.46**	**275**	*e*Pn		**Pn**	**16 09 46.5**	**+1.0**
MBDF				*e*Sn		**Sn**	**16 10 16.0**	**+1.1**
	13nm,0.3s							
FETA	**Feichten**	**2.48**	**8**	*e*Pn		**Pn**	**16 09 47.6**	**+1.7**
	SNR=17							
FETA	**Feichten**	**2.48**	**8**	Pn		**Pn**	**16 09 47.6**	**+1.7**
	SNR=17							
CALN	**Calern**	**2.52**	**252**	P		**Pn**	**16 09 48.1**	**+1.7**
LPG	**La Plagne**	**2.62**	**292**	*e*Pn		**Pn**	**16 09 48.5**	**+0.6**
LPG				*e*Sn		**Sn**	**16 10 19.5**	**+0.4**
	50nm,0.6s							
LPG	**La Plagne**	**2.62**	**292**	*e*Pn		**Pn**	**16 09 48.5**	**+0.6**
LPG				*e*Sn		**Sn**	**16 10 19.5**	**+0.4**
	25nm,0.6s							
LPL	**La Plagne**	**2.64**	**292**	*e*Pn		**Pn**	**16 09 49.1**	**+1.0**
LPL				*e*Sn		**Sn**	**16 10 20.0**	**+0.6**
	44nm,0.4s							
LPL	**La Plagne**	**2.64**	**292**	*e*Pn		**Pn**	**16 09 49.1**	**+1.0**
LPL				*e*Sn		**Sn**	**16 10 20.0**	**+0.6**
	22nm,0.4s							
ABTA	**Abfaltersbach**	**2.71**	**36**	*e*Pn		**Pn**	**16 09 49.9**	**+0.9**
	SNR=7.5							
ABTA	**Abfaltersbach**	**2.71**	**36**	Pn		**Pn**	**16 09 49.9**	**+0.9**
	SNR=7.5							
DAVA	**Damuels**	**2.73**	**355**	*e*Pn		**Pn**	**16 09 51.7**	**+2.4**
DAVA				*e*Sn		Sn	16 10 08.3	-13
DAVA	**Damuels**	**2.73**	**355**	*e*Pn		**Pn**	**16 09 51.7**	**+2.4**
	SNR=27							
DAVA	**Damuels**	**2.73**	**355**	Pn		**Pn**	**16 09 51.7**	**+2.4**
RSL	**Roselend**	**2.77**	**295**	P		**Pb**	**16 09 53.2**	**-2.4**
MOTA	**Moosalm**	**2.85**	**12**	*e*Pn		**Pn**	**16 09 53.2**	**+2.3**
	SNR=33							
MOTA	**Moosalm**	**2.85**	**12**	Pn		**Pn**	**16 09 53.2**	**+2.3**
	SNR=33							
SKDS	**Skadanscina**	**2.87**	**69**	*i* Pn		**Pn**	**16 09 49.9**	**-1.2**
SKDS				*i* Sn		**Sn**	**16 10 22.1**	**-2.8**
SKDS	**Skadanscina**	**2.87**	**69**	*i* Pn		Pb	16 10 04.7	+7.3
SKDS				*i* Sn		**Sb**	**16 10 37.0**	**+5.0**
SKDS	**Skadanscina**	**2.87**	**69**	*i* Pn		**Pn**	**16 09 49.9**	**-1.2**
SKDS				*i* Sn		**Sn**	**16 10 22.1**	**-2.8**
WTTA	**Wattenberg**	**2.88**	**20**	*e*Pn		**Pn**	**16 09 52.8**	**+1.5**
WTTA				*e*Sn		Sn	16 10 09.0	-16
WTTA	**Wattenberg**	**2.88**	**20**	*e*Pn		**Pn**	**16 09 52.9**	**+1.6**
	SNR=67							
WTTA	**Wattenberg**	**2.88**	**20**	Pn		**Pn**	**16 09 52.8**	**+1.5**
WATA	**Walderalm**	**2.93**	**19**	*e*Pn		**Pn**	**16 09 54.1**	**+2.1**
	SNR=44							
WATA	**Walderalm**	**2.93**	**19**	Pn		**Pn**	**16 09 54.1**	**+2.1**
	SNR=44							
LMR	**La Mourre**	**2.94**	**246**	*e*Pn		**Pn**	**16 09 52.5**	**+0.5**
LMR				*e*Sn		**Sn**	**16 10 28.2**	**+1.6**
	64nm,0.4s							
LMR	**La Mourre**	**2.94**	**246**	*e*Pn		**Pn**	**16 09 52.5**	**+0.5**
LMR				*e*Sn		**Sn**	**16 10 28.2**	**+1.6**
	32nm,0.4s							
RETA	**Reutte**	**2.95**	**7**	*e*Pn		**Pn**	**16 09 54.1**	**+1.9**
	SNR=30							
RETA	**Reutte**	**2.95**	**7**	Pn		**Pn**	**16 09 54.1**	**+1.9**
	SNR=30							
VOY	**Vojsko**	**2.99**	**59**	*e*Pn		**Pn**	**16 09 52.0**	**-0.8**
VOY				*e*Sn		**Sn**	**16 10 26.7**	**-1.2**
JAVS	**Javornik**	**3.03**	**63**	*i* Pn		**Pn**	**16 09 52.4**	**-1.0**
JAVS				*i* Sn		**Sn**	**16 10 27.1**	**-1.9**
JAVS	**Javornik**	**3.03**	**63**	*i* Pn		Pb	16 10 07.3	+7.2
JAVS				*i* Sn		**Sb**	**16 10 41.8**	**+5.1**
JAVS	**Javornik**	**3.03**	**63**	*i* Pn		**Pn**	**16 09 52.4**	**-1.0**
JAVS				*i* Sn		**Sn**	**16 10 27.1**	**-1.9**
ORIF	**Oris-en-Rattie**	**3.10**	**278**	*e*Pn		**Pn**	**16 09 57.0**	**+2.7**
ORIF				*e*Sn		**Sn**	**16 10 31.0**	**+0.3**
	59nm,0.6s							
ORIF	**Oris-en-Rattie**	**3.10**	**278**	*e*Pn		**Pn**	**16 09 57.0**	**+2.7**
ORIF				*e*Sn		**Sn**	**16 10 31.0**	**+0.3**
	30nm,0.6s							
CRNS	**Crni Vrh**	**3.24**	**61**	*i* Pn		**Pn**	**16 09 55.4**	**-0.8**
CRNS				*i* Sn		**Sn**	**16 10 33.5**	**-0.4**
CRNS	**Crni Vrh**	**3.24**	**61**	*i* Pn		Pb	16 10 10.7	+7.2
CRNS				*i* Sn		**Sb**	**16 10 48.1**	**+5.6**
KBA	**Koelnbreinsper**	**3.33**	**40**	*e*Pn		**Pn**	**16 09 58.9**	**+1.3**
KBA	**Koelnbreinsper**	**3.33**	**40**	*i*Pn		**Pn**	**16 09 58.0**	**+0.4**
	SNR=6.5							
KBA	**Koelnbreinsper**	**3.33**	**40**	Pn		**Pn**	**16 09 58.9**	**+1.3**
NVLJ	**Novalja**	**3.34**	**88**	*i* Pn		**Pn**	**16 09 56.8**	**-0.6**
NVLJ				Sn		**Sn**	**16 10 34.0**	**-2.3**
NVLJ	**Novalja**	**3.34**	**88**	*i* Pn		**Pn**	**16 09 56.8**	**-0.6**
NVLJ				Sn		**Sn**	**16 10 34.0**	**-2.3**
SMRF	**Simiane la Rot**	**3.38**	**262**	*e*Pn		**Pn**	**16 10 00.7**	**+2.6**
SMRF				*e*Sn		**Sn**	**16 10 38.8**	**+1.4**
	13nm,0.4s							
SMRF	**Simiane la Rot**	**3.38**	**262**	*e*Pn		**Pn**	**16 10 00.7**	**+2.6**
SMRF				*e*Sn		**Sn**	**16 10 38.8**	**+1.4**
	6.3nm,0.4s							
LJU	**Ljubljana**	**3.39**	**63**	*e*Pn		Pb	16 10 11.5	+5.4
LJU				*e*			16 10 53.0	
VISS	**Visnje**	**3.50**	**68**	*i* Pn		**Pn**	**16 09 59.3**	**-0.4**
VISS				*i* Sn		**Sn**	**16 10 38.6**	**-1.8**
VISS	**Visnje**	**3.50**	**68**	*i* Pn		Pb	16 10 13.1	+6.3
VISS				*i* Sn		**Sb**	**16 10 53.3**	**+3.2**
VISS	**Visnje**	**3.50**	**68**	*i* Pn		**Pn**	**16 09 59.3**	**-0.4**
VISS				*i* Sn		**Sn**	**16 10 38.7**	**-1.8**
CABF	**La Chapelle**	**3.54**	**307**	*e*Pn		**Pn**	**16 10 01.9**	**+1.6**
CABF				*e*Sn		**Sn**	**16 10 37.7**	**-3.8**
	11nm,0.4s							
CABF	**La Chapelle**	**3.54**	**307**	*e*Pn		**Pn**	**16 10 01.9**	**+1.6**
CABF				*e*Sn		**Sn**	**16 10 37.7**	**-3.8**
	5.7nm,0.4s							
OBKA	**Obir**	**3.62**	**56**	*e*Pn		**Pn**	**16 10 01.5**	**+0.1**
OBKA	**Obir**	**3.62**	**56**	Pn		**Pn**	**16 10 01.5**	**+0.1**
FELD	**Feldberg im Sc**	**3.65**	**336**	P		**Pn**	**16 10 03.2**	**+1.4**
LOMF	**Lomont**	**3.65**	**321**	P		**Pn**	**16 10 03.8**	**+2.0**
RJOB	**Jochberg**	**3.65**	**29**	*e*Pn		**Pn**	**16 10 03.5**	**+1.7**
RJOB				*e*Pg		**Pb**	**16 10 08.2**	**-2.3**
RJOB	**Jochberg**	**3.65**	**29**	Pn		**Pn**	**16 10 03.5**	**+1.7**
RJOB	**Jochberg**	**3.65**	**29**	Pg		**Pb**	**16 10 08.2**	**-2.3**
FUR	**Furstenfeldbru**	**3.67**	**11**	*e*Pn		**Pn**	**16 10 03.0**	**+0.9**
FUR	**Furstenfeldbru**	**3.67**	**11**	Pn		**Pn**	**16 10 03.0**	**+0.9**
MOF	**Molkenrain**	**3.92**	**328**	P		**Pn**	**16 10 06.4**	**+0.9**
VIVF	**Saint-Julien-l**	**3.95**	**276**	*e*Pn		**Pn**	**16 10 07.5**	**+1.5**
VIVF				*e*Sn		**Sn**	**16 10 51.2**	**-0.4**
	2.8nm,0.2s							
VIVF	**Saint-Julien-l**	**3.95**	**276**	*e*Pn		**Pn**	**16 10 07.5**	**+1.5**
VIVF				*e*Sn		**Sn**	**16 10 51.2**	**-0.4**
	1.4nm,0.2s							
BFO	**Black Forest**	**3.98**	**342**	*e*Pn		**Pn**	**16 10 07.7**	**+1.3**
BFO				*e*Pg		Pb	16 10 21.1	+4.9
BFO	**Black Forest**	**3.98**	**342**	Pn		**Pn**	**16 10 07.7**	**+1.3**
HINF	**Hinteralfeld**	**4.00**	**326**	*e*Pn		**Pn**	**16 10 06.7**	**+0.1**
HINF				*e*Sn		**Sn**	**16 10 51.1**	**-1.6**
	9.8nm,0.4s							
HINF	**Hinteralfeld**	**4.00**	**326**	*e*Pn		**Pn**	**16 10 06.7**	**+0.1**
HINF				*e*Sn		**Sn**	**16 10 51.1**	**-1.6**
	4.9nm,0.4s							
ECH	**Echery**	**4.21**	**331**	P		**Pn**	**16 10 10.4**	**+0.9**
MOA	**Molln**	**4.33**	**39**	*e*Pn		**Pn**	**16 10 11.8**	**+0.7**
MOA	**Molln**	**4.33**	**39**	*i*Pn		**Pn**	**16 10 11.5**	**+0.4**
	SNR=10							
MOA	**Molln**	**4.33**	**39**	Pn		**Pn**	**16 10 11.8**	**+0.7**
CDF	**Champ du Feu**	**4.34**	**333**	*e*Pn		**Pn**	**16 10 11.1**	**-0.3**
CDF				*e*Sn		**Sn**	**16 10 56.1**	**-5.2**
	7.5nm,0.2s							
CDF	**Champ du Feu**	**4.34**	**333**	*e*Pn		**Pn**	**16 10 11.1**	**-0.3**
HAU	**Haudompre**	**4.36**	**324**	*e*Pn		**Pn**	**16 10 11.8**	**+0.3**
HAU				*e*Sn		**Sn**	**16 10 59.7**	**-1.8**
	24nm,0.4s							
HAU	**Haudompre**	**4.36**	**324**	*e*Pn		**Pn**	**16 10 11.8**	**+0.3**
HAU				*e*Sn		**Sn**	**16 10 59.7**	**-1.8**
	12nm,0.4s							
ARSA	**Arzberg**	**4.58**	**52**	*e*Pn		**Pn**	**16 10 15.0**	**+0.4**
ARSA				*e*Pg		Pb	16 10 34.6	+8.2
ARSA	**Arzberg**	**4.58**	**52**	*i*Pn		**Pn**	**16 10 14.2**	**-0.4**
	SNR=13							
ARSA	**Arzberg**	**4.58**	**52**	Pn		**Pn**	**16 10 15.0**	**+0.4**
LASF	**Ste Croix**	**4.58**	**266**	*e*Pn		**Pn**	**16 10 15.9**	**+1.3**
LASF				*e*Sn		**Sn**	**16 11 07.3**	**+0.2**
	1.9nm,0.3s							
LASF	**Ste Croix**	**4.58**	**266**	*e*Pn		**Pn**	**16 10 15.9**	**+1.3**
LASF				*e*Sn		**Sn**	**16 11 07.3**	**+0.2**
	0.9nm,0.3s							
THEF	**They Montfort**	**4.68**	**323**	P		**Pn**	**16 10 17.2**	**+1.3**
GEC2	**GERESS Array S**	**4.91**	**28**	*e*Pn		**Pn**	**16 10 18.7**	**-0.4**
GEC2				*e*Pg		**Pb**	**16 10 33.4**	**+1.4**
GEC2	**GERESS Array S**	**4.91**	**28**	Pn		**Pn**	**16 10 18.7**	**-0.4**
SMF	**Signal de Mont**	**4.92**	**297**	*e*Pn		**Pn**	**16 10 19.6**	**+0.3**
SMF				*e*Sn		**Sn**	**16 11 12.1**	**-3.4**
	3.5nm,0.3s							
SMF	**Signal de Mont**	**4.92**	**297**	*e*Pn		**Pn**	**16 10 19.6**	**+0.3**
SMF				*e*Sn		**Sn**	**16 11 12.1**	**-3.4**
	1.8nm,0.3s							
WET	**Wettzell**	**4.93**	**21**	*e*Pn		**Pn**	**16 10 19.0**	**-0.4**
WET				*e*Pg		**Pb**	**16 10 33.4**	**+1.0**
WET	**Wettzell**	**4.93**	**21**	Pn		**Pn**	**16 10 19.0**	**-0.4**
PAGF	**Fort de Pagny**	**5.04**	**324**	*e*Pn		**Pn**	**16 10 21.5**	**+0.6**
PAGF				*

BRG	**Berggiesshubel**	**6.79**	**20**	PN	**Pn**	**16 10 45.6**	**+0.7**
	1.5nm,0.6s							
BRG				PB	Pb	16 11 00.2	-3.8
	4.9nm,0.9s							
BRG				SN	**Sn**	**16 11 59.6**	**-1.9**
BRG				*e*		16 12 13.1		
BRG	**Berggiesshubel**	**6.79**	**20**	SB	**Sb**	**16 12 24.3**	**-0.3**
BRG				SG	Sn	16 12 43.4	+42
	8.3nm,0.9s							
BRG				PG		17 17 14.0		
BRG				SG		17 17 34.0		
	15nm,0.3s							
BAIF	**Baives**	**6.84**	**326**	*e*Pn	**Pn**	**16 10 45.3**	**-0.2**
BAIF				*e*Sn	**Sn**	**16 11 58.3**	**-4.3**
	2.5nm,0.4s							
BAIF	**Baives**	**6.84**	**326**	*e*Pn	**Pn**	**16 10 45.3**	**-0.2**
EMIR	**Miracle**	**6.87**	**250**	Pn	**Pn**	**16 10 48.8**	**+2.7**
	3.7nm,0.3s,SNR=7.8							
EMIR				Sn	**Sn**	**16 12 04.7**	**+1.2**
	2.7nm,0.4s,SNR=7.9							
EMIR	**Miracle**	**6.87**	**250**	Pn	**Pn**	**16 10 48.8**	**+2.7**
	3.7nm,0.3s,SNR=7.8							
EMIR				Sn	**Sn**	**16 12 04.7**	**+1.2**
	2.7nm,0.4s,SNR=7.9							
CSOR	**Sort**	**6.95**	**255**	Pn	Pn	16 10 50.9	+3.6
	3.8nm,0.3s,SNR=16							
CSOR				Sn	**Sn**	**16 12 05.3**	**-0.3**
	1.4nm,0.2s,SNR=7.9							
CLL	**Collm**	**7.00**	**15**	*e*Pn	Pn	16 10 54.0	+6.2
CLL				*e*(Sn)	**Sn**	**16 12 10.0**	**+3.4**
CLL				*e*Sg	Sb	16 12 57.0	+26
	comp=Z,19nm,1.3s							
ETOS	**Mallorca**	**7.29**	**231**	Pn	**Pn**	**16 10 54.8**	**+3.0**
	comp=Z,2.3nm,0.3s,SNR=7.9							
ETOS				Sn	**Sn**	**16 12 13.4**	**-0.4**
	comp=Z,1.6nm,0.2s,SNR=7.9							
EPF	**Esparros**	**7.30**	**261**	*e*Pn	**Pn**	**16 10 53.0**	**+1.0**
EPF				*e*Sn	**Sn**	**16 12 12.3**	**-1.8**
	comp=Z,0.6nm,0.3s							
EPF	**Esparros**	**7.30**	**261**	*e*Pn	**Pn**	**16 10 53.0**	**+1.0**
EPOB	**Poblet**	**7.42**	**248**	Pn	**Pn**	**16 10 56.7**	**+3.0**
	comp=Z,0.9nm,0.4s,SNR=7.9							
EPOB				Sn	**Sn**	**16 12 17.0**	**-0.2**
	comp=Z,1.0nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**7.42**	**248**	Pn	**Pn**	**16 10 56.7**	**+3.0**
	comp=Z,0.9nm,0.4s,SNR=7.9							
EPOB				Sn	**Sn**	**16 12 17.0**	**-0.2**
	comp=Z,1.0nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**7.54**	**259**	Pn	Pn	16 10 59.7	+4.3
	comp=Z,0.7nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**8.62**	**233**	Pn	**Pn**	**16 11 13.1**	**+3.0**
	comp=Z,1.5nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**8.62**	**233**	Pn	**Pn**	**16 11 13.1**	**+3.0**
	comp=Z,1.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**9.77**	**252**	Pn	**Pn**	**16 11 28.9**	**+3.1**
	comp=Z,0.2nm,1.8s,SNR=7.9							
ETOR	**Torete**	**9.77**	**252**	Pn	**Sn**	**16 11 29.0**	**+3.1**
	comp=Z,0.2nm,1.8s,SNR=7.9							

*ISCJB **06** 16:14:39.8±0.5,22.°79N±0.°02×121.°56E±0.°03,h15km±7km,*
Error ellipse: s-maj=4.6km s-min=3.4km az=175.7
*TAP **06** 16:14:41.3,22.°84N×121.°45E,h20km,ML3.2,C*
*JMA **06** 16:14:42.2±0.3,22.°78N×121.°61E,h77km*
ISC 06 16:14:39.4±1.1,22.°80N±0.°02×121.°53E±0.°03,h13km±9km,
n42,σ0s87/73,3C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.35**	**263**	P	**Pb**	**16 14 47.8**	**+0.2**
	baz=247						
TTN				S	**Sg**	**16 14 53.1**	**+1.7**
	baz=247						
TWG	**Pinlang**	**0.42**	**273**	⇑*i* P	**Pb**	**16 14 48.6**	**-0.2**
	baz=271						
TWG				*e*S	**Sg**	**16 14 53.8**	**+0.3**
	baz=271						
ECL	**Taimali**	**0.57**	**249**	⇓*i* P	**Pb**	**16 14 51.3**	**+0.1**
	baz=242						
ECL				S	**Sb**	**16 14 58.4**	**-0.8**
	baz=242						
ELDTW	**Lidau**	**0.61**	**309**	⇑*i* P	**Pg**	**16 14 51.4**	**+0.1**
	baz=312						
ELDTW				*e*S	**Sg**	**16 14 58.5**	**-1.0**
	baz=312						
EHY	**Hungye**	**0.73**	**345**	*i* P	**Pb**	**16 14 54.0**	**0.0**
	baz=357						
EHY				S	**Sg**	**16 15 03.2**	**+0.1**
	baz=357						
TAW	**Tawu**	**0.73**	**233**	*e*P	**Pb**	**16 14 53.2**	**-0.8**
	baz=238						
EAST	**Anshuo**	**0.75**	**237**	⇓*i* P	**Pb**	**16 14 54.4**	**0.0**
	baz=240						
EAST				*e*S	**Sg**	**16 15 02.4**	**-1.6**
	baz=240						
LAY	**Lan-yu**	**0.76**	**178**	*i* P	**Pn**	**16 14 55.0**	**-0.9**
	baz=164						
LAY				*e*S	**Sb**	**16 15 04.8**	**+0.1**
	baz=164						
STYT	**Tauyuan**	**0.80**	**297**	P	**Pb**	**16 14 54.7**	**-0.5**
	baz=303						
STYT				*e*S	**Sg**	**16 15 05.0**	**-0.4**
	baz=303						
SSD	**Sandimen**	**0.83**	**266**	⇑*i* P	**Pb**	**16 14 55.4**	**-0.3**
	baz=269						
SSD				*e*S	**Sg**	**16 15 04.2**	**-2.2**
	baz=269						
YUS	**Yu-Shan**	**0.87**	**322**	P	**Pg**	**16 14 56.8**	**+0.5**
	baz=325						
YUS				*e*S	**Sg**	**16 15 06.9**	**-0.9**
	baz=325						
SGST	**Jiashian**	**0.92**	**288**	*e*P	**Pg**	**16 14 57.0**	**-0.2**
	baz=291						
SGST				*e*S	**Sg**	**16 15 08.8**	**-0.3**
	baz=291						
SCZT	**Fangliau**	**0.94**	**243**	*e*P	**Pn**	**16 14 57.7**	**-0.6**
	baz=233						
SCZT				*e*S	**Sg**	**16 15 09.1**	**-0.8**
	baz=233						
WTP	**Ta-pu**	**0.95**	**298**	*e*P	**Pg**	**16 14 57.8**	**0.0**
	baz=303						
WTP				*e*S	**Sg**	**16 15 10.6**	**+0.3**
	baz=303						
CHN1	**Nanshi**	**1.00**	**293**	*e*P	**Pn**	**16 14 59.3**	**+0.1**
	baz=296						
CHN1				*e*S	**Sg**	**16 15 11.8**	**0.0**
	baz=296						
ESL	**Shilin**	**1.01**	**355**	*e*P	**Pb**	**16 14 57.9**	**-1.0**
	baz=348						
ESL				*e*S	**Sb**	**16 15 10.5**	**-1.6**
	baz=348						
TWM1	**Shoushan**	**1.02**	**272**	*e*P	**Pn**	**16 15 00.3**	**+0.8**
	baz=269						
CHN4	**Tsaushan**	**1.02**	**303**	*e*P	**Pn**	**16 14 59.4**	**0.0**
	baz=310						
CHN4				*e*S	**Sg**	**16 15 12.6**	**+0.1**
	baz=310						
HEN	**Hengchun**	**1.08**	**223**	*e*P	**Pg**	**16 15 01.6**	**+1.4**
	baz=208						
TWK1	**Hengchun**	**1.08**	**218**	*e*P	**Pg**	**16 14 59.8**	**-0.5**
	baz=203						
CHN3	**Shinhua**	**1.11**	**285**	*e*P	**Pg**	**16 15 01.3**	**+0.5**
	baz=283						
CHN3				*e*S	**Sn**	**16 15 19.1**	**+3.4**
	baz=283						
CHN5	**Tsauling**	**1.11**	**316**	*e*P	**Pg**	**16 15 01.0**	**+0.1**
	baz=323						
CHN5				*e*S	**Sn**	**16 15 16.5**	**+0.4**
	baz=323						
SMLT	**Sun Moon Lake**	**1.22**	**332**	*e*P	**Pg**	**16 15 02.9**	**-0.2**
	baz=335						
SMLT				*e*S	**Sb**	**16 15 17.9**	**-0.3**
	baz=335						
CHY	**Chiayi**	**1.23**	**305**	*e*P	**Pg**	**16 15 04.0**	**+0.9**
	baz=306						
WGK	**Gukeng**	**1.25**	**315**	*e*P	**Pg**	**16 15 03.5**	**-0.1**
	baz=317						
WGK				*e*S	**Sg**	**16 15 20.8**	**+1.0**
	baz=317						
TYC	**Yuchr**	**1.26**	**331**	*e*P	**Pg**	**16 15 03.5**	**-0.2**
	baz=343						
TYC				*e*S	**Sn**	**16 15 19.2**	**-0.3**
	baz=343						
WNT	**Mingjian**	**1.32**	**324**	*e*P	**Pg**	**16 15 04.7**	**-0.2**
	baz=327						
WNT				*e*S	**Sg**	**16 15 21.9**	**-0.3**
	baz=327						

WHF	**Hehuan Shan**	**1.36**	**350**	P	**Pn**	**16 15 04.2**	**-0.4**
	baz=5.0							
WHF				*e*S	**Sn**	**16 15 21.2**	**-1.5**
	baz=5.0							
TWT	**Tachien**	**1.48**	**347**	*e*P	**Pb**	**16 15 07.3**	**+0.3**
	baz=349							
TCU	**Taichung**	**1.55**	**330**	*e*P	**Pb**	**16 15 08.2**	**+0.1**
	baz=333							
TCU				*e*S	**Sg**	**16 15 28.5**	**-1.0**
	baz=333							
ENA	**Nanau**	**1.63**	**7**	*e*P	**Pn**	**16 15 07.2**	**-0.7**
	baz=10.0							
NNS	**Nan Shan**	**1.64**	**355**	*e*P	**Pb**	**16 15 08.9**	**-0.7**
	baz=11							
TWQ1	**Liyutan**	**1.69**	**336**	*e*P	**Pb**	**16 15 10.1**	**-0.3**
	baz=340							
TWQ1				*e*S	**Sb**	**16 15 32.4**	**+0.9**
	baz=340							
ENTT	**Nioudou**	**1.83**	**1**	*e*P	**Pn**	**16 15 10.4**	**-0.3**
	baz=3.0							
NSK	**Sanguang**	**1.87**	**355**	P	**Pn**	**16 15 11.9**	**+0.7**
	baz=9.0							
TWE	**Neicheng**	**1.92**	**4**	*e*P	**Pn**	**16 15 12.4**	**+0.6**
	baz=6.0							
YOJ	**Yonaguni jima**	**2.14**	**39**	P	**Pn**	**16 15 16.2**	**+1.4**
YOJ				*e*S	**Sn**	**16 15 41.7**	**+0.4**
HATJ	**Hateruma jima**	**2.44**	**59**	P	**Pn**	**16 15 19.7**	**+0.8**
HATJ				*e*S	**Sn**	**16 15 48.5**	**-0.1**
IRIF	**Iriomote-Funau**	**2.53**	**52**	P	**Pn**	**16 15 21.3**	**+1.1**
IRIF				*e*S	**Sn**	**16 15 51.7**	**+0.7**
JKRS	**Kuro-shima**	**2.69**	**57**	P	**Pn**	**16 15 23.8**	**+1.4**
JKRS				*e*S	**Sn**	**16 15 54.8**	**0.0**
JIJ	**Ishigaki jima**	**2.86**	**57**	P	**Pn**	**16 15 25.7**	**+1.0**
JIJ				*e*S	**Sn**	**16 15 58.3**	**-0.7**
JTJ	**Tarama**	**3.44**	**57**	P	**Pn**	**16 15 33.9**	**+1.2**
JTJ				*e*S	**Sn**	**16 16 13.0**	**-0.3**

*ISK **06** 16:17:55.6,37.°81N×29.°27E,h12km,MD2.8*
*ISCJB **06** 16:17:57.0±1.0,37.°81N±0.°06×29.°3E±0.°1,h23km±11km,*
Error ellipse: s-maj=14.5km s-min=8.1km az=27.9
*CSEM **06** 16:17:56.7±0.5,37.°86N×29.°21E,h19km±4km,MD2.8,*
Error ellipse: s-maj=15.5km s-min=10.6km az=106.0
*DDA **06** 16:17:58.0,37.°89N×29.°24E,h7km,MD2.8*
ISC 06 16:17:57.8±1.0,37.°90N±0.°05×29.°21E±0.°05,h13km±11km,
n14,σ1s34/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**225**	*e*PG	**Pg**	**16 18 00.5**	**-1.8**
DENT	**Denizli**	**0.20**	**225**	*e*Pg	**Pg**	**16 18 00.5**	**-1.8**
DNZL	**Cakiroluk**	**0.24**	**213**	*i* P	**Pg**	**16 18 03.9**	**+0.8**
DNZL				*i* S	**Sg**	**16 18 07.6**	**+0.9**
DNZL	**Cakiroluk**	**0.24**	**213**	*i* P	**Pg**	**16 18 03.9**	**+0.8**
DNZL				*i* S	**Sg**	**16 18 07.6**	**+0.9**
KHL	**Karahalli**	**0.49**	**30**	*e*PG	**Pg**	**16 18 06.9**	**-0.7**
KHL				*e*SG	**Sg**	**16 18 15.3**	**+1.2**
KHL	**Karahalli**	**0.49**	**30**	*e*Pg	**Pg**	**16 18 06.9**	**-0.7**
KHL				*e*Sg	**Sg**	**16 18 15.3**	**+1.2**
KHAL	**Karahalli**	**0.52**	**25**	*e*P	**Pg**	**16 18 08.3**	**+0.2**
KHAL				*e*S	**Sb**	**16 18 16.5**	**0.0**
KHAL	**Karahalli**	**0.52**	**25**	*e*P	**Pg**	**16 18 08.3**	**+0.2**
KULA	**Kula-Manisa**	**0.76**	**325**	*e*PG	**Pg**	**16 18 11.6**	**-0.9**
KULA				*e*SG	**Sb**	**16 18 25.3**	**+2.2**
KULA	**Kula-Manisa**	**0.76**	**325**	*e*Pg	**Pg**	**16 18 11.6**	**-0.9**
KULA				*e*Sg	**Sb**	**16 18 25.3**	**+2.2**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*PN	**Pn**	**16 18 20.2**	**-0.8**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*Pn	**Pn**	**16 18 20.2**	**-0.8**
ALT	**Altintas**	**1.36**	**31**	*e*PN	**Pn**	**16 18 21.0**	**-1.6**
ALT	**Altintas**	**1.36**	**31**	*e*Pn	**Pn**	**16 18 21.0**	**-1.6**

*DJA **06** 16:25:11,2.°22S×139.°13E,h22km,MLv3.7/4*
IDC 06 16:25:06.7±4.8,2.°37S×139.°40E,h0km,mb3.2/2,
mb1 3.5/3,mb1mx3.2/14,mbtmp3.3/3,ML3.5/1,Error
ellipse: s-maj=188.6km s-min=29.9km az=88.0,Near
north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.15**	**195**	P	Pn	16 29 19.9	-0.6
	0.2nm,0.3s,baz=18,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**21.83**	**194**	P	P	16 30 01.1	+0.3
	0.3nm,0.5s,baz=16,slow=10,SNR=11						
MKAR	**Makanchi Array**	**69.94**	**322**	P	P	16 36 20.0	0.0
	0.3nm,0.5s,baz=122,slow=6.0,SNR=4.1						

*IDC **06** 16:27:35.7±6.3,36.°69N×141.°86E,h0km,mb3.4/2,*
mb1 3.4/3,mb1mx3.2/23,mbtmp3.3/3,Error ellipse:
s-maj=115.5km s-min=47.1km az=150.0
*JMA **06** 16:27:41.7±0.1,36.°73N×141.°51E,h51km±2km,M3.2*
ISC 06 16:27:38.5±2.6,36.°77N±0.°08×141.°7E±0.°1,h8km±12km,
n13,σ0s95/23,1C-3D,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**296**	P	**Pn**	**16 27 55.2**	**-0.5**
ONAJ				S	**Sb**	**16 28 04.9**	**+0.2**
JFK	**Kawauchi**	**0.86**	**313**	P	**Pn**	**16 27 56.7**	**-0.3**
JFK				S	**Sb**	**16 28 08.0**	**+0.4**
JHO	**Hitachi**	**0.89**	**260**	⇓P	**Pb**	**16 27 56.1**	**-0.2**
JHO				S	**Sg**	**16 28 06.6**	**-0.7**
JMM	**Marumori**	**1.29**	**328**	⇓P	**Pg**	**16 28 03.3**	**0.0**
JMM				S	**Sb**	**16 28 19.2**	**-0.6**
JFT	**Otama**	**1.29**	**305**	⇑P	**Pg**	**16 28 04.0**	**+0.7**
JFY	**Yanaizu**	**1.69**	**293**	P	**Pb**	**16 28 09.8**	**0.0**
JFY				*e*S	**Sn**	**16 28 29.5**	**-0.7**
JIO	**Ouri**	**1.70**	**352**	⇓P	**Pb**	**16 28 09.4**	**-0.5**
JIO				S	**Sn**	**16 28 30.8**	**+0.5**
JOU	**Okura**	**1.78**	**334**	P	**Pb**	**16 28 11.6**	**+0.3**
JOU				S	**Sn**	**16 28 33.4**	**+1.0**
JAG	**Ashikaga**	**1.81**	**260**	P	**Pn**	**16 28 09.7**	**-0.3**
JAG				S	**Sn**	**16 28 30.5**	**-2.7**
MJAR	**Matsushiro Arr**	**2.79**	**266**	Pn	**Pn**	**16 28 24.6**	**+1.1**
	2.7nm,0.3s,baz=88,slow=15,SNR=26						
MJAR				Sn	**Sn**	**16 28 58.4**	**+1.1**
	3.6nm,0.3s,baz=46,slow=15,SNR=6.7						
MAT	**Matsushiro**	**2.79**	**266**	P	**Pn**	**16 28 25.0**	**+1.5**
MAT				S	**Sn**	**16 28 57.9**	**+0.6**
ZALV	**Zalesovo Beam**	**42.24**	**313**	P	**P**	**16 35 31.9**	**0.0**
	0.2nm,0.4s,baz=92,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**44.43**	**302**	P	**P**	**16 35 49.1**	**-0.7**
	0.2nm,0.6s,baz=82,slow=10,SNR=3.5						

*IDC **06** 16:28:03.1±0.6,0.°39S×132.°84E,h0km,mb4.4/10,*
mb1 4.7/13,mb1mx4.5/20,mbtmp4.5/13,ML4.8/3,MS4.4/23,
Ms1 4.4/23,ms1mx4.2/34,Error ellipse: s-maj=28.8km
s-min=10.9km az=80.0
*MOS **06** 16:28:07.0±1.0,0.°47S×132.°60E,h33km,mb4.9/15,Error*
ellipse: s-maj=20.8km s-min=7.8km az=120.0
*BJI **06** 16:28:07.0,0.°63S×132.°68E,h41km,mB5.1/30,mb4.7/47,*
Ms4.6/37,Ms7 4.4/35
*ISCJB **06** 16:28:08.2±0.8,0.°44S±0.°04×132.°95E±0.°05,h49km±7km,*
mb4.8/57,MS4.4/35,Error ellipse: s-maj=8.3km
s-min=5.5km az=151.0
*NEIC **06** 16:28:08.6±0.3,0.°42S×132.°75E,h35km,mb4.8/22,Error*
ellipse: s-maj=11.5km s-min=5.5km az=67.0
*DJA **06** 16:28:09,0.°56S×132.°77E,h10km,mb5.0/27*
ISC 06 16:28:09.2±0.4,0.°39S±0.°04×132.°88E±0.°06,h35km±2km,
h35km:pP-P,n189,σ1s71/220,mb4.8/57,MS4.3/37,5C-2D,
Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.59**	**194**	P	**Pn**	**16 28 48.6**	**-0.1**
BAKI	**Biak**	**3.32**	**104**	P	**Pn**	**16 28 58.3**	**-0.4**
MSAI	**Masohi**	**4.92**	**233**	P	**Pn**	**16 29 21.7**	**+0.9**
	372nm,0.7s,7μm2.7nm						
TLE	**Tual**	**5.22**	**182**	P	**Pn**	**16 29 26.0**	**+1.2**
	1μm,0.7s,15μm4.2nm						
LBMI	**Labuha**	**5.39**	**267**	P	**Pn**	**16 29 25.4**	**-1.7**
	227nm,1.0s,5μm1.7nm						
TNTI	**Ternate**	**5.63**	**282**	P	**Pn**	**16 29 32.3**	**+1.8**
	140nm,0.9s,2μm0.6nm						
AAI	**Ambon**	**5.72**	**235**	P	**Pn**	**16 29 31.1**	**-0.6**
	878nm,1.0s,13μm4.3nm						
NLAI	**Namlea**	**6.44**	**244**	P	**Pn**	**16 29 43.7**	**+2.1**
	180nm,0.8s,4μm1.4nm						

MNI	**Manado**	**8.24**	**283**	P	Pn	16 30 13.5	+7.1
	138nm,0.8s,2μm0.4nm							
KMSI	**Cibinong**	**8.95**	**276**	P	Pn	16 30 21.1	+5.0
	265nm,0.8s							
LUWI	**Luwuk**	**10.13**	**266**	P	**Pn**	**16 30 32.5**	**+0.2**
	158nm,1.1s,2μm							
MRSI	**Marisa**	**10.97**	**274**	P	Pn	16 30 49.4	+5.6
	48nm,0.9s							
PCI	**Palu**	**13.05**	**268**	P	**P**	**16 31 21.1**	**-1.1**
MMRI	**Maumere**	**13.40**	**232**	P	P	16 31 22.0	-4.0
SPSI	**Sidrap Palu**	**13.57**	**255**	P	**Pn**	**16 31 20.2**	**+0.8**
	73nm,0.6s,835nm9μm							
BKSI	**Bulukumba**	**13.65**	**249**	P	P	16 31 25.3	-3.5
	46nm,0.9s,460nm							
KAPI	**Kappang**	**13.89**	**250**	Pn	**Pn**	**16 31 21.1**	**-2.6**
	1.0nm,0.3s,baz=116,slow=12,SNR=2.4							
KAPI	**Kappang**	**13.89**	**250**	*e*P	**Pn**	**16 31 22.1**	**-1.7**
	96nm,1.2s							
KAPI	**Kappang**	**13.89**	**250**	P	Pn	16 31 26.9	+3.1
	68nm,1.3s,726nm							
SMKI	**Samarinda**	**15.67**	**270**	P	**P**	**16 31 55.1**	**+3.8**
PMG	**Port Moresby**	**16.80**	**123**	Pn	**P**	**16 32 05.3**	**+1.5**
	0.5nm,0.3s,baz=290,slow=11,SNR=3.2							
PMG	**Port Moresby**	**16.80**	**123**	*e*P	**P**	**16 32 04.4**	**+0.6**
PMG				pmax	pmax			
	comp=Z,50nm,1.7s							
PMG	**Port Moresby**	**16.80**	**123**	*e*P	**P**	**16 32 05.0**	**+1.2**
	comp=Z,31nm,0.9s							
COEN	**Coen**	**16.90**	**143**	P	**Pn**	**16 32 02.0**	**-1.2**
	comp=Z,84nm,0.7s							
KBKI	**Kotabaru**	**16.95**	**260**	P	**P**	**16 32 06.9**	**+1.4**
	comp=Z,31nm,1.2s,comp=Z,655nm							
GUMO	**Guam**	**18.27**	**40**	LR	LR	16 38 30.2		
	comp=Z,913nm,19.5s,baz=343,slow=34							
BBKI	**Banjar Baru**	**18.29**	**260**	P	Pn	16 32 26.0	+5.7
	comp=Z,108nm,1.6s							
MTNI	**Mataram**	**18.55**	**243**	P	Pn	16 32 34.0	+10
KHKI	**Kahang-Kahang**	**18.95**	**245**	P	**Pn**	**16 32 31.1**	**+2.8**
	comp=Z,67nm,1.4s,comp=Z,1μm							
FITZ	**Fitzroy Crossi**	**18.99**	**202**	P	**P**	**16 32 25.2**	**-2.7**
	comp=Z,1.2nm,0.3s,baz=42,slow=11,SNR=22							
FITZ				S	Sn	16 35 45.6	-15	
	comp=Z,0.7nm,0.3s,baz=114,slow=7.9,SNR=6.6							
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*e*P	**P**	**16 32 24.3**	**-3.6**
	comp=Z,22nm,0.3s							
FITZ				*e*S	Sn	16 35 46.5	-14	
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*e*P	**P**	**16 32 24.4**	**-3.6**
	comp=Z,42nm,1.1s							
FITZ				S	Sn	16 35 45.6	-15	
WRAB	**Tennant Creek**	**19.48**	**176**	*e*P	**P**	**16 32 32.5**	**-0.8**
WRAB				*e*S	S	16 35 58.6	-13	
WRAB				pmax	pmax			
	comp=Z,36nm,0.4s							
WRAB	**Tennant Creek**	**19.48**	**176**	*e*P	**P**	**16 32 32.5**	**-0.8**
	comp=Z,36nm,0.4s							
WRAB				*e*S	S	16 35 58.6	-13	
WRA	**Warramunga Arr**	**19.49**	**176**	P	**P**	**16 32 32.5**	**-0.9**
	comp=Z,9.3nm,0.3s,baz=354,slow=12,SNR=118							
WRA				S	S	16 36 01.9	-10	
	comp=Z,1.4nm,0.3s,baz=358,slow=23,SNR=9.0							
WRA	**Warramunga Arr**	**19.49**	**176**	P	**P**	**16 32 32.5**	**-0.9**
WRA				S	S	16 36 01.9	-10	
WRA	**Warramunga Arr**	**19.49**	**176**	P	**P**	**16 32 32.5**	**-0.9**
WRA				S	S	16 36 01.9	-10	
WB2	**Warramunga Arr**	**19.49**	**176**	*e*P	**P**	**16 32 32.5**	**-0.8**
WB2				*e*S	S	16 35 58.5	-13	
SBUM	**Sibu**	**20.85**	**278**	P	Pn	16 32 51.1	+0.3
	comp=Z,39nm,1.0s,comp=Z,519nm							
GMJI	**Gumukmas**	**20.89**	**247**	P	Pn	16 32 59.7	+8.4
PBKI	**Pangkalan Bun**	**21.33**	**264**	P	P	16 32 58.1	+4.7
	comp=Z,151nm,1.1s							
STKI	**Sintang**	**21.41**	**271**	P	**P**	**16 32 58.2**	**+3.9**
	comp=Z,36nm,1.6s,comp=Z,2μm							
SJI	**Sawahan**	**22.28**	**250**	P	pP	16 33 13.4	+0.4
NGJI	**Ngawi**	**22.46**	**251**	P	P	16 33 10.7	+5.2
	comp=Z,15μm,0.9s							
KSM	**Kuching**	**22.65**	**275**	P	**P**	**16 33 10.9**	**+3.3**
	comp=Z,34nm,1.3s							
AS31	**Alice Springs**	**23.16**	**178**	*e*P	**P**	**16 33 11.7**	**-1.1**
ASAR	**Alice Springs**	**23.16**	**178**	P	**P**	**16 33 11.9**	**-0.9**
	comp=Z,53nm,0.5s,baz=354,slow=9.5,SNR=223							
ASAR				S	**S**	**16 37 24.8**	**+2.6**
	comp=Z,9.8nm,1.0s,baz=355,slow=23,SNR=7.1							
ASAR	**Alice Springs**	**23.16**	**178**	P	**P**	**16 33 11.9**	**-0.9**
ASAR				S	**S**	**16 37 24.8**	**+2.6**
ASAR	**Alice Springs**	**23.16**	**178**	P	**P**	**16 33 11.9**	**-0.9**
ASAR				S	**S**	**16 37 24.8**	**+2.6**
CTA	**Charters Tower**	**23.55**	**147**	P	**P**	**16 33 17.1**	**+0.4**
	comp=Z,13nm,0.7s,baz=332,slow=11,SNR=8.9							
CTA				LR	LR	16 43 26.6		
	comp=Z,2μm,19.5s,baz=320,slow=39							
CTA	**Charters Tower**	**23.55**	**147**	*e*P	**P**	**16 33 17.3**	**+0.7**
	comp=Z,21nm,0.9s							
CTA	**Charters Tower**	**23.55**	**147**	P	**P**	**16 33 17.1**	**+0.4**
CTA	**Charters Tower**	**23.55**	**147**	P	**P**	**16 33 17.1**	**+0.4**
CTAO	**Charters Tower**	**23.55**	**147**	*e*P	**P**	**16 33 17.7**	**+1.1**
CTAO				pmax	pmax			
	comp=Z,31nm,0.9s							
CTAO	**Charters Tower**	**23.55**	**147**	*e*P	**P**	**16 33 17.7**	**+1.1**
	comp=Z,31nm,0.9s							
YOGI	**Yogyakarta**	**23.69**	**251**	P	**P**	**16 33 22.1**	**+4.1**
	comp=Z,499nm,1.4s							
BJII	**Banjamegara**	**24.11**	**253**	P	**P**	**16 33 25.2**	**+3.1**
	comp=Z,210nm,1.5s,comp=Z,2μm							
MBWA	**Marble Bar**	**24.32**	**211**	*e*P	P	16 33 30

NJ2 S **S** **16 40 22.5 -3.9**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NJ2 pmax pmax
comp=Z,220nm,3.8s
NJ2 LR LR
comp=N,380nm,21.1s
NJ2 LR LR
comp=E,310nm,16.1s
NJ2 LR LR
comp=Z,470nm,17.4s
WHN Wuhan 35.45 332 P **P** **16 35 04.7 +2.4**
WHN S **S** **16 40 32.8 -2.4**
WHN pmax pmax
comp=Z,29nm,1.0s
WHN LR LR
comp=N,520nm,19.0s
WHN LR LR
comp=E,910nm,28.7s
WHN LR LR
comp=Z,820nm,14.3s
GYA Guiyang 36.75 319 P **P** **16 35 14.8 +1.1**
GYA pP **pP** **16 35 24.6 +0.7**
GYA PP **PnPn** **16 36 41.2 +3.3**
GYA S **S** **16 40 55.4 -0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.9s
MJAR Matsushiro Arr 37.07 7 P **P** **16 35 13.5 -2.6**
comp=Z,0.7nm,0.5s,baz=180,slow=7.4,SNR=3.9
MJAR LR LR 16 47 19.6
comp=Z,1μm,21.5s,baz=155,slow=31
MJAR Matsushiro Arr 37.07 7 P **P** **16 35 13.5 -2.6**
MJAR Matsushiro Arr 37.07 7 P **P** **16 35 13.5 -2.6**
ARPS Mount Arapiles 37.14 168 *e*P **P** **16 35 16.7 0.0**
comp=Z,63nm,1.1s
ENH Enshi 37.76 326 *e*P **P** **16 35 21.4 -0.6**
comp=Z,21nm,1.4s
KSRS Korea Array 37.93 354 LR LR 16 48 53.2
comp=Z,634nm,20.9s,baz=163,slow=33
CM31 Chiang Mai Arr 38.25 301 P **P** **16 35 25.4 -1.0**
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 38.25 301 P **P** **16 35 24.9 -1.4**
comp=Z,4.6nm,0.9s,baz=121,slow=6.9,SNR=28
CMAR LR LR 16 51 44.3
comp=Z,115nm,19.9s,baz=120,slow=37
CMAR Chiang Mai Arr 38.25 301 P **P** **16 35 24.9 -1.4**
CMAR Chiang Mai Arr 38.25 301 P **P** **16 35 24.9 -1.4**
CHTO Chiang Mai 38.40 302 *e*P **P** **16 35 26.5 -1.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 38.40 302 *e*P **P** **16 35 26.5 -1.1**
comp=Z,5.6nm,0.8s
CHTO Chiang Mai 38.40 302 P **P** **16 35 27.1 -0.5**
comp=Z,9.4nm,0.9s
KMI Kunming 38.64 313 P **P** **16 35 31.4 +1.6**
KMI pP **pP** **16 35 40.6 +0.6**
KMI S **S** **16 41 24.1 -0.3**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI LR LR
comp=N,160nm,11.9s
KMI LR LR
comp=E,200nm,17.9s
KMI LR LR
comp=Z,390nm,18.4s
CD2 Chengdu 41.63 321 P **P** **16 35 55.0 +0.7**
CD2 pP **pP** **16 36 05.2 +0.5**
CD2 sP **sP** **16 36 09.5 +0.7**
CD2 PP **PnPn** **16 37 35.2 -0.8**
CD2 S **S** **16 42 09.2 +0.5**
CD2 sS **sS** **16 42 26.2 +0.5**
CD2 SS **SS** **16 45 10.2 -4.6**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,200nm,4.7s
CD2 LR LR
comp=N,400nm,10.1s
CD2 LR LR
comp=Z,540nm,13.7s
SNY Shenyang 42.85 350 ⇓P **P** **16 36 04.4 +0.4**
SNY S **S** **16 42 28.5 +2.3**
SNY pmax pmax
comp=Z,8.0nm,0.8s
SNY pmax pmax
comp=Z,240nm,4.0s
SNY LR LR
comp=N,510nm,25.8s
SNY LR LR
comp=E,310nm,24.4s
SNY LR LR
comp=Z,590nm,22.8s
BJI Beijing 43.03 341 P **P** **16 36 06.9 +1.5**
BJI S **S** **16 42 31.6 +2.8**
BJI LR LR
comp=N,290nm,27.9s
BJI LR LR
comp=E,200nm,14.0s
USRK Ussuriysk Arra 44.40 359 P **P** **16 36 17.0 +0.6**
comp=E,1.8nm,0.8s,baz=188,slow=12,SNR=3.6
USRK LR LR 16 53 39.0
comp=E,297nm,19.1s,baz=157,slow=35
CN2 Changchun 44.49 352 *e*P P 16 36 21.4 +4.2
CN2 *es*P sP 16 36 35.2 +3.5
CN2 *e*S **S** **16 42 55.8 +5.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,300nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,500nm,19.0s
MDJ Mudanjiang 44.90 357 P **P** **16 36 21.4 +1.0**
MDJ pP **pP** **16 36 30.7 -0.1**
MDJ PcS **PcS** **16 41 55.4 +0.3**
MDJ S **S** **16 42 59.8 +3.8**
MDJ sS **sS** **16 43 14.3 +1.2**
MDJ pmax pmax
comp=Z,7.0nm,1.7s
MDJ pmax pmax
comp=Z,130nm,7.7s
MDJ LR LR
comp=N,360nm,28.3s
MDJ LR LR
comp=Z,400nm,32.4s
LZH Lanzhou 45.23 326 *e*P **P** **16 36 24.8 +1.4**
LZH pP **pP** **16 36 32.4 -1.4**
LZH sP **sP** **16 36 35.8 -2.2**
LZH S **S** **16 43 01.0 -0.4**
LZH sS **sS** **16 43 18.0 -0.5**
LZH SS **ScS** **16 46 14.1 -3.9**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.3s
LZH LR LR
comp=N,280nm,12.5s
LZH LR LR
comp=E,310nm,14.9s
LZH LR LR
comp=Z,380nm,15.8s
HHC Hu-ho-hao-te 45.39 337 *e*P **P** **16 36 24.1 -0.4**
HHC pP **pP** **16 36 34.0 -0.9**
HHC sP **sP** **16 36 37.9 -1.2**
HHC PP **PP** **16 38 11.8 +0.7**
HHC S **S** **16 43 03.3 -0.1**
HHC sS **sS** **16 43 19.2 -1.3**
HHC SS **ScS** **16 46 22.0 +3.4**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.2s
HHC LR LR
comp=N,200nm,14.7s
HHC LR LR
comp=E,240nm,14.7s
HHC LR LR
comp=Z,240nm,15.1s
YSS Yuzh-Sakhalins 47.93 9 *e*P P 16 36 47.8 +3.6
HABR Khabarovsk 48.70 2 *e*P **pP** **16 37 02.6 +2.1**
HABR 16 38 42.4
HABR *e*S **S** **16 43 49.6 -0.5**
HABR *e*SS sS 16 44 06.3 -1.0
HABR *e* 16 46 38.2
HABR *e*SS **SS** **16 47 21.9 +1.0**
HABR *e*SSS SSS 16 48 37.7
HABR pmax pmax
comp=N,41nm,2.8s
HABR pmax pmax
comp=E,69nm,2.8s
HABR pmax pmax
comp=Z,55nm,2.7s
HABR MLR MLR
comp=Z,243nm,19.0s
LSA Lhasa 49.76 311 *e*P **P** **16 36 58.5 -0.6**
LSA pmax pmax
comp=Z,9.0nm,0.9s
LSA Lhasa 49.76 311 *e*P **P** **16 36 58.5 -0.6**
comp=Z,8.8nm,0.9s
GTA Gaotai 49.84 326 ⇑P **P** **16 37 00.3 +1.2**
GTA pP **pP** **16 37 10.2 +0.6**
GTA sP **sP** **16 37 14.2 +0.5**
GTA S **S** **16 44 08.8 +2.1**
GTA sS **sS** **16 44 25.4 +1.4**
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,150nm,5.0s
GTA LR LR
comp=N,170nm,15.9s
GTA LR LR
comp=E,200nm,17.6s
GTA LR LR
comp=Z,210nm,16.4s
TAPN Taplejung 51.39 306 *e*P **P** **16 37 09.8 -1.5**
comp=Z,69nm,1.4s
TAPN Taplejung 51.39 306 *e*P **P** **16 37 09.8 -1.5**
ODAN Odare 51.45 305 *e*P **P** **16 37 09.9 -1.7**
comp=Z,25nm,0.8s
ODAN Odare 51.45 305 *e*P **P** **16 37 09.9 -1.7**
RAMN Ramite 52.13 305 *e*P **P** **16 37 15.4 -1.3**
comp=Z,35nm,0.9s
RAMN Ramite 52.13 305 *e*P **P** **16 37 15.4 -1.3**
JIRN Jiri 52.75 306 *e*P **P** **16 37 20.0 -1.5**
JIRN Jiri 52.75 306 *e*P **P** **16 37 20.0 -1.5**
ULN Ulaanbaatar 53.05 338 *e*P **P** **16 37 22.7 -0.3**
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 53.05 338 *e*P **P** **16 37 22.7 -0.3**
comp=Z,12nm,1.3s
GUN Gumba 53.10 306 *e*P **P** **16 37 22.6 -1.4**
comp=Z,32nm,0.8s
GUN Gumba 53.10 306 *e*P **P** **16 37 22.6 -1.4**
SONM Songino Array 53.27 338 P **P** **16 37 24.3 -0.3**
comp=Z,1.7nm,0.6s,baz=155,slow=7.2,SNR=14
SONM LR LR 16 59 09.8
comp=Z,307nm,21.2s,baz=168,slow=35
SONM Songino Array 53.27 338 P **P** **16 37 24.3 -0.3**
SONM Songino Array 53.27 338 P **P** **16 37 24.3 -0.3**
PKI Pulchoki 53.35 305 *e*P **P** **16 37 23.9 -1.9**
PKI Pulchoki 53.35 305 *e*P **P** **16 37 23.9 -1.9**
PKI Pulchoki 53.35 305 *e*P **P** **16 37 23.9 -1.9**
KKN Kakani 53.54 306 *e*P **P** **16 37 25.4 -1.7**
KKN Kakani 53.54 306 *e*P **P** **16 37 25.4 -1.7**
KKN Kakani 53.54 306 *e*P **P** **16 37 25.4 -1.7**
DMN Daman 53.61 305 *e*P **P** **16 37 26.0 -1.7**
comp=Z,30nm,1.0s
DMN Daman 53.61 305 *e*P **P** **16 37 26.0 -1.7**
GKN Gorkha 54.15 306 *e*P **P** **16 37 29.6 -1.9**
GKN Gorkha 54.15 306 *e*P **P** **16 37 29.6 -1.9**
KOLN Koldanda 54.91 305 *e*P **P** **16 37 35.7 -1.3**
comp=Z,12nm,0.5s
KOLN Koldanda 54.91 305 *e*P **P** **16 37 35.7 -1.3**
RPZ Rata Peaks 54.93 147 LR LR 17 00 29.4
comp=Z,554nm,20.9s,baz=285,slow=35
DANN Dangsing 54.99 306 *e*P **P** **16 37 36.3 -1.5**
DANN Dangsing 54.99 306 *e*P **P** **16 37 36.3 -1.5**
PETK Petropavlovsk- 57.19 18 LR LR 16 57 47.9
comp=Z,333nm,21.6s,baz=210,slow=31
MOY Mondy 58.43 337 *e*P **P** **16 38 03.7 +2.2**
WMQ Urumqi 59.63 323 P **P** **16 38 10.9 +0.9**
WMQ pP **pP** **16 38 20.9 +0.2**
WMQ sP **sP** **16 38 24.9 +0.1**
WMQ PcP **PcP** **16 38 56.9 0.0**
WMQ S **S** **16 46 17.3 -0.8**
WMQ SS **SS** **16 50 13.9 -0.3**
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,140nm,5.6s
WMQ LR LR
comp=N,100nm,20.7s
WMQ LR LR
comp=E,110nm,23.7s
WMQ LR LR
comp=Z,140nm,22.2s
BOD Bodaibo 59.95 348 *e*P **P** **16 38 11.4 -0.4**
BOD pmax pmax
comp=Z,11nm,1.6s
DDI Dehra Dun 60.35 306 *ex* **P** **16 38 16.8 +1.7**
YAK Yakutsk 62.30 358 *e*P **P** **16 38 28.5 +0.9**
YAK *e**PP **pP** **16 38 39.9 +1.6**
YAK *e* 16 39 06.9
YAK *e* 16 40 50.9
YAK *e*S **S** **16 46 54.3 +3.1**
YAK *e*SSS SSS 16 53 40.5
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=Z,155nm,4.0s
YAK pmax pmax
comp=E,102nm,4.6s
YAK pmax pmax
comp=N,66nm,4.2s
YAK smax smax
comp=N,141nm,13.1s
YAK smax smax
comp=E,45nm,13.7s
YAK Yakutsk 62.30 358 *e*P **P** **16 38 29.6 +2.0**
comp=E,13nm,0.6s
MK31 Makanchi Array 64.45 324 *e*P **P** **16 38 41.3 -0.9**
MK31 Makanchi Array 64.45 324 *e*P **P** **16 38 41.3 -0.9**
MKAR Makanchi Array 64.45 324 P **P** **16 38 41.6 -0.5**
comp=E,4.7nm,0.6s,baz=112,slow=7.6,SNR=61
MKAR LR LR 17 08 14.0
comp=E,141nm,19.9s,baz=168,slow=37
MKAR Makanchi Array 64.45 324 P **P** **16 38 41.7 -0.5**
MKAR Makanchi Array 64.45 324 P **P** **16 38 41.6 -0.5**
SEY Seymchan 64.83 10 *ce*P **P** **16 38 45.3 +1.0**
KSH Kashi 65.29 314 *e*P **P** **16 38 48.8 +0.9**
KSH *ep*P **pP** **16 38 58.9 +0.2**
KSH *es*P **sP** **16 39 02.9 +0.1**
KSH *e*PcP **PcP** **16 39 20.8 +0.7**
KSH *e*PP **PP** **16 41 13.9 +2.0**
KSH *e*ScP 16 43 19.9
KSH *e*PcS 16 43 23.7
KSH *e*S **S** **16 47 26.4 -3.1**
KSH *e*ScS **SKSac** **16 48 36.7 -4.1**
KSH *e*SS **SS** **16 51 40.1 -2.8**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH LR LR
comp=N,180nm,5.3s
KSH LR LR
comp=E,140nm,4.9s
KSH LR LR
comp=Z,140nm,5.1s
ZAA0 Zalesovo Array 67.07 331 *e*P **P** **16 38 57.5 -1.3**
ZALV Zalesovo Beam 67.07 331 P **P** **16 38 57.7 -1.2**
comp=Z,1.9nm,0.5s,baz=120,slow=7.9,SNR=14
ZALV LR LR 17 10 07.2
comp=Z,83nm,20.2s,baz=243,slow=38
ZALV Zalesovo Beam 67.07 331 P **P** **16 38 57.7 -1.2**
ZALV Zalesovo Beam 67.07 331 P **P** **16 38 57.7 -1.2**
AAK Ala-Archa 67.52 317 *e*P **P** **16 39 02.0 -0.2**
AAK pmax pmax
comp=Z,118nm,1.9s
AAK Ala-Archa 67.52 317 *e*P **P** **16 39 02.0 -0.2**
comp=Z,118nm,1.9s
NVS Novosibirsk 68.34 332 ⇑*i*P **P** **16 39 06.3 -0.6**
NVS pmax pmax
comp=Z,19nm,1.6s
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=E,9.0nm,1.4s
KURK Kurchatov 68.52 326 *de*P **P** **16 39 08.1 0.0**
KURK pmax pmax
comp=Z,28nm,1.7s
KURK Kurchatov 68.52 326 *e*P **P** **16 39 07.3 -0.7**
comp=Z,29nm,1.4s
KBL Kabul 68.89 307 *e*P **P** **16 39 09.5 -1.5**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 68.89 307 *e*P **P** **16 39 09.5 -1.5**
comp=Z,11nm,1.0s
KKAR Karatay Array 70.42 316 *e*P **P** **16 39 19.1 -1.0**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 70.42 316 *e*P **P** **16 39 19.1 -1.0**
comp=Z,2.1nm,0.5s
BVAR Borovoye Array 74.12 326 LR LR 17 14 12.5
comp=Z,112nm,19.9s,baz=243,slow=37
BRVK Borovoye 74.19 326 *ce*P **P** **16 39 42.0 -0.3**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 74.19 326 *e*P **P** **16 39 40.9 -1.4**
comp=Z,11nm,1.0s
SVE Sverdlovsk 80.67 328 *e*P **P** **16 40 19.7 +1.2**
SVE pmax pmax
comp=Z,23nm,1.7s
ARU Arti 81.69 327 *c i*P **P** **16 40 24.1 +0.2**
ARU 16 43 28.4
ARU S **S** **16 50 35.3 +1.4**
ARU SS **SS** **16 55 48.7 -3.2**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU Arti 81.69 327 *e*P **P** **16 40 22.5 -1.4**
comp=Z,12nm,1.4s
KDAK Kodiak Island 82.11 31 LR LR 17 10 45.2
comp=Z,415nm,21.2s,baz=262,slow=31
MAW Mawson 82.12 201 LR LR 17 10 23.6
comp=Z,193nm,21.3s,baz=75,slow=31
ILAR Eielson Array 86.18 25 P **P** **16 40 45.0 -1.6**
comp=Z,0.9nm,0.7s,baz=253,slow=4.5,SNR=9.5
ILAR LR LR 17 12 27.1
comp=Z,205nm,21.1s,baz=267,slow=31
ILAR Eielson Array 86.18 25 P **P** **16 40 45.0 -1.6**
ILAR Eielson Array 86.18 25 P **P** **16 40 45.0 -1.6**
QSPA South Pole Qui 89.55 180 LR LR 17 22 15.0
comp=Z,302nm,20.1s,baz=5.7,slow=36
QSPA South Pole Qui 89.55 180 *e*P **P** **16 41 02.3 -0.6**
comp=Z,9.2nm,1.0s
INK Inuvik 91.69 22 LR LR 17 17 01.0
comp=Z,77nm,21.3s,baz=75,slow=32
ANN Anapa 94.15 315 *e**PP **P** **16 41 26.6 +2.1**
ANN *eS* SKSac 16 51 48.1 -8.9
ANN pmax pmax
comp=Z,90nm,1.2s
ARCES ARCESS Array B 96.39 340 LR LR 17 27 28.7
comp=Z,328nm,19.1s,baz=359,slow=37
FINES FINESS Array B 98.33 332 LR LR 17 27 53.0
comp=Z,188nm,18.1s,baz=140,slow=36
AKASG Malin Array Be 98.94 321 LR LR 17 31 01.7
comp=Z,87nm,20.2s,baz=25,slow=38
TORD Torodi Ar. Bea 130.01 287 PKP **PKPdf** **16 47 15.0 -1.4**
comp=Z,0.6nm,0.7s,baz=58,slow=0.9,SNR=4.4
TORD Torodi Ar. Bea 130.01 287 PKP **PKPdf** **16 47 15.0 -1.4**
CPUP Villa Florida 151.67 160 PKPbc **PKPbc** **16 47 59.9 -0.9**
comp=Z,2.8nm,0.8s,baz=129,slow=1.1,SNR=9.5
CPUP Villa Florida 151.67 160 PKIKP **PKPbc** **16 47 59.9 -0.9**
CPUP Villa Florida 151.67 160 PKPbc **PKPbc** **16 47 59.9 -0.9**

IDC 06 16:34:17.4±5.2, 6.09S×146.90E, h65km±56km, mb3.2/4, mb1 3.6/6, mb1mx3.3/16, mbtmp3.3/6, ML2.7/1, Error ellipse: s-maj=43.7km s-min=33.5km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.31**	**175**	P	Pn	16 35 06.6	-0.3
	7.0nm,0.3s,baz=339,slow=23,SNR=22						
PMG				S	Sn	16 35 45.8	+0.8
	3.6nm,0.3s,baz=315,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**18.40**	**220**	P	P	16 38 27.1	-0.4
	baz=46,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**21.49**	**214**	P	P	16 39 00.5	-0.4
	2.1nm,0.8s,baz=50,slow=9.4,SNR=2.3						
CMAR	**Chiang Mai Arr**	**53.20**	**298**	P	P	16 43 29.1	-0.4
	0.3nm,0.5s,baz=119,slow=6.5,SNR=4.6						
SONM	**Songino Array**	**64.43**	**331**	P	P	16 44 47.5	+0.5
	0.2nm,0.4s,baz=126,slow=5.1,SNR=3.3						
ILAR	**Eielson Array**	**85.60**	**23**	P	P	16 46 47.9	-0.6
	0.3nm,0.6s,baz=253,slow=4.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.01**	**284**	PKPbc	PKPbc	16 53 47.5	-0.3
	0.4nm,0.7s,baz=72,slow=3.4,SNR=3.5						

*JMA **06** 16:50:05.5, 36.76N×141.00E, h58km±1km, M3.5*
Broadband fault plane solution: P waves. NP1: φs17.00000°, δ81.00000°, λ-96.00000°. NP2: φs234.00000°, δ11.00000°, λ-54.00000°. Principal axes: T Plg36.0000°, Azm113.0000°; N Plg6.0000°, Azm18.0000°; P Plg53.0000°, Azm280.0000°;

ISC 06 16:50:05.0±2.8, 36.74N±0.07×141.1E±0.1, h52km±15km, n10, σ0.945/20, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**327**	⇑P	**Pn**	**16 50 15.9**	**+0.2**
ONAJ				S	**Sn**	**16 50 23.4**	**0.0**
JHO	**Hitachi**	**0.44**	**253**	⇑P	**Pn**	**16 50 16.1**	**+0.3**
JHO				S	**Sn**	**16 50 23.5**	**0.0**
JFK	**Kawauchi**	**0.65**	**344**	⇑P	**Pn**	**16 50 18.3**	**0.0**
JFK				S	**Sn**	**16 50 27.6**	**-0.3**
JYT	**Yasato**	**0.89**	**235**	⇑P	**Pn**	**16 50 21.3**	**0.0**
JYT				S	**Sn**	**16 50 32.6**	**-0.6**
JFT	**Otama**	**0.99**	**322**	⇑P	**Pn**	**16 50 23.0**	**+0.4**
JFT				S	**Sn**	**16 50 35.6**	**0.0**
JMM	**Marumori**	**1.15**	**348**	⇑P	**Pn**	**16 50 24.9**	**+0.1**
JMM				S	**Sn**	**16 50 39.4**	**-0.1**
JFY	**Yanaizu**	**1.30**	**301**	P	**Pn**	**16 50 26.6**	**-0.2**
JFY				S	**Sn**	**16 50 42.5**	**-0.6**
JAG	**Ashikaga**	**1.36**	**257**	⇑P	**Pn**	**16 50 27.4**	**-0.2**
JAG				S	**Sn**	**16 50 43.8**	**-0.8**
JKT	**Katashina**	**1.49**	**272**	P	**Pn**	**16 50 29.5**	**+0.1**
JKT				*e*S	**Sn**	**16 50 47.6**	**-0.2**
MAT	**Matsushiro**	**2.33**	**266**	P	**Pn**	**16 50 41.9**	**+0.9**
MAT				S	**Sn**	**16 51 09.1**	**+0.7**

IDC 06 16:50:38.0±5.2, 49.29N×154.52E, h133km±39km, mb3.0/7, mb1 3.3/8, mb1mx3.1/25, mbtmp2.9/8, Error ellipse: s-maj=62.9km s-min=18.2km az=165.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**4.31**	**26**	P	Pn	16 51 41.8	-0.1
	0.7nm,0.3s,baz=178,slow=12,SNR=28						
ILAR	**Eielson Array**	**33.99**	**41**	P	P	16 57 08.4	-0.1
	0.2nm,0.5s,baz=260,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**46.65**	**296**	P	P	16 58 52.6	-0.2
	0.4nm,0.9s,baz=74,slow=14,SNR=3.5						
KURK	**Kurchatov**	**46.78**	**302**	P	P	16 58 54.1	+0.4
	0.3nm,0.4s,baz=69,slow=8.2,SNR=4.9						
YKA	**Yellowknife Ar**	**48.33**	**38**	P	P	16 59 05.7	+0.2
	0.2nm,0.5s,baz=299,slow=7.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**53.90**	**256**	P	P	16 59 47.8	+0.1
	0.4nm,0.6s,baz=35,slow=6.5,SNR=4.2						
PDAR	**Pinedale Array**	**62.51**	**56**	P	P	17 00 47.6	+0.1
	0.5nm,0.9s,baz=319,slow=5.4,SNR=3.4						
TXAR	**Lajitas Array**	**75.44**	**62**	P	P	17 02 06.9	-0.5
	0.3nm,0.6s,baz=288,slow=5.1,SNR=4.1						

*ISCJB **06** 16:55:04.9±0.5, 37.36N±0.04×137.53E±0.05, h23km, mb3.2/6, Error ellipse: s-maj=6.8km s-min=4.2km az=141.3*
*JMA **06** 16:55:04.8, 37.35N×137.54E, h13km±1km, M3.2*
Broadband fault plane solution: P waves. NP1: φs135.00000°, δ85.00000°, λ-80.00000°. NP2: φs252.00000°, δ11.00000°, λ-152.00000°. Principal axes: T Plg39.0000°, Azm216.0000°; N Plg10.0000°, Azm314.0000°; P Plg49.0000°, Azm55.0000°;
*IDC **06** 16:55:06.0±4.4, 37.42N×138.08E, h35km±23km, mb3.1/6, mb1 3.2/7, mb1mx3.1/25, mbtmp3.1/7, ML3.5/1 Error ellipse: s-maj=85.0km s-min=17.9km az=60.0*
ISC 06 16:55:05.3±0.8, 37.36N±0.04×137.55E±0.05, h23km, n16, σ1.940/21, mb3.2/6, 2C-2D, Near west coast of eastern

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.17**	**301**	⇓P	**Pb**	**16 55 08.5**	**-1.9**
JSZ				S	**Sb**	**16 55 11.6**	**-2.2**
JJN	**Nakama**	**0.55**	**117**	P	**Pb**	**16 55 15.7**	**-0.6**
JJN				S	**Sb**	**16 55 24.0**	**+0.2**
JHG	**Hegura jima**	**0.70**	**315**	P	**Pb**	**16 55 18.5**	**-0.3**
JTT	**Ttatey**	**0.77**	**193**	⇑P	**Pb**	**16 55 19.1**	**-0.9**
JSD	**Sado**	**0.88**	**40**	⇓P	**Pb**	**16 55 20.9**	**-1.0**
JSD				S	**Sn**	**16 55 33.1**	**-1.2**
MAT	**Matsushiro**	**0.97**	**147**	P	**Pb**	**16 55 22.4**	**-1.0**
MAT				S	**Sn**	**16 55 36.0**	**-0.6**
MAT	**Matsushiro**	**0.97**	**147**	P	**Pb**	**16 55 22.5**	**-1.0**
MAT				S	**Sn**	**16 55 36.0**	**-0.6**
MJAR	**Matsushiro Arr**	**0.97**	**147**	Pg	**Pb**	**16 55 22.9**	**-0.5**
	12nm,0.3s,baz=351,slow=8.8,SNR=70						
MJAR				Lg	Lg	16 55 37.0	
	31nm,0.3s,baz=114,slow=35,SNR=33						
JNG	**Nsakai**	**1.05**	**155**	⇑P	**Pn**	**16 55 24.0**	**-0.6**
JNG				S	**Sn**	**16 55 38.7**	**+0.1**
KSRS	**Korea Array**	**7.66**	**274**	Pn	Pn	16 56 59.4	+3.9
	0.6nm,0.3s,baz=89,slow=14,SNR=8.1						
SONM	**Songino Array**	**25.05**	**305**	P	**P**	**17 00 30.6**	**+2.8**
	0.3nm,0.6s,baz=109,slow=9.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**39.41**	**312**	P	**P**	**17 02 34.5**	**+1.4**
	0.3nm,0.5s,baz=82,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**41.32**	**301**	P	**P**	**17 02 51.2**	**+2.2**
	0.2nm,0.7s,baz=75,slow=7.6,SNR=2.6						
KURK	**Kurchatov**	**43.29**	**307**	P	**P**	**17 03 06.5**	**+1.6**
	0.3nm,0.6s,baz=85,slow=8.4,SNR=4.9						
WRA	**Warramunga Arr**	**57.07**	**184**	P	**P**	**17 04 50.0**	**+0.3**
	0.3nm,0.8s,baz=0.8,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**60.80**	**184**	P	**P**	**17 05 13.7**	**-1.8**
	0.3nm,0.9s,baz=357,slow=5.0,SNR=4.4						

*IDC **06** 17:08:06.9±2.6, 58.66S×26.31W, h140km±22km, mb4.0/7, mb1 4.1/8, mb1mx3.8/15, mbtmp4.0/8, Error ellipse: s-maj=19.5km s-min=17.0km az=179.0*

*NEIC **06** 17:08:06.9±2.9, 58.61S×26.39W, h145km±26km, mb4.5/5, Error ellipse: s-maj=17.6km s-min=11.5km az=215.0*

*ISCJB **06** 17:08:08.5±0.7, 58.63S±0.10×26.64W±0.2, h172km, mb4.0/10, Error ellipse: s-maj=16.1km s-min=10.4km az=136.9*

ISC 06 17:08:09.9±0.6, 58.70S±0.10×26.51W±0.10, h172km, n40, σ0s88/42, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.21**	**155**	*eP*	**P**	**17 11 23.9**	**-1.5**
VNA3	**Neumayer Olymp**	**14.38**	**158**	*eP*	**Pn**	**17 11 25.6**	**+0.4**
VNA2	**Neumayer--Watz**	**14.61**	**155**	*eP*	**Pn**	**17 11 28.1**	**0.0**
	baz=314,slow=12						
SNAA	**Sanae**	**16.18**	**153**	*eP*	**Pn**	**17 11 47.4**	**0.0**
SNAA	**Sanae**	**16.18**	**153**	*e*Pn	**P**	**17 11 46.6**	**-0.7**
	16nm,0.5s						
SNAA				*e*Sn	S	17 14 33.9	-12
PMSA	**Palmer Station**	**18.55**	**235**	P	**Pn**	**17 12 14.8**	**-0.7**
	2.3nm,0.3s,baz=244,slow=7.5,SNR=7.9						
PMSA	**Palmer Station**	**18.55**	**235**	*eP*	**Pn**	**17 12 14.7**	**-0.7**
	28nm,0.7s						
PMSA				*e*		17 12 18.8	
EFI	**East Falkland**	**19.20**	**278**	P	**P**	**17 12 17.1**	**-3.1**
	54nm,1.1s						
USHA	**Ushuaia**	**23.01**	**261**	P	**P**	**17 13 01.1**	**+1.7**
	5.3nm,0.5s,baz=108,slow=11,SNR=5.9						
USHA	**Ushuaia**	**23.01**	**261**	P	**P**	**17 13 01.1**	**+1.7**
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**17 14 16.3**	**+0.8**
	8.6nm,0.5s,baz=212,slow=1.6,SNR=140						
QSPA				PcP	**PcP**	**17 17 04.2**	**+0.6**
	1.6nm,0.5s,baz=83,slow=2.4,SNR=6.7						
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**17 14 16.3**	**+0.8**
QSPA				PcP	**PcP**	**17 17 04.2**	**+0.6**
PLCA	**Paso Flores**	**32.90**	**283**	P	**P**	**17 14 27.6**	**+0.1**
	0.9nm,0.6s,baz=170,slow=6.1,SNR=2.8						
PLCA	**Paso Flores**	**32.90**	**283**	P	**P**	**17 14 27.6**	**+0.1**
CFAA	**Coronel Fontan**	**38.99**	**296**	P	**P**	**17 15 19.2**	**-0.1**
	0.2nm,0.3s,baz=173,slow=11,SNR=5.0						
CFAA	**Coronel Fontan**	**38.99**	**296**	P	**P**	**17 15 19.2**	**-0.1**
SBA	**Scott Base**	**43.45**	**184**	P	**P**	**17 15 54.1**	**-0.9**
	6.6nm,0.9s						
VNDA	**Vanda**	**43.94**	**183**	*eP*	**P**	**17 16 00.2**	**+1.3**
	4.5nm,0.6s						
BOSA	**Boshof**	**46.34**	**73**	P	**P**	**17 16 17.7**	**-0.8**
	1.8nm,0.9s,baz=217,slow=10,SNR=3.7						
BOSA	**Boshof**	**46.34**	**73**	P	**P**	**17 16 17.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**75.20**	**28**	P	**P**	**17 19 33.7**	**+0.5**
	0.5nm,0.3s,baz=198,slow=6.3,SNR=9.6						
TORD	**Torodi Ar. Bea**	**75.20**	**28**	P	**P**	**17 19 33.7**	**+0.5**
STKA	**Stephens Creek**	**89.22**	**170**	P	**P**	**17 20 45.5**	**-0.4**
	1.8nm,0.6s,baz=175,slow=6.3,SNR=6.0						
STKA	**Stephens Creek**	**89.22**	**170**	P	**P**	**17 20 45.5**	**-0.4**
ASAR	**Alice Springs**	**96.35**	**162**	P	**P**	**17 21 18.8**	**-0.2**
	1.9nm,0.7s,baz=188,slow=4.0,SNR=51						
ASAR	**Alice Springs**	**96.35**	**162**	P	**P**	**17 21 18.8**	**-0.2**
WRA	**Warramunga Arr**	**100.07**	**162**	P	**Pdif**	**17 21 35.1**	**-0.5**
	0.2nm,0.5s,baz=193,slow=4.3,SNR=4.0						
WRA	**Warramunga Arr**	**100.07**	**162**	P	**Pdif**	**17 21 35.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**123.77**	**112**	PKP	**PKPdf**	**17 26 47.6**	**+0.7**
	0.4nm,0.5s,baz=229,slow=3.7,SNR=8.1						
CMAR	**Chiang Mai Arr**	**123.77**	**112**	PKP	**PKPdf**	**17 26 47.6**	**+0.7**
FINES	**FINESS Array B**	**126.56**	**28**	PKP	**PKPdf**	**17 26 51.1**	**+0.2**
	6.7nm,1.0s,baz=175,slow=1.7,SNR=11						
FINES	**FINESS Array B**	**126.56**	**28**	PKP	**PKPdf**	**17 26 51.1**	**+0.2**
YKA	**Yellowknife Ar**	**138.36**	**316**	PKP	**PKPdf**	**17 27 12.8**	**-0.2**
	0.2nm,0.4s,baz=126,slow=2.6,SNR=6.8						
YKA				SKPbc	**SKiKP**	**17 30 34.4**	**-0.2**
	0.2nm,0.4s,baz=125,slow=2.7,SNR=5.2						
YKA	**Yellowknife Ar**	**138.36**	**316**	PKP	**PKPdf**	**17 27 12.8**	**-0.2**
YKA				SKPbc	**SKiKP**	**17 30 34.4**	**-0.2**
ZALV	**Zalesovo Beam**	**143.15**	**67**	PKhKP	PKPpre	17 27 17.7	
	0.6nm,0.3s,baz=217,slow=4.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**143.15**	**67**	PKPpre	PKPpre	17 27 17.7	
SONM	**Songino Array**	**150.43**	**91**	PKPbc	**PKPbc**	**17 27 40.4**	**+0.4**
	1.9nm,0.5s,baz=215,slow=3.1,SNR=22						
SONM	**Songino Array**	**150.43**	**91**	PKPbc	**PKPbc**	**17 27 40.4**	**+0.4**
ILAR	**Eielson Array**	**152.10**	**308**	PKPbc	**PKPbc**	**17 27 43.9**	**+0.7**
	0.5nm,0.4s,baz=147,slow=4.2,SNR=21						
ILAR	**Eielson Array**	**152.10**	**308**	PKPbc	**PKPbc**	**17 27 43.9**	**+0.7**

*ISCJB **06** 17:16:56.1±1.7, 14.76S±0.09×166.9E±0.3, h57km, mb3.6/7, Error ellipse: s-maj=38.9km s-min=11.0km az=171.3*

*IDC **06** 17:17:02.4±7.6, 14.90S×167.06E, h111km±83km, mb3.4/7, mb1 3.6/8, mb1mx3.4/19, mbtmp3.4/8, ML4.1/1, Error ellipse: s-maj=71.6km s-min=37.1km az=137.0*

ISC 06 17:16:57.7±1.9, 14.68S±0.10×166.9E±0.3, h57km, n9, σ1s29/11, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.37**	**183**	P	**Pn**	**17 18 45.0**	**+2.2**
	3.0nm,0.3s,baz=30,slow=22,SNR=22						
DZM				S	**Sn**	**17 20 04.0**	**-1.0**
	1.3nm,0.3s,baz=150,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**7.37**	**183**	*eP*	**Pn**	**17 18 43.4**	**+0.7**
DZM				*e*S	**Sn**	**17 20 03.2**	**-1.8**
STKA	**Stephens Creek**	**28.75**	**229**	P	**P**	**17 22 50.2**	**+0.2**
	1.3nm,0.6s,baz=78,slow=9.3,SNR=5.7						
WRA	**Warramunga Arr**	**31.49**	**256**	P	**P**	**17 23 14.7**	**+0.3**
	0.3nm,0.7s,baz=84,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**32.35**	**249**	P	**P**	**17 23 21.4**	**-0.6**
	0.4nm,0.3s,baz=76,slow=9.3,SNR=29						
FITZ	**Fitzroy Crossi**	**39.67**	**259**	P	**P**	**17 24 24.5**	**-0.1**
	0.9nm,0.7s,baz=70,slow=11.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**74.60**	**294**	P	**P**	**17 28 32.4**	**+1.1**
	0.3nm,0.3s,baz=101,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**82.24**	**324**	P	**P**	**17 29 12.8**	**-0.2**
	0.4nm,0.6s,baz=141,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**96.92**	**316**	P	**P**	**17 30 21.5**	**-1.4**
	0.2nm,0.5s,baz=95,slow=6.5,SNR=2.8						

*IDC **06** 17:19:16.5±1.4, 21.97N×144.87E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=53.9km s-min=19.1km az=79.0*

*NEIC **06** 17:19:21.8±0.8, 21.96N×144.84E, h35km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=9.9km az=76.0*

ISC 06 17:19:21.5±1.2, 22.0N±0.2×145.2E±0.3, h44km, n19, σ0s40/19, mb3.8/8, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.41**	**320**	P	**P**	**17 24 06.1**	**+0.6**
	1.5nm,0.8s,baz=143,slow=8.9,SNR=6.2						
KSRS				LR	LR	17 31 07.9	
	comp=Z,32nm,18.8s,baz=80,slow=33						
KSAR	**Wonju Array Be**	**21.43**	**320**	P	**P**	**17 24 06.1**	**+0.4**
SONM	**Songino Array**	**40.28**	**319**	P	**P**	**17 26 53.9**	**-0.4**
	0.2nm,0.4s,baz=125,slow=8.1,SNR=4.3						
SONM	**Songino Array**	**40.28**	**319**	P	**P**	**17 26 53.9**	**-0.4**
WRAB	**Tennant Creek**	**43.02**	**195**	*eP*	**P**	**17 27 17.2**	**+0.3**
	5.5nm,1.1s						
WRA	**Warramunga Arr**	**43.03**	**195**	P	**P**	**17 27 17.5**	**+0.5**
	0.6nm,0.4s,baz=13,slow=8.5,SNR=24						
WRA	**Warramunga Arr**	**43.03**	**195**	P	**P**	**17 27 17.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**44.22**	**207**	P	**P**	**17 27 25.9**	**-0.7**
	3.0nm,0.8s,baz=65,slow=11,SNR=6.2						
FITZ	**Fitzroy Crossi**	**44.22**	**207**	P	**P**	**17 27 25.9**	**-0.7**
ASAR	**Alice Springs**	**46.72**	**194**	P	**P**	**17 27 46.2**	**-0.1**
	0.5nm,0.4s,baz=12,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**46.72**	**194**	P	**P**	**17 27 46.2**	**-0.1**
MK31	**Makanchi Array**	**55.84**	**312**	P	**P**	**17 28 54.5**	**+0.1**
MKAR	**Makanchi Array**	**55.84**	**312**	P	**P**	**17 28 54.5**	**+0.1**
	0.2nm,0.3s,baz=87,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**55.84**	**312**	P	**P**	**17 28 54.5**	**+0.1**
AAK	**Ala-Archa**	**61.44**	**308**	P	**P**	**17 29 33.4**	**-0.2**
FINES	**FINESS Array B**	**83.68**	**335**	P	**P**	**17 31 45.3**	**+0.1**
	6.6nm,1.0s,baz=58,slow=3.7,SNR=6.2						
FINES	**FINESS Array B**	**83.68**	**335**	P	**P**	**17 31 45.3**	**+0.1**
LPAZ	**La Paz**	**148.07**	**86**	PKPbc	**PKPab**	**17 39 06.6**	**-0.1**
	0.7nm,0.5s,baz=254,slow=1.6,SNR=4.4						
LPAZ	**La Paz**	**148.07**	**86**	PKPbc	**PKPab**	**17 39 06.6**	**-0.1**

MEX 06 17:22:16.5±1.2, 16.08N×99.74W, h16km±999km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.09**	**333**	*eP*	Pb	17 22 34.1	-2.8
CAIG				*i* S	Sb	17 22 45.6	-5.3
PNIG	**Pinotepa**	**1.58**	**78**	*eP*	Pn	17 22 39.9	-4.0
PNIG				*i* S	Sn	17 22 59.6	-4.5
MEIG	**Mezcala**	**1.84**	**4**	*eP*	Pn	17 22 43.9	-3.7
MEIG				*e*S	Sn	17 23 06.5	-4.1
PLIG	**Platanillo**	**2.31**	**6**	*eP*	Pn	17 22 50.0	-4.0
PLIG				*i* S	Sn	17 23 18.3	-3.9
UTMO	**Huajuapan**	**2.54**	**47**	*eP*	Pn	17 22 55.2	-2.2
UTMO				*i* S	Sn	17 23 23.9	-4.4

ISC 06 17:27:41.7±1.3, 45.22N±0.05×14.55E±0.05, h17km±21km, n6, σ0s89/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.33**	**339**	*i* Pg	**Pg**	**17 27 48.2**	**-0.6**
KNDS				*i* Sg	**Sg**	**17 27 54.2**	**+0.6**
KNDS							
	comp=Z,6.0nm,0.1s						
SKDS	**Skadanscina**	**0.50**	**311**	*i* Pg	**Pg**	**17 27 50.9**	**-0.9**
SKDS				*i* Sg	**Sg**	**17 27 59.0**	**+0.5**
SKDS							
	comp=Z,5.0nm,0.1s						
CEY	**Cerknica**	**0.53**	**351**	*i* Pg	**Pg**	**17 27 51.9**	**-0.4**
CEY				*i* Sg	**Sg**	**17 28 00.9**	**+1.5**
CEY							
	comp=Z,4.0nm,0.1s						
BOJS	**Bojanci**	**0.57**	**60**	*i* Pg	**Pg**	**17 27 52.4**	**-0.7**
BOJS				*i* Sg	**Sg**	**17 28 01.5**	**+0.7**
BOJS							
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.62**	**19**	*i* Pg	**Pg**	**17 27 53.1**	**-0.9**
VISS				*i* Sg	**Sg**	**17 28 02.6**	**+0.3**
VISS							
	comp=Z,3.0nm,0.2s						
NVLJ	**Novalja**	**0.69**	**161**	*e*Pg	**Pg**	**17 27 54.9**	**-0.4**
NVLJ				Sg	**Sb**	**17 28 04.8**	**+0.3**

*IDC **06** 17:31:07.7±0.9, 32.11N×104.93E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.5/3, Error ellipse: s-maj=32.6km s-min=16.9km az=64.0*

*ISCJB **06** 17:31:08.1±0.4, 32.00N±0.03×104.76E±0.05, h14km, mb3.9/9, Error ellipse: s-maj=6.7km s-min=4.3km az=18.6*

*BJI **06** 17:31:11.2, 32.02N×104.71E, h15km, ML3.6/18*

*NEIC **06** 17:31:14.8±1.0, 32.13N×104.84E, h55km±12km, mb4.5/1, Error ellipse: s-maj=10.2km s-min=7.3km az=75.0*

ISC 06 17:31:10.1±0.5, 32.04N±0.04×104.72E±0.05, h14km, n34, σ1s77/42, mb3.9/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.40**	**216**	Pg	**Pn**	**17 31 35.3**	**+0.1**
CD2				Sg	**Sb**	**17 31 55.2**	**+1.5**
CD2				*s*max	*s*max		
	comp=N,5μm,0.5s						
XAN	**Xi'an**	**4.05**	**59**	Pn	**Pn**	**17 32 11.7**	**-0.1**
XAN				Pg	Pg	17 32 23.8	-4.0
XAN				Sn	**Sn**	**17 32 59.5**	**+0.4**
XAN				Sg	**Sg**	**17 33 16.3**	**-4.0**
XAN				*s*max	*s*max		
	comp=N,140nm,0.8s						
XAN				*s*max	*s*max		
	comp=E,64nm,0.8s						
LZH	**Lanzhou**	**4.10**	**350**	Pn	**Pn**	**17 32 14.8**	**+2.2**
LZH				Pg	Pb	17 32 25.5	+3.3
LZH				Sn	**Sn**	**17 33 01.5**	**+1.1**
LZH				Sg	**Sg**	**17 33 18.4**	**-3.5**
LZH				*s*max	*s*max		
	comp=N,190nm,0.8s						
LZH				*s*max	*s*max		
	comp=E,210nm,0.8s						
ENH	**Enshi**	**4.45**	**112**	*e*Pn	**Pn**	**17 32 19.4**	**+2.2**
ENH				*e*Sn	**Sn**	**17 33 11.6**	**+2.7**
GYA	**Guiyang**	**5.82**	**163**	Pn	**Pn**	**17 32 36.1**	**0.0**
GYA				Sn	**Sn**	**17 33 41.7**	**-1.0**
GYA				Sg	**Sg**	**17 34 14.5**	**-2.4**
GYA				*s*max	*s*max		
	comp=N,110nm,0.7s						
GYA				*s*max	*s*max		
	comp=E,70nm,0.7s						
HHC	**Hu-ho-hao-te**	**10.37**	**30**	*eP*	**Pn**	**17 33 41.1**	**+2.5**
HHC				sP		17 33 47.2	
HHC				S	**Sn**	**17 35 39.0**	**+4.4**
HHC				SS		17 35 52.0	
CHTO	**Chiang Mai**	**14.16**	**203**	P	Pn	17 34 34.5	+4.1
	comp=E,1.0nm,0.6s						
CM31	**Chiang Mai Arr**	**14.49**	**202**	P	**P**	**17 34 41.3**	**-0.3**
	comp=E,1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.49**	**202**	Pn	**Pn**	**17 34 37.6**	**+2.7**
	comp=E,0.2nm,0.3s,baz=7,9,slow=9.4,SNR=13						
CMAR	**Chiang Mai Arr**	**14.49**	**202**	Pn	**Pn**	**17 34 37.6**	**+2.7**
SONM	**Songino Array**	**15.83**	**4**	Pn	**Pn**	**17 34 52.4**	**-0.2**
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=3.4						
SONM	**Songino Array**	**15.83**	**4**	Pn	**Pn**	**17 34 52.4**	**-0.2**
TLY	**Talaya**	**19.64**	**358**	P	**P**	**17 35 37.7**	**-0.6**
KSAR	**Wonju Array Be**	**19.77**	**68**	P	**P**	**17 35 39.1**	**-0.6**
KSRS	**Korea Array**	**19.80**	**68**	P	**P**	**17 35 39.1**	**-1.0**
	comp=E,0.1nm,0.3s,baz=244,slow=10.0,SNR=5.5						
MK31	**Makanchi Array**	**22.64**	**317**	*eP*	**P**	**17 36 11.2**	**+0.5**
MKAR	**Makanchi Array**	**22.64**	**317**	P	**P**	**17 36 11.9**	**+1.3**
	comp=E,0.6nm,0.6s,baz=109,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**22.64**	**317**	P	**P**	**17 36 11.9**	**+1.3**
ZAA0	**Zalesovo Array**	**26.12**	**333**	P	**P**	**17 36 42.1**	**-1.4**
ZALV	**Zalesovo Beam**	**26.12**	**333**	P	**P**	**17 36 43.0**	**-0.5**
	comp=E,0.9nm,0.5s,baz=122,slow=9.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**26.12**	**333**	P	**P**	**17 36 43.0**	**-0.5**
ARCES	**ARCESS Array B**	**56.62**	**336**	P	**P**	**17 40 50.6**	**-1.7**
	comp=E,9.7nm,1.0s,baz=94,slow=8.6,SNR=4.3						
ARCES	**ARCESS Array B**	**56.62**	**336**	P	**P**	**17 40 50.6**	**-1.7**
FINES	**FINESS Array B**	**57.09**	**326**	P	**P**	**17 40 57.0**	**+1.4**
	comp=E,5.4nm,1.0s,baz=91,slow=7.6,SNR=3.7						
FINES	**FINESS Array B**	**57.09**	**326**	P	**P**	**17 40 57.0**	**+1.4**
WRAB	**Tennant Creek**	**58.96**	**147**	P	**P**	**17 41 08.7**	**-0.6**
	comp=E,2.6nm,0.6s						
WRA	**Warramunga Arr**	**58.97**	**147**	P	**P**	**17 41 08.8**	**-0.5**
	comp=E,1.5nm,0.6s,baz=341,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**58.97**	**147**	P	**P**	**17 41 08.8**	**-0.5**
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**17 41 29.5**	**-0.7**
	comp=E,0.4nm,0.5s,baz=332,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	**17 41 29.5**	**-0.7**
ILAR	**Eielson Array**	**68.77**	**26**	P	**P**	**17 42 11.5**	**-1.8**
	comp=E,0.2nm,0.6s,baz=289,slow=4.1,SNR=4.3						
ILAR	**Eielson Array**	**68.77**	**26**	P	**P**	**17 42 11.5**	**-1.8**
YKA	**Yellowknife Ar**	**80.64**	**17**	P	**P**	**17 42 38.4**	**-0.8**
	comp=E,0.4nm,0.5s,baz=330,slow=5.2,SNR=8.2						
YKA	**Yellowknife Ar**	**80.64**	**17**	P	**P**	**17 43 21.4**	**-0.8**

IDC 06 17:39:17.6±3.1, 21.12N×107.98W, h0km, mb3.2/1, mb1 3.8/2, mb1mx3.4/21, mbtmp3.3/2, ML3.8/1, Error ellipse: s-maj=163.6km s-min=43.7km az=88.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**19.42**	**335**	P	P	17 43 45.9	+0.1
	0.3nm,0.3s,baz=164,slow=10,SNR=4.4						
PDAR	**Pinedale Array**	**21.63**	**357**	P	P	17 44 09.6	-0.2
	1.0nm,0.7s,baz=170,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**123.12**	**255**	PKP	PKPdf	17 58 16.7	-0.2
	0.5nm,0.8s,baz=93,slow=3.9,SNR=7.4						

IDC 06 17:45:52.1±9.0, 15.70S×167.38E, h101km±102km, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=87.5km s-min=46.0km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.40**	**188**	P	Pn	17 47 23.6	-0.5
	0.7nm,0.3s,baz=53,slow=19,SNR=6.7						
DZM				S	Sn	17 48 37.0	+1.3
	0.5nm,0.3s,baz=90,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**31.71**	**257**	P	P	17 52 05.9	-0.6
	0.4nm,0.3s,baz=92,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**32.44**	**251**	P	P	17 52 12.1	-0.9
	5.7nm,0.5s,baz=76,slow=9.1,SNR=189						
FITZ	**Fitzroy Crossi**	**39.95**	**260**	P	P	17 53 17.6	+0.7
	4.1nm,0.6s,baz=98,slow=9.4,SNR=11						
CMAR	**Chiang Mai Arr**	**75.44**	**294**	P	P	17 57 26.6	+1.0
	0.4nm,0.6s,baz=132,slow=4.8,SNR=6.5						
SONM	**Songino Array**	**83.33**	**324**	P	P	17 58 07.1	-0.9
	0.3nm,0.4s,baz=123,slow=5.3,SNR=4.0						

*DJA **06** 18:01:18, 1.35S×131.92E, h10km, MLv4.5/5*

IDC 06 18:00:50.6±17.0, 1.32S×133.50E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=546.6km s-min=67.1km az=8.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.62**	**37**	LR	LR	18 10 45.5	
	comp=Z,55nm,21.7s,baz=95,slow=32						
MKAR	**Makanchi Array**	**65.56**	**324**	P	P	18 11 36.4	+0.1
	0.7nm,0.5s,baz=114,slow=7.1,SNR=15						
ZALV	**Zalesovo Beam**	**68.18**	**331**	P	P	18 11 52.5	-0.1
	0.2nm,0.3s,baz=108,slow=9.3,SNR=2.4						
KURK	**Kurchatov**	**69.64**	**326**	P	P	18 12 01.8	0.0
	0.4nm,0.3s,baz=122,slow=5.7,SNR=14						
BVAR	**Borovoye Array**	**75.23**	**326**	P	P	18 12 35.3	+0.1
	0.7nm,0.8s,baz=116,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**86.76**	**25**	P	P	18 13 36.5	0.0
	0.4nm,0.7s,baz=252,slow=4.5,SNR=5.7						

IDC 06 18:01:13.9±17.0, 0.82N×133.76E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=532.8km s-min=67.4km az=7.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.43**	**203**	LR	LR	18 13 11.5	
	comp=Z,93nm,20.3s,baz=228,slow=35						
MKAR	**Makanchi Array**	**64.00**	**323**	P	P	18 11 49.2	-0.2
	0.6nm,0.5s,baz=115,slow=7.7,SNR=8.3						
ZALV	**Zalesovo Beam**	**66.44**	**331**	P	P	18 12 05.2	+0.3
	0.3nm,0.4s,baz=126,slow=7.3,SNR=3.4						
KURK	**Kurchatov**	**68.02**	**326**	P	P	18 12 15.4	+0.3
	0.8nm,0.2s,baz=122,slow=5.9,SNR=7.3						
BVAR	**Borovoye Array**	**73.62**	**326**	P	P	18 12 48.9	-0.3
	0.5nm,0.8s,baz=101,slow=7.8,SNR=2.7						
ILAR	**Eielson Array**	**84.72**	**25**	P	P	18 13 49.6	0.0
	1.0nm,1.1s,baz=267,slow=

BLJI Banyuglugur 15.99 266 P **P** **18 05 14.1 +1.6**
comp=Z,116nm,0.6s
TSM Tawau 16.16 313 P **P** **18 05 15.3 +0.8**
MYLDM Lahad Datu 16.34 317 P **Pn** **18 05 18.1 +1.7**
MYLDM Lahad Datu 16.34 317 P **Pn** **18 05 19.4 +2.9**
comp=Z,80nm,1.0s
MBWA Marble Bar 17.20 213 *e*Pn **P** **18 05 25.8 0.0**
MBWA *e*S S 18 08 19.3 -18
PMG Port Moresby 17.48 100 P **Pn** **18 05 29.7 -0.5**
comp=Z,6.2nm,0.3s,baz=297,slow=4.5,SNR=28
PMG Port Moresby 17.48 100 P **Pn** **18 05 29.7 -0.5**
PMG *e* 18 08 38.5
PMG Port Moresby 17.48 100 P **Pn** **18 05 29.7 -0.5**
PMG *e*Pn **P** **18 05 30.4 +1.4**
PMG *e*Sn **S** **18 08 38.5 -4.4**
SDKM Sandakan 17.58 315 P **Pn** **18 05 31.6 +0.3**
SJI Sawahan 17.80 266 P Pn 18 05 39.6 +5.5
PBKI Pangkalan Bun 18.41 282 P **Pn** **18 05 40.8 -0.4**
comp=Z,348nm,0.9s,comp=Z,3µm
KKM Kota Kinabalu 18.56 313 P **P** **18 05 41.8 +0.9**
KKM Kota Kinabalu 18.56 313 P **P** **18 05 41.7 +0.9**
comp=Z,128nm,1.2s,comp=Z,1µm
KDM Kudat 18.73 317 P **P** **18 05 43.7 +1.1**
BTM Bintulu 19.34 301 P **P** **18 05 49.3 +0.1**
STKI Sintang 19.42 290 P **P** **18 05 51.4 +1.3**
comp=Z,42nm,1.6s,comp=Z,8µm
SBUM Sibu 19.72 297 P **P** **18 05 54.4 +1.0**
SBUM Sibu 19.72 297 P **P** **18 05 54.9 +1.5**
comp=Z,117nm,0.8s,comp=Z,966nm
CTA Charters Tower 20.78 131 P **P** **18 06 05.1 +0.4**
comp=Z,26nm,0.9s,baz=314,slow=11,SNR=19
CTA Charters Tower 20.78 131 *e*P **P** **18 06 06.3 +1.6**
comp=Z,23nm,1.0s
CTA Charters Tower 20.78 131 P **P** **18 06 05.1 +0.4**
CTA Charters Tower 20.78 131 P **P** **18 06 05.1 +0.4**
CTAO Charters Tower 20.78 131 *e*P **P** **18 06 05.7 +1.0**
CTAO pmax pmax
comp=Z,44nm,1.1s
CTAO Charters Tower 20.78 131 *e*P **P** **18 06 05.7 +1.0**
comp=Z,44nm,1.1s
KSM Kuching 21.03 292 P **P** **18 06 06.1 -1.2**
KSM Kuching 21.03 292 P **P** **18 06 09.1 +1.8**
comp=Z,37nm,1.1s
CISI Cisompet, Garu 21.71 267 P **P** **18 06 14.6 -0.1**
comp=Z,154nm,1.0s
LEM Lembang 21.91 269 P **P** **18 06 17.5 +0.6**
comp=Z,86nm,0.8s
TGY Tagaytay City 22.54 337 P **P** **18 06 22.0 -0.7**
comp=Z,139nm,0.4s,baz=350,slow=6.4,SNR=3.0
TGY Tagaytay City 22.54 337 P **P** **18 06 22.0 -0.7**
TGY Tagaytay City 22.54 337 P **P** **18 06 22.0 -0.7**
CBJI Citeko 22.69 270 P **P** **18 06 26.7 +2.6**
comp=Z,179nm,0.7s
CGJI Cibinong 23.83 269 P **P** **18 06 33.5 -1.1**
comp=Z,74nm,0.8s
FORT Forrest 23.87 183 *e*P **P** **18 06 35.1 +0.3**
comp=Z,12nm,0.6s
PPBI Pangkal Pinang 23.93 280 P **P** **18 06 36.0 +0.5**
comp=Z,60nm,1.0s
STKA Stephens Creek 27.29 157 P **P** **18 07 06.8 +1.3**
comp=Z,12nm,0.7s,baz=330,slow=8.7,SNR=31
STKA LR LR 18 18 47.0
comp=Z,97nm,20.5s,baz=24,slow=38
STKA Stephens Creek 27.29 157 *e*P **P** **18 07 06.6 +1.1**
comp=Z,9.1nm,0.7s
STKA Stephens Creek 27.29 157 *e*P **P** **18 07 06.7 +1.1**
STKA *e* 18 07 33.9
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 27.29 157 *e*P **P** **18 07 06.7 +1.1**
comp=Z,2.8nm,0.7s
STKA *e* 18 07 33.9
PPI Padang Panjang 29.89 281 P **P** **18 07 29.7 +0.8**
comp=Z,47nm,1.1s
MNSI Mandailing Nat 30.98 283 P **P** **18 07 38.0 -0.5**
comp=Z,46nm,0.8s
ARMA Armidale 31.22 141 *e*P **P** **18 07 42.7 +2.2**
KULM Kulim 31.38 292 *e*P **P** **18 07 40.5 -1.5**
comp=Z,13nm,0.7s
KULM Kulim 31.38 292 P **P** **18 07 42.2 +0.2**
ARPS Mount Arapiles 31.80 161 *e*P **P** **18 07 47.3 +2.0**
comp=Z,47nm,0.6s
PSI Prapat 32.16 286 P **P** **18 07 47.4 -1.6**
comp=Z,24nm,0.9s
QIZ Qiongzhong 32.29 323 P **P** **18 07 49.3 -0.5**
comp=Z,7.7nm,0.7s
CAN Canberra 33.45 151 *e*P **P** **18 08 02.2 +2.4**
comp=Z,14nm,0.7s
JOW Kunigami 33.49 358 P **P** **18 07 59.0 -1.1**
comp=Z,17nm,0.7s,baz=195,slow=11,SNR=5.4
JOW Kunigami 33.49 358 P **P** **18 07 59.0 -1.1**
CM31 Chiang Mai Arr 39.39 310 *e*P **P** **18 08 49.9 -0.4**
comp=Z,10nm,0.7s
CMAR Chiang Mai Arr 39.39 310 P **P** **18 08 50.1 -0.2**
comp=Z,15nm,0.7s,baz=139,slow=7.2,SNR=136
CMAR PcP **PcP** **18 10 56.6 +1.2**
comp=Z,1.8nm,0.7s,baz=144,slow=2.8,SNR=7.0
CMAR ScP **ScP** **18 14 29.2 0.0**
comp=Z,1.1nm,0.8s,baz=159,slow=3.7,SNR=8.8
CMAR Chiang Mai Arr 39.39 310 P **P** **18 08 50.1 -0.2**
CMAR 18 10 56.6
CMAR Chiang Mai Arr 39.39 310 P **P** **18 08 50.1 -0.2**
CMAR PcP **PcP** **18 10 56.6 +1.2**
CMAR ScP **ScP** **18 14 29.2 0.0**
CHTO Chiang Mai 39.60 311 *e*P **P** **18 08 51.6 -0.5**
CHTO pmax pmax
comp=Z,28nm,0.8s
CHTO Chiang Mai 39.60 311 *e*P **P** **18 08 51.6 -0.5**
comp=Z,28nm,0.8s
CHTO Chiang Mai 39.60 311 P **P** **18 08 51.6 -0.5**
comp=Z,44nm,0.9s
GYA Guiyang 39.92 327 P **P** **18 08 57.2 +2.5**
GYA pP **pP** **18 09 30.4 +0.7**
GYA sP **sP** **18 09 48.7 +0.9**
GYA PP **PnPn** **18 10 35.5 +0.5**
GYA PcP **PcP** **18 10 59.2 +2.0**
GYA ScP **ScP** **18 14 32.0 +0.8**
GYA S **S** **18 14 51.5 +3.5**
GYA sS **sS** **18 15 50.3 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
WHN Wuhan 39.97 339 P **P** **18 08 55.0 +0.2**
WHN pmax pmax
comp=Z,40nm,1.0s
KMI Kunming 41.19 321 P **P** **18 09 06.2 +0.9**
KMI pmax pmax
comp=Z,13nm,1.1s
ENH Enshi 41.67 333 *e*P **P** **18 09 07.2 -1.7**
comp=Z,14nm,0.5s
MAJO Matsushiro 43.88 10 *e*P **P** **18 09 24.8 -1.7**
MAJO pmax pmax
comp=Z,14nm,0.9s
MAJO Matsushiro 43.88 10 *e*P **P** **18 09 24.8 -1.7**
comp=Z,14nm,0.9s
MAT Matsushiro 43.88 10 P **P** **18 09 25.1 -1.4**
MJAR Matsushiro Arr 43.88 10 P **P** **18 09 25.4 -1.2**
comp=Z,5.1nm,0.7s,baz=192,slow=10,SNR=15
MJAR Matsushiro Arr 43.88 10 P **P** **18 09 25.4 -1.2**
MJAR Matsushiro Arr 43.88 10 P **P** **18 09 25.4 -1.2**
KSAR Wonju Array Be 44.07 358 P **P** **18 09 27.3 -0.7**
KSAR Wonju Array Be 44.07 358 P **P** **18 09 27.3 -0.7**
KSRS Korea Array 44.09 358 P **P** **18 09 27.3 -0.8**
comp=Z,2.5nm,0.6s,baz=178,slow=10.0,SNR=12
CD2 Chengdu 45.00 328 P **P** **18 09 37.5 +1.9**
CD2 pP **pP** **18 10 11.5 +0.3**
CD2 sP **sP** **18 10 28.8 -0.4**
CD2 PP **PP** **18 11 25.9 +1.8**
CD2 S **S** **18 16 04.9 +2.8**
CD2 sS **sS** **18 17 04.7 +0.6**
CD2 SS **SS** **18 19 23.7 -3.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.3s
XAN Xi'an 45.16 335 P **P** **18 09 35.3 -1.5**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,31nm,6.8s
BJT Baijiatuau 48.26 346 *e*P **P** **18 10 00.1 -0.6**
BJT pmax pmax
comp=Z,16nm,0.4s
BJT Baijiatuau 48.26 346 *e*P **P** **18 10 00.1 -0.6**
comp=Z,16nm,0.4s
BJI Beijing 48.28 346 P **P** **18 10 00.2 -0.6**
BJI pmax pmax
comp=Z,54nm,0.6s
BJI pmax pmax
comp=Z,46nm,3.5s
LZH Lanzhou 49.11 332 *e*P **P** **18 10 07.8 +0.3**
LZH pP **pP** **18 10 40.1 -3.6**
LZH sP **sP** **18 10 59.2 -2.3**
LZH pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 50.29 342 *e*P **P** **18 10 17.1 +0.9**
HHC pP **pP** **18 10 53.6 +1.0**
HHC sP **sP** **18 11 11.8 +1.4**
HHC PP **PP** **18 12 17.0 +3.6**
HHC S **S** **18 17 18.8 +2.2**
HHC sS **sS** **18 18 22.9 +3.1**
HHC SS **SS** **18 20 53.8 +1.3**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.9s
CN2 Changchun 50.54 356 *e*P **P** **18 10 17.3 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 50.84 2 P **P** **18 10 19.7 -0.4**
comp=Z,6.8nm,0.7s,baz=178,slow=7.0,SNR=21
MDJ Mudanjiang 51.21 360 P **P** **18 10 23.1 +0.2**
MDJ pP **pP** **18 10 56.4 -3.0**
MDJ sP **sP** **18 11 14.4 -2.7**
MDJ PcP **PcP** **18 11 36.4 +0.5**
MDJ S S 18 17 22.4 -6.5
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,100nm,5.2s
MDJ Mudanjiang 51.21 360 P **P** **18 10 22.8 -0.1**
comp=Z,13nm,1.0s
RPZ Rata Peaks 51.56 142 P **P** **18 10 27.4 +1.7**
comp=Z,19nm,0.8s,baz=311,slow=1.2,SNR=6.3
RPZ Rata Peaks 51.56 142 P **P** **18 10 27.4 +1.7**
LSA Lhasa 51.86 316 *e*P **P** **18 10 28.2 -0.4**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 51.86 316 *e*P **P** **18 10 28.2 -0.4**
comp=Z,7.9nm,0.6s
ODAN Odare 52.91 311 *e*P **P** **18 10 35.5 -0.6**
comp=Z,26nm,0.5s
ODAN Odare 52.91 311 *e*P **P** **18 10 35.5 -0.6**
comp=Z,26nm,0.5s
TAPN Taplejung 52.94 312 *e*P **P** **18 10 35.7 -0.7**
comp=Z,22nm,0.5s
TAPN Taplejung 52.94 312 *e*P **P** **18 10 35.7 -0.7**
comp=Z,22nm,0.5s
RAMN Ramite 53.55 311 *e*P **P** **18 10 40.5 -0.3**
comp=Z,92nm,0.7s
RAMN Ramite 53.55 311 *e*P **P** **18 10 40.5 -0.3**
comp=Z,92nm,0.7s
GTA Gaotai 53.68 331 ⇑P **P** **18 10 41.4 +0.1**
GTA pP **pP** **18 11 18.3 +0.2**
GTA sP **sP** **18 11 36.3 +0.5**
GTA pmax pmax
comp=Z,16nm,0.7s
JIRN Jiri 54.24 311 *e*P **P** **18 10 45.4 -0.6**
comp=Z,42nm,0.7s
JIRN Jiri 54.24 311 *e*P **P** **18 10 45.4 -0.6**
comp=Z,42nm,0.7s
GUN Gumba 54.61 311 *e*P **P** **18 10 47.9 -0.7**
comp=Z,80nm,0.7s
GUN Gumba 54.61 311 *e*P **P** **18 10 47.9 -0.7**
comp=Z,80nm,0.7s
PKI Pulchoki 54.78 311 *e*P **P** **18 10 48.8 -1.0**
comp=Z,32nm,0.8s
PKI Pulchoki 54.78 311 *e*P **P** **18 10 48.8 -1.0**
PKI pmax pmax
comp=Z,32nm,0.8s
PKI Pulchoki 54.78 311 *e*P **P** **18 10 48.8 -1.0**
comp=Z,32nm,0.8s
YSS Yuzh-Sakhalins 54.79 11 *e*P **P** **18 10 48.6 -0.5**
YSS Yuzh-Sakhalins 54.79 11 *e*P **P** **18 10 48.6 -0.5**
KKN Kakani 54.99 311 *e*P **P** **18 10 50.0 -1.2**
comp=Z,30nm,0.7s
KKN Kakani 54.99 311 *e*P **P** **18 10 50.0 -1.2**
KKN pmax pmax
comp=Z,30nm,0.7s
KKN Kakani 54.99 311 *e*P **P** **18 10 50.0 -1.2**
comp=Z,30nm,0.7s
DMN Daman 55.03 311 *e*P **P** **18 10 50.9 -0.6**
comp=Z,28nm,0.7s
DMN Daman 55.03 311 *e*P **P** **18 10 50.9 -0.6**
comp=Z,28nm,0.7s
GKN Gorkha 55.59 311 *e*P **P** **18 10 54.7 -0.7**
comp=Z,30nm,0.4s
HYB Hyderabad 55.96 296 *i* P **P** **18 10 56.0 -2.1**
KOLN Koldanda 56.26 310 *e*P **P** **18 10 59.6 -0.6**
comp=Z,42nm,0.8s
KOLN Koldanda 56.26 310 *e*P **P** **18 10 59.6 -0.6**
comp=Z,42nm,0.8s
DANN Dangsing 56.43 311 *e*P **P** **18 11 00.6 -0.9**
comp=Z,26nm,0.5s
DANN Dangsing 56.43 311 *e*P **P** **18 11 00.6 -0.9**
comp=Z,26nm,0.5s
ULN Ulaanbaatar 58.01 342 *e*P **P** **18 11 12.0 0.0**
ULN pmax pmax
comp=Z,15nm,0.6s
ULN Ulaanbaatar 58.01 342 *e*P **P** **18 11 12.0 0.0**
comp=Z,15nm,0.6s
SONM Songino Array 58.19 342 P **P** **18 11 13.7 +0.5**
comp=Z,4.6nm,0.7s,baz=154,slow=6.3,SNR=22
SONM Songino Array 58.19 342 P **P** **18 11 13.7 +0.5**
SONM Songino Array 58.19 342 P **P** **18 11 13.7 +0.5**
ZAK Zakamensk 61.41 341 *e*P **P** **18 11 33.9 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 62.42 342 *e*P **P** **18 11 42.0 +0.2**
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY Talaya 62.42 342 P **P** **18 11 41.5 -0.3**
WMQ Urumqi 63.09 327 P **P** **18 11 46.6 +0.2**
WMQ pmax pmax
comp=Z,27nm,0.6s
MOY Mondy 63.25 340 *e*P **P** **18 11 48.3 +0.9**
MOY pmax pmax
comp=Z,17nm,1.8s
PETK Petropavlovsk- 64.26 18 P **P** **18 11 55.0 +1.2**
comp=Z,4.4nm,0.7s,baz=189,slow=3.4,SNR=8.1
PETK Petropavlovsk- 64.26 18 P **P** **18 11 55.0 +1.2**
PETK Petropavlovsk- 64.26 18 P **P** **18 11 55.0 +1.2**
BOD Bodaibo 65.68 351 *e*P **P** **18 12 02.1 -0.8**
BOD pmax pmax
comp=Z,7.0nm,0.8s
KSH Kashi 67.69 318 *e*P **P** **18 12 16.8 +0.6**
KSH *e*PcP **PcP** **18 12 42.7 +0.8**
KSH *e*pP **pP** **18 12 50.8 -3.8**
KSH *e*PP **PP** **18 14 47.8 +0.1**
KSH *e*ScP 18 16 31.8
KSH *e*PcS 18 16 46.7
KSH *e*S **S** **18 20 56.1 -4.8**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,130nm,3.8s
KSH LR LR
comp=N,120nm,5.4s
KSH LR LR
comp=E,92nm,4.9s
KSH LR LR
comp=Z,170nm,5.0s
MK31 Makanchi Array 67.92 327 *e*P **P** **18 12 17.4 +0.1**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 67.92 327 *e*P **P** **18 12 17.1 -0.3**
MKAR Makanchi Array 67.92 327 P **P** **18 12 17.5 +0.2**
comp=Z,18nm,0.5s,baz=116,slow=8.2,SNR=187
MKAR Makanchi Array 67.92 327 P **P** **18 12 17.5 +0.2**
MKAR Makanchi Array 67.92 327 P **P** **18 12 17.5 +0.2**
YAK Yakutsk 68.66 360 *e*P **P** **18 12 21.3 -0.2**
YAK pmax pmax
comp=Z,62nm,0.7s
YAK Yakutsk 68.66 360 *e*P **P** **18 12 21.2 -0.2**
comp=Z,62nm,0.7s
KZA Kyzart 69.45 320 P **P** **18 12 29.3 +1.9**
SNR=9.1
KZA P **P** **18 12 29.3 +1.9**
SNR=9.1
KBK Karagaybulak 69.93 320 P **P** **18 12 31.6 +1.5**
SNR=5.9
KBK P **P** **18 12 31.6 +1.5**
SNR=5.9
AAK Ala-Archa 70.21 320 P **P** **18 12 33.4 +1.7**
SNR=5.6
AAK P **P** **18 12 33.4 +1.7**
SNR=5.6
AAK Ala-Archa 70.21 320 *i* P **P** **18 12 32.2 +0.4**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 70.21 320 *e*P **P** **18 12 32.0 +0.2**
comp=Z,16nm,0.5s
KBL Kabul 70.42 310 *e*P **P** **18 12 33.0 -0.2**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 70.42 310 *e*P **P** **18 12 33.0 -0.2**
comp=Z,5.1nm,0.5s
AML Almayashu 70.48 319 P **P** **18 12 34.0 +0.4**
SNR=9.6
AML P **P** **18 12 34.0 +0.4**
SNR=9.6
USP Ospenovka 70.53 320 P **P** **18 12 33.8 +0.3**
SNR=8.6
USP P **P** **18 12 33.8 +0.3**
SNR=8.6
EKS2 Erkin-Say 70.69 320 P **P** **18 12 35.8 +1.2**
SNR=7.9
EKS2 P **P** **18 12 35.8 +1.2**
SNR=7.9
EKS2 Erkin-Say 70.69 320 *e*P **P** **18 12 35.1 +0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 70.69 320 *e*P **P** **18 12 35.1 +0.5**
comp=Z,6.9nm,0.6s
ZAA0 Zalesovo Array 71.30 334 *e*P **P** **18 12 36.8 -1.0**
ZALV Zalesovo Beam 71.30 334 P **P** **18 12 37.1 -0.7**
comp=Z,13nm,0.8s,baz=120,slow=4.9,SNR=49
ZALV Zalesovo Beam 71.30 334 P **P** **18 12 37.1 -0.7**
ZALV Zalesovo Beam 71.30 334 P **P** **18 12 37.1 -0.7**
SEY Seymchan 71.70 11 *e*P **P** **18 12 41.3 +1.3**
KURK Kurchatov 72.21 329 P **P** **18 12 43.4 0.0**
comp=Z,17nm,0.7s,baz=130,slow=4.9,SNR=50
KURK Kurchatov 72.21 329 *e*P **P** **18 12 43.3 -0.1**
KURK pmax pmax
comp=Z,34nm,1.2s
KURK Kurchatov 72.21 329 *e*P **P** **18 12 43.2 -0.1**
comp=Z,40nm,1.1s
KURK Kurchatov 72.21 329 P **P** **18 12 43.0 -0.4**
comp=Z,174nm,0.8s,SNR=19
NVS Novosibirsk 72.58 334 *i* P **P** **18 12 43.0 -2.4**
VNDA Vanda 72.65 173 *e*P **P** **18 12 46.2 +0.6**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 72.65 173 *e*P **P** **18 12 46.2 +0.6**
comp=Z,2.1nm,0.9s
KK31 Karatay Array 73.01 319 *i* P **P** **18 12 47.7 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 73.01 319 *e*P **P** **18 12 48.4 +0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 73.01 319 *e*P **P** **18 12 48.4 +0.1**
comp=Z,3.9nm,0.6s
MAW Mawson 74.99 201 *e*P **P** **18 13 00.0 +0.7**
MAW pmax pmax
comp=Z,2.0nm,1.2s
MAW Mawson 74.99 201 *e*P **P** **18 12 60.0 +0.7**
comp=Z,1.9nm,1.2s
BVA0 Borovoye Array 77.76 328 *i* P **P** **18 13 14.7 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 77.76 328 P **P** **18 13 14.9 -0.2**
comp=Z,7.1nm,0.8s,baz=130,slow=6.0,SNR=28
BVAR Borovoye Array 77.76 328 P **P** **18 13 14.9 -0.2**
BVAR Borovoye Array 77.76 328 P **P** **18 13 14.9 -0.2**
BRVK Borovoye 77.83 328 *ce*P **P** **18 13 15.3 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 77.83 328 *e*P **P** **18 13 15.0 -0.5**
comp=Z,18nm,1.1s
BILL Bilibino 79.02 13 P **P** **18 13 23.9 +2.1**
BILL Bilibino 79.02 13 P **P** **18 13 23.9 +2.1**
AB31 Akbulak array 82.19 322 *i* P **P** **18 13 38.3 -0.7**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 82.19 322 *e*P **P** **18 13 38.2 -0.8**
comp=Z,5.8nm,0.5s
QSPA South Pole Qui 83.14 180 P **P** **18 13 43.6 -0.3**
comp=Z,5.2nm,1.1s
SVE Sverdlovsk 84.46 329 ⇑*i*P **P** **18 13 50.9 +0.4**
SVE pmax pmax
comp=Z,25nm,1.1s
ARU Arti 85.40 328 *d i*P **P** **18 13 54.4 -0.7**
ARU 18 17 09.4
ARU S **S** **18 24 10.8 -1.7**
ARU SS **SS** **18 29 46.3 -5.1**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU Arti 85.40 328 *e*P **P** **18 13 54.2 -0.9**
comp=Z,12nm,0.8s
ARU Arti 85.40 328 P **P** **18 13 54.3 -0.9**
comp=Z,99nm,0.5s,SNR=6.8
QRN Al-Qurain 86.08 299 *e*P **P** **18 13 58.8 -0.4**
QRN AMb AMB 18 14 01.5
comp=Z,63nm,0.7s
NAY Al-Naaiem 86.75 300 *e*P **P** **18 14 01.7 -0.8**
NAY AMb AMB 18 14 04.7
comp=Z,37nm,0.6s
MIB Mutribah 86.76 300 *e*P **P** **18 14 02.0 -0.4**
MIB AMb AMB 18 14 04.3
comp=Z,33nm,0.7s
ZEI Tsey 91.50 313 *e*P **P** **18 14 23.7 -1.0**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
ILAR Eielson Array 93.33 25 P **P** **18 14 31.0 -1.3**
comp=Z,0.9nm,0.7s,baz=254,slow=4.7,SNR=14
ILAR Eielson Array 93.33 25 P **P** **18 14 31.0 -1.3**
ILAR Eielson Array 93.33 25 P **P** **18 14 31.0 -1.3**
OBN Obninsk 97.34 325 ⇑*e*P Pdif 18 14 51.2 +0.4
OBN *e* 18 18 51.2
OBN *e*S **SKSac** **18 25 17.4 +4.7**
OBN *e*PS **PS** **18 27 35.7 -8.4**
OBN pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 98.97 309 P **P** **18 14 56.9 -1.8**
comp=Z,1.3nm,0.8s,baz=46,slow=3.6,SNR=4.7
BRTR Keskin Array B 98.97 309 P **P** **18 14 56.9 -1.8**
BRTR Keskin Array B 98.97 309 P **P** **18 14 56.9 -1.8**
ARCES ARCESS Array B 101.31 340 P **Pdif** **18 15 08.4 +0.1**
comp=Z,8.7nm,1.1s,baz=65,slow=7.1,SNR=4.9
ARCES ARCESS Array B 101.31 340 P **Pdif** **18 15 08.4 +0.1**
ARCES ARCESS Array B 101.31 340 P **Pdif** **18 15 08.4 +0.1**
YKA Yellowknife Ar 107.74 26 PKiKP **PKiKP** **18 19 43.6 -0.1**
comp=Z,0.2nm,0.7s,baz=291,slow=2.7,SNR=3.7
YKA Yellowknife Ar 107.74 26 PKiKP **PKiKP** **18 19 43.6 -0.1**
GERES GERESS Array B 112.09 320 PKiKP **PKiKP** **18 19 52.5 -0.1**
comp=Z,0.6nm,0.5s,baz=48,slow=2.0,SNR=7.6
GERES GERESS Array B 112.09 320 PKiKP **PKiKP** **18 19 52.5 -0.1**
GERES GERESS Array B 112.09 320 PKiKP **PKiKP** **18 19 52.5 -0.1**
TORD Torodi Ar. Bea 128.47 281 PKP **PKPdf** **18 20 25.3 +0.6**
comp=Z,2.3nm,0.7s,baz=83,slow=1.6,SNR=19
TORD SKPbc SKiKP 18 23 28.8 -18
comp=Z,2.2nm,1.0s,baz=66,slow=3.0,SNR=10
TORD Torodi Ar. Bea 128.47 281 PKP **PKPdf** **18 20 25.3 +0.6**
TORD SKPbc SKiKP 18 23 28.8 -18
PLCA Paso Flores 129.14 160 SKPbc SKPbc 18 23 31.8 -0.2
comp=Z,1.7nm,0.7s,baz=278,slow=1.3,SNR=4.8
DBIC Dimbokro 134.87 273 PKP **PKPdf** **18 20 38.0 +1.1**
comp=Z,2.7nm,0.5s,baz=54,slow=6.1,SNR=7.9
DBIC SKPbc **SKPbc** **18 23 50.6 -2.0**
comp=Z,7.1nm,1.0s,baz=68,slow=3.8,SNR=6.8
DBIC Dimbokro 134.87 273 PKiKP **PKPdf** **18 20 38.0 +1.1**
DBIC Dimbokro 134.87 273 PKP **PKPdf** **18 20 38.0 +1.1**
DBIC SKPbc **SKPbc** **18 23 50.6 -2.0**
CPUP Villa Florida 146.34 169 PKPbc **PKPab** **18 20 59.7 +0.1**
comp=Z,1.4nm,0.4s,baz=140,slow=1.8,SNR=7.8
CPUP SKPbc **SKPbc** **18 24 22.4 -0.2**
comp=Z,1.8nm,0.7s,baz=227,slow=3.1,SNR=4.2
CPUP Villa Florida 146.34 169 PKP2 **PKPab** **18 20 59.7 +0.1**
CPUP 18 24 22.4
CPUP Villa Florida 146.34 169 PKPbc **PKPab** **18 20 59.7 +0.1**
CPUP SKPbc **SKPbc** **18 24 22.4 -0.2**
LPAZ La Paz 151.04 143 PKPbc **PKPbc** **18 21 13.2 +1.4**
comp=Z,1.4nm,0.4s,baz=30,slow=1.1,SNR=7.1
LPAZ La Paz 151.04 143 PKiKP **PKPbc** **18 21 13.2 +1.4**
LPAZ La Paz 151.04 143 PKPbc **PKPbc** **18 21 13.2 +1.4**

CSEM ***06*** *18:33:25.9±0.2, 34°.82N×3°.92W, h2km, mb3.6/15, Error ellipse: s-maj=4.9km s-min=4.1km az=127.0*
MDD ***06*** *18:33:26.6±0.5, 34°.81N×3°.84W, h0km, mb3.6/15, Error ellipse: s-maj=5.0km s-min=3.8km az=130.0, PRXIMO*
IGIL ***06*** *18:33:26.9, 34°.71N×3°.90W, h0km*
ISCJB ***06*** *18:33:26.2±0.6, 34°.84N±0°.02×3°.98W±0°.03, h13km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=27.1*
INMG ***06*** *18:33:27.3±0.8, 34°.58N×3°.93W, h31km, ML2.4, Error ellipse: s-maj=4.5km s-min=3.3km az=171.0*
CNRM ***06*** *18:33:27.1, 34°.81N×3°.84W, h1km, MD3.2*

ISC 06 18:33:26.0±1.1, 34°.82N±0°.03×3°.91W±0°.03, h7km±9km, n77, σ1§26/141, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.19**	**42**	P	**Pg**	**18 33 29.0**	**-0.8**
TOU				S	**Sg**	**18 33 32.0**	**-0.5**
TOU	**Touzarine**	**0.19**	**42**	P	**Pg**	**18 33 29.0**	**-0.8**
TOU				S	**Sg**	**18 33 32.0**	**-0.5**
MPAL	**Palemas**	**0.40**	**356**	P	**Pg**	**18 33 34.0**	**+0.1**
MPAL				S	**Sg**	**18 33 42.0**	**+2.8**
MPAL	**Palemas**	**0.40**	**356**	*i* P	**Pg**	**18 33 34.0**	**+0.1**
MPAL				*i* S	**Sg**	**18 33 42.0**	**+2.8**
ZAI	**Zaio**	**0.97**	**81**	P	**Pg**	**18 33 44.0**	**-0.6**
ZAI				S	**Sg**	**18 33 57.0**	**-0.1**
ZAI	**Zaio**	**0.97**	**81**	P	**Pg**	**18 33 44.0**	**-0.6**
ZAI				S	**Sg**	**18 33 57.0**	**-0.1**
EMIJ	**Mijas**	**1.88**	**338**	P	**Pn**	**18 33 56.8**	**-1.8**
	3.3nm,0.4s,SNR=12						
EMIJ				S	**Sn**	**18 34 21.8**	**-0.8**
	5.3nm,0.3s,SNR=6.0						
EMIJ	**Mijas**	**1.88**	**338**	P	**Pn**	**18 33 56.8**	**-1.8**
	3.3nm,0.4s,SNR=12						
EMIJ				S	**Sn**	**18 34 21.8**	**-0.8**
	5.3nm,0.3s,SNR=6.0						
CZD	**Col de Zad**	**2.02**	**208**	P	**Pn**	**18 34 02.0**	**+1.3**
CZD				S	**Sn**	**18 34 26.0**	**-0.4**
CZD	**Col de Zad**	**2.02**	**208**	P	**Pn**	**18 34 02.0**	**+1.3**
CZD				S	**Sn**	**18 34 26.0**	**-0.4**
EGUA	**Guajares**	**2.03**	**8**	P	**Pn**	**18 33 59.3**	**-1.3**
	2.6nm,0.6s,SNR=7.9						
EGUA				S	**Sn**	**18 34 25.7**	**-0.6**
	103nm,0.8s,SNR=7.9						
EGUA	**Guajares**	**2.03**	**8**	P	**Pn**	**18 33 59.3**	**-1.3**
	2.6nm,0.6s,SNR=7.9						
EGUA				S	**Sn**	**18 34 25.7**	**-0.6**
	103nm,0.8s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.06**	**322**	P	**Pb**	**18 34 03.0**	**-0.8**
	3.4nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.06**	**322**	P	**Pb**	**18 34 03.0**	**-0.8**
	3.4nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.23**	**21**	P	**Pn**	**18 34 02.6**	**-1.0**
	5.0nm,0.4s,SNR=9.2						
EBER				S	**Sn**	**18 34 30.8**	**-0.7**
	6.3nm,0.4s						
EBER	**Berja**	**2.23**	**21**	P	**Pn**	**18 34 02.6**	**-1.0**
	5.0nm,0.4s,SNR=9.2						
EBER				S	**Sn**	**18 34 30.8**	**-0.7**
	6.3nm,0.4s						
ELOJ	**Sierra Loja**	**2.33**	**355**	P	**Pn**	**18 34 05.9**	**+1.0**
	4.9nm,0.3s,SNR=6.8						
ELOJ				S	**Sn**	**18 34 33.6**	**-0.3**
	7.9nm,0.5s,SNR=5.2						
ELOJ	**Sierra Loja**	**2.33**	**355**	P	**Pn**	**18 34 05.9**	**+1.0**
	4.9nm,0.3s,SNR=6.8						
ELOJ				S	**Sn**	**18 34 33.6**	**-0.3**
	7.9nm,0.5s,SNR=5.2						
EQUE	**Quentar**	**2.41**	**9**	P	**Pn**	**18 34 06.8**	**+0.8**
	1.6nm,0.3s,SNR=8.7						
EQUE				S	**Sn**	**18 34 36.6**	**+0.8**
	3.0nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.41**	**9**	P	**Pn**	**18 34 06.8**	**+0.8**
	1.6nm,0.3s,SNR=8.7						
EQUE				S	**Sn**	**18 34 36.6**	**+0.8**
	3.0nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**2.86**	**219**	P	**Pn**	**18 34 12.0**	**-0.1**
KIB				S	**Sn**	**18 34 46.0**	**-0.9**
KIB	**El Ksiba**	**2.86**	**219**	P	**Pn**	**18 34 12.0**	**-0.1**
KIB				S	**Sn**	**18 34 46.0**	**-0.9**
EQES	**Quesada**	**3.05**	**13**	P	**Pn**	**18 34 16.4**	**+1.6**
	5.8nm,0.5s,SNR=16						
EQES				S	**Sn**	**18 34 54.0**	**+2.4**
	6.0nm,0.5s						
EQES	**Quesada**	**3.05**	**13**	P	**Pn**	**18 34 16.4**	**+1.6**
	5.8nm,0.5s,SNR=16						
EQES				S	**Sn**	**18 34 54.0**	**+2.4**
	6.0nm,0.5s						
EHUE	**Huescar**	**3.17**	**19**	P	**Pn**	**18 34 17.9**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**18 34 56.7**	**+2.1**
	0.7nm,0.8s,SNR=4.0						
EHUE	**Huescar**	**3.17**	**19**	P	**Pn**	**18 34 17.9**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**18 34 56.7**	**+2.1**
	0.7nm,0.8s,SNR=4.0						
EADA	**Adamuz**	**3.38**	**351**	P	**Pn**	**18 34 20.4**	**+1.1**
	1.0nm,0.9s,SNR=7.9						
EADA				S	**Sn**	**18 35 02.4**	**+2.7**
	13nm,1.8s,SNR=7.9						
EADA	**Adamuz**	**3.38**	**351**	P	**Pn**	**18 34 20.4**	**+1.1**
	1.0nm,0.9s,SNR=7.9						
EADA				S	**Sn**	**18 35 02.4**	**+2.7**
	13nm,1.8s,SNR=7.9						
TZC	**Tazercounte**	**3.43**	**220**	P	**Pn**	**18 34 21.0**	**+0.9**
TZC				S	**Sn**	**18 35 00.0**	**-1.1**
TZC	**Tazercounte**	**3.43**	**220**	P	**Pn**	**18 34 21.0**	**+0.9**
TZC				S	**Sn**	**18 35 00.0**	**-1.1**
EMIN	**Mina Concepcio**	**3.69**	**324**	P	**Pn**	**18 34 23.2**	**-0.3**
	1.6nm,0.3s,SNR=19						
EMIN				S	**Sn**	**18 35 06.0**	**-1.3**
	2.1nm,0.4s						
EMIN	**Mina Concepcio**	**3.69**	**324**	P	**Pn**	**18 34 23.2**	**-0.3**
	1.6nm,0.3s,SNR=19						
EMIN				S	**Sn**	**18 35 06.0**	**-1.3**
	2.1nm,0.4s						
EMUR	**La Murta**	**3.71**	**35**	P	**Pn**	**18 34 24.6**	**+0.9**
	2.6nm,0.6s,SNR=7.9						
EMUR				S	**Sn**	**18 35 04.4**	**-3.2**
	2.6nm,0.3s,SNR=4.8						
EMUR	**La Murta**	**3.71**	**35**	P	**Pn**	**18 34 24.6**	**+0.9**
	2.6nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**3.96**	**314**	P	**Pn**	**18 34 27.2**	**0.0**
	3.8nm,0.3s,SNR=8.1						
EGRO				S	**Sn**	**18 35 12.7**	**-1.2**
	4.0nm,0.3s						
EGRO	**El Granado**	**3.96**	**314**	P	**Pn**	**18 34 27.2**	**0.0**
	3.8nm,0.3s,SNR=8.1						
EGRO				S	**Sn**	**18 35 12.7**	**-1.2**
	4.0nm,0.3s						
PVAQ	**Vaqueiros**	**4.02**	**311**	*e*Pn	**Pn**	**18 34 28.3**	**+0.3**
PVAQ				*e*Sn	**Sn**	**18 35 13.8**	**-1.5**
PVAQ				A	A	18 35 17.0	
	4.9nm,0.3s						
PVAQ	**Vaqueiros**	**4.02**	**311**	P	**Pn**	**18 34 28.3**	**+0.3**
PVAQ				S	**Sn**	**18 35 13.8**	**-1.5**
	4.9nm,0.3s						
PVAQ	**Vaqueiros**	**4.02**	**311**	P	**Pn**	**18 34 28.3**	**+0.3**
PVAQ				S	**Sn**	**18 35 13.8**	**-1.5**
	4.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.06**	**308**	*e*Pn	**Pn**	**18 34 29.6**	**+1.0**
PBDV				*e*Sn	**Sn**	**18 35 15.9**	**-0.5**
PBDV				A	A	18 35 24.4	
	5.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.06**	**308**	P	**Pn**	**18 34 29.6**	**+1.0**
PBDV				S	**Sn**	**18 35 15.9**	**-0.5**
	5.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.06**	**308**	P	**Pn**	**18 34 29.6**	**+1.0**
PBDV				S	**Sn**	**18 35 15.9**	**-0.5**
	5.0nm,0.8s						
PBAR	**Barrancos**	**4.19**	**324**	*e*Pn	**Pn**	**18 34 30.6**	**+0.2**
PBAR				*e*Sn	**Sn**	**18 35 18.2**	**-1.4**
PBAR				A	A	18 35 24.1	
	3.9nm,0.4s						
PBAR	**Barrancos**	**4.19**	**324**	P	**Pn**	**18 34 30.6**	**+0.2**
PBAR				S	**Sn**	**18 35 18.2**	**-1.4**
	3.9nm,0.4s						
PBAR	**Barrancos**	**4.19**	**324**	P	**Pn**	**18 34 30.6**	**+0.2**
PBAR				S	**Sn**	**18 35 18.2**	**-1.4**
	3.9nm,0.4s						
ETOB	**Tobarra**	**4.26**	**26**	P	**Pn**	**18 34 32.8**	**+1.4**
	2.3nm,0.3s,SNR=7.5						
ETOB				S	**Sn**	**18 35 20.8**	**-0.7**
	47nm,1.6s						
ETOB	**Tobarra**	**4.26**	**26**	P	**Pn**	**18 34 32.8**	**+1.4**
	2.3nm,0.3s,SNR=7.5						
ETOB				S	**Sn**	**18 35 20.8**	**-0.7**
	47nm,1.6s						
PCVE	**Castro Verde**	**4.36**	**311**	*e*Pn	**Pn**	**18 34 33.5**	**+0.8**
PCVE				*e*Sn	**Sn**	**18 35 21.7**	**-2.1**
PCVE				A	A	18 35 32.5	
	3.9nm,0.5s						
PCVE	**Castro Verde**	**4.36**	**311**	P	**Pn**	**18 34 33.5**	**+0.8**
PCVE				S	**Sn**	**18 35 21.7**	**-2.1**
	3.9nm,0.5s						
PCVE	**Castro Verde**	**4.36**	**311**	P	**Pn**	**18 34 33.5**	**+0.8**
PCVE				*e*Sn	**Sn**	**18 35 21.7**	**-2.1**
	3.9nm,0.5s						
MESJ	**Messejana**	**4.60**	**312**	*e*P	**Pn**	**18 34 36.7**	**+0.7**
MESJ				*e*S	**Sn**	**18 35 27.8**	**-1.9**
MESJ	**Messejana**	**4.60**	**312**	P	**Pn**	**18 34 36.7**	**+0.7**
MESJ				S	**Sn**	**18 35 27.8**	**-1.9**
MESJ	**Messejana**	**4.60**	**312**	P	**Pn**	**18 34 36.7**	**+0.7**
MESJ				*e*S	**Sn**	**18 35 27.8**	**-1.9**
PFVI	**Vila Bisbo**	**4.61**	**301**	*e*Pn	**Pn**	**18 34 37.1**	**+0.9**
PFVI				*e*Sn	**Sn**	**18 35 29.5**	**-0.4**
PFVI				A	A	18 35 37.6	
	8.6nm,0.5s						
PFVI	**Vila Bisbo**	**4.61**	**301**	P	**Pn**	**18 34 37.0**	**+0.9**
	4.9nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**18 35 30.9**	**+1.0**
	6.2nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.61**	**301**	P	**Pn**	**18 34 37.0**	**+0.9**
	4.9nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**18 35 29.5**	**-0.4**
	8.6nm,0.5s						
PFVI				S	**Sn**	**18 35 30.9**	**+1.0**
	6.2nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.65**	**329**	P	**Pn**	**18 34 37.2**	**+0.5**
	1.9nm,0.3s,SNR=13						
EBAD				S	**Sn**	**18 35 30.2**	**-0.7**
	2.7nm,0.5s						
EBAD	**Badajoz**	**4.65**	**329**	P	**Pn**	**18 34 37.2**	**+0.5**
	1.9nm,0.3s,SNR=13						
EBAD				S	**Sn**	**18 35 30.2**	**-0.7**
	2.7nm,0.5s						
ESDC	**Sonseca Array**	**4.84**	**360**	P	**Pn**	**18 34 40.9**	**+1.5**
	0.3nm,0.2s,baz=178,slow=12,SNR=8.7						
ESDC	**Sonseca Array**	**4.84**	**360**	P	**Pn**	**18 34 40.9**	**+1.5**
	0.3nm,0.2s,baz=178,slow=12,SNR=8.7						
EVO	**Evora**	**4.96**	**320**	*e*Pn	**Pn**	**18 34 42.1**	**+1.2**
EVO				*e*Sn	**Sn**	**18 35 37.2**	**-1.3**
EVO	**Evora**	**4.96**	**320**	P	**Pn**	**18 34 42.1**	**+1.2**
EVO				S	**Sn**	**18 35 37.2**	**-1.3**
EVO	**Evora**	**4.96**	**320**	P	**Pn**	**18 34 42.1**	**+1.2**
EVO				*e*Sn	**Sn**	**18 35 37.2**	**-1.3**
PNCL	**Nicolau / Gran**	**4.96**	**313**	*e*Pn	**Pn**	**18 34 41.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**18 35 37.0**	**-1.6**
PNCL				A	A	18 35 42.4	
	3.4nm,0.9s						
PNCL	**Nicolau / Gran**	**4.96**	**313**	*e*Pn	**Pn**	**18 34 41.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**18 35 37.0**	**-1.6**
	3.4nm,0.9s						
PESTR	**Estremoz**	**5.00**	**325**	*e*Pn	**Pn**	**18 34 42.5**	**+1.0**
PESTR	**Estremoz**	**5.00**	**325**	P	**Pn**	**18 34 42.5**	**+1.0**
PESTR	**Estremoz**	**5.00**	**325**	P	**Pn**	**18 34 42.5**	**+1.0**
PMRV	**Marv??o**	**5.37**	**330**	*e*Pn	**Pn**	**18 34 47.9**	**+1.3**
PMRV	**Marv??o**	**5.37**	**330**	P	**Pn**	**18 34 47.9**	**+1.3**
PMRV	**Marv??o**	**5.37**	**330**	P	**Pn**	**18 34 47.9**	**+1.3**
EPLA	**Plasencia**	**5.51**	**342**	P	**Pn**	**18 34 49.1**	**+0.6**
	0.4nm,0.3s,SNR=7.9						
EPLA				S	**Sn**	**18 35 51.0**	**-1.2**
	4.8nm,0.7s,SNR=7.9						
EPLA	**Plasencia**	**5.51**	**342**	P	**Pn**	**18 34 49.1**	**+0.6**
	0.4nm,0.3s,SNR=7.9						
EPLA				S	**Sn**	**18 35 51.0**	**-1.2**
	4.8nm,0.7s,SNR=7.9						
MVO	**Moncorvo**	**6.79**	**340**	P	**Pn**	**18 35 07.3**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.79**	**340**	P	**Pn**	**18 35 07.3**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.45**	**343**	P	**Pn**	**18 35 16.1**	**+0.9**
	1.7nm,0.4s,SNR=7.9						
ECAL				S	**Sn**	**18 36 36.4**	**-3.5**
	4.6nm,1.0s,SNR=7.9						
ECAL	**Calabor**	**7.45**	**343**	P	**Pn**	**18 35 16.1**	**+0.9**
	1.7nm,0.4s,SNR=7.9						

IDC ***06*** *18:37:47.2±1.4, 44°.32N×105°.56W, h0km, mb1 3.3/3, mb1mx3.1/26, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=42.0km s-min=8.4km az=144.0*
ISCJB ***06*** *18:37:48.2±0.2, 44°.41N±0°.01×105°.47W±0°.02, h0km, Error ellipse: s-maj=2.4km s-min=1.8km az=4.7*
NEIC ***06*** *18:37:49.2±1.6, 44°.40N×105°.45W, h0km, ML3.0, Error ellipse: s-maj=24.4km s-min=20.6km az=172.0, Suspected Mining explosion.*
NEIC 15 km [10 miles] NNE of Gillette.

ISC 06 18:37:48.6±0.7, 44°.41N±0°.02×105°.47W±0°.02, h0km, n71, σ0§84/101, 41C-32D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H23A	**Clabaugh Cattl**	**0.16**	**17**	⇑P	**Pg**	**18 37 52.5**	**+0.8**
	baz=0.2,SNR=599						
H23A				⇓S	**Sg**	**18 37 54.4**	**+0.7**
	baz=0.2						
I23A	**Meade Ranch, G**	**0.45**	**180**	⇓P	**Pg**	**18 37 57.6**	**+0.4**
	baz=0.4,SNR=22						
I23A				⇑S	**Sg**	**18 38 03.8**	**+0.8**
	baz=0.4						
H22A	**Clearmont**	**0.66**	**286**	⇓P	**Pg**	**18 38 01.3**	**0.0**
	baz=0.7,SNR=38						
H24A	**Dirks Ranch, A**	**0.73**	**62**	⇓P	**Pg**	**18 38 02.5**	**-0.2**
	baz=0.7,SNR=24						
G23A	**Biddle**	**0.79**	**4**	⇓P	**Pg**	**18 38 03.6**	**-0.2**
	baz=0.8,SNR=30						
G23A				⇑S	**Sg**	**18 38 14.4**	**+0.3**
	baz=0.8						
I24A	**Kuemmerle Ranc**	**0.82**	**132**	⇓P	**Pg**	**18 38 04.2**	**-0.1**
	baz=0.8,SNR=23						
I24A				⇑S	**Sg**	**18 38 15.1**	**+0.2**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.90**	**235**	⇑P	**Pg**	**18 38 05.4**	**-0.4**
	baz=0.9,SNR=104						
I22A				⇓S	**Sg**	**18 38 17.3**	**-0.2**
	baz=0.9						
G22A	**Birney**	**1.00**	**324**	⇑P	**Pg**	**18 38 07.4**	**-0.4**
	baz=1.0,SNR=41						
G22A				⇓S	**Sg**	**18 38 21.0**	**+0.3**
	baz=1.0						
J23A	**Dilts Ranch, B**	**1.01**	**184**	⇑P	**Pg**	**18 38 07.7**	**-0.3**
	baz=1.0,SNR=70						
RSSD	**Black Hills**	**1.07**	**105**	*e*Pn	**Pg**	**18 38 08.4**	**-0.7**
H21A	**Big Horn, Sher**	**1.15**	**281**	⇑P	**Pg**	**18 38 10.0**	**-0.6**
	baz=1.2,SNR=20						
H21A				⇓S	**Sg**	**18 38 25.8**	**+0.2**
	baz=1.2						
G24A	**Alzada**	**1.18**	**39**	⇓P	**Pg**	**18 38 10.7**	**-0.6**
	baz=1.2						
G24A				⇑Sn	**Sn**	**18 38 29.7**	**+0.3**
	baz=1.2						
J24A	**Dixon Ranch, L**	**1.23**	**151**	⇑P	**Pg**	**18 38 11.7**	**-0.4**
	baz=1.2,SNR=51						
J24A				⇓Sn	**Sn**	**18 38 30.9**	**+0.4**
	baz=1.2						
J22A	**Midwest**	**1.24**	**217**	⇓P	**Pg**	**18 38 11.1**	**-1.2**
	baz=1.2						
J22A				⇓S	**Sg**	**18 38 28.5**	**+0.2**
	baz=1.2						
F23A	**Volborg**	**1.31**	**2**	⇑P	**Pg**	**18 38 12.8**	**-1.0**
	baz=1.3,SNR=70						
F23A				⇑S	**Sg**	**18 38 31.2**	**+0.5**
	baz=1.3						
I21A	**Big Trails, Te**	**1.45**	**246**	⇓P	**Pn**	**18 38 14.5**	**-1.7**
	baz=1.4						
I21A				⇓S	**Sg**	**18 38 35.7**	**+0.7**
	baz=1.4						
F22A	**Rosebud**	**1.48**	**338**	⇓P	**Pn**	**18 38 15.7**	**-0.9**
	baz=1.5,SNR=15						
F22A				⇑S	**Sg**	**18 38 37.1**	**+0.9**
	baz=1.5						
G21A	**Lodge Grass**	**1.48**	**304**	⇑P	**Pn**	**18 38 15.9**	**-0.8**
	baz=1.5,SNR=36						
G21A				⇑S	**Sg**	**18 38 36.9**	**+0.6**
	baz=1.5						
F24A	**Ekalaka**	**1.61**	**26**	⇑P	**Pn**	**18 38 17.8**	**-0.5**
	baz=1.6,SNR=23						
F24A				⇑S	**Sn**	**18 38 40.1**	**+0.2**
	baz=1.6						
K23A	**Bowen Ranch, D**	**1.66**	**184**	⇑P	**Pn**	**18 38 18.5**	**-0.7**
	baz=1.6						
K23A				⇑Sg	**Sg**	**18 38 43.2**	**+1.3**
	baz=1.6						
K24A	**Anderson Ranch**	**1.75**	**164**	⇓P	**Pn**	**18 38 20.2**	**-0.2**
	baz=1.7,SNR=26						
K24A				⇓S	**Sn**	**18 38 43.6**	**+0.1**
	baz=1.7						
J21A	**Lysite**	**1.78**	**234**	⇑P	**Pn**	**18 38 20.4**	**-0.5**
	baz=1.8,SNR=75						
J21A				⇓S	**Sn**	**18 38 43.7**	**-0.6**
	baz=1.8						
H20A	**Greybull**	**1.82**	**273**	⇑P	**Pn**	**18 38 20.7**	**-0.6**
	baz=1.8,SNR=21						
H20A				⇑S	**Sn**	**18 38 44.8**	**-0.2**
	baz=1.8						
F21A	**Absaloka Mine,**	**1.84**	**321**	⇓P	**Pn**	**18 38 21.0**	**-0.5**
	baz=1.8,SNR=19						
F21A				⇑Sb	**Sb**	**18 38 47.6**	**+0.9**
	baz=1.8						
K22A	**Casper**	**1.92**	**204**	⇑P	**Pn**	**18 38 22.4**	**-0.4**
	baz=1.9,SNR=18						
K22A				⇓Sb	**Sb**	**18 38 50.1**	**+1.0**
	baz=1.9						
I20A	**Worland**	**1.97**	**257**	⇑P	**Pn**	**18 38 22.9**	**-0.5**
	baz=2.0,SNR=110						
I20A				⇑S	**Sn**	**18 38 49.2**	**+0.3**
	baz=2.0						
E22A	**Miles City**	**2.06**	**351**	⇓P	**Pn**	**18 38 23.8**	**-0.7**
	baz=2.1,SNR=13						
E22A				⇑Sb	**Sb**	**18 38 53.6**	**+0.6**
	baz=2.1						
E23A	**Ismay**	**2.09**	**3**	⇑P	**Pn**	**18 38 25.3**	**+0.3**
	baz=2.1,SNR=5.3						
E23A				⇓S	**Sn**	**18 38 52.4**	**+0.7**
	baz=2.1						
G20A	**Bridger**	**2.12**	**293**	⇑P	**Pn**	**18 38 24.4**	**-1.0**
	baz=2.1,SNR=68						
G20A				⇑Sb	**Sb**	**18 38 55.2**	**+0.3**
	baz=2.1						
K25A	**Mack Ranch, Ha**	**2.14**	**147**	⇓Sb	**Sg**	**18 38 56.7**	**-0.7**
	baz=2.1						
J20A	**Shoshoni**	**2.17**	**242**	⇑Sb	**Sb**	**18 38 56.8**	**+0.5**
	baz=2.2						
K21A	**Alcova**	**2.20**	**217**	⇑P	**Pn**	**18 38 26.3**	**-0.3**
	baz=2.2,SNR=69						
E24A	**Baker**	**2.30**	**20**	⇑P	**Pn**	**18 38 27.8**	**0.0**
	baz=2.3						
E24A				⇑Sb	**Sb**	**18 39 00.7**	**+0.7**
	baz=2.3						
L23A	**Garrett**	**2.30**	**184**	⇓P	**Pn**	**18 38 27.9**	**-0.2**
	baz=2.3,SNR=25						
L23A				⇑Sb	**Sb**	**18 39 01.5**	**+1.2**
	baz=2.3						
D23A	**Lindsay**	**2.77**	**4**	⇑P	**Pn**	**18 38 33.9**	**-0.4**
	baz=2.8,SNR=10.0						
D22A	**Cohagen**	**2.79**	**350**	⇑P	**Pn**	**18 38 34.1**	**-0.4**
	baz=2.8,SNR=15						
E20A	**Meyer Farm, Mu**	**2.81**	**319**	⇓P	**Pn**	**18 38 34.1**	**-0.8**
	baz=2.8						
F19A	**Roth Farm, Mol**	**2.85**	**302**	⇓P	**Pn**	**18 38 34.9**	**-0.6**
	baz=2.9						
K19A	**Absolon Red Bu**	**2.92**	**238**	⇓P	**Pn**	**18 38 36.4**	**-0.1**
	baz=2.9,SNR=12						
H18A	**Shoshone NF, C**	**3.01**	**277**	⇑P	**Pn**	**18 38 37.3**	**-0.5**
	baz=3.0,SNR=9.2						
G18A	**Lazy EL Ranch,**	**3.05**	**289**	⇑P	**Pn**	**18 38 37.8**	**-0.5**
	baz=3.1,SNR=28						
PHWY	**Pilot Hill**	**3.11**	**180**	*e*Pn	**Pn**	**18 38 39.0**	**-0.2**
PHWY				*e*Sn	**Sn**	**18 39 18.2**	**+1.0**
C22A	**Vida**	**3.35**	**355**	⇑P	**Pn**	**18 38 42.8**	**+0.5**
	baz=3.4,SNR=19						
BW06	**Boulder Array**	**3.40**	**242**	*e*Pn	**Pn**	**18 38 43.6**	**+0.5**
BW06				*e*Sn	**Sb**	**18 39 31.5**	**-0.3**
PD02	**Pinedale Array**	**3.40**	**243**	*e*Pn	**Pn**	**18 38 43.2**	**+0.1**
PD02				*e*Sn	**Sb**	**18 39 31.7**	**-0.1**
PDAR	**Pinedale Array**	**3.40**	**242**	Pn	**Pn**	**18 38 43.6**	**+0.5**
	0.4nm,0.3s,baz=69,slow=16,SNR=17						
PDAR				Pg	**Pb**	**18 38 50.1**	**+0.3**
	2.8nm,0.3s,baz=65,slow=18,SNR=39						
PDAR				Lg	Lg	18 39 30.1	
	3.2nm,0.3s,baz=68,slow=36,SNR=8.0						
PDAR	**Pinedale Array**	**3.40**	**242**	Pn	**Pn**	**18 38 43.6**	**+0.5**
PDAR				Pg	**Pb**	**18 38 50.1**	**+0.3**
PDAR				Lg	Lg	18 39 30.1	
C23A	**Lambert**	**3.40**	**3**	⇓P	**Pn**	**18 38 43.5**	**+0.5**
	baz=3.4,SNR=7.0						
PD01	**Pinedale Array**	**3.41**	**243**	*e*Pn	**Pn**	**18 38 44.2**	**+0.9**
PD01				*e*Sn	**Sb**	**18 39 31.4**	**-0.7**
N23A	**Red Feather La**	**3.53**	**186**	⇑P	**Pn**	**18 38 45.5**	**+0.5**
	baz=3.5,SNR=15						
LKWY	**Lake**	**3.54**	**274**	P	Pn	18 38 49.0	+3.9
LKWY				*e*Sn	**Sn**	**18 39 30.5**	**+2.8**
FLWY	**Flagg Ranch**	**3.77**	**267**	*e*Pn	**Pn**	**18 38 49.3**	**+1.0**
FLWY				*e*Sg	**Sg**	**18 39 51.7**	**+1.8**
LOHW	**Long Hollow**	**3.79**	**260**	*e*Pn	Pn	18 38 52.9	+4.4
SNOW	**Snow King Moun**	**3.94**	**258**	Pn	**Pb**	**18 39 00.3**	**+1.2**
F17A	**Fitzpatrick Pl**	**3.97**	**294**	⇓P	**Pn**	**18 38 51.5**	**+0.6**
	baz=4.0,SNR=7.6						
REDW	**Red Top Meadow**	**4.03**	**257**	*e*Pn	Pn	18 38 55.6	+3.8
DGMT	**Dagmar**	**4.15**	**12**	*e*Pn	**Pn**	**18 38 55.4**	**+

ellipse: s-maj=281.5km s-min=31.4km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.39**	**147**	Pn	Pn	19 25 21.0	-0.7
	0.7nm,0.3s,baz=325,slow=14,SNR=25						
WRA				Sn	Sn	19 27 45.8	-16
	0.8nm,0.3s,baz=324,slow=24,SNR=12						
ASAR	**Alice Springs**	**17.38**	**155**	P	Pn	19 26 01.1	+0.5
	0.1nm,0.3s,baz=329,slow=9.9,SNR=10						
ASAR				S	Sn	19 29 02.3	-13
	0.2nm,0.3s,baz=317,slow=17,SNR=4.5						
MKAR	**Makanchi Array**	**66.92**	**329**	P	P	19 32 50.7	0.0
	0.1nm,0.5s,baz=116,slow=6.7,SNR=3.0						

ATH ***06*** *19:55:33.8, 38.53N×26.74E, h32km±4km, MD2.5/4*
DDA ***06*** *19:55:33.5, 38.54N×26.79E, h7km, MD2.7*
ISCJB ***06*** *19:55:34.2±1.0, 38.51N±0.04×26.66E±0.06, h23km±10km, Error ellipse: s-maj=7.5km s-min=5.9km az=16.5*
CSEM ***06*** *19:55:34.3±0.3, 38.51N×26.64E, h25km±4km, MD2.5, Error ellipse: s-maj=9.9km s-min=4.5km az=99.0*

ISC 06 19:55:35.4±1.3, 38.54N±0.03×26.66E±0.05, h33km±8km, n14, σ0.973/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.50**	**253**	*e*PN	**Pb**	**19 55 45.3**	**-0.7**
CHOS				*e*SN	**Sb**	**19 55 54.2**	**+0.9**
CHOS	**Chios island**	**0.50**	**253**	*e*Pn	**Pb**	**19 55 45.3**	**-0.7**
CHOS				*e*Sn	**Sb**	**19 55 54.2**	**+0.9**
AYVA	**Ayvalik**	**0.77**	**2**	*i* P	**Pn**	**19 55 48.7**	**-1.3**
AYVA				*i* S	**Sn**	**19 56 00.5**	**0.0**
AYVA	**Ayvalik**	**0.77**	**2**	*i* P	**Pn**	**19 55 48.7**	**-1.3**
AYVA				*i* S	**Sn**	**19 56 00.5**	**0.0**
PRK	**Paraskevi**	**0.77**	**337**	*e*PN	**Pn**	**19 55 50.2**	**+0.2**
PRK				*e*SN	**Sn**	**19 56 00.6**	**+0.1**
PRK	**Paraskevi**	**0.77**	**337**	*e*Pn	**Pn**	**19 55 50.2**	**+0.2**
PRK				*e*Sn	**Sn**	**19 56 00.6**	**+0.1**
SMG	**Samos**	**0.84**	**170**	*e*PN	**Pn**	**19 55 50.1**	**-0.8**
SMG				*e*SN	**Sn**	**19 56 01.5**	**-0.6**
SMG	**Samos**	**0.84**	**170**	*e*Pn	**Pn**	**19 55 50.1**	**-0.8**
SMG				*e*Sn	**Sn**	**19 56 01.5**	**-0.6**
BALY	**Balya**	**1.42**	**31**	*i* P	**Pn**	**19 55 59.2**	**+0.3**
BALY				*i* S	**Sn**	**19 56 17.0**	**+0.5**
BALY	**Balya**	**1.42**	**31**	*i* P	**Pn**	**19 55 59.2**	**+0.3**
BALY				*i* S	**Sn**	**19 56 17.0**	**+0.5**
MANT	**Manisa**	**1.49**	**91**	*i* P	**Pn**	**19 56 00.5**	**+0.4**
MANT				*i* S	**Sn**	**19 56 18.9**	**+0.4**
MANT	**Manisa**	**1.49**	**91**	*i* P	**Pn**	**19 56 00.5**	**+0.4**
MANT				*i* S	**Sn**	**19 56 18.9**	**+0.4**
APE	**Apeiranthos**	**1.72**	**212**	*e*PB	**Pn**	**19 56 04.1**	**+1.0**
APE	**Apeiranthos**	**1.72**	**212**	*e*Pb	**Pn**	**19 56 04.1**	**+1.0**

BJI ***06*** *19:56:19.2, 0.89S×133.13E, h10km, mB5.1/37, mb4.8/54, Ms4.7/48, Ms7 4.6/48*
ISCJB ***06*** *19:56:23.0±1.1, 0.46S±0.03×133.10E±0.04, h15km±7km, mb5.1/119, MS4.5/37, Error ellipse: s-maj=7.0km s-min=4.5km az=154.7*
IDC ***06*** *19:56:23.1±0.4, 0.50S×132.77E, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.7/22, mbtmp4.6/20, ML4.6/4, MS4.5/19, Ms1 4.5/19, ms1mx4.3/28, Error ellipse: s-maj=20.3km s-min=10.3km az=69.0*
NEIC ***06*** *19:56:25.6±0.2, 0.57S×132.78E, h18km, mb5.4/48, MW5.3, Error ellipse: s-maj=7.8km s-min=4.0km az=62.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^17Nm; Mrr=0.37; Mθθ=1.09; Mϕϕ=0.72; Mrθ=0.08; Mrϕ=0.48; Mθϕ=-0.32; Best double couple: M0=1.10000×10^17 NP1: ϕs=242.00000°, δ=71.00000°, λ=20.00000°. NP2: ϕs=145.00000°, δ=71.00000°, λ=160.00000°. Principal axes: T 1.0100, Plg=27.0000°, Azm=103.0000°; N 0.2000, Plg=62.0000°, Azm=283.0000°; P -1.2100, Plg=0.0000°, Azm=13.0000°;*
MOS ***06*** *19:56:26.2±0.8, 0.52S×132.75E, h33km, mb5.2/22 Error ellipse: s-maj=13.7km s-min=5.8km az=111.3*
DJA ***06*** *19:56:28, 0.61S×132.95E, h19km, Mw5.2/45*

ISC 06 19:56:25.8±0.4, 0.54S±0.03×132.89E±0.04, h18km±1km, h17km:pP-P, n303, σt$45/324, mb5.2/117, MS4.5/39, 16C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.45**	**195**	P	**Pn**	**19 57 05.6**	**+0.7**
BAKI	**Biak**	**3.28**	**101**	P	**Pn**	**19 57 17.3**	**+0.9**
MSAI	**Masohi**	**4.84**	**235**	P	Pn	19 57 41.1	+3.3
TLE	**Tual**	**5.07**	**182**	P	**Pn**	**19 57 43.3**	**+2.4**
LBMI	**Labuha**	**5.39**	**269**	P	**Pn**	**19 57 47.2**	**+1.8**
	531nm,1.2s,9μm3.3nm						
AAI	**Ambon**	**5.64**	**236**	P	**Pn**	**19 57 50.9**	**+2.1**
	3μm,0.9s,28μm9.7nm						
TNTI	**Ternate**	**5.67**	**283**	P	Pn	19 57 54.5	+5.2
	270nm,0.9s,5μm1.3nm						
SMPI	**Sarmi**	**6.00**	**104**	P	Pn	19 57 56.9	+3.2
	303nm,1.2s,4μm1.1nm						
MNI	**Manado**	**8.29**	**284**	P	Pn	19 58 30.4	+5.2
	215nm,0.8s,2μm0.7nm						
SGSI	**Sangihe**	**8.47**	**300**	P	**Pb**	**19 58 49.3**	**-2.7**
KMSI	**Cibinong**	**8.98**	**277**	P	Pn	19 58 40.6	+5.9
	306nm,0.8s,5μm						
LUWI	**Luwuk**	**10.13**	**267**	P	**Pn**	**19 58 52.8**	**+2.3**
	284nm,1.2s,3μm						
DAV	**Davao City (W)**	**10.50**	**316**	Pn	Pn	19 59 01.8	+6.2
	37nm,0.3s,baz=29,slow=13,SNR=5.0						
DAV				LR	LR	20 03 28.9	
	comp=Z,5μm,18.2s,baz=145,slow=41						
DAV	**Davao City (W)**	**10.50**	**316**	Pn	Pn	19 59 01.9	+6.2
MRSI	**Marisa**	**10.99**	**275**	P	Pn	19 59 09.9	+7.6
	88nm,1.2s,924nm						
BBSI	**Bau Bau**	**11.41**	**244**	P	Pn	19 59 12.3	+4.2
	192nm,0.9s,3μm						
PCI	**Palu**	**13.06**	**268**	P	**Pn**	**19 59 29.4**	**-1.2**
MMRI	**Maumere**	**13.31**	**233**	P	Pn	19 59 37.4	+3.3
	263nm,1.5s,3μm						
SPSI	**Sidrap Palu**	**13.54**	**255**	P	P	19 59 41.7	-4.5
	75nm,1.8s,2μm						
BKSI	**Bulukumba**	**13.60**	**249**	P	Pn	19 59 41.4	+3.4
	188nm,0.8s,2μm						
KAPI	**Kappang**	**13.85**	**251**	Pn	**Pn**	**19 59 40.0**	**-1.4**
	0.5nm,0.3s,baz=76,slow=18,SNR=2.8						
KAPI				Sn	**Sn**	**20 02 14.2**	**-0.7**
	0.7nm,0.3s,baz=166,slow=19,SNR=1.8						
KAPI				LR	LR	20 05 37.3	
	comp=Z,1μm,20.0s,baz=270,slow=40						
KAPI	**Kappang**	**13.85**	**251**	Pn	**Pn**	**19 59 40.0**	**-1.4**
KAPI				Sn	**Sn**	**20 02 14.2**	**-0.7**
KAPI	**Kappang**	**13.85**	**251**	P	Pn	19 59 44.8	+3.4
	74nm,1.5s,1μm						
MJSI	**Majene**	**14.22**	**258**	P	**P**	**19 59 56.0**	**+2.3**
MYLDM	**Lahad Datu**	**15.45**	**292**	P	P	20 00 16.0	+8.5
WSI	**Waingapu**	**15.47**	**234**	P	**P**	**20 00 06.5**	**-1.1**
	289nm,1.1s,3μm						
PMG	**Port Moresby**	**16.71**	**122**	Pn	**P**	**20 00 22.2**	**+0.7**
	3.7nm,0.3s,baz=315,slow=7.5,SNR=41						
PMG	**Port Moresby**	**16.71**	**122**	P	**P**	**20 00 22.2**	**+0.7**
PMG	**Port Moresby**	**16.71**	**122**	Pn	**P**	**20 00 22.2**	**+0.7**
PMG				⇑*i*Pn	**Pn**	**20 00 22.3**	**+3.1**
COEN	**Coen**	**16.77**	**143**	*e*Pn	**Pn**	**20 00 18.0**	**-2.0**
	4μm,1.7s						
COEN				*e*Sn	Sn	20 03 12.0	-14
KBKI	**Kotabaru**	**16.93**	**260**	P	P	20 00 31.5	+7.6
KKM	**Kota Kinabalu**	**17.89**	**292**	Pn	**P**	**20 00 36.3**	**+1.8**
	110nm,1.3s						
KKM	**Kota Kinabalu**	**17.89**	**292**	P	P	20 00 41.9	+7.3
	68nm,2.0s,1μm						
BBKI	**Banjar Baru**	**18.27**	**261**	P	P	20 00 49.4	+11
MTNI	**Mataram**	**18.49**	**244**	P	Pn	20 00 46.1	+4.8
	126nm,1.2s,2μm						
FITZ	**Fitzroy Crossi**	**18.85**	**202**	P	**P**	**20 00 42.9**	**-2.1**
	1.9nm,0.3s,baz=28,slow=13,SNR=36						
FITZ				S	Sn	20 04 03.3	-13
	3.5nm,0.3s,baz=190,slow=15,SNR=4.8						
FITZ				LR	LR	20 08 33.5	
	comp=Z,1μm,20.1s,baz=29,slow=39						
FITZ	**Fitzroy Crossi**	**18.85**	**202**	*e*P	**P**	**20 00 42.2**	**-2.8**
	138nm,1.1s						
FITZ				*e*S	Sn	20 04 02.8	-14
FITZ	**Fitzroy Crossi**	**18.85**	**202**	*e*P	**P**	**20 00 42.0**	**-3.0**
	203nm,1.3s						
FITZ				*e*Sn	Sn	20 03 55.9	-20
FITZ				S	S	20 04 03.3	-16

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**18.89**	**245**	P	**Pn**	**20 00 48.2**	**+2.0**
	99nm,1.6s,3μm						
WRAB	**Tennant Creek**	**19.33**	**176**	⇑*i*P	**P**	**20 00 50.7**	**+0.4**
WRAB				*e*		20 04 14.8	
WRAB				pmax	pmax		
	comp=Z,236nm,0.9s						
WRAB	**Tennant Creek**	**19.33**	**176**	⇑*i*P	**P**	**20 00 50.7**	**+0.4**
	comp=Z,236nm,0.9s						
WRAB				*e*Sn	Sn	20 04 14.8	-13
WRAB	**Tennant Creek**	**19.33**	**176**	P	**P**	**20 00 50.6**	**+0.3**
	comp=Z,1μm,1.2s,SNR=88						
WRA	**Warramunga Arr**	**19.34**	**176**	P	**P**	**20 00 50.8**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=352,slow=11,SNR=184						
WRA				S	Sn	20 04 13.0	-15
	comp=Z,4.0nm,0.3s,baz=353,slow=24,SNR=7.5						
WRA	**Warramunga Arr**	**19.34**	**176**	P	**P**	**20 00 50.8**	**+0.4**
WRA	**Warramunga Arr**	**19.34**	**176**	P	**P**	**20 00 50.8**	**+0.4**
WRA				S	Sn	20 04 13.0	-15
WB2	**Warramunga Arr**	**19.34**	**176**	⇑*i*P	**P**	**20 00 50.7**	**+0.3**
WB2				*e*Sn	Sn	20 04 11.7	-16
NBBI	**Negara**	**19.79**	**246**	P	Pn	20 01 06.2	+9.2
KMMI	**Kalianget**	**19.95**	**251**	P	Pn	20 01 06.5	+7.6
BLJI	**Banyuglugur**	**20.52**	**249**	P	Pn	20 01 09.9	+4.3
	comp=Z,116nm,0.8s,comp=Z,2μm						
GMJI	**Gumukmas**	**20.84**	**248**	P	Pn	20 01 11.4	+2.1
	comp=Z,128nm,1.4s,comp=Z,2μm						
SBUM	**Sibu**	**20.88**	**278**	P	Pn	20 01 17.3	+7.5
SBUM	**Sibu**	**20.88**	**278**	P	Pn	20 01 14.2	+4.4
	comp=Z,84nm,1.5s,comp=Z,1μm						
PBKI	**Pangkalan Bun**	**21.32**	**264**	P	P	20 01 21.5	+10
	comp=Z,394nm,1.1s,comp=Z,3μm						
STKI	**Sintang**	**21.42**	**272**	P	P	20 01 22.1	+9.0
	comp=Z,85nm,1.5s,comp=Z,8μm						
KRKI	**Karangkates**	**21.72**	**249**	P	P	20 01 30.5	+14
SJI	**Sawahan**	**22.23**	**251**	P	**P**	**20 01 24.6**	**+2.7**
	comp=Z,73nm,1.6s,comp=Z,2μm						
PWJI	**Pagerwojo**	**22.29**	**250**	P	P	20 01 30.8	+8.4
	comp=Z,101nm,0.9s						
KSM	**Kuching**	**22.67**	**275**	*e*P	**P**	**20 01 29.7**	**+3.2**
	comp=Z,37nm,0.7s						
KSM	**Kuching**	**22.67**	**275**	P	P	20 01 31.6	+5.2
KSM	**Kuching**	**22.67**	**275**	P	P	20 01 31.2	+4.7
	comp=Z,64nm,0.8s,comp=Z,1μmcomp=Z,40μm						
PCJI	**Pacitan**	**22.93**	**250**	P	P	20 01 37.8	+8.6
	comp=Z,117nm,1.2s						
ASAR	**Alice Springs**	**23.01**	**178**	P	**P**	**20 01 30.1**	**+0.1**
	comp=Z,395nm,1.0s,baz=2.4,slow=10,SNR=461						
ASAR				S	**S**	**20 05 37.2**	**-2.8**
	comp=Z,9.1nm,0.7s,baz=349,slow=19,SNR=4.1						
ASAR	**Alice Springs**	**23.01**	**178**	P	**P**	**20 01 30.1**	**+0.1**
ASAR				S	**S**	**20 05 37.2**	**-2.8**
ASAR	**Alice Springs**	**23.01**	**178**	P	**P**	**20 01 30.1**	**+0.1**
ASAR				S	**S**	**20 05 37.2**	**-2.8**
CTA	**Charters Tower**	**23.42**	**147**	P	**P**	**20 01 34.9**	**+0.8**
	comp=Z,293nm,0.9s,baz=326,slow=11,SNR=82						
CTA				LR	LR	20 12 08.6	
	comp=Z,7μm,18.4s,baz=323,slow=40						
CTA	**Charters Tower**	**23.42**	**147**	*e*P	**P**	**20 01 34.0**	**-0.2**
	comp=Z,239nm,0.9s						
CTA				*e*S	**S**	**20 05 45.4**	**-1.4**
CTA	**Charters Tower**	**23.42**	**147**	P	**P**	**20 01 34.9**	**+0.8**
CTA	**Charters Tower**	**23.42**	**147**	P	**P**	**20 01 34.9**	**+0.8**
CTAO	**Charters Tower**	**23.42**	**147**	*e*P	**P**	**20 01 33.4**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,464nm,1.0s						
CTAO	**Charters Tower**	**23.42**	**147**	*e*P	**P**	**20 01 33.4**	**-0.8**
	comp=Z,464nm,1.0s						
UGM	**Wanagama**	**23.46**	**251**	P	P	20 01 42.5	+7.8
	comp=Z,303nm,1.6s,comp=Z,6μm						
YOGI	**Yogyakarta**	**23.65**	**252**	P	P	20 01 45.3	+8.8
	comp=Z,1μm,1.2s,comp=Z,9μm						
BJII	**Banjamegara**	**24.08**	**253**	P	**P**	**20 01 44.2**	**+3.6**
	comp=Z,228nm,1.6s,comp=Z,4μm						
MBWA	**Male Bar**	**24.19**	**211**	*e*P	**P**	**20 01 41.5**	**0.0**
	comp=Z,254nm,1.1s						
TPI	**Tanjungpandan**	**25.32**	**265**	P	P	20 02 01.7	+10
	comp=Z,61nm,1.8s,comp=Z,1μm						
CISI	**Cisompet, Garu**	**25.95**	**254**	P	P	20 02 05.3	+7.7
	comp=Z,254nm,1.0s,comp=Z,2μm						
LEM	**Lembang**	**25.97**	**255**	P	P	20 02 06.0	+8.1
	comp=Z,88nm,1.4s						
CBJI	**Citeko**	**26.63**	**257**	P	P	20 02 11.5	+7.8
	comp=Z,155nm,0.8s						
JOW	**Kunigami**	**27.57**	**351**	LR	LR	20 12 14.7	
	comp=Z,2μm,19.4s,baz=38,slow=35						
KLI	**Kotabumi**	**28.32**	**261**	P	P	20 02 29.7	+11
	comp=Z,77nm,0.9s						
QZH	**Quanzhou**	**28.87**	**332**	*e*P	**P**	**20 02 25.8**	**+2.2**
QZH				LR	LR		
	comp=Z,2μm,11.5s						
QIZ	**Qiongzhong**	**29.84**	**312**	P	**P**	**20 02 31.5**	**-0.8**
QIZ				S	**S**	**20 07 30.9**	**+2.3**
QIZ				LR	LR		
	comp=N,760nm,20.9s						
QIZ				LR	LR		
	comp=Z,2μm,22.8s						
EIDS	**Eidsvold**	**30.30**	**146**	⇑*i*P	**P**	**20 02 36.1**	**-0.2**
	comp=Z,104nm,1.2s						
FORT	**Forrest**	**30.42**	**188**	*e*P	**P**	**20 02 37.9**	**+0.6**
	comp=Z,54nm,0.7s						
FORT	**Forrest**	**30.42**	**188**	*e*Pn	**P**	**20 02 37.3**	**0.0**
	comp=Z,390nm,1.4s						
KSI	**Kapahiang**	**30.43**	**264**	P	P	20 02 45.7	+8.0
	comp=Z,85nm,1.1s						
KRJI	**Kerinci**	**31.46**	**267**	P	P	20 02 59.0	+12
	comp=Z,188nm,0.9s						
IPM	**Ipoh**	**32.22**	**279**	P	**P**	**20 02 53.1**	**-0.4**
	comp=Z,50nm,1.1s						
IPM	**Ipoh**	**32.22**	**279**	P	P	20 03 01.7	+8.3
	comp=Z,51nm,1.7s,comp=Z,860nm						
STKA	**Stephens Creek**	**32.24**	**166**	P	**P**	**20 02 52.8**	**-0.5**
	comp=Z,111nm,0.8s,baz=338,slow=8.4,SNR=139						
STKA				LR	LR	20 17 23.8	
	comp=Z,1μm,18.2s,baz=341,slow=39						
STKA	**Stephens Creek**	**32.24**	**166**	⇑*i*P	**P**	**20 02 52.8**	**-0.5**
	comp=Z,104nm,0.9s						
STKA	**Stephens Creek**	**32.24**	**166**	*e*P	**P**	**20 02 52.6**	**-0.7**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.2s						
STKA	**Stephens Creek**	**32.24**	**166**	*e*P	**P**	**20 02 52.6**	**-0.7**
	comp=Z,0.7nm,0.2s						
BBOO	**Buckleboo**	**32.24**	**175**	*e*Pn	**P**	**20 02 52.2**	**-1.1**
	comp=Z,1μm,0.9s						
PPI	**Padang Panjang**	**32.49**	**270**	P	**P**	**20 02 58.7**	**+2.9**
	comp=Z,54nm,1.1s,comp=Z,795nm						
KULM	**Kulim**	**32.71**	**281**	P	**P**	**20 02 56.8**	**-0.9**
	comp=Z,54nm,1.2s						
KULM	**Kulim**	**32.71**	**281**	P	P	20 03 06.3	+8.6
	comp=Z,47nm,1.4s,comp=Z,697nm						
MNSI	**Mandailing Nat**	**33.34**	**272**	P	P	20 03 11.4	+8.2
	comp=Z,22nm,0.9s						
SSE	**Sheshan**	**33.37**	**342**	P	P	20 03 12.0	+8.8
SSE				sP	sP	20 03 16.4	+5.6
SSE				S	S	20 08 37.8	+14
SSE				sS	sS	20 08 43.2	+11
SSE				SS	SS	20 11 05.0	+17
SSE				pmax	pmax		
	comp=Z,21nm,0.8s						
SSE				pmax	pmax		
	comp=Z,200nm,5.9s						
SSE				LR	LR		
	comp=N,470nm,18.4s						
SSE				LR	LR		
	comp=E,340nm,18.5s						
SSE				LR	LR		
	comp=Z,540nm,20.1s						
JNU	**Nakatsue**	**33.53**	**357**	*e*P	**P**	**20 03 07.4**	**+2.7**
	comp=Z,11nm,1.4s						
KLBR	**Kellerberrin**	**34.04**	**203**	*e*P	**P**	**20 03 09.2**	**+0.1**
	comp=Z,50nm,1.4s						
PSI	**Papat**	**34.12**	**276**	P	P	**20 03 12.0**	**+1.9**
	comp=Z,58nm,1.2s,comp=Z,784nm						
TSI	**Tuntungan**	**34.54**	**277**	P	P	20 03 21.9	+8.3
	comp=Z,80nm,0.9s						
ARMA	**Armidale**	**34.64**	**151**	*e*P	**P**	**20 03 14.6**	**+0.2**
ARMA	**Armidale**	**34.64**	**151**	*e*P	**P**	**20 03 14.5**	**0.0**
	comp=Z,89nm,1.0s						
NJ2	**Nanjing**	**35.03**	**339**	*e*P	**P**	**20 03 18.6**	**+1.0**
NJ2				PP	**PP**	**20 04 38.0**	**+0.7**
NJ2				S	**S**	**20 08 47.0**	**-2.1**
NJ2				sS	sS	20 09 03.5	+5.4
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,310nm,5.5s						
NJ2				LR	LR		
	comp=N,330nm,24.5s						
NJ2				LR	LR		
	comp=E,420nm,19.3s						
NJ2				LR	LR		
	comp=Z,590nm,16.3s						
NWAO	**Narrogin (SRO)**	**35.43**	**203**	*e*P	**P**	**20 03 20.1**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,97nm,1.7s						
NWAO	**Narrogin (SRO)**	**35.43**	**203**	*e*P	**P**	**20 03 20.1**	**-0.9**
	comp=Z,97nm,1.7s						
WHN	**Wuhan**	**35.59**	**332**	P	**P**	**20 03 20.7**	**-1.7**
WHN				S	**S**	**20 08 59.1**	**+1.3**
WHN				pmax	pmax		
	comp=Z,60nm,1.1s						
WHN				LR	LR		
	comp=N,1μm,26.8s						
WHN				LR	LR		
	comp=E,1μm,31.5s						
WHN				LR	LR		
	comp=Z,2μm,28.2s						
GYA	**Guiyang**	**36.87**	**319**	⇑*i*P	**P**	**20 03 34.6**	**+1.0**
GYA				PP	**PnPn**	**20 05 01.9**	**+4.0**
GYA				S	**S**	**20 09 18.7**	**+0.9**
GYA				ScP	**ScP**	**20 09 41.3**	**-0.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,870nm,18.7s						
GYA				LR	LR		
	comp=E,790nm,19.5s						
GYA				LR	LR		
	comp=Z,970nm,18.6s						
MJAR	**Matsushiro Arr**	**37.22**	**7**	P	**P**	**20 03 34.8**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=180,slow=8.9,SNR=4.0						
MJAR				LR	LR	20 15 55.4	
	comp=Z,984nm,21.3s,baz=185,slow=32						
MJAR	**Matsushiro Arr**	**37.22**	**7**	P	**P**	**20 03 34.8**	**-1.5**
MJAR	**Matsushiro Arr**	**37.22**	**7**	P	**P**	**20 03 34.8**	**-1.5**
CAN	**Canberra**	**37.72**	**158**	*e*P	**P**	**20 03 40.7**	**0.0**
CAN				pmax	pmax		
	comp=Z,157nm,1.3s						
CAN	**Canberra**	**37.72**	**158**	*e*P	**P**	**20 03 40.6**	**0.0**
	comp=Z,157nm,1.3s						
CNB	**Canberra Magne**	**37.85**	**158**	*e*P	**P**	**20 03 42.1**	**+0.3**
	comp=Z,244nm,1.2s						
BSI	**Banda Aceh**	**38.02**	**280**	P	P	20 03 50.3	+6.9
	comp=Z,30nm,1.6s						
KSAR	**Wonju Array Be**	**38.08**	**354**	P	**P**	**20 03 43.9**	**+0.4**
KSAR	**Wonju Array Be**	**38.08**	**354**	P	**P**	**20 03 43.9**	**+0.4**
KSRS	**Korea Array**	**38.08**	**354**	P	**P**	**20 03 43.9**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=166,slow=9.6,SNR=8.1						
KSRS				LR	LR	20 20 50.8	
	comp=Z,792nm,18.4s,baz=172,slow=39						
CM31	**Chiang Mai Arr**	**38.33**	**301**	*e*P	**P**	**20 03 46.1**	**+0.1**
	comp=Z,20nm,0.9s						
CM31				*e*		20 03 53.3	
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**20 03 45.8**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=119,slow=6.8,SNR=50						
CMAR				LR	LR	20 18 39.6	
	comp=Z,289nm,20.1s,baz=295,slow=35						
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**20 03 45.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.33**	**301**	P	**P**	**20 03 45.8**	**-0.2**
CHTO	**Chiang Mai**	**38.49**	**302**	*e*P	**P**	**20 03 46.8**	**-0.5**
CHTO				*e*		20 03 54.4	
CHTO				pmax	pmax		
	comp=Z,32nm,0.9s						
CHTO	**Chiang Mai**	**38.49**	**302**	*e*P	**P**	**20 03 46.8**	**-0.5**
	comp=Z,32nm,0.9s						
CHTO				*e*		20 03 54.4	
TOO	**Toolangi**	**38.64**	**164**	⇑*i*P	**P**	**20 03 49.2**	**+0.9**
	comp=Z,604nm,0.9s						
KMI	**Kunming**	**38.75**	**313**	P	**P**	**20 03 50.4**	**+0.7**
KMI				sP	**sP**	**20 03 54.5**	**-2.9**
KMI				S	**ScP**	**20 09 49.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
KMI				pmax	pmax		
	comp=Z,140nm,4.6s						
KMI				LR	LR		
	comp=N,520nm,19.8s						
KMI				LR	LR		
	comp=E,750nm,23.0s						
KMI				LR	LR		
	comp=Z,1μm,22.5s						
DZM	**Mont Dzumac**	**39.06**	**126**	*e*P	**P**	**20 03 51.8**	**-0.4**
	comp=Z,79nm,1.2s						
DZM				*e*S	**S**	**20 09 48.2**	**-2.8**
	comp=Z,329nm,32.0s						
DZM				*e*LR	LR	20 14 33.8	
	comp=Z,2μm,29.1s						
DZM	**Mont Dzumac**	**39.06**	**126**	P	**P**	**20 03 54.2**	**+2.0**
	comp=Z,28nm,1.0s,baz=347,slow=10,SNR=4.6						
DZM	**Mont Dzumac**	**39.06**	**126**	P	**P**	**20 03 54.2**	**+2.0**
DL2	**Dalian**	**40.59**	**346**	P	**P**	**20 04 04.4**	**-0.1**
DL2				S	**S**	**20 10 14.0**	**+0.7**
DL2				SS	**SS**	**20 13 16.0**	**+2.3**
DL2				pmax	pmax		
	comp=Z,20nm,1.0s						
DL2				pmax	pmax		
	comp=Z,100nm,5.3s						
DL2				LR	LR		
	comp=N,300nm,17.1s						
DL2				LR	LR		
	comp=E,400nm,18.3s						
DL2				LR	LR		
	comp=Z,340nm,19.8s						
XAN	**Xi'an**	**41.10**	**329**	P	**P**	**20 04 08.1**	**-0.8**
XAN				pP	**pP**	**20 04 12.5**	**-1.9**
XAN				sP	**sP**	**20 04 15.2**	**-1.4**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.

comp=Z,2.3nm,0.7s,baz=202,slow=8.0,SNR=6.4
USRK LR LR 20 22 12.8
comp=Z,322nm,18.0s,baz=333,slow=35
CN2 Changchun 44.64 352 *e*P **P** **20 04 37.2 -0.2**
CN2 *es*P **sP** **20 04 44.2 -0.9**
CN2 *e*S **S** **20 11 13.4 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,400nm,25.0s
MDJ Mudanjiang 45.06 357 P **P** **20 04 41.2 +0.6**
MDJ pP **pP** **20 04 43.5 -2.7**
MDJ sP **sP** **20 04 45.0 -3.4**
MDJ PcP **PcP** **20 06 21.1 -0.2**
MDJ PP **PP** **20 06 27.0 +0.8**
MDJ PcS **PcS** **20 10 14.9 0.0**
MDJ S S 20 11 28.4 +10
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ pmax pmax
comp=Z,74nm,5.0s
MDJ LR LR
comp=N,350nm,20.6s
MDJ LR LR
comp=E,400nm,21.1s
MDJ LR LR
comp=Z,440nm,19.6s
LZH Lanzhou 45.36 326 *e*P **P** **20 04 44.4 +1.0**
LZH pP **pP** **20 04 48.0 -1.0**
LZH sP **sP** **20 04 50.5 -0.7**
LZH *e*S **S** **20 11 25.0 +1.2**
LZH *e*SS **ScS** **20 14 43.3 +3.5**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,220nm,6.6s
LZH LR LR
comp=N,300nm,14.1s
LZH LR LR
comp=E,740nm,19.2s
LZH LR LR
comp=Z,600nm,17.8s
HHC Hu-ho-hao-te 45.53 337 *e*P **P** **20 04 44.2 -0.4**
HHC sP **sP** **20 04 51.6 -0.8**
HHC PcP **PcP** **20 06 24.4 +1.2**
HHC PP **PP** **20 06 33.9 +2.5**
HHC S **S** **20 11 26.4 +0.4**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.4s
HHC LR LR
comp=N,290nm,15.5s
HHC LR LR
comp=E,280nm,14.5s
HHC LR LR
comp=Z,290nm,15.9s
MSVF Nonsavu 47.56 114 *e*P **P** **20 05 02.5 +1.7**
MSVF pmax pmax
comp=Z,69nm,1.0s
MSVF Nonsavu 47.56 114 *e*P **P** **20 05 02.5 +1.7**
comp=Z,69nm,1.0s
MSVF Nonsavu 47.56 114 P **P** **20 05 02.6 +1.7**
comp=Z,380nm,0.9s,SNR=6.2
YSS Yuzh-Sakhalins 48.08 9 *e*P **P** **20 05 04.0 -0.3**
YSS *e* 20 05 18.0
HABR Khabarovsk 48.85 2 P **P** **20 05 09.7 -0.5**
HABR *e**PP **pP** **20 05 19.5 +3.7**
HABR *e**SP sP 20 05 23.6 +5.6
HABR *e* 20 06 32.6
HABR *e* 20 07 02.6
HABR *e*PPP PPP 20 07 54.9
HABR *e*S **S** **20 12 12.6 -0.2**
HABR *e**SS sS 20 12 29.1 +7.0
HABR *e* 20 14 59.1
HABR *e*SSS SSS 20 17 02.7
HABR pmax pmax
comp=N,17nm,2.0s
HABR pmax pmax
comp=E,21nm,1.9s
HABR pmax pmax
comp=Z,29nm,2.0s
HABR MLR MLR
comp=Z,226nm,16.0s
KLR Kul'dur 49.59 359 *e*P **P** **20 05 13.0 -2.8**
GTA Gaotai 49.97 326 P **P** **20 05 19.9 +0.8**
GTA pP **pP** **20 05 29.6 +4.9**
GTA S **S** **20 12 32.7 +3.6**
GTA SS **SS** **20 16 04.3 +2.0**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,69nm,4.0s
GTA LR LR
comp=N,290nm,17.6s
GTA LR LR
comp=E,360nm,18.1s
GTA LR LR
comp=Z,440nm,18.1s
TAPN Taplejung 51.49 306 *e*P **P** **20 05 30.5 -0.5**
comp=Z,104nm,1.1s
TAPN Taplejung 51.49 306 *e*P **P** **20 05 30.5 -0.5**
comp=Z,104nm,1.1s
ODAN Odare 51.54 306 *e*P **P** **20 05 30.7 -0.7**
comp=Z,86nm,0.9s
ODAN Odare 51.54 306 *e*P **P** **20 05 30.7 -0.7**
comp=Z,86nm,0.9s
RAMN Ramite 52.22 305 *e*P **P** **20 05 36.0 -0.4**
comp=Z,134nm,1.0s
RAMN Ramite 52.22 305 *e*P **P** **20 05 36.0 -0.4**
comp=Z,134nm,1.0s
JIRN Jiri 52.84 306 *e*P **P** **20 05 40.7 -0.5**
comp=Z,70nm,1.0s
JIRN Jiri 52.84 306 *e*P **P** **20 05 40.7 -0.5**
comp=Z,70nm,1.0s
ULN Ulaanbaatar 53.19 338 *e*P **P** **20 05 43.8 +0.7**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 53.19 338 *e*P **P** **20 05 43.8 +0.7**
comp=Z,8.6nm,0.8s
GUN Gumba 53.20 306 *e*P **P** **20 05 43.3 -0.5**
comp=Z,112nm,1.0s
GUN Gumba 53.20 306 *e*P **P** **20 05 43.3 -0.5**
comp=Z,112nm,1.0s
SONM Songino Array 53.41 338 P **P** **20 05 45.5 +0.8**
comp=Z,1.3nm,0.6s,baz=153,slow=8.0,SNR=9.0
SONM PcP **PcP** **20 06 51.2 -0.6**
comp=Z,2.4nm,0.8s,baz=154,slow=4.7,SNR=2.5
SONM LR LR 20 27 53.8
comp=Z,474nm,21.2s,baz=168,slow=35
SONM Songino Array 53.41 338 P **P** **20 05 45.5 +0.8**
SONM 20 06 51.2
SONM Songino Array 53.41 338 P **P** **20 05 45.5 +0.8**
SONM PcP **PcP** **20 06 51.2 -0.6**
PKI Pulchoki 53.44 305 *e*P **P** **20 05 44.5 -1.1**
comp=Z,73nm,1.3s
PKI Pulchoki 53.44 305 *e*P **P** **20 05 44.5 -1.1**
PKI pmax pmax
comp=Z,73nm,1.3s
PKI Pulchoki 53.44 305 *e*P **P** **20 05 44.5 -1.1**
comp=Z,73nm,1.3s
KKN Kakani 53.63 306 *e*P **P** **20 05 45.9 -0.9**
comp=Z,61nm,1.0s
KKN Kakani 53.63 306 *e*P **P** **20 05 45.9 -0.9**
KKN pmax pmax
comp=Z,61nm,1.0s
KKN Kakani 53.63 306 *e*P **P** **20 05 45.9 -0.9**
comp=Z,61nm,1.0s
DMN Daman 53.70 305 *e*P **P** **20 05 46.7 -0.7**
comp=Z,87nm,1.0s
DMN Daman 53.70 305 *e*P **P** **20 05 46.7 -0.7**
comp=Z,87nm,1.0s
GKN Gorkha 54.24 306 *e*P **P** **20 05 50.4 -0.8**
comp=Z,86nm,1.0s
GKN Gorkha 54.24 306 *e*P **P** **20 05 50.4 -0.8**
comp=Z,86nm,1.0s
RPZ Rata Peaks 54.80 147 P **P** **20 05 55.5 +0.8**
baz=356,slow=10.0
RPZ Rata Peaks 54.80 147 P **P** **20 05 54.5 -0.2**
comp=Z,70nm,1.0s
CIT Chita 54.85 346 *e*P **P** **20 05 55.1 +0.1**
CIT *e* 20 06 10.2
CIT pmax pmax
comp=Z,95nm,2.4s
KOLN Koldanda 55.00 305 *e*P **P** **20 05 56.4 -0.3**
comp=Z,85nm,0.8s
KOLN Koldanda 55.00 305 *e*P **P** **20 05 56.4 -0.3**
comp=Z,85nm,0.8s
DANN Dangsing 55.09 306 *e*P **P** **20 05 56.9 -0.6**
comp=Z,146nm,1.0s
DANN Dangsing 55.09 306 *e*P **P** **20 05 56.9 -0.6**
comp=Z,146nm,1.0s
URZ Urewera 55.26 138 *e*P **P** **20 05 58.6 +0.5**
comp=Z,105nm,1.6s
AFI Afiamalu 56.32 106 LR LR 20 28 43.0
comp=Z,342nm,18.5s,baz=333,slow=34
HYB Hyderabad 56.37 291 *i* P **P** **20 06 04.0 -2.5**
ZAK Zakamensk 56.67 338 *e*P **P** **20 06 08.0 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 57.33 17 P **P** **20 06 12.7 0.0**
comp=Z,2.7nm,0.8s,baz=234,slow=5.1,SNR=3.8
PETK Petropavlovsk- 57.33 17 P **P** **20 06 12.7 0.0**
PETK Petropavlovsk- 57.33 17 P **P** **20 06 12.7 0.0**
CLNS Chul'man 57.56 355 *e*P **P** **20 06 13.5 -0.8**
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,1.3s
CLNS pmax pmax
comp=Z,10.0nm,1.3s
TLY Talaya 57.59 339 *e*P **P** **20 06 13.4 -1.2**
TLY *e* 20 16 00.9
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,237nm,21.0s
TLY Talaya 57.59 339 P **P** **20 06 15.1 +0.5**
MOY Mondy 58.57 337 *e*P **P** **20 06 22.4 +0.8**
WMQ Urumqi 59.76 324 P **P** **20 06 30.7 +0.8**
WMQ pP **pP** **20 06 35.7 +0.1**
WMQ sP **sP** **20 06 37.7 -0.1**
WMQ PcP **PcP** **20 07 15.7 -0.9**
WMQ S **S** **20 14 41.7 +1.3**
WMQ SS **SS** **20 18 38.7 +2.1**
WMQ pmax pmax
comp=Z,32nm,0.8s
WMQ pmax pmax
comp=Z,260nm,4.3s
WMQ LR LR
comp=N,370nm,22.8s
WMQ LR LR
comp=E,220nm,22.0s
WMQ LR LR
comp=Z,340nm,22.8s
BOD Bodaibo 60.10 348 *e*P **P** **20 06 31.7 -0.2**
BOD pmax pmax
comp=Z,16nm,1.5s
DDI Dehra Dun 60.44 306 *ex* x 20 06 43.8
YAK Yakutsk 62.45 358 *e*P **P** **20 06 47.2 -0.5**
YAK *e**PP **pP** **20 06 55.1 +1.7**
YAK *e* 20 07 27.8
YAK *e* 20 09 10.0
YAK *e*S **S** **20 15 09.3 -4.5**
YAK *e* 20 16 28.7
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=Z,110nm,4.1s
YAK pmax pmax
comp=N,51nm,4.9s
YAK pmax pmax
comp=E,123nm,4.8s
YAK smax smax
comp=N,192nm,5.2s
YAK smax smax
comp=E,95nm,4.4s
YAK MLR MLR
comp=Z,313nm,20.0s
YAK MLR MLR
comp=E,58nm,17.0s
YAK MLR MLR
comp=N,172nm,22.0s
MK31 Makanchi Array 64.58 324 *e*P **P** **20 07 01.8 -0.3**
MK31 Makanchi Array 64.58 324 *e*P **P** **20 07 01.8 -0.3**
MKAR Makanchi Array 64.58 324 P **P** **20 07 01.9 -0.2**
comp=N,3.9nm,0.6s,baz=113,slow=7.9,SNR=54
MKAR LR LR 20 36 24.5
comp=N,337nm,18.8s,baz=354,slow=37
MKAR Makanchi Array 64.58 324 *ce*P **P** **20 07 02.4 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 64.58 324 P **P** **20 07 01.9 -0.2**
SEY Seymchan 64.98 10 *de*P **P** **20 07 05.8 +1.4**
KSH Kashi 65.40 315 P **P** **20 07 09.4 +1.7**
KSH *ep*P **pP** **20 07 13.1 -0.4**
KSH *es*P **sP** **20 07 16.2 +0.6**
KSH *e*PcP **PcP** **20 07 40.0 +0.3**
KSH *e*PP **PP** **20 09 35.2 +3.4**
KSH *e*S **S** **20 15 52.1 +0.5**
KSH *e*ScS **SKSac** **20 17 00.1 -2.5**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH pmax pmax
comp=Z,94nm,4.0s
KSH LR LR
comp=N,190nm,5.5s
KSH LR LR
comp=E,120nm,4.5s
KSH LR LR
comp=Z,180nm,7.2s
DRV Dumont d'Urvil 66.18 177 PP PP 20 09 27.0 -11
DRV S S 20 15 45.0 -15
DRV SS SS 20 20 08.0 -7.9
DRV L L 20 23 00.0
DRV R 20 28 00.0
TKM2 Tokmak 2 67.01 318 *e*P **P** **20 07 18.1 0.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 67.01 318 *e*P **P** **20 07 18.1 0.0**
comp=Z,10nm,0.9s
ZAA0 Zalesovo Array 67.21 332 *e*P **P** **20 07 17.0 -1.9**
ZALV Zalesovo Beam 67.21 332 P **P** **20 07 18.4 -0.4**
comp=Z,3.8nm,0.8s,baz=107,slow=5.0,SNR=20
ZALV LR LR 20 40 16.7
comp=Z,124nm,21.0s,baz=240,slow=39
ZALV Zalesovo Beam 67.21 332 P **P** **20 07 18.4 -0.4**
ZALV Zalesovo Beam 67.21 332 P **P** **20 07 18.4 -0.4**
CASY Casey 67.50 190 *e*P **P** **20 07 18.8 -1.7**
CASY Casey 67.50 190 *e*P P 20 07 17.0 -3.4
comp=Z,23nm,1.0s
AAK Ala-Archa 67.64 317 *e*P **P** **20 07 21.1 -1.0**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 67.64 317 *e*P **P** **20 07 22.0 -0.1**
comp=Z,76nm,1.4s
EKS2 Erkin-Say 68.14 317 *e*P **P** **20 07 25.4 +0.2**
EKS2 pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 68.14 317 *e*P **P** **20 07 25.4 +0.2**
comp=Z,9.2nm,0.9s
NVS Novosibirsk 68.48 332 *e*P **P** **20 07 25.1 -1.7**
NVS pmax pmax
comp=N,19nm,1.8s
NVS pmax pmax
comp=E,20nm,1.8s
NVS pmax pmax
comp=Z,38nm,1.8s
KURK Kurchatov 68.65 326 P **P** **20 07 27.8 -0.2**
comp=Z,8.0nm,0.9s,baz=120,slow=6.1,SNR=67
KURK Kurchatov 68.65 326 *de*P **P** **20 07 27.9 -0.1**
KURK pmax pmax
comp=Z,21nm,1.7s
KURK Kurchatov 68.65 326 *e*P **P** **20 07 27.3 -0.7**
comp=Z,15nm,0.9s
KURK Kurchatov 68.65 326 P **P** **20 07 28.2 +0.2**
comp=Z,82nm,0.9s,SNR=11
KBL Kabul 68.99 307 *e*P **P** **20 07 29.1 -1.6**
KBL pmax pmax
comp=Z,40nm,1.4s
KBL Kabul 68.99 307 *e*P **P** **20 07 29.1 -1.6**
comp=Z,40nm,1.4s
KKAR Karatay Array 70.54 317 *e*P **P** **20 07 38.9 -1.0**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 70.54 317 *e*P **P** **20 07 38.9 -1.0**
comp=Z,4.9nm,0.8s
MIR Mirnyy 71.60 196 *ij*P **P** **20 07 46.2 +0.5**
MIR pmax pmax
comp=Z,216nm,2.0s
BILL Bilibino 72.22 13 *e*P **P** **20 07 50.6 +1.1**
BILL *e* 20 10 30.3
BILL *e*S S 20 17 02.5 -8.6
BILL pmax pmax
comp=Z,2.0nm,1.3s
VOSK Vostochnaya 73.80 326 P **P** **20 07 57.8 -1.4**
VOSK pmax pmax
comp=Z,10.0nm,1.0s
BVA0 Borovoye Array 74.25 326 *i* P **P** **20 08 01.0 -0.8**
BVA0 pmax pmax
comp=Z,4.0nm,1.5s
BVAR Borovoye Array 74.25 326 P **P** **20 08 01.7 -0.1**
comp=Z,10.0nm,0.8s,baz=114,slow=7.2,SNR=70
BVAR Borovoye Array 74.25 326 P **P** **20 08 01.7 -0.1**
BVAR Borovoye Array 74.25 326 P **P** **20 08 01.7 -0.1**
BVRK Borovoye 74.32 326 *ce*P **P** **20 08 01.9 -0.2**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 74.32 326 *e*P **P** **20 08 01.5 -0.7**
comp=Z,12nm,0.8s
BRVK Borovoye 74.32 326 P **P** **20 08 02.0 -0.2**
comp=Z,105nm,0.8s,SNR=12
PPT2 Papeete2 77.95 108 *e*S **S** **20 18 13.5 -3.5**
comp=Z,167nm,37.8s
PPT2 *e*LR LR 20 32 31.2
comp=Z,890nm,35.5s
TBI Tubuai 78.45 114 *e*S **S** **20 18 19.8 -2.1**
comp=Z,780nm,38.5s
TBI *e*LR LR 20 32 48.8
comp=Z,498nm,37.0s
VNDA Vanda 78.50 174 *e*P **P** **20 08 25.4 0.0**
VNDA pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 78.50 174 *e*P **P** **20 08 25.4 0.0**
comp=Z,13nm,0.9s
AB31 Akbulak array 79.33 320 *i* P **P** **20 08 29.7 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 79.33 320 *e*P **P** **20 08 28.9 -1.6**
comp=Z,11nm,1.0s
SBA Scott Base 79.34 173 *e*P **P** **20 08 30.4 +0.4**
SBA pmax pmax
comp=Z,96nm,1.8s
SBA Scott Base 79.34 173 *e*P **P** **20 08 30.4 +0.4**
comp=Z,96nm,1.8s
SVE Sverdlovsk 80.81 328 *e*P **P** **20 08 38.2 -0.1**
SVE pmax pmax
comp=Z,29nm,1.5s
AKTO Aktyubinsk 80.81 321 P **P** **20 08 38.0 -0.6**
comp=Z,4.9nm,1.0s,baz=138,slow=1.0,SNR=12
AKTO Aktyubinsk 80.81 321 *i* P **P** **20 08 37.6 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,1.5s
AKTO Aktyubinsk 80.81 321 P **P** **20 08 38.0 -0.6**
ARU Arti 81.82 327 *c i*P **P** **20 08 43.3 -0.4**
ARU 20 11 45.9
ARU S **S** **20 18 54.9 -1.3**
ARU SS **SS** **20 24 13.3 -1.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 81.82 327 *e*P **P** **20 08 42.5 -1.2**
comp=Z,8.2nm,0.8s
MAW Mawson 81.98 201 P **P** **20 08 44.9 +0.6**
comp=Z,12nm,0.9s,baz=66,slow=4.8,SNR=10
MAW Mawson 81.98 201 *e*P **P** **20 08 44.7 +0.4**
comp=Z,9.3nm,1.0s
MAW Mawson 81.98 201 *e*P **P** **20 08 44.7 +0.4**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 81.98 201 *e*P **P** **20 08 44.7 +0.4**
comp=Z,4.5nm,1.1s
SOKR Solikamsk 83.44 330 *e*P **P** **20 08 50.8 -1.2**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 85.25 26 *e*P **P** **20 09 00.7 -0.6**
MCK pmax pmax
comp=Z,40nm,1.5s
MCK McKinley 85.25 26 *e*P **P** **20 09 00.7 -0.6**
comp=Z,40nm,1.5s
ILAR Eielson Array 86.31 25 P **P** **20 09 05.0 -1.5**
comp=Z,1.5nm,0.8s,baz=256,slow=4.6,SNR=18
ILAR Eielson Array 86.31 25 P **P** **20 09 05.0 -1.5**
ILAR Eielson Array 86.31 25 P **P** **20 09 05.0 -1.5**
BHD Baghdad 89.04 303 *e*P **P** **20 09 20.0 -0.3**
BHD *e*S **S** **20 20 03.0 -5.3**
QSPA South Pole Qui 89.39 180 *e*P **P** **20 09 20.4 -0.9**
comp=Z,34nm,1.0s
SYO Syowa Base 90.69 201 *e*P **P** **20 09 26.0 -1.1**
RKT Rikitea 91.76 113 *e*LR LR 20 39 00.8
comp=Z,963nm,37.2s
INK Inuvik 91.83 22 P **P** **20 09 31.7 -0.7**
comp=Z,2.7nm,1.1s,baz=269,slow=7.3,SNR=3.4
INK Inuvik 91.83 22 P **P** **20 09 31.7 -0.7**
INK Inuvik 91.83 22 P **P** **20 09 31.7 -0.7**
APA Apatity 94.12 338 *e*P **P** **20 09 43.0 -0.1**
APA MLR MLR
comp=Z,22µm,16.0s
ARCES ARCESS Array B 96.54 340 P **P** **20 09 52.8 -1.3**
comp=Z,8.6nm,0.9s,baz=65,slow=7.1,SNR=4.2
ARCES LR LR 20 56 06.3
comp=Z,282nm,18.2s,baz=252,slow=37
ARCES ARCESS Array B 96.54 340 P **P** **20 09 52.8 -1.3**
ARCES ARCESS Array B 96.54 340 P **P** **20 09 52.8 -1.3**
MMAI Mount Meron Ar 96.58 303 LR LR 20 57 10.2
comp=Z,62nm,19.6s,baz=120,slow=38
BRTR Keskin Array B 97.47 310 LR LR 21 04 39.0
comp=Z,84nm,18.9s,baz=268,slow=42
FINES FINESS Array B 98.46 332 P **P** **20 10 01.0 -1.9**
comp=Z,4.9nm,0.9s,baz=78,slow=10,SNR=3.3
FINES LR LR 20 55 32.7
comp=Z,242nm,20.4s,baz=312,slow=36
FINES FINESS Array B 98.46 332 P **P** **20 10 01.0 -1.9**
FINES FINESS Array B 98.46 332 P **P** **20 10 01.0 -1.9**
AKASG Malin Array Be 99.06 321 LR LR 21 03 38.9
comp=Z,152nm,18.8s,baz=75,slow=41
YKA Yellowknife Ar 100.72 26 P **Pdif** **20 10 12.1 -0.8**
comp=Z,0.2nm,0.6s,baz=293,slow=4.6,SNR=3.3
YKA Yellowknife Ar 100.72 26 P **Pdif** **20 10 12.1 -0.8**
YKA Yellowknife Ar 100.72 26 P **Pdif** **20 10 12.1 -0.8**
SNAA Sanae 102.57 193 P **Pdif** **20 10 24.4 +3.3**
SNAA pmax pmax
comp=Z,3.0nm,1.2s
SNAA Sanae 102.57 193 P **Pdif** **20 10 24.4 +3.3**
comp=Z,2.6nm,1.2s
CLL Collm 108.67 325 *e*Sdif **Sdif** **20 22 55.0 -1.3**
CLL *e*PS **PS** **20 24 41.0 -3.9**
CLL *e*PPS PPS 20 25 41.0
CLL *e*SS **SS** **20 30 32.0 -3.4**
CLL *e* 20 36 00.0
CLL Lm MLR 21 04 00.0
comp=Z,300nm,19.5s
PDAR Pinedale Array 110.30 44 PKKP PKKPab 20 26 23.1 +14
comp=Z,1.5nm,1.1s,baz=150,slow=3.8,SNR=5.2
ULM Lac du Bonnet 115.49 32 PKKPbc PKKPbc 20 25 42.4 +0.4
comp=Z,1.7nm,0.7s,baz=135,slow=5.7,SNR=3.4
ULM Lac du Bonnet 115.49 32 PKKPbc PKKPbc 20 25 42.4 +0.4
TORD Torodi Ar. Bea 130.06 287 PKP **PKPdf** **20 15 34.9 -0.9**
comp=Z,1.3nm,0.7s,baz=66,slow=1.6,SNR=9.8
TORD Torodi Ar. Bea 130.06 287 PKP **PKPdf** **20 15 34.9 -0.9**
PLCA Paso Flores 133.72 155 PKP **PKPdf** **20 15 43.1 +1.0**
comp=Z,2.5nm,0.7s,baz=328,slow=1.3,SNR=6.0
PLCA Paso Flores 133.72 155 PKIKP **PKPdf** **20 15 43.1 +1.0**
PLCA Paso Flores 133.72 155 PKP **PKPdf** **20 15 43.1 +1.0**
ATAH Atahualpa 147.87 104 PKP **PKPdf** **20 16 08.7 +0.1**
comp=Z,5.0nm,0.7s,baz=256,slow=12,SNR=3.6
ATAH PKPbc **PKiKP** **20 16 13.6 +0.1**
comp=Z,24nm,1.2s,baz=288,slow=3.2,SNR=20
ATAH Atahualpa 147.87 104 PKP **PKPdf** **20 16 08.7 +0.1**
ATAH PKPbc **PKiKP** **20 16 13.6 +0.1**
NNA Nana 147.96 114 *c i*PKP2 **PKPbc** **20 16 12.1 +0.8**
OTAV Otavalo 148.66 90 *e*PKPdf **PKPdf** **20 16 10.4 +0.4**
LVC Limon Verde 148.69 139 *e*PKPdf **PKPbc** **20 16 12.9 -0.3**
CPUP Villa Florida 151.53 160 PKP **PKPdf** **20 16 13.0 -0.6**
comp=Z,0.2nm,0.3s,baz=68,slow=2.9,SNR=2.6
CPUP PKPbc **PKPbc** **20 16 19.5 -0.2**
comp=Z,6.1nm,0.7s,baz=179,slow=0.6,SNR=25
CPUP Villa Florida 151.53 160 PKIKP **PKPdf** **20 16 13.0 -0.6**
CPUP 20 16 19.5
CPUP Villa Florida 151.53 160 PKP **PKPdf** **20 16 13.0 -0.6**
CPUP PKPbc **PKPbc** **20 16 19.5 -0.2**

LPAZ	**La Paz**	**153.36 130**	PKP	**PKPdf**	**20 16 17.7**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=322,slow=3.8,SNR=5.3					
LPAZ			PKPbc	**PKiKP**	**20 16 25.7**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=228,slow=0.5,SNR=9.5					
LPAZ			PKPab	**PKPab**	**20 16 38.1**	**+1.3**
	comp=Z,10.0nm,0.8s,baz=192,slow=0.3,SNR=14					
LPAZ	**La Paz**	**153.36 130**	*e*PKIKP	**PKPdf**	**20 16 17.0**	**-0.3**
LPAZ					20 16 17.7	
LPAZ					20 16 25.7	
LPAZ	**La Paz**	**153.36 130**	*e*PKPdf	**PKPdf**	**20 16 16.9**	**-0.3**
LPAZ			PKP	**PKPdf**	**20 16 17.7**	**+0.4**
LPAZ			PKPbc	**PKiKP**	**20 16 25.7**	**+0.7**
LPAZ			PKPab	**PKPab**	**20 16 38.1**	**+1.3**
SAML	**Samuel**	**161.42 121**	*e*PKPdf	**PKPdf**	**20 16 25.6**	**-1.1**
SAML			*e*PKPab	**PKPab**	**20 17 11.2**	**+0.4**

BJI ***06*** *20:12:05.9, 0.77S× 133.54E, h10km, mB5.2/14, mb4.9/28, Ms4.8/9, Ms7 4.4/7*
IDC ***06*** *20:12:07.8± 0.5, 0.72S× 133.22E, h0km, mb4.7/17, mb1 4.8/20, mb1mx4.7/23, mbtmp4.7/20, ML4.9/2, MS4.3/14, Ms1 4.3/14, ms1mx4.1/30, Error ellipse: s-maj=23.6km s-min=11.6km az=77.0*
NEIC ***06*** *20:12:11.2± 2.5, 0.75S× 133.25E, h25km± 18km, mb5.1/48, Error ellipse: s-maj=7.6km s-min=4.6km az=57.0*
MOS ***06*** *20:12:11.0± 0.9, 0.70S× 133.21E, h34km, mb5.2/21, Error ellipse: s-maj=14.0km s-min=6.5km az=112.4*
ISCJB ***06*** *20:12:12.3± 0.8, 0.77S± 0.04× 133.31E± 0.04, h50km± 7km, mb5.0/93, MS4.3/15, Error ellipse: s-maj=6.9km s-min=5.2km az=141.9*
DJA ***06*** *20:12:15, 0.81S× 133.27E, h49km, Mw5.0/30*
ISC 06 20:12:12.0± 0.4, 0.75S± 0.04× 133.30E± 0.05, h31km± 2km, h30km:pP-P, n263, σ1s 25/280, mb5.1/93, MS4.3/15, 5C-5D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.40**	**206**	P	**Pn**	**20 12 49.1**	**-0.1**
BAKI	**Biak**	**2.84**	**99**	P	**Pn**	**20 12 57.6**	**+2.3**
TLE	**Tual**	**4.89**	**187**	P	**Pn**	**20 13 25.1**	**+1.6**
MSAI	**Masohi**	**5.07**	**239**	P	**Pn**	**20 13 28.5**	**+2.5**
	300nm,0.7s,4μm1.8nm						
SMPI	**Sarmi**	**5.54**	**103**	P	**Pb**	**20 13 46.2**	**-2.0**
LBMI	**Labuha**	**5.80**	**271**	P	**Pn**	**20 13 37.3**	**+1.2**
	770nm,1.0s,6μm2.1nm						
AAI	**Ambon**	**5.88**	**240**	P	**Pn**	**20 13 37.4**	**+0.3**
	1μm,0.6s,12μm4.1nm						
TNTI	**Ternate**	**6.12**	**284**	P	**Pn**	**20 13 42.2**	**+1.7**
	249nm,0.9s,3μm0.8nm						
MNI	**Manado**	**8.74**	**284**	P	**Pn**	**20 14 19.1**	**+2.7**
	294nm,0.9s,3μm0.9nm						
KMSI	**Cibinong**	**9.41**	**278**	P	Pn	20 14 29.0	+3.3
	447nm,0.8s,4μm						
LUWI	**Luwuk**	**10.53**	**268**	P	**Pn**	**20 14 41.0**	**0.0**
	170nm,1.5s,3μm						
DAV	**Davao City (W)**	**10.94**	**315**	LR	LR	20 19 02.6	
	comp=Z,444nm,19.3s,baz=167,slow=38						
DAV	**Davao City (W)**	**10.94**	**315**	Pn	Pn	20 14 41.4	-5.2
MRSI	**Marisa**	**11.43**	**276**	P	**Pn**	**20 14 56.4**	**+3.2**
	72nm,0.9s,705nm						
BBSI	**Bau Bau**	**11.70**	**246**	P	Pn	20 15 03.4	+6.4
MMRI	**Maumere**	**13.52**	**234**	P	P	20 15 34.7	+4.1
SPSI	**Sidrap Palu**	**13.89**	**256**	P	**Pn**	**20 15 29.6**	**+2.6**
	60nm,0.9s,1μm						
BKSI	**Bulukumba**	**13.92**	**251**	P	**Pn**	**20 15 30.5**	**+3.2**
	78nm,0.8s,944nm						
KAPI	**Kappang**	**14.18**	**252**	Pn	**Pn**	**20 15 32.0**	**+1.1**
	5.4nm,0.3s,baz=106,slow=5.7,SNR=41						
KAPI				LR	LR	20 22 01.1	
	comp=Z,356nm,18.1s,baz=337,slow=42						
KAPI	**Kappang**	**14.18**	**252**	*e*Pn	**Pn**	**20 15 31.7**	**+0.8**
	88nm,0.8s						
KAPI				Pn	**Pn**	**20 15 32.0**	**+1.1**
KAPI	**Kappang**	**14.18**	**252**	P	**Pn**	**20 15 33.2**	**+2.3**
	135nm,0.8s,1μm						
MJSI	**Majene**	**14.58**	**259**	P	P	20 15 46.3	+3.9
MYLDM	**Lahad Datu**	**15.91**	**292**	P	**P**	**20 15 59.7**	**+2.4**
	102nm,1.6s,2μm						
PMG	**Port Moresby**	**16.25**	**122**	Pn	**P**	**20 16 00.6**	**-0.4**
	0.3nm,0.3s,baz=176,slow=19,SNR=2.2						
PMG	**Port Moresby**	**16.25**	**122**	*e*P	**P**	**20 15 59.8**	**-1.2**
PMG				pmax	pmax		
	comp=Z,170nm,1.4s						
PMG	**Port Moresby**	**16.25**	**122**	*e*Pn	**P**	**20 15 59.8**	**-1.2**
	comp=Z,170nm,1.4s						
PMG				Pn	**P**	**20 16 00.6**	**-0.4**
COEN	**Coen**	**16.36**	**144**	*e*Pn	**Pn**	**20 15 58.6**	**-1.0**
	comp=Z,268nm,1.0s						
GUMO	**Guam**	**18.29**	**38**	LR	LR	20 22 42.6	
	comp=Z,530nm,20.5s,baz=231,slow=35						
KKM	**Kota Kinabalu**	**18.35**	**292**	*e*P	**Pn**	**20 16 25.7**	**+1.2**
	comp=Z,135nm,1.5s						
KKM	**Kota Kinabalu**	**18.35**	**292**	P	**Pn**	**20 16 26.3**	**+1.9**
	comp=Z,73nm,1.6s						
BBKI	**Banjar Baru**	**18.64**	**261**	P	Pn	20 16 35.7	+7.7
MTNI	**Mataram**	**18.77**	**245**	P	**Pn**	**20 16 29.7**	**+0.2**
	comp=Z,84nm,1.1s,comp=Z,4μmcomp=Z,248μm						
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**20 16 27.2**	**-2.1**
	comp=Z,2.4nm,0.3s,baz=34,slow=11,SNR=66						
FITZ				S	Sn	20 19 42.5	-17
	comp=Z,1.9nm,0.3s,baz=159,slow=11,SNR=5.0						
FITZ				LR	LR	20 24 22.9	
	comp=Z,418nm,20.4s,baz=34,slow=39						
FITZ	**Fitzroy Crossi**	**18.82**	**203**	⇑*i*P	**P**	**20 16 27.1**	**-2.2**
	comp=Z,89nm,0.9s						
FITZ				*e*S	Sn	20 19 41.4	-18
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**20 16 27.2**	**-2.1**
FITZ				S	Sn	20 19 42.5	-17
WRAB	**Tennant Creek**	**19.09**	**177**	*e*P	**P**	**20 16 31.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**19.09**	**177**	*e*Pn	**P**	**20 16 31.4**	**-1.0**
	comp=Z,12nm,1.4s						
WRAB				*e*Sn	Sn	20 19 43.5	-23
WRA	**Warramunga Arr**	**19.10**	**177**	P	**P**	**20 16 31.2**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=356,slow=12,SNR=65						
WRA				S	Sn	20 19 54.7	-12
	comp=Z,1.9nm,0.3s,baz=355,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**19.10**	**177**	P	**P**	**20 16 31.2**	**-1.3**
WRA				S	Sn	20 19 54.7	-12
WRA	**Warramunga Arr**	**19.10**	**177**	P	**P**	**20 16 31.2**	**-1.3**
WRA				S	Sn	20 19 54.7	-12
WB2	**Warramunga Arr**	**19.10**	**177**	*e*P	**P**	**20 16 31.6**	**-0.9**
KHKI	**Kahang-Kahang**	**19.18**	**246**	P	**Pn**	**20 16 34.9**	**+0.5**
	comp=Z,109nm,0.9s,comp=Z,2μm						
NBBI	**Negara**	**20.09**	**247**	P	Pn	20 16 49.7	+4.4
BLJI	**Banyuglugur**	**20.83**	**250**	P	Pn	20 16 54.9	+0.9
	comp=Z,116nm,1.4s,comp=Z,2μm						
GMJI	**Gumukmas**	**21.15**	**249**	P	P	20 17 07.3	+13
SBUM	**Sibu**	**21.32**	**279**	P	**P**	**20 16 59.3**	**+2.7**
	comp=Z,62nm,1.3s,comp=Z,683nm						
PBKI	**Pangkalan Bun**	**21.71**	**265**	P	**P**	**20 17 04.3**	**+3.5**
	comp=Z,214nm,0.9s						
STKI	**Sintang**	**21.84**	**272**	P	**P**	**20 17 04.1**	**+1.9**
	comp=Z,54nm,1.0s,comp=Z,3μm						
SJI	**Sawahan**	**22.56**	**252**	P	**P**	**20 17 10.7**	**+0.7**
	comp=Z,77nm,1.1s						
PWJI	**Pagerwojo**	**22.61**	**251**	P	**P**	**20 17 12.3**	**+1.9**
	comp=Z,79nm,1.6s						
AS31	**Alice Springs**	**22.79**	**179**	*e*P	**P**	**20 17 11.3**	**-1.0**
AS31				*e*S	**S**	**20 21 20.3**	**+0.8**
ASAR	**Alice Springs**	**22.79**	**179**	P	**P**	**20 17 11.4**	**-0.9**
	comp=Z,32nm,0.6s,baz=357,slow=9.8,SNR=209						
ASAR				S	**S**	**20 21 17.4**	**-2.1**
	comp=Z,6.8nm,0.8s,baz=0.3,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**22.79**	**179**	P	**P**	**20 17 11.4**	**-0.9**
ASAR				S	**S**	**20 21 17.4**	**-2.1**
ASAR	**Alice Springs**	**22.79**	**179**	P	**P**	**20 17 11.4**	**-0.9**
ASAR				S	**S**	**20 21 17.4**	**-2.1**
CTA	**Charters Tower**	**23.02**	**147**	P	**P**	**20 17 17.1**	**+2.4**
	comp=Z,17nm,0.9s,baz=338,slow=12,SNR=13						
CTA				LR	LR	20 27 35.4	
	comp=Z,2μm,19.4s,baz=325,slow=40						
CTA	**Charters Tower**	**23.02**	**147**	*e*P	**P**	**20 17 16.1**	**+1.3**
	comp=Z,21nm,0.9s						
CTA	**Charters Tower**	**23.02**	**147**	P	**P**	**20 17 17.1**	**+2.4**
CTA	**Charters Tower**	**23.02**	**147**	P	**P**	**20 17 17.1**	**+2.4**
CTAO	**Charters Tower**	**23.02**	**147**	*e*P	**P**	**20 17 16.0**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,39nm,1.0s						
CTAO	**Charters Tower**	**23.02**	**147**	*e*P	**P**	**20 17 16.0**	**+1.3**
	comp=Z,39nm,1.0s						
KSM	**Kuching**	**23.10**	**275**	*e*P	**P**	**20 17 15.0**	**-0.6**
	comp=Z,50nm,1.1s						
KSM	**Kuching**	**23.10**	**275**	P	**P**	**20 17 16.7**	**+1.1**
	comp=Z,38nm,1.3s						
MBWA	**Marble Bar**	**24.23**	**212**	*e*P	**P**	**20 17 26.5**	**+0.2**
	comp=Z,183nm,1.3s						
BJII	**Banjamegara**	**24.41**	**254**	P	**P**	**20 17 31.4**	**+3.2**
	comp=Z,82nm,1.4s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**26.29**	**254**	P	**P**	**20 17 46.1**	**+0.9**
	comp=Z,182nm,1.0s						
LEM	**Lembang**	**26.32**	**256**	P	P	20 17 50.6	+5.0
	comp=Z,49nm,1.1s						
CBJI	**Citeko**	**26.98**	**257**	P	P	20 18 03.1	+12
NACB	**Ninganchiao**	**27.26**	**336**	P	**P**	**20 17 52.5**	**-1.2**
JOW	**Kunigami**	**27.85**	**350**	LR	LR	20 27 15.3	
	comp=Z,1μm,19.7s,baz=113,slow=33						
CBIJ	**Chichi jima**	**28.98**	**17**	LR	LR	20 28 31.4	
	comp=Z,280nm,20.1s,baz=21,slow=34						
FORT	**Forrest**	**30.28**	**189**	*e*P	**P**	**20 18 20.2**	**-0.3**
	comp=Z,24nm,0.6s						
FORT	**Forrest**	**30.28**	**189**	*e*P	**P**	**20 18 20.1**	**-0.4**
	comp=Z,80nm,0.8s						
QIZ	**Qiongzhong**	**30.28**	**312**	P	**P**	**20 18 19.3**	**-1.4**
QIZ				pmax	pmax		
	comp=Z,350nm,4.0s						
QIZ	**Qiongzhong**	**30.28**	**312**	P	**P**	**20 18 19.6**	**-1.2**
	comp=Z,40nm,1.2s						
KSI	**Kapahiang**	**30.82**	**264**	P	**P**	**20 18 25.2**	**-0.4**
	comp=Z,89nm,1.0s						
STKA	**Stephens Creek**	**31.94**	**167**	P	**P**	**20 18 35.0**	**-0.1**
	comp=Z,7.3nm,0.5s,baz=330,slow=9.2,SNR=34						
STKA				LR	LR	20 32 59.8	
	comp=Z,1μm,19.2s,baz=241,slow=39						
STKA	**Stephens Creek**	**31.94**	**167**	*e*P	**P**	**20 18 34.4**	**-0.7**
	comp=Z,7.3nm,0.6s						
STKA	**Stephens Creek**	**31.94**	**167**	*e*P	**P**	**20 18 34.4**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**31.94**	**167**	*e*P	**P**	**20 18 34.4**	**-0.7**
	comp=Z,2.2nm,0.7s						
STKA				P	P	**20 18 35.0**	**-0.1**
BBOO	**Buckleboo**	**32.00**	**176**	*e*P	**P**	**20 18 34.4**	**-1.3**
	comp=Z,286nm,0.8s						
IPM	**Ipoh**	**32.66**	**279**	*e*P	**P**	**20 18 40.5**	**-1.3**
	comp=Z,20nm,0.9s						
IPM	**Ipoh**	**32.66**	**279**	P	**P**	**20 18 41.8**	**0.0**
	comp=Z,28nm,1.0s						
PPI	**Padang Panjang**	**32.90**	**270**	P	**P**	**20 18 43.6**	**-0.3**
	comp=Z,20nm,1.0s						
KULM	**Kulim**	**33.16**	**281**	*e*P	**P**	**20 18 45.0**	**-1.1**
KULM	**Kulim**	**33.16**	**281**	P	**P**	**20 18 45.9**	**-0.2**
	comp=Z,25nm,1.0s,comp=Z,1μm						
KLBR	**Kellerberrin**	**34.02**	**204**	*e*P	**P**	**20 18 52.9**	**-0.5**
	comp=Z,48nm,1.2s						
ARMA	**Armidale**	**34.26**	**151**	*e*P	**P**	**20 18 55.3**	**-0.3**
ARMA	**Armidale**	**34.26**	**151**	*e*P	**P**	**20 18 55.5**	**-0.1**
	comp=Z,11nm,0.8s						
PSI	**Prapat**	**34.55**	**276**	P	**P**	**20 18 57.0**	**-1.3**
	comp=Z,26nm,1.3s						
NJ2	**Nanjing**	**35.38**	**339**	*e*P	**P**	**20 19 04.2**	**-0.8**
NJ2				pP	**pP**	**20 19 15.6**	**+1.5**
NJ2				PP	PP	20 20 25.2	-0.5
NJ2				S	**S**	**20 24 35.0**	**-2.7**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,300nm,6.8s						
NJ2				LR	LR		
	comp=N,460nm,22.7s						
NJ2				LR	LR		
	comp=E,390nm,23.2s						
NJ2				LR	LR		
	comp=Z,320nm,17.2s						
NWAO	**Narrogin (SRO)**	**35.40**	**204**	*e*P	**P**	**20 19 05.1**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,30nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.40**	**204**	*e*P	**P**	**20 19 05.1**	**-0.1**
	comp=Z,30nm,1.1s						
WHN	**Wuhan**	**35.97**	**332**	P	**P**	**20 19 10.5**	**+0.3**
WHN				LR	LR		
	comp=N,710nm,22.0s						
WHN				LR	LR		
	comp=E,910nm,19.4s						
WHN				LR	LR		
	comp=Z,1μm,18.9s						
MAJO	**Matsushiro**	**37.38**	**7**	P	**P**	**20 19 20.2**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,70nm,1.9s						
MAJO	**Matsushiro**	**37.38**	**7**	P	**P**	**20 19 20.2**	**-2.0**
	comp=Z,70nm,1.9s						
MJAR	**Mashiro Arr**	**37.38**	**7**	P	**P**	**20 19 21.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=193,slow=5.0,SNR=4.0						
MJAR				LR	LR	20 31 18.3	
	comp=Z,566nm,21.9s,baz=155,slow=31						
MJAR	**Matsushiro Arr**	**37.38**	**7**	P	**P**	**20 19 21.2**	**-1.0**
MJAR	**Matsushiro Arr**	**37.38**	**7**	P	**P**	**20 19 21.2**	**-1.0**
ENH	**Enshi**	**38.29**	**326**	*e*P	**P**	**20 19 29.5**	**-0.4**
	comp=Z,35nm,1.9s						
TOO	**Toolangi**	**38.33**	**164**	*e*P	**P**	**20 19 30.6**	**+0.4**
	comp=Z,31nm,0.7s						
KSRS	**Korea Array**	**38.34**	**353**	LR	LR	20 34 42.8	
	comp=Z,429nm,18.3s,baz=170,slow=35						
CM31	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**20 19 33.1**	**-1.2**
	comp=Z,4.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**20 19 34.1**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=128,slow=6.9,SNR=21						
CMAR				PcP	**PcP**	**20 21 46.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=191,slow=0.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**20 19 34.2**	**-0.1**
CMAR						20 21 46.3	
CMAR	**Chiang Mai Arr**	**38.79**	**301**	P	**P**	**20 19 34.1**	**-0.1**
CMAR				PcP	**PcP**	**20 21 46.3**	**+0.8**
CHTO	**Chiang Mai**	**38.95**	**302**	*e*P	**P**	**20 19 34.2**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**38.95**	**302**	*e*P	**P**	**20 19 34.2**	**-1.4**
	comp=Z,7.7nm,1.1s						
CHTO	**Chiang Mai**	**38.95**	**302**	P	**P**	**20 19 36.4**	**+0.8**
	comp=Z,6.6nm,1.4s						
BJT	**Baijiatuao**	**43.49**	**341**	*e*P	**P**	**20 20 12.3**	**-0.3**
BJT				pmax	pmax		
	comp=Z,87nm,1.3s						
BJT	**Baijiatuao**	**43.49**	**341**	*e*P	**P**	**20 20 12.3**	**-0.3**
	comp=Z,87nm,1.3s						
USRK	**Ussuriysk Arra**	**44.77**	**359**	P	**P**	**20 20 23.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=145,slow=7.1,SNR=7.6						
USRK				LR	LR	20 36 18.5	
	comp=Z,244nm,18.6s,baz=148,slow=32						
CN2	**Changchun**	**44.91**	**352**	*e*P	P	20 20 19.5	-4.4
LZH	**Lanzhou**	**45.77**	**326**	*e*P	**P**	**20 20 32.4**	**+1.3**
LZH				pP	**pP**	**20 20 38.0**	**-2.3**
LZH				sP	**sP**	**20 20 40.0**	**-4.0**
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				pmax	pmax		
	comp=Z,270nm,4.6s						
LZH				LR	LR		
	comp=N,200nm,14.9s						
LZH				LR	LR		
	comp=E,380nm,15.5s						
LZH				LR	LR		
	comp=Z,310nm,15.6s						
YSS	**Yuzh-Sakhalins**	**48.23**	**9**	*e*P	P	20 20 56.0	+6.2
YSS				*e*		20 21 02.0	
YSS	**Yuzh-Sakhalins**	**48.23**	**9**	*e*P	**P**	**20 20 49.7**	**-0.2**
	comp=Z,18nm,0.7s						
HABR	**Khabarovsk**	**49.05**	**2**	*e*P	**P**	**20 20 55.6**	**-0.5**
HABR				*e**PP	**pP**	**20 21 05.9**	**+0.5**
HABR				*e**SP	**sP**	**20 21 09.8**	**+0.7**
HABR				*e*		20 22 18.3	
HABR				*e*		20 22 49.5	
HABR				*e*PPP	PP	20 23 41.8	+52
HABR				*e*S	**S**	**20 27 59.5**	**+0.7**
HABR				*e**SS	**sS**	**20 28 16.6**	**+2.5**
HABR						20 30 44.3	
HABR				*e*SSS	SKiKP	20 32 51.7	+13
HABR				pmax	pmax		
	comp=E,19nm,1.5s						
HABR				pmax	pmax		
	comp=Z,42nm,2.3s						
HABR				pmax	pmax		
	comp=N,17nm,1.8s						
HABR				MLR	MLR		
	comp=Z,142nm,20.0s						
LSA	**Lhasa**	**50.31**	**311**	*e*P	**P**	**20 21 07.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,21nm,1.1s						
LSA	**Lhasa**	**50.31**	**311**	*e*P	**P**	**20 21 07.0**	**+0.2**
	comp=Z,21nm,1.1s						
GTA	**Gaotai**	**50.37**	**326**	⇑P	**P**	**20 21 07.8**	**+1.2**
GTA				pP	**pP**	**20 21 13.4**	**-2.5**
GTA				sP	**sP**	**20 21 17.1**	**-2.4**
GTA				pmax	pmax		
	comp=Z,13nm,1.4s						
TAPN	**Taplejung**	**51.95**	**306**	*e*P	**P**	**20 21 18.4**	**-0.4**
	comp=Z,36nm,1.1s						
TAPN	**Taplejung**	**51.95**	**306**	*e*P	**P**	**20 21 18.4**	**-0.4**
	comp=Z,36nm,1.1s						
ODAN	**Odare**	**52.00**	**305**	*e*P	**P**	**20 21 18.6**	**-0.6**
	comp=Z,20nm,0.7s						
ODAN	**Odare**	**52.00**	**305**	*e*P	**P**	**20 21 18.6**	**-0.6**
	comp=Z,20nm,0.7s						
RAMN	**Ramite**	**52.68**	**305**	*e*P	**P**	**20 21 23.9**	**-0.3**
	comp=Z,29nm,0.8s						
RAMN	**Ramite**	**52.68**	**305**	*e*P	**P**	**20 21 23.9**	**-0.3**
	comp=Z,29nm,0.8s						
JIRN	**Jiri**	**53.30**	**306**	*e*P	**P**	**20 21 28.4**	**-0.6**
	comp=Z,17nm,0.7s						
JIRN	**Jiri**	**53.30**	**306**	*e*P	**P**	**20 21 28.4**	**-0.6**
	comp=Z,17nm,0.7s						
ULN	**Ulaanbaatar**	**53.54**	**338**	*e*P	**P**	**20 21 30.8**	**+0.7**
ULN				pmax	pmax		
	comp=Z,35nm,1.4s						
ULN	**Ulaanbaatar**	**53.54**	**338**	*e*P	**P**	**20 21 30.8**	**+0.7**
	comp=Z,35nm,1.4s						
GUN	**Gumba**	**53.65**	**306**	*e*P	**P**	**20 21 31.0**	**-0.5**
	comp=Z,35nm,0.8s						
GUN	**Gumba**	**53.65**	**306**	*e*P	**P**	**20 21 31.0**	**-0.5**
	comp=Z,35nm,0.8s						
SONM	**Songino Array**	**53.76**	**338**	P	**P**	**20 21 32.9**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=154,slow=7.2,SNR=21						
SONM	**Songino Array**	**53.76**	**338**	P	**P**	**20 21 32.9**	**+1.3**
SONM	**Songino Array**	**53.76**	**338**	P	**P**	**20 21 32.9**	**+1.3**
PKI	**Pulchoki**	**53.90**	**305**	*e*P	**P**	**20 21 32.5**	**-0.8**
PKI	**Pulchoki**	**53.90**	**305**	*e*P	**P**	**20 21 32.5**	**-0.8**
PKI	**Pulchoki**	**53.90**	**305**	*e*P	**P**	**20 21 32.5**	**-0.8**
KKN	**Kakani**	**54.09**	**306**	*e*P	**P**	**20 21 33.8**	**-0.8**
KKN	**Kakani**	**54.09**	**306**	*e*P	**P**	**20 21 33.8**	**-0.8**
KKN	**Kakani**	**54.09**	**306**	*e*P	**P**	**20 21 33.8**	**-0.8**
KKN	**Kakani**	**54.09**	**306**	*e*P	**P**	**20 21 33.8**	**-0.8**
DMN	**Daman**	**54.16**	**305**	*e*P	**P**	**20 21 34.5**	**-0.6**
	comp=Z,22nm,0.8s						
DMN	**Daman**	**54.16**	**305**	*e*P	**P**	**20 21 34.5**	**-0.6**
	comp=Z,22nm,0.8s						
GKN	**Gorkha**	**54.70**	**306**	*e*P	**P**	**20 21 38.3**	**-0.6**
	comp=Z,29nm,0.9s						
GKN	**Gorkha**	**54.70**	**306**	*e*P	**P**	**20 21 38.3**	**-0.6**
	comp=Z,29nm,0.9s						
URZ	**Urewera**	**54.83**	**138**	P	**P**	**20 21 41.1**	**+1.7**
	comp=Z,8.7nm,0.7s						
CIT	**Chita**	**55.16**	**345**	*e*P	**P**	**20 21 42.5**	**+0.9**
CIT				*e*		20 21 53.1	
CIT				pmax	pmax		
	comp=Z,102nm,1.7s						
KOLN	**Koldanda**	**55.46**	**305**	*e*P	**P**	**20 21 44.2**	**-0.2**
	comp=Z,39nm,0.7s						
KOLN	**Koldanda**	**55.46**	**305**	*e*P	**P**	**20 21 44.2**	**-0.2**
	comp=Z,39nm,0.7s						
DANN	**Dangsing**	**55.55**	**306**	*e*P	**P**	**20 21 44.6**	**-0.6**
	comp=Z,37nm,0.7s						
DANN	**Dangsing**	**55.55**	**306**	*e*P	**P**	**20 21 44.6**	**-0.6**
	comp=Z,37nm,0.7s						
HYB	**Hyderabad**	**56.83**	**291**	*i*P	**P**	**20 21 51.5**	**-2.7**
ZAK	**Zakamensk**	**57.02**	**338**	⇓*i*P	**P**	**20 21 55.5**	**+0.4**
ZAK				*e*		20 22 49.2	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PETK	**Petropavlovsk-**	**57.41**	**17**	P	**P**	**20 21 58.3**	**+0.7**
	comp=Z,6.5nm,0.8s,baz=187,slow=5.4,SNR=12						
PETK				LR	LR	20 41 29.4	
	comp=Z,275nm,21.7s,baz=207,slow=31						
PETK	**Petropavlovsk-**	**57.41**	**17**	P	**P**	**20 21 58.3**	**+0.7**
PETK	**Petropavlovsk-**	**57.41**	**17**	P	**P**	**20 21 58.3**	**+0.7**
TLY	**Talaya**	**57.94**	**339**	*e*P	**P**	**20 22 01.5**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY	**Talaya**	**57.94**	**339**	*e*P	**P**	**20 22 02.5**	**+1.1**
	comp=Z,21nm,1.4s						
IRK	**Irkutsk**	**58.17**	**339**	*e*P	**P**	**20 22 04.2**	**+1.2**
IRK				*e*		20 22 58.2	
IRK				pmax	pmax		
	comp=Z,37nm,2.1s						
MOY	**Mondy**	**58.92**	**337**	*e*P	**P**	**20 22 09.8**	**+1.4**
MOY				pmax	pmax		
	comp=Z,35nm,2.2s						
WMQ	**Urumqi**	**60.17**	**323**	P	**P**	**20 22 18.3**	**+1.2**
WMQ				pP	**pP**	**20 22 28.3**	**+1.7**
WMQ				sP	**sP**	**20 22 32.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,51nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.3s						
BOD	**Bodaibo**	**60.39**	**348**	*e*P	**P**	**20 22 18.4**	**+0.2**
BOD				pmax	pmax		
	comp=Z,20nm,1.3s					

	SNR=34							
USP				P		**P**	**20 23 11.3**	**+0.8**
	SNR=34							
AML	**Almayashu**	**68.43**	**316**	P		**P**	**20 23 13.0**	**+1.3**
	SNR=24							
AML				P		**P**	**20 23 13.0**	**+1.3**
	SNR=24							
EKS2	**Erkin-Say**	**68.58**	**317**	P		**P**	**20 23 13.5**	**+1.3**
	SNR=22							
EKS2				P		**P**	**20 23 13.5**	**+1.3**
	SNR=22							
EKS2	**Erkin-Say**	**68.58**	**317**	*e*P		**P**	**20 23 12.8**	**+0.6**
EKS2				pmax		pmax		
	comp=Z,15nm,0.8s							
EKS2	**Erkin-Say**	**68.58**	**317**	*e*P		**P**	**20 23 12.8**	**+0.6**
	comp=Z,15nm,0.8s							
NVS	**Novosibirsk**	**68.86**	**332**	⇑*i*P		**P**	**20 23 12.9**	**-0.6**
NVS				pmax		pmax		
	comp=N,31nm,2.0s							
NVS				pmax		pmax		
	comp=Z,76nm,2.0s							
NVS				pmax		pmax		
	comp=E,18nm,1.5s							
KURK	**Kurchatov**	**69.06**	**326**	P		**P**	**20 23 15.3**	**+0.4**
	comp=E,27nm,0.8s,baz=121,slow=5.9,SNR=215							
KURK	**Kurchatov**	**69.06**	**326**	*de*P		**P**	**20 23 15.2**	**+0.4**
KURK				pmax		pmax		
	comp=Z,62nm,1.2s							
KURK	**Kurchatov**	**69.06**	**326**	*e*P		**P**	**20 23 15.0**	**+0.1**
	comp=Z,34nm,0.8s							
KURK	**Kurchatov**	**69.06**	**326**	P		**P**	**20 23 15.5**	**+0.6**
	comp=Z,267nm,0.8s,SNR=32							
KBL	**Kabul**	**69.44**	**307**	*e*P		**P**	**20 23 17.1**	**-0.8**
KBL				pmax		pmax		
	comp=Z,20nm,1.5s							
KBL	**Kabul**	**69.44**	**307**	*e*P		**P**	**20 23 17.1**	**-0.8**
	comp=Z,20nm,1.5s							
KKAR	**Karatay Array**	**70.97**	**316**	*e*P		**P**	**20 23 27.0**	**+0.1**
KKAR				pmax		pmax		
	comp=Z,19nm,0.7s							
KKAR	**Karatay Array**	**70.97**	**316**	*e*P		**P**	**20 23 26.9**	**+0.1**
	comp=Z,19nm,0.7s							
BILL	**Bilibino**	**72.33**	**12**	P		**P**	**20 23 34.0**	**-0.5**
BILL	**Bilibino**	**72.33**	**12**	P		**P**	**20 23 34.0**	**-0.5**
BVAR	**Borovoye Array**	**74.65**	**326**	P		**P**	**20 23 48.6**	**+0.1**
	comp=Z,9.7nm,0.7s,baz=126,slow=8.2,SNR=85							
BVAR	**Borovoye Array**	**74.65**	**326**	P		**P**	**20 23 48.6**	**+0.1**
BVAR	**Borovoye Array**	**74.65**	**326**	P		**P**	**20 23 48.6**	**+0.1**
BRVK	**Borovoye**	**74.72**	**326**	*de*P		**P**	**20 23 49.2**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,48nm,1.7s							
BRVK	**Borovoye**	**74.72**	**326**	*e*P		**P**	**20 23 49.0**	**+0.1**
	comp=Z,19nm,0.8s							
VNDA	**Vanda**	**78.24**	**174**	*e*P		**P**	**20 24 09.1**	**+0.8**
VNDA				*e*			20 24 18.1	
VNDA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**78.24**	**174**	*e*P		**P**	**20 24 09.1**	**+0.8**
	comp=Z,9.6nm,1.0s							
VNDA				*e*PcP		**pP**	**20 24 18.1**	**+0.1**
ABKT	**Ailbek**	**78.80**	**309**	P		**P**	**20 24 13.8**	**+1.5**
	comp=Z,84nm,0.9s,SNR=6.5							
ABKAR	**Akbulak array**	**79.76**	**320**	*e*P		**P**	**20 24 16.5**	**-0.7**
	comp=Z,7.4nm,0.8s							
SVE	**Sverdlovsk**	**81.20**	**328**	⇓*i*P		**P**	**20 24 25.2**	**+0.4**
SVE				pmax		pmax		
	comp=Z,25nm,1.5s							
MAW	**Mawson**	**81.93**	**201**	P		**P**	**20 24 29.8**	**+1.4**
	comp=Z,8.5nm,0.9s,baz=65,slow=7.6,SNR=9.9							
MAW	**Mawson**	**81.93**	**201**	*e*P		**P**	**20 24 29.0**	**+0.6**
	comp=Z,7.9nm,0.9s							
MAW	**Mawson**	**81.93**	**201**	*e*P		**P**	**20 24 29.3**	**+0.9**
MAW				pmax		pmax		
	comp=Z,12nm,1.8s							
MAW	**Mawson**	**81.93**	**201**	*e*P		**P**	**20 24 29.2**	**+0.9**
	comp=Z,12nm,1.8s							
KDAK	**Kodiak Island**	**82.20**	**31**	P		**P**	**20 24 31.2**	**+1.3**
	comp=Z,11nm,0.7s,baz=227,slow=4.5,SNR=7.8							
KDAK				LR		LR	20 54 47.7	
	comp=Z,371nm,21.9s,baz=253,slow=31							
KDAK	**Kodiak Island**	**82.20**	**31**	*ce*P		**P**	**20 24 31.3**	**+1.3**
KDAK	**Kodiak Island**	**82.20**	**31**	P		**P**	**20 24 31.2**	**+1.3**
ARU	**Arti**	**82.22**	**327**	*d i*P		**P**	**20 24 29.8**	**-0.3**
ARU							20 27 36.0	
ARU				S		**S**	**20 34 43.7**	**+0.4**
ARU				SS		**SS**	**20 40 00.9**	**-2.7**
ARU				pmax		pmax		
	comp=Z,19nm,1.7s							
ARU	**Arti**	**82.22**	**327**	*e*P		**P**	**20 24 28.9**	**-1.2**
	comp=Z,10.0nm,1.0s							
SOKR	**Solikamsk**	**83.83**	**330**	*e*P		**P**	**20 24 38.8**	**+0.5**
SOKR				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SLKM	**Skilak Lake**	**84.01**	**29**	*e*P		**P**	**20 24 39.0**	**-0.4**
SLKM	**Skilak Lake**	**84.01**	**29**	*e*P		**P**	**20 24 39.0**	**-0.4**
RC01	**Rabbit Creek A**	**84.36**	**28**	*e*P		**P**	**20 24 39.9**	**-1.2**
	comp=Z,7.4nm,0.7s							
PMR	**Palmer**	**84.75**	**28**	*e*P		**P**	**20 24 43.1**	**+0.1**
PMR	**Palmer**	**84.75**	**28**	*e*P		**P**	**20 24 43.1**	**+0.1**
MCK	**McKinley**	**85.26**	**26**	*e*P		**P**	**20 24 45.8**	**+0.2**
MCK				pmax		pmax		
	comp=Z,58nm,1.5s							
MCK	**McKinley**	**85.26**	**26**	*e*P		**P**	**20 24 45.8**	**+0.2**
	comp=Z,58nm,1.5s							
COLA	**College**	**85.94**	**25**	*e*P		**P**	**20 24 48.5**	**-0.4**
COLA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
COLA	**College**	**85.94**	**25**	*e*P		**P**	**20 24 48.5**	**-0.4**
	comp=Z,5.5nm,0.7s							
QRN	**Al-Qurain**	**86.31**	**299**	*e*P		**P**	**20 24 49.7**	**-1.8**
QRN				AMb		AMB	20 24 54.0	
	comp=Z,85nm,1.3s							
ILAR	**Eielson Array**	**86.33**	**25**	P		**P**	**20 24 49.9**	**-1.0**
	comp=Z,3.6nm,0.6s,baz=254,slow=4.7,SNR=62							
ILAR				LR		LR	21 02 11.3	
	comp=Z,102nm,18.5s,baz=167,slow=35							
ILAR	**Eielson Array**	**86.33**	**25**	P		**P**	**20 24 49.9**	**-1.0**
ILAR	**Eielson Array**	**86.33**	**25**	P		**P**	**20 24 49.9**	**-1.0**
RDF	**Al-Radifah**	**86.64**	**299**	*e*P		**P**	**20 24 50.9**	**-2.3**
RDF				AMb		AMB	20 24 57.6	
	comp=Z,48nm,1.4s							
MIB	**Mutribah**	**86.86**	**300**	*e*P		**P**	**20 24 52.9**	**-1.4**
MIB				AMb		AMB	20 24 55.7	
	comp=Z,37nm,1.2s							
NAY	**Al-Naaiem**	**86.92**	**299**	*e*P		**P**	**20 24 53.1**	**-1.5**
NAY				AMb		AMB	20 24 55.9	
	comp=Z,24nm,1.0s							
QSPA	**South Pole Qui**	**89.18**	**180**	*e*P		**P**	**20 25 05.1**	**+0.4**
	comp=Z,25nm,1.3s							
INK	**Inuvik**	**91.87**	**22**	P		**P**	**20 25 15.6**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=317,slow=5.3,SNR=4.1							
INK	**Inuvik**	**91.87**	**22**	P		**P**	**20 25 15.6**	**-1.3**
INK	**Inuvik**	**91.87**	**22**	P		**P**	**20 25 15.6**	**-1.3**
ARCES	**ARCESS Array B**	**96.87**	**340**	P		**P**	**20 25 39.1**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=5.5,SNR=7.7							
ARCES	**ARCESS Array B**	**96.87**	**340**	P		**P**	**20 25 39.2**	**-0.7**
ARCES	**ARCESS Array B**	**96.87**	**340**	P		**P**	**20 25 39.1**	**-0.7**
FINES	**FINESS Array B**	**98.84**	**332**	P		**P**	**20 25 46.6**	**-2.2**
	comp=Z,3.4nm,0.9s,baz=238,slow=22,SNR=2.4							
FINES	**FINESS Array B**	**98.84**	**332**	P		**P**	**20 25 46.6**	**-2.2**
FINES	**FINESS Array B**	**98.84**	**332**	P		**P**	**20 25 46.6**	**-2.2**
YKA	**Yellowknife Ar**	**100.73**	**26**	P		**Pdif**	**20 25 56.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=292,slow=4.6,SNR=12							
YKA	**Yellowknife Ar**	**100.73**	**26**	P		**Pdif**	**20 25 56.7**	**-0.5**
YKA	**Yellowknife Ar**	**100.73**	**26**	P		**Pdif**	**20 25 56.7**	**-0.5**
PDAR	**Pinedale Array**	**110.16**	**44**	PKKPab		PKKPab	20 41 52.5	-2.0
	comp=Z,0.8nm,0.9s,baz=112,slow=2.4,SNR=4.2							
PDAR	**Pinedale Array**	**110.16**	**44**	PKKPab		PKKPab	20 41 52.5	-2.0
TORD	**Torodi Ar. Bea**	**130.52**	**287**	PKP		**PKPdf**	**20 31 20.5**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=71,slow=1.6,SNR=15							
TORD	**Torodi Ar. Bea**	**130.52**	**287**	PKP		**PKPdf**	**20 31 20.5**	**-0.3**
PLCA	**Paso Flores**	**133.35**	**155**	PKP		**PKPdf**	**20 31 27.5**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=268,slow=2.8,SNR=3.5							
PLCA	**Paso Flores**	**133.35**	**155**	PKIKP		**PKPdf**	**20 31 27.5**	**+1.9**
PLCA	**Paso Flores**	**133.35**	**155**	PKP		**PKPdf**	**20 31 27.5**	**+1.9**
CPUP	**Villa Florida**	**151.19**	**160**	PKP		**PKPdf**	**20 31 58.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=270,slow=3.5,SNR=4.6							
CPUP				PKPbc		**PKiKP**	**20 32 04.3**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=230,slow=1.0,SNR=15							
CPUP	**Villa Florida**	**151.19**	**160**	PKIKP		**PKPdf**	**20 31 58.4**	**+1.1**
CPUP							20 32 04.3	
CPUP	**Villa Florida**	**151.19**	**160**	PKP		**PKPdf**	**20 31 58.4**	**+1.1**
CPUP				PKPbc		**PKiKP**	**20 32 04.3**	**+0.6**
LPAZ	**La Paz**	**152.91**	**130**	PKP		**PKPdf**	**20 32 02.8**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=243,slow=1.2,SNR=5.2							
LPAZ				PKPbc		**PKiKP**	**20 32 09.9**	**+1.7**
	comp=Z,4.6nm,1.0s,baz=286,slow=2.1,SNR=13							
LPAZ	**La Paz**	**152.91**	**130**	PKIKP		**PKPdf**	**20 32 02.8**	**+1.9**
LPAZ							20 32 09.9	
LPAZ	**La Paz**	**152.91**	**130**	PKP		**PKPdf**	**20 32 02.8**	**+1.9**
LPAZ				PKPbc		**PKiKP**	**20 32 09.9**	**+1.7**

*DJA **06** 20:21:33.0˝44N×133˚57E, h30km, mb4.8/8*
*IDC **06** 20:21:39.9±1.1, 0.26S×133˚11E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx3.2/33, Error ellipse: s-maj=47.8km s-min=17.8km az=77.0*
*NEIC **06** 20:21:41.3±0.6, 0.28S×133˚01E, h10km, mb4.3/11, Error ellipse: s-maj=26.1km s-min=7.0km az=75.0*
*ISCJB **06** 20:21:43.3±0.6, 0˝46S±0˝05×132˚7E±0˝2, h32km, mb4.0/15, MS4.0/1, Error ellipse: s-maj=21.7km s-min=6.5km az=172.2*

ISC 06 20:21:44.7±0.8, 0.57S±0˝07×132˚7E±0˝2, h32km, n29, σ2s00/32, mb4.1/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.75**	**201**	P		P	**Pn**	**20 26 05.2**	**+3.3**
	0.1nm,0.3s,baz=0.0,slow=11,SNR=2.7								
FITZ				S			**Sn**	**20 29 27.8**	**-3.0**
	0.1nm,0.3s,baz=209,slow=19,SNR=2.5								
FITZ	**Fitzroy Crossi**	**18.75**	**201**	P		P	**Pn**	**20 26 05.2**	**+3.3**
FITZ				S			**Sn**	**20 29 27.8**	**-3.0**
WRAB	**Tennant Creek**	**19.32**	**175**	*e*P		P	**Pn**	**20 26 09.9**	**+1.3**
	7.3nm,0.6s								
WRA	**Warramunga Arr**	**19.32**	**175**	P		P	**Pn**	**20 26 09.7**	**+1.0**
	0.5nm,0.3s,baz=353,slow=11,SNR=11								
WRA				S			**S**	**20 29 40.9**	**-3.6**
	0.1nm,0.3s,baz=346,slow=24,SNR=4.4								
WRA	**Warramunga Arr**	**19.32**	**175**	P		P	**Pn**	**20 26 09.7**	**+1.0**
WRA				S			**S**	**20 29 40.9**	**-3.6**
AS31	**Alice Springs**	**22.99**	**177**	*e*P		P	**P**	**20 26 49.1**	**+2.1**
ASAR	**Alice Springs**	**22.99**	**177**	P		P	**P**	**20 26 49.9**	**+2.9**
	4.0nm,0.7s,baz=20,slow=11,SNR=25								
ASAR	**Alice Springs**	**22.99**	**177**	P		P	**P**	**20 26 49.9**	**+2.9**
JOW	**Kunigami**	**27.57**	**351**	LR		LR		20 36 57.1	
	comp=Z,388nm,19.4s,baz=135,slow=34								
STKA	**Stephens Creek**	**32.26**	**166**	P		P	**P**	**20 28 11.8**	**+1.2**
	2.4nm,0.7s,baz=344,slow=9.5,SNR=4.9								
STKA	**Stephens Creek**	**32.26**	**166**	P		P	**P**	**20 28 11.4**	**+0.9**
	1.0nm,0.9s								
ENH	**Enshi**	**37.80**	**326**	P		P	**P**	**20 28 58.0**	**-0.3**
	7.4nm,1.1s								
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P		P	**P**	**20 29 03.2**	**+1.6**
	0.4nm,0.7s,baz=117,slow=6.2,SNR=4.7								
CMAR	**Chiang Mai Arr**	**38.18**	**301**	P		P	**P**	**20 29 03.2**	**+1.6**
LSA	**Lhasa**	**49.74**	**311**	*e*P		P	**P**	**20 30 33.8**	**-1.0**
	9.1nm,1.5s								
MK31	**Makanchi Array**	**64.48**	**324**	P		P	**P**	**20 32 18.9**	**+0.5**
MKAR	**Makanchi Array**	**64.48**	**324**	P		P	**P**	**20 32 19.0**	**+0.6**
	0.4nm,0.7s,baz=113,slow=9.5,SNR=5.4								
MKAR	**Makanchi Array**	**64.48**	**324**	P		P	**P**	**20 32 19.0**	**+0.6**
TKM2	**Tokmak 2**	**66.90**	**318**	P		P	**P**	**20 32 34.8**	**+0.5**
	1.6nm,0.9s								
ZALV	**Zalesovo Beam**	**67.14**	**332**	P		P	**P**	**20 32 34.2**	**-1.0**
	0.3nm,0.5s,baz=131,slow=6.5,SNR=2.3								
ZALV	**Zalesovo Beam**	**67.14**	**332**	P		P	**P**	**20 32 34.2**	**-1.0**
KURK	**Kurchatov**	**68.57**	**326**	P		P	**P**	**20 32 45.1**	**+0.8**
	1.5nm,0.8s								
KBL	**Kabul**	**68.85**	**308**	*e*P		P	**P**	**20 32 45.4**	**-1.4**
	2.1nm,0.9s								
BRVK	**Borovoye**	**74.24**	**326**	*e*P		P	**P**	**20 33 18.2**	**-0.3**
	2.1nm,0.8s								
ABKAR	**Akbulak array**	**79.23**	**320**	*e*P		P	**P**	**20 33 46.7**	**-0.2**
	0.6nm,0.6s								
ILAR	**Eielson Array**	**86.42**	**25**	P		P	**P**	**20 34 22.0**	**-1.8**
	0.3nm,0.7s,baz=256,slow=5.0,SNR=5.3								
ILAR	**Eielson Array**	**86.42**	**25**	P		P	**P**	**20 34 22.0**	**-1.8**
QSPA	**South Pole Qui**	**89.37**	**180**	P		P	**P**	**20 34 39.2**	**+1.2**
	2.5nm,0.6s								
KIV	**Kislovodsk**	**90.40**	**314**	P		P	**P**	**20 34 42.0**	**-1.3**
	6.6nm,1.1s								

*ISK **06** 20:38:18.6, 37˚54N×29˚94E, h2km, MD2.9*
*ISCJB **06** 20:38:20.1±0.5, 37˚53N±0˝04×29˚97E±0˝04, h14km, Error ellipse: s-maj=6.0km s-min=4.6km az=179.9*
*CSEM **06** 20:38:20.0±0.2, 37˚55N×29˚96E, h8km, MD2.9, Error ellipse: s-maj=5.9km s-min=5.1km az=16.0*
*DDA **06** 20:38:20.3, 37˚58N×30˚12E, h7km, MD3.0*

ISC 06 20:38:21.1±0.8, 37˚56N±0˝02×29˚98E±0˝02, h14km, n30, σ1s67/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.46**	**225**	*i* P			**Pb**	**20 38 30.5**	**-0.6**
GOLH				*i* S			**Sg**	**20 38 40.0**	**+3.4**
GOLH	**Golhisar**	**0.46**	**225**	*i* P			**Pb**	**20 38 30.5**	**-0.6**
BCK	**Bucak**	**0.50**	**102**	*e*PG			**Pg**	**20 38 29.7**	**-1.3**
BCK				*e*SG			**Sg**	**20 38 37.7**	**0.0**
BCK	**Bucak**	**0.50**	**102**	*e*Pg			**Pg**	**20 38 29.7**	**-1.3**
BCK				*e*Sg			**Sg**	**20 38 37.7**	**0.0**
ISP	**Isparta**	**0.51**	**59**	*e*PG			**Pg**	**20 38 29.9**	**-1.2**
ISP				*e*SG			**Sb**	**20 38 38.4**	**-0.7**
ISP	**Isparta**	**0.51**	**59**	*e*Pg			**Pg**	**20 38 29.9**	**-1.2**
ISP				*e*Sg			**Sb**	**20 38 38.4**	**-0.7**
GLHS	**Glhisar (BURDU**	**0.56**	**223**	*e*PG			**Pg**	**20 38 29.6**	**-2.5**
GLHS	**Glhisar (BURDU**	**0.56**	**223**	*e*Pg			**Pg**	**20 38 29.6**	**-2.5**
KORT	**Korkueli**	**0.64**	**152**	*i* P			**Pg**	**20 38 32.7**	**-0.9**
KORT				*i* S			**Sb**	**20 38 45.2**	**+2.3**
KORT	**Korkueli**	**0.64**	**152**	*i* P			**Pg**	**20 38 32.7**	**-0.9**
KORT				*i* S			**Sb**	**20 38 45.2**	**+2.3**
DENT	**Denizli**	**0.77**	**285**	*e*PG			**Pg**	**20 38 33.3**	**-2.8**
DENT	**Denizli**	**0.77**	**285**	*e*Pg			**Pg**	**20 38 33.3**	**-2.8**
KHL	**Karahalli**	**0.84**	**335**	*e*PG			**Pg**	**20 38 36.2**	**-1.2**
KHL	**Karahalli**	**0.84**	**335**	*e*Pg			**Pg**	**20 38 36.2**	**-1.2**
ANTB	**Antalya**	**0.86**	**141**	*e*PG			**Pg**	**20 38 35.9**	**-1.8**
ANTB	**Antalya**	**0.86**	**141**	*e*Pg			**Pg**	**20 38 35.9**	**-1.8**
KHAL	**Karahalli**	**0.89**	**335**	*i* P			**Pb**	**20 38 37.9**	**-0.6**
KHAL				*i* S			**Sn**	**20 38 53.1**	**+3.1**
KHAL	**Karahalli**	**0.89**	**335**	*i* P			**Pb**	**20 38 37.9**	**-0.6**
SHUT	**Suhut-Afyon**	**1.09**	**25**	*e*PN			**Pb**	**20 38 40.7**	**-1.1**
SHUT	**Suhut-Afyon**	**1.09**	**25**	*e*Pn			**Pb**	**20 38 40.7**	**-1.1**
KULA	**Kula-Manisa**	**1.41**	**313**	*e*PN			**Pb**	**20 38 46.1**	**-1.1**
KULA	**Kula-Manisa**	**1.41**	**313**	*e*Pn			**Pb**	**20 38 46.1**	**-1.1**
YER	**Yerkesik**	**1.42**	**253**	*e*PN			**Pn**	**20 38 45.6**	**-0.9**
YER	**Yerkesik**	**1.42**	**253**	*e*Pn			**Pn**	**20 38 45.7**	**-0.9**
MANT	**Manisa**	**1.45**	**310**	*i* P			**Pg**	**20 38 48.3**	**-0.8**
MANT				*i* S			**Sg**	**20 39 11.5**	**+3.6**
MANT	**Manisa**	**1.45**	**310**	*i* P			**Pg**	**20 38 48.3**	**-0.8**
ALT	**Altintas**	**1.49**	**4**	*e*PN			**Pn**	**20 38 47.3**	**-0.3**
ALT	**Altintas**	**1.49**	**4**	*e*Pn			**Pn**	**20 38 47.3**	**-0.3**
KONT	**Konya--Tatoy**	**1.93**	**78**	*e*PN			**Pn**	**20 38 53.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.93**	**78**	*e*Pn			**Pn**	**20 38 53.8**	**+0.2**

*IDC **06** 20:44:14.2±0.8, 11˚42S×166˚15E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.2/12, ML4.3/1, MS3.8/4, Ms1 3.8/4, ms1mx3.2/26, Error ellipse: s-maj=27.8km s-min=19.0km az=115.0*
*ISCJB **06** 20:44:19.6±4.2, 11˚7S±0˝1×166˚2E±0˝1, h55km±37km, mb4.3/23, MS3.8/3, Error ellipse: s-maj=18.5km s-min=16.8km az=148.8*
*NEIC **06** 20:44:21.6±3.0, 11˚59S×166˚15E, h56km±27km, mb4.3/14, Error ellipse: s-maj=17.2km s-min=16.1km az=131.0*

ISC 06 20:44:20.5±3.0, 11˚6S±0˝1×166˚2E±0˝1, h47km±26km, n49, σ1s24/52, mb4.2/23, MS3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.46**	**179**	Pn			**Pn**	**20 46 49.0**	**+1.1**
	2.2nm,0.3s,baz=338,slow=16,SNR=15								
DZM				Sn			**Sn**	**20 48 42.2**	**-1.6**
	0.6nm,0.3s,baz=307,slow=20,SNR=3.6								
DZM				LR		LR		20 50 28.8	
	comp=Z,316nm,19.9s,baz=30,slow=35								
DZM	**Mont Dzumac**	**10.46**	**179**	Pn			**Pn**	**20 46 49.0**	**+1.1**
DZM				Sn			**Sn**	**20 48 42.2**	**-1.6**
CTA	**Charters Tower**	**20.97**	**244**	P			Pn	20 49 03.7	+0.7
	8.0nm,0.8s,baz=51,slow=16,SNR=7.8								
CTA				LR		LR		20 56 06.8	
	comp=Z,177nm,19.7s,baz=251,slow=34								
CTA	**Charters Tower**	**20.97**	**244**	P			Pn	20 49 03.7	+0.7
CTAO	**Charters Tower**	**20.97**	**244**	*e*P			Pn	20 49 03.6	+0.6
	9.4nm,0.8s								
STKA	**Stephens Creek**	**30.39**	**224**	P			**P**	**20 50 29.4**	**+1.1**
	1.3nm,0.7s,baz=21,slow=14,SNR=2.7								
STKA				PcP			**PcP**	**20 53 28.5**	**+1.1**
	1.1nm,0.6s,baz=0.0,slow=3.0,SNR=3.1								
STKA	**Stephens Creek**	**30.39**	**224**	P			**P**	**20 50 27.9**	**-0.5**
	1.2nm,1.1s								
STKA				PcP			**PcP**	**20 53 28.5**	**+1.1**
WRAB	**Tennant Creek**	**31.72**	**251**	P			**P**	**20 50 39.5**	**-0.8**
	9.8nm,1.4s								
WRA	**Warramunga Arr**	**31.73**	**251**	P			**P**	**20 50 39.5**	**-0.9**
	4.4nm,1.0s,baz=83,slow=9.1,SNR=15								
WRA				PcP			**PcP**	**20 53 32.5**	**+1.2**
	1.0nm,0.9s,baz=73,slow=3.2,SNR=5.5								
WRA	**Warramunga Arr**	**31.73**	**251**	P			**P**	**20 50 39.5**	**-0.9**
WRA				PcP			**PcP**	**20 53 32.5**	**+1.2**
RPZ	**Rata Peaks**	**32.31**	**173**	P			**P**	**20 50 46.4**	**+1.2**
	8.1nm,0.6s,baz=76,slow=16,SNR=6.3								
RPZ	**Rata Peaks**	**32.31**	**173**	P			**P**	**20 50 46.4**	**+1.2**
AS31	**Alice Springs**	**32.97**	**244**	*e*P			**P**	**20 50 49.8**	**-1.4**
ASAR	**Alice Springs**	**32.97**	**244**	P			**P**	**20 50 50.0**	**-1.3**
	3.3nm,0.7s,baz=68,slow=9.6,SNR=47								
ASAR				PcP			**PcP**	**20 53 35.4**	**+0.8**
	1.3nm,0.8s,baz=77,slow=2.0,SNR=9.6								
ASAR	**Alice Springs**	**32.97**	**244**	P			**P**	**20 50 50.0**	**-1.3**
ASAR				PcP			**PcP**	**20 53 35.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**39.69**	**256**	P			**P**	**20 51 46.4**	**-2.1**
	3.0nm,0.9s,baz=95,slow=4.0,SNR=4.8								
FITZ				LR		LR		21 08 14.2	
	comp=Z,90nm,18.4s,baz=250,slow=36								
FITZ	**Fitzroy Crossi**	**39.69**	**256**	P			**P**	**20 51 46.4**	**-2.1**
NWAO	**Narrogin (SRO)**	**49.55**	**236**	P			P	20 53 01.9	-5.2
	17nm,1.2s								
KSM	**Kuching**	**57.03**	**279**	P			**P**	**20 54 04.5**	**+2.2**
VNDA	**Vanda**	**65.99**	**181**	*e*P			**P**	**20 55 01.8**	**+0.1**
	4.8nm,1.1s								
CASY	**Casey**	**66.07**	**201**	*e*P			**P**	**20 54 59.7**	**-2.6**
	4.1nm,0.5s								
ENH	**Enshi**	**68.57**	**309**	P			**P**	**20 55 17.7**	**-1.1**
	4.6nm,0.9s								
CM31	**Chiang Mai Arr**	**72.73**	**294**	*e*P			**P**	**20 55 45.5**	**+1.2**
	1.6nm,0.6s								
CMAR	**Chiang Mai Arr**	**72.73**	**294**	P			**P**	**20 55 45.9**	**+1.5**
	1.9nm,0.8s,baz=118,slow=4.4,SNR=20								
CMAR	**Chiang Mai Arr**	**72.73**	**294**	P			**P**	**20 55 45.9**	**+1.5**
CHTO	**Chiang Mai**	**72.84**	**294**	*e*P			**P**	**20 55 45.9**	**+0.9**
	0.8nm,0.6s								
QSPA	**South Pole Qui**	**78.45**	**180**	*e*P			**P**	**20 56 17.1**	**+0.7**
	18nm,1.2s								
ULN	**Ulaanbaatar**	**78.98**	**324**	P			**P**	**20 56 20.1**	**+0.5**
	1.7nm,0.8s								
SONM	**Songino Array**	**79.34**	**324**	P			**P**	**20 56 22.5**	**+0.9**
	0.6nm,0.5s,baz=139,slow=5.5,SNR=4.3								
SONM	**Songino Array**	**79.34**	**324**	P			**P**	**20 56 22.5**	**+0.9**
BILL	**Bilibino**	**79.39**	**0**	P			**P**	**20 56 21.0**	**-0.2**
	1.3nm,0.6s								
PMR	**Palmer**	**80.88**	**20**	P			**P**	**20 56 27.8**	**-1.6**
	32

	baz=256							
NSK	**Sanguang**	**1.20**	**277**	⇓*i*	P	**Pn**	**20 51 21.3**	**+0.1**
	baz=268							
NSK				*e*	S	**Sn**	**20 51 37.5**	**-0.2**
	baz=268							
JKRS	**Kuro-shima**	**1.26**	**103**		P	**Pn**	**20 51 22.1**	**+0.2**
JKRS					S	**Sn**	**20 51 39.6**	**+0.7**
TWS1	**Kuangyinshan**	**1.27**	**297**	*eP*		**Pn**	**20 51 21.8**	**-0.3**
	baz=290							
TWS1				*eS*		**Sn**	**20 51 38.5**	**-0.6**
	baz=290							
ESL	**Shilin**	**1.33**	**238**	*eP*		**Pn**	**20 51 22.0**	**-0.8**
	baz=234							
ESL				*eS*		**Sn**	**20 51 39.9**	**-0.6**
	baz=234							
WHF	**Hehuan Shan**	**1.33**	**254**	*i* P		**Pn**	**20 51 22.9**	**-0.3**
	baz=250							
WHF					S	**Sn**	**20 51 40.5**	**-0.6**
	baz=250							
JIJ	**Ishigaki jima**	**1.36**	**97**		P	**Pn**	**20 51 22.9**	**-0.3**
JIJ					S	**Sn**	**20 51 40.1**	**-1.0**
TWT	**Tachien**	**1.38**	**259**	*eP*		**Pn**	**20 51 23.9**	**+0.3**
	baz=256							
TWT				*eS*		**Sn**	**20 51 41.9**	**0.0**
	baz=256							
NCU	**National Centr**	**1.41**	**289**	*eP*		**Pn**	**20 51 24.0**	**+0.2**
	baz=286							
NCU				*eS*		**Sn**	**20 51 42.5**	**+0.2**
	baz=286							
NSTT	**Nanjuang**	**1.52**	**274**		P	**Pn**	**20 51 25.1**	**-0.1**
	baz=271							
NSTT					S	**Sn**	**20 51 44.6**	**-0.1**
	baz=271							
EHY	**Hungye**	**1.59**	**231**		P	**Pn**	**20 51 25.4**	**-0.8**
	baz=227							
EHY				*eS*		**Sn**	**20 51 45.0**	**-1.4**
	baz=227							
TWQ1	**Liyutan**	**1.73**	**265**	*eP*		**Pn**	**20 51 27.5**	**-0.5**
	baz=262							
TWQ1				*eS*		**Sn**	**20 51 49.5**	**-0.2**
	baz=262							
SMLT	**Sun Moon Lake**	**1.73**	**249**	*eP*		**Pn**	**20 51 28.4**	**+0.3**
	baz=239							
SMLT				*eS*		**Sn**	**20 51 50.5**	**+0.7**
	baz=239							
NSY	**Sanyi**	**1.74**	**267**	*eP*		**Pn**	**20 51 27.8**	**-0.2**
	baz=264							
NSY				*eS*		**Sn**	**20 51 50.0**	**+0.2**
	baz=264							
TYC	**Yuchr**	**1.76**	**250**		P	**Pn**	**20 51 28.7**	**+0.4**
	baz=241							
TYC				*eS*		**Sn**	**20 51 50.6**	**+0.3**
	baz=241							
TCU	**Taichung**	**1.85**	**259**	*eP*		**Pn**	**20 51 29.9**	**+0.5**
	baz=256							
JTJ	**Tarama**	**1.86**	**86**		P	**Pn**	**20 51 29.7**	**+0.1**
JTJ					S	**Sn**	**20 51 52.1**	**-0.5**
YUS	**Yu-Shan**	**1.87**	**237**	*eP*		**Pn**	**20 51 30.9**	**+0.6**
	baz=229							
YUS				*eS*		**Sn**	**20 51 53.8**	**+0.1**
	baz=229							
WNT	**Mingjian**	**1.92**	**251**	*eP*		**Pn**	**20 51 30.6**	**+0.2**
	baz=248							
WNT				*eS*		**Sn**	**20 51 55.0**	**+1.0**
	baz=248							
ELDTW	**Lidau**	**2.01**	**229**	*eP*		**Pn**	**20 51 31.1**	**-0.7**
	baz=226							
ELDTW				*eS*		**Sn**	**20 51 55.4**	**-0.9**
	baz=226							
CHN5	**Tsauling**	**2.04**	**243**	*eP*		**Pn**	**20 51 32.6**	**+0.6**
	baz=233							
CHN5				*eS*		**Sn**	**20 51 57.7**	**+0.8**
	baz=233							
WGK	**Gukeng**	**2.09**	**247**	*eP*		**Pn**	**20 51 33.6**	**+0.9**
	baz=255							
WGK				*eS*		**Sn**	**20 51 59.8**	**+1.6**
	baz=255							
STYT	**Tauyuan**	**2.21**	**233**	*eP*		**Pn**	**20 51 34.8**	**+0.5**
	baz=229							
STYT				*eS*		**Sn**	**20 52 01.5**	**+0.5**
	baz=229							
CHN4	**Tsaushan**	**2.23**	**239**	*eP*		**Pn**	**20 51 34.9**	**+0.4**
	baz=236							
CHN4				*eS*		**Sn**	**20 52 02.6**	**+1.3**
	baz=236							
TWG	**Pinlang**	**2.24**	**221**	*eP*		**Pn**	**20 51 33.5**	**-1.1**
	baz=217							
TWG				*eS*		**Sn**	**20 52 00.2**	**-1.4**
	baz=217							
WTP	**Ta-pu**	**2.27**	**236**	*eP*		**Pn**	**20 51 35.6**	**+0.6**
	baz=233							
WTP				*eS*		**Sn**	**20 52 03.0**	**+0.7**
	baz=233							
CHN1	**Nanshi**	**2.37**	**236**		P	**Pn**	**20 51 36.8**	**+0.4**
	baz=234							
CHN1				*eS*		**Sn**	**20 52 05.4**	**+0.7**
	baz=234							
SGST	**Jiashian**	**2.39**	**233**	*eP*		**Pn**	**20 51 37.2**	**+0.6**
	baz=240							
SGST				*eS*		**Sn**	**20 52 06.0**	**+0.8**
	baz=240							
WSF	**Szhu**	**2.40**	**249**	*eP*		**Pn**	**20 51 36.9**	**+0.1**
	baz=255							
WSF				*eS*		**Sn**	**20 52 05.3**	**-0.1**
	baz=255							
JMJ	**Miyako jima 2**	**2.41**	**83**	*eS*		**Sn**	**20 52 04.5**	**-1.2**
JOGS	**Gusukube**	**2.51**	**84**	*eS*		**Sn**	**20 52 08.3**	**+0.3**
SSD	**Sandimen**	**2.57**	**227**	*eP*		**Pn**	**20 51 40.0**	**+0.9**
	baz=224							
SSD				*eS*		**Sn**	**20 52 09.8**	**+0.3**
	baz=224							
LAY	**Lan-yu**	**2.68**	**203**	*eP*		**Pn**	**20 51 39.9**	**-0.7**
	baz=193							
LAY				*eS*		**Sn**	**20 52 08.9**	**-3.3**
	baz=193							
EAST	**Anshuo**	**2.71**	**218**	*eP*		**Pn**	**20 51 41.1**	**+0.1**
	baz=215							
EAST				*eS*		**Sn**	**20 52 13.1**	**+0.2**
	baz=215							
SCZT	**Fangliau**	**2.85**	**222**	*eP*		**Pn**	**20 51 44.2**	**+1.4**
	baz=230							
SCZT				*eS*		**Sn**	**20 52 16.9**	**+0.7**
	baz=230							

*DJA **06** 20:51:26,4.°92S×102.°88E,h34km,MLv3.6/4*

IDC 06 20:51:21.2±4.0,4.°29S×103.°50E,h0km,mb3.5/4,
mb1 3.7/4,mb1mx3.4/20,mbtmp3.5/4,Error ellipse:
s-maj=226.9km s-min=25.4km az=53.0,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.83**	**120**	P	P	20 58 05.8	+0.2
	0.2nm,0.3s,baz=300,slow=11,SNR=10						
ASAR	**Alice Springs**	**35.09**	**126**	P	P	20 58 16.4	0.0
	0.2nm,0.3s,baz=300,slow=8.2,SNR=8.0						
STKA	**Stephens Creek**	**45.03**	**132**	P	P	20 59 38.4	-0.5
	1.5nm,0.9s,baz=304,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**54.21**	**342**	P	P	21 00 48.6	-0.1
	0.2nm,0.5s,baz=144,slow=8.3,SNR=3.4						

IDC 06 20:53:40.9±4.4,0.°61S×131.°38E,h0km,mb3.6/3,
mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.4/1,Error
ellipse: s-maj=325.5km s-min=22.8km az=73.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.43**	**172**	P	Pn	20 58 09.6	-0.5
	0.1nm,0.3s,baz=352,slow=11,SNR=7.1						
WRA				S	Sn	21 01 37.9	-11
	0.1nm,0.3s,baz=357,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**23.05**	**174**	P	P	20 58 47.6	-0.4
	1.4nm,0.8s,baz=0.0,slow=10,SNR=13						
MKAR	**Makanchi Array**	**63.75**	**325**	P	P	21 04 14.2	-0.4
	0.4nm,0.6s,baz=118,slow=7.0,SNR=5.9						
KURK	**Kurchatov**	**67.88**	**327**	P	P	21 04 41.5	+0.4
	0.5nm,0.5s,baz=114,slow=5.1,SNR=3.9						

MEX 06 21:04:59.5±1.2,17.°09N×100.°43W,h23km±14km,MD3.6,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**104**	*eP*	Pb	21 05 02.5	-1.9
CAIG				*i* S	Sb	21 05 07.1	-0.6
ACX	**Acapulco**	**0.58**	**112**	*eP*	Pb	21 05 07.6	-3.6
ACX				*eS*	Sb	21 05 16.4	-2.7
ZIIG	**Zihuatanejo**	**1.12**	**298**	*eP*	Pn	21 05 16.0	-3.8
ZIIG				*eS*	Sb	21 05 31.1	-3.3
PLIG	**Platanillo**	**1.57**	**34**	*eP*	Pn	21 05 23.3	-2.8
PLIG				*eS*	Sn	21 05 41.8	-4.0
PNIG	**Pinotepa**	**2.31**	**107**	*eP*	Pn	21 05 34.4	-1.8
PNIG				*eS*	Sn	21 06 01.6	-2.3

*VIE **06** 21:19:15.8±0.7,43.°28N×17.°86E,h10km,mb2.5/3,ML2.3/3,*
Error ellipse: s-maj=9.6km s-min=5.3km az=51.0 76 km
SW of Sarajevo
*BEO **06** 21:19:15.5±1.1,43.°20N×17.°35E,h24km±14km,ML2.6/5*
*CSEM **06** 21:19:15.5±0.2,43.°24N×17.°65E,h2km,ML2.6/9,Error*
ellipse: s-maj=6.7km s-min=3.7km az=47.0
*PDG **06** 21:19:16.6±0.2,43.°24N×17.°75E,h2km,ML2.6/9,Error*
ellipse: s-maj=0.7km s-min=1.2km az=0.0

ISC 06 21:19:15.1±1.1,43.°31N±0.°02×17.°71E±0.°02,h5km±10km,
n50,σ1s49/92,9C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.43**	**181**	*i* Pg	**Pg**	**21 19 22.6**	**-0.9**
STON				Sg	**Sg**	**21 19 29.1**	**0.0**
STON	**Ston**	**0.43**	**181**	*i* Pg	**Pg**	**21 19 22.6**	**-0.9**
STON				Sg	**Sg**	**21 19 29.1**	**0.0**
BRY	**Bratogost**	**0.73**	**123**	⇓*i* Pg	**Pg**	**21 19 28.3**	**-0.8**
BRY				*e*Sg	**Sg**	**21 19 39.4**	**+0.8**
BRY	**Bratogost**	**0.73**	**123**	⇓*i* Pg	**Pg**	**21 19 28.3**	**-0.8**
BRY				*e*Sg	**Sg**	**21 19 39.4**	**+0.8**
UPM	**Unac-Piva**	**0.88**	**96**	⇓*i* Pg	**Pg**	**21 19 31.8**	**-0.2**
UPM				*e*Sg	**Sb**	**21 19 45.4**	**+0.2**
UPM	**Unac-Piva**	**0.88**	**96**	⇓*i* Pg	**Pg**	**21 19 31.8**	**-0.2**
UPM				*e*Sg	**Sb**	**21 19 45.4**	**+0.2**
HCY	**Herceg Novi**	**1.03**	**146**	⇓*i* Pg	**Pg**	**21 19 33.6**	**-1.3**
HCY				*e*Sg	**Sn**	**21 19 49.3**	**-1.9**
HCY	**Herceg Novi**	**1.03**	**146**	⇓*i* Pg	**Pg**	**21 19 33.6**	**-1.3**
HCY				*e*Sg	**Sn**	**21 19 49.3**	**-1.9**
NKY	**Niksic**	**1.06**	**117**	*e*Pg	**Pg**	**21 19 35.2**	**-0.3**
NKY				*e*Sg	**Sn**	**21 19 51.0**	**-1.0**
NKY	**Niksic**	**1.06**	**117**	*e*Pg	**Pg**	**21 19 35.2**	**-0.3**
NKY				*e*Sg	**Sn**	**21 19 51.0**	**-1.0**
PLE	**Pljevlja**	**1.23**	**88**	⇓*i* Pg	**Pg**	**21 19 39.1**	**+0.5**
PLE				*e*Sg	**Sn**	**21 19 57.5**	**+1.4**
PLE	**Pljevlja**	**1.23**	**88**	⇓*i* Pg	**Pg**	**21 19 39.1**	**+0.5**
PLE				*e*Sg	**Sn**	**21 19 57.5**	**+1.4**
BUM	**Brajici-Budva**	**1.33**	**139**	⇑*i* Pg	**Pb**	**21 19 40.0**	**-0.6**
BUM				*e*Sg	**Sg**	**21 19 59.9**	**+2.0**
BUM	**Brajici-Budva**	**1.33**	**139**	⇑*i* Pg	**Pb**	**21 19 40.0**	**-0.6**
BUM				*e*Sg	**Sg**	**21 19 59.9**	**+2.0**
PDG	**Podgorica**	**1.44**	**127**	⇓*i* Pg	**Pb**	**21 19 41.9**	**-0.4**
PDG				*e*Sg	**Sg**	**21 20 03.7**	**+2.5**
TTG	**Podgorica**	**1.44**	**127**	⇓*i* Pg	**Pb**	**21 19 41.9**	**-0.5**
TTG				*e*Sg	**Sg**	**21 20 03.7**	**+2.4**
BLY	**Banja Luka**	**1.49**	**345**	*i* Pn	**Pb**	**21 19 42.9**	**-0.4**
BLY				*e*Sn	**Sg**	**21 20 03.1**	**+0.1**
BLY	**Banja Luka**	**1.49**	**345**	*i* Pn	**Pb**	**21 19 42.9**	**-0.4**
BLY				*e*Sn	**Sg**	**21 20 03.1**	**+0.1**
BEY	**Berane**	**1.66**	**104**	⇓*i* Pn	**Pg**	**21 19 46.4**	**-0.5**
BEY				*e*Sn	**Sg**	**21 20 11.6**	**+3.2**
IVA	**Berane**	**1.66**	**104**	⇓*i* Pn	**Pg**	**21 19 46.4**	**-0.6**
IVA				*e*Sn	**Sg**	**21 20 11.6**	**+3.1**
ULC	**Ulcinj**	**1.76**	**139**	⇑*i* Pn	**Pb**	**21 19 47.8**	**-0.1**
ULC				*e*Sn	**Sg**	**21 20 13.2**	**+1.7**
ULC	**Ulcinj**	**1.76**	**139**	⇑*i* Pn	**Pb**	**21 19 47.8**	**-0.1**
PVY	**Plav**	**1.80**	**113**	⇓*i* Pn	**Pg**	**21 19 49.5**	**-0.1**
PVY				*e*Sn	**Sg**	**21 20 14.7**	**+1.8**
PVY	**Plav**	**1.80**	**113**	⇓*i* Pn	**Pg**	**21 19 49.5**	**-0.1**
PVY				*e*Sn	**Sg**	**21 20 14.7**	**+1.8**
TEKS	**Tekeris**	**1.81**	**46**	*e*Pn	**Pg**	**21 19 49.5**	**-0.3**
TEKS				*e*Sn	**Sg**	**21 20 13.9**	**+0.7**
TEKS	**Tekeris**	**1.81**	**46**	*e*Pn	**Pg**	**21 19 49.5**	**-0.3**
TEKS				*e*Sn	**Sg**	**21 20 13.9**	**+0.7**
DIVS	**Divibare**	**1.83**	**64**	*e*Pn	**Pb**	**21 19 49.2**	**0.0**
DIVS				*e*Sn	**Sg**	**21 20 15.1**	**+1.0**
DIVS	**Divibare**	**1.83**	**64**	*e*Pn	**Pb**	**21 19 49.2**	**0.0**
DIVS				*e*Sn	**Sg**	**21 20 15.1**	**+1.0**
MS1	**Monte Sant'Ang**	**2.07**	**220**	*e*Pn	**Pg**	**21 19 54.9**	**+0.2**
TRUS	**Trudelj**	**2.16**	**64**	*e*Pn	**Pb**	**21 19 54.5**	**-0.2**
TRUS				*e*Sn	**Sg**	**21 20 24.0**	**-0.4**
TRUS	**Trudelj**	**2.16**	**64**	*e*Pn	**Pb**	**21 19 54.5**	**-0.2**
TRUS				*e*Sn	**Sg**	**21 20 24.0**	**-0.4**
GRUS	**Gruza**	**2.26**	**74**	*e*Pn	**Pb**	**21 19 56.5**	**+0.1**
GRUS				*e*Sn	**Sg**	**21 20 26.7**	**-1.0**
GRUS	**Gruza**	**2.26**	**74**	*e*Pn	**Pb**	**21 19 56.5**	**+0.1**
GRUS				*e*Sn	**Sg**	**21 20 26.7**	**-1.0**
FGSL	**Fruska Gora**	**2.39**	**39**	*e*Pn	**Pb**	**21 19 56.6**	**-2.0**
FRGS	**Fruska Gora**	**2.39**	**39**	*e*Pn	**Pb**	**21 19 56.6**	**-2.0**
NVLJ	**Novalja**	**2.40**	**302**	*e*Pn	**Pn**	**21 19 56.4**	**+1.3**
NVLJ				Sn	**Sb**	**21 20 27.9**	**-0.9**
NVLJ	**Novalja**	**2.40**	**302**	*e*Pn	**Pn**	**21 19 56.4**	**+1.3**
NVLJ				Sn	**Sb**	**21 20 27.9**	**-0.9**
PKSM	**Moragy**	**2.98**	**13**	⇑*e*Pn	**Pn**	**21 20 03.0**	**0.0**
PKSM				*e*Sn	**Sn**	**21 20 39.3**	**+0.1**
PKSM	**Moragy**	**2.98**	**13**	⇑*e*Pn	**Pn**	**21 20 03.0**	**0.0**
PKSM				*e*Sn	**Sn**	**21 20 39.3**	**+0.1**
BARS	**Barje**	**3.05**	**98**	*i* Pn	**Pn**	**21 20 05.7**	**+1.7**
BARS				*e*Sn	**Sb**	**21 20 43.1**	**-4.3**
BARS	**Barje**	**3.05**	**98**	*i* Pn	**Pn**	**21 20 05.7**	**+1.7**
BARS				*e*Sn	**Sb**	**21 20 43.1**	**-4.3**
VOY	**Vojsko**	**3.85**	**316**	*e*Pn	**Pn**	**21 20 17.3**	**+2.2**
VOY				*e*(Sn)	**Sb**	**21 21 05.7**	**-4.8**
VOY				*e*		21 21 22.8	
VOY	**Vojsko**	**3.85**	**316**	Pn	**Pn**	**21 20 17.3**	**+2.2**
SOKA	**Soboth**	**3.87**	**332**	⇑*i* Pn	**Pn**	**21 20 17.0**	**+1.6**
SOKA				⇑*i* Sn	**Sn**	**21 21 03.0**	**+1.8**
SOKA	**Soboth**	**3.87**	**332**	Pn	**Pn**	**21 20 17.0**	**+1.6**
SOKA				Sn	**Sn**	**21 21 03.0**	**+1.8**
ARSA	**Arzberg**	**4.23**	**339**	⇑*i* Pn	**Pn**	**21 20 21.4**	**+1.1**
ARSA	**Arzberg**	**4.23**	**339**	Pn	**Pn**	**21 20 21.4**	**+1.1**
MOA	**Molln**	**5.14**	**333**	⇓*i* Pn	**Pn**	**21 20 33.9**	**+1.1**
MOA				⇓*i* Sn	**Sn**	**21 21 35.0**	**+2.4**
MOA	**Molln**	**5.14**	**333**	Pn	**Pn**	**21 20 33.9**	**+1.1**
MOA				Sn	**Sn**	**21 21 35.0**	**+2.4**
KHC	**Kasperske Hory**	**6.49**	**335**	*eP*	**Sn**	**21 22 05.5**	**-0.2**

*DDA **06** 21:20:34.9,34.°61N×26.°79E,h25km,MD3.5*
*ISCJB **06** 21:20:46.7±1.4,35.°45N±0.°06×27.°56E±0.°05,h0km±11km,*
Error ellipse: s-maj=11.2km s-min=4.2km az=153.7
*CSEM **06** 21:20:50.0,35.°55N×27.°47E,h25km,MD3.5,After ATH*
*ATH **06** 21:20:50.0,35.°55N×27.°47E,h25km±1km,MD3.5/7*

ISC 06 21:20:47.7±1.5,35.°35N±0.°06×27.°62E±0.°04,h13km±9km,
n33,σ1s33/47,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.42**	**298**	*e*PB	**Pg**	**21 20 56.4**	**+0.3**
KARP				*e*SB	**Sg**	**21 21 01.2**	**-0.6**
KARP	**Karpathos**	**0.42**	**298**	*e*Pb	**Pg**	**21 20 56.4**	**+0.3**
KARP				*e*Sb	**Sg**	**21 21 01.2**	**-0.6**
ARG	**Arkhangelos**	**0.96**	**25**	*e*PN	**Pb**	**21 21 06.2**	**+0.1**
ARG				*e*SN	**Sb**	**21 21 19.1**	**+0.3**
ARG	**Arkhangelos**	**0.96**	**25**	*e*Pn	**Pb**	**21 21 06.3**	**+0.1**
ARG				*e*Sn	**Sb**	**21 21 19.1**	**+0.3**
ZKR	**Zakros**	**1.17**	**259**	*e*PN	**Pn**	**21 21 09.3**	**-0.4**
ZKR				*e*SN	**Sn**	**21 21 27.1**	**+1.6**
ZKR	**Zakros**	**1.17**	**259**	*e*Pn	**Pn**	**21 21 09.3**	**-0.4**
ZKR				*e*Sn	**Sn**	**21 21 27.1**	**+1.6**
NPS	**Neapolis**	**1.64**	**268**	*e*PN	**Pb**	**21 21 17.9**	**+0.1**
NPS				*e*SN	**Sn**	**21 21 37.4**	**+0.2**
NPS	**Neapolis**	**1.64**	**268**	*e*Pn	**Pb**	**21 21 17.9**	**+0.1**
NPS				*e*Sn	**Sn**	**21 21 37.4**	**+0.2**
TURN	**Turunc**	**1.72**	**27**	*i* P	**Pn**	**21 21 15.4**	**-1.9**
TURN				*i* S	**Sb**	**21 21 41.1**	**+0.5**
BODT	**Bodrum**	**1.73**	**352**	*e*PN	**Pg**	**21 21 20.6**	**-0.3**
AKAS	**Kas**	**1.84**	**61**	*i* P	**Pn**	**21 21 19.2**	**+0.1**
AKAS				*i* S	**Sg**	**21 21 46.5**	**-0.5**
YER	**Yerkesik**	**1.86**	**17**	*e*PN	**Pg**	**21 21 22.7**	**-0.8**
SIVA	**Sivas**	**2.32**	**263**	*e*PB	**Pb**	**21 21 28.7**	**-0.7**
SIVA	**Sivas**	**2.32**	**263**	*e*Pb	**Pb**	**21 21 28.7**	**-0.7**
ELL	**Elmali**	**2.33**	**52**	*e*PN	**Pn**	**21 21 23.9**	**-1.8**
GLHS	**Gihisar (BURDU**	**2.36**	**40**	*e*PN	**Pn**	**21 21 26.2**	**0.0**
APE	**Apeiranthos**	**2.41**	**316**	*e*PN	**Pn**	**21 21 26.5**	**-0.3**
APE				*e*SN	**Sn**	**21 21 53.5**	**-2.7**
APE	**Apeiranthos**	**2.41**	**316**	*e*Pn	**Pn**	**21 21 26.5**	**-0.3**
APE				*e*Sn	**Sn**	**21 21 53.5**	**-2.7**
SMG	**Samos**	**2.44**	**345**	*e*PB	**Pn**	**21 21 27.8**	**+0.6**
SMG	**Samos**	**2.44**	**345**	*e*Pb	**Pn**	**21 21 27.8**	**+0.6**
DNZL	**Cakiroluk**	**2.61**	**26**	*i* P	**Pn**	**21 21 31.9**	**+2.2**
DNZL				*i* S	**Sg**	**21 22 14.9**	**+3.4**
DENT	**Denizli**	**2.66**	**25**	*e*PN	**Pn**	**21 21 31.3**	**+1.0**
VAM	**Vamos**	**2.79**	**272**	*e*PB	**Pb**	**21 21 35.8**	**-1.6**
VAM	**Vamos**	**2.79**	**272**	*e*Pb	**Pb**	**21 21 35.8**	**-1.6**
GVD	**Gavdhos**	**2.94**	**261**	*e*PN	**Pn**	**21 21 36.2**	**+2.2**
GVD	**Gavdhos**	**2.94**	**261**	*e*Pn	**Pn**	**21 21 36.2**	**+2.2**
IZM	**Izmir**	**3.06**	**355**	*e*PN	**Pn**	**21 21 36.7**	**+1.0**
BLCB	**Balcova**	**3.07**	**352**	*e*PN	**Pn**	**21 21 36.5**	**+0.6**
BCK	**Bucak**	**3.19**	**48**	*e*PN	**Pn**	**21 21 36.1**	**-1.5**
KULA	**Kula-Manisa**	**3.27**	**14**	*e*PN	**Pn**	**21 21 40.5**	**+1.8**
KHL	**Karahalli**	**3.34**	**27**	*e*PN	**Pn**	**21 21 41.1**	**+1.4**
DEMI	**Demirci**	**3.79**	**13**	*i* P	**Pn**	**21 21 44.6**	**-1.3**
DEMI				*i* S	**Sn**	**21 22 31.5**	**+1.1**
KONT	**Konya--Tatoy**	**4.61**	**54**	*e*PN	**Pn**	**21 21 56.1**	**-1.0**

IDC 06 21:24:37.9±2.9,0.°74S×133.°18E,h0km,mb3.3/2,
mb1 3.4/3,mb1mx3.2/17,mbtmp3.2/3,ML3.2/1,Error
ellipse: s-maj=144.1km s-min=28.5km az=75.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.12**	**177**	P	P	21 29 01.4	-1.2
	0.1nm,0.3s,baz=356,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	21 29 43.4	+0.9
	0.3nm,0.4s,baz=359,slow=12,SNR=12						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	21 35 19.1	-0.2
	0.2nm,0.5s,baz=119,slow=7.9,SNR=3.6						

*ISCJB **06** 21:25:11.5±1.2,15.°46S±0.°08×167.°6E±0.°2,h39km,*
mb3.7/8,Error ellipse: s-maj=34.5km s-min=10.5km
az=5.2
*IDC **06** 21:25:22.6±4.8,15.°76S×167.°66E,h131km±47km,mb3.5/8,*
mb1 3.7/9,mb1mx3.6/18,mbtmp3.6/9,Error ellipse:
s-maj=38.8km s-min=29.3km az=156.0

ISC 06 21:25:12.3±1.2,15.°47S±0.°09×167.°8E±0.°3,h39km,n14,
σ1s57/14,mb3.8/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.69**	**191**	P	Pn	21 26 55.6	+7.5
	19nm,0.3s,baz=42,slow=18,SNR=94						
DZM				S	**Sn**	**21 28 05.7**	**+2.4**
	12nm,0.3s,baz=330,slow=23,SNR=10						
DZM	**Mont Dzumac**	**6.69**	**191**	*e*P	Pn	21 26 54.4	+6.2
DZM				*e*S	**Sn**	**21 28 05.0**	**+1.8**
NOUC	**Port Laguerre**	**6.75**	**192**	*e*P	Pn	21 26 55.2	+6.3
NOUC				*e*S	**Sn**	**21 28 01.9**	**-2.6**
WRA	**Warramunga Arr**	**32.15**	**257**	P	**P**	**21 31 35.2**	**-1.3**
	0.4nm,0.7s,baz=85,slow=8.1,SNR=3.0						
ASAR	**Alice Springs**	**32.90**	**250**	P	**P**	**21 31 42.5**	**-0.5**
	0.9nm,0.6s,baz=76,slow=8.9,SNR=14						
USRK	**Ussuriysk Arra**	**67.77**	**333**	P	**P**	**21 36 07.8**	**+1.9**
	0.3nm,0.4s,baz=154,slow=5.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**75.72**	**294**	P	**P**	**21 36 55.0**	**+0.6**
	0.1nm,0.4s,baz=131,slow=5.3,SNR=5.5						
SONM	**Songino Array**	**83.39**	**323**	P	**P**	**21 37 36.0**	**+0.4**
	0.4nm,0.4s,baz=148,slow=6.2,SNR=7.2						
ILAR	**Eielson Array**	**87.07**	**18**	P	**P**	**21 37 52.8**	**-0.7**
	0.2nm,0.5s,baz=236,slow=5.3,SNR=7.4						
MKAR	**Makanchi Array**	**98.09**	**316**	P	**P**	**21 38 44.8**	**-0.1**
	0.4nm,0.6s,baz=106,slow=6.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**98.29**	**324**	P	**P**	**21 38 45.3**	**-0.2**
	0.3nm,0.6s,baz=101,slow=7.5,SNR=2.8						
ARCES	**ARCESS Array B**	**121.09**	**345**	PKP	**PKPdf**	**21 44 00.0**	**-0.2**
	4.1nm,0.9s,baz=67,slow=2.3,SNR=9.7						
FINES	**FINESS Array B**	**126.60**	**338**	PKP	**PKPdf**	**21 44 11.2**	**+0.3**
	7.5nm,1.0s,baz=120,slow=4.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**166.34**	**262**	PKP	**PKPdf**	**21 45 12.2**	**-2.1**
	0.1nm,0.5s,baz=104,slow=0.6,SNR=3.4						

TAP 06 21:32:04.4,21.°24N×122.°95E,h78km±2km,ML4.0,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.53**	**302**	*i* P	Pn	21 32 30.0	-0.1
	baz=302						
LAY				*e*S	Sn	21 32 49.1	-0.4
	baz=302						

ENTT	**Nioudou**	**3.62**	**340**	*e*P	Pn	21	32	59.5 +1.3
	baz=339							
ENTT				*e*S	Sn	21	33	37.8 -1.9
	baz=339							
TWE	**Neicheng**	**3.66**	**341**	*e*P	Pn	21	33	00.1 +1.4
	baz=341							
TWE				*e*S	Sn	21	33	39.0 -1.8
	baz=341							
TWQ1	**Liyutan**	**3.69**	**327**	*e*P	Pn	21	33	02.2 +3.1
	baz=314							
NSK	**Sanguang**	**3.72**	**337**	P	Pn	21	33	00.7 +1.0
	baz=337							
NSK				*e*S	Sn	21	33	41.2 -1.2
	baz=337							
NSTT	**Nanjuang**	**3.83**	**332**	*e*P	Pn	21	33	03.2 +2.2
	baz=332							
NSTT				*e*S	Sn	21	33	42.8 -2.0
	baz=332							

IDC 06 21:33:11.3±7.8, 0.66S×133.77E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=448.2km s-min=26.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.17**	**178**	P	P	21 37 36.7	+0.1
	0.1nm,0.3s,baz=358,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**22.87**	**180**	P	P	21 38 16.6	0.0
	0.5nm,0.6s,baz=1.3,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**65.19**	**324**	P	P	21 43 54.5	0.0
	0.1nm,0.4s,baz=103,slow=8.3,SNR=2.6						

JMA 06 21:38:28.1±0.3, 43.72N×147.77E, h20km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.52**	**257**	P	Pb	21 38 54.8	-0.7
NEM2				*e*S	Sb	21 39 13.9	-0.4
JRA	**Rausu**	**1.93**	**277**	P	Pn	21 39 00.7	+1.0
JAK	**Akkeshi**	**2.35**	**253**	P	Pn	21 39 06.6	+1.0
JAR	**Ashorobuto**	**2.94**	**263**	P	Pn	21 39 15.4	+1.7
JOB	**Onbets**	**2.99**	**255**	P	Pn	21 39 15.5	+1.2
JCH	**Churui**	**3.41**	**253**	P	Pn	21 39 21.7	+1.6
JFR	**Furan**	**3.81**	**263**	P	Pn	21 39 28.1	+2.4
JNBK	**Urakawa-nobuka**	**3.95**	**250**	P	Pn	21 39 29.1	+1.5

*IDC **06** 21:43:07.2±1.0, 0.52S×131.89E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/21, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=63.9km s-min=14.7km az=71.0*
*ISCJB **06** 21:43:10.4±0.7, 0.66S±0.06×131.5E±0.2, h31km, mb3.9/8, Error ellipse: s-maj=23.5km s-min=8.7km az=174.8*
*DJA **06** 21:43:11, 0.54S×132.15E, h10km, MLv4.4/9*
*NEIC **06** 21:43:12.6±0.6, 0.56S×131.79E, h35km, mb3.9/4, Error ellipse: s-maj=31.2km s-min=7.8km az=74.0*
ISC 06 21:43:12.4±0.9, 0.74S±0.08×131.4E±0.2, h31km, n22, σ1§34/24, mb4.0/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.16**	**198**	P	P	21 47 24.1	+1.8
	0.6nm,0.3s,baz=35,slow=11,SNR=11						
FITZ				S	Sn	21 50 42.0	-2.3
	0.2nm,0.3s,baz=164,slow=18,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.16**	**198**	*e*P	P	21 47 24.7	+2.3
	3.2nm,0.5s						
FITZ				S	Sn	21 50 42.0	-2.3
WRAB	**Tennant Creek**	**19.29**	**172**	*e*P	Pn	21 47 36.4	+0.4
	4.6nm,0.5s						
WRA	**Warramunga Arr**	**19.30**	**172**	P	Pn	21 47 36.3	+0.2
	0.6nm,0.3s,baz=351,slow=11,SNR=39						
WRA				S	Sn	21 50 59.8	-12
	0.1nm,0.3s,baz=354,slow=24,SNR=3.0						
WRA	**Warramunga Arr**	**19.30**	**172**	P	Pn	21 47 36.3	+0.2
WRA				S	Sn	21 50 59.8	-12
AS31	**Alice Springs**	**22.92**	**174**	*e*P	P	21 48 14.7	+0.8
ASAR	**Alice Springs**	**22.92**	**174**	P	P	21 48 15.7	+1.8
	14nm,0.8s,baz=350,slow=9.4,SNR=86						
ASAR	**Alice Springs**	**22.92**	**174**	P	P	21 48 15.7	+1.8
CTA	**Charters Tower**	**24.09**	**144**	P	P	21 48 24.1	-1.2
	5.6nm,0.8s,baz=331,slow=8.2,SNR=3.2						
CTA	**Charters Tower**	**24.09**	**144**	P	P	21 48 24.1	-1.2
STKA	**Stephens Creek**	**32.43**	**164**	P	P	21 49 38.7	-1.0
	2.1nm,0.6s,baz=344,slow=8.1,SNR=7.3						
STKA	**Stephens Creek**	**32.43**	**164**	*e*P	P	21 49 39.8	+0.1
	0.4nm,0.6s						
SONM	**Songino Array**	**53.06**	**339**	P	P	21 52 26.1	-0.7
	0.4nm,0.5s,baz=155,slow=9.4,SNR=3.5						
SONM	**Songino Array**	**53.06**	**339**	P	P	21 52 26.1	-0.7
MKAR	**Makanchi Array**	**63.88**	**325**	P	P	21 53 43.4	+1.2
	1.2nm,0.7s,baz=117,slow=7.9,SNR=9.4						
MKAR	**Makanchi Array**	**63.88**	**325**	P	P	21 53 43.4	+1.2
ZALV	**Zalesovo Beam**	**66.69**	**332**	P	P	21 53 58.9	-1.2
	0.2nm,0.3s,baz=116,slow=9.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**66.69**	**332**	P	P	21 53 58.9	-1.2
KURK	**Kurchatov**	**68.01**	**327**	P	P	21 54 08.8	+0.2
	1.4nm,0.8s,baz=119,slow=6.5,SNR=6.3						
KURK	**Kurchatov**	**68.01**	**327**	P	P	21 54 08.2	-0.3
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**73.60**	**327**	P	P	21 54 43.2	+0.6
	0.7nm,0.8s,baz=121,slow=5.7,SNR=3.7						
BVAR	**Borovoye Array**	**73.60**	**327**	P	P	21 54 43.2	+0.6

*NIED **06** 21:44:00, 37.00N×141.50E, h41km, Mw3.9 Best double couple: M0 9.12000×10^14 NP1:φs15.00000°, δ81.00000°, λ86.00000°. NP2:φs220.00000°, δ10.00000°, λ114.00000°.*
*ISCJB **06** 21:44:35.4±0.6, 36.96N±0.04×141.71E±0.05, h33km, mb3.8/11, MS3.1/2, Error ellipse: s-maj=5.9km s-min=5.0km az=135.7*
*JMA **06** 21:44:36.8±0.2, 36.97N×141.54E, h49km±2km, M4.0 Broadband fault plane solution: P waves. NP1: φs319.00000°, δ82.00000°, λ79.00000°. NP2: φs192.00000°, δ14.00000°, λ143.00000°. Principal axes: T Plg52.0000°, Azm216.0000°; N Plg11.0000°, Azm320.0000°; P Plg36.0000°, Azm58.0000°;*
JMA Felt II J1.
*IDC **06** 21:44:37.7±1.2, 36.98N×141.67E, h37km±7km, mb3.5/9, mb1 3.6/10, mb1mx3.5/25, mbtmp3.5/10, ML3.6/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/36 Error ellipse: s-maj=24.6km s-min=19.4km az=86.0*
*NEIC **06** 21:44:38.1±1.2, 36.97N×141.73E, h44km±9km, mb4.1/3, Error ellipse: s-maj=16.5km s-min=14.5km az=50.0*
NEIC Recorded [2 JMA] in Fukushima.
ISC 06 21:44:37.2±0.9, 36.98N±0.05×141.67E±0.07, h33km, h33km:pP-P, n44, σ1§27/60, mb3.8/11, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.71**	**280**	⇓P	Pn	21 44 49.3	-1.7
ONAJ				*e*S	Sn	21 44 58.1	-2.7
JFK	**Kawauchi**	**0.74**	**301**	⇓P	Pn	21 44 49.9	-1.5
JFK				*e*S	Sn	21 44 59.1	-2.5
JHO	**Hitachi**	**0.96**	**247**	⇓P	Pn	21 44 52.4	-2.0
JHO				*e*S	Sn	21 45 03.9	-3.0
JMM	**Marumori**	**1.12**	**322**	⇑P	Pn	21 44 55.6	-1.0
JMM				*e*S	Sn	21 45 09.2	-1.8
JFT	**Otama**	**1.19**	**297**	⇓P	Pn	21 44 57.3	-0.3
JFT				*e*S	Sn	21 45 11.4	-1.2
JIO	**Ouri**	**1.49**	**350**	⇑P	Pn	21 45 01.1	-0.6
JIO				S	Sn	21 45 18.2	-1.8
JOU	**Okura**	**1.59**	**330**	P	Pn	21 45 03.3	+0.2
JOU				S	Sn	21 45 23.0	+0.4
JFY	**Yanaizu**	**1.63**	**286**	P	Pn	21 45 03.2	-0.4
JFY				*e*S	Sn	21 45 22.9	-0.5
JYS	**Shirataka**	**1.77**	**315**	⇓P	Pn	21 45 05.8	+0.2
JYS				*e*S	Sn	21 45 27.3	+0.3
JAG	**Ashikaga**	**1.87**	**253**	⇓P	Pn	21 45 05.8	-1.1
JAG				*e*S	Sn	21 45 26.7	-2.6
JKT	**Katashina**	**1.95**	**264**	P	Pn	21 45 07.9	-0.3
JKT				*e*S	Sn	21 45 30.6	-1.0
MJAR	**Matsushiro Arr**	**2.81**	**262**	Pn	Pn	21 45 20.1	+0.2
	10nm,0.3s,baz=83,slow=15,SNR=60						
MJAR				Sn	Sn	21 45 56.1	+3.3
	10nm,0.3s,baz=312,slow=28,SNR=6.3						
MJAR				LR	LR	21 46 43.4	
	comp=Z,349nm,20.1s,baz=140,slow=45						
MJAR	**Matsushiro Arr**	**2.81**	**262**	Pn	Pn	21 45 20.1	+0.2
MJAR				Sn	Sn	21 45 56.1	+3.3
MAJO	**Matsushiro**	**2.82**	**262**	*e*Pn	Pn	21 45 20.9	+0.9
MAJO				*e*Sn	Sn	21 45 52.8	0.0
MAT	**Matsushiro**	**2.82**	**262**	P	Pn	21 45 20.5	+0.6
MAT				S	Sn	21 45 55.6	+2.8
USRK	**Ussuriysk Arra**	**10.29**	**317**	Pn	Pn	21 47 08.8	+6.3
	0.3nm,0.3s,baz=132,slow=12,SNR=12						
USRK				LR	LR	21 50 38.2	
	comp=Z,44nm,19.7s,baz=51,slow=35						
KSRS	**Korea Array**	**10.97**	**277**	Pn	Pn	21 47 16.5	+4.6
	0.1nm,0.3s,baz=88,slow=13,SNR=4.4						
KSRS				LR	LR	21 51 10.5	
	comp=Z,74nm,19.3s,baz=342,slow=36						
KSAR	**Wonju Array Be**	**11.01**	**277**	Pn	Pn	21 47 16.5	+4.2
JOW	**Kunigami**	**15.21**	**232**	LR	LR	21 53 44.1	
	comp=Z,56nm,19.3s,baz=92,slow=36						
GUMO	**Guam**	**23.47**	**172**	LR	LR	21 57 46.7	
	comp=Z,92nm,18.4s,baz=93,slow=34						
ULN	**Ulaanbaatar**	**27.55**	**304**	*e*P	P	21 50 20.6	-0.5
	0.9nm,0.6s						
SONM	**Songino Array**	**27.98**	**304**	P	P	21 50 25.1	+0.2
	1.0nm,0.6s,baz=109,slow=10,SNR=6.4						
SONM				pP	pP	21 50 35.6	+1.1
	1.2nm,0.6s,baz=106,slow=9.2,SNR=6.1						
SONM				LR	LR	22 00 55.4	
	comp=Z,34nm,18.8s,baz=90,slow=35						
SONM	**Songino Array**	**27.98**	**304**	P	P	21 50 25.1	+0.2
SONM				pP	pP	21 50 35.6	+1.1
CMAR	**Chiang Mai Arr**	**41.68**	**256**	pP	pP	21 52 34.5	+1.9
	0.3nm,0.7s,baz=52,slow=2.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.68**	**256**	pP	pP	21 52 34.5	+1.9
ZAA0	**Zalesovo Array**	**42.10**	**312**	*e*P	P	21 52 25.9	0.0
ZALV	**Zalesovo Beam**	**42.10**	**312**	P	P	21 52 25.9	0.0
	0.7nm,0.6s,baz=96,slow=7.1,SNR=5.5						
ZALV				pP	pP	21 52 36.5	+0.8
	3.2nm,0.9s,baz=90,slow=7.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**42.10**	**312**	P	P	21 52 25.9	0.0
ZALV				pP	pP	21 52 36.5	+0.8
MK31	**Makanchi Array**	**44.32**	**302**	*e*P	P	21 52 43.6	-0.4
MKAR	**Makanchi Array**	**44.32**	**302**	P	P	21 52 43.4	-0.6
	0.9nm,0.9s,baz=82,slow=9.8,SNR=3.7						
MKAR				pP	pP	21 52 54.5	+0.7
	1.3nm,0.8s,baz=87,slow=10,SNR=9.9						
MKAR	**Makanchi Array**	**44.32**	**302**	P	P	21 52 43.4	-0.6
MKAR				pP	pP	21 52 54.5	+0.7
KURK	**Kurchatov**	**46.12**	**308**	P	P	21 52 58.2	0.0
	1.6nm,0.7s,baz=83,slow=8.1,SNR=10						
KURK				pP	pP	21 53 09.2	+1.2
	2.2nm,0.7s,baz=83,slow=8.4,SNR=9.8						
KURK	**Kurchatov**	**46.12**	**308**	*e*P	P	21 52 58.1	0.0
	3.8nm,0.7s						
KURK				pP	pP	21 53 09.2	+1.2
ILAR	**Eielson Array**	**49.42**	**32**	P	P	21 53 23.2	-0.3
	0.9nm,0.7s,baz=269,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**49.42**	**32**	P	P	21 53 23.2	-0.3
BVAR	**Borovoye Array**	**50.76**	**312**	P	P	21 53 33.9	+0.1
	0.4nm,0.6s,baz=59,slow=5.6,SNR=3.8						
BVAR	**Borovoye Array**	**50.76**	**312**	P	P	21 53 33.9	+0.1
WRA	**Warramunga Arr**	**57.04**	**188**	P	P	21 54 19.4	-0.6
	0.5nm,0.5s,baz=6.9,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**57.04**	**188**	P	P	21 54 19.4	-0.6
ABKAR	**Akbulak array**	**58.13**	**310**	*e*P	P	21 54 27.5	0.0
	0.9nm,0.6s						
ASAR	**Alice Springs**	**60.77**	**188**	P	P	21 54 46.1	+0.3
	0.5nm,0.7s,baz=12,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**60.77**	**188**	P	P	21 54 46.1	+0.3
RES	**Resolute Bay**	**62.60**	**14**	P	P	21 54 57.9	+0.4
	0.9nm,1.0s,baz=255,slow=10,SNR=7.3						
RES	**Resolute Bay**	**62.60**	**14**	P	P	21 54 57.9	+0.4

IDC 06 21:54:12.4±2.8, 0.30S×132.78E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=169.6km s-min=23.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.03**	**201**	S	S	22 01 57.7	-15
	0.1nm,0.3s,baz=240,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**19.58**	**176**	P	P	21 58 42.1	-0.1
	0.1nm,0.3s,baz=354,slow=11,SNR=6.8						
WRA				S	Sn	22 02 12.7	-11
	0.1nm,0.3s,baz=356,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**23.25**	**177**	P	P	21 59 21.8	+0.1
	1.8nm,0.8s,baz=359,slow=11,SNR=16						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	22 04 50.6	+0.7
	0.1nm,0.3s,baz=120,slow=8.5,SNR=4.2						
KURK	**Kurchatov**	**68.39**	**326**	P	P	22 05 15.3	-0.6
	0.4nm,1.0s,baz=116,slow=6.5,SNR=5.3						

IDC 06 22:02:44.6±4.1, 6.73S×155.75E, h238km±40km, mb3.2/7, mb1 3.5/9, mb1mx3.3/19, mbtmp3.3/9, Error ellipse: s-maj=25.6km s-min=23.3km az=170.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.92**	**252**	P	Pn	22 04 50.2	+0.6
	1.5nm,0.3s,baz=296,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**18.42**	**147**	P	P	22 06 42.8	+0.1
	0.6nm,0.3s,baz=344,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**24.59**	**236**	P	P	22 07 43.4	0.0
	1.3nm,0.4s,baz=60,slow=11,SNR=32						
ASAR	**Alice Springs**	**26.91**	**229**	P	P	22 08 03.9	-0.3
	1.2nm,0.3s,baz=61,slow=9.5,SNR=20						
FITZ	**Fitzroy Crossi**	**31.45**	**246**	P	P	22 08 43.8	-0.4
	2.3nm,0.6s,baz=73,slow=8.5,SNR=5.5						
SONM	**Songino Array**	**69.52**	**327**	P	P	22 13 27.3	-0.5
	0.6nm,0.7s,baz=130,slow=6.7,SNR=4.5						
ILAR	**Eielson Array**	**82.85**	**21**	P	P	22 14 41.5	-0.7
	0.3nm,0.8s,baz=243,slow=4.0,SNR=3.4						
MKAR	**Makanchi Array**	**83.71**	**318**	P	P	22 14 48.4	+1.4
	0.4nm,0.8s,baz=120,slow=4.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.38**	**326**	P	P	22 14 49.9	-0.2
	0.2nm,0.4s,baz=90,slow=1.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**153.68**	**286**	PKPbc	PKPbc	22 22 17.2	+0.9
	0.2nm,0.5s,baz=51,slow=4.2,SNR=3.2						

*DJA **06** 22:22:01, 2.30S×131.01E, h25km, MLv3.4/4*
IDC 06 22:21:40.2±1.9, 0.69S×133.14E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=81.2km s-min=23.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.81**	**203**	P	P	22 26 00.6	-1.1
	0.1nm,0.3s,baz=26,slow=12,SNR=2.8						
FITZ				S	Sn	22 29 21.5	-12
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**19.18**	**177**	P	P	22 26 05.7	+0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=9.0						
WRA				S	Sn	22 29 32.5	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**22.86**	**178**	P	P	22 26 46.4	+0.9
	1.8nm,0.4s,baz=358,slow=11,SNR=23						
STKA	**Stephens Creek**	**32.04**	**166**	P	P	22 28 08.2	-0.5
	0.6nm,0.5s,baz=342,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**64.84**	**324**	P	P	22 32 21.2	-0.1
	0.1nm,0.3s,baz=124,slow=7.7,SNR=2.2						

IDC 06 22:36:06.8±5.2, 30.45S×178.04W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=198.7km s-min=55.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.07**	**267**	P	P	22 44 08.8	+0.1
	0.3nm,0.5s,baz=106,slow=7.6,SNR=4.4						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	22 44 16.4	-0.4
	0.3nm,0.3s,baz=113,slow=8.0,SNR=17						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	22 55 44.5	-0.7
	6.2nm,1.0s,baz=44,slow=4.8,SNR=3.0						

*IDC **06** 22:47:27.6±0.7, 0.32S×132.57E, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML4.4/3, Error ellipse: s-maj=35.8km s-min=14.2km az=77.0*
*ISCJB **06** 22:47:30.6±0.5, 0.36S±0.06×132.5E±0.1, h33km, mb4.3/18, Error ellipse: s-maj=17.1km s-min=8.1km az=168.7*
*NEIC **06** 22:47:32.5±0.4, 0.39S×132.49E, h35km, mb4.6/11, Error ellipse: s-maj=12.6km s-min=6.1km az=75.0*
ISC 06 22:47:32.3±0.6, 0.37S±0.08×132.5E±0.1, h33km, n38, σ0§80/38, mb4.3/18, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.57**	**250**	Pn	Pn	22 50 44.1	+1.5
	1.3nm,0.3s,baz=79,slow=8.9,SNR=6.3						
KAPI	**Kappang**	**13.57**	**250**	*e*Pn	Pn	22 50 42.1	-0.5
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.88**	**201**	P	P	22 51 48.3	-1.7
	1.5nm,0.3s,baz=34,slow=10,SNR=16						
FITZ	**Fitzroy Crossi**	**18.88**	**201**	*e*Pn	P	22 51 48.5	-1.5
	182nm,1.9s						
WRAB	**Tennant Creek**	**19.53**	**175**	*e*P	P	22 51 57.3	+0.2
	2µm,1.4s						
WRA	**Warramunga Arr**	**19.53**	**175**	P	P	22 51 56.6	-0.6
	0.8nm,0.3s,baz=355,slow=11,SNR=43						
WRA	**Warramunga Arr**	**19.53**	**175**	P	P	22 51 56.6	-0.6
AS31	**Alice Springs**	**23.20**	**177**	*e*P	P	22 52 36.5	+0.1
ASAR	**Alice Springs**	**23.20**	**177**	P	P	22 52 37.1	+0.7
	27nm,1.1s,baz=358,slow=10,SNR=68						
ASAR	**Alice Springs**	**23.20**	**177**	P	P	22 52 37.1	+0.7
CTA	**Charters Tower**	**23.76**	**146**	P	P	22 52 43.1	+1.2
	6.1nm,0.9s,baz=337,slow=8.2,SNR=3.7						
CTA	**Charters Tower**	**23.76**	**146**	P	P	22 52 43.1	+1.2
CTAO	**Charters Tower**	**23.76**	**146**	*e*P	P	22 52 42.4	+0.4
	25nm,1.3s						
MBWA	**Marble Bar**	**24.15**	**210**	*e*P	P	22 52 46.6	+1.1
	32nm,1.3s						
STKA	**Stephens Creek**	**32.49**	**166**	P	P	22 54 00.8	+0.9
	3.2nm,0.8s,baz=326,slow=8.2,SNR=5.2						
STKA	**Stephens Creek**	**32.49**	**166**	*e*P	P	22 53 57.9	-2.1
	1.6nm,1.1s						
CM31	**Chiang Mai Arr**	**37.94**	**301**	P	P	22 54 46.5	-0.6
	4.6nm,0.3s						
USRK	**Ussuriysk Arra**	**44.38**	**359**	P	P	22 55 39.8	+0.3
	2.4nm,0.9s,baz=162,slow=9.1,SNR=4.6						
SONM	**Songino Array**	**53.12**	**338**	P	P	22 56 47.3	+0.4
	0.8nm,0.7s,baz=177,slow=9.6,SNR=4.3						
SONM	**Songino Array**	**53.12**	**338**	P	P	22 56 47.3	+0.4
YAK	**Yakutsk**	**62.27**	**358**	*e*P	P	22 57 50.7	-0.1
	10.0nm,0.6s						
MK31	**Makanchi Array**	**64.23**	**324**	*e*P	P	22 58 04.1	0.0
MKAR	**Makanchi Array**	**64.23**	**324**	P	P	22 58 04.7	+0.6
	2.2nm,0.7s,baz=118,slow=7.9,SNR=28						
MKAR	**Makanchi Array**	**64.23**	**324**	P	P	22 58 04.7	+0.6
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	P	22 58 20.5	-0.6
	0.8nm,0.4s,baz=111,slow=8.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	P	22 58 20.5	-0.6
KURK	**Kurchatov**	**68.31**	**326**	P	P	22 58 30.6	+0.5
	2.6nm,0.8s,baz=121,slow=6.1,SNR=27						
KURK	**Kurchatov**	**68.31**	**326**	*e*P	P	22 58 29.9	-0.3
	13nm,1.5s						
KBL	**Kabul**	**68.60**	**307**	*e*P	P	22 58 32.5	-0.1
	3.5nm,1.1s						
KKAR	**Karatay Array**	**70.17**	**317**	*e*P	P	22 58 41.8	-0.1
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**73.91**	**326**	P	P	22 59 04.4	+0.3
	1.8nm,0.8s,baz=111,slow=8.1,SNR=8.0						
BVAR	**Borovoye Array**	**73.91**	**326**	P	P	22 59 04.4	+0.3
ABKAR	**Akbulak array**	**78.97**	**320**	*e*P	P	22 59 32.6	-0.2
	2.0nm,0.8s						
AKTO	**Aktyubinsk**	**80.45**	**321**	P	P	22 59 41.0	+0.2
	1.3nm,0.8s,baz=97,slow=5.3,SNR=5.2						
AKTO	**Aktyubinsk**	**80.45**	**321**	P	P	22 59 41.0	+0.2
ILAR	**Eielson Array**	**86.31**	**25**	P	P	23 00 09.9	-0.7
	1.1nm,0.7s,baz=262,slow=3.9,SNR=12						
ILAR	**Eielson Array**	**86.31**	**25**	P	P	23 00 09.9	-0.7
QSPA	**South Pole Qui**	**89.56**	**180**	*e*P	P	23 00 26.1	-0.2
	6.8nm,1.2s						

*IDC **06** 22:48:24.4±0.3, 0.61S×133.43E, h0km, mb5.5/28, mb1 5.5/32, mb1mx5.5/32, mbtmp5.5/32, ML4.9/4, MS5.8/19, Ms1 5.8/19, ms1mx5.5/31, Error ellipse: s-maj=15.1km s-min=7.6km az=67.0*
*BJI **06** 22:48:25.1, 0.83S×133.85E, h31km, mB6.0/39, mb5.7/70, Ms5.7/74, Ms7 5.5/65*
*NEIC **06** 22:48:27.2±0.1, 0.66S×133.43E, h16km, mb5.9/79, ME5.4, MS5.9/177, MW6.0, MW5.9, Error ellipse: s-maj=5.1km s-min=3.7km az=69.0 Broadband fault plane solution: P waves. NP1:φs120.00000°, δ80.00000°, λ-100.00000°. NP2:φs345.00000°, δ14.00000°, λ-45.00000°. Principal axes: T Plg34.0000°, Azm219.0000°; N Plg0.0000°, Azm0.0000°; P Plg54.0000°, Azm18.0000°; Moment Tensor Solution. s57 Moment tensor: Scale 10^17 Nm; Mrr-0.62; Mθθ-3.84; Mφφ4.46; Mrθ-5.62; Mθφ-2.26; Mφr2.92; Best double couple: M0 7.90000×10^17 NP1:φs28.00000°, δ37.00000°, λ-5.00000°. NP2:φs122.00000°, δ87.00000°, λ-127.00000°. Principal axes: T 7.7500, Plg32.0000°, Azm241.0000°; N 0.3200, Plg36.0000°, Azm123.0000°; P -8.0800, Plg36.0000°, Azm359.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Manokwari and [III] at Sorong.
*MOS **06** 22:48:28.5±1.2, 0.56S×133.41E, h33km, mb6.1/41, MS5.7/37 Error ellipse: s-maj=8.9km s-min=5.1km az=111.1*
*ISCJB **06** 22:48:28.1±0.5, 0.66S±0.02×133.55E±0.02, h33km±4km, mb5.8/187, MS5.8/238, Error ellipse: s-maj=4.0km s-min=3.2km az=143.9*
*DJA **06** 22:48:33, 0.82S×133.46E, h51km, Mw6.1/72*
*NEIC **06** 22:48:38.5±0.0, 0.98S×133.48E, h19km, Moment Tensor Solution. s134 Moment tensor: Scale 10^18 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00

1µm,2.0s,24µm
BUKP Musuan 11.93 316 *e*P Pn 22 51 21.1 +3.4
MTN Manton Dam 12.29 191 *e*P **Pn** **22 51 20.4 -2.1**
MTN *e*S Sn 22 53 31.0 -7.4
PAGZ Pagadian 13.14 310 *e*P **Pn** **22 51 34.8 +0.6**
MMRI Maumere 13.67 234 P **Pn** **22 51 42.7 +1.3**
1µm,1.7s,19µm36µm
MSLP Maasin 13.74 322 *e*P **Pn** **22 51 43.8 +1.4**
SPSI Sidrap Palu 14.04 256 P **Pn** **22 51 49.3 +2.7**
840nm,1.2s,10µm21µm
BKSI Bulukumba 14.07 251 P **Pn** **22 51 48.6 +1.7**
815nm,1.2s,13µm21µm
SNPH Sibulan 14.24 315 *e*P **P** **22 51 53.3 -2.9**
KAPI Kappang 14.33 252 Pn **Pn** **22 51 50.6 +0.1**
6.3nm,0.3s,baz=94,slow=6.7,SNR=66
KAPI Sn **Sn** **22 54 28.3 0.0**
baz=155,slow=17,SNR=1.4
KAPI LR LR 22 57 44.5
comp=Z,10µm,19.4s,baz=86,slow=39
KAPI Kappang 14.33 252 Pn **Pn** **22 51 50.6 +0.1**
KAPI *e*Pn P 22 51 51.7 -5.4
KAPI Sn **Sn** **22 54 28.9 +0.6**
KAPI Kappang 14.33 252 P **Pn** **22 51 51.9 +1.4**
1µm,1.3s,14µm
PLP Palo 14.48 325⇑ *i*P **Pn** **22 51 51.9 -0.6**
MJSI Majene 14.73 259 P **P** **22 52 01.5 -0.1**
GUIM Jordan 15.59 316 *e*P **Pn** **22 52 08.4 +1.2**
WSI Waingapu 15.83 235 P **P** **22 52 13.0 -0.8**
1µm,1.5s,23µm53µm
MYLDM Lahad Datu 16.03 292 P **P** **22 52 17.7 +1.7**
MYLDM Lahad Datu 16.03 292 P **P** **22 52 17.7 +1.7**
431nm,1.3s,17µm
PMG Port Moresby 16.16 123 Pn **Pn** **22 52 15.4 +0.8**
1.9nm,0.3s,baz=319,slow=8.6,SNR=30
PMG Sn **Sn** **22 55 18.1 +5.1**
0.6nm,0.3s,baz=277,slow=17,SNR=2.0
PMG Port Moresby 16.16 123 P **Pn** **22 52 15.4 +0.8**
PMG 22 55 18.1
PMG Port Moresby 16.16 123 Pn **Pn** **22 52 15.4 +0.8**
PMG *e*Pn **P** **22 52 15.9 -1.6**
PMG Sn **Sn** **22 55 18.1 +5.1**
RCP Roxas 16.16 319⇑ *e*P **Pn** **22 52 15.8 +1.2**
COEN Coen 16.32 144 *e*Pn **Pn** **22 52 16.0 -0.7**
3µm,1.0s
COEN *e*Sn **Sn** **22 55 14.2 -2.6**
TSM Tawau 16.33 288 P **P** **22 52 19.3 0.0**
CUYO Cuyo Island 16.86 313 *e*P **P** **22 52 26.3 +1.1**
PVCP Virac 16.92 327 *e*P **Pn** **22 52 24.0 -0.2**
SDKM Sandakan 17.40 291 P **P** **22 52 31.1 -0.2**
KBKI Kotabaru 17.46 261 P **P** **22 52 33.5 +1.6**
409nm,1.4s,9µm35µm
GUMO Guam 18.15 38 P **Pn** **22 52 39.1 -0.3**
9.5nm,0.3s,baz=170,slow=3.3,SNR=9.5
GUMO S **S** **22 56 08.0 +2.2**
6.2nm,0.3s,baz=259,slow=5.2,SNR=2.6
GUMO Guam 18.15 38 P **Pn** **22 52 39.1 -0.3**
GUMO Guam 18.15 38 P **Pn** **22 52 39.1 -0.3**
GUMO *e*P **P** **22 52 39.8 +0.3**
GUMO S **S** **22 56 08.0 +2.2**
BATP Bataraza 18.22 302 *e*P **Pn** **22 52 44.0 +3.8**
KDM Kudat 18.22 295 P **Pn** **22 52 44.1 +3.8**
ENPP El Nido 18.27 311 *e*P **Pn** **22 52 43.0 +2.1**
KKM Kota Kinabalu 18.46 291 *e*P **Pn** **22 52 44.8 +1.5**
400nm,1.1s
KKM Kota Kinabalu 18.46 291 P **Pn** **22 52 45.0 +1.7**
KKM Kota Kinabalu 18.46 291 P **Pn** **22 52 45.0 +1.7**
344nm,1.8s,7µm17µm
BBKI Banjar Baru 18.79 261 P **Pn** **22 52 50.9 +3.6**
977nm,1.5s,24µm
FITZ Fitzroy Crossi 18.92 203 P **P** **22 52 44.6 -3.3**
baz=28,slow=14,SNR=69
FITZ S Sn 22 56 05.6 -14
3.8nm,0.3s,baz=347,slow=8.3,SNR=3.7
FITZ LR LR 23 01 31.9
comp=Z,19µm,18.6s,baz=31,slow=42
FITZ Fitzroy Crossi 18.92 203 *e*P **P** **22 52 44.6 -3.3**
804nm,1.0s
FITZ *e*S Sn 22 56 08.1 -12
FITZ Fitzroy Crossi 18.92 203 P **P** **22 52 44.6 -3.3**
FITZ S Sn 22 56 05.6 -14
MTNI Mataram 18.93 245 P **Pn** **22 52 49.0 +0.1**
1µm,1.4s,27µm
WRA Warramunga Arr 19.15 177 P **P** **22 52 48.5 -2.0**
7.7nm,0.3s,baz=358,slow=12,SNR=24
WRA S Sn 22 56 14.2 -11
4.6nm,0.3s,baz=355,slow=23,SNR=6.2
WRA Warramunga Arr 19.15 177 P **P** **22 52 48.5 -2.0**
WRA S Sn 22 56 14.2 -11
WRA Warramunga Arr 19.15 177 P **P** **22 52 48.5 -2.0**
WRA S Sn 22 56 14.2 -11
TGY Tagaytay City 19.22 320 P **Pn** **22 52 53.8 +1.3**
baz=221,slow=9.6,SNR=18
TGY S **Sn** **22 56 24.7 -2.4**
30nm,0.3s,baz=201,slow=17,SNR=1.5
TGY Tagaytay City 19.22 320 P **Pn** **22 52 53.8 +1.3**
TGY S **Sn** **22 56 24.7 -2.4**
TGY Tagaytay City 19.22 320 P **Pn** **22 52 53.8 +1.3**
TGY S **Sn** **22 56 24.7 -2.4**
KHKI Kahang-Kahang 19.33 246 P **Pn** **22 52 53.6 -0.1**
544nm,2.4s,35µm69µm
IGBI Denpasar 19.93 246 P **Pn** **22 53 03.5 +2.7**
390nm,1.1s
BALP Baler 20.10 325 *e*P **P** **22 53 01.2 +0.3**
NBBI Negara 20.24 247 P Pn 22 53 06.0 +1.5
2µm,2.1s,43µm
KMMI Kalianget 20.42 252 P Pn 22 53 08.6 +1.9
998nm,2.5s,25µm121µm
BTM Bintulu 20.72 281 P Pn 22 53 10.5 +0.4
BLJI Banyuglugur 20.99 250 P Pn 22 53 12.4 -0.8
1µm,2.2s,37µm
SCZP Santa Cruz 21.13 321 *e*P **P** **22 53 11.8 -0.2**
GMJI Gumukmas 21.30 249 P **P** **22 53 15.3 +1.4**
794nm,1.6s,17µm44µm
SBUM Sibu 21.45 278 P **P** **22 53 18.3 +2.8**
SBUM Sibu 21.45 278 P **P** **22 53 18.3 +2.8**
705nm,1.6s,11µm
BOLP Bolinao 21.59 322 *e*P **P** **22 53 18.7 +1.8**
PBKI Pangkalan Bun 21.86 264 P **P** **22 53 22.2 +2.4**
1µm,1.2s,17µm
STKI Sintang 21.98 272 P **P** **22 53 23.3 +2.1**
236nm,1.9s,10µm
KRKI Karangkates 22.19 250 P P 22 53 29.7 +6.3
913nm,1.1s,28µm
SJI Sawahan 22.71 251 P **P** **22 53 29.7 +0.6**
939nm,2.0s,19µm
PWJI Pagerwojo 22.76 251 P **P** **22 53 30.0 +0.5**
457nm,1.6s,9µm
AS31 Alice Springs 22.84 179 *e*P **P** **22 53 29.3 -1.0**
ASAR Alice Springs 22.84 179 P **P** **22 53 29.2 -1.1**
348nm,0.8s,baz=3.9,slow=11,SNR=78
ASAR S S 22 57 24.8 -13
41nm,1.1s,baz=360,slow=23,SNR=2.6
ASAR Alice Springs 22.84 179 P **P** **22 53 29.2 -1.1**
ASAR S S 22 57 24.8 -13
ASAR Alice Springs 22.84 179 P **P** **22 53 29.2 -1.1**
ASAR S S 22 57 24.8 -13
NGJI Ngawi 22.90 253 P **P** **22 53 33.1 +2.2**
27µm,1.5s,586µm
CTA Charters Tower 22.99 148 P **P** **22 53 33.2 +1.3**
89nm,0.7s,baz=326,slow=12,SNR=50
CTA S **S** **22 57 44.0 +3.7**
23nm,0.9s,baz=299,slow=19,SNR=2.8
CTA LR LR 23 03 44.0
comp=Z,46µm,19.3s,baz=329,slow=40
CTA Charters Tower 22.99 148 *e*P **P** **22 53 32.8 +0.9**
660nm,1.0s
CTA *e*S **S** **22 57 40.2 -0.1**
CTA Charters Tower 22.99 148 P **P** **22 53 33.2 +1.3**
CTA S **S** **22 57 44.0 +3.7**
CTA Charters Tower 22.99 148 P **P** **22 53 33.2 +1.3**
CTA S **S** **22 57 44.0 +3.7**
CTAO Charters Tower 22.99 148 *e*P **P** **22 53 31.9 0.0**
CTAO pmax pmax
comp=Z,1µm,1.0s
CTAO MLR MLR
comp=Z,77µm,19.0s
CTAO Charters Tower 22.99 148 *e*P **P** **22 53 31.9 0.0**
comp=Z,1µm,1.0s
CTAO LR LR
comp=Z,77µm,19.0s
KSM Kuching 23.23 275 *e*P **P** **22 53 35.3 +0.9**
comp=Z,279nm,1.2s
KSM LR LR
comp=Z,6µm,20.0s
KSM Kuching 23.23 275 P **P** **22 53 35.9 +1.5**
KSM Kuching 23.23 275 P **P** **22 53 36.5 +2.1**
comp=Z,221nm,1.1s,comp=Z,6µm
PCJI Pacitan 23.40 251 P **P** **22 53 35.7 -0.3**
comp=Z,724nm,1.4s,comp=Z,9µm
SMRI Semarang 23.79 254 P **P** **22 53 42.5 +2.7**
comp=Z,744nm,1.1s,comp=Z,20µm comp=Z,37µm
UGM Wanagama 23.94 252 *e*P **P** **22 53 41.3 +0.1**
comp=Z,2µm,1.4s
UGM Wanagama 23.94 252 P **P** **22 53 43.4 +2.2**
comp=Z,836nm,1.6s,comp=Z,15µm
YOGI Yogyakarta 24.13 252 P **P** **22 53 44.0 +1.1**
comp=Z,2µm,1.7s,comp=Z,35µm
MBWA Marble Bar 24.35 212 *e*P P 22 53 51.8 +6.9
MBWA Marble Bar 24.35 212 *e*P **P** **22 53 44.8 -0.1**
comp=Z,336nm,0.9s
MBWA LR LR
comp=Z,18µm,19.0s
BJII Banjamegara 24.57 254 P **P** **22 53 48.6 +1.6**
comp=Z,773nm,1.3s,comp=Z,25µm
TPI Tanjungpandan 25.86 265 P **P** **22 54 01.4 +2.8**
comp=Z,220nm,0.9s,comp=Z,4µm
TWG Pinlang 26.30 333 *e*P **P** **22 54 02.1 -0.3**
comp=Z,127nm,1.3s
CISI Cisompet, Garu 26.44 254 P **P** **22 54 03.5 -0.5**
comp=Z,1µm,1.2s,comp=Z,10µm
LEM Lembang 26.47 256 P **P** **22 54 05.9 +1.5**
comp=Z,282nm,1.2s,comp=Z,6µm
YULB Yu-li 26.70 335 *e*P **P** **22 54 03.5 -2.6**
comp=Z,79nm,1.1s
TPUB Ta-pu 26.91 333 *e*P **P** **22 54 06.2 -1.8**
CBJI Citeko 27.13 257 P **P** **22 54 10.8 +0.6**
comp=Z,617nm,1.1s,comp=Z,12µm
SSLB Suanglung 27.19 334 *e*P **P** **22 54 09.0 -1.6**
NACB Ninganchiao 27.26 336 *e*P **P** **22 54 10.5 -0.7**
comp=Z,2µm,2.8s
PPBI Pangkal Pinang 27.34 267 P **P** **22 54 15.4 +3.4**
comp=Z,117nm,1.3s,comp=Z,3µm
HNR Honiara 27.77 109 P **P** **22 54 15.5 -0.2**
comp=Z,62nm,0.5s,baz=206,slow=9.5,SNR=4.1
HNR Honiara 27.77 109 P **P** **22 54 15.6 -0.2**
HNR MLR MLR
comp=Z,8µm,20.0s
HNR Honiara 27.77 109 P **P** **22 54 15.6 -0.2**
HNR LR LR
comp=Z,8µm,20.0s
SBJI Serang 27.78 258 P P 22 54 27.0 +11
YHNB Yeheng 27.79 336 *e*P **P** **22 54 17.2 +1.2**
comp=Z,176nm,1.3s
YHNB LR LR
comp=Z,9µm,21.0s
JOW Kunigami 27.82 350 P **P** **22 54 16.0 -0.1**
comp=Z,154nm,1.2s,baz=184,slow=9.0,SNR=14
JOW LR LR 23 02 58.6
comp=Z,44µm,21.8s,baz=81,slow=32
JOW Kunigami 27.82 350 P **P** **22 54 16.0 -0.1**
JOW *e*P **P** **22 54 16.5 +0.4**
TATO Taipei 28.02 336 PFAKE 22 54 30.0 +12
TATO LR LR
comp=Z,9µm,20.0s
CGJI Cibinong 28.30 257 P **P** **22 54 20.2 -0.4**
comp=Z,144nm,1.1s,comp=Z,3µm
KLI Kotabumi 28.85 261 P **P** **22 54 27.3 +1.8**
comp=Z,220nm,0.8s,comp=Z,4µm
CBIJ Chichi jima 28.88 16 P **P** **22 54 22.9 -2.6**
baz=80,slow=22,SNR=5.6
CBIJ Chichi jima 28.88 16 P **P** **22 54 22.9 -2.6**
QZH Quanzhou 29.26 332⇓ *i*P **P** **22 54 29.1 +0.1**
QZH S **S** **22 59 18.5 -1.4**
QZH pmax pmax
comp=Z,400nm,1.4s
QZH pmax pmax
comp=Z,2µm,4.1s
QZH LR LR
comp=N,8µm,14.1s
QZH LR LR
comp=E,5µm,12.3s
QZH LR LR
comp=Z,11µm,15.4s
XMIS Christmas Isla 29.29 250 *e*P **P** **22 54 29.5 +0.1**
comp=Z,564nm,0.9s
HKC Hong Kong Obse 29.59 322 P **P** **22 54 35.0 +3.1**
HKC S **S** **22 59 28.0 +3.0**
LWLI Liwa 29.65 261 P **P** **22 54 33.8 +1.0**
comp=Z,203nm,1.1s,comp=Z,4µm
MYKOM Kota Tinggi 29.69 275 P **P** **22 54 34.5 +1.5**
MYKOM Kota Tinggi 29.69 275 P **P** **22 54 35.5 +2.5**
comp=Z,68nm,0.8s,comp=Z,2µm
EIDS Eidsvold 29.86 147 *e*P **P** **22 54 35.6 +1.2**
comp=Z,118nm,1.1s
KGM Kluang 30.24 275 P P 22 54 41.2 +3.4
QIZ Qiongzhong 30.35 311 P **P** **22 54 39.3 +0.6**
QIZ sP **sP** **22 54 52.3 -0.2**
QIZ S **S** **22 59 38.0 +0.8**
QIZ sS **sS** **22 59 52.1 -1.1**
QIZ pmax pmax
comp=Z,87nm,1.4s
QIZ LR LR
comp=N,7µm,15.3s
QIZ LR LR
comp=Z,8µm,22.9s
QIZ Qiongzhong 30.35 311 *e*P **P** **22 54 39.0 +0.2**
comp=Z,193nm,1.4s
QIZ LR LR
comp=Z,7µm,22.0s
FORT Forrest 30.36 189 *e*P **P** **22 54 38.7 +0.1**
comp=Z,262nm,0.7s
FORT Forrest 30.36 189 *e*P **P** **22 54 38.5 -0.1**
comp=Z,411nm,0.8s
GZH Guangzhou 30.68 322 P **P** **22 54 44.0 +2.4**
GZH S **S** **22 59 44.5 +2.3**
GZH LR LR
comp=Z,10µm,17.8s
KSI Kapahiang 30.96 264 P **P** **22 54 45.1 +0.8**
comp=Z,448nm,0.8s,comp=Z,5µm
STKA Stephens Creek 31.96 167 P **P** **22 54 51.3 -1.4**
comp=Z,51nm,0.6s,baz=340,slow=8.5,SNR=44
STKA S **S** **22 59 57.8 -4.2**
comp=Z,32nm,1.0s,baz=333,slow=9.0,SNR=2.4
STKA LR LR 23 09 17.2
comp=Z,96µm,18.7s,baz=342,slow=39
STKA Stephens Creek 31.96 167 *e*P **P** **22 54 50.8 -1.9**
comp=Z,38nm,0.6s
STKA *e*S **S** **23 00 03.0 +1.0**
STKA Stephens Creek 31.96 167 *e*P **P** **22 54 51.0 -1.7**
STKA S **S** **22 59 57.8 -4.2**
STKA pmax pmax
comp=Z,60nm,1.5s
STKA Stephens Creek 31.96 167 *e*P **P** **22 54 51.0 -1.7**
comp=Z,60nm,1.5s
STKA P **P** **22 54 51.3 -1.4**
STKA S **S** **22 59 57.8 -4.2**
KRJI Kerinci 32.00 267 P **P** **22 54 56.5 +3.0**
comp=Z,707nm,0.8s
BBOO Buckleboo 32.04 176 *e*P **P** **22 54 53.3 -0.1**
comp=Z,2µm,0.9s
FRIM Kepong 32.04 277 P **P** **22 54 55.1 +1.4**
IPM Ipoh 32.80 279 *e*P **P** **22 54 59.8 -0.6**
comp=Z,51nm,0.8s
IPM Ipoh 32.80 279 P **P** **22 55 01.0 +0.6**
IPM Ipoh 32.80 279 P **P** **22 55 00.7 +0.3**
comp=Z,116nm,1.4s,comp=Z,1µm
PPI Padang Panjang 33.05 270 P **P** **22 55 02.6 +0.1**
comp=Z,80nm,1.9s,comp=Z,3µm
KULM Kulim 33.29 281 *e*P **P** **22 55 04.8 +0.3**
comp=Z,43nm,0.9s
KULM LR LR
comp=Z,7µm,22.0s
KULM Kulim 33.29 281 P **P** **22 55 04.9 +0.3**
KULM Kulim 33.29 281 P **P** **22 55 05.1 +0.5**
comp=Z,59nm,0.7s,comp=Z,1µm
SSE Sheshan 33.69 341 P **P** **22 55 08.3 +0.4**
SSE sP **sP** **22 55 21.4 -0.3**
SSE PP PP 22 56 26.6 +2.0
SSE S **S** **23 00 33.6 +4.7**
SSE sS **sS** **23 00 45.9 +0.9**
SSE pmax pmax
comp=Z,190nm,1.2s
SSE pmax pmax
comp=Z,970nm,4.8s
SSE LR LR
comp=N,7µm,20.2s
SSE LR LR
comp=E,2µm,20.2s
SSE LR LR
comp=Z,9µm,22.0s
JNU Nakatsue 33.72 356 *e*P **P** **22 55 07.3 -0.9**
comp=Z,123nm,1.2s
MNSI Mandailing Nat 33.90 272 P **P** **22 55 09.8 -0.1**
comp=Z,73nm,0.7s,comp=Z,1µm
KLBR Kellerberrin 34.13 204 *e*P **P** **22 55 11.5 -0.2**
comp=Z,273nm,0.8s
ARMA Armidale 34.24 151 *e*P **P** **22 55 12.4 -0.4**
ARMA *e*S **S** **23 00 37.0 -0.7**
ARMA Armidale 34.24 151 *e*P **P** **22 55 13.0 +0.1**
comp=Z,106nm,0.9s
PSI Prapat 34.68 276 P **P** **22 55 16.2 -0.7**
comp=Z,75nm,1.3s,comp=Z,2µm
TSI Tuntungan 35.11 277 P **P** **22 55 23.3 +2.9**
comp=Z,165nm,1.0s,comp=Z,4µm
NJ2 Nanjing 35.38 338 *e*P **P** **22 55 23.5 +1.1**
NJ2 pP **pP** **22 55 35.2 +3.0**
NJ2 sP **sP** **22 55 39.0 +2.7**
NJ2 pmax pmax
comp=Z,370nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,8.4s
NJ2 LR LR
comp=N,450nm,11.2s
NJ2 LR LR
comp=E,390nm,12.1s
NWAO Narrogin (SRO) 35.51 204 P **P** **22 55 23.5 -0.1**
comp=E,200nm,1.0s,baz=32,slow=9.3,SNR=41
NWAO S **S** **23 00 55.0 -2.0**
comp=E,24nm,0.9s,baz=314,slow=18,SNR=1.6
NWAO LR LR 23 11 40.4
comp=E,15µm,18.5s,baz=30,slow=39
NWAO Narrogin (SRO) 35.51 204 P **P** **22 55 23.5 -0.1**
NWAO S **S** **23 00 55.0 -2.0**
NWAO Narrogin (SRO) 35.51 204 P **P** **22 55 23.5 -0.1**
NWAO *e*P **P** **22 55 24.0 +0.4**
NWAO S **S** **23 00 55.0 -2.0**
WHN Wuhan 35.99 331⇑ P **P** **22 55 28.7 +1.0**
WHN S **S** **23 01 07.5 +3.2**
WHN SS SS 23 03 36.5 -5.7
WHN pmax pmax
comp=Z,420nm,1.3s
WHN pmax pmax
comp=Z,3µm,4.7s
WHN LR LR
comp=N,9µm,16.4s
WHN LR LR
comp=E,8µm,15.7s
WHN LR LR
comp=Z,11µm,17.8s
LHMI Lhok Sumawe 36.92 280 P **P** **22 55 38.7 +2.7**
comp=Z,246nm,0.8s,comp=Z,4µm
MJAR Matsushiro Arr 37.31 6 P **P** **22 55 36.7 -2.2**
comp=Z,30nm,1.0s,baz=196,slow=9.9,SNR=39
MJAR PcP **PcP** **22 57 57.3 -0.6**
comp=Z,12nm,1.1s,baz=213,slow=4.3,SNR=4.8
MJAR LR LR 23 08 02.6
comp=Z,23µm,20.3s,baz=180,slow=32
MJAR Matsushiro Arr 37.31 6 P **P** **22 55 36.7 -2.2**
MJAR 22 57 57.3
MJAR Matsushiro Arr 37.31 6 P **P** **22 55 36.7 -2.2**
MJAR PcP **PcP** **22 57 57.3 -0.6**
MAJO Matsushiro 37.31 6 *e*P **P** **22 55 36.9 -2.1**
MAJO pmax pmax
comp=Z,634nm,2.5s
MAJO MLR MLR
comp=Z,24µm,20.0s
MAJO Matsushiro 37.31 6 *e*P **P** **22 55 36.9 -2.1**
comp=Z,634nm,2.5s
MAJO LR LR
comp=Z,24µm,20.0s
MAT Matsushiro 37.31 6 P **P** **22 55 36.6 -2.3**
MAT S **S** **23 01 21.0 -3.4**
GYA Guiyang 37.35 318⇑ *i*P **P** **22 55 39.9 +0.3**
GYA PP PP 22 57 09.4 +4.2
GYA S **S** **23 01 27.2 +1.6**
GYA ScP **ScP** **23 01 44.3 +1.0**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,820nm,10.8s
GYA LR LR
comp=N,4µm,23.5s
GYA LR LR
comp=E,5µm,21.6s
GYA LR LR
comp=Z,9µm,22.2s
CAN Canberra 37.38 159 *e*P **P** **22 55 39.5 -0.1**
CAN pmax pmax
comp=Z,82nm,1.1s
CAN Canberra 37.38 159 *e*P **P** **22 55 39.5 -0.1**
comp=Z,82nm,1.1s
CNB Canberra Magne 37.50 158 *e*P **P** **22 55 41.1 +0.4**
comp=Z,167nm,1.2s
COCO West Island 38.06 251 *i* P **P** **22 55 48.0 +2.4**
COCO West Island 38.06 251 PFAKE 22 56 00.0 +14
COCO LR LR
comp=Z,3µm,19.0s
WAKE Wake Island 38.16 57 PFAKE 22 56 00.0 +14
WAKE LR LR
comp=Z,13µm,19.0s
KSAR Wonju Array Be 38.29 353 P **P** **22 55 46.7 -0.5**
KSAR 22 58 00.8
KSAR Wonju Array Be 38.29 353 P **P** **22 55 46.7 -0.5**
KSAR PcP **PcP** **22 58 00.8 -0.1**
KSRS Korea Array 38.30 353 P **P** **22 55 46.7 -0.5**
comp=Z,23nm,1.1s,baz=171,slow=9.9,SNR=38
KSRS PcP **PcP** **22 58 00.7 -0.1**
comp=Z,7.9nm,1.1s,baz=185,slow=4.7,SNR=4.2
KSRS LR LR 23 10 38.8
comp=Z,12µm,19.4s,baz=168,slow=35
ENH Enshi 38.33 325 *e*P **P** **22 55 47.2 -0.5**
comp=Z,386nm,1.9s
ENH LR LR
comp=Z,3µm,20.0s
TOO Toolangi 38.34 164 *e*P **P** **22 55 48.1 +0.4**
comp=Z,167nm,0.8s
INCN Inchon 38.51 351 *e*P **P** **22 55 49.8 +0.7**
comp=Z,97nm,1.2s
INCN LR LR
comp=Z,15µm,22.0s
INCN Inchon 38.51 351 P **P** **22 55 49.7 +0.7**
SNR=5.2
DZM Mont Dzumac 38.52 126 *e*P **P** **22 55 50.1 +0.6**
comp=Z,195nm,1.4s
DZM *e*S **S** **23 01 45.4 +2.1**
comp=Z,4µm,24.4s
DZM *e*LR LR 23 06 24.5
comp=Z,17µm,23.6s
DZM Mont Dzumac 38.52 126 P **P** **22 55 50.3 +0.8**
comp=Z,22nm,1.1s,baz=11,slow=23,SNR=5.1
DZM S **S** **23 01 43.1 -0.2**
comp=Z,8.4nm,0.9s,baz=219,slow=16,SNR=2.6
DZM Mont Dzumac 38.52 126 *e*P **P** **22 55 49.9 +0.4**
comp=Z,31nm,1.3s
DZM P **P** **22 55 50.3 +0.8**
DZM S **S** **23 01 43.1 -0.2**
BSI Banda Aceh 38.59 280 P **P** **22 55 49.1 -1.0**
comp=Z,68nm,0.9s,comp=Z,1µm
CM31 Chiang Mai Arr 38.88 301 *e*P **P** **22 55 53.0 +0.5**
comp=Z,65nm,1.1s
CM31 LR LR
comp=Z,4µm,21.0s
CMAR Chiang Mai Arr 38.88 301 P **P** **22 55 52.6 +0.1**
comp=Z,9.7nm,0.8s,baz=115,slow=6.4,SNR=31
CMAR ScP **ScP** **23 01 51.0 +1.9**
comp=Z,4.7nm,1.0s,baz=139,slow=2.6,SNR=7.6
CMAR Chiang Mai Arr 38.88 301 P **P** **22 55 52.6 +0.1**
CMAR 23 01 51.0
CMAR Chiang Mai Arr 38.88 301 P **P** **22 55 52.6 +0.1**
CMAR ScP **ScP** **23 01 51.0 +1.9**
CHTO Chiang Mai 39.04 302 *e*P **P** **22 55 53.2 -0.6**
CHTO pmax pmax
comp=Z,41nm,1.0s
CHTO MLR MLR
comp=Z,4µm,20.0s
CHTO Chiang Mai 39.04 302 *e*P **P** **22 55 53.2 -0.6**
comp=Z,41nm,1.0s
CHTO LR LR
comp=Z,4µm,20.0s
CHTO Chiang Mai 39.04 302 P **P** **22 55 54.3 +0.5**
SNR=24
CHTO Chiang Mai 39.04 302 P **P** **22 55 53.9 +0.1**
comp=Z,52nm,2.7s,comp=Z,2µm
KMI Kunming 39.26 313 P **P** **22 55 57.1 +1.3**
KMI sP **sP** **22 56 09.9 +0.2**
KMI S **S** **23 01 55.5 +0.9**
KMI SS SS 23 04 41.7 -7.2

KMI pmax pmax
comp=Z,87nm,1.7s
KMI LR LR
comp=N,3μm,18.7s
KMI LR LR
comp=E,3μm,19.5s
KMI LR LR
comp=Z,6μm,31.1s
DL2 Dalian 40.88 346 ⇓*i*P **P** **22 56 08.1 -0.6**
DL2 PP PP 22 57 43.6 +0.2
DL2 S **S** **23 02 18.6 +0.7**
DL2 pmax pmax
comp=Z,120nm,1.4s
DL2 LR LR
comp=N,7μm,20.2s
DL2 LR LR
comp=E,6μm,20.1s
DL2 LR LR
comp=Z,10μm,21.7s
XAN Xi'an 41.52 329 P **P** **22 56 13.8 -0.3**
XAN pP **pP** **22 56 22.6 -1.5**
XAN sP **sP** **22 56 25.4 -2.7**
XAN PP PP 22 57 52.0 +1.5
XAN PcP **PcP** **22 58 13.6 +2.3**
XAN S **S** **23 02 22.5 -5.3**
XAN SS SS 23 05 25.8 -7.6
XAN pmax pmax
comp=Z,22nm,1.3s
XAN pmax pmax
comp=Z,350nm,11.6s
XAN LR LR
comp=N,3μm,18.6s
XAN LR LR
comp=E,570nm,23.2s
XAN LR LR
comp=Z,1μm,20.8s
CD2 Chengdu 42.23 321 ⇑P **P** **22 56 20.0 0.0**
CD2 pP **pP** **22 56 32.3 +2.4**
CD2 sP **sP** **22 56 36.6 +2.7**
CD2 PP PP 22 58 03.5 +5.3
CD2 S **S** **23 02 40.4 +2.0**
CD2 sS **sS** **23 02 57.4 +2.7**
CD2 SS SS 23 05 43.8 -3.7
CD2 pmax pmax
comp=Z,190nm,1.4s
CD2 pmax pmax
comp=Z,1μm,11.8s
CD2 LR LR
comp=N,5μm,19.0s
CD2 LR LR
comp=Z,6μm,16.6s
TIY Taiyuan 42.86 335 *e*P **P** **22 56 25.0 -0.1**
TIY PP PP 22 58 02.9 -2.1
TIY S **S** **23 02 48.8 +1.2**
TIY SS SS 23 05 59.3 -0.6
TIY pmax pmax
comp=Z,1μm,4.0s
TIY LR LR
comp=N,3μm,17.3s
TIY LR LR
comp=E,3μm,13.8s
TIY LR LR
comp=Z,5μm,19.0s
SNY Shenyang 43.26 349 ⇓P **P** **22 56 27.6 -0.5**
SNY S **S** **23 02 55.1 +2.1**
SNY pmax pmax
comp=Z,120nm,1.3s
SNY pmax pmax
comp=Z,2μm,3.6s
SNY LR LR
comp=N,9μm,22.0s
SNY LR LR
comp=E,7μm,19.3s
SNY LR LR
comp=Z,11μm,21.4s
ERM Erimo 43.41 11 PFAKE 22 56 40.0 +11
ERM LR LR
comp=Z,3μm,20.0s
BJT Baijiatuau 43.48 341 *e*P **P** **22 56 29.7 -0.3**
BJT pmax pmax
comp=Z,687nm,1.0s
BJT MLR MLR
comp=Z,9μm,21.0s
BJT Baijiatuau 43.48 341 *e*P **P** **22 56 29.7 -0.3**
comp=Z,687nm,1.0s
BJT LR LR
comp=Z,9μm,21.0s
BJI Beijing 43.50 341 P **P** **22 56 30.0 -0.1**
BJI PP **PcP** **22 58 15.4 -2.3**
BJI S **S** **23 02 57.4 +0.8**
BJI pmax pmax
comp=Z,600nm,1.5s
BJI pmax pmax
comp=Z,3μm,4.2s
BJI LR LR
comp=N,4μm,22.1s
BJI LR LR
comp=E,7μm,18.2s
BJI LR LR
comp=Z,6μm,23.0s
VLA Vladivostok 43.64 358*d i*P **P** **22 56 31.5 +0.4**
VLA pmax pmax
comp=Z,117nm,1.2s
TAU Tasmania Unive 43.83 165 *e*P **P** **22 56 33.7 +1.0**
TAU pmax pmax
comp=Z,108nm,1.3s
TAU MLR MLR
comp=Z,8μm,19.0s
TAU Tasmania Unive 43.83 165 *e*P **P** **22 56 33.7 +1.0**
comp=Z,108nm,1.3s
TAU LR LR
comp=Z,8μm,19.0s
USRK Ussuriysk Arra 44.72 359 P **P** **22 56 39.2 -0.5**
comp=Z,57nm,1.0s,baz=182,slow=7.5,SNR=81
USRK S S 23 03 07.7 -6.5
comp=Z,0.9nm,0.9s,baz=193,slow=8.0,SNR=2.3
CN2 Changchun 44.87 352 *e*P **P** **22 56 39.2 -1.8**
CN2 *es*P **sP** **22 56 53.0 -2.0**
CN2 PP PP 22 58 24.8 -1.5
CN2 *e*S **S** **23 03 13.6 -2.9**
CN2 SS ScS 23 06 26.1 -10
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,7μm,19.0s
CN2 LR LR
comp=E,5μm,19.0s
CN2 LR LR
comp=Z,8μm,20.0s
MDJ Mudanjiang 45.24 356 P **P** **22 56 43.5 -0.4**
MDJ pP **pP** **22 56 54.1 +0.2**
MDJ PP PP 22 58 29.4 -0.8
MDJ S **S** **23 03 19.8 -2.1**
MDJ pmax pmax
comp=Z,130nm,1.5s
MDJ LR LR
comp=N,5μm,37.3s
MDJ LR LR
comp=Z,6μm,34.4s
MDJ Mudanjiang 45.24 356 *e*P **P** **22 56 43.5 -0.4**
comp=Z,195nm,1.3s
MDJ LR LR
comp=Z,6μm,19.0s
ASAJ Asahikawa 45.36 9 *e*P **P** **22 56 45.0 +0.1**
comp=Z,70nm,1.2s
LZH Lanzhou 45.80 326 ⇑P **P** **22 56 49.3 +0.6**
LZH pP **pP** **22 56 56.0 -2.7**
LZH sP **sP** **22 56 58.3 -4.4**
LZH PP PP 22 58 35.0 -1.4
LZH S **S** **23 03 30.0 -0.5**
LZH sS **sS** **23 03 44.0 -3.0**
LZH pmax pmax
comp=Z,350nm,1.5s
LZH pmax pmax
comp=Z,2μm,5.0s
LZH LR LR
comp=N,5μm,16.3s
LZH LR LR
comp=E,4μm,14.1s
LZH LR LR
comp=Z,6μm,19.0s
IMP Imphal 45.88 306 *e*P **P** **22 56 49.0 -0.4**
IMP *ex* x 22 57 34.0
HHC Hu-ho-hao-te 45.89 337 ⇓P **P** **22 56 49.0 -0.3**

HHC pP **pP** **22 57 00.3 +1.0**
HHC sP **sP** **22 57 05.1 +1.8**
HHC PcP **PcP** **22 58 26.0 -0.1**
HHC PP PP 22 58 37.9 +0.6
HHC S **S** **23 03 32.8 +1.3**
HHC sS **sS** **23 03 47.9 -0.1**
HHC SS **ScS** **23 06 49.0 +6.2**
HHC pmax pmax
comp=Z,320nm,1.3s
HHC pmax pmax
comp=Z,2μm,5.4s
HHC LR LR
comp=N,6μm,14.9s
HHC LR LR
comp=E,3μm,15.3s
HHC LR LR
comp=Z,5μm,16.4s
YUK Yuzh-Kuril'sk 45.89 12*d i*P P 22 56 43.3 -5.8
YUK *i* S **S** **23 03 31.1 -0.1**
YUK pmax pmax
comp=E,68nm,1.6s
YUK pmax pmax
comp=Z,78nm,1.6s
YUK pmax pmax
comp=N,102nm,1.6s
YUK pmax pmax
comp=Z,1μm,2.5s
YUK smax smax
comp=N,3μm,3.0s
YUK smax smax
comp=E,849nm,2.1s
FUNA Funafuti 46.22 101 *e*P **P** **22 56 54.3 +2.1**
comp=E,812nm,1.6s
FUNA LR LR
comp=Z,7μm,19.0s
BTO Baotou 46.31 335 *e*P **P** **22 56 51.9 -0.7**
BTO S S 23 03 28.2 -9.4
MSVF Nonsavu 46.99 114 *e*P **P** **22 57 00.6 +2.3**
MSVF pmax pmax
comp=Z,126nm,1.0s
MSVF MLR MLR
comp=Z,4μm,19.0s
MSVF Nonsavu 46.99 114 *e*P **P** **22 57 00.6 +2.3**
comp=Z,126nm,1.0s
MSVF LR LR
comp=Z,4μm,19.0s
AGT Agartala 47.68 304 *e*P **P** **22 57 03.0 -0.4**
AGT *ex* x 22 58 27.0
SHL Shillong 47.88 306 *e*P **P** **22 57 05.7 +0.4**
SHL AMb AMB 22 57 21.1
comp=Z,190nm,0.3s
SHL *e*S **S** **23 04 01.5 +0.8**
YSS Yuzh-Sakhalins 48.15 9⇑*i*P **P** **22 57 07.0 +0.4**
YSS *e**PP **pP** **22 57 17.0 +0.3**
YSS *e**SP **sP** **22 57 23.0 +2.3**
YSS *e* 22 58 34.0
YSS *e* 22 58 54.0
YSS *e*S **S** **23 04 00.0 -3.3**
YSS *e**SS **sS** **23 04 17.0 -2.9**
YSS *e* 23 06 54.0
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=Z,190nm,1.2s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=Z,8μm,18.0s
YSS MLR MLR
comp=N,6μm,17.0s
YSS MLR MLR
comp=E,2μm,18.0s
YSS Yuzh-Sakhalins 48.15 9 *e*P **P** **22 57 06.4 -0.2**
YSS LR LR
comp=Z,5μm,21.0s
HABR Khabarovsk 48.99 1 *i*P **P** **22 57 12.0 -1.1**
HABR *e**PP **pP** **22 57 20.6 -2.5**
HABR *e**SP **sP** **22 57 24.8 -2.3**
HABR 22 58 35.0
HABR *e* 22 59 04.2
HABR *e*PPP PPP 22 59 55.7
HABR *e*S **S** **23 04 14.3 -0.8**
HABR *e**SS **sS** **23 04 29.9 -1.8**
HABR *e* 23 07 01.4
HABR SS SS 23 07 46.0 -0.5
HABR *e*SSS SSS 23 09 03.1
HABR pmax pmax
comp=N,178nm,2.0s
HABR pmax pmax
comp=Z,445nm,1.5s
HABR pmax pmax
comp=E,143nm,1.6s
HABR pmax pmax
comp=Z,1μm,2.6s
HABR MLR MLR
comp=Z,5μm,18.0s
CAL Calcutta 49.62 301 *e*P **P** **22 57 18.1 -0.2**
CAL *e*S **S** **23 04 25.7 +0.9**
KLR Kul'dur 49.75 359 *e*P **P** **22 57 16.0 -2.9**
KLR *e*S **S** **23 04 21.5 -4.3**
KLR pmax pmax
comp=N,170nm,2.0s
KLR pmax pmax
comp=Z,700nm,2.0s
KLR pmax pmax
comp=N,1μm,10.0s
KLR pmax pmax
comp=Z,3μm,10.0s
KLR MLR MLR
comp=N,3μm,14.0s
KLR MLR MLR
comp=Z,7μm,14.0s
LSA Lhasa 50.39 311 P **P** **22 57 25.6 +0.9**
LSA PP PP 22 59 17.6 -2.9
LSA S **S** **23 04 33.2 -3.1**
LSA pmax pmax
comp=Z,210nm,0.8s
LSA pmax pmax
comp=Z,210nm,7.0s
LSA LR LR
comp=N,810nm,19.0s
LSA LR LR
comp=E,2μm,22.0s
LSA LR LR
comp=Z,2μm,25.0s
LSA Lhasa 50.39 311 *e*P **P** **22 57 24.8 +0.1**
LSA pmax pmax
comp=Z,91nm,0.8s
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 50.39 311 *e*P **P** **22 57 24.8 +0.1**
comp=Z,91nm,0.8s
LSA LR LR
comp=Z,3μm,22.0s
GTA Gaotai 50.40 326 ⇑P **P** **22 57 25.1 +0.9**
GTA pP **pP** **22 57 34.9 +0.6**
GTA sP **sP** **22 57 39.0 +0.7**
GTA S **S** **23 04 37.3 +1.8**
GTA sS **sS** **23 04 54.0 +1.9**
GTA SS SS 23 08 09.4 -0.4
GTA pmax pmax
comp=Z,110nm,1.8s
GTA pmax pmax
comp=Z,1μm,10.5s
GTA LR LR
comp=N,2μm,18.5s
GTA LR LR
comp=E,4μm,17.6s
GTA LR LR
comp=Z,6μm,18.5s
HIA Hailar 51.15 349 *e*P **P** **22 57 28.9 -0.6**
HIA pmax pmax
comp=Z,73nm,1.4s
HIA MLR MLR
comp=Z,8μm,22.0s
HIA Hailar 51.15 349 *e*P **P** **22 57 28.9 -0.6**
comp=Z,74nm,1.4s
HIA LR LR
comp=Z,8μm,22.0s
TAPN Taplejung 52.03 306 *e*P **P** **22 57 36.6 -0.2**
comp=Z,562nm,1.2s
TAPN Taplejung 52.03 306 *e*P **P** **22 57 36.6 -0.2**
ODAN Odare 52.08 305 *e*P **P** **22 57 36.9 -0.3**
comp=Z,187nm,0.5s
ODAN Odare 52.08 305 *e*P **P** **22 57 36.9 -0.3**

RAMN Ramite 52.77 305 *e*P **P** **22 57 41.8 -0.4**
RAMN Ramite 52.77 305 *e*P **P** **22 57 41.8 -0.4**
JIRN Jiri 53.38 306 *e*P **P** **22 57 46.3 -0.6**
comp=Z,730nm,1.4s
JIRN Jiri 53.38 306 *e*P **P** **22 57 46.3 -0.6**
ULN Ulaanbaatar 53.54 338 *e*P **P** **22 57 48.8 +1.3**
ULN MLR MLR
comp=Z,5μm,19.0s
ULN Ulaanbaatar 53.54 338 *e*P **P** **22 57 48.8 +1.3**
ULN LR LR
comp=Z,5μm,19.0s
ULN Ulaanbaatar 53.54 338 P **P** **22 57 48.2 +0.7**
comp=Z,229nm,1.5s,comp=Z,4μm
GUN Gumba 53.74 306 *e*P **P** **22 57 48.7 -0.8**
comp=Z,241nm,0.7s
GUN Gumba 53.74 306 *e*P **P** **22 57 48.7 -0.8**
SONM Songino Array 53.76 338 P **P** **22 57 50.0 +0.9**
comp=Z,57nm,1.1s,baz=148,slow=7.3,SNR=142
SONM S **S** **23 05 21.2 -0.2**
comp=Z,0.7nm,0.7s,baz=142,slow=14,SNR=1.9
SONM LR LR 23 22 33.5
comp=Z,7μm,18.4s,baz=148,slow=38
SONM Songino Array 53.76 338 P **P** **22 57 50.0 +0.9**
SONM S **S** **23 05 21.2 -0.2**
SONM Songino Array 53.76 338 P **P** **22 57 50.0 +0.9**
SONM S **S** **23 05 21.2 -0.2**
PKI Pulchoki 53.98 305 *e*P **P** **22 57 50.5 -0.8**
comp=Z,142nm,0.9s
PKI Pulchoki 53.98 305 *e*P **P** **22 57 50.5 -0.8**
PKI Pulchoki 53.98 305 *e*P **P** **22 57 50.5 -0.8**
KKN Kakani 54.17 306 *e*P **P** **22 57 51.9 -0.7**
comp=Z,187nm,1.0s
KKN Kakani 54.17 306 *e*P **P** **22 57 51.9 -0.7**
KKN Kakani 54.17 306 *e*P **P** **22 57 51.9 -0.7**
DMN Daman 54.25 305 *e*P **P** **22 57 52.9 -0.2**
comp=Z,338nm,1.1s
DMN Daman 54.25 305 *e*P **P** **22 57 52.9 -0.2**
RAO Raoul Island 54.32 126 PFAKE 22 58 10.0 +17
RAO LR LR
comp=Z,6μm,19.0s
RPZ Rata Peaks 54.36 147 *e*P **P** **22 57 54.2 +0.8**
SKR Severo-Kuril's 54.71 17 *e*P P 22 58 06.0 +10
SKR *e*PPP PPP 23 01 08.0
SKR *e*S **S** **23 05 38.0 +4.3**
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,3μm,12.0s
SKR smax smax
comp=N,8μm,22.0s
SKR smax smax
comp=E,5μm,22.0s
SKR MLR MLR
comp=N,5μm,18.0s
SKR MLR MLR
comp=E,4μm,18.0s
SKR MLR MLR
comp=Z,4μm,18.0s
URZ Urewera 54.77 138 P **P** **22 57 56.4 -0.1**
comp=Z,40nm,0.7s,baz=316,slow=3.3,SNR=22
URZ S **S** **23 05 30.8 -4.2**
comp=Z,2.5nm,0.8s,baz=284,slow=17,SNR=1.2
URZ Urewera 54.77 138 *e*P **P** **22 57 56.2 -0.2**
URZ P pP 22 57 56.4 -10
URZ S **S** **23 05 30.8 -4.2**
GKN Gorkha 54.78 305 *e*P **P** **22 57 56.3 -0.6**
comp=Z,253nm,1.0s
GKN Gorkha 54.78 305 *e*P **P** **22 57 56.3 -0.6**
KHZ Kahutara 54.94 144 *e*P **P** **22 57 57.5 0.0**
SNZO South Karori 54.96 143 PFAKE 22 58 10.0 +12
SNZO LR LR
comp=Z,20μm,21.0s
CIT Chita 55.14 345 *e*P **P** **22 57 56.9 -2.0**
CIT *e* 22 58 12.8
CIT *e* 22 59 07.3
CIT pmax pmax
comp=Z,1μm,2.4s
MIDW Midway 55.17 54 *e*P **P** **22 58 00.8 +1.4**
comp=Z,207nm,1.1s
MIDW LR LR
comp=Z,11μm,19.0s
KOLN Koldanda 55.54 305 *e*P **P** **22 58 01.9 -0.5**
comp=Z,218nm,0.7s
KOLN Koldanda 55.54 305 *e*P **P** **22 58 01.9 -0.5**
DANN Dangsing 55.63 305 *e*P **P** **22 58 02.9 -0.3**
DANN Dangsing 55.63 305 *e*P **P** **22 58 02.9 -0.3**
AFI Afiamalu 55.75 106 LR LR 23 20 51.5
comp=Z,6μm,19.2s,baz=279,slow=35
HYB Hyderabad 56.94 291 ⇓*i*P **P** **22 58 11.0 -1.4**
comp=Z,80nm,1.0s
HYB *e*S **S** **23 06 00.0 -4.7**
TRD Trivandrum 57.02 281⇓*ex* pP 22 58 23.7 +0.5
ZAK Zakamensk 57.03 337⇑*i*P **P** **22 58 13.2 +0.7**
ZAK pmax pmax
comp=Z,95nm,1.6s
PEA0B Petropavlovsk- 57.31 17 *e*P **P** **22 58 14.2 -0.1**
PETK Petropavlovsk- 57.31 17 P **P** **22 58 13.7 -0.6**
comp=Z,74nm,1.0s,baz=190,slow=5.7,SNR=30
PETK S S 23 06 20.8 +12
comp=Z,3.5nm,1.0s,baz=273,slow=10.0,SNR=2.7
PETK Petropavlovsk- 57.31 17 P **P** **22 58 13.7 -0.6**
PETK S S 23 06 20.8 +12
PETK Petropavlovsk- 57.31 17 P **P** **22 58 13.7 -0.6**
PETK S S 23 06 20.8 +12
NGP Nagpur 57.38 296 *e*P **P** **22 58 15.2 -0.2**
NGP ⇓*i*S **S** **23 06 11.1 +0.9**
PET Petropavlovsk 57.53 18 *e*P **P** **22 58 15.4 -0.4**
PET *e*S **S** **23 06 09.6 -1.4**
PET 23 12 22.6
PET pmax pmax
comp=Z,224nm,1.5s
PET pmax pmax
comp=Z,2μm,6.2s
PET pmax pmax
comp=Z,900nm,14.3s
PET Petropavlovsk 57.53 18 *e*P **P** **22 58 16.3 +0.5**
comp=Z,205nm,1.2s
PET LR LR
comp=Z,5μm,21.0s
CLNS Chul'man 57.76 354*de*P **P** **22 58 17.8 +0.3**
CLNS *e**PP **pP** **22 58 28.8 +1.1**
CLNS *e* 22 59 07.6
CLNS *e* 23 00 25.7
CLNS *e*PPP PPP 23 01 46.2
CLNS *e*S **S** **23 06 18.8 +4.6**
CLNS *e*SSS SSS 23 12 25.5
CLNS pmax pmax
comp=Z,90nm,1.3s
CLNS pmax pmax
comp=N,65nm,1.3s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS pmax pmax
comp=Z,21nm,1.3s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,19nm,1.3s
CLNS smax smax
comp=E,1μm,13.2s
CLNS smax smax
comp=N,1μm,17.6s
CLNS MLR MLR
comp=Z,3μm,19.0s
CLNS MLR MLR
comp=N,2μm,19.0s
CLNS MLR MLR
comp=E,2μm,16.0s
TLY Talaya 57.94 339 *e*P **P** **22 58 17.7 -1.1**
TLY *e*PPP PPP 23 01 45.7
TLY *e*S **S** **23 06 12.4 -4.2**
TLY *e* 23 08 07.1
TLY *e*SS **SS** **23 09 59.8 -8.3**
TLY pmax pmax
comp=Z,83nm,1.2s
TLY MLR MLR
comp=Z,4μm,19.0s
TLY Talaya 57.94 339 *e*P **P** **22 58 19.6 +0.8**
comp=Z,157nm,1.4s
TLY LR LR
comp=Z,4μm,19.0s
TLY Talaya 57.94 339 P **P** **22 58 19.8 +1.0**
comp=Z,400nm,1.7s,SNR=18
IRK Irkutsk 58.17 339⇓*i*P **P** **22 58 20.8 +0.4**
IRK *e*S **S** **23 06 25.2 +5.6**

IRK pmax pmax
comp=Z,494nm,2.1s
JOHN Johnston Islan 58.80 70 PFAKE 22 58 40.0 +15
JOHN LR LR
comp=Z,31µm,22.0s
MOY Mondy 58.93 337 *e*P **P** **22 58 26.9 +1.1**
MOY pmax pmax
comp=Z,506nm,2.7s
AKL Akola 59.11 295⇓ *i*P **P** **22 58 26.7 -0.8**
AKL *i* x x 23 06 28.8
BHPL Bhopal 59.38 298 *e*P **P** **22 58 28.6 -0.8**
BHPL AMb AMB 22 58 32.3
comp=Z,139nm,1.5s
WMQ Urumqi 60.21 323 P **P** **22 58 36.0 +1.2**
WMQ pP **pP** **22 58 46.0 +0.9**
WMQ sP **sP** **22 58 50.0 +1.0**
WMQ PcP **PcP** **22 59 23.0 +3.0**
WMQ S **S** **23 06 46.0 -0.5**
WMQ SS **SS** **23 10 44.1 -0.1**
WMQ pmax pmax
comp=Z,260nm,1.3s
WMQ pmax pmax
comp=Z,2µm,4.1s
WMQ LR LR
comp=N,2µm,18.2s
WMQ LR LR
comp=E,2µm,20.1s
WMQ LR LR
comp=Z,2µm,18.2s
DDI Dehra Dun 60.98 306 *e*P **P** **22 58 40.2 -0.1**
DDI *e*S **S** **23 06 59.0 +2.2**
NDI New Delhi 61.14 303 *e*P **P** **22 58 39.6 -1.6**
NDI AMb AMB 22 58 44.0
comp=Z,174nm,1.6s
DGAR Diego Garcia 61.16 262 PFAKE 22 58 50.0 +8.4
DGAR LR LR
comp=Z,4µm,20.0s
POO Poona 61.55 291 *e*P **P** **22 58 42.4 -1.9**
YAK Yakutsk 62.62 358 *d i*P **P** **22 58 50.3 -0.3**
YAK *e**PP **pP** **22 59 00.9 0.0**
YAK *e* 22 59 29.2
YAK *e*PPP PPP 23 02 34.7
YAK *e*S **S** **23 07 15.9 -0.3**
YAK *e* 23 08 40.4
YAK pmax pmax
comp=Z,202nm,1.4s
YAK pmax pmax
comp=N,145nm,1.4s
YAK pmax pmax
comp=E,33nm,1.5s
YAK pmax pmax
comp=Z,222nm,3.2s
YAK pmax pmax
comp=E,142nm,3.5s
YAK pmax pmax
comp=N,122nm,3.0s
YAK smax smax
comp=E,1µm,10.5s
YAK smax smax
comp=N,1µm,8.4s
YAK Yakutsk 62.62 358 *e*P **P** **22 58 50.5 -0.1**
comp=N,586nm,1.5s
YAK LR LR
comp=Z,5µm,20.0s
SMY Shemya 63.14 26 *e*P **P** **22 58 55.1 +0.9**
SMY pmax pmax
comp=Z,414nm,1.3s
SMY Shemya 63.14 26 *e*P **P** **22 58 55.1 +0.9**
comp=Z,414nm,1.3s
DLH Dalhousie 63.41 307 *e*P **P** **22 58 56.0 -0.7**
DLH *e*x x 22 59 04.0
MK31 Makanchi Array 65.03 324 *e*P **P** **22 59 06.7 -0.1**
MK31 Makanchi Array 65.03 324 *e*P **P** **22 59 06.7 -0.1**
MKAR Makanchi Array 65.03 324 P **P** **22 59 06.8 0.0**
comp=Z,72nm,0.8s,baz=116,slow=8.2,SNR=160
MKAR S **S** **23 07 43.5 -3.2**
comp=Z,0.5nm,0.8s,baz=121,slow=7.8,SNR=2.2
MKAR PKP2bc 23 27 41.0
comp=Z,0.9nm,0.9s,baz=267,slow=2.9,SNR=5.6
MKAR Makanchi Array 65.03 324 P **P** **22 59 06.8 0.0**
MKAR S **S** **23 07 43.5 -3.2**
MKAR Makanchi Array 65.03 324 P **P** **22 59 06.8 0.0**
MKAR S **S** **23 07 43.5 -3.2**
MKAR ⇑*e* 23 27 41.0
SEY Seymchan 65.04 9*ce*P **P** **22 59 07.2 +0.7**
KSH Kashi 65.90 314⇓ *i*P **P** **22 59 15.2 +2.5**
KSH *e*pP **pP** **22 59 24.9 +1.8**
KSH *e*sP **sP** **22 59 28.9 +1.9**
KSH *e*PcP **PcP** **22 59 44.3 +0.9**
KSH *e*PP **PP** **23 01 41.6 +3.5**
KSH *e*ScP 23 03 44.5
KSH *e*PcS 23 03 47.6
KSH *e*S **S** **23 07 56.5 -1.4**
KSH *e*sS **sS** **23 08 13.1 -2.0**
KSH *e*SS **SS** **23 12 13.7 +0.3**
KSH pmax pmax
comp=Z,130nm,1.0s
KSH LR LR
comp=N,2µm,14.4s
KSH LR LR
comp=E,860nm,10.0s
KSH LR LR
comp=Z,2µm,19.7s
NIL Nilore 65.92 308 PFAKE 22 59 20.0 +7.1
NIL LR LR
comp=Z,58nm,21.0s
DRV Dumont d'Urvil 66.00 177 PP PP 23 01 28.0 -10
DRV S S 23 07 44.0 -14
DRV SS **SS** **23 12 23.0 +9.5**
DRV L L 23 15 00.0
DRV R 23 19 00.0
ULHL Ulahol 66.79 317 P **P** **22 59 19.9 +1.5**
SNR=12
ULHL P **P** **22 59 19.9 +1.5**
SNR=12
KZA Kyzart 67.40 317 P **P** **22 59 24.4 +1.8**
SNR=98
KZA P **P** **22 59 24.4 +1.8**
SNR=98
CASY Casey 67.44 190 *e*P **P** **22 59 22.2 +0.3**
comp=Z,545nm,1.9s
CASY LR LR
comp=Z,5µm,19.0s
TKM2 Tokmak 2 67.50 318 P **P** **22 59 23.9 +1.0**
SNR=84
TKM2 P **P** **22 59 23.9 +1.0**
SNR=84
TKM2 Tokmak 2 67.50 318 *e*P **P** **22 59 23.0 +0.1**
TKM2 pmax pmax
comp=Z,389nm,1.7s
TKM2 MLR MLR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 67.50 318 *e*P **P** **22 59 23.0 +0.1**
comp=Z,389nm,1.7s
TKM2 LR LR
comp=Z,3µm,20.0s
ZAA0 Zalesovo Array 67.61 331 *e*P **P** **22 59 22.6 -0.5**
ZALV Zalesovo Beam 67.61 331 P **P** **22 59 22.4 -0.7**
comp=Z,52nm,1.1s,baz=108,slow=4.8,SNR=67
ZALV S **S** **23 08 18.4 +0.7**
comp=Z,0.2nm,0.3s,baz=109,slow=8.3,SNR=2.6
ZALV PKP2bc 23 27 43.2
comp=Z,2.6nm,1.1s,baz=316,slow=4.1,SNR=7.7
ZALV Zalesovo Beam 67.61 331 P **P** **22 59 22.4 -0.7**
ZALV S **S** **23 08 18.4 +0.7**
ZALV Zalesovo Beam 67.61 331 P **P** **22 59 22.4 -0.7**
ZALV S **S** **23 08 18.4 +0.7**
ZALV ⇑*e* 23 27 43.2
KBK Karagaybulak 67.83 317 P **P** **22 59 26.2 +1.2**
SNR=38
KBK P **P** **22 59 26.2 +1.2**
SNR=38
UCH Uchtor 67.96 317 P **P** **22 59 28.2 +2.0**
SNR=23
UCH P **P** **22 59 28.2 +2.0**
SNR=23
CHMS Chumysh 68.10 318 P **P** **22 59 27.1 +0.6**
SNR=44
CHMS P **P** **22 59 27.1 +0.6**
SNR=44
FRU Bishkek 68.12 317 *i*P **P** **22 59 28.0 +1.3**
FRU *i* 22 59 40.0
FRU pmax pmax
comp=Z,240nm,2.0s
AAK Ala-Archa 68.13 317 P **P** **22 59 28.0 +1.1**
SNR=34
AAK P **P** **22 59 28.0 +1.1**
SNR=34
AAK Ala-Archa 68.13 317 *d i*P **P** **22 59 28.0 +1.1**
AAK Ala-Archa 68.13 317 *e*P **P** **22 59 27.6 +0.7**
comp=Z,482nm,1.4s
AAK LR LR
comp=Z,3µm,22.0s
RAR Rarotonga 68.15 113 PFAKE 22 59 40.0 +13
RAR LR LR
comp=Z,3µm,20.0s
USP Ospenovka 68.37 318 P **P** **22 59 28.6 +0.4**
SNR=113
USP P **P** **22 59 28.6 +0.4**
SNR=113
AML Almayashu 68.49 316 P **P** **22 59 30.9 +1.5**
SNR=124
AML P **P** **22 59 30.9 +1.5**
SNR=124
EKS2 Erkin-Say 68.63 317 P **P** **22 59 31.4 +1.4**
SNR=88
EKS2 P **P** **22 59 31.4 +1.4**
SNR=88
EKS2 Erkin-Say 68.63 317 *e*P **P** **22 59 30.6 +0.7**
EKS2 pmax pmax
comp=Z,389nm,1.7s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 68.63 317 *e*P **P** **22 59 30.6 +0.7**
comp=Z,389nm,1.7s
EKS2 LR LR
comp=Z,2µm,19.0s
NVS Novosibirsk 68.88 332 *i*P **P** **22 59 29.5 -1.5**
NVS *i*S **S** **23 08 32.4 -0.4**
NVS pmax pmax
comp=N,219nm,2.0s
NVS pmax pmax
comp=E,267nm,2.0s
NVS pmax pmax
comp=Z,507nm,2.0s
NVS smax smax
comp=N,65nm,3.1s
NVS smax smax
comp=E,450nm,3.3s
KURK Kurchatov 69.09 326 P **P** **22 59 32.6 +0.2**
comp=E,144nm,1.0s,baz=120,slow=5.6,SNR=204
KURK S **S** **23 08 37.4 +1.9**
comp=E,0.5nm,0.4s,baz=118,slow=14,SNR=6.9
KURK Kurchatov 69.09 326*ce*P **P** **22 59 33.0 +0.6**
KURK pmax pmax
comp=Z,487nm,1.7s
KURK Kurchatov 69.09 326 *e*P **P** **22 59 32.7 +0.2**
comp=Z,341nm,1.3s
KURK S **S** **23 08 37.4 +1.9**
KURK LR LR
comp=Z,4µm,19.0s
KURK Kurchatov 69.09 326 P **P** **22 59 33.5 +1.1**
comp=Z,1µm,1.7s,SNR=100
XMAS Kiritimati 69.15 88 *e*P **P** **22 59 33.9 +0.3**
comp=Z,478nm,1.7s
XMAS LR LR
comp=Z,10µm,20.0s
KBL Kabul 69.52 307 *e*P **P** **22 59 35.1 -0.7**
KBL pmax pmax
comp=Z,78nm,0.8s
KBL Kabul 69.52 307 *e*P **P** **22 59 35.1 -0.7**
comp=Z,78nm,0.8s
HON Honolulu 70.34 67 *e*P **P** **22 59 42.7 +2.0**
HON Honolulu 70.34 67 *e*P **P** **22 59 42.7 +2.0**
KIP Kipapa 70.34 67*ce*P **P** **22 59 43.1 +2.4**
KIP pmax pmax
comp=Z,443nm,1.7s
KIP Kipapa 70.34 67 *e*P **P** **22 59 42.7 +2.0**
comp=Z,494nm,1.4s
KIP LR LR
comp=Z,10µm,20.0s
KKAR Karatay Array 71.03 316 *e*P **P** **22 59 44.1 -0.5**
KKAR pmax pmax
comp=Z,101nm,0.9s
KKAR Karatay Array 71.03 316 *e*P **P** **22 59 44.1 -0.5**
comp=Z,101nm,0.9s
MIR Mirnyy 71.60 196⇑ *i*P **P** **22 59 48.8 +1.3**
MIR *e* 22 59 54.0
MIR *e*S **S** **23 09 05.0 +0.8**
MIR pmax pmax
comp=Z,1.0nm,2.4s
MIR pmax pmax
comp=Z,2µm,6.0s
MIR pmax pmax
comp=N,404nm,2.0s
MIR pmax pmax
comp=E,303nm,2.0s
MIR smax smax
comp=N,3µm,9.0s
MIR smax smax
comp=E,2µm,10.0s
MIR MLR MLR
comp=N,3µm,18.0s
MIR MLR MLR
comp=E,4µm,18.0s
MIR MLR MLR
comp=Z,9µm,18.0s
BILL Bilibino 72.25 12⇓ *e*P **P** **22 59 50.9 -0.4**
BILL *e* 23 02 29.0
BILL *e*S **S** **23 09 15.9 +4.2**
BILL pmax pmax
comp=Z,70nm,2.5s
BILL Bilibino 72.25 12 *e*P **P** **22 59 50.3 -1.0**
comp=Z,23nm,1.1s
BILL LR LR
comp=Z,5µm,20.0s
PAF Port-aux-Franc 72.33 218 PFAKE 23 00 00.0 +7.8
PAF LR LR
comp=Z,7µm,22.0s
BVAR Borovoye Array 74.69 326 P **P** **23 00 06.4 +0.4**
comp=Z,28nm,0.6s,baz=116,slow=6.8,SNR=111
BVAR S **S** **23 09 40.3 +0.5**
comp=Z,0.3nm,0.5s,baz=122,slow=2.2,SNR=2.3
BVAR Borovoye Array 74.69 326 P **P** **23 00 06.4 +0.4**
BVAR S **S** **23 09 40.3 +0.5**
BVAR Borovoye Array 74.69 326 P **P** **23 00 06.4 +0.4**
BVAR S **S** **23 09 40.3 +0.5**
BRVK Borovoye 74.76 326*ce*P **P** **23 00 06.9 +0.5**
BRVK pmax pmax
comp=Z,238nm,1.7s
BRVK Borovoye 74.76 326 *e*P **P** **23 00 05.9 -0.5**
comp=Z,257nm,1.3s
BRVK LR LR
comp=Z,4µm,19.0s
GAMB Gambell 75.82 22 *e*P **P** **23 00 12.8 +0.5**
comp=Z,145nm,1.4s
WBK Wadi Bani Khal 75.95 293 P **P** **23 00 14.7 +0.7**
SNR=8.0
MRIV Mauritius Mete 76.58 249 *e*P **P** **23 00 18.5 +0.9**
JMDO Jabal Madar 76.72 293 P **P** **23 00 19.6 +1.3**
SNR=13
SMDO Samad 76.85 294 P **P** **23 00 19.9 +0.7**
SNR=25
SDPT Sand Point 77.19 32 *e*P **P** **23 00 20.8 +0.6**
comp=Z,426nm,1.3s
PPT2 Papeete2 77.38 108 *e*P **P** **23 00 21.0 -1.2**
comp=Z,62nm,1.4s
PPT2 *e*S **S** **23 10 10.1 -0.8**
comp=Z,7µm,26.8s
PPT2 *e*LQ LQ 23 21 02.3
comp=Z,8µm,31.0s
PPT2 *e*LR LR 23 24 24.5
comp=Z,4µm,22.2s
PAE Paea 77.38 108 *e*P **P** **23 00 20.6 -1.4**
comp=Z,8.9nm,1.1s
HOQ Hoqain 77.58 294 P **P** **23 00 24.6 +1.5**
SNR=24
BSY Bisya 77.59 293 P **P** **23 00 24.2 +1.0**
SNR=18
TBI Tubuai 77.88 114 *e*S **S** **23 10 14.4 -1.5**
comp=Z,5µm,29.0s
TBI *e*LQ LQ 23 21 14.9
comp=Z,4µm,39.0s
TBI *e*LR LR 23 24 39.9
comp=Z,4µm,30.0s
MSEY Mahe Island 77.95 265 PFAKE 23 00 40.0 +15
MSEY LR LR
comp=Z,2µm,20.0s
TNA Tin City 78.13 21 *e*P **P** **23 00 25.9 +0.6**
comp=Z,86nm,1.3s
ARQ Araqi 78.27 294 P **P** **23 00 28.4 +1.4**
SNR=20
RER Riviere de l'E 78.28 249 *e*P **P** **23 00 28.6 +1.5**
comp=Z,128nm,1.1s
RER LR LR
comp=Z,2µm,20.0s
VNDA Vanda 78.28 174 *e*P **P** **23 00 26.4 +0.5**
VNDA pmax pmax
comp=Z,101nm,1.1s
VNDA MLR MLR
comp=Z,14µm,22.0s
VNDA Vanda 78.28 174 *e*P **P** **23 00 26.4 +0.5**
comp=Z,102nm,1.1s
VNDA LR LR
comp=Z,14µm,22.0s
BANOM Banah 78.75 296 P **P** **23 00 32.2 +2.6**
SNR=6.8
HATD Hatta, Dubai 78.78 295 P **P** **23 00 31.3 +1.5**
SNR=12
ASHO Ashiyiah 78.83 295 P **P** **23 00 31.6 +1.6**
SNR=14
ABKT Ailbek 78.88 309 P **P** **23 00 31.7 +1.6**
comp=Z,412nm,1.7s,SNR=22
SBA Scott Base 79.12 173 *e*P **P** **23 00 32.1 +1.6**
SBA pmax pmax
comp=Z,171nm,1.3s
SBA MLR MLR
comp=Z,10µm,20.0s
SBA Scott Base 79.12 173 *e*P **P** **23 00 32.1 +1.6**
comp=Z,171nm,1.3s
SBA LR LR
comp=Z,10µm,20.0s
ABKAR Akbulak array 79.81 320 *e*P **P** **23 00 33.9 -0.9**
comp=Z,0.3nm,0.8s
RBK Rabkut 79.95 288 P **P** **23 00 37.0 +0.8**
SNR=8.1
ABTO Aybut 80.80 288 P **P** **23 00 42.4 +1.5**
SNR=10
SVE Sverdlovsk 81.23 328⇑ *i*P **P** **23 00 42.9 +0.6**
SVE *e* 23 03 48.9
SVE *e*S **S** **23 10 46.4 -3.8**
SVE *e*SS **SS** **23 16 08.6 +2.6**
SVE pmax pmax
comp=Z,121nm,1.4s
SVE smax smax
comp=E,2µm,18.5s
SVE MLR MLR
comp=Z,2µm,19.0s
AKTO Aktyubinsk 81.28 321 P **P** **23 00 42.8 +0.1**
comp=Z,60nm,1.2s,baz=92,slow=7.3,SNR=38
AKTO S **S** **23 10 49.7 -1.2**
comp=Z,0.8nm,1.0s,baz=180,slow=20,SNR=2.9
AKTO Aktyubinsk 81.28 321 P **P** **23 00 42.8 +0.1**
AKTO S **S** **23 10 49.7 -1.2**
AKTO Aktyubinsk 81.28 321 P **P** **23 00 42.8 +0.1**
AKTO S **S** **23 10 49.7 -1.2**
SVW2 Sparrevohn 81.50 28 *e*P **P** **23 00 44.6 +1.0**
comp=Z,233nm,2.3s
OHAK Old Harbor 81.58 32 *e*P **P** **23 00 45.5 +1.4**
comp=Z,266nm,2.0s
TTA Tatalina 81.85 26 *e*P **P** **23 00 46.6 +1.0**
TTA Tatalina 81.85 26 *e*P **P** **23 00 46.6 +1.0**
MAW Mawson 82.04 201 P **P** **23 00 47.7 +1.4**
comp=Z,70nm,1.0s,baz=70,slow=7.0,SNR=40
MAW S **S** **23 10 56.9 -1.2**
comp=Z,1.2nm,0.2s,baz=63,slow=9.0,SNR=4.6
MAW LR LR 23 35 38.4
comp=Z,5µm,19.8s,baz=78,slow=34
MAW Mawson 82.04 201 *e*P **P** **23 00 47.8 +1.4**
comp=Z,47nm,1.0s
MAW Mawson 82.04 201 P **P** **23 00 47.7 +1.4**
MAW S **S** **23 10 56.9 -1.2**
MAW Mawson 82.04 201 P **P** **23 00 47.7 +1.4**
MAW S **S** **23 10 56.9 -1.2**
KDAK Kodiak Island 82.08 31 P **P** **23 00 47.5 +0.7**
comp=Z,155nm,1.1s,baz=258,slow=2.3,SNR=27
KDAK Kodiak Island 82.08 31 *i*P **P** **23 00 47.2 +0.5**
KDAK Kodiak Island 82.08 31 *e*P **P** **23 00 46.9 +0.2**
comp=Z,252nm,1.3s
KDAK LR LR
comp=Z,9µm,21.0s
ARU Arti 82.25 327*c i*P **P** **23 00 47.4 -0.2**
ARU 23 03 53.7
ARU PPP PPP 23 05 49.8
ARU S **S** **23 11 00.4 -0.3**
ARU SS **SS** **23 16 22.4 +1.2**
ARU pmax pmax
comp=Z,248nm,2.5s
ARU MLR MLR
comp=Z,3µm,18.0s
ARU Arti 82.25 327 *e*P **P** **23 00 46.9 -0.8**
comp=Z,195nm,1.5s
ARU LR LR
comp=Z,4µm,20.0s
ARU Arti 82.25 327 P **P** **23 00 47.1 -0.5**
comp=Z,407nm,1.1s,SNR=22
RSO Redoubt South 82.66 29 *e*P **P** **23 00 49.4 -0.6**
comp=Z,150nm,1.1s
PPLA Purkeypile 83.53 26 *e*P **P** **23 00 54.6 +0.3**
comp=Z,217nm,1.5s
SOKR Solikamsk 83.85 330*d i*P **P** **23 00 56.3 +0.5**
SOKR S S 23 11 09.6 -7.1
SOKR pmax pmax
comp=Z,120nm,1.0s
SOKR MLR MLR
comp=Z,4µm,24.0s
SLKM Skilak Lake 83.89 29 *e*P **P** **23 00 55.6 -0.5**
SLKM Skilak Lake 83.89 29 *e*P **P** **23 00 55.6 -0.5**
SEW Seward 84.18 29 *e*P **P** **23 00 57.1 -0.4**
comp=Z,179nm,1.3s
RC01 Rabbit Creek A 84.24 28 *e*P **P** **23 00 57.2 -0.7**
comp=Z,207nm,1.3s
PMR Palmer 84.63 28 *e*P **P** **23 00 59.6 -0.2**
PMR pmax pmax
comp=Z,165nm,1.2s
PMR Palmer 84.63 28 *e*P **P** **23 00 59.6 -0.2**
comp=Z,165nm,1.2s
SML Sawmill 85.05 28 *e*P **P** **23 01 01.9 -0.1**
SML pmax pmax
comp=Z,5µm,1.1s
SML Sawmill 85.05 28 *e*P **P** **23 01 01.9 -0.1**
comp=Z,5µm,1.1s
MCK McKinley 85.15 26 *e*P **P** **23 01 01.8 -0.6**
MCK pmax pmax
comp=Z,466nm,1.3s
MCK McKinley 85.15 26 *e*P **P** **23 01 01.8 -0.6**
comp=Z,466nm,1.3s
COLD Coldfoot 85.37 22 *e*P **P** **23 01 04.5 +1.1**
comp=Z,87nm,1.3s
COLA College 85.83 25 *e*P **P** **23 01 05.1 -0.6**
COLA pmax pmax
comp=Z,149nm,1.5s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 85.83 25 *e*P **P** **23 01 05.1 -0.6**
comp=Z,149nm,1.5s
COLA LR LR
comp=Z,2µm,20.0s
DIV Divide 86.15 29 *e*P **P** **23 01 07.5 0.0**
comp=Z,574nm,1.3s
ILAR Eielson Array 86.22 25 P **P** **23 01 06.3 -1.4**
comp=Z,25nm,0.8s,baz=259,slow=4.6,SNR=99
ILAR PKKPbc **PKKPbc** **23 19 10.5 +1.5**
comp=Z,0.2nm,0.8s,baz=42,slow=1.5,SNR=3.2
ILAR LR LR 23 33 51.6
comp=Z,3µm,22.0s,baz=239,slow=32
ILAR Eielson Array 86.22 25 P **P** **23 01 06.3 -1.4**
ILAR Eielson Array 86.22 25 P **P** **23 01 06.3 -1.4**
ILAR PKKPbc **PKKPbc** **23 19 10.5 +1.5**
PAX Paxson 86.56 27 *e*P **P** **23 01 09.4 -0.1**
PAX pmax pmax
comp=Z,431nm,1.6s
PAX Paxson 86.56 27 *e*P **P** **23 01 09.4 -0.1**
comp=Z,431nm,1.6s
UMR Umm Al-Rimmam 86.62 299 *e*P **P** **23 01 10.2 -0.2**
UMR AMb AMB 23 01 13.0
comp=Z,203nm,1.6s
KBD Kabd 86.62 299 *e*P **P** **23 01 10.5 +0.1**
KBD AMb AMB 23 01 13.8
comp=Z,95nm,2.0s
RDF Al-Radifah 86.73 299 *e*P **P** **23 01 10.3 -0.7**
RDF AMb AMB 23 01 14.3
comp=Z,154nm,2.2s
MIB Mutribah 86.96 300 *e*P **P** **23 01 11.7 -0.3**
MIB AMb AMB 23 01 14.6
comp=Z,188nm,1.5s
NAY Al-Naaiem 87.02 299 *e*P **P** **23 01 11.8 -0.6**
NAY AMb AMB 23 01 14.8

comp=Z,105nm,1.5s
DOT Dot Lake 87.28 26 *e*P **P 23 01 13.1 +0.2**
comp=Z,62nm,1.4s
MENT Mentasta 87.34 27 *e*P **P 23 01 14.4 +1.2**
MAK Makhachkala 87.49 313 *e*P **P 23 01 15.4 +1.1**
MAK *e* 23 04 39.0
MAK *e*PPP PPP 23 06 31.7
MAK *e*S S 23 11 42.3 -11
MAK *e*SS **SS 23 17 34.6 -4.4**
MAK *e*SSS SSS 23 21 10.6
MAK pmax pmax
comp=Z,144nm,1.3s
EGAK Eagle 88.65 25 *e*P **P 23 01 18.7 -0.6**
comp=Z,10nm,0.8s
EGAK LR LR
comp=Z,4µm,22.0s
QSPA South Pole Qui 89.24 180 *e*P **P 23 01 22.4 +0.2**
comp=Z,88nm,0.9s
QSPA LR LR
comp=Z,22µm,20.0s
DAWY Dawson 89.37 26 *e*P **P 23 01 22.6 -0.2**
DAWY *e*PP **PP 23 04 47.3 -6.6**
GNI Garni 89.45 310 *e*P **P 23 01 24.0 +0.1**
GNI pmax pmax
comp=Z,15nm,1.7s
GNI Garni 89.45 310 *e*P **P 23 01 25.6 +1.7**
comp=Z,42nm,1.4s
GNI LR LR
comp=Z,966nm,19.0s
TBLG Delisi 89.49 312 *e*P **P 23 01 24.2 +0.4**
TBLG Delisi 89.49 312 P **P 23 01 24.2 +0.4**
BHD Baghdad 89.59 303 *i*P **P 23 01 22.0 -2.5**
BHD *i*SKS **SKSac 23 11 51.0 -1.8**
BHD *i*S **S 23 12 13.0 -0.5**
GOR Gori 89.96 312 P **P 23 01 26.2 +0.1**
ZEI Tsey 90.13 313 *e*P **P 23 01 24.9 -2.2**
ZEI pmax pmax
comp=Z,18nm,1.3s
AKH Akhalkalaki 90.42 311 P **P 23 01 27.8 -0.6**
ATD Arta Tunnel 90.72 281 S **S 23 12 23.5 -1.3**
comp=Z,2.1nm,0.6s,baz=108,slow=19,SNR=1.7
SYO Syowa Base 90.75 201⇓ *i*P **P 23 01 28.5 -0.5**
SYO Syowa Base 90.75 201 *e*SH S 23 12 31.6 +8.9
KIV Kislovodsk 91.02 314*c* *i*P **P 23 01 30.9 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV Kislovodsk 91.02 314 PFAKE 23 01 40.0 +8.9
KIV LR LR
comp=Z,2µm,20.0s
RKT Rikitea 91.19 113 *e*S S 23 12 22.2 -6.4
comp=Z,2µm,28.5s
RKT *e*LR LR 23 30 45.8
comp=Z,3µm,26.2s
VRHR Novokhopersk 91.68 321 *e*P **P 23 01 31.6 -2.2**
VRHR *e**PP **pP 23 01 43.2 -1.3**
VRHR pmax pmax
comp=Z,40nm,1.4s
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,30nm,1.4s
VRHR MLR MLR
comp=Z,2µm,17.0s
VRHR MLR MLR
comp=N,790nm,24.0s
VRHR MLR MLR
comp=E,2µm,21.0s
INK Inuvik 91.77 22 P **P 23 01 32.6 -1.2**
comp=E,47nm,1.2s,baz=282,slow=6.0,SNR=28
INK S **SKSac 23 12 05.4 +1.6**
comp=E,1.2nm,1.0s,baz=180,slow=2.0,SNR=2.8
INK LR LR 23 40 09.9
comp=E,3µm,21.5s,baz=251,slow=34
INK Inuvik 91.77 22 *e*P **P 23 01 32.3 -1.5**
INK S **SKSac 23 12 05.4 +1.6**
INK pmax pmax
comp=Z,87nm,1.4s
INK Inuvik 91.77 22 *e*P **P 23 01 32.3 -1.5**
comp=Z,87nm,1.4s
INK S **SKSac 23 12 05.4 +1.6**
WRAK Wrangell Islan 92.91 34 PFAKE 23 01 50.0 +11
WRAK LR LR
comp=Z,4µm,20.0s
VSR Storozhevoye 93.22 321 *e*P **P 23 01 38.7 -2.2**
VSR *e**PP **pP 23 01 48.0 -3.7**
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
MOS Moscow 93.86 326 *e*P P 23 01 40.5 -3.2
MOS *e* 23 01 52.5
MOS *e* 23 05 26.2
MOS *e* 23 12 47.3
MOS pmax pmax
comp=Z,37nm,0.8s
MOS MLR MLR
comp=N,3µm,19.0s
MOS MLR MLR
comp=E,3µm,19.0s
MOS MLR MLR
comp=Z,3µm,19.0s
LVZ Lovozero 93.95 338 PFAKE 23 02 00.0 +16
LVZ LR LR
comp=Z,3µm,20.0s
DLBC Dease Lake 94.02 32 P **P 23 01 44.5 0.0**
comp=Z,9.0nm,1.0s,baz=285,slow=12,SNR=4.3
DLBC LR LR 23 38 01.5
comp=Z,5µm,21.4s,baz=295,slow=32
DLBC Dease Lake 94.02 32 P **P 23 01 44.5 0.0**
MALT Malatya 94.37 308 PFAKE 23 02 00.0 +13
MALT LR LR
comp=Z,42nm,20.0s
APA Apatity 94.47 338⇓ *i*P **P 23 01 43.6 -2.7**
APA *i* 23 02 02.0
APA pmax pmax
comp=Z,81nm,1.4s
OBN Obninsk 94.51 325⇓ *i*P **P 23 01 45.3 -1.4**
OBN *e* 23 05 42.4
OBN *i*S **SKSac 23 12 16.6 -2.8**
OBN *e*PS PS 23 14 13.7 -2.8
OBN pmax pmax
comp=Z,87nm,1.7s
OBN Obninsk 94.51 325 PFAKE 23 02 00.0 +13
OBN LR LR
comp=Z,4µm,21.0s
ANN Anapa 94.76 315 *e*P P 23 01 42.2 -5.9
ANN *e**PP **PcP 23 01 51.9 +3.5**
ANN *e*S SKSac 23 12 13.6 -7.7
ANN *e* 23 13 04.1
ANN pmax pmax
comp=N,64nm,1.4s
ANN pmax pmax
comp=E,29nm,1.4s
ANN pmax pmax
comp=Z,103nm,1.4s
HOPEN Hopen 94.93 347 AMS AMS 23 48 15.9
comp=Z,3µm,21.7s
BBB Bella Bella 95.73 38 LR LR 23 37 29.8
comp=Z,6µm,21.9s,baz=294,slow=31
KMBO Kilima Mbogo 96.18 269 *e*P **P 23 01 56.1 +0.5**
KMBO pmax pmax
comp=Z,11nm,1.3s
KMBO MLR MLR
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 96.18 269 *e*P **P 23 01 56.1 +0.5**
comp=Z,11nm,1.3s
KMBO LR LR
comp=Z,2µm,22.0s
KEV Kevo 96.30 340 PFAKE 23 02 10.0 +15
KEV LR LR
comp=Z,5µm,20.0s
KBS Kingsbay 96.48 350 *e*P **P 23 01 57.8 +2.5**
KBS AMS AMS 23 43 33.9
comp=Z,4µm,22.6s
KBS Kingsbay 96.48 350 PFAKE 23 02 10.0 +15
KBS LR LR
comp=Z,4µm,19.0s
ARCES ARCESS Array B 96.87 340 P **P 23 01 55.4 -1.8**
comp=Z,13nm,0.8s,baz=68,slow=3.2,SNR=19
ARCES LR LR 23 54 02.3
comp=Z,4µm,18.1s,baz=68,slow=41
ARCES ARCESS Array B 96.87 340 P **P 23 01 55.4 -1.8**
ARCES ARCESS Array B 96.87 340 P **P 23 01 55.4 -1.8**
ARE0 ARCESS Array S 96.87 340 *e*P **P 23 01 57.8 +0.6**
BJO Bjornoya 97.01 346 AMS AMS 23 50 55.9
comp=Z,4µm,15.2s
BR131 Keskin Array S 97.99 310 PFAKE 23 02 10.0 +6.8
BR131 LR LR
comp=Z,1µm,20.0s
BRTR Keskin Array B 97.99 310 P **P 23 02 01.6 -1.5**
comp=Z,1.3nm,0.7s,baz=104,slow=5.2,SNR=5.7
BRTR PP **PP 23 06 01.1 -1.0**
comp=Z,2.2nm,0.9s,baz=104,slow=10,SNR=4.3
BRTR Keskin Array B 97.99 310 P **P 23 02 01.6 -1.5**
BRTR 23 06 01.2
BRTR Keskin Array B 97.99 310 P **P 23 02 01.6 -1.5**
BRTR PP **PP 23 06 01.1 -1.0**
CSS Prodhromos 98.69 305 PFAKE 23 02 20.0 +14
CSS LR LR
comp=Z,1µm,20.0s
FINES FINESS Array B 98.86 332 P **P 23 02 04.9 -1.4**
comp=Z,22nm,1.1s,baz=67,slow=4.4,SNR=14
FINES LR LR 23 49 28.8
comp=Z,6µm,20.0s,baz=75,slow=37
FINES FINESS Array B 98.86 332 P **P 23 02 04.9 -1.4**
FINES FINESS Array B 98.86 332 P **P 23 02 04.9 -1.4**
TRO Tromso 99.00 341 *e* 23 12 35.1
TRO *e*SS SS 23 20 23.6 +1.5
TRO AMS AMS 23 48 54.6
comp=Z,5µm,21.2s
NLWA Neilton Lookou 99.09 42 PFAKE 23 02 20.0 +12
NLWA LR LR
comp=Z,5µm,20.0s
AKASG Malin Array Be 99.52 321 P **Pdif 23 02 07.3 -2.2**
comp=Z,3.0nm,0.7s,baz=69,slow=4.0,SNR=11
AKASG LR LR 23 55 28.1
comp=Z,4µm,19.2s,baz=60,slow=40
AKASG Malin Array Be 99.52 321 P **Pdif 23 02 07.3 -2.2**
AKASG Malin Array Be 99.52 321 P **Pdif 23 02 07.3 -2.2**
AKBB Malin Array Si 99.52 321 *e*P **Pdif 23 02 06.4 -3.1**
AKBB Malin Array Si 99.52 321 *e*Pdif **Pdif 23 02 06.4 -3.1**
KIEV Kiev 99.54 321 *e*P **Pdif 23 02 07.0 -2.6**
KIEV MLR MLR
comp=Z,5µm,20.0s
KIEV Kiev 99.54 321 *e*Pdif **Pdif 23 02 07.0 -2.6**
KIEV LR LR
comp=Z,5µm,20.0s
KIS Kishinev 100.46 318 *e*PS PS 23 15 20.0 -1.6
KIS LRM MLR 23 50 05.0
comp=Z,2µm,20.0s
YKA Yellowknife Ar 100.61 26 P **Pdif 23 02 13.5 -0.6**
comp=Z,3.5nm,0.8s,baz=293,slow=4.6,SNR=44
YKA PP **PP 23 06 19.7 -1.4**
comp=Z,2.2nm,1.1s,baz=279,slow=7.1,SNR=3.5
YKA PKKPbc **PKKPbc 23 18 30.7 -0.3**
comp=Z,1.3nm,1.1s,baz=104,slow=3.1,SNR=6.1
YKA Yellowknife Ar 100.61 26 P **Pdif 23 02 13.5 -0.6**
YKA 23 06 19.8
YKA Yellowknife Ar 100.61 26 P **Pdif 23 02 13.5 -0.6**
YKA PP **PP 23 06 19.8 -1.4**
YKA PKKPbc **PKKPbc 23 18 30.8 -0.3**
ISP Isparta 100.63 308 PFAKE 23 02 30.0 +15
ISP LR LR
comp=Z,1µm,21.0s
RES Resolute Bay 100.85 12 P **Pdif 23 02 14.3 -0.6**
comp=Z,13nm,1.1s,baz=286,slow=5.2,SNR=17
RES Resolute Bay 100.85 12 *e*P **Pdif 23 02 13.9 -1.0**
RES pmax pmax
comp=Z,28nm,1.3s
RES Resolute Bay 100.85 12 *e*Pdif **Pdif 23 02 13.9 -1.0**
comp=Z,28nm,1.3s
HAWA Hanford 102.20 43 PFAKE 23 02 30.0 +8.4
HAWA LR LR
comp=Z,6µm,21.0s
SNAA Sanae 102.55 193 *e* **Pdif 23 02 27.0 +4.3**
MBAR Mbarara 102.70 269 PFAKE 23 02 40.0 +15
MBAR LR LR
comp=Z,733nm,21.0s
BUR08 Bucovina Ar. S 102.74 319 *e*Pdif **Pdif 23 02 23.1 -0.9**
WVOR Wild Horse Val 103.64 46 PFAKE 23 02 40.0 +12
WVOR LR LR
comp=Z,7µm,22.0s
NSS Namsos 103.69 338 AMS AMS 23 54 18.3
comp=Z,5µm,17.7s
KWP Kalwaria Pacla 103.85 321 PFAKE 23 02 40.0 +11
KWP LR LR
comp=Z,5µm,20.0s
BMO Blue Mountains 104.06 44 PFAKE 23 02 40.0 +10
BMO LR LR
comp=Z,5µm,21.0s
VNA2 Neumayer--Watz 104.10 192 *e* **Pdif 23 02 32.8 +3.3**
KOLS Kolonicke sedl 104.31 321 *i*P **Pdif 23 02 33.1 +2.2**
KOLS Kolonicke sedl 104.31 321 PDIF **Pdif 23 02 33.1 +2.2**
VNA3 Neumayer Olymp 104.32 192 *e* **Pdif 23 02 34.9 +4.4**
UZH Uzhgorod 104.38 320 *e*P **Pdif 23 02 28.3 -2.9**
UZH *e* 23 06 47.7
UZH *e* 23 13 03.3
UZH *e*S 23 14 13.7
NVAR Mina Array Bea 104.68 50 Pdiff **Pdif 23 02 33.9 +0.8**
comp=Z,2.3nm,0.9s,baz=265,slow=6.8,SNR=9.2
NVAR PP **PKiKP 23 06 46.4 -2.2**
comp=Z,2.6nm,1.0s,baz=262,slow=6.3,SNR=3.9
NVAR Mina Array Bea 104.68 50 Pdif **Pdif 23 02 33.9 +0.8**
NVAR PP **PKiKP 23 06 46.5 -2.2**
CRVS Cervenica-Dubn 104.83 321 *i*P **Pdif 23 02 33.6 +0.4**
CRVS Cervenica-Dubn 104.83 321 PDIF **Pdif 23 02 33.6 +0.4**
BMN Battle Mountai 105.10 48 PFAKE 23 07 00.0
BMN LR LR
comp=Z,4µm,20.0s
KECS Kecovo 105.57 321 *i*P **Pdif 23 02 36.2 -0.3**
KECS Kecovo 105.57 321 PDIF **Pdif 23 02 36.2 -0.3**
BOSA Boshof 105.59 240 PKiKP **PKiKP 23 06 50.7 +0.2**
comp=Z,1.3nm,0.7s,baz=146,slow=15,SNR=3.7
BOSA Boshof 105.59 240 PKiKP **PKiKP 23 06 50.7 +0.2**
BOSA LR LR
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 105.67 335 P **Pdif 23 02 35.1 -1.6**
comp=Z,6.3nm,1.0s,baz=62,slow=4.4
NOA NORSAR Array B 105.67 335 Pdiff **Pdif 23 02 33.8 -2.9**
comp=Z,5.6nm,1.1s,baz=63,slow=4.5,SNR=3.9
NOA PP **PP 23 07 00.5 +1.6**
comp=Z,6.9nm,1.1s,baz=57,slow=7.0,SNR=3.5
NOA NORSAR Array B 105.67 335 P **Pdif 23 02 33.8 -2.9**
NOA 23 07 00.5
NOA NORSAR Array B 105.67 335 Pdif **Pdif 23 02 33.8 -2.9**
NOA PP **PP 23 07 00.5 +1.6**
LBTB Lobatse 105.84 244 PFAKE 23 07 00.0
LBTB LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 106.12 320 PFAKE 23 07 00.0
PSZ LR LR
comp=Z,3µm,20.0s
MOL Molde 106.39 337 *e*PP PP 23 07 02.3 -1.8
MOL AMS AMS 23 55 20.1
comp=Z,4µm,16.6s
HLID Hailey 106.39 45 PFAKE 23 07 00.0
HLID LR LR
comp=Z,7µm,21.0s
OKC Ostrava-Krasne 106.61 322 AMS AMS 23 54 50.0
comp=Z,2µm,22.5s
VYHS Vyhne 106.61 321 *i*P **Pdif 23 02 41.8 +0.6**
VYHS Vyhne 106.61 321 PDIF **Pdif 23 02 41.8 +0.6**
KONO Kongsberg 107.05 334 AMS AMS 23 53 55.8
comp=Z,4µm,14.7s
KONO Kongsberg 107.05 334 PFAKE 23 07 00.0
KONO LR LR
comp=Z,4µm,20.0s
PFO Pinyon Flat Ob 107.06 55 PFAKE 23 07 00.0
PFO LR LR
comp=Z,6µm,22.0s
KRLC Kraliky 107.36 323 *e*PP PP 23 07 15.3 +3.6
DPC Dobruska-Polom 107.53 323 *e*PP PP 23 07 16.0 +3.0
DPC *e*SDIF 23 14 46.3
DPC *e*SP SP 23 16 29.0 -1.7
DPC AMS AMS 23 58 10.0
comp=Z,3µm,19.2s
BOZ Bozeman (W) 107.71 42 PFAKE 23 07 10.0
BOZ LR LR
comp=Z,3µm,20.0s
FOO Floro 107.91 337 AMS AMS 23 56 44.6
comp=Z,9µm,16.1s
TIR Tirane 108.00 313 PFAKE 23 07 10.0
TIR LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 108.15 39 PFAKE 23 07 10.0
EGMT LR LR
comp=Z,3µm,19.0s
TREC Trest 108.42 322 *e*P **Pdif 23 02 49.4 +0.2**
TREC MLR MLR
comp=Z,3µm,19.0s
TREC Trest 108.42 322 *e*PDIF **Pdif 23 02 49.4 +0.2**
TREC *e*SDIF 23 14 56.5
TREC AMS AMS 23 59 00.0
comp=Z,3µm,19.0s
DUG Dugway 108.43 48 PFAKE 23 07 10.0
DUG LR LR
comp=Z,4µm,19.0s
BER Bergen 108.48 336 AMS AMS 23 58 13.1
comp=Z,5µm,14.8s
PVCC Panska Ves 108.51 324 *e*PP PP 23 07 23.3 +3.2
PVCC *e*SP SP 23 16 38.0 -2.6
PVCC AMS AMS 23 55 30.0
comp=Z,2µm,19.3s
SUR Sutherland 108.61 235 PFAKE 23 07 10.0
SUR LR LR
comp=Z,3µm,22.0s
CONA Conrad Observa 108.68 321⇑ pPKiKP pPKiKP 23 07 04.1 -2.6
comp=Z,45nm,1.6s
PRU Pruhonice 108.73 323 *e*PP PP 23 07 27.8 +6.1
PRU *e*SDIF 23 15 02.4
PRU *ex* x 23 16 38.8
PRU AMS AMS 23 55 10.0
comp=Z,3µm,22.2s
BRG Berggiesshubel 108.74 324 *e*PDIF **Pdif 23 02 50.5 0.0**
comp=Z,5.8nm,1.3s
BRG *e* 23 03 02.6
comp=Z,9.3nm,1.4s
BRG PP **PP 23 07 14.8 -7.0**
comp=Z,88nm,2.3s
BRG SDIF 23 15 02.0
BRG PS PS 23 16 49.0 +1.2
BRG SS SS 23 22 47.0 +10
BRG pmax pmax
comp=Z,4µm,17.3s
BRG
comp=N,3µm,20.7s
BRG
comp=E,1µm,20.7s
BRG Berggiesshubel 108.74 324 *e*P **Pdif 23 02 50.5 0.0**
BRG PS PS 23 16 49.0 +1.2
BRG SS SS 23 22 47.0 +10
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG pmax pmax
comp=Z,88nm,2.3s
BRG MLR MLR
comp=Z,4µm,17.3s
BRG MLR MLR
comp=N,3µm,20.7s
BRG MLR MLR
comp=E,1µm,20.7s
BRG pmax pmax
comp=E,11µm,1.5s
PRA Prague 108.76 323 PP PP 23 07 20.0 -1.9
PRA AMS AMS 00 01 00.0
LKWY Lake 108.87 43 PFAKE 23 07 10.0
LKWY LR LR
comp=Z,8µm,19.0s
AHID Auburn Hatcher 108.94 45 PFAKE 23 07 10.0
AHID LR LR
comp=Z,5µm,20.0s
HWUT Hardware Ranch 108.95 46 PFAKE 23 07 10.0
HWUT LR LR
comp=Z,9µm,21.0s
CLL Collm 109.11 325 *e*P **Pdif 23 02 52.0 -0.1**
CLL *i* 23 07 25.8
CLL *e* 23 13 33.0
CLL pmax pmax
comp=Z,49nm,1.6s
CLL MLR MLR
comp=Z,6µm,19.0s
CLL Collm 109.11 325 *e*Pdif **Pdif 23 02 52.0 -0.1**
CLL *e*(PKiKP) 23 07 01.0
CLL *e* 23 07 19.0
CLL *i* PP **PP 23 07 25.8 +1.4**
comp=Z,49nm,1.6s
CLL *e*SKSac **SKSac 23 13 33.0 +3.5**
CLL *e*Sdif **Sdif 23 15 02.0 +2.0**
CLL *e*(PS) 23 16 41.0
CLL *e*PPS PPS 23 17 49.0
CLL *e*SS **SS 23 22 44.0 +2.3**
CLL *e*SSS SSS 23 26 46.0
CLL *e*SSSS 23 30 24.0
CLL *e* 23 33 06.0
CLL Lm MLR 23 58 00.0
comp=N,3µm,19.6s
CLL Lm MLR 23 58 00.0
comp=E,3µm,19.5s
CLL Lm MLR 23 58 00.0
comp=Z,6µm,19.0s
MVU Marysvale 109.32 49 PFAKE 23 07 10.0
MVU LR LR
comp=Z,6µm,19.0s
RLMT Red Lodge 109.45 42 PFAKE 23 07 10.0
RLMT LR LR
comp=Z,3µm,19.0s
KHC Kasperske Hory 109.64 323 *e*PKP **PKiKP 23 07 00.0 +2.6**
KHC *ex* x 23 07 09.0
KHC AMS AMS 23 55 50.0
comp=Z,2µm,25.2s
GERES GERESS Array B 109.68 322 Pdiff **Pdif 23 02 53.0 -1.9**
comp=Z,0.6nm,0.9s,baz=99,slow=8.5,SNR=4.9
GERES PKiKP **PKiKP 23 06 57.3 -0.2**
comp=Z,0.8nm,0.8s,baz=90,slow=2.0,SNR=4.6
GERES PKKP **PKKPdf 23 18 18.6 -0.5**
comp=Z,0.7nm,0.8s,baz=302,slow=5.6,SNR=4.2
GERES GERESS Array B 109.68 322 P **Pdif 23 02 53.0 -1.9**
GERES GERESS Array B 109.68 322 Pdif **Pdif 23 02 53.0 -1.9**
GERES PKiKP **PKiKP 23 06 57.3 -0.2**
GERES PKKP **PKKPdf 23 18 18.6 -0.5**
FFC Flin Flon 109.81 31 PFAKE 23 07 10.0
FFC LR LR
comp=Z,4µm,20.0s
NKC Novy Kostel 109.87 324 *e*P **Pdif 23 02 55.4 -0.2**
NKC *e* 23 07 32.8
NKC MLR MLR
comp=Z,4µm,18.9s
NKC Novy Kostel 109.87 324 *e*PDIF **Pdif 23 02 55.4 -0.2**
NKC *e*PP **PP 23 07 32.8 +2.8**
NKC AMS AMS 23 57 40.0
comp=Z,4µm,18.9s
BW06 Boulder Array 110.02 44 PFAKE 23 07 10.0
BW06 LR LR
comp=Z,5µm,20.0s
PDAR Pinedale Array 110.02 44 PKKPbc PKKPbc 23 18 00.8 -1.3
comp=Z,1.0nm,0.8s,baz=107,slow=5.2,SNR=5.7
PDAR PKKPab **PKKPab 23 18 11.6 -0.9**
comp=Z,6.5nm,1.1s,baz=113,slow=3.8,SNR=11
PDAR Pinedale Array 110.02 44 PKKPbc PKKPbc 23 18 00.8 -1.3
PDAR PKKPab **PKKPab 23 18 11.6 -0.9**
WUAZ Wupatki 110.73 52 PFAKE 23 07 10.0
WUAZ LR LR
comp=Z,5µm,20.0s
TRI Trieste 110.82 319 PFAKE 23 07 10.0
TRI LR LR
comp=Z,3µm,19.0s
TIP Timpagrande 110.89 312 PFAKE 23 07 10.0
TIP LR LR
comp=Z,2µm,22.0s
CUC Castrocucco 111.34 313 PFAKE 23 07 10.0
CUC LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 111.42 37 PFAKE 23 07 10.0
DGMT LR LR
comp=Z,4µm,22.0s
CEL Celeste 111.81 311 PFAKE 23 07 10.0
CEL LR LR
comp=Z,1µm,21.0s
TUC Tucson 112.00 55 PFAKE 23 07 10.0
TUC LR LR
comp=Z,5µm,22.0s
AQU L'Aquila 112.28 316 PFAKE 23 07 10.0
AQU LR LR
comp=Z,3µm,21.0s
MVCO Mesa Verde 112.50 50 PFAKE 23 07 20.0
MVCO LR LR
comp=Z,4µm,19.0s
BFO Black Forest 113.13 324 PFAKE 23 07 20.0
BFO LR LR
comp=Z,3µm,19.0s

TUE Stuetta 113.33 321 PFAKE 23 07 20.0
TUE LR LR
comp=Z,2µm,19.0s
PMSA Palmer Station 113.44 172 PFAKE 23 07 20.0
PMSA LR LR
comp=Z,4µm,19.0s
WDD Wield Dalam 113.56 309 PFAKE 23 07 20.0
WDD LR LR
comp=Z,1µm,20.0s
RPN Rapa Nui 113.72 120 PFAKE 23 07 20.0
RPN LR LR
comp=Z,2µm,19.0s
WLF Walferdange 113.75 326 PFAKE 23 07 20.0
WLF LR LR
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 113.77 2 PFAKE 23 07 20.0
SFJD LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 113.81 46 PFAKE 23 07 20.0
ISCO LR LR
comp=Z,5µm,22.0s
ECH Echery 113.87 324 PFAKE 23 07 20.0
ECH LR LR
comp=Z,2µm,19.0s
TSUM Tsumeb 114.09 249 PFAKE 23 07 20.0 +13
TSUM LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 114.60 48 PFAKE 23 07 20.0 +13
SDCO LR LR
comp=Z,6µm,19.0s
SDCO Great Sand Dun 114.60 48 ⇑P PKPdf 23 07 08.0 +0.5
baz=114
SDCO ⇑P PKPdf 23 07 08.0 +0.5
baz=114
SDCO ⇑P PKPdf 23 07 08.0 +0.5
baz=114
SDCO ⇑P PKPdf 23 07 08.0 +0.5
baz=114
SDCO ⇑P PKPdf 23 07 08.0 +0.5
baz=114
SDCO ⇑P PKPdf 23 07 08.0 +0.5
baz=114
ANMO Albuquerque 114.75 52 PKP PKPdf 23 07 09.2 +1.5
comp=Z,0.4nm,0.4s,baz=282,slow=3.6,SNR=3.1
ANMO Albuquerque 114.75 52 *e*PKIKP PKPdf 23 07 09.0 +1.3
ANMO MLR MLR
comp=Z,6µm,21.0s
ANMO Albuquerque 114.75 52 *e*PKP PKPdf 23 07 09.0 +1.3
ANMO LR LR
comp=Z,6µm,21.0s
SFTF Sexfontaines 115.12 325 *e*PKIKP **PKPdf 23 07 10.5 +2.7**
T24A Torres, Weston 115.16 49 ⇑P **PKPdf 23 07 07.8 -0.8**
baz=115
T24A ⇑P **PKPdf 23 07 07.8 -0.8**
baz=115
T24A ⇑P **PKPdf 23 07 07.8 -0.8**
baz=115
ESK Eskdalemuir 115.18 334 PFAKE 23 07 20.0 +12
ESK LR LR
comp=Z,5µm,21.0s
ULM Lac du Bonnet 115.32 33 PKP **PKPdf 23 07 07.1 -1.0**
comp=Z,1.7nm,0.4s,baz=347,slow=5.7,SNR=4.3
ULM PKKPbc **PKKPbc 23 17 43.8 -0.4**
comp=Z,17nm,1.1s,baz=128,slow=5.5,SNR=12
ULM Lac du Bonnet 115.32 33 PKIKP **PKPdf 23 07 07.1 -1.0**
ULM 23 17 43.8
ULM MLR MLR
comp=Z,5µm,20.0s
ULM Lac du Bonnet 115.32 33 PKP **PKPdf 23 07 07.1 -1.0**
ULM PKKPbc **PKKPbc 23 17 43.8 -0.4**
ULM LR LR
comp=Z,5µm,20.0s
R25A Fountain Ranch 115.36 48 ⇑P **PKPdf 23 07 08.9 +0.1**
baz=115
R25A ⇑P **PKPdf 23 07 08.9 +0.1**
baz=115
R25A ⇑P **PKPdf 23 07 08.9 +0.1**
baz=115
LPG La Plagne 115.39 321 *e*PKIKP **PKPdf 23 07 11.3 +2.5**
comp=Z,13nm,0.8s
LPL La Plagne 115.39 321 *e*PKIKP **PKPdf 23 07 11.2 +2.5**
comp=Z,15nm,0.8s
BNI Bardonecchia 115.64 321 PFAKE 23 07 20.0 +11
BNI LR LR
comp=Z,5µm,21.0s
Y24A Capitan 115.87 52 ⇑P **PKPdf 23 07 10.0 +0.1**
baz=116
Y24A ⇑P **PKPdf 23 07 10.0 +0.1**
baz=116
Y24A ⇑P **PKPdf 23 07 10.0 +0.1**
baz=116
OGNE Ogallala 115.92 44 PFAKE 23 07 20.0 +10
OGNE LR LR
comp=Z,4µm,20.0s
R26A Arlington 115.92 47 ⇓P **PKPdf 23 07 10.0 +0.2**
baz=116
R26A ⇓P **PKPdf 23 07 10.0 +0.2**
baz=116
R26A ⇓P **PKPdf 23 07 10.0 +0.2**
baz=116
VSL Villasalto 116.17 314 PFAKE 23 07 20.0 +10
VSL LR LR
comp=Z,2µm,20.0s
ORIF Oris-en-Rattie 116.20 321 *e*PKIKP **PKPdf 23 07 12.4 +2.3**
comp=Z,35nm,1.3s
AGMN Agassiz Nation 116.38 34 PFAKE 23 07 20.0 +10
AGMN LR LR
comp=Z,6µm,21.0s
MNTX Cornudas Mount 116.58 55 *e*PKPdf **PKPdf 23 07 11.8 +0.6**
MNTX *e*PP **PP 23 08 18.9 +0.5**
MNTX LR LR
comp=Z,4µm,22.0s
SSB Saint Sauveur 116.86 322 PFAKE 23 07 20.0 +8.7
SSB LR LR
comp=Z,2µm,19.0s
T27A Campo 116.91 48 ⇓P **PKPdf 23 07 12.0 +0.3**
baz=117
T27A ⇓P **PKPdf 23 07 12.0 +0.3**
baz=117
T27A ⇓P **PKPdf 23 07 12.0 +0.3**
baz=117
425A Indio Mountain 117.17 56 ⇓P **PKPdf 23 07 12.6 +0.2**
baz=117
425A ⇓P **PKPdf 23 07 12.6 +0.2**
baz=117
425A ⇓P **PKPdf 23 07 12.6 +0.2**
baz=117
T28A Walsh 117.34 48 ⇓P **PKPdf 23 07 12.3 -0.3**
baz=117
T28A ⇓P **PKPdf 23 07 12.3 -0.3**
baz=117
T28A ⇓P **PKPdf 23 07 12.3 -0.3**
baz=117
KEST Kesra 117.58 311 PKP **PKPdf 23 07 13.3 +0.3**
comp=Z,1.8nm,1.1s,baz=67,slow=19,SNR=2.5
KEST Kesra 117.58 311 *e*PKPdf **PKPdf 23 07 13.1 +0.1**
KEST PKP **PKPdf 23 07 13.3 +0.3**
Y27A Causey 117.68 52 ⇓P **PKPdf 23 07 14.0 +0.7**
baz=118
Y27A ⇓P **PKPdf 23 07 14.0 +0.7**
baz=118
Y27A ⇓P **PKPdf 23 07 14.0 +0.7**
baz=118
Z27A Tatum 117.83 52 ⇑P **PKPdf 23 07 14.2 +0.6**
baz=118
Z27A ⇑P **PKPdf 23 07 14.2 +0.6**
baz=118
Z27A ⇑P **PKPdf 23 07 14.2 +0.6**
baz=118
MSTX Muleshoe 117.95 51 ⇑P **PKPdf 23 07 14.4 +0.6**
baz=118
MSTX ⇑P **PKPdf 23 07 14.4 +0.6**
baz=118
MSTX ⇑P **PKPdf 23 07 14.4 +0.6**
baz=118
ECSD EROS Data Cent 118.27 39 *e*PKPdf **PKPdf 23 07 13.7 -0.3**
ECSD *e*PP **PP 23 08 28.0 -1.6**
ECSD LR LR
comp=Z,6µm,21.0s
CBKS Cedar Bluff 118.40 45 PFAKE 23 07 30.0 +16
CBKS LR LR
comp=Z,6µm,21.0s
AMTX Amarillo 118.48 50 PFAKE 23 07 30.0 +15
AMTX LR LR
comp=Z,6µm,20.0s
TXAR Lajitas Array 118.68 57 PKP **PKPdf 23 07 14.1 -1.2**
comp=Z,0.5nm,0.5s,baz=174,slow=1.7,SNR=3.2
TXAR PP **PP 23 08 32.1 -1.1**
comp=Z,3.1nm,1.1s,baz=270,slow=1.3,SNR=4.7
TXAR PKKPbc **PKKPbc 23 17 28.3 -3.6**
comp=Z,0.7nm,0.8s,baz=128,slow=7.3,SNR=2.4
TXAR PKKPab **PKKPab 23 17 33.1 -1.1**
comp=Z,1.1nm,0.7s,baz=111,slow=6.9,SNR=6.1
TXAR Lajitas Array 118.68 57 PKIKP **PKPdf 23 07 14.1 -1.2**
TXAR 23 08 32.1
TXAR Lajitas Array 118.68 57 PKP **PKPdf 23 07 14.1 -1.2**
TXAR PP **PP 23 08 32.1 -1.1**
TXAR PKKPbc **PKKPbc 23 17 28.3 -3.6**
TXAR PKKPab **PKKPab 23 17 33.1 -1.1**
EYMN Ely 119.00 33 PFAKE 23 07 30.0 +15
EYMN LR LR
comp=Z,5µm,20.0s
MSKU Masuku 119.79 268 PFAKE 23 07 30.0 +12
MSKU LR LR
comp=Z,2.0nm,20.0s
SPMN St. Paul 119.81 36 ⇓P **PKPdf 23 07 17.4 +0.5**
baz=120
SPMN ⇓P **PKPdf 23 07 17.4 +0.5**
baz=120
SPMN ⇓P **PKPdf 23 07 17.4 +0.5**
baz=120
KSU1 Kansas State U 120.47 44 PFAKE 23 07 30.0 +12
KSU1 LR LR
comp=Z,5µm,21.0s
WMOK Wichita Mounta 120.75 49 PFAKE 23 07 30.0 +11
WMOK LR LR
comp=Z,5µm,20.0s
SCIA State Center 121.35 39 PFAKE 23 07 30.0 +10
SCIA LR LR
comp=Z,4µm,21.0s
JCT Junction City 121.51 54 *e*PKIKP **PKPdf 23 07 20.9 +0.3**
JCT *e* 23 08 49.5
JCT MLR MLR
comp=Z,6µm,20.0s
JCT Junction City 121.51 54 *e*PKPdf **PKPdf 23 07 20.9 +0.3**
JCT *e*PP **PP 23 08 49.5 -2.9**
JCT LR LR
comp=Z,6µm,20.0s
JCT Junction City 121.51 54 ⇓P **PKPdf 23 07 20.9 +0.3**
baz=121
JCT ⇓P **PKPdf 23 07 20.9 +0.3**
baz=121
JCT ⇓P **PKPdf 23 07 20.9 +0.3**
baz=121
TUL1 Tulsa 122.48 47 ⇑P **PKPdf 23 07 22.7 +0.4**
baz=122
TUL1 ⇑P **PKPdf 23 07 22.7 +0.4**
baz=122
TUL1 ⇑P **PKPdf 23 07 22.7 +0.4**
baz=122
JFWS Jewell Farm 122.64 37 PFAKE 23 07 30.0 +7.6
JFWS LR LR
comp=Z,4µm,19.0s
SCHQ Schefferville 123.54 14 PKP **PKPdf 23 07 23.7 -0.1**
comp=Z,5.3nm,0.8s,baz=0.0,slow=2.0,SNR=3.4
SCHQ Schefferville 123.54 14 PKP **PKPdf 23 07 23.7 -0.1**
SCHQ LR LR
comp=Z,3µm,20.0s
KVTX Kingsville 124.07 57 PFAKE 23 07 40.0 +14
KVTX LR LR
comp=Z,4µm,19.0s
HDIL Hopedale 124.56 39 PFAKE 23 07 40.0 +14
HDIL LR LR
comp=Z,4µm,21.0s
GLMI Grayling 124.66 32 PFAKE 23 07 40.0 +14
GLMI LR LR
comp=Z,4µm,21.0s
MIAR Mount Ida 124.72 47 *e*PKIKP **PKPdf 23 07 27.4 +0.8**
MIAR *e* 23 09 12.2
MIAR MLR MLR
comp=Z,6µm,20.0s
MIAR Mount Ida 124.72 47 *e*PKPdf **PKPdf 23 07 27.4 +0.8**
MIAR *e*PP **PP 23 09 12.2 -1.6**
MIAR LR LR
comp=Z,6µm,20.0s
TAM Tamanrasset 124.87 297 *e*PKIKP **PKPdf 23 07 28.2 +0.8**
TAM MLR MLR
comp=Z,775nm,19.0s
TAM Tamanrasset 124.87 297 *e*PKPdf **PKPdf 23 07 28.2 +0.8**
TAM LR LR
comp=Z,775nm,19.0s
NATX Nacogdoches 125.11 51 PFAKE 23 07 40.0 +13
NATX LR LR
comp=Z,5µm,19.0s
ESDC Sonseca Array 125.15 320 PKP **PKPdf 23 07 27.1 -0.3**
comp=Z,0.8nm,0.8s,baz=48,slow=2.2,SNR=5.9
ESDC PP **PP 23 09 15.2 -1.2**
comp=Z,5.2nm,1.0s,baz=55,slow=6.2,SNR=6.8
ESDC Sonseca Array 125.15 320 PKP **PKPdf 23 07 27.1 -0.3**
ESDC PP **PP 23 09 15.2 -1.2**
ESLA Sonseca Array 125.15 320 PFAKE 23 07 40.0 +13
ESLA LR LR
comp=Z,21µm,20.0s
PAB San Pablo 125.47 320 PFAKE 23 07 40.0 +12
PAB LR LR
comp=Z,2µm,21.0s
PBRG Braganca 125.61 324 *e*PP PP 23 09 18.1 -1.2
PBRG *e*LR LR 23 59 50.0
comp=Z,4µm,18.0s
MVO Moncorvo 126.17 323 *e*SS SS 23 26 28.6 +5.1
MVO *e*LR LR 23 59 49.8
comp=Z,3µm,18.0s
OLIL Olney 126.36 40 *e*PKPdf **PKPdf 23 07 29.7 +0.1**
OLIL *e*PP **PP 23 09 21.0 -3.4**
PGAV Gavieira, Arco 126.39 325 *e*PP PP 23 09 31.1 +6.5
PGAV *e*SS SS 23 26 33.0 +6.7
PGAV *e*LR LR 00 01 40.6
comp=Z,3µm,20.0s
POLO Lamas de Olo 126.49 324 *e*PP PP 23 09 31.8 +6.5
POLO *e*SS SS 23 26 38.4 +11
POLO *e*LR LR 00 00 48.6
comp=Z,2µm,20.0s
AAM Ann Arbor 126.85 34 PFAKE 23 07 40.0 +10
AAM LR LR
comp=Z,5µm,21.0s
EFI East Falkland 126.92 171 PFAKE 23 07 40.0 +10
EFI LR LR
comp=Z,4µm,20.0s
MTE Manteigas 126.95 323 *e*PP PP 23 09 32.4 +4.1
MTE *e*SS SS 23 26 45.1 +12
MTE *e*LQ LQ 23 53 25.2
MTE *e*LR LR 00 00 04.0
comp=Z,3µm,18.0s
MTE Manteigas 126.95 323 PFAKE 23 07 40.0 +9.2
MTE LR LR
comp=Z,3µm,20.0s
PMRV Marv??o 127.45 322 *e*PP PP 23 09 36.8 +5.2
PMRV *e*LQ LQ 23 53 49.1
PMRV *e*LR LR 00 00 52.3
comp=Z,2µm,20.0s
SADO Sadowa 127.49 29 PKP **PKPdf 23 07 31.5 -0.1**
comp=Z,7.9nm,0.9s,baz=291,slow=4.4,SNR=4.0
SADO Sadowa 127.49 29 PKP **PKPdf 23 07 31.5 -0.1**
OXF Oxford 127.74 45 PFAKE 23 07 40.0 +7.6
OXF LR LR
comp=Z,4µm,22.0s
PESTR Estremoz 127.91 322 *e*PP PP 23 09 40.6 +6.0
PESTR *e*LR LR 00 02 26.4
comp=Z,2µm,20.0s
PBAR Barrancos 127.98 320 *e*PP PP 23 09 40.2 +5.1
PBAR *e*LR LR 00 03 20.1
comp=Z,3µm,20.0s
WVT Waverly 127.98 43 *e*PKIKP **PKPdf 23 07 32.9 +0.1**
WVT *e* 23 09 33.1
WVT Waverly 127.98 43 *e*PKPdf **PKPdf 23 07 32.9 +0.1**
WVT *e*PP **PP 23 09 33.1 -2.2**
VBMS Vicksburg 128.06 48 PFAKE 23 07 40.0 +6.9
VBMS LR LR
comp=Z,6µm,19.0s
PMTG Montargil 128.18 322 *e*PP PP 23 09 41.7 +5.4
PMTG *e*LR LR 00 00 43.9
comp=Z,2µm,18.0s
EVO Evora 128.38 321 *e*PKIKP **PKPdf 23 07 34.2 +0.7**
comp=Z,96nm,1.5s
PLAL Pickwick Lake 128.44 44 *e*PKPdf **PKPdf 23 07 33.3 -0.4**
PLAL *e*PP **PP 23 09 33.5 -4.7**
PLAL LR LR
comp=Z,6µm,20.0s
ACSO Alum Creek Sta 128.59 36 *e*PKPdf **PKPdf 23 07 33.6 -0.2**
ACSO LR LR
comp=Z,5µm,20.0s
PVAQ Vaqueiros 128.87 320 *e*PP PP 23 09 47.3 +6.4
PVAQ *e*SS SS 23 27 05.8 +8.7
PVAQ *e*LQ LQ 23 55 17.9
PVAQ *e*LR LR 00 00 28.2
comp=Z,1µm,18.0s
PMAFR Mafra 128.90 323 *e*SS SS 23 27 06.2 +8.8
PMAFR *e*LQ LQ 23 54 43.7
PMAFR *e*LR LR 00 02 36.3
comp=Z,3µm,22.0s
PCVE Castro Verde 128.94 321 *e*PP PP 23 09 47.2 +5.8
PCVE *e*LR LR 00 01 29.6
comp=Z,2µm,18.0s
PNCL Nicolau / Gran 128.96 321 *e*LR LR 00 01 16.0
comp=Z,3µm,18.0s
ERPA Erie 128.97 32 PFAKE 23 07 50.0 +15
ERPA LR LR
comp=Z,6µm,22.0s
PBDV Barranco-do-Ve 129.10 320 *e*PP PP 23 09 42.7 +0.2
PBDV *e*SS SS 23 27 12.3 +12
PBDV *e*LR LR 00 02 39.1
comp=Z,2µm,18.0s
MORF Marmelete 129.52 321 *e*PP PP 23 09 42.4 -2.8
MORF *e*LR LR 00 01 53.1
comp=Z,3µm,20.0s
LONY Lake Ozonia 129.70 26 PFAKE 23 07 50.0 +14
LONY LR LR
comp=Z,4µm,22.0s
PFVI Vila Bisbo 129.74 321 *e*PP PP 23 09 56.9 +10
PFVI *e*LR LR 00 02 26.2
comp=Z,4µm,20.0s
CMIG Matias Romero 129.74 68 PKP **PKPdf 23 07 35.8 -0.9**
comp=Z,0.7nm,0.3s,baz=267,slow=17,SNR=2.8
CMIG Matias Romero 129.74 68 PKP **PKPdf 23 07 35.8 -0.9**
LRAL Lakeview Retre 130.22 46 PFAKE 23 07 50.0 +13
LRAL LR LR
comp=Z,6µm,20.0s
RTC Rabat Centre 130.24 316 PFAKE 23 07 50.0 +13
RTC LR LR
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 130.64 287 PKP **PKPdf 23 07 37.4 -1.0**
comp=Z,4.6nm,0.7s,baz=59,slow=1.6,SNR=25
TORD PP **PP 23 09 55.5 +1.8**
comp=Z,2.6nm,0.9s,baz=95,slow=3.2,SNR=3.6
TORD PS PS 23 20 14.8 +7.9
comp=Z,0.7nm,0.9s,baz=267,slow=5.7,SNR=3.3
TORD Torodi Ar. Bea 130.64 287 PKP **PKPdf 23 07 37.4 -1.0**
TORD PP **PP 23 09 55.5 +1.8**
TORD PS PS 23 20 14.8 +7.9
MDV Middlebury 130.80 25 *e*PKPdf **PKPdf 23 07 38.6 +0.7**
BINY Binghamton 130.93 29 PFAKE 23 07 50.0 +12
BINY LR LR
comp=Z,5µm,22.0s
TKL Tuckaleechee C 130.95 41 PKP **PKPdf 23 07 36.8 -1.7**
comp=Z,14nm,1.1s,baz=252,slow=1.7,SNR=6.9
TKL Tuckaleechee C 130.95 41 PKIKP **PKPdf 23 07 36.8 -1.7**
TKL Tuckaleechee C 130.95 41 PKP **PKPdf 23 07 36.8 -1.7**
TKL *e*PKPdf **PKiKP 23 07 39.6 +0.2**
LBNH Lisbon 131.13 24 PFAKE 23 07 50.0 +11
LBNH LR LR
comp=Z,4µm,20.0s
BRAL Brewton 131.22 48 PFAKE 23 07 50.0 +11
BRAL LR LR
comp=Z,7µm,22.0s
PKME Peaks-Kenny Pk 131.28 21 PFAKE 23 07 50.0 +11
PKME LR LR
comp=Z,3µm,22.0s
BLA Blacksburg 132.08 37 PFAKE 23 07 50.0 +9.4
BLA LR LR
comp=Z,4µm,21.0s
GOGA Godfrey 132.48 43 PFAKE 23 07 50.0 +8.6
GOGA LR LR
comp=Z,4µm,20.0s
PAL Palisades 132.84 28 *e*PKIKP **PKPdf 23 07 42.1 +0.2**
PAL Palisades 132.84 28 *e*PKPdf **PKPdf 23 07 42.1 +0.2**
CBN Corbin 133.15 34 PFAKE 23 07 50.0 +7.5
CBN LR LR
comp=Z,6µm,21.0s
PLCA Paso Flores 133.34 155 PKP **PKPdf 23 07 43.3 +0.3**
comp=Z,6.2nm,0.8s,baz=173,slow=3.2,SNR=7.2
PLCA Paso Flores 133.34 155 PKIKP **PKPdf 23 07 43.3 +0.3**
PLCA MLR MLR
comp=Z,5µm,20.0s
PLCA Paso Flores 133.34 155 PKP **PKPdf 23 07 43.3 +0.3**
PLCA *e*PKPdf **PKiKP 23 07 44.8 +0.6**
PLCA LR LR
comp=Z,5µm,20.0s
TEIG Tepich 134.83 62 PFAKE 23 08 00.0 +14
TEIG LR LR
comp=Z,3µm,20.0s
NHSC New Hope 134.86 41 PFAKE 23 08 00.0 +14
NHSC LR LR
comp=Z,4µm,22.0s
CNNC Cliffs of the 134.91 37 PFAKE 23 08 00.0 +14
CNNC LR LR
comp=Z,5µm,20.0s
SHEL Horse Pasture 136.45 246 PFAKE 23 08 00.0 +11
SHEL LR LR
comp=Z,3µm,20.0s
TGUH Tegucigalpa,Un 137.59 70 PFAKE 23 08 00.0 +8.6
TGUH LR LR
comp=Z,4µm,22.0s
DBIC Dimbokro 137.99 279 PKhKP PKPpre 23 07 42.0
comp=Z,2.7nm,0.7s,baz=154,slow=2.9,SNR=4.1
DBIC Dimbokro 137.99 279 PKHKP PKPpre 23 07 42.1
DBIC *e* 23 07 51.8
DBIC MLR MLR
comp=Z,2µm,21.0s
DBIC Dimbokro 137.99 279 PKPpre PKPpre 23 07 42.0
DBIC *e*PKPpre PKPpre 23 07 45.3
DBIC *e*PKPdf **PKPdf 23 07 51.8 -0.5**
DBIC LR LR
comp=Z,2µm,21.0s
LIC Lamto 138.20 279 *e*PKIKP **PKPdf 23 07 48.3 -4.3**
comp=Z,37nm,1.1s
CMLA Cha da Macela 138.33 335 PFAKE 23 08 00.0 +7.8
CMLA LR LR
comp=Z,1µm,20.0s
TRQA Tornquist 138.90 161 *e*PKPdf **PKPdf 23 07 54.0 +0.7**
TRQA *e*PP **PP 23 10 45.9 +1.9**
TRQA LR LR
comp=Z,8µm,21.0s
JTS JuntasAbangare 140.66 75 PKP **PKPdf 23 07 56.1 -1.0**
comp=Z,3.6nm,0.8s,baz=263,slow=14,SNR=2.4
JTS JuntasAbangare 140.66 75 PKIKP **PKPdf 23 07 56.1 -1.0**
JTS MLR MLR
comp=Z,4µm,21.0s
JTS JuntasAbangare 140.66 75 PKP **PKPdf 23 07 56.1 -1.0**
JTS *e*PKPdf **PKiKP 23 07 57.6 -2.1**
JTS LR LR
comp=Z,4µm,21.0s
LCO Las Campanas 142.51 144 *e*PKPdf **PKPdf 23 07 58.2 -2.2**
LCO LR LR
comp=Z,3µm,22.0s
BBSR BB Station 144.15 27 PFAKE 23 08 10.0 +7.2
BBSR LR LR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 145.82 75 PFAKE 23 08 20.0 +13
BCIP LR LR
comp=Z,5µm,21.0s
NNA Nana 147.39 114 *e*PKP2 **PKPbc 23 08 10.4 -0.9**
NNA MLR MLR
comp=Z,4µm,21.0s
NNA Nana 147.39 114 *e*PKPbc **PKPbc 23 08 10.4 -0.9**
NNA LR LR
comp=Z,4µm,21.0s
OTAV Otavalo 148.10 91 PFAKE 23 08 20.0 +3.3
OTAV LR LR
comp=Z,3µm,20.0s
LVC Limon Verde 148.20 138 *e*PKPbc **PKPbc 23 08 12.7 -0.9**
LVC *e*PKPab **PKPab 23 08 16.2 -0.3**
LVC LR LR
comp=Z,4µm,21.0s
SDDR Presa de Saban 149.69 52 *e*PKPbc **PKPbc 23 08 16.9 -0.2**
SDDR *e*PKPab **PKPab 23 08 22.7 +0.3**
SDDR LR LR
comp=Z,3µm,21.0s
CPUP Villa Florida 151.19 160 PKP **PKPdf 23 08 14.0 -0.6**
comp=Z,5.0nm,0.9s,baz=205,slow=1.6,SNR=7.8
CPUP PKPbc **PKiKP 23 08 21.2 +0.1**
comp=Z,41nm,0.9s,baz=185,slow=1.0,SNR=40
CPUP Villa Florida 151.19 160 PKIKP **PKPdf 23 08 14.0 -0.6**
CPUP *e* 23 08 15.0
CPUP *e* 23 08 21.2
CPUP MLR MLR
comp=Z,1µm,20.0s
CPUP Villa Florida 151.19 160 PKP **PKPdf 23 08 14.0 -0.6**

CPUP				*e*PKPdf	PKPbc	23 08 15.0	-5.5
CPUP				*e*PKPbc	**PKiKP**	**23 08 21.2**	**+0.1**
CPUP				LR	LR		
	comp=Z,1μm,20.0s						
ROSC	**El Rosal**	**151.96**	**81**	PKP	**PKPdf**	**23 08 16.3**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=270,slow=20,SNR=6.8						
ROSC				PKPbc	**PKPbc**	**23 08 22.6**	**-0.5**
	comp=Z,16nm,0.6s,baz=295,slow=4.0,SNR=11						
ROSC	**El Rosal**	**151.96**	**81**	PKP	**PKPdf**	**23 08 16.3**	**-0.3**
ROSC				*e*PKPdf	PKPbc	23 08 17.8	-5.4
ROSC				PKPbc	**PKPbc**	**23 08 22.6**	**-0.5**
ROSC				*e*PKPbc	PKPab	23 08 24.1	-8.4
LPAZ	**La Paz**	**152.83**	**129**	PKP	**PKPdf**	**23 08 17.6**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=221,slow=11,SNR=18						
LPAZ				PKPbc	**PKiKP**	**23 08 26.5**	**+1.1**
	comp=Z,27nm,0.9s,baz=256,slow=2.2,SNR=36						
LPAZ	**La Paz**	**152.83**	**129**	PKIKP	**PKPdf**	**23 08 17.6**	**-0.5**
LPAZ				*e*		23 08 19.6	
LPAZ				*e*		23 08 26.4	
LPAZ				MLR	MLR		
	comp=Z,2μm,21.0s						
LPAZ	**La Paz**	**152.83**	**129**	PKP	**PKPdf**	**23 08 17.6**	**-0.5**
LPAZ				*e*PKPdf	PKPbc	23 08 19.6	-5.7
LPAZ				*e*PKPbc	**PKiKP**	**23 08 26.4**	**+1.0**
LPAZ				LR	LR		
	comp=Z,2μm,21.0s						
SACV	**Santiago Islan**	**153.26**	**303**	PFAKE		23 08 30.0	+4.5
SACV				LR	LR		
	comp=Z,2μm,22.0s						
CRPR	**Cabo Rojo, PR**	**153.47**	**48**	*e*PKPbc	**PKPbc**	**23 08 26.0**	**+0.2**
CRPR				*e*PKPab	**PKPab**	**23 08 39.0**	**+1.0**
LRS	**Lares**	**153.49**	**48**	*e*PKPdf	**PKPdf**	**23 08 18.6**	**+0.4**
LRS				*e*PKPab	**PKPab**	**23 08 37.8**	**-0.4**
CELP	**Cerrillos**	**153.82**	**48**	*e*PKPbc	**PKPbc**	**23 08 26.6**	**0.0**
CELP				*e*PKPab	**PKPab**	**23 08 39.6**	**0.0**
OBIP	**Obispado Ponce**	**153.82**	**48**	*e*PKPdf	**PKPdf**	**23 08 18.8**	**+0.1**
OBIP				*e*PKPbc	**PKiKP**	**23 08 26.8**	**+0.2**
OBIP				*e*PKPab	**PKPab**	**23 08 39.5**	**0.0**
ICM	**Isla Caja Muer**	**153.98**	**48**	*e*PKPdf	**PKPdf**	**23 08 19.4**	**+0.6**
ICM				*e*PKPbc	**PKPbc**	**23 08 26.9**	**0.0**
ICM				*e*PKPab	**PKPab**	**23 08 39.4**	**-0.8**
MTP	**Monte Pirata**	**154.55**	**46**	*e*PKPdf	**PKPdf**	**23 08 20.1**	**+0.4**
MTP				*e*PKPab	**PKPab**	**23 08 42.7**	**+0.1**
SDV	**Santo Domingo**	**154.68**	**71**	*e*PKPdf	**PKPdf**	**23 08 20.4**	**+0.1**
SDV				*e*PKPbc	**PKPbc**	**23 08 27.6**	**-1.2**
SDV				LR	LR		
	comp=Z,876nm,20.0s						
STVI	**Saint Thomas**	**154.81**	**45**	*e*PKPpre	PKPpre	23 08 12.4	
STVI				*e*PKPdf	**PKPdf**	**23 08 20.3**	**+0.2**
SPB	**Sao Paulo**	**155.84**	**178**	PFAKE		23 08 30.0	+8.7
SPB				LR	LR		
	comp=Z,3μm,20.0s						
SAML	**Samuel**	**160.87**	**120**	*e*PKPdf	**PKPdf**	**23 08 28.5**	**+0.9**
SAML				*e*PKPab	**PKPab**	**23 09 10.2**	**+0.1**
SAML				LR	LR		
	comp=Z,3μm,21.0s						
GRGR	**Grenville**	**161.20**	**52**	PFAKE		23 08 40.0	+12
GRGR				LR	LR		
	comp=Z,3μm,21.0s						
BBGH	**Gun Hill**	**162.14**	**46**	PFAKE		23 08 40.0	+11
BBGH				LR	LR		
	comp=Z,5μm,19.0s						
RCBR	**Riachuelo**	**167.54**	**239**	PFAKE		23 08 40.0	+6.3
RCBR				LR	LR		
	comp=Z,3μm,20.0s						

IDC 06 23:07:00.5±2.4,1°14S×133°40E,h0km,mb3.1/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=96.9km s-min=25.3km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.50**	**204**	P	Pn	23 11 19.2	+0.6
	0.1nm,0.3s,baz=29,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**18.71**	**177**	P	P	23 11 20.4	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**22.40**	**179**	P	P	23 12 00.6	-0.3
	0.5nm,0.5s,baz=359,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**65.36**	**324**	P	P	23 17 44.8	0.0
	0.1nm,0.5s,baz=132,slow=6.4,SNR=2.3						

IDC 06 23:08:13.9±3.2,0°83S×133°44E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.4/17,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=166.6km s-min=26.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.02**	**177**	P	P	23 12 36.5	-1.0
	0.1nm,0.3s,baz=357,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**22.71**	**179**	P	P	23 13 18.4	+0.9
	0.3nm,0.4s,baz=357,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**65.14**	**324**	P	P	23 18 56.7	-0.1
	0.2nm,0.5s,baz=128,slow=6.2,SNR=2.8						

IDC 06 23:12:52.4±1.9,4°72S×151°38E,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.7/17,mbtmp3.8/4,ML2.3/1,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.26**	**222**	Pn	Pn	23 14 24.7	-1.4
	0.4nm,0.3s,baz=74,slow=14,SNR=1.6						
PMG				Sn	Sn	23 15 40.5	+2.0
	0.2nm,0.3s,baz=38,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**22.46**	**226**	P	P	23 17 53.5	+0.1
	2.0nm,0.7s,baz=51,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.28**	**220**	P	P	23 18 21.0	+0.3
	1.8nm,0.6s,baz=54,slow=8.6,SNR=17						
ILAR	**Eielson Array**	**82.62**	**22**	P	P	23 25 17.3	0.0
	0.6nm,1.0s,baz=253,slow=5.6,SNR=3.5						

IDC 06 23:17:45.7±2.0,5°40S×150°76E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/16,mbtmp3.5/4,ML1.9/1,Error ellipse: s-maj=141.4km s-min=26.4km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.35**	**222**	Pn	Pn	23 19 07.7	+0.9
	0.3nm,0.3s,baz=37,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.54**	**226**	P	P	23 22 36.6	-0.2
	0.8nm,0.5s,baz=51,slow=10.0,SNR=5.9						
ASAR	**Alice Springs**	**24.36**	**220**	P	P	23 23 05.3	-0.4
	0.8nm,0.6s,baz=56,slow=8.2,SNR=7.7						
ILAR	**Eielson Array**	**83.48**	**22**	P	P	23 30 15.2	+0.2
	0.3nm,0.9s,baz=246,slow=6.6,SNR=3.0						

*IDC **06** 23:26:21.6±1.0,6°28S×131°19E,h0km,mb4.0/5, mb1 4.2/8,mb1mx3.9/16,mbtmp4.1/8,ML4.3/3,Error ellipse: s-maj=60.1km s-min=20.1km az=75.0*
*ISCJB **06** 23:26:27.5±0.7,6°68S±0°05×130°9E±0°1,h62km,mb3.8/5, Error ellipse: s-maj=19.5km s-min=7.2km az=172.3*

ISC 06 23:26:29.0±0.9,6°69S±0°08×131°1E±0°2,h62km,n15, σ2°96°/18,mb4.0/5,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.53**	**205**	Pn	**Pn**	**23 29 26.4**	**+1.9**
	1.3nm,0.3s,baz=31,slow=11,SNR=18						
FITZ				Sn	**Sn**	**23 31 40.7**	**-1.7**
	0.7nm,0.3s,baz=333,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**13.55**	**167**	Pn	**Pn**	**23 29 39.4**	**+0.9**
	1.2nm,0.3s,baz=353,slow=13,SNR=36						
WRA				Sn	**Sn**	**23 32 03.4**	**-4.0**
	0.7nm,0.3s,baz=335,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**17.10**	**171**	P	**P**	**23 30 27.9**	**+3.0**
	0.9nm,0.3s,baz=349,slow=9.4,SNR=26						
ASAR				S	**Sn**	**23 33 29.8**	**-3.7**
	0.1nm,0.3s,baz=0.2,slow=25,SNR=3.4						
STKA	**Stephens Creek**	**26.92**	**160**	P	**P**	**23 32 07.7**	**+3.3**
	0.9nm,0.5s,baz=330,slow=8.0,SNR=3.8						
ODAN	**Odare**	**53.87**	**310**	*e*P	**P**	**23 35 45.8**	**-0.6**
TAPN	**Taplejung**	**53.89**	**311**	*e*P	**P**	**23 35 46.1**	**-0.5**
	4.6nm,0.4s						
RAMN	**Ramite**	**54.52**	**310**	*e*P	**P**	**23 35 50.5**	**-0.7**
	11nm,0.5s						
JIRN	**Jiri**	**55.20**	**310**	*e*P	**P**	**23 35 55.0**	**-1.2**
	4.8nm,0.6s						
GUN	**Gumba**	**55.57**	**310**	*e*P	**P**	**23 35 58.1**	**-0.7**
	11nm,0.7s						
GKN	**Gorkha**	**56.56**	**310**	*e*P	**P**	**23 36 05.0**	**-0.7**
	10nm,0.6s						
KOLN	**Koldanda**	**57.24**	**309**	*e*P	**P**	**23 36 09.9**	**-0.6**
	4.3nm,0.5s						
MKAR	**Makanchi Array**	**68.56**	**326**	P	**P**	**23 37 25.1**	**0.0**
	1.5nm,0.4s,baz=113,slow=7.6,SNR=34						
ZALV	**Zalesovo Beam**	**71.78**	**333**	P	**P**	**23 37 43.5**	**-1.1**
	1.0nm,0.6s,baz=140,slow=5.4,SNR=6.1						
KURK	**Kurchatov**	**72.82**	**328**	P	**P**	**23 37 49.9**	**-1.0**
	1.2nm,0.6s,baz=126,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**92.60**	**25**	P	**P**	**23 39 32.9**	**-0.6**
	0.1nm,0.7s,baz=282,slow=4.3,SNR=2.4						

*ROM **06** 23:35:05.9±0.2,44°51N×12°91E,h10km,Md2.5/14, Ml2.1/5,Error ellipse: s-maj=5.2km s-min=2.6km az=100.0*
*ISCJB **06** 23:35:07.0±0.8,44°47N±0°04×12°91E±0°07,h21km±13km, Error ellipse: s-maj=8.5km s-min=6.0km az=165.6*
*CSEM **06** 23:35:06.4±0.3,44°48N×12°91E,h20km,ML2.9/6,Error ellipse: s-maj=6.5km s-min=3.6km az=126.0*

ISC 06 23:35:05.5±1.2,44°48N±0°02×12°94E±0°03,h10km±10km, n44,σ0°60/57,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PESA	**Pesaro**	**0.55**	**187**	Pg	**Pb**	**23 35 17.3**	**+0.1**
	119nm,0.4s						
PESA	**Pesaro**	**0.55**	**187**	Pg	**Pb**	**23 35 17.3**	**+0.1**
	119nm,0.4s						
FSSB	**Fossombrone**	**0.80**	**188**	Pg	**Pg**	**23 35 21.1**	**+0.2**
FSSB				Sg	**Sb**	**23 35 33.6**	**+1.2**
	5.0nm,0.2s						
FSSB	**Fossombrone**	**0.80**	**188**	Pg	**Pg**	**23 35 21.1**	**+0.2**
FSSB				Sg	**Sb**	**23 35 33.6**	**+1.2**
	5.0nm,0.2s						
PARC	**Parchiule**	**0.97**	**211**	Pg	**Pg**	**23 35 24.2**	**-0.1**
PARC	**Parchiule**	**0.97**	**211**	Pg	**Pg**	**23 35 24.2**	**-0.1**
SFI	**Santa Sofia**	**0.97**	**234**	Pg	**Pg**	**23 35 23.8**	**-0.5**
SFI				Sg	**Sb**	**23 35 37.7**	**+0.2**
	47nm,0.6s						
SFI	**Santa Sofia**	**0.97**	**234**	Pg	**Pg**	**23 35 23.8**	**-0.5**
SFI				Sg	**Sb**	**23 35 37.7**	**+0.2**
	47nm,0.6s						
PIEI	**Pieia**	**0.99**	**197**	Pg	**Pg**	**23 35 24.1**	**-0.5**
PIEI				Sg	**Sb**	**23 35 38.5**	**+0.6**
	27nm,0.2s						
PIEI	**Pieia**	**0.99**	**197**	Pg	**Pg**	**23 35 24.1**	**-0.5**
PIEI				Sg	**Sb**	**23 35 38.5**	**+0.6**
	27nm,0.2s						
FIU	**Minerbio Fiu**	**1.04**	**279**	Pg	**Pn**	**23 35 26.9**	**+0.7**
FIU	**Minerbio Fiu**	**1.04**	**279**	Pg	**Pn**	**23 35 26.9**	**+0.7**
ASQU	**Asqua**	**1.07**	**231**	Pg	**Pb**	**23 35 25.6**	**-0.7**
ASQU	**Asqua**	**1.07**	**231**	Pg	**Pb**	**23 35 25.6**	**-0.7**
BADI	**Badiali**	**1.09**	**207**	Pg	**Pb**	**23 35 26.2**	**-0.4**
BADI	**Badiali**	**1.09**	**207**	Pg	**Pb**	**23 35 26.2**	**-0.4**
SNTG	**Esanatoglia**	**1.23**	**180**	Pg	**Pn**	**23 35 29.0**	**+0.2**
	9.0nm,0.2s						
SNTG	**Esanatoglia**	**1.23**	**180**	Pg	**Pn**	**23 35 29.0**	**+0.2**
	9.0nm,0.2s						
MURB	**Monte Urbino**	**1.25**	**194**	Pg	**Pg**	**23 35 30.0**	**+0.4**
MURB	**Monte Urbino**	**1.25**	**194**	Pg	**Pg**	**23 35 30.0**	**+0.4**
SKDS	**Skadanscina**	**1.31**	**35**	*i* Pn	**Pn**	**23 35 29.6**	**-0.4**
SKDS				*i* Sg	**Sg**	**23 35 48.1**	**+0.4**
SKDS							
	comp=Z,10.0nm,0.1s						
SKDS	**Skadanscina**	**1.31**	**35**	*i* Pn	**Pn**	**23 35 29.6**	**-0.4**
SKDS				*i* Sg	**Sg**	**23 35 48.1**	**+0.4**
	comp=Z,10.0nm,0.1s						
TRI	**Trieste**	**1.36**	**25**	Pg	**Pb**	**23 35 31.4**	**+0.3**
	comp=Z,60nm,1.3s						
TRI	**Trieste**	**1.36**	**25**	Pg	**Pb**	**23 35 31.4**	**+0.3**
	comp=Z,60nm,1.3s						
NVLJ	**Novalja**	**1.39**	**86**	*e*Pn	**Pn**	**23 35 31.1**	**+0.1**
NVLJ				Sn	**Sb**	**23 35 50.1**	**+0.8**
NVLJ	**Novalja**	**1.39**	**86**	*e*Pn	**Pn**	**23 35 31.0**	**+0.1**
NVLJ				Sn	**Sb**	**23 35 50.1**	**+0.8**
ASS	**Assisi**	**1.43**	**188**	Pg	**Pb**	**23 35 32.5**	**+0.1**
	comp=Z,11nm,0.8s						
ASS	**Assisi**	**1.43**	**188**	Pg	**Pb**	**23 35 32.5**	**+0.1**
	comp=Z,11nm,0.8s						
KNDS	**Knezji Dol**	**1.46**	**44**	*i* Sn	**Sb**	**23 35 51.9**	**+0.2**
KNDS							
	comp=Z,4.0nm,0.1s						
KNDS	**Knezji Dol**	**1.46**	**44**	*i* Sn	**Sb**	**23 35 51.9**	**+0.2**
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**1.62**	**29**	*i* Sn	**Sn**	**23 35 55.6**	**+0.3**
JAVS							
	comp=Z,6.0nm,0.1s						
JAVS	**Javornik**	**1.62**	**29**	*i* Sn	**Sn**	**23 35 55.6**	**+0.3**
	comp=Z,6.0nm,0.1s						
VOY	**Vojsko**	**1.69**	**23**	*e*Sn	**Sn**	**23 35 57.3**	**+0.3**
VOY	**Vojsko**	**1.69**	**23**	*e*Sg	**Sn**	**23 35 57.3**	**+0.3**
GBRS	**Gornja Briga**	**1.69**	**51**	*i* Pn	**Pb**	**23 35 36.6**	**-0.2**
GBRS				*i* Sn	**Sg**	**23 35 59.8**	**-0.2**
	comp=Z,3.0nm,0.1s						
ROVR	**Rover˜¤ Verone**	**1.76**	**312**	Pg	**Pn**	**23 35 34.9**	**-1.4**
ROVR	**Rover˜¤ Verone**	**1.76**	**312**	Pg	**Pn**	**23 35 34.9**	**-1.4**
VINO	**Villanova**	**1.79**	**8**	Pg	**Pn**	**23 35 36.4**	**-0.2**
	comp=Z,19nm,0.8s						
VINO	**Villanova**	**1.79**	**8**	Pg	**Pn**	**23 35 36.4**	**-0.2**
	comp=Z,19nm,0.8s						
CTI	**Castel Tesino**	**1.81**	**330**	Pg	**Pn**	**23 35 37.6**	**+0.7**
CTI	**Castel Tesino**	**1.81**	**330**	Pg	**Pn**	**23 35 37.6**	**+0.7**
CRNS	**Crni Vrh**	**1.85**	**30**	*i* Sn	**Sb**	**23 36 02.7**	**-0.1**
CRNS							
	comp=Z,5.0nm,0.2s						
STON	**Ston**	**3.81**	**113**	*e*Pn	**Pn**	**23 36 02.9**	**-1.4**
STON				Sn	**Sn**	**23 36 48.5**	**-0.7**
STON	**Ston**	**3.81**	**113**	*e*Pn	**Pn**	**23 36 02.9**	**-1.4**
STON				Sn	**Sn**	**23 36 48.4**	**-0.7**

IDC 06 23:37:13.5±3.1,1°46S×134°21E,h0km,mb3.1/2, mb1 3.3/3,mb1mx3.2/16,mbtmp3.1/3,ML3.1/1,Error ellipse: s-maj=150.1km s-min=27.3km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.37**	**180**	P	Pn	23 41 28.5	-1.3
	0.1nm,0.3s,baz=359,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**22.07**	**181**	P	P	23 42 11.1	+0.8
	0.5nm,0.5s,baz=356,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**66.09**	**324**	P	P	23 48 02.5	-0.1
	0.2nm,0.9s,baz=101,slow=7.6,SNR=2.6						

IDC 06 23:43:14.4±2.6,0°35S×132°99E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.3/17,mbtmp3.2/3,ML3.5/1,Error ellipse: s-maj=134.3km s-min=26.1km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.52**	**176**	P	P	23 47 43.8	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.20**	**178**	P	P	23 48 23.1	0.0
	0.6nm,0.8s,baz=0.0,slow=12,SNR=8.7						
MKAR	**Makanchi Array**	**64.48**	**324**	P	P	23 53 52.9	-0.1
	0.1nm,0.5s,baz=110,slow=8.1,SNR=2.2						

IDC 06 23:45:03.6±2.6,0°68S×133°86E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.5/2,Error ellipse: s-maj=95.5km s-min=26.9km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.10**	**205**	P	Pn	23 49 29.4	+0.5
	0.1nm,0.3s,baz=34,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**19.15**	**179**	P	P	23 49 28.0	-0.7
	0.1nm,0.3s,baz=356,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**22.85**	**180**	P	P	23 50 08.4	-0.2
	0.6nm,0.6s,baz=2.0,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**65.26**	**324**	P	P	23 55 47.2	-0.1
	0.4nm,0.6s,baz=132,slow=5.8,SNR=4.6						

IDC 06 23:45:54.3±2.5,0°70S×133°11E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.5/18,mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=97.2km s-min=26.5km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.79**	**203**	P	P	23 50 15.4	0.0
	0.1nm,0.3s,baz=7.1,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**19.16**	**176**	P	P	23 50 19.5	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**22.84**	**178**	P	P	23 50 59.3	0.0
	1.0nm,0.7s,baz=7.8,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**64.84**	**324**	P	P	23 56 35.2	0.0
	0.3nm,0.5s,baz=120,slow=7.2,SNR=5.0						

IDC 06 23:52:48.9±2.4,0°66S×132°89E,h0km,mb3.7/2, mb1 4.0/4,mb1mx3.6/18,mbtmp3.8/4,ML3.6/2,Error ellipse: s-maj=97.1km s-min=24.6km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.75**	**202**	P	Pn	23 57 10.4	+0.5
	0.1nm,0.3s,baz=29,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**19.22**	**176**	P	P	23 57 14.5	-0.3
	0.2nm,0.3s,baz=355,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.90**	**178**	P	P	23 57 54.1	-0.4
	1.9nm,0.5s,baz=354,slow=8.6,SNR=37						
MKAR	**Makanchi Array**	**64.67**	**324**	P	P	00 03 28.8	0.0
	0.4nm,0.6s,baz=117,slow=7.6,SNR=7.3						

IDC 06 23:54:33.2±1.9,0°44S×132°84E,h0km,mb4.1/3, mb1 4.2/5,mb1mx3.8/18,mbtmp4.0/5,ML3.9/2,Error ellipse: s-maj=79.6km s-min=24.5km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.92**	**202**	P	P	23 58 54.9	-0.8
	0.2nm,0.3s,baz=28,slow=10,SNR=3.0						
FITZ				S	Sn	00 02 11.8	-17
	0.1nm,0.3s,baz=358,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**19.43**	**176**	P	P	23 59 01.6	+0.3
	0.5nm,0.3s,baz=355,slow=11,SNR=13						
WRA				S	Sn	00 02 30.3	-11
	0.1nm,0.3s,baz=3.2,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**23.11**	**178**	P	P	23 59 41.5	+0.5
	7.5nm,0.6s,baz=360,slow=11,SNR=27						
STKA	**Stephens Creek**	**32.34**	**166**	P	P	00 01 04.0	-0.3
	1.6nm,0.4s,baz=356,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**64.47**	**324**	P	P	00 05 11.7	0.0
	0.5nm,0.7s,baz=121,slow=5.9,SNR=5.3						

*IDC **07** 00:08:56.0±0.7,16°18S×172°96W,h0km,mb4.3/12, mb1 4.6/12,mb1mx4.4/21,mbtmp4.3/12,MS4.1/4, Ms1 4.1/4,ms1mx3.7/32,Error ellipse: s-maj=34.7km s-min=16.8km az=137.0*
*ISCJB **07** 00:08:58.7±0.2,16°17S±0°08×173°15W±0°06,h26km, mb4.7/38,MS4.3/4,Error ellipse: s-maj=13.5km s-min=5.4km az=147.2*
*NEIC **07** 00:09:06.9±1.4,16°18S×173°17W,h81km±12km,mb4.6/22, Error ellipse: s-maj=10.4km s-min=5.8km az=134.0*
*BJI **07** 00:09:12.2,16°20S×173°20W,h140km,mB5.1/4, mb4.8/13*

ISC 07 00:09:00.2±0.4,16°23S±0°10×173°0W±0°1,h26km,n359, σ0°73°/359,mb4.7/38,MS4.3/4,148C-111D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.61**	**28**	Pn	Pn	00 09 33.9	-6.9
	45nm,0.3s,baz=177,slow=4.3,SNR=17						
AFI				Sn	Sn	00 10 00.6	-11
	100nm,0.3s,baz=32,slow=21,SNR=8.5						
AFI				T	T	00 12 09.0	
	38nm,0.3s,baz=238,slow=15,SNR=4.2						
AFI	**Afiamalu**	**2.61**	**28**	Pn	Pn	00 09 33.9	-6.9
AFI				Sn	Sn	00 10 00.6	-11
MSVF	**Nonsavu**	**8.65**	**259**	*e*Pn	Pn	00 11 08.3	+4.5
	100nm,1.0s						
RAR	**Rarotonga**	**13.51**	**114**	Pn	Pn	00 12 04.1	-6.2
	2.2nm,0.3s,baz=265,slow=15,SNR=5.8						
RAR				Sn	Sn	00 14 21.5	-18
	0.5nm,0.3s,baz=239,slow=18,SNR=2.3						
RAR				LR	LR	00 15 47.0	
	comp=Z,599nm,19.5s,baz=54,slow=30						
RAR				T	T	00 25 60.0	
	7.7nm,0.3s,baz=142,slow=14,SNR=6.5						
RAR	**Rarotonga**	**13.51**	**114**	*e*Pn	Pn	00 12 04.1	-6.2
DZM	**Mont Dzumac**	**20.22**	**250**	*e*LR	LR	00 18 16.6	
	1μm,25.2s						
DZM	**Mont Dzumac**	**20.22**	**250**	P	**P**	**00 13 35.2**	**+1.7**
	9.6nm,0.9s,baz=353,slow=8.1,SNR=2.3						
DZM				LR	LR	00 19 38.6	
	comp=Z,433nm,19.9s,baz=206,slow=32						
DZM	**Mont Dzumac**	**20.22**	**250**	*e*P	**P**	**00 13 33.8**	**+0.3**
	20nm,0.9s						
PPT2	**Papeete2**	**22.49**	**97**	*e*LR	LR	00 19 12.1	
	590nm,25.8s						
TBI	**Tubuai**	**23.27**	**111**	*e*LR	LR	00 19 29.0	
	472nm,26.2s						
URZ	**Urewera**	**23.60**	**200**	P	**P**	**00 14 09.9**	**+0.9**
	8.3nm,0.4s,baz=80,slow=6.6,SNR=17						
URZ	**Urewera**	**23.60**	**200**	*e*P	**P**	**00 14 09.8**	**+0.9**
	18nm,0.6s						
RPZ	**Rata Peaks**	**30.55**	**203**	P	P	00 15 17.4	+5.8
	13nm,0.7s,baz=7.0,slow=4.5,SNR=7.0						
RPZ	**Rata Peaks**	**30.55**	**203**	*e*P	**P**	**00 15 13.2**	**+1.6**
	11nm,0.5s						
ARMA	**Armidale**	**35.22**	**240**	*e*P	**P**	**00 15 51.5**	**-1.2**
CTAO	**Charters Tower**	**38.80**	**258**	*e*P	**P**	**00 16 22.6**	**-0.5**
	12nm,1.3s						
CMSA	**Cobar Meteorol**	**40.44**	**240**	*e*P	**P**	**

	baz=75							
Y12C	Blythe	74.67	47	⇑P	P	00 20 37.6	0.0	
	baz=75							
113A	Mohawk Valley,	74.70	49	⇑P	P	00 20 37.9	+0.1	
	baz=75							
NVAR	Mina Array Bea	74.71	42	P	P	00 20 37.4	-0.7	
	2.2nm,0.7s,baz=229,slow=10,SNR=12							
NVAR	Mina Array Bea	74.71	42	P	P	00 20 37.4	-0.7	
LDFC	Landfair	74.97	46	eP	P	00 20 40.1	+0.6	
	14nm,1.2s							
214A	Organ Pipe Nat	74.98	50	⇓P	P	00 20 40.1	+0.6	
	baz=75							
Z13A	Yuma Proving G	75.00	48	⇑P	P	00 20 39.9	+0.3	
	baz=75							
PDMCI	Parker Dam,Lak	75.23	47	⇑P	P	00 20 40.9	+0.1	
	baz=76							
114A	Black Gap (USA	75.33	49	⇑P	P	00 20 41.9	+0.4	
	baz=76							
Z14A	Wintersburg	75.60	49	⇑P	P	00 20 43.4	+0.4	
	baz=76							
K05A	Summer Lake	75.72	37	⇑P	P	00 20 44.0	+0.2	
	baz=76							
W13A	Hualapai Mount	75.83	47	⇑P	P	00 20 44.8	+0.2	
	baz=76							
Y14A	Wickenburg	75.85	48	⇑P	P	00 20 44.6	+0.1	
	baz=76							
R11A	Troy Canyon, C	76.43	43	⇓P	P	00 20 48.1	+0.3	
	baz=77							
318A	Bisbee	76.82	51	⇓P	P	00 20 50.1	-0.2	
	baz=77,SNR=6.0							
218A	Dragoon	77.04	51	⇑P	P	00 20 51.4	0.0	
	baz=77,SNR=5.1							
X16A	Lo Mia Camp, P	77.21	48	⇑P	P	00 20 52.5	+0.2	
	baz=77							
Y17A	Roosevelt	77.28	49	⇑P	P	00 20 53.1	+0.5	
	baz=78							
319A	Douglas	77.33	52	⇓P	P	00 20 53.5	+0.5	
	baz=78,SNR=5.5							
I07A	Izee	77.36	36	⇓P	P	00 20 53.5	+0.6	
	baz=78							
R13A	O'Grain Ranch,	77.40	44	⇓P	P	00 20 53.5	+0.1	
	baz=78							
CCUT	Cedar City	77.47	45	eP	P	00 20 54.5	+0.6	
	7.1nm,1.2s							
J08A	Circle Bar Ran	77.52	37	⇑P	P	00 20 53.7	0.0	
	baz=78							
ARUT	Antelope Range	77.55	44	eP	P	00 20 54.5	+0.3	
	2.6nm,0.7s							
U15A	North Rim	77.62	46	⇑P	P	00 20 55.0	+0.2	
	baz=78							
219A	White Tail Can	77.64	51	⇓P	P	00 20 55.3	+0.5	
	baz=78							
GNW	Green Mountain	77.77	32	P	P	00 20 55.0	+0.2	
	5.9nm,0.4s							
Y18A	Canyon Day Jun	77.91	49	⇓P	P	00 20 56.9	+0.6	
	baz=78							
119A	Ashpeak Ranch,	77.97	51	⇑P	P	00 20 57.0	+0.4	
	baz=78							
220A	Playas Peak, P	78.14	52	⇓P	P	00 20 58.0	+0.4	
	baz=78,SNR=8.4							
V17A	Tonalea, Kykot	78.27	47	⇑P	P	00 20 58.8	+0.6	
	baz=78							
U16A	Tuba City	78.29	47	⇑P	P	00 20 58.9	+0.6	
	baz=78							
120A	U Bar Ranch, L	78.36	51	⇑P	P	00 20 59.1	+0.3	
	baz=79							
R15A	Junction	78.55	45	⇓P	P	00 21 00.1	+0.4	
	baz=79							
Y19A	Nutrioso	78.57	50	⇑P	P	00 21 00.5	+0.5	
	baz=79,SNR=8.2							
Z20A	Nine Sixteen R	78.66	51	⇑P	P	00 21 00.8	+0.4	
	baz=79							
S16A	Weppner Ranch,	78.76	45	⇓P	P	00 21 01.3	+0.4	
	baz=79							
X19A	St. Johns	78.76	49	⇓P	P	00 21 01.8	+0.8	
	baz=79							
MSU	Marysvale	78.78	44	eP	P	00 21 02.1	+1.1	
V18A	Ganado	78.92	48	⇑P	P	00 21 02.1	+0.2	
	baz=79							
T17A	Navajo Res., N	78.94	46	⇓P	P	00 21 02.8	+0.9	
	baz=79							
121A	Cookes Peak, D	78.99	51	⇓P	P	00 21 02.7	+0.5	
	baz=79							
W19A	Sanders	79.02	48	⇓P	P	00 21 02.6	+0.2	
	baz=79							
MFID	Camas Ranch	79.11	39	⇓P	P	00 21 03.0	+0.4	
	baz=79							
R16A	Teasdale	79.13	45	⇑P	P	00 21 03.6	+0.7	
	baz=79							
Y20A	Horse Springs,	79.19	50	⇓P	P	00 21 03.7	+0.3	
	baz=79,SNR=5.3							
DUG	Dugway	79.23	43	eP	P	00 21 03.6	+0.3	
	4.3nm,0.9s							
DUG	Dugway	79.23	43	⇑P	P	00 21 03.3	-0.1	
	baz=80							
S17A	Black Ridge (B	79.26	46	⇓P	P	00 21 03.6	0.0	
	baz=80							
U18A	Rough Rock, Ch	79.31	47	⇑P	P	00 21 04.1	+0.1	
	baz=80							
X20A	Quemado	79.39	49	⇑P	P	00 21 04.7	+0.2	
	baz=80							
Z21A	St. Cloud Mine	79.43	51	⇓P	P	00 21 05.6	+0.9	
	baz=80,SNR=6.5							
E09A	Wood Farm, Sta	79.59	35	⇓P	P	00 21 05.4	+0.4	
	baz=80							
T18A	Mexican Hat	79.66	46	⇓P	P	00 21 06.2	+0.4	
	baz=80,SNR=17							
Q16A	Castle Valley	79.66	44	⇓P	P	00 21 06.1	+0.3	
	baz=80							
W20A	Ramah	79.67	49	⇑P	P	00 21 06.4	+0.5	
	baz=80,SNR=6.9							
U19A	Dine' College,	79.72	47	⇓P	P	00 21 06.4	+0.2	
	baz=80							
R17A	Hanksville Air	79.72	45	⇑P	P	00 21 06.1	0.0	
	baz=80							
I12A	Atlanta	79.75	39	⇑P	P	00 21 06.6	+0.4	
	baz=80							
Y21A	Point of Rocks	79.75	50	⇑P	P	00 21 07.5	+1.0	
	baz=80							
F10A	Beach Ranch, E	79.78	36	⇑P	P	00 21 05.7	-0.4	
	baz=80							
N15A	Stansbury Isla	79.79	42	⇑P	P	00 21 06.5	+0.1	
	baz=80							
S18A	Hurst Farm, Bl	79.84	46	⇓P	P	00 21 06.8	-0.2	
	baz=80							
X21A	Alamocita Cree	79.87	50	⇓P	P	00 21 07.4	+0.3	
	baz=80							
Z22A	Elephant Butte	79.93	51	⇓P	P	00 21 07.7	+0.3	
	baz=80							
L14A	Malta	79.94	41	⇑P	P	00 21 07.2	0.0	
	baz=80							
HLID	Hailey	80.05	39	eP	P	00 21 08.4	+0.6	
	5.2nm,1.0s							
HLID	Hailey	80.05	39	⇓P	P	00 21 08.1	+0.3	
	baz=80							
T19A	Beclabito	80.10	47	⇑P	P	00 21 08.6	+0.4	
	baz=80							
J13A	Cove Ranch, Pi	80.10	39	⇑P	P	00 21 08.2	+0.2	
	baz=80							
M15A	Larsen Ranch,	80.14	42	⇑P	P	00 21 08.3	+0.1	
	baz=80							
SRU	San Rafael	80.19	44	eP	P	00 21 09.6	+1.0	
Y22A	Socorro	80.24	50	⇑P	P	00 21 09.4	+0.3	
	baz=80							
U20A	Newcomb	80.24	48	⇓P	P	00 21 09.2	+0.2	
	baz=80							
K14A	Jones Ranch, D	80.25	40	⇑P	P	00 21 09.3	+0.4	
	baz=80							
324A	Moseley Ranch,	80.26	53	⇑P	P	00 21 09.3	+0.2	
	baz=80							
R18A	Canyonlands Na	80.26	45	⇑P	P	00 21 09.2	+0.1	
	baz=80							
C09A	Chrisman Ranch	80.30	34	⇓P	P	00 21 09.0	+0.2	
	baz=80							
JLU	Jordanelle	80.33	43	eP	P	00 21 10.2	+0.8	
	19nm,1.9s							
H12A	Diamond D Ranc	80.33	38	⇑P	P	00 21 09.1	-0.2	
	baz=81							
425A	Indio Mountain	80.36	54	⇓P	P	00 21 09.9	+0.2	
	baz=81							
MNTX	Cornudas Mount	80.44	53	⇑P	P	00 21 09.8	-0.1	
	baz=81							
MNTX				⇑P	P	00 21 09.8	-0.1	
	baz=81							
Q18A	Rafter H Ranch	80.45	45	⇓P	P	00 21 08.9	-1.1	
	baz=81,SNR=5.3							
L15A	Malad City	80.46	41	⇑P	P	00 21 09.8	-0.3	
	baz=81							
J14A	Carey	80.46	40	⇓P	P	00 21 10.6	+0.6	
	baz=81							
S19A	Harvey Farm, M	80.47	46	⇑P	P	00 21 10.3	+0.1	
	baz=81							
Z23A	Rita Site, Whi	80.48	51	⇑P	P	00 21 10.8	+0.5	
	baz=81							
N16A	Rees Ranch, Co	80.49	43	⇑P	P	00 21 10.2	-0.1	
	baz=81							
224A	Cornudas Mount	80.50	53	⇓P	P	00 21 10.6	+0.2	
	baz=81							
626A	Big Bend Ranch	80.51	56	⇓P	P	00 21 10.5	0.0	
	baz=81							
M16A	Huntsville	80.58	42	⇓P	P	00 21 10.9	+0.1	
	baz=81							
O17A	Robinson Place	80.59	43	⇓P	P	00 21 11.3	+0.4	
	baz=81							
V21A	Milan	80.61	49	⇑P	P	00 21 11.3	+0.2	
	baz=81							
325A	Bean Ranch, Si	80.62	54	⇓P	P	00 21 11.2	0.0	
	baz=81							
P18A	Preston Nutter	80.64	44	⇑P	P	00 21 11.4	+0.2	
	baz=81							
R19A	Curley Farm, L	80.64	46	⇓P	P	00 21 11.5	+0.3	
	baz=81							
MVCO	Mesa Verde	80.66	47	⇓P	P	00 21 11.1	-0.2	
	baz=81							
H13A	Challis	80.70	38	⇑P	P	00 21 11.3	+0.1	
	baz=81							
K15A	Arbon	80.73	41	⇑P	P	00 21 11.9	+0.5	
	baz=81							
526A	Mary Lane Ranc	80.75	55	⇑P	P	00 21 12.2	+0.4	
	baz=81							
TXAR	Lajitas Array	80.79	56	P	P	00 21 11.4	-0.6	
	1.3nm,0.8s,baz=226,slow=7.9,SNR=10							
TXAR	Lajitas Array	80.79	56	P	P	00 21 11.4	-0.6	
I14A	Mackay	80.83	39	⇓P	P	00 21 12.0	0.0	
	baz=81							
U21A	Nageezi	80.88	48	⇓P	P	00 21 12.8	+0.3	
	baz=81,SNR=7.7							
N17A	Moffit Pass	80.91	43	⇑P	P	00 21 12.9	+0.3	
	baz=81							
Y23A	Lovelace Mesa,	80.92	51	⇑P	P	00 21 12.9	+0.3	
	baz=81							
PV04	Paradox Valley	80.94	46	eP	P	00 21 13.2	+0.5	
Q19A	Hogan Spring (	80.97	45	⇓P	P	00 21 12.5	-0.3	
	baz=81,SNR=5.5							
G13A	Cobalt	81.01	38	⇓P	P	00 21 12.6	-0.2	
	baz=81							
PV01	Paradox Valley	81.05	46	eP	P	00 21 13.3	0.0	
	476nm,1.0s							
S20A	Disappointment	81.05	46	⇓P	P	00 21 13.5	+0.1	
	baz=81							
225A	Deer Hill, Car	81.05	53	⇑P	P	00 21 13.7	+0.3	
	baz=81							
426A	McDonald Obser	81.06	55	⇓P	P	00 21 13.7	+0.1	
	baz=81							
627A	Terlingua Ranc	81.06	56	⇓P	P	00 21 13.1	-0.3	
	baz=81							
L16A	Fish Haven	81.08	42	⇑P	P	00 21 13.2	-0.1	
	baz=81							
Z24A	Sheeppen Canyo	81.17	52	⇑P	P	00 21 14.2	+0.1	
	baz=81							
J15A	Blackfoot	81.17	40	⇓P	P	00 21 14.3	+0.5	
	baz=81							
V22A	San Miguel Ran	81.18	49	⇓P	P	00 21 14.2	+0.1	
	baz=81							
T21A	Navajo Lake	81.23	47	⇑P	P	00 21 14.4	+0.1	
	baz=81							
H14A	Leadore	81.26	39	⇓P	P	00 21 14.4	+0.1	
	baz=82							
F13A	Darby	81.33	37	⇓P	P	00 21 14.2	-0.4	
	baz=82							
S21A	Coal Bank Pass	81.36	47	⇑P	P	00 21 15.3	+0.1	
	baz=82,SNR=7.3							
326A	Caldwell Ranch	81.37	54	⇓P	P	00 21 14.8	-0.2	
	baz=82							
Y24A	Capitan	81.37	51	⇑P	P	00 21 15.3	+0.2	
	baz=82,SNR=6.3							
TRF	Thorofare Moun	81.38	10	eP	P	00 21 13.7	-0.7	
K16A	Soda Springs	81.40	41	⇑P	P	00 21 15.3	+0.2	
	baz=82							
125A	Gardner Draw,	81.41	52	⇑P	P	00 21 15.1	-0.1	
	baz=82							
GDL2	Guadalupe Moun	81.44	53	eP	P	00 21 16.1	+0.7	
628A	Black Gap, Mar	81.47	56	⇑P	P	00 21 15.8	+0.2	
	baz=82							
226A	Malaga, Loving	81.58	53	⇑P	P	00 21 16.3	+0.1	
	baz=82							
J16A	Bone	81.62	40	⇑P	P	00 21 16.2	0.0	
	baz=82							
427A	Hayter Ranch,	81.62	55	⇓P	P	00 21 16.8	+0.4	
	baz=82							
Q20A	Ridgley Place,	81.63	45	⇑P	P	00 21 16.4	+0.1	
	baz=82							
V23A	Ortiz Mt. (NFS	81.63	49	⇓P	P	00 21 16.5	0.0	
	baz=82							
Z25A	Roswell	81.63	52	⇑P	P	00 21 16.9	+0.4	
	baz=82							
T22A	Edith	81.69	48	⇑P	P	00 21 16.5	-0.3	
	baz=82							
E13A	Victor	81.78	37	⇑P	P	00 21 17.0	+0.1	
	baz=82							
P20A	De Beque	81.82	45	⇑P	P	00 21 18.0	+0.7	
	baz=82							
R21A	Cimarron	81.86	46	⇓P	P	00 21 18.4	+0.7	
	baz=82							
MCK	McKinley	81.87	11	eP	P	00 21 16.8	0.0	
	12nm,0.9s							
MCK				epP	pP	00 21 30.1	+4.9	
126A	Clayton Basin,	81.89	53	⇓P	P	00 21 17.9	+0.1	
	baz=82							
Y25A	Mesa, Roswell	81.93	51	⇑P	P	00 21 17.9	-0.1	
	baz=82							
CN2	Changchun	81.94	320	eP	P	00 21 17.7	+0.1	
W24A	Lazy 6 Ranch,	81.96	50	⇓P	P	00 21 17.9	-0.3	
	baz=82							
D13A	Huson	81.99	36	⇑P	P	00 21 17.8	-0.1	
	baz=82							
I16A	Newdale	82.01	40	⇓P	P	00 21 18.8	+0.6	
	baz=82							
Q21A	Lamborn Mesa,	82.07	46	⇑P	P	00 21 19.2	+0.5	
	baz=82							
S22A	4UR Ranch, Cre	82.08	47	⇑P	P	00 21 19.1	+0.2	
	baz=82,SNR=7.7							
G15A	Dillon	82.08	38	⇑P	P	00 21 18.6	0.0	
	baz=82							
E14A	Clinton	82.17	37	⇑P	P	00 21 18.9	-0.1	
	baz=82							
Z26A	Caprock	82.19	52	⇑P	P	00 21 19.3	-0.1	
	baz=82							
J17A	Brown Place, J	82.22	41	⇑P	P	00 21 19.4	0.0	
	baz=82							
BSMT	Bassoo Peak	82.23	35	eP	P	00 21 19.1	-0.3	
K18A	Toltan Ranch,	82.28	42	⇓P	P	00 21 19.9	+0.1	
	baz=82							
V24A	Rampart Ranch,	82.29	49	⇑P	P	00 21 19.4	-0.5	
	baz=82							
328A	Wristen Ranch,	82.30	54	⇓P	P	00 21 19.6	-0.3	
	baz=82							
R22A	Saguache, Gunn	82.35	47	⇑P	P	00 21 20.9	+0.6	
	baz=83							
127A	Arkansas Junct	82.41	53	⇑P	P	00 21 20.5	0.0	
	baz=83							
F15A	Butte	82.44	38	⇑P	P	00 21 20.4	0.0	
	baz=83							
L19A	Farson	82.45	42	⇓P	P	00 21 20.5	-0.1	
	baz=83							
P21A	Newcastle	82.47	45	⇑P	P	00 21 21.0	+0.2	
	baz=83							
G16A	Moss Hill, Enn	82.52	39	⇓P	P	00 21 21.2	+0.3	
	baz=83							
D14A	Greenough	82.53	36	⇑P	P	00 21 19.8	-0.9	
	baz=83							
Q22A	Crested Butte,	82.54	46	⇑P	P	00 21 21.2	-0.1	
	baz=83							
QLMT	Earthquake Lak	82.54	39	eP	P	00 21 22.0	+1.0	
N20A	Spence Gulch,	82.55	44	⇓P	P	00 21 21.1	-0.1	
	baz=83							
J18A	Kendall Valley	82.58	41	⇑P	P	00 21 20.9	-0.4	
	baz=83,SNR=6.4							
H16A	Russell Place,	82.58	39	⇑P	P	00 21 21.9	+0.6	
	baz=83,SNR=9.4							
FLWY	Flagg Ranch	82.60	40	eP	P	00 21 22.6	+1.2	
SMCO	Snowmass	82.64	46	eP	P	00 21 22.4	+0.4	
PD01	Pinedale Array	82.64	42	eP	P	00 21 21.2	-0.4	
BW06	Boulder Array	82.65	42	eP	P	00 21 21.4	-0.3	
	5.4nm,0.9s							
BW06	Boulder Array	82.65	42	⇓P	P	00 21 20.8	-0.9	
	baz=83,SNR=5.0							
BW06				⇓P	P	00 21 20.8	-0.9	
	baz=83,SNR=5.0							
PDAR	Pinedale Array	82.65	42	P	P	00 21 21.3	-0.4	
	3.6nm,0.8s,baz=207,slow=3.0,SNR=19							
PDAR	Pinedale Array	82.65	42	P	P	00 21 21.3	-0.4	
W25A	X Bar L Ranch,	82.66	50	⇓P	P	00 21 22.0	+0.2	
	baz=83							
E15A	Deer Lodge	82.67	37	⇑P	P	00 21 21.6	0.0	
	baz=83							
V25A	Rancho No Teng	82.81	50	⇓P	P	00 21 22.6	-0.1	
	baz=83							
H17A	Grant Village	82.84	40	⇓P	P	00 21 23.3	+0.7	
	baz=83							
X26A	CR and CF Fran	82.86	51	⇑P	P	00 21 22.8	-0.1	
	baz=83							
M20A	Sweetwater, Wa	82.92	43	⇑P	P	00 21 22.9	-0.1	
	baz=83							
P22A	Eagle	82.98	45	⇑P	P	00 21 23.5	0.0	
	baz=83							
R23A	Moffat	82.99	47	⇓P	P	00 21 23.7	+0.1	
	baz=83							
N21A	Black Mountain	83.01	44	⇓P	P	00 21 23.6	0.0	
	baz=83,SNR=6.1							
SDCO	Great Sand Dun	83.02	48	⇑P	P	00 21 23.6	-0.2	
	baz=83							
SDCO				⇑P	P	00 21 23.6	-0.2	
	baz=83							
T24A	Torres, Weston	83.04	48	⇓P	P	00 21 24.0	+0.1	
	baz=83							
Y27A	Causey	83.06	52	⇑P	P	00 21 23.7	-0.2	
	baz=83							
L20A	Wamsutter	83.06	43	⇓P	P	00 21 23.9	+0.1	
	baz=83							
D15A	Lincoln	83.07	37	⇑P	P	00 21 23.5	-0.1	
	baz=83							
COLA	College	83.11	11	eP	P	00 21 22.9	-0.2	
	14nm,1.0s							
COLA				epP	pP	00 21 36.5	+4.9	
W26A	Owens Ranch, T	83.12	51	⇓P	P	00 21 24.6	+0.4	
	baz=83							
K19A	Absolon Red Bu	83.14	42	⇑P	P	00 21 24.0	-0.1	
	baz=83							
S24A	Houchin Ranch,	83.17	48	⇑P	P	00 21 24.4	-0.2	
	baz=83							
ILAR	Eielson Array	83.19	11	P	P	00 21 22.9	-0.7	
	1.4nm,0.6s,baz=228,slow=6.2,SNR=25							
ILAR	Eielson Array	83.19	11	P	P	00 21 22.9	-0.7	
U25A	Circle Dot Ran	83.21	49	⇑P	P	00 21 24.8	+0.1	
	baz=83							
J19A	Crowheart	83.22	41	⇑P	P	00 21 24.2	-0.4	
	baz=83							
E16A	East Helena	83.29	38	⇑P	P	00 21 23.8	-1.0	
	baz=84,SNR=5.8							
HRY	Holter Researc	83.29	37	eP	P	00 21 24.9	+0.2	
K20A	Yellowstone Ra	83.38	42	⇓P	P	00 21 24.8	-0.6	
	baz=84							
O22A	Kremmling	83.39	45	⇑P	P	00 21 25.4	-0.2	
	baz=84,SNR=6.1							
MSTX	Muleshoe	83.39	52	⇓P	P	00 21 25.4	-0.2	
	baz=84							
C15A	Salmond Ranch,	83.42	36	⇑P	P	00 21 25.2	-0.2	
	baz=84							
X27A	F and S Farms,	83.43	51	⇑P	P	00 21 26.0	+0.3	
	baz=84							
R24A	Sanders Place,	83.51	47	⇓P	P	00 21 25.8	-0.4	
	baz=84							
M21A	Separation Pea	83.51	43	⇓P	P	00 21 25.5	-0.7	
	baz=84,SNR=8.0							
T25A	Trinidad	83.53	49	⇑P	P	00 21 26.2	-0.1	
	baz=84							
H18A	Shoshone NF, C	83.54	40	⇑P	P	00 21 26.6	+0.4	
	baz=84							
F17A	Fitzpatrick Pl	83.56	39	⇓P	P	00 21 26.4	+0.2	
	baz=84							
A14A	Double T Ranch	83.62	35	⇑P	P	00 21 26.0	-0.4	
	baz=84							
D16A	Dana Ranch, Ca	83.63	37	⇑P	P	00 21 26.7	+0.2	
	baz=84							
W27A	Bowe Ranch, En	83.63	51	⇑P	P	00 21 26.7	-0.1	
	baz=84							
I19A	Meeteetse	83.64	41	⇓P	P	00 21 26.6	-0.1	
	baz=84							
L21A	Rawlins	83.68	43	⇓P	P	00 21 27.2	+0.2	
	baz=84							
U26A	Atchley Ranch,	83.69	49	⇑P	P	00 21 26.4	-0.7	
	baz=84							
B15A	Bradely Ranch,	83.73	36	⇑P	P	00 21 26.6	-0.4	
	baz=84							
E17A	Martinsdale	83.73	38	⇑P	P	00 21 26.8	-0.3	
	baz=84							
S25A	Robets Cordova	83.74	48	⇑P	P	00 21 27.0	-0.4	
	baz=84							
N22A	Wattenberg Ran	83.75	44	⇓P	P	00 21 27.4	-0.1	
	baz=84,SNR=5.7							
Q24A	Divide	83.81	47	⇑P	P	00 21 28.0	+0.2	
	baz=84							
O23A	Lake Granby, G	83.84	45	⇓P	P	00 21 28.3	+0.3	
	baz=84							
ISCO	Idaho Springs	83.86	46	⇓P	P	00 21 28.0	-0.1	
	baz=84							
J20A	Shoshoni	83.88	42	⇓P	P	00 21 27.6	-0.3	
	baz=84,SNR=8.9							
C16A	Fuhringer Ranc	83.92	36	⇑P	P	00 21 27.4	-0.5	
	baz=84							
G18A	Lazy EL Ranch,	83.93	39	⇓P	P	00 21 28.3	+0.2	
	baz=84							
M22A	Cedar Creek Ra	83.93	44	⇓P	P	00 21 28.3	0.0	
	baz=84							
H19A	Powell	83.96	40	⇓P	P	00 21 28.3	+0.1	
	baz=84							
A15A	Johnson Ranch,	84.00	35	⇑P	P	00 21 27.3	-1.0	
	baz=84,SNR=5.4							
RLMT	Red Lodge	84.01	40	⇓P	P	00 21 28.5	-0.1	
	baz=84							
RLMT				⇓P	P	00 21 28.5	-0.1	
	baz=84							
K21A	Alcova	84.07	43	⇑P	P	00 21 28.9	-0.1	
	baz=84							
F18A	Big Timber	84.13	39	⇑P	P	00 21 29.0	0.0	
	baz=84							
N23A	Red Feather La	84.13	45	⇑P	P	00 21 29.2	-0.2	
	baz=84							
I20A	Worland	84.14	41	⇓P	P	00 21 28.4	-0.8	
	baz=84,SNR=6.6							
D17A	Six Diamond Ra	84.19	37	⇓P	P	00 21 28.8	-0.5	
	baz=84,SNR=7.7							
B16A	M & M Farms, S	84.27	36	⇑P	P	00 21 29.0	-0.7	
	baz=84							
J21A	Lysite	84.29	42	⇑P	P	00 21 29.5	-0.6	
	baz=84,SNR=8.7							
L22A	Ellis Ranch, M	84.33	43	⇓P	P	00 21 30.3	0.0	
	baz=84							
E18A	Harlowton	84.35	38	⇑P	P	00 21 30.2	0.0	
	baz=85							
C17A	Wharram Farm,	84.40	37	⇑P	P	00 21 29.9	-0.4	
	baz=85,SNR=10.0							
S26A	Kim	84.41	48	⇑P	P	00 21 30.7

	baz=85								
A17A	**Triple J Farms**	**85.12**	**36**	⇓P		**P**		**00 21 33.8**	**-0.1**
	baz=85								
I22A	**9 Mile Ranch,**	**85.16**	**42**	⇓P		**P**		**00 21 33.6**	**-0.7**
	baz=85								
R27A	**Eads**	**85.17**	**48**	⇑P		**P**		**00 21 34.4**	**-0.1**
	baz=85								
T28A	**Walsh**	**85.18**	**49**	⇑P		**P**		**00 21 34.3**	**-0.2**
	baz=85								
K23A	**Bowen Ranch, D**	**85.19**	**43**	⇓P		**P**		**00 21 33.7**	**-0.9**
	baz=85								
D19A	**Cripps Ranch,**	**85.26**	**38**	⇓P		**P**		**00 21 35.0**	**+0.3**
	baz=86								
BILL	**Bilibino**	**85.37**	**352**	*e*P		**P**		**00 21 34.6**	**-0.1**
	5.1nm,0.9s								
E20A	**Meyer Farm, Mu**	**85.38**	**39**	⇑P		**P**		**00 21 35.4**	**+0.1**
	baz=86								
C19A	**Slack Wire Ran**	**85.44**	**37**	⇓P		**P**		**00 21 35.8**	**+0.2**
	baz=86								
A18A	**Metzger Ranch,**	**85.58**	**36**	⇑P		**P**		**00 21 36.4**	**+0.2**
	baz=86								
B19A	**Brinkman Farms**	**85.87**	**37**	⇓P		**P**		**00 21 37.7**	**0.0**
	baz=86								
J24A	**Dixon Ranch, L**	**86.08**	**43**	⇓P		**P**		**00 21 39.0**	**+0.1**
	baz=86								
A19A	**Klindworth Far**	**86.22**	**37**	⇓P		**P**		**00 21 39.2**	**-0.2**
	baz=86								
A20A	**Cobblestone Ra**	**86.66**	**37**	⇓P		**P**		**00 21 41.4**	**-0.2**
	baz=87								
F23A	**Volborg**	**86.68**	**40**	⇓P		**P**		**00 21 41.5**	**-0.3**
	baz=87								
H24A	**Dirks Ranch, A**	**86.78**	**42**	⇑P		**P**		**00 21 41.9**	**-0.4**
	baz=87								
K26A	**Motz Farm, Whi**	**86.78**	**44**	⇑P		**P**		**00 21 42.1**	**-0.3**
	baz=87								
A21A	**Bergtoll Ranch**	**87.30**	**37**	⇑P		**P**		**00 21 44.0**	**-0.6**
	baz=88								
DGMT	**Dagmar**	**88.66**	**38**	⇑P		**P**		**00 21 50.5**	**-0.7**
	baz=89								
GYA	**Guiyang**	**88.73**	**298**	*e*P		**P**		**00 21 51.0**	**-1.1**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
INK	**Inuvik**	**88.99**	**14**	P		**P**		**00 21 51.4**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=124,slow=4.4,SNR=3.9								
INK	**Inuvik**	**88.99**	**14**	P		**P**		**00 21 52.2**	**+0.1**
HHC	**Hu-ho-hao-te**	**89.84**	**313**	*e*P		**P**		**00 21 58.1**	**+1.2**
HHC				pP	pP			00 22 30.6	+25
HHC				sP	sP			00 22 45.1	+37
HHC				PP		**PP**		**00 25 33.9**	**+4.0**
HHC				SKS	SKSac			00 32 15.9	-10
HHC				S		**SKKSac**		**00 32 37.3**	**-1.9**
HHC				sS	sS			00 33 34.7	+33
HHC				pmax	pmax				
	comp=Z,18nm,0.6s								
HHC				pmax	pmax				
	comp=Z,300nm,6.3s								
HHC				LR	LR				
	comp=N,210nm,17.9s								
HHC				LR	LR				
	comp=E,250nm,16.7s								
HHC				LR	LR				
	comp=Z,230nm,17.8s								
YKA	**Yellowknife Ar**	**90.72**	**23**	P		**P**		**00 21 59.6**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=233,slow=4.5,SNR=8.3								
YKA	**Yellowknife Ar**	**90.72**	**23**	P		**P**		**00 21 59.6**	**-0.7**
KMI	**Kunming**	**91.69**	**296**	P		**P**		**00 22 05.1**	**-1.0**
KMI				pP	pP			00 22 41.1	+27
KMI				sP	sP			00 22 54.6	+37
KMI				pmax	pmax				
	comp=Z,7.0nm,1.1s								
SNAA	**Sanae**	**92.06**	**177**	*e*P		**P**		**00 22 06.1**	**-0.6**
	comp=Z,1.3nm,0.8s								
CD2	**Chengdu**	**92.53**	**301**	P		**P**		**00 22 09.5**	**-0.1**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.20**	**288**	P		**P**		**00 22 12.3**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=79,slow=9.3,SNR=2.8								
CMAR	**Chiang Mai Arr**	**93.20**	**288**	P		**P**		**00 22 12.3**	**-0.6**
LZH	**Lanzhou**	**93.99**	**306**	*e*P		**P**		**00 22 15.5**	**-0.9**
LZH				pP	pP			00 22 50.0	+25
LZH				sP	sP			00 23 05.2	+37
LZH				pmax	pmax				
	comp=Z,13nm,1.0s								
ULN	**Ulaanbaatar**	**95.28**	**318**	*e*P		**P**		**00 22 20.3**	**-1.6**
	comp=Z,0.6nm,0.4s								
GTA	**Gaotai**	**97.96**	**309**	*e*P		Pdif		00 22 36.4	+2.0
GTA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
TKM2	**Tokmak 2**	**116.45**	**310**	PKPdf		**PKPdf**		**00 27 40.4**	**-1.8**
ARU	**Arti**	**124.22**	**328**	PKPdf		**PKPdf**		**00 27 53.3**	**-3.0**
CLL	**Collm**	**144.67**	**353**	*e*PKPdf		**PKPab**		**00 28 32.0**	**-1.1**
	comp=Z,8.0nm,1.3s								
STHS	**Stebnicka Huta**	**144.92**	**344**	*e*PKP		**PKPdf**		**00 28 35.6**	**+0.6**
KOLS	**Kolonicke sedl**	**145.06**	**342**	*e*PKP		**PKPab**		**00 28 31.0**	**-3.7**
DPC	**Dobruska-Polom**	**145.13**	**349**	*e*PKP		**PKPdf**		**00 28 35.7**	**+0.3**
NIE	**Niedzica**	**145.16**	**345**	*e*PKP		**PKPdf**		**00 28 36.2**	**+0.8**
PVCC	**Panska Ves**	**145.24**	**351**	*e*PKP		**PKPdf**		**00 28 39.4**	**+3.9**
BUR08	**Bucovina Ar. S**	**145.24**	**338**	*e*PKPbc		**PKPdf**		**00 28 36.1**	**+0.4**
OKC	**Ostrava-Krasne**	**145.27**	**347**	*e*PKP		**PKPdf**		**00 28 36.1**	**+0.5**
KRLC	**Kraliky**	**145.31**	**349**	*e*PKP		**PKPdf**		**00 28 36.1**	**+0.4**
KRLC				*ex*		x		00 28 49.4	
CRVS	**Cervenica-Dubn**	**145.32**	**343**	*e*PKP		**PKPdf**		**00 28 36.1**	**+0.4**
MORC	**Moravsky Berou**	**145.45**	**348**	*e*PKPbc		**PKPbc**		**00 28 36.0**	**0.0**
PRU	**Pruhonice**	**145.77**	**351**	*e*PKP		**PKPab**		**00 28 37.5**	**+0.3**
NKC	**Novy Kostel**	**145.79**	**354**	*e*PKP		**PKPab**		**00 28 37.6**	**+0.3**
KECS	**Kecovo**	**145.97**	**344**	*e*PKP		**PKPab**		**00 28 38.3**	**+0.2**
TREC	**Trest**	**146.30**	**350**	*e*PKP		**PKPab**		**00 28 39.0**	**-0.3**
VYHS	**Vyhne**	**146.38**	**346**	*e*PKP		**PKPbc**		**00 28 38.9**	**+0.1**
SMOL	**Smolenice**	**146.68**	**347**	*e*PKP		**PKPab**		**00 28 41.4**	**+0.7**
KHC	**Kasperske Hory**	**146.74**	**352**	*e*PKP		**PKPbc**		**00 28 40.3**	**+0.4**
KHC				*ex*		x		00 28 48.2	
KHC				*ex*		x		00 28 53.9	
GERES	**GERESS Array B**	**147.01**	**352**	PKPbc		**PKPbc**		**00 28 40.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=26,slow=3.4,SNR=14								
GERES	**GERESS Array B**	**147.01**	**352**	PKPbc		**PKPbc**		**00 28 40.6**	**0.0**
BR131	**Keskin Array S**	**147.01**	**321**	*e*PKPbc		**PKPdf**		**00 28 38.3**	**-0.8**
BRTR	**Keskin Array B**	**147.01**	**320**	PKPbc		**PKPab**		**00 28 42.0**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=126,slow=1.2,SNR=11								
BRTR	**Keskin Array B**	**147.01**	**320**	PKPbc		**PKPab**		**00 28 42.0**	**-0.5**
CONA	**Conrad Observa**	**147.55**	**349**	⇑*i*PKPab		**PKPbc**		**00 28 42.9**	**+0.6**
	comp=Z,13nm,1.8s								
TORD	**Torodi Ar. Bea**	**174.06**	**120**	PKP		**PKPdf**		**00 29 08.9**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=205,slow=2.7,SNR=2.6								
TORD				PKPab		**PKPab**		**00 30 38.4**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=256,slow=2.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	**174.06**	**120**	PKP		**PKPdf**		**00 29 08.9**	**+0.5**

MAN 07 00:12:30.9±29.9N×123.23E.h10km.mb4.2.ML3.0.MS2.8.1C-2D.Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.05**	**3**	⇑*i*P	Pg	00 12 31.1	-1.0
SNPH				*i* S	Sg	00 12 33.0	-0.5
TBP	**Tagbilaran**	**0.73**	**58**	*e*P	Pb	00 12 45.2	+0.2
TBP				*e*S	Sb	00 12 57.3	+2.2
GUIM	**Jordan**	**1.47**	**334**	*e*P	Pn	00 12 55.5	-1.1
GUIM				*e*S	Sn	00 13 09.9	-5.9
CGP	**Cagayan de Oro**	**1.67**	**120**	⇓*e*P	Pg	00 13 01.6	-0.5
CGP				*i* S	Sg	00 13 25.3	+1.6
MSLP	**Maasin**	**1.81**	**62**	*e*P	Pb	00 13 02.4	-0.8
MSLP				*e*S	Sn	00 13 16.6	-7.6
RCP	**Roxas**	**2.30**	**348**	⇓*e*P	Pn	00 13 08.5	+0.5
RCP				*e*S	Sb	00 13 39.0	-1.3

IDC 07 00:12:56.1±1.4,0.73S×133.81E,h0km,mb3.7/4,mb1 4.0/6,mb1mx3.8/20,mbtmp3.8/6,ML4.1/2,Error ellipse: s-maj=57.9km s-min=24.8km az=87.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.04**	**204**	P	P	00 17 19.4	-0.6
	0.6nm,0.3s,baz=39,slow=12,SNR=9.8						
FITZ				S	Sn	00 20 37.4	-17
	0.2nm,0.3s,baz=229,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.04**	**204**	*e*P	P	00 17 20.1	+0.1
	11nm,0.8s						
WRA	**Warramunga Arr**	**19.10**	**178**	P	Pn	00 17 21.5	+0.1
	0.5nm,0.3s,baz=355,slow=11,SNR=30						
WRA				S	Sn	00 20 48.2	-8.0
	0.1nm,0.3s,baz=359,slow=23,SNR=4.6						
MKAR	**Makanchi Array**	**65.27**	**324**	P	P	00 23 40.0	+0.1
	0.4nm,0.6s,baz=119,slow=7.5,SNR=6.6						
KURK	**Kurchatov**	**69.32**	**326**	P	P	00 24 05.7	+0.2
	1.1nm,0.9s,baz=121,slow=5.2,SNR=7.8						
BVAR	**Borovoye Array**	**74.92**	**326**	P	P	00 24 39.5	+0.5
	0.3nm,0.6s,baz=128,slow=5.9,SNR=2.6						
ILAR	**Eielson Array**	**86.09**	**25**	P	P	00 25 37.5	-1.2
	0.5nm,0.8s,baz=263,slow=4.8,SNR=4.5						

IDC 07 00:17:38.6±2.3,0.56S×133.91E,h0km,mb3.7/3,mb1 3.9/5,mb1mx3.7/19,mbtmp3.8/5,ML3.9/2,Error ellipse: s-maj=101.5km s-min=21.5km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.23**	**205**	P	Pn	00 22 06.1	+0.6
	0.3nm,0.3s,baz=25,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**19.26**	**179**	P	P	00 22 04.3	-0.6
	0.3nm,0.3s,baz=356,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**22.96**	**180**	P	P	00 22 44.5	-0.4
	1.6nm,0.6s,baz=1.9,slow=12,SNR=13						
MKAR	**Makanchi Array**	**65.20**	**324**	P	P	00 28 22.0	+0.2
	0.5nm,0.6s,baz=113,slow=7.6,SNR=6.5						
KURK	**Kurchatov**	**69.24**	**326**	P	P	00 28 47.2	-0.2
	0.8nm,0.8s,baz=121,slow=6.0,SNR=7.5						

*IDC **07** 00:19:33.8±1.3,26.29N×95.12E,h0km,mb3.4/4,mb1 3.6/4,mb1mx3.3/26,mbtmp3.5/4,Error ellipse: s-maj=79.6km s-min=25.7km az=56.0*

ISC 07 00:19:46.0±2.4,27.1N±0.1×95.0E±0.1,h35km,n16,σ0.994/26,mb3.4/4,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.18**	**243**	*e*PN	**Pn**	**00 20 34.0**	**+0.3**
SHL				*e*SN	**Sn**	**00 21 10.0**	**-0.6**
TAPN	**Taplejung**	**6.52**	**274**	*e*Pn	**Pn**	**00 21 20.5**	**+0.8**
TAPN				*e*Sn	**Sn**	**00 22 34.2**	**+1.2**
	61nm,0.3s						
ODAN	**Odare**	**6.81**	**270**	*e*Pn	**Pn**	**00 21 24.0**	**+0.3**
ODAN				*e*Sn	**Sn**	**00 22 40.5**	**+0.3**
	77nm,0.3s						
RAMN	**Ramite**	**7.51**	**271**	*e*Pn	**Pn**	**00 21 33.7**	**+0.4**
RAMN				*e*Sn	**Sn**	**00 22 57.6**	**+0.2**
	59nm,0.4s						
JIRN	**Jiri**	**7.88**	**276**	*e*Pn	**Pn**	**00 21 40.0**	**+1.6**
JIRN				*e*Sn	**Sn**	**00 23 06.6**	**+0.1**
	55nm,0.2s						
GUN	**Gumba**	**8.17**	**278**	*e*Pn	**Pn**	**00 21 43.3**	**+0.9**
GUN				*e*Sn	**Sn**	**00 23 13.9**	**+0.3**
	75nm,0.3s						
PKI	**Pulchoki**	**8.57**	**276**	*e*Pn	**Pn**	**00 21 48.6**	**+0.8**
PKI				*e*Sn	**Sn**	**00 23 23.3**	**-0.2**
	34nm,0.4s						
KKN	**Kakani**	**8.69**	**277**	*e*Pn	**Pn**	**00 21 51.1**	**+1.7**
KKN				*e*Sn	**Sn**	**00 23 26.2**	**-0.1**
	23nm,0.2s						
DMN	**Daman**	**8.84**	**276**	*e*Pn	**Pn**	**00 21 52.2**	**+0.7**
DMN				*e*Sn	**Sn**	**00 23 29.8**	**-0.2**
	28nm,0.4s						
GKN	**Gorkha**	**9.27**	**278**	*e*Pn	**Pn**	**00 21 58.2**	**+0.9**
GKN				*e*Sn	**Sn**	**00 23 38.9**	**-1.5**
	41nm,0.3s						
DANN	**Dangsing**	**10.06**	**280**	*e*Pn	**Pn**	**00 22 08.1**	**-0.3**
DANN				*e*Sn	**Sn**	**00 23 59.0**	**-1.2**
	24nm,0.3s						
KOLN	**Koldanda**	**10.18**	**277**	*e*Pn	**Pn**	**00 22 09.6**	**-0.2**
KOLN				*e*Sn	**Sn**	**00 24 00.6**	**-2.2**
	25nm,0.3s						
MKAR	**Makanchi Array**	**22.12**	**336**	P	**P**	**00 24 38.0**	**-0.3**
	0.9nm,0.8s,baz=137,slow=13,SNR=3.8						
KURK	**Kurchatov**	**26.74**	**336**	P	**P**	**00 25 21.6**	**-0.5**
	0.3nm,0.5s,baz=147,slow=9.9,SNR=4.9						
WRA	**Warramunga Arr**	**60.28**	**137**	P	P	00 29 40.2	-11
	0.4nm,0.3s,baz=324,slow=7.2,SNR=8.6						
TORD	**Torodi Ar. Bea**	**87.03**	**283**	P	P	00 32 23.0	-5.4
	0.2nm,0.6s,baz=60,slow=4.0,SNR=2.4						

IDC 07 00:28:34.0±2.5,1.18S×133.75E,h0km,mb3.3/2,mb1 3.5/4,mb1mx3.4/17,mbtmp3.4/4,ML3.3/2,MS3.9/1,Ms1 3.9/1,ms1mx2.7/18,Error ellipse: s-maj=99.7km s-min=25.2km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.61**	**205**	P	Pn	00 32 53.5	+0.2
	0.1nm,0.3s,baz=18,slow=13,SNR=2.0						
WRA	**Warramunga Arr**	**18.66**	**178**	P	P	00 32 53.7	-0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**22.36**	**180**	P	P	00 33 33.7	-0.2
	0.4nm,0.4s,baz=0.8,slow=11,SNR=3.0						
USRK	**Ussuriysk Arra**	**45.20**	**358**	LR	LR	00 54 41.9	
	comp=Z,126nm,19.0s,baz=335,slow=35						
MKAR	**Makanchi Array**	**65.59**	**324**	P	P	00 39 19.8	0.0
	0.2nm,0.5s,baz=127,slow=9.2,SNR=3.0						

*IDC **07** 00:28:47.2±1.6,40.25N×72.51E,h0km,mb3.8/5,mb1 3.7/10,mb1mx3.6/30,mbtmp3.7/10,ML3.4/4,Error ellipse: s-maj=32.4km s-min=14.4km az=144.0*
*MOS **07** 00:28:53.5±1.9,40.64N×72.24E,h33km,mb4.2/4,Error ellipse: s-maj=13.2km s-min=8.3km az=87.8*
*NEIC **07** 00:28:57.9±1.9,40.81N×72.32E,h66km±16km,mb3.8/4,Error ellipse: s-maj=24.5km s-min=10.5km az=174.0*

ISC 07 00:28:54.0±1.2,40.81N±0.08×72.05E±0.05,h22km±8km,n58,σ1.968/71,mb3.9/6,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.81**	**43**	P	**Pb**	**00 29 25.3**	**-1.3**
	SNR=941						
AML				P	**Pb**	**00 29 25.3**	**-1.3**
	SNR=941						
EKS2	**Erkin-Say**	**2.26**	**34**	P	**Pb**	**00 29 32.4**	**-1.8**
	SNR=39						
EKS2				P	**Pb**	**00 29 32.4**	**-1.8**
	SNR=39						
EKS2	**Erkin-Say**	**2.26**	**34**	*e*PN	**Pn**	**00 29 31.9**	**+1.8**
EKS2				*e*		00 29 59.9	
EKS2	**Erkin-Say**	**2.26**	**34**	*e*Pn	**Pn**	**00 29 31.9**	**+1.8**
EKS2				*e*Sn	**Sb**	**00 29 59.9**	**-1.8**
UCH	**Uchtor**	**2.33**	**52**	P	**Pb**	**00 29 34.5**	**-1.1**
	SNR=33						
UCH				P	**Pb**	**00 29 34.5**	**-1.1**
	SNR=33						
KK31	**Karatay Array**	**2.56**	**334**	PN	**Pb**	**00 29 38.3**	**-1.0**
KK31						00 29 44.9	
KK31						00 30 19.9	
KK31				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KK31				pmax	pmax		
	comp=Z,32nm,0.3s						
KK31				smax	smax		
	comp=N,71nm,0.2s						
KKAR	**Karatay Array**	**2.56**	**334**	*e*PN	**Pb**	**00 29 38.1**	**-1.2**
KKAR				*e*		00 30 10.5	
KKAR	**Karatay Array**	**2.56**	**334**	*e*Pn	**Pb**	**00 29 38.0**	**-1.2**
KKAR				*e*Sn	**Sb**	**00 30 10.5**	**+0.1**
AAK	**Ala-Archa**	**2.58**	**44**	P	**Pn**	**00 29 36.3**	**+1.6**
	SNR=32						
AAK				P	**Pn**	**00 29 36.3**	**+1.6**
	SNR=32						
AAK	**Ala-Archa**	**2.58**	**44**	*i* PN	**Pn**	**00 29 36.2**	**+1.6**
AAK	**Ala-Archa**	**2.58**	**44**	*e*Pn	**Pn**	**00 29 36.2**	**+1.6**
AAK				*e*Sn	**Sn**	**00 30 05.7**	**+0.3**
KZA	**Kyzart**	**2.72**	**61**	P	**Pn**	**00 29 37.0**	**+0.3**
	SNR=28						
KZA				P	**Pn**	**00 29 37.0**	**+0.3**
	SNR=28						
FRU	**Bishkek**	**2.79**	**43**	*e*PN	**Pb**	**00 29 45.0**	**+1.9**
FRU				*i* S	**Sb**	**00 30 22.0**	**+5.2**
FRU				pmax	pmax		
	comp=Z,200nm,1.0s						
FRU				smax	smax		
	comp=N,1μm,1.2s						
KBK	**Karagaybulak**	**2.85**	**49**	P	**Pn**	**00 29 40.3**	**+2.0**
	SNR=20						
KBK				P	**Pn**	**00 29 40.3**	**+2.0**
	SNR=20						
CHMS	**Chumysh**	**2.97**	**42**	P	**Pn**	**00 29 41.6**	**+1.7**
	SNR=10						
CHMS				P	**Pn**	**00 29 41.6**	**+1.7**
	SNR=10						
USP	**Ospenovka**	**3.06**	**36**	P	**Pn**	**00 29 42.8**	**+1.8**
	SNR=46						
USP				P	**Pn**	**00 29 42.8**	**+1.8**
	SNR=46						
TKM2	**Tokmak 2**	**3.38**	**50**	P	**Pn**	**00 29 47.0**	**+1.3**
	SNR=36						
TKM2				P	**Pn**	**00 29 47.0**	**+1.3**
	SNR=36						
TKM2	**Tokmak 2**	**3.38**	**50**	*e*PN	**Pn**	**00 29 47.4**	**+1.7**
TKM2	**Tokmak 2**	**3.38**	**50**	*e*Pn	**Pn**	**00 29 47.4**	**+1.7**
TKM2				*e*Sn	**Sn**	**00 30 23.0**	**-2.3**
ULHL	**Ulahol**	**3.46**	**64**	P	**Pn**	**00 29 46.7**	**0.0**
	SNR=8.4						
ULHL				P	**Pn**	**00 29 46.7**	**0.0**
	SNR=8.4						
MK31	**Makanchi Array**	**9.51**	**48**	*i* P	**Pn**	**00 31 08.8**	**-0.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**9.51**	**48**	Pn	**Pn**	**00 31 09.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=233,slow=13,SNR=6.8						
MKAR				Lg	Lg	00 33 49.5	
	comp=Z,0.5nm,0.3s,baz=225,slow=28,SNR=5.2						
MKAR	**Makanchi Array**	**9.51**	**48**	P	**Pn**	**00 31 09.5**	**-0.1**
MKAR	**Makanchi Array**	**9.51**	**48**	Pn	**Pn**	**00 31 09.5**	**-0.1**
MKAR				Lg	Lg	00 33 49.5	
KURK	**Kurchatov**	**10.91**	**23**	Pn	**Pn**	**00 31 26.4**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=218,slow=12,SNR=38						
KURK				Lg	Lg	00 34 34.9	
	comp=Z,0.2nm,0.3s,baz=213,slow=29,SNR=7.5						
KURK	**Kurchatov**	**10.91**	**23**	P	**Pn**	**00 31 26.5**	**-2.2**
KURK	**Kurchatov**	**10.91**	**23**	Pn	**Pn**	**00 31 26.4**	**-2.2**
KURK				Lg	Lg	00 34 34.9	
AB31	**Akbulak array**	**12.01**	**319**	P	**Pn**	**00 31 44.7**	**+0.9**
BVAR	**Borovoye Array**	**12.27**	**355**	Pn	**Pn**	**00 31 48.1**	**+0.8**
	baz=157,slow=7.8,SNR=2.8						
BVAR				Sn	**Sn**	**00 34 00.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=172,slow=23,SNR=2.4						
BVAR				Lg	Lg	00 35 27.5	
	comp=Z,0.4nm,0.3s,baz=152,slow=29,SNR=6.0						
BVAR	**Borovoye Array**	**12.27**	**355**	P	**Pn**	**00 31 48.1**	**+0.8**
BVAR						00 34 00.1	
BVAR	**Borovoye Array**	**12.27**	**355**	Pn	**Pn**	**00 31 48.1**	**+0.8**
BVAR				Sn	**Sn**	**00 34 00.1**	**-3.2**
BVAR				Lg	Lg	00 35 27.5	
AKTO	**Aktyubinsk**	**13.73**	**319**	Pn	Pn	00 32 11.6	+4.4
	comp=Z,0.2nm,0.3s,baz=140,slow=16,SNR=4.4						
AKTO	**Aktyubinsk**	**13.73**	**319**	P	Pn	00 32 11.6	+4.4
AKTO	**Aktyubinsk**	**13.73**	**319**	Pn	Pn	00 32 11.6	+4.4
ZAA0	**Zalesovo Array**	**15.70**	**29**	*e*Pn	**Pn**	**00 32 33.5**	**-0.1**
ZAA0				Sn	**Sn**	**00 35 26.7**	**0.0**
ZALV	**Zalesovo Beam**	**15.70**	**29**	Pn	**Pn**	**00 32 32.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=226,slow=13,SNR=5.9						
ZALV				Lg	Lg	00 37 06.5	
	comp=Z,0.0nm,0.3s,baz=225,slow=24,SNR=2.3						
ZALV	**Zalesovo Beam**	**15.70**	**29**	P	**Pn**	**00 32 32.3**	**-1.3**
ZALV	**Zalesovo Beam**	**15.70**	**29**	Pn	**Pn**	**00 32 32.3**	**-1.3**
ZALV				Lg	Lg	00 37 06.5	
ARU	**Arti**	**17.94**	**335**	*e*P	**P**	**00 33 04.5**	**+2.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**17.94**	**335**	*e*Pn	**P**	**00 33 04.5**	**+2.2**
	comp=Z,3.4nm,0.9s						
GNI	**Garni**	**20.76**	**277**	P	Pn	00 33 35.3	-0.6
GNI				pmax	pmax		
	comp=Z,12nm,1.1s						
GNI	**Garni**	**20.76**	**277**	P	Pn	00 33 35.3	-0.6
	comp=Z,12nm,1.1s						
KIV	**Kislovodsk**	**21.86**	**288**	*e*P	**pP**	**00 33 50.4**	**-1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**21.86**	**288**	*e*P	**P**	**00 33 47.1**	**+1.9**
	comp=Z,2.9nm,0.6s						
BR131	**Keskin Array S**	**29.18**	**281**	*e*P	**P**	**00 34 54.4**	**+0.6**
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**29.18**	**281**	P	**P**	**00 34 55.7**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=86,slow=8.2,SNR=7.7						
BRTR	**Keskin Array B**	**29.18**	**281**	P	**P**	**00 34 55.7**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**29.18**	**281**	P	**P**	**00 34 55.7**	**+1.9**
GERES	**GERESS Array B**	**41.24**	**301**	P	**P**	**00 36 38.9**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=61,slow=8.1,SNR=4.3						
GERES	**GERESS Array B**	**41.24**	**301**	P	**P**	**00 36 38.9**	**+1.6**
GERES	**GERESS Array B**	**41.24**	**301**	P	**P**	**00 36 38.9**	**+1.6**
TORD	**Torodi Ar. Bea**	**66.69**	**267**	P	**P**	**00 39 41.6**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=52,slow=5.8,SNR=19						
TORD	**Torodi Ar. Bea**	**66.69**	**267**	P	**P**	**00 39 41.6**	**-1.8**
DBIC	**Dimbokro

3.8nm,0.7s,baz=345,slow=7.8,SNR=8.5
KURK Kurchatov 68.75 326 P P 00 53 22.1 0.0
0.6nm,0.7s,baz=120,slow=6.0,SNR=4.3
BVAR Borovoye Array 74.35 326 P P 00 53 56.3 +0.3
0.9nm,0.8s,baz=126,slow=7.3,SNR=4.6

IDC 07 00:48:54.5±3.0, 0.71S×133.60E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=127.3km s-min=24.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.97	204	P		Pn	00 53 18.0	-0.2
	0.2nm,0.3s,baz=36,slow=15,SNR=4.2							
WRA	Warramunga Arr	19.13	178	P		Pn	00 53 20.6	+0.4
	0.1nm,0.3s,baz=354,slow=12,SNR=4.8							
ASAR	Alice Springs	22.82	179	P		P	00 53 58.4	-0.9
	0.7nm,0.8s,baz=0.9,slow=12,SNR=4.6							
MKAR	Makanchi Array	65.13	324	P		P	00 59 37.3	0.0
	0.2nm,0.5s,baz=110,slow=7.1,SNR=3.5							

IDC 07 00:56:14.0±2.6, 0.09S×133.90E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=99.3km s-min=26.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.66	204	P		Pn	01 00 45.4	-0.5
	0.1nm,0.3s,baz=6.1,slow=13,SNR=2.3							
WRA	Warramunga Arr	19.74	179	P		P	01 00 45.6	0.0
	0.1nm,0.3s,baz=357,slow=11,SNR=8.3							
ASAR	Alice Springs	23.44	180	P		P	01 01 24.7	-0.5
	1.0nm,0.6s,baz=2.9,slow=11,SNR=14							
MKAR	Makanchi Array	64.81	323	P		P	01 06 54.7	-0.1
	0.3nm,0.7s,baz=129,slow=6.7,SNR=4.5							

IDC 07 00:59:35.5±2.7, 0.58S×133.62E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=111.7km s-min=25.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.09	204	P		Pn	01 04 01.8	+1.2
	0.1nm,0.3s,baz=34,slow=11,SNR=3.0							
WRA	Warramunga Arr	19.25	178	P		P	01 04 01.6	0.0
	0.1nm,0.3s,baz=354,slow=11,SNR=4.2							
ASAR	Alice Springs	22.95	179	P		P	01 04 40.6	-1.0
	0.8nm,0.7s,baz=3.1,slow=11,SNR=5.7							
MKAR	Makanchi Array	65.04	324	P		P	01 10 17.7	-0.1
	0.2nm,0.6s,baz=104,slow=6.7,SNR=2.5							

IDC 07 01:11:52.9±2.2, 0.40S×132.90E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/19, mbtmp3.4/5, ML3.6/2, Error ellipse: s-maj=103.5km s-min=21.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.99	202	P		P	01 16 15.3	-0.9
	0.2nm,0.3s,baz=25,slow=12,SNR=5.6							
FITZ				S		Sn	01 19 32.2	-18
	0.1nm,0.3s,baz=250,slow=18,SNR=2.6							
WRA	Warramunga Arr	19.48	176	P		P	01 16 21.7	+0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=9.3							
WRA				S		Sn	01 19 47.5	-15
	0.1nm,0.3s,baz=358,slow=23,SNR=5.3							
ASAR	Alice Springs	23.15	178	P		P	01 17 01.6	+0.4
	0.8nm,0.6s,baz=5.7,slow=10,SNR=8.6							
MKAR	Makanchi Array	64.47	324	P		P	01 22 31.1	-0.3
	0.1nm,0.4s,baz=104,slow=9.6,SNR=3.1							
KURK	Kurchatov	68.54	326	P		P	01 22 57.7	+0.4
	0.3nm,0.7s,baz=121,slow=5.3,SNR=4.8							

*NEIC **07** 01:19:00.1, 31.97N×49.74E, h2km, mb3.8/5, ML4.0(THR), MN4.0(TEH), After TEH.*
*TEH **07** 01:19:01.0, 32.02N×49.78E, h7km, ML4.0*
*THR **07** 01:19:01.3±1.0, 31.91N×49.70E, h45km±8km, ML4.0*
*IDC **07** 01:19:03.5±3.5, 32.16N×49.69E, h41km±31km, mb3.7/13, mb1 3.8/17, mb1mx3.7/31, mbtmp3.7/17, ML3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/46, Error ellipse: s-maj=36.2km s-min=15.5km az=159.0*
*CSEM **07** 01:19:03.0±0.1, 31.98N×49.78E, h50km±2km, mb4.3/5, Ms4.0, Error ellipse: s-maj=4.6km s-min=3.6km az=173.0*
ISC 07 01:19:00.3±1.2, 32.03N±0.04×49.80E±0.02, h15km±8km, n177, σ1$39/158, mb4.0/18, 7C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHGR	Shooshtar-Gavs	0.85	276	Pg		Pg	01 19 17.1	+0.3
SHGR	Shooshtar-Gavs	0.85	276	*e*Pg		Pg	01 19 17.1	+0.3
SHGR	Shooshtar-Gavs	0.85	276	*e*Pg		Pg	01 19 17.1	+0.3
IPIR	Pirpir	1.13	55	Pg		Pg	01 19 21.8	-0.5
IPIR	Pirpir	1.13	55	*e*Pg		Pg	01 19 21.9	-0.4
IPIR				*e*Sg		Sg	01 19 36.9	-0.2
IPIR				*e*			01 19 40.8	
	comp=Z,32μm,0.2s							
IPIR	Pirpir	1.13	55	*e*Pg		Pg	01 19 21.9	-0.4
IPIR				*e*Sg		Sg	01 19 36.9	-0.2
IGAR	Gharneh	1.94	78	*e*Pn		Pn	01 19 34.8	+1.9
IGAR				*e*Sg		Sb	01 20 02.1	+2.5
IGAR				*e*			01 20 03.6	
	comp=Z,28μm,0.1s							
IKLH	Kolahrood	1.98	49	Pn		Pn	01 19 35.6	+2.1
IKLH	Kolahrood	1.98	49	*e*Pn		Pn	01 19 35.6	+2.1
IKLH				*e*Sg		Sb	01 20 02.5	+1.8
IKLH				*e*			01 20 05.4	
	comp=Z,18μm,0.2s							
IKLH	Kolahrood	1.98	49	*e*Pn		Pn	01 19 35.6	+2.1
IKLH				*e*Sg		Sb	01 20 02.5	+1.8
IZEF	Zefreh	2.31	67	Pn		Pn	01 19 39.9	+1.9
IZEF	Zefreh	2.31	67	*e*Pn		Pn	01 19 40.0	+1.9
IZEF				*e*Sg		Sb	01 20 12.2	+1.9
IZEF				*e*			01 20 17.8	
	comp=Z,7μm,0.3s							
IZEF	Zefreh	2.31	67	Pn		Pn	01 19 39.9	+1.9
IZEF				*e*Sg		Sb	01 20 12.2	+1.9
ASAO	Ashtian	2.52	4	Pn		Pn	01 19 43.4	+2.5
ASAO	Ashtian	2.52	4	*e*Pn		Pn	01 19 43.4	+2.5
ASAO	Ashtian	2.52	4	*e*Pn		Pn	01 19 43.4	+2.5
NASN	Na'in	2.66	72	Pn		Pn	01 19 44.7	+1.8
NASN	Na'in	2.66	72	*e*Pn		Pn	01 19 44.8	+1.8
NASN	Na'in	2.66	72	Pn		Pn	01 19 44.7	+1.8
GHVR	GHOM	2.75	27	Pn		Pn	01 19 46.5	+2.6
GHVR	GHOM	2.75	27	*e*Pn		Pn	01 19 46.5	+2.6
GHVR				AML		AML	01 20 30.6	
	comp=N,501nm,0.1s							
GHVR				AML		AML	01 20 31.6	
	comp=E,517nm,0.3s							
GHVR	GHOM	2.75	27	*e*Pn		Pn	01 19 46.5	+2.6
IKOM	Komasi	2.87	319	Pn		Pn	01 19 47.2	+1.5
IKOM				Sn		Sn	01 20 21.2	+1.1
IKOM	Komasi	2.87	319	*e*Pn		Pn	01 19 47.0	+1.3
IKOM				*e*			01 19 48.5	
	comp=Z,6μm,0.1s							
IKOM	Komasi	2.87	319	*e*Pn		Pn	01 19 47.0	+1.3
IKOM				Sn		Sn	01 20 21.2	+1.1
MIB	Mutribah	3.06	224	*e*P		Pn	01 19 50.1	+1.9
MIB				AML		AML	01 20 40.5	
	comp=Z,128nm,0.4s							
MIB	Mutribah	3.06	224	*e*P		Pn	01 19 50.1	+1.9
ISAD	Sadrabad	3.31	91	Pn		Pn	01 19 53.4	+1.6
ISAD	Sadrabad	3.31	91	*e*Pn		Pn	01 19 53.2	+1.4
ISAD				*e*			01 20 57.8	
	comp=Z,4μm,0.5s							
ISAD	Sadrabad	3.31	91	*e*Pn		Pn	01 19 53.2	+1.4
KBD	Kabd	3.37	213	*e*P		Pn	01 19 54.3	+1.9
KBD				AML		AML	01 20 39.0	
	comp=Z,99nm,0.3s							
KBD	Kabd	3.37	213	*e*P		Pn	01 19 54.3	+1.9
IVIS	Veis	3.50	316	Pn		Pn	01 19 55.3	+0.9
IVIS	Veis	3.50	316	*e*Pn		Pn	01 19 55.4	+1.0
IVIS				*e*			01 20 43.0	
	comp=Z,2μm,0.1s							
IVIS	Veis	3.50	316	*e*Pn		Pn	01 19 55.4	+1.0
NAY	Al-Naaiem	3.54	219	*e*P		Pn	01 19 56.7	+2.0
NAY				AML		AML	01 20 38.4	
	comp=Z,51nm,0.5s							
NAY	Al-Naaiem	3.54	219	*e*P		Pn	01 19 56.7	+2.0
IPAR	Pars	3.54	127	Pn		Pn	01 19 55.9	+0.8
IPAR	Pars	3.54	127	*e*Pn		Pn	01 19 55.9	+0.8
IPAR				*e*			01 20 44.7	
	comp=Z,893nm,0.2s							
IPAR	Pars	3.54	127	*e*Pn		Pn	01 19 55.9	+0.8
IGHG	Ghaleghazi	3.55	311	Pn		Pn	01 19 56.2	+1.2
IGHG	Ghaleghazi	3.55	311	*e*Pn		Pn	01 19 55.9	+0.9
IGHG				*e*			01 21 17.6	
	comp=Z,4μm,0.4s							
IGHG	Ghaleghazi	3.55	311	*e*Pn		Pn	01 19 55.9	+0.9
IR3	Iran Long-Peri	3.59	16	*e*Pn		Pn	01 19 57.2	+1.7
IR3	Iran Long-Peri	3.59	16	*e*Pn		Pn	01 19 57.2	+1.7
RDF	Al-Radifah	3.65	213	*e*P		Pn	01 19 58.5	+2.2
RDF	Al-Radifah	3.65	213	*e*P		Pn	01 19 58.5	+2.2
QRN	Al-Qurain	3.66	207	*e*P		Pn	01 19 58.2	+1.9
QRN				AML		AML	01 20 46.5	
	comp=Z,110nm,0.5s							
SNGE	Sanandaj	3.67	327	*e*Pn		Pn	01 19 57.9	+1.1
SNGE	Sanandaj	3.67	327	*e*Pn		Pn	01 19 57.9	+1.1
IMHD	Mahdasht	3.72	11	Pn		Pn	01 19 59.1	+1.8
IMHD	Mahdasht	3.72	11	*e*Pn		Pn	01 19 59.0	+1.8
IMHD				*e*			01 20 08.4	
	comp=Z,3μm,0.1s							
IMHD	Mahdasht	3.72	11	Pn		Pn	01 19 59.1	+1.8
ILIN	Lien	3.73	321	Pn		Pn	01 19 58.5	+1.0
ILIN	Lien	3.73	321	*e*Pn		Pn	01 19 58.6	+1.0
ILIN				*e*			01 20 45.3	
	comp=Z,4μm,0.2s							
ILIN	Lien	3.73	321	*e*Pn		Pn	01 19 58.6	+1.0
ISRV	Sarvestan	3.89	132	Pn		Pn	01 20 00.4	+0.6
ISRV				Sn		Sn	01 20 45.6	+0.2
ISRV	Sarvestan	3.89	132	*e*Pn		Pn	01 20 00.4	+0.6
ISRV				*e*			01 20 54.2	
	comp=Z,1μm,0.2s							
ISRV	Sarvestan	3.89	132	*e*Pn		Pn	01 20 00.4	+0.6
ISRV				Sn		Sn	01 20 45.6	+0.2
IDHR	Dehrash	3.90	314	Pn		Pn	01 20 00.6	+0.7
IDHR	Dehrash	3.90	314	*e*Pn		Pn	01 20 00.7	+0.8
IDHR				*e*			01 20 50.8	
	comp=Z,4μm,0.2s							
IDHR	Dehrash	3.90	314	*e*Pn		Pn	01 20 00.7	+0.8
ICHK	Chekchek	3.92	86	Pn		Pn	01 20 01.4	+1.3
ICHK				Sn		Sn	01 20 47.7	+1.7
ICHK	Chekchek	3.92	86	*e*Pn		Pn	01 20 01.4	+1.3
ICHK				*e*			01 21 13.6	
	comp=Z,2μm,0.3s							
ICHK	Chekchek	3.92	86	*e*Pn		Pn	01 20 01.4	+1.3
ICHK				Sn		Sn	01 20 47.7	+1.7
THKV	Tehran--Karaj	3.98	13	*e*Pn		Pn	01 20 03.0	+2.0
THKV	Tehran--Karaj	3.98	13	*e*Pn		Pn	01 20 03.0	+2.0
DAMV	Damavand	4.02	26	Pn		Pn	01 20 03.8	+2.2
DAMV	Damavand	4.02	26	*e*Pn		Pn	01 20 03.8	+2.2
DAMV				AML		AML	01 21 13.3	
	comp=E,180nm,0.6s							
DAMV				AML		AML	01 21 16.0	
	comp=N,180nm,1.0s							
DAMV	Damavand	4.02	26	*e*Pn		Pn	01 20 03.8	+2.2
CHTH	Charan	4.02	16	*e*Pn		Pn	01 20 03.2	+1.6
CHTH				*e*Sg		Sg	01 21 07.5	-2.1
CHTH	Charan	4.02	16	*e*Pn		Pn	01 20 03.2	+1.6
IMEH	Mehriz	4.16	98	Pn		Pn	01 20 04.6	+1.2
IMEH	Mehriz	4.16	98	*e*Pn		Pn	01 20 04.6	+1.2
IMEH				*e*			01 21 19.9	
	comp=Z,765nm,0.4s							
IMEH	Mehriz	4.16	98	*e*Pn		Pn	01 20 04.6	+1.2
ILAS	Lasjerd	4.26	37	Pn		Pn	01 20 06.5	+1.7
ILAS	Lasjerd	4.26	37	*e*			01 20 06.7	
	comp=Z,2μm,0.1s							
ILAS				*e*Pn		Pn	01 20 06.5	+1.7
ILAS	Lasjerd	4.26	37	*e*Pn		Pn	01 20 06.5	+1.7
IFIR	Firoozkooh	4.36	34	Pn		Pn	01 20 08.0	+1.7
IFIR	Firoozkooh	4.36	34	*e*			01 20 09.9	
	comp=Z,1μm,0.1s							
IFIR				*e*Pn		Pn	01 20 07.9	+1.7
IFIR	Firoozkooh	4.36	34	Pn		Pn	01 20 08.0	+1.7
BHD	Baghdad	4.73	287	*e*Pn		Pn	01 20 08.0	-3.1
BHD				*e*Sn		Sn	01 21 00.0	-5.7
BHD	Baghdad	4.73	287	*e*Pn		Pn	01 20 08.0	-3.1
BHD				*e*Sn		Sn	01 21 00.0	-5.7
ISHM	Shahmirzad	4.76	37	Pn		Pn	01 20 12.9	+1.2
ISHM	Shahmirzad	4.76	37	*e*Pn		Pn	01 20 13.0	+1.2
ISHM				*e*			01 20 30.7	
	comp=Z,2μm,0.2s							
ISHM	Shahmirzad	4.76	37	*e*Pn		Pn	01 20 13.0	+1.2
IANJ	Anjilo	4.85	44	*e*Pn		Pn	01 20 13.6	+0.6
IANJ				*e*			01 20 15.6	
	comp=Z,594nm,0.1s							
IANJ	Anjilo	4.85	44	*e*Pn		Pn	01 20 13.6	+0.6
IBAF	Bafgh	4.93	94	Pn		Pn	01 20 15.5	+1.5
IBAF	Bafgh	4.93	94	*e*Pn		Pn	01 20 15.6	+1.5
IBAF				*e*			01 20 21.9	
	comp=Z,433nm,0.2s							
IBAF	Bafgh	4.93	94	Pn		Pn	01 20 15.5	+1.5
NAZ	Nazwa, Dubai	8.71	142	P		Pn	01 21 04.1	-1.6
ASUD	Al Ashush, Dub	8.84	145	P		Pn	01 21 06.7	-0.9
	SNR=11							
FAQ	Al Faqa, Dubai	8.87	143	P		Pn	01 21 06.9	-1.1
HATD	Hatta, Dubai	9.09	141	P		Pn	01 21 09.2	-1.8
ASHO	Ashiyiah	9.16	141	P		Pn	01 21 10.9	-1.1
	SNR=12							
ASF	Jabal al Asfar	10.94	274	P		Pn	01 21 35.2	-1.2
	comp=Z,1.1nm,0.3s,baz=317,slow=10,SNR=12							
ASF				S		Sn	01 23 28.7	-10
	comp=Z,0.4nm,0.3s,baz=27,slow=23,SNR=2.3							
ASF	Jabal al Asfar	10.94	274	P		Pn	01 21 35.2	-1.2
ASF				S		Sn	01 23 28.7	-10
MMAI	Mount Meron Ar	12.19	278	P		Pn	01 21 54.8	+1.4
	comp=Z,0.3nm,0.3s,baz=95,slow=16,SNR=3.2							
MMAI	Mount Meron Ar	12.19	278	P		Pn	01 21 54.8	+1.4
MMAI	Mount Meron Ar	12.19	278	P		Pn	01 21 54.8	+1.4
EIL	Elat	12.97	263	P		Pn	01 22 02.3	-1.8
	comp=Z,0.4nm,0.3s,baz=128,slow=10,SNR=4.8							
EIL	Elat	12.97	263	P		Pn	01 22 02.3	-1.8
EIL	Elat	12.97	263	P		Pn	01 22 02.3	-1.8
BR131	Keskin Array S	15.17	305	*e*Pn		Pn	01 22 34.1	0.0
	comp=Z,1.8nm,0.6s							
BR131	Keskin Array S	15.17	305	*e*Pn		Pn	01 22 34.1	0.0
	comp=Z,1.8nm,0.6s							
BRTR	Keskin Array B	15.17	305	P		P	01 22 39.5	+0.3
	comp=Z,0.2nm,0.3s,baz=131,slow=14,SNR=11							
BRTR	Keskin Array B	15.17	305	P		P	01 22 39.5	+0.3
BRTR	Keskin Array B	15.17	305	P		P	01 22 39.5	+0.3
ABKAR	Akbulak array	18.82	21	*e*P		P	01 23 18.6	-0.7
	comp=Z,1.0nm,0.4s							
ABKAR	Akbulak array	18.82	21	*e*P		P	01 23 18.6	-0.7
	comp=Z,0.9nm,0.4s							
AKTO	Aktyubinsk	19.38	16	P		P	01 23 25.2	-0.2
	comp=Z,0.5nm,0.3s,baz=194,slow=12,SNR=10							
AKTO	Aktyubinsk	19.38	16	P		P	01 23 25.2	-0.2
KKAR	Karatay Array	19.74	50	*e*P		P	01 23 29.1	-0.4
	comp=Z,1.9nm,0.6s							
KKAR	Karatay Array	19.74	50	*e*P		P	01 23 29.1	-0.4
	comp=Z,1.9nm,0.6s							
AAK	Ala-Archa	22.23	55	*e*P		P	01 23 56.3	-0.3
	comp=Z,24nm,1.1s							
AAK	Ala-Archa	22.23	55	*e*P		P	01 23 56.3	-0.3
	comp=Z,24nm,1.1s							
MLR	Muntele Rosu	22.84	313	P		P	01 24 03.9	+1.0
	comp=Z,1.1nm,0.8s,baz=113,slow=1.3,SNR=11							
MLR				LR		LR	01 35 09.8	
	comp=Z,25nm,19.6s,baz=148,slow=43							
MLR	Muntele Rosu	22.84	313	P		P	01 24 03.9	+1.0
MLR	Muntele Rosu	22.84	313	*i*P		P	01 24 04.8	+1.8
MLR	Muntele Rosu	22.84	313	P		P	01 24 03.9	+1.0
VOIR		23.38	312	*i*P		P	01 24 10.2	+1.8
AKASG	Malin Array Be	24.07	327	P		P	01 24 13.4	-1.5
	comp=Z,1.5nm,0.4s,baz=136,slow=8.9,SNR=18							
AKASG	Malin Array Be	24.07	327	P		P	01 24 13.4	-1.5
AKASG	Malin Array Be	24.07	327	P		P	01 24 13.4	-1.5
KIEV	Kiev	24.08	327	*e*P		P	01 24 13.5	-1.4
	comp=Z,5.1nm,0.6s							
KIEV	Kiev	24.08	327	*e*P		P	01 24 13.5	-1.4
	comp=Z,5.1nm,0.6s							
BURAR	Bucovina Array	24.32	317	*i*P		P	01 24 18.6	+1.2
BUR08	Bucovina Ar. S	24.35	317	*e*P		P	01 24 18.0	+0.4
BUR08	Bucovina Ar. S	24.35	317	*e*P		P	01 24 18.0	+0.4
BVAR	Borovoye Array	25.72	29	P		P	01 24 29.3	-0.6
	comp=Z,1.6nm,0.4s,baz=227,slow=7.7,SNR=12							
BVAR	Borovoye Array	25.72	29	P		P	01 24 29.3	-0.6
BVAR	Borovoye Array	25.72	29	P		P	01 24 29.3	-0.6
KURK	Kurchatov	28.30	40	P		P	01 24 52.3	-0.8
	comp=Z,1.7nm,0.8s,baz=242,slow=9.5,SNR=15							
KURK	Kurchatov	28.30	40	P		P	01 24 52.3	-0.8
KURK	Kurchatov	28.30	40	P		P	01 24 52.3	-0.8
MK31	Makanchi Array	28.87	50	*e*P		P	01 24 57.9	-0.4
MK31	Makanchi Array	28.87	50	*e*P		P	01 24 57.9	-0.4
MKAR	Makanchi Array	28.87	50	P		P	01 24 58.3	0.0
	comp=Z,1.3nm,0.6s,baz=244,slow=8.9,SNR=20							
MKAR	Makanchi Array	28.87	50	P		P	01 24 58.3	0.0
MKAR	Makanchi Array	28.87	50	P		P	01 24 58.3	0.0
GERES	GERESS Array B	31.83	312	P		P	01 25 23.2	-1.3
	comp=Z,0.2nm,0.5s,baz=117,slow=10.0,SNR=3.8							
GERES	GERESS Array B	31.83	312	P		P	01 25 23.2	-1.3
GERES	GERESS Array B	31.83	312	P		P	01 25 23.2	-1.3
MOTA	Moosalm	33.09	309	*i*P		P	01 25 33.5	-2.1
	comp=Z,1.5nm,0.5s							
MOTA	Moosalm	33.09	309	P		P	01 25 33.5	-2.1
	comp=Z,1.5nm,0.5s							
ZAA0	Zalesovo Array	33.19	38	*e*P		P	01 25 34.9	-1.3
ZAA0	Zalesovo Array	33.19	38	*e*P		P	01 25 34.9	-1.3
ZALV	Zalesovo Beam	33.19	38	P		P	01 25 35.2	-1.0
	comp=Z,2.5nm,0.7s,baz=250,slow=8.7,SNR=15							
ZALV	Zalesovo Beam	33.19	38	P		P	01 25 35.2	-1.0
ZALV	Zalesovo Beam	33.19	38	P		P	01 25 35.2	-1.0
FINES	FINESS Array B	33.22	339	P		P	01 25 34.4	-2.0
	comp=Z,1.0nm,0.3s,baz=141,slow=7.6,SNR=10							
FINES	FINESS Array B	33.22	339	P		P	01 25 34.4	-2.0
FINES	FINESS Array B	33.22	339	P		P	01 25 34.4	-2.0
DAVA	Damuels	33.89	308	*i*P		P	01 25 41.1	-1.5
	comp=Z,4.5nm,0.5s							
DAVA	Damuels	33.89	308	P		P	01 25 41.1	-1.5
	comp=Z,4.5nm,0.5s							
NB2	NORSAR Subarra	38.35	331	P		P	01 26 18.4	-2.0
	comp=Z,1.7nm,0.6s,baz=123,slow=8.6							
NB2	NORSAR Subarra	38.35	331	P		P	01 26 18.4	-2.0
	comp=Z,1.7nm,0.6s,baz=123,slow=8.4,SNR=4.8							
NOA	NORSAR Array B	38.35	331	P		P	01 26 18.4	-2.0
	comp=Z,1.7nm,0.7s,baz=123,slow=8.4,SNR=4.5							
NOA	NORSAR Array B	38.35	331	P		P	01 26 18.4	-2.0
NOA	NORSAR Array B	38.35	331	P		P	01 26 18.4	-2.0
ARCES	ARCESS Array B	39.97	347	P		P	01 26 32.5	-1.3
	comp=Z,4.5nm,1.0s,baz=148,slow=8.6,SNR=3.4							
ARCES	ARCESS Array B	39.97	347	P		P	01 26 32.5	-1.3
ARCES	ARCESS Array B	39.97	347	P		P	01 26 32.5	-1.3
ESDC	Sonseca Array	43.68	296	P		P	01 27 04.2	-0.5
	comp=Z,0.1nm,0.4s,baz=71,slow=9.0,SNR=3.3							
ESDC	Sonseca Array	43.68	296	P		P	01 27 04.2	-0.5
ESDC	Sonseca Array	43.68	296	P		P	01 27 04.2	-0.5
TORD	Torodi Ar. Bea	47.79	258	P		P	01 27 36.6	-0.7
	comp=Z,3.1nm,0.8s,baz=54,slow=8.2,SNR=26							
TORD	Torodi Ar. Bea	47.79	258	P		P	01 27 36.7	-0.7
TORD	Torodi Ar. Bea	47.79	258	P		P	01 27 36.7	-0.7
ILAR	Eielson Array	82.64	7	P		P	01 31 21.1	-1.6
	comp=Z,0.6nm,0.8s,baz=320,slow=3.7,SNR=5.4							
ILAR	Eielson Array	82.64	7	P		P	01 31 21.1	-1.6
ILAR	Eielson Array	82.64	7	P		P	01 31 21.1	-1.6
YKA	Yellowknife Ar	84.97	353	P		P	01 31 33.1	-1.4
	comp=Z,0.6nm,0.8s,baz=13,slow=5.5,SNR=15							
YKA	Yellowknife Ar	84.97	353	P		P	01 31 33.1	-1.4
YKA	Yellowknife Ar	84.97	353	P		P	01 31 33.2	-1.4

*ISK **07** 01:20:23.8, 39.30N×39.78E, h19km, MD2.8*
*DDA **07** 01:20:24.2, 39.27N×39.79E, h7km, MD3.1*
*CSEM **07** 01:20:24.6±0.2, 39.27N×39.83E, h20km, MD2.8, Error ellipse: s-maj=4.5km s-min=2.9km az=125.0*
*ISCJB **07** 01:20:25.1±0.5, 39.29N±0.03×39.80E±0.04, h26km±6km, Error ellipse: s-maj=6.0km s-min=4.6km az=136.7*
ISC 07 01:20:24.4±1.0, 39.28N±0.03×39.80E±0.03, h17km±10km, n24, σ0$48/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERZN	Erzincan	0.31	349	*e*Pg		Pg	01 20 30.7	-0.5
ERZN				*e*Sg		Sg	01 20 35.6	-0.2
PTK	Pertek	0.50	220	*e*Pg		Pb	01 20 34.5	-0.4
PTK				*e*Sg		Sb	01 20 42.0	0.0
PTK	Pertek	0.50	220	*e*Pg		Pb	01 20 34.5	-0.4
PTK				*e*Sg		Sb	01 20 42.0	0.0
KOPT	Kop Dagi	0.

mb3.0/1,**mb1 3.2**/4,**mb1mx3.0**/18,**mbtmp3.0**/4,**ML3.5**/3, **Error ellipse: s-maj=239.4km s-min=42.6km az=45.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.57**	**165**	P	Pn	01 37 54.3	-0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=8.9						
FITZ				S	Sn	01 39 46.2	-6.1
	0.5nm,0.3s,baz=180,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**16.47**	**138**	P	P	01 39 06.9	-1.0
	0.2nm,0.3s,baz=311,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**19.04**	**147**	P	P	01 39 36.5	+0.6
	0.2nm,0.3s,baz=327,slow=13,SNR=11						
MKAR	**Makanchi Array**	**65.19**	**337**	P	P	01 45 49.1	0.0
	0.3nm,0.5s,baz=136,slow=6.8,SNR=4.3						

*NEIC **07** 01:37:34.5±3.0, 7.°02S×129.°36E, h231km±32km, mb3.9/3, Error ellipse: s-maj=36.0km s-min=13.1km az=49.0*
*IDC **07** 01:37:34.3±6.0, 6.°98S×129.°46E, h228km±60km, mb3.6/4, mb1 3.8/6, mb1mx3.5/15, mbtmp3.6/6, Error ellipse: s-maj=89.9km s-min=17.5km az=62.0*

ISC 07 01:37:25.4±0.9, 7.°01S±0.°08×129.°4E±0.°2, h139km, n21, σ1§74/25, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.62**	**198**	S	**Sn**	**01 42 14.4**	**-1.0**
	0.7nm,0.3s,baz=180,slow=9.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.62**	**198**	*e*Pn	Pn	01 40 13.4	+6.3
FITZ				S	**Sn**	**01 42 14.4**	**-1.0**
WRAB	**Tennant Creek**	**13.72**	**160**	*e*P	**P**	**01 40 40.1**	**+1.8**
	12nm,0.4s						
WRA	**Warramunga Arr**	**13.73**	**160**	P	**P**	**01 40 39.5**	**+1.1**
	3.0nm,0.3s,baz=338,slow=12,SNR=59						
WRA				S	**Sn**	**01 43 03.5**	**-2.8**
	1.3nm,0.3s,baz=326,slow=24,SNR=6.4						
WRA	**Warramunga Arr**	**13.73**	**160**	P	**P**	**01 40 39.5**	**+1.1**
WRA				S	**Sn**	**01 43 03.5**	**-2.8**
WB2	**Warramunga Arr**	**13.73**	**160**	*e*P	**P**	**01 40 40.5**	**+2.1**
AS31	**Alice Springs**	**17.12**	**166**	*e*P	**Pn**	**01 41 19.2**	**+2.7**
ASAR	**Alice Springs**	**17.12**	**166**	P	**Pn**	**01 41 19.1**	**+2.6**
	1.5nm,0.3s,baz=347,slow=9.5,SNR=40						
ASAR				S	**S**	**01 44 25.8**	**-1.8**
	0.3nm,0.3s,baz=353,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**17.12**	**166**	P	**Pn**	**01 41 19.1**	**+2.6**
ASAR				S	**S**	**01 44 25.8**	**-1.8**
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**01 42 57.6**	**+1.0**
	2.4nm,0.6s,baz=341,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**27.24**	**157**	*e*P	**P**	**01 42 57.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**01 44 41.4**	**+0.5**
	0.7nm,0.3s,baz=129,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**01 44 41.4**	**+0.5**
MK31	**Makanchi Array**	**67.90**	**327**	*e*P	**P**	**01 48 08.5**	**-0.6**
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**01 48 09.2**	**+0.1**
	1.2nm,0.3s,baz=126,slow=6.8,SNR=32						
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**01 48 09.2**	**+0.1**
ZALV	**Zalesovo Beam**	**71.32**	**334**	P	**P**	**01 48 28.4**	**-1.4**
	0.7nm,0.5s,baz=139,slow=4.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**71.32**	**334**	P	**P**	**01 48 28.4**	**-1.4**
KURK	**Kurchatov**	**72.21**	**329**	P	**P**	**01 48 34.3**	**-0.9**
	baz=129,slow=5.2						
KURK	**Kurchatov**	**72.21**	**329**	*e*P	**P**	**01 48 34.1**	**-1.1**
	1.5nm,0.8s						
ABKAR	**Akbulak array**	**82.14**	**322**	*e*P	**P**	**01 49 28.8**	**-1.8**
	0.8nm,0.6s						

*DJA **07** 02:01:04, 1.°35S×129.°96E, h20km, MLv3.9/6*

IDC 07 02:00:57.4±2.0, 0.°19S×133.°12E, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML4.0/2, Error ellipse: s-maj=93.3km s-min=23.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.25**	**202**	P	Pn	02 05 25.2	+0.7
	0.2nm,0.3s,baz=29,slow=12,SNR=7.6						
WRA	**Warramunga Arr**	**19.66**	**177**	P	P	02 05 27.7	-0.4
	0.5nm,0.3s,baz=352,slow=12,SNR=19						
ASAR	**Alice Springs**	**23.34**	**178**	P	P	02 06 07.8	+0.2
	8.4nm,0.7s,baz=355,slow=9.4,SNR=87						
STKA	**Stephens Creek**	**32.52**	**167**	P	P	02 07 28.9	-1.1
	2.3nm,0.8s,baz=355,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**64.43**	**324**	P	P	02 11 35.7	0.0
	0.6nm,0.6s,baz=117,slow=8.1,SNR=8.4						

*NEIC **07** 02:13:41.9, 19.°48N×69.°59W, h79km, MD3.9(RSPR), After RSPR.*

RSPR 07 02:13:41.9, 19.°48N×69.°59W, h79km, 24km, MD3.9/8, 17C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.41**	**134**	*e*P	Pn	02 13 51.2	-3.7
SMN1				*e*S	Sn	02 13 58.7	-5.8
DR12	**Loma Pena Alta**	**0.71**	**164**	*e*P	Pn	02 13 52.4	-5.4
DR12	**Loma Pena Alta**	**0.71**	**164**	*e*P	Pn	02 13 52.4	-5.4
SDDR	**Presa de Saban**	**1.68**	**253**	*e*S	Sn	02 14 29.3	-1.4
SDDR	**Presa de Saban**	**1.68**	**253**	*e*P	Pn	02 14 07.8	-1.9
SDDR	**Presa de Saban**	**1.68**	**253**	*e*P	Pn	02 14 07.8	-1.9
SDDR				*e*S	Sn	02 14 29.3	-1.4
AGPR	**Aguadilla, PR**	**2.55**	**113**	*e*P	Pn	02 14 22.6	+1.5
AGPR	**Aguadilla, PR**	**2.55**	**113**	*e*S	Sn	02 14 54.5	+3.3
AGPR	**Aguadilla, PR**	**2.55**	**113**	*e*P	Pn	02 14 22.6	+1.5
AGPR				*e*S	Sn	02 14 54.5	+3.3
CRPR	**Cabo Rojo, PR**	**2.76**	**122**	*e*P	Pn	02 14 26.4	+2.4
CRPR	**Cabo Rojo, PR**	**2.76**	**122**	*e*S	Sn	02 15 04.5	+8.0
CRPR	**Cabo Rojo, PR**	**2.76**	**122**	*e*P	Pn	02 14 26.4	+2.4
CRPR				*e*S	Sn	02 15 04.5	+8.0
LRS	**Lares**	**2.85**	**114**	*e*Pn	Pn	02 14 27.2	+1.9
LRS				*e*Sn	Sn	02 15 02.1	+3.4
AOPR	**Arecibo Observ**	**2.91**	**112**	*e*S	Sn	02 15 02.6	+2.6
OBIP	**Obispado Ponce**	**3.16**	**116**	*e*P	Pn	02 14 31.9	+2.4
OBIP	**Obispado Ponce**	**3.16**	**116**	*e*S	Sn	02 15 06.1	-0.1
OBIP	**Obispado Ponce**	**3.16**	**116**	*e*P	Pn	02 14 31.9	+2.4
OBIP				*e*S	Sn	02 15 06.1	-0.1
CELP	**Cerrillos**	**3.17**	**116**	*e*P	Pn	02 14 33.0	+3.4
CELP	**Cerrillos**	**3.17**	**116**	*e*P	Pn	02 14 33.0	+3.4
SJG	**San Juan**	**3.53**	**112**	*e*P	Pn	02 14 34.2	-0.2
SJG	**San Juan**	**3.53**	**112**	*e*P	Pn	02 14 34.2	-0.2
CBYP	**Canovanas**	**3.73**	**108**	*e*P	Pn	02 14 37.7	+0.4
CBYP	**Canovanas**	**3.73**	**108**	*e*S	Sn	02 15 21.2	+1.1
CBYP	**Canovanas**	**3.73**	**108**	*e*P	Pn	02 14 37.7	+0.4
CBYP				*e*S	Sn	02 15 21.2	+1.1
HUMP	**Col San Antoni**	**3.78**	**110**	*e*P	Pn	02 14 39.2	+1.4
HUMP	**Col San Antoni**	**3.78**	**110**	*e*S	Sn	02 15 23.4	+2.2
HUMP	**Col San Antoni**	**3.78**	**110**	*e*P	Pn	02 14 39.2	+1.4
HUMP				*e*S	Sn	02 15 23.4	+2.2
MTP	**Monte Pirata**	**4.06**	**109**	*e*P	Pn	02 14 43.0	+1.3
MTP	**Monte Pirata**	**4.06**	**109**	*e*S	Sn	02 15 28.2	+0.2
MTP	**Monte Pirata**	**4.06**	**109**	*e*P	Pn	02 14 43.0	+1.3
MTP				*e*S	Sn	02 15 28.2	+0.2

IDC 07 02:27:25.1±5.1, 0.°32S×131.°68E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=345.2km s-min=26.3km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.67**	**173**	P	P	02 31 55.2	-0.7
	0.1nm,0.3s,baz=353,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**23.30**	**175**	P	P	02 32 35.4	+0.5
	0.7nm,0.8s,baz=357,slow=10,SNR=7.9						
MKAR	**Makanchi Array**	**63.70**	**324**	P	P	02 37 58.5	-0.1
	0.1nm,0.2s,baz=130,slow=8.5,SNR=2.3						

IDC 07 02:33:47.9±5.1, 1.°15S×132.°44E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=319.4km s-min=26.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.77**	**174**	P	P	02 38 08.7	-0.1
	0.1nm,0.3s,baz=354,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.43**	**176**	P	P	02 38 48.2	-0.2
	0.7nm,0.4s,baz=357,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**64.81**	**324**	P	P	02 44 28.7	+0.1
	0.2nm,0.5s,baz=112,slow=10,SNR=2.8						

*IDC **07** 02:39:38.3±1.4, 2.°36N×95.°84E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/24, mbtmp4.1/9, ML4.3/1, Error ellipse: s-maj=59.2km s-min=19.9km az=56.0*
*DJA **07** 02:39:40, 2.°51N×95.°90E, h10km, MLv4.0/5*
*ISCJB **07** 02:39:41.4±0.7, 2.°49N±0.°09×95.°94E±0.°07, h25km, mb4.1/12, Error ellipse: s-maj=14.5km s-min=6.9km az=35.0*
*NEIC **07** 02:39:43.8±0.6, 2.°42N×95.°98E, h35km, mb4.2/4, Error ellipse: s-maj=11.9km s-min=8.0km az=211.0*

ISC 07 02:39:43.4±0.8, 2.°63N±0.°09×96.°01E±0.°08, h25km, n51, σ1§02/50, mb4.3/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.32**	**62**	P	**Pn**	**02 40 06.1**	**-0.3**
TSI	**Tuntungan**	**2.69**	**71**	P	**Pb**	**02 40 29.8**	**-1.1**
LHMI	**Lhok Sumawe**	**2.75**	**20**	P	Px	02 40 43.3	
PSI	**Prapat**	**2.91**	**87**	P	**Pn**	**02 40 28.9**	**+0.6**
BSI	**Banda Aceh**	**2.94**	**346**	P	**Pn**	**02 40 28.3**	**-0.3**
MNSI	**Mandailing Nat**	**4.00**	**117**	P	**Pn**	**02 40 43.5**	**+0.3**
KULM	**Kulim**	**5.33**	**60**	*e*Pn	**Pn**	**02 41 02.4**	**+0.9**
	76nm,0.8s						
IPM	**Ipoh**	**5.33**	**70**	*e*Pn	**Pn**	**02 41 02.5**	**+1.0**
	24nm,0.6s						
IPM	**Ipoh**	**5.33**	**70**	P	**Pn**	**02 41 02.9**	**+1.4**
PPI	**Padang Panjang**	**5.35**	**125**	P	**Pn**	**02 41 03.2**	**+1.5**
	19nm,1.1s,0.1nm						
CMAR	**Chiang Mai Arr**	**15.99**	**10**	Pn	**P**	**02 43 30.0**	**-0.2**
	0.4nm,0.3s,baz=196,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	**15.99**	**10**	Pn	**P**	**02 43 30.0**	**-0.2**
ODAN	**Odare**	**25.48**	**342**	*e*P	**P**	**02 45 11.4**	**+1.4**
	22nm,0.9s						
ODAN	**Odare**	**25.48**	**342**	*e*P	**P**	**02 45 11.4**	**+1.4**
RAMN	**Ramite**	**25.82**	**340**	*e*P	**P**	**02 45 14.9**	**+1.8**
	28nm,0.6s						
RAMN	**Ramite**	**25.82**	**340**	*e*P	**P**	**02 45 14.9**	**+1.8**
TAPN	**Taplejung**	**25.84**	**343**	*e*P	**P**	**02 45 14.7**	**+1.3**
	15nm,0.9s						
TAPN	**Taplejung**	**25.84**	**343**	*e*P	**P**	**02 45 14.7**	**+1.3**
JIRN	**Jiri**	**26.61**	**340**	*e*P	**P**	**02 45 21.9**	**+1.5**
	35nm,0.7s						
JIRN	**Jiri**	**26.61**	**340**	*e*P	**P**	**02 45 21.9**	**+1.5**
PKI	**Pulchoki**	**26.80**	**339**	*e*P	**P**	**02 45 23.3**	**+1.2**
	5.7nm,0.5s						
PKI	**Pulchoki**	**26.80**	**339**	*e*P	**P**	**02 45 23.3**	**+1.2**
GUN	**Gumba**	**26.94**	**340**	*e*P	**P**	**02 45 24.5**	**+1.1**
	25nm,0.7s						
GUN	**Gumba**	**26.94**	**340**	*e*P	**P**	**02 45 24.5**	**+1.1**
KKN	**Kakani**	**27.05**	**339**	*e*P	**P**	**02 45 25.1**	**+0.9**
KKN	**Kakani**	**27.05**	**339**	*e*P	**P**	**02 45 25.1**	**+0.9**
LSA	**Lhasa**	**27.32**	**351**	*e*Pn	**P**	**02 45 27.9**	**+1.0**
	4.4nm,0.6s						
GKN	**Gorkha**	**27.48**	**338**	*e*P	**P**	**02 45 28.9**	**+0.9**
	31nm,0.8s						
GKN	**Gorkha**	**27.48**	**338**	*e*P	**P**	**02 45 28.9**	**+0.9**
KOLN	**Koldanda**	**27.68**	**336**	*e*P	**P**	**02 45 31.1**	**+1.3**
	11nm,0.6s						
KOLN	**Koldanda**	**27.68**	**336**	*e*P	**P**	**02 45 31.1**	**+1.3**
WRA	**Warramunga Arr**	**43.79**	**123**	P	**P**	**02 47 46.0**	**-1.6**
	0.7nm,0.5s,baz=301,slow=9.2,SNR=7.7						
WRA	**Warramunga Arr**	**43.79**	**123**	P	**P**	**02 47 46.0**	**-1.6**
ASAR	**Alice Springs**	**45.20**	**127**	P	**P**	**02 47 57.5**	**-1.2**
	0.3nm,0.7s,baz=18,slow=32,SNR=5.4						
ASAR	**Alice Springs**	**45.20**	**127**	P	**P**	**02 47 57.5**	**-1.2**
MK31	**Makanchi Array**	**45.59**	**347**	*e*P	**P**	**02 48 01.6**	**+0.1**
MKAR	**Makanchi Array**	**45.59**	**347**	P	**P**	**02 48 02.1**	**+0.6**
	4.2nm,0.7s,baz=163,slow=8.0,SNR=53						
MKAR	**Makanchi Array**	**45.59**	**347**	P	**P**	**02 48 02.1**	**+0.6**
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**02 48 04.8**	**+0.6**
	2.6nm,0.6s,baz=189,slow=8.8,SNR=9.3						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**02 48 04.8**	**+0.6**
KKAR	**Karatay Array**	**46.26**	**334**	*e*P	**P**	**02 48 06.8**	**-0.1**
	0.9nm,0.6s						
KURK	**Kurchatov**	**50.12**	**346**	*e*P	**P**	**02 48 36.6**	**+0.1**
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**51.98**	**352**	P	**P**	**02 48 50.5**	**+0.1**
	3.9nm,0.5s,baz=176,slow=7.4,SNR=30						
ZALV	**Zalesovo Beam**	**51.98**	**352**	P	**P**	**02 48 50.5**	**+0.1**
BVAR	**Borovoye Array**	**54.53**	**341**	P	**P**	**02 49 09.1**	**-0.1**
	2.2nm,0.8s,baz=148,slow=8.7,SNR=11						
BVAR	**Borovoye Array**	**54.53**	**341**	P	**P**	**02 49 09.1**	**-0.1**
ABKAR	**Akbulak array**	**55.71**	**332**	*e*P	**P**	**02 49 17.9**	**+0.1**
	3.1nm,0.8s						
FINES	**FINESS Array B**	**78.19**	**333**	P	**P**	**02 51 40.1**	**-0.5**
	2.8nm,1.0s,baz=58,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**78.19**	**333**	P	**P**	**02 51 40.1**	**-0.5**
GERES	**GERESS Array B**	**82.97**	**319**	P	**P**	**02 52 06.3**	**-0.3**
	0.7nm,0.8s,baz=73,slow=4.5,SNR=5.6						
GERES	**GERESS Array B**	**82.97**	**319**	P	**P**	**02 52 06.3**	**-0.3**

*IDC **07** 02:42:55.9±1.1, 2.°50N×96.°01E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.2/25, mbtmp4.3/14, ML4.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/43, Error ellipse: s-maj=39.4km s-min=14.3km az=55.0*
*BJI **07** 02:42:56.7, 2.°19N×95.°90E, h35km, mB4.8/16, mb4.7/33, Ms4.7/11, Ms7 4.3/9*
*ISCJB **07** 02:42:57.9±0.5, 2.°42N±0.°06×95.°99E±0.°06, h25km, mb4.5/35, MS4.1/4, Error ellipse: s-maj=10.9km s-min=6.2km az=135.3*
*DJA **07** 02:42:59, 2.°48N×95.°91E, h24km, MLv4.4/12*
*NEIC **07** 02:43:02.6±2.4, 2.°56N×96.°12E, h45km±18km, mb4.5/15, Error ellipse: s-maj=21.9km s-min=5.9km az=52.0*

ISC 07 02:42:59.9±0.7, 2.°39N±0.°07×95.°89E±0.°09, h25km, n93, σ1§80/109, mb4.6/35, MS4.1/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.90**	**67**	P	**Pb**	**02 43 53.5**	**+2.6**
LHMI	**Lhok Sumawe**	**3.02**	**21**	P	Pb	02 44 00.6	+7.6
PSI	**Prapat**	**3.06**	**82**	P	**Pn**	**02 43 46.9**	**0.0**
BSI	**Banda Aceh**	**3.15**	**349**	P	Pb	02 44 16.4	+21
MNSI	**Mandailing Nat**	**4.01**	**113**	P	**Pn**	**02 44 01.7**	**+1.8**
PPI	**Padang Panjang**	**5.32**	**122**	P	Pn	02 44 21.8	+4.0
IPM	**Ipoh**	**5.54**	**68**	*e*Pn	**Pn**	**02 44 18.8**	**-2.0**
IPM	**Ipoh**	**5.54**	**68**	P	**Pn**	**02 44 20.1**	**-0.7**
KULM	**Kulim**	**5.56**	**59**	*e*Pn	**Pn**	**02 44 20.0**	**-1.1**
KULM	**Kulim**	**5.56**	**59**	P	**Pn**	**02 44 20.1**	**-1.1**
TPRI	**Tanjung Pinang**	**8.76**	**99**	P	Pn	02 44 59.2	-5.9
CMAR	**Chiang Mai Arr**	**16.25**	**10**	Pn	**Pn**	**02 46 44.4**	**-2.3**
	1.3nm,0.3s,baz=196,slow=11,SNR=22						
CMAR	**Chiang Mai Arr**	**16.25**	**10**	Pn	**Pn**	**02 46 44.4**	**-2.3**
CHTO	**Chiang Mai**	**16.60**	**10**	*e*P	**Pn**	**02 46 48.4**	**-2.7**
	3.5nm,0.7s						
KKM	**Kota Kinabalu**	**20.59**	**79**	*e*P	**P**	**02 47 36.2**	**-1.3**
	16nm,0.8s						
KMI	**Kunming**	**23.55**	**16**	P	**P**	**02 48 08.4**	**-0.4**
KMI				*p*P	**pP**	**02 48 18.6**	**+2.6**
KMI				*s*P	**sP**	**02 48 22.7**	**+3.6**
KMI				PP	**PnPn**	**02 48 40.3**	**+4.2**
KMI				S	**S**	**02 52 15.7**	**-6.0**
KMI				*s*S	**sS**	**02 52 33.9**	**0.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,77nm,4.3s						
KMI				LR	LR		
	comp=N,270nm,15.7s						
KMI				LR	LR		
	comp=E,240nm,15.4s						
KAPI	**Kappang**	**24.95**	**107**	P	**P**	**02 48 19.8**	**-1.8**
	comp=E,9.9nm,0.6s,baz=298,slow=8.7,SNR=5.9						
KAPI	**Kappang**	**24.95**	**107**	*e*P	**P**	**02 48 20.7**	**-0.9**
	comp=E,12nm,0.8s						
ODAN	**Odare**	**25.66**	**342**	*e*P	**P**	**02 48 28.4**	**+0.2**
	33nm,0.8s						
ODAN	**Odare**	**25.66**	**342**	*e*P	**P**	**02 48 28.4**	**+0.2**
RAMN	**Ramite**	**26.00**	**341**	*e*P	**P**	**02 48 32.0**	**+0.8**
	comp=E,50nm,0.6s						
RAMN	**Ramite**	**26.00**	**341**	*e*P	**P**	**02 48 32.0**	**+0.8**
TAPN	**Taplejung**	**26.03**	**343**	*e*P	**P**	**02 48 31.9**	**+0.3**
	comp=E,36nm,0.9s						
TAPN	**Taplejung**	**26.03**	**343**	*e*P	**P**	**02 48 31.9**	**+0.3**
GYA	**Guiyang**	**26.08**	**22**	*e*P	**P**	**02 48 31.8**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JIRN	**Jiri**	**26.79**	**341**	*e*P	**P**	**02 48 39.1**	**+0.6**
	comp=Z,53nm,0.6s						
JIRN	**Jiri**	**26.79**	**341**	*e*P	**P**	**02 48 39.1**	**+0.6**
PKI	**Pulchoki**	**26.98**	**339**	*e*P	**P**	**02 48 40.0**	**-0.2**
	comp=Z,11nm,0.7s						
PKI	**Pulchoki**	**26.98**	**339**	*e*P	**P**	**02 48 40.0**	**-0.2**
DMN	**Daman**	**27.12**	**339**	*e*P	**P**	**02 48 41.5**	**+0.1**
DMN	**Daman**	**27.12**	**339**	*e*P	**P**	**02 48 41.5**	**+0.1**
GUN	**Gumba**	**27.12**	**340**	*e*P	**P**	**02 48 41.7**	**+0.2**
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**27.12**	**340**	*e*P	**P**	**02 48 41.7**	**+0.2**
KKN	**Kakani**	**27.22**	**339**	*e*P	**P**	**02 48 42.4**	**+0.1**
	comp=Z,32nm,0.9s						
KKN	**Kakani**	**27.22**	**339**	*e*P	**P**	**02 48 42.4**	**+0.1**
LSA	**Lhasa**	**27.54**	**351**	P	**P**	**02 48 45.3**	**0.0**
LSA				pmax	pmax		
	comp=Z,30nm,0.9s						
LSA	**Lhasa**	**27.54**	**351**	*e*P	**P**	**02 48 44.6**	**-0.8**
	comp=Z,10nm,0.8s						
GKN	**Gorkha**	**27.65**	**338**	*e*P	**P**	**02 48 46.3**	**+0.3**
	comp=Z,53nm,1.0s						
GKN	**Gorkha**	**27.65**	**338**	*e*P	**P**	**02 48 46.3**	**+0.3**
KOLN	**Koldanda**	**27.84**	**336**	*e*P	**P**	**02 48 48.3**	**+0.5**
	comp=Z,20nm,0.6s						
KOLN	**Koldanda**	**27.84**	**336**	*e*P	**P**	**02 48 48.3**	**+0.5**
DANN	**Dangsing**	**28.30**	**337**	*e*P	**P**	**02 48 52.1**	**+0.2**
DANN	**Dangsing**	**28.30**	**337**	*e*P	**P**	**02 48 52.1**	**+0.2**
CD2	**Chengdu**	**29.33**	**14**	P	**P**	**02 49 02.3**	**+1.5**
CD2				*p*P	**pP**	**02 49 13.1**	**+4.8**
CD2				*s*P	*s*P	02 49 18.0	+6.6
CD2				PP	**PnPn**	**02 49 57.8**	**+3.0**
CD2				S	**S**	**02 53 51.0**	**-1.9**
CD2				*s*S	**sS**	**02 54 09.1**	**+3.9**
CD2				SS	SS	02 55 23.3	-35
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,4.2s						
CD2				LR	LR		
	comp=N,400nm,4.8s						
CD2				LR	LR		
	comp=Z,250nm,6.5s						
XAN	**Xi'an**	**33.76**	**20**	P	**P**	**02 49 37.4**	**-2.4**
XAN				*p*P	**pP**	**02 49 47.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,17nm,5.3s						
LZH	**Lanzhou**	**34.33**	**11**	*e*P	**P**	**02 49 43.0**	**-1.9**
LZH				*p*P	**pP**	**02 49 50.5**	**-1.8**
LZH				*s*P	**sP**	**02 49 54.5**	**-0.9**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				LR	LR		
	comp=N,380nm,10.3s						
LZH				LR	LR		
	comp=E,570nm,12.5s						
LZH				LR	LR		
	comp=Z,390nm,13.0s						
FITZ	**Fitzroy Crossi**	**35.68**	**126**	P	**P**	**02 49 55.3**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=269,slow=13,SNR=4.0						
FITZ	**Fitzroy Crossi**	**35.68**	**126**	P	**P**	**02 49 55.3**	**-1.2**
GTA	**Gaotai**	**37.02**	**5**	*e*P	**P**	**02 50 06.5**	**-1.4**
GTA				*p*P	**pP**	**02 50 15.5**	**+0.1**
GTA				*s*P	**sP**	**02 50 19.5**	**+1.0**
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.83**	**18**	*e*P	**P**	**02 50 40.8**	**+1.1**
HHC				*p*P	**pP**	**02 50 51.7**	**+4.4**
HHC				*s*P	**sP**	**02 50 55.3**	**+5.0**
HHC				PP	**PnPn**	**02 52 18.5**	**+0.2**
HHC				S	**S**	**02 56 49.7**	**+0.3**
HHC				*s*S	**sS**	**02 57 06.4**	**+4.5**
HHC				SS	**SS**	**02 59 45.7**	**-5.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,6.0s						
HHC				LR	LR		
	comp=N,140nm,15.7s						
HHC				LR	LR		
	comp=E,230nm,15.5s						
BJT	**Baijiatuau**	**41.74**	**24**	*e*P	**P**	**02 50 46.5**	**-0.5**
	comp=E,31nm,0.8s						
BJI	**Beijing**	**41.76**	**24**	P	**P**	**02 50 46.7**	**-0.5**
BJI				*p*P	**pP**	**02 50 53.5**	**-1.3**
BJI				pmax	pmax		
	comp=Z,41nm,0.7s						
BJI				pmax	pmax		
	comp=Z,81nm,4.9s						
WMQ	**Urumqi**	**41.90**	**351**	*e*P	**P**	**02 50 47.8**	**-0.6**
WMQ				*p*P	pP	02 51 01.8	+5.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA	**Warramunga Arr**	**43.77**	**122**	P	**P**	**02 51 03.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=301,slow=9.2,SNR=14						
WRA	**Warramunga Arr**	**43.77**	**122**	P	**P**	**02 51 03.

*NEIC **07** 02:54:39.5±0.4,0.˝72S×133.˚27E,h35km,mb4.5/4,Error ellipse: s-maj=13.7km s-min=6.7km az=76.0*
*IDC **07** 02:54:39.2±3.7,0.˝72S×133.˚23E,h33km±27km,mb4.0/8, mb1 4.2/11,mb1mx4.0/22,mbtmp4.1/11,ML4.3/3,MS3.5/4, Ms1 3.5/4,ms1mx3.1/35,Error ellipse: s-maj=35.2km s-min=11.8km az=78.0*
*DJA **07** 02:54:40,0.˝72S×133.˚24E,h55km,MLv4.7/11*
ISC 07 02:54:38.7±0.7,0°68S±0.˚08×133°41E±0.˚08,h32km,n45, σ1§00/42,mb4.4/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.50**	**208**	P	**Pn**	**02 55 17.4**	**+0.2**
BAKI	**Biak**	**2.75**	**101**	P	**Pb**	**02 55 25.5**	**-1.6**
TLE	**Tual**	**4.97**	**188**	P	Pn	02 55 56.3	+5.2
MSAI	**Masohi**	**5.20**	**239**	P	**Pn**	**02 55 55.8**	**+1.5**
	68nm,0.8s,1μm,0.3nm						
LBMI	**Labuha**	**5.91**	**270**	P	Pb	02 56 13.8	-7.2
AAI	**Ambon**	**6.00**	**240**	P	**Pn**	**02 56 04.7**	**-0.7**
	286nm,0.6s,0.9nm						
NLAI	**Namlea**	**6.80**	**248**	P	**Pn**	**02 56 15.1**	**-1.2**
	156nm,0.5s,1μm0.5nm						
LUWI	**Luwuk**	**10.64**	**268**	P	**Pn**	**02 57 08.3**	**-0.7**
	55nm,1.3s						
BKSI	**Bulukumba**	**14.04**	**251**	P	Pn	02 57 58.1	+2.6
	29nm,1.2s						
KAPI	**Kappang**	**14.30**	**252**	Pn	**Pn**	**02 57 58.8**	**-0.3**
	1.5nm,0.3s,baz=97,slow=7.1,SNR=12						
KAPI	**Kappang**	**14.30**	**252**	Pn	**Pn**	**02 57 58.8**	**-0.3**
KAPI	**Kappang**	**14.30**	**252**	P	**Pn**	**02 58 00.5**	**+1.4**
GUMO	**Guam**	**18.17**	**38**	LR	LR	03 05 16.4	
	comp=Z,123nm,19.4s,baz=130,slow=35						
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P	**P**	**02 58 54.4**	**-2.5**
	1.0nm,0.3s,baz=41,slow=12,SNR=17						
FITZ				S	Sn	03 02 12.0	-17
	0.7nm,0.3s,baz=175,slow=14,SNR=6.3						
FITZ				LR	LR	03 07 20.3	
	comp=Z,100nm,19.4s,baz=359,slow=40						
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P	**P**	**02 58 54.4**	**-2.5**
FITZ				S	Sn	03 02 12.0	-17
WRAB	**Tennant Creek**	**19.15**	**177**	*eP*	**Pn**	**02 58 59.9**	**-0.7**
	16nm,0.8s						
WB2	**Warramunga Arr**	**19.16**	**177**	*eP*	**Pn**	**02 58 59.9**	**-0.8**
WRA	**Warramunga Arr**	**19.16**	**177**	P	**P**	**02 58 59.1**	**-0.5**
	0.9nm,0.3s,baz=357,slow=12,SNR=37						
WRA				S	Sn	03 02 19.9	-15
	0.2nm,0.3s,baz=349,slow=24,SNR=4.4						
WRA	**Warramunga Arr**	**19.16**	**177**	P	**P**	**02 58 59.1**	**-0.5**
WRA				S	Sn	03 02 19.9	-15
AS31	**Alice Springs**	**22.85**	**179**	*eP*	**P**	**02 59 40.0**	**+0.6**
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**02 59 39.4**	**-0.1**
	6.9nm,0.5s,baz=358,slow=10,SNR=49						
ASAR				S	**S**	**03 03 47.7**	**+0.6**
	1.8nm,0.8s,baz=356,slow=21,SNR=7.3						
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**02 59 39.4**	**-0.1**
ASAR				S	**S**	**03 03 47.6**	**+0.6**
CTA	**Charters Tower**	**23.02**	**148**	P	**P**	**02 59 43.5**	**+2.3**
	2.2nm,0.4s,baz=347,slow=10,SNR=3.6						
CTA	**Charters Tower**	**23.02**	**148**	P	**P**	**02 59 43.5**	**+2.3**
MBWA	**Marble Bar**	**24.34**	**212**	*eP*	**P**	**02 59 53.6**	**-0.2**
	16nm,1.0s						
JOW	**Kunigami**	**27.80**	**350**	LR	LR	03 10 08.9	
	comp=Z,120nm,19.4s,baz=98,slow=33						
STKA	**Stephens Creek**	**31.98**	**167**	P	**P**	**03 01 02.5**	**+0.5**
	3.6nm,0.6s,baz=331,slow=9.2,SNR=13						
STKA				LR	LR	03 15 53.4	
	comp=Z,97nm,18.2s,baz=360,slow=40						
STKA	**Stephens Creek**	**31.98**	**167**	P	**P**	**03 01 02.5**	**+0.5**
MK31	**Makanchi Array**	**65.00**	**324**	*eP*	**P**	**03 05 16.1**	**+0.4**
MKAR	**Makanchi Array**	**65.00**	**324**	P	**P**	**03 05 16.2**	**+0.5**
	2.0nm,0.6s,baz=111,slow=8.5,SNR=17						
MKAR	**Makanchi Array**	**65.00**	**324**	P	**P**	**03 05 16.2**	**+0.5**
ZALV	**Zalesovo Beam**	**67.58**	**331**	P	**P**	**03 05 31.8**	**-0.2**
	1.0nm,0.8s,baz=113,slow=3.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**67.58**	**331**	P	**P**	**03 05 31.8**	**-0.2**
EKS2	**Erkin-Say**	**68.60**	**317**	*eP*	**P**	**03 05 39.2**	**+0.4**
	4.2nm,1.0s						
KURK	**Kurchatov**	**69.06**	**326**	P	**P**	**03 05 41.1**	**-0.3**
	4.0nm,0.8s,baz=121,slow=5.7,SNR=16						
KURK	**Kurchatov**	**69.06**	**326**	*eP*	**P**	**03 05 41.4**	**0.0**
	9.9nm,1.2s						
BVAR	**Borovoye Array**	**74.66**	**326**	P	**P**	**03 06 14.8**	**-0.2**
	0.8nm,0.5s,baz=110,slow=7.8,SNR=5.8						
BVAR	**Borovoye Array**	**74.66**	**326**	P	**P**	**03 06 14.8**	**-0.2**
ABKAR	**Akbulak array**	**79.78**	**320**	*eP*	**P**	**03 06 43.4**	**-0.4**
	3.0nm,0.9s						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**03 07 16.9**	**+0.2**
	1.1nm,0.8s,baz=251,slow=4.9,SNR=16						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**03 07 16.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**130.60**	**287**	PKP	**PKPdf**	**03 13 47.4**	**-0.1**
	0.2nm,0.6s,baz=58,slow=1.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**130.60**	**287**	PKP	**PKPdf**	**03 13 47.4**	**-0.1**
CPUP	**Villa Florida**	**151.21**	**160**	PKPbc	**PKPbc**	**03 14 30.6**	**+0.9**
	1.2nm,0.8s,baz=181,slow=7.3,SNR=3.0						
CPUP	**Villa Florida**	**151.21**	**160**	PKPbc	**PKPbc**	**03 14 30.6**	**+0.9**

*IDC **07** 02:57:48.1±0.7,31.˝97N×104.˚28E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.8/29,mbtmp3.9/13,ML3.4/1,Error ellipse: s-maj=33.9km s-min=15.2km az=55.0*
*ISCJB **07** 02:57:49.1±0.4,32.˚03N±0.˚03×104.˚49E±0.˚06,h15km, mb4.0/14,Error ellipse: s-maj=7.9km s-min=4.6km az=10.7*
*NEIC **07** 02:57:49.8±0.5,31.˝95N×104.˚21E,h10km,mb4.1/3,Error ellipse: s-maj=15.8km s-min=8.5km az=223.0*
*BJI **07** 02:57:52.1,32.˚05N×104.˚57E,h15km,ML3.7/14*
ISC 07 02:57:51.0±0.5,32°08N±0.˚03×104°45E±0.˚06,h15km,n36, σ1§61/44,mb4.0/14,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.31**	**207**	Pg	**Pg**	**02 58 15.5**	**-0.7**
CD2				Sg	**Sg**	**02 58 34.4**	**+1.1**
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,4μm,0.7s						
LZH	**Lanzhou**	**4.03**	**353**	Pn	**Pn**	**02 58 54.9**	**+2.7**
LZH				Pg	**Pg**	**02 59 06.0**	**-2.1**
LZH				Sn	**Sn**	**02 59 41.6**	**+2.4**
LZH				Sg	**Sg**	**02 59 59.5**	**-0.8**
LZH				smax	smax		
	comp=N,260nm,0.8s						
LZH				smax	smax		
	comp=E,350nm,1.0s						
XAN	**Xi'an**	**4.23**	**61**	Pn	**Pn**	**02 58 56.8**	**+1.9**
XAN				Pg	**Pb**	**02 59 08.0**	**+2.9**
XAN				Sn	**Sn**	**02 59 40.1**	**-3.9**
XAN				smax	smax		
	comp=N,210nm,0.8s						
XAN				smax	smax		
	comp=E,100nm,0.8s						
ENH	**Enshi**	**4.67**	**111**	*e*Pn	**Pn**	**02 59 04.2**	**+3.1**
GYA	**Guiyang**	**5.93**	**160**	Pn	**Pn**	**02 59 21.3**	**+3.0**
GYA				Sn	**Sn**	**03 00 25.2**	**-0.9**
GYA				Sg	**Sg**	**03 00 58.8**	**-2.5**
GYA				smax	smax		
	comp=N,90nm,0.6s						
GYA				smax	smax		
	comp=E,120nm,0.7s						
GTA	**Gaotai**	**8.23**	**334**	*eP*	**Pb**	**03 00 12.5**	**-0.7**
GTA				pP	pP	03 00 16.9	
GTA				sP		03 00 19.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**10.45**	**31**	*eP*	**Pn**	**03 00 21.6**	**+1.3**
HHC				PP		03 00 29.7	
HHC				S	**Sn**	**03 02 20.3**	**+3.1**
HHC				SS		03 02 32.7	
SONM	**Songino Array**	**15.80**	**5**	Pn	**Pn**	**03 01 34.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=2.5						
SONM	**Songino Array**	**15.80**	**5**	Pn	**Pn**	**03 01 34.1**	**+1.1**
KSAR	**Wonju Array Be**	**19.96**	**68**	P	**Pn**	**03 02 24.4**	**+0.1**
KSRS	**Korea Array**	**19.99**	**68**	P	Pn	03 02 24.4	-0.3
	comp=Z,1.0nm,0.7s,baz=247,slow=6.9,SNR=3.0						
MKAR	**Makanchi Array**	**22.45**	**317**	P	**P**	**03 02 49.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=121,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**22.45**	**317**	P	**P**	**03 02 49.6**	**+0.3**
TKM2	**Tokmak 2**	**25.20**	**304**	*eP*	**P**	**03 03 13.5**	**-2.8**
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**25.98**	**333**	P	**P**	**03 03 22.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=127,slow=9.7,SNR=10						
ZALV	**Zalesovo Beam**	**25.98**	**333**	P	**P**	**03 03 22.7**	**-0.1**
EKS2	**Erkin-Say**	**26.43**	**302**	*eP*	**P**	**03 03 28.2**	**+0.9**
	comp=Z,2.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.87**	**155**	P	**P**	**03 07 12.6**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=27,slow=9.0,SNR=2.6						
FITZ	**Fitzroy Crossi**	**53.87**	**155**	P	**P**	**03 07 12.6**	**-1.0**
FINES	**FINESS Array B**	**56.92**	**326**	P	**P**	**03 07 34.5**	**-0.6**
	comp=Z,6.8nm,1.1s,baz=120,slow=13,SNR=3.1						
FINES	**FINESS Array B**	**56.92**	**326**	P	**P**	**03 07 34.5**	**-0.6**
WRAB	**Tennant Creek**	**59.12**	**147**	*eP*	**P**	**03 07 49.9**	**-1.2**
	comp=Z,3.3nm,0.7s						
WRA	**Warramunga Arr**	**59.12**	**147**	P	**P**	**03 07 50.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=340,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**59.12**	**147**	P	**P**	**03 07 50.6**	**-0.4**
ASAR	**Alice Springs**	**62.17**	**149**	P	**P**	**03 08 11.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=314,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**62.17**	**149**	P	**P**	**03 08 11.4**	**-0.4**
HFS	**Hagfors**	**63.13**	**326**	P	**P**	**03 08 17.6**	**-0.2**
	comp=Z,12nm,1.1s,baz=101,slow=7.8,SNR=2.7						
HFS	**Hagfors**	**63.13**	**326**	P	**P**	**03 08 17.6**	**-0.2**
GERES	**GERESS Array B**	**67.08**	**314**	P	**P**	**03 08 43.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=37,slow=9.0,SNR=4.5						
GERES	**GERESS Array B**	**67.08**	**314**	P	**P**	**03 08 43.6**	**-0.2**
DAVOX	**Davos/Dischmat**	**70.28**	**313**	P	**P**	**03 09 02.6**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=33,slow=6.3,SNR=5.9						
DAVOX	**Davos/Dischmat**	**70.28**	**313**	P	**P**	**03 09 02.6**	**-1.3**
YKA	**Yellowknife Ar**	**80.67**	**17**	P	**P**	**03 10 02.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=326,slow=4.7,SNR=6.0						
YKA	**Yellowknife Ar**	**80.67**	**17**	P	**P**	**03 10 02.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**93.62**	**288**	P	**P**	**03 11 06.0**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=50,slow=4.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**93.62**	**288**	P	**P**	**03 11 06.0**	**-1.2**

*ISCJB **07** 03:18:22.8±0.5,6.˚75N±0.˚05×72.˚87W±0.˚05,h175km±5km, mb3.7/10,Error ellipse: s-maj=9.8km s-min=6.0km az=142.1*
*IDC **07** 03:18:22.9±1.9,6.˚68N×72.˚87W,h166km±18km,mb3.5/9, mb1 3.7/11,mb1mx3.5/23,mbtmp3.5/11,MS3.9/1, Ms1 3.9/1,ms1mx2.8/29,Error ellipse: s-maj=25.9km s-min=17.1km az=61.0*
*NEIC **07** 03:18:23.5±0.6,6.˚70N×72.˚86W,h174km±6km,mb4.0/6, Error ellipse: s-maj=10.5km s-min=8.2km az=133.0*
*FUNV **07** 03:18:24.4,6.˚84N×73.˚06W,h167km,MW3.6*
ISC 07 03:18:23.6±0.7,6°78N±0.˚06×72°90W±0.˚07,h168km±7km, n58,σ0§87/62,mb3.8/10,10C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**28**	*i*P	**Pn**	**03 18 52.6**	**+0.4**
CAPV				*e*S	**Sn**	**03 19 13.2**	**-1.2**
ROSC	**El Rosal**	**2.38**	**217**	P	**Pn**	**03 19 04.6**	**0.0**
	108nm,0.3s,baz=2.8,slow=2.9,SNR=281						
ROSC				S	**Sn**	**03 19 34.3**	**-2.2**
	119nm,0.3s,baz=85,slow=20,SNR=8.0						
ROSC	**El Rosal**	**2.38**	**217**	*e*Pn	**Pn**	**03 19 04.3**	**-0.3**
ROSC				*e*Sn	**Sn**	**03 19 36.2**	**-0.2**
SOCV	**Socops**	**2.52**	**53**	*i*P	**Pn**	**03 19 07.2**	**+1.3**
SOCV				*e*S	**Sn**	**03 19 38.6**	**-0.1**
VIGV	**El Vigia**	**2.55**	**36**	*e*S	**Sn**	**03 19 37.7**	**-1.7**
SDV	**Santo Domingo**	**3.07**	**47**	*e*Pn	**Pn**	**03 19 13.6**	**+0.8**
SDV				*e*Sn	**Sn**	**03 19 50.6**	**-0.4**
ELOV	**Elorza**	**3.40**	**86**	*e*P	**Pn**	**03 19 18.6**	**+1.9**
VIRV	**Villa del Rosa**	**3.73**	**7**	*e*P	**Pn**	**03 19 19.4**	**-1.6**
VIRV				*e*S	Sn	03 20 00.9	-4.8
SANV	**Sanarito**	**4.29**	**51**	*i*P	**Pn**	**03 19 28.7**	**+0.5**
CURV	**Curarigua**	**4.33**	**42**	*i*P	**Pn**	**03 19 29.2**	**+0.4**
DABV	**Dabajuro**	**4.69**	**28**	*e*P	**Pn**	**03 19 33.3**	**+0.1**
TEPV	**Terepaima**	**4.84**	**49**	*i*P	**Pn**	**03 19 36.0**	**+0.7**
SIQV	**Siquisique**	**4.91**	**38**	*i*P	**Pn**	**03 19 36.3**	**0.0**
BAUV	**El Baul**	**5.27**	**66**	*i*P	**Pn**	**03 19 40.7**	**-0.2**
MAPV	**Macapo**	**5.34**	**55**	*i*P	**Pn**	**03 19 42.5**	**+0.7**
JACV	**Jacura**	**5.87**	**43**	*e*P	**Pn**	**03 19 48.7**	**-0.2**
IMOV	**Isla Los Monje**	**5.88**	**19**	*e*P	**Pn**	**03 19 48.3**	**-0.7**
MONV	**Montecano**	**5.90**	**29**	*e*P	**Pn**	**03 19 48.4**	**-0.8**
TURV	**Turiamo**	**6.19**	**54**	*e*P	**Pn**	**03 19 53.3**	**+0.3**
MERV	**Las Mercedes**	**6.98**	**69**	*i*P	**Pn**	**03 20 03.2**	**-0.4**
BIRV	**Birongo**	**7.51**	**60**	*e*P	**Pn**	**03 20 10.1**	**-0.5**
CUPV	**Cœpira**	**7.75**	**65**	*e*P	**Pn**	**03 20 13.5**	**-0.3**
OTAV	**Otavalo**	**8.54**	**221**	*e*Pn	**Pn**	**03 20 23.7**	**-0.8**
	4.1nm,0.7s						
YHJ	**Yallahs**	**11.59**	**343**	*i*P	**Pn**	**03 21 05.7**	**+1.6**
PCJ	**Portland Cotta**	**11.66**	**340**	*i*P	**Pn**	**03 21 06.5**	**+1.4**
GWJ	**Greenwich**	**11.83**	**342**	*i*P	**Pn**	**03 21 09.1**	**+1.8**
STH	**Stony Hill**	**11.86**	**342**	*i*P	**Pn**	**03 21 08.1**	**+0.5**
BNJ	**Bonny Gate**	**12.13**	**341**	*i*P	**Pn**	**03 21 12.1**	**+1.0**
BBJ	**Bamboo Saint A**	**12.29**	**340**	*i*P	**Pn**	**03 21 15.3**	**+2.0**
JTS	**JuntasAbangare**	**12.42**	**287**	P	**Pn**	**03 21 15.1**	**+0.3**
	0.5nm,0.3s,baz=331,slow=17,SNR=3.6						
JTS	**JuntasAbangare**	**12.42**	**287**	*e*Pn	**Pn**	**03 21 16.3**	**+1.4**
TEIG	**Tepich**	**20.03**	**313**	P	**P**	**03 22 44.2**	**+0.6**
	7.9nm,0.5s,baz=170,slow=9.3,SNR=7.6						
TEIG	**Tepich**	**20.03**	**313**	*e*P	**P**	**03 22 43.9**	**+0.3**
	7.7nm,0.5s						
MIAR	**Mount Ida**	**33.58**	**328**	*e*P	**P**	**03 24 46.8**	**-0.9**
	1.6nm,0.6s						
WMOK	**Wichita Mounta**	**36.65**	**323**	*e*P	**P**	**03 25 13.2**	**-0.8**
	1.7nm,0.6s						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**03 25 14.4**	**+0.2**
	1.1nm,0.6s,baz=128,slow=9.2,SNR=17						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**03 25 14.4**	**+0.2**
ULM	**Lac du Bonnet**	**47.40**	**340**	P	**P**	**03 26 40.3**	**-0.5**
	3.2nm,0.5s,baz=139,slow=5.2,SNR=6.5						
ULM	**Lac du Bonnet**	**47.40**	**340**	*e*P	**P**	**03 26 40.1**	**-0.7**
	3.0nm,0.6s						
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**03 26 47.5**	**+0.9**
	2.7nm,0.5s,baz=197,slow=11,SNR=6.3						
SCHQ	**Schefferville**	**48.16**	**5**	*e*P	**P**	**03 26 46.9**	**+0.3**
	3.7nm,0.6s						
PDAR	**Pinedale Array**	**48.24**	**324**	P	**P**	**03 26 47.9**	**+0.2**
	0.9nm,0.6s,baz=131,slow=9.3,SNR=7.9						
PDAR	**Pinedale Array**	**48.24**	**324**	P	**P**	**03 26 47.9**	**+0.2**
NVAR	**Mina Array Bea**	**51.67**	**315**	P	**P**	**03 27 14.1**	**+0.5**
	0.7nm,0.7s,baz=118,slow=8.0,SNR=6.7						
NVAR	**Mina Array Bea**	**51.67**	**315**	P	**P**	**03 27 14.1**	**+0.5**
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**03 28 34.8**	**+0.1**
	1.7nm,0.6s,baz=133,slow=6.7,SNR=53						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**03 28 34.8**	**+0.1**
INK	**Inuvik**	**73.14**	**340**	LR	LR	04 04 44.7	
	comp=Z,65nm,18.2s,baz=112,slow=38						
TORD	**Torodi Ar. Bea**	**73.53**	**78**	P	**P**	**03 29 38.0**	**-0.6**
	0.1nm,0.4s,baz=282,slow=7.0,SNR=7.3						
TORD				PKKPbc	PKKPbc	03 49 29.2	+17
	0.4nm,0.4s,baz=87,slow=2.2,SNR=22						
TORD	**Torodi Ar. Bea**	**73.53**	**78**	P	**P**	**03 29 38.0**	**-0.6**
TORD				PKKPbc	PKKPbc	03 49 29.2	+17
ILAR	**Eielson Array**	**77.09**	**335**	P	**P**	**03 29 58.3**	**+0.3**
	0.4nm,1.0s,baz=107,slow=4.5,SNR=3.7						
ILAR	**Eielson Array**	**77.09**	**335**	P	**P**	**03 29 58.3**	**+0.3**
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**03 36 58.3**	**-0.5**
	0.2nm,0.4s,baz=298,slow=3.3,SNR=4.8						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**03 36 58.3**	**-0.5**
ASAR	**Alice Springs**	**149.26**	**234**	PKPbc	**PKPbc**	**03 37 52.8**	**-0.4**
	0.3nm,0.4s,baz=108,slow=3.7,SNR=3.3						
ASAR	**Alice Springs**	**149.26**	**234**	PKPbc	**PKPbc**	**03 37 52.8**	**-0.4**
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	**PKPbc**	**03 37 55.6**	**-0.7**
	0.3nm,0.4s,baz=107,slow=2.7,SNR=13						
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	**PKPbc**	**03 37 55.6**	**-0.7**

*IDC **07** 03:21:42.2±0.8,6.˚53N×82.˚25W,h0km,mb3.8/8, mb1 4.3/11,mb1mx4.0/23,mbtmp4.0/11,ML4.2/3,MS3.8/12, Ms1 3.7/12,ms1mx3.4/40,Error ellipse: s-maj=44.1km s-min=14.5km az=60.0*
*CASC **07** 03:21:42.9±2.3,6.˚64N×82.˚17W,h5km,MD4.7, mb4.2(NEIC)*
*NEIC **07** 03:21:47.1±0.9,6.˚67N×81.˚95W,h35km±10km,mb4.2/4, Error ellipse: s-maj=17.1km s-min=6.6km az=60.0*
ISC 07 03:21:42.6±4.5,6°60N±0.˚05×82°10W±0.˚05,h1km±29km, n213,σ1§35/222,mb4.0/13,MS3.7/9,90C-77D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU	**Baru**	**2.24**	**348**	*e*P	Pn	03 22 12.3	-9.0
BRU2	**Volcan**	**2.26**	**345**	*e*P	**Pn**	**03 22 19.1**	**-2.2**
BRU2				*e*S	**Sn**	**03 22 48.4**	**-1.5**
ACR	**Cerro Adams**	**2.30**	**333**	*i*P	**Pn**	**03 22 18.9**	**-2.8**
ACR				*e*P	Pb	03 22 19.1	-5.8
PINA	**Piqa, Costa Ab**	**3.32**	**37**	*e*P	**Pn**	**03 22 36.1**	**+0.3**
BUS	**Buena Vista**	**3.36**	**331**	*e*P	**Pn**	**03 22 35.0**	**-1.8**
BUS				*e*P	Pb	03 22 35.5	-7.8
BUS				*e*S	**Sn**	**03 23 15.8**	**-1.8**
BCIP	**Isla Barro Col**	**3.40**	**41**	*e*Pn	**Pn**	**03 22 36.4**	**-0.4**
BCIP				*e*Sn	**Sn**	**03 23 14.1**	**-3.8**
BCIP	**Isla Barro Col**	**3.40**	**41**	*e*P	**Pn**	**03 22 36.6**	**-0.2**
BCIP				*e*S	**Sn**	**03 23 18.8**	**+0.9**
QCR	**Quepos**	**3.47**	**324**	*e*P	**Pn**	**03 22 35.0**	**-2.8**
QCR				*e*P	Pb	03 22 36.3	-8.6
UPIG		**3.48**	**47**	*e*P	**Pn**	**03 22 37.0**	**-1.0**
UPIG				*e*S	**Sn**	**03 23 20.6**	**+0.7**
URSC	**Urasca**	**3.62**	**333**	*e*P	**Pn**	**03 22 39.3**	**-0.7**
URSC				*e*S	**Sn**	**03 23 24.4**	**+0.9**
LAJ	**Bijagual**	**3.81**	**329**	*e*P	**Pn**	**03 22 41.2**	**-1.5**
SJS	**Escuela Geolog**	**3.84**	**330**	*e*P	**Pn**	**03 22 42.7**	**-0.4**
SJS				*e*S	**Sn**	**03 23 27.3**	**-1.7**
JCR	**Jicaral**	**4.39**	**318**	*e*P	**Pn**	**03 22 49.5**	**-1.1**
CASO	**Castillo**	**4.61**	**326**	*i*P	**Pn**	**03 22 54.1**	**+0.5**
CASO				*i*S	**Sn**	**03 23 53.6**	**+5.7**
JTS	**JuntasAbangare**	**4.63**	**323**	Pn	**Pn**	**03 22 52.6**	**-1.2**
	50nm,0.3s,baz=107,slow=4.8,SNR=165						
JTS					Sn	**Sn**	**03 23 46.6**	**-1.6**
	8.7nm,0.3s,baz=252,slow=23,SNR=4.7						
JTS					LR	LR	03 24 50.9	
	comp=Z,1μm,18.4s,baz=175,slow=41						
JTS	**JuntasAbangare**	**4.63**	**323**	Pn	**Pn**	**03 22 52.6**	**-1.2**
JTS					Sn	**Sn**	**03 23 46.6**	**-1.6**
AMAS	**Alto Masis**	**4.91**	**325**	*i*P	**Pn**	**03 22 57.8**	**+0.2**
GPS2	**Hotel Rinc˜‡n**	**5.23**	**322**	*i*P	**Pn**	**03 23 02.4**	**+0.3**
GPS3	**Bodega del ICE**	**5.24**	**322**	*i*P	**Pn**	**03 23 01.9**	**-0.3**
GPS1	**Guardaparques**	**5.25**	**323**	*i*P	**Pn**	**03 23 02.5**	**+0.2**
LAPC	**Finca la Perla**	**5.29**	**322**	*i*P	**Pn**	**03 23 02.4**	**-0.5**
OTAV	**Otavalo**	**7.29**	**150**	*e*Pn	**Pn**	**03 23 31.5**	**+0.7**
	9.2nm,0.7s						
OTAV					Sn	**Sn**	**03 24 53.2**	**-1.4**
TGUH	**Tegucigalpa,Un**	**8.99**	**326**	*e*Pn	**Pn**	**03 23 54.4**	**+0.8**
ATAH	**Atahualpa**	**14.14**	**165**	Pn	**Pn**	**03 25 05.8**	**+1.2**
	0.3nm,0.3s,baz=51,slow=8.0,SNR=7.0						
ATAH					LR	LR	03 29 57.1	
	comp=Z,953nm,18.6s,baz=345,slow=35						
ATAH	**Atahualpa**	**14.14**	**165**	Pn	**Pn**	**03 25 05.8**	**+1.2**
CMIG	**Matias Romero**	**16.27**	**311**	Pn	**P**	**03 25 35.2**	**-0.5**
	0.2nm,0.3s,baz=112,slow=11,SNR=5.3						
CMIG					LR	LR	03 31 20.1	
	comp=Z,266nm,20.6s,baz=3.7,slow=36						
CMIG	**Matias Romero**	**16.27**	**311**	Pn	**P**	**03 25 35.2**	**-0.5**
NNA	**Nana**	**19.19**	**164**	P	**P**	**03 26 08.3**	**+0.3**
	0.6nm,0.3s,baz=347,slow=11,SNR=8.6						
NNA	**Nana**	**19.19**	**164**	*eP*	**P**	**03 26 07.1**	**-0.9**
	24nm,1.2s						
PTP	**Ponta Puerca**	**19.80**	**53**	*eP*	x	03 22 11.8	
SAML	**Samuel**	**24.38**	**129**	*eP*	**P**	**03 27 00.7**	**-1.9**
	13nm,1.2s						
LPAZ	**La Paz**	**26.61**	**149**	LR	LR	03 39 23.1	
	comp=Z,192nm,20.5s,baz=70,slow=40						
TKL	**Tuckaleechee C**	**28.96**	**357**	LR	LR	03 38 37.8	
	comp=Z,192nm,20.9s,baz=191,slow=35						
628A	**Black Gap, Mar**	**30.04**	**322**

S20A	Disappointment baz=39	39.18 326	⇓P	P	03 29 13.6	+1.0
T18A	Mexican Hat baz=40	39.55 324	⇓P	P	03 29 17.1	+1.6
S19A	Harvey Farm, M baz=40	39.55 326	⇓P	P	03 29 17.1	+1.4
Q20A	Ridgley Place, baz=40	39.95 328	⇑P	P	03 29 20.1	+1.2
S18A	Hurst Farm, Bl baz=40	40.00 325	⇓P	P	03 29 21.2	+1.7
R19A	Curley Farm, L baz=40	40.00 326	⇑P	P	03 29 20.8	+1.3
CFAA	Coronel Fontan 0.1nm,0.4s,baz=256,slow=18,SNR=3.8	40.23 162	P	P	03 29 20.4	-0.7
CFAA	Coronel Fontan	40.23 162	P	P	03 29 20.4	-0.7
R18A	Canyonlands Na baz=40	40.42 326	⇑P	P	03 29 23.4	+0.6
PDMCI	Parker Dam,Lak baz=40	40.43 317	⇓P	P	03 29 25.6	+2.9
S17A	Black Ridge (B baz=40	40.43 324	⇓P	P	03 29 24.8	+2.0
Q19A	Hogan Spring (baz=41	40.48 327	⇑P	P	03 29 24.7	+1.5
U15A	North Rim baz=41	40.53 321	⇑P	P	03 29 26.4	+2.5
CPUP	Villa Florida comp=Z,149nm,18.5s,baz=180,slow=39	40.61 145	LR	LR	03 47 59.6	
W13A	Hualapai Mount baz=41	40.73 319	⇑P	P	03 29 27.8	+2.3
O20A	White River Ci baz=41	40.80 329	⇑P	P	03 29 26.8	+0.9
R17A	Hanksville Air baz=41,SNR=9.5	40.91 325	⇑P	P	03 29 28.3	+1.5
S16A	Weppner Ranch, baz=41	40.95 323	⇑P	P	03 29 29.0	+1.8
Q18A	Rafter H Ranch baz=41,SNR=5.3	41.06 326	⇓P	P	03 29 29.4	+1.4
N20A	Spence Gulch, baz=41	41.33 330	⇑P	P	03 29 31.2	+0.9
Q16A	Castle Valley baz=42	41.51 325	⇓P	P	03 29 33.6	+1.7
O18A	Roosevelt baz=42	41.81 328	⇑P	P	03 29 35.5	+1.2
O16A	Springville baz=43	42.59 326	⇑P	P	03 29 41.9	+1.3
H24A	Dirks Ranch, A baz=43	42.75 336	⇓P	P	03 29 41.6	-0.1
SHOC	Shoshone baz=43	42.78 318	⇓P	P	03 29 44.0	+1.9
GSC	Goldstone baz=43	42.80 317	⇓P	P	03 29 45.1	+2.8
M17A	Scullys Gap (B baz=43	43.03 328	⇓P	P	03 29 44.5	+0.3
K19A	Absolon Red Bu baz=43	43.11 331	⇑P	P	03 29 45.2	+0.4
I21A	Big Trails, Te baz=43	43.15 333	⇓P	P	03 29 44.7	-0.4
DUG	Dugway baz=43	43.31 325	⇓P	P	03 29 48.5	+2.1
EDW2	Edwards Air Fo baz=44	43.39 315	⇑P	P	03 29 49.5	+2.5
BW06	Boulder Array baz=44	43.41 330	⇑P	P	03 29 47.7	+0.4
BW06	baz=44		⇑P	P	03 29 47.7	+0.4
PDAR	Pinedale Array 0.5nm,0.8s,baz=145,slow=8.7,SNR=4.7	43.41 330	P	P	03 29 47.0	-0.4
PDAR	comp=Z,85nm,21.4s,baz=323,slow=37		LR	LR	03 48 42.1	
PDAR	Pinedale Array	43.41 330	P	P	03 29 47.0	-0.4
K18A	Toltan Ranch, baz=44	43.56 330	⇓P	P	03 29 49.2	+0.7
L17A	Cokeville baz=44	43.59 329	⇑P	P	03 29 49.3	+0.7
F24A	Ekalaka baz=44	43.62 337	⇑P	P	03 29 48.8	0.0
MDND	Maddock baz=44	43.73 343	⇑P	P	03 29 48.9	-0.6
R11A	Troy Canyon, C baz=44	43.78 321	⇑P	P	03 29 52.1	+1.9
F23A	Volborg baz=44	43.89 336	⇓P	P	03 29 50.8	-0.1
M15A	Larsen Ranch, baz=44,SNR=5.1	43.97 327	⇑P	P	03 29 52.6	+0.9
ARVC	Arvin baz=44	44.10 315	⇑P	P	03 29 55.8	+3.1
GRAC	Grapevine Rang baz=44	44.13 318	⇑P	P	03 29 55.2	+2.3
ISA	Isabella baz=44	44.14 316	⇑P	P	03 29 54.8	+1.7
L15A	Malad City baz=44,SNR=5.5	44.31 327	⇑P	P	03 29 54.7	+0.2
J17A	Brown Place, J baz=44	44.42 330	⇑P	P	03 29 56.3	+0.9
D24A	Glendive baz=45	44.64 338	⇓P	P	03 29 57.2	+0.3
G20A	Bridger baz=45	44.66 334	⇓P	P	03 29 57.6	+0.4
E22A	Miles City baz=45	44.70 337	⇓P	P	03 29 57.3	0.0
L14A	Malta baz=45	44.79 327	⇑P	P	03 29 58.8	+0.5
K15A	Arbon baz=45	44.87 328	⇑P	P	03 29 59.6	+0.7
ULM	Lac du Bonnet 6.8nm,1.0s,baz=153,slow=7.0,SNR=5.4	45.01 348	P	P	03 29 57.7	-2.0
ULM	comp=Z,67nm,18.8s,baz=194,slow=39		LR	LR	03 51 18.5	
ULM	Lac du Bonnet	45.01 348	P	P	03 29 57.7	-2.0
D23A	Lindsay baz=45	45.02 338	⇑P	P	03 30 00.2	+0.3
RLMT	Red Lodge baz=45	45.06 333	⇓P	P	03 30 00.3	-0.1
RLMT	baz=45		⇓P	P	03 30 00.3	-0.1
K14A	Jones Ranch, D baz=45,SNR=7.8	45.11 327	⇑P	P	03 30 01.4	+0.6
J15A	Blackfoot baz=45	45.32 329	⇑P	P	03 30 03.3	+0.9
D22A	Cohagen baz=46	45.37 337	⇓P	P	03 30 03.2	+0.5
F19A	Roth Farm, Mol baz=46	45.48 334	⇑P	P	03 30 03.9	+0.3
C23A	Lambert baz=46	45.54 338	⇑P	P	03 30 04.3	+0.3
NVAR	Mina Array Bea 0.6nm,0.7s,baz=131,slow=5.6,SNR=6.4	45.55 319	P	P	03 30 05.2	+0.8
NVAR	comp=Z,101nm,18.0s,baz=233,slow=38		LR	LR	03 50 16.1	
NVAR	Mina Array Bea	45.55 319	P	P	03 30 05.2	+0.8
D21A	La Casta Ranch baz=46	45.62 336	⇓P	P	03 30 05.1	+0.4
E20A	Meyer Farm, Mu baz=46	45.64 335	⇓P	P	03 30 05.1	+0.3
H16A	Russell Place, baz=46	45.67 331	⇓P	P	03 30 06.5	+1.2
DGMT	Dagmar baz=46	45.75 340	⇓P	P	03 30 05.7	0.0
C22A	Vida baz=46	45.75 338	⇑P	P	03 30 06.3	+0.6
I15A	Monteview baz=46	45.77 329	⇑P	P	03 30 07.0	+1.0
J14A	Carey baz=46	45.83 328	⇑P	P	03 30 07.8	+1.2
F18A	Big Timber baz=46	45.86 333	⇑P	P	03 30 07.0	+0.4
B23A	Brockton baz=46	46.02 339	⇑P	P	03 30 08.5	+0.7
A24A	Westby baz=46	46.07 340	⇓P	P	03 30 08.7	+0.5
D20A	Manuel Ranch, baz=46	46.11 335	⇓P	P	03 30 09.2	+0.6
I14A	Mackay baz=46	46.22 329	⇑P	P	03 30 10.8	+1.2
J13A	Cove Ranch, Pi baz=46	46.23 328	⇑P	P	03 30 10.6	+0.9
H15A	Lima baz=46,SNR=9.1	46.29 330	⇑P	P	03 30 11.8	+1.6
G16A	Moss Hill, Enn baz=46	46.32 331	⇓P	P	03 30 11.8	+1.4
E18A	Harlowton baz=47	46.46 334	⇑P	P	03 30 12.2	+0.8
HLID	Hailey baz=47	46.47 328	⇓P	P	03 30 12.7	+1.1
D19A	Cripps Ranch, baz=47	46.48 335	⇓P	P	03 30 12.1	+0.6
I13A	Wildhorse Cree baz=47,SNR=6.0	46.55 328	⇑P	P	03 30 13.6	+1.3
G15A	Dillon baz=47	46.61 331	⇑P	P	03 30 14.0	+1.3
F16A	Kennard Place, baz=47	46.65 332	⇑P	P	03 30 13.9	+1.0
H14A	Leadore baz=47,SNR=5.4	46.66 329	⇑P	P	03 30 14.0	+1.0
E17A	Martinsdale baz=47	46.80 333	⇓P	P	03 30 14.7	+0.6
A22A	Carney Farms, baz=47	46.80 339	⇓P	P	03 30 14.0	+0.1
D18A	Linhart Farms, baz=47	46.89 334	⇓P	P	03 30 15.6	+0.8
C19A	Slack Wire Ran baz=47	47.00 335	⇓P	P	03 30 16.0	+0.5
I12A	Atlanta baz=47	47.01 327	⇓P	P	03 30 16.8	+1.0
H13A	Challis baz=47	47.07 329	⇑P	P	03 30 17.0	+0.8
F15A	Butte baz=47	47.10 331	⇓P	P	03 30 17.1	+0.6
MFID	Camas Ranch baz=47	47.13 326	⇑P	P	03 30 17.7	+1.0
B20A	Solberg Farm, baz=47	47.14 337	⇑P	P	03 30 17.2	+0.6
A21A	Bergtoll Ranch baz=47	47.17 338	⇓P	P	03 30 17.5	+0.6
E16A	East Helena baz=47	47.23 332	⇓P	P	03 30 18.0	+0.6
D17A	Six Diamond Ra baz=47	47.25 334	⇑P	P	03 30 17.9	+0.3
H12A	Diamond D Ranc baz=48	47.37 328	⇓P	P	03 30 19.7	+1.0
G13A	Cobalt baz=48	47.43 329	⇓P	P	03 30 19.5	+0.5
A20A	Cobblestone Ra baz=48	47.46 337	⇓P	P	03 30 19.3	+0.2
EGMT	Eagleton baz=48	47.52 335	⇓P	P	03 30 20.0	+0.4
B19A	Brinkman Farms baz=48	47.52 336	⇓P	P	03 30 20.1	+0.5
E15A	Deer Lodge baz=48	47.60 332	⇓P	P	03 30 20.7	+0.4
C17A	Wharram Farm, baz=48	47.65 334	⇓P	P	03 30 21.1	+0.5
B18A	Beardsley Farm baz=48	47.82 335	⇑P	P	03 30 22.2	+0.3
F13A	Darby baz=48	47.97 330	⇑P	P	03 30 23.7	+0.6
D15A	Lincoln baz=48	47.99 332	⇓P	P	03 30 23.6	+0.2
WVOR	Wild Horse Val 10nm,1.3s	48.11 324	eP	P	03 30 24.2	-0.1
A18A	Metzger Ranch, baz=48	48.26 336	⇑P	P	03 30 25.3	+0.1
E13A	Victor baz=48	48.35 331	⇓P	P	03 30 26.8	+0.7
D14A	Greenough baz=49	48.48 332	⇑P	P	03 30 27.6	+0.4
C15A	Salmond Ranch, baz=49	48.58 333	⇑P	P	03 30 28.0	+0.2
A17A	Triple J Farms baz=49	48.63 335	⇑P	P	03 30 28.6	+0.5
D13A	Huson baz=49	48.95 331	⇑P	P	03 30 31.2	+0.6
B15A	Bradely Ranch, baz=49	48.95 333	⇑P	P	03 30 31.0	+0.3
A16A	West Butte Ran baz=49	49.01 335	⇓P	P	03 30 31.6	+0.4
B14A	Marquette Ranc baz=49	49.31 333	⇓P	P	03 30 34.2	+0.7
A15A	Johnson Ranch, baz=50	49.53 334	⇑P	P	03 30 35.6	+0.5
C12B	Naegeli Ranch, baz=50	49.87 331	⇓P	P	03 30 38.2	+0.6
YKA	Yellowknife Ar 2.3nm,1.0s,baz=134,slow=7.0,SNR=20	60.65 343	P	P	03 31 54.2	-0.9
YKA	comp=Z,7.3nm,19.1s,baz=0.0,slow=38		LR	LR	04 00 08.3	
YKA	Yellowknife Ar	60.65 343	P	P	03 31 54.2	-0.9
ILAR	Eielson Array 2.5nm,1.0s,baz=111,slow=4.0,SNR=16	73.47 336	P	P	03 33 16.1	-0.5
ILAR	Eielson Array	73.47 336	P	P	03 33 16.1	-0.5
ESDC	Sonseca Array 0.5nm,0.6s,baz=275,slow=6.1,SNR=3.2	76.69 51	P	P	03 33 38.3	+2.4
ESDC	Sonseca Array	76.69 51	P	P	03 33 38.3	+2.4
SPITS	Spitsbergen Ar comp=Z,66nm,18.7s,baz=195,slow=36	85.32 12	LR	LR	04 12 34.9	

IDC 07 03:22:05.1±2.6,0.56N×131.51E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.5/18,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=126.6km s-min=24.4km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=29,slow=16,SNR=3.6	18.36 198		P	Pn	03 26 21.1	-0.3
WRA	Warramunga Arr 0.1nm,0.3s,baz=353,slow=11,SNR=7.9	19.46 172		P	P	03 26 33.6	0.0
ASAR	Alice Springs 3.1nm,0.8s,baz=352,slow=9.2,SNR=21	23.09 174		P	P	03 27 12.7	0.0
MKAR	Makanchi Array 0.3nm,0.3s,baz=112,slow=8.0,SNR=7.8	63.78 325		P	P	03 32 39.1	0.0

DJA 07 03:24:21.0±01S×131.91E,h136km,MLv4.0/4
IDC 07 03:24:06.7±2.1,0.20S×133.53E,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.7/18,mbtmp3.8/5,ML3.8/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/37,Error ellipse: s-maj=82.6km s-min=26.4km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=45,slow=11,SNR=13	19.41 203		P	P	03 28 34.4	-0.2
WRA	Warramunga Arr 0.2nm,0.3s,baz=356,slow=11,SNR=14	19.64 178		P	P	03 28 37.7	+0.5
ASAR	Alice Springs 4.6nm,0.9s,baz=5.7,slow=9.0,SNR=16	23.33 179		P	P	03 29 17.1	+0.3
CTA	Charters Tower comp=Z,67nm,19.6s,baz=235,slow=38	23.36 149		LR	LR	03 39 02.4	
STKA	Stephens Creek 1.5nm,0.7s,baz=342,slow=6.4,SNR=3.6	32.42 167		P	P	03 30 37.6	-0.9
MKAR	Makanchi Array 0.5nm,0.9s,baz=123,slow=7.1,SNR=3.5	64.68 324		P	P	03 34 46.9	+0.2

BJI 07 03:43:00.2,1.17N×127.65E,h91km,mB5.2/32,mb5.4/55
MOS 07 03:43:05.9±0.9,1.84N×127.27E,h90km,mb5.3/37,Error ellipse: s-maj=11.5km s-min=5.6km az=110.2
NEIC 07 03:43:07.7±0.6,1.79N×127.32E,h96km±5km,mb5.2/57, Error ellipse: s-maj=5.7km s-min=3.1km az=72.0
ISCJB 07 03:43:07.5±0.4,1.84N±0.02×127.38E±0.03,h107km±3km, mb5.2/127,Error ellipse: s-maj=5.6km s-min=3.2km az=166.1
IDC 07 03:43:08.5±1.0,1.72N×127.28E,h104km±8km,mb4.7/29, mb1 4.8/33,mb1mx4.8/33,mbtmp4.8/33,MS3.8/14, Ms1 3.8/14,ms1mx3.5/28,Error ellipse: s-maj=13.1km s-min=6.3km az=76.0
DJA 07 03:43:13,1.61N×127.16E,h98km,Mw5.0/35
ISC 07 03:43:08.2±0.3,1.82N±0.03×127.37E±0.04,h102km±2km, h102km:pP-P,n528,σ129/632,mb5.3/127,66C-73D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.04 180		P	Pn	03 43 29.7	+0.4
LBMI	Labuha	2.44 177		P	Pn	03 43 48.2	+1.5
MNI	Manado	2.56 262		P	Pn	03 43 47.9	-0.3
SGSI	Sangihe	2.61 315		P	Pn	03 43 47.6	-1.3
KMSI	Cibinong	3.60 250		P	Pn	03 44 02.4	+0.2
GSPH	General Santos	4.88 330	⇑	iP	Pn	03 44 18.0	-1.5
GSPH				i S	Sn	03 45 10.5	-4.4
NLAI	Namlea 426nm,0.5s	5.03 183		P	Pn	03 44 21.9	+0.5
MATI	Mati	5.21 348		eP	Pn	03 44 25.6	+1.7
MATI				eS	Sn	03 45 11.9	-11
MSAI	Masohi 99nm,1.3s	5.36 163		P	Pn	03 44 30.3	+4.4
LUWI	Luwuk 390nm,0.9s,45µm12nm	5.40 238		P	Pn	03 44 27.8	+1.3
DAV	Davao City (W) 68nm,0.3s,baz=241,slow=1.9,SNR=7.8	5.51 341		P	Pn	03 44 29.5	+1.5
DAV				S	Sn	03 45 29.5	-0.7
DAV	129nm,0.3s,baz=264,slow=20,SNR=3.6			LR	LR	03 46 10.9	
DAV	comp=Z,728nm,18.5s,baz=261,slow=33						
DAV	Davao City (W)	5.51 341		ePn	Pn	03 44 29.5	+1.5
DAV				eSn	Sn	03 45 30.2	0.0
DAV	Davao City (W) SNR=10	5.51 341		P	Pn	03 44 29.7	+1.7
AAI	Ambon 295nm,1.0s	5.53 171		P	Pn	03 44 31.1	+2.9
CTBH	Cotabato--PC H	6.21 330	⇑	eP	Pn	03 44 36.5	-0.9
CTBH				i S	Sn	03 45 42.4	-4.5
APSI	Ampana	6.33 245		P	Pn	03 44 33.2	-5.9
BUKP	Musuan	6.45 339		eP	Pn	03 44 41.8	+1.1
FAKI	Fak Fak 152nm,1.1s,2µm0.5nm	6.78 134		P	Pn	03 44 49.2	+4.0
CGP	Cagayan de Oro	7.11 338	⇓	eP	Pn	03 44 48.1	-1.6
PAGZ	Pagadian	7.19 327		eP	Pn	03 44 49.9	-0.9
ZMPH	Zamboanga City	7.35 314	⇓	eP	Pn	03 44 51.6	-1.3
IPIL	Ipil	7.62 321		eP	Pn	03 44 56.5	-0.1
PCI	Palu	8.00 250		P	Pn	03 45 15.4	+14
MSLP	Maasin	8.63 343		eP	Pn	03 45 12.3	+1.9
TLE	Tual 306nm,0.9s,3µm	9.14 144		P	Pn	03 45 21.4	+4.1
BAKI	Biak 449nm,1.4s,6µm	9.23 109		P	Pn	03 45 24.6	+6.0
MYLDM	Lahad Datu	9.46 291		P	Pn	03 45 22.5	+0.8
MYLDM	Lahad Datu 331nm,1.2s,4µm	9.46 291		P	Pn	03 45 23.3	+1.6
TSM	Tawau	9.80 285		P	Pn	03 45 26.5	+0.2
GUIM	Jordan	9.96 332		eP	Pn	03 45 28.2	-0.2
KAPI	Kappang 5.1nm,0.3s,baz=74,slow=12,SNR=21	10.20 228		P	Pn	03 45 30.6	-1.1
KAPI				S	Sn	03 47 18.7	-5.5
KAPI	Kappang 14nm,0.3s,baz=317,slow=20,SNR=9.7	10.20 228		ePn	Pn	03 45 29.9	-1.7
KAPI				eSn	Sn	03 47 17.2	-6.9
KAPI	Kappang 46nm,1.2s,836nm	10.20 228		P	Pn	03 45 31.1	-0.6
RCP	Roxas	10.71 335	⇓	eP	Pn	03 45 38.5	-0.2
SDKM	Sandakan	10.84 291		P	Pn	03 45 41.3	+0.9
MMRI	Maumere	11.57 206		P	P	03 46 04.3	+4.7
KDM	Kudat	11.66 296		P	Pn	03 45 53.4	+2.0
BATP	Bataraza	11.78 306		eP	Pn	03 45 57.2	+4.1
KKM	Kota Kinabalu	11.89 291		ePn	Pn	03 45 54.6	0.0
KKM	Kota Kinabalu	11.89 291		P	Pn	03 45 55.8	+1.1
KKM	Kota Kinabalu 122nm,0.9s,1µm	11.89 291		P	Pn	03 45 56.8	+2.2
PVCP	Virac	12.13 345		eP	Pn	03 45 58.7	+1.0
ENPP	El Nido	12.21 320		eP	Pn	03 45 57.7	-1.1
TGY	Tagaytay City 22nm,0.3s,baz=218,slow=15,SNR=4.4	13.76 333		P	Pn	03 46 20.7	+1.5
TGY	Tagaytay City	13.76 333		P	Pn	03 46 20.7	+1.5
TGY	Tagaytay City	13.76 333		P	Pn	03 46 20.7	+1.5
LUBP	Lubang	13.78 330		eP	Pn	03 46 19.1	-0.2
BTM	Bintulu	14.34 276		P	Pn	03 46 27.9	+1.3
BALP	Baler	14.97 338		eP	Pn	03 46 34.9	+0.4
SBUM	Sibu	15.15 273		P	Pn	03 46 38.2	+1.2
SBUM	Sibu	15.15 273		P	P	03 46 40.6	+1.0
MTNI	Mataram 196nm,1.2s,2µm	15.25 227		P	Pn	03 46 38.6	+0.5
KHKI	Kahang-Kahang 216nm,0.8s,3µm	15.48 229		P	P	03 46 45.3	+2.0
SCZP	Santa Cruz	15.70 332		eP	Pn	03 46 43.3	-0.5
CAUP	Cauayan	15.99 340		eP	Pn	03 46 46.1	-1.3
IGBI	Denpasar 145nm,0.7s	16.13 229		P	P	03 46 53.8	+3.4
JAGI	Jajag, Banyuwa 212nm,1.2s,2µm	16.68 232		P	P	03 46 58.9	+2.4
KSM	Kuching 52nm,0.8s	17.06 269		eP	Pn	03 46 59.6	-1.0
KSM	Kuching	17.06 269		P	P	03 47 01.3	+0.6
KSM	Kuching 75nm,0.9s	17.06 269		P	P	03 47 01.7	+0.9
UGM	Wanagama	19.38 240		eP	Pn	03 47 28.6	+0.1
BJII	Banjamegara 135nm,1.4s	19.83 243		P	Pn	03 47 34.4	+0.8
FITZ	Fitzroy Crossi 9.0nm,0.3s,baz=19,slow=11,SNR=208	19.87 185		P	P	03 47 30.3	-1.1
FITZ	comp=Z,109nm,19.3s,baz=16,slow=37			LR	LR	03 55 27.1	
FITZ	Fitzroy Crossi	19.87 185		eP	P	03 47 30.4	-1.1
FITZ	244nm,0.8s			eS	S	03 51 03.4	-6.3
FITZ	Fitzroy Crossi	19.87 185		P	P	03 47 30.3	-1.1
TPI	Tanjungpandan 41nm,1.1s,803nm	20.23 257		P	Pn	03 47 41.0	+2.8
LEM	Lembang 120nm,0.9s	21.50 246		P	P	03 47 52.7	+3.4
CISI	Cisompet, Garu 104nm,0.8s,2µm	21.61 244		P	P	03 47 51.8	+1.5
TWG	Pinlang	21.76 344		eP	P	03 47 49.3	-2.4
COEN	Coen 107nm,0.7s	22.16 135		eP	P	03 47 56.6	+0.6
YULB	Yu-li 129nm,0.6s	22.24 345		eP	P	03 47 54.2	-2.6
TPUB	Ta-pu 238nm,0.6s	22.33 344		eP	P	03 47 55.4	-2.4
PMG	Port Moresby 18nm,0.8s,baz=359,slow=8.6,SNR=5.2	22.65 120		P	P	03 48 00.1	-0.9
PMG	Port Moresby	22.65 120		ceP	P	03 48 01.5	+0.4
PMG	comp=Z,57nm,1.7s			pmax	pmax		
PMG	Port Moresby	22.65 120		eP	P	03 48 00.4	-0.7
WRAB	Tennant Creek comp=Z,23nm,0.9s	22.67 163		eP	P	03 48 00.6	-0.7
WRAB	comp=Z,240nm,0.3s			pmax	pmax		
WRAB	Tennant Creek comp=Z,240nm,0.3s	22.67 163		eP	P	03 48 00.6	-0.7
WRAB	Tennant Creek comp=Z,3µm,0.3s	22.67 163		P	P	03 48 00.3	-1.0
WRA	Warramunga Arr comp=Z,198nm,0.4s,baz=342,slow=11,SNR=1323	22.68 163		P	P	03 48 00.7	-0.7
WRA				S	S	03 51 59.7	-2.5
WRA	comp=Z,11nm,1.1s,baz=335,slow=21,SNR=5.9			ScP	ScP	03 55 18.2	-0.8
WRA	comp=Z,4.7nm,0.8s,baz=340,slow=3.1,SNR=9.0			ScP	ScP	03 55 18.2	-0.8
WRA	Warramunga Arr	22.68 163		P	P	03 48 00.7	-0.7
WRA				S	S	03 51 59.7	-2.5
WRA	Warramunga Arr	22.68 163		P	P	03 48 00.7	-0.7
WRA				S	S	03 51 59.7	-2.5
WRA				ScP	ScP	03 55 18.2	-0.8
WB2	Warramunga Arr	22.68 163		eP	P	03 48 00.8	-0.6
SSLB	Suanglung	22.71 345		eP	P	03 47 59.5	-2.1
NACB	Ninganchiao	22.92 346		eP	P	03 48 03.1	-0.5
YHNB	Yeheng	23.45 346		eP	P	03 48 08.6	-0.1
MYKOM	Kota Tinggi	23.51 270		P	P	03 48 11.2	+1.9
MYKOM	Kota Tinggi comp=Z,66nm,1.0s	23.51 270		P	P	03 48 10.4	+1.1
TATO	Taipei comp=Z,106nm,0.7s	23.71 347		eP	P	03 48 11.1	+0.1
MBWA	Marble Bar	24.03 198	⇑	iP	P	03 48 13.0	-0.9
MBWA	Marble Bar comp=Z,249nm,1.4s	24.03 198		eP	P	03 48 12.9	-0.9
KGM	Kluang	24.04 271		P	P	03 48 16.4	+2.3
QIZ	Qiongzhong	24.23 316		P	P	03 48 15.8	0.0
QIZ				pP	pP	03 48 37.1	-0.8
QIZ				S	S	03 52 28.0	+0.8
QIZ	comp=Z,210nm,1.0s			pmax	pmax		
QIZ	comp=N,400nm,19.9s			LR	LR		
QIZ	comp=E,280nm,19.9s			LR	LR		
QIZ	comp=Z,340nm,26.3s			LR	LR		
QIZ	Qiongzhong comp=Z,195nm,0.9s	24.23 316		eP	P	03 48 15.4	-0.3
QZH	Quanzhou	24.50 340	⇓	iP	P	03 48 19.1	+1.0
QZH				S	S	03 52 28.6	-2.7
QZH	comp=Z,250nm,0.7s			pmax	pmax		
JOW	Kunigami 18nm,Z,164nm,0.8s,baz=188,slow=11,SNR=24	24.89 2		eP	P	03 48 22.4	+0.9
JOW	Kunigami	24.89 2		eP	P	03 48 22.5	+0.9
ASAR	Alice Springs comp=Z,62nm,0.5s,baz=344,slow=7.7,SNR=672	26.12 166		P	P	03 48 32.4	-0.4
ASAR				PcP	PcP	03 51 57.9	-0.1
ASAR	comp=Z,6.1nm,0.7s,baz=360,slow=2.7,SNR=4.5			S	S	03 52 54.1	-2.9
ASAR	comp=Z,2.6nm,0.8s,baz=348,slow=20,SNR=4.9			ScP	ScP	03 55 27.9	-0.7
ASAR	comp=Z,5.9nm,0.7s,baz=342,slow=2.3,SNR=14						
ASAR	Alice Springs	26.12 166		P	P	03 48 32.4	-0.4

ASAR 03 51 57.9
ASAR S **S** **03 52 54.1 -2.9**
ASAR Alice Springs 26.12 166 P **P** **03 48 32.4 -0.4**
ASAR PcP **PcP** **03 51 57.9 -0.1**
ASAR S **S** **03 52 54.1 -2.9**
ASAR ScP **ScP** **03 55 27.9 -0.7**
IPM Ipoh 26.43 276 *e*P **P** **03 48 35.1 -0.7**
comp=Z,12nm,0.4s
IPM Ipoh 26.43 276 P **P** **03 48 39.6 +3.8**
IPM Ipoh 26.43 276 P **P** **03 48 36.1 +0.3**
comp=Z,27nm,0.9s
KULM Kulim 26.89 278 *e*P **P** **03 48 39.1 -0.7**
comp=Z,8.5nm,0.7s
KULM Kulim 26.89 278 P **P** **03 48 43.4 +3.6**
PSI Prapat 28.44 273 P **P** **03 48 53.2 -0.6**
comp=Z,33nm,0.9s
CTA Charters Tower 28.58 141 P **P** **03 48 55.6 +0.6**
comp=Z,15nm,0.7s,baz=310,slow=9.0,SNR=6.1
CTA Charters Tower 28.58 141 P **P** **03 48 55.6 +0.6**
CTA Charters Tower 28.58 141 P **P** **03 48 55.6 +0.6**
CTAO Charters Tower 28.58 141 *e*P **P** **03 48 55.5 +0.6**
CTAO pmax pmax
comp=Z,62nm,1.4s
CTAO Charters Tower 28.58 141 *e*P **P** **03 48 55.5 +0.6**
comp=Z,62nm,1.4s
CBIJ Chichi jima 28.87 28 LR LR 03 58 40.4
comp=Z,137nm,18.7s,baz=185,slow=32
WHN Wuhan 31.12 338 P **P** **03 49 20.1 +2.9**
WHN pmax pmax
comp=Z,140nm,1.2s
NJ2 Nanjing 31.13 346 *e*P **P** **03 49 19.5 +2.3**
NJ2 pP **pP** **03 49 39.1 -1.0**
NJ2 sP **sP** **03 49 48.7 -3.3**
NJ2 S **S** **03 54 17.5 +2.0**
NJ2 sS **sS** **03 54 55.0 -0.3**
NJ2 pmax pmax
comp=Z,50nm,0.7s
NJ2 pmax pmax
comp=Z,290nm,4.5s
NJ2 LR LR
comp=N,310nm,14.2s
NJ2 LR LR
comp=E,240nm,15.6s
NJ2 LR LR
comp=Z,380nm,14.5s
JNU Nakatsue 31.32 6 *e*P **P** **03 49 18.8 -0.1**
comp=Z,12nm,0.8s
GYA Guiyang 31.56 323⇑*i*P **P** **03 49 22.0 +0.7**
GYA pP **pP** **03 49 44.2 0.0**
GYA sP **sP** **03 49 55.6 -0.4**
GYA PP **PnPn** **03 50 31.3 +2.4**
GYA S **S** **03 54 23.8 +1.1**
GYA sS **sS** **03 55 01.4 -1.1**
GYA ScP **ScP** **03 55 46.7 +0.9**
GYA ScS **ScS** **03 59 42.3 -1.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,870nm,17.5s
GYA LR LR
comp=E,660nm,18.6s
GYA LR LR
comp=Z,730nm,17.2s
CMAR Chiang Mai Arr 32.41 303 P **P** **03 49 28.8 +0.1**
comp=Z,8.6nm,0.9s,baz=122,slow=7.1,SNR=48
CMAR ScP **ScP** **03 55 49.4 +0.7**
comp=Z,4.0nm,0.9s,baz=147,slow=2.0,SNR=21
CMAR LR LR 04 01 50.9
comp=Z,162nm,21.1s,baz=121,slow=35
CMAR Chiang Mai Arr 32.41 303 P **P** **03 49 28.8 +0.1**
CMAR Chiang Mai Arr 32.41 303 P **P** **03 49 28.8 +0.1**
CMAR ScP **ScP** **03 55 49.4 +0.7**
FORT Forrest 32.42 179 *e*P **P** **03 49 27.8 -0.8**
comp=Z,70nm,0.6s
FORT Forrest 32.42 179 *e*P **P** **03 49 27.6 -0.9**
comp=Z,60nm,0.6s
CHTO Chiang Mai 32.57 303 *e*P **P** **03 49 29.9 -0.2**
CHTO pmax pmax
comp=Z,50nm,1.1s
CHTO Chiang Mai 32.57 303 *e*P **P** **03 49 29.9 -0.2**
comp=Z,50nm,1.1s
CHTO Chiang Mai 32.57 303 P **P** **03 49 30.0 -0.2**
comp=Z,41nm,1.1s,comp=Z,461nm
ENH Enshi 33.00 331 *e*P **P** **03 49 34.3 +0.6**
comp=Z,42nm,0.8s
KMI Kunming 33.19 316 P **P** **03 49 36.8 +1.2**
KMI pP **pP** **03 50 02.8 +4.2**
KMI sP **sP** **03 50 12.1 +1.6**
KMI pmax pmax
comp=Z,42nm,1.3s
KLBR Kellerberrin 34.46 195 *e*P **P** **03 49 45.4 -0.9**
comp=Z,37nm,0.7s
BBOO Buckleboo 35.41 167⇑*i*P **P** **03 49 53.9 -0.5**
comp=Z,818nm,0.8s
BBOO Buckleboo 35.41 167 *e*P **P** **03 49 53.7 -0.7**
comp=Z,2µm,0.6s
KSAR Wonju Array Be 35.45 1 P **P** **03 49 55.8 +1.0**
KSAR 03 52 24.1
KSAR Wonju Array Be 35.45 1 P **P** **03 49 55.8 +1.0**
KSAR PcP **PcP** **03 52 24.1 +1.8**
KSAR ScP **ScP** **03 55 58.4 -0.6**
KSRS Korea Array 35.47 1 P **P** **03 49 55.8 +1.0**
comp=Z,32nm,0.8s,baz=178,slow=10.0,SNR=79
KSRS PcP **PcP** **03 52 24.1 +1.7**
comp=Z,2.2nm,0.7s,baz=197,slow=2.2,SNR=4.7
KSRS ScP **ScP** **03 55 58.4 -0.7**
comp=Z,3.8nm,0.9s,baz=195,slow=4.2,SNR=8.7
INCN Inchon 35.50 359 *e*P **P** **03 49 55.9 +0.7**
comp=Z,32nm,0.8s
NWAO Narrogin (SRO) 35.86 195 P **P** **03 49 57.0 -1.3**
comp=Z,13nm,0.4s,baz=10,slow=7.0,SNR=21
NWAO Narrogin (SRO) 35.86 195 *e*P **P** **03 49 57.8 -0.5**
NWAO pmax pmax
comp=Z,85nm,1.4s
NWAO Narrogin (SRO) 35.86 195 *e*P **P** **03 49 57.8 -0.5**
comp=Z,85nm,1.4s
MAJO Matsushiro 35.98 15 *e*P **P** **03 49 58.4 -0.9**
MAJO pmax pmax
comp=Z,55nm,0.6s
MAJO Matsushiro 35.98 15 *e*P **P** **03 49 58.4 -0.9**
comp=Z,55nm,0.6s
MAT Matsushiro 35.98 15 P **P** **03 49 58.6 -0.7**
MAT S **S** **03 55 28.0 -2.5**
MJAR Matsushiro Arr 35.98 15 P **P** **03 49 58.5 -0.8**
comp=Z,35nm,0.7s,baz=194,slow=9.0,SNR=110
MJAR ScP **ScP** **03 56 00.4 -0.6**
comp=Z,2.6nm,0.8s,baz=210,slow=4.9,SNR=6.3
MJAR LR LR 04 01 56.9
comp=Z,124nm,20.9s,baz=195,slow=31
MJAR Matsushiro Arr 35.98 15 P **P** **03 49 58.5 -0.8**
MJAR Matsushiro Arr 35.98 15 P **P** **03 49 58.5 -0.8**
MJAR ScP **ScP** **03 56 00.4 -0.6**
STKA Stephens Creek 36.13 159 P **P** **03 50 00.7 +0.1**
comp=Z,232nm,0.5s,baz=335,slow=7.9,SNR=495
STKA LR LR 04 05 50.3
comp=Z,171nm,21.7s,baz=267,slow=38
STKA Stephens Creek 36.13 159 *e*P **P** **03 50 00.4 -0.2**
STKA pmax pmax
comp=Z,61nm,0.7s
STKA Stephens Creek 36.13 159 *e*P **P** **03 50 00.4 -0.2**
comp=Z,61nm,0.7s
XAN Xi'an 36.40 334 P **P** **03 50 03.1 +0.1**
XAN pP **pP** **03 50 25.3 -0.9**
XAN sP **sP** **03 50 36.1 -1.9**
XAN pmax pmax
comp=Z,34nm,1.2s
XAN pmax pmax
comp=Z,30nm,6.5s
CD2 Chengdu 36.56 325 P **P** **03 50 04.7 +0.3**
CD2 pP **pP** **03 50 28.4 +0.8**
CD2 sP **sP** **03 50 40.6 +1.2**
CD2 PP **PnPn** **03 51 32.5 +1.9**
CD2 S **S** **03 55 39.5 -0.1**
CD2 sS **sS** **03 56 20.4 +0.5**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,160nm,6.1s
CD2 LR LR
comp=N,360nm,5.3s
CD2 LR LR
comp=Z,210nm,6.5s
DL2 Dalian 37.28 353 P **P** **03 50 11.1 +0.8**
DL2 pmax pmax
comp=Z,40nm,0.8s
BJT Baijiatuau 39.36 346 *e*P **P** **03 50 28.3 +0.6**
BJT pmax pmax
comp=Z,149nm,0.7s
BJT Baijiatuau 39.36 346 *e*P **P** **03 50 28.3 +0.6**
comp=Z,149nm,0.7s
BJI Beijing 39.38 346 P **P** **03 50 28.6 +0.7**
BJI PcP **PcP** **03 52 30.8 -3.5**
BJI pmax pmax
comp=Z,330nm,5.0s
BJI LR LR
comp=Z,100nm,40.4s
ARMA Armidale 39.53 146 *e*P **P** **03 50 30.4 +1.0**
ARMA Armidale 39.53 146 *e*P **P** **03 50 30.2 +0.8**
comp=Z,121nm,1.2s
SNY Shenyang 39.98 356⇓P **P** **03 50 33.6 +0.8**
SNY pP **pP** **03 50 56.5 +0.2**
SNY sP **sP** **03 51 07.9 -0.1**
SNY S S 03 56 37.7 +7.1
SNY pmax pmax
comp=Z,42nm,0.8s
SNY pmax pmax
comp=Z,200nm,4.1s
LZH Lanzhou 40.47 330⇓P **P** **03 50 38.8 +1.7**
LZH sP sP 03 51 06.1 -6.3
LZH ScP **ScP** **03 56 19.0 +0.7**
LZH *e*S **S** **03 56 34.4 -4.1**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,540nm,4.0s
LZH LR LR
comp=N,160nm,13.0s
LZH LR LR
comp=E,320nm,16.7s
LZH LR LR
comp=Z,330nm,17.6s
VLA Vladivostok 41.32 5 *e*P **P** **03 50 45.2 +1.4**
VLA pmax pmax
comp=Z,58nm,1.2s
HHC Hu-ho-hao-te 41.40 342 *e*P **P** **03 50 44.9 +0.2**
HHC pP **pP** **03 51 07.1 -1.3**
HHC sP **sP** **03 51 20.1 +0.1**
HHC PP **PnPn** **03 52 26.7 -1.2**
HHC S **S** **03 56 54.3 +2.2**
HHC sS **sS** **03 57 32.4 -0.6**
HHC SS **SS** **04 00 01.0 +0.8**
HHC pmax pmax
comp=Z,59nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.6s
HHC LR LR
comp=N,200nm,14.1s
HHC LR LR
comp=E,110nm,14.3s
HHC LR LR
comp=Z,140nm,15.5s
CN2 Changchun 41.84 358 *e*P **P** **03 50 46.9 -1.1**
CN2 *e*S **S** **03 56 57.1 -1.1**
CAN Canberra 42.13 153 *e*P **P** **03 50 51.6 +1.0**
CAN pmax pmax
comp=Z,106nm,0.8s
CAN Canberra 42.13 153 *e*P **P** **03 50 51.5 +1.0**
comp=Z,106nm,0.8s
CNB Canberra Magne 42.29 153 *e*P **P** **03 50 52.9 +1.0**
comp=Z,175nm,1.0s
USRK Ussuriysk Arra 42.40 5 P **P** **03 50 53.5 +0.9**
comp=Z,47nm,0.8s,baz=191,slow=7.3,SNR=80
USRK LR LR 04 08 18.9
comp=Z,50nm,20.6s,baz=144,slow=36
TOO Toolangi 42.64 159 *e*P **P** **03 50 56.0 +1.3**
comp=Z,345nm,0.9s
MDJ Mudanjiang 42.66 2 P **P** **03 50 55.7 +1.0**
MDJ pmax pmax
comp=Z,69nm,0.9s
MDJ pmax pmax
comp=Z,95nm,4.3s
MDJ Mudanjiang 42.66 2 *e*P **P** **03 50 55.5 +0.7**
comp=Z,70nm,0.9s
LSA Lhasa 44.18 312 P **P** **03 51 09.1 +1.3**
LSA pmax pmax
comp=Z,100nm,0.7s
LSA Lhasa 44.18 312 *e*P **P** **03 51 08.8 +1.0**
LSA pmax pmax
comp=Z,73nm,0.6s
LSA Lhasa 44.18 312 *e*P **P** **03 51 08.8 +1.0**
comp=Z,73nm,0.6s
ASAJ Asahikawa 44.24 16 LR LR 04 09 33.0
comp=Z,114nm,19.0s,baz=320,slow=36
ASAJ Asahikawa 44.24 16 *e*P **P** **03 51 07.7 +0.3**
comp=Z,11nm,0.8s
DZM Mont Dzumac 44.93 124 P **P** **03 51 14.1 +0.8**
comp=Z,28nm,1.0s,baz=297,slow=4.9,SNR=15
DZM LR LR 04 10 32.7
comp=Z,69nm,18.5s,baz=336,slow=37
DZM Mont Dzumac 44.93 124 P **P** **03 51 14.1 +0.8**
GTA Gaotai 45.06 330⇓P **P** **03 51 15.5 +1.3**
GTA pP **pP** **03 51 36.3 -1.9**
GTA sP **sP** **03 51 49.1 -0.6**
GTA S **S** **03 57 45.2 -0.4**
GTA sS **sS** **03 58 25.5 -1.4**
GTA ScS **ScS** **04 01 00.0 -1.2**
GTA pmax pmax
comp=Z,99nm,0.8s
GTA pmax pmax
comp=Z,250nm,5.5s
GTA LR LR
comp=N,140nm,14.0s
GTA LR LR
comp=E,81nm,10.5s
GTA LR LR
comp=Z,100nm,10.7s
TAPN Taplejung 45.67 307⇓*i*P **P** **03 51 19.7 +0.3**
comp=Z,170nm,1.0s
TAPN Taplejung 45.67 307⇓*i*P **P** **03 51 19.7 +0.3**
ODAN Odare 45.70 307⇓*i*P **P** **03 51 19.8 +0.2**
comp=Z,198nm,0.8s
ODAN Odare 45.70 307⇓*i*P **P** **03 51 19.8 +0.2**
RAMN Ramite 46.38 306⇓*i*P **P** **03 51 25.4 +0.5**
comp=Z,198nm,0.8s
RAMN Ramite 46.38 306⇓*i*P **P** **03 51 25.4 +0.5**
YSS Yuzh-Sakhalins 46.91 14⇓*e*P **P** **03 51 29.0 +0.6**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 46.91 14 *e*P **P** **03 51 28.7 +0.3**
comp=Z,18nm,0.6s
HABR Khabarovsk 46.95 7*de*P **P** **03 51 29.2 +0.6**
HABR *e**PP **pP** **03 51 50.9 -1.9**
HABR *e**SP **sP** **03 52 02.7 -1.6**
HABR *e* 03 52 58.2
HABR *e* 03 53 18.8
HABR *e*S **S** **03 58 13.4 +1.3**
HABR *e**SS **sS** **03 58 52.7 -0.9**
HABR *e* 04 01 11.3
HABR *e*SSS SSS 04 02 49.5
HABR pmax pmax
comp=Z,53nm,1.0s
HABR pmax pmax
comp=N,27nm,1.3s
HABR pmax pmax
comp=E,23nm,1.3s
HABR MLR MLR
comp=Z,56nm,16.0s
JIRN Jiri 47.02 307⇓*i*P **P** **03 51 30.4 +0.4**
comp=Z,162nm,0.8s
JIRN Jiri 47.02 307⇓*i*P **P** **03 51 30.4 +0.4**
GUN Gumba 47.37 307⇓*i*P **P** **03 51 33.1 +0.4**
comp=Z,227nm,0.7s
GUN Gumba 47.37 307⇓*i*P **P** **03 51 33.1 +0.4**
KLR Kul'dur 47.38 4 *e*P **P** **03 51 29.8 -2.2**
KLR pmax pmax
comp=Z,56nm,1.2s
MOO Moorlands 47.56 160 *e*P **P** **03 51 34.0 +0.5**
comp=Z,108nm,0.8s
PKI Pulchoki 47.60 307⇓*i*P **P** **03 51 34.5 0.0**
comp=Z,83nm,0.9s
PKI Pulchoki 47.60 307⇓*i*P **P** **03 51 34.5 0.0**
PKI Pulchoki 47.60 307⇓*i*P **P** **03 51 34.5 0.0**
HIA Hailar 47.72 353 *e*P **P** **03 51 35.4 +0.7**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 47.72 353 *e*P **P** **03 51 35.4 +0.7**
comp=Z,21nm,0.9s
KKN Kakani 47.80 307⇓*i*P **P** **03 51 36.1 +0.2**
comp=Z,96nm,0.8s
KKN Kakani 47.80 307⇓*i*P **P** **03 51 36.1 +0.2**
DMN Daman 47.86 306⇓*i*P **P** **03 51 36.6 +0.2**
comp=Z,141nm,0.9s
DMN Daman 47.86 306⇓*i*P **P** **03 51 36.6 +0.2**
GKN Gorkha 48.40 307⇓*i*P **P** **03 51 40.6 +0.1**
comp=Z,117nm,0.9s
GKN Gorkha 48.40 307⇓*i*P **P** **03 51 40.6 +0.1**
ULN Ulaanbaatar 49.12 342 *e*P **P** **03 51 46.5 +0.8**
ULN pmax pmax
comp=Z,69nm,0.9s
ULN Ulaanbaatar 49.12 342 *e*P **P** **03 51 46.5 +0.8**
comp=Z,69nm,0.9s
ULN Ulaanbaatar 49.12 342 P **P** **03 51 46.4 +0.8**
comp=Z,80nm,1.0s,comp=Z,776nm
KOLN Koldanda 49.14 306⇓*i*P **P** **03 51 46.7 +0.5**
comp=Z,185nm,0.6s
KOLN Koldanda 49.14 306⇓*i*P **P** **03 51 46.7 +0.5**
DANN Dangsing 49.25 307⇓*i*P **P** **03 51 47.3 +0.2**
comp=Z,199nm,0.7s
DANN Dangsing 49.25 307⇓*i*P **P** **03 51 47.3 +0.2**
SONM Songino Array 49.30 341 P **P** **03 51 47.9 +1.0**
comp=Z,23nm,0.6s,baz=156,slow=8.2,SNR=190
SONM Songino Array 49.30 341 P **P** **03 51 47.9 +1.0**
SONM Songino Array 49.30 341 P **P** **03 51 47.9 +1.0**
HYB Hyderabad 50.38 291⇓*i*P **P** **03 51 54.0 -1.5**
HYB *e*sP **sP** **03 52 33.0 +1.6**
ZAK Zakamensk 52.53 341⇓*i*P **P** **03 52 11.7 +0.6**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 53.53 342 *e*P **P** **03 52 18.7 +0.4**
TLY pmax pmax
comp=Z,15nm,0.8s
TLY Talaya 53.53 342 *e*P **P** **03 52 19.4 +1.0**
comp=Z,23nm,1.0s
MOY Mondy 54.39 340 *e*P **P** **03 52 26.1 +1.5**
MOY pmax pmax
comp=Z,40nm,1.6s
WMQ Urumqi 54.65 325 P **P** **03 52 28.0 +1.3**
WMQ pP **pP** **03 52 52.0 +0.6**
WMQ PcP **PcP** **03 53 29.1 +0.7**
WMQ S **S** **03 59 58.0 -0.9**
WMQ LR LR
comp=N,94nm,22.8s
WMQ LR LR
comp=E,120nm,23.4s
WMQ LR LR
comp=Z,120nm,23.7s
NDI New Delhi 54.71 304 *e*P **P** **03 52 25.0 -2.3**
CLNS Chul'man 54.89 358 *e*P **P** **03 52 29.0 +0.9**
CLNS *e**PP **pP** **03 52 53.4 +0.5**
CLNS *e* 03 53 26.7
CLNS *e* 03 54 36.6
CLNS *e*S **S** **03 59 58.7 -2.9**
CLNS *e*SS **SS** **04 03 47.1 +0.6**
CLNS *e*SSS SSS 04 05 50.3
CLNS pmax pmax
comp=Z,22nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS pmax pmax
comp=N,14nm,0.7s
CLNS pmax pmax
comp=Z,6.0nm,0.8s
CLNS smax smax
comp=N,88nm,14.5s
CLNS smax smax
comp=E,227nm,12.6s
BOD Bodaibo 56.84 352 *e*P **P** **03 52 42.2 +0.3**
BOD pmax pmax
comp=Z,29nm,1.3s
PETK Petropavlovsk- 56.96 21 P **P** **03 52 44.0 +1.2**
comp=Z,19nm,0.9s,baz=192,slow=5.8,SNR=18
PETK PKiKP **PKiKP** **03 59 59.6 -4.4**
comp=Z,6.0nm,1.0s,baz=268,slow=3.9,SNR=3.5
PETK Petropavlovsk- 56.96 21 P **P** **03 52 44.1 +1.2**
PETK Petropavlovsk- 56.96 21 P **P** **03 52 44.0 +1.2**
PETK PKiKP **PKiKP** **03 59 59.6 -4.4**
MK31 Makanchi Array 59.48 326 *e*P **P** **03 53 01.5 +0.8**
MK31 pmax pmax
comp=Z,38nm,0.5s
MK31 Makanchi Array 59.48 326 *e*P **P** **03 53 01.4 +0.8**
MKAR Makanchi Array 59.48 326 P **P** **03 53 01.6 +1.0**
comp=Z,57nm,0.5s,baz=120,slow=8.1,SNR=864
MKAR LR LR 04 18 45.2
comp=Z,82nm,20.4s,baz=174,slow=36
MKAR Makanchi Array 59.48 326 P **P** **03 53 01.6 +1.0**
MKAR Makanchi Array 59.48 326 P **P** **03 53 01.6 +1.0**
RPZ Rata Peaks 59.84 145 P **P** **03 53 03.4 +0.2**
comp=Z,41nm,0.8s,baz=11,slow=2.1,SNR=13
RPZ Rata Peaks 59.84 145 *e*P **P** **03 53 03.2 +0.1**
comp=Z,36nm,0.8s
KSH Kashi 59.84 316 P **P** **03 53 05.4 +2.0**
KSH *e*pP **pP** **03 53 32.2 +3.7**
KSH *e*PcP **PcP** **03 53 49.6 +0.7**
KSH *e*PP **PP** **03 55 20.9 +4.3**
KSH *e*ScP **ScP** **03 57 38.2 -2.5**
KSH *e*PcS **PcS** **03 57 50.7 -0.7**
KSH *e*S **S** **04 01 05.9 -1.4**
KSH *e*sS **sS** **04 01 53.9 +3.4**
KSH *e*ScS **ScS** **04 02 41.0 -3.4**
KSH *e*SS **SS** **04 05 06.8 +1.5**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH LR LR
comp=N,170nm,5.0s
KSH LR LR
comp=E,150nm,5.3s
KSH LR LR
comp=Z,180nm,5.5s
YAK Yakutsk 60.09 1 *e*P **P** **03 53 04.2 -0.2**
YAK *e**PP **pP** **03 53 29.6 0.0**
YAK *e* 03 53 48.2
YAK *e*S **S** **04 01 09.7 +0.3**
YAK *e**SS **sS** **04 01 50.6 -1.9**
YAK *e* 04 02 40.1
YAK *e*SSS SSS 04 07 40.6
YAK pmax pmax
comp=Z,74nm,0.8s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,198nm,4.2s
YAK pmax pmax
comp=N,80nm,4.0s
YAK pmax pmax
comp=E,134nm,4.7s
YAK smax smax
comp=N,75nm,4.0s
YAK smax smax
comp=E,72nm,4.4s
YAK Yakutsk 60.09 1 *e*P **P** **03 53 04.5 0.0**
comp=E,97nm,0.8s
ULHL Ulahol 60.87 319 P **P** **03 53 13.5 +3.1**
SNR=7.7
ULHL P **P** **03 53 13.5 +3.1**
SNR=7.7
KZA Kyzart 61.45 318 P **P** **03 53 16.4 +1.9**
SNR=8.2
KZA P **P** **03 53 16.4 +1.9**
SNR=8.2
TKM2 Tokmak 2 61.60 319 P **P** **03 53 16.4 +1.1**
SNR=84
TKM2 P **P** **03 53 16.4 +1.1**
SNR=84
TKM2 Tokmak 2 61.60 319 *i* P **P** **03 53 16.4 +1.1**
TKM2 Tokmak 2 61.60 319 *e*P **P** **03 53 16.1 +0.8**
comp=E,50nm,0.6s
KBK Karagaybulak 61.91 318 P **P** **03 53 18.7 +1.3**
SNR=36
KBK P **P** **03 53 18.7 +1.3**
SNR=36
UCH Uchtor 62.01 318 P **P** **03 53 20.0 +1.6**
SNR=12
UCH P **P** **03 53 20.0 +1.6**
SNR=12
CHMS Chumysh 62.19 319 P **P** **03 53 19.8 +0.8**
SNR=24
CHMS P **P** **03 53 19.8 +0.8**
SNR=24
AAK Ala-Archa 62.20 318 P **P** **03 53 20.6 +1.3**
SNR=29

AAK P **P** 03 53 20.6 +1.3
SNR=29
AAK Ala-Archa 62.20 318 *d* iP **P** 03 53 20.6 +1.3
AAK pmax pmax
comp=Z,44nm,1.0s
AAK Ala-Archa 62.20 318 *e*P **P** 03 53 20.3 +1.0
comp=Z,113nm,0.8s
AAK Ala-Archa 62.20 318 P **P** 03 53 20.0 +0.7
comp=Z,192nm,0.8s,SNR=20
FRU Bishkek 62.20 319 *e*P **P** 03 53 21.0 +1.8
USP Ospenovka 62.47 319 P **P** 03 53 21.9 +1.0
SNR=61
USP P **P** 03 53 21.9 +1.0
SNR=61
AML Almayashu 62.52 318 P **P** 03 53 23.2 +1.5
SNR=55
AML P **P** 03 53 23.2 +1.5
SNR=55
ZAA0 Zalesovo Array 62.57 333 *e*P **P** 03 53 20.6 -0.7
ZALV Zalesovo Beam 62.57 333 P **P** 03 53 20.9 -0.4
comp=Z,11nm,0.7s,baz=120,slow=7.0,SNR=45
ZALV Zalesovo Beam 62.57 333 P **P** 03 53 20.9 -0.4
ZALV Zalesovo Beam 62.57 333 P **P** 03 53 20.9 -0.4
EKS2 Erkin-Say 62.69 318 P **P** 03 53 24.0 +1.5
SNR=50
EKS2 P **P** 03 53 24.0 +1.5
SNR=50
EKS2 Erkin-Say 62.69 318 *e*P **P** 03 53 23.8 +1.3
EKS2 pmax pmax
comp=Z,56nm,0.7s
EKS2 Erkin-Say 62.69 318 *e*P **P** 03 53 23.8 +1.3
comp=Z,56nm,0.7s
KBL Kabul 63.19 308 *e*P **P** 03 53 26.1 0.0
KBL pmax pmax
comp=Z,58nm,0.7s
KBL Kabul 63.19 308 *e*P **P** 03 53 26.1 0.0
comp=Z,58nm,0.7s
FX1 Attu Island--F 63.42 29 P **P** 03 53 28.1 +1.1
comp=Z,32nm,0.6s,baz=40,slow=0.9,SNR=13
FX1 Attu Island--F 63.42 29 P **P** 03 53 28.1 +1.1
FX1 Attu Island--F 63.42 29 P **P** 03 53 28.1 +1.1
KURK Kurchatov 63.69 328 P **P** 03 53 29.1 +0.4
comp=Z,150nm,0.6s,baz=133,slow=5.6,SNR=495
KURK Kurchatov 63.69 328 *de*P **P** 03 53 29.1 +0.4
KURK pmax pmax
comp=Z,107nm,1.3s
KURK Kurchatov 63.69 328 *e*P **P** 03 53 29.1 +0.4
comp=Z,220nm,0.6s
KURK Kurchatov 63.69 328 P **P** 03 53 29.1 +0.4
comp=Z,2µm,0.6s
SEY Seymchan 63.75 12 *e*P **P** 03 53 30.9 +2.0
NVS Novosibirsk 63.86 333⇓ *i*P **P** 03 53 28.2 -1.6
NVS pmax pmax
comp=Z,45nm,0.9s
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.9s
KK31 Karatay Array 65.06 317 *i* P **P** 03 53 38.0 +0.1
KK31 pmax pmax
comp=Z,38nm,0.7s
DRV Dumont d'Urvil 68.92 175 PP PP 03 56 36.0 +0.7
CASY Casey 69.01 187 *e*P **P** 03 54 02.2 -0.2
comp=Z,17nm,0.9s
BVA0 Borovoye Array 69.26 327 *i* P **P** 03 54 03.6 -0.7
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 69.26 327 P **P** 03 54 04.4 +0.1
comp=Z,36nm,0.8s,baz=135,slow=7.6,SNR=118
BVAR LR LR 04 22 56.2
comp=Z,66nm,21.9s,baz=1.1,slow=34
BVAR Borovoye Array 69.26 327 P **P** 03 54 04.4 +0.1
BVAR Borovoye Array 69.26 327 P **P** 03 54 04.4 +0.1
BRVK Borovoye 69.33 327 *de*P **P** 03 54 04.8 +0.1
BRVK pmax pmax
comp=Z,19nm,0.7s
BRVK Borovoye 69.33 327 *e*P **P** 03 54 04.6 -0.1
comp=Z,68nm,0.9s
BRVK Borovoye 69.33 327 P **P** 03 54 04.3 -0.4
comp=Z,386nm,0.6s,SNR=37
BILL Bilibino 71.23 14 *e*P **P** 03 54 17.0 +1.0
BILL *e* 03 54 34.0
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 71.23 14 *e*P **P** 03 54 16.2 +0.2
comp=Z,11nm,1.1s
ABKT Ailbek 72.58 309 P **P** 03 54 25.6 +0.9
comp=Z,124nm,0.8s,SNR=5.5
AB31 Akbulak array 74.03 321 P **P** 03 54 32.5 -0.4
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 74.03 321 *e*P **P** 03 54 32.6 -0.3
comp=Z,11nm,0.6s
SVE Sverdlovsk 75.92 329⇑ *i*P **P** 03 54 43.6 0.0
SVE pmax pmax
comp=Z,36nm,0.6s
ARU Arti 76.88 328 *d* iP **P** 03 54 48.3 -0.8
ARU 03 57 39.4
ARU S **S** 04 04 27.9 -0.6
ARU SS **SS** 04 09 24.0 -3.0
ARU pmax pmax
comp=Z,23nm,0.7s
ARU Arti 76.88 328 *e*P **P** 03 54 48.2 -0.8
comp=Z,20nm,0.7s
ARU Arti 76.88 328 P **P** 03 54 48.6 -0.5
comp=Z,198nm,0.7s,SNR=12
SOKR Solikamsk 78.68 331 *e*P **P** 03 54 58.2 -0.7
SOKR pmax pmax
comp=Z,10.0nm,1.1s
QRN Al-Qurain 79.88 299 *e*P **P** 03 55 05.0 -1.1
QRN AMb AMB 03 55 11.0
comp=Z,48nm,0.6s
KBD Kabd 80.10 299 *e*P **P** 03 55 06.6 -0.7
KBD AMb AMB 03 55 09.9
comp=Z,19nm,0.9s
MIB Mutribah 80.45 300 *e*P **P** 03 55 08.7 -0.5
MIB AMb AMB 03 55 12.8
comp=Z,70nm,0.8s
NAY Al-Naaiem 80.50 299 *e*P **P** 03 55 08.6 -0.9
NAY AMb AMB 03 55 12.6
comp=Z,43nm,0.8s
VNDA Vanda 81.46 173 *e*P **P** 03 55 13.5 -0.1
VNDA pmax pmax
comp=Z,17nm,0.8s
VNDA Vanda 81.46 173 *e*P **P** 03 55 13.5 -0.1
comp=Z,16nm,0.8s
MAW Mawson 82.19 200 P **P** 03 55 18.0 +0.5
comp=Z,34nm,0.9s,baz=53,slow=5.8,SNR=11
MAW LR LR 04 26 55.1
comp=Z,83nm,19.3s,baz=302,slow=32
MAW Mawson 82.19 200 *e*P **P** 03 55 17.8 +0.3
comp=Z,22nm,0.8s
MAW Mawson 82.19 200 *e*P **P** 03 55 17.8 +0.3
MAW pmax pmax
comp=Z,7.0nm,1.0s
MAW Mawson 82.19 200 *e*P **P** 03 55 17.8 +0.3
comp=Z,6.9nm,1.0s
KDAK Kodiak Island 83.16 32 P **P** 03 55 24.4 +1.6
comp=Z,20nm,0.5s,baz=252,slow=5.5,SNR=36
KDAK Kodiak Island 83.16 32 *ce*P **P** 03 55 24.2 +1.4
KDAK Kodiak Island 83.16 32 *e*P **P** 03 55 24.1 +1.3
comp=Z,16nm,0.8s
KDAK Kodiak Island 83.16 32 P **P** 03 55 24.6 +1.8
comp=Z,205nm,0.6s,SNR=11
TBLG Delisi 83.29 312 *e*P **P** 03 55 24.8 +0.9
TBLG Delisi 83.29 312 P **P** 03 55 24.8 +0.9
RSO Redoubt South 83.43 29 *e*P **P** 03 55 24.3 -0.1
comp=Z,32nm,0.8s
GOR Gori 83.78 312 P **P** 03 55 24.0 -2.5
ZEI Tsey 83.97 313 *e*P **P** 03 55 27.9 +0.3
ZEI pmax pmax
comp=Z,10.0nm,0.6s
PPLA Purkeypile 84.03 27 *e*P **P** 03 55 28.0 +0.7
comp=Z,9.6nm,0.5s
AKH Akhalkalaki 84.21 311 P **P** 03 55 28.6 -0.2
SLKM Skilak Lake 84.68 30 *e*P **P** 03 55 31.1 +0.5
SLKM Skilak Lake 84.68 30 *e*P **P** 03 55 31.1 +0.5
KIV Kislovodsk 84.91 314 *e*P **P** 03 55 35.3 +3.1
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV Kislovodsk 84.91 314 *e*P **P** 03 55 32.9 +0.7
comp=Z,10nm,0.8s
RC01 Rabbit Creek A 84.97 29 *e*P **P** 03 55 32.4 +0.4
comp=Z,26nm,0.5s
RC01 *e*pP **pP** 03 55 56.2 -2.5
PMR Palmer 85.31 28 *e*P **P** 03 55 33.8 +0.2
PMR pmax pmax
comp=Z,10.0nm,0.5s
PMR Palmer 85.31 28 *e*P **P** 03 55 33.8 +0.2
comp=Z,10nm,0.5s
COLD Coldfoot 85.40 23 *e*P **P** 03 55 35.3 +1.3
comp=Z,9.8nm,0.6s
MCK McKinley 85.58 26 *e*P **P** 03 55 35.0 0.0
MCK pmax pmax
comp=Z,10.0nm,0.7s
MCK McKinley 85.58 26 *e*P **P** 03 55 35.0 0.0
comp=Z,9.6nm,0.7s
VRHR Novokhopersk 85.92 321 *e*P **P** 03 55 35.6 -1.2
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,30nm,1.6s
VRHR pmax pmax
comp=E,30nm,1.7s
COLA College 86.14 25 *e*P **P** 03 55 37.7 +0.1
COLA pmax pmax
comp=Z,3.0nm,0.7s
COLA College 86.14 25 *e*P **P** 03 55 37.7 +0.1
comp=Z,3.1nm,0.7s
ILAR Eielson Array 86.55 25 P **P** 03 55 38.8 -0.9
comp=Z,1.2nm,0.6s,baz=246,slow=4.9,SNR=28
ILAR PP **PP** 03 58 59.8 -2.8
comp=Z,0.9nm,1.0s,baz=256,slow=6.0,SNR=4.3
ILAR PKKP **PKKPbc** 04 13 35.2 -3.0
comp=Z,0.6nm,0.8s,baz=20,slow=1.5,SNR=6.4
ILAR Eielson Array 86.55 25 P **P** 03 55 38.8 -0.9
ILAR 03 58 59.8
ILAR Eielson Array 86.55 25 P **P** 03 55 38.8 -0.9
ILAR PP **PP** 03 58 59.8 -2.8
ILAR PKKP **PKKPbc** 04 13 35.2 -3.0
PAX Paxson 87.10 27 *e*P **P** 03 55 43.0 +0.5
PAX pmax pmax
comp=Z,3.0nm,0.5s
PAX Paxson 87.10 27 *e*P **P** 03 55 43.0 +0.5
comp=Z,2.6nm,0.5s
VSR Storozhevoye 87.47 321 *e*P **P** 03 55 43.3 -1.1
VSR pmax pmax
comp=N,9.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
ANN Anapa 88.69 315 *e*P **P** 03 55 48.9 -1.4
ANN pmax pmax
comp=Z,91nm,1.5s
OBN Obninsk 88.98 325 *e*P **P** 03 55 50.8 -0.6
OBN *i* 03 59 27.4
OBN pmax pmax
comp=Z,7.0nm,0.9s
ASF Jabal al Asfar 89.44 302 P **P** 03 55 55.0 +0.7
comp=Z,10nm,0.9s,baz=255,slow=2.9,SNR=4.0
ASF Jabal al Asfar 89.44 302 P **P** 03 55 55.0 +0.7
ASF Jabal al Asfar 89.44 302 P **P** 03 55 55.0 +0.7
DAWY Dawson 89.80 26 *e*P **P** 03 55 55.9 +0.6
APA Apatity 89.85 337⇓ *e*P pP 03 56 14.2 -8.0
APA MLR MLR
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 90.15 269 *e*P **P** 03 55 59.2 +1.0
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 90.15 269 *e*P **P** 03 55 59.1 +1.0
comp=Z,5.0nm,0.9s
MMAI Mount Meron Ar 90.67 303 P **P** 03 56 00.6 +0.6
comp=Z,1.0nm,0.5s,baz=72,slow=6.2,SNR=2.9
MMAI Mount Meron Ar 90.67 303 P **P** 03 56 00.6 +0.6
SYO Syowa Base 90.88 201⇑ *e*PcP **PcP** 03 56 02.1 +1.1
INK Inuvik 91.70 22 P **P** 03 56 03.5 -0.3
comp=Z,1.4nm,0.6s,baz=309,slow=4.4,SNR=18
INK Inuvik 91.70 22 *e*P **P** 03 56 03.8 0.0
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 91.70 22 *e*P **P** 03 56 03.8 0.0
comp=Z,2.7nm,0.7s
BR131 Keskin Array S 91.72 310 *e*P **P** 03 56 04.2 -0.6
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 91.72 310 P **P** 03 56 03.6 -1.3
comp=Z,1.4nm,0.8s,baz=124,slow=4.8,SNR=6.6
BRTR Keskin Array B 91.72 310 *ce*P **P** 03 56 03.5 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 91.72 310 P **P** 03 56 03.6 -1.3
QSPA South Pole Qui 91.73 180 P **P** 03 56 04.0 -0.2
comp=Z,3.1nm,0.4s,baz=343,slow=1.5,SNR=9.5
QSPA South Pole Qui 91.73 180 P **P** 03 56 04.0 -0.2
ARCES ARCESS Array B 92.45 340 P **P** 03 56 06.1 -1.2
comp=Z,4.1nm,0.6s,baz=98,slow=5.0,SNR=10
ARCES LR LR 04 42 38.2
comp=Z,75nm,19.6s,baz=8.2,slow=39
ARCES ARCESS Array B 92.45 340 P **P** 03 56 06.1 -1.2
ARCES ARCESS Array B 92.45 340 P **P** 03 56 06.1 -1.2
SPITS Spitsbergen Ar 92.47 349 P **P** 03 56 06.7 -0.6
comp=Z,5.4nm,0.7s,baz=96,slow=18,SNR=13
SPITS Spitsbergen Ar 92.47 349 P **P** 03 56 06.7 -0.6
SPITS Spitsbergen Ar 92.47 349 P **P** 03 56 06.7 -0.6
AKASG Malin Array Be 93.77 321 P P 03 56 09.7 -4.0
comp=Z,0.7nm,0.5s,baz=70,slow=4.3,SNR=4.4
AKASG Malin Array Be 93.77 321 P P 03 56 09.7 -4.0
AKASG Malin Array Be 93.77 321 P P 03 56 09.7 -4.0
FINES FINESS Array B 93.81 332 P **P** 03 56 13.0 -0.7
comp=Z,1.1nm,0.5s,baz=50,slow=6.0,SNR=14
FINES LR LR 04 44 15.5
comp=Z,107nm,18.0s,baz=313,slow=39
FINES FINESS Array B 93.81 332 P **P** 03 56 13.0 -0.7
FINES FINESS Array B 93.81 332 P **P** 03 56 13.0 -0.7
IAS Iasi 95.34 318⇑ *i*P P 03 56 28.2 +7.2
IAS Iasi 95.34 318⇑ *i*P P 03 56 28.2 +7.2
TESR 96.06 317⇑ *i*P **P** 03 56 24.7 +0.3
VRI Vrincioaia 96.11 316 ⇓P **P** 03 56 24.1 -0.5
VRI Vrincioaia 96.11 316 ⇓⇓ *i*P **P** 03 56 24.1 -0.5
PLOR Plostina 96.17 316 ⇑P P 03 56 33.5 +8.6
PLOR Plostina 96.17 316 ⇑ *i*P P 03 56 33.5 +8.6
MLR Muntele Rosu 96.71 316 P **P** 03 56 27.3 -0.2
comp=Z,0.6nm,0.6s,baz=319,slow=6.2,SNR=15
MLR PP **PP** 04 00 23.5 +0.1
comp=Z,1.5nm,0.9s,baz=126,slow=5.9,SNR=5.4
MLR Muntele Rosu 96.71 316 ⇑P **P** 03 56 27.3 -0.2
MLR Muntele Rosu 96.71 316 P **P** 03 56 27.3 -0.2
MLR PP **PP** 04 00 23.5 +0.1
MLR Muntele Rosu 96.71 316 ⇑ *i*P **P** 03 56 27.3 -0.2
BURAR Bucovina Array 96.84 318 ⇓P **P** 03 56 27.7 -0.3
BURAR Bucovina Array 96.84 318 ⇓ *i*P **P** 03 56 27.7 -0.3
BUR08 Bucovina Ar. S 96.85 318 *e*P **P** 03 56 27.4 -0.6
UZH Uzhgorod 98.56 320 *e*P Pdif 03 56 38.2 +2.6
DAG Danmarks Havn 99.22 353 *i* P **Pdif** 03 56 37.0 -0.9
DAG pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 99.22 353 *i* P **Pdif** 03 56 37.0 -0.9
comp=Z,33nm,0.6s
RES Resolute Bay 99.57 10 *e*P **Pdif** 03 56 39.6 +0.1
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 99.57 10 *e*Pdif **Pdif** 03 56 39.6 +0.1
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 100.96 25 P **Pdif** 03 56 46.5 +0.6
comp=Z,0.5nm,0.5s,baz=295,slow=4.3,SNR=21
YKA PKIKP **PKiKP** 04 01 11.0 +0.3
comp=Z,0.6nm,0.6s,baz=297,slow=1.7,SNR=13
YKA PKKPbc **PKKPbc** 04 12 56.8 -3.4
comp=Z,0.9nm,0.7s,baz=113,slow=2.6,SNR=18
YKA Yellowknife Ar 100.96 25 P **Pdif** 03 56 46.5 +0.6
YKA Yellowknife Ar 100.96 25 P **Pdif** 03 56 46.5 +0.6
YKA PKiKP **PKiKP** 04 01 11.1 +0.3
YKA PKKPbc **PKKPbc** 04 12 56.8 -3.4
CLL Collm 103.55 324 *e*PP PP 04 01 17.0 +2.3
GERES GERESS Array B 103.97 321 PP PP 04 01 17.0 -1.0
comp=Z,1.0nm,0.8s,baz=25,slow=7.9,SNR=4.5
GERES GERESS Array B 103.97 321 PP PP 04 01 17.0 -1.0
NVAR Mina Array Bea 107.69 49 PKiKP **PKiKP** 04 01 24.6 +0.4
comp=Z,0.5nm,0.7s,baz=247,slow=2.2,SNR=4.9
NVAR PKKPbc **PKKPbc** 04 12 39.8 +0.4
comp=Z,0.7nm,0.8s,baz=137,slow=3.7,SNR=5.4
NVAR Mina Array Bea 107.69 49 PKiKP **PKiKP** 04 01 24.6 +0.4
NVAR PKKPbc **PKKPbc** 04 12 39.8 +0.4
HLID Hailey 108.78 43 *e*PKP **PKiKP** 04 01 27.5 +1.5
A17A Triple J Farms 108.96 36 ⇑P **PKiKP** 04 01 26.5 +0.5
baz=109
ELK Elko 109.20 46 *e*PKP **PKiKP** 04 01 27.7 +0.7
LPG La Plagne 109.61 320 *e*PP PP 04 02 02.5 +2.8
comp=Z,20nm,0.9s
LPL La Plagne 109.62 320 *e*PP PP 04 02 02.9 +3.3
comp=Z,48nm,1.2s
FFC Flin Flon 110.61 28 *e*PKiKP **PKiKP** 04 01 28.7 -0.2
FFC Flin Flon 110.61 28 *e*PKP **PKiKP** 04 01 28.7 -0.2
DUG Dugway 111.13 45 *e*PKiKP **PKiKP** 04 01 30.7 +0.2
DUG Dugway 111.13 45 *e*PKP **PKiKP** 04 01 30.7 +0.2
PDAR Pinedale Array 112.36 42 PKiKP **PKiKP** 04 01 33.1 +0.3
comp=Z,0.6nm,0.7s,baz=197,slow=4.6,SNR=5.9
PDAR PKKPbc **PKKPbc** 04 12 22.9 -1.7
comp=Z,1.4nm,0.7s,baz=120,slow=6.0,SNR=11
PDAR Pinedale Array 112.36 42 PKiKP **PKiKP** 04 01 33.1 +0.3
PDAR PKKPbc **PKKPbc** 04 12 22.9 -1.7
D22A Cohagen 112.48 36 ⇓P **PKiKP** 04 01 33.8 +1.0
baz=112
I20A Worland 112.78 40 ⇑P **PKiKP** 04 01 33.7 +0.2
baz=113
S16A Weppner Ranch, 112.92 48 ⇑P **PKiKP** 04 01 34.4 +0.4
baz=113
E22A Miles City 112.97 37 ⇓P **PKiKP** 04 01 34.1 +0.4
baz=113
J20A Shoshoni 113.07 41 ⇑P **PKiKP** 04 01 34.5 +0.4
baz=113
K20A Yellowstone Ra 113.21 42 ⇑P **PKiKP** 04 01 35.2 +0.8
baz=113
C24A Savage 113.31 35 ⇑P **PKiKP** 04 01 35.4 +1.1
baz=113
E23A Ismay 113.32 37 ⇑P **PKiKP** 04 01 35.5 +1.1
baz=113
I21A Big Trails, Te 113.38 40 ⇑P **PKiKP** 04 01 34.6 -0.1
baz=113
F23A Volborg 113.65 38 ⇓P **PKiKP** 04 01 35.5 +0.4
baz=114
N20A Spence Gulch, 114.06 43 ⇑P PKPdf 04 01 36.5 +0.3
baz=114
J22A Midwest 114.09 40 ⇓P PKPdf 04 01 35.8 -0.2
baz=114
Q19A Hogan Spring (114.14 46 ⇓P PKPdf 04 01 36.7 +0.5
baz=114
H24A Dirks Ranch, A 114.66 38 ⇓P PKPdf 04 01 37.4 +0.4
baz=115
Q20A Ridgley Place, 114.83 45 ⇓P PKPdf 04 01 38.7 +1.1
baz=115
V18A Ganado 114.91 49 ⇓P PKPdf 04 01 39.2 +1.2
baz=115
PV01 Paradox Valley 114.97 46 *e*PKPdf PKPdf 04 01 38.2 +0.2
RSSD Black Hills 115.29 39 *e*PKiKP **PKPdf** 04 01 37.7 -0.7
RSSD Black Hills 115.29 39 *e*PKPdf **PKPdf** 04 01 37.7 -0.7
TUC Tucson 115.46 53 *e*PKiKP **PKPdf** 04 01 40.3 +1.4
TUC Tucson 115.46 53 *e*PKPdf **PKPdf** 04 01 40.3 +1.4
S21A Coal Bank Pass 115.72 46 ⇑P **PKPdf** 04 01 41.1 +1.5
baz=116
X19A St. Johns 115.87 50 ⇓P **PKPdf** 04 01 41.1 +1.3
baz=116
O23A Lake Granby, G 115.93 43 ⇓P **PKPdf** 04 01 40.1 +0.2
baz=116
T21A Navajo Lake 116.18 47 ⇓P **PKPdf** 04 01 41.4 +1.0
baz=116
W20A Ramah 116.21 49 ⇑P **PKPdf** 04 01 41.4 +0.9
baz=116
ULM Lac du Bonnet 116.31 29 PKP **PKPdf** 04 01 39.6 -0.3
comp=Z,3.9nm,0.7s,baz=334,slow=3.1,SNR=8.6
ULM PKKPbc **PKKPab** 04 12 14.1 -0.7
comp=Z,2.3nm,0.8s,baz=182,slow=2.6,SNR=4.6
ULM Lac du Bonnet 116.31 29 *e*PKiKP **PKPdf** 04 01 39.0 -0.9
ULM 04 12 14.1
ULM Lac du Bonnet 116.31 29 *e*PKPdf **PKPdf** 04 01 39.0 -0.9
ULM PKP **PKPdf** 04 01 39.6 -0.3
ULM PKKPbc **PKKPab** 04 12 14.1 -0.7
K26A Motz Farm, Whi 116.55 40 ⇑P **PKPdf** 04 01 40.8 +0.1
baz=116
R23A Moffat 116.90 45 ⇑P **PKPdf** 04 01 42.9 +1.1
baz=117
Z20A Nine Sixteen R 116.90 51 ⇑P **PKPdf** 04 01 43.2 +1.4
baz=117
U22A Llaves 116.94 47 ⇓P **PKPdf** 04 01 43.5 +1.7
baz=117
319A Douglas 116.98 53 ⇓P **PKPdf** 04 01 43.3 +1.4
baz=117
X21A Alamocita Cree 117.02 50 ⇑P **PKPdf** 04 01 43.5 +1.4
baz=117
Y21A Point of Rocks 117.27 50 ⇑P **PKPdf** 04 01 44.1 +1.5
baz=117
SDCO Great Sand Dun 117.33 45 *e*PKPdf **PKPdf** 04 01 43.8 +1.1
SDCO Great Sand Dun 117.33 45 ⇓P **PKPdf** 04 01 43.8 +1.1
baz=117
SDCO ⇓P **PKPdf** 04 01 43.8 +1.1
baz=117
220A Playas Peak, P 117.39 52 ⇑P **PKPdf** 04 01 43.7 +0.9
baz=117
P25A Willow Gulch B 117.45 43 ⇑P **PKPdf** 04 01 43.6 +1.0
baz=117
320A Kipp Ranch, An 117.59 53 ⇑P **PKPdf** 04 01 44.4 +1.2
baz=118
ANMO Albuquerque 117.81 49 PKP **PKPdf** 04 01 44.8 +1.2
comp=Z,3.0nm,0.8s,baz=218,slow=3.5,SNR=9.5
ANMO Albuquerque 117.81 49 *e*PKiKP **PKPdf** 04 01 44.3 +0.8
ANMO Albuquerque 117.81 49 *e*PKPdf **PKPdf** 04 01 44.3 +0.8
ANMO PKP **PKPdf** 04 01 44.8 +1.2
Y22A Socorro 117.84 50 ⇑P **PKPdf** 04 01 44.7 +1.1
baz=118
P26A Davis Ranch, A 117.99 43 ⇑P **PKPdf** 04 01 44.1 +0.4
baz=118
R25A Fountain Ranch 118.00 44 ⇓P **PKPdf** 04 01 44.4 +0.7
baz=118
Z22A Elephant Butte 118.11 51 ⇑P **PKPdf** 04 01 45.4 +1.3
baz=118
122A Conniff Cattle 118.30 51 ⇓P **PKPdf** 04 01 46.1 +1.6
baz=118
TAM Tamanrasset 118.33 297 *e*PKiKP **PKPdf** 04 01 45.7 +0.9
TAM Tamanrasset 118.33 297 *e*PKPdf **PKPdf** 04 01 45.7 +0.9
V24A Rampart Ranch, 118.37 47 ⇓P **PKPdf** 04 01 45.9 +1.2
baz=118
T25A Trinidad 118.37 46 ⇓P **PKPdf** 04 01 45.5 +0.9
baz=118
222A Williams Famil 118.44 52 ⇓P **PKPdf** 04 01 45.8 +1.0
baz=118
W24A Lazy 6 Ranch, 118.49 48 ⇓P **PKPdf** 04 01 46.0 +1.2
baz=118
R26A Arlington 118.52 44 ⇑P **PKPdf** 04 01 45.6 +0.9
baz=118
Y23A Lovelace Mesa, 118.53 49 ⇓P **PKPdf** 04 01 46.0 +1.0
baz=118
U25A Circle Dot Ran 118.71 46 ⇑P **PKPdf** 04 01 46.4 +1.2
baz=119
V25A Rancho No Teng 118.80 47 ⇓P **PKPdf** 04 01 46.2 +0.7
baz=119
S26A Kim 118.82 45 ⇑P **PKPdf** 04 01 45.9 +0.6
baz=119
R27A Eads 118.97 44 ⇑P **PKPdf** 04 01 46.2 +0.7
baz=119
Y24A Capitan 119.01 49 ⇑P **PKPdf** 04 01 46.8 +0.9
baz=119
W25A X Bar L Ranch, 119.19 48 ⇑P **PKPdf** 04 01 46.7 +0.6
baz=119
ESDC Sonseca Array 119.30 318 PP PP 04 03 05.7 -2.1
comp=Z,1.6nm,0.9s,baz=54,slow=8.4,SNR=5.7
ESDC Sonseca Array 119.30 318 PP PP 04 03 05.7 -2.1
Z24A Sheeppen Canyo 119.31 50 ⇑P **PKPdf** 04 01 46.5 0.0
baz=119
X25A Clemmons Ranch 119.34 48 ⇓P **PKPdf** 04 01 47.2 +0.8
baz=119
Y25A Mesa, Roswell 119.57 49 ⇓P **PKPdf** 04 01 47.1 +0.3
baz=120
Z25A Roswell 119.82 50 ⇑P **PKPdf** 04 01 48.2 +0.9
baz=120
MNTX Cornudas Mount 119.95 52 *e*PKPdf **PKPdf** 04 01 48.5 +1.1
MNTX Cornudas Mount 119.95 52 ⇑P **PKPdf** 04 01 48.3 +0.8
baz=120
MNTX ⇑P **PKPdf** 04 01 48.3 +0.8
baz=120
324A Moseley Ranch, 119.97 52 ⇓P **PKPdf** 04 01 48.3 +0.5
baz=120
ECSD EROS Data Cent 119.97 36 *e*PKPdf **PKPdf** 04 01 47.0 -0.2
T28A Walsh 120.01 45 ⇑P **PKPdf** 04 01 48.1 +0.5
baz=120
125A Gardner Draw, 120.12 50 ⇑P **PKPdf** 04 01 48.7 +0.8
baz=120
325A Bean Ranch, Si 120.40 52 ⇑P **PKPdf** 04 01 49.1 +0.5
baz=120
BGNE Belgrade 120.40 38 ⇓P **PKPdf** 04 01 48.2 +0.1
baz=120
126A Clayton Basin, 120.62 50 ⇑P **PKPdf** 04 01 49.2 +0.3
baz=121
425A Indio Mountain 120.62 52 ⇑P **PKPdf** 04 01 49.5 +0.5
baz=121
Y27A Causey 120.73 48 ⇑P **PKPdf** 04 01 49.7 +0.6
baz=121
Z27A Tatum 120.94 49 ⇓P **PKPdf** 04 01 49.9 +0.4
baz=121

SPMN	St. Paul	121.16	32	⇑P		PKPdf	04 01 50.0	+0.6
	baz=121							
326A	Caldwell Ranch	121.20	51	⇓P		PKPdf	04 01 50.4	+0.4
	baz=121							
AMTX	Amarillo	121.37	47	*e*PKPdf		PKPdf	04 01 51.0	+0.7
526A	Mary Lane Ranc	121.61	53	⇑P		PKPdf	04 01 51.5	+0.6
	baz=122							
626A	Big Bend Ranch	121.78	53	⇑P		PKPdf	04 01 51.8	+0.6
	baz=122							
427A	Hayter Ranch,	121.84	52	⇑P		PKPdf	04 01 52.0	+0.8
	baz=122							
328A	Wristen Ranch,	122.08	51	⇑P		PKPdf	04 01 52.3	+0.7
	baz=122							
TXAR	Lajitas Array	122.24	53	PKP		PKPdf	04 01 52.7	+0.6
	comp=Z,2.6nm,0.7s,baz=221,slow=0.8,SNR=33							
TXAR				PKKPbc		PKKPab	04 11 49.7	+0.5
	comp=Z,0.9nm,0.8s,baz=123,slow=9.1,SNR=12							
TXAR	Lajitas Array	122.24	53	PKIKP		PKPdf	04 01 52.7	+0.6
TXAR	Lajitas Array	122.24	53	PKP		PKPdf	04 01 52.7	+0.6
TXAR				PKKPbc		PKKPab	04 11 49.7	+0.5
SCHQ	Schefferville	122.34	10	PKP		PKPdf	04 01 51.8	+0.4
	comp=Z,5.1nm,0.7s,baz=323,slow=3.2,SNR=6.2							
SCHQ	Schefferville	122.34	10	PKP		PKPdf	04 01 51.8	+0.4
627A	Terlingua Ranc	122.42	53	⇑P		PKPdf	04 01 53.1	+0.7
	baz=122							
428A	Kincaid Ranch,	122.45	51	⇑P		PKPdf	04 01 53.6	+1.1
	baz=122							
528A	Cox Ranch, San	122.61	52	⇑P		PKPdf	04 01 53.7	+0.9
	baz=123							
628A	Black Gap, Mar	122.80	53	⇑P		PKPdf	04 01 54.2	+1.1
	baz=123							
WMOK	Wichita Mounta	123.53	45	*e*PKIKP		PKPdf	04 01 54.6	+0.3
WMOK	Wichita Mounta	123.53	45	*e*PKPdf		PKPdf	04 01 54.6	+0.3
JFWS	Jewell Farm	124.07	33	*e*PKIKP		PKPdf	04 01 54.5	-0.6
JFWS	Jewell Farm	124.07	33	*e*PKPdf		PKPdf	04 01 54.5	-0.6
TORD	Torodi Ar. Bea	124.10	287	PKP		PKPdf	04 01 55.5	-0.4
	comp=Z,5.1nm,0.8s,baz=59,slow=2.0,SNR=40							
TORD				PP		PP	04 03 44.6	+3.2
	comp=Z,1.8nm,0.9s,baz=78,slow=7.4,SNR=5.0							
TORD				SKP			04 05 20.6	
	comp=Z,1.5nm,0.9s,baz=74,slow=2.2,SNR=4.2							
TORD				PKKPbc		PKKPab	04 11 42.6	+1.4
	comp=Z,1.7nm,0.8s,baz=275,slow=3.6,SNR=8.7							
TORD	Torodi Ar. Bea	124.10	287	PKP		PKPdf	04 01 55.5	-0.4
TORD				PP		PP	04 03 44.6	+3.2
TORD				SKP			04 05 20.6	
TORD				PKKPbc		PKKPab	04 11 42.6	+1.4
JCT	Junction City	124.80	50	*e*PKIKP		PKPdf	04 01 57.6	+0.7
JCT	Junction City	124.80	50	*e*PKPdf		PKPdf	04 01 57.6	+0.7
JCT	Junction City	124.80	50	⇑P		PKPdf	04 01 57.6	+0.7
	baz=125							
OLIL	Olney	128.10	35	*e*PKPdf		PKPdf	04 02 04.1	+1.3
WCI	Wyandotte Cave	129.48	34	*e*PKIKP		PKPdf	04 02 06.5	+0.9
WCI	Wyandotte Cave	129.48	34	*e*PKPdf		PKPdf	04 02 06.5	+0.9
WVT	Waverly	130.00	38	*e*PKIKP		PKPdf	04 02 06.9	+0.3
WVT	Waverly	130.00	38	*e*PKPdf		PKPdf	04 02 06.9	+0.3
PLAL	Pickwick Lake	130.59	39	*e*PKPdf		PKPdf	04 02 07.7	0.0
DBIC	Dimbokro	131.57	281	PKP		PKPdf	04 02 11.2	+1.0
	comp=Z,3.4nm,0.6s,baz=98,slow=1.7,SNR=6.8							
DBIC				SKPbc		SKPbc	04 05 25.8	-0.7
	comp=Z,15nm,0.9s,baz=80,slow=4.2,SNR=16							
DBIC	Dimbokro	131.57	281	*e*PKIKP		PKPdf	04 02 10.9	+0.8
DBIC	Dimbokro	131.57	281	*e*PKPdf		PKPdf	04 02 10.9	+0.8
DBIC				PKP		PKPdf	04 02 11.2	+1.0
DBIC				SKPbc		SKPbc	04 05 25.8	-0.7
PLCA	Paso Flores	138.00	160	PKP		PKPdf	04 02 23.1	+1.5
	comp=Z,2.8nm,0.7s,baz=190,slow=2.9,SNR=7.6							
PLCA	Paso Flores	138.00	160	*e*PKIKP		PKPdf	04 02 22.2	+0.6
PLCA	Paso Flores	138.00	160	*e*PKPdf		PKPdf	04 02 22.2	+0.6
PLCA				PKP		PKPdf	04 02 23.1	+1.5
JTS	JuntasAbangare	145.65	69	*e*PKP2		PKPab	04 02 37.2	+0.5
JTS	JuntasAbangare	145.65	69	*e*PKPbc		PKPab	04 02 37.2	+0.5
LCO	Las Campanas	147.94	149	*e*PKPbc		PKPbc	04 02 42.8	+0.1
LVC	Limon Verde	153.97	144	*e*PKPbc		PKPbc	04 02 57.7	+0.6
LVC				*e*PKPab		PKPab	04 03 12.5	+1.9
OTAV	Otavalo	154.10	86	*e*PKPbc		PKPbc	04 02 58.1	+0.2
OTAV				*e*PKPab		PKPab	04 03 11.9	+0.1
CPUP	Villa Florida	155.21	170	PKP		PKPdf	04 02 51.8	+1.5
	comp=Z,0.5nm,0.5s,baz=148,slow=3.2,SNR=3.6							
CPUP				PKPbc		PKPab	04 02 59.7	-16
	comp=Z,5.5nm,0.9s,baz=203,slow=2.0,SNR=14							
CPUP				PKPab		PKPab	04 03 15.5	+0.1
	comp=Z,8.4nm,0.8s,baz=167,slow=2.2,SNR=13							
CPUP	Villa Florida	155.21	170	*e*PKIKP		PKPdf	04 02 50.5	+0.2
CPUP				*e*			04 03 15.4	
CPUP	Villa Florida	155.21	170	*e*PKPdf		PKPdf	04 02 50.5	+0.2
CPUP				PKP		PKPab	04 02 51.8	-24
CPUP				*e*PKPbc			04 02 59.1	
CPUP				PKPbc			04 02 59.7	
CPUP				*e*PKPab		PKPab	04 03 15.4	+0.1
ROSC	El Rosal	157.33	73	PKP		PKPdf	04 02 54.7	+0.8
	comp=Z,2.1nm,0.4s,baz=102,slow=20,SNR=4.1							
ROSC	El Rosal	157.33	73	*e*PKPdf		PKPdf	04 02 54.5	+0.6
ROSC				PKP		PKPab	04 02 54.7	-31
LPAZ	La Paz	159.03	134	PKP		PKPdf	04 02 57.1	+1.0
	comp=Z,2.2nm,0.9s,baz=140,slow=1.4,SNR=6.0							
LPAZ				PKPab		PKPab	04 03 33.6	+0.6
	comp=Z,6.8nm,0.9s,baz=195,slow=2.7,SNR=15							
LPAZ	La Paz	159.03	134	*e*PKIKP		PKPdf	04 02 56.3	+0.1
LPAZ				*e*			04 03 33.5	
LPAZ	La Paz	159.03	134	*e*PKPdf		PKPdf	04 02 56.2	+0.1
LPAZ				PKP		PKPab	04 02 57.1	-36
LPAZ				*e*PKPab		PKPab	04 03 33.5	+0.5
SDV	Santo Domingo	159.14	59	*e*PKPdf		PKPdf	04 02 55.7	-0.2
SAML	Samuel	167.33	124	*e*PKPdf		PKPdf	04 03 03.2	-0.1
SAML				*e*PKPab		PKPab	04 04 08.4	-0.3

*ISCJB **07** 03:43:58.2±0.5,22.97S±0.06×179.04E±0.09, h579km, mb4.5/28, Error ellipse: s-maj=11.2km s-min=7.7km az=9.3*

*NEIC **07** 03:43:58.3±0.8,23.01S×179.13E, h572km±8km, mb4.7/16, Error ellipse: s-maj=11.0km s-min=8.7km az=106.0*

*IDC **07** 03:43:58.5±1.9,23.03S×179.12E, h569km±19km, mb3.8/16, mb1 3.9/18, mb1mx3.8/25, mbtmp3.8/18, Error ellipse: s-maj=17.3km s-min=14.2km az=77.0*

ISC 07 03:43:59.1±0.5,23.01S±0.08×179.09E±0.10, h579km, n125, σ0§81/128, mb4.6/28, 15C-8D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.34	349	*e*P	P	03 45 31.3	-2.4
	47nm,0.7s						
DZM	Mont Dzumac	11.72	272	P	P	03 46 34.1	-0.9
	0.5nm,0.3s,baz=53,slow=24,SNR=4.0						
DZM	Mont Dzumac	11.72	272	*e*P	P	03 46 34.7	-0.4
	22nm,0.9s						
OUZ	Omahuta	13.08	200	*e*P	P	03 46 49.7	+1.2
	32nm,0.9s						
URZ	Urewera	15.29	186	P	P	03 47 07.9	-2.6
	3.8nm,0.3s,baz=306,slow=5.0,SNR=15						
URZ	Urewera	15.29	186	*e*P	P	03 47 07.4	-3.1
	17nm,0.7s						
URZ				*e*S	S	03 49 45.9	-1.2
RPZ	Rata Peaks	21.69	196	P	P	03 48 09.0	+0.2
	5.7nm,0.5s,baz=350,slow=5.0,SNR=3.6						
RPZ	Rata Peaks	21.69	196	P	P	03 48 09.0	+0.2
ARMA	Armidale	25.57	247	*e*P	P	03 48 44.8	+1.3
ARMA	Armidale	25.57	247	*e*P	P	03 48 44.7	+1.3
	12nm,0.6s						
EIDS	Eidsvold	25.64	259	*e*P	P	03 48 44.2	+0.3
	47nm,1.3s						
CNB	Canberra Magne	28.59	238	*e*P	P	03 49 11.0	+1.2
	251nm,0.8s						
CTA	Charters Tower	30.64	269	P	P	03 49 28.3	+0.7
	51nm,0.5s,baz=98,slow=12,SNR=39						
CTA	Charters Tower	30.64	269	*e*P	P	03 49 28.3	+0.7
	42nm,0.5s						
CTA	Charters Tower	30.64	269	P	P	03 49 28.3	+0.7
CTAO	Charters Tower	30.64	269	*e*P	P	03 49 28.0	+0.4
	64nm,0.6s						
PMG	Port Moresby	33.41	289	P	P	03 49 51.3	+0.2
	36nm,0.6s,baz=128,slow=7.4,SNR=9.4						
PMG	Port Moresby	33.41	289	P	P	03 49 51.3	+0.2
STKA	Stephens Creek	34.29	247	*e*P	P	03 49 58.8	+0.6
	380nm,0.9s						
COEN	Coen	35.15	278	*e*P	P	03 50 05.8	+0.2
	49nm,0.6s						
ASAR	Alice Springs	41.36	260	P	P	03 50 55.9	0.0
	30nm,0.8s,baz=88,slow=8.1,SNR=22						
ASAR	Alice Springs	41.36	260	P	P	03 50 55.9	0.0
WRA	Warramunga Arr	41.63	265	P	P	03 50 57.4	-0.6
	15nm,0.6s,baz=100,slow=8.5,SNR=6.8						
WRA	Warramunga Arr	41.63	265	P	P	03 50 57.4	-0.6

FORT	Forrest	45.84	249	*e*P	P		03 51 29.5	-0.8
	102nm,0.8s							
FORT	Forrest	45.84	249	*e*	P		03 51 29.8	-0.5
FITZ	Fitzroy Crossi	50.06	265	P	P		03 52 02.3	+0.4
	8.0nm,0.5s,baz=118,slow=11,SNR=5.1							
FITZ	Fitzroy Crossi	50.06	265	P	P		03 52 02.3	+0.4
DRV	Dumont d'Urvil	50.10	199	S	sS		04 01 44.0	+1.3
MBWA	Marble Bar	54.70	260	*e*P	P		03 52 33.8	-1.2
	28nm,0.7s							
NWAO	Narrogin (SRO)	54.84	245	P	P		03 52 35.2	-0.6
	14nm,0.8s,baz=125,slow=6.8,SNR=3.1							
NWAO	Narrogin (SRO)	54.84	245	P	P		03 52 35.2	-0.6
VNDA	Vanda	55.19	185	*e*P	P		03 52 37.9	+0.4
	12nm,1.6s							
QSPA	South Pole Qui	67.07	180	P	P		03 53 55.9	+0.5
	5.9nm,0.6s,baz=276,slow=0.1,SNR=18							
QSPA	South Pole Qui	67.07	180	*e*P	P		03 53 55.8	+0.4
	6.0nm,0.8s							
JOW	Kunigami	69.77	312	P	P		03 54 12.3	+0.1
	20nm,0.7s,baz=116,slow=6.3,SNR=5.8							
JOW	Kunigami	69.77	312	P	P		03 54 12.3	+0.1
MJAR	Matsushiro Arr	70.69	326	P	P		03 54 17.1	-0.3
	3.7nm,0.8s,baz=172,slow=5.6,SNR=7.1							
MJAR	Matsushiro Arr	70.69	326	P	P		03 54 17.1	-0.3
YSS	Yuzh-Sakhalins	76.98	335	*e*P	P		03 54 53.9	+1.2
KSRS	Korea Array	77.03	320	P	P		03 54 54.0	+0.9
	3.4nm,0.8s,baz=135,slow=5.4,SNR=8.2							
KSAR	Wonju Array Be	77.04	320	P	P		03 54 54.0	+0.8
PETK	Petropavlovsk-	78.05	347	P	P		03 54 58.5	+0.1
	3.3nm,0.6s,baz=126,slow=7.9,SNR=4.4							
PETK	Petropavlovsk-	78.05	347	P	P		03 54 58.5	+0.1
USRK	Ussuriysk Arra	79.56	328	P	P		03 55 07.7	+1.2
	3.5nm,0.8s,baz=141,slow=4.6,SNR=4.7							
KULM	Kulim	81.47	279	*e*P	P		03 55 16.7	-0.5
NVAR	Mina Array Bea	84.70	44	P	P		03 55 33.0	0.0
	0.3nm,0.6s,baz=226,slow=6.1,SNR=3.2							
NVAR	Mina Array Bea	84.70	44	P	P		03 55 33.0	0.0
ENH	Enshi	85.24	306	*e*P	P		03 55 35.7	+0.2
SNAA	Sanae	85.56	179	*e*P	P		03 55 36.5	+0.1
	1.7nm,0.8s							
CHTO	Chiang Mai	88.58	291	*e*P	P		03 55 49.8	-1.6
	9.2nm,1.1s							
TXAR	Lajitas Array	90.68	58	P	P		03 56 00.8	-0.3
	0.5nm,0.8s,baz=210,slow=6.6,SNR=4.8							
TXAR	Lajitas Array	90.68	58	P	P		03 56 00.8	-0.3
COLA	College	91.25	13	*e*P	P		03 56 02.7	0.0
	8.0nm,1.3s							
ILAR	Eielson Array	91.37	14	P	P		03 56 04.7	+1.4
	1.2nm,0.9s,baz=244,slow=6.0,SNR=5.0							
ILAR	Eielson Array	91.37	14	P	P		03 56 04.7	+1.4
INK	Inuvik	97.41	16	*e*P	P		03 56 30.6	+0.1
	15nm,1.5s							
KURK	Kurchatov	113.98	317	PKP	PKiKP		04 01 31.6	-1.0
	0.9nm,0.8s,baz=101,slow=1.7,SNR=5.9							
KURK	Kurchatov	113.98	317	PKP	PKiKP		04 01 31.6	-1.0
BVAR	Borovoye Array	119.22	319	PKP	PKPdf		04 01 41.5	-1.2
	1.3nm,0.5s,baz=124,slow=2.2,SNR=9.4							
BVAR	Borovoye Array	119.22	319	PKP	PKPdf		04 01 41.5	-1.2
BRVK	Borovoye	119.28	319	*e*PKPdf	PKPdf		04 01 42.2	-0.6
ARU	Arti	125.67	324	*e*PKPdf	PKPdf		04 01 54.7	-0.3
AKTO	Aktyubinsk	127.08	317	PKP	PKPdf		04 01 58.2	+0.3
	1.5nm,0.7s,baz=132,slow=5.3,SNR=5.7							
AKTO	Aktyubinsk	127.08	317	PKP	PKPdf		04 01 58.2	+0.3
FINES	FINESS Array B	137.34	341	PKP	PKPdf		04 02 18.0	+1.2
	4.7nm,0.8s,baz=74,slow=2.8,SNR=5.4							
FINES				SKP			04 04 57.0	
	3.5nm,0.9s,baz=72,slow=6.2,SNR=4.5							
FINES	FINESS Array B	137.34	341	PKP	PKPdf		04 02 18.0	+1.2
FINES				SKP			04 04 57.0	
HFS	Hagfors	141.51	348	PKhKP	PKPpre		04 02 19.4	
	1.6nm,0.4s,baz=64,slow=6.8,SNR=13							
HFS	Hagfors	141.51	348	PKPpre	PKPpre		04 02 19.4	
AKASG	Malin Array Be	143.77	327	PKP	PKPbc		04 02 27.3	-0.5
	7.2nm,0.5s,baz=45,slow=4.0,SNR=30							
AKASG	Malin Array Be	143.77	327	PKP	PKPbc		04 02 27.3	-0.5
AKBB	Malin Array Si	143.77	327	*e*PKPdf	PKPbc		04 02 26.3	-1.6
KIEV	Kiev	143.78	327	*e*PKPdf	PKPbc		04 02 26.8	-1.1
ASF	Jabal al Asfar	145.41	294	PKPbc	PKPbc		04 02 33.7	+0.2
	4.8nm,0.9s,baz=323,slow=2.6,SNR=8.2							
ASF	Jabal al Asfar	145.41	294	PKPbc	PKPbc		04 02 33.7	+0.2
BR131	Keskin Array S	146.37	308	*e*PKPdf	PKPdf		04 02 33.3	-0.4
BR131				*e*PKPbc	PKPbc		04 02 35.7	-0.4
BR131				*e*PKPab	PKPab		04 02 38.8	+0.1
BRTR	Keskin Array B	146.37	308	PKPbc	PKPbc		04 02 36.0	-0.1
	3.8nm,0.7s,baz=111,slow=1.9,SNR=20							
BRTR	Keskin Array B	146.37	308	PKPbc	PKPbc		04 02 36.0	-0.1
MMAI	Mount Meron Ar	146.57	295	PKPbc	PKPbc		04 02 37.8	+1.0
	6.0nm,0.5s,baz=72,slow=5.4,SNR=17							
MMAI	Mount Meron Ar	146.57	295	PKPbc	PKPbc		04 02 37.8	+1.0
LEOM	Leova	146.82	322	⇓*i*P	PKPbc		04 02 37.2	+0.3
TLCR		147.21	320	⇓*i*P	PKPdf		04 02 33.7	-0.9
EIL	Elat	147.27	289	PKPbc	PKPbc		04 02 38.6	0.0
	3.4nm,0.7s,baz=275,slow=3.2,SNR=3.5							
EIL	Elat	147.27	289	PKPbc	PKPbc		04 02 38.6	0.0
KWP	Kalwaria Pacla	147.59	331	*e*P	PKPbc		04 02 39.5	+0.7
KWP	Kalwaria Pacla	147.59	331	⇓*i*P	PKPbc		04 02 39.2	+0.4
TESR		147.69	323	⇓*i*P	PKPbc		04 02 40.2	+1.0
BUR08	Bucovina Ar. S	147.75	326	*e*PKPbc	PKPbc		04 02 40.8	+1.3
BURAR	Bucovina Array	147.76	326	⇑*i*P	PKPbc		04 02 40.9	+1.5
STHS	Stebnicka Huta	148.38	332	*e*PKP	PKPbc		04 02 41.5	+0.7
CRVS	Cervenica-Dubn	148.68	331	*e*PKP	PKPbc		04 02 41.9	+0.3
MLR	Muntele Rosu	148.70	322	PKPbc	PKPbc		04 02 41.8	0.0
	0.8nm,0.8s,baz=30,slow=4.2,SNR=10							
MLR	Muntele Rosu	148.70	322	PKPbc	PKPbc		04 02 41.8	0.0
TRPA	Tarpa	148.74	329	⇑*i*P	PKPbc		04 02 39.8	-1.9
KSP	Ksiaz	149.16	339	*e*P	PKPbc		04 02 43.3	+0.6
VOIR		149.23	323	⇓*i*P	PKPbc		04 02 43.8	+0.7
OKC	Ostrava-Krasne	149.32	336	⇑*e*PKP	PKPbc		04 02 43.3	+0.3
UPC	Upice	149.54	338	⇑*e*PKP	PKPbc		04 02 44.0	+0.4
DPC	Dobruska-Polom	149.56	338	⇑*e*PKP	PKPbc		04 02 44.2	+0.5
DPC				*e*PKPAB	PKPab		04 02 52.1	+0.9
MORC	Moravsky Berou	149.60	336	*e*PKPbc	PKPbc		04 02 43.9	+0.1
MORC	Moravsky Berou	149.60	336	⇓*i*P	PKPbc		04 02 44.3	+0.5
KRLC	Kraliky	149.63	337	⇑*e*PKP	PKPbc		04 02 44.2	+0.3
CLL	Collm	149.76	343	⇑*i*PKPbc	PKPbc		04 02 44.2	+0.2
	comp=Z,18nm,0.9s							
CLL				*i* PKiKP	PKiKP		04 02 46.4	+1.7
CLL				*e*PKPab	PKPab		04 02 52.0	+0.1
HUMR	Humele	149.82	322	⇑*i*P	PKPbc		04 02 44.1	-0.3
BRG	Berggiesshubel	149.88	341	*i* P	PKPbc		04 02 44.6	+0.2
	comp=Z,16nm,1.0s							
PVCC	Panska Ves	149.99	340	⇑*e*PKP	PKPbc		04 02 45.1	+0.5
PSZ	Piszkesteto	150.10	331	*e*PKPbc	PKPbc		04 02 45.0	-0.1
VYHS	Vyhne	150.12	333	*e*PKP	PKPbc		04 02 45.2	+0.2
KOLL	Kolacno	150.23	334	*e*PKP	PKPbc		04 02 45.8	+0.6
VRAC	Vranov	150.34	337	PKPab	PKPab		04 02 54.0	-0.5
	comp=Z,3.5nm,0.6s,baz=116,slow=2.4,SNR=5.8							
VRAC	Vranov	150.34	337	PKPab	PKPab		04 02 54.0	-0.5
VRAC	Vranov	150.34	337	⇓*i*P	PKPab		04 02 55.3	+0.8
PRU	Pruhonice	150.47	340	⇑*e*PKP	PKPbc		04 02 45.8	+0.1
BZS	Buzias	150.95	326	⇑*i*P	PKPbc		04 02 47.4	+0.4
KHC	Kasperske Hory	151.52	340	⇑*e*PKP	PKPbc		04 02 48.3	+0.1
KHC				*e*PKPAB	PKPab		04 03 00.2	+0.7
GERES	GERESS Array B	151.73	339	PKPbc	PKPbc		04 02 48.8	0.0
	comp=Z,1.9nm,0.7s,baz=17,slow=2.3,SNR=10							
GERES				PKPab	PKPab		04 03 00.5	+0.1
	comp=Z,0.9nm,0.7s,baz=41,slow=4.4,SNR=5.0							
GERES	GERESS Array B	151.73	339	PKPbc	PKPbc		04 02 48.8	0.0
GERES				PKPab	PKPab		04 03 00.5	+0.1
CONA	Conrad Observa	151.75	336	⇑*i*PKiKP	PKPbc		04 02 48.9	+0.1
	comp=Z,3.3nm,0.7s							
PKSM	Moragy	151.96	330	⇑*i*P	PKPbc		04 02 48.8	-0.4
VTS	Vitosha	152.01	320	⇓*i*P	PKPbc		04 02 49.6	-0.1
WLF	Walferdange	152.82	350	*e*PKPdf	PKPdf		04 02 43.2	0.0
WLF				*e*PKPbc	PKPbc		04 02 50.7	-0.3
DAVA	Damuels	154.27	343	⇑*i*PKPab	PKPab		04 03 11.8	+0.4
	comp=Z,9.7nm,1.2s							
DAVOX	Davos/Dischmat	154.74	342	PKPab	PKPab		04 03 13.9	+0.5
	comp=Z,2.4nm,0.7s,baz=304,slow=3.6,SNR=6.6							
DAVOX	Davos/Dischmat	154.74	342	PKPab	PKPab		04 03 13.9	+0.5
DBIC	Dimbokro	163.32	166	*e*PKPdf	PKPdf		04 02 58.0	+1.2

*DJA **07** 03:56:35,2.00S×129.81E, h10km, MLv3.5/3*

IDC 07 03:56:36.9±2.4, 0.78S×133.16E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/17, Error ellipse: s-maj=101.0km s-min=25.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.74	203	P	P	04 00 56.6	-0.8
	0.1nm,0.3s,baz=34,slow=11,SNR=3.1						
WRA	Warramunga Arr	19.09	177	P	P	04 01 01.5	+0.2
	0.2nm,0.3s,baz=356,slow=12,SNR=9.0						
ASAR	Alice Springs	22.77	178	P	P	04 01 41.5	+0.4
	0.4nm,0.4s,baz=357,slow=10,SNR=6.7						
CBIJ	Chichi jima	29.04	17	LR	LR	04 12 57.3	
	comp=Z,64nm,18.6s,baz=101,slow=34						
MKAR	Makanchi Array	64.92	324	P	P	04 07 18.3	-0.1
	0.2nm,0.6s,baz=92,slow=7.2,SNR=2.5						

*IDC **07** 03:58:27.8±5.2,36.01N×71.52E, h76km±45km, mb3.8/13, mb1 3.9/17, mb1mx3.7/32, mbtmp3.8/17, ML3.8/4, Error ellipse: s-maj=27.4km s-min=19.0km az=162.0*

*MOS **07** 03:58:29.9±1.0,36.20N×71.60E, h102km, mb4.4/11, Error ellipse: s-maj=11.9km s-min=6.5km az=91.6*

*ISCJB **07** 03:58:31.2±0.3,36.21N±0.03×71.65E±0.04, h119km, mb4.2/20, Error ellipse: s-maj=4.9km s-min=3.6km az=164.7*

*NEIC **07** 03:58:31.3±0.9,36.22N×71.52E, h101km±8km, mb4.0/5, Error ellipse: s-maj=11.8km s-min=8.2km az=143.0*

ISC 07 03:58:32.7±0.5,36.23N±0.04×71.61E±0.05, h119km, n116, σ1§62/126, mb4.2/20, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.42	174	⇓P	Pn	03 59 12.5	+0.9
CEP				S	Sn	03 59 43.0	+1.7
KBL	Kabul	2.69	232	*e*Pn	Pn	03 59 13.3	-1.9
KBL				*e*		03 59 47.4	
KBL	Kabul	2.69	232	*e*Pn	Pn	03 59 13.2	-1.9
KBL				*e*Sn	Sn	03 59 47.4	-0.4
CHCP	Chirah Chowk	2.91	152	P	Pn	03 59 19.9	+2.1
DLH	Dalhousie	5.15	134	*e*P	Pn	03 59 48.0	+0.1
DLH				*e*S	Sn	04 00 47.0	+0.6
AML	Almayashu	6.11	15	P	Pn	03 59 59.9	-1.0
	SNR=43						
AML				P	Pn	03 59 59.9	-1.0
	SNR=43						
KZA	Kyzart	6.49	25	P	Pn	04 00 09.2	+3.2
	SNR=6.2						
KZA				P	Pn	04 00 09.2	+3.2
	SNR=6.2						
EKS2	Erkin-Say	6.64	14	P	Pn	04 00 10.7	+3.0
	SNR=8.4						
EKS2				P	Pn	04 00 10.7	+3.0
	SNR=8.4						
EKS2	Erkin-Say	6.64	14	*e*PN	Pn	04 00 06.5	-1.3
EKS2				pmax	pmax		
	comp=Z,14nm,0.6s						
EKS2	Erkin-Say	6.64	14	*e*Pn	Pn	04 00 06.5	-1.3
	comp=Z,14nm,0.6s						
EKS2				*e*Sn	Sn	04 01 19.9	-2.1
AAK	Ala-Archa

GNI	**Garni**	**21.44**	**289**	*e*P	**P**	**04 03 15.2**	**+3.7**
GNI				pmax	pmax		
	comp=Z,24nm,1.2s						
GNI	**Garni**	**21.44**	**289**	*e*P	**P**	**04 03 10.2**	**-1.3**
	comp=Z,25nm,1.1s						
NAY	**Al-Naaiem**	**21.61**	**258**	*e*P	**P**	**04 03 11.8**	**-1.4**
NAY				AMb	AMB	04 03 15.2	
	comp=Z,14nm,0.8s						
SVE	**Sverdlovsk**	**21.89**	**344**	*e*P	**P**	**04 03 15.1**	**-0.7**
ARU	**Arti**	**22.05**	**340**	*c* /P	**P**	**04 03 20.4**	**+2.9**
ARU				*e*		04 03 54.9	
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
ANN	**Anapa**	**27.19**	**299**	*e*P	**P**	**04 04 06.8**	**+1.8**
ANN				*e**PP	**pP**	**04 04 33.9**	**+3.2**
ANN				pmax	pmax		
	comp=Z,109nm,1.7s						
SONM	**Songino Array**	**28.09**	**55**	P	**P**	**04 04 14.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=268,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**28.09**	**55**	P	**P**	**04 04 14.0**	**+0.9**
SONM	**Songino Array**	**28.09**	**55**	P	**P**	**04 04 14.0**	**+0.9**
ULN	**Ulaanbaatar**	**28.53**	**55**	*e*P	**P**	**04 04 19.0**	**+1.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULN	**Ulaanbaatar**	**28.53**	**55**	*e*P	**P**	**04 04 19.0**	**+1.9**
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**33.49**	**309**	P	**P**	**04 05 00.8**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=76,slow=8.0,SNR=8.2						
AKASG	**Malin Array Be**	**33.49**	**309**	*ce*P	P	04 05 06.5	+6.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**33.49**	**309**	P	**P**	**04 05 00.8**	**+0.3**
MLR	**Muntele Rosu**	**35.34**	**300**	P	**P**	**04 05 16.6**	**0.0**
	comp=Z,1.1nm,0.9s,baz=129,slow=6.5,SNR=4.0						
MLR	**Muntele Rosu**	**35.34**	**300**	P	**P**	**04 05 16.6**	**0.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MLR	**Muntele Rosu**	**35.34**	**300**	P	**P**	**04 05 16.6**	**0.0**
JOF	**Joensuu**	**36.34**	**330**	*e*P	**P**	**04 05 25.3**	**+0.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JOF	**Joensuu**	**36.34**	**330**	*e*p	**P**	**04 05 25.3**	**+0.5**
	comp=Z,3.3nm,0.3s						
JOF	**Joensuu**	**36.34**	**330**	*e*p	**P**	**04 05 25.3**	**+0.5**
	comp=Z,3.3nm,0.3s						
FINES	**FINESS Array B**	**37.98**	**326**	P	**P**	**04 05 39.4**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=118,slow=9.1,SNR=12						
FINES	**FINESS Array B**	**37.98**	**326**	P	**P**	**04 05 39.4**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**37.98**	**326**	P	**P**	**04 05 39.4**	**+0.8**
KAF	**Kangasniemi**	**38.12**	**327**	*e*P	**P**	**04 05 40.9**	**+1.2**
KAF				pmax	pmax		
	comp=Z,30nm,1.4s						
KAF	**Kangasniemi**	**38.12**	**327**	*e*p	**P**	**04 05 40.9**	**+1.2**
	comp=Z,30nm,1.4s						
KAF	**Kangasniemi**	**38.12**	**327**	*e*p	**P**	**04 05 40.9**	**+1.2**
	comp=Z,30nm,1.4s						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**04 06 09.1**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=120,slow=7.5,SNR=15						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**04 06 09.1**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**04 06 09.1**	**+0.8**
HFS	**Hagfors**	**43.58**	**322**	P	**P**	**04 06 25.3**	**+0.8**
	comp=Z,8.1nm,0.6s,baz=104,slow=9.3,SNR=24						
HFS	**Hagfors**	**43.58**	**322**	P	**P**	**04 06 25.3**	**+0.8**
HFS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HFS	**Hagfors**	**43.58**	**322**	P	**P**	**04 06 25.3**	**+0.8**
NB2	**NORSAR Subarra**	**44.89**	**323**	P	**P**	**04 06 35.3**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.89**	**323**	P	**P**	**04 06 35.3**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=96,slow=7.8,SNR=15						
NOA	**NORSAR Array B**	**44.89**	**323**	P	**P**	**04 06 35.3**	**+0.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	**NORSAR Array B**	**44.89**	**323**	P	**P**	**04 06 35.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**47.86**	**347**	P	**P**	**04 07 00.4**	**+2.4**
	comp=Z,8.3nm,0.9s,baz=134,slow=25,SNR=3.5						
SPITS	**Spitsbergen Ar**	**47.86**	**347**	P	**P**	**04 07 00.4**	**+2.4**
SPITS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**47.86**	**347**	P	**P**	**04 07 00.4**	**+2.4**
TORD	**Torodi Ar. Bea**	**66.20**	**269**	P	**P**	**04 09 06.0**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=48,slow=5.5,SNR=33						
TORD	**Torodi Ar. Bea**	**66.20**	**269**	P	**P**	**04 09 06.0**	**-2.0**
ILAR	**Eielson Array**	**74.90**	**16**	P	**P**	**04 10 00.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=305,slow=5.4,SNR=7.7						
ILAR	**Eielson Array**	**74.90**	**16**	P	**P**	**04 10 00.4**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**74.90**	**16**	P	**P**	**04 10 00.3**	**+0.3**
BOSA	**Boshof**	**77.86**	**221**	P	**P**	**04 10 17.3**	**0.0**
	comp=Z,3.4nm,0.8s,baz=46,slow=6.7,SNR=7.4						
BOSA	**Boshof**	**77.86**	**221**	*e*P	**P**	**04 10 18.6**	**+1.3**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOSA	**Boshof**	**77.86**	**221**	*e*P	**P**	**04 10 18.6**	**+1.3**
	comp=Z,2.3nm,0.5s						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**04 10 37.4**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=350,slow=5.4,SNR=40						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**04 10 37.4**	**+1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**04 10 37.4**	**+1.1**

DJA ***07*** *04:00:19, 0.67S×133.43E, h56km, MLv4.5/7*
IDC 07 04:00:13.1±1.3, 0.76S×133.41E, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.9/20, mbtmp4.0/7, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=57.2km s-min=18.3km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.85**	**203**	P	Pn	04 04 35.3	0.0
	0.3nm,0.3s,baz=26,slow=11,SNR=7.6						
FITZ				S	Sn	04 07 55.8	-11
	0.4nm,0.3s,baz=178,slow=16,SNR=4.2						
FITZ				LR	LR	04 12 05.7	
	comp=Z,67nm,20.2s,baz=14,slow=38						
WRA	**Warramunga Arr**	**19.08**	**177**	P	P	04 04 37.5	0.0
	0.5nm,0.3s,baz=356,slow=11,SNR=13						
WRA				S	Sn	04 08 06.5	-6.3
	0.2nm,0.3s,baz=356,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**22.77**	**179**	P	P	04 05 17.4	+0.1
	6.8nm,0.8s,baz=4.2,slow=12,SNR=59						
CTA	**Charters Tower**	**22.95**	**148**	P	P	04 05 20.1	+0.9
	4.1nm,0.8s,baz=328,slow=9.5,SNR=3.3						
JOW	**Kunigami**	**27.88**	**350**	LR	LR	04 15 07.4	
	comp=Z,63nm,20.4s,baz=148,slow=32						
STKA	**Stephens Creek**	**31.90**	**167**	P	P	04 06 39.2	-1.1
	1.9nm,0.7s,baz=341,slow=8.4,SNR=4.3						
MKAR	**Makanchi Array**	**65.06**	**324**	P	P	04 10 55.7	+0.2
	0.5nm,0.4s,baz=112,slow=6.9,SNR=10						
KURK	**Kurchatov**	**69.13**	**326**	P	P	04 11 20.9	-0.3
	0.6nm,0.7s,baz=122,slow=5.5,SNR=4.8						

IDC 07 04:09:33.2±9.7, 6.98S×129.18E, h220km±106km, mb2.8/1, mb1 3.0/4, mb1mx2.9/16, mbtmp2.8/4, Error ellipse: s-maj=69.9km s-min=39.1km az=44.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.58**	**197**	P	Pn	04 12 11.8	-0.6
	0.3nm,0.3s,baz=18,slow=12,SNR=9.3						
FITZ				S	S	04 14 22.4	+1.9
	0.1nm,0.3s,baz=209,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**13.83**	**159**	P	Pn	04 12 41.2	+0.8
	0.1nm,0.3s,baz=344,slow=12,SNR=1.6						
WRA				S	S	04 15 14.4	+0.8
	0.1nm,0.3s,baz=336,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**17.21**	**165**	P	P	04 13 19.3	0.0
	0.3nm,0.3s,baz=346,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**67.76**	**327**	P	P	04 20 07.3	0.0
	0.3nm,1.0s,baz=116,slow=6.6,SNR=2.5						

DJA ***07*** *04:12:56, 0.78S×133.47E, h11km, MLv4.0/3*
IDC 07 04:12:52.2±2.3, 0.45S×133.96E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=99.9km s-min=22.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.35**	**205**	P	P	04 17 19.4	-0.1
	0.2nm,0.3s,baz=31,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**19.37**	**179**	P	P	04 17 20.1	+0.4
	0.2nm,0.3s,baz=358,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**23.08**	**180**	P	P	04 17 59.6	0.0
	0.7nm,0.6s,baz=2.0,slow=12,SNR=10						
MKAR	**Makanchi Array**	**65.14**	**324**	P	P	04 23 35.0	-0.1
	0.4nm,0.6s,baz=116,slow=7.9,SNR=5.7						
KURK	**Kurchatov**	**69.17**	**326**	P	P	04 24 00.6	0.0
	0.4nm,0.8s,baz=120,slow=5.7,SNR=3.7						

KRSC 07 04:16:38.1±0.4, 55.03N×162.30E, h11km±11km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.22**	**14**	*e*P	Pg	04 17 01.5	0.0
KBTR				*i* S	Sn	04 17 18.8	+1.3
TUMR	**Tumrok**	**1.26**	**282**	*e*P	Pg	04 17 02.8	+0.3
TUMR				*i* S	Sg	04 17 20.9	+1.9
KMNR	**Kamenistaya**	**1.38**	**303**	*e*P	Pn	04 17 03.4	-0.1
KMNR				*i* S	Sg	04 17 22.5	-0.4
BZWR	**Bezymyannyi-We**	**1.39**	**313**	*e*P	Pb	04 17 04.0	-0.3
BZWR				*i* S	Sg	04 17 23.2	0.0
CIRR	**Tsirk**	**1.40**	**322**	P	Pb	04 17 04.5	0.0
KIRR	**Kirishev**	**1.45**	**311**	P	Pn	04 17 04.6	+0.2
KPT	**Kopyto**	**1.51**	**309**	P	Pn	04 17 05.4	+0.2
KLY	**Klyuchi**	**1.59**	**325**	*e*P	Pn	04 17 05.1	-1.0
KLY				*i* S	Sn	04 17 25.1	-1.5
SMKR	**Semkarok**	**1.62**	**344**	*e*P	Pn	04 17 07.0	+0.2
SMKR				*i* S	Sn	04 17 28.2	+0.4
BDR	**Baidarnaya**	**1.66**	**339**	*e*P	Pn	04 17 07.6	+0.3
BDR				*i* S	Sn	04 17 29.0	+0.3
KOZ	**Kozyrevsk**	**1.72**	**308**	P	Pn	04 17 08.4	+0.4
KOZ				*i* S	Sn	04 17 30.0	0.0
SRKR	**Sorokina**	**1.75**	**339**	*e*P	Pn	04 17 08.9	+0.4
SRKR				*i* S	Sn	04 17 31.2	+0.4
SRDR	**Sredinnyy**	**1.95**	**312**	*e*P	Pn	04 17 11.7	+0.5
SRDR				*i* S	Sn	04 17 35.5	-0.3
BKI	**Bering**	**2.12**	**84**	*e*P	Pn	04 17 13.0	-0.4
BKI				*i* S	Sn	04 17 38.2	-1.4
ESO	**Esso**	**2.24**	**295**	*e*P	Pn	04 17 14.9	-0.2
ESO				*i* S	Sn	04 17 41.1	-1.6
SPN	**Mys Shipunski**	**2.35**	**216**	P	Pn	04 17 15.3	-1.4
SPN				*i* S	Sn	04 17 42.2	-3.3
NLC	**Nalytchevo**	**2.55**	**224**	*e*P	Pn	04 17 19.5	+0.2
NLC				*i* S	Sn	04 17 49.4	-0.9
SDLR	**Sedlovina**	**2.67**	**230**	*e*P	Pn	04 17 21.9	+0.8
SDLR				*i* S	Sn	04 17 54.9	+1.3
UGLR	**Uglovaya**	**2.74**	**230**	*e*P	Pn	04 17 23.7	+1.6
UGLR				*i* S	Sn	04 17 57.1	+1.8
AVH	**Avacha**	**2.74**	**231**	*e*P	Pn	04 17 24.2	+2.1
AVH				*i* S	Sn	04 17 57.8	+2.5
KOK	**Koryaka**	**2.77**	**233**	*e*P	Pn	04 17 23.6	+1.1
KOK				*i* S	Sn	04 17 57.3	+1.3
PET	**Petropavlovsk**	**2.94**	**228**	*e*P	Pn	04 17 25.8	+1.1
PET				*i* S	Sn	04 18 00.4	+0.4
MTVR	**Mutnovka**	**3.53**	**225**	*e*P	Pn	04 17 35.1	+2.0
MTVR				*i* S	Sn	04 18 17.2	+2.3
ASAK	**Asacha**	**3.72**	**226**	*e*P	Pn	04 17 38.3	+2.7

DDA ***07*** *04:43:35.3, 37.88N×29.26E, h7km, MD2.8*
ISCJB ***07*** *04:43:36.4±0.5, 37.89N±0.03×29.22E±0.05, h7km±6km, Error ellipse: s-maj=6.6km s-min=4.4km az=175.2*
ISK ***07*** *04:43:36.4, 37.90N×29.23E, h13km, MD2.8*
CSEM ***07*** *04:43:36.5±0.1, 37.93N×29.17E, h15km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.4km az=101.0*
ISC 07 04:43:36.7±1.0, 37.89N±0.02×29.24E±0.03, h10km±9km, n26, σ0.96/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.21**	**230**	*e*PG	**Pg**	**04 43 41.2**	**+0.1**
DENT	**Denizli**	**0.21**	**230**	*e*Pg	**Pg**	**04 43 41.2**	**+0.1**
KHL	**Karahalli**	**0.49**	**27**	*e*PG	**Pg**	**04 43 46.4**	**+0.1**
KHL				*e*SG	**Sg**	**04 43 53.6**	**+0.9**
KHL	**Karahalli**	**0.49**	**27**	*e*Pg	**Pg**	**04 43 46.4**	**+0.1**
KHL				*e*Sg	**Sg**	**04 43 53.6**	**+0.9**
KHAL	**Karahalli**	**0.52**	**23**	*i* P	**Pg**	**04 43 45.8**	**-1.1**
KHAL				*i* S	**Sg**	**04 43 54.0**	**+0.2**
KHAL	**Karahalli**	**0.52**	**23**	*i* P	**Pg**	**04 43 45.8**	**-1.1**
KHAL				*i* S	**Sg**	**04 43 54.0**	**+0.2**
GOLH	**Golhisar**	**0.70**	**158**	*i* P	**Pg**	**04 43 47.9**	**-2.3**
GOLH				*i* S	**Sb**	**04 44 01.5**	**+0.7**
GOLH	**Golhisar**	**0.70**	**158**	*i* P	**Pg**	**04 43 47.9**	**-2.3**
GOLH				*i* S	**Sb**	**04 44 01.5**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.76**	**164**	*e*PG	**Pb**	**04 43 52.4**	**+0.3**
GLHS	**Glhisar (BURDU**	**0.76**	**164**	*e*Pg	**Pb**	**04 43 52.4**	**+0.3**
KULA	**Kula-Manisa**	**0.77**	**324**	*e*PG	**Pg**	**04 43 51.2**	**-0.4**
KULA				*e*SG	**Sb**	**04 44 03.1**	**+0.2**
KULA	**Kula-Manisa**	**0.77**	**324**	*e*Pg	**Pg**	**04 43 51.2**	**-0.4**
MANT	**Manisa**	**0.81**	**319**	*i* P	**Pg**	**04 43 51.2**	**-1.1**
MANT				*i* S	**Sb**	**04 44 03.8**	**-0.2**
MANT	**Manisa**	**0.81**	**319**	*i* P	**Pg**	**04 43 51.2**	**-1.1**
MANT				*i* S	**Sb**	**04 44 03.8**	**-0.2**
ISP	**Isparta**	**1.02**	**93**	*e*PG	**Pn**	**04 43 57.6**	**+0.4**
ISP	**Isparta**	**1.02**	**93**	*e*Pg	**Pn**	**04 43 57.6**	**+0.4**
YER	**Yerkesik**	**1.07**	**226**	*e*PG	**Pb**	**04 43 56.9**	**-0.4**
YER	**Yerkesik**	**1.07**	**226**	*e*Pg	**Pb**	**04 43 56.9**	**-0.4**
GDZ	**Gediz**	**1.21**	**9**	*i* P	**Pg**	**04 43 58.3**	**-1.8**
GDZ				*i* S	**Sn**	**04 44 17.8**	**+1.3**
GDZ	**Gediz**	**1.21**	**9**	*i* P	**Pg**	**04 43 58.3**	**-1.8**
GDZ				*i* S	**Sn**	**04 44 17.8**	**+1.3**
SHUT	**Suhut-Afyon**	**1.23**	**57**	*e*PN	**Pg**	**04 43 59.9**	**-0.4**
SHUT	**Suhut-Afyon**	**1.23**	**57**	*e*Pn	**Pg**	**04 43 59.9**	**-0.4**
ELL	**Elmali**	**1.26**	**155**	*e*PN	**Pn**	**04 44 00.8**	**+0.3**
ELL	**Elmali**	**1.26**	**155**	*e*Pn	**Pn**	**04 44 00.8**	**+0.3**
ALT	**Altintas**	**1.35**	**30**	*e*PN	**Pn**	**04 44 00.9**	**-0.9**
ALT	**Altintas**	**1.35**	**30**	*e*Pn	**Pn**	**04 44 00.9**	**-0.9**

BJI ***07*** *04:43:49.1, 10.03S×124.26E, h83km, mB5.1/27, mb5.0/41, Ms5.0/21, Ms7 4.5/20*
MOS ***07*** *04:43:51.4±1.2, 9.08S×123.84E, h36km, mb5.2/23, Error ellipse: s-maj=13.6km s-min=6.7km az=116.6*
NEIC ***07*** *04:43:55.1±1.0, 9.11S×123.85E, h54km±9km, mb5.0/31, Error ellipse: s-maj=7.1km s-min=4.6km az=59.0*
TEH ***07*** *04:43:58.0, 9.26S×123.89E, h89km, ML5.0*
IDC ***07*** *04:43:58.1±1.2, 9.10S×123.85E, h80km±9km, mb4.6/17, mb1 4.7/18, mb1mx4.7/18, mbtmp4.6/18, MS3.5/8, Ms1 3.5/8, ms1mx3.1/30, Error ellipse: s-maj=17.6km s-min=10.4km az=75.0*
DJA ***07*** *04:43:59, 9.56S×123.73E, h53km, mb5.2/52*
ISCJB ***07*** *04:43:59.5±0.5, 9.25S±0.03×123.83E±0.04, h114km±4km, mb5.0/73, Error ellipse: s-maj=6.3km s-min=4.7km az=148.5*
ISC 07 04:43:59.1±0.3, 9.25S±0.04×123.78E±0.05, h91km±2km, h91km:pP-P, n323, σ1.45/369, mb5.0/73, 27C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.64**	**292**	P	**Pn**	**04 44 27.9**	**+1.2**
WSI	**Waingapu**	**3.46**	**263**	P	Pn	04 44 56.9	+6.1
BBSI	**Bau Bau**	**3.92**	**342**	P	**Pn**	**04 44 59.8**	**+2.7**
BKSI	**Bulukumba**	**5.33**	**317**	P	**Pn**	**04 45 17.8**	**+1.6**
	334nm,0.8s,3µm1.0nm						
KAPI	**Kappang**	**5.80**	**316**	P	**Pn**	**04 45 24.5**	**+1.8**
	18nm,0.3s,baz=150,slow=7.8,SNR=35						
KAPI	**Kappang**	**5.80**	**316**	*e*Pn	**Pn**	**04 45 24.5**	**+1.8**
KAPI	**Kappang**	**5.80**	**316**	P	**Pn**	**04 45 24.7**	**+2.0**
	234nm,1.2s,2µm0.9nm						
SPSI	**Sidrap Palu**	**6.59**	**323**	P	Pn	04 45 36.7	+3.3
	144nm,1.1s,1µm0.5nm						
NLAI	**Namlea**	**6.82**	**29**	P	Pn	04 45 40.7	+4.2
	150nm,0.7s,2µm0.5nm						
AAI	**Ambon**	**7.05**	**39**	P	Pn	04 45 45.9	+6.2
	108nm,0.9s,0.3nm						
TTSI	**Tana Toraja**	**7.31**	**327**	P	Pn	04 45 47.9	+4.6
	207nm,1.0s,3µm0.7nm						
MTNI	**Mataram**	**7.54**	**274**	P	**Pn**	**04 45 46.4**	**0.0**
	292nm,0.8s,9µm1.3nm						
MSAI	**Masohi**	**7.78**	**41**	P	Pn	04 45 56.2	+6.5
	40nm,0.8s,0.1nm						
KHKI	**Kahang-Kahang**	**8.12**	**276**	P	**Pn**	**04 45 53.3**	**-1.0**
	127nm,0.7s,1µm0.5nm						

LUWI	**Luwuk**	**8.21**	**353**	P	**Pn**	**04 45 57.9**	**+2.4**
	184nm,1.1s,2µm0.7nm						
FITZ	**Fitzroy Crossi**	**8.98**	**169**	P	**Pn**	**04 46 03.1**	**-2.9**
	26nm,0.3s,baz=8.7,slow=11,SNR=207						
FITZ				S	Sn	04 47 36.7	-8.8
	164nm,0.3s,baz=248,slow=19,SNR=35						
FITZ				LR	LR	04 50 17.2	
	comp=Z,253nm,20.0s,baz=13,slow=42						
FITZ	**Fitzroy Crossi**	**8.98**	**169**	*e*P	Sn	04 47 36.9	-8.6
	2µm,0.4s						
FITZ	**Fitzroy Crossi**	**8.98**	**169**	*e*Pn	Pn	04 46 02.4	-3.6
	52nm,0.5s						
FITZ				*e*Sn	Sn	04 47 36.5	-9.1
PCI	**Palu**	**9.17**	**334**	P	Pn	04 46 17.1	+8.5
JAGI	**Jajag, Banyuwa**	**9.54**	**274**	P	**Pn**	**04 46 11.7**	**-2.0**
	90nm,0.6s,3µm						
TLE	**Tual**	**9.58**	**69**	P	**Pn**	**04 46 16.4**	**+2.2**
	163nm,0.8s						
KBKI	**Kotabaru**	**9.60**	**308**	P	Pn	04 46 22.1	+7.7
MRSI	**Marisa**	**9.83**	**349**	P	**Pn**	**04 46 19.7**	**+2.1**
	86nm,0.8s,740nm						
BLJI	**Banyuglugur**	**10.18**	**278**	P	Pn	04 46 26.8	+4.4
	94nm,0.8s,2µm						
BBKI	**Banjar Baru**	**10.58**	**302**	P	Pn	04 46 35.2	+7.4
	121nm,1.4s,3µm						
KRKI	**Karangkates**	**11.25**	**275**	P	**Pn**	**04 46 40.0**	**+3.1**
	342nm,0.6s,23µm						
PWJI	**Pagerwojo**	**11.90**	**275**	P	**Pn**	**04 46 45.5**	**-0.2**
	100nm,0.6s,2µm						
SJI	**Sawahan**	**11.98**	**276**	P	**Pn**	**04 46 47.5**	**+0.7**
	169nm,0.9s,4µm						
MBWA	**Marble Bar**	**12.47**	**198**	*e*P	**Pn**	**04 46 51.1**	**-2.2**
MBWA				*e*S	Sn	04 48 57.7	-13
MBWA	**Marble Bar**	**12.47**	**198**	*e*Pn	**Pn**	**04 46 51.1**	**-2.2**
	18nm,0.6s						
MBWA				*e*Sn	Sn	04 49 01.9	-8.5
PCJI	**Pacitan**	**12.50**	**274**	P	**Pn**	**04 46 51.8**	**-2.0**
	248nm,0.8s,3µm						
UGM	**Wanagama**	**13.18**	**275**	*e*Pn	**Pn**	**04 47 00.6**	**-2.2**
BJII	**Banjamegara**	**14.05**	**277**	P	**Pn**	**04 47 14.6**	**+0.4**
	48nm,0.9s						
TSM	**Tawau**	**14.68**	**336**	P	**P**	**04 47 25.2**	**-0.9**
WRA	**Warramunga Arr**	**14.74**	**137**	P	Pn	04 47 17.8	-5.2
	13nm,0.3s,baz=320,slow=13,SNR=113						
WRA				S	Sn	04 49 49.0	-17
	26nm,0.3s,baz=310,slow=24,SNR=12						
WRA				LR	LR	04 53 54.2	
	comp=Z,177nm,20.3s,baz=315,slow=40						
WRA	**Warramunga Arr**	**14.74**	**137**	P	Pn	04 47 17.8	-5.2
WRA	**Warramunga Arr**	**14.74**	**137**	P	Pn	04 47 17.8	-5.2
WRA				S	Sn	04 49 49.0	-17
WRAB	**Tennant Creek**	**14.74**	**137**	*e*P	Pn	04 47 17.8	-5.2
WRAB	**Tennant Creek**	**14.74**	**137**	*e*Pn	Pn	04 47 17.8	-5.2
WRAB				*e*Sn	Sn	04 49 50.5	-15
WRAB	**Tennant Creek**	**14.74**	**137**	Pn	Pn	04 47 17.0	-6.0
	883nm,0.5s						
WB2	**Warramunga Arr**	**14.74**	**137**	*e*Pn	Pn	04 47 17.7	-5.3
MYLDM	**Lahad Datu**	**15.27**	**340**	P	**P**	**04 47 33.2**	**+0.6**
MYLDM	**Lahad Datu**	**15.27**	**340**	P	P	04 47 42.8	+10
CISI	**Cisompet, Garu**	**15.88**	**275**	P	**P**	**04 47 39.9**	**+0.4**
	267nm,0.6s,6µm						
SDKM	**Sandakan**	**16.18**	**336**	P	**P**	**04 47 44.6**	**+1.9**
LEM	**Lembang**	**16.18**	**277**	P	**P**	**04 47 42.5**	**-0.4**
	189nm,0.8s						
DAV	**Davao City (W)**	**16.31**	**6**	LR	LR	04 54 16.7	
	comp=Z,86nm,20.0s,baz=206,slow=38						
BTM	**Bintulu**	**16.33**	**319**	P	**P**	**04 47 46.2**	**+1.8**
SBUM	**Sibu**	**16.36**	**315**	P	**P**	**04 47 47.3**	**+2.6**
SBUM	**Sibu**	**16.36**	**315**	P	**P**	**04 47 48.1**	**+3.4**
	46nm,0.9s						
KKM	**Kota Kinabalu**	**16.96**	**333**	*e*Pn	**P**	**04 47 53.1**	**+1.7**
	106nm,0.8s						
KKM	**Kota Kinabalu**	**16.96**	**333**	P	**P**	**04 47 53.4**	**+1.9**
KKM	**Kota Kinabalu**	**16.96**	**333**	P	**P**	**04 47 53.3**	**+1.9**
	160nm,0.7s,2µm						
CBJI	**Citeko**	**17.00**	**278**	P	Pn	04 47 48.6	-2.8
	604nm,0.8s						
KSM	**Kuching**	**17.13**	**308**	*e*Pn	**P**	**04 47 54.6**	**+1.4**
	41nm,1.1s						
KSM	**Kuching**	**17.13**	**308**	P	**P**	**04 47 55.8**	**

PSI Prapat 27.51 295 P P 04 49 37.0 -0.5
comp=Z,14nm,0.8s
STKA Stephens Creek 27.93 146 P P 04 49 41.7 +0.7
comp=Z,14nm,0.3s,baz=317,slow=8.2,SNR=38
STKA LR LR 05 01 27.6
comp=Z,211nm,18.6s,baz=24,slow=38
STKA Stephens Creek 27.93 146 eP P 04 49 41.6 +0.7
comp=Z,19nm,0.8s
STKA Stephens Creek 27.93 146 eP P 04 49 41.1 +0.2
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 27.93 146 eP P 04 49 41.1 +0.2
comp=Z,6.0nm,0.8s
ARMA Armidale 33.45 133 eP P 04 50 32.0 +2.4
YNG Young 33.64 142 eP P 04 50 32.8 +1.6
comp=Z,30nm,0.9s
TOO Toolangi 34.34 149 eP P 04 50 39.5 +2.3
comp=Z,69nm,0.7s
CNB Canberra Magne 34.91 142 eP P 04 50 42.5 +0.3
comp=Z,65nm,1.0s
CM31 Chiang Mai Arr 36.86 318 eP P 04 50 59.2 +0.3
comp=Z,20nm,0.7s
CMAR Chiang Mai Arr 36.86 318 P P 04 50 59.0 +0.1
comp=Z,26nm,0.7s,baz=146,slow=6.9,SNR=96
CMAR PcP PcP 04 53 19.4 +0.3
comp=Z,1.0nm,0.3s,baz=174,slow=2.6,SNR=3.8
CMAR ScP ScP 04 56 58.4 +0.5
comp=Z,1.2nm,0.3s,baz=165,slow=3.3,SNR=10
CMAR LR LR 05 06 52.5
comp=Z,69nm,19.6s,baz=153,slow=37
CMAR Chiang Mai Arr 36.86 318 P P 04 50 59.0 +0.1
CMAR 04 53 19.4
CMAR Chiang Mai Arr 36.86 318 P P 04 50 59.0 +0.1
CMAR PcP PcP 04 53 19.4 +0.3
CMAR ScP ScP 04 56 58.4 +0.5
CHTO Chiang Mai 37.12 319 eP P 04 51 01.4 +0.3
CHTO pmax pmax
comp=Z,25nm,0.6s
CHTO Chiang Mai 37.12 319 eP P 04 51 01.4 +0.3
comp=Z,25nm,0.6s
CHTO Chiang Mai 37.12 319 P P 04 51 01.4 +0.3
comp=Z,52nm,0.8s
GYA Guiyang 39.20 335⇑iP P 04 51 20.2 +1.6
GYA pP pP 04 51 41.0 +1.2
GYA sP sP 04 51 51.8 +1.6
GYA PP PnPn 04 52 55.6 +1.8
GYA S S 04 57 15.4 +3.0
GYA sS sS 04 57 50.3 +1.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=N,570nm,17.4s
GYA LR LR
comp=E,460nm,18.0s
GYA LR LR
comp=Z,530nm,17.8s
KMI Kunming 39.84 329 P P 04 51 24.2 +0.1
KMI pP pP 04 51 47.7 +2.3
KMI pmax pmax
comp=Z,13nm,0.8s
WHN Wuhan 40.59 347 P P 04 51 32.0 +2.1
NJ2 Nanjing 41.34 354 eP P 04 51 36.2 +0.2
NJ2 pP pP 04 51 55.1 -2.3
NJ2 sP sP 04 52 05.6 -2.2
NJ2 S S 04 57 46.0 +2.2
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 LR LR
comp=N,250nm,20.0s
NJ2 LR LR
comp=E,400nm,17.3s
NJ2 LR LR
comp=Z,420nm,16.7s
ENH Enshi 41.62 341 eP P 04 51 37.2 -1.2
comp=Z,15nm,0.6s
CD2 Chengdu 44.31 335 P P 04 51 59.4 -0.8
CD2 pP pP 04 52 20.8 -1.0
CD2 sP sP 04 52 31.5 -0.6
CD2 PP PP 04 53 46.0 +0.7
CD2 S S 04 58 27.7 +0.1
CD2 sS sS 04 59 05.1 +0.3
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,200nm,4.7s
CD2 LR LR
comp=N,340nm,4.8s
CD2 LR LR
comp=Z,220nm,5.6s
XAN Xi'an 45.30 343 P P 04 52 06.1 -1.9
XAN pP pP 04 52 24.3 -5.4
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,33nm,5.7s
SHL Shillong 46.49 319 iP P 04 52 19.0 +1.3
KSAR Wonju Array Be 46.60 4 P P 04 52 16.9 -1.1
KSAR Wonju Array Be 46.60 4 P P 04 52 16.9 -1.1
KSRS Korea Array 46.62 5 P P 04 52 16.9 -1.2
comp=Z,1.7nm,0.7s,baz=176,slow=9.9,SNR=4.7
KSRS LR LR 05 10 36.1
comp=Z,29nm,19.5s,baz=225,slow=34
MJAR Matsushiro Arr 47.52 16 P P 04 52 23.4 -1.9
comp=Z,9.3nm,0.7s,baz=194,slow=9.3,SNR=22
MJAR Matsushiro Arr 47.52 16 P P 04 52 23.4 -1.9
MJAR Matsushiro Arr 47.52 16 P P 04 52 23.4 -1.9
MAJO Matsushiro 47.52 16 eP P 04 52 23.9 -1.4
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO Matsushiro 47.52 16 eP P 04 52 23.9 -1.4
comp=Z,8.4nm,0.8s
MAT Matsushiro 47.52 16 P P 04 52 23.5 -1.8
LZH Lanzhou 48.85 338 eP P 04 52 35.7 0.0
LZH pP pP 04 52 57.5 -0.1
LZH sP sP 04 53 09.2 +1.3
LZH PP PP 04 54 31.0 +1.1
LZH eS S 04 59 31.5 -1.0
LZH sS sS 05 00 12.3 +2.2
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.0s
BJI Beijing 49.54 352 P P 04 52 39.6 -1.1
BJI pmax pmax
comp=Z,110nm,3.6s
LSA Lhasa 49.86 322 P P 04 52 44.0 +0.1
LSA pmax pmax
comp=Z,40nm,0.8s
ODAN Odare 50.34 316⇑iP P 04 52 46.3 -1.0
comp=Z,74nm,0.5s
ODAN Odare 50.34 316⇑iP P 04 52 46.3 -1.0
TAPN Taplejung 50.45 317⇑iP P 04 52 47.8 -0.4
comp=Z,110nm,0.5s
TAPN Taplejung 50.45 317⇑iP P 04 52 47.8 -0.4
RAMN Ramite 50.94 316⇑iP P 04 52 51.4 -0.4
comp=Z,134nm,0.5s
RAMN Ramite 50.94 316⇑iP P 04 52 51.4 -0.4
HHC Hu-ho-hao-te 51.10 348 eP P 04 52 53.1 +0.5
HHC pP pP 04 53 16.9 +2.2
HHC PP PP 04 54 55.6 +5.3
HHC S S 05 00 06.0 +2.3
HHC ScS ScS 05 02 32.3 -2.2
HHC SS SS 05 03 40.1 -0.2
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,88nm,6.1s
HHC LR LR
comp=N,180nm,14.3s
HHC LR LR
comp=E,130nm,14.3s
HHC LR LR
comp=Z,140nm,16.1s
JIRN Jiri 51.68 316⇑iP P 04 52 57.0 -0.4
comp=Z,147nm,0.5s
JIRN Jiri 51.68 316⇑iP P 04 52 57.0 -0.4
GUN Gumba 52.05 316⇑iP P 04 52 59.7 -0.5
comp=Z,180nm,0.5s
GUN Gumba 52.05 316⇑iP P 04 52 59.7 -0.5
PKI Pulchoki 52.15 316⇑iP P 04 53 00.1 -0.9
comp=Z,130nm,0.4s
KKN Kakani 52.38 316⇑iP P 04 53 01.7 -0.8
comp=Z,45nm,0.4s

DMN Daman 52.39 316⇑iP P 04 53 01.9 -0.7
comp=Z,66nm,0.5s
DMN Daman 52.39 316⇑iP P 04 53 01.9 -0.7
GKN Gorkha 52.96 316⇑iP P 04 53 05.9 -0.8
comp=Z,125nm,0.3s
GTA Gaotai 53.28 337 eP P 04 53 08.3 -0.5
GTA pP pP 04 53 27.3 -3.8
GTA sP sP 04 53 36.1 -5.1
GTA S S 05 00 32.5 -1.0
GTA SS SS 05 04 14.6 -0.2
GTA pmax pmax
comp=Z,13nm,0.7s
GTA pmax pmax
comp=Z,130nm,5.0s
GTA LR LR
comp=N,57nm,10.9s
GTA LR LR
comp=E,46nm,10.9s
GTA LR LR
comp=Z,93nm,10.9s
RPZ Rata Peaks 53.44 138 P P 04 53 10.7 +0.8
comp=Z,24nm,0.8s,baz=276,slow=2.8,SNR=7.1
RPZ Rata Peaks 53.44 138 P P 04 53 10.7 +0.8
KOLN Koldanda 53.53 315⇑iP P 04 53 10.1 -0.9
KOLN Koldanda 53.53 315⇑iP P 04 53 10.1 -0.9
USRK Ussuriysk Arra 53.72 7 P P 04 53 10.5 -1.2
comp=Z,6.9nm,0.5s,baz=194,slow=6.6,SNR=30
USRK ScP ScP 04 58 06.4 -0.1
comp=Z,1.3nm,0.7s,baz=171,slow=5.1,SNR=4.2
DANN Dangsing 53.78 315⇑iP P 04 53 12.1 -0.7
comp=Z,210nm,0.5s
DANN Dangsing 53.78 315⇑iP P 04 53 12.1 -0.7
MDJ Mudanjiang 53.87 5 P P 04 53 11.8 -1.0
MDJ pmax pmax
comp=Z,22nm,0.8s
MDJ pmax pmax
comp=Z,76nm,5.1s
MDJ Mudanjiang 53.87 5 eP P 04 53 11.3 -1.5
comp=Z,13nm,0.6s
ASAJ Asahikawa 55.79 16 P P 04 53 26.0 -0.6
baz=236,slow=11
ASAJ Asahikawa 55.79 16 P P 04 53 26.0 -0.6
CASY Casey 57.67 186 eP P 04 53 40.2 +0.5
comp=Z,9.6nm,0.8s
HABR Khabarovsk 58.33 9 eP pP 04 54 03.7 -3.4
HABR e*SP sP 04 54 12.1 -5.0
HABR ePPP PPP 04 57 12.5
HABR e 05 03 24.7
HABR eSS SS 05 05 35.4 +1.8
HABR pmax pmax
comp=N,39nm,2.7s
HABR pmax pmax
comp=E,45nm,2.2s
HABR pmax pmax
comp=Z,68nm,2.7s
HABR MLR MLR
comp=Z,43nm,16.0s
NDI New Delhi 58.66 312 ex P 04 53 43.5 -3.7
ULN Ulaanbaatar 58.77 347 eP P 04 53 46.2 -1.6
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 58.77 347 eP P 04 53 46.2 -1.6
comp=Z,5.2nm,0.8s
SONM Songino Array 58.89 346 P P 04 53 47.5 -1.1
comp=Z,5.4nm,0.5s,baz=160,slow=8.7,SNR=43
SONM ScP ScP 04 58 28.0 -1.5
comp=Z,0.7nm,0.6s,baz=170,slow=5.4,SNR=4.0
SONM Songino Array 58.89 346 P P 04 53 47.5 -1.1
SONM Songino Array 58.89 346 P P 04 53 47.5 -1.1
SONM ScP ScP 04 58 28.0 -1.5
THN Thein Dam 61.79 314 ex P 04 54 05.1 -3.4
ZAK Zakamensk 62.01 345 eP P 04 54 08.3 -1.5
ZAK pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 62.14 331 P P 04 54 10.9 +0.2
WMQ pP pP 04 54 36.9 +3.3
WMQ sP sP 04 54 44.9 +1.3
WMQ pmax pmax
comp=Z,27nm,0.6s
TLY Talaya 63.12 346 eP P 04 54 15.1 -1.9
TLY pmax pmax
comp=Z,7.0nm,0.8s
MOY Mondy 63.77 344 eP P 04 54 20.8 -0.7
KSH Kashi 65.69 321⇑iP P 04 54 33.9 -0.3
KSH epP pP 04 54 57.6 +0.4
KSH ePcP PcP 04 55 03.9 -1.0
KSH esP sP 04 55 08.7 +1.5
KSH ePP PP 04 57 01.2 +1.2
KSH eS S 05 03 08.1 -5.2
KSH esS sS 05 03 51.6 -1.1
KSH eScS SKSac 05 04 15.7 -6.0
KSH pmax pmax
comp=Z,37nm,0.7s
KSH pmax pmax
comp=Z,98nm,2.6s
KSH LR LR
comp=N,170nm,4.9s
KSH LR LR
comp=E,170nm,5.2s
KSH LR LR
comp=Z,240nm,5.7s
MK31 Makanchi Array 66.92 330 eP P 04 54 41.2 -0.6
MK31 Makanchi Array 66.92 330 eP P 04 54 41.2 -0.6
MKAR Makanchi Array 66.92 330 P P 04 54 41.2 -0.5
comp=Z,24nm,0.7s,baz=130,slow=7.2,SNR=178
MKAR Makanchi Array 66.92 330 P P 04 54 41.2 -0.5
MKAR Makanchi Array 66.92 330 P P 04 54 41.2 -0.5
BOD Bodaibo 67.31 354 eP P 04 54 43.2 -0.7
BOD pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 67.64 313 eP P 04 54 45.6 -1.3
KBL pmax pmax
comp=Z,30nm,0.5s
KBL Kabul 67.64 313 eP P 04 54 45.6 -1.3
comp=Z,30nm,0.5s
KZA Kyzart 67.66 323 P P 04 54 47.2 +0.2
SNR=9.2
KZA P P 04 54 47.2 +0.2
SNR=9.2
TKM2 Tokmak 2 67.97 324 P P 04 54 48.7 0.0
SNR=6.2
TKM2 P P 04 54 48.7 0.0
SNR=6.2
TKM2 Tokmak 2 67.97 324 iP P 04 54 48.6 0.0
TKM2 Tokmak 2 67.97 324 eP P 04 54 48.3 -0.3
comp=Z,16nm,1.0s
AAK Ala-Archa 68.44 323 P P 04 54 51.4 -0.2
SNR=16
AAK P P 04 54 51.4 -0.2
SNR=16
AAK Ala-Archa 68.44 323 iP P 04 54 51.4 -0.2
AAK Ala-Archa 68.44 323 eP P 04 54 51.3 -0.3
comp=Z,101nm,0.8s
AAK Ala-Archa 68.44 323 P P 04 54 51.0 -0.6
comp=Z,174nm,1.0s,SNR=12
PETK Petropavlovsk- 68.50 21 P P 04 54 51.1 -0.4
comp=Z,5.6nm,0.8s,baz=200,slow=4.5,SNR=8.7
PETK Petropavlovsk- 68.50 21 P P 04 54 51.2 -0.4
PETK Petropavlovsk- 68.50 21 P P 04 54 51.1 -0.4
AML Almayashu 68.63 322 P P 04 54 53.0 -0.1
SNR=22
AML P P 04 54 53.0 -0.1
SNR=22
USP Ospenovka 68.81 324 P P 04 54 53.4 -0.4
SNR=13
USP P P 04 54 53.4 -0.4
SNR=13
EKS2 Erkin-Say 68.89 323 P P 04 54 54.4 0.0
SNR=11
EKS2 P P 04 54 54.4 0.0
SNR=11
EKS2 Erkin-Say 68.89 323 eP P 04 54 54.1 -0.2
EKS2 e*PP pP 04 55 15.1 -2.5
EKS2 pmax pmax
comp=Z,18nm,0.9s
EKS2 Erkin-Say 68.89 323 eP P 04 54 54.1 -0.2
comp=Z,18nm,0.9s
EKS2 epP pP 04 55 15.1 -2.5
MAW Mawson 70.65 201 P P 04 55 05.9 +1.4
comp=Z,7.4nm,0.6s,baz=74,slow=4.9,SNR=15
MAW Mawson 70.65 201 P P 04 55 05.9 +1.4
MAW Mawson 70.65 201 P P 04 55 05.9 +1.4
ZAA0 Zalesovo Array 71.04 337 eP P 04 55 05.3 -1.7
ZALV Zalesovo Beam 71.04 337 P P 04 55 05.5 -1.5
comp=Z,16nm,0.4s,baz=133,slow=5.1,SNR=77

ZALV Zalesovo Beam 71.04 337 P P 04 55 05.5 -1.5
ZALV Zalesovo Beam 71.04 337 P P 04 55 05.5 -1.5
VNDA Vanda 71.04 172 eP P 04 55 07.0 +0.2
VNDA pmax pmax
comp=Z,3.0nm,0.5s
VNDA Vanda 71.04 172 eP P 04 55 07.0 +0.2
comp=Z,3.1nm,0.5s
YAK Yakutsk 71.21 3 eP P 04 55 05.1 -2.8
YAK e 04 55 31.0
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 71.21 3 eP P 04 55 06.9 -1.0
comp=E,51nm,0.9s
KURK Kurchatov 71.38 332ceP P 04 55 08.7 -0.5
KURK pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 71.38 332 eP P 04 55 08.1 -1.1
comp=Z,26nm,0.6s
KURK Kurchatov 71.38 332 P P 04 55 08.5 -0.7
comp=Z,276nm,0.6s,SNR=20
NVS Novosibirsk 72.32 337 iP P 04 55 12.3 -2.4
IDAH Dahanechah 73.74 308 eP P 04 55 24.2 +0.2
IMON Monand 74.07 308 eP P 04 55 26.4 +0.5
ITEG Tejag 74.68 308 eP P 04 55 29.2 -0.1
SEY Seymchan 75.25 13ceP P 04 55 31.9 +0.2
IAKL Akhelmad 76.08 311 eP P 04 55 38.6 +1.2
BRVK Borovoye 76.87 330ceP P 04 55 40.7 -0.4
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 76.87 330 eP P 04 55 40.2 -1.0
comp=Z,12nm,1.1s
BRVK Borovoye 76.87 330 P P 04 55 40.1 -1.0
comp=Z,66nm,0.5s,SNR=5.3
ISRV Sarvestan 78.03 303 eP P 04 55 47.5 -1.1
IPAR Pars 78.23 303 eP P 04 55 48.8 -0.8
SYO Syowa Base 79.34 201⇑eP P 04 55 54.4 -0.1
IGAR Gharneh 79.83 305 eP P 04 55 57.6 -0.6
ISHM Shahmirzad 79.92 309 eP P 04 55 58.6 -0.1
ILAS Lasjerd 80.04 308 eP P 04 55 59.0 -0.3
IALA Alasht 80.38 309 eP P 04 56 00.1 -1.1
IKLH Kolahrood 80.48 306 eP P 04 56 02.4 +0.7
ABKAR Akbulak array 80.53 323 eP P 04 56 00.0 -1.2
comp=Z,4.9nm,0.6s
IDMV Damavand 80.82 308 eP P 04 56 03.2 -0.3
IPIR Pirpir 80.84 305 eP P 04 56 04.0 +0.3
AKTO Aktyubinsk 82.16 324 LR LR 05 38 58.0
comp=Z,30nm,18.3s,baz=272,slow=40
RDF Al-Radifah 82.58 301 eP P 04 56 11.9 -0.7
NAY Al-Naaiem 82.92 301 eP P 04 56 13.5 -0.8
NAY AMb AMB 04 56 18.7
comp=Z,17nm,1.0s
MIB Mutribah 82.98 302 eP P 04 56 13.6 -1.0
MIB AMb AMB 04 56 17.9
comp=Z,20nm,0.9s
SVE Sverdlovsk 83.58 330⇓iP P 04 56 16.1 -1.0
SVE pmax pmax
comp=Z,14nm,0.8s
IKOM Komasi 83.97 306 eP P 04 56 18.7 -1.1
ARU Arti 84.43 330d iP P 04 56 20.5 -0.9
ARU 04 59 35.1
ARU S S 05 06 36.4 -3.7
ARU SS SS 05 12 18.5 +5.9
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 84.43 330 eP P 04 56 19.9 -1.5
comp=Z,31nm,1.1s
ARU Arti 84.43 330 P P 04 56 20.8 -0.6
comp=Z,115nm,0.7s,SNR=8.3
IGHG Ghaleghazi 84.77 306 eP P 04 56 22.8 -1.1
IDHR Dehrash 85.01 306 eP P 04 56 23.7 -1.4
IBST Bostanabad 85.39 309 eP P 04 56 25.8 -1.1
IHRS Heris 85.44 310 eP P 04 56 26.5 -0.7
KMBO Kilima Mbogo 86.39 269 eP P 04 56 32.6 +0.2
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 86.39 269 eP P 04 56 32.6 +0.2
comp=Z,5.5nm,1.0s
IMRD Marand 86.55 310 eP P 04 56 31.9 -0.7
SOKR Solikamsk 86.62 332 eP P 04 56 31.9 -0.2
SOKR pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 90.00 314 eP P 04 56 50.7 +2.0
KIV i 05 00 25.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
SNAA Sanae 92.00 195 e P 04 57 00.4 +2.9
SNAA Sanae 92.00 195 eP P 04 56 59.4 +1.9
SNAA pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 92.00 195 eP P 04 56 59.4 +1.9
comp=Z,6.8nm,0.8s
BOSA Boshof 93.01 241 P P 04 57 04.2 +1.0
comp=Z,2.9nm,0.6s,baz=98,slow=3.8,SNR=6.3
BOSA Boshof 93.01 241 eP P 04 57 04.1 +1.0
BOSA pmax pmax
comp=Z,7.0nm,0.7s
BOSA Boshof 93.01 241 eP P 04 57 04.1 +1.0
comp=Z,6.9nm,0.7s
LBTB Lobatse 93.46 244 eP P 04 57 06.4 +1.2
LBTB pmax pmax
comp=Z,23nm,1.5s
LBTB Lobatse 93.46 244 eP P 04 57 06.4 +1.2
comp=Z,23nm,1.5s
VNA2 Neumayer--Watz 93.61 194 e P 04 57 07.7 +2.9
ANN Anapa 93.86 315 eP P 04 57 09.9 +3.5
ANN e*PP pP 04 57 29.9 -0.8
ANN pmax pmax
comp=Z,126nm,1.5s
VNA3 Neumayer Olymp 93.93 194 e P 04 57 08.9 +2.6
VNA1 Neumayer--Stat 94.00 194 e P 04 57 09.7 +3.1
OBN Obninsk 95.92 325 eP P 04 57 15.8 +0.3
OBN pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 95.94 309 P P 04 57 14.8 -1.5
comp=Z,1.2nm,0.7s,baz=133,slow=5.8,SNR=6.7
BRTR Keskin Array B 95.94 309ceP P 04 57 15.8 -0.5
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 95.94 309 P P 04 57 14.8 -1.5
ILAR Eielson Array 98.01 26 P P 04 57 23.2 -1.7
comp=Z,0.3nm,0.7s,baz=252,slow=5.4,SNR=5.0
ILAR Eielson Array 98.01 26 P P 04 57 23.2 -1.7
ILAR Eielson Array 98.01 26 P P 04 57 23.2 -1.7
AKASG Malin Array Be 99.97 320 P Pdif 04 57 32.3 -1.6
comp=Z,1.0nm,0.5s,baz=77,slow=4.9,SNR=4.4
AKASG PP PP 05 01 39.1 -1.0
comp=Z,1.2nm,0.7s,baz=90,slow=6.4,SNR=5.0
AKASG Malin Array Be 99.97 320 P Pdif 04 57 32.3 -1.6
AKASG 05 01 39.1
AKASG Malin Array Be 99.97 320 P Pdif 04 57 32.3 -1.6
AKASG PP PP 05 01 39.1 -1.0
YKA Yellowknife Ar 112.44 25 PKiKP PKiKP 05 02 23.9 -0.3
comp=Z,0.4nm,0.6s,baz=308,slow=2.0,SNR=12
YKA SKP 05 05 50.8
comp=Z,0.4nm,0.7s,baz=306,slow=1.9,SNR=7.9
YKA PKKPbc PKKPbc 05 13 14.6 -2.1
comp=Z,0.4nm,0.5s,baz=106,slow=3.4,SNR=12
YKA Yellowknife Ar 112.44 25 PKiKP PKiKP 05 02 23.9 -0.3
YKA Yellowknife Ar 112.44 25 PKiKP PKiKP 05 02 23.9 -0.3
YKA SKP 05 05 50.8
YKA PKKPbc PKKPbc 05 13 14.6 -2.1
NVAR Mina Array Bea 117.50 51 PKP PKPdf 05 02 35.8 +0.8
comp=Z,0.6nm,0.8s,baz=280,slow=2.7,SNR=4.3
NVAR Mina Array Bea 117.50 51 P PKPdf 05 02 35.8 +0.8
HLID Hailey 119.20 45 ePKPdf PKPdf 05 02 39.3 +1.2
DUG Dugway 121.26 48 ePKIKP PKPdf 05 02 42.8 +0.7
DUG Dugway 121.26 48 ePKPdf PKPdf 05 02 42.8 +0.7
SNOW Snow King Moun 121.77 44 ePKPdf PKPdf 05 02 44.0 +0.8
PDAR Pinedale Array 122.83 45 PKP PKPdf 05 02 45.7 +0.6
comp=Z,0.8nm,0.8s,baz=145,slow=1.8,SNR=6.0
PDAR PKKPab PKKPbc 05 12 38.9 -0.3
comp=Z,0.5nm,0.6s,baz=111,slow=4.9,SNR=5.1
PDAR Pinedale Array 122.83 45 PKP PKPdf 05 02 45.7 +0.6
PDAR PKKPab PKKPbc 05 12 38.9 -0.3
TORD Torodi Ar. Bea 123.15 280 PKP PKPdf 05 02 46.8 +0.6
comp=Z,1.4nm,0.6s,baz=69,slow=1.7,SNR=18
TORD SKP 05 06 14.2
comp=Z,0.4nm,0.7s,baz=79,slow=2.8,SNR=4.1
TORD PKKPab PKKPab 05 12 38.1 +1.1
comp=Z,0.4nm,0.6s,baz=294,slow=3.7,SNR=7.0

TORD	**Torodi Ar. Bea**	**123.15**	**280**	PKP	**PKPdf**	**05 02 46.8**	**+0.6**
TORD				SKP		05 06 14.2	
TORD				PKKPab	**PKKPab**	**05 12 38.1**	**+1.1**
ESDC	**Sonseca Array**	**124.60**	**312**	PKP	**PKPdf**	**05 02 49.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=39,slow=1.3,SNR=4.4						
ESDC	**Sonseca Array**	**124.60**	**312**	PKP	**PKPdf**	**05 02 49.1**	**+0.7**
RSSD	**Black Hills**	**126.03**	**41**	*e*PKIKP	**PKPdf**	**05 02 51.4**	**+0.1**
RSSD	**Black Hills**	**126.03**	**41**	*e*PKPdf	**PKPdf**	**05 02 51.4**	**+0.1**
ANMO	**Albuquerque**	**127.57**	**53**	*e*PKIKP	**PKPdf**	**05 02 56.9**	**+2.5**
ANMO	**Albuquerque**	**127.57**	**53**	*e*PKPdf	**PKPdf**	**05 02 56.9**	**+2.5**
PLCA	**Paso Flores**	**128.54**	**166**	PKP	**PKPdf**	**05 02 57.0**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=226,slow=3.8,SNR=3.5						
PLCA	**Paso Flores**	**128.54**	**166**	PKIKP	**PKPdf**	**05 02 57.0**	**+0.9**
PLCA	**Paso Flores**	**128.54**	**166**	PKP	**PKPdf**	**05 02 57.0**	**+0.9**
PLCA				*e*PKPdf	**PKiKP**	**05 02 57.3**	**+0.7**
DBIC	**Dimbokro**	**129.10**	**271**	PKP	**PKPdf**	**05 02 58.7**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=91,slow=2.9,SNR=8.3						
DBIC	**Dimbokro**	**129.10**	**271**	PKIKP	**PKPdf**	**05 02 58.7**	**+1.1**
DBIC	**Dimbokro**	**129.10**	**271**	PKP	**PKPdf**	**05 02 58.7**	**+1.1**
DBIC				*e*PKPdf	**PKiKP**	**05 02 59.4**	**+1.1**
MNTX	**Cornudas Mount**	**129.33**	**56**	*e*PKPdf	**PKPdf**	**05 02 58.8**	**+1.1**
TXAR	**Lajitas Array**	**131.36**	**59**	PKP	**PKPdf**	**05 03 03.3**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=282,slow=1.8,SNR=8.6						
TXAR				SKPbc	**SKPab**	**05 06 19.9**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=257,slow=2.3,SNR=38						
TXAR	**Lajitas Array**	**131.36**	**59**	PKIKP	**PKPdf**	**05 03 03.3**	**+1.7**
TXAR	**Lajitas Array**	**131.36**	**59**	PKP	**PKPdf**	**05 03 03.3**	**+1.7**
TXAR				SKPbc	**SKPab**	**05 06 19.9**	**+0.6**
SCHQ	**Schefferville**	**133.76**	**8**	PKP	**PKPdf**	**05 03 05.9**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=333,slow=2.3,SNR=3.6						
SCHQ				SKPbc	**SKPbc**	**05 06 26.7**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=337,slow=4.2,SNR=3.6						
SCHQ	**Schefferville**	**133.76**	**8**	PKP	**PKPdf**	**05 03 05.9**	**+0.6**
SCHQ				SKPbc	**SKPbc**	**05 06 26.7**	**+0.5**
JCT	**Junction City**	**134.26**	**56**	*e*PKIKP	**PKPdf**	**05 03 05.8**	**-1.2**
JCT	**Junction City**	**134.26**	**56**	*e*PKPdf	**PKPdf**	**05 03 05.8**	**-1.2**
CPUP	**Villa Florida**	**144.62**	**178**	PKP	**PKPdf**	**05 03 26.1**	**+0.1**
	comp=Z,27nm,0.6s,baz=171,slow=1.9,SNR=111						
CPUP				SKPbc	**SKiKP**	**05 06 58.1**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=148,slow=3.5,SNR=3.4						
CPUP	**Villa Florida**	**144.62**	**178**	*e*PKIKP	**PKPdf**	**05 03 25.7**	**-0.2**
CPUP	**Villa Florida**	**144.62**	**178**	*e*PKPdf	**PKPdf**	**05 03 25.7**	**-0.2**
CPUP				PKP	PKPbc	05 03 26.1	+1.3
CPUP				SKPbc	**SKiKP**	**05 06 58.1**	**+0.2**
GOGA	**Godfrey**	**145.24**	**42**	*e*PKIKP	**PKPbc**	**05 03 26.2**	**-0.4**
GOGA	**Godfrey**	**145.24**	**42**	*e*PKPbc	**PKPbc**	**05 03 26.2**	**-0.4**
CAM4	**Nova Friburgo**	**145.86**	**203**	⇓*i*P	**PKPab**	**05 03 32.0**	**+2.4**
CAM4				*i*		05 03 36.4	
CAM4				*i*		05 03 40.6	
CAM4				*i*		05 03 49.2	
CAM4				*i*		05 03 57.9	
CAM4				*i*		05 04 01.5	
LVC	**Limon Verde**	**145.98**	**159**	*e*PKPbc	**PKPab**	**05 03 31.4**	**+1.2**
NNA	**Nana**	**150.59**	**135**	*c* PKIKP	**PKPbc**	**05 03 43.2**	**+1.6**
NNA	**Nana**	**150.59**	**135**	*e*PKPbc	**PKPbc**	**05 03 42.4**	**+0.8**
JTS	**JuntasAbangare**	**151.67**	**85**	*e*PKIKP	**PKPbc**	**05 03 44.7**	**+0.6**
JTS	**JuntasAbangare**	**151.67**	**85**	*e*PKPbc	**PKPbc**	**05 03 44.7**	**+0.6**
LPAZ	**La Paz**	**152.02**	**155**	PKPbc	**PKPbc**	**05 03 47.0**	**+1.5**
	comp=Z,6.1nm,0.5s,baz=181,slow=2.8,SNR=28						
LPAZ	**La Paz**	**152.02**	**155**	*e*PKIKP	**PKPbc**	**05 03 46.9**	**+1.3**
LPAZ	**La Paz**	**152.02**	**155**	*e*PKPbc	**PKPbc**	**05 03 46.9**	**+1.3**
SAML	**Samuel**	**160.64**	**159**	*e*PKPab	**PKPab**	**05 04 31.6**	**+0.4**

IDC 07 05:03:26.3±2.5, 0.57S×133.48E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=98.6km s-min=25.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.05**	**203**	P	Pn	05 07 50.8	-0.1
	0.1nm,0.3s,baz=20,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**19.27**	**178**	P	P	05 07 52.5	-0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**22.96**	**179**	P	P	05 08 32.4	-0.1
	0.6nm,0.7s,baz=360,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	05 14 07.9	-0.1
	0.5nm,0.6s,baz=112,slow=7.5,SNR=7.3						

IDC 07 05:09:11.6±1.2, 0.69S×133.69E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=57.5km s-min=19.9km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.03**	**204**	P	P	05 13 35.6	+0.3
	0.2nm,0.3s,baz=32,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**19.15**	**178**	P	P	05 13 36.7	+0.1
	0.4nm,0.3s,baz=356,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.84**	**179**	P	P	05 14 16.6	0.0
	3.5nm,0.8s,baz=4.4,slow=12,SNR=26						
SONM	**Songino Array**	**53.85**	**338**	P	P	05 18 36.4	-0.2
	0.7nm,0.8s,baz=142,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**65.17**	**324**	P	P	05 19 54.8	+0.1
	0.6nm,0.6s,baz=116,slow=8.2,SNR=8.2						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	05 21 53.9	-0.3
	0.3nm,0.7s,baz=252,slow=5.1,SNR=5.8						

*NEIC **07** 05:12:13.7, 13.41N×92.96W, h16km, mb4.8/72, MD4.7(MEX), After MEX.*
*MEX **07** 05:12:13.7±0.7, 13.41N×92.96W, h16km±28km, MD4.7*
*ISCJB **07** 05:12:17.5±0.3, 14.16N±0.04×92.53W±0.03, h10km, mb4.7/91, MS4.1/19, Error ellipse: s-maj=6.6km s-min=3.3km az=30.1*
*IDC **07** 05:12:21.7±5.8, 14.19N×92.38W, h33km±44km, mb4.2/18, mb1 4.4/19, mb1mx4.4/23, mbtmp4.2/19, ML4.1/1, MS4.1/21, Ms1 4.1/21, ms1mx3.9/34, Error ellipse: s-maj=28.0km s-min=12.0km az=61.0*
*CASC **07** 05:12:34.2±1.3, 13.93N×91.66W, h16km±14km, MD4.3*
ISC 07 05:12:23.1±0.9, 14.11N±0.06×92.62W±0.06, h50km±7km, n533, σ1§29/863, mb4.7/92, MS4.1/19, 378C-296D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.86**	**24**	*e*P	**Pn**	**05 12 37.8**	**-1.3**
THIG				*e*S	Sn	05 12 57.8	+7.1
THIG		**0.86**	**24**	*e*P	**Pn**	**05 12 37.8**	**-1.3**
THIG				*e*S	Sn	05 12 57.8	+7.1
JAT	**Jato**	**0.98**	**78**	⇑*e*P	**Pn**	**05 12 41.8**	**+1.3**
PCIG		**1.69**	**340**	*e*P	**Pn**	**05 12 47.4**	**-2.8**
PCIG				*e*S	**Sn**	**05 13 14.2**	**+3.6**
PCIG		**1.69**	**340**	*e*P	**Pn**	**05 12 47.4**	**-2.8**
PCIG				*e*S	**Sn**	**05 13 14.2**	**+3.6**
FG6		**1.75**	**75**	*e*P	**Pn**	**05 12 51.8**	**+0.5**
FUG	**Fuego 3**	**1.76**	**79**	⇑*e*P	**Pn**	**05 12 51.4**	**0.0**
PCG	**Pacaya**	**1.98**	**82**	*e*P	**Pn**	**05 12 55.0**	**+0.7**
PCG				*e*S	Sn	05 13 24.3	+6.3
CCIG	**Comitan**	**2.21**	**12**	*e*P	**Pn**	**05 12 58.8**	**+1.3**
CCIG				*e*S	Sn	05 13 32.4	+8.7
CCIG	**Comitan**	**2.21**	**12**	*e*P	**Pn**	**05 12 58.8**	**+1.3**
CCIG				*e*S	Sn	05 13 32.4	+8.7
NBG	**Las Nubes**	**2.26**	**78**	*e*P	Pn	05 13 00.3	+2.1
NBG				*e*S	Sn	05 13 30.8	+5.7
TGIG		**2.69**	**350**	*e*P	**Pn**	**05 13 03.6**	**-0.4**
TGIG				*i* S	**Sn**	**05 13 40.7**	**+5.2**
TGIG		**2.69**	**350**	*e*P	**Pn**	**05 13 03.6**	**-0.4**
TGIG				*i* S	**Sn**	**05 13 40.7**	**+5.2**
RTR	**El Retiro**	**2.90**	**94**	*e*P	**Pn**	**05 13 06.1**	**-0.9**
SBLS	**San Blas**	**2.93**	**95**	*e*P	Pn	05 13 07.1	-0.3
SNJE	**San Jose**	**2.94**	**94**	*e*P	**Pn**	**05 13 06.6**	**-0.9**
SNJE				*e*S	Sn	05 13 33.5	-8.3
BOQS	**Boqueron**	**3.27**	**96**	*e*P	Pn	05 13 11.6	-0.5
BOQS				*e*S	Sn	05 13 40.8	-9.1
LFRS	**El Faro**	**3.49**	**98**	*e*P	Pn	05 13 14.7	-0.4
LBRS	**Las Brisas**	**3.50**	**96**	*e*P	Pn	05 13 14.6	-0.5
CMIG	**Matias Romero**	**3.68**	**324**	Pn	Pn	05 13 14.7	-2.8
	5.4nm,0.3s,baz=135,slow=10,SNR=79						
CMIG				Sn	**Sn**	**05 14 00.1**	**+0.5**
	64nm,0.3s,baz=122,slow=17,SNR=6.2						
CMIG				Lg	Lg	05 14 16.6	
	96nm,0.3s,baz=107,slow=19,SNR=7.2						
CMIG	**Matias Romero**	**3.68**	**324**	Pn	Pn	05 13 14.7	-2.8
CMIG				*e*S	**Sn**	**05 13 59.5**	**-0.1**
CMIG				Sn	Sn	05 14 00.1	+0.5
CMIG				Lg	Lg	05 14 16.6	
CMIG	**Matias Romero**	**3.68**	**324**	*e*P	Pn	05 13 14.1	-3.4
CMIG				*e*S	**Sn**	**05 13 59.5**	**-0.1**
HUIG	**Huatulco**	**3.75**	**297**	*e*P	Pn	05 13 10.7	-7.7
HUIG				*i* S	Sn	05 13 52.6	-8.7
HUIG	**Huatulco**	**3.75**	**297**	*e*P	Pn	05 13 10.7	-7.7
HUIG				*i* S	Sn	05 13 52.6	-8.7
CNCH	**Conchagua**	**4.73**	**100**	*e*P	Pn	05 13 32.5	+0.5
VHO	**Vista Hermosa**	**4.93**	**307**	*e*P	Pn	05 13 29.1	-5.8
VHO				*e*S	Sn	05 14 26.0	-4.8
VHO	**Vista Hermosa**	**4.93**	**307**	*e*P	Pn	05 13 29.1	-5.8
VHO				*e*S	Sn	05 14 26.0	-4.8
TGUH	**Tegucigalpa,Un**	**5.19**	**90**	*e*Pn	Pn	05 13 38.2	-0.1
PNIG	**Pinotepa**	**5.78**	**294**	*e*P	Pn	05 13 36.8	-10
PNIG				*e*S	Sn	05 14 42.4	-8.9
PNIG	**Pinotepa**	**5.78**	**294**	*e*P	Pn	05 13 36.8	-10
PNIG				*e*S	Sn	05 14 42.4	-8.9
TEIG	**Tepich**	**7.37**	**34**	Pn	Pn	05 14 08.1	+0.1
	16nm,0.3s,baz=235,slow=4.7,SNR=66						
TEIG				Sn	Sn	05 15 33.0	+2.7
	2.8nm,0.3s,baz=77,slow=23,SNR=3.1						
TEIG				LR	LR	05 17 26.2	
	comp=Z,3μm,20.3s,baz=127,slow=42						
TEIG	**Tepich**	**7.37**	**34**	*e*Pn	Pn	05 14 08.0	0.0
	190nm,0.7s						
TEIG				*e*Sn	**Sn**	**05 15 25.4**	**-5.0**
TEIG				Sn	Sn	05 15 33.0	+2.7
PPM	**Popocatepetl**	**7.58**	**311**	*e*P	Pn	05 14 06.1	-5.3
PPM				*e*S	**Sn**	**05 15 33.2**	**-3.0**
PPM	**Popocatepetl**	**7.58**	**311**	*e*P	Pn	05 14 06.1	-5.3
PPM				*e*S	**Sn**	**05 15 33.2**	**-3.0**
JTS	**JuntasAbangare**	**8.40**	**116**	Pn	Pn	05 14 23.1	+0.7
	1.3nm,0.3s,baz=313,slow=16,SNR=12						
JTS				Lg	Lg	05 16 39.1	
	0.6nm,0.3s,baz=142,slow=14,SNR=7.6						
JTS	**JuntasAbangare**	**8.40**	**116**	*e*Pn	Pn	05 14 23.3	+0.9
JTS				Lg	Lg	05 16 39.1	
JCT	**Junction City**	**17.58**	**339**	*e*Pn	**P**	**05 16 26.1**	**+1.0**
	29nm,1.3s						
JCT	**Junction City**	**17.58**	**339**	⇑P	**P**	**05 16 26.5**	**+1.4**
	baz=18						
JCT				⇑P	**P**	**05 16 26.5**	**+1.4**
	baz=18						
628A	**Black Gap, Mar**	**18.01**	**330**	⇓P	**Pn**	**05 16 30.4**	**+0.5**
	baz=18,SNR=37						
628A				⇓P	**Pn**	**05 16 30.4**	**+0.5**
	baz=18,SNR=37						
VBMS	**Vicksburg**	**18.13**	**6**	*e*P	**Pn**	**05 16 31.1**	**-0.1**
	41nm,0.9s						
627A	**Terlingua Ranc**	**18.23**	**329**	⇓P	**Pn**	**05 16 33.7**	**+1.1**
	baz=19,SNR=46						
627A				⇓P	**Pn**	**05 16 33.7**	**+1.1**
	baz=19,SNR=46						
TXAR	**Lajitas Array**	**18.27**	**328**	P	**Pn**	**05 16 34.2**	**+1.0**
	0.2nm,0.3s,baz=147,slow=7.0,SNR=42						
TXAR				PcP	**PcP**	**05 21 01.6**	**-1.8**
	0.0nm,0.3s,baz=120,slow=1.3,SNR=2.6						
TXAR				LR	LR	05 24 31.0	
	comp=Z,232nm,18.4s,baz=60,slow=40						
TXAR	**Lajitas Array**	**18.27**	**328**	P	**Pn**	**05 16 34.2**	**+1.0**
TXAR				PcP	**PcP**	**05 21 01.6**	**-1.8**
528A	**Cox Ranch, San**	**18.52**	**331**	⇑P	**P**	**05 16 36.5**	**+0.9**
	baz=19,SNR=11						
528A				⇑P	**P**	**05 16 36.5**	**+0.9**
	baz=19,SNR=11						
626A	**Big Bend Ranch**	**18.70**	**327**	⇓P	**Pn**	**05 16 38.8**	**+0.5**
	baz=19,SNR=26						
626A				⇓P	**Pn**	**05 16 38.8**	**+0.5**
	baz=19,SNR=26						
428A	**Kincaid Ranch,**	**18.95**	**332**	⇑P	**P**	**05 16 41.3**	**+1.0**
	baz=20,SNR=10						
428A				⇑P	**P**	**05 16 41.3**	**+1.0**
	baz=20,SNR=10						
526A	**Mary Lane Ranc**	**19.08**	**328**	⇑P	**Pn**	**05 16 43.2**	**+0.3**
	baz=20,SNR=21						
526A				⇑P	**Pn**	**05 16 43.2**	**+0.3**
	baz=20,SNR=21						
RFTA	**Plano**	**19.18**	**350**	*e*P	**P**	**05 16 43.3**	**+0.7**
427A	**Hayter Ranch,**	**19.39**	**331**	⇓P	**P**	**05 16 45.5**	**+0.5**
	baz=20,SNR=12						
427A				⇓P	**P**	**05 16 45.5**	**+0.5**
	baz=20,SNR=12						
LRAL	**Lakeview Retre**	**19.52**	**14**	*e*P	**P**	**05 16 45.0**	**-1.3**
	151nm,2.5s						
426A	**McDonald Obser**	**19.54**	**329**	⇓P	**P**	**05 16 48.4**	**+1.6**
	baz=20						
426A				⇓P	**P**	**05 16 48.4**	**+1.6**
	baz=20						
328A	**Wristen Ranch,**	**19.57**	**333**	⇑P	**P**	**05 16 47.3**	**+0.4**
	baz=20,SNR=33						
328A				⇑P	**P**	**05 16 47.3**	**+0.4**
	baz=20,SNR=33						
326A	**Caldwell Ranch**	**20.05**	**331**	⇓P	**P**	**05 16 53.1**	**+0.9**
	baz=21,SNR=21						
326A				⇓P	**P**	**05 16 53.1**	**+0.9**
	baz=21,SNR=21						
425A	**Indio Mountain**	**20.12**	**328**	⇓P	**P**	**05 16 53.7**	**+0.7**
	baz=21,SNR=15						
425A				⇓P	**P**	**05 16 53.7**	**+0.7**
	baz=21,SNR=15						
ROSC	**El Rosal**	**20.23**	**115**	P	Pn	05 16 58.0	+0.9
	26nm,1.1s,baz=335,slow=1.8,SNR=16						
ROSC	**El Rosal**	**20.23**	**115**	P	Pn	05 16 58.0	+0.9
227A	**Bennet, Jal**	**20.32**	**333**	⇓P	**P**	**05 16 56.2**	**+1.0**
	baz=21,SNR=24						
227A				⇓P	**P**	**05 16 56.2**	**+1.0**
	baz=21,SNR=24						
MIAR	**Mount Ida**	**20.36**	**358**	*e*P	**P**	**05 16 54.8**	**-0.7**
OXF	**Oxford**	**20.52**	**8**	*e*P	**P**	**05 16 56.6**	**-0.6**
	78nm,1.2s						
UALR	**University of**	**20.58**	**1**	*e*Pn	**P**	**05 16 58.8**	**+1.0**
	47nm,1.1s						
325A	**Bean Ranch, Si**	**20.58**	**329**	⇑P	**P**	**05 16 58.2**	**+0.1**
	baz=21,SNR=18						
325A				⇑P	**P**	**05 16 58.2**	**+0.1**
	baz=21,SNR=18						
CLNB	**Carlsbad**	**20.79**	**332**	*e*P	**P**	**05 17 01.5**	**+1.2**
	11nm,0.9s						
324A	**Moseley Ranch,**	**20.90**	**328**	⇓P	**P**	**05 17 01.7**	**+0.2**
	baz=21,SNR=19						
324A				⇓P	**P**	**05 17 01.7**	**+0.2**
	baz=21,SNR=19						
127A	**Arkansas Junct**	**20.91**	**334**	⇓P	**P**	**05 17 01.6**	**0.0**
	baz=22,SNR=17						
127A				⇓P	**P**	**05 17 01.6**	**0.0**
	baz=22,SNR=17						
GOGA	**Godfrey**	**20.94**	**22**	*e*P	**P**	**05 17 00.8**	**-0.9**
	28nm,0.9s						
GDL2	**Guadalupe Moun**	**20.96**	**331**	*e*P	**P**	**05 17 03.4**	**+1.3**
MNTX	**Cornudas Mount**	**21.05**	**328**	*e*P	**P**	**05 17 03.2**	**+0.3**
	12nm,0.9s						
MNTX	**Cornudas Mount**	**21.05**	**328**	⇑P	**P**	**05 17 03.3**	**+0.3**
	baz=22,SNR=27						
MNTX				⇑P	**P**	**05 17 03.3**	**+0.3**
	baz=22,SNR=27						
MNTX				⇑P	**P**	**05 17 03.3**	**+0.3**
	baz=22,SNR=27						
MNTX				⇑P	**P**	**05 17 03.3**	**+0.3**
	baz=22,SNR=27						
225A	**Deer Hill, Car**	**21.11**	**330**	⇑P	**P**	**05 17 04.6**	**+0.8**
	baz=22,SNR=24						
225A				⇑P	**P**	**05 17 04.6**	**+0.8**
	baz=22,SNR=24						
126A	**Clayton Basin,**	**21.18**	**333**	⇓P	**P**	**05 17 04.6**	**+0.2**
	baz=22,SNR=22						
126A				⇓P	**P**	**05 17 04.6**	**+0.2**
	baz=22,SNR=22						
PLAL	**Pickwick Lake**	**21.18**	**10**	*e*P	**P**	**05 17 03.7**	**-0.6**
	47nm,1.7s						
WMOK	**Wichita Mounta**	**21.28**	**346**	*e*P	**P**	**05 17 05.8**	**+0.4**
	11nm,0.9s						
WMOK				*e*S	**S**	**05 20 57.5**	**-1.6**
Z27A	**Tatum**	**21.41**	**335**	⇑P	**P**	**05 17 06.8**	**-0.1**
	baz=22						
Z27A				⇑P	**P**	**05 17 06.8**	**-0.1**
	baz=22						
224A	**Cornudas Mount**	**21.42**	**329**	⇓P	**P**	**05 17 07.4**	**+0.3**
	baz=22						
224A				⇓P	**P**	**05 17 07.4**	**+0.3**
	baz=22						
HBAR	**Harrisburg**	**21.43**	**4**	*e*P	**P**	**05 17 07.3**	**+0.4**
CPRX	**Cap Rock**	**21.44**	**333**	*e*P	**P**	**05 17 07.8**	**+0.5**
	71nm,1.0s						
125A	**Gardner Draw,**	**21.48**	**331**	⇓P	**P**	**05 17 08.2**	**+0.5**
	baz=22						
125A				⇓P	**P**	**05 17 08.2**	**+0.5**
	baz=22						
Z26A	**Caprock**	**21.69**	**333**	⇑P	**P**	**05 17 10.0**	**+0.1**
	baz=22						
Z26A				⇑P	**P**	**05 17 10.0**	**+0.1**
	baz=22						
MSTX	**Muleshoe**	**21.81**	**337**	⇓P	**P**	**05 17 11.0**	**-0.2**
	baz=22,SNR=15						
MSTX				⇓P	**P**	**05 17 11.0**	**-0.2**
	baz=22,SNR=15						
SWET	**Sewanee**	**21.86**	**15**	*e*P	**P**	**05 17 10.7**	**-1.0**
	22nm,0.9s						
Y27A	**Causey**	**21.88**	**336**	⇑P	**P**	**05 17 11.1**	**-0.9**
	baz=22,SNR=7.7						
Y27A				⇑P	**P**	**05 17 11.1**	**-0.9**
	baz=22,SNR=7.7						
TUL1	**Tulsa**	**21.89**	**353**	⇓P	**P**	**05 17 10.5**	**-1.4**
	baz=23						
TUL1				⇓P	**P**	**05 17 10.5**	**-1.4**
	baz=23						
Z25A	**Roswell**	**22.03**	**332**	⇑P	**P**	**05 17 13.6**	**0.0**
	baz=23,SNR=22						
Z25A				⇑P	**P**	**05 17 13.6**	**0.0**
	baz=23,SNR=22						
NHSC	**New Hope**	**22.05**	**29**	*e*P	**P**	**05 17 10.9**	**-2.6**
	118nm,1.1s						
SDV	**Santo Domingo**	**22.16**	**101**	*e*P	**P**	**05 17 16.0**	**+0.8**
	9.8nm,0.9s						
Y26A	**Elida**	**22.19**	**335**	⇓P	**P**	**05 17 16.5**	**+1.2**
	baz=23						
Y26A				⇓P	**P**	**05 17 16.5**	**+1.2**
	baz=23						
AMTX	**Amarillo**	**22.24**	**340**	*e*P	**P**	**05 17 15.9**	**+0.1**
	56nm,0.8s						
AMTX	**Amarillo**	**22.24**	**340**	⇑P	**P**	**05 17 15.4**	**-0.4**
	baz=23,SNR=23						
AMTX				⇑P	**P**	**05 17 15.4**	**-0.4**
	baz=23,SNR=23						
AMTX				⇑P	**P**	**05 17 15.4**	**-0.4**
	baz=23,SNR=23						
AMTX				⇑P	**P**	**05 17 15.4**	**-0.4**
	baz=23,SNR=23						
222A	**Williams Famil**	**22.27**	**326**	⇓P	**P**	**05 17 16.8**	**+0.6**
	baz=23						
222A				⇓P	**P**	**05 17 16.8**	**+0.6**
	baz=23						
WVT	**Waverly**	**22.34**	**10**	*e*P	**P**	**05 17 15.8**	**-0.9**
	7.5nm,0.8s						
Z24A	**Sheeppen Canyo**	**22.37**	**331**	⇓P	**P**	**05 17 17.9**	**+0.6**
	baz=23,SNR=27						
Z24A				⇓P	**P**	**05 17 17.9**	**+0.6**
	baz=23,SNR=27						
CPCT	**Cooper Cave**	**22.46**	**18**	*e*P	**P**	**05 17 17.2**	**-0.9**
320A	**Kipp Ranch, An**	**22.52**	**322**	⇓P	**P**	**05 17 20.4**	**+1.5**
	baz=23,SNR=14						
320A				⇓P	**P**	**05 17 20.4**	**+1.5**
	baz=23,SNR=14						
X27A	**F and S Farms,**	**22.53**	**337**	⇑P	**P**	**05 17 18.1**	**-0.9**
	baz=23,SNR=12						
X27A				⇑P	**P**	**05 17 18.1**	**-0.9**
	baz=23,SNR=12						
Y25A	**Mesa, Roswell**	**22.56**	**333**	⇓P	**P**	**05 17 19.3**	**0.0**
	baz=23,SNR=11						
Y25A				⇓P	**P**	**05 17 19.3**	**0.0**
	baz=23,SNR=11						
JSC	**Jenkinsville**	**22.56**	**25**	P	**P**	**05 17 19.8**	**+0.6**
221A	**Mesquite Ranch**	**22.57**	**325**	⇑P	**P**	**05 17 20.7**	**+1.3**
	baz=23,SNR=6.8						
221A				⇑P	**P**	**05 17 20.7**	**+1.3**
	baz=23,SNR=6.8						
PARMO	**Parma**	**22.61**	**6**	*e*P	**P**	**05 17 20.2**	**+0.6**
122A	**Conniff Cattle**	**22.68**	**327**	⇑P	**P**	**05 17 22.1**	**+1.6**
	baz=23						
122A				⇑P	**P**	**05 17 22.1**	**+1.6**
	baz=23						
X26A	**CR and CF Fran**	**22.73**	**336**	⇑P	**P**	**05 17 20.9**	**-0.1**
	baz=23						
X26A				⇑P	**P**	**05 17 20.9**	**-0.1**
	baz=23						
Z23A	**Rita Site, Whi**	**22.73**	**329**	⇑P	**P**	**05 17 21.7**	**+0.6**
	baz=23,SNR=26						
Z23A				⇑P	**P**	**05 17 21.7**	**+0.6**
	baz=23,SNR=26						
TKL	**Tuckaleechee C**	**22.88**	**19**	P	**P**	**05 17 22.1**	**-0.4**
	17nm,1.0s,baz=187,slow=8.1,SNR=7.9						
TKL				LR	LR	05 27 34.2	
	comp=Z,602nm,20.1s,baz=268,slow=40						
TKL	**Tuckaleechee C**	**22.88**	**19**	*e*P	**P**	**05 17 21.8**	**-0.7**
W27A	**Bowe Ranch, En**	**22.89**	**338**	⇑P	**P**	**05 17 21.9**	**-0.8**
	baz=24,SNR=45						
W27A				⇑P	**P**	**05 17 21.9**	**-0.8**
	baz=24,SNR=45						
Y24A	**Capitan**

baz=24,SNR=24
119A **Ashpeak Ranch,** **24.00 324** ⇓P **P** **05 17 34.8 +1.5**
baz=24,SNR=14
119A ⇓P **P** **05 17 34.8 +1.5**
baz=24,SNR=14
Y21A **Point of Rocks** **24.05 328** ⇑P **P** **05 17 36.1 +2.1**
baz=24,SNR=11
Y21A ⇑P **P** **05 17 36.1 +2.1**
baz=24,SNR=11
LAZ **Ladron** **24.09 329** *e*P **P** **05 17 35.9 +1.7**
15nm,1.3s
X22A **Bernardo** **24.11 330** ⇑P **P** **05 17 36.0 +1.6**
baz=25
X22A ⇑P **P** **05 17 36.0 +1.6**
baz=25
V25A **Rancho No Teng** **24.17 336** ⇑P **P** **05 17 35.5 +0.6**
baz=25,SNR=26
V25A ⇑P **P** **05 17 35.5 +0.6**
baz=25,SNR=26
ANMO **Albuquerque** **24.21 331** P **P** **05 17 36.3 +1.0**
3.8nm,0.8s,baz=150,slow=12,SNR=14
ANMO **Albuquerque** **24.21 331** P **P** **05 17 36.3 +1.0**
13nm,0.9s
U26A **Atchley Ranch,** **24.32 338** ⇓P **P** **05 17 37.0 +0.7**
baz=25,SNR=50
U26A ⇓P **P** **05 17 37.0 +0.7**
baz=25,SNR=50
V24A **Rampart Ranch,** **24.34 334** ⇓P **P** **05 17 37.5 +1.0**
baz=25,SNR=16
V24A ⇓P **P** **05 17 37.5 +1.0**
baz=25,SNR=16
Y20A **Horse Springs,** **24.34 327** ⇑P **P** **05 17 38.2 +1.6**
baz=25,SNR=22
Y20A ⇑P **P** **05 17 38.2 +1.6**
baz=25,SNR=22
Z19A **T-Link Ranch,** **24.36 324** ⇑P **P** **05 17 39.3 +2.6**
baz=25
Z19A ⇑P **P** **05 17 39.3 +2.6**
baz=25
T28A **Walsh** **24.43 341** ⇑P **P** **05 17 36.8 -0.4**
baz=25,SNR=11
T28A ⇑P **P** **05 17 36.8 -0.4**
baz=25,SNR=11
X21A **Alamocita Cree** **24.45 329** ⇑P **P** **05 17 39.2 +1.6**
baz=25,SNR=13
X21A ⇑P **P** **05 17 39.2 +1.6**
baz=25,SNR=13
TUC **Tucson** **24.56 321** *e*P **P** **05 17 39.8 +1.4**
18nm,1.1s
T27A **Campo** **24.57 340** ⇑P **P** **05 17 38.3 -0.2**
baz=25,SNR=18
T27A ⇑P **P** **05 17 38.3 -0.2**
baz=25,SNR=18
U25A **Circle Dot Ran** **24.58 337** ⇑P **P** **05 17 39.7 +1.1**
baz=25,SNR=31
U25A ⇑P **P** **05 17 39.7 +1.1**
baz=25,SNR=31
Z18A **Geronimo** **24.66 323** ⇓P **P** **05 17 41.4 +2.2**
baz=25
Z18A ⇓P **P** **05 17 41.4 +2.2**
baz=25
WCI **Wyandotte Cave** **24.67 12** *e*P **P** **05 17 38.5 -0.8**
49nm,1.0s
WCI *e*pP pP 05 17 53.6 +1.5
V23A **Ortiz Mt. (NFS** **24.75 333** ⇑P **P** **05 17 42.4 +2.1**
baz=25,SNR=31
V23A ⇑P **P** **05 17 42.4 +2.1**
baz=25,SNR=31
OLIL **Olney** **24.85 8** *e*P **P** **05 17 40.1 -0.7**
28nm,0.8s
OLIL *e*pP pP 05 17 55.0 +1.3
Y19A **Nutrioso** **24.85 326** ⇑P **P** **05 17 43.6 +2.3**
baz=25,SNR=17
Y19A ⇑P **P** **05 17 43.6 +2.3**
baz=25,SNR=17
X20A **Quemado** **24.89 328** ⇓P **P** **05 17 43.6 +2.0**
baz=25,SNR=13
X20A ⇓P **P** **05 17 43.6 +2.0**
baz=25,SNR=13
U24A **Moreno Valley** **24.93 335** ⇓P **P** **05 17 43.5 +1.5**
baz=26
U24A ⇓P **P** **05 17 43.5 +1.5**
baz=26
KSU1 **Kansas State U** **25.14 353** *e*P **P** **05 17 42.8 -0.7**
29nm,0.9s
Y18A **Canyon Day Jun** **25.16 324** ⇓P **P** **05 17 45.4 +1.5**
baz=26,SNR=7.9
Y18A ⇓P **P** **05 17 45.4 +1.5**
baz=26,SNR=7.9
S27A **Las Animas** **25.19 341** ⇓P **P** **05 17 45.0 +0.9**
baz=26
S27A ⇓P **P** **05 17 45.0 +0.9**
baz=26
X19A **St. Johns** **25.23 326** ⇑P **P** **05 17 46.6 +2.0**
baz=26,SNR=9.5
X19A ⇑P **P** **05 17 46.6 +2.0**
baz=26,SNR=9.5
T25A **Trinidad** **25.23 337** ⇓P **P** **05 17 46.1 +1.5**
baz=26,SNR=22
T25A ⇓P **P** **05 17 46.1 +1.5**
baz=26,SNR=22
U23A **El Rito** **25.24 334** ⇑P **P** **05 17 46.6 +1.8**
baz=26,SNR=35
U23A ⇑P **P** **05 17 46.6 +1.8**
baz=26,SNR=35
S26A **Kim** **25.33 340** ⇑P **P** **05 17 46.0 +0.6**
baz=26,SNR=10
S26A ⇑P **P** **05 17 46.0 +0.6**
baz=26,SNR=10
W20A **Ramah** **25.35 328** ⇑P **P** **05 17 47.7 +1.9**
baz=26,SNR=9.0
W20A ⇑P **P** **05 17 47.7 +1.9**
baz=26,SNR=9.0
ATAH **Atahualpa** **25.40 145** P **P** **05 17 46.1 -0.4**
3.1nm,0.7s,baz=299,slow=13,SNR=2.2
ATAH LR LR 05 25 26.2
comp=Z,250nm,19.9s,baz=332,slow=31
ATAH **Atahualpa** **25.40 145** P **P** **05 17 46.1 -0.4**
CBKS **Cedar Bluff** **25.40 347** *e*P **P** **05 17 45.7 -0.1**
51nm,0.9s
CBKS **Cedar Bluff** **25.40 347** ⇓P **P** **05 17 46.3 +0.4**
baz=26,SNR=7.8
CBKS ⇓P **P** **05 17 46.3 +0.4**
baz=26,SNR=7.8
CBKS ⇓P **P** **05 17 46.3 +0.4**
baz=26,SNR=7.8
CBKS ⇓P **P** **05 17 46.3 +0.4**
baz=26,SNR=7.8
T24A **Torres, Weston** **25.42 336** ⇓P **P** **05 17 48.0 +1.6**
baz=26,SNR=18
T24A ⇓P **P** **05 17 48.0 +1.6**
baz=26,SNR=18
BLO **Bloomington** **25.54 11** *e*P **P** **05 17 46.3 -0.8**
27nm,1.0s
BLO *e*pP pP 05 18 01.2 +1.3
Y17A **Roosevelt** **25.57 323** ⇑P **P** **05 17 49.0 +1.4**
baz=26
Y17A ⇑P **P** **05 17 49.0 +1.4**
baz=26
U22A **Llaves** **25.57 333** ⇓P **P** **05 17 49.9 +2.1**
baz=26,SNR=16
U22A ⇓P **P** **05 17 49.9 +2.1**
baz=26,SNR=16
214A **Organ Pipe Nat** **25.62 317** ⇑P **P** **05 17 49.5 +1.5**
baz=26
214A ⇑P **P** **05 17 49.5 +1.5**
baz=26
X18A **Snowflake** **25.66 325** ⇑P **P** **05 17 50.5 +2.0**
baz=26
X18A ⇑P **P** **05 17 50.5 +2.0**
baz=26
S25A **Robets Cordova** **25.70 338** ⇑P **P** **05 17 50.0 +1.2**
baz=26,SNR=15
S25A ⇑P **P** **05 17 50.0 +1.2**
baz=26,SNR=15
R27A **Eads** **25.71 341** ⇓P **P** **05 17 48.9 +0.1**
baz=26,SNR=9.6
R27A ⇓P **P** **05 17 48.9 +0.1**
baz=26,SNR=9.6
T23A **Casias Ranch,** **25.78 335** ⇓P **P** **05 17 51.2 +1.5**
baz=26,SNR=6.9
T23A ⇓P **P** **05 17 51.2 +1.5**
baz=26,SNR=6.9
W19A **Sanders** **25.80 327** ⇑P **P** **05 17 52.5 +2.8**
baz=26,SNR=6.0
W19A ⇑P **P** **05 17 52.5 +2.8**
baz=26,SNR=6.0
V20A **Brimhall** **25.86 329** ⇑P **P** **05 17 51.4 +1.1**
baz=26
V20A ⇑P **P** **05 17 51.4 +1.1**
baz=26
R26A **Arlington** **25.93 340** ⇑P **P** **05 17 51.7 +0.8**
baz=27,SNR=14
R26A ⇑P **P** **05 17 51.7 +0.8**
baz=27,SNR=14
S24A **Houchin Ranch,** **25.97 337** ⇑P **P** **05 17 52.6 +1.2**
baz=27
S24A ⇑P **P** **05 17 52.6 +1.2**
baz=27
U21A **Nageezi** **25.98 331** ⇓P **P** **05 17 53.1 +1.7**
baz=26
U21A ⇓P **P** **05 17 53.1 +1.7**
baz=26
X17A **Forest Lakes** **26.00 324** ⇑P **P** **05 17 53.7 +2.0**
baz=26,SNR=7.6
X17A ⇑P **P** **05 17 53.7 +2.0**
baz=26,SNR=7.6
R25A **Fountain Ranch** **26.08 339** ⇑P **P** **05 17 53.3 +1.1**
baz=27,SNR=10
R25A ⇑P **P** **05 17 53.3 +1.1**
baz=27,SNR=10
T22A **Edith** **26.13 333** ⇑P **P** **05 17 54.7 +1.9**
baz=27,SNR=17
T22A ⇑P **P** **05 17 54.7 +1.9**
baz=27,SNR=17
SDCO **Great Sand Dun** **26.18 336** *e*P **P** **05 17 54.8 +1.6**
26nm,1.1s
SDCO **Great Sand Dun** **26.18 336** ⇓P **P** **05 17 54.5 +1.2**
baz=27,SNR=22
SDCO ⇓P **P** **05 17 54.5 +1.2**
baz=27,SNR=22
SDCO ⇓P **P** **05 17 54.5 +1.2**
baz=27,SNR=22
SDCO ⇓P **P** **05 17 54.5 +1.2**
baz=27,SNR=22
114A **Black Gap (USA** **26.18 319** ⇑P **P** **05 17 54.8 +1.8**
baz=26
114A ⇑P **P** **05 17 54.8 +1.8**
baz=26
KSCO **Kaye Shedlock'** **26.33 342** ⇓P **P** **05 17 55.0 +0.5**
baz=27
KSCO ⇓P **P** **05 17 55.0 +0.5**
baz=27
U20A **Newcomb** **26.35 330** ⇓P **P** **05 17 56.3 +1.6**
baz=27
U20A ⇓P **P** **05 17 56.3 +1.6**
baz=27
T21A **Navajo Lake** **26.39 332** ⇑P **P** **05 17 57.0 +1.9**
baz=27,SNR=6.2
T21A ⇑P **P** **05 17 57.0 +1.9**
baz=27,SNR=6.2
X16A **Lo Mia Camp, P** **26.43 323** ⇑P **P** **05 17 57.5 +2.0**
baz=27,SNR=12
X16A ⇑P **P** **05 17 57.5 +2.0**
baz=27,SNR=12
R24A **Sanders Place,** **26.45 338** ⇑P **P** **05 17 57.0 +1.4**
baz=27,SNR=6.8
R24A ⇑P **P** **05 17 57.0 +1.4**
baz=27,SNR=6.8
Q26A **Hugo** **26.52 341** ⇑P **P** **05 17 56.9 +0.7**
baz=27,SNR=8.3
Q26A ⇑P **P** **05 17 56.9 +0.7**
baz=27,SNR=8.3
SFIN **Scholer Farm** **26.61 9** ⇑P **P** **05 17 55.4 -1.4**
baz=28
SFIN ⇑P **P** **05 17 55.4 -1.4**
baz=28
Z14A **Wintersburg** **26.62 320** ⇑P **P** **05 17 58.8 +1.9**
baz=27
Z14A ⇑P **P** **05 17 58.8 +1.9**
baz=27
U19A **Dine' College,** **26.62 329** ⇑P **P** **05 17 58.5 +1.2**
baz=27,SNR=7.7
U19A ⇑P **P** **05 17 58.5 +1.2**
baz=27,SNR=7.7
R23A **Moffat** **26.69 336** ⇑P **P** **05 17 59.3 +1.4**
baz=27,SNR=14
R23A ⇑P **P** **05 17 59.3 +1.4**
baz=27,SNR=14
S22A **4UR Ranch, Cre** **26.71 334** ⇓P **P** **05 17 59.9 +1.8**
baz=27,SNR=24
S22A ⇓P **P** **05 17 59.9 +1.8**
baz=27,SNR=24
Q25A **Bedland, Calha** **26.75 340** ⇓P **P** **05 17 59.1 +0.8**
baz=27,SNR=8.9
Q25A ⇓P **P** **05 17 59.1 +0.8**
baz=27,SNR=8.9
113A **Mohawk Valley,** **26.76 318** ⇓P **P** **05 18 00.2 +1.9**
baz=27
113A ⇓P **P** **05 18 00.2 +1.9**
baz=27
V17A **Tonalea, Kykot** **26.94 326** ⇑P **P** **05 18 01.7 +1.7**
baz=27,SNR=6.8
V17A ⇑P **P** **05 18 01.7 +1.7**
baz=27,SNR=6.8
T19A **Beclabito** **26.95 330** ⇑P **P** **05 18 01.3 +1.1**
baz=28
T19A ⇑P **P** **05 18 01.3 +1.1**
baz=28
Z13A **Yuma Proving G** **26.96 318** ⇓P **P** **05 18 01.2 +1.1**
baz=27,SNR=7.0
Z13A ⇓P **P** **05 18 01.2 +1.1**
baz=27,SNR=7.0
MVCO **Mesa Verde** **27.01 331** *e*P **P** **05 18 02.5 +1.8**
45nm,1.2s
MVCO **Mesa Verde** **27.01 331** ⇑P **P** **05 18 02.0 +1.3**
baz=28,SNR=18
MVCO ⇑P **P** **05 18 02.0 +1.3**
baz=28,SNR=18
Y14A **Wickenburg** **27.03 320** ⇓P **P** **05 18 01.8 +1.1**
baz=27
Y14A ⇓P **P** **05 18 01.8 +1.1**
baz=27
P26A **Davis Ranch, A** **27.05 342** ⇓P **P** **05 18 01.9 +1.0**
baz=28
P26A ⇓P **P** **05 18 01.9 +1.0**
baz=28
U18A **Rough Rock, Ch** **27.05 328** ⇓P **P** **05 18 03.3 +2.2**
baz=28
U18A ⇓P **P** **05 18 03.3 +2.2**
baz=28
S21A **Coal Bank Pass** **27.06 333** ⇑P **P** **05 18 02.7 +1.4**
baz=28,SNR=8.5
S21A ⇑P **P** **05 18 02.7 +1.4**
baz=28,SNR=8.5
R22A **Saguache, Gunn** **27.09 335** ⇑P **P** **05 18 02.9 +1.4**
baz=28,SNR=8.0
R22A ⇑P **P** **05 18 02.9 +1.4**
baz=28,SNR=8.0
Q24A **Divide** **27.11 338** ⇑P **P** **05 18 03.0 +1.3**
baz=28
Q24A ⇑P **P** **05 18 03.0 +1.3**
baz=28
WUAZ **Wupatki** **27.18 325** ⇓P **P** **05 18 03.5 +1.3**
baz=28
WUAZ ⇓P **P** **05 18 03.5 +1.3**
baz=28
P25A **Willow Gulch B** **27.27 340** ⇓P **P** **05 18 03.3 +0.4**
baz=28
P25A ⇓P **P** **05 18 03.3 +0.4**
baz=28
S20A **Disappointment** **27.45 332** ⇓P **P** **05 18 06.2 +1.5**
baz=28,SNR=5.8
S20A ⇓P **P** **05 18 06.2 +1.5**
baz=28,SNR=5.8
U16A **Tuba City** **27.50 326** ⇑P **P** **05 18 06.3 +1.3**
baz=28
U16A ⇑P **P** **05 18 06.3 +1.3**
baz=28
R21A **Cimarron** **27.54 334** ⇑P **P** **05 18 07.0 +1.5**
baz=28
R21A ⇑P **P** **05 18 07.0 +1.5**
baz=28
T18A **Mexican Hat** **27.61 329** ⇑P **P** **05 18 07.2 +1.2**
baz=28,SNR=5.4
T18A ⇑P **P** **05 18 07.2 +1.2**
baz=28,SNR=5.4
GLA **Glamis** **27.64 317** *e*P **P** **05 18 07.9 +1.7**
25nm,1.4s
GLA **Glamis** **27.64 317** ⇑P **P** **05 18 07.7 +1.5**
baz=28
GLA ⇑P **P** **05 18 07.7 +1.5**
baz=28
Q22A **Crested Butte,** **27.70 336** ⇑P **P** **05 18 07.7 +0.8**
baz=28,SNR=10
Q22A ⇑P **P** **05 18 07.7 +0.8**
baz=28,SNR=10
P23A **Jefferson** **27.73 338** ⇑P **P** **05 18 09.0 +1.8**
baz=28,SNR=6.6
P23A ⇑P **P** **05 18 09.0 +1.8**
baz=28,SNR=6.6
S19A **Harvey Farm, M** **27.74 331** ⇑P **P** **05 18 08.7 +1.5**
baz=28
S19A ⇑P **P** **05 18 08.7 +1.5**
baz=28
R20A **Redvale** **27.75 333** ⇑P **P** **05 18 08.9 +1.5**
baz=28,SNR=9.1
R20A ⇑P **P** **05 18 08.9 +1.5**
baz=28,SNR=9.1
PV01 **Paradox Valley** **27.80 332** *e*P **P** **05 18 09.8 +2.0**
2µm,1.1s
Y12C **Blythe** **27.87 318** ⇓P **P** **05 18 10.1 +1.9**
baz=28
Y12C ⇓P **P** **05 18 10.1 +1.9**
baz=28
Q21A **Lamborn Mesa,** **27.95 335** ⇑P **P** **05 18 10.6 +1.6**
baz=28,SNR=7.9
Q21A ⇑P **P** **05 18 10.6 +1.6**
baz=28,SNR=7.9
OGNE **Ogallala** **27.97 345** ⇑P **P** **05 18 09.8 +0.7**
baz=29
OGNE ⇑P **P** **05 18 09.8 +0.7**
baz=29
N27A **Anderson Farm,** **27.97 344** ⇓P **P** **05 18 10.0 +0.9**
baz=29
N27A ⇓P **P** **05 18 10.0 +0.9**
baz=29
PDMCI **Parker Dam,Lak** **27.98 320** ⇑P **P** **05 18 10.7 +1.5**
baz=28,SNR=5.5
PDMCI ⇑P **P** **05 18 10.7 +1.5**
baz=28,SNR=5.5
SMCO **Snowmass** **27.99 336** *e*P **P** **05 18 11.5 +1.8**
26nm,1.4s
ISCO **Idaho Springs** **28.02 338** *e*P **P** **05 18 11.3 +1.5**
7.4nm,1.1s
ISCO **Idaho Springs** **28.02 338** ⇓P **P** **05 18 11.0 +1.2**
baz=29
ISCO ⇓P **P** **05 18 11.0 +1.2**
baz=29
S18A **Hurst Farm, Bl** **28.11 330** ⇑P **P** **05 18 11.7 +1.1**
baz=29,SNR=6.9
S18A ⇑P **P** **05 18 11.7 +1.1**
baz=29,SNR=6.9
O24A **Longmont** **28.12 339** ⇑P **P** **05 18 10.9 +0.4**
baz=29
O24A ⇑P **P** **05 18 10.9 +0.4**
baz=29
PV04 **Paradox Valley** **28.16 332** *e*P **P** **05 18 13.1 +2.1**
SWSC **Sam W. Stewart** **28.22 316** ⇑P **P** **05 18 13.1 +1.8**
baz=28
SWSC ⇑P **P** **05 18 13.1 +1.8**
baz=28
R19A **Curley Farm, L** **28.24 332** ⇓P **P** **05 18 12.8 +1.1**
baz=29
R19A ⇓P **P** **05 18 12.8 +1.1**
baz=29
P22A **Eagle** **28.27 337** ⇑P **P** **05 18 12.6 +0.6**
baz=29
P22A ⇑P **P** **05 18 12.6 +0.6**
baz=29
W13A **Hualapai Mount** **28.35 321** ⇓P **P** **05 18 14.4 +1.7**
baz=29
W13A ⇓P **P** **05 18 14.4 +1.7**
baz=29
U15A **North Rim** **28.35 325** ⇑P **P** **05 18 14.4 +1.7**
baz=29,SNR=5.6
U15A ⇑P **P** **05 18 14.4 +1.7**
baz=29,SNR=5.6
Q20A **Ridgley Place,** **28.35 334** ⇓P **P** **05 18 13.9 +1.3**
baz=29,SNR=5.6
Q20A ⇓P **P** **05 18 13.9 +1.3**
baz=29,SNR=5.6
BC3 **Big Chuckawall** **28.42 317** ⇑P **P** **05 18 14.8 +1.6**
baz=29,SNR=9.2
BC3 ⇑P **P** **05 18 14.8 +1.6**
baz=29,SNR=9.2
P21A **Newcastle** **28.48 335** ⇓P **P** **05 18 15.3 +1.5**
baz=29
P21A ⇓P **P** **05 18 15.3 +1.5**
baz=29
O23A **Lake Granby, G** **28.49 338** ⇓P **P** **05 18 14.9 +0.9**
baz=29
O23A ⇓P **P** **05 18 14.9 +0.9**
baz=29
IRM **Iron Mountain** **28.53 318** ⇑P **P** **05 18 15.4 +1.3**
baz=29,SNR=6.8
IRM ⇑P **P** **05 18 15.4 +1.3**
baz=29,SNR=6.8
R18A **Canyonlands Na** **28.61 331** ⇑P **P** **05 18 17.3 +2.4**
baz=29,SNR=6.1
R18A ⇑P **P** **05 18 17.3 +2.4**
baz=29,SNR=6.1
MONP **Monument Peak** **28.62 315** ⇓P **P** **05 18 17.0 +1.9**
baz=29
MONP ⇓P **P** **05 18 17.0 +1.9**
baz=29
O22A **Kremmling** **28.68 337** ⇓P **P** **05 18 16.2 +0.5**
baz=29
O22A ⇓P **P** **05 18 16.2 +0.5**
baz=29
N24A **Carr** **28.69 340** ⇓P **P** **05 18 15.8 +0.2**
baz=29
N24A ⇓P **P** **05 18 15.8 +0.2**
baz=29
Q19A **Hogan Spring (** **28.78 332** ⇑P **P** **05 18 17.8 +1.5**
baz=29,SNR=10
Q19A ⇑P **P** **05 18 17.8 +1.5**
baz=29,SNR=10
S16A **Weppner Ranch,** **28.94 328** ⇑P **P** **05 18 19.1 +1.3**
baz=29
S16A ⇑P **P** **05 18 19.1 +1.3**
baz=29
M25A **Palm-Egli Farm** **28.98 342** ⇑P **P** **05 18 18.8 +0.6**
baz=30
M25A ⇑P **P** **05 18 18.8 +0.6**
baz=30
BELC **Belle Mtn. Jos** **28.99 317** ⇑P **P** **05 18 19.5 +1.2**
baz=29
BELC ⇑P **P** **05 18 19.5 +1.2**
baz=29
R17A **Hanksville Air** **29.03 330** ⇑P **P** **05 18 20.3 +1.7**
baz=30,SNR=9.6
R17A ⇑P **P** **05 18 20.3 +1.7**
baz=30,SNR=9.6
LDFC **Landfair** **29.09 320** *e*P **P** **05 18 21.4 +2.2**
14nm,1.0s
N22A **Wattenberg Ran** **29.21 338** ⇓P **P** **05 18 21.6 +1.2**
baz=30
N22A ⇓P **P** **05 18 21.6 +1.2**
baz=30
GMRC **Granite Mounta** **29.25 319** ⇑P **P** **05 18 22.4 +1.8**
baz=30
GMRC ⇑P **P** **05 18 22.4 +1.8**
baz=30
Q18A **Rafter H Ranch** **29.30 331** ⇑P **P** **05 18 22.1 +1.1**
baz=30
Q18A ⇑P **P** **05 18 22.1 +1.1**
baz=30
R16A **Teasdale** **29.31 329** ⇑P **P** **05 18 22.6 +1.4**
baz=30
R16A ⇑P **P** **05 18 22.6 +1.4**
baz=30
O20A **White River Ci** **29.32 335** ⇑P **P** **05 18 23.3 +2.1**
baz=30,SNR=5.5
O20A ⇑P **P** **05 18 23.3 +2.1**
baz=30,SNR=5.5
SRU **San Rafael** **29.48 331** *e*P **P** **05 18 24.1 +1.4**
27nm,1.8s
N21A **Black Mountain** **29.57 337** ⇓P **P** **05 18 25.1 +1.7**
baz=30,SNR=7.7
N21A ⇓P **P** **05 18 25.1 +1.7**
baz=30,SNR=7.7
Q16A **Castle Valley** **29.64 330** ⇓P **P** **05 18 25.4 +1.3**
baz=30
Q16A ⇓P **P** **05 18 25.4 +1.3**
baz=30
HEC **Hector,Ludlow** **29.71 318** ⇓P **P** **05 18 26.5 +1.8**
baz=30
HEC ⇓P **P** **05 18 26.5 +1.8**
baz=30
ECSD **EROS Data Cent** **29.72 354** *e*P **P** **05 18 24.0 -0.5**
8.7nm,0.8s
CCUT **Cedar City** **29.75 325** *e*P **P** **05 18 27.2 +2.0**
7.2nm,1.0s
M22A **Cedar Creek Ra** **29.79 339** ⇓P **P** **05 18 25.9 +0.5**

baz=30
M22A ⇓P P 05 18 25.9 +0.5
baz=30
O19A Miners Draw (B 29.82 334 ⇑P P 05 18 26.8 +1.1
baz=30
O19A ⇑P P 05 18 26.8 +1.1
baz=30
TUQ Turquoise Moun 29.83 320 ⇓P P 05 18 27.3 +1.5
baz=30
TUQ ⇓P P 05 18 27.3 +1.5
baz=30
P17A Butcher Ranch, 29.87 331 ⇑P P 05 18 27.6 +1.5
baz=30
P17A ⇑P P 05 18 27.6 +1.5
baz=30
N20A Spence Gulch, 29.92 336 ⇑P P 05 18 28.3 +1.7
baz=30,SNR=14
N20A ⇑P P 05 18 28.3 +1.7
baz=30,SNR=14
L23A Garrett 30.11 340 ⇓P P 05 18 29.6 +1.3
baz=31
L23A ⇓P P 05 18 29.6 +1.3
baz=31
O18A Roosevelt 30.18 333 ⇑P P 05 18 30.8 +2.0
baz=31,SNR=15
O18A ⇑P P 05 18 30.8 +2.0
baz=31,SNR=15
M21A Separation Pea 30.24 338 ⇓P P 05 18 31.2 +1.8
baz=31,SNR=5.4
M21A ⇓P P 05 18 31.2 +1.8
baz=31,SNR=5.4
CIS Catalina Islan 30.28 314 ⇓P P 05 18 32.3 +2.7
baz=31
CIS ⇓P P 05 18 32.3 +2.7
baz=31
N19A John Jarvie Ra 30.34 335 ⇑P P 05 18 31.0 +0.7
baz=31
N19A ⇑P P 05 18 31.0 +0.7
baz=31
P16A Fountain Green 30.42 330 ⇓P P 05 18 33.2 +2.2
baz=31
P16A ⇓P P 05 18 33.2 +2.2
baz=31
O17A Robinson Place 30.45 332 ⇑P P 05 18 33.5 +2.3
baz=31
O17A ⇑P P 05 18 33.5 +2.3
baz=31
M20A Sweetwater, Wa 30.45 337 ⇓P P 05 18 32.4 +1.2
baz=31
M20A ⇓P P 05 18 32.4 +1.2
baz=31
R13A O'Grain Ranch, 30.54 326 ⇑P P 05 18 34.2 +2.1
baz=31,SNR=7.7
R13A ⇑P P 05 18 34.2 +2.1
baz=31,SNR=7.7
L21A Rawlins 30.56 338 ⇑P P 05 18 33.0 +0.8
baz=31,SNR=8.6
L21A ⇑P P 05 18 33.0 +0.8
baz=31,SNR=8.6
K23A Bowen Ranch, D 30.67 341 ⇑P P 05 18 33.9 +0.8
baz=31,SNR=8.0
K23A ⇑P P 05 18 33.9 +0.8
baz=31,SNR=8.0
BRSD Miller 30.71 351 ⇑P P 05 18 33.0 -0.3
baz=32
BRSD ⇑P P 05 18 33.0 -0.3
baz=32
MPU Maple Canyon 30.72 331 *eP* P 05 18 35.5 +1.9
9.5nm,1.2s
O16A Springville 30.81 331 ⇑P P 05 18 36.0 +1.6
baz=31
O16A ⇑P P 05 18 36.0 +1.6
baz=31
EDW2 Edwards Air Fo 30.83 317 ⇓P P 05 18 36.5 +1.9
baz=31
EDW2 ⇓P P 05 18 36.5 +1.9
baz=31
K22A Casper 30.87 340 ⇓P P 05 18 35.6 +0.8
baz=32
K22A ⇓P P 05 18 35.6 +0.8
baz=32
L20A Wamsutter 30.95 337 ⇑P P 05 18 36.7 +1.0
baz=32
L20A ⇑P P 05 18 36.7 +1.0
baz=32
LRMC Laurel Mountai 30.99 318 ⇓P P 05 18 37.4 +1.5
baz=31
LRMC ⇓P P 05 18 37.4 +1.5
baz=31
SPMN St. Paul 31.01 360 ⇓P P 05 18 35.3 -0.6
baz=32,SNR=6.9
SPMN ⇓P P 05 18 35.3 -0.6
baz=32,SNR=6.9
FURC Furnace Creek, 31.07 320 ⇓P P 05 18 38.5 +2.0
baz=32
FURC ⇓P P 05 18 38.5 +2.0
baz=32
N17A Moffit Pass 31.09 333 ⇑P P 05 18 38.2 +1.2
baz=32
N17A ⇑P P 05 18 38.2 +1.2
baz=32
K21A Alcova 31.10 339 ⇑P P 05 18 37.9 +0.9
baz=32
K21A ⇑P P 05 18 37.9 +0.9
baz=32
M18A Lyman 31.16 334 ⇑P P 05 18 38.5 +1.0
baz=32
M18A ⇑P P 05 18 38.5 +1.0
baz=32
MPMC Manual Prospec 31.21 319 ⇑P P 05 18 39.0 +1.0
baz=32
MPMC ⇑P P 05 18 39.0 +1.0
baz=32
BBSR BB Station 31.30 50 P P 05 18 38.9 +0.3
N16A Rees Ranch, Co 31.32 332 ⇓P P 05 18 40.3 +1.4
baz=32
N16A ⇓P P 05 18 40.3 +1.4
baz=32
L19A Farson 31.43 336 ⇓P P 05 18 40.0 +0.1
baz=32
L19A ⇓P P 05 18 40.0 +0.1
baz=32
DUG Dugway 31.43 330 ⇑P P 05 18 41.4 +1.6
baz=32
DUG ⇑P P 05 18 41.4 +1.6
baz=32
RSSD Black Hills 31.46 344 *eP* P 05 18 40.9 +0.7
4.1nm,0.8s
BINY Binghamton 31.48 24 *eP* P 05 18 38.9 -1.1
24nm,1.0s
K20A Yellowstone Ra 31.52 338 ⇑P P 05 18 40.7 +0.2
baz=32
K20A ⇑P P 05 18 40.7 +0.2
baz=32
J22A Midwest 31.53 341 ⇓P P 05 18 40.8 +0.1
baz=32,SNR=7.6
J22A ⇓P P 05 18 40.8 +0.1
baz=32,SNR=7.6
L18A Fontenelle, Gr 31.56 335 ⇓P P 05 18 41.5 +0.5
baz=32,SNR=8.4
L18A ⇓P P 05 18 41.5 +0.5
baz=32,SNR=8.4
R11A Troy Canyon, C 31.56 324 ⇓P P 05 18 42.8 +1.7
baz=32,SNR=5.3
R11A ⇓P P 05 18 42.8 +1.7
baz=32,SNR=5.3
GRAC Grapevine Rang 31.73 320 ⇓P P 05 18 44.3 +2.0
baz=32,SNR=5.5
GRAC ⇓P P 05 18 44.3 +2.0
baz=32,SNR=5.5
J21A Lysite 31.80 339 ⇑P P 05 18 43.9 +0.9
baz=32,SNR=9.0
J21A ⇑P P 05 18 43.9 +0.9
baz=32,SNR=9.0
K19A Absolon Red Bu 31.85 337 ⇑P P 05 18 44.2 +0.7
baz=32,SNR=6.8
K19A ⇑P P 05 18 44.2 +0.7
baz=32,SNR=6.8
HWUT Hardware Ranch 31.96 333 *eP* P 05 18 46.0 +1.5
10nm,1.1s
I22A 9 Mile Ranch, 31.96 341 ⇑P P 05 18 45.0 +0.5
baz=33,SNR=6.2
I22A ⇑P P 05 18 45.0 +0.5
baz=33,SNR=6.2
J20A Shoshoni 32.02 338 ⇓P P 05 18 45.8 +0.8
baz=33
J20A ⇓P P 05 18 45.8 +0.8
baz=33

L17A Cokeville 32.05 334 ⇓P P 05 18 45.6 +0.2
baz=33
L17A ⇓P P 05 18 45.6 +0.2
baz=33
BW06 Boulder Array 32.07 336 *eP* P 05 18 46.4 +0.9
62nm,2.6s
BW06 Boulder Array 32.07 336 ⇑P P 05 18 46.0 +0.5
baz=33,SNR=7.7
BW06 ⇑P P 05 18 46.0 +0.5
baz=33,SNR=7.7
BW06 ⇑P P 05 18 46.0 +0.5
baz=33,SNR=7.7
BW06 ⇑P P 05 18 46.0 +0.5
baz=33,SNR=7.7
PDAR Pinedale Array 32.07 336 P P 05 18 45.7 +0.1
4.9nm,1.0s,baz=137,slow=8.8,SNR=22
PDAR PcP PcP 05 21 34.3 +0.2
0.8nm,0.7s,baz=149,slow=3.9,SNR=3.9
PDAR LR LR 05 33 02.1
comp=Z,155nm,19.3s,baz=158,slow=39
PDAR Pinedale Array 32.07 336 P P 05 18 45.7 +0.1
PDAR PcP PcP 05 21 34.3 +0.2
PD02 Pinedale Array 32.09 336 *eP* P 05 18 45.4 -0.3
PD01 Pinedale Array 32.09 336 *eP* P 05 18 46.2 +0.5
VES Vestal, Richgr 32.12 317 ⇓P P 05 18 47.6 +1.8
baz=32
VES ⇓P P 05 18 47.6 +1.8
baz=32
I21A Big Trails, Te 32.16 340 ⇓P P 05 18 46.7 +0.5
baz=33
I21A ⇓P P 05 18 46.7 +0.5
baz=33
K18A Toltan Ranch, 32.16 335 ⇓P P 05 18 48.0 +1.7
baz=33,SNR=20
K18A ⇓P P 05 18 48.0 +1.7
baz=33,SNR=20
H24A Dirks Ranch, A 32.18 344 ⇓P P 05 18 46.8 +0.5
baz=33,SNR=7.1
H24A ⇓P P 05 18 46.8 +0.5
baz=33,SNR=7.1
L16A Fish Haven 32.23 333 ⇑P P 05 18 47.8 +0.9
baz=33
L16A ⇑P P 05 18 47.8 +0.9
baz=33
M15A Larsen Ranch, 32.24 331 ⇑P P 05 18 48.3 +1.4
baz=33
M15A ⇑P P 05 18 48.3 +1.4
baz=33
J19A Crowheart 32.30 337 ⇓P P 05 18 48.2 +0.7
baz=33
J19A ⇓P P 05 18 48.2 +0.7
baz=33
RCTC Rector, Farmer 32.49 318 ⇓P P 05 18 51.3 +2.3
baz=33
RCTC ⇓P P 05 18 51.3 +2.3
baz=33
H22A Clearmont 32.55 342 ⇑P P 05 18 50.3 +0.7
baz=33
H22A ⇑P P 05 18 50.3 +0.7
baz=33
I20A Worland 32.56 339 ⇑P P 05 18 50.7 +1.1
baz=33,SNR=12
I20A ⇑P P 05 18 50.7 +1.1
baz=33,SNR=12
K17A Gardner Place, 32.61 335 ⇓P P 05 18 51.3 +1.1
baz=33,SNR=13
K17A ⇓P P 05 18 51.3 +1.1
baz=33,SNR=13
J18A Kendall Valley 32.63 336 ⇑P P 05 18 51.1 +0.7
baz=33,SNR=11
J18A ⇑P P 05 18 51.1 +0.7
baz=33,SNR=11
L15A Malad City 32.64 332 ⇑P P 05 18 51.5 +1.0
baz=33,SNR=7.6
L15A ⇑P P 05 18 51.5 +1.0
baz=33,SNR=7.6
HVU Hansel Valley 32.64 331 *eP* P 05 18 52.5 +2.0
13nm,1.1s
G24A Alzada 32.68 345 ⇓P P 05 18 51.6 +0.9
baz=33
G24A ⇓P P 05 18 51.6 +0.9
baz=33
AHID Auburn Hatcher 32.70 334 *eP* P 05 18 52.4 +1.4
16nm,1.0s
H21A Big Horn, Sher 32.80 341 ⇓P P 05 18 52.4 +0.6
baz=33
H21A ⇓P P 05 18 52.4 +0.6
baz=33
G23A Biddle 32.83 343 ⇑P P 05 18 52.6 +0.7
baz=34
G23A ⇑P P 05 18 52.6 +0.7
baz=34
I19A Meeteetse 32.95 338 ⇑P P 05 18 54.1 +0.9
baz=34,SNR=10
I19A ⇑P P 05 18 54.1 +0.9
baz=34,SNR=10
K16A Soda Springs 32.96 334 ⇓P P 05 18 54.5 +1.3
baz=34
K16A ⇓P P 05 18 54.5 +1.3
baz=34
I18A Diamond G Ranc 32.97 337 ⇑P P 05 18 54.5 +1.1
baz=34
I18A ⇑P P 05 18 54.5 +1.1
baz=34
H20A Greybull 32.99 340 ⇓P P 05 18 53.7 +0.3
baz=34,SNR=11
H20A ⇓P P 05 18 53.7 +0.3
baz=34,SNR=11
J17A Brown Place, J 33.03 335 ⇑P P 05 18 55.6 +1.7
baz=34,SNR=16
J17A ⇑P P 05 18 55.6 +1.7
baz=34,SNR=16
L14A Malta 33.06 331 ⇑P P 05 18 55.7 +1.6
baz=34,SNR=14
L14A ⇑P P 05 18 55.7 +1.6
baz=34,SNR=14
ELK Elko 33.07 328 *eP* P 05 18 56.6 +2.3
G22A Birney 33.10 342 ⇑P P 05 18 54.4 0.0
baz=34,SNR=5.5
G22A ⇑P P 05 18 54.4 0.0
baz=34,SNR=5.5
SNOW Snow King Moun 33.13 336 *eP* P 05 18 56.5 +1.7
54nm,0.9s
LOHW Long Hollow 33.20 336 *eP* P 05 18 56.7 +1.4
22nm,1.0s
NVAR Mina Array Bea 33.21 322 P P 05 18 56.4 +0.9
7.8nm,0.8s,baz=138,slow=8.7,SNR=60
NVAR PcP PcP 05 21 38.0 +0.6
1.0nm,0.9s,baz=122,slow=3.3,SNR=4.6
NVAR Mina Array Bea 33.21 322 P P 05 18 56.4 +0.9
NVAR PcP PcP 05 21 38.0 +0.6
K15A Arbon 33.25 333 ⇑P P 05 18 56.9 +1.1
baz=34
K15A ⇑P P 05 18 56.9 +1.1
baz=34
RRI2 Red Ridge 33.27 335 *eP* P 05 18 57.6 +1.6
50nm,1.4s
F23A Volborg 33.31 344 ⇑P P 05 18 56.6 +0.5
baz=34
F23A ⇑P P 05 18 56.6 +0.5
baz=34
J16A Bone 33.33 334 ⇓P P 05 18 58.1 +1.6
baz=34
J16A ⇓P P 05 18 58.1 +1.6
baz=34
G21A Lodge Grass 33.39 341 ⇑P P 05 18 57.5 +0.6
baz=34
G21A ⇑P P 05 18 57.5 +0.6
baz=34
K14A Jones Ranch, D 33.43 332 ⇑P P 05 18 58.5 +1.2
baz=34
K14A ⇑P P 05 18 58.5 +1.2
baz=34
I17A Pilgrim Ck. 33.44 336 ⇓P P 05 18 59.0 +1.5
baz=34,SNR=8.1
I17A ⇓P P 05 18 59.0 +1.5
baz=34,SNR=8.1
H19A Powell 33.49 339 ⇑P P 05 18 59.5 +1.7
baz=34,SNR=8.2
H19A ⇑P P 05 18 59.5 +1.7
baz=34,SNR=8.2
FLWY Flagg Ranch 33.63 336 *eP* P 05 19 00.8 +1.8
11nm,0.9s
G20A Bridger 33.71 340 ⇓P P 05 19 00.1 +0.4
baz=34
G20A ⇓P P 05 19 00.1 +0.4
baz=34
I16A Newdale 33.77 335 ⇑P P 05 19 01.5 +1.2

baz=34
I16A ⇑P P 05 19 01.5 +1.2
baz=34
J15A Blackfoot 33.78 334 ⇑P P 05 19 01.7 +1.3
baz=34,SNR=7.7
J15A ⇑P P 05 19 01.7 +1.3
baz=34,SNR=7.7
E24A Baker 33.80 345 ⇓P P 05 19 01.1 +0.7
baz=34,SNR=9.3
E24A ⇓P P 05 19 01.1 +0.7
baz=34,SNR=9.3
H17A Grant Village 33.84 337 ⇓P P 05 19 00.4 -0.6
baz=34
H17A ⇓P P 05 19 00.4 -0.6
baz=34
LKWY Lake 33.92 337 *eP* P 05 19 01.6 0.0
20nm,1.2s
RLMT Red Lodge 33.98 339 *eP* P 05 19 03.3 +1.1
90nm,3.0s
RLMT Red Lodge 33.98 339 ⇑P P 05 19 02.5 +0.3
baz=35
RLMT ⇑P P 05 19 02.5 +0.3
baz=35
RLMT ⇑P P 05 19 02.5 +0.3
baz=35
RLMT ⇑P P 05 19 02.5 +0.3
baz=35
YFT Old Faithful 33.99 336 *eP* P 05 19 04.6 +2.3
21nm,0.8s
YFT epP pP 05 19 14.2 -1.2
E23A Ismay 34.00 344 ⇑P P 05 19 02.2 +0.1
baz=35
E23A ⇑P P 05 19 02.2 +0.1
baz=35
LONY Lake Ozonia 34.07 23 *eP* P 05 19 01.2 -1.4
148nm,2.7s
E22A Miles City 34.12 343 ⇑P P 05 19 02.5 -0.6
baz=35
E22A ⇑P P 05 19 02.5 -0.6
baz=35
MDND Maddock 34.13 352 ⇓P P 05 19 03.3 +0.1
baz=35
MDND ⇓P P 05 19 03.3 +0.1
baz=35
AGMN Agassiz Nation 34.19 356 *eP* P 05 19 03.3 -0.4
6.6nm,0.9s
J14A Carey 34.20 332 ⇑P P 05 19 05.5 +1.5
baz=35
J14A ⇑P P 05 19 05.5 +1.5
baz=35
F20A Billings 34.20 341 ⇓P P 05 19 04.5 +0.6
baz=35
F20A ⇓P P 05 19 04.5 +0.6
baz=35
YMR Madison River 34.22 336 *eP* P 05 19 05.8 +1.5
29nm,1.2s
G18A Lazy EL Ranch, 34.26 339 ⇑P P 05 19 05.0 +0.5
baz=35
G18A ⇑P P 05 19 05.0 +0.5
baz=35
I15A Monteview 34.29 334 ⇑P P 05 19 05.8 +1.0
baz=35
I15A ⇑P P 05 19 05.8 +1.0
baz=35
D24A Glendive 34.33 346 ⇑P P 05 19 05.5 +0.6
baz=35,SNR=7.1
D24A ⇑P P 05 19 05.5 +0.6
baz=35,SNR=7.1
H16A Russell Place, 34.36 336 ⇓P P 05 19 06.4 +1.0
baz=35
H16A ⇓P P 05 19 06.4 +1.0
baz=35
F19A Roth Farm, Mol 34.51 340 ⇓P P 05 19 06.4 -0.2
baz=35,SNR=5.8
F19A ⇓P P 05 19 06.4 -0.2
baz=35,SNR=5.8
E21A Keefer Ranch, 34.53 342 ⇑P P 05 19 07.1 +0.4
baz=35
E21A ⇑P P 05 19 07.1 +0.4
baz=35
QLMT Earthquake Lak 34.54 336 *eP* P 05 19 09.5 +2.5
J13A Cove Ranch, Pi 34.55 332 ⇑P P 05 19 08.2 +1.2
baz=35
J13A ⇑P P 05 19 08.2 +1.2
baz=35
D23A Lindsay 34.60 345 ⇑P P 05 19 07.5 +0.2
baz=35,SNR=5.3
D23A ⇑P P 05 19 07.5 +0.2
baz=35,SNR=5.3
WCN Washoe City 34.64 321 *eP* P 05 19 10.3 +2.5
9.8nm,1.3s
WCN Washoe City 34.64 321 ⇓P P 05 19 09.9 +2.0
baz=35
WCN ⇓P P 05 19 09.9 +2.0
baz=35
I14A Mackay 34.65 333 ⇓P P 05 19 09.9 +2.0
baz=35,SNR=9.0
I14A ⇓P P 05 19 09.9 +2.0
baz=35,SNR=9.0
G17A Pierce Place, 34.69 337 ⇑P P 05 19 09.9 +1.7
baz=35
G17A ⇑P P 05 19 09.9 +1.7
baz=35
GCMT Greycliff 34.70 339 *eP* P 05 19 09.0 +0.7
6.6nm,1.0s
C24A Savage 34.74 346 ⇓P P 05 19 08.9 +0.4
baz=35,SNR=6.4
C24A ⇓P P 05 19 08.9 +0.4
baz=35,SNR=6.4
HLID Hailey 34.79 332 *eP* P 05 19 10.5 +1.4
7.2nm,0.9s
HLID Hailey 34.79 332 ⇑P P 05 19 10.6 +1.5
baz=35,SNR=9.6
HLID ⇑P P 05 19 10.6 +1.5
baz=35,SNR=9.6
F18A Big Timber 34.82 339 ⇑P P 05 19 09.9 +0.6
baz=35,SNR=6.5
F18A ⇑P P 05 19 09.9 +0.6
baz=35,SNR=6.5
E20A Meyer Farm, Mu 34.82 341 ⇑P P 05 19 09.9 +0.7
baz=36,SNR=9.0
E20A ⇑P P 05 19 09.9 +0.7
baz=36,SNR=9.0
D22A Cohagen 34.83 344 ⇓P P 05 19 09.7 +0.4
baz=36,SNR=15
D22A ⇓P P 05 19 09.7 +0.4
baz=36,SNR=15
H15A Lima 34.85 335 ⇑P P 05 19 12.2 +2.5
baz=35,SNR=6.2
H15A ⇑P P 05 19 12.2 +2.5
baz=35,SNR=6.2
I13A Wildhorse Cree 34.93 332 ⇑P P 05 19 12.3 +1.9
baz=36,SNR=9.7
I13A ⇑P P 05 19 12.3 +1.9
baz=36,SNR=9.7
D21A La Casta Ranch 34.98 343 ⇓P P 05 19 11.6 +1.0
baz=36
D21A ⇓P P 05 19 11.6 +1.0
baz=36
E19A Rath Farm, Rou 34.99 340 ⇓P P 05 19 10.9 +0.2
baz=36,SNR=6.0
E19A ⇓P P 05 19 10.9 +0.2
baz=36,SNR=6.0
G16A Moss Hill, Enn 35.02 336 ⇑P P 05 19 12.7 +1.6
baz=36,SNR=5.6
G16A ⇑P P 05 19 12.7 +1.6
baz=36,SNR=5.6
MCMT McKenzie Canyo 35.11 335 *eP* P 05 19 13.1 +1.1
26nm,1.1s
F17A Fitzpatrick Pl 35.16 338 ⇑P P 05 19 13.7 +1.5
baz=36,SNR=20
F17A ⇑P P 05 19 13.7 +1.5
baz=36,SNR=20
H14A Leadore 35.16 334 ⇓P P 05 19 14.1 +1.7
baz=36
H14A ⇓P P 05 19 14.1 +1.7
baz=36
C23A Lambert 35.18 345 ⇓P P 05 19 12.7 +0.4
baz=36,SNR=6.2
C23A ⇓P P 05 19 12.7 +0.4
baz=36,SNR=6.2
G15A Dillon 35.24 335 ⇓P P 05 19 14.7 +1.7
baz=36,SNR=18
G15A ⇓P P 05 19 14.7 +1.7
baz=36,SNR=18
I12A Atlanta 35.30 331 ⇓P P 05 19 14.9 +1.4
baz=36,SNR=20
I12A ⇓P P 05 19 14.9 +1.4

baz=36,SNR=20
C22A Vida 35.30 344 ⇓P P **05 19 14.0 +0.7**
baz=36,SNR=9.9
C22A ⇓P P **05 19 14.0 +0.7**
baz=36,SNR=9.9
MFID Camas Ranch 35.34 330 ⇓P P **05 19 15.1 +1.3**
baz=36
MFID ⇓P P **05 19 15.1 +1.3**
baz=36
D20A Manuel Ranch, 35.35 342 ⇑P P **05 19 13.9 +0.2**
baz=36,SNR=7.5
D20A ⇑P P **05 19 13.9 +0.2**
baz=36,SNR=7.5
F16A Kennard Place, 35.41 337 ⇓P P **05 19 15.7 +1.3**
baz=36
F16A ⇓P P **05 19 15.7 +1.3**
baz=36
E18A Harlowton 35.46 339 ⇑P P **05 19 15.6 +0.8**
baz=36,SNR=5.8
E18A ⇑P P **05 19 15.6 +0.8**
baz=36,SNR=5.8
H13A Challis 35.50 333 ⇑P P **05 19 17.1 +1.9**
baz=36,SNR=18
H13A ⇑P P **05 19 17.1 +1.9**
baz=36,SNR=18
DGMT Dagmar 35.57 347 *e*P P **05 19 16.1 +0.5**
12nm,0.6s
DGMT Dagmar 35.57 347 ⇓P P **05 19 16.3 +0.6**
baz=36
DGMT ⇓P P **05 19 16.3 +0.6**
baz=36
D19A Cripps Ranch, 35.64 341 ⇑P P **05 19 16.8 +0.5**
baz=36,SNR=9.3
D19A ⇑P P **05 19 16.8 +0.5**
baz=36,SNR=9.3
E17A Martinsdale 35.70 338 ⇑P P **05 19 17.5 +0.6**
baz=36,SNR=5.7
E17A ⇑P P **05 19 17.5 +0.6**
baz=36,SNR=5.7
B23A Brockton 35.75 346 ⇑P P **05 19 17.8 +0.6**
baz=36,SNR=7.3
B23A ⇑P P **05 19 17.8 +0.6**
baz=36,SNR=7.3
H12A Diamond D Ranc 35.76 332 ⇑P P **05 19 19.0 +1.6**
baz=36,SNR=17
H12A ⇑P P **05 19 19.0 +1.6**
baz=36,SNR=17
F15A Butte 35.80 336 ⇓P P **05 19 18.8 +1.0**
baz=36,SNR=15
F15A ⇓P P **05 19 18.8 +1.0**
baz=36,SNR=15
B22A Reddig Ranch S 35.84 345 ⇑P P **05 19 18.5 +0.5**
baz=36
B22A ⇑P P **05 19 18.5 +0.5**
baz=36
C20A Veseth Ranch, 35.86 342 ⇑P P **05 19 18.9 +0.8**
baz=36
C20A ⇑P P **05 19 18.9 +0.8**
baz=36
G13A Cobalt 35.91 334 ⇑P P **05 19 20.1 +1.5**
baz=36
G13A ⇑P P **05 19 20.1 +1.5**
baz=36
A24A Westby 35.96 347 ⇓P P **05 19 19.3 +0.4**
baz=37
A24A ⇓P P **05 19 19.3 +0.4**
baz=37
D18A Linhart Farms, 35.97 340 ⇑P P **05 19 19.8 +0.6**
baz=37
D18A ⇑P P **05 19 19.8 +0.6**
baz=37
E16A East Helena 36.06 337 ⇓P P **05 19 20.8 +0.9**
baz=37,SNR=12
E16A ⇓P P **05 19 20.8 +0.9**
baz=37,SNR=12
WVOR Wild Horse Val 36.06 327 *e*P P **05 19 21.3 +1.3**
8.2nm,1.0s
ULM Lac du Bonnet 36.14 356 P P **05 19 19.1 -1.2**
4.0nm,0.6s,baz=177,slow=11,SNR=9.0
ULM PcP PcP **05 21 45.9 +0.6**
1.6nm,0.6s,baz=180,slow=1.0,SNR=4.2
ULM LR LR 05 37 17.5
comp=Z,170nm,18.2s,baz=304,slow=42
ULM Lac du Bonnet 36.14 356 *e*P P **05 19 19.6 -0.8**
ULM PcP PcP **05 21 45.9 +0.6**
A23A Redstone 36.19 346 ⇑P P **05 19 21.0 +0.2**
baz=37
A23A ⇑P P **05 19 21.0 +0.2**
baz=37
C19A Slack Wire Ran 36.20 341 ⇓P P **05 19 21.8 +0.7**
baz=37
C19A ⇓P P **05 19 21.8 +0.7**
baz=37
D17A Six Diamond Ra 36.23 339 ⇓P P **05 19 21.9 +0.5**
baz=37,SNR=7.3
D17A ⇓P P **05 19 21.9 +0.5**
baz=37,SNR=7.3
E15A Deer Lodge 36.34 336 ⇓P P **05 19 23.3 +1.0**
baz=37,SNR=12
E15A ⇓P P **05 19 23.3 +1.0**
baz=37,SNR=12
D16A Dana Ranch, Ca 36.44 338 ⇑P P **05 19 24.7 +1.6**
baz=37
D16A ⇑P P **05 19 24.7 +1.6**
baz=37
A22A Carney Farms, 36.47 345 ⇑P P **05 19 24.2 +1.0**
baz=37
A22A ⇑P P **05 19 24.2 +1.0**
baz=37
F13A Darby 36.51 334 ⇓P P **05 19 24.6 +0.9**
baz=37,SNR=11
F13A ⇓P P **05 19 24.6 +0.9**
baz=37,SNR=11
B20A Solberg Farm, 36.52 343 ⇓P P **05 19 24.3 +0.5**
baz=37
B20A ⇓P P **05 19 24.3 +0.5**
baz=37
J08A Circle Bar Ran 36.62 328 ⇑P P **05 19 26.2 +1.4**
baz=37,SNR=10
J08A ⇑P P **05 19 26.2 +1.4**
baz=37,SNR=10
E14A Clinton 36.67 336 ⇑P P **05 19 26.2 +1.1**
baz=37
E14A ⇑P P **05 19 26.2 +1.1**
baz=37
C17A Wharram Farm, 36.67 339 ⇓P P **05 19 25.9 +0.8**
baz=37,SNR=5.9
C17A ⇓P P **05 19 25.9 +0.8**
baz=37,SNR=5.9
EGMT Eagleton 36.68 341 *e*P P **05 19 25.9 +0.7**
6.6nm,0.3s
A21A Bergtoll Ranch 36.72 344 ⇓P P **05 19 26.4 +0.9**
baz=37
A21A ⇓P P **05 19 26.4 +0.9**
baz=37
D15A Lincoln 36.80 337 ⇓P P **05 19 27.3 +1.0**
baz=37,SNR=5.4
D15A ⇓P P **05 19 27.3 +1.0**
baz=37,SNR=5.4
B19A Brinkman Farms 36.81 342 ⇑P P **05 19 26.8 +0.6**
baz=38,SNR=8.5
B19A ⇑P P **05 19 26.8 +0.6**
baz=38,SNR=8.5
A20A Cobblestone Ra 36.89 343 ⇓P P **05 19 27.4 +0.5**
baz=38
A20A ⇓P P **05 19 27.4 +0.5**
baz=38
E13A Victor 36.97 335 ⇑P P **05 19 28.8 +1.1**
baz=38,SNR=12
E13A ⇑P P **05 19 28.8 +1.1**
baz=38,SNR=12
CHMT Chamberlain Mo 36.98 336 *e*P P **05 19 29.0 +1.1**
B18A Beardsley Farm 37.01 341 ⇑P P **05 19 28.8 +0.9**
baz=38
B18A ⇑P P **05 19 28.8 +0.9**
baz=38
C16A Fuhringer Ranc 37.16 339 ⇓P P **05 19 30.4 +1.1**
baz=38,SNR=14
C16A ⇓P P **05 19 30.4 +1.1**
baz=38,SNR=14
A19A Klindworth Far 37.17 342 ⇑P P **05 19 29.7 +0.4**
baz=38
A19A ⇑P P **05 19 29.7 +0.4**
baz=38
D14A Greenough 37.22 336 ⇑P P **05 19 30.3 +0.5**
baz=38,SNR=5.8
D14A ⇑P P **05 19 30.3 +0.5**
baz=38,SNR=5.8
B17A L&G Farms, Che 37.26 340 ⇓P P **05 19 30.7 +0.7**
baz=38
B17A ⇓P P **05 19 30.7 +0.7**
baz=38
C15A Salmond Ranch, 37.45 338 ⇑P P **05 19 32.7 +0.9**
baz=38,SNR=8.9
C15A ⇑P P **05 19 32.7 +0.9**
baz=38,SNR=8.9
A18A Metzger Ranch, 37.50 341 ⇓P P **05 19 32.3 +0.2**
baz=38,SNR=5.5
A18A ⇓P P **05 19 32.3 +0.2**
baz=38,SNR=5.5
I07A Izee 37.66 328 ⇓P P **05 19 35.1 +1.5**
baz=38
I07A ⇓P P **05 19 35.1 +1.5**
baz=38
B16A M & M Farms, S 37.67 339 ⇑P P **05 19 34.1 +0.6**
baz=38
B16A ⇑P P **05 19 34.1 +0.6**
baz=38
SWMT Swartz Lake 37.76 336 *e*P P **05 19 35.3 +1.0**
A17A Triple J Farms 37.79 340 ⇑P P **05 19 34.9 +0.4**
baz=38,SNR=6.8
A17A ⇑P P **05 19 34.9 +0.4**
baz=38,SNR=6.8
B15A Bradely Ranch, 37.89 338 ⇓P P **05 19 35.6 +0.2**
baz=38
B15A ⇓P P **05 19 35.6 +0.2**
baz=38
F10A Beach Ranch, E 37.92 332 ⇑P P **05 19 36.2 +0.4**
baz=38,SNR=13
F10A ⇑P P **05 19 36.2 +0.4**
baz=38,SNR=13
JTMT Jette 38.06 336 *e*P P **05 19 38.1 +1.1**
A16A West Butte Ran 38.09 340 ⇑P P **05 19 37.4 +0.3**
baz=39
A16A ⇑P P **05 19 37.4 +0.3**
baz=39
B14A Marquette Ranc 38.19 338 ⇑P P **05 19 38.6 +0.6**
baz=39
B14A ⇑P P **05 19 38.6 +0.6**
baz=39
A15A Johnson Ranch, 38.51 339 ⇑P P **05 19 41.1 +0.4**
baz=39,SNR=12
A15A ⇑P P **05 19 41.1 +0.4**
baz=39,SNR=12
C12B Naegeli Ranch, 38.51 335 ⇓P P **05 19 41.7 +1.1**
baz=39
C12B ⇓P P **05 19 41.7 +1.1**
baz=39
LPAZ La Paz 38.70 140 P P 05 19 47.1 +4.0
3.4nm,1.2s,baz=334,slow=8.0,SNR=4.8
LPAZ LR LR 05 34 12.7
comp=Z,98nm,21.0s,baz=256,slow=34
LPAZ La Paz 38.70 140 P P 05 19 47.1 +4.0
A14A Double T Ranch 38.75 338 ⇓P P **05 19 43.8 +1.1**
baz=39,SNR=11
A14A ⇓P P **05 19 43.8 +1.1**
baz=39,SNR=11
NEW Newport 39.63 334 ⇑P P **05 19 50.5 +0.6**
baz=40
NEW ⇑P P **05 19 50.5 +0.6**
baz=40
FFC Flin Flon 41.18 352 *e*P P **05 20 02.2 -0.3**
5.0nm,0.8s
SIV San Ignacio 43.21 133 P P **05 20 19.8 +0.1**
4.9nm,0.9s,baz=317,slow=8.8,SNR=16
SIV PcP PcP **05 22 10.3 +2.0**
1.9nm,0.7s,baz=292,slow=5.4,SNR=4.6
SIV San Ignacio 43.21 133 P P **05 20 19.8 +0.1**
SIV PcP PcP **05 22 10.3 +2.0**
SCHQ Schefferville 45.33 21 P P **05 20 33.7 -2.4**
16nm,0.9s,baz=178,slow=3.8,SNR=7.8
SCHQ LR LR 05 40 19.4
comp=Z,611nm,20.4s,baz=78,slow=37
SCHQ Schefferville 45.33 21 *e*P P **05 20 34.5 -1.6**
YKA Yellowknife Ar 50.78 347 P P **05 21 18.4 +0.4**
23nm,0.8s,baz=150,slow=7.5,SNR=275
YKA PcP PcP **05 22 34.5 +0.2**
0.9nm,0.9s,baz=148,slow=4.0,SNR=4.8
YKA Yellowknife Ar 50.78 347 P P **05 21 18.4 +0.4**
YKA PcP PcP **05 22 34.5 +0.2**
CFAA Coronel Fontan 51.12 153 P P **05 21 19.4 -1.6**
0.2nm,1.0s,baz=336,slow=10.0,SNR=3.4
CFAA Coronel Fontan 51.12 153 P P **05 21 19.4 -1.6**
CPUP Villa Florida 52.86 139 P P **05 21 32.6 -1.4**
0.9nm,0.8s,baz=326,slow=11,SNR=2.8
CPUP Villa Florida 52.86 139 P P **05 21 32.6 -1.4**
RKT Rikitea 55.56 229 *e*T T 06 21 24.7
1.7nm,0.3s
PLCA Paso Flores 58.28 160 P P **05 22 13.7 +0.9**
1.1nm,0.8s,baz=304,slow=7.3,SNR=2.9
PLCA LR LR 05 42 30.6
comp=Z,108nm,18.3s,baz=57,slow=31
PLCA Paso Flores 58.28 160 P P **05 22 13.7 +0.9**
INK Inuvik 60.16 344 *e*P P **05 22 25.8 +0.5**
7.3nm,0.7s
RES Resolute Bay 60.58 359 *e*P P **05 22 27.2 -0.9**
2.8nm,0.8s
DOT Dot Lake 60.88 336 *e*P P **05 22 31.2 +0.9**
4.2nm,1.0s
PAX Paxson 61.10 335 *e*P P **05 22 32.1 +0.2**
8.5nm,0.8s
RC01 Rabbit Creek A 62.11 333 *e*P P **05 22 39.9 +1.2**
12nm,0.9s
ILAR Eielson Array 62.50 337 P P **05 22 41.9 +0.7**
7.7nm,1.0s,baz=134,slow=4.0,SNR=34
ILAR LR LR 05 54 09.3
comp=Z,142nm,19.2s,baz=136,slow=40
ILAR Eielson Array 62.50 337 P P **05 22 41.9 +0.7**
MCK McKinley 62.84 335 *e*P P **05 22 44.5 +1.0**
20nm,1.3s
COLA College 62.91 337 *e*P P **05 22 44.4 +0.4**
5.2nm,0.8s
RSO Redoubt South 63.27 331 P P **05 22 47.4 +0.8**
TRF Thorofare Moun 63.28 335 *e*P P **05 22 47.0 +0.4**
13nm,1.0s
PPT2 Papeete2 64.41 242 *e*LR LR 05 41 47.8
132nm,27.5s
COLD Coldfoot 64.81 339 *e*P P **05 22 58.2 +1.9**
18nm,1.4s
TBI Tubuai 66.90 237 *e*LR LR 05 43 12.1
117nm,29.8s
TNA Tin City 71.17 335 *e*P P **05 23 38.0 +1.7**
7.1nm,1.0s
EVO Evora 77.19 53 *e*P P **05 24 09.7 -2.2**
19nm,0.9s
ESDC Sonseca Array 80.12 52 P P **05 24 27.0 -1.2**
2.5nm,0.8s,baz=285,slow=5.5,SNR=11
ESDC Sonseca Array 80.12 52 P P **05 24 27.0 -1.2**
GRR Gorron 80.75 42 *e*P P **05 24 29.8 -1.5**
6.2nm,0.5s
FLN La Foliniere 80.93 42 *e*P P **05 24 30.8 -1.4**
BILL Biibino 81.13 338 *e*P P **05 24 33.7 +0.8**
18nm,1.1s
LDF La Druitiere 81.20 42 *e*P P **05 24 32.1 -1.5**
3.9nm,0.6s
SJPF Ste Jean 81.51 48 *e*P P **05 24 33.2 -2.2**
ETSF Etsaut 82.03 48 *e*P P **05 24 36.1 -2.2**
BGF Bois d'Agland 83.60 44 *e*P P **05 24 44.5 -1.7**
16nm,1.0s
SSF Saint Saulge 83.92 43 *e*P P 05 24 45.2 -2.6
LOR Lormes 84.10 43 *e*P P **05 24 46.5 -2.3**
15nm,1.0s
NOAA NORSAR Array B 84.34 28 P P **05 24 49.6 -0.1**
1.1nm,0.7s,baz=286,slow=5.0,SNR=3.3
NOAA LR LR 05 59 48.5
comp=Z,158nm,19.9s,baz=160,slow=34
NOAA NORSAR Array B 84.34 28 P P **05 24 49.6 -0.1**
HAU Haudompre 85.53 42 *e*P P **05 24 54.7 -1.3**
8.5nm,0.8s
LIC Lamto 86.18 85 *e*P P **05 24 58.6 -1.2**
32nm,1.1s
ARCES ARCESS Array B 86.22 18 P P **05 24 59.1 +0.2**
3.2nm,0.8s,baz=316,slow=5.1,SNR=4.7
ARCES LR LR 06 02 57.5
comp=Z,148nm,18.2s,baz=164,slow=35
ARCES ARCESS Array B 86.22 18 P P **05 24 59.1 +0.2**
DBIC Dimbokro 86.25 84 P P **05 25 00.8 +0.7**
3.8nm,0.8s,baz=243,slow=4.0,SNR=5.1
DBIC LR LR 06 03 11.7
comp=Z,78nm,18.4s,baz=280,slow=36
DBIC Dimbokro 86.25 84 P P **05 25 00.8 +0.7**
DAVOX Davos/Dischmat 88.19 42 LR LR 06 07 47.1
comp=Z,140nm,18.1s,baz=282,slow=38
GERES GERESS Array B 89.90 39 LR LR 06 04 47.0
comp=Z,165nm,18.7s,baz=102,slow=35
FINES FINESS Array B 90.65 25 P P **05 25 20.3 +0.2**
3.9nm,1.0s,baz=266,slow=3.8,SNR=4.3
FINES LR LR 06 05 28.8
comp=Z,144nm,19.8s,baz=315,slow=35
FINES FINESS Array B 90.65 25 P P **05 25 20.3 +0.2**
TORD Torodi Ar. Bea 90.94 76 P P **05 25 21.3 -1.1**
0.6nm,0.6s,baz=294,slow=4.8,SNR=7.8
TORD LR LR 06 03 50.1
comp=Z,60nm,18.1s,baz=280,slow=34
TORD Torodi Ar. Bea 90.94 76 P P **05 25 21.3 -1.1**
KEST Kesra 91.31 53 LR LR 06 05 10.8
comp=Z,22nm,19.2s,baz=336,slow=35
VRAC Vranov 91.48 38 LR LR 06 05 28.1
comp=Z,120nm,18.2s,baz=303,slow=35
AKASG Malin Array Be 97.97 33 LR LR 06 11 29.1
comp=Z,128nm,18.4s,baz=340,slow=36
MLR Muntele Rosu 98.87 39 LR LR 06 12 24.2
comp=Z,27nm,18.3s,baz=40,slow=36
KURK Kurchatov 115.00 6 PKP PKPdf 05 30 59.5 +1.0
0.2nm,0.3s,baz=347,slow=2.3,SNR=4.1
KURK Kurchatov 115.00 6 PKP PKPdf 05 30 59.5 +1.0
MKAR Makanchi Array 119.21 4 PKP **PKPdf 05 31 06.7 -0.2**
0.4nm,0.5s,baz=352,slow=4.3,SNR=3.8
MKAR Makanchi Array 119.21 4 PKP **PKPdf 05 31 06.7 -0.2**
BOSA Boshof 120.95 115 PKP **PKPdf 05 31 14.6 +3.8**
3.9nm,0.7s,baz=270,slow=1.8,SNR=5.4
BOSA Boshof 120.95 115 PKP **PKPdf 05 31 14.6 +3.8**
ASAR Alice Springs 135.13 251 PKP **PKPdf 05 31 38.5 +0.7**
0.3nm,0.8s,baz=44,slow=2.8,SNR=3.2
ASAR Alice Springs 135.13 251 PKP **PKPdf 05 31 38.5 +0.7**
CM31 Chiang Mai Arr 145.69 340 *e*PKPdf **PKPdf 05 31 58.1 +1.2**
CMAR Chiang Mai Arr 145.69 340 PKPbc **PKPdf 05 31 57.9 +0.9**
9.3nm,0.8s,baz=342,slow=4.0,SNR=35
CMAR Chiang Mai Arr 145.69 340 PKPbc **PKPdf 05 31 57.9 +0.9**
HYB Hyderabad 147.49 16 *i* PKP **PKPdf 05 32 02.0 +2.0**

IDC 07 05:16:17.6±1.0, 0.28S×133.23E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=46.8km s-min=13.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.22**	**202**	P	P	05 20 43.3	-0.1
	0.1nm,0.3s,baz=27,slow=11,SNR=3.0						
FITZ				S	Sn	05 24 07.8	-13
	0.1nm,0.3s,baz=156,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**19.57**	**177**	P	P	05 20 47.2	-0.1
	0.5nm,0.3s,baz=354,slow=11,SNR=15						
WRA				S	Sn	05 24 16.6	-13
	0.1nm,0.3s,baz=358,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**23.26**	**178**	P	P	05 21 26.8	-0.2
	3.5nm,0.5s,baz=356,slow=11,SNR=46						
ASAR				S	S	05 25 41.9	+1.4
	1.0nm,0.9s,baz=8.2,slow=21,SNR=3.5						
STKA	**Stephens Creek**	**32.41**	**167**	P	P	05 22 49.3	-0.1
	3.4nm,0.5s,baz=355,slow=9.8,SNR=12						
CMAR	**Chiang Mai Arr**	**38.49**	**301**	P	P	05 23 41.5	-0.4
	0.7nm,0.4s,baz=108,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	05 26 57.0	+0.2
	0.4nm,0.6s,baz=111,slow=7.9,SNR=6.3						
KURK	**Kurchatov**	**68.62**	**326**	P	P	05 27 22.7	+0.1
	0.8nm,0.8s,baz=119,slow=5.8,SNR=7.9						
BVAR	**Borovoye Array**	**74.22**	**326**	P	P	05 27 56.4	0.0
	0.6nm,0.7s,baz=116,slow=3.4,SNR=4.9						
ILAR	**Eielson Array**	**85.93**	**25**	P	P	05 28 59.2	-0.1
	0.2nm,0.7s,baz=258,slow=4.3,SNR=5.4						

*IDC **07** 05:22:14.6±0.5, 32.11N×104.54E, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.3/31, mbtmp4.1/25, ML4.0/2, MS3.6/7, Ms1 3.6/7, ms1mx3.0/44, Error ellipse: s-maj=18.4km s-min=11.3km az=49.0*

*MOS **07** 05:22:17.9±0.8, 32.08N×104.52E, h33km, mb4.5/23, Error ellipse: s-maj=11.6km s-min=6.4km az=99.9*

*BJI **07** 05:22:18.5, 32.09N×104.40E, h26km, mB4.5/7, mb4.3/12, ML4.4/15, Ms4.0/11, Ms7 4.0/4*

*NEIC **07** 05:22:20.8±0.7, 32.11N×104.50E, h43km±7km, mb4.3/9, Error ellipse: s-maj=5.7km s-min=4.4km az=59.0*

ISC 07 05:22:16.9±1.1, 32.09N±0.03×104.51E±0.04, h13km±7km, n143, σ1s05/155, mb4.5/45, MS3.5/5, 9C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.34**	**209**	Pg	**Pb**	**05 22 42.0**	**+0.2**
CD2				Sg	**Sg**	**05 23 01.3**	**+1.3**
CD2				smax	smax		
	comp=N,19μm,0.7s						
LZH	**Lanzhou**	**4.03**	**352**	Pn	Pn	05 23 21.2	+2.8
LZH				Pg	**Pg**	**05 23 32.2**	**-1.9**
LZH				Sn	**Sn**	**05 24 05.1**	**-0.4**
LZH				Sg	**Sg**	**05 24 26.0**	**-0.3**
LZH				smax	smax		
	comp=N,1μm,0.8s						
LZH				smax	smax		
	comp=E,1μm,0.7s						
LZH				LR	LR		
	comp=N,2μm,8.5s						
LZH				LR	LR		
	comp=E,2μm,8.4s						
LZH				LR	LR		
	comp=Z,2μm,8.4s						
XAN	**Xi'an**	**4.18**	**61**	Pn	**Pn**	**05 23 21.7**	**+1.3**
XAN				Pg	**Pg**	**05 23 34.6**	**-2.4**
XAN				Sn	**Sn**	**05 24 06.7**	**-2.5**
XAN				Sg	**Sb**	**05 24 22.8**	**+2.0**
XAN				smax	smax		
	comp=N,1μm,0.8s						
XAN				smax	smax		
	comp=E,570nm,0.8s						
XAN				LR	LR		
	comp=N,600nm,8.1s						
XAN				LR	LR		
	comp=E,240nm,7.3s						
ENH	**Enshi**	**4.63**	**112**	*e*Pn	Pn	05 23 29.1	+2.5
GYA	**Guiyang**	**5.91**	**161**	⇑*i*Pn	**Pn**	**05 23 45.3**	**+1.0**
GYA				Sn	**Sn**	**05 24 51.9**	**-0.1**
GYA				Sg	**Sg**	**05 25 25.4**	**-1.4**
GYA				smax	smax		
	comp=N,400nm,0.6s						
GYA				smax	smax		
	comp=E,520nm,0.8s						
KMI	**Kunming**	**7.11**	**193**	Pn	Pn	05 24 06.1	+5.3
KMI				Sn	**Sn**	**05 25 19.2**	**-2.4**
KMI				smax	smax		
	comp=N,79nm,1.1s						
KMI				smax	smax		
	comp=E,72nm,0.7s						
KMI				LR	LR		
	comp=N,410nm,4.5s						
KMI				LR	LR		
	comp=E,440nm,4.6s						
KMI				LR	LR		
	comp=Z,240nm,6.4s						
GTA	**Gaotai**	**8.24**	**334**	*e*P	**Pn**	**05 24 17.5**	**+1.2**
GTA				pP	pP	05 24 21.6	
GTA				S	**Sn**	**05 25 49.4**	**+0.1**
GTA				pmax	pmax		
	comp=Z,93nm,5.7s						
GTA				LR	LR		
	comp=N,420nm,10.9s						
GTA				LR	LR		
	comp=E,590nm,12.6s						
WHN	**Wuhan**	**8.56**	**98**	P	**Pn**	**05 24 21.0**	**+0.6**
WHN				LR	LR		
	comp=E,2μm,3.9s						
WHN				LR	LR		
	comp=Z,2μm,3.7s						
BTO	**Baotou**	**9.59**	**26**	*e*P	Pn	05 24 37.2	+2.5
HHC	**Hu-ho-hao-te**	**10.42**	**31**	*e*P	Pn	05 24 48.8	+2.7
HHC				PP	**PnPn**	**05 24 56.9**	**+3.0**
HHC				S	Sn	05 26 47.8	+5.0
HHC				SS	**SnSn**	**05 27 00.5**	**+5.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				LR	LR		
	comp=N,400nm,6.0s						
HHC				LR	LR		
	comp=E,300nm,5.2s						
LSA	**Lhasa**	**11.72**	**262**	P	Pn	05 25 10.6	+6.4
QIZ	**Qiongzhong**	**13.86**	**158**	P	**Pn**	**05 25 33.3**	**+0.2**
QIZ				S	**Sn**	**05 28 06.8**	**-0.1**
QIZ				LR	LR		
	comp=Z,460nm,10.9s						

CHTO	**Chiang Mai**	**14.14**	**202**	*e*P		**Pn**	**05 25 38.3**	**+1.4**
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.6s								
CHTO	**Chiang Mai**	**14.14**	**202**	*e*Pn		**Pn**	**05 25 38.3**	**+1.4**
	comp=Z,2.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**14.47**	**202**	Pn		**Pn**	**05 25 43.2**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=14,slow=10,SNR=5.3								
CMAR	**Chiang Mai Arr**	**14.47**	**202**	P		**Pn**	**05 25 43.2**	**+1.8**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**14.47**	**202**	Pn		**Pn**	**05 25 43.2**	**+1.8**
SONM	**Songino Array**	**15.79**	**5**	Pn		**Pn**	**05 25 59.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=185,slow=14,SNR=8.3								
SONM					LR	LR	05 32 43.8		
	comp=Z,208nm,19.0s,baz=327,slow=40								
SONM	**Songino Array**	**15.79**	**5**	P		**Pn**	**05 25 59.2**	**+0.2**
SONM					MLR	MLR			
	comp=Z,208nm,19.0s								
SONM	**Songino Array**	**15.79**	**5**	Pn		**Pn**	**05 25 59.2**	**+0.2**
ULN	**Ulaanbaatar**	**15.88**	**6**	*e*P		**Pn**	**05 25 59.9**	**-0.2**
ULN					pmax	pmax			
	comp=Z,6.0nm,0.8s								
ULN	**Ulaanbaatar**	**15.88**	**6**	*e*Pn		**Pn**	**05 25 59.9**	**-0.2**
	comp=Z,6.1nm,0.8s								
ZAK	**Zakamensk**	**18.30**	**357**	*e*P		**P**	**05 26 31.3**	**+0.7**
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.1s								
TLY	**Talaya**	**19.59**	**358**	*e*P		**Pn**	**05 26 46.8**	**+0.9**
TLY					pmax	pmax			
	comp=Z,4.0nm,1.0s								
TLY					MLR	MLR			
	comp=Z,136nm,12.0s								
MOY	**Mondy**	**19.74**	**354**	*e*P		**Pn**	**05 26 49.0**	**+1.2**
KSAR	**Wonju Array Be**	**19.91**	**68**	P		**Pn**	**05 26 50.5**	**+0.6**
KSAR	**Wonju Array Be**	**19.91**	**68**	P		**Pn**	**05 26 50.5**	**+0.6**
KSRS	**Korea Array**	**19.95**	**68**	P		**Pn**	**05 26 50.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=254,slow=10,SNR=12								
KSRS					LR	LR	05 34 29.3		
	comp=Z,70nm,19.1s,baz=260,slow=37								
KSRS	**Korea Array**	**19.95**	**68**	P		**Pn**	**05 26 50.5**	**+0.3**
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KSRS					MLR	MLR			
	comp=Z,70nm,19.1s								
IRK	**Irkutsk**	**20.14**	**360**	*e*P		Pn	05 26 51.3	-1.2	
IRK					pmax	pmax			
	comp=Z,33nm,0.7s								
CN2	**Changchun**	**20.17**	**49**	*e*P		Pn	05 26 52.7	-0.2	
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
JOW	**Kunigami**	**21.33**	**98**	LR		LR	05 35 51.6		
	comp=Z,95nm,20.9s,baz=138,slow=38								
MK31	**Makanchi Array**	**22.48**	**317**	*e*P		**P**	**05 27 16.2**	**+0.3**
MK31	**Makanchi Array**	**22.48**	**317**	*e*P		**P**	**05 27 16.2**	**+0.3**
MKAR	**Makanchi Array**	**22.48**	**317**	P		**P**	**05 27 16.2**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=120,slow=12,SNR=26								
MKAR					LR	LR	05 36 56.6		
	comp=Z,167nm,19.3s,baz=173,slow=39								
MKAR	**Makanchi Array**	**22.48**	**317**	P		**P**	**05 27 16.2**	**+0.3**
MKAR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
MKAR					MLR	MLR			
	comp=Z,167nm,19.3s								
MKAR	**Makanchi Array**	**22.48**	**317**	P		**P**	**05 27 16.2**	**+0.3**
MDJ	**Mudanjiang**	**23.21**	**50**	P		**P**	**05 27 25.8**	**+2.4**
MDJ					pmax	pmax			
	comp=Z,11nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,54nm,5.9s								
MDJ	**Mudanjiang**	**23.21**	**50**	*e*P		**P**	**05 27 23.9**	**+0.5**
	comp=Z,3.2nm,0.4s								
USRK	**Ussuriysk Arra**	**24.65**	**53**	P		**P**	**05 27 37.9**	**+0.8**
	comp=Z,8.5nm,1.0s,baz=247,slow=11,SNR=12								
TKM2	**Tokmak 2**	**25.24**	**304**	*e*P		**P**	**05 27 43.9**	**+1.1**
TKM2					pmax	pmax			
	comp=Z,6.0nm,0.9s								
TKM2	**Tokmak 2**	**25.24**	**304**	*e*P		**P**	**05 27 43.9**	**+1.1**
	comp=Z,5.6nm,0.9s								
ZAA0	**Zalesovo Array**	**26.00**	**333**	*e*P		**P**	**05 27 49.1**	**-0.1**
ZALV	**Zalesovo Beam**	**26.00**	**333**	P		**P**	**05 27 49.5**	**+0.2**
	comp=Z,6.6nm,0.5s,baz=131,slow=10.0,SNR=38								
ZALV	**Zalesovo Beam**	**26.00**	**333**	P		**P**	**05 27 49.5**	**+0.2**
ZALV					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ZALV	**Zalesovo Beam**	**26.00**	**333**	P		**P**	**05 27 49.5**	**+0.2**
BOD	**Bodaibo**	**26.54**	**11**	*e*P		**P**	**05 27 54.6**	**+0.5**
KLR	**Kul'dur**	**26.63**	**42**	*e*P		P	05 27 50.0	-5.0	
KURK	**Kurchatov**	**26.68**	**322**	P		**P**	**05 27 55.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=130,slow=8.7,SNR=20								
KURK					PcP	**PcP**	**05 31 17.9**	**-0.9**	
	comp=Z,0.9nm,0.5s,baz=113,slow=2.1,SNR=6.3								
KURK					LR	LR	05 39 33.8		
	comp=Z,74nm,18.3s,baz=110,slow=39								
KURK	**Kurchatov**	**26.68**	**322**	P		**P**	**05 27 55.8**	**+0.4**
KURK							05 31 18.0		
KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KURK					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KURK					MLR	MLR			
	comp=Z,74nm,18.3s								
KURK	**Kurchatov**	**26.68**	**322**	P		**P**	**05 27 55.8**	**+0.4**
KURK					PcP	**PcP**	**05 31 17.9**	**-0.9**	
MJAR	**Matsushiro Arr**	**28.10**	**72**	P		**P**	**05 28 06.9**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=274,slow=12,SNR=3.1								
MJAR	**Matsushiro Arr**	**28.10**	**72**	P		**P**	**05 28 06.9**	**-1.5**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
MJAR	**Matsushiro Arr**	**28.10**	**72**	P		**P**	**05 28 06.9**	**-1.5**
BVAR	**Borovoye Array**	**32.25**	**321**	P		**P**	**05 28 44.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=116,slow=10,SNR=5.9								
BVAR					PcP	**PcP**	**05 31 32.4**	**-0.6**	
	comp=Z,0.8nm,0.5s,baz=117,slow=2.8,SNR=4.5								
BVAR	**Borovoye Array**	**32.25**	**321**	P		**P**	**05 28 44.5**	**-0.3**
BVAR							05 31 32.4		
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**32.25**	**321**	P		**P**	**05 28 44.5**	**-0.3**
BVAR					PcP	**PcP**	**05 31 32.4**	**-0.6**	
BRVK	**Borovoye**	**32.32**	**321**	*e*P		**P**	**05 28 47.2**	**+1.8**
BRVK					pmax	pmax			
	comp=Z,5.0nm,2.5s								
ABKAR	**Akbulak array**	**37.29**	**311**	*e*P		**P**	**05 29 27.5**	**-1.0**
	comp=Z,1.6nm,0.7s								
AKTO	**Aktyubinsk**	**38.73**	**312**	P		**P**	**05 29 40.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=97,slow=9.2,SNR=7.7								
AKTO					PcP	**PcP**	**05 31 51.4**	**-0.7**	
	comp=Z,1.4nm,0.6s,baz=63,slow=2.3,SNR=4.6								
AKTO	**Aktyubinsk**	**38.73**	**312**	P		**P**	**05 29 40.9**	**+0.3**
AKTO							05 31 51.4		
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKTO	**Aktyubinsk**	**38.73**	**312**	P		**P**	**05 29 40.9**	**+0.3**
AKTO					PcP	**PcP**	**05 31 51.4**	**-0.7**	
ARU	**Arti**	**39.88**	**321**	*c i*P		**P**	**05 29 51.1**	**+1.1**
ARU							05 31 22.1		
ARU				S		**S**	**05 35 54.6**	**+0.3**	
ARU				SS		**SS**	**05 38 45.3**	**-5.1**	
ARU					pmax	pmax			
	comp=Z,20nm,1.7s								
ARU	**Arti**	**39.88**	**321**	*e*P		**P**	**05 29 50.5**	**+0.5**
	comp=Z,9.6nm,0.9s								
PETK	**Petropavlovsk-**	**43.25**	**45**	P		**P**	**05 30 18.2**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=241,slow=5.3,SNR=4.9								
PETK	**Petropavlovsk-**	**43.25**	**45**	P		**P**	**05 30 18.2**	**+0.4**
PETK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
PETK	**Petropavlovsk-**	**43.25**	**45**	P		**P**	**05 30 18.2**	**+0.4**
VSR	**Storozhevoye**	**50.68**	**312**	*e*P		**P**	**05 31 15.1**	**-0.7**
VSR					pmax	pmax			
	comp=N,3.0nm,0.8s								
VSR					pmax	pmax			
	comp=E,7.0nm,0.8s								
VSR					pmax	pmax			
	comp=Z,8.0nm,0.8s								
OBN	**Obninsk**	**51.99**	**317**	*e*P		**P**	**05 31 26.0**	**+0.5**
OBN					pmax	pmax			
	comp=Z,6.0nm,0.6s								
ANN	**Anapa**	**52.66**	**304**	*e*P		**P**	**05 31 28.6**	**-2.1**
ANN					pmax	pmax			
	comp=Z,90nm,1.3s								
FITZ	**Fitzroy Crossi**	**53.85**	**155**	P		**P**	**05 31 39.4**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=11,slow=7.2,SNR=12								
FITZ	**Fitzroy Crossi**	**53.85**	**155**	*e*P		**P**	**05 31 39.4**	**-0.3**
	comp=Z,6.5nm,0.9s								
FITZ	**Fitzroy Crossi**	**53.85**	**155**	P		**P**	**05 31 39.4**	**-0.3**
ASF	**Jabal al Asfar**	**56.34**	**290**	P		**P**	**05 31 57.6**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=105,slow=7.6,SNR=3.2								
ASF	**Jabal al Asfar**	**56.34**	**290**	P		**P**	**05 31 57.6**	**-0.2**
ASF					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ASF	**Jabal al Asfar**	**56.34**	**290**	P		**P**	**05 31 57.6**	**-0.2**
ARCES	**ARCESS Array B**	**56.51**	**336**	P		**P**	**05 31 58.0**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=88,slow=8.4,SNR=16								
ARCES	**ARCESS Array B**	**56.51**	**336**	P		**P**	**05 31 58.0**	**-0.3**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.5s								
ARCES	**ARCESS Array B**	**56.51**	**336**	P		**P**	**05 31 58.0**	**-0.3**
BRTR	**Keskin Array B**	**56.56**	**299**	P		**P**	**05 31 58.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=94,slow=7.3,SNR=4.5								
BRTR	**Keskin Array B**	**56.56**	**299**	*e*P		**P**	**05 31 59.2**	**-0.1**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**56.56**	**299**	P		**P**	**05 31 58.9**	**-0.4**
FINES	**FINESS Array B**	**56.95**	**326**	P		**P**	**05 32 01.2**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=87,slow=6.7,SNR=12								
FINES	**FINESS Array B**	**56.95**	**326**	P		**P**	**05 32 01.3**	**-0.2**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**56.95**	**326**	P		**P**	**05 32 01.2**	**-0.2**
AKASG	**Malin Array Be**	**56.97**	**313**	P		**P**	**05 32 01.2**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=70,slow=7.9,SNR=7.7								
AKASG	**Malin Array Be**	**56.97**	**313**	P		**P**	**05 32 01.2**	**-0.7**
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**56.97**	**313**	P		**P**	**05 32 01.2**	**-0.7**
WRAB	**Tennant Creek**	**59.10**	**147**	*e*P		**P**	**05 32 16.8**	**-0.3**
WRAB					pmax	pmax			
	comp=Z,12nm,0.8s								
WRAB	**Tennant Creek**	**59.10**	**147**	*e*P		**P**	**05 32 16.8**	**-0.3**
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**59.10**	**147**	P		**P**	**05 32 17.1**	**0.0**
	comp=Z,8.6nm,0.6s,baz=339,slow=7.4,SNR=42								
WRA	**Warramunga Arr**	**59.10**	**147**	P		**P**	**05 32 17.1**	**0.0**
WRA					pmax	pmax			
	comp=Z,9.0nm,0.6s								
WRA	**Warramunga Arr**	**59.10**	**147**	P		**P**	**05 32 17.1**	**0.0**
WB2	**Warramunga Arr**	**59.11**	**147**	*e*P		**P**	**05 32 17.0**	**-0.1**
ASAR	**Alice Springs**	**62.15**	**149**	P		**P**	**05 32 38.1**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=334,slow=6.5,SNR=27								
ASAR					PcP	**PcP**	**05 33 17.7**	**-0.3**	
	comp=Z,0.8nm,0.5s,baz=333,slow=5.3,SNR=4.5								
ASAR	**Alice Springs**	**62.15**	**149**	P		**P**	**05 32 38.1**	**+0.2**
ASAR							05 33 17.7		
ASAR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**62.15**	**149**	P		**P**	**05 32 38.1**	**+0.2**
ASAR					PcP	**PcP**	**05 33 17.7**	**-0.3**	
NB2	**NORSAR Subarra**	**64.02**	**327**	P		**P**	**05 32 48.8**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=72,slow=6.9								
NOA	**NORSAR Array B**	**64.02**	**327**	P		**P**	**05 32 48.8**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=71,slow=6.6,SNR=3.4								
NOA	**NORSAR Array B**	**64.02**	**327**	P		**P**	**05 32 48.8**	**-1.1**
NOA					pmax	pmax			
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**64.02**	**327**	P		**P**	**05 32 48.8**	**-1.1**
GERES	**GERESS Array B**	**67.11**	**314**	P		**P**	**05 33 10.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=66,slow=4.5,SNR=12								
GERES	**GERESS Array B**	**67.11**	**314**	P		**P**	**05 33 10.1**	**-0.1**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
GERES	**GERESS Array B**	**67.11**	**314**	P		**P**	**05 33 10.1**	**-0.1**
ILAR	**Eielson Array**	**68.80**	**26**	P		**P**	**05 33 19.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=291,slow=4.5,SNR=19								
ILAR	**Eielson Array**	**68.80**	**26**	P		**P**	**05 33 19.4**	**-1.0**
ILAR	**Eielson Array**	**68.80**	**26**	P		**P**	**05 33 19.4**	**-1.0**
WTTA	**Wattenberg**	**69.02**	**313**	*i*P		**P**	**05 33 22.0**	**-0.3**
WTTA					pmax	pmax			
	comp=Z,6.0nm,0.9s								
WTTA	**Wattenberg**	**69.02**	**313**	*i*P		**P**	**05 33 21.9**	**-0.3**
	comp=Z,6.4nm,0.9s								
WTTA	**Wattenberg**	**69.02**	**313**	*i*P		**P**	**05 33 22.0**	**-0.3**
	comp=Z,6.4nm,0.9s								
KDAK	**Kodiak Island**	**69.83**	**34**	*ce*P		**P**	**05 33 26.8**	**0.0**
TUE	**Stuetta**	**70.78**	**313**	*e*P		**P**	**05 33 32.2**	**-1.0**
	comp=Z,4.2nm,0.7s								
INK	**Inuvik**	**71.12**	**19**	*e*P		**P**	**05 33 34.0**	**-0.5**
INK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
INK	**Inuvik**	**71.12**	**19**	*e*P		**P**	**05 33 34.0**	**-0.5**
	comp=Z,2.7nm,0.8s								
CDF	**Champ du Feu**	**71.16**	**316**	*e*P		**P**	**05 33 36.0**	**+0.7**
	comp=Z,3.9nm,0.5s								
HINF	**Hinteralfeld**	**71.68**	**315**	*e*P		**P**	**05 33 37.7**	**-0.7**
	comp=Z,4.7nm,0.6s								
STKA	**Stephens Creek**	**72.64**	**147**	P		**P**	**05 33 44.0**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=327,slow=8.2,SNR=6.6								
STKA	**Stephens Creek**	**72.64**	**147**	*e*P		**P**	**05 33 43.9**	**-0.2**
	comp=Z,1.6nm,0.4s								
STKA	**Stephens Creek**	**72.64**	**147**	P		**P**	**05 33 44.0**	**-0.2**
STKA					pmax	pmax			
	comp=Z,2.0nm,0.5s								
STKA	**Stephens Creek**	**72.64**	**147**	P		**P**	**05 33 44.0**	**-0.2**
CABF	**La Chapelle**	**72.71**	**314**	*e*P		**P**	**05 33 44.9**	**+0.3**
LPG	**La Plagne**	**72.83**	**313**	*i*P		**P**	**05 33 45.9**	**+0.3**
	comp=Z,20nm,0.5s								
LPL	**La Plagne**	**72.83**	**313**	*i*P		**P**	**05 33 45.8**	**+0.2**
	comp=Z,21nm,0.5s								
ORIF	**Oris-en-Rattie**	**73.65**	**313**	*e*P		**P**	**05 33 50.2**	**0.0**
AVF	**Avril sur Loir**	**74.26**	**316**	*e*P		**P**	**05 33 53.2**	**-0.4**
	comp=Z,6.5nm,0.7s								
CMSA	**Cobar Meteorol**	**74.31**	**144**	*e*P		**P**	**05 33 54.6**	**+0.6**
	comp=Z,17nm,0.6s								
VIVF	**Saint-Julien-l**	**74.43**	**313**	*e*P		**P**	**05 33 54.5**	**-0.2**
LASF	**Ste Croix**	**75.33**	**313**	*e*P		**P**	**05 33 59.8**	**-0.1**
LDF	**La Druitiere**	**75.35**	**318**	*e*P		**P**	**05 33 59.7**	**-0.2**
GRR	**Gorron**	**75.87**	**318**	*e*P		**P**	**05 34 02.8**	**-0.1**
	comp=Z,22nm,0.9s								
CAF	**Calviac**	**75.99**	**314**	*e*P		**P**	**05 34 03.8**	**+0.1**
	comp=Z,8.0nm,0.7s								
MFF	**Saint Martin d**	**76.42**	**317**	*e*P		**P**	**05 34 06.0**	**0.0**
	comp=Z,3.6nm,0.6s								
SGMF	**Saint Gilles**	**76.89**	**319**	*e*P		**P**	**05 34 08.8**	**+0.1**
	comp=Z,29nm,1.0s								
ROSF	**Rostrenen**	**77.25**	**319**	*e*P		**P**	**05 34 10.8**	**+0.1**
DZM	**Mont Dzumac**	**80.04**	**124**	LR		LR	06 11 01.6		
	comp=Z,83nm,18.3s,baz=227,slow=37								
YKA	**Yellowknife Ar**	**80.65**	**17**	P		**P**	**05 34 29.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=330,slow=5.0,SNR=26								
YKA	**Yellowknife Ar**	**80.65**	**17**	P		**P**	**05 34 29.0**	**-0.1**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**80.65**	**17**	P		**P**	**05 34 29.0**	**-0.1**
ESDC	**Sonseca Array**	**82.61**	**312**	P		**P**	**05 34 39.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=39,slow=5.6,SNR=5.3								
ESDC	**Sonseca Array**	**82.61**	**312**	P		**P**	**05 34 39.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**93.67**	**288**	P		**P**	**05 35 33.3**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=41,slow=3.8,SNR=4.6								
TORD	**Torodi Ar. Bea**	**93.67**	**288**	P		**P**	**05 35 33.3**	**-0.3**
BOSA	**Boshof**	**96.47**	**240**	LR		LR	06 21 46.3		
	comp=Z,73nm,19.9s,baz=342,slow=37								

IDC 07 05:29:58.4±2.6, 0.62S×133.38E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=98.2km s-min=27.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MTN	**Manton Dam**	**12.35**	**190**	*e*P		Pn	05 32 54.3	-1.3
FITZ	**Fitzroy Crossi**	**18.97**	**203**	P		Pn	05 34 22.1	+0.1
	0.1nm,0.3s,baz=35,slow=13,SNR=4.9							
FITZ					S	Sn	05 37 43.3	-12
	0.1nm,0.3s,baz=196,slow=20,SNR=2.5							
WRA	**Warramunga Arr**	**19.23**	**177**	P		P	05 34 23.7	-0.6
	0.1nm,0.3s,baz=356,slow=12,SNR=3.7							
WRA					S	Sn	05 37 53.0	-8.4
	0.1nm,0.3s,baz=358,slow=23,SNR=3.0							
ASAR	**Alice Springs**	**22.91**	**179**	P		P	05 35 04.3	+0.2
	1.1nm,0.7s,baz=356,slow=12,SNR=5.7							
MKAR	**Makanchi Array**	**64.93**	**324**	P		P	05 40 39.7	-0.2
	0.2nm,0.6s,baz=106,slow=7.8,SNR=3.9							

*IDC **07** 05:36:21.3±0.7, 0.30S×132.43E, h0km, mb4.1/9, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML4.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=37.0km s-min=13.8km az=72.0*

*DJA **07** 05:36:29, 0.49S×132.43E, h56km, mb4.8/8*

ISC 07 05:36:25.5±0.7, 0.57S±0.07×132.06E±0.09, h31km, n26, σ1§91/25, mb4.2/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.34**	**175**	P		**Pb**	**05 37 07.1**	**-0.1**
MSAI	**Masohi**	**4.17**	**229**	P		**Pb**	**05 37 39.4**	**+1.1**
AAI	**Ambon**	**4.95**	**231**	P		Pb	05 37 46.9	-4.7
	257nm,0.8s,3µm0.9nm							
TLE	**Tual**	**5.08**	**172**	P		Pn	05 37 45.9	+6.3
	206nm,1.2s,5µm1.6nm							
NLAI	**Namlea**	**5.62**	**242**	P		**Pb**	**05 38 02.2**	**-0.8**
	67nm,0.6s,888nm0.3nm							
LUWI	**Luwuk**	**9.30**	**267**	P		Px	05 38 49.4		
	42nm,1.2s,869nm							
SPSI	**Sidrap Palu**	**12.73**	**254**	P		Px	05 39 37.4		
	20nm,0.9s							
PMG	**Port Moresby**	**17.41**	**121**	P		**Pn**	**05 40 25.6**	**-0.6**
	0.8nm,0.3s,baz=295,slow=9.1,SNR=4.4							
FITZ	**Fitzroy Crossi**	**18.53**	**200**	P		**Pn**	**05 40 42.5**	**+2.5**
	0.7nm,0.3s,baz=27,slow=11,SNR=14							
FITZ					S	**Sn**	**05 44 04.0**	**-2.4**
	0.6nm,0.3s,baz=188,slow=17,SNR=3.6							
FITZ					LR	LR	05 48 04.5		
	comp=Z,48nm,19.7s,baz=232,slow=37							
FITZ	**Fitzroy Crossi**	**18.53**	**200**	*e*P		**Pn**	**05 40 41.8**	**+1.8**
	11nm,0.3s							
FITZ					*e*S	**Sn**	**05 44 01.1**	**-5.3**
WRA	**Warramunga Arr**	**19.39**	**174**	P		**Pn**	**05 40 51.4**	**+1.0**
	1.0nm,0.3s,baz=354,slow=12,SNR=34							
WRA					S	**S**	**05 44 24.4**	**-2.3**
	0.8nm,0.3s,baz=354,slow=23,SNR=8.9							
ASAR	**Alice Springs**	**23.03**	**176**	P		**P**	**05 41 31.2**	**+2.9**
	4.8nm,0.6s,baz=356,slow=7.7,SNR=55							
ASAR					S	Sn	05 45 49.5	-5.2
	2.2nm,0.9s,baz=2.8,slow=29,SNR=6.7							
CTA	**Charters Tower**	**23.86**	**145**	P		**P**	**05 41 36.6**	**+0.2**
	10nm,0.8s,baz=337,slow=12,SNR=10							
CTA	**Charters Tower**	**23.86**	**145**	*e*P		**P**	**05 41 37.3**	**+0.9**
	8.4nm,0.8s							
QLP	**Quilpie**	**28.40**	**157**	*e*P		**P**	**05 42 17.5**	**+0.2**
STKA	**Stephens Creek**	**32.42**	**165**	P		**P**	**05 42 54.8**	**+2.0**
	1.7nm,0.6s,baz=330,slow=8.1,SNR=6.3							
CMSA	**Cobar Meteorol**	**33.40**	**159**	*e*P		**P**	**05 43 02.0**	**+0.6**
	20nm,0.8s							
ARMA	**Armidale**	**35.03**	**150**	*e*P		**P**	**05 43 16.3**	**+0.6**
USRK	**Ussuriysk Arra**	**44.57**	**360**	P		**P**	**05 44 33.2**	**-1.4**
	1.4nm,0.6s,baz=184,slow=9.5,SNR=3.9							
SONM	**Songino Array**	**53.13**	**339**	P		**P**	**05 45 41.1**	**+0.6**
	0.4nm,0.6s,baz=167,slow=6.8,SNR=3.0							
MKAR	**Makanchi Array**	**64.11**	**324**	P		**P**	**05 46 58.0**	**+1.2**
	1.7nm,0.7s,baz=119,slow=7.9,SNR=24							
ZALV	**Zalesovo Beam**	**66.83**	**332**	P		**P**	**05 47 14.0**	**-0.3**
	0.9nm,0.6s,baz=123,slow=7.3,SNR=5.7							
KURK	**Kurchatov**	**68.22**	**327**	P		**P**	**05 47 23.9**	**+0.8**
	1.7nm,0.7s,baz=123,slow=5.9,SNR=14							
ILAR	**Eielson Array**	**86.69**	**25**	P		**P**	**05 49 03.3**	**-2.7**
	1.1nm,0.7s,baz=253,slow=4.5,SNR=16							
CPUP	**Villa Florida**	**151.77**	**162**	PKPbc		**PKPbc**	**05 56 17.9**	**0.0**
	0.5nm,0.5s,baz=157,slow=3.4,SNR=3.7							
LPAZ	**La Paz**	**153.97**	**131**	PKPab		**P

CAPV				*e*S		**Sn**	**06 35 12.5**	**-0.3**
ROSC	**El Rosal**	**2.35**	**213**	P		**Pn**	**06 35 02.5**	**-0.1**
	261nm,0.3s,baz=292,slow=18,SNR=656							
ROSC				S		**Sn**	**06 35 31.5**	**-2.4**
	147nm,0.3s,baz=111,slow=22,SNR=10							
VIGV	**El Vigia**	**2.59**	**40**	*e*S		**Sn**	**06 35 37.0**	**-1.6**
SOCV	**Socops**	**2.60**	**56**⇑	*i*P		**Pn**	**06 35 05.9**	**+0.7**
SOCV				*e*S		**Sn**	**06 35 37.6**	**-1.0**
ELOV	**Elorza**	**3.54**	**87**⇓	*e*P		**Pn**	**06 35 17.1**	**+0.3**
VIRV	**Villa del Rosa**	**3.70**	**10**⇑	*i*P		**Pn**	**06 35 17.9**	**-0.9**
VIRV				*e*S		**Sn**	**06 36 00.6**	**-2.6**
SANV	**Sanarito**	**4.37**	**52**⇑	*e*P		**Pn**	**06 35 27.3**	**-0.3**
CURV	**Curarigua**	**4.39**	**44**⇑	*e*P		**Pn**	**06 35 27.7**	**-0.1**
DABV	**Dabajuro**	**4.71**	**30**⇑	*i*P		**Pn**	**06 35 32.0**	**+0.1**
TEPV	**Terepaima**	**4.92**	**51**⇑	*i*P		**Pn**	**06 35 34.6**	**0.0**
BAUV	**El Baul**	**5.38**	**67**⇑	*i*P		**Pn**	**06 35 39.4**	**-1.3**
MAPV	**Macapo**	**5.43**	**56**⇑	*e*P		**Pn**	**06 35 41.0**	**-0.4**
IMOV	**Isla Los Monje**	**5.88**	**21**	*e*P		**Pn**	**06 35 46.4**	**-0.9**
MONV	**Montecano**	**5.92**	**31**	*e*P		**Pn**	**06 35 46.8**	**-1.1**
JACV	**Jacura**	**5.93**	**44**	*e*P		**Pn**	**06 35 47.3**	**-0.7**
TURV	**Turiamo**	**6.27**	**55**	*e*P		**Pn**	**06 35 52.1**	**-0.4**
CUPV	**Cœpira**	**7.86**	**65**	*e*P		**Pn**	**06 36 12.6**	**-1.0**
PCRV	**Puerto La Cruz**	**8.95**	**68**	*e*P		**Pn**	**06 36 27.8**	**-0.2**
ATAH	**Atahualpa**	**14.87**	**201**	P		**P**	**06 37 45.3**	**-0.9**
	0.7nm,0.3s,baz=355,slow=4.9,SNR=4.2							
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**06 39 18.1**	**+0.6**
	0.5nm,0.3s,baz=0.7,slow=15,SNR=3.8							
LPAZ				pP		**pP**	**06 39 50.1**	**+1.0**
	1.8nm,0.8s,baz=358,slow=12,SNR=3.6							
SIV	**San Ignacio**	**25.59**	**152**	P		**P**	**06 39 34.7**	**-1.3**
	0.4nm,0.5s,baz=270,slow=4.0,SNR=2.5							
SIV				pP		**pP**	**06 40 10.3**	**0.0**
	1.1nm,0.7s,baz=343,slow=9.8,SNR=4.3							
TXAR	**Lajitas Array**	**36.51**	**312**	P		**P**	**06 41 12.8**	**+1.2**
	2.1nm,0.6s,baz=117,slow=8.2,SNR=5.8							
TXAR				PcP		**PcP**	**06 43 33.5**	**+1.6**
	0.6nm,0.7s,baz=127,slow=5.7,SNR=4.2							
ULM	**Lac du Bonnet**	**47.30**	**340**	P		**P**	**06 42 38.8**	**+0.2**
	3.1nm,0.4s,baz=141,slow=7.7,SNR=8.4							
SCHQ	**Schefferville**	**48.12**	**5**	P		**P**	**06 42 46.4**	**+1.5**
	4.2nm,0.8s,baz=239,slow=7.1,SNR=5.8							
NVAR	**Mina Arroy Bea**	**51.53**	**315**	PcP		**PcP**	**06 44 21.9**	**-1.1**
	0.7nm,0.7s,baz=118,slow=5.3,SNR=2.1							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**06 44 33.1**	**+0.4**
	2.3nm,0.6s,baz=133,slow=6.6,SNR=106							
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P		**P**	**06 45 37.3**	**-0.8**
	0.3nm,0.8s,baz=237,slow=5.0,SNR=2.5							
TORD				pP		**pP**	**06 46 19.5**	**+1.2**
	0.2nm,0.6s,baz=278,slow=5.6,SNR=1.5							
ILAR	**Eielson Array**	**76.98**	**335**	P		**P**	**06 45 56.6**	**+0.5**
	0.3nm,0.5s,baz=101,slow=4.1,SNR=7.5							
ZALV	**Zalesovo Beam**	**116.64**	**14**	PKP		**PKiKP**	**06 52 46.8**	**+0.5**
	0.4nm,0.3s,baz=331,slow=5.6,SNR=2.7							
MKAR	**Makanchi Array**	**122.28**	**20**	PKP		**PKiKP**	**06 52 57.4**	**-0.2**
	0.2nm,0.4s,baz=302,slow=2.1,SNR=4.2							
SONM	**Songino Array**	**125.56**	**0**	PKP		**PKPdf**	**06 53 02.8**	**-1.1**
	0.2nm,0.3s,baz=48,slow=2.1,SNR=2.9							
ASAR	**Alice Springs**	**149.18**	**234**	PKP		**PKPdf**	**06 53 47.5**	**+0.1**
	1.7nm,0.7s,baz=112,slow=1.7,SNR=5.2							
ASAR				PKPbc		**PKPbc**	**06 53 51.1**	**-0.7**
	1.8nm,0.7s,baz=120,slow=3.4,SNR=27							
WRA	**Warramunga Arr**	**150.41**	**241**	PKP		**PKPdf**	**06 53 49.9**	**+0.5**
	1.7nm,0.4s,baz=106,slow=2.6,SNR=2.4							
WRA				PKPbc		**PKPbc**	**06 53 54.4**	**-0.4**
	1.7nm,0.4s,baz=107,slow=2.7,SNR=18							
WRA				pPKP		**pPKPdf**	**06 54 32.2**	**-0.9**
	0.3nm,0.4s,baz=101,slow=3.0,SNR=2.0							
CMAR	**Chiang Mai Arr**	**153.65**	**17**	PKPbc		**PKPbc**	**06 54 03.1**	**+1.0**
	0.8nm,0.4s,baz=330,slow=3.1,SNR=2.8							

IDC ***07*** *06:35:45.7±0.7, 12.76N×88.36W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/24, mbtmp4.2/13, ML3.8/1, MS3.7/15, Ms1 3.7/15, ms1mx3.6/33, Error ellipse: s-maj=34.6km s-min=13.5km az=58.0*

ISCJB ***07*** *06:35:51.0±0.5, 12.61N±0.04×88.67W±0.04, h51km±4km, mb4.3/29, MS3.7/11, Error ellipse: s-maj=8.6km s-min=3.0km az=136.7*

CASC ***07*** *06:35:50.9±1.9, 12.60N×88.75W, h36km±914km, MD4.5, ML4.5, mb4.5(NEIC)*

NEIC ***07*** *06:35:53.0±1.1, 12.64N×88.59W, h57km±10km, mb4.5/20, MD4.5(SNET), Error ellipse: s-maj=14.9km s-min=7.3km az=57.0*

NEIC Felt [II] at San Salvador.

ISC 07 06:35:52.9±1.0, 12.66N±0.05×88.69W±0.05, h54km±10km, n282, σ1s09/474, mb4.3/29, MS3.8/11, 214C-166D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.86**	**28**⇑	*e*P			**Pn**	**06 36 08.2**	**-1.0**
BLLM	**Bellamira**	**0.89**	**30**⇑	*i*P			**Pn**	**06 36 08.4**	**-1.0**
BLLM				*e*S			**Sn**	**06 36 22.4**	**+0.9**
SNVI	**San Vicente**	**0.95**	**351**	*e*S			**Sn**	**06 36 22.4**	**-0.7**
SNVI				⇓*i*P			Sx	06 36 25.2	
	baz=261,slow=8.6								
LFRS	**El Faro**	**1.02**	**339**⇑	*e*P			**Pn**	**06 36 09.0**	**-2.2**
CNCH	**Conchagua**	**1.03**	**54**⇓	*e*P			**Pn**	**06 36 09.7**	**-1.6**
LBRS	**Las Brisas**	**1.12**	**342**⇑	*e*P			**Pn**	**06 36 10.9**	**-1.6**
SNET	**Serv Nac Est T**	**1.15**	**333**	*e*P			**Pn**	**06 36 10.6**	**-2.2**
SNET				*e*S			**Sn**	**06 36 25.9**	**-1.6**
SNET				AML			AML	06 36 32.8	
	comp=Z,11μm,0.2s								
CAHU	**Cacacuatique**	**1.20**	**23**	*e*P			**Pn**	**06 36 13.3**	**-0.3**
CAHU				*e*S			**Sn**	**06 36 30.2**	**+1.2**
BOQS	**Boqueron**	**1.21**	**332**	*e*P			**Pn**	**06 36 11.9**	**-1.9**
BOQS				*e*S			**Sn**	**06 36 28.1**	**-1.2**
SBLS	**San Blas**	**1.48**	**322**⇓	*e*P			**Pn**	**06 36 15.7**	**-1.8**
SNJE	**San Jose**	**1.49**	**323**	*e*P			**Pn**	**06 36 15.9**	**-1.7**
RTR	**El Retiro**	**1.54**	**323**	*e*P			**Pn**	**06 36 16.6**	**-1.6**
RBDL	**Robledal**	**1.74**	**326**⇑	*i*P			**Pn**	**06 36 19.9**	**-1.0**
MTO2	**Montecristo 2**	**1.85**	**339**⇑	*e*P			**Pn**	**06 36 21.8**	**-0.7**
CNGN	**Cerro Negro**	**1.95**	**95**	*e*P			**Pn**	**06 36 20.9**	**-2.8**
CNGN				*e*S			**Sn**	**06 36 46.0**	**-1.1**
TGUH	**Tegucigalpa,Un**	**1.95**	**45**	*e*Pn			**Pn**	**06 36 23.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.95**	**45**⇑	*e*P			**Pn**	**06 36 23.5**	**-0.2**
NY14	**Universidad de**	**3.68**	**123**	*i*P			**Pn**	**06 36 45.8**	**-1.5**
NY14				*i*S			**Sn**	**06 37 29.5**	**-0.1**
AMAS	**Alto Masis**	**4.16**	**119**	*i*P			**Pn**	**06 36 53.1**	**-0.8**
JTS	**JuntasAbangare**	**4.36**	**122**	Pn			**Pn**	**06 36 55.2**	**-1.4**
	comp=Z,8.4nm,0.3s,baz=322,slow=15,SNR=54								
JTS				Sn			**Sn**	**06 37 44.5**	**-1.6**
	comp=Z,9.7nm,0.3s,baz=282,slow=21,SNR=3.7								
JTS				Lg			Lg	06 38 03.3	
	comp=Z,13nm,0.3s,baz=279,slow=19,SNR=7.8								
JTS				LR			LR	06 38 54.3	
	comp=Z,1μm,21.7s,baz=325,slow=46								
JTS	**JuntasAbangare**	**4.36**	**122**	Pn			**Pn**	**06 36 55.2**	**-1.4**
JTS				Sn			**Sn**	**06 37 44.5**	**-1.6**
JTS				Lg			Lg	06 38 03.3	
CASO	**Castillo**	**4.46**	**119**	*i*P			**Pn**	**06 36 57.1**	**-1.1**
JCR	**Jicaral**	**4.49**	**128**	*e*P			**Pn**	**06 36 57.0**	**-1.5**
SJS	**Escuela Geolog**	**5.29**	**120**	*e*P			**Pn**	**06 37 10.8**	**+1.3**
SJS				*e*S			**Sn**	**06 38 14.6**	**+5.3**
QCR	**Quepos**	**5.48**	**125**⇑	*i*P			**Pn**	**06 37 11.7**	**-0.4**
QCR				*e*S			**Sn**	**06 38 09.9**	**-3.9**
URSC	**Urasca**	**5.58**	**120**	*e*P			**Pn**	**06 37 13.7**	**+0.1**
BUS	**Buena Vista**	**5.74**	**122**⇓	*e*P			**Pn**	**06 37 16.7**	**+0.7**
BUS				*e*S			**Sn**	**06 38 17.5**	**-3.3**
ACR	**Cerro Adams**	**6.73**	**126**	*e*P			**Pn**	**06 37 29.2**	**-0.1**
ACR				*e*S			Sn	06 38 35.5	-9.2
BRU2	**Volcan**	**7.04**	**123**	*e*P			**Pn**	**06 37 33.5**	**-0.1**
BRU2				*e*S			**Sn**	**06 38 50.6**	**-1.6**
TBS2		**7.07**	**122**	*i*P			**Pn**	**06 37 34.6**	**+0.7**
CMIG	**Matias Romero**	**7.43**	**307**	Pn			**Pn**	**06 37 38.5**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=99,slow=9.9,SNR=18								
CMIG				Sn			**Sn**	**06 39 07.5**	**+5.7**
	comp=Z,2.6nm,0.3s,baz=83,slow=17,SNR=5.0								
CMIG				LR			LR	06 41 05.0	
	comp=Z,633nm,19.2s,baz=61,slow=42								
CMIG	**Matias Romero**	**7.43**	**307**	Pn			**Pn**	**06 37 38.5**	**-0.4**
CMIG				Sn			**Sn**	**06 39 07.5**	**+5.7**
TEIG	**Tepich**	**7.53**	**3**	Pn			**Pn**	**06 37 41.9**	**+1.7**
	comp=Z,3.7nm,0.3s,baz=154,slow=21,SNR=17								
TEIG				Lg			Lg	06 39 42.1	
	comp=Z,0.8nm,0.3s,baz=96,slow=23,SNR=1.4								
TEIG				LR			LR	06 41 06.8	
	comp=Z,826nm,19.2s,baz=131,slow=43								
TEIG	**Tepich**	**7.53**	**3**	*e*Pn			**Pn**	**06 37 42.2**	**+2.1**
TEIG				Lg			Lg	06 39 42.1	
STH	**Stony Hill**	**12.65**	**63**	*i*P			**P**	**06 39 00.3**	**+0.3**
GWJ	**Greenwich**	**12.72**	**64**	*i*P			**P**	**06 39 01.6**	**+0.7**
ROSC	**El Rosal**	**16.16**	**117**	LR			LR	06 46 08.3	
	comp=Z,107nm,19.1s,baz=294,slow=39								
VBMS	**Vicksburg**	**19.54**	**355**	*e*P			**Pn**	**06 40 17.1**	**-0.6**
	comp=Z,48nm,1.0s								
NATX	**Nacogdoches**	**19.79**	**345**	*e*P			**P**	**06 40 16.6**	**-2.2**
	comp=Z,19nm,0.6s								
LRAL	**Lakeview Retre**	**20.34**	**4**	*e*P			Pn	06 40 26.4	-0.8
JCT	**Junction City**	**20.50**	**332**	*e*P			**P**	**06 40 26.8**	**+0.3**
	comp=Z,25nm,0.8s								
JCT	**Junction City**	**20.50**	**332**	⇑P			**P**	**06 40 26.8**	**+0.3**
	baz=21,SNR=17								
JCT				⇑P			**P**	**06 40 26.8**	**+0.3**
	baz=21,SNR=17								
GOGA	**Godfrey**	**21.20**	**12**	*e*P			**P**	**06 40 34.8**	**+0.8**
	comp=Z,7.1nm,0.6s								
628A	**Black Gap, Mar**	**21.31**	**324**	⇓P			**P**	**06 40 36.1**	**+0.8**
	baz=21,SNR=18								
628A				⇓P			**P**	**06 40 36.1**	**+0.8**
	baz=21,SNR=18								
627A	**Terlingua Ranc**	**21.58**	**323**	⇓P			**P**	**06 40 39.1**	**+0.9**
	baz=22,SNR=27								
627A				⇓P			**P**	**06 40 39.1**	**+0.9**
	baz=22,SNR=27								
TXAR	**Lajitas Array**	**21.66**	**322**	P			**P**	**06 40 40.3**	**+1.2**
	comp=Z,3.6nm,0.5s,baz=147,slow=10,SNR=47								
TXAR				LR			LR	06 50 56.9	
	comp=Z,68nm,19.2s,baz=0.0,slow=42								
TXAR	**Lajitas Array**	**21.66**	**322**	P			**P**	**06 40 40.3**	**+1.2**
528A	**Cox Ranch, San**	**21.77**	**325**	⇓P			**P**	**06 40 40.4**	**+0.1**
	baz=22								
528A				⇓P			**P**	**06 40 40.4**	**+0.1**
	baz=22								
626A	**Big Bend Ranch**	**22.09**	**322**	⇑P			**P**	**06 40 43.9**	**+0.1**
	baz=22,SNR=6.2								
626A				⇑P			**P**	**06 40 43.9**	**+0.1**
	baz=22,SNR=6.2								
428A	**Kincaid Ranch,**	**22.14**	**326**	⇑P			**P**	**06 40 43.6**	**-0.7**
	baz=22								
428A				⇑P			**P**	**06 40 43.6**	**-0.7**
	baz=22								
ATAH	**Atahualpa**	**22.17**	**152**	LR			LR	06 48 22.5	
	comp=Z,206nm,19.4s,baz=169,slow=34								
MIAR	**Mount Ida**	**22.23**	**349**	*e*P			**P**	**06 40 45.5**	**+0.4**
	comp=Z,16nm,0.8s								
UALR	**University of**	**22.26**	**352**	*e*P			**P**	**06 40 44.7**	**-0.7**
	comp=Z,8.6nm,0.7s								
526A	**Mary Lane Ranc**	**22.44**	**323**	⇓P			**P**	**06 40 47.5**	**0.0**
	baz=23,SNR=6.3								
526A				⇓P			**P**	**06 40 47.5**	**0.0**
	baz=23,SNR=6.3								
427A	**Hayter Ranch,**	**22.63**	**325**	⇑P			**P**	**06 40 49.1**	**-0.4**
	baz=23								
427A				⇑P			**P**	**06 40 49.1**	**-0.4**
	baz=23								
328A	**Wristen Ranch,**	**22.72**	**327**	⇑P			**P**	**06 40 50.2**	**-0.2**
	baz=23,SNR=29								
328A				⇑P			**P**	**06 40 50.2**	**-0.2**
	baz=23,SNR=29								
426A	**McDonald Obser**	**22.85**	**324**	⇓P			**P**	**06 40 51.8**	**-0.1**
	baz=23								
426A				⇓P			**P**	**06 40 51.8**	**-0.1**
	baz=23								
PTP	**Ponta Puerca**	**22.91**	**73**	*i*P			x	06 37 36.7	
PTP				*e*S			x	06 38 54.3	
326A	**Caldwell Ranch**	**23.31**	**325**	⇓P			**P**	**06 40 55.9**	**-0.4**
	baz=23,SNR=5.4								
326A				⇓P			**P**	**06 40 55.9**	**-0.4**
	baz=23,SNR=5.4								
TKL	**Tuckaleechee C**	**23.32**	**10**	P			**P**	**06 40 55.8**	**-0.6**
	comp=Z,8.4nm,0.9s,baz=180,slow=8.5,SNR=5.9								
TKL				LR			LR	06 49 44.9	
	comp=Z,112nm,21.2s,baz=94,slow=36								
TKL	**Tuckaleechee C**	**23.32**	**10**	P			**P**	**06 40 55.8**	**-0.6**
425A	**Indio Mountain**	**23.49**	**323**	⇓P			**P**	**06 40 58.4**	**+0.3**
	baz=24								
425A				⇓P			**P**	**06 40 58.4**	**+0.3**
	baz=24								
WMOK	**Wichita Mounta**	**23.81**	**339**	*e*P			**P**	**06 41 00.5**	**-0.4**
	comp=Z,11nm,1.0s								
325A	**Bean Ranch, Si**	**23.91**	**324**	⇑P			**P**	**06 41 02.0**	**-0.1**
	baz=24,SNR=9.7								
325A				⇑P			**P**	**06 41 02.0**	**-0.1**
	baz=24,SNR=9.7								
TUL1	**Tulsa**	**24.02**	**346**	⇓P			**P**	**06 41 00.6**	**-2.1**
	baz=24								
TUL1				⇓P			**P**	**06 41 00.6**	**-2.1**
	baz=24								
127A	**Arkansas Junct**	**24.03**	**328**	⇑P			**P**	**06 41 02.5**	**-0.5**
	baz=24,SNR=8.6								
127A				⇑P			**P**	**06 41 02.5**	**-0.5**
	baz=24,SNR=8.6								
324A	**Moseley Ranch,**	**24.26**	**323**	⇑P			**P**	**06 41 05.0**	**-0.2**
	baz=24,SNR=11								
324A				⇑P			**P**	**06 41 05.0**	**-0.2**
	baz=24,SNR=11								
126A	**Clayton Basin,**	**24.35**	**327**	⇑P			**P**	**06 41 05.8**	**-0.2**
	baz=24								
126A				⇑P			**P**	**06 41 05.8**	**-0.2**
	baz=24								
225A	**Deer Hill, Car**	**24.38**	**325**	⇓P			**P**	**06 41 06.7**	**+0.4**
	baz=24,SNR=6.2								
225A				⇓P			**P**	**06 41 06.7**	**+0.4**
	baz=24,SNR=6.2								
MNTX	**Cornudas Mount**	**24.39**	**324**	*e*P			**P**	**06 41 05.5**	**-0.7**
	comp=Z,5.2nm,0.9s								
MNTX	**Cornudas Mount**	**24.39**	**324**	⇑P			**P**	**06 41 06.3**	**+0.1**
	baz=24,SNR=12								
MNTX				⇑P			**P**	**06 41 06.3**	**+0.1**
	baz=24,SNR=12								
MNTX				⇑P			**P**	**06 41 06.3**	**+0.1**
	baz=24,SNR=12								
Z27A	**Tatum**	**24.47**	**330**	⇓P			**P**	**06 41 06.3**	**-0.7**
	baz=25								
Z27A				⇓P			**P**	**06 41 06.3**	**-0.7**
	baz=25								
125A	**Gardner Draw,**	**24.70**	**326**	⇑P			**P**	**06 41 10.1**	**+0.9**
	baz=25								
125A				⇑P			**P**	**06 41 10.1**	**+0.9**
	baz=25								
224A	**Cornudas Mount**	**24.75**	**324**	⇑P			**P**	**06 41 10.1**	**+0.5**
	baz=25,SNR=6.6								
224A				⇑P			**P**	**06 41 10.1**	**+0.5**
	baz=25,SNR=6.6								
MSTX	**Muleshoe**	**24.79**	**331**	⇓P			**P**	**06 41 09.7**	**-0.2**
	baz=25,SNR=22								
MSTX				⇓P			**P**	**06 41 09.7**	**-0.2**
	baz=25,SNR=22								
Z26A	**Caprock**	**24.82**	**328**	⇓P			**P**	**06 41 10.5**	**+0.2**
	baz=25								
Z26A				⇓P			**P**	**06 41 10.5**	**+0.2**
	baz=25								
Y27A	**Causey**	**24.90**	**330**	⇑P			**P**	**06 41 10.7**	**-0.3**
	baz=25,SNR=12								
Y27A				⇑P			**P**	**06 41 10.7**	**-0.3**
	baz=25,SNR=12								
AMTX	**Amarillo**	**25.06**	**334**	*e*P			**P**	**06 41 13.0**	**+0.6**
	comp=Z,22nm,0.8s								
AMTX	**Amarillo**	**25.06**	**334**	⇑P			**P**	**06 41 12.3**	**-0.1**
	baz=25,SNR=6.2								
AMTX				⇑P			**P**	**06 41 12.3**	**-0.1**
	baz=25,SNR=6.2								
AMTX				⇑P			**P**	**06 41 12.3**	**-0.1**
	baz=25,SNR=6.2								
AMTX				⇑P			**P**	**06 41 12.3**	**-0.1**
	baz=25,SNR=6.2								
Z25A	**Roswell**	**25.21**	**327**	⇑P			**P**	**06 41 14.1**	**+0.3**
	baz=25,SNR=9.6								
Z25A				⇑P			**P**	**06 41 14.1**	**+0.3**
	baz=25,SNR=9.6								
Y26A	**Elida**	**25.26**	**329**	⇑P			**P**	**06 41 14.3**	**+0.1**
	baz=25								
Y26A				⇑P			**P**	**06 41 14.3**	**+0.1**
	baz=25								
X27A	**F and S Farms,**	**25.50**	**332**	⇓P			**P**	**06 41 16.3**	**0.0**
	baz=26								
X27A				⇓P			**P**	**06 41 16.3**	**0.0**
	baz=26								
Z24A	**Sheeppen Canyo**	**25.60**	**326**	⇓P			**P**	**06 41 18.5**	**+1.1**
	baz=26								
Z24A				⇓P			**P**	**06 41 18.5**	**+1.1**
	baz=26								
X26A	**CR and CF Fran**	**25.76**	**330**	⇑P			**P**	**06 41 18.7**	**-0.1**
	baz=26,SNR=5.7								
X26A				⇑P			**P**	**06 41 18.7**	**-0.1**
	baz=26,SNR=5.7								
W27A	**Bowe Ranch, En**	**25.82**	**332**	⇑P			**P**	**06 41 19.5**	**+0.2**
	baz=26,SNR=17								
W27A				⇑P			**P**	**06 41 19.5**	**+0.2**
	baz=26,SNR=17								
Z23A	**Rita Site, Whi**	**26.02**	**325**	⇓P			**P**	**06 41 22.4**	**+1.2**
	baz=26								
Z23A				⇓P			**P**	**06 41 22.4**	**+1.2**
	baz=26								
320A	**Kipp Ranch, An**	**26.07**	**319**	⇑P			**P**	**06 41 23.3**	**+1.6**
	baz=26								
320A				⇑P			**P**	**06 41 23.3**	**+1.6**
	baz=26								
Y24A	**Capitan**	**26.09**	**327**	⇓P			**P**	**06 41 23.1**	**+1.3**
	baz=26,SNR=12								
Y24A				⇓P			**P**	**06 41 23.1**	**+1.3**
	baz=26,SNR=12								
X25A	**Clemmons Ranch**	**26.16**	**329**	⇓P			**P**	**06 41 22.8**	**+0.4**
	baz=26,SNR=6.8								
X25A				⇓P			**P**	**06 41 22.8**	**+0.4**
	baz=26,SNR=6.8								
121A	**Cookes Peak, D**	**26.41**	**322**	⇑P			**P**	**06 41 26.0**	**+1.3**
	baz=26								
121A				⇑P			**P**	**06 41 26.0**	**+1.3**
	baz=26								
Y23A	**Lovelace Mesa,**	**26.43**	**326**	⇑P			**P**	**06 41 25.7**	**+0.8**
	baz=27								
Y23A				⇑P			**P**	**06 41 25.7**	**+0.8**
	baz=27								
220A	**Playas Peak, P**	**26.44**	**320**	⇓P			**P**	**06 41 27.1**	**+2.1**
	baz=27								
220A				⇓P			**P**	**06 41 27.1**	**+2.1**
	baz=27								
W25A	**X Bar L Ranch,**	**26.61**	**330**	⇓P			**P**	**06 41 27.1**	**+0.6**
	baz=27,SNR=10								
W25A				⇓P			**P**	**06 41 27.1**	**+0.6**
	baz=27,SNR=10								
BNM	**Barren Site**	**26.90**	**326**	*e*P			**P**	**06 41 30.7**	**+1.5**
	comp=Z,2.2nm,0.7s								
Y22A	**Socorro**	**26.93**	**325**	⇑P			**P**	**06 41 31.1**	**+1.6**
	baz=27,SNR=6.7								
Y22A				⇑P			**P**	**06 41 31.1**	**+1.6**
	baz=27,SNR=6.7								
120A	**U Bar Ranch, L**	**26.94**	**321**	⇓P			**P**	**06 41 31.3**	**+1.9**
	baz=27								
120A				⇓P			**P**	**06 41 31.3**	**+1.9**
	baz=27								
W24A	**Lazy 6 Ranch,**	**27.07**	**329**	⇓P			**P**	**06 41 31.8**	**+1.1**
	baz=27								
W24A				⇓P			**P**	**06 41 31.8**	**+1.1**
	baz=27								
T28A	**Walsh**	**27.16**	**336**	⇑P			**P**	**06 41 31.2**	**-0.2**
	baz=27								
T28A				⇑P			**P**	**06 41 31.2**	**-0.2**
	baz=27								
V25A	**Rancho No Teng**	**27.18**	**331**	⇓P			**P**	**06 41 32.4**	**+0.7**
	baz=27,SNR=22								
V25A				⇓P			**P**	**06 41 32.4**	**+0.7**
	baz=27,SNR=22								
U26A	**Atchley Ranch,**	**27.24**	**333**	⇓P			**P**	**06 41 32.6**	**+0.4**
	baz=27,SNR=8.6								
U26A				⇓P			**P**	**06 41 32.6**	**+0.4**
	baz=27,SNR=8.6								
KSU1	**Kansas State U**	**27.25**	**346**	*e*P			**P**	**06 41 27.9**	**-4.1**
	comp=Z,9.4nm,0.8s								
Z20A	**Nine Sixteen R**	**27.30**	**321**	⇑P			**P**	**06 41 34.7**	**+2.0**
	baz=27								
Z20A				⇑P			**P**	**06 41 34.7**	**+2.0**
	baz=27								
T27A	**Campo**	**27.36**	**335**	⇓P			**P**	**06 41 33.2**	**0.0**
	baz=28								
T27A				⇓P			**P**	**06 41 33.2**	**0.0**
	baz=28								
LAZ	**Ladron**	**27.37**	**325**	*e*P			**P**	**06 41 36.2**	**+2.8**
	comp=Z,1.6nm,0.8s								
Y21A	**Point of Rocks**	**27.39**	**324**	⇓P			**P**	**06

R23A ⇓P P 06 41 54.5 +0.7
baz=30,SNR=7.9
S22A 4UR Ranch, Cre 29.77 330 ⇓P P 06 41 55.6 +0.8
baz=30,SNR=6.1
S22A ⇓P P 06 41 55.6 +0.8
baz=30,SNR=6.1
BGNE Belgrade 29.81 346 ⇓P P 06 41 54.4 -0.4
baz=30
BGNE ⇓P P 06 41 54.4 -0.4
baz=30
X16A Lo Mia Camp, P 29.93 320 ⇑P P 06 41 57.4 +1.2
baz=30
X16A ⇑P P 06 41 57.4 +1.2
baz=30
O27A Beecher Island 29.99 339 ⇓P P 06 41 56.4 -0.1
baz=30
O27A ⇓P P 06 41 56.4 -0.1
baz=30
S21A Coal Bank Pass 30.18 329 ⇑P P 06 41 59.3 +0.8
baz=30
S21A ⇑P P 06 41 59.3 +0.8
baz=30
MVCO Mesa Verde 30.20 327 P P 06 42 00.2 +1.6
OGNE Ogallala 30.51 340 ⇑P P 06 42 00.4 -0.6
baz=31
OGNE ⇑P P 06 42 00.4 -0.6
baz=31
S20A Disappointment 30.60 328 ⇑P P 06 42 02.4 +0.3
baz=31
S20A ⇑P P 06 42 02.4 +0.3
baz=31
Q22A Crested Butte, 30.70 331 ⇓P P 06 42 03.1 +0.1
baz=31
Q22A ⇓P P 06 42 03.1 +0.1
baz=31
O22A Kremmling 31.59 333 ⇓P P 06 42 11.1 +0.3
baz=32
O22A ⇓P P 06 42 11.1 +0.3
baz=32
N23A Red Feather La 31.94 335 ⇑P P 06 42 14.0 +0.1
baz=32
N23A ⇑P P 06 42 14.0 +0.1
baz=32
BC3 Big Chuckawall 32.11 315 ⇑P P 06 42 17.5 +2.3
baz=32
BC3 ⇑P P 06 42 17.5 +2.3
baz=32
S16A Weppner Ranch, 32.26 325 ⇑P P 06 42 17.8 +1.1
baz=32
S16A ⇑P P 06 42 17.8 +1.1
baz=32
R17A Hanksville Air 32.27 327 ⇓P P 06 42 18.3 +1.7
baz=32
R17A ⇓P P 06 42 18.3 +1.7
baz=32
O20A White River Ci 32.33 331 ⇓P P 06 42 18.1 +0.9
baz=32
O20A ⇓P P 06 42 18.1 +0.9
baz=32
MONP Monument Peak 32.37 313 ⇑P P 06 42 20.3 +2.6
baz=32
MONP ⇑P P 06 42 20.3 +2.6
baz=32
N21A Black Mountain 32.50 333 ⇓P P 06 42 19.3 +0.5
baz=33,SNR=5.9
N21A ⇓P P 06 42 19.3 +0.5
baz=33,SNR=5.9
K25A Mack Ranch, Ha 32.62 339 ⇓P P 06 42 19.6 0.0
baz=33
K25A ⇓P P 06 42 19.6 0.0
baz=33
M22A Cedar Creek Ra 32.63 335 ⇑P P 06 42 20.1 +0.2
baz=33
M22A ⇑P P 06 42 20.1 +0.2
baz=33
SPMN St. Paul 32.64 355 ⇑P P 06 42 18.1 -1.5
baz=33,SNR=6.2
SPMN ⇑P P 06 42 18.1 -1.5
baz=33,SNR=6.2
L23A Garrett 32.87 336 ⇑P P 06 42 22.2 +0.3
baz=33
L23A ⇑P P 06 42 22.2 +0.3
baz=33
BRSD Miller 32.87 346 ⇑P P 06 42 21.2 -0.5
baz=33
BRSD ⇑P P 06 42 21.2 -0.5
baz=33
N20A Spence Gulch, 32.90 332 ⇑P P 06 42 23.2 +1.0
baz=33,SNR=6.4
N20A ⇑P P 06 42 23.2 +1.0
baz=33,SNR=6.4
P17A Butcher Ranch, 33.06 328 ⇑P P 06 42 25.1 +1.5
baz=33
P17A ⇑P P 06 42 25.1 +1.5
baz=33
M21A Separation Pea 33.12 334 ⇓P P 06 42 24.6 +0.4
baz=33
M21A ⇓P P 06 42 24.6 +0.4
baz=33
O18A Roosevelt 33.29 330 ⇓P P 06 42 26.7 +1.2
baz=33
O18A ⇓P P 06 42 26.7 +1.2
baz=33
N19A John Jarvie Ra 33.37 331 ⇑P P 06 42 26.8 +0.5
baz=34
N19A ⇑P P 06 42 26.8 +0.5
baz=34
L21A Rawlins 33.42 334 ⇑P P 06 42 27.0 +0.3
baz=34,SNR=10
L21A ⇑P P 06 42 27.0 +0.3
baz=34,SNR=10
J24A Dixon Ranch, L 33.53 339 ⇓P P 06 42 27.7 +0.2
baz=34
J24A ⇓P P 06 42 27.7 +0.2
baz=34
O17A Robinson Place 33.60 329 ⇑P P 06 42 29.3 +0.9
baz=34
O17A ⇑P P 06 42 29.3 +0.9
baz=34
M19A Rock Springs 33.84 332 ⇓P P 06 42 31.5 +1.1
baz=34
M19A ⇓P P 06 42 31.5 +1.1
baz=34
L20A Wamsutter 33.88 333 ⇑P P 06 42 31.6 +0.9
baz=34
L20A ⇑P P 06 42 31.6 +0.9
baz=34
K21A Alcova 33.92 335 ⇑P P 06 42 31.8 +0.7
baz=34
K21A ⇑P P 06 42 31.8 +0.7
baz=34
I24A Kuemmerle Ranc 33.98 339 ⇑P P 06 42 31.5 0.0
baz=34
I24A ⇑P P 06 42 31.5 0.0
baz=34
O16A Springville 34.00 328 ⇑P P 06 42 33.1 +1.3
baz=34
O16A ⇑P P 06 42 33.1 +1.3
baz=34
RSSD Black Hills 34.01 340 *e*P P 06 42 32.3 +0.5
comp=Z,5.0nm,0.8s
J22A Midwest 34.27 337 ⇑P P 06 42 34.1 +0.1
baz=34,SNR=8.9
J22A ⇑P P 06 42 34.1 +0.1
baz=34,SNR=8.9
J21A Lysite 34.60 336 ⇓P P 06 42 37.1 +0.2
baz=35,SNR=7.8
J21A ⇓P P 06 42 37.1 +0.2
baz=35,SNR=7.8
I22A 9 Mile Ranch, 34.68 337 ⇑P P 06 42 38.1 +0.5
baz=35,SNR=9.5
I22A ⇑P P 06 42 38.1 +0.5
baz=35,SNR=9.5
H24A Dirks Ranch, A 34.73 340 ⇑P P 06 42 37.9 -0.1
baz=35,SNR=10
H24A ⇑P P 06 42 37.9 -0.1
baz=35,SNR=10
K19A Absolon Red Bu 34.76 334 ⇑P P 06 42 39.1 +0.8
baz=35
K19A ⇑P P 06 42 39.1 +0.8
baz=35
J20A Shoshoni 34.86 335 ⇑P P 06 42 40.2 +1.1
baz=35
J20A ⇑P P 06 42 40.2 +1.1
baz=35
I21A Big Trails, Te 34.92 336 ⇓P P 06 42 40.4 +0.8
baz=35,SNR=5.4
I21A ⇓P P 06 42 40.4 +0.8
baz=35,SNR=5.4
PDAR Pinedale Array 35.02 333 P P 06 42 42.1 +1.5
comp=Z,1.6nm,0.6s,baz=127,slow=10,SNR=14
PDAR Pinedale Array 35.02 333 P P 06 42 42.1 +1.5
L17A Cokeville 35.11 331 ⇑P P 06 42 42.5 +1.1
baz=35
L17A ⇑P P 06 42 42.5 +1.1
baz=35
K18A Toltan Ranch, 35.14 332 ⇑P P 06 42 42.5 +0.9
baz=35
K18A ⇑P P 06 42 42.5 +0.9
baz=35
J19A Crowheart 35.20 334 ⇓P P 06 42 42.8 +0.7
baz=35
J19A ⇓P P 06 42 42.8 +0.7
baz=35
LPAZ La Paz 35.22 144 P P 06 42 42.5 -0.5
comp=Z,0.6nm,0.7s,baz=328,slow=5.3,SNR=5.8
LPAZ LR LR 06 57 37.0
comp=Z,128nm,18.7s,baz=82,slow=37
LPAZ La Paz 35.22 144 P P 06 42 42.5 -0.5
I20A Worland 35.37 335 ⇓P P 06 42 44.7 +1.2
baz=36,SNR=10
I20A ⇓P P 06 42 44.7 +1.2
baz=36,SNR=10
M15A Larsen Ranch, 35.41 328 ⇓P P 06 42 45.3 +1.5
baz=36
M15A ⇓P P 06 42 45.3 +1.5
baz=36
G23A Biddle 35.42 339 ⇓P P 06 42 44.2 +0.4
baz=36
G23A ⇓P P 06 42 44.2 +0.4
baz=36
H21A Big Horn, Sher 35.52 337 ⇑P P 06 42 45.1 +0.4
baz=36,SNR=9.8
H21A ⇑P P 06 42 45.1 +0.4
baz=36,SNR=9.8
H20A Greybull 35.77 336 ⇓P P 06 42 47.0 +0.2
baz=36,SNR=5.2
H20A ⇓P P 06 42 47.0 +0.2
baz=36,SNR=5.2
L15A Malad City 35.77 329 ⇑P P 06 42 47.7 +0.7
baz=36
L15A ⇑P P 06 42 47.7 +0.7
baz=36
I19A Meeteetse 35.80 335 ⇑P P 06 42 47.7 +0.4
baz=36
I19A ⇑P P 06 42 47.7 +0.4
baz=36
F23A Volborg 35.88 340 ⇑P P 06 42 48.0 +0.3
baz=36
F23A ⇑P P 06 42 48.0 +0.3
baz=36
I18A Diamond G Ranc 35.88 334 ⇓P P 06 42 48.5 +0.5
baz=36
I18A ⇓P P 06 42 48.5 +0.5
baz=36
J17A Brown Place, J 36.01 332 ⇓P P 06 42 49.5 +0.5
baz=36
J17A ⇓P P 06 42 49.5 +0.5
baz=36
AGMN Agassiz Nation 36.03 352 *e*P P 06 42 48.0 -0.9
comp=Z,11nm,0.9s
SNOW Snow King Moun 36.11 332 *e*P P 06 42 50.6 +0.7
comp=Z,8.2nm,0.8s
MDND Maddock 36.24 348 ⇓P P 06 42 50.5 -0.2
baz=36
MDND ⇓P P 06 42 50.5 -0.2
baz=36
E24A Baker 36.27 342 ⇓P P 06 42 50.7 -0.3
baz=36
E24A ⇓P P 06 42 50.7 -0.3
baz=36
H19A Powell 36.32 335 ⇓P P 06 42 52.4 +0.8
baz=36
H19A ⇓P P 06 42 52.4 +0.8
baz=36
E22A Miles City 36.69 340 ⇓P P 06 42 54.9 +0.2
baz=37
E22A ⇓P P 06 42 54.9 +0.2
baz=37
NVAR Mina Array Bea 36.75 320 PcP PcP 06 45 18.6 +1.6
comp=Z,0.5nm,0.6s,baz=143,slow=3.2,SNR=3.3
NVAR ScP ScP 06 49 07.6 +8.3
comp=Z,0.2nm,0.5s,baz=99,slow=3.0,SNR=2.9
NVAR LR LR 06 59 43.6
comp=Z,163nm,21.6s,baz=260,slow=39
NVAR Mina Array Bea 36.75 320 PcP PcP 06 45 18.6 +1.6
NVAR ScP ScP 06 49 07.6 +8.3
D24A Glendive 36.77 342 ⇓P P 06 42 55.6 +0.3
baz=37
D24A ⇓P P 06 42 55.6 +0.3
baz=37
RLMT Red Lodge 36.80 335 ⇓P P 06 42 56.1 +0.3
baz=37
RLMT ⇓P P 06 42 56.1 +0.3
baz=37
RLMT ⇓P P 06 42 56.1 +0.3
baz=37
RLMT ⇓P P 06 42 56.1 +0.3
baz=37
J15A Blackfoot 36.84 331 ⇑P P 06 42 57.4 +1.3
baz=37
J15A ⇑P P 06 42 57.4 +1.3
baz=37
G18A Lazy EL Ranch, 37.08 335 ⇓P P 06 42 58.2 +0.1
baz=37
G18A ⇓P P 06 42 58.2 +0.1
baz=37
F19A Roth Farm, Mol 37.28 336 ⇑P P 06 43 00.2 +0.5
baz=37
F19A ⇑P P 06 43 00.2 +0.5
baz=37
H16A Russell Place, 37.30 333 ⇑P P 06 43 01.2 +1.1
baz=37
H16A ⇑P P 06 43 01.2 +1.1
baz=37
D22A Cohagen 37.39 340 ⇓P P 06 43 01.1 +0.5
baz=38
D22A ⇓P P 06 43 01.1 +0.5
baz=38
F18A Big Timber 37.62 336 ⇓P P 06 43 03.1 +0.5
baz=38
F18A ⇓P P 06 43 03.1 +0.5
baz=38
C23A Lambert 37.65 342 ⇑P P 06 43 02.6 -0.1
baz=38
C23A ⇑P P 06 43 02.6 -0.1
baz=38
E19A Rath Farm, Rou 37.72 337 ⇑P P 06 43 03.4 0.0
baz=38
E19A ⇑P P 06 43 03.4 0.0
baz=38
I14A Mackay 37.73 330 ⇑P P 06 43 04.7 +1.1
baz=38
I14A ⇑P P 06 43 04.7 +1.1
baz=38
C22A Vida 37.82 341 ⇓P P 06 43 04.0 -0.2
baz=38
C22A ⇓P P 06 43 04.0 -0.2
baz=38
H15A Lima 37.87 332 ⇓P P 06 43 05.8 +1.0
baz=38
H15A ⇓P P 06 43 05.8 +1.0
baz=38
ULM Lac du Bonnet 37.94 352 P P 06 43 03.5 -1.5
comp=Z,3.9nm,0.5s,baz=164,slow=8.6,SNR=7.2
ULM LR LR 07 01 00.4
comp=Z,100nm,18.0s,baz=99,slow=40
ULM Lac du Bonnet 37.94 352 P P 06 43 03.5 -1.5
DGMT Dagmar 37.96 343 P P 06 43 05.0 -0.4
comp=Z,23nm,0.7s
DGMT Dagmar 37.96 343 ⇑P P 06 43 05.4 +0.1
baz=38
DGMT ⇑P P 06 43 05.4 +0.1
baz=38
F17A Fitzpatrick Pl 38.01 335 ⇑P P 06 43 07.1 +1.2
baz=38
F17A ⇑P P 06 43 07.1 +1.2
baz=38
D20A Manuel Ranch, 38.01 338 ⇑P P 06 43 06.8 +0.9
baz=38
D20A ⇑P P 06 43 06.8 +0.9
baz=38
I13A Wildhorse Cree 38.04 330 ⇑P P 06 43 07.6 +1.3
baz=38
I13A ⇑P P 06 43 07.6 +1.3
baz=38
B23A Brockton 38.18 342 ⇑P P 06 43 07.9 +0.7
baz=38
B23A ⇑P P 06 43 07.9 +0.7
baz=38
H14A Leadore 38.20 331 ⇑P P 06 43 09.0 +1.4
baz=38
H14A ⇑P P 06 43 09.0 +1.4
baz=38
G15A Dillon 38.22 333 ⇓P P 06 43 08.7 +0.9
baz=38,SNR=5.0
G15A ⇓P P 06 43 08.7 +0.9
baz=38,SNR=5.0
E18A Harlowton 38.24 336 ⇓P P 06 43 08.6 +0.7
baz=38
E18A ⇓P P 06 43 08.6 +0.7
baz=38
F16A Kennard Place, 38.32 334 ⇑P P 06 43 09.4 +0.9
baz=38
F16A ⇑P P 06 43 09.4 +0.9
baz=38
I12A Atlanta 38.46 329 ⇓P P 06 43 11.2 +1.4
baz=39
I12A ⇓P P 06 43 11.2 +1.4
baz=39
C20A Veseth Ranch, 38.50 339 ⇑P P 06 43 10.4 +0.5
baz=39
C20A ⇑P P 06 43 10.4 +0.5
baz=39
H13A Challis 38.59 330 ⇑P P 06 43 11.7 +0.9
baz=39,SNR=5.7
H13A ⇑P P 06 43 11.7 +0.9
baz=39,SNR=5.7
D18A Linhart Farms, 38.72 337 ⇓P P 06 43 12.1 +0.3
baz=39
D18A ⇓P P 06 43 12.1 +0.3
baz=39
F15A Butte 38.74 333 ⇓P P 06 43 13.1 +0.9
baz=39
F15A ⇓P P 06 43 13.1 +0.9
baz=39
H12A Diamond D Ranc 38.87 330 ⇑P P 06 43 14.3 +1.1
baz=39
H12A ⇑P P 06 43 14.3 +1.1
baz=39
C19A Slack Wire Ran 38.89 338 ⇑P P 06 43 13.8 +0.6
baz=39,SNR=13
C19A ⇑P P 06 43 13.8 +0.6
baz=39,SNR=13
E16A East Helena 38.94 335 ⇓P P 06 43 14.7 +1.0
baz=39
E16A ⇓P P 06 43 14.7 +1.0
baz=39
G13A Cobalt 38.97 331 ⇑P P 06 43 15.0 +1.0
baz=39
G13A ⇑P P 06 43 15.0 +1.0
baz=39
D17A Six Diamond Ra 39.03 336 ⇑P P 06 43 15.4 +1.0
baz=39
D17A ⇑P P 06 43 15.4 +1.0
baz=39
E15A Deer Lodge 39.26 334 ⇓P P 06 43 16.9 +0.5
baz=39
E15A ⇓P P 06 43 16.9 +0.5
baz=39
D16A Dana Ranch, Ca 39.28 335 ⇑P P 06 43 17.1 +0.6
baz=39
D16A ⇑P P 06 43 17.1 +0.6
baz=39
EGMT Eagleton 39.39 338 *e*P P 06 43 18.1 +0.7
comp=Z,15nm,0.7s
EGMT Eagleton 39.39 338 ⇑P P 06 43 17.7 +0.3
baz=40,SNR=9.7
EGMT ⇑P P 06 43 17.7 +0.3
baz=40,SNR=9.7
C17A Wharram Farm, 39.45 336 ⇑P P 06 43 18.6 +0.7
baz=40
C17A ⇑P P 06 43 18.6 +0.7
baz=40
SIV San Ignacio 39.46 135 P P 06 43 17.1 -1.1
comp=Z,4.0nm,0.7s,baz=316,slow=9.4,SNR=18
SIV San Ignacio 39.46 135 P P 06 43 17.1 -1.1
B19A Brinkman Farms 39.46 339 ⇑P P 06 43 17.9 0.0
baz=40,SNR=6.2
B19A ⇑P P 06 43 17.9 0.0
baz=40,SNR=6.2
A20A Cobblestone Ra 39.47 340 ⇓P P 06 43 18.1 +0.1
baz=40
A20A ⇓P P 06 43 18.1 +0.1
baz=40
F13A Darby 39.53 332 ⇑P P 06 43 19.8 +1.1
baz=40
F13A ⇑P P 06 43 19.8 +1.1
baz=40
D15A Lincoln 39.69 334 ⇑P P 06 43 21.4 +1.4
baz=40
D15A ⇑P P 06 43 21.4 +1.4
baz=40
B18A Beardsley Farm 39.71 338 ⇑P P 06 43 21.2 +1.2
baz=40
B18A ⇑P P 06 43 21.2 +1.2
baz=40
A19A Klindworth Far 39.79 339 ⇑P P 06 43 21.1 +0.4
baz=40
A19A ⇑P P 06 43 21.1 +0.4
baz=40
E13A Victor 39.96 332 ⇓P P 06 43 23.1 +0.9
baz=40
E13A ⇓P P 06 43 23.1 +0.9
baz=40
C16A Fuhringer Ranc 39.98 336 ⇑P P 06 43 23.1 +0.8
baz=40,SNR=5.0
C16A ⇑P P 06 43 23.1 +0.8
baz=40,SNR=5.0
B17A L&G Farms, Che 40.01 337 ⇓P P 06 43 22.7 +0.3
baz=40
B17A ⇓P P 06 43 22.7 +0.3
baz=40
A18A Metzger Ranch, 40.17 338 ⇓P P 06 43 23.9 +0.1
baz=40,SNR=5.1
A18A ⇓P P 06 43 23.9 +0.1
baz=40,SNR=5.1
C15A Salmond Ranch, 40.31 335 ⇑P P 06 43 25.6 +0.5
baz=40
C15A ⇑P P 06 43 25.6 +0.5
baz=40
A17A Triple J Farms 40.51 338 ⇑P P 06 43 26.6 0.0
baz=41,SNR=11
A17A ⇑P P 06 43 26.6 0.0
baz=41,SNR=11
B15A Bradely Ranch, 40.72 336 ⇓P P 06 43 28.9 +0.5
baz=41
B15A ⇓P P 06 43 28.9 +0.5
baz=41
F10A Beach Ranch, E 41.06 330 ⇓P P 06 43 32.2 +0.9
baz=41
F10A ⇓P P 06 43 32.2 +0.9
baz=41
A15A Johnson Ranch, 41.31 336 ⇑P P 06 43 33.8 +0.5
baz=42,SNR=6.8
A15A ⇑P P 06 43 33.8 +0.5
baz=42,SNR=6.8
A14A Double T Ranch 41.59 335 ⇓P P 06 43 36.0 +0.4
baz=42
A14A ⇓P P 06 43 36.0 +0.4
baz=42
FFC Flin Flon 43.25 349 *e*P P 06 43 48.3 -0.5
comp=Z,3.8nm,0.8s
SCHQ Schefferville 45.43 18 P P 06 44 04.1 -2.2
comp=Z,3.5nm,0.8s,baz=215,slow=12,SNR=3.2
SCHQ Schefferville 45.43 18 P P 06 44 04.1 -2.2
CPUP Villa Florida 49.32 142 P P 06 44 35.3 -1.5
comp=Z,1.0nm,0.5s,baz=313,slow=8.3,SNR=7.8
CPUP LR LR 07 06 42.5
comp=Z,121nm,18.7s,baz=126,slow=38
CPUP Villa Florida 49.32 142 P P 06 44 35.3 -1.5
YKA Yellowknife Ar 53.09 345 P P 06 45 03.6 -1.0
comp=Z,3.8nm,0.8s,baz=141,slow=7.5,SNR=20
YKA PcP PcP 06 46 11.6 -0.7
comp=Z,0.4nm,0.6s,baz=147,slow=3.9,SNR=4.2
YKA Yellowknife Ar 53.09 345 P P 06 45 03.6 -1.0
YKA PcP PcP 06 46 11.7 -0.7
DLBC Dease Lake 55.20 335 P P 06 45 21.0 +0.8
comp=Z,4.4nm,0.9s,baz=149,slow=12,SNR=5.0
DLBC Dease Lake 55.20 335 P P 06 45 21.0 +0.8
PLCA Paso Flores 55.72 163 LR LR 07 03 33.5
comp=Z,118nm,18.5s,baz=270,slow=30
RKT Rikitea 57.59 232 *e*T T 07 47 34.5
comp=Z,5.0nm,0.2s

INK	**Inuvik**	**62.64**	**343**	*e*P	**P**	**06 46 10.7**	**-0.7**	
	comp=Z,3.4nm,0.8s							
PMOR	**Pomariorio Ree**	**64.73**	**247**	*e*T	T	07 56 19.5		
	comp=Z,4.8nm,0.2s							
ILAR	**Eielson Array**	**65.34**	**336**	P	**P**	**06 46 28.8**	**-0.5**	
	comp=Z,1.5nm,0.9s,baz=160,slow=5.1,SNR=14							
ILAR				LR	LR	07 22 35.2		
	comp=Z,70nm,18.2s,baz=122,slow=43							
ILAR	**Eielson Array**	**65.34**	**336**	P	**P**	**06 46 28.8**	**-0.5**	
PPT2	**Papeete2**	**67.20**	**245**	*e*LR	LR	07 06 43.5		
	comp=Z,110nm,24.5s,baz=60							
TBI	**Tubuai**	**69.38**	**239**	*e*LR	LR	07 07 56.6		
	comp=Z,100nm,26.5s							
TBI				*e*T	T	08 02 11.5		
	comp=Z,4.8nm,0.2s							
ESDC	**Sonseca Array**	**78.01**	**52**	LR	LR	07 16 24.2		
	comp=Z,60nm,19.8s,baz=265,slow=31							
TORD	**Torodi Ar. Bea**	**87.54**	**77**	LR	LR	07 23 06.1		
	comp=Z,67nm,20.5s,baz=0.0,slow=33							
WRA	**Warramunga Arr**	**138.16**	**254**	PKP	**PKPdf**	**06 55 13.7**	**+0.9**	
	comp=Z,0.6nm,0.7s,baz=99,slow=1.8,SNR=3.1							
WRA	**Warramunga Arr**	**138.16**	**254**	PKP	**PKPdf**	**06 55 13.7**	**+0.9**	
ASAR	**Alice Springs**	**138.22**	**249**	PKP	**PKPdf**	**06 55 12.5**	**-0.4**	
	comp=Z,0.8nm,0.9s,baz=95,slow=3.1,SNR=3.4							
ASAR	**Alice Springs**	**138.22**	**249**	PKP	**PKPdf**	**06 55 12.5**	**-0.4**	
FITZ	**Fitzroy Crossi**	**146.50**	**256**	PKPbc	**PKPab**	**06 55 29.7**	**-0.4**	
	comp=Z,1.6nm,0.7s,baz=112,slow=23,SNR=8.0							
FITZ	**Fitzroy Crossi**	**146.50**	**256**	PKPbc	**PKPab**	**06 55 29.7**	**-0.4**	
CMAR	**Chiang Mai Arr**	**148.17**	**346**	PKPbc	**PKPbc**	**06 55 34.2**	**+0.5**	
	comp=Z,1.5nm,0.5s,baz=329,slow=3.4,SNR=6.4							
CMAR	**Chiang Mai Arr**	**148.17**	**346**	PKPbc	**PKPbc**	**06 55 34.2**	**+0.5**	

*NEIC **07** 06:37:29.6, 38°.46N × 119°.32W, h0km, ML3.1(NCEDC), After NCEDC.*
*IDC **07** 06:37:30.5 ± 1.9, 38°.41N × 119°.29W, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/24, mbtmp3.0/3, Error ellipse: s-maj=24.1km s-min=8.7km az=14.0*
*ISCJB **07** 06:37:31.1 ± 0.3, 38°.47N ± 0°.02 × 119°.36W ± 0°.03, h10km, mb3.0/2, Error ellipse: s-maj=3.5km s-min=3.1km az=171.3*

ISC 07 06:37:30.4 ± 0.7, **38°.45N** ± 0°.02 × **119°.33W** ± 0°.03, **h10**km, **n40, σ1§76/37, 7C-4D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NVAR	**Mina Array Bea**	**0.80**	**91**	Pg		**Pg**	**06 37 45.0**	**-0.9**
	68nm,0.3s,baz=264,slow=20,SNR=66.7							
NVAR				Lg		Lg	06 37 55.1	
	181nm,0.3s,baz=266,slow=26,SNR=24							
NVAR				Rg		Rg	06 38 00.3	
	174nm,0.4s,baz=4.2,slow=22,SNR=13							
NVAR	**Mina Array Bea**	**0.80**	**91**	Pg		**Pg**	**06 37 45.0**	**-0.9**
NVAR				Lg		Lg	06 37 55.1	
NVAR				Rg		Rg	06 38 00.3	
WCN	**Washoe City**	**0.92**	**339**	*e*Pg		**Pg**	**06 37 47.5**	**-0.5**
WCN				*e*Sg		**Sg**	**06 37 58.9**	**-1.1**
WCN	**Washoe City**	**0.92**	**339**	⇑P		**Pg**	**06 37 47.5**	**-0.5**
	baz=0.9							
CMB	**Columbia Colle**	**0.93**	**244**	*e*Pg		**Pg**	**06 37 47.4**	**-1.0**
CMB				*e*Sg		**Sg**	**06 38 00.2**	**-0.4**
MTUM	**Tungsten Hills**	**1.25**	**151**	*e*Pg		**Pg**	**06 37 55.0**	**+0.6**
OHCM	**Honcut**	**1.90**	**298**	*e*Pn		**Pb**	**06 38 03.8**	**-1.5**
GRAC	**Grapevine Rang**	**2.12**	**132**	⇑Pb		**Pb**	**06 38 08.3**	**-0.7**
	baz=2.1							
RCTC	**Rector, Farmer**	**2.14**	**178**	⇓Sb		Sb	06 38 37.1	+1.3
	baz=2.2							
SAO	**San Andreas Ge**	**2.38**	**226**	*e*Pn		**Pb**	**06 38 11.8**	**-1.6**
SAO				*e*Sn		**Sb**	**06 38 42.0**	**-0.8**
BMN	**Battle Mountai**	**2.56**	**39**	*e*Pn		**Pb**	**06 38 13.9**	**-2.7**
BMN				*e*Sn		**Sb**	**06 38 48.1**	**-0.1**
SAC	**San Andreas**	**2.59**	**251**	*e*Pn		**Pb**	**06 38 14.7**	**-2.2**
SAC				*e*Sn		**Sn**	**06 38 44.8**	**+0.8**
VES	**Vestal, Richgr**	**2.61**	**176**	⇑Pb		**Pb**	**06 38 16.8**	**-0.5**
	baz=2.6							
VES				⇑Sb		**Sg**	**06 38 51.6**	**-2.7**
	baz=2.6							
MPMC	**Manual Prospec**	**2.80**	**148**	⇑Pg		**Pg**	**06 38 22.9**	**-1.2**
	baz=2.8							
MCCM	**Marconi Confer**	**2.81**	**265**	*e*Pn		**Pn**	**06 38 17.3**	**+1.9**
ISA	**Isabella**	**2.86**	**166**	*e*Pn		**Pb**	**06 38 20.0**	**-1.7**
ISA				*e*Sn		**Sb**	**06 38 58.0**	**+1.2**
ISA	**Isabella**	**2.86**	**166**	⇓Pb		**Pb**	**06 38 21.3**	**-0.4**
	baz=2.9							
ISA				⇑Sb		**Sg**	**06 38 59.2**	**-3.3**
	baz=2.9							
R11A	**Troy Canyon, C**	**2.94**	**91**	⇓Pb		**Pb**	**06 38 23.0**	**0.0**
	baz=2.9							
R11A				⇑Sb		**Sg**	**06 39 02.3**	**-2.5**
	baz=2.9							
SMMC	**Simmler**	**3.18**	**190**	⇓Pb		**Pb**	**06 38 25.0**	**-2.0**
	baz=3.2							
WDC	**Whiskeytown Da**	**3.27**	**312**	*e*Pn		**Pn**	**06 38 23.2**	**+1.5**
WDC				*e*Sn		**Sn**	**06 39 03.8**	**+3.0**
MOD	**Modoc**	**3.53**	**348**	*e*Pn		**Pb**	**06 38 30.1**	**-2.9**
GSC	**Goldstone**	**3.73**	**147**	*e*Pn		**Pn**	**06 38 30.3**	**+2.1**
OSI	**Osito Adit**	**3.86**	**173**	*e*Pn		Pn	06 38 33.4	+3.5
YBH	**Yreka Blue Hor**	**4.18**	**323**	*e*Pn		**Pn**	**06 38 36.6**	**+2.2**
MWC	**Mount Wilson**	**4.34**	**166**	*e*Pn		**Pn**	**06 38 39.0**	**+2.4**
PASC	**Pasadena Art C**	**4.37**	**167**	*e*Pn		Pn	06 38 39.3	+2.5
CCUT	**Cedar City**	**4.79**	**99**	*e*Pn		Pn	06 38 45.8	+2.9
HUMO	**Hull Mountain**	**4.99**	**327**	*e*Pn		Pn	06 38 49.4	+4.1
DUG	**Dugway**	**5.34**	**69**	*e*Pn		Pn	06 38 53.3	+3.0
MSU	**Marysvale**	**5.61**	**87**	*e*Pn		Pn	06 38 58.2	+4.1
MFID	**Camas Ranch**	**5.62**	**27**	*e*Pn		**Pn**	**06 38 55.5**	**+1.4**
	5.9nm,0.8s							
HVU	**Hansel Valley**	**6.02**	**54**	Pn		**Pn**	**06 39 01.6**	**+1.9**
	9.1nm,0.9s							
HLID	**Hailey**	**6.31**	**34**	*e*Pn		Pn	06 39 07.0	+3.3
SRU	**San Rafael**	**6.91**	**82**	*e*Pn		Pn	06 39 14.5	+2.6
PDAR	**Pinedale Array**	**8.59**	**57**	Pn		Pn	06 39 38.3	+3.3
	0.1nm,0.3s,baz=241,slow=14,SNR=3.6							
PDAR				Lg		Lg	06 42 00.4	
	0.1nm,0.3s,baz=248,slow=27,SNR=5.4							
PDAR	**Pinedale Array**	**8.59**	**57**	Pn		Pn	06 39 38.3	+3.3
PDAR				Lg		Lg	06 42 00.4	
YKA	**Yellowknife Ar**	**24.25**	**5**	P		**P**	**06 42 48.6**	**+1.4**
	0.2nm,0.8s,baz=190,slow=9.6,SNR=4.5							
YKA	**Yellowknife Ar**	**24.25**	**5**	P		**P**	**06 42 48.6**	**+1.4**
ILAR	**Eielson Array**	**30.84**	**337**	P		P	06 43 50.1	+3.1
	0.6nm,0.8s,baz=155,slow=7.2,SNR=8.7							
ILAR	**Eielson Array**	**30.93**	**337**	P		P	06 43 50.1	+3.1

*IDC **07** 06:50:44.8 ± 1.2, 78°.17N × 7°.81E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, MS3.2/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=42.7km s-min=27.6km az=34.0*

ISC 07 06:50:45.0 ± 2.0, **77°.8N** ± 0°.7 × **7°.7E** ± 0°.4, **h10**km, **n7**, σ1§**17**/5, **mb3.6/4, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSP	**Hornsund**	**1.91**	**111**	*e*P		**Pn**	**06 51 16.9**	**-0.6**
HSP				*e*S		**Sn**	**06 51 40.9**	**-0.6**
ARCES	**ARCESS Array B**	**9.65**	**140**	LR		LR	06 56 39.2	
	comp=Z,173nm,20.4s,baz=346,slow=36							
FINES	**FINESS Array B**	**17.48**	**150**	LR		LR	07 01 39.3	
	comp=Z,29nm,20.7s,baz=310,slow=37							
YKA	**Yellowknife Ar**	**35.63**	**318**	P		**P**	**06 57 41.4**	**-0.8**
	0.2nm,0.9s,baz=7.2,slow=8.3,SNR=3.9							
MKAR	**Makanchi Array**	**41.52**	**92**	P		**P**	**06 58 33.0**	**+1.1**
	1.1nm,0.9s,baz=344,slow=6.7,SNR=8.2							
TORD	**Torodi Ar. Bea**	**64.75**	**186**	P		P	07 01 26.9	+3.7
	1.5nm,1.0s,baz=3.0,slow=6.1,SNR=6.7							
TXAR	**Lajitas Array**	**65.87**	**297**	P		**P**	**07 01 30.9**	**+0.4**
	0.4nm,0.9s,baz=36,slow=8.1,SNR=3.2							
TXAR				LR		LR	07 30 25.3	
	comp=Z,44nm,19.9s,baz=0.0,slow=36							

CASC 07 06:53:24.7 ± 1.7, **8.75N** × **83.30W**, **h17**km ± 10km, **MD3.6, 1C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACR	**Cerro Adams**	**0.16**	**126**	⇑*i*P		Pg	06 53 28.6	-0.4
BRU2	**Volcan**	**0.60**	**85**	*i*P		Pg	06 53 36.2	-0.6
BRU2				*i*S		Sb	06 53 45.5	+0.1
TBS2		**0.63**	**86**	*i*P		Pb	06 53 37.9	+0.3
TBS2				*i*S		Sb	06 53 47.4	+1.0
BUS	**Buena Vista**	**0.92**	**331**	⇓*e*P		Pb	06 53 41.8	-1.1
BUS				*e*S		Sn	06 53 56.8	-0.1
QCR	**Quepos**	**1.09**	**308**	*e*P		Pb	06 53 43.3	-1.8
QCR				*e*S		Sn	06 53 59.5	-0.4
URSC	**Urasca**	**1.18**	**336**	⇓*e*P		Pn	06 53 45.7	-1.0
URSC				*e*S		Sb	06 54 02.4	+0.2
SJS	**Escuela Geolog**	**1.40**	**328**	*e*P		Pn	06 53 42.8	-7.0
PTP	**Ponta Puerca**	**19.59**	**59**	*e*P		x	06 53 37.3	
PTP				*i*S		x	06 53 47.6	

IDC 07 06:54:54.5 ± 3.2, **0°.14S** × **133°.02E**, **h0**km, **mb3.5/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=173.4km s-min=27.8km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.72**	**176**	P		P	06 59 25.2	-0.6
	0.1nm,0.3s,baz=355,slow=11,SNR=6.3							
WRA				S		S	07 03 01.1	-8.1
	0.1nm,0.3s,baz=334,slow=23,SNR=1.7							
ASAR	**Alice Springs**	**23.40**	**178**	P		P	07 00 05.6	+0.3
	1.1nm,0.6s,baz=352,slow=8.5,SNR=16							
MKAR	**Makanchi Array**	**64.34**	**324**	P		P	07 05 32.2	0.0
	0.2nm,0.5s,baz=118,slow=7.3,SNR=4.4							

IDC 07 07:01:33.2 ± 2.4, **0°.71S** × **133°.18E**, **h0**km, **mb3.6/2, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=97.7km s-min=25.1km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P		P	07 05 54.0	-0.5
	0.2nm,0.3s,baz=29,slow=9.3,SNR=4.2							
FITZ				S		Sn	07 09 10.0	-16
	0.1nm,0.3s,baz=136,slow=15,SNR=2.8							
WRA	**Warramunga Arr**	**19.14**	**177**	P		P	07 05 58.1	-0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=5.2							
WRA				S		Sn	07 09 24.6	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=5.1							
ASAR	**Alice Springs**	**22.83**	**178**	P		P	07 06 38.5	+0.4
	1.0nm,0.3s,baz=358,slow=12,SNR=20							
MKAR	**Makanchi Array**	**64.89**	**324**	P		P	07 12 14.4	-0.1
	0.5nm,0.6s,baz=110,slow=7.9,SNR=6.9							

*ISCJB **07** 07:02:18.3 ± 1.0, 23°.45S ± 0°.08 × 68°.22W ± 0°.08, h126km ± 7km, mb3.5/2, Error ellipse: s-maj=15.3km s-min=9.1km az=142.2*
*GUC **07** 07:02:19.6 ± 0.8, 23°.51S × 68°.29W, h106km ± 6km, ML3.5*
*IDC **07** 07:02:28.8 ± 10.0, 22°.65S - 67°.77W, h171km ± 74km, mb3.3/2, mb1 3.4/4, mb1mx3.2/15, mbtmp3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=114.1km s-min=36.7km az=7.0*

ISC 07 07:02:19.7 ± 1.2, **23°.43S** ± 0°.09 × **68°.23W** ± 0°.09, **h118**km ± 8km, **n15**, σ1§**10**/19, **3C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPCH	**San Pedro de A**	**0.52**	**3**	⇑*i*P		**Pn**	**07 02 37.5**	**-0.4**
SPCH				*i*S		**Sn**	**07 02 51.5**	**-0.1**
SPCH				AML	AML	07 02 52.5		
	comp=E,3μm,0.3s							
LVC	**Limon Verde**	**1.02**	**322**	*e*P		**Pn**	**07 02 41.6**	**-0.5**
LVC				*i*S		**Sn**	**07 02 59.3**	**+0.4**
LVC				AML	AML	07 03 00.1		
	comp=N,776nm,0.2s							
PB04	**Plate Boundary**	**1.64**	**315**	⇑*i*P		Pn	07 02 53.5	+4.9
PB04				*e*S		Sn	07 03 19.8	+9.2
PB04				AML	AML	07 03 25.3		
	comp=N,386nm,0.7s							
CEN1	**Los Morros**	**1.81**	**271**	*e*P		**Pn**	**07 02 52.0**	**+1.2**
CEN1				*i*S		**Sn**	**07 03 15.8**	**+1.3**
CEN1				AML	AML	07 03 24.3		
	comp=E,176nm,0.6s							
PB09	**Plate Boundary**	**1.87**	**330**	⇓*i*P		**Pn**	**07 02 52.4**	**+0.8**
PB09				*i*S		**Sn**	**07 03 17.5**	**+1.5**
PB09				AML	AML	07 03 20.8		
	comp=E,1μm,0.9s							
ANCH	**Antofagasta**	**2.02**	**262**	*i*P		**Pn**	**07 02 52.2**	**-1.0**
ANCH				*i*S		**Sn**	**07 03 17.2**	**-1.6**
MECH	**Mejillones**	**2.06**	**279**	⇑*i*P		**Pn**	**07 02 53.5**	**-0.3**
MECH				*i*S		**Sn**	**07 03 19.1**	**-0.8**
MECH				AML	AML	07 03 23.9		
	comp=E,327nm,0.4s							
PB01	**Plate Boundary**	**2.64**	**334**	⇓*i*P		**Pn**	**07 03 00.9**	**-0.5**
PB01				*i*S		**Sn**	**07 03 33.3**	**-0.1**
PB01				AML	AML	07 03 35.3		
	comp=E,405nm,0.3s							
HMBC	**Humberstone**	**3.49**	**334**	*e*P		**Pn**	**07 03 10.6**	**-1.9**
LPAZ	**La Paz**	**7.10**	**1**	P		Pn	**07 04 01.3**	**-0.3**
	comp=E,0.4nm,0.3s,baz=173,slow=8.9,SNR=12							
SIV	**San Ignacio**	**10.01**	**44**	P		Pn	07 04 36.8	-3.5
	comp=E,1.1nm,0.3s,baz=254,slow=10,SNR=30							
SIV				S		Sn	07 06 20.4	-10
	comp=E,0.1nm,0.3s,baz=78,slow=18,SNR=1.5							
ATAH	**Atahualpa**	**18.92**	**327**	LR		LR	07 14 48.4	
	comp=E,49nm,19.0s,baz=341,slow=40							
TORD	**Torodi Ar. Bea**	**77.42**	**70**	P		**P**	**07 14 02.0**	**-0.3**
	comp=E,0.4nm,0.4s,baz=251,slow=5.9,SNR=7.3							
YKA	**Yellowknife Ar**	**93.20**	**340**	P		**P**	**07 15 19.9**	**-0.2**
	comp=E,0.1nm,0.5s,baz=133,slow=4.4,SNR=4.7							
MKAR	**Makanchi Array**	**146.79**	**38**	PKPbc		**PKPdf**	**07 21 47.6**	**+1.6**
	comp=E,0.3nm,0.6s,baz=319,slow=3.8,SNR=3.5							

*ISK **07** 07:17:21.4, 39°.82N × 42°.60E, h5km, MD3.3*
*NSSP **07** 07:17:21.9, 39°.83N × 42°.50E, h10km, Ms2.7*
*DDA **07** 07:17:22.1, 39°.75N × 42°.56E, h7km, MD3.1*
*CSEM **07** 07:17:24.0 ± 0.2, 39°.60N × 42°.48E, h2km, MD3.3, Error ellipse: s-maj=8.8km s-min=4.4km az=163.0*

ISC 07 07:17:23.9 ± 1.1, **39°.69N** ± 0°.03 × **42°.52E** ± 0°.02, **h4**km ± 10km, **n47**, σ1§**92**/69, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AGRB	**Hanur-Agry**	**0.38**	**108**	*e*PG		**Pg**	**07 17 30.0**	**-1.3**
AGRB				*e*SG		**Sg**	**07 17 37.6**	**+1.3**
HOMI	**Horasan**	**0.59**	**307**	*i*P		**Pg**	**07 17 33.0**	**-2.3**
HOMI				*i*S		**Sg**	**07 17 42.5**	**-0.4**
DYDN	**Diyadin**	**0.91**	**99**	*i*P		**Pg**	**07 17 39.1**	**-2.3**
DYDN				*i*S		**Sg**	**07 17 52.6**	**-0.7**
DYDN	**Diyadin**	**0.91**	**99**	*i*P		**Pg**	**07 17 39.1**	**-2.3**
DYDN				*i*S		**Sg**	**07 17 52.6**	**-0.7**
EZM	**Erzurum**	**0.92**	**284**	*e*PG		**Pg**	**07 17 40.0**	**-1.4**
DIGO	**Kars**	**0.97**	**42**	*i*P		**Pg**	**07 17 39.9**	**-2.6**
VRTB	**Varto-Mus**	**0.98**	**238**	*e*PN		**Pb**	**07 17 43.2**	**-0.3**
VRTB	**Varto-Mus**	**0.98**	**238**	*e*Pn		**Pb**	**07 17 43.2**	**-0.3**
KARS	**Kars**	**1.02**	**24**	*e*PG		Pg	07 17 40.0	-3.6
KARS				*e*SG		**Sg**	**07 17 52.6**	**-4.2**
VNNZ	**Vanand**	**1.08**	**67**	*e*P		**Pb**	**07 17 44.3**	**-0.8**
VNNZ				*e*S		**Sn**	**07 18 01.4**	**+0.1**
VNNZ	**Vanand**	**1.08**	**67**	P		**Pb**	**07 17 44.3**	**-0.8**
VNNZ				S		**Sn**	**07 18 01.4**	**+0.1**
AKSZ	**Araks**	**1.16**	**64**	*e*P		**Pg**	**07 17 48.5**	**+2.4**
AKSZ				*e*S		**Sn**	**07 18 04.8**	**+1.6**
AKSZ	**Araks**	**1.16**	**64**	P		**Pg**	**07 17 48.5**	**+2.4**
AKSZ				S		**Sn**	**07 18 04.8**	**+1.6**
TATV	**Tatvan**	**1.20**	**190**	*i*P		**Pn**	**07 17 44.6**	**-3.0**
TATV				*i*S		**Sb**	**07 18 03.0**	**-0.2**
TATV	**Tatvan**	**1.20**	**190**	*i*P		**Pn**	**07 17 44.6**	**-3.0**
TATV				*i*S		**Sb**	**07 18 03.0**	**-0.2**
CLDR	**Caldiran**	**1.21**	**117**	*e*PN		**Pn**	**07 17 45.0**	**-2.7**
VANB	**Van**	**1.29**	**148**	*e*PN		**Pn**	**07 17 48.0**	**-0.7**
VANB	**Van**	**1.29**	**148**	*e*Pn		**Pn**	**07 17 48.0**	**-0.7**
BNGL	**BINGOL**	**1.30**	**236**	*i*P		**Pn**	**07 17 47.9**	**-1.1**
BNGL				*e*S		**Sg**	**07 18 07.5**	**+2.0**
ARUZ	**Aruch**	**1.34**	**63**	*e*P		**Pg**	**07 17 50.1**	**+0.5**
ARUZ				*e*S		**Sg**	**07 18 11.4**	**+4.4**
ARUZ	**Aruch**	**1.34**	**63**	P		**Pg**	**07 17 50.1**	**+0.5**
ARUZ				S		**Sg**	**07 18 11.4**	**+4.4**
DAGI	**Agillar**	**1.46**	**342**	*i*P		**Pn**	**07 17 48.8**	**-2.3**
DAGI				*i*S		**Sb**	**07 18 10.2**	**-0.3**
PAAR	**P'arak'ar**	**1.50**	**72**	*e*P		**Pg**	**07 17 54.0**	**+1.4**
PAAR				*e*S		**Sg**	**07 18 15.5**	**+3.5**
PAAR	**P'arak'ar**	**1.50**	**72**	P		**Pg**	**07 17 54.0**	**+1.4**
PAAR				S		**Sg**	**07 18 15.5**	**+3.5**
AMBZ	**Amberd**	**1.50**	**62**	*e*P		**Pg**	**07 17 53.4**	**+0.7**
AMBZ				*e*S		**Sg**	**07 18 15.6**	**+3.4**
AMBZ	**Amberd**	**1.50**	**62**	P		**Pg**	**07 17 53.4**	**+0.7**
AMBZ				S		**Sg**	**07 18 15.6**	**+3.4**
ARTV	**Artvin**	**1.56**	**343**	*i*P		**Pn**	**07 17 50.3**	**-2.2**
ARTV				*i*S		**Sb**	**07 18 13.4**	**-0.1**
ARTV	**Artvin**	**1.56**	**343**	*i*P		**Pn**	**07 17 50.3**	**-2.2**
ARTV				*i*S		**Sb**	**07 18 13.4**	**-0.1**
KOPT	**Kop Dagi**	**1.59**	**282**	*i*P		**Pn**	**07 17 52.2**	**-0.8**
KOPT				*i*S		**Sg**	**07 18 17.7**	**+2.7**
KOPT	**Kop Dagi**	**1.59**	**282**	*i*P		**Pn**	**07 17 52.2**	**-0.8**
KOPT				*i*S		**Sg**	**07 18 17.7**	**+2.7**
GNI	**Garni**	**1.77**	**74**	*e*PN		**Pn**	**07 17 52.4**	**-2.9**
AKH	**Akhalkalaki**	**1.87**	**23**	P		**Pn**	**07 17 55.6**	**-1.1**
BCA	**Borcka**	**1.88**	**339**	*e*PN		**Pn**	**07 17 55.0**	**-1.8**
STEZ	**Stepenevan**	**1.94**	**47**	*e*P		**Pn**	**07 17 56.0**	**-1.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.96**	**292**	*e*PN		**Pn**	**07 17 57.9**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.96**	**292**	*e*Pn		**Pn**	**07 17 57.9**	**-0.1**
ERZN	**Erzincan**	**2.17**	**268**	*e*PN		**Pn**	**07 18 01.1**	**+0.3**
EZC	**Erzincan**	**2.44**	**272**	*e*PN		**Pn**	**07 18 05.4**	**+0.8**
EZC	**Erzincan**	**2.44**	**272**	*e*Pn		**Pn**	**07 18 05.4**	**+0.8**
GUMT	**Gumushane**	**2.46**	**289**	*e*PN		**Pn**	**07 18 04.9**	**+0.1**
GUMT	**Gumushane**	**2.46**	**289**	*e*Pn		**Pn**	**07 18 04.9**	**+0.1**
PTK	**Pertek**	**2.56**	**253**	*e*PN		**Pn**	**07 18 07.0**	**+0.8**
PTK	**Pertek**	**2.56**	**253**	*e*Pn		**Pn**	**07 18 07.0**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.83**	**243**	*e*PN		**Pn**	**07 18 10.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.83**	**243**	*e*Pn		**Pn**	**07 18 10.7**	**+0.7**
ILIC	**ilic-Erzincan**	**3.07**	**267**	*e*PN		**Pn**	**07 18 14.1**	**+0.9**
ILIC	**ilic-Erzincan**	**3.07**	**267**	*e*Pn		**Pn**	**07 18 14.1**	**+0.9**

IDC 07 07:35:06.1 ± 3.2, **0°.96S** × **133°.62E**, **h0**km, **mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=159.5km s-min=28.4km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.88**	**178**	P		P	07 39 28.1	-0.1
	0.1nm,0.3s,baz=357,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**22.58**	**179**	P		P	07 40 08.5	+0.2
	0.4nm,0.6s,baz=5.2,slow=11,SNR=6.4							
MKAR	**Makanchi Array**	**65.34**	**324**	P		P	07 45 50.2	-0.1
	0.5nm,0.8s,baz=108,slow=8.1,SNR=4.5							

IDC 07 08:01:09.2 ± 3.1, **4°.64S** × **126°.81E**, **h394**km ± 37km, **mb2.8/3, mb1 3.0/4, mb1mx2.8/18, mbtmp2.9/4, Error ellipse: s-maj=115.0km s-min=16.2km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**16.89**	**155**	P		P	08 04 42.2	-0.1
	0.7nm,0.3s,baz=332,slow=10,SNR=26							
WRA				S		S	08 07 35.7	-3.0
	0.2nm,0.3s,baz=335,slow=21,SNR=5.7							
ASAR	**Alice Springs**	**20.12**	**161**	P		P	08 05 15.3	+0.1
	1.5nm,0.4s,baz=334,slow=10,SNR=32							
ASAR				S		S	08 08 37.4	+1.1
	0.9nm,0.8s,baz=344,slow=22,SNR=6.9							
STKA	**Stephens Creek**	**30.44**	**155**	P		P	08 06 47.5	+0.3
	1.1nm,0.5s,baz=332,slow=11,SNR=5.9							
MKAR	**Makanchi Array**	**64.54**	**328**	P		P	08 11 05.5	-0.2
	0.1nm,0.4s,baz=119,slow=7.9,SNR=4.6							

*DJA **07** 08:30:27, 1°.56S × 129°.97E, h14km, MLv3.5/3*

IDC 07 08:30:25.5 ± 1.9, **0°.33S** × **132°.23E**, **h0**km, **mb3.8/4, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=99.8km s-min=20.1km az=75.0, Irian Jaya region**

| Code | Station Name |

POWZ	**Post Office Ro**	**8.75**	202	SN		**S**	08 44 18.5	-5.0	
BFZ	**Birch Farm**	**8.87**	199	PN		Pn	08 42 42.4	-3.6	
MRZ	**Mangatainoka R**	**9.06**	202	PN		Pn	08 42 44.3	-4.1	
OGWZ	**Otaki Gorge**	**9.33**	204	PN		Pn	08 42 47.4	-4.4	
OGWZ				SN		S	08 44 30.3	-6.8	
CAW	**Cannon Point**	**9.63**	203	SN		S	08 44 37.3	-6.6	
PAWZ	**Paruwai Farm**	**9.76**	201	*e*SN		S	08 44 36.4	-11	
TCW	**Tory Channel**	**10.00**	206	*e*PN		Pn	08 42 56.3	-3.9	
TCW				SN		S	08 44 45.2	-7.4	
NNZ	**Nelson**	**10.36**	209	PN		**Pn**	**08 43 02.0**	**-2.8**	
KHZ	**Kahutara**	**11.32**	206	*e*Pn		**Pn**	**08 43 16.0**	**-0.9**	
KHZ	**Kahutara**	**11.32**	206	*e*PN		Pn	08 43 12.4	-4.4	
DSZ	**Denniston Nort**	**11.48**	213	*e*PN		Pn	08 43 14.5	-4.4	
MQZ	**McQueen's Vall**	**12.76**	205	*e*PN		Pn	08 43 30.6	-4.1	
MQZ				SN		S	08 45 44.0	-12	
RPZ	**Rata Peaks**	**13.39**	210	P		**Pn**	**08 43 39.9**	**-2.7**	
	8.8nm,0.3s,baz=35,slow=1.1,SNR=18								
RPZ				S		S	08 45 59.1	-12	
	10.0nm,0.3s,baz=321,slow=21,SNR=14								
RPZ	**Rata Peaks**	**13.39**	210	P		**Pn**	**08 43 39.9**	**-2.7**	
RPZ				*e*Pn		**P**	**08 43 43.0**	**-1.0**	
RPZ				S		S	08 45 59.1	-12	
FOZ	**Fox Glacier**	**13.87**	213	PN		Pn	08 43 44.0	-4.4	
FOZ				SN		S	08 46 06.8	-15	
ODZ	**Otahua Downs**	**14.65**	207	*e*P		**Pn**	**08 43 57.3**	**-0.5**	
MSVF	**Nonsavu**	**14.68**	352	*e*P		**Pn**	**08 43 58.3**	**-0.2**	
MSVF	**Nonsavu**	**14.68**	352	*e*Pn		**Pn**	**08 43 58.3**	**-0.2**	
MSVF	**Nonsavu**	**14.68**	352	P		**P**	**08 43 59.6**	**+1.1**	
	943nm,0.8s,SNR=7.3								
WKZ	**Wanaka**	**15.16**	212	*e*PN		**P**	**08 43 59.9**	**-3.6**	
PLUM	**Mont Dore**	**15.62**	307	*e*P		**Pn**	**08 44 11.2**	**+1.6**	
DZM	**Mont Dzumac**	**15.89**	307	*e*P		**Pn**	**08 44 13.8**	**+0.8**	
	2µm,1.1s								
DZM	**Mont Dzumac**	**15.89**	307	P		**Pn**	**08 44 15.4**	**+2.4**	
	8.1nm,0.3s,baz=121,slow=14,SNR=78								
DZM	**Mont Dzumac**	**15.89**	307	*e*P		**Pn**	**08 44 13.7**	**+0.8**	
DZM	**Mont Dzumac**	**15.89**	307	*e*P		**Pn**	**08 44 13.9**	**+1.0**	
	732nm,0.9s								
DZM				P		**Pn**	**08 44 15.4**	**+2.4**	
NOUC	**Port Laguerre**	**15.96**	306	*e*P		**Pn**	**08 44 14.2**	**+0.5**	
AFI	**Afiamalu**	**19.80**	24	P		**P**	**08 44 54.4**	**+0.2**	
	1.1nm,0.3s,baz=275,slow=16,SNR=3.5								
AFI				S		S	08 48 15.7	-8.1	
	17nm,0.3s,baz=188,slow=23,SNR=7.3								
AFI	**Afiamalu**	**19.80**	24	P		**P**	**08 44 54.4**	**+0.2**	
AFI				S		S	08 48 15.7	-8.1	
AFI	**Afiamalu**	**19.80**	24	P		**P**	**08 44 54.4**	**+0.2**	
AFI				S		S	08 48 15.7	-8.1	
RAR	**Rarotonga**	**21.07**	63	P		**P**	**08 45 07.5**	**+0.1**	
	28nm,0.9s,baz=213,slow=8.9,SNR=6.3								
RAR	**Rarotonga**	**21.07**	63	P		**P**	**08 45 07.5**	**+0.1**	
RAR	**Rarotonga**	**21.07**	63	P		**P**	**08 45 07.5**	**+0.1**	
RAR				*e*P		**P**	**08 45 07.7**	**+0.3**	
ARMA	**Armidale**	**24.37**	267	⇑*i*P		**P**	**08 45 41.3**	**+3.5**	
ARMA	**Armidale**	**24.37**	267	*e*P		**P**	**08 45 41.5**	**+3.6**	
	180nm,1.7s								
CNB	**Canberra Magne**	**25.67**	255	*e*P		**P**	**08 45 52.4**	**+3.0**	
	159nm,1.1s								
CNB				*e*			08 52 25.7		
EIDS	**Eidsvold**	**26.31**	278	*e*P		**P**	**08 45 57.0**	**+1.8**	
	129nm,1.0s								
TOO	**Toolangi**	**28.75**	250	*e*P		**P**	**08 46 19.4**	**+2.7**	
	167nm,1.0s								
TOO				*e*			08 52 34.4		
PAE	**Paea**	**30.98**	69	*e*P		**P**	**08 46 37.2**	**+0.7**	
	14nm,0.9s								
PPT2	**Papeete2**	**31.02**	69	*e*P		**P**	**08 46 37.7**	**+0.7**	
	65nm,1.0s								
TIAR	**Tiarei**	**31.23**	69	*e*P		**P**	**08 46 39.3**	**+0.6**	
	224nm,0.8s								
MEH	**Mehetia**	**32.07**	71	*e*P		**P**	**08 46 47.3**	**+1.3**	
	117nm,1.2s								
STKA	**Stephens Creek**	**32.52**	260	P		**P**	**08 46 51.8**	**+2.0**	
	36nm,0.8s,baz=94,slow=9.1,SNR=45								
STKA				ScP		**ScP**	**08 52 47.2**	**-3.3**	
	4.8nm,0.9s,baz=74,slow=2.7,SNR=4.0								
STKA	**Stephens Creek**	**32.52**	260	⇑*i*P		**P**	**08 46 51.7**	**+2.0**	
	31nm,0.9s								
STKA				*e*			08 52 47.0		
STKA	**Stephens Creek**	**32.52**	260	P		**P**	**08 46 51.8**	**+2.0**	
STKA	**Stephens Creek**	**32.52**	260	P		**P**	**08 46 51.8**	**+2.0**	
STKA				ScP		**ScP**	**08 52 47.2**	**-3.3**	
CTA	**Charters Tower**	**32.61**	284	P		**P**	**08 46 52.5**	**+1.8**	
	103nm,0.8s,baz=106,slow=11,SNR=82								
CTA				S		**S**	**08 51 49.8**	**+1.8**	
	18nm,1.1s,baz=14,slow=23,SNR=14								
CTA	**Charters Tower**	**32.61**	284	⇑*i*P		**P**	**08 46 52.3**	**+1.6**	
	82nm,0.8s								
CTA				*e*			08 51 50.7		
CTA	**Charters Tower**	**32.61**	284	P		**P**	**08 46 52.5**	**+1.8**	
CTA				S		**S**	**08 51 49.8**	**+1.8**	
CTA	**Charters Tower**	**32.61**	284	P		**P**	**08 46 52.5**	**+1.8**	
CTA				S		**S**	**08 51 49.8**	**+1.8**	
CTAO	**Charters Tower**	**32.61**	284	*e*P		**P**	**08 46 52.5**	**+1.8**	
CTAO				pmax		pmax			
	comp=Z,137nm,0.9s								
CTAO	**Charters Tower**	**32.61**	284	*e*P		**P**	**08 46 52.5**	**+1.8**	
	comp=Z,137nm,0.9s								
PMOR	**Pomariorio Ree**	**33.83**	67	*e*P		**P**	**08 47 01.7**	**+0.5**	
	comp=Z,126nm,1.4s								
TARA	**Tarawa**	**34.22**	347	*e*P		**P**	**08 47 01.9**	**-2.6**	
	comp=Z,7.9nm,0.5s								
BBOO	**Buckleboo**	**36.93**	257	*e*P		**P**	**08 47 27.8**	**+0.4**	
	comp=Z,595nm,0.8s								
PMG	**Port Moresby**	**38.08**	299	P		**P**	**08 47 37.9**	**+0.7**	
	comp=Z,85nm,0.9s,baz=117,slow=4.7,SNR=30								
PMG	**Port Moresby**	**38.08**	299	*c i*P		**P**	**08 47 37.8**	**+0.6**	
PMG				pmax		pmax			
	comp=Z,132nm,1.1s								
PMG	**Port Moresby**	**38.08**	299	*e*P		**P**	**08 47 37.6**	**+0.4**	
	comp=Z,92nm,0.9s								
PMG				P		**P**	**08 47 37.9**	**+0.7**	
COEN	**Coen**	**38.34**	290	*e*P		**P**	**08 47 40.4**	**+1.0**	
	comp=Z,631nm,0.9s								
RKT	**Rikitea**	**40.55**	89	*e*P		**P**	**08 48 00.4**	**+2.9**	
	comp=Z,96nm,1.3s								
AS31	**Alice Springs**	**41.45**	270	*e*P		**P**	**08 48 05.2**	**+0.3**	
ASAR	**Alice Springs**	**41.45**	270	P		**P**	**08 48 05.3**	**+0.4**	
	comp=Z,76nm,0.9s,baz=110,slow=7.6,SNR=289								
ASAR				pP		**pP**	**08 48 58.1**	**+2.2**	
	comp=Z,8.6nm,0.8s,baz=107,slow=7.5,SNR=1.7								
ASAR				ScP		**ScP**	**08 53 20.2**	**-3.9**	
	comp=Z,2.0nm,0.9s,baz=126,slow=4.7,SNR=4.3								
ASAR				S		**S**	**08 53 59.9**	**-1.5**	
	comp=Z,21nm,1.0s,baz=112,slow=15,SNR=23								
ASAR	**Alice Springs**	**41.45**	270	P		**P**	**08 48 05.3**	**+0.4**	
ASAR				*PP		**pP**	**08 48 58.1**	**+2.2**	
ASAR				S		**S**	**08 53 59.9**	**-1.5**	
ASAR	**Alice Springs**	**41.45**	270	P		**P**	**08 48 05.3**	**+0.4**	
ASAR				pP		**pP**	**08 48 58.1**	**+2.2**	
ASAR				ScP		**ScP**	**08 53 20.2**	**-3.9**	
ASAR				S		**S**	**08 53 59.9**	**-1.5**	
DRV	**Dumont d'Urvil**	**41.72**	203	P		P	08 48 16.0	+10	
DRV	**Dumont d'Urvil**	**41.72**	203	PP		PP	08 49 49.0	+0.8	
DRV				S		S	08 54 16.0	+12	
DRV				SS		ScS	08 57 31.0	-10	
DRV				L		L	08 58 00.0		
DRV				R			09 01 00.0		
WB2	**Warramunga Arr**	**42.61**	275	*e*P		**P**	**08 48 14.4**	**+0.2**	
WRAB	**Tennant Creek**	**42.61**	275	*e*P		**P**	**08 48 14.4**	**+0.1**	
WRAB				pmax		pmax			
	comp=Z,142nm,0.9s								
WRAB	**Tennant Creek**	**42.61**	275	*e*P		**P**	**08 48 14.3**	**+0.1**	
	comp=Z,142nm,0.9s								
WRAB	**Tennant Creek**	**42.61**	275	P		**P**	**08 48 14.0**	**-0.3**	
	comp=Z,862nm,0.7s								
WRA	**Warramunga Arr**	**42.62**	275	P		**P**	**08 48 14.5**	**+0.2**	
	comp=Z,55nm,0.2s,baz=112,slow=8.3,SNR=432								
WRA				ScP		**ScP**	**08 53 25.7**	**-3.1**	
	comp=Z,17nm,1.0s,baz=118,slow=3.9,SNR=26								
WRA				S		**S**	**08 54 17.5**	**-1.1**	
	comp=Z,13nm,0.9s,baz=116,slow=14,SNR=11								
WRA	**Warramunga Arr**	**42.62**	275	P		**P**	**08 48 14.5**	**+0.2**	
WRA				S		**S**	**08 54 17.5**	**-1.1**	
WRA	**Warramunga Arr**	**42.62**	275	P		**P**	**08 48 14.5**	**+0.2**	
WRA				ScP		**ScP**	**08 53 25.7**	**-3.1**	
WRA				S		**S**	**08 54 17.4**	**-1.1**	
FORT	**Forrest**	**44.02**	258	*e*P		**P**	**08 48 25.2**	**-0.2**	
	comp=Z,43nm,1.1s								
FITZ	**Fitzroy Crossi**	**50.79**	272	P		**P**	**08 49 17.6**	**+0.1**	
	comp=Z,19nm,0.9s,baz=137,slow=6.9,SNR=43								
FITZ				ScP		**ScP**	**08 53 59.9**	**-3.2**	
	comp=Z,14nm,1.0s,baz=128,slow=6.6,SNR=5.1								
FITZ				S		**S**	**08 56 13.3**	**-0.8**	
	comp=Z,7.5nm,1.0s,baz=236,slow=21,SNR=3.6								
FITZ	**Fitzroy Crossi**	**50.79**	272	*e*P		**P**	**08 49 17.3**	**-0.2**	
	comp=Z,38nm,1.0s								
FITZ	**Fitzroy Crossi**	**50.79**	272	*e*P		**P**	**08 49 17.2**	**-0.3**	
	comp=Z,77nm,1.5s								
FITZ				P		**P**	**08 49 17.6**	**+0.1**	
FITZ				ScP		**ScP**	**08 53 59.9**	**-3.2**	
FITZ				S		**S**	**08 56 13.3**	**-0.8**	
KLBR	**Kellerberrin**	**52.22**	253	⇑*i*P		**P**	**08 49 27.0**	**-0.9**	
	comp=Z,81nm,1.4s								
NWAO	**Narrogin (SRO)**	**52.22**	251	P		**P**	**08 49 27.9**	**0.0**	
	comp=Z,12nm,0.9s,baz=82,slow=5.1,SNR=3.6								
NWAO	**Narrogin (SRO)**	**52.22**	251	P		**P**	**08 49 27.9**	**0.0**	
NWAO	**Narrogin (SRO)**	**52.22**	251	P		**P**	**08 49 27.9**	**0.0**	
MBWA	**Marble Bar**	**54.45**	266	*e*P		**P**	**08 49 43.3**	**-0.9**	
	comp=Z,28nm,1.1s								
QSPA	**South Pole Qui**	**57.76**	180	P		**P**	**08 50 10.0**	**+2.9**	
	comp=Z,86nm,0.9s,baz=25,slow=4.0,SNR=110								
QSPA				ScP		**ScP**	**08 54 30.9**	**-2.0**	
	comp=Z,5.0nm,0.9s,baz=63,slow=4.1,SNR=3.7								
QSPA				S		**S**	**08 57 50.4**	**+4.4**	
	comp=Z,1.5nm,0.4s,baz=188,slow=20,SNR=14								
QSPA	**South Pole Qui**	**57.76**	180	*e*P		**P**	**08 50 09.5**	**+2.4**	
	comp=Z,100nm,1.0s								
QSPA				P		**P**	**08 50 10.0**	**+2.9**	
QSPA				ScP		**ScP**	**08 54 30.9**	**-2.0**	
QSPA				S		**S**	**08 57 50.4**	**+4.4**	
MAW	**Mawson**	**69.91**	201	P		**P**	**08 51 26.8**	**+1.0**	
	comp=Z,6.0nm,0.3s,baz=134,slow=6.2,SNR=37								
MAW	**Mawson**	**69.91**	201	*e*P		**P**	**08 51 26.3**	**+0.5**	
	comp=Z,4.8nm,0.3s								
MAW	**Mawson**	**69.91**	201	*e*P		**P**	**08 51 26.3**	**+0.5**	
MAW				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MAW	**Mawson**	**69.91**	201	*e*P		**P**	**08 51 26.3**	**+0.5**	
	comp=Z,3.1nm,0.8s								
MAW				P		**P**	**08 51 26.8**	**+1.0**	
SYO	**Syowa Base**	**74.84**	194	⇑*e*P		**P**	**08 51 53.0**	**-1.8**	
SNAA	**Sanae**	**76.24**	179	*e*		**P**	**08 52 05.3**	**+2.5**	
SNAA	**Sanae**	**76.24**	179	*e*P		**P**	**08 52 04.8**	**+1.9**	
SNAA				pmax		pmax			
	comp=Z,66nm,1.1s								
SNAA	**Sanae**	**76.24**	179	*e*P		**P**	**08 52 04.8**	**+1.9**	
	comp=Z,66nm,1.1s								
VNA3	**Neumayer Olymp**	**76.46**	177	*e*		**P**	**08 52 05.3**	**+1.3**	
MAIT	**Maitri**	**76.82**	184	*e*P		**P**	**08 52 07.9**	**+1.9**	
NVL	**N'lazarevskaya**	**76.83**	184	*e*P		P	08 52 10.4	+4.4	
NVL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
VNA2	**Neumayer--Watz**	**76.87**	177	*e*		**P**	**08 52 08.0**	**+1.7**	
	baz=194,slow=4.9								
VNA1	**Neumayer--Stat**	**77.11**	177	*e*		**P**	**08 52 09.8**	**+2.2**	
MJAR	**Matsushiro Arr**	**78.96**	327	P		**P**	**08 52 17.3**	**-0.9**	
	comp=Z,10nm,0.9s,baz=169,slow=5.4,SNR=19								
MJAR	**Matsushiro Arr**	**78.96**	327	P		**P**	**08 52 17.3**	**-0.9**	
MJAR	**Matsushiro Arr**	**78.96**	327	P		**P**	**08 52 17.3**	**-0.9**	
MAJO	**Matsushiro**	**78.96**	327	P		**P**	**08 52 16.9**	**-1.3**	
MAJO				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MAJO	**Matsushiro**	**78.96**	327	P		**P**	**08 52 16.9**	**-1.3**	
	comp=Z,9.9nm,0.9s								
MAT	**Matsushiro**	**78.96**	327	P		**P**	**08 52 16.6**	**-1.6**	
MAT				S		**S**	**09 01 54.0**	**-1.9**	
PLCA	**Paso Flores**	**82.34**	134	P		**P**	**08 52 38.1**	**+1.8**	
	comp=Z,28nm,1.0s,baz=225,slow=5.7,SNR=35								
PLCA				PP		**PP**	**08 55 52.4**	**+4.2**	
	comp=Z,2.8nm,0.8s,baz=290,slow=4.2,SNR=4.9								
PLCA	**Paso Flores**	**82.34**	134	*e*P		**P**	**08 52 37.9**	**+1.6**	
PLCA							08 55 52.4		
PLCA				pmax		pmax			
	comp=Z,55nm,1.2s								
PLCA	**Paso Flores**	**82.34**	134	*e*P		**P**	**08 52 37.9**	**+1.6**	
	comp=Z,55nm,1.2s								
PLCA				PP		**PP**	**08 55 52.4**	**+4.2**	
ASAJ	**Asahikawa**	**83.45**	334	P		**P**	**08 52 42.5**	**+0.9**	
	baz=153,slow=2.3								
ASAJ	**Asahikawa**	**83.45**	334	*e*P		**P**	**08 52 39.6**	**-1.9**	
	comp=Z,13nm,1.3s								
QIZ	**Qiongzhong**	**84.40**	297	P		**P**	**08 52 48.4**	**+1.5**	
QIZ				S		**S**	**09 02 55.7**	**+3.6**	
QIZ				LR		LR			
	comp=Z,310nm,23.3s								
KSRS	**Korea Array**	**84.82**	321	P		**P**	**08 52 49.5**	**+0.9**	
	comp=Z,9.3nm,0.8s,baz=139,slow=5.4,SNR=21								
KSAR	**Wonju Array Be**	**84.83**	321	P		**P**	**08 52 49.5**	**+0.9**	
KSAR	**Wonju Array Be**	**84.83**	321	P		**P**	**08 52 49.5**	**+0.9**	
YSS	**Yuzh-Sakhalins**	**85.83**	335	⇓*e*P		**P**	**08 52 53.8**	**+0.5**	
YSS				pmax		pmax			
	comp=Z,40nm,1.0s								
YSS	**Yuzh-Sakhalins**	**85.83**	335	*e*P		**P**	**08 52 53.9**	**+0.7**	
	comp=Z,45nm,0.9s								
NJ2	**Nanjing**	**86.32**	312	*e*P		**P**	**08 52 58.8**	**+2.7**	
NJ2				pmax		pmax			
	comp=Z,40nm,1.3s								
SCI	**San Clemente I**	**86.98**	48	⇑P		**P**	**08 52 59.0**	**-0.3**	
	baz=87								
BSC	**Santa Cruz Isl**	**86.99**	46	⇓P		**P**	**08 53 00.4**	**+1.1**	
	baz=87								
SBC	**Santa Barbara**	**87.24**	46	⇑P		**P**	**08 53 01.4**	**+0.9**	
	baz=88								
PETK	**Petropavlovsk-**	**87.32**	347	P		**P**	**08 53 00.2**	**-0.2**	
	comp=Z,24nm,0.8s,baz=140,slow=7.7,SNR=19								
PETK	**Petropavlovsk-**	**87.32**	347	P		**P**	**08 53 00.2**	**-0.2**	
PETK	**Petropavlovsk-**	**87.32**	347	P		**P**	**08 53 00.2**	**-0.2**	
CIS	**Catalina Islan**	**87.35**	47	⇑P		**P**	**08 53 02.1**	**+1.0**	
	baz=88								
PKM	**Peak Mountain**	**87.49**	45	⇓P		**P**	**08 53 03.2**	**+1.3**	
	baz=88,SNR=7.0								
FMP	**Fort Macarthur**	**87.63**	47	⇑P		**P**	**08 53 03.4**	**+1.1**	
	baz=88								
SMMC	**Simmler**	**87.66**	45	⇑P		**P**	**08 53 03.9**	**+1.4**	
	baz=88								
109C	**Camp Elliot, M**	**87.83**	48	⇑P		**P**	**08 53 04.3**	**+1.0**	
	baz=88,SNR=6.9								
USRK	**Ussuriysk Arra**	**87.92**	328	P		**P**	**08 53 03.7**	**+0.3**	
	comp=Z,9.4nm,0.9s,baz=134,slow=2.7,SNR=22								
USRK				pP		**pP**	**08 54 06.3**	**+3.5**	
	comp=Z,2.9nm,0.9s,baz=116,slow=4.4,SNR=2.2								
DECC	**Green Verdugo**	**87.96**	47	⇓P		**P**	**08 53 04.7**	**+0.8**	
	baz=88								
OSI	**Osito Adit**	**87.96**	46	*e*P		**P**	**08 53 05.0**	**+1.1**	
	comp=Z,11nm,0.3s								
OSI	**Osito Adit**	**87.96**	46	⇑P		**P**	**08 53 05.0**	**+1.1**	
	baz=88								
BAR	**Barrett**	**87.97**	49	*e*P		**P**	**08 53 04.8**	**+0.8**	
	comp=Z,45nm,1.4s								
PASC	**Pasadena Art C**	**88.00**	47	*e*P		**P**	**08 53 04.6**	**+0.5**	
	comp=Z,33nm,1.3s								
MWC	**Mount Wilson**	**88.11**	47	*e*P		**P**	**08 53 05.5**	**+0.7**	
MWC				pmax		pmax			
	comp=Z,58nm,1.6s								
MWC	**Mount Wilson**	**88.11**	47	*e*P		**P**	**08 53 05.5**	**+0.7**	
	comp=Z,58nm,1.6s								
MURC	**Murrieta**	**88.23**	48	⇓P		**P**	**08 53 06.5**	**+1.3**	
	baz=88,SNR=14								
ARVC	**Arvin**	**88.24**	46	⇓P		**P**	**08 53 06.3**	**+1.1**	
	baz=88,SNR=8.8								
MONP	**Monument Peak**	**88.26**	49	⇓P		**P**	**08 53 07.2**	**+1.6**	
	baz=88,SNR=27								
DVTC	**Desert V Tower**	**88.32**	49	⇓P		**P**	**08 53 07.3**	**+1.6**	
	baz=88,SNR=6.9								
BFSC	**Mount Baldy Ra**	**88.37**	47	⇓P		**P**	**08 53 07.0**	**+1.0**	
	baz=89,SNR=31								
VES	**Vestal, Richgr**	**88.57**	45	⇑P		**P**	**08 53 07.3**	**+0.6**	
	baz=89,SNR=15								
EDW2	**Edwards Air Fo**	**88.59**	47	⇑P		**P**	**08 53 08.0**	**+1.1**	
	baz=89,SNR=30								
SWSC	**Sam W. Stewart**	**88.69**	49	⇓P		**P**	**08 53 08.8**	**+1.4**	
	baz=89,SNR=12								
PFO	**Pinyon Flat Ob**	**88.71**	48	*e*P		**P**	**08 53 08.0**	**+0.4**	
PFO				pmax		pmax			
	comp=Z,61nm,1.5s								
PFO	**Pinyon Flat Ob**	**88.71**	48	*e*P		**P**	**08 53 08.0**	**+0.4**	
	comp=Z,60nm,1.5s								
PFO	**Pinyon Flat Ob**	**88.71**	48	P		**P**	**08 53 08.0**	**+0.4**	
	comp=Z,152nm,0.8s,SNR=12								
PFO	**Pinyon Flat Ob**	**88.71**	48	⇑P		**P**	**08 53 08.8**	**+1.3**	
	baz=89,SNR=24								
RCTC	**Rector, Farmer**	**88.79**	45	⇑P		**P**	**08 53 09.0**	**+1.3**	
	baz=89								
ISA	**Isabella**	**88.81**	46	*e*P		**P**	**08 53 08.8**	**+0.8**	
ISA				pmax		pmax			
	comp=Z,38nm,1.0s								
ISA	**Isabella**	**88.81**	46	*e*P		**P**	**08 53 08.8**	**+0.8**	
	comp=Z,38nm,1.0s								
ISA	**Isabella**	**88.81**	46	⇑P		**P**	**08 53 09.1**	**+1.2**	
	baz=89,SNR=28								
BBRC	**Big Bear Solar**	**88.84**	48	⇓P		**P**	**08 53 09.1**	**+0.8**	
	baz=89								
LRMC	**Laurel Mountai**	**89.17**	46	⇓P		**P**	**08 53 10.8**	**+1.1**	
	baz=89,SNR=29								
TRQA	**Tornquist**	**89.18**	136	*e*P		**P**	**08 53 10.6**	**+0.8**	
	comp=Z,63nm,1.4s								
RRX	**Edison Barstow**	**89.20**	47	⇓P		**P**	**08 53 10.9**	**+1.2**	
	baz=89								
BELC	**Belle Mtn. Jos**	**89.25**	48	⇓P		**P**	**08 53 11.6**	**+1.5**	
	baz=90,SNR=17								
CMB	**Columbia Colle**	**89.29**	43	*e*P		**P**	**08 53 10.2**	**+0.1**	
CMB				pmax		pmax			
	comp=Z,58nm,1.4s								
CMB	**Columbia Colle**	**89.29**	43	*e*P		**P**	**08 53 10.2**	**+0.1**	
	comp=Z,58nm,1.4s								
MDJ	**Mudanjiang**	**89.34**	327	P		**P**	**08 53 10.4**	**+0.3**	
MDJ				pmax		pmax			
	comp=Z,14nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,67nm,4.5s								
BC3	**Big Chuckawall**	**89.38**	49	⇑P		**P**	**08 53 12.4**	**+1.7**	
	baz=90,SNR=26								
GLA	**Glamis**	**89.39**	50	*e*P		**P**	**08 53 12.2**	**+1.5**	
GLA				pmax		pmax			
	comp=Z,59nm,0.8s								
GLA	**Glamis**	**89.39**	50	*e*P		**P**	**08 53 12.2**	**+1.5**	
	comp=Z,59nm,0.8s								
GLA	**Glamis**	**89.39**	50	⇓P		**P**	**08 53 12.5**	**+1.8**	
	baz=90,SNR=19								
CWC	**Cottonwood Cre**	**89.57**	45	⇑P		**P**	**08 53 12.3**	**+0.7**	
	baz=90								
HEC	**Hector,Ludlow**	**89.58**	47	⇓P		**P**	**08 53 12.7**	**+1.1**	
	baz=90,SNR=8.8								
GSC	**Goldstone**	**89.60**	47	*e*P		**P**	**08 53 12.4**	**+0.8**	
GSC				pmax		pmax			
	comp=Z,28nm,1.0s								
GSC	**Goldstone**	**89.60**	47	*e*P		**P**	**08 53 12.4**	**+0.8**	
	comp=Z,28nm,1.0s								
GSC	**Goldstone**	**89.60**	47	⇓P		**P**	**08 53 12.7**	**+1.1**	
	baz=90,SNR=16								
MPMC	**Manual Prospec**	**89.68**	46	⇑P		**P**	**08 53 13.1**	**+0.9**	
	baz=90,SNR=11								
WDC	**Whiskeytown Da**	**89.84**	40	*e*P		**P**	**08 53 13.1**	**+0.6**	
WDC				pmax		pmax			
	comp=Z,62nm,1.5s								
WDC	**Whiskeytown Da**	**89.84**	40	*e*P		**P**	**08 53 13.1**	**+0.6**	
	comp=Z,62nm,1.5s								
TIN	**Tinemaha**	**89.89**	45	⇓P		**P**	**08 53 13.8**	**+0.8**	
	baz=90								
IRM	**Iron Mountain**	**89.89**	49	⇓P		**P**	**08 53 14.7**	**+1.7**	
	baz=90,SNR=43								
113A	**Mohawk Valley,**	**89.90**	50	⇑P		**P**	**08 53 14.6**	**+1.6**	
	baz=90								
MLAC	**Mammoth Lakes**	**89.92**	44	⇑P		**P**	**08 53 14.3**	**+1.0**	
	baz=90								
GMRC	**Granite Mounta**	**89.97**	48	⇑P		**P**	**08 53 14.7**	**+1.3**	
	baz=90,SNR=14								
HABR	**Khabarovsk**	**89.99**	332	*ce*P		**P**	**08 53 11.3**	**-1.7**	
HABR				*PP		**pP**	**08 54 12.6**	**0.0**	
HABR				*e*SP		**sP**	**08 54 37.8**	**-0.4**	
HABR							08 56 47.6		
HABR				*e*S		**SKSac**	**09 03 16.8**	**-2.8**	
HABR				*e*			09 03 45.2		
HABR				MLR		MLR			
	com

CMAR pP **pP** **08 54 28.8 +3.6**
CMAR PP **PP** **08 57 09.5 -1.3**
Z18A Geronimo **92.55 52** ⇑P **P** **08 53 27.0 +1.7**
baz=93
BMN Battle Mountai **92.72 43** *e*P **P** **08 53 26.4 +0.3**
BMN pmax pmax
comp=Z,29nm,1.3s
BMN Battle Mountai **92.72 43** *e*P **P** **08 53 26.4 +0.3**
comp=Z,29nm,1.3s
X17A Forest Lakes **92.81 51** ⇓P **P** **08 53 27.8 +1.1**
baz=93
119A Ashpeak Ranch, **92.85 53** ⇓P **P** **08 53 28.3 +1.4**
baz=93
220A Playas Peak, P **92.87 54** ⇑P **P** **08 53 28.5 +1.6**
baz=93,SNR=6.5
Y18A Canyon Day Jun **92.97 52** ⇓P **P** **08 53 29.3 +1.9**
baz=93,SNR=11
U15A North Rim **93.14 48** ⇑P **P** **08 53 29.9 +1.6**
baz=93
WUAZ Wupatki **93.16 49** *e*P **P** **08 53 29.2 +0.9**
comp=Z,11nm,1.1s
WUAZ Wupatki **93.16 49** ⇓P **P** **08 53 29.4 +1.2**
baz=93,SNR=8.0
CCUT Cedar City **93.17 47** *e*P **P** **08 53 29.1 +0.8**
comp=Z,18nm,1.5s
120A U Bar Ranch, L **93.17 53** ⇓P **P** **08 53 29.8 +1.5**
baz=93,SNR=7.8
R13A O'Grain Ranch, **93.19 46** ⇓P **P** **08 53 29.6 +1.2**
baz=93
Z19A T-Link Ranch, **93.19 52** ⇓P **P** **08 53 29.8 +1.4**
baz=93
ARUT Antelope Range **93.27 47** *e*P **P** **08 53 29.1 +0.4**
ARUT pmax pmax
comp=Z,4.0nm,0.9s
ARUT Antelope Range **93.27 47** *e*P **P** **08 53 29.1 +0.4**
comp=Z,4.3nm,0.9s
KMI Kunming **93.28 298** P P 08 53 34.3 +5.2
KMI pmax pmax
comp=Z,16nm,1.2s
X18A Snowflake **93.48 51** ⇑P **P** **08 53 31.1 +1.3**
baz=94
Z20A Nine Sixteen R **93.54 53** ⇑P **P** **08 53 31.7 +1.7**
baz=94,SNR=6.1
V17A Tonalea, Kykot **93.60 50** ⇑P **P** **08 53 31.4 +1.1**
baz=94,SNR=5.6
Y19A Nutrioso **93.60 52** ⇓P **P** **08 53 31.8 +1.4**
baz=94
U16A Tuba City **93.70 49** ⇑P **P** **08 53 31.9 +1.2**
baz=94
121A Cookes Peak, D **93.74 54** ⇓P **P** **08 53 32.1 +1.1**
baz=94
I07A Izee **93.89 39** ⇑P **P** **08 53 32.0 +0.7**
baz=94
J08A Circle Bar Ran **93.95 40** ⇓P **P** **08 53 32.5 +0.9**
baz=94
W18A Petrified Fore **93.98 51** ⇑P **P** **08 53 33.4 +1.4**
baz=94
ELK Elko **94.07 43** *e*P **P** **08 53 32.3 0.0**
ELK Elko **94.07 43** *e*P **P** **08 53 32.3 0.0**
Y20A Horse Springs, **94.16 52** ⇓P **P** **08 53 34.4 +1.4**
baz=94,SNR=6.3
W19A Sanders **94.20 51** ⇓P **P** **08 53 34.3 +1.3**
baz=94
V18A Ganado **94.21 50** ⇑P **P** **08 53 34.6 +1.5**
baz=94
R15A Junction **94.25 47** ⇑P **P** **08 53 35.0 +1.8**
baz=94
Z21A St. Cloud Mine **94.28 53** ⇑P **P** **08 53 35.2 +1.8**
baz=94
S16A Weppner Ranch, **94.37 48** ⇓P **P** **08 53 34.7 +0.9**
baz=95
NNA Nana **94.41 107** *i* P **P** **08 53 36.9 +2.5**
T17A Navajo Res., N **94.43 49** ⇑P **P** **08 53 35.6 +1.6**
baz=95
X20A Quemado **94.45 52** ⇓P **P** **08 53 35.7 +1.5**
baz=95,SNR=5.4
MSU Marysvale **94.50 47** *e*P **P** **08 53 35.2 +0.9**
MSU pmax pmax
comp=Z,5.0nm,1.2s
MSU Marysvale **94.50 47** *e*P **P** **08 53 35.2 +0.9**
comp=Z,5.2nm,1.2s
626A Big Bend Ranch **94.58 58** ⇓P **P** **08 53 35.8 +1.0**
baz=95,SNR=6.0
425A Indio Mountain **94.67 56** ⇑P **P** **08 53 35.9 +0.6**
baz=95
U18A Rough Rock, Ch **94.67 50** ⇑P **P** **08 53 36.1 +0.9**
baz=95
Y21A Point of Rocks **94.69 53** ⇑P **P** **08 53 37.0 +1.6**
baz=95
324A Moseley Ranch, **94.70 56** ⇓P **P** **08 53 36.4 +1.0**
baz=95
Z22A Elephant Butte **94.73 53** ⇑P **P** **08 53 36.8 +1.3**
baz=95
TXAR Lajitas Array **94.79 58** P **P** **08 53 36.4 +0.6**
comp=Z,3.4nm,0.9s,baz=211,slow=6.2,SNR=25
TXAR PP **PP** **08 57 27.2 -1.1**
comp=Z,0.4nm,0.9s,baz=241,slow=5.0,SNR=3.2
TXAR Lajitas Array **94.79 58** P **P** **08 53 36.4 +0.6**
TXAR 08 57 27.2
TXAR Lajitas Array **94.79 58** P **P** **08 53 36.4 +0.6**
TXAR PP **PP** **08 57 27.2 -1.1**
W20A Ramah **94.80 51** ⇑P **P** **08 53 37.1 +1.2**
baz=95,SNR=9.6
S17A Black Ridge (B **94.82 48** ⇓P **P** **08 53 36.7 +0.9**
baz=95
X21A Alamocita Cree **94.87 52** ⇑P **P** **08 53 37.7 +1.5**
baz=95
526A Mary Lane Ranc **94.90 58** ⇑P **P** **08 53 36.9 +0.6**
baz=95,SNR=7.6
MNTX Cornudas Mount **94.92 56** *e*P **P** **08 53 36.2 0.0**
comp=Z,0.9nm,0.6s
MNTX Cornudas Mount **94.92 56** ⇓P **P** **08 53 36.8 +0.6**
baz=95,SNR=6.4
MNTX ⇓P **P** **08 53 36.8 +0.6**
baz=95,SNR=6.4
325A Bean Ranch, Si **95.02 56** ⇑P **P** **08 53 37.3 +0.4**
baz=95
U19A Dine' College, **95.03 50** ⇓P **P** **08 53 38.2 +1.3**
baz=95
224A Cornudas Mount **95.03 55** ⇓P **P** **08 53 37.5 +0.6**
baz=95
627A Terlingua Ranc **95.06 58** ⇑P **P** **08 53 37.9 +0.9**
baz=95,SNR=9.2
T18A Mexican Hat **95.10 49** ⇑P **P** **08 53 38.3 +1.2**
baz=95
426A McDonald Obser **95.28 57** ⇑P **P** **08 53 38.6 +0.5**
baz=96
628A Black Gap, Mar **95.44 59** ⇓P **P** **08 53 39.2 +0.5**
baz=96,SNR=6.9
MFID Camas Ranch **95.45 41** ⇑P **P** **08 53 39.2 +0.7**
baz=96
CD2 Chengdu **95.78 303** P **P** **08 53 42.7 +2.5**
CD2 pP **pP** **08 54 39.2 -0.8**
CD2 sP **sP** **08 55 03.1 -2.4**
CD2 PP **PP** **08 57 40.4 +4.5**
CD2 SKS **SKSac** **09 03 55.4 +2.9**
CD2 S **ScS** **09 04 37.3 +0.7**
CD2 sS **sS** **09 06 17.2 -4.8**
CD2 SS **SS** **09 11 17.6 +4.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,160nm,4.8s
427A Hayter Ranch, **95.83 57** ⇑P **P** **08 53 41.1 +0.6**
baz=96,SNR=7.6
R18A Canyonlands Na **95.84 48** ⇓P **P** **08 53 41.3 +0.8**
baz=96
P17A Butcher Ranch, **95.97 47** ⇓P **P** **08 53 42.1 +1.2**
baz=96
L14A Malta **96.05 43** ⇓P **P** **08 53 42.3 +1.0**
baz=96
ANMO Albuquerque **96.05 52** P **P** **08 53 42.1 +0.6**
comp=Z,1.4nm,0.9s,baz=214,slow=7.5,SNR=4.5
ANMO PP **PP** **08 57 36.5 -1.5**
comp=Z,0.4nm,0.4s,baz=209,slow=7.3,SNR=3.9
ANMO Albuquerque **96.05 52** P **P** **08 53 42.1 +0.6**
ANMO 08 57 36.5
ANMO Albuquerque **96.05 52** P **P** **08 53 42.1 +0.6**
ANMO PP **PP** **08 57 36.5 -1.5**
I12A Atlanta **96.08 41** ⇑P **P** **08 53 42.1 +0.7**
baz=96
U21A Nageezi **96.11 51** ⇓P **P** **08 53 42.8 +1.0**
baz=96
Q18A Rafter H Ranch **96.12 47** ⇑P **P** **08 53 42.2 +0.6**
baz=96
Y24A Capitan **96.15 54** ⇓P **P** **08 53 42.8 +0.8**
baz=96

M15A Larsen Ranch, **96.16 44** ⇑P **P** **08 53 42.8 +1.0**
baz=96
Z25A Roswell **96.28 55** ⇑P **P** **08 53 43.4 +0.9**
baz=96
HLID Hailey **96.33 42** ⇑P **P** **08 53 43.7 +1.1**
baz=97
J13A Cove Ranch, Pi **96.36 42** ⇑P **P** **08 53 43.9 +1.3**
baz=97
K14A Jones Ranch, D **96.40 43** ⇑P **P** **08 53 43.6 +0.8**
baz=97
O17A Robinson Place **96.41 46** ⇑P **P** **08 53 44.5 +1.5**
baz=97
HHC Hu-ho-hao-te **96.45 315** *e*P **P** **08 53 45.2 +2.2**
HHC pP **pP** **08 54 44.0 +1.2**
HHC sP **sP** **08 55 06.6 -1.8**
HHC PP PP 08 57 47.1 +6.2
HHC SKS **SKSac** **09 04 01.8 +6.2**
HHC S **ScS** **09 04 44.6 +2.7**
HHC sS **sS** **09 06 24.0 -3.5**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,87nm,5.2s
L15A Malad City **96.53 44** ⇑P **P** **08 53 44.0 +0.5**
baz=97
H12A Diamond D Ranc **96.71 41** ⇑P **P** **08 53 45.3 +1.1**
baz=97
Z26A Caprock **96.78 55** ⇑P **P** **08 53 45.0 +0.3**
baz=97
H13A Challis **97.05 41** ⇓P Pdif 08 53 46.8 +1.0
baz=97
I14A Mackay **97.11 42** ⇑P Pdif 08 53 47.3 +1.2
baz=97
Q20A Ridgley Place, **97.18 48** ⇑P Pdif 08 53 47.5 +1.0
baz=97
J15A Blackfoot **97.36 43** ⇑P Pdif 08 53 48.8 +1.6
baz=98
K16A Soda Springs **97.50 44** ⇓Pdiff Pdif 08 53 49.0 +1.1
baz=98
W25A X Bar L Ranch, **97.55 53** ⇑Pdiff Pdif 08 53 48.8 +0.6
baz=98
Y27A Causey **97.69 55** ⇑Pdiff Pdif 08 53 49.2 +0.3
baz=98
K17A Gardner Place, **97.84 44** ⇑Pdiff Pdif 08 53 50.0 +0.6
baz=98
Q22A Crested Butte, **98.01 49** ⇓Pdiff Pdif 08 53 51.4 +1.0
baz=98
P21A Newcastle **98.05 48** ⇑Pdiff Pdif 08 53 51.2 +0.8
baz=98
I16A Newdale **98.19 43** ⇓Pdiff Pdif 08 53 51.5 +0.6
baz=98
K18A Toltan Ranch, **98.29 44** ⇑Pdiff **P** **08 53 52.5 +1.1**
baz=98
J17A Brown Place, J **98.33 44** ⇓Pdiff **P** **08 53 52.2 +0.6**
baz=99
TRF Thorofare Moun **98.34 13** *e*P Pdif 08 53 49.6 -1.4
comp=Z,4.5nm,0.7s
L19A Fason **98.38 45** ⇑Pdiff **P** **08 53 52.8 +0.9**
baz=99
G15A Dillon **98.41 41** ⇑Pdiff **P** **08 53 52.8 +1.0**
baz=99
LZH Lanzhou **98.61 307** *e*P P 08 53 56.3 +3.4
LZH pP pP 08 54 51.0 -1.8
LZH sP sP 08 55 14.2 -4.2
LZH pmax pmax
comp=Z,13nm,1.0s
PDAR Pinedale Array **98.66 45** P Pdif 08 53 52.9 -0.2
comp=Z,1.1nm,0.8s,baz=199,slow=2.7,SNR=9.4
PDAR PP **PP** **08 57 54.1 -3.8**
comp=Z,0.4nm,0.8s,baz=193,slow=5.9,SNR=4.1
PDAR Pinedale Array **98.66 45** P Pdif 08 53 52.9 -0.2
PDAR PP **PP** **08 57 54.1 -3.8**
LPAZ La Paz **98.78 116** P **P** **08 53 56.3 +1.5**
comp=Z,1.9nm,1.0s,baz=208,slow=8.5,SNR=6.2
LPAZ La Paz **98.78 116** P **P** **08 53 56.3 +1.5**
LPAZ La Paz **98.78 116** P **P** **08 53 56.3 +1.5**
L20A Wamsutter **98.94 46** ⇑Pdiff **P** **08 53 55.1 +0.8**
baz=99
ILAR Eielson Array **100.20 14** P **Pdif** **08 53 57.6 -1.4**
comp=Z,0.9nm,0.9s,baz=218,slow=5.6,SNR=4.0
ILAR PP **PP** **08 58 11.3 +2.6**
comp=Z,0.6nm,0.8s,baz=218,slow=7.8,SNR=3.7
ILAR PKiKP **PKiKP** **08 58 25.2 +0.3**
comp=Z,1.0nm,0.8s,baz=248,slow=2.6,SNR=8.1
ILAR Eielson Array **100.20 14** P **Pdif** **08 53 57.6 -1.4**
ILAR 08 58 11.3
ILAR Eielson Array **100.20 14** P **Pdif** **08 53 57.6 -1.4**
ILAR PP **PP** **08 58 11.3 +2.6**
ILAR PKiKP **PKiKP** **08 58 25.2 +0.3**
I21A Big Trails, Te **100.61 45** ⇑Pdiff **Pdif** **08 54 02.5 +0.9**
baz=101
I22A 9 Mile Ranch, **101.14 45** ⇓Pdiff **Pdif** **08 54 04.7 +0.8**
baz=101
SONM Songino Array **103.52 318** PKKPbc PKKPbc 09 10 07.5 0.0
comp=Z,2.2nm,0.9s,baz=278,slow=3.5,SNR=13
SONM Songino Array **103.52 318** PKKPbc PKKPbc 09 10 07.5 0.0
INK Inuvik **106.10 16** PKiKP **PKiKP** **08 58 34.2 -1.4**
comp=Z,0.8nm,0.9s,baz=48,slow=3.6,SNR=5.2
INK Inuvik **106.10 16** PKiKP **PKiKP** **08 58 34.2 -1.4**
TLY Talaya **107.07 321** *e*P **Pdif** **08 54 22.2 -7.8**
TLY pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar **107.90 26** PKiKP **PKiKP** **08 58 37.7 -1.4**
comp=Z,1.0nm,0.8s,baz=248,slow=1.5,SNR=16
YKA PP **PP** **08 59 09.3 +3.5**
comp=Z,0.3nm,0.9s,baz=229,slow=7.1,SNR=4.4
YKA PKKPbc **PKKPbc** **09 09 49.6 -4.8**
comp=Z,0.1nm,0.4s,baz=46,slow=3.2,SNR=6.2
YKA SKKPbc SKKPbc 09 13 08.1 -8.2
comp=Z,0.3nm,0.7s,baz=34,slow=2.8,SNR=6.8
YKA Yellowknife Ar **107.90 26** PKiKP **PKiKP** **08 58 37.8 -1.4**
YKA PP **PP** **08 59 09.3 +3.5**
YKA PKKPbc **PKKPbc** **09 09 49.6 -4.8**
YKA SKKPbc SKKPbc 09 13 08.1 -8.2
BOSA Boshof **114.83 204** PKP PKPdf 08 58 53.1 -0.6
comp=Z,2.4nm,0.7s,baz=211,slow=5.9,SNR=3.3
BOSA Boshof **114.83 204** PKIKP PKPdf 08 58 53.1 -0.6
BOSA Boshof **114.83 204** PKP PKPdf 08 58 53.1 -0.6
MKAR Makanchi Array **117.79 310** PKP **PKPdf** **08 58 57.0 -1.6**
comp=Z,1.9nm,0.8s,baz=80,slow=2.0,SNR=13
MKAR pPKP **pPKPdf** **09 00 02.9 +1.8**
comp=Z,1.1nm,0.9s,baz=127,slow=4.5,SNR=2.5
MKAR SKP **SKPdf** **09 02 07.2 -3.1**
comp=Z,1.6nm,0.9s,baz=77,slow=2.6,SNR=4.7
MKAR PKKPbc **PKKPbc** **09 09 21.4 +0.7**
comp=Z,1.8nm,0.8s,baz=288,slow=4.1,SNR=11
MKAR Makanchi Array **117.79 310** PKIKP **PKPdf** **08 58 57.0 -1.6**
MKAR 09 00 02.9
MKAR Makanchi Array **117.79 310** PKP **PKPdf** **08 58 57.0 -1.6**
MKAR pPKP **pPKPdf** **09 00 02.9 +1.8**
MKAR SKP **SKPdf** **09 02 07.2 -3.1**
MKAR PKKPbc **PKKPbc** **09 09 21.4 +0.7**
ZALV Zalesovo Beam **118.41 318** PKP **PKPdf** **08 58 57.4 -2.0**
comp=Z,1.7nm,0.6s,baz=90,slow=0.9,SNR=11
ZALV PP PP 09 00 26.3 +6.0
comp=Z,0.4nm,0.3s,baz=90,slow=3.1,SNR=3.7
ZALV SKP **SKPdf** **09 02 08.3 -2.8**
comp=Z,2.8nm,0.9s,baz=151,slow=0.7,SNR=5.9
ZALV Zalesovo Beam **118.41 318** PKIKP **PKPdf** **08 58 57.4 -2.0**
ZALV 09 00 26.3
ZALV Zalesovo Beam **118.41 318** PKP **PKPdf** **08 58 57.4 -2.0**
ZALV PP PP 09 00 26.3 +6.0
ZALV SKP **SKPdf** **09 02 08.3 -2.8**
RES Resolute Bay **119.59 18** PKP **PKPdf** **08 59 00.1 -1.0**
comp=Z,4.9nm,0.8s,baz=279,slow=2.8,SNR=13
RES SKP **SKPdf** **09 02 11.0 -1.8**
comp=Z,4.1nm,1.1s,baz=291,slow=5.1,SNR=4.5
RES Resolute Bay **119.59 18** *e*PKIKP **PKPdf** **08 58 59.4 -1.7**
RES Resolute Bay **119.59 18** *e*PKPdf **PKPdf** **08 58 59.4 -1.7**
RES PKP **PKPdf** **08 59 00.1 -1.0**
RES SKP **SKPdf** **09 02 11.0 -1.8**
TKM2 Tokmak 2 **121.15 304** *e*PKIKP **PKPdf** **08 59 03.9 -1.5**
TKM2 Tokmak 2 **121.15 304** *e*PKPdf **PKPdf** **08 59 03.9 -1.5**
KURK Kurchatov **121.23 313** pPKP **pPKPdf** **09 00 13.9 +6.3**
comp=Z,0.8nm,0.8s,baz=117,slow=1.8,SNR=1.7
KURK PP **PP** **09 00 37.0 -2.6**
comp=Z,1.5nm,0.9s,baz=105,slow=7.2,SNR=3.4
KURK SKP **SKPdf** **09 02 13.7 -2.9**
comp=Z,2.9nm,0.8s,baz=110,slow=2.3,SNR=8.6
KURK PKKPbc **PKKPbc** **09 09 08.8 +0.6**
comp=Z,3.6nm,1.0s,baz=286,slow=5.0,SNR=12
KURK Kurchatov **121.23 313** *e*PKIKP **PKPdf** **08 59 02.8 -2.1**
KURK 09 00 37.0
KURK Kurchatov **121.23 313** *e*PKPdf **PKPdf** **08 59 02.8 -2.1**
KURK pPKP **pPKPdf** **09 00 13.9 +6.3**
KURK PP **PP** **09 00 37.0 -2.6**

KURK SKP **SKPdf** **09 02 13.7 -2.9**
KURK PKKPbc **PKKPbc** **09 09 08.8 +0.6**
AAK Ala-Archa **121.85 303** ⇑*i*PKIKP **PKPdf** **08 59 06.0 -0.7**
BRVK Borovoye **126.73 315** *c i*PKIKP **PKPdf** **08 59 14.6 -0.8**
BRVK pmax pmax
comp=Z,18nm,1.7s
BRVK Borovoye **126.73 315** *e*PKPdf **PKPdf** **08 59 14.2 -1.3**
FRB Frobisher Bay **127.88 32** PKP **PKPdf** **08 59 16.0 -1.3**
comp=Z,5.1nm,0.9s,baz=357,slow=4.8,SNR=6.6
FRB SKPbc SKiKP 09 02 10.1 -20
comp=Z,3.5nm,0.7s,baz=191,slow=7.2,SNR=6.5
FRB Frobisher Bay **127.88 32** PKIKP **PKPdf** **08 59 16.0 -1.3**
FRB Frobisher Bay **127.88 32** PKP **PKPdf** **08 59 16.0 -1.3**
FRB SKPbc SKiKP 09 02 10.1 -20
SCHQ Schefferville **128.77 43** SKPbc SKiKP 09 02 15.2 -17
comp=Z,9.5nm,0.8s,baz=342,slow=1.1,SNR=5.9
ABKAR Akbulak array **132.93 309** *e*PKPdf **PKPdf** **08 59 26.5 -0.8**
SPITS Spitsbergen Ar **133.53 355** PKP **PKPdf** **08 59 28.3 +0.6**
comp=Z,11nm,0.8s,baz=176,slow=5.3,SNR=9.4
SPITS SKPbc **SKPbc** **09 02 30.7 -2.1**
comp=Z,10nm,0.7s,baz=126,slow=10.0,SNR=8.2
SPITS Spitsbergen Ar **133.53 355** PKIKP **PKPdf** **08 59 28.3 +0.6**
SPITS Spitsbergen Ar **133.53 355** PKP **PKPdf** **08 59 28.3 +0.6**
SPITS SKPbc **SKPbc** **09 02 30.7 -2.1**
ARU Arti **133.55 319** *i* PKIKP **PKPdf** **08 59 27.7 -0.5**
ARU 09 01 55.8
ARCES ARCESS Array B **140.13 346** PKhKP PKPpre 08 59 32.2
comp=Z,6.8nm,0.8s,baz=72,slow=2.0,SNR=9.7
ARCES PKP **PKPdf** **08 59 40.1 0.0**
comp=Z,7.3nm,0.8s,baz=37,slow=3.0,SNR=4.9
ARCES SKPbc **SKPbc** **09 02 49.5 -3.0**
comp=Z,14nm,1.0s,baz=345,slow=3.8,SNR=4.8
ARCES ARCESS Array B **140.13 346** PKHKP PKPpre 08 59 32.2
ARCES 08 59 40.1
ARCES 09 02 49.5
ARCES ARCESS Array B **140.13 346** PKPpre PKPpre 08 59 32.2
ARCES PKP **PKPdf** **08 59 40.1 0.0**
ARCES SKPbc **SKPbc** **09 02 49.5 -3.0**
GNI Garni **143.50 295** *ce*PKIKP **PKPdf** **08 59 47.5 +0.3**
GNI pmax pmax
comp=Z,29nm,1.7s
JOF Joensuu **143.60 336** *e*PKHKP PKPpre 08 59 43.0
JOF pmax pmax
comp=Z,13nm,0.7s
JOF Joensuu **143.60 336** *ep* PKPab 08 59 43.0 -0.7
comp=Z,13nm,0.7s
JOF Joensuu **143.60 336** *ep* PKPab 08 59 43.0 -0.7
comp=Z,13nm,0.7s
ZEI Tsey **144.13 300** *e*PKIKP **PKPab** **08 59 45.4 -1.3**
ZEI pmax pmax
comp=Z,15nm,0.9s
VRHR Novokhopersk **144.40 314** *e*PKIKP **PKPab** **08 59 46.5 -0.6**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
KIV Kislovodsk **144.94 302** ⇑*i*PKIKP PKPbc 08 59 48.3 -1.1
KIV pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk **144.94 302** *e*PKPbc PKPbc 08 59 48.7 -0.7
MOS Moscow **144.98 323** *e*PKIKP PKPbc 08 59 46.5 -2.4
MOS *e* 09 00 44.8
MOS pmax pmax
comp=Z,82nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.3s
OBN Obninsk **145.80 323** ⇑*i*PKIKP **PKPdf** **08 59 49.4 -1.0**
OBN *i* 09 00 53.3
OBN pmax pmax
comp=Z,25nm,1.2s
KAF Kangasniemi **145.81 338** *e*PKIKP **PKPdf** **08 59 49.1 -1.1**
KAF pmax pmax
comp=Z,25nm,0.6s
KAF Kangasniemi **145.81 338** *ep* **PKPdf** **08 59 49.1 -1.1**
comp=Z,25nm,0.6s
KAF Kangasniemi **145.81 338** *ep* **PKPdf** **08 59 49.1 -1.1**
comp=Z,25nm,0.6s
VSR Storozhevoye **145.84 315** *e*PKP2 **PKPbc** **08 59 51.3 -0.4**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,40nm,1.3s
FINES FINESS Array B **146.38 338** PKPbc **PKPdf** **08 59 51.8 +0.6**
comp=Z,70nm,0.7s,baz=66,slow=4.6,SNR=84
FINES FINESS Array B **146.38 338** PKIKP **PKPdf** **08 59 51.8 +0.6**
FINES FINESS Array B **146.38 338** PKPbc **PKPdf** **08 59 51.8 +0.6**
ANN Anapa **148.57 304** *i* PKIKP **PKPbc** **08 59 58.3 -1.0**
ANN pmax pmax
comp=Z,58nm,1.1s
NB2 NORSAR Subarra **150.40 349** PKP **PKPbc** **09 00 02.0 -1.4**
comp=Z,24nm,0.8s,baz=17,slow=2.6
NB2 NORSAR Subarra **150.40 349** PKP **PKPbc** **09 00 02.0 -1.4**
baz=17,slow=2.6
NOA NORSAR Array B **150.40 349** PKPbc **PKPbc** **09 00 02.3 -1.1**
comp=Z,20nm,0.9s,baz=14,slow=4.1,SNR=30
NOA PKPab **PKPab** **09 00 10.2 -0.6**
comp=Z,6.9nm,0.7s,baz=27,slow=4.0,SNR=18
NOA NORSAR Array B **150.40 349** PKIKP **PKPbc** **09 00 02.3 -1.1**
NOA 09 00 10.2
NOA NORSAR Array B **150.40 349** PKPbc **PKPbc** **09 00 02.3 -1.1**
NOA PKPab **PKPab** **09 00 10.2 -0.6**
NAO01 NORSAR Array S **150.64 349** *e*PKPbc **PKPbc** **09 00 02.2 -1.7**
NACGM Naroch **150.65 328** *e* **PKPdf** **08 59 57.0 -1.3**
HFS Hagfors **150.79 346** PKPbc **PKPbc** **09 00 02.9 -1.4**
comp=Z,36nm,0.8s,baz=108,slow=3.3,SNR=26
HFS PKPab **PKPab** **09 00 10.3 -2.0**
comp=Z,11nm,0.7s,baz=88,slow=3.4,SNR=9.0
HFS Hagfors **150.79 346** PKIKP **PKPbc** **09 00 02.9 -1.4**
HFS 09 00 10.3
HFS Hagfors **150.79 346** PKPbc **PKPbc** **09 00 02.9 -1.4**
HFS PKPab **PKPab** **09 00 10.3 -2.0**
AKASG Malin Array Be **151.80 319** PKP **PKPdf** **08 59 58.2 -2.0**
comp=Z,2.2nm,0.4s,baz=52,slow=2.5,SNR=4.8
AKASG PKPbc **PKPbc** **09 00 05.7 -1.2**
comp=Z,1.5nm,0.2s,baz=56,slow=3.4,SNR=35
AKASG Malin Array Be **151.80 319** PKIKP **PKPdf** **08 59 58.2 -2.0**
AKASG Malin Array Be **151.80 319** PKP **PKPdf** **08 59 58.2 -2.0**
AKASG PKPbc **PKPbc** **09 00 05.7 -1.2**
AKBB Malin Array Si **151.80 319** *e*PKIKP **PKPbc** **09 00 04.1 -2.7**
AKBB Malin Array Si **151.80 319** *e*PKPbc **PKPbc** **09 00 04.1 -2.7**
KIEV Kiev **151.81 319** *e*PKIKP **PKPdf** **09 00 02.7 +2.4**
KIEV Kiev **151.81 319** *e*PKPdf **PKPdf** **09 00 02.7 +2.4**
BR131 Keskin Array S **152.03 295** *e*PKPbc **PKPbc** **09 00 06.4 -1.5**
BR131 *e*PKPab **PKPab** **09 00 17.7 -0.8**
BRTR Keskin Array B **152.03 295** PKPbc **PKPbc** **09 00 06.4 -1.5**
comp=Z,2.7nm,0.5s,baz=146,slow=4.2,SNR=14
BRTR PKPab **PKPab** **09 00 17.9 -0.5**
comp=Z,7.8nm,0.9s,baz=106,slow=4.2,SNR=18
BRTR Keskin Array B **152.03 295** PKIKP **PKPbc** **09 00 06.4 -1.5**
BRTR 09 00 17.9
BRTR Keskin Array B **152.03 295** PKPbc **PKPbc** **09 00 06.4 -1.5**
BRTR PKPab **PKPab** **09 00 17.9 -0.5**
DBIC Dimbokro **154.02 169** PKP **PKPdf** **09 00 04.0 -0.6**
comp=Z,12nm,1.1s,baz=144,slow=1.3,SNR=6.1
DBIC PKPbc **PKPbc** **09 00 12.8 0.0**
comp=Z,3.5nm,0.3s,baz=141,slow=1.7,SNR=11
DBIC PKPab **PKPab** **09 00 26.4 -0.7**
comp=Z,15nm,1.0s,baz=158,slow=4.2,SNR=6.7
DBIC Dimbokro **154.02 169** PKIKP **PKPdf** **09 00 04.0 -0.6**
DBIC 09 00 26.4
DBIC Dimbokro **154.02 169** PKP **PKPdf** **09 00 04.0 -0.6**
DBIC *e*PKPdf PKPbc 09 00 04.3 -8.6
DBIC *e*PKPbc **PKiKP** **09 00 12.7 -0.2**
DBIC PKPbc PKPab 09 00 12.8 -14
DBIC PKPab PKPab 09 00 26.4 -0.7
CRVS Cervenica-Dubn **156.98 322** *e* PKPab 09 00 26.0 -13
CRVS Cervenica-Dubn **156.98 322** *e*PKP **PKPab** **09 00 38.8 -0.3**
KECS Kecovo **157.75 322** *e*PKP2 **PKPab** **09 00 43.0 +0.6**
KECS Kecovo **157.75 322** *e*PKP **PKPab** **09 00 43.0 +0.6**
OKC Ostrava-Krasne **157.97 328** *e*PKP2 **PKPab** **09 00 42.9 -0.4**
OKC Ostrava-Krasne **157.97 328** *e*PKPAB **PKPab** **09 00 42.9 -0.4**
DPC Dobruska-Polom **158.38 331** *e*PKP2 **PKPab** **09 00 45.2 +0.1**
DPC Dobruska-Polom **158.38 331** *e*PKPAB **PKPab** **09 00 45.2 +0.1**
KRLC Kraliky **158.40 330** *e*PKPAB **PKPab** **09 00 45.2 0.0**
VYHS Vyhne **158.58 324** *e*PKP2 **PKPab** **09 00 45.4 -0.6**
VYHS Vyhne **158.58 324** *e*PKP **PKPab** **09 00 45.4 -0.6**
BRG Berggiesshubel **158.87 335** *i* PKP **PKPab** **09 00 46.5 -0.6**
comp=Z,12nm,0.9s
BRG Berggiesshubel **158.87 335** *i* PKP2 **PKPab** **09 00 46.5 -0.6**
BRG pmax pmax

comp=Z,12nm,1.0s
PVCC Panska Ves 158.93 334 *e*PKP2 **PKPab 09 00 47.0 -0.4**
PVCC Panska Ves 158.93 334 *e*PKPAB **PKPab 09 00 47.0 -0.4**
VRAC Vranov 159.05 329 PKPab **PKPab 09 00 46.6 -1.4**
comp=Z,1.1nm,0.3s,baz=94,slow=6.9,SNR=4.2
VRAC Vranov 159.05 329 PKP2 **PKPab 09 00 46.6 -1.4**
VRAC Vranov 159.05 329 PKPab **PKPab 09 00 46.6 -1.4**
NKC Novy Kostel 159.93 336 *e*PKP2 **PKPab 09 00 51.9 +0.1**
NKC Novy Kostel 159.93 336 *e*PKPAB **PKPab 09 00 51.9 +0.1**
CONA Conrad Observa 160.40 327⇓ *i*PKPab **PKPab 09 00 53.6 -0.4**
comp=Z,11nm,1.2s
KHC Kasperske Hory 160.44 333 *e*PKP2 **PKPab 09 00 52.8 -1.3**
KHC Kasperske Hory 160.44 333 *e*PKPAB **PKPab 09 00 52.8 -1.3**
GERES GERESS Array B 160.62 332 PKP **PKPdf 09 00 11.1 -0.8**
comp=Z,1.0nm,0.8s,baz=75,slow=1.5,SNR=6.8
GERES PKPab **PKPab 09 00 53.0 -2.0**
comp=Z,1.9nm,0.9s,baz=46,slow=3.9,SNR=7.5
GERES PP **PP 09 04 38.1 0.0**
comp=Z,0.4nm,0.6s,baz=62,slow=3.2,SNR=4.0
GERES GERESS Array B 160.62 332 PKIKP **PKPdf 09 00 11.1 -0.8**
GERES 09 00 53.0
GERES 09 04 38.1
GERES GERESS Array B 160.62 332 PKP **PKPdf 09 00 11.1 -0.8**
GERES PKPab **PKPab 09 00 53.0 -2.0**
GERES PP **PP 09 04 38.1 0.0**
TORD Torodi Ar. Bea 160.82 185 PKP **PKPdf 09 00 12.7 -0.3**
comp=Z,8.4nm,1.0s,baz=303,slow=0.4,SNR=35
TORD PKPab **PKPab 09 00 56.5 +0.1**
comp=Z,12nm,0.9s,baz=178,slow=3.7,SNR=16
TORD PP **PP 09 04 35.2 -3.4**
comp=Z,3.2nm,1.1s,baz=198,slow=5.3,SNR=5.4
TORD Torodi Ar. Bea 160.82 185 PKP **PKPdf 09 00 12.7 -0.3**
TORD PKPab **PKPab 09 00 56.5 +0.1**
TORD PP **PP 09 04 35.2 -3.4**
FETA Feichten 163.26 334⇑ *i*PKPab **PKPab 09 01 06.0 -0.7**
comp=Z,7.8nm,1.0s
TAM Tamanrasset 169.34 208 *e*PKIKP **PKPdf 09 00 20.6 +0.4**
TAM Tamanrasset 169.34 208 *e*PKPdf **PKPdf 09 00 20.6 +0.4**
ESDC Sonseca Array 171.99 23 PKP **PKPdf 09 00 21.5 +0.5**
comp=Z,0.3nm,0.3s,baz=352,slow=2.2,SNR=10
ESDC PKPab **PKPab 09 01 44.5 -0.8**
comp=Z,1.1nm,0.7s,baz=319,slow=4.3,SNR=4.9
ESDC Sonseca Array 171.99 23 PKP **PKPdf 09 00 21.5 +0.5**
ESDC PKPab **PKPab 09 01 44.5 -0.8**

IDC 07 08:42:15.8±2.3, 0.8 4S×133.9 3E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx2.6/24, Error ellipse: s-maj=99.7km s-min=22.0km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.99**	**205**	P	Pn	08 46 40.3	+0.6
	0.1nm,0.3s,baz=39,slow=10.0,SNR=4.3						
WRA	**Warramunga Arr**	**18.99**	**179**	P	P	08 46 38.5	-0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.69**	**180**	P	P	08 47 19.0	-0.2
	0.6nm,0.7s,baz=9.2,slow=12,SNR=9.4						
NWAO	**Narrogin (SRO)**	**35.57**	**205**	LR	LR	09 03 28.3	
	comp=Z,244nm,21.5s,baz=348,slow=36						
MKAR	**Makanchi Array**	**65.43**	**324**	P	P	08 53 00.3	-0.2
	0.6nm,0.7s,baz=115,slow=8.2,SNR=5.1						
KURK	**Kurchatov**	**69.48**	**326**	P	P	08 53 26.2	+0.2
	0.3nm,0.5s,baz=116,slow=5.9,SNR=3.6						

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*ISCJB **07** 08:43:13.8±0.5, 76.94N±0.05×7.9E±0.2, h10km, mb3.9/15, MS3.4/7, Error ellipse: s-maj=7.9km s-min=5.9km az=5.3*
*IDC **07** 08:43:14.8±0.6, 76.92N×6.98E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/31, mbtmp3.9/18, ML2.8/2, MS3.4/9, Ms1 3.4/9, ms1mx2.9/46, Error ellipse: s-maj=16.2km s-min=10.7km az=36.0*
*CSEM **07** 08:43:16.1±0.8, 76.96N×7.86E, h20km, ML3.0, Error ellipse: s-maj=19.8km s-min=8.0km az=69.0*
*NAO **07** 08:43:17.1±4.2, 77.12N×8.88E, h25km±31km, ML3.0*
*BER **07** 08:43:17.6±5.0, 77.10N×8.31E, h15km±42km, MD2.7, ML2.7, ML3.0(NAO)*

ISC 07 08:43:15.6±0.6, 76.92N±0.05×7.85E±0.06, h10km, n35, σ2s12/40, mb3.9/15, MS3.2/7, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.75**	**83**	*e*P	**Pn**	**08 43 45.2**	**-0.7**
HSP				*e*S	**Sn**	**08 44 05.6**	**-2.6**
KBS	**Kingsbay**	**2.19**	**21**	Pn	**Pn**	**08 43 49.9**	**-2.1**
KBS				Lg	Lg	08 44 15.2	
KBS	**Kingsbay**	**2.19**	**21**	*e*P	**Pn**	**08 43 50.1**	**-1.9**
KBS				*e*Pg	**Pn**	**08 43 51.6**	**-0.4**
KBS				*e*Sg	**Sn**	**08 44 15.3**	**-3.7**
KBS				AML	AML	08 44 22.3	
	comp=Z,76nm,0.6s						
KBS	**Kingsbay**	**2.19**	**21**	*e*P	**Pn**	**08 43 50.1**	**-1.9**
	SNR=55						
KBS	**Kingsbay**	**2.19**	**21**	*e*Pg	**Pn**	**08 43 51.6**	**-0.4**
	SNR=91						
KBS				Lg	Lg	08 44 15.2	
KBS				*e*Sg	**Sn**	**08 44 15.4**	**-3.7**
	comp=Z,76nm,0.6s,SNR=91						
SPA0	**Spitsbergen Ar**	**2.24**	**52**	Pg	**Pn**	**08 43 52.7**	**+0.1**
	baz=225,slow=16						
SPA0				Lg	Lg	08 44 19.1	
	baz=245,slow=28						
SPA0	**Spitsbergen Ar**	**2.24**	**52**	Pg	**Pn**	**08 43 52.7**	**+0.1**
	baz=225,slow=14,SNR=166						
SPA0				Lg	Lg	08 44 19.1	
	baz=245,slow=24,SNR=8.4						
SPITS	**Spitsbergen Ar**	**2.24**	**52**	Pn	**Pn**	**08 43 52.6**	**+0.1**
	baz=226,slow=16,SNR=909						
SPITS				Sn	**Sn**	**08 44 18.6**	**-1.6**
	baz=245,slow=26,SNR=9.1						
BJO	**Bjornoya**	**3.71**	**125**	*e*P	**Pn**	**08 44 12.0**	**-0.8**
BJO				*e*S	**Sn**	**08 44 50.7**	**-5.7**
BJO	**Bjornoya**	**3.71**	**125**	*e*P	**Pn**	**08 44 12.0**	**-0.8**
	SNR=55						
BJO				*e*S	**Sn**	**08 44 50.7**	**-5.7**
	SNR=55						
HOPEN	**Hopen**	**3.98**	**88**	*e*P	**Pn**	**08 44 16.2**	**-0.2**
HOPEN				*e*S	**Sn**	**08 45 01.0**	**-2.0**
HOPEN				AML	AML	08 45 02.9	
	comp=Z,53nm,0.2s						
HOPEN	**Hopen**	**3.98**	**88**	*e*P	**Pn**	**08 44 16.2**	**-0.2**
	SNR=53						
HOPEN				*e*S	**Sn**	**08 45 01.0**	**-2.0**
	comp=Z,53nm,0.2s,SNR=53						
ARA0	**ARCESS Array S**	**8.95**	**137**	Pn	**Pn**	**08 45 22.6**	**-2.1**
	baz=324,slow=12						
ARA0				Sn	Sn	08 46 55.7	-10
	baz=333,slow=18						
ARA0	**ARCESS Array S**	**8.95**	**137**	Pn	**Pn**	**08 45 22.5**	**-2.1**
	baz=324,slow=12						
ARCES	**ARCESS Array B**	**8.95**	**137**	Pn	**Pn**	**08 45 26.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=325,slow=13,SNR=7.9						
ARCES				Sn	Sn	08 46 55.3	-10
	comp=Z,1.4nm,0.3s,baz=335,slow=22,SNR=7.1						
SUMG	**Summit**	**12.61**	**274**	*i* P	Pn	08 46 09.7	-5.3
	comp=Z,33nm,0.9s						
FINES	**FINESS Array B**	**16.69**	**148**	Pn	**Pn**	**08 47 08.3**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=336,slow=20,SNR=2.8						
FINES				LR	LR	08 54 04.7	
	comp=Z,73nm,18.2s,baz=318,slow=39						
HFS	**Hagfors**	**16.98**	**170**	LR	LR	08 53 10.5	
	comp=Z,60nm,18.0s,baz=248,slow=35						
RES	**Resolute Bay**	**22.28**	**317**	P	**P**	**08 48 11.3**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=38,slow=10,SNR=14						
RES				LR	LR	08 56 40.0	
	comp=Z,84nm,19.8s,baz=257,slow=36						
FRB	**Frobisher Bay**	**26.37**	**283**	P	**P**	**08 48 49.7**	**-1.6**
	comp=Z,4.7nm,1.1s,baz=34,slow=11,SNR=2.3						
FRB				LR	LR	08 59 16.1	
	comp=Z,112nm,19.8s,baz=29,slow=37						
AKASG	**Malin Array Be**	**27.58**	**150**	P	**P**	**08 49 03.1**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=348,slow=9.3,SNR=4.5						
GERES	**GERESS Array B**	**28.28**	**172**	P	**P**	**08 49 11.1**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=14,slow=9.1,SNR=2.7						
GERES				LR	LR	09 01 50.5	
	comp=Z,33nm,19.1s,baz=271,slow=39						
BVAR	**Borovoye Array**	**32.92**	**100**	P	P	08 49 52.5	+3.0
	comp=Z,1.5nm,0.8s,baz=316,slow=8.1,SNR=8.2						
INK	**Inuvik**	**33.09**	**335**	P	**P**	**08 49 50.8**	**0.0**
	comp=Z,2.2nm,1.0s,baz=17,slow=13						
INK				LR	LR	09 04 52.9	
	comp=Z,46nm,18.7s,baz=333,slow=39						
ZALV	**Zalesovo Beam**	**35.34**	**85**	P	**P**	**08 50 12.9**	**+2.5**
	comp=Z,3.0nm,0.9s,baz=334,slow=9.9,SNR=14						
ZALV				PcP	**PcP**	**08 52 41.4**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=328,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**36.33**	**319**	P	**P**	**08 50 18.2**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=15,slow=8.9,SNR=8.5						
YKA				PcP	**PcP**	**08 52 43.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=7.7,slow=2.7,SNR=5.8						
KURK	**Kurchatov**	**36.94**	**93**	P	P	08 50 26.9	+2.8
	comp=Z,3.6nm,0.8s,baz=336,slow=7.7,SNR=16						
KURK				LR	LR	09 09 25.4	
	comp=Z,34nm,18.8s,baz=40,slow=42						
ILAR	**Eielson Array**	**37.67**	**343**	P	**P**	**08 50 31.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=360,slow=7.2,SNR=7.6						
MKAR	**Makanchi Array**	**41.46**	**91**	P	**P**	**08 51 04.2**	**+2.2**
	comp=Z,2.0nm,0.7s,baz=350,slow=6.8,SNR=26						
DLBC	**Dease Lake**	**42.33**	**328**	LR	LR	09 09 07.8	
	comp=Z,120nm,18.1s,baz=351,slow=37						
SONM	**Songino Array**	**45.83**	**68**	P	**P**	**08 51 39.6**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=340,slow=7.9,SNR=9.3						
PDAR	**Pinedale Array**	**54.44**	**307**	P	**P**	**08 52 42.5**	**-0.2**
	comp=Z,1.6nm,1.2s,baz=39,slow=9.6,SNR=4.6						
BBTS	**Babate**	**63.53**	**207**	LR	LR	09 18 00.5	
	comp=Z,102nm,18.2s,baz=283,slow=33						
TORD	**Torodi Ar. Bea**	**63.85**	**187**	P	**P**	**08 53 47.4**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=22,slow=3.9,SNR=4.0						
TXAR	**Lajitas Array**	**66.32**	**297**	P	**P**	**08 54 03.2**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=55,slow=6.7,SNR=8.5						

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*NIED **07** 08:46:00, 40.10N×142.50E, h47km, Mw3.7 Best double couple: M₀4.41000×10¹⁴ NP1:φ₀21.00000°, δ75.00000°, λ84.00000°. NP2:φ₀223.00000°, δ16.00000°, λ111.00000°.*
*ISCJB **07** 08:46:09.9±0.8, 40.12N±0.03×142.50E±0.07, h31km, mb3.7/6, Error ellipse: s-maj=7.7km s-min=4.5km az=16.1*
*JMA **07** 08:46:10.6±0.1, 40.12N×142.47E, h34km±1km, M3.8*
JMA Felt I J1.
*IDC **07** 08:46:13.8±2.5, 40.13N×142.58E, h72km±21km, mb3.4/6, mb1 3.5/8, mb1mx3.3/26, mbtmp3.4/8, MS2.8/1, Ms1 2.8/1, ms1mx2.0/37, Error ellipse: s-maj=35.9km s-min=16.1km az=95.0*

ISC 07 08:46:11.4±1.1, 40.11N±0.04×142.37E±0.07, h31km, n19, σ1s25/29, mb3.7/6, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.42**	**247**	⇓P	**Pb**	**08 46 21.0**	**+0.3**
JTH				S	**Sb**	**08 46 28.8**	**+1.8**
MIYJ	**Miyakonagasawa**	**0.68**	**219**	⇓P	**Pb**	**08 46 24.2**	**-0.5**
MIYJ				S	**Sb**	**08 46 34.0**	**+0.1**
JANG	**Nango**	**0.71**	**292**	⇓P	**Pn**	**08 46 24.8**	**-0.4**
JANG				S	**Sb**	**08 46 34.4**	**-0.3**
JKZ	**Kuzumaki**	**0.81**	**262**	⇓P	**Pn**	**08 46 26.9**	**+0.2**
JKZ				S	**Sn**	**08 46 38.2**	**+0.6**
JOM	**Ohasama**	**1.04**	**233**	⇓P	**Pn**	**08 46 30.3**	**+0.5**
JOM				S	**Sb**	**08 46 45.1**	**+0.9**
OFUJ	**Ofunato**	**1.16**	**208**	P	**Pn**	**08 46 31.4**	**0.0**
OFUJ				S	**Sn**	**08 46 49.6**	**+0.7**
JTM	**Tenmabayashi**	**1.21**	**305**	⇓P	**Pn**	**08 46 32.4**	**+0.3**
JTM				S	**Sn**	**08 46 48.2**	**+0.9**
JAH	**Hinai**	**1.33**	**274**	⇓P	**Pn**	**08 46 34.8**	**+1.0**
JAH				S	**Sb**	**08 46 52.5**	**+0.1**
JMK	**Ichinoseki**	**1.46**	**218**	P	**Pn**	**08 46 36.1**	**+0.6**
JMK				S	**Sb**	**08 46 55.5**	**-0.5**
ASAJ	**Asahikawa**	**4.01**	**2**	P	**Pn**	**08 47 12.6**	**+2.0**
	baz=213,slow=10						
ASAJ				S	**Sn**	**08 47 58.3**	**+1.7**
ASAJ				LR	LR	08 49 20.6	
	comp=Z,104nm,18.8s,baz=309,slow=47						
MJAR	**Matsushiro Arr**	**4.83**	**224**	P	**Pn**	**08 47 25.1**	**+3.1**
	1.3nm,0.3s,baz=32,slow=4,SNR=14						
MAT	**Matsushiro**	**4.83**	**224**	P	**Pn**	**08 47 24.3**	**+2.3**
MAT				*e*S	**Sn**	**08 48 18.2**	**+1.3**
USRK	**Ussuriysk Arra**	**8.72**	**301**	P	Pn	08 48 20.0	+4.8
	0.3nm,0.3s,baz=106,slow=14,SNR=9.3						
SONM	**Songino Array**	**26.83**	**299**	P	**P**	**08 51 48.7**	**-0.3**
	0.4nm,0.4s,baz=103,slow=8.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.47**	**310**	P	**P**	**08 53 45.5**	**-1.3**
	0.4nm,0.3s,baz=72,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**43.19**	**300**	P	**P**	**08 54 07.5**	**-1.8**
	0.5nm,0.7s,baz=79,slow=7.6,SNR=4.4						
KURK	**Kurchatov**	**44.69**	**306**	P	**P**	**08 54 20.7**	**-0.4**
	1.8nm,0.6s,baz=81,slow=8.8,SNR=9.6						
BVAR	**Borovoye Array**	**49.10**	**311**	P	**P**	**08 54 54.9**	**-0.8**
	1.0nm,0.5s,baz=75,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**60.20**	**189**	P	**P**	**08 56 14.7**	**-1.7**
	0.5nm,0.7s,baz=6.8,slow=7.3,SNR=3.0						

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*ISCJB **07** 08:49:05.3±1.0, 34.04S±0.05×178.18W±0.07, h42km±8km, mb4.7/17, MS3.9/4, Error ellipse: s-maj=11.3km s-min=7.1km az=33.8*
*NEIC **07** 08:49:06.6±0.3, 33.72S×177.97W, mb4.9/3, Error ellipse: s-maj=10.1km s-min=7.3km az=143.0*
*IDC **07** 08:49:07.1±0.5, 33.59S×178.06W, h46km±3km, mb4.4/15, mb1 4.5/16, mb1mx4.4/20, mbtmp4.4/16, MS3.8/5, Ms1 3.8/5, ms1mx3.5/30, Error ellipse: s-maj=15.6km s-min=11.6km az=5.0*

ISC 07 08:49:06.2±0.4, 33.91S±0.05×178.04W±0.06, h46km±2km, h45km:pP-P, n125, σ1s65/174, mb4.6/17, MS3.9/4, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.71**	**218**	PN	**Pn**	**08 50 15.2**	**+0.6**
MXZ				SN	**Sn**	**08 51 12.5**	**+4.5**
MXZ				T	T	08 56 12.8	
PUZ	**Puketiti**	**5.13**	**215**	PN	**Pn**	**08 50 20.3**	**-0.2**
PUZ				SN	**Sn**	**08 51 23.7**	**+5.3**
CNGZ	**Carnagh Statio**	**5.49**	**213**	PN	**Pn**	**08 50 25.8**	**+0.4**
MWZ	**Matawai**	**5.69**	**218**	PN	**Pn**	**08 50 28.2**	**0.0**
URZ	**Urewera**	**5.86**	**221**	P	**Pn**	**08 50 31.3**	**+0.9**
	12nm,0.3s,baz=44,slow=3.9,SNR=34						
URZ				S	**Sn**	**08 51 38.6**	**+2.4**
	52nm,0.3s,baz=166,slow=21,SNR=4.2						
URZ				LR	LR	08 52 41.7	
	comp=Z,474nm,21.2s,baz=341,slow=35						
URZ	**Urewera**	**5.86**	**221**	P	**Pn**	**08 50 31.3**	**+0.9**
URZ				*e*Pn	Pn	08 50 31.6	+1.2
URZ				S	**Sn**	**08 51 38.6**	**+2.4**
URZ				*e*Sn	Sn	08 51 40.9	+4.7
URZ	**Urewera**	**5.86**	**221**	PN	**Pn**	**08 50 31.2**	**+0.8**
URZ				SN	**Sn**	**08 51 40.0**	**+3.8**
OPRZ	**Ohinepanea**	**5.89**	**227**	*e*PN	**Pn**	**08 50 32.5**	**+1.6**
PRGZ	**Paritu Road**	**5.99**	**212**	*e*PN	**Pn**	**08 50 31.4**	**-0.9**
KNZ	**Kokohu**	**6.16**	**213**	PN	**Pn**	**08 50 33.2**	**-1.4**
MHGZ	**Mahia Peninsul**	**6.17**	**211**	PN	**Pn**	**08 50 34.0**	**-0.8**
NMHZ	**Naumai**	**6.64**	**217**	*e*PN	**Pn**	**08 50 41.3**	**+0.1**
BKZ	**Black Stump Fm**	**6.85**	**218**	PN	**Pn**	**08 50 43.6**	**-0.5**
CKHZ	**Cape Kidnapper**	**6.95**	**213**	*e*PN	**Pn**	**08 50 43.4**	**-2.0**
MCHZ	**McNeill Hill**	**6.96**	**216**	*e*PN	**Pn**	**08 50 44.5**	**-1.1**
OUZ	**Onahuta**	**7.03**	**257**	*e*Pn	**Pn**	**08 50 49.3**	**+2.9**
	31nm,0.7s						
KAHZ	**Kahuranaki**	**7.15**	**213**	PN	**Pn**	**08 50 46.4**	**-1.8**
PXZ	**Pawanui**	**7.35**	**212**	*e*PN	Pn	08 50 48.0	-2.9
MTVZ	**Mangateitei**	**7.56**	**222**	*e*PN	**Pn**	**08 50 53.8**	**0.0**
PNHZ	**Pukenui**	**7.57**	**216**	SN	**Sn**	**08 52 18.7**	**+0.4**
WPHZ	**Waipukurau**	**7.57**	**214**	SN	**Sn**	**08 52 18.8**	**+0.5**
BFZ	**Birch Farm**	**8.15**	**212**	*e*PN	Pn	08 50 58.1	-3.8
TMWZ	**Te Maipa**	**8.66**	**212**	SN	**Sn**	**08 52 44.2**	**-0.8**
HOWZ	**Holdsworth Sta**	**8.66**	**214**	*e*PN	**Pn**	**08 51 07.2**	**-1.6**
HOWZ				SN	**Sn**	**08 52 43.4**	**-1.7**
KIW	**Kapiti Island**	**8.93**	**217**	SN	**Sn**	**08 52 49.8**	**-1.8**
TRWZ	**Traveller**	**8.98**	**212**	SN	**Sn**	**08 52 51.3**	**-1.7**
PAWZ	**Paruwai Farm**	**9.08**	**213**	SN	**Sn**	**08 52 53.3**	**-2.2**
SNKO	**South Karori**	**9.37**	**216**	SN	**Sn**	**08 53 00.0**	**-2.4**
CTZ	**Chatham Island**	**9.88**	**174**	*e*PN	**Pn**	**08 51 23.7**	**-1.8**
NNZ	**Nelson**	**9.98**	**221**	*e*PN	**Pn**	**08 51 25.0**	**-1.9**
QRZ	**Quartz Range**	**10.20**	**225**	SN	**Sn**	**08 53 19.7**	**-3.1**
THZ	**Tophouse**	**10.62**	**220**	*e*PN	**Pn**	**08 51 33.4**	**-2.2**
THZ				SN	**Sn**	**08 53 29.7**	**-3.5**
KHZ	**Kahutara**	**10.77**	**215**	*e*Pn	**Pn**	**08 51 38.9**	**+1.1**
KHZ	**Kahutara**	**10.77**	**215**	*e*PN	Pn	08 51 35.1	-2.6
DSZ	**Denniston Nort**	**11.21**	**223**	*e*PN	**Pn**	**08 51 43.1**	**-0.6**
DSZ				SN	Sn	08 53 42.2	-5.4
MQZ	**McQueen's Vall**	**12.18**	**214**	SN	Sn	08 54 02.2	-9.0
RPZ	**Rata Peaks**	**12.96**	**218**	P	**Pn**	**08 52 06.1**	**-1.6**
	2.6nm,0.3s,baz=50,slow=0.6,SNR=13						
RPZ				S	Sn	08 54 21.9	-8.5
	8.9nm,0.3s,baz=355,slow=19,SNR=15						
RPZ	**Rata Peaks**	**12.96**	**218**	*e*Pn	**Pn**	**08 52 05.6**	**-2.0**
RPZ				S	Sn	08 54 21.9	-8.5

FOZ	**Fox Glacier**	**13.58**	**221**	*e*PN	**Pn**	**08 52 13.8**	**-2.2**
ODZ	**Otahua Downs**	**14.13**	**215**	*e*Pn	**Pn**	**08 52 24.9**	**+1.3**
	80nm,0.8s						
DZM	**Mont Dzumac**	**18.05**	**307**	P	**P**	**08 53 13.3**	**-0.4**
	0.4nm,0.3s,baz=147,slow=17,SNR=3.9						
DZM	**Mont Dzumac**	**18.05**	**307**	P	**P**	**08 53 13.3**	**-0.4**
RAR	**Rarotonga**	**20.50**	**57**	P	**P**	**08 53 36.8**	**-3.6**
	33nm,0.9s,baz=192,slow=6.4,SNR=8.9						
RAR				LR	LR	08 59 51.7	
	comp=Z,241nm,18.2s,baz=95,slow=32						
RAR	**Rarotonga**	**20.50**	**57**	P	**P**	**08 53 36.8**	**-3.6**
AFI	**Afiamalu**	**20.70**	**17**	P	**P**	**08 53 39.3**	**-3.3**
	22nm,0.5s,baz=317,slow=8.1,SNR=4.4						
AFI				S	S	08 57 10.7	-21
	11nm,0.5s,baz=347,slow=20,SNR=1.5						
AFI	**Afiamalu**	**20.70**	**17**	P	**P**	**08 53 39.3**	**-3.3**
AFI				S	S	08 57 10.7	-21
ARMA	**Armidale**	**25.87**	**269**	*e*P	**P**	08 54 44.0	+10
STKA	**Stephens Creek**	**33.81**	**262**	P	**P**	**08 55 45.8**	**+1.9**
	2.7nm,0.8s,baz=118,slow=12,SNR=3.5						
STKA				PcP	**PcP**	**08 58 22.6**	**+0.4**
	4.8nm,0.8s,baz=70,slow=2.0,SNR=4.9						
STKA				LR	LR	09 08 56.5	
	comp=Z,324nm,19.5s,baz=27,slow=35						
STKA	**Stephens Creek**	**33.81**	**262**	*e*P	**P**	**08 55 45.6**	**+1.7**
	3.6nm,1.1s						
STKA	**Stephens Creek**	**33.81**	**262**	P	**P**	**08 55 45.8**	**+1.9**
STKA				PcP	**PcP**	**08 58 22.6**	**+0.4**
CTA	**Charters Tower**	**34.48**	**284**	P	**P**	**08 55 51.6**	**+1.8**
	20nm,0.7s,baz=111,slow=10.0,SNR=33						
CTA				LR	LR	09 07 07.3	
	comp=Z,117nm,18.8s,baz=121,slow=31						
CTA	**Charters Tower**	**34.48**	**284**	*e*P	**P**	**08 55 51.4**	**+1.6**
	15nm,0.6s						
CTA	**Charters Tower**	**34.48**	**284**	P	**P**	**08 55 51.6**	**+1.8**
CTAO	**Charters Tower**	**34.48**	**284**	*e*P	**P**	**08 55 50.6**	**+0.8**
	20nm,0.6s						
AS31	**Alice Springs**	**43.00**	**271**	*e*P	**P**	**08 57 01.8**	**+0.5**
AS31				*e*pP	**pP**	**08 57 13.3**	**-0.6**
ASAR	**Alice Springs**	**43.01**	**271**	P	**P**	**08 57 01.7**	**+0.5**
	9.1nm,0.7s,baz=110,slow=7.4,SNR=44						
ASAR				pP	**pP**	**08 57 15.2**	**+1.4**
	11nm,0.7s,baz=111,slow=7.6,SNR=11						
ASAR				PcP	**PcP**	**08 58 52.0**	**+1.0**
	2.5nm,0.6s,baz=121,slow=4.6,SNR=4.2						
ASAR				S	**S**	**09 03 23.7**	**0.0**
	1.6nm,1.0s,baz=108,slow=13,SNR=6.8						
ASAR	**Alice Springs**	**43.01**	**271**	P	**P**	**08 57 01.7**	**+0.5**
ASAR				pP	**pP**	**08 57 15.2**	**+1.4**
ASAR				PcP	**PcP**	**08 58 52.0**	**+1.0**
ASAR				S	**S**	**09 03 23.7**	**0.0**
WB2	**Warramunga Arr**	**44.30**	**276**	*e*P	**P**	**08 57 12.1**	**+0.4**
WRAB	**Tennant Creek**	**44.30**	**276**	*e*P	**P**	**08 57 12.0**	**+0.3**
	21nm,0.8s						
WRA	**Warramunga Arr**	**44.31**	**276**	P	**P**	**08 57 12.0**	**+0.2**
	13nm,0.6s,baz=116,slow=7.5,SNR=52						
WRA				pP	**pP**	**08 57 25.7**	**+1.3**
	19nm,0.8s,baz=118,slow=7.6,SNR=12						
WRA				S	**S**	**09 03 41.4**	**-1.3**
	1.2nm,1.0s,baz=113,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**44.31**	**276**	P	**P**	**08 57 12.0**	**+0.2**
WRA				pP	**pP**	**08 57 25.7**	**+1.3**
WRA				S	**S**	**09 03 41.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.40**	**273**	P	**P**	**08 58 14.7**	**+0.6**
	3.5nm,0.5s,baz=146,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**52.40**	**273**	P	**P**	**08 58 14.7**	**+0.6**
QSPA	**South Pole Qui**	**56.21**	**180**	P	P	08 58 45.6	+4.3
	24nm,1.0s,baz=34,slow=3.9,SNR=29						
QSPA				pP	pP	08 58 58.0	+3.7
	11nm,0.7s,baz=82,slow=1.3,SNR=4.8						
QSPA	**South Pole Qui**	**56.21**	**180**	P	P	08 58 45.6	+4.3
QSPA				pP	pP	08 58 58.0	+3.7
MAW	**Mawson**	**69.03**	**201**	P	**P**	**09 00 09.2**	**+2.8**
	9.0nm,1.1s,baz=269,slow=18,SNR=4.4						
MAW				pP	**pP**	**09 00 21.4**	**+1.6**
	14nm,0.9s,baz=305,slow=9.9,SNR=8.0						
MAW				LR	LR	09 30 34.6	
	comp=Z,114nm,18.5s,baz=262,slow=36						
**MAW

JOF	**Joensuu**	**145.64**	**337**	*ep*	**PKPdf**	**09 08 38.2**	**-0.3**
	28nm,0.6s							
KAF	**Kangasniemi**	**147.81**	**339**	*ep*	**PKPbc**	**09 08 44.1**	**-1.0**
	8.5nm,0.5s							
KAF	**Kangasniemi**	**147.81**	**339**	*ep*	**PKPbc**	**09 08 44.1**	**-1.0**
	8.5nm,0.5s							
FINES	**FINESS Array B**	**148.40**	**338**	PKPbc	**PKPbc**	**09 08 46.6**	**-0.1**
	17nm,0.8s,baz=32,slow=3.4,SNR=38							
FINES				PKPab	**PKPab**	**09 08 49.5**	**-0.6**
	4.5nm,0.8s,baz=72,slow=2.7,SNR=3.5							
FINES				pPKPbc	**pPKPbc**	**09 08 59.0**	**-1.8**
	6.0nm,0.5s,baz=48,slow=3.7,SNR=4.3							
FINES	**FINESS Array B**	**148.40**	**338**	PKPbc	**PKPbc**	**09 08 46.6**	**-0.1**
FINES				PKPab	**PKPab**	**09 08 49.5**	**-0.6**
FINES				pPKPbc	**pPKPbc**	**09 08 59.0**	**-1.8**
MMAI	**Mount Meron Ar**	**152.15**	**278**	PKPbc	**PKPbc**	**09 08 58.4**	**+1.7**
	8.9nm,0.8s,baz=72,slow=5.4,SNR=5.3							
MMAI				PKPab	**PKPab**	**09 09 08.4**	**+1.8**
	14nm,0.8s,baz=76,slow=3.5,SNR=7.7							
MMAI	**Mount Meron Ar**	**152.15**	**278**	PKPbc	**PKPbc**	**09 08 58.4**	**+1.7**
MMAI				PKPab	**PKPab**	**09 09 08.4**	**+1.8**
DBIC	**Dimbokro**	**152.17**	**165**	PKPbc	**PKPbc**	**09 08 58.7**	**+1.5**
	10nm,0.9s,baz=141,slow=5.3,SNR=8.2							
DBIC				pPKPbc	**pPKPbc**	**09 09 11.7**	**+0.3**
	5.8nm,0.6s,baz=202,slow=2.7,SNR=3.9							
DBIC	**Dimbokro**	**152.17**	**165**	PKPbc	**PKPbc**	**09 08 58.7**	**+1.5**
DBIC				pPKPbc	**pPKPbc**	**09 09 11.7**	**+0.3**
NB2	**NORSAR Subarra**	**152.20**	**350**	PKP	**PKPbc**	**09 08 55.5**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=14,slow=2.5							
NOA	**NORSAR Array B**	**152.20**	**350**	PKPbc	**PKPbc**	**09 08 55.9**	**0.0**
	comp=Z,5.4nm,0.7s,baz=13,slow=4.1,SNR=13							
NOA				pPKPbc	**pPKPbc**	**09 09 09.2**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=14,slow=4.1,SNR=3.8							
NOA	**NORSAR Array B**	**152.20**	**350**	PKPbc	**PKPbc**	**09 08 55.9**	**0.0**
NOA				pPKPbc	**pPKPbc**	**09 09 09.2**	**-0.9**
NACGM	**Naroch**	**152.78**	**328**	*e*	**PKPdf**	**09 08 50.0**	**-0.2**
AKASG	**Malin Array Be**	**153.98**	**318**	PKPbc	**PKPbc**	**09 09 00.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=96,slow=1.8,SNR=4.9							
AKASG				PKPab	**PKPab**	**09 09 12.0**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=55,slow=3.3,SNR=11							
AKASG	**Malin Array Be**	**153.98**	**318**	PKPbc	**PKPbc**	**09 09 00.7**	**+0.6**
AKASG				PKPab	**PKPab**	**09 09 12.0**	**-1.6**
BRTR	**Keskin Array B**	**154.07**	**292**	PKPbc	**PKPbc**	**09 09 02.0**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=177,slow=2.5,SNR=5.3							
BRTR				PKPab	**PKPab**	**09 09 12.1**	**-2.6**
	comp=Z,4.4nm,0.9s,baz=145,slow=3.5,SNR=10							
BRTR	**Keskin Array B**	**154.07**	**292**	PKPbc	**PKPbc**	**09 09 02.0**	**+1.2**
BRTR				PKPab	**PKPab**	**09 09 12.1**	**-2.6**
TORD	**Torodi Ar. Bea**	**159.33**	**179**	PKP	**PKPdf**	**09 09 01.1**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=326,slow=2.3,SNR=3.8							
TORD				pPKP	**pPKPdf**	**09 09 16.7**	**+2.3**
	comp=Z,1.5nm,0.9s,baz=219,slow=1.3,SNR=5.4							
TORD				PKPab	**PKPab**	**09 09 37.9**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=186,slow=3.6,SNR=10							
TORD				pPKPab	**pPKPab**	**09 09 52.7**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=172,slow=3.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**159.33**	**179**	PKP	**PKPdf**	**09 09 01.1**	**+1.1**
TORD				pPKP	**pPKPdf**	**09 09 16.7**	**+2.3**
TORD				PKPab	**PKPab**	**09 09 37.9**	**+0.5**
TORD				pPKPab	**pPKPab**	**09 09 52.7**	**+1.5**
CLL	**Collm**	**160.84**	**339**	*e*PKPab	**PKPab**	**09 09 43.0**	**-0.1**
GERES	**GERESS Array B**	**162.70**	**333**	PKPab	**PKPab**	**09 09 50.2**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=31,slow=3.1,SNR=5.7							
GERES	**GERESS Array B**	**162.70**	**333**	PKPab	**PKPab**	**09 09 50.2**	**-1.3**

*IDC **07** 09:01:54.2±0.6, 13.16N×145.61E, h0km, mb4.4/25, mb1 4.5/25, mb1mx4.4/29, mbtmp4.3/25, MS3.7/4, Ms1 3.8/4, ms1mx3.1/29, Error ellipse: s-maj=15.5km s-min=13.7km az=40.0*

*ISCJB **07** 09:01:55.4±6.4, 13.11N±0.07×145.55E±0.09, h15km±39km, mb4.4/36, MS3.6/4, Error ellipse: s-maj=14.8km s-min=11.8km az=169.7*

*BJI **07** 09:01:55.9, 13.04N×145.24E, h25km, mB4.8/7, mb4.6/7, Ms4.4/2, Ms7 4.3/3*

*NEIC **07** 09:02:00.2±1.4, 13.16N×145.45E, h40km±12km, mb4.7/11, Error ellipse: s-maj=10.7km s-min=7.8km az=95.0*

ISC 07 09:02:00.1±2.2, 13.2N±0.1×145.6E±0.1, h40km±18km, n78, σ0992/82, mb4.4/36, MS3.6/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.80**	**301**	Pn	**Pn**	**09 02 14.2**	**-0.7**
	256nm,0.3s,baz=154,slow=10,SNR=53						
GUMO				Sn	**Sn**	**09 02 27.2**	**+1.5**
	566nm,0.3s,baz=355,slow=19,SNR=9.3						
GUMO	**Guam**	**0.80**	**301**	Pn	**Pn**	**09 02 14.2**	**-0.7**
GUMO				Sn	**Sn**	**09 02 27.2**	**+1.5**
DAV	**Davao City (W)**	**20.59**	**255**	LR	LR	09 13 18.2	
	comp=Z,217nm,21.3s,baz=88,slow=33						
JOW	**Kunigami**	**21.15**	**313**	LR	LR	09 13 46.0	
	comp=Z,305nm,18.9s,baz=131,slow=34						
MJAR	**Matsushiro Arr**	**24.19**	**345**	P	**P**	**09 07 10.2**	**-2.7**
	3.2nm,0.9s,baz=177,slow=11,SNR=6.6						
MJAR	**Matsushiro Arr**	**24.19**	**345**	P	**P**	**09 07 10.2**	**-2.7**
MAJO	**Matsushiro**	**24.19**	**345**	*eP*	**P**	**09 07 12.2**	**-0.7**
	10.0nm,0.8s						
KSRS	**Korea Array**	**28.86**	**330**	P	**P**	**09 07 55.8**	**+0.9**
	2.5nm,0.9s,baz=147,slow=9.1,SNR=5.7						
KSAR	**Wonju Array Be**	**28.87**	**330**	P	**P**	**09 07 55.8**	**+0.8**
USRK	**Ussuriysk Arra**	**33.03**	**342**	P	**P**	**09 08 31.9**	**+0.3**
	2.4nm,0.8s,baz=145,slow=5.4,SNR=7.4						
WB2	**Warramunga Arr**	**34.71**	**199**	*eP*	**P**	**09 08 45.4**	**-1.1**
WRA	**Warramunga Arr**	**34.72**	**199**	P	**P**	**09 08 46.0**	**-0.5**
	2.5nm,0.6s,baz=22,slow=9.6,SNR=15						
WRA	**Warramunga Arr**	**34.72**	**199**	P	**P**	**09 08 46.0**	**-0.5**
ASAR	**Alice Springs**	**38.35**	**197**	P	**P**	**09 09 16.8**	**-0.7**
	1.4nm,0.7s,baz=22,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**38.35**	**197**	P	**P**	**09 09 16.8**	**-0.7**
DZM	**Mont Dzumac**	**40.57**	**149**	*e*LR	LR	09 20 43.2	
	119nm,24.6s						
DZM	**Mont Dzumac**	**40.57**	**149**	LR	LR	09 23 45.6	
	comp=Z,80nm,19.0s,baz=200,slow=32						
PETK	**Petropavlovsk-**	**40.99**	**11**	P	**P**	**09 09 39.5**	**+0.4**
	4.7nm,1.0s,baz=206,slow=12,SNR=3.4						
PETK	**Petropavlovsk-**	**40.99**	**11**	P	**P**	**09 09 39.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**45.08**	**283**	P	**P**	**09 10 12.8**	**+0.1**
	1.9nm,0.6s,baz=80,slow=6.2,SNR=9.2						
CMAR				PcP	**PcP**	**09 11 55.2**	**+2.2**
	1.4nm,0.5s,baz=106,slow=1.7,SNR=6.4						
CMAR				LR	LR	09 26 04.7	
	comp=Z,91nm,21.7s,baz=90,slow=32						
CMAR	**Chiang Mai Arr**	**45.08**	**283**	P	**P**	**09 10 12.8**	**+0.1**
CMAR				PcP	**PcP**	**09 11 55.2**	**+2.2**
SONM	**Songino Array**	**47.46**	**325**	P	**P**	**09 10 30.3**	**-0.9**
	1.6nm,0.9s,baz=273,slow=2.5,SNR=9.0						
SONM				PcP	**PcP**	**09 12 02.4**	**+1.4**
	1.1nm,0.5s,baz=153,slow=3.8,SNR=6.3						
SONM	**Songino Array**	**47.46**	**325**	P	**P**	**09 10 30.3**	**-0.9**
SONM				PcP	**PcP**	**09 12 02.4**	**+1.4**
URZ	**Urewera**	**59.08**	**151**	P	**P**	**09 11 56.5**	**+0.1**
	4.0nm,0.7s,baz=111,slow=11,SNR=3.0						
URZ	**Urewera**	**59.08**	**151**	P	**P**	**09 11 56.5**	**+0.1**
TNA	**Tin City**	**60.99**	**20**	*eP*	**P**	**09 12 10.6**	**+1.4**
	5.0nm,0.9s						
MK31	**Makanchi Array**	**62.26**	**316**	*eP*	**P**	**09 12 18.2**	**+0.1**
MKAR	**Makanchi Array**	**62.26**	**316**	P	**P**	**09 12 18.7**	**+0.6**
	1.5nm,0.4s,baz=92,slow=8.4,SNR=48						
MKAR				PcP	**PcP**	**09 12 58.9**	**+1.1**
	0.9nm,0.5s,baz=91,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**62.26**	**316**	P	**P**	**09 12 18.7**	**+0.6**
MKAR				PcP	**PcP**	**09 12 58.9**	**+1.1**
ZALV	**Zalesovo Beam**	**62.36**	**324**	P	**P**	**09 12 18.4**	**-0.2**
	1.8nm,0.7s,baz=100,slow=4.5,SNR=7.8						
ZALV				PcP	**PcP**	**09 12 57.2**	**-0.7**
	4.1nm,0.9s,baz=108,slow=4.8,SNR=9.1						
ZALV	**Zalesovo Beam**	**62.36**	**324**	P	**P**	**09 12 18.4**	**-0.2**
ZALV				PcP	**PcP**	**09 12 57.2**	**-0.7**
KDAK	**Kodiak Island**	**64.06**	**32**	P	**P**	**09 12 30.2**	**+0.5**
	3.7nm,0.7s,baz=288,slow=21,SNR=4.6						
KDAK	**Kodiak Island**	**64.06**	**32**	P	**P**	**09 12 30.2**	**+0.5**
KURK	**Kurchatov**	**65.34**	**320**	P	**P**	**09 12 38.2**	**0.0**
	10nm,0.7s,baz=101,slow=6.7,SNR=15						
KURK	**Kurchatov**	**65.34**	**320**	P	**P**	**09 12 38.2**	**0.0**
	1.5nm,0.9s						
PPLA	**Purkeypile**	**65.85**	**26**	*eP*	**P**	**09 12 43.0**	**+1.5**
	8.3nm,0.7s						
RC01	**Rabbit Creek A**	**66.40**	**29**	*eP*	**P**	**09 12 44.9**	**0.0**
	5.8nm,0.6s						
COLD	**Coldfoot**	**68.07**	**22**	*eP*	**P**	**09 12 56.3**	**+0.9**
	9.4nm,1.1s						
ILAR	**Eielson Array**	**68.65**	**25**	P	**P**	**09 12 58.1**	**-1.0**
	1.7nm,0.5s,baz=250,slow=5.8,SNR=35						
ILAR	**Eielson Array**	**68.65**	**25**	P	**P**	**09 12 58.1**	**-1.0**
	0.3nm,0.7s,baz=104,slow=2.5,SNR=4.3						
MKAR	**Makanchi Array**	**40.68**	**309**	P	**P**	**09 31 53.5**	**+0.3**
MKAR				PcP	**PcP**	**09 33 53.4**	**-0.7**
ZALV	**Zalesovo Beam**	**40.77**	**320**	P	**P**	**09 31 56.5**	**+2.8**
	0.5nm,0.6s,baz=116,slow=6.6,SNR=3.3						
ZALV				PcP	**PcP**	**09 33 53.0**	**-1.0**
	0.4nm,0.5s,baz=193,slow=5.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.77**	**320**	P	**P**	**09 31 56.5**	**+2.8**
ZALV				PcP	**PcP**	**09 33 53.0**	**-1.0**
WRA	**Warramunga Arr**	**49.16**	**174**	P	**P**	**09 32 59.0**	**-1.7**
	0.6nm,0.7s,baz=350,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**49.16**	**174**	P	**P**	**09 32 59.0**	**-1.7**
ASAR	**Alice Springs**	**52.81**	**175**	P	**P**	**09 33 28.6**	**+0.4**
	0.4nm,0.7s,baz=11,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**52.81**	**175**	P	**P**	**09 33 28.6**	**+0.4**
RSO	**Redoubt South**	**58.80**	**34**	*eP*	**P**	**09 34 13.2**	**+2.4**
	12nm,0.4s						
ILAR	**Eielson Array**	**61.03**	**29**	P	**P**	**09 34 25.4**	**-0.4**
	0.3nm,0.7s,baz=285,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**61.03**	**29**	P	**P**	**09 34 25.4**	**-0.4**
INK	**Inuvik**	**65.48**	**24**	P	**P**	**09 34 55.2**	**+0.1**
	0.8nm,1.0s,baz=296,slow=6.4,SNR=3.3						
INK	**Inuvik**	**65.48**	**24**	P	**P**	**09 34 55.2**	**+0.1**
FINES	**FINESS Array B**	**70.92**	**330**	P	**P**	**09 35 27.5**	**-1.9**
	1.7nm,0.8s,baz=91,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**70.92**	**330**	P	**P**	**09 35 27.5**	**-1.9**
YKA	**Yellowknife Ar**	**75.11**	**26**	P	**P**	**09 35 54.2**	**+0.1**
	0.7nm,0.7s,baz=304,slow=5.7,SNR=17						
YKA	**Yellowknife Ar**	**75.11**	**26**	P	**P**	**09 35 54.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**114.60**	**303**	PKP	**PKiKP**	**09 42 52.8**	**-0.3**
	0.3nm,0.7s,baz=46,slow=4.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**114.60**	**303**	PKP	**PKiKP**	**09 42 52.8**	**-0.3**

PAX	**Paxson**	**68.82**	**27**	*eP*	**P**	**09 13 01.0**	**+0.7**
	3.1nm,0.7s							
KKAR	**Karatay Array**	**70.24**	**311**	*eP*	**P**	**09 13 09.6**	**+0.3**
	2.9nm,0.9s							
BVAR	**Borovoye Array**	**70.67**	**322**	P	**P**	**09 13 11.5**	**-0.3**
	8.6nm,0.5s,baz=107,slow=7.4,SNR=69							
BVAR	**Borovoye Array**	**70.67**	**322**	P	**P**	**09 13 11.5**	**-0.3**
BRVK	**Borovoye**	**70.74**	**322**	*eP*	**P**	**09 13 11.5**	**-0.6**
	7.7nm,0.9s							
PPT2	**Papeete2**	**70.92**	**114**	*e*LR	LR	09 34 54.0		
	119nm,24.2s,baz=292							
INK	**Inuvik**	**74.48**	**22**	P	**P**	**09 13 34.1**	**+0.1**
	5.3nm,1.0s,baz=261,slow=7.7,SNR=15							
INK	**Inuvik**	**74.48**	**22**	*eP*	**P**	**09 13 34.2**	**+0.1**
DLBC	**Dease Lake**	**75.96**	**33**	P	**P**	**09 13 44.1**	**+1.3**
	4.1nm,0.8s,baz=298,slow=10,SNR=6.6							
DLBC	**Dease Lake**	**75.96**	**33**	P	**P**	**09 13 44.1**	**+1.3**
ABKAR	**Akbulak array**	**77.31**	**318**	*eP*	**P**	**09 13 50.3**	**-0.3**
	1.4nm,0.5s							
YKA	**Yellowknife Ar**	**82.91**	**27**	P	**P**	**09 14 20.6**	**+0.1**
	1.2nm,0.6s,baz=286,slow=5.1,SNR=33							
YKA	**Yellowknife Ar**	**82.91**	**27**	P	**P**	**09 14 20.6**	**+0.1**
SPITS	**Spitsbergen Ar**	**84.57**	**351**	P	**P**	**09 14 28.8**	**0.0**
	11nm,1.0s,baz=311,slow=18,SNR=3.0							
SPITS	**Spitsbergen Ar**	**84.57**	**351**	P	**P**	**09 14 28.8**	**0.0**
RES	**Resolute Bay**	**84.79**	**13**	P	**P**	**09 14 30.3**	**+0.4**
	1.3nm,0.5s,baz=323,slow=4.8,SNR=6.2							
RES	**Resolute Bay**	**84.79**	**13**	P	**P**	**09 14 30.3**	**+0.4**
NVAR	**Mina Array Bea**	**86.64**	**51**	P	**P**	**09 14 40.6**	**+0.4**
	1.3nm,0.5s,baz=270,slow=5.5,SNR=11							
NVAR	**Mina Array Bea**	**86.64**	**51**	P	**P**	**09 14 40.5**	**+0.4**
BSMT	**Bassoo Peak**	**86.70**	**42**	*eP*	**P**	**09 14 41.0**	**+0.8**
	14nm,0.8s							
ARCES	**ARCESS Array B**	**87.69**	**342**	P	**P**	**09 14 44.4**	**+0.1**
	3.5nm,0.7s,baz=32,slow=7.1,SNR=4.1							
ARCES	**ARCESS Array B**	**87.69**	**342**	P	**P**	**09 14 44.4**	**+0.1**
PDAR	**Pinedale Array**	**91.77**	**45**	P	**P**	**09 15 05.0**	**+0.7**
	0.3nm,0.6s,baz=210,slow=6.3,SNR=3.0							
PDAR	**Pinedale Array**	**91.77**	**45**	P	**P**	**09 15 05.0**	**+0.7**
FINES	**FINESS Array B**	**91.82**	**335**	P	**P**	**09 15 02.7**	**-1.1**
	2.2nm,0.7s,baz=58,slow=3.4,SNR=6.9							
FINES	**FINESS Array B**	**91.82**	**335**	P	**P**	**09 15 02.7**	**-1.1**
AKASG	**Malin Array Be**	**95.75**	**325**	P	**P**	**09 15 20.7**	**-1.3**
	0.8nm,0.6s,baz=327,slow=2.6,SNR=4.1							
AKASG	**Malin Array Be**	**95.75**	**325**	P	**P**	**09 15 20.7**	**-1.3**
BRTR	**Keskin Array B**	**97.84**	**314**	P	**P**	**09 15 31.2**	**-0.8**
	0.9nm,0.7s,baz=30,slow=8.5,SNR=4.0							
BRTR	**Keskin Array B**	**97.84**	**314**	P	**P**	**09 15 31.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**135.66**	**305**	PKP	**PKPdf**	**09 21 17.1**	**-0.2**
	0.8nm,0.8s,baz=17,slow=2.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**135.66**	**305**	PKP	**PKPdf**	**09 21 17.1**	**-0.2**
DBIC	**Dimbokro**	**144.62**	**302**	PKP	PKPbc	09 21 32.6	+0.3
	19nm,0.8s,baz=38,slow=3.2,SNR=24							
DBIC	**Dimbokro**	**144.62**	**302**	*e*PKPdf	**PKPdf**	**09 21 32.8**	**-0.7**
BBTS	**Babate**	**147.16**	**327**	PKPbc	**PKPbc**	**09 21 40.2**	**+0.3**
	13nm,0.4s,baz=25,slow=3.7,SNR=4.5							
BBTS	**Babate**	**147.16**	**327**	PKPbc	**PKPbc**	**09 21 40.2**	**+0.3**
LPAZ	**La Paz**	**147.28**	**100**	PKPbc	**PKPab**	**09 21 43.5**	**+0.6**
	1.4nm,0.7s,baz=252,slow=3.9,SNR=3.6							
LPAZ	**La Paz**	**147.28**	**100**	PKPbc	**PKPab**	**09 21 43.5**	**+0.6**

IDC 07 09:08:29.8±2.5, 24.9N×142.29E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=200.6km s-min=22.7km az=90.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.15**	**358**	Pn	Pn	09 09 06.0	-1.0
	23nm,0.3s,baz=300,slow=23,SNR=23						
CBIJ				Sn	Sn	09 09 30.5	-3.8
	29nm,0.3s,baz=280,slow=22,SNR=6.1						
MJAR	**Matsushiro Arr**	**12.08**	**344**	Pn	Pn	09 11 24.9	+1.7
	0.2nm,0.3s,baz=167,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**45.28**	**191**	P	P	09 16 49.4	+0.1
	1.6nm,0.4s,baz=9.8,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**49.00**	**190**	P	P	09 17 18.0	-0.4
	0.1nm,0.3s,baz=18,slow=14,SNR=5.0						

IDC 07 09:15:19.7±5.1, 0.57S×132.22E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=328.2km s-min=25.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.37**	**174**	P	P	09 19 46.9	-0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=3.4						
WRA				S	Sn	09 23 13.0	-13
	0.2nm,0.3s,baz=239,slow=43,SNR=2.9						
ASAR	**Alice Springs**	**23.02**	**176**	P	P	09 20 26.8	+0.2
	1.4nm,0.8s,baz=0.5,slow=11,SNR=12						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	09 25 56.5	0.0
	0.2nm,0.6s,baz=112,slow=7.7,SNR=4.2						

*NIED **07** 09:24:00, 29.30N×129.90E, h35km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs47.00000°, δ74.00000°, λ80.00000°. NP2:φs260.00000°, δ19.00000°, λ121.00000°.*

*ISCJB **07** 09:24:17.0±0.4, 29.31N±0.03×129.93E±0.08, h57km±4km, mb3.7/11, Error ellipse: s-maj=11.6km s-min=3.6km az=18.7*

*JMA **07** 09:24:17.0±0.1, 29.35N×129.89E, h61km±2km, M3.6*

JMA Felt I J1.

*NEIC **07** 09:24:19.3±1.2, 29.23N×129.92E, h66km±11km, mb3.9/2, Error ellipse: s-maj=17.7km s-min=10.8km az=100.0*

*IDC **07** 09:24:19.1±2.6, 29.24N×129.82E, h67km±24km, mb3.3/8, mb1 3.5/10, mb1mx3.4/24, mbtmp3.4/10, MS3.2/2, Ms1 3.2/2, ms1mx2.6/31, Error ellipse: s-maj=30.3km s-min=14.9km az=94.0*

ISC 07 09:24:17.9±0.9, 29.31N±0.04×129.91E±0.08, h52km±8km, n41, σ1925/56, mb3.7/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.53**	**356**	P	**Pn**	**09 24 28.8**	**-0.8**
JNN				*eS*	**Sn**	**09 24 37.6**	**-0.5**
JAM	**Amami Oshima**	**0.94**	**197**	P	**Pn**	**09 24 34.2**	**-0.7**
JAM				*eS*	**Sn**	**09 24 46.6**	**-0.7**
JZK	**Kikaishima**	**1.00**	**177**	P	**Pn**	**09 24 36.2**	**+0.6**
JZK				*eS*	**Sn**	**09 24 51.4**	**+2.7**
JKC	**Kuchinoerabu**	**1.17**	**12**	P	**Pn**	**09 24 37.3**	**-0.7**
JKC				*eS*	**Sn**	**09 24 51.6**	**-1.3**
JTN	**Tanegashima 3**	**1.62**	**34**	P	**Pn**	**09 24 43.5**	**-0.7**
JTN				*eS*	**Sn**	**09 25 03.2**	**-0.8**
JTK	**Tokunoshima**	**1.74**	**209**	P	**Pn**	**09 24 45.8**	**0.0**
JTK				*eS*	**Sn**	**09 25 06.2**	**-0.6**
JTSR	**Tashiro 2**	**2.04**	**25**	P	**Pn**	**09 24 49.7**	**-0.2**
JTSR				*eS*	**Sn**	**09 25 14.2**	**0.0**
JSU	**Suzuyama**	**2.23**	**12**	P	**Pn**	**09 24 52.3**	**-0.2**
JSU				*eS*	**Sn**	**09 25 17.6**	**-1.3**
JSJ	**Shimokoshiki**	**2.36**	**356**	P	**Pn**	**09 24 54.5**	**+0.3**
JSJ				*eS*	**Sn**	**09 25 21.6**	**-0.4**
JNAR	**Kushima--Naru**	**2.50**	**28**	P	**Pn**	**09 24 56.7**	**+0.6**
JIH	**Iheya**	**2.85**	**218**	*eS*	**Sn**	**09 25 34.3**	**+0.4**
JOW	**Kunigami**	**2.87**	**211**	P	**Pn**	**09 25 01.6**	**+0.4**
	16nm,0.3s,baz=100,slow=26,SNR=37						
JOW				S	**Sn**	**09 25 33.2**	**-1.2**
	28nm,0.3s,baz=114,slow=28,SNR=3.0						
JOW	**Kunigami**	**2.87**	**211**	P	**Pn**	**09 25 01.6**	**+0.4**
JOW				S	**Sn**	**09 25 33.2**	**-1.2**
JOW	**Kunigami**	**2.87**	**211**	P	**Pn**	**09 25 01.6**	**+0.4**
JOW				*eS*	**Sn**	**09 25 35.1**	**+0.7**
JNU	**Nakatsue**	**3.88**	**12**	*e*Pn	**Pn**	**09 25 17.0**	**+1.9**
KSAR	**Wonju Array Be**	**8.28**	**349**	P	**Pn**	**09 26 18.4**	**+3.0**
KSRS	**Korea Array**	**8.29**	**349**	P	**Pn**	**09 26 18.4**	**+3.0**
	0.2nm,0.3s,baz=170,slow=14,SNR=6.5						
KSRS				LR	LR	09 29 10.6	
	comp=Z,108nm,20.2s,baz=161,slow=35						
CBIJ	**Chichi jima**	**11.05**	**99**	LR	LR	09 30 08.4	
	comp=Z,136nm,18.0s,baz=88,slow=31						
ENH	**Enshi**	**17.76**	**278**	*eP*	**P**	**09 28 22.4**	**+0.7**
	5.1nm,0.4s						
ULN	**Ulaanbaatar**	**25.58**	**323**	*eP*	**P**	**09 29 43.1**	**+0.9**
	1.6nm,0.5s						
SONM	**Songino Array**	**25.91**	**322**	P	**P**	**09 29 44.8**	**-0.3**
	0.7nm,0.6s,baz=142,slow=10,SNR=7.2						
SONM	**Songino Array**	**25.91**	**322**	P	**P**	**09 29 44.8**	**-0.3**
MKAR	**Makanchi Array**	**40.68**	**309**	P	**P**	**09 31 53.5**	**+0.3**
	0.3nm,0.7s,baz=98,slow=8.9,SNR=5.4						
MKAR				PcP	**PcP**	**09 33 53.4**	**-0.7**

*NIED **07** 09:30:00, 41.70N×142.60E, h38km, Mw3.9 Best double couple: M0 6.76000×10^14 NP1:φs350.00000°, δ57.00000°, λ72.00000°. NP2:φs201.00000°, δ37.00000°, λ116.00000°.*

*NEIC **07** 09:30:56.1, 41.70N×142.60E, h38km, MG3.8(JMA), After JMA.*

NEIC Recorded [1 JMA] in southern and southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

*ISCJB **07** 09:30:56.2±0.4, 41.70N±0.04×142.59E±0.04, h43km±4km, mb3.6/15, Error ellipse: s-maj=7.2km s-min=3.7km az=141.2*

*JMA **07** 09:30:56.1±0.1, 41.70N×142.60E, h38km±3km, M3.8 Broadband fault plane solution: P waves. NP1: φs359.00000°, δ53.00000°, λ66.00000°. NP2: φs216.00000°, δ43.00000°, λ119.00000°. Principal axes: T Plg70.0000°, Azm210.0000°; N Plg19.0000°, Azm14.0000°; P Plg5.0000°, Azm106.0000°;*

JMA Felt I J1.

*MOS **07** 09:30:56.6±1.6, 41.73N×142.73E, h53km, mb4.2/7 Error ellipse: s-maj=16.6km s-min=9.6km az=64.2*

*IDC **07** 09:30:58.0±0.8, 41.67N×142.47E, h45km±6km, mb3.4/15, mb1 3.7/15, mb1mx3.6/23, mbtmp3.4/15, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s

ILAR	**Eielson Array**	**45.06**	**35**	P	**P**	**09 39 10.1**	**+0.7**	
	comp=Z,0.2nm,0.5s,baz=254,slow=5.7,SNR=6.2							
ILAR				pP	**pP**	**09 39 21.8**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=268,slow=7.4,SNR=4.6							
ILAR	**Eielson Array**	**45.06**	**35**	P	**P**	**09 39 10.1**	**+0.7**	
ILAR				*PP	**pP**	**09 39 21.8**	**+0.3**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**45.06**	**35**	P	**P**	**09 39 10.1**	**+0.7**	
ILAR				pP	**pP**	**09 39 21.8**	**+0.3**	
INK	**Inuvik**	**49.80**	**29**	P	**P**	**09 39 46.1**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=316,slow=3.7,SNR=3.7							
INK	**Inuvik**	**49.80**	**29**	P	**P**	**09 39 46.2**	**+0.1**	
INK	**Inuvik**	**49.80**	**29**	P	**P**	**09 39 46.1**	**+0.1**	
YKA	**Yellowknife Ar**	**59.30**	**32**	P	**P**	**09 40 54.8**	**-0.2**	
	comp=Z,0.2nm,0.7s,baz=305,slow=6.4,SNR=3.9							
YKA	**Yellowknife Ar**	**59.30**	**32**	P	**P**	**09 40 54.8**	**-0.2**	
YKA	**Yellowknife Ar**	**59.30**	**32**	P	**P**	**09 40 54.8**	**-0.2**	
WRA	**Warramunga Arr**	**61.85**	**189**	P	**P**	**09 41 11.3**	**-1.6**	
	comp=Z,0.8nm,0.8s,baz=3.5,slow=6.9,SNR=14							
WRA	**Warramunga Arr**	**61.85**	**189**	P	**P**	**09 41 11.3**	**-1.6**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**61.85**	**189**	P	**P**	**09 41 11.3**	**-1.6**	
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**09 41 32.7**	**-1.1**	
	comp=Z,1.1nm,0.4s,baz=58,slow=7.2,SNR=10							
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**09 41 32.7**	**-1.1**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**09 41 32.7**	**-1.1**	
ASAR	**Alice Springs**	**65.58**	**189**	P	**P**	**09 41 35.2**	**-2.2**	
	comp=Z,0.4nm,0.7s,baz=9.2,slow=6.8,SNR=3.5							
ASAR	**Alice Springs**	**65.58**	**189**	P	**P**	**09 41 35.2**	**-2.2**	
ASAR	**Alice Springs**	**65.58**	**189**	P	**P**	**09 41 35.2**	**-2.2**	
NOA	**NORSAR Array B**	**70.21**	**337**	P	**P**	**09 42 05.1**	**-1.1**	
	comp=Z,1.3nm,0.9s,baz=57,slow=16,SNR=3.0							
NOA	**NORSAR Array B**	**70.21**	**337**	P	**P**	**09 42 05.1**	**-1.1**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**70.21**	**337**	P	**P**	**09 42 05.1**	**-1.1**	
AKASG	**Malin Array Be**	**71.15**	**322**	P	**P**	**09 42 10.8**	**-1.1**	
	comp=Z,1.3nm,0.4s,baz=44,slow=6.8,SNR=11							
AKASG	**Malin Array Be**	**71.15**	**322**	P	**P**	**09 42 10.9**	**-1.1**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.15**	**322**	P	**P**	**09 42 10.8**	**-1.1**	
NVAR	**Mina Array Bea**	**71.47**	**55**	P	**P**	**09 42 15.9**	**+1.4**	
	comp=Z,0.3nm,0.5s,baz=294,slow=2.9,SNR=2.5							
NVAR				pP	**pP**	**09 42 28.3**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=287,slow=5.9,SNR=3.5							
NVAR	**Mina Array Bea**	**71.47**	**55**	P	**P**	**09 42 15.9**	**+1.4**	
NVAR				pP	**pP**	**09 42 28.3**	**+1.0**	
PDAR	**Pinedale Array**	**73.74**	**47**	P	**P**	**09 42 30.0**	**+2.1**	
	comp=Z,0.2nm,0.8s,baz=331,slow=7.2,SNR=2.4							
PDAR				pP	**pP**	**09 42 40.7**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=153,slow=1.3,SNR=3.5							
PDAR	**Pinedale Array**	**73.74**	**47**	P	**P**	**09 42 30.0**	**+2.1**	
PDAR				pP	**pP**	**09 42 40.7**	**0.0**	
TXAR	**Lajitas Array**	**86.54**	**53**	P	**P**	**09 43 37.4**	**+0.5**	
	comp=Z,0.2nm,0.8s,baz=325,slow=2.5,SNR=3.3							
TXAR				pP	**pP**	**09 43 50.6**	**+0.7**	
	comp=Z,0.2nm,0.7s,baz=305,slow=3.2,SNR=2.7							
TXAR	**Lajitas Array**	**86.54**	**53**	P	**P**	**09 43 37.4**	**+0.5**	
TXAR				*PP	**pP**	**09 43 50.6**	**+0.7**	
TXAR	**Lajitas Array**	**86.54**	**53**	P	**P**	**09 43 37.4**	**+0.5**	
TXAR				pP	**pP**	**09 43 50.6**	**+0.7**	
SIV	**San Ignacio**	**147.22**	**46**	PKPbc	**PKPab**	**09 50 37.8**	**-1.0**	
	comp=Z,0.6nm,0.5s,baz=344,slow=15,SNR=4.1							
SIV	**San Ignacio**	**147.22**	**46**	PKPbc	**PKPab**	**09 50 37.8**	**-1.0**	

*NEIC **07** 09:33:43.4, 19°.11N×66°.30W, h27km, MD3.4(RSPR), After RSPR.*

RSPR 07 09:33:43.4, 19°.11N×66°.30W, h27km±17km, MD3.4/7, 18C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.88**	**210**	*e*P	Pn	09 33 57.5	-2.5
AOPR	**Arecibo Observ**	**0.88**	**210**	*e*S	Sb	09 34 08.9	-2.5
AOPR	**Arecibo Observ**	**0.88**	**210**	*e*P	Pn	09 33 57.5	-2.5
AOPR				*e*S	Sb	09 34 08.9	-2.5
LRS	**Lares**	**0.97**	**212**	*e*P	Pn	09 33 58.7	-2.6
LRS	**Lares**	**0.97**	**212**	*e*P	Pn	09 33 58.7	-2.6
AGPR	**Aguadilla, PR**	**1.00**	**230**	*e*P	Pn	09 33 59.8	-1.9
AGPR	**Aguadilla, PR**	**1.00**	**230**	*e*P	Pn	09 33 59.8	-1.9
SJG	**San Juan**	**1.01**	**172**	*e*P	Pn	09 33 59.7	-2.0
SJG				*e*S	Sb	09 34 12.5	-2.5
SJG	**San Juan**	**1.01**	**172**	*e*P	Pn	09 33 59.7	-2.0
SJG				*e*S	Sb	09 34 12.5	-2.5
HUMP	**Col San Antoni**	**1.05**	**156**	*e*P	Pn	09 34 00.5	-1.9
HUMP	**Col San Antoni**	**1.05**	**156**	*e*S	Sn	09 34 13.5	-2.8
HUMP	**Col San Antoni**	**1.05**	**156**	*e*P	Pn	09 34 00.5	-1.9
HUMP				*e*S	Sn	09 34 13.5	-2.8
CELP	**Cerrillos**	**1.07**	**195**	*e*P	Pn	09 34 00.8	-1.8
CELP	**Cerrillos**	**1.07**	**195**	*e*P	Pn	09 34 00.8	-1.8
OBIP	**Obispado Ponce**	**1.10**	**195**	*e*P	Pn	09 34 01.4	-1.7
OBIP	**Obispado Ponce**	**1.10**	**195**	*e*S	Sn	09 34 14.9	-2.6
OBIP	**Obispado Ponce**	**1.10**	**195**	*e*P	Pn	09 34 01.4	-1.7
OBIP				*e*S	Sn	09 34 14.9	-2.6
LSP	**Las Mesas**	**1.19**	**219**	*e*P	Pn	09 34 02.0	-2.4
LSP	**Las Mesas**	**1.19**	**219**	*e*P	Pn	09 34 02.0	-2.4
ICM	**Isla Caja Muer**	**1.23**	**190**	*e*Pn	Pn	09 34 04.9	0.0
CRPR	**Cabo Rojo, PR**	**1.34**	**215**	*e*P	Pn	09 34 04.5	-1.9
CRPR	**Cabo Rojo, PR**	**1.34**	**215**	*e*P	Pn	09 34 04.5	-1.9
STVI	**Saint Thomas**	**1.48**	**121**	*e*S	Sn	09 34 24.1	-2.8
STVI	**Saint Thomas**	**1.48**	**121**	*e*P	Pn	09 34 06.5	-1.9
STVI	**Saint Thomas**	**1.48**	**121**	*e*P	Pn	09 34 06.5	-1.9
STVI				*e*S	Sn	09 34 24.1	-2.8
SDDR	**Presa de Saban**	**4.72**	**269**	*e*Pn	Pn	09 34 47.3	-5.7

IDC 07 09:58:40.2±1.9, 0°.71S×133°.27E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=83.7km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.84**	**203**	P	P	10 03 01.6	-0.2
	0.2nm,0.3s,baz=23,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**19.14**	**177**	P	Pn	10 03 06.4	+0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=5.4						
WRA				S	Sn	10 06 32.1	-9.1
	0.1nm,0.3s,baz=115,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**22.83**	**179**	P	P	10 03 45.7	+0.6
	1.3nm,0.3s,baz=358,slow=11,SNR=26						
STKA	**Stephens Creek**	**31.98**	**167**	P	P	10 05 06.9	-1.3
	0.8nm,0.4s,baz=340,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	10 09 21.8	+0.1
	0.1nm,0.4s,baz=105,slow=8.2,SNR=3.0						

IDC 07 10:05:13.4±2.8, 0°.45S×132°.65E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=127.5km s-min=24.6km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.85**	**201**	P	Pn	10 09 35.5	-0.1
	0.3nm,0.3s,baz=41,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**19.45**	**175**	P	P	10 09 41.8	0.0
	0.3nm,0.3s,baz=350,slow=13,SNR=6.1						
ASAR	**Alice Springs**	**23.11**	**177**	P	P	10 10 21.1	-0.2
	1.7nm,0.5s,baz=355,slow=10,SNR=18						
MKAR	**Makanchi Array**	**64.36**	**324**	P	P	10 15 51.1	-0.1
	0.5nm,0.9s,baz=116,slow=6.6,SNR=3.9						

IDC 07 10:07:23.9±1.4, 0°.23S×132°.73E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=65.7km s-min=23.8km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.08**	**201**	P	P	10 11 47.2	-1.0
	0.2nm,0.3s,baz=43,slow=9.9,SNR=3.2						
FITZ				S	Sn	10 15 08.6	-15
	0.1nm,0.3s,baz=324,slow=22,SNR=2.3						
WRA	**Warramunga Arr**	**19.65**	**175**	P	P	10 11 54.4	-0.1
	0.3nm,0.3s,baz=355,slow=12,SNR=5.3						
WRA				S	S	10 15 27.7	-10
	0.2nm,0.3s,baz=352,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**23.32**	**177**	P	P	10 12 34.5	+0.6
	1.3nm,0.6s,baz=356,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**64.23**	**324**	P	P	10 18 00.9	0.0
	0.2nm,0.4s,baz=101,slow=5.6,SNR=5.2						
ILAR	**Eielson Array**	**86.10**	**25**	P	P	10 20 06.4	-0.1
	0.3nm,0.9s,baz=283,slow=4.5,SNR=3.5						

*IDC **07** 10:18:53.4±0.7, 48°.85N×154°.90E, h44km±6km, mb3.6/13, mb1 3.8/15, mb1mx3.7/25, mbtmp3.6/15, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.6/38, Error ellipse: s-maj=21.5km s-min=12.6km az=145.0*

*NEIC **07** 10:18:53.5±0.5, 48°.78N×155°.07E, mb4.2/1, Error ellipse: s-maj=15.5km s-min=7.7km az=141.0*

*ISCJB **07** 10:18:55.2±0.9, 49°.00N±0°.07×154°.9E±0°.1, h76km±8km, mb3.7/14, Error ellipse: s-maj=16.3km s-min=6.3km az=43.2*

*MOS **07** 10:18:55.3±1.4, 49°.00N×154°.89E, h77km, mb4.1/6, Error ellipse: s-maj=16.8km s-min=9.1km az=62.4*

ISC 07 10:18:53.9±0.6, 48°.91N±0°.07×154°.94E±0°.07, h48km±5km, h48km:pP-P, n74, σ1s40/88, mb3.8/14, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.94**	**23**	*e*Pn	**Sn**	**10 19 46.5**	**-0.9**
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
SKR				pmax	pmax		
	comp=N,110nm,0.3s						
SKR				pmax	pmax		
	comp=E,90nm,0.3s						
PEA0B	**Petropavlovsk-**	**4.55**	**21**	*e*Pn	**Pn**	**10 20 03.3**	**+3.1**
PETK	**Petropavlovsk-**	**4.55**	**21**	P	**Pn**	**10 20 03.2**	**+3.0**
	comp=E,4.5nm,0.3s,baz=171,slow=13,SNR=100						
PETK				S	**Sn**	**10 20 51.7**	**-0.1**
	comp=E,1.6nm,0.3s,baz=175,slow=16,SNR=1.7						
PETK	**Petropavlovsk-**	**4.55**	**21**	PN	**Pn**	**10 20 03.2**	**+3.0**
PETK				S	**Sn**	**10 20 51.7**	**-0.1**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.55**	**21**	P	**Pn**	**10 20 03.2**	**+3.0**
PETK				S	**Sn**	**10 20 51.7**	**-0.1**
PET	**Petropavlovsk**	**4.74**	**28**	*e*PN	**Pn**	**10 20 03.4**	**+0.6**
PET				*e*S	**Sn**	**10 20 58.0**	**+1.6**
PET				smax	smax		
	comp=E,182nm,0.6s						
PET				smax	smax		
	comp=N,234nm,1.0s						
PET	**Petropavlovsk**	**4.74**	**28**	*e*Pn	**Pn**	**10 20 02.8**	**0.0**
PET				*e*Sn	**Sn**	**10 20 58.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**8.41**	**261**	*i*PN	Pn	10 20 57.5	+4.4
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.41**	**261**	*e*Pn	**Pn**	**10 20 55.8**	**+2.7**
ASAJ	**Asahikawa**	**9.76**	**245**	P	Pn	10 21 15.6	+4.0
	baz=59,slow=12						
ASAJ				LR	LR	10 24 32.9	
	comp=Z,58nm,21.8s,baz=26,slow=35						
ASAJ	**Asahikawa**	**9.76**	**245**	PN	Pn	10 21 15.6	+4.0
ASAJ				MLR	MLR		
	comp=Z,58nm,21.8s						
ASAJ	**Asahikawa**	**9.76**	**245**	P	Pn	10 21 15.6	+4.0
ERM	**Erimo**	**10.76**	**235**	*e*PN	**Pn**	**10 21 27.0**	**+1.8**
ERM	**Erimo**	**10.76**	**235**	*e*Pn	**Pn**	**10 21 27.0**	**+1.8**
FX1	**Attu Island--F**	**12.17**	**64**	P	**Pn**	**10 21 42.7**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=186,slow=21,SNR=7.9						
FX1				S	Sn	10 23 46.5	-12
	comp=Z,3.4nm,0.3s,baz=258,slow=22,SNR=2.2						
FX1	**Attu Island--F**	**12.17**	**64**	PN	**Pn**	**10 21 42.7**	**-1.7**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**12.17**	**64**	P	**Pn**	**10 21 42.7**	**-1.7**
FX1				S	Sn	10 23 46.5	-12
USRK	**Ussuriysk Arra**	**16.44**	**262**	P	**P**	**10 22 44.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=13						
MJA0	**Matsu Arr-Jizo**	**17.36**	**231**	*e*P	**P**	**10 22 56.3**	**+2.8**
MJAR	**Matsushiro Arr**	**17.38**	**231**	P	**Pn**	**10 22 51.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=18,SNR=3.0						
MJAR	**Matsushiro Arr**	**17.38**	**231**	P	**Pn**	**10 22 51.6**	**-1.3**
MJAR	**Matsushiro Arr**	**17.38**	**231**	P	**Pn**	**10 22 51.6**	**-1.3**
YAK	**Yakutsk**	**19.26**	**322**	*e*P	**Pn**	**10 23 15.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YAK	**Yakutsk**	**19.26**	**322**	*e*P	**Pn**	**10 23 15.1**	**-0.3**
	comp=Z,7.2nm,0.5s						
BILL	**Bilibino**	**20.02**	**12**	*i*P	**P**	**10 23 21.5**	**-0.7**
BILL				pmax	pmax		
	comp=Z,11nm,2.5s						
KSRS	**Korea Array**	**22.66**	**250**	P	**P**	**10 23 51.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=44,slow=9.9,SNR=6.5						
KSRS	**Korea Array**	**22.66**	**250**	P	**P**	**10 23 51.3**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSAR	**Wonju Array Be**	**22.69**	**250**	P	**P**	**10 23 51.3**	**+0.1**
KSAR	**Wonju Array Be**	**22.69**	**250**	P	**P**	**10 23 51.3**	**+0.1**
SONM	**Songino Array**	**31.83**	**287**	PcP	**PcP**	**10 28 03.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=83,slow=4.8,SNR=2.8						
SONM	**Songino Array**	**31.83**	**287**	PcP	**PcP**	**10 28 03.7**	**-0.1**
ILAR	**Eielson Array**	**34.10**	**41**	P	**P**	**10 25 33.3**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=263,slow=12,SNR=6.0						
ILAR				pP	**pP**	**10 25 46.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=258,slow=5.4,SNR=5.1						
ILAR	**Eielson Array**	**34.10**	**41**	P	**P**	**10 25 33.3**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**34.10**	**41**	P	**P**	**10 25 33.3**	**-0.2**
ILAR				pP	**pP**	**10 25 46.0**	**-0.2**
ZALV	**Zalesovo Beam**	**42.37**	**304**	P	**P**	**10 26 41.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=68,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.37**	**304**	P	**P**	**10 26 41.8**	**-1.3**
ZALV	**Zalesovo Beam**	**42.37**	**304**	P	**P**	**10 26 41.8**	**-1.3**
MKAR	**Makanchi Array**	**47.06**	**296**	P	**P**	**10 27 19.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=69,slow=8.9,SNR=8.1						
MKAR				PcP	**PcP**	**10 28 52.5**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=68,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**47.06**	**296**	*e*P	**P**	**10 27 22.1**	**+1.6**
MKAR	**Makanchi Array**	**47.06**	**296**	P	**P**	**10 27 19.9**	**-0.6**
MKAR				PcP	**PcP**	**10 28 52.5**	**+0.7**
KURK	**Kurchatov**	**47.21**	**303**	P	**P**	**10 27 21.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=92,slow=24,SNR=5.7						
KURK	**Kurchatov**	**47.21**	**303**	P	**P**	**10 27 21.5**	**-0.1**
KURK	**Kurchatov**	**47.21**	**303**	P	**P**	**10 27 21.5**	**-0.1**
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**10 27 31.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=298,slow=7.5,SNR=12						
YKA				pP	**pP**	**10 27 44.3**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.1,SNR=8.0						
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**10 27 31.6**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**10 27 31.7**	**+0.6**
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**10 27 31.6**	**+0.6**
YKA				pP	**pP**	**10 27 44.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**54.07**	**256**	P	**P**	**10 28 14.7**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=33,slow=7.4,SNR=12						
CMAR	**Chiang Mai Arr**	**54.07**	**256**	P	**P**	**10 28 14.7**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.07**	**256**	P	**P**	**10 28 14.7**	**+1.0**
ARU	**Arti**	**54.26**	**317**	*c i*P	**P**	**10 28 12.0**	**-2.5**
ARU						10 30 14.0	
ARU				S	**S**	**10 35 43.3**	**-4.9**
ARU				SS	**SKiKP**	**10 39 24.8**	**+4.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
PDAR	**Pinedale Array**	**62.50**	**56**	P	**P**	**10 29 13.2**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=318,slow=2.0,SNR=6.6						
PDAR	**Pinedale Array**	**62.50**	**56**	P	**P**	**10 29 13.2**	**+0.7**
CTA	**Charters Tower**	**69.12**	**189**	LR	LR	10 53 59.1	
	comp=Z,145nm,20.8s,baz=228,slow=30						
AKASG	**Malin Array Be**	**70.42**	**327**	P	**P**	**10 30 02.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=32,slow=7.1,SNR=3.0						
AKASG	**Malin Array Be**	**70.42**	**327**	P	**P**	**10 30 02.5**	**-0.1**
AKASG	**Malin Array Be**	**70.42**	**327**	P	**P**	**10 30 02.5**	**-0.1**
SCHQ	**Schefferville**	**70.84**	**24**	P	**P**	**10 30 05.9**	**+0.8**
	comp=Z,4.6nm,1.0s,baz=287,slow=14,SNR=4.3						
SCHQ	**Schefferville**	**70.84**	**24**	P	**P**	**10 30 05.9**	**+0.8**
WRA	**Warramunga Arr**	**70.96**	**200**	P	**P**	**10 30 04.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=15,slow=6.0,SNR=5.2						
WRA	**Warramunga Arr**	**70.96**	**200**	P	**P**	**10 30 04.9**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**70.96**	**200**	P	**P**	**10 30 04.9**	**-1.2**
ASAR	**Alice Springs**	**74.65**	**200**	P	**P**	**10 30 27.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=13,slow=5.5,SNR=18						
ASAR				pP	**pP**	**10 30 39.9**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=12,slow=5.4,SNR=2.0						
ASAR	**Alice Springs**	**74.65**	**200**	P	**P**	**10 30 27.7**	**-0.3**
ASAR				*PP	**pP**	**10 30 39.9**	**-2.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**74.65**	**200**	P	**P**	**10 30 27.6**	**-0.3**
ASAR				pP	**pP**	**10 30 39.9**	**-2.0**
TXAR	**Lajitas Array**	**75.38**	**62**	P	**P**	**10 30 32.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.6,SNR=9.6						
TXAR				pP	**PcP**	**10 30 45.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.8,SNR=3.3						
TXAR	**Lajitas Array**	**75.38**	**62**	P	**P**	**10 30 32.5**	**0.0**
TXAR				*PP	**PcP**	**10 30 45.7**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.38**	**62**	P	**P**	**10 30 32.5**	**0.0**
TXAR				pP	**PcP**	**10 30 45.7**	**+0.2**
CPUP	**Villa Florida**	**146.32**	**60**	PKPbc	**PKPbc**	**10 38 28.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=321,slow=6.5,SNR=2.8						
CPUP	**Villa Florida**	**146.32**	**60**	PKP2	**PKPbc**	**10 38 28.6**	**-0.5**
CPUP	**Villa Florida**	**146.32**	**60**	PKPbc	**PKPbc**	**10 38 28.6**	**-0.5**
PLCA	**Paso Flores**	**147.14**	**93**	PKPbc	**PKPbc**	**10 38 31.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=283,slow=6.9,SNR=2.5						
PLCA	**Paso Flores**	**147.14**	**93**	PKP2	**PKPbc**	**10 38 31.0**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	**Paso Flores**	**147.14**	**93**	PKPbc	**PKPbc**	**10 38 31.0**	**-0.2**

*ISCJB **07** 10:27:04.4±0.3, 27°.66N±0°.04×92°.80E±0°.03, h17km, mb4.4/28, MS3.4/8, Error ellipse: s-maj=5.1km s-min=3.6km az=174.5*

*BJI **07** 10:27:04.0, 27°.70N×93°.20E, h10km, mB4.4/4, mb4.4/9, ML3.8/1, Ms4.0/2, Ms7 3.6/2*

*IDC **07** 10:27:06.5±0.6, 27°.66N×92°.69E, h20km±3km, mb4.2/19, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, ML4.7/1, MS3.6/7, Ms1 3.6/7, ms1mx3.1/34, Error ellipse: s-maj=22.1km s-min=11.7km az=58.0*

*NEIC **07** 10:27:06.7±0.2, 27°.69N×92°.76E, mb4.7/5, Error ellipse: s-maj=9.1km s-min=4.0km az=60.0*

*MOS **07** 10:27:06.4±1.0, 27°.65N×92°.80E, h32km, mb4.5/22, Error ellipse: s-maj=13.0km s-min=7.1km az=117.3*

*DMN **07** 10:27:06.5±0.7, 28°.08N×93°.01E, h10km, Ml4.9/10, Error ellipse: s-maj=40.0km s-min=12.9km az=179.0*

ISC 07 10:27:06.6±0.4, 27°.75N±0°.04×92°.79E±0°.04, h17km, h16km:pP-P, n131, σ1s25/183, mb4.4/28, MS3.6/8, 2C-2D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.32**	**201**	*e*P	**Pn**	**10 27 45.0**	**+0.7**
SHL				*e*S	**Sn**	**10 28 12.6**	**+0.1**
SHL				AML	AML	10 28 28.7	
	comp=N,4μm,0.3s						
SHL				AML	AML	10 28 30.4	
	comp=E,6μm,0.4s						
LSA	**Lhasa**	**2.42**	**324**	Pg	**Pb**	**10 27 51.1**	**+1.2**
LSA				Sg	**Sg**	**10 28 23.1**	**-1.3**
LSA				smax	smax		
	comp=N,230nm,0.6s						
LSA				smax	smax		
	comp=E,730nm,0.6s						
GTK	**Gangtok**	**3.73**	**265**	*e*P	**Pb**	**10 28 14.5**	**+2.4**
GTK				*e*S	**Sb**	**10 28 59.0**	**+1.9**
TAPN	**Taplejung**	**4.53**	**266**	*e*Pn	**Pn**	**10 28 16.2**	**+1.5**
TAPN				*e*Sn	**Sn**	**10 29 08.9**	**+1.8**
	comp=E,746nm,0.6s						

SNR=21
TKM2 P Pn 10 31 47.2 0.0
SNR=21
TKM2 Tokmak 2 20.57 322 *i* P Pn 10 31 47.1 0.0
MK31 Makanchi Array 20.73 339 *eP* **P 10 31 46.6 +0.4**
MK31 *epP* **pP 10 31 50.8 -0.2**
MKAR Makanchi Array 20.73 339 P **P 10 31 46.4 +0.2**
comp=Z,4.4nm,0.5s,baz=147,slow=13,SNR=56
MKAR PcP **PcP 10 35 55.4 -0.1**
comp=Z,0.1nm,0.4s,baz=175,slow=2.3,SNR=3.2
MKAR ScP **ScP 10 39 30.2 -1.2**
comp=Z,0.5nm,0.9s,baz=122,slow=1.9,SNR=3.5
MKAR LR LR 10 41 27.7
comp=Z,42nm,19.3s,baz=179,slow=41
MKAR Makanchi Array 20.73 339 P **P 10 31 46.4 +0.2**
MKAR 10 35 55.4
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,42nm,19.3s
MKAR Makanchi Array 20.73 339 P **P 10 31 46.4 +0.2**
MKAR PcP **PcP 10 35 55.4 -0.1**
MKAR ScP **ScP 10 39 30.2 -1.2**
KBK Karagaybulak 20.76 320 P Pn 10 31 49.0 -0.2
SNR=13
KBK P Pn 10 31 49.0 -0.2
SNR=13
AAK Ala-Archa 21.00 320*c* *i*P **P 10 31 51.3 +1.9**
AAK pmax pmax
comp=Z,24nm,1.2s
AML Almayashu 21.16 318 P **P 10 31 53.7 +2.3**
SNR=11
AML P **P 10 31 53.7 +2.3**
SNR=11
KBL Kabul 21.39 294 *eP* **P 10 31 54.7 +1.0**
KBL pmax pmax
comp=Z,23nm,0.6s
KBL Kabul 21.39 294 *eP* **P 10 31 54.7 +1.0**
comp=Z,23nm,0.6s
KBL *epP* **pP 10 31 59.9 +1.3**
USP Ospenovka 21.41 321 P **P 10 31 54.5 +0.9**
SNR=5.3
USP P **P 10 31 54.5 +0.9**
SNR=5.3
EKS2 Erkin-Say 21.44 319 P **P 10 31 56.4 +2.4**
SNR=16
EKS2 P **P 10 31 56.4 +2.4**
SNR=16
SONM Songino Array 22.68 24 P **P 10 32 07.8 +0.5**
comp=Z,3.0nm,0.5s,baz=214,slow=11,SNR=35
SONM LR LR 10 41 55.7
comp=Z,159nm,19.1s,baz=295,slow=39
SONM Songino Array 22.68 24 P **P 10 32 07.8 +0.5**
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM MLR MLR
comp=Z,159nm,19.1s
SONM Songino Array 22.68 24 P **P 10 32 07.8 +0.5**
ULN Ulaanbaatar 22.95 25 *eP* **P 10 32 10.0 -0.2**
ULN *e**PP **pP 10 32 17.3 +2.2**
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 22.95 25 *eP* **P 10 32 10.0 -0.2**
comp=Z,5.0nm,0.6s
ULN *epP* **pP 10 32 17.3 +2.2**
ZAK Zakamensk 23.97 17⇑ *i*P **P 10 32 20.9 +0.7**
ZAK *e* 10 32 27.3
ZAK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 25.34 339 P **P 10 32 32.5 +0.1**
comp=Z,8.7nm,0.7s,baz=155,slow=9.1,SNR=50
KURK ScP **ScP 10 39 41.7 -1.6**
comp=Z,1.0nm,0.8s,baz=167,slow=2.1,SNR=6.1
KURK LR LR 10 42 32.4
comp=Z,10.0nm,21.9s,baz=150,slow=36
KURK Kurchatov 25.34 339*d* *i*P **P 10 32 33.2 +0.8**
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 25.34 339 P **P 10 32 32.5 +0.1**
KURK ScP **ScP 10 39 41.7 -1.6**
ZAA0 Zalesovo Array 26.82 350 *eP* **P 10 32 46.3 +0.5**
ZALV Zalesovo Beam 26.82 350 P **P 10 32 46.2 +0.4**
comp=Z,3.4nm,0.4s,baz=169,slow=7.2,SNR=27
ZALV LR LR 10 44 42.3
comp=Z,81nm,18.9s,baz=239,slow=39
ZALV Zalesovo Beam 26.82 350 P **P 10 32 46.2 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV MLR MLR
comp=Z,81nm,18.9s
ZALV Zalesovo Beam 26.82 350 P **P 10 32 46.2 +0.4**
NVS Novosibirsk 27.95 348 *eP* **P 10 32 55.3 -0.6**
VOSK Vostochnaya 29.76 333 P **P 10 33 12.1 0.0**
VOSK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 30.29 333⇓ *i*P **P 10 33 17.3 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
AB31 Akbulak array 33.09 319 *i* P **P 10 33 41.8 +0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 33.09 319 *eP* **P 10 33 42.2 +0.8**
comp=Z,5.6nm,0.5s
BRTR Keskin Array B 49.81 300 P **P 10 35 58.4 -0.4**
comp=Z,0.7nm,0.6s,baz=120,slow=7.3,SNR=3.7
BRTR pP **pP 10 36 04.5 +0.3**
comp=Z,1.1nm,0.6s,baz=102,slow=9.3,SNR=2.9
BRTR Keskin Array B 49.81 300 P **P 10 35 58.4 -0.4**
BRTR *PP **pP 10 36 04.5 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 49.81 300 P **P 10 35 58.4 -0.4**
BRTR pP **pP 10 36 04.5 +0.3**
AKASG Malin Array Be 52.53 314 P **P 10 36 17.8 -1.0**
AKASG Z,1.1nm,0.5s,baz=83,slow=7.2,SNR=5.5
AKASG pP **pP 10 36 24.4 +0.2**
comp=Z,1.2nm,0.4s,baz=79,slow=6.7,SNR=5.8
AKASG Malin Array Be 52.53 314 P **P 10 36 17.8 -1.0**
AKASG *PP **pP 10 36 24.4 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 52.53 314 P **P 10 36 17.8 -1.0**
AKASG pP **pP 10 36 24.4 +0.2**
FINES FINESS Array B 54.93 327 P **P 10 36 36.1 -0.1**
comp=Z,1.1nm,0.6s,baz=101,slow=9.9,SNR=5.2
FINES FINESS Array B 54.93 327 P **P 10 36 36.1 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 54.93 327 P **P 10 36 36.1 -0.1**
FITZ Fitzroy Crossi 55.59 141 P **P 10 36 41.3 -0.2**
comp=Z,3.1nm,1.0s,baz=16,slow=15,SNR=3.2
FITZ Fitzroy Crossi 55.59 141 P **P 10 36 41.3 -0.2**
BILL Bilibino 58.40 25 *eP* **P 10 37 02.2 +1.4**
BILL pmax pmax
comp=Z,9.0nm,1.6s
BILL Bilibino 58.40 25 *eP* **P 10 37 01.7 +0.9**
comp=Z,6.9nm,1.2s
VRAC Vranov 60.75 313 LR LR 11 08 10.5
comp=Z,58nm,18.2s,baz=192,slow=41
NB2 NORSAR Subarra 62.11 327 P **P 10 37 25.3 -1.0**
comp=Z,2.1nm,0.6s,baz=82,slow=6.9
NOA NORSAR Array B 62.11 327 P **P 10 37 25.5 -0.8**
comp=Z,2.6nm,0.6s,baz=83,slow=6.6,SNR=8.4
NOA NORSAR Array B 62.11 327 P **P 10 37 25.5 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 62.11 327 P **P 10 37 25.5 -0.8**
WRA Warramunga Arr 62.17 135 P **P 10 37 26.8 -0.5**
comp=Z,18nm,0.7s,baz=324,slow=7.3,SNR=82
WRA Warramunga Arr 62.17 135 P **P 10 37 26.8 -0.5**
WRA pmax pmax
comp=Z,18nm,0.7s
WRA Warramunga Arr 62.17 135 P **P 10 37 26.8 -0.5**
WRAB Tennant Creek 62.17 135 *eP* **P 10 37 26.9 -0.3**
WRAB *e**SP **sP 10 37 36.3 +1.6**
WRAB pmax pmax
comp=Z,17nm,0.7s
WRAB Tennant Creek 62.17 135 *eP* **P 10 37 26.9 -0.3**
comp=Z,18nm,0.7s
WRAB *epP* **pP 10 37 32.2 -0.5**
WRAB *esP* **sP 10 37 36.3 +1.6**
WB2 Warramunga Arr 62.17 135 *eP* **P 10 37 26.8 -0.5**
GERES GERESS Array B 62.70 313 P **P 10 37 30.4 -0.3**
comp=Z,1.6nm,0.5s,baz=70,slow=6.7,SNR=12
GERES pP **pP 10 37 35.8 -0.3**
comp=Z,2.0nm,0.5s,baz=74,slow=6.2,SNR=11
GERES LR LR 11 07 27.2
comp=Z,57nm,19.1s,baz=356,slow=39
GERES GERESS Array B 62.70 313 P **P 10 37 30.4 -0.3**
GERES *PP **pP 10 37 35.8 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,57nm,19.1s
GERES GERESS Array B 62.70 313 P **P 10 37 30.4 -0.3**
GERES pP **pP 10 37 35.8 -0.3**
NWAO Narrogin (SRO) 64.66 157 P **P 10 37 41.5 -2.0**
comp=Z,5.8nm,0.8s,baz=0.0,slow=4.0,SNR=3.2
NWAO Narrogin (SRO) 64.66 157 P **P 10 37 41.5 -2.0**
NWAO pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 64.66 157 P **P 10 37 41.5 -2.0**
AS31 Alice Springs 64.70 138 *eP* **P 10 37 43.6 -0.3**
AS31 *epP* **pP 10 37 48.9 -0.6**
ASAR Alice Springs 64.70 138 P **P 10 37 43.6 -0.4**
comp=Z,14nm,0.5s,baz=322,slow=6.6,SNR=332
ASAR Alice Springs 64.70 138 P **P 10 37 43.6 -0.4**
ASAR pmax pmax
comp=Z,14nm,0.5s
ASAR Alice Springs 64.70 138 P **P 10 37 43.6 -0.4**
CTA Charters Tower 70.26 127 LR LR 11 11 46.6
comp=Z,86nm,19.8s,baz=228,slow=38
STKA Stephens Creek 75.34 139 P **P 10 38 48.5 -0.6**
comp=Z,2.3nm,0.7s,baz=335,slow=11,SNR=6.0
STKA Stephens Creek 75.34 139 P **P 10 38 48.5 -0.6**
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 75.34 139 P **P 10 38 48.5 -0.6**
ILAR Eielson Array 76.89 22 P **P 10 38 57.4 -0.2**
comp=Z,1.3nm,0.7s,baz=304,slow=4.9,SNR=22
ILAR LR LR 11 20 02.9
comp=Z,34nm,18.1s,baz=216,slow=41
ILAR Eielson Array 76.89 22 P **P 10 38 57.4 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 76.89 22 P **P 10 38 57.4 -0.2**
KDAK Kodiak Island 78.85 30 P **P 10 39 08.6 +0.1**
comp=Z,4.0nm,0.7s,baz=307,slow=12,SNR=4.4
KDAK Kodiak Island 78.85 30 P **P 10 39 08.6 +0.1**
KDAK pmax pmax
comp=Z,4.0nm,0.7s
KDAK Kodiak Island 78.85 30 P **P 10 39 08.6 +0.1**
TORD Torodi Ar. Bea 84.94 282 P **P 10 39 41.0 -0.4**
comp=Z,0.5nm,0.7s,baz=41,slow=3.7,SNR=5.2
TORD pP **pP 10 39 46.4 -0.7**
comp=Z,1.8nm,0.9s,baz=61,slow=2.5,SNR=8.3
TORD Torodi Ar. Bea 84.94 282 P **P 10 39 41.0 -0.4**
TORD pP **pP 10 39 46.4 -0.7**
BOSA Boshof 85.58 235 P **P 10 39 43.6 -0.7**
comp=Z,2.4nm,0.8s,baz=14,slow=9.5,SNR=4.1
BOSA Boshof 85.58 235 P **P 10 39 43.6 -0.7**
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 85.58 235 P **P 10 39 43.6 -0.7**
YKA Yellowknife Ar 87.43 12 P **P 10 39 52.2 -0.6**
comp=Z,0.3nm,0.6s,baz=336,slow=5.1,SNR=9.7
YKA pP **pP 10 40 00.4 +2.0**
comp=Z,0.2nm,0.4s,baz=334,slow=5.1,SNR=4.0
YKA Yellowknife Ar 87.43 12 P **P 10 39 52.2 -0.6**
YKA *PP **pP 10 40 00.4 +2.0**
YKA Yellowknife Ar 87.43 12 P **P 10 39 52.2 -0.6**
YKA pP **pP 10 40 00.4 +2.0**
TXAR Lajitas Array 121.09 17 PKP **PKPdf 10 45 59.1 +0.1**
comp=Z,0.6nm,1.2s,baz=169,slow=0.9,SNR=2.8
TXAR pPKP **pPKPdf 10 46 06.3 +1.5**
comp=Z,0.2nm,0.8s,baz=40,slow=2.3,SNR=1.4
TXAR Lajitas Array 121.09 17 PKIKP **PKPdf 10 45 59.1 +0.1**
TXAR 10 46 06.3
TXAR pmax pmax
comp=Z,1.0nm,1.2s
TXAR Lajitas Array 121.09 17 PKP **PKPdf 10 45 59.1 +0.1**
TXAR pPKP **pPKPdf 10 46 06.3 +1.5**
ROSC El Rosal 145.28 337 PKPbc **PKPdf 10 46 45.3 +0.5**
comp=Z,8.0nm,0.6s,baz=96,slow=13,SNR=6.0
ROSC El Rosal 145.28 337 PKPbc **PKPdf 10 46 45.3 +0.5**
CPUP Villa Florida 153.38 266 PKPbc **PKPbc 10 47 02.5 -1.9**
comp=Z,0.5nm,0.4s,baz=60,slow=1.8,SNR=3.1
CPUP Villa Florida 153.38 266 PKIKP **PKPbc 10 47 02.5 -1.9**
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 153.38 266 PKPbc **PKPbc 10 47 02.5 -1.9**

IDC 07 10:27:23.9±2.5, 13°03'S×164°66'E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=55.7km s-min=33.1km az=93.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.15**	**170**	Pn	Pn	10 29 37.6	+0.2
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.1						
CTA	**Charters Tower**	**18.98**	**246**	LR	LR	10 37 34.0	
	comp=Z,67nm,18.6s,baz=226,slow=32						
STKA	**Stephens Creek**	**28.29**	**225**	P	P	10 33 18.9	-0.3
	1.9nm,0.9s,baz=60,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**29.84**	**253**	P	P	10 33 33.6	+0.3
	0.9nm,0.7s,baz=84,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**30.99**	**246**	P	P	10 33 43.3	-0.1
	2.2nm,0.7s,baz=72,slow=9.5,SNR=30						
SONM	**Songino Array**	**79.64**	**324**	P	P	10 39 33.4	0.0
	0.1nm,0.4s,baz=131,slow=4.4,SNR=2.5						

CNRM ***07*** *10:46:45.8, 37°.49N×18°.29W, h10km, MD4.2*
MDD ***07*** *10:46:48.5±1.4, 37°.57N×18°.40W, h30km, mb4.8/11, Error ellipse: s-maj=17.4km s-min=7.4km az=123.0, PRXIMO*
IGIL ***07*** *10:46:49.2, 37°.56N×18°.36W, h10km, ML4.1*
INMG ***07*** *10:46:52.6±2.2, 37°.56N×18°.36W, h10km, ML3.8, Error ellipse: s-maj=6.8km s-min=3.5km az=121.0*
IDC ***07*** *10:46:53.0±1.0, 37°.20N×17°.53W, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.6/29, mbtmp3.5/8, ML4.6/1, Error ellipse: s-maj=31.0km s-min=22.3km az=46.0*
CSEM ***07*** *10:46:55.1±0.4, 37°.77N×17°.51W, h10km, ML4.7/5, Error ellipse: s-maj=8.2km s-min=7.4km az=150.0*

ISC 07 10:46:47.0±0.9, 37°.59N±0°.09×18°.41W±0°.09, h10km, n120, σ1§44/94, mb3.4/7, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMOZ	**Porto Moniz, M**	**4.86**	**168**	*e*Pn	**Pn**	**10 47 59.5**	**-0.7**
PMOZ				*e*Sn	Sn	10 48 49.3	-7.3
PMOZ				A	A	10 48 57.9	
	339nm,0.3s						
PMAR	**Madeira**	**5.01**	**165**	*e*Pn	**Pn**	**10 48 01.6**	**-0.8**
PMAR				*e*Sn	Sn	10 48 52.7	-7.7
PMAR				A	A	10 48 58.6	
	372nm,0.2s						
PMAR	**Madeira**	**5.01**	**165**	P	**Pn**	**10 48 01.6**	**-0.8**
PMAR				S	Sn	10 48 52.7	-7.7
	186nm,0.2s						
FUL	**Funchal**	**5.08**	**165**	*e*Pn	**Pn**	**10 48 03.1**	**-0.1**
FUL				*e*Sn	Sn	10 48 53.9	-8.1
FUL	**Funchal**	**5.08**	**165**	P	**Pn**	**10 48 03.1**	**-0.1**
FUL				S	Sn	10 48 53.9	-8.1
PSMN	**Pico do Norte,**	**5.34**	**266**	*e*P	**Pn**	**10 48 06.2**	**-0.5**
PSMN				*e*S	Sn	10 48 59.1	-9.2
PSMN				A	A	10 49 01.3	
	92nm,0.3s						
PSMA	**Santa Maria**	**5.39**	**266**	*e*P	**Pn**	**10 48 06.5**	**-0.9**
PSMA				*e*S	Sn	10 49 00.7	-8.8
PSMA				A	A	10 49 05.2	
	74nm,0.2s						
CMLA	**Cha da Macela**	**5.65**	**274**	*e*P	**Pn**	**10 48 11.1**	**+0.1**
CMLA				*e*S	Sn	10 49 11.1	-4.8
CMLA				A	A	10 49 16.0	
	230nm,0.3s						
PMAFR	**Mafra**	**7.31**	**76**	*e*Pn	**Pn**	**10 48 33.0**	**-0.9**
PMAFR				*e*Sn	Sn	10 49 48.1	-8.7
PMAFR				A	A	10 49 55.2	
	111nm,0.2s						
PMAFR	**Mafra**	**7.31**	**76**	P	**Pn**	**10 48 32.9**	**-0.9**
	4.6nm,0.2s,SNR=7.9						
PMAFR				S	Sn	10 49 48.9	-7.9
	36nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**7.31**	**76**	P	**Pn**	**10 48 32.9**	**-0.9**
	4.6nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	Sn	10 49 48.1	-8.7
	111nm,0.2s						
PMAFR				S	Sb	10 49 48.9	-32
	36nm,0.1s,SNR=7.9						
LIS	**Lisbon**	**7.38**	**78**	*e*S	Sn	10 49 49.8	-8.8
LIS				AML	AML	10 49 52.5	
	comp=E,208nm,0.2s						
LIS	**Lisbon**	**7.38**	**78**	S	Sn	10 49 49.8	-8.8
	comp=E,208nm,0.2s						
LIS				S	Sb	10 49 49.8	-33
LIS	**Lisbon**	**7.38**	**78**	*e*Sn	Sn	10 49 49.8	-8.8
PTEO	**Sao Teotonio**	**7.69**	**87**	*e*Pn	**Pn**	**10 48 37.6**	**-1.5**
PTEO				*e*Sn	Sn	10 49 56.3	-10
PTEO				A	A	10 50 01.0	
	comp=E,68nm,0.8s						
PTEO	**Sao Teotonio**	**7.69**	**87**	P	**Pn**	**10 48 37.6**	**-1.5**
PTEO				S	Sn	10 49 56.3	-10
	comp=E,34nm,0.8s						
PTEO	**Sao Teotonio**	**7.69**	**87**	P	**Pn**	**10 48 37.6**	**-1.5**
PTEO				S	Sn	10 49 56.3	-10
	comp=E,34nm,0.8s						
MORF	**Marmelete**	**7.77**	**89**	*e*Pn	**Pn**	**10 48 38.2**	**-2.0**
MORF				*e*Sn	Sn	10 50 00.9	-7.3
MORF				A	A	10 50 03.6	
	comp=E,57nm,0.2s						
MORF	**Marmelete**	**7.77**	**89**	P	**Pn**	**10 48 38.2**	**-2.0**
MORF				S	Sn	10 50 00.9	-7.3
	comp=E,57nm,0.2s						
MORF	**Marmelete**	**7.77**	**89**	P	**Pn**	**10 48 38.2**	**-2.0**
MORF				S	Sn	10 50 00.9	-7.3
	comp=E,57nm,0.2s						
PNCL	**Nicolau / Gran**	**7.84**	**83**	*e*Pn	**Pn**	**10 48 39.2**	**-1.8**
PNCL				*e*Sn	Sn	10 49 59.5	-10
PNCL				A	A	10 50 08.4	
	comp=E,37nm,0.3s						
PNCL	**Nicolau / Gran**	**7.84**	**83**	*e*Pn	**Pn**	**10 48 39.2**	**-1.8**
PNCL				*e*Sn	Sn	10 49 59.5	-10
	comp=E,37nm,0.3s						
ALMR	**Almeirim**	**7.88**	**76**	*e*P	**Pn**	**10 48 40.4**	**-1.2**
ALMR				*e*S	Sn	10 50 00.8	-10
ALMR				AML	AML	10 50 04.3	
	comp=N,78nm,0.3s						
ALMR	**Almeirim**	**7.88**	**76**	*e*Pn	**Pn**	**10 48 40.4**	**-1.2**
ALMR				*e*Sn	Sn	10 50 00.8	-10
ALMR	**Almeirim**	**7.88**	**76**	P	**Pn**	**10 48 40.4**	**-1.2**
ALMR				P	Pb	10 48 40.4	-23
ALMR				S	Sn	10 50 00.8	-10
ALMR				S	Sb	10 50 00.8	-37
	comp=N,39nm,0.3s						
ALMR	**Almeirim**	**7.88**	**76**	P	**Pn**	**10 48 40.4**	**-1.2**
ALMR				S	Sn	10 50 00.8	-10
	comp=N,39nm,0.3s						
PICO	**Pico**	**7.96**	**280**	*e*P	**Pn**	**10 48 42.4**	**-0.3**
PTOM	**Tomar**	**8.09**	**72**	*e*Pn	**Pn**	**10 48 42.6**	**-1.9**
PTOM				*e*Sn	Sn	10 50 07.8	-8.1
PTOM				A	A	10 50 18.4	
	comp=N,52nm,0.5s						
PTOM	**Tomar**	**8.09**	**72**	P	**Pn**	**10 48 42.6**	**-1.9**
PTOM				S	Sn	10 50 07.8	-8.1
	comp=N,26nm,0.5s						
PTOM	**Tomar**	**8.09**	**72**	P	**Pn**	**10 48 42.6**	**-1.9**
PTOM				S	Sn	10 50 07.8	-8.1
	comp=N,26nm,0.5s						
PMTG	**Montargil**	**8.14**	**76**	*e*Pn	**Pn**	**10 48 43.6**	**-1.6**
PMTG				*e*Sn	Sn	10 50 07.3	-10
PMTG	**Montargil**	**8.14**	**76**	*e*Pn	**Pn**	**10 48 43.6**	**-1.6**
PMTG				*e*Sn	Sn	10 50 07.3	-10
PCVE	**Castro Verde**	**8.23**	**87**	*e*Pn	**Pn**	**10 48 45.5**	**-1.0**
PCVE				*e*Sn	Sn	10 50 09.4	-10
PCVE				A	A	10 50 15.7	
	comp=N,21nm,0.5s						
PCVE	**Castro Verde**	**8.23**	**87**	P	**Pn**	**10 48 45.5**	**-1.0**
PCVE				S	Sn	10 50 09.4	-10
	comp=N,21nm,0.5s						
PCVE	**Castro Verde**	**8.23**	**87**	P	**Pn**	**10 48 45.5**	**-1.0**
PCVE				S	Sn	10 50 09.4	-10
	comp=N,21nm,0.5s						
PBDV	**Barranco-do-Ve**	**8.35**	**89**	*e*Pn	**Pn**	**10 48 46.1**	**-2.0**
PBDV				*e*Sn	Sn	10 50 13.2	-9.2
PBDV				A	A	10 50 28.8	
	comp=N,22nm,0.6s						
PBDV	**Barranco-do-Ve**	**8.35**	**89**	P	**Pn**	**10 48 46.1**	**-2.0**
PBDV				S	Sn	10 50 13.2	-9.2
	comp=N,22nm,0.6s						
PBDV	**Barranco-do-Ve**	**8.35**	**89**	P	**Pn**	**10 48 46.1**	**-2.0**
PBDV				S	Sn	10 50 13.2	-9.2
	comp=N,22nm,0.6s						
PBEJ	**Beja**	**8.36**	**84**	*e*Sn	Sn	10 50 12.4	-10
PBEJ				A	A	10 50 18.9	
	comp=N,23nm,0.3s						
PBEJ	**Beja**	**8.36**	**84**	S	Sn	10 50 12.4	-10
	comp=N,12nm,0.3s						
PBEJ	**Beja**	**8.36**	**84**	S	Sn	10 50 12.4	-10
	comp=N,12nm,0.3s						
PVAQ	**Vaqueiros**	**8.50**	**88**	*e*Pn	**Pn**	**10 48 49.0**	**-1.2**
PVAQ				*e*Sn	Sn	10 50 16.4	-10
PVAQ				A	A	10 50 21.5	
	comp=N,19nm,0.1s						
PVAQ	**Vaqueiros**	**8.50**	**88**	P	**Pn**	**10 48 49.0**	**-1.2**
PVAQ				S	Sn	10 50 16.4	-10
	comp=N,19nm,0.1s						
PVAQ	**Vaqueiros**	**8.50**	**88**	P	**Pn**	**10 48 49.0**	**-1.2**
PVAQ				S	Sn	10 50 16.4	-10
	comp=N,19nm,0.1s						
PESTR	**Estremoz**	**8.61**	**78**	*e*Sn	Sn	10 50 19.2	-10
PESTR				A	A	10 50 22.1	
	comp=N,21nm,0.8s						
PESTR	**Estremoz**	**8.61**	**78**	S	Sn	10 50 19.2	-10
	comp=N,21nm,0.8s						
PESTR	**Estremoz**	**8.61**	**78**	S	Sn	10 50 19.2	-10
	comp=N,21nm,0.8s						
EGRO	**El Granado**	**8.68**	**87**	P	**Pn**	**10 48 51.6**	**-1.0**
	comp=N,0.5nm,0.1s,SNR=16						
EGRO				S	Sn	10 50 21.0	-9.5
	comp=N,6.7nm,0.1s,SNR=5.9						
EGRO	**El Granado**	**8.68**	**87**	P	**Pn**	**10 48 51.6**	**-1.0**
	comp=N,0.5nm,0.1s,SNR=16						
EGRO				S	Sn	10 50 21.0	-9.5
	comp=N,6.7nm,0.1s,SNR=5.9						
PVIS	**Viseu**	**8.74**	**66**	*e*Pn	**Pn**	**10 48 53.0**	**-0.5**
PVIS				*e*Sn	Sn	10 50 22.1	-10
PVIS				A	A	10 50 25.8	
	comp=N,28nm,0.1s						
PVIS	**Viseu**	**8.74**	**66**	P	**Pn**	**10 48 53.0**	**-0.5**
PVIS				S	Sn	10 50 22.1	-10
	comp=N,14nm,0.1s						
PVIS	**Viseu**	**8.74**	**66**	P	**Pn**	**10 48 53.0**	**-0.5**
PVIS				S	Sn	10 50 22.1	-10
	comp=N,14nm,0.1s						
EZAM	**Zamans**	**8.75**	**56**	P	**Pn**	**10 48 53.1**	**-0.4**
	comp=N,2.4nm,0.1s,SNR=7.9						
EZAM				S	Sn	10 50 23.4	-8.8
	comp=N,6.1nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**8.75**	**56**	P	**Pn**	**10 48 53.1**	**-0.4**
	comp=N,2.4nm,0.1s,SNR=7.9						
EZAM				S	Sn	10 50 23.4	-8.8
	comp=N,6.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**8.83**	**75**	*e*Pn	**Pn**	**10 48 52.7**	**-2.0**
PMRV				*e*Sn	Sn	10 50 24.2	-10
PMRV				A	A	10 50 27.7	
	comp=N,26nm,0.3s						
PMRV	**Marv??o**	**8.83**	**75**	P	**Pn**	**10 48 52.7**	**-2.0**
PMRV				S	Sn	10 50 24.2	-10
	comp=N,26nm,0.3s						
PMRV	**Marv??o**	**8.83**	**75**	P	**Pn**	**10 48 52.7**	**-2.0**
PMRV				S	Sn	10 50 24.2	-10
	comp=N,26nm,0.3s						
PCBR	**Castelo Branco**	**8.84**	**72**	*e*Pn	**Pn**	**10 48 55.8**	**+1.1**
PCBR				*e*Sn	Sn	10 50 24.3	-10
PCBR				A	A	10 50 28.0	
	comp=N,21nm,0.3s						
PCBR	**Castelo Branco**	**8.84**	**72**	P	**Pn**	**10 48 55.8**	**+1.1**
PCBR				S	Sn	10 50 24.3	-10
	comp=N,11nm,0.3s						
PGAV	**Gavieira, Arco**	**8.95**	**58**	*e*Pn	**Pn**	**10 48 55.4**	**-0.9**
PGAV				*e*Sn	Sn	10 50 26.0	-11
PGAV				A	A	10 50 37.1	
	comp=N,22nm,0.2s						
PGAV	**Gavieira, Arco**	**8.95**	**58**	*e*Pn	**Pn**	**10 48 55.4**	**-0.9**

PGAV eSn Sn 10 50 26.0 -11
comp=N,22nm,0.2s
EMAZ Mazaricos 8.98 50 P **Pn 10 48 55.1 -1.6**
comp=N,7.5nm,0.2s,SNR=7.9
EMAZ S Sn 10 50 26.8 -11
comp=N,10nm,0.2s,SNR=6.8
EMAZ Mazaricos 8.98 50 P **Pn 10 48 55.1 -1.6**
comp=N,7.5nm,0.2s,SNR=7.9
PCAB Cabril 9.00 60 ePn Pn 10 48 53.9 -3.1
PCAB eSn Sn 10 50 30.3 -8.2
PCAB A A 10 50 34.6
comp=N,26nm,0.5s
PCAB Cabril 9.00 60 P Pn 10 48 53.9 -3.1
PCAB S Sn 10 50 30.3 -8.2
comp=N,13nm,0.5s
PCAB Cabril 9.00 60 P Pn 10 48 53.9 -3.1
PCAB S Sn 10 50 30.3 -8.2
comp=N,13nm,0.5s
PBAR Barrancos 9.01 83 ePn **Pn 10 48 56.6 -0.5**
PBAR eSn Sn 10 50 28.5 -10
PBAR Barrancos 9.01 83 P **Pn 10 48 56.6 -0.5**
PBAR S Sn 10 50 28.5 -10
PBAR Barrancos 9.01 83 P **Pn 10 48 56.6 -0.5**
PBAR S Sn 10 50 28.5 -10
EHIG Higuera 9.02 177 S Sn 10 50 22.2 -17
comp=N,32nm,0.1s,SNR=7.9
POLO Lamas de Olo 9.04 62 ePn **Pn 10 48 55.9 -1.7**
POLO eSn Sn 10 50 29.2 -10
POLO A A 10 50 36.9
comp=N,5.7nm,0.4s
POLO Lamas de Olo 9.04 62 ePn **Pn 10 48 55.9 -1.7**
POLO eSn Sn 10 50 29.2 -10
comp=N,5.7nm,0.4s
ELOB Lobios 9.04 59 P **Pn 10 48 55.9 -1.7**
comp=N,2.4nm,0.1s,SNR=15
ELOB S Sn 10 50 30.2 -10
comp=N,12nm,0.1s,SNR=7.9
ELOB Lobios 9.04 59 P **Pn 10 48 55.9 -1.7**
comp=N,2.4nm,0.1s,SNR=15
ELOB S Sn 10 50 30.2 -9.5
comp=N,12nm,0.1s,SNR=7.9
EBAD Badajoz 9.05 79 P **Pn 10 48 56.6 -1.1**
comp=N,0.4nm,0.1s,SNR=4.0
EBAD S Sn 10 50 30.9 -8.8
comp=N,17nm,0.2s,SNR=8.4
EBAD Badajoz 9.05 79 P **Pn 10 48 56.6 -1.1**
comp=N,0.4nm,0.1s,SNR=4.0
EBAD S Sn 10 50 30.9 -8.8
comp=N,17nm,0.2s,SNR=8.4
PVRL Vila Real 9.05 63 eSn Sn 10 50 30.3 -10
PVRL A A 10 50 42.3
comp=N,16nm,0.1s
PVRL Vila Real 9.05 63 S Sn 10 50 30.3 -10
comp=N,8.1nm,0.1s
PVRL Vila Real 9.05 63 S Sn 10 50 30.3 -10
comp=N,8.1nm,0.1s
EBAJ Bajamar 9.19 169 P **Pn 10 48 58.0 -1.6**
comp=N,3.1nm,0.1s,SNR=8.2
EBAJ S Sn 10 50 29.3 -14
comp=N,1.8nm,0.1s,SNR=7.9
STS Santiago 9.21 52 P **Pn 10 48 58.4 -1.4**
comp=N,18nm,0.4s,SNR=7.9
STS S Sn 10 50 33.7 -10
comp=N,9.8nm,0.1s,SNR=7.9
STS Santiago 9.21 52 P **Pn 10 48 58.4 -1.4**
comp=N,18nm,0.4s,SNR=7.9
STS S Sn 10 50 33.7 -10
comp=N,9.8nm,0.1s,SNR=7.9
EMIN Mina Concepcio 9.31 85 P **Pn 10 48 59.7 -1.5**
comp=N,0.3nm,0.2s,SNR=11
EMIN S Sn 10 50 35.1 -11
comp=N,9.6nm,0.3s,SNR=7.6
EMIN Mina Concepcio 9.31 85 P **Pn 10 48 59.7 -1.5**
comp=N,0.3nm,0.2s,SNR=11
EMIN S Sn 10 50 35.1 -11
comp=N,9.6nm,0.3s,SNR=7.6
EGOM La Gomera 9.46 174 P Pn 10 48 60.0 -3.3
comp=N,2.3nm,0.1s,SNR=5.8
EGOM S Sn 10 50 33.8 -16
comp=N,11nm,0.1s,SNR=7.9
CCAN Las Canadas 9.46 170 P Pn 10 49 00.5 -3.2
comp=N,1.8nm,0.2s,SNR=7.9
CCAN S Sn 10 50 34.1 -16
comp=N,3.2nm,0.2s,SNR=7.9
MVO Moncorvo 9.51 64 ePn **Pn 10 49 01.8 -2.2**
MVO eSn Sn 10 50 40.0 -11
MVO A A 10 50 47.9
comp=N,29nm,0.4s
MVO Moncorvo 9.51 64 P **Pn 10 49 01.9 -2.1**
comp=N,0.7nm,0.1s,SNR=7.9
MVO S Sn 10 50 39.6 -11
comp=N,6.3nm,0.1s,SNR=7.6
MVO Moncorvo 9.51 64 ePn **Pn 10 49 01.8 -2.2**
MVO S Sn 10 50 39.6 -11
comp=N,6.3nm,0.1s,SNR=7.6
MVO eSn Sn 10 50 40.0 -11
comp=N,29nm,0.4s
CFUE Fuerteventura 9.67 156 P **Pn 10 49 05.1 -1.1**
comp=N,9.8nm,0.2s,SNR=4.0
CHIE El Hierro 9.84 178 P **Pn 10 49 07.7 -0.9**
comp=N,1.5nm,0.1s,SNR=7.9
CHIE S Sn 10 50 40.4 -19
comp=N,5.6nm,0.2s,SNR=5.8
CFTV Fuerteventura 9.84 157 P **Pn 10 49 07.7 -0.9**
comp=N,0.9nm,0.2s,SNR=7.9
PBRG Braganca 9.93 61 ePn **Pn 10 49 08.3 -1.4**
PBRG eSn Sn 10 50 51.2 -10
PBRG A A 10 50 54.8
comp=N,11nm,0.6s
PBRG Braganca 9.93 61 P **Pn 10 49 08.3 -1.4**
PBRG S Sn 10 50 51.2 -10
comp=N,5.5nm,0.6s
PBRG Braganca 9.93 61 P **Pn 10 49 08.3 -1.4**
PBRG S Sn 10 50 51.2 -10
comp=N,5.5nm,0.6s
EPLA Plasencia 9.93 72 P **Pn 10 49 08.7 -1.1**
comp=N,0.2nm,0.1s,SNR=7.9
EPLA S Sn 10 50 50.6 -11
comp=N,5.0nm,0.2s,SNR=6.1
EPLA Plasencia 9.93 72 P **Pn 10 49 08.7 -1.1**
comp=N,0.2nm,0.1s,SNR=7.9
EPLA S Sn 10 50 50.6 -11
comp=N,5.0nm,0.2s,SNR=6.1
ECAL Calabor 9.98 61 P **Pn 10 49 08.9 -1.6**
comp=N,0.7nm,0.2s,SNR=6.7
ECAL S Sn 10 50 50.3 -12
comp=N,12nm,0.2s,SNR=7.9
ECAL Calabor 9.98 61 P **Pn 10 49 08.9 -1.6**
comp=N,0.7nm,0.2s,SNR=6.7
ECAL S Sn 10 50 50.3 -12
comp=N,12nm,0.2s,SNR=7.9
EPON Pontenova 10.31 53 P **Pn 10 49 13.0 -2.0**
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 10 50 59.3 -11
comp=N,8.4nm,0.2s,SNR=6.5
EPON Pontenova 10.31 53 P **Pn 10 49 13.0 -2.0**
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 10 50 59.3 -11
comp=N,8.4nm,0.2s,SNR=6.5
EADA Adamuz 10.95 83 P **Pn 10 49 22.0 -1.7**
comp=N,0.2nm,0.1s,SNR=7.9
EADA S Sn 10 51 16.0 -10
comp=N,4.4nm,0.3s,SNR=7.9
EADA Adamuz 10.95 83 P **Pn 10 49 22.0 -1.7**
comp=N,0.2nm,0.1s,SNR=7.9
EADA S Sn 10 51 16.0 -10
comp=N,4.4nm,0.3s,SNR=7.9
TZC Tazercounte 11.19 115 P Pn 10 49 24.0 -3.2
TZC S Sn 10 51 22.0 -11
TZC Tazercounte 11.19 115 P Pn 10 49 24.0 -3.2
TZC S Sn 10 51 22.0 -11
KIB El Ksiba 11.30 113 P Pn 10 49 26.0 -2.6
KIB S Sn 10 51 25.0 -10
KIB El Ksiba 11.30 113 P Pn 10 49 26.0 -2.6
KIB S Sn 10 51 25.0 -10
GUD Guadarrama 11.49 70 P **Pn 10 49 30.5 -0.6**
comp=N,2.8nm,0.4s,SNR=7.9
GUD S Sn 10 51 27.4 -12
comp=N,0.4nm,0.1s,SNR=7.9
ESDC Sonseca Array 11.49 75 Pn **Pn 10 49 31.1 -0.1**
comp=N,1.3nm,0.3s,baz=268,slow=13,SNR=5.2
ESDC Sn Sn 10 51 28.7 -11
comp=N,3.4nm,0.3s,baz=263,slow=24,SNR=8.8
EARI Arriondas 11.56 56 P **Pn 10 49 30.8 -1.3**
comp=N,0.4nm,0.1s,SNR=9.2
EARI S Sn 10 51 30.0 -11
comp=N,0.8nm,0.2s,SNR=7.9
EARI Arriondas 11.56 56 P **Pn 10 49 30.8 -1.3**
comp=N,0.4nm,0.1s,SNR=9.2
EARI S Sn 10 51 30.0 -11
comp=N,0.8nm,0.2s,SNR=7.9
CZD Col de Zad 11.83 109 P **Pn 10 49 34.0 -2.0**
CZD S Sn 10 51 37.0 -11
CZD Col de Zad 11.83 109 P **Pn 10 49 34.0 -2.0**
CZD S Sn 10 51 37.0 -11
GERES GERESS Array B 25.78 54 P **P 10 52 21.3 +3.3**
comp=N,0.5nm,0.7s,baz=237,slow=9.0,SNR=2.9
TORD Torodi Ar. Bea 30.24 138 P **P 10 52 59.1 +1.1**
comp=N,0.8nm,0.7s,baz=319,slow=11,SNR=6.3
DBIC Dimbokro 33.16 155 P **P 10 53 25.2 +1.6**
comp=N,2.7nm,0.9s,baz=331,slow=6.5,SNR=3.6
YKA Yellowknife Ar 60.12 328 P P 10 57 05.9 +12
comp=N,0.1nm,0.5s,baz=60,slow=7.9,SNR=4.5
TXAR Lajitas Array 69.30 292 P P 10 58 07.1 +12
comp=N,0.2nm,0.8s,baz=76,slow=5.3,SNR=4.1
MKAR Makanchi Array 70.12 46 P P 10 58 06.2 +6.7
comp=N,0.4nm,0.7s,baz=305,slow=4.3,SNR=6.0
ILAR Eielson Array 70.31 339 P P 10 58 12.6 +12
comp=N,0.2nm,0.6s,baz=30,slow=4.8,SNR=5.8

IDC 07 10:55:26.3±2.1, 7.21S×127.97E, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.6/16, mbtmpg3.7/4, ML3.9/3, Error ellipse: s-maj=105.4km s-min=27.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.06**	**192**	Pn	Pn	10 58 06.7	+0.8
	1.1nm,0.3s,baz=25,slow=14,SNR=16						
FITZ				Sn	Sn	11 00 00.1	-10
	0.5nm,0.3s,baz=334,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**14.08**	**155**	Pn	Pn	10 58 46.5	-0.8
	0.6nm,0.3s,baz=327,slow=14,SNR=13						
WRA				Sn	Sn	11 01 09.1	-15
	0.7nm,0.3s,baz=336,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.32**	**161**	P	Pn	10 59 29.5	-0.3
	0.2nm,0.3s,baz=335,slow=9.6,SNR=8.2						
ASAR				S	Sn	11 02 28.4	-15
	0.3nm,0.3s,baz=322,slow=17,SNR=6.6						
MKAR	**Makanchi Array**	**67.31**	**328**	P	P	11 06 23.1	0.0
	0.1nm,0.3s,baz=112,slow=6.7,SNR=3.9						

CASC 07 11:13:34.4±2.5, 7.20N×82.43W, h17km±26km, MD3.8, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBS2		**1.60**	**352**	*eP*	Pn	11 14 03.0	+0.8
BRU2	**Volcan**	**1.61**	**351**	*eP*	Pn	11 14 01.2	-1.1
ACR	**Cerro Adams**	**1.62**	**333**	*eP*	Pn	11 14 01.0	-1.4
ACR				*eS*	Sn	11 14 22.4	-0.6
BUS	**Buena Vista**	**2.69**	**331**	*eP*	Pn	11 14 17.7	+0.1
BUS				*eS*	Sn	11 14 50.9	+0.8
QCR	**Quepos**	**2.80**	**322**	P	Pn	11 14 18.1	-0.4
URSC	**Urasca**	**2.94**	**333**	*eP*	Pn	11 14 21.4	+0.7
URSC				*eS*	Sn	11 14 58.5	+2.7
PTP	**Ponta Puerca**	**19.71**	**55**	*eP*	x	11 13 53.8	

*IDC **07** 11:25:12.7±0.6, 9.76S×74.41W, h0km, mb4.1/10, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, ML3.9/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/28, Error ellipse: s-maj=15.6km s-min=11.7km az=48.0*

*ISCJB **07** 11:25:16.4±0.3, 9.81S±0.05×74.44W±0.04, h33km, mb4.5/38, MS3.9/3, Error ellipse: s-maj=7.4km s-min=4.9km az=37.9*

*NEIC **07** 11:25:17.8±1.4, 9.91S×74.52W, h35km±10km, mb4.7/21, ML4.0(ARE), Error ellipse: s-maj=7.4km s-min=4.4km az=51.0*

NEIC Felt [II] at Puerto Inca. Also felt at Oxapampa, Pucallpa and Satipo.

*BJI **07** 11:25:20.9, 9.90S×74.50W, h32km, mB4.8/3, Ms5.0/2, Ms7 4.6/2*

ISC 07 11:25:18.3±0.4, 9.86S±0.05×74.42W±0.07, h35km, n297, σθ64/520, mb4.7/38, MS3.8/3, 216C-200D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.19**	**228**	Pn	**Pn**	**11 26 05.6**	**-0.4**
	19nm,0.3s,baz=32,slow=7.6,SNR=43						
NNA				Sn	**Sn**	**11 26 46.0**	**+3.1**
	89nm,0.3s,baz=190,slow=18,SNR=9.5						
NNA				Lg	Lg	11 26 56.2	
	78nm,0.3s,baz=132,slow=21,SNR=7.5						
NNA	**Nana**	**3.19**	**228**	*ePn*	**Pn**	**11 26 04.5**	**-1.5**
NNA				*eSn*	**Sn**	**11 26 44.5**	**+1.7**
NNA				Sn	Sn	11 26 46.0	+3.1
NNA				Lg	Lg	11 26 56.2	
ATAH	**Atahualpa**	**4.77**	**304**	Pn	**Pn**	**11 26 26.6**	**-1.5**
	7.2nm,0.3s,baz=128,slow=10,SNR=21						
ATAH				Sn	**Sn**	**11 27 23.2**	**+0.8**
	13nm,0.3s,baz=84,slow=10,SNR=5.1						
ATAH				Lg	Lg	11 27 41.9	
	24nm,0.3s,baz=58,slow=18,SNR=6.2						
ATAH	**Atahualpa**	**4.77**	**304**	Pn	**Pn**	**11 26 26.6**	**-1.5**
ATAH				Sn	**Sn**	**11 27 23.2**	**+0.8**
ATAH				Lg	Lg	11 27 41.9	
LPAZ	**La Paz**	**8.85**	**137**	Pn	**Pn**	**11 27 25.2**	**+0.9**
	0.1nm,0.3s,baz=318,slow=14,SNR=4.1						
LPAZ				Lg	Lg	11 29 55.7	
	1.6nm,0.3s,baz=190,slow=6.2,SNR=5.4						
LPAZ				LR	LR	11 30 58.1	
	comp=Z,45nm,18.4s,baz=306,slow=39						
LPAZ	**La Paz**	**8.85**	**137**	Pn	**Pn**	**11 27 25.2**	**+0.9**
LPAZ				Lg	Lg	11 29 55.7	
OTAV	**Otavalo**	**10.80**	**338**	*ePn*	**Pn**	**11 27 51.2**	**+0.3**
SAML	**Samuel**	**11.12**	**86**	*ePn*	**Pn**	**11 27 56.0**	**+1.1**
SIV	**San Ignacio**	**14.36**	**116**	Pn	**Pn**	**11 28 39.0**	**-0.3**
	1.2nm,0.3s,baz=305,slow=12,SNR=14						
SIV				Lg	Lg	11 32 47.6	
	1.7nm,0.3s,baz=47,slow=21,SNR=6.0						
SIV				LR	LR	11 34 22.6	
	comp=Z,176nm,18.2s,slow=38						
SIV	**San Ignacio**	**14.36**	**116**	Pn	**Pn**	**11 28 39.0**	**-0.3**
SIV				Lg	Lg	11 32 47.6	
ROSC	**El Rosal**	**14.62**	**0**	Lg	Lg	11 33 06.5	
	3.2nm,0.3s,baz=81,slow=19,SNR=3.1						
ROSC				LR	LR	11 34 57.0	
	comp=Z,34nm,20.0s,baz=190,slow=40						
SDV	**Santo Domingo**	**19.00**	**12**	*eP*	**Pn**	**11 29 38.3**	**+0.1**
	8.3nm,0.9s						
BCIP	**Isla Barro Col**	**19.65**	**344**	P	**Pn**	**11 29 45.4**	**-0.4**
CFAA	**Coronel Fontan**	**22.39**	**166**	P	**P**	**11 30 14.3**	**+0.5**
	0.3nm,0.6s,baz=343,slow=6.7,SNR=4.1						
CFAA	**Coronel Fontan**	**22.39**	**166**	P	**P**	**11 30 14.3**	**+0.5**
CPUP	**Villa Florida**	**23.02**	**138**	P	**P**	**11 30 20.8**	**+0.3**
	0.9nm,0.5s,baz=306,slow=3.8,SNR=4.4						
CPUP				LR	LR	11 41 43.2	
	comp=Z,85nm,18.4s,baz=124,slow=43						
CPUP	**Villa Florida**	**23.02**	**138**	*eP*	**P**	**11 30 20.7**	**+0.3**
	5.2nm,0.7s						
PLCA	**Paso Flores**	**30.94**	**174**	P	**P**	**11 31 30.4**	**-1.6**
	2.3nm,0.9s,baz=332,slow=11,SNR=4.5						
PLCA	**Paso Flores**	**30.94**	**174**	P	**P**	**11 31 30.4**	**-1.6**
TZTN	**Tazewell**	**46.94**	**350**	*eP*	**P**	**11 33 45.0**	**-0.7**
	4.6nm,0.8s						
628A	**Black Gap, Mar**	**47.78**	**326**	⇑P	**P**	**11 33 52.7**	**+0.3**
	baz=48						
628A				⇑P	**P**	**11 33 52.7**	**+0.3**
	baz=48						
627A	**Terlingua Ranc**	**48.03**	**325**	⇑P	**P**	**11 33 54.5**	**+0.1**
	baz=48						
627A				⇑P	**P**	**11 33 54.5**	**+0.1**
	baz=48						
TXAR	**Lajitas Array**	**48.10**	**325**	P	**P**	**11 33 54.1**	**-0.8**
	2.0nm,0.7s,baz=147,slow=8.9,SNR=27						
TXAR				PcP	**PcP**	**11 35 22.4**	**+0.1**
	0.3nm,0.6s,baz=150,slow=3.8,SNR=2.3						
TXAR	**Lajitas Array**	**48.10**	**325**	P	**P**	**11 33 54.1**	**-0.8**
TXAR				PcP	**PcP**	**11 35 22.4**	**+0.1**
528A	**Cox Ranch, San**	**48.24**	**327**	⇓P	**P**	**11 33 56.6**	**+0.5**
	baz=48						
528A				⇓P	**P**	**11 33 56.6**	**+0.5**
	baz=48						
626A	**Big Bend Ranch**	**48.53**	**325**	⇑P	**P**	**11 33 58.4**	**+0.1**
	baz=49,SNR=16						
626A				⇑P	**P**	**11 33 58.4**	**+0.1**
	baz=49,SNR=16						
526A	**Mary Lane Ranc**	**48.89**	**325**	⇑P	**P**	**11 34 00.9**	**-0.2**
	baz=49,SNR=6.1						
526A				⇑P	**P**	**11 34 00.9**	**-0.2**
	baz=49,SNR=6.1						
427A	**Hayter Ranch,**	**49.11**	**327**	⇑P	**P**	**11 34 02.6**	**-0.1**
	baz=49						
427A				⇑P	**P**	**11 34 02.6**	**-0.1**
	baz=49						
328A	**Wristen Ranch,**	**49.21**	**328**	⇑P	**P**	**11 34 03.9**	**+0.5**
	baz=49						
328A				⇑P	**P**	**11 34 03.9**	**+0.5**
	baz=49						
326A	**Caldwell Ranch**	**49.78**	**326**	⇓P	**P**	**11 34 07.6**	**-0.2**
	baz=50,SNR=5.2						
326A				⇓P	**P**	**11 34 07.6**	**-0.2**
	baz=50,SNR=5.2						
TUL1	**Tulsa**	**49.78**	**337**	⇑P	**P**	**11 34 07.6**	**0.0**
	baz=50						
TUL1				⇑P	**P**	**11 34 07.6**	**0.0**
	baz=50						
425A	**Indio Mountain**	**49.94**	**325**	⇓P	**P**	**11 34 08.9**	**-0.2**
	baz=50,SNR=7.9						
425A				⇓P	**P**	**11 34 08.9**	**-0.2**
	baz=50,SNR=7.9						
227A	**Bennet, Jal**	**49.96**	**328**	⇑P	**P**	**11 34 09.2**	**+0.1**
	baz=50						
227A				⇑P	**P**	**11 34 09.2**	**+0.1**
	baz=50						
325A	**Bean Ranch, Si**	**50.37**	**326**	⇓P	**P**	**11 34 12.2**	**-0.2**
	baz=50						
325A				⇓P	**P**	**11 34 12.2**	**-0.2**
	baz=50						
127A	**Arkansas Junct**	**50.51**	**328**	⇓P	**P**	**11 34 13.5**	**+0.2**
	baz=51						
127A				⇓P	**P**	**11 34 13.5**	**+0.2**
	baz=51						
324A	**Moseley Ranch,**	**50.71**	**325**	⇓P	**P**	**11 34 14.4**	**-0.5**
	baz=51						
324A				⇓P	**P**	**11 34 14.4**	**-0.5**
	baz=51						
126A	**Clayton Basin,**	**50.84**	**327**	⇑P	**P**	**11 34 16.0**	**+0.2**
	baz=51						
126A				⇑P	**P**	**11 34 16.0**	**+0.2**
	baz=51						
MNTX	**Cornudas Mount**	**50.85**	**326**	⇑P	**P**	**11 34 15.4**	**-0.4**
	baz=51						
MNTX				⇑P	**P**	**11 34 15.4**	**-0.4**
	baz=51						
MNTX				⇑P	**P**	**11 34 15.4**	**-0.4**
	baz=51						
MNTX				⇑P	**P**	**11 34 15.4**	**-0.4**
	baz=51						
225A	**Deer Hill, Car**	**50.85**	**326**	⇓P	**P**	**11 34 16.1**	**+0.1**
	baz=51						
225A				⇓P	**P**	**11 34 16.1**	**+0.1**
	baz=51						
Z27A	**Tatum**	**50.94**	**329**	⇑P	**P**	**11 34 16.3**	**-0.3**
	baz=51,SNR=5.6						
Z27A				⇑P	**P**	**11 34 16.3**	**-0.3**
	baz=51,SNR=5.6						
MSTX	**Muleshoe**	**51.23**	**330**	⇑P	**P**	**11 34 18.5**	**-0.2**
	baz=51						
MSTX				⇑P	**P**	**11 34 18.5**	**-0.2**
	baz=51						
Z26A	**Caprock**	**51.30**	**328**	⇓P	**P**	**11 34 19.1**	**-0.1**
	baz=52						
Z26A				⇓P	**P**	**11 34 19.1**	**-0.1**
	baz=52						
Y27A	**Causey**	**51.36**	**329**	⇑P	**P**	**11 34 19.6**	**-0.1**
	baz=52						
Y27A				⇑P	**P**	**11 34 19.6**	**-0.1**
	baz=52						
Z25A	**Roswell**	**51.70**	**327**	⇓P	**P**	**11 34 21.8**	**-0.4**
	baz=52,SNR=6.0						
Z25A				⇓P	**P**	**11 34 21.8**	**-0.4**
	baz=52,SNR=6.0						
BINY	**Binghamton**	**51.82**	**359**	*eP*	**P**	**11 34 23.0**	**+0.1**
	12nm,0.5s						
X27A	**F and S Farms,**	**51.94**	**330**	⇓P	**P**	**11 34 24.0**	**0.0**
	baz=52						
X27A				⇓P	**P**	**11 34 24.0**	**0.0**
	baz=52						
Z24A	**Sheeppen Canyo**	**52.08**	**327**	⇑P	**P**	**11 34 25.3**	**+0.1**
	baz=52						
Z24A				⇑P	**P**	**11 34 25.3**	**+0.1**
	baz=52						
222A	**Williams Famil**	**52.12**	**325**	⇑P	**P**	**11 34 25.8**	**+0.3**
	baz=52,SNR=9.4						
222A				⇑P	**P**	**11 34 25.8**	**+0.3**
	baz=52,SNR=9.4						
Y25A	**Mesa, Roswell**	**52.18**	**328**	⇑P	**P**	**11 34 25.9**	**+0.1**
	baz=52						
Y25A				⇑P	**P**	**11 34 25.9**	**+0.1**
	baz=52						
X26A	**CR and CF Fran**	**52.22**	**329**	⇓P	**P**	**11 34 25.8**	**-0.3**
	baz=52						
X26A				⇓P	**P**	**11 34 25.8**	**-0.3**
	baz=52						
W27A	**Bowe Ranch, En**	**52.25**	**330**	⇓P	**P**	**11 34 26.4**	**0.0**
	baz=52						
W27A				⇓P	**P**	**11 34 26.4**	**0.0**
	baz=52						
320A	**Kipp Ranch, An**	**52.40**	**323**	⇓P	**P**	**11 34 27.7**	**+0.1**
	baz=53						
320A				⇓P	**P**	**11 34 27.7**	**+0.1**
	baz=53						
Z23A	**Rita Site, Whi**	**52.50**	**326**	⇓P	**P**	**11 34 28.6**	**+0.4**
	baz=53						
Z23A				⇓P	**P**	**11 34 28.6**	**+0.4**
	baz=53						
W26A	**Owens Ranch, T**	**52.62**	**330**	⇓P	**P**	**11 34 29.5**	**+0.4**
	baz=53						
W26A				⇓P	**P**	**11 34 29.5**	**+0.4**
	baz=53						
220A	**Playas Peak, P**	**52.81**	**323**	⇑P	**P**	**11 34 30.8**	**+0.3**
	baz=53,SNR=6.4						
220A				⇑P	**P**	**11 34 30.8**	**+0.3**
	baz=53,SNR=6.4						
121A	**Cookes Peak, D**	**52.83**	**324**	⇓P	**P**	**11 34 31.4**	**+0.6**
	baz=53,SNR=6.4						
121A				⇓P	**P**	**11 34 31.4**	**+0.6**
	baz=53,SNR=6.4						
319A	**Douglas**	**52.88**	**322**	⇓P	**P**	**11 34 31.2**	**+0.1**
	baz=53,SNR=6.4						
319A				⇓P	**P**	**11 34 31.2**	**+0.1**
	baz=53,SNR=6.4						
Z22A	**Elephant Butte**	**52.90**	**326**	⇑P	**P**	**11 34 31.4**	**+0.2**
	baz=53						
Z22A				⇑P	**P**	**11 34 31.4**	**+0.2**
	baz=53						
Y23A	**Lovelace Mesa,**	**52.91**	**327**	⇑P	**P**	**11 34 31.3**	**0.0**
	baz=53						
Y23A				⇑P	**P**	**11 34 31.3**	**0.0**
	baz=53						
X24A	**Lazy VL Ranch,**	**53.06**	**328**	⇓P	**P**	**11 34 32.1**	**-0.4**
	baz=53						
X24A				⇓P	**P**	**11 34 32.1**	**-0.4**
	baz=53						
W25A	**X Bar L Ranch,**	**53.07**	**329**	⇑P	**P**	**11 34 32.1**	**-0.3**
	baz=53						
W25A				⇑P	**P**	**11 34 32.1**	**-0.3**
	baz=53						
120A	**U Bar Ranch, L**	**53.33**	**324**	⇓P	**P**	**11 34 34.8**	**+0.4**
	baz=54						
120A				⇓P	**P**	**11 34 34.8**	**+0.4**
	baz=54						
Z21A	**St. Cloud Mine**	**53.33**	**325**	⇓P	**P**	**11 34 35.0**	**+0.5**
	baz=54						
Z21A				⇓P	**P**	**11 34 35.0**	**+0.5**
	baz=54						
318A	**Bisbee**	**53.36**	**322**	⇑P	**P**	**11 34 34.8**	**+0.2**
	baz=54,SNR=6.1						
318A				⇑P	**P**	**11 34 34.8**	**+0.2**
	baz=54,SNR=6.1						
V25A	**Rancho No Teng**	**53.64**	**330**	⇑P	**P**	**11 34 36.4**	**-0.2**
	baz=54						
V25A				⇑P	**P**	**11 34 36.4**	**-0.2**
	baz=54						
U26A	**Atchley Ranch,**	**53.65**	**331**	⇓P	**P**	**11 34 36.4**	**-0.3**
	baz=54						
U26A				⇓P	**P**	**11 34 36.4**	**-0.3**
	baz=54						
T27A	**Campo**	**53.70**	**332**	⇓P	**P**	**11 34 37.0**	**0.0**
	baz=54						
T27A				⇓P	**P**	**11 34 37.0**	**0.0**
	baz=54						
Z20A	**Nine Sixteen R**	**53.72**	**324**	⇑P	**P**	**11 34 37.4**	**+0.2**
	baz=54,SNR=5.6						
Z20A				⇑P	**P**	**11 34 37.4**	**+0.2**
	baz=54,SNR=5.6						

LAZ	**Ladron** 1.6nm,0.9s	53.85	326	*e*P	P	11 34 38.1	-0.2
Y21A	**Point of Rocks** baz=54,SNR=7.3	53.85	326	⇓P	P	11 34 38.7	+0.4
Y21A	baz=54,SNR=7.3			⇓P	P	11 34 38.7	+0.4
V24A	**Rampart Ranch,** baz=54	53.88	329	⇓P	P	11 34 38.2	-0.3
V24A	baz=54			⇓P	P	11 34 38.2	-0.3
119A	**Ashpeak Ranch,** baz=54	53.88	323	⇓P	P	11 34 38.4	0.0
119A	baz=54			⇓P	P	11 34 38.4	0.0
U25A	**Circle Dot Ran** baz=54	53.98	330	⇓P	P	11 34 38.9	-0.2
U25A	baz=54			⇓P	P	11 34 38.9	-0.2
Y20A	**Horse Springs,** baz=54	54.17	325	⇑P	P	11 34 40.7	+0.1
Y20A	baz=54			⇑P	P	11 34 40.7	+0.1
X21A	**Alamocita Cree** baz=54,SNR=7.3	54.24	326	⇓P	P	11 34 41.4	+0.2
X21A	baz=54,SNR=7.3			⇓P	P	11 34 41.4	+0.2
TUC	**Tucson** 2.7nm,0.9s	54.45	322	*e*P	P	11 34 42.4	-0.1
S26A	**Kim** baz=55	54.50	332	⇓P	P	11 34 43.3	+0.4
S26A	baz=55			⇑P	P	11 34 43.3	+0.4
T25A	**Trinidad** baz=55	54.56	331	⇓P	P	11 34 43.7	+0.3
T25A	baz=55			⇓P	P	11 34 43.7	+0.3
W21A	**San Fidel** baz=55	54.66	327	⇑P	P	11 34 44.7	+0.5
W21A	baz=55			⇑P	P	11 34 44.7	+0.5
X20A	**Quemado** baz=55	54.71	325	⇑P	P	11 34 44.5	0.0
X20A	baz=55			⇑P	P	11 34 44.5	0.0
Y19A	**Nutrioso** baz=55	54.71	324	⇑P	P	11 34 44.8	+0.3
Y19A	baz=55			⇑P	P	11 34 44.8	+0.3
R27A	**Eads** baz=55	54.73	333	⇓P	P	11 34 44.7	+0.3
R27A	baz=55			⇓P	P	11 34 44.7	+0.3
U23A	**El Rito** baz=55	54.82	329	⇑P	P	11 34 45.5	+0.2
U23A	baz=55			⇑P	P	11 34 45.5	+0.2
S25A	**Robets Cordova** baz=55	54.99	331	⇑P	P	11 34 45.7	-0.8
S25A	baz=55			⇑P	P	11 34 45.7	-0.8
Y18A	**Canyon Day Jun** baz=55	55.03	324	⇓P	P	11 34 46.8	0.0
Y18A	baz=55			⇓P	P	11 34 46.8	0.0
R26A	**Arlington** baz=55	55.04	332	⇓P	P	11 34 46.5	-0.3
R26A	baz=55			⇓P	P	11 34 46.5	-0.3
X19A	**St. Johns** baz=55	55.07	325	⇑P	P	11 34 46.6	-0.5
X19A	baz=55			⇑P	P	11 34 46.6	-0.5
W20A	**Ramah** baz=55	55.14	326	⇓P	P	11 34 47.7	+0.1
W20A	baz=55			⇓P	P	11 34 47.7	+0.1
U22A	**Llaves** baz=55	55.20	328	⇑P	P	11 34 48.3	+0.3
U22A	baz=55			⇑P	P	11 34 48.3	+0.3
KSCO	**Kaye Shedlock'** baz=56	55.25	333	⇑P	P	11 34 48.6	+0.4
KSCO	baz=56			⇑P	P	11 34 48.6	+0.4
Y17A	**Roosevelt** baz=56	55.45	323	⇑P	P	11 34 49.7	0.0
Y17A	baz=56			⇑P	P	11 34 49.7	0.0
214A	**Organ Pipe Nat** baz=56	55.46	320	⇓P	P	11 34 49.8	0.0
214A	baz=56			⇓P	P	11 34 49.8	0.0
X18A	**Snowflake** baz=56	55.52	324	⇑P	P	11 34 50.6	+0.3
X18A	baz=56			⇑P	P	11 34 50.6	+0.3
SDCO	**Great Sand Dun** 5.1nm,0.9s	55.57	330	*e*P	P	11 34 51.1	+0.3
SDCO	**Great Sand Dun** baz=56	55.57	330	⇑P	P	11 34 50.9	+0.1
SDCO	baz=56			⇑P	P	11 34 50.9	+0.1
SDCO	baz=56			⇑P	P	11 34 50.9	+0.1
SDCO	baz=56			⇑P	P	11 34 50.9	+0.1
V19A	**Window Rock** baz=56	55.87	326	⇑P	P	11 34 53.3	+0.4
V19A	baz=56			⇑P	P	11 34 53.3	+0.4
T21A	**Navajo Lake** baz=56	56.02	328	⇓P	P	11 34 54.1	+0.2
T21A	baz=56			⇓P	P	11 34 54.1	+0.2
114A	**Black Gap (USA** baz=56	56.04	321	⇓P	P	11 34 54.1	+0.2
114A	baz=56			⇓P	P	11 34 54.1	+0.2
S22A	**4UR Ranch, Cre** baz=56	56.23	329	⇑P	P	11 34 55.8	+0.3
S22A	baz=56			⇑P	P	11 34 55.8	+0.3
X16A	**Lo Mia Camp, P** baz=56	56.31	323	⇓P	P	11 34 56.3	+0.3
X16A	baz=56			⇓P	P	11 34 56.3	+0.3
T19A	**Beclabito** baz=57	56.68	327	⇑P	P	11 34 59.1	+0.5
T19A	baz=57			⇑P	P	11 34 59.1	+0.5
V17A	**Tonalea, Kykot** baz=57,SNR=8.5	56.78	325	⇓P	P	11 34 59.1	-0.2
V17A	baz=57,SNR=8.5			⇓P	P	11 34 59.1	-0.2
ECSD	**EROS Data Cent** 12nm,1.4s	57.03	341	*e*P	P	11 34 59.5	-1.2
WUAZ	**Wupatki** 7.2nm,0.9s	57.04	324	*e*P	P	11 35 01.4	+0.2
WUAZ	**Wupatki** baz=57	57.04	324	⇓P	P	11 35 01.5	+0.4
WUAZ	baz=57			⇓P	P	11 35 01.5	+0.4
S20A	**Disappointment** baz=57,SNR=6.2	57.08	328	⇓P	P	11 35 01.4	-0.1
S20A	baz=57,SNR=6.2			⇓P	P	11 35 01.4	-0.1
Q22A	**Crested Butte,** baz=57	57.14	330	⇑P	P	11 35 01.6	-0.3
Q22A	baz=57			⇑P	P	11 35 01.6	-0.3
ISCO	**Idaho Springs** baz=58	57.25	332	⇑P	P	11 35 02.4	-0.3
ISCO	baz=58			⇑P	P	11 35 02.4	-0.3
SPMN	**St. Paul** baz=58	57.28	345	⇓P	P	11 35 01.6	-0.8
SPMN	baz=58			⇓P	P	11 35 01.6	-0.8
U16A	**Tuba City** baz=58	57.34	325	⇓P	P	11 35 03.4	+0.2
U16A	baz=58			⇓P	P	11 35 03.4	+0.2
R20A	**Redvale** baz=58,SNR=7.9	57.36	328	⇑P	P	11 35 03.6	+0.2
R20A	baz=58,SNR=7.9			⇑P	P	11 35 03.6	+0.2
T18A	**Mexican Hat** baz=58,SNR=6.4	57.37	327	⇑P	P	11 35 03.0	-0.3
T18A	baz=58,SNR=6.4			⇑P	P	11 35 03.0	-0.3
U17A	**Shonto** baz=58	57.41	326	⇑P	P	11 35 03.7	-0.1
U17A	baz=58			⇑P	P	11 35 03.7	-0.1
S19A	**Harvey Farm, M** baz=58,SNR=6.7	57.42	328	⇑P	P	11 35 03.7	-0.2
S19A	baz=58,SNR=6.7			⇑P	P	11 35 03.7	-0.2
P22A	**Eagle** baz=58	57.63	331	⇑P	P	11 35 05.4	0.0
P22A	baz=58			⇑P	P	11 35 05.4	0.0
O23A	**Lake Granby, G** baz=58	57.72	332	⇑P	P	11 35 06.1	+0.1
O23A	baz=58			⇑P	P	11 35 06.1	+0.1
Y12C	**Blythe** baz=58	57.73	321	⇓P	P	11 35 06.1	+0.4
Y12C	baz=58			⇓P	P	11 35 06.1	+0.4
S18A	**Hurst Farm, Bl** baz=58,SNR=6.9	57.84	327	⇑P	P	11 35 06.8	0.0
S18A	baz=58,SNR=6.9			⇑P	P	11 35 06.8	0.0
M25A	**Palm-Egli Farm** baz=58	57.87	334	⇓P	P	11 35 07.1	+0.2
M25A	baz=58			⇓P	P	11 35 07.1	+0.2
R19A	**Curley Farm, L** baz=58	57.90	328	⇑P	P	11 35 06.9	-0.3
R19A	baz=58			⇑P	P	11 35 06.9	-0.3
P21A	**Newcastle** baz=58	57.91	330	⇑P	P	11 35 07.6	+0.3
P21A	baz=58			⇑P	P	11 35 07.6	+0.3
U15A	**North Rim** baz=58	58.21	324	⇓P	P	11 35 09.9	+0.4
U15A	baz=58			⇓P	P	11 35 09.9	+0.4
W13A	**Hualapai Mount** baz=58	58.23	322	⇑P	P	11 35 10.1	+0.5
W13A	baz=58			⇑P	P	11 35 10.1	+0.5
BC3	**Big Chuckawall** baz=58	58.25	320	⇓P	P	11 35 09.7	+0.1
BC3	baz=58			⇓P	P	11 35 09.7	+0.1
R18A	**Canyonlands Na** baz=58	58.30	328	⇑P	P	11 35 09.9	0.0
R18A	baz=58			⇑P	P	11 35 09.9	0.0
IRM	**Iron Mountain** baz=58	58.39	321	⇑P	P	11 35 10.6	+0.1
IRM	baz=58			⇑P	P	11 35 10.6	+0.1
Q19A	**Hogan Spring (** baz=59,SNR=6.5	58.39	328	⇑P	P	11 35 10.7	+0.2
Q19A	baz=59,SNR=6.5			⇑P	P	11 35 10.7	+0.2
S16A	**Weppner Ranch,** baz=59	58.73	326	⇑P	P	11 35 12.8	-0.2
S16A	baz=59			⇑P	P	11 35 12.8	-0.2
R17A	**Hanksville Air** baz=59	58.76	327	⇓P	P	11 35 13.2	+0.2
R17A	baz=59			⇓P	P	11 35 13.2	+0.2
P19A	**Cripple Cowboy** baz=59	58.76	329	⇑P	P	11 35 13.1	-0.1
P19A	baz=59			⇑P	P	11 35 13.1	-0.1
O20A	**White River Ci** baz=59	58.77	330	⇓P	P	11 35 13.0	-0.2
O20A	baz=59			⇓P	P	11 35 13.0	-0.2
N21A	**Black Mountain** baz=59	58.90	331	⇑P	P	11 35 14.9	+0.7
N21A	baz=59			⇑P	P	11 35 14.9	+0.7
Q18A	**Rafter H Ranch** baz=59	58.95	328	⇓P	P	11 35 15.0	+0.6
Q18A	baz=59			⇓P	P	11 35 15.0	+0.6
GMRC	**Granite Mounta** baz=59	59.11	321	⇑P	P	11 35 16.1	+0.4
GMRC	baz=59			⇑P	P	11 35 16.1	+0.4
O19A	**Miners Draw (B** baz=60	59.33	330	⇑P	P	11 35 17.0	0.0
O19A	baz=60			⇑P	P	11 35 17.0	0.0
CCUT	**Cedar City** 5.0nm,1.2s	59.61	325	*e*P	P	11 35 19.2	+0.1
ARUT	**Antelope Range** 5.2nm,1.1s	59.81	325	*e*P	P	11 35 21.0	+0.6
I24A	**Kuemmerle Ranc** baz=60	60.09	335	⇑P	P	11 35 22.5	+0.3
I24A	baz=60			⇑P	P	11 35 22.5	+0.3
R13A	**O'Grain Ranch,** baz=61	60.39	325	⇓P	P	11 35 25.0	+0.6
R13A	baz=61			⇓P	P	11 35 25.0	+0.6
O16A	**Springville** baz=61	60.48	328	⇑P	P	11 35 24.9	-0.1
O16A	baz=61			⇑P	P	11 35 24.9	-0.1
DAU	**Daniels Canyon** 9.2nm,1.2s	60.50	328	*e*P	P	11 35 25.1	-0.2
J22A	**Midwest** baz=61	60.52	334	⇓P	P	11 35 24.9	-0.3
J22A	baz=61			⇓P	P	11 35 24.9	-0.3
N17A	**Moffit Pass** baz=61	60.68	329	⇑P	P	11 35 26.8	+0.4
N17A	baz=61			⇑P	P	11 35 26.8	+0.4
JLU	**Jordanelle** 25nm,1.8s	60.74	328	*e*P	P	11 35 26.2	-0.6
K20A	**Yellowstone Ra** baz=61	60.77	332	⇑P	P	11 35 26.8	-0.1
K20A	baz=61			⇑P	P	11 35 26.8	-0.1
H24A	**Dirks Ranch, A** baz=61	60.79	336	⇓P	P	11 35 27.1	+0.2
H24A	baz=61			⇓P	P	11 35 27.1	+0.2
L19A	**Farson** baz=61	60.82	331	⇓P	P	11 35 27.2	-0.1
L19A	baz=61			⇓P	P	11 35 27.2	-0.1
J21A	**Lysite** baz=61	60.90	333	⇑P	P	11 35 27.9	+0.1
J21A	baz=61			⇑P	P	11 35 27.9	+0.1
I22A	**9 Mile Ranch,** baz=61	60.91	334	⇓P	P	11 35 28.0	+0.3
I22A	baz=61			⇓P	P	11 35 28.0	+0.3
AGMN	**Agassiz Nation** 6.0nm,0.7s	60.93	344	*e*P	P	11 35 27.1	-0.5
N16A	**Rees Ranch, Co** baz=61	60.95	329	⇑P	P	11 35 28.4	+0.2
N16A	baz=61			⇑P	P	11 35 28.4	+0.2
FURC	**Furnace Creek,** baz=61	60.95	322	⇓P	P	11 35 28.3	+0.3
FURC	baz=61			⇓P	P	11 35 28.3	+0.3
MPMC	**Manual Prospec** baz=61	61.08	321	⇓P	P	11 35 29.0	-0.2
MPMC	baz=61			⇓P	P	11 35 29.0	-0.2
DUG	**Dugway** 5.5nm,0.9s	61.17	327	*e*P	P	11 35 29.3	-0.3
DUG	**Dugway** baz=61,SNR=7.1	61.17	327	⇑P	P	11 35 29.5	-0.1
DUG	baz=61,SNR=7.1			⇑P	P	11 35 29.5	-0.1
J20A	**Shoshoni** baz=61	61.19	333	⇓P	P	11 35 29.6	0.0
J20A	baz=61			⇓P	P	11 35 29.6	0.0
I21A	**Big Trails, Te** baz=61	61.19	333	⇑P	P	11 35 29.4	-0.3
I21A	baz=61			⇑P	P	11 35 29.4	-0.3
G24A	**Alzada** baz=61	61.22	336	⇑P	P	11 35 29.8	0.0
G24A	baz=61			⇑P	P	11 35 29.8	0.0
BW06	**Boulder Array** baz=62	61.42	331	⇓P	P	11 35 31.1	-0.3
BW06	baz=62			⇓P	P	11 35 31.1	-0.3
BW06	baz=62			⇓P	P	11 35 31.1	-0.3
BW06	baz=62			⇓P	P	11 35 31.1	-0.3
PDAR	**Pinedale Array** 0.9nm,0.5s,baz=125,slow=9.3,SNR=8.9	61.42	331	P	P	11 35 30.6	-0.8
PDAR	**Pinedale Array**	61.42	331	P	P	11 35 30.6	-0.8
R11A	**Troy Canyon, C** baz=62	61.43	324	⇓P	P	11 35 32.0	+0.5
R11A	baz=62			⇓P	P	11 35 32.0	+0.5
PD02	**Pinedale Array**	61.43	331	*e*P	P	11 35 31.3	-0.2
G23A	**Biddle** baz=62	61.50	336	⇓P	P	11 35 31.3	-0.4
G23A	baz=62			⇓P	P	11 35 31.3	-0.4
HWUT	**Hardware Ranch** 6.0nm,0.8s	61.54	329	*e*P	P	11 35 31.0	-1.2
K18A	**Toltan Ranch,** baz=62	61.55	331	⇑P	P	11 35 32.4	+0.2
K18A	baz=62			⇑P	P	11 35 32.4	+0.2
MDND	**Maddock** baz=62	61.64	341	⇓P	P	11 35 32.7	+0.2
MDND	baz=62			⇓P	P	11 35 32.7	+0.2
F24A	**Ekalaka** baz=62	61.66	337	⇓P	P	11 35 32.9	+0.1
F24A	baz=62			⇓P	P	11 35 32.9	+0.1
I20A	**Worland** baz=62	61.67	333	⇓P	P	11 35 32.9	0.0
I20A	baz=62			⇓P	P	11 35 32.9	0.0
F23A	**Volborg** baz=62	61.94	336	⇓P	P	11 35 34.0	-0.6
F23A	baz=62			⇓P	P	11 35 34.0	-0.6
H20A	**Greybull** baz=62	62.04	333	⇓P	P	11 35 34.8	-0.6
H20A	baz=62			⇓P	P	11 35 34.8	-0.6
E24A	**Baker** baz=62	62.20	337	⇑P	P	11 35 36.5	+0.2
E24A	baz=62			⇑P	P	11 35 36.5	+0.2
L15A	**Malad City** baz=62,SNR=5.6	62.25	329	⇑P	P	11 35 36.4	-0.4
L15A	baz=62,SNR=5.6			⇑P	P	11 35 36.4	-0.4
E23A	**Ismay** baz=63	62.53	336	⇓P	P	11 35 38.6	+0.1
E23A	baz=63			⇓P	P	11 35 38.6	+0.1
D24A	**Glendive** baz=63	62.66	337	⇓P	P	11 35 39.6	+0.2
D24A	baz=63			⇓P	P	11 35 39.6	+0.2
G20A	**Bridger** baz=63	62.71	334	⇓P	P	11 35 39.0	-0.9
G20A	baz=63			⇓P	P	11 35 39.0	-0.9
ULM	**Lac du Bonnet** 6.5nm,0.7s,baz=152,slow=6.8,SNR=11	62.72	345	P	P	11 35 37.9	-1.8
ULM	**Lac du Bonnet**	62.72	345	*e*P	P	11 35 38.8	-0.8
K14A	**Jones Ranch, D** baz=63	63.04	329	⇓P	P	11 35 42.0	-0.2
K14A	baz=63			⇓P	P	11 35 42.0	-0.2
D23A	**Lindsay** baz=63	63.05	337	⇑P	P	11 35 42.9	+0.9
D23A	baz=63			⇑P	P	11 35 42.9	+0.9
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=139,slow=7.0,SNR=6.4	63.09	322	P	P	11 35 41.8	-0.9
NVAR	**Mina Array Bea**	63.09	322	P	P	11 35 41.8	-0.9
RLMT	**Red Lodge** baz=63	63.10	333	⇑P	P	11 35 42.3	-0.3
RLMT	baz=63			⇑P	P	11 35 42.3	-0.3
RLMT	baz=63			⇑P	P	11 35 42.3	-0.3
RLMT	baz=63			⇑P	P	11 35 42.3	-0.3
G18A	**Lazy EL Ranch,** baz=64	63.38	333	⇑P	P	11 35 44.2	-0.2
G18A	baz=64			⇑P	P	11 35 44.2	-0.2
D22A	**Cohagen** baz=64,SNR=6.8	63.41	336	⇓P	P	11 35 44.9	+0.5
D22A	baz=64,SNR=6.8			⇓P	P	11 35 44.9	+0.5
F19A	**Roth Farm, Mol** baz=64,SNR=5.3	63.53	334	⇓P	P	11 35 45.3	0.0
F19A	baz=64,SNR=5.3			⇓P	P	11 35 45.3	0.0
C23A	**Lambert** baz=64	63.56	337	⇓P	P	11 35 46.0	+0.7
C23A	baz=64			⇓P	P	11 35 46.0	+0.7
D21A	**La Casta Ranch** baz=64	63.67	336	⇑P	P	11 35 46.7	+0.6
D21A	baz=64			⇑P	P	11 35 46.7	+0.6
H16A	**Russell Place,** baz=64	63.69	332	⇓P	P	11 35 47.0	+0.6
H16A	baz=64			⇓P	P	11 35 47.0	+0.6
E20A	**Meyer Farm, Mu** baz=64,SNR=6.3	63.69	335	⇓P	P	11 35 46.6	+0.3
E20A	baz=64,SNR=6.3			⇓P	P	11 35 46.6	+0.3
C22A	**Vida** baz=64	63.78	337	⇑P	P	11 35 47.1	+0.3
C22A	baz=64			⇑P	P	11 35 47.1	+0.3
F18A	**Big Timber** baz=64,SNR=5.5	63.91	333	⇑P	P	11 35 47.9	+0.1
F18A	baz=64,SNR=5.5			⇑P	P	11 35 47.9	+0.1
E19A	**Rath Farm, Rou** baz=64	63.93	334	⇑P	P	11 35 48.2	+0.3
E19A	baz=64			⇑P	P	11 35 48.2	+0.3
B23A	**Brockton** baz=64,SNR=5.9	64.04	338	⇓P	P	11 35 49.3	+0.8
B23A	baz=64,SNR=5.9			⇓P	P	11 35 49.3	+0.8
A24A	**Westby** baz=64	64.06	339	⇑P	P	11 35 49.4	+0.8
A24A	baz=64			⇑P	P	11 35 49.4	+0.8
D20A	**Manuel Ranch,** baz=64	64.16	335	⇓P	P	11 35 49.6	+0.2
D20A	baz=64			⇓P	P	11 35 49.6	+0.2
J13A	**Cove Ranch, Pi** baz=64	64.17	329	⇑P	P	11 35 49.6	+0.1
J13A	baz=64			⇑P	P	11 35 49.6	+0.1
I14A	**Mackay** baz=64	64.18	330	⇓P	P	11 35 50.1	+0.4
I14A	baz=64			⇓P	P	11 35 50.1	+0.4
B22A	**Reddig Ranch S** baz=64	64.28	337	⇓P	P	11 35 50.4	+0.3
B22A	baz=64			⇓P	P	11 35 50.4	+0.3
H15A	**Lima** baz=64	64.29	331	⇑P	P	11 35 50.7	+0.3
H15A	baz=64			⇑P	P	11 35 50.7	+0.3
HLID	**Hailey** baz=65	64.41	329	⇓P	P	11 35 51.4	+0.3
HLID	baz=65			⇓P	P	11 35 51.4	+0.3
E18A	**Harlowton** baz=65	64.50	334	⇓P	P	11 35 51.5	-0.1

E18A				⇓P		P	11 35 51.5	-0.1	
	baz=65								
I13A	**Wildhorse Cree**	**64.51**	**329**	⇑P		P	11 35 52.3	+0.5	
	baz=65								
I13A				⇑P		P	11 35 52.3	+0.5	
	baz=65								
WCN	**Washoe City**	**64.52**	**322**	⇓P		P	11 35 52.4	+0.4	
	baz=65								
WCN				⇓P		P	11 35 52.4	+0.4	
	baz=65								
D19A	**Cripps Ranch,**	**64.53**	**335**	⇑P		P	11 35 52.1	+0.3	
	baz=65								
D19A				⇑P		P	11 35 52.1	+0.3	
	baz=65								
BOZ	**Bozeman (W)**	**64.58**	**332**	*e*P		P	11 35 51.4	-0.8	
	25nm,2.3s								
BOZ	**Bozeman (W)**	**64.58**	**332**	⇓P		P	11 35 52.3	+0.2	
	baz=65								
BOZ				⇓P		P	11 35 52.3	+0.2	
	baz=65								
BOZ				⇓P		P	11 35 52.3	+0.2	
	baz=65								
BOZ				⇓P		P	11 35 52.3	+0.2	
	baz=65								
G15A	**Dillon**	**64.62**	**331**	⇑P		P	11 35 52.9	+0.3	
	baz=65								
G15A				⇑P		P	11 35 52.9	+0.3	
	baz=65								
H14A	**Leadore**	**64.64**	**330**	⇓P		P	11 35 53.2	+0.5	
	baz=65								
H14A				⇓P		P	11 35 53.2	+0.5	
	baz=65								
A22A	**Carney Farms,**	**64.82**	**338**	⇑P		P	11 35 54.5	+0.9	
	baz=65								
A22A				⇑P		P	11 35 54.5	+0.9	
	baz=65								
E17A	**Martinsdale**	**64.84**	**333**	⇓P		P	11 35 54.2	+0.3	
	baz=65								
E17A				⇓P		P	11 35 54.2	+0.3	
	baz=65								
I12A	**Atlanta**	**64.94**	**329**	⇓P		P	11 35 54.6	0.0	
	baz=65								
I12A				⇓P		P	11 35 54.6	0.0	
	baz=65								
D18A	**Linhart Farms,**	**64.94**	**334**	⇑P		P	11 35 55.0	+0.5	
	baz=65								
D18A				⇑P		P	11 35 55.0	+0.5	
	baz=65								
MFID	**Camas Ranch**	**65.03**	**328**	*e*P		P	11 35 55.1	0.0	
	6.9nm,0.8s								
MFID	**Camas Ranch**	**65.03**	**328**	⇓P		P	11 35 55.5	+0.3	
	baz=65,SNR=7.0								
MFID				⇓P		P	11 35 55.5	+0.3	
	baz=65,SNR=7.0								
H13A	**Challis**	**65.04**	**330**	⇓P		P	11 35 55.0	-0.3	
	baz=65								
H13A				⇓P		P	11 35 55.0	-0.3	
	baz=65								
C19A	**Slack Wire Ran**	**65.05**	**335**	⇓P		P	11 35 55.3	+0.2	
	baz=65								
C19A				⇓P		P	11 35 55.3	+0.2	
	baz=65								
F15A	**Butte**	**65.12**	**332**	⇑P		P	11 35 55.9	+0.1	
	baz=65								
F15A				⇑P		P	11 35 55.9	+0.1	
	baz=65								
B20A	**Solberg Farm,**	**65.19**	**336**	⇓P		P	11 35 56.1	+0.1	
	baz=65								
B20A				⇓P		P	11 35 56.1	+0.1	
	baz=65								
A21A	**Bergtoll Ranch**	**65.20**	**337**	⇑P		P	11 35 56.4	+0.3	
	baz=65								
A21A				⇑P		P	11 35 56.4	+0.3	
	baz=65								
E16A	**East Helena**	**65.26**	**333**	⇑P		P	11 35 56.6	0.0	
	baz=66								
E16A				⇑P		P	11 35 56.6	0.0	
	baz=66								
D17A	**Six Diamond Ra**	**65.29**	**334**	⇑P		P	11 35 57.0	+0.2	
	baz=66								
D17A				⇑P		P	11 35 57.0	+0.2	
	baz=66								
H12A	**Diamond D Ranc**	**65.33**	**329**	⇑P		P	11 35 57.7	+0.5	
	baz=66								
H12A				⇑P		P	11 35 57.7	+0.5	
	baz=66								
G13A	**Cobalt**	**65.41**	**330**	⇑P		P	11 35 57.7	+0.1	
	baz=66								
G13A				⇑P		P	11 35 57.7	+0.1	
	baz=66								
A20A	**Cobblestone Ra**	**65.50**	**336**	⇑P		P	11 35 58.5	+0.5	
	baz=66								
A20A				⇑P		P	11 35 58.5	+0.5	
	baz=66								
EGMT	**Eagleton**	**65.57**	**335**	⇑P		P	11 35 58.8	+0.3	
	baz=66								
EGMT				⇑P		P	11 35 58.8	+0.3	
	baz=66								
B19A	**Brinkman Farms**	**65.57**	**336**	⇓P		P	11 35 58.7	+0.3	
	baz=66								
B19A				⇓P		P	11 35 58.7	+0.3	
	baz=66								
D16A	**Dana Ranch, Ca**	**65.58**	**333**	⇓P		P	11 35 59.3	+0.6	
	baz=66								
D16A				⇓P		P	11 35 59.3	+0.6	
	baz=66								
E15A	**Deer Lodge**	**65.62**	**332**	⇑P		P	11 35 59.0	0.0	
	baz=66								
E15A				⇑P		P	11 35 59.0	0.0	
	baz=66								
C17A	**Wharram Farm,**	**65.69**	**334**	⇑P		P	11 35 59.6	+0.3	
	baz=66								
C17A				⇑P		P	11 35 59.6	+0.3	
	baz=66								
A19A	**Klindworth Far**	**65.86**	**336**	⇑P		P	11 36 00.7	+0.4	
	baz=66								
A19A				⇑P		P	11 36 00.7	+0.4	
	baz=66								
B18A	**Beardsley Farm**	**65.87**	**335**	⇓P		P	11 36 00.5	+0.1	
	baz=66,SNR=6.0								
B18A				⇓P		P	11 36 00.5	+0.1	
	baz=66,SNR=6.0								
F13A	**Darby**	**65.96**	**331**	⇓P		P	11 36 01.1	0.0	
	baz=66								
F13A				⇓P		P	11 36 01.1	0.0	
	baz=66								
E14A	**Clinton**	**66.02**	**331**	⇓P		P	11 36 01.9	+0.4	
	baz=66								
E14A				⇓P		P	11 36 01.9	+0.4	
	baz=66								
C16A	**Fuhringer Ranc**	**66.25**	**333**	⇑P		P	11 36 02.8	-0.1	
	baz=66								
C16A				⇑P		P	11 36 02.8	-0.1	
	baz=66								
A18A	**Metzger Ranch,**	**66.31**	**335**	⇑P		P	11 36 03.6	+0.4	
	baz=66								
A18A				⇑P		P	11 36 03.6	+0.4	
	baz=66								
E13A	**Victor**	**66.36**	**331**	⇑P		P	11 36 04.5	+0.8	
	baz=67								
E13A				⇑P		P	11 36 04.5	+0.8	
	baz=67								
MOD	**Modoc**	**66.49**	**324**	*e*P		P	11 36 03.8	-0.8	
	4.6nm,0.6s								
D14A	**Greenough**	**66.51**	**332**	⇑P		P	11 36 04.8	+0.2	
	baz=67								
D14A				⇑P		P	11 36 04.8	+0.2	
	baz=67								
C15A	**Salmond Ranch,**	**66.62**	**333**	⇑P		P	11 36 05.5	+0.2	
	baz=67								
C15A				⇑P		P	11 36 05.5	+0.2	
	baz=67								
A17A	**Triple J Farms**	**66.68**	**335**	⇑P		P	11 36 05.8	+0.2	
	baz=67								
A17A				⇑P		P	11 36 05.8	+0.2	
	baz=67								
B16A	**M & M Farms, S**	**66.70**	**334**	⇑P		P	11 36 06.1	+0.3	
	baz=67								
B16A				⇑P		P	11 36 06.1	+0.3	
	baz=67								
B15A	**Bradely Ranch,**	**67.00**	**333**	⇓P		P	11 36 08.4	+0.7	
	baz=67								
B15A				⇓P		P	11 36 08.4	+0.7	
	baz=67								
A16A	**West Butte Ran**	**67.06**	**334**	⇓P		P	11 36 08.7	+0.6	
	baz=67								
A16A				⇓P		P	11 36 08.7	+0.6	
	baz=67								

B14A	**Marquette Ranc**	**67.35**	**333**	⇓P		P	11 36 10.6	+0.7	
	baz=68								
B14A				⇓P		P	11 36 10.6	+0.7	
	baz=68								
I07A	**Izee**	**67.45**	**326**	⇓P		P	11 36 11.4	+0.7	
	baz=68								
I07A				⇓P		P	11 36 11.4	+0.7	
	baz=68								
F10A	**Beach Ranch, E**	**67.52**	**329**	⇑P		P	11 36 12.0	+1.0	
	baz=68								
F10A				⇑P		P	11 36 12.0	+1.0	
	baz=68								
DBIC	**Dimbokro**	**71.20**	**79**	P		P	11 36 33.9	-0.4	
	1.3nm,0.5s,baz=241,slow=5.6,SNR=4.7								
DBIC				LR		LR	12 05 20.8		
	comp=Z,46nm,18.6s,baz=249,slow=34								
DBIC	**Dimbokro**	**71.20**	**79**	P		P	11 36 33.9	-0.4	
A05A	**Maple Falls**	**72.00**	**329**	⇓P		P	11 36 38.7	+0.3	
	baz=72								
A05A				⇓P		P	11 36 38.7	+0.3	
	baz=72								
YKA	**Yellowknife Ar**	**78.53**	**342**	P		P	11 37 15.0	-0.7	
	1.2nm,0.7s,baz=139,slow=6.3,SNR=30								
YKA	**Yellowknife Ar**	**78.53**	**342**	P		P	11 37 15.0	-0.7	
TORD	**Torodi Ar. Bea**	**78.93**	**74**	P		P	11 37 18.3	-0.6	
	3.3nm,0.8s,baz=276,slow=6.4,SNR=19								
TORD	**Torodi Ar. Bea**	**78.93**	**74**	P		P	11 37 18.3	-0.6	
TAM	**Tamanrasset**	**84.64**	**66**	*e*P		P	11 37 49.8	+0.7	
	1.9nm,0.4s								
SJPF	**Ste Jean**	**84.67**	**45**	*e*P		P	11 37 49.1	+0.5	
SUMG	**Summit**	**85.52**	**10**	*i* P		P	11 37 53.8	+1.1	
	6.2nm,0.7s								
MFF	**Saint Martin d**	**86.50**	**42**	*e*P		P	11 37 58.6	+1.0	
	8.2nm,0.6s								
GRR	**Gorron**	**86.61**	**40**	*e*P		P	11 37 58.7	+0.6	
	7.1nm,0.6s								
FLN	**La Foliniere**	**86.97**	**40**	*e*P		P	11 38 00.6	+0.8	
	18nm,0.9s								
LDF	**La Druitiere**	**87.14**	**40**	*e*P		P	11 38 00.9	+0.2	
	4.9nm,0.7s								
MTLF	**Montolieu**	**87.14**	**45**	*e*P		P	11 38 00.8	0.0	
RJF	**Les Rejaudoux**	**87.22**	**43**	*e*P		P	11 38 01.2	0.0	
INK	**Inuvik**	**88.27**	**341**	*e*P		P	11 38 05.5	-0.1	
	4.0nm,0.8s								
BGF	**Bois d'Agland**	**88.46**	**42**	*e*P		P	11 38 07.2	+0.1	
	14nm,0.7s								
AVF	**Avril sur Loir**	**88.86**	**42**	*e*P		P	11 38 08.8	-0.1	
	3.8nm,0.5s								
LOR	**Lormes**	**89.32**	**42**	*e*P		P	11 38 10.9	-0.2	
MEZF	**Maizieres J'vi**	**90.41**	**41**	*e*P		P	11 38 16.3	+0.2	
	7.9nm,0.6s								
ILAR	**Eielson Array**	**91.51**	**336**	P		P	11 38 20.3	-0.6	
	0.6nm,0.6s,baz=148,slow=2.8,SNR=14								
ILAR	**Eielson Array**	**91.51**	**336**	P		P	11 38 20.3	-0.6	
CDF	**Champ du Feu**	**91.83**	**41**	*e*P		P	11 38 23.0	+0.1	
BVAR	**Borovoye Array**	**128.46**	**26**	PKP		**PKPdf**	11 44 21.9	+0.5	
	0.4nm,0.6s,baz=258,slow=2.7,SNR=3.6								
BVAR	**Borovoye Array**	**128.46**	**26**	PKP		**PKPdf**	11 44 21.9	+0.5	
ZALV	**Zalesovo Beam**	**132.99**	**17**	PKP		**PKPdf**	11 44 29.6	-0.4	
	1.0nm,0.5s,baz=266,slow=2.2,SNR=6.0								
ZALV	**Zalesovo Beam**	**132.99**	**17**	PKP		**PKPdf**	11 44 29.6	-0.4	
KURK	**Kurchatov**	**133.60**	**23**	PKP		**PKPdf**	11 44 31.9	+0.7	
	0.4nm,0.5s,baz=309,slow=2.7,SNR=8.2								
KURK	**Kurchatov**	**133.60**	**23**	PKP		**PKPdf**	11 44 31.9	+0.7	
ASAR	**Alice Springs**	**136.68**	**219**	PKP		**PKPdf**	11 44 37.1	-0.7	
	0.9nm,0.8s,baz=126,slow=2.1,SNR=8.8								
ASAR	**Alice Springs**	**136.68**	**219**	PKP		**PKPdf**	11 44 37.1	-0.7	
MKAR	**Makanchi Array**	**138.20**	**24**	PKP		**PKPdf**	11 44 40.4	+0.5	
	0.4nm,0.7s,baz=359,slow=1.2,SNR=4.7								
MKAR	**Makanchi Array**	**138.20**	**24**	PKP		**PKPdf**	11 44 40.4	+0.5	
WRA	**Warramunga Arr**	**139.03**	**224**	PKP		**PKPdf**	11 44 41.8	-0.5	
	0.6nm,0.5s,baz=127,slow=2.1,SNR=14								
WRA	**Warramunga Arr**	**139.03**	**224**	PKP		**PKPdf**	11 44 41.8	-0.5	
SONM	**Songino Array**	**142.14**	**359**	PKhKP		PKPpre	11 44 41.9		
	0.3nm,0.8s,baz=331,slow=3.0,SNR=3.1								
SONM	**Songino Array**	**142.14**	**359**	PKPpre		PKPpre	11 44 41.9		
KSRS	**Korea Array**	**145.93**	**327**	PKPbc		**PKPdf**	11 44 54.0	+0.1	
	4.8nm,1.0s,baz=42,slow=4.0,SNR=8.2								
KSAR	**Wonju Array Be**	**145.96**	**327**	PKPbc		**PKPdf**	11 44 54.0	0.0	
HHC	**Hu-ho-hao-te**	**148.68**	**351**	*e*PKPbc		**PKPdf**	11 44 57.6	-1.0	
HHC				pPKP		**pPKPdf**	11 45 12.5	+2.5	
HHC				sPKP			11 45 16.1		
HHC				PKS		**PKSdf**	11 48 33.5	-0.2	
HHC				PP		**PP**	11 48 37.1	+6.1	
HHC				SKS		**SKSdf**	11 52 02.8	-1.7	
HHC				SKKS		**SKKSac**	11 55 21.5	+0.4	
HHC				SS		**SS**	12 07 41.4	+3.9	
HHC				AMB		AMB			
	comp=Z,90nm,6.4s								
HHC				LR		LR			
	comp=N,97nm,20.0s								
HHC				LR		LR			
	comp=E,170nm,18.7s								
HHC				LR		LR			
	comp=Z,110nm,19.5s								
GTA	**Gaotai**	**150.12**	**9**	PKPbc		**PKPbc**	11 45 06.0	0.0	
DANN	**Dangsing**	**152.45**	**45**	*e*P		**PKPbc**	11 45 12.7	+0.8	
	comp=Z,29nm,0.8s								
GKN	**Gorkha**	**153.28**	**45**	*e*P		**PKPbc**	11 45 15.0	+1.4	
LZH	**Lanzhou**	**153.84**	**3**	*e*PKPbc		**PKPdf**	11 45 05.0	-1.6	
LZH				pPKP		**PKiKP**	11 45 16.0	+1.4	
LZH				sPKP			11 45 20.5		
DMN	**Daman**	**153.85**	**45**	*e*P		**PKPbc**	11 45 17.1	+2.1	
	comp=Z,21nm,0.6s								
KKN	**Kakani**	**153.85**	**44**	*e*P		**PKPbc**	11 45 18.4	+3.5	
	comp=Z,15nm,0.7s								
RAMN	**Ramite**	**155.29**	**44**	*e*P		PKPab	11 45 22.6	-12	
CD2	**Chengdu**	**158.98**	**4**	PKP		**PKPdf**	11 45 11.9	-1.4	
GYA	**Guiyang**	**163.45**	**357**	*e*PKP		**PKPdf**	11 45 16.0	-2.3	
GYA				sPKP			11 45 33.8		
GYA				PKS		**PKSdf**	11 48 48.0	-3.6	
GYA				PP		PP	11 49 55.6	+2.7	
GYA				AMB		AMB			
	comp=Z,80nm,8.0s								

BJI ***07*** *11:44:03.0, 54˙.10N× 165˙.30W, h72km, mB4.6/2, mb4.8/6, Ms4.3/2, Ms7 4.0/2*

ISCJB ***07*** *11:44:04.6± 0.2, 54˙.22N± 0˙.03× 165˙.37W± 0˙.03, h87km± 2km, mb4.4/58, Error ellipse: s-maj=5.0km s-min=3.0km az=168.9*

IDC ***07*** *11:44:04.3± 0.6, 54˙.26N× 165˙.47W, h73km± 4km, mb3.9/24, mb1 4.1/27, mb1mx4.0/32, mbtmp3.9/27, MS3.1/2, Ms1 3.1/2, ms1mx2.5/50, Error ellipse: s-maj=16.5km s-min=9.7km az=3.0*

NEIC ***07*** *11:44:05.2± 0.3, 54˙.14N× 165˙.32W, h85km± 2km, mb4.5/17, Error ellipse: s-maj=8.5km s-min=3.0km az=156.0*

ISC 07 11:44:04.8± 0.4, 54˙.11N± 0˙.06× 165˙.28W± 0˙.04, h82km± 3km, h81km; pP-P, n331, σ1s 15/391, mb4.5/58, 110C-65D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.24**	**277**	P	**Pn**	**11 44 17.1**	**+0.2**
AKA	**Akutan**	**0.29**	**276**	P	**Pn**	**11 44 17.5**	**+0.4**
AKUT	**Akutan**	**0.29**	**276**	P	**Pn**	**11 44 17.4**	**+0.3**
AKUT				S	**Sn**	**11 44 26.7**	**+0.5**
UNV	**Unalaska Valle**	**0.77**	**251**	P	**Pn**	**11 44 21.2**	**+0.1**
UNV				S	**Sn**	**11 44 33.4**	**0.0**
WTUG	**Tugumak**	**0.91**	**35**	P	**Pn**	**11 44 23.9**	**+1.0**
MREP	**Makushin Rep't**	**0.91**	**252**	P	**Pn**	**11 44 23.3**	**+0.4**
MCIR	**Makushin Cirqu**	**0.96**	**261**	P	**Pn**	**11 44 24.3**	**+0.8**
SSLS	**Shishaldin Sou**	**0.97**	**51**	P	**Pn**	**11 44 24.3**	**+0.7**
MGOD	**Makushin Gods**	**0.99**	**252**	P	**Pn**	**11 44 24.3**	**+0.5**
MSOM	**Makushin Julie**	**1.03**	**254**	P	**Pn**	**11 44 24.6**	**+0.4**
BRPK	**Brown Peak**	**1.05**	**58**	P	**Pn**	**11 44 25.0**	**+0.5**
FALS	**False Pass**	**1.32**	**55**	P	**Pn**	**11 44 28.8**	**+0.9**
FALS				S	**Sn**	**11 44 46.8**	**+1.6**
OKRE	**Okmok R'deer P**	**1.81**	**252**	P	**Pn**	**11 44 34.6**	**+0.6**
OKWE	**Okmok W'ng Wal**	**1.86**	**251**	P	**Pn**	**11 44 35.5**	**+0.6**
DRIA	**Deer Island**	**1.96**	**63**	P	**Pn**	**11 44 36.8**	**+0.6**
OKSP	**Okmok Steeple**	**1.98**	**246**	P	**Pn**	**11 44 36.7**	**+0.3**
DT1	**Dutton Round H**	**2.02**	**59**	P	**Pn**	**11 44 37.7**	**+0.8**
DTNA	**Dutton South F**	**2.05**	**58**	P	**Pn**	**11 44 38.3**	**+1.0**
DOL	**Dolgoi Island**	**2.25**	**61**	P	**Pn**	**11 44 40.8**	**+0.9**
HAG	**Hague Volcano**	**2.31**	**57**	P	**Pn**	**11 44 42.5**	**+1.7**
PS4A	**Pavlof South-4**	**2.34**	**57**	P	**Pn**	**11 44 42.6**	**+1.4**
PVV	**Pavlof Volcano**	**2.39**	**56**	P	**Pn**	**11 44 43.3**	**+1.4**
NIKO	**Nikolski**	**2.41**	**243**	P	**Pn**	**11 44 43.2**	**+1.1**
SDPT	**Sand Point**	**3.05**	**64**	P	**Pn**	**11 44 51.3**	**+0.5**
SDPT				S	**Sn**	**11 45 26.2**	**0.0**
VNFG	**Veniaminof 2**	**3.94**	**54**	P	**Pn**	**11 45 04.5**	**+1.5**
VNSG	**Veniaminof 6**	**4.09**	**58**	P	**Pn**	**11 45 06.0**	**+1.1**

VNHG	**Veniaminof 1**	**4.10**	**56**	P		**Pn**	**11 45 05.6**	**+0.6**	
SPIA	**Saint Paul Isl**	**4.17**	**320**	P		**Pn**	**11 45 08.0**	**+2.1**	
CHGN	**Chignik**	**4.51**	**58**	*e*P		**Pn**	**11 45 12.5**	**+2.0**	
ANNW	**Aniakchak Nort**	**4.93**	**52**	P		**Pn**	**11 45 17.5**	**+1.2**	
ANNE	**Aniakchak Nort**	**4.98**	**53**	P		**Pn**	**11 45 18.9**	**+2.0**	
PLK1	**Peulik 1**	**6.12**	**49**	P		**Pn**	**11 45 33.7**	**+1.3**	
KABU	**Katmai Buttres**	**6.97**	**49**	P		**Pn**	**11 45 44.9**	**+0.8**	
KCE	**Katmai Mt Cerb**	**7.00**	**50**	P		**Pn**	**11 45 45.5**	**+1.1**	
OHAK	**Old Harbor**	**7.47**	**60**	P		**Pn**	**11 45 49.7**	**-1.1**	
KDAK	**Kodiak Island**	**8.02**	**58**	P		**Pn**	**11 45 57.2**	**-1.1**	
	7.7nm,0.3s,baz=246,slow=7.2,SNR=82								
KDAK				S		**Sn**	**11 47 24.4**	**-2.9**	
	1.9nm,0.3s,baz=316,slow=23,SNR=5.8								
KDAK	**Kodiak Island**	**8.02**	**58**	P		**Pn**	**11 45 57.2**	**-1.1**	
FOPK	**Fourpeaked Vol**	**8.03**	**50**	P		**Pn**	**11 45 58.9**	**+0.4**	
SVW2	**Sparrevohn**	**8.72**	**33**	*e*P		**Pn**	**11 46 10.7**	**+2.7**	
ILW	**Iliamna West**	**8.90**	**43**	P		**Pn**	**11 46 12.0**	**+1.5**	
RSO	**Redoubt South**	**9.30**	**42**	P		**Pn**	**11 46 17.2**	**+1.3**	
BRLK	**Bradley Lake**	**9.69**	**48**	P		**Pn**	**11 46 19.7**	**-1.4**	
TTA	**Tatalina**	**10.08**	**25**	*e*Pn		**Pn**	**11 46 27.8**	**+1.4**	
	10nm,0.8s								
GAMB	**Gambell**	**10.24**	**344**	*e*Pn		**Pn**	**11 46 26.6**	**-1.9**	
	21nm,0.7s								
GAMB				*e*Sn		**Sn**	**11 48 25.6**	**+4.2**	
SLKM	**Skilak Lake**	**10.35**	**46**	*e*Pn		**Pn**	**11 46 29.7**	**-0.5**	
SEW	**Seward**	**10.49**	**49**	*e*Pn		**Pn**	**11 46 30.4**	**-1.5**	
	29nm,0.3s								
SEW				*e*Sn		**Sn**	**11 48 23.6**	**-3.8**	
RC01	**Rabbit Creek A**	**10.87**	**44**	*e*Pn		**Pn**	**11 46 36.1**	**-1.0**	
	18nm,0.4s								
RC01				*e*Sn		**Sn**	**11 48 37.9**	**+1.2**	
PPLA	**Purkeypile**	**11.14**	**32**	*e*Pn		**Pn**	**11 46 43.8**	**+2.9**	
	52nm,1.2s								
PMR	**Palmer**	**11.39**	**42**	*e*P		**Pn**	**11 46 43.3**	**-0.9**	
	2.5nm,0.5s								
TNA	**Tin City**	**11.57**	**355**	*e*Pn		Pn	11 46 50.7	+4.2	
	22nm,0.6s								
MID	**Middleton Isla**	**11.66**	**55**	*e*P		**Pn**	**11 46 45.8**	**-2.1**	
	44nm,0.6s								
TRF	**Thorofare Moun**	**12.14**	**34**	*e*Pn		**Pn**	**11 46 54.5**	**0.0**	
	59nm,1.5s								
DIV	**Divide**	**12.57**	**48**	*e*Pn		**Pn**	**11 46 58.2**	**-2.0**	
	20nm,0.3s								
MCK	**McKinley**	**12.78**	**34**	*e*Pn		**P**	**11 47 08.2**	**-2.6**	
	17nm,1.1s								
PAX	**Paxson**	**13.58**	**41**	*e*Pn		**Pn**	**11 47 12.1**	**-1.6**	
	7.6nm,0.5s								
ILAR	**Eielson Array**	**14.14**	**34**	P		**Pn**	**11 47 19.4**	**-1.4**	
	0.3nm,0.3s,baz=230,slow=12,SNR=16								
ILAR				LR		LR	11 52 21.4		
	comp=Z,75nm,18.6s,baz=150,slow=35								
ILAR				PcP		**PcP**	**11 52 34.0**	**+0.4**	
	0.1nm,0.3s,baz=260,slow=2.5,SNR=7.3								
ILAR				ScP		**ScP**	**11 55 59.4**	**-0.2**	
	0.0nm,0.3s,baz=240,slow=3.0,SNR=4.8								
ILAR	**Eielson Array**	**14.14**	**34**	P		**Pn**	**11 47 19.4**	**-1.4**	
ILAR				PcP		**PcP**	**11 52 34.0**	**+0.4**	
ILAR				ScP		**ScP**	**11 55 59.4**	**-0.2**	
MENT	**Mentasta**	**14.25**	**43**	*e*Pn		**Pn**	**11 47 20.6**	**-1.7**	
DOT	**Dot Lake**	**14.48**	**40**	*e*Pn		**Pn**	**11 47 25.1**	**-0.1**	
	2.6nm,0.3s								
COLD	**Coldfoot**	**15.03**	**23**	*e*Pn		**P**	**11 47 33.9**	**-1.8**	
	8.2nm,0.6s								
PNL	**Peninsula**	**15.14**	**58**	*e*Pn		**Pn**	**11 47 33.7**	**-0.1**	
	111nm,1.1s								
PNL				*e*Sn		**Sn**	**11 50 19.0**	**-1.5**	
DAWY	**Dawson**	**16.50**	**43**	*e*Pn		**Pn**	**11 47 49.9**	**-0.9**	
BILL	**Bilibino**	**19.33**	**327**	*e*P		**Pn**	**11 48 25.6**	**+0.7**	
	19nm,1.5s								
DLBC	**Dease Lake**	**19.90**	**63**	P		**Pn**	**11 48 31.7**	**-0.1**	
	1.0nm,0.3s,baz=278,slow=8.7,SNR=27								
DLBC	**Dease Lake**	**19.90**	**63**	P		**Pn**	**11 48 31.7**	**-0.1**	
INK	**Inuvik**	**20.54**	**34**	P		**P**	**11 48 34.0**	**-2.1**	
	7.3nm,0.3s,baz=237,slow=12,SNR=46								
INK				PcP		**PcP**	**11 52 44.5**	**+0.7**	
	2.4nm,0.6s,baz=284,slow=0.3,SNR=8.5								
INK				ScP		**ScP**	**11 56 13.3**	**+0.6**	
	0.3nm,0.3s,baz=228,slow=6.2,SNR=11								
INK				LR		LR	11 57 41.4		
	comp=Z,47nm,19.6s,baz=324,slow=40								
INK	**Inuvik**	**20.54**	**34**	P		**P**	**11 48 34.0**	**-2.1**	
	5.7nm,0.5s								
INK				*e*PcP		**PcP**	**11 52 44.4**	**+0.7**	
INK				ScP		**ScP**	**11 56 13.3**	**+0.6**	
PEA0B	**Petropavlovsk-**	**21.83**	**283**	*e*P		**P**	**11 48 50.0**	**-0.1**	
PETK	**Petropavlovsk-**

NVAR				pP	**pP**	11 51 12.7	+1.4
NVAR				PcP	**PcP**	11 53 21.6	+1.0
NVAR				ScP	**ScP**	11 56 59.6	+0.8
G17A	**Pierce Place,** baz=35	35.53	81	⇓P	**P**	11 50 55.4	+1.7
D19A	**Cripps Ranch,** baz=36,SNR=5.2	35.59	78	⇓P	**P**	11 50 55.7	+1.6
F18A	**Big Timber** baz=36	35.80	80	⇓P	**P**	11 50 56.7	+0.7
C20A	**Veseth Ranch,** baz=36	35.80	76	⇑P	**P**	11 50 57.1	+1.2
B21A	**Ellsworth Farm** baz=36	35.99	75	⇓P	**P**	11 50 58.6	+1.2
E19A	**Rath Farm, Rou** baz=36	36.03	79	⇑P	**P**	11 50 59.3	+1.4
D20A	**Manuel Ranch,** baz=36	36.06	77	⇑P	**P**	11 50 59.7	+1.6
F19A	**Roth Farm, Mol** baz=36	36.28	79	⇑P	**P**	11 51 01.4	+1.4
A22A	**Carney Farms,** baz=36	36.32	73	⇓P	**P**	11 51 01.8	+1.5
E20A	**Meyer Farm, Mu** baz=36	36.38	78	⇑P	**P**	11 51 02.2	+1.3
RLMT	**Red Lodge** baz=36	36.50	81	⇓P	**P**	11 51 03.3	+1.2
RLMT	baz=36			⇓P	**P**	11 51 03.3	+1.2
D21A	**La Casta Ranch** baz=37	36.73	77	⇑P	**P**	11 51 04.9	+1.1
F20A	**Billings** baz=37	36.77	79	⇑P	**P**	11 51 05.2	+1.0
H19A	**Powell** baz=37	36.93	81	⇓P	**P**	11 51 07.4	+1.8
R11A	**Troy Canyon, C** baz=37	36.98	94	⇑P	**P**	11 51 07.2	+1.1
G20A	**Bridger** baz=37	37.06	80	⇑P	**P**	11 51 07.8	+1.0
B23A	**Brockton** baz=37	37.12	73	⇓P	**P**	11 51 08.1	+1.0
D22A	**Cohagen** baz=37,SNR=6.9	37.15	76	⇓P	**P**	11 51 08.7	+1.3
L17A	**Cokeville** baz=37	37.35	86	⇑P	**P**	11 51 10.3	+1.0
C23A	**Lambert** baz=37	37.36	74	⇓P	**P**	11 51 10.5	+1.4
DUG	**Dugway** baz=37	37.41	90	⇑P	**P**	11 51 10.6	+0.9
MPMC	**Manual Prospec** baz=37	37.42	99	⇑P	**P**	11 51 11.1	+1.2
G21A	**Lodge Grass** baz=38	37.64	79	⇓P	**P**	11 51 12.5	+1.0
E22A	**Miles City** baz=38	37.67	77	⇓P	**P**	11 51 12.6	+0.8
D23A	**Lindsay** baz=38	37.69	75	⇑P	**P**	11 51 13.3	+1.3
BW06	**Boulder Array** baz=38	37.72	84	⇑P	**P**	11 51 13.4	+1.0
BW06	baz=38			⇑P	**P**	11 51 13.4	+1.0
PDAR	**Pinedale Array** 1.2nm,0.5s,baz=308,slow=3.5,SNR=14	37.72	84	P	**P**	11 51 13.2	+0.7
PDAR	**Pinedale Array**	37.72	84	P	**P**	11 51 13.2	+0.7
I20A	**Worland** baz=38	37.85	82	⇓P	**P**	11 51 14.8	+1.4
E23A	**Ismay** baz=38	38.01	76	⇑P	**P**	11 51 16.4	+1.8
D24A	**Glendive** baz=38	38.22	75	⇑P	**P**	11 51 18.2	+1.8
J20A	**Shoshoni** baz=38	38.23	82	⇑P	**P**	11 51 18.1	+1.5
SHOC	**Shoshone** baz=38	38.23	98	⇓P	**P**	11 51 18.5	+1.9
L19A	**Farson** baz=38	38.24	85	⇓P	**P**	11 51 17.8	+1.0
GSC	**Goldstone** baz=38	38.35	99	⇓P	**P**	11 51 19.5	+1.9
F23A	**Volborg** baz=38	38.39	77	⇑P	**P**	11 51 18.8	+0.9
I21A	**Big Trails, Te** baz=38,SNR=5.0	38.41	81	⇓P	**P**	11 51 18.7	+0.5
K20A	**Yellowstone Ra** baz=38	38.50	83	⇑P	**P**	11 51 19.5	+0.5
E24A	**Baker** baz=38	38.54	76	⇓P	**P**	11 51 20.5	+1.4
J21A	**Lysite** baz=38	38.60	82	⇑P	**P**	11 51 20.7	+0.9
I22A	**9 Mile Ranch,** baz=39	38.84	80	⇑P	**P**	11 51 22.8	+1.1
F24A	**Ekalaka** baz=39	38.87	77	⇑P	**P**	11 51 23.1	+1.2
L20A	**Wamsutter** baz=39	38.90	84	⇓P	**P**	11 51 23.3	+1.0
J22A	**Midwest** baz=39,SNR=6.5	39.13	81	⇑P	**P**	11 51 25.0	+0.8
K21A	**Alcova** baz=39	39.15	83	⇑P	**P**	11 51 24.8	+0.4
G24A	**Alzada** baz=39	39.19	77	⇑P	**P**	11 51 25.1	+0.6
O19A	**Miners Draw (B** baz=39,SNR=5.3	39.51	87	⇓P	**P**	11 51 28.4	+1.0
K22A	**Casper** baz=39	39.56	82	⇑P	**P**	11 51 28.8	+1.0
J23A	**Dilts Ranch, B** baz=40	39.67	80	⇓P	**P**	11 51 29.8	+1.1
Q18A	**Rafter H Ranch** baz=40	39.69	89	⇓P	**P**	11 51 30.2	+1.4
P19A	**Cripple Cowboy** baz=40,SNR=7.5	40.02	88	⇓P	**P**	11 51 32.7	+1.0
O20A	**White River Ci** baz=40,SNR=11	40.13	86	⇑P	**P**	11 51 33.7	+1.1
N21A	**Black Mountain** baz=40	40.16	85	⇑P	**P**	11 51 33.5	+0.7
W13A	**Hualapai Mount** baz=40	40.19	97	⇓P	**P**	11 51 34.5	+1.4
S17A	**Black Ridge (B** baz=40	40.27	91	⇑P	**P**	11 51 34.9	+1.2
Q19A	**Hogan Spring (** baz=40	40.30	89	⇑P	**P**	11 51 34.6	+0.8
R18A	**Canyonlands Na** baz=40	40.30	90	⇑P	**P**	11 51 34.7	+0.7
P20A	**De Beque** baz=40	40.46	87	⇑P	**P**	11 51 35.7	+0.5
O21A	**Pagoda** baz=40	40.54	86	⇓P	**P**	11 51 36.5	+0.5
S18A	**Hurst Farm, Bl** baz=41	40.70	91	⇑P	**P**	11 51 37.7	+0.3
Q20A	**Ridgley Place,** baz=41	40.87	88	⇓P	**P**	11 51 39.1	+0.5
T18A	**Mexican Hat** baz=41	41.15	91	⇑P	**P**	11 51 41.4	+0.5
S19A	**Harvey Farm, M** baz=41	41.17	90	⇓P	**P**	11 51 42.1	+0.9
ULM	**Lac du Bonnet** 1.3nm,0.4s,baz=305,slow=7.8,SNR=4.0	41.18	66	P	**P**	11 51 40.5	-0.3
ULM	**Lac du Bonnet**	41.18	66	P	**P**	11 51 40.5	-0.3
PV01	**Paradox Valley** 209nm,0.8s	41.25	89	*e*P	**P**	11 51 42.3	+0.5
Q21A	**Lamborn Mesa,** baz=41	41.37	87	⇑P	**P**	11 51 43.8	+1.1
O23A	**Lake Granby, G** baz=41,SNR=5.5	41.45	85	⇓P	**P**	11 51 44.7	+1.2
Y14A	**Wickenburg** baz=41	41.52	97	⇓P	**P**	11 51 45.5	+1.6
S20A	**Disappointment** baz=42	41.57	89	⇑P	**P**	11 51 45.2	+0.7
Z13A	**Yuma Proving G** baz=42	41.67	99	⇑P	**P**	11 51 46.0	+1.0
Q22A	**Crested Butte,** baz=42	41.74	87	⇓P	**P**	11 51 46.9	+0.9
M25A	**Palm-Egli Farm** baz=42	41.76	82	⇑P	**P**	11 51 46.8	+0.9
T19A	**Beclabito** baz=42,SNR=5.1	41.86	91	⇓P	**P**	11 51 47.4	+0.7
MVCO	**Mesa Verde** baz=42	41.91	90	⇑P	**P**	11 51 48.0	+0.7
L26A	**Underwood Farm** baz=42	41.95	80	⇑P	**P**	11 51 48.9	+1.6
S21A	**Coal Bank Pass** baz=42	42.02	89	⇓P	**P**	11 51 49.6	+1.4
X16A	**Lo Mia Camp, P** baz=42	42.10	95	⇑P	**P**	11 51 50.9	+2.1
T21A	**Navajo Lake** baz=42	42.62	89	⇑P	**P**	11 51 53.8	+0.8
U21A	**Nageezi** baz=43,SNR=6.6	42.93	90	⇓P	**P**	11 51 56.5	+1.0
T22A	**Edith** baz=43	42.98	89	⇑P	**P**	11 51 57.2	+1.2
214A	**Organ Pipe Nat**	43.06	99	⇑P	**P**	11 51 58.0	+1.6
	baz=43						
SDCO	**Great Sand Dun** baz=43	43.31	87	⇑P	**P**	11 51 59.5	+0.8
SDCO	baz=43			⇑P	**P**	11 51 59.5	+0.8
P26A	**Davis Ranch, A** baz=43	43.38	83	⇓P	**P**	11 52 00.2	+1.2
U22A	**Llaves** baz=43	43.44	89	⇑P	**P**	11 52 00.9	+1.2
X20A	**Quemado** baz=44	43.74	93	⇓P	**P**	11 52 02.9	+0.9
R25A	**Fountain Ranch** baz=44	43.76	86	⇑P	**P**	11 52 03.1	+1.0
U23A	**El Rito** baz=44	43.87	89	⇑P	**P**	11 52 04.5	+1.5
S25A	**Robets Cordova** baz=44	44.00	86	⇑P	**P**	11 52 05.0	+0.9
R26A	**Arlington** baz=44	44.15	85	⇑P	**P**	11 52 06.2	+1.0
KSCO	**Kaye Shedlock'** baz=44	44.16	83	⇑P	**P**	11 52 06.5	+1.3
X21A	**Alamocita Cree** baz=44	44.23	92	⇑P	**P**	11 52 07.4	+1.5
Y20A	**Horse Springs,** baz=44	44.26	93	⇑P	**P**	11 52 07.7	+1.5
V23A	**Ortiz Mt. (NFS** baz=44	44.27	90	⇓P	**P**	11 52 07.6	+1.4
T25A	**Trinidad** baz=44	44.36	87	⇑P	**P**	11 52 07.9	+0.9
119A	**Ashpeak Ranch,** baz=44	44.53	95	⇑P	**P**	11 52 09.2	+1.0
R27A	**Eads** baz=44	44.54	84	⇑P	**P**	11 52 08.8	+0.5
S26A	**Kim** baz=44,SNR=7.8	44.59	86	⇑P	**P**	11 52 09.2	+0.5
U25A	**Circle Dot Ran** baz=45	44.87	88	⇓P	**P**	11 52 11.6	+0.7
Y22A	**Socorro** baz=45	45.07	92	⇓P	**P**	11 52 13.5	+0.9
318A	**Bisbee** baz=45	45.08	97	⇑P	**P**	11 52 13.9	+1.2
U26A	**Atchley Ranch,** baz=45	45.26	87	⇑P	**P**	11 52 15.0	+0.9
121A	**Cookes Peak, D** baz=46	45.59	94	⇑P	**P**	11 52 17.3	+0.7
220A	**Playas Peak, P** baz=46	45.60	95	⇑P	**P**	11 52 18.2	+1.5
Y23A	**Lovelace Mesa,** baz=46	45.61	91	⇓P	**P**	11 52 18.3	+1.4
W25A	**X Bar L Ranch,** baz=46	45.65	89	⇑P	**P**	11 52 18.2	+1.1
CBKS	**Cedar Bluff** baz=46	45.98	82	⇑P	**P**	11 52 20.0	+0.5
CBKS	baz=46			⇑P	**P**	11 52 20.0	+0.5
320A	**Kipp Ranch, An** baz=46	46.01	96	⇑P	**P**	11 52 21.5	+1.5
W26A	**Owens Ranch, T** baz=46	46.15	88	⇑P	**P**	11 52 22.2	+1.2
X26A	**CR and CF Fran** baz=46	46.50	89	⇓P	**P**	11 52 24.2	+0.5
Z26A	**Caprock** baz=47	47.30	90	⇓P	**P**	11 52 30.6	+0.6
Y27A	**Causey** baz=47	47.34	89	⇓P	**P**	11 52 30.6	+0.3
MNTX	**Cornudas Mount** baz=48	47.60	93	⇓P	**P**	11 52 33.2	+1.0
MNTX	baz=48			⇓P	**P**	11 52 33.2	+1.0
KSRS	**Korea Array** 0.7nm,0.5s,baz=43,slow=8.2,SNR=3.4	47.62	278	P	**P**	11 52 32.8	+0.6
KSAR	**Wonju Array Be**	47.65	278	P	**P**	11 52 32.8	+0.3
Z27A	**Tatum** baz=48	47.72	90	⇓P	**P**	11 52 33.9	+0.6
325A	**Bean Ranch, Si** baz=48	48.08	93	⇑P	**P**	11 52 37.3	+1.2
127A	**Arkansas Junct** baz=48	48.09	90	⇑P	**P**	11 52 37.4	+1.3
SUMG	**Summit** 7.6nm,0.6s	48.37	19	*e*P	**P**	11 52 38.5	+0.5
SUMG	**Summit** 9.1nm,0.8s	48.37	19	*i* P	**P**	11 52 38.6	+0.5
425A	**Indio Mountain** baz=48	48.49	93	⇓P	**P**	11 52 40.6	+1.4
426A	**McDonald Obser** baz=49	49.14	93	⇑P	**P**	11 52 45.0	+0.7
526A	**Mary Lane Ranc** baz=50	49.55	93	⇑P	**P**	11 52 48.5	+1.1
626A	**Big Bend Ranch** baz=50	49.90	94	⇑P	**P**	11 52 50.7	+0.8
528A	**Cox Ranch, San** baz=50	50.24	92	⇓P	**P**	11 52 53.5	+0.9
TXAR	**Lajitas Array** 1.6nm,0.5s,baz=295,slow=5.6,SNR=78	50.33	94	P	**P**	11 52 53.9	+0.7
TXAR	1.2nm,0.6s,baz=308,slow=6.1,SNR=6.3			pP	**pP**	11 53 13.6	+0.3
TXAR	0.7nm,0.5s,baz=254,slow=1.0,SNR=7.1			PcP	**PcP**	11 54 11.4	+0.6
TXAR	0.3nm,0.8s,baz=27,slow=0.2,SNR=3.9			ScP	**ScP**	11 57 58.8	-0.2
TXAR	**Lajitas Array**	50.33	94	P	**P**	11 52 53.9	+0.7
TXAR				pP	**pP**	11 53 13.6	+0.3
TXAR				PcP	**PcP**	11 54 11.4	+0.6
TXAR				ScP	**ScP**	11 57 58.8	-0.2
627A	**Terlingua Ranc** baz=50	50.41	93	⇓P	**P**	11 52 54.5	+0.7
628A	**Black Gap, Mar** baz=51	50.68	93	⇓P	**P**	11 52 56.4	+0.6
JCT	**Junction City** baz=52	51.77	89	⇑P	**P**	11 53 04.0	+0.2
SCHQ	**Schefferville** 15nm,0.8s,baz=313,slow=7.6,SNR=14	52.47	46	P	**P**	11 53 09.1	+0.3
SCHQ	**Schefferville**	52.47	46	P	**P**	11 53 09.1	+0.3
SONM	**Songino Array** 0.7nm,0.8s,baz=33,slow=7.0,SNR=7.0	52.49	302	P	**P**	11 53 08.9	-0.2
SONM	4.2nm,0.7s,baz=72,slow=2.3,SNR=28			PcP	**PcP**	11 54 18.9	+0.3
SONM	**Songino Array**	52.49	302	P	**P**	11 53 08.9	-0.2
SONM				PcP	**PcP**	11 54 18.9	+0.3
HHC	**Hu-ho-hao-te**	54.56	292	*e*P	**P**	11 53 23.2	-1.1
HHC				pP	**pP**	11 53 46.8	+2.1
HHC				sP	**sP**	11 53 58.2	+4.4
HHC				PcP	**PcP**	11 54 24.3	-2.2
HHC				PP	PP	11 55 28.8	+1.8
HHC				S	**S**	12 00 56.0	-1.3
HHC				sS	**sS**	12 01 35.1	+3.0
HHC				SS	SS	12 04 36.5	-3.9
HHC	comp=Z,8.0nm,0.6s			pmax	pmax		
HHC	comp=Z,150nm,5.1s			pmax	pmax		
HHC	comp=N,150nm,13.8s			LR	LR		
HHC	comp=E,140nm,14.8s			LR	LR		
HHC	comp=Z,150nm,14.7s			LR	LR		
ARCES	**ARCESS Array B** comp=Z,14nm,1.1s,baz=9.9,slow=15,SNR=4.2	56.42	355	P	**P**	11 53 38.1	+1.1
ARCES	**ARCESS Array B**	56.42	355	P	**P**	11 53 38.1	+1.1
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=60,slow=8.5,SNR=2.8	57.76	319	P	**P**	11 53 45.6	-1.2
ZALV	comp=Z,2.5nm,0.5s,baz=40,slow=4.0,SNR=13			PcP	**PcP**	11 54 38.5	-0.1
ZALV	**Zalesovo Beam**	57.76	319	P	**P**	11 53 45.6	-1.2
ZALV				PcP	**PcP**	11 54 38.5	-0.1
LZH	**Lanzhou**	62.18	294	*e*P	**P**	11 54 17.0	-0.5
LZH				pP	**pP**	11 54 39.0	+0.7
LZH				sP	**sP**	11 54 47.5	+0.2
LZH	comp=Z,21nm,1.5s			pmax	pmax		
KURK	**Kurchatov** comp=Z,0.2nm,0.4s,baz=22,slow=6.0,SNR=6.5	62.66	320	P	**P**	11 54 20.0	-0.2
KURK	comp=Z,0.7nm,0.5s,baz=25,slow=4.1,SNR=5.3			PcP	**PcP**	11 54 57.9	-0.4
KURK	**Kurchatov**	62.66	320	P	**P**	11 54 20.0	-0.2
KURK				PcP	**PcP**	11 54 57.9	-0.4
BVAR	**Borovoye Array** comp=Z,1.1nm,0.7s,baz=44,slow=7.6,SNR=10.0	63.67	326	P	**P**	11 54 26.5	-0.4
BVAR	comp=Z,1.0nm,0.6s,baz=46,slow=7.1,SNR=4.7			sP	**sP**	11 54 51.9	-5.0
BVAR	comp=Z,2.1nm,0.5s,baz=34,slow=2.9,SNR=12			PcP	**PcP**	11 55 02.3	-0.1
BVAR	**Borovoye Array**	63.67	326	P	**P**	11 54 26.5	-0.4
BVAR				sP	**sP**	11 54 51.9	-5.0
BVAR				PcP	**PcP**	11 55 02.3	-0.1
MKAR	**Makanchi Array**	64.35	315	P	**P**	11 54 30.1	-1.3
MKAR	comp=Z,0.6nm,0.7s,baz=52,slow=7.9,SNR=9.5			PcP	**PcP**	11 55 04.7	-0.7
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=37,slow=5.1,SNR=5.4	64.35	315	P	**P**	11 54 30.1	-1.3
MKAR				PcP	**PcP**	11 55 04.7	-0.7
FINES	**FINESS Array B** comp=Z,2.9nm,0.5s,baz=23,slow=7.8,SNR=19	64.44	354	P	**P**	11 54 31.2	-0.6
FINES	**FINESS Array B**	64.44	354	P	**P**	11 54 31.2	-0.6
NB2	**NORSAR Subarra** comp=Z,3.2nm,0.7s,baz=359,slow=6.2	65.17	2	P	**P**	11 54 36.1	-0.5
NOA	**NORSAR Array B** comp=Z,4.6nm,0.9s,baz=360,slow=6.5,SNR=7.8	65.17	2	P	**P**	11 54 35.2	-1.3
NOA	**NORSAR Array B**	65.17	2	P	**P**	11 54 35.2	-1.3
GYA	**Guiyang** comp=Z,10.0nm,0.8s	67.91	285	*e*P	**P**	11 54 55.0	+0.3
GYA				pmax	pmax		
ABKAR	**Akbulak array** comp=Z,0.9nm,0.6s	70.19	330	*e*P	**P**	11 55 07.7	-0.6
KKAR	**Karatay Array** comp=Z,1.3nm,0.6s	72.07	320	*e*P	**P**	11 55 19.0	-0.7
AKASG	**Malin Array Be** comp=Z,3.9nm,0.5s,baz=11,slow=5.9,SNR=13	74.86	350	P	**P**	11 55 35.0	-0.9
AKASG	**Malin Array Be**	74.86	350	P	**P**	11 55 35.0	-0.9
CLL	**Collm**	74.95	1	*e*P	**P**	11 55 36.0	-0.4
SNF	**Seneffe**	75.39	7	P	**P**	11 55 39.1	+0.1
MEM	**Membach**	75.40	6	P	**P**	11 55 39.1	0.0
DOU	**Dourbes**	75.82	7	P	**P**	11 55 41.5	0.0
BAIF	**Baives** comp=Z,12nm,0.7s	75.83	7	*e*P	**P**	11 55 41.6	+0.1
DPC	**Dobruska-Polom**	75.91	359	*e*P	**P**	11 55 42.3	+0.3
KWP	**Kalwaria Pacla** comp=Z,44nm,1.3s	76.42	355	*e*P	**P**	11 55 45.4	+0.5
KWP	**Kalwaria Pacla**	76.42	355	⇑*i*P	**P**	11 55 45.6	+0.7
MORC	**Moravsky Berou**	76.46	358	⇑*i*P	**P**	11 55 45.7	+0.5
STHS	**Stebnicka Huta**	76.70	356	*e*P	**P**	11 55 47.6	+1.1
LDF	**La Druitiere** comp=Z,7.2nm,0.4s	76.91	10	*e*P	**P**	11 55 47.2	-0.5
VRAC	**Vranov**	76.95	359	⇓*i*P	**P**	11 55 47.6	-0.3
SGMF	**Saint Gilles** comp=Z,8.0nm,0.6s	76.97	12	*e*P	**P**	11 55 47.9	-0.1
GRR	**Gorron** comp=Z,7.5nm,0.6s	77.03	11	*e*P	**P**	11 55 48.1	-0.3
KHC	**Kasperske Hory**	77.13	1	*e*P	**P**	11 55 49.3	+0.3
CRVS	**Cervenica-Dubn**	77.21	355	*e*P	**P**	11 55 50.0	+0.6
QUIF	**Quistinic**	77.23	12	*e*P	**P**	11 55 49.2	-0.2
GERES	**GERESS Array B** comp=Z,2.3nm,0.6s,baz=3.1,slow=4.4,SNR=16	77.42	1	P	**P**	11 55 50.9	+0.2
GERES	**GERESS Array B**	77.42	1	P	**P**	11 55 50.9	+0.2
PAGF	**Fort de Pagny** comp=Z,5.3nm,0.5s	77.43	6	*e*P	**P**	11 55 51.0	+0.4
CDF	**Champ du Feu** comp=Z,4.8nm,0.5s	77.66	5	*e*P	**P**	11 55 51.9	-0.1
KECS	**Kecovo**	77.67	356	*e*P	**P**	11 55 52.0	+0.1
VYHS	**Vyhne**	77.72	357	*e*P	**P**	11 55 52.9	+0.7
SFTF	**Sexfontaines** comp=Z,10nm,0.5s	77.73	7	*e*P	**P**	11 55 52.3	0.0
TRPA	**Tarpa**	77.92	355	⇑*i*P	**P**	11 55 54.0	+0.7
HAU	**Haudompre**	78.02	6	*e*P	**P**	11 55 53.8	-0.1
HINF	**Hinteralfeld** comp=Z,8.1nm,0.6s	78.23	5	*e*P	**P**	11 55 54.9	-0.2
BUR08	**Bucovina Ar. S**	78.24	353	*e*P	**P**	11 55 55.2	0.0
PSZ	**Piszkesteto**	78.26	356	⇑*i*P	**P**	11 56 00.8	+5.5
BURAR	**Bucovina Array**	78.26	353	⇑*i*P	**P**	11 55 55.3	-0.1
CONA	**Conrad Observa** comp=Z,6.0nm,0.8s	78.34	359	⇑*i*P	**P**	11 55 56.1	+0.3
CONA	**Conrad Observa** comp=Z,6.0nm,0.8s	78.34	359	⇑*i*P	**P**	11 55 56.1	+0.3
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=10,slow=5.2,SNR=8.9	78.57	286	P	**P**	11 55 56.1	-1.3
CMAR	**Chiang Mai Arr**	78.57	286	P	**P**	11 55 56.1	-1.3
LOR	**Lormes** comp=Z,6.6nm,0.5s	78.58	8	*e*P	**P**	11 55 56.8	-0.2
SSF	**Saint Saulge** comp=Z,18nm,0.5s	78.76	8	*e*P	**P**	11 55 58.0	0.0
MFF	**Saint Martin d** comp=Z,17nm,0.7s	78.88	10	*e*P	**P**	11 55 58.7	+0.1
WATA	**Walderalm** comp=Z,4.4nm,0.4s	78.90	2	⇑*i*P	**P**	11 55 59.1	+0.2
WATA	**Walderalm** comp=Z,4.4nm,0.4s	78.90	2	⇑*i*P	**P**	11 55 59.1	+0.2
WTTA	**Wattenberg** comp=Z,7.9nm,0.5s	78.97	2	⇓*i*P	**P**	11 56 00.0	+0.7
WTTA	**Wattenberg** comp=Z,7.9nm,0.5s	78.97	2	⇓*i*P	**P**	11 56 00.0	+0.7
AVF	**Avril sur Loir** comp=Z,12nm,0.5s	79.02	8	*e*P	**P**	11 55 59.2	-0.2
KBA	**Koelnbreinsper** comp=Z,10nm,0.9s	79.18	1	⇑*i*P	**P**	11 56 01.6	+1.1
KBA	**Koelnbreinsper** comp=Z,10nm,0.9s	79.18	1	⇑*i*P	**P**	11 56 01.6	+1.1
FETA	**Feichten** comp=Z,9.5nm,1.0s	79.19	3	⇑*i*P	**P**	11 56 01.3	+0.8
FETA	**Feichten** comp=Z,9.5nm,1.0s	79.19	3	⇑*i*P	**P**	11 56 01.3	+0.8
BGF	**Bois d'Agland** comp=Z,12nm,0.7s	79.20	8	*e*P	**P**	11 56 00.2	-0.2
CABF	**La Chapelle** comp=Z,23nm,0.9s	79.39	6	*e*P	**P**	11 56 01.8	+0.3
SOKA	**Soboth** comp=Z,9.6nm,1.2s	79.59	360	⇑*i*P	**P**	11 56 02.7	0.0
SOKA	**Soboth** comp=Z,9.6nm,1.2s	79.59	360	⇑*i*P	**P**	11 56 02.7	0.0
OBKA	**Obir** comp=Z,24nm,0.8s	79.76	0	⇑*i*P	**P**	11 56 04.2	+0.7
OBKA	**Obir** comp=Z,24nm,0.8s	79.76	0	⇑*i*P	**P**	11 56 04.2	+0.7
GROS	**Grobnik**	79.81	359	*i* P	**P**	11 56 04.1	+0.3
CADS	**Cadrg**	80.04	1	*i* P	**P**	11 56 04.5	-0.4
BZS	**Buzias**	80.48	355	⇑*i*P	**P**	11 56 07.4	+0.1
CAF	**Calviac** comp=Z,8.0nm,0.6s	80.75	9	*e*P	**P**	11 56 09.0	+0.2
VIVF	**Saint-Julien-l** comp=Z,8.5nm,0.6s	81.04	7	*e*P	**P**	11 56 10.7	+0.3
ORIF	**Oris-en-Rattie** comp=Z,6.3nm,0.5s	81.06	6	*e*P	**P**	11 56 11.1	+0.5
TIRR	**Tirgusor**	81.12	350	⇑*i*P	**P**	11 56 11.1	+0.4
MTLF	**Montolieu** comp=Z,16nm,0.7s	82.34	9	*e*P	**P**	11 56 17.5	+0.3
ETSF	**Etsaut** comp=Z,13nm,0.7s	82.49	11	*e*P	**P**	11 56 18.6	+0.6
BR131	**Keskin Array S** comp=Z,17nm,0.8s	85.13	345	*e*P	**P**	11 56 32.0	+0.3
BRTR	**Keskin Array B** comp=Z,3.2nm,0.7s,baz=30,slow=2.7,SNR=14	85.13	345	P	**P**	11 56 31.8	+0.1
BRTR	**Keskin Array B**	85.13	345	P	**P**	11 56 31.8	+0.1
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=353,slow=5.3,SNR=5.7	85.22	14	P	**P**	11 56 31.9	-0.1
ESDC	**Sonseca Array**	85.22	14	P	**P**	11 56 31.9	-0.1
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=36,slow=5.9,SNR=9.0	90.01	235	P	**P**	11 56 54.7	-0.3
WRA	comp=Z,0.7nm,0.7s,baz=35,slow=5.9,SNR=3.5			pP	**pP**	11 57 14.7	-2.4
WRA	**Warramunga Arr**	90.01	235	P	**P**	11 56 54.7	-0.3
WRA				pP	**pP**	11 57 14.7	-2.4
HYB	**Hyderabad**	90.43	301	*i* P	**P**	11 56 56.0	-1.2
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=27,slow=4.6,SNR=9.3	93.40	233	P	**P**	11 57

0.3nm,0.3s,baz=202,slow=7.4,SNR=2.9
WRA Warramunga Arr 66.11 107 P P 11 58 05.6 -0.2
0.8nm,1.1s,baz=279,slow=6.9,SNR=3.8
SONM Songino Array 68.01 28 P P 11 58 17.4 +0.1
0.3nm,0.7s,baz=216,slow=7.1,SNR=2.5
NVAR Mina Array Bea 151.75 7 PKPbc PKPbc 12 07 14.0 +0.5
0.3nm,0.6s,baz=113,slow=1.2,SNR=3.7

IDC 07 11:57:50.0±44.0, 23.79S×177.34W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=815.6km s-min=160.7km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.03**	**248**	P	P	12 05 00.1	-1.6
	0.7nm,0.6s,baz=92,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**44.46**	**260**	P	P	12 06 03.4	+0.2
	0.4nm,0.4s,baz=93,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**44.85**	**265**	P	P	12 06 06.7	+0.4
	0.6nm,0.5s,baz=102,slow=7.9,SNR=26						

IDC 07 12:07:37.4±1.8, 10.11S×66.66E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/26, mbtmp3.6/9, Error ellipse: s-maj=56.1km s-min=25.4km az=58.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**42.67**	**48**	P	P	12 15 35.9	-0.2
	0.5nm,0.2s,baz=249,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**58.34**	**13**	P	P	12 17 33.5	-0.8
	0.3nm,0.8s,baz=177,slow=5.8,SNR=3.2						
AKTO	**Aktyubinsk**	**60.76**	**354**	P	P	12 17 49.8	-1.0
	0.4nm,0.3s,baz=164,slow=7.4,SNR=4.1						
KURK	**Kurchatov**	**61.46**	**9**	P	P	12 17 55.8	+0.2
	0.8nm,0.9s,baz=208,slow=7.2,SNR=5.2						
BVAR	**Borovoye Array**	**62.96**	**3**	P	P	12 18 05.4	-0.2
	0.2nm,0.5s,baz=177,slow=2.9,SNR=3.0						
ASAR	**Alice Springs**	**65.24**	**111**	P	P	12 18 20.6	-0.8
	0.6nm,0.8s,baz=273,slow=6.9,SNR=5.3						
ASAR	**Alice Springs**	**65.24**	**111**	P	P	12 18 20.6	-0.8
ZALV	**Zalesovo Beam**	**65.64**	**12**	P	P	12 18 22.2	-1.0
	0.7nm,0.7s,baz=200,slow=7.1,SNR=4.0						
WRA	**Warramunga Arr**	**65.74**	**107**	P	P	12 18 24.8	+0.2
	0.7nm,0.7s,baz=276,slow=5.3,SNR=6.1						
WRA	**Warramunga Arr**	**65.74**	**107**	P	P	12 18 24.8	+0.2
SONM	**Songino Array**	**67.58**	**28**	P	P	12 18 37.5	+1.6
	0.6nm,0.9s,baz=227,slow=5.7,SNR=4.7						
YKA	**Yellowknife Ar**	**127.70**	**1**	PKP	PKPdf	12 26 43.9	-0.5
	0.1nm,0.7s,baz=351,slow=2.8,SNR=2.8						
NVAR	**Mina Array Bea**	**151.45**	**8**	PKPbc	PKPbc	12 27 35.0	+0.9
	1.0nm,0.8s,baz=249,slow=1.9,SNR=7.1						

*NEIC **07** 12:07:41.5±0.8, 11.04S×66.72E, h10km, mb4.5/1, Error ellipse: s-maj=26.9km s-min=17.5km az=219.0*
*IDC **07** 12:07:43.9±0.9, 10.38S×66.29E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/26, mbtmp4.0/14, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=28.6km s-min=18.3km az=41.0*
*ISCJB **07** 12:07:44.2±0.9, 10.3S±0.2×66.3E±0.2, h14km, mb4.1/15, MS4.0/1, Error ellipse: s-maj=27.1km s-min=16.9km az=43.8*

ISC 07 12:07:46.3±0.9, 10.3S±0.2×66.3E±0.2, h14km, n33, σ0.968/30, mb4.3/15, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**43.05**	**49**	P	P	12 15 48.0	+2.0
	0.6nm,0.4s,baz=238,slow=8.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**43.05**	**49**	P	P	12 15 48.0	+2.0
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**12 17 42.1**	**-0.7**
	0.7nm,0.8s,baz=204,slow=7.6,SNR=8.1						
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**12 17 42.1**	**-0.7**
ABKAR	**Akbulak array**	**59.58**	**355**	*eP*	**P**	**12 17 49.9**	**+0.5**
	3.3nm,0.9s						
AKTO	**Aktyubinsk**	**60.93**	**354**	P	**P**	**12 17 59.6**	**+1.0**
	2.0nm,0.8s,baz=163,slow=7.6,SNR=8.6						
AKTO	**Aktyubinsk**	**60.93**	**354**	P	**P**	**12 17 59.6**	**+1.0**
KURK	**Kurchatov**	**61.71**	**9**	P	**P**	**12 18 03.0**	**-0.9**
	2.5nm,0.9s,baz=208,slow=7.1,SNR=13						
BVAR	**Borovoye Array**	**63.18**	**3**	P	**P**	**12 18 13.7**	**-0.1**
	1.0nm,0.7s,baz=167,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**63.18**	**3**	P	**P**	**12 18 13.7**	**-0.1**
ASAR	**Alice Springs**	**65.47**	**111**	P	**P**	**12 18 29.0**	**-0.5**
	2.3nm,0.8s,baz=272,slow=5.7,SNR=15						
ZAA0	**Zalesovo Array**	**65.91**	**12**	*eP*	**P**	**12 18 31.3**	**-0.2**
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**12 18 31.9**	**+0.3**
	2.8nm,0.9s,baz=216,slow=6.0,SNR=12						
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**12 18 31.9**	**+0.3**
WRA	**Warramunga Arr**	**65.99**	**107**	P	**P**	**12 18 32.2**	**-0.6**
	2.8nm,0.8s,baz=277,slow=5.9,SNR=14						
SONM	**Songino Array**	**67.92**	**28**	P	**P**	**12 18 44.9**	**+0.3**
	2.5nm,0.9s,baz=221,slow=5.2,SNR=16						
SONM	**Songino Array**	**67.92**	**28**	P	**P**	**12 18 44.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**68.26**	**289**	P	**P**	**12 18 47.0**	**-0.3**
	0.6nm,0.9s,baz=105,slow=3.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**68.26**	**289**	P	**P**	**12 18 47.0**	**-0.3**
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**12 18 49.2**	**-0.6**
	2.5nm,0.8s,baz=136,slow=5.4,SNR=8.5						
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**12 18 49.2**	**-0.6**
STKA	**Stephens Creek**	**72.16**	**120**	P	**P**	**12 19 11.5**	**+0.5**
	1.8nm,0.8s,baz=317,slow=3.8,SNR=3.0						
ESDC	**Sonseca Array**	**81.78**	**313**	P	**P**	**12 20 05.3**	**+0.3**
	0.3nm,0.3s,baz=103,slow=1.6,SNR=4.3						
ESDC	**Sonseca Array**	**81.78**	**313**	P	**P**	**12 20 05.3**	**+0.3**
MJAR	**Matsushiro Arr**	**81.89**	**51**	P	**P**	**12 20 05.5**	**-0.1**
	2.3nm,0.9s,baz=250,slow=7.7,SNR=5.2						
PETK	**Petropavlovsk-**	**98.98**	**38**	LR	LR	13 04 23.7	
	comp=Z,44nm,18.4s,baz=114,slow=34						
YKA	**Yellowknife Ar**	**127.91**	**1**	PKP	**PKPdf**	**12 26 51.9**	**+0.6**
	0.4nm,0.8s,baz=349,slow=2.5,SNR=8.7						
YKA	**Yellowknife Ar**	**127.91**	**1**	PKP	**PKPdf**	**12 26 51.9**	**+0.6**
PDAR	**Pinedale Array**	**147.47**	**354**	PKPbc	**PKPbc**	**12 27 29.2**	**-1.3**
	1.0nm,0.9s,baz=22,slow=1.6,SNR=5.4						
PDAR	**Pinedale Array**	**147.47**	**354**	PKPbc	**PKPbc**	**12 27 29.2**	**-1.3**
NVAR	**Mina Array Bea**	**151.70**	**8**	PKPbc	**PKPbc**	**12 27 42.2**	**+1.1**
	2.7nm,0.8s,baz=264,slow=1.8,SNR=15						
TXAR	**Lajitas Array**	**158.89**	**335**	PKPab	**PKPab**	**12 28 21.2**	**+0.7**
	0.5nm,0.8s,baz=93,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**158.89**	**335**	PKPab	**PKPab**	**12 28 21.2**	**+0.7**

IDC 07 12:15:15.9±1.3, 34.29N×85.88E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/26, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=48.9km s-min=27.1km az=64.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.78**	**349**	Pn	Pn	12 18 17.6	-1.2
	0.1nm,0.3s,baz=162,slow=11,SNR=6.4						
KURK	**Kurchatov**	**17.25**	**344**	P	Pn	12 19 18.0	0.0
	0.0nm,0.3s,baz=164,slow=12,SNR=5.4						
ZALV	**Zalesovo Beam**	**19.67**	**358**	P	P	12 19 46.3	+0.1
	0.1nm,0.3s,baz=183,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**21.74**	**334**	P	P	12 20 11.8	+3.2
	0.4nm,0.6s,baz=140,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**70.95**	**132**	P	P	12 26 35.4	+0.1
	0.3nm,0.5s,baz=326,slow=6.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**77.97**	**278**	P	P	12 27 16.4	0.0
	0.3nm,0.8s,baz=43,slow=6.7,SNR=2.8						

MEX 07 12:17:31.0±0.8, 16.12N×97.22W, h30km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.92**	**287**	*eP*	Pn	12 17 45.1	-2.8
PNIG				*i* S	Sn	12 17 57.8	-2.3
VHO	**Vista Hermosa**	**1.05**	**26**	*eP*	Pn	12 17 47.4	-2.7
VHO				*i* S	Sn	12 18 00.8	-3.2
HUIG	**Huatulco**	**1.12**	**108**	*eP*	Pn	12 17 47.8	-2.9
HUIG				*eS*	Sn	12 18 02.7	-2.4
CMIG	**Matias Romero**	**2.44**	**66**	*eP*	Pn	12 18 06.9	-1.9
CMIG				*i* S	Sn	12 18 35.7	-1.9

IDC 07 12:21:44.9±2.9, 10.14S×66.58E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, MS3.4/6, Ms1 3.4/6, ms1mx3.1/33, Error ellipse: s-maj=98.4km s-min=26.2km az=60.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**20.55**	**244**	LR	LR	12 32 39.6	
	comp=Z,68nm,19.9s,baz=277,slow=32						
CMAR	**Chiang Mai Arr**	**42.75**	**48**	LR	LR	12 44 21.5	
	comp=Z,42nm,18.3s,baz=180,slow=32						
BOSA	**Boshof**	**42.82**	**239**	LR	LR	12 47 39.9	
	comp=Z,54nm,20.3s,baz=159,slow=36						
MAW	**Mawson**	**57.44**	**182**	LR	LR	12 50 34.0	
	comp=Z,40nm,21.6s,baz=134,slow=30						
MKAR	**Makanchi Array**	**58.40**	**13**	P	P	12 31 42.2	0.0
	0.2nm,0.8s,baz=190,slow=5.9,SNR=3.3						
MKAR				LR	LR	12 56 38.4	
	comp=Z,20nm,20.4s,baz=351,slow=36						
AKTO	**Aktyubinsk**	**60.78**	**354**	P	P	12 31 57.5	-1.0
	0.3nm,0.3s,baz=194,slow=5.5,SNR=4.1						
KURK	**Kurchatov**	**61.51**	**9**	P	P	12 32 02.5	-0.9
	1.3nm,0.9s,baz=208,slow=7.2,SNR=10.0						
ASAR	**Alice Springs**	**65.30**	**111**	P	P	12 32 27.8	-1.5
	0.3nm,0.8s,baz=269,slow=5.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**65.69**	**12**	P	P	12 32 29.1	-1.9
	0.2nm,0.3s,baz=215,slow=6.9,SNR=5.1						
WRA	**Warramunga Arr**	**65.80**	**107**	P	P	12 32 33.0	+0.5
	0.6nm,0.8s,baz=279,slow=9.3,SNR=3.9						
SONM	**Songino Array**	**67.65**	**28**	P	P	12 32 45.8	+1.9
	1.1nm,1.0s,baz=208,slow=2.8,SNR=8.2						
SONM				LR	LR	13 01 25.9	
	comp=Z,90nm,20.6s,baz=110,slow=35						
NVAR	**Mina Array Bea**	**151.50**	**8**	PKPbc	PKPbc	12 41 42.9	+1.2
	1.1nm,0.8s,baz=318,slow=1.2,SNR=7.2						

*ATH **07** 12:38:33.7, 40.37N×25.78E, h15km±1km, MD3.0/4*
*ISK **07** 12:38:33.4, 40.37N×25.80E, h7km, MD2.9*
*ISCJB **07** 12:38:33.3±0.4, 40.38N±0.02×25.76E±0.03, h9km±3km, Error ellipse: s-maj=3.4km s-min=3.2km az=143.4*
*CSEM **07** 12:38:33.8±0.1, 40.39N×25.77E, h12km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.7km az=22.0*
*THE **07** 12:38:34.0, 40.39N×25.73E, h8km±1km, ML2.1/2, Error ellipse: s-maj=1.7km s-min=0.6km az=110.0*
*DDA **07** 12:38:35.1, 40.35N×25.99E, h6km, MD2.8*

ISC 07 12:38:33.7±0.9, 40.38N±0.02×25.78E±0.02, h15km±8km, n58, σ052/96, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.46**	**38**	*e*PG	**Pg**	**12 38 42.8**	**-0.1**
ENEZ				*e*SG	**Sg**	**12 38 49.9**	**+0.8**
ENEZ	**Enez**	**0.46**	**38**	*e*Pg	**Pg**	**12 38 42.8**	**-0.1**
ENEZ				*e*Sg	**Sg**	**12 38 49.9**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.53**	**87**	*e*PG	**Pg**	**12 38 44.2**	**+0.1**
GELI				*e*SG	**Sg**	**12 38 51.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.53**	**87**	*e*Pg	**Pg**	**12 38 44.3**	**+0.1**
GELI				*e*Sg	**Sg**	**12 38 51.7**	**+0.4**
ALN	**Alexandroupoli**	**0.56**	**21**	P	**Pg**	**12 38 44.5**	**-0.2**
ALN				S	**Sg**	**12 38 52.3**	**+0.1**
ALN	**Alexandroupoli**	**0.56**	**21**	*e*PN	**Pg**	**12 38 44.5**	**-0.2**
ALN				*e*SN	**Sg**	**12 38 52.5**	**+0.3**
ALN	**Alexandroupoli**	**0.56**	**21**	P	**Pg**	**12 38 44.5**	**-0.2**
ALN				S	**Sg**	**12 38 52.3**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**159**	*i* P	**Pg**	**12 38 45.1**	**+0.1**
BOZC				*i* S	**Sb**	**12 38 52.9**	**-0.5**
ERIK	**Erikli-Kesan**	**0.63**	**62**	*e*PG	**Pg**	**12 38 45.7**	**-0.4**
ERIK				*e*SG	**Sg**	**12 38 54.9**	**+0.4**
ERIK	**Erikli-Kesan**	**0.63**	**62**	*e*Pg	**Pg**	**12 38 45.7**	**-0.4**
ERIK				*e*Sg	**Sg**	**12 38 54.9**	**+0.4**
LIA	**Limnos Island**	**0.66**	**224**	P	**Pg**	**12 38 46.6**	**0.0**
LIA				S	**Sg**	**12 38 55.4**	**0.0**
LIA	**Limnos Island**	**0.66**	**224**	*e*PN	**Pb**	**12 38 46.7**	**-0.3**
LIA				*e*SN	**Sb**	**12 38 56.0**	**0.0**
LIA	**Limnos Island**	**0.66**	**224**	P	**Pg**	**12 38 46.6**	**0.0**
LIA				S	**Sg**	**12 38 55.4**	**0.0**
LIA				*e*Sn	**Sb**	**12 38 56.0**	**0.0**
EZN	**Ezine**	**0.69**	**143**	*e*PG	**Pg**	**12 38 47.1**	**-0.1**
EZN				*e*SG	**Sb**	**12 38 56.6**	**-0.2**
EZN	**Ezine**	**0.69**	**143**	*e*Pg	**Pg**	**12 38 47.1**	**-0.1**
EZN				*e*Sg	**Sb**	**12 38 56.6**	**-0.2**
LPK	**Lapseki**	**0.75**	**90**	*e*PG	**Pg**	**12 38 48.2**	**-0.1**
LPK	**Lapseki**	**0.75**	**90**	*e*Pg	**Pg**	**12 38 48.2**	**-0.1**
RDO	**Rodhopi**	**0.79**	**347**	P	**Pg**	**12 38 48.7**	**-0.4**
RDO				S	**Sg**	**12 38 59.6**	**+0.1**
RDO	**Rodhopi**	**0.79**	**347**	*e*PN	**Pg**	**12 38 48.7**	**-0.4**
RDO				*e*SN	**Sb**	**12 39 00.1**	**+0.3**
RDO	**Rodhopi**	**0.79**	**347**	P	**Pg**	**12 38 48.7**	**-0.4**
RDO				S	**Sg**	**12 38 59.6**	**+0.1**
RDO				*e*Sn	**Sb**	**12 39 00.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.11**	**73**	*e*PN	**Pb**	**12 38 54.4**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.11**	**73**	*e*Pn	**Pb**	**12 38 54.4**	**-0.3**
SART	**Tekirdag**	**1.11**	**73**	*i* P	**Pb**	**12 38 53.6**	**-1.1**
SART				*i* S	**Sb**	**12 39 09.2**	**+0.1**
SART	**Tekirdag**	**1.11**	**73**	*i* P	**Pb**	**12 38 53.6**	**-1.1**
SART				*i* S	**Sb**	**12 39 09.2**	**+0.1**
KAVA	**Kavala**	**1.15**	**303**	P	**Pb**	**12 38 55.1**	**-0.2**
KAVA				S	**Sb**	**12 39 10.3**	**+0.3**
KAVA	**Kavala**	**1.15**	**303**	P	**Pb**	**12 38 55.1**	**-0.2**
KAVA				S	**Sb**	**12 39 10.3**	**+0.3**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*PN	**Pb**	**12 38 55.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*Pn	**Pb**	**12 38 55.2**	**-0.3**
PRK	**Paraskevi**	**1.19**	**161**	*e*PN	**Pb**	**12 38 56.0**	**0.0**
PRK				*e*SN	**Sn**	**12 39 12.2**	**+0.4**
PRK	**Paraskevi**	**1.19**	**161**	*e*Pn	**Pb**	**12 38 56.0**	**0.0**
PRK				*e*Sn	**Sn**	**12 39 12.2**	**+0.4**
AYVA	**Ayvalik**	**1.28**	**146**	*i* P	**Pg**	**12 38 57.8**	**-0.5**
AYVA				*i* S	**Sg**	**12 39 14.8**	**-0.1**
AYVA	**Ayvalik**	**1.28**	**146**	*i* P	**Pg**	**12 38 57.8**	**-0.5**
AYVA				*i* S	**Sg**	**12 39 14.8**	**-0.1**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**12 38 57.9**	**-0.5**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**12 38 57.9**	**-0.5**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*PN	**Pb**	**12 39 01.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*Pn	**Pb**	**12 39 01.1**	**-0.1**
BALY	**Balya**	**1.55**	**114**	*i* P	**Pn**	**12 39 00.8**	**-0.1**
BALY				*i* S	**Sn**	**12 39 21.1**	**+0.4**
BALY	**Balya**	**1.55**	**114**	*i* P	**Pn**	**12 39 00.8**	**-0.1**
BALY				*i* S	**Sn**	**12 39 21.1**	**+0.4**
EDRB	**Edirne**	**1.64**	**26**	*e*PN	**Pb**	**12 39 03.2**	**-0.4**
EDRB	**Edirne**	**1.64**	**26**	*e*Pn	**Pb**	**12 39 03.3**	**-0.4**
NVR	**Nevrokopi**	**1.75**	**304**	P	**Pn**	**12 39 03.4**	**-0.2**
NVR				S	**Sn**	**12 39 25.9**	**+0.2**
NVR	**Nevrokopi**	**1.75**	**304**	*e*PN	**Pb**	**12 39 05.2**	**-0.4**
NVR				*e*SN	**Sg**	**12 39 29.1**	**-1.0**
NVR	**Nevrokopi**	**1.75**	**304**	P	**Pn**	**12 39 03.4**	**-0.2**
NVR	**Nevrokopi**	**1.75**	**304**	*e*Pn	**Pb**	**12 39 05.2**	**-0.4**
NVR				S	**Sn**	**12 39 25.9**	**+0.2**
NVR				*e*Sn	**Sg**	**12 39 29.1**	**-1.0**
BALB	**Balikesir**	**1.77**	**114**	*e*PN	**Pb**	**12 39 05.1**	**-0.8**
BALB	**Balikesir**	**1.77**	**114**	*e*Pn	**Pb**	**12 39 05.1**	**-0.8**
PLG	**Polygyros**	**1.78**	**271**	*e*PB	**Pn**	**12 39 04.3**	**+0.2**
PLG				*e*SN	**Sb**	**12 39 29.6**	**+1.2**
PLG	**Polygyros**	**1.78**	**271**	*e*Pb	**Pn**	**12 39 04.3**	**+0.2**
PLG				*e*Sn	**Sb**	**12 39 29.6**	**+1.2**
SRS	**Serrai**	**1.82**	**295**	P	**Pn**	**12 39 03.8**	**-0.8**
SRS	**Serrai**	**1.82**	**295**	P	**Pn**	**12 39 03.8**	**-0.8**
SOH	**Sokhos**	**1.90**	**284**	*e*PN	**Pg**	**12 39 10.8**	**+0.6**
SOH	**Sokhos**	**1.90**	**284**	*e*Pn	**Pg**	**12 39 10.8**	**+0.6**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*PN	**Pn**	**12 39 08.0**	**+1.3**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*Pn	**Pn**	**12 39 08.0**	**+1.3**
CHOS	**Chios island**	**2.00**	**174**	*e*PN	**Pb**	**12 39 09.6**	**-0.2**
CHOS	**Chios island**	**2.00**	**174**	*e*Pn	**Pb**	**12 39 09.6**	**-0.2**
DURS	**Dursunbey**	**2.21**	**110**	*i* P	**Pb**	**12 39 13.5**	**+0.1**
DURS				*i* S	**Sb**	**12 39 39.5**	**-1.2**
DURS	**Dursunbey**	**2.21**	**110**	*i* P	**Pb**	**12 39 13.5**	**+0.1**
DURS				*i* S	**Sb**	**12 39 39.5**	**-1.2**

*CSEM **07** 12:41:57.4±2.9, 49.53N×15.32E, h1km, ML1.2/3, Error ellipse: s-maj=65.3km s-min=26.5km az=156.0, Suspected Mining explosion.*

VIE 07 12:42:08.7±0.2, 49.04N×16.46E, h0km, mb0.3/1, ML1.2/3, 1C-1D, Error ellipse: s-maj=2.0km s-min=1.4km az=85.0 25 km SW of Brno Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRAC	**Vranov**	**0.28**	**18**	*e*Pg	Pg	12 42 13.4	-0.8
VRAC				*e*Lg	Lg	12 42 18.3	
CONA	**Conrad Observa**	**1.18**	**200**	*i*Pg	Pg	12 42 31.2	-0.3
CONA				*i*Sg	Sb	12 42 48.0	0.0
	2.8nm,0.4s						
CONA	**Conrad Observa**	**1.18**	**200**	Pg	Pg	12 42 31.2	-0.3
CONA				Sg	Sb	12 42 48.0	0.0
	2.8nm,0.4s						

*VIE **07** 12:42:53.5±0.3, 46.70N×13.78E, h6km, mb1.2/1, ML1.5/5, Error ellipse: s-maj=3.0km s-min=1.7km az=18.0 4 km SSW of Afritz*
*LJU **07** 12:42:53.9, 46.65N×13.79E, h10km, ML1.1*

CSEM 07 12:42:53.2±0.1, 46.67N×13.78E, h15km, ML1.8/6, 12C-4D, Error ellipse: s-maj=1.9km s-min=1.3km az=32.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYKA	**Terra Mystica**	**0.10**	**245**	⇑*i*Pg	Pg	12 42 56.7	0.0
	6.8nm,0.0s						
MYKA				⇑*i*Sg	Sg	12 42 58.7	-0.2
	30nm,0.0s						
MYKA	**Terra Mystica**	**0.10**	**245**	Pg	Pg	12 42 56.7	0.0
	6.8nm,0.0s						
MYKA				Sg	Sg	12 42 58.7	-0.2
	30nm,0.0s						
ACOM	**Acomizza, Ital**	**0.22**	**236**	⇑*e*Pg	Pg	12 42 58.6	+0.2
ACOM				*e*Sg	Sg	12 43 01.8	-0.2
ACOM	**Acomizza, Ital**	**0.22**	**236**	⇑*e*Pg	Pg	12 42 58.7	+0.2
ACOM				*e*Sg	Sg	12 43 01.8	-0.2
ACOM	**Acomizza, Ital**	**0.22**	**236**	*e*Pg	Pg	12 42 58.7	+0.2
GORS	**Gorjuse**	**0.39**	**157**	*i* Pg	Pg	12 43 01.2	+0.1
GORS				*i* Sg	Sg	12 43 06.4	-0.3
GORS							
	comp=Z,8.0nm,0.1s						
GORS	**Gorjuse**	**0.39**	**157**	Pg	Pg	12 43 01.2	0.0
GORS				*i* Sg	Sg	12 43 06.4	-0.2
	comp=Z,8.0nm,0.1s						
CADS	**Cadrg**	**0.45**	**184**	*i* Pg	Pg	12 43 02.2	0.0
CADS				*i* Sg	Sg	12 43 08.5	+0.2
CADS							
	comp=Z,6.0nm,0.1s						
CADS	**Cadrg**	**0.45**	**184**	*i* Pg	Pg	12 43 02.2	0.0
CADS				*i* Sg	Sg	12 43 08.5	+0.2
	comp=Z,6.0nm,0.1s						
PLRO	**Paularo**	**0.45**	**254**	⇑*e*Pg	Pg	12 43 02.6	+0.1
PLRO				*e*Sg	Sg	12 43 08.7	-0.1
PLRO	**Paularo**	**0.45**	**254**	⇑*e*Pg	Pg	12 43 02.6	+0.1
PLRO				*e*Sg	Sg	12 43 08.7	0.0
PLRO	**Paularo**	**0.45**	**254**	*e*Pg	Pg	12 43 02.6	+0.1
KBA	**Koelnbreinsper**	**0.50**	**324**	⇑*i*Pg	Pb	12 43 03.9	-0.1
	comp=Z,1.5nm,0.1s						
KBA				⇓*i*Sg	Sg	12 43 10.3	-0.1
	comp=Z,3.6nm,0.1s						
KBA	**Koelnbreinsper**	**0.50**	**324**	Pg	Pb	12 43 03.9	-0.1
	comp=Z,1.5nm,0.1s						
KBA				Sg	Sg	12 43 10.3	-0.1
	comp=Z,3.6nm,0.1s						
VINO	**Villanova**	**0.54**	**220**	⇑*e*Pg	Pg	12 43 04.1	+0.2
VINO				*e*Sg	Sb	12 43 11.8	-0.3
VINO	**Villanova**	**0.54**	**220**	⇑*e*Pg	Pg	12 43 04.1	+0.1
VINO				*e*Sg	Sb	12 43 11.8	-0.3
VINO	**Villanova**	**0.54**	**220**	*e*Pg	Pg	12 43 04.1	+0.1
OBKA	**Obir**	**0.56**	**107**	⇑*i*Pg	Pg	12 43 04.3	0.0
	comp=Z,4.1nm,0.1s						
OBKA				⇓*i*Sg	Sg	12 43 12.0	+0.1
	comp=Z,3.2nm,0.1s						
OBKA	**Obir**	**0.56**	**107**	Pg	Pg	12 43 04.3	0.0
	comp=Z,4.1nm,0.1s						
OBKA				Sg	Sg	12 43 12.0	+0.1
	comp=Z,3.2nm,0.1s						
ZOU	**Zoufplan**	**0.57**	**258**	⇑*e*Pg	Pg	12 43 04.7	0.0
ABTA	**Abfaltersbach**	**0.88**	**275**	⇑*i*Pg	Pb	12 43 10.1	-0.2
	comp=Z,1.4nm,0.1s						
ABTA				⇓*i*Sg	Sg	12 43 22.2	+0.2
	comp=Z,0.8nm,0.1s						
ABTA	**Abfaltersbach**	**0.88**	**275**	Pg	Pb	12 43 10.1	-0.1
	comp=Z,1.4n

1.5nm,0.3s,baz=335,slow=21,SNR=8.7
ASAR Alice Springs 17.80 170 P Pn 13 19 51.1 +0.4
0.7nm,0.3s,baz=350,slow=12,SNR=61
ASAR S Sn 13 22 54.3 -16
0.3nm,0.3s,baz=356,slow=27,SNR=6.5
MKAR Makanchi Array 67.74 326 P P 13 26 40.9 0.0
1.3nm,0.6s,baz=126,slow=7.9,SNR=14

*ISK **07** 13:17:14.5,39.10N×41.98E,h5km,MD2.9*
*CSEM **07** 13:17:15.0±0.5,39.09N×41.99E,h2km,MD2.9, Error ellipse: s-maj=13.0km s-min=10.6km az=24.0*
*DDA **07** 13:17:15.1,39.11N×41.96E,h7km,MD2.8*
IDC 07 13:17:14.1±1.3,39.08N±0.03×41.98E±0.03,h3km±12km, n24,σ1§47/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.41**	**281**	*e*PG	**Pg**	**13 17 23.5**	**+1.5**
VRTB	**Varto-Mus**	**0.41**	**281**	*e*Pg	**Pg**	**13 17 23.5**	**+1.5**
TATV	**Tatvan**	**0.62**	**158**	*i* P	**Pg**	**13 17 26.7**	**+0.8**
TATV				*i* S	**Sn**	**13 17 40.0**	**-0.5**
TATV	**Tatvan**	**0.62**	**158**	*i* P	**Pg**	**13 17 26.7**	**+0.8**
TATV				*i* S	**Sn**	**13 17 40.0**	**-0.5**
BNGL	**BINGOL**	**0.66**	**259**	*i* P	**Pg**	**13 17 27.6**	**+1.0**
BNGL				*i* S	**Sb**	**13 17 38.2**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**58**	*e*PG	**Pg**	**13 17 32.5**	**+0.6**
AGRB	**Hanur-Agry**	**0.93**	**58**	*e*Pg	**Pg**	**13 17 32.5**	**+0.6**
EZM	**Erzurum**	**0.95**	**330**	*e*PG	**Pb**	**13 17 33.9**	**+0.5**
EZM				*e*SG	**Sb**	**13 17 47.3**	**+0.9**
BNGB	**Bing¨¶l**	**1.01**	**265**	*e*PG	**Pg**	**13 17 34.4**	**+0.8**
BNGB				*e*SG	**Sn**	**13 17 49.9**	**-0.2**
BINT	**Bingol**	**1.18**	**260**	*e*Pg	**Pg**	**13 17 34.4**	**-2.2**
BINT				*e*Sg	**Sg**	**13 17 49.9**	**-2.0**
BEST	**Besiri**	**1.31**	**205**	*i* P	**Pg**	**13 17 40.2**	**+1.0**
BEST				*i* S	**Sn**	**13 18 03.6**	**+6.1**
CLDR	**Caldiran**	**1.51**	**87**	*e*PN	**Pg**	**13 17 43.5**	**+0.5**
CLDR	**Caldiran**	**1.51**	**87**	*e*Pn	**Pg**	**13 17 43.5**	**+0.5**
DDEM	**Demirkent**	**1.82**	**355**	*i* P	**Pb**	**13 17 48.6**	**+0.6**
DDEM				*i* S	**Sb**	**13 18 11.2**	**-0.1**
DDEM	**Demirkent**	**1.82**	**355**	*i* P	**Pb**	**13 17 48.6**	**+0.6**
DDEM				*i* S	**Sb**	**13 18 11.2**	**-0.1**
ERZN	**Erzincan**	**1.82**	**287**	*e*PN	**Pb**	**13 17 48.9**	**+0.9**
BAYT	**Ayd¨¯ntepe-Bay**	**1.93**	**313**	*e*PN	**Pb**	**13 17 50.1**	**+0.1**
BAYT	**Ayd¨¯ntepe-Bay**	**1.93**	**313**	*e*Pn	**Pb**	**13 17 50.1**	**+0.1**
DAGI	**Agillar**	**1.99**	**359**	*i* P	**Pb**	**13 17 51.7**	**+0.6**
DAGI				*i* S	**Sg**	**13 18 17.2**	**-0.9**
PTK	**Pertek**	**2.02**	**265**	*e*PN	**Pb**	**13 17 51.8**	**+0.2**
PTK	**Pertek**	**2.02**	**265**	*e*Pn	**Pb**	**13 17 51.8**	**+0.2**
EZC	**Erzincan**	**2.14**	**289**	*e*Pn	**Pn**	**13 17 48.9**	**-1.9**
SVRC	**Sivrice-ELAZID**	**2.20**	**252**	*e*PN	**Pb**	**13 17 54.2**	**-0.5**
SVRC	**Sivrice-ELAZID**	**2.20**	**252**	*e*Pn	**Pb**	**13 17 54.2**	**-0.5**

*DJA **07** 13:35:41,0.79S×133.66E,h30km,MLv4.5/10*
IDC 07 13:35:36.2±1.0,0.72S×133.77E,h0km,mb3.7/5, mb1 4.0/7,mb1mx3.7/20,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=45.6km s-min=18.7km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.04**	**204**	P	P	13 39 59.9	-0.1
0.1nm,0.3s,baz=30,slow=13,SNR=3.2							
FITZ				S	Sn	13 43 19.3	-15
0.3nm,0.3s,baz=205,slow=19,SNR=4.9							
WRA	**Warramunga Arr**	**19.12**	**178**	P	P	13 40 00.5	-0.4
0.5nm,0.3s,baz=358,slow=12,SNR=18							
WRA				S	Sn	13 43 25.0	-12
0.2nm,0.3s,baz=6.5,slow=23,SNR=5.1							
CTA	**Charters Tower**	**22.80**	**148**	P	P	13 40 41.5	+0.8
1.3nm,0.6s,baz=340,slow=12,SNR=1.6							
ASAR	**Alice Springs**	**22.82**	**180**	P	P	13 40 40.8	-0.1
2.9nm,0.6s,baz=2.7,slow=12,SNR=49							
ASAR				S	S	13 44 47.7	-3.7
1.7nm,1.0s,baz=2.4,slow=24,SNR=5.3							
MKAR	**Makanchi Array**	**65.24**	**324**	P	P	13 46 20.2	+0.5
0.6nm,0.5s,baz=104,slow=7.9,SNR=3.0							
BVAR	**Borovoye Array**	**74.89**	**326**	P	P	13 47 18.5	-0.3
0.3nm,0.7s,baz=98,slow=5.1,SNR=3.4							
ILAR	**Eielson Array**	**86.10**	**25**	P	P	13 48 18.4	-0.4
0.3nm,0.6s,baz=250,slow=4.9,SNR=7.7							

PRE 07 13:51:37.5±2.9,37.68S×31.56E,h5km,ML3.8,Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**6.00**	**315**	*e*P	Pn	13 53 07.3	+0.3
GRM				*e*S	Sn	13 54 13.1	-2.9
GRM				AML	AML	13 54 14.9	
comp=Z,9.9nm,0.5s							
GRM				AML	AML	13 54 20.1	
comp=Z,8.5nm,0.2s							
KSD	**Kokstad**	**7.34**	**345**	*e*P	Pn	13 53 28.2	+2.7
KSD				*e*S	Sn	13 54 45.1	-4.3
KSD				AML	AML	13 54 56.6	
comp=Z,17nm,0.3s							
HVD	**Gariep Dam**	**8.66**	**323**	*e*S	Sn	13 55 18.9	-3.0
HVD				AML	AML	13 55 31.5	
comp=Z,4.8nm,0.6s							
SUR	**Sutherland**	**10.27**	**298**	*e*P	Pn	13 54 04.7	-1.2
SUR				*e*S	Sn	13 55 55.2	-6.4
SUR				AML	AML	13 56 01.7	
comp=Z,1.6nm,0.8s							
POGA	**Pongola**	**10.28**	**0**	*e*P	Pn	13 54 08.2	+2.5
POGA				*e*S	Sn	13 55 55.2	-6.1
POGA				AML	AML	13 56 06.7	
comp=Z,6.4nm,0.6s							
BOSA	**Boshof**	**10.47**	**328**	*e*P	Pn	13 54 09.8	+1.3
BOSA				*e*S	Sn	13 56 02.3	-3.9
BOSA				AML	AML	13 56 08.9	
comp=Z,1.7nm,0.7s							
BOSA				AML	AML	13 56 47.2	
comp=Z,2.6nm,0.6s							
LBTB	**Lobatse**	**13.61**	**336**	*e*P	Pn	13 54 53.0	+1.6
LBTB				*e*S	Sn	13 57 14.1	-9.0
LBTB				AML	AML	13 57 25.2	
comp=Z,2.4nm,0.5s							

IDC 07 14:00:31.2±2.4,0.89S×133.37E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=96.0km s-min=24.5km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.71**	**203**	P	P	14 04 50.1	-1.3
0.0nm,0.3s,baz=26,slow=10,SNR=1.9							
WRA	**Warramunga Arr**	**18.96**	**177**	P	Pn	14 04 54.5	-0.2
0.1nm,0.3s,baz=357,slow=11,SNR=12							
ASAR	**Alice Springs**	**22.64**	**179**	P	P	14 05 34.6	+0.5
0.5nm,0.5s,baz=360,slow=11,SNR=18							
MKAR	**Makanchi Array**	**65.14**	**324**	P	P	14 11 14.0	0.0
0.2nm,0.5s,baz=109,slow=6.2,SNR=3.5							

*IDC **07** 14:02:57.6±1.1,5.81N×119.62E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.5/20,mbtmp3.4/6,Error ellipse: s-maj=83.8km s-min=20.1km az=61.0*
*ISCJB **07** 14:03:00.8±0.6,5.67N±0.06×119.21E±0.06,h33km, mb3.4/6, Error ellipse: s-maj=10.7km s-min=6.8km az=136.0*
*MAN **07** 14:03:01,5.80N×119.21E,h203km*
*DJA **07** 14:04:11,0.59N×121.02E,h10km,MLv3.7/6*
ISC 07 14:03:02.8±0.9,5.64N±0.07×119.15E±0.06,h35km,n20, σ1§37/20,mb3.4/6,1C,Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**0.80**	**235**	P	**Pn**	**14 03 17.6**	**+0.1**
TSM	**Tawau**	**1.85**	**224**	P	**Pn**	**14 03 31.5**	**-0.6**
SDKM	**Sandakan**	**1.95**	**270**	P	**Pn**	**14 03 31.6**	**-1.9**
KDM	**Kudat**	**2.63**	**299**	P	**Pn**	**14 03 44.0**	**+1.2**
KKM	**Kota Kinabalu**	**2.95**	**278**	P	**Pn**	**14 03 47.8**	**+0.5**
IPIL	**Ipil**	**4.01**	**58**	*e*P	**Sn**	**14 04 45.8**	**-1.8**
PAGZ	**Pagadian**	**4.74**	**62**	*e*P	**Pn**	**14 04 12.8**	**+1.0**
CUYO	**Cuyo Island**	**5.49**	**20**	*e*P	**Pn**	**14 04 21.0**	**-1.2**
ENPP	**El Nido**	**5.53**	**3**	*e*P	**Pn**	**14 04 21.6**	**-1.2**
GUIM	**Jordan**	**6.01**	**34**	*e*P	**Pn**	**14 04 28.2**	**-1.1**
BUSP	**Coron**	**6.40**	**9**	*e*P	**Pn**	**14 04 33.6**	**-1.1**
RCP	**Roxas**	**6.87**	**311**	*e*P	**Pn**	**14 04 42.7**	**+1.6**
MSLP	**Maasin**	**7.20**	**51**	*e*P	**Pn**	**14 04 47.7**	**+2.1**
LUBP	**Lubang**	**8.11**	**8**	*e*P	**Pn**	**14 04 57.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**23.47**	**305**	P	**P**	**14 08 12.2**	**+2.7**
0.4nm,0.6s,baz=121,slow=8.5,SNR=3.3							
WRA	**Warramunga Arr**	**29.49**	**150**	P	**P**	**14 09 03.0**	**-0.9**
0.6nm,0.8s,baz=335,slow=9.4,SNR=5.5							
ASAR	**Alice Springs**	**32.50**	**154**	P	**P**	**14 09 29.7**	**-0.7**
0.2nm,0.7s,baz=343,slow=12,SNR=4.8							
SONM	**Songino Array**	**43.43**	**348**	P	**P**	**14 11 02.2**	**-0.2**
0.5nm,0.7s,baz=162,slow=9.6,SNR=4.4							
MKAR	**Makanchi Array**	**51.83**	**328**	P	**P**	**14 12 08.3**	**+0.8**
0.4nm,0.5s,baz=126,slow=11,SNR=4.6							
ZALV	**Zalesovo Beam**	**55.63**	**336**	P	**P**	**14 12 34.9**	**-0.3**
0.6nm,0.5s,baz=132,slow=6.6,SNR=4.0							

IDC 07 14:18:07.8±3.0,16.59S×69.44W,h174km±15km,mb3.2/2, mb1 3.2/3,mb1mx3.1/18,mbtmp3.1/3,Error ellipse: s-maj=69.2km s-min=36.9km az=20.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.29**	**77**	P	Pn	14 18 37.4	-0.6
8.4nm,0.3s,baz=256,slow=7.9,SNR=133							
LPAZ				S	Sn	14 19 01.4	+0.2
baz=261,slow=19,SNR=3.1							
SIV	**San Ignacio**	**9.05**	**87**	P	Pn	14 20 01.5	-0.4
0.5nm,0.3s,baz=269,slow=12,SNR=6.3							
TORD	**Torodi Ar. Bea**	**76.23**	**72**	P	P	14 29 37.8	+0.2
0.3nm,0.3s,baz=259,slow=5.1,SNR=5.1							
YKA	**Yellowknife Ar**	**86.41**	**341**	P	P	14 30 30.3	+0.3
0.2nm,0.6s,baz=134,slow=5.3,SNR=6.8							
SONM	**Songino Array**	**148.65**	**5**	PKPbc	PKPbc	14 37 33.7	-0.8
0.2nm,0.5s,baz=352,slow=3.1,SNR=2.4							

IDC 07 14:26:35.2±1.3,30.48N×67.33E,h0km,mb3.4/7, mb1 3.5/8,mb1mx3.3/30,mbtmp3.4/8,Error ellipse: s-maj=34.2km s-min=25.2km az=117.0,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.99**	**31**	P	P	14 31 07.8	-1.4
0.1nm,0.3s,baz=209,slow=10,SNR=8.6							
AKTO	**Aktyubinsk**	**21.12**	**343**	P	P	14 31 22.4	+0.9
0.4nm,0.6s,baz=158,slow=18,SNR=3.5							
KURK	**Kurchatov**	**21.91**	**19**	P	P	14 31 28.2	-1.7
0.3nm,0.6s,baz=209,slow=11,SNR=4.7							
BVAR	**Borovoye Array**	**22.64**	**5**	P	P	14 31 37.5	-0.2
0.6nm,0.6s,baz=184,slow=12,SNR=3.5							
ZALV	**Zalesovo Beam**	**26.64**	**23**	P	P	14 32 16.2	+0.7
0.5nm,0.4s,baz=215,slow=9.4,SNR=5.0							
TORD	**Torodi Ar. Bea**	**62.55**	**270**	P	P	14 37 00.8	-0.5
0.3nm,0.7s,baz=63,slow=6.9,SNR=2.8							
ASAR	**Alice Springs**	**83.50**	**122**	P	P	14 39 05.5	+0.3
0.4nm,0.7s,baz=310,slow=4.9,SNR=6.5							
YKA	**Yellowknife Ar**	**87.34**	**1**	P	P	14 39 24.2	+0.4
0.4nm,0.8s,baz=350,slow=5.0,SNR=8.6							

*DJA **07** 14:39:04,1.73S×131.16E,h10km,MLv3.7/4*
IDC 07 14:38:49.2±2.4,0.69S×133.25E,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.4/18,mbtmp3.4/4,ML3.5/2,Error ellipse: s-maj=94.5km s-min=24.5km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.85**	**203**	P	P	14 43 11.0	0.0
0.1nm,0.3s,baz=28,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**19.17**	**177**	P	P	14 43 14.7	+0.2
0.1nm,0.3s,baz=356,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.85**	**178**	P	P	14 43 54.1	-0.2
1.0nm,0.9s,baz=358,slow=11,SNR=17							
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	14 49 30.5	0.0
0.1nm,0.4s,baz=108,slow=7.7,SNR=2.5							

*ISCJB **07** 14:47:06.7±0.4,44.38N±0.05×140.91E±0.08, h240km±4km,mb3.1/8, Error ellipse: s-maj=9.4km s-min=7.6km az=24.4*
*JMA **07** 14:47:06.9±0.2,44.39N×140.85E,h243km±3km,M3.3*
*IDC **07** 14:47:07.5±1.1,44.41N×140.87E,h232km±11km,mb2.9/8, mb1 3.2/10,mb1mx3.0/25,mbtmp3.0/10,Error ellipse: s-maj=17.7km s-min=13.9km az=130.0*
ISC 07 14:47:07.6±0.7,44.37N±0.06×140.89E±0.06,h237km±7km, n28,σ0§87/35,mb3.2/8,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.39**	**81**	P	Pn	14 47 38.6	0.0
JSS	**Shosan**	**0.69**	**87**	P	**Pn**	**14 47 40.0**	**+0.4**
JHR	**Hokuryu**	**0.87**	**136**	P	**Pn**	**14 47 40.9**	**+0.4**
JHR				*e*S	**S**	**14 48 06.6**	**+0.3**
JSK	**Shakotan**	**1.06**	**197**	P	**Pn**	**14 47 41.5**	**-0.1**
JSK				*e*S	**S**	**14 48 08.1**	**-0.1**
JWK2	**Keihoku**	**1.19**	**37**	P	**Pn**	**14 47 42.2**	**-0.1**
JWK2				*e*S	**S**	**14 48 09.2**	**-0.4**
ASAJ	**Asahikawa**	**1.25**	**101**	P	**Pn**	**14 47 42.5**	**-0.3**
13nm,0.3s,baz=310,slow=7.9,SNR=185							
JSE	**Soyaes**	**1.34**	**63**	P	Pn	14 47 42.9	-0.5
JSE				*e*S	**S**	**14 48 10.4**	**-1.1**
JKK2	**Kamakawa 2**	**1.43**	**110**	P	**Pn**	**14 47 44.0**	**-0.1**
JKK2				*e*S	**S**	**14 48 12.3**	**-0.4**
JEW	**Eniwo**	**1.58**	**165**	P	**Pn**	**14 47 45.9**	**+0.5**
JEW				*e*S	**S**	**14 48 15.7**	**+0.8**
JFR	**Furan**	**1.73**	**134**	P	**Pn**	**14 47 46.3**	**-0.3**
JTKR	**Abashiri--Toko**	**2.21**	**99**	P	**Pn**	**14 47 51.0**	**+0.1**
JAR	**Ashorobuto**	**2.34**	**116**	P	**Pn**	**14 47 52.7**	**+0.4**
JAR				*e*S	**S**	**14 48 29.1**	**+1.7**
JKB	**Kayabe**	**2.48**	**178**	P	**Pn**	**14 47 53.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.49**	**146**	P	**Pn**	**14 47 54.6**	**+0.8**
JNBK				*e*S	**S**	**14 48 30.2**	**0.0**
JOSM	**Okushiri--Mats**	**2.51**	**205**	P	**Pn**	**14 47 53.9**	**-0.1**
JCH	**Churui**	**2.51**	**133**	P	**Pn**	**14 47 53.2**	**-0.8**
JCH				*e*S	**S**	**14 48 27.7**	**-2.8**
JOT	**Ohata**	**2.99**	**178**	P	**Pn**	**14 47 58.8**	**-0.4**
JOT				*e*S	**S**	**14 48 39.5**	**-0.3**
JAK	**Akkeshi**	**3.08**	**115**	*e*S	**S**	**14 48 39.2**	**-2.3**
USRK	**Ussuriysk Arra**	**6.38**	**272**	P	**Pn**	**14 48 39.3**	**-0.9**
0.2nm,0.3s,baz=93,slow=12,SNR=6.6							
PETK	**Petropavlovsk-**	**14.09**	**46**	P	**P**	**14 50 17.8**	**-0.1**
0.2nm,0.3s,baz=221,slow=11,SNR=8.1							
SONM	**Songino Array**	**24.05**	**291**	P	**P**	**14 52 01.8**	**+0.6**
0.8nm,0.6s,baz=87,slow=8.5,SNR=8.4							
MKAR	**Makanchi Array**	**40.26**	**295**	P	**P**	**14 54 21.2**	**-0.2**
0.5nm,1.0s,baz=80,slow=9.4,SNR=4.0							
ILAR	**Eielson Array**	**43.66**	**36**	P	**P**	**14 54 48.5**	**0.0**
0.4nm,0.6s,baz=279,slow=10,SNR=4.8							
INK	**Inuvik**	**48.13**	**30**	P	**P**	**14 55 22.6**	**-0.5**
0.3nm,0.3s,baz=302,slow=8.0,SNR=7.4							
YKA	**Yellowknife Ar**	**57.73**	**32**	P	**P**	**14 56 33.7**	**+0.5**
0.2nm,0.6s,baz=305,slow=6.9,SNR=5.1							
WRA	**Warramunga Arr**	**64.28**	**187**	P	**P**	**14 57 17.4**	**-0.2**
0.3nm,0.3s,baz=1.1,slow=6.8,SNR=11							
ASAR	**Alice Springs**	**68.01**	**187**	P	P	14 57 42.8	+1.6
0.3nm,0.5s,baz=6.6,slow=6.9,SNR=12							
PDAR	**Pinedale Array**	**72.86**	**47**	P	**P**	**14 58 11.3**	**+0.6**
0.3nm,0.5s,baz=316,slow=2.5,SNR=3.6							

*IDC **07** 15:02:42.3±0.5,0.39S×132.87E,h0km,mb4.4/15, mb1 4.6/19,mb1mx4.5/24,mbtmp4.5/19,ML4.8/2,MS4.4/23, Ms1 4.4/23,ms1mx4.2/36,Error ellipse: s-maj=24.1km s-min=11.9km az=73.0*
*MOS **07** 15:02:45.4±0.9,0.38S×132.87E,h33km,mb5.1/26,Error ellipse: s-maj=15.3km s-min=6.5km az=113.5*
*DJA **07** 15:02:45,0.35S×133.03E,h9km,Mw5.0/32*
*ISCJB **07** 15:02:46.1±0.7,0.36S±0.04×133.00E±0.04,h37km±6km, mb4.8/60,MS4.4/36,Error ellipse: s-maj=6.9km s-min=5.5km az=150.2*
*NEIC **07** 15:02:47.5±0.2,0.41S×132.85E,h35km,mb5.0/22,Error ellipse: s-maj=8.1km s-min=4.3km az=70.0*
*TEH **07** 15:02:48.0,0.37S×132.97E,h35km,ML5.0*
ISC 07 15:02:47.9±0.3,0.45S±0.04×132.92E±0.05,h39km±3km, h39km:pP-P,n232,σ1§39/263,mb5.0/60,MS4.4/36,7C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.55**	**195**	P	**Pn**	**15 03 28.2**	**+1.5**
BAKI	**Biak**	**3.27**	**103**	P	**Pn**	**15 03 35.4**	**-1.3**
MSAI	**Masohi**	**4.92**	**234**	P	Pn	15 04 02.6	+3.2
312nm,0.5s,4μm1.3nm							
TLE	**Tual**	**5.16**	**182**	P	**Pn**	**15 04 05.4**	**+2.7**
1μm,1.5s,22μm8.4nm							
LBMI	**Labuha**	**5.42**	**268**	P	**Pn**	**15 04 06.4**	**+0.1**
270nm,0.9s,5μm1.9nm							
TNTI	**Ternate**	**5.68**	**282**	P	Pn	15 04 18.1	+8.2
130nm,1.2s,3μm0.7nm							
AAI	**Ambon**	**5.71**	**236**	P	**Pn**	**15 04 12.0**	**+1.7**
819nm,1.6s,11μm3.5nm							
SMPI	**Sarmi**	**5.99**	**105**	P	**Pn**	**15 04 14.7**	**+0.6**
97nm,1.2s,2μm0.7nm							
NLAI	**Namlea**	**6.44**	**244**	P	**Pn**	**15 04 22.9**	**+2.6**
339nm,0.7s,3μm1.0nm							
KMSI	**Cibinong**	**8.99**	**276**	P	Pn	15 05 03.0	+7.6
218nm,0.9s,3μm							
LUWI	**Luwuk**	**10.16**	**267**	P	**Pn**	**15 05 13.4**	**+2.0**
133nm,1.3s,2μm							
MRSI	**Marisa**	**11.02**	**275**	P	Pn	15 05 28.6	+5.5
54nm,1.0s,772nm							
TTSI	**Tana Toraja**	**13.35**	**259**	P	P	15 06 00.5	-3.3
73nm,0.8s,625nm							
MMRI	**Maumere**	**13.39**	**232**	P	**P**	**15 06 04.8**	**+0.5**
SPSI	**Sidrap Palu**	**13.60**	**255**	P	**P**	**15 06 03.6**	**-3.0**
53nm,2.6s,1μm							
BKSI	**Bulukumba**	**13.66**	**249**	P	**P**	**15 06 07.6**	**+0.3**
KAPI	**Kappang**	**13.91**	**251**	Pn	**Pn**	**15 06 00.6**	**-2.1**
baz=79,slow=9.3,SNR=1.8							
KAPI				LR	LR	15 11 37.1	
comp=Z,931nm,20.7s,baz=212,slow=38							
KAPI	**Kappang**	**13.91**	**251**	Pn	**Pn**	**15 06 00.6**	**-2.1**
KAPI				P	P	15 06 05.8	-4.3
MYLDM	**Lahad Datu**	**15.45**	**291**	P	**P**	**15 06 29.7**	**+2.5**
55nm,1.6s,2μm							
PMG	**Port Moresby**	**16.74**	**123**	Pn	**P**	**15 06 40.8**	**-0.7**
0.3nm,0.3s,baz=336,slow=2.8,SNR=4.7							
PMG	**Port Moresby**	**16.74**	**123**	P	**Pn**	**15 06 39.2**	**-0.4**
PMG				pmax	pmax		
comp=Z,61nm,1.0s							
PMG	**Port Moresby**	**16.74**	**123**	P	**Pn**	**15 06 39.2**	**-0.4**
comp=Z,61nm,1.0s							
PMG				Pn	P	**15 06 40.8**	**-0.7**
COEN	**Coen**	**16.83**	**143**	*e*P	**Pn**	**15 06 41.3**	**+0.5**
comp=Z,260nm,1.0s							
GUMO	**Guam**	**18.29**	**40**	LR	LR	15 13 08.6	
comp=Z,1μm,18.3s,baz=235,slow=34							
BBKI	**Banjar Baru**	**18.31**	**260**	P	Pn	15 07 13.1	+14
FITZ	**Fitzroy Crossi**	**18.95**	**202**	P	**P**	**15 07 04.4**	**-1.5**
comp=Z,1.2nm,0.3s,baz=20,slow=13,SNR=30							
FITZ				S	Sn	15 10 27.6	-11
comp=Z,0.7nm,0.3s,baz=97,slow=11,SNR=4.7							
FITZ				LR	LR	15 15 24.8	
comp=Z,725nm,19.7s,baz=24,slow=40							
FITZ	**Fitzroy Crossi**	**18.95**	**202**	*e*P	**P**	**15 07 04.5**	**-1.4**
comp=Z,35nm,0.7s							
FITZ				*e*S	Sn	15 10 28.2	-10
FITZ	**Fitzroy Crossi**	**18.95**	**202**	P	**P**	**15 07 04.4**	**-1.5**
FITZ				*e*P	**Pn**	**15 07 05.0**	**-1.8**
FITZ				S	Sn	15 10 27.6	-11
KHKI	**Kahang-Kahang**	**18.95**	**245**	P	**Pn**	**15 07 08.5**	**+1.6**
comp=Z,163nm,1.8s,comp=Z,3μm							
WRAB	**Tennant Creek**	**19.42**	**176**	*e*P	**P**	**15 07 11.2**	**+0.2**
WRAB				pmax	pmax		
comp=Z,134nm,1.1s							
WRAB	**Tennant Creek**	**19.42**	**176**	*e*P	**P**	**15 07 11.2**	**+0.2**
comp=Z,134nm,1.1s							
WRAB	**Tennant Creek**	**19.42**	**176**	P	**Pn**	**15 07 12.0**	**-0.4**
comp=Z,282nm,0.6s,SNR=20							
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**15 07 11.9**	**-0.6**
comp=Z,4.3nm,0.3s,baz=354,slow=12,SNR=117							
WRA				S	S	15 10 36.0	-13
comp=Z,0.2nm,0.3s,baz=353,slow=23,SNR=4.3							
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**15 07 11.9**	**-0.6**
WRA				S	S	15 10 36.0	-13
WRA	**Warramunga Arr**	**19.43**	**176**	P	**Pn**	**15 07 11.9**	**-0.6**
WRA				S	S	15 10 36.0	-13
BYJI	**Banyuwangi**	**20.04**	**247**	P	Pn	15 07 25.0	+5.2
comp=Z,338nm,1.5s,comp=Z,13μm							
JAGI	**Jajag, Banyuwa**	**20.32**	**246**	P	Pn	15 07 30.0	+6.8
comp=Z,96nm,2.3s,comp=Z,2μm							
SBUM	**Sibu**	**20.89**	**278**	P	Pn	15 07 29.5	-0.3
comp=Z,46nm,1.6s,comp=Z,1μm							
GMJI	**Gumukmas**	**20.90**	**248**	P	Pn	15 07 38.5	+8.6
PBKI	**Pangkalan Bun**	**21.36**	**264**	P	P	15 07 42.3	+10
STKI	**Sintang**	**21.45**	**271**	P	P	15 07 39.1	+6.0
comp=Z,90nm,0.9s,comp=Z,6μm							
SJI	**Sawahan**	**22.29**	**251**	P	P	15 07 51.2	+8.9
AS31	**Alice Springs**	**23.10**	**178**	*e*P	**P**	**15 07 51.2**	**+0.6**
ASAR	**Alice Springs**	**23.10**	**178**	P	**P**	**15 07 50.6**	**+0.1**
comp=Z,34nm,0.6s,baz=357,slow=12,SNR=195							
ASAR				S	**S**	**15 11 55.3**	**-3.9**
comp=Z,2.6nm,1.0s,baz=358,slow=20,SNR=2.9							
ASAR	**Alice Springs**	**23.10**	**178**	P	**P**	**15 07 50.7**	**+0.1**
ASAR				S	**S**	**15

comp=Z,330nm,4.3s
NJ2 LR LR
comp=N,310nm,16.9s
NJ2 LR LR
comp=E,330nm,14.3s
NJ2 LR LR
comp=Z,390nm,19.0s
WHN Wuhan 35.52 332 P P 15 09 48.0 +6.7
WHN S **S** **15 15 16.5 +2.2**
WHN LR LR
comp=Z,770nm,16.8s
GYA Guiyang 36.82 319 P **P** **15 09 55.2 +2.6**
GYA sP **sP** **15 10 08.7 +0.5**
GYA PP **PnPn** **15 11 20.8 +3.6**
GYA S **S** **15 15 36.2 +1.6**
GYA ScP **ScP** **15 15 58.6 +0.4**
GYA SS **SnSn** **15 18 05.4 -3.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,580nm,17.6s
GYA LR LR
comp=E,490nm,18.2s
GYA LR LR
comp=Z,540nm,17.7s
ARPS Mount Arapiles 37.08 168 *e*P **P** **15 09 54.9 +0.4**
comp=Z,71nm,0.9s
MJAR Matsushiro Arr 37.13 7 P **P** **15 09 53.5 -1.4**
comp=Z,0.4nm,0.4s,baz=184,slow=9.3,SNR=2.5
MJAR LR LR 15 21 49.1
comp=Z,1μm,22.0s,baz=185,slow=31
MJAR Matsushiro Arr 37.13 7 P **P** **15 09 53.5 -1.4**
MJAR Matsushiro Arr 37.13 7 P **P** **15 09 53.5 -1.4**
KSAR Wonju Array Be 37.99 353 P **P** **15 10 01.3 -0.8**
KSAR Wonju Array Be 37.99 353 P **P** **15 10 01.3 -0.8**
KSRS Korea Array 37.99 354 P **P** **15 10 01.3 -0.9**
comp=Z,0.4nm,0.6s,baz=160,slow=8.4,SNR=3.1
KSRS LR LR 15 24 15.0
comp=Z,502nm,18.6s,baz=173,slow=34
CMAR Chiang Mai Arr 38.31 301 P **P** **15 10 05.2 +0.1**
comp=Z,6.0nm,0.9s,baz=121,slow=6.7,SNR=42
CMAR Chiang Mai Arr 38.31 301 P **P** **15 10 05.3 +0.1**
CMAR Chiang Mai Arr 38.31 301 P **P** **15 10 05.2 +0.1**
CHTO Chiang Mai 38.46 302 *e*P **P** **15 10 05.1 -1.3**
CHTO pmax pmax
comp=Z,21nm,1.4s
CHTO Chiang Mai 38.46 302 *e*P **P** **15 10 05.1 -1.3**
comp=Z,21nm,1.4s
CHTO Chiang Mai 38.46 302 P **P** **15 10 06.7 +0.2**
SNR=5.2
CHTO Chiang Mai 38.46 302 P **P** **15 10 06.3 -0.2**
comp=Z,18nm,1.3s
KMI Kunming 38.71 313 P **P** **15 10 09.1 +0.4**
KMI S **S** **15 16 05.3 +1.9**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=N,290nm,17.6s
KMI LR LR
comp=E,350nm,15.7s
KMI LR LR
comp=Z,300nm,17.0s
TOO Toolangi 38.72 164 *e*P **P** **15 10 09.4 +1.0**
comp=Z,109nm,1.2s
DZM Mont Dzumac 39.09 126 *e*LR LR 15 20 59.7
comp=Z,501nm,23.1s
CD2 Chengdu 41.70 321 P **P** **15 10 34.8 +1.6**
CD2 pP **pP** **15 10 45.0 +0.7**
CD2 sP **sP** **15 10 49.3 +0.3**
CD2 PP **PnPn** **15 12 15.2 -0.1**
CD2 S **S** **15 16 49.7 +2.0**
CD2 sS **sS** **15 17 06.7 +0.6**
CD2 SS **SS** **15 19 51.1 -3.3**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,160nm,5.9s
CD2 LR LR
comp=N,480nm,11.3s
CD2 LR LR
comp=Z,420nm,15.5s
BJI Beijing 43.10 341 P **P** **15 10 46.3 +2.0**
BJI S **S** **15 17 08.8 +1.0**
BJI SS **SS** **15 20 20.2 -1.2**
BJI pmax pmax
comp=Z,28nm,1.7s
BJI pmax pmax
comp=Z,120nm,4.2s
BJI LR LR
comp=N,190nm,22.2s
BJI LR LR
comp=E,560nm,21.0s
BJI LR LR
comp=Z,280nm,28.8s
USRK Ussuriysk Arra 44.46 359 LR LR 15 28 20.1
comp=Z,261nm,18.8s,baz=160,slow=35
CN2 Changchun 44.56 352 *e*P **P** **15 10 58.8 +2.8**
CN2 *ep*P **pP** **15 11 08.7 +1.5**
CN2 *e*S **S** **15 17 31.8 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,500nm,20.0s
MDJ Mudanjiang 44.97 357 P **P** **15 11 02.2 +3.0**
LZH Lanzhou 45.30 326 *e*P P 15 11 06.2 +3.9
LZH pP pP 15 11 15.0 +1.5
LZH sP sP 15 11 21.7 +3.6
LZH S **S** **15 17 44.0 +3.6**
LZH sS sS 15 18 02.0 +3.1
LZH pmax pmax
comp=Z,34nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.4s
LZH LR LR
comp=N,350nm,14.1s
LZH LR LR
comp=E,350nm,13.2s
LZH LR LR
comp=Z,380nm,14.0s
HHC Hu-ho-hao-te 45.46 337 *e*P **P** **15 11 04.8 +1.4**
HHC pP **pP** **15 11 16.5 +1.9**
HHC sP **sP** **15 11 20.1 +1.0**
HHC PP **PP** **15 12 52.9 +2.6**
HHC S **S** **15 17 41.6 -0.8**
HHC sS **sS** **15 18 02.1 +1.2**
HHC ScS **ScS** **15 20 56.9 -0.1**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,310nm,5.5s
HHC LR LR
comp=N,230nm,16.5s
HHC LR LR
comp=E,440nm,15.5s
HHC LR LR
comp=Z,220nm,17.6s
YUK Yuzh-Kuril'sk 45.77 13*c i*P **P** **15 11 03.6 -2.0**
YUK *i* 15 12 40.6
YUK *i* PPP PPP 15 13 37.0
YUK *i* S **S** **15 17 45.1 -1.4**
YUK *i* SSS SSS 15 22 04.4
YUK pmax pmax
comp=Z,120nm,5.8s
YUK MLR MLR
comp=Z,513nm,22.0s
HABR Khabarovsk 48.76 2*de*P **P** **15 11 30.0 +1.2**
HABR *e**SP **sP** **15 11 42.1 -2.6**
HABR 15 13 21.5
HABR *e*S **S** **15 18 31.5 +2.5**
HABR *e**SS **sS** **15 18 47.3 -0.3**
HABR *e* 15 21 17.4
HABR *e*SSS SSS 15 23 18.0
HABR pmax pmax
comp=E,45nm,2.4s
HABR pmax pmax
comp=Z,63nm,2.0s
HABR pmax pmax
comp=N,33nm,2.2s
HABR MLR MLR
comp=Z,238nm,19.0s
KLR Kul'dur 49.49 359 *e*P **P** **15 11 34.0 -0.4**
KLR pmax pmax
comp=Z,63nm,2.0s
LSA Lhasa 49.83 311 P **P** **15 11 37.9 0.0**
LSA pmax pmax
comp=Z,30nm,1.0s
LSA Lhasa 49.83 311 *e*P **P** **15 11 37.6 -0.3**
LSA pmax pmax
comp=Z,29nm,1.2s
LSA Lhasa 49.83 311 *e*P **P** **15 11 37.6 -0.3**
comp=Z,30nm,1.2s
GTA Gaotai 49.91 326 *e*P **P** **15 11 37.8 -0.2**
GTA pP **pP** **15 11 47.4 -1.9**
GTA sP **sP** **15 11 51.6 -2.2**
GTA S **S** **15 18 45.9 +0.2**
GTA sS **sS** **15 19 03.5 -0.9**
GTA SS **SS** **15 22 16.1 -2.9**
GTA pmax pmax
comp=Z,4.0nm,1.6s
GTA pmax pmax
comp=Z,82nm,5.2s
GTA LR LR
comp=N,160nm,14.5s
GTA LR LR
comp=E,140nm,13.1s
GTA LR LR
comp=Z,150nm,16.6s
TAPN Taplejung 51.46 306 *e*P **P** **15 11 49.6 -0.5**
comp=Z,72nm,1.3s
TAPN Taplejung 51.46 306 *e*P **P** **15 11 49.6 -0.5**
ODAN Odare 51.51 305 *e*P **P** **15 11 49.9 -0.5**
comp=Z,50nm,0.8s
ODAN Odare 51.51 305 *e*P **P** **15 11 49.9 -0.5**
RAMN Ramite 52.19 305 *e*P **P** **15 11 55.1 -0.4**
comp=Z,61nm,0.9s
RAMN Ramite 52.19 305 *e*P **P** **15 11 55.1 -0.4**
JIRN Jiri 52.81 306 *e*P **P** **15 11 59.8 -0.4**
comp=Z,38nm,0.9s
JIRN Jiri 52.81 306 *e*P **P** **15 11 59.8 -0.4**
ULN Ulaanbaatar 53.12 338 *e*P **P** **15 12 02.1 +0.2**
ULN pmax pmax
comp=Z,19nm,1.4s
ULN Ulaanbaatar 53.12 338 *e*P **P** **15 12 02.1 +0.2**
comp=Z,19nm,1.4s
ULN Ulaanbaatar 53.12 338 P **P** **15 12 03.7 +1.8**
comp=Z,14nm,1.1s,comp=Z,279nm
GUN Gumba 53.17 306 *e*P **P** **15 12 02.2 -0.6**
comp=Z,42nm,0.8s
GUN Gumba 53.17 306 *e*P **P** **15 12 02.2 -0.6**
SONM Songino Array 53.34 338 P **P** **15 12 03.3 -0.1**
comp=Z,2.2nm,1.1s,baz=150,slow=8.1,SNR=12
SONM LR LR 15 34 14.2
comp=Z,190nm,19.0s,baz=179,slow=36
SONM Songino Array 53.34 338 P **P** **15 12 03.3 -0.1**
SONM Songino Array 53.34 338 P **P** **15 12 03.3 -0.1**
PKI Pulchoki 53.41 305 *e*P **P** **15 12 03.7 -0.9**
PKI Pulchoki 53.41 305 *e*P **P** **15 12 03.7 -0.9**
PKI Pulchoki 53.41 305 *e*P **P** **15 12 03.7 -0.9**
KKN Kakani 53.60 306 *e*P **P** **15 12 05.3 -0.6**
comp=Z,35nm,1.0s
KKN Kakani 53.60 306 *e*P **P** **15 12 05.3 -0.6**
KKN Kakani 53.60 306 *e*P **P** **15 12 05.3 -0.6**
DMN Daman 53.68 305 *e*P **P** **15 12 05.8 -0.6**
comp=Z,44nm,0.9s
DMN Daman 53.68 305 *e*P **P** **15 12 05.8 -0.6**
GKN Gorkha 54.21 306 *e*P **P** **15 12 09.8 -0.4**
comp=Z,56nm,1.0s
GKN Gorkha 54.21 306 *e*P **P** **15 12 09.8 -0.4**
CIT Chita 54.77 345 *e*P **P** **15 12 14.8 +1.1**
CIT *e* 15 12 32.7
CIT pmax pmax
comp=Z,118nm,2.2s
RPZ Rata Peaks 54.86 147 LR LR 15 35 18.2
comp=Z,724nm,20.8s,baz=302,slow=36
KOLN Koldanda 54.97 305 *e*P **P** **15 12 15.5 -0.3**
comp=Z,47nm,0.7s
KOLN Koldanda 54.97 305 *e*P **P** **15 12 15.5 -0.3**
DANN Dangsing 55.06 306 *e*P **P** **15 12 16.1 -0.5**
comp=Z,101nm,0.9s
DANN Dangsing 55.06 306 *e*P **P** **15 12 16.1 -0.5**
AFI Afiamalu 56.32 106 LR LR 15 34 35.9
comp=Z,214nm,19.3s,baz=288,slow=34
HYB Hyderabad 56.36 291 *i* P **P** **15 12 24.0 -1.8**
ZAK Zakamensk 56.60 338 *e*P P 15 12 31.5 +4.6
ZAK *e* 15 13 29.7
ZAK pmax pmax
comp=Z,5.0nm,1.5s
PETK Petropavlovsk- 57.24 17 P **P** **15 12 32.4 +1.1**
comp=Z,6.3nm,1.0s,baz=145,slow=5.3,SNR=4.4
PETK LR LR 15 32 38.5
comp=Z,281nm,21.2s,baz=206,slow=31
PETK Petropavlovsk- 57.24 17 P **P** **15 12 32.4 +1.1**
PETK Petropavlovsk- 57.24 17 P **P** **15 12 32.4 +1.1**
CLNS Chul'man 57.47 355 *e*P **P** **15 12 31.6 -1.3**
CLNS pmax pmax
comp=Z,12nm,1.8s
CLNS pmax pmax
comp=N,11nm,1.5s
CLNS pmax pmax
comp=E,3.0nm,1.0s
IRK Irkutsk 57.76 340 *e*P P 15 12 38.3 +3.3
IRK pmax pmax
comp=Z,38nm,2.2s
MOY Mondy 58.50 337 *e*P **P** **15 12 40.4 +0.1**
MOY pmax pmax
comp=Z,38nm,2.2s
WMQ Urumqi 59.70 323 P **P** **15 12 49.3 +0.5**
WMQ pP **pP** **15 12 59.3 -1.0**
WMQ sP **sP** **15 13 03.3 -1.5**
WMQ PcP **PcP** **15 13 35.3 -0.1**
WMQ S **S** **15 20 56.0 -1.0**
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,150nm,6.0s
WMQ LR LR
comp=N,290nm,22.4s
WMQ LR LR
comp=E,120nm,21.5s
BOD Bodaibo 60.02 348 *e*P **P** **15 12 50.0 -0.5**
BOD pmax pmax
comp=Z,16nm,1.7s
YAK Yakutsk 62.36 358 *e*P **P** **15 13 05.3 -1.0**
YAK *e**PP **pP** **15 13 14.2 -3.7**
YAK *e* 15 13 42.7
YAK *e* 15 15 26.2
YAK *e*S **S** **15 21 30.3 +0.4**
YAK *e**SS **sS** **15 21 48.7 -0.4**
YAK *e* 15 22 50.3
YAK pmax pmax
comp=Z,11nm,1.2s
YAK pmax pmax
comp=E,1.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=Z,91nm,3.2s
YAK pmax pmax
comp=N,28nm,3.2s
YAK pmax pmax
comp=E,43nm,4.3s
YAK smax smax
comp=N,55nm,3.7s
YAK smax smax
comp=E,89nm,4.0s
YAK MLR MLR
comp=Z,265nm,20.0s
YAK MLR MLR
comp=E,88nm,15.0s
YAK MLR MLR
comp=N,240nm,20.0s
YAK Yakutsk 62.36 358 P **P** **15 13 05.5 -0.8**
comp=N,14nm,0.8s
MK31 Makanchi Array 64.52 324 *e*P **P** **15 13 20.8 -0.1**
MK31 Makanchi Array 64.52 324 *e*P **P** **15 13 20.8 -0.1**
MKAR Makanchi Array 64.52 324 P **P** **15 13 21.1 +0.1**
comp=N,2.1nm,0.5s,baz=109,slow=8.7,SNR=41
MKAR LR LR 15 45 04.5
comp=N,137nm,18.6s,baz=352,slow=40
MKAR Makanchi Array 64.52 324*c* *e*P **P** **15 13 21.1 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 64.52 324 P **P** **15 13 21.1 +0.1**
KSH Kashi 65.36 314 *e*P **P** **15 13 28.3 +1.6**
KSH *ep*P **pP** **15 13 38.1 -0.2**
KSH *es*P **sP** **15 13 42.1 -0.7**
KSH *e*PcP **PcP** **15 14 00.0 +1.4**
KSH *e*PP **PP** **15 15 53.1 +2.3**
KSH *e*ScP 15 17 59.1
KSH *e*PcS 15 18 03.3
KSH *e*S **S** **15 22 06.2 -2.1**
KSH *e*ScS **SKSac** **15 23 16.2 -3.0**
KSH *e*SS **SS** **15 26 21.3 -0.7**
KSH pmax pmax
comp=Z,28nm,1.5s
KSH LR LR
comp=N,120nm,4.7s
KSH LR LR
comp=E,130nm,5.3s
KSH LR LR
comp=Z,170nm,5.7s
TKM2 Tokmak 2 66.96 318 P **P** **15 13 37.0 0.0**
TKM2 pmax pmax
comp=Z,37nm,1.9s
TKM2 Tokmak 2 66.96 318 P **P** **15 13 37.0 0.0**
comp=Z,37nm,1.9s
ZAA0 Zalesovo Array 67.14 331 *e*P **P** **15 13 36.0 -1.6**
ZALV Zalesovo Beam 67.14 331 P **P** **15 13 36.8 -0.8**
comp=Z,1.6nm,0.6s,baz=124,slow=7.1,SNR=10
ZALV LR LR 15 44 48.8
comp=Z,136nm,19.8s,baz=250,slow=38
ZALV Zalesovo Beam 67.14 331 P **P** **15 13 36.8 -0.8**
ZALV Zalesovo Beam 67.14 331 P **P** **15 13 36.8 -0.8**
AAK Ala-Archa 67.59 317⇑ *e*P **P** **15 13 41.2 +0.2**
AAK pmax pmax
comp=Z,36nm,2.2s
AAK Ala-Archa 67.59 317 *e*P **P** **15 13 41.2 +0.2**
comp=Z,10nm,0.6s
NVS Novosibirsk 68.41 332⇑ *i*P **P** **15 13 43.7 -1.9**
NVS *e* 15 16 11.5
NVS pmax pmax
comp=Z,37nm,2.0s
NVS pmax pmax
comp=N,18nm,2.4s
NVS pmax pmax
comp=E,12nm,2.0s
KURK Kurchatov 68.59 326 P **P** **15 13 46.4 -0.4**
comp=E,4.4nm,0.9s,baz=122,slow=5.6,SNR=25
KURK Kurchatov 68.59 326*c i*P **P** **15 13 46.5 -0.3**
KURK pmax pmax
comp=Z,42nm,2.1s
KURK Kurchatov 68.59 326 *e*P **P** **15 13 46.3 -0.5**
comp=Z,37nm,1.5s
KURK P pP 15 13 46.4 -12
KURK Kurchatov 68.59 326 P **P** **15 13 46.8 0.0**
comp=Z,66nm,1.5s,SNR=11
KBL Kabul 68.95 307 *e*P **P** **15 13 48.8 -0.9**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 68.95 307 *e*P **P** **15 13 48.8 -0.9**
comp=Z,6.3nm,0.8s
KK31 Karatay Array 70.49 316 *i* P **P** **15 13 58.4 -0.4**
KKAR Karatay Array 70.49 316 *e*P **P** **15 13 58.4 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 70.49 316 *e*P **P** **15 13 58.4 -0.4**
comp=Z,4.1nm,0.9s
BVA0 Borovoye Array 74.19 326 *i* P **P** **15 14 20.0 -0.6**
BVA0 pmax pmax
comp=Z,6.0nm,1.3s
BVAR Borovoye Array 74.19 326 P **P** **15 14 20.5 -0.1**
comp=Z,4.3nm,0.8s,baz=111,slow=8.1,SNR=31
BVAR Borovoye Array 74.19 326 P **P** **15 14 20.5 -0.1**
BVAR Borovoye Array 74.19 326 P **P** **15 14 20.5 -0.1**
BRVK Borovoye 74.26 326*c i*P **P** **15 14 21.0 0.0**
BRVK pmax pmax
comp=Z,27nm,2.0s
BRVK Borovoye 74.26 326 *e*P **P** **15 14 21.0 0.0**
comp=Z,14nm,1.0s
BRVK Borovoye 74.26 326 P **P** **15 14 21.0 0.0**
comp=Z,72nm,1.0s,SNR=6.5
IDAH Dahanechah 76.02 304 *e*P **P** **15 14 30.6 -1.3**
IMYA Miami 76.47 307 *e*P **P** **15 14 35.0 +0.7**
ISRO Mashad 76.97 307 *e*P **P** **15 14 37.1 +0.1**
IKRD Kardeh 77.81 308 *e*P P 15 14 38.2 -3.7
PPT2 Papeete2 77.95 108 *e*S **S** **15 24 32.3 -1.8**
comp=Z,218nm,24.8s
PPT2 *e*LQ LQ 15 35 38.3
comp=Z,843nm,36.5s
PPT2 *e*LR LR 15 39 03.6
comp=Z,134nm,21.5s
TBI Tubuai 78.46 114 *e*LR LR 15 39 12.6
comp=Z,148nm,26.8s
VNDA Vanda 78.58 174 *e*P **P** **15 14 45.8 +0.8**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 78.58 174 *e*P **P** **15 14 45.8 +0.8**
comp=Z,6.2nm,1.0s
AB31 Akbulak array 79.28 320 *i* P **P** **15 14 48.1 -1.3**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 79.28 320 *e*P **P** **15 14 49.1 -0.3**
comp=Z,4.7nm,0.8s
SVE Sverdlovsk 80.74 328 *e*P **P** **15 14 57.4 +0.3**
SVE pmax pmax
comp=Z,34nm,1.8s
AKTO Aktyubinsk 80.76 321 P **P** **15 14 56.8 -0.5**
comp=Z,3.6nm,1.0s,baz=114,slow=4.9,SNR=9.5
AKTO Aktyubinsk 80.76 321 P **P** **15 14 56.8 -0.5**
AKTO Aktyubinsk 80.76 321 P **P** **15 14 56.8 -0.5**
ARU Arti 81.76 327*c i*P **P** **15 15 02.2 -0.3**
ARU 15 18 06.4
ARU S **S** **15 25 12.7 +0.1**
ARU SS **SS** **15 30 30.9 -0.1**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 81.76 327 *e*P **P** **15 15 01.8 -0.8**
comp=Z,12nm,1.1s
ILAS Lasjerd 82.07 306 *e*P **P** **15 15 03.7 -1.3**
MAW Mawson 82.07 201 P **P** **15 15 03.8 -0.1**
comp=Z,3.9nm,0.9s,baz=74,slow=7.4,SNR=3.8
MAW LR LR 15 47 27.7
comp=Z,229nm,18.9s,baz=75,slow=33
MAW Mawson 82.07 201 P **P** **15 15 03.8 -0.1**
MAW Mawson 82.07 201 P **P** **15 15 03.8 -0.1**
IDMV Damavand 82.84 306 *e*P **P** **15 15 07.4 -1.7**
IKLH Kolahrood 83.00 303 *e*P **P** **15 15 08.7 -1.2**
MCK McKinley 85.15 26 *e*P **P** **15 15 19.4 -0.5**
MCK pmax pmax
comp=Z,34nm,1.3s
MCK McKinley 85.15 26 *e*P **P** **15 15 19.4 -0.5**
comp=Z,34nm,1.3s
COLD Coldfoot 85.34 22 *e*P **P** **15 15 22.3 +1.6**
ILAR Eielson Array 86.22 25 P **P** **15 15 23.3 -1.8**
comp=Z,2.3nm,1.0s,baz=266,slow=4.9,SNR=11
ILAR LR LR 15 48 07.3
comp=Z,125nm,20.9s,baz=306,slow=32
ILAR Eielson Array 86.22 25 P **P** **15 15 23.3 -1.8**
ILAR Eielson Array 86.22 25 P **P** **15 15 23.3 -1.8**
IKOM Komasi 86.44 304 *e*P **P** **15 15 24.2 -2.9**
ISRB Sarab 86.51 308 *e*P **P** **15 15 27.8 +0.4**
IHRS Heris 87.03 308 *e*P **P** **15 15 29.3 -0.7**
IGHG Ghaleghazi 87.23 304 *e*P **P** **15 15 29.3 -1.7**
QSPA South Pole Qui 89.49 180 *e*P **P** **15 15 40.9 +0.1**
comp=Z,9.6nm,1.1s
INK Inuvik 91.73 22 LR LR 15 53 31.0
comp=Z,103nm,19.0s,baz=309,slow=33
SPITS Spitsbergen Ar 95.72 349 LR LR 15 59 42.6
comp=Z,247nm,18.8s,baz=45,slow=36
ARCES ARCESS Array B 96.46 340 LR LR 16 02 33.1
comp=Z,355nm,18.6s,baz=64,slow=37
FINES FINESS Array B 98.39 332 LR LR 16 04 02.1
comp=Z,269nm,18.1s,baz=309,slow=37
AKASG Malin Array Be 99.00 321 LR LR 16 06 17.6
comp=Z,118nm,19.9s,baz=40,slow=39
YKA Yellowknife Ar 100.62 26 P **Pdif** **15 16 32.4 +0.8**
comp=Z,0.4nm,0.9s,baz=291,slow=5.3,SNR=4.4
YKA Yellowknife Ar 100.62 26 P **Pdif** **15 16 32.4 +0.8**
YKA Yellowknife Ar 100.62 26 P **Pdif** **15 16 32.4 +0.8**
TXAR Lajitas Array 118.99 56 PKP **PKPdf** **15 21 32.5 -0.8**
comp=Z,0.1nm,0.5s,baz=241,slow=2.8,SNR=3.0
TXAR Lajitas Array 118.99 56 PKIKP **PKPdf** **15 21 32.5 -0.8**
TXAR Lajitas Array 118.99 56 PKP **PKPdf** **15 21 32.5 -0.8**
TORD Torodi Ar. Bea 130.07 287 PKhKP PKPpre 15 21 48.7
comp=Z,0.1nm,0.5s,baz=55,slow=1.4,SNR=2.5
TORD PKP **PKPdf** **15 21 54.9 +0.2**
comp=Z,1.1nm,1.0s,baz=51,slow=1.9,SNR=5.5
TORD Torodi Ar. Bea 130.07 287 PKPpre PKPpre 15 21 48.7
TORD PKP **PKPdf** **15 21 54.9 +0.2**

LVC	**Limon Verde**	**148.74**	**139**	*e*PKPbc	**PKPbc**	**15 22 34.0**	**+1.6**
CPUP	**Villa Florida**	**151.60**	**160**	PKPbc	**PKPbc**	**15 22 39.5**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=207,slow=1.9,SNR=11						
CPUP	**Villa Florida**	**151.60**	**160**	PKIKP	**PKPbc**	**15 22 39.5**	**+0.7**
CPUP	**Villa Florida**	**151.60**	**160**	PKPbc	**PKPbc**	**15 22 39.5**	**+0.7**
ROSC	**El Rosal**	**152.44**	**80**	PKPbc	**PKPbc**	**15 22 42.5**	**+0.9**
	comp=Z,7.0nm,0.4s,baz=310,slow=7.9,SNR=3.4						
ROSC	**El Rosal**	**152.44**	**80**	PKPbc	**PKPbc**	**15 22 42.5**	**+0.9**
LPAZ	**La Paz**	**153.39**	**130**	PKP	**PKPdf**	**15 22 37.5**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=265,slow=3.6,SNR=4.1						
LPAZ				PKPbc	**PKPbc**	**15 22 45.0**	**+1.1**
	comp=Z,2.2nm,1.1s,baz=155,slow=1.6,SNR=6.3						
LPAZ	**La Paz**	**153.39**	**130**	PKIKP	**PKPdf**	**15 22 37.5**	**+1.2**
LPAZ				*e*		15 22 37.7	
LPAZ						15 22 45.0	
LPAZ	**La Paz**	**153.39**	**130**	PKP	**PKPdf**	**15 22 37.5**	**+1.2**
LPAZ				*e*PKPdf	**PKPdf**	**15 22 37.7**	**+1.4**
LPAZ				PKPbc	**PKPbc**	**15 22 45.0**	**+1.1**

*IDC **07** 15:05:08.7±4.4,26˙02N×105˙76E,h0km,mb3.3/6, mb1 3.4/6,mb1mx3.3/26,mbtmp3.3/6, Error ellipse: s-maj=91.2km s-min=54.1km az=10.0*

*ISCJB **07** 15:05:14.4±1.0,26˙3N±0˙1×105˙39E±0˙10,h33km, mb3.2/6,Error ellipse: s-maj=20.4km s-min=8.8km az=151.1*

ISC 07 15:05:15.9±1.3,26˙2N±0˙2×105˙39E±0˙09,h35km,n8, σ1§75/10,mb3.3/6,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.18**	**76**	Pg	**Pn**	**15 05 34.3**	**-1.7**
GYA				Sg	**Sn**	**15 05 54.1**	**+3.2**
GYA				smax	smax		
	comp=N,460nm,0.7s						
GYA				smax	smax		
	comp=E,240nm,0.7s						
KMI	**Kunming**	**2.61**	**247**	Pg	**Pn**	**15 05 56.0**	**+0.2**
KMI				Sg	**Sn**	**15 06 26.4**	**0.0**
KMI				smax	smax		
	comp=N,37nm,0.9s						
KMI				smax	smax		
	comp=E,30nm,0.8s						
SONM	**Songino Array**	**21.64**	**2**	P	**P**	**15 10 03.4**	**+0.2**
	comp=E,0.3nm,0.7s,baz=185,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**27.54**	**324**	P	**P**	**15 11 00.8**	**+1.4**
	comp=E,0.2nm,0.7s,baz=125,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**31.66**	**337**	P	**P**	**15 11 34.5**	**-1.2**
	comp=E,0.3nm,0.3s,baz=131,slow=10,SNR=3.8						
KURK	**Kurchatov**	**31.93**	**327**	P	**P**	**15 11 37.5**	**-0.6**
	comp=E,0.2nm,0.5s,baz=129,slow=10.0,SNR=5.3						
AKTO	**Aktyubinsk**	**43.41**	**317**	P	**P**	**15 13 16.6**	**+1.5**
	comp=E,0.4nm,0.6s,baz=98,slow=5.9,SNR=4.1						
YKA	**Yellowknife Ar**	**86.05**	**17**	P	**P**	**15 17 51.1**	**-1.5**
	comp=E,0.1nm,0.3s,baz=329,slow=5.8,SNR=2.7						

IDC 07 15:24:48.4±2.9,0˙36S×133˙30E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.2/17,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=141.5km s-min=29.2km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.48**	**177**	P	P	15 29 17.3	+0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**23.17**	**179**	P	P	15 29 56.9	0.0
	0.3nm,0.3s,baz=358,slow=10,SNR=15						
MKAR	**Makanchi Array**	**64.68**	**324**	P	P	15 35 28.2	-0.1
	0.2nm,0.7s,baz=99,slow=7.5,SNR=2.9						

*ISCJB **07** 15:26:19.0±0.7,14˙67S±0˙07×167˙3E±0˙1,h129km, mb4.1/13,Error ellipse: s-maj=16.3km s-min=9.1km az=172.8*

*IDC **07** 15:26:21.4±4.0,14˙78S×167˙28E,h139km±34km, mb3.8/13,mb1 3.9/14,mb1mx3.7/23,mbtmp3.8/14,MS3.3/1, Ms1 3.3/1,ms1mx2.8/31,Error ellipse: s-maj=25.6km s-min=18.0km az=33.0*

ISC 07 15:26:20.0±0.7,14˙65S±0˙08×167˙4E±0˙1,h129km,n27, σ1§24/30,mb4.0/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.44**	**187**	P	**Pn**	**15 28 06.8**	**+0.9**
	3.0nm,0.3s,baz=351,slow=13,SNR=24						
DZM				S	**Sn**	**15 29 29.1**	**+0.2**
	baz=52,slow=15,SNR=2.2						
EIDS	**Eidsvold**	**18.63**	**233**	*e*P	**Pn**	**15 30 30.4**	**+0.8**
	51nm,0.5s						
PMG	**Port Moresby**	**20.43**	**282**	P	**P**	**15 30 46.0**	**-1.4**
	9.1nm,0.9s,baz=104,slow=8.3,SNR=3.4						
CTA	**Charters Tower**	**20.86**	**252**	P	**P**	**15 30 50.1**	**-1.7**
	8.3nm,0.9s,baz=73,slow=14,SNR=3.4						
CTA				LR	LR	15 37 31.1	
	comp=Z,83nm,18.7s,baz=54,slow=32						
RMQ	**Roma**	**21.00**	**233**	*e*P	**P**	**15 30 57.2**	**+3.9**
	9.3nm,0.5s						
URZ	**Urewera**	**25.05**	**162**	P	**P**	**15 31 31.6**	**-0.6**
	4.7nm,0.8s,baz=274,slow=7.1,SNR=3.8						
CMSA	**Cobar Meteorol**	**26.00**	**226**	*e*P	**P**	**15 31 41.7**	**+0.8**
	22nm,0.7s						
STKA	**Stephens Creek**	**29.12**	**229**	P	**P**	**15 32 07.9**	**-0.9**
	6.5nm,0.7s,baz=55,slow=6.9,SNR=11						
STKA				PcP	**PcP**	**15 35 13.5**	**-0.1**
	2.8nm,0.6s,baz=62,slow=3.8,SNR=6.4						
STKA	**Stephens Creek**	**29.12**	**229**	*e*P	**P**	**15 32 10.0**	**+1.2**
	5.7nm,0.8s						
RPZ	**Rata Peaks**	**29.14**	**175**	P	**P**	**15 32 07.4**	**-1.5**
	7.0nm,0.8s,baz=34,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**31.94**	**256**	P	**P**	**15 32 31.9**	**-1.9**
	0.6nm,0.4s,baz=81,slow=6.7,SNR=17						
ASAR	**Alice Springs**	**32.79**	**249**	P	**P**	**15 32 40.2**	**-1.0**
	1.4nm,0.4s,baz=79,slow=9.3,SNR=66						
ASAR				PcP	**PcP**	**15 35 23.2**	**-0.3**
	0.9nm,0.8s,baz=91,slow=1.9,SNR=7.2						
BBOO	**Buckleboo**	**33.70**	**232**	*e*P	**P**	**15 32 49.6**	**+0.6**
	47nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.12**	**259**	P	**P**	**15 33 43.8**	**+0.4**
	2.8nm,0.5s,baz=84,slow=10,SNR=7.4						
CMAR	**Chiang Mai Arr**	**75.00**	**294**	P	**P**	**15 37 49.5**	**+1.7**
	0.3nm,0.3s,baz=136,slow=4.9,SNR=6.7						
SONM	**Songino Array**	**82.49**	**324**	P	**P**	**15 38 30.0**	**+1.7**
	0.8nm,1.1s,baz=111,slow=3.3,SNR=4.4						
ILAR	**Eielson Array**	**86.42**	**18**	P	**P**	**15 38 47.4**	**-0.1**
	0.4nm,0.5s,baz=238,slow=5.4,SNR=6.7						
SNAA	**Sanae**	**93.64**	**183**	*e*	**P**	**15 39 21.3**	**-0.2**
VNA2	**Neumayer--Watz**	**94.56**	**182**	*e*	**P**	**15 39 25.3**	**-0.4**
MKAR	**Makanchi Array**	**97.21**	**316**	P	Pdif	15 39 38.9	+0.7
	0.5nm,0.7s,baz=92,slow=6.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**97.38**	**324**	P	**P**	**15 39 38.5**	**-0.1**
	0.2nm,0.4s,baz=98,slow=4.5,SNR=3.9						
ARCES	**ARCESS Array B**	**120.20**	**345**	PKP	**PKPdf**	**15 44 54.8**	**-0.4**
	5.9nm,0.9s,baz=57,slow=3.3,SNR=7.7						
FINES	**FINESS Array B**	**125.68**	**338**	PKP	**PKPdf**	**15 45 06.1**	**+0.3**
	5.0nm,1.0s,baz=63,slow=2.0,SNR=5.7						
NOA	**NORSAR Array B**	**130.57**	**345**	SKPbc	**SKPab**	**15 48 28.8**	**+1.5**
	2.2nm,0.7s,baz=28,slow=3.3,SNR=5.6						
BRTR	**Keskin Array B**	**132.53**	**311**	PKP	**PKPdf**	**15 45 19.4**	**-0.4**
	0.3nm,0.5s,baz=80,slow=4.6,SNR=3.2						
KEST	**Kesra**	**151.21**	**321**	PKPbc	**PKPbc**	**15 45 58.5**	**-0.2**
	1.0nm,0.6s,baz=70,slow=6.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**166.01**	**266**	PKP	**PKPdf**	**15 46 09.6**	**-1.1**
	0.2nm,0.5s,baz=123,slow=1.9,SNR=3.2						
TORD				PKPab	**PKPab**	**15 47 11.4**	**-0.1**
	1.2nm,0.8s,baz=106,slow=2.9,SNR=9.2						

*IGQ **07** 15:35:23.9,2˙57S×78˙39W,h117km±14km,Mb4.7,Ms4.6, Error ellipse: s-maj=3.4km s-min=1.8km az=3.8*

*ISCJB **07** 15:35:24.1±0.3,2˙59S±0˙03×78˙22W±0˙06,h117km±2km, mb4.4/51,Error ellipse: s-maj=9.9km s-min=4.7km az=175.0*

*NEIC **07** 15:35:25.2±0.3,2˙50S×78˙02W,mb4.5/16,MD4.8(IGQ), Error ellipse: s-maj=10.7km s-min=5.5km az=66.0*

*IDC **07** 15:35:25.1±0.6,2˙57S×78˙16W,h116km±6km,mb3.8/17, mb1 4.1/21,mb1mx4.0/24,mbtmp3.9/21,MS2.9/1, Ms1 2.9/1,ms1mx2.6/30,Error ellipse: s-maj=17.3km s-min=8.8km az=70.0*

ISC 07 15:35:24.7±0.5,2˙57S±0˙03×78˙20W±0˙07,h111km±4km, h105km:pP-P,n176,σ1§04/188,mb4.5/51,21C-35D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**1.08**	**347**	⇓P	**Pn**	**15 35 46.7**	**-0.8**
ARRY	**Arrayan**	**1.09**	**346**	⇓P	**Pn**	**15 35 46.3**	**-1.1**
BMAS	**Trigal station**	**1.10**	**345**	⇓P	**Pn**	**15 35 46.5**	**-0.9**
ULBA	**Ulba**	**1.13**	**349**	⇓P	**Pn**	**15 35 47.3**	**-0.6**
RETU	**Refugio**	**1.14**	**347**	⇓P	**Pn**	**15 35 47.4**	**-0.7**
BULB	**Ulba Tungurahu**	**1.15**	**349**	⇓S	**Sn**	**15 36 04.6**	**-0.9**
BULB	**Ulba Tungurahu**	**1.15**	**349**	⇓P	**Pn**	**15 35 48.2**	**+0.2**
BIL2	**Estacion Bilba**	**1.15**	**344**	⇓S	**Sn**	**15 36 05.4**	**0.0**
BIL2	**Estacion Bilba**	**1.15**	**344**	⇓P	**Pn**	**15 35 47.4**	**-0.6**
BBIL	**Ulba Tungurahu**	**1.15**	**345**	⇓P	**Pn**	**15 35 47.2**	**-0.8**
IGUA	**Igualata**	**1.16**	**338**	⇓P	**Pn**	**15 35 47.5**	**-0.8**
BRUN	**Tungurahua Vol**	**1.16**	**349**	⇓S	**Sn**	**15 36 04.7**	**-1.0**
BRUN	**Tungurahua Vol**	**1.16**	**349**	⇓S	**Sn**	**15 36 04.3**	**-1.4**
BRUN	**Tungurahua Vol**	**1.16**	**349**	⇓P	**Pn**	**15 35 47.5**	**-0.7**
BRUN				⇓P		15 35 47.6	
RUN5	**Runtun**	**1.17**	**349**	⇓P	**Pn**	**15 35 47.5**	**-0.7**
JUI6	**Juive**	**1.17**	**346**	⇓P	**Pn**	**15 35 47.4**	**-0.8**
YANT	**Yantaza**	**1.40**	**204**	⇑P	**Pn**	**15 35 50.2**	**-0.3**
PISA	**Pisayambo**	**1.51**	**353**	⇑P	**Pn**	**15 35 52.1**	**-0.2**
CATE	**Catamayo**	**1.81**	**220**	⇑P	**Pn**	**15 35 55.0**	**-0.6**
BMOR	**Cotopaxi Volca**	**1.85**	**352**	⇓S	**Sn**	**15 36 22.4**	**+2.0**
BMOR	**Cotopaxi Volca**	**1.85**	**352**	⇓P	**Pn**	**15 35 56.7**	**+0.3**
MOV1	**Cotopaxi Vol s**	**1.86**	**352**	⇓P	**Pn**	**15 35 56.8**	**+0.1**
COV1	**Cotopaxi Volc**	**1.90**	**356**	⇓P	**Pn**	**15 35 57.8**	**+0.6**
BREF	**Cotopaxi Volca**	**1.90**	**353**	⇓S	**Sn**	**15 36 23.5**	**+1.6**
BREF	**Cotopaxi Volca**	**1.90**	**353**	⇓P	**Pn**	**15 35 57.8**	**+0.6**
BVC2	**Cotopaxi Volca**	**1.91**	**353**	⇓P	**Pn**	**15 35 57.8**	**+0.5**
VC1	**Cotopaxi 1**	**1.93**	**354**	⇓P	**Pn**	**15 35 58.0**	**+0.6**
NAS2	**Nasa**	**1.93**	**352**	⇓P	**Pn**	**15 35 58.0**	**+0.6**
PITA	**Cotopaxi Volc**	**2.01**	**353**	⇓P	**Pn**	**15 35 59.0**	**+0.6**
ANTI	**Antisana**	**2.11**	**1**	⇑P	**Pn**	**15 35 60.0**	**+0.2**
GGP	**Refugio Guagua**	**2.41**	**350**	⇑P	**Pn**	**15 36 04.0**	**+0.4**
TERV	**Terraza Guagua**	**2.42**	**350**	⇓P	**Pn**	**15 36 03.9**	**+0.2**
PINO	**Pino**	**2.43**	**350**	⇑P	**Pn**	**15 36 03.8**	**-0.2**
YANA	**Yana**	**2.46**	**351**	⇓P	**Pn**	**15 36 04.2**	**0.0**
CHAR	**Charly**	**2.52**	**12**	⇑P	**Pn**	**15 36 04.8**	**-0.1**
LAV4	**Lava4-Reventad**	**2.53**	**13**	⇑P	**Pn**	**15 36 04.5**	**-0.4**
PECV	**Mancha de Ca P**	**2.57**	**314**	⇓P	**Pn**	**15 36 06.1**	**+0.9**
CAYR	**Refugio Cayamb**	**2.58**	**4**	⇑P	**Pn**	**15 36 07.2**	**+1.4**
CAYA	**Cayambe**	**2.63**	**4**	⇑P	**Pn**	**15 36 07.7**	**+1.2**
OTAV	**Otavalo**	**2.80**	**355**	*e*P	**Pn**	**15 36 08.0**	**-0.6**
OTAV	**Otavalo**	**2.80**	**355**	⇓S	**Sn**	**15 36 41.5**	**-0.8**
OTAV	**Otavalo**	**2.80**	**355**	⇓P	**Pn**	**15 36 08.5**	**-0.1**
COTA	**Cotacachi**	**2.89**	**357**	⇓P	**Pn**	**15 36 11.5**	**+1.6**
GOLV	**Golondrinas**	**2.92**	**341**	⇓P	**Pn**	**15 36 08.8**	**-1.0**
CHIS	**Cerro-Chispas-**	**2.95**	**301**	⇓P	Pn	15 36 06.9	-3.2
JAMA	**Jama**	**3.05**	**319**	S	Sn	15 36 41.5	-6.1
JAMA	**Jama**	**3.05**	**319**	P	**Pn**	**15 36 08.8**	**-2.8**
ATAH	**Atahualpa**	**4.54**	**183**	P	**Pn**	**15 36 33.5**	**+1.8**
	41nm,0.3s,baz=15,slow=12,SNR=105						
ATAH				S	**Sn**	**15 37 23.0**	**-0.8**
	62nm,0.3s,baz=90,slow=20,SNR=16						
ATAH				LR	LR	15 37 46.6	
	comp=Z,136nm,18.2s,baz=1.1,slow=31						
ATAH	**Atahualpa**	**4.54**	**183**	P	**Pn**	**15 36 33.5**	**+1.8**
ATAH				S	**Sn**	**15 37 23.0**	**-0.8**
ROSC	**El Rosal**	**8.33**	**28**	P	**Pn**	**15 37 23.2**	**+0.2**
	3.6nm,0.3s,baz=281,slow=16,SNR=4.9						
ROSC	**El Rosal**	**8.33**	**28**	P	**Pn**	**15 37 23.2**	**+0.2**
NNA	**Nana**	**9.45**	**172**	P	**Pn**	**15 37 38.6**	**+0.6**
	26nm,0.3s,baz=336,slow=12,SNR=33						
NNA				S	Sn	15 39 14.1	-8.5
	8.0nm,0.3s,baz=300,slow=20,SNR=3.2						
NNA	**Nana**	**9.45**	**172**	*e*P	**Pn**	**15 37 37.3**	**-0.7**
	85nm,0.4s						
NNA				S	Sn	15 39 14.1	-8.5
SDV	**Santo Domingo**	**13.65**	**33**	*e*P	**Pn**	**15 38 31.6**	**-2.4**
	26nm,0.8s						
JTS	**JuntasAbangare**	**14.44**	**332**	P	Pn	**15 38 45.2**	**+1.2**
	0.4nm,0.3s,baz=129,slow=6.0,SNR=13						
JTS	**JuntasAbangare**	**14.44**	**332**	*e*P	**Pn**	**15 38 45.3**	**+1.2**
	34nm,1.0s						
SAML	**Samuel**	**16.22**	**114**	*e*P	**Pn**	**15 39 03.0**	**-3.3**
	0.2nm,0.1s						
LPAZ	**La Paz**	**16.85**	**145**	P	**Pn**	**15 39 12.1**	**-2.5**
	0.5nm,0.3s,baz=321,slow=9.9,SNR=13						
LPAZ	**La Paz**	**16.85**	**145**	*e*P	**Pn**	**15 39 11.7**	**-2.9**
	36nm,0.9s						
SIV	**San Ignacio**	**21.50**	**129**	P	**P**	**15 40 05.1**	**+0.2**
	12nm,0.8s,baz=315,slow=11,SNR=29						
SIV	**San Ignacio**	**21.50**	**129**	P	**P**	**15 40 05.1**	**+0.2**
LVC	**Limon Verde**	**21.87**	**156**	*e*P	**P**	**15 40 10.6**	**+1.6**
	45nm,0.7s						
CMIG	**Matias Romero**	**25.55**	**320**	P	**P**	**15 40 42.7**	**-0.8**
	9.2nm,0.8s,baz=110,slow=6.0,SNR=11						
CMIG	**Matias Romero**	**25.55**	**320**	P	**P**	**15 40 42.7**	**-0.8**
CPUP	**Villa Florida**	**30.98**	**142**	P	**P**	**15 41 31.8**	**+0.2**
	0.7nm,0.6s,baz=337,slow=8.1,SNR=4.2						
CPUP	**Villa Florida**	**30.98**	**142**	P	**P**	**15 41 31.8**	**+0.2**
PLCA	**Paso Flores**	**38.61**	**171**	P	**P**	**15 42 38.0**	**+0.7**
	3.8nm,0.9s,baz=339,slow=8.3,SNR=4.1						
PLCA	**Paso Flores**	**38.61**	**171**	P	**P**	**15 42 38.0**	**+0.7**
JCT	**Junction City**	**38.80**	**330**	*e*P	**P**	**15 42 39.9**	**+1.0**
	5.5nm,0.8s						
TXAR	**Lajitas Array**	**40.02**	**324**	P	**P**	**15 42 49.3**	**+0.2**
	0.7nm,0.6s,baz=145,slow=8.4,SNR=8.0						
TXAR	**Lajitas Array**	**40.02**	**324**	P	**P**	**15 42 49.3**	**+0.2**
WMOK	**Wichita Mounta**	**41.85**	**334**	*e*P	**P**	**15 43 03.2**	**-0.7**
	6.3nm,1.0s						
RCBR	**Riachuelo**	**42.29**	**96**	P	**P**	**15 43 07.9**	**0.0**
	7.5nm,0.8s,baz=232,slow=19,SNR=4.8						
RCBR	**Riachuelo**	**42.29**	**96**	P	**P**	**15 43 07.9**	**0.0**
ANMO	**Albuquerque**	**45.78**	**327**	*e*P	**P**	**15 43 36.7**	**+1.0**
	2.5nm,0.8s						
SDCO	**Great Sand Dun**	**47.43**	**330**	*e*P	**P**	**15 43 49.9**	**+1.4**
	3.9nm,1.0s						
SDCO				*e*pP	**pP**	**15 44 16.6**	**+2.1**
MSNY	**Massena**	**47.45**	**3**	*e*P	**P**	**15 43 48.2**	**0.0**
	139nm,1.0s						
AGMN	**Agassiz Nation**	**52.95**	**345**	*e*P	**P**	**15 44 28.6**	**-1.1**
	3.6nm,0.7s						
PDAR	**Pinedale Array**	**53.27**	**331**	P	**P**	**15 44 32.3**	**-0.1**
	0.3nm,0.5s,baz=129,slow=12,SNR=4.1						
PDAR				pP	**pP**	**15 45 00.3**	**+1.4**
	1.3nm,0.9s,baz=139,slow=6.0,SNR=5.1						
PDAR	**Pinedale Array**	**53.27**	**331**	P	**P**	**15 44 32.3**	**-0.1**
PDAR				pP	**pP**	**15 45 00.3**	**+1.4**
HWUT	**Hardware Ranch**	**53.40**	**329**	P	**P**	**15 44 33.7**	**+0.4**
	6.5nm,0.8s						
HWUT				*e*pP	**pP**	**15 44 59.5**	**-0.4**
ULM	**Lac du Bonnet**	**54.77**	**346**	P	**P**	**15 44 41.4**	**-1.4**
	4.3nm,0.6s,baz=152,slow=7.7,SNR=8.7						
ULM				pP	**pP**	**15 45 11.0**	**+1.5**
	3.2nm,0.7s,baz=159,slow=7.9,SNR=3.4						
ULM	**Lac du Bonnet**	**54.77**	**346**	P	**P**	**15 44 41.4**	**-1.4**
ULM				pP	**pP**	**15 45 11.0**	**+1.5**
NVAR	**Mina Array Bea**	**55.07**	**322**	P	**P**	**15 44 46.9**	**+1.3**
	0.5nm,0.5s,baz=121,slow=6.0,SNR=6.9						
NVAR				pP	**pP**	**15 45 13.2**	**+1.0**
	1.3nm,0.8s,baz=149,slow=6.7,SNR=4.7						
NVAR	**Mina Array Bea**	**55.07**	**322**	P	**P**	**15 44 46.9**	**+1.3**
NVAR				pP	**pP**	**15 45 13.2**	**+1.0**
MFID	**Camas Ranch**	**56.91**	**328**	*e*P	**P**	**15 44 59.9**	**+1.5**
	1.6nm,0.6s						
MFID				*e*pP	**pP**	**15 45 27.5**	**+2.3**
WVOR	**Wild Horse Val**	**57.80**	**325**	P	**P**	**15 45 05.4**	**+0.7**
	2.7nm,0.7s						
SCHQ	**Schefferville**	**57.97**	**8**	P	**P**	**15 45 04.7**	**-0.9**
	3.9nm,0.6s,baz=208,slow=3.3,SNR=7.4						
SCHQ	**Schefferville**	**57.97**	**8**	P	**P**	**15 45 04.7**	**-0.9**
YKA	**Yellowknife Ar**	**70.50**	**343**	P	**P**	**15 46 26.4**	**-0.7**
	0.4nm,0.5s,baz=142,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**70.50**	**343**	P	**P**	**15 46 26.4**	**-0.7**
LIC	**Lamto**	**73.57**	**83**	*e*P	**P**	**15 46 46.2**	**-0.3**
	18nm,1.0s						
DBIC	**Dimbokro**	**73.78**	**82**	P	**P**	**15 46 46.6**	**-1.1**
	9.7nm,0.8s,baz=245,slow=4.2,SNR=15						
DBIC	**Dimbokro**	**73.78**	**82**	*e*P	**P**	**15 46 47.5**	**-0.2**
EVO	**Evora**	**76.23**	**49**	*e*P	**P**	**15 47 00.7**	**-0.6**
	11nm,0.6s						
SUMG	**Summit**	**79.11**	**11**	*e*P	**P**	**15 47 17.0**	**-0.1**
	12nm,0.8s						
SUMG	**Summit**	**79.11**	**11**	*i* P	**P**	**15 47 17.4**	**+0.3**
	11nm,0.8s						
ESDC	**Sonseca Array**	**79.56**	**49**	P	**P**	**15 47 18.9**	**-0.9**
	0.8nm,0.5s,baz=268,slow=5.4,SNR=7.2						
ESDC	**Sonseca Array**	**79.56**	**49**	P	**P**	**15 47 18.9**	**-0.9**
INK	**Inuvik**	**80.22**	**342**	*e*P	**P**	**15 47 23.1**	**+0.5**
	3.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.75**	**76**	P	**P**	**15 47 26.0**	**-0.6**
	2.1nm,0.6s,baz=274,slow=6.2,SNR=22						
TORD	**Torodi Ar. Bea**	**80.75**	**76**	P	**P**	**15 47 26.0**	**-0.6**

VNA2	**Neumayer--Watz**	**81.37**	**162**	*e*	pP	15 47 53.8	-3.4
ROSF	**Rostrenen**	**81.94**	**41**	*e*P	**P**	**15 47 32.3**	**+0.1**
SJPF	**Ste Jean**	**82.26**	**46**	⇑*i*P	**P**	**15 47 34.7**	**+0.7**
	26nm,0.8s						
SGMF	**Saint Gilles**	**82.39**	**41**	*e*P	**P**	**15 47 34.6**	**+0.1**
ETSF	**Etsaut**	**82.70**	**46**	⇑*i*P	**P**	**15 47 37.1**	**+0.7**
	8.2nm,0.7s						
SNAA	**Sanae**	**82.98**	**162**	*e*	pP	15 48 10.5	+4.7
ILAR	**Eielson Array**	**83.38**	**336**	P	**P**	**15 47 38.6**	**-0.7**
	0.6nm,0.8s,baz=120,slow=4.7,SNR=7.5						
ILAR				pP	**pP**	**15 48 08.6**	**+0.8**
	0.5nm,0.8s,baz=99,slow=3.9,SNR=3.3						
ILAR	**Eielson Array**	**83.38**	**336**	P	**P**	**15 47 38.6**	**-0.7**
ILAR				pP	**pP**	**15 48 08.6**	**+0.8**
EPF	**Esparros**	**83.38**	**46**	⇑*i*P	**P**	**15 47 40.6**	**+0.7**
	22nm,0.8s						
GRR	**Gorron**	**83.53**	**41**	⇑*i*P	**P**	**15 47 40.5**	**+0.1**
	17nm,0.8s						
MFF	**Saint Martin d**	**83.66**	**43**	⇑*i*P	**P**	**15 47 41.4**	**+0.3**
	34nm,0.7s						
FLN	**La Foliniere**	**83.84**	**41**	⇑*i*P	**P**	**15 47 42.3**	**+0.3**
	21nm,0.7s						
LDF	**La Druiniere**	**84.04**	**41**	⇑*i*P	**P**	**15 47 43.1**	**+0.1**
	11nm,0.6s						
RJF	**Les Rejaudoux**	**84.58**	**44**	⇑*i*P	**P**	**15 47 46.0**	**+0.1**
	22nm,0.8s						
MTLF	**Montolieu**	**84.78**	**46**	*e*P	**P**	**15 47 47.0**	**+0.1**
	27nm,0.9s						
CAF	**Calviac**	**84.91**	**45**	*e*P	**P**	**15 47 47.8**	**+0.2**
	15nm,0.8s						
TAM	**Tamanrasset**	**85.20**	**67**	*e*P	**P**	**15 47 51.0**	**+1.3**
	6.5nm,1.0s						
TCF	**Toulx Ste Croi**	**85.22**	**43**	⇑*i*P	**P**	**15 47 49.7**	**+0.7**
	22nm,0.8s						
BGF	**Bois d'Agland**	**85.69**	**43**	*e*P	**P**	**15 47 51.4**	**0.0**
	19nm,0.7s						
DAG	**Danmarks Havn**	**85.80**	**11**	*i* P	**P**	**15 47 51.2**	**0.0**
	36nm,0.8s						
AVF	**Avril sur Loir**	**86.07**	**43**	⇑*i*P	**P**	**15 47 53.7**	**+0.5**
	16nm,0.9s						
SSF	**Saint Saulge**	**86.21**	**43**	⇑*i*P	**P**	**15 47 55.2**	**+1.3**
	8.2nm,0.8s						
LOR	**Lormes**	**86.48**	**43**	*e*P	**P**	**15 47 55.7**	**+0.5**
	14nm,0.9s						
DOU	**Dourbes**	**87.33**	**40**	P	**P**	**15 47 59.8**	**+0.5**
	comp=Z,9.7nm,2.7s						
SFTF	**Sexfontaines**	**87.39**	**42**	*e*P	**P**	**15 48 00.4**	**+0.8**
QSPA	**South Pole Qui**	**87.50**	**180**	*e*P	**P**	**15 48 01.6**	**+1.7**
	comp=Z,9.3nm,1.1s						
WLF	**Walferdange**	**88.28**	**40**	P	**P**	**15 48 03.9**	**+0.2**
CDF	**Champ du Feu**	**88.89**	**42**	*e*P	**P**	**15 48 06.6**	**-0.2**
KEST	**Kesra**	**89.49**	**54**	P	**P**	**15 48 09.7**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=173,slow=19,SNR=5.3						
KEST	**Kesra**	**89.49**	**54**	P

TWG				*e*S		**Sn**	**15 53 01.1**	**-0.6**
	baz=324								
SCZT	**Fangliau**	**1.14 294**	⇑	P		**Pn**	**15 52 44.9**	**+0.2**
	baz=291								
SCZT				*e*S		**Sn**	**15 53 01.1**	**-1.4**
	baz=291								
SSD	**Sandimen**	**1.32 309**	⇑	P		**Pn**	**15 52 46.8**	**+0.2**
	baz=307								
SSD				*e*S		**Sn**	**15 53 04.3**	**-1.7**
	baz=307								
TWP	**Hsiaoliuchiu**	**1.35 289**		P		**Pn**	**15 52 48.6**	**+1.6**
	baz=286								
TWP				*e*S		**Sn**	**15 53 08.6**	**+2.0**
	baz=286								
SGLT	**Jiouru**	**1.42 305**		*e*P		**Pn**	**15 52 49.3**	**+1.6**
	baz=303								
ELDTW	**Lidau**	**1.43 332**		*e*P		**Pn**	**15 52 47.9**	**-0.1**
	baz=331								
KAU	**Kaohsiung**	**1.48 296**		*e*P		**Pn**	**15 52 49.7**	**+1.3**
	baz=294								
KAU				*e*S		**Sn**	**15 53 10.5**	**+1.3**
	baz=294								
TWM1	**Shoushan**	**1.52 307**		*e*P		**Pn**	**15 52 50.0**	**+1.1**
	baz=305								
STYT	**Tauyuan**	**1.54 324**		P		**Pn**	**15 52 49.6**	**+0.4**
	baz=322								
STYT				*e*S		**Sn**	**15 53 09.8**	**-0.7**
	baz=322								
SGST	**Jiashian**	**1.58 317**	⇑	P		**Pn**	**15 52 50.1**	**+0.5**
	baz=316								
SGST				*e*S		**Sn**	**15 53 11.2**	**-0.1**
	baz=316								
EHY	**Hungye**	**1.63 346**		P		**Pn**	**15 52 50.3**	**+0.2**
	baz=345								
EHY				*e*S		**Sn**	**15 53 11.3**	**-1.0**
	baz=345								
WTP	**Ta-pu**	**1.69 322**	⇑	P		**Pn**	**15 52 51.1**	**+0.2**
	baz=320								
WTP				*e*S		**Sn**	**15 53 12.6**	**-1.0**
	baz=320								
CHN1	**Nanshi**	**1.69 318**		P		**Pn**	**15 52 51.1**	**+0.2**
	baz=317								
CHN1				*e*S		**Sn**	**15 53 12.7**	**-1.0**
	baz=317								
CHN3	**Shinhua**	**1.72 312**		*e*P		**Pn**	**15 52 52.5**	**+1.2**
	baz=310								
YUS	**Yu-Shan**	**1.73 335**		*e*P		**Pn**	**15 52 53.5**	**+1.6**
	baz=334								
CHN4	**Tsaushan**	**1.78 323**	⇑	P		**Pn**	**15 52 52.2**	**+0.2**
	baz=322								
CHN4				*e*S		**Sn**	**15 53 14.7**	**-0.8**
	baz=322								
TAI1	**Yung-k'ang**	**1.80 309**		*e*P		**Pn**	**15 52 52.5**	**+0.4**
	baz=307								
TAI1				*e*S		**Sn**	**15 53 15.1**	**-0.7**
	baz=307								
SCLT	**Jiali**	**1.91 311**		*e*P		**Pn**	**15 52 53.9**	**+0.5**
	baz=310								
SCLT				*e*S		**Sn**	**15 53 17.6**	**-0.6**
	baz=310								
CHN5	**Tsauling**	**1.94 330**		*e*P		**Pn**	**15 52 54.0**	**0.0**
	baz=328								
CHN5				*e*S		**Sn**	**15 53 18.3**	**-0.9**
	baz=328								
CHY	**Chiayi**	**1.99 322**		*e*P		**Pn**	**15 52 54.5**	**0.0**
	baz=321								
CHN8	**Yiju**	**2.01 315**		*e*P		**Pn**	**15 52 54.7**	**-0.1**
	baz=314								
WGK	**Gukeng**	**2.07 328**		*e*P		**Pn**	**15 52 55.6**	**0.0**
	baz=327								
WGK				*e*S		**Sn**	**15 53 21.6**	**-0.3**
	baz=327								
SMLT	**Sun Moon Lake**	**2.11 338**		P		**Pn**	**15 52 56.4**	**+0.3**
	baz=337								
SMLT				*e*S		**Sn**	**15 53 23.3**	**+0.4**
	baz=337								
TYC	**Yuchr**	**2.14 338**		*e*P		**Pn**	**15 52 56.8**	**+0.4**
	baz=337								
TWD	**Chiawan**	**2.16 356**		*e*P		**Pn**	**15 52 57.0**	**+0.4**
	baz=356								
WNT	**Mingjian**	**2.18 333**		*e*P		**Pn**	**15 52 57.4**	**+0.5**
	baz=332								
WNT				*e*S		**Sn**	**15 53 23.9**	**-0.5**
	baz=332								
WSF	**Szhu**	**2.22 321**		*e*P		**Pn**	**15 52 57.0**	**-0.4**
	baz=319								
WHF	**Hehuan Shan**	**2.26 349**		*e*P		**Pn**	**15 52 59.3**	**+1.0**
	baz=348								
WHF				*e*S		**Sn**	**15 53 26.3**	**-0.5**
	baz=348								
WDGT	**Dungji**	**2.35 305**		*e*P		**Pn**	**15 52 58.3**	**-0.7**
	baz=303								
TWT	**Tachien**	**2.38 347**		*e*P		**Pn**	**15 53 01.1**	**+1.5**
	baz=346								
TWT				*e*S		**Sn**	**15 53 29.0**	**-0.2**
	baz=346								
ENA	**Nanau**	**2.50 360**		*e*P		**Pn**	**15 53 01.8**	**+0.8**
NNS	**Nan Shan**	**2.53 352**		*e*P		**Pn**	**15 53 03.0**	**+1.5**
	baz=352								
PNG	**Penghu**	**2.61 309**		*e*P		**Pn**	**15 53 01.5**	**-0.8**
	baz=308								
ENTT	**Nioudou**	**2.71 356**		*e*P		**Pn**	**15 53 05.0**	**+1.3**
	baz=356								
ENTT				*e*S		**Sn**	**15 53 37.1**	**+0.5**
	baz=356								
NSK	**Sanguang**	**2.77 353**		*e*P		**Pn**	**15 53 05.9**	**+1.3**
	baz=352								
NSK				*e*S		**Sn**	**15 53 38.0**	**+0.1**
	baz=352								
KNM	**Kinmen**	**3.94 310**		*e*P		**Pn**	**15 53 21.0**	**+1.2**
	baz=307								
MKAR	**Makanchi Array**	**40.34 318**		P		**P**	**15 59 48.2**	**+1.4**
	0.1nm,0.7s,baz=116,slow=6.6,SNR=3.0								
ZALV	**Zalesovo Beam**	**42.43 328**		P		**P**	**16 00 03.3**	**-0.4**
	0.2nm,0.4s,baz=130,slow=5.9,SNR=2.3								
WRA	**Warramunga Arr**	**43.39 163**		P		P	16 00 09.4	-2.3
	0.6nm,0.8s,baz=344,slow=8.8,SNR=6.3								
ASAR	**Alice Springs**	**46.83 165**		P		**P**	**16 00 37.6**	**-1.4**
	0.1nm,0.3s,baz=340,slow=6.6,SNR=12								

IDC 07 15:56:37.1±1.5,**56°.07S**×**28°.21W**,**h0**km,**mb4.2/3**, **mb1 4.1/3**,**mb1mx3.8**/12,**mbtmp4.1/3**,**Error ellipse: s-maj=88.3km s-min=44.7km az=108.0**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.17 160**		*e*P		P	16 00 45.3	+5.6
VNA2	**Neumayer--Watz**	**17.39 157**		*e*P		P	16 00 48.4	+6.2
	baz=317,slow=13							
SNAA	**Sanae**	**18.96 155**		*e*P		Pn	16 01 06.0	+5.9
DBIC	**Dimbokro**	**65.43 26**		P		P	16 07 21.7	+0.2
	1.6nm,0.7s,baz=147,slow=8.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**73.36 30**		P		P	16 08 10.7	+0.2
	2.3nm,0.6s,baz=200,slow=6.8,SNR=20							
ASAR	**Alice Springs**	**99.14 163**		P		Pdif	16 10 20.9	+0.7
	0.2nm,0.6s,baz=188,slow=4.9,SNR=4.5							
ILAR	**Eielson Array**	**149.70 312**		PKPbc		PKPbc	16 16 26.6	-0.6
	0.6nm,0.7s,baz=116,slow=3.1,SNR=8.1							
SONM	**Songino Array**	**151.30 87**		PKPbc		PKPbc	16 16 30.5	-1.2
	0.3nm,0.5s,baz=241,slow=3.1,SNR=4.3							

*ISCJB **07** 16:00:20.7±0.5, 10°.24N±0°.04×84°.14W±0°.03,h12km±4km, mb3.8/10,MS3.8/4, Error ellipse: s-maj=7.2km s-min=3.4km az=31.6*
*IDC **07** 16:00:20.8±1.1, 10°.36N×84°.17W,h0km,mb3.8/8, mb1 4.1/9,mb1mx3.9/22,mbtmp3.8/9,ML3.9/1,MS3.8/6, Ms1 3.8/6,ms1mx3.5/34,Error ellipse: s-maj=22.7km s-min=10.4km az=168.0*
*CASC **07** 16:00:20.6±2.5, 10°.21N×84°.18W,h1km±2km,MD4.4, mb4.5(NEIC)*
*NEIC **07** 16:00:21.1±2.1, 10°.17N×84°.19W,h7km±14km,mb4.5/3, Error ellipse: s-maj=19.9km s-min=10.4km az=203.0*
ISC 07 16:00:21.5±0.9,**10°.19N**±0°.04×**84°.21W**±0°.03,**h9**km±6km, **n71**,σ°**99**/78,**mb4.0**/10,**MS3.9**/4,**10C-25D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
POA2	**Poas 2**	**0.04 252**		*i*P		**Pg**	**16 00 23.2**	**-0.5**
HDC	**Heredia**	**0.21 154**		*i*P		**Pg**	**16 00 26.0**	**+0.1**
HDC				*e*S		**Sg**	**16 00 29.8**	**+0.9**
SJS	**Escuela Geolog**	**0.29 149**		*i*P		**Pg**	**16 00 27.4**	**0.0**
LAJ	**Bijagual**	**0.34 165**		*e*P		**Pn**	**16 00 33.5**	**+0.7**
IRZ2	**Volcan Irazu 2**	**0.38 126**		*i*P		**Pg**	**16 00 28.7**	**-0.3**
OCM	**Ochomogo**	**0.38 140**		*i*P		**Pg**	**16 00 28.6**	**-0.5**
OCM			⇑	*i*P		**Pb**	**16 00 28.7**	**-1.9**
PICA	**Picada**	**0.45 112**	⇑	*i*P		**Pg**	**16 00 30.3**	**0.0**
TLLA	**Tiendilla**	**0.47 113**	⇑	*i*P		**Pg**	**16 00 30.5**	**-0.2**
VACR	**Volcan Arenal**	**0.54 301**	⇑	*i*P		**Pb**	**16 00 32.6**	**-0.6**
URSC	**Urasca**	**0.55 130**		*i*P		**Pg**	**16 00 32.0**	**-0.2**
CASO	**Castillo**	**0.57 295**	⇑	*i*P		**Pg**	**16 00 32.9**	**+0.2**
JTS	**JuntasAbangare**	**0.74 278**		Pg		**Pg**	**16 00 35.5**	**-0.3**
	951nm,0.3s,baz=86,slow=12,SNR=2378							
JTS				Lg		Lg	16 00 46.3	
	605nm,0.3s,baz=337,slow=23,SNR=14							
JTS	**JuntasAbangare**	**0.74 278**		Pg		**Pg**	**16 00 35.5**	**-0.3**
JTS				Lg		Lg	16 00 46.3	
JTS	**JuntasAbangare**	**0.74 278**	⇑	*i*P		**Pg**	**16 00 35.6**	**-0.3**
QCR	**Quepos**	**0.76 177**		*i*P		**Pg**	**16 00 35.7**	**-0.6**
QCR				*e*S		**Sb**	**16 00 47.0**	**-0.5**
BUS	**Buena Vista**	**0.77 145**		*i*P		**Pg**	**16 00 35.6**	**-0.8**
AMAS	**Alto Masis**	**0.88 298**		*i*P		**Pg**	**16 00 37.9**	**-0.5**
AMAS				*i* S		**Sg**	**16 00 50.1**	**+0.1**
PTEN	**Parque Tenorio**	**0.93 304**		*i*P		**Pg**	**16 00 38.6**	**-0.8**
PTEN				*i* S		**Sb**	**16 00 51.9**	**-0.4**
JCR	**Jicaral**	**0.95 249**	⇑	*i*P		**Pg**	**16 00 39.3**	**-0.6**
CAO	**Cobano**	**1.01 241**		*i*P		**Pg**	**16 00 40.1**	**-0.8**
CUI	**Cuipilapa**	**1.05 296**	⇑	*i*P		**Pg**	**16 00 40.8**	**-1.0**
COLC	**Colonia**	**1.09 296**		*i*P		**Pg**	**16 00 41.5**	**-1.0**
MESS	**Mesas**	**1.11 299**		*i*P		**Pb**	**16 00 42.0**	**-1.0**
GUAB	**Guayabo de Bag**	**1.13 297**		*i*P		**Pb**	**16 00 42.4**	**-0.8**
GUAB				*e*P		**Pb**	**16 00 42.5**	**-0.8**
GUAB				*e*S		**Sb**	**16 00 57.5**	**-0.6**
LIM1	**Limonal**	**1.15 296**		*i*P		**Pb**	**16 00 42.6**	**-1.0**
GPS2	**Hotel Rinc˜ţn**	**1.26 296**		*i*P		**Pn**	**16 00 44.5**	**-0.8**
GPS1	**Guardaparques**	**1.27 297**		*i*P		**Pn**	**16 00 44.7**	**-0.8**
GPS3	**Bodega del ICE**	**1.27 296**		*i*P		**Pn**	**16 00 44.8**	**-0.7**
GPS3				*e*P		**Pg**	**16 00 45.8**	**-0.1**
GPS3				*e*S		**Sn**	**16 01 04.1**	**+1.3**
RIN3	**Volcan Rincon**	**1.30 297**		*e*P		**Pn**	**16 00 45.2**	**-0.8**
BUEV	**Buena Vista**	**1.32 297**	⇑	*i*P		**Pn**	**16 00 45.7**	**-0.7**
GB1A	**Borinquen Arri**	**1.33 298**		*i*P		**Pn**	**16 00 46.1**	**-0.3**
GB1A				*i* S		**Sg**	**16 01 05.8**	**+1.5**
LAPC	**Finca la Perla**	**1.33 296**		*i*P		**Pn**	**16 00 45.8**	**-0.6**
GBS3	**Finca Las lm˜¡**	**1.36 296**		*i*P		**Pn**	**16 00 46.2**	**-0.6**
GBS3				*i* S		**Sg**	**16 01 05.9**	**+0.5**
NY14	**Universidad de**	**1.38 289**		*i*P		**Pn**	**16 00 47.0**	**0.0**
GBS2	**Las Lilas**	**1.38 298**		*i* P		**Pn**	**16 00 46.8**	**-0.3**
ACR	**Cerro Adams**	**1.84 146**		*e*P		**Pn**	**16 00 52.1**	**-1.3**
BRU2	**Volcan**	**2.04 133**		*e*P		**Pn**	**16 00 57.4**	**+1.2**
BRU2				*e*S		**Sb**	**16 01 25.6**	**+1.1**
TBS2		**2.07 132**		*e*P		**Pb**	**16 00 58.3**	**-1.1**
BCIP	**Isla Barro Col**	**4.43 103**		*e*P		**Pn**	**16 01 27.2**	**-1.7**
TGUH	**Tegucigalpa,Un**	**4.87 322**		*e*P		**Pn**	**16 01 33.7**	**-1.4**
TEIG	**Tepich**	**10.72 339**		LR		LR	16 07 07.1	
	comp=Z,476nm,19.7s,baz=126,slow=38							
CMIG	**Matias Romero**	**12.43 305**		Pn		**Pn**	**16 03 20.4**	**+1.6**
	0.8nm,0.3s,baz=127,slow=8.5,SNR=6.8							
CMIG	**Matias Romero**	**12.43 305**		Pn		**Pn**	**16 03 20.4**	**+1.6**
GTBY	**Guantanamo Bay**	**13.06 41**		*e*Pn		**Pn**	**16 03 30.2**	**+2.7**
SDV	**Santo Domingo**	**13.45 94**		*e*Pn		**Pn**	**16 03 31.7**	**-1.2**
	19nm,0.8s							
ATAH	**Atahualpa**	**18.16 161**		LR		LR	16 10 51.3	
	comp=Z,360nm,19.0s,baz=163,slow=34							
TKL	**Tuckaleechee C**	**25.36 1**		LR		LR	16 16 34.7	
	comp=Z,302nm,19.1s,baz=268,slow=39							
MIAR	**Mount Ida**	**25.71 342**		*e*P		**P**	**16 05 52.4**	**+0.1**
	24nm,1.3s							
TXAR	**Lajitas Array**	**26.34 319**		P		**P**	**16 05 57.8**	**-0.3**
	0.3nm,0.8s,baz=121,slow=12,SNR=3.3							
TXAR	**Lajitas Array**	**26.34 319**		P		**P**	**16 05 57.8**	**-0.3**
WMOK	**Wichita Mounta**	**27.83 334**		*e*P		**P**	**16 06 13.0**	**+1.7**
	4.7nm,1.0s							
SADO	**Sadowa**	**34.73 6**		LR		LR	16 20 48.4	
	comp=Z,226nm,18.6s,baz=210,slow=36							
ULM	**Lac du Bonnet**	**41.09 349**		P		**P**	**16 08 03.9**	**-1.6**
	4.6nm,1.0s,baz=164,slow=7.1,SNR=4.4							
ULM	**Lac du Bonnet**	**41.09 349**		P		**P**	**16 08 03.9**	**-1.6**
NVAR	**Mina Array Bea**	**41.49 318**		P		**P**	**16 08 10.2**	**+0.9**
	0.6nm,0.8s,baz=120,slow=6.3,SNR=2.9							
NVAR	**Mina Array Bea**	**41.49 318**		P		**P**	**16 08 10.2**	**+0.9**
PLCA	**Paso Flores**	**52.22 167**		P		**P**	**16 09 35.1**	**+2.1**
	4.6nm,0.9s,baz=344,slow=9.5,SNR=8.6							
PLCA	**Paso Flores**	**52.22 167**		*e*P		**P**	**16 09 35.0**	**+2.1**
	7.9nm,1.1s							
YKA	**Yellowknife Ar**	**56.64 344**		P		**P**	**16 10 04.3**	**-0.4**
	0.5nm,0.6s,baz=137,slow=7.4,SNR=8.4							
YKA				LR		LR	16 37 58.6	
	comp=Z,10nm,18.1s,baz=55,slow=40							
YKA	**Yellowknife Ar**	**56.64 344**		P		**P**	**16 10 04.3**	**-0.4**
INK	**Inuvik**	**66.31 342**		P		**P**	**16 11 10.7**	**+0.6**
	1.7nm,1.0s,baz=97,slow=7.6,SNR=4.1							
INK	**Inuvik**	**66.31 342**		P		**P**	**16 11 10.7**	**+0.6**
ILAR	**Eielson Array**	**69.36 336**		P		**P**	**16 11 28.4**	**-1.0**
	0.6nm,0.8s,baz=113,slow=4.5,SNR=6.5							
ILAR	**Eielson Array**	**69.36 336**		P		**P**	**16 11 28.4**	**-1.0**
ESDC	**Sonseca Array**	**76.08 52**		P		**P**	**16 12 09.4**	**-0.5**
	0.3nm,0.3s,baz=273,slow=5.5,SNR=4.1							
ESDC	**Sonseca Array**	**76.08 52**		P		**P**	**16 12 09.4**	**-0.5**
SPITS	**Spitsbergen Ar**	**82.26 12**		LR		LR	16 49 14.9	
	comp=Z,134nm,18.5s,baz=295,slow=36							
ASAR	**Alice Springs**	**141.29 245**		PKhKP		PKPpre	16 19 50.6	
	0.5nm,0.8s,baz=101,slow=3.2,SNR=4.5							
ASAR				PKP		**PKiKP**	**16 19 55.9**	**-0.6**
	0.5nm,0.9s,baz=95,slow=2.2,SNR=5.4							
ASAR	**Alice Springs**	**141.29 245**		PKPpre		PKPpre	16 19 50.6	
ASAR				PKP		**PKiKP**	**16 19 55.9**	**-0.6**
WRA	**Warramunga Arr**	**141.62 251**		PKP		**PKPdf**	**16 19 53.4**	**-0.9**
	0.4nm,0.7s,baz=101,slow=2.7,SNR=5.4							
WRA	**Warramunga Arr**	**141.62 251**		PKP		**PKPdf**	**16 19 53.4**	**-0.9**

*ISK **07** 16:14:11.8, 40°.35N×25°.83E,h16km, MD2.9*
*ISCJB **07** 16:14:12.6±1.3, 40°.38N±0°.03×25°.8E±0°.1,h23km±8km, Error ellipse: s-maj=13.5km s-min=5.6km az=8.1*
*CSEM **07** 16:14:12.9±0.5, 40°.38N×25°.84E,h20km, MD2.9, Error ellipse: s-maj=10.0km s-min=4.9km az=91.0*
*DDA **07** 16:14:13.1, 40°.34N×25°.87E,h7km, MD2.6*
ISC 07 16:14:12.9±1.5,**40°.35N**±0°.03×**25°.85E**±0°.07,**h13**km±10km, **n23**,σ°**72**/36,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ENEZ	**Enez**	**0.45 31**		*e*PG		**Pg**	**16 14 21.2**	**-0.6**
ENEZ				*e*SG		**Sg**	**16 14 28.4**	**+0.6**
ENEZ	**Enez**	**0.45 31**		*e*Pg		**Pg**	**16 14 21.2**	**-0.6**
ENEZ				*e*Sg		**Sg**	**16 14 28.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.48 85**		*e*PG		**Pg**	**16 14 22.5**	**+0.1**
GELI				*e*SG		**Sb**	**16 14 30.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.48 85**		*e*Pg		**Pg**	**16 14 22.5**	**+0.1**
GELI				*e*Sg		**Sb**	**16 14 30.6**	**+0.4**
BOZC	**Bozcaada**	**0.54 163**		*i* P		**Pg**	**16 14 23.6**	**+0.2**
BOZC				*i* S		**Sb**	**16 14 31.5**	**-0.2**
ERIK	**Erikli-Kesan**	**0.60 58**		*e*PG		**Pg**	**16 14 24.7**	**+0.1**
ERIK				*e*SG		**Sg**	**16 14 32.5**	**0.0**
ERIK	**Erikli-Kesan**	**0.60 58**		*e*Pg		**Pg**	**16 14 24.7**	**+0.1**
ERIK				*e*Sg		**Sg**	**16 14 32.5**	**0.0**
EZN	**Ezine**	**0.64 145**		*e*PG		**Pg**	**16 14 25.2**	**-0.2**
EZN				*e*SG		**Sg**	**16 14 34.0**	**+0.1**
EZN	**Ezine**	**0.64 145**		*e*Pg		**Pg**	**16 14 25.2**	**-0.2**
EZN				*e*Sg		**Sg**	**16 14 34.0**	**+0.1**
LPK	**Lapseki**	**0.70 88**		*e*PG		**Pg**	**16 14 26.7**	**+0.2**
LPK				*e*SG		**Sg**	**16 14 35.7**	**0.0**
LPK	**Lapseki**	**0.70 88**		*e*Pg		**Pg**	**16 14 26.7**	**+0.2**
LPK				*e*Sg		**Sg**	**16 14 35.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.07 71**		*e*PN		**Pg**	**16 14 31.9**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.07 71**		*e*Pn		**Pg**	**16 14 31.9**	**-1.6**
KRBG	**Karabiga-Canak**	**1.11 88**		*e*Pn		**Pg**	**16 14 32.5**	**-1.8**
KRBG	**Karabiga-Canak**	**1.11 88**		*e*Pn		**Pg**	**16 14 32.5**	**-1.8**
AYVA	**Ayvalik**	**1.23 148**		*i* P		**Pg**	**16 14 35.4**	**-1.1**
AYVA				*i* S		**Sn**	**16 14 52.7**	**+0.5**
AYVA	**Ayvalik**	**1.23 148**		*i* P		**Pg**	**16 14 35.4**	**-1.1**
AYVA				*i* S		**Sn**	**16 14 52.7**	**+0.5**
GONE	**Gonen-Balikesi**	**1.44 102**		*e*PN		**Pn**	**16 14 38.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.44 102**		*e*Pn		**Pn**	**16 14 38.5**	**-0.2**
EDRB	**Edirne**	**1.64 24**		*e*PN		**Pn**	**16 14 41.3**	**0.0**
EDRB	**Edirne**	**1.64 24**		*e*Pn		**Pn**	**16 14 41.3**	**0.0**
BALB	**Balikesir**	**1.72 114**		*e*PN		**Pn**	**16 14 42.4**	**0.0**
BALB	**Balikesir**	**1.72 114**		*e*Pn		**Pn**	**16 14 42.4**	**0.0**

*IDC **07** 16:23:17.0±6.8, 31°.94S×179°.81E,h455km±75km, mb2.8/1, mb1 3.4/2,mb1mx2.9/16,mbtmp3.2/2,Error ellipse: s-maj=89.0km s-min=43.7km az=18.0*
ISC 07 16:23:13.0±1.4,**31°.36S**±0°.09×**179°.0E**±0°.2,**h363**km,**n23**,
σ**2**°**06**/32,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.21 185**		PN		**Pn**	**16 24 48.3**	**+1.8**
MXZ				SN		**S**	**16 26 03.1**	**+0.6**
PUZ	**Puketiti**	**6.72 185**		PN		**Pn**	**16 24 53.4**	**+1.1**
PUZ				SN		**S**	**16 26 12.7**	**-0.5**
URZ	**Urewera**	**7.05 192**		P		**Pn**	**16 24 58.6**	**+2.5**
	7.0nm,0.3s,baz=5.3,slow=2.7,SNR=118							
URZ				S		**S**	**16 26 21.5**	**+1.4**
	9.0nm,0.3s,baz=46,slow=23,SNR=16							
URZ	**Urewera**	**7.05 192**		PN		**Pn**	**16 24 58.3**	**+2.3**
URZ				SN		**S**	**16 26 19.4**	**-0.7**
MWZ	**Matawai**	**7.06 189**		PN		**Pn**	**16 24 58.3**	**+2.0**
MWZ				SN		**S**	**16 26 22.1**	**+1.7**
CNGZ	**Carnagh Statio**	**7.13 185**		PN		**Pn**	**16 24 58.9**	**+1.8**
KNZ	**Kokohu**	**7.72 187**		PN		**Pn**	**16 25 06.6**	**+2.8**
KNZ				SN		**S**	**16 26 34.5**	**+0.2**
MHGZ	**Mahia Peninsul**	**7.82 186**		*e*PN		**Pn**	**16 25 06.7**	**+1.6**
BKZ	**Black Stump Fm**	**8.05 194**		*e*PN		**Pn**	**16 25 09.5**	**+1.7**
BKZ				SN		**S**	**16 26 39.9**	**-1.6**
BHHZ	**Black Hill Sta**	**8.45 195**		PN		**Pn**	**16 25 13.0**	**+0.5**
VRZ	**Vera Road**	**8.47 203**		*e*PN		Pn	16 25 17.4	+4.7
KAHZ	**Kahuranaki**	**8.59 191**		*e*PN		**P**	**16 25 16.7**	**+0.7**
PXZ	**Pawanui**	**8.82 191**		*e*PN		**P**	**16 25 18.1**	**-0.4**
PXZ				SN		**S**	**16 26 55.1**	**-3.0**
BFZ	**Birch Farm**	**9.56 193**		*e*PN		**Pn**	**16 25 26.1**	**+0.6**
BFZ				SN		**S**	**16 27 10.8**	**-3.4**
MRZ	**Mangatainoka R**	**9.68 195**		PN		**Pn**	**16 25 27.3**	**+0.3**
MRZ				SN		**S**	**16 27 13.8**	**-3.1**
OGWZ	**Otaki Gorge**	**9.92 197**		PN		**P**	**16 25 30.7**	**-0.1**
TUWZ	**Tuamarina**	**10.83 200**		PN		**Pn**	**16 25 40.6**	**0.0**
THZ	**Tophouse**	**11.46 203**		PN		**Pn**	**16 25 48.5**	**+0.4**
KHZ	**Kahutara**	**11.86 200**		PN		**Pn**	**16 25 52.9**	**+0.3**
WRA	**Warramunga Arr**	**41.55 275**		P		**P**	**16 30 29.6**	**+2.9**
	0.2nm,0.3s,baz=117,slow=7.7,SNR=3.1							
BVAR	**Borovoye Array**	**125.26 315**		PKP		**PKPdf**	**16 41 26.4**	**-4.0**
	0.2nm,0.3s,baz=184,slow=1.4,SNR=4.0							
FINES	**FINESS Array B**	**145.09 338**		PKPbc		**PKPdf**	**16 42 02.8**	**-3.9**
	3.3nm,0.6s,baz=53,slow=4.5,SNR=19							
BRTR	**Keskin Array B**	**150.72 296**		PKPbc		**PKPdf**	**16 42 19.1**	**+2.2**
	0.5nm,0.5s,baz=138,slow=1.2,SNR=5.4							

*SZGRF **07** 16:24:17.4, 23°.68S×178°.63W,h31km,mb4.9, South of Fiji Islands*
*ISCJB **07** 16:25:30.8±0.5, 20°.75S±0°.03×179°.24W±0°.03, h637km±6km,mb5.2/208, Error ellipse: s-maj=5.1km s-min=3.5km az=155.0*
*MOS **07** 16:25:31.4±0.8, 20°.56S×179°.24W,h640km,mb5.3/43, MS4.6/4, Error ellipse: s-maj=8.8km s-min=6.9km az=65.0*
*DJA **07** 16:25:32, 20°.54S×179°.22W,h647km,mb5.4/40*
*IDC **07** 16:25:33.0±0.6, 20°.77S×179°.23W,h653km±6km,mb4.6/27, mb1 4.7/30,mb1mx4.7/30,mbtmp4.6/30,Error ellipse: s-maj=9.0km s-min=6.8km az=154.0*
*BJI **07** 16:25:33.0, 20°.40S×178°.91W,h667km,mB5.1/32, mb5.3/53*
*NEIC **07** 16:25:33.3±0.1, 20°.71S×179°.22W,mb5.3/150, Error ellipse: s-maj=5.2km s-min=3.4km az=147.0*
*BGS **07** 16:25:35.2±5.4, 20°.71S×179°.22W,h657km,mb5.3(NEIC)*
ISC 07 16:25:33.4±0.3,**20°.68S**±0°.04×**179°.11W**±0°.04, **h662**km±2km,**h663**km:**pP-P**,**n1541**,σ**1**°**21**/1806,**mb5.3**/208, **285C-300D**,**Fiji Isl

LBZ **Lake Benmore** 25.26 198 PN P 16 30 09.3 -1.6
WKZ **Wanaka** 26.01 200 PN P 16 30 16.4 -1.1
EAZ **Earnscleugh** 26.29 199 PN P 16 30 19.4 -0.5
WHZ **Wether Hill Ro** 27.30 200 PN P 16 30 28.7 0.0
TBI **Tubuai** 27.59 101⇑*iP* P 16 30 33.0 +1.5
comp=Z,353nm,0.9s
EIDS **Eidsvold** 27.80 255 *eP* P 16 30 33.1 -0.2
comp=Z,181nm,1.3s
PAE **Paea** 28.03 89⇑*iP* P 16 30 36.2 +0.8
comp=Z,37nm,1.1s
PAE *epP* PP 16 32 13.0 -1.8
comp=Z,24nm,1.4s
PAE *eScP* ScP 16 36 08.1 +1.2
comp=Z,7.5nm,1.0s
PPT2 **Papeete2** 28.05 89⇑*iP* P 16 30 36.7 +1.0
comp=Z,199nm,1.3s
PPT2 *epP* PP 16 32 13.6 -1.5
comp=Z,114nm,1.5s
PPT2 *eScP* ScP 16 36 08.5 +1.5
comp=Z,60nm,1.1s
ARMA **Armidale** 28.05 244 *eP* P 16 30 36.5 +0.9
ARMA **Armidale** 28.05 244 *eP* P 16 30 36.5 +0.9
comp=Z,42nm,0.4s
TIAR **Tiarei** 28.27 89⇑*iP* P 16 30 38.7 +1.2
comp=Z,268nm,1.0s
TIAR *epP* PP 16 32 14.6 -2.5
comp=Z,150nm,1.3s
TIAR *eScP* ScP 16 36 09.2 +1.5
comp=Z,42nm,1.0s
MEH **Mehetia** 29.41 90⇑*iP* P 16 30 48.0 +0.7
comp=Z,339nm,0.9s
PMOR **Pomariorio Ree** 30.21 84⇑*iP* P 16 30 55.0 +0.9
comp=Z,476nm,1.2s
CNB **Canberra Magne** 31.27 235 *eP* P 16 31 03.6 +0.7
comp=Z,328nm,1.1s
CAN **Canberra** 31.55 236 *eP* P 16 31 05.8 +0.5
CAN **Canberra** 31.55 236 *eP* P 16 31 05.8 +0.5
CTA **Charters Tower** 32.44 265 P P 16 31 13.3 +0.4
comp=Z,98nm,0.5s,baz=91,slow=11,SNR=192
CTA S S 16 35 41.1 -2.8
comp=Z,7.0nm,0.9s,baz=328,slow=20,SNR=4.4
CTA **Charters Tower** 32.44 265 *eP* P 16 31 13.3 +0.4
comp=Z,82nm,0.6s
CTA **Charters Tower** 32.44 265 P P 16 31 13.3 +0.4
CTA S S 16 35 41.1 -2.8
CTA **Charters Tower** 32.44 265 P P 16 31 13.3 +0.4
CTA S S 16 35 41.1 -2.8
CTAO **Charters Tower** 32.44 265 *eP* P 16 31 13.2 +0.4
CTAO pmax pmax
comp=Z,123nm,0.7s
CTAO **Charters Tower** 32.44 265 *eP* P 16 31 13.2 +0.4
comp=Z,123nm,0.7s
PMG **Port Moresby** 34.38 284 P P 16 31 29.1 +0.1
comp=Z,203nm,0.7s,baz=105,slow=5.7,SNR=19
PMG **Port Moresby** 34.38 284⇑*eP* P 16 31 29.0 0.0
PMG pmax pmax
comp=Z,430nm,1.2s
PMG **Port Moresby** 34.38 284 P P 16 31 29.1 +0.1
TOO **Toolangi** 34.95 233 *eP* P 16 31 34.1 +0.6
comp=Z,301nm,1.0s
COEN **Coen** 36.56 274 *eP* P 16 31 47.3 +0.3
comp=Z,1µm,1.0s
STKA **Stephens Creek** 36.77 244 P P 16 31 48.5 0.0
comp=Z,49nm,0.6s,baz=86,slow=9.4,SNR=84
STKA PcP PcP 16 33 52.9 +1.2
comp=Z,8.8nm,0.5s,baz=63,slow=5.3,SNR=2.8
STKA ScP ScP 16 36 39.8 +2.6
comp=Z,7.5nm,0.8s,baz=80,slow=2.0,SNR=3.2
STKA **Stephens Creek** 36.77 244⇑*iP* P 16 31 49.2 +0.7
comp=Z,61nm,1.1s
STKA **Stephens Creek** 36.77 244 P P 16 31 48.5 0.0
STKA 16 33 52.9
STKA **Stephens Creek** 36.77 244 P P 16 31 48.5 0.0
STKA *eP* P 16 31 49.0 +0.5
STKA PcP PcP 16 33 52.9 +1.2
STKA ScP ScP 16 36 39.8 +2.6
RKT **Rikitea** 40.91 102⇑*iP* P 16 32 23.8 +2.3
comp=Z,98nm,1.0s
BBOO **Buckleboo** 41.54 244 *eP* P 16 32 26.4 +0.1
comp=Z,901nm,0.4s
WAKE **Wake Island** 42.10 340 *eP* P 16 32 30.7 -0.1
comp=Z,529nm,1.1s
AS31 **Alice Springs** 43.47 257 *eP* P 16 32 41.4 -0.1
AS31 *ePcP* PcP 16 34 14.4 +0.4
ASAR **Alice Springs** 43.47 257 P P 16 32 41.5 +0.1
comp=Z,102nm,0.7s,baz=98,slow=7.9,SNR=772
ASAR PcP PcP 16 34 14.3 +0.4
comp=Z,24nm,0.6s,baz=100,slow=3.8,SNR=10
ASAR ScP ScP 16 37 06.8 +2.9
comp=Z,10nm,0.6s,baz=105,slow=4.2,SNR=6.8
ASAR S S 16 38 22.9 -1.9
comp=Z,74nm,0.9s,baz=93,slow=15,SNR=50
ASAR PKiKP PKiKP 16 41 12.3 -1.4
comp=Z,0.7nm,0.5s,baz=115,slow=1.6,SNR=9.5
ASAR **Alice Springs** 43.47 257 P P 16 32 41.6 +0.1
ASAR 16 34 14.3
ASAR S S 16 38 22.9 -1.9
ASAR **Alice Springs** 43.47 257 P P 16 32 41.5 +0.1
ASAR PcP PcP 16 34 14.3 +0.4
ASAR ScP ScP 16 37 06.8 +2.9
ASAR S S 16 38 22.9 -1.9
ASAR PKiKP PKiKP 16 41 12.3 -1.4
WB2 **Warramunga Arr** 43.54 262 *eP* P 16 32 41.4 -0.6
WRAB **Tennant Creek** 43.54 262 *eP* P 16 32 41.4 -0.6
WRAB pmax pmax
comp=Z,148nm,1.0s
WRAB **Tennant Creek** 43.54 262 *eP* P 16 32 41.4 -0.6
comp=Z,148nm,1.0s
WRAB **Tennant Creek** 43.54 262 P P 16 32 41.0 -1.0
comp=Z,762nm,1.1s,SNR=33
WRA **Warramunga Arr** 43.55 262 P P 16 32 41.5 -0.6
comp=Z,61nm,0.3s,baz=97,slow=7.6,SNR=225
WRA PcP PcP 16 34 14.8 +0.6
comp=Z,16nm,0.9s,baz=95,slow=4.4,SNR=8.3
WRA S S 16 38 22.4 -3.6
comp=Z,29nm,0.9s,baz=95,slow=14,SNR=18
WRA PKiKP PKiKP 16 41 12.5 -1.4
comp=Z,1.5nm,0.7s,baz=77,slow=0.3,SNR=4.6
WRA **Warramunga Arr** 43.55 262 P P 16 32 41.5 -0.6
WRA 16 34 14.8
WRA S S 16 38 22.4 -3.6
WRA **Warramunga Arr** 43.55 262 P P 16 32 41.5 -0.6
WRA PcP PcP 16 34 14.8 +0.6
WRA S S 16 38 22.4 -3.6
WRA PKiKP PKiKP 16 41 12.5 -1.4
HON **Honolulu** 46.57 28 *eP* P 16 33 05.7 +0.9
HON **Honolulu** 46.57 28 *eP* P 16 33 05.7 +0.9
KIP **Kipapa** 46.65 27⇓*eP* P 16 33 05.3 -0.1
KIP pmax pmax
comp=Z,243nm,1.5s
KIP **Kipapa** 46.65 27 *eP* P 16 33 05.4 0.0
comp=Z,173nm,1.1s
FORT **Forrest** 48.27 247 *eP* P 16 33 16.7 -0.7
comp=Z,120nm,0.7s
FORT **Forrest** 48.27 247 *eP* P 16 33 16.6 -0.7
comp=Z,116nm,0.6s
MIDW **Midway** 48.64 2 *eP* P 16 33 19.5 -0.5
comp=Z,516nm,1.8s
GUMO **Guam** 49.13 311 P P 16 33 23.9 +0.1
comp=Z,298nm,1.0s,baz=173,slow=9.2,SNR=8.6
GUMO **Guam** 49.13 311 P P 16 33 23.9 +0.1
GUMO **Guam** 49.13 311 P P 16 33 23.9 +0.1
FITZ **Fitzroy Crossi** 51.98 263 P P 16 33 44.7 +0.3
comp=Z,30nm,0.5s,baz=129,slow=3.7,SNR=56
FITZ S S 16 40 19.1 -1.8
comp=Z,7.4nm,0.9s,baz=281,slow=20,SNR=6.8
FITZ **Fitzroy Crossi** 51.98 263 *eP* P 16 33 44.6 +0.3
comp=Z,52nm,0.4s
FITZ *eS* S 16 40 08.6 -12
FITZ **Fitzroy Crossi** 51.98 263 *eP* P 16 33 44.6 +0.3
comp=Z,30nm,0.5s
FITZ S S 16 40 19.1 -1.8
DRV **Dumont d'Urvil** 52.84 199 PP PP 16 35 40.0 -20
DRV SS SS 16 44 34.0 +11
MBWA **Marble Bar** 56.80 258 *eP* P 16 34 17.2 -0.7
comp=Z,90nm,0.7s
KLBR **Kellerberrin** 57.04 245 *eP* P 16 34 19.1 -0.2
comp=Z,82nm,0.9s
NWAO **Narrogin (SRO)** 57.36 244 P P 16 34 20.7 -0.8
comp=Z,34nm,0.9s,baz=116,slow=5.4,SNR=19
NWAO **Narrogin (SRO)** 57.36 244 P P 16 34 20.7 -0.8
NWAO **Narrogin (SRO)** 57.36 244 P P 16 34 20.7 -0.8
NWAO *eP* P 16 34 21.4 -0.1
SBA **Scott Base** 57.62 184 *eP* P 16 34 24.9 +2.5
SBA pmax pmax
comp=Z,29nm,0.9s
SBA **Scott Base** 57.62 184 *eP* P 16 34 24.9 +2.5
comp=Z,29nm,0.9s
VNDA **Vanda** 57.64 185 *eP* P 16 34 24.3 +1.7
VNDA pmax pmax
comp=Z,8.0nm,0.5s
VNDA **Vanda** 57.64 185 *eP* P 16 34 24.3 +1.7
comp=Z,8.0nm,0.5s
VNDA *eScP* ScP 16 38 05.4 +1.5
BLDU **Ballidu** 58.03 246 *eP* P 16 34 25.7 -0.3
CBIJ **Chichi jima** 60.51 320 P P 16 34 42.3 0.0
baz=296,slow=2.2,SNR=25
CBIJ **Chichi jima** 60.51 320 P P 16 34 42.3 0.0
KAPI **Kappang** 61.27 276 P P 16 34 46.6 -1.0
comp=Z,16nm,0.6s,baz=162,slow=4.6,SNR=9.8
KAPI **Kappang** 61.27 276 *eP* P 16 34 46.5 -1.1
KAPI P P 16 34 46.6 -1.0
MYLDM **Lahad Datu** 66.38 286 P P 16 35 22.2 +2.4
MYLDM **Lahad Datu** 66.38 286 P P 16 35 22.2 +2.4
comp=Z,136nm,1.2s,comp=Z,2µm
TSM **Tawau** 66.58 284 P P 16 35 21.9 +0.8
TSM **Tawau** 66.58 284 P P 16 35 22.3 +1.3
SDKM **Sandakan** 67.75 285 P P 16 35 28.0 -0.2
TGY **Tagaytay City** 68.29 295 P P 16 35 31.9 +0.4
comp=Z,175nm,0.5s,baz=288,slow=16,SNR=6.0
TGY **Tagaytay City** 68.29 295 P P 16 35 31.9 +0.4
TGY **Tagaytay City** 68.29 295 P P 16 35 31.9 +0.4
KDM **Kudat** 68.61 287 P P 16 35 34.2 +0.9
KKM **Kota Kinabalu** 68.80 285 *eP* P 16 35 35.0 +0.5
comp=Z,46nm,0.6s
KKM **Kota Kinabalu** 68.80 285 P P 16 35 35.4 +0.8
KKM **Kota Kinabalu** 68.80 285 P P 16 35 35.1 +0.5
comp=Z,159nm,1.5s,comp=Z,2µm
QSPA **South Pole Qui** 69.39 180 *eP* P 16 35 38.4 +1.2
comp=Z,42nm,0.9s
JOW **Kunigami** 69.49 311 P P 16 35 38.1 -0.2
comp=Z,53nm,0.4s,baz=142,slow=9.4,SNR=25
JOW **Kunigami** 69.49 311 P P 16 35 38.1 -0.2
JOW *eP* P 16 35 39.1 +0.9
MJAR **Matsushiro Arr** 69.75 324 P P 16 35 39.5 -0.1
comp=Z,64nm,0.8s,baz=166,slow=6.2,SNR=162
MJAR **Matsushiro Arr** 69.75 324 P P 16 35 39.5 -0.1
MJAR **Matsushiro Arr** 69.75 324 P P 16 35 39.5 -0.1
MAJO **Matsushiro** 69.75 324 *eP* P 16 35 39.4 -0.2
MAJO pmax pmax
comp=Z,91nm,0.8s
MAJO **Matsushiro** 69.75 324 *eP* P 16 35 39.4 -0.2
comp=Z,91nm,0.8s
MAT **Matsushiro** 69.75 324 P P 16 35 39.7 +0.1
MAT S S 16 43 54.0 -4.3
BTM **Bintulu** 70.51 281 P P 16 35 46.2 +1.6
SBUM **Sibu** 71.02 280 P P 16 35 48.7 +1.1
SBUM **Sibu** 71.02 280 P P 16 35 48.9 +1.3
SBUM **Sibu** 71.02 280 P P 16 35 48.5 +1.0
comp=Z,62nm,1.1s,comp=Z,1µm
ERM **Erimo** 71.48 331 *eP* P 16 35 50.7 +1.2
ERM **Erimo** 71.48 331 *eP* P 16 35 50.7 +1.2
JNU **Nakatsue** 71.70 317 *eP* P 16 35 51.2 +0.1
comp=Z,57nm,1.1s
KSM **Kuching** 72.41 278 P P 16 35 56.5 +0.9
KSM **Kuching** 72.41 278 P P 16 35 56.8 +1.2
KSM **Kuching** 72.41 278 P P 16 35 56.2 +0.6
comp=Z,185nm,0.9s,comp=Z,2µm
TWG **Pinlang** 72.61 303 *eP* P 16 35 54.7 -1.8
comp=Z,118nm,0.6s
YULB **Yu-li** 72.73 304 *eP* P 16 35 55.9 -1.3
comp=Z,65nm,0.9s
NACB **Ninganchiao** 72.92 305 *eP* P 16 35 57.4 -0.8
comp=Z,189nm,0.9s
TPUB **Ta-pu** 73.21 304 *eP* P 16 35 59.0 -0.9
comp=Z,318nm,0.7s
SSLB **Suanglung** 73.21 304 *eP* P 16 35 58.7 -1.2
comp=Z,79nm,0.4s
SMY **Shemya** 73.34 356 *eP* P 16 35 59.2 -0.7
SMY pmax pmax
comp=Z,290nm,0.8s
SMY **Shemya** 73.34 356 *eP* P 16 35 59.2 -0.7
comp=Z,290nm,0.8s
YHNB **Yeheng** 73.36 305 *eP* P 16 36 00.7 -0.1
comp=Z,100nm,1.0s
ASAJ **Asahikawa** 73.40 332 P P 16 36 01.8 +1.3
comp=Z,87nm,0.8s,baz=212,slow=8.6,SNR=56
ASAJ **Asahikawa** 73.40 332 P P 16 36 01.8 +1.3
ASAJ *eP* P 16 36 02.2 +1.8
UNV **Unalaska Valle** 75.01 8 *eP* P 16 36 08.4 -0.8
comp=Z,115nm,0.9s
YSS **Yuzh-Sakhalins** 75.60 334⇓*iP* P 16 36 14.0 +1.4
YSS *e* 16 39 20.0
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,600nm,4.0s
YSS **Yuzh-Sakhalins** 75.60 334 *eP* P 16 36 13.8 +1.1
comp=Z,81nm,0.8s
QZH **Quanzhou** 75.65 304⇑*iP* P 16 36 14.6 +1.2
QZH pmax pmax
comp=Z,300nm,1.1s
PET **Petropavlovsk** 75.89 346 *eP* P 16 36 13.5 -0.6
PET *e*SP sP 16 39 25.1 -10
PET *eS* S 16 45 01.6 -3.3
PET pmax pmax
comp=Z,84nm,0.8s
PET MLR MLR
comp=Z,200nm,18.0s
PET **Petropavlovsk** 75.89 346 *eP* P 16 36 13.7 -0.4
comp=Z,330nm,1.6s
PEA0B **Petropavlovsk-** 76.19 346 *eP* P 16 36 16.1 +0.3
PETK **Petropavlovsk-** 76.19 346 P P 16 36 16.0 +0.3
comp=Z,114nm,0.8s,baz=150,slow=3.8,SNR=245
PETK PKiKP PKiKP 16 41 52.4 -0.9
comp=Z,9.4nm,1.1s,baz=110,slow=3.3,SNR=12
PETK **Petropavlovsk-** 76.19 346 P P 16 36 16.0 +0.3
PETK **Petropavlovsk-** 76.19 346 P P 16 36 16.0 +0.3
PETK PKiKP PKiKP 16 41 52.4 -0.9
KSRS **Korea Array** 76.34 319 P P 16 36 17.9 +1.0
comp=Z,21nm,0.9s,baz=138,slow=6.2,SNR=49
KSAR **Wonju Array Be** 76.36 319 P P 16 36 18.0 +1.0
KSAR **Wonju Array Be** 76.36 319 P P 16 36 17.9 +1.0
SSE **Sheshan** 77.01 311 P P 16 36 21.0 +0.3
SSE pmax pmax
comp=Z,36nm,0.9s
SSE pmax pmax
comp=Z,290nm,7.4s
INCN **Inchon** 77.15 319 *eP* P 16 36 22.4 +1.0
comp=Z,100nm,1.2s
SDPT **Sand Point** 77.38 11 *eP* P 16 36 21.8 -0.3
comp=Z,160nm,0.5s
BSC **Santa Cruz Isl** 78.48 47⇑P P 16 36 30.2 +1.6
baz=79,SNR=5.3
MYKOM **Kota Tinggi** 78.52 276 P P 16 36 30.2 +1.0
MYKOM **Kota Tinggi** 78.52 276 P P 16 36 30.0 +0.8
comp=Z,164nm,1.0s,comp=Z,2µm
USRK **Ussuriysk Arra** 78.53 326 P P 16 36 29.6 +1.1
comp=Z,106nm,0.9s,baz=126,slow=3.2,SNR=144
CHGN **Chignik** 78.65 12 *eP* P 16 36 28.6 -0.2
SCI **San Clemente I** 78.66 48⇓P P 16 36 31.0 +1.5
baz=79,SNR=6.7
SBC **Santa Barbara** 78.68 47⇓P P 16 36 31.4 +1.9
baz=79
PKM **Peak Mountain** 78.86 46⇓P P 16 36 32.6 +1.9
baz=79,SNR=12
SAO **San Andreas Ge** 78.87 44 *eP* P 16 36 32.4 +1.9
SAO pmax pmax
comp=Z,99nm,1.2s
SAO **San Andreas Ge** 78.87 44 *eP* P 16 36 32.4 +1.9
comp=Z,99nm,1.2s
SMMC **Simmler** 78.98 46⇓P P 16 36 33.2 +2.0
baz=79
CIS **Catalina Islan** 79.00 48⇓P P 16 36 32.4 +1.1
baz=79,SNR=5.2
KGM **Kluang** 79.10 276 P P 16 36 33.3 +1.0
HOPS **Hopland** 79.19 41 *eP* P 16 36 33.9 +1.8
comp=Z,162nm,1.1s
NJ2 **Nanjing** 79.20 310 *eP* P 16 36 33.3 +1.0
NJ2 PcP PcP 16 36 38.8 +1.0
NJ2 pP pP 16 38 48.8 +0.8
NJ2 S S 16 45 43.0 +2.7
NJ2 pmax pmax
comp=Z,150nm,1.1s
NJ2 pmax pmax
comp=Z,310nm,9.5s
FMP **Fort Macarthur** 79.24 48⇓P P 16 36 34.1 +1.6
baz=80
KCPM **Cahto Peak** 79.30 40 *eP* P 16 36 34.9 +2.0
comp=Z,104nm,1.3s
KIPM **Iron Peak** 79.44 40 *eP* P 16 36 35.6 +2.0
comp=Z,174nm,1.0s
OSI **Osito Adit** 79.45 47 *eP* P 16 36 35.4 +1.8
comp=Z,17nm,1.1s
OSI **Osito Adit** 79.45 47⇑P P 16 36 35.3 +1.6
baz=80
DECC **Green Verdugo** 79.52 47⇑P P 16 36 35.1 +1.1
baz=80
PASC **Pasadena Art C** 79.57 47 *eP* P 16 36 35.6 +1.3
comp=Z,22nm,1.0s
109C **Camp Elliot, M** 79.63 49⇑P P 16 36 36.0 +1.4
baz=80
ARVC **Arvin** 79.67 46⇑P P 16 36 36.2 +1.4
baz=80
MWC **Mount Wilson** 79.69 47 *eP* P 16 36 36.2 +1.1
MWC pmax pmax
comp=Z,52nm,1.2s
MWC **Mount Wilson** 79.69 47 *eP* P 16 36 36.2 +1.1
comp=Z,52nm,1.2s
BAR **Barrett** 79.82 49 *eP* P 16 36 36.8 +1.1
comp=Z,57nm,1.5s
VES **Vestal, Richgr** 79.89 46⇓P P 16 36 37.1 +1.2
baz=80,SNR=14
MURC **Murrieta** 79.94 48⇓P P 16 36 37.7 +1.4
baz=80,SNR=9.4
KHMM **Horse Mountain** 79.95 39 *eP* P 16 36 38.3 +2.1
comp=Z,124nm,1.1s
BFSC **Mount Baldy Ra** 79.97 48⇓P P 16 36 37.6 +1.1
baz=80,SNR=14
QIZ **Qiongzhong** 79.99 295 P P 16 36 36.8 +0.1
QIZ pP pP 16 38 52.2 -0.5
QIZ S S 16 45 47.7 -1.1
QIZ pmax pmax
comp=Z,52nm,1.7s
QIZ pmax pmax
comp=Z,320nm,5.2s
RCTC **Rector, Farmer** 80.06 45⇓P P 16 36 37.8 +1.1
baz=80
MDJ **Mudanjiang** 80.08 326 P P 16 36 37.8 +1.2
MDJ pP pP 16 38 53.2 +0.5
MDJ PP PP 16 39 53.5 +1.3
MDJ sP sP 16 40 00.7 +1.8
MDJ S SKKSac 16 45 55.7 +0.1
MDJ ScS ScS 16 46 04.7 +1.8
MDJ pmax pmax
comp=Z,100nm,0.9s
MDJ pmax pmax
comp=Z,250nm,3.8s
HABR **Khabarovsk** 80.10 331*diP* P 16 36 38.2 +1.6
HABR *e* 16 36 40.5
HABR *e**PP pP 16 38 51.4 -1.3
HABR *e* 16 39 50.8
HABR *e**SP sP 16 39 57.5 -1.4
HABR *e*PPP PPP 16 41 45.5
HABR *eS* SKSac 16 45 51.1 -1.0
HABR *e* 16 46 02.1
HABR *eSS* SS 16 51 20.6 0.0
HABR pmax pmax
comp=Z,388nm,2.1s
HABR MLR MLR
comp=Z,121nm,17.0s
EDW2 **Edwards Air Fo** 80.10 47⇑P P 16 36 38.6 +1.6
baz=80,SNR=32
MONP **Monument Peak** 80.11 49⇑P P 16 36 39.1 +1.7
baz=80,SNR=34
ISA **Isabella** 80.20 46 *eP* P 16 36 39.0 +1.4
ISA pmax pmax
comp=Z,103nm,1.1s
ISA **Isabella** 80.20 46 *eP* P 16 36 39.0 +1.4
comp=Z,102nm,1.1s
ISA **Isabella** 80.20 46⇓P P 16 36 39.3 +1.7
baz=80,SNR=58
DVTC **Desert V Tower** 80.22 50⇑P P 16 36 39.5 +1.8
baz=80,SNR=13
CMB **Columbia Colle** 80.30 43 *eP* P 16 36 37.2 -0.8
CMB pmax pmax
comp=Z,114nm,1.2s
CMB **Columbia Colle** 80.30 43 *eP* P 16 36 37.2 -0.8
comp=Z,114nm,1.2s
PFO **Pinyon Flat Ob** 80.47 49 *eP* P 16 36 40.7 +1.6
PFO pmax pmax
comp=Z,16nm,0.8s
PFO **Pinyon Flat Ob** 80.47 49 *eP* P 16 36 40.7 +1.6
comp=Z,16nm,0.8s
PFO **Pinyon Flat Ob** 80.47 49⇓P P 16 36 40.6 +1.5
baz=81,SNR=15
WDC **Whiskeytown Da** 80.48 40 *eP* P 16 36 40.6 +1.8
WDC pmax pmax
comp=Z,136nm,1.1s
WDC **Whiskeytown Da** 80.48 40 *eP* P 16 36 40.6 +1.8
comp=Z,136nm,1.1s
BBRC **Big Bear Solar** 80.50 48⇓P P 16 36 40.8 +1.4
baz=81
OHAK **Old Harbor** 80.57 14 *eP* P 16 36 38.9 +0.1
comp=Z,60nm,0.6s
SWSC **Sam W. Stewart** 80.58 50⇑P P 16 36 41.2 +1.7
baz=81,SNR=18
LRMC **Laurel Mountai** 80.63 47⇓P P 16 36 41.2 +1.4
baz=81
RRX **Edison Barstow** 80.78 47⇑P P 16 36 41.8 +1.3
baz=81
CWC **Cottonwood Cre** 80.90 46⇑P P 16 36 42.8 +1.5
baz=81
BELC **Belle Mtn. Jos** 81.00 49⇑P P 16 36 43.5 +1.6
baz=81,SNR=35
MAW **Mawson** 81.04 200 P P 16 36 41.4 +0.2
comp=Z,3.7nm,0.3s,baz=146,slow=7.8,SNR=10
MAW **Mawson** 81.04 200 *eP* P 16 36 41.3 +0.1
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW **Mawson** 81.04 200 *eP* P 16 36 41.3 +0.1
comp=Z,1.9nm,0.8s
MLAC **Mammoth Lakes** 81.07 44⇓P P 16 36 44.1 +1.9
baz=81
YBH **Yreka Blue Hor** 81.08 39 *eP* P 16 36 43.9 +1.9
YBH pmax pmax
comp=Z,126nm,1.0s
YBH **Yreka Blue Hor** 81.08 39 *eP* P 16 36 43.9 +1.9
comp=Z,126nm,1.0s
MPMC **Manual Prospec** 81.09 46⇓P P 16 36 43.8 +1.5
baz=81,SNR=58
FRIM **Kepong** 81.12 277 P P 16 36 43.3 +0.6
GSC **Goldstone** 81.14 47 *eP* P 16 36 43.8 +1.3
GSC pmax pmax
comp=Z,59nm,1.1s
GSC **Goldstone** 81.14 47 *eP* P 16 36 43.8 +1.3
comp=Z,59nm,1.1s
GSC **Goldstone** 81.14 47⇓P P 16 36 43.8 +1.3
baz=81,SNR=20
TIN **Tinemaha** 81.15 45⇑P P 16 36 44.0 +1.6
baz=81
DL2 **Dalian** 81.16 317 P P 16 36 42.8 +0.5
DL2 sP sP 16 40 03.1 -1.9
DL2 pmax pmax
comp=Z,40nm,1.1s
DL2 pmax pmax
comp=Z,190nm,3.5s
BC3 **Big Chuckawall** 81.20 49⇑P P 16 36 44.7 +1.8
baz=82,SNR=30
HEC **Hector,Ludlow** 81.22 48⇓P P 16 36 44.2 +1.4
baz=82,SNR=63
KDAK **Kodiak Island** 81.24 14 P P 16 36 42.8 +0.6
comp=Z,28nm,0.5s,baz=190,slow=4.6,SNR=29
KDAK **Kodiak Island** 81.24 14 *iP* P 16 36 43.5 +1.3
KDAK **Kodiak Island** 81.24 14 *eP* P 16 36 43.5 +1.3
comp=Z,185nm,1.3s
KDAK **Kodiak Island** 81.24 14 P P 16 36 42.0 -0.2
comp=Z,532nm,1.1s,SNR=15
GLA **Glamis** 81.33 50 *eP* P 16 36 45.4 +2.0
GLA pmax pmax
comp=Z,165nm,1.4s
GLA **Glamis** 81.33 50 *eP* P 16 36 45.4 +2.0
comp=Z,165nm,1.4s
GLA **Glamis** 81.33 50⇑P P 16 36 45.6 +2.2
baz=82,SNR=20
LBCM **Butte Creek Ri** 81.36 40 P P 16 36 45.1 +1.7
WCN **Washoe City** 81.44 42 *eP* P 16 36 45.4 +1.4
WCN pmax pmax
comp=Z,96nm,1.1s
WCN **Washoe City** 81.44 42 *eP* P 16 36 45.4 +1.4
comp=Z,96nm,1.1s
WCN **Washoe City** 81.44 42⇓P P 16 36 45.7 +1.7
baz=82
HUMO **Hull Mountain** 81.48 38 *eP* P 16 36 45.7 +1.8
comp=Z,136nm,1.1s
GMRC **Granite Mounta** 81.65 48⇓P P 16 36 46.6 +1.5
baz=82,SNR=33

IRM **Iron Mountain** 81.68 49 ⇓P P 16 36 47.0 +1.8
baz=82,SNR=55
GRAC **Grapevine Rang** 81.69 45 ⇓P P 16 36 47.0 +1.8
baz=82
WHN **Wuhan** 81.72 307 ⇓P P 16 36 46.5 +1.2
WHN pmax pmax
comp=Z,190nm,1.2s
FURC **Furnace Creek,** 81.74 46 ⇑P P 16 36 46.8 +1.5
baz=82
CN2 **Changchun** 81.81 323 ⇓P P 16 36 46.2 +0.7
CN2 *e*pP **pP** 16 39 04.3 +1.9
CN2 *e*S **S** 16 46 07.3 +1.2
CN2 pmax pmax
comp=Z,20nm,1.2s
TUQ **Turquoise Moun** 81.82 47 ⇓P P 16 36 47.2 +1.3
baz=82,SNR=30
SHOC **Shoshone** 81.83 47 ⇑P P 16 36 47.2 +1.4
baz=82,SNR=7.3
NVAR **Mina Array Bea** 81.87 44 P P 16 36 47.1 +0.9
comp=Z,28nm,0.7s,baz=224,slow=8.1,SNR=132
NVAR PKKPbc **PKKPbc** 16 55 12.8 +0.6
comp=Z,0.9nm,0.7s,baz=87,slow=2.8,SNR=5.1
NVAR **Mina Array Bea** 81.87 44 P P 16 36 47.1 +0.9
NVAR PKKPbc **PKKPbc** 16 55 12.8 +0.6
Y12C **Blythe** 81.91 49 ⇓P P 16 36 48.0 +1.8
baz=82,SNR=8.1
HOG **Hogback Mounta** 81.99 39 P P 16 36 48.6 +1.9
IPM **Ipoh** 82.13 278 *e*P P 16 36 48.5 +0.6
comp=Z,156nm,0.9s
IPM **Ipoh** 82.13 278 P P 16 36 49.0 +1.2
IPM **Ipoh** 82.13 278 P P 16 36 48.8 +1.0
IPM **Ipoh** 82.13 278 P P 16 36 48.4 +0.6
comp=Z,176nm,1.4s,comp=Z,2µm
KLR **Kul'dur** 82.16 330 *e*P P 16 36 46.0 -1.1
KLR *e*S **S** 16 46 14.0 +4.7
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,220nm,1.8s
LDFC **Landfair** 82.19 48 *e*P P 16 36 49.5 +1.7
comp=Z,163nm,0.9s
214A **Organ Pipe Nat** 82.24 52 ⇑P P 16 36 49.9 +1.9
baz=82
Z13A **Yuma Proving G** 82.25 50 ⇓P P 16 36 49.9 +1.9
baz=82,SNR=44
NEE2 **Needles Airpor** 82.38 49 ⇑P P 16 36 50.4 +1.9
baz=83,SNR=11
PDMCI **Parker Dam,Lak** 82.47 49 ⇑P P 16 36 50.9 +1.9
baz=83,SNR=24
114A **Black Gap (USA** 82.58 51 ⇑P P 16 36 51.6 +2.0
baz=83,SNR=26
MOD **Modoc** 82.62 40 *e*P P 16 36 51.0 +1.2
comp=Z,140nm,1.1s
HEBO **Mount Hebo** 82.65 36 *e*P P 16 36 51.6 +1.8
KULM **Kulim** 82.77 278 *e*P P 16 36 51.8 +0.8
comp=Z,80nm,0.9s
KULM **Kulim** 82.77 278 P P 16 36 52.4 +1.4
KULM **Kulim** 82.77 278 P P 16 36 52.1 +1.1
KULM **Kulim** 82.77 278 P P 16 36 51.8 +0.8
comp=Z,98nm,1.0s,comp=Z,1µm
Z14A **Wintersburg** 82.85 50 ⇓P P 16 36 53.1 +2.1
baz=83,SNR=22
W13A **Hualapai Mount** 83.06 49 ⇓P P 16 36 53.8 +1.5
baz=83,SNR=32
Y14A **Wickenburg** 83.09 50 ⇓P P 16 36 53.7 +1.5
baz=83,SNR=24
PSI **Prapat** 83.48 275 P P 16 36 53.9 -0.8
comp=Z,107nm,1.1s,comp=Z,1µm
R11A **Troy Canyon, C** 83.61 45 ⇓P P 16 36 55.8 +1.0
baz=84
RSO **Redoubt South** 83.64 13 *e*P P 16 36 53.8 -0.7
comp=Z,267nm,1.1s
SVW2 **Sparrevohn** 83.67 11 *e*P P 16 36 54.4 0.0
comp=Z,30nm,1.1s
BMN **Battle Mountai** 83.69 43 *e*P P 16 36 56.4 +1.3
BMN pmax pmax
comp=Z,73nm,1.2s
BMN **Battle Mountai** 83.69 43 *e*P P 16 36 56.4 +1.3
comp=Z,73nm,1.2s
TUC **Tucson** 83.91 52 *e*P P 16 36 58.1 +1.8
TUC pmax pmax
comp=Z,52nm,1.1s
TUC **Tucson** 83.91 52 *e*P P 16 36 58.1 +1.8
comp=Z,52nm,1.1s
WVOR **Wild Horse Val** 83.94 40 *e*P P 16 36 57.3 +1.0
WVOR pmax pmax
comp=Z,95nm,1.1s
WVOR **Wild Horse Val** 83.94 40 *e*P P 16 36 57.3 +1.0
comp=Z,94nm,1.1s
VIPM **Ingram Point** 83.98 38 P P 16 36 58.0 +1.5
VIPM **Ingram Point** 83.98 38 P P 16 36 58.0 +1.5
SEW **Seward** 84.05 14 *e*P P 16 36 56.2 +0.1
comp=Z,86nm,1.0s
318A **Bisbee** 84.08 53 ⇑P P 16 36 59.4 +2.1
baz=84,SNR=41
SLKM **Skilak Lake** 84.23 14 *e*P P 16 36 57.1 0.0
SLKM **Skilak Lake** 84.23 14 *e*P P 16 36 57.1 0.0
218A **Dragoon** 84.30 53 ⇑P P 16 37 00.5 +2.2
baz=85,SNR=49
I07A **Izee** 84.38 39 ⇑P P 16 37 00.1 +1.8
baz=85
GAMB **Gambell** 84.38 3 *e*P P 16 36 58.3 +0.7
comp=Z,92nm,1.0s
G06A **Carlson Farm,** 84.41 37 ⇓P P 16 36 59.6 +1.3
baz=85
X16A **Lo Mia Camp, P** 84.46 50 ⇑P P 16 37 00.8 +1.8
baz=85,SNR=23
Y17A **Roosevelt** 84.54 51 ⇑P P 16 37 01.0 +1.6
baz=85,SNR=16
J08A **Circle Bar Ran** 84.56 40 ⇑P P 16 37 00.8 +1.6
baz=85
319A **Douglas** 84.59 54 ⇓P P 16 37 01.9 +2.2
baz=85,SNR=24
R13A **O'Grain Ranch,** 84.60 46 ⇓P P 16 37 01.3 +1.6
baz=85
Z17A **San Carlos Hig** 84.61 52 ⇓P P 16 37 01.8 +2.0
baz=85
LON **Longmire** 84.67 36 *e*P P 16 37 00.5 +0.9
LON pmax pmax
comp=Z,155nm,1.8s
LON **Longmire** 84.67 36 *e*P P 16 37 00.5 +0.9
comp=Z,155nm,1.8s
CCUT **Cedar City** 84.69 47 *e*P P 16 37 01.5 +1.3
comp=Z,30nm,1.1s
ARUT **Antelope Range** 84.75 46 *e*P P 16 37 01.6 +1.2
ARUT pmax pmax
comp=Z,19nm,1.1s
ARUT **Antelope Range** 84.75 46 *e*P P 16 37 01.6 +1.2
comp=Z,19nm,1.1s
Z18A **Geronimo** 84.83 52 ⇑P P 16 37 02.7 +1.9
baz=85
U15A **North Rim** 84.85 48 ⇑P P 16 37 02.9 +1.9
baz=85
RC01 **Rabbit Creek A** 84.86 14 *e*P P 16 36 59.8 -0.3
comp=Z,208nm,1.3s
X17A **Forest Lakes** 84.88 51 ⇑P P 16 37 03.0 +1.8
baz=85,SNR=7.3
PGC **Sidney** 84.98 33 *e*P P 16 37 02.4 +1.5
comp=Z,7.2nm,1.2s
WUAZ **Wupatki** 85.05 49 *e*P P 16 37 03.1 +1.3
comp=Z,81nm,1.4s
WUAZ **Wupatki** 85.05 49 ⇑P P 16 37 03.5 +1.6
baz=85
ELK **Elko** 85.12 43 *e*P P 16 37 02.6 +0.4
ELK **Elko** 85.12 43 *e*P P 16 37 02.6 +0.4
320A **Kipp Ranch, An** 85.14 54 ⇓P P 16 37 04.7 +2.3
baz=85
Y18A **Canyon Day Jun** 85.17 51 ⇑P P 16 37 04.3 +1.9
baz=85,SNR=13
119A **Ashpeak Ranch,** 85.23 53 ⇑P P 16 37 04.7 +1.9
baz=86,SNR=12
BJT **Baijiatuan** 85.29 316 *e*P P 16 37 03.5 +0.9
BJT pmax pmax
comp=Z,31nm,0.4s
BJT **Baijiatuan** 85.29 316 *e*P P 16 37 03.5 +0.9
comp=Z,31nm,0.4s
BJI **Beijing** 85.30 316 P P 16 37 03.2 +0.5
BJI sP **sP** 16 40 26.9 0.0
BJI S **S** 16 46 41.1 +1.1
BJI sS **sS** 16 50 47.2 +0.5
BJI pmax pmax
comp=Z,89nm,1.5s
BJI pmax pmax
comp=Z,640nm,4.3s
W17A **Winslow** 85.30 50 ⇑P P 16 37 04.9 +1.8
baz=86
CRAG **Craig** 85.30 24 *e*P P 16 37 03.8 +1.5
comp=Z,107nm,1.2s
TTA **Tatalina** 85.31 10 *e*P P 16 37 02.6 +0.3
TTA **Tatalina** 85.31 10 *e*P P 16 37 02.6 +0.3
220A **Playas Peak, P** 85.41 54 ⇑P P 16 37 05.7 +2.1
baz=86,SNR=33
PMR **Palmer** 85.44 14 *e*P P 16 37 02.9 +0.1
PMR pmax pmax
comp=Z,227nm,1.2s
PMR **Palmer** 85.44 14 *e*P P 16 37 02.9 +0.1
comp=Z,226nm,1.2s
JCW **Jim Creek** 85.49 34 *e*P P 16 37 04.8 +1.3
comp=Z,35nm,0.8s
Z19A **T-Link Ranch,** 85.50 52 ⇓P P 16 37 05.9 +1.8
baz=86
V17A **Tonalea, Kykot** 85.51 49 ⇑P P 16 37 05.4 +1.4
baz=86,SNR=35
U16A **Tuba City** 85.53 49 ⇓P P 16 37 05.9 +1.7
baz=86,SNR=36
X18A **Snowflake** 85.59 51 ⇑P P 16 37 06.0 +1.6
baz=86,SNR=12
120A **U Bar Ranch, L** 85.62 53 ⇓P P 16 37 06.5 +1.8
baz=86,SNR=12
RSW **Rattlesnake Hi** 85.68 37 *e*P P 16 37 05.8 +1.3
comp=Z,170nm,1.1s
HAWA **Hanford** 85.71 37 *e*P P 16 37 05.8 +1.2
comp=Z,143nm,1.1s
MDW **Midway** 85.71 36 P P 16 37 06.2 +1.7
MDW **Midway** 85.71 36 P P 16 37 06.2 +1.7
R15A **Junction** 85.76 47 ⇓P P 16 37 07.2 +2.0
baz=86
SML **Sawmill** 85.81 14 *e*P P 16 37 04.8 +0.1
SML pmax pmax
comp=Z,23nm,1.2s
SML **Sawmill** 85.81 14 *e*P P 16 37 04.8 +0.1
comp=Z,23nm,1.2s
Y19A **Nutrioso** 85.82 51 ⇓P P 16 37 07.7 +2.0
baz=86,SNR=27
DIV **Divide** 85.83 16 *e*P P 16 37 04.9 +0.1
comp=Z,142nm,1.0s
GYA **Guiyang** 85.84 300 ⇑*i*P P 16 37 06.7 +0.9
GYA pP **pP** 16 39 25.8 +1.2
GYA sP **sP** 16 40 30.4 +0.2
GYA PP **PP** 16 40 42.2 +3.4
GYA SKS **SKSac** 16 46 28.9 -1.2
GYA S **S** 16 46 45.3 -0.8
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.8s
RPW **Rockport** 85.86 34 *e*P P 16 37 05.7 +0.5
comp=Z,10.0nm,0.5s
WIW **Wooded Island** 85.87 37 P P 16 37 07.2 +2.0
A05A **Maple Falls** 85.90 34 ⇑P P 16 37 06.4 +1.0
baz=86,SNR=5.2
Z20A **Nine Sixteen R** 85.92 52 ⇓P P 16 37 08.0 +2.0
baz=86,SNR=20
MVU **Marysvale** 85.95 46 P P 16 37 06.0 -0.1
comp=Z,7.4nm,1.3s
PPLA **Purkeypile** 85.97 12 *e*P P 16 37 04.1 -1.4
comp=Z,33nm,0.8s
MSU **Marysvale** 85.98 46 *e*P P 16 37 07.9 +1.6
MSU pmax pmax
comp=Z,27nm,1.2s
MSU **Marysvale** 85.98 46 *e*P P 16 37 07.9 +1.6
comp=Z,27nm,1.2s
S16A **Weppner Ranch,** 85.98 47 ⇓P P 16 37 07.4 +1.1
baz=86,SNR=9.2
ETW **Entiat** 85.99 35 *e*P P 16 37 07.2 +1.2
comp=Z,128nm,0.7s
221A **Meadite Ranch** 86.02 54 ⇓P P 16 37 08.7 +2.2
baz=86
X19A **St. Johns** 86.02 51 ⇑P P 16 37 08.1 +1.5
baz=86,SNR=8.8
W18A **Petrified Fore** 86.02 50 ⇓P P 16 37 08.0 +1.5
baz=86
U17A **Shonto** 86.08 49 ⇑P P 16 37 08.2 +1.5
baz=86,SNR=10
BMO **Blue Mountains** 86.11 39 *e*P P 16 37 07.4 +0.8
BMO pmax pmax
comp=Z,79nm,1.3s
BMO **Blue Mountains** 86.11 39 *e*P P 16 37 07.4 +0.8
comp=Z,80nm,1.3s
V18A **Ganado** 86.17 50 ⇑P P 16 37 08.7 +1.5
baz=86,SNR=27
T17A **Navajo Res., N** 86.17 48 ⇑P P 16 37 08.9 +1.7
baz=86,SNR=14
MFID **Camas Ranch** 86.20 41 *e*P P 16 37 08.3 +1.3
comp=Z,94nm,1.1s
MFID **Camas Ranch** 86.20 41 ⇑P P 16 37 08.5 +1.4
baz=86,SNR=62
WTV **Waterville** 86.25 36 P P 16 37 08.3 +1.2
121A **Cookes Peak, D** 86.25 53 ⇓P P 16 37 09.5 +1.9
baz=86,SNR=18
W19A **Sanders** 86.27 50 ⇓P P 16 37 09.2 +1.5
baz=86,SNR=15
WRAK **Wrangell Islan** 86.30 24 *e*P P 16 37 08.5 +1.5
comp=Z,160nm,1.2s
SYO **Syowa Base** 86.32 193 ⇑*i*P P 16 37 05.2 -1.8
SYO **Syowa Base** 86.32 193 ⇓*e*PcP **PcP** 16 37 08.6 0.0
R16A **Teasdale** 86.34 47 ⇓P P 16 37 09.8 +1.8
baz=87
PNL **Peninsula** 86.39 19 *e*P P 16 37 08.3 +0.9
comp=Z,205nm,1.0s
TNA **Tin City** 86.39 5 *e*P P 16 37 08.2 +1.0
comp=Z,45nm,1.0s
DUG **Dugway** 86.41 45 *e*P P 16 37 09.0 +0.8
DUG pmax pmax
comp=Z,50nm,1.8s
DUG **Dugway** 86.41 45 *e*P P 16 37 08.9 +0.8
comp=Z,50nm,1.8s
DUG **Dugway** 86.41 45 ⇓P P 16 37 09.2 +1.0
baz=87
Y20A **Horse Springs,** 86.44 52 ⇑P P 16 37 10.4 +1.8
baz=87,SNR=13
P15A **Leamington** 86.44 45 ⇑P P 16 37 09.6 +1.2
baz=87,SNR=9.8
S17A **Black Ridge (B** 86.49 48 ⇓P P 16 37 09.4 +0.8
baz=87,SNR=15
U18A **Rough Rock, Ch** 86.55 49 ⇓P P 16 37 10.2 +1.3
baz=87,SNR=23
SAW **Saint Andrews** 86.55 36 P P 16 37 09.7 +1.2
E09A **Wood Farm, Sta** 86.56 37 ⇑P P 16 37 09.7 +1.1
baz=87,SNR=14
222A **Williams Famil** 86.57 54 ⇑P P 16 37 11.1 +2.0
baz=87
X20A **Quemado** 86.65 51 ⇑P P 16 37 11.3 +1.7
baz=87,SNR=11
O15A **The Old Anders** 86.68 45 ⇑P P 16 37 10.7 +1.2
baz=87
Z21A **St. Cloud Mine** 86.69 53 ⇓P P 16 37 11.6 +1.8
baz=87,SNR=23
OD2 **Odessa Site #2** 86.75 36 *e*P P 16 37 10.7 +1.3
comp=Z,152nm,1.0s
F10A **Beach Ranch, E** 86.78 38 ⇑P P 16 37 10.6 +0.9
baz=87,SNR=68
V19A **Window Rock** 86.80 50 ⇓P P 16 37 11.4 +1.2
baz=87,SNR=5.3
I12A **Atlanta** 86.83 41 ⇑P P 16 37 11.7 +1.6
baz=87,SNR=62
TRF **Thorofare Moun** 86.85 13 *e*P P 16 37 08.4 -1.2
comp=Z,173nm,0.8s
Q16A **Castle Valley** 86.86 46 ⇓P P 16 37 12.2 +1.8
baz=87,SNR=21
P16A **Fountain Green** 86.88 46 ⇓P P 16 37 12.3 +1.9
baz=87
T18A **Mexican Hat** 86.89 48 ⇑P P 16 37 12.0 +1.6
baz=87,SNR=79
122A **Conniff Cattle** 86.92 53 ⇑P P 16 37 12.7 +2.0
baz=87
W20A **Ramah** 86.92 51 ⇓P P 16 37 12.4 +1.6
baz=87,SNR=32
R17A **Hanksville Air** 86.93 47 ⇓P P 16 37 11.8 +1.2
baz=87,SNR=12
N15A **Stansbury Isla** 86.95 44 ⇓P P 16 37 11.9 +1.2
baz=87,SNR=9.8
U19A **Dine' College,** 86.96 49 ⇓P P 16 37 12.3 +1.3
baz=87,SNR=15
Y21A **Point of Rocks** 87.01 52 ⇓P P 16 37 13.2 +1.9
baz=87,SNR=37
TMUT **Trail Mountain** 87.03 46 *e*P P 16 37 12.6 +1.4
comp=Z,151nm,1.5s
223A **Chaparral, Ant** 87.04 54 ⇑P P 16 37 13.1 +1.8
baz=87
S18A **Hurst Farm, Bl** 87.07 48 ⇓P P 16 37 12.4 +0.9
baz=87,SNR=10
L14A **Malta** 87.08 43 ⇓P P 16 37 12.7 +1.4
baz=87,SNR=23
MPU **Maple Canyon** 87.10 45 *e*P P 16 37 12.7 +1.2
comp=Z,70nm,1.5s
X21A **Alamocita Cree** 87.13 52 ⇑P P 16 37 13.4 +1.6
baz=87,SNR=18
HLID **Hailey** 87.14 41 *e*P P 16 37 13.2 +1.6
comp=Z,68nm,1.1s
HLID **Hailey** 87.14 41 ⇑P P 16 37 13.3 +1.7
baz=87
Z22A **Elephant Butte** 87.19 53 ⇑P P 16 37 13.7 +1.6
baz=88,SNR=32
J13A **Cove Ranch, Pi** 87.20 41 ⇓P P 16 37 13.7 +1.8
baz=88,SNR=78
C09A **Chrisman Ranch** 87.23 36 ⇑P P 16 37 12.6 +1.0
baz=88,SNR=24
HVU **Hansel Valley** 87.25 43 *e*P P 16 37 13.4 +1.3
HVU pmax pmax
comp=Z,112nm,1.2s
HVU **Hansel Valley** 87.25 43 *e*P P 16 37 13.4 +1.3
comp=Z,112nm,1.2s
V20A **Brimhall** 87.26 50 ⇑P P 16 37 13.4 +1.1
baz=88
O16A **Springville** 87.28 45 ⇓P P 16 37 13.7 +1.4
baz=88,SNR=28
M15A **Larsen Ranch,** 87.29 44 ⇑P P 16 37 13.4 +1.2
baz=88,SNR=30
T19A **Beclabito** 87.34 49 ⇓P P 16 37 13.9 +1.2
baz=88,SNR=17
MCK **McKinley** 87.38 13 *e*P P 16 37 11.5 -0.5
MCK pmax pmax
comp=Z,116nm,0.8s
MCK **McKinley** 87.38 13 *e*P P 16 37 11.5 -0.5
comp=Z,116nm,0.8s
K14A **Jones Ranch, D** 87.38 42 ⇓P P 16 37 14.1 +1.4
baz=88,SNR=16
PNT **Penticton** 87.39 34 P P 16 37 13.8 +1.4
PNT **Penticton** 87.39 34 P P 16 37 13.8 +1.4
SRU **San Rafael** 87.40 46 *e*P P 16 37 14.0 +1.1
SRU pmax pmax
comp=Z,123nm,1.3s
SRU **San Rafael** 87.40 46 *e*P P 16 37 14.0 +1.1
comp=Z,123nm,1.3s
H12A **Diamond D Ranc** 87.40 40 ⇑P P 16 37 14.0 +1.2
baz=88,SNR=135
XAN **Xi'an** 87.42 308 P P 16 37 14.0 +1.1
XAN pP **pP** 16 39 32.9 +0.5
XAN sP **sP** 16 40 38.5 +0.7
XAN PP **PP** 16 40 54.2 +3.1
XAN SKS **SKSac** 16 46 39.5 +0.4
XAN S **S** 16 47 00.0 -0.3
XAN SS **SS** 16 53 04.3 -3.3
XAN pmax pmax
comp=Z,31nm,1.1s
XAN pmax pmax
comp=Z,62nm,9.0s
P17A **Butcher Ranch,** 87.43 46 ⇑P P 16 37 14.5 +1.5
baz=88,SNR=13
123A **Bell Site, Whi** 87.44 54 ⇑P P 16 37 14.9 +1.8
baz=88
R18A **Canyonlands Na** 87.48 47 ⇓P P 16 37 14.3 +1.1
baz=88,SNR=68
PAX **Paxson** 87.49 15 *e*P P 16 37 12.4 -0.2
PAX pmax pmax
comp=Z,52nm,1.1s
PAX **Paxson** 87.49 15 *e*P P 16 37 12.4 -0.2
comp=Z,52nm,1.1s
U20A **Newcomb** 87.49 50 ⇑P P 16 37 14.4 +1.0
baz=88,SNR=6.9
Y22A **Socorro** 87.50 52 ⇓P P 16 37 15.0 +1.5
baz=88,SNR=10
I13A **Wildhorse Cree** 87.51 41 ⇓P P 16 37 14.9 +1.6
baz=88,SNR=32
JLU **Jordanelle** 87.51 45 *e*P P 16 37 14.6 +1.2
comp=Z,88nm,1.6s
324A **Moseley Ranch,** 87.51 55 ⇓P P 16 37 15.0 +1.5
baz=88,SNR=42
SKAG **Skagway** 87.51 21 *e*P P 16 37 14.4 +1.8
comp=Z,210nm,1.7s
W21A **San Fidel** 87.53 51 ⇑P P 16 37 15.0 +1.4
baz=88
DAU **Daniels Canyon** 87.55 45 *e*P P 16 37 14.8 +1.1
DAU pmax pmax
comp=Z,101nm,1.4s
DAU **Daniels Canyon** 87.55 45 *e*P P 16 37 14.8 +1.1
comp=Z,100nm,1.4s
LAZ **Ladron** 87.58 52 *e*P P 16 37 15.5 +1.6
comp=Z,26nm,1.4s
Y22D **IRIS PASSCAL I** 87.59 52 ⇑P P 16 37 15.8 +1.9
baz=88
LENM **Lemitar** 87.60 52 *e*P P 16 37 15.3 +1.4
comp=Z,38nm,1.2s
L15A **Malad City** 87.61 43 ⇑P P 16 37 14.9 +1.2
baz=88,SNR=46
425A **Indio Mountain** 87.61 56 ⇓P P 16 37 15.8 +1.8
baz=88,SNR=40
Q18A **Rafter H Ranch** 87.66 47 ⇑P P 16 37 15.2 +1.1
baz=88,SNR=57
N16A **Rees Ranch, Co** 87.66 45 ⇑P P 16 37 15.6 +1.5
baz=88
S19A **Harvey Farm, M** 87.70 48 ⇓P P 16 37 15.5 +1.1
baz=88,SNR=5.7
MNTX **Cornudas Mount** 87.70 55 *e*P P 16 37 15.7 +1.5
comp=Z,36nm,1.1s
MNTX **Cornudas Mount** 87.70 55 ⇓P P 16 37 15.8 +1.5
baz=88
MNTX ⇓P P 16 37 15.8 +1.5
baz=88
Z23A **Rita Site, Whi** 87.75 53 ⇑P P 16 37 16.1 +1.5
baz=88,SNR=13
626A **Big Bend Ranch** 87.75 57 ⇑P P 16 37 16.5 +1.8
baz=88,SNR=47
224A **Cornudas Mount** 87.76 55 ⇑P P 16 37 16.4 +1.7
baz=88,SNR=29
H13A **Challis** 87.77 40 ⇑P P 16 37 15.8 +1.4
baz=88,SNR=50
O17A **Robinson Place** 87.78 45 ⇓P P 16 37 16.5 +1.8
baz=88,SNR=64
P18A **Preston Nutter** 87.84 46 ⇑P P 16 37 16.3 +1.3
baz=88,SNR=15
BNM **Barren Site** 87.85 52 *e*P P 16 37 16.4 +1.2
comp=Z,39nm,1.4s
SNAA **Sanae** 87.85 179 *e* P 16 37 15.1 +0.8
SNAA *e* 16 39 36.7
SNAA **Sanae** 87.85 179 *e*P P 16 37 14.9 +0.6
SNAA pmax pmax
comp=Z,3.0nm,0.4s
SNAA **Sanae** 87.85 179 *e*P P 16 37 14.9 +0.6
comp=Z,3.1nm,0.4s
V21A **Milan** 87.86 50 ⇑P P 16 37 16.3 +1.2
baz=88
K15A **Arbon** 87.86 43 ⇓P P 16 37 16.4 +1.5
baz=88
R19A **Curley Farm, L** 87.87 48 ⇑P P 16 37 16.2 +1.0
baz=88,SNR=14
325A **Bean Ranch, Si** 87.88 55 ⇑P P 16 37 16.5 +1.2
baz=88,SNR=35
MENT **Mentasta** 87.89 15 *e*P P 16 37 15.0 +0.6
MVCO **Mesa Verde** 87.89 49 *e*P P 16 37 16.1 +0.8
comp=Z,42nm,1.6s
MVCO **Mesa Verde** 87.89 49 ⇓P P 16 37 16.2 +0.9
baz=88
LPM **Los Pinos Moun** 87.92 52 *e*P P 16 37 16.3 +0.9
comp=Z,38nm,1.3s
I14A **Mackay** 87.93 41 ⇑P P 16 37 17.0 +1.7
baz=88,SNR=63
HWUT **Hardware Ranch** 87.94 44 *e*P P 16 37 15.8 +0.5
comp=Z,60nm,1.2s
526A **Mary Lane Ranc** 88.00 57 ⇓P P 16 37 17.5 +1.6
baz=88,SNR=26
VNA3 **Neumayer Olymp** 88.03 177 *e* P 16 37 15.1 0.0
TXAR **Lajitas Array** 88.03 58 P P 16 37 17.7 +1.8
comp=Z,24nm,0.8s,baz=220,slow=5.9,SNR=222
TXAR pP **pP** 16 39 35.4 -0.3
comp=Z,7.8nm,1.0s,baz=223,slow=5.1,SNR=9.0
TXAR PKKPbc **PKKPbc** 16 54 58.0 +0.9
comp=Z,1.4nm,0.6s,baz=119,slow=2.4,SNR=16
TXAR **Lajitas Array** 88.03 58 P P 16 37 17.7 +1.8
TXAR *PP **pP** 16 39 35.4 -0.3
TXAR **Lajitas Array** 88.03 58 P P 16 37 17.7 +1.8
TXAR pP **pP** 16 39 35.4 -0.3
TXAR PKKPbc **PKKPbc** 16 54 58.0 +0.9
G13A **Cobalt** 88.06 40 ⇓P P 16 37 17.0 +1.2
baz=88
W22A **Albuquerque** 88.08 51 ⇓P P 16 37 17.9 +1.7
baz=88
N17A **Moffit Pass** 88.09 45 ⇑P P 16 37 17.5 +1.3
baz=88,SNR=15
U21A **Nageezi** 88.13 50 ⇑P P 16 37 17.7 +1.3

baz=88,SNR=52
NEW Newport 88.13 36 *e*P **P 16 37 15.8 -0.1**
NEW pmax pmax
comp=Z,82nm,1.6s
NEW Newport 88.13 36 *e*P **P 16 37 15.8 -0.1**
comp=Z,82nm,1.6s
NEW Newport 88.13 36 ⇑P **P 16 37 16.7 +0.8**
baz=88
PV04 Paradox Valley 88.16 48 *e*P **P 16 37 16.7 +0.2**
Y23A Lovelace Mesa, 88.17 53 ⇑P **P 16 37 17.8 +1.1**
baz=88
Q19A Hogan Spring (88.18 47 ⇓P **P 16 37 17.6 +1.2**
baz=88,SNR=32
L16A Fish Haven 88.23 44 ⇓P **P 16 37 17.6 +0.9**
baz=88,SNR=17
HIA Hailar 88.24 325 *e*P **P 16 37 16.2 -0.2**
HIA pmax pmax
comp=Z,40nm,0.9s
HIA Hailar 88.24 325 *e*P **P 16 37 16.1 -0.2**
comp=Z,40nm,0.9s
PV01 Paradox Valley 88.28 48 *e*P **P 16 37 17.4 +0.3**
comp=Z,5μm,1.4s
S20A Disappointment 88.28 48 ⇑P **P 16 37 18.1 +1.0**
baz=88
627A Terlingua Ranc 88.30 58 ⇓P **P 16 37 18.9 +1.7**
baz=88,SNR=36
426A McDonald Obser 88.31 56 ⇑P **P 16 37 18.9 +1.6**
baz=89,SNR=22
225A Deer Hill, Car 88.31 55 ⇓P **P 16 37 18.8 +1.5**
baz=89,SNR=21
ANMO Albuquerque 88.33 52 *e*P **P 16 37 17.5 +0.2**
ANMO pmax pmax
comp=Z,48nm,1.3s
ANMO Albuquerque 88.33 52 *e*P **P 16 37 17.5 +0.2**
comp=Z,48nm,1.3s
H14A Leadore 88.34 41 ⇓P **P 16 37 18.6 +1.5**
baz=89,SNR=29
X23A Hourglass Bar 88.36 52 ⇑P **P 16 37 18.5 +1.0**
baz=89,SNR=6.5
F13A Darby 88.38 39 ⇓P **P 16 37 17.9 +0.7**
baz=89,SNR=54
DOT Dot Lake 88.40 15 *e*P **P 16 37 16.9 +0.2**
comp=Z,31nm,0.9s
Z24A Sheeppen Canyo 88.43 54 ⇑P **P 16 37 19.0 +1.1**
baz=89,SNR=9.8
R20A Redvale 88.43 48 ⇑P **P 16 37 18.6 +0.9**
baz=89,SNR=8.4
VNA2 Neumayer--Watz 88.45 177 *e* **P 16 37 17.4 +0.4**
baz=167,slow=3.6
VNA2 *e* 16 39 37.2
M17A Scullys Gap (B 88.46 44 ⇑P **P 16 37 18.6 +0.8**
baz=89,SNR=16
T21A Navajo Lake 88.47 49 ⇑P **P 16 37 19.0 +1.0**
baz=89,SNR=7.5
KMI Kunming 88.51 297 P **P 16 37 20.1 +1.7**
KMI pP **pP 16 39 35.7 -2.6**
KMI SKS **SKSac 16 46 44.9 -1.3**
KMI S **S 16 47 10.1 -0.9**
KMI pmax pmax
comp=Z,68nm,1.0s
K16A Soda Springs 88.54 43 ⇑P **P 16 37 19.7 +1.6**
baz=89,SNR=46
I15A Monteview 88.56 42 ⇓P **P 16 37 20.1 +1.9**
baz=89,SNR=5.7
S21A Coal Bank Pass 88.60 49 ⇑P **P 16 37 19.8 +1.1**
baz=89,SNR=24
G14A Jackson 88.61 40 ⇓P **P 16 37 19.7 +1.3**
baz=89,SNR=5.8
COLA College 88.61 13 *e*P **P 16 37 16.9 -0.7**
COLA pmax pmax
comp=Z,170nm,1.0s
COLA College 88.61 13 *e*P **P 16 37 16.9 -0.7**
comp=Z,170nm,1.0s
326A Caldwell Ranch 88.62 56 ⇓P **P 16 37 19.7 +1.0**
baz=89,SNR=7.8
DLBC Dease Lake 88.63 23 *e*P **P 16 37 18.9 +0.9**
L17A Cokeville 88.63 44 ⇑P **P 16 37 19.1 +0.6**
baz=89
Y24A Capitan 88.63 53 ⇓P **P 16 37 20.0 +1.2**
baz=89
W23A Werner Place, 88.65 52 ⇓P **P 16 37 19.6 +0.8**
baz=89
125A Gardner Draw, 88.67 54 ⇓P **P 16 37 20.2 +1.3**
baz=89
U22A Llaves 88.68 50 ⇓P **P 16 37 20.1 +1.1**
baz=89
VNA1 Neumayer--Stat 88.69 177 *e* **P 16 37 18.9 +0.8**
VNA1 *e* 16 39 39.6
P19A Cripple Cowboy 88.70 47 ⇑P **P 16 37 20.0 +1.1**
baz=89
GDL2 Guadalupe Moun 88.70 55 *e*P **P 16 37 20.6 +1.6**
comp=Z,101nm,1.2s
628A Black Gap, Mar 88.71 58 ⇑P **P 16 37 20.5 +1.5**
baz=89,SNR=22
ILAR Eielson Array 88.72 13 P **P 16 37 17.6 -0.5**
comp=Z,37nm,0.8s,baz=215,slow=5.2,SNR=585
ILAR pP **pP 16 39 37.5 -0.7**
comp=Z,4.1nm,1.0s,baz=237,slow=5.2,SNR=4.8
ILAR PP **PP 16 40 58.2 -2.3**
comp=Z,5.6nm,1.1s,baz=222,slow=6.8,SNR=4.2
ILAR PKiKP **PKiKP 16 42 12.2 -0.6**
comp=Z,1.1nm,0.5s,baz=272,slow=3.0,SNR=13
ILAR PKKP **PKKPdf 16 54 53.9 +2.2**
comp=Z,0.4nm,0.6s,baz=7.8,slow=2.9,SNR=8.5
ILAR Eielson Array 88.72 13 P **P 16 37 17.7 -0.5**
ILAR *PP **pP 16 39 37.5 -0.7**
ILAR 16 40 58.3
ILAR Eielson Array 88.72 13 P **P 16 37 17.6 -0.5**
ILAR pP **pP 16 39 37.5 -0.7**
ILAR PP **PP 16 40 58.2 -2.3**
ILAR PKiKP **PKiKP 16 42 12.2 -0.6**
ILAR PKKP **PKKPdf 16 54 53.9 +2.2**
HHC Hu-ho-hao-te 88.74 315 ⇓P **P 16 37 20.1 +1.1**
HHC pP **pP 16 39 39.5 +0.5**
HHC sP **sP 16 40 45.0 +0.8**
HHC PP **PP 16 41 06.4 +5.1**
HHC SKS **SKSac 16 46 46.0 -0.6**
HHC S **S 16 47 11.5 -0.7**
HHC SS **SS 16 53 31.5 +5.2**
HHC pmax pmax
comp=Z,55nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.4s
J16A Bone 88.74 42 ⇓P **P 16 37 20.8 +1.7**
baz=89
C12B Naegeli Ranch, 88.74 37 ⇑P **P 16 37 19.8 +1.1**
baz=89,SNR=14
MCMT McKenzie Canyo 88.76 41 *e*P **P 16 37 20.7 +1.5**
comp=Z,19nm,1.1s
H15A Lima 88.78 41 ⇓P **P 16 37 20.8 +1.6**
baz=89,SNR=37
E13A Victor 88.81 39 ⇓P **P 16 37 19.4 +0.3**
baz=89,SNR=8.5
M18A Lyman 88.83 45 ⇑P **P 16 37 20.7 +1.2**
baz=89,SNR=32
Q20A Ridgley Place, 88.85 47 ⇓P **P 16 37 20.6 +1.0**
baz=89,SNR=20
427A Hayter Ranch, 88.87 56 ⇑P **P 16 37 21.3 +1.5**
baz=89,SNR=48
V23A Ortiz Mt. (NFS 88.89 51 ⇓P **P 16 37 21.6 +1.7**
baz=89
Z25A Roswell 88.89 54 ⇓P **P 16 37 21.3 +1.4**
baz=89,SNR=11
X24A Lazy VL Ranch, 88.91 52 ⇑P **P 16 37 20.6 +0.6**
baz=89
O19A Miners Draw (B 88.92 46 ⇑P **P 16 37 20.9 +1.1**
baz=89,SNR=11
K17A Gardner Place, 88.92 43 ⇑P **P 16 37 21.2 +1.4**
baz=89,SNR=19
T22A Edith 88.94 50 ⇓P **P 16 37 21.1 +1.0**
baz=89
F14A Wisdom 88.96 40 ⇑P **P 16 37 20.8 +0.9**
baz=89
RRI2 Red Ridge 88.96 42 *e*P **P 16 37 21.4 +1.2**
comp=Z,129nm,1.3s
327A Balmorhea Ranc 89.02 56 ⇓P **P 16 37 21.5 +1.1**
baz=89
P20A De Beque 89.04 47 ⇓P **P 16 37 21.7 +1.2**
baz=89
528A Cox Ranch, San 89.07 57 ⇑P **P 16 37 22.2 +1.4**
baz=89,SNR=9.2
L18A Fontenelle, Gr 89.09 44 ⇑P **P 16 37 21.7 +1.0**
baz=89,SNR=10
R21A Cimarron 89.09 48 ⇓P **P 16 37 22.2 +1.3**
baz=89,SNR=35
CLNB Carlsbad 89.10 55 P **P 16 37 21.8 +0.9**
comp=Z,2.0nm,0.6s

BILL Bilibino 89.11 355 *d*iP **P 16 37 20.1 +0.2**
BILL *i* 16 41 02.6
BILL pmax pmax
comp=Z,68nm,1.3s
BILL Bilibino 89.11 355 *e*P **P 16 37 20.0 +0.1**
comp=Z,50nm,0.9s
U23A El Rito 89.14 51 ⇑P **P 16 37 22.3 +1.2**
baz=89
126A Clayton Basin, 89.15 55 ⇑P **P 16 37 22.0 +0.9**
baz=89,SNR=5.6
G15A Dillon 89.16 40 ⇓P **P 16 37 22.1 +1.2**
baz=89,SNR=23
N19A John Jarvie Ra 89.16 45 ⇑P **P 16 37 21.8 +0.7**
baz=89
Y25A Mesa, Roswell 89.19 53 ⇑P **P 16 37 22.1 +0.9**
baz=89
DLMT Dillon 89.19 40 *e*P **P 16 37 22.2 +1.2**
comp=Z,58nm,1.4s
CM31 Chiang Mai Arr 89.20 290 *e*P **P 16 37 22.8 +1.4**
comp=Z,79nm,1.0s
CMAR Chiang Mai Arr 89.20 290 P **P 16 37 23.2 +1.7**
comp=Z,51nm,0.9s,baz=127,slow=3.0,SNR=298
CMAR PKiKP **PKiKP 16 42 15.0 -0.1**
comp=Z,0.6nm,0.5s,baz=202,slow=1.1,SNR=6.5
CMAR PKKPbc **PKKPbc 16 54 55.0 +1.2**
comp=Z,1.6nm,0.6s,baz=281,slow=4.4,SNR=14
CMAR Chiang Mai Arr 89.20 290 P **P 16 37 23.2 +1.7**
CMAR Chiang Mai Arr 89.20 290 P **P 16 37 23.2 +1.7**
CMAR PKiKP **PKiKP 16 42 15.0 -0.1**
CMAR PKKPbc **PKKPbc 16 54 55.0 +1.2**
E14A Clinton 89.20 39 ⇑P **P 16 37 21.7 +0.7**
baz=90,SNR=14
BSMT Bassoo Peak 89.21 37 *e*P **P 16 37 21.6 +0.5**
comp=Z,26nm,0.9s
W24A Lazy 6 Ranch, 89.22 52 ⇑P **P 16 37 22.4 +0.9**
baz=90
Q21A Lamborn Mesa, 89.29 48 ⇓P **P 16 37 22.8 +1.1**
baz=90,SNR=12
S22A 4UR Ranch, Cre 89.32 49 ⇓P **P 16 37 23.3 +1.3**
baz=90
CHTO Chiang Mai 89.33 290 *e*P **P 16 37 23.5 +1.4**
CHTO pmax pmax
comp=Z,84nm,1.0s
CHTO Chiang Mai 89.33 290 *e*P **P 16 37 23.5 +1.4**
comp=Z,84nm,1.0s
CHTO Chiang Mai 89.33 290 P **P 16 37 23.1 +1.0**
comp=Z,106nm,1.0s,comp=Z,1μm
J17A Brown Place, J 89.36 43 ⇓P **P 16 37 23.3 +1.4**
baz=90,SNR=30
SNOW Snow King Moun 89.38 43 *e*P **P 16 37 23.7 +1.7**
comp=Z,88nm,1.1s
CPRX Cap Rock 89.43 54 *e*P **P 16 37 23.3 +0.9**
comp=Z,12nm,0.7s
K18A Toltan Ranch, 89.43 44 ⇑P **P 16 37 23.8 +1.5**
baz=90,SNR=52
O20A White River Ci 89.44 46 ⇓P **P 16 37 23.5 +1.1**
baz=90
JTMT Jette 89.44 38 *e*P **P 16 37 22.1 0.0**
comp=Z,9.0nm,0.9s
227A Bennet, Jal 89.44 55 ⇓P **P 16 37 23.4 +1.0**
baz=90
Z26A Caprock 89.45 54 ⇓P **P 16 37 23.3 +0.9**
baz=90
M19A Rock Springs 89.47 45 ⇓P **P 16 37 23.4 +0.9**
baz=90
X25A Clemmons Ranch 89.47 53 ⇑P **P 16 37 23.3 +0.8**
baz=90
SWMT Swartz Lake 89.48 38 *e*P **P 16 37 22.1 -0.1**
comp=Z,2.8nm,0.5s
F15A Butte 89.50 40 ⇓P **P 16 37 23.4 +0.9**
baz=90,SNR=14
LRM Limekiln Ridge 89.52 40 *e*P **P 16 37 23.5 +0.9**
comp=Z,42nm,0.7s
D14A Greenough 89.54 38 ⇑P **P 16 37 22.8 +0.2**
baz=90,SNR=20
V24A Rampart Ranch, 89.54 51 ⇓P **P 16 37 24.1 +1.2**
baz=90
LOHW Long Hollow 89.55 43 *e*P **P 16 37 24.0 +1.2**
comp=Z,40nm,1.2s
328A Wristen Ranch, 89.56 56 ⇓P **P 16 37 23.8 +0.9**
baz=90,SNR=7.3
T23A Casias Ranch, 89.56 50 ⇓P **P 16 37 24.3 +1.2**
baz=90
R22A Saguache, Gunn 89.59 49 ⇓P **P 16 37 24.7 +1.4**
baz=90,SNR=8.8
G16A Moss Hill, Enn 89.61 41 ⇓P **P 16 37 23.9 +1.0**
baz=90
L19A Farson 89.62 44 ⇑P **P 16 37 24.4 +1.3**
baz=90
QLMT Earthquake Lak 89.64 41 *e*P **P 16 37 24.8 +1.6**
comp=Z,6.6nm,1.3s
127A Arkansas Junct 89.67 55 ⇑P **P 16 37 24.3 +0.8**
baz=90
H16A Russell Place, 89.69 41 ⇑P **P 16 37 25.3 +1.9**
baz=90,SNR=17
P21A Newcastle 89.69 47 ⇑P **P 16 37 24.8 +1.2**
baz=90
E15A Deer Lodge 89.71 39 ⇓P **P 16 37 24.0 +0.7**
baz=90,SNR=7.5
I17A Pilgrim Ck. 89.72 42 ⇑P **P 16 37 25.5 +1.9**
baz=90,SNR=12
FLWY Flagg Ranch 89.72 42 *e*P **P 16 37 25.3 +1.7**
comp=Z,75nm,1.4s
Q22A Crested Butte, 89.77 48 ⇓P **P 16 37 25.2 +1.2**
baz=90,SNR=13
PD01 Pinedale Array 89.80 44 *e*P **P 16 37 24.1 +0.1**
BW06 Boulder Array 89.81 44 ⇓P **P 16 37 24.6 +0.6**
baz=90
BW06 ⇓P **P 16 37 24.6 +0.6**
baz=90
PD02 Pinedale Array 89.81 44 *e*P **P 16 37 24.3 +0.3**
PDAR Pinedale Array 89.81 44 P **P 16 37 24.6 +0.6**
comp=Z,22nm,0.9s,baz=203,slow=3.3,SNR=103
PDAR pP **pP 16 39 44.6 +0.2**
comp=Z,0.5nm,0.9s,baz=332,slow=3.1,SNR=1.4
PDAR PP **PP 16 41 07.8 -2.0**
comp=Z,3.1nm,1.1s,baz=242,slow=5.9,SNR=4.6
PDAR PKKP **PKKPbc 16 54 52.8 -0.7**
comp=Z,0.8nm,0.7s,baz=97,slow=3.6,SNR=4.8
PDAR Pinedale Array 89.81 44 P **P 16 37 24.6 +0.6**
PDAR pP **pP 16 39 44.6 +0.2**
PDAR PP **PP 16 41 07.8 -2.0**
PDAR PKKP **PKKPbc 16 54 52.8 -0.7**
YFT Old Faithful 89.81 42 *e*P **P 16 37 26.8 +2.8**
comp=Z,9.5nm,0.4s
Y26A Elida 89.84 54 ⇑P **P 16 37 25.1 +0.8**
baz=90
YMR Madison River 89.84 41 *e*P **P 16 37 26.0 +1.8**
comp=Z,137nm,1.8s
SMCO Snowmass 89.86 48 *e*P **P 16 37 25.6 +1.1**
comp=Z,53nm,1.2s
PLCA Paso Flores 89.90 134 P **P 16 37 26.2 +1.7**
comp=Z,8.2nm,0.8s,baz=212,slow=5.6,SNR=13
PLCA Paso Flores 89.90 134 *e*P **P 16 37 25.8 +1.3**
PLCA pmax pmax
comp=Z,8.0nm,0.8s
PLCA Paso Flores 89.90 134 *e*P **P 16 37 25.8 +1.3**
comp=Z,7.8nm,0.8s
W25A X Bar L Ranch, 89.92 52 ⇓P **P 16 37 25.2 +0.6**
baz=90
BOZ Bozeman (W) 89.92 40 *e*P **P 16 37 25.0 +0.6**
BOZ *e**PP **pP 16 39 44.6 -0.1**
BOZ pmax pmax
comp=Z,30nm,1.2s
BOZ Bozeman (W) 89.92 40 *e*P **P 16 37 25.0 +0.6**
comp=Z,30nm,1.2s
BOZ *e*pP **pP 16 39 44.6 -0.1**
BOZ Bozeman (W) 89.92 40 ⇓P **P 16 37 25.4 +1.0**
baz=90
BOZ ⇓P **P 16 37 25.4 +1.0**
baz=90
DAWY Dawson 89.92 16 *e*P **P 16 37 24.3 +0.5**
H17A Grant Village 89.95 42 ⇓P **P 16 37 26.3 +1.7**
baz=90
F16A Kennard Place, 89.99 40 ⇓P **P 16 37 25.9 +1.2**
baz=90
O21A Pagoda 90.00 47 ⇓P **P 16 37 25.8 +0.8**
baz=90
Z27A Tatum 90.05 54 ⇓P **P 16 37 25.6 +0.4**
baz=90
EGAK Eagle 90.05 15 *e*P **P 16 37 24.7 +0.4**
comp=Z,2μm,0.7s
V25A Rancho No Teng 90.07 52 ⇓P **P 16 37 26.3 +0.9**
baz=90
I18A Diamond G Ranc 90.09 43 ⇓P **P 16 37 26.4 +1.0**
baz=90
D15A Lincoln 90.10 39 ⇑P **P 16 37 26.1 +0.9**
baz=90,SNR=15
M20A Sweetwater, Wa 90.10 45 ⇓P **P 16 37 26.6 +1.2**
baz=90,SNR=14
X26A CR and CF Fran 90.12 53 ⇑P **P 16 37 26.2 +0.6**
baz=90
P22A Eagle 90.20 47 ⇑P **P 16 37 27.0 +1.1**
baz=90
N21A Black Mountain 90.21 46 ⇑P **P 16 37 27.2 +1.2**
baz=90
R23A Moffat 90.22 49 ⇓P **P 16 37 27.2 +1.0**
baz=90
L20A Wamsutter 90.24 45 ⇑P **P 16 37 27.4 +1.4**
baz=90,SNR=22
COLD Coldfoot 90.25 11 *e*P **P 16 37 25.7 +0.5**
comp=Z,58nm,1.0s
SDCO Great Sand Dun 90.26 50 *e*P **P 16 37 27.1 +0.8**
comp=Z,29nm,1.4s
SDCO Great Sand Dun 90.26 50 ⇑P **P 16 37 27.1 +0.8**
baz=90
SDCO ⇑P **P 16 37 27.1 +0.8**
baz=90
T24A Torres, Weston 90.29 50 ⇓P **P 16 37 28.6 +2.2**
baz=90
G17A Pierce Place, 90.30 41 ⇓P **P 16 37 27.6 +1.4**
baz=90
CLNS Chul'man 90.32 333 *e*P **P 16 37 24.1 -1.7**
CLNS *e*S **SKSac 16 46 52.3 -2.4**
CLNS pmax pmax
comp=Z,47nm,1.4s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=N,24nm,1.4s
CLNS pmax pmax
comp=Z,10.0nm,1.5s
CLNS pmax pmax
comp=N,16nm,1.8s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS smax smax
comp=E,140nm,12.4s
CLNS smax smax
comp=N,185nm,15.2s
Y27A Causey 90.32 54 ⇓P **P 16 37 27.2 +0.7**
baz=91
HRY Holter Researc 90.34 39 *e*P **P 16 37 27.3 +1.0**
comp=N,31nm,1.1s
E16A East Helena 90.34 40 ⇓P **P 16 37 27.1 +0.8**
baz=91,SNR=6.0
B14A Marquette Ranc 90.34 37 ⇑P **P 16 37 26.9 +0.6**
baz=91
WALA Waterton Lakes 90.35 37 *e*P **P 16 37 26.7 +0.5**
comp=N,1.2nm,1.0s
J19A Crowheart 90.37 43 ⇓P **P 16 37 27.4 +0.9**
baz=91
W26A Owens Ranch, T 90.38 53 ⇑P **P 16 37 28.4 +1.7**
baz=91
S24A Houchin Ranch, 90.42 50 ⇑P **P 16 37 28.4 +1.3**
baz=91
C15A Salmond Ranch, 90.42 38 ⇓P **P 16 37 27.2 +0.6**
baz=91
U25A Circle Dot Ran 90.46 51 ⇑P **P 16 37 27.9 +0.7**
baz=91
Q23A Hartsel 90.54 48 ⇑P **P 16 37 28.6 +1.0**
baz=91
K20A Yellowstone Ra 90.55 44 ⇓P **P 16 37 27.8 +0.4**
baz=91
A14A Double T Ranch 90.58 37 ⇑P **P 16 37 28.1 +0.8**
baz=91
O22A Kremmling 90.60 47 ⇓P **P 16 37 28.8 +1.0**
baz=91
F17A Fitzpatrick Pl 90.64 41 ⇓P **P 16 37 29.3 +1.6**
baz=91
MSTX Muleshoe 90.66 54 ⇑P **P 16 37 28.7 +0.7**
baz=91
D16A Dana Ranch, Ca 90.67 39 ⇑P **P 16 37 28.8 +1.1**
baz=91
X27A F and S Farms, 90.69 53 ⇑P **P 16 37 28.8 +0.6**
baz=91
M21A Separation Pea 90.70 45 ⇑P **P 16 37 29.0 +0.8**
baz=91
B15A Bradely Ranch, 90.72 38 ⇑P **P 16 37 28.0 0.0**
baz=91
P23A Jefferson 90.74 48 ⇑P **P 16 37 30.0 +1.4**
baz=91
R24A Sanders Place, 90.75 49 ⇓P **P 16 37 29.6 +1.1**
baz=91
I19A Meeteetse 90.77 43 ⇓P **P 16 37 29.7 +1.3**
baz=91
T25A Trinidad 90.78 50 ⇓P **P 16 37 29.2 +0.6**
baz=91
E17A Martinsdale 90.79 40 ⇑P **P 16 37 29.5 +1.0**
baz=91
L21A Rawlins 90.86 45 ⇓P **P 16 37 29.5 +0.6**
baz=91
W27A Bowe Ranch, En 90.89 53 ⇑P **P 16 37 29.4 +0.4**
baz=91
C16A Fuhringer Ranc 90.94 38 ⇑P **P 16 37 29.4 +0.4**
baz=91
U26A Atchley Ranch, 90.95 51 ⇑P **P 16 37 30.0 +0.6**
baz=91
N22A Wattenberg Ran 90.95 46 ⇓P **P 16 37 30.7 +1.2**
baz=91
A15A Johnson Ranch, 90.97 37 ⇑P **P 16 37 29.5 +0.5**
baz=91
S25A Robets Cordova 90.98 50 ⇑P **P 16 37 30.3 +0.8**
baz=91
G18A Lazy EL Ranch, 91.03 41 ⇓P **P 16 37 30.5 +1.0**
baz=91
J20A Shoshoni 91.04 44 ⇓P **P 16 37 30.7 +1.1**
baz=91
O23A Lake Granby, G 91.06 47 ⇑P **P 16 37 31.1 +1.2**
baz=91
H19A Powell 91.08 42 ⇑P **P 16 37 31.2 +1.4**
baz=91
ISCO Idaho Springs 91.08 48 *e*P **P 16 37 31.3 +1.2**
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 91.08 48 *e*P **P 16 37 31.3 +1.2**
comp=Z,15nm,1.3s
ISCO Idaho Springs 91.08 48 ⇑P **P 16 37 31.1 +1.0**
baz=91
RLMT Red Lodge 91.12 42 *e*P **P 16 37 30.9 +0.9**
comp=Z,5.0nm,0.8s
RLMT Red Lodge 91.12 42 ⇓P **P 16 37 31.3 +1.3**
baz=91
RLMT ⇓P **P 16 37 31.3 +1.3**
baz=91
F18A Big Timber 91.22 41 ⇑P **P 16 37 31.7 +1.4**
baz=92
D17A Six Diamond Ra 91.24 39 ⇓P **P 16 37 31.6 +1.2**
baz=92
K21A Alcova 91.25 45 ⇑P **P 16 37 31.3 +0.7**
baz=92
B16A M & M Farms, S 91.27 38 ⇑P **P 16 37 30.7 +0.2**
baz=92
I20A Worland 91.28 43 ⇓P **P 16 37 31.3 +0.6**
baz=92
R25A Fountain Ranch 91.30 50 ⇑P **P 16 37 31.5 +0.6**
baz=92
N23A Red Feather La 91.34 47 ⇓P **P 16 37 32.5 +1.3**
baz=92
E18A Harlowton 91.41 40 ⇑P **P 16 37 32.7 +1.5**
baz=92
C17A Wharram Farm, 91.43 39 ⇓P **P 16 37 32.0 +0.8**
baz=92
J21A Lysite 91.45 44 ⇑P **P 16 37 32.5 +1.0**
baz=92
P24A Kohler Place, 91.45 48 ⇓P **P 16 37 32.7 +1.1**
baz=92
L22A Ellis Ranch, M 91.52 45 ⇑P **P 16 37 33.0 +1.1**
baz=92
JCT Junction City 91.56 58 *e*P **P 16 37 32.8 +0.6**
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT Junction City 91.56 58 *e*P **P 16 37 32.8 +0.6**
comp=Z,8.1nm,0.7s
JCT Junction City 91.56 58 ⇑P **P 16 37 32.5 +0.3**
baz=92
A16A West Butte Ran 91.60 38 ⇓P **P 16 37 32.7 +0.7**
baz=92
O24A Longmont 91.60 48 ⇓P **P 16 37 33.4 +1.1**
baz=92
H20A Greybull 91.62 43 ⇑P **P 16 37 32.6 +0.4**
baz=92
Q25A Bedland, Calha 91.65 49 ⇑P **P 16 37 33.1 +0.5**
baz=92
S26A Kim 91.66 50 ⇑P **P 16 37 33.0 +0.4**

baz=92
F19A Roth Farm, Mol 91.67 41 ⇑P P 16 37 33.2 +0.8
baz=92
B17A L&G Farms, Che 91.73 38 ⇑P P 16 37 33.1 +0.6
baz=92
K22A Casper 91.73 45 ⇓P P 16 37 33.5 +0.7
baz=92
I21A Big Trails, Te 91.76 43 ⇓P P 16 37 33.3 +0.4
baz=92
D18A Linhart Farms, 91.78 40 ⇑P P 16 37 34.1 +1.3
baz=92
G20A Bridger 91.82 42 ⇓P P 16 37 33.7 +0.5
baz=92
AMTX Amarillo 91.85 53 ⇑P P 16 37 33.9 +0.4
baz=92
AMTX ⇑P P 16 37 33.9 +0.4
baz=92
YAK Yakutsk 91.90 338 *e*P P 16 37 31.8 -1.0
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,79nm,0.9s
YAK pmax pmax
comp=N,14nm,1.2s
YAK Yakutsk 91.90 338 *e*P P 16 37 32.2 -0.6
comp=N,94nm,0.8s
R26A Arlington 91.96 50 ⇓P P 16 37 34.6 +0.7
baz=92
P25A Willow Gulch B 91.97 48 ⇑P P 16 37 35.0 +1.0
baz=92
T27A Campo 91.97 51 ⇑P P 16 37 34.4 +0.3
baz=92
L23A Garrett 92.04 46 ⇓P P 16 37 35.2 +0.9
baz=92
E19A Rath Farm, Rou 92.05 41 ⇓P P 16 37 35.2 +1.2
baz=92
LZH Lanzhou 92.06 308 ⇓P P 16 37 36.0 +1.5
LZH pP **pP** 16 39 58.5 +3.4
LZH sP **sP** 16 41 01.0 +0.9
LZH SKS **SKSac** 16 47 05.0 -0.7
LZH S **S** 16 47 40.0 -1.9
LZH sS **sS** 16 51 55.0 +0.9
LZH pmax pmax
comp=Z,73nm,1.0s
LZH pmax pmax
comp=Z,250nm,4.0s
J22A Midwest 92.11 44 ⇓P P 16 37 35.1 +0.6
baz=92
A17A Triple J Farms 92.11 38 ⇓P P 16 37 35.2 +0.9
baz=92
F20A Billings 92.13 41 ⇑P P 16 37 35.0 +0.6
baz=92
Q26A Hugo 92.17 49 ⇓P P 16 37 35.6 +0.6
baz=92
EGMT Eagleton 92.21 39 *e*P P 16 37 35.7 +0.9
comp=Z,21nm,1.1s
EGMT Eagleton 92.21 39 ⇑P P 16 37 35.5 +0.8
baz=92
O25A Wiggins 92.25 48 ⇑P P 16 37 36.0 +0.7
baz=92
H21A Big Horn, Sher 92.29 43 ⇑P P 16 37 36.0 +0.8
baz=93
I22A 9 Mile Ranch, 92.32 44 ⇑P P 16 37 36.4 +0.9
baz=93
D19A Cripps Ranch, 92.32 40 ⇓P P 16 37 36.6 +1.3
baz=93
K23A Bowen Ranch, D 92.37 45 ⇓P P 16 37 36.1 +0.3
baz=93
B18A Beardsley Farm 92.38 39 ⇑P P 16 37 36.3 +0.8
baz=93
R27A Eads 92.42 50 ⇓P P 16 37 36.5 +0.5
baz=93
T28A Walsh 92.44 51 ⇑P P 16 37 36.3 +0.2
baz=93
G21A Lodge Grass 92.45 42 ⇓P P 16 37 36.8 +0.8
baz=93
E20A Meyer Farm, Mu 92.47 41 ⇑P P 16 37 37.1 +1.2
baz=93
C19A Slack Wire Ran 92.49 39 ⇑P P 16 37 37.4 +1.4
baz=93
L24A Wheatland 92.53 46 ⇓P P 16 37 37.8 +1.3
baz=93
P26A Davis Ranch, A 92.56 49 ⇓P P 16 37 37.3 +0.6
baz=93
A18A Metzger Ranch, 92.59 38 ⇓P P 16 37 37.2 +0.8
baz=93
J23A Dilts Ranch, B 92.71 44 ⇑P P 16 37 37.9 +0.7
baz=93
H22A Clearmont 92.71 43 ⇑P P 16 37 37.9 +0.7
baz=93
D20A Manuel Ranch, 92.74 40 ⇓P P 16 37 38.5 +1.4
baz=93
F21A Absaloka Mine, 92.78 42 ⇓P P 16 37 38.7 +1.3
baz=93
KSCO Kaye Shedlock' 92.84 49 ⇓P P 16 37 38.8 +0.9
baz=93
M25A Palm-Egli Farm 92.86 47 ⇓P P 16 37 38.8 +0.8
baz=93
O26A Horse Wrangler 92.87 48 ⇓P P 16 37 38.6 +0.6
baz=93
B19A Brinkman Farms 92.89 39 ⇓P P 16 37 39.0 +1.2
baz=93
K24A Anderson Ranch 92.90 45 ⇑P P 16 37 39.1 +0.9
baz=93
G22A Birney 93.03 43 ⇓P P 16 37 39.3 +0.7
baz=93
CIT Chita 93.05 325 *e*P P 16 37 38.8 +0.4
C20A Veseth Ranch, 93.11 40 ⇑P P 16 37 40.1 +1.3
baz=93
E21A Keefer Ranch, 93.13 41 ⇓P P 16 37 40.3 +1.3
baz=93
N26A Koester Ranch, 93.18 47 ⇑P P 16 37 39.9 +0.5
baz=93
L25A Engebretsen Ra 93.22 46 ⇑P P 16 37 40.6 +1.0
baz=94
A19A Klindworth Far 93.23 38 ⇑P P 16 37 40.2 +0.8
baz=94
J24A Dixon Ranch, L 93.26 45 ⇓P P 16 37 40.4 +0.6
baz=94
F22A Rosebud 93.30 42 ⇓P P 16 37 41.1 +1.3
baz=94
D21A La Casta Ranch 93.42 41 ⇑P P 16 37 41.5 +1.2
baz=94
O27A Beecher Island 93.43 48 ⇑P P 16 37 41.4 +0.8
baz=94
K25A Mack Ranch, Ha 93.48 46 ⇑P P 16 37 41.7 +0.9
baz=94
I24A Kuemmerle Ranc 93.51 44 ⇑P P 16 37 41.6 +0.7
baz=94
G23A Biddle 93.59 43 ⇑P P 16 37 41.7 +0.6
baz=94
A20A Cobblestone Ra 93.69 39 ⇑P P 16 37 42.4 +0.9
baz=94
L26A Underwood Farm 93.77 46 ⇓P P 16 37 43.1 +1.0
baz=94
E22A Miles City 93.78 42 ⇓P P 16 37 42.7 +0.7
baz=94
F23A Volborg 93.81 42 ⇓P P 16 37 43.0 +0.9
baz=94
H24A Dirks Ranch, A 93.94 44 ⇓P P 16 37 43.1 +0.4
baz=94
D22A Cohagen 93.96 41 ⇓P P 16 37 43.9 +1.2
baz=94
K26A Motz Farm, Whi 93.98 46 ⇓P P 16 37 44.1 +1.1
baz=94
RSSD Black Hills 94.01 44 *e*P P 16 37 43.6 +0.4
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 94.01 44 *e*P P 16 37 43.6 +0.4
comp=Z,11nm,0.8s
B21A Ellsworth Farm 94.02 39 ⇑P P 16 37 44.1 +1.2
baz=94
OGNE Ogallala 94.05 48 ⇓P P 16 37 44.0 +0.6
baz=94
G24A Alzada 94.27 43 ⇓P P 16 37 45.0 +0.8
baz=94
A21A Bergtoll Ranch 94.33 39 ⇓P P 16 37 45.1 +0.8
baz=95
C22A Vida 94.40 40 ⇓P P 16 37 45.4 +0.7
baz=95
F24A Ekalaka 94.47 43 ⇑P P 16 37 45.9 +0.8
baz=95
D23A Lindsay 94.56 41 ⇓P P 16 37 46.6 +1.1
baz=95
B22A Reddig Ranch S 94.57 40 ⇑P P 16 37 46.5 +1.0
baz=95
INK Inuvik 94.72 15 *e*P P 16 37 44.8 -0.7
INK pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 94.72 15 *e*P P 16 37 44.8 -0.7
comp=Z,29nm,1.0s
ULN Ulaanbaatar 94.82 320 *e*P P 16 37 45.4 -1.3
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 94.82 320 *e*P P 16 37 45.4 -1.3
comp=Z,11nm,1.0s
CBKS Cedar Bluff 94.83 50 ⇓P P 16 37 47.6 +0.7
baz=95
CBKS ⇓P P 16 37 47.6 +0.7
baz=95
C23A Lambert 94.85 41 ⇓P P 16 37 48.1 +1.4
baz=95
E24A Baker 94.86 42 ⇓P P 16 37 47.8 +0.9
baz=95
D24A Glendive 95.08 41 ⇑P P 16 37 49.1 +1.3
baz=95
SONM Songino Array 95.21 319 P P 16 37 48.4 -0.1
comp=Z,3.9nm,0.9s,baz=121,slow=3.7,SNR=21
SONM PP **PP** 16 41 48.4 -2.6
comp=Z,3.5nm,1.0s,baz=117,slow=7.6,SNR=4.7
SONM PKiKP **PKiKP** 16 42 24.5 -0.2
comp=Z,0.7nm,0.4s,baz=90,slow=1.8,SNR=7.8
SONM PKKP **PKKPdf** 16 54 39.0 -0.6
comp=Z,1.1nm,0.9s,baz=260,slow=4.5,SNR=7.2
SONM Songino Array 95.21 319 P P 16 37 48.4 -0.1
SONM 16 41 48.4
SONM Songino Array 95.21 319 P P 16 37 48.4 -0.1
SONM PP **PP** 16 41 48.4 -2.6
SONM PKiKP **PKiKP** 16 42 24.5 -0.2
SONM PKKP **PKKPdf** 16 54 39.0 -0.6
B23A Brockton 95.25 40 ⇓P P 16 37 49.9 +1.4
baz=96
A23A Redstone 95.53 40 ⇓P P 16 37 51.2 +1.4
baz=96
DGMT Dagmar 95.73 40 ⇓P P 16 37 51.8 +1.1
baz=96
BOD Bodaibo 95.73 330 *e*P P 16 37 49.6 -0.8
BOD pmax pmax
comp=Z,7.0nm,1.9s
GTA Gaotai 96.29 310 *e*P P 16 37 54.0 +0.5
GTA pP **pP** 16 40 15.3 +0.6
GTA sP **sP** 16 41 19.7 +0.2
GTA pmax pmax
comp=Z,16nm,1.5s
YKA Yellowknife Ar 97.11 25 P P 16 37 56.4 0.0
comp=Z,6.3nm,0.8s,baz=246,slow=4.4,SNR=85
YKA PP **PP** 16 42 02.3 -2.4
comp=Z,3.5nm,1.0s,baz=240,slow=7.5,SNR=12
YKA PKiKP **PKiKP** 16 42 27.0 -0.4
comp=Z,0.3nm,0.4s,baz=260,slow=1.8,SNR=9.2
YKA Yellowknife Ar 97.11 25 P P 16 37 56.5 0.0
YKA 16 42 02.4
YKA Yellowknife Ar 97.11 25 P P 16 37 56.5 0.0
YKA PP **PP** 16 42 02.4 -2.4
YKA PKiKP **PKiKP** 16 42 27.0 -0.4
ZAK Zakamensk 98.11 321 *e*P Pdif 16 37 54.8 -6.5
ZAK *e* 16 42 09.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LSA Lhasa 99.75 298 P **Pdif** 16 38 08.9 -0.7
LSA pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 99.75 298 Pdif **Pdif** 16 38 08.9 -0.7
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 101.44 41 PKiKP **PKiKP** 16 42 34.9 -0.6
comp=Z,1.2nm,0.4s,baz=290,slow=1.9,SNR=3.3
ULM Lac du Bonnet 101.44 41 PKiKP **PKiKP** 16 42 34.9 -0.6
TAPN Taplejung 101.93 295 *e*P **Pdif** 16 38 18.9 -0.2
TAPN Taplejung 101.93 295 *e*P **PKiKP** 16 42 37.5 -0.1
comp=Z,11nm,0.5s
TAPN Taplejung 101.93 295 *e*P **Pdif** 16 38 18.9 -0.2
ODAN Odare 102.06 294 *e*P **Pdif** 16 38 20.1 +0.5
comp=Z,14nm,0.8s
ODAN Odare 102.06 294 *e*P **PKiKP** 16 42 37.3 -0.4
comp=Z,20nm,0.8s
ODAN Odare 102.06 294 *e*P **Pdif** 16 38 20.1 +0.5
RAMN Ramite 102.76 294 *e*P **Pdif** 16 38 23.1 +0.4
RAMN Ramite 102.76 294 *e*P **PKiKP** 16 42 37.9 -1.1
comp=Z,16nm,0.6s
RAMN Ramite 102.76 294 *e*P **Pdif** 16 38 23.1 +0.4
LPAZ La Paz 102.95 113 PP PP 16 42 49.2 -0.1
comp=Z,1.4nm,0.7s,baz=226,slow=5.1,SNR=6.2
LPAZ PKKPbc **PKKPbc** 16 54 17.8 -0.5
comp=Z,1.6nm,0.6s,baz=30,slow=3.6,SNR=6.6
LPAZ La Paz 102.95 113 PP PP 16 42 49.2 -0.1
LPAZ PKKPbc **PKKPbc** 16 54 17.8 -0.5
JIRN Jiri 103.31 295 *e*P **Pdif** 16 38 26.2 +0.9
JIRN Jiri 103.31 295 *e*P **PKiKP** 16 42 39.2 -1.0
comp=Z,19nm,0.5s
JIRN Jiri 103.31 295 *e*P **Pdif** 16 38 26.2 +0.9
GUN Gumba 103.64 295 *e*P **Pdif** 16 38 27.6 +0.8
GUN Gumba 103.64 295 *e*P **PKiKP** 16 42 40.2 -0.5
GUN Gumba 103.64 295 *e*P **Pdif** 16 38 27.6 +0.8
PKI Pulchoki 103.95 294 *e*P **Pdif** 16 38 29.0 +0.9
comp=Z,4.2nm,0.4s
PKI Pulchoki 103.95 294 *e*P **PKiKP** 16 42 40.2 -1.1
comp=Z,17nm,0.6s
KKN Kakani 104.12 295 *e*P **Pdif** 16 38 29.0 +0.3
comp=Z,4.9nm,0.5s
KKN Kakani 104.12 295 *e*P **PKiKP** 16 42 40.7 -0.8
comp=Z,17nm,0.7s
KKN Kakani 104.12 295 *e*P **Pdif** 16 38 29.0 +0.3
KKN Kakani 104.12 295 *e*P **Pdif** 16 38 29.0 +0.3
DMN Daman 104.22 294 *e*P **Pdif** 16 38 30.0 +0.8
comp=Z,5.5nm,0.5s
DMN Daman 104.22 294 *e*P **PKiKP** 16 42 40.9 -0.8
comp=Z,10nm,0.5s
DMN Daman 104.22 294 *e*P **Pdif** 16 38 30.0 +0.8
GKN Gorkha 104.73 295 *e*P **Pdif** 16 38 31.7 +0.3
GKN Gorkha 104.73 295 *e*P **PKiKP** 16 42 41.2 -1.3
comp=Z,10nm,0.5s
GKN Gorkha 104.73 295 *e*P **Pdif** 16 38 31.7 +0.3
KOLN Koldanda 105.55 294 *e*P **Pdif** 16 38 36.2 +1.1
comp=Z,5.9nm,0.5s
KOLN Koldanda 105.55 294 *e*P **PKiKP** 16 42 43.0 -1.1
comp=Z,11nm,0.5s
KOLN Koldanda 105.55 294 *e*P **Pdif** 16 38 36.2 +1.1
KOLN *e*P **PKiKP** 16 42 43.0 -1.1
DANN Dangsing 105.56 295 *e*P **PKiKP** 16 42 43.6 -0.6
comp=Z,29nm,0.7s
DANN Dangsing 105.56 295 *e*P **PKiKP** 16 42 43.6 -0.6
RES Resolute Bay 108.26 16 *e*PKPdf **PKiKP** 16 42 46.7 -0.8
ZAA0 Zalesovo Array 109.98 321 *e*PKiKP **PKiKP** 16 42 50.1 -1.2
ZALV Zalesovo Beam 109.98 321 Pdiff **Pdif** 16 38 53.2 -0.7
comp=Z,0.4nm,0.6s,baz=155,slow=18,SNR=3.8
ZALV PKiKP **PKiKP** 16 42 50.2 -1.1
comp=Z,10nm,0.5s,baz=137,slow=3.3,SNR=35
ZALV PP **PP** 16 43 39.8 +1.1
comp=Z,3.8nm,0.8s,baz=90,slow=6.1,SNR=4.5
ZALV Zalesovo Beam 109.98 321 P **Pdif** 16 38 53.2 -0.7
ZALV 16 43 39.8
ZALV Zalesovo Beam 109.98 321 Pdif **Pdif** 16 38 53.2 -0.7
ZALV PKiKP **PKiKP** 16 42 50.2 -1.1
ZALV PP **PP** 16 43 39.8 +1.1
MK31 Makanchi Array 110.57 313 *i* PKiKP **PKiKP** 16 42 51.8 -0.9
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 110.57 313 *e*Pdif **Pdif** 16 38 55.4 -1.4
MK31 *e*PKiKP **PKiKP** 16 42 51.8 -0.9
MKAR Makanchi Array 110.57 313 Pdiff **Pdif** 16 38 57.4 +0.6
comp=Z,1.4nm,0.6s,baz=106,slow=4.4,SNR=15
MKAR PKiKP **PKiKP** 16 42 51.7 -1.0
comp=Z,6.5nm,0.4s,baz=154,slow=0.7,SNR=123
MKAR PP **PP** 16 43 39.4 -3.7
comp=Z,2.0nm,0.9s,baz=98,slow=8.7,SNR=4.0
MKAR PKKPbc **PKKPbc** 16 53 54.5 -0.4
comp=Z,1.5nm,0.8s,baz=265,slow=3.7,SNR=13
MKAR Makanchi Array 110.57 313 P **Pdif** 16 38 57.4 +0.6
MKAR *i* 16 42 51.7
MKAR Makanchi Array 110.57 313 Pdif **Pdif** 16 38 57.4 +0.6
MKAR PKiKP **PKiKP** 16 42 51.7 -1.0
MKAR PP **PP** 16 43 39.4 -3.7
MKAR PKKPbc **PKKPbc** 16 53 54.5 -0.4
NVS Novosibirsk 111.01 322 *e*PKiKP **PKiKP** 16 42 51.1 -2.1
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.5s
NVS pmax pmax
comp=Z,12nm,0.5s
KURK Kurchatov 113.42 317 Pdiff **Pdif** 16 39 13.3 +4.0
comp=Z,0.7nm,0.2s,baz=250,slow=16,SNR=5.2
KURK PKiKP **PKiKP** 16 42 57.2 -0.8
comp=Z,10.0nm,0.5s,baz=96,slow=1.9,SNR=31
KURK PP **PP** 16 43 59.5 -3.4
comp=Z,4.5nm,1.0s,baz=101,slow=6.6,SNR=6.4
KURK Kurchatov 113.42 317 *d i* PKiKP **PKiKP** 16 42 56.8 -1.1
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 113.42 317 Pdif **Pdif** 16 39 13.3 +4.0
KURK *e*PKiKP **PKiKP** 16 42 56.9 -1.1
KURK PKiKP PKiKP 16 42 57.2 -0.8
KURK PP **PP** 16 43 59.5 -3.4
KSH Kashi 114.14 305 *e*PKP PKPdf 16 43 00.7 +0.8
KSH *es*PKP 16 46 32.7
KSH *e*PKS **PKSdf** 16 46 35.8 -0.9
KSH *e*SKS **SKSdf** 16 49 10.7 -0.2
KSH *e*SS **SS** 16 59 16.9 +5.0
KSH AMB AMB
comp=Z,86nm,4.4s
KSH LR LR
comp=N,170nm,5.4s
KSH LR LR
comp=E,150nm,5.3s
KSH LR LR
comp=Z,150nm,8.2s
TKM2 Tokmak 2 114.81 309 P PKPdf 16 43 00.4 -0.7
SNR=9.1
TKM2 P PKPdf 16 43 00.4 -0.7
SNR=9.1
TKM2 Tokmak 2 114.81 309 *e*PKIKP PKPdf 16 43 00.0 -1.2
TKM2 Tokmak 2 114.81 309 *e*PKPdf PKPdf 16 43 00.0 -1.2
KZA Kyzart 114.98 308 P PKPdf 16 43 01.9 +0.1
SNR=6.6
KZA P PKPdf 16 43 01.9 +0.1
SNR=6.6
KBK Karagaybulak 115.26 308 P **PKPdf** 16 43 01.6 -0.4
SNR=8.6
KBK P **PKPdf** 16 43 01.6 -0.4
SNR=8.6
CHMS Chumysh 115.44 309 P **PKPdf** 16 43 01.7 -0.5
SNR=6.6
CHMS P **PKPdf** 16 43 01.7 -0.5
SNR=6.6
AAK Ala-Archa 115.59 308 P **PKPdf** 16 43 02.2 -0.5
SNR=6.8
AAK P **PKPdf** 16 43 02.2 -0.5
SNR=6.8
AAK Ala-Archa 115.59 308 *d i* PKIKP **PKPdf** 16 43 01.7 -0.9
AAK pmax pmax
comp=Z,23nm,1.2s
AAK Ala-Archa 115.59 308 *e*PKPdf **PKPdf** 16 43 01.9 -0.8
USP Ospenovka 115.65 309 P **PKPdf** 16 43 02.0 -0.5
SNR=10
USP P **PKPdf** 16 43 02.0 -0.5
SNR=10
EKS2 Erkin-Say 116.12 308 P **PKPdf** 16 43 03.3 -0.3
SNR=7.8
EKS2 P **PKPdf** 16 43 03.3 -0.3
SNR=7.8
EKS2 Erkin-Say 116.12 308 *e*PKIKP **PKPdf** 16 43 03.3 -0.3
EKS2 *e* 16 44 21.1
EKS2 Erkin-Say 116.12 308 *e*PKPdf **PKPdf** 16 43 03.2 -0.3
EKS2 *e*PP **PP** 16 44 21.1 -0.8
AML Almayashu 116.14 308 P **PKPdf** 16 43 03.9 -0.1
SNR=15
AML P **PKPdf** 16 43 03.9 -0.1
SNR=15
KK31 Karatay Array 118.55 309 PKIKP **PKPdf** 16 43 07.2 -0.9
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 118.55 309 *e*PKIKP **PKPdf** 16 43 07.4 -0.7
KKAR Karatay Array 118.55 309 *e*PKPdf **PKPdf** 16 43 07.4 -0.7
BVA0 Borovoye Array 118.55 320 *i* PKIKP **PKPdf** 16 43 06.9 -0.9
BVA0 pmax pmax
comp=Z,5.0nm,0.3s
BVAR Borovoye Array 118.55 320 PKP **PKPdf** 16 43 07.1 -0.6
comp=Z,37nm,0.4s,baz=125,slow=2.0,SNR=360
BVAR PKKPbc **PKKPbc** 16 53 29.1 +1.0
comp=Z,0.5nm,0.7s,baz=299,slow=3.1,SNR=4.0
BVAR Borovoye Array 118.55 320 PKIKP **PKPdf** 16 43 07.1 -0.6
BVAR 16 53 29.1
BVAR Borovoye Array 118.55 320 PKP **PKPdf** 16 43 07.1 -0.6
BVAR PKKPbc **PKKPbc** 16 53 29.1 +1.0
BRVK Borovoye 118.61 320 *d i* PKIKP **PKPdf** 16 43 07.1 -0.8
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 118.61 320 *e*PKPdf **PKPdf** 16 43 07.3 -0.6
KBL Kabul 119.07 299 *e*PKIKP **PKPdf** 16 43 09.6 0.0
KBL Kabul 119.07 299 *e*PKPdf **PKPdf** 16 43 09.6 0.0
SCHQ Schefferville 119.45 38 PKP **PKPdf** 16 43 08.6 -0.9
comp=Z,3.4nm,0.6s,baz=349,slow=2.8,SNR=9.2
SCHQ Schefferville 119.45 38 PKP **PKPdf** 16 43 08.6 -0.9
KBS Kingsbay 121.48 358 *e*P **PKPdf** 16 43 12.8 +0.1
KBS Kingsbay 121.48 358 ⇑ *i* PKIKP **PKPdf** 16 43 13.2 +0.5
KBS pmax pmax
comp=Z,54nm,2.5s
SPA0 Spitsbergen Ar 121.98 356 *e*P **PKPdf** 16 43 13.5 -0.2
SPITS Spitsbergen Ar 121.98 356 PKP **PKPdf** 16 43 13.1 -0.6
comp=Z,48nm,0.6s,baz=79,slow=1.0,SNR=120
SPITS Spitsbergen Ar 121.98 356 PKIKP **PKPdf** 16 43 13.1 -0.6
SPITS Spitsbergen Ar 121.98 356 PKP **PKPdf** 16 43 13.1 -0.6
SPB4 Spitsbergen Ar 121.98 356 *e*PKPdf **PKPdf** 16 43 13.5 -0.3
HOPEN Hopen 122.81 353 *e*P **PKPdf** 16 43 15.0 -0.3
DAG Danmarks Havn 123.02 5 ⇓ *i* PKIKP **PKPdf** 16 43 14.4 -1.3
DAG pmax pmax
comp=Z,15nm,1.0s
DAG Danmarks Havn 123.02 5 ⇓ *i* P **PKPdf** 16 43 14.4 -1.3
comp=Z,146nm,1.0s
SFJD Kangerlussuaq 123.50 22 *i* PKIKP **PKPdf** 16 43 16.1 -0.7
SFJD pmax pmax
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 123.50 22 *i* P **PKPdf** 16 43 16.1 -0.7
comp=Z,11nm,0.7s
SVE Sverdlovsk 123.55 325 *d i* PKIKP **PKPdf** 16 43 17.3 +0.1
SVE pmax pmax
comp=Z,59nm,0.9s
SUMG Summit 123.57 13 *i* PKIKP **PKPdf** 16 43 17.3 -0.1
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 123.57 13 *e*P **PKPdf** 16 43 16.9 -0.5
SUMG Summit 123.57 13 *i* P **PKPdf** 16 43 17.3 -0.1
comp=Z,22nm,1.1s
SOKR Solikamsk 124.71 329 *d i* PKIKP **PKPdf** 16 43 19.0 -0.3
SOKR pmax pmax
comp=Z,150nm,1.2s
ARU Arti 124.76 325 *i* PKIKP **PKPdf** 16 43 19.2 -0.3
ARU SS SS 17 01 53.3 +29
ARU Arti 124.76 325 *e*P **PKPdf** 16 43 19.1 -0.5
AB31 Akbulak array 125.50 316 PKIKP **PKPdf** 16 43 20.7 -0.5
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 125.50 316 *e*PKPdf **PKPdf** 16 43 20.6 -0.6
BOSA Boshof 125.64 207 PKP **PKPdf** 16 43 23.0 +0.6
comp=Z,5.7nm,0.5s,baz=102,slow=3.7,SNR=14
BOSA PKKPab **PKKPbc** 16 53 01.2 -1.2
comp=Z,3.1nm,0.6s,baz=12,slow=4.6,SNR=10
BOSA Boshof 125.64 207 PKIKP **PKPdf** 16 43 23.0 +0.6
BOSA Boshof 125.64 207 PKP **PKPdf** 16 43 23.0 +0.6
BOSA PKKPab **PKKPbc** 16 53 01.2 -1.2
AKTO Aktyubinsk 126.51 318 PKP **PKPdf** 16 43 23.1 0.0
comp=Z,24nm,0.8s,baz=83,slow=3.6,SNR=77
AKTO SKPbc SKiKP 16 45 40.6 -18
comp=Z,3.6nm,0.8s,baz=53,slow=4.6,SNR=4.4
AKTO SKP **SKPdf** 16 45 58.9 +1.6
comp=Z,2.7nm,0.7s,baz=162,slow=3.2,SNR=3.5
AKTO PKKPbc **PKKPbc** 16 52 58.3 +0.1
comp=Z,0.6nm,0.5s,baz=165,slow=1.5,SNR=3.8
AKTO Aktyubinsk 126.51 318 PKIKP **PKPdf** 16 43 23.1 0.0
AKTO 16 45 40.7
AKTO Aktyubinsk 126.51 318 PKP **PKPdf** 16 43 23.1 0.0
AKTO SKPbc SKiKP 16 45 40.6 -18
AKTO SKP **SKPdf** 16 45 58.9 +1.6
AKTO PKKPbc **PKKPbc** 16 52 58.3 +0.1
SCO Scoresbysund 128.37 10 *i* PKIKP **PKPdf** 16 43 26.5 +0.5
SCO pmax pmax
comp=Z,11nm,1.0s
SCO Scoresbysund 128.37 10 *i* P **PKPdf** 16 43 26.5 +0.5
comp=Z,11nm,1.0s
KEV Kevo 128.45 349 *e*PKHKP PKPpre 16 43 12.4
KEV pmax pmax
comp=Z,52nm,0.9s
KEV Kevo 128.45 349 *ep* PKPpre 16 43 12.4
comp=Z,52nm,0.9s
KEV Kevo 128.45 349 *ep* PKPpre 16 43 12.4
comp=Z,52nm,0.9s
LBTB Lobatse 128.62 209 PKP **PKPdf** 16 43 28.0 -0.1
comp=Z,6.4nm,0.6s,baz=171,slow=2.9,SNR=19

LBTB SKPbc SKiKP 16 45 50.1 -13
comp=Z,7.1nm,1.0s,baz=162,slow=6.8,SNR=4.5
LBTB Lobatse 128.62 209 PKIKP **PKPdf** **16 43 28.0 -0.1**
LBTB 16 45 50.2
LBTB Lobatse 128.62 209 PKP **PKPdf** **16 43 28.0 -0.1**
LBTB SKPbc SKiKP 16 45 50.1 -13
ARCES ARCESS Array B 128.91 349 PKP **PKPdf** **16 43 26.8 -0.3**
comp=Z,32nm,0.5s,baz=162,slow=0.4,SNR=5.5
ARCES SKPbc SKiKP 16 45 49.8 -13
comp=Z,38nm,1.0s,baz=350,slow=4.3,SNR=9.4
ARCES ARCESS Array B 128.91 349 PKIKP **PKPdf** **16 43 26.8 -0.3**
ARCES 16 45 49.8
ARCES ARCESS Array B 128.91 349 PKP **PKPdf** **16 43 26.8 -0.3**
ARCES SKPbc SKiKP 16 45 49.8 -13
TRO Tromso 129.84 352 *e*P **PKPdf** **16 43 29.2 +0.3**
STEI Steigen 131.90 353 *e* PKPpre 16 43 20.9
STEI *i* 16 43 32.3
JOF Joensuu 132.98 342 *e*PKHKP PKPpre 16 43 18.6
JOF pmax pmax
comp=Z,45nm,0.5s
JOF Joensuu 132.98 342 *e*p PKPpre 16 43 18.6
comp=Z,45nm,0.5s
JOF Joensuu 132.98 342 *e*p PKPpre 16 43 18.6
comp=Z,45nm,0.5s
STOK Stokkvaagen 133.69 353 *e*P PKPpre 16 43 29.3
KAF Kangasniemi 135.03 343 *e*PKHKP PKPpre 16 43 24.0
KAF pmax pmax
comp=Z,36nm,0.5s
KAF Kangasniemi 135.03 343 *e*p PKPpre 16 43 24.0
comp=Z,36nm,0.5s
KAF Kangasniemi 135.03 343 *e*p PKPpre 16 43 24.0
comp=Z,36nm,0.5s
NSS Namsos 135.55 353 *e* PKPpre 16 43 26.2
FINES FINESS Array B 135.65 343 PKhKP PKPpre 16 43 26.8
comp=Z,2.6nm,0.3s,baz=40,slow=5.0,SNR=23
FINES **PKP PKPdf** **16 43 40.6 +0.6**
comp=Z,18nm,0.4s,baz=40,slow=3.1,SNR=31
FINES SKPbc **SKPbc** **16 46 12.6 +1.7**
comp=Z,46nm,1.0s,baz=58,slow=5.0,SNR=21
FINES FINESS Array B 135.65 343 PKHKP PKPpre 16 43 26.8
FINES 16 43 40.6
FINES FINESS Array B 135.65 343 PKPpre PKPpre 16 43 26.8
FINES PKP **PKPdf** **16 43 40.6 +0.6**
FINES SKPbc **SKPbc** **16 46 12.6 +1.7**
PUL Pulkovo 135.69 339⇑*i*PKIKP **PKPdf** **16 43 40.2 +0.1**
PUL pmax pmax
comp=Z,32nm,0.5s
OBN Obninsk 136.42 331⇑*i*PKIKP **PKPdf** **16 43 41.3 -0.3**
OBN *i* 16 46 38.2
OBN pmax pmax
comp=Z,60nm,1.1s
OBN Obninsk 136.42 331 *e*PKPdf **PKPdf** **16 43 40.7 -0.8**
VSR Storozhevoye 137.33 325 *e*PKIKP **PKPdf** **16 43 41.2 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,9.0nm,0.8s
GNI Garni 137.99 307 PKP **PKPdf** **16 43 44.7 -0.5**
comp=E,10nm,0.7s,baz=334,slow=8.6,SNR=8.0
GNI Garni 137.99 307*c i*PKIKP **PKPdf** **16 43 46.1 +0.9**
GNI Garni 137.99 307 PKP **PKPdf** **16 43 44.7 -0.5**
GNI PKPdf **PKiKP** **16 43 45.2 -2.2**
KIV Kislovodsk 138.33 314⇑*i*PKIKP **PKPdf** **16 43 45.6 0.0**
KIV *i* 16 46 48.8
KIV pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 138.33 243 PKHKP PKPpre 16 43 38.7
KMBO Kilima Mbogo 138.33 243 PKPpre PKPpre 16 43 38.7
NB2 NORSAR Subarra139.03 352 PKP PKPpre 16 43 37.9
comp=Z,4.6nm,0.5s,baz=16,slow=3.2
NB2 NORSAR Subarra139.03 352 PKP PKPpre 16 43 37.9
baz=16,slow=3.2
NOA NORSAR Array B139.03 352 PKhKP PKPpre 16 43 37.9
comp=Z,10nm,0.7s,baz=16,slow=4.4,SNR=51
NOA PKP **PKPdf** **16 43 47.3 +1.0**
comp=Z,13nm,0.6s,baz=14,slow=3.9,SNR=11
NOA SKPbc **SKiKP** **16 46 22.2 -1.3**
comp=Z,16nm,1.0s,baz=14,slow=4.5,SNR=10.0
NOA NORSAR Array B139.03 352 PKHKP PKPpre 16 43 37.9
NOA 16 43 47.3
NOA NORSAR Array B139.03 352 PKPpre PKPpre 16 43 37.9
NOA PKP **PKPdf** **16 43 47.3 +1.0**
NOA SKPbc **SKiKP** **16 46 22.2 -1.3**
CUKT Cukurca 139.52 304 *e*P PKPdf 16 43 40.7 -7.3
ASK Askoy 140.12 357 *e*P PKPdf 16 43 41.1 -7.1
OSL Oslo 140.16 352 *e*P PKPdf 16 43 41.7 -6.6
IZAR Zarasai 140.18 338 *e*P PKPdf 16 43 42.4 -6.1
IZAR AMB AMB 16 43 44.2
comp=Z,13nm,0.7s
IDID Didziasalis 140.34 337 *e*P PKPdf 16 43 43.1 -5.6
ISAL Salakas 140.36 338 *e*P PKPdf 16 43 43.0 -5.8
ISAL AMB AMB 16 43 43.6
comp=Z,15nm,1.2s
IIGN Ignalina 140.50 337 *e*P PKPdf 16 43 43.5 -5.6
IIGN AMB AMB 16 43 45.0
comp=Z,12nm,0.7s
MICGM Minsk 140.52 335 *e*P PKPpre 16 43 43.0
MNK Minsk 140.54 335 *e*PKHKP PKPpre 16 43 43.0
MNK *e* 16 46 53.0
KONO Kongsberg 140.58 353 *e*P PKPdf 16 43 43.0 -6.0
KONO AMB AMB 16 43 51.3
comp=Z,75nm,3.8s
ODD1 Odda 140.60 355 *e*P PKPdf 16 43 42.5 -6.6
ODD1 AMB AMB 16 43 51.6
comp=Z,106nm,3.5s
NACGM Naroch 140.64 337 *e* PKPdf 16 43 40.0 -9.3
BNGL BINGOL 140.99 307 *i* P **PKPdf** **16 43 45.8 -5.0**
BLS5 Blasjo 141.09 355 *e*P **PKPdf** **16 43 45.5 -4.5**
BLS5 AMB AMB 16 43 48.5
comp=Z,12nm,0.9s
BAYT Ayd¨–ntepe-Bay 141.30 309 *e*P **PKPdf** **16 43 46.7 -4.5**
BNGB Bing¶ll 141.33 307 *e*P **PKPdf** **16 43 46.5 -4.8**
ANN Anapa 141.46 317⇓*i*PKHKP PKPpre 16 43 47.1
ANN pmax pmax
comp=Z,87nm,1.3s
KELT Kelkit 142.02 309 *i* P **PKPdf** **16 43 49.2 -3.4**
HOMB Homborsund 142.05 353 *e*P **PKPdf** **16 43 49.0 -2.7**
SNART Snartemo 142.11 355 *e*P **PKPdf** **16 43 48.4 -3.4**
SNART AMB AMB 16 43 49.5
comp=Z,45nm,1.3s
PTK Pertek 142.32 307 *e*P **PKPdf** **16 43 51.4 -1.7**
MVH1 Achvaich 142.62 4 *e*P **PKPdf** **16 43 50.1 -2.6**
MVH1 Achvaich 142.62 4 P **PKPdf** **16 43 50.1 -2.6**
SUW Suwalki 142.63 338 *e*PKP **PKPdf** **16 43 50.5 -2.4**
SUW LMZ LR 17 33 14.9
comp=Z,300nm,27.4s
SUW Suwalki 142.63 338 *e*PKHKP PKPpre 16 43 50.5
SUW MLR MLR
comp=Z,300nm,27.4s
SUW Suwalki 142.63 338 *e*PKPpre PKPpre 16 43 50.3
AKASG Malin Array Be 142.66 330 PKP **PKPdf** **16 43 49.9 -3.1**
comp=Z,103nm,0.4s,baz=43,slow=4.1,SNR=941
AKASG SKPbc **SKiKP** **16 46 31.3 0.0**
comp=Z,14nm,1.0s,baz=38,slow=2.5,SNR=7.3
AKASG Malin Array Be 142.66 330 PKHKP PKPpre 16 43 49.9
AKASG Malin Array Be 142.66 330 PKP **PKPdf** **16 43 49.9 -3.1**
AKASG SKPbc **SKiKP** **16 46 31.3 0.0**
AKBB Malin Array Si 142.66 330 *e*PKHKP PKPpre 16 43 49.4
AKBB Malin Array Si 142.66 330 *e*PKPpre PKPpre 16 43 49.4
KIEV Kiev 142.67 330*d i*PKHKP PKPpre 16 43 50.0
KIEV Kiev 142.67 330 *e*PKPpre PKPpre 16 43 49.9
ILIC ilic-Erzincan 142.75 309 *e*P **PKPdf** **16 43 51.9 -1.9**
KEMA Kemaliye 142.86 308 *i* P **PKPdf** **16 43 52.3 -1.6**
SHEL Horse Pasture 143.01 169 *e*PKIKP **PKPdf** **16 43 54.5 -0.2**
SHEL Horse Pasture 143.01 169 *e*PKPdf **PKPdf** **16 43 54.5 -0.2**
MCD Coleburn Disti 143.02 4⇓*e*P PKPab 16 43 51.5 -0.2
MCD Coleburn Disti 143.02 4 P PKPab 16 43 51.5 -0.2
KPL Plockton 143.07 6 *e*P PKPab 16 43 51.8 0.0
KPL Plockton 143.07 6 P PKPab 16 43 51.8 0.0
MDO Dochfour 143.09 5⇓*e*P PKPab 16 43 51.8 -0.1
MDO Dochfour 143.09 5 P PKPab 16 43 51.8 -0.1
URFA Urfa 143.17 305 *e*P PKPbc 16 43 53.6 +0.4
MYA Malataya 143.21 307 *e*P **PKPdf** **16 43 54.5 -0.1**
MALT Malatya 143.21 307 *e*P PKPbc 16 43 53.4 +0.1
MME1 Meikle Cairn 143.31 4⇓*e*P PKPab 16 43 52.2 -0.6
MME1 Meikle Cairn 143.31 4 P PKPab 16 43 52.2 -0.6
RSDY Resadiye-TOKAT 143.32 311 *e*P PKPab 16 43 53.4 0.0
SIM Simferopol' 143.46 319*d i*PKIKP **PKPdf** **16 43 54.2 -0.4**
SIM *e* 16 47 20.0
SIM *e*PPP PPP 16 50 05.0
SIM pmax pmax
comp=Z,372nm,0.8s
DARE Darende-Malaty 143.47 308 *e*P **PKPdf** **16 43 55.7 +0.7**
ATAB Bozova 143.56 306 *i* P **PKPdf** **16 43 54.9 -0.2**
AKCD Akcadag 143.60 307 *i* P PKPab 16 43 55.0 +0.3
ERBA Erbaa 143.62 311 *i* P PKPab 16 43 54.6 0.0
MUD Monsted U'grnd 143.75 352⇓*i*PKIKP PKPbc 16 43 54.2 0.0
MUD pmax pmax
comp=Z,210nm,1.0s
MUD Monsted U'grnd 143.75 352⇓*i*P PKPbc 16 43 54.2 0.0
comp=Z,209nm,1.0s
KVT Kavak 143.96 312 *e*P PKPab 16 43 56.3 +0.5
COP Copenhagen 143.99 349⇓*i*PKIKP PKPbc 16 43 55.0 +0.1
COP pmax pmax
comp=Z,82nm,1.1s
COP Copenhagen 143.99 349⇓*i*P PKPbc 16 43 55.0 +0.1
comp=Z,82nm,1.1s
BSD Bornholm Skovb 144.03 346 *i* PKIKP PKPbc 16 43 55.0 -0.1
BSD pmax pmax
comp=Z,190nm,1.0s
BSD Bornholm Skovb 144.03 346 *i* P PKPbc 16 43 55.0 -0.1
comp=Z,192nm,1.0s
GZT Gaziantep 144.15 306 *i* P PKPbc 16 43 56.6 +0.3
EAB Aberfoyle 144.33 5⇓*e*P **PKPdf** **16 43 55.8 0.0**
EAB Aberfoyle 144.33 5 P **PKPdf** **16 43 55.8 0.0**
LLD Lille Linde 144.37 349 *i* PKIKP PKPbc 16 43 56.1 0.0
LLD pmax pmax
comp=Z,72nm,1.0s
LLD Lille Linde 144.37 349 *i* P PKPbc 16 43 56.1 0.0
comp=Z,72nm,1.0s
GAZ Gaziantep 144.47 305 *e*P PKPbc 16 43 57.5 +0.3
KMRS Kahramanmaras 144.61 306 *e*P **PKPab** **16 43 58.0 -0.5**
EDI Edinburgh 144.68 4 *e*P PKPbc 16 43 56.8 -0.2
EDI Edinburgh 144.68 4 P PKPbc 16 43 56.8 -0.2
PGBU Glenifferbraes 144.69 5 *e*P PKPbc 16 43 57.0 -0.1
PGBU Glenifferbraes 144.69 5 P PKPbc 16 43 57.0 -0.1
ESY Stoneypath 144.72 3⇓*e*P **PKPdf** **16 43 56.7 +0.2**
ESY Stoneypath 144.72 3 P **PKPdf** **16 43 56.7 +0.2**
EAU Auchinoon 144.74 4⇓*e*P PKPbc 16 43 57.3 +0.1
EAU Auchinoon 144.74 4 P PKPbc 16 43 57.3 +0.1
EBL Broad Law 144.84 4⇓*e*P PKPbc 16 43 57.3 -0.2
EBL Broad Law 144.84 4 P PKPbc 16 43 57.3 -0.2
BNN Bunyan 144.94 309 *e*P **PKPdf** **16 43 58.0 +0.5**
BZK Bozkurt 144.97 315 *e*P PKPbc 16 43 58.3 -0.1
CTKT Corum 145.01 312 *i* P **PKPdf** **16 43 57.5 -0.2**
YOZ Yozgat 145.03 310 *e*P **PKPbc** **16 43 59.1 +0.2**
GKP Gorka Klasztor 145.12 343 *e*PKPdf **PKPbc** **16 43 58.7 +0.3**
GKP Gorka Klasztor 145.12 343⇓*e*PKIKP **PKPbc** **16 43 58.7 +0.3**
ESK Eskdalemuir 145.28 4 *e*P **PKPbc** **16 43 58.4 -0.4**
ESK Eskdalemuir 145.28 4 P **PKPbc** **16 43 58.4 -0.4**
ESK Eskdalemuir 145.28 4 *e*PKIKP **PKPbc** **16 43 58.4 -0.4**
ESK Eskdalemuir 145.28 4 *e*PKP **PKPbc** **16 43 58.4 -0.4**
CORM Corum 145.31 312 *e*P **PKPbc** **16 43 59.8 +0.2**
KIS Kishinev 145.31 326⇓*i*PKP2 **PKPab** **16 44 01.0 +0.2**
KIS pmax pmax
comp=Z,500nm,1.0s
KIS pmax pmax
comp=Z,400nm,1.0s
KIS Kishinev 145.31 326⇓*i*PKP **PKPab** **16 44 01.0 +0.2**
KIS M 16 44 02.0
comp=Z,500nm,1.0s
TOS Tosya 145.37 313 *e*P **PKPab** **16 44 00.6 -0.8**
KOZT Kozan 145.43 307 *e*P **PKPab** **16 44 01.0 -0.7**
BALT Daday 145.57 314 *i* P **PKPbc** **16 43 60.0 -0.4**
GAL1 Galloway 145.61 6 *e*P **PKPbc** **16 43 59.6 -0.1**
GAL1 Galloway 145.61 6 P **PKPbc** **16 43 59.6 -0.1**
HTY Hatay 145.61 304 *e*P **PKPbc** **16 44 00.8 +0.4**
LVV L'vov 145.61 333 *e*PKIKP **PKPbc** **16 43 59.7 -0.3**
CEYT Ceyhan 145.64 306 *e*P **PKPbc** **16 44 00.3 -0.1**
GCD Castle Douglas 145.68 5⇓*e*P **PKPbc** **16 43 59.7 -0.3**
GCD Castle Douglas 145.68 5 P **PKPbc** **16 43 59.7 -0.3**
AVNT Avonos 145.69 309 *i* P **PKPdf** **16 43 58.2 -0.7**
XAL Allendale 145.79 3⇓*e*P **PKPbc** **16 44 00.2 -0.1**
XAL Allendale 145.79 3 P **PKPbc** **16 44 00.2 -0.1**
CANT Cankiri 145.83 313 *e*P **PKPbc** **16 44 00.6 -0.4**
IAS Iasi 145.83 327 PKP2 **PKPbc** **16 44 01.0 +0.4**
ASF Jabal al Asfar 145.94 297 PKPbc **PKPbc** **16 44 02.4 +0.9**
baz=319,slow=2.1
ASF Jabal al Asfar 145.94 297 PKP2 **PKPbc** **16 44 02.4 +0.9**
ASF Jabal al Asfar 145.94 297 PKPbc **PKPbc** **16 44 02.4 +0.9**
LEOM Leova 145.95 325⇓PKP2 **PKPbc** **16 44 01.2 +0.2**
LEOM Leova 145.95 325⇓*i*P **PKPbc** **16 44 01.2 +0.2**
KESW Keswick, Cumbr 146.01 4 *e*P **PKPbc** **16 44 00.9 0.0**
KESW Keswick, Cumbr 146.01 4 P **PKPbc** **16 44 00.9 0.0**
XDE Dent Fell 146.07 5⇓*e*P **PKPbc** **16 44 01.0 -0.1**
XDE Dent Fell 146.07 5 P **PKPbc** **16 44 01.0 -0.1**
GMM Mts of Mourne 146.09 7 *e*P **PKPbc** **16 44 00.9 -0.2**
GMM Mts of Mourne 146.09 7 P **PKPbc** **16 44 00.9 -0.2**
SAFT Safranbolu 146.18 314 *e*P **PKPdf** **16 43 59.3 -0.1**
BR131 Keskin Array S 146.19 311 *e*PKPdf **PKPdf** **16 43 58.9 -0.8**
BR131 *e*PKPbc **PKPbc** **16 44 01.9 -0.3**
BRTR Keskin Array B 146.19 311 PKPbc **PKPbc** **16 44 01.8 -0.3**
comp=Z,36nm,0.5s,baz=143,slow=2.8,SNR=194
BRTR SKP **SKPdf** **16 46 33.5 +0.9**
comp=Z,6.0nm,0.9s,baz=103,slow=2.7,SNR=7.0
BRTR Keskin Array B 146.19 311 PKIKP **PKPbc** **16 44 01.8 -0.3**
BRTR Keskin Array B 146.19 311 PKPbc **PKPbc** **16 44 01.8 -0.3**
BRTR SKP **SKPdf** **16 46 33.5 +0.9**
HWQ Hawqa 146.26 301 *e*P **PKPbc** **16 44 02.5 +0.1**
KAMT Kaman 146.28 311 *e*P **PKPbc** **16 44 01.9 -0.4**
KWP Kalwaria Pacla 146.30 334 *e*PKPbcd **PKPbc** **16 44 02.3 +0.4**
KWP *e*PKPab **PKPab** **16 44 05.5 +0.7**
KWP LMZ LR 17 34 34.2
comp=Z,300nm,26.3s
KWP Kalwaria Pacla 146.30 334 *e*PKP2 **PKPab** **16 44 05.5 +0.7**
KWP MLR MLR
comp=Z,300nm,26.3s
KWP Kalwaria Pacla 146.30 334 *e*PKPdf **PKPdf** **16 43 59.2 -0.2**
KWP *e*PKPbc **PKPbc** **16 44 02.3 +0.4**
KWP Kalwaria Pacla 146.30 334⇓*i*P **PKPbc** **16 44 02.1 +0.2**
RCY Rachaya 146.54 300 *e*P **PKPbc** **16 44 03.8 +0.5**
BHL Bhannes 146.59 301 *e*P **PKPbc** **16 44 03.7 +0.4**
MERS Mersin 146.61 306 *e*P **PKPbc** **16 44 03.5 +0.3**
BUR08 Bucovina Ar. S 146.69 330 *e*PKPdf **PKPdf** **16 44 00.8 +0.6**
BUR08 *e*PKPbc **PKPbc** **16 44 03.8 +0.7**
BURAR Bucovina Array 146.70 329⇓PKP2 **PKPbc** **16 44 03.7 +0.6**
BURAR Bucovina Array 146.70 329⇓*i*P **PKPbc** **16 44 03.7 +0.6**
AFSR Af´ar-Bala (A 146.70 311 *e*P **PKPbc** **16 44 03.2 -0.3**
RUE Ruedersdorf 146.72 346 *e*PKPbc **PKPbc** **16 44 03.3 +0.5**
TESR 146.76 327⇓*i*P **PKPbc** **16 44 04.3 +1.1**
CFR Carcaliu 146.82 324 PKP2 **PKPbc** **16 44 03.7 +0.3**
OJC Ojcow 146.94 338 *e*PKPdf **PKPdf** **16 44 00.2 -0.2**
OJC *e*PKIKP **PKPbc** **16 44 03.8 +0.2**
OJC Ojcow 146.94 338 *e*PKIKP **PKPdf** **16 44 00.2 -0.2**
DLF Lyons Farm 146.94 8 *e*P **PKPbc** **16 44 02.6 -0.8**
MMAI Mount Meron Ar 147.00 299 PKPbc **PKPbc** **16 44 05.1 +0.8**
comp=Z,86nm,0.5s,baz=75,slow=6.2,SNR=17
MMAI SKPbc **SKPbc** **16 46 39.0 -1.9**
comp=Z,24nm,1.1s,baz=72,slow=2.7,SNR=3.7
MMAI Mount Meron Ar 147.00 299 PKPbc **PKPbc** **16 44 05.1 +0.8**
MMAI SKPbc **SKPbc** **16 46 39.0 -1.9**
DSB Dublin 147.01 8 *e*PKPbc **PKPbc** **16 44 03.1 -0.5**
KOLS Kolonicke sedl 147.03 334 *e*PKIKP **PKPdf** **16 44 01.4 +0.8**
KOLS Kolonicke sedl 147.03 334 *e*PKP **PKPdf** **16 44 01.4 +0.8**
KOLS *e* 16 44 04.6
STHS Stebnicka Huta 147.06 335 *e*PKIKP **PKPdf** **16 44 01.4 +0.8**
STHS *e* 16 44 08.7
STHS Stebnicka Huta 147.06 335 *e*PKP **PKPdf** **16 44 01.4 +0.8**
STHS *e* 16 44 04.9
STHS *e* 16 44 08.7
TIRR Tirgusor 147.11 322⇑PKIKP **PKPbc** **16 44 03.8 -0.3**
TIRR Tirgusor 147.11 322 *e*PKPbc **PKPbc** **16 44 04.2 0.0**
TIRR *e*PKPab **PKPab** **16 44 08.3 +0.2**
TIRR Tirgusor 147.11 322⇑*i*P **PKPbc** **16 44 03.8 -0.3**
VRI Vrincioaia 147.14 326⇓PKP2 **PKPbc** **16 44 04.5 +0.2**
VRI Vrincioaia 147.14 326⇓*i*P **PKPbc** **16 44 04.5 +0.2**
PLOR Plostina 147.19 326⇓PKP2 **PKPbc** **16 44 04.5 +0.1**
PLOR Plostina 147.19 326⇓*i*P **PKPbc** **16 44 04.5 +0.1**
UZH Uzhgorod 147.25 333⇑*i*PKIKP **PKPdf** **16 44 00.6 -0.3**
CRVS Cervenica-Dubn 147.38 335 *e*PKIKP **PKPdf** **16 44 01.5 +0.3**
CRVS *e* 16 44 10.2
CRVS Cervenica-Dubn 147.38 335 *e*PKP **PKPdf** **16 44 01.5 +0.3**
CRVS *e* 16 44 05.5
CRVS *e* 16 44 10.1
NIE Niedzica 147.41 336 *e*PKiKP **PKiKP** **16 44 05.8 -0.5**
NIE *e* 16 44 10.4
NIE Niedzica 147.41 336 *i* PKP2 **PKiKP** **16 44 05.8 -0.5**
KBI1 Birley Grange 147.43 3⇓*e*P **PKPbc** **16 44 04.5 -0.2**
KBI1 Birley Grange 147.43 3 P **PKPbc** **16 44 04.5 -0.2**
BMR Baia Mare 147.46 331⇓PKP2 **PKPbc** **16 44 05.5 +0.5**
BMR Baia Mare 147.46 331⇓*i*P **PKPbc** **16 44 05.5 +0.5**
MDUB Mudurnu 147.53 314 *e*P **PKPbc** **16 44 05.7 +0.2**
TRPA Tarpa 147.53 333⇓*i*P **PKPbc** **16 44 05.3 +0.2**
TRPA Tarpa 147.53 333⇑*e*PKPPKPdf **PKPbc** **16 44 05.4 +0.3**
KSP Ksiaz 147.55 342 *e*PKPbc **PKPbc** **16 44 05.8 +0.8**
KSP *e*PKPab **PKPab** **16 44 10.8 +1.0**
KSP LMZ LR 17 40 04.6
comp=Z,300nm,22.6s
KSP Ksiaz 147.55 342 *e*PKP2 **PKPab** **16 44 10.3 +0.6**
PHNC Paralimni 147.58 303 P **PKPdf** **16 44 02.8 +0.9**
comp=Z,4.5nm,1.1s
WIT Witteveen 147.62 353 *e*PKP **PKPbc** **16 44 06.2 +1.1**
KWE Weaver Farm 147.65 3⇓*e*P **PKPbc** **16 44 05.2 -0.1**
KWE Weaver Farm 147.65 3 P **PKPbc** **16 44 05.2 -0.1**
PSN Preselentsi 147.71 321 *i* P **PKPbc** **16 44 06.4 +0.7**
LADK Ladik-KONYA 147.72 310 *e*P **PKPbc** **16 44 05.6 -0.5**
KIZT Kizilcal 147.78 311 *e*P **PKPdf** **16 44 02.1 -0.1**
SVRH Sivrihisar-ESK 147.78 312 *e*P **PKPbc** **16 44 05.0 -1.2**
MLR Muntele Rosu 147.80 326⇑PKHKP **PKPdf** **16 44 01.7 -0.4**
MLR Muntele Rosu 147.80 326⇑*i*P **PKPdf** **16 44 01.7 -0.4**
KONT Konya--Tatoy 147.82 309 *e*P **PKPbc** **16 44 05.8 -0.5**
OKC Ostrava-Krasne 147.84 339 *e*PKIKP **PKPdf** **16 44 01.7 -0.2**
OKC *e* 16 44 11.3
OKC Ostrava-Krasne 147.84 339 *e*PKPDF **PKPdf** **16 44 01.7 -0.2**
OKC ⇑*i*PKP **PKPbc** **16 44 06.1 +0.3**
OKC *e*PKPAB **PKPab** **16 44 11.3 +0.4**
UPC Upice 147.93 342 *e*PKHKP **PKPdf** **16 44 02.4 +0.4**
UPC *e* 16 44 12.0
UPC Upice 147.93 342 *e*PKPDF **PKPdf** **16 44 02.4 +0.4**
UPC ⇑*i*PKP **PKPbc** **16 44 06.6 +0.5**
UPC *e*PKPAB **PKPab** **16 44 12.0 +0.7**
UPC *e*pPKP **pPKPdf** **16 46 39.0 +5.9**
DPC Dobruska-Polom 147.98 341 *e*PKHKP **PKPdf** **16 44 02.6 +0.5**
DPC *e* 16 44 12.0
DPC Dobruska-Polom 147.98 341 *e*PKPDF **PKPdf** **16 44 02.6 +0.5**
DPC ⇑*i*PKP **PKiKP** **16 44 07.0 -0.5**
DPC *e*PKPAB **PKPab** **16 44 12.0 +0.4**
DPC *e*pPKP **pPKPdf** **16 46 34.9 +1.7**
CLL Collm 147.99 346 *e*PKPdf **PKPdf** **16 44 01.6 -0.4**
CLL *e*PKPbc **PKPbc** **16 44 06.7 +0.5**
CLL Collm 147.99 346⇓*e*PKHKP **PKPdf** **16 44 02.0 0.0**
CLL *i* 16 44 11.7
CLL pmax pmax
comp=Z,36nm,1.4s
CLL pmax pmax
comp=Z,170nm,0.8s
CLL pmax pmax
comp=Z,114nm,1.1s
CLL Collm 147.99 346 *e*PKPdf **PKPdf** **16 44 02.0 0.0**
comp=Z,36nm,1.4s
CLL ⇓*i*PKPbc **PKPbc** **16 44 06.5 +0.3**
comp=Z,170nm,0.8s
CLL *e*(PKiKP) 16 44 10.0
CLL ⇑*i*PKPab **PKPab** **16 44 11.7 +0.2**
comp=Z,114nm,1.1s
CLL *e*(SKPdf) 16 46 38.0
CLL *e*SKPbc **SKiKP** **16 46 43.0 +0.7**
CLL *e*PKSdf **PKSdf** **16 47 37.0 +0.1**
CLL *e*sPP 16 51 02.0
CLL *e*PSKS 16 58 01.0
CLL *e*PSS PSS 17 06 48.0
CLL *e*SSS SSS 17 11 12.0
CLL *e*(SSSS) 17 15 54.0
EIL Elat 148.00 293 PKP **PKPdf** **16 44 02.9 +0.2**
comp=Z,59nm,0.9s,baz=45,slow=1.4,SNR=1.8
EIL PKPbc **PKPbc** **16 44 07.5 +0.6**
comp=Z,50nm,0.7s,baz=351,slow=1.8,SNR=12
EIL Elat 148.00 293 PKP **PKPdf** **16 44 02.9 +0.2**
EIL PKPbc **PKPbc** **16 44 07.5 +0.6**
GULT Gulveren 148.01 315 *e*P **PKPbc** **16 44 06.6 -0.1**
CLZ Clausthal 148.03 349 *e*PKPdf **PKPdf** **16 44 02.5 +0.3**
CLZ *e*PKPbc **PKiKP** **16 44 07.2 -0.3**
CLZ Clausthal 148.03 349 *e*PKHKP **PKPdf** **16 44 02.5 +0.3**
KRLC Kraliky 148.08 341⇑*i*PKP **PKPbc** **16 44 07.0 +0.5**
KRLC *e*PKPAB **PKPab** **16 44 12.1 +0.1**
MORC Moravsky Berou 148.09 339⇓PKHKP **PKPdf** **16 44 02.7 +0.4**
MORC Moravsky Berou 148.09 339 *e*PKPdf **PKPdf** **16 44 01.9 -0.4**
MORC *e*PKPbc **PKPbc** **16 44 06.9 +0.4**
MORC *e*PKPab **PKPab** **16 44 12.6 +0.5**
MORC Moravsky Berou 148.09 339⇓*i*P **PKPdf** **16 44 02.7 +0.4**
KECS Kecovo 148.10 335 *e*PKHKP **PKPdf** **16 44 02.5 +0.2**
KECS *e* 16 44 12.9
KECS Kecovo 148.10 335 *e*PKP **PKPdf** **16 44 02.5 +0.2**
KECS *e* 16 44 07.2
KECS *e* 16 44 12.9
CSS Prodhromos 148.14 303 P **PKPbc** **16 44 05.4 -1.7**
comp=Z,1.4nm,0.4s
CSS Prodhromos 148.14 303 *e*P **PKPbc** **16 44 06.7 -0.4**
CSS Prodhromos 148.14 303 *e*PKPbc **PKPbc** **16 44 06.9 -0.2**
CSS Prodhromos 148.14 303 P **PKPbc** **16 44 07.0 -0.1**
MDB Medias 148.15 328 PKP2 **PKPbc** **16 44 07.6 +0.8**
MAMC Mammari 148.16 304 P **PKPbc** **16 44 05.2 -1.9**
BRG Berggiesshubel 148.16 344 *e*PKP **PKPdf** **16 44 01.6 -0.7**
comp=Z,24nm,1.1s
BRG *i* 16 44 07.2
comp=Z,139nm,1.1s
BRG *i* 16 44 12.8
comp=Z,129nm,1.4s
BRG pPKP **pPKPdf** **16 46 38.2 +4.7**
comp=Z,15nm,1.0s
BRG *e* 16 46 46.3
comp=Z,28nm,1.4s
BRG Berggiesshubel 148.16 344 *e*PKPdf **PKPdf** **16 44 02.3 -0.1**
BRG *e*PKPbc **PKiKP** **16 44 07.4 -0.4**
BRG Berggiesshubel 148.16 344 *e*PKIKP **PKPdf** **16 44 01.6 -0.7**
BRG *i* 16 44 12.8
BRG pmax pmax
comp=Z,24nm,1.2s
BRG pmax pmax
comp=Z,139nm,1.1s
BRG pmax pmax
comp=Z,129nm,1.4s
BRG pmax pmax
comp=Z,15nm,1.0s
BRG pmax pmax
comp=Z,28nm,1.4s
ESKT Eskisehir 148.21 313 *e*P **PKPbc** **16 44 07.4 +0.1**
VOIR 148.30 327⇑PKHKP **PKPbc** **16 44 07.6 +0.3**
VOIR 148.30 327⇑*i*P **PKPbc** **16 44 07.6 +0.3**
PVCC Panska Ves 148.32 343 *e*PKIKP **PKPdf** **16 44 02.6 0.0**
PVCC Panska Ves 148.32 343 *e*PKPDF **PKPdf** **16 44 02.6 0.0**
PVCC ⇑*i*PKP **PKiKP** **16 44 07.7 -0.4**
PVCC *ex* x 16 46 42.1
HRT Hereke 148.37 316 *e*P **PKPbc** **16 44 06.8 -0.8**
LEF Lefka 148.43 304 *e*P **PKPbc** **16 44 07.7 -0.1**
WTSB Winterswijk 148.44 353 *e*PKP **PKPdf** **16 44 03.0 +0.3**
WTSB *eX* 16 44 07.4
PRD Provadia 148.45 321 *i* P **PKPbc** **16 44 08.3 +0.7**
DRGR 148.47 331⇑PKHKP **PKPbc** **16 44 07.7 +0.1**
DRGR 148.47 331⇑*i*P **PKPbc** **16 44 07.7 +0.1**
BOLV Bolvadin 148.50 311 *i* P **PKPbc** **16 44 07.3 -0.8**
ADVT Abdulvahap 148.52 315 *e*P **PKPbc** **16 44 07.3 -0.6**
CAVI Cavuskoy 148.57 315 *e*P **PKPbc** **16 44 07.3 -0.7**
MCH1 Michaelchurch 148.60 5 *e*P **PKPbc** **16 44 07.1 -0.6**
MCH1 Michaelchurch 148.60 5 P **PKPbc** **16 44 07.1 -0.6**
ALFC Alevga 148.65 304 P **PKPbc** **16 44 07.9 -0.5**
comp=Z,3.4nm,0.4s
SSW Stow on the Wo 148.70 3⇓*e*P **PKPbc** **16 44 08.1 +0.1**
SSW Stow on the Wo 148.70 3 P **PKPbc** **16 44 08.1 +0.1**
VYHS Vyhne 148.73 337 *e*PKIKP **PKPdf** **16 44 03.0 -0.4**
VYHS *e* 16 44 15.8
VYHS Vyhne 148.73 337 *e*PKP **PKPdf** **16 44 03.0 -0.4**
VYHS *e* 16 44 08.7
VYHS *e* 16 44 15.8
PSZ Piszkesteto 148.79 335⇓PKHKP **PKPbc** **16 44 08.9 +0.5**
PSZ Piszkesteto 148.79 335 *e*PKPdf **PKPdf** **16 44 03.0 -0.6**
PSZ *e*PKPbc **PKPbc** **16 44 08.5 +0.1**
PSZ Piszkesteto 148.79 335⇓*i*P **PKPbc** **16 44 08.9 +0.5**
PSZ Piszkesteto 148.79 335⇑*e*PKPPKPdf **PKPbc** **16 44 08.6 +0.2**
VRAC Vranov 148.81 340⇓PKHKP **PKPbc** **16 44 09.1 +0.8**
VRAC Vranov 148.81 340⇓*i*P **PKPbc** **16 44 09.1 +0.8**
PRU Pruhonice 148.81 343 *e*PKIKP **PKPdf** **16 44 03.5 +0.1**
PRU

GEMT	**Gemlik**	**148.88**	**316**	*e*P		**PKPbc**	**16 44 08.5**	**-0.2**
CALA	**Caldeira**	**148.89**	**49**	*e*PKP		**PKPbc**	**16 44 10.1**	**+1.2**
BUG	**Bochum--Univer**	**148.90**	**352**	*e*PKPdf		**PKPdf**	**16 44 03.8**	**+0.3**
BUG				*e*PKPbc		**PKiKP**	**16 44 08.9**	**-0.3**
CTKS	**Kestanelik-??a**	**148.90**	**317**	*e*P		**PKPbc**	**16 44 08.9**	**+0.2**
MOX	**Moxa**	**148.92**	**347**	*e*PKPdf		**PKPdf**	**16 44 03.3**	**-0.3**
MOX				*e*PKPbc		**PKiKP**	**16 44 09.2**	**-0.2**
MOX	**Moxa**	**148.92**	**347**	*e*PKIKP		**PKPdf**	**16 44 03.3**	**-0.3**
PPCY	**Paphos**	**148.93**	**304**	P		**PKPbc**	**16 44 07.9**	**-1.1**
ALT	**Altintas**	**148.94**	**313**	*e*P		**PKPbc**	**16 44 09.1**	**+0.1**
TANN	**Tannenbergstha**	**148.95**	**346**	*e*PKPdf		**PKPdf**	**16 44 03.6**	**-0.1**
TANN				*e*PKPbc		**PKiKP**	**16 44 09.3**	**-0.2**
HGH	**Gray Hill**	**148.97**	**4**	⇓*e*P		**PKPbc**	**16 44 07.7**	**-0.8**
HGH	**Gray Hill**	**148.97**	**4**	P		**PKPbc**	**16 44 07.7**	**-0.8**
SKP1	**Kophill**	**148.99**	**2**	*e*P		**PKPbc**	**16 44 08.1**	**-0.5**
SKP1	**Kophill**	**148.99**	**2**	P		**PKPbc**	**16 44 08.1**	**-0.5**
ARMT	**Armutlu**	**149.03**	**316**	*e*P		**PKPbc**	**16 44 09.1**	**0.0**
UBBA	**Unterbreizbach**	**149.08**	**349**	*e*PKPdf		**PKPdf**	**16 44 03.8**	**+0.1**
UBBA				*e*PKPbc		**PKiKP**	**16 44 10.0**	**+0.5**
PCAN	**Candelaria**	**149.09**	**49**	*e*PKP		**PKPbc**	**16 44 10.3**	**+1.0**
MDNY	**Mudanya-Bursa**	**149.12**	**316**	*e*P		**PKPbc**	**16 44 09.2**	**-0.1**
PICO	**Pico**	**149.12**	**48**	*e*PKP		**PKPbc**	**16 44 10.7**	**+1.2**
NKC	**Novy Kostel**	**149.12**	**345**	*e*PKIKP		**PKPdf**	**16 44 03.5**	**-0.4**
NKC				*e*			16 44 16.7	
NKC	**Novy Kostel**	**149.12**	**345**	*e*PKPDF		**PKPdf**	**16 44 03.5**	**-0.4**
NKC				⇑*i*PKP		**PKPbc**	**16 44 09.4**	**+0.4**
NKC				*e*PKPAB		**PKPab**	**16 44 16.7**	**+0.4**
ROSA	**Rosais**	**149.15**	**48**	*e*PKP		**PKPbc**	**16 44 10.2**	**+0.8**
SWN1	**Swindon**	**149.16**	**3**	*e*P		**PKPbc**	**16 44 08.7**	**-0.3**
SWN1	**Swindon**	**149.16**	**3**	P		**PKPbc**	**16 44 08.7**	**-0.3**
TREC	**Trest**	**149.16**	**341**	*e*PKIKP		**PKPdf**	**16 44 04.3**	**+0.3**
TREC				*e*			16 44 16.4	
TREC	**Trest**	**149.16**	**341**	*e*PKPDF		**PKPdf**	**16 44 04.3**	**+0.3**
TREC				⇑*i*PKP		**PKPbc**	**16 44 09.5**	**+0.4**
TREC				*e*PKPAB		**PKPab**	**16 44 16.4**	**-0.1**
ISP	**Isparta**	**149.20**	**310**	*e*P		**PKPbc**	**16 44 08.7**	**-1.0**
ISP	**Isparta**	**149.20**	**310**	⇑PKHKP		**PKPbc**	**16 44 08.9**	**-0.8**
ISP	**Isparta**	**149.20**	**310**	*e*PKPbc		**PKPbc**	**16 44 09.0**	**-0.8**
ISP	**Isparta**	**149.20**	**310**	⇑*i*P		**PKPbc**	**16 44 08.9**	**-0.8**
SMOL	**Smolenice**	**149.22**	**338**	*e*PKHKP		**PKPbc**	**16 44 10.5**	**+1.2**
SMOL	**Smolenice**	**149.22**	**338**	*e*PKP		**PKPbc**	**16 44 10.5**	**+1.2**
SMOL				*e*			16 44 18.3	
SZH	**Strazhica**	**149.26**	**323**	*i* P		**PKPbc**	**16 44 09.7**	**+0.2**
PMAN	**Manadas**	**149.30**	**48**	*e*PKP		**PKPbc**	**16 44 10.3**	**+0.5**
BCK	**Bucak**	**149.30**	**309**	*e*P		**PKPbc**	**16 44 08.1**	**-1.9**
JMB	**Yambol**	**149.37**	**321**	P		**PKPbc**	**16 44 10.5**	**+0.7**
JMB	**Yambol**	**149.37**	**321**	*i* P		**PKPbc**	**16 44 10.6**	**+0.7**
WOL	**Wolverton**	**149.38**	**3**	*e*P		**PKPbc**	**16 44 09.3**	**-0.3**
WOL	**Wolverton**	**149.38**	**3**	P		**PKPbc**	**16 44 09.3**	**-0.3**
HEX	**Exmoor**	**149.45**	**6**	⇓*e*P		**PKPbc**	**16 44 09.5**	**-0.2**
HEX	**Exmoor**	**149.45**	**6**	P		**PKPbc**	**16 44 09.5**	**-0.2**
BUD	**Budapest**	**149.49**	**335**	⇑*e*PKPPKPd		**PKPbc**	**16 44 10.1**	**+0.2**
KCTX	**Karacabey (Bur**	**149.52**	**316**	*e*P		**PKPbc**	**16 44 09.6**	**-0.7**
ELSH	**Elham, Standar**	**149.59**	**360**	*e*P		**PKPbc**	**16 44 10.3**	**+0.3**
ELSH	**Elham, Standar**	**149.59**	**360**	P		**PKPbc**	**16 44 10.3**	**+0.3**
ROTZ	**Rotzenmuhle**	**149.61**	**345**	*e*PKPdf		**PKPdf**	**16 44 04.6**	**-0.1**
ROTZ				*e*PKPbc		**PKiKP**	**16 44 11.0**	**+0.2**
PVL	**Pavlikeni**	**149.63**	**323**	*i* P		**PKPbc**	**16 44 11.0**	**+0.6**
EDRB	**Edirne**	**149.65**	**320**	*e*P		**PKPbc**	**16 44 09.8**	**-0.7**
KORT	**Korkueli**	**149.66**	**309**	*i* P		**PKPbc**	**16 44 10.5**	**-0.4**
KHAL	**Karahalli**	**149.68**	**312**	*i* P		**PKPbc**	**16 44 10.4**	**-0.5**
BEBN	**Eben Emael**	**149.71**	**354**	PKPdf		**PKPdf**	**16 44 05.6**	**+0.9**
BEBN				PKPbc		**PKPbc**	**16 44 10.6**	**+0.3**
BEBN				PKPab		**PKPab**	**16 44 18.4**	**-0.2**
CRAR	**CRAIOVA**	**149.71**	**326**	PKHKP		**PKPbc**	**16 44 11.1**	**+0.6**
HGN	**Heimansgroeve**	**149.72**	**354**	*e*PKP		**PKPdf**	**16 44 05.1**	**+0.3**
	comp=Z,562nm,2.4s							
HGN				*e*X			16 44 10.4	
PKSG		**149.81**	**336**	⇑*e*PKPPKPd		**PKPbc**	**16 44 10.6**	**-0.1**
BZS	**Buzias**	**149.85**	**330**	⇑PKIKP		**PKPdf**	**16 44 05.1**	**-0.1**
BZS	**Buzias**	**149.85**	**330**	⇑*i*P		**PKPdf**	**16 44 05.1**	**-0.1**
KHC	**Kasperske Hory**	**149.85**	**343**	*e*PKIKP		**PKPdf**	**16 44 05.1**	**-0.1**
KHC				*e*			16 44 19.7	
KHC	**Kasperske Hory**	**149.85**	**343**	*e*PKPdf		**PKPdf**	**16 44 05.0**	**-0.1**
KHC				*e*PKPbc		**PKPbc**	**16 44 10.9**	**+0.1**
KHC				*e*PKPab		**PKPab**	**16 44 20.1**	**+0.7**
KHC	**Kasperske Hory**	**149.85**	**343**	*e*PKPDF		**PKPdf**	**16 44 05.1**	**-0.1**
KHC				⇑*i*PKP		**PKPbc**	**16 44 11.1**	**+0.3**
KHC				*e*PKPAB		**PKPab**	**16 44 19.7**	**+0.3**
KHC				*ep*PKP		**pPKPdf**	**16 46 43.5**	**+7.2**
MEM	**Membach**	**149.86**	**354**	PKPdf		**PKPdf**	**16 44 04.7**	**-0.4**
MEM				PKPbc		**PKiKP**	**16 44 11.0**	**-0.2**
MEM				PKPab		**PKPab**	**16 44 19.8**	**+0.5**
GRF	**Grafenberg Arr**	**149.91**	**347**	*e*PKPdf		**PKPdf**	**16 44 04.8**	**-0.4**
GRF				*e*PKPbc		**PKiKP**	**16 44 11.4**	**0.0**
GRF				*ep*PKPbc		**PKPab**	**16 44 20.6**	**+1.0**
GRF				*e*L		L	17 39 02.1	
	comp=Z,196nm,20.3s							
GRF	**Grafenberg Arr**	**149.91**	**347**	*e*PKIKP		**PKPdf**	**16 44 04.8**	**-0.4**
GRFO	**Grafenberg**	**149.91**	**347**	*e*PKIKP		**PKPdf**	**16 44 05.4**	**+0.2**
GRFO	**Grafenberg**	**149.91**	**347**	*e*PKPdf		**PKPdf**	**16 44 05.3**	**+0.2**
GRFO				*e*PKPbc		**PKPbc**	**16 44 11.3**	**+0.4**
TNS	**Taunus Mts**	**149.92**	**350**	*e*PKPdf		**PKPdf**	**16 44 04.8**	**-0.4**
TNS				*e*PKPbc		**PKiKP**	**16 44 11.4**	**-0.1**
TNS	**Taunus Mts**	**149.92**	**350**	*e*PKIKP		**PKPdf**	**16 44 04.8**	**-0.4**
WET	**Wettzell**	**150.03**	**344**	*e*PKPdf		**PKPdf**	**16 44 04.9**	**-0.5**
WET				*e*PKPbc		**PKiKP**	**16 44 11.5**	**-0.2**
WET				*ep*PKPbc		**PKPab**	**16 44 20.8**	**+0.7**
WET	**Wettzell**	**150.03**	**344**	*e*PKIKP		**PKPdf**	**16 44 04.9**	**-0.5**
PKST	**T``s**	**150.06**	**336**	⇓*e*PKPPKPd		**PKPbc**	**16 44 11.2**	**-0.1**
DYA	**Yadsworthy**	**150.06**	**6**	*e*P		**PKPbc**	**16 44 10.6**	**-0.6**
DYA	**Yadsworthy**	**150.06**	**6**	P		**PKPbc**	**16 44 10.6**	**-0.6**
GONE	**Gonen-Balikesi**	**150.07**	**316**	*e*P		**PKPbc**	**16 44 11.1**	**-0.4**
GEC2	**GERESS Array S**	**150.08**	**343**	*e*PKPdf		**PKPdf**	**16 44 05.4**	**-0.2**
GEC2				*e*PKPbc		**PKiKP**	**16 44 11.9**	**0.0**
GEC2	**GERESS Array S**	**150.08**	**343**	*e*PKIKP		**PKPdf**	**16 44 05.4**	**-0.2**
GERES	**GERESS Array B**	**150.08**	**343**	PKP		**PKPdf**	**16 44 05.6**	**0.0**
	comp=Z,3.4nm,0.8s,baz=48,slow=2.0,SNR=26							
GERES				PKPbc		**PKPbc**	**16 44 11.3**	**-0.1**
	comp=Z,32nm,0.6s,baz=25,slow=2.6,SNR=167							
GERES				PKPab		**PKPab**	**16 44 20.6**	**+0.2**
	comp=Z,11nm,0.8s,baz=35,slow=5.4,SNR=9.5							
GERES				SKPbc			16 46 43.9	
	comp=Z,4.0nm,0.9s,baz=81,slow=4.2,SNR=4.5							
GERES	**GERESS Array B**	**150.08**	**343**	PKIKP		**PKPdf**	**16 44 05.6**	**0.0**
GERES							16 44 20.7	
GERES	**GERESS Array B**	**150.08**	**343**	PKP		**PKPdf**	**16 44 05.6**	**0.0**
GERES				PKPbc		**PKPbc**	**16 44 11.3**	**-0.1**
GERES				PKPab		**PKPab**	**16 44 20.6**	**+0.2**
GERES				SKPbc			16 46 43.9	
ELL	**Elmali**	**150.09**	**309**	*e*P		**PKPbc**	**16 44 11.1**	**-0.8**
SNF	**Seneffe**	**150.12**	**356**	PKPdf		**PKPdf**	**16 44 06.0**	**+0.6**
SNF				PKPbc		**PKiKP**	**16 44 11.7**	**-0.1**
SNF				PKPab		**PKPab**	**16 44 20.4**	**+0.1**
KRBG	**Karabiga-Canak**	**150.13**	**317**	*e*P		**PKPbc**	**16 44 11.4**	**-0.3**
BALB	**Balikesir**	**150.16**	**315**	*e*P		**PKPbc**	**16 44 12.1**	**-0.6**
KULA	**Kula-Manisa**	**150.19**	**313**	*e*P		**PKPbc**	**16 44 12.1**	**+0.1**
GLHS	**Glhisar (BURDU**	**150.22**	**310**	*e*P		**PKPbc**	**16 44 13.7**	**+1.6**
SOP	**Sopron**	**150.23**	**338**	⇑*e*PKPPKPd		**PKPbc**	**16 44 12.1**	**+0.5**
DIM	**Dimitrovgrad**	**150.25**	**321**	*i* P		**PKPbc**	**16 44 12.1**	**+0.2**
CONA	**Conrad Observa**	**150.25**	**340**	⇑*i*P		**PKPdf**	**16 44 06.0**	**+0.1**
CONA				⇓*i*P		**PKiKP**	**16 44 12.4**	**+0.1**
CONA				⇑*i*P		**PKPab**	**16 44 22.2**	**+1.0**
CONA	**Conrad Observa**	**150.25**	**340**	⇑*i*PKPdf		**PKPdf**	**16 44 06.0**	**+0.1**
	comp=Z,15nm,1.3s,SNR=33							
CONA				⇓*i*PKiKP		**PKiKP**	**16 44 12.4**	**+0.1**
	comp=Z,81nm,0.7s							
CONA				⇑*i*PKPab		**PKPab**	**16 44 22.2**	**+1.0**
	comp=Z,95nm,1.0s							
DNZL	**Cakiroluk**	**150.31**	**311**	*i* P		**PKPbc**	**16 44 13.0**	**+0.6**
ABH	**Alteburg**	**150.39**	**351**	PKP		**PKPdf**	**16 44 05.7**	**-0.2**
MPEP	**Malo Peshtene**	**150.41**	**325**	*i* P		**PKPbc**	**16 44 12.6**	**+0.4**
TOD	**Tromm**	**150.46**	**350**	PKIKP		**PKPdf**	**16 44 05.5**	**-0.5**
TOD	**Tromm**	**150.46**	**350**	PKP		**PKPdf**	**16 44 05.5**	**-0.5**
ERIK	**Erikli-Kesan**	**150.47**	**318**	*e*P		**PKPbc**	**16 44 11.4**	**-1.0**
LPK	**Lapseki**	**150.48**	**317**	*e*P		**PKPbc**	**16 44 12.3**	**-0.2**
DOU	**Dourbes**	**150.50**	**355**	PKPbc		**PKPbc**	**16 44 12.3**	**+0.1**
DOU				PKPab		**PKPab**	**16 44 22.1**	**+0.1**
PKS9	**Tamasi**	**150.52**	**335**	⇑*e*PKPPKPd		**PKPbc**	**16 44 12.2**	**-0.1**
AKAS	**Kas**	**150.53**	**308**	*i* P		**PKPbc**	**16 44 10.9**	**-2.0**
KDZ	**Kurdzhali**	**150.56**	**321**	*i* P		**PKPbc**	**16 44 12.7**	**+0.1**
BAIF	**Baives**	**150.57**	**356**	*e*PKIKP		**PKPdf**	**16 44 06.0**	**-0.1**
	comp=Z,39nm,1.3s							
KSL	**Kastellorizon**	**150.57**	**308**	*e*P		**PKPbc**	**16 44 12.3**	**-0.5**
AKHS	**Akhisar**	**150.59**	**314**	*i* P		**PKPbc**	**16 44 12.0**	**-0.8**
RUP	**Ruppelstein**	**150.63**	**352**	PKIKP		**PKPdf**	**16 44 05.9**	**-0.4**
RUP	**Ruppelstein**	**150.63**	**352**	PKP		**PKPdf**	**16 44 05.9**	**-0.4**
ALN	**Alexandroupoli**	**150.63**	**319**	P		**PKPbc**	**16 44 12.0**	**-0.8**
ALN	**Alexandroupoli**	**150.63**	**319**	*e*P		**PKPbc**	**16 44 11.8**	**-1.0**
GELI	**Tayfur-Gelibol**	**150.65**	**318**	*e*P		**PKPbc**	**16 44 12.3**	**-0.5**
ENEZ	**Enez**	**150.66**	**319**	*e*P		**PKPbc**	**16 44 11.4**	**-1.5**
PKSM	**Moragy**	**150.68**	**334**	⇑*e*PKPPKPd		**PKPbc**	**16 44 12.8**	**+0.1**
PLD	**Plovdiv**	**150.69**	**322**	*i* P		**PKPbc**	**16 44 12.6**	**-0.3**
PGB	**Panagyurishte**	**150.71**	**323**	*i* P		**PKPbc**	**16 44 12.9**	**-0.1**
WLF	**Walferdange**	**150.78**	**353**	PKPdf		**PKPdf**	**16 44 07.6**	**+1.1**
WLF				PKPbc		**PKiKP**	**16 44 13.7**	**+0.5**
WLF				PKPab		**PKPab**	**16 44 23.6**	**+0.5**
WLF	**Walferdange**	**150.78**	**353**	*e*PKPdf		**PKPdf**	**16 44 07.0**	**+0.5**
WLF				*e*PKPbc		**PKiKP**	**16 44 13.9**	**+0.7**
WLF				*ep*PKPbc		**PKPab**	**16 44 23.4**	**+0.2**
WLF	**Walferdange**	**150.78**	**353**	*e*PKIKP		**PKPdf**	**16 44 07.0**	**+0.5**
WLF				*e*			16 44 23.7	
WLF	**Walferdange**	**150.78**	**353**	*e*PKPdf		**PKPdf**	**16 44 07.0**	**+0.5**
WLF				*e*PKPbc		**PKiKP**	**16 44 13.2**	**0.0**
WLF				*e*PKPab		**PKPab**	**16 44 23.7**	**+0.5**
RDO	**Rodhopi**	**150.79**	**320**	P		**PKPbc**	**16 44 12.8**	**-0.4**
RDO	**Rodhopi**	**150.79**	**320**	*e*P		**PKPbc**	**16 44 12.7**	**-0.4**
MOA	**Molln**	**150.82**	**341**	⇑*i*P		**PKPdf**	**16 44 06.4**	**-0.3**
MOA				⇓*i*P		**PKPbc**	**16 44 13.2**	**+0.2**
MOA				⇑*i*P		**PKPab**	**16 44 24.5**	**+1.0**
MOA	**Molln**	**150.82**	**341**	⇑*i*PKPdf		**PKPdf**	**16 44 06.4**	**-0.3**
	comp=Z,10nm,1.1s,SNR=9.7							
MOA				⇓*i*PKPbc		**PKPbc**	**16 44 13.2**	**+0.2**
	comp=Z,23nm,0.5s							
MOA				⇑*i*PKPab		**PKPab**	**16 44 24.5**	**+1.0**
	comp=Z,53nm,1.1s							
KTD	**Kalmit**	**150.85**	**350**	PKIKP		**PKPdf**	**16 44 07.1**	**+0.4**
KTD	**Kalmit**	**150.85**	**350**	PKP		**PKPdf**	**16 44 07.1**	**+0.4**
RZN	**Rozhen**	**150.95**	**321**	*i* P		**PKPbc**	**16 44 13.6**	**-0.2**
ARSA	**Arzberg**	**150.95**	**339**	⇓*i*P		**PKPdf**	**16 44 06.0**	**-0.9**
ARSA				⇓*i*P		**PKPbc**	**16 44 13.3**	**0.0**
ARSA				⇑*i*P		**PKPab**	**16 44 24.8**	**+0.8**
ARSA	**Arzberg**	**150.95**	**339**	⇓*i*PKPdf		**PKPdf**	**16 44 06.0**	**-0.9**
	comp=Z,3.3nm,1.1s,SNR=12							
ARSA				⇓*i*PKPbc		**PKPbc**	**16 44 13.3**	**0.0**
	comp=Z,22nm,0.7s							
ARSA				⇑*i*PKPab		**PKPab**	**16 44 24.8**	**+0.8**
	comp=Z,39nm,1.1s							
RHK3	**Tenkes**	**151.10**	**334**	⇑*e*PKPPKPd		**PKPbc**	**16 44 13.9**	**+0.2**
BEHE	**Beesehely**	**151.19**	**337**	⇑*e*PKPPKPd		**PKPbc**	**16 44 14.0**	**+0.1**
STU	**Stuttgart**	**151.19**	**349**	*e*PKPdf		**PKPdf**	**16 44 07.3**	**+0.2**
STU				*e*PKPbc		**PKiKP**	**16 44 14.3**	**+0.2**
STU	**Stuttgart**	**151.19**	**349**	*e*PKIKP		**PKPdf**	**16 44 07.3**	**+0.2**
STU				*e*			16 44 24.9	
STU	**Stuttgart**	**151.19**	**349**	*e*PKPdf		**PKPdf**	**16 44 07.3**	**+0.2**
STU				*e*PKPbc		**PKiKP**	**16 44 14.2**	**+0.2**
STU				*e*PKPab		**PKPab**	**16 44 24.9**	**-0.1**
IZM	**Izmir**	**151.20**	**314**	*e*P		**PKPbc**	**16 44 13.7**	**-0.5**
VTS	**Vitosha**	**151.21**	**324**	⇑PKIKP		**PKPbc**	**16 44 14.8**	**+0.5**
VTS	**Vitosha**	**151.21**	**324**	P		**PKPbc**	**16 44 14.3**	**0.0**
VTS	**Vitosha**	**151.21**	**324**	⇑*i*P		**PKPbc**	**16 44 14.8**	**+0.5**
VTS	**Vitosha**	**151.21**	**324**	*i* P		**PKPbc**	**16 44 14.5**	**+0.2**
LANF	**Langenberg**	**151.23**	**351**	PKIKP		**PKPdf**	**16 44 07.8**	**+0.6**
LANF	**Langenberg**	**151.23**	**351**	PKP		**PKPdf**	**16 44 07.8**	**+0.6**
LANF	**Langenberg**	**151.23**	**351**	PKP		**PKPdf**	**16 44 07.8**	**+0.6**
FUR	**Furstenfeldbru**	**151.33**	**345**	*e*PKPdf		**PKPdf**	**16 44 06.8**	**-0.6**
FUR				*e*PKPbc		**PKiKP**	**16 44 14.5**	**+0.1**
FUR	**Furstenfeldbru**	**151.33**	**345**	*e*PKIKP		**PKPdf**	**16 44 06.8**	**-0.6**
RJOB	**Jochberg**	**151.34**	**343**	*e*PKPdf		**PKPdf**	**16 44 06.9**	**-0.6**
RJOB				*e*PKPbc		**PKPbc**	**16 44 14.3**	**0.0**
KOGS	**Kog**	**151.40**	**338**	*e*PKPdf		**PKPdf**	**16 44 07.3**	**-0.2**
KOGS				*e*PKPbc		**PKPbc**	**16 44 14.1**	**-0.3**
KOGS				*e*PKPab		**PKPab**	**16 44 25.8**	**-0.1**
PRK	**Paraskevi**	**151.42**	**316**	P		**PKPbc**	**16 44 14.2**	**-0.4**
PRK	**Paraskevi**	**151.42**	**316**	*e*P		**PKPbc**	**16 44 14.1**	**-0.5**
KAVA	**Kavala**	**151.50**	**321**	P		**PKPbc**	**16 44 14.4**	**-0.3**
MMB	**Musomiste**	**151.58**	**322**	*i* P		**PKPbc**	**16 44 14.7**	**-0.3**
SOKA	**Soboth**	**151.62**	**339**	⇑*i*P		**PKPdf**	**16 44 07.4**	**-0.6**
SOKA				⇓*i*P		**PKPbc**	**16 44 14.6**	**-0.3**
SOKA				⇓*i*P		**PKPab**	**16 44 26.9**	**-0.1**
SOKA	**Soboth**	**151.62**	**339**	⇑*i*PKPdf		**PKPdf**	**16 44 07.4**	**-0.6**
	comp=Z,16nm,1.3s							
SOKA				⇓*i*PKPbc		**PKPbc**	**16 44 14.6**	**-0.3**
	comp=Z,79nm,1.2s							
SOKA				⇓*i*PKPab		**PKPab**	**16 44 26.9**	**-0.1**
	comp=Z,58nm,1.1s							
ARG	**Arkhangelos**	**151.62**	**309**	*e*P		**PKPbc**	**16 44 14.8**	**-0.4**
PERS	**Pernice**	**151.63**	**339**	*e*PKPbc		**PKPbc**	**16 44 14.5**	**-0.4**
PERS				*i* PKPab		**PKPab**	**16 44 26.9**	**-0.1**
NVR	**Nevrokopi**	**151.66**	**322**	P		**PKPbc**	**16 44 14.6**	**-0.6**
NVR	**Nevrokopi**	**151.66**	**322**	*e*P		**PKPbc**	**16 44 14.5**	**-0.6**
LIA	**Limnos Island**	**151.75**	**318**	*e*P		**PKPbc**	**16 44 14.4**	**-0.9**
DIVS	**Divibare**	**151.76**	**330**	P		**PKPbc**	**16 44 15.4**	**+0.1**
KKB	**Krupnik**	**151.77**	**323**	*i* P		**PKPbc**	**16 44 15.3**	**0.0**
BFO	**Black Forest**	**151.77**	**349**	*e*PKPdf		**PKPdf**	**16 44 07.6**	**-0.5**
BFO				*e*PKPbc		**PKiKP**	**16 44 15.4**	**0.0**
BFO	**Black Forest**	**151.77**	**349**	*e*PKIKP		**PKPdf**	**16 44 07.6**	**-0.5**
BFO	**Black Forest**	**151.77**	**349**	*e*PKPdf		**PKPdf**	**16 44 06.9**	**-1.1**
BFO				*e*PKPbc		**PKPbc**	**16 44 15.0**	**-0.1**
KBA	**Koelnbreinsper**	**151.79**	**342**	⇑*i*PKIKP		**PKPdf**	**16 44 07.1**	**-1.2**
KBA				*i*			16 44 14.8	
KBA	**Koelnbreinsper**	**151.79**	**342**	⇑*i*P		**PKPdf**	**16 44 07.1**	**-1.2**
KBA				⇓*i*P		**PKPbc**	**16 44 14.8**	**-0.6**
KBA				⇑*i*P		**PKPab**	**16 44 29.4**	**+1.6**
KBA	**Koelnbreinsper**	**151.79**	**342**	⇑*i*PKPdf		**PKPdf**	**16 44 07.1**	**-1.2**
	comp=Z,16nm,1.1s,SNR=8.2							
KBA				⇓*i*PKPbc		**PKPbc**	**16 44 14.8**	**-0.6**
	comp=Z,30nm,0.6s							
KBA				⇑*i*PKPab		**PKPab**	**16 44 29.4**	**+1.6**
	comp=Z,77nm,1.2s							
SMG	**Samos**	**151.84**	**313**	*e*P		**PKPbc**	**16 44 14.7**	**-0.9**
CDF	**Champ du Feu**	**151.86**	**351**	*e*PKIKP		**PKPdf**	**16 44 07.6**	**-0.7**
	comp=Z,56nm,1.6s							
PAGF	**Fort de Pagny**	**151.92**	**353**	*e*PKIKP		**PKPdf**	**16 44 08.2**	**0.0**
FLN	**La Foliniere**	**151.96**	**2**	*e*PKIKP		**PKPdf**	**16 44 07.7**	**-0.6**
	comp=Z,60nm,1.0s							
CHOS	**Chios island**	**152.02**	**315**	*e*P		**PKPbc**	**16 44 15.0**	**-1.1**
WATA	**Walderalm**	**152.03**	**344**	⇑*i*PKIKP		**PKPdf**	**16 44 08.1**	**-0.6**
WATA				*i*			16 44 28.9	
WATA	**Walderalm**	**152.03**	**344**	⇑*i*P		**PKPdf**	**16 44 08.1**	**-0.6**
WATA				⇓*i*P		**PKPbc**	**16 44 15.7**	**-0.2**
WATA				⇓*i*P		**PKPab**	**16 44 28.9**	**+0.2**
WATA	**Walderalm**	**152.03**	**344**	⇑*i*PKPdf		**PKPdf**	**16 44 08.1**	**-0.6**
	comp=Z,14nm,1.2s,SNR=22							
WATA				⇓*i*PKPbc		**PKPbc**	**16 44 15.7**	**-0.2**
	comp=Z,30nm,0.4s							
WATA				⇓*i*PKPab		**PKPab**	**16 44 28.9**	**+0.2**
	comp=Z,61nm,1.0s							
MEZF	**Maizieres J'vi**	**152.04**	**354**	*e*PKIKP		**PKPdf**	**16 44 08.5**	**+0.1**
ECH	**Echery**	**152.07**	**351**	PKIKP		**PKPdf**	**16 44 08.8**	**+0.3**
ECH				*e*			16 44 15.5	
ECH				*e*			16 44 28.5	
ECH	**Echery**	**152.07**	**351**	PKP		**PKPdf**	**16 44 08.8**	**+0.3**
ECH				*e*PKPbc		**PKPbc**	**16 44 15.5**	**-0.3**
ECH				*e*PKPab		**PKPab**	**16 44 28.5**	**-0.2**
ECH	**Echery**	**152.07**	**351**	PKP		**PKPdf**	**16 44 08.8**	**+0.3**
WTTA	**Wattenberg**	**152.08**	**344**	⇑*i*PKIKP		**PKPdf**	**16 44 08.8**	**0.0**
WTTA				*i*			16 44 29.9	
WTTA	**Wattenberg**	**152.08**	**344**	⇑*i*P		**PKPdf**	**16 44 08.8**	**0.0**
WTTA				⇓*i*P		**PKiKP**	**16 44 16.2**	**0.0**
WTTA				⇑*i*P		**PKPab**	**16 44 29.9**	**+0.8**
WTTA	**Wattenberg**	**152.08**	**344**	⇑*i*PKPdf		**PKPdf**	**16 44 08.7**	**0.0**
	comp=Z,18nm,1.1s,SNR=32							
WTTA				⇓*i*PKiKP		**PKiKP**	**16 44 16.2**	**0.0**
	comp=Z,60nm,0.4s							
WTTA				⇑*i*PKPab		**PKPab**	**16 44 29.9**	**+0.8**
	comp=Z,81nm,0.9s							
RETA	**Reutte**	**152.09**	**346**	⇑*i*P		**PKPdf**	**16 44 07.7**	**-0.9**
RETA				⇓*i*P		**PKPbc**	**16 44 15.9**	**0.0**
RETA				⇓*i*P		**PKPab**	**16 44 29.5**	**+0.6**
RETA	**Reutte**	**152.09**	**346**	⇑*i*PKPdf		**PKPdf**	**16 44 07.7**	**-0.9**
	comp=Z,7.4nm,1.0s							
RETA				⇓*i*PKPbc		**PKPbc**	**16 44 15.9**	**0.0**
	comp=Z,21nm,0.7s							
RETA				⇓*i*PKPab		**PKPab**	**16 44 29.5**	**+0.6**
	comp=Z,39nm,0.6s							
MYKA	**Terra Mystica**	**152.10**	**341**	⇑*i*P		**PKPdf**	**16 44 08.0**	**-0.7**
MYKA				⇓*i*P		**PKPbc**	**16 44 15.4**	**-0.6**
MYKA				⇑*i*P		**PKPab**	**16 44 29.0**	**0.0**
MYKA	**Terra Mystica**	**152.10**	**341**	⇑*i*PKPdf		**PKPdf**	**16 44 08.0**	**-0.7**
	comp=Z,16nm,1.6s							
MYKA				⇓*i*PKPbc		**PKPbc**	**16 44 15.4**	**-0.6**
	comp=Z,34nm,0.5s							
MYKA				⇑*i*PKPab		**PKPab**	**16 44 29.0**	**0.0**
	comp=Z,45nm,1.2s							
MOTA	**Moosalm**	**152.14**	**345**	⇓*i*PKIKP		**PK

PGAV	Gavieira, Arco	157.41	18	ePKPab	PKPab	16 44 52.7	+0.7
SJPF	Ste Jean	157.56	4	ePKIKP	PKPdf	16 44 16.0	0.0
EPF	Esparros	157.71	1	ePKIKP	PKPdf	16 44 16.1	-0.2
	comp=Z,60nm,1.4s						
ETSF	Etsaut	157.81	3	ePKIKP	PKPdf	16 44 16.6	+0.2
	comp=Z,35nm,1.2s						
PBRG	Braganca	157.97	15	ePKPab	PKPab	16 44 54.6	+0.2
POLO	Lamas de Olo	158.09	18	ePKPdf	PKPdf	16 44 17.1	+0.3
POLO	Lamas de Olo	158.09	18	ePKPab	PKPab	16 44 55.9	+0.9
PVRL	Vila Real	158.21	18	ePKPab	PKPab	16 44 56.1	+0.7
MVO	Moncorvo	158.50	16	ePKPdf	PKPdf	16 44 18.0	+0.7
MVO	Moncorvo	158.50	16	ePKPab	PKPab	16 44 57.4	+0.6
PVIS	Viseu	158.67	19	ePKPab	PKPab	16 44 57.8	+0.3
MTE	Manteigas	159.07	18	ePKPdf	PKPdf	16 44 18.3	+0.3
MTE	Manteigas	159.07	18	ePKPab	PKPab	16 44 59.5	+0.3
PTOM	Tomar	159.51	21	ePKPab	PKPab	16 45 01.4	+0.3
PCBR	Castelo Branco	159.60	19	ePKPdf	PKPdf	16 44 19.0	+0.5
PCBR	Castelo Branco	159.60	19	ePKPab	PKPab	16 45 01.7	+0.2
PMRV	Marv??o	160.01	19	ePKPdf	PKPdf	16 44 19.4	+0.4
PMRV	Marv??o	160.01	19	ePKPab	PKPab	16 45 03.9	+0.6
PESTR	Estremoz	160.46	20	ePKPdf	PKPdf	16 44 20.1	+0.6
PESTR	Estremoz	160.46	20	ePKPab	PKPab	16 45 05.5	+0.2
ESDC	Sonseca Array	160.62	11	PKP	PKPdf	16 44 19.4	-0.3
	comp=Z,1.5nm,0.6s,baz=350,slow=2.1,SNR=10						
ESDC				PKPab	PKPab	16 45 06.3	+0.3
	comp=Z,6.4nm,0.5s,baz=345,slow=4.3,SNR=40						
ESDC				PP	PP	16 48 51.6	+1.4
	comp=Z,0.4nm,0.3s,baz=357,slow=5.0,SNR=4.7						
ESDC	Sonseca Array	160.62	11	PKP	PKPdf	16 44 19.4	-0.3
ESDC				PKPab	PKPab	16 45 06.3	+0.3
ESDC				PP	PP	16 48 51.6	+1.4
EVO	Evora	160.62	21	ePKPdf	PKPdf	16 44 20.0	+0.4
EVO	Evora	160.62	21	ePKPab	PKPab	16 45 06.2	+0.2
EVO	Evora	160.62	21	ePKIKP	PKPdf	16 44 20.1	+0.4
	comp=Z,144nm,1.6s						
PNCL	Nicolau / Gran	160.81	23	ePKPdf	PKPdf	16 44 19.6	-0.2
PNCL	Nicolau / Gran	160.81	23	ePKPab	PKPab	16 45 07.2	+0.4
PBEJ	Beja	161.12	22	ePKPdf	PKPdf	16 44 21.2	+1.0
PBEJ	Beja	161.12	22	ePKPab	PKPab	16 45 08.5	+0.8
PTEO	Sao Teotonio	161.23	24	ePKPdf	PKPdf	16 44 21.1	+0.8
PTEO	Sao Teotonio	161.23	24	ePKPab	PKPab	16 45 09.3	+0.6
PBAR	Barrancos	161.26	20	ePKPdf	PKPdf	16 44 21.1	+0.8
PBAR	Barrancos	161.26	20	ePKPab	PKPab	16 45 09.2	+0.4
PCVE	Castro Verde	161.41	23	ePKPdf	PKPdf	16 44 21.2	+0.7
PCVE	Castro Verde	161.41	23	ePKPab	PKPab	16 45 09.9	+0.4
MORF	Marmelete	161.47	25	ePKPdf	PKPdf	16 44 21.7	+1.1
MORF	Marmelete	161.47	25	ePKPab	PKPab	16 45 10.1	+0.2
PVAQ	Vaqueiros	161.73	22	ePKPdf	PKPdf	16 44 21.5	+0.7
PVAQ	Vaqueiros	161.73	22	ePKPab	PKPab	16 45 11.1	+0.2
PBDV	Barranco-do-Ve	161.80	23	ePKPdf	PKPdf	16 44 21.1	+0.2
KEST	Kesra	163.27	335	PKP	PKPdf	16 44 22.6	+0.1
	comp=Z,1.4nm,0.8s,baz=355,slow=3.2,SNR=3.5						
KEST				PKPab	PKPab	16 45 18.4	+0.6
	comp=Z,16nm,0.8s,baz=300,slow=1.6,SNR=28						
KEST	Kesra	163.27	335	PKP	PKPdf	16 44 22.6	+0.1
KEST				PKPab	PKPab	16 45 18.4	+0.6
LIC	Lamto	164.52	157	∥ iPKIKP	PKPdf	16 44 23.4	-0.7
	comp=Z,62nm,1.0s						
DBIC	Dimbokro	165.00	157	PKP	PKPdf	16 44 23.9	-0.5
	comp=Z,15nm,0.8s,baz=165,slow=1.7,SNR=19						
DBIC				PKPab	PKPab	16 45 26.5	+0.7
	comp=Z,7.6nm,0.9s,baz=196,slow=3.2,SNR=5.4						
DBIC	Dimbokro	165.00	157	PKIKP	PKPdf	16 44 24.0	-0.5
DBIC						16 45 26.5	
DBIC	Dimbokro	165.00	157	PKP	PKPdf	16 44 23.9	-0.5
DBIC				PKPab	PKPab	16 45 26.5	+0.7
TORD	Torodi Ar. Bea	172.47	186	PKP	PKPdf	16 44 28.1	-1.0
	comp=Z,11nm,0.9s,baz=317,slow=0.5,SNR=58						
TORD				PKPab	PKPab	16 45 57.5	-1.3
	comp=Z,1.2nm,0.7s,baz=175,slow=4.5,SNR=5.6						
TORD				SKP	SKPdf	16 47 01.1	+1.8
	comp=Z,1.7nm,0.8s,baz=20,slow=0.5,SNR=5.7						
TORD				pPKPab	pPKPab	16 48 19.9	-0.4
	comp=Z,12nm,1.2s,baz=170,slow=3.7,SNR=8.3						
TORD	Torodi Ar. Bea	172.47	186	PKP	PKPdf	16 44 28.1	-1.0
TORD				PKPab	PKPab	16 45 57.5	-1.3
TORD				SKP	SKPdf	16 47 01.1	+1.8
TORD				pPKPab	pPKPab	16 48 19.9	-0.4
TAM	Tamanrasset	175.21	297	ePKIKP	PKPdf	16 44 30.7	+0.6
TAM	Tamanrasset	175.21	297	ePKPdf	PKPdf	16 44 30.7	+0.6

DJA ***07*** *16:25:49.6˚.08S×130˚.70E,h138km,MLv4.1/6*

IDC 07 16:25:48.0±17.0,**6˚.70S×129˚.58E,h97**km±181km,**mb3.5**/1,**mb1 3.4**/4,**mb1mx3.1**/16,**mbtmp3.3**/4,**ML3.5**/3,**Error ellipse: s-maj=154.1km s-min=52.9km az=41.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.97	198	P	Pn	16 28 35.6	+0.2
	0.2nm,0.3s,baz=15,slow=13,SNR=11						
FITZ				S	Sn	16 30 35.7	-11
	0.5nm,0.3s,baz=141,slow=20,SNR=4.9						
WRA	Warramunga Arr	13.95	161	P	Pn	16 29 01.1	-0.3
	0.3nm,0.3s,baz=333,slow=13,SNR=23						
WRA				S	Sn	16 31 31.7	-3.4
	0.7nm,0.3s,baz=341,slow=21,SNR=7.6						
ASAR	Alice Springs	17.37	167	P	Pn	16 29 45.9	+1.4
	0.2nm,0.3s,baz=340,slow=9.0,SNR=21						
MKAR	Makanchi Array	67.75	327	P	P	16 36 35.1	-0.1
	0.6nm,0.6s,baz=116,slow=7.7,SNR=10						

IDC ***07*** *16:29:29.5±0.8,3˚.35S×150˚.18E,h0km,mb4.4/15, mb1 4.6/17,mb1mx4.5/22,mbtmp4.4/17,ML3.8/2,MS4.4/21, Ms1 4.4/21,ms1mx4.3/30,Error ellipse: s-maj=25.6km s-min=14.9km az=106.0*

ISCJB ***07*** *16:29:31.7±0.5,3˚.34S±0˚.05×150˚.2E±0˚.1,h27km, mb4.5/21,MS4.4/19,Error ellipse: s-maj=16.7km s-min=6.9km az=13.0*

NEIC ***07*** *16:29:35.6±3.0,3˚.44S×150˚.18E,h46km±28km,mb4.8/8, Error ellipse: s-maj=17.7km s-min=16.4km az=75.0*

ISC 07 16:29:32.5±0.8,**3˚.36S**±0˚.07×**150˚.4E**±0˚.2,**h27km,n56,** σ1§**12**/41,**mb4.5**/21,**MS4.5**/19,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.84	208	Pn	Pn	16 31 10.7	-0.5
	3.2nm,0.3s,baz=25,slow=6.4,SNR=19						
PMG				Sn	Sn	16 32 30.4	+2.2
	baz=345,slow=19,SNR=3.8						
PMG	Port Moresby	6.84	208	eP	Pn	16 31 10.0	-1.2
	278nm,0.8s						
PMG				Sn	Sn	16 32 30.4	+2.2
HNR	Honiara	11.21	123	LR	LR	16 35 43.7	
	comp=Z,2μm,21.0s,baz=79,slow=33						
CTA	Charters Tower	17.13	193	P	P	16 33 31.1	-0.5
	0.7nm,0.3s,baz=3.5,slow=13,SNR=4.4						
CTA				LR	LR	16 39 54.3	
	comp=Z,1μm,18.1s,baz=15,slow=37						
CTA	Charters Tower	17.13	193	P	P	16 33 31.1	-0.5
CTAO	Charters Tower	17.13	193	eP	P	16 33 30.6	-1.0
	84nm,1.4s						
GUMO	Guam	17.72	342	LR	LR	16 39 03.6	
	comp=Z,873nm,21.8s,baz=95,slow=33						
EIDS	Eidsvold	21.90	178	P	P	16 34 22.3	-1.3
	186nm,1.9s						
WRAB	Tennant Creek	22.76	222	eP	P	16 34 32.9	-0.2
WB2	Warramunga Arr	22.77	222	eP	P	16 34 31.8	-1.3
WRA	Warramunga Arr	22.78	222	P	P	16 34 31.4	-1.7
	21nm,0.7s,baz=47,slow=10,SNR=13						
WRA	Warramunga Arr	22.78	222	P	P	16 34 31.4	-1.7
DZM	Mont Dzumac	24.23	141	P	P	16 34 49.0	+1.5
	18nm,0.8s,baz=323,slow=15,SNR=3.8						
DZM				LR	LR	16 42 52.5	
	comp=Z,2μm,21.2s,baz=240,slow=33						
DZM	Mont Dzumac	24.23	141	P	P	16 34 49.0	+1.5
ASAR	Alice Springs	25.75	217	P	P	16 34 59.7	-1.5
	6.7nm,0.6s,baz=67,slow=7.7,SNR=4.8						
ASAR	Alice Springs	25.75	217	P	P	16 34 59.7	-1.5
FITZ	Fitzroy Crossi	28.38	237	P	P	16 35 25.0	+0.2
	8.1nm,0.6s,baz=67,slow=7.7,SNR=2.2						
FITZ				LR	LR	16 47 24.6	
	comp=Z,1μm,20.0s,baz=60,slow=38						
FITZ	Fitzroy Crossi	28.38	237	P	P	16 35 25.0	+0.2
STKA	Stephens Creek	29.57	195	LR	LR	16 48 06.7	
	comp=Z,980nm,18.1s,baz=14,slow=38						
CBIJ	Chichi jima	31.31	346	LR	LR	16 47 03.8	
	comp=Z,960nm,20.7s,baz=143,slow=34						
MJAR	Matsushiro Arr	41.30	345	LR	LR	16 54 06.6	
	comp=Z,450nm,18.8s,baz=170,slow=36						
NWAO	Narrogin (SRO)	42.78	223	LR	LR	16 55 03.8	
	comp=Z,500nm,18.9s,baz=48,slow=36						
KSRS	Korea Array	45.68	335	LR	LR	16 55 44.7	
	comp=Z,218nm,20.6s,baz=164,slow=35						
USRK	Ussuriysk Arra	50.15	343	P	P	16 38 26.4	+0.8
	2.5nm,0.7s,baz=135,slow=7.2,SNR=4.7						
USRK				LR	LR	16 58 11.5	
	comp=Z,181nm,20.6s,baz=289,slow=34						
CMAR	Chiang Mai Arr	55.14	295	P	P	16 39 04.0	+0.9
	1.6nm,0.7s,baz=112,slow=5.7,SNR=4.2						
CMAR				LR	LR	17 01 39.8	
	comp=Z,152nm,18.2s,baz=305,slow=35						
CMAR	Chiang Mai Arr	55.14	295	P	P	16 39 04.0	+0.9
PETK	Petropavlovsk-	56.59	5	P	P	16 39 13.4	+0.6
	7.2nm,1.0s,baz=172,slow=6.5,SNR=2.9						
PETK				LR	LR	16 58 45.3	
	comp=Z,249nm,21.1s,baz=187,slow=31						
PETK	Petropavlovsk-	56.59	5	P	P	16 39 13.4	+0.6
ULN	Ulaanbaatar	63.54	329	eP	P	16 40 01.3	+0.4
	34nm,2.0s						
SONM	Songino Array	63.87	329	P	P	16 40 03.4	+0.5
	1.7nm,1.0s,baz=137,slow=7.1,SNR=6.4						
SONM				LR	LR	17 07 47.0	
	comp=Z,367nm,18.9s,baz=98,slow=36						
SONM	Songino Array	63.87	329	P	P	16 40 03.4	+0.5
MK31	Makanchi Array	77.70	319	eP	P	16 41 26.7	-0.3
MKAR	Makanchi Array	77.70	319	P	P	16 41 27.4	+0.4
	0.5nm,0.8s,baz=101,slow=6.3,SNR=3.8						
MKAR				LR	LR	17 14 31.7	
	comp=Z,213nm,21.9s,baz=168,slow=35						
MKAR	Makanchi Array	77.70	319	P	P	16 41 27.4	+0.4
ZAA0	Zalesovo Array	78.66	327	eP	P	16 41 30.8	-1.3
ZALV	Zalesovo Beam	78.66	327	P	P	16 41 31.4	-0.7
	3.2nm,0.8s,baz=100,slow=5.0,SNR=13						
ZALV				LR	LR	17 15 53.5	
	comp=Z,176nm,19.3s,baz=268,slow=36						
ZALV	Zalesovo Beam	78.66	327	P	P	16 41 31.4	-0.7
KURK	Kurchatov	81.19	322	P	P	16 41 46.1	+0.3
	0.9nm,0.2s,baz=109,slow=4.8,SNR=10						
KURK	Kurchatov	81.19	322	eP	P	16 41 45.0	-0.9
	5.5nm,0.8s						
ILAR	Eielson Array	81.72	23	P	P	16 41 51.3	+2.8
	1.5nm,0.7s,baz=243,slow=5.6,SNR=5.9						
ILAR				LR	LR	17 18 08.9	
	comp=Z,184nm,18.4s,baz=162,slow=36						
ILAR	Eielson Array	81.72	23	P	P	16 41 51.3	+2.8
AAK	Ala-Archa	81.97	314	eP	P	16 41 52.1	+1.7
	14nm,1.1s						
KKAR	Karatay Array	84.94	314	eP	P	16 42 05.5	0.0
	9.4nm,1.1s						
MAW	Mawson	85.99	203	LR	LR	17 18 10.5	
	comp=Z,375nm,20.9s,baz=91,slow=34						
BVAR	Borovoye Array	86.69	323	P	P	16 42 13.1	-0.8
	2.9nm,0.8s,baz=104,slow=6.1,SNR=16						
BVAR	Borovoye Array	86.69	323	P	P	16 42 13.1	-0.8
BRVK	Borovoye	86.75	323	eP	P	16 42 12.9	-1.3
	4.4nm,0.8s						
BBB	Bella Bella	87.38	38	LR	LR	17 19 31.1	
	comp=Z,181nm,19.5s,baz=233,slow=34						
ABKAR	Akbulak array	92.84	319	eP	P	16 42 41.2	-1.7
	1.4nm,0.7s						
NVAR	Mina Array Bea	93.04	52	P	P	16 42 47.5	+3.1
	0.4nm,0.7s,baz=268,slow=6.3,SNR=3.1						
NVAR				LR	LR	17 22 30.8	
	comp=Z,179nm,18.3s,baz=92,slow=34						
NVAR	Mina Array Bea	93.04	52	P	P	16 42 47.5	+3.1
YKA	Yellowknife Ar	95.25	28	P	P	16 42 57.1	+3.5
	0.5nm,0.7s,baz=279,slow=3.0,SNR=3.7						
YKA				LR	LR	17 21 36.8	
	comp=Z,16nm,21.2s,baz=160,slow=33						
YKA	Yellowknife Ar	95.25	28	P	P	16 42 57.1	+3.5
PDAR	Pinedale Array	99.61	47	LR	LR	17 21 06.1	
	comp=Z,177nm,19.7s,baz=267,slow=31						
TORD	Torodi Ar. Bea	147.62	289	PKPbc	PKPbc	16 49 14.4	-1.2
	5.1nm,0.7s,baz=42,slow=2.7,SNR=7.9						
TORD	Torodi Ar. Bea	147.62	289	PKPbc	PKPbc	16 49 14.4	-1.2

NIED ***07*** *17:03:00,43˚.30N×147˚.70E,h17km,Mw3.9 Best double couple: M08.85000×10^14 NP1:ϕs152.00000°,δ80.00000°, λ-169.00000°. NP2:ϕs60.00000°,δ79.00000°, λ-10.00000°.*

JMA ***07*** *17:03:51.4±0.3,43˚.28N×147˚.72E,h7km,M4.1*

MOS ***07*** *17:03:53.6±1.3,43˚.61N×147˚.95E,h49km,mb4.2/7,Error ellipse: s-maj=15.0km s-min=11.6km az=71.2*

NEIC ***07*** *17:03:55.2±1.2,43˚.82N×147˚.86E,h37km±11km,mb4.1/3, MW3.9(NIED),Error ellipse: s-maj=17.7km s-min=10.1km az=146.0*

IDC ***07*** *17:03:55.9±2.4,43˚.72N×147˚.84E,h46km±23km,mb3.6/8, mb1 3.7/12,mb1mx3.5/27,mbtmp3.6/12,ML2.6/3,MS2.8/1, Ms1 2.8/1,ms1mx2.3/40,Error ellipse: s-maj=31.6km s-min=16.2km az=165.0*

ISC 07 17:03:52.4±4.0,**43˚.42N**±0˚.08×**147˚.96E**±0˚.07,**h30**km±29km, **n62,**σ1§**24/68,mb3.9**/11,**1C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.61	269	P	Pn	17 04 17.9	-0.9
NEM2				eS	Sn	17 04 37.4	-1.2
YUK	Yuzh-Kuril'sk	1.64	293	d iPN	Pn	17 04 19.0	-0.1
YUK				i S	Sn	17 04 38.8	-0.4
YUK				pmax	pmax		
	comp=E,161nm,0.1s						
YUK				pmax	pmax		
	comp=N,150nm,0.3s						
YUK				pmax	pmax		
	comp=Z,396nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK	Yuzh-Kuril'sk	1.64	293	P	Pn	17 04 18.8	-0.3
KUR	Kuril'sk	1.81	358	∥ iPN	Pn	17 04 22.2	+0.7
KUR				eS	Sn	17 04 45.0	+1.5
KUR				pmax	pmax		
	comp=Z,190nm,0.8s						
KUR				smax	smax		
	comp=N,420nm,0.5s						
KUR				smax	smax		
	comp=E,240nm,0.5s						
JNK	Nakash	2.36	275	P	Pn	17 04 28.9	-0.2
JNK				eS	Sn	17 04 56.2	-0.8
JAK	Akkeshi	2.42	261	P	Pn	17 04 29.5	-0.4
JAK				eS	Sn	17 04 56.8	-1.7
JTKR	Abashiri--Toko	2.99	282	P	Pn	17 04 38.7	+1.0
JAR	Ashorobuto	3.06	269	P	Pn	17 04 38.8	+0.2
JAR				eS	Sn	17 05 12.9	-1.3
JOB	Onbets	3.06	262	P	Pn	17 04 38.5	-0.2
JMP	Maruseppu	3.38	282	P	Pn	17 04 44.6	+1.4
JCH	Churui	3.46	258	P	Pn	17 04 43.9	-0.3
JCH				eS	Sn	17 05 22.1	-2.1
ERM	Erimo	3.81	250	ePN	Pn	17 04 50.0	+1.1
ERM	Erimo	3.81	250	ePn	Pn	17 04 50.0	+1.1
JEM	Erimo	3.81	250	P	Pn	17 04 51.2	+1.2
JKK2	Kamakawa 2	3.81	279	P	Pn	17 04 50.6	+1.6
JFR	Furan	3.92	268	P	Pn	17 04 51.4	+0.8
ASAJ	Asahikawa	3.94	282	P	Pn	17 04 53.6	+2.8
	comp=E,0.4nm,0.3s,baz=336,slow=32,SNR=5.1						
ASAJ				S	Sn	17 05 34.9	-1.1
	comp=E,2.1nm,0.3s,baz=94,slow=16,SNR=4.8						
ASAJ	Asahikawa	3.94	282	PN	Pn	17 04 53.6	+2.8
ASAJ				S	Sn	17 05 34.9	-1.1
ASAJ				smax	smax		
	comp=N,2.0nm,0.3s						
ASAJ	Asahikawa	3.94	282	ePn	Pn	17 04 53.2	+2.4
ASAJ				S	Sn	17 05 34.9	-1.1
JNBK	Urakawa-nobuka	3.99	255	P	Pn	17 04 51.1	-0.4
JWK2	Keihoku	4.74	296	P	Pn	17 05 04.8	+3.1
JEW	Eniwo	4.80	265	P	Pn	17 05 03.8	+1.2
YSS	Yuzh-Sakhalins	5.10	316	ePN	Pb	17 05 18.0	-2.8
YSS				e		17 06 14.0	
YSS	Yuzh-Sakhalins	5.10	316	P	Pn	17 05 03.4	-3.3
MJAR	Matsushiro Arr	10.15	231	P	Pn	17 06 22.6	+6.5
	comp=N,0.1nm,0.3s,baz=30,slow=13,SNR=3.2						
MJAR				S	Sn	17 08 11.6	+2.8
	comp=N,0.3nm,0.3s,baz=152,slow=43,SNR=3.6						
MJAR				LR	LR	17 10 16.8	
	comp=N,59nm,21.6s,baz=180,slow=37						
MJAR	Matsushiro Arr	10.15	231	PN	Pn	17 06 22.6	+6.5
MJAR				MLR	MLR		
	comp=Z,59nm,21.7s						
MJAR	Matsushiro Arr	10.15	231	P	Pn	17 06 22.6	+6.5
MJAR				S	Sn	17 08 11.6	+2.8
USRK	Ussuriysk Arra	11.56	279	P	Pn	17 06 37.8	+2.5
	comp=Z,0.1nm,0.3s,baz=85,slow=13,SNR=3.8						
PETK	Petropavlovsk-	11.65	30	P	Pn	17 06 35.5	-0.9
	comp=Z,1.1nm,0.3s,baz=208,slow=15,SNR=41						
PETK	Petropavlovsk-	11.65	30	PN	Pn	17 06 35.6	-0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	11.65	30	P	Pn	17 06 35.5	-0.9
YAK	Yakutsk	21.53	336	P	P	17 08 36.0	-2.7
BILL	Bilibino	26.52	15	eP	P	17 09 26.8	-0.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	Songino Array	29.14	293	P	P	17 09 51.7	+1.0
	comp=Z,1.1nm,0.6s,baz=92,slow=8.1,SNR=6.8						
SONM	Songino Array	29.14	293	P	P	17 09 51.7	+1.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	29.14	293	P	P	17 09 51.7	+1.0
ILAR	Eielson Array	41.41	36	P	P	17 11 35.4	-0.2
	comp=Z,0.4nm,0.6s,baz=260,slow=7.6,SNR=6.0						
ILAR	Eielson Array	41.41	36	P	P	17 11 35.4	-0.2
ILAR	Eielson Array	41.41	36	P	P	17 11 35.4	-0.2
MK31	Makanchi Array	45.26	298	eP	P	17 12 07.1	+0.2
MK31	Makanchi Array	45.26	298	eP	P	17 12 07.1	+0.2
MKAR	Makanchi Array	45.26	298	P	P	17 12 07.6	+0.7
	comp=Z,0.5nm,0.5s,baz=80,slow=8.6,SNR=12						
MKAR	Makanchi Array	45.26	298	eP	P	17 12 08.1	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	45.26	298	P	P	17 12 07.6	+0.7
INK	Inuvik	46.39	30	P	P	17 12 15.8	+0.4
	comp=Z,1.5nm,0.4s,baz=263,slow=7.0,SNR=17						
INK	Inuvik	46.39	30	P	P	17 12 15.9	+0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	46.39	30	eP	P	17 12 15.1	-0.4
	comp=Z,1.4nm,0.4s						
KKAR	Karatay Array	54.38	298	eP	P	17 13 17.8	+1.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KKAR	Karatay Array	54.38	298	eP	P	17 13 16.1	-0.2
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	55.75	34	P	P	17 13 26.0	+0.2
	comp=Z,0.8nm,0.6s,baz=299,slow=7.0,SNR=12						
YKA	Yellowknife Ar	55.75	34	P	P	17 13 26.0	+0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	55.75	34	P	P	17 13 26.0	+0.2
ABKAR	Akbulak array	57.73	309	eP	P	17 13 40.4	+0.3
	comp=Z,0.7nm,0.4s						
FINES	FINESS Array B	65.43	333	P	P	17 14 30.7	-1.1
	comp=Z,1.8nm,0.8s,baz=28,slow=8.6,SNR=8.5						
FINES	FINESS Array B	65.43	333	P	P	17 14 30.7	-1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	65.43	333	P	P	17 14 30.7	-1.1
NOA	NORSAR Array B	70.12	339	P	P	17 15 00.8	-0.7
	comp=Z,1.3nm,0.8s,baz=30,slow=6.5,SNR=5.4						
NOA	NORSAR Array B	70.12	339	P	P	17 15 00.8	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	70.12	339	P	P	17 15 00.8	-0.7
TXAR	Lajitas Array	82.34	57	P	P	17 16 11.6	+0.1
	comp=Z,0.1nm,0.4s,baz=309,slow=4.0,SNR=5.9						
TXAR	Lajitas Array	82.34	57	P	P	17 16 11.6	+0.1
TXAR	Lajitas Array	82.34	57	P	P	17 16 11.6	+0.1

BJI ***07*** *17:08:45.8,0˚.90S×133˚.09E,h15km,mB5.0/9,mb4.8/24, Ms4.9/4,Ms7 4.5/3*

IDC ***07*** *17:08:48.2±0.5,0˚.32S×132˚.56E,h0km,mb4.4/12, mb1 4.6/15,mb1mx4.5/21,mbtmp4.5/15,ML4.1/3,MS4.1/16, Ms1 4.1/16,ms1mx3.9/28,Error ellipse: s-maj=26.0km s-min=10.3km az=80.0*

ISCJB ***07*** *17:08:50.7±0.3,0˚.20S±0˚.04×132˚.88E±0˚.06,h32km, mb4.8/35,MS4.1/14,Error ellipse: s-maj=8.3km s-min=5.2km az=169.1*

NEIC ***07*** *17:08:53.2±0.3,0˚.32S×132˚.55E,h35km,mb5.0/17,Error ellipse: s-maj=12.3km s-min=6.7km az=72.0*

DJA ***07*** *17:08:56,0˚.52S×132˚.82E,h30km,mb4.8/22*

ISC 07 17:08:53.2±0.4,**0˚.25S**±0˚.05×**132˚.81E**±0˚.07,**h32**km,**n129,** σ1§**39**/103,**mb4.9**/35,**MS4.1**/14,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.71	192	P	Pn	17 09 34.5	-0.1
MSAI	Masohi	4.95	232	P	Pn	17 10 07.2	+1.8
LBMI	Labuha	5.33	266	P	Pn	17 10 11.7	+1.2
TLE	Tual	5.36	181	P	Pn	17 10 12.2	+1.3
AAI	Ambon	5.74	233	P	Pn	17 10 16.5	+0.3
	284nm,1.6s,4μm1.3nm						
SMPI	Sarmi	6.15

12nm,0.9s,baz=322,slow=11,SNR=7.7
CTA LR LR 17 23 56.5
comp=Z,452nm,19.3s,baz=321,slow=38
CTA Charters Tower 23.71 147 *eP* **P 17 14 03.8 +1.3**
13nm,0.9s
CTA Charters Tower 23.71 147 P **P 17 14 03.9 +1.4**
BJII Banjamegara 24.09 252 P **P 17 14 08.6 +2.4**
MBWA Marble Bar 24.40 211 *eP* **P 17 14 08.4 -0.4**
MBWA Marble Bar 24.40 211 *eP* **P 17 14 08.0 -0.9**
116nm,1.6s
JOW Kunigami 27.27 351 LR LR 17 24 09.5
comp=Z,578nm,18.6s,baz=277,slow=34
CBIJ Chichi jima 28.64 18 LR LR 17 23 54.0
comp=Z,342nm,19.1s,baz=284,slow=32
FORT Forrest 30.70 188 *eP* **P 17 15 05.4 +0.2**
14nm,0.7s
STKA Stephens Creek 32.54 166 P **P 17 15 21.1 -0.3**
16nm,0.9s,baz=350,slow=8.2,SNR=18
STKA LR LR 17 28 13.4
comp=Z,435nm,19.0s,baz=158,slow=36
STKA Stephens Creek 32.54 166 *eP* **P 17 15 20.7 -0.7**
20nm,1.2s
STKA Stephens Creek 32.54 166 P **P 17 15 21.1 -0.3**
BLDU Ballidu 33.86 205 *eP* **P 17 15 32.4 -0.5**
ARMA Armidale 34.94 151 *eP* **P 17 15 42.9 +0.5**
NWAO Narrogin (SRO) 35.66 203 P **P 17 15 45.7 -2.8**
17nm,0.9s,baz=53,slow=8.9,SNR=3.5
NWAO LR LR 17 32 52.3
comp=Z,172nm,18.2s,baz=177,slow=41
NWAO Narrogin (SRO) 35.66 203 P **P 17 15 45.7 -2.8**
MJAR Matsushiro Arr 36.94 7 P **P 17 16 00.4 +1.0**
1.2nm,0.9s,baz=197,slow=8.8,SNR=4.6
MJAR LR LR 17 27 49.0
comp=Z,579nm,21.9s,baz=185,slow=31
MJAR Matsushiro Arr 36.94 7 P **P 17 16 00.4 +1.0**
KSRS Korea Array 37.78 354 LR LR 17 33 04.7
comp=Z,296nm,18.0s,baz=176,slow=38
CMAR Chiang Mai Arr 38.11 301 P **P 17 16 09.2 -0.4**
1.2nm,0.3s,baz=122,slow=6.6,SNR=10
CMAR Chiang Mai Arr 38.11 301 P **P 17 16 09.2 -0.4**
CHTO Chiang Mai 38.27 302 *eP* **P 17 16 08.8 -2.0**
18nm,1.4s
KMI Kunming 38.49 313 P P 17 16 16.4 +3.5
KMI pmax pmax
comp=Z,9.0nm,0.7s
USRK Ussuriysk Arra 44.26 359 P **P 17 17 01.1 +1.4**
comp=Z,5.0nm,1.0s,baz=180,slow=9.1,SNR=6.6
USRK LR LR 17 34 54.1
comp=Z,128nm,18.3s,baz=157,slow=35
MDJ Mudanjiang 44.76 357 P P 17 17 08.7 +5.0
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,84nm,5.2s
MDJ Mudanjiang 44.76 357 *eP* **P 17 17 04.3 +0.7**
comp=Z,13nm,1.1s
ASAJ Asahikawa 45.02 10 LR LR 17 34 37.0
comp=Z,266nm,19.6s,baz=165,slow=34
LZH Lanzhou 45.08 326 *eP* P 17 17 10.3 +3.7
LZH pP pP 17 17 18.0 +1.9
LZH sP sP 17 17 22.5 +2.6
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,140nm,7.0s
LZH LR LR
comp=E,180nm,4.6s
LZH LR LR
comp=Z,160nm,6.0s
LSA Lhasa 49.62 311 *eP* **P 17 17 42.3 -0.1**
comp=Z,10nm,1.0s
GTA Gaotai 49.68 326 *eP* P 17 17 46.5 +4.2
GTA pP pP 17 17 50.6 -1.3
GTA sP sP 17 17 53.9 -1.9
GTA pmax pmax
comp=Z,7.0nm,1.4s
TAPN Taplejung 51.25 306 *eP* **P 17 17 53.1 -1.5**
comp=Z,38nm,1.1s
TAPN Taplejung 51.25 306 *eP* **P 17 17 53.1 -1.5**
ODAN Odare 51.31 305 *eP* **P 17 17 53.7 -1.3**
comp=Z,28nm,0.9s
ODAN Odare 51.31 305 *eP* **P 17 17 53.7 -1.3**
RAMN Ramite 51.99 305 *eP* **P 17 17 59.1 -1.0**
comp=Z,46nm,1.0s
RAMN Ramite 51.99 305 *eP* **P 17 17 59.1 -1.0**
JIRN Jiri 52.61 306 *eP* **P 17 18 03.5 -1.3**
comp=Z,36nm,1.1s
JIRN Jiri 52.61 306 *eP* **P 17 18 03.5 -1.3**
ULN Ulaanbaatar 52.90 338 *eP* **P 17 18 08.3 +2.0**
comp=Z,25nm,1.3s
GUN Gumba 52.96 306 *eP* **P 17 18 05.5 -1.9**
comp=Z,48nm,1.0s
GUN Gumba 52.96 306 *eP* **P 17 18 05.5 -1.9**
SONM Songino Array 53.11 338 P **P 17 18 08.7 +0.8**
comp=Z,8.0nm,1.1s,baz=150,slow=7.7,SNR=23
SONM LR LR 17 39 58.6
comp=Z,167nm,19.8s,baz=192,slow=35
SONM Songino Array 53.11 338 P **P 17 18 08.7 +0.8**
PKI Pulchoki 53.21 305 *eP* **P 17 18 08.1 -1.1**
PKI Pulchoki 53.21 305 *eP* **P 17 18 08.1 -1.1**
KKN Kakani 53.40 306 *eP* **P 17 18 09.0 -1.5**
comp=Z,30nm,1.1s
KKN Kakani 53.40 306 *eP* **P 17 18 09.0 -1.5**
DMN Daman 53.47 305 *eP* **P 17 18 09.9 -1.1**
comp=Z,38nm,1.0s
DMN Daman 53.47 305 *eP* **P 17 18 09.9 -1.1**
GKN Gorkha 54.01 305 *eP* **P 17 18 13.5 -1.3**
comp=Z,34nm,1.1s
GKN Gorkha 54.01 305 *eP* **P 17 18 13.5 -1.3**
KOLN Koldanda 54.77 305 *eP* **P 17 18 19.5 -0.9**
comp=Z,54nm,0.9s
KOLN Koldanda 54.77 305 *eP* **P 17 18 19.5 -0.9**
DANN Dangsing 54.86 306 *eP* **P 17 18 20.1 -1.1**
comp=Z,61nm,0.9s
DANN Dangsing 54.86 306 *eP* **P 17 18 20.1 -1.1**
HYB Hyderabad 56.19 291 *iP* **P 17 18 31.5 +0.9**
PETK Petropavlovsk- 57.08 18 P **P 17 18 37.2 +1.0**
comp=Z,4.3nm,1.0s,baz=300,slow=6.7,SNR=3.3
PETK LR LR 17 38 51.9
comp=Z,151nm,20.6s,baz=214,slow=32
PETK Petropavlovsk- 57.08 18 P **P 17 18 37.2 +1.0**
YAK Yakutsk 62.16 358 *eP* **P 17 19 11.0 -0.1**
comp=Z,36nm,0.9s
MK31 Makanchi Array 64.30 324 *eP* **P 17 19 24.7 -0.9**
MKAR Makanchi Array 64.30 324 P **P 17 19 24.8 -0.8**
comp=Z,1.9nm,0.8s,baz=115,slow=7.8,SNR=30
MKAR Makanchi Array 64.30 324 P **P 17 19 24.8 -0.8**
KSH Kashi 65.14 314 P P 17 19 36.9 +5.5
KSH pmax pmax
comp=Z,79nm,2.5s
TKM2 Tokmak 2 66.74 318 *eP* **P 17 19 40.9 -0.9**
comp=Z,25nm,1.4s
ZAA0 Zalesovo Array 66.91 331 *eP* P 17 19 38.8 -3.5
ZALV Zalesovo Beam 66.91 331 P **P 17 19 40.4 -1.8**
comp=Z,6.7nm,0.8s,baz=122,slow=7.2,SNR=20
ZALV LR LR 17 48 36.6
comp=Z,57nm,19.1s,baz=67,slow=36
ZALV Zalesovo Beam 66.91 331 P **P 17 19 40.4 -1.8**
AAK Ala-Archa 67.37 317 P P 17 19 42.1 -3.6
comp=Z,26nm,1.3s
KURK Kurchatov 68.37 326 *eP* **P 17 19 50.7 -0.8**
comp=Z,27nm,1.0s
KURK Kurchatov 68.37 326 P **P 17 19 51.8 +0.3**
comp=Z,132nm,0.9s,SNR=6.4
KBL Kabul 68.75 307 *eP* **P 17 19 54.4 -0.1**
comp=Z,8.2nm,0.8s
BRVK Borovoye 74.04 326 *eP* **P 17 20 25.0 -0.8**
comp=Z,24nm,1.0s
ABKT Ailbek 78.10 309 P **P 17 20 49.3 -0.1**
comp=Z,133nm,0.9s,SNR=5.7
ABKAR Akbulak array 79.06 320 *eP* P 17 20 51.1 -3.2
comp=Z,8.1nm,0.9s
MCK McKinley 85.02 26 *eP* **P 17 21 25.0 -0.3**
comp=Z,35nm,1.4s
ILAR Eielson Array 86.08 25 P **P 17 21 29.9 -0.7**
comp=Z,1.4nm,0.8s,baz=249,slow=5.6,SNR=11
ILAR Eielson Array 86.08 25 P **P 17 21 29.9 -0.7**
QSPA South Pole Qui 89.68 180 *eP* **P 17 21 47.7 -0.2**
comp=Z,45nm,1.8s
INK Inuvik 91.59 22 P P 17 21 52.9 -3.6
comp=Z,3.4nm,1.1s,baz=192,slow=3.1,SNR=3.2
INK Inuvik 91.59 22 P P 17 21 52.9 -3.6
ARCES ARCESS Array B 96.24 340 LR LR 18 07 08.7
comp=Z,254nm,20.7s,baz=52,slow=36
FINES FINESS Array B 98.17 332 LR LR 18 08 52.0
comp=Z,129nm,18.6s,baz=314,slow=37

YKA Yellowknife Ar 100.49 26 P **Pdif 17 22 36.8 -0.3**
comp=Z,0.1nm,0.4s,baz=75,slow=7.7,SNR=3.2
YKA Yellowknife Ar 100.49 26 P **Pdif 17 22 36.8 -0.3**
CPUP Villa Florida 151.83 160 PKPbc **PKPbc 17 28 46.3 +0.8**
comp=Z,4.5nm,0.9s,baz=188,slow=2.3,SNR=9.0
CPUP PKPab **PKPab 17 28 55.0 +0.6**
comp=Z,6.0nm,1.1s,baz=187,slow=4.9,SNR=4.7
CPUP Villa Florida 151.83 160 PKPbc **PKPbc 17 28 46.3 +0.8**
CPUP PKPab **PKPab 17 28 55.0 +0.6**
LPAZ La Paz 153.60 129 PKPbc **PKPbc 17 28 49.6 -0.9**
comp=Z,0.4nm,0.3s,baz=214,slow=8.8,SNR=3.6
LPAZ PKPab **PKPab 17 29 03.9 +0.9**
comp=Z,0.9nm,0.3s,baz=227,slow=8.5,SNR=4.1
LPAZ La Paz 153.60 129 PKPbc **PKPbc 17 28 49.6 -0.9**
LPAZ PKPab **PKPab 17 29 03.9 +0.9**

*ISCJB **07** 17:09:47.4±0.6, 40.37N±0.02×25.80E±0.04, h11km±6km, Error ellipse: s-maj=5.4km s-min=3.8km az=174.6*
*ISK **07** 17:09:47.3, 40.35N×25.83E, h15km, MD2.8*
*CSEM **07** 17:09:47.6±0.1, 40.37N×25.80E, h15km, MD2.8, Error ellipse: s-maj=2.3km s-min=2.2km az=2.0*
*THE **07** 17:09:48.2, 40.40N×25.72E, h5km±2km, ML1.9/3, Error ellipse: s-maj=3.1km s-min=0.8km az=112.0*
*DDA **07** 17:09:49.0, 40.34N×25.95E, h8km, MD2.7*
ISC 07 17:09:47.4±1.1, 40.38N±0.02×25.82E±0.02, h15km±11km, n35, σ0.33/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ENEZ	**Enez**	**0.44**	**35**	*e*PG		**Pb**	**17 09 56.8**	**0.0**
ENEZ				*e*SG		**Sb**	**17 10 04.1**	**+0.9**
ENEZ	**Enez**	**0.44**	**35**	*e*Pg		**Pb**	**17 09 56.8**	**0.0**
ENEZ				*e*Sg		**Sb**	**17 10 04.1**	**+0.9**
GELI	**Tayfur-Gelibol**	**0.50**	**87**	*e*PG		**Pb**	**17 09 57.9**	**+0.1**
GELI				*e*SG		**Sb**	**17 10 05.4**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.50**	**87**	*e*Pg		**Pb**	**17 09 57.9**	**+0.1**
GELI				*e*Sg		**Sb**	**17 10 05.4**	**+0.4**
ALN	**Alexandroupoli**	**0.55**	**18**	P		**Pb**	**17 09 58.6**	**0.0**
ALN				S		**Sb**	**17 10 06.4**	**+0.1**
ALN	**Alexandroupoli**	**0.55**	**18**	P		**Pb**	**17 09 58.6**	**0.0**
ALN				S		**Sb**	**17 10 06.4**	**+0.1**
BOZC	**Bozcaada**	**0.56**	**161**	*i* P		**Pb**	**17 09 59.1**	**+0.1**
BOZC				*i* S		**Sb**	**17 10 06.9**	**+0.1**
ERIK	**Erikli-Kesan**	**0.60**	**61**	*e*PG		**Pb**	**17 09 59.8**	**+0.2**
ERIK				*e*SG		**Sb**	**17 10 07.9**	**-0.1**
ERIK	**Erikli-Kesan**	**0.60**	**61**	*e*Pg		**Pb**	**17 09 59.8**	**+0.2**
ERIK				*e*Sg		**Sb**	**17 10 07.9**	**-0.1**
EZN	**Ezine**	**0.67**	**145**	*e*PG		**Pg**	**17 10 00.7**	**+0.1**
EZN				*e*SG		**Sb**	**17 10 09.7**	**-0.2**
EZN	**Ezine**	**0.67**	**145**	*e*Pg		**Pg**	**17 10 00.7**	**+0.1**
EZN				*e*Sg		**Sb**	**17 10 09.7**	**-0.2**
LIA	**Limnos Island**	**0.68**	**226**	P		**Pg**	**17 10 00.9**	**+0.2**
LIA				S		**Sg**	**17 10 09.6**	**-0.1**
LIA	**Limnos Island**	**0.68**	**226**	P		**Pg**	**17 10 00.9**	**+0.2**
LIA				S		**Sg**	**17 10 09.6**	**-0.1**
LPK	**Lapseki**	**0.72**	**90**	*e*PG		**Pg**	**17 10 01.2**	**-0.2**
LPK	**Lapseki**	**0.72**	**90**	*e*Pg		**Pg**	**17 10 01.2**	**-0.2**
RDO	**Rodhopi**	**0.80**	**345**	P		**Pb**	**17 10 02.9**	**0.0**
RDO				S		**Sb**	**17 10 13.0**	**-0.5**
RDO	**Rodhopi**	**0.80**	**345**	P		**Pb**	**17 10 02.9**	**0.0**
RDO				S		**Sb**	**17 10 13.0**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.08**	**73**	*e*PN		**Pg**	**17 10 08.6**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.08**	**73**	*e*Pn		**Pg**	**17 10 08.6**	**+0.3**
KRBG	**Karabiga-Canak**	**1.13**	**89**	*e*PN		**Pg**	**17 10 08.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.13**	**89**	*e*Pn		**Pg**	**17 10 08.8**	**-0.3**
KAVA	**Kavala**	**1.17**	**302**	P		**Pn**	**17 10 09.0**	**-0.1**
KAVA	**Kavala**	**1.17**	**302**	P		**Pn**	**17 10 09.0**	**-0.1**
AYVA	**Ayvalik**	**1.26**	**148**	*i* P		**Pg**	**17 10 11.5**	**-0.1**
AYVA				*i* S		**Sg**	**17 10 28.2**	**+0.1**
AYVA	**Ayvalik**	**1.26**	**148**	*i* P		**Pg**	**17 10 11.5**	**-0.1**
AYVA				*i* S		**Sg**	**17 10 28.2**	**+0.1**
OUR	**Ouranopolis**	**1.40**	**269**	P		**Pn**	**17 10 11.9**	**-0.5**
OUR				S		**Sb**	**17 10 31.6**	**+0.7**
OUR	**Ouranopolis**	**1.40**	**269**	P		**Pn**	**17 10 11.9**	**-0.5**
OUR				S		**Sb**	**17 10 31.6**	**+0.7**
GONE	**Gonen-Balikesi**	**1.47**	**102**	*e*PN		**Pb**	**17 10 13.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**102**	*e*Pn		**Pb**	**17 10 13.9**	**-0.4**
EDRB	**Edirne**	**1.63**	**25**	*e*PN		**Pb**	**17 10 16.8**	**-0.2**
EDRB	**Edirne**	**1.63**	**25**	*e*Pn		**Pb**	**17 10 16.8**	**-0.2**
BALB	**Balikesir**	**1.75**	**114**	*e*PN		**Pn**	**17 10 17.2**	**+0.1**
BALB	**Balikesir**	**1.75**	**114**	*e*Pn		**Pn**	**17 10 17.2**	**+0.1**
NVR	**Nevrokopi**	**1.77**	**304**	P		**Pn**	**17 10 17.5**	**0.0**
NVR	**Nevrokopi**	**1.77**	**304**	P		**Pn**	**17 10 17.5**	**0.0**

MAN 07 17:10:43, 13.69N×123.92E, h38km, mb4.6, ML3.5, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PVCP	**Virac**	**0.25**	**111**	*e*P		Pn	17 10 52.2	+0.9
PVCP				*e*S		Sn	17 10 58.7	-0.1
CNP	**Catarman**	**1.38**	**148**	*e*P		Pn	17 11 06.4	+0.7
CNP				*e*S		Sn	17 11 18.8	-3.8
GQP	**Guinayangan**	**1.45**	**279**	*i*P		Pn	17 11 07.1	+0.5
GQP				*i* S		Sn	17 11 25.6	+1.2

*IDC **07** 17:19:10.6±1.8, 0.28S×132.95E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=95.6km s-min=19.7km az=77.0*
*ISCJB **07** 17:19:13.1±1.3, 0.3S±0.1×132.9E±0.4, h32km, mb3.8/4, Error ellipse: s-maj=54.8km s-min=14.6km az=168.0*
*NEIC **07** 17:19:15.5±1.2, 0.29S×133.00E, h35km, mb3.8/1, Error ellipse: s-maj=54.7km s-min=13.2km az=77.0*
*DJA **07** 17:19:16, 0.21S×132.60E, h62km, MLv3.9/4*
ISC 07 17:19:15.2±1.5, 0.3S±0.2×132.9E±0.4, h32km, n14, σ1.9/08/14, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P		**P**	**17 23 35.5**	**+0.6**
	0.2nm,0.3s,baz=35,slow=13,SNR=3.3							
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P		**P**	**17 23 35.5**	**+0.6**
WRAB	**Tennant Creek**	**19.53**	**176**	*e*P		**P**	**17 23 40.8**	**+0.6**
	2.5nm,0.5s							
WRA	**Warramunga Arr**	**19.54**	**176**	P		**P**	**17 23 41.6**	**+1.3**
	0.4nm,0.3s,baz=353,slow=12,SNR=14							
WRA	**Warramunga Arr**	**19.54**	**176**	P		**P**	**17 23 41.6**	**+1.3**
AS31	**Alice Springs**	**23.21**	**178**	*e*P		**P**	**17 24 19.9**	**+0.2**
ASAR	**Alice Springs**	**23.22**	**178**	P		**P**	**17 24 20.2**	**+0.6**
	2.3nm,0.6s,baz=354,slow=10,SNR=31							
ASAR	**Alice Springs**	**23.22**	**178**	P		**P**	**17 24 20.2**	**+0.6**
STKA	**Stephens Creek**	**32.43**	**166**	P		**P**	**17 25 41.3**	**-1.2**
	3.7nm,0.9s,baz=8.1,slow=7.1,SNR=3.2							
STKA	**Stephens Creek**	**32.43**	**166**	*e*P		**P**	**17 25 41.6**	**-0.9**
MKAR	**Makanchi Array**	**64.42**	**324**	P		**P**	**17 29 47.3**	**-1.1**
	0.2nm,0.5s,baz=116,slow=7.9,SNR=4.7							
MKAR	**Makanchi Array**	**64.42**	**324**	P		**P**	**17 29 47.3**	**-1.1**
ZALV	**Zalesovo Beam**	**67.03**	**331**	P		**P**	**17 30 06.3**	**+1.3**
	0.3nm,0.4s,baz=134,slow=8.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**67.03**	**331**	P		**P**	**17 30 06.3**	**+1.3**

*IDC **07** 17:29:55.9±0.8, 56.49S×143.54W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/12, mbtmp4.2/5, MS4.3/11, Ms1 4.3/11, ms1mx4.1/21, Error ellipse: s-maj=38.6km s-min=23.3km az=3.0*
*ISCJB **07** 17:29:56.3±1.0, 57.3S±0.2×143.4W±0.3, h10km, mb4.3/7, MS4.7/91, Error ellipse: s-maj=29.7km s-min=16.6km az=29.9*
*NEIC **07** 17:29:56.3±0.8, 57.20S×143.04W, h10km, mb4.6/4, MS4.7/81, Error ellipse: s-maj=27.4km s-min=21.8km az=8.0*
ISC 07 17:29:56.8±0.8, 57.1S±0.2×143.4W±0.2, h10km, n125, σ1.78/29, mb4.5/7, MS4.6/91, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SBA	**Scott Base**	**26.71**	**201**	P		**P**	**17 35 33.6**	**-2.0**
SBA				LR		LR		
	comp=Z,630nm,21.0s							
VNDA	**Vanda**	**27.60**	**203**	PFAKE			17 35 50.0	+6.3
VNDA				LR		LR		
	comp=Z,424nm,19.0s							
SNZO	**South Karori**	**31.03**	**282**	PFAKE			17 36 30.0	+16
SNZO				LR		LR		
	comp=Z,906nm,19.0s							
RPZ	**Rata Peaks**	**31.35**	**275**	LR		LR	17 45 55.7	

comp=Z,874nm,19.5s,baz=314,slow=31
QSPA South Pole Qui 33.07 180 P P 17 36 37.2 +4.9
comp=Z,5.4nm,1.0s,baz=79,slow=5.1,SNR=12
QSPA South Pole Qui 33.07 180 *eP* P 17 36 36.1 +3.8
comp=Z,31nm,1.6s
QSPA LR LR
comp=Z,872nm,22.0s
RPN Rapa Nui 38.44 53 LR LR 17 49 15.9
comp=Z,281nm,18.5s,baz=252,slow=30
CASY Casey 45.18 213 PFAKE 17 38 20.0 +6.9
CASY LR LR
comp=Z,412nm,19.0s
VNA3 Neumayer Olymp 47.88 162 *e* **P 17 38 33.9 -0.4**
VNA2 Neumayer--Watz 48.53 162 *e* **P 17 38 38.6 -0.7**
baz=215,slow=7.9
SNAA Sanae 48.59 164 *e* **P 17 38 42.0 +2.2**
SNAA Sanae 48.59 164 *eP* **P 17 38 39.0 -0.8**
comp=Z,3.1nm,1.0s
VNA1 Neumayer--Stat 48.62 162 *e* **P 17 38 42.1 +2.1**
MAW Mawson 54.12 192 LR LR 17 59 20.9
comp=Z,310nm,21.5s,baz=160,slow=32
MAW Mawson 54.12 192 PFAKE 17 39 30.0 +8.9
MAW LR LR
comp=Z,703nm,22.0s
TRQA Tornquist 54.62 107 PFAKE 17 39 30.0 +4.7
TRQA LR LR
comp=Z,265nm,20.0s
STKA Stephens Creek 55.94 263 P **P 17 39 35.8 +1.0**
comp=Z,1.9nm,0.8s,baz=338,slow=23,SNR=2.2
STKA LR LR 17 59 06.2
comp=Z,365nm,21.2s,baz=198,slow=31
STKA Stephens Creek 55.94 263 *eP* **P 17 39 35.4 +0.5**
CTAO Charters Tower 62.73 275 PFAKE 17 40 30.0 +8.1
CTAO LR LR
comp=Z,224nm,21.0s
HNR Honiara 64.40 294 PFAKE 17 40 40.0 +7.1
HNR LR LR
comp=Z,371nm,19.0s
ASAR Alice Springs 66.57 262 P **P 17 40 48.8 +1.7**
comp=Z,3.0nm,0.8s,baz=145,slow=6.8,SNR=35
ASAR Alice Springs 66.57 262 P **P 17 40 48.8 +1.7**
NNA Nana 67.30 77 PFAKE 17 41 00.0 +8.3
NNA LR LR
comp=Z,271nm,21.0s
NWAO Narrogin (SRO) 67.78 244 PFAKE 17 41 00.0 +5.5
NWAO LR LR
comp=Z,252nm,19.0s
TARA Tarawa 67.99 312 PFAKE 17 41 10.0 +14
TARA LR LR
comp=Z,299nm,22.0s
LPAZ La Paz 68.45 87 P **P 17 41 01.4 +1.8**
comp=Z,1.0nm,0.7s,baz=216,slow=6.6,SNR=4.8
LPAZ LR LR 18 03 27.3
comp=Z,116nm,21.5s,baz=327,slow=29
LPAZ La Paz 68.45 87 *eP* **P 17 40 59.1 -0.6**
comp=Z,3.2nm,1.0s
LPAZ LR LR
comp=Z,41nm,19.0s
WRA Warramunga Arr 69.34 265 P **P 17 41 06.1 +1.7**
comp=Z,3.1nm,0.9s,baz=142,slow=5.6,SNR=14
WRA LR LR 18 10 38.1
comp=Z,240nm,18.8s,baz=285,slow=35
WRA Warramunga Arr 69.34 265 P **P 17 41 06.1 +1.7**
WRAB Tennant Creek 69.34 265 *eP* **P 17 41 05.4 +0.9**
comp=Z,4.6nm,0.8s
PMG Port Moresby 71.05 282 PFAKE 17 41 30.0 +15
PMG LR LR
comp=Z,328nm,22.0s
SPB Sao Paulo 73.64 108 PFAKE 17 41 40.0 +10
SPB LR LR
comp=Z,242nm,19.0s
FITZ Fitzroy Crossi 75.55 259 LR LR 18 11 04.2
comp=Z,284nm,20.5s,baz=125,slow=33
JOHN Johnston Islan 76.72 334 PFAKE 17 42 00.0 +12
JOHN LR LR
comp=Z,38μm,20.0s
JTS JuntasAbangare 82.36 58 PFAKE 17 42 30.0 +11
JTS LR LR
comp=Z,117nm,22.0s
ROSC El Rosal 82.86 70 LR LR 18 11 56.5
comp=Z,86nm,18.6s,baz=32,slow=30
BCIP Isla Barro Col 83.81 63 PFAKE 17 42 40.0 +14
BCIP LR LR
comp=Z,321nm,21.0s
SDV Santo Domingo 88.18 71 PFAKE 17 43 00.0 +12
SDV LR LR
comp=Z,94nm,21.0s
TXAR Lajitas Array 92.37 34 LR LR 18 14 53.9
comp=Z,88nm,18.4s,baz=185,slow=29
KVTX Kingsville 92.60 39 PFAKE 17 43 20.0 +12
KVTX LR LR
comp=Z,182nm,20.0s
TUC Tucson 93.21 27 PFAKE 17 43 20.0 +9.1
TUC LR LR
comp=Z,137nm,22.0s
MNTX Cornudas Mount 94.08 32 PFAKE 17 43 20.0 +5.1
MNTX LR LR
comp=Z,162nm,19.0s
BOSA Boshof 94.10 170 LR LR 18 23 43.3
comp=Z,181nm,18.4s,baz=185,slow=34
BOSA Boshof 94.10 170 PFAKE 17 43 20.0 +4.5
BOSA LR LR
comp=Z,228nm,20.0s
RCBR Riachuelo 94.50 108 PFAKE 17 43 30.0 +13
RCBR LR LR
comp=Z,144nm,21.0s
DAC Darwin (Calif) 95.52 21 PFAKE 17 43 30.0 +8.4
DAC LR LR
comp=Z,372nm,22.0s
WUAZ Wupatki 96.12 26 PFAKE 17 43 30.0 +5.7
WUAZ LR LR
comp=Z,173nm,19.0s
ANMO Albuquerque 96.84 30 PFAKE 17 43 40.0 +12
ANMO LR LR
comp=Z,202nm,22.0s
NVAR Mina Array Bea 97.47 20 LR LR 18 17 20.8
comp=Z,212nm,20.5s,baz=190,slow=29
NATX Nacogdoches 97.57 40 PFAKE 17 43 40.0 +9.2
NATX LR LR
comp=Z,413nm,21.0s
LBTB Lobatse 97.69 170 PFAKE 17 43 40.0 +8.1
LBTB LR LR
comp=Z,308nm,20.0s
AMTX Amarillo 98.14 34 PFAKE 17 43 40.0 +6.6
AMTX LR LR
comp=Z,225nm,19.0s
MVCO Mesa Verde 98.44 27 PFAKE 17 43 40.0 +5.2
MVCO LR LR
comp=Z,117nm,22.0s
MVU Marysvale 98.79 24 PFAKE 17 43 50.0 +14
MVU LR LR
comp=Z,248nm,22.0s
BMN Battle Mountai 99.61 20 PFAKE 17 43 50.0 +10
BMN LR LR
comp=Z,319nm,19.0s
SDCO Great Sand Dun 99.72 30 PFAKE 17 43 50.0 +9.4
SDCO LR LR
comp=Z,273nm,19.0s
DUG Dugway 100.27 23 PFAKE 17 43 50.0 +7.2
DUG LR LR
comp=Z,235nm,19.0s
OXF Oxford 101.95 43 PFAKE 17 44 00.0 +10
OXF LR LR
comp=Z,323nm,21.0s
TSUM Tsumeb 102.34 162 PFAKE 17 44 00.0 +7.3
TSUM LR LR
comp=Z,324nm,21.0s
PLAL Pickwick Lake 102.87 44 PFAKE 17 44 00.0 +5.7
PLAL LR LR
comp=Z,395nm,20.0s
AHID Auburn Hatcher 103.11 24 PFAKE 17 44 10.0 +15
AHID LR LR
comp=Z,276nm,21.0s
HLID Hailey 103.18 21 PFAKE 17 44 10.0 +14
HLID LR LR
comp=Z,314nm,20.0s
KSU1 Kansas State U 103.60 36 PFAKE 17 44 10.0 +13
KSU1 LR LR
comp=Z,123nm,19.0s
OGNE Ogallala 103.67 31 PFAKE 17 44 10.0 +12
OGNE LR LR
comp=Z,274nm,19.0s
NHSC New Hope 104.40 51 PFAKE 17 44 10.0 +8.9
NHSC LR LR
comp=Z,771nm,21.0s
LKWY Lake 104.97 24 PFAKE 17 48 30.0

LKWY					LR	LR				
	comp=Z,252nm,20.0s									
BOZ	**Bozeman (W)**	**105.74**	**23**	PFAKE			17 48 30.0			
BOZ				LR	LR					
	comp=Z,222nm,21.0s									
CNNC	**Cliffs of the**	**107.19**	**51**	PFAKE			17 48 30.0			
CNNC				LR	LR					
	comp=Z,2µm,20.0s									
SCIA	**State Center**	**107.23**	**37**	PFAKE			17 48 30.0			
SCIA				LR	LR					
	comp=Z,414nm,21.0s									
HDIL	**Hopedale**	**107.36**	**40**	PFAKE			17 48 30.0			
HDIL				LR	LR					
	comp=Z,414nm,19.0s									
ECSD	**EROS Data Cent**	**107.81**	**34**	PFAKE			17 48 30.0			
ECSD				LR	LR					
	comp=Z,258nm,21.0s									
KULM	**Kulim**	**108.36**	**251**	PFAKE			17 48 40.0			
KULM				LR	LR					
	comp=Z,192nm,20.0s									
DGAR	**Diego Garcia**	**109.38**	**218**	PFAKE			17 48 40.0			
DGAR				LR	LR					
	comp=Z,2µm,20.0s									
AGMN	**Agassiz Nation**	**112.16**	**32**	PFAKE			17 48 40.0			
AGMN				LR	LR					
	comp=Z,228nm,20.0s									
ERPA	**Erie**	**112.19**	**46**	PFAKE			17 48 40.0			
ERPA				LR	LR					
	comp=Z,218nm,19.0s									
EYMN	**Ely**	**113.17**	**35**	PFAKE			17 48 40.0			
EYMN				LR	LR					
	comp=Z,240nm,19.0s									
ULM	**Lac du Bonnet**	**113.92**	**31**	PFAKE			17 48 40.0			
ULM				LR	LR					
	comp=Z,303nm,22.0s									
MSKU	**Masuku**	**118.57**	**154**	PFAKE			17 48 50.0	+5.1		
MSKU				LR	LR					
	comp=Z,1.0nm,19.0s									
PKME	**Peaks-Kenny Pk**	**119.16**	**51**	PFAKE			17 48 50.0	+5.1		
PKME				LR	LR					
	comp=Z,646nm,22.0s									
DBIC	**Dimbokro**	**120.19**	**130**	PFAKE			17 49 00.0	+12		
DBIC				LR	LR					
	comp=Z,133nm,21.0s									
CHTO	**Chiang Mai**	**120.60**	**257**	PFAKE			17 49 00.0	+11		
CHTO				LR	LR					
	comp=Z,78nm,20.0s									
EGAK	**Eagle**	**121.55**	**1**	PFAKE			17 49 00.0	+11		
EGAK				LR	LR					
	comp=Z,183nm,19.0s									
ILAR	**Eielson Array**	**121.56**	**358**	PKP		**PKPdf**	**17 48 47.6**	**-1.3**		
	comp=Z,1.4nm,1.0s,baz=250,slow=1.7,SNR=7.3									
ILAR	**Eielson Array**	**121.56**	**358**	PKP		**PKPdf**	**17 48 47.6**	**-1.3**		
COLA	**College**	**121.68**	**358**	PFAKE			17 49 00.0	+11		
COLA				LR	LR					
	comp=Z,270nm,20.0s									
KMBO	**Kilima Mbogo**	**121.97**	**181**	PFAKE			17 49 00.0	+8.3		
KMBO				LR	LR					
	comp=Z,300nm,21.0s									
ENH	**Enshi**	**124.03**	**274**	PFAKE			17 49 00.0	+5.2		
ENH				LR	LR					
	comp=Z,256nm,22.0s									
MDJ	**Mudanjiang**	**124.50**	**300**	PFAKE			17 49 10.0	+15		
MDJ				LR	LR					
	comp=Z,125nm,20.0s									
SCHQ	**Schefferville**	**127.57**	**45**	PFAKE			17 49 10.0	+9.3		
SCHQ				LR	LR					
	comp=Z,536nm,21.0s									
BJT	**Baijiatuau**	**127.80**	**287**	PFAKE			17 49 10.0	+8.4		
BJT				LR	LR					
	comp=Z,118nm,21.0s									
TORD	**Torodi Ar. Bea**	**128.70**	**134**	PKP		**PKPdf**	**17 49 07.3**	**+3.1**		
	comp=Z,0.4nm,0.8s,baz=242,slow=2.8,SNR=2.7									
TORD	**Torodi Ar. Bea**	**128.70**	**134**	PKP		**PKPdf**	**17 49 07.3**	**+3.1**		
BILL	**Bilibino**	**130.19**	**338**	PFAKE			17 49 20.0	+15		
BILL				LR	LR					
	comp=Z,2µm,19.0s									
HIA	**Hailar**	**132.53**	**298**	PFAKE			17 49 20.0	+10		
HIA				LR	LR					
	comp=Z,119nm,21.0s									
LSA	**Lhasa**	**133.54**	**258**	PFAKE			17 49 20.0	+6.5		
LSA				LR	LR					
	comp=Z,125nm,20.0s									
YAK	**Yakutsk**	**136.49**	**317**	PFAKE			17 49 30.0	+13		
YAK				LR	LR					
	comp=Z,109nm,22.0s									
ULN	**Ulaanbaatar**	**137.96**	**289**	PFAKE			17 49 30.0	+9.3		
ULN				LR	LR					
	comp=Z,67nm,22.0s									
TAM	**Tamanrasset**	**138.94**	**133**	PFAKE			17 49 30.0	+6.7		
TAM				LR	LR					
	comp=Z,124nm,19.0s									
TLY	**Talaya**	**142.04**	**291**	PFAKE			17 49 40.0	+12		
TLY				LR	LR					
	comp=Z,106nm,21.0s									
SFS	**San Fernando**	**144.93**	**107**	PFAKE			17 49 40.0	+6.7		
SFS				LR	LR					
	comp=Z,831nm,22.0s									
NIL	**Nilore**	**145.86**	**242**	PFAKE			17 49 40.0	+3.8		
NIL				LR	LR					
	comp=Z,134nm,21.0s									
ESDC	**Sonseca Array**	**148.50**	**106**	PKPbc		**PKPab**	**17 49 44.8**	**-1.6**		
	comp=Z,2.7nm,0.9s,baz=232,slow=2.2,SNR=11									
ESDC	**Sonseca Array**	**148.50**	**106**	PKPbc		**PKPab**	**17 49 44.8**	**-1.6**		
MKAR	**Makanchi Array**	**150.58**	**269**	PKPbc		**PKPbc**	**17 49 46.1**	**-1.7**		
	comp=Z,2.4nm,0.8s,baz=103,slow=2.6,SNR=22									
MKAR				PKPab		**PKPab**	**17 49 52.1**	**-2.5**		
	comp=Z,2.6nm,0.8s,baz=116,slow=3.4,SNR=23									
MKAR	**Makanchi Array**	**150.58**	**269**	PKPbc		**PKPbc**	**17 49 46.1**	**-1.7**		
MKAR				PKPab		**PKPab**	**17 49 52.1**	**-2.5**		
TKM2	**Tokmak 2**	**151.69**	**257**	PFAKE			17 49 50.0	-0.8		
TKM2				LR	LR					
	comp=Z,107nm,19.0s									
AAK	**Ala-Archa**	**152.07**	**255**	PFAKE			17 49 50.0	-1.6		
AAK				LR	LR					
	comp=Z,179nm,21.0s									
EKS2	**Erkin-Say**	**152.47**	**254**	PFAKE			17 50 00.0	-2.9		
EKS2				LR	LR					
	comp=Z,169nm,21.0s									
ZALV	**Zalesovo Beam**	**153.00**	**284**	PKPbc		**PKPbc**	**17 49 52.7**	**-0.3**		
	comp=Z,0.2nm,0.3s,baz=83,slow=4.5,SNR=2.5									
ZALV				PKPab		**PKPab**	**17 50 03.5**	**-1.1**		
	comp=Z,1.1nm,0.7s,baz=132,slow=3.3,SNR=7.6									
ZALV	**Zalesovo Beam**	**153.00**	**284**	PKPbc		**PKPbc**	**17 49 52.7**	**-0.3**		
ZALV				PKPab		**PKPab**	**17 50 03.5**	**-1.1**		
KURK	**Kurchatov**	**154.79**	**273**	PFAKE			17 50 00.0	+3.0		
KURK				LR	LR					
	comp=Z,94nm,22.0s									
CEL	**Celeste**	**156.72**	**135**	PFAKE			17 50 00.0	+8.5		
CEL				LR	LR					
	comp=Z,137nm,19.0s									
CSS	**Prodhromos**	**157.76**	**173**	PFAKE			17 50 00.0	+7.1		
CSS				LR	LR					
	comp=Z,174nm,19.0s									
CUC	**Castrocucco**	**158.18**	**133**	PFAKE			17 50 00.0	+6.8		
CUC				LR	LR					
	comp=Z,98nm,20.0s									
AQU	**L'Aquila**	**159.10**	**125**	PFAKE			17 50 00.0	+5.7		
AQU				LR	LR					
	comp=Z,186nm,20.0s									
ECH	**Echery**	**160.17**	**104**	PFAKE			17 50 00.0	+4.7		
ECH				LR	LR					
	comp=Z,364nm,20.0s									
TUE	**Stuetta**	**160.19**	**111**	PFAKE			17 50 00.0	+4.4		
TUE				LR	LR					
	comp=Z,223nm,19.0s									
ISP	**Isparta**	**160.31**	**165**	PFAKE			17 50 10.0	+14		
ISP				LR	LR					
	comp=Z,148nm,21.0s									
BRVK	**Borovoye**	**160.45**	**272**	PFAKE			17 50 10.0	+15		
BRVK				LR	LR					
	comp=Z,103nm,19.0s									
WLF	**Walferdange**	**160.48**	**99**	PFAKE			17 50 00.0	+4.5		
WLF				LR	LR					
	comp=Z,262nm,19.0s									
TIR	**Tirane**	**160.90**	**138**	PFAKE			17 50 10.0	+14		
TIR				LR	LR					
	comp=Z,206nm,19.0s									
GNI	**Garni**	**162.25**	**201**	PFAKE			17 50 10.0	+12		
GNI				LR	LR					
	comp=Z,142nm,20.0s									
PSZ	**Piszkesteto**	**166.31**	**125**	PFAKE			17 50 10.0	+8.8		
PSZ				LR	LR					
	comp=Z,133nm,20.0s									
KIV	**Kislovodsk**	**166.32**	**199**	PFAKE			17 50 10.0	+8.7		
KIV				LR	LR					
	comp=Z,131nm,21.0s									
KWP	**Kalwaria Pacla**	**168.83**	**126**	PFAKE			17 50 10.0	+7.2		
KWP				LR	LR					
	comp=Z,699nm,19.0s									

*DJA **07** 17:39:24, 1.°35S×130.°82E, h19km, MLv3.8/12*
IDC 07 17:39:23.4±4.0, 1.°33S×130.°43E, h0km, mb3.9/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=294.8km s-min=25.6km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.89**	**169**	P		P	17 43 45.4	-0.2
	0.1nm,0.3s,baz=353,slow=12,SNR=9.7							
ASAR	**Alice Springs**	**22.45**	**172**	P		P	17 44 24.4	+0.1
	1.8nm,0.9s,baz=354,slow=9.5,SNR=11							
MKAR	**Makanchi Array**	**63.80**	**325**	P		P	17 49 57.4	0.0
	3.1nm,0.9s,baz=107,slow=7.7,SNR=12							

*KRSC **07** 18:09:46.5±0.3, 55.°45N×162.°93E, h23km±23km, ML4.5*
*ISCJB **07** 18:09:47.4±0.4, 55.°48N±0.°02×163.°01E±0.°05, h68km±4km, mb3.5/8, Error ellipse: s-maj=4.8km s-min=4.0km az=15.4*
*MOS **07** 18:09:47.2±1.2, 55.°48N×162.°96E, h47km, mb3.9/5, Error ellipse: s-maj=14.2km s-min=10.9km az=72.2*
*IDC **07** 18:09:50.0±2.5, 55.°30N×163.°11E, h66km±31km, mb3.2/7, mb1 3.5/9, mb1mx3.3/27, mbtmp3.3/9, ML3.5/2, Error ellipse: s-maj=34.8km s-min=10.8km az=166.0*
ISC 07 18:09:48.4±1.0, 55.°48N±0.°03×162.°99E±0.°03, h47km±11km, n66, σ1s38/103, mb3.5/8, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBTR	**Krutoberegovo**	**0.74**	**353**	PN		**Pn**	**18 10 01.7**	**-0.9**
KBTR				S		**Sn**	**18 10 12.3**	**-0.5**
KBTR	**Krutoberegovo**	**0.74**	**353**	P		**Pn**	**18 10 01.7**	**-0.9**
KBTR				eS		**Sn**	**18 10 12.3**	**-0.5**
ZLN	**Zelenaya**	**1.35**	**295**	eP		**Pn**	**18 10 10.8**	**-0.1**
ZLN				eS		**Sn**	**18 10 28.7**	**+1.0**
SMKR	**Semkarok**	**1.40**	**323**	eP		**Pn**	**18 10 11.2**	**-0.3**
SMKR				eS		**Sn**	**18 10 29.5**	**+0.7**
CIRR	**Tsirk**	**1.42**	**298**	eP		**Pn**	**18 10 11.7**	**-0.2**
CIRR				eS		**Sn**	**18 10 30.1**	**+0.7**
BDR	**Baidarnaya**	**1.48**	**318**	eP		**Pn**	**18 10 12.5**	**-0.2**
BDR				eS		**Sn**	**18 10 31.7**	**+0.8**
BZMR	**Bezymyannaya**	**1.48**	**289**	eP		**Pn**	**18 10 12.6**	**-0.2**
BZMR				eS		**Sn**	**18 10 32.1**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.49**	**290**	eP		**Pn**	**18 10 12.7**	**-0.2**
BZWR				eS		**Sn**	**18 10 31.9**	**+0.6**
KRSR	**Krestovskiy**	**1.55**	**300**	eP		**Pn**	**18 10 12.9**	**-0.8**
KRSR				eS		**Sn**	**18 10 31.7**	**-1.0**
KLY	**Klyuchi**	**1.56**	**303**	PN		**Pn**	**18 10 11.9**	**-1.7**
KLY				S		**Sn**	**18 10 30.6**	**-2.0**
KLY	**Klyuchi**	**1.56**	**303**	eP		**Pn**	**18 10 11.9**	**-1.7**
KLY				eS		**Sn**	**18 10 30.6**	**-2.0**
SRKR	**Sorokina**	**1.56**	**320**	eP		**Pn**	**18 10 13.7**	**0.0**
SRKR				eS		**Sn**	**18 10 33.2**	**+0.4**
KIRR	**Kirishev**	**1.57**	**289**	eP		**Pn**	**18 10 14.0**	**0.0**
KIRR				eS		**Sn**	**18 10 34.3**	**+1.1**
KMNR	**Kamenistaya**	**1.58**	**281**	P		**Pn**	**18 10 14.5**	**+0.4**
KMNR				eS		**Sn**	**18 10 34.8**	**+1.4**
TUMR	**Tumrok**	**1.63**	**264**	eP		**Pn**	**18 10 15.2**	**+0.4**
TUMR				eS		**Sn**	**18 10 36.2**	**+1.6**
KPT	**Kopyto**	**1.64**	**289**	eP		**Pn**	**18 10 14.9**	**+0.1**
KPT				eS		**Sn**	**18 10 35.8**	**+1.0**
BKI	**Bering**	**1.73**	**98**	PN		**Pn**	**18 10 16.7**	**+0.7**
BKI				S		**Sn**	**18 10 38.0**	**+1.2**
BKI	**Bering**	**1.73**	**98**	eP		**Pn**	**18 10 16.7**	**+0.7**
BKI				eS		**Sn**	**18 10 38.0**	**+1.2**
KOZR	**Kozyr**	**1.84**	**290**	PN		**Pn**	**18 10 18.5**	**+0.9**
KOZR				S		**Sn**	**18 10 42.5**	**+2.8**
KOZ	**Kozyrevsk**	**1.85**	**290**	eP		**Pn**	**18 10 18.5**	**+0.8**
KOZ				eS		**Sn**	**18 10 42.5**	**+2.6**
SRDR	**Sredinnyy**	**2.02**	**296**	eP		**Pn**	**18 10 20.3**	**+0.2**
SRDR				eS		**Sn**	**18 10 43.0**	**+1.3**
ESO	**Esso**	**2.47**	**282**	PN		**Pn**	**18 10 25.6**	**-0.5**
ESO				S		**Sn**	**18 10 55.0**	**0.0**
ESO	**Esso**	**2.47**	**282**	eP		**Pn**	**18 10 25.6**	**-0.5**
ESO				eS		**Sn**	**18 10 55.0**	**0.0**
SPN	**Mys Shipunski**	**2.95**	**217**	PN		**Pn**	**18 10 31.6**	**-1.1**
SPN				S		**Sn**	**18 11 04.3**	**-2.5**
SPN	**Mys Shipunski**	**2.95**	**217**	eP		**Pn**	**18 10 31.6**	**-1.1**
SPN				eS		**Sn**	**18 11 04.3**	**-2.5**
NLC	**Nalytchevo**	**3.14**	**224**	PN		**Pn**	**18 10 35.0**	**-0.4**
NLC				S		**Sn**	**18 11 10.6**	**-1.0**
NLC	**Nalytchevo**	**3.14**	**224**	eP		**Pn**	**18 10 35.0**	**-0.4**
NLC				eS		**Sn**	**18 11 10.6**	**-1.0**
SDLR	**Sedlovina**	**3.26**	**229**	P		**Pn**	**18 10 37.9**	**+0.8**
SDLR				eS		**Sn**	**18 11 14.5**	**-0.1**
SMAR	**Somma**	**3.30**	**230**	P		**Pn**	**18 10 38.7**	**+0.9**
AVH	**Avacha**	**3.33**	**230**	eP		**Pn**	**18 10 39.2**	**+1.2**
AVH				eS		**Sn**	**18 11 18.2**	**+1.9**
UGLR	**Uglovaya**	**3.33**	**229**	eP		**Pn**	**18 10 38.8**	**+0.7**
UGLR				eS		**Sn**	**18 11 17.4**	**+1.0**
KOK	**Koryaka**	**3.35**	**231**	P		**Pn**	**18 10 39.7**	**+1.3**
KOK				eS		**Sn**	**18 11 19.1**	**+2.1**
PET	**Petropavlovsk**	**3.54**	**228**	ePN		**Pn**	**18 10 41.1**	**+0.4**
PET				eS		**Sn**	**18 11 22.0**	**+0.8**
PET				smax		smax		
	comp=E,131nm,0.6s							
PET				smax		smax		
	comp=N,303nm,0.6s							
PET	**Petropavlovsk**	**3.54**	**228**	P		**Pn**	**18 10 41.4**	**+0.7**
PET				eS		**Sn**	**18 11 21.7**	**+0.5**
PETK	**Petropavlovsk-**	**3.90**	**235**	P		**Pn**	**18 10 47.1**	**+1.3**
	comp=N,1.7nm,0.3s,baz=80,slow=19,SNR=44							
PETK				S		**Sn**	**18 11 32.5**	**+2.2**
	comp=N,4.9nm,0.3s,baz=283,slow=19,SNR=5.5							
PETK	**Petropavlovsk-**	**3.90**	**235**	PN		**Pn**	**18 10 47.1**	**+1.3**
PETK				S		**Sn**	**18 11 32.5**	**+2.2**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
PETK				smax		smax		
	comp=N,5.0nm,0.3s							
RUS	**Russkaya**	**4.03**	**223**	eS		**Sn**	**18 11 30.1**	**-3.4**
MTVR	**Mutnovka**	**4.13**	**225**	eP		**Pn**	**18 10 49.8**	**+0.8**
MTVR				eS		**Sn**	**18 11 35.7**	**-0.3**
ASAK	**Asacha**	**4.32**	**226**	P		**Pn**	**18 10 53.3**	**+1.7**
ASAK				eS		**Sn**	**18 11 40.9**	**+0.3**
FX1	**Attu Island--F**	**6.52**	**109**	P		**Pn**	**18 11 21.7**	**+0.1**
	comp=N,5.6nm,0.3s,baz=296,slow=15,SNR=23							
FX1				S		**Sn**	**18 12 31.0**	**-3.6**
	comp=N,7.6nm,0.3s,baz=165,slow=21,SNR=7.5							
FX1	**Attu Island--F**	**6.52**	**109**	PN		**Pn**	**18 11 21.7**	**+0.1**
FX1				pmax		pmax		
	comp=Z,6.0nm,0.3s							
MJA0	**Matsu Arr-Jizo**	**25.34**	**232**	eP		**P**	**18 15 12.4**	**+1.7**
MJA0				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MJAR	**Matsushiro Arr**	**25.36**	**232**	P		**P**	**18 15 10.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=31,slow=6.6,SNR=5.3							
MJAR	**Matsushiro Arr**	**25.36**	**232**	P		**P**	**18 15 10.9**	**+0.1**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ILAR	**Eielson Array**	**25.95**	**49**	P		**P**	**18 15 17.1**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=270,slow=8.5,SNR=11							
ILAR	**Eielson Array**	**25.95**	**49**	P		**P**	**18 15 17.1**	**+1.2**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**35.04**	**282**	P		**P**	**18 16 35.3**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=57,slow=6.6,SNR=3.4							
SONM	**Songino Array**	**35.04**	**282**	P		**P**	**18 16 35.3**	**-1.2**
YKA	**Yellowknife Ar**	**40.27**	**45**	P		**P**	**18 17 22.0**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=298,slow=8.2,SNR=3.7							
YKA	**Yellowknife Ar**	**40.27**	**45**	P		**P**	**18 17 22.0**	**+1.8**
KURK	**Kurchatov**	**47.92**	**302**	P		**P**	**18 18 19.7**	**-1.9**
KURK				pmax		pmax		
	comp=Z,5.0nm,2.5s							
MKAR	**Makanchi Array**	**48.65**	**295**	P		**P**	**18 18 26.0**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=57,slow=7.4,SNR=5.1							
MKAR	**Makanchi Array**	**48.65**	**295**	eP		**P**	**18 18 29.5**	**+2.1**
FINES	**FINESS Array B**	**58.59**	**337**	P		**P**	**18 19 40.8**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=27,slow=9.4,SNR=2.8							
FINES	**FINESS Array B**	**58.59**	**337**	P		**P**	**18 19 40.8**	**+1.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TAPN	**Taplejung**	**59.71**	**275**	eP		**P**	**18 19 46.8**	**-1.6**
	comp=Z,3.9nm,0.4s							

ODAN	**Odare**	**60.27**	**275**	eP		**P**	**18 19 49.8**	**-2.3**		
	comp=Z,8.1nm,1.0s									
CMAR	**Chiang Mai Arr**	**60.31**	**259**	P		**P**	**18 19 52.2**	**-0.1**		
	comp=Z,0.3nm,0.5s,baz=24,slow=7.0,SNR=3.5									
CMAR	**Chiang Mai Arr**	**60.31**	**259**	P		**P**	**18 19 52.2**	**-0.1**		
GUN	**Gumba**	**60.31**	**277**	eP		**P**	**18 19 50.9**	**-1.7**		
	comp=Z,5.3nm,0.3s									
JIRN	**Jiri**	**60.33**	**276**	eP		**P**	**18 19 50.6**	**-2.1**		
RAMN	**Ramite**	**60.64**	**276**	eP		**P**	**18 19 52.6**	**-2.1**		
	comp=Z,7.2nm,0.4s									
KKN	**Kakani**	**60.74**	**277**	eP		**P**	**18 19 53.4**	**-2.0**		
	comp=Z,4.8nm,0.3s									
GKN	**Gorkha**	**60.95**	**278**	eP		**P**	**18 19 54.4**	**-2.2**		
DMN	**Daman**	**60.98**	**277**	eP		**P**	**18 19 54.4**	**-2.6**		
KOLN	**Koldanda**	**61.71**	**278**	eP		P	18 19 57.3	-4.6		
	comp=Z,1.6nm,0.3s									

*DJA **07** 18:16:43, 0.°47N×126.°59E, h23km, MLv3.7/3*
IDC 07 18:16:35.1±1.5, 0.°69N×127.°01E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/18, mbtmp3.9/5, Error ellipse: s-maj=159.7km s-min=18.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.73**	**161**	P		P	18 21 28.2	0.0
	2.3nm,0.7s,baz=341,slow=9.9,SNR=51							
ASAR	**Alice Springs**	**25.12**	**165**	P		P	18 22 01.9	0.0
	1.6nm,0.3s,baz=344,slow=11,SNR=68							
STKA	**Stephens Creek**	**35.21**	**158**	P		P	18 23 31.2	0.0
	1.5nm,0.5s,baz=321,slow=9.2,SNR=5.4							
MKAR	**Makanchi Array**	**60.21**	**326**	P		P	18 26 44.8	-0.2
	0.3nm,0.4s,baz=124,slow=6.9,SNR=6.5							
KURK	**Kurchatov**	**64.45**	**328**	P		P	18 27 13.3	0.0
	0.5nm,0.4s,baz=130,slow=6.1,SNR=15							

*DJA **07** 19:17:49, 0.°41S×132.°46E, h10km, MLv4.4/9*
IDC 07 19:17:45.5±1.4, 0.°29S×132.°47E, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.6/18, mbtmp3.7/5, ML4.1/2, Error ellipse: s-maj=67.5km s-min=22.9km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.93**	**200**	P		P	19 22 06.3	-1.8
	0.4nm,0.3s,baz=36,slow=12,SNR=9.6							
FITZ				S		Sn	19 25 29.4	-12
	0.2nm,0.3s,baz=166,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**19.61**	**175**	P		P	19 22 16.0	+0.4
	0.5nm,0.3s,baz=353,slow=11,SNR=31							
WRA				S		Sn	19 25 46.4	-12
	0.3nm,0.3s,baz=358,slow=22,SNR=7.3							
ASAR	**Alice Springs**	**23.27**	**177**	P		P	19 22 55.5	+0.6
	3.3nm,0.8s,baz=360,slow=8.3,SNR=44							
MKAR	**Makanchi Array**	**64.14**	**324**	P		P	19 28 22.5	+0.7
	0.4nm,0.7s,baz=110,slow=8.0,SNR=5.1							
ILAR	**Eielson Array**	**86.27**	**25**	P		P	19 30 28.1	-0.9
	0.1nm,0.4s,baz=243,slow=4.0,SNR=4.1							

*DJA **07** 19:28:11, 1.°11S×131.°47E, h249km, MLv3.7/10*
IDC 07 19:28:14.4±6.8, 0.°67S×132.°57E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=430.4km s-min=25.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**175**	P		P	19 32 40.1	-0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=15							
ASAR	**Alice Springs**	**22.90**	**177**	P		P	19 33 20.3	+0.3
	0.9nm,0.4s,baz=356,slow=12,SNR=22							
MKAR	**Makanchi Array**	**64.49**	**324**	P		P	19 38 53.0	-0.1
	0.1nm,0.5s,baz=122,slow=7.3,SNR=2.3							

*DJA **07** 19:39:36, 0.°88S×131.°32E, h86km, MLv3.6/9*
IDC 07 19:39:11.9±4.2, 1.°54S×131.°22E, h0km, mb2.9/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=290.2km s-min=26.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.54**	**171**	P		P	19 43 29.7	-0.6
	0.0nm,0.3s,baz=353,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**22.14**	**173**	P		P	19 44 09.6	0.0
	0.3nm,0.8s,baz=354,slow=7.9,SNR=5.4							
MKAR	**Makanchi Array**	**64.42**	**325**	P		P	19 49 50.2	+0.1
	0.1nm,0.5s,baz=123,slow=9.3,SNR=2.3							

*DJA **07** 19:48:25, 0.°94S×131.°22E, h175km, MLv3.5/8*
IDC 07 19:48:26.1±4.0, 0.°72S×131.°10E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=275.7km s-min=26.2km az=72.0, Irian Jaya region

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time | Res |

H21A				⇓Sg		Sn	20 02 30.9	+1.4		
	baz=1.7									
G23A	**Biddle**	**1.66**	**358**	⇓P		**Pn**	**20 02 07.3**	**0.0**		
	baz=1.7,SNR=132									
G23A				⇓Sg		**Sb**	**20 02 31.5**	**+1.6**		
	baz=1.7									
K21A	**Alcova**	**1.69**	**238**	⇓P		**Pb**	**20 02 08.2**	**-0.8**		
	baz=1.8,SNR=139									
L25A	**Engebretsen Ra**	**1.70**	**144**	⇓Pb		**Pg**	**20 02 10.0**	**+0.7**		
	baz=1.6,SNR=53									
K26A	**Motz Farm, Whi**	**1.76**	**118**	⇑P		**Pg**	**20 02 10.5**	**-0.2**		
	baz=1.7,SNR=96									
G22A	**Birney**	**1.82**	**337**	⇑P		**Pn**	**20 02 09.8**	**+0.3**		
	baz=1.9,SNR=33									
G22A				⇑Sg		**Sb**	**20 02 36.0**	**+1.4**		
	baz=1.9									
G24A	**Alzada**	**1.90**	**19**	⇓P		**Pn**	**20 02 11.3**	**+0.7**		
	baz=1.9,SNR=17									
G24A				⇓Sb		**Sb**	**20 02 38.1**	**+1.4**		
	baz=1.9									
J20A	**Shoshoni**	**2.04**	**266**	⇓Pb		**Pb**	**20 02 14.5**	**-0.3**		
	baz=2.1									
I20A	**Worland**	**2.09**	**282**	⇑P		**Pn**	**20 02 14.1**	**+0.8**		
	baz=2.2,SNR=71									
I20A				⇑Sb		**Sn**	**20 02 42.3**	**+2.3**		
	baz=2.2									
M24A	**Cheyenne**	**2.10**	**170**	⇑Pb		**Pg**	**20 02 16.7**	**-0.4**		
	baz=2.1									
H20A	**Greybull**	**2.17**	**297**	⇑P		**Pn**	**20 02 14.4**	**+0.1**		
	baz=2.3,SNR=49									
H20A				⇑Sb		**Sn**	**20 02 43.9**	**+2.0**		
	baz=2.3									
G21A	**Lodge Grass**	**2.17**	**322**	⇓P		**Pn**	**20 02 14.6**	**+0.3**		
	baz=2.2,SNR=32									
F23A	**Volborg**	**2.18**	**358**	⇓P		**Pn**	**20 02 14.5**	**0.0**		
	baz=2.2,SNR=40									
L26A	**Underwood Farm**	**2.22**	**132**	⇑Pb		**Pg**	**20 02 18.6**	**-0.8**		
	baz=2.1									
RWWY	**Rawlins**	**2.33**	**218**	*e*Pn		**Pb**	**20 02 18.2**	**-1.6**		
F22A	**Rosebud**	**2.34**	**343**	⇓P		**Pn**	**20 02 16.4**	**-0.3**		
	baz=2.4,SNR=49									
M21A	**Separation Pea**	**2.46**	**219**	⇓Sb		**Sg**	**20 02 54.8**	**-1.1**		
	baz=2.5									
F21A	**Absaloka Mine,**	**2.63**	**331**	⇑P		**Pn**	**20 02 20.4**	**-0.2**		
	baz=2.7,SNR=13									
G20A	**Bridger**	**2.68**	**310**	⇑P		**Pn**	**20 02 21.1**	**-0.3**		
	baz=2.8,SNR=62									
F20A	**Billings**	**3.04**	**319**	⇑P		**Pn**	**20 02 26.0**	**-0.3**		
	baz=3.1,SNR=19									
BW06	**Boulder Array**	**3.21**	**258**	*e*Pn		Pn	20 02 31.9	+3.1		
PDAR	**Pinedale Array**	**3.21**	**258**	Pn		**Pn**	**20 02 29.3**	**+0.5**		
	1.5nm,0.3s,baz=83,slow=15,SNR=30									
PDAR				Pg		**Pb**	**20 02 32.7**	**-2.2**		
	3.6nm,0.3s,baz=72,slow=18,SNR=40									
PDAR				Lg		Lg	20 03 15.1			
	29nm,0.3s,baz=69,slow=36,SNR=26									
PDAR	**Pinedale Array**	**3.21**	**258**	Pn		**Pn**	**20 02 29.3**	**+0.5**		
PDAR				Pg		**Pb**	**20 02 32.7**	**-2.2**		
PDAR				Lg		Lg	20 03 15.1			
PD02	**Pinedale Array**	**3.21**	**258**	*e*P		**Pn**	**20 02 29.0**	**+0.2**		
PD01	**Pinedale Array**	**3.23**	**258**	*e*Pn		**Pn**	**20 02 29.3**	**+0.4**		
RLMT	**Red Lodge**	**3.26**	**300**	*e*Pn		**Pn**	**20 02 29.6**	**+0.2**		
RLMT	**Red Lodge**	**3.26**	**300**	⇓P		**Pn**	**20 02 29.7**	**+0.3**		
	baz=3.3,SNR=18									
RLMT				⇓P		**Pn**	**20 02 29.7**	**+0.3**		
	baz=3.3,SNR=18									
H18A	**Shoshone NF, C**	**3.34**	**291**	⇓P		**Pn**	**20 02 30.9**	**+0.3**		
	baz=3.4,SNR=13									
G18A	**Lazy EL Ranch,**	**3.53**	**302**	⇓P		**Pn**	**20 02 33.5**	**+0.3**		
	baz=3.6,SNR=11									
OGNE	**Ogallala**	**3.55**	**136**	*e*Pn		Pn	20 02 35.3	+2.0		
E20A	**Meyer Farm, Mu**	**3.58**	**327**	⇓P		**Pn**	**20 02 33.9**	**+0.2**		
	baz=3.6,SNR=5.7									
ISCO	**Idaho Springs**	**3.74**	**184**	*e*Pn		**Pn**	**20 02 34.5**	**-1.7**		
LKWY	**Lake**	**3.82**	**287**	*e*P		**Pn**	**20 02 39.5**	**+2.3**		
LOHW	**Long Hollow**	**3.86**	**273**	*e*P		**Pn**	**20 02 40.0**	**+2.4**		
FLWY	**Flagg Ranch**	**3.95**	**280**	*e*P		**Pn**	**20 02 40.2**	**+1.3**		
SNOW	**Snow King Moun**	**3.97**	**271**	Pn		Pb	20 02 44.4	-3.4		
YNR	**Norris Junctio**	**4.05**	**289**	*e*P		Pb	20 02 45.4	-3.8		
D20A	**Manuel Ranch,**	**4.08**	**332**	⇑P		**Pn**	**20 02 40.4**	**-0.1**		
	baz=4.1,SNR=18									
YFT	**Old Faithful**	**4.10**	**285**	P		Pb	20 02 47.0	-3.0		
YMR	**Madison River**	**4.24**	**287**	P		Pn	20 02 47.8	+5.0		
SMCO	**Snowmass**	**4.54**	**197**	*e*Pg		Pg	20 02 59.9	-3.9		
QLMT	**Earthquake Lak**	**4.59**	**288**	*e*Pn		**Pn**	**20 02 50.2**	**+2.5**		
C19A	**Slack Wire Ran**	**4.95**	**329**	⇓P		**Pn**	**20 02 52.5**	**0.0**		
	baz=5.0,SNR=6.2									
BOZ	**Bozeman (W)**	**4.99**	**297**	*e*P		**Pn**	**20 02 53.5**	**+0.4**		
	4.8nm,0.6s									
DGMT	**Dagmar**	**4.99**	**8**	*e*P		**Pn**	**20 02 54.1**	**+1.1**		
HWUT	**Hardwire Ranch**	**5.01**	**249**	*e*P		**Pn**	**20 02 53.4**	**-0.1**		
	12nm,0.5s									
D17A	**Six Diamond Ra**	**5.24**	**315**	⇓P		**Pn**	**20 02 56.5**	**-0.1**		
	baz=5.3,SNR=20									
R26A	**Arlington**	**5.42**	**164**	⇓P		**Pn**	**20 03 00.2**	**+1.2**		
	baz=5.4,SNR=18									
DAU	**Daniels Canyon**	**5.43**	**237**	P		Pb	20 03 08.1	-4.6		
	9.3nm,0.4s									
EGMT	**Eagleton**	**5.46**	**327**	*e*P		**Pn**	**20 02 59.1**	**-0.4**		
	9.4nm,0.4s									
DLMT	**Dillon**	**5.53**	**292**	*e*P		**Pb**	**20 03 16.4**	**+2.0**		
R27A	**Eads**	**5.58**	**159**	⇓P		**Pn**	**20 03 02.5**	**+1.3**		
	baz=5.5,SNR=19									
HRY	**Holter Researc**	**5.61**	**307**	*e*Pn		**Pn**	**20 03 01.6**	**+0.1**		
	12nm,0.4s									
MPU	**Maple Canyon**	**5.90**	**236**	*e*Pn		**Pn**	**20 03 07.5**	**+1.8**		
	6.1nm,0.6s									
SRU	**San Rafael**	**5.92**	**223**	*e*P		**Pn**	**20 03 07.0**	**+1.0**		
	11nm,0.5s									
S26A	**Kim**	**6.07**	**166**	⇑P		**Pn**	**20 03 09.1**	**+1.1**		
	baz=6.0,SNR=6.9									
TMUT	**Trail Mountain**	**6.14**	**228**	*e*Pn		**Pn**	**20 03 09.1**	**+0.1**		
	8.5nm,0.4s									
ECSD	**EROS Data Cent**	**6.30**	**85**	*e*Pn		**Pn**	**20 03 09.7**	**-1.3**		
	3.7nm,0.5s									
DUG	**Dugway**	**6.53**	**242**	*e*P		**Pn**	**20 03 15.8**	**+1.5**		
	2.9nm,0.6s									
HLID	**Hailey**	**6.62**	**273**	*e*Pn		**Pn**	**20 03 17.8**	**+2.2**		
	1.3nm,0.4s									
T28A	**Walsh**	**6.86**	**158**	⇓P		**Pn**	**20 03 19.6**	**+0.8**		
	baz=6.8,SNR=7.5									
B14A	**Marquette Ranc**	**7.36**	**314**	⇑P		**Pn**	**20 03 25.6**	**0.0**		
	baz=7.4,SNR=9.0									
ULM	**Lac du Bonnet**	**9.30**	**41**	Pn		**Pn**	**20 03 50.0**	**-2.2**		
	1.3nm,0.3s,baz=224,slow=13,SNR=6.0									
ULM				Lg		Lg	20 06 27.9			
	0.5nm,0.3s,baz=122,slow=17,SNR=1.9									
ULM	**Lac du Bonnet**	**9.30**	**41**	Pn		**Pn**	**20 03 50.0**	**-2.2**		
ULM				Lg		Lg	20 06 27.9			
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**P**	**20 06 07.8**	**-0.2**		
	0.1nm,0.4s,baz=153,slow=11,SNR=3.7									
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**P**	**20 06 07.8**	**-0.2**		

*ISCJB **07** 20:08:30.3±0.5,50°.31N±0°.03×18°.73E±0°.03,h0km, Error ellipse: s-maj=5.0km s-min=2.5km az=12.9*
*WAR **07** 20:08:30.9,50°.35N×18°.88E*
*CSEM **07** 20:08:31.4±0.3,50°.31N×18°.80E,h2km,ML2.8/8, Error ellipse: s-maj=7.3km s-min=3.1km az=5.0*
*IPEC **07** 20:08:31.8±0.1,50°.28N×18°.84E,h4km±1km,ML2.1/3, Error ellipse: s-maj=1.5km s-min=0.8km az=172.0*
*PRU **07** 20:08:32.5,50°.30N×18°.76E,h0km*
*VIE **07** 20:08:36.1±0.9,50°.27N×18°.33E,h0km,mb1.6/2,ML2.2/4, Error ellipse: s-maj=5.8km s-min=4.5km az=146.0 46 km W of Katowice Suspected Mining induced.*

ISC 07 20:08:30.3±0.8,50°.34N±0°.04×18°.84E±0°.02,h0km,n34, σ1§12/60,2C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.62**	**101**	*e*Pg	**Pb**	**20 08 43.1**	**-1.0**
OJC				*e*Sg	**Sb**	**20 08 52.7**	**-0.7**
OJC	**Ojcow**	**0.62**	**101**	*e*Pg	**Pb**	**20 08 42.9**	**-1.2**
	baz=276						
OJC				*e*Sg	**Sb**	**20 08 52.2**	**-1.2**
	baz=276						
OKC	**Ostrava-Krasne**	**0.68**	**222**	*e*PG	**Pb**	**20 08 44.3**	**-0.6**
OKC	**Ostrava-Krasne**	**0.68**	**222**	Pg	**Pb**	**20 08 44.3**	**-0.6**
MORC	**Moravsky Berou**	**1.01**	**236**	*e*Pg	**Pg**	**20 08 50.1**	**+0.5**
	baz=58						
MORC				*e*Sg	**Sg**	**20 09 03.3**	**+0.6**
	48nm,0.4s,baz=58						
NIE	**Niedzica**	**1.33**	**134**	*e*Pg	**Pn**	**20 08 56.2**	**+0.1**
NIE				*e*Sg	**Sn**	**20 09 14.4**	**-0.1**
NIE	**Niedzica**	**1.33**	**134**	*e*Pg	**Pn**	**20 08 56.2**	**+0.1**
NIE				*e*Sg	**Sn**	**20 09 14.4**	**-0.1**
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	**Pn**	**20 09 00.6**	**+0.6**
DPC				*e*SG	**Sb**	**20 09 22.5**	**+0.6**
	comp=Z,14nm,0.4s						
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*Pn	**Pn**	**20 09 00.0**	**0.0**
	baz=92						
DPC	**Dobruska-Polom**	**1.61**	**271**	Pg	**Pn**	**20 09 00.6**	**+0.6**
DPC				Sg	**Sb**	**20 09 22.5**	**+0.6**
	14nm,0.4s						
KSP	**Ksiaz**	**1.70**	**288**	*e*Pn	**Pn**	**20 09 01.1**	**-0.1**
KSP				*e*Pg	**Pg**	**20 09 03.6**	**+0.8**
KSP				*e*Sg	**Sg**	**20 09 25.8**	**+1.0**
VRAC	**Vranov**	**1.79**	**235**	*e*Pn	**Pn**	**20 09 02.7**	**+0.3**
	baz=55						
VRAC				*e*Sg	**Sb**	**20 09 26.8**	**0.0**
	14nm,0.5s,baz=55						
STHS	**Stebnicka Huta**	**1.81**	**120**	*e*PN	**Pg**	**20 09 05.1**	**+0.2**
STHS				*e*SN	**Sg**	**20 09 30.5**	**+2.2**
STHS	**Stebnicka Huta**	**1.81**	**120**	*e*Pn	**Pg**	**20 09 05.1**	**+0.2**
STHS				*e*Sn	**Sg**	**20 09 30.5**	**+2.2**
VYHS	**Vyhne**	**1.85**	**180**	*e*PN	**Pn**	**20 09 04.0**	**+0.7**
VYHS				*e*SN	**Sn**	**20 09 26.8**	**-0.5**
VYHS	**Vyhne**	**1.85**	**180**	*e*Pn	**Pn**	**20 09 03.8**	**+0.5**
	baz=0.2						
VYHS				*e*Sn	**Sn**	**20 09 26.8**	**-0.5**
KRUC	**Moravsky**	**2.04**	**232**	*e*Pn	**Pb**	**20 09 07.3**	**-0.9**
	baz=52						
KRUC				*e*Sg	**Sb**	**20 09 34.8**	**+0.7**
	8.1nm,0.4s,baz=52						
KECS	**Kecovo**	**2.15**	**149**	*e*PN	**Pn**	**20 09 07.5**	**+0.2**
KECS				*e*SN	**Sn**	**20 09 33.7**	**-1.0**
KECS	**Kecovo**	**2.15**	**149**	*e*Pn	**Pn**	**20 09 07.5**	**+0.2**
KECS				*e*Sn	**Sn**	**20 09 33.7**	**-1.0**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*PN	**Pg**	**20 09 11.9**	**-1.1**
CRVS				*e*SN	**Sg**	**20 09 40.2**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*Pn	**Pg**	**20 09 11.9**	**-1.1**
CRVS				*e*Sn	**Sb**	**20 09 40.2**	**+0.6**
KOLS	**Kolonicke sedl**	**2.64**	**121**	*e*SG	**Sg**	**20 09 56.3**	**+1.3**
KOLS	**Kolonicke sedl**	**2.64**	**121**	*e*Sg	**Sg**	**20 09 56.3**	**+1.3**
PRU	**Pruhonice**	**2.79**	**264**	*e*SG	**Sg**	**20 09 58.3**	**-1.5**
	comp=Z,5.5nm,0.5s						
PRU	**Pruhonice**	**2.79**	**264**	Sg	**Sg**	**20 09 58.3**	**-1.5**
	5.5nm,0.5s						
CONA	**Conrad Observa**	**3.11**	**220**	⇓*i*Sn	**Sn**	**20 09 58.7**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**20 10 10.0**	**-0.1**
	2.2nm,0.3s						
CONA	**Conrad Observa**	**3.11**	**220**	Sn	**Sn**	**20 09 58.7**	**+0.2**
CONA				Sg	**Sg**	**20 10 10.0**	**-0.1**
	2.2nm,0.3s						
BRG	**Berggiesshubel**	**3.17**	**282**	PG	**Pg**	**20 09 29.7**	**-1.2**
BRG				SG	**Sg**	**20 10 12.2**	**+0.3**
	4.4nm,0.4s						
KHC	**Kasperske Hory**	**3.62**	**252**	*e*PN	**Pn**	**20 09 30.5**	**+2.9**
KHC				*e*PG	**Pg**	**20 09 41.0**	**+1.3**
KHC				*e*SG	**Sg**	**20 10 24.1**	**-2.5**
	comp=Z,4.8nm,0.5s						
KHC	**Kasperske Hory**	**3.62**	**252**	Pn	**Pn**	**20 09 30.5**	**+2.9**
KHC	**Kasperske Hory**	**3.62**	**252**	Pg	**Pg**	**20 09 41.0**	**+1.3**
KHC				Sg	**Sg**	**20 10 24.1**	**-2.5**
	4.8nm,0.5s						
CLL	**Collm**	**3.83**	**287**	*e*Pg	**Pg**	**20 09 44.0**	**+0.4**
CLL				*e*Sg	**Sg**	**20 10 33.0**	**-0.1**
MOA	**Molln**	**3.91**	**232**	⇑*i*Sg	**Sg**	**20 10 34.5**	**-1.3**
	4.9nm,0.5s						
MOA	**Molln**	**3.91**	**232**	Sg	**Sg**	**20 10 34.5**	**-1.3**
	4.9nm,0.5s						

CASC 07 20:14:10.2±0.7,9°.02N×83°.94W,h11km±6km,MD3.5, 2C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QCR	**Quepos**	**0.46**	**331**	⇑*e*P	Pb	20 10 19.9	-0.5
QCR				*e*S	Sb	20 10 26.6	-0.6
BUS	**Buena Vista**	**0.56**	**19**	⇓*e*P	Pg	20 10 21.8	0.0
BUS				*e*S	Sb	20 10 31.0	-0.1
URSC	**Urasca**	**0.82**	**11**	⇓*i*P	Pg	20 10 25.9	-0.4
ACR	**Cerro Adams**	**0.85**	**116**	⇓*e*P	Pg	20 10 25.5	-1.2
ACR				*e*S	Sg	20 10 38.0	+0.3
LAJ	**Bijagual**	**0.85**	**348**	⇓*e*P	Pg	20 10 26.6	-0.4
BRU2	**Volcan**	**1.25**	**100**	*e*P	Pn	20 10 32.7	-1.2
TBS2		**1.29**	**100**	*e*P	Pn	20 10 33.8	-0.6
PTP	**Ponta Puerca**	**20.01**	**61**	*e*P	x	20 10 39.8	

*DJA **07** 20:17:43,4°.27S×129°.36E,h10km,MLv3.8/6*
IDC 07 20:17:39.8±1.1,4°.57S×129°.07E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.7/18,mbtmp3.7/7,Error ellipse: s-maj=58.4km s-min=18.5km az=63.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.87**	**194**	Pn	Pn	20 20 56.5	-1.3
	0.2nm,0.3s,baz=32,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**16.12**	**162**	Pn	Pn	20 21 24.2	-3.9
	0.1nm,0.3s,baz=331,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**19.55**	**167**	P	Pn	20 22 10.4	-0.2
	0.6nm,0.3s,baz=349,slow=11,SNR=49						
CTA	**Charters Tower**	**22.76**	**134**	P	P	20 22 44.1	+0.1
	4.9nm,0.7s,baz=296,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**29.60**	**158**	P	P	20 23 46.3	-0.5
	0.6nm,0.3s,baz=349,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**37.48**	**308**	P	P	20 24 56.4	+0.8
	0.3nm,0.7s,baz=129,slow=7.2,SNR=3.3						
SONM	**Songino Array**	**55.85**	**342**	P	P	20 27 19.6	+0.3
	0.5nm,1.0s,baz=169,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**65.69**	**327**	P	P	20 28 25.4	-0.9
	0.4nm,0.6s,baz=119,slow=5.1,SNR=6.9						

IDC 07 20:31:06.0±2.0,5°.65N×126°.06E,h79km±23km,mb3.3/4, mb1 3.5/4,mb1mx3.1/20,mbtmp3.3/4,MS3.1/3,Ms1 3.2/3, ms1mx2.6/20,Error ellipse: s-maj=110.3km s-min=17.9km az=70.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.49**	**341**	P	Pn	20 31 30.6	-0.5
	107nm,0.3s,baz=113,slow=2.4,SNR=21						
DAV				S	Sn	20 31 54.7	+4.7
	134nm,0.3s,baz=101,slow=23,SNR=8.6						
FITZ	**Fitzroy Crossi**	**23.61**	**181**	P	P	20 36 10.7	+0.7
	3.3nm,0.9s,baz=9.5,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**26.71**	**162**	P	P	20 36 38.4	+0.3
	1.0nm,0.6s,baz=342,slow=10,SNR=9.5						
CMAR	**Chiang Mai Arr**	**29.36**	**298**	LR	LR	20 49 37.7	
	comp=Z,25nm,19.9s,baz=165,slow=38						
ASAR	**Alice Springs**	**30.13**	**166**	P	P	20 37 07.8	-0.7
	0.2nm,0.3s,baz=336,slow=7.5,SNR=7.9						
KSRS	**Korea Array**	**31.70**	**3**	LR	LR	20 50 37.2	
	comp=Z,33nm,18.2s,baz=5.1,slow=37						
MJAR	**Matsushiro Arr**	**32.70**	**18**	LR	LR	20 50 13.8	
	comp=Z,50nm,18.4s,baz=30,slow=35						
MKAR	**Makanchi Array**	**55.61**	**325**	P	P	20 40 33.9	+0.2
	0.2nm,0.4s,baz=122,slow=6.8,SNR=5.3						
MKAR				PcP	PcP	20 41 33.3	+0.9
	0.4nm,0.7s,baz=106,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**121.67**	**289**	PKP	PKPdf	20 49 50.0	-1.8
	0.3nm,0.8s,baz=58,slow=1.8,SNR=4.9						

*NEIC **07** 20:33:06.3±1.6,14°.42S×167°.19E,h165km±14km,mb4.5/6, Error ellipse: s-maj=18.3km s-min=11.8km az=168.0*
*IDC **07** 20:33:09.9±1.8,14°.55S×167°.11E,h199km±17km, mb3.8/12,mb1 3.9/13,mb1mx3.8/22,mbtmp3.8/13,Error ellipse: s-maj=19.8km s-min=10.8km az=149.0*

ISC 07 20:33:04.5±1.2,14°.37S±0°.09×167°.6E±0°.1,h200km,n61, σ1§91/36,mb4.1/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.74**	**188**	P	**Pn**	**20 34 55.4**	**+1.0**
	4.6nm,0.3s,baz=32,slow=21,SNR=21						
DZM				S	**Sn**	**20 36 21.5**	**-0.4**
	3.9nm,0.3s,baz=136,slow=21,SNR=3.4						
DZM	**Mont Dzumac**	**7.74**	**188**	*e*P	**Pn**	**20 34 54.6**	**+0.2**
DZM				*e*S	**Sn**	**20 36 19.5**	**-2.4**
DZM	**Mont Dzumac**	**7.74**	**188**	P	**Pn**	**20 34 55.4**	**+1.0**
DZM				S	**Sn**	**20 36 21.5**	**-0.4**
EIDS	**Eidsvold**	**18.98**	**232**	*e*P	**Pn**	**20 37 13.7**	**-0.4**
	23nm,0.6s						
AFI	**Afiamalu**	**20.01**	**91**	P	Pn	20 37 32.1	+5.4
	36nm,0.6s,baz=321,slow=23,SNR=4.9						
AFI	**Afiamalu**	**20.01**	**91**	P	Pn	20 37 32.1	+5.4

PMG	**Port Moresby**	**20.59**	**282**	P		**P**	**20 37 29.4**	**+1.1**		
	20nm,0.8s,baz=80,slow=2.2,SNR=8.3									
PMG	**Port Moresby**	**20.59**	**282**	*e*P		**P**	**20 37 29.6**	**+1.3**		
	23nm,0.9s									
CTA	**Charters Tower**	**21.15**	**251**	P		**P**	**20 37 35.1**	**+0.8**		
	12nm,0.7s,baz=81,slow=12,SNR=13									
CTA	**Charters Tower**	**21.15**	**251**	*e*P		**P**	**20 37 35.2**	**+1.0**		
	9.7nm,0.6s									
CTA	**Charters Tower**	**21.15**	**251**	P		**P**	**20 37 35.1**	**+0.8**		
CTAO	**Charters Tower**	**21.15**	**251**	*e*P		**P**	**20 37 34.8**	**+0.6**		
	16nm,0.8s									
ARMA	**Armidale**	**21.70**	**220**	*e*P		**P**	**20 37 42.6**	**+2.7**		
STKA	**Stephens Creek**	**29.46**	**229**	P		P	20 38 53.0	+3.1		
	5.0nm,0.5s,baz=48,slow=9.3,SNR=20									
STKA				PcP		PcP	20 41 54.9	+4.5		
	3.1nm,0.7s,baz=42,slow=4.3,SNR=4.3									
STKA	**Stephens Creek**	**29.46**	**229**	*e*P		P	20 38 52.7	+2.9		
	4.5nm,0.5s									
STKA	**Stephens Creek**	**29.46**	**229**	P		P	20 38 53.0	+3.1		
STKA				PcP		PcP	20 41 54.9	+4.5		
WRAB	**Tennant Creek**	**32.21**	**255**	*e*P		**P**	**20 39 14.2**	**+0.1**		
	3.1nm,0.7s									
WRA	**Warramunga Arr**	**32.22**	**255**	P		**P**	**20 39 14.2**	**+0.1**		
	2.5nm,0.7s,baz=85,slow=9.0,SNR=16									
WRA				S		**S**	**20 44 09.8**	**-2.8**		
	1.4nm,1.0s,baz=90,slow=13,SNR=5.0									
WRA	**Warramunga Arr**	**32.22**	**255**	P		**P**	**20 39 14.2**	**+0.1**		
WRA				S		**S**	**20 44 09.8**	**-2.8**		
AS31	**Alice Springs**	**33.09**	**249**	*e*P		**P**	**20 39 21.5**	**-0.3**		
ASAR	**Alice Springs**	**33.09**	**249**	P		**P**	**20 39 22.5**	**+0.7**		
	4.1nm,0.6s,baz=76,slow=8.9,SNR=73									
ASAR				S		**S**	**20 44 23.4**	**-2.7**		
	0.4nm,0.8s,baz=91,slow=14,SNR=5.6									
ASAR	**Alice Springs**	**33.09**	**249**	P		**P**	**20 39 22.5**	**+0.7**		
ASAR				S		**S**	**20 44 23.4**	**-2.7**		
FITZ	**Fitzroy Crossi**	**40.39**	**259**	P		**P**	**20 40 25.3**	**+1.9**		
	4.0nm,0.6s,baz=161,slow=10,SNR=10									
FITZ	**Fitzroy Crossi**	**40.39**	**259**	P		**P**	**20 40 25.3**	**+1.9**		
PETK	**Petropavlovsk-**	**67.74**	**354**	P		P	20 43 45.0	+4.8		
	3.1nm,0.7s,baz=151,slow=7.6,SNR=7.0									
PETK	**Petropavlovsk-**	**67.74**	**354**	P		P	20 43 45.0	+4.8		
CMAR	**Chiang Mai Arr**	**75.09**	**294**	P		P	20 44 29.1	+4.1		
	0.5nm,0.6s,baz=132,slow=4.7,SNR=5.5									
CMAR	**Chiang Mai Arr**	**75.09**	**294**	P		P	20 44 29.1	+4.1		
QSPA	**South Pole Qui**	**75.66**	**180**	*e*P		P	20 44 31.5	+4.1		
	12nm,1.2s									
SONM	**Songino Array**	**82.40**	**323**	P		P	20 45 09.9	+5.6		
	0.3nm,0.4s,baz=146,slow=5.0,SNR=8.9									
SONM	**Songino Array**	**82.40**	**323**	P		P	20 45 09.9	+5.6		
LSA	**Lhasa**	**85.64**	**302**	*e*P		P	20 45 26.9	+5.4		
	0.9nm,0.3s									
SNAA	**Sanae**	**93.92**	**183**	*e*		P	20 46 04.2	+5.1		
VNA3	**Neumayer Olymp**	**94.58**	**181**	*e*		P	20 46 06.0	+4.0		
VNA2	**Neumayer--Wadd**	**94.85**	**182**	*e*		P	20 46 07.6	+4.3		
	baz=175,slow=4.2									
YKA	**Yellowknife Ar**	**97.08**	**27**	P		Pdif	20 46 18.6	+5.2		
	0.3

THZ	**Tophouse**	**5.40**	**217**	*e*PN	Pn	20 37 07.2	-4.6
THZ				SN	Sn	20 38 07.4	-5.7
KHZ	**Kahutara**	**5.65**	**209**	SN	Sn	20 38 12.9	-6.1
LTZ	**Lake Taylor**	**6.49**	**214**	SN	Sn	20 38 30.7	-8.5
MQZ	**McQueen's Vall**	**7.09**	**208**	SN	Sn	20 38 42.5	-11
CTZ	**Chatham Island**	**7.76**	**145**	PN	Pn	20 37 46.2	+2.9

*DJA **07** 20:44:40, 1.07S×131.20E, h96km, MLv3.5/4*
IDC 07 20:44:37.7±2.7, 0.10S×132.80E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=145.0km s-min=26.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.77**	**176**	P	P	20 49 09.9	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**23.45**	**177**	P	P	20 49 48.7	-0.3
	1.2nm,0.7s,baz=1.3,slow=9.6,SNR=8.5						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	20 55 14.3	0.0
	0.2nm,0.6s,baz=118,slow=8.4,SNR=2.9						

IDC 07 20:49:16.1±3.6, 0.89S×130.34E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=262.7km s-min=25.7km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.34**	**169**	P	P	20 53 42.9	-0.4
	0.0nm,0.3s,baz=353,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.91**	**172**	P	P	20 54 22.0	+0.2
	0.3nm,0.4s,baz=353,slow=9.2,SNR=9.1						
MKAR	**Makanchi Array**	**63.38**	**325**	P	P	20 59 47.5	0.0
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.5						

*IDC **07** 21:00:35.0±1.2, 6.91S×105.26E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.8/11, Error ellipse: s-maj=53.5km s-min=16.6km az=52.0*
*NEIC **07** 21:00:39.9±0.8, 6.97S×105.22E, h35km, mb3.9/3, Error ellipse: s-maj=39.8km s-min=8.0km az=49.0*
*DJA **07** 21:00:39, 7.24S×105.18E, h10km, MLv4.3/18*
ISC 07 21:00:38.2±0.8, 7.1S±0.1×105.20E±0.08, h23km, n42, σ0.83/42, mb3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.68**	**46**	P	**Pn**	**21 00 53.5**	**+1.1**
SBJI	**Serang**	**1.33**	**44**	P	Pb	21 01 08.1	+5.6
SKJI	**Sukabumi**	**1.35**	**86**	P	**Pb**	**21 01 03.9**	**+1.2**
CBJI	**Citeko**	**1.77**	**68**	P	**Pb**	**21 01 10.2**	**+0.3**
KLI	**Kotabumi**	**2.24**	**351**	P	Pb	21 01 26.0	+8.0
LWLI	**Liwa**	**2.35**	**331**	P	**Pb**	**21 01 21.7**	**+1.7**
LEM	**Lembang**	**2.41**	**84**	P	**Pb**	**21 01 21.8**	**+0.8**
CISI	**Cisompet, Garu**	**2.63**	**100**	P	**Pb**	**21 01 24.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**26.13**	**346**	P	**P**	**21 06 10.6**	**-0.1**
	0.5nm,0.6s,baz=183,slow=8.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**26.13**	**346**	P	**P**	**21 06 10.6**	**-0.1**
WRA	**Warramunga Arr**	**31.01**	**117**	P	**P**	**21 06 54.8**	**+0.5**
	0.6nm,0.5s,baz=306,slow=9.1,SNR=8.3						
WRA	**Warramunga Arr**	**31.01**	**117**	P	**P**	**21 06 54.8**	**+0.5**
WRAB	**Tennant Creek**	**31.01**	**117**	*e*P	**P**	**21 06 54.3**	**0.0**
	1.5nm,0.7s						
WB2	**Warramunga Arr**	**31.02**	**117**	*e*P	**P**	**21 06 54.9**	**+0.5**
ASAR	**Alice Springs**	**32.10**	**124**	P	**P**	**21 07 04.8**	**+0.9**
	0.3nm,0.6s,baz=297,slow=7.5,SNR=4.0						
ASAR	**Alice Springs**	**32.10**	**124**	P	**P**	**21 07 04.8**	**+0.9**
ODAN	**Odare**	**37.91**	**334**	*e*P	**P**	**21 07 53.6**	**-0.5**
	3.6nm,0.5s						
TAPN	**Taplejung**	**38.20**	**334**	*e*P	**P**	**21 07 56.8**	**+0.2**
RAMN	**Ramite**	**38.34**	**333**	*e*P	**P**	**21 07 58.1**	**+0.3**
	1.9nm,0.3s						
JIRN	**Jiri**	**39.13**	**333**	*e*P	**P**	**21 08 04.4**	**-0.2**
	2.4nm,0.3s						
PKI	**Pulchoki**	**39.42**	**332**	*e*P	**P**	**21 08 05.7**	**-1.2**
GUN	**Gumba**	**39.49**	**333**	*e*P	**P**	**21 08 06.2**	**-1.3**
	2.9nm,0.3s						
DMN	**Daman**	**39.60**	**331**	*e*P	**P**	**21 08 07.8**	**-0.5**
GKN	**Gorkha**	**40.15**	**331**	*e*P	**P**	**21 08 11.6**	**-1.2**
	3.4nm,0.3s						
KOLN	**Koldanda**	**40.46**	**330**	*e*P	**P**	**21 08 15.4**	**0.0**
	5.5nm,0.5s						
STKA	**Stephens Creek**	**41.92**	**131**	P	**P**	**21 08 28.7**	**+1.6**
	1.8nm,0.7s,baz=10,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**41.92**	**131**	*e*P	**P**	**21 08 28.6**	**+1.4**
	0.3nm,0.6s						
SONM	**Songino Array**	**54.70**	**1**	P	**P**	**21 10 05.1**	**-0.5**
	0.4nm,0.4s,baz=179,slow=9.2,SNR=12						
SONM				PcP	**PcP**	**21 11 07.7**	**-0.4**
	0.7nm,0.6s,baz=178,slow=4.3,SNR=9.8						
SONM	**Songino Array**	**54.70**	**1**	P	**P**	**21 10 05.1**	**-0.5**
SONM				PcP	**PcP**	**21 11 07.7**	**-0.4**
USRK	**Ussuriysk Arra**	**56.50**	**23**	P	**P**	**21 10 16.9**	**-1.4**
	1.6nm,0.5s,baz=205,slow=5.2,SNR=14						
MKAR	**Makanchi Array**	**57.38**	**341**	P	**P**	**21 10 24.3**	**-0.4**
	0.4nm,0.4s,baz=152,slow=8.1,SNR=15						
MKAR	**Makanchi Array**	**57.38**	**341**	P	**P**	**21 10 24.3**	**-0.4**
KURK	**Kurchatov**	**61.99**	**341**	P	**P**	**21 10 55.8**	**-0.5**
	0.3nm,0.3s,baz=154,slow=5.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**63.19**	**347**	P	**P**	**21 11 03.0**	**-1.3**
	0.8nm,0.4s,baz=146,slow=5.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**63.19**	**347**	P	**P**	**21 11 03.0**	**-1.3**
BVAR	**Borovoye Array**	**66.77**	**338**	P	**P**	**21 11 27.2**	**-0.4**
	1.9nm,0.5s,baz=139,slow=9.1,SNR=23						
BVAR	**Borovoye Array**	**66.77**	**338**	P	**P**	**21 11 27.2**	**-0.4**
ABKAR	**Akbulak array**	**68.59**	**330**	*e*P	**P**	**21 11 38.0**	**-1.1**
	1.3nm,0.4s						
BRTR	**Keskin Array B**	**80.56**	**312**	P	**P**	**21 12 49.1**	**0.0**
	0.7nm,0.6s,baz=135,slow=7.0,SNR=5.0						
BRTR	**Keskin Array B**	**80.56**	**312**	P	**P**	**21 12 49.1**	**0.0**
TXAR	**Lajitas Array**	**144.95**	**47**	PKP	**PKPab**	**21 20 13.5**	**0.0**
	0.5nm,0.4s,baz=324,slow=1.4,SNR=8.9						
TXAR	**Lajitas Array**	**144.95**	**47**	PKP	**PKPab**	**21 20 13.5**	**0.0**

*IDC **07** 21:08:15.9±2.9, 43.30N×105.20W, h0km, mb2.6/1, mb1 3.5/3, mb1mx3.2/25, mbtmp3.2/3, ML4.4/1, Error ellipse: s-maj=66.9km s-min=9.5km az=155.0*
*NEIC **07** 21:08:19.1±0.7, 43.53N×105.12W, h0km, ML3.1, Error ellipse: s-maj=10.9km s-min=5.8km az=138.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] WSW of Newcastle.
ISC 07 21:08:19.8±0.6, 43.68N±0.02×105.27W±0.02, h0km, n108, σ1.50/137, 33C-49D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.31**	**334**	P	**Pg**	**21 08 25.4**	**-0.3**
	baz=0.5,SNR=262						
I23A				⇓S	**Sg**	**21 08 28.2**	**-1.5**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.35**	**216**	P	**Pg**	**21 08 26.9**	**+0.6**
	baz=0.3,SNR=486						
J23A				⇓S	**Sg**	**21 08 31.1**	**+0.2**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.50**	**69**	P	**Pg**	**21 08 29.7**	**+0.3**
	baz=0.5,SNR=141						
J24A	**Dixon Ranch, L**	**0.57**	**128**	P	**Pg**	**21 08 31.4**	**+0.7**
	baz=0.4,SNR=58						
J24A				⇓S	**Sg**	**21 08 40.3**	**+2.3**
	baz=0.4						
H23A	**Clabaugh Cattl**	**0.88**	**354**	⇑P	**Pg**	**21 08 35.4**	**-1.3**
	baz=1.1,SNR=25						
I22A	**9 Mile Ranch,**	**0.90**	**284**	P	**Pg**	**21 08 36.0**	**-1.1**
	baz=1.0,SNR=414						
J22A	**Midwest**	**0.92**	**253**	⇑P	**Pg**	**21 08 36.2**	**-1.2**
	baz=1.0,SNR=199						
K23A	**Bowen Ranch, D**	**0.96**	**196**	⇓P	**Pb**	**21 08 38.2**	**-1.2**
	baz=0.9						
RSSD	**Black Hills**	**0.99**	**63**	*e*P	**Pg**	**21 08 38.5**	**-0.3**
RSSD				*e*S	**Sb**	**21 08 52.7**	**-1.1**
K24A	**Anderson Ranch**	**1.02**	**161**	P	**Pn**	**21 08 39.4**	**-2.0**
	baz=0.8,SNR=149						
H24A	**Dirks Ranch, A**	**1.18**	**26**	⇓P	**Pg**	**21 08 40.8**	**-1.7**
	baz=1.3,SNR=310						
H24A				⇑S	**Sg**	**21 08 57.6**	**-0.2**
	baz=1.3						
H22A	**Clearmont**	**1.20**	**320**	⇓P	**Pg**	**21 08 41.2**	**-1.5**
	baz=1.4,SNR=99						
K22A	**Casper**	**1.38**	**222**	⇓P	**Pg**	**21 08 45.0**	**-1.2**
	baz=1.3,SNR=12						
K22A				⇑S	**Sb**	**21 09 04.3**	**-0.5**
	baz=1.3						
I21A	**Big Trails, Te**	**1.47**	**276**	⇓P	**Pn**	**21 08 45.2**	**-2.5**
	baz=1.6						
I21A				⇓S	**Sb**	**21 09 05.6**	**-1.8**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.48**	**136**	⇑P	**Pb**	**21 08 48.2**	**0.0**
	baz=1.3,SNR=96						
G23A	**Biddle**	**1.52**	**357**	⇑P	**Pn**	**21 08 46.5**	**-1.8**
	baz=1.7,SNR=76						
H21A	**Big Horn, Sher**	**1.59**	**307**	⇓P	**Pn**	**21 08 48.0**	**-1.3**
	baz=1.8,SNR=81						
L23A	**Garrett**	**1.60**	**192**	⇓P	**Pg**	**21 08 49.1**	**-1.3**
	baz=1.5,SNR=116						
J21A	**Lysite**	**1.62**	**259**	⇑P	**Pn**	**21 08 48.1**	**-1.6**
	baz=1.7,SNR=53						
L24A	**Wheatland**	**1.66**	**171**	⇓P	**Pg**	**21 08 50.5**	**-1.1**
	baz=1.5,SNR=15						
G22A	**Birney**	**1.70**	**335**	⇑P	**Pn**	**21 08 49.9**	**-0.9**
	baz=1.9,SNR=132						
G24A	**Alzada**	**1.75**	**20**	⇓P	**Pn**	**21 08 51.1**	**-0.5**
	baz=1.9,SNR=37						
K21A	**Alcova**	**1.79**	**235**	⇓P	**Pn**	**21 08 51.9**	**-0.2**
	baz=1.8,SNR=182						
K21A				⇑Sb	**Sg**	**21 09 16.8**	**-0.4**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.80**	**147**	⇓P	**Pg**	**21 08 53.5**	**-0.9**
	baz=1.6,SNR=121						
L25A				⇑Sb	**Sg**	**21 09 19.7**	**+2.0**
	baz=1.6						
K26A	**Motz Farm, Whi**	**1.82**	**122**	⇓P	**Pg**	**21 08 53.1**	**-1.5**
	baz=1.6,SNR=30						
L22A	**Ellis Ranch, M**	**1.86**	**208**	⇓P	**Pb**	**21 08 53.2**	**-1.5**
	baz=1.8,SNR=14						
L22A				⇓Sb	**Sg**	**21 09 19.8**	**+0.3**
	baz=1.8						
F23A	**Volborg**	**2.04**	**357**	P	**Pn**	**21 08 54.7**	**-0.8**
	baz=2.2,SNR=130						
F23A				⇓Sb	**Sn**	**21 09 23.6**	**+1.9**
	baz=2.2						
J20A	**Shoshoni**	**2.07**	**262**	⇑Pb	**Pn**	**21 08 56.9**	**+1.0**
	baz=2.2						
G21A	**Lodge Grass**	**2.07**	**319**	⇑P	**Pn**	**21 08 55.0**	**-1.0**
	baz=2.3,SNR=34						
G21A				⇑Sb	**Sn**	**21 09 24.1**	**+1.5**
	baz=2.3						
I20A	**Worland**	**2.08**	**278**	⇓P	**Pn**	**21 08 55.7**	**-0.4**
	baz=2.2,SNR=324						
I20A				⇓Sb	**Sn**	**21 09 23.9**	**+1.1**
	baz=2.2						
H20A	**Greybull**	**2.12**	**293**	⇑P	**Pn**	**21 08 55.7**	**-1.0**
	baz=2.3,SNR=92						
F22A	**Rosebud**	**2.21**	**342**	⇓P	**Pn**	**21 08 56.8**	**-1.0**
	baz=2.4,SNR=78						
F24A	**Ekalaka**	**2.24**	**15**	⇓Sb	**Sb**	**21 09 29.9**	**+0.4**
	baz=2.4						
PHWY	**Pilot Hill**	**2.38**	**183**	*e*Pn	**Pb**	**21 09 01.4**	**-2.3**
RWWY	**Rawlins**	**2.45**	**216**	*e*Pn	**Pn**	**21 08 59.3**	**-2.0**
F21A	**Absaloka Mine,**	**2.51**	**329**	⇑Sb	**Sb**	**21 09 36.9**	**-0.4**
	baz=2.7						
G20A	**Bridger**	**2.61**	**307**	P	**Pn**	**21 09 01.9**	**-1.4**
	baz=2.8,SNR=152						
E22A	**Miles City**	**2.80**	**350**	⇓P	**Pn**	**21 09 04.3**	**-1.5**
	baz=3.0,SNR=6.3						
E23A	**Ismay**	**2.81**	**360**	⇓P	**Pn**	**21 09 05.1**	**-1.0**
	baz=3.0,SNR=7.9						
N23A	**Red Feather La**	**2.83**	**190**	⇓P	Pb	21 09 07.5	-3.8
	baz=2.7						
H19A	**Powell**	**2.85**	**292**	⇓P	**Pn**	**21 09 06.0**	**-0.6**
	baz=3.0,SNR=16						
F20A	**Billings**	**2.95**	**317**	⇓P	**Pn**	**21 09 06.5**	**-1.4**
	baz=3.1,SNR=13						
E24A	**Baker**	**2.96**	**13**	⇑P	**Pn**	**21 09 07.7**	**-0.3**
	baz=3.1,SNR=19						
N22A	**Wattenberg Ran**	**3.01**	**197**	⇓Pb	**Pb**	**21 09 13.7**	**-0.8**
	baz=2.9						
M20A	**Sweetwater, Wa**	**3.07**	**225**	⇓Pb	**Pb**	**21 09 14.7**	**-0.8**
	baz=3.0						
E21A	**Keefer Ranch,**	**3.13**	**337**	⇓P	**Pn**	**21 09 08.6**	**-1.8**
	baz=3.3						
RLMT	**Red Lodge**	**3.20**	**298**	*e*Pn	**Pn**	**21 09 11.0**	**-0.6**
RLMT				*e*Sn	**Sb**	**21 09 55.9**	**-1.4**
RLMT	**Red Lodge**	**3.20**	**298**	⇑P	**Pn**	**21 09 10.8**	**-0.8**
	baz=3.4						
RLMT				⇑P	**Pn**	**21 09 10.8**	**-0.8**
	baz=3.4						
BW06	**Boulder Array**	**3.26**	**255**	*e*Pn	**Pn**	**21 09 12.3**	**-0.1**
BW06				*e*Sn	**Sn**	**21 09 55.4**	**+3.3**
BW06	**Boulder Array**	**3.26**	**255**	⇓P	**Pn**	**21 09 12.4**	**-0.1**
	baz=3.3,SNR=40						
BW06				⇓P	**Pn**	**21 09 12.4**	**-0.1**
	baz=3.3,SNR=40						
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**21 09 12.3**	**-0.1**
	5.0nm,0.3s,baz=73,slow=16,SNR=82						
PDAR				Pg	**Pb**	**21 09 17.1**	**-1.7**
	10.0nm,0.3s,baz=73,slow=18,SNR=66						
PDAR				Lg	Lg	21 09 56.7	
	13nm,0.3s,baz=79,slow=34,SNR=7.4						
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**21 09 12.3**	**-0.1**
PDAR				Pg	**Pb**	**21 09 17.1**	**-1.7**
PDAR				Lg		21 09 56.7	
PD02	**Pinedale Array**	**3.27**	**255**	*e*Pn	**Pn**	**21 09 12.6**	**+0.1**
PD02				*e*Sn	**Sb**	**21 09 56.4**	**-2.7**
PD01	**Pinedale Array**	**3.28**	**255**	*e*Pn	**Pn**	**21 09 12.8**	**+0.2**
PD01				*e*Sn	**Sn**	**21 09 53.8**	**+1.4**
H18A	**Shoshone NF, C**	**3.31**	**289**	⇑P	**Pn**	**21 09 12.0**	**-1.1**
	baz=3.5,SNR=11						
F19A	**Roth Farm, Mol**	**3.40**	**311**	⇑P	**Pn**	**21 09 13.2**	**-0.9**
	baz=3.6,SNR=16						
E20A	**Meyer Farm, Mu**	**3.47**	**325**	⇓P	**Pn**	**21 09 13.0**	**-2.2**
	baz=3.7,SNR=6.6						
G18A	**Lazy EL Ranch,**	**3.48**	**299**	⇓P	**Pn**	**21 09 14.4**	**-0.9**
	baz=3.6,SNR=13						
D24A	**Glendive**	**3.50**	**11**	⇑P	**Pn**	**21 09 15.0**	**-0.4**
	baz=3.6,SNR=14						
N27A	**Anderson Farm,**	**3.52**	**144**	⇓P	**Pn**	**21 09 16.0**	**+0.2**
	baz=3.3,SNR=8.5						
D22A	**Cohagen**	**3.52**	**350**	⇑P	**Pn**	**21 09 14.7**	**-1.1**
	baz=3.7,SNR=11						
D21A	**La Casta Ranch**	**3.59**	**341**	⇑P	**Pn**	**21 09 15.7**	**-1.1**
	baz=3.8						
OGNE	**Ogallala**	**3.64**	**138**	*e*Pn	Pn	21 09 12.7	-4.8
OGNE				*e*S	**Sn**	**21 09 59.7**	**-1.5**
OGNE	**Ogallala**	**3.64**	**138**	⇑P	**Pn**	**21 09 18.5**	**+1.1**
	baz=3.5						
F18A	**Big Timber**	**3.87**	**307**	⇓P	**Pn**	**21 09 20.1**	**-0.5**
	baz=4.0,SNR=6.6						
LOHW	**Long Hollow**	**3.87**	**271**	*e*Pn	**Pn**	**21 09 22.5**	**+1.8**
LOHW				*e*Sn	**Sn**	**21 10 09.0**	**+2.0**
ISCO	**Idaho Springs**	**3.89**	**184**	*e*Pn	**Pn**	**21 09 22.0**	**+0.9**
ISCO				*e*Sn	Sn	21 09 60.0	-7.6
ISCO	**Idaho Springs**	**3.89**	**184**	⇓P	**Pn**	**21 09 21.9**	**+0.8**
	baz=3.7						
C24A	**Savage**	**3.89**	**8**	⇓P	**Pn**	**21 09 20.6**	**-0.2**
	baz=4.0,SNR=6.2						
FLWY	**Flagg Ranch**	**3.94**	**278**	*e*Pn	**Pn**	**21 09 21.9**	**+0.2**
FLWY				*e*Sn	**Sn**	**21 10 11.2**	**+2.3**
D20A	**Manuel Ranch,**	**3.96**	**330**	⇓P	**Pn**	**21 09 20.4**	**-1.4**
	baz=4.1,SNR=23						
SNOW	**Snow King Moun**	**3.99**	**269**	*e*Pn	**Pn**	**21 09 23.9**	**+1.5**
SNOW				*e*Sn	**Sn**	**21 10 11.7**	**+1.6**
N19A	**John Jarvie Ra**	**4.02**	**227**	⇓P	**Pn**	**21 09 22.7**	**-0.1**
	baz=4.0,SNR=6.1						
C22A	**Vida**	**4.08**	**354**	⇑P	**Pn**	**21 09 23.3**	**-0.2**
	baz=4.3,SNR=17						
C23A	**Lambert**	**4.12**	**1**	⇑P	**Pn**	**21 09 23.9**	**-0.1**
	baz=4.3,SNR=38						
YMR	**Madison River**	**4.21**	**285**	*e*Pn	Pn	21 09 28.2	+2.7
YMR				*e*Sn	**Sn**	**21 10 20.2**	**+4.8**
G17A	**Pierce Place,**	**4.24**	**295**	⇑P	**Pn**	**21 09 25.4**	**-0.4**
	baz=4.4,SNR=7.8						
DCID1	**Drake Creek**	**4.29**	**271**	*e*Pn	**Pn**	**21 09 27.6**	**+1.1**
P26A	**Davis Ranch, A**	**4.37**	**160**	⇑P	**Pn**	**21 09 28.5**	**+1.0**
	baz=4.2,SNR=7.6						
E18A	**Harlowton**	**4.37**	**313**	⇑P	**Pn**	**21 09 26.8**	**-0.8**
	baz=4.5						
RRI2	**Red Ridge**	**4.41**	**268**	*e*Pn	**Pn**	**21 09 28.8**	**+0.5**
F17A	**Fitzpatrick Pl**	**4.43**	**302**	⇑P	**Pn**	**21 09 27.8**	**-0.6**
	baz=4.6,SNR=24						
SMCO	**Snowmass**	**4.68**	**196**	*e*Pn	Pn	21 09 27.8	-4.3
SMCO				*e*Sn	**Sn**	**21 10 21.6**	**-5.7**
C19A	**Slack Wire Ran**	**4.84**	**328**	⇑P	**Pn**	**21 09 32.7**	**-1.2**
	baz=5.0,SNR=9.4						
DGMT	**Dagmar**	**4.85**	**9**	*e*Pn	**Pn**	**21 09 34.7**	**+0.7**
DGMT				*e*Pg	Pg	21 09 49.8	-2.8
DGMT				*e*Sn	**Sn**	**21 10 34.8**	**+4.0**
BOZ	**Bozeman (W)**	**4.94**	**296**	*e*Pn	**Pn**	**21 09 33.6**	**-1.8**
	5.6nm,0.3s						
BOZ				*e*Sn	Sn	21 10 39.2	+5.9
N17A	**Moffit Pass**	**4.95**	**238**	⇑P	**Pn**	**21 09 35.1**	**-0.6**
	baz=5.0,SNR=6.0						
HWUT	**Hardware Ranch**	**5.08**	**248**	*e*Pn	**Pn**	**21 09 37.6**	**+0.2**
	11nm,0.3s						
HWUT				*e*Sn	**Sn**	**21 10 36.3**	**-0.6**
D17A	**Six Diamond Ra**	**5.15**	**314**	⇓P	**Pn**	**21 09 37.3**	**-1.0**
	baz=5.3,SNR=46						
EGMT	**Eagleton**	**5.35**	**326**	*e*Pn	**Pn**	**21 09 39.4**	**-1.6**
	11nm,0.4s						
EGMT				*e*Sn	**Sn**	**21 10 44.7**	**+1.3**
E16A	**East Helena**	**5.35**	**304**	⇓P	**Pn**	**21 09 40.0**	**-1.0**
	baz=5.5,SNR=9.0						
R26A	**Arlington**	**5.55**	**165**	⇓P	**Pn**	**21 09 44.0**	**+0.3**
	baz=5.4,SNR=32						
HVU	**Hansel Valley**	**5.84**	**254**	*e*Pn	**Pn**	**21 09 48.6**	**+0.8**
HVU				*e*Sn	**Sn**	**21 10 56.2**	**+0.6**
E15A	**Deer Lodge**	**5.90**	**300**	⇑P	**Pn**	**21 09 47.5**	**-1.0**
	baz=6.1,SNR=12						
MPU	**Maple Canyon**	**6.00**	**235**	*e*Pn	**Pn**	**21 09 49.5**	**-0.5**
MPU				*e*Sn	**Sn**	**21 10 59.9**	**+0.4**
SRU	**San Rafael**	**6.04**	**223**	*e*Pn	**Pn**	**21 09 48.7**	**-1.8**
	10nm,0.3s						
SRU				*e*Sn	**Sn**	**21 10 55.7**	**-4.7**
R18A	**Canyonlands Na**	**6.34**	**215**	P	**Pn**	**21 09 54.7**	**+0.1**
	baz=6.3,SNR=46						
Q16A	**Castle Valley**	**6.51**	**225**	⇓P	**Pn**	**21 09 57.2**	**+0.2**
	baz=6.5,SNR=8.4						
DUG	**Dugway**	**6.62**	**241**	*e*Pn	**Pn**	**21 09 58.2**	**-0.1**
	2.4nm,0.4s						
DUG				Sn	**Sn**	**21 11 10.1**	**-4.5**
D14A	**Greenough**	**6.72**	**303**	⇓P	**Pn**	**21 09 58.5**	**-1.3**
	baz=6.9,SNR=13						
S18A	**Hurst Farm, Bl**	**6.98**	**213**	⇓P	**Pn**	**21 10 03.4**	**-0.1**
	baz=6.9,SNR=20						
SWMT	**Swartz Lake**	**7.22**	**305**	*e*Pn	**Pn**	**21 10 04.7**	**-1.9**
	2.3nm,0.3s						
B14A	**Marquette Ranc**	**7.27**	**313**	⇓P	**Pn**	**21 10 06.1**	**-1.2**
	baz=7.4,SNR=5.9						
MSU	**Marysvale**	**7.34**	**228**	*e*Pn	**Pn**	**21 10 06.8**	**-1.6**
	1.8nm,0.4s						
MSU				*e*Sn	**Sn**	**21 11 31.1**	**-1.4**
S17A	**Black Ridge (B**	**7.36**	**217**	⇓P	**Pn**	**21 10 08.6**	**0.0**
	baz=7.3,SNR=18						
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	Pn	21 10 30.1	-3.3
	0.5nm,0.3s,baz=236,slow=13,SNR=3.9						
ULM				Lg	Lg	21 12 57.9	
	0.5nm,0.3s,baz=162,slow=20,SNR=2.6						
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	Pn	21 10 30.1	-3.3
ULM				Lg	Lg	21 12 57.9	
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**21 12 50.7**	**-0.1**
	0.1nm,0.3s,baz=160,slow=12,SNR=4.0						

*ISCJB **07** 21:12:46.6±0.6, 38.04N±0.03×37.86E±0.05, h4km±6km, Error ellipse: s-maj=7.0km s-min=4.1km az=28.7*
*ISK **07** 21:12:46.3, 38.06N×37.85E, h8km, MD2.9*
*DDA **07** 21:12:46.4, 38.04N×37.87E, h7km, MD2.9*
*CSEM **07** 21:12:46.8±0.1, 38.06N×37.87E, h8km, MD2.9, Error ellipse: s-maj=5.4km s-min=2.9km az=131.0*
ISC 07 21:12:47.0±0.9, 38.04N±0.03×37.89E±0.04, h10km±8km, n25, σ0.54/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.26**	**6**	*i* P	**Pg**	**21 12 51.8**	**-0.5**
AKCD				*i* S	**Sg**	**21 12 56.2**	**+0.4**
AKCD	**Akcadag**	**0.26**	**6**	*i* P	**Pg**	**21 12 51.8**	**-0.5**
AKCD				*i* S	**Sg**	**21 12 56.2**	**+0.4**
MALT	**Malatya**	**0.50**	**57**	*e*PG	**Pb**	**21 12 57.5**	**-0.6**
MALT				*e*SG	**Sb**	**21 13 04.6**	**-0.9**
MALT	**Malatya**	**0.50**	**57**	*e*Pg	**Pb**	**21 12 57.5**	**-0.6**
MALT				*e*Sg	**Sb**	**21 13 04.6**	**-0.9**
DARE	**Darende-Malaty**	**0.91**	**356**	*e*PG	Pg	21 12 57.8	-6.8
DARE				*e*SG	Sg	21 13 06.8	-10
KMRS	**Kahramanmaras**	**0.95**	**236**	*e*PG	**Pg**	**21 13 04.5**	**-0.8**
KMRS	**Kahramanmaras**	**0.95**	**236**	*e*Pg	**Pg**	**21 13 04.5**	**-0.8**
URFA	**Urfa**	**0.95**	**129**	*e*PG	**

SML	**Sawmill**	**7.64**	**21**	*e*Pn	**Pn**	**21 15 14.0**	**+1.2**
	6.9nm,0.9s						
SML				*e*Sn	**Sn**	**21 16 38.8**	**+0.7**
NICHA	**Nichawak Mount**	**7.68**	**41**	P	**Pn**	**21 15 12.8**	**-0.6**
DIV	**Divide**	**7.71**	**31**	P	**Pn**	**21 15 13.6**	**-0.2**
BERG	**Berg Lake**	**7.88**	**40**	P	**Pn**	**21 15 15.6**	**-0.5**
SCM	**Sheep Creek Mo**	**7.89**	**24**	P	**Pn**	**21 15 15.3**	**-0.9**
GRIN	**Grindle Hills**	**7.96**	**42**	P	**Pn**	**21 15 17.2**	**+0.1**
KLU	**Klutina**	**7.96**	**29**	P	**Pn**	**21 15 17.1**	**-0.2**
KHIT	**Khitrov Hills**	**8.09**	**41**	P	**Pn**	**21 15 18.5**	**-0.5**
KULT	**Kultieth River**	**8.17**	**43**	P	**Pn**	**21 15 20.0**	**-0.1**
WRG	**White River Gl**	**8.33**	**46**	P	**Pn**	**21 15 22.0**	**-0.2**
BARK	**Barkley Ridge**	**8.36**	**43**	P	**Pn**	**21 15 22.2**	**-0.4**
ISLE	**Juniper Island**	**8.54**	**42**	P	**Pn**	**21 15 24.8**	**-0.4**
BAGL	**Bagley Icefiel**	**8.57**	**43**	P	**Pn**	**21 15 25.2**	**-0.2**
CHX	**Chaix Hills**	**8.73**	**48**	P	**Pn**	**21 15 28.1**	**+0.4**
RKAV	**Rock Avalanche**	**8.76**	**46**	P	**Pn**	**21 15 28.1**	**-0.1**
BALM	**Baldy**	**8.81**	**40**	P	**Pn**	**21 15 28.5**	**-0.3**
TRF	**Thorofare Moun**	**8.89**	**11**	P	**Pn**	**21 15 30.1**	**0.0**
TABL	**Table Mountain**	**8.92**	**45**	P	**Pn**	**21 15 30.2**	**-0.4**
DHY	**Denali Highway**	**8.99**	**20**	P	**Pn**	**21 15 31.1**	**-0.2**
RND	**Reindeer**	**9.04**	**15**	P	**Pn**	**21 15 31.7**	**-0.2**
PNL	**Peninsula**	**9.30**	**52**	P	**Pn**	**21 15 35.6**	**+0.1**
PAX	**Paxson**	**9.31**	**25**	P	**Pn**	**21 15 36.0**	**+0.3**
MCK	**McKinley**	**9.34**	**14**	P	**Pn**	**21 15 36.0**	**0.0**
DOT	**Dot Lake**	**10.23**	**26**	*e*Pn	**Pn**	**21 15 48.9**	**+0.7**
	1.8nm,0.6s						
DOT				*e*Sn	**Sn**	**21 17 44.6**	**+3.1**
CCB	**Clear Creek Bu**	**10.37**	**15**	P	**Pn**	**21 15 50.0**	**0.0**
ILAR	**Eielson Array**	**10.63**	**17**	Pn	**Pn**	**21 15 54.0**	**+0.3**
	2.4nm,0.3s,baz=211,slow=14,SNR=128						
ILAR				Sn	**Sn**	**21 17 47.8**	**-3.4**
	0.5nm,0.3s,baz=319,slow=17,SNR=6.0						
ILAR	**Eielson Array**	**10.63**	**17**	Pn	**Pn**	**21 15 54.0**	**+0.3**
ILAR				Sn	**Sn**	**21 17 47.8**	**-3.4**
INK	**Inuvik**	**16.57**	**27**	*e*Pn	**Pn**	**21 17 13.5**	**+0.2**
	6.3nm,1.2s						
YKA	**Yellowknife Ar**	**21.60**	**53**	P	**P**	**21 18 11.0**	**+0.6**
	1.2nm,0.6s,baz=266,slow=9.6,SNR=24						
YKA	**Yellowknife Ar**	**21.60**	**53**	P	**P**	**21 18 11.1**	**+0.6**
EGMT	**Eagleton**	**28.03**	**85**	*e*Pn	**P**	**21 19 12.9**	**+1.2**
TXAR	**Lajitas Array**	**43.94**	**104**	P	**P**	**21 21 27.5**	**-0.1**
	0.3nm,0.8s,baz=319,slow=9.5,SNR=3.6						
TXAR	**Lajitas Array**	**43.94**	**104**	P	**P**	**21 21 27.5**	**-0.1**
SONM	**Songino Array**	**57.49**	**308**	P	P	21 23 16.5	+7.1
	0.2nm,0.5s,baz=37,slow=7.4,SNR=3.8						
SONM	**Songino Array**	**57.49**	**308**	P	P	21 23 16.6	+7.1
MKAR	**Makanchi Array**	**68.19**	**322**	P	P	21 24 26.9	+6.4
	0.2nm,0.5s,baz=46,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**68.19**	**322**	P	P	21 24 26.9	+6.4

*IDC **07** 21:15:23.8±0.7, 0°.38S×132°.09E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.2/19, mbtmp4.1/13, ML4.4/2, MS3.8/13, Ms1 3.8/13, ms1mx3.5/33, Error ellipse: s-maj=28.8km s-min=15.0km az=75.0*

*ISCJB **07** 21:15:26.5±0.3, 0°.50S±0°.04×131°.89E±0°.06, h31km, mb4.5/42, MS3.9/12, Error ellipse: s-maj=8.5km s-min=4.7km az=161.8*

*NEIC **07** 21:15:30.9±1.2, 0°.48S×131°.96E, h54km±11km, mb4.6/25, Error ellipse: s-maj=7.6km s-min=4.3km az=49.0*

*DJA **07** 21:15:37, 1°.28S×132°.00E, h44km, mb4.7/14*

ISC 07 21:15:28.3±0.3, 0.65S±0.04×131.97E±0.06, h31km, n117, σ1§89/125, mb4.6/42, MS3.8/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.27**	**173**	P	**Pb**	**21 16 06.5**	**-2.1**
FAKI	**Fak Fak**	**2.27**	**173**	P	**Pb**	**21 16 06.5**	**-2.1**
MSAI	**Masohi**	**4.04**	**229**	P	**Pn**	**21 16 30.9**	**+2.8**
BAKI	**Biak**	**4.17**	**97**	P	**Pb**	**21 16 38.9**	**-2.2**
BAKI	**Biak**	**4.17**	**97**	P	**Pb**	**21 16 38.9**	**-2.2**
	241nm,0.9s,3µm1.6nm						
TNTI	**Ternate**	**4.81**	**287**	P	Pb	21 16 46.2	-5.7
AAI	**Ambon**	**4.82**	**231**	P	**Pn**	**21 16 40.6**	**+1.8**
DAV	**Davao City (W)**	**9.97**	**320**	LR	LR	21 20 51.6	
	comp=Z,303nm,21.9s,baz=197,slow=33						
MRSI	**Marisa**	**10.09**	**276**	P	Px	21 18 04.5	
MTN	**Manton Dam**	**12.14**	**184**	*e*P	**Pn**	**21 18 18.5**	**-0.7**
MTN				*e*S	**Sn**	**21 20 31.1**	**-2.5**
TTSI	**Tana Toraja**	**12.37**	**259**	P	**P**	**21 18 36.8**	**+2.7**
SPSI	**Sidrap Palu**	**12.62**	**255**	P	**P**	**21 18 37.6**	**+0.7**
KAPI	**Kappang**	**12.94**	**250**	Pn	Pn	21 18 33.9	+3.7
	2.2nm,0.3s,baz=137,slow=5.0,SNR=9.5						
KAPI	**Kappang**	**12.94**	**250**	*e*Pn	Pn	21 18 33.6	+3.4
KAPI	**Kappang**	**12.94**	**250**	P	P	21 18 36.0	-4.4
COEN	**Coen**	**17.26**	**140**	*e*P	**P**	**21 19 30.7**	**+2.3**
	76nm,1.1s						
COEN	**Coen**	**17.26**	**140**	*e*Pn	**P**	**21 19 30.5**	**+2.1**
	57nm,0.6s						
PMG	**Port Moresby**	**17.44**	**120**	P	**P**	**21 19 33.9**	**+3.4**
	0.3nm,0.3s,baz=289,slow=18,SNR=2.8						
PMG	**Port Moresby**	**17.44**	**120**	*e*Pn	**P**	**21 19 31.6**	**+1.2**
	23nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.42**	**199**	P	**P**	**21 19 39.4**	**-1.8**
	1.2nm,0.3s,baz=41,slow=11,SNR=18						
FITZ				S	Sn	21 22 51.4	-15
	0.1nm,0.3s,baz=170,slow=18,SNR=2.0						
FITZ				LR	LR	21 27 14.7	
	comp=Z,214nm,20.5s,baz=28,slow=38						
FITZ	**Fitzroy Crossi**	**18.42**	**199**	*e*P	**P**	**21 19 38.9**	**-2.3**
	24nm,0.9s						
FITZ				*e*S	Sn	21 22 56.2	-10
FITZ	**Fitzroy Crossi**	**18.42**	**199**	*e*P	**P**	**21 19 39.1**	**-2.1**
	20nm,1.1s						
FITZ				*e*Sn	Sn	21 22 51.3	-15
GUMO	**Guam**	**19.07**	**42**	LR	LR	21 26 28.3	
	comp=Z,135nm,20.4s,baz=286,slow=35						
WRAB	**Tennant Creek**	**19.30**	**173**	*e*P	**Pn**	**21 19 53.1**	**+1.1**
	13nm,0.8s						
WRAB				*e*S	**Sn**	**21 23 21.7**	**-6.0**
WRA	**Warramunga Arr**	**19.31**	**173**	P	**Pn**	**21 19 53.3**	**+1.2**
	1.1nm,0.3s,baz=354,slow=11,SNR=76						
WRA				S	S	21 23 18.6	-9.3
	0.5nm,0.3s,baz=352,slow=24,SNR=5.9						
WRA	**Warramunga Arr**	**19.31**	**173**	P	**Pn**	**21 19 53.3**	**+1.2**
WRA				S	S	21 23 18.6	-9.3
WB2	**Warramunga Arr**	**19.31**	**173**	*e*P	**Pn**	**21 19 53.4**	**+1.2**
WB2				*e*S	**S**	**21 23 23.1**	**-4.9**
KSM	**Kuching**	**21.76**	**276**	*e*Pn	**P**	**21 20 17.7**	**+0.1**
AS31	**Alice Springs**	**22.95**	**175**	*e*P	**P**	**21 20 32.6**	**+2.4**
ASAR	**Alice Springs**	**22.95**	**175**	P	**P**	**21 20 32.4**	**+2.2**
	11nm,0.9s,baz=351,slow=9.1,SNR=49						
ASAR				S	**S**	**21 24 38.6**	**+0.1**
	0.3nm,0.7s,baz=351,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**22.95**	**175**	P	**P**	**21 20 32.4**	**+2.2**
ASAR				S	**S**	**21 24 38.6**	**+0.1**
MBWA	**Marble Bar**	**23.62**	**210**	*e*P	**P**	**21 20 38.0**	**+1.1**
	61nm,1.7s						
CTA	**Charters Tower**	**23.84**	**145**	P	**P**	**21 20 40.2**	**+1.2**
	5.6nm,1.0s,baz=296,slow=11,SNR=2.2						
CTA				LR	LR	21 30 13.6	
	comp=Z,248nm,20.5s,baz=320,slow=37						
CTA	**Charters Tower**	**23.84**	**145**	P	**P**	**21 20 40.2**	**+1.2**
CTAO	**Charters Tower**	**23.84**	**145**	*e*P	**P**	**21 20 40.2**	**+1.2**
	12nm,1.1s						
SSLB	**Suanglung**	**26.55**	**337**	*e*P	**P**	**21 21 01.4**	**-2.1**
	17nm,0.8s						
JOW	**Kunigami**	**27.56**	**353**	LR	LR	21 29 57.4	
	comp=Z,195nm,22.0s,baz=81,slow=32						
CBIJ	**Chichi jima**	**29.29**	**19**	LR	LR	21 30 42.9	
	comp=Z,240nm,19.3s,baz=205,slow=32						
IPM	**Ipoh**	**31.33**	**280**	*e*P	**P**	**21 21 45.7**	**-0.6**
	9.2nm,0.7s						
KULM	**Kulim**	**31.83**	**281**	*e*P	**P**	**21 21 50.5**	**-0.1**
STKA	**Stephens Creek**	**32.36**	**165**	P	**P**	**21 21 57.3**	**+2.2**
	3.0nm,1.0s,baz=323,slow=7.1,SNR=3.1						
STKA				LR	LR	21 36 56.1	
	comp=Z,223nm,20.4s,baz=6.4,slow=40						
STKA	**Stephens Creek**	**32.36**	**165**	*e*P	**P**	**21 21 58.0**	**+2.9**
JNU	**Nakatsue**	**33.61**	**358**	*e*P	**P**	**21 22 04.6**	**-1.4**
GYA	**Guiyang**	**36.35**	**320**	*e*P	**P**	**21 22 30.5**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**37.46**	**8**	P	**P**	**21 22 41.7**	**+2.7**
	comp=Z,1.7nm,0.9s,baz=199,slow=8.1,SNR=4.6						
MJAR				LR	LR	21 34 58.5	
	comp=Z,158nm,21.9s,baz=170,slow=32						
MJAR	**Matsushiro Arr**	**37.46**	**8**	P	**P**	**21 22 41.7**	**+2.7**
CMAR	**Chiang Mai Arr**	**37.60**	**302**	P	**P**	**21 22 39.0**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=126,slow=6.8,SNR=8.4						
CMAR				PcP	**PcP**	**21 24 59.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=152,slow=2.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**37.60**	**302**	P	**P**	**21 22 39.0**	**-1.5**
CMAR				PcP	**PcP**	**21 24 59.0**	**+1.0**
CHTO	**Chiang Mai**	**37.77**	**303**	*e*P	**P**	**21 22 41.0**	**-0.8**
	comp=Z,5.2nm,1.1s						
KSRS	**Korea Array**	**38.10**	**355**	LR	LR	21 39 28.8	
	comp=Z,104nm,18.5s,baz=6.6,slow=38						
KMI	**Kunming**	**38.16**	**314**	P	**P**	**21 22 45.9**	**+0.5**
KMI				pP	**pP**	**21 22 56.4**	**+1.9**
KMI				sP	**sP**	**21 23 00.5**	**+2.2**
KMI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,140nm,5.2s						
KMI				LR	LR		
	comp=N,190nm,19.9s						
KMI				LR	LR		
	comp=E,120nm,21.2s						
KMI				LR	LR		
	comp=Z,110nm,26.8s						
BJI	**Beijing**	**42.99**	**342**	P	**P**	**21 23 27.0**	**+2.2**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
USRK	**Ussuriysk Arra**	**44.66**	**0**	P	**P**	**21 23 37.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=174,slow=6.3,SNR=7.9						
HHC	**Hu-ho-hao-te**	**45.28**	**338**	*e*P	**P**	**21 23 44.6**	**+1.3**
HHC				pP	**pP**	**21 23 55.3**	**+2.7**
HHC				sP	**sP**	**21 23 58.9**	**+2.6**
HHC				PP	PP	21 25 30.5	+0.9
HHC				S	**S**	**21 30 21.9**	**0.0**
HHC				sS	**sS**	**21 30 38.5**	**+1.3**
HHC				ScS	**ScS**	**21 33 36.9**	**-1.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
HHC				LR	LR		
	comp=N,160nm,16.2s						
HHC				LR	LR		
	comp=E,170nm,16.0s						
HHC				LR	LR		
	comp=Z,130nm,15.7s						
LSA	**Lhasa**	**49.24**	**311**	*e*P	**P**	**21 24 13.7**	**-1.0**
	comp=Z,3.3nm,1.0s						
GTA	**Gaotai**	**49.56**	**327**	*e*P	**P**	**21 24 16.1**	**-0.5**
GTA				pP	**pP**	**21 24 25.6**	**-0.4**
GTA				sP	**sP**	**21 24 29.7**	**0.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TAPN	**Taplejung**	**50.81**	**307**	*e*P	P	21 24 22.7	-3.8
TAPN	**Taplejung**	**50.81**	**307**	*e*P	P	21 24 22.7	-3.8
ODAN	**Odare**	**50.86**	**306**	*e*P	**P**	**21 24 24.9**	**-1.9**
ODAN	**Odare**	**50.86**	**306**	*e*P	**P**	**21 24 24.9**	**-1.9**
RAMN	**Ramite**	**51.54**	**306**	*e*P	**P**	**21 24 29.8**	**-2.1**
RAMN	**Ramite**	**51.54**	**306**	*e*P	**P**	**21 24 29.8**	**-2.1**
JIRN	**Jiri**	**52.17**	**306**	*e*P	**P**	**21 24 34.0**	**-2.8**
	comp=Z,10nm,1.0s						
JIRN	**Jiri**	**52.17**	**306**	*e*P	**P**	**21 24 34.0**	**-2.8**
GUN	**Gumba**	**52.52**	**307**	*e*P	P	21 24 36.0	-3.4
	comp=Z,12nm,0.9s						
GUN	**Gumba**	**52.52**	**307**	*e*P	P	21 24 36.0	-3.4
KKN	**Kakani**	**52.95**	**306**	*e*P	**P**	**21 24 40.1**	**-2.3**
KKN	**Kakani**	**52.95**	**306**	*e*P	**P**	**21 24 40.1**	**-2.3**
ULN	**Ulaanbaatar**	**52.97**	**339**	*e*P	**P**	**21 24 41.9**	**-0.1**
	comp=Z,6.8nm,0.9s						
DMN	**Daman**	**53.02**	**306**	*e*P	**P**	**21 24 40.3**	**-2.7**
DMN	**Daman**	**53.02**	**306**	*e*P	**P**	**21 24 40.3**	**-2.7**
SONM	**Songino Array**	**53.18**	**339**	P	**P**	**21 24 42.8**	**-0.8**
	comp=Z,2.5nm,1.2s,baz=151,slow=6.5,SNR=5.4						
SONM	**Songino Array**	**53.18**	**339**	P	**P**	**21 24 42.8**	**-0.8**
GKN	**Gorkha**	**53.56**	**306**	*e*P	**P**	**21 24 44.5**	**-2.3**
GKN	**Gorkha**	**53.56**	**306**	*e*P	**P**	**21 24 44.5**	**-2.3**
KOLN	**Koldanda**	**54.31**	**305**	*e*P	**P**	**21 24 51.0**	**-1.3**
	comp=Z,14nm,0.7s						
KOLN	**Koldanda**	**54.31**	**305**	*e*P	**P**	**21 24 51.0**	**-1.3**
HYB	**Hyderabad**	**55.55**	**292**	*i* P	**P**	**21 25 00.0**	**-1.3**
URZ	**Urewera**	**55.79**	**138**	LR	LR	21 47 40.7	
	comp=Z,109nm,20.1s,baz=313,slow=35						
URZ	**Urewera**	**55.79**	**138**	*e*P	**P**	**21 25 04.3**	**+1.7**
	comp=Z,5.5nm,0.8s						
PETK	**Petropavlovsk-**	**57.72**	**18**	P	**P**	**21 25 14.5**	**-1.5**
	comp=Z,7.9nm,0.9s,baz=158,slow=4.8,SNR=6.9						
PETK				LR	LR	21 47 37.4	
	comp=Z,62nm,20.0s,baz=19,slow=34						
PETK	**Petropavlovsk-**	**57.72**	**18**	P	**P**	**21 25 14.5**	**-1.5**
WMQ	**Urumqi**	**59.31**	**324**	*e*P	**P**	**21 25 28.5**	**+1.1**
WMQ				pP	**pP**	**21 25 38.5**	**+1.6**
WMQ				sP	**sP**	**21 25 42.5**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ				LR	LR		
	comp=N,55nm,22.5s						
WMQ				LR	LR		
	comp=Z,35nm,16.8s						
YAK	**Yakutsk**	**62.55**	**359**	*e*P	**P**	**21 25 48.4**	**-0.4**
	comp=Z,25nm,0.8s						
MK31	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**21 25 58.8**	**-1.0**
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**21 25 59.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=119,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**21 25 59.1**	**-0.6**
KSH	**Kashi**	**64.82**	**315**	P	**P**	**21 26 04.7**	**+0.1**
KSH				*e*pP	**pP**	**21 26 14.7**	**+0.5**
KSH				*e*sP	**sP**	**21 26 18.8**	**+1.0**
KSH				*e*PcP	**PcP**	**21 26 38.5**	**+0.7**
KSH				*e*PP	**PP**	**21 28 27.8**	**+0.4**
KSH				*e*ScP		21 30 36.7	
KSH				*e*PcS		21 30 40.8	
KSH				*e*S	**S**	**21 34 38.7**	**-5.1**
KSH				*e*ScS	**SKSac**	**21 35 51.8**	**-5.5**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,72nm,4.5s						
KSH				LR	LR		
	comp=N,170nm,6.4s						
KSH				LR	LR		
	comp=E,150nm,6.4s						
KSH				LR	LR		
	comp=Z,160nm,5.3s						
TKM2	**Tokmak 2**	**66.48**	**318**	*e*P	**P**	**21 26 14.9**	**-0.4**
	comp=Z,2.8nm,0.6s						
ZAA0	**Zalesovo Array**	**66.87**	**332**	*e*P	**P**	**21 26 16.1**	**-1.1**
ZALV	**Zalesovo Beam**	**66.87**	**332**	P	**P**	**21 26 15.4**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=120,slow=5.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**66.87**	**332**	P	**P**	**21 26 15.4**	**-1.8**
EKS2	**Erkin-Say**	**67.60**	**317**	*e*P	**P**	**21 26 22.0**	**-0.2**
	comp=Z,4.9nm,1.0s						
KURK	**Kurchatov**	**68.24**	**327**	*e*P	**P**	**21 26 25.4**	**-0.6**
	comp=Z,8.8nm,1.0s						
KBL	**Kabul**	**68.33**	**308**	*e*P	**P**	**21 26 25.9**	**-1.3**
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**69.99**	**317**	*e*P	**P**	**21 26 36.6**	**-0.5**
BILL	**Bilibino**	**72.53**	**13**	*e*P	**P**	**21 26 51.6**	**-0.3**
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**73.90**	**326**	*e*P	**P**	**21 26 59.8**	**-0.5**
	comp=Z,7.3nm,1.0s						
VNDA	**Vanda**	**78.48**	**174**	*e*P	**P**	**21 27 27.5**	**+1.7**
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**78.83**	**321**	*e*P	**P**	**21 27 27.8**	**-0.5**
ARU	**Arti**	**81.42**	**327**	*e*P	**P**	**21 27 41.3**	**-0.8**
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**81.53**	**201**	LR	LR	21 58 32.8	
	comp=Z,96nm,20.0s,baz=312,slow=32						
RC01	**Rabbit Creek A**	**84.92**	**29**	*e*P	**P**	**21 27 58.6**	**-1.5**
TRF	**Thorofare Moun**	**85.11**	**26**	*e*P	**P**	**21 28 00.5**	**-0.8**
	comp=Z,34nm,1.8s						
UMR	**Umm Al-Rimmam**	**85.31**	**300**	*e*P	**P**	**21 28 01.6**	**-1.1**
UMR				AMb	AMB	21 28 09.3	
	comp=Z,26nm,1.3s						
MIB	**Mutribah**	**85.65**	**300**	*e*P	**P**	**21 28 03.3**	**-1.2**
MIB				AMb	AMB	21 28 11.0	
	comp=Z,32nm,1.2s						
SML	**Sawmill**	**85.70**	**28**	*e*P	**P**	**21 28 03.5**	**-0.6**
	comp=Z,4.9nm,1.3s						
NAY	**Al-Naaiem**	**85.71**	**299**	*e*P	**P**	**21 28 03.4**	**-1.4**
NAY				AMb	AMB	21 28 11.1	
	comp=Z,24nm,1.0s						
MCK	**McKinley**	**85.76**	**26**	*e*P	**P**	**21 28 02.2**	**-2.0**
	comp=Z,9.9nm,1.1s						
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**21 28 07.6**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=268,slow=4.3,SNR=9.6						
ILAR				LR	LR	22 01 39.1	
	comp=Z,52nm,19.6s,baz=328,slow=32						
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**21 28 07.6**	**-1.8**
DIV	**Divide**	**86.82**	**29**	*e*P	**P**	**21 28 09.2**	**-0.4**
	comp=Z,18nm,0.9s						
INK	**Inuvik**	**92.28**	**22**	P	**P**	**21 28 33.4**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=211,slow=5.9,SNR=2.6						
INK	**Inuvik**	**92.28**	**22**	P	**P**	**21 28 33.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**129.21**	**286**	PKP	**PKPdf**	**21 34 35.9**	**+1.3**
	comp=Z,0.7nm,1.0s,baz=63,slow=2.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**129.21**	**286**	PKP	**PKPdf**	**21 34 35.9**	**+1.3**
LPAZ	**La Paz**	**153.99**	**131**	*e*PKPbc	**PKPbc**	**21 35 25.2**	**-1.4**

IDC 07 21:27:20.4±0.9, 53°.24N×116°.99W, h0km, mb3.1/1, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML3.4/6, Error ellipse: s-maj=12.7km s-min=10.7km az=91.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**6.84**	**266**	Pn	Pn	21 29 01.5	-0.3
	0.3nm,0.3s,baz=48,slow=15,SNR=1.8						
BBB				Lg	Lg	21 30 51.4	
	0.6nm,0.3s,baz=166,slow=17,SNR=1.9						
YKA	**Yellowknife Ar**	**9.37**	**7**	Pn	Pn	21 29 33.7	-2.7
	2.0nm,0.3s,baz=192,slow=12,SNR=69						
YKA				Sn	Sn	21 31 15.1	-7.3
	0.5nm,0.3s,baz=184,slow=22,SNR=3.0						
YKA				Lg	Lg	21 32 13.6	
	0.5nm,0.3s,baz=178,slow=28,SNR=6.4						
PDAR	**Pinedale Array**	**11.60**	**152**	Pn	Pn	21 30 07.5	+0.2
	0.0nm,0.3s,baz=357,slow=12,SNR=4.4						
ULM	**Lac du Bonnet**	**13.41**	**94**	Pn	Pn	21 30 27.6	-4.2
	0.3nm,0.3s,baz=269,slow=12,SNR=3.5						
INK	**Inuvik**	**17.03**	**339**	Pn	Pn	21 31 16.7	-2.8
	0.4nm,0.3s,baz=141,slow=9.8,SNR=9.9						
ILAR	**Eielson Array**	**19.02**	**319**	P	P	21 31 43.8	+0.3
	0.0nm,0.3s,baz=119,slow=10,SNR=8.7						
TXAR	**Lajitas Array**	**25.81**	**152**	P	P	21 32 52.6	-0.6
	0.3nm,0.3s,baz=328,slow=8.5,SNR=6.1						

*ISCJB **07** 21:32:26.9±0.3, 12°.47N±0°.07×86°.61W±0°.06, h183km±5km, mb3.8/9, Error ellipse: s-maj=15.6km s-min=3.4km az=40.0*

*NEIC **07** 21:32:28.2±0.6, 12°.52N×86°.59W, h179km±6km, mb4.2/3, Error ellipse: s-maj=16.5km s-min=8.2km az=46.0*

*IDC **07** 21:32:28.2±1.6, 12°.54N×86°.48W, h181km±17km, mb3.5/8, mb1 3.7/10, mb1mx3.4/23, mbtmp3.5/10, Error ellipse: s-maj=24.8km s-min=17.6km az=56.0*

*CASC **07** 21:32:29.7±2.2, 11°.80N×87°.24W, h2km±6km, MD4.0, mb4.2(NEIC)*

ISC 07 21:32:27.4±0.7, 12°.45N±0°.08×86°.61W±0°.07, h176km±7km, n55, σ1§20/69, mb3.9/9, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.45**	**305**	*e*P	**Pn**	**21 32 58.7**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.72**	**338**	*e*Pn	**Pn**	**21 33 01.9**	**+0.8**
TGUH				*e*Sn	**Sn**	**21 33 28.3**	**+0.9**
BLLM	**Bellamira**	**1.86**	**302**	*e*P	**Pn**	**21 33 03.0**	**+0.2**
VSM	**San Miguel**	**1.89**	**301**	*e*P	**Pn**	**21 33 03.6**	**+0.4**
GBS2	**Las Lilas**	**1.97**	**145**	*i* P	**Pn**	**21 33 04.8**	**+0.9**
GBS2				*i* S	**Sn**	**21 33 31.2**	**-0.9**
CAHU	**Cacacuatique**	**2.04**	**310**	*e*P	**Pn**	**21 33 05.5**	**+0.8**
LAPC	**Finca la Perla**	**2.04**	**145**	*i* P	**Pn**	**21 33 05.4**	**+0.8**
LAPC				*i* S	**Sn**	**21 33 32.3**	**-1.2**
GPS1	**Guardaparques**	**2.08**	**143**	*i* P	**Pn**	**21 33 06.6**	**+1.4**
GPS1				*i* S	**Sn**	**21 33 34.2**	**-0.2**
GPS2	**Hotel Rincˆ‡n**	**2.09**	**144**	*i* S	**Sn**	**21 33 34.5**	**-0.2**
LIM1	**Limonal**	**2.20**	**143**	*i* P	**Pn**	**21 33 07.9**	**+1.4**
CUI	**Cuipilapa**	**2.28**	**141**	*i* P	**Pn**	**21 33 08.6**	**+1.2**
AMAS	**Alto Masis**	**2.42**	**139**	*i* P	**Pn**	**21 33 11.8**	**+2.7**
AMAS				*i* S	**Sn**	**21 33 42.6**	**+1.1**
LFRS	**El Faro**	**2.66**	**296**	*e*P	**Pn**	**21 33 11.9**	**+0.1**
LFRS				*e*S	**Sn**	**21 33 45.8**	**-0.5**
LBRS	**Las Brisas**	**2.69**	**299**	*e*P	**Pn**	**21 33 12.6**	**+0.4**
LBRS				*e*S

CNP eS Sn 21 33 09.1 -0.2
MMPH Masbate 1.19 205 i P Pg 21 32 54.4 -0.9
MMPH i S Sn 21 33 12.5 -0.3
GQP Guinayangan 1.72 286 i eP Pn 21 32 59.0 -4.2
GQP eS Sn 21 33 21.8 -4.0
RCP Roxas 2.32 216 i eP Pn 21 33 09.2 -2.4
RCP eS Sg 21 33 49.5 +2.6
PLP Palo 2.40 160 i eP Pn 21 33 12.3 -0.5
PLP eS Sb 21 33 44.4 -2.1
TGY Tagaytay City 3.19 282 Pn Pn 21 33 24.7 +1.1
94nm,0.3s,baz=49,slow=4.7,SNR=4.7
TGY Sn Sb 21 34 07.6 -1.6
16nm,0.3s,baz=157,slow=20,SNR=3.9
TGY Tagaytay City 3.19 282 Pn Pn 21 33 24.7 +1.1
TGY Sn Sb 21 34 07.6 -1.6
JOW Kunigami 13.87 16 LR LR 21 40 02.0
comp=Z,114nm,19.7s,baz=179,slow=32
ENH Enshi 21.54 323 ePn P 21 37 25.8 +2.7
7.3nm,1.0s
CBIJ Chichi jima 21.66 48 LR LR 21 44 02.2
comp=Z,76nm,19.3s,baz=136,slow=32
CMAR Chiang Mai Arr 24.73 285 P P 21 37 56.0 +0.6
2.7nm,0.9s,baz=96,slow=7.5,SNR=14
CMAR Chiang Mai Arr 24.73 285 P P 21 37 56.0 +0.6
USRK Ussuriysk Arra 31.38 11 P P 21 38 54.9 +0.3
2.8nm,0.9s,baz=190,slow=7.2,SNR=5.3
LSA Lhasa 34.53 303 eP P 21 39 22.9 0.0
4.3nm,1.1s
WRA Warramunga Arr 34.66 163 P P 21 39 17.8 -5.6
1.0nm,0.5s,baz=342,slow=8.4,SNR=10
WRA Warramunga Arr 34.66 163 P P 21 39 17.8 -5.6
TAPN Taplejung 36.70 298 eP P 21 39 44.1 +2.7
5.3nm,0.9s
TAPN Taplejung 36.70 298 eP P 21 39 44.1 +2.7
ODAN Odare 36.85 297 eP P 21 39 44.9 +2.3
11nm,0.8s
ODAN Odare 36.85 297 eP P 21 39 44.9 +2.3
ULN Ulaanbaatar 37.16 341 eP P 21 39 44.4 -0.4
2.7nm,0.9s
SONM Songino Array 37.34 340 P P 21 39 44.3 -2.0
1.5nm,0.9s,baz=151,slow=7.8,SNR=8.3
SONM Songino Array 37.34 340 P P 21 39 44.3 -2.0
RAMN Ramite 37.56 297 eP P 21 39 51.0 +2.4
6.5nm,0.8s
RAMN Ramite 37.56 297 eP P 21 39 51.0 +2.4
JIRN Jiri 38.08 298 eP P 21 39 54.6 +1.4
6.2nm,0.6s
JIRN Jiri 38.08 298 eP P 21 39 54.6 +1.4
ASAR Alice Springs 38.09 165 P P 21 39 45.0 -7.9
1.4nm,0.7s,baz=346,slow=7.4,SNR=8.1
ASAR Alice Springs 38.09 165 P P 21 39 45.0 -7.9
GUN Gumba 38.41 298 eP P 21 39 57.9 +2.0
17nm,0.8s
GUN Gumba 38.41 298 eP P 21 39 57.9 +2.0
PKI Pulchoki 38.74 297 eP P 21 40 00.8 +2.2
PKI Pulchoki 38.74 297 eP P 21 40 00.8 +2.2
DMN Daman 39.01 297 eP P 21 40 03.0 +2.2
DMN Daman 39.01 297 eP P 21 40 03.0 +2.2
GKN Gorkha 39.50 298 eP P 21 40 06.8 +2.0
9.5nm,1.0s
GKN Gorkha 39.50 298 eP P 21 40 06.8 +2.0
KOLN Koldanda 40.34 297 eP P 21 40 14.4 +2.5
5.2nm,0.7s
KOLN Koldanda 40.34 297 eP P 21 40 14.4 +2.5
STKA Stephens Creek 48.06 160 P P 21 41 09.1 -4.3
2.4nm,0.8s,baz=310,slow=11,SNR=3.4
STKA Stephens Creek 48.06 160 eP P 21 41 07.0 -6.4
MKAR Makanchi Array 48.26 322 P P 21 41 14.5 -0.3
0.8nm,0.8s,baz=110,slow=9.4,SNR=7.5
MKAR Makanchi Array 48.26 322 P P 21 41 14.5 -0.3
ZALV Zalesovo Beam 50.86 331 P P 21 41 33.8 -0.8
0.6nm,0.6s,baz=120,slow=6.0,SNR=4.5
ZALV Zalesovo Beam 50.86 331 P P 21 41 33.8 -0.8
KURK Kurchatov 52.29 325 eP P 21 41 45.1 -0.2
5.4nm,1.1s

IDC 07 21:38:02.9±2.1, 6.68S×129.69E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.3/16, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=87.8km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.02**	**199**	Pn	Pn	21 40 54.5	-1.2
	0.6nm,0.3s,baz=37,slow=10,SNR=3.8						
FITZ				Sn	Sn	21 43 00.7	-10
	0.3nm,0.3s,baz=270,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**13.93**	**162**	Pn	Pn	21 41 22.7	+0.9
	0.2nm,0.3s,baz=346,slow=14,SNR=5.7						
WRA				Sn	Sn	21 43 51.2	-6.2
	0.1nm,0.3s,baz=329,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**17.37**	**167**	P	Pn	21 42 07.2	+0.3
	0.1nm,0.3s,baz=341,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	21 49 02.8	0.0
	0.1nm,0.4s,baz=121,slow=5.1,SNR=2.6						

*ISCJB **07** 21:47:53.9±1.4, 19.3S±0.1×169.15E±0.09, h149km±12km, mb4.0/11, Error ellipse: s-maj=19.2km s-min=13.5km az=161.3*
*NOU **07** 21:47:53.4±0.8, 18.99S×169.14E, h30km, MD3.0, ML3.6*
*IDC **07** 21:47:55.1±2.4, 19.28S×169.19E, h145km±24km, mb3.8/10, mb1 4.0/12, mb1mx3.8/20, mbtmp3.9/12, Error ellipse: s-maj=28.2km s-min=15.3km az=165.0*
*NEIC **07** 21:47:56.3±1.6, 19.36S×169.18E, h161km±16km, mb4.1/5, Error ellipse: s-maj=19.6km s-min=10.1km az=169.0*
ISC 07 21:47:55.6±1.2, 19.4S±0.1×169.23E±0.10, h153km±11km, n44, σ892/52, mb3.9/11, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.49**	**218**	eP	Pn	21 48 48.8	-0.4
BAYA				eS	Sn	21 49 29.5	-1.4
DZM	**Mont Dzumac**	**3.70**	**224**	P	Pn	21 48 52.9	+0.8
	12nm,0.3s,baz=21,slow=20,SNR=85						
DZM				S	Sn	21 49 36.9	+0.9
	24nm,0.3s,baz=324,slow=23,SNR=12						
DZM	**Mont Dzumac**	**3.70**	**224**	eP	Pn	21 48 51.2	-0.9
DZM				eS	Sn	21 49 33.5	-2.5
DZM				AMP		21 49 39.3	
	comp=Z,2μm,0.0s						
DZM	**Mont Dzumac**	**3.70**	**224**	P	Pn	21 48 52.9	+0.8
DZM				S	Sn	21 49 36.9	+0.9
NORM	**Noumea**	**3.79**	**222**	eP	Pn	21 48 53.0	-0.2
NORM				eS	Sn	21 49 36.6	-1.3
NOUC	**Port Laguerre**	**3.82**	**225**	eP	Pn	21 48 52.9	-0.6
NOUC				eS	Sn	21 49 38.1	-0.5
NOUC				AMP		21 49 54.6	
	comp=Z,55nm,3.1s						
AFI	**Afiamalu**	**19.00**	**76**	P	P	21 52 06.2	+0.4
	comp=Z,5.2nm,0.3s,baz=64,slow=21,SNR=3.7						
AFI	**Afiamalu**	**19.00**	**76**	P	P	21 52 06.2	+0.4
URZ	**Urewera**	**19.98**	**162**	P	Pn	21 52 18.3	-1.0
	comp=Z,4.9nm,0.4s,baz=355,slow=5.1,SNR=7.6						
URZ	**Urewera**	**19.98**	**162**	eP	P	21 52 17.6	+1.6
	comp=Z,6.5nm,0.6s						
CTA	**Charters Tower**	**21.63**	**264**	P	P	21 52 35.4	+1.5
	comp=Z,1.7nm,0.4s,baz=85,slow=12,SNR=4.3						
CTA	**Charters Tower**	**21.63**	**264**	P	P	21 52 35.4	+1.5
STKA	**Stephens Creek**	**27.73**	**238**	P	P	21 53 31.2	+1.4
	comp=Z,4.2nm,0.6s,baz=65,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**27.73**	**238**	eP	P	21 53 29.9	+0.1
	comp=Z,0.8nm,0.5s						
WRAB	**Tennant Creek**	**32.81**	**263**	eP	P	21 54 13.8	-0.8
	comp=Z,4.3nm,1.0s						
WRA	**Warramunga Arr**	**32.82**	**263**	P	P	21 54 13.7	-1.1
	comp=Z,1.5nm,0.7s,baz=92,slow=8.5,SNR=14						
WRA				PcP	PcP	21 56 56.3	0.0
	comp=Z,0.4nm,0.7s,baz=91,slow=3.7,SNR=4.9						
WRA	**Warramunga Arr**	**32.82**	**263**	P	P	21 54 13.7	-1.1
WRA				PcP	PcP	21 56 56.3	0.0
AS31	**Alice Springs**	**33.07**	**256**	eP	P	21 54 15.7	-1.2
ASAR	**Alice Springs**	**33.07**	**256**	P	P	21 54 16.9	0.0
	comp=Z,7.0nm,0.6s,baz=84,slow=9.0,SNR=100						
ASAR				pP	pP	21 54 50.0	+0.5
	comp=Z,1.4nm,0.7s,baz=83,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**33.07**	**256**	P	P	21 54 16.9	0.0
ASAR				pP	pP	21 54 50.0	+0.5
FITZ	**Fitzroy Crossi**	**41.21**	**264**	P	P	21 55 26.2	+0.6
	comp=Z,7.0nm,0.6s,baz=134,slow=5.1,SNR=13						
FITZ	**Fitzroy Crossi**	**41.21**	**264**	eP	P	21 55 25.3	-0.3
	comp=Z,5.7nm,0.6s						
PETK	**Petropavlovsk-**	**72.92**	**353**	P	P	21 59 08.2	+0.4
	comp=Z,4.9nm,1.1s,baz=141,slow=6.0,SNR=5.6						
PETK	**Petropavlovsk-**	**72.92**	**353**	P	P	21 59 08.2	+0.4
ULN	**Ulaanbaatar**	**87.00**	**323**	eP	P	22 00 23.1	-0.6
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**87.36**	**323**	P	P	22 00 25.6	+0.3
	comp=Z,0.6nm,0.7s,baz=154,slow=5.9,SNR=7.5						
SONM	**Songino Array**	**87.36**	**323**	P	P	22 00 25.6	+0.3
NVAR	**Mina Array Bea**	**88.93**	**49**	P	P	22 00 33.4	+0.2
	comp=Z,0.9nm,0.7s,baz=230,slow=7.4,SNR=5.9						
NVAR	**Mina Array Bea**	**88.93**	**49**	P	P	22 00 33.4	+0.2
SNAA	**Sanae**	**88.98**	**183**	*e*	P	22 00 33.6	+1.0
VNA3	**Neumayer Olymp**	**89.57**	**180**	*e*	P	22 00 35.3	0.0
VNA2	**Neumayer--Watz**	**89.86**	**181**	*e*	P	22 00 37.0	+0.3
	baz=190,slow=5.4						
ILAR	**Eielson Array**	**90.41**	**17**	P	P	22 00 37.1	-2.0
	comp=Z,0.6nm,0.7s,baz=235,slow=5.1,SNR=7.5						
ILAR	**Eielson Array**	**90.41**	**17**	P	P	22 00 37.1	-2.0
YKA	**Yellowknife Ar**	**100.84**	**27**	P	Pdif	22 01 26.6	+0.1
	comp=Z,0.5nm,0.7s,baz=255,slow=4.4,SNR=7.5						
YKA	**Yellowknife Ar**	**100.84**	**27**	P	**Pdif**	**22 01 26.6**	**+0.1**
ARCES	**ARCESS Array B**	**125.24**	**345**	PKP	**PKPdf**	**22 06 37.0**	**-0.4**
	comp=Z,6.1nm,1.1s,baz=69,slow=4.0,SNR=4.8						
ARCES	**ARCESS Array B**	**125.24**	**345**	PKP	**PKPdf**	**22 06 37.0**	**-0.4**
GERES	**GERESS Array B**	**144.65**	**332**	PKP	PKPbc	22 07 13.2	0.0
	comp=Z,2.1nm,0.6s,baz=35,slow=3.9,SNR=26						
GERES	**GERESS Array B**	**144.65**	**332**	PKP	PKPbc	22 07 13.2	0.0
MOA	**Molln**	**145.11**	**330**	i PKPdf	**PKPdf**	**22 07 15.0**	**+0.2**
	comp=Z,6.8nm,0.6s						
SOKA	**Soboth**	**145.56**	**328**	i PKPab	**PKPbc**	**22 07 16.3**	**+0.2**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**146.93**	**332**	i PKPab	**PKPbc**	**22 07 20.2**	**-0.1**
	comp=Z,1.9nm,0.6s						
FETA	**Feichten**	**147.34**	**332**	i PKPab	**PKPbc**	**22 07 21.4**	**0.0**
	comp=Z,2.5nm,0.6s						

WEL 07 21:52:52.1±0.7, 39.83S×173.92E, h244km±6km, ML4.1/18, 1C-2D, Error ellipse: s-maj=2.6km s-min=1.3km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	**Ngariki Road**	**0.49**	**1**	PN	Pn	21 53 24.3	0.0
DFE	**Dawson Falls**	**0.52**	**16**	PN	Pn	21 53 24.5	0.0
NWEZ	**Newall Road**	**0.55**	**356**	PN	Pn	21 53 24.4	-0.1
PKE	**Pukeiti**	**0.63**	**5**	PN	Pn	21 53 24.7	-0.1
RAEZ	**Rainy Point**	**0.65**	**35**	PN	Pn	21 53 24.6	-0.3
DREZ	**Durham Road**	**0.67**	**19**	PN	Pn	21 53 24.7	-0.3
MHEZ	**Mangahewa**	**0.81**	**23**	PN	Pn	21 53 25.5	0.0
WAZ	**Wanganui**	**0.82**	**86**	PN	Pn	21 53 26.1	+0.6
VRZ	**Vera Road**	**0.95**	**43**	PN	Pn	21 53 25.6	-0.7
DUWZ	**D'Urville Isla**	**0.98**	**180**	PN	Pn	21 53 26.5	+0.2
PKVZ	**Pokaka**	**1.23**	**65**	PN	Pn	21 53 27.6	-0.4
MTVZ	**Mangateitei**	**1.28**	**70**	↓PN	Pn	21 53 28.1	-0.2
KIW	**Kapiti Island**	**1.28**	**144**	PN	Pn	21 53 28.1	-0.1
TRVZ	**Turoa**	**1.36**	**68**	PN	Pn	21 53 28.9	-0.3
OGWZ	**Otaki Gorge**	**1.38**	**136**	PN	Pn	21 53 29.0	+0.2
FWVZ	**Far West T-bar**	**1.39**	**66**	PN	Pn	21 53 28.9	-0.3
WNVZ	**Wahianoa**	**1.39**	**70**	PN	Pn	21 53 29.1	-0.1
TWVZ	**Taurewa**	**1.40**	**58**	PN	Pn	21 53 28.5	-0.7
WPVZ	**Whakapapa**	**1.40**	**64**	PN	Pn	21 53 29.0	-0.3
TCW	**Tory Channel**	**1.41**	**169**	PN	Pn	21 53 29.5	+0.4
TCW					SN	21 53 55.5	
NNZ	**Nelson**	**1.45**	**196**	PN	Pn	21 53 29.3	-0.1
TUVZ	**Tukino**	**1.45**	**68**	PN	Pn	21 53 29.7	0.0
NGZ	**Ngauruhoe**	**1.46**	**64**	PN	Pn	21 53 29.3	-0.4
QRZ	**Quartz Range**	**1.46**	**226**	↑PN	Pn	21 53 29.0	-0.5
WTVZ	**West Tongariro**	**1.48**	**62**	PN	Pn	21 53 29.4	-0.4
MOVZ	**Moawhango**	**1.48**	**74**	PN	Pn	21 53 29.2	-0.6
HIZ	**Hauiti**	**1.50**	**29**	↓PN	Pn	21 53 29.0	-0.9
OTVZ	**Oturere**	**1.50**	**65**	PN	Pn	21 53 29.9	-0.2
KRVZ	**Karearearewa**	**1.52**	**62**	PN	Pn	21 53 29.8	-0.4
MRZ	**Mangatainoka R**	**1.52**	**124**	PN	Pn	21 53 29.9	0.0
POWZ	**Post Office Ro**	**1.53**	**112**	PN	Pn	21 53 30.1	+0.1
CAW	**Cannon Point**	**1.55**	**146**	PN	Pn	21 53 30.2	0.0
TSZ	**Takapari Road**	**1.59**	**99**	PN	Pn	21 53 30.6	+0.1
SNZO	**South Karori**	**1.60**	**158**	PN	Pn	21 53 30.3	-0.2
TUWZ	**Tuamarina**	**1.60**	**179**	PN	Pn	21 53 30.5	0.0
KATZ	**Kakaramea**	**1.62**	**59**	PN	Pn	21 53 30.7	-0.3
HOWZ	**Holdsworth Sta**	**1.62**	**132**	PN	Pn	21 53 30.7	-0.1
BHHZ	**Black Hill Sta**	**1.69**	**79**	PN	Pn	21 53 30.8	-0.6
RATZ	**Rangitukua**	**1.73**	**57**	PN	Pn	21 53 31.2	-0.6
BHW	**Baring Head**	**1.74**	**156**	PN	Pn	21 53 31.3	-0.3
PNHZ	**Pukenui**	**1.76**	**94**	PN	Pn	21 53 32.0	+0.1
TIWZ	**Tintock**	**1.78**	**123**	PN	Pn	21 53 32.2	+0.1
DVHZ	**Dannevirke**	**1.79**	**106**	PN	Pn	21 53 32.3	+0.1
MTW	**Mount Morrison**	**1.80**	**138**	PN	Pn	21 53 32.2	0.0
MSWZ	**Moikau Station**	**1.88**	**148**	PN	Pn	21 53 32.9	-0.1
BSWZ	**Blackbirch Sta**	**1.89**	**181**	PN	Pn	21 53 32.9	+0.2
PAWZ	**Paruwai Farm**	**1.93**	**144**	PN	Pn	21 53 33.5	+0.1
WPHZ	**Waipukurau**	**1.95**	**98**	PN	Pn	21 53 33.9	+0.3
BFZ	**Birch Farm**	**1.98**	**116**	PN	Pn	21 53 33.8	0.0
TMWZ	**Te Maipa**	**1.98**	**131**	PN	Pn	21 53 33.9	+0.1
PLWZ	**Palliser**	**2.02**	**150**	PN	Pn	21 53 34.0	-0.3
TRWZ	**Traveller**	**2.07**	**140**	PN	Pn	21 53 34.9	+0.2
THZ	**Tophouse**	**2.08**	**201**	PN	Pn	21 53 34.6	-0.3
BKZ	**Black Stump Fm**	**2.10**	**73**	PN	Pn	21 53 34.6	-0.5
PRHZ	**Porangahau**	**2.13**	**103**	PN	Pn	21 53 35.6	+0.3
MCHZ	**McNeill Hill**	**2.18**	**81**	PN	Pn	21 53 36.4	+0.7
PXZ	**Pawanui**	**2.27**	**96**	PN	Pn	21 53 36.9	+0.3
KAHZ	**Kahuranaki**	**2.28**	**90**	PN	Pn	21 53 37.3	+0.5
NMHZ	**Naumai**	**2.35**	**73**	PN	Pn	21 53 38.0	+0.5
CKHZ	**Cape Kidnapper**	**2.44**	**87**	PN	Pn	21 53 38.9	+0.6
DSZ	**Denniston Nort**	**2.50**	**219**	PN	Pn	21 53 38.1	-0.8
KHZ	**Kahutara**	**2.61**	**186**	PN	Pn	21 53 39.2	-0.7
RAHZ	**Arahi**	**2.62**	**71**	PN	Pn	21 53 40.1	-0.1
URZ	**Urewera**	**2.94**	**59**	PN	Pn	21 53 41.9	-1.7
KNZ	**Kokohu**	**3.02**	**76**	PN	Pn	21 53 44.0	-0.3
MHGZ	**Mahia Peninsul**	**3.16**	**79**	PN	Pn	21 53 46.2	+0.2
MWZ	**Matawai**	**3.18**	**63**	PN	Pn	21 53 45.1	-1.2
PRGZ	**Paritu Road**	**3.20**	**75**	PN	Pn	21 53 46.5	0.0
LTZ	**Lake Taylor**	**3.21**	**202**	PN	Pn	21 53 45.3	-1.1
CNGZ	**Carnagh Statio**	**3.59**	**69**	PN	Pn	21 53 50.9	+0.1
PUZ	**Puketiti**	**3.81**	**64**	PN	Pn	21 53 52.2	-1.3
MQZ	**McQueen's Vall**	**3.99**	**193**	PN	Pn	21 53 53.4	-2.1
WVZ	**Waitaha Valley**	**4.03**	**215**	PN	Pn	21 53 54.3	-1.6
MXZ	**Matakaoa Point**	**4.11**	**58**	PN	Pn	21 53 55.6	-1.3
RPZ	**Rata Peaks**	**4.44**	**208**	PN	Pn	21 53 59.2	-1.6
FOZ	**Fox Glacier**	**4.90**	**219**	PN	Pn	21 54 03.3	-3.0
LBZ	**Lake Benmore**	**5.34**	**210**	PN	Pn	21 54 09.8	-1.9
JCZ	**Jackson Bay**	**5.73**	**220**	PN	Pn	21 54 14.3	-2.5
EAZ	**Earnscleugh**	**6.39**	**211**	PN	Pn	21 54 21.7	-3.2

IDC 07 21:55:05.4±6.6, 0.83S×132.30E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=429.0km s-min=25.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.10**	**174**	P	P	21 59 29.4	-0.5
	0.1nm,0.3s,baz=355,slow=13,SNR=9.8						
ASAR	**Alice Springs**	**22.76**	**176**	P	P	22 00 09.9	+0.4
	0.9nm,0.5s,baz=355,slow=11,SNR=16						
MKAR	**Makanchi Array**	**64.46**	**324**	P	P	22 05 43.8	-0.1
	0.1nm,0.5s,baz=109,slow=10,SNR=2.3						

*ISK **07** 22:33:39.6, 37.02N×29.19E, h26km, MD2.7*
*DDA **07** 22:33:39.6, 36.98N×29.16E, h7km, MD2.7*
*ISCJB **07** 22:33:41.1±1.5, 37.04N±0.06×29.24E±0.06, h30km±18km, Error ellipse: s-maj=11.7km s-min=7.2km az=29.8*
*CSEM **07** 22:33:42.0±0.4, 37.10N×29.37E, h20km, MD2.7, Error ellipse: s-maj=13.0km s-min=10.1km az=28.0*
ISC 07 22:33:41.8±1.1, 37.09N±0.04×29.34E±0.04, h30km±7km, n11, σ1935/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.14**	**64**	ePG	Pb	22 33 46.9	-0.8
GLHS				eSG	Sb	22 33 52.3	+0.7
GLHS	**Glhisar (BURDU**	**0.14**	**64**	ePg	Pb	22 33 46.9	-0.8
GLHS				eSg	Sb	22 33 52.3	+0.7
GOLH	**Golhisar**	**0.23**	**51**	*i* P	Pb	22 33 47.3	-1.2
GOLH				*i* S	Sb	22 33 54.0	+1.0
GOLH	**Golhisar**	**0.23**	**51**	*i* P	Pb	22 33 47.3	-1.2
GOLH				*i* S	Sb	22 33 54.0	+1.0
ELL	**Elmali**	**0.57**	**127**	ePG	Pb	22 33 52.6	-0.9
ELL				eSG	Sn	22 34 02.9	+0.4
ELL	**Elmali**	**0.57**	**127**	ePg	Pb	22 33 52.6	-0.9
ELL				eSg	Sn	22 34 02.9	+0.4
TURN	**Turunc**	**0.63**	**250**	*i* P	Pb	22 33 54.3	-0.1
TURN				*i* S	Sn	22 34 05.6	+1.9
TURN	**Turunc**	**0.63**	**250**	*i* P	Pb	22 33 54.3	-0.1
TURN				*i* S	Sn	22 34 05.6	+1.9
DNZL	**Cakiroluk**	**0.64**	**339**	*i* P	Pb	22 33 54.1	-0.6
DNZL				*i* S	Sn	22 34 05.2	+0.9
DNZL	**Cakiroluk**	**0.64**	**339**	*i* P	Pb	22 33 54.1	-0.6
DNZL				*i* S	Sn	22 34 05.2	+0.9
YER	**Yerkesik**	**0.85**	**273**	ePG	Pn	22 33 54.5	-3.3
YER				eSG	Sb	22 34 05.5	-3.6

IDC 07 22:35:51.4±2.8, 2.03N×96.60E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/24, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=100.8km s-min=27.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.48**	**8**	Pn	Pn	22 39 45.5	+1.2
	0.2nm,0.3s,baz=198,slow=11,SNR=22						
WRA	**Warramunga Arr**	**42.99**	**122**	P	P	22 43 52.8	0.0
	0.4nm,0.6s,baz=302,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**46.29**	**346**	P	P	22 44 18.9	0.0
	2.1nm,0.7s,baz=160,slow=7.8,SNR=27						
SONM	**Songino Array**	**46.41**	**9**	P	P	22 44 19.5	-0.4
	0.5nm,0.3s,baz=189,slow=9.0,SNR=13						
KURK	**Kurchatov**	**50.84**	**345**	P	P	22 44 53.3	-0.5
	1.1nm,0.5s,baz=164,slow=7.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**52.65**	**351**	P	P	22 45 06.9	-0.3
	2.1nm,0.6s,baz=172,slow=7.6,SNR=16						

IDC 07 22:37:22.6±7.4, 7.20S×149.74E, h86km±50km, mb3.3/2, mb1 3.4/4, mb1mx3.1/17, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=91.1km s-min=52.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**229**	P	Pn	22 38 12.5	-0.4
	6.6nm,0.3s,baz=9.5,slow=4.9,SNR=10						
PMG				S	Sn	22 38 53.1	+1.3
	2.4nm,0.3s,baz=156,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**19.58**	**228**	P	P	22 41 43.5	-0.4
	0.2nm,0.3s,baz=55,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.34**	**221**	P	P	22 42 14.2	+0.6
	0.3nm,0.4s,baz=52,slow=9.6,SNR=6.4						
FITZ	**Fitzroy Crossi**	**25.85**	**243**	P	P	22 42 44.6	-1.7
	1.9nm,0.5s,baz=69,slow=9.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**148.01**	**283**	PKPbc	PKPbc	22 56 59.6	+0.4
	0.1nm,0.4s,baz=58,slow=2.5,SNR=3.9						

*IDC **07** 22:38:09.3±1.4, 51.79N×174.78W, h0km, mb3.9/4, mb1 4.3/6, mb1mx3.7/27, mbtmp4.0/6, ML4.5/2, Error ellipse: s-maj=43.4km s-min=22.8km az=1.0*
*ISCJB **07** 22:38:13.4±1.0, 51.46N±0.07×174.6W±0.1, h40km, mb3.9/6, Error ellipse: s-maj=10.4km s-min=9.9km az=171.0*
*NEIC **07** 22:38:16.2±2.1, 51.63N×174.72W, h54km±12km, mb4.1/2, ML3.8(AEIC), Error ellipse: s-maj=27.3km s-min=13.7km az=203.0*
ISC 07 22:38:14.4±1.1, 51.6N±0.1×174.83W±0.09, h40km, n32, σ1927/36, mb3.9/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.70**	**34**	P	Pn	22 38 28.3	+0.5
ATKA				S	Sn	22 38 36.6	-0.8
KOFP	**Korovin Flat P**	**0.79**	**34**	P	Pn	22 38 30.7	+1.6
KOKL	**Mount Kliuchef**	**0.80**	**29**	P	Pn	22 38 30.7	+1.4
KOKV	**Korovin Volcan**	**0.84**	**29**	P	Pn	22 38 31.7	+1.8
KOKV				S	Sn	22 38 43.8	+2.7
NIKO	**Nikolski**	**3.91**	**67**	P	Pn	22 39 12.2	+0.4
OKSO	**Okmok South**	**4.43**	**64**	P	Pn	22 39 20.0	+1.0
MSOM	**Makushin Julie**	**5.27**	**62**	P	Pn	22 39 31.7	+1.3
MSOM				S	Sn	22 40 31.2	+1.4
MREP	**Makushin Rep't**	**5.38**	**63**	P	Pn	22 39 33.4	+1.3
UNV	**Unalaska Valle**	**5.53**	**63**	P	Pn	22 39 34.7	+0.7
AKUT	**Akutan**	**6.03**	**62**	ePn	Pn	22 39 43.1	+2.1
AKUT				eSn	Sn	22 40 48.0	-0.6
SDPT	**Sand Point**	**9.33**	**61**	ePn	Pn	22 40 25.5	-0.7
KDAK	**Kodiak Island**	**14.22**	**56**	Pn	Pn	22 41 30.9	-2.0
	0.9nm,0.3s,baz=258,slow=15,SNR=11						
KDAK	**Kodiak Island**	**14.22**	**56**	Pn	Pn	22 41 30.9	-2.0
TNA	**Tin City**	**14.42**	**12**	ePn	P	22 41 39.5	-2.2
ILAR	**Eielson Array**	**19.52**	**37**	P	P	22 42 37.1	-0.9
	1.3nm,0.3s,baz=224,slow=9.1,SNR=106						
ILAR	**Eielson Array**	**19.52**	**37**	P	P	22 42 37.1	-0.9
EGAK	**Eagle**	**21.75**	**40**	eP	P

ASAR	**Alice Springs**	**39.18**	**160**	P	**P**	**22 46 36.4**	**+0.6**
	1.2nm,0.6s,baz=339,slow=7.0,SNR=20							

WAR ***07*** *22:44:20.9, 50.25N× 18.88E*
ISCJB ***07*** *22:44:20.3±0.5, 50.22N±0.04× 18.74E±0.03, h0km, Error ellipse: s-maj=5.4km s-min=2.4km az=12.7*
CSEM ***07*** *22:44:21.5±0.2, 50.23N× 18.79E, h2km, ML3.0/7, Error ellipse: s-maj=6.3km s-min=2.8km az=9.0*
IPEC ***07*** *22:44:21.3±0.1, 50.22N× 18.85E, h4km±1km, ML2.0/3, Error ellipse: s-maj=2.2km s-min=0.8km az=169.0*
PRU ***07*** *22:44:22.2, 50.20N× 18.78E, h0km*
VIE ***07*** *22:44:23.7±1.1, 49.70N× 18.86E, h0km, mb1.7/1, ML2.4/4, Error ellipse: s-maj=6.8km s-min=5.3km az=109.0 46 km ESE of Ostrava Suspected Mining induced.*

ISC 07 22:44:20.0±0.8, 50.22N±0.03× 18.85E±0.02, h0km, n41, σ1933/64, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.60**	**230**	*e*PG	**Pb**	**22 44 33.3**	**+0.1**
OKC	**Ostrava-Krasne**	**0.60**	**230**	Pg	**Pb**	**22 44 33.3**	**+0.1**
OJC	**Ojcow**	**0.61**	**90**	*e*Pg	**Pb**	**22 44 32.8**	**-0.7**
OJC				*e*Sg	**Sb**	**22 44 41.4**	**-1.2**
OJC	**Ojcow** baz=271	**0.61**	**90**	*e*Pg	**Pb**	**22 44 32.7**	**-0.7**
OJC	baz=271			*e*Sg	**Sb**	**22 44 41.0**	**-1.6**
MORC	**Moravsky Berou** baz=62	**0.96**	**243**	*e*Pg	**Pg**	**22 44 39.3**	**+1.1**
MORC	27nm,0.3s,baz=62			*e*Sg	**Sg**	**22 44 52.3**	**+1.7**
NIE	**Niedzica**	**1.24**	**130**	*e*Pg	**Pn**	**22 44 45.2**	**+0.6**
NIE				*e*Sg	**Sn**	**22 45 02.9**	**+0.9**
NIE	**Niedzica**	**1.24**	**130**	*e*Pg	**Pn**	**22 44 45.2**	**+0.6**
NIE				*e*Sg	**Sn**	**22 45 02.9**	**+0.9**
DPC	**Dobruska-Polom**	**1.63**	**276**	*e*PG	**Pg**	**22 44 52.1**	**+0.9**
DPC	comp=Z,23nm,0.6s			*e*SG	**Sg**	**22 45 13.3**	**+1.1**
DPC	**Dobruska-Polom** baz=94	**1.63**	**276**	*e*Pn	**Pn**	**22 44 50.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.63**	**276**	Pg	**Pg**	**22 44 52.1**	**+0.9**
DPC	23nm,0.6s			Sg	**Sg**	**22 45 13.3**	**+1.1**
KOLL	**Kolacno**	**1.67**	**190**	*e*PN	**Pg**	**22 44 53.3**	**+1.4**
KOLL				*e*SN	**Sb**	**22 45 14.1**	**+1.0**
KOLL	**Kolacno**	**1.67**	**190**	*e*Pn	**Pg**	**22 44 53.3**	**+1.4**
KOLL				*e*Sn	**Sb**	**22 45 14.1**	**+1.0**
VRAC	**Vranov**	**1.73**	**239**	*e*Pn	**Pb**	**22 44 52.6**	**+0.1**
VRAC	15nm,0.3s,baz=57			*e*Sg	**Sn**	**22 45 14.6**	**+0.6**
VYHS	**Vyhne**	**1.73**	**180**	*e*PN	**Pn**	**22 44 52.0**	**+0.7**
VYHS				*e*SN	**Sn**	**22 45 14.1**	**+0.1**
VYHS	**Vyhne** baz=0.2	**1.73**	**180**	*e*Pn	**Pn**	**22 44 51.9**	**+0.7**
VYHS				*e*Sn	**Sn**	**22 45 14.1**	**+0.1**
STHS	**Stebnicka Huta**	**1.75**	**117**	*e*PN	**Pg**	**22 44 54.4**	**+1.0**
STHS				*e*SN	**Sg**	**22 45 17.1**	**+1.1**
STHS	**Stebnicka Huta**	**1.75**	**117**	*e*Pn	**Pg**	**22 44 54.4**	**+1.0**
STHS				*e*Sn	**Sg**	**22 45 17.1**	**+1.1**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**	**22 44 54.4**	**+0.9**
KSP				*e*Sg	**Sg**	**22 45 17.2**	**+1.1**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**	**22 44 54.3**	**+0.9**
KSP				*e*Sg	**Sg**	**22 45 16.8**	**+0.7**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**	**22 44 54.3**	**+0.9**
KSP				*e*Sg	**Sg**	**22 45 16.8**	**+0.7**
UPC	**Upice**	**1.84**	**280**	*e*SG	**Sg**	**22 45 20.2**	**+1.1**
UPC	**Upice**	**1.84**	**280**	Sg	**Sg**	**22 45 20.2**	**+1.1**
KRUC	**Moravsky** baz=53	**1.98**	**235**	*e*Pn	**Pn**	**22 44 56.2**	**+1.6**
KRUC	8.6nm,0.2s,baz=53			*e*Sg	**Sb**	**22 45 22.1**	**+0.2**
KECS	**Kecovo**	**2.04**	**148**	*e*PN	**Pn**	**22 44 56.3**	**+0.8**
KECS				*e*SN	**Sn**	**22 45 19.9**	**-1.8**
KECS	**Kecovo**	**2.04**	**148**	*e*Pn	**Pn**	**22 44 56.4**	**+0.9**
KECS				*e*Sn	**Sn**	**22 45 19.9**	**-1.8**
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*e*PN	**Pg**	**22 45 00.7**	**-0.5**
CRVS				*e*SN	**Sb**	**22 45 26.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*e*Pn	**Pg**	**22 45 00.7**	**-0.5**
CRVS				*e*Sn	**Sb**	**22 45 26.9**	**-0.1**
TREC	**Trest**	**2.37**	**248**	*e*SG	**Sg**	**22 45 34.8**	**-1.3**
TREC	**Trest**	**2.37**	**248**	Sg	**Sg**	**22 45 34.8**	**-1.3**
PVCC	**Panska Ves** comp=Z,12nm,0.2s	**2.76**	**278**	*e*SG	**Sg**	**22 45 49.4**	**+0.8**
PVCC	**Panska Ves** 12nm,0.2s	**2.76**	**278**	Sg	**Sg**	**22 45 49.4**	**+0.8**
PRU	**Pruhonice** comp=Z,4.6nm,0.6s	**2.79**	**267**	*e*SG	**Sg**	**22 45 48.2**	**-1.2**
PRU	**Pruhonice** 4.6nm,0.6s	**2.79**	**267**	Sg	**Sg**	**22 45 48.2**	**-1.2**
CONA	**Conrad Observa**	**3.02**	**222**	⇑*i*Sn	**Sn**	**22 45 41.5**	**-4.5**
CONA	**Conrad Observa**	**3.02**	**222**	Sn	**Sn**	**22 45 41.5**	**-4.5**
BRG	**Berggiesshubel**	**3.20**	**284**	PG	**Pg**	**22 45 20.9**	**-0.3**
BRG	3.9nm,0.6s			SG	**Sg**	**22 46 02.1**	**-0.6**
KHC	**Kasperske Hory** comp=Z,5.7nm,0.6s	**3.59**	**254**	*e*SG	**Sg**	**22 46 14.5**	**-0.9**
KHC	**Kasperske Hory** 5.7nm,0.6s	**3.59**	**254**	Sg	**Sg**	**22 46 14.5**	**-0.9**
MOA	**Molln** 3.8nm,0.6s	**3.84**	**234**	⇑*i*Sg	**Sg**	**22 46 20.9**	**-2.3**
MOA	**Molln** 3.8nm,0.6s	**3.84**	**234**	Sg	**Sg**	**22 46 20.9**	**-2.3**
CLL	**Collm**	**3.87**	**289**	*e*Sg	**Sg**	**22 46 23.0**	**-1.2**

ISCJB ***07*** *23:01:33.8±0.7, 11.10N±0.04× 62.24W±0.04, h126km±6km, Error ellipse: s-maj=7.4km s-min=6.3km az=150.7*
FUNV ***07*** *23:01:37.4, 11.05N× 62.39W, h125km, MW3.0*
TRN ***07*** *23:01:39.8, 11.26N× 61.93W, h95km, MD3.1*

ISC 07 23:01:31.4±1.6, 11.18N±0.05× 62.22W±0.04, h147km±11km, n21, σ2934/31, 3C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.53**	**180**	⇑*e*P	**Pn**	**23 01 54.6**	**+2.1**
GUIV				*e*S	**Sn**	**23 02 07.9**	**-0.7**
ITEV	**Isla Los Testi**	**0.91**	**281**	⇓*e*P	**Pn**	**23 01 56.7**	**+1.7**
ITEV				*e*S	**Sn**	**23 02 12.5**	**-0.6**
TRN	**Trinidad (W)**	**0.96**	**123**	⇑*i*P	Pn	23 01 58.9	+3.4
TRN				*e*S	**Sn**	**23 02 10.3**	**-3.5**
CRUV	**Carupano**	**1.12**	**244**	⇑*e*P	**Pn**	**23 01 59.5**	**+2.7**
CRUV				*e*S	**Sn**	**23 02 14.5**	**-1.7**
GRW	**Mount Saint Ca**	**1.12**	**29**	*e*P	**Pn**	**23 01 59.1**	**+2.2**
GRW				*e*S	**Sn**	**23 02 13.5**	**-3.1**
GUNV	**Guanoco**	**1.23**	**215**	*e*P	**Pn**	**23 02 00.7**	**+2.8**
GUNV				*e*S	**Sn**	**23 02 16.5**	**-1.8**
GRSS	**Sisters**	**1.26**	**28**	*e*P	**Pn**	**23 02 00.3**	**+2.0**
GRSS				*e*S	**Sn**	**23 02 16.9**	**-2.0**
GRIC	**Isle de Caille**	**1.27**	**29**	*e*P	**Pn**	**23 02 00.2**	**+2.0**
GRIC				*e*S	**Sn**	**23 02 16.8**	**-2.1**
TBH	**Brigand Hill**	**1.32**	**121**	*e*P	Pn	23 02 02.5	+3.6
TBH				*e*S	**Sn**	**23 02 17.6**	**-2.3**
TPR	**Prospect**	**1.42**	**89**	*e*P	**Pn**	**23 02 02.4**	**+2.7**
TOSP	**Speyside**	**1.66**	**86**	*e*P	**Pn**	**23 02 03.6**	**+1.2**
TOSP				*e*S	**Sn**	**23 02 22.4**	**-3.6**
ORIV	**Oritupano**	**2.40**	**209**	*e*P	**Pn**	**23 02 13.2**	**+2.1**
ORIV				*e*S	**Sn**	**23 02 38.8**	**-2.9**
IBAV	**Isla La Blanqu**	**2.40**	**286**	*e*P	**Pn**	**23 02 13.9**	**+2.9**
PCRV	**Puerto La Cruz**	**2.58**	**248**	*e*P	**Pn**	**23 02 14.2**	**+0.9**
RIOV	**Rio Grande**	**3.11**	**173**	*e*P	Pn	23 02 24.0	+3.9
RIOV				*e*S	**Sn**	**23 02 56.9**	**-0.9**
GURV	**El Guri**	**3.50**	**194**	*e*P	**Pn**	**23 02 26.7**	**+1.6**
CUPV	**Cœpira**	**3.68**	**253**	*e*P	**Pn**	**23 02 29.4**	**+1.9**
CUPV				*e*S	**Sn**	**23 03 07.6**	**-3.3**
MERV	**Las Mercedes**	**4.45**	**245**	*e*P	**Pn**	**23 02 38.4**	**+1.0**
MERV				*e*S	Sn	23 03 23.9	-4.9
LUEV	**Luepa**	**5.35**	**172**	*e*P	**Pn**	**23 02 52.4**	**+2.8**
BAUV	**El Baul**	**6.15**	**249**	*e*P	**Pn**	**23 03 01.0**	**+0.9**
PAYV	**Puerto Ayacuch**	**7.85**	**224**	*e*P	**Pn**	**23 03 23.1**	**+0.2**

ISCJB ***07*** *23:02:43.7±0.5, 53.09S±0.06× 9.6E±0.2, h10km, mb4.5/10, MS4.0/17, Error ellipse: s-maj=17.7km s-min=8.6km az=10.8*
IDC ***07*** *23:02:44.2±1.0, 53.07S× 9.62E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/15, mbtmp4.4/8, MS3.9/16, Ms1 3.9/16, ms1mx3.9/22, Error ellipse: s-maj=33.1km s-min=18.9km az=118.0*
NEIC ***07*** *23:02:45.5±0.4, 53.06S× 9.54E, h10km, mb4.8/9, Error ellipse: s-maj=18.8km s-min=9.5km az=105.0*

ISC 07 23:02:45.3±0.6, 53.11S±0.08× 9.7E±0.1, h10km, n39, σ0881/30, mb4.5/10, MS3.9/17, 1C-1D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIT	**Maitri**	**17.76**	**178**	*e*P	**P**	**23 06 52.2**	**-0.9**
MAIT				*e*S	Sn	23 09 51.0	-19
VNA1	**Neumayer--Stat**	**19.38**	**198**	*e*	**Pn**	**23 07 11.9**	**0.0**
SNAA	**Sanae**	**19.43**	**192**	*e*	**Pn**	**23 07 13.9**	**+1.2**
SNAA	**Sanae** 114nm,1.0s	**19.43**	**192**	*e*P	**Pn**	**23 07 13.3**	**+0.6**
SNAA				*e*S	Sn	23 10 32.1	-18
VNA2	**Neumayer--Watz** baz=21,slow=10	**19.45**	**197**	*e*	**Pn**	**23 07 12.4**	**-0.5**
VNA3	**Neumayer Olymp**	**20.13**	**198**	*e*	Pn	23 07 20.4	-0.5
SYO	**Syowa Base**	**21.17**	**150**	⇓*e*P	**P**	**23 07 29.2**	**-1.1**
SYO	**Syowa Base**	**21.17**	**150**	*e*P	**P**	**23 07 30.2**	**-0.1**
SUR	**Sutherland** 28nm,1.4s,baz=208,slow=17,SNR=3.7	**22.21**	**26**	P	**P**	**23 07 43.8**	**+1.7**
SUR	comp=Z,452nm,18.2s,baz=195,slow=31			LR	LR	23 14 14.7	
SUR	**Sutherland** 3.8nm,0.6s	**22.21**	**26**	*e*P	**P**	**23 07 42.9**	**+0.9**
SUR				*e*PcP	**PcP**	**23 11 38.8**	**+0.5**
BOSA	**Boshof** 5.4nm,1.2s,baz=219,slow=14,SNR=2.8	**27.03**	**31**	P	**P**	**23 08 28.0**	**+0.3**
BOSA	comp=Z,238nm,20.2s,baz=199,slow=32			LR	LR	23 17 01.3	
BOSA	**Boshof** 7.9nm,1.2s	**27.03**	**31**	*e*P	**P**	**23 08 28.7**	**+1.0**
MAW	**Mawson** comp=Z,254nm,20.6s,baz=285,slow=31	**28.91**	**141**	LR	LR	23 17 53.0	
LBTB	**Lobatse**	**30.51**	**29**	P	**P**	**23 08 58.8**	**+0.2**
QSPA	**South Pole Qui** 7.7nm,0.7s,baz=231,slow=4.8,SNR=22	**37.13**	**180**	P	**P**	**23 09 56.0**	**+0.2**
QSPA	comp=Z,456nm,21.3s,baz=48,slow=34			LR	LR	23 24 05.5	
QSPA	**South Pole Qui** 23nm,1.1s	**37.13**	**180**	*e*P	**P**	**23 09 55.8**	**-0.1**
QSPA				*e*PP	PP	23 11 20.9	+0.8
PMSA	**Palmer Station** comp=Z,265nm,18.1s,baz=324,slow=31	**37.52**	**222**	LR	LR	23 22 10.1	
USHA	**Ushuaia** comp=Z,214nm,19.1s,baz=234,slow=30	**43.74**	**235**	LR	LR	23 24 50.2	
VNDA	**Vanda** 18nm,0.8s	**48.49**	**172**	*e*P	**P**	**23 11 28.8**	**+1.3**
VNDA				*e*PP	PP	23 13 20.1	+0.3
PLCA	**Paso Flores** 2.4nm,0.9s,baz=134,slow=9.0,SNR=4.8	**53.40**	**249**	P	**P**	**23 12 06.7**	**+1.7**
PLCA	comp=Z,126nm,18.9s,baz=97,slow=32			LR	LR	23 30 51.2	
PLCA	**Paso Flores** 1.7nm,0.7s	**53.40**	**249**	*e*P	**P**	**23 12 05.0**	**0.0**
CPUP	**Villa Florida** 2.6nm,0.7s,baz=132,slow=7.9,SNR=9.0	**55.72**	**271**	P	**P**	**23 12 21.3**	**-0.6**
CPUP	comp=Z,103nm,20.3s,baz=122,slow=32			LR	LR	23 32 11.3	
CFAA	**Coronel Fontan** comp=Z,27nm,21.0s,baz=146,slow=31	**58.42**	**258**	LR	LR	23 32 47.8	
RCBR	**Riachuelo** comp=Z,57nm,18.3s,baz=48,slow=31	**59.98**	**305**	LR	LR	23 33 18.8	
DBIC	**Dimbokro** 2.5nm,0.7s,baz=135,slow=7.1,SNR=5.3	**60.81**	**343**	P	**P**	**23 12 56.6**	**-0.9**
DBIC	comp=Z,122nm,21.1s,baz=88,slow=30			LR	LR	23 33 13.7	
DBIC	**Dimbokro** 7.3nm,0.8s	**60.81**	**343**	*e*P	**P**	**23 12 56.6**	**-0.9**
TORD	**Torodi Ar. Bea** 1.1nm,0.7s,baz=164,slow=5.0,SNR=6.0	**66.34**	**351**	P	**P**	**23 13 34.0**	**+0.1**
TORD	comp=Z,137nm,21.9s,baz=150,slow=30			LR	LR	23 36 07.0	
TORD	**Torodi Ar. Bea**	**66.34**	**351**	P	**P**	**23 13 34.0**	**+0.1**
LPAZ	**La Paz** 6.6nm,0.8s,baz=136,slow=4.8,SNR=19	**69.85**	**270**	P	**P**	**23 13 57.6**	**+0.7**
LPAZ	comp=Z,64nm,18.4s,baz=122,slow=34			LR	LR	23 42 08.4	
LPAZ	**La Paz** 13nm,0.9s	**69.85**	**270**	*e*P	**P**	**23 13 56.5**	**-0.4**
ATAH	**Atahualpa** comp=Z,50nm,20.8s,baz=18,slow=31	**83.20**	**267**	LR	LR	23 46 01.9	
KEST	**Kesra** comp=Z,37nm,18.3s,baz=240,slow=34	**88.47**	**360**	LR	LR	23 52 22.8	
ROSC	**El Rosal** comp=Z,124nm,19.2s,baz=51,slow=33	**90.26**	**278**	LR	LR	23 52 46.5	
WRA	**Warramunga Arr** comp=Z,835nm,18.6s,baz=355,slow=32	**92.98**	**129**	LR	LR	23 52 14.3	
WRAB	**Tennant Creek** 2.4nm,0.8s	**92.99**	**129**	*e*P	**P**	**23 15 58.0**	**-1.0**
YKA	**Yellowknife Ar** 2.0nm,0.9s,baz=94,slow=2.3,SNR=16	**149.81**	**310**	PKPbc	**PKPbc**	**23 22 34.0**	**0.0**
YKA	**Yellowknife Ar**	**149.81**	**310**	PKPbc	**PKPbc**	**23 22 34.0**	**0.0**
ILAR	**Eielson Array** 0.6nm,1.1s,baz=24,slow=2.8,SNR=3.2	**163.32**	**324**	PKPab	**PKPab**	**23 23 37.0**	**-0.5**
ILAR	**Eielson Array**	**163.32**	**324**	PKPab	**PKPab**	**23 23 37.0**	**-0.5**

ISCJB ***07*** *23:16:46.9±0.2, 15.79S±0.04× 69.31W±0.06, h213km, mb4.1/32, Error ellipse: s-maj=8.6km s-min=4.3km az=154.0*
NEIC ***07*** *23:16:50.6±0.5, 15.91S× 69.32W, h237km±5km, mb4.4/13, Error ellipse: s-maj=8.1km s-min=5.0km az=54.0*
NEIC Felt at Puno and Sorata.
IDC ***07*** *23:16:51.0±0.5, 15.79S× 69.25W, h238km±4km, mb3.8/11, mb1 3.9/16, mb1mx3.8/24, mbtmp3.7/16, Error ellipse: s-maj=20.3km s-min=10.5km az=28.0*

ISC 07 23:16:48.0±0.4, 15.93S±0.05× 69.38W±0.06, h213km, n246, σ0997/259, mb4.3/32, 80C-79D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 265nm,0.3s,baz=329,slow=5.9,SNR=4177	**1.25**	**107**	P	Pn	23 17 27.9	+6.4
LPAZ	76nm,0.3s,baz=197,slow=19,SNR=13			S	S	23 17 54.8	+7.3
LPAZ	**La Paz**	**1.25**	**107**	⇑*i*Pn	Pn	23 17 27.6	+6.1
LPAZ				*e*Sn	S	23 17 54.8	+7.3
LVC	**Limon Verde** 1.7nm,0.3s,baz=131,slow=11,SNR=7.4	**6.66**	**176**	*e*Pn	**Pn**	**23 18 25.9**	**+1.8**
LVC	5.7nm,0.3s,baz=3.5,slow=19,SNR=5.7			*e*Sn	**S**	**23 19 39.7**	**-0.8**
SIV	**San Ignacio** 2.0nm,0.3s,baz=284,slow=12,SNR=30	**7.99**	**92**	P	**Pn**	**23 18 42.6**	**+1.4**
SIV	**San Ignacio**	**7.99**	**92**	P	**Pn**	**23 18 42.6**	**+1.4**
NNA	**Nana** 1.7nm,0.3s,baz=131,slow=11,SNR=7.4	**8.24**	**297**	P	Pn	23 18 47.8	+3.4
NNA	5.7nm,0.3s,baz=3.5,slow=19,SNR=5.7			S	**S**	**23 20 17.9**	**+0.3**
NNA	**Nana** 28nm,0.8s	**8.24**	**297**	*e*Pn	**Pn**	**23 18 46.5**	**+2.1**
NNA				*e*S	**S**	**23 20 17.1**	**-0.4**
SAML	**Samuel**	**9.21**	**42**	*e*Pn	**Pn**	**23 18 59.3**	**+2.4**
SAML				*e*S	**S**	**23 20 43.0**	**+2.5**
ATAH	**Atahualpa** 2.8nm,0.3s,baz=136,slow=14,SNR=12	**12.43**	**314**	P	**P**	**23 19 41.9**	**-0.2**
ATAH	**Atahualpa**	**12.43**	**314**	P	**P**	**23 19 41.9**	**-0.2**
LCO	**Las Campanas**	**13.07**	**185**	*e*Pn	**Pn**	**23 19 48.0**	**+1.7**
LCO				*e*S	**S**	**23 22 11.7**	**+0.5**
CPUP	**Villa Florida** 1.0nm,0.3s,baz=310,slow=8.9,SNR=15	**15.26**	**135**	P	**P**	**23 20 14.3**	**+1.4**
CPUP	**Villa Florida**	**15.26**	**135**	P	**P**	**23 20 14.3**	**+1.4**
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=3.3,slow=13,SNR=17	**15.63**	**176**	P	**Pn**	**23 20 19.6**	**+2.2**
CFAA	**Coronel Fontan**	**15.63**	**176**	P	**Pn**	**23 20 19.6**	**+2.2**
ROSC	**El Rosal**	**21.23**	**346**	*e*P	**P**	**23 21 19.6**	**+1.6**
SPB	**Sao Paulo** 9.4nm,0.6s	**22.00**	**114**	*e*P	**P**	**23 21 24.5**	**-0.7**
TRQA	**Tornquist** 74nm,1.5s	**22.98**	**165**	*e*P	**P**	**23 21 34.0**	**0.0**
SDV	**Santo Domingo** 10nm,1.0s	**24.69**	**357**	*e*P	**P**	**23 21 49.4**	**-0.6**
CELP	**Cerrillos**	**33.91**	**5**	*e*P	**P**	**23 23 11.3**	**+0.3**
RCBR	**Riachuelo** 14nm,0.6s,baz=5.2,slow=5.9,SNR=14	**34.32**	**77**	P	**P**	**23 23 15.0**	**+0.3**
RCBR	**Riachuelo**	**34.32**	**77**	P	**P**	**23 23 15.0**	**+0.3**
CMIG	**Matias Romero** 4.8nm,0.5s,baz=129,slow=7.2,SNR=14	**41.34**	**321**	P	**P**	**23 24 14.0**	**+0.7**
CMIG	**Matias Romero**	**41.34**	**321**	P	**P**	**23 24 14.0**	**+0.7**
JCT	**Junction City** 5.5nm,0.6s	**54.66**	**328**	*e*P	**P**	**23 25 55.2**	**+0.1**
JCT	**Junction City** baz=55	**54.66**	**328**	⇑P	**P**	**23 25 54.6**	**-0.5**
628A	**Black Gap, Mar** baz=56,SNR=17	**55.54**	**324**	⇓P	**P**	**23 26 01.7**	**+0.2**
627A	**Terlingua Ranc**	**55.80**	**324**	⇓P	**P**	**23 26 03.0**	**-0.4**
	baz=56,SNR=6.7						
TXAR	**Lajitas Array** 1.9nm,0.7s,baz=144,slow=7.8,SNR=22	**55.87**	**324**	P	**P**	**23 26 03.2**	**-0.6**
TXAR	0.2nm,0.3s,baz=142,slow=6.5,SNR=3.8			PcP	**PcP**	**23 27 00.6**	**+0.6**
TXAR	**Lajitas Array**	**55.87**	**324**	P	**P**	**23 26 03.2**	**-0.6**
TXAR				PcP	**PcP**	**23 27 00.6**	**+0.6**
528A	**Cox Ranch, San** baz=56,SNR=5.1	**56.00**	**325**	⇓P	**P**	**23 26 04.4**	**-0.4**
526A	**Mary Lane Ranc** baz=57,SNR=11	**56.66**	**324**	⇑P	**P**	**23 26 09.0**	**-0.5**
427A	**Hayter Ranch,** baz=57	**56.87**	**325**	⇓P	**P**	**23 26 10.5**	**-0.4**
328A	**Wristen Ranch,** baz=57,SNR=6.6	**56.95**	**326**	⇓P	**P**	**23 26 11.1**	**-0.3**
426A	**McDonald Obser** baz=57	**57.08**	**324**	⇓P	**P**	**23 26 11.9**	**-0.6**
326A	**Caldwell Ranch** baz=58	**57.55**	**325**	⇑P	**P**	**23 26 15.1**	**-0.4**
WMOK	**Wichita Mounta** 1.4nm,0.5s	**57.62**	**331**	*e*P	**P**	**23 26 15.1**	**-0.9**
425A	**Indio Mountain** baz=58,SNR=12	**57.71**	**324**	⇑P	**P**	**23 26 16.3**	**-0.5**
325A	**Bean Ranch, Si** baz=58,SNR=15	**58.14**	**324**	⇓P	**P**	**23 26 19.5**	**-0.3**
226A	**Malaga, Loving** baz=58,SNR=6.0	**58.18**	**325**	⇑P	**P**	**23 26 19.9**	**0.0**
CLNB	**Carlsbad** 0.9nm,0.3s	**58.21**	**326**	*e*P	**P**	**23 26 20.0**	**-0.2**
GDL2	**Guadalupe Moun**	**58.43**	**325**	*e*P	**P**	**23 26 22.1**	**+0.3**
324A	**Moseley Ranch,** baz=59,SNR=5.4	**58.48**	**324**	⇓P	**P**	**23 26 21.2**	**-0.9**
126A	**Clayton Basin,** baz=59	**58.58**	**326**	⇓P	**P**	**23 26 22.2**	**-0.5**
225A	**Deer Hill, Car** baz=59,SNR=5.8	**58.61**	**325**	⇑P	**P**	**23 26 22.1**	**-0.9**
MNTX	**Cornudas Mount** 6.1nm,1.0s	**58.62**	**324**	*e*P	**P**	**23 26 22.0**	**-0.9**
MNTX	**Cornudas Mount** baz=59,SNR=6.9	**58.62**	**324**	⇓P	**P**	**23 26 22.2**	**-0.7**
MNTX	baz=59,SNR=6.9			⇓P	**P**	**23 26 22.2**	**-0.7**
Z27A	**Tatum** baz=59,SNR=10.0	**58.67**	**327**	⇓P	**P**	**23 26 22.5**	**-0.8**
125A	**Gardner Draw,** baz=59	**58.94**	**325**	⇓P	**P**	**23 26 24.3**	**-0.9**
MSTX	**Muleshoe** baz=59	**58.95**	**328**	⇑P	**P**	**23 26 24.4**	**-0.8**
224A	**Cornudas Mount** baz=59,SNR=5.3	**58.98**	**324**	⇓P	**P**	**23 26 24.9**	**-0.7**
Z26A	**Caprock** baz=59,SNR=6.0	**59.04**	**326**	⇑P	**P**	**23 26 24.9**	**-0.9**
Y27A	**Causey** baz=59,SNR=5.8	**59.08**	**327**	⇑P	**P**	**23 26 25.0**	**-1.2**
Z25A	**Roswell** baz=60,SNR=7.0	**59.44**	**326**	⇑P	**P**	**23 26 27.8**	**-0.9**
Z24A	**Sheeppen Canyo** baz=60,SNR=8.9	**59.83**	**325**	⇓P	**P**	**23 26 30.5**	**-0.9**
X26A	**CR and CF Fran** baz=60	**59.94**	**327**	⇓P	**P**	**23 26 31.7**	**-0.4**
W27A	**Bowe Ranch, En** baz=60	**59.96**	**328**	⇓P	**P**	**23 26 31.7**	**-0.4**
Z23A	**Rita Site, Whi** baz=60	**60.26**	**325**	⇓P	**P**	**23 26 34.0**	**-0.2**
220A	**Playas Peak, P** baz=61,SNR=9.5	**60.59**	**322**	⇓P	**P**	**23 26 36.1**	**-0.4**
121A	**Cookes Peak, D** baz=61	**60.61**	**323**	⇓P	**P**	**23 26 36.6**	**-0.1**
Y23A	**Lovelace Mesa,** baz=61	**60.66**	**325**	⇓P	**P**	**23 26 36.7**	**-0.3**
319A	**Douglas** baz=61	**60.67**	**321**	⇓P	**P**	**23 26 37.1**	**+0.1**
Z22A	**Elephant Butte** baz=61,SNR=5.2	**60.67**	**324**	⇑P	**P**	**23 26 36.6**	**-0.4**
W25A	**X Bar L Ranch,** baz=61	**60.79**	**327**	⇓P	**P**	**23 26 37.6**	**-0.2**
X24A	**Lazy VL Ranch,** baz=61	**60.80**	**326**	⇓P	**P**	**23 26 38.0**	**0.0**
Z21A	**St. Cloud Mine** baz=61,SNR=9.9	**61.11**	**324**	⇓P	**P**	**23 26 39.8**	**-0.3**
120A	**U Bar Ranch, L** baz=61	**61.11**	**322**	⇓P	**P**	**23 26 40.2**	**+0.2**
318A	**Bisbee** baz=61,SNR=7.7	**61.14**	**321**	⇑P	**P**	**23 26 40.3**	**0.0**
BNM	**Barren Site** 8.8nm,1.3s	**61.14**	**325**	*e*P	**P**	**23 26 40.5**	**+0.2**
Y22A	**Socorro** baz=61	**61.17**	**325**	⇓P	**P**	**23 26 40.5**	**+0.1**
LPM	**Los Pinos Moun**	**61.26**	**325**	*e*P	**P**	**23 26 41.4**	**+0.3**
U26A	**Atchley Ranch,** baz=62	**61.34**	**329**	⇓P	**P**	**23 26 41.5**	**0.0**
V25A	**Rancho No Teng** baz=62,SNR=7.4	**61.35**	**328**	⇓P	**P**	**23 26 41.0**	**-0.6**
T27A	**Campo** baz=62	**61.37**	**330**	⇑P	**P**	**23 26 41.5**	**-0.2**
CBKS	**Cedar Bluff** 5.4nm,0.8s	**61.43**	**333**	*e*P	**P**	**23 26 42.1**	**+0.2**
Z20A	**Nine Sixteen R** baz=62,SNR=5.4	**61.49**	**323**	⇑P	**P**	**23 26 42.9**	**+0.3**
V24A	**Rampart Ranch,** baz=62	**61.60**	**327**	⇓P	**P**	**23 26 42.7**	**-0.7**
Y21A	**Point of Rocks** baz=62,SNR=7.6	**61.62**	**324**	⇓P	**P**	**23 26 44.0**	**+0.4**
W23A	**Werner Place,** baz=62	**61.64**	**326**	⇓P	**P**	**23 26 43.9**	**+0.3**
ANMO	**Albuquerque** 1.7nm,0.5s	**61.65**	**326**	*e*P	**P**	**23 26 43.6**	**0.0**
119A	**Ashpeak Ranch,** baz=62	**61.66**	**322**	⇑P	**P

S22A	4UR Ranch, Cre	63.95	328	⇑P		P	23	26	58.9 +0.1
	baz=64								
Q24A	Divide	64.04	330	⇑P		P	23	26	59.1 -0.4
	baz=64								
X16A	Lo Mia Camp, P	64.09	322	⇑P		P	23	26	59.9 +0.2
	baz=64,SNR=7.4								
S21A	Coal Bank Pass	64.39	327	⇑P		P	23	27	02.0 +0.3
	baz=65								
MVCO	Mesa Verde	64.43	326	*e*P		P	23	27	02.4 +0.4
	15nm,1.4s								
MVCO	Mesa Verde	64.43	326	⇓P		P	23	27	02.2 +0.3
	baz=65								
T19A	Beclabito	64.44	325	⇑P		P	23	27	02.6 +0.7
	baz=65								
O25A	Wiggins	64.46	331	⇓P		P	23	27	01.8 -0.1
	baz=65								
V17A	Tonalea, Kykot	64.56	323	⇓P		P	23	27	03.0 +0.3
	baz=65,SNR=7.2								
Z13A	Yuma Proving G	64.61	320	⇑P		P	23	27	03.7 +0.8
	baz=65								
R21A	Cimarron	64.79	328	⇑P		P	23	27	04.0 -0.3
	baz=65,SNR=5.1								
S20A	Disappointment	64.81	327	⇑P		P	23	27	04.6 +0.1
	baz=65								
WUAZ	Wupatki	64.82	323	*e*P		P	23	27	05.4 +1.0
WUAZ	Wupatki	64.82	323	⇑P		P	23	27	04.8 +0.4
	baz=65,SNR=5.5								
ISCO	Idaho Springs	64.92	330	⇑P		P	23	27	05.0 -0.2
	baz=65								
R20A	Redvale	65.09	327	⇑P		P	23	27	06.2 +0.1
	baz=65,SNR=5.7								
T18A	Mexican Hat	65.12	325	⇑P		P	23	27	06.2 0.0
	baz=65,SNR=6.5								
PV01	Paradox Valley	65.15	327	*e*P		P	23	27	06.6 0.0
S19A	Harvey Farm, M	65.17	326	⇑P		P	23	27	06.5 -0.1
	baz=65								
P22A	Eagle	65.32	329	⇑P		P	23	27	07.7 0.0
	baz=66								
T17A	Navajo Res., N	65.54	324	⇓P		P	23	27	09.6 +0.6
	baz=66,SNR=5.6								
S18A	Hurst Farm, Bl	65.59	325	⇑P		P	23	27	09.5 0.0
	baz=66								
P21A	Newcastle	65.61	328	⇑P		P	23	27	09.8 +0.4
	baz=66,SNR=5.4								
O22A	Kremmling	65.65	329	⇓P		P	23	27	09.6 -0.2
	baz=66								
U15A	North Rim	65.99	323	⇓P		P	23	27	12.4 +0.4
	baz=66,SNR=5.6								
S17A	Black Ridge (B	66.00	325	⇓P		P	23	27	12.1 +0.3
	baz=66								
W13A	Hualapai Mount	66.02	321	⇓P		P	23	27	13.3 +1.2
	baz=66								
BC3	Big Chuckawall	66.03	319	⇓P		P	23	27	13.2 +1.0
	baz=66								
R18A	Canyonlands Na	66.04	326	⇑P		P	23	27	12.2 0.0
	baz=66								
K26A	Motz Farm, Whi	66.11	333	⇑P		P	23	27	12.5 +0.1
	baz=66								
Q19A	Hogan Spring (	66.12	327	⇓P		P	23	27	12.7 0.0
	baz=66,SNR=6.7								
IRM	Iron Mountain	66.17	319	⇑P		P	23	27	13.3 +0.4
	baz=66,SNR=6.3								
M23A	Laramie	66.27	331	⇑P		P	23	27	11.9 -1.8
	baz=66								
O20A	White River Ci	66.48	328	⇑P		P	23	27	15.1 +0.2
	baz=67								
P19A	Cripple Cowboy	66.48	328	⇑P		P	23	27	15.0 0.0
	baz=67								
S16A	Weppner Ranch,	66.50	324	⇓P		P	23	27	15.5 +0.4
	baz=67,SNR=5.3								
BELC	Belle Mtn. Jos	66.60	319	⇓P		P	23	27	16.7 +0.9
	baz=67								
R16A	Teasdale	66.83	325	⇑P		P	23	27	17.6 +0.3
	baz=67								
GMRC	Granite Mounta	66.90	320	⇓P		P	23	27	18.9 +1.2
	baz=67								
N20A	Spence Gulch,	67.01	329	⇓P		P	23	27	18.5 +0.2
	baz=67								
O19A	Miners Draw (B	67.05	328	⇓P		P	23	27	18.6 +0.1
	baz=67								
P18A	Preston Nutter	67.14	327	⇓P		P	23	27	19.8 +0.5
	baz=67								
P17A	Butcher Ranch,	67.28	326	⇑P		P	23	27	20.4 +0.4
	baz=68								
HEC	Hector,Ludlow	67.35	319	⇑P		P	23	27	21.8 +1.4
	baz=68								
CCUT	Cedar City	67.38	323	*e*P		P	23	27	22.4 +1.7
MSU	Marysvale	67.38	325	*e*P		P	23	27	21.7 +1.0
M20A	Sweetwater, Wa	67.47	329	⇓P		P	23	27	21.3 +0.1
	baz=68								
N19A	John Jarvie Ra	67.52	328	⇑P		P	23	27	21.5 +0.1
	baz=68								
ARUT	Antelope Range	67.59	323	*e*P		P	23	27	23.0 +1.0
	5.7nm,1.0s								
RSSD	Black Hills	67.62	334	*e*P		P	23	27	21.9 -0.2
	3.3nm,1.0s								
SNAA	Sanae	67.67	162	*e*P		P	23	27	21.6 -0.2
	1.9nm,0.5s								
DBIC	Dimbokro	67.69	76	P		P	23	27	21.6 -1.3
	5.7nm,0.5s,baz=233,slow=7.7,SNR=31								
DBIC	Dimbokro	67.69	76	*e*P		P	23	27	22.1 -0.8
	5.5nm,0.5s								
L20A	Wamsutter	67.94	330	⇑P		P	23	27	24.3 +0.3
	baz=68								
GSC	Goldstone	67.95	319	*e*P		P	23	27	25.6 +1.4
GSC	Goldstone	67.95	319	⇓P		P	23	27	25.0 +0.9
	baz=68								
JLU	Jordanelle	68.48	327	*e*P		P	23	27	28.3 +0.8
M17A	Scullys Gap (B	68.70	328	⇓P		P	23	27	28.9 +0.1
	baz=69								
FURC	Furnace Creek,	68.74	320	⇓P		P	23	27	30.2 +1.4
	baz=69								
I21A	Big Trails, Te	68.82	332	⇑P		P	23	27	29.1 -0.3
	baz=69								
MPMC	Manual Prospec	68.86	320	⇑P		P	23	27	30.7 +0.8
	baz=69								
DUG	Dugway	68.92	326	*e*P		P	23	27	30.6 +0.6
	9.5nm,1.3s								
DUG	Dugway	68.92	326	⇑P		P	23	27	30.7 +0.6
	baz=69,SNR=7.0								
PDAR	Pinedale Array	69.10	329	P		P	23	27	30.2 -1.1
	0.9nm,0.6s,baz=132,slow=8.9,SNR=6.9								
PDAR	Pinedale Array	69.10	329	P		P	23	27	30.2 -1.1
R11A	Troy Canyon, C	69.21	323	⇑P		P	23	27	32.7 +0.7
	baz=69,SNR=5.4								
ISA	Isabella	69.23	319	⇑P		P	23	27	33.0 +0.9
	baz=69								
HWUT	Hardware Ranch	69.26	327	*e*P		P	23	27	31.9 -0.4
	2.2nm,0.3s								
PKM	Peak Mountain	69.62	317	⇓P		P	23	27	35.6 +1.1
	baz=70								
J18A	Kendall Valley	69.66	329	⇓P		P	23	27	34.1 -0.6
	baz=70,SNR=5.7								
ULM	Lac du Bonnet	69.91	342	P		P	23	27	33.3 -2.4
	2.4nm,0.3s,baz=147,slow=8.2,SNR=6.5								
ULM	Lac du Bonnet	69.91	342	*e*P		P	23	27	33.5 -2.2
	3.6nm,0.5s								
L15A	Malad City	69.97	327	⇑P		P	23	27	36.5 -0.1
	baz=70,SNR=7.2								
J17A	Brown Place, J	70.11	329	⇑P		P	23	27	37.9 +0.5
	baz=70								
K16A	Soda Springs	70.16	328	⇓P		P	23	27	37.9 +0.2
	baz=70,SNR=7.6								
L14A	Malta	70.44	327	⇓P		P	23	27	39.5 +0.1
	baz=71								
K15A	Arbon	70.53	328	⇓P		P	23	27	40.6 +0.7
	baz=71								
ELK	Elko	70.63	325	*e*P		P	23	27	40.4 -0.2
NVAR	Mina Array Bea	70.88	321	P		P	23	27	42.4 +0.2
	1.3nm,0.7s,baz=133,slow=6.3,SNR=9.3								
NVAR	Mina Array Bea	70.88	321	P		P	23	27	42.4 +0.2
D22A	Cohagen	70.95	334	⇓P		P	23	27	43.0 +0.8
	baz=71								
F19A	Roth Farm, Mol	71.14	332	⇓P		P	23	27	43.9 +0.4
	baz=71								
E19A	Rath Farm, Rou	71.54	332	⇑P		P	23	27	45.9 +0.1
	baz=72								
I14A	Mackay	71.89	328	⇓P		P	23	27	49.0 +0.9
	baz=72								
F17A	Fitzpatrick Pl	71.97	331	⇓P		P	23	27	48.9 +0.5
	baz=72								
HLID	Hailey	72.13	327	*e*P		P	23	27	49.8 +0.3
	7.3nm,1.1s								
HLID	Hailey	72.13	327	⇑P		P	23	27	50.5 +1.0
	baz=72								
I13A	Wildhorse Cree	72.22	328	⇑P		P	23	27	51.0 +0.9
	baz=72								
BOZ	Bozeman (W)	72.24	330	*e*P		P	23	27	50.0 0.0
	5.9nm,1.4s								
BOZ	Bozeman (W)	72.24	330	⇑P		P	23	27	50.8 +0.8
	baz=72								
BOZ				⇑P		P	23	27	50.8 +0.8
	baz=72								
H14A	Leadore	72.34	329	⇑P		P	23	27	51.2 +0.5
	baz=73								
I12A	Atlanta	72.67	327	⇑P		P	23	27	53.3 +0.6
	baz=73,SNR=5.2								
H13A	Challis	72.75	328	⇓P		P	23	27	54.1 +1.0
	baz=73								
MFID	Camas Ranch	72.77	326	⇑P		P	23	27	53.9 +0.7
	baz=73,SNR=6.9								
F15A	Butte	72.79	330	⇑P		P	23	27	54.2 +0.8
	baz=73								
D17A	Six Diamond Ra	72.91	332	⇑P		P	23	27	54.3 +0.3
	baz=73								
H12A	Diamond D Ranc	73.05	328	⇑P		P	23	27	55.5 +0.6
	baz=73								
G13A	Cobalt	73.11	329	⇑P		P	23	27	56.1 +0.9
	baz=73								
B19A	Brinkman Farms	73.14	334	⇓P		P	23	27	55.5 +0.3
	baz=73								
B18A	Beardsley Farm	73.45	333	⇓P		P	23	27	57.2 +0.2
	baz=74								
F13A	Darby	73.65	329	⇓P		P	23	27	59.0 +0.7
	baz=74								
WVOR	Wild Horse Val	73.66	324	P		P	23	27	58.6 +0.2
D15A	Lincoln	73.68	331	⇓P		P	23	27	59.4 +0.9
	baz=74								
E14A	Clinton	73.69	330	⇑P		P	23	27	59.6 +1.1
	baz=74								
E13A	Victor	74.04	330	⇓P		P	23	28	01.6 +1.1
	baz=74								
QSPA	South Pole Qui	74.23	180	P		P	23	28	02.0 +0.6
	1.0nm,0.4s,baz=198,slow=0.9,SNR=5.9								
QSPA	South Pole Qui	74.23	180	P		P	23	28	02.0 +0.6
TORD	Torodi Ar. Bea	75.98	72	P		P	23	28	10.4 -1.7
	4.5nm,0.5s,baz=258,slow=5.3,SNR=70								
TORD	Torodi Ar. Bea	75.98	72	P		P	23	28	10.4 -1.7
NEW	Newport	76.75	329	P		P	23	28	15.8 0.0
C09A	Chrisman Ranch	77.00	329	⇑P		P	23	28	18.8 +1.7
	baz=77								
TSUM	Tsumeb	82.10	108	*e*P		P	23	28	45.2 -0.3
	22nm,1.4s								
ESDC	Sonseca Array	82.22	45	P		P	23	28	45.1 -0.4
	0.3nm,0.4s,baz=258,slow=5.4,SNR=6.6								
ESDC	Sonseca Array	82.22	45	P		P	23	28	45.1 -0.4
TAM	Tamanrasset	82.75	64	P		P	23	28	48.0 -0.8
YKA	Yellowknife Ar	85.82	341	P		P	23	29	01.7 -1.3
	0.8nm,0.3s,baz=131,slow=4.9,SNR=18								
YKA	Yellowknife Ar	85.82	341	P		P	23	29	01.8 -1.3
BOSA	Boshof	86.47	119	P		P	23	29	07.2 -0.1
	0.8nm,0.4s,baz=257,slow=3.9,SNR=4.7								
BOSA	Boshof	86.47	119	*e*P		P	23	29	07.1 -0.1
	4.6nm,1.1s								
INK	Inuvik	95.58	340	P		P	23	29	48.3 -0.2
ABKAR	Akbulak array	127.27	40	*e*PKPdf		PKPdf	23	35	27.0 -0.1
ZAA0	Zalesovo Array	137.06	22	*e*PKPdf		PKPdf	23	35	45.8 +0.4
ZALV	Zalesovo Beam	137.06	22	PKP		PKPdf	23	35	45.6 +0.3
	1.0nm,0.5s,baz=318,slow=1.9,SNR=10								
ZALV				SKPbc		SKPbc	23	38	56.4 -1.9
	5.1nm,0.8s,baz=322,slow=3.7,SNR=26								
ZALV	Zalesovo Beam	137.06	22	PKP		PKPdf	23	35	45.6 +0.3
ZALV				SKPbc		SKPbc	23	38	56.4 -1.9
WRA	Warramunga Arr	137.40	214	PKhKP		PKPpre	23	35	46.8
	0.4nm,0.3s,baz=133,slow=1.8,SNR=13								
WRA				SKPbc		SKPbc	23	38	57.2 -3.3
	0.9nm,0.8s,baz=138,slow=2.8,SNR=4.8								
WRA	Warramunga Arr	137.40	214	PKPpre		PKPpre	23	35	46.8
WRA				SKPbc		SKPbc	23	38	57.2 -3.3
TKM2	Tokmak 2	139.80	41	*e*PKPdf		PKPdf	23	35	52.5 +1.4
MKAR	Makanchi Array	141.27	31	PKhKP		PKPpre	23	35	50.4
	0.1nm,0.6s,baz=312,slow=2.8,SNR=4.4								
MKAR				SKPbc		SKPbc	23	38	09.6 -3.2
	2.0nm,0.8s,baz=330,slow=2.6,SNR=18								
MKAR	Makanchi Array	141.27	31	PKPpre		PKPpre	23	35	50.4
MKAR				SKPbc		SKPbc	23	38	09.6 -3.2
USRK	Ussuriysk Arra	146.50	332	PKPbc		PKPab	23	36	05.0 -0.6
	2.1nm,0.4s,baz=31,slow=3.2,SNR=12								
SONM	Songino Array	148.00	5	PKPbc		PKPbc	23	36	08.5 +0.1
	1.0nm,0.6s,baz=333,slow=1.6,SNR=18								
SONM	Songino Array	148.00	5	PKPbc		PKPbc	23	36	08.5 +0.1
ULN	Ulaanbaatar	148.02	5	*e*PKPbc		PKPbc	23	36	07.5 -1.0
MJAR	Matsushiro Arr	148.04	315	PKPbc		PKPbc	23	36	08.7 0.0
	1.1nm,0.3s,baz=81,slow=2.5,SNR=6.4								
MJAR	Matsushiro Arr	148.04	315	PKPbc		PKPbc	23	36	08.7 0.0
HHC	Hu-ho-hao-te	155.16	358	*e*PKP		PKPdf	23	36	13.9 -2.1
HHC				pPKP		pPKPdf	23	37	16.7 +5.5
HHC				sPKP			23	37	39.3
HHC				PKS		PKSdf	23	39	48.9 -1.2
HHC				PP		PP	23	40	22.2 +4.6
HHC				SKS		SKSdf	23	42	59.2 -3.2
HHC				SKKS		SKKSac	23	46	47.5 +0.2
HHC				SS		SS	23	59	46.7 +3.6
HHC				AMB		AMB			
	comp=Z,77nm,7.1s								

*IDC **07** 23:38:44.4±0.5, 0.°73S×132.°88E, h0km, mb4.6/12, mb1 4.8/15, mb1mx4.6/20, mbtmp4.7/15, ML4.5/3, MS4.1/21, Ms1 4.1/21, ms1mx3.9/35, Error ellipse: s-maj=26.8km s-min=10.4km az=76.0*

*BJI **07** 23:38:46.2, 1.°18S×132.°80E, h37km, mB5.1/28, mb4.8/43, Ms4.7/26, Ms7 4.3/25*

*MOS **07** 23:38:47.8±0.9, 0.°63S×132.°89E, h33km, mb5.2/26, Error ellipse: s-maj=15.5km s-min=6.7km az=110.4*

*ISCJB **07** 23:38:49.0±0.7, 0.°63S±0.°04×133.°09E±0.°03, h44km±6km, mb5.1/84, MS4.2/25, Error ellipse: s-maj=6.4km s-min=5.0km az=39.6*

*TEH **07** 23:38:50.0, 0.°66S×132.°98E, h35km, ML5.0*

*NEIC **07** 23:38:50.5±0.9, 0.°64S×132.°94E, h41km±9km, mb5.1/38, Error ellipse: s-maj=5.9km s-min=3.6km az=58.0*

NEIC Felt [III] at Manokwari.

*DJA **07** 23:38:52, 0.°76S×133.°08E, h42km, Mw5.3/33*

ISC 07 23:38:50.3±0.4, 0.°66S±0.°04×133.°04E±0.°05, h40km±3km, h40km:pP-P,n243,σ1$30/250, mb5.0/84, MS4.2/26, 11C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.38	199	P	Pn	23 39 26.6	-0.3
BAKI	Biak	3.11	100	P	Pn	23 39 36.0	-0.9
MSAI	Masohi	4.90	237	P	Pn	23 40 03.7	+2.2
TLE	Tual	4.96	184	P	Pn	23 40 04.2	+1.9
LBMI	Labuha	5.54	270	P	Pn	23 40 11.1	+0.8
	601nm,0.6s,10µm4.5nm						
AAI	Ambon	5.70	238	P	Pn	23 40 12.7	+0.2
	2µm,0.7s,20µm7.1nm						
TNTI	Ternate	5.85	284	P	Pn	23 40 17.1	+2.5
	284nm,1.1s,6µm1.8nm						
NLAI	Namlea	6.47	247	P	Pn	23 40 23.5	+0.4
	692nm,0.8s,11µm4.2nm						
MNI	Manado	8.46	284	P	Pn	23 40 52.9	+2.4
	378nm,0.8s,3µm1.2nm						
KMSI	Cibinong	9.14	278	P	Pn	23 41 05.3	+5.5
	583nm,1.1s,6µm						
LUWI	Luwuk	10.28	268	P	Pn	23 41 15.6	+0.3
	355nm,1.0s,4µm						
DAV	Davao City (W)	10.70	316	LR	LR	23 44 21.0	
	comp=Z,374nm,20.9s,baz=145,slow=32						
MRSI	Marisa	11.16	276	P	Pn	23 41 31.1	+3.7
	88nm,1.3s,1µm						
MMRI	Maumere	13.37	233	P	P	23 42 03.9	-2.4
TTSI	Tana Toraja	13.43	260	P	Pn	23 42 00.6	+2.2
	68nm,1.1s,4µm						
SPSI	Sidrap Palu	13.66	256	P	Pn	23 42 04.5	+2.9
	92nm,1.0s,2µm						
BKSI	Bulukumba	13.71	250	P	Pn	23 42 04.0	+1.8
	186nm,0.9s,2µm						
KAPI	Kappang	13.96	252	Pn	Pn	23 42 07.3	+1.6
	7.0nm,0.3s,baz=74,slow=7.3,SNR=17						
KAPI				LR	LR	23 47 46.1	
	comp=Z,752nm,18.2s,baz=82,slow=39						
KAPI	Kappang	13.96	252	*e*Pn	Pn	23 42 06.0	+0.4
KAPI				Pn	Pn	23 42 07.3	+1.6
KAPI	Kappang	13.96	252	P	Pn	23 42 07.8	+2.1
	90nm,1.0s,1µm						
MJSI	Majene	14.34	258	P	P	23 42 22.9	+5.7
MYLDM	Lahad Datu	15.64	292	P	P	23 42 36.7	+5.1
SMKI	Samarinda	15.84	271	P	P	23 42 37.2	+3.4
	388nm,0.9s,6µm						
PMG	Port Moresby	16.52	122	Pn	P	23 42 40.8	-0.6
	0.8nm,0.3s,baz=297,slow=16,SNR=5.9						
PMG	Port Moresby	16.52	122	P	P	23 42 40.8	-0.6
PMG	Port Moresby	16.52	122	Pn	P	23 42 40.8	-0.6
PMG				*e*Pn	Pn	23 42 42.1	+2.9
COEN	Coen	16.59	143	*e*Pn	Pn	23 42 40.3	+0.2
	130nm,0.9s						
KBKI	Kotabaru	17.07	261	P	P	23 42 54.2	+6.7
KKM	Kota Kinabalu	18.07	292	*e*Pn	P	23 43 00.2	+1.5
	53nm,1.0s						
GUMO	Guam	18.38	39	LR	LR	23 49 11.8	
	comp=Z,460nm,19.4s,baz=274,slow=34						
BBKI	Banjar Baru	18.40	261	P	Pn	23 43 05.1	+2.6
	106nm,0.9s						
MTNI	Mataram	18.58	244	P	Pn	23 43 05.2	+0.5
	185nm,0.9s,4µm						
FITZ	Fitzroy Crossi	18.80	202	P	P	23 43 03.7	-2.8
	2.2nm,0.3s,baz=33,slow=10,SNR=40						
FITZ				S	Sn	23 46 21.9	-15
	1.3nm,0.3s,baz=217,slow=20,SNR=6.2						
FITZ				LR	LR	23 50 46.2	
	comp=Z,835nm,21.4s,baz=28,slow=39						
FITZ	Fitzroy Crossi	18.80	202	P	P	23 43 03.7	-2.8
FITZ				*e*P	Pn	23 43 06.0	-1.3
FITZ				*e*Sn	Sn	23 46 22.7	-14
KHKI	Kahang-Kahang	18.98	246	P	Pn	23 43 10.0	+0.5
	190nm,1.5s,3µm						
WRAB	Tennant Creek	19.20	176	*e*P	P	23 43 10.5	-0.4
WRAB	Tennant Creek	19.20	176	*e*P	P	23 43 10.5	-0.4
WRAB	Tennant Creek	19.20	176	P	P	23 43 10.7	-0.2
	430nm,0.5s,SNR=25						
WRA	Warramunga Arr	19.21	176	P	P	23 43 10.8	-0.2
	4.5nm,0.3s,baz=354,slow=11,SNR=111						
WRA				S	Sn	23 46 36.6	-10
	0.9nm,0.3s,baz=1.5,slow=22,SNR=6.1						
WRA	Warramunga Arr	19.21	176	P	P	23 43 10.8	-0.2
WRA				S	Sn	23 46 36.6	-10
WRA	Warramunga Arr	19.21	176	P	P	23 43 10.8	-0.2
WRA				S	Sn	23 46 36.6	-10
WB2	Warramunga Arr	19.21	176	*e*P	P	23 43 11.0	0.0
WB2				*e*S	Sn	23 46 35.6	-11
NBBI	Negara	19.89	247	P	Pn	23 43 23.8	+3.5
	327nm,1.1s,5µm						
KMMI	Kalianget	20.05	251	P	Pn	23 43 26.8	+4.5
	172nm,1.5s						
JAGI	Jajag, Banyuwa	20.35	247	P	Pn	23 43 26.0	+0.2
	122nm,1.1s						
BLJI	Banyuglugur	20.62	250	P	Pn	23 43 29.5	+0.5
	201nm,1.1s,5µm						
GMJI	Gumukmas	20.94	248	P	Pn	23 43 33.2	+0.6
	113nm,0.8s						
SBUM	Sibu	21.05	279	P	P	23 43 33.9	+2.8
	60nm,1.4s,2µm						
PBKI	Pangkalan Bun	21.46	264	P	P	23 43 38.6	+3.1
	185nm,1.0s						
STKI	Sintang	21.58	272	P	P	23 43 38.1	+1.3
	74nm,1.0s						
KRKI	Karangkates	21.83	249	P	P	23 43 43.4	+4.0
	261nm,1.3s						
SJI	Sawahan	22.34	251	P	P	23 43 45.9	+0.8
	87nm,1.0s						
PWJI	Pagerwojo	22.39	250	P	P	23 43 46.9	+1.4
	73nm,0.8s						
KSM	Kuching	22.83	275	*e*P	P	23 43 48.2	-2.0
	90nm,1.2s						
KSM	Kuching	22.83	275	P	P	23 43 51.2	+1.0
	74nm,1.5s,1µm						
ASAR	Alice Springs	22.89	178	P	P	23 43 50.2	-0.5
	baz=354,slow=11						
ASAR				S	S	23 47 58.3	+0.5
	4.1nm,0.8s,baz=2.3,slow=25,SNR=4.8						
ASAR	Alice Springs	22.89	178	P	P	23 43 50.2	-0.5
ASAR				S	S	23 47 58.3	+0.5
ASAR	Alice Springs	22.89	178	P	P	23 43 50.2	-0.5
ASAR				S	S	23 47 58.3	+0.5
PCJI	Pacitan	23.04	250	P	P	23 43 52.7	+0.4
	155nm,0.8s						
CTA	Charters Tower	23.24	147	P	P	23 43 55.5	+1.2
	78nm,0.8s,baz=328,slow=12,SNR=63						
CTA	Charters Tower	23.24	147	P	P	23 43 55.5	+1.2
CTA	Charters Tower	23.24	147	P	P	23 43 55.5	+1.2
CTAO	Charters Tower	23.24	147	*e*P	P	23 43 55.2	+1.0
CTAO				pmax	pmax		
	comp=Z,106nm,0.9s						
CTAO	Charters Tower	23.24	147	*e*P	P	23 43 55.2	+1.0
	comp=Z,106nm,0.9s						
SMRI	Semarang	23.42	254	P	P	23 43 58.1	+2.0
	comp=Z,268nm,1.2s						
MBWA	Marble Bar	24.17	212	*e*P	P	23 44 02.6	-0.4
	comp=Z,326nm,1.4s						
BJII	Banjamegara	24.19	254	P	P	23 44 04.3	+0.9
	comp=Z,198nm,2.4s,comp=Z,4µm						
CISI	Cisompet, Garu	26.07	254	P	P	23 44 19.3	-1.1
	comp=Z,355nm,0.8s,comp=Z,3µm						
LEM	Lembang	26.09	256	P	P	23 44 21.8	+1.1
	comp=Z,74nm,0.9

GYA SS SS 23 54 13.0 -11
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,540nm,17.8s
GYA LR LR
comp=E,480nm,18.0s
GYA LR LR
comp=Z,510nm,17.9s
MJAR Matsushiro Arr 37.32 7 LR LR 23 58 05.3
comp=Z,470nm,22.0s,baz=180,slow=31
CAN Canberra 37.55 158 *e*P **P 23 46 01.4 +0.5**
CAN pmax pmax
comp=Z,14nm,0.8s
CAN Canberra 37.55 158 *e*P **P 23 46 01.4 +0.5**
comp=Z,14nm,0.8s
BSI Banda Aceh 38.19 280 P **P 23 46 05.1 -1.4**
comp=Z,38nm,0.8s
KSRS Korea Array 38.22 353 LR LR 23 59 30.9
comp=Z,351nm,20.7s,baz=172,slow=33
CMAR Chiang Mai Arr 38.52 301 P **P 23 46 09.1 -0.2**
comp=Z,5.4nm,1.0s,baz=119,slow=7.0,SNR=27
CMAR Chiang Mai Arr 38.52 301 P **P 23 46 09.1 -0.2**
CMAR Chiang Mai Arr 38.52 301 P **P 23 46 09.1 -0.2**
CHTO Chiang Mai 38.68 302 *e*P **P 23 46 10.0 -0.5**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 38.68 302 *e*P **P 23 46 10.0 -0.5**
comp=Z,15nm,1.1s
CHTO Chiang Mai 38.68 302 P **P 23 46 10.2 -0.3**
comp=Z,17nm,1.6s
KMI Kunming 38.95 313 P **P 23 46 13.2 +0.3**
KMI pP **pP 23 46 24.5 +0.3**
KMI PP PP 23 47 45.4 +2.6
KMI S **S 23 52 08.3 -0.8**
KMI sS **sS 23 52 27.5 -0.4**
KMI SS SS 23 54 52.3 -10
KMI pmax pmax
comp=Z,14nm,1.3s
KMI LR LR
comp=N,260nm,14.5s
KMI LR LR
comp=E,340nm,24.6s
KMI LR LR
comp=Z,290nm,22.3s
SNY Shenyang 43.15 350 ⇑P P 23 46 53.2 +6.2
SNY S **S 23 53 14.2 +3.5**
SNY pmax pmax
comp=Z,12nm,1.2s
SNY pmax pmax
comp=Z,170nm,4.3s
BJT Baijiatuau 43.32 341 *e*P **P 23 46 48.1 -0.3**
BJT pmax pmax
comp=Z,42nm,0.9s
BJT Baijiatuau 43.32 341 *e*P **P 23 46 48.1 -0.3**
comp=Z,42nm,0.9s
BJI Beijing 43.34 341 P **P 23 46 48.5 0.0**
BJI S **S 23 53 12.9 -0.6**
BJI pmax pmax
comp=Z,47nm,1.0s
BJI pmax pmax
comp=Z,210nm,4.2s
BJI LR LR
comp=N,270nm,19.1s
BJI LR LR
comp=E,240nm,17.2s
BJI LR LR
comp=Z,130nm,19.1s
USRK Ussuriysk Arra 44.67 359 P **P 23 47 00.5 +1.3**
comp=Z,2.0nm,0.9s,baz=180,slow=12,SNR=3.5
USRK LR LR 00 04 26.8
comp=Z,167nm,18.1s,baz=336,slow=34
CN2 Changchun 44.78 352 *e*P P 23 47 05.9 +5.8
MDJ Mudanjiang 45.18 357 P **P 23 47 05.8 +2.6**
MDJ pP **pP 23 47 14.7 0.0**
MDJ PP PP 23 48 53.7 +4.2
MDJ ScP **ScP 23 52 32.3 -0.3**
MDJ PcS **PcS 23 52 36.0 -0.7**
MDJ S **S 23 53 45.2 +5.0**
MDJ sS sS 23 54 02.5 +3.3
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,92nm,6.3s
MDJ LR LR
comp=N,170nm,8.8s
MDJ LR LR
comp=Z,190nm,8.0s
LZH Lanzhou 45.55 326 *e*P **P 23 47 06.8 +0.3**
LZH pP **pP 23 47 17.6 -0.3**
LZH *e*PP PP 23 48 54.0 +0.3
LZH *e*S **S 23 53 47.0 +0.9**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.6s
LZH LR LR
comp=N,150nm,14.3s
LZH LR LR
comp=E,140nm,12.8s
LZH LR LR
comp=Z,190nm,15.2s
HHC Hu-ho-hao-te 45.70 337 *e*P **P 23 47 08.5 +1.0**
HHC pP **pP 23 47 21.0 +2.0**
HHC sP **sP 23 47 24.5 +0.8**
HHC PP PP 23 48 57.3 +2.1
HHC S **S 23 53 49.9 +1.9**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.7s
HHC LR LR
comp=N,180nm,15.7s
HHC LR LR
comp=E,260nm,15.2s
HHC LR LR
comp=Z,220nm,15.8s
SHL Shillong 47.54 306 *i*P **P 23 47 24.0 +1.7**
SHL *i*x x 23 48 15.0
SHL *i*x x 23 49 14.0
YSS Yuzh-Sakhalins 48.18 9 *e*P **P 23 47 25.3 -1.3**
HABR Khabarovsk 48.97 2 P **P 23 47 32.2 -0.5**
HABR *e**PP **pP 23 47 41.9 -2.3**
HABR *e**SP **sP 23 47 46.0 -2.9**
HABR 23 48 55.1
HABR *e* 23 49 25.5
HABR *e*S **S 23 54 35.4 +1.4**
HABR *e**SS **sS 23 54 52.0 -1.1**
HABR *e* 23 57 21.3
HABR pmax pmax
comp=E,17nm,1.4s
HABR pmax pmax
comp=Z,17nm,1.7s
HABR pmax pmax
comp=N,18nm,1.6s
HABR MLR MLR
comp=Z,190nm,20.0s
KLR Kul'dur 49.71 359 *e*P **P 23 47 37.3 -1.0**
GTA Gaotai 50.15 326 *e*P **P 23 47 42.6 +0.5**
GTA S **S 23 54 49.1 -2.1**
GTA SS SS 23 58 20.5 -4.6
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=N,83nm,10.7s
GTA LR LR
comp=E,170nm,9.7s
GTA LR LR
comp=Z,180nm,15.4s
ULN Ulaanbaatar 53.36 338 *e*P **P 23 48 06.0 +0.1**
ULN pmax pmax
comp=Z,21nm,1.3s
ULN Ulaanbaatar 53.36 338 *e*P **P 23 48 06.0 +0.1**
comp=Z,21nm,1.3s
ULN Ulaanbaatar 53.36 338 P **P 23 48 07.2 +1.3**
comp=Z,12nm,1.1s
SONM Songino Array 53.58 338 P **P 23 48 07.4 -0.1**
comp=Z,1.7nm,1.0s,baz=157,slow=6.9,SNR=12
SONM Songino Array 53.58 338 P **P 23 48 07.4 -0.1**
SONM Songino Array 53.58 338 P **P 23 48 07.4 -0.1**
RPZ Rata Peaks 54.61 147 *e*P **P 23 48 15.8 +0.9**
comp=Z,41nm,1.1s
URZ Urewera 55.06 138 LR LR 00 09 30.7
comp=Z,250nm,20.6s,baz=308,slow=34
URZ Urewera 55.06 138 *e*P **P 23 48 20.3 +2.0**
comp=Z,14nm,1.0s
HYB Hyderabad 56.56 291 *i* P **P 23 48 27.5 -1.9**
PETK Petropavlovsk- 57.40 17 P **P 23 48 35.1 +0.5**
comp=Z,6.1nm,0.9s,baz=148,slow=12,SNR=4.4
PETK LR LR 00 10 01.7
comp=Z,109nm,19.5s,baz=355,slow=33
PETK Petropavlovsk- 57.40 17 P **P 23 48 35.2 +0.5**
PETK Petropavlovsk- 57.40 17 P **P 23 48 35.1 +0.5**
MOY Mondy 58.74 337 *e*P **P 23 48 45.1 +0.9**
WMQ Urumqi 59.95 323 P **P 23 48 53.0 +0.3**
WMQ pP **pP 23 49 03.0 -1.5**
WMQ PcP **PcP 23 49 34.0 -4.6**
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,200nm,4.6s
BOD Bodaibo 60.25 348 *e*P **P 23 48 53.7 -0.6**
BOD pmax pmax
comp=Z,17nm,1.2s
DDI Dehra Dun 60.64 306 *ex* **P 23 48 57.8 +0.2**
YAK Yakutsk 62.58 358 *e*P **P 23 49 10.3 +0.3**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK Yakutsk 62.58 358 *e*P **P 23 49 10.3 +0.3**
comp=Z,27nm,0.9s
MKAR Makanchi Array 64.76 324 P **P 23 49 25.0 +0.2**
comp=Z,4.4nm,0.5s,baz=113,slow=7.9,SNR=96
MKAR Makanchi Array 64.76 324 *e*P **P 23 49 25.0 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 64.76 324 P **P 23 49 25.0 +0.2**
SEY Seymchan 65.07 10⇑ *e*P **P 23 49 28.7 +2.3**
KSH Kashi 65.59 315 *e*P **P 23 49 32.0 +1.6**
KSH *e*pP **pP 23 49 42.0 -0.4**
KSH *e*PcP **PcP 23 50 03.1 +1.3**
KSH *e*PP **PP 23 51 58.1 +2.9**
KSH *e*ScP 23 54 02.0
KSH *e*PcS 23 54 06.2
KSH S **S 23 58 11.8 -1.5**
KSH *e*ScS **SKSac 23 59 21.0 -2.1**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=N,140nm,6.6s
KSH LR LR
comp=E,110nm,4.6s
KSH LR LR
comp=Z,110nm,6.0s
DRV Dumont d'Urvil 66.05 177 P P 23 49 36.0 +3.4
DRV S S 23 57 47.0 -31
DRV SS **SS 00 02 33.0 -0.6**
DRV L L 00 06 00.0
DRV R 00 11 00.0
TKM2 Tokmak 2 67.20 318 *e*P **P 23 49 40.3 -0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 67.20 318 *e*P **P 23 49 40.3 -0.5**
comp=Z,4.7nm,0.8s
ZAA0 Zalesovo Array 67.38 331 *e*P **P 23 49 40.4 -1.0**
ZALV Zalesovo Beam 67.38 331 P **P 23 49 40.5 -0.9**
comp=Z,7.2nm,0.7s,baz=120,slow=6.6,SNR=45
ZALV LR LR 00 21 01.8
comp=Z,56nn,19.0s,baz=77,slow=38
ZALV Zalesovo Beam 67.38 331 P **P 23 49 40.5 -0.9**
ZALV Zalesovo Beam 67.38 331 P **P 23 49 40.5 -0.9**
AAK Ala-Archa 67.83 317 *e*P **P 23 49 45.3 +0.6**
AAK pmax pmax
comp=Z,14nm,1.3s
EKS2 Erkin-Say 68.33 317 *e*P **P 23 49 48.2 +0.4**
EKS2 pmax pmax
comp=Z,18nm,1.7s
EKS2 Erkin-Say 68.33 317 *e*P **P 23 49 48.2 +0.4**
comp=Z,18nm,1.7s
RAR Rarotonga 68.54 112 LR LR 00 16 08.1
comp=Z,21nm,20.4s,baz=121,slow=33
NVS Novosibirsk 68.66 332 *e*P **P 23 49 47.0 -2.4**
NVS *e*S S 23 58 41.5 -7.8
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,9.0nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s
NVS smax smax
comp=N,4.0nm,2.0s
NVS smax smax
comp=E,8.0nm,2.2s
KURK Kurchatov 68.84 326 P **P 23 49 50.4 -0.2**
comp=E,13nm,0.8s,baz=124,slow=5.7,SNR=98
KURK Kurchatov 68.84 326 *e*P **P 23 49 50.1 -0.5**
KURK pmax pmax
comp=Z,35nm,1.2s
KURK Kurchatov 68.84 326 *e*P **P 23 49 50.0 -0.5**
comp=Z,16nm,0.8s
KURK P **P 23 49 50.4 -0.2**
KURK Kurchatov 68.84 326 P **P 23 49 50.9 +0.3**
comp=Z,119nm,1.0s,SNR=13
KBL Kabul 69.18 307 *e*P **P 23 49 52.7 -0.7**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 69.18 307 *e*P **P 23 49 52.7 -0.7**
comp=Z,11nm,1.0s
KKAR Karatay Array 70.73 316 *e*P **P 23 50 02.0 -0.5**
KKAR pmax pmax
comp=Z,17nm,1.1s
KKAR Karatay Array 70.73 316 *e*P **P 23 50 02.0 -0.5**
comp=Z,17nm,1.1s
BVAR Borovoye Array 74.43 326 P **P 23 50 24.1 -0.1**
comp=Z,9.3nm,0.6s,baz=121,slow=6.1,SNR=57
BVAR Borovoye Array 74.43 326 P **P 23 50 24.1 -0.1**
BVAR Borovoye Array 74.43 326 P **P 23 50 24.1 -0.1**
BRVK Borovoye 74.51 326 *e*P **P 23 50 24.3 -0.3**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 74.51 326 *e*P **P 23 50 24.1 -0.6**
comp=Z,42nm,1.2s
BRVK Borovoye 74.51 326 P **P 23 50 24.9 +0.2**
comp=Z,138nm,0.7s,SNR=13
IDAH Dahanechah 76.25 304 *e*P P 23 50 31.9 -3.5
IMYA Miami 76.70 308 *e*P **P 23 50 37.2 -0.6**
ISRO Mashad 77.19 307 *e*P **P 23 50 38.7 -1.8**
IPAY Payeh 77.59 307 *e*P **P 23 50 42.4 -0.5**
IKRD Kardeh 78.03 308 *e*P P 23 50 41.4 -4.0
VNDA Vanda 78.36 174 *e*P **P 23 50 46.2 +0.2**
VNDA pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 78.36 174 *e*P **P 23 50 46.2 +0.2**
comp=Z,11nm,0.9s
ABKT Ailbek 78.54 309 P **P 23 50 48.5 +0.6**
comp=Z,84nm,1.1s,SNR=5.3
SBA Scott Base 79.20 173 *e*P **P 23 50 52.2 +1.6**
SBA pmax pmax
comp=Z,39nm,1.4s
SBA Scott Base 79.20 173 *e*P **P 23 50 52.2 +1.6**
comp=Z,39nm,1.4s
ABKAR Akbulak array 79.52 320 *e*P **P 23 50 52.0 -1.0**
comp=Z,4.8nm,0.7s
ICHK Chekchek 80.74 303 *e*P **P 23 50 58.4 -1.8**
SVE Sverdlovsk 80.99 328⇑ *e*P **P 23 51 00.9 +0.2**
SVE pmax pmax
comp=Z,18nm,1.0s
AKTO Aktyubinsk 81.00 321 LR LR 00 28 59.9
comp=Z,112nm,19.1s,baz=324,slow=37
ISAD Sadrabad 81.31 302 *e*P **P 23 51 04.7 +1.4**
ISRV Sarvestan 81.55 300 *e*P **P 23 51 02.2 -2.5**
IPAR Pars 81.65 300 *e*P **P 23 51 04.0 -1.2**
MAW Mawson 81.92 201 P **P 23 51 05.4 0.0**
comp=Z,12nm,1.0s,baz=77,slow=6.7,SNR=9.7
MAW LR LR 00 23 18.3
comp=Z,176nm,19.7s,baz=115,slow=33
MAW Mawson 81.92 201 P **P 23 51 05.4 0.0**
MAW Mawson 81.92 201 P **P 23 51 05.4 0.0**
ARU Arti 82.00 327 *c i*P **P 23 51 06.2 +0.2**
ARU 23 54 09.5
ARU S **S 00 01 17.8 +0.6**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 82.00 327 *e*P **P 23 51 05.3 -0.8**
comp=Z,14nm,1.0s
IPRN Peran 82.89 306 *e*P **P 23 51 11.0 -0.3**
IR3 Iran Long-Peri 83.88 306 *e*P **P 23 51 14.3 -2.0**
SLKM Skilak Lake 84.05 29 *e*P **P 23 51 16.6 0.0**
SLKM Skilak Lake 84.05 29 *e*P **P 23 51 16.6 0.0**
RC01 Rabbit Creek A 84.41 28 *e*P **P 23 51 18.6 +0.3**
comp=Z,8.5nm,0.8s
TRF Thorofare Moun 84.64 26 *e*P **P 23 51 20.6 +0.9**
comp=Z,42nm,1.7s
PMR Palmer 84.79 28 *e*P **P 23 51 20.1 -0.1**
PMR Palmer 84.79 28 *e*P **P 23 51 20.1 -0.1**
MCK McKinley 85.29 26 *e*P **P 23 51 22.9 +0.1**
MCK pmax pmax
comp=Z,47nm,1.8s
MCK McKinley 85.29 26 *e*P **P 23 51 22.9 +0.1**
comp=Z,47nm,1.8s
COLD Coldfoot 85.49 22 *e*P **P 23 51 22.9 -0.7**
comp=Z,2.6nm,0.9s
COLA College 85.97 25 *e*P **P 23 51 25.5 -0.5**
COLA pmax pmax
comp=Z,3.0nm,0.7s
COLA College 85.97 25 *e*P **P 23 51 25.5 -0.5**
comp=Z,3.2nm,0.7s
DIV Divide 86.31 29 *e*P **P 23 51 28.9 +1.0**
comp=Z,22nm,1.0s
ILAR Eielson Array 86.36 25 P **P 23 51 27.2 -0.8**
comp=Z,2.2nm,0.7s,baz=254,slow=4.8,SNR=30
ILAR LR LR 00 23 09.6
comp=Z,98nm,21.9s,baz=307,slow=31
ILAR Eielson Array 86.36 25 P **P 23 51 27.2 -0.8**
ILAR Eielson Array 86.36 25 P **P 23 51 27.2 -0.8**
PAX Paxson 86.71 27 *e*P **P 23 51 30.5 +0.6**
PAX pmax pmax
comp=Z,31nm,1.7s
PAX Paxson 86.71 27 *e*P **P 23 51 30.5 +0.6**
comp=Z,31nm,1.7s
EGAK Eagle 88.79 25 *e*P **P 23 51 39.0 -0.7**
comp=Z,3.4nm,1.0s
GNI Garni 89.12 310⇑ *e*P **P 23 51 40.0 -2.0**
GNI pmax pmax
comp=Z,23nm,1.2s
QSPA South Pole Qui 89.27 180 *e*P **P 23 51 42.4 +0.3**
comp=Z,19nm,1.0s
DAWY Dawson 89.52 26 *e*P **P 23 51 43.6 +0.4**
ATD Arta Tunnel 90.32 281 LR LR 00 26 56.2
comp=Z,67nm,21.9s,baz=74,slow=32
SYO Syowa Base 90.63 201⇑ *e*P **P 23 51 47.4 -0.8**
OBN Obninsk 94.25 325 *e*P **P 23 52 04.0 -1.2**
OBN pmax pmax
comp=Z,28nm,1.6s
ANN Anapa 94.45 315 *e*P **P 23 52 04.5 -1.9**
ANN pmax pmax
comp=Z,20nm,0.8s
ARCES ARCESS Array B 96.70 340 P **P 23 52 15.9 -0.2**
comp=Z,3.0nm,1.0s,baz=76,slow=7.7,SNR=3.2
ARCES LR LR 00 38 57.8
comp=Z,166nm,18.1s,baz=75,slow=37
ARCES ARCESS Array B 96.70 340 P **P 23 52 15.9 -0.2**
ARCES ARCESS Array B 96.70 340 P **P 23 52 15.9 -0.2**
EIL Elat 97.36 300 LR LR 00 41 03.2
comp=Z,60nm,19.9s,baz=262,slow=38
FINES FINESS Array B 98.64 332 LR LR 00 40 19.2
comp=Z,213nm,18.2s,baz=314,slow=38
YKA Yellowknife Ar 100.76 26 P **Pdif 23 52 34.1 -0.2**
comp=Z,0.3nm,0.7s,baz=295,slow=4.7,SNR=4.4
YKA Yellowknife Ar 100.76 26 P **Pdif 23 52 34.2 -0.2**
YKA Yellowknife Ar 100.76 26 P **Pdif 23 52 34.1 -0.2**
ULM Lac du Bonnet 115.50 32 PKKPbc PKKPbc 00 08 04.7 +1.4
comp=Z,3.8nm,0.8s,baz=133,slow=4.2,SNR=6.1
ULM Lac du Bonnet 115.50 32 PKKPbc PKKPbc 00 08 04.7 +1.4
TXAR Lajitas Array 119.00 57 PKKPbc PKKPbc 00 07 50.6 +0.2
comp=Z,0.5nm,0.7s,baz=125,slow=6.4,SNR=5.6
TXAR Lajitas Array 119.00 57 PKKPbc PKKPbc 00 07 50.6 +0.2
TORD Torodi Ar. Bea 130.25 287 PKP **PKPdf 23 57 56.8 -0.5**
comp=Z,1.3nm,0.7s,baz=80,slow=1.8,SNR=8.1
TORD Torodi Ar. Bea 130.25 287 PKP **PKPdf 23 57 56.8 -0.5**
PLCA Paso Flores 133.54 155 PKP **PKPdf 23 58 03.5 +0.6**
comp=Z,2.0nm,0.7s,baz=221,slow=0.3,SNR=4.9
PLCA Paso Flores 133.54 155 PKIKP **PKPdf 23 58 03.6 +0.6**
PLCA Paso Flores 133.54 155 PKP **PKPdf 23 58 03.5 +0.6**
NNA Nana 147.77 114 *c i* PKP2 **PKPab 23 58 35.0 +0.6**
LVC Limon Verde 148.50 139 *e*PKPbc **PKPab 23 58 36.0 -1.4**
CPUP Villa Florida 151.36 160 PKPbc **PKPbc 23 58 41.0 +0.6**
comp=Z,14nm,0.8s,baz=208,slow=2.8,SNR=38
CPUP Villa Florida 151.36 160 PKIKP **PKPbc 23 58 41.1 +0.6**
CPUP Villa Florida 151.36 160 PKPbc **PKPbc 23 58 41.0 +0.6**
LPAZ La Paz 153.16 130 PKPbc **PKPbc 23 58 46.5 +0.9**
comp=Z,3.3nm,0.9s,baz=245,slow=2.9,SNR=8.5
LPAZ La Paz 153.16 130 *e*PKIKP **PKPbc 23 58 46.2 +0.6**
LPAZ La Paz 153.16 130 *e*PKPbc **PKPbc 23 58 46.2 +0.6**

IDC 07 23:46:46.4±0.9, 29°66N×90°34E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/28, mbtmp3.8/12, ML3.9/2, Error ellipse: s-maj=40.4km s-min=15.9km az=56.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**0.70**	**87**	Pg	Pg	23 46 58.8	-1.8
LSA				Sg	Sg	23 47 08.1	-2.0
LSA				smax	smax		
	comp=N,1μm,0.3s						
LSA				smax	smax		
	comp=E,910nm,0.4s						
CMAR	**Chiang Mai Arr**	**13.64**	**143**	Pn	Pn	23 50 01.7	+0.5
	comp=E,0.2nm,0.3s,baz=317,slow=13,SNR=8.6						
MKAR	**Makanchi Array**	**16.22**	**342**	P	P	23 51 01.3	+0.4
	comp=E,0.2nm,0.3s,baz=147,slow=10,SNR=4.3						
SONM	**Songino Array**	**21.96**	**30**	P	P	23 51 40.5	-1.4
	comp=E,2.0nm,0.9s,baz=226,slow=8.4,SNR=8.8						
KURK	**Kurchatov**	**22.80**	**341**	P	P	23 51 50.9	+0.4
	comp=E,4.3nm,0.9s,baz=152,slow=10.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**24.60**	**352**	P	P	23 52 08.5	+0.4
	comp=E,1.2nm,0.8s,baz=179,slow=10,SNR=3.3						
BVAR	**Borovoye Array**	**27.55**	**334**	P	P	23 52 35.2	+0.4
	comp=E,0.4nm,0.5s,baz=132,slow=9.9,SNR=4.1						
AKASG	**Malin Array Be**	**49.66**	**313**	P	P	23 55 39.1	-0.6
	comp=E,1.4nm,0.7s,baz=77,slow=6.6,SNR=5.3						
FINES	**FINESS Array B**	**52.16**	**327**	P	P	23 55 59.1	+0.7
	comp=E,2.7nm,0.8s,baz=96,slow=11,SNR=3.1						
NOA	**NORSAR Array B**	**59.33**	**326**	P	P	23 56 49.9	-0.1
	comp=E,0.9nm,0.7s,baz=86,slow=6.8,SNR=3.7						
GERES	**GERESS Array B**	**59.83**	**312**	P	P	23 56 52.0	-1.7
	comp=E,0.2nm,0.6s,baz=75,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**65.03**	**134**	P	P	23 57 28.9	+0.1
	comp=E,0.8nm,0.8s,baz=326,slow=6.4,SNR=4.4						
ASAR	**Alice Springs**	**67.56**	**137**	P	P	23 57 45.0	+0.1
	comp=E,0.5nm,0.6s,baz=317,slow=5.8,SNR=5.6						

IDC 08 00:12:05.8±5.3, 30°08N×66°99E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, Error ellipse: s-maj=140.1km s-min=71.1km az=132.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.49**	**31**	P	P	00 16 43.8	-1.4
	0.5nm,0.5s,baz=211,slow=11,SNR=14						
KURK	**Kurchatov**	**22.39**	**20**	P	P	00 17 04.0	-1.5
	0.4nm,0.6s,baz=211,slow=9.1,SNR=5.0						
BVAR	**Borovoye Array**	**23.06**	**5**	P	P	00 17 12.4	-0.3
	0.7nm,0.6s,baz=216,slow=39,SNR=2.8						
ZALV	**Zalesovo Beam**	**27.13**	**23**	P	P	00 17 52.0	+1.6
	0.2nm,0.3s,baz=220,slow=8.7,SNR=3.3						
YKA	**Yellowknife Ar**	**87.75**	**1**	P	P	00 24 55.8	-0.5
	0.1nm,0.3s,baz=354,slow=4.9,SNR=4.2						

*ISCJB **08** 00:16:56.8±0.6, 10°58N×0°05×62°31W±0°03, h54km±8km, Error ellipse: s-maj=7.8km s-min=5.4km az=169.8*
*FUNV **08** 00:16:57.9, 10°64N×62°22W, h40km, MW2.6*
*TRN **08** 00:17:01.3, 10°96N×62°13W, h22km, MD3.2*

ISC 08 00:16:57.2±1.2, 10°66N±0°04×62°32W±0°04, h47km±9km, n15, σ2=06/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.10**	**99**	*e*P	**Pn**	**00 17 04.2**	**-0.4**
GUIV				*e*S	**Sn**	**00 17 09.0**	**-0.8**
GUNV	**Guanoco**	**0.79**	**231**	*e*S	**Sn**	**00 17 24.6**	**+1.9**
CRUV	**Carupano**	**0.90**	**271**	*e*P	Pn	00 17 15.2	+1.7
CRUV				*e*S	**Sn**	**00 17 27.1**	**+1.7**
TRN	**Trinidad (W)**	**0.90**	**91**	*e*P	Pn	00 17 15.8	+2.3
TRN				*e*S	**Sn**	**00 17 28.1**	**+2.6**
ITEV	**Isla Los Testi**	**1.05**	**311**	*e*S	**Sn**	**00 17 30.8**	**+1.7**
TBH	**Brigand Hill**	**1.25**	**98**	*e*P	Pn	00 17 21.8	+3.6

TBH				*e*S		**Sn**	**00 17 38.0**	**+4.1**
GRW	**Mount Saint Ca**	**1.62**	**23**	*e*P		**Pn**	**00 17 24.4**	**+1.0**
GRW				*e*S		**Sn**	**00 17 40.5**	**-2.7**
TOSP	**Speyside**	**1.86**	**70**	*e*P		**Pn**	**00 17 27.4**	**+0.7**
TOSP				*e*S		**Sn**	**00 17 48.6**	**-0.4**
ORIV	**Oritupano**	**1.91**	**214**	*e*P		**Pn**	**00 17 28.0**	**+0.7**
PCRV	**Puerto La Cruz**	**2.33**	**258**	*e*P		**Pn**	**00 17 33.8**	**+0.7**
RIOV	**Rio Grande**	**2.62**	**169**	*e*P		**Pn**	**00 17 36.7**	**-0.4**
RIOV				*e*S		**Sn**	**00 18 04.9**	**-2.8**
SVB	**Belmont**	**2.80**	**22**	*e*P		Pn	00 17 41.5	+2.0
SVB				*e*S		**Sn**	**00 18 09.1**	**-2.9**
CUPV	**Cœpira**	**3.46**	**260**	*e*P		Pn	00 17 49.5	+0.8
CUPV				*e*S		**Sn**	**00 18 27.6**	**-0.9**
LUEV	**Luepa**	**4.86**	**170**	*e*P		**Pn**	**00 18 06.9**	**-1.1**
BAUV	**El Baul**	**5.89**	**254**	*e*P		**Pn**	**00 18 21.3**	**-0.7**

*ISK **08** 00:24:34.8,38°.02N×37°.91E,h3km,MD3.4*
*DDA **08** 00:24:35.5,38°.04N×37°.87E,h4km,MD3.1*
*CSEM **08** 00:24:36.0±0.1,38°.04N×37°.92E,h2km,MD3.1,Error ellipse: s-maj=4.1km s-min=2.7km az=139.0*
*NSSC **08** 00:24:38.2±0.8,37°.80N×38°.24E,h143km±56km,ML2.6*
ISC 08 00:24:34.6±0.7,38°.03N±0°.02×37°.83E±0°.02,h17km±6km, n61,σ1s63/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.28**	**15**	*i* P		**Pg**	**00 24 40.9**	**+0.1**
AKCD				*i* S		**Sg**	**00 24 45.7**	**+0.7**
AKCD	**Akcadag**	**0.28**	**15**	*i* P		**Pg**	**00 24 40.9**	**+0.1**
AKCD				*i* S		**Sg**	**00 24 45.7**	**+0.7**
MALT	**Malatya**	**0.55**	**58**	*e*PG		**Pb**	**00 24 45.6**	**-0.2**
MALT	**Malatya**	**0.55**	**58**	*e*Pg		**Pb**	**00 24 45.6**	**-0.2**
MYA	**Malataya**	**0.56**	**57**	*e*PG		**Pb**	**00 24 45.6**	**-0.3**
MYA				*e*SG		**Sb**	**00 24 53.2**	**-0.4**
MYA	**Malataya**	**0.56**	**57**	*e*Pg		**Pb**	**00 24 45.6**	**-0.3**
MYA				*e*Sg		**Sb**	**00 24 53.2**	**-0.4**
ATAB	**Bozova**	**0.67**	**146**	*i* P		**Pn**	**00 24 48.7**	**-0.6**
ATAB				*i* S		Sb	00 25 02.2	+5.5
ATAB	**Bozova**	**0.67**	**146**	*i* P		**Pn**	**00 24 48.7**	**-0.6**
GZT	**Gaziantep**	**0.70**	**198**	*i* P		**Pn**	**00 24 49.8**	**-0.1**
KMRS	**Kahramanmaras**	**0.90**	**235**	*e*PG		**Pn**	**00 24 53.3**	**+0.7**
KMRS				*e*SG		**Sn**	**00 25 07.6**	**+2.4**
URFA	**Urfa**	**0.98**	**126**	*e*PG		**Pn**	**00 24 53.3**	**-0.3**
URFA	**Urfa**	**0.98**	**126**	*e*Pg		**Pn**	**00 24 53.3**	**-0.3**
GAZ	**Gaziantep**	**0.98**	**210**	*e*PG		**Pn**	**00 24 55.1**	**+1.4**
ELZG	**Elazig**	**1.02**	**62**	*i* P		**Pn**	**00 24 54.3**	**0.0**
ELZG				*i* S		**Sb**	**00 25 07.0**	**-0.1**
ELZG	**Elazig**	**1.02**	**62**	*i* P		**Pn**	**00 24 54.3**	**0.0**
ELZG				*i* S		**Sb**	**00 25 07.0**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.21**	**73**	*e*PN		**Pn**	**00 24 57.6**	**+0.7**
ANDN	**Andirin**	**1.26**	**250**	*i* P		Pg	00 24 53.4	-5.5
ANDN				*i* S		**Sg**	**00 25 10.3**	**-5.1**
KEMA	**Kemaliye**	**1.34**	**22**	*i* P		**Pb**	**00 24 60.0**	**+0.6**
KEMA				*i* S		**Sn**	**00 25 20.5**	**+4.3**
KEMA	**Kemaliye**	**1.34**	**22**	*i* P		**Pb**	**00 25 00.0**	**+0.6**
KEMA				*i* S		**Sn**	**00 25 20.5**	**+4.3**
KUZU	**Kuzuini**	**1.39**	**206**	*i* P		**Pb**	**00 25 02.3**	**+2.2**
KUZU				*i* S		**Sn**	**00 25 21.7**	**+4.5**
KUZU	**Kuzuini**	**1.39**	**206**	*i* P		**Pb**	**00 25 02.3**	**+2.2**
PTK	**Pertek**	**1.50**	**54**	*e*PN		**Pg**	**00 25 02.8**	**-0.7**
PTK	**Pertek**	**1.50**	**54**	*e*Pn		**Pg**	**00 25 02.8**	**-0.7**
ILIC	**ilic-Erzincan**	**1.54**	**22**	*e*PN		**Pg**	**00 25 03.8**	**-0.4**
ILIC	**ilic-Erzincan**	**1.54**	**22**	*e*Pn		**Pg**	**00 25 03.8**	**-0.4**
KOZT	**Kozan**	**1.68**	**252**	*e*PN		**Pg**	**00 25 06.8**	**-0.1**
KOZT	**Kozan**	**1.68**	**252**	*e*Pn		**Pg**	**00 25 06.8**	**-0.1**
BNN	**Bunyan**	**1.76**	**298**	*e*PN		**Pg**	**00 25 07.7**	**-0.8**
BNN	**Bunyan**	**1.76**	**298**	*e*Pn		**Pg**	**00 25 07.7**	**-0.8**
DIYA	**Diyarbakir**	**1.81**	**93**	*i* P		Pg	00 25 10.8	+1.4
DIYA				*i* S		**Sg**	**00 25 34.2**	**+1.3**
CEYT	**Ceyhan**	**1.94**	**239**	*e*PN		**Pg**	**00 25 10.7**	**-1.2**
CEYT	**Ceyhan**	**1.94**	**239**	*e*Pn		**Pg**	**00 25 10.7**	**-1.2**
COBT	**Iskenderun**	**1.96**	**220**	*i* P		**Pg**	**00 25 13.2**	**+1.0**
COBT	**Iskenderun**	**1.96**	**220**	*i* P		**Pg**	**00 25 13.2**	**+1.0**
EZC	**Erzincan**	**2.09**	**34**	*e*Pn		**Pb**	**00 25 12.2**	**0.0**
ERZN	**Erzincan**	**2.15**	**43**	*e*PN		**Pb**	**00 25 12.2**	**-0.9**
HTY	**Hatay**	**2.33**	**216**	*e*PN		**Pb**	**00 25 16.1**	**-0.1**
HTY	**Hatay**	**2.33**	**216**	*e*Pn		**Pb**	**00 25 16.1**	**-0.1**
RSDY	**Resadiye-TOKAT**	**2.40**	**351**	*e*PN		**Pb**	**00 25 16.4**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.40**	**351**	*e*Pn		**Pb**	**00 25 16.4**	**-0.9**
JHLN	**Al Jahlan**	**2.40**	**168**	*e*P		Pn	00 25 14.3	+1.2
JHLN				*e*S		**Sn**	**00 25 43.8**	**+1.7**
JHLN				AML		AML	00 26 01.1	
	comp=Z,53nm,0.4s							
KRTS	**Karatas**	**2.44**	**234**	*e*PN		**Pb**	**00 25 17.7**	**-0.3**
KRTS	**Karatas**	**2.44**	**234**	*e*Pn		**Pb**	**00 25 17.7**	**-0.3**
MARD	**Mardin**	**2.44**	**106**	*i* P		**Pg**	**00 25 22.1**	**+0.6**
MARD				*i* S		**Sg**	**00 25 52.4**	**-0.8**
YOZ	**Yozgat**	**2.54**	**310**	*e*PN		**Pb**	**00 25 19.1**	**-0.7**
YOZ	**Yozgat**	**2.54**	**310**	*e*Pn		**Pb**	**00 25 19.1**	**-0.7**
BEST	**Besiri**	**2.72**	**92**	*i* P		**Pg**	**00 25 24.4**	**-2.3**
GUMT	**Gumushane**	**2.75**	**27**	*e*PN		**Pb**	**00 25 21.3**	**-2.0**
GUMT	**Gumushane**	**2.75**	**27**	*e*Pn		**Pb**	**00 25 21.3**	**-2.0**
MERS	**Mersin**	**2.88**	**247**	*e*PN		**Pb**	**00 25 23.9**	**-1.6**
MERS	**Mersin**	**2.88**	**247**	*e*Pn		**Pb**	**00 25 23.9**	**-1.6**
KFRA	**Kufra**	**2.93**	**197**	*e*P		**Pb**	**00 25 24.1**	**-2.3**
KFRA				*e*S		**Sb**	**00 25 59.5**	**-2.4**
KFRA				AML		AML	00 26 22.0	
	comp=N,134nm,0.5s							
KFRA				AML		AML	00 26 26.8	
	comp=E,115nm,0.5s							
BAYT	**Ayd¨–ntepe-Bay**	**2.97**	**36**	*e*PN		Pb	00 25 24.2	-2.9
BAYT	**Ayd¨–ntepe-Bay**	**2.97**	**36**	*e*Pn		Pb	00 25 24.2	-2.9
VRTB	**Varto-Mus**	**3.06**	**67**	*e*PN		Pb	00 25 25.2	-3.4
VRTB	**Varto-Mus**	**3.06**	**67**	*e*Pn		Pb	00 25 25.2	-3.4
CORM	**Corum**	**3.29**	**312**	*e*PN		Pb	00 25 29.9	-2.6
CORM	**Corum**	**3.29**	**312**	*e*Pn		Pb	00 25 29.9	-2.6
KAMT	**Kaman**	**3.49**	**294**	*e*PN		Pn	00 25 32.4	+4.2
KAMT	**Kaman**	**3.49**	**294**	*e*Pn		Pn	00 25 32.4	+4.2
HAWK	**Haweek**	**3.68**	**199**	*e*P		Pn	00 25 34.4	+3.6
HAWK				*e*S		**Sn**	**00 26 17.3**	**+3.4**
HAWK				AML		AML	00 26 43.5	
	comp=N,10nm,0.5s							
HAWK				AML		AML	00 26 49.3	
	comp=E,21nm,0.4s							

*NSSC **08** 00:38:18.6±19.0,37°.37N×45°.76E,h5km,ML3.3*
*CSEM **08** 00:38:20.3±0.2,37°.67N×44°.65E,h2km,ML3.7,Error ellipse: s-maj=5.8km s-min=4.6km az=7.0*
*TEH **08** 00:38:20.5,37°.87N×44°.59E,h15km,ML3.7*
*ISK **08** 00:38:20.6,37°.68N×44°.50E,h5km,MD3.5*
*DDA **08** 00:38:21.9,37°.58N×44°.57E,h1km,MD3.6*
ISC 08 00:38:20.0±1.2,37°.62N±0°.03×44°.63E±0°.02,h4km±10km, n85,σ1s76/112,3C-1D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HAKT	**HAKKARI**	**0.74**	**266**	*i* P		**Pg**	**00 38 33.7**	**-0.5**
HAKT				*i* S		**Sb**	**00 38 46.9**	**+0.8**
HAKT	**HAKKARI**	**0.74**	**266**	*i* P		**Pg**	**00 38 33.7**	**-0.5**
HAKT				*i* S		**Sb**	**00 38 46.9**	**+0.8**
CUKT	**Cukurca**	**0.89**	**246**	*e*PG		**Pg**	**00 38 37.2**	**0.0**
CUKT				*e*SG		**Sb**	**00 38 50.5**	**0.0**
CUKT	**Cukurca**	**0.89**	**246**	*e*Pg		**Pg**	**00 38 37.2**	**0.0**
CUKT				*e*Sg		**Sb**	**00 38 50.5**	**0.0**
IAZR	**Azarshahr**	**1.07**	**86**	*e*Pg		Pg	00 38 39.1	-1.5
IAZR				*e*Sg		**Sg**	**00 38 55.6**	**+1.1**
IAZR				*e*			00 39 04.7	
	comp=Z,38μm,0.2s							
IAZR	**Azarshahr**	**1.07**	**86**	*e*Pg		Pg	00 38 39.1	-1.5
IAZR				*e*Sg		**Sg**	**00 38 55.6**	**+1.1**
ITBZ	**Tabriz**	**1.35**	**62**	*e*Pg		Pn	00 38 43.4	-2.4
ITBZ				*e*Sg		**Sg**	**00 39 01.3**	**-2.1**
ITBZ				*e*			00 39 08.3	
	comp=Z,6μm,0.2s							
ITBZ	**Tabriz**	**1.35**	**62**	*e*Pg		Pn	00 38 43.4	-2.4
ITBZ				*e*Sg		**Sg**	**00 39 01.3**	**-2.1**
IMRD	**Marand**	**1.38**	**37**	*e*Pg		Pn	00 38 42.8	-3.5
IMRD				*e*			00 38 50.2	
	comp=Z,11μm,0.2s							
IMRD	**Marand**	**1.38**	**37**	*e*Pg		Pn	00 38 42.8	-3.5
VANB	**Van**	**1.39**	**315**	*e*PN		**Pn**	**00 38 45.8**	**-0.5**
VANB				*e*SN		**Sg**	**00 39 04.6**	**0.0**
VANB	**Van**	**1.39**	**315**	*e*Pn		**Pn**	**00 38 45.8**	**-0.5**
VANB				*e*Sn		**Sg**	**00 39 04.6**	**0.0**
IFTB	**Fath-abad**	**1.45**	**73**	*e*Pn		Pn	00 38 45.9	-1.4
IFTB				*e*Sg		**Sb**	**00 39 05.5**	**-1.2**
IFTB	**Fath-abad**	**1.45**	**73**	*e*Pn		Pn	00 38 45.9	-1.4
IFTB				*e*Sg		**Sb**	**00 39 05.5**	**-1.2**
CLDR	**Caldiran**	**1.63**	**340**	*e*PN		**Pn**	**00 38 50.3**	**+0.6**
CLDR	**Caldiran**	**1.63**	**340**	*e*Pn		**Pn**	**00 38 50.3**	**+0.6**
MAKU	**Maku**	**1.74**	**1**	*e*Pg		**Pn**	**00 38 52.3**	**+1.1**
MAKU				*e*Sg		**Sn**	**00 39 15.2**	**+1.3**
SIRN	**S¨–rnak**	**1.77**	**267**	*i* P		**Pb**	**00 38 52.9**	**-0.2**
SIRN				*i* S		**Sg**	**00 39 18.8**	**+2.0**
SIRN	**S¨–rnak**	**1.77**	**267**	*i* P		**Pb**	**00 38 52.9**	**-0.2**
SIRN				*i* S		**Sg**	**00 39 18.8**	**+2.0**
IHRS	**Heris**	**2.03**	**69**	*e*Pn		**Pn**	**00 38 55.1**	**-0.1**
IHRS				*e*			00 39 02.8	
	comp=Z,3μm,0.2s							
IHRS	**Heris**	**2.03**	**69**	*e*Pn		**Pn**	**00 38 55.1**	**-0.1**
DYDN	**Diyadin**	**2.06**	**339**	*i* P		**Pn**	**00 38 58.4**	**+2.7**
DYDN				*i* S		**Sg**	**00 39 28.5**	**+2.2**
DYDN	**Diyadin**	**2.06**	**339**	*i* P		**Pn**	**00 38 58.4**	**+2.7**
AGRB	**Hanur-Agry**	**2.34**	**327**	*e*PN		**Pn**	**00 39 00.1**	**+0.6**
AGRB	**Hanur-Agry**	**2.34**	**327**	*e*Pn		**Pn**	**00 39 00.1**	**+0.6**
GNI	**Garni**	**2.53**	**2**	*e*PN		**Pn**	**00 39 03.7**	**+1.6**
GNI	**Garni**	**2.53**	**2**	*e*Pn		**Pn**	**00 39 03.7**	**+1.6**
GRMI	**Germi**	**2.83**	**64**	*e*Pn		**Pn**	**00 39 08.6**	**+2.4**
VRTB	**Varto-Mus**	**2.94**	**303**	*e*PN		**Pn**	**00 39 08.1**	**+0.5**
VRTB	**Varto-Mus**	**2.94**	**303**	*e*Pn		**Pn**	**00 39 08.1**	**+0.5**
BNGL	**BINGOL**	**3.05**	**297**	*i* P		**Pb**	**00 39 15.3**	**+0.4**
BNGL				*i* S		**Sg**	**00 40 01.8**	**+3.8**
MARD	**Mardin**	**3.08**	**266**	*i* P		**Pn**	**00 39 10.6**	**+1.0**
MARD				*i* S		**Sg**	**00 39 58.0**	**-1.0**
IDHR	**Dehrash**	**3.24**	**153**	*e*Pn		**Pn**	**00 39 14.0**	**+2.2**
IDHR				*e*			00 39 26.4	
	comp=Z,4μm,0.2s							
IDHR	**Dehrash**	**3.24**	**153**	*e*Pn		**Pn**	**00 39 14.0**	**+2.2**
KARS	**Kars**	**3.24**	**339**	*e*PN		**Pn**	**00 39 12.9**	**+1.1**
KARS	**Kars**	**3.24**	**339**	*e*Pn		**Pn**	**00 39 12.9**	**+1.1**
ILIN	**Lien**	**3.28**	**144**	*e*Pn		**Pn**	**00 39 14.6**	**+2.1**
ILIN				*e*			00 39 31.9	
	comp=Z,1μm,0.2s							
ILIN	**Lien**	**3.28**	**144**	*e*Pn		**Pn**	**00 39 14.6**	**+2.1**
KBSD	**Kabsdagh**	**3.32**	**261**	*e*P		**Pn**	**00 39 13.3**	**+0.5**
KBSD				*e*S		**Sn**	**00 39 52.4**	**-0.3**
KBSD				AML		AML	00 40 20.8	
	comp=Z,122nm,0.7s							
SNGE	**Sanandaj**	**3.34**	**138**	*e*Pn		**Pn**	**00 39 16.1**	**+2.9**
SNGE				*e*Sg		**Sg**	**00 40 07.3**	**+0.1**
ZNJK	**Zanjan**	**3.37**	**105**	*e*Pn		**Pn**	**00 39 16.5**	**+2.8**
EZM	**Erzurum**	**3.43**	**313**	*e*PN		**Pn**	**00 39 15.7**	**+1.2**
IVIS	**Veis**	**3.57**	**149**	*e*Pn		**Pn**	**00 39 18.2**	**+1.9**
IVIS				*e*			00 39 30.8	
	comp=Z,1μm,0.2s							
IVIS	**Veis**	**3.57**	**149**	*e*Pn		**Pn**	**00 39 18.2**	**+1.9**
DIYA	**Diyarbakir**	**3.59**	**276**	*i* P		**Pb**	**00 39 26.6**	**+2.5**
DIYA				*i* S		**Sg**	**00 40 18.3**	**+3.0**
IGHG	**Ghaleghazi**	**3.63**	**154**	*e*Pn		**Pn**	**00 39 19.3**	**+2.0**
IGHG				*e*			00 39 32.1	
	comp=Z,2μm,0.4s							
IGHG	**Ghaleghazi**	**3.63**	**154**	*e*Pn		**Pn**	**00 39 19.3**	**+2.0**
MZRK	**Al-Mazaregh**	**3.66**	**242**	*e*P		Pn	00 39 14.2	-3.2
MZRK				*e*S		Sn	00 39 53.9	-7.2
MZRK				AML		AML	00 40 32.4	
	comp=Z,153nm,0.6s							
MZRK	**Al-Mazaregh** SNR=45	**3.66**	**242**	*e*P		**Pn**	**00 39 15.3**	**-2.2**
MZRK				*e*S		Sn	00 39 53.9	-7.2
	comp=Z,153nm,0.6s,SNR=40							
SFNV	**Sufian**	**3.81**	**253**	*e*P		**Pn**	**00 39 20.5**	**+1.0**
SFNV				*e*S		**Sn**	**00 40 05.4**	**+0.6**
SFNV				AML		AML	00 40 36.8	
	comp=Z,82nm,0.8s							
SFNV	**Sufian**	**3.81**	**253**	*e*P		**Pn**	**00 39 19.1**	**-0.5**
SFNV				*e*S		**Sn**	**00 40 04.6**	**-0.2**
SFNV				AML		AML	00 40 36.7	
	comp=Z,82nm,0.8s							
SFNV	**Sufian** SNR=45	**3.81**	**253**	*e*P		**Pn**	**00 39 20.5**	**+1.0**
SFNV				*e*S		**Sn**	**00 40 04.6**	**-0.2**
	comp=Z,82nm,0.8s,SNR=40							
IKOM	**Komasi**	**4.15**	**145**	*e*Pn		**Pn**	**00 39 26.4**	**+2.1**
IKOM				*e*			00 39 40.1	
	comp=Z,878nm,0.2s							
IKOM	**Komasi**	**4.15**	**145**	*e*Pn		**Pn**	**00 39 26.4**	**+2.1**
SVRC	**Sivrice-ELAZID**	**4.28**	**282**	*e*PN		**Pn**	**00 39 27.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**4.28**	**282**	*e*Pn		**Pn**	**00 39 27.5**	**+1.4**
PTK	**Pertek**	**4.32**	**289**	*e*PN		**Pn**	**00 39 28.3**	**+1.6**
PTK	**Pertek**	**4.32**	**289**	*e*Pn		**Pn**	**00 39 28.3**	**+1.6**
ERZN	**Erzincan**	**4.32**	**299**	*e*PN		**Pn**	**00 39 28.2**	**+1.6**
BHD	**Baghdad**	**4.34**	**183**	*e*Pn		**Pn**	**00 39 29.0**	**+2.2**
BHD				*e*Sn		**Sn**	**00 40 22.0**	**+4.2**
BHD	**Baghdad**	**4.34**	**183**	*e*Pn		**Pn**	**00 39 29.0**	**+2.2**
BHD				*e*Sn		**Sn**	**00 40 22.0**	**+4.2**
URFA	**Urfa**	**4.62**	**270**	*e*PN		**Pn**	**00 39 32.5**	**+1.7**
URFA	**Urfa**	**4.62**	**270**	*e*Pn		**Pn**	**00 39 32.5**	**+1.7**
EZC	**Erzincan**	**4.65**	**299**	*e*Pn		Pn	00 39 28.2	-3.0
KSRV	**Kasrt alli**	**4.85**	**251**	*e*P		**Pn**	**00 39 32.7**	**-1.0**
KSRV				AML		AML	00 39 42.0	
	comp=Z,22nm,0.4s							
KSRV				*e*S		**Sn**	**00 40 31.8**	**+1.5**
KSRV	**Kasrt alli** SNR=45	**4.85**	**251**	*e*P		**Pn**	**00 39 32.2**	**-1.6**
KSRV				*e*S		**Sn**	**00 40 31.8**	**+1.5**
	SNR=40							
MALT	**Malatya**	**4.95**	**280**	*e*PN		**Pn**	**00 39 37.7**	**+2.4**
MALT	**Malatya**	**4.95**	**280**	*e*Pn		**Pn**	**00 39 37.7**	**+2.4**
JHLN	**Al Jahlan**	**5.34**	**251**	*e*P		**Pn**	**00 39 38.3**	**-2.3**
JHLN				*e*S		**Sb**	**00 40 57.9**	**-0.6**
JHLN				AML		AML	00 41 32.4	
	comp=Z,58nm,0.5s							
JHLN	**Al Jahlan**	**5.34**	**251**	*e*P		**Pn**	**00 39 40.4**	**-0.1**
JHLN				*e*S		**Sb**	**00 40 55.2**	**-3.3**
JHLN				AML		AML	00 41 32.1	
	comp=Z,58nm,0.6s							
JHLN	**Al Jahlan**	**5.34**	**251**	*e*P		**Pn**	**00 39 38.5**	**-2.1**
JHLN				*e*S		**Sn**	**00 40 42.8**	**+0.2**
JHLN				AML		AML	00 41 29.4	
	comp=Z,58nm,0.6s							
JHLN	**Al Jahlan**	**5.34**	**251**	*e*P		**Pn**	**00 39 38.5**	**-2.1**
JHLN				*e*S		**Sn**	**00 40 40.2**	**-2.4**
JHLN				AML		AML	00 41 29.7	
	comp=Z,60nm,0.6s							
JHLN	**Al Jahlan** SNR=45	**5.34**	**251**	*e*P		**Pn**	**00 39 38.5**	**-2.1**
JHLN				*e*S		**Sn**	**00 40 40.2**	**-2.4**
	comp=Z,60nm,0.6s,SNR=40							
SLMH	**Al Salmeh**	**5.55**	**257**	*e*P		**Pn**	**00 39 43.3**	**-0.1**
SLMH				*e*S		**Sn**	**00 40 47.9**	**+0.2**
SLMH				AML		AML	00 41 35.8	
	comp=Z,132nm,0.8s							
KFRA	**Kufra**	**6.75**	**252**	*e*P		**Pg**	**00 40 28.0**	**-1.5**
KFRA				*e*S		**Sb**	**00 41 40.2**	**+1.1**
IPIR	**Pirpir**	**7.10**	**132**	*e*			00 40 47.5	
	comp=Z,80nm,0.3s							
IPIR				*e*Pn		**Pn**	**00 40 06.4**	**+1.4**
HAWK	**Haweek**	**7.34**	**248**	*e*P		**Pn**	**00 40 05.9**	**-2.2**
HAWK				*e*S		**Sb**	**00 41 60.0**	**+3.9**
ZALF	**Zalf**	**7.58**	**234**	*e*P		**Pn**	**00 40 12.0**	**+0.6**
ZALF				*e*S		Sn	00 41 30.5	-7.3
ZALF	**Zalf**	**7.58**	**234**	*e*P		**Pn**	**00 40 12.0**	**+0.6**
ZALF				*e*S		**Sb**	**00 41 58.2**	**-4.8**
MIB	**Mutribah**	**8.11**	**163**	*e*P		**Pn**	**00 40 18.4**	**-0.2**
MIB				AML		AML	00 41 52.1	
	comp=Z,9.9nm,0.5s							
MIB	**Mutribah**	**8.11**	**163**	*e*P		**Pn**	**00 40 18.4**	**-0.2**
UMR	**Umm Al-Rimmam**	**8.44**	**161**	*e*P		**Pn**	**00 40 22.5**	**-0.6**
NAY	**Al-Naaiem**	**8.62**	**165**	*e*P		**Pn**	**00 40 24.9**	**-0.7**
RDF	**Al-Radifah**	**9.00**	**163**	*e*P		**Pn**	**00 40 30.6**	**-0.2**
RDF				AML		AML	00 42 08.5	
	comp=Z,4.6nm,0.7s							
RDF	**Al-Radifah**	**9.00**	**163**	*e*P		**Pn**	**00 40 30.6**	**-0.2**

IDC 08 00:45:08.0±56.0,17°.10S×178°.85W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/17,mbtmp4.0/3,Error ellipse: s-maj=1021.0km s-min=155.1km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.66**	**240**	P		P	00 52 34.1	+0.6
	1.2nm,0.5s,baz=78,slow=9.3,SNR=2.7							
WRA	**Warramunga Arr**	**44.37**	**259**	P		P	00 53 20.5	-0.2
	0.4nm,0.3s,baz=97,slow=7.3,SNR=8.7							
ASAR	**Alice Springs**	**44.61**	**253**	P		P	00 53 21.8	-0.7
	2.4nm,0.6s,baz=87,slow=8.8,SNR=30							

WEL 08 00:50:27.6±0.3,37°.72S×176°.61E,h138km±3km,ML3.5/11, Error ellipse: s-maj=4.2km s-min=3.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.67**	**144**	PN		Pn	00 50 48.6	+0.1
URZ				SN		Sn	00 51 04.5	+0.1
MWZ	**Matawai**	**0.95**	**131**	PN		Pn	00 50 50.6	-0.3
MWZ				SN		Sn	00 51 09.0	+0.5
RAHZ	**Arahi**	**1.25**	**163**	PN		Pn	00 50 54.0	+0.4
RAHZ				SN		Sn	00 51 13.6	0.0
PUZ	**Puketiti**	**1.35**	**106**	PN		Pn	00 50 54.1	-0.5
PUZ				SN		Sn	00 51 13.5	-1.8
MXZ	**Matakaoa Point**	**1.35**	**84**	PN		Pn	00 50 54.9	+0.2
MXZ				SN		Sn	00 51 15.5	+0.2
BKZ	**Black Stump Fm**	**1.45**	**184**	PN		Pn	00 50 55.4	-0.4
BKZ				SN		Sn	00 51 16.3	-1.0
CNGZ	**Carnagh Statio**	**1.47**	**122**	PN		Pn	00 50 56.3	+0.3
KNZ	**Kokohu**	**1.54**	**148**	PN		Pn	00 50 56.4	-0.3
PRGZ	**Paritu Road**	**1.56**	**141**	PN		Pn	00 50 56.8	-0.2
MCHZ	**McNeill Hill**	**1.72**	**178**	PN		Pn	00 50 59.4	+0.6
MHGZ	**Mahia Peninsul**	**1.76**	**145**	PN		Pn	00 50 59.1	-0.1
WNVZ	**Wahianoa**	**1.79**	**206**	PN		Pn	00 50 59.9	+0.2
BHHZ	**Black Hill Sta**	**1.82**	**194**	PN		Pn	00 50 59.4	-0.5
CKHZ	**Cape Kidnapper**	**1.97**	**169**	PN		Pn	00 51 01.2	-0.4
KAHZ	**Kahuranaki**	**2.08**	**174**	PN		Pn	00 51 02.6	-0.5
PNHZ	**Pukenui**	**2.21**	**188**	PN		Pn	00 51 03.5	-1.1
PXZ	**Pawanui**	**2.32**	**175**	PN		Pn	00 51 04.7	-1.1
TSZ	**Takapari Road**	**2.39**	**192**	PN		Pn	00 51 05.6	-1.2
PRHZ	**Porangahau**	**2.54**	**180**	PN		Pn	00 51 07.3	-1.4
BFZ	**Birch Farm**	**2.97**	**185**	PN		Pn	00 51 12.0	-2.1
HOWZ	**Holdsworth Sta**	**3.29**	**195**	PN		Pn	00 51 15.5	-2.7
OGWZ	**Otaki Gorge**	**3.29**	**199**	PN		Pn	00 51 16.1	-2.1
KIW	**Kapiti Island**	**3.40**	**202**	PN		Pn	00 51 17.1	-2.6
MTW	**Mount Morrison**	**3.54**	**194**	PN		Pn	00 51 18.3	-3.2
CAW	**Cannon Point**	**3.59**	**199**	PN		Pn	00 51 19.0	-3.1
TCW	**Tory Channel**	**3.93**	**207**	PN		Pn	00 51 23.9	-2.7
PLWZ	**Palliser**	**3.98**	**195**	PN		Pn	00 51 23.6	-3.8
THZ	**Tophouse**	**4.95**	**214**	PN		Pn	00 51 36.1	-4.0

*ISCJB **08** 00:53:25.2±0.7,32°.89N±0°.06×140°.0E±0°.1,h172km±7km, mb3.2/3,Error ellipse: s-maj=19.7km s-min=9.4km az=170.5*

STKA				LR	LR	02 03 46.1			
	comp=Z,100nm,19.7s,baz=192,slow=36								
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	01 55 28.1	**+0.6**		
	0.2nm,0.6s,baz=107,slow=7.7,SNR=4.4								
KURK	**Kurchatov**	**68.98**	**326**	P	P	01 55 53.0	**-0.4**		
	0.1nm,0.4s,baz=122,slow=6.1,SNR=3.7								

WEL 08 01:45:31.8±0.3, 38°78S×175°42E, h174km±2km, ML4.2/21, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.25**	**74**	PN	Pn	01 45 55.2	**+0.1**
WATZ				SN	Sn	01 46 12.4	-0.5
RATZ	**Rangitukua**	**0.29**	**108**	PN	Pn	01 45 54.9	-0.2
RATZ				SN	Sn	01 46 12.6	-0.5
KATZ	**Kakaramea**	**0.29**	**132**	PN	Pn	01 45 55.0	-0.3
KATZ				SN	Sn	01 46 12.2	-1.2
TWVZ	**Taurewa**	**0.29**	**178**	PN	Pn	01 45 55.1	-0.2
TWVZ				SN	Sn	01 46 12.5	-0.9
KRVZ	**Karearewa**	**0.36**	**151**	PN	Pn	01 45 55.4	-0.1
WTVZ	**West Tongariro**	**0.36**	**159**	PN	Pn	01 45 55.3	-0.2
WTVZ				SN	Sn	01 46 13.1	-0.7
RITZ	**Rihia Road**	**0.39**	**120**	PN	Pn	01 45 55.7	+0.2
NGZ	**Ngauruhoe**	**0.42**	**161**	PN	Pn	01 45 55.5	-0.2
OTVZ	**Oturere**	**0.43**	**154**	PN	Pn	01 45 55.5	-0.3
WPVZ	**Whakapapa**	**0.43**	**167**	PN	Pn	01 45 55.6	-0.1
FWVZ	**Far West T-bar**	**0.48**	**168**	PN	Pn	01 45 55.9	-0.1
DRZ	**Dome Shelter**	**0.51**	**167**	PN	Pn	01 45 56.3	0.0
PKVZ	**Pokaka**	**0.51**	**187**	PN	Pn	01 45 55.8	-0.1
HIZ	**Hauiti**	**0.52**	**301**	PN	Pn	01 45 55.5	-0.4
TUVZ	**Tukino**	**0.52**	**160**	PN	Pn	01 45 56.1	0.0
TRVZ	**Turoa**	**0.53**	**169**	PN	Pn	01 45 56.2	0.0
HATZ	**Hinemaiaia**	**0.54**	**102**	PN	Pn	01 45 55.7	-0.3
WNVZ	**Wahianoa**	**0.56**	**166**	PN	Pn	01 45 56.2	-0.1
MTVZ	**Mangateitei**	**0.60**	**176**	PN	Pn	01 45 56.3	-0.1
VRZ	**Vera Road**	**0.62**	**236**	PN	Pn	01 45 56.2	-0.1
MOVZ	**Moawhango**	**0.68**	**158**	PN	Pn	01 45 56.4	-0.4
BHHZ	**Black Hill Sta**	**0.86**	**145**	PN	Pn	01 45 57.6	-0.3
BKZ	**Black Stump Fm**	**0.92**	**115**	PN	Pn	01 45 58.0	-0.3
RAEZ	**Rainy Point**	**0.95**	**237**	PN	Pn	01 45 58.5	+0.1
WAZ	**Wanganui**	**1.03**	**199**	PN	Pn	01 45 59.0	0.0
TOZ	**Tahuroa Road**	**1.05**	**3**	PN	Pn	01 45 58.9	-0.3
NMHZ	**Naumai**	**1.12**	**107**	PN	Pn	01 46 00.7	+0.8
NEZ	**North Egmont**	**1.14**	**244**	PN	Pn	01 46 00.2	+0.1
DFE	**Dawson Falls**	**1.16**	**242**	PN	Pn	01 45 58.7	-1.5
MCHZ	**McNeill Hill**	**1.19**	**124**	PN	Pn	01 46 01.1	+0.8
PKE	**Pukeiti**	**1.19**	**249**	PN	Pn	01 46 00.3	0.0
PNHZ	**Pukenui**	**1.28**	**152**	PN	Pn	01 46 01.1	-0.1
NRZ	**Ngariki Road**	**1.28**	**244**	PN	Pn	01 46 01.1	0.0
RAHZ	**Arahi**	**1.31**	**96**	PN	Pn	01 46 01.8	+0.4
NWEZ	**Newall Road**	**1.31**	**247**	PN	Pn	01 46 01.3	-0.1
TSZ	**Takapari Road**	**1.34**	**162**	PN	Pn	01 46 01.5	-0.2
URZ	**Urewera**	**1.42**	**69**	PN	Pn	01 46 01.7	-0.8
WPHZ	**Waipukurau**	**1.50**	**149**	PN	Pn	01 46 03.1	-0.1
KAHZ	**Kahuranaki**	**1.52**	**132**	PN	Pn	01 46 03.7	+0.3
CKHZ	**Cape Kidnapper**	**1.56**	**125**	PN	Pn	01 46 04.0	+0.3
DVHZ	**Dannevirke**	**1.62**	**159**	PN	Pn	01 46 03.8	-0.6
POWZ	**Post Office Ro**	**1.63**	**171**	PN	Pn	01 46 03.8	-0.6
PXZ	**Pawanui**	**1.67**	**139**	PN	Pn	01 46 04.7	-0.1
MWZ	**Matawai**	**1.71**	**76**	PN	Pn	01 46 05.0	-0.3
PRHZ	**Porangahau**	**1.76**	**148**	PN	Pn	01 46 05.5	-0.2
KNZ	**Kokohu**	**1.77**	**98**	PN	Pn	01 46 05.7	-0.2
MRZ	**Mangatainoka R**	**1.88**	**176**	PN	Pn	01 46 06.1	-1.0
PRGZ	**Paritu Road**	**1.93**	**95**	PN	Pn	01 46 07.5	-0.1
MHGZ	**Mahia Peninsul**	**1.97**	**102**	PN	Pn	01 46 08.2	+0.1
BFZ	**Birch Farm**	**2.00**	**162**	PN	Pn	01 46 07.5	-0.8
TIWZ	**Tintock**	**2.02**	**170**	PN	Pn	01 46 07.8	-0.9
OGWZ	**Otaki Gorge**	**2.04**	**185**	PN	Pn	01 46 08.0	-0.8
KIW	**Kapiti Island**	**2.12**	**191**	PN	Pn	01 46 08.4	-1.2
HOWZ	**Holdsworth Sta**	**2.12**	**178**	PN	Pn	01 46 08.5	-1.2
CNGZ	**Carnagh Statio**	**2.20**	**83**	PN	Pn	01 46 10.8	+0.2
DUWZ	**D'Urville Isla**	**2.33**	**209**	PN	Pn	01 46 10.6	-1.5
PUZ	**Puketiti**	**2.34**	**73**	PN	Pn	01 46 11.5	-0.7
CAW	**Cannon Point**	**2.34**	**187**	PN	Pn	01 46 10.9	-1.3
TMWZ	**Te Maipa**	**2.35**	**171**	PN	Pn	01 46 11.0	-1.3
MTW	**Mount Morrison**	**2.38**	**179**	PN	Pn	01 46 11.1	-1.5
WEL	**Wellington**	**2.55**	**191**	PN	Pn	01 46 13.3	-1.4
MXZ	**Matakaoa Point**	**2.58**	**63**	PN	Pn	01 46 14.7	-0.3
TCW	**Tory Channel**	**2.58**	**200**	PN	Pn	01 46 13.5	-1.5
SNZO	**South Karori**	**2.58**	**192**	PN	Pn	01 46 13.4	-1.6
PAWZ	**Paruwai Farm**	**2.60**	**180**	PN	Pn	01 46 13.5	-1.7
TRWZ	**Traveller**	**2.62**	**176**	PN	Pn	01 46 13.9	-1.6
MSWZ	**Moikau Station**	**2.63**	**183**	PN	Pn	01 46 14.0	-1.7
BHW	**Baring Head**	**2.66**	**189**	PN	Pn	01 46 14.2	-1.6
PLWZ	**Palliser**	**2.79**	**183**	PN	Pn	01 46 15.6	-2.0
TUWZ	**Tuamarina**	**2.88**	**203**	PN	Pn	01 46 16.7	-1.8
NNZ	**Nelson**	**2.90**	**222**	PN	Pn	01 46 15.8	-2.5
QRZ	**Quartz Range**	**3.02**	**227**	PN	Pn	01 46 17.8	-2.5
BSWZ	**Blackbirch Sta**	**3.16**	**202**	PN	Pn	01 46 20.3	-1.7
THZ	**Tophouse**	**3.55**	**212**	PN	Pn	01 46 24.3	-2.7
KHZ	**Kahutara**	**3.90**	**201**	PN	Pn	01 46 29.3	-2.0
DSZ	**Denniston Nort**	**4.05**	**222**	PN	Pn	01 46 30.2	-3.2
LTZ	**Lake Taylor**	**4.66**	**210**	PN	Pn	01 46 38.0	-3.2
MQZ	**McQueen's Vall**	**5.34**	**202**	PN	Pn	01 46 46.0	-4.0
FOZ	**Fox Glacier**	**6.44**	**220**	PN	Pn	01 47 00.4	-4.0

*NEIC **08** 02:01:08.1, 18°.50N×68°.75W, h2km, MD3.8(RSPR), After RSPR.*

RSPR 08 02:01:08.1, 18°.50N×68°.75W, h2km±15km, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.55**	**91**	*e*Pn	Pn	02 01 36.3	-0.5
AGPR				*e*S	Sg	02 02 00.5	+2.4
CRPR	**Cabo Rojo, PR**	**1.63**	**107↑**	*e*P	Pn	02 01 35.0	-2.8
CRPR	**Cabo Rojo, PR**	**1.63**	**107↑**	*e*P	Pn	02 01 35.0	-2.8
LRS	**Lares**	**1.82**	**96**	Pn	Pn	02 01 38.9	-1.6
LRS				*e*S	Sg	02 02 06.9	+0.1
CBYP	**Canovanas**	**2.75**	**94↑**	*e*P	Pn	02 01 50.9	-2.5
CBYP	**Canovanas**	**2.75**	**94**	*e*S	Sn	02 02 24.2	-3.1
CBYP	**Canovanas**	**2.75**	**94**	*e*Pn	Pn	02 01 49.4	-4.0
CBYP				*e*S	Sn	02 02 24.6	-2.7
HUMP	**Col San Antoni**	**2.77**	**97**	*e*S	Sn	02 02 24.0	-3.7
MTP	**Monte Pirata**	**3.06**	**97↑**	*e*P	Pn	02 01 54.6	-3.0
MTP	**Monte Pirata**	**3.06**	**97**	*e*S	Sn	02 02 31.8	-3.0
MTP	**Monte Pirata**	**3.06**	**97↑**	*e*P	Pn	02 01 54.6	-3.0
MTP				*e*S	Sn	02 02 31.8	-3.0

MEX 08 02:10:42.6±0.4, 14°21N×93°58W, h16km±18km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.44**	**61**	*i* P	Pn	02 11 03.9	-4.2
THIG				*i* S	Sn	02 11 21.1	-5.6
PCIG		**1.52**	**13**	*e*P	Pn	02 11 05.3	-3.8
PCIG				*e*S	Sn	02 11 23.2	-5.4
CCIG	**Comitan**	**2.48**	**34**	*e*P	Pn	02 11 20.4	-2.3
CCIG				*e*S	Sn	02 11 48.9	-3.9
TGIG		**2.59**	**10**	*e*P	Pn	02 11 21.1	-2.8
TGIG				*e*S	Sn	02 11 50.8	-4.3
CMIG	**Matias Romero**	**3.13**	**336**	*e*P	Pn	02 11 28.8	-2.4
CMIG				*e*S	Sn	02 12 04.3	-4.0

IDC 08 02:20:33.8±2.8, 0°.84S×132°.47E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/12, Error ellipse: s-maj=130.2km s-min=25.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.42**	**201**	P	Pn	02 24 50.6	-0.1
	0.1nm,0.3s,baz=39,slow=13,SNR=2.5						
FITZ				LR	LR	02 31 27.2	
	comp=Z,45nm,21.3s,baz=120,slow=36						
WRA	**Warramunga Arr**	**19.07**	**175**	P	P	02 24 58.1	**+0.1**
	0.1nm,0.3s,baz=353,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**22.73**	**177**	P	P	02 25 37.4	-0.2
	0.3nm,0.3s,baz=5.0,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**64.58**	**324**	P	P	02 31 12.9	0.0
	0.1nm,0.6s,baz=104,slow=6.1,SNR=2.8						

IDC 08 02:28:02.9±53.0, 16°06S×177°16W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=982.9km s-min=168.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.58**	**240**	P	P	02 35 44.3	-0.1
	0.5nm,0.3s,baz=91,slow=9.1,SNR=4.6						
WRA	**Warramunga Arr**	**46.17**	**258**	P	P	02 36 30.1	+0.4
	0.3nm,0.7s,baz=91,slow=8.3,SNR=4.4						
ASAR	**Alice Springs**	**46.46**	**252**	P	P	02 36 31.4	-0.7
	2.0nm,0.6s,baz=86,slow=8.2,SNR=18						

*IDC **08** 02:33:49.5±1.1, 7°.73S×118°.97E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML3.4/3, Error ellipse: s-maj=45.5km s-min=16.5km az=63.0*
*ISCJB **08** 02:33:53.0±0.5, 7°.74S±0°.04×119°.02E±0°.05, h33km, mb3.8/5, Error ellipse: s-maj=7.1km s-min=5.6km az=155.6*
*DJA **08** 02:34:06, 6°.66S×118°.78E, h30km, MLv3.7/7*

ISC 08 02:33:54.5±0.8, 7°.75S±0°.05×119°.04E±0°.06, h35km, n16, σ1s32/20, mb3.9/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.27**	**147**	P	Pn	02 34 30.6	**+1.0**
WSI				S	Sn	02 34 58.4	+1.9
BKSI	**Bulukumba**	**2.65**	**24**	P	Pn	02 34 35.7	+1.0
KAPI	**Kappang**	**2.81**	**15**	Pn	Pn	02 34 36.6	-0.4
	2.8nm,0.3s,baz=196,slow=5.7,SNR=9.7						
KAPI				Sn	Sn	02 35 09.6	-0.1
	5.8nm,0.3s,baz=6.3,slow=23,SNR=7.8						
KAPI	**Kappang**	**2.81**	**15**	P	Pn	02 34 36.6	-0.4
MTNI	**Mataram**	**2.97**	**253**	P	Pn	02 34 39.4	+0.2
MMRI	**Maumere**	**3.29**	**106**	P	Pn	02 34 43.6	0.0
MMRI				S	Sn	02 35 22.4	+0.9
KHKI	**Kahang-Kahang**	**3.45**	**260**	P	Pn	02 34 46.2	+0.4
SPSI	**Sidrap Palu**	**3.83**	**11**	P	Pn	02 34 52.0	+0.9
IGBI	**Denpasar**	**4.00**	**254**	P	Pn	02 34 53.5	+0.2
FITZ	**Fitzroy Crossi**	**12.13**	**149**	Pn	Pn	02 36 44.8	-0.1
	0.0nm,0.3s,baz=91,slow=15,SNR=2.1						
FITZ				Sn	Sn	02 38 54.5	-4.5
	0.4nm,0.3s,baz=186,slow=17,SNR=6.7						
WRA	**Warramunga Arr**	**19.15**	**131**	P	P	02 38 14.8	-0.2
	0.4nm,0.3s,baz=304,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.30**	**140**	P	P	02 38 38.9	**+0.5**
	4.2nm,0.5s,baz=315,slow=9.0,SNR=31						
STKA	**Stephens Creek**	**31.89**	**142**	P	P	02 40 17.5	**+0.8**
	1.7nm,0.6s,baz=327,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**63.37**	**333**	P	P	02 44 20.5	**+0.1**
	0.6nm,0.6s,baz=146,slow=7.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**67.90**	**339**	P	P	02 44 49.1	**-0.3**
	0.5nm,0.6s,baz=160,slow=4.6,SNR=2.9						
KURK	**Kurchatov**	**67.90**	**334**	P	P	02 44 49.5	**0.0**
	0.2nm,0.5s,baz=142,slow=5.6,SNR=4.6						

*NIED **08** 02:41:00, 37°.20N×138°.80E, h5km, Mw3.5 Best double couple: M0 2.09000×10^14 NP1:φs 7.00000°, δ62.00000°, λ77.00000°. NP2:φs 214.00000°, δ30.00000°, λ114.00000°.*
*IDC **08** 02:41:23.1±1.1, 37°.17N×138°.97E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.5/26, mbtmp3.4/8, ML2.6/2, Error ellipse: s-maj=24.6km s-min=9.8km az=124.0*
*ISCJB **08** 02:41:24.9±0.5, 37°.22N±0°.03×138°.86E±0°.06, h22km±4km, mb3.4/6, Error ellipse: s-maj=8.0km s-min=5.5km az=173.9*
*JMA **08** 02:41:25.3, 37°.22N×138°.83E, h10km±1km, M4.0*
JMA Felt II J1.

ISC 08 02:41:25.2±0.9, 37°20N±0°.03×138°84E±0°.04, h12km±7km, n18, σ1s04/22, mb3.4/6, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.15**	**72**	⇓P	Pg	02 41 28.7	**-0.1**
JHK				*e*S	Sg	02 41 31.6	**+0.3**
JIZZ	**Izumozaki**	**0.34**	**343**	P	Pg	02 41 32.3	**+0.2**
JIZZ				*e*S	Sb	02 41 38.1	**-0.6**
JKT	**Katashina**	**0.55**	**142**	⇓P	Pb	02 41 36.1	**-0.7**
JKT				S	Sb	02 41 44.1	**-0.5**
JGK	**Kuni**	**0.66**	**194**	P	Pb	02 41 38.2	**-0.4**
JNS	**Sasagawa**	**0.73**	**32**	⇑P	Pg	02 41 38.2	**-1.1**
MAT	**Matsushiro**	**0.83**	**218**	P	Pg	02 41 40.5	**-0.7**
MAT				S	Sg	02 41 51.6	**-0.4**
MAT	**Matsushiro**	**0.83**	**218**	P	Pg	02 41 40.5	**-0.7**
MJAR	**Matsushiro Arr**	**0.83**	**218**	Pg	Pg	02 41 40.6	**-0.6**
	96nm,0.3s,baz=28,slow=18,SNR=243						
MJAR				Lg	Lg	02 41 51.5	
	203nm,0.3s,baz=30,slow=29,SNR=45						
JAG	**Ashikaga**	**0.92**	**147**	⇓P	Pb	02 41 43.1	**0.0**
JSD	**Sado**	**0.95**	**332**	⇓P	Pg	02 41 41.4	**-2.1**
KSRS	**Korea Array**	**8.70**	**275**	Pn	Pn	02 43 33.2	**+2.4**
	0.5nm,0.3s,baz=90,slow=15,SNR=3.0						
USRK	**Ussuriysk Arra**	**8.70**	**326**	Pn	Pn	02 43 32.2	**+1.4**
	0.1nm,0.3s,baz=136,slow=15,SNR=2.4						
SONM	**Songino Array**	**25.99**	**304**	P	P	02 46 57.2	**-0.6**
	0.3nm,0.6s,baz=105,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**42.28**	**302**	P	P	02 49 19.2	**+0.7**
	0.4nm,0.3s,baz=183,slow=13,SNR=14						
KURK	**Kurchatov**	**44.20**	**308**	P	P	02 49 35.1	**+1.2**
	0.3nm,0.6s,baz=87,slow=8.5,SNR=4.4						
ILAR	**Eielson Array**	**50.46**	**32**	P	P	02 50 22.3	**-0.1**
	0.2nm,0.6s,baz=272,slow=4.6,SNR=4.3						
WRA	**Warramunga Arr**	**56.99**	**185**	P	P	02 51 09.8	**-0.9**
	1.3nm,0.8s,baz=0.6,slow=7.6,SNR=11						
YKA	**Yellowknife Ar**	**64.69**	**29**	P	P	02 52 02.4	**-0.2**
	0.2nm,0.6s,baz=304,slow=6.5,SNR=9.0						

*ISCJB **08** 03:02:58.6±0.7, 55°.99S±0°.09×27°.5W±0°.2, h112km, mb4.0/7, Error ellipse: s-maj=19.1km s-min=10.1km az=150.5*
*IDC **08** 03:03:02.9±5.8, 56°.04S×27°.60W, h137km±51km, mb3.8/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.9/7, Error ellipse: s-maj=24.1km s-min=17.0km az=69.0*

ISC 08 03:02:59.8±0.6, 56°05S±0°.1×27°5W±0°.1, h112km, n22, σ0s96/24, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.92**	**158**	*e*P	P	03 06 51.8	**+2.4**
VNA3	**Neumayer Olymp**	**17.11**	**160**	*e*P	P	03 06 51.6	**0.0**
VNA2	**Neumayer--Watz**	**17.32**	**158**	*e*P	Pn	03 06 54.3	**+0.2**
	baz=312,slow=13						
SNAA	**Sanae**	**18.87**	**156**	*e*P	P	03 07 10.0	-0.9
PMSA	**Palmer Station**	**19.82**	**229**	P	P	03 07 22.0	**+0.8**
	0.8nm,0.3s,baz=161,slow=21,SNR=3.2						
PLCA	**Paso Flores**	**31.83**	**280**	P	P	03 09 14.9	**+1.2**
	0.5nm,0.5s,baz=242,slow=16,SNR=2.1						
QSPA	**South Pole Qui**	**34.27**	**180**	P	P	03 09 34.9	**+0.1**
	4.0nm,0.4s,baz=210,slow=2.6,SNR=20						
QSPA				PcP	PcP	03 12 07.6	**-0.8**
	1.2nm,0.3s,baz=147,slow=1.6,SNR=3.7						
CPUP	**Villa Florida**	**36.65**	**312**	P	P	03 09 55.3	**0.0**
	0.6nm,0.4s,baz=120,slow=3.7,SNR=5.7						
CPUP				PcP	PcP	03 12 15.6	**-0.2**
	1.2nm,0.5s,baz=126,slow=2.7,SNR=5.9						
CFAA	**Coronel Fontan**	**37.38**	**293**	P	P	03 09 60.0	**-1.6**
	0.1nm,0.4s,baz=151,slow=8.6,SNR=3.4						
LPAZ	**La Paz**	**50.20**	**305**	P	P	03 11 45.5	**+0.6**
	2.4nm,0.4s,baz=140,slow=4.2,SNR=18						
LPAZ				PcP	PcP	03 13 02.9	**+0.5**
	0.9nm,0.6s,baz=182,slow=3.9,SNR=3.0						
DBIC	**Dimbokro**	**65.17**	**25**	P	P	03 13 29.9	**+1.1**
	3.6nm,1.1s,baz=295,slow=20,SNR=4.4						
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P	P	03 14 18.6	**+1.1**
	1.6nm,0.4s,baz=200,slow=6.4,SNR=60						
WRA	**Warramunga Arr**	**102.82**	**162**	P	Pdif	03 16 44.0	**-0.8**
	0.4nm,0.8s,baz=194,slow=4.3,SNR=3.6						
NVAR	**Mina Array Bea**	**121.22**	**293**	PKP	PKiKP	03 21 39.2	**+0.1**
	0.4nm,0.5s,baz=105,slow=3.5,SNR=4.6						
FINES	**FINESS Array B**	**124.40**	**28**	PKP	PKPdf	03 21 42.9	**-1.1**
	3.1nm,0.9s,baz=220,slow=5.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**125.24**	**111**	PKP	PKPdf	03 21 46.6	**-0.4**
	0.5nm,0.3s,baz=229,slow=1.6,SNR=4.1						
ARCES	**ARCESS Array B**	**130.94**	**22**	PKP	PKPdf	03 21 55.9	**-0.4**
	6.7nm,1.0s,baz=218,slow=2.2,SNR=3.3						
YKA	**Yellowknife Ar**	**136.01**	**318**	PKP	PKPdf	03 22 05.1	**-0.8**
	0.6nm,0.5s,baz=126,slow=2.4,SNR=21						
MKAR	**Makanchi Array**	**137.02**	**72**	PKP	PKiKP	03 22 09.2	**-1.1**
	0.2nm,0.5s,baz=216,slow=1.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**142.48**	**64**	PKhKP	PKPpre	03 22 13.3	
	0.6nm,0.4s,baz=237,slow=4.6,SNR=3.7						
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**03 22 34.6**	**-0.7**
	7.5nm,0.8s,baz=134,slow=3.0,SNR=70						
SONM	**Songino Array**	**150.88**	**87**	PKPbc	**PKPbc**	**03 22 37.9**	**-0.4**
	4.6nm,0.4s,baz=222,slow=3.5,SNR=40						

*DDA **08** 03:07:09.3, 37°.58N×35°.74E, h7km, MD3.1*
*ISCJB **08** 03:07:10.4±0.6, 37°.55N±0°.04×35°.71E±0°.04, h7km±5km, Error ellipse: s-maj=6.4km s-min=5.3km az=171.1*
*ISK **08** 03:07:10.0, 37°.55N×35°.69E, h7km, MD2.8*
*CSEM **08** 03:07:10.6±0.1, 37°.54N×35°.69E, h8km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.7km az=22.0*

ISC 08 03:07:10.5±0.9, 37°54N±0°.03×35°70E±0°.03, h9km±7km, n35, σ0s58/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.12**	**119**	*e*PG	Pg	03 07 13.2	**-0.1**
KOZT				*e*SG	Sg	03 07 15.4	**+0.1**
KOZT	**Kozan**	**0.12**	**119**	*e*Pg	Pg	03 07 13.2	**-0.1**
KOZT				*e*Sg	Sg	03 07 15.4	**+0.1**
ANDN	**Andirin**	**0.52**	**85**	*i* P	Pg	03 07 12.7	-7.9
ANDN				*i* S	Sg	03 07 21.0	-6.4
CEYT	**Ceyhan**	**0.53**	**175**	*e*PG	Pg	03 07 20.8	**0.0**
CEYT				*e*SG	Sb	03 07 29.1	**-0.5**
CEYT	**Ceyhan**	**0.53**	**175**	*e*Pg	Pg	03 07 20.8	**0.0**
CEYT				*e*Sg	Sb	03 07 29.1	**-0.5**
GULE	**Gulek**	**0.78**	**251**	*i* P	Pb	03 07 25.7	**-0.6**
GULE				*i* S	Sb	03 07 37.9	**+1.0**
GULE	**Gulek**	**0.78**	**251**	*i* P	Pb	03 07 25.7	**-0.6**
GULE				*i* S	Sb	03 07 37.9	**+1.0**
KMRS	**Kahramanmaras**	**0.96**	**92**	*e*PG	Pb	03 07 29.0	**-0.3**
KMRS	**Kahramanmaras**	**0.96**	**92**	*e*Pg	Pb	03 07 29.0	**-0.3**
KRTS	**Karatas**	**1.00**	**195**	*e*PG	Pb	03 07 29.5	**-0.4**
KRTS	**Karatas**	**1.00**	**195**	*e*Pg	Pb	03 07 29.5	**-0.4**
NIG	**Nigde**	**1.03**	**304**	*e*PG	Pb	03 07 30.2	**-0.5**
NIG	**Nigde**	**1.03**	**304**	*e*Pg	Pb	03 07 30.2	**-0.5**
MERS	**Mersin**	**1.15**	**235**	*e*PN	Pb	03 07 32.2	**-0.4**
MERS	**Mersin**	**1.15**	**235**	*e*Pn	Pb	03 07 32.2	**-0.4**
GAZ	**Gaziantep**	**1.26**	**106**	*e*PN	Pg	03 07 34.7	**0.0**
GAZ	**Gaziantep**	**1.26**	**106**	*e*Pn	Pg	03 07 34.7	**0.0**
BNN	**Bunyan**	**1.32**	**5**	*e*PN	Pb	03 07 35.3	**-0.2**
BNN	**Bunyan**	**1.32**	**5**	*e*Pn	Pb	03 07 35.3	**-0.2**
AVNT	**Avonos**	**1.41**	**332**	*i* P	Pn	03 07 36.4	**-0.1**
AVNT				*i* S	Sb	03 07 54.9	**-0.2**
AVNT	**Avonos**	**1.41**	**332**	*i* P	Pn	03 07 36.4	**-0.1**
AVNT				*i* S	Sb	03 07 54.9	**-0.2**
HTY	**Hatay**	**1.46**	**166**	*e*PN	Pb	03 07 37.2	**-0.6**
HTY	**Hatay**	**1.46**	**166**	*e*Pn	Pb	03 07 37.2	**-0.6**
AKCD	**Akcadag**	**1.92**	**66**	*i* P	Pn	03 07 43.8	**+0.4**
AKCD				*i* S	Sn	03 08 07.1	**-0.6**
AKCD	**Akcadag**	**1.92**	**66**	*i* P	Pn	03 07 43.8	**+0.4**
AKCD				*i* S	Sn	03 08 07.1	**-0.6**
YOZ	**Yozgat**	**2.12**	**352**	*e*PN	Pn	03 07 46.7	**+0.5**
YOZ	**Yozgat**	**2.12**	**352**	*e*Pn	Pn	03 07 46.7	**+0.5**
MALT	**Malatya**	**2.29**	**69**	*e*PN	Pn	03 07 49.2	**+0.6**
MALT	**Malatya**	**2.29**	**69**	*e*Pn	Pn	03 07 49.2	**+0.6**
MYA	**Malataya**	**2.30**	**69**	*e*PN	Pn	03 07 49.7	**+1.1**
MYA	**Malataya**	**2.30**	**69**	*e*Pn	Pn	03 07 49.7	**+1.1**
KAMT	**Kaman**	**2.40**	**320**	*e*PN	Pn	03 07 50.9	**+0.8**
KAMT	**Kaman**	**2.40**	**320**	*e*Pn	Pn	03 07 50.9	**+0.8**
URFA	**Urfa**

EFP	**Efpalio**	**2.69**	**302**	*e*P		**Pn**	**03 11 42.6**	**+1.5**
EFP	**Efpalio**	**2.69**	**302**	*e*P		**Pn**	**03 11 42.6**	**+1.5**
AGG	**Agios Georgios**	**2.79**	**316**	*e*P		**Pn**	**03 11 43.6**	**+1.2**
AGG				*e*S		**Sn**	**03 12 16.4**	**-0.6**
AGG	**Agios Georgios**	**2.79**	**316**	*e*P		**Pn**	**03 11 43.6**	**+1.2**
AGG				*e*S		**Sn**	**03 12 16.4**	**-0.6**
ARG	**Arkhangelos**	**2.79**	**106**	*e*P		**Pn**	**03 11 44.7**	**+2.2**
ARG	**Arkhangelos**	**2.79**	**106**	*e*P		**Pn**	**03 11 44.7**	**+2.2**
RLS	**Riolos of Patr**	**2.84**	**292**	*e*P		**Pn**	**03 11 44.8**	**+1.7**
RLS				*e*S		**Sn**	**03 12 17.3**	**-0.8**
RLS	**Riolos of Patr**	**2.84**	**292**	*e*P		**Pn**	**03 11 44.8**	**+1.7**
RLS				*e*S		**Sn**	**03 12 17.3**	**-0.8**
LIA	**Limnos Island**	**2.88**	**6**	*e*P		**Pn**	**03 11 43.5**	**-0.1**
LIA	**Limnos Island**	**2.88**	**6**	*e*P		**Pn**	**03 11 43.5**	**-0.1**
THL	**Klokotos Trika**	**3.35**	**320**	*e*P		**Pn**	**03 11 50.2**	**+0.7**
THL				*e*S		**Sn**	**03 12 29.0**	**-0.7**
THL	**Klokotos Trika**	**3.35**	**320**	*e*P		**Pn**	**03 11 50.2**	**+0.7**
THL				*e*S		**Sn**	**03 12 29.0**	**-0.7**
VLS	**Valsamata**	**3.54**	**290**	*e*P		**Pn**	**03 11 53.1**	**+1.1**
VLS	**Valsamata**	**3.54**	**290**	*e*P		**Pn**	**03 11 53.1**	**+1.1**
KZN	**Kozani**	**4.04**	**325**	*e*P		**Pn**	**03 11 59.8**	**+1.2**
KZN				*e*S		**Sn**	**03 12 45.6**	**-0.3**
KZN	**Kozani**	**4.04**	**325**	*e*P		**Pn**	**03 11 59.8**	**+1.2**
KZN				*e*S		**Sn**	**03 12 45.6**	**-0.3**
JAN	**Janina**	**4.07**	**311**	*e*P		**Pn**	**03 11 59.8**	**+0.9**
JAN	**Janina**	**4.07**	**311**	*e*P		**Pn**	**03 11 59.8**	**+0.9**
RDO	**Rodhopi**	**4.15**	**8**	*e*P		**Pn**	**03 12 01.1**	**+1.2**
RDO	**Rodhopi**	**4.15**	**8**	*e*P		**Pn**	**03 12 01.1**	**+1.2**
NVR	**Nevrokopi**	**4.38**	**351**	*e*P		**Pn**	**03 12 03.7**	**+0.7**
NVR	**Nevrokopi**	**4.38**	**351**	*e*P		**Pn**	**03 12 03.7**	**+0.7**
KEK	**Kerkira**	**4.76**	**306**	*e*P		**Pn**	**03 12 09.3**	**+1.4**
KEK	**Kerkira**	**4.76**	**306**	*e*P		**Pn**	**03 12 09.3**	**+1.4**
SLUM		**4.53**	**176**	P		**Pn**	**03 12 16.5**	**-1.8**
BRTR	**Keskin Array B**	**7.45**	**66**	P		Pn	03 12 48.2	+4.4
	0.0nm,0.3s,baz=250,slow=13,SNR=2.6							
SWA2		**7.78**	**176**	P		**Pn**	**03 12 47.3**	**-1.0**
STON	**Ston**	**7.99**	**319**	*e*Pn		Pn	03 12 47.7	-3.2
STON					Sn	Sn	03 14 09.8	-10
HNAT	**Natroun**	**8.83**	**145**	P		**Pn**	**03 13 01.0**	**-1.3**
HSAF	**As Saff**	**9.30**	**141**	P		**Pn**	**03 13 07.6**	**-0.9**
HHAG	**Hagoal**	**9.32**	**137**	P		**Pn**	**03 13 07.5**	**-1.3**
AWBH		**9.34**	**157**	P		**Pn**	**03 13 08.5**	**-0.6**
GLL	**Jalalah**	**9.41**	**140**	P		**Pn**	**03 13 09.0**	**-1.0**
MMAI	**Mount Meron Ar**	**9.57**	**112**	P		**Pn**	**03 13 10.7**	**-1.5**
	1.6nm,0.3s,baz=310,slow=12,SNR=12							
MMAI				S		**Sn**	**03 14 53.4**	**-4.9**
	2.7nm,0.3s,baz=292,slow=30,SNR=8.7							
SUZ		**9.81**	**135**	P		**Pn**	**03 13 14.4**	**-1.0**
HFRF	**Wahat Farafira**	**10.29**	**162**	P		**Pn**	**03 13 21.8**	**+0.2**
NVLJ	**Novalja**	**10.64**	**318**	*e*Pn		**Pn**	**03 13 23.4**	**-2.7**
NVLJ					Sn	Sn	03 15 13.5	-10
EIL	**Elat**	**11.21**	**128**	P		**Pn**	**03 13 33.0**	**-0.8**
	0.8nm,0.3s,baz=126,slow=5.1,SNR=17							
EIL				S		Sn	03 15 28.2	-10
	1.5nm,0.3s,baz=297,slow=20,SNR=7.7							
VRAC	**Vranov**	**13.65**	**337**	P		**P**	**03 14 08.3**	**-0.6**
	0.8nm,0.3s,baz=143,slow=9.5,SNR=13							
AKASG	**Malin Array Be**	**14.03**	**12**	P		**Pn**	**03 14 11.9**	**+2.0**
	1.1nm,0.3s,baz=204,slow=10.0,SNR=7.5							
GERES	**GERESS Array B**	**14.32**	**329**	P		**Pn**	**03 14 14.5**	**+0.9**
	0.2nm,0.3s,baz=143,slow=12,SNR=19							
DAVOX	**Davos/Dischmat**	**14.76**	**316**	P		**P**	**03 14 21.8**	**+0.4**
	0.2nm,0.3s,baz=204,slow=16,SNR=3.1							
HFS	**Hagfors**	**24.20**	**346**	P		**P**	**03 15 59.4**	**-0.8**
	5.9nm,1.1s,baz=149,slow=12,SNR=3.8							
FINES	**FINESS Array B**	**24.45**		P		**P**	**03 16 03.1**	**+0.7**
	2.7nm,0.9s,baz=173,slow=5.9,SNR=7.3							
NOA	**NORSAR Array B**	**25.52**	**345**	P		**P**	**03 16 12.9**	**+0.7**
	1.0nm,0.9s,baz=150,slow=9.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**31.51**	**227**	P		**P**	**03 17 07.5**	**+1.7**
	0.8nm,0.5s,baz=37,slow=9.5,SNR=22							
ARCES	**ARCESS Array B**	**32.57**	**0**	P		**P**	**03 17 13.1**	**-1.3**
	4.0nm,0.9s,baz=185,slow=8.9,SNR=4.2							
DBIC	**Dimbokro**	**40.53**	**229**	P		**P**	**03 18 23.8**	**+1.3**
	1.5nm,0.6s,baz=23,slow=9.5,SNR=6.5							
MKAR	**Makanchi Array**	**43.01**	**58**	P		**P**	**03 18 42.1**	**-0.2**
	0.2nm,0.3s,baz=270,slow=7.7,SNR=7.0							
ZALV	**Zalesovo Beam**	**43.94**	**48**	P		**P**	**03 18 48.9**	**-0.7**
	0.9nm,0.4s,baz=264,slow=10.0,SNR=5.0							
SCHQ	**Schefferville**	**61.59**	**319**	P		**P**	**03 20 58.7**	**-0.4**
	1.0nm,0.4s,baz=53,slow=10,SNR=4.2							
YKA	**Yellowknife Ar**	**75.59**	**342**	P		**P**	**03 22 25.1**	**-0.6**
	0.1nm,0.5s,baz=32,slow=5.3,SNR=4.3							

JMA 08 03:12:50.2±0.3, 31°58'N×141°33'E, h0km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.99**	**320**	P		Pn	03 13 25.9	+0.7
JHO	**Hitachi**	**5.06**	**353**	P		Pn	03 14 09.2	+1.9
JHO				*e*S		Sn	03 15 08.2	+1.7
JAG	**Ashikaga**	**5.08**	**343**	P		Pn	03 14 08.5	+0.9
JAG				*e*S		Sn	03 15 07.9	+0.9
JFK	**Kawauchi**	**5.79**	**356**	*e*S		Sn	03 15 24.3	-0.2

*ISCJB **08** 03:15:13.5±0.3, 61°68N±0°03×150°59W±0°06, h67km±4km, mb3.0/2, Error ellipse: s-maj=4.7km s-min=4.4km az=16.1*
*NEIC **08** 03:15:15.3, 61°66N×150°63W, h57km, ML3.2(AEIC), After AEIC.*
NEIC Felt at Anchorage.
*IDC **08** 03:15:15.3±8.2, 61°69N×150°57W, h54km±72km, mb2.9/2, mb1 3.2/4, mb1mx3.0/24, mbtmp2.9/4, ML3.0/2, Error ellipse: s-maj=55.7km s-min=24.7km az=44.0*
ISC 08 03:15:14.9±0.9, 61°68N±0°03×150°63W±0°03, h57km±7km, n50, σ0°72/59, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUA	**Susitna One**	**0.22**	**195**	P		**Pn**	**03 15 24.0**	**-0.3**
SUA				S		**Sn**	**03 15 31.8**	**+0.7**
SKT	**Skwentna**	**0.53**	**306**	P		**Pn**	**03 15 26.2**	**-0.7**
SKT				S		**Sn**	**03 15 35.5**	**-0.2**
STLK	**Strandline Lak**	**0.60**	**254**	P		**Pn**	**03 15 27.5**	**-0.4**
TRAP	**Trapper Creek**	**0.69**	**15**	P		**Pn**	**03 15 28.4**	**-0.4**
TRAP				S		**Sn**	**03 15 39.5**	**+0.6**
PMR	**Palmer**	**0.72**	**96**	P		**Pn**	**03 15 28.6**	**-0.5**
PMR				S		**Sn**	**03 15 40.1**	**+0.5**
RC01	**Rabbit Creek A**	**0.73**	**144**	P		**Pn**	**03 15 28.9**	**-0.4**
RC01				S		**Sn**	**03 15 40.3**	**+0.5**
CKL	**Chakachamna La**	**0.95**	**241**	P		**Pn**	**03 15 31.8**	**-0.5**
CKL				S		**Sn**	**03 15 44.1**	**-1.0**
SML	**Sawmill**	**1.10**	**82**	P		**Pn**	**03 15 34.1**	**-0.1**
SLKM	**Skilak Lake**	**1.19**	**170**	P		**Pn**	**03 15 34.7**	**-0.6**
PPLA	**Purkeypile**	**1.43**	**330**	P		**Pn**	**03 15 38.2**	**-0.4**
PPLA				S		**Sn**	**03 15 56.0**	**-0.4**
RDN	**Redoubt North**	**1.56**	**223**	P		**Pn**	**03 15 40.2**	**-0.2**
SCM	**Sheep Creek Mo**	**1.58**	**83**	P		**Pn**	**03 15 40.4**	**-0.2**
RSO	**Redoubt South**	**1.60**	**221**	P		**Pn**	**03 15 40.7**	**-0.3**
SEW	**Seward**	**1.68**	**159**	P		**Pn**	**03 15 41.7**	**-0.1**
TRF	**Thorofare Moun**	**1.79**	**5**	P		**Pn**	**03 15 42.7**	**-0.8**
BRLK	**Bradley Lake**	**1.95**	**184**	P		**Pn**	**03 15 44.6**	**-0.6**
RND	**Reindeer**	**1.92**	**25**	P		**Pn**	**03 15 45.2**	**-0.1**
INE	**Iliamna NE**	**2.01**	**217**	P		**Pn**	**03 15 46.4**	**-0.2**
ILW	**Iliamna West**	**2.03**	**218**	P		**Pn**	**03 15 46.8**	**-0.1**
DHY	**Denali Highway**	**2.07**	**46**	P		**Pn**	**03 15 47.1**	**-0.2**
VLZ	**Valdez**	**2.14**	**103**	P		**Pn**	**03 15 46.9**	**-1.1**
MCK	**McKinley**	**2.21**	**20**	P		**Pn**	**03 15 49.1**	**0.0**
KLU	**Klutina**	**2.26**	**93**	P		**Pn**	**03 15 49.0**	**-0.9**
DIV	**Divide**	**2.40**	**101**	P		**Pn**	**03 15 50.5**	**-1.2**
OPT	**Oil Point**	**2.40**	**213**	P		**Pn**	**03 15 52.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.62**	**113**	P		**Pn**	**03 15 53.2**	**-1.5**
PAX	**Paxson**	**2.74**	**59**	P		**Pn**	**03 15 56.8**	**+0.4**
TT01	**Tatalina**	**2.81**	**298**	P		**Pn**	**03 15 56.6**	**-0.7**
CCB	**Clear Creek Bu**	**3.25**	**22**	P		**Pn**	**03 16 02.8**	**-0.4**
MLY	**Manley**	**3.37**	**359**	P		**Pn**	**03 16 04.2**	**-0.8**
COLA	**College**	**3.45**	**20**	P		**Pn**	**03 16 05.8**	**-0.2**
MDM	**Murphy Dome**	**3.47**	**17**	P		**Pn**	**03 16 06.0**	**-0.3**
ILAR	**Eielson Array**	**3.54**	**27**	P		**Pn**	**03 16 06.6**	**-0.7**
	1.2nm,0.3s,baz=211,slow=14,SNR=64							
ILAR				S		**Sn**	**03 16 48.1**	**+0.3**
	3.9nm,0.3s,baz=215,slow=26,SNR=6.7							
ILAR	**Eielson Array**	**3.54**	**27**	P		**Pn**	**03 16 06.6**	**-0.7**
ILAR				S		**Sn**	**03 16 48.1**	**+0.3**
IL1	**Eielson Array**	**3.54**	**27**	P		**Pn**	**03 16 06.8**	**-0.5**
KHIT	**Khitrov Hills**	**3.79**	**106**	P		**Pn**	**03 16 09.1**	**-1.7**
BALM	**Baldy**	**4.04**	**95**	P		**Pn**	**03 16 12.9**	**-1.4**
BARK	**Barkley Ridge**	**4.16**	**104**	P		**Pn**	**03 16 15.4**	**-0.4**
ISLE	**Juniper Island**	**4.16**	**101**	P		**Pn**	**03 16 15.1**	**-0.8**
BAGL	**Bagley Icefiel**	**4.31**	**102**	P		**Pn**	**03 16 17.1**	**-0.7**
BCA3	**Beaver Creek A**	**4.35**	**67**	P		**Pn**	**03 16 18.2**	**-0.2**
IM3	**Indian Mountai**	**4.54**	**344**	P		**Pn**	**03 16 19.7**	**-1.3**
EGAK	**Eagle**	**5.29**	**50**	P		**Pn**	**03 16 30.3**	**-1.0**
DAWY	**Dawson**	**5.67**	**60**	P		**Pn**	**03 16 36.1**	**-0.4**
YKA	**Yellowknife Ar**	**16.75**	**71**	P		**P**	**03 19 05.9**	**-0.8**
	0.1nm,0.3s,baz=283,slow=10,SNR=7.9							
YKA	**Yellowknife Ar**	**16.75**	**71**	P		**P**	**03 19 05.9**	**-0.8**
TXAR	**Lajitas Array**	**44.55**	**115**	P		**P**	**03 23 21.1**	**+0.2**
	0.1nm,0.5s,baz=331,slow=7.2,SNR=4.3							
TXAR	**Lajitas Array**	**44.55**	**115**	P		**P**	**03 23 21.1**	**+0.2**
MKAR	**Makanchi Array**	**63.83**	**322**	P		**P**	**03 25 42.0**	**+1.3**
	0.2nm,0.6s,baz=11,slow=2.9,SNR=2.7							
MKAR	**Makanchi Array**	**63.83**	**322**	P		**P**	**03 25 42.0**	**+1.3**

JMA 08 03:18:41.8±0.1, 38°71N×142°25E, h37km±2km, M3.6, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.58**	**309**	⇓P		Pn	03 18 53.7	-0.1
OFUJ				S		Sn	03 19 02.0	-0.1
JIO	**Ouri**	**0.75**	**250**	⇓P		Pn	03 18 55.7	-0.1
JIO				S		Sn	03 19 05.3	-0.6
JMK	**Ichinoseki**	**0.84**	**287**	⇓P		Pn	03 18 57.4	+0.3
JMK				S		Sn	03 19 08.3	+0.1
JOM	**Ohasama**	**1.07**	**316**	⇓P		Pn	03 19 00.8	+0.6
JOM				S		Sn	03 19 14.4	+0.6
JTH	**Tanohata**	**1.26**	**346**	P		Pn	03 19 03.0	+0.1
JTH				S		Sn	03 19 19.4	+0.8
JOU	**Okura**	**1.29**	**255**	P		Pn	03 19 04.1	+0.8
JOU				S		Sn	03 19 20.0	+0.7
JMM	**Marumori**	**1.42**	**234**	P		Pn	03 19 05.1	0.0
JMM				*e*S		Sn	03 19 21.9	-0.6
JYK	**Kaneyama**	**1.49**	**279**	P		Pn	03 19 07.1	+1.1
JYK				*e*S		Sn	03 19 25.7	+1.4

*BER **08** 03:22:03.9±4.2, 79°31N×4°02E, h15km, MD2.2, ML2.8, ML2.3(NAO)*
*IDC **08** 03:22:05.7±2.1, 79°39N×5°50E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/26, mbtmp3.6/6, ML3.3/3, MS3.0/3, Ms1 3.0/3, ms1mx2.4/39, Error ellipse: s-maj=36.6km s-min=23.5km az=19.0*
*NAO **08** 03:22:06.8±4.2, 79°31N×5°83E, ML2.3*
ISC 08 03:22:09.3±1.8, 78°9N±0°1×6°70E±0°10, h10km, n13, σ1°83/17, mb3.3/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.01**	**88**	Pg		**Pn**	**03 22 28.8**	**-0.7**
KBS				Lg		Lg	03 22 47.0	
KBS	**Kingsbay**	**1.01**	**88**	*e*P		**Pn**	**03 22 28.8**	**-0.7**
KBS				*e*S		**Sn**	**03 22 47.0**	**+3.2**
KBS				AML		AML	03 22 50.0	
	comp=Z,154nm,0.4s							
SPA0	**Spitsbergen Ar**	**2.08**	**107**	Pn		**Pb**	**03 22 45.1**	**-1.9**
	baz=303,slow=14							
SPA0				Sn		**Sg**	**03 23 15.7**	**-0.2**
SPITS	**Spitsbergen Ar**	**2.08**	**107**	Pn		**Pb**	**03 22 45.4**	**-1.6**
	baz=274,slow=11,SNR=457							
SPITS				LR		LR	03 23 10.4	
	comp=Z,268nm,21.8s,baz=135,slow=26							
SPITS				Sn		**Sg**	**03 23 15.4**	**-0.5**
	baz=292,slow=4.4,SNR=4.2							
HSP	**Hornsund**	**2.68**	**132**	*e*P		**Pn**	**03 22 52.9**	**+0.4**
HSP				*e*S		**Sb**	**03 23 28.1**	**-2.1**
HOPEN	**Hopen**	**4.59**	**113**	*e*P		**Pn**	**03 23 18.9**	**+0.3**
HOPEN				*e*S		**Sn**	**03 24 15.7**	**+3.8**
HOPEN				AML		AML	03 24 17.9	
	comp=Z,34nm,0.1s							
ARA0	**ARCESS Array S**	**10.65**	**142**	Pn		**Pn**	**03 24 43.5**	**+1.8**
	baz=346,slow=11							
ARA0				Sn		**Sn**	**03 26 39.8**	**-1.0**
	baz=351,slow=28							
ARCES	**ARCESS Array B**	**10.65**	**142**	Pn		Pn	03 24 43.9	+2.2
	comp=Z,0.2nm,0.3s,baz=355,slow=9.9,SNR=8.3							
ARCES				Sn		**Sn**	**03 26 42.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=358,slow=21,SNR=2.8							
ARCES				LR		LR	03 28 57.6	
	comp=Z,64nm,21.4s,baz=343,slow=37							
FINES	**FINESS Array B**	**18.56**	**150**	P		**Pn**	**03 26 27.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=16,SNR=3.5							
BVAR	**Borovoye Array**	**33.52**	**101**	LR		LR	03 44 10.6	
	comp=Z,33nm,20.2s,baz=85,slow=39							
BRTR	**Keskin Array B**	**40.77**	**148**	P		**P**	**03 29 50.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=340,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**41.76**	**92**	P		**P**	**03 29 57.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=359,slow=8.5,SNR=4.6							
TORD	**Torodi Ar. Bea**	**65.85**	**185**	P		P	03 32 56.3	+1.6
	comp=Z,0.3nm,0.7s,baz=7.7,slow=5.4,SNR=3.1							

MEX 08 03:29:12.6±0.5, 17°69N×95°92W, h117km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.99**	**232**	*e*P		Pn	03 29 33.4	-1.2
VHO				*i* S		Sn	03 29 49.5	-1.7
CMIG	**Matias Romero**	**1.15**	**121**	*e*P		Pn	03 29 35.1	-0.8
CMIG				*i* S		Sn	03 29 51.6	-2.0
TPIG	**Tehuac#an**	**1.56**	**298**	*e*P		Pn	03 29 39.4	-1.4
TPIG				*e*S		Sn	03 29 59.8	-2.3
UTMO	**Huajuapan**	**1.81**	**275**	*e*P		Pn	03 29 42.7	-1.1
UTMO				*e*S		Sn	03 30 05.7	-1.9
HUIG	**Huatulco**	**1.92**	**186**	*e*P		Pn	03 29 43.8	-1.2
HUIG				*e*S		Sn	03 30 08.1	-1.5
PNIG	**Pinotepa**	**2.48**	**239**	*e*P		Pn	03 29 49.0	-3.0
PNIG				*i* S		Sn	03 30 19.9	-2.5
TGIG		**2.82**	**108**	*i* P		Pn	03 29 55.5	-1.0
TGIG				*e*S		Sn	03 30 28.9	-1.4
PCIG		**3.25**	**127**	*e*P		Pn	03 30 00.5	-1.6
PCIG				*e*S		Sn	03 30 38.7	-1.7

GUC 08 03:32:23.5±0.4, 30°34S×72°08W, h43km±1km, MD3.8, ML3.0, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OVCH	**Ovalle**	**0.81**	**110**	⇑*i*P		Pn	03 32 38.5	+0.1
OVCH				*i* S		Sn	03 32 50.6	+1.2
OVCH				AML		AML	03 32 55.3	
	comp=N,680nm,0.4s							
LSCH	**La Serena**	**0.84**	**60**	*i* P		Pn	03 32 39.1	+0.2
LSCH				*i* S		Sn	03 32 51.3	+1.2
TLL	**Tololo Astrono**	**1.12**	**82**	⇓*i*P		Pn	03 32 44.2	+1.2
TLL				*i* S		Sn	03 32 59.7	+2.2
TLL				AML		AML	03 33 04.6	
	comp=N,484nm,0.4s							
CMCH	**Combarbala**	**1.25**	**132**	⇑*i*P		Pn	03 32 45.6	+0.9
CMCH				*i* S		Sn	03 33 02.3	+1.9
CMCH				AML		AML	03 33 07.4	
	comp=N,2μm,0.9s							
CHNG	**Los Chungos**	**1.62**	**162**	*e*P		Pn	03 32 50.5	+0.9
CHNG				*i* S		Sn	03 33 10.6	+1.4
CHNG				AML		AML	03 33 19.3	
	comp=E,136nm,0.7s							
LCO	**Las Campanas**	**1.79**	**43**	⇑*i*P		Pn	03 32 53.4	+1.2
LCO				*i* S		Sn	03 33 15.9	+2.0
LCO				AML		AML	03 33 22.1	
	comp=N,352nm,0.6s							
VACH	**Vallenar**	**2.10**	**34**	*i* P		Pn	03 32 57.1	+0.8
VACH				*i* S		Sn	03 33 22.6	+1.4

*BJI **08** 03:36:34.7, 8°86N×124°99E, h47km, mB4.9/8, mb4.6/13, Ms4.5/3, Ms7 4.3/3*
*MAN **08** 03:36:40, 9°60N×124°72E, h28km, mb5.3, ML4.3, MS4.5*
MAN INTENSITY III - MAMBAJAO CAMIGUIN; INTENSITY II - JAGNA BOHOL; CEBU CITY; INTENSITY I - DUMAGUETE TAGBILARAN CITY.
*ISCJB **08** 03:36:41.2±0.4, 9°61N±0°03×124°75E±0°04, h54km±4km, mb4.4/40, MS3.3/10, Error ellipse: s-maj=7.0km s-min=4.7km az=160.2*
*IDC **08** 03:36:45.5±2.5, 9°57N×124°75E, h79km±23km, mb3.9/24, mb1 4.0/26, mb1mx4.0/29, mbtmp3.9/26, MS3.4/12, Ms1 3.4/12, ms1mx3.3/29, Error ellipse: s-maj=20.9km s-min=10.0km az=75.0*
*NEIC **08** 03:36:45.2±0.9, 9°53N×124°77E, h80km±9km, mb4.8/16, Error ellipse: s-maj=7.7km s-min=4.8km az=61.0*
NEIC Felt [III PIVS] at Mambajao, Camiguin. Felt [II PIVS] at Jagna and [I PIVS] at Tagbilaran, Bohol. Also felt [II PIVS] at Cebu City, Cebu and at Cagayan de Oro, Mindanao. Felt [I PIVS] at Dumaguete, Negros.
ISC 08 03:36:43.1±1.1, 9°59N±0°04×124°69E±0°05, h56km±10km, n109, σ0°92/119, mb4.5/40, MS3.3/10, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**0.57**	**17**	*e*P		Pn	03 36 52.2	-3.3
BUTP	**Butuan**	**1.11**	**124**	*e*P		**Pn**	**03 36 59.0**	**-3.5**
SNPH	**Sibulan**	**1.45**	**260**	⇑*i*P		**Pn**	**03 37 06.4**	**-0.7**
SNPH				*i* S		**Sn**	**03 37 26.3**	**+1.2**
OCLP	**Ormoc**	**1.45**	**357**	*e*P		**Pn**	**03 37 05.8**	**-1.2**
PLP	**Palo**	**1.59**	**10**	⇓*e*P		**Pn**	**03 37 06.5**	**-2.4**
PLP				*i* S		**Sn**	**03 37 27.5**	**-0.9**
BUKP	**Musuan**	**1.74**	**168**	*e*P		**Pn**	**03 37 09.9**	**-1.1**
PAGZ	**Pagadian**	**2.16**	**217**	*e*P		**Pn**	**03 37 15.1**	**-1.6**
GUIM	**Jordan**	**2.31**	**297**	*e*P		**Pn**	**03 37 17.6**	**-1.1**
DMPH	**Davao City--Mi**	**2.62**	**162**	⇓*e*P		**Pn**	**03 37 23.2**	**+0.2**
DMPH				*i* S		Sn	03 38 02.2	+8.6
DAV	**Davao City (W)**	**2.66**	**161**	P		**Pn**	**03 37 26.5**	**+3.0**
	157nm,0.3s,baz=245,slow=7.7,SNR=10							
DAV	**Davao City (W)**	**2.66**	**161**	*e*Pn		**Pn**	**03 37 24.7**	**+1.2**
DAV					Sn	**Sn**	**03 37 55.6**	**+1.1**
RCP	**Roxas**	**2.73**	**316**	⇑*e*P		**Pn**	**03 37 24.1**	**-0.4**
RCP				*e*S		**Sn**	**03 37 56.7**	**+0.3**
IPIL	**Ipil**	**2.75**	**230**	*e*P		**Pn**	**03 37 24.3**	**-0.5**
CNP	**Catarman**	**2.90**	**360**	*e*P		**Pn**	**03 37 29.2**	**+2.3**
MATI	**Mati**	**3.05**	**149**	*e*P		**Pn**	**03 37 29.0**	**+0.1**
OTRP	**Odiongan**	**3.80**	**317**	*e*P		**Pn**	**03 37 39.4**	**+0.2**
CUYO	**Cuyo Island**	**3.82**	**289**	*e*P		**Pn**	**03 37 38.8**	**-0.6**
PVCP	**Virac**	**4.01**	**353**	*e*P		Pn	03 37 48.7	+6.6
ENPP	**El Nido**	**5.42**	**288**	*e*P		**Pn**	**03 38 00.8**	**-0.5**
KAPI	**Kappang**	**15.32**	**199**	P		**Pn**	**03 40 16.4**	**+0.5**
	0.2nm,0.3s,baz=9.5,slow=18,SNR=2.2							
KAPI				LR		LR	03 46 18.7	
	comp=Z,154nm,18.6s,baz=167,slow=37							
KAPI	**Kappang**	**15.32**	**199**	P		**Pn**	**03 40 16.4**	**+0.5**
JOW	**Kunigami**	**17.48**	**11**	LR		LR	03 47 21.4	
	comp=Z,138nm,19.6s,baz=198,slow=36							
GUMO	**Guam**	**20.16**	**77**	LR		LR	03 47 34.4	
	comp=Z,90nm,18.1s,baz=45,slow=32							
CBIJ	**Chichi jima**	**24.01**	**41**	LR		LR	03 49 25.9	
	comp=Z,145nm,19.7s,baz=348,slow=32							
IPM	**Ipoh**	**24.02**	**259**	*e*P		**P**	**03 41 53.2**	**+0.2**
	15nm,0.7s							
CMAR	**Chiang Mai Arr**	**26.46**	**292**	P		**P**	**03 42 15.9**	**+0.8**
	0.7nm,0.3s,baz=107,slow=6.8,SNR=4.8							
CMAR	**Chiang Mai Arr**	**26.46**	**292**	P		**P**	**03 42 15.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.53**	**178**	P		**P**	**03 42 24.3**	**-0.3**
	3.0nm,0.8s,baz=30,slow=11,SNR=5.6							
FITZ	**Fitzroy Crossi**	**27.53**	**178**	*e*P		**P**	**03 42 24.4**	**-0.3**
	11nm,1.2s							
KSAR	**Wonju Array Be**	**27.88**	**5**	P		**P**	**03 42 28.5**	**+0.9**
KSRS	**Korea Array**	**27.89**	**6**	P		**P**	**03 42 28.5**	**+0.8**
	1.5nm,0.7s,baz=188,slow=11,SNR=3.7							
KSRS				LR		LR	03 53 27.7	
	comp=Z,56nm,18.

	comp=Z,5.4nm,0.6s							
KKAR	**Karatay Array**	**57.62**	**315**	*e*P	**P**	**03 46 27.0**	**-0.6**
	comp=Z,6.3nm,0.7s							
BVAR	**Borovoye Array**	**61.34**	**326**	P	**P**	**03 46 53.6**	**+0.6**
	comp=Z,5.9nm,1.0s,baz=120,slow=8.8,SNR=24							
BVAR				PcP	**PcP**	**03 47 34.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=156,slow=4.3,SNR=2.2							
BVAR	**Borovoye Array**	**61.34**	**326**	P	**P**	**03 46 53.6**	**+0.6**
BVAR				PcP	**PcP**	**03 47 34.4**	**-0.5**
BRVK	**Borovoye**	**61.42**	**326**	*e*P	**P**	**03 46 53.1**	**-0.4**
	comp=Z,16nm,1.0s							
ABKAR	**Akbulak array**	**66.38**	**320**	*e*P	**P**	**03 47 26.1**	**0.0**
	comp=Z,3.4nm,0.8s							
AKTO	**Aktyubinsk**	**67.85**	**321**	P	**P**	**03 47 35.6**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=100,slow=6.6,SNR=12							
AKTO	**Aktyubinsk**	**67.85**	**321**	P	**P**	**03 47 35.6**	**+0.2**
ARU	**Arti**	**68.94**	**327**	*e*P	**P**	**03 47 41.6**	**-0.5**
	comp=Z,4.5nm,0.6s							
KDAK	**Kodiak Island**	**78.08**	**33**	P	**P**	**03 48 35.5**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=270,slow=1.0,SNR=5.0							
KDAK	**Kodiak Island**	**78.08**	**33**	P	**P**	**03 48 35.5**	**-0.2**
ILAR	**Eielson Array**	**80.73**	**26**	P	**P**	**03 48 48.9**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=247,slow=4.5,SNR=9.8							
ILAR	**Eielson Array**	**80.73**	**26**	P	**P**	**03 48 48.9**	**-1.2**
ARCES	**ARCESS Array B**	**84.28**	**340**	P	**P**	**03 49 08.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=81,slow=7.5,SNR=7.1							
ARCES	**ARCESS Array B**	**84.28**	**340**	P	**P**	**03 49 08.2**	**-0.3**
BR131	**Keskin Array S**	**84.75**	**309**	*e*P	**P**	**03 49 10.4**	**-1.3**
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**84.75**	**309**	P	**P**	**03 49 11.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=140,slow=4.9,SNR=8.9							
BRTR	**Keskin Array B**	**84.75**	**309**	P	**P**	**03 49 11.5**	**-0.2**
INK	**Inuvik**	**85.48**	**21**	P	**P**	**03 49 14.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=210,slow=4.1,SNR=4.6							
INK	**Inuvik**	**85.48**	**21**	*e*P	**P**	**03 49 14.2**	**-0.4**
FINES	**FINESS Array B**	**85.74**	**332**	P	**P**	**03 49 15.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=68,slow=5.1,SNR=8.4							
FINES	**FINESS Array B**	**85.74**	**332**	P	**P**	**03 49 15.6**	**-0.4**
AKASG	**Malin Array Be**	**86.10**	**321**	P	**P**	**03 49 17.1**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=65,slow=5.0,SNR=5.7							
AKASG	**Malin Array Be**	**86.10**	**321**	P	**P**	**03 49 17.1**	**-0.8**
NOA	**NORSAR Array B**	**92.67**	**333**	LR	LR	04 35 46.8		
	comp=Z,69nm,18.2s,baz=220,slow=38							
YKA	**Yellowknife Ar**	**95.00**	**24**	P	**P**	**03 49 59.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=300,slow=4.4,SNR=5.8							
YKA	**Yellowknife Ar**	**95.00**	**24**	P	**P**	**03 49 59.2**	**-0.2**
GERES	**GERESS Array B**	**96.26**	**322**	P	**P**	**03 50 05.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=74,slow=5.2,SNR=4.1							
GERES	**GERESS Array B**	**96.26**	**322**	P	**P**	**03 50 05.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**119.06**	**291**	PKP	**PKPdf**	**03 55 25.6**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=40,slow=2.0,SNR=9.0							
TORD	**Torodi Ar. Bea**	**119.06**	**291**	PKP	**PKPdf**	**03 55 25.6**	**-1.0**
PLCA	**Paso Flores**	**146.17**	**159**	PKPbc	**PKPab**	**03 56 18.1**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=214,slow=2.9,SNR=5.6							
PLCA	**Paso Flores**	**146.17**	**159**	PKPbc	**PKPab**	**03 56 18.1**	**-0.1**

IDC 08 03:44:37.9±2.5,0.56S×133.85E, h0km, mb3.0/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/2, MS3.5/1, Ms1 3.4/1, ms1mx2.8/11, Error ellipse: s-maj=99.0km s-min=25.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.21**	**204**	P	Pn	03 49 05.4	+1.0
	0.1nm,0.3s,baz=34,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**19.27**	**179**	P	P	03 49 04.0	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.97**	**180**	P	P	03 49 43.5	-0.8
	0.4nm,0.7s,baz=2.1,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**32.00**	**167**	LR	LR	04 02 59.1	
	comp=Z,82nm,20.6s,baz=27,slow=34						
MKAR	**Makanchi Array**	**65.16**	**324**	P	P	03 55 20.8	-0.1
	0.1nm,0.4s,baz=119,slow=9.8,SNR=3.1						

RSPR 08 04:06:27.2, 17.89N×66.82W, h3km±1km, MD2.4/8, 10C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBPR	**Guanica, Bosqu**	**0.10**	**328**	⇑*i*P	Pg	04 06 30.0	+0.7
GBPR				*e*S	Sg	04 06 33.0	+2.4
GBPR	**Guanica, Bosqu**	**0.10**	**328**	⇓*e*P	Pg	04 06 29.9	+0.6
GBPR				*e*S	Sg	04 06 32.1	+1.4
OBIP	**Obispado Ponce**	**0.26**	**53**	⇑*e*P	Pg	04 06 32.4	+0.2
OBIP	**Obispado Ponce**	**0.26**	**53**	⇑*e*P	Pg	04 06 32.4	+0.1
ICM	**Isla Caja Muer**	**0.29**	**89**	⇑*e*P	Pg	04 06 33.0	+0.2
ICM	**Isla Caja Muer**	**0.29**	**89**	*e*S	Sg	04 06 37.6	+1.1
ICM	**Isla Caja Muer**	**0.29**	**89**	⇑*e*P	Pg	04 06 33.0	+0.2
CELP	**Cerrillos**	**0.30**	**51**	⇓*i*P	Pg	04 06 33.2	+0.2
CELP	**Cerrillos**	**0.30**	**51**	⇓*e*P	Pg	04 06 33.2	+0.2
CRPR	**Cabo Rojo, PR**	**0.30**	**293**	⇑*e*P	Pg	04 06 33.4	+0.4
CRPR	**Cabo Rojo, PR**	**0.30**	**293**	*e*S	Sb	04 06 39.0	-1.6
CRPR	**Cabo Rojo, PR**	**0.30**	**293**	⇑*i*P	Pg	04 06 33.4	+0.4
CRPR	**Cabo Rojo, PR**	**0.30**	**293**	*e*S	Sg	04 06 38.7	+1.9
LSP	**Las Mesas**	**0.38**	**319**	⇑*i*P	Pg	04 06 35.1	+0.5
LSP	**Las Mesas**	**0.38**	**319**	⇑*e*P	Pg	04 06 35.1	+0.5
LRS	**Lares**	**0.40**	**357**	⇓*e*P	Pg	04 06 35.6	+0.5
LRS				*e*S	Sb	04 06 42.3	-1.5
LRS	**Lares**	**0.40**	**357**	*e*S	Sg	04 06 41.8	+1.5
AOPR	**Arecibo Observ**	**0.46**	**8**	⇓*e*P	Pg	04 06 36.5	+0.3
AOPR	**Arecibo Observ**	**0.46**	**8**	*e*S	Sb	04 06 43.9	-1.5
AOPR	**Arecibo Observ**	**0.46**	**8**	⇑*e*P	Pg	04 06 36.4	+0.3
AOPR	**Arecibo Observ**	**0.46**	**8**	*e*S	Sg	04 06 43.3	+1.1
HUMP	**Col San Antoni**	**0.96**	**75**	⇑*e*P	Pg	04 06 44.9	-0.7
HUMP	**Col San Antoni**	**0.96**	**75**	*e*S	Sg	04 06 57.6	-0.5
CBYP	**Canovanas**	**0.99**	**67**	⇑*e*P	Pg	04 06 44.9	-1.5
CBYP	**Canovanas**	**0.99**	**67**	*e*S	Sg	04 06 59.7	+0.3
MTP	**Monte Pirata**	**1.23**	**80**	⇑*e*P	Pg	04 06 48.9	-1.9
MTP	**Monte Pirata**	**1.23**	**80**	*e*S	Sg	04 07 04.8	-1.9

*ISK **08** 04:13:32.8, 38.38N×26.81E, h14km, MD2.7*
*CSEM **08** 04:13:33.9±0.1, 38.40N×26.82E, h15km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.4km az=81.0*
*ISCJB **08** 04:13:34.1±0.6, 38.42N±0.04×26.84E±0.05, h13km±4km, Error ellipse: s-maj=6.4km s-min=6.1km az=9.8*
*DDA **08** 04:13:34.1, 38.43N×26.88E, h7km, MD2.8*

ISC 08 04:13:34.3±0.9, 38.40N±0.04×26.85E±0.03, h14km±6km, n22, σ0963/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.15**	**95**	*e*Pg	**Pg**	**04 13 37.6**	**-0.6**
BLCB	**Balcova**	**0.15**	**95**	*e*Pg	**Pg**	**04 13 37.6**	**-0.6**
URLA	**Izmir**	**0.20**	**259**	*i*P	**Pg**	**04 13 39.0**	**+0.1**
URLA				*i*S	**Sg**	**04 13 42.8**	**+0.8**
URLA	**Izmir**	**0.20**	**259**	*i*P	**Pg**	**04 13 39.0**	**+0.1**
URLA				*i*S	**Sg**	**04 13 42.8**	**+0.8**
IZM	**Izmir**	**0.33**	**90**	*e*PG	**Pg**	**04 13 40.9**	**-0.2**
IZM				*e*SG	**Sg**	**04 13 45.9**	**+0.2**
IZM	**Izmir**	**0.33**	**90**	*e*Pg	**Pg**	**04 13 40.9**	**-0.2**
IZM				*e*Sg	**Sg**	**04 13 45.9**	**+0.2**
GCAM	**G?zelcaml?**	**0.76**	**156**	*i*P	**Pg**	**04 13 49.4**	**+0.3**
GCAM				*i*S	**Sb**	**04 14 00.4**	**+0.8**
GCAM	**G?zelcaml?**	**0.76**	**156**	*i*P	**Pg**	**04 13 49.4**	**+0.3**
GCAM				*i*S	**Sb**	**04 14 00.4**	**+0.8**
KULA	**Kula-Manisa**	**1.43**	**85**	*e*PN	**Pn**	**04 13 59.5**	**-0.5**
KULA	**Kula-Manisa**	**1.43**	**85**	*e*Pn	**Pn**	**04 13 59.5**	**-0.5**
BALY	**Balya**	**1.47**	**24**	*i*P	**Pn**	**04 13 59.6**	**-0.9**
BALY				*i*S	**Sn**	**04 14 19.7**	**+0.2**
BALY	**Balya**	**1.47**	**24**	*i*P	**Pn**	**04 13 59.6**	**-0.9**
BALY				*i*S	**Sn**	**04 14 19.7**	**+0.2**
BALB	**Balikesir**	**1.48**	**33**	*e*PN	**Pn**	**04 14 00.6**	**+0.1**
BALB	**Balikesir**	**1.48**	**33**	*e*Pn	**Pn**	**04 14 00.6**	**+0.1**
EZN	**Ezine**	**1.48**	**344**	*e*PN	**Pn**	**04 13 59.7**	**-0.9**
EZN				*e*SN	**Sn**	**04 14 19.6**	**-0.1**
EZN	**Ezine**	**1.48**	**344**	*e*Pn	**Pn**	**04 13 59.7**	**-0.9**
EZN				*e*Sn	**Sn**	**04 14 19.6**	**-0.1**
APE	**Apeiranthos**	**1.69**	**219**	*e*PN	**Pn**	**04 14 02.1**	**-1.4**
APE	**Apeiranthos**	**1.69**	**219**	*e*Pn	**Pn**	**04 14 02.1**	**-1.4**
GONE	**Gonen-Balikesi**	**1.77**	**21**	*e*PN	**Pn**	**04 14 04.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.77**	**21**	*e*Pn	**Pn**	**04 14 04.6**	**+0.1**
KRBG	**Karabiga-Canak**	**2.02**	**10**	*e*PN	**Pn**	**04 14 07.6**	**-0.4**
KRBG	**Karabiga-Canak**	**2.02**	**10**	*e*Pn	**Pn**	**04 14 07.6**	**-0.4**

*IDC **08** 04:50:25.7±1.0, 32.04N×104.75E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=60.1km s-min=19.4km az=59.0*
*ISCJB **08** 04:50:26.5±0.5, 32.19N±0.04×105.23E±0.06, h14km, mb3.6/8, Error ellipse: s-maj=7.8km s-min=4.7km az=37.7*
*BJI **08** 04:50:27.7, 32.27N×105.10E, h10km, ML3.5/16*

ISC 08 04:50:27.4±0.6, 32.25N±0.04×105.09E±0.05, h14km, n16, σ2810/23, mb3.6/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.76**	**221**	Pn	**Pb**	**04 50 58.4**	**-1.1**
CD2				Pg	**Pg**	**04 51 00.1**	**-1.1**
CD2				Sn	**Sb**	**04 51 21.9**	**+0.5**
CD2				Sg	**Sg**	**04 51 24.4**	**+0.4**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,4μm,0.7s						
XAN	**Xi'an**	**3.67**	**60**	Pg	**Pb**	**04 51 32.7**	**+0.6**
XAN				Sn	**Sb**	**04 52 16.2**	**-0.3**
XAN				Sg	**Sg**	**04 52 25.9**	**+0.6**
XAN				smax	smax		
	comp=N,180nm,0.9s						
XAN				smax	smax		
	comp=E,110nm,0.8s						
LZH	**Lanzhou**	**3.96**	**345**	Pn	**Pn**	**04 51 29.7**	**+1.8**
LZH				Pg	**Pg**	**04 51 40.9**	**-2.4**
LZH				Sg	**Sg**	**04 52 31.0**	**-3.6**
LZH				smax	smax		
	comp=N,260nm,1.1s						
LZH				smax	smax		
	comp=E,330nm,1.0s						
GYA	**Guiyang**	**5.94**	**166**	Pn	Pn	04 51 59.0	+4.0
GYA				Sn	**Sn**	**04 53 04.0**	**+1.1**
GYA				Sg	**Sg**	**04 53 33.0**	**-5.0**
GYA				smax	smax		
	comp=N,90nm,0.7s						
GYA				smax	smax		
	comp=E,100nm,0.9s						
WHN	**Wuhan**	**8.09**	**100**	*e*P	Pn	04 52 30.9	+6.4
WHN				S	**Sn**	**04 53 52.9**	**-2.9**
GTA	**Gaotai**	**8.33**	**331**	*e*P	**Pb**	**04 52 51.0**	**-0.4**
GTA				pP	Pg	04 52 55.3	-11
GTA				sP		04 52 58.7	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.81**	**203**	Pn	**Pn**	**04 53 57.2**	**+0.7**
	baz=38,slow=15,SNR=2.9						
SONM	**Songino Array**	**15.59**	**3**	Pn	**P**	**04 54 09.1**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=185,slow=16,SNR=2.5						
MKAR	**Makanchi Array**	**22.70**	**316**	P	**P**	**04 55 27.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=110,slow=10,SNR=8.0						
ZALV	**Zalesovo Beam**	**26.08**	**332**	P	**P**	**04 56 04.0**	**+3.6**
	comp=Z,0.5nm,0.4s,baz=150,slow=6.8,SNR=3.6						
KURK	**Kurchatov**	**26.86**	**321**	P	**P**	**04 56 07.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=123,slow=11,SNR=6.9						
BRTR	**Keskin Array B**	**56.91**	**299**	P	P	05 00 16.4	+4.1
	comp=Z,0.4nm,0.6s,baz=108,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**58.97**	**148**	P	**P**	**05 00 26.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=339,slow=7.5,SNR=9.3						
ASAR	**Alice Springs**	**62.05**	**150**	P	**P**	**05 00 47.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=332,slow=6.7,SNR=5.4						
NOA	**NORSAR Array B**	**64.15**	**327**	P	**P**	**05 01 03.3**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=89,slow=4.9,SNR=3.6						
YKA	**Yellowknife Ar**	**80.35**	**18**	P	**P**	**05 02 40.0**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=327,slow=4.8,SNR=3.6						

PRE 08 05:04:42.0±3.0, 28.72S×32.66E, h5km, ML4.1, 2C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**1.64**	**325**	⇑*i*P	Pb	05 05 12.2	-0.5
POGA				*e*S	Sn	05 05 31.9	-1.0
POGA				AML	AML	05 05 38.5	
	comp=Z,640nm,0.4s						
ERPM	**east rand prop**	**4.58**	**300**	*e*P	Pn	05 05 53.2	+0.9
ERPM				*e*S	Sn	05 06 44.0	-2.1
ERPM				AML	AML	05 07 23.6	
	comp=Z,57nm,0.7s						
SLR	**Silverton**	**4.90**	**306**	*e*P	Pn	05 05 56.6	0.0
SLR				*e*S	Sn	05 06 52.3	-1.6
SLR				AML	AML	05 07 33.8	
	comp=Z,73nm,0.6s						
KLOF	**Kloof**	**5.07**	**297**	*e*P	Pn	05 05 59.6	+0.7
KLOF				*e*S	Sn	05 06 57.5	-0.6
KLOF				AML	AML	05 08 03.9	
	comp=Z,101nm,0.4s						
MOPA	**Mopani**	**5.30**	**347**	*e*P	Pn	05 06 03.1	+1.1
MOPA				*e*S	Sn	05 06 59.9	-3.6
MOPA				AML	AML	05 07 31.6	
	comp=Z,46nm,0.5s						
BOSA	**Boshof**	**6.51**	**269**	*e*P	Pn	05 06 20.3	+1.7
BOSA				*e*S	Sn	05 07 32.3	-1.1
BOSA				AML	AML	05 08 15.3	
	comp=Z,30nm,0.6s						
HVD	**Gariep Dam**	**6.51**	**252**	*e*P	Pn	05 06 20.2	+1.5
HVD				*e*S	Sn	05 07 31.5	-2.1
HVD				AML	AML	05 08 26.9	
	comp=Z,33nm,0.6s						
GRM	**Grahamstown**	**6.99**	**228**	*e*P	Pn	05 06 24.4	-0.7
GRM				*e*S	Sn	05 07 41.4	-3.7
GRM				AML	AML	05 07 52.5	
	comp=Z,17nm,0.4s						
LBTB	**Lobatse**	**7.31**	**299**	⇑*i*P	Pn	05 06 32.3	+2.7
LBTB				*e*S	Sn	05 07 50.4	-2.7
LBTB				AML	AML	05 08 43.3	
	comp=Z,33nm,0.6s						
SUR	**Sutherland**	**10.85**	**247**	*e*P	Pn	05 07 20.0	+1.8
SUR				*e*S	Sn	05 09 12.2	-8.0
SUR				AML	AML	05 10 38.0	
	comp=Z,5.7nm,0.6s						
CVNA	**Calvinia**	**11.51**	**253**	*e*S	Sn	05 09 31.5	-4.6
CVNA				AML	AML	05 10 57.2	
	comp=Z,8.8nm,0.7s						
CER	**Ceres**	**12.36**	**245**	*e*S	Sn	05 09 48.0	-8.9
CER				AML	AML	05 11 25.3	
	comp=Z,3.5nm,0.6s						
KOMG	**Komaggas**	**13.30**	**262**	*e*S	Sn	05 10 10.9	-8.9
KOMG				AML	AML	05 11 54.0	
	comp=Z,7.1nm,0.7s						

*IDC **08** 05:39:06.1±1.1, 30.24S×177.61W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/19, mbtmp4.3/6, ML4.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=31.4km s-min=27.2km az=34.0*
*ISCJB **08** 05:39:10.3±1.4, 30.44S±0.07×177.8W±0.2, h33km, mb4.4/7, MS3.4/2, Error ellipse: s-maj=30.4km s-min=8.6km az=7.4*
*NEIC **08** 05:39:11.1±0.9, 30.32S×177.51W, h35km, mb4.2/3, Error ellipse: s-maj=21.5km s-min=14.3km az=99.0*

ISC 08 05:39:11.9±0.9, 30.32S±0.07×177.8W±0.2, h33km, n33, σ1939/31, mb4.5/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**352**	*e*Pg	**Pb**	**05 39 31.1**	**-1.0**
RAO				*e*Sg	**Sb**	**05 39 45.2**	**-0.7**
OUZ	**Omahuta**	**8.77**	**234**	*e*Pn	Pn	05 41 20.9	+4.5
	11nm,0.4s						
URZ	**Urewera**	**8.99**	**207**	Pn	**Pn**	**05 41 17.7**	**-1.7**
	2.2nm,0.3s,baz=103,slow=3.1,SNR=9.0						
URZ				Sn	Sn	05 42 52.1	-7.3
	1.5nm,0.3s,baz=287,slow=23,SNR=8.6						
URZ	**Urewera**	**8.99**	**207**	Pn	**Pn**	**05 41 17.7**	**-1.7**
URZ				Sn	Sn	05 42 52.1	-7.3
DZM	**Mont Dzumac**	**16.39**	**296**	LR	LR	05 48 01.6	
	comp=Z,123nm,18.1s,baz=240,slow=33						
AFI	**Afiamalu**	**17.24**	**20**	LR	LR	05 47 39.0	
	comp=Z,8.9nm,18.8s,baz=183,slow=30						
CTA	**Charters Tower**	**34.00**	**279**	P	**P**	**05 45 53.9**	**+1.0**
	3.0nm,0.4s,baz=107,slow=11,SNR=9.4						
CTA				LR	LR	05 57 36.1	
	comp=Z,76nm,20.4s,baz=49,slow=32						
CTA	**Charters Tower**	**34.00**	**279**	P	**P**	**05 45 53.9**	**+1.0**
CTAO	**Charters Tower**	**34.00**	**279**	*e*P	**P**	**05 45 54.0**	**+1.0**
	2.9nm,0.4s						
STKA	**Stephens Creek**	**34.71**	**257**	P	**P**	**05 45 59.7**	**+0.9**
	2.7nm,0.4s,baz=97,slow=9.4,SNR=11						
STKA				LR	LR	05 58 27.5	
	comp=Z,74nm,19.4s,baz=257,slow=33						
STKA	**Stephens Creek**	**34.71**	**257**	P	**P**	**05 45 59.7**	**+0.9**
	7.1nm,0.6s						
ASAR	**Alice Springs**	**43.33**	**267**	P	**P**	**05 47 10.4**	**-0.7**
	1.1nm,0.5s,baz=105,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**43.33**	**267**	P	**P**	**05 47 10.4**	**-0.7**

WRAB	**Tennant Creek**	**44.31**	**272**	*e*P	**P**	**05 47 18.1**	**-0.8**
	2.3nm,0.6s							
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**05 47 17.9**	**-1.2**
	2.3nm,0.3s,baz=110,slow=8.1,SNR=24							
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**05 47 17.9**	**-1.2**
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**05 49 13.6**	**-0.1**
	1.3nm,0.8s,baz=348,slow=1.3,SNR=4.4							
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**05 49 13.6**	**-0.1**
KAPI	**Kappang**	**63.81**	**280**	*e*P	**P**	**05 49 42.1**	**+0.8**
	38nm,0.9s							
KURK	**Kurchatov**	**121.16**	**314**	PKP	**PKPdf**	**05 57 59.6**	**-1.2**
	0.5nm,0.6s,baz=122,slow=2.1,SNR=6.4							
KURK	**Kurchatov**	**121.16**	**314**	PKP	**PKPdf**	**05 57 59.6**	**-1.2**
BVAR	**Borovoye Array**	**126.50**	**316**	PKP	**PKPdf**	**05 58 10.6**	**-0.6**
	0.6nm,0.5s,baz=126,slow=2.0,SNR=3.8							
BVAR	**Borovoye Array**	**126.50**	**316**	PKP	**PKPdf**	**05 58 10.6**	**-0.6**
KAF	**Kangasniemi**	**144.55**	**341**	*e*pkp	**PKPdf**	**05 58 47.0**	**+2.8**
KAF	**Kangasniemi**	**144.55**	**341**	*e*pkp	**PKPdf**	**05 58 47.0**	**+2.8**
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPbc**	**05 58 44.0**	**-0.9**
	2.6nm,0.4s,baz=58,slow=4.5,SNR=13							
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPbc**	**05 58 44.0**	**-0.9**
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	**PKPbc**	**05 59 00.7**	**-1.2**
	1.1nm,0.5s,baz=51,slow=3.2,SNR=7.2							
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	**PKPbc**	**05 59 00.7**	**-1.2**
BRTR	**Keskin Array B**	**152.76**	**299**	PKPbc	**PKPbc**	**05 59 08.2**	**+2.6**
	0.5nm,0.6s,baz=140,slow=3.5,SNR=4.3							
BRTR	**Keskin Array B**	**152.76**	**299**	PKPbc	**PKPbc**	**05 59 08.2**	**+2.6**
TORD	**Torodi Ar. Bea**	**162.90**	**178**	PKPab	**PKPab**	**06 00 00.3**	**-0.2**
	0.4nm,0.9s,baz=164,slow=4.3,SNR=3.2							
TORD	**Torodi Ar. Bea**	**162.90**	**178**	PKPab	**PKPab**	**06 00 00.3**	**-0.2**

*ISCJB **08** 05:49:29.0±0.8, 32.41N±0.06×105.45E±0.09, h10km, mb4.0/2, Error ellipse: s-maj=11.7km s-min=6.8km az=31.3*
*BJI **08** 05:49:30.0, 32.54N×105.31E, h10km, ML3.5/14*
*IDC **08** 05:49:31.2±2.6, 32.51N×106.29E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.5/26, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=88.2km s-min=43.0km az=90.0*

ISC 08 05:49:29.9±0.8, 32.56N±0.04×105.35E±0.07, h10km, n8, σ1983/14, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.14**	**220**	Pn	**Pn**	**05 50 06.1**	**+0.4**
CD2				Pg	**Pb**	**05 50 09.2**	**+0.4**
CD2				Sg	**Sg**	**05 50 38.4**	**-0.2**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.6s						
XAN	**Xi'an**	**3.33**	**63**	Pn	**Pn**	**05 50 22.6**	**+0.4**
XAN				Sg	**Sb**	**05 51 10.2**	**+0.4**
XAN				smax	smax		
	comp=N,210nm,0.7s						
XAN				smax	smax		
	comp=E,96nm,0.7s						
LZH	**Lanzhou**	**3.73**	**341**	Pn	**Pn**	**05 50 30.3**	**+2.6**
LZH				Pg	**Pg**	**05 50 39.3**	**-2.1**
LZH				Sg	**Sg**	**05 51 26.7**	**-3.1**
LZH				smax	smax		
	comp=N,440nm,1.0s						
LZH				smax	smax		
	comp=E,280nm,0.9s						
GYA	**Guiyang**	**6.19**	**169**	⇑*i*Pn	**Pn**	**05 51 01.2**	**-0.3**
GYA				Sn	**Sn**	**05 52 09.8**	**-2.6**
GYA				Sg	Sg	05 52 41.1	-7.6
GYA				smax	smax		
	comp=N,50nm,0.6s						
GYA				smax	smax		
	comp=E,60nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.18**	**204**	Pn	**P**	**05 53 10.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=5.2,slow=11,SNR=4.9						
SONM	**Songino Array**	**15.28**	**3**	Pn	**Pn**	**05 53 08.5**	**+2.8**
	comp=E,0.1nm,0.3s,baz=180,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**59.12**	**148**	P	**P**	**05 59 30.4**	**-0.4**
	comp=E,1.1nm,0.6s,baz=342,slow=7.4,SNR=4.0						
ASAR	**Alice Springs**	**62.21**	**150**	P	**P**	**05 59 51.8**	**0.0**
	comp=E,0.6nm,0.6s,baz=342,slow=6.7,SNR=7.8						

*NNC **08** 05:49:47.5±12.0, 36.86N×71.12E, h126km±246km, mb3.1, mpv3.9, Error ellipse: s-maj=162.0km s-min=71.8km az=51.0*

ISC 08 05:49:44.3±3.9, 36.7N±0.3×71.2E±0.2, h88km, n9, σ1921/16, 2C-2D, Afghanistan-Tajikistan border region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---

AUQP	**San Andres**	**2.01**	**103**	*eP*	**Pn**	**06 26 13.2**	**-0.7**
BCPH	**Baguio City Da**	**2.57**	**358**⇑	*iP*	**Pn**	**06 26 19.9**	**-0.3**
RCP	**Roxas**	**3.01**	**137**⇑	*eP*	**Pn**	**06 26 26.6**	**+1.6**
MBWA	**Marble Bar**	**34.75**	**182**	*eP*	**P**	**06 32 05.9**	**-0.8**
	2.5nm,0.7s						
SONM	**Songino Array**	**35.96**	**344**	P	**P**	**06 32 16.8**	**-0.1**
	2.2nm,0.6s,baz=162,slow=9.8,SNR=17						
SONM	**Songino Array**	**35.96**	**344**	P	**P**	**06 32 16.8**	**-0.1**
WRA	**Warramunga Arr**	**36.13**	**158**	P	**P**	**06 32 17.1**	**-1.4**
	2.4nm,0.4s,baz=336,slow=9.5,SNR=18						
WRA	**Warramunga Arr**	**36.13**	**158**	P	**P**	**06 32 17.1**	**-1.4**
AS31	**Alice Springs**	**39.42**	**161**	*eP*	**P**	**06 32 45.5**	**-0.6**
ASAR	**Alice Springs**	**39.42**	**161**	P	**P**	**06 32 45.5**	**-0.6**
	4.2nm,0.4s,baz=334,slow=7.3,SNR=61						
ASAR	**Alice Springs**	**39.42**	**161**	P	**P**	**06 32 45.5**	**-0.6**
MK31	**Makanchi Array**	**45.94**	**324**	*eP*	**P**	**06 33 38.7**	**+0.5**
MKAR	**Makanchi Array**	**45.94**	**324**	P	**P**	**06 33 38.8**	**+0.6**
	2.0nm,0.8s,baz=122,slow=9.3,SNR=23						
MKAR	**Makanchi Array**	**45.94**	**324**	P	**P**	**06 33 38.8**	**+0.6**
ZALV	**Zalesovo Beam**	**48.96**	**333**	P	**P**	**06 34 00.8**	**-0.4**
	1.9nm,0.3s,baz=112,slow=7.3,SNR=8.3						
ZALV	**Zalesovo Beam**	**48.96**	**333**	P	**P**	**06 34 00.8**	**-0.4**
STKA	**Stephens Creek**	**49.65**	**156**	P	**P**	**06 34 07.0**	**+0.3**
	1.0nm,0.5s,baz=338,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**49.65**	**156**	P	**P**	**06 34 07.0**	**+0.3**
KURK	**Kurchatov**	**50.09**	**326**	P	**P**	**06 34 10.2**	**+0.4**
	1.2nm,0.4s,baz=120,slow=8.5,SNR=21						
KURK				pP	**pP**	**06 34 56.2**	**+2.2**
	1.0nm,0.7s,baz=119,slow=8.4,SNR=4.5						
KURK	**Kurchatov**	**50.09**	**326**	P	**P**	**06 34 10.2**	**+0.4**
KURK				pP	**pP**	**06 34 56.2**	**+2.2**
BVAR	**Borovoye Array**	**55.67**	**326**	P	**P**	**06 34 50.7**	**0.0**
	0.6nm,0.5s,baz=105,slow=11,SNR=4.5						
BVAR	**Borovoye Array**	**55.67**	**326**	P	**P**	**06 34 50.7**	**0.0**
ARCES	**ARCESS Array B**	**78.98**	**339**	P	**P**	**06 37 16.1**	**-0.5**
	2.4nm,1.0s,baz=87,slow=5.8,SNR=4.2						
ARCES	**ARCESS Array B**	**78.98**	**339**	P	**P**	**06 37 16.1**	**-0.5**

IDC 08 06:26:43.9±2.1, 0.38S×133.02E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/18, mbtmpb3.6/5, ML3.5/2, Error ellipse: s-maj=96.9km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	P	06 31 07.8	-0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**19.49**	**176**	P	P	06 31 12.9	+0.2
	0.1nm,0.3s,baz=354,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.17**	**178**	P	P	06 31 52.8	+0.5
	1.9nm,0.6s,baz=0.8,slow=11,SNR=22						
STKA	**Stephens Creek**	**32.37**	**166**	P	P	06 33 14.6	-0.7
	0.6nm,0.3s,baz=4.9,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**64.52**	**324**	P	P	06 37 22.8	0.0
	0.2nm,0.5s,baz=110,slow=8.3,SNR=3.4						

MAN 08 06:29:38, 9.20N×124.60E, h47km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.96**	**16**	*eP*	Pn	06 29 56.8	+1.7
MSLP				*eS*	Sn	06 30 06.7	-1.0
PAGZ	**Pagadian**	**1.81**	**222**	*eP*	Pn	06 30 07.2	+0.6
PAGZ				*eS*	Sn	06 30 30.0	+1.6

*ISCJB **08** 06:48:16.8±0.5, 39.66N±0.02×38.66E±0.04, h8km±5km, Error ellipse: s-maj=4.8km s-min=4.1km az=20.2*
*ISK **08** 06:48:16.0, 39.67N×38.62E, h13km, MD3.1*
*DDA **08** 06:48:17.0, 39.64N×38.68E, h7km, MD3.0*
*CSEM **08** 06:48:16.7±0.2, 39.65N×38.67E, h10km, MD3.1, Error ellipse: s-maj=4.9km s-min=3.9km az=96.0*
ISC 08 06:48:16.9±1.0, 39.65N±0.03×38.67E±0.02, h11km±8km, n37, σ0.82/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.21**	**201**	*e*PG	**Pg**	**06 48 21.3**	**-0.2**
ILIC				*e*SG	**Sg**	**06 48 25.0**	**+0.3**
ILIC	**ilic-Erzincan**	**0.21**	**201**	*e*Pg	**Pg**	**06 48 21.3**	**-0.2**
ILIC				*e*Sg	**Sg**	**06 48 25.0**	**+0.3**
KEMA	**Kemaliye**	**0.41**	**200**	*i* P	**Pg**	**06 48 24.6**	**-0.4**
KEMA				*i* S	**Sg**	**06 48 30.6**	**+0.2**
KEMA	**Kemaliye**	**0.41**	**200**	*i* P	**Pg**	**06 48 24.6**	**-0.4**
KEMA				*i* S	**Sg**	**06 48 30.6**	**+0.2**
SUSE	**Susehri**	**0.66**	**327**	*i* P	**Pb**	**06 48 30.3**	**-0.3**
SUSE				*i* S	**Sb**	**06 48 40.0**	**+0.1**
SUSE	**Susehri**	**0.66**	**327**	*i* P	**Pb**	**06 48 30.3**	**-0.3**
SUSE				*i* S	**Sb**	**06 48 40.0**	**+0.1**
KELT	**Kelkit**	**0.67**	**42**	*i* P	**Pb**	**06 48 30.3**	**-0.5**
KELT				*i* S	**Sb**	**06 48 39.1**	**-1.1**
KELT	**Kelkit**	**0.67**	**42**	*i* P	**Pb**	**06 48 30.3**	**-0.5**
KELT				*i* S	**Sb**	**06 48 39.1**	**-1.1**
ERZN	**Erzincan**	**0.82**	**94**	*e*PG	**Pb**	**06 48 33.0**	**-0.2**
ERZN				*e*SG	**Sn**	**06 48 45.4**	**-1.3**
PTK	**Pertek**	**0.94**	**143**	*e*PG	**Pb**	**06 48 35.1**	**-0.4**
PTK	**Pertek**	**0.94**	**143**	*e*Pg	**Pb**	**06 48 35.1**	**-0.4**
GUMT	**Gumushane**	**1.02**	**37**	*e*PG	**Pb**	**06 48 36.1**	**-0.6**
GUMT	**Gumushane**	**1.02**	**37**	*e*Pg	**Pb**	**06 48 36.1**	**-0.6**
ELZG	**Elazig**	**1.18**	**168**	*i* P	**Pn**	**06 48 38.9**	**-0.6**
ELZG				*i* S	**Sn**	**06 48 55.6**	**-0.1**
ELZG	**Elazig**	**1.18**	**168**	*i* P	**Pn**	**06 48 38.9**	**-0.6**
ELZG				*i* S	**Sn**	**06 48 55.6**	**-0.1**
SCER	**sogukcermik**	**1.21**	**280**	*i* P	**Pb**	**06 48 39.5**	**-0.4**
SCER				*i* S	**Sn**	**06 48 57.7**	**+1.4**
SCER	**sogukcermik**	**1.21**	**280**	*i* P	**Pb**	**06 48 39.5**	**-0.4**
SCER				*i* S	**Sn**	**06 48 57.7**	**+1.4**
MYA	**Malataya**	**1.34**	**188**	*e*PN	**Pn**	**06 48 41.1**	**-0.6**
MYA	**Malataya**	**1.34**	**188**	*e*Pn	**Pn**	**06 48 41.1**	**-0.6**
MALT	**Malatya**	**1.35**	**188**	*e*PN	**Pn**	**06 48 41.3**	**-0.5**
MALT	**Malatya**	**1.35**	**188**	*e*Pn	**Pn**	**06 48 41.3**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.35**	**56**	*e*PN	**Pn**	**06 48 41.5**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.35**	**56**	*e*Pn	**Pn**	**06 48 41.5**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.36**	**158**	*e*PN	**Pn**	**06 48 41.6**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.36**	**158**	*e*Pn	**Pn**	**06 48 41.6**	**-0.5**
KOPT	**Kop Dagi**	**1.46**	**75**	*i* P	**Pg**	**06 48 46.2**	**+1.3**
KOPT				*i* S	Sg	06 49 11.2	+7.4
KOPT	**Kop Dagi**	**1.46**	**75**	*i* P	**Pg**	**06 48 46.2**	**+1.3**
AKCD	**Akcadag**	**1.47**	**203**	*i* P	**Pg**	**06 48 45.6**	**+0.4**
AKCD				*i* S	**Sg**	**06 49 06.7**	**+2.3**
AKCD	**Akcadag**	**1.47**	**203**	*i* P	**Pg**	**06 48 45.6**	**+0.4**
AKCD				*i* S	**Sg**	**06 49 06.7**	**+2.3**
BINT	**Bingol**	**1.61**	**118**	*e*Pn	**Pb**	**06 48 46.8**	**0.0**
BNGB	**Bing¶ll**	**1.69**	**112**	*e*PN	**Pn**	**06 48 46.8**	**+0.2**
TOKT	**Tokat**	**1.76**	**293**	*e*PN	**Pn**	**06 48 46.4**	**-1.1**
TOKT	**Tokat**	**1.76**	**293**	*e*Pn	**Pn**	**06 48 46.4**	**-1.1**
BNN	**Bunyan**	**2.33**	**251**	*e*PN	**Pn**	**06 48 54.9**	**-0.5**
BNN	**Bunyan**	**2.33**	**251**	*e*Pn	**Pn**	**06 48 54.9**	**-0.5**
YOZ	**Yozgat**	**2.58**	**271**	*e*PN	**Pn**	**06 48 58.1**	**-0.8**
YOZ	**Yozgat**	**2.58**	**271**	*e*Pn	**Pn**	**06 48 58.1**	**-0.8**

*IDC **08** 07:04:44.6±1.1, 70.92N×7.09W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.3/27, mbtmpb3.7/5, ML3.1/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/30, Error ellipse: s-maj=32.6km s-min=14.6km az=17.0*
*CSEM **08** 07:04:46.1±0.2, 70.87N×6.75W, h10km, ML3.7, Error ellipse: s-maj=5.2km s-min=3.9km az=152.0*
*NAO **08** 07:04:46.4±7.1, 70.82N×6.83W, h18km±110km*
*BER **08** 07:04:47.6±2.5, 70.83N×6.83W, h10km, MD2.2, ML3.7*
*REY **08** 07:04:51.2, 70.58N×7.96W, h10km, ML3.6, ML3.2*
ISC 08 07:04:46.8±1.5, 70.87N±0.08×6.79W±0.06, h17km±12km, n50, σ1.920/61, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.51**	**284**⇑	*i*P	**Pb**	**07 04 57.2**	**-0.1**
JNE				*e*S	**Sg**	**07 05 03.4**	**-0.4**
JNE				AML	AML	07 05 05.8	
	comp=Z,13μm,0.2s						
JNE	**Jan Mayen East**	**0.51**	**284**⇑	*i*P	**Pb**	**07 04 57.2**	**-0.1**
	SNR=100						
JNE				*e*S	**Sg**	**07 05 03.4**	**-0.4**
	comp=Z,13μm,0.2s,SNR=100						
JNW	**Jan Mayen West**	**0.56**	**287**⇑	*i*P	**Pg**	**07 04 57.8**	**-0.1**
JNW				*e*S	**Sg**	**07 05 04.6**	**-0.8**
JNW				AML	AML	07 05 08.0	
	comp=Z,15μm,0.3s						
JNW	**Jan Mayen West**	**0.56**	**287**⇑	*i*P	**Pg**	**07 04 57.8**	**-0.1**
	SNR=99						
JNW				*e*S	**Sg**	**07 05 04.6**	**-0.8**
	comp=Z,15μm,0.3s,SNR=99						
JMIC	**Jan Mayen**	**0.58**	**282**	Pn	**Pg**	**07 04 58.0**	**-0.2**
	comp=Z,824nm,0.3s,baz=155,slow=1.6,SNR=524						
JMIC				Sn	**Sg**	**07 05 05.7**	**-0.2**
	comp=Z,3μm,0.3s,baz=141,slow=19,SNR=303						
JMIC	**Jan Mayen**	**0.58**	**282**	Pg	**Pg**	**07 04 58.0**	**-0.2**
JMIC				Lg	Lg	07 05 05.7	
JMIC	**Jan Mayen**	**0.58**	**282**	Pg	**Pg**	**07 04 58.0**	**-0.2**
	SNR=99						
JMIC				Lg	Lg	07 05 05.7	
	SNR=53						
JMI	**Jan Mayen**	**0.64**	**276**⇑	*i*P	**Pb**	**07 04 59.5**	**0.0**
JMI				*e*S	**Sg**	**07 05 07.6**	**-0.3**
JMI				AML	AML	07 05 10.6	
	comp=Z,9μm,0.4s						
JMI	**Jan Mayen**	**0.64**	**276**⇑	*i*P	**Pb**	**07 04 59.5**	**0.0**
	SNR=70						
JMI				*e*S	**Sg**	**07 05 07.6**	**-0.3**
	comp=Z,9μm,0.4s,SNR=70						
ILEI	**Leirhofn**	**5.71**	**223**	P	**Pn**	**07 06 10.5**	**-0.1**
ILEI				S	**Sn**	**07 07 13.3**	**-2.4**
IGIL	**Gilhagi**	**5.96**	**221**	P	**Pn**	**07 06 14.0**	**0.0**
IGIL				S	**Sn**	**07 07 20.9**	**-0.9**
IHED	**Heoinshofoi**	**6.17**	**224**	P	**Pn**	**07 06 16.9**	**0.0**
IHED				S	**Sn**	**07 07 25.1**	**-1.8**
IFLA	**Flatey**	**6.23**	**226**	S		07 07 26.8	
IBRE	**Brettingsstaoi**	**6.27**	**226**	P	**Pn**	**07 06 18.5**	**+0.1**
IGRS	**Grimsstaoir**	**6.29**	**218**	P	**Pn**	**07 06 19.3**	**+0.7**
IGRS				S	**Sn**	**07 07 29.3**	**-0.7**
IGRA	**Granastaoir**	**6.37**	**224**	S		07 07 31.0	
IREN	**Reynihlio**	**6.45**	**220**	P	**Pn**	**07 06 22.1**	**+1.3**
IHLA	**Hella**	**6.53**	**226**	P	**Pn**	**07 06 23.2**	**+1.3**
IHLA				S	**Sn**	**07 07 34.3**	**-1.6**
IGLU	**Glumsstadir**	**6.69**	**212**	P	**Pn**	**07 06 25.0**	**+1.0**
IGLU				S	**Sn**	**07 07 40.3**	**+0.6**
IADA	**Aoalbol**	**6.74**	**214**	P	**Pn**	**07 06 25.6**	**+0.8**
IADA				S	**Sn**	**07 07 41.2**	**+0.2**
IHVA	**Hvannstoosfjol**	**6.85**	**214**	P	**Pn**	**07 06 26.9**	**+0.6**
IVSH	**V-Sauoahnukur**	**6.96**	**213**	P	**Pn**	**07 06 28.6**	**+0.8**
IBRU	**Bruarjokull**	**7.00**	**215**	P	**Pn**	**07 06 30.5**	**+2.0**
IKRE	**Kreppuhraun**	**7.10**	**215**	P	**Pn**	**07 06 30.0**	**+0.2**
LOF	**Lofoten**	**7.63**	**101**	*e*Pn	Pn	07 06 32.9	-4.0
STEI	**Steigen**	**8.28**	**100**	*e*Pn	**Pn**	**07 06 46.4**	**+0.6**
BJO	**Bjornoya**	**8.50**	**53**	*e*Pn	**Pn**	**07 06 50.9**	**+2.1**
BJO	**Bjornoya**	**8.50**	**53**	*e*Pn	**Pn**	**07 06 50.9**	**+2.1**
	SNR=50						
STOK	**Stokkvaagen**	**8.52**	**113**	*e*Pn	**Pn**	**07 06 50.9**	**+1.8**
STOK				*e*Sn	Sn	07 08 17.3	-7.4
STOK				*e*Sn	Sn	07 08 20.0	-4.7
STOK				AML	AML	07 08 22.9	
	comp=Z,11nm,0.3s						
FLOS	**Flostrand**	**8.62**	**112**	*e*Pn	**Pn**	**07 06 51.7**	**+1.2**
FLOS				*e*Sn	**Sn**	**07 08 22.4**	**-4.9**
FLOS				*e*Sn	Sn	07 08 23.4	-3.8
FLOS				AML	AML	07 08 26.8	
	comp=Z,18nm,0.6s						
TRO	**Tromso**	**8.76**	**86**	*e*Pn	**Pn**	**07 06 52.8**	**+0.4**
TRO	**Tromso**	**8.76**	**86**	*e*Pn	**Pn**	**07 06 52.8**	**+0.4**
	SNR=50						
KBS	**Kingsbay**	**9.37**	**22**	Pn	**Pn**	**07 06 59.5**	**-1.3**
KBS	**Kingsbay**	**9.37**	**22**	*e*Pn	**Pn**	**07 06 59.9**	**-0.9**
KBS	**Kingsbay**	**9.37**	**22**	*e*P	**Pn**	**07 06 59.7**	**-1.1**
	SNR=46						
KBS	**Kingsbay**	**9.37**	**22**	*e*Pn	**Pn**	**07 06 59.9**	**-0.9**
	SNR=50						
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn	**Pn**	**07 07 04.4**	**+2.0**
	baz=230,slow=12						
SPITS	**Spitsbergen Ar**	**9.49**	**29**	Pn	**Pn**	**07 07 04.5**	**+2.0**
	baz=219,slow=17,SNR=71						
NSS	**Namsos**	**9.51**	**123**	*e*Pn	**Pn**	**07 07 02.9**	**+0.2**
NSS	**Namsos**	**9.51**	**123**	*e*Pn	**Pn**	**07 07 02.9**	**+0.2**
	SNR=50						
ARA0	**ARCESS Array S**	**10.95**	**82**	Pn	**Pn**	**07 07 22.4**	**0.0**
	baz=296,slow=12						
ARA0	**ARCESS Array S**	**10.95**	**82**	Pn	**Pn**	**07 07 22.4**	**0.0**
	baz=296,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**10.95**	**82**	Pn	**Pn**	**07 07 22.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=295,slow=12,SNR=22						
HFS	**Hagfors**	**13.61**	**132**	Pn	**Pn**	**07 08 00.1**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=350,slow=7.7,SNR=3.8						
FIA0	**FINESS Array S**	**16.05**	**109**	P	**Pn**	**07 08 31.9**	**+0.6**
	baz=320,slow=11						
FIA0	**FINESS Array S**	**16.05**	**109**	Pn	**Pn**	**07 08 31.9**	**+0.6**
	baz=320,slow=11,SNR=50						
FINES	**FINESS Array B**	**16.05**	**109**	Pn	**Pn**	**07 08 31.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=316,slow=11,SNR=3.5						
VRAC	**Vranov**	**24.24**	**141**	LR	LR	07 18 52.4	
	comp=Z,24nm,18.6s,baz=105,slow=35						
ILAR	**Eielson Array**	**41.88**	**336**	P	**P**	**07 12 36.5**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=16,slow=5.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**57.93**	**170**	P	**P**	**07 14 39.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=345,slow=6.5,SNR=3.2						

TAP 08 07:22:19.2, 21.10N×122.30E, h153km±1km, ML3.9, 1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.17**	**323**	*e*S	Sn	07 23 06.5	+0.5
	baz=323						
TWK1	**Hengchun**	**1.63**	**301**	*e*P	Pn	07 22 51.0	+0.7
	baz=297						
TWK1				S	Sn	07 23 13.7	-0.5
	baz=297						
HEN	**Hengchun**	**1.71**	**302**	*e*P	Pn	07 22 51.6	+0.4
	baz=302						
HEN				*e*S	Sn	07 23 15.9	+0.2
	baz=302						
EAST	**Anshuo**	**1.86**	**314**	P	Pn	07 22 53.1	+0.2
	baz=313						
EAST				S	Sn	07 23 18.0	-0.8
	baz=313						
SCZT	**Fangliau**	**2.01**	**309**	P	Pn	07 22 54.8	+0.2
	baz=309						
SCZT				*e*S	Sn	07 23 20.6	-1.2
	baz=309						
TWG	**Pinlang**	**2.06**	**326**	*e*S	Sn	07 23 22.1	-0.7
	baz=320						
TWP	**Hsiaoliuchiu**	**2.19**	**305**	*e*P	Pn	07 22 58.0	+1.3
	baz=296						
TWP				*e*S	Sn	07 23 27.9	+2.4
	baz=296						
SSD	**Sandimen**	**2.25**	**317**⇓	*i*P	Pn	07 22 57.8	+0.4
	baz=317						
SSD				S	Sn	07 23 25.9	-1.1
	baz=317						
TWM1	**Shoushan**	**2.45**	**315**	*e*P	Pn	07 23 00.9	+1.1
	baz=321						
TWM1				*e*S	Sn	07 23 31.9	+0.7
	baz=321						
STYT	**Tauyuan**	**2.50**	**325**	P	Pn	07 23 01.4	+0.9
	baz=329						
STYT				S	Sn	07 23 32.4	-0.1
	baz=329						
SGST	**Jiashian**	**2.54**	**321**	*e*S	Sn	07 23 33.1	0.0
	baz=313						
CHN1	**Nanshi**	**2.65**	**322**	*i* P	Pn	07 23 02.8	+0.6
	baz=322						
CHN1				S	Sn	07 23 34.6	-1.0
	baz=322						
YUS	**Yu-Shan**	**2.69**	**332**	*e*P	Pn	07 23 05.1	+1.8
	baz=333						
CHN4	**Tsaushan**	**2.74**	**325**	P	Pn	07 23 03.9	+0.5
	baz=317						
CHN4				S	Sn	07 23 36.9	-0.8
	baz=317						
CHN5	**Tsauling**	**2.90**	**329**	P	Pn	07 23 06.0	+0.4
	baz=329						
CHN5				*e*S	Sn	07 23 41.6	+0.1
	baz=329						
SMLT	**Sun Moon Lake**	**3.06**	**335**	*e*P	Pn	07 23 08.2	+0.7
	baz=325						
TYC	**Yuchr**	**3.09**	**335**	*e*P	Pn	07 23 08.7	+0.9
	baz=325						
TYC				*e*S	Sn	07 23 45.1	-0.4
	baz=325						
WHF	**Hehuan Shan**	**3.18**	**343**	*e*P	Pn	07 23 09.9	+0.5
	baz=349						
PNG	**Penghu**	**3.54**	**314**	*e*P	Pn	07 23 12.5	-0.9
	baz=314						

IDC 08 07:46:02.8±1.0, 10.71N×140.52E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/22, mbtmpb3.5/5, Error ellipse: s-maj=55.5km s-min=22.5km az=98.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.06**	**191**	P	P	07 52 22.5	-0.3
	1.1nm,0.7s,baz=10,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**34.77**	**191**	P	P	07 52 55.3	+0.1
	0.4nm,0.6s,baz=18,slow=13,SNR=7.4						
KURK	**Kurchatov**	**64.10**	**321**	P	P	07 56 39.2	+0.4
	0.2nm,0.4s,baz=115,slow=6.3,SNR=3.6						
ILAR	**Eielson Array**	**72.98**	**25**	P	P	07 57 33.0	-1.0
	0.2nm,0.4s,baz=249,slow=5.9,SNR=7.5						
YKA	**Yellowknife Ar**	**87.34**	**27**	P	P	07 58 52.5	+1.0
	0.2nm,0.7s,baz=293,slow=4.7,SNR=3.5						

*IDC **08** 07:54:30.8±1.6, 1.06N×125.16E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmpb3.6/5, Error ellipse: s-maj=247.5km s-min=19.6km az=64.0*
*DJA **08** 07:54:45, 0.12S×123.58E, h57km, MLv4.3/10*
ISC 08 07:54:44.2±1.5, 0.19S±0.09×123.62E±0.08, h50km, n10, σ2.45/7, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.84**	**26**	P	**Pn**	**07 55 00.9**	**+1.1**
LUWI	**Luwuk**	**1.20**	**225**	P	**Pn**	**07 55 06.5**	**+1.9**
LBMI	**Labuha**	**3.91**	**97**	P	**Pn**	**07 55 43.6**	**+1.8**
NLAI	**Namlea**	**4.62**	**131**	P	**Pn**	**07 55 53.1**	**+1.6**
SPSI	**Sidrap Palu**	**5.37**	**226**	P	**Pn**	**07 56 02.8**	**+1.0**
WRA	**Warramunga Arr**	**22.27**	**152**	P	**P**	**07 59 34.5**	**-2.7**
	0.6nm,0.5s,baz=334,slow=9.9,SNR=3.2						
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**08 00 04.9**	**-2.1**
	0.3nm,0.5s,baz=353,slow=16,SNR=4.2						
STKA	**Stephens Creek**	**35.81**	**153**	P	P	08 01 36.0	-2.9
	1.2nm,0.5s,baz=325,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**59.10**	**328**	P	P	08 04 32.0	-7.5
	0.2nm,0.3s,baz=142,slow=6.2,SNR=9.1						
KURK	**Kurchatov**	**63.45**	**330**	P	P	08 05 00.4	-8.4
	0.3nm,0.6s,baz=132,slow=6.0,SNR=4.7						

IDC 08 07:57:50.3±4.8, 0.46S×131.01E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmpb3.4/3, ML3.1/1, Error ellipse: s-maj=342.6km s-min=25.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**171**	P	P	08 02 20.1	-0.7
	0.1nm,0.3s,baz=350,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**23.24**	**173**	P	P	08 02 59.9	+0.4
	1.9nm,0.9s,baz=352,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**63.41**	**325**	P	P	08 08 21.9	0.0
	0.2nm,0.6s,baz=114,slow=7.0,SNR=3.0						

*IDC **08** 08:13:50.2±1.1, 7.73N×91.75E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/25, mbtmpb3.7/10, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=39.5km s-min=20.2km az=54.0*
*NEIC **08** 08:13:56.0±0.7, 7.73N×91.94E, h35km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=8.7km az=48.0*
ISC 08 08:13:53.9±1.0, 7.7N±0.1×91.8E±0.1, h24km, n51, σ1.966/43, mb4.0/16, MS3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**9.15**	**104**	Pn	**Pn**	**08 16 03.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**12.82**	**32**	Pn	**Pn**	**08 16 53.6**	**-1.2**
	baz=234,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**12.82**	**32**	Pn	**Pn**	**08 16 53.6**	**-1.2**
HYB	**Hyderabad**	**16.12**	**308**	*i* P	P	08 17 51.0	+8.8
HYB				*e*S	**S**	**08 20 45.0**	**-5.3**
ODAN	**Odare**	**19.55**	**348**	*e*P	**Pn**	**08 18 24.7**	**+3.1**
ODAN	**Odare**	**19.55**	**348**	*e*P	**Pn**	**08 18 24.7**	**+3.1**
RAMN	**Ramite**	**19.81**	**346**	*e*P	**Pn**	**08 18 28.4**	**+3.7**
	26nm,0.5s						
RAMN	**Ramite**	**19.81**	**346**	*e*P	**Pn**	**08 18 28.4**	**+3.7**
	26nm,0.5s						
TAPN	**Taplejung**	**19.97**	**349**	*e*P	**Pn**	**08 18 26.2**	**-0.4**
	33nm,0.9s						
TAPN	**Taplejung**	**19.97**	**349**	*e*P	**Pn**	**08 18 26.2**	**-0.4**
	33nm,0.9s						
JIRN	**Jiri**	**20.59**	**346**	*e*P	Pn	08 18 32.6	-1.5
JIRN	**Jiri**	**20.59**	**346**	*e*P	Pn	08 18 32.6	-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.05**	**203**	P	Pn	08 27 14.9	-0.1
	0.1nm,0.3s,baz=28,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**19.34**	**177**	P	P	08 27 17.2	-0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**23.03**	**179**	P	P	08 27 57.4	0.0
	0.3nm,0.4s,baz=357,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	08 33 31.1	0.0
	0.5nm,0.7s,baz=110,slow=9.1,SNR=3.1						

IDC 08 08:24:28.2±2.0,0.62S×133.44E,h0km,mb3.9/3, mb1 4.0/5,mb1mx3.7/18,mbtmp3.9/5,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.3/28,Error ellipse: s-maj=79.9km s-min=19.7km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.35**	**252**	LR	LR	08 33 15.4	
	comp=Z,84nm,18.3s,baz=48,slow=37						
FITZ	**Fitzroy Crossi**	**18.99**	**203**	P	P	08 28 51.7	+0.2
	0.3nm,0.3s,baz=33,slow=10,SNR=5.9						
FITZ				S	Sn	08 32 13.1	-12
	0.3nm,0.3s,baz=242,slow=16,SNR=4.9						
WRA	**Warramunga Arr**	**19.23**	**177**	P	P	08 28 53.8	-0.4
	0.2nm,0.3s,baz=356,slow=12,SNR=6.5						
WRA				S	Sn	08 32 16.4	-15
	0.2nm,0.3s,baz=358,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**22.92**	**179**	P	P	08 29 34.2	+0.2
	5.4nm,0.9s,baz=4.8,slow=9.4,SNR=22						
ASAR				S	S	08 33 46.2	+1.0
	1.3nm,0.9s,baz=3.4,slow=23,SNR=5.6						
STKA	**Stephens Creek**	**32.04**	**167**	P	P	08 30 56.7	+0.1
	1.4nm,0.5s,baz=356,slow=9.5,SNR=5.5						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	08 35 09.8	-0.1
	0.6nm,0.7s,baz=112,slow=7.9,SNR=4.9						

*IDC **08** 08:46:05.4±2.2,53.53N×163.66W,h0km,mb3.1/4, mb1 3.5/5,mb1mx3.3/28,mbtmp3.3/5,ML3.1/1,Error ellipse: s-maj=52.9km s-min=31.2km az=178.0*
*ISCJB **08** 08:46:07.4±0.9,53.38N±0.08×163.59W±0.08,h29km, mb3.1/3,Error ellipse: s-maj=11.8km s-min=7.1km az=175.1*
*NEIC **08** 08:46:08.8,53.39N×163.60W,h18km,ML3.0(AEIC),After AEIC.*

ISC 08 08:46:09.3±1.1,53.5N±0.1×163.60W±0.06,h29km,n20, σ1§11/23,mb3.2/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**1.25**	**349**	P	**Pn**	**08 46 30.9**	**+0.1**
SSLS				S	**Sb**	**08 46 48.3**	**+0.4**
FALS	**False Pass**	**1.37**	**4**	P	**Pn**	**08 46 32.1**	**-0.4**
AKA	**Akutan**	**1.44**	**298**	P	**Pn**	**08 46 33.0**	**-0.4**
AKUT	**Akutan**	**1.44**	**297**	P	**Pn**	**08 46 32.7**	**-0.7**
AKUT				S	**Sn**	**08 46 51.4**	**+0.1**
ZRO	**Akutan Zero**	**1.53**	**294**	P	**Pn**	**08 46 34.1**	**-0.7**
AKGG	**Akutan Green G**	**1.58**	**298**	P	**Pn**	**08 46 34.9**	**-0.5**
UNV	**Unalaska Valle**	**1.76**	**283**	P	**Pn**	**08 46 36.8**	**-1.1**
UNV				S	**Sn**	**08 46 58.9**	**-0.4**
DT1	**Dutton Round H**	**1.79**	**25**	P	**Pn**	**08 46 38.0**	**-0.3**
MSW	**Makushin Switc**	**1.94**	**284**	P	**Pn**	**08 46 40.0**	**-0.3**
MSOM	**Makushin Julie**	**2.02**	**281**	P	**Pn**	**08 46 40.7**	**-0.6**
KDAK	**Kodiak Island**	**7.57**	**51**	Pn	**Pn**	**08 47 55.5**	**-2.0**
	0.3nm,0.3s,baz=185,slow=5.6,SNR=5.3						
KDAK	**Kodiak Island**	**7.57**	**51**	Pn	**Pn**	**08 47 55.5**	**-2.0**
INK	**Inuvik**	**20.51**	**32**	P	**P**	**08 50 43.6**	**-1.1**
	0.4nm,0.6s,baz=245,slow=4.9,SNR=2.7						
INK	**Inuvik**	**20.51**	**32**	P	**P**	**08 50 43.6**	**-1.1**
YKA	**Yellowknife Ar**	**26.85**	**51**	P	**P**	**08 51 49.1**	**+2.3**
	0.2nm,0.7s,baz=272,slow=9.3,SNR=4.8						
YKA	**Yellowknife Ar**	**26.85**	**51**	P	**P**	**08 51 49.1**	**+2.3**
TXAR	**Lajitas Array**	**49.29**	**95**	P	**P**	**08 54 55.8**	**+0.2**
	0.2nm,0.7s,baz=302,slow=5.2,SNR=5.0						
TXAR	**Lajitas Array**	**49.29**	**95**	P	**P**	**08 54 55.8**	**+0.2**
SONM	**Songino Array**	**53.66**	**303**	P	**P**	**08 55 27.9**	**-0.1**
	0.5nm,1.0s,baz=59,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**53.66**	**303**	P	**P**	**08 55 27.9**	**-0.1**

*IDC **08** 08:57:28.6±2.0,31.63N×56.27E,h0km,mb3.9/10, mb1 4.0/13,mb1mx3.8/31,mbtmp4.0/13,ML4.3/3,MS3.2/7, Ms1 3.3/7,ms1mx2.9/43,Error ellipse: s-maj=45.7km s-min=17.9km az=159.0*
*CSEM **08** 08:57:30.2±0.2,31.85N×56.22E,h2km,ML4.3,Error ellipse: s-maj=5.1km s-min=3.5km az=165.0*
*TEH **08** 08:57:30.7,31.77N×56.24E,h5km,ML4.3*
*THR **08** 08:57:30.4±0.9,31.93N×56.23E,h14km±11km,ML4.2*
*NEIC **08** 08:57:31.1,31.93N×56.14E,h14km,mb3.8/5, ML4.2(THR),MN4.3(TEH),After THR.*

ISC 08 08:57:30.1±1.3,31.89N±0.04×56.22E±0.02,h1km±10km, n126,s19§02/136,mb3.9/10,MS3.2/5,2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.63**	**242**	⇓eP g	**Pg**	**08 57 41.5**	**-0.6**
IBAF				eS g	**Sg**	**08 57 49.8**	**-0.4**
IBAF				e		08 57 54.6	
	comp=Z,99μm,0.1s						
IBAF	**Bafgh**	**0.63**	**242**	⇓eP g	**Pg**	**08 57 41.5**	**-0.6**
IBAF				eS g	**Sg**	**08 57 49.8**	**-0.4**
IMEH	**Mehriz**	**1.45**	**251**	ePn	**Pn**	**08 57 57.6**	**0.0**
IMEH				eS g	**Sb**	**08 58 16.0**	**-1.1**
IMEH				e		08 58 21.8	
	comp=Z,29μm,0.2s						
IMEH	**Mehriz**	**1.45**	**251**	ePn	**Pn**	**08 57 57.6**	**0.0**
IMEH				eS g	**Sb**	**08 58 16.0**	**-1.1**
ICHK	**Chekchek**	**1.58**	**284**	ePn	**Pn**	**08 57 58.2**	**-1.1**
ICHK				eS g	**Sg**	**08 58 22.6**	**+1.9**
ICHK	**Chekchek**	**1.58**	**284**	ePn	**Pn**	**08 57 58.2**	**-1.1**
ICHK				eS g	**Sg**	**08 58 22.6**	**+1.9**
TABS	**Tabas**	**1.92**	**23**	eP g	**Pn**	**08 58 04.4**	**+0.5**
TABS				AML	AML	08 58 38.4	
	comp=N,1μm,0.5s						
TABS	**Tabas**	**1.92**	**23**	eP g	**Pn**	**08 58 04.4**	**+0.5**
KRBR	**Kerman**	**1.96**	**166**	ePn	**Pb**	**08 58 06.0**	**-0.6**
KRBR				eS g	**Sg**	**08 58 34.0**	**+1.1**
KRBR	**Kerman**	**1.96**	**166**	eP g	**Pb**	**08 58 06.7**	**+0.1**
KRBR				AML	AML	08 58 39.1	
	comp=E,4μm,0.5s						
KRBR	**Kerman**	**1.96**	**166**	ePn	**Pb**	**08 58 06.0**	**-0.6**
KRBR	**Kerman**	**1.96**	**166**	eP g	**Pb**	**08 58 06.7**	**+0.1**
KRBR				eS g	**Sg**	**08 58 34.0**	**+1.1**
ISAD	**Sadrabad**	**2.15**	**271**	eS g	**Sg**	**08 58 38.2**	**+0.9**
ISAD				ePn	**Pn**	**08 58 07.7**	**+0.4**
ISAD				e		08 58 40.6	
	comp=Z,27μm,0.2s						
ITEG	**Tejag**	**2.37**	**64**	ePn	**Pn**	**08 58 10.4**	**+0.2**
ITEG				e		08 58 48.5	
	comp=Z,39μm,0.2s						
ITEG	**Tejag**	**2.37**	**64**	ePn	**Pn**	**08 58 10.4**	**+0.2**
IKOO	**Kooshah**	**2.43**	**76**	ePn	**Pn**	**08 58 11.1**	**+0.1**
IKOO				eS g	**Sb**	**08 58 46.0**	**+0.9**
IKOO				e		08 58 49.7	
	comp=Z,38μm,0.2s						
IKOO	**Kooshah**	**2.43**	**76**	ePn	**Pn**	**08 58 11.1**	**+0.1**
IKOO				eS g	**Sb**	**08 58 46.0**	**+0.9**
NASN	**Na'in**	**3.02**	**288**	ePn	**Pn**	**08 58 19.0**	**-0.3**
NASN	**Na'in**	**3.02**	**288**	ePn	**Pn**	**08 58 19.7**	**+0.4**
NASN				AML	AML	08 59 09.6	
	comp=N,571nm,0.6s						
NASN	**Na'in**	**3.02**	**288**	ePn	**Pn**	**08 58 19.7**	**+0.4**
IMON	**Monand**	**3.19**	**65**	ePn	**Pn**	**08 58 21.9**	**+0.3**
IMON				eS g	**Sg**	**08 59 11.6**	**-1.1**
IMON				e		08 59 19.0	
	comp=Z,18μm,0.2s						
IMON	**Monand**	**3.19**	**65**	ePn	**Pn**	**08 58 21.9**	**+0.3**
IMON				eS g	**Sg**	**08 59 11.6**	**-1.1**
IDAH	**Dahanechah**	**3.21**	**74**	ePn	**Pn**	**08 58 21.8**	**0.0**
IDAH				eS g	**Sg**	**08 59 11.9**	**-1.2**
IDAH				e		08 59 20.5	
	comp=Z,9μm,0.3s						
IDAH	**Dahanechah**	**3.21**	**74**	ePn	**Pn**	**08 58 21.8**	**0.0**
IDAH				eS g	**Sg**	**08 59 11.9**	**-1.2**
IPAR	**Pars**	**3.40**	**234**	ePn	**Pn**	**08 58 24.1**	**-0.4**
IPAR				e		08 59 24.4	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.40**	**234**	ePn	**Pn**	**08 58 24.1**	**-0.4**
IZEF	**Zefreh**	**3.44**	**288**	ePn	**Pn**	**08 58 25.9**	**+0.9**
IZEF				e		08 58 28.6	
	comp=Z,6μm,0.2s						
IZEF	**Zefreh**	**3.44**	**288**	ePn	**Pn**	**08 58 25.9**	**+0.9**
IGAR	**Gharneh**	**3.58**	**279**	ePn	**Pn**	**08 58 27.6**	**+0.7**
IGAR				e		08 59 27.3	
	comp=Z,3μm,0.2s						
ISRV	**Sarvestan**	**3.66**	**228**	ePn	Pn	08 58 31.8	+3.8
ISRV				e		08 58 50.7	
	comp=Z,4μm,0.4s						
IANJ	**Anjilo**	**4.05**	**332**	ePn	**Pn**	**08 58 33.0**	**-0.4**
IANJ				e		08 59 43.4	
	comp=Z,4μm,0.2s						
IANJ	**Anjilo**	**4.05**	**332**	ePn	**Pn**	**08 58 33.0**	**-0.4**
IKLH	**Kolahrood**	**4.17**	**291**	ePn	**Pn**	**08 58 35.8**	**+0.8**
IKLH				e		08 59 47.9	
	comp=Z,3μm,0.2s						
IKLH	**Kolahrood**	**4.17**	**291**	ePn	**Pn**	**08 58 35.8**	**+0.8**
ILAS	**Lasjerd**	**4.42**	**323**	ePn	**Pn**	**08 58 39.4**	**+1.0**
ILAS				e		09 00 08.1	
	comp=Z,4μm,0.3s						
ILAS	**Lasjerd**	**4.42**	**323**	ePn	**Pn**	**08 58 39.4**	**+1.0**
GHIR	**Ghir-Karzin**	**4.55**	**219**	ePn	**Pn**	**08 58 41.0**	**+0.9**
GHIR	**Ghir-Karzin**	**4.55**	**219**	ePn	**Pn**	**08 58 42.1**	**+2.0**
GHIR	**Ghir-Karzin**	**4.55**	**219**	ePn	**Pn**	**08 58 41.0**	**+0.9**
IPIR	**Pirpir**	**4.58**	**281**	e		09 00 08.9	
	comp=N,2μm,0.2s						
ISHM	**Shahmirzad**	**4.61**	**329**	ePn	**Pn**	**08 58 41.9**	**+0.9**
ISHM				e		09 00 05.0	
	comp=Z,5μm,0.2s						
ISHM	**Shahmirzad**	**4.61**	**329**	ePn	**Pn**	**08 58 41.9**	**+0.9**
IFIR	**Firoozkooh**	**4.73**	**323**	ePn	**Pn**	**08 58 42.4**	**-0.3**
IFIR				e		09 00 05.3	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**4.73**	**323**	ePn	**Pn**	**08 58 42.4**	**-0.3**
IKIA	**Kiasar**	**4.79**	**335**	ePn	**Pn**	**08 58 44.3**	**+0.7**
IKIA				e		09 00 20.8	
	comp=Z,2μm,0.3s						
IKIA	**Kiasar**	**4.79**	**335**	ePn	**Pn**	**08 58 44.3**	**+0.7**
GHVR	**GHOM**	**4.87**	**303**	ePn	**Pn**	**08 58 45.0**	**+0.5**
GHVR	**GHOM**	**4.87**	**303**	ePn	**Pn**	**08 58 45.0**	**+0.5**
IGLO	**Ghaloghah**	**5.01**	**337**	ePn	**Pn**	**08 58 47.9**	**+1.4**
IGLO				e		09 00 24.9	
	comp=Z,6μm,0.3s						
IALA	**Alasht**	**5.05**	**327**	ePn	**Pn**	**08 58 48.1**	**+0.9**
IALA				e		08 59 53.4	
	comp=Z,2μm,0.3s						
IALA	**Alasht**	**5.05**	**327**	ePn	**Pn**	**08 58 48.1**	**+0.9**
IDMV	**Damavand**	**5.07**	**318**	ePn	**Pn**	**08 58 47.3**	**-0.1**
IDMV				e		09 00 26.6	
	comp=Z,2μm,0.3s						
IDMV	**Damavand**	**5.07**	**318**	ePn	**Pn**	**08 58 47.3**	**-0.1**
DAMV	**Damavand**	**5.14**	**318**	ePn	**Pn**	**08 58 48.0**	**-0.4**
DAMV	**Damavand**	**5.14**	**318**	ePn	**Pn**	**08 58 48.9**	**+0.5**
DAMV	**Damavand**	**5.14**	**318**	ePn	**Pn**	**08 58 48.9**	**+0.5**
IAKL	**Akhelmad**	**5.15**	**23**	ePn	**Pn**	**08 58 49.3**	**+0.7**
IAKL				e		09 00 29.2	
	comp=Z,2μm,0.4s						
ISFR	**Sfrayin**	**5.36**	**15**	ePn	**Pn**	**08 58 52.1**	**+0.7**
ISFR				e		09 00 59.6	
	comp=Z,2μm,0.4s						
ISFR	**Sfrayin**	**5.36**	**15**	ePn	**Pn**	**08 58 52.1**	**+0.7**
IPRN	**Peran**	**5.41**	**325**	ePn	**Pn**	**08 58 53.3**	**+1.4**
IPRN				e		09 00 36.7	
	comp=Z,4μm,0.3s						
IR3	**Iran Long-Peri**	**5.62**	**311**	ePn	**Pn**	**08 58 55.5**	**+0.8**
IR3	**Iran Long-Peri**	**5.62**	**311**	ePn	**Pn**	**08 58 55.5**	**+0.8**
MRVT	**Maraveh tapeh**	**5.76**	**359**	ePn	**Pn**	**08 58 57.0**	**+0.3**
MRVT	**Maraveh tapeh**	**5.76**	**359**	ePn	**Pn**	**08 58 57.8**	**+1.1**
MRVT				Sn	**Sn**	**09 00 00.5**	**-3.0**
MRVT	**Maraveh tapeh**	**5.76**	**359**	ePn	**Pn**	**08 58 57.8**	**+1.1**
ISHV	**Shirvan**	**5.77**	**12**	ePn	**Pn**	**08 58 58.5**	**+1.6**
ISHV				e		08 59 01.1	
	comp=Z,3μm,0.3s						
ISHV	**Shirvan**	**5.77**	**12**	ePn	**Pn**	**08 58 58.5**	**+1.6**
ASAO	**Ashtian**	**5.83**	**299**	ePn	**Pn**	**08 58 59.0**	**+1.2**
ASAO	**Ashtian**	**5.83**	**299**	ePn	**Pn**	**08 58 59.0**	**+1.2**
CHTH	**Charan**	**5.83**	**315**	ePn	**Pn**	**08 58 58.0**	**+0.2**
CHTH	**Charan**	**5.83**	**315**	ePn	**Pn**	**08 58 58.0**	**+0.2**
IMHD	**Mahdasht**	**5.97**	**311**	ePn	**Pn**	**08 59 00.5**	**+0.8**
IMHD				e		09 01 03.2	
	comp=Z,891nm,0.3s						
IMHD	**Mahdasht**	**5.97**	**311**	ePn	**Pn**	**08 59 00.5**	**+0.8**
ZNJK	**Zanjan**	**7.85**	**309**	ePn	**Pn**	**08 59 26.0**	**+0.5**
BHD	**Baghdad**	**10.08**	**281**	eP	Pn	08 59 51.0	-4.9
BHD				eS	Sn	09 01 39.0	-11
GNI	**Garni**	**12.41**	**315**	LR	LR	09 05 43.1	
	comp=Z,116nm,18.6s,baz=96,slow=39						
KKAR	**Karatay Array**	**15.91**	**41**	ePn	**Pn**	**09 01 15.4**	**+0.2**
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**15.91**	**41**	ePn	**Pn**	**09 01 15.4**	**+0.2**
	comp=Z,2.0nm,0.6s						
ASF	**Jabal al Asfar**	**16.39**	**276**	Pn	**Pn**	**09 01 20.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=322,slow=8.9,SNR=5.6						
ASF	**Jabal al Asfar**	**16.39**	**276**	Pn	**Pn**	**09 01 20.6**	**-0.8**
ABKAR	**Akbulak array**	**17.58**	**8**	eP	**Pn**	**09 01 35.8**	**-0.4**
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**17.58**	**8**	eP	**Pn**	**09 01 35.8**	**-0.4**
	comp=Z,1.9nm,0.6s						
MMAI	**Mount Meron Ar**	**17.60**	**279**	P	**P**	**09 01 38.4**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=91,slow=22,SNR=2.4						
MMAI	**Mount Meron Ar**	**17.60**	**279**	P	**P**	**09 01 38.4**	**+0.6**
MMAI	**Mount Meron Ar**	**17.60**	**279**	P	**P**	**09 01 38.4**	**+0.6**
AAK	**Ala-Archa**	**18.04**	**48**	eP	**P**	**09 01 44.9**	**+2.3**
	comp=Z,20nm,1.1s						
AAK	**Ala-Archa**	**18.04**	**48**	eP	**P**	**09 01 44.9**	**+2.3**
	comp=Z,20nm,1.1s						
AKTO	**Aktyubinsk**	**18.58**	**4**	P	**Pn**	**09 01 48.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=173,slow=12,SNR=12						
AKTO				LR	LR	09 10 22.9	
	comp=Z,76nm,21.3s,baz=169,slow=41						
AKTO	**Aktyubinsk**	**18.58**	**4**	P	**Pn**	**09 01 48.1**	**-0.3**
AKTO	**Aktyubinsk**	**18.58**	**4**	P	**Pn**	**09 01 48.2**	**-0.3**
BR131	**Keskin Array S**	**19.88**	**299**	eP	**Pn**	**09 02 03.5**	**-0.8**
	comp=Z,4.0nm,0.7s						
BR131	**Keskin Array S**	**19.88**	**299**	eP	**Pn**	**09 02 03.5**	**-0.8**
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**19.88**	**299**	P	**Pn**	**09 02 03.6**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=118,slow=12,SNR=28						
BRTR	**Keskin Array B**	**19.88**	**299**	P	**Pn**	**09 02 03.6**	**-0.8**
BRTR	**Keskin Array B**	**19.88**	**299**	P	**Pn**	**09 02 03.6**	**-0.8**
BVAR	**Borovoye Array**	**23.49**	**22**	P	**P**	**09 02 41.3**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=203,slow=9.4,SNR=22						
BVAR				LR	LR	09 12 59.6	
	comp=Z,76nm,21.2s,baz=69,slow=39						
BVAR	**Borovoye Array**	**23.49**	**22**	P	**P**	**09 02 41.3**	**+0.3**
BVAR	**Borovoye Array**	**23.49**	**22**	P	**P**	**09 02 41.3**	**+0.3**
MKAR	**Makanchi Array**	**24.91**	**46**	P	**P**	**09 02 55.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=224,slow=8.1,SNR=8.5						
MKAR	**Makanchi Array**	**24.91**	**46**	P	**P**	**09 02 55.8**	**+1.3**
MKAR	**Makanchi Array**	**24.91**	**46**	P	**P**	**09 02 55.8**	**+1.3**
KURK	**Kurchatov**	**25.07**	**35**	P	**P**	**09 02 56.1**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=236,slow=10.0,SNR=7.4						
KURK				LR	LR	09 14 11.4	
	comp=Z,78nm,19.9s,baz=300,slow=40						
KURK	**Kurchatov**	**25.07**	**35**	eP	**P**	**09 02 58.4**	**+2.6**
KURK	**Kurchatov**	**25.07**	**35**	eP	**P**	**09 02 58.4**	**+2.6**
AKASG	**Malin Array Be**	**27.41**	**321**	P	**P**	**09 03 19.5**	**+2.5**
	comp=Z,2.0nm,0.7s,baz=121,slow=8.7,SNR=6.2						
AKASG	**Malin Array Be**	**27.41**	**321**	P	**P**	**09 03 19.5**	**+2.5**
AKASG	**Malin Array Be**	**27.41**	**321**	P	**P**	**09 03 19.5**	**+2.5**
KIEV	**Kiev**	**27.41**	**321**	eP	**P**	**09 03 17.1**	**+0.1**
	comp=Z,6.1nm,0.8s						
KIEV	**Kiev**	**27.41**	**321**	eP	**P**	**09 03 17.1**	**+0.1**
	comp=Z,6.1nm,0.8s						
ZALV	**Zalesovo Beam**	**30.06**	**34**	P	**P**	**09 03 40.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=258,slow=10,SNR=4.3						
ZALV				LR	LR	09 16 57.6	
	comp=Z,32nm,19.3s,baz=350,slow=39						
ZALV	**Zalesovo Beam**	**30.06**	**34**	P	**P**	**09 03 40.5**	**0.0**
ZALV	**Zalesovo Beam**	**30.06**	**34**	P	**P**	**09 03 40.5**	**0.0**
FINES	**FINESS Array B**	**35.46**	**335**	P	**P**	**09 04 28.4**	**+0.8**
	comp=Z,3.5nm,1.0s,baz=167,slow=9.6,SNR=3.5						
FINES	**FINESS Array B**	**35.46**	**335**	P	**P**	**09 04 28.4**	**+0.8**
FINES	**FINESS Array B**	**35.46**	**335**	P	**P**	**09 04 28.4**	**+0.8**
GERES	**GERESS Array B**	**36.01**	**311**	P	**P**	**09 04 32.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=99,slow=8.2,SNR=6.5						
GERES	**GERESS Array B**	**36.01**	**311**	P	**P**	**09 04 32.3**	**-0.4**
GERES	**GERESS Array B**	**36.01**	**311**	P	**P**	**09 04 32.3**	**-0.4**
NOA	**NORSAR Array B**	**41.24**	**329**	LR	LR	09 23 42.4	
	comp=Z,37nm,21.4s,baz=180,slow=38						
TORD	**Torodi Ar. Bea**	**53.15**	**262**	P	**P**	**09 06 48.1**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=43,slow=7.0,SNR=13						
TORD	**Torodi Ar. Bea**	**53.15**	**262**	P	**P**	**09 06 48.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**53.15**	**262**	P	**P**	**09 06 48.1**	**-1.6**
KSRS	**Korea Array**	**57.94**	**63**	LR	LR	09 34 34.5	
	comp=Z,24nm,19.4s,baz=155,slow=38						
YKA	**Yellowknife Ar**	**85.66**	**356**	P	**P**	**09 10 09.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=0.2,slow=4.6,SNR=12						
YKA	**Yellowknife Ar**	**85.66**	**356**	P	**P**	**09 10 09.2**	**-0.9**
YKA	**Yellowknife Ar**	**85.66**	**356**	P	**P**	**09 10 09.1**	**-0.9**

IDC 08 08:58:47.9±2.8,0.76S×132.63E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/17,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=152.6km s-min=25.8km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.14**	**175**	P	P	09 03 13.2	+0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**22.81**	**177**	P	P	09 03 52.4	-0.2
	0.6nm,0.4s,baz=356,slow=11,SNR=19						
MKAR	**Makanchi Array**	**64.60**	**324**	P	P	09 09 27.2	0.0
	0.1nm,0.5s,baz=119,slow=7.2,SNR=3.4						

IDC 08 09:11:30.6±0.9,52.42S×12.97E,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.9/16,mbtmp3.9/7,MS3.5/5,Ms1 3.5/5, ms1mx3.2/19,1C,Error ellipse: s-maj=34.7km s-min=24.5km az=82.0,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.82**	**19**	P	Pn	09 16 20.8	+4.7
	3.4nm,0.7s,baz=199,slow=16,SNR=5.1						
SYO	**Syowa Base**	**20.82**	**153**	⇑eP	P	09 16 13.6	+0.4
BOSA	**Boshof**	**25.47**	**26**	LR	LR	09 24 43.0	
	comp=Z,119nm,20.2s,baz=178,slow=31						
MAW	**Mawson**	**28.20**	**142**	LR	LR	09 25 42.4	
	comp=Z,114nm,21.2s,baz=290,slow=30						
LBTB	**Lobatse**	**28.99**	**24**	LR	LR	09 27 12.2	
	comp=Z,92nm,20.5s,baz=18,slow=32						
QSPA	**South Pole Qui**	**32.87**	**180**	P	P	09 18 48.5	0.0
	1.0nm,0.4s,baz=225,slow=5.7,SNR=3.2						
CPUP	**Villa Florida**	**57.73**	**268**	P	P	09 21 22.1	-0.9
	0.4nm,0.3s,baz=111,slow=5.1,SNR=3.7						
CFAA	**Coronel Fontan**	**60.52**	**256**	P	P	09 21 41.5	-0.9
	0.2nm,0.6s,baz=112,slow=6.2,SNR=4.1						
DBIC	**Dimbokro**	**60.79**	**340**	P	P	09 21 44.2	0.0
	5.7nm,1.2s,baz=154,slow=5.6,SNR=3.2						
DBIC				LR	LR	09 44 34.6	
	comp=Z,41nm,18.6s,baz=85,slow=33						
TORD	**Torodi Ar. Bea**	**66.02**	**348**	P	P	09 22 18.3	-0.5
	0.3nm,0.8s,baz=182,slow=8.5,SNR=2.9						
TORD				LR	LR	09 43 40.0	
	comp=Z,42nm,20.4s,baz=15,slow=29						
LPAZ	**La Paz**	**71.86**	**267**	P	P	09 22 57.0	+0.9
	3.3nm,0.8s,baz=129,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**88.46**	**128**	P	P	09 24 24.6	-0.2
	0.4nm,0.8s,baz=197,slow=5.3,SNR=5.2						
RES	**Resolute Bay**	**144.29**	**334**	PKP	PKPbc	09 31 05.6	+0.5
	2.6nm,0.8s,baz=111,slow=4.8,SNR=5.7						
YKA	**Yellowknife Ar**	**150.87**	**311**	PKPbc	PKPbc	09 31 23.1	-0.5
	1.8nm,0.6s,baz=96,slow=2.1,SNR=39						
INK	**Inuvik**	**157.47**	**328**	PKPab	PKPab	09 31 58.7	-0.2
	1.7nm,1.0s,baz=47,slow=6.4,SNR=4.9						
ILAR	**Eielson Array**	**163.88**	**328**	PKPab	PKPab	09 32 27.8	+0.8
	0.6nm,0.8s,baz=31,slow=4.2,SNR=7.1						

MEX 08 09:27:00.6±0.6,15.06N×94.56W,h29km±15km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.45**	**63**	eP	Pn	09 27 22.4	-2.4
PCIG				eS	Sn	09 27 39.8	-3.1
HUIG	**Huatulco**	**1.65**	**296**	eP	Pn	09 27 26.1	-1.5
HUIG		

NVAR	**Mina Array Bea**	**73.91**	**349**	P	P	09 49 30.1	-0.5
	1.2nm,0.7s,baz=179,slow=8.6,SNR=6.9						
DZM	**Mont Dzumac**	**76.60**	**252**	*e*LR	LR	10 13 15.1	
	150nm,30.8s						
PDAR	**Pinedale Array**	**77.31**	**357**	P	P	09 49 50.2	+0.1
	1.1nm,0.7s,baz=160,slow=6.2,SNR=9.1						
CTA	**Charters Tower**	**93.11**	**243**	LR	LR	10 29 30.3	
	comp=Z,99nm,18.3s,baz=50,slow=33						
SCHQ	**Schefferville**	**95.12**	**21**	LR	LR	10 31 34.8	
	comp=Z,71nm,18.4s,baz=58,slow=34						
BRTR	**Keskin Array B**	**146.95**	**69**	PKPbc	PKPbc	09 57 38.3	0.0
	1.6nm,1.0s,baz=236,slow=4.0,SNR=4.2						
SONM	**Songino Array**	**153.26**	**309**	PKPbc	PKPbc	09 57 53.2	-0.2
	0.7nm,0.7s,baz=161,slow=2.5,SNR=5.1						

IDC 08 09:40:32.4±3.0, 5.34S×133.83E, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.5/14, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=127.9km s-min=28.5km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.52**	**178**	Pn	Pn	09 43 58.3	-1.0
	0.1nm,0.3s,baz=360,slow=13,SNR=2.5						
WRA				Sn	Sn	09 46 35.6	-5.6
	0.2nm,0.3s,baz=18,slow=22,SNR=4.2						
FITZ	**Fitzroy Crossi**	**15.00**	**212**	Pn	Pn	09 44 05.1	-0.7
	0.3nm,0.3s,baz=35,slow=12,SNR=17						
FITZ				Sn	Sn	09 46 44.4	-8.4
	0.2nm,0.3s,baz=252,slow=20,SNR=3.6						
ASAR	**Alice Springs**	**18.22**	**180**	P	P	09 44 47.6	+0.4
	0.3nm,0.3s,baz=2.3,slow=11,SNR=12						
MKAR	**Makanchi Array**	**69.00**	**325**	P	P	09 51 39.9	0.0
	0.8nm,0.6s,baz=115,slow=7.8,SNR=14						

IDC 08 09:46:52.6±1.1, 0.59S×133.46E, h0km, mb4.1/4, mb1 4.3/6, mb1mx3.9/18, mbtmp4.1/6, ML4.1/2, Error ellipse: s-maj=52.9km s-min=19.8km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.03**	**203**	P	P	09 51 15.2	-1.1
	0.6nm,0.3s,baz=12,slow=12,SNR=14						
WRA	**Warramunga Arr**	**19.26**	**177**	P	Pn	09 51 19.4	-0.5
	0.6nm,0.3s,baz=356,slow=11,SNR=9.2						
WRA				S	Sn	09 54 41.9	-15
	0.2nm,0.3s,baz=358,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**22.95**	**179**	P	P	09 51 59.1	+0.4
	4.1nm,0.5s,baz=6.2,slow=9.3,SNR=29						
STKA	**Stephens Creek**	**32.06**	**167**	P	P	09 53 21.1	-0.2
	2.3nm,0.6s,baz=356,slow=9.6,SNR=6.0						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	09 57 34.7	+0.4
	1.8nm,0.6s,baz=115,slow=7.8,SNR=29						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	09 59 34.8	-0.6
	0.5nm,0.7s,baz=271,slow=4.0,SNR=8.6						

*CSEM **08** 09:58:17.0, 13.88N×44.69E, h4km, ML3.5, After DHMR*

DHMR 08 09:58:17.0±1.6, 13.88N×44.69E, h4km±10km, ML3.5, 6C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBOS		**0.54**	**91**	⇑*i*P	Pg	09 58 28.2	+0.4
LBOS				*i* S	Sg	09 58 35.5	+0.3
UDYN	**Al 'Udayn**	**0.71**	**277**	⇑*i*P	Pg	09 58 30.3	-0.5
UDYN				*i* S	Sg	09 58 39.4	-0.9
UDYN				AML	AML	09 58 40.4	
	comp=N,1μm,0.2s						
DHBB	**Dhamar BB**	**0.75**	**337**	*i* P	Pg	09 58 31.5	-0.3
DHBB				*i* S	Sg	09 58 41.7	-0.2
DHBB	**Dhamar BB**	**0.75**	**337**	*i* P	Pg	09 58 31.5	-0.3
DHBB				*i* S	Sg	09 58 41.7	-0.2
TRBA	**At Turbah**	**0.85**	**221**	⇑*i*P	Pg	09 58 33.6	-0.1
TRBA				*i* S	Sg	09 58 45.0	0.0
TRBA	**At Turbah**	**0.85**	**221**	⇑*i*P	Pg	09 58 33.6	-0.1
TRBA				*i* S	Sg	09 58 45.0	0.0
BDHA	**Al Bayda'**	**0.85**	**83**	⇑*i*P	Pg	09 58 33.5	-0.3
BDHA				*i* S	Sg	09 58 44.5	-0.6
	comp=N,1μm,0.3s						
ADEN	**Aden**	**1.13**	**165**	*i* P	Pg	09 58 38.5	-0.3
ADEN				*i* S	Sg	09 58 53.7	+0.3
ADEN	**Aden**	**1.13**	**165**	*i* P	Pg	09 58 38.5	-0.2
ADEN				*i* S	Sg	09 58 53.7	+0.3
HAJJ	**Hajjah**	**2.10**	**330**	*i* P	Pb	09 58 54.7	-1.2
HAJJ				*i* S	Sb	09 59 23.2	+0.8
HAJJ	**Hajjah**	**2.10**	**330**	*i* P	Pb	09 58 54.7	-1.2
HAJJ				*i* S	Sb	09 59 23.2	+0.7

IDC 08 10:15:12.2±2.5, 0.02S×133.07E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/2, MS3.4/2, Ms1 3.5/2, ms1mx2.5/27, Error ellipse: s-maj=99.3km s-min=26.6km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**14.19**	**249**	LR	LR	10 24 31.5	
	comp=Z,70nm,18.9s,baz=104,slow=39						
FITZ	**Fitzroy Crossi**	**19.39**	**202**	P	P	10 19 39.6	-0.3
	0.1nm,0.3s,baz=14,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**19.84**	**176**	P	Pn	10 19 46.3	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.52**	**178**	P	P	10 20 23.4	-0.7
	2.8nm,0.8s,baz=357,slow=10,SNR=15						
MKAR	**Makanchi Array**	**64.27**	**324**	P	P	10 25 49.4	0.0
	0.4nm,0.7s,baz=114,slow=8.1,SNR=4.5						
ILAR	**Eielson Array**	**85.77**	**25**	LR	LR	11 08 03.3	
	comp=Z,34nm,18.6s,baz=241,slow=37						

MEX 08 10:49:34.3±0.8, 16.74N×94.87W, h108km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.35**	**358**	*e*P	Pn	10 49 48.7	-1.4
CMIG				*e*S	Sn	10 49 59.9	-2.1
HUIG	**Huatulco**	**1.53**	**231**	*e*P	Pn	10 49 59.5	-1.9
HUIG				*i* S	Sn	10 50 21.1	-0.9
TGIG		**1.68**	**89**	*i* P	Pn	10 50 02.0	-1.2
TGIG				*i* S	Sn	10 50 24.2	-1.1
VHO	**Vista Hermosa**	**1.81**	**281**	*i* P	Pn	10 50 04.5	-0.7
VHO				*i* S	Sn	10 50 26.8	-1.8
PCIG		**1.89**	**123**	*i* P	Pn	10 50 05.3	-0.6
PCIG				*i* S	Sn	10 50 29.1	-0.9
CCIG	**Comitan**	**2.66**	**100**	*i* P	Pn	10 50 15.2	-0.8
CCIG				*i* S	Sn	10 50 46.9	-1.3
PNIG	**Pinotepa**	**3.14**	**264**	*i* P	Pn	10 50 19.6	-2.5
PNIG				*i* S	Sn	10 50 56.5	-2.6

IDC 08 10:59:37.6±2.8, 0.33S×132.73E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=142.8km s-min=27.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.56**	**175**	P	P	11 04 07.4	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**23.23**	**177**	P	P	11 04 46.6	-0.1
	0.9nm,0.6s,baz=358,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**64.31**	**324**	P	P	11 10 15.1	-0.1
	0.5nm,0.9s,baz=117,slow=5.7,SNR=5.0						

IDC 08 11:02:10.8±2.6, 0.49S×132.96E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=136.0km s-min=25.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.39**	**176**	P	P	11 06 38.3	-0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**23.06**	**178**	P	P	11 07 18.2	+0.1
	0.8nm,0.5s,baz=355,slow=9.7,SNR=15						
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	11 12 50.0	0.0
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.5						

MEX 08 11:19:40.7±0.3, 16.09N×97.18W, h4km±4km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.95**	**289**	*e*P	Pg	11 19 57.0	-2.1
PNIG				*i* S	Sg	11 20 09.7	-1.8
VHO	**Vista Hermosa**	**1.07**	**24**	*e*P	Pg	11 19 58.9	-2.6
VHO				*e*S	Sg	11 20 12.7	-2.9
HUIG	**Huatulco**	**1.08**	**107**	*e*P	Pg	11 19 58.7	-2.8
HUIG				*i* S	Sg	11 20 12.9	-2.7
UTMO	**Huajuapan**	**1.83**	**341**	*i* P	Pn	11 20 09.5	-3.8
UTMO				*i* S	Sn	11 20 32.5	-4.6
CMIG	**Matias Romero**	**2.42**	**65**	*e*P	Pn	11 20 18.4	-2.8
CMIG				*i* S	Sn	11 20 47.3	-4.0

*ISCJB **08** 11:23:15.9±0.4, 50.39N±0.03×18.80E±0.03, h0km, Error ellipse: s-maj=4.2km s-min=2.1km az=19.0*
*WAR **08** 11:23:17.3, 50.35N×18.89E*
*CSEM **08** 11:23:17.8±0.2, 50.33N×18.78E, h2km, ML2.9/3, Error ellipse: s-maj=4.3km s-min=1.9km az=19.0*
*IPEC **08** 11:23:17.5±0.2, 50.35N×18.86E, h2km±1km, ML2.9/3, Error ellipse: s-maj=2.4km s-min=1.1km az=172.0*
*BGR **08** 11:23:18.7±0.3, 50.33N×18.81E, h1km, ML3.3/10, Error ellipse: s-maj=6.7km s-min=4.4km az=6.0*
*IDC **08** 11:23:18.4±0.9, 50.22N×18.89E, h0km, mb1 3.9/3, mb1mx3.3/22, mbtmp3.8/3, ML3.1/3, Error ellipse: s-maj=20.4km s-min=8.1km az=151.0*
*PRU **08** 11:23:18.4, 50.35N×18.79E, h0km*
*VIE **08** 11:23:18.5±1.2, 49.71N×19.06E, h0km, mb2.5/2, ML3.2/3, Error ellipse: s-maj=7.8km s-min=6.9km az=154.0 59 km NNE of Zilina Suspected Mining induced.*

ISC 08 11:23:17.0±0.7, 50.39N±0.03×18.86E±0.01, h0km, n89, σ1.5 41/143, 4C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.53**	**234**	*e*Pg	Pg	**11 23 28.1**	**+1.0**
RAC				*e*Sg	Sg	**11 23 35.3**	**+1.4**
OJC	**Ojcow**	**0.63**	**106**	*e*Pg	Sg	**11 23 29.6**	**+0.6**
OJC				*e*Sg	Sg	**11 23 38.3**	**+1.2**
OJC	**Ojcow**	**0.63**	**106**	*e*Pg	Pg	**11 23 29.7**	**+0.7**
OJC				*e*Sg	Sb	**11 23 39.4**	**-0.8**
OJC	**Ojcow**	**0.63**	**106**	Pg	Pg	**11 23 29.7**	**+0.7**
OJC				*e*Sg	Sg	**11 23 38.3**	**+1.2**
OKC	**Ostrava-Krasne**	**0.72**	**220**	*e*Pg	Pg	**11 23 31.4**	**+0.6**
OKC				*e*Sg	Sg	**11 23 41.3**	**+1.2**
OKC	**Ostrava-Krasne**	**0.72**	**220**	*e*PG	Pg	**11 23 31.3**	**+0.6**
OKC				*e*SG	Sg	**11 23 40.3**	**+0.2**
OKC	**Ostrava-Krasne**	**0.72**	**220**	*e*Pg	Pg	**11 23 30.9**	**+0.1**
	baz=42						
OKC				Sg	Sg	**11 23 40.3**	**+0.2**
MORC	**Moravsky Berou**	**1.05**	**234**	*e*Pg	Pg	**11 23 37.0**	**0.0**
MORC				*e*Sg	Sg	**11 23 50.8**	**+0.1**
MORC	**Moravsky Berou**	**1.05**	**234**	⇑*i*P	Pg	**11 23 37.0**	**0.0**
MORC	**Moravsky Berou**	**1.05**	**234**	S	Sg	**11 23 49.9**	**-0.7**
MORC	**Moravsky Berou**	**1.05**	**234**	*e*Pg	Pg	**11 23 36.9**	**-0.2**
	baz=55						
MORC				*e*Sg	Sg	**11 23 50.0**	**-0.7**
	228nm,0.2s,baz=55						
LIKS	**Likavka**	**1.35**	**173**	*e*PG	Pg	**11 23 43.0**	**+0.1**
LIKS				*e*SG	Sg	**11 24 00.6**	**+0.1**
LIKS	**Likavka**	**1.35**	**173**	*e*Pg	Pg	**11 23 43.0**	**+0.1**
LIKS				*e*Sg	Sg	**11 24 00.6**	**+0.1**
NIE	**Niedzica**	**1.35**	**135**	*e*Pg	Pg	**11 23 43.0**	**+0.1**
NIE				*e*SG	Sg	**11 24 01.1**	**+0.6**
NIE	**Niedzica**	**1.35**	**135**	*e*Pg	Pg	**11 23 43.0**	**+0.1**
NIE				*e*Sg	Sg	**11 24 01.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.62**	**269**	*e*Pn	Pn	**11 23 47.3**	**+0.4**
DPC				*e*Sg	Sn	**11 24 09.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.62**	**269**	*e*PG	Pn	**11 23 47.1**	**+0.2**
DPC				*e*SG	Sn	**11 24 08.1**	**-0.5**
DPC	**Dobruska-Polom**	**1.62**	**269**	Pn	Pn	**11 23 47.3**	**+0.4**
DPC				*e*Sg	Sn	**11 24 08.5**	**-0.1**
	baz=89						
KSP	**Ksiaz**	**1.69**	**286**	*e*Pn	Pg	**11 23 49.8**	**+0.4**
KSP				*e*Pg	Pb	11 23 53.1	+4.1
KSP				*e*Sg	Sg	**11 24 12.6**	**+1.1**
KSP	**Ksiaz**	**1.69**	**286**	*e*Pn	Pn	**11 23 48.1**	**+0.3**
KSP				*i* Pg	Pg	**11 23 49.8**	**+0.4**
KSP				*e*Sn	Sn	**11 24 10.0**	**-0.2**
KSP				*e*Sg	Sg	**11 24 11.9**	**+0.5**
KSP	**Ksiaz**	**1.69**	**286**	*e*Pn	Pb	**11 23 49.3**	**+0.2**
KSP				*e*Sg	Sg	**11 24 12.0**	**+0.6**
KSP	**Ksiaz**	**1.69**	**286**	*e*Pn	Pn	**11 23 48.1**	**+0.3**
UPC	**Upice**	**1.82**	**275**	*e*PG	Pb	**11 23 51.7**	**+0.5**
UPC	**Upice**	**1.82**	**275**	Pg	Pb	**11 23 51.7**	**+0.5**
VRAC	**Vranov**	**1.82**	**234**	Pn	Pn	**11 23 50.1**	**+0.4**
	8.0nm,0.3s,baz=58,slow=14,SNR=33						
VRAC				Lg	Lg	11 24 13.6	
	5.8nm,0.3s,baz=62,slow=18,SNR=5.4						
VRAC	**Vranov**	**1.82**	**234**	⇓*i*P	Pn	**11 23 49.5**	**-0.2**
VRAC	**Vranov**	**1.82**	**234**	*e*Pn	Pn	**11 23 49.4**	**-0.2**
	baz=54						
VRAC				S	Sn	**11 24 11.3**	**-2.1**
VRAC				*e*Sg	Sb	**11 24 14.0**	**-0.6**
	97nm,0.3s,baz=54						
STHS	**Stebnicka Huta**	**1.83**	**121**	*e*PN	Pb	**11 23 51.9**	**+0.6**
STHS				*e*SN	Sg	**11 24 16.7**	**+1.1**
STHS	**Stebnicka Huta**	**1.83**	**121**	*e*Pn	Pb	**11 23 51.9**	**+0.6**
STHS				*e*Sn	Sg	**11 24 16.7**	**+1.1**
KOLL	**Kolacno**	**1.84**	**189**	*e*PN	Pn	**11 23 49.5**	**-0.3**
KOLL				*e*SN	Sn	**11 24 12.6**	**-1.2**
KOLL	**Kolacno**	**1.84**	**189**	*e*Pn	Pn	**11 23 49.5**	**-0.3**
KOLL				*e*Sn	Sn	**11 24 12.6**	**-1.2**
VYHS	**Vyhne**	**1.90**	**180**	*e*PN	Pn	**11 23 50.0**	**-0.7**
VYHS				*e*SN	Sn	**11 24 14.0**	**-1.3**
VYHS	**Vyhne**	**1.90**	**180**	*e*Pn	Pn	**11 23 50.0**	**-0.7**
VYHS				*e*Sn	Sn	**11 24 14.0**	**-1.3**
KRUC	**Moravsky**	**2.08**	**231**	*e*Pn	Pn	**11 23 53.2**	**+0.1**
	baz=50						
KRUC				*e*Sn	Sn	**11 24 20.3**	**+0.6**
	51nm,0.3s,baz=50						
SMOL	**Smolenice**	**2.10**	**207**	*e*PN	Pn	**11 23 53.0**	**-0.4**
SMOL				*e*SN	Sn	**11 24 17.8**	**-2.4**
SMOL	**Smolenice**	**2.10**	**207**	*e*Pn	Pn	**11 23 53.0**	**-0.4**
SMOL				*e*Sn	Sn	**11 24 17.8**	**-2.4**
KECS	**Kecovo**	**2.19**	**150**	*e*PN	Pn	**11 23 54.1**	**-0.5**
KECS				*e*SN	Sn	**11 24 19.7**	**-2.7**
KECS	**Kecovo**	**2.19**	**150**	*e*Pn	Pn	**11 23 54.1**	**-0.5**
KECS				*e*Sn	Sn	**11 24 19.7**	**-2.7**
CRVS	**Cervenica-Dubn**	**2.26**	**130**	*e*PN	Pn	**11 23 55.7**	**+0.1**
CRVS				*e*SG	Sg	**11 24 30.7**	**+1.3**
CRVS	**Cervenica-Dubn**	**2.26**	**130**	*e*Pn	Pn	**11 23 55.7**	**+0.1**
CRVS				*e*Sg	Sg	**11 24 30.7**	**+1.3**
PSZ	**Piszkesteto**	**2.57**	**164**	⇑*i*P	Pn	**11 23 59.8**	**-0.1**
PSZ	**Piszkesteto**	**2.57**	**164**	*e*	Pg	**11 24 06.1**	**-0.1**
PSZ	**Piszkesteto**	**2.57**	**164**	⇑*i*P	Pn	**11 23 59.8**	**-0.1**
KWP	**Kalwaria Pacla**	**2.60**	**106**	⇑*i*P	Pg	**11 24 06.3**	**-0.4**
KWP	**Kalwaria Pacla**	**2.60**	**106**	S	Sb	**11 24 37.2**	**+0.3**
KWP	**Kalwaria Pacla**	**2.60**	**106**	S	Sb	**11 24 37.2**	**+0.3**
KOLS	**Kolonicke sedl**	**2.66**	**122**	*e*	Pn	**11 24 02.8**	**+1.7**
KOLS	**Kolonicke sedl**	**2.66**	**122**	*e*SG	Sg	**11 24 42.9**	**+0.6**
KOLS	**Kolonicke sedl**	**2.66**	**122**	*e*Sg	Sg	**11 24 42.9**	**+0.6**
PRU	**Pruhonice**	**2.80**	**263**	*e*PG	Pb	**11 24 07.4**	**-0.5**
PRU				*e*SG	Sb	**11 24 43.9**	**+1.1**
PRU	**Pruhonice**	**2.80**	**263**	Pg	Pb	**11 24 07.4**	**-0.5**
PRU				Sg	Sb	**11 24 43.9**	**+1.1**
BRG	**Berggiesshubel**	**3.17**	**281**	PG	Pg	**11 24 18.2**	**+0.6**
BRG				SG	Sg	**11 24 57.7**	**-1.0**
	47nm,0.5s						
BRG	**Berggiesshubel**	**3.17**	**281**	*e*Pg	Pg	**11 24 17.6**	**-0.1**
BRG				*e*Sg	Sg	**11 24 58.3**	**-0.3**
BRG	**Berggiesshubel**	**3.17**	**281**	Pg	Pg	**11 24 17.5**	**-0.1**
BRG				Sg	Sg	**11 24 58.3**	**-0.3**
TRPA	**Tarpa**	**3.31**	**132**	‖*e*	Pn	**11 24 11.1**	**+1.1**
TRPA	**Tarpa**	**3.31**	**132**	‖*e*P	Pn	**11 24 11.1**	**+1.1**
FBE	**Freiberg**	**3.54**	**281**	*e*Pg	Pg	**11 24 25.8**	**+0.9**
FBE	**Freiberg**	**3.54**	**281**	Pg	Pg	**11 24 25.8**	**+0.9**
KHC	**Kasperske Hory**	**3.65**	**252**	*e*PN	Pn	**11 24 14.4**	**-0.3**
KHC				*e*PG	Pb	**11 24 23.7**	**+1.4**
KHC				*e*SG	Sb	**11 25 10.9**	**+3.8**
KHC	**Kasperske Hory**	**3.65**	**252**	Pn	Pn	**11 24 14.4**	**-0.3**
KHC	**Kasperske Hory**	**3.65**	**252**	Pg	Pb	**11 24 23.7**	**+1.4**
KHC				Sg	Sb	**11 25 10.9**	**+3.8**
GEC2	**GERESS Array S**	**3.69**	**247**	*e*Pg	Pb	**11 24 25.5**	**+2.3**
GEC2				*e*Sg	Sg	**11 25 12.9**	**-2.7**
GEC2	**GERESS Array S**	**3.69**	**247**	Pg	Pb	**11 24 25.5**	**+2.3**
GEC2				Sg	Sg	**11 25 12.9**	**-2.7**
GERES	**GERESS Array B**	**3.69**	**247**	Pn	Pn	**11 24 15.3**	**-0.1**
	0.4nm,0.3s,baz=68,slow=15,SNR=11						
GERES				Pg	Pb	**11 24 24.7**	**+1.6**
	2.5nm,0.3s,baz=67,slow=17,SNR=31						
GERES				Lg	Lg	11 25 13.4	
	14nm,0.3s,baz=69,slow=24,SNR=19						
CLL	**Collm**	**3.82**	**286**	*e*Pg	Pg	**11 24 31.3**	**+1.1**
CLL				*e*Sg	Sg	**11 25 20.0**	**+0.3**
CLL	**Collm**	**3.82**	**286**	Pg	Pg	**11 24 31.3**	**+1.1**
CLL				Sg	Sg	**11 25 20.0**	**+0.3**
MOA	**Molln**	**3.95**	**232**	‖*i*Sg	Sb	**11 25 20.0**	**+4.3**
	21nm,0.4s						
MOA	**Molln**	**3.95**	**232**	Sg	Sb	**11 25 20.0**	**+4.3**
	21nm,0.4s						
WET	**Wettzell**	**4.07**	**254**	*e*Pg	Pg	**11 24 33.1**	**-1.9**
WET				*e*Sg	Sb	**11 25 23.8**	**+4.5**
WET	**Wettzell**	**4.07**	**254**	Pg	Pg	**11 24 33.1**	**-1.9**
WET				Sg	Sb	**11 25 23.8**	**+4.5**
TANN	**Tannenbergstha**	**4.09**	**273**	*e*Pn	Pn	**11 24 21.7**	**+0.9**
TANN				*e*Sg	Sg	**11 25 27.9**	**-0.5**
TANN	**Tannenbergstha**	**4.09**	**273**	Pn	Pn	**11 24 21.7**	**+0.9**
TANN				Sg	Sg	**11 25 27.9**	**-0.5**
NKC	**Novy Kostel**	**4.11**	**270**	*e*SG	Sg	**11 25 26.7**	**-2.3**
NKC	**Novy Kostel**	**4.11**	**270**	Sg	Sg	**11 25 26.7**	**-2.3**
WERD	**Werda**	**4.19**	**273**	*e*Pg	Pg	**11 24 35.9**	**-1.3**
WERD				*e*SG	Sg	**11 25 30.2**	**-1.3**
WERD	**Werda**	**4.19**	**273**	Pg	Pg	**11 24 35.9**	**-1.3**
WERD				Sg	Sg	**11 25 30.2**	**-1.3**
DRGR		**4.42**	**143**	‖*i*P	Pn	**11 24 26.1**	**+0.8**
DRGR		**4.42**	**143**	‖*i*P	Pn	**11 24 26.1**	**+0.8**
DRGR				S	Sn	**11 25 16.0**	**-1.5**
BURAR	**Bucovina Array**	**5.02**	**121**	‖*i*P	Pn	**11 24 35.1**	**+1.4**
BURAR	**Bucovina Array**	**5.02**	**121**	‖*i*P	Pn	**11 24 35.1**	**+1.4**
BURAR				S	Sn	**11 25 33.8**	**+1.4**
GZR	**Gura Zlata**	**5.65**	**151**	‖*i*P	Pn	**11 24 42.8**	**+0.5**
GZR	**Gura Zlata**	**5.65**	**151**	‖*i*P	Pn	**11 24 42.8**	**+0.5**
AKASG	**Malin Array Be**	**6.62**	**83**	Pg	Pb	**11 25 13.0**	**+0.2**
	0.5nm,0.3s,baz=270,slow=14,SNR=3.3						
AKASG				Sn	Sn	**11 26 07.0**	**-4.5**
	1.0nm,0.3s,baz=263,slow=23,SNR=3.8						
AKASG				Lg	Lg	11 26 40.9	
	1.3nm,0.3s,baz=276,slow=28,SNR=5.4						
FINES	**FINESS Array B**	**11.78**	**17**	Pn	Pn	**11 26 04.0**	**-2.2**
	0.5nm,0.3s,baz=188,slow=11,SNR=11						
KAF	**Kangasniemi**	**12.44**	**16**	*ep*	Pn	11 26 10.6	-4.5
	0.9nm,0.3s						
KAF	**Kangasniemi**	**12.44**	**16**	*ep*	Pn	11 26 10.6	-4.5
	0.9nm,0.3s						
JOF	**Joensuu**	**14.26**	**24**	*ep*	Pn	11 26 32.8	-7.1
	2.1nm,0.6s						
JOF	**Joensuu**	**14.26**	**24**	*ep*	Pn	11 26 32.8	-7.1
	2.1nm,0.6s						
ARCES	**ARCESS Array B**	**19.47**	**7**	Pn	**P**	**11 27 43.5**	**-1.4**
	0.2nm,0.3s,baz=189,slow=14,SNR=6.0						

IDC 08 11:23:31.0±4.8, 11.99S×167.08E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=239.1km s-min=31.6km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.41**	**252**	P	P	11 30 02.7	-0.2
	0.4nm,0.4s,baz=85,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**33.56**	**245**	P	P	11 30 13.2	+0.1
	0.3nm,0.4s,baz=68,slow=9.9,SNR=10						
ILAR	**Eielson Array**	**84.00**	**18**	P	P	11 36 02.9	0.0
	0.3nm,0.5s,baz=206,slow=6.0,SNR=9.0						

*NOU **08** 11:24:46.7±0.9, 19.45S×169.36E, h10km, MD2.7, ML3.6*
*ISCJB **08** 11:24:47.2±1.7, 20.0S±0.2×169.5E±0.2, h127km±15km, mb4.0/10, Error ellipse: s-maj=32.1km s-min=18.3km az=145.9*
*IDC **08** 11:24:48.0±3.7, 19.89S×169.57E, h123km±31km, mb3.8/10, mb1 4.0/11, mb1mx3.8/19, mbtmp3.8/11, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=25.2km s-min=23.1km az=98.0*

ISC 08 11:24:47.6±1.8, 20.0S±0.2×169.6E±0.2, h122km±14km, n22, σ0.95/30, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.33**	**229**	*e*P	**Pn**	**11 25 37.9**	**-0.3**
BAYA				*e*S	**Sn**	**11 26 16.6**	**-0.9**
PLUM	**Mont Dore**	**3.58**	**229**	*e*P	**Pn**	**11 25 41.5**	**-0.1**
PLUM				*e*S	**Sn**	**11 26 23.3**	**-0.1**
PLUM				AMP		11 26 29.4	
	comp=Z,245nm,1.4s						
DZM	**Mont Dzumac**	**3.60**	**234**	P	**Pn**	**11 25 43.4**	**

LSP				*e*S	Sn	11 27 34.6	-1.4	
LSP	**Las Mesas**	**1.01 162**	‖	*e*P	Pn	11 27 21.0	-1.5	
LSP				*e*S	Sn	11 27 34.6	-1.4	
CRPR	**Cabo Rojo, PR**	**1.16 166**	‖	*e*P	Pn	11 27 23.2	-1.3	
CRPR	**Cabo Rojo, PR**	**1.16 166**		*e*S	Sn	11 27 38.7	-0.8	
CRPR	**Cabo Rojo, PR**	**1.16 166**	‖	*e*P	Pn	11 27 23.2	-1.3	
CRPR				*e*S	Sn	11 27 38.7	-0.8	
CELP	**Cerrillos**	**1.32 143**	‖	*e*P	Pn	11 27 25.8	-0.7	
CELP				*e*S	Sn	11 27 43.3	0.0	
CELP	**Cerrillos**	**1.32 143**	‖	*e*P	Pn	11 27 25.8	-0.7	
CELP				*e*S	Sn	11 27 43.3	0.0	
OBIP	**Obispado Ponce**	**1.33 145**		*e*S	Sn	11 27 43.4	-0.1	
CBYP	**Canovanas**	**1.70 120**	‖	*e*P	Pn	11 27 30.9	-1.0	
CBYP	**Canovanas**	**1.70 120**	‖	*e*P	Pn	11 27 30.9	-1.0	
HUMP	**Col San Antoni**	**1.78 124**		*e*S	Sn	11 27 54.1	-0.3	
DR12	**Loma Pena Alta**	**1.90 260**	‖	*e*P	Pn	11 27 34.1	-0.4	
DR12				*e*S	Sn	11 27 57.0	-0.5	
DR12	**Loma Pena Alta**	**1.90 260**	‖	*e*P	Pn	11 27 34.1	-0.4	
DR12				*e*S	Sn	11 27 57.0	-0.5	
MTP	**Monte Pirata**	**2.04 120**	‖	*e*P	Pn	11 27 35.4	-0.9	
MTP	**Monte Pirata**	**2.04 120**		*e*S	Sn	11 28 00.1	-0.6	
MTP	**Monte Pirata**	**2.04 120**	‖	*e*P	Pn	11 27 35.4	-0.9	
MTP				*e*S	Sn	11 28 00.1	-0.6	

IDC 08 11:33:13.4±7.1, 0°86S×133°27E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=426.1km s-min=27.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**177**	P	P	11 37 36.3	-0.4
	0.3nm,0.3s,baz=358,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.68**	**178**	P	P	11 38 17.0	+0.3
	1.0nm,0.4s,baz=360,slow=12,SNR=17						
MKAR	**Makanchi Array**	**65.06**	**324**	P	P	11 43 55.6	-0.1
	0.1nm,0.4s,baz=130,slow=6.0,SNR=5.5						

*IDC **08** 11:36:12.5±1.1, 13°.02N×87°.43W, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/23, mbtmp3.9/10, ML3.3/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/33, Error ellipse: s-maj=45.8km s-min=14.6km az=50.0*

*ISCJB **08** 11:36:17.4±0.5, 12°.50N±0°.06×87°.94W±0°.05, h74km±5km, mb3.9/8, Error ellipse: s-maj=11.5km s-min=4.2km az=35.4*

*CASC **08** 11:36:18.0±1.9, 12°.46N×87°.98W, h38km±326km, MD4.2, ML4.5*

ISC 08 11:36:16.9±0.7, 12°.49N±0°.06×87°.89W±0°.05, h51km±9km, n36, σ1§80/45, mb4.0/8, 2C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.78**	**4**	‖ *i* P	**Pn**	**11 36 33.4**	**+1.6**
CNCH				*e*S	**Sn**	**11 36 45.4**	**+2.7**
BLLM	**Bellamira**	**1.00**	**340**	*i* P	**Pn**	**11 36 35.6**	**+0.9**
BLLM				*e*S	**Sn**	**11 36 49.9**	**+2.1**
CAHU	**Cacacuatique**	**1.31**	**346**	‖ *i* P	**Pn**	**11 36 40.7**	**+1.7**
CAHU				*e*S	**Sn**	**11 36 58.9**	**+3.5**
SNVI	**San Vicente**	**1.44**	**320**	‖ *i* P	**Pn**	**11 36 41.3**	**+0.5**
SNVI				*e*S	**Sn**	**11 36 59.3**	**+0.6**
LFRS	**El Faro**	**1.60**	**315**	‖ *i* P	**Pn**	**11 36 43.3**	**+0.4**
LBRS	**Las Brisas**	**1.67**	**318**	*i* P	**Pn**	**11 36 44.8**	**+1.0**
SNET	**Serv Nac Est T**	**1.76**	**312**	*e*P	**Pn**	**11 36 45.6**	**+0.6**
SNET				AML	AML	11 37 09.8	
	comp=Z,7μm,0.2s						
BOQS	**Boqueron**	**1.83**	**313**	*i* P	**Pn**	**11 36 46.7**	**+0.6**
BOQS				*e*S	**Sn**	**11 37 09.3**	**+1.1**
SBLS	**San Blas**	**2.15**	**309**	*i* P	**Pn**	**11 36 51.1**	**+0.6**
SBLS				*e*S	**Sn**	**11 37 16.8**	**+0.6**
SNJE	**San Jose**	**2.16**	**309**	*i* P	**Pn**	**11 36 51.3**	**+0.7**
SNJE				*e*S	**Sn**	**11 37 17.2**	**+1.0**
RTR	**El Retiro**	**2.20**	**309**	*i* P	**Pn**	**11 36 52.1**	**+0.9**
RBDL	**Robledal**	**2.37**	**313**	‖ *i* P	**Pn**	**11 36 54.7**	**+1.1**
NBG	**Las Nubes**	**3.17**	**311**	*e*P	Pn	11 37 09.2	+4.7
NBG				*e*S	**Sn**	**11 37 36.3**	**-4.8**
PCG	**Pacaya**	**3.25**	**306**	*e*P	Pn	11 37 08.6	+3.0
PCG				*e*S	**Sn**	**11 37 41.8**	**-1.4**
FUG	**Fuego 3**	**3.46**	**304**	*e*P	**Pn**	**11 37 10.1**	**+1.6**
FUG				*e*S	**Sn**	**11 37 47.2**	**-1.1**
FG6		**3.56**	**306**	*e*P	**Pn**	**11 37 11.8**	**+1.9**
FG6				*e*S	**Sn**	**11 37 49.2**	**-1.7**
JTS	**JuntasAbangare**	**3.62**	**127**	Pn	**Pn**	**11 37 11.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=339,slow=23,SNR=4.0						
JTS				Pg		11 37 18.6	
	comp=Z,30nm,0.3s,baz=304,slow=15,SNR=48						
JTS				Lg	Lg	11 38 08.6	
	comp=Z,49nm,0.3s,baz=266,slow=22,SNR=7.1						
JCR	**Jicaral**	**3.79**	**134**	*e*P	**Pn**	**11 37 14.7**	**+1.9**
TP2	**Tecpan 2**	**3.80**	**307**	*e*P	**Pn**	**11 37 14.5**	**+1.2**
TP2				*e*S	**Sn**	**11 37 53.5**	**-3.4**
JAT	**Jato**	**4.07**	**297**	*e*P	**Pn**	**11 37 18.0**	**+1.4**
JAT				*e*S	**Sn**	**11 38 05.3**	**+2.3**
QCR	**Quepos**	**4.76**	**129**	*e*P	Pn	11 37 29.1	+3.0
QCR				*e*S	**Sn**	**11 38 19.3**	**-0.8**
URSC	**Urasca**	**4.83**	**123**	*e*P	Pn	11 37 32.2	+5.1
URSC				*e*S	**Sn**	**11 38 23.4**	**+1.5**
BUS	**Buena Vista**	**5.00**	**125**	*e*P	Pn	11 37 33.4	+3.6
BUS				*e*S	**Sn**	**11 38 24.5**	**-2.1**
ACR	**Cerro Adams**	**6.01**	**129**	*e*P	Pn	11 37 46.3	+3.0
TEIG	**Tepich**	**7.70**	**357**	Pn	Pn	11 38 10.2	+3.8
	comp=Z,1.7nm,0.3s,baz=164,slow=5.6,SNR=14						
TEIG				LR	LR	11 41 23.5	
	comp=Z,44nm,21.0s,baz=119,slow=43						
CMIG	**Matias Romero**	**8.16**	**305**	Pn	**Pn**	**11 38 15.3**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=144,slow=10.0,SNR=16						
CMIG				Sn	**Sn**	**11 39 45.7**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=64,slow=16,SNR=4.2						
CMIG				Lg	Lg	11 40 27.0	
	comp=Z,1.1nm,0.3s,baz=90,slow=20,SNR=4.0						
TXAR	**Lajitas Array**	**22.27**	**321**	P	**P**	**11 41 11.0**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=134,slow=9.2,SNR=99						
LPAZ	**La Paz**	**34.64**	**145**	LR	LR	11 56 41.7	
	comp=Z,20nm,18.9s,baz=46,slow=35						
PDAR	**Pinedale Array**	**35.53**	**332**	P	**P**	**11 43 09.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=125,slow=9.7,SNR=9.2						
NVAR	**Mina Array Bea**	**37.39**	**319**	P	**P**	**11 43 27.6**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=132,slow=7.4,SNR=8.2						
NVAR				PcP	**PcP**	**11 45 44.7**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=154,slow=4.3,SNR=4.1						
ULM	**Lac du Bonnet**	**38.21**	**352**	P	**P**	**11 43 30.5**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=169,slow=9.1,SNR=6.5						
SCHQ	**Schefferville**	**45.36**	**17**	P	**P**	**11 44 28.2**	**-1.8**
	comp=Z,5.3nm,0.9s,baz=330,slow=6.0,SNR=9.5						
YKA	**Yellowknife Ar**	**53.46**	**345**	P	**P**	**11 45 30.6**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=139,slow=7.7,SNR=18						
DLBC	**Dease Lake**	**55.68**	**335**	P	**P**	**11 45 48.4**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=122,slow=6.9,SNR=4.0						
ILAR	**Eielson Array**	**65.81**	**336**	P	**P**	**11 46 55.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=146,slow=5.6,SNR=7.8						
BBTS	**Babate**	**69.13**	**79**	LR	LR	12 10 46.5	
	comp=Z,76nm,21.9s,baz=310,slow=30						

*BJI **08** 11:40:35.9, 1°.25N×96°.71E, h6km, mB5.0/34, mb4.8/50, Ms4.7/42, Ms7 4.4/43*

*IDC **08** 11:40:42.4±0.7, 2°.06N×96°.76E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.4/28, mbtmp4.5/19, ML4.6/1, MS4.1/13, Ms1 4.1/13, ms1mx3.8/43, Error ellipse: s-maj=25.9km s-min=12.7km az=50.0*

*NEIC **08** 11:40:43.5±0.3, 1°.88N×96°.72E, h10km, mb5.0/26, Error ellipse: s-maj=9.5km s-min=5.4km az=49.0*

*ISCJB **08** 11:40:44.1±1.1, 1°.89N±0°.05×96°.64E±0°.04, h25km±7km, mb4.8/77, MS4.3/29, Error ellipse: s-maj=8.9km s-min=5.2km az=36.1*

*MOS **08** 11:40:45.5±1.0, 2°.04N×96°.86E, h33km, mb5.0/33, MS4.3/4, Error ellipse: s-maj=12.5km s-min=6.0km az=102.3*

*DJA **08** 11:40:48, 2°.03N×96°.76E, h30km, MLv4.8/8*

ISC 08 11:40:44.9±0.5, 1°.96N±0°.05×96°.62E±0°.06, h17km±1km, h16km:pP-P, n223, σ1§53/264, mb4.9/77, MS4.3/30, 10C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.41**	**23**	P	**Pn**	**11 41 09.4**	**-0.4**
PSI	**Prapat**	**2.45**	**70**	P	**Pn**	**11 41 24.0**	**-0.2**
TSI	**Tuntungan**	**2.47**	**52**	P	**Pn**	**11 41 25.8**	**+1.3**
MNSI	**Mandailing Nat**	**3.17**	**111**	P	**Pn**	**11 41 34.6**	**+0.4**
LHMI	**Lhok Sumawe**	**3.26**	**6**	P	**Pg**	**11 41 49.2**	**+1.7**
BSI	**Banda Aceh**	**3.75**	**339**	P	**Pn**	**11 41 42.4**	**+0.3**
PPI	**Padang Panjang**	**4.47**	**122**	P	**Pn**	**11 41 53.7**	**+1.7**
IPM	**Ipoh**	**5.06**	**60**	*e*Pn	**Pn**	**11 42 00.8**	**+0.7**
IPM	**Ipoh**	**5.06**	**60**	P	**Pn**	**11 42 01.0**	**+0.9**
IPM	**Ipoh**	**5.06**	**60**	P	**Pn**	**11 42 00.6**	**+0.5**
FRIM	**Kepong**	**5.16**	**76**	P	**Pn**	**11 42 02.1**	**+0.7**
KULM	**Kulim**	**5.20**	**50**	*e*Pn	**Pn**	**11 42 02.4**	**+0.3**
KULM	**Kulim**	**5.20**	**50**	P	**Pn**	**11 42 02.7**	**+0.6**
KULM	**Kulim**	**5.20**	**50**	P	**Pn**	**11 42 02.2**	**+0.1**
	209nm,1.0s,2μm0.9nm						
KGM	**Kluang**	**6.69**	**89**	P	**Pn**	**11 42 23.3**	**+0.7**
MYKOM	**Kota Tinggi**	**7.23**	**91**	P	**Pn**	**11 42 30.7**	**+0.8**
KSM	**Kuching**	**13.69**	**92**	P	**Pn**	**11 43 59.2**	**+0.7**
STKI	**Sintang**	**14.97**	**97**	P	**P**	**11 44 24.5**	**+3.1**
SBUM	**Sibu**	**15.59**	**88**	P	**Pn**	**11 44 25.0**	**+0.8**
BTM	**Bintulu**	**16.49**	**85**	P	**Pn**	**11 44 36.3**	**+0.6**
CM31	**Chiang Mai Arr**	**16.55**	**8**	*e*Pn	**P**	**11 44 37.9**	**-1.0**
	27nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.55**	**8**	Pn	**Pn**	**11 44 35.2**	**-1.2**
	0.8nm,0.3s,baz=198,slow=12,SNR=78						
CMAR				LR	LR	11 51 13.0	
	comp=Z,506nm,21.5s,baz=191,slow=38						
CMAR	**Chiang Mai Arr**	**16.55**	**8**	P	**Pn**	**11 44 35.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**16.55**	**8**	Pn	**Pn**	**11 44 35.2**	**-1.2**
CHTO	**Chiang Mai**	**16.90**	**8**	*e*P	**Pn**	**11 44 39.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,32nm,1.3s						
CHTO	**Chiang Mai**	**16.90**	**8**	*e*Pn	**Pn**	**11 44 39.9**	**-1.0**
	comp=Z,32nm,1.3s						
CHTO	**Chiang Mai**	**16.90**	**8**	P	**Pn**	**11 44 40.5**	**-0.4**
	comp=Z,23nm,1.1s						
KKM	**Kota Kinabalu**	**19.96**	**78**	P	**P**	**11 45 17.0**	**+0.4**
KDM	**Kudat**	**20.74**	**76**	P	**P**	**11 45 25.5**	**+0.5**
SDKM	**Sandakan**	**20.85**	**79**	P	**P**	**11 45 26.8**	**+0.6**
QIZ	**Qiongzhong**	**21.34**	**36**	P	**P**	**11 45 32.1**	**+0.7**
QIZ				S	**S**	**11 49 31.5**	**+3.5**
QIZ				LR	LR		
	comp=N,890nm,16.5s						
QIZ				LR	LR		
	comp=Z,850nm,15.3s						
TSM	**Tawau**	**21.34**	**83**	P	**P**	**11 45 32.2**	**+0.7**
MYLDM	**Lahad Datu**	**22.07**	**81**	P	**P**	**11 45 39.9**	**+0.6**
MYLDM	**Lahad Datu**	**22.07**	**81**	P	**P**	**11 45 40.4**	**+1.1**
	comp=Z,92nm,1.2s						
HYB	**Hyderabad**	**23.48**	**312**	*i* P	**P**	**11 45 54.0**	**0.0**
HYB				*e*S	**S**	**11 50 12.0**	**+4.8**
KMI	**Kunming**	**23.77**	**14**	P	**P**	**11 45 58.0**	**+1.0**
KMI				pP	**pP**	**11 46 02.2**	**+0.1**
KMI				sP	**sP**	**11 46 03.4**	**-0.8**
KMI				PP	**PnPn**	**11 46 31.9**	**+6.9**
KMI				S	**S**	**11 50 13.2**	**+1.1**
KMI				sS	**sS**	**11 50 18.4**	**-2.1**
KMI				SS	SS	11 51 02.9	
KMI				pmax	pmax		
	comp=Z,18nm,1.3s						
KMI				pmax	pmax		
	comp=Z,100nm,3.1s						
KMI				LR	LR		
	comp=N,620nm,13.2s						
KMI				LR	LR		
	comp=E,720nm,16.6s						
KMI				LR	LR		
	comp=Z,630nm,14.0s						
SHL	**Shillong**	**23.91**	**349**	*e*P	**P**	**11 45 57.0**	**-1.3**
SHL				*e*S	**S**	**11 50 14.0**	**-0.2**
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**11 45 59.4**	**-0.8**
	comp=Z,9.8nm,0.9s,baz=299,slow=18,SNR=4.1						
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**11 45 59.4**	**-0.8**
GYA	**Guiyang**	**26.20**	**21**	P	**P**	**11 46 19.7**	**+0.6**
GYA				PP	PP	11 47 04.9	
GYA				S	**S**	**11 50 52.3**	**+1.6**
GYA				SS	SnSn	11 52 01.8	+12
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,640nm,15.8s						
GYA				LR	LR		
	comp=E,580nm,16.0s						
GYA				LR	LR		
	comp=Z,610nm,15.9s						
ODAN	**Odare**	**26.30**	**341**	*e*P	**P**	**11 46 21.2**	**+1.1**
ODAN	**Odare**	**26.30**	**341**	*e*P	**P**	**11 46 21.2**	**+1.1**
RAMN	**Ramite**	**26.64**	**340**	*e*P	**P**	**11 46 25.0**	**+1.8**
	comp=Z,31nm,0.6s						
RAMN	**Ramite**	**26.64**	**340**	*e*P	**P**	**11 46 25.0**	**+1.8**
	comp=Z,31nm,0.6s						
TAPN	**Taplejung**	**26.65**	**342**	*e*P	**P**	**11 46 24.8**	**+1.4**
	comp=Z,75nm,1.0s						
TAPN	**Taplejung**	**26.65**	**342**	*e*P	**P**	**11 46 24.8**	**+1.4**
	comp=Z,75nm,1.0s						
JIRN	**Jiri**	**27.44**	**340**	*e*P	**P**	**11 46 31.8**	**+1.3**
	comp=Z,56nm,0.7s						
JIRN	**Jiri**	**27.44**	**340**	*e*P	**P**	**11 46 31.8**	**+1.3**
	comp=Z,56nm,0.7s						
PKI	**Pulchoki**	**27.64**	**338**	*e*P	**P**	**11 46 33.1**	**+0.8**
PKI	**Pulchoki**	**27.64**	**338**	*e*P	**P**	**11 46 33.1**	**+0.8**
PKI	**Pulchoki**	**27.64**	**338**	*e*P	**P**	**11 46 33.1**	**+0.8**
GUN	**Gumba**	**27.77**	**339**	*e*P	**P**	**11 46 34.9**	**+1.4**
	comp=Z,64nm,0.7s						
GUN	**Gumba**	**27.77**	**339**	*e*P	**P**	**11 46 34.9**	**+1.4**
	comp=Z,64nm,0.7s						
DMN	**Daman**	**27.79**	**338**	*e*P	**P**	**11 46 35.4**	**+1.9**
DMN	**Daman**	**27.79**	**338**	*e*P	**P**	**11 46 35.4**	**+1.9**
KKN	**Kakani**	**27.88**	**338**	*e*P	**P**	**11 46 35.2**	**+0.9**
KKN	**Kakani**	**27.88**	**338**	*e*P	**P**	**11 46 35.2**	**+0.9**
KKN	**Kakani**	**27.88**	**338**	*e*P	**P**	**11 46 35.2**	**+0.9**
LSA	**Lhasa**	**28.07**	**350**	P	**P**	**11 46 37.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,30nm,0.9s						
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**11 46 36.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**11 46 36.8**	**+0.5**
	comp=Z,18nm,0.9s						
GKN	**Gorkha**	**28.32**	**337**	*e*P	**P**	**11 46 39.4**	**+1.2**
	comp=Z,28nm,0.7s						
GKN	**Gorkha**	**28.32**	**337**	*e*P	**P**	**11 46 39.4**	**+1.2**
	comp=Z,28nm,0.7s						
KOLN	**Koldanda**	**28.53**	**335**	*e*P	**P**	**11 46 41.7**	**+1.6**
	comp=Z,32nm,0.6s						
KOLN	**Koldanda**	**28.53**	**335**	*e*P	**P**	**11 46 41.7**	**+1.6**
	comp=Z,32nm,0.6s						
SGSI	**Sangihe**	**28.92**	**86**	P	**P**	**11 46 46.2**	**+2.7**
	comp=Z,2μm,0.4s,comp=Z,31μm						
DANN	**Dangsing**	**28.97**	**336**	*e*P	**P**	**11 46 45.3**	**+1.2**
	comp=Z,26nm,0.7s						
DANN	**Dangsing**	**28.97**	**336**	*e*P	**P**	**11 46 45.3**	**+1.2**
	comp=Z,26nm,0.6s						
CD2	**Chengdu**	**29.57**	**12**	P	P	11 46 52.8	+3.7
CD2				pP	pP	11 46 57.2	+2.9
CD2				sP	sP	11 46 59.8	+3.4
CD2				PP	**PnPn**	**11 47 50.0**	**+6.0**
CD2				S	**S**	**11 51 48.6**	**+5.0**
CD2				sS	sS	11 51 55.4	+3.3
CD2				SS	SnSn	11 53 23.9	+12
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.7s						
CD2				LR	LR		
	comp=N,1μm,16.6s						
CD2				LR	LR		
	comp=Z,500nm,11.3s						
ENH	**Enshi**	**30.69**	**22**	*e*P	**P**	**11 46 58.2**	**-0.8**
	comp=Z,12nm,0.8s						
WHN	**Wuhan**	**33.02**	**29**	‖ P	**P**	**11 47 19.4**	**0.0**
WHN				S	**S**	**11 52 41.8**	**+4.4**
WHN				LR	LR		
	comp=Z,1μm,13.2s						
XAN	**Xi'an**	**33.92**	**18**	P	**P**	**11 47 25.5**	**-1.8**
XAN				pP	**pP**	**11 47 30.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,20nm,5.6s						
LZH	**Lanzhou**	**34.61**	**10**	*e*P	**P**	**11 47 33.1**	**-0.3**
LZH				pP	**pP**	**11 47 37.0**	**-1.6**
LZH				sP	**sP**	**11 47 39.4**	**-1.3**
LZH				*e*S	**S**	**11 53 01.4**	**-0.9**
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,97nm,4.4s						
LZH				LR	LR		
	comp=N,390nm,14.9s						
LZH				LR	LR		
	comp=E,660nm,15.7s						
LZH				LR	LR		
	comp=Z,680nm,16.4s						
FITZ	**Fitzroy Crossi**	**34.84**	**126**	LR	LR	12 03 23.9	
	comp=Z,154nm,18.3s,baz=306,slow=39						
FITZ	**Fitzroy Crossi**	**34.84**	**126**	P	**P**	**11 47 32.9**	**-2.5**
NJ2	**Nanjing**	**36.53**	**33**	*e*P	**P**	**11 47 49.8**	**0.0**
NJ2				pP	**pP**	**11 47 52.6**	**-2.3**
NJ2				sP	**sP**	**11 47 53.9**	**-3.1**
NJ2				PP	**PP**	**11 49 13.7**	**+0.6**
NJ2				S	**S**	**11 53 34.0**	**+2.5**
NJ2				sS	**sS**	**11 53 40.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,10.4s						
NJ2				LR	LR		
	comp=N,430nm,11.9s						
NJ2				LR	LR		
	comp=E,390nm,12.5s						
NJ2				LR	LR		
	comp=Z,420nm,10.9s						
GTA	**Gaotai**	**37.39**	**4**	*e*P	**P**	**11 47 57.0**	**-0.1**
GTA				pP	**pP**	**11 48 01.4**	**-0.9**
GTA				sP	**sP**	**11 48 04.7**	**+0.3**
GTA				S	**S**	**11 53 45.2**	**+0.5**
GTA				SS	**SnSn**	**11 56 23.2**	**+1.3**
GTA				pmax	pmax		
	comp=Z,32nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,6.7s						
GTA				LR	LR		
	comp=N,160nm,14.5s						
GTA				LR	LR		
	comp=E,230nm,13.8s						
GTA				LR	LR		
	comp=Z,190nm,19.0s						
JOW	**Kunigami**	**39.15**	**48**	LR	LR	12 03 08.7	
	comp=Z,159nm,19.6s,baz=116,slow=34						
HHC	**Hu-ho-hao-te**	**41.00**	**17**	*e*P	**P**	**11 48 27.7**	**+0.4**
HHC				sP	**sP**	**11 48 35.1**	**+0.5**
HHC				PP	**PnPn**	**11 50 06.6**	**+0.2**
HHC				S	**S**	**11 54 41.1**	**+2.1**
HHC				SS	**SS**	**11 57 39.9**	**-1.5**
HHC				ScS	**ScS**	**11 58 28.7**	**-3.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=N,440nm,12.9s						
HHC				LR	LR		
	comp=E,390nm,14.2s						
HHC				LR	LR		
	comp=Z,340nm,13.7s						
KSH	**Kashi**	**41.84**	**336**	*e*P	**P**	**11 48 33.7**	**-0.6**
KSH				*e*pP	**pP**	**11 48 37.6**	**-1.9**
KSH				*e*sP	**sP**	**11 48 40.5**	**-1.1**
KSH				*e*PP	**PP**	**11 50 13.6**	**+2.4**
KSH				*e*PcP	**PcP**	**11 50 29.6**	**-0.5**
KSH				*e*ScP	**ScP**	**11 54 18.5**	**-1.5**
KSH				*e*PcS	**PcS**	**11 54 20.1**	**-1.6**
KSH				*e*S	**S**	**11 54 50.0**	**-1.6**
KSH				*e*ScS	**ScS**	**11 58 34.0**	**-3.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,54nm,4.4s						
KSH				LR	LR		
	comp=N,190nm,5.4s						
KSH				LR	LR		
	comp=E,220nm,5.5s						
KSH				LR	LR		
	comp=Z,210nm,5.9s						
BJI	**Beijing**	**41.86**	**23**	P	**P**	**11 48 35.0**	**+0.8**
BJI				pmax	pmax		
	comp=Z,33nm,1.4s						
BJI				LR	LR		
	comp=N,560nm,16.4s						
BJI				LR	LR		
	comp=E,250nm,14.0s						
BJI				LR	LR		
	comp=Z,230nm,17.5s						
WMQ	**Urumqi**	**42.43**	**350**	*e*P	**P**	**11 48 39.6**	**+0.7**
WMQ				pP	**pP**	**11 48 44.1**	**-0.1**
WMQ				sP	**sP**	**11 48 46.6**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,18nm,1.2s						
WMQ				LR	LR		
	comp=N,130nm,20.5s						
WMQ				LR	LR		
	comp=E,240nm,25.0s						
WMQ				LR	LR		
	comp=Z,130nm,21.2s						
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**11 48 42.6**	**-0.7**
	comp=Z,6.1nm,0.8s,baz=302,slow=9.1,SNR=24						
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**11 48 42.6**	**-0.7**
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**11 48 42.6**	**-0.7**
WRAB	**Tennant Creek**	**42.93**	**122**	*e*P	**P**	**11 48 40.8**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**42.93**	**122**	*e*P	**P**	**11 48 40.8**	**-2.5**
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**42.94**	**122**	*e*P	**P**	**11 48 41.8**	**-1.6**
ASAR	**Alice Springs**	**44.31**	**127**	P	**P**	**11 48 53.9**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=300,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**44.31**	**127**	P	**P**	**11 48 53.9**	**-0.5**
ASAR	**Alice Springs**	**44.31**	**127**	P	**P**	**11 48 53.9**	**-0.5**
TKM2	**Tokmak 2**	**44.90**	**338**	P	**P

comp=Z,165nm,19.9s,baz=160,slow=41
MKAR Makanchi Array 46.37 346 *ce*P **P** **11 49 10.8 +0.5**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 46.37 346 *e*P **P** **11 49 10.9 +0.5**
SONM Songino Array 46.47 9 P **P** **11 49 10.8 -0.4**
comp=Z,8.8nm,0.7s,baz=189,slow=8.7,SNR=71
SONM PcP **PcP** **11 50 45.8 0.0**
comp=Z,1.7nm,0.7s,baz=199,slow=4.4,SNR=6.2
SONM Songino Array 46.47 9 P **P** **11 49 10.8 -0.4**
SONM 11 50 45.8
SONM Songino Array 46.47 9 P **P** **11 49 10.8 -0.4**
SONM PcP **PcP** **11 50 45.8 0.0**
SNY Shenyang 46.50 28 ⇓P **P** **11 49 11.0 -0.4**
SNY S **S** **11 55 54.1 -4.9**
SNY pmax pmax
comp=Z,13nm,0.8s
SNY pmax pmax
comp=Z,160nm,4.2s
SNY LR LR
comp=N,210nm,3.3s
SNY LR LR
comp=E,120nm,4.1s
SNY LR LR
comp=Z,140nm,4.2s
ULN Ulaanbaatar 46.61 10 *e*P **P** **11 49 12.4 0.0**
ULN pmax pmax
comp=Z,13nm,1.1s
ULN Ulaanbaatar 46.61 10 *e*P **P** **11 49 12.4 0.0**
comp=Z,13nm,1.1s
KKAR Karatay Array 47.12 334 *e*P **P** **11 49 17.1 +0.8**
KKAR Karatay Array 47.12 334 *e*P **P** **11 49 17.1 +0.8**
ZAK Zakamensk 48.58 6 *e*P **P** **11 49 25.8 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
CN2 Changchun 48.90 28 *e*P **P** **11 49 29.1 -0.9**
CN2 *es*P **sP** **11 49 36.0 -1.3**
CN2 *e*S **S** **11 56 33.0 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,14.0s
MOY Mondy 49.67 4 *e*P P 11 49 43.7 +7.8
TLY Talaya 49.90 6 *e*P P 11 49 45.6 +8.1
TLY *e* 11 51 37.8
TLY *e*S S 11 57 02.7 +16
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,186nm,16.0s
KURK Kurchatov 50.91 345 P **P** **11 49 45.4 +0.2**
comp=Z,6.7nm,0.8s,baz=164,slow=6.9,SNR=56
KURK Kurchatov 50.91 345 *c*P **P** **11 49 45.8 +0.6**
KURK pmax pmax
comp=Z,27nm,1.7s
KURK Kurchatov 50.91 345 P **P** **11 49 45.4 +0.2**
KURK Kurchatov 50.91 345 P **P** **11 49 45.3 +0.2**
comp=Z,80nm,0.9s,SNR=8.3
MTSU Mount Surprise 51.01 115 *e*P **P** **11 49 46.7 +0.2**
comp=Z,33nm,1.1s
HIA Hailar 51.11 19 *e*P **P** **11 49 46.8 0.0**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 51.11 19 *e*P **P** **11 49 46.8 0.0**
comp=Z,9.7nm,0.9s
MDJ Mudanjiang 51.49 30 P **P** **11 49 49.6 -0.1**
MDJ pP **pP** **11 49 52.8 -2.2**
MDJ sP **sP** **11 49 54.0 -3.0**
MDJ ScP **ScP** **11 54 59.8 -0.2**
MDJ PcS **PcS** **11 55 01.2 -0.3**
MDJ S **S** **11 57 11.4 +2.2**
MDJ sS **sS** **11 57 16.8 -1.2**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,58nm,3.8s
MDJ LR LR
comp=N,280nm,16.6s
MDJ LR LR
comp=E,220nm,16.5s
MDJ LR LR
comp=Z,470nm,15.9s
MAJO Matsushiro 51.52 43 *e*P **P** **11 49 49.8 -0.3**
MAJO pmax pmax
comp=Z,19nm,1.3s
MAJO Matsushiro 51.52 43 *e*P **P** **11 49 49.8 -0.3**
comp=Z,19nm,1.3s
MAT Matsushiro 51.52 43 P **P** **11 49 49.2 -0.9**
MAT S **S** **11 57 09.0 -1.0**
MJAR Matsushiro Arr 51.53 43 P **P** **11 49 48.8 -1.3**
comp=Z,5.5nm,0.9s,baz=215,slow=6.9,SNR=12
MJAR LR LR 12 12 33.5
comp=Z,137nm,19.7s,baz=250,slow=37
MJAR Matsushiro Arr 51.53 43 P **P** **11 49 48.8 -1.3**
MJAR Matsushiro Arr 51.53 43 P **P** **11 49 48.8 -1.3**
PMG Port Moresby 51.59 104 P **P** **11 49 50.4 -0.5**
comp=Z,28nm,0.8s,baz=275,slow=4.0,SNR=12
PMG Port Moresby 51.59 104 *e*P **P** **11 49 49.4 -1.5**
PMG pmax pmax
comp=Z,18nm,0.7s
PMG Port Moresby 51.59 104 *e*P **P** **11 49 49.8 -1.1**
comp=Z,26nm,0.8s
USRK Ussuriysk Arra 52.43 32 P **P** **11 49 54.0 -2.6**
comp=Z,4.2nm,0.7s,baz=184,slow=7.6,SNR=11
USRK LR LR 12 14 17.6
comp=Z,286nm,19.4s,baz=26,slow=39
ZAA0 Zalesovo Array 52.72 351 *e*P **P** **11 49 59.0 +0.4**
ZALV Zalesovo Beam 52.72 351 P **P** **11 49 59.1 +0.5**
comp=Z,24nm,0.7s,baz=180,slow=6.3,SNR=115
ZALV LR LR 12 16 44.0
comp=Z,78nm,18.5s,baz=200,slow=41
ZALV Zalesovo Beam 52.72 351 P **P** **11 49 59.1 +0.5**
ZALV Zalesovo Beam 52.72 351 P **P** **11 49 59.1 +0.5**
CTA Charters Tower 53.36 117 P **P** **11 50 03.2 -0.7**
comp=Z,7.2nm,0.8s,baz=259,slow=11,SNR=5.9
CTA Charters Tower 53.36 117 *e*P **P** **11 50 03.7 -0.2**
comp=Z,11nm,1.3s
CTA Charters Tower 53.36 117 P **P** **11 50 03.2 -0.7**
CTA Charters Tower 53.36 117 P **P** **11 50 03.2 -0.7**
NVS Novosibirsk 53.83 350 ⇑*i*P **P** **11 50 05.5 -1.3**
NVS *e*S **S** **11 57 38.4 -2.4**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
NVS smax smax
comp=N,5.0nm,1.2s
NVS smax smax
comp=E,6.0nm,1.2s
QLP Quilpie 53.97 125 *e*P **P** **11 50 09.3 +1.0**
STKA Stephens Creek 54.29 132 P **P** **11 50 10.6 0.0**
comp=E,1.4nm,0.6s,baz=301,slow=13,SNR=4.1
STKA Stephens Creek 54.29 132 *e*P **P** **11 50 10.4 -0.2**
comp=E,4.2nm,0.8s
STKA Stephens Creek 54.29 132 P **P** **11 50 10.6 0.0**
STKA Stephens Creek 54.29 132 P **P** **11 50 10.6 0.0**
VOSK Vostochnaya 54.90 341 P **P** **11 50 14.1 -0.5**
VOSK pmax pmax
comp=Z,18nm,1.2s
BVA0 Borovoye Array 55.35 341 P **P** **11 50 17.4 -0.4**
BVA0 pmax pmax
comp=Z,13nm,2.5s
BRVK Borovoye 55.41 341 *ce*P **P** **11 50 18.5 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 55.41 341 *e*P **P** **11 50 17.9 -0.3**
comp=Z,11nm,1.0s
ZRNK Zerenda 55.74 340 P **P** **11 50 20.8 +0.1**
ZRNK pmax pmax
comp=Z,12nm,1.3s
KLR Kul'dur 55.84 27 *e*P **P** **11 50 18.6 -2.8**
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s
AB31 Akbulak array 56.58 332 P **P** **11 50 26.8 +0.1**
AB31 pmax pmax
comp=Z,14nm,0.9s
ABKAR Akbulak array 56.58 332 *e*P **P** **11 50 27.0 +0.4**

HABR Khabarovsk 56.88 30 *de*P **P** **11 50 26.2 -2.6**
HABR *e**PP **pP** **11 50 36.4 +2.2**
HABR *e**SP **sP** **11 50 40.6 +4.3**
HABR *e* 11 51 21.4
HABR *e* 11 52 32.5
HABR *e**SS **sS** **11 58 35.4 +4.7**
HABR *e* 12 00 12.6
HABR *e*SS **SS** **12 02 08.5 -1.8**
HABR pmax pmax
comp=N,16nm,1.5s
HABR pmax pmax
comp=Z,13nm,0.8s
HABR pmax pmax
comp=E,32nm,2.3s
HABR MLR MLR
comp=Z,154nm,16.0s
BOD Bodaibo 57.37 11 ⇓*i*P **P** **11 50 31.7 -0.5**
BOD pmax pmax
comp=Z,13nm,1.2s
AKTO Aktyubinsk 58.29 332 P **P** **11 50 37.6 -1.2**
comp=Z,2.2nm,0.8s,baz=120,slow=7.2,SNR=9.0
AKTO Aktyubinsk 58.29 332 P **P** **11 50 37.6 -1.2**
AKTO Aktyubinsk 58.29 332 P **P** **11 50 37.6 -1.2**
CLNS Chul'man 59.19 18 *e*P **P** **11 50 45.2 +0.2**
CLNS pmax pmax
comp=Z,10.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS pmax pmax
comp=N,6.0nm,0.7s
YSS Yuzh-Sakhalins 60.05 35 ⇓*e*P **P** **11 50 51.8 +0.8**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 60.05 35 *e*P **P** **11 50 50.0 -1.0**
comp=Z,25nm,1.0s
YUK Yuzh-Kuril'sk 60.38 39 *ci*P Px 11 51 07.4
YUK *i* 11 53 06.3
YUK S S 11 59 34.3 +27
YUK MLR MLR
comp=E,239nm,18.0s
YUK MLR MLR
comp=Z,200nm,18.0s
YUK MLR MLR
comp=N,263nm,18.0s
SVE Sverdlovsk 61.77 338 ⇑*i*P **P** **11 51 03.3 +0.8**
SVE pmax pmax
comp=Z,15nm,1.1s
ARU Arti 62.26 337 *di*P **P** **11 51 05.4 -0.4**
ARU 11 53 21.3
ARU S **S** **11 59 30.4 -0.7**
ARU SS **SS** **12 03 31.7 -2.8**
ARU pmax pmax
comp=Z,26nm,2.5s
ARU Arti 62.26 337 *e*P **P** **11 51 05.7 -0.2**
comp=Z,8.2nm,1.0s
KIV Kislovodsk 63.36 319 *e*P **P** **11 51 15.1 +1.6**
KIV pmax pmax
comp=Z,4.0nm,0.8s
EIL Elat 64.56 302 LR LR 12 21 51.3
comp=Z,283nm,18.2s,baz=266,slow=38
YAK Yakutsk 64.86 17 *e*P **P** **11 51 21.6 -1.3**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.0s
YAK MLR MLR
comp=E,217nm,14.0s
YAK MLR MLR
comp=Z,384nm,15.0s
YAK MLR MLR
comp=N,167nm,13.0s
YAK Yakutsk 64.86 17 *e*P **P** **11 51 22.4 -0.5**
comp=N,43nm,0.9s
SOKR Solikamsk 65.17 339 *e*P P 11 51 29.0 +4.1
SOKR pmax pmax
comp=Z,10.0nm,1.6s
VRHR Novokhopersk 67.18 326 *e*P **P** **11 51 38.9 +0.9**
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,6.0nm,0.4s
VRHR pmax pmax
comp=Z,6.0nm,0.4s
BRTR Keskin Array B 68.17 312 P **P** **11 51 44.5 -0.3**
comp=Z,1.2nm,0.7s,baz=133,slow=7.6,SNR=7.7
BRTR Keskin Array B 68.17 312 *ce*P **P** **11 51 44.5 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 68.17 312 P **P** **11 51 44.5 -0.3**
BR131 Keskin Array S 68.18 312 *e*P **P** **11 51 44.3 -0.5**
comp=Z,1.8nm,0.7s
OBN Obninsk 71.67 328 *e*P **P** **11 52 06.0 +0.3**
OBN *e* 11 52 13.3
OBN pmax pmax
comp=Z,44nm,2.5s
DZM Mont Dzumac 72.12 114 LR LR 12 28 20.0
comp=Z,83nm,19.5s,baz=29,slow=40
SEY Seymchan 73.29 23 *e*P **P** **11 52 14.7 -0.6**
MAW Mawson 73.32 193 LR LR 12 21 01.6
comp=Z,88nm,19.7s,baz=215,slow=33
AKASG Malin Array Be 74.31 322 P **P** **11 52 20.8 -0.7**
comp=Z,1.0nm,0.7s,baz=96,slow=5.0,SNR=4.4
AKASG Malin Array Be 74.31 322 *ce*P **P** **11 52 23.2 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 74.31 322 P **P** **11 52 20.8 -0.7**
BUR08 Bucovina Ar. S 76.09 319 P P 11 52 35.9 +3.9
JOF Joensuu 77.22 335 *e*P P 11 52 44.9 +7.1
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 77.22 335 *ep* P 11 52 44.9 +7.1
comp=Z,3.9nm,0.8s
JOF Joensuu 77.22 335 *ep* P 11 52 44.9 +7.1
comp=Z,3.9nm,0.8s
CRVS Cervenica-Dubn 78.79 319 *e*P P 11 52 56.5 +10
CRVS Cervenica-Dubn 78.79 319 *e* P 11 52 56.5 +10
FINES FINESS Array B 79.06 333 P **P** **11 52 47.6 -0.5**
comp=Z,4.8nm,0.8s,baz=95,slow=4.2,SNR=6.9
FINES FINESS Array B 79.06 333 P **P** **11 52 47.6 -0.5**
FINES FINESS Array B 79.06 333 P **P** **11 52 47.6 -0.5**
SUR Sutherland 79.10 237 LR LR 12 25 55.2
comp=Z,178nm,18.2s,baz=126,slow=34
KAF Kangasniemi 79.15 333 *e*P **P** **11 52 48.4 -0.2**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 79.15 333 *ep* **P** **11 52 48.4 -0.2**
comp=Z,3.0nm,0.6s
KAF Kangasniemi 79.15 333 *ep* **P** **11 52 48.4 -0.2**
comp=Z,3.0nm,0.6s
BILL Bilibino 80.66 21 *e*P **P** **11 52 58.0 +1.3**
BILL *e* 11 53 03.3
BILL pmax pmax
comp=Z,1.0nm,0.8s
MORC Moravsky Berou 81.45 320 *e*P **P** **11 53 02.1 +0.8**
MORC pmax pmax
comp=Z,13nm,0.8s
MORC Moravsky Berou 81.45 320 *e*P **P** **11 53 02.1 +0.8**
comp=Z,13nm,0.8s
ARCES ARCESS Array B 81.63 340 P **P** **11 53 02.2 +0.5**
comp=Z,3.4nm,0.9s,baz=120,slow=5.3,SNR=6.3
ARCES ARCESS Array B 81.63 340 P **P** **11 53 02.3 +0.5**
ARCES ARCESS Array B 81.63 340 P **P** **11 53 02.2 +0.5**
DPC Dobruska-Polom 82.30 320 *e*P **P** **11 52 59.0 -6.8**
DPC pmax pmax
comp=Z,41nm,0.8s
DPC Dobruska-Polom 82.30 320 *e*P P 11 52 59.0 -6.8
comp=Z,41nm,0.8s
URZ Urewera 83.74 129 LR LR 12 31 31.8
comp=Z,140nm,21.0s,baz=293,slow=36
NVAR Mina Array Bea 128.50 35 PKP **PKPdf** **11 59 50.8 -1.0**
comp=Z,0.2nm,0.5s,baz=256,slow=2.7,SNR=2.8
NVAR Mina Array Bea 128.50 35 PKP **PKPdf** **11 59 50.8 -1.0**
TXAR Lajitas Array 143.32 30 PKP PKPbc 12 00 16.6 +0.2
comp=Z,0.3nm,0.5s,baz=331,slow=0.5,SNR=8.4
TXAR Lajitas Array 143.32 30 PKIKP PKPbc 12 00 16.6 +0.3
TXAR Lajitas Array 143.32 30 PKP PKPbc 12 00 16.6 +0.2
CPUP Villa Florida 145.16 224 PKPbc **PKPdf** **12 00 23.9 +1.5**
comp=Z,1.6nm,0.6s,baz=91,slow=4.2,SNR=7.3
CPUP Villa Florida 145.16 224 PKIKP **PKPdf** **12 00 24.0 +1.5**
CPUP Villa Florida 145.16 224 PKPbc **PKPdf** **12 00 23.9 +1.5**

*IDC **08** 11:42:42.6±0.7, 7°.54N×126°.71E, h0km, mb4.2/10,*
mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, MS3.4/1,
Ms1 3.4/1, ms1mx2.9/29, Error ellipse: s-maj=31.8km
s-min=15.5km az=84.0
*ISCJB **08** 11:42:48.3±0.5, 7°.40N±0°.05×126°.91E±0°.05, h52km,*
mb4.2/11, Error ellipse: s-maj=7.4km s-min=6.7km az=3.7
*MAN **08** 11:42:48, 7°.21N×126°.82E, h50km, mb4.9, ML3.8, MS3.8*

ISC 08 11:42:49.5±0.7, 7°.34N±0°.07×126°.92E±0°.08, h52km, n26,
σ1§77, mb4.2/11, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.76**	**239**	*e*P	**Pn**	**11 43 02.9**	**-1.2**
MATI				*e*S	**Sn**	**11 43 13.1**	**-1.6**
DAV	**Davao City (W)**	**1.35**	**259**	Pn	**Pn**	**11 43 12.7**	**+0.7**
	251nm,0.3s,baz=3.9,slow=1.2,SNR=44						
DMPH	**Davao City--Mi**	**1.42**	**260**	*e*P	**Pn**	**11 43 13.7**	**+0.8**
DMPH				*i*S	**Sn**	**11 43 36.5**	**+5.9**
BUKP	**Musuan**	**1.92**	**286**	*e*P	**Pn**	**11 43 19.5**	**-0.3**
BUTP	**Butuan**	**2.07**	**322**	*e*P	**Pn**	**11 43 22.8**	**+1.0**
CTBH	**Cotabato--PC H**	**2.65**	**268**	⇓*i*P	**Pn**	**11 43 29.1**	**-0.7**
CTBH				*i*S	**Sn**	**11 43 58.4**	**-2.3**
MSLP	**Maasin**	**3.44**	**324**	*e*P	**Pn**	**11 43 40.8**	**+0.1**
PAGZ	**Pagadian**	**3.54**	**278**	*e*P	Pn	11 43 38.1	-3.9
SNPH	**Sibulan**	**4.15**	**299**	⇑*e*P	**Pn**	**11 43 52.2**	**+1.8**
SNPH				*i*S	**Sn**	**11 44 38.7**	**+0.9**
GUIM	**Jordan**	**5.38**	**308**	*e*P	**Pn**	**11 44 07.0**	**-0.2**
RCP	**Roxas**	**5.88**	**316**	⇑*e*P	**Pn**	**11 44 15.2**	**+1.1**
GUMO	**Guam**	**18.71**	**69**	LR	LR	11 52 35.4	
	comp=Z,108nm,20.0s,baz=89,slow=32						
MTN	**Manton Dam**	**20.48**	**168**	*e*P	Pn	11 47 26.0	+0.3
CBIJ	**Chichi jima**	**24.42**	**35**	P	**P**	**11 48 03.4**	**+0.1**
	41nm,0.8s,baz=279,slow=19,SNR=4.6						
FITZ	**Fitzroy Crossi**	**25.31**	**183**	P	**P**	**11 48 13.6**	**+2.3**
	5.0nm,0.9s,baz=35,slow=7.0,SNR=6.5						
WRA	**Warramunga Arr**	**28.07**	**165**	P	**P**	**11 48 37.5**	**+1.2**
	1.0nm,0.6s,baz=349,slow=9.5,SNR=4.1						
MJAR	**Matsushiro Arr**	**30.84**	**18**	P	**P**	**11 48 59.8**	**-1.0**
	1.3nm,0.7s,baz=202,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**31.56**	**168**	P	**P**	**11 49 10.0**	**+2.8**
	1.1nm,0.4s,baz=336,slow=6.6,SNR=27						
ASAR				PcP	**PcP**	**11 52 00.1**	**+1.1**
	1.2nm,0.5s,baz=346,slow=2.4,SNR=9.1						
PETK	**Petropavlovsk-**	**52.05**	**23**	P	**P**	**11 51 52.6**	**-1.2**
	4.4nm,0.7s,baz=195,slow=7.2,SNR=6.5						
MKAR	**Makanchi Array**	**54.75**	**324**	P	**P**	**11 52 12.5**	**-1.3**
	1.6nm,0.6s,baz=115,slow=7.3,SNR=11						
MKAR				PcP	**PcP**	**11 53 15.0**	**-0.9**
	0.8nm,0.6s,baz=126,slow=5.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**57.50**	**332**	P	**P**	**11 52 31.8**	**-1.4**
	1.6nm,0.6s,baz=127,slow=7.2,SNR=4.6						
KURK	**Kurchatov**	**58.84**	**326**	P	**P**	**11 52 41.0**	**-1.7**
	2.4nm,0.6s,baz=123,slow=6.9,SNR=9.6						
ILAR	**Eielson Array**	**81.79**	**26**	P	**P**	**11 55 02.4**	**-0.2**
	1.3nm,0.6s,baz=248,slow=5.0,SNR=22						
YKA	**Yellowknife Ar**	**96.16**	**24**	P	**P**	**11 56 12.0**	**+0.5**
	0.6nm,0.7s,baz=300,slow=4.6,SNR=9.6						
TXAR	**Lajitas Array**	**119.22**	**51**	PKP	**PKPdf**	**12 01 34.7**	**+1.1**
	0.2nm,0.6s,baz=290,slow=2.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**121.91**	**290**	PKP	**PKPdf**	**12 01 37.6**	**-1.5**
	0.6nm,0.7s,baz=52,slow=1.6,SNR=4.3						

NERS 08 11:52:34.0, 64°.80N×148°.39E, h17km, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKR	**Artyk**	**1.54**	**248**	*e*Pg	Pg	11 53 03.3	-0.4
	20nm,0.2s						
ATKR				*e*Sg	Sb	11 53 21.8	+0.4
	87nm,0.2s						
SUUS	**Susuman**	**2.03**	**183**	*e*Pg	Pb	11 53 10.4	-0.1
SUUS				Pgmax		11 53 14.3	
	20nm,0.3s						
SUUS				*e*Sg	Sb	11 53 37.2	+1.7
SUUS				Sgmax		11 53 41.9	
	250nm,0.5s						
UNR	**Ust'-Nera**	**2.23**	**266**	*e*Pg	Pb	11 53 15.2	+1.4
UNR				*e*Sg	Sb	11 53 42.6	+1.4
SEY	**Seymchan**	**2.58**	**135**	*e*P	Pn	11 53 15.0	+0.1
SEY				*e*Pg	Pb	11 53 19.2	-0.5
SEY				Pgmax		11 53 21.4	
	20nm,0.3s						
SEY				*e*Sg	Sg	11 53 54.1	-2.6
SEY				Sgmax		11 53 57.9	
	50nm,0.2s						
SEY				Sgmax		11 53 57.9	
	160nm,0.2s						
MOMR	**Moma**	**2.72**	**310**	*e*P	Pn	11 53 18.9	+2.1
MOMR				*e*Pg	Pb	11 53 22.7	+0.6
	6.0nm,0.2s						
MOMR				*e*Sg	Sg	11 53 58.7	-2.7
	67nm,0.7s						
SNGR	**Sinegor'e**	**2.89**	**161**	*e*	Pg	11 53 28.1	-1.3
SNGR				*e*Sg	Sg	11 54 04.7	-2.2
SNGR				Sgmax		11 54 09.5	
	200nm,0.4s						
OCHR	**Omchak**	**3.16**	**185**	*e*P	Pn	11 53 22.7	-0.2
OCHR				*e*Pg	Pb	11 53 30.9	+1.2
OCHR				Pgmax		11 53 38.1	
	40nm,0.3s						
OCHR				*e*S	Sn	11 54 03.1	+2.9
OCHR				*e*Sg	Sg	11 54 12.3	-3.2
OCHR				Sgmax		11 54 15.4	
	80nm,0.3s						
OCHR				Sgmax		11 54 15.4	
	50nm,0.3s						
OMS	**Omsukchan**	**4.01**	**122**	*e*Sg	Sg	11 54 39.9	-2.9
TLAR	**Talaya**	**4.11**	**152**	*e*Pg	Pb	11 53 48.8	+2.9
TLAR				*e*S	Sn	11 54 25.9	+2.1
TLAR				*e*Sg	Sg	11 54 42.0	-4.1
TLAR				Sgmax		11 54 47.7	
	20nm,0.3s						
TLAR				Sgmax		11 54 47.7	
	40nm,0.3s						
MGD	**Magadan 1**	**4.89**	**166**	*e*Pg	Pb	11 54 01.9	+2.7
MGD				*e*		11 54 06.7	
MGD				*e*S	Sn	11 54 43.4	+0.5
MGD				*e*Sg	Sg	11 55 08.4	-2.6
MGD				Sgmax		11 55 17.3	
	20nm,0.4s						
MGD				Sgmax		11 55 17.3	
	90nm,0.4s						
EVEN	**Evensk**	**5.67**	**116**	*e*Sg	Sg	11 55 34.6	-1.1
DEPR	**Deputatskiy**	**5.67**	**328**	*e*Sg	Sg	11 55 29.9	-6.0
	11nm,0.8s						
OHTR	**Okhotsk**	**5.95**	**206**	*e*Sg	Sg	11 55 42.9	-1.9
OHTR				Sgmax		11 55 46.0	
	70nm,0.8s						
BTGS	**Batagay**	**6.25**	**303**	*e*Sg	Sg	11 55 49.7	-4.6
	13nm,0.5s						

*ISCJB **08** 12:02:17.3±0.9, 59°.48N±0°.03×27°.45E±0°.10, h0km, Error*
ellipse: s-maj=7.2km s-min=4.7km az=17.6
*CSEM **08** 12:02:19.9±0.6, 59°.41N×27°.12E, h1km, ML1.9, Error*
ellipse: s-maj=11.6km s-min=8.0km az=97.0, Mining
explosion.
*BER **08** 12:02:19.6±1.1, 59°.34N×27°.32E, h0km, ML2.2(NAO),*
Suspected explosion
*NAO **08** 12:02:19.6±1.1, 59°.31N×26°.92E, ML2.2*
*HEL **08** 12:02:21.4±0.9, 59°.35N×27°.06E, h0km, ML1.9,*
ML2.2(NAO), Explosion

ISC 08 12:02:19.3±0.9, 59°.34N±0°.03×27°.14E±0°.04, h0km, n30,
σ1§51, 48, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.91**	**194**	Pg	**Pg**	**12 02 37.0**	**+0.4**
VSU				Lg	Lg	12 02 47.4	
VSU	**Vasula**	**0.91**	**194**	PG	**Pg**	**12 02 37.0**	**+0.4**
VSU				SG	**Sg**	**12 02 47.4**	**-0.9**
VSU	**Vasula**	**0.91**	**194**	Pg	**Pg**	**12 02 37.0**	**+0.4**
	SNR=90						
VSU				Lg	Lg	12 02 47.4	
	SNR=100						
PVF	**Pernaja**	**1.37**	**333**	PG	**Pg**	**12 02 45.2**	**-0.3**
PVF				SG	**Sg**	**12 03 03.6**	**+0.3**
PVF				MSG		12 03 03.6	
	comp=Z,1.5nm,0.2s						
PVF	**Pernaja**	**1.37**	**333**	Pg	**Pg**	**12 02 45.2**	**-0.3**
PVF				Sg	**Sg**	**12 03 03.5**	**+0.2**
MEF	**Metsahovi**	**1.64**	**304**	PG	**Pb**	**12 02 50.2**	**-0.2**
MEF				SG	**Sn**	**12 03 11.6**	**+0.4**
MEF				MSG		12 03 11.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.8nm,0.1s						
MEF	**Metsahovi**	**1.64**	**304**	*e*P	**Pn**	**12 02 49.9**	**+0.5**
	SNR=50						
MEF	**Metsahovi**	**1.64**	**304**	Pg	**Pn**	**12 02 50.2**	**+0.8**
MEF				*e*S	**Sn**	**12 03 11.1**	**-0.1**
	comp=Z,46nm,0.6s,SNR=50						
MEF				Sg	**Sb**	**12 03 11.6**	**-0.1**
MTSE	**Matsula**	**1.83**	**251**	PN	**Pn**	**12 02 52.6**	**+0.7**
MTSE				SG	**Sn**	**12 03 15.6**	**-0.2**
MTSE	**Matsula**	**1.83**	**251**	Pn	**Pn**	**12 02 52.6**	**+0.7**
MTSE				Sg	**Sn**	**12 03 15.6**	**-0.2**
FIA0	**FINESS Array S**	**2.18**	**346**	Pn	**Pn**	**12 02 57.5**	**+0.7**
	baz=155,slow=16						
FIA0				Pg	**Pb**	**12 02 58.8**	**-0.7**
	baz=153,slow=16						
FIA0				Lg	Lg	12 03 28.4	
	baz=168,slow=28						
FIA0				Rg	Rg	12 03 39.5	
	baz=167,slow=28						
FIA0	**FINESS Array S**	**2.18**	**346**	PN	**Pb**	**12 02 58.3**	**-1.2**
FIA0				SG	**Sb**	**12 03 27.0**	**0.0**
FIA0				MSG		12 03 27.0	
	comp=Z,9.4nm,0.6s						
FIA0				RG	Rg	12 03 39.0	
FIA0	**FINESS Array S**	**2.18**	**346**	Pn	**Pb**	**12 02 58.3**	**-1.2**
FIA0	**FINESS Array S**	**2.18**	**346**	Pg	**Pb**	**12 02 58.8**	**-0.7**
	baz=153,slow=15,SNR=90						
FIA0				Sg	**Sb**	**12 03 27.0**	**0.0**
FIA0				Lg	Lg	12 03 28.4	
	baz=168,slow=26,SNR=99						
KAF	**Kangasniemi**	**2.81**	**352**	PN	**Pb**	**12 03 09.2**	**-1.1**
KAF				SG	**Sn**	**12 03 41.9**	**+1.9**
KAF				MSG		12 03 41.9	
	comp=Z,5.3nm,0.4s						
KAF	**Kangasniemi**	**2.81**	**352**	Pn	**Pb**	**12 03 09.2**	**-1.1**
KAF				Sg	**Sn**	**12 03 41.9**	**+1.9**
KEF	**Keuruu**	**3.05**	**340**	SG	**Sb**	**12 03 54.2**	**+2.2**
KEF				MSG		12 03 54.2	
	comp=Z,7.2nm,0.4s						
KEF	**Keuruu**	**3.05**	**340**	Sg	**Sb**	**12 03 54.2**	**+2.2**
SLIT	**Slitere, Latvi**	**3.07**	**238**	*e*S	**Sb**	**12 03 52.8**	**+0.1**
	comp=Z,246nm,0.7s,SNR=50						
RAF	**Rauma**	**3.17**	**304**	PN	**Pn**	**12 03 12.5**	**+2.1**
	baz=122						
RAF				SG	**Sb**	**12 03 55.3**	**-0.3**
RAF				MSG		12 03 55.3	
	comp=Z,2.5nm,0.4s						
RAF	**Rauma**	**3.17**	**304**	Pn	**Pn**	**12 03 12.4**	**+2.0**
RAF				*e*S	**Sn**	**12 03 52.0**	**+3.1**
	comp=Z,13nm,0.6s,SNR=50						
RAF				Sg	**Sb**	**12 03 55.3**	**-0.3**
SUF	**Sumiainen**	**3.42**	**352**	SG	**Sb**	**12 04 05.0**	**+2.1**
SUF				MSG		12 04 05.0	
	comp=Z,6.8nm,0.4s						
SUF	**Sumiainen**	**3.42**	**352**	Sg	**Sb**	**12 04 05.0**	**+2.1**
AAL	**Aland**	**3.71**	**286**	SG	**Sg**	**12 04 15.8**	**-2.6**
AAL	**Aland**	**3.71**	**286**	Sg	**Sg**	**12 04 15.8**	**-2.6**
JOF	**Joensuu**	**4.12**	**28**	PN	**Pn**	**12 03 25.2**	**+1.8**
JOF				SG	**Sg**	**12 04 28.7**	**-2.8**
JOF				MSG		12 04 28.7	
	comp=Z,5.1nm,0.4s						
JOF	**Joensuu**	**4.12**	**28**	Pn	**Pn**	**12 03 25.2**	**+1.8**
JOF				Sg	**Sg**	**12 04 28.7**	**-2.8**
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**12 04 45.6**	**-2.0**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**10.26**	**357**	PN	**Pn**	**12 04 45.6**	**-2.0**
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**12 04 45.6**	**-2.0**

*ATH **08** 12:04:00.0, 41.°94N×20.°74E, h5km±3km, ML5.0*
*BJI **08** 12:04:00.5, 41.°87N×20.°51E, h10km, mB5.1/27, mb4.8/40, Ms4.9/28, Ms7 4.5/28*
*SKO **08** 12:04:01.7, 41.°74N×20.°62E, h20km, M4.5, ML4.9*
*TIR **08** 12:04:01.9±3.4, 41.°82N×20.°89E, h7km±78km, ML5.1*
*LDG **08** 12:04:01.8±0.2, 41.°89N×20.°81E, h10km, Mb5.2/40, Ms3.6/8, Error ellipse: s-maj=13.0km s-min=6.0km az=20.0*
*PDG **08** 12:04:03.9±0.6, 41.°81N×20.°85E, h9km±1km, MD4.7/10, ML4.9/8, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **08** 12:04:04.5, 41.°79N×20.°86E, h1km±2km, ML5.1/6, Error ellipse: s-maj=2.5km s-min=1.0km az=327.0*
*ISCJB **08** 12:04:04.4±0.2, 41.°803N±0.°009×20.°78E±0.°01, h19km±2km, mb4.9/115, MS4.3/37, Error ellipse: s-maj=1.7km s-min=1.2km az=37.0*
*PRU **08** 12:04:05.8, 41.°82N×20.°23E, h0km, M5.0*
*NEIC **08** 12:04:05.7±0.6, 41.°80N×20.°83E, h18km±4km, mb5.0/52, ML5.1(THE), ML4.6(PDG), ML4.9(ZAG), MW4.7(USGS), Error ellipse: s-maj=3.0km s-min=1.8km az=221.0*
NEIC Felt [V] at Gostivar; [III] at Ohrid, Skopje and Tetovo; [II] at Bitola. Also felt at Bogovinje, Debar, Dolna Banjica, Drugovo, Kicevo, Prilep, Saraj, Srbinovo, Veles and Vinica. Felt at Tirana and Vore, Albania and at Pristina and Prizren, Kosovo.
*MOS **08** 12:04:05.8±1.0, 41.°82N×20.°72E, h33km, mb5.0/41, MS4.2/29, Error ellipse: s-maj=3.8km s-min=2.4km az=102.1*
*BEO **08** 12:04:05.0±0.4, 41.°80N×20.°79E, h0km±3km, ML4.6/8*
*VIE **08** 12:04:06.0±0.3, 41.°88N×20.°85E, h10km, mb4.5/18, Ms4.9/18, Error ellipse: s-maj=4.4km s-min=2.6km az=23.0*
*IDC **08** 12:04:07.8±1.3, 41.°81N×20.°76E, h36km±10km, mb4.4/23, mb1 4.5/36, mb1mx4.5/40, mbtmp4.4/36, ML4.2/12, MS4.0/30, Ms1 4.0/30, ms1mx3.9/41, Error ellipse: s-maj=10.3km s-min=8.9km az=155.0*
*HLW **08** 12:04:10.3, 41.°29N×21.°51E, h33km±26km, Md0.0, Ml4.7*
ISC 08 12:04:04.8±0.3, **41.°78N**±0.°01×**20.°81E**±0.°01, **h15**km±1km, **n1412,** σ**1.s40**/1778, **mb4.9**/115, **MS4.3**/37, **182C-197D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.29**	**251**	*i* PG	**Pg**	**12 04 09.9**	**-1.1**
PHP				*i* SG	**Sg**	**12 04 14.4**	**-0.8**
PHP	**Peshkopia**	**0.29**	**251**	P	**Pg**	**12 04 09.9**	**-1.1**
PHP	**Peshkopia**	**0.29**	**251**	Pg	**Pg**	**12 04 09.9**	**-1.1**
PHP				Sg	**Sg**	**12 04 14.4**	**-0.8**
PHP	**Peshkopia**	**0.29**	**251**	P	**Pg**	**12 04 08.6**	**-2.4**
PHP				S	**Sg**	**12 04 14.4**	**-0.8**
PHP	**Peshkopia**	**0.29**	**251**	P	**Pg**	**12 04 08.6**	**-2.4**
PHP	**Peshkopia**	**0.29**	**251**	*i* Pg	**Pg**	**12 04 09.9**	**-1.1**
	SNR=9.0						
PHP				S	**Sg**	**12 04 14.4**	**-0.8**
SKO	**Skopje**	**0.51**	**68**	*i* Pg	**Pg**	**12 04 14.9**	**-0.1**
SKO				*i* Sg	**Sb**	**12 04 22.2**	**-0.5**
SKO				*e*Lg	Lg	12 04 23.1	
	comp=Z,46μm,0.3s						
SKO				*e*Lg	Lg	12 04 23.2	
	comp=N,89μm,0.3s						
SKO	**Skopje**	**0.51**	**68**	*i* Pg	**Pb**	**12 04 15.3**	**-0.2**
SKO				*i* Sg	**Sb**	**12 04 22.7**	**0.0**
SKO				*e*Lg	Lg	12 04 23.7	
	comp=N,89μm,0.3s						
KRUS	**Krusevo**	**0.53**	**141**	⇑*i*Pg	**Pg**	**12 04 14.0**	**-1.4**
KRUS				*e*Sg	**Sg**	**12 04 21.4**	**-0.9**
KRUS				*e*Lg	Lg	12 04 21.9	
	comp=E,19nm,0.2s						
KRUS				*e*Lg	Lg	12 04 22.0	
	comp=N,2μm,0.2s						
KRUS	**Krusevo**	**0.53**	**141**	⇑*i*Pg	**Pg**	**12 04 13.9**	**-1.4**
KRUS				*e*Sg	**Sg**	**12 04 21.4**	**-0.9**
KRUS				*e*Lg	Lg	12 04 22.0	
	comp=N,2μm,0.2s						
PUK	**Puka**	**0.73**	**291**	*i* PG	**Pg**	**12 04 17.6**	**-1.5**
PUK				*i* SG	**Sg**	**12 04 28.0**	**-0.8**
PUK	**Puka**	**0.73**	**291**	Pg	**Pg**	**12 04 17.6**	**-1.5**
PUK				Sg	**Sg**	**12 04 28.0**	**-0.8**
PUK	**Puka**	**0.73**	**291**	*i* Pg	**Pg**	**12 04 17.6**	**-1.5**
	SNR=9.0						
PUK				*i* Sg	**Sg**	**12 04 28.0**	**-0.8**
	SNR=9.0						
BCI	**Bajram Curri**	**0.81**	**317**	*i* PG	**Pb**	**12 04 19.2**	**-1.3**
BCI				*i* SG	**Sb**	**12 04 32.3**	**+1.1**
BCI	**Bajram Curri**	**0.81**	**317**	*i* Pg	**Pb**	**12 04 19.2**	**-1.3**
	SNR=9.0						
BCI				*i* Sg	**Sb**	**12 04 32.3**	**+1.1**
	SNR=9.0						
TIR	**Tirane**	**0.83**	**239**	*i* PG	**Pb**	**12 04 20.1**	**-0.8**
TIR				*i* SG	**Sn**	**12 04 33.3**	**-0.5**
TIR	**Tirane**	**0.83**	**239**	*e*P	**Pb**	**12 04 20.3**	**-0.6**
TIR				*e*		12 04 28.8	
TIR	**Tirane**	**0.83**	**239**	*e*Pg	**Pb**	**12 04 20.3**	**-0.6**
TIR				*e*Sg	**Sb**	**12 04 28.8**	**-3.0**
TIR	**Tirane**	**0.83**	**239**	P	**Pb**	**12 04 19.7**	**-1.2**
TIR	**Tirane**	**0.83**	**239**	*e*Pg	**Pb**	**12 04 20.7**	**-0.2**
TIR				*e*Sg	**Sb**	**12 04 31.3**	**-0.5**
TIR	**Tirane**	**0.83**	**239**	*e*P	**Pb**	**12 04 20.3**	**-0.6**
TIR	**Tirane**	**0.83**	**239**	*e*Pg	**Pb**	**12 04 20.7**	**-0.2**
TIR				*e*S	**Sb**	**12 04 28.8**	**-3.0**
TIR				*e*Sg	**Sb**	**12 04 31.3**	**-0.5**
BIA	**Bitola**	**0.85**	**153**	*i* Pg	**Pb**	**12 04 19.4**	**-1.9**
BIA				*i* Sg	**Sb**	**12 04 32.2**	**-0.4**
BIA				*e*Lg	Lg	12 04 34.4	
	comp=N,14μm,0.3s						
BIA				*e*Lg	Lg	12 04 34.7	
	comp=E,16μm,0.2s						
BIA	**Bitola**	**0.85**	**153**	*i* Pg	**Pb**	**12 04 19.4**	**-1.9**
BIA				*i* Sg	**Sb**	**12 04 32.1**	**-0.4**
BIA				*e*Lg	Lg	12 04 34.7	
	comp=E,16μm,0.2s						
PVY	**Plav**	**1.03**	**323**	⇓*i*Pg	**Pb**	**12 04 23.0**	**-1.4**
PVY				*e*Sg	**Sn**	**12 04 39.1**	**+0.1**
PVY	**Plav**	**1.03**	**323**	P	**Pb**	**12 04 23.0**	**-1.4**
PVY				S	**Sn**	**12 04 39.0**	**-0.1**
FNA	**Florina**	**1.08**	**156**	*i* PG	**Pb**	**12 04 23.8**	**-1.4**
FNA				*i* SG	**Sb**	**12 04 39.0**	**-0.2**
FNA	**Florina**	**1.08**	**156**	P	**Pb**	**12 04 23.6**	**-1.6**
FNA				S	**Sb**	**12 04 39.2**	**0.0**
FNA	**Florina**	**1.08**	**156**	P	**Pb**	**12 04 23.6**	**-1.6**
FNA				S	**Sb**	**12 04 39.2**	**0.0**
FNA	**Florina**	**1.08**	**156**	P	**Pb**	**12 04 23.6**	**-1.6**
FNA				S	**Sb**	**12 04 39.2**	**0.0**
FNA	**Florina**	**1.08**	**156**	*i* Pg	**Pb**	**12 04 23.8**	**-1.4**
	SNR=9.0						
FNA				S	**Sb**	**12 04 39.2**	**0.0**
KBN	**Korca**	**1.15**	**181**	*i* PG	**Pn**	**12 04 25.4**	**-1.1**
KBN				*i* SG	**Sg**	**12 04 44.8**	**+2.6**
KBN	**Korca**	**1.15**	**181**	P	**Pn**	**12 04 25.3**	**-1.2**
KBN	**Korca**	**1.15**	**181**	P	**Pn**	**12 04 25.3**	**-1.2**
KBN	**Korca**	**1.15**	**181**	P	**Pn**	**12 04 25.3**	**-1.2**
KBN	**Korca**	**1.15**	**181**	P	**Pn**	**12 04 25.3**	**-1.2**
KBN				*i* Sg	**Sg**	**12 04 44.8**	**+2.6**
	SNR=9.0						
ULC	**Ulcinj**	**1.18**	**280**	⇓*i*Pg	**Pn**	**12 04 25.8**	**-1.0**
ULC				*i* Sg	**Sg**	**12 04 44.4**	**+1.3**
ULC	**Ulcinj**	**1.18**	**280**	P	**Pn**	**12 04 25.8**	**-1.0**
ULC				S	**Sg**	**12 04 44.4**	**+1.3**
ULC	**Ulcinj**	**1.18**	**280**	P	**Pn**	**12 04 25.8**	**-1.0**
ULC				S	**Sg**	**12 04 44.4**	**+1.3**
ULC	**Ulcinj**	**1.18**	**280**	⇓*i*Pg	**Pn**	**12 04 25.8**	**-1.0**
ULC				*i* Sg	**Sg**	**12 04 44.4**	**+1.3**
BARS	**Barje**	**1.28**	**35**	*e*Pg	**Pb**	**12 04 28.4**	**-0.2**
BARS				*e*Sg	**Sg**	**12 04 46.0**	**-0.2**
BARS	**Barje**	**1.28**	**35**	*e*Pg	**Pb**	**12 04 28.4**	**-0.2**
BARS				*e*Sg	**Sg**	**12 04 46.0**	**-0.2**
IVA	**Berane**	**1.28**	**329**	⇑*i*Pg	**Pn**	**12 04 28.1**	**-0.2**
IVA				*e*Sg	**Sg**	**12 04 47.3**	**+1.0**
BEY	**Berane**	**1.29**	**328**	⇑*i*Pg	**Pn**	**12 04 28.1**	**-0.2**
BEY				*e*Sg	**Sg**	**12 04 47.3**	**+0.9**
TTG	**Podgorica**	**1.32**	**300**	⇓*i*Pg	**Pn**	**12 04 28.1**	**-0.6**
TTG				*e*Sg	**Sg**	**12 04 49.4**	**+1.9**
TTG	**Podgorica**	**1.32**	**300**	P	**Pn**	**12 04 28.0**	**-0.6**
TTG				S	**Sg**	**12 04 48.8**	**+1.3**
TTG	**Podgorica**	**1.32**	**300**	P	**Pn**	**12 04 28.0**	**-0.6**
TTG				S	**Sg**	**12 04 48.8**	**+1.3**
TTG	**Podgorica**	**1.32**	**300**	P	**Pn**	**12 04 28.0**	**-0.6**
TTG				S	**Sg**	**12 04 48.8**	**+1.3**
PDG	**Podgorica**	**1.33**	**300**	⇓*i*Pg	**Pn**	**12 04 28.1**	**-0.7**
PDG				*e*Sg	**Sg**	**12 04 49.4**	**+1.8**
NEST	**Nestorio**	**1.38**	**172**	P	**Pn**	**12 04 28.8**	**-0.7**
NEST				S	**Sg**	**12 04 50.2**	**+1.0**
NEST	**Nestorio**	**1.38**	**172**	P	**Pn**	**12 04 28.8**	**-0.7**
VAY	**Valandovo**	**1.40**	**108**	*i* Pg	**Pn**	**12 04 29.6**	**-0.2**
VAY				*i* Sg	**Sn**	**12 04 48.0**	**0.0**
VAY				*e*Lg	Lg	12 04 48.8	
	comp=N,20μm,0.7s						
VAY				*e*Lg	Lg	12 04 48.8	
	comp=E,13μm,0.5s						
VAY	**Valandovo**	**1.40**	**108**	*i* Pg	**Pn**	**12 04 30.0**	**+0.2**
VAY				*i* Sg	**Sb**	**12 04 48.4**	**+0.1**
VAY				*e*Lg	Lg	12 04 49.3	
	comp=E,13μm,0.5s						
GRG	**Griva**	**1.45**	**124**	P	**Pn**	**12 04 30.7**	**+0.2**
GRG				S	**Sb**	**12 04 50.2**	**+0.3**
GRG	**Griva**	**1.45**	**124**	P	**Pn**	**12 04 30.7**	**+0.2**
GRG				S	**Sb**	**12 04 50.2**	**+0.3**
GRG	**Griva**	**1.45**	**124**	P	**Pn**	**12 04 30.7**	**+0.2**
GRG				S	**Sb**	**12 04 50.2**	**+0.3**
GRG	**Griva**	**1.45**	**124**	P	**Pn**	**12 04 30.7**	**+0.2**
GRG				S	**Sb**	**12 04 50.2**	**+0.3**
SELS	**Selova**	**1.46**	**9**	⇓*i*Pg	**Pn**	**12 04 30.6**	**0.0**
SELS				*e*Sg	**Sb**	**12 04 50.3**	**+0.3**
BUM	**Brajici-Budva**	**1.52**	**291**	⇓*i*Pg	**Pb**	**12 04 32.3**	**-0.4**
BUM				*e*Sg	**Sg**	**12 04 55.7**	**+1.9**
BUM	**Brajici-Budva**	**1.52**	**291**	⇓*i*Pg	**Pb**	**12 04 32.3**	**-0.4**
BUM				*e*Sg	**Sg**	**12 04 55.7**	**+1.9**
KZN	**Kozani**	**1.64**	**153**	P	**Pn**	**12 04 33.5**	**+0.3**
KZN				S	**Sb**	**12 04 56.4**	**+1.1**
KZN	**Kozani**	**1.64**	**153**	P	**Pn**	**12 04 33.5**	**+0.3**
KZN				S	**Sb**	**12 04 56.4**	**+1.1**
KZN	**Kozani**	**1.64**	**153**	P	**Pn**	**12 04 33.5**	**+0.3**
KZN				S	**Sb**	**12 04 56.4**	**+1.1**
KZN	**Kozani**	**1.64**	**153**	*e*PN	**Pn**	**12 04 34.0**	**+0.8**
KZN				*e*SN	**Sg**	**12 04 59.0**	**+1.3**
KZN	**Kozani**	**1.64**	**153**	P	**Pn**	**12 04 33.5**	**+0.3**
KZN	**Kozani**	**1.64**	**153**	*e*Pb	**Pn**	**12 04 34.0**	**+0.8**
KZN				S	**Sb**	**12 04 56.4**	**+1.1**
KZN				*e*Sb	**Sg**	**12 04 59.0**	**+1.3**
VLO	**Vlora**	**1.64**	**218**	*i* PG	**Pg**	**12 04 36.3**	**-0.1**
VLO				*i* SG	**Sg**	**12 05 00.4**	**+2.7**
VLO	**Vlora**	**1.64**	**218**	P	**Pb**	**12 04 35.6**	**+0.9**
VLO	**Vlora**	**1.64**	**218**	P	**Pb**	**12 04 35.6**	**+0.9**
VLO	**Vlora**	**1.64**	**218**	P	**Pb**	**12 04 35.6**	**+0.9**
VLO	**Vlora**	**1.64**	**218**	P	**Pb**	**12 04 35.6**	**+0.9**
VLO	**Vlora**	**1.64**	**218**	*i* Pg	**Pg**	**12 04 36.3**	**-0.1**
	SNR=9.0						
VLO				*i* Sg	**Sg**	**12 05 00.4**	**+2.7**
	SNR=9.0						
KNT	**Kendrikon**	**1.69**	**111**	P	**Pn**	**12 04 33.9**	**+0.2**
KNT				S	**Sb**	**12 04 56.4**	**-0.2**
KNT	**Kendrikon**	**1.69**	**111**	P	**Pn**	**12 04 33.9**	**+0.2**
KNT				S	**Sb**	**12 04 56.4**	**-0.2**
KNT	**Kendrikon**	**1.69**	**111**	P	**Pn**	**12 04 33.9**	**+0.2**
KNT				S	**Sb**	**12 04 56.4**	**-0.2**
KNT	**Kendrikon**	**1.69**	**111**	P	**Pn**	**12 04 33.9**	**+0.2**
KNT				S	**Sb**	**12 04 56.4**	**-0.2**
NKY	**Niksic**	**1.70**	**308**	⇓*i*Pn	**Pb**	**12 04 35.1**	**-0.7**
NKY				*e*Sn	**Sg**	**12 04 59.2**	**-0.3**
NKY	**Niksic**	**1.70**	**308**	P	**Pb**	**12 04 35.1**	**-0.7**
NKY				S	**Sg**	**12 05 01.5**	**+2.0**
NKY	**Niksic**	**1.70**	**308**	P	**Pb**	**12 04 35.1**	**-0.7**
NKY				S	**Sg**	**12 05 01.5**	**+2.0**
NKY	**Niksic**	**1.70**	**308**	⇓*i*Pn	**Pb**	**12 04 35.1**	**-0.7**
NKY				*e*Sn	**Sg**	**12 04 59.2**	**-0.3**
HCY	**Herceg Novi**	**1.85**	**292**	⇓*i*Pn	**Pb**	**12 04 37.7**	**-0.5**
HCY				*e*Sn	**Sg**	**12 05 03.4**	**-0.8**
HCY	**Herceg Novi**	**1.85**	**292**	⇓*i*Pn	**Pb**	**12 04 37.7**	**-0.5**
HCY				*e*Sn	**Sg**	**12 05 03.4**	**-0.8**
PLE	**Pljevlja**	**1.87**	**326**	⇑*i*Pn	**Pn**	**12 04 37.4**	**+1.0**
PLE				*i* Sn	**Sb**	**12 05 02.9**	**+0.9**
PLE	**Pljevlja**	**1.87**	**326**	⇑*i*Pn	**Pn**	**12 04 37.4**	**+1.0**
PLE				*i* Sn	**Sb**	**12 05 02.9**	**+0.9**
VTS	**Vitosha**	**1.96**	**65**	⇓P	**Pn**	**12 04 38.7**	**+1.1**
VTS	**Vitosha**	**1.96**	**65**	P	**Pn**	**12 04 38.5**	**+0.9**
VTS	**Vitosha**	**1.96**	**65**	P	**Pn**	**12 04 38.5**	**+0.9**
VTS	**Vitosha**	**1.96**	**65**	⇓*i*P	**Pn**	**12 04 38.7**	**+1.1**
VTS	**Vitosha**	**1.96**	**65**	⇓*i*Pn	**Pn**	**12 04 38.8**	**+1.1**
VTS				*e*Sn	**Sb**	**12 05 05.0**	**+0.4**
VTS	**Vitosha**	**1.96**	**65**	P	**Pn**	**12 04 38.5**	**+0.9**
VTS	**Vitosha**	**1.96**	**65**	⇓*i*Pn	**Pn**	**12 04 38.8**	**+1.1**
VTS				*e*Sn	**Sb**	**12 05 05.0**	**+0.4**
VTS				S	**Sg**	**12 05 07.9**	**0.0**
THE	**Thessaloniki**	**1.99**	**124**	P	**Pn**	**12 04 37.8**	**-0.1**
THE	**Thessaloniki**	**1.99**	**124**	P	**Pn**	**12 04 37.8**	**-0.1**
THE	**Thessaloniki**	**1.99**	**124**	P	**Pn**	**12 04 37.8**	**-0.1**
THE	**Thessaloniki**	**1.99**	**124**	P	**Pn**	**12 04 37.8**	**-0.1**
SRN	**Sarande**	**1.99**	**198**	*i* PG	**Pn**	**12 04 38.2**	**+0.3**
SRN	**Sarande**	**1.99**	**198**	P	**Pn**	**12 04 38.1**	**+0.2**
SRN	**Sarande**	**1.99**	**198**	P	**Pn**	**12 04 38.1**	**+0.2**
SRN	**Sarande**	**1.99**	**198**	P	**Pn**	**12 04 38.1**	**+0.2**
UPM	**Unac-Piva**	**2.00**	**316**	⇓*i*Pn	**Pb**	**12 04 39.8**	**-1.2**
UPM				*e*Sn	**Sb**	**12 05 06.3**	**+0.5**
UPM	**Unac-Piva**	**2.00**	**316**	⇓*i*Pn	**Pb**	**12 04 39.8**	**-1.2**
UPM				*e*Sn	**Sb**	**12 05 06.3**	**+0.5**
ZAPS	**Zavoj**	**2.01**	**41**	*e*Pn	**Pb**	**12 04 39.7**	**-1.4**
ZAPS				*e*Sn	**Sb**	**12 05 06.0**	**0.0**
MEV	**Metsovon**	**2.02**	**171**	P	**Pn**	**12 04 39.5**	**+1.1**
MEV	**Metsovon**	**2.02**	**171**	P	**Pn**	**12 04 39.5**	**+1.1**
MEV	**Metsovon**	**2.02**	**171**	P	**Pn**	**12 04 39.5**	**+1.1**
BRY	**Bratogost**	**2.02**	**304**	⇑*i*Pn	**Pb**	**12 04 40.3**	**-1.0**
BRY				*e*Sn	**Sb**	**12 05 06.9**	**+0.6**
BRY	**Bratogost**	**2.02**	**304**	⇑*i*Pn	**Pb**	**12 04 40.3**	**-1.0**
BRY				*e*Sn	**Sb**	**12 05 06.9**	**+0.6**
HORT	**Hortiatis**	**2.09**	**124**	P	**Pn**	**12 04 39.4**	**0.0**
HORT	**Hortiatis**	**2.09**	**124**	P	**Pn**	**12 04 39.4**	**0.0**
HORT	**Hortiatis**	**2.09**	**124**	P	**Pn**	**12 04 39.4**	**0.0**
GRUS	**Gruza**	**2.11**	**358**	*e*Pn	**Pn**	**12 04 40.4**	**+0.9**
GRUS				*e*Sn	**Sb**	**12 05 08.3**	**-0.4**
GRUS	**Gruza**	**2.11**	**358**	*e*Pn	**Pn**	**12 04 40.4**	**+0.9**
GRUS				*e*Sn	**Sb**	**12 05 08.3**	**-0.4**
JAN	**Janina**	**2.12**	**179**	P	**Pb**	**12 04 41.9**	**-1.0**
JAN	**Janina**	**2.12**	**179**	P	**Pb**	**12 04 41.9**	**-1.0**
JAN	**Janina**	**2.12**	**179**	P	**Pb**	**12 04 41.9**	**-1.0**
JAN	**Janina**	**2.12**	**179**	*e*PG	**Pb**	**12 04 42.2**	**-0.7**
JAN				*e*SN	**Sg**	**12 05 11.3**	**-1.7**
JAN	**Janina**	**2.12**	**179**	P	**Pb**	**12 04 41.9**	**-1.0**
JAN	**Janina**	**2.12**	**179**	*e*Pg	**Pb**	**12 04 42.3**	**-0.7**
JAN				*e*Sn	**Sg**	**12 05 11.3**	**-1.7**
SOH	**Sokhos**	**2.14**	**116**	P	**Pn**	**12 04 40.4**	**+0.4**
SOH	**Sokhos**	**2.14**	**116**	P	**Pn**	**12 04 40.4**	**+0.4**
SOH	**Sokhos**	**2.14**	**116**	P	**Pn**	**12 04 40.4**	**+0.4**
SOH				S	**Sn**	**12 05 07.3**	**+0.9**
SOH	**Sokhos**	**2.14**	**116**	*e*PG	**Pn**	**12 04 41.3**	**+1.3**
SOH				*e*SG	**Sg**	**12 05 11.9**	**-1.9**
SOH	**Sokhos**	**2.14**	**116**	P	**Pn**	**12 04 40.4**	**+0.4**
SOH	**Sokhos**	**2.14**	**116**	*e*Pg	**Pn**	**12 04 41.3**	**+1.3**
SOH				S	**Sn**	**12 05 07.3**	**+0.9**
SOH				*e*Sg	**Sg**	**12 05 11.9**	**-1.9**
SRS	**Serrai**	**2.20**	**107**	P	**Pn**	**12 04 41.1**	**+0.4**
SRS	**Serrai**	**2.20**	**107**	P	**Pn**	**12 04 41.1**	**+0.4**
SRS	**Serrai**	**2.20**	**107**	P	**Pn**	**12 04 41.1**	**+0.4**
SRS	**Serrai**	**2.20**	**107**	P	**Pn**	**12 04 41.1**	**+0.4**
KEK	**Kerkira**	**2.20**	**201**	P	**Pn**	**12 04 42.3**	**+1.5**
KEK	**Kerkira**	**2.20**	**201**	P	**Pn**	**12 04 42.3**	**+1.5**
KEK	**Kerkira**	**2.20**	**201**	*e*PG	**Pb**	**12 04 42.9**	**-1.4**
KEK				*e*SN	**Sb**	**12 05 10.5**	**-0.8**
KEK	**Kerkira**	**2.20**	**201**	P	**Pn**	**12 04 42.3**	**+1.5**
KEK	**Kerkira**	**2.20**	**201**	*e*Pg	**Pb**	**12 04 42.9**	**-1.4**
KEK				*e*Sb	**Sb**	**12 05 10.5**	**-0.8**
BOLS	**Boljevac**	**2.22**	**22**	*e*Pn	**Pb**	**12 04 42.9**	**-1.6**
BOLS				*e*Sn	**Sb**	**12 05 10.8**	**-1.0**
BOLS	**Boljevac**	**2.22**	**22**	*e*Pn	**Pb**	**12 04 42.9**	**-1.6**
BOLS				*e*Sn	**Sb**	**12 05 10.8**	**-1.0**
IGT	**Igoumenitsa**	**2.27**	**189**	P	**Pb**	**12 04 43.9**	**-1.6**
IGT				S	**Sb**	**12 05 14.1**	**+0.7**
IGT	**Igoumenitsa**	**2.27**	**189**	P	**Pb**	**12 04 43.9**	**-1.6**
IGT				S	**Sb**	**12 05 14.1**	**+0.7**
IGT	**Igoumenitsa**	**2.27**	**189**	P	**Pb**	**12 04 44.1**	**-1.4**
IGT				S	**Sb**	**12 05 14.1**	**+0.7**
IGT	**Igoumenitsa**	**2.27**	**189**	P	**Pb**	**12 04 43.9**	**-1.6**
NVR	**Nevrokopi**	**2.33**	**100**	P	**Pn**	**12 04 43.3**	**+0.7**
NVR				S	**Sn**	**12 05 12.1**	**+1.1**
NVR	**Nevrokopi**	**2.33**	**100**	P	**Pn**	**12 04 43.3**	**+0.7**
NVR				S	**Sn**	**12 05 12.1**	**+1.1**
NVR	**Nevrokopi**	**2.33**	**100**	*e*PN	**Pn**	**12 04 43.4**	**+0.8**
NVR				*e*SN	**Sn**	**12 05 12.8**	**+1.8**
NVR	**Nevrokopi**	**2.33**	**100**	P	**Pn**	**12 04 43.3**	**+0.7**
NVR				S	**Sn**	**12 05 12.1**	**+1.1**
NVR				*e*Sb	**Sn**	**12 05 12.8**	**+1.8**
DIVS	**Divibare**	**2.40**	**346**	P	**Pn**	**12 04 43.7**	**+0.2**
DIVS	**Divibare**	**2.40**	**346**	*e*Pn	**Pn**	**12 04 44.2**	**+0.7**
DIVS				*e*Sn	**Sb**	**12 05 15.6**	**-1.4**
DIVS	**Divibare**	**2.40**	**346**	P	**Pn**	**12 04 43.7**	**+0.2**
DIVS	**Divibare**	**2.40**	**346**	*e*Pn	**Pn**	**12 04 44.2**	**+0.7**
DIVS				*e*Sn	**Sb**	**12 05 15.6**	**-1.4**
THL	**Klokotos Trika**	**2.40**	**157**	P	**Pn**	**12 04 44.4**	**+1.0**
THL	**Klokotos Trika**	**2.40**	**157**	*e*PN	**Pn**	**12 04 44.3**	**+0.9**
THL	**Klokotos Trika**	**2.40**	**157**	P	**Pn**	**12 04 44.4**	**+1.0**
PLG	**Polygyros**	**2.44**	**124**	P	**Pn**	**12 04 44.7**	**+0.6**
PLG	**Polygyros**	**2.44**	**124**	P	**Pn**	**12 04 44.7**	**+0.6**
PLG	**Polygyros**	**2.44**	**124**	P	**Pn**	**12 04 44.7**	**+0.6**
PLG	**Polygyros**	**2.44**	**124**	*e*PN	**Pn**	**12 04 45.2**	**+1.1**
PLG				*e*SN	**Sb**	**12 05 16.3**	**-1.9**
PLG	**Polygyros**	**2.44**	**124**	P	**Pn**	**12 04 44.7**	**+0.6**
PLG	**Polygyros**	**2.44**	**124**	*e*Pn	**Pn**	**12 04 45.2**	**+1.1**
PLG				*e*Sb	**Sb**	**12 05 16.3**	**-1.9**
RGA	**Parga**	**2.48**	**188**	P	**Pn**	**12 04 46.7**	**+2.1**
RGA	**Parga**	**2.48**	**188**	P	**Pn**	**12 04 46.7**	**+2.1**
SVIS	**Svilajnac**	**2.50**	**7**	⇓*i*Pn	**Pn**	**12 04 45.9**	**+1.0**
STON	**Ston**	**2.55**	**296**	*i* Pn	**Pb**	**12 04 48.2**	**-2.0**
STON				Sn	**Sb**	**12 05 21.5**	**+0.1**
STON	**Ston**	**2.55**	**296**	*i* Pn	**Pb**	**12 04 48.2**	**-2.0**
STON				Sn	**Sb**	**12 05 21.4**	**+0.1**
PE1	**Pezze di Greco**	**2.73**	**250**	*e*Pn	**Pn**	**12 04 49.2**	**+1.2**
PE1				*e*Sn	**Sn**	**12 05 22.4**	**+1.7**
OUR	**Ouranopolis**	**2.80**	**120**	P	**Pn**	**12 04 49.5**	**+0.5**
OUR	**Ouranopolis**	**2.80**	**120**	P	**Pn**	**12 04 49.5**	**+0.5**
OUR	**Ouranopolis**	**2.80**	**120**	P	**Pn**	**12 04 49.5**	**+0.5**
OUR	**Ouranopolis**	**2.80**	**120**	P	**Pn**	**12 04 49.5**	**+0.5**
PAIG	**Paliouri**	**2.86**	**129**	P	**Pn**	**12 04 50.3**	**+0.5**
PAIG	**Paliouri**	**2.86**	**129**	P	**Pn**	**12 04 50.3**	**+0.5**
PAIG	**Paliouri**	**2.86**	**129**	P	**Pn**	**12 04 50.3**	**+0.5**
PAIG	**Paliouri**	**2.86**	**129**	P	**Pn**	**12 04 50.3**	**+0.5**
KAVA	**Kavala**	**2.90**	**104**	P	**Pn**	**12 04 51.0**	**+0.7**
KAVA	**Kavala**	**2.90**	**104**	P	**Pn**	**12 04 51.0**	**+0.7**
KAVA	**Kavala**	**2.90**	**104**	P	**Pn**	**12 04 51.0**	**+0.7**
PLD	**Plovdiv**	**2.92**	**82**	P	**Pn**	**12 04 52.1**	**+1.4**
PLD	**Plovdiv**	**2.92**	**82**	P	**Pn**	**12 04 52.1**	**+1.4**
PLD	**Plovdiv**	**2.92**	**82**	P	**Pn**	**12 04 52.1**	**+1.4**
PLD	**Plovdiv**	**2.92**	**82**	P	**Pn**	**12 04 52.1**	**+1.4**
TAR1	**Taranto**	**2.94**	**246**	*e*Pn	**Pn**	**12 04 52.8**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.94**	**159**	P	**Pn**	**12 04 52.2**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.94**	**159**	P	**Pn**	**12 04 52.2**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.94**	**159**	P	**Pn**	**12 04 52.2**	**+1.2**
EVR	**Evrytania**	**2.96**	**165**	P	**Pn**	**12 04 53.8**	**+2.5**
EVR	**Evrytania**	**2.96**	**165**	P	**Pn**	**12 04 52.6**	**+1.3**
EVR	**Evrytania**	**2.96**	**165**	*e*PN	**Pn**	**12 04 53.0**	**+1.7**
EVR				*e*SN	**Sb**	**12 05 32.8**	**-0.5**
EVR	**Evrytania**	**2.96**	**165**	P	**Pn**	**12 04 52.6**	**+1.3**
EVR	**Evrytania**	**2.96**	**165**	*e*Pn	**Pn**	**12 04 53.0**	**+1.7**
EVR				*e*Sb	**Sb**	**12 05 32.8**	**-0.5**
LKD2	**Lefkada island**	**2.99**	**182**	P	**Pn**	**12 04 53.4**	**+1.8**
LKD2	**Lefkada island**	**2.99**	**182**	P	**Pn**	**12 04 53.3**	**+1.7**
LKD2	**Lefkada island**	**2.99**	**182**	P	**Pn**	**12 04 53.3**	**+1.7**
AGG	**Agios Georgios**	**2.99**	**157**	P	**Pn**	**12 04 52.5**	**+0.9**
AGG				S	**Sn**	**12 05 28.4**	**+1.2**
AGG	**Agios Georgios**	**2.99**	**157**	P	**Pn**	**12 04 52.5**	**+0.9**
AGG				S	**Sn**	**12 05 28.4**	**+1.2**
AGG	**Agios Georgios**	**2.99**	**157**	P	**Pn**	**12 04 52.5**	**+0.9**
AGG				S	**Sn**	**12 05 28.4**	**+1.2**
AGG	**Agios Georgios**	**2.99**	**157**	*e*PB	**Pn**	**12 04 52.8**	**+1.2**
AGG	**Agios Georgios**	**2.99**	**157**	P	**Pn**	**12 04 52.5**	**+0.9**
AGG	**Agios Georgios**	**2.99**	**157**	*e*Pn	**Pn**	**12 04 52.8**	**+1.2**
AGG				S	**Sn**	**12 05 28.4**	**+1.2**
XOR	**Xorichti**	**3.02**	**142**	P	**Pn**	**12 04 52.4**	**+0.4**
XOR	**Xorichti**	**3.02**	**142**	P	**Pn**	**12 04 52.4**	**+0.4**
XOR	**Xorichti**	**3.02**	**142**	P	**Pn**	**12 04 52.4**	**+0.4**
BAI	**Bari**	**3.03**	**258**	*e*Pn	**Pn**	**12 04 53.6**	**+1.5**
BAI				*e*Sn	**Sn**	**12 05 27.6**	**-0.5**
BEO	**Beograd**	**3.04**	**355**	⇑*i*Pn	**Pn**	**12 04 52.6**	**+0.3**
NEO	**Neokhori**	**3.08**	**142**	P	**Pn**	**12 04 53.6**	**+0.7**
NEO	**Neokhori**	**3.08**	**142**	P	**Pn**	**12 04 53.6**	**+0.7**
NEO	**Neokhori**	**3.08**	**142**	*e*PB	**Pn**	**12 04 53.7**	**+0.8**
NEO				*e*SN	**Sb**	**12 05 33.6**	**-3.1**
NEO	**Neokhori**	**3.08**	**142**	P	**Pn**	**12 04 53.6**	**+0.7**
NEO				*e*Sn	**Sb**	**12 05 33.6**	**-3.1**
DJES	**Djerdap**	**3.15**	**23**	*e*Pn	**Pn**	**12 04 54.8**	**+1.0**
RMGR	**Halanga-Turnu**	**3.19**	**25**	⇓*i*P	**Pn**	**12 04 56.2**	**+1.8**
RMGR	**Halanga-Turnu**	**3.19**	**25**	S	**Sg**	**12 05 47.3**	**-0.1**
RMGR	**Halanga-Turnu**	**3.19**	**25**	⇓*i*P	**Pn**	**12 04 56.2**	**+1.8**
SKIA	**Skiathos**	**3.31**	**141**	P	**Pn**	**12 04 56.3**	**+0.3**
SKIA	**Skiathos**	**3.31**	**141**	P	**Pn**	**12 04 56.3**	**+0.3**
CRAR	**CRAIOVA**	**3.36**	**40**	⇑*i*P	**Pb**	**12 05 02.6**	**-1.4**
CRAR	**CRAIOVA**	**3.36**	**40**	⇑*i*P	**Pb**	**12 05 02.6**	**-1.4**
CRAR				S	**Sn**	**12 05 36.8**	**+0.5**
FGSL	**Fruska Gora**	**3.45**	**348**	*e*Pn	**Pn**	**12 04 58.6**	**+0.6**
FRGS	**Fruska Gora**	**3.46**	**348**	*e*Pn	**Pn**	**12 04 58.6**	**+0.6**
CDT	**Castel del Mon**	**3.48**	**260**	*e*Pn	**Pn**	**12 04 59.9**	**+1.5**
CDT				*e*Sn	**Sn**	**12 05 40.9**	**+1.6**
AOS	**Alonnisos**	**3.50**	**137**	P	**Pn**	**12 04 58.9**	**+0.2**
AOS	**Alonnisos**	**3.50**	**137**	P	**Pn**	**12 04 58.9**	**+0.2**

AOS Alonnisos 3.50 137 P Pn 12 04 58.9 +0.2
ATAL Atalanti 3.52 150 P Pn 12 04 59.2 +0.3
ATAL Atalanti 3.52 150 P Pn 12 04 59.2 +0.3
ATAL Atalanti 3.52 150 P Pn 12 04 59.2 +0.3
KALE Kalithea 3.53 163 P Pn 12 05 00.3 +1.1
KALE Kalithea 3.53 163 P Pn 12 05 00.3 +1.1
KALE Kalithea 3.53 163 P Pn 12 05 00.3 +1.1
TRIZ Trizonia 3.54 164 P Pn 12 05 00.5 +1.3
TRIZ Trizonia 3.54 164 P Pn 12 05 00.5 +1.3
LKR Lokris 3.55 151 P Pn 12 05 00.1 +0.8
LKR Lokris 3.55 151 P Pn 12 05 00.1 +0.8
LKR Lokris 3.55 151 ePN Pn 12 05 00.4 +1.1
LKR Lokris 3.55 151 P Pn 12 05 00.1 +0.8
LKR Lokris 3.55 151 ePn Pn 12 05 00.4 +1.1
UPR University Cam 3.57 168 ePG Pb 12 05 08.8 +1.2
UPR University Cam 3.57 168 ePg Pb 12 05 08.8 +1.2
VLS Valsamata 3.60 183 P Pn 12 05 00.5 +0.5
VLS Valsamata 3.60 183 P Pn 12 05 00.5 +0.5
VLS Valsamata 3.60 183 P Pn 12 05 00.6 +0.6
VLS Valsamata 3.60 183 ePN Pn 12 05 01.1 +1.1
VLS Valsamata 3.60 183 P Pn 12 05 00.5 +0.5
VLS Valsamata 3.60 183 ePn Pn 12 05 01.1 +1.1
RDO Rodhopi 3.61 99 P Pn 12 05 00.7 +0.6
RDO Rodhopi 3.61 99 P Pn 12 05 00.7 +0.6
RDO Rodhopi 3.61 99 ePN Pn 12 05 00.8 +0.6
RDO Rodhopi 3.61 99 ePn Pn 12 05 00.8 +0.6
DSF Desfina 3.61 158 P Pn 12 05 00.9 +0.7
DSF Desfina 3.61 158 P Pn 12 05 00.9 +0.7
DSF Desfina 3.61 158 P Pn 12 05 00.9 +0.7
MS1 Monte Sant'Ang 3.64 270 ePn Pn 12 05 02.2 +1.6
MS1 eSn Sn 12 05 44.8 +1.5
LAKA Lakka 3.65 165 P Pn 12 05 02.8 +2.1
LAKA Lakka 3.65 165 P Pn 12 05 02.8 +2.1
LAKA Lakka 3.65 165 P Pn 12 05 02.8 +2.1
KFL Anninata 3.67 180 P Pn 12 05 02.8 +1.9
KFL Anninata 3.67 180 P Pn 12 05 02.8 +1.9
MRKA Markates 3.73 144 P Pn 12 05 02.5 +0.6
MRKA Markates 3.73 144 P Pn 12 05 02.5 +0.6
RLS Riolos of Patr 3.75 172 P Pn 12 05 04.2 +2.2
RLS Riolos of Patr 3.75 172 P Pn 12 05 04.2 +2.2
RLS Riolos of Patr 3.75 172 ePN Pn 12 05 04.3 +2.2
RLS Riolos of Patr 3.75 172 P Pn 12 05 04.2 +2.2
LIA Limnos Island 3.81 118 P Pn 12 05 03.6 +0.7
LIA Limnos Island 3.81 118 P Pn 12 05 03.6 +0.7
LIA Limnos Island 3.81 118 ePN Pn 12 05 03.7 +0.8
LIA Limnos Island 3.81 118 P Pn 12 05 03.6 +0.7
BZS Buzias 3.88 8 ⇓P Pn 12 05 03.8 -0.1
BZS Buzias 3.88 8 ⇓iP Pn 12 05 03.8 -0.1
BZS Buzias 3.88 8 S Sb 12 06 04.5 +4.8
BZS Buzias 3.88 8 P Pn 12 05 03.8 -0.1
GZR Gura Zlata 3.89 21 ⇓P Pn 12 05 05.0 +1.0
GZR Gura Zlata 3.89 21 ⇓iP Pn 12 05 05.0 +1.0
GZR Gura Zlata 3.89 21 S Sb 12 06 01.0 +1.1
GZR Gura Zlata 3.89 21 P Pn 12 05 05.0 +1.0
TIM Timisoara 3.97 4 ⇑P Pn 12 05 06.4 +1.4
TIM Timisoara 3.97 4 ⇑iP Pn 12 05 06.4 +1.4
TIM Timisoara 3.97 4 P Pn 12 05 06.4 +1.4
TIM S Sb 12 05 57.0 -5.1
GUR Goura 4.01 162 P Pn 12 05 07.7 +1.9
GUR Goura 4.01 162 ePN Pn 12 05 07.8 +1.9
GUR Goura 4.01 162 P Pn 12 05 07.7 +1.9
TIP Timpagrande 4.03 231 ePn Pn 12 05 07.1 +1.0
TIP eSn Sn 12 05 53.6 +0.6
TIP Timpagrande 4.03 231 ePn Pn 12 05 07.1 +1.0
TIP eSn Sn 12 05 53.6 +0.6
ALN Alexandroupoli 4.04 101 P Pn 12 05 06.7 +0.7
ALN Alexandroupoli 4.04 101 P Pn 12 05 06.7 +0.7
ALN Alexandroupoli 4.04 101 P Pn 12 05 06.7 +0.7
ALN Alexandroupoli 4.04 101 ePN Pn 12 05 06.8 +0.7
ALN Alexandroupoli 4.04 101 P Pn 12 05 06.7 +0.7
ERET Eretria 4.05 144 P Pn 12 05 07.3 +1.1
ERET Eretria 4.05 144 P Pn 12 05 07.3 +1.1
VIL1 Vilia, Western 4.09 151 ePN Pn 12 05 08.0 +1.1
VIL1 Vilia, Western 4.09 151 P Pn 12 05 08.0 +1.1
LTK Loutraki 4.10 155 P Pn 12 05 07.4 +0.5
LTK Loutraki 4.10 155 P Pn 12 05 07.4 +0.5
LTK Loutraki 4.10 155 ePN Pn 12 05 07.9 +1.0
LTK Loutraki 4.10 155 P Pn 12 05 07.4 +0.5
LTK Loutraki 4.10 155 ePn Pn 12 05 07.9 +1.0
HUMR Humele 4.11 47⇑iP Pn 12 05 08.2 +1.2
HUMR Humele 4.11 47⇑iP Pn 12 05 08.2 +1.2
ENEZ Enez 4.16 103 eP Pn 12 05 10.9 +3.3
ENEZ Enez 4.16 103 eP Pn 12 05 11.0 +3.3
CUC Castrocucco 4.18 246 ePn Pn 12 05 09.6 +1.5
CUC eSn Sn 12 05 57.3 +0.6
CUC Castrocucco 4.18 246 ePn Pn 12 05 09.6 +1.5
CUC eSn Sn 12 05 57.3 +0.6
JMB Yambol 4.35 79 P Pn 12 05 10.8 +0.5
JMB Yambol 4.35 79 P Pn 12 05 10.8 +0.5
JMB Yambol 4.35 79 P Pn 12 05 10.7 +0.5
JMB Yambol 4.35 79 P Pn 12 05 10.8 +0.5
DEV Deva 4.38 20⇑iP Pn 12 05 10.4 -0.2
DEV Deva 4.38 20⇑iP Pn 12 05 10.4 -0.2
PTL Penteli 4.41 147 ePN Pn 12 05 12.9 +1.8
PTL Penteli 4.41 147 ePn Pn 12 05 12.9 +1.8
ATH Athens Observa 4.41 149 P Pn 12 05 12.7 +1.5
ATH Athens Observa 4.41 149 P Pn 12 05 12.7 +1.5
ATH Athens Observa 4.41 149 P Pn 12 05 12.5 +1.3
ATH S Sn 12 06 04.9 +2.7
ATH Athens Observa 4.41 149 ePN Pn 12 05 12.7 +1.5
ATH Athens Observa 4.41 149 P Pn 12 05 12.5 +1.3
ATH S Sn 12 06 04.9 +2.7
BOZC Bozcaada 4.43 114 iP Pn 12 05 12.5 +1.1
BOZC iS Sb 12 06 16.9 +1.6
EDRB Edirne 4.44 87 eP Pn 12 05 12.4 +0.9
EDRB Edirne 4.44 87 eP Pn 12 05 12.4 +0.9
ERIK Erikli-Kesan 4.44 103 eP Pn 12 05 16.0 +4.4
ERIK Erikli-Kesan 4.44 103 eP Pn 12 05 16.0 +4.4
GELI Tayfur-Gelibol 4.50 106 eP Pn 12 05 16.0 +3.6
GELI Tayfur-Gelibol 4.50 106 eP Pn 12 05 16.0 +3.6
RHK3 Tenkes 4.50 337⇓ePn Pn 12 05 13.1 +0.6
RHK3 Tenkes 4.50 337⇓ePn Pn 12 05 13.1 +0.6
NAIG Nisos Aigina 4.51 152 ePN Pn 12 05 13.8 +1.2
NAIG Nisos Aigina 4.51 152 ePn Pn 12 05 13.8 +1.2
VLY Voula,Athens 4.55 149 P Pn 12 05 14.7 +1.7
VLY Voula,Athens 4.55 149 P Pn 12 05 14.7 +1.7
VLY Voula,Athens 4.55 149 ePN Pn 12 05 14.2 +1.2
VLY Voula,Athens 4.55 149 ePn Pn 12 05 14.2 +1.2
VLY Voula,Athens 4.55 149 P Pn 12 05 14.7 +1.7
VLX Vlachokerasia 4.57 164 P Pn 12 05 15.4 +2.0
VLX Vlachokerasia 4.57 164 ePn Pn 12 05 15.3 +1.9
VLX eSN Sn 12 06 11.6 +5.4
VLX Vlachokerasia 4.57 164 ePn Pn 12 05 15.3 +1.9
VLX eSn Sn 12 06 11.6 +5.4
EZN Ezine 4.62 113 eP Pn 12 05 13.6 -0.4
EZN Ezine 4.62 113 eP Pn 12 05 13.6 -0.4
MRMA Marmari 4.62 142 P Pn 12 05 15.6 +1.5
MRMA Marmari 4.62 142 P Pn 12 05 15.6 +1.5
ITM Ithomi 4.67 169 P Pn 12 05 16.9 +2.1
ITM Ithomi 4.67 169 P Pn 12 05 16.9 +2.1
ITM Ithomi 4.67 169 ePN Pn 12 05 16.4 +1.6
ITM Ithomi 4.67 169 ePn Pn 12 05 16.4 +1.6
ITM Ithomi 4.67 169 P Pn 12 05 16.9 +2.1
DIDY Didyma 4.68 156 P Pn 12 05 15.5 +0.5
DIDY Didyma 4.68 156 P Pn 12 05 15.5 +0.5
PKSM Moragy 4.70 341 ⇓P Pn 12 05 15.0 -0.1
PKSM Moragy 4.70 341⇓iP Pn 12 05 15.0 -0.1
PKSM Moragy 4.70 341⇑ePn Pn 12 05 15.2 +0.1
PKSM Moragy 4.70 341⇑ePn Pn 12 05 15.2 +0.1
LPK Lapseki 4.71 105 eP Pn 12 05 18.2 +2.9
LPK Lapseki 4.71 105 eP Pn 12 05 18.2 +2.9
VOIR 4.78 39 ⇑P Pn 12 05 17.7 +1.4
VOIR 4.78 39⇑iP Pn 12 05 17.7 +1.4
VOIR 4.78 39 P Pn 12 05 17.7 +1.4
PKS2 Kecel 4.85 347⇓ePn Pn 12 05 17.9 +0.7
PKS2 eSn Sn 12 06 20.0 +7.0
PRK Paraskevi 4.87 119 P Pn 12 05 18.6 +1.1
PRK Paraskevi 4.87 119 P Pn 12 05 18.6 +1.1
PRK Paraskevi 4.87 119 P Pn 12 05 18.6 +1.1
PRK Paraskevi 4.87 119 ePN Pn 12 05 19.1 +1.6
PRK Paraskevi 4.87 119 P Pn 12 05 18.6 +1.1
PRK Paraskevi 4.87 119 ePn Pn 12 05 19.1 +1.6
SISC Sisak 4.90 320 ePn Pn 12 05 19.9 +2.0
SISC Sisak 4.90 320 ePn Pn 12 05 19.8 +2.0
SULR 4.92 52⇑iP Pn 12 05 18.9 +0.7
SULR 4.92 52⇑iP Pn 12 05 18.9 +0.7
RKY Sarkoy-Tekirda 4.93 101 eP Pn 12 05 21.6 +3.3
RKY Sarkoy-Tekirda 4.93 101 eP Pn 12 05 21.6 +3.3
SART Tekirdag 4.93 101 iP Pn 12 05 24.0 +5.6
SART iS Sb 12 06 32.0 +2.2
PYL PYLOS 4.93 171 P Pn 12 05 18.9 +0.6
PYL PYLOS 4.93 171 ePN Pn 12 05 19.2 +0.9
PYL PYLOS 4.93 171 P Pn 12 05 18.9 +0.6
PYL PYLOS 4.93 171 ePn Pn 12 05 19.2 +0.9
MFT Murefte 4.98 99 eP Pn 12 05 23.0 +4.0
MFT Murefte 4.98 99 eP Pn 12 05 23.0 +4.0
SECR 5.03 48⇑iP Pn 12 05 21.5 +1.9
SECR 5.03 48⇑iP Pn 12 05 21.5 +1.9
KRBG Karabiga-Canak 5.10 104 eP Pn 12 05 23.9 +3.4
KRBG Karabiga-Canak 5.10 104 eP Pn 12 05 23.9 +3.4
AYVA Ayvalik 5.12 117 iP Pn 12 05 22.6 +1.8
AYVA eS Sn 12 06 17.5 -2.1
AYVA Ayvalik 5.12 117 iP Pn 12 05 22.6 +1.8
AYVA eS Sn 12 06 17.5 -2.1
TKR Tekirdag 5.12 97 eP Pn 12 05 25.9 +5.0
TKR Tekirdag 5.12 97 eP Pn 12 05 25.9 +5.0
PKS9 Tamasi 5.14 340⇓ePn Pn 12 05 21.6 +0.5
PKS9 Tamasi 5.14 340⇓ePn Pn 12 05 21.6 +0.5
CEL Celeste 5.16 229 ePn Pn 12 05 22.2 +0.7
CEL eSn Sn 12 06 20.1 -0.6
CEL Celeste 5.16 229 ePn Pn 12 05 22.2 +0.7
CEL eSn Sn 12 06 20.1 -0.6
NVLJ Novalja 5.16 305 iPn Pn 12 05 23.4 +2.1
NVLJ Sn Sn 12 06 22.4 +1.9
NVLJ Novalja 5.16 305 iPn Pn 12 05 23.4 +2.1
NVLJ Sn Sn 12 06 22.4 +1.9
DRGR 5.20 15 ⇑P Pn 12 05 22.5 +0.5
DRGR 5.20 15⇑iP Pn 12 05 22.5 +0.5
DRGR 5.20 15 S Sb 12 06 34.0 -3.5
DRGR 5.20 15 P Pn 12 05 22.5 +0.5
CRLT Corlu 5.25 95 eP Pn 12 05 25.9 +3.3
CRLT Corlu 5.25 95 eP Pn 12 05 25.9 +3.3
CHOS Chios island 5.26 128 P Pn 12 05 24.8 +1.9
CHOS Chios island 5.26 128 ePN Pn 12 05 24.8 +1.9
CHOS Chios island 5.26 128 P Pn 12 05 24.8 +1.9
MLR Muntele Rosu 5.26 43 Pn Pn 12 05 24.8 +1.9
comp=E,4.9nm,0.3s,baz=214,slow=6.9,SNR=46
MLR Sn Sn 12 06 25.1 +1.8
comp=E,3.2nm,0.3s,baz=261,slow=19,SNR=4.6
MLR Muntele Rosu 5.26 43 P Pn 12 05 24.8 +1.9
MLR 12 06 25.1
MLR pmax pmax
comp=Z,5.0nm,0.3s
MLR smax smax
comp=N,3.0nm,0.3s
MLR Muntele Rosu 5.26 43 Pn Pn 12 05 24.8 +1.9
MLR Sn Sn 12 06 25.1 +1.8
MLR Muntele Rosu 5.26 43⇑iP Pn 12 05 24.9 +1.9
MLR Muntele Rosu 5.26 43 Pn Pn 12 05 24.8 +1.9
MLR S Sn 12 06 25.1 +1.8
comp=N,3.0nm,0.3s
VLI Veliai 5.32 161 P Pn 12 05 24.4 +0.8
VLI Veliai 5.32 161 ePN Pn 12 05 24.5 +0.8
VLI Veliai 5.32 161 P Pn 12 05 24.4 +0.8
PGOR Pogoanele 5.48 53⇓iP Pn 12 05 28.1 +2.2
PGOR Pogoanele 5.48 53⇓iP Pn 12 05 28.1 +2.2
BOJS Bojanci 5.49 315 iPn Pn 12 05 28.3 +2.4
BOJS i 12 05 45.3
BOJS iSn Sn 12 06 32.4 +3.7
BOJS Bojanci 5.49 315 iPn Pn 12 05 28.3 +2.4
BOJS iSn Sn 12 06 32.4 +3.7
GONE Gonen-Balikesi 5.49 106 eP Pn 12 05 27.7 +1.7
GONE Gonen-Balikesi 5.49 106 eP Pn 12 05 27.7 +1.7
BEHE Becsehely 5.51 330⇑ePn Pn 12 05 27.3 +1.0
EDC Edincik 5.52 103 eP Pn 12 05 29.2 +2.8
EDC Edincik 5.52 103 eP Pn 12 05 29.2 +2.8
AQU L'Aquila 5.54 278 eP Pn 12 05 28.8 +2.1
AQU e 12 06 29.5
AQU L'Aquila 5.54 278 ePn Pn 12 05 28.8 +2.1
AQU eSn Sn 12 06 29.5 -0.7
AQU L'Aquila 5.54 278 eP Pn 12 05 28.8 +2.1
AQU eS Sn 12 06 29.5 -0.7
BALY Balya 5.56 109 iP Pn 12 05 28.4 +1.4
BALY iS Sg 12 07 04.4 +1.1
BALY Balya 5.56 109 iP Pn 12 05 28.4 +1.4
BNT Bandirma 5.56 102 eP Pn 12 05 29.2 +2.2
BNT Bandirma 5.56 102 eP Pn 12 05 29.2 +2.2
SLVT Silivri 5.59 93 eP Pn 12 05 29.2 +1.9
SLVT Silivri 5.59 93 eP Pn 12 05 29.2 +1.9
URLA Izmir 5.60 126 iP Pn 12 05 28.6 +1.1
URLA iS Sb 12 06 47.7 -1.4
URLA Izmir 5.60 126 iP Pn 12 05 28.6 +1.1
CTYL Yal??k??y-??at 5.62 91 eP Pn 12 05 29.2 +1.5
CTYL Yal??k??y-??at 5.62 91 eP Pn 12 05 29.2 +1.5
KOGS Kog 5.71 326 iPn Pn 12 05 29.6 +0.6
KYTH Kithira 5.76 162 ePN Pn 12 05 32.4 +2.7
KYTH Kithira 5.76 162 ePn Pn 12 05 32.4 +2.7
BALB Balikesir 5.78 109 eP Pn 12 05 30.5 +0.5
BALB Balikesir 5.78 109 eP Pn 12 05 30.5 +0.5
PKST T"s 5.83 341⇓ePn Pn 12 05 31.1 +0.5
PKST eSn Sn 12 06 40.1 +3.0
PKST T"s 5.83 341⇓ePn Pn 12 05 31.1 +0.5
PKST eSn Sn 12 06 40.1 +3.0
BUD Budapest 5.84 348⇓ePn Pn 12 05 31.7 +0.9
BUD Budapest 5.84 348⇓ePn Pn 12 05 31.7 +0.9
BLCB Balcova 5.86 123 eP Pn 12 05 30.5 -0.6
BLCB Balcova 5.86 123 eP Pn 12 05 30.5 -0.6
PLOR Plostina 5.87 44 ⇓P Pn 12 05 32.9 +1.7
PLOR Plostina 5.87 44⇓iP Pn 12 05 32.9 +1.7
PLOR Plostina 5.87 44 P Pn 12 05 32.9 +1.7
VISS Visnje 5.90 315 iPn Pn 12 05 33.9 +2.3
VISS Visnje 5.90 315 iPn Pn 12 05 33.9 +2.3
VRI Vrincioaia 5.92 44 ⇑P Pn 12 05 33.7 +1.8
VRI Vrincioaia 5.92 44⇑iP Pn 12 05 33.7 +1.8
VRI Vrincioaia 5.92 44 P Pn 12 05 33.7 +1.8
APE Apeiranthos 5.96 141 ePn Pn 12 05 32.6 +0.1
APE Apeiranthos 5.96 141 P Pn 12 05 34.1 +1.7
APE Apeiranthos 5.96 141 P Pn 12 05 34.1 +1.7
APE Apeiranthos 5.96 141 P Pn 12 05 34.1 +1.7
APE Apeiranthos 5.96 141 ePN Pn 12 05 33.8 +1.4
APE Apeiranthos 5.96 141 ePn Pn 12 05 33.8 +1.4
APE Apeiranthos 5.96 141 P Pn 12 05 34.1 +1.7
IZM Izmir 5.99 122 eP Pn 12 05 33.2 +0.3
IZM Izmir 5.99 122 eP Pn 12 05 33.2 +0.3
PDKS Podkum 5.99 318 ePn Pn 12 05 34.8 +1.9
PDKS
comp=Z,4μm,1.8s
BGKT Bogazkoy 6.01 93 eP Pn 12 05 35.8 +2.7
BGKT Bogazkoy 6.01 93 eP Pn 12 05 35.8 +2.7
AKS Akhisar 6.09 116 eP Pn 12 05 35.2 +1.0
AKS Akhisar 6.09 116 eP Pn 12 05 35.2 +1.0
AKHS Akhisar 6.09 116 iP Pn 12 05 36.2 +2.0
AKHS iS Sg 12 07 23.2 +3.1
AKHS Akhisar 6.09 116 iP Pn 12 05 36.2 +2.0
SMG Samos 6.17 129 ePN Pn 12 05 37.4 +2.0
SMG Samos 6.17 129 ePn Pn 12 05 37.4 +2.0
PSZ Piszkesteto 6.17 354 ⇑P Pn 12 05 35.8 +0.4
PSZ Piszkesteto 6.17 354 ePn Pn 12 05 35.0 -0.4
PSZ eSn Sn 12 06 47.1 +1.4
PSZ Piszkesteto 6.17 354⇑iP Pn 12 05 35.8 +0.4
PSZ Piszkesteto 6.17 354⇓ePn Pn 12 05 35.9 +0.5
PSZ eSn Sn 12 06 47.9 +2.2
PSZ Piszkesteto 6.17 354 ePn Pn 12 05 35.0 -0.4
PSZ Piszkesteto 6.17 354 P Pn 12 05 35.8 +0.4
PSZ eSn Sn 12 06 47.1 +1.4
PSZ S Sb 12 06 49.1 -17
TIRR Tirgusor 6.18 62 ⇑P Pn 12 05 36.3 +0.9
TIRR Tirgusor 6.18 62 ePn Pn 12 05 35.7 +0.3
TIRR Tirgusor 6.18 62⇑iP Pn 12 05 36.3 +0.9
TIRR Tirgusor 6.18 62⇑iP Pn 12 05 36.3 +0.9
BMR Baia Mare 6.20 17 ⇑P Pn 12 05 36.4 +0.7
BMR Baia Mare 6.20 17⇑iP Pn 12 05 36.3 +0.6
BMR Baia Mare 6.20 17 P Pn 12 05 36.4 +0.7
ARMT Armutlu 6.20 99 eP Pn 12 05 39.1 +3.4
SKDS Skadanscina 6.20 310 iPn Pn 12 05 37.2 +1.5
SKDS Skadanscina 6.20 310⇓iPn Pn 12 05 37.3 +1.5
SKDS Skadanscina 6.20 310⇓iPn Pn 12 05 37.3 +1.5
DURS Dursunbey 6.22 108 iP Pn 12 05 36.1 0.0
DURS iS Sn 12 06 43.6 -3.3
DURS Dursunbey 6.22 108 iP Pn 12 05 36.1 0.0
LJU Ljubljana 6.22 315 iPn Pn 12 05 38.2 +2.2
LJU iSn Sn 12 06 50.6 +3.8
MDNY Mudanya-Bursa 6.26 100 eP Pn 12 05 39.1 +2.5
MDNY Mudanya-Bursa 6.26 100 eP Pn 12 05 39.1 +2.5
BUY Buyukada 6.33 96 iP Pn 12 05 38.0 +0.6
BUY iS Sb 12 07 18.7 +8.7
BUY Buyukada 6.33 96 iP Pn 12 05 38.0 +0.6
PERS Pernice 6.35 322 iPn Pn 12 05 38.6 +0.8
PERS iSn Sn 12 06 47.9 -2.1
PERS Pernice 6.35 322 iPn Pn 12 05 38.6 +0.8
JAVS Javornik 6.38 312 iPn Pn 12 05 40.2 +2.0
JAVS iSn Sn 12 06 52.2 +1.4
SOKA Soboth 6.42 322⇑iPn Pn 12 05 39.6 +0.8
SOKA Soboth 6.42 322⇑iPn Pn 12 05 39.6 +0.8
SOKA Soboth 6.42 322 Pn Pn 12 05 39.6 +0.8
TRI Trieste 6.44 310 ePn Pn 12 05 40.5 +1.5
TRI e 12 06 52.3
TRI Trieste 6.44 310 ePn Pn 12 05 40.5 +1.5
TRI eSn Sn 12 06 52.3 +0.2
TRI Trieste 6.44 310 eP Pn 12 05 40.5 +1.5
TRI eS Sn 12 06 52.3 +0.2
TRPA Tarpa 6.47 10⇑iP Pn 12 05 40.2 +0.8
TRPA Tarpa 6.47 10⇑iP Pn 12 05 40.2 +0.8
OBKA Obir 6.53 319 ePn Pn 12 05 42.2 +1.9
OBKA Obir 6.53 319 iPn Pn 12 05 42.3 +2.0
OBKA Obir 6.53 319 iPn Pn 12 05 42.3 +2.0
SNR=87
OBKA Obir 6.53 319 Pn Pn 12 05 42.3 +2.0
SNR=87
VOY Vojsko 6.56 313⇑ePn Pn 12 05 42.5 +1.8
VOY eSn Sn 12 06 56.7 +1.5
DEMI Demirci 6.62 112 iP Pn 12 05 43.0 +1.3
DEMI iS Sn 12 06 52.7 -4.2
DEMI Demirci 6.62 112 iP Pn 12 05 43.0 +1.3
BURAR Bucovina Array 6.63 27 ⇓P Pn 12 05 43.8 +2.1
BURAR Bucovina Array 6.63 27⇓iP Pn 12 05 43.8 +2.1
BURAR Bucovina Array 6.63 27⇓iP Pn 12 05 43.8 +2.1
SOP Sopron 6.63 334 ePn Pn 12 05 41.7 +0.1
SOP Sopron 6.63 334 ePn Pn 12 05 41.7 +0.1
BUR08 Bucovina Ar. S 6.65 27 ePn Pn 12 05 43.7 +1.8
BUR08 Bucovina Ar. S 6.65 27 ePn Pn 12 05 43.7 +1.8
ARSA Arzberg 6.65 327 ePn Pn 12 05 42.7 +0.8
ARSA Arzberg 6.65 327⇑iPn Pn 12 05 42.4 +0.5
ARSA iSn Sn 12 06 56.6 -0.6
ARSA Arzberg 6.65 327⇑iPn Pn 12 05 42.4 +0.5
SNR=44
ARSA ⇑iSn Sn 12 06 56.6 -0.6
ARSA Arzberg 6.65 327 Pn Pn 12 05 42.4 +0.5
SNR=44
ARSA iSn Sn 12 06 56.7 -0.6
SILT Sile 6.67 92 eP Pn 12 05 42.6 +0.5
SILT Sile 6.67 92 eP Pn 12 05 42.6 +0.5
KECS Kecovo 6.71 358 eP Pn 12 05 43.8 +1.1
KECS e 12 06 58.6
KECS Kecovo 6.71 358 ePN Pn 12 05 43.8 +1.1
KECS eSN Sn 12 06 58.6 -0.2
KECS Kecovo 6.71 358 eP Pn 12 05 43.8 +1.1
KECS eS Sn 12 06 58.6 -0.2
HRT Hereke 6.74 95 eP Pn 12 05 44.6 +1.4
HRT Hereke 6.74 95 eP Pn 12 05 44.6 +1.4
CADS Cadrg 6.76 313 iPn Pn 12 05 45.1 +1.7
CADS Cadrg 6.76 313 iPn Pn 12 05 45.2 +1.7
KULA Kula-Manisa 6.84 116 eP Pn 12 05 48.2 +3.6
VYHS Vyhne 6.86 349 eP Pn 12 05 44.6 -0.2
VYHS e 12 06 58.9
VYHS MLR MLR
comp=Z,300nm,2.4s
VYHS Vyhne 6.86 349 ePN Pn 12 05 44.6 -0.2
VYHS eSN Sn 12 06 58.9 -3.6
VYHS Vyhne 6.86 349 eP Pn 12 05 44.6 -0.2
comp=Z,300nm,2.4s
ADVT Abdulvahap 6.88 98 eP Pn 12 05 48.7 +3.7
BODT Bodrum 6.89 131 eP Pn 12 05 47.3 +2.0
BODT Bodrum 6.89 131 eP Pn 12 05 47.3 +2.0
VAM Vamos 6.89 156 ePN Pn 12 05 44.8 -0.5
VAM Vamos 6.89 156 ePn Pn 12 05 44.8 -0.5
UZH Uzhgorod 6.93 8 eP Pn 12 05 46.0 +0.3
UZH eS Sn 12 07 05.0 +0.7
UZH MLR MLR
comp=Z,6μm,9.0s
UZH Uzhgorod 6.93 8 eP Pn 12 05 46.0 +0.3
comp=Z,6μm,9.0s
UZH eS Sn 12 07 05.0 +0.7
KOLL Kolacno 7.01 347 eP Pn 12 05 46.9 +0.1
KOLL e 12 07 00.3
KOLL Kolacno 7.01 347 ePN Pn 12 05 46.9 +0.1
KOLL eSN Sn 12 07 00.3 -5.9
KOLL Kolacno 7.01 347 eP Pn 12 05 46.9 +0.1
MYKA Terra Mystica 7.07 316⇓iPn Pn 12 05 49.7 +2.0
MYKA Terra Mystica 7.07 316⇓iPn Pn 12 05 49.7 +2.0
MYKA Terra Mystica 7.07 316 Pn Pn 12 05 49.7 +2.0
CONA Conrad Observa 7.08 332⇑iPn Pn 12 05 48.0 +0.1
CONA Conrad Observa 7.08 332⇑iPn Pn 12 05 48.0 +0.1
SNR=38
CONA Conrad Observa 7.08 332 Pn Pn 12 05 48.0 +0.1
SNR=38
CRVS Cervenica-Dubn 7.14 3 eP Pn 12 05 49.6 +1.0
CRVS MLR MLR
comp=Z,500nm,2.2s
CRVS Cervenica-Dubn 7.14 3 ePN Pn 12 05 49.6 +1.0
CRVS e 12 07 56.9
CRVS Cervenica-Dubn 7.14 3 eP Pn 12 05 49.6 +1.0
comp=Z,500nm,2.2s
CRVS eSg Sg 12 07 56.9 +3.1
GDZ Gediz 7.14 109 iP Pn 12 05 50.1 +1.3
GDZ iS Sb 12 07 43.8 +10
GDZ Gediz 7.14 109 iP Pn 12 05 50.1 +1.3
SMOL Smolenice 7.14 342 eP Pn 12 05 50.4 +1.7
SMOL e 12 07 08.2
SMOL Smolenice 7.14 342 ePN Pn 12 05 50.4 +1.7
SMOL eSN Sn 12 07 08.2 -1.3
SMOL Smolenice 7.14 342 eP Pn 12 05 50.4 +1.7
IDI Anoyia 7.23 152 ePn Pn 12 05 50.0 +0.1
IDI eSn Sn 12 07 09.2 -2.5
IDI Anoyia 7.23 152 P Pn 12 05 50.0 +0.1
IDI Anoyia 7.23 152 P Pn 12 05 50.0 +0.1
KOLS Kolonicke sedl 7.23 8 eP Pn 12 05 51.1 +1.3
KOLS MLR MLR
comp=Z,800nm,2.0s
KOLS Kolonicke sedl 7.23 8 ePN Pn 12 05 51.1 +1.3
KOLS ePG Pg 12 06 26.5 +3.4
KOLS e 12 07 58.2
KOLS Kolonicke sedl 7.23 8 eP Pn 12 05 51.1 +1.3
comp=Z,800nm,2.0s
KOLS eSg Sg 12 07 58.2 +1.5
LIKS Likavka 7.37 351 eP Pn 12 05 54.4 +2.6
LIKS Likavka 7.37 351 ePN Pn 12 05 54.4 +2.6
LIKS Likavka 7.37 351 eP Pn 12 05 54.4 +2.6
GVD Gavdhos 7.39 159 ePn Pn 12 05 53.0 +0.9
comp=Z,265nm,0.8s
GVD eSn Sn 12 07 13.0 -2.7
GVD Gavdhos 7.39 159 P Pn 12 05 52.6 +0.5
GVD Gavdhos 7.39 159 P Pn 12 05 52.6 +0.5
GVD Gavdhos 7.39 159 ePn Pn 12 05 53.0 +0.9
comp=Z,265nm,0.8s
SIVA Sivas 7.45 154 ePN Pn 12 05 52.0 -0.8
SIVA Sivas 7.45 154 ePn Pn 12 05 52.0 -0.8
GULT Gulveren 7.45 97 eP Pn 12 05 55.7 +2.6
GULT Gulveren 7.45 97 eP Pn 12 05 55.7 +2.6
KHAL Karahalli 7.48 114 iP Pn 12 05 55.5 +2.1
KHAL iS Sg 12 07 56.7 -8.0
KHAL Karahalli 7.48 114 iP Pn 12 05 55.5 +2.1
NPS Neapolis 7.52 148 ePN Pn 12 05 53.7 -0.1
NPS Neapolis 7.52 148 ePn Pn 12 05 53.7 -0.1
KBA Koelnbreinsper 7.52 317 ePn Pn 12 05 56.1 +2.0
KBA Koelnbreinsper 7.52 317⇓iP Pn 12 05 56.0 +2.0
KBA Koelnbreinsper 7.52 317⇓iPn Pn 12 05 56.0 +2.0
KBA Koelnbreinsper 7.52 317⇓iPn Pn 12 05 56.0 +2.0
SNR=67
KBA Koelnbreinsper 7.52 317 Pn Pn 12 05 56.0 +2.0
SNR=67
DNZL Cakiroluk 7.55 120 iP Pn 12 05 57.8 +3.4
DNZL iS Sb 12 08 08.8 +23
ALT Altintas 7.60 108 eP Pn 12 05 55.7 +0.6
ALT Altintas 7.60 108 eP Pn 12 05 55.7 +0.6
MOA Molln 7.64 325 ePn Pn 12 05 57.0 +1.4
MOA eSn Sn 12 07 24.3 +2.5
MOA Molln 7.64 325⇓iPn Pn 12 05 56.7 +1.1
MOA iSn Sn 12 07 24.3 +2.5
MOA Molln 7.64 325⇓iPn Pn 12 05 56.7 +1.1
SNR=18
MOA ⇓iSn Sn 12 07 24.3 +2.5
MOA Molln 7.64 325 Pn Pn 12 05 56.7 +1.1
SNR=18
MOA Sn Sn 12 07 24.3 +2.5
STHS Stebnicka Huta 7.64 2 eP Pn 12 05 57.2 +1.6
STHS e 12 07 23.6
STHS MLR MLR
comp=Z,100nm,1.2s
STHS Stebnicka Huta 7.64 2 ePN Pn 12 05 57.2 +1.6

STHS eSN Sn 12 07 23.6 +1.8
STHS Stebnicka Huta 7.64 2 eP Pn 12 05 57.2 +1.6
comp=Z,100nm,1.2s
STHS eS Sn 12 07 23.6 +1.8
NIE Niedzica 7.65 358 eP Pn 12 05 58.5 +2.9
NIE Niedzica 7.65 358 eP Pn 12 05 58.5 +2.9
NIE Niedzica 7.65 358 eP Pn 12 05 58.5 +2.9
HENT Hendek 7.66 94 i P Pn 12 05 56.4 +0.6
HENT i S Sb 12 07 53.3 +4.9
HENT Hendek 7.66 94 i P Pn 12 05 56.4 +0.6
ABTA Abfaltersbach 7.75 313 ⇓i Pn Pn 12 05 58.8 +1.7
ABTA i Sn Sn 12 07 27.1 +2.5
ABTA Abfaltersbach 7.75 313 ⇑i Pn Pn 12 05 58.8 +1.7
SNR=41
ABTA ⇑i Sn Sn 12 07 27.1 +2.5
ABTA Abfaltersbach 7.75 313 Pn Pn 12 05 58.8 +1.7
SNR=41
ABTA Sn Sn 12 07 27.1 +2.5
KIS Kishinev 7.75 45 e Pn 12 06 04.0 +7.0
KIS LRM MLR 12 09 58.0
comp=Z,5µm,12.0s
ZKR Zakros 7.89 146 ePN Pn 12 06 01.8 +2.8
ZKR Zakros 7.89 146 ePn Pn 12 06 01.8 +2.8
MDUB Mudurnu 7.95 96 eP Pn 12 06 02.0 +2.1
MDUB Mudurnu 7.95 96 eP Pn 12 06 02.0 +2.1
ARG Arkhangelos 7.96 132 ePN Pn 12 06 04.0 +4.2
KARP Karpathos 7.96 139 P Pn 12 06 03.1 +3.1
KARP Karpathos 7.96 139 P Pn 12 06 03.1 +3.1
KARP Karpathos 7.96 139 ePN Pn 12 06 03.3 +3.3
ESKT Eskisehir 7.96 103 eP Pn 12 05 59.5 -0.5
ESKT Eskisehir 7.96 103 eP Pn 12 05 59.5 -0.5
KWP Kalwaria Pacla 7.96 9 eP Pn 12 06 02.9 +3.0
KWP eSg Sb 12 08 29.5 +32
KWP Kalwaria Pacla 7.96 9 ⇑P Pn 12 06 02.2 +2.3
KWP Kalwaria Pacla 7.96 9 ePn Pn 12 06 02.1 +2.2
KWP Kalwaria Pacla 7.96 9 ⇑i P Pn 12 06 02.2 +2.3
KWP Kalwaria Pacla 7.96 9 ePn Pn 12 06 02.1 +2.2
VRAC Vranov 8.09 340 Pn Pn 12 06 02.7 +1.1
comp=Z,1.8nm,0.3s,baz=166,slow=12,SNR=54
VRAC Vranov 8.09 340 ⇑P Pn 12 06 02.9 +1.3
VRAC Vranov 8.09 340 Pn Pn 12 06 02.7 +1.1
VRAC Vranov 8.09 340 ⇑i P Pn 12 06 02.8 +1.1
VRAC Vranov 8.09 340 ePn Pn 12 06 02.7 +1.1
SHUT Suhut-Afyon 8.13 110 eP Pn 12 06 05.6 +3.3
RJOB Jochberg 8.24 319 ePn Pn 12 06 06.5 +2.7
OKC Ostrava-Krasne 8.27 348 eP Pn 12 06 05.9 +1.8
OKC MLR MLR
comp=Z,3µm,10.4s
OKC Ostrava-Krasne 8.27 348 ePN Pn 12 06 05.9 +1.8
OKC AMS AMS 12 09 40.0
comp=Z,3µm,10.4s
OKC Ostrava-Krasne 8.27 348 eP Pn 12 06 05.9 +1.8
comp=Z,3µm,10.4s
MORC Moravsky Berou 8.32 345 ⇑P Pn 12 06 04.3 -0.5
MORC Moravsky Berou 8.32 345 ePn Pn 12 06 05.3 +0.5
MORC eSn Sn 12 07 40.1 +1.7
MORC Moravsky Berou 8.32 345 ⇑i P Pn 12 06 04.3 -0.5
MORC Moravsky Berou 8.32 345 P Pn 12 06 04.3 -0.5
MORC Moravsky Berou 8.32 345 ePn Pn 12 06 05.3 +0.5
MORC eSn Sn 12 07 40.1 +1.7
LVV L'vov 8.35 15 eP Pn 12 06 09.0 +3.8
LVV eS Sn 12 07 41.0 +1.9
LVV MLR MLR
comp=Z,700nm,2.0s
TREC Trest 8.39 335 eP Pn 12 06 07.2 +1.4
TREC MLR MLR
comp=Z,4µm,7.9s
TREC Trest 8.39 335 ePN Pn 12 06 07.2 +1.4
TREC AMS AMS 12 09 50.0
comp=Z,4µm,7.9s
TREC Trest 8.39 335 eP Pn 12 06 07.2 +1.4
comp=Z,4µm,7.9s
OJC Ojcow 8.47 356 eP Pn 12 06 09.3 +2.4
OJC ePP PnPn 12 06 17.4 +2.9
OJC eSn Sn 12 07 48.3 +6.2
OJC Ojcow 8.47 356 eP Pn 12 06 09.2 +2.4
OJC e 12 07 48.3
OJC Ojcow 8.47 356 ePn Pn 12 06 08.3 +1.4
OJC Ojcow 8.47 356 ePn Pn 12 06 08.3 +1.4
OJC Ojcow 8.47 356 eP Pn 12 06 09.2 +2.4
WTTA Wattenberg 8.54 313 ePn Pn 12 06 09.9 +1.9
WTTA eSn Sn 12 07 48.5 +4.4
WTTA Wattenberg 8.54 313 ⇑i P Pn 12 06 09.7 +1.7
WTTA i 12 07 45.8
WTTA Wattenberg 8.54 313 ⇑i Pn Pn 12 06 09.7 +1.7
WTTA i Sn Sn 12 07 45.8 +1.7
WTTA Wattenberg 8.54 313 ⇑i Pn Pn 12 06 09.7 +1.7
SNR=80
WTTA ⇓i Sn Sn 12 07 45.8 +1.7
WTTA Wattenberg 8.54 313 Pn Pn 12 06 09.7 +1.7
SNR=80
WTTA Sn Sn 12 07 45.8 +1.7
WATA Walderalm 8.62 313 ⇓i P Pn 12 06 11.2 +2.2
WATA Walderalm 8.62 313 ⇓i Pn Pn 12 06 11.2 +2.2
WATA Walderalm 8.62 313 ⇓i Pn Pn 12 06 11.2 +2.2
SNR=78
WATA Walderalm 8.62 313 Pn Pn 12 06 11.2 +2.2
SNR=78
GEC2 GERESS Array S 8.66 327 ePn Pn 12 06 10.2 +0.7
GEC2 GERESS Array S 8.66 327 eP Pn 12 06 10.2 +0.7
GEC2 GERESS Array S 8.66 327 eP Pn 12 06 10.2 +0.7
GERES GERESS Array B 8.66 327 Pn Pn 12 06 10.8 +1.3
comp=Z,3.1nm,0.3s,baz=146,slow=12,SNR=61
GERES LR LR 12 09 43.9
comp=Z,175nm,18.1s,baz=136,slow=39
GERES GERESS Array B 8.66 327 P Pn 12 06 10.8 +1.3
GERES pmax pmax
comp=Z,3.0nm,0.3s
GERES MLR MLR
comp=Z,175nm,18.1s
GERES GERESS Array B 8.66 327 Pn Pn 12 06 10.8 +1.3
GERES GERESS Array B 8.66 327 P Pn 12 06 10.8 +1.3
comp=Z,175nm,18.1s
ELL Elmali 8.66 122 eP Pn 12 06 10.6 +0.9
ELL Elmali 8.66 122 eP Pn 12 06 10.6 +0.9
BCK Bucak 8.69 117 eP Pn 12 06 08.9 -1.1
BCK Bucak 8.69 117 eP Pn 12 06 08.9 -1.1
AKAS Kas 8.80 126 i P Pn 12 06 18.0 +6.4
AKAS eS 12 09 35.4
PGF Pioggiola 8.80 279 eP Pn 12 06 13.8 +2.2
comp=Z,157nm,0.7s
PGF Pioggiola 8.80 279 eP Pn 12 06 13.8 +2.2
comp=Z,78nm,0.7s
MOTA Moosalm 8.88 312 ⇑i P Pn 12 06 14.6 +1.9
MOTA Moosalm 8.88 312 ⇑i Pn Pn 12 06 14.6 +1.9
MOTA Moosalm 8.88 312 ⇑i Pn Pn 12 06 14.6 +1.9
SNR=69
MOTA Moosalm 8.88 312 Pn Pn 12 06 14.6 +1.9
SNR=69
FETA Feichten 8.91 309 ⇑i Pn Pn 12 06 14.3 +1.2
FETA i Sn Sn 12 07 57.3 +4.1
FETA Feichten 8.91 309 ⇑i Pn Pn 12 06 14.3 +1.2
SNR=18
FETA ⇑i Sn Sn 12 07 57.3 +4.1
FETA Feichten 8.91 309 Pn Pn 12 06 14.3 +1.2
SNR=18
SAFT Safranbolu 8.93 90 eP Pn 12 06 15.5 +2.3
KHC Kasperske Hory 8.93 328 eP Pn 12 06 14.6 +1.4
KHC MLR MLR
comp=Z,5µm,9.4s
KHC Kasperske Hory 8.93 328 ePn Pn 12 06 14.6 +1.4
KHC Kasperske Hory 8.93 328 ePN Pn 12 06 14.6 +1.4
KHC ex x 12 06 18.0
KHC ex x 12 07 04.5
KHC AMS AMS 12 10 10.0
comp=Z,5µm,9.4s
KHC Kasperske Hory 8.93 328 eP Pn 12 06 14.6 +1.4
comp=Z,5µm,9.4s
KIZT Kizilcal 8.94 105 eP Pn 12 06 15.3 +1.9
KIZT Kizilcal 8.94 105 eP Pn 12 06 15.3 +1.9
VSL Villasalto 8.98 259 ePn Pn 12 06 15.4 +1.5
VSL Villasalto 8.98 259 ePn Pn 12 06 15.4 +1.5
FUORN Ofenpass-Fuorn 8.98 306 ePn Pn 12 06 16.0 +1.8
FUORN Ofenpass-Fuorn 8.98 306 ePn Pn 12 06 16.0 +1.8
DPC Dobruska-Polom 9.12 342 eP Pn 12 06 17.3 +1.5
DPC Dobruska-Polom 9.12 342 ePn Pn 12 06 17.3 +1.5
DPC Dobruska-Polom 9.12 342 ePN Pn 12 06 17.2 +1.5
DPC AMS AMS 12 10 20.0
comp=Z,4µm,9.0s
DPC Dobruska-Polom 9.12 342 eP Pn 12 06 17.3 +1.5
RETA Reutte 9.15 312 ⇓i Pn Pn 12 06 18.1 +1.8
RETA i Sn Sn 12 08 00.6 +1.6
RETA Reutte 9.15 312 ⇓i Pn Pn 12 06 18.1 +1.8
SNR=14
RETA ⇓i Sn Sn 12 08 00.6 +1.6
RETA Reutte 9.15 312 Pn Pn 12 06 18.1 +1.8
SNR=14
RETA Sn Sn 12 08 00.6 +1.6
WET Wettzell 9.23 326 ePn Pn 12 06 18.3 +1.0
WET Wettzell 9.23 326 eP Pn 12 06 18.3 +1.0
WET Wettzell 9.23 326 eP Pn 12 06 18.3 +1.0
FUR Furstenfeldbru 9.29 317 ePn Pn 12 06 19.5 +1.4
FUR Furstenfeldbru 9.29 317 eP Pn 12 06 19.5 +1.4
DAVOX Davos/Dischmat 9.29 306 Pn Pn 12 06 20.6 +2.3
comp=Z,10nm,0.3s,baz=129,slow=15,SNR=58
DAVOX Sn Sn 12 08 02.0 -0.6
comp=Z,4.5nm,0.3s,baz=96,slow=20,SNR=4.6
DAVOX Davos/Dischmat 9.29 306 P Pn 12 06 20.6 +2.3
DAVOX 12 08 02.0
DAVOX Davos/Dischmat 9.29 306 Pn Pn 12 06 20.6 +2.3
DAVOX Sn Sn 12 08 02.0 -0.6
DAVOX Davos/Dischmat 9.29 306 P Pn 12 06 20.6 +2.3
DAVOX S Sn 12 08 02.0 -0.6
PRU Pruhonice 9.30 334 eP Pn 12 06 19.4 +1.2
PRU MLR MLR
comp=Z,5µm,8.5s
PRU Pruhonice 9.30 334 ePN Pn 12 06 19.4 +1.2
PRU AMS AMS 12 10 10.0
comp=Z,5µm,8.5s
PRU Pruhonice 9.30 334 eP Pn 12 06 19.4 +1.2
comp=Z,5µm,8.5s
TUE Stuetta 9.48 304 ePn Pn 12 06 22.6 +1.7
TUE eSn Sn 12 08 06.5 -0.7
TUE Stuetta 9.48 304 ePn Pn 12 06 22.6 +1.7
TUE eSn Sn 12 08 06.5 -0.7
DAVA Damuels 9.55 309 eSn Sn 12 08 12.9 +4.1
DAVA Damuels 9.55 309 ⇑i Pn Pn 12 06 23.3 +1.6
DAVA Damuels 9.55 309 ⇑i Pn Pn 12 06 23.3 +1.6
SNR=15
DAVA Damuels 9.55 309 Pn Pn 12 06 23.3 +1.6
SNR=15
KSP Ksiaz 9.59 343 eP Pn 12 06 23.8 +1.6
KSP Ksiaz 9.59 343 eP Pn 12 06 23.3 +1.2
KSP Ksiaz 9.59 343 eP Pn 12 06 23.3 +1.2
PVCC Panska Ves 9.76 336 eP Pn 12 06 26.3 +1.8
PVCC MLR MLR
comp=Z,4µm,8.6s
PVCC Panska Ves 9.76 336 ePN Pn 12 06 26.3 +1.8
PVCC AMS AMS 12 10 40.0
comp=Z,4µm,8.6s
PVCC Panska Ves 9.76 336 eP Pn 12 06 26.3 +1.8
comp=Z,4µm,8.6s
BR131 Keskin Array S 9.95 98 ePn Pn 12 06 28.1 +0.8
comp=Z,3.1nm,0.5s
BR131 Keskin Array S 9.95 98 ePn Pn 12 06 28.1 +0.8
comp=Z,3.1nm,0.5s
BRTR Keskin Array B 9.95 98 Pn Pn 12 06 28.6 +1.3
comp=Z,0.6nm,0.3s,baz=282,slow=13,SNR=11
BRTR LR LR 12 10 09.9
comp=Z,747nm,19.9s,baz=157,slow=36
BRTR Keskin Array B 9.95 98 i P Pn 12 06 31.7 +4.4
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 9.95 98 Pn Pn 12 06 28.6 +1.3
BRTR Keskin Array B 9.95 98 Pn Pn 12 06 28.6 +1.3
SAOF Saorge 9.97 287 eP Pn 12 06 28.3 +0.8
SAOF Saorge 9.97 287 eP Pn 12 06 28.3 +0.8
SAOF Saorge 9.97 287 eP Pn 12 06 28.3 +0.8
LTBQ Tobruq 10.02 165 eP Pn 12 06 28.1 0.0
comp=Z,24nm,0.8s,SNR=22
SBF Sospel 10.04 286 eP Pn 12 06 28.9 +0.4
comp=Z,154nm,0.6s
KAMT Kaman 10.11 100 eP Pn 12 06 31.5 +2.0
KAMT Kaman 10.11 100 eP Pn 12 06 31.5 +2.0
TOUF Mont Tournerai 10.20 287 eP Pn 12 06 32.3 +1.6
TOUF Mont Tournerai 10.20 287 eP Pn 12 06 32.3 +1.6
TOUF Mont Tournerai 10.20 287 eP Pn 12 06 32.3 +1.6
TOUF Mont Tournerai 10.20 287 eP Pn 12 06 32.3 +1.6
BRG Berggiesshubel 10.26 335 i P Pn 12 06 33.5 +2.2
comp=Z,9.6nm,0.9s
BRG e 12 06 51.5
comp=Z,23nm,1.4s
BRG S Sn 12 08 33.0 +7.1
comp=Z,5µm,8.3s
BRG
comp=N,3µm,7.9s
BRG
comp=E,2µm,7.9s
BRG Berggiesshubel 10.26 335 i P Pn 12 06 33.5 +2.2
BRG S Sn 12 08 33.0 +7.1
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,23nm,1.4s
BRG MLR MLR
comp=Z,5µm,8.3s
BRG MLR MLR
comp=N,3µm,7.9s
BRG MLR MLR
comp=E,2µm,7.9s
BRG Berggiesshubel 10.26 335 i P Pn 12 06 33.5 +2.2
comp=E,23nm,1.4s
NKC Novy Kostel 10.26 328 eP Pn 12 06 32.3 +1.0
NKC MLR MLR
comp=Z,5µm,10.9s
NKC Novy Kostel 10.26 328 ePN Pn 12 06 32.3 +1.0
NKC AMS AMS 12 10 50.0
comp=Z,5µm,10.9s
NKC Novy Kostel 10.26 328 eP Pn 12 06 32.3 +1.0
comp=Z,5µm,10.9s
WERN Wernitzgruen 10.33 328 ePn Pn 12 06 33.3 +1.0
GRF Grafenberg Arr 10.36 323 ePn Pn 12 06 32.9 +0.1
GRF Grafenberg Arr 10.36 323 eP Pn 12 06 32.9 +0.1
GRFO Grafenberg 10.36 323 eP Pn 12 06 33.1 +0.3
GRFO Grafenberg 10.36 323 ePn Pn 12 06 33.1 +0.3
CALN Calern 10.42 286 eP Pn 12 06 34.8 +1.0
CALN Calern 10.42 286 eP Pn 12 06 34.8 +1.0
CALN Calern 10.42 286 eP Pn 12 06 34.8 +1.0
CALN Calern 10.42 286 eP Pn 12 06 34.8 +1.0
KIEV Kiev 10.64 30 eP Pn 12 06 37.7 +1.2
KIEV Kiev 10.64 30 ePn Pn 12 06 36.3 -0.2
KIEV Kiev 10.64 30 ePn Pn 12 06 36.3 -0.2
KIEV Kiev 10.64 30 eP Pn 12 06 37.7 +1.2
AKASG Malin Array Be 10.65 30 Pn Pn 12 06 37.5 +0.8
comp=Z,0.7nm,0.3s,baz=216,slow=13,SNR=11
AKASG Malin Array Be 10.65 30 i P Pn 12 06 38.2 +1.5
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 10.65 30 Pn Pn 12 06 37.5 +0.8
AKASG Malin Array Be 10.65 30 Pn Pn 12 06 37.5 +0.8
AKASG Malin Array Be 10.65 30 i P Pn 12 06 38.2 +1.5
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 10.65 30 eP Pn 12 06 37.5 +0.8
AKBB Malin Array Si 10.65 30 ePn Pn 12 06 37.5 +0.8
AKBB Malin Array Si 10.65 30 eP Pn 12 06 37.5 +0.8
SENIN Lac Senin/Sane 10.74 300 ePn Pn 12 06 39.4 +1.1
SENIN Lac Senin/Sane 10.74 300 ePn Pn 12 06 39.3 +1.1
STU Stuttgart 10.76 314 eSn Sn 12 08 39.1 +0.9
BNI Bardonecchia 10.79 292 eP Pn 12 06 38.5 -0.2
BNI Bardonecchia 10.79 292 ePn Pn 12 06 38.5 -0.2
BNI Bardonecchia 10.79 292 eP Pn 12 06 38.5 -0.2
KEST Kesra 10.79 240 Pn Pn 12 06 41.4 +2.6
comp=Z,0.1nm,0.3s,baz=56,slow=3.6,SNR=2.7
KEST LR LR 12 12 06.1
comp=Z,700nm,19.4s,baz=186,slow=44
KEST Kesra 10.79 240 ePn Pn 12 06 41.0 +2.2
KEST Kesra 10.79 240 ePn Pn 12 06 41.0 +2.2
LPG La Plagne 10.84 295 eP Pn 12 06 39.2 -0.4
comp=Z,157nm,0.6s
LPG La Plagne 10.84 295 eP Pn 12 06 39.2 -0.4
comp=Z,79nm,0.6s
LPL La Plagne 10.86 295 eP Pn 12 06 39.1 -0.7
comp=Z,94nm,0.6s
LPL La Plagne 10.86 295 eP Pn 12 06 39.1 -0.7
comp=Z,47nm,0.6s
MOX Moxa 10.91 327 ePn Pn 12 06 42.3 +2.0
MOX Moxa 10.91 327 eP Pn 12 06 42.3 +2.0
CLL Collm 10.94 333 eP Pn 12 06 41.0 +0.4
CLL Collm 10.94 333 ePn Pn 12 06 41.0 +0.4
CLL ePg 12 07 28.0
CLL e 12 08 08.0
CLL eSn Sn 12 08 23.0 -20
CLL eSb 12 09 24.0
CLL eSg 12 10 11.0
CLL Lmax 12 11 12.0
CLL Collm 10.94 333 eP Pn 12 06 41.0 +0.4

FELD Feldberg im Sc 10.94 308 eP Pn 12 06 41.3 +0.5
FELD Feldberg im Sc 10.94 308 eP Pn 12 06 41.3 +0.5
BFO Black Forest 10.98 311 ePn Pn 12 06 41.9 +0.6
BFO eL L 12 11 28.2
comp=Z,2µm,19.2s
BFO Black Forest 10.98 311 eP Pn 12 06 41.9 +0.6
BFO MLR MLR
comp=Z,2µm,19.2s
BFO Black Forest 10.98 311 ePn Pn 12 06 41.3 0.0
BFO Black Forest 10.98 311 ePn Pn 12 06 41.3 0.0
BFO Black Forest 10.98 311 eP Pn 12 06 41.9 +0.6
comp=Z,2µm,19.2s
TAVF Tavernes 11.01 285 eP Pn 12 06 44.4 +2.7
TAVF Tavernes 11.01 285 eP Pn 12 06 44.4 +2.7
TAVF Tavernes 11.01 285 eP Pn 12 06 44.4 +2.7
BBS Basel-Blauen 11.05 305 eP Pn 12 06 42.3 +0.1
BBS Basel-Blauen 11.05 305 eP Pn 12 06 42.3 +0.1
BBS Basel-Blauen 11.05 305 eP Pn 12 06 42.3 +0.1
BERF Bertagne 11.26 283 eP Pn 12 06 47.8 +2.6
BERF Bertagne 11.26 283 eP Pn 12 06 47.8 +2.6
BERF Bertagne 11.26 283 eP Pn 12 06 47.8 +2.6
LIBD Limburg 11.31 309 eP Pn 12 06 47.2 +1.5
LIBD Limburg 11.31 309 eP Pn 12 06 47.2 +1.5
LIBD Limburg 11.31 309 eP Pn 12 06 47.2 +1.5
ORIF Oris-en-Rattie 11.31 291 eP Pn 12 06 46.3 +0.4
comp=Z,50nm,0.4s
ORIF eR
comp=Z,290nm,22.2s
ORIF Oris-en-Rattie 11.31 291 eP Pn 12 06 46.3 +0.4
comp=Z,25nm,0.4s
SMRF Simiane la Rot 11.39 286 eP Pn 12 06 47.3 +0.4
comp=Z,74nm,1.0s
SMRF Simiane la Rot 11.39 286 eP Pn 12 06 47.3 +0.4
comp=Z,37nm,1.0s
LOMF Lomont 11.42 304 eP Pn 12 06 47.4 +0.1
LOMF Lomont 11.42 304 eP Pn 12 06 47.4 +0.1
LOMF Lomont 11.42 304 eP Pn 12 06 47.4 +0.1
LOMF Lomont 11.42 304 eP Pn 12 06 47.4 +0.1
GHAR Gharyan 11.44 215 i P Pn 12 06 48.8 +1.1
comp=Z,56nm,1.8s,SNR=22
MOF Molkenrain 11.45 307 eP Pn 12 06 48.3 +0.6
MOF Molkenrain 11.45 307 eP Pn 12 06 48.3 +0.6
MOF Molkenrain 11.45 307 eP Pn 12 06 48.3 +0.6
MOF Molkenrain 11.45 307 eP Pn 12 06 48.3 +0.6
TOD Tromm 11.47 317 eP Pn 12 06 47.8 -0.1
TOD Tromm 11.47 317 eP Pn 12 06 47.8 -0.1
TOD Tromm 11.47 317 eP Pn 12 06 47.8 -0.1
HINF Hinteralfeld 11.60 306 eP Pn 12 06 49.0 -0.8
comp=Z,44nm,0.7s
HINF Hinteralfeld 11.60 306 eP Pn 12 06 49.0 -0.8
comp=Z,22nm,0.7s
ECH Echery 11.60 308 eP Pn 12 06 49.7 -0.1
ECH e 12 08 52.5
ECH pmax pmax
comp=Z,25nm,0.8s
ECH Echery 11.60 308 ePn Pn 12 06 49.6 -0.1
comp=Z,25nm,0.8s
ECH eSn Sn 12 08 52.5 -6.4
ECH Echery 11.60 308 eP Pn 12 06 49.6 -0.1
ECH Echery 11.60 308 eP Pn 12 06 49.7 -0.1
comp=Z,25nm,0.8s
CABF La Chapelle 11.61 300 eP Pn 12 06 49.8 -0.2
comp=Z,64nm,0.6s
CABF La Chapelle 11.61 300 eP Pn 12 06 49.8 -0.2
comp=Z,32nm,0.6s
CDF Champ du Feu 11.63 309 eP Pn 12 06 50.8 +0.6
comp=Z,67nm,0.8s
CDF Champ du Feu 11.63 309 eP Pn 12 06 50.8 +0.6
comp=Z,33nm,0.8s
CSS Prodhromos 11.95 121 ePn Pn 12 06 54.5 -0.1
CSS Prodhromos 11.95 121 ePn Pn 12 06 54.5 -0.1
HAU Haudompre 11.99 306 eP Pn 12 06 54.3 -0.7
comp=Z,42nm,0.5s
HAU eR
comp=Z,831nm,20.5s
HAU Haudompre 11.99 306 eP Pn 12 06 54.3 -0.7
comp=Z,21nm,0.5s
TNS Taunus Mts 12.04 319 ePn Pn 12 06 55.6 -0.1
TNS eSn Sn 12 09 09.5 -0.1
TNS Taunus Mts 12.04 319 eP Pn 12 06 55.6 -0.1
TNS e 12 09 09.5
TNS Taunus Mts 12.04 319 eP Pn 12 06 55.6 -0.1
TNS eS Sn 12 09 09.5 -0.1
VIVF Saint-Julien-l 12.15 290 eP Pn 12 06 57.1 -0.2
comp=Z,11nm,0.3s
VIVF Saint-Julien-l 12.15 290 eP Pn 12 06 57.1 -0.2
comp=Z,5.4nm,0.3s
THEF They Montfort 12.30 307 eP Pn 12 07 00.3 +1.0
THEF They Montfort 12.30 307 eP Pn 12 07 00.3 +1.0
THEF They Montfort 12.30 307 eP Pn 12 07 00.3 +1.0
THEF They Montfort 12.30 307 eP Pn 12 07 00.3 +1.0
SSB Saint Sauveur 12.31 292 eP Pn 12 06 58.4 -1.1
SSB e 12 09 13.7
SSB pmax pmax
comp=Z,14nm,0.6s
SSB Saint Sauveur 12.31 292 ePn Pn 12 06 58.4 -1.1
comp=Z,14nm,0.6s
SSB eSn Sn 12 09 13.7 -2.7
SSB Saint Sauveur 12.31 292 eP Pn 12 06 58.4 -1.1
comp=Z,14nm,0.6s
CLZ Clausthal 12.33 328 eSn Sn 12 09 12.3 -4.5
SUW Suwalki 12.34 7 eP Pn 12 07 01.4 +1.5
SUW Suwalki 12.34 7 eP Pn 12 07 01.3 +1.5
SUW Suwalki 12.34 7 eP Pn 12 07 01.3 +1.5
RUP Ruppelstein 12.44 314 eP Pn 12 07 02.2 +1.0
RUP Ruppelstein 12.44 314 eP Pn 12 07 02.2 +1.0
RUP Ruppelstein 12.44 314 eP Pn 12 07 02.2 +1.0
ANN Anapa 12.49 70 eP Pn 12 07 06.8 +5.0
ANN pmax pmax
comp=Z,84nm,1.2s
PAGF Fort de Pagny 12.61 308 eP Pn 12 07 05.9 +2.5
comp=Z,34nm,1.1s
PAGF Fort de Pagny 12.61 308 eP Pn 12 07 05.9 +2.5
comp=Z,17nm,1.1s
LASF Ste Croix 12.64 286 eP Pn 12 07 04.5 +0.6
comp=Z,95nm,1.3s
LASF Ste Croix 12.64 286 eP Pn 12 07 04.5 +0.6
comp=Z,48nm,1.3s
SFTF Sexfontaines 12.87 305 eP Pn 12 07 07.6 +0.6
comp=Z,59nm,0.8s
SFTF Sexfontaines 12.87 305 eP Pn 12 07 07.6 +0.6
comp=Z,29nm,0.8s
LSHF Shwairf 12.91 206 i P Pn 12 07 07.7 0.0
comp=Z,24nm,0.8s,SNR=22
WLF Walferdange 12.91 313 P Pn 12 07 08.6 +1.0
WLF Walferdange 12.91 313 ePn Pn 12 07 09.5 +1.9
WLF Walferdange 12.91 313 eP Pn 12 07 08.6 +1.0
WLF Walferdange 12.91 313 ePn Pn 12 07 08.6 +1.0
WLF Walferdange 12.91 313 eP Pn 12 07 08.6 +1.0
PLDF La Plantade 13.09 294 eP Pn 12 07 08.0 -2.1
PLDF La Plantade 13.09 294 eP Pn 12 07 08.0 -2.1
PLDF La Plantade 13.09 294 eP Pn 12 07 08.0 -2.1
LBL Lubilhac 13.21 291 eP Pn 12 07 10.7 -1.0
LBL Lubilhac 13.21 291 eP Pn 12 07 10.7 -1.0
LBL Lubilhac 13.21 291 eP Pn 12 07 10.7 -1.0
LBL Lubilhac 13.21 291 eP Pn 12 07 10.7 -1.0
LOR Lormes 13.27 300 eP Pn 12 07 11.7 -0.9
comp=Z,38nm,0.5s
LOR eR
comp=Z,1µm,21.2s
LOR Lormes 13.27 300 eP Pn 12 07 11.7 -0.9
comp=Z,19nm,0.5s
LJFR Jufra 13.28 199 eP Pn 12 07 11.9 -0.9
SNR=22
BUG Bochum--Univer 13.39 321 eSn Sn 12 09 40.0 -2.6
AGO Saint Agoulin 13.44 294 eP Pn 12 07 13.5 -1.3
AGO Saint Agoulin 13.44 294 eP Pn 12 07 13.5 -1.3
AGO Saint Agoulin 13.44 294 eP Pn 12 07 13.5 -1.3
SSF Saint Saulge 13.44 299 eP Pn 12 07 13.3 -1.5
comp=Z,64nm,0.9s
SSF Saint Saulge 13.44 299 eP Pn 12 07 13.3 -1.5
comp=Z,32nm,0.9s
PYM Petit Puy Mans 13.46 293 eP Pn 12 07 13.6 -1.6
PYM Petit Puy Mans 13.46 293 eP Pn 12 07 13.6 -1.6
PYM Petit Puy Mans 13.46 293 eP Pn 12 07 13.6 -1.6
PYM Petit Puy Mans 13.46 293 eP Pn 12 07 13.6 -1.6
AVF Avril sur Loir 13.46 298 eP Pn 12 07 14.2 -1.0
comp=Z,79nm,1.0s
AVF Avril sur Loir 13.46 298 eP Pn 12 07 14.2 -1.0
comp=Z,39nm,1.0s
MEM Membach 13.51 316 P Pn 12 07 15.9 +0.1
comp=Z,12nm,1.1s
MEM Membach 13.51 316 P Pn 12 07 15.8 +0.1
comp=Z,12nm,1.1s

AKCD Akcadag 13.57 99 *i* P P 12 07 21.8 -4.0
AKCD *i* S S 12 11 04.1 +53
HGN Heimansgroeve 13.64 316 *e*P **Pn** **12 07 19.6 +2.1**
comp=Z,11nm,0.7s
HGN *e*L L 12 12 04.0
comp=Z,249nm,20.1s
NACGM Naroch 13.71 15 *e* **Pn** **12 07 20.0 +1.5**
BGF Bois d'Agland 13.74 296 *e*P **Pn** **12 07 18.0 -1.0**
comp=Z,100nm,0.9s
BGF Bois d'Agland 13.74 296 *e*P **Pn** **12 07 18.0 -1.0**
comp=Z,50nm,0.9s
MTLF Montolieu 13.79 283 *e*P **Pn** **12 07 20.2 +0.5**
comp=Z,66nm,1.0s
MTLF Montolieu 13.79 283 *e*P **Pn** **12 07 20.2 +0.5**
comp=Z,33nm,1.0s
DOU Dourbes 13.99 312 P **Pn** **12 07 24.2 +1.9**
comp=Z,12nm,1.9s
DOU Dourbes 13.99 312 P **Pn** **12 07 24.2 +1.9**
comp=Z,12nm,1.9s
CAF Calviac 13.99 289 *e*P **Pn** **12 07 23.2 +0.7**
comp=Z,28nm,0.8s
CAF Calviac 13.99 289 *e*P **Pn** **12 07 23.2 +0.7**
comp=Z,14nm,0.8s
SOC Sochi 14.03 76 *e*P **Pn** **12 07 25.0 +2.1**
SOC *e* 12 10 02.4
SOC pmax pmax
comp=Z,49nm,1.1s
SOC MLR MLR
comp=Z,411nm,13.0s
SOC Sochi 14.03 76 *e*P **Pn** **12 07 25.0 +2.1**
comp=Z,49nm,1.1s
SOC *e*S **Sn** **12 10 02.4 +4.2**
comp=Z,411nm,13.0s
BAIF Baives 14.19 311 *e*P **Pn** **12 07 26.8 +1.7**
comp=Z,40nm,0.9s
RJF Les Rejaudoux 14.43 291 *e*P **Pn** **12 07 28.5 +0.2**
comp=Z,70nm,1.3s
RJF *e*R
comp=Z,1μm,19.5s
MMAI Mount Meron Ar 14.51 122 Pn **Pn** **12 07 30.2 +0.5**
comp=Z,0.9nm,0.3s,baz=303,slow=14,SNR=11
MMAI LR LR 12 13 59.4
comp=Z,693nm,18.9s,baz=305,slow=41
MMAI Mount Meron Ar 14.51 122 Pn **Pn** **12 07 30.2 +0.5**
MMAI Mount Meron Ar 14.51 122 Pn **Pn** **12 07 30.2 +0.5**
EPF Esparros 15.17 282 *e*P **Pn** **12 07 39.9 +1.4**
VSR Storozhevoye 15.74 47 *e*P **Pn** **12 07 45.9 +0.2**
VSR *e*S **Sn** **12 10 45.5 +5.8**
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR pmax pmax
comp=Z,5.0nm,0.4s
VSR smax smax
comp=E,80nm,1.0s
VSR smax smax
comp=Z,90nm,2.0s
VSR smax smax
comp=N,30nm,1.0s
VSR MLR MLR
comp=N,860nm,11.0s
VSR MLR MLR
comp=E,1μm,11.0s
VSR MLR MLR
comp=Z,2μm,11.0s
MFF Saint Martin d 15.77 295 *e*P **Pn** **12 07 43.1 -3.1**
comp=Z,92nm,1.3s
ETSF Etsaut 15.84 281 *e*P **Pn** **12 07 47.2 0.0**
comp=Z,57nm,1.0s
ASF Jabal al Asfar 16.02 122 Pn **P** **12 07 51.8 -1.2**
comp=Z,0.3nm,0.3s,baz=148,slow=5.2,SNR=4.8
ASF LR LR 12 14 46.9
comp=Z,386nm,20.2s,baz=345,slow=40
ASF Jabal al Asfar 16.02 122 P **P** **12 07 51.8 -1.2**
ASF MLR MLR
comp=Z,386nm,20.2s
ASF Jabal al Asfar 16.02 122 Pn **P** **12 07 51.8 -1.2**
KIV Kislovodsk 16.18 75 *e*P **P** **12 07 54.7 -0.1**
KIV *e*S **Sn** **12 10 56.0 +5.2**
KIV pmax pmax
comp=Z,46nm,1.2s
KIV MLR MLR
comp=Z,300nm,15.0s
KIV Kislovodsk 16.18 75 *e*Pn **P** **12 07 53.2 -1.6**
comp=Z,38nm,0.9s
KIV Kislovodsk 16.18 75 *e*Pn **P** **12 07 53.2 -1.6**
comp=Z,38nm,0.9s
KIV Kislovodsk 16.18 75 *e*P **P** **12 07 54.7 -0.1**
comp=Z,46nm,1.2s
LDF La Druitiere 16.23 302 *e*P **Pn** **12 07 51.2 -0.8**
comp=Z,46nm,0.8s
SJPF Ste Jean 16.32 282 *e*P **P** **12 07 55.2 -0.9**
comp=Z,47nm,1.0s
SJPF Ste Jean 16.32 282 *e*P **P** **12 07 55.2 -0.9**
comp=Z,24nm,1.0s
FLN La Foliniere 16.50 302 *e*P **Pn** **12 07 54.6 -1.0**
comp=Z,172nm,1.1s
FLN *e*R
comp=Z,469nm,18.0s
GRR Gorron 16.64 301 *e*P **Pn** **12 07 57.2 -0.1**
comp=Z,62nm,0.9s
EIL Elat 16.64 132 Pn **P** **12 07 59.5 -0.3**
comp=Z,1.1nm,0.3s,baz=338,slow=11,SNR=14
EIL Sn **Sn** **12 10 57.5 -4.5**
comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=3.8
EIL Elat 16.64 132 Pn **P** **12 07 59.5 -0.3**
EIL Sn **Sn** **12 10 57.5 -4.5**
EIL Elat 16.64 132 Pn **P** **12 07 59.5 -0.3**
ONI Oni 16.80 80 P **P** **12 08 02.5 +1.0**
OBN Obninsk 16.89 32*d i*P **Pn** **12 07 59.5 -0.9**
OBN pmax pmax
comp=Z,84nm,1.0s
OBN MLR MLR
comp=Z,300nm,14.0s
OBN Obninsk 16.89 32 *e*Pn **Pn** **12 07 59.3 -1.1**
comp=Z,78nm,1.0s
OBN Obninsk 16.89 32 *e*Pn **Pn** **12 07 59.3 -1.1**
comp=Z,78nm,1.0s
AKH Akhalkalaki 16.97 84 P **P** **12 08 04.9 +1.3**
VRHR Novokhopersk 17.06 50 *e*P **Pn** **12 08 02.2 -0.3**
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR MLR MLR
comp=Z,1μm,14.0s
VRHR MLR MLR
comp=N,230nm,7.0s
VRHR MLR MLR
comp=E,830nm,14.0s
ZEI Tsey 17.11 79 *e*P **P** **12 08 07.5 +2.3**
ZEI pmax pmax
comp=Z,50nm,1.0s
ZEI Tsey 17.11 79 *e*P **P** **12 08 07.5 +2.3**
comp=Z,50nm,1.0s
VSU Vasula 17.12 11 *e*P **Pn** **12 08 03.7 +0.5**
VSU pmax pmax
comp=Z,69nm,1.2s
VSU Vasula 17.12 11 *e*P **Pn** **12 08 03.7 +0.5**
comp=Z,69nm,1.2s
GOR Gori 17.35 82 P **P** **12 08 08.7 +1.1**
SGMF Saint Gilles 17.70 299 *e*P **Pn** **12 08 09.8 -0.8**
comp=Z,100nm,1.1s
MOS Moscow 17.76 32 *e*P **Pn** **12 08 10.8 -0.5**
MOS *e*S **Sn** **12 11 27.3 -1.5**
MOS pmax pmax
comp=Z,75nm,1.0s
MOS MLR MLR
comp=Z,700nm,7.0s
MOS Moscow 17.76 32 *e*P **Pn** **12 08 10.8 -0.5**
comp=Z,75nm,1.0s
TBLG Delisi 17.85 82 P **P** **12 08 16.0 +2.9**
TBLG Delisi 17.85 82 P **P** **12 08 16.0 +2.9**
TBLG Delisi 17.85 82 P **P** **12 08 16.0 +2.9**
HHRG Al Ghardaqah 17.90 140 P **P** **12 08 14.8 +1.0**
QUIF Quistinic 18.04 298 *e*P **P** **12 08 15.5 +0.4**
comp=Z,52nm,1.1s
QUIF Quistinic 18.04 298 *e*P **P** **12 08 15.5 +0.4**
comp=Z,26nm,1.1s
GNI Garni 18.14 87 P **P** **12 08 21.0 +4.5**
comp=Z,2.9nm,0.3s,baz=297,slow=1.8,SNR=47
GNI LR LR 12 15 21.3
comp=Z,193nm,19.2s,baz=70,slow=37
GNI Garni 18.14 87*c i*P **P** **12 08 18.9 +2.4**
GNI pmax pmax
comp=Z,430nm,1.7s
GNI Garni 18.14 87 *e*Pn **P** **12 08 17.6 +1.1**
comp=Z,218nm,0.9s
GNI Garni 18.14 87 *e*Pn **P** **12 08 17.6 +1.1**
comp=Z,218nm,0.9s
GNI Garni 18.14 87 *i* P **P** **12 08 18.9 +2.4**
comp=Z,430nm,1.7s
ROSF Rostrenen 18.19 299 *e*P **Pn** **12 08 15.4 -1.2**
comp=Z,91nm,1.1s
ROSF Rostrenen 18.19 299 *e*P **Pn** **12 08 15.4 -1.2**
comp=Z,46nm,1.1s
ESDC Sonseca Array 18.88 272 P **Pn** **12 08 26.3 +1.2**
comp=Z,0.5nm,0.3s,baz=75,slow=11,SNR=19
ESDC Sonseca Array 18.88 272 P **Pn** **12 08 26.3 +1.2**
ESDC Sonseca Array 18.88 272 P **Pn** **12 08 26.3 +1.2**
ESLA Sonseca Array 18.88 272 *e*P **Pn** **12 08 28.1 +3.0**
comp=Z,4.0nm,0.8s
HFS Hagfors 18.90 349 P **P** **12 08 24.5 0.0**
comp=Z,1.4nm,0.3s,baz=161,slow=9.4,SNR=13
HFS Hagfors 18.90 349 P **P** **12 08 24.5 0.0**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 18.90 349 P **P** **12 08 24.5 0.0**
HFS Hagfors 18.90 349 P **P** **12 08 24.5 0.0**
PAB San Pablo 19.20 272 *e*P **Pn** **12 08 30.8 +1.8**
PAB pmax pmax
comp=Z,16nm,0.8s
PAB San Pablo 19.20 272 *e*P **Pn** **12 08 30.8 +1.8**
comp=Z,16nm,0.8s
PAB San Pablo 19.20 272 *e*P **Pn** **12 08 30.8 +1.8**
comp=Z,16nm,0.8s
MAK Makhachkala 19.74 78 *e*P **P** **12 08 34.1 +0.3**
MAK *e*S **Sn** **12 12 19.1 +2.5**
MAK pmax pmax
comp=Z,729nm,2.0s
MAK MLR MLR
comp=Z,466nm,13.0s
MAK Makhachkala 19.74 78 *e*P **P** **12 08 34.1 +0.3**
comp=Z,729nm,2.0s
MAK *e*S **Sn** **12 12 19.1 +2.5**
comp=Z,466nm,13.0s
FINES FINESS Array B 19.95 7 P **Pn** **12 08 36.8 -0.9**
comp=Z,0.7nm,0.3s,baz=169,slow=12,SNR=14
FINES PcP **PcP** **12 12 50.3 -1.6**
comp=Z,0.6nm,0.3s,baz=107,slow=3.9,SNR=9.5
FINES ScP **ScP** **12 16 25.2 -2.2**
comp=Z,0.1nm,0.3s,baz=149,slow=4.0,SNR=3.7
FINES FINESS Array B 19.95 7 P **Pn** **12 08 36.8 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 19.95 7 P **Pn** **12 08 36.8 -0.9**
FINES PcP **PcP** **12 12 50.3 -1.6**
FINES ScP **ScP** **12 16 25.2 -2.2**
FINES FINESS Array B 19.95 7 P **Pn** **12 08 36.8 -0.9**
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 20.15 346 P **P** **12 08 38.3 +0.1**
comp=Z,15nm,0.9s,baz=158,slow=11
NB2 NORSAR Subarra 20.15 346 P **P** **12 08 38.3 +0.1**
comp=Z,15nm,0.9s,baz=158,slow=11,SNR=0.3
NOA NORSAR Array B 20.15 346 P **P** **12 08 37.5 -0.7**
comp=Z,13nm,0.7s,baz=164,slow=10,SNR=16
NOA LR LR 12 16 55.4
comp=Z,107nm,18.3s,baz=175,slow=38
NOA NORSAR Array B 20.15 346 P **P** **12 08 37.6 -0.7**
NOA pmax pmax
comp=Z,13nm,0.7s
NOA MLR MLR
comp=Z,107nm,18.3s
NOA NORSAR Array B 20.15 346 P **P** **12 08 37.5 -0.7**
NOA NORSAR Array B 20.15 346 P **P** **12 08 37.6 -0.7**
comp=Z,107nm,18.3s
BHD Baghdad 20.49 107 *e*P P 12 08 36.0 -6.0
BHD *e*PPP PPP 12 09 00.0
BHD *e*S S 12 12 20.0 -11
BHD *i* LQ LQ 12 15 30.0
PBRG Braganca 20.51 279 *e*P Pn 12 08 45.6 +1.1
comp=Z,89nm,1.4s
PBRG Braganca 20.51 279 *e*P Pn 12 08 45.6 +1.1
comp=Z,89nm,1.4s
KAF Kangasniemi 20.63 7 *e*P **P** **12 08 42.7 -0.6**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 20.63 7 *e*p **P** **12 08 42.7 -0.6**
comp=Z,7.7nm,0.6s
KAF Kangasniemi 20.63 7 *e*p **P** **12 08 42.7 -0.6**
comp=Z,7.7nm,0.6s
KAF Kangasniemi 20.63 7 *e*P **P** **12 08 42.7 -0.6**
comp=Z,8.0nm,0.6s
ESK Eskdalemuir 20.74 319 *e*P **P** **12 08 44.7 +0.1**
ESK pmax pmax
comp=Z,85nm,0.8s
ESK Eskdalemuir 20.74 319 *e*P **P** **12 08 44.7 +0.1**
comp=Z,85nm,0.8s
ESK Eskdalemuir 20.74 319 *e*P **P** **12 08 44.7 +0.1**
comp=Z,85nm,0.8s
MVO Moncorvo 20.84 278 *e*LR LR 12 16 09.3
comp=Z,317nm,18.0s
POLO Lamas de Olo 21.36 279 *e*P **P** **12 08 56.0 +4.4**
comp=Z,44nm,1.6s
MTE Manteigas 21.38 276 *e*P **P** **12 08 55.9 +4.2**
comp=Z,95nm,1.6s
MTE *e*S Sn 12 12 54.5 -1.8
MTE *e*LR LR 12 17 52.7
comp=Z,313nm,16.0s
MTE Manteigas 21.38 276 *e*P **P** **12 08 54.4 +2.7**
comp=Z,93nm,1.4s
MTE Manteigas 21.38 276 *e*P **P** **12 08 54.4 +2.7**
comp=Z,93nm,1.4s
PCBR Castelo Branco 21.46 274 *e*P **P** **12 08 56.7 +4.2**
comp=Z,46nm,1.6s
PCAB Cabril 21.48 279 *e*P **P** **12 08 55.8 +3.1**
comp=Z,73nm,1.5s
PCAB Cabril 21.48 279 *e*P **P** **12 08 55.8 +3.1**
comp=Z,73nm,1.5s
PMRV Marv??o 21.50 273 *e*P P 12 08 58.6 +5.6
comp=Z,52nm,1.3s
PMRV *e*LR LR 12 15 40.1
comp=Z,227nm,16.0s
PVIS Viseu 21.57 277 *e*P **P** **12 08 58.2 +4.5**
comp=Z,59nm,1.4s
PBAR Barrancos 21.60 270 *e*P **P** **12 08 57.5 +3.5**
comp=Z,30nm,1.3s
PGAV Gavieira, Arco 21.61 280 *e*P **P** **12 08 58.6 +4.4**
comp=Z,102nm,1.6s
PGAV *e*LR LR 12 16 08.3
comp=Z,578nm,20.0s
PESTR Estremoz 21.80 272 *e*P **P** **12 09 00.4 +4.2**
comp=Z,51nm,1.8s
JOF Joensuu 22.07 13 *e*P **P** **12 08 59.1 +0.3**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 22.07 13 *e*p **P** **12 08 59.1 +0.3**
comp=Z,5.9nm,0.6s
JOF Joensuu 22.07 13 *e*p **P** **12 08 59.1 +0.3**
comp=Z,5.9nm,0.6s
JOF Joensuu 22.07 13 *e*P **P** **12 08 59.1 +0.3**
comp=Z,6.0nm,0.6s
PTOM Tomar 22.21 274 *e*P **P** **12 09 02.9 +2.3**
comp=Z,54nm,1.0s
PTOM Tomar 22.21 274 *e*P **P** **12 09 02.9 +2.3**
comp=Z,54nm,1.0s
EVO Evora 22.22 271 *e*P P 12 09 05.9 +5.2
comp=Z,34nm,1.8s
EVO Evora 22.22 271 *e*P **P** **12 09 04.7 +4.0**
comp=Z,27nm,0.8s
EVO *e*R
comp=Z,269nm,22.2s
EVOP Sao Brissos 22.30 271 *e*P **P** **12 09 04.7 +3.2**
comp=Z,13nm,0.8s
PVAQ Vaqueiros 22.36 268 *e*P **P** **12 09 05.9 +3.7**
comp=Z,50nm,1.3s
PVAQ *e*LR LR 12 17 32.5
comp=Z,265nm,16.0s
PCVE Castro Verde 22.53 269 *e*P **P** **12 09 06.8 +2.9**
comp=Z,46nm,2.3s
PCVE Castro Verde 22.53 269 *e*P **P** **12 09 06.8 +2.9**
comp=Z,46nm,2.3s
MESJ Messejana 22.59 270 *e*P **P** **12 09 03.6 -1.1**
MESJ AMb AMB 12 09 12.6
comp=Z,51nm,1.5s
MESJ *e*S **S** **12 13 13.9 +2.3**
MESJ Messejana 22.59 270 *e*P **P** **12 09 03.6 -1.1**
comp=Z,51nm,1.5s
MESJ *e*S **S** **12 13 13.9 +2.3**
MESJ Messejana 22.59 270 *e*P **P** **12 09 03.5 -1.1**
MESJ *e*S **S** **12 13 13.9 +2.3**
MESJ Messejana 22.59 270 *e*P **P** **12 09 03.6 -1.1**
comp=Z,51nm,1.5s
MESJ *e*S **S** **12 13 13.9 +2.3**
PNCL Nicolau / Gran 22.73 270 *e*P **P** **12 09 10.3 +4.2**
comp=Z,38nm,1.5s
TAM Tamanrasset 22.86 219 *e*P **P** **12 09 09.2 +1.5**
TAM pmax pmax
comp=Z,10.0nm,1.0s
TAM Tamanrasset 22.86 219 *e*P **P** **12 09 09.2 +1.5**
comp=Z,9.9nm,1.0s
TAM Tamanrasset 22.86 219 *e*P **P** **12 09 09.2 +1.5**
comp=Z,9.9nm,1.0s
MORF Marmelete 23.09 269 *e*P **P** **12 09 09.5 -0.5**
MORF Marmelete 23.09 269 *e*P **P** **12 09 09.5 -0.5**
MIB Mutribah 24.51 111 *e*P **P** **12 09 23.8 +0.2**
MIB AMb AMB 12 09 25.3
comp=Z,370nm,0.9s
MIB Mutribah 24.51 111 *e*P **P** **12 09 23.8 +0.2**
comp=Z,370nm,0.9s
NAY Al-Naaiem 24.78 112 *e*P **P** **12 09 25.8 -0.2**
NAY AMb AMB 12 09 28.0
comp=Z,171nm,0.8s
NAY Al-Naaiem 24.78 112 *e*P **P** **12 09 25.8 -0.2**
comp=Z,171nm,0.8s
KBD Kabd 25.14 111 *e*P **P** **12 09 29.2 0.0**
KBD AMb AMB 12 09 31.3
comp=Z,166nm,1.0s
KBD Kabd 25.14 111 *e*P **P** **12 09 29.2 0.0**
comp=Z,166nm,1.0s
QRN Al-Qurain 25.55 112 *e*P **P** **12 09 33.0 +0.1**
QRN AMb AMB 12 09 35.6
comp=Z,299nm,0.7s
APA Apatity 26.74 11⇑ *e*P P 12 09 50.0 +6.7
APA MLR MLR
comp=Z,2μm,16.0s
AKTK Aktyubinsk 26.97 59 P **P** **12 09 46.4 +0.8**
comp=Z,300nm,19.2s
AKTO Aktyubinsk 26.97 59 P **P** **12 09 46.4 +0.8**
comp=Z,15nm,0.7s,baz=269,slow=9.2,SNR=56
AKTO LR LR 12 21 18.3
comp=Z,300nm,19.2s,baz=136,slow=38
AKTO Aktyubinsk 26.97 59 P **P** **12 09 46.4 +0.8**
AKTO pmax pmax
comp=Z,15nm,0.7s
AKTO MLR MLR
comp=Z,300nm,19.2s
AKTO Aktyubinsk 26.97 59 P **P** **12 09 46.4 +0.8**
AKTO Aktyubinsk 26.97 59 P **P** **12 09 46.4 +0.8**
ARCES ARCESS Array B 27.93 4 P **P** **12 09 53.7 -0.3**
comp=Z,5.3nm,0.8s,baz=188,slow=7.4,SNR=7.8
ARCES PcP **PcP** **12 13 07.1 -1.8**
comp=Z,2.5nm,0.7s,baz=170,slow=2.1,SNR=5.4
ARCES ARCESS Array B 27.93 4 P **P** **12 09 53.7 -0.3**
ARCES 12 13 07.1
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 27.93 4 P **P** **12 09 53.7 -0.3**
ARCES PcP **PcP** **12 13 07.1 -1.8**
ARCES ARCESS Array B 27.93 4 P **P** **12 09 53.7 -0.3**
comp=Z,5.0nm,0.8s
AB31 Akbulak array 28.17 61 P **P** **12 09 57.3 +1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
AB31 Akbulak array 28.17 61 P **P** **12 09 57.3 +1.0**
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 28.17 61 *e*P **P** **12 09 57.1 +0.8**
comp=Z,7.6nm,0.5s
ABKAR Akbulak array 28.17 61 *e*P **P** **12 09 57.1 +0.8**
comp=Z,7.6nm,0.5s
ARU Arti 28.31 46*c i*P **P** **12 09 58.3 +0.8**
ARU *e* 12 10 46.8
ARU PPP PPP 12 10 56.0
ARU 12 13 09.7
ARU S **S** **12 14 46.6 +3.6**
ARU SS SS 12 16 03.5 -39
ARU pmax pmax
comp=Z,55nm,1.7s
ARU MLR MLR
comp=Z,584nm,16.0s
ARU Arti 28.31 46 *e*P **P** **12 09 58.0 +0.5**
comp=Z,33nm,1.1s
ARU Arti 28.31 46 P **P** **12 09 58.0 +0.5**
comp=Z,138nm,1.0s,SNR=9.7
ARU Arti 28.31 46 *i* P **P** **12 09 58.3 +0.8**
comp=Z,55nm,1.7s
ARU Arti 28.31 46 PcP **PcP** **12 13 09.7 -0.3**
ARU S **S** **12 14 46.6 +3.6**
SOKR Solikamsk 28.43 39 *e*P **P** **12 09 59.8 +1.3**
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR Solikamsk 28.43 39 *e*P **P** **12 09 59.8 +1.3**
comp=Z,20nm,0.8s
SVE Sverdlovsk 29.52 46⇓ *i*P **P** **12 10 09.6 +1.4**
SVE pmax pmax
comp=Z,81nm,1.5s
SVE MLR MLR
comp=Z,727nm,13.0s
SVE Sverdlovsk 29.52 46 *i* P **P** **12 10 09.6 +1.4**
comp=Z,727nm,13.0s
TORD Torodi Ar. Bea 33.02 216 P **P** **12 10 39.8 +0.3**
comp=Z,16nm,0.8s,baz=20,slow=9.3,SNR=100
TORD PcP **PcP** **12 13 22.1 -1.0**
comp=Z,1.3nm,0.9s,baz=27,slow=3.6,SNR=4.7
TORD LR LR 12 25 50.5
comp=Z,180nm,18.1s,baz=350,slow=39
TORD Torodi Ar. Bea 33.02 216 P **P** **12 10 39.8 +0.3**
TORD PcP **PcP** **12 13 22.1 -1.0**
TORD Torodi Ar. Bea 33.02 216 P **P** **12 10 39.8 +0.3**
TORD Torodi Ar. Bea 33.02 216 PcP **PcP** **12 13 22.1 -1.0**
BANOM Banah 33.18 107 P **P** **12 10 40.1 -0.7**
SNR=17
ASUD Al Ashush, Dub 33.29 110 P **P** **12 10 41.9 +0.1**
NAZ Nazwa, Dubai 33.30 109 P **P** **12 10 41.6 -0.2**
FAQ Al Faqa, Dubai 33.40 110 P **P** **12 10 42.2 -0.5**
SNR=8.4
HATD Hatta, Dubai 33.73 109 P **P** **12 10 45.2 -0.4**
SNR=8.3
HATD Hatta, Dubai 33.73 109 P **P** **12 10 45.2 -0.4**
SNR=8.3
ASHO Ashiyiah 33.77 109 P **P** **12 10 45.5 -0.5**
SNR=8.4
ASHO Ashiyiah 33.77 109 P **P** **12 10 45.5 -0.5**
SNR=8.4
ZRNK Zerenda 33.89 54 P **P** **12 10 47.0 +0.3**
ZRNK pmax pmax
comp=Z,33nm,1.3s
ZRNK Zerenda 33.89 54 P **P** **12 10 47.0 +0.3**
comp=Z,33nm,1.3s
BRVK Borovoye 34.66 54*d i*P **P** **12 10 54.8 +1.4**
BRVK pmax pmax
comp=Z,99nm,0.8s
BRVK Borovoye 34.66 54 *e*P **P** **12 10 55.0 +1.7**
comp=Z,77nm,0.8s
BRVK Borovoye 34.66 54 *i* P **P** **12 10 54.8 +1.4**
comp=Z,99nm,0.8s
BVA0 Borovoye Array 34.72 54 *i* P **P** **12 10 55.3 +1.4**
BVA0 pmax pmax
comp=Z,13nm,1.0s
BVA0 Borovoye Array 34.72 54 *i* P **P** **12 10 55.3 +1.4**
comp=Z,13nm,1.0s
ARQ Araqi 34.95 111 P **P** **12 10 56.1 -0.1**
SNR=9.6
ARQ Araqi 34.95 111 P **P** **12 10 56.1 -0.1**
SNR=9.6
VOSK Vostochnaya 35.09 54 P **P** **12 10 57.6 +0.5**
VOSK pmax pmax
comp=Z,29nm,0.9s
VOSK Vostochnaya 35.09 54 P **P** **12 10 57.6 +0.5**
comp=Z,29nm,0.9s
SMDO Samad 36.20 109 P **P** **12 11 06.5 -0.6**
SNR=5.7
KK31 Karatay Array 36.27 71 *i* P **P** **12 11 08.1 +0.7**
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KK31 Karatay Array 36.27 71 *i* P **P** **12 11 08.1 +0.7**
comp=Z,6.0nm,0.5s
KKAR Karatay Array 36.27 71 *e*P **P** **12 11 08.3 +0.9**
KKAR pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 36.27 71 *e*P **P** **12 11 08.3 +0.9**
comp=Z,6.9nm,0.5s
KKAR Karatay Array 36.27 71 *e*P **P** **12 11 08.3 +0.9**

comp=Z,6.9nm,0.5s
JMDO Jabal Madar 36.69 110 P P 12 11 10.2 -0.9
SNR=5.2
EKS2 Erkin-Say 38.70 70 P P 12 11 29.5 +1.4
SNR=78
EKS2 P P 12 11 29.5 +1.4
SNR=78
EKS2 Erkin-Say 38.70 70 *e*P **P 12 11 29.6 +1.4**
EKS2 pmax pmax
comp=Z,68nm,0.9s
EKS2 Erkin-Say 38.70 70 *e*P **P 12 11 29.6 +1.4**
comp=Z,68nm,0.9s
EKS2 Erkin-Say 38.70 70 *e*P **P 12 11 29.5 +1.4**
comp=Z,68nm,0.9s
AML Almayashu 38.80 71 P P 12 11 32.8 +3.5
SNR=14
AML P P 12 11 32.8 +3.5
SNR=14
AML Almayashu 38.80 71 P **P 12 11 30.0 +0.7**
SNR=14
USP Ospenovka 39.03 69 P **P 12 11 32.6 +1.9**
SNR=9.4
USP P **P 12 11 32.6 +1.9**
SNR=9.4
AAK Ala-Archa 39.21 70 P **P 12 11 35.1 +2.6**
SNR=19
AAK P **P 12 11 35.1 +2.6**
SNR=19
AAK Ala-Archa 39.21 70*d i*P **P 12 11 34.3 +1.9**
AAK pmax pmax
comp=Z,50nm,1.4s
AAK Ala-Archa 39.21 70 *e*P **P 12 11 33.6 +1.2**
comp=Z,469nm,1.6s
AAK Ala-Archa 39.21 70 *e*P **P 12 11 33.6 +1.2**
comp=Z,469nm,1.6s
FRU Bishkek 39.24 70 *e*P **P 12 11 35.0 +2.5**
FRU pmax pmax
comp=Z,120nm,2.0s
FRU Bishkek 39.24 70 *e*P **P 12 11 35.0 +2.5**
comp=Z,120nm,2.0s
CHMS Chumysh 39.28 70 P **P 12 11 35.5 +2.6**
SNR=9.0
CHMS P **P 12 11 35.5 +2.6**
SNR=9.0
KBK Karagaybulak 39.52 70 P **P 12 11 37.9 +2.8**
SNR=8.5
KBK P **P 12 11 37.9 +2.8**
SNR=8.5
TKM2 Tokmak 2 39.90 69 P **P 12 11 39.0 +0.8**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 39.90 69 P **P 12 11 39.0 +0.8**
comp=Z,4.7nm,0.6s
TKM2 Tokmak 2 39.90 69 P **P 12 11 39.0 +0.8**
comp=Z,4.7nm,0.6s
KZA Kyzart 39.92 71 P **P 12 11 40.4 +1.8**
SNR=31
KZA P **P 12 11 40.4 +1.8**
SNR=31
KURK Kurchatov 40.03 57*d i*P **P 12 11 39.7 +0.8**
KURK pmax pmax
comp=Z,52nm,1.7s
KURK Kurchatov 40.03 57 *e*P **P 12 11 39.7 +0.8**
comp=Z,34nm,1.1s
KURK Kurchatov 40.03 57 P **P 12 11 39.6 +0.7**
comp=Z,156nm,1.4s,SNR=18
KURK Kurchatov 40.03 57 P **P 12 11 40.2 +1.3**
SNR=14
ULHL Ulahol 40.56 70 P **P 12 11 46.4 +2.7**
SNR=8.3
ULHL P **P 12 11 46.4 +2.7**
SNR=8.3
KSH Kashi 41.31 74 P **P 12 11 49.4 -0.4**
KSH *e*pP **pP 12 11 53.4 -1.2**
KSH *e*sP **sP 12 11 56.4 -0.1**
KSH *e*PP PP 12 13 28.3 +3.2
KSH *e*PcP **PcP 12 13 48.1 0.0**
KSH *e*ScP **ScP 12 17 36.6 -0.8**
KSH *e*PcS **PcS 12 17 38.3 -1.1**
KSH *e*S **S 12 18 00.8 -2.7**
KSH *e*sS **sS 12 18 09.5 -2.0**
KSH *e*SS SS 12 21 00.1 -6.9
KSH *e*ScS **ScS 12 21 50.5 -2.9**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,130nm,3.7s
KSH LR LR
comp=N,230nm,5.8s
KSH LR LR
comp=E,260nm,5.8s
KSH LR LR
comp=Z,190nm,6.4s
DBIC Dimbokro 41.73 220 P **P 12 11 53.8 +0.5**
comp=Z,11nm,0.6s,baz=16,slow=9.5,SNR=20
DBIC LR LR 12 31 36.0
comp=Z,169nm,19.9s,baz=13,slow=40
DBIC Dimbokro 41.73 220 P **P 12 11 53.8 +0.5**
DBIC pmax pmax
comp=Z,11nm,0.6s
DBIC MLR MLR
comp=Z,169nm,19.9s
DBIC Dimbokro 41.73 220 *e*P **P 12 11 53.7 +0.4**
comp=Z,11nm,0.7s
DBIC Dimbokro 41.73 220 P **P 12 11 53.8 +0.5**
comp=Z,169nm,19.9s
NVS Novosibirsk 42.12 50⇓ *i*P **P 12 11 56.9 +0.8**
NVS pmax pmax
comp=N,17nm,1.1s
NVS pmax pmax
comp=E,46nm,1.1s
NVS pmax pmax
comp=Z,97nm,1.1s
NVS Novosibirsk 42.12 50 *i*P **P 12 11 56.9 +0.8**
LIC Lamto 42.20 220 *e*P **P 12 11 57.3 +0.2**
comp=Z,68nm,1.0s
LIC *e*R
comp=Z,278nm,20.5s
LIC Lamto 42.20 220 *e*P **P 12 11 57.3 +0.2**
comp=Z,34nm,1.0s
ZAA0 Zalesovo Array 43.19 51 *e*P **P 12 12 05.7 +1.0**
ZAA0 Zalesovo Array 43.19 51 *e*P **P 12 12 05.7 +1.0**
ZALV Zalesovo Beam 43.19 51 P **P 12 12 05.7 +1.0**
comp=Z,46nm,0.8s,baz=281,slow=8.7,SNR=237
ZALV LR LR 12 32 30.3
comp=Z,299nm,18.3s,baz=275,slow=39
ZALV Zalesovo Beam 43.19 51 P **P 12 12 05.7 +1.0**
ZALV pmax pmax
comp=Z,46nm,0.8s
ZALV MLR MLR
comp=Z,299nm,18.3s
ZALV Zalesovo Beam 43.19 51 P **P 12 12 05.7 +1.0**
ZALV Zalesovo Beam 43.19 51 P **P 12 12 05.7 +1.0**
comp=Z,299nm,18.3s
MK31 Makanchi Array 43.31 62 *e*P **P 12 12 07.0 +1.1**
MK31 Makanchi Array 43.31 62 *e*P **P 12 12 07.0 +1.1**
MK31 Makanchi Array 43.31 62 *e*P **P 12 12 07.0 +1.1**
MKAR Makanchi Array 43.31 62 P **P 12 12 07.1 +1.2**
comp=Z,25nm,0.7s,baz=281,slow=6.7,SNR=242
MKAR PcP **PcP 12 13 53.3 -1.2**
comp=Z,4.4nm,0.8s,baz=292,slow=2.9,SNR=4.4
MKAR ScP **ScP 12 17 42.6 -2.6**
comp=Z,1.2nm,0.9s,baz=316,slow=3.3,SNR=4.4
MKAR LR LR 12 32 50.0
comp=Z,262nm,19.2s,baz=290,slow=40
MKAR Makanchi Array 43.31 62 P **P 12 12 07.1 +1.2**
MKAR 12 13 53.3
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,262nm,19.3s
MKAR Makanchi Array 43.31 62 P **P 12 12 07.1 +1.2**
MKAR PcP **PcP 12 13 53.3 -1.2**
MKAR ScP **ScP 12 17 42.6 -2.6**
MKAR Makanchi Array 43.31 62 P **P 12 12 07.1 +1.2**
comp=Z,25nm,0.7s
WMQ Urumqi 47.90 64 P **P 12 12 43.7 +1.5**
WMQ pP **pP 12 12 48.7 +1.6**
WMQ sP **sP 12 12 50.7 +1.7**
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ LR LR
comp=N,300nm,18.5s
WMQ LR LR
comp=E,190nm,20.0s
WMQ LR LR
comp=Z,170nm,19.3s
DANN Dangsing 52.17 84 *e*P **P 12 13 14.3 -0.9**
comp=Z,34nm,0.7s
DANN Dangsing 52.17 84 *e*P **P 12 13 14.3 -0.9**
comp=Z,34nm,0.7s
DANN Dangsing 52.17 84 *e*P **P 12 13 14.3 -0.9**
comp=Z,34nm,0.7s
KOLN Koldanda 52.36 84 *e*P **P 12 13 15.2 -1.3**
comp=Z,12nm,0.6s
KOLN Koldanda 52.36 84 *e*P **P 12 13 15.2 -1.3**
comp=Z,12nm,0.6s
KOLN Koldanda 52.36 84 *e*P **P 12 13 15.2 -1.3**
comp=Z,12nm,0.6s
GKN Gorkha 53.01 83 *e*P **P 12 13 19.9 -1.3**
comp=Z,26nm,0.8s
GKN Gorkha 53.01 83 *e*P **P 12 13 19.9 -1.3**
comp=Z,26nm,0.8s
GKN Gorkha 53.01 83 *e*P **P 12 13 19.9 -1.3**
comp=Z,26nm,0.8s
MOY Mondy 53.22 50 *e*P **P 12 13 23.9 +1.5**
MOY Mondy 53.22 50 *e*P **P 12 13 23.9 +1.5**
DMN Daman 53.57 84 *e*P **P 12 13 24.5 -1.0**
comp=Z,29nm,1.0s
DMN Daman 53.57 84 *e*P **P 12 13 24.5 -1.0**
comp=Z,29nm,1.0s
DMN Daman 53.57 84 *e*P **P 12 13 24.5 -1.0**
comp=Z,29nm,1.0s
KKN Kakani 53.60 83 *e*P **P 12 13 24.3 -1.3**
comp=Z,15nm,0.6s
KKN Kakani 53.60 83 *e*P **P 12 13 24.3 -1.3**
KKN pmax pmax
comp=Z,15nm,0.6s
KKN Kakani 53.60 83 *e*P **P 12 13 24.3 -1.3**
comp=Z,15nm,0.6s
KKN Kakani 53.60 83 *e*P **P 12 13 24.3 -1.3**
comp=Z,15nm,0.6s
PKI Pulchoki 53.82 83 *e*P **P 12 13 26.0 -1.4**
PKI Pulchoki 53.82 83 *e*P **P 12 13 26.0 -1.4**
PKI Pulchoki 53.82 83 *e*P **P 12 13 26.0 -1.4**
PKI Pulchoki 53.82 83 *e*P **P 12 13 26.0 -1.4**
GUN Gumba 53.98 83 *e*P **P 12 13 27.5 -1.1**
comp=Z,54nm,1.0s
GUN Gumba 53.98 83 *e*P **P 12 13 27.5 -1.1**
comp=Z,54nm,1.0s
GUN Gumba 53.98 83 *e*P **P 12 13 27.5 -1.1**
comp=Z,54nm,1.0s
JIRN Jiri 54.35 83 *e*P **P 12 13 30.1 -1.2**
comp=Z,14nm,0.4s
RAMN Ramite 55.04 83 *e*P **P 12 13 34.7 -1.5**
comp=Z,33nm,0.6s
RAMN Ramite 55.04 83 *e*P **P 12 13 34.7 -1.5**
comp=Z,33nm,0.6s
RAMN Ramite 55.04 83 *e*P **P 12 13 34.7 -1.5**
comp=Z,33nm,0.6s
ZAK Zakamensk 55.07 51 *e*P P 12 13 29.7 -6.2
ZAK pmax pmax
comp=Z,3.0nm,1.7s
TAPN Taplejung 55.65 82 *e*P **P 12 13 39.0 -1.6**
comp=Z,15nm,0.8s
TAPN Taplejung 55.65 82 *e*P **P 12 13 39.0 -1.6**
comp=Z,15nm,0.8s
TAPN Taplejung 55.65 82 *e*P **P 12 13 39.0 -1.6**
comp=Z,15nm,0.8s
ODAN Odare 55.68 83 *e*P **P 12 13 39.1 -1.6**
comp=Z,26nm,0.9s
ODAN Odare 55.68 83 *e*P **P 12 13 39.1 -1.6**
comp=Z,26nm,0.9s
ODAN Odare 55.68 83 *e*P **P 12 13 39.1 -1.6**
comp=Z,26nm,0.9s
SCHQ Schefferville 56.00 316 P **P**
comp=Z,10.0nm,0.9s,baz=83,slow=10,SNR=6.0
SCHQ LR LR 12 35 39.5
comp=Z,206nm,18.5s,baz=74,slow=34
SCHQ Schefferville 56.00 316 P **P 12 13 42.1 -0.3**
SCHQ Schefferville 56.00 316 P **P 12 13 42.1 -0.3**
BOD Bodaibo 57.43 39 *e*P **P 12 13 50.2 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.4s
GTA Gaotai 57.98 64 *e*P **P 12 13 57.2 +0.4**
GTA pP **pP 12 14 01.9 +0.1**
GTA sP **sP 12 14 04.9 +1.3**
GTA S **S 12 21 55.5 -1.1**
GTA sS **sS 12 22 02.8 -2.0**
GTA SS **SS 12 25 47.3 0.0**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,130nm,5.0s
GTA LR LR
comp=N,300nm,15.9s
GTA LR LR
comp=E,280nm,16.9s
GTA LR LR
comp=Z,230nm,18.0s
SONM Songino Array 58.05 52 P **P 12 13 58.0 +0.9**
comp=Z,6.7nm,0.9s,baz=292,slow=8.7,SNR=49
SONM ScP **ScP 12 18 46.3 -2.1**
comp=Z,0.6nm,0.9s,baz=316,slow=4.0,SNR=3.0
SONM LR LR 12 41 12.1
comp=Z,217nm,19.0s,baz=149,slow=38
SONM Songino Array 58.05 52 P **P 12 13 58.0 +0.9**
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM pmax pmax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,217nm,19.0s
SONM Songino Array 58.05 52 P **P 12 13 58.0 +0.9**
SONM ScP **ScP 12 18 46.3 -2.1**
SONM Songino Array 58.05 52 P **P 12 13 58.0 +0.9**
comp=Z,217nm,19.0s
ULN Ulaanbaatar 58.42 52 *e*P **P 12 14 00.6 +0.8**
ULN pmax pmax
comp=Z,14nm,1.4s
ULN Ulaanbaatar 58.42 52 *e*P **P 12 14 00.6 +0.8**
comp=Z,14nm,1.4s
ULN Ulaanbaatar 58.42 52 *e*P **P 12 14 00.6 +0.8**
comp=Z,14nm,1.4s
LZH Lanzhou 62.44 65 *e*P **P 12 14 28.1 +0.7**
LZH pP **pP 12 14 31.9 -0.5**
LZH sP **sP 12 14 34.3 0.0**
LZH PP **PP 12 16 47.4 +2.9**
LZH S **S 12 22 53.0 -1.0**
LZH sS **sS 12 23 00.2 -2.0**
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.1s
LZH LR LR
comp=N,310nm,14.9s
LZH LR LR
comp=E,250nm,13.2s
LZH LR LR
comp=Z,270nm,17.4s
HHC Hu-ho-hao-te 64.85 57 *e*P **P 12 14 42.6 -0.6**
HHC sP **sP 12 14 51.0 +0.9**
HHC PP **PP 12 17 08.3 +2.8**
HHC S **S 12 23 22.6 -1.2**
HHC sS **sS 12 23 30.3 -1.7**
HHC ScS **SKSac 12 24 34.4 -3.0**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,92nm,6.0s
HHC LR LR
comp=N,310nm,16.4s
HHC LR LR
comp=E,400nm,14.9s
HHC LR LR
comp=Z,210nm,16.9s
CD2 Chengdu 65.28 70 P **P 12 14 47.2 +1.1**
CD2 pP **pP 12 14 51.9 +0.8**
CD2 sP **sP 12 14 54.2 +1.2**
CD2 PP **PP 12 17 12.6 +3.1**
CD2 S **S 12 23 28.4 -0.8**
CD2 sS **sS 12 23 35.7 -1.8**
CD2 SS **SS 12 27 42.4 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.9s
CD2 LR LR
comp=N,330nm,5.3s
CD2 LR LR
comp=Z,210nm,6.5s
BILL Bilibino 67.46 13 *e*P **P 12 14 58.8 -0.6**
BILL *e*S **S 12 23 55.5 +1.0**
BILL *e*SS **SS 12 28 19.3 +5.7**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,7μm,23.0s
BILL Bilibino 67.46 13 *e*P **P 12 14 58.8 -0.6**
comp=Z,8.0nm,1.2s
KMI Kunming 67.95 76 P **P 12 15 06.2 +2.8**
KMI pmax pmax
comp=Z,9.0nm,0.5s
BJI Beijing 68.19 55 P **P 12 15 04.9 +0.5**
BJI PP **PP 12 17 32.2 -2.2**
BJI S **S 12 24 01.9 -2.0**
BJI pmax pmax
comp=Z,13nm,1.4s
BJI LR LR
comp=N,460nm,15.9s
BJI LR LR
comp=E,330nm,17.6s
BJI LR LR
comp=Z,140nm,19.4s
INK Inuvik 68.56 350 LR LR 12 47 45.4
comp=Z,144nm,19.2s,baz=13,slow=38
SEY Seymchan 68.70 22 *e*P **P 12 15 06.7 -0.5**
SEY Seymchan 68.70 22 *e*P **P 12 15 06.7 -0.5**
CHTO Chiang Mai 69.00 83 *e*P **P 12 15 08.1 -1.7**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 69.00 83 *e*P **P 12 15 08.1 -1.7**
comp=Z,6.8nm,0.8s
CHTO Chiang Mai 69.00 83 *e*P **P 12 15 08.1 -1.7**
comp=Z,6.8nm,0.8s
CMAR Chiang Mai Arr 69.22 84 P **P 12 15 09.4 -1.7**
comp=Z,3.1nm,0.6s,baz=304,slow=7.3,SNR=34
CMAR LR LR 12 51 16.5
comp=Z,71nm,18.1s,baz=196,slow=41
CMAR Chiang Mai Arr 69.22 84 P **P 12 15 09.5 -1.7**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 69.22 84 P **P 12 15 09.4 -1.7**
CMAR Chiang Mai Arr 69.22 84 P **P 12 15 09.5 -1.7**
comp=Z,3.0nm,0.6s
ENH Enshi 69.64 67 *e*P **P 12 15 13.6 -0.1**
comp=Z,13nm,0.9s
ENH Enshi 69.64 67 *e*P **P 12 15 13.6 -0.1**
comp=Z,13nm,0.9s
GYA Guiyang 69.97 72 P **P 12 15 17.2 +1.4**
GYA PP **PP 12 17 53.7 +3.3**
GYA S **S 12 24 25.4 -0.3**
GYA SKS **SKSac 12 25 14.0 -2.6**
GYA SS **SS 12 28 55.6 +1.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.3s
GYA LR LR
comp=N,540nm,18.8s
GYA LR LR
comp=E,480nm,17.0s
GYA LR LR
comp=Z,510nm,18.9s
YKA Yellowknife Ar 70.09 340 P **P 12 15 15.4 -0.4**
comp=Z,3.2nm,0.8s,baz=36,slow=5.6,SNR=45
YKA LR LR 12 48 00.4
comp=Z,14nm,18.9s,baz=5.0,slow=38
YKA Yellowknife Ar 70.09 340 P **P 12 15 15.4 -0.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA MLR MLR
comp=Z,14nm,18.9s
YKA Yellowknife Ar 70.09 340 P **P 12 15 15.4 -0.4**
YKA Yellowknife Ar 70.09 340 P **P 12 15 15.4 -0.4**
comp=Z,14nm,18.9s
BOSA Boshof 70.16 176 P **P 12 15 17.3 +0.6**
comp=Z,7.3nm,0.6s,baz=358,slow=5.2,SNR=17
BOSA LR LR 12 49 04.7
comp=Z,141nm,18.9s,baz=346,slow=38
BOSA Boshof 70.16 176 P **P 12 15 17.3 +0.6**
BOSA pmax pmax
comp=Z,7.0nm,0.6s
BOSA MLR MLR
comp=Z,141nm,18.9s
BOSA Boshof 70.16 176 P **P 12 15 17.3 +0.6**
BOSA Boshof 70.16 176 P **P 12 15 17.3 +0.6**
comp=Z,141nm,18.9s
MRIV Mauritius Mete 70.48 143 *e*P **P 12 15 18.1 -0.6**
MRIV Mauritius Mete 70.48 143 *e*P **P 12 15 18.1 -0.6**
KLR Kul'dur 70.97 40 *e*P **P 12 15 19.6 -1.8**
COLD Coldfoot 71.11 356 *e*P **P 12 15 22.3 +0.3**
comp=Z,5.1nm,0.9s
COLD Coldfoot 71.11 356 *e*P **P 12 15 22.3 +0.3**
comp=Z,5.1nm,0.9s
CN2 Changchun 71.28 48 *e*P **P 12 15 23.4 0.0**
CN2 *es*P **sP 12 15 34.0 +3.7**
CN2 *e*S **S 12 24 37.6 -2.6**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,300nm,14.0s
FFC Flin Flon 72.20 329 *i*P **P 12 15 29.9 +1.2**
FFC Flin Flon 72.20 329 *i*P **P 12 15 29.9 +1.2**
WHN Wuhan 72.80 64⇓*i*P **P 12 15 31.5 -1.2**
ULM Lac du Bonnet 72.94 323 P **P 12 15 32.6 -0.7**
comp=Z,9.5nm,0.9s,baz=56,slow=4.4,SNR=12
ULM LR LR 12 47 37.8
comp=Z,159nm,19.2s,baz=18,slow=36
ULM Lac du Bonnet 72.94 323 *e*P **P 12 15 32.7 -0.5**
ULM pmax pmax
comp=Z,18nm,1.1s
ULM Lac du Bonnet 72.94 323 *e*P **P 12 15 32.7 -0.5**
comp=Z,18nm,1.1s
ULM Lac du Bonnet 72.94 323 *e*P **P 12 15 32.7 -0.5**
comp=Z,18nm,1.1s
MDJ Mudanjiang 72.99 45 P **P 12 15 33.1 -0.5**
MDJ pP **pP 12 15 36.4 -2.3**
MDJ sP **sP 12 15 37.6 -2.9**
MDJ S **S 12 24 58.9 -0.9**
MDJ ScS **ScS 12 25 40.5 -0.4**
MDJ pmax pmax
comp=Z,5.0nm,1.4s
MDJ pmax pmax
comp=Z,370nm,8.8s
MDJ LR LR
comp=N,270nm,17.2s
MDJ LR LR
comp=E,170nm,17.2s
MDJ LR LR
comp=Z,360nm,16.3s
COLA College 73.31 355 *e*P **P 12 15 35.0 -0.1**
COLA pmax pmax
comp=Z,36nm,2.0s
COLA College 73.31 355 *e*P **P 12 15 35.0 -0.1**
comp=Z,36nm,2.0s
COLA College 73.31 355 *e*P **P 12 15 35.0 -0.1**
comp=Z,36nm,2.0s
DAWY Dawson 73.34 351 *e*P **P 12 15 35.8 +0.4**
DAWY Dawson 73.34 351 *e*P **P 12 15 35.8 +0.4**
ILAR Eielson Array 73.35 355 P **P 12 15 35.3 -0.1**
comp=Z,1.8nm,0.7s,baz=359,slow=5.2,SNR=36
ILAR Eielson Array 73.35 355 P **P 12 15 35.3 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 73.35 355 P **P 12 15 35.3 -0.1**
ILAR Eielson Array 73.35 355 P **P 12 15 35.3 -0.1**
comp=Z,2.0nm,0.7s
SUR Sutherland 73.79 180 P **P 12 15 39.0 +0.5**
baz=342,slow=9.6
SUR Sutherland 73.79 180 P **P 12 15 39.0 +0.5**
SUR Sutherland 73.79 180 P **P 12 15 39.0 +0.5**
USRK Ussuriysk Arra 74.53 44 P **P 12 15 41.6 -1.0**
comp=Z,1.8nm,0.6s,baz=268,slow=5.3,SNR=7.6
USRK LR LR 12 52 07.8
comp=Z,343nm,18.4s,baz=131,slow=39
NJ2 Nanjing 74.83 61 *e*P **P 12 15 44.6 0.0**
NJ2 pmax pmax
comp=Z,20nm,0.9s
PPLA Purkeypile 75.52 357 *e*P **P 12 15 48.6 +0.3**
PPLA Purkeypile 75.52 357 *e*P **P 12 15 48.6 +0.3**

TKL Tuckaleechee C 76.59 306 LR LR 12 50 16.5
comp=Z,162nm,18.9s,baz=233,slow=36
KSAR Wonju Array Be 76.88 51 P **P** **12 15 56.7 +0.5**
KSAR Wonju Array Be 76.88 51 P **P** **12 15 56.7 +0.5**
KSAR Wonju Array Be 76.88 51 P **P** **12 15 56.7 +0.5**
KSRS Korea Array 76.89 51 P **P** **12 15 56.7 +0.4**
comp=Z,6.9nm,0.8s,baz=313,slow=5.0,SNR=16
KSRS LR LR 12 52 37.4
comp=Z,176nm,18.3s,baz=325,slow=38
KSRS Korea Array 76.89 51 P **P** **12 15 56.7 +0.4**
KSRS pmax pmax
comp=Z,7.0nm,0.8s
KSRS MLR MLR
comp=Z,176nm,18.3s
KSRS Korea Array 76.89 51 P **P** **12 15 56.7 +0.4**
comp=Z,176nm,18.3s
RC01 Rabbit Creek A 77.20 355 *e*P **P** **12 15 57.6 0.0**
comp=Z,9.7nm,0.9s
RC01 Rabbit Creek A 77.20 355 *e*P **P** **12 15 57.6 0.0**
comp=Z,9.7nm,0.9s
DLBC Dease Lake 77.23 345 P **P** **12 15 58.1 +0.2**
comp=Z,2.5nm,0.8s,baz=343,slow=11,SNR=6.3
DLBC Dease Lake 77.23 345 P **P** **12 15 58.1 +0.2**
DLBC Dease Lake 77.23 345 P **P** **12 15 58.2 +0.2**
YSS Yuzh-Sakhalins 77.73 37⇓ *e*P **P** **12 16 02.0 +1.2**
YSS *e* 12 16 15.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 77.73 37 *e*P **P** **12 16 01.4 +0.6**
comp=Z,13nm,0.6s
YSS Yuzh-Sakhalins 77.73 37 *e*P **P** **12 16 02.0 +1.2**
comp=Z,40nm,1.0s
RSO Redoubt South 77.98 357 P **P** **12 16 01.5 -0.7**
comp=Z,22nm,0.4s
RSO Redoubt South 77.98 357 P **P** **12 16 01.5 -0.7**
comp=Z,22nm,0.4s
B23A Brockton 78.22 327⇑ P **P** **12 16 03.8 +0.3**
baz=78
B23A ⇑P **P** **12 16 03.8 +0.3**
baz=78
PETK Petropavlovsk- 78.44 25 LR LR 12 55 41.4
comp=Z,172nm,19.9s,baz=142,slow=39
BRSD Miller 78.63 321⇑ P **P** **12 16 06.1 +0.2**
baz=78
BRSD ⇑P **P** **12 16 06.1 +0.2**
baz=78
A20A Cobblestone Ra 79.07 328⇓ P **P** **12 16 08.2 0.0**
baz=79
A20A ⇓P **P** **12 16 08.2 0.0**
baz=79
C22A Vida 79.15 327⇑ P **P** **12 16 09.4 +0.7**
baz=79
C22A ⇑P **P** **12 16 09.4 +0.7**
baz=79
CCM Cathedral Cave 79.29 312 *e*P **P** **12 16 09.5 -0.1**
CCM pmax pmax
comp=Z,6.0nm,0.6s
CCM Cathedral Cave 79.29 312 *e*P **P** **12 16 09.5 -0.1**
comp=Z,5.6nm,0.6s
D23A Lindsay 79.32 326⇑ P **P** **12 16 10.5 +0.8**
baz=79
D23A ⇑P **P** **12 16 10.5 +0.8**
baz=79
B20A Solberg Farm, 79.46 328⇓ P **P** **12 16 10.8 +0.4**
baz=79
B20A ⇓P **P** **12 16 10.8 +0.4**
baz=79
C21A Desert Coulee 79.58 327⇑ P **P** **12 16 11.6 +0.5**
baz=79
C21A ⇑P **P** **12 16 11.6 +0.5**
baz=79
D22A Cohagen 79.75 326⇓ P **P** **12 16 12.8 +0.8**
baz=79
D22A ⇓P **P** **12 16 12.8 +0.8**
baz=79
A18A Metzger Ranch, 79.78 329⇓ P **P** **12 16 12.2 +0.1**
baz=79
A18A ⇓P **P** **12 16 12.2 +0.1**
baz=79
ASAJ Asahikawa 79.83 38 P **P** **12 16 12.2 -0.2**
comp=Z,5.6nm,0.8s,baz=214,slow=22,SNR=5.4
ASAJ Asahikawa 79.83 38 P **P** **12 16 12.2 -0.2**
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 79.83 38 P **P** **12 16 12.2 -0.2**
C20A Veseth Ranch, 80.04 328⇑ P **P** **12 16 13.9 +0.3**
baz=80
C20A ⇑P **P** **12 16 13.9 +0.3**
baz=80
F24A Ekalaka 80.04 325⇓ P **P** **12 16 14.2 +0.5**
baz=80
F24A ⇓P **P** **12 16 14.2 +0.5**
baz=80
D21A La Casta Ranch 80.15 327⇑ P **P** **12 16 14.5 +0.3**
baz=80
D21A ⇑P **P** **12 16 14.5 +0.3**
baz=80
B18A Beardsley Farm 80.18 329⇓ P **P** **12 16 15.0 +0.6**
baz=80
B18A ⇓P **P** **12 16 15.0 +0.6**
baz=80
E22A Miles City 80.22 326⇓ P **P** **12 16 14.9 +0.4**
baz=80
E22A ⇓P **P** **12 16 14.9 +0.4**
baz=80
LRAL Lakeview Retre 80.33 306 *e*P **P** **12 16 15.8 +0.5**
comp=Z,19nm,1.1s
A16A West Butte Ran 80.41 330⇓ P **P** **12 16 15.1 -0.6**
baz=80
A16A ⇓P **P** **12 16 15.1 -0.6**
baz=80
C19A Slack Wire Ran 80.44 328⇑ P **P** **12 16 16.2 +0.4**
baz=80
C19A ⇑P **P** **12 16 16.2 +0.4**
baz=80
G24A Alzada 80.44 324⇑ P **P** **12 16 15.8 0.0**
baz=80
G24A ⇑P **P** **12 16 15.8 0.0**
baz=80
EGMT Eagleton 80.47 329 *e*P **P** **12 16 16.6 +0.7**
comp=Z,27nm,1.0s
EGMT Eagleton 80.47 329⇓ P **P** **12 16 16.4 +0.4**
baz=80
EGMT ⇓P **P** **12 16 16.4 +0.4**
baz=80
F23A Volborg 80.56 325⇓ P **P** **12 16 16.5 +0.1**
baz=80
F23A ⇓P **P** **12 16 16.5 +0.1**
baz=80
D20A Manuel Ranch, 80.59 327⇑ P **P** **12 16 16.9 +0.3**
baz=80
D20A ⇑P **P** **12 16 16.9 +0.3**
baz=80
KDAK Kodiak Island 80.65 356 *i* P **P** **12 16 17.2 +0.7**
A15A Johnson Ranch, 80.80 331⇓ P **P** **12 16 17.6 -0.1**
baz=80
A15A ⇓P **P** **12 16 17.6 -0.1**
baz=80
D19A Cripps Ranch, 80.83 328⇑ P **P** **12 16 17.5 -0.3**
baz=80
D19A ⇑P **P** **12 16 17.5 -0.3**
baz=80
F22A Rosebud 80.87 326⇑ P **P** **12 16 18.1 0.0**
baz=81
F22A ⇑P **P** **12 16 18.1 0.0**
baz=81
G23A Biddle 80.96 325⇑ P **P** **12 16 18.7 +0.1**
baz=81
G23A ⇑P **P** **12 16 18.7 +0.1**
baz=81
A14A Double T Ranch 81.05 331⇓ P **P** **12 16 18.9 -0.2**
baz=81
A14A ⇓P **P** **12 16 18.9 -0.2**
baz=81
E20A Meyer Farm, Mu 81.07 327⇑ P **P** **12 16 19.3 +0.2**
baz=81
E20A ⇑P **P** **12 16 19.3 +0.2**
baz=81
C17A Wharram Farm, 81.18 329⇓ P **P** **12 16 19.7 0.0**
baz=81
C17A ⇓P **P** **12 16 19.7 0.0**
baz=81
RSSD Black Hills 81.21 323 *e*P **P** **12 16 20.2 +0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 81.21 323 *e*P **P** **12 16 20.2 +0.1**
comp=Z,3.6nm,0.8s
B15A Bradely Ranch, 81.30 331⇑ P **P** **12 16 19.5 -0.9**
baz=81
B15A ⇑P **P** **12 16 19.5 -0.9**
baz=81
E19A Rath Farm, Rou 81.37 327⇓ P **P** **12 16 21.3 +0.6**
baz=81
E19A ⇓P **P** **12 16 21.3 +0.6**
baz=81
YUK Yuzh-Kuril'sk 81.38 37 *c i*P **P** **12 16 19.6 -1.1**
YUK S **S** **12 26 29.3 -1.7**
YUK pmax pmax
comp=Z,254nm,1.2s
YUK pmax pmax
comp=Z,328nm,1.4s
YUK MLR MLR
comp=E,144nm,20.0s
YUK MLR MLR
comp=Z,92nm,20.0s
YUK MLR MLR
comp=N,278nm,20.0s
KSU1 Kansas State U 81.43 316 *e*P **P** **12 16 21.4 +0.3**
comp=N,18nm,0.9s
H22A Clearmont 81.86 325⇑ P **P** **12 16 23.2 -0.2**
baz=82
H22A ⇑P **P** **12 16 23.2 -0.2**
baz=82
G20A Bridger 82.14 326⇑ P **P** **12 16 25.4 +0.5**
baz=82
G20A ⇑P **P** **12 16 25.4 +0.5**
baz=82
E17A Martinsdale 82.19 329⇑ P **P** **12 16 25.5 +0.3**
baz=82
E17A ⇑P **P** **12 16 25.5 +0.3**
baz=82
D15A Lincoln 82.34 330⇓ P **P** **12 16 25.7 -0.2**
baz=82
D15A ⇓P **P** **12 16 25.7 -0.2**
baz=82
HRY Holter Researc 82.36 329 *e*P **P** **12 16 26.3 +0.3**
comp=N,3.8nm,0.7s
JTMT Jette 82.40 331 *e*P **P** **12 16 26.2 0.0**
comp=N,9.6nm,0.9s
I22A 9 Mile Ranch, 82.47 325⇓ P **P** **12 16 26.4 -0.3**
baz=82
I22A ⇓P **P** **12 16 26.4 -0.3**
baz=82
BSMT Bassoo Peak 82.49 332 *e*P **P** **12 16 27.2 +0.5**
comp=N,15nm,1.5s
SWMT Swartz Lake 82.50 331 *e*P **P** **12 16 26.8 +0.1**
comp=N,10nm,1.2s
F17A Fitzpatrick Pl 82.57 328⇓ P **P** **12 16 26.3 -0.8**
baz=82
F17A ⇓P **P** **12 16 26.3 -0.8**
baz=82
RLMT Red Lodge 82.65 327⇑ P **P** **12 16 27.1 -0.6**
baz=82
RLMT ⇑P **P** **12 16 27.1 -0.6**
baz=82
RLMT ⇑P **P** **12 16 27.1 -0.6**
baz=82
RLMT ⇑P **P** **12 16 27.1 -0.6**
baz=82
D14A Greenough 82.67 330⇓ P **P** **12 16 27.1 -0.5**
baz=82
D14A ⇓P **P** **12 16 27.1 -0.5**
baz=82
FX1 Attu Island--F 82.74 16 P **P** **12 16 28.0 +0.3**
comp=N,6.4nm,0.5s,baz=45,slow=14,SNR=3.6
FX1 LR LR 12 55 22.0
comp=N,52nm,18.7s,baz=44,slow=37
FX1 Attu Island--F 82.74 16 P **P** **12 16 28.0 +0.3**
FX1 pmax pmax
comp=Z,6.0nm,0.5s
FX1 MLR MLR
comp=Z,52nm,18.7s
FX1 Attu Island--F 82.74 16 P **P** **12 16 28.0 +0.3**
J22A Midwest 82.86 324⇑ P **P** **12 16 27.9 -0.8**
baz=82
J22A ⇑P **P** **12 16 27.9 -0.8**
baz=82
I21A Big Trails, Te 82.89 325⇓ P **P** **12 16 28.6 -0.3**
baz=83
I21A ⇓P **P** **12 16 28.6 -0.3**
baz=83
E15A Deer Lodge 82.90 330⇓ P **P** **12 16 28.3 -0.6**
baz=83
E15A ⇓P **P** **12 16 28.3 -0.6**
baz=83
H19A Powell 82.91 326⇓ P **P** **12 16 29.8 +0.9**
baz=83
H19A ⇓P **P** **12 16 29.8 +0.9**
baz=83
NEW Newport 82.94 333⇑ P **P** **12 16 28.5 -0.4**
baz=83
NEW ⇑P **P** **12 16 28.5 -0.4**
baz=83
D13A Huson 83.01 331⇑ P **P** **12 16 29.2 -0.1**
baz=83
D13A ⇑P **P** **12 16 29.2 -0.1**
baz=83
MIAR Mount Ida 83.12 311 *e*P **P** **12 16 30.5 +0.5**
MIAR pmax pmax
comp=Z,33nm,1.3s
MIAR Mount Ida 83.12 311 *e*P **P** **12 16 30.5 +0.5**
comp=Z,32nm,1.3s
I20A Worland 83.13 326⇓ P **P** **12 16 30.3 +0.2**
baz=83
I20A ⇓P **P** **12 16 30.3 +0.2**
baz=83
H18A Shoshone NF, C 83.18 327⇓ P **P** **12 16 30.2 -0.2**
baz=83
H18A ⇓P **P** **12 16 30.2 -0.2**
baz=83
CBKS Cedar Bluff 83.26 317⇓ P **P** **12 16 30.7 0.0**
baz=83
CBKS ⇓P **P** **12 16 30.7 0.0**
baz=83
CBKS ⇓P **P** **12 16 30.7 0.0**
baz=83
CBKS ⇓P **P** **12 16 30.7 0.0**
baz=83
MJAR Matsushiro Arr 83.32 46 P **P** **12 16 30.8 -0.3**
comp=Z,2.8nm,0.9s,baz=293,slow=6.8,SNR=6.3
MJAR LR LR 12 56 36.6
comp=Z,92nm,18.4s,baz=265,slow=38
MJAR Matsushiro Arr 83.32 46 P **P** **12 16 30.8 -0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,92nm,18.4s
MJAR Matsushiro Arr 83.32 46 P **P** **12 16 30.8 -0.3**
J21A Lysite 83.33 325⇓ P **P** **12 16 31.4 +0.2**
baz=83
J21A ⇓P **P** **12 16 31.4 +0.2**
baz=83
TUL1 Tulsa 83.35 313⇓ P **P** **12 16 31.2 0.0**
baz=83
TUL1 ⇓P **P** **12 16 31.2 0.0**
baz=83
K22A Casper 83.48 324⇑ P **P** **12 16 31.5 -0.5**
baz=83
K22A ⇑P **P** **12 16 31.5 -0.5**
baz=83
O27A Beecher Island 83.56 320⇑ P **P** **12 16 32.6 +0.3**
baz=83
O27A ⇑P **P** **12 16 32.6 +0.3**
baz=83
J20A Shoshoni 83.60 325⇑ P **P** **12 16 32.5 0.0**
baz=83
J20A ⇑P **P** **12 16 32.5 0.0**
baz=83
F14A Wisdom 83.69 330⇓ P **P** **12 16 33.4 +0.4**
baz=83
F14A ⇓P **P** **12 16 33.4 +0.4**
baz=83
QLMT Earthquake Lak 83.76 328 *e*P **P** **12 16 34.1 +0.6**
comp=Z,0.6nm,0.8s
K21A Alcova 83.82 324⇓ P **P** **12 16 33.4 -0.3**
baz=84
K21A ⇓P **P** **12 16 33.4 -0.3**
baz=84
G15A Dillon 83.90 329⇓ P **P** **12 16 33.8 -0.3**
baz=84
G15A ⇓P **P** **12 16 33.8 -0.3**
baz=84
L22A Ellis Ranch, M 83.94 323⇑ P **P** **12 16 34.1 -0.3**
baz=84
L22A ⇑P **P** **12 16 34.1 -0.3**
baz=84
I18A Diamond G Ranc 84.04 326⇑ P **P** **12 16 34.9 0.0**
baz=84
I18A ⇑P **P** **12 16 34.9 0.0**
baz=84
F13A Darby 84.07 330⇑ P **P** **12 16 34.8 -0.1**
baz=84
F13A ⇑P **P** **12 16 34.8 -0.1**
baz=84
J19A Crowheart 84.08 326⇓ P **P** **12 16 34.8 -0.3**
baz=84
J19A ⇓P **P** **12 16 34.8 -0.3**
baz=84
I17A Pilgrim Ck. 84.17 327⇓ P **P** **12 16 35.5 0.0**
baz=84
I17A ⇓P **P** **12 16 35.5 0.0**
baz=84
K19A Absolon Red Bu 84.35 325⇓ P **P** **12 16 35.6 -0.8**
baz=84
K19A ⇓P **P** **12 16 35.6 -0.8**
baz=84
H15A Lima 84.42 329⇑ P **P** **12 16 36.9 +0.1**
baz=84
H15A ⇑P **P** **12 16 36.9 +0.1**
baz=84
F12A Elk City 84.44 331⇑ P **P** **12 16 36.7 -0.1**
baz=84
F12A ⇑P **P** **12 16 36.7 -0.1**
baz=84
G13A Cobalt 84.63 330⇓ P **P** **12 16 37.7 0.0**
baz=84
G13A ⇓P **P** **12 16 37.7 0.0**
baz=84
J17A Brown Place, J 84.69 327⇑ P **P** **12 16 38.5 +0.4**
baz=84
J17A ⇑P **P** **12 16 38.5 +0.4**
baz=84
DCID1 Drake Creek 84.69 327 *e*P **P** **12 16 39.5 +1.3**
comp=Z,11nm,0.7s
PD02 Pinedale Array 84.69 326 *e*P **P** **12 16 37.1 -1.1**
M21A Separation Pea 84.70 324⇓ P **P** **12 16 37.7 -0.5**
baz=84
M21A ⇓P **P** **12 16 37.7 -0.5**
baz=84
BW06 Boulder Array 84.70 326⇓ P **P** **12 16 38.2 -0.1**
baz=84
BW06 ⇓P **P** **12 16 38.2 -0.1**
baz=84
BW06 ⇓P **P** **12 16 38.2 -0.1**
baz=84
BW06 ⇓P **P** **12 16 38.2 -0.1**
baz=84
PDAR Pinedale Array 84.70 326 P **P** **12 16 38.0 -0.2**
comp=Z,2.9nm,0.7s,baz=58,slow=4.3,SNR=25
PDAR LR LR 12 54 21.1
comp=Z,136nm,19.6s,baz=218,slow=36
PDAR Pinedale Array 84.70 326 P **P** **12 16 38.0 -0.2**
PD01 Pinedale Array 84.70 326 *e*P **P** **12 16 37.5 -0.7**
L20A Wamsutter 84.80 325⇑ P **P** **12 16 38.7 0.0**
baz=84
L20A ⇑P **P** **12 16 38.7 0.0**
baz=84
E09A Wood Farm, Sta 84.81 333⇑ P **P** **12 16 38.8 +0.4**
baz=84
E09A ⇑P **P** **12 16 38.8 +0.4**
baz=84
I15A Monteview 84.87 328⇓ P **P** **12 16 40.3 +1.3**
baz=84
I15A ⇓P **P** **12 16 40.3 +1.3**
baz=84
K18A Toltan Ranch, 85.01 326⇑ P **P** **12 16 40.5 +0.7**
baz=85
K18A ⇑P **P** **12 16 40.5 +0.7**
baz=85
H13A Challis 85.08 330⇑ P **P** **12 16 40.0 -0.1**
baz=85
H13A ⇑P **P** **12 16 40.0 -0.1**
baz=85
J16A Bone 85.13 327⇓ P **P** **12 16 40.7 +0.3**
baz=85
J16A ⇓P **P** **12 16 40.7 +0.3**
baz=85
M20A Sweetwater, Wa 85.15 324⇓ P **P** **12 16 41.0 +0.5**
baz=85
M20A ⇓P **P** **12 16 41.0 +0.5**
baz=85
SDV Santo Domingo 85.22 278 *e*P **P** **12 16 41.3 +0.1**
comp=Z,17nm,0.9s
I14A Mackay 85.31 329⇑ P **P** **12 16 42.2 +1.0**
baz=85
I14A ⇑P **P** **12 16 42.2 +1.0**
baz=85
H12A Diamond D Ranc 85.32 330⇓ P **P** **12 16 40.8 -0.4**
baz=85
H12A ⇓P **P** **12 16 40.8 -0.4**
baz=85
R26A Arlington 85.50 319⇑ P **P** **12 16 42.6 +0.3**
baz=85
R26A ⇑P **P** **12 16 42.6 +0.3**
baz=85
I13A Wildhorse Cree 85.58 329⇓ P **P** **12 16 43.2 +0.6**
baz=85
I13A ⇓P **P** **12 16 43.2 +0.6**
baz=85
N20A Spence Gulch, 85.72 324⇑ P **P** **12 16 43.4 0.0**
baz=85
N20A ⇑P **P** **12 16 43.4 0.0**
baz=85
WMOK Wichita Mounta 85.85 314 *e*P **P** **12 16 44.6 +0.7**
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 85.85 314 *e*P **P** **12 16 44.6 +0.7**
comp=Z,11nm,1.0s
I12A Atlanta 86.07 330⇓ P **P** **12 16 44.9 -0.1**
baz=86
I12A ⇓P **P** **12 16 44.9 -0.1**
baz=86
N19A John Jarvie Ra 86.07 324⇑ P **P** **12 16 44.4 -0.6**
baz=86
N19A ⇑P **P** **12 16 44.4 -0.6**
baz=86
L16A Fish Haven 86.10 326⇓ P **P** **12 16 44.5 -0.8**
baz=86
L16A ⇓P **P** **12 16 44.5 -0.8**
baz=86
O20A White River Ci 86.28 323⇑ P **P** **12 16 45.7 -0.5**
baz=86
O20A ⇑P **P** **12 16 45.7 -0.5**
baz=86
HWUT Hardware Ranch 86.50 326 *e*P **P** **12 16 46.5 -0.6**
comp=Z,5.1nm,0.9s
MFID Camas Ranch 86.66 330 *e*P **P** **12 16 47.8 0.0**
comp=Z,8.3nm,0.7s
MFID Camas Ranch 86.66 330⇓ P **P** **12 16 48.2 +0.4**
baz=86
MFID ⇓P **P** **12 16 48.2 +0.4**
baz=86
G06A Carlson Farm, 86.76 334⇓ P **P** **12 16 48.2 -0.1**
baz=86
G06A ⇓P **P** **12 16 48.2 -0.1**
baz=86
M16A Huntsville 86.77 326⇑ P **P** **12 16 48.1 -0.4**
baz=86
M16A ⇑P **P** **12 16 48.1 -0.4**
baz=86
U26A Atchley Ranch, 87.14 318⇑ P **P** **12 16 50.4 0.0**
baz=87
U26A ⇑P **P** **12 16 50.4 0.0**
baz=87
Q20A Ridgley Place, 87.26 323⇓ P **P** **12 16 50.4 -0.5**
baz=87
Q20A ⇓P **P** **12 16 50.4 -0.5**
baz=87
U25A Circle Dot Ran 87.47 319⇓ P **P** **12 16 51.8 -0.2**
baz=87
U25A ⇓P **P** **12 16 51.8 -0.2**
baz=87
R20A Redvale 87.92 322⇑ P **P** **12 16 53.9 -0.3**
baz=88
R20A ⇑P **P** **12 16 53.9 -0.3**
baz=88
PV01 Paradox Valley 88.05 322 *e*P **P** **12 16 54.3 -0.6**
comp=Z,556nm,1.2s
S21A Coal Bank Pass 88.08 322⇓ P **P** **12 16 54.6 -0.4**
baz=88
S21A ⇓P **P** **12 16 54.6 -0.4**
baz=88
SRU San Rafael 88.12 324 *e*P **P** **12 16 54.4 -0.7**
SRU pmax pmax

comp=Z,4.0nm,0.8s
SRU San Rafael 88.12 324 *e*P P 12 16 54.4 -0.7
comp=Z,4.2nm,0.8s
DUG Dugway 88.20 326 *e*P P 12 16 55.1 -0.2
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway 88.20 326 *e*P P 12 16 55.1 -0.2
comp=Z,4.5nm,0.8s
DUG Dugway 88.20 326 ⇓P P 12 16 55.1 -0.2
baz=88
DUG ⇓P P 12 16 55.1 -0.2
baz=88
S19A Harvey Farm, M 88.63 323 ⇑P P 12 16 57.0 -0.6
baz=88
S19A ⇑P P 12 16 57.0 -0.6
baz=88
U22A Llaves 88.67 320 ⇑P P 12 16 58.0 +0.2
baz=88
U22A ⇑P P 12 16 58.0 +0.2
baz=88
R17A Hanksville Air 88.78 324 ⇑P P 12 16 57.3 -0.8
baz=88
R17A ⇑P P 12 16 57.3 -0.8
baz=88
U21A Nageezi 89.01 321 ⇑P P 12 16 59.0 -0.4
baz=89
U21A ⇑P P 12 16 59.0 -0.4
baz=89
S18A Hurst Farm, Bl 89.06 323 ⇓P P 12 16 58.9 -0.7
baz=89
S18A ⇓P P 12 16 58.9 -0.7
baz=89
T19A Beclabito 89.33 322 ⇑P P 12 16 59.9 -0.9
baz=89
T19A ⇑P P 12 16 59.9 -0.9
baz=89
T18A Mexican Hat 89.46 323 ⇑P P 12 17 00.7 -0.6
baz=89
T18A ⇑P P 12 17 00.7 -0.6
baz=89
ANMO Albuquerque 89.63 319 LR LR 13 00 02.0
comp=Z,78nm,19.0s,baz=37,slow=37
Z26A Caprock 89.72 317 ⇑P P 12 17 02.1 -0.5
baz=89
Z26A ⇑P P 12 17 02.1 -0.5
baz=89
S16A Weppner Ranch, 89.75 324 ⇑P P 12 17 02.1 -0.6
baz=89
S16A ⇑P P 12 17 02.1 -0.6
baz=89
U19A Dine' College, 89.85 322 ⇓P P 12 17 02.7 -0.6
baz=90
U19A ⇓P P 12 17 02.7 -0.6
baz=90
V20A Brimhall 89.91 321 ⇓P P 12 17 02.6 -0.9
baz=90
V20A ⇓P P 12 17 02.6 -0.9
baz=90
125A Gardner Draw, 90.55 317 ⇓P P 12 17 05.9 -0.6
baz=90
125A ⇓P P 12 17 05.9 -0.6
baz=90
X21A Alamocita Cree 90.68 320 ⇓P P 12 17 06.6 -0.6
baz=90
X21A ⇓P P 12 17 06.6 -0.6
baz=90
U16A Tuba City 90.85 323 ⇓P P 12 17 07.7 -0.1
baz=90
U16A ⇓P P 12 17 07.7 -0.1
baz=90
X20A Quemado 90.94 320 ⇓P P 12 17 07.7 -0.7
baz=91
X20A ⇓P P 12 17 07.7 -0.7
baz=91
V17A Tonalea, Kykot 91.13 322 ⇑P P 12 17 09.0 -0.1
baz=91
V17A ⇑P P 12 17 09.0 -0.1
baz=91
U15A North Rim 91.13 324 ⇑P P 12 17 08.6 -0.7
baz=91
U15A ⇑P P 12 17 08.6 -0.7
baz=91
WUAZ Wupatki 91.48 323 *e*P P 12 17 10.3 -0.5
comp=Z,7.2nm,1.1s
MNTX Cornudas Mount 91.68 317 ⇓P P 12 17 11.4 -0.2
baz=91
MNTX ⇓P P 12 17 11.4 -0.2
baz=91
MNTX ⇓P P 12 17 11.4 -0.2
baz=91
MNTX ⇓P P 12 17 11.4 -0.2
baz=91
426A McDonald Obser 91.79 315 ⇓P P 12 17 12.3 -0.1
baz=92
426A ⇓P P 12 17 12.3 -0.1
baz=92
NVAR Mina Array Bea 91.90 329 P P 12 17 12.8 +0.1
comp=Z,0.3nm,0.6s,baz=350,slow=3.7,SNR=3.6
NVAR PKKPbc **PKKPbc** 12 34 28.8 -0.1
comp=Z,0.7nm,0.7s,baz=187,slow=4.5,SNR=6.6
NVAR LR LR 12 59 14.8
comp=Z,185nm,18.4s,baz=320,slow=36
NVAR Mina Array Bea 91.90 329 P P 12 17 12.8 +0.1
NVAR PKKPbc **PKKPbc** 12 34 28.8 -0.1
324A Moseley Ranch, 91.94 316 ⇓P P 12 17 12.5 -0.5
baz=92
324A ⇓P P 12 17 12.5 -0.5
baz=92
628A Black Gap, Mar 92.11 313 ⇓P P 12 17 13.6 0.0
baz=92
628A ⇓P P 12 17 13.6 0.0
baz=92
Z20A Nine Sixteen R 92.15 320 ⇓P P 12 17 13.6 -0.3
baz=92
Z20A ⇓P P 12 17 13.6 -0.3
baz=92
425A Indio Mountain 92.20 316 ⇑P P 12 17 13.8 -0.4
baz=92
425A ⇑P P 12 17 13.8 -0.4
baz=92
526A Mary Lane Ranc 92.30 315 ⇑P P 12 17 14.3 -0.3
baz=92
526A ⇑P P 12 17 14.3 -0.3
baz=92
TXAR Lajitas Array 92.64 314 P P 12 17 16.8 +0.6
comp=Z,3.4nm,0.9s,baz=60,slow=4.3,SNR=24
TXAR LR LR 12 58 38.6
comp=Z,115nm,18.2s,baz=5.0,slow=35
TXAR Lajitas Array 92.64 314 P P 12 17 16.8 +0.6
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TXAR MLR MLR
comp=Z,115nm,18.2s
TXAR Lajitas Array 92.64 314 P P 12 17 16.8 +0.6
CPUP Villa Florida 98.91 243 LR LR 13 02 39.2
comp=Z,151nm,18.7s,baz=50,slow=36
WRA Warramunga Arr 120.40 90 PKP **PKPdf** 12 22 53.6 -2.1
comp=Z,1.4nm,0.9s,baz=324,slow=1.4,SNR=7.0
WRA Warramunga Arr 120.40 90 PKIKP **PKPdf** 12 22 53.6 -2.1
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 120.40 90 PKP **PKPdf** 12 22 53.6 -2.1
ASAR Alice Springs 122.27 94 PKP **PKPdf** 12 22 57.8 -1.5
comp=Z,3.1nm,0.8s,baz=329,slow=1.6,SNR=26
ASAR Alice Springs 122.27 94 PKIKP **PKPdf** 12 22 57.8 -1.5
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 122.27 94 PKP **PKPdf** 12 22 57.8 -1.5
CTA Charters Tower 129.37 82 PKP **PKPdf** 12 23 12.1 -0.8
comp=Z,3.5nm,0.8s,baz=243,slow=2.3,SNR=4.1
CTA Charters Tower 129.37 82 PKIKP **PKPdf** 12 23 12.1 -0.8
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTA Charters Tower 129.37 82 PKP **PKPdf** 12 23 12.1 -0.8
QSPA South Pole Qui 131.63 180 PKP **PKPdf** 12 23 14.8 -1.1
comp=Z,1.4nm,0.4s,baz=297,slow=1.6,SNR=6.5
QSPA South Pole Qui 131.63 180 PKP **PKPdf** 12 23 14.8 -1.1
DZM Mont Dzumac 145.15 66 PKPbc **PKPdf** 12 23 42.7 +0.8
comp=Z,41nm,1.0s,baz=38,slow=2.8,SNR=9.8
DZM Mont Dzumac 145.15 66 PKPbc **PKPdf** 12 23 42.7 +0.8

IDC 08 12:10:31.3±5.0, 0°90S×132°13E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=322.7km s-min=25.7km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.05**	**174**	P	P	12 14 54.9	-0.4
	0.1nm,0.3s,baz=354,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**22.70**	**176**	P	P	12 15 35.0	+0.3
	0.5nm,0.3s,baz=358,slow=12,SNR=13						
MKAR	**Makanchi Array**	**64.42**	**324**	P	P	12 21 09.5	0.0
	0.1nm,0.6s,baz=110,slow=8.5,SNR=2.4						

PRE 08 12:13:24.8±0.8, 26°23S×29°08E, h0km, ML2.2, Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.76**	**261**	*e*P	Pg	12 13 39.4	-0.3
ERPM				*e*S	Sg	12 13 50.4	+0.6
ERPM				AML	AML	12 14 00.5	
	comp=Z,16nm,0.4s						
POGA	**Pongola**	**2.53**	**117**	*e*P	Pn	12 14 09.2	+2.0
POGA				*e*S	Sn	12 14 40.4	+1.6
POGA				AML	AML	12 14 56.8	
	comp=Z,9.0nm,0.5s						
LBTB	**Lobatse**	**3.37**	**290**	*e*P	Pn	12 14 19.1	+0.3
LBTB				*e*S	Sn	12 14 58.9	-0.8
LBTB				AML	AML	12 15 17.4	
	comp=Z,4.8nm,0.4s						
MOPA	**Mopani**	**3.43**	**38**	*e*P	Pn	12 14 19.9	+0.4
MOPA				*e*S	Sn	12 15 00.2	-0.7
MOPA				AML	AML	12 15 15.7	
	comp=Z,24nm,0.4s						
BOSA	**Boshof**	**4.14**	**234**	*e*P	Pn	12 14 30.0	+0.5
BOSA				AML	AML	12 15 22.3	
	comp=Z,3.3nm,0.5s						

IDC 08 12:14:45.5±4.4, 12°57S×166°82E, h259km±43km, mb3.5/13, mb1 3.7/14, mb1mx3.6/22, mbtmp3.5/14, Error ellipse: s-maj=24.1km s-min=16.9km az=18.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.46**	**182**	P	Pn	12 16 58.7	+1.3
	1.1nm,0.3s,baz=270,slow=23,SNR=13						
DZM				S	S	12 18 44.1	-0.2
	0.3nm,0.3s,baz=204,slow=20,SNR=1.9						
CTA	**Charters Tower**	**21.09**	**247**	P	P	12 19 10.6	+0.1
	4.2nm,0.5s,baz=84,slow=13,SNR=7.1						
URZ	**Urewera**	**27.18**	**162**	P	P	12 20 05.5	+0.1
	5.6nm,0.8s,baz=261,slow=9.7,SNR=6.2						
RPZ	**Rata Peaks**	**31.25**	**174**	P	P	12 20 41.4	+0.1
	5.6nm,0.5s,baz=325,slow=3.7,SNR=5.4						
WRA	**Warramunga Arr**	**31.99**	**252**	P	P	12 20 47.2	-0.8
	0.8nm,0.5s,baz=85,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**33.10**	**246**	P	P	12 20 56.4	-1.2
	0.7nm,0.6s,baz=70,slow=10.0,SNR=14						
CMAR	**Chiang Mai Arr**	**73.68**	**294**	P	P	12 25 52.7	+1.1
	0.5nm,0.3s,baz=119,slow=4.0,SNR=6.0						
QSPA	**South Pole Qui**	**77.45**	**180**	P	P	12 26 12.9	+0.6
	1.2nm,0.3s,baz=238,slow=0.4,SNR=3.8						
SONM	**Songino Array**	**80.51**	**324**	P	P	12 26 30.2	+1.2
	0.3nm,0.5s,baz=148,slow=6.0,SNR=4.6						
ILAR	**Eielson Array**	**84.61**	**18**	P	P	12 26 48.8	-0.8
	3.1nm,0.6s,baz=242,slow=5.1,SNR=51						
NVAR	**Mina Array Bea**	**86.20**	**49**	P	P	12 26 58.4	+0.1
	0.6nm,0.9s,baz=237,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**95.34**	**317**	P	P	12 27 41.5	+1.1
	0.4nm,0.5s,baz=87,slow=7.1,SNR=9.6						
TXAR	**Lajitas Array**	**95.63**	**61**	P	P	12 27 41.3	-0.9
	0.2nm,0.8s,baz=226,slow=3.6,SNR=4.7						
YKA	**Yellowknife Ar**	**95.83**	**27**	P	P	12 27 40.4	-1.8
	0.3nm,0.5s,baz=258,slow=4.8,SNR=8.3						
ARCES	**ARCESS Array B**	**118.06**	**346**	PKP	PKPdf	12 33 01.2	+0.2
	4.6nm,0.9s,baz=66,slow=3.1,SNR=9.4						

*NEIC **08** 12:25:27.2, 19°39N×65°70W, h10km, MD3.5(RSPR), After RSPR.*

RSPR 08 12:25:27.2, 19°39N×65°70W, h10km±31km, MD3.5/16, 32C-18D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**1.12**	**188**	⇓*e*P	Pb	12 25 45.2	-3.7
CBYP	**Canovanas**	**1.12**	**188**	⇑*e*P	Pb	12 25 45.2	-3.7
CBYP	**Canovanas**	**1.12**	**188**	⇓*e*P	Pb	12 25 45.2	-3.7
HUMP	**Col San Antoni**	**1.25**	**186**	⇓*e*P	Pn	12 25 47.0	-3.8
HUMP	**Col San Antoni**	**1.25**	**186**	⇑*e*P	Pn	12 25 47.0	-3.8
HUMP	**Col San Antoni**	**1.25**	**186**	⇓*e*P	Pn	12 25 47.0	-3.8
STVI	**Saint Thomas**	**1.25**	**146**	⇓*e*P	Pn	12 25 48.2	-2.6
STVI	**Saint Thomas**	**1.25**	**146**	*e*S	Sb	12 26 04.6	-2.6
STVI	**Saint Thomas**	**1.25**	**146**	⇑*e*P	Pn	12 25 48.2	-2.6
STVI				*e*S	Sb	12 26 04.6	-2.6
STVI	**Saint Thomas**	**1.25**	**146**	⇑*e*P	Pn	12 25 48.2	-2.6
STVI				*e*S	Sb	12 26 04.6	-2.6
MTP	**Monte Pirata**	**1.30**	**174**	⇓*e*P	Pn	12 25 47.7	-3.7
MTP	**Monte Pirata**	**1.30**	**174**	⇓*e*P	Pn	12 25 47.7	-3.7
MTP	**Monte Pirata**	**1.30**	**174**	⇓*e*P	Pn	12 25 47.7	-3.7
SJG	**San Juan**	**1.34**	**199**	⇑*e*P	Pn	12 25 49.3	-2.7
SJG	**San Juan**	**1.34**	**199**	⇑*e*P	Pn	12 25 49.3	-2.7
SJG	**San Juan**	**1.34**	**199**	⇑*e*P	Pn	12 25 49.3	-2.7
CPD	**Cerro la Pandu**	**1.36**	**189**	⇑*e*P	Pn	12 25 48.7	-3.7
CPD	**Cerro la Pandu**	**1.36**	**189**	*e*S	Sb	12 26 05.9	-4.6
CPD	**Cerro la Pandu**	**1.36**	**189**	⇑*e*P	Pn	12 25 48.7	-3.7
CPD				*e*S	Sb	12 26 05.9	-4.6
CPD	**Cerro la Pandu**	**1.36**	**189**	⇑*e*P	Pn	12 25 48.7	-3.7
CPD				*e*S	Sb	12 26 05.9	-4.6
TBVI	**Tortola**	**1.41**	**133**	⇓*e*P	Pn	12 25 49.6	-3.4
TBVI	**Tortola**	**1.41**	**133**	⇓*e*P	Pn	12 25 49.6	-3.4
TBVI	**Tortola**	**1.41**	**133**	⇓*e*P	Pn	12 25 49.6	-3.4
AOPR	**Arecibo Observ**	**1.44**	**224**	⇓*e*P	Pn	12 25 50.1	-3.3
AOPR	**Arecibo Observ**	**1.44**	**224**	*e*S	Sn	12 26 09.1	-3.4
AOPR	**Arecibo Observ**	**1.44**	**224**	⇑*e*P	Pn	12 25 50.1	-3.3
AOPR				*e*S	Sn	12 26 09.1	-3.4
AOPR	**Arecibo Observ**	**1.44**	**224**	⇑*e*P	Pn	12 25 50.1	-3.3
AOPR				*e*S	Sn	12 26 09.1	-3.4
LRS	**Lares**	**1.54**	**225**	⇑*e*P	Pn	12 25 52.0	-2.8
LRS	**Lares**	**1.54**	**225**	⇑*e*P	Pn	12 25 52.0	-2.8
LRS	**Lares**	**1.54**	**225**	⇑*e*P	Pn	12 25 52.3	-2.5
CELP	**Cerrillos**	**1.55**	**213**	⇓*e*P	Pn	12 25 51.8	-3.1
CELP	**Cerrillos**	**1.55**	**213**	⇓*e*P	Pn	12 25 51.8	-3.1
CELP	**Cerrillos**	**1.55**	**213**	⇓*e*P	Pn	12 25 51.8	-3.1
OBIP	**Obispado Ponce**	**1.59**	**213**	⇑*e*P	Pn	12 25 53.0	-2.5
OBIP	**Obispado Ponce**	**1.59**	**213**	*e*S	Sn	12 26 12.1	-4.0
OBIP	**Obispado Ponce**	**1.59**	**213**	⇑*e*P	Pn	12 25 53.0	-2.5
OBIP				*e*S	Sn	12 26 12.1	-4.0
OBIP	**Obispado Ponce**	**1.59**	**213**	⇑*e*P	Pn	12 25 53.0	-2.5
OBIP				*e*S	Sn	12 26 12.1	-4.0
AGPR	**Aguadilla, PR**	**1.62**	**236**	⇓*e*P	Pn	12 25 52.3	-3.6
AGPR	**Aguadilla, PR**	**1.62**	**236**	⇓*e*P	Pn	12 25 52.3	-3.6
AGPR	**Aguadilla, PR**	**1.62**	**236**	⇓*e*P	Pn	12 25 52.3	-3.6
ICM	**Isla Caja Muer**	**1.68**	**208**	⇓*e*P	Pn	12 25 54.1	-2.7
ICM	**Isla Caja Muer**	**1.68**	**208**	*e*S	Sn	12 26 14.3	-4.0
ICM	**Isla Caja Muer**	**1.68**	**208**	⇓*e*P	Pn	12 25 54.1	-2.7
ICM				*e*S	Sn	12 26 14.3	-4.0
ICM	**Isla Caja Muer**	**1.68**	**208**	⇓*e*P	Pn	12 25 54.6	-2.1
ICM				*e*S	Sn	12 26 14.3	-4.0
LSP	**Las Mesas**	**1.79**	**228**	⇓*e*P	Pn	12 25 55.4	-2.8
LSP	**Las Mesas**	**1.79**	**228**	⇓*e*P	Pn	12 25 55.4	-2.8
LSP	**Las Mesas**	**1.79**	**228**	⇓*e*P	Pn	12 25 55.4	-2.8
GBPR	**Guanica, Bosqu**	**1.80**	**219**	⇓*e*P	Pn	12 25 54.6	-3.7
GBPR	**Guanica, Bosqu**	**1.80**	**219**	⇓*e*P	Pn	12 25 54.6	-3.7
GBPR	**Guanica, Bosqu**	**1.80**	**219**	⇓*e*P	Pn	12 25 54.6	-3.7
CDVI	**St. Croix**	**1.86**	**151**	⇑*e*Pn	Pn	12 25 59.5	+0.3
CDVI				*e*Sn	Sn	12 26 23.3	+0.6
CRPR	**Cabo Rojo, PR**	**1.92**	**224**	⇓*e*P	Pn	12 25 58.0	-2.0
CRPR	**Cabo Rojo, PR**	**1.92**	**224**	⇓*e*P	Pn	12 25 58.0	-2.0
CRPR	**Cabo Rojo, PR**	**1.92**	**224**	⇑*e*P	Pn	12 25 58.3	-1.7
DR12	**Loma Pena Alta**	**3.53**	**261**	⇓*e*P	Pn	12 26 19.9	-2.3
DR12	**Loma Pena Alta**	**3.53**	**261**	⇑*e*P	Pn	12 26 19.9	-2.3
SDDR	**Presa de Saban**	**5.30**	**266**	*e*Pn	Pn	12 26 44.5	-2.0
	25nm,0.4s						
SDDR				*e*Sn	Sn	12 27 46.2	-1.5

IDC 08 12:28:53.3±1.2, 0°24S×132°58E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=67.5km s-min=22.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.66**	**175**	P	P	12 33 23.6	-0.3
	0.2nm,0.3s,baz=353,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**23.32**	**177**	P	P	12 34 03.2	0.0
	1.4nm,0.8s,baz=359,slow=8.3,SNR=16						
MKAR	**Makanchi Array**	**64.16**	**324**	P	P	12 39 30.0	+0.3
	0.7nm,0.6s,baz=112,slow=8.1,SNR=8.6						
KURK	**Kurchatov**	**68.23**	**326**	P	P	12 39 55.8	0.0
	0.4nm,0.6s,baz=122,slow=6.4,SNR=5.7						
ILAR	**Eielson Array**	**86.17**	**25**	P	P	12 41 36.0	-0.2
	0.5nm,0.9s,baz=252,slow=4.6,SNR=4.0						

*BJI **08** 12:31:41.4, 12°50N×88°00W, h57km, mB5.1/3*
*ISCJB **08** 12:31:42.7±0.4, 12°60N±0°04×86°00W±0°04, h69km±3km, mb4.4/30, Error ellipse: s-maj=9.6km s-min=3.6km az=44.4*
*NEIC **08** 12:31:43.4±0.4, 12°65N×87°92W, mb4.6/20, Error ellipse: s-maj=9.9km s-min=4.7km az=223.0*
NEIC Felt [II] at La Union, El Salvador.
*CASC **08** 12:31:43.7±1.5, 12°62N×88°06W, h45km±37km, MD5.0, ML4.5, mb4.6(NEIC)*
*IDC **08** 12:31:43.6±0.8, 12°82N×87°73W, h67km±6km, mb3.8/13, mb1 4.1/16, mb1mx3.9/27, mbtmp3.9/16, MS2.7/1, Ms1 2.7/1, ms1mx2.4/29, Error ellipse: s-maj=27.0km s-min=8.4km az=54.0*

ISC 08 12:31:43.1±0.7, 12°64N±0°05×88°02W±0°05, h61km±6km, n292, σ1°09/315, mb4.4/31, 93C-113D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.66**	**16**	⇓*i*P	Pn	12 31 57.2	+0.1
CNCH	**Conchagua**	**0.66**	**16**	⇑*i*P	Pn	12 31 57.2	+0.1
BLLM	**Bellamira**	**0.82**	**345**	*i* P	Pn	12 31 59.0	-0.1
BLLM	**Bellamira**	**0.82**	**345**	*i* P	Pn	12 31 59.0	-0.1
CAHU	**Cacacuatique**	**1.14**	**351**	*i* P	Pn	12 32 03.7	+0.4
CAHU				*e*S	Sn	12 32 20.4	+2.2
CAHU	**Cacacuatique**	**1.14**	**351**	*i* P	Pn	12 32 03.7	+0.4
CAHU				*e*S	Sn	12 32 20.4	+2.2
SNVI	**San Vicente**	**1.25**	**320**	*i* P	Pn	12 32 04.8	+0.1
SNVI	**San Vicente**	**1.25**	**320**	*i* P	Pn	12 32 04.8	+0.1
CNGN	**Cerro Negro**	**1.30**	**96**	*i* P	Pn	12 32 04.8	-0.4
CNGN	**Cerro Negro**	**1.30**	**96**	*i* P	Pn	12 32 04.8	-0.4
LFRS	**El Faro**	**1.41**	**314**	⇑*i*P	Pn	12 32 07.0	+0.2
LFRS	**El Faro**	**1.41**	**314**	⇑*i*P	Pn	12 32 07.0	+0.2
LBRS	**Las Brisas**	**1.48**	**318**	*i* P	Pn	12 32 08.4	+0.7
LBRS	**Las Brisas**	**1.48**	**318**	*i* P	Pn	12 32 08.4	+0.7
SNET	**Serv Nac Est T**	**1.57**	**311**	*i* P	Pn	12 32 08.9	-0.1
SNET				*e*S	Sn	12 32 28.3	-0.1
SNET	**Serv Nac Est T**	**1.57**	**311**	*i* P	Pn	12 32 08.9	-0.1
SNET				*e*P		12 32 09.1	
SNET				*e*S	Sn	12 32 28.3	-0.1
SNET				AML	AML	12 32 33.0	
	comp=Z,6μm,0.2s						
TGUH	**Tegucigalpa,Un**	**1.58**	**27**	*e*Pn	Pn	12 32 09.7	+0.8
TGUH	**Tegucigalpa,Un**	**1.58**	**27**	⇓*i*P	Pn	12 32 09.8	+0.8
TGUH				*e*S	Sn	12 32 30.1	+1.6
BOQS	**Boqueron**	**1.64**	**312**	*i* P	Pn	12 32 10.6	+0.6
BOQS				*e*		12 32 30.9	
BOQS	**Boqueron**	**1.64**	**312**	*i* P	Pn	12 32 10.6	+0.6
BOQS				*e*S	Sn	12 32 30.9	+0.7
SBLS	**San Blas**	**1.96**	**307**	*e*P	Pn	12 32 15.2	+0.8
SBLS	**San Blas**	**1.96**	**307**	*e*P	Pn	12 32 15.2	+0.8
JTS	**JuntasAbangare**	**3.81**	**128**	P	Pn	12 32 40.1	+0.7
	comp=Z,6.4nm,0.3s,baz=316,slow=19,SNR=24						
JTS				S	Sn	12 33 21.4	-1.5
	baz=264,slow=18,SNR=2.3						
JTS	**JuntasAbangare**	**3.81**	**128**	P	Pn	12 32 40.1	+0.7
JTS				S	Sn	12 33 21.4	-1.5
JCR	**Jicaral**	**3.98**	**134**	*e*P	Pn	12 32 43.5	+1.8
QCR	**Quepos**	**4.95**	**130**	*e*P	Pn	12 32 56.7	+1.7
URSC	**Urasca**	**5.01**	**123**	*e*P	P	12 32 59.4	
URSC				*e*S	S	12 33 52.1	
BUS	**Buena Vista**	**5.18**	**126**	*e*P	Pn	12 33 01.5	+2.9
BUS				*e*S	S	12 33 57.7	
ACR	**Cerro Adams**	**6.20**	**129**	*e*P	Pn	12 33 14.1	+2.0
TEIG	**Tepich**	**7.55**	**358**	P	Pn	12 33 30.7	+0.1
	comp=Z,1.6nm,0.3s,baz=166,slow=11,SNR=10						
TEIG	**Tepich**	**7.55**	**358**	P	Pn	12 33 30.7	+0.1
CMIG	**Matias Romero**	**7.98**	**305**	P	Pn	12 33 39.0	+2.6
	comp=Z,1.3nm,0.3s,baz=132,slow=9.0,SNR=25						
CMIG				S	Sn	12 35 00.8	-4.4
	comp=Z,0.5nm,0.3s,baz=82,slow=7.1,SNR=2.3						
CMIG	**Matias Romero**	**7.98**	**305**	P	Pn	12 33 39.0	+2.6
CMIG				S	Sn	12 35 00.8	-4.4
BCIP	**Isla Barro Col**	**8.74**	**112**	Pn	Pn	12 33 44.4	-2.6
ROSC	**El Rosal**	**15.58**	**119**	LR	LR	12 41 47.4	
	comp=Z,26nm,18.8s,baz=326,slow=39						
VBMS	**Vicksburg**	**19.62**	**354**	*e*Pn	Pn	12 36 09.6	+1.1
	comp=Z,44nm,0.8s						
JCT	**Junction City**	**20.83**	**330**	*e*Pn	P	12 36 21.6	+1.7
	comp=Z,8.4nm,0.6s						
JCT	**Junction City**	**20.83**	**330**	⇓P	Pn	12 36 22.9	0.0
	baz=21						
GOGA	**Godfrey**	**21.09**	**11**	*e*P	P	12 36 22.9	+0.3
	comp=Z,20nm,0.6s						
628A	**Black Gap, Mar**	**21.72**	**323**	⇓P	P	12 36 30.7	+1.4
	baz=22,SNR=8.5						
627A	**Terlingua Ranc**	**21.99**	**322**	⇑P	P	12 36 33.9	+1.5
	baz=22,SNR=9.5						
TXAR	**Lajitas Array**	**22.08**	**321**	P	P	12 36 34.4	+1.1
	comp=Z,3.9nm,0.5s,baz=141,slow=10,SNR=79						
TXAR				PcP	PcP	12 40 29.7	+0.5
	comp=Z,0.1nm,0.6s,baz=154,slow=6.9,SNR=3.5						
TXAR	**Lajitas Array**	**22.08**	**321**	P	P	12 36 34.4	+1.1
TXAR				PcP	PcP	12 40 29.7	+0.5
MIAR	**Mount Ida**	**22.38**	**348**	*e*P	P	12 36 36.6	+0.2
	comp=Z,13nm,0.8s						
626A	**Big Bend Ranch**	**22.52**	**321**	⇑P	P	12 36 39.3	+1.3
	baz=23,SNR=7.0						
428A	**Kincaid Ranch,**	**22.53**	**325**	⇓P	P	12 36 39.4	+1.3
	baz=23						
526A	**Mary Lane Ranc**	**22.85**	**322**	⇓P	P	12 36 41.7	+0.1
	baz=23						
427A	**Hayter Ranch,**	**23.03**	**324**	⇓P	P	12 36 43.5	+0.2
	baz=23						
328A	**Wristen Ranch,**	**23.10**	**326**	⇑P	P	12 36 44.4	+0.5
	baz=23,SNR=18						
TKL	**Tuckaleechee C**	**23.23**	**9**	P	P	12 36 45.0	-0.1
	comp=Z,4.2nm,0.5s,baz=185,slow=14,SNR=7.7						
TKL	**Tuckaleechee C**	**23.23**	**9**	P	P	12 36 45.0	-0.1
326A	**Caldwell Ranch**	**23.70**	**324**	⇑P	P	12 36 49.8	+0.2
	baz=24						
227A	**Bennet, Jal**	**23.85**	**326**	⇓P	P	12 36 51.5	+0.6
	baz=24,SNR=5.5						
425A	**Indio Mountain**	**23.91**	**322**	⇓P	P	12 36 52.2	+0.7
	baz=24						
WMOK	**Wichita Mounta**	**24.07**	**338**	*e*P	P	12 36 52.9	+0.1
	comp=Z,83nm,3.0s						
TUL1	**Tulsa**	**24.21**	**344**	⇓P	P	12 36 56.1	+2.0
	baz=24						
325A	**Bean Ranch, Si**	**24.32**	**323**	⇑P	P	12 36 55.6	+0.3
	baz=24						
226A	**Malaga, Loving**	**24.33**	**325**	⇓P	P	12 36 55.8	+0.4
	baz=24						
127A	**Arkansas Junct**	**24.40**	**327**	⇑P	P	12 36 55.9	-0.1
	baz=24						
324A	**Moseley Ranch,**	**24.68**	**322**	⇓P	P	12 36 58.0	-0.6
	baz=25,SNR=5.6						
126A	**Clayton Basin,**	**24.73**	**326**

AMTX				⇓P		P	12 37 05.5	+0.7	
	baz=26,SNR=6.2								
CCM	Cathedral Cave	25.47	354	*e*P		P	12 37 04.9	-0.7	
	comp=Z,7.8nm,0.9s								
Z25A	Roswell	25.59	326	⇓P		P	12 37 07.6	+0.8	
	baz=26,SNR=5.6								
X27A	F and S Farms,	25.83	331	⇑P		P	12 37 10.1	+1.1	
	baz=26								
Z24A	Sheeppen Canyo	25.98	325	⇓P		P	12 37 11.3	+0.8	
	baz=26								
Y25A	Mesa, Roswell	26.07	327	⇓P		P	12 37 12.5	+1.4	
	baz=26,SNR=7.5								
X26A	CR and CF Fran	26.10	329	⇓P		P	12 37 12.3	+0.8	
	baz=26								
W27A	Bowe Ranch, En	26.15	331	⇑P		P	12 37 12.3	+0.4	
	baz=26,SNR=7.5								
Y24A	Capitan	26.47	326	⇓P		P	12 37 15.5	+0.7	
	baz=27								
X25A	Clemmons Ranch	26.52	328	⇓P		P	12 37 16.2	+1.0	
	baz=27								
Y23A	Lovelace Mesa,	26.81	325	⇓P		P	12 37 19.0	+1.0	
	baz=27								
121A	Cookes Peak, D	26.84	321	⇑P		P	12 37 19.6	+1.5	
	baz=27								
Z22A	Elephant Butte	26.84	323	⇓P		P	12 37 20.1	+1.9	
	baz=27								
W25A	X Bar L Ranch,	26.96	329	⇓P		P	12 37 20.3	+1.2	
	baz=27								
Y22A	Socorro	27.33	324	⇓P		P	12 37 24.1	+1.5	
	baz=27								
W24A	Lazy 6 Ranch,	27.43	328	⇑P		P	12 37 24.0	+0.5	
	baz=28								
V25A	Rancho No Teng	27.53	330	⇑P		P	12 37 25.0	+0.6	
	baz=28,SNR=6.1								
U26A	Atchley Ranch,	27.56	332	⇓P		P	12 37 25.8	+1.2	
	baz=28								
V24A	Rampart Ranch,	27.76	329	⇓P		P	12 37 27.5	+1.1	
	baz=28								
W23A	Werner Place,	27.79	327	⇓P		P	12 37 27.7	+1.0	
	baz=28								
ANMO	Albuquerque	27.79	326	P		P	12 37 26.9	+0.2	
	comp=Z,0.8nm,0.5s,baz=132,slow=11,SNR=5.3								
ANMO	Albuquerque	27.79	326	P		P	12 37 26.9	+0.2	
T25A	Trinidad	28.48	332	⇓P		P	12 37 34.5	+1.7	
	baz=29								
U23A	El Rito	28.70	328	⇓P		P	12 37 36.2	+1.3	
	baz=29,SNR=12								
T24A	Torres, Weston	28.72	331	⇓P		P	12 37 36.9	+1.8	
	baz=29								
R26A	Arlington	29.01	334	⇓P		P	12 37 38.3	+0.8	
	baz=29								
U22A	Llaves	29.08	328	⇓P		P	12 37 39.3	+1.1	
	baz=29								
T23A	Casias Ranch,	29.17	329	⇑P		P	12 37 40.3	+1.2	
	baz=29								
S24A	Houchin Ranch,	29.26	331	⇓P		P	12 37 41.4	+1.6	
	baz=29								
SDCO	Great Sand Dun	29.48	331	⇓P		P	12 37 42.8	+1.1	
	baz=30								
SDCO				⇓P		P	12 37 42.8	+1.1	
	baz=30								
U21A	Nageezi	29.54	327	⇑P		P	12 37 44.6	+2.3	
	baz=30								
S22A	4UR Ranch, Cre	30.12	329	⇓P		P	12 37 48.7	+1.3	
	baz=30,SNR=5.0								
U19A	Dine' College,	30.30	325	⇑P		P	12 37 49.6	+0.6	
	baz=30								
X16A	Lo Mia Camp, P	30.37	319	⇑P		P	12 37 50.5	+0.9	
	baz=30								
S21A	Coal Bank Pass	30.54	328	⇑P		P	12 37 52.0	+0.8	
	baz=31								
MVCO	Mesa Verde	30.58	327	*e*P		P	12 37 52.5	+1.1	
V17A	Tonalea, Kykot	30.76	322	⇓P		P	12 37 54.1	+1.1	
	baz=31								
S20A	Disappointment	30.96	328	⇓P		P	12 37 55.8	+1.0	
	baz=31								
Q22A	Crested Butte,	31.03	331	⇑P		P	12 37 56.5	+1.0	
	baz=31								
WUAZ	Wupatki	31.04	321	⇑P		P	12 37 56.6	+1.1	
	baz=31								
R20A	Redvale	31.25	328	⇑P		P	12 37 58.3	+1.0	
	baz=31								
T18A	Mexican Hat	31.28	325	⇓P		P	12 37 59.2	+1.8	
	baz=31								
S19A	Harvey Farm, M	31.31	327	⇑P		P	12 37 58.9	+1.0	
	baz=31								
U17A	Shonto	31.35	323	⇓P		P	12 37 59.4	+1.1	
	baz=32								
O23A	Lake Granby, G	31.66	333	⇑P		P	12 38 01.6	+0.6	
	baz=32								
PV04	Paradox Valley	31.67	328	*e*P		P	12 38 01.8	+0.8	
T17A	Navajo Res., N	31.71	324	⇑P		P	12 38 02.4	+1.1	
	baz=32								
S18A	Hurst Farm, Bl	31.74	326	⇑P		P	12 38 02.8	+1.1	
	baz=32								
R19A	Curley Farm, L	31.78	327	⇑P		P	12 38 02.4	+0.4	
	baz=32								
P21A	Newcastle	31.81	331	⇓P		P	12 38 03.7	+1.5	
	baz=32								
O22A	Kremmling	31.90	333	⇑P		P	12 38 04.2	+1.1	
	baz=32								
S17A	Black Ridge (B	32.15	325	⇓P		P	12 38 06.3	+1.2	
	baz=32								
R18A	Canyonlands Na	32.19	327	⇓P		P	12 38 06.4	+0.8	
	baz=32								
U15A	North Rim	32.20	322	⇓P		P	12 38 06.7	+0.9	
	baz=32								
Q19A	Hogan Spring (	32.28	328	⇓P		P	12 38 07.0	+0.8	
	baz=32								
W13A	Hualapai Mount	32.37	318	⇑P		P	12 38 08.3	+1.1	
	baz=32								
P19A	Cripple Cowboy	32.65	329	⇑P		P	12 38 11.1	+1.6	
	baz=33								
R17A	Hanksville Air	32.66	326	⇓P		P	12 38 10.8	+1.2	
	baz=33								
S16A	Weppner Ranch,	32.66	324	⇓P		P	12 38 10.6	+0.9	
	baz=33								
O20A	White River Ci	32.67	331	⇓P		P	12 38 11.1	+1.4	
	baz=33,SNR=6.3								
SAML	Samuel	32.70	130	*e*P		P	12 38 08.8	-1.1	
	comp=Z,2.4nm,0.8s								
N21A	Black Mountain	32.83	332	⇑P		P	12 38 12.1	+0.9	
	baz=33								
Q18A	Rafter H Ranch	32.84	327	⇑P		P	12 38 12.0	+0.9	
	baz=33								
R16A	Teasdale	32.99	325	⇑P		P	12 38 13.3	+0.7	
	baz=33								
SRU	San Rafael	33.05	327	*e*P		P	12 38 14.0	+0.9	
	comp=Z,4.0nm,0.6s								
O19A	Miners Draw (B	33.22	330	⇓P		P	12 38 15.1	+0.5	
	baz=33								
N20A	Spence Gulch,	33.23	331	⇓P		P	12 38 15.9	+1.2	
	baz=33,SNR=7.8								
P17A	Butcher Ranch,	33.43	327	⇓P		P	12 38 17.5	+1.1	
	baz=34								
N19A	John Jarvie Ra	33.71	330	⇑P		P	12 38 19.0	+0.2	
	baz=34,SNR=10								
M20A	Sweetwater, Wa	33.71	332	⇑P		P	12 38 19.8	+0.9	
	baz=34								
L21A	Rawlins	33.73	334	⇓P		P	12 38 19.9	+1.0	
	baz=34								
O17A	Robinson Place	33.96	328	⇑P		P	12 38 21.9	+0.9	
	baz=34								
N18A	Larsen Ranch,	34.01	330	⇓P		P	12 38 22.3	+0.9	
	baz=34								
P16A	Fountain Green	34.02	326	⇑P		P	12 38 23.0	+1.5	
	baz=34								
L20A	Wamsutter	34.19	333	⇓P		P	12 38 24.1	+1.1	
	baz=34								
RSSD	Black Hills	34.26	339	*e*P		P	12 38 24.5	+1.0	
	comp=Z,3.4nm,0.6s								
R13A	O'Grain Ranch,	34.36	322	⇑P		P	12 38 25.6	+1.2	
	baz=34								
O16A	Springville	34.37	327	⇓P		P	12 38 25.5	+1.0	
	baz=34,SNR=7.1								
N17A	Moffit Pass	34.56	329	⇑P		P	12 38 27.2	+0.9	
	baz=35								
JLU	Jordanelle	34.63	328	*e*P		P	12 38 27.8	+1.0	
	comp=Z,94nm,2.9s								
L19A	Farson	34.73	332	⇓P		P	12 38 28.3	+0.7	
	baz=35								
N16A	Rees Ranch, Co	34.83	328	⇓P		P	12 38 29.8	+1.3	
	baz=35								
M17A	Scullys Gap (B	34.88	330	⇑P		P	12 38 29.5	+0.6	
	baz=35								
L18A	Fontenelle, Gr	34.91	331	⇑P		P	12 38 29.9	+0.7	
	baz=35								
I22A	9 Mile Ranch,	34.96	336	⇓P		P	12 38 30.6	+1.2	
	baz=35								
H24A	Dirks Ranch, A	34.98	339	⇑P		P	12 38 30.6	+1.0	
	baz=35								
EDW2	Edwards Air Fo	35.02	314	⇑P		P	12 38 30.9	+0.9	
	baz=35								
DUG	Dugway	35.06	326	⇑P		P	12 38 31.0	+0.6	
	baz=35								
K19A	Albon Red Bu	35.07	333	⇓P		P	12 38 31.1	+0.6	
	baz=35								
FURC	Furnace Creek,	35.13	317	⇓P		P	12 38 32.0	+1.2	
	baz=35								
J20A	Shoshoni	35.16	334	⇑P		P	12 38 32.9	+1.6	
	baz=35								
M16A	Huntsville	35.24	328	⇑P		P	12 38 32.8	+0.8	
	baz=35								
MPMC	Manual Prospec	35.31	316	⇓P		P	12 38 32.5	-0.2	
	baz=35								
BW06	Boulder Array	35.34	332	*e*P		P	12 38 33.2	+0.3	
	comp=Z,32nm,2.5s								
BW06	Boulder Array	35.34	332	⇓P		P	12 38 33.4	+0.5	
	baz=36								
BW06				⇓P		P	12 38 33.4	+0.5	
	baz=36								
PDAR	Pinedale Array	35.34	332	P		P	12 38 33.4	+0.4	
	comp=Z,1.8nm,0.6s,baz=131,slow=11,SNR=19								
PDAR				PcP		PcP	12 41 00.6	-1.5	
	comp=Z,0.4nm,0.6s,baz=134,slow=7.7,SNR=3.2								
PDAR	Pinedale Array	35.34	332	P		P	12 38 33.4	+0.4	
PDAR				PcP		PcP	12 41 00.6	-1.5	
PD01	Pinedale Array	35.36	332	*e*P		P	12 38 33.2	+0.1	
N15A	Stansbury Isla	35.40	327	⇑P		P	12 38 34.3	+1.0	
	baz=36								
HWUT	Hardware Ranch	35.42	329	*e*P		P	12 38 33.6	0.0	
	comp=Z,7.4nm,0.7s								
K18A	Toltan Ranch,	35.47	332	⇑P		P	12 38 35.2	+1.2	
	baz=36,SNR=9.1								
H22A	Clearmont	35.50	337	⇑P		P	12 38 35.5	+1.4	
	baz=36								
J19A	Crowheart	35.51	333	⇓P		P	12 38 34.9	+0.6	
	baz=36								
L16A	Fish Haven	35.66	329	⇑P		P	12 38 36.0	+0.3	
	baz=36,SNR=5.9								
I20A	Worland	35.67	335	⇓P		P	12 38 36.8	+1.3	
	baz=36								
M15A	Larsen Ranch,	35.77	328	⇑P		P	12 38 37.2	+0.7	
	baz=36,SNR=6.1								
K17A	Gardner Place,	35.97	331	⇑P		P	12 38 38.8	+0.5	
	baz=36,SNR=8.4								
G22A	Birney	36.01	338	⇑P		P	12 38 39.9	+1.4	
	baz=36								
H20A	Greybull	36.06	335	⇑P		P	12 38 39.6	+0.8	
	baz=36								
AHID	Auburn Hatcher	36.06	331	*e*P		P	12 38 39.6	+0.5	
	comp=Z,12nm,0.6s								
I19A	Meeteetse	36.10	334	⇑P		P	12 38 40.0	+0.6	
	baz=36								
F23A	Volborg	36.13	339	⇓P		P	12 38 40.7	+1.3	
	baz=36								
L15A	Malad City	36.13	329	⇓P		P	12 38 40.0	+0.4	
	baz=36,SNR=11								
AGMN	Agassiz Nation	36.14	351	*e*P		P	12 38 39.9	+0.5	
	comp=Z,134nm,2.8s								
HVU	Hansel Valley	36.17	328	*e*P		P	12 38 40.9	+0.9	
	comp=Z,56nm,2.6s								
I18A	Diamond G Ranc	36.20	333	⇓P		P	12 38 40.5	+0.2	
	baz=36,SNR=7.2								
J17A	Brown Place, J	36.34	332	⇑P		P	12 38 42.0	+0.6	
	baz=36,SNR=9.8								
G21A	Lodge Grass	36.36	337	⇑P		P	12 38 41.9	+0.5	
	baz=36								
MDND	Maddock	36.41	347	⇓P		P	12 38 42.6	+0.9	
	baz=36								
F22A	Rosebud	36.48	338	⇓P		P	12 38 43.5	+1.1	
	baz=37								
L14A	Malta	36.59	328	⇓P		P	12 38 43.9	+0.4	
	baz=37,SNR=6.8								
RRI2	Red Ridge	36.61	331	*e*P		P	12 38 44.0	+0.2	
	comp=Z,4.8nm,0.7s								
H19A	Powell	36.61	335	⇑P		P	12 38 44.7	+1.0	
	baz=37								
J16A	Bone	36.69	331	⇓P		P	12 38 45.2	+0.7	
	baz=37								
K15A	Arbon	36.70	329	⇑P		P	12 38 45.3	+0.8	
	baz=37								
I17A	Pilgrim Ck.	36.71	332	⇑P		P	12 38 46.0	+1.4	
	baz=37								
G20A	Bridger	36.75	336	⇑P		P	12 38 45.2	+0.4	
	baz=37								
E23A	Ismay	36.77	340	⇑P		P	12 38 46.4	+1.6	
	baz=37								
H18A	Shoshone NF, C	36.91	334	⇓P		P	12 38 47.3	+1.0	
	baz=37								
K14A	Jones Ranch, D	36.93	328	⇓P		P	12 38 46.8	+0.4	
	baz=37,SNR=12								
E22A	Miles City	36.94	339	⇑P		P	12 38 47.3	+1.0	
	baz=37								
H17A	Grant Village	37.08	333	⇓P		P	12 38 49.3	+1.5	
	baz=37								
RLMT	Red Lodge	37.10	335	⇓P		P	12 38 48.8	+0.9	
	baz=37								
RLMT				⇓P		P	12 38 48.8	+0.9	
	baz=37								
NVAR	Mina Array Bea	37.20	319	P		P	12 38 49.9	+1.1	
	comp=Z,1.0nm,0.6s,baz=133,slow=7.6,SNR=12								
NVAR				PcP		PcP	12 41 08.1	+0.4	
	comp=Z,1.0nm,0.6s,baz=124,slow=3.8,SNR=8.8								
NVAR				pPcP			12 41 27.1		
	comp=Z,0.8nm,0.6s,baz=119,slow=3.4,SNR=6.1								
NVAR	Mina Array Bea	37.20	319	P		P	12 38 49.9	+1.1	
NVAR				PcP		PcP	12 41 08.1	+0.4	
NVAR				pPcP			12 41 27.1		
F19A	Roth Farm, Mol	37.56	336	⇓P		P	12 38 52.4	+0.7	
	baz=38								
H16A	Russell Place,	37.62	333	⇑P		P	12 38 53.5	+1.2	
	baz=38								
D22A	Cohagen	37.63	340	⇑P		P	12 38 53.0	+0.9	
	baz=38								
J14A	Carey	37.66	329	⇓P		P	12 38 53.3	+0.7	
	baz=38								
E20A	Meyer Farm, Mu	37.78	337	⇓P		P	12 38 55.0	+1.6	
	baz=38								
C23A	Lambert	37.88	341	⇓P		P	12 38 54.9	+0.7	
	baz=38								
G17A	Pierce Place,	37.88	334	⇓P		P	12 38 56.4	+2.0	
	baz=38								
F18A	Big Timber	37.91	335	⇑P		P	12 38 55.7	+1.1	
	baz=38								
J13A	Cove Ranch, Pi	38.05	329	⇓P		P	12 38 56.6	+0.8	
	baz=38								
ULM	Lac du Bonnet	38.05	352	P		P	12 38 52.9	-2.6	
	comp=Z,2.8nm,0.4s,baz=162,slow=8.4,SNR=8.6								
ULM	Lac du Bonnet	38.05	352	P		P	12 38 52.9	-2.6	
C22A	Vida	38.05	340	⇑P		P	12 38 56.5	+0.8	
	baz=38								
I14A	Mackay	38.07	330	⇓P		P	12 38 57.2	+1.1	
	baz=38								
DGMT	Dagmar	38.17	343	*e*P		P	12 38 56.9	+0.3	
	comp=Z,15nm,0.6s								
DGMT	Dagmar	38.17	343	⇑P		P	12 38 57.4	+0.8	
	baz=38								
H15A	Lima	38.20	331	⇑P		P	12 38 58.9	+1.8	
	baz=38,SNR=5.7								
G16A	Moss Hill, Enn	38.28	333	⇓P		P	12 38 58.6	+0.9	
	baz=38								
D20A	Manuel Ranch,	38.28	338	⇓P		P	12 38 58.7	+1.1	
	baz=38,SNR=5.8								
HLID	Hailey	38.29	329	*e*P		P	12 38 58.7	+0.8	
	comp=Z,4.0nm,1.0s								
HLID	Hailey	38.29	329	⇑P		P	12 38 58.6	+0.8	
	baz=38								
F17A	Fitzpatrick Pl	38.31	334	⇓P		P	12 38 58.8	+0.8	
	baz=38								
I13A	Wildhorse Cree	38.39	329	⇓P		P	12 38 59.9	+1.1	
	baz=38								
B23A	Brockton	38.40	342	⇓P		P	12 38 59.7	+1.1	
	baz=38								
MCMT	McKenzie Canyo	38.45	331	*e*P		P	12 39 00.6	+1.3	
	comp=Z,3.5nm,0.6s								
A24A	Westby	38.52	343	⇓P		P	12 39 00.6	+1.0	
	baz=39								
G15A	Dillon	38.54	332	⇓P		P	12 39 01.0	+1.0	
	baz=39,SNR=8.0								
H14A	Leadore	38.54	331	⇓P		P	12 39 01.0	+0.9	
	baz=39								
B22A	Reddig Ranch S	38.58	341	⇓P		P	12 39 00.7	+0.6	
	baz=39								
C20A	Veseth Ranch,	38.76	338	⇓P		P	12 39 03.0	+1.5	
	baz=39								
I12A	Atlanta	38.82	328	⇑P		P	12 39 03.2	+0.9	
	baz=39								
E17A	Martinsdale	38.84	335	⇓P		P	12 39 03.4	+0.9	
	baz=39								
H13A	Challis	38.93	330	⇑P		P	12 39 04.1	+0.9	
	baz=39,SNR=6.9								
SIV	San Ignacio	38.98	136	P		P	12 39 03.5	-0.3	
	comp=Z,4.4nm,0.6s,baz=326,slow=11								
SIV				PcP		PcP	12 41 13.3	0.0	
	baz=332,slow=2.2								
SIV	San Ignacio	38.98	136	P		P	12 39 03.5	-0.3	
SIV				PcP		PcP	12 41 13.3	0.0	
F15A	Butte	39.06	333	⇑P		P	12 39 05.0	+0.6	
	baz=39								
C19A	Slack Wire Ran	39.16	337	⇓P		P	12 39 06.1	+1.1	
	baz=39								
H12A	Diamond D Ranc	39.22	329	⇓P		P	12 39 06.2	+0.5	
	baz=39								
G13A	Cobalt	39.31	330	⇑P		P	12 39 06.8	+0.4	
	baz=39								
D17A	Six Diamond Ra	39.32	335	⇑P		P	12 39 06.9	+0.5	
	baz=39								
E15A	Deer Lodge	39.57	333	⇑P		P	12 39 09.3	+0.7	
	baz=40								
A20A	Cobblestone Ra	39.72	339	⇓P		P	12 39 10.7	+1.1	
	baz=40								
B19A	Brinkman Farms	39.72	338	⇑P		P	12 39 11.0	+1.4	
	baz=40								
C17A	Wharram Farm,	39.74	336	⇑P		P	12 39 10.3	+0.5	
	baz=40								
F13A	Darby	39.87	331	⇑P		P	12 39 11.2	+0.2	
	baz=40,SNR=9.8								
E14A	Clinton	39.95	332	⇑P		P	12 39 12.0	+0.3	
	baz=40								
B18A	Beardsley Farm	39.98	337	⇑P		P	12 39 12.4	+0.6	
	baz=40								
D15A	Lincoln	40.00	334	⇓P		P	12 39 12.4	+0.4	
	baz=40								
A19A	Klindworth Far	40.05	339	⇑P		P	12 39 13.1	+0.8	
	baz=40								
E13A	Victor	40.28	332	⇑P		P	12 39 14.4	0.0	
	baz=40,SNR=6.6								
F12A	Elk City	40.28	330	⇑P		P	12 39 14.8	+0.4	
	baz=40								
J08A	Circle Bar Ran	40.32	325	⇓P		P	12 39 15.8	+1.0	
	baz=40								
D14A	Greenough	40.46	333	⇑P		P	12 39 16.0	+0.2	
	baz=41								
C15A	Salmond Ranch,	40.61	334	⇓P		P	12 39 17.8	+0.8	
	baz=41								
A17A	Triple J Farms	40.78	337	⇑P		P	12 39 18.8	+0.4	
	baz=41								
D13A	Huson	40.89	332	⇑P		P	12 39 20.0	+0.6	
	baz=41								
B15A	Bradely Ranch,	41.01	335	⇓P		P	12 39 21.0	+0.6	
	baz=41								
B14A	Marquette Ranc	41.34	334	⇑P		P	12 39 24.1	+0.9	
	baz=42								
A15A	Johnson Ranch,	41.60	335	⇓P		P	12 39 25.7	+0.5	
	baz=42								
C12B	Naegeli Ranch,	41.81	332	⇑P		P	12 39 27.5	+0.6	
	baz=42								
A14A	Double T Ranch	41.88	335	⇓P		P	12 39 28.3	+0.8	
	baz=42								
NEW	Newport	42.98	332	⇑P		P	12 39 36.5	+0.2	
	baz=43								
C09A	Chrisman Ranch	43.20	330	⇓P		P	12 39 38.2	+0.2	
	baz=43								
SCHQ	Schefferville	45.26	17	P		P	12 39 52.4	-2.0	
	comp=Z,7.5nm,0.6s,baz=234,slow=7.8,SNR=19								
SCHQ	Schefferville	45.26	17	P		P	12 39 52.4	-2.0	
A05A	Maple Falls	45.88	329	⇓P		P	12 39 59.5	+0.1	
	baz=46								
CPUP	Villa Florida	48.90	143	P		P	12 40 21.6	-1.6	
	comp=Z,1.1nm,0.5s,baz=314,slow=8.3,SNR=6.7								
CPUP	Villa Florida	48.90	143	P		P	12 40 21.6	-1.6	
YKA	Yellowknife Ar	53.28	345	P		P	12 40 54.0	-1.5	
	comp=Z,1.0nm,0.4s,baz=146,slow=7.2,SNR=32								
YKA				pP		pP	12 41 11.3	-0.2	
	comp=Z,1.3nm,0.9s,baz=151,slow=8.9,SNR=6.7								
YKA				PcP		PcP	12 42 00.7	-1.7	
	comp=Z,0.3nm,0.4s,baz=149,slow=3.6,SNR=5.3								
YKA	Yellowknife Ar	53.28	345	P		P	12 40 54.0	-1.5	
YKA				pP		pP	12 41 11.3	-0.2	
YKA				PcP		PcP	12 42 00.8	-1.7	
PLCA	Paso Flores	55.52	164	P		P	12 41 12.7	+0.6	
	comp=Z,2.1nm,0.8s,baz=324,slow=4.7,SNR=5.6								
PLCA	Paso Flores	55.52	164	P		P	12 41 12.7	+0.6	
INK	Inuvik	62.86	343	P		P	12 42 01.1	-1.2	
	comp=Z,0.7nm,0.7s,baz=140,slow=7.9,SNR=3.5								
INK	Inuvik	62.86	343	P		P	12 42 01.1	-1.2	
ILAR	Eielson Array	65.62	336	P		P	12 42 19.0	-1.5	
	comp=Z,0.8nm,0.9s,baz=155,slow=4.8,SNR=16								
ILAR				pP		pP	12 42 36.7	-0.4	
	comp=Z,0.9nm,0.7s,baz=170,slow=4.8,SNR=5.3								
ILAR	Eielson Array	65.62	336	P		P	12 42 19.0	-1.5	
ILAR				pP		pP	12 42 36.7	-0.4	
CN2	Changchun	116.08	334	*e*PKP		PKPdf	12 50 22.6	+3.1	
HHC	Hu-ho-hao-te	123.78	342	*e*PKP		PKPdf	12 50 29.0	-5.6	
HHC				PKS		PKSdf	12 54 05.8	-5.5	
HHC				SKS		SKSac	12 57 33.9	+1.9	
HHC				SKKS		SKKSac	12 59 02.4	-9.0	
HHC				AMB		AMB			
	comp=Z,69nm,6.6s								
LZH	Lanzhou	130.26	347	*e*PKP		PKPdf	12 50 41.8	-5.4	
CD2	Chengdu	135.24	346	PKP		PKPdf	12 50 54.6	-2.0	
GYA	Guiyang	138.59	340	*e*Pdif		Pdif	12 48 11.0	-3.0	
GYA				PKP		PKPdf	12 51 01.2	-1.8	
GYA				sPKP			12 51 27.8		
GYA				PP		PP	12 53 55.4	+2.9	
GYA				AMB		AMB			
	comp=Z,90nm,7.8s								
WRA	Warramunga Arr	138.

*DJA **08** 12:52:50,1.01S×132.71E,h31km,MLv4.3/11*
IDC 08 12:52:32.8±1.2,0.44S×133.60E,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.8/20,mbtmp3.8/8,ML3.8/2,MS3.3/3, Ms1 3.3/3,ms1mx2.7/27,Error ellipse: s-maj=56.7km s-min=18.9km az=83.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.22 204**		P	P		12 56 57.6	-1.0
	0.1nm,0.3s,baz=90,slow=4.0,SNR=2.9							
FITZ				LR	LR		13 05 26.5	
	comp=Z,62nm,18.3s,baz=14,slow=40							
WRA	**Warramunga Arr**	**19.40 178**		P	P		12 57 00.8	+0.2
	0.4nm,0.3s,baz=356,slow=11,SNR=21							
ASAR	**Alice Springs**	**23.09 179**		P	P		12 57 41.0	+0.6
	5.0nm,0.6s,baz=355,slow=11,SNR=65							
MJAR	**Matsushiro Arr**	**37.04 6**		LR	LR		13 12 14.4	
	comp=Z,64nm,19.2s,baz=265,slow=32							
KSRS	**Korea Array**	**38.07 353**		LR	LR		13 15 24.5	
	comp=Z,34nm,20.3s,baz=164,slow=36							
MKAR	**Makanchi Array**	**64.92 324**		P	P		13 03 14.9	+0.6
	0.6nm,0.6s,baz=122,slow=7.4,SNR=7.2							
ZALV	**Zalesovo Beam**	**67.46 331**		P	P		13 03 30.0	-0.4
	0.2nm,0.3s,baz=113,slow=3.3,SNR=3.8							
KURK	**Kurchatov**	**68.96 326**		P	P		13 03 40.1	+0.3
	1.1nm,0.7s,baz=120,slow=5.9,SNR=12							
BVAR	**Borovoye Array**	**74.56 326**		P	P		13 04 13.5	0.0
	0.4nm,0.6s,baz=99,slow=9.2,SNR=3.0							
ILAR	**Eielson Array**	**85.92 25**		P	P		13 05 13.8	-0.8
	0.4nm,0.6s,baz=242,slow=4.3,SNR=4.8							

IDC 08 13:05:44.4±1.3,0.06N×16.70W,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/25,mbtmp3.9/5,ML4.2/1,MS3.3/4, Ms1 3.3/4,ms1mx2.9/30,Error ellipse: s-maj=72.0km s-min=22.3km az=150.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.52 61**		Pn	Pn		13 08 56.6	-1.1
	1.1nm,0.3s,baz=237,slow=14,SNR=15							
DBIC				Sn	Sn		13 11 16.3	-12
	0.2nm,0.3s,baz=196,slow=21,SNR=3.0							
DBIC				LR	LR		13 13 11.3	
	comp=Z,71nm,21.3s,baz=259,slow=33							
RCBR	**Riachuelo**	**20.05 253**		P	P		13 10 19.8	+0.4
	1.6nm,0.3s,baz=51,slow=6.7							
TORD	**Torodi Ar. Bea**	**22.39 54**		P	P		13 10 44.1	-0.6
	2.8nm,0.9s,baz=241,slow=10,SNR=15							
TORD				LR	LR		13 18 42.2	
	comp=Z,92nm,18.5s,baz=225,slow=35							
MSKU	**Masuku**	**30.35 93**		LR	LR		13 21 03.5	
	comp=Z,49nm,21.1s,baz=182,slow=30							
CPUP	**Villa Florida**	**47.11 233**		LR	LR		13 32 32.2	
	comp=Z,40nm,19.6s,baz=217,slow=34							
LPAZ	**La Paz**	**53.24 250**		P	P		13 15 05.0	-1.1
	0.7nm,0.5s,baz=172,slow=3.1,SNR=3.5							
GERES	**GERESS Array B**	**55.21 24**		P	P		13 15 19.9	+0.6
	0.3nm,0.2s,baz=212,slow=7.4,SNR=3.7							
WRA	**Warramunga Arr**	**145.43 127**		PKPbc	PKPbc		13 25 25.2	-0.2
	0.4nm,0.6s,baz=239,slow=2.5,SNR=4.9							

IDC 08 13:09:28.2±5.1,4.63S×150.02E,h200km±41km,mb2.9/2, mb1 3.2/3,mb1mx2.9/16,mbtmp3.0/3,Error ellipse: s-maj=117.0km s-min=43.5km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.53 211**		P	Pn		13 10 49.3	-0.1
	2.1nm,0.3s,baz=58,slow=11,SNR=8.2							
WRA	**Warramunga Arr**	**21.56 224**		P	P		13 14 03.1	+0.8
	1.2nm,0.5s,baz=50,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.49 218**		P	P		13 14 28.9	-0.4
	0.3nm,0.4s,baz=51,slow=8.7,SNR=16							
TORD	**Torodi Ar. Bea**	**147.62 287**		PKPbc	PKPbc		13 28 49.1	-1.0
	0.4nm,0.8s,baz=98,slow=2.7,SNR=2.5							

IDC 08 13:34:32.8±2.6,0.65S×133.18E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=98.5km s-min=27.3km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.86 203**		P	P		13 38 54.7	0.0
	0.2nm,0.3s,baz=36,slow=14,SNR=3.9							
WRA	**Warramunga Arr**	**19.21 177**		P	P		13 38 58.5	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=3.0							
ASAR	**Alice Springs**	**22.89 178**		P	P		13 39 38.5	+0.1
	0.5nm,0.7s,baz=359,slow=12,SNR=6.3							
MKAR	**Makanchi Array**	**64.84 324**		P	P		13 45 13.6	-0.1
	0.1nm,0.3s,baz=105,slow=7.9,SNR=3.9							

*ISCJB **08** 13:50:38.3±1.4,37.22N±0.06×38.67E±0.06,h7km±6km, Error ellipse: s-maj=11.7km s-min=6.7km az=147.9*
*CSEM **08** 13:50:38.5±0.2,37.23N×38.64E,h10km,MD2.7,Error ellipse: s-maj=4.7km s-min=2.7km az=153.0*
*ISK **08** 13:50:38.2,37.23N×38.64E,h9km,MD2.7*
*DDA **08** 13:50:39.3,37.28N×38.62E,h8km,MD2.8*
ISC 08 13:50:38.7±1.6,37.23N±0.07×38.64E±0.05,h11km±8km, n17,σ0°22/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.25 35**		*e*PG	**Pg**		**13 50 43.8**	**-0.2**
URFA	**Urfa**	**0.25 35**		*e*Pg	**Pg**		**13 50 43.8**	**-0.2**
ATAB	**Bozova**	**0.36 311**		*i* P	**Pg**		**13 50 45.7**	**-0.3**
ATAB				*i* S	**Sg**		**13 50 51.2**	**+0.4**
ATAB	**Bozova**	**0.36 311**		*i* P	**Pg**		**13 50 45.7**	**-0.3**
ATAB				*i* S	**Sg**		**13 50 51.2**	**+0.4**
GZT	**Gaziantep**	**0.87 278**		*i* P	**Pb**		**13 50 55.7**	**-0.2**
GZT				*i* S	**Sn**		**13 51 09.3**	**-0.5**
MALT	**Malatya**	**1.09 351**		*e*PN	**Pb**		**13 50 59.7**	**0.0**
MALT				*e*SN	**Sn**		**13 51 15.4**	**+0.2**
MALT	**Malatya**	**1.09 351**		*e*Pn	**Pb**		**13 50 59.7**	**0.0**
MALT				*e*Sn	**Sn**		**13 51 15.5**	**+0.2**
MYA	**Malatya**	**1.10 351**		*e*PN	**Pg**		**13 50 60.0**	**0.0**
MYA				*e*SN	**Sn**		**13 51 15.5**	**-0.1**
MYA	**Malatya**	**1.10 351**		*e*Pn	**Pg**		**13 51 00.0**	**0.0**
MYA				*e*Sn	**Sn**		**13 51 15.5**	**-0.1**
GAZ	**Gaziantep**	**1.14 267**		*e*PN	**Pg**		**13 51 00.9**	**+0.2**
GAZ				*e*SN	**Sn**		**13 51 16.5**	**0.0**
GAZ	**Gaziantep**	**1.14 267**		*e*Pn	**Pg**		**13 51 00.9**	**+0.2**
GAZ				*e*Sn	**Sn**		**13 51 16.5**	**0.0**
AKCD	**Akcadag**	**1.20 332**		*i* P	**Pn**		**13 51 01.4**	**-0.3**
AKCD				*i* S	**Sb**		**13 51 17.4**	**+0.1**
AKCD	**Akcadag**	**1.20 332**		*i* P	**Pn**		**13 51 01.4**	**-0.3**
AKCD				*i* S	**Sb**		**13 51 17.4**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.26 25**		*e*PN	**Pn**		**13 51 02.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.26 25**		*e*Pn	**Pn**		**13 51 02.5**	**0.0**
ELZG	**Elazig**	**1.29 12**		*i* P	**Pb**		**13 51 03.3**	**+0.1**
ELZG				*i* S	**Sg**		**13 51 20.6**	**+0.2**
ELZG	**Elazig**	**1.29 12**		*i* P	**Pb**		**13 51 03.3**	**+0.1**
ELZG				*i* S	**Sg**		**13 51 20.6**	**+0.2**

IDC 08 13:53:56.7±1.0,56.17S×143.09W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.8/12,mbtmp3.9/4,MS3.9/8,Ms1 3.8/8, ms1mx3.6/21,Error ellipse: s-maj=41.1km s-min=28.6km az=178.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.43 274**		LR	LR		14 09 20.2	
	comp=Z,228nm,20.4s,baz=103,slow=29							
URZ	**Urewera**	**31.85 287**		LR	LR		14 09 11.7	
	comp=Z,114nm,20.0s,baz=145,slow=29							
TBI	**Tubuai**	**33.12 349**		*e*LR	LR		14 09 12.5	
	335nm,28.5s							
TBI				*e*T	T		14 35 07.8	
	65nm,0.3s							
RKT	**Rikitea**	**33.55 14**		*e*T	T		14 35 38.1	
	6.9nm,0.3s							
QSPA	**South Pole Qui**	**33.98 180**		P	P		14 00 41.4	-0.3
	4.5nm,0.8s,baz=77,slow=5.5,SNR=11							
QSPA				LR	LR		14 11 33.8	
	comp=Z,137nm,21.4s,baz=62,slow=31							
MEH	**Mehetia**	**38.42 352**		*e*T	T		14 41 44.4	
	94nm,0.3s							
PAE	**Paea**	**38.76 350**		*e*T	T		14 42 09.8	
	2.3nm,0.3s							
PPT2	**Papeete2**	**38.83 350**		*e*S	S		14 07 20.3	-1.7
	47nm,23.8s							
PPT2				*e*LR	LR		14 11 47.9	
	368nm,27.8s							
PPT2				*e*T	T		14 42 16.9	
	5.0nm,0.3s							
TIAR	**Tiarei**	**38.84 350**		*e*T	T		14 42 16.0	
	9.6nm,0.3s							
PMOR	**Pomariorio Ree**	**41.25 353**		*e*T	T		14 45 16.7	
	5.8nm,0.3s							
VNA3	**Neumayer Olymp**	**48.70 162**		*e*	P		14 02 40.5	-1.6
VNA2	**Neumayer--Watz**	**49.36 162**		*e*	P		14 02 46.0	-1.2
	baz=218,slow=7.3							
DZM	**Mont Dzumac**	**50.21 291**		*e*LR	LR		14 17 07.5	
	93nm,24.6s							
STKA	**Stephens Creek**	**56.20 262**		LR	LR		14 23 27.9	
	comp=Z,118nm,18.0s,baz=204,slow=32							
CPUP	**Villa Florida**	**66.25 102**		LR	LR		14 29 14.1	
	comp=Z,77nm,18.5s,baz=294,slow=32							
ASAR	**Alice Springs**	**66.84 262**		P	P		14 04 50.7	+0.4
	0.9nm,1.0s,baz=141,slow=6.2,SNR=5.0							
LPAZ	**La Paz**	**68.26 87**		P	P		14 05 00.6	+0.5
	0.7nm,0.5s,baz=220,slow=10,SNR=2.2							
WRA	**Warramunga Arr**	**69.57 265**		P	P		14 05 07.7	+0.2
	0.3nm,0.7s,baz=139,slow=4.5,SNR=3.5							
FITZ	**Fitzroy Crossi**	**75.86 259**		LR	LR		14 38 42.8	
	comp=Z,96nm,18.9s,baz=164,slow=35							
TXAR	**Lajitas Array**	**91.54 34**		LR	LR		14 42 23.3	
	comp=Z,40nm,18.9s,baz=0.0,slow=32							
BOSA	**Boshof**	**94.97 170**		LR	LR		14 46 06.5	
	comp=Z,59nm,19.2s,baz=328,slow=33							
INK	**Inuvik**	**124.37 4**		PKP	PKPdf		14 12 54.4	-1.5
	1.0nm,0.9s,baz=218,slow=6.5,SNR=3.1							
MKAR	**Makanchi Array**	**150.72 271**		PKPbc	PKPbc		14 13 49.2	-0.6
	1.1nm,0.8s,baz=108,slow=4.7,SNR=4.4							

*ISCJB **08** 14:00:54.4±0.7,25.49N±0.10×95.05E±0.08,h85km, mb3.4/6, Error ellipse: s-maj=14.2km s-min=9.8km az=19.2*
*IDC **08** 14:00:57.9±3.6,25.50N×95.11E,h106km±37km,mb3.2/6, mb1 3.4/7,mb1mx3.2/27,mbtmp3.3/7,Error ellipse: s-maj=66.7km s-min=14.7km az=65.0*
ISC 08 14:00:56.1±0.9,25.5N±0.1×95.02E±0.10,h85km,n8, σ0°91/9,mb3.5/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.83 271**		*e*PN	**Pn**		**14 01 40.0**	**+0.5**
SHL				*e*SN	**Sn**		**14 02 12.0**	**-0.8**
SHL				*ex*	x		14 02 29.0	
CMAR	**Chiang Mai Arr**	**7.93 152**		P	**Pn**		**14 02 49.5**	**+0.9**
	0.7nm,0.3s,baz=326,slow=13,SNR=36							
MKAR	**Makanchi Array**	**23.52 338**		P	**P**		**14 05 59.0**	**+0.5**
	1.3nm,0.5s,baz=157,slow=9.8,SNR=14							
SONM	**Songino Array**	**24.00 19**		P	**P**		**14 06 03.1**	**+0.2**
	0.2nm,0.4s,baz=194,slow=11,SNR=3.7							
KURK	**Kurchatov**	**28.13 338**		P	**P**		**14 06 40.3**	**+0.4**
	0.7nm,0.6s,baz=146,slow=9.5,SNR=6.5							
ZALV	**Zalesovo Beam**	**29.38 348**		P	**P**		**14 06 50.9**	**-0.1**
	0.3nm,0.5s,baz=191,slow=7.0,SNR=2.7							
WRA	**Warramunga Arr**	**59.19 136**		P	**P**		**14 10 46.9**	**-1.6**
	0.8nm,0.8s,baz=324,slow=7.3,SNR=4.5							
ASAR	**Alice Springs**	**61.73 139**		P	**P**		**14 11 05.2**	**-0.5**
	0.5nm,0.6s,baz=324,slow=6.2,SNR=11							

IDC 08 14:01:21.6±2.4,0.95S×133.28E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.5/2,Error ellipse: s-maj=96.7km s-min=24.7km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.62 203**		P	Pn		14 05 41.0	-0.1
	0.1nm,0.3s,baz=21,slow=8.6,SNR=3.4							
WRA	**Warramunga Arr**	**18.90 177**		P	Pn		14 05 44.8	+0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**22.59 179**		P	P		14 06 23.3	-0.6
	0.8nm,0.8s,baz=359,slow=9.8,SNR=16							
MKAR	**Makanchi Array**	**65.14 324**		P	P		14 12 04.4	0.0
	0.3nm,0.6s,baz=116,slow=6.6,SNR=3.1							

CASC 08 14:07:26.2±1.9,11.63N×87.43W,h37km±19km,MD4.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.13 39**		*e*P	Pn		14 07 46.0	+0.5
CNCH	**Conchagua**	**1.69 347**		*e*P	Pn		14 07 53.6	+0.3
CAHU	**Cacacuatique**	**2.26 340**		*e*P	Pn		14 08 01.2	-0.1
LFRS	**El Faro**	**2.54 321**		*e*P	Pn		14 08 05.1	+0.1
LFRS				*e*S	Sn		14 08 35.2	+0.3
BOQS	**Boqueron**	**2.77 319**		*e*S	Sn		14 08 41.9	+1.3
JCR	**Jicaral**	**2.88 128**		*e*S	Sn		14 08 40.5	-2.7
LAJ	**Bijagual**	**3.69 118**		*e*P	Pn		14 08 17.1	-3.9
LAJ				*e*S	Sn		14 08 55.7	-7.8
URSC	**Urasca**	**4.01 116**		*e*P	Pn		14 08 27.7	+2.4
URSC				*e*S	Sn		14 09 13.2	+1.9

*TIR **08** 14:14:07.3±4.9,41.83N×20.88E,h0km±32km*
*PDG **08** 14:14:13.0±0.4,41.77N×20.84E,h2km±1km,ML2.8/9, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0*
*SKO **08** 14:14:13.1,41.71N×20.86E,h19km,M2.5,ML2.9*
*CSEM **08** 14:14:13.2±0.2,41.72N×20.81E,h2km,ML2.6,Error ellipse: s-maj=4.3km s-min=2.8km az=30.0*
*THE **08** 14:14:14.1,41.74N×20.90E,h0km±4km,ML2.6/4,Error ellipse: s-maj=6.3km s-min=2.3km az=295.0*
*BEO **08** 14:14:15.8±0.4,41.84N×20.78E,h0km,ML2.3/4*
ISC 08 14:14:13.0±1.1,41.75N±0.02×20.83E±0.02,h0km±10km, n64,σ0°89/123,9C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.30 258**		*e*PG	**Pg**		**14 14 18.2**	**-0.6**
PHP				*e*SG	**Sg**		**14 14 22.7**	**+0.1**
PHP	**Peshkopia**	**0.30 258**		*e*Pg	**Pg**		**14 14 18.2**	**-0.6**
	SNR=9.0							
PHP				*e*Sg	**Sg**		**14 14 22.7**	**+0.1**
	SNR=9.0							
KRUS	**Krusevo**	**0.49 140**		*i* Pg	**Pg**		**14 14 22.4**	**-0.1**
KRUS				*i* Sg	**Sg**		**14 14 29.5**	**+0.7**
KRUS				*e*Lg	Lg		14 14 29.8	
	comp=Z,297nm,0.4s							
KRUS				*e*Lg	Lg		14 14 30.0	
	comp=N,1.0nm,0.1s							
KRUS	**Krusevo**	**0.49 140**		*i* Pg	**Pg**		**14 14 22.4**	**-0.1**
KRUS				*i* Sg	**Sg**		**14 14 29.5**	**+0.7**
KRUS				*e*Lg	Lg		14 14 30.0	
	comp=N,1.0nm,0.1s							
SKO	**Skopje**	**0.51 64**		*i* Pg	**Pg**		**14 14 23.5**	**+0.7**
SKO				*i* Sg	**Sb**		**14 14 31.2**	**-1.6**
SKO				*e*Lg	Lg		14 14 31.4	
	comp=E,979nm,0.4s							
SKO				*e*Lg	Lg		14 14 31.4	
	comp=N,1μm,0.3s							
SKO	**Skopje**	**0.51 64**		*i* Pg	**Pb**		**14 14 23.9**	**-0.9**
SKO				*i* Sg	**Sb**		**14 14 31.6**	**-1.2**
SKO				*e*Lg	Lg		14 14 31.9	
	comp=N,1μm,0.3s							
PUK	**Puka**	**0.76 293**		*e*PG	**Pg**		**14 14 26.4**	**-1.2**
PUK				*e*SG	**Sb**		**14 14 38.9**	**-1.2**
PUK	**Puka**	**0.76 293**		*e*Pg	**Pg**		**14 14 26.4**	**-1.2**
	SNR=9.0							
PUK				*e*Sg	**Sb**		**14 14 38.9**	**-1.2**
	SNR=9.0							
BIA	**Bitola**	**0.82 153**		*i* Pg	**Pg**		**14 14 28.6**	**-0.2**
BIA				*e*Sg	**Sg**		**14 14 39.4**	**+0.1**
BIA				*e*Lg	Lg		14 14 40.6	
	comp=E,129nm,0.2s							
BIA				*e*Lg	Lg		14 14 40.6	
	comp=N,134nm,0.2s							
BIA	**Bitola**	**0.82 153**		*i* Pg	**Pg**		**14 14 28.5**	**-0.2**
BIA				*e*Sg	**Sg**		**14 14 39.4**	**+0.1**
BIA				*e*Lg	Lg		14 14 40.6	
	comp=N,134nm,0.2s							
TIR	**Tirane**	**0.83 241**		*e*Pg	**Pb**		**14 14 30.3**	**0.0**
TIR				*e*Sg	**Sb**		**14 14 42.3**	**+0.3**
TIR	**Tirane**	**0.83 241**		*e*Pg	**Pb**		**14 14 30.3**	**0.0**
TIR				*e*Sg	**Sb**		**14 14 42.3**	**+0.3**
BCI	**Bajram Curri**	**0.84 318**		*e*PG	**Pg**		**14 14 28.6**	**-0.5**
BCI				*e*SG	**Sg**		**14 14 41.2**	**+1.2**
BCI	**Bajram Curri**	**0.84 318**		*e*Pg	**Pg**		**14 14 28.6**	**-0.5**
	SNR=9.0							
BCI				*e*Sg	**Sg**		**14 14 41.2**	**+1.2**
	SNR=9.0							
FNA	**Florina**	**1.05 157**		*e*PG	**Pg**		**14 14 32.3**	**-0.8**
FNA	**Florina**	**1.05 157**		P	**Pg**		**14 14 32.5**	**-0.6**
FNA				S	**Sb**		**14 14 48.7**	**+0.3**
FNA	**Florina**	**1.05 157**		P	**Pg**		**14 14 32.5**	**-0.6**
FNA				S	**Sb**		**14 14 48.7**	**+0.3**
PVY	**Plav**	**1.06 323**		*i* Pg	**Pg**		**14 14 31.7**	**-1.8**
PVY				*e*Sg	**Sb**		**14 14 49.0**	**0.0**
PVY	**Plav**	**1.06 323**		*e*PG	**Pg**		**14 14 31.7**	**-1.8**
PVY				*e*SG	**Sb**		**14 14 49.0**	**0.0**
ULC	**Ulcinj**	**1.20 281**		*i* Pg	**Pg**		**14 14 34.2**	**-1.9**
ULC				*e*Sg	**Sb**		**14 14 53.2**	**+0.3**
ULC	**Ulcinj**	**1.20 281**		*e*PN	**Pg**		**14 14 34.2**	**-1.9**
ULC				*e*SN	**Sb**		**14 14 53.2**	**+0.3**
ULC	**Ulcinj**	**1.20 281**		*i* Pg	**Pg**		**14 14 34.2**	**-1.9**
ULC				*e*Sg	**Sb**		**14 14 53.2**	**+0.3**
BARS	**Barje**	**1.29 34**		*e*Pg	**Pg**		**14 14 37.8**	**0.0**
BARS				*e*Sg	**Sg**		**14 14 54.7**	**+0.1**
BARS	**Barje**	**1.29 34**		*e*Pg	**Pg**		**14 14 37.8**	**0.0**
BARS				*e*Sg	**Sg**		**14 14 54.7**	**+0.1**
IVA	**Berane**	**1.32 329**		*i* Pg	**Pg**		**14 14 37.7**	**-0.6**
IVA				*e*Sg	**Sn**		**14 14 57.8**	**+0.7**
BEY	**Berane**	**1.32 329**		*e*PN	**Pg**		**14 14 37.7**	**-0.6**
BEY	**Berane**	**1.32 329**		*i* Pg	**Pg**		**14 14 37.7**	**-0.6**
BEY				*e*Sg	**Sn**		**14 14 57.8**	**+0.6**
NEST	**Nestorio**	**1.34 173**		P	**Pg**		**14 14 38.0**	**-0.8**
NEST				S	**Sn**		**14 14 59.7**	**+2.0**
NEST	**Nestorio**	**1.34 173**		P	**Pg**		**14 14 38.0**	**-0.8**
NEST				S	**Sn**		**14 14 59.7**	**+2.0**
TTG	**Podgorica**	**1.35 301**		*i* Pg	**Pg**		**14 14 37.6**	**-1.3**
TTG				*e*Sg	**Sn**		**14 14 58.8**	**+1.0**
PDG	**Podgorica**	**1.36 301**		*e*PG	**Pg**		**14 14 37.6**	**-1.4**
PDG	**Podgorica**	**1.36 301**		*e*Pg	**Pg**		**14 14 38.4**	**-0.6**
PDG				*e*Sg	**Sg**		**14 14 56.6**	**0.0**
PDG	**Podgorica**	**1.36 301**		*e*Pg	**Pg**		**14 14 38.4**	**-0.6**
PDG				*e*Sg	**Sg**		**14 14 56.6**	**0.0**
VAY	**Valandovo**	**1.37 108**		*i* Pg	**Pn**		**14 14 38.4**	**-1.0**
VAY				*e*Sg	**Sg**		**14 14 57.1**	**0.0**
VAY				*e*Lg	Lg		14 14 57.4	
	comp=E,86nm,0.5s							
VAY				*e*Lg	Lg		14 14 57.6	
	comp=N,88nm,0.6s							
VAY	**Valandovo**	**1.37 108**		*i* Pg	**Pn**		**14 14 38.9**	**-0.6**
VAY				*e*Sg	**Sb**		**14 14 57.6**	**-0.1**
VAY				*e*Lg	Lg		14 14 58.1	
	comp=N,88nm,0.6s							
GRG	**Griva**	**1.42 123**		P	**Pn**		**14 14 39.7**	**-0.5**
GRG				S	**Sn**		**14 14 59.3**	**-0.3**
GRG	**Griva**	**1.42 123**		P	**Pn**		**14 14 39.7**	**-0.5**
GRG				S	**Sn**		**14 14 59.3**	**-0.3**
SELS	**Selova**	**1.48 8**		*e*Pg	**Pn**		**14 14 39.6**	**-1.4**
SELS				*e*Sg	**Sb**		**14 15 00.3**	**-0.7**
BUM	**Brajici-Budva**	**1.54 292**		*i* Pg	**Pn**		**14 14 41.9**	**0.0**
BUM				*e*Sg	**Sg**		**14 15 05.0**	**+2.3**
BUM	**Brajici-Budva**	**1.54 292**		*i* Pg	**Pn**		**14 14 41.9**	**0.0**
BUM				*e*Sg	**Sg**		**14 15 05.0**	**+2.3**
KNT	**Kendrikon**	**1.66 110**		P	**Pn**		**14 14 43.3**	**-0.1**
KNT				S	**Sn**		**14 15 05.4**	**-0.1**
KNT	**Kendrikon**	**1.66 110**		P	**Pn**		**14 14 43.3**	**-0.1**
KNT				S	**Sn**		**14 15 05.4**	**-0.1**
NKY	**Niksic**	**1.73 309**		*i* Pn	**Pn**		**14 14 44.2**	**-0.3**
NKY				*e*Sn	**Sg**		**14 15 10.6**	**+2.0**
NKY	**Niksic**	**1.73 309**		*i* Pn	**Pn**		**14 14 44.2**	**-0.3**
NKY				*e*Sn	**Sg**		**14 15 10.6**	**+2.0**
HCY	**Herceg Novi**	**1.87 293**		*e*Pn	**Pn**		**14 14 46.8**	**+0.4**
HCY				*e*Sn	**Sg**		**14 15 13.9**	**+0.7**
HCY	**Herceg Novi**	**1.87 293**		*e*Pn	**Pn**		**14 14 46.8**	**+0.4**
HCY				*e*Sn	**Sg**		**14 15 13.9**	**+0.7**
PLE	**Pljevlja**	**1.91 326**		*i* Pn	**Pn**		**14 14 47.4**	**+0.5**
PLE				*e*Sn	**Sb**		**14 15 13.9**	**+0.8**
PLE	**Pljevlja**	**1.91 326**		*i* Pn	**Pn**		**14 14 47.4**	**+0.5**
PLE				*e*Sn	**Sb**		**14 15 13.9**	**+0.8**
VTS	**Vitosha**	**1.96 64**		P	**Pn**		**14 14 47.9**	**+0.2**
VTS	**Vitosha**	**1.96 64**		*e*Pn	**Pg**		**14 14 50.9**	**+0.3**
VTS				*e*Sn	**Sg**		**14 15 15.7**	**-0.2**
VTS	**Vitosha**	**1.96 64**		P	**Pn**		**14 14 47.9**	**+0.2**
VTS	**Vitosha**	**1.96 64**		*e*Pn	**Pg**		**14 14 50.9**	**+0.3**
VTS				*e*Sn	**Sg**		**14 15 15.7**	**-0.2**
ZAPS	**Zavoj**	**2.02 41**		*e*Pn	**Pb**		**14 14 51.3**	**+0.6**
ZAPS				*e*Sn	**Sn**		**14 15 15.0**	**+0.5**
ZAPS	**Zavoj**	**2.02 41**		*e*Pn	**Pb**		**14 14 51.3**	**+0.6**
ZAPS				*e*Sn	**Sn**		**14 15 15.0**	**+0.5**
UPM	**Unac-Piva**	**2.04 316**		*i* Pn	**Pn**		**14 14 49.8**	**+1.1**
UP

SONM	**Songino Array**	**58.35**	**350**	P	P	14 50 18.1	+0.1
	0.5nm,0.6s,baz=165,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**65.11**	**333**	P	P	14 51 02.8	-0.7
	0.2nm,0.4s,baz=155,slow=7.2,SNR=4.1							

IDC 08 14:41:55.6±2.4, 0.75S×133.03E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/11, Error ellipse: s-maj=100.2km s-min=24.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.71**	**202**	P	Pn	14 46 17.2	+1.1
	0.1nm,0.3s,baz=26,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**19.12**	**176**	P	P	14 46 19.2	-1.1
	0.1nm,0.3s,baz=354,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	14 46 60.0	-0.2
	0.4nm,0.7s,baz=359,slow=8.7,SNR=7.6						
ASAJ	**Asahikawa**	**45.48**	**10**	LR	LR	15 07 57.3	
	comp=Z,43nm,19.1s,baz=33,slow=34						
MKAR	**Makanchi Array**	**64.83**	**324**	P	P	14 52 36.5	0.0
	0.1nm,0.4s,baz=105,slow=8.4,SNR=3.2						

IDC 08 14:43:50.2±5.3, 0.77S×132.08E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=346.5km s-min=26.1km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.19**	**174**	P	P	14 48 15.5	-0.2
	0.1nm,0.3s,baz=353,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**22.83**	**176**	P	P	14 48 55.1	-0.1
	0.3nm,0.7s,baz=358,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	14 54 27.6	+0.1
	0.1nm,0.4s,baz=131,slow=8.1,SNR=3.0						

NIED ***08*** *15:05:00, 43.70N×148.40E, h14km, Mw3.8 Best double couple: Mo5.58000×10^14 NP1:φs321.00000°, δ72.00000°, λ20.00000°. NP2:φs224.00000°, δ71.00000°, λ160.00000°.*
JMA ***08*** *15:05:21.8±0.4, 43.73N×148.44E, h0km, M4.3*
ISCJB ***08*** *15:05:25.4±1.2, 43.6N±0.1×148.53E±0.10, h40km, mb3.2/2, Error ellipse: s-maj=21.2km s-min=8.9km az=165.4*
IDC ***08*** *15:06:45.3±17.0, 50.33N×159.09E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=515.6km s-min=36.2km az=167.0*

ISC 08 15:05:27.7±1.8, 43.7N±0.2×148.5E±0.1, h40km, n15, σ1s09/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.01**	**260**	P	Pn	15 05 57.1	-1.9
NEM2				eS	Sn	15 06 23.4	+0.5
JRA	**Rausu**	**2.42**	**276**	P	Pn	15 06 03.4	-1.3
JRA				eS	Sn	15 06 34.2	+1.1
JNK	**Nakash**	**2.72**	**268**	P	Pn	15 06 07.5	-1.3
JNK				eS	Sn	15 06 40.8	+0.4
JAK	**Akkeshi**	**2.84**	**256**	P	Pn	15 06 09.5	-0.9
JAK				eS	Sn	15 06 44.4	+1.0
JTKR	**Abashiri--Toko**	**3.30**	**276**	P	Pn	15 06 16.3	-0.5
JAR	**Ashorobuto**	**3.44**	**264**	P	Pn	15 06 18.1	-0.6
JCH	**Churui**	**3.89**	**255**	P	Pn	15 06 24.9	0.0
JFR	**Furan**	**4.31**	**264**	P	Pn	15 06 32.4	+1.8
JNBK	**Urakawa-nobuka**	**4.43**	**253**	P	Pn	15 06 32.9	+0.6
JKB	**Kayabe**	**5.76**	**254**	P	Pn	15 06 51.2	+0.6
JKB				eS	Sn	15 07 54.4	-1.0
JOT	**Ohata**	**5.95**	**249**	P	Pn	15 06 53.5	+0.3
JOT				eS	Sn	15 07 58.9	-1.2
JOSM	**Okushiri--Mats**	**6.80**	**259**	P	Pn	15 07 05.9	+1.1
ILAR	**Eielson Array**	**40.94**	**36**	P	P	15 13 06.0	+0.1
	0.4nm,1.0s,baz=252,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**45.43**	**298**	P	PP	15 15 32.1	+3.1
	0.3nm,0.6s,baz=73,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**55.29**	**34**	P	P	15 15 07.1	+11
	0.2nm,0.5s,baz=301,slow=6.9,SNR=4.1						

ISCJB ***08*** *15:12:16.6±0.3, 12.57N±0.06×86.94W±0.05, h137km±3km, mb3.9/15, Error ellipse: s-maj=12.8km s-min=3.2km az=40.8*
NEIC ***08*** *15:12:17.8±0.8, 12.50N×86.93W, h142km±8km, mb4.3/8, Error ellipse: s-maj=19.1km s-min=9.2km az=47.0*
IDC ***08*** *15:12:18.2±1.9, 12.58N×86.82W, h145km±21km, mb3.4/9, mb1 3.7/11, mb1mx3.6/22, mbtmp3.5/11, Error ellipse: s-maj=37.8km s-min=18.1km az=38.0*
CASC ***08*** *15:12:19.6±1.7, 11.95N×87.45W, h31km±9km, MD4.0, ML3.9*

ISC 08 15:12:17.2±0.7, 12.53N±0.08×87.01W±0.07, h137km±6km, n59, σ1s39/72, mb4.1/15, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.31**	**95**	i P	Pn	15 12 36.0	-0.4
CNGN				eS	Sn	15 12 50.4	-0.4
CNCH	**Conchagua**	**1.09**	**313**	eP	Pn	15 12 42.0	+0.1
CNCH				eS	Sn	15 13 01.3	+0.7
BLLM	**Bellamira**	**1.50**	**307**	eP	Pn	15 12 46.3	+0.3
BLLM				eS	Sn	15 13 08.4	+0.6
TGUH	**Tegucigalpa,Un**	**1.54**	**351**	ePn	Pn	15 12 47.5	+1.2
TGUH				eSn	Sn	15 13 06.7	-1.9
SNVI	**San Vicente**	**2.08**	**301**	eP	Pn	15 12 53.1	+0.3
SNVI				eS	Sn	15 13 19.8	-0.2
GBS2	**Las Lilas**	**2.27**	**138**	i S		15 13 22.6	
LFRS	**El Faro**	**2.28**	**299**	eP	Pn	15 12 55.4	+0.3
LFRS				eS	Sn	15 13 23.5	-0.7
LAPC	**Finca la Perla**	**2.33**	**138**	i P	Pn	15 12 56.1	+0.3
LAPC				i S	Sn	15 13 23.4	-1.9
GPS1	**Guardaparques**	**2.38**	**137**	i P	Pn	15 12 57.4	+1.0
GPS1				i S	Sn	15 13 24.4	-2.1
GPS2	**Hotel Rinc˜‡n**	**2.40**	**137**	i P	Pn	15 12 56.9	+0.3
GPS2				i S	Sn	15 13 26.6	-0.2
SNET	**Serv Nac Est T**	**2.45**	**298**	eP	Pn	15 12 57.9	+0.7
SNET				eS	Sn	15 13 26.9	-1.1
SNET				AML	AML	15 13 31.0	
	comp=Z,979nm,0.2s						
LIM1	**Limonal**	**2.50**	**136**	i P	Pn	15 12 58.0	+0.1
LIM1				i S	Sn	15 13 27.6	-1.5
GUAB	**Guayabo de Bag**	**2.51**	**136**	i P	Pn	15 12 58.6	+0.6
BOQS	**Boqueron**	**2.52**	**299**	eP	Pn	15 12 59.0	+0.8
BOQS				eS	Sn	15 13 29.9	+0.3
CUI	**Cuipilapa**	**2.59**	**136**	i P	Pn	15 12 59.1	+0.1
AMAS	**Alto Masis**	**2.74**	**134**	i P	Pn	15 13 01.9	+0.9
AMAS				i S	Sn	15 13 34.4	-0.3
SNJE	**San Jose**	**2.86**	**298**	eP	Pn	15 13 03.2	+0.8
SBLS	**San Blas**	**2.86**	**297**	eP	Pn	15 13 03.1	+0.6
RTR	**El Retiro**	**2.91**	**298**	eP	Pn	15 13 04.0	+0.9
JTS	**JuntasAbangare**	**3.00**	**138**	P	Pn	15 13 04.9	+0.7
	comp=Z,55nm,0.3s,baz=307,slow=7.4,SNR=68						
JTS				S	Sn	15 13 37.4	-3.1
	comp=Z,98nm,0.3s,baz=322,slow=21,SNR=18						
JTS	**JuntasAbangare**	**3.00**	**138**	ePn	Pn	15 13 03.5	-0.6
JTS				eSn	Sn	15 13 34.0	-6.4
JTS				S		15 13 37.4	
NBG	**Las Nubes**	**3.84**	**303**	eP	Pn	15 13 26.6	+11
NBG				eS	Sn	15 14 10.8	+11
FUG	**Fuego 3**	**4.19**	**298**	eP	Pn	15 13 28.2	+8.4
FUG				eS	Sn	15 14 11.3	+2.9
JAT	**Jato**	**4.84**	**292**	eP	Pn	15 13 33.4	+5.1
JAT				eS	Sn	15 14 21.3	-2.3
BCIP	**Isla Barro Col**	**7.80**	**115**	Pn	Pn	15 14 08.7	+0.7
	comp=Z,55nm,0.9s						
CMIG	**Matias Romero**	**8.86**	**302**	P	Pn	15 14 23.1	+0.8
	comp=Z,2.4nm,0.3s,baz=142,slow=11,SNR=28						
CMIG				S	Sn	15 15 56.0	-4.6
	comp=Z,0.3nm,0.3s,baz=11,slow=16,SNR=3.0						
CMIG	**Matias Romero**	**8.86**	**302**	P	Pn	15 14 23.1	+0.8
CMIG				S	Sn	15 15 56.0	-4.6
LRAL	**Lakeview Retre**	**20.41**	**0**	eP	Pn	15 16 45.7	-1.3
	comp=Z,5.6nm,0.8s						
MIAR	**Mount Ida**	**22.72**	**346**	P	P	15 17 05.6	-1.8
	comp=Z,9.5nm,0.9s						
TXAR	**Lajitas Array**	**22.79**	**320**	P	P	15 17 09.7	+1.4
	comp=Z,1.7nm,0.8s,baz=137,slow=10,SNR=13						
TXAR	**Lajitas Array**	**22.79**	**320**	P	P	15 17 09.7	+1.4
TKL	**Tuckaleechee C**	**23.22**	**7**	P	P	15 17 13.0	+0.9
	comp=Z,14nm,1.0s,baz=175,slow=12,SNR=5.9						
TKL	**Tuckaleechee C**	**23.22**	**7**	P	P	15 17 13.0	+0.9

WMOK	**Wichita Mounta**	**24.56**	**336**	eP	P	15 17 25.3	+1.0
	comp=Z,24nm,1.1s							
AMTX	**Amarillo**	**25.93**	**332**	eP	P	15 17 39.2	+2.3
	comp=Z,15nm,1.1s							
ACSO	**Alum Creek Sta**	**27.82**	**7**	P	P	15 17 54.5	+0.9
	comp=Z,6.4nm,0.6s							
SDCO	**Great Sand Dun**	**30.06**	**330**	P	P	15 18 14.2	+0.4
PDAR	**Pinedale Array**	**35.91**	**331**	P	P	15 19 05.3	+0.8
	comp=Z,0.6nm,0.7s,baz=128,slow=9.6,SNR=5.9							
PDAR	**Pinedale Array**	**35.91**	**331**	P	P	15 19 05.3	+0.8
HWUT	**Hardware Ranch**	**36.04**	**328**	P	P	15 19 06.5	+1.0
	comp=Z,3.2nm,0.9s							
NVAR	**Mina Array Bea**	**37.93**	**318**	P	P	15 19 23.6	+2.0
	comp=Z,0.3nm,0.4s,baz=142,slow=8.0,SNR=3.5							
NVAR	**Mina Array Bea**	**37.93**	**318**	P	P	15 19 23.6	+2.0
ULM	**Lac du Bonnet**	**38.31**	**351**	P	P	15 19 23.1	-1.3
	comp=Z,3.3nm,0.7s,baz=150,slow=8.4,SNR=4.9							
ULM	**Lac du Bonnet**	**38.31**	**351**	P	P	15 19 23.1	-1.3
HLID	**Hailey**	**38.91**	**328**	P	P	15 19 31.1	+1.4
	comp=Z,1.0nm,0.8s							
SCHQ	**Schefferville**	**45.08**	**16**	P	P	15 20 19.0	-0.4
	comp=Z,4.5nm,1.0s,baz=221,slow=11,SNR=5.6							
SCHQ	**Schefferville**	**45.08**	**16**	P	P	15 20 19.0	-0.4
YKA	**Yellowknife Ar**	**53.65**	**345**	P	P	15 21 24.2	-0.1
	comp=Z,0.9nm,0.7s,baz=138,slow=7.3,SNR=23							
YKA	**Yellowknife Ar**	**53.65**	**345**	P	P	15 21 24.2	-0.1
ILAR	**Eielson Array**	**66.12**	**336**	P	P	15 22 49.1	-0.3
	comp=Z,0.6nm,1.0s,baz=130,slow=4.9,SNR=7.1							
ILAR	**Eielson Array**	**66.12**	**336**	P	P	15 22 49.1	-0.3
TORD	**Torodi Ar. Bea**	**85.97**	**77**	P	P	15 24 41.2	-1.6
	comp=Z,0.2nm,0.6s,baz=297,slow=6.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**85.97**	**77**	P	P	15 24 41.2	-1.6
ASAR	**Alice Springs**	**139.69**	**248**	PKP	**PKPdf**	15 31 29.9	+0.3
	comp=Z,1.2nm,0.9s,baz=85,slow=2.5,SNR=8.9							
ASAR	**Alice Springs**	**139.69**	**248**	PKP	**PKPdf**	15 31 29.9	+0.3
WRA	**Warramunga Arr**	**139.70**	**254**	PKP	**PKPdf**	15 31 30.6	+0.9
	comp=Z,1.1nm,0.8s,baz=74,slow=0.9,SNR=9.1							
WRA	**Warramunga Arr**	**139.70**	**254**	PKP	**PKPdf**	15 31 30.6	+0.9
CMAR	**Chiang Mai Arr**	**148.66**	**349**	PKPbc	**PKPbc**	15 31 48.8	-0.3
	comp=Z,0.4nm,0.7s,baz=341,slow=3.6,SNR=5.7							
CMAR	**Chiang Mai Arr**	**148.66**	**349**	PKPbc	**PKPbc**	15 31 48.8	-0.3

ISCJB ***08*** *15:12:31.3±0.3, 38.73N±0.01×22.54E±0.02, h11km±2km, Error ellipse: s-maj=2.5km s-min=2.3km az=9.7*
THE ***08*** *15:12:31.6, 38.72N×22.56E, h3km±1km, ML3.4/9, Error ellipse: s-maj=1.4km s-min=0.5km az=169.0*
ATH ***08*** *15:12:31.4, 38.73N×22.56E, h23km±1km, ML3.5*
CSEM ***08*** *15:12:31.4±0.1, 38.72N×22.56E, h8km, ML3.4/9, Error ellipse: s-maj=2.2km s-min=1.9km az=90.0*

ISC 08 15:12:31.8±0.9, 38.72N±0.01×22.56E±0.01, h11km±7km, n140, σ0s64/190, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DESF	**Desfina**	**0.31**	**184**	P	Pg	15 12 36.6	-1.4
DESF				S	Sg	15 12 41.4	-0.8
DESF	**Desfina**	**0.31**	**184**	P	Pg	15 12 36.6	-1.4
DESF				S	Sg	15 12 41.4	-0.8
DSF	**Desfina**	**0.31**	**184**	P	Pg	15 12 37.6	-0.5
DSF				S	Sg	15 12 42.5	+0.3
DSF	**Desfina**	**0.31**	**184**	P	Pg	15 12 37.6	-0.5
DSF				S	Sg	15 12 42.5	+0.3
AGG	**Agios Georgios**	**0.35**	**330**	P	Pg	15 12 38.7	-0.1
AGG				S	Sg	15 12 44.2	+0.7
AGG	**Agios Georgios**	**0.35**	**330**	ePB	Pg	15 12 38.7	-0.1
AGG	**Agios Georgios**	**0.35**	**330**	P	Pg	15 12 38.7	-0.1
AGG				S	Sg	15 12 44.2	+0.7
LKR	**Lokris**	**0.35**	**101**	P	Pg	15 12 38.8	0.0
LKR				S	Sg	15 12 44.7	+1.2
LKR	**Lokris**	**0.35**	**101**	ePB	Pg	15 12 39.1	+0.3
LKR				eSB	Sg	15 12 44.9	+1.4
LKR	**Lokris**	**0.35**	**101**	P	Pg	15 12 38.8	0.0
LKR	**Lokris**	**0.35**	**101**	ePb	Pg	15 12 39.1	+0.3
LKR				S	Sg	15 12 44.7	+1.2
ATAL	**Atalanti**	**0.36**	**94**	P	Pg	15 12 39.2	+0.1
ATAL				S	Sg	15 12 45.0	+1.1
ATAL	**Atalanti**	**0.36**	**94**	P	Pg	15 12 39.2	+0.1
ATAL				S	Sg	15 12 45.0	+1.1
MAKR	**Makrakomi, Fth**	**0.44**	**312**	P	Pg	15 12 40.4	-0.1
MAKR				S	Sg	15 12 46.9	+0.5
MAKR	**Makrakomi, Fth**	**0.44**	**312**	P	Pg	15 12 40.4	-0.1
MAKR				S	Sg	15 12 46.9	+0.5
KALE	**Kalithea**	**0.46**	**225**	P	Pg	15 12 40.4	-0.5
KALE				S	Sg	15 12 47.0	0.0
KALE	**Kalithea**	**0.46**	**225**	P	Pg	15 12 40.4	-0.5
KALE				S	Sg	15 12 47.0	0.0
TRIZ	**Trizonia**	**0.52**	**227**	P	Pg	15 12 41.2	-0.7
TRIZ				S	Sg	15 12 48.5	-0.3
TRIZ	**Trizonia**	**0.52**	**227**	P	Pg	15 12 41.2	-0.7
TRIZ				S	Sg	15 12 48.5	-0.3
EVR	**Evrytania**	**0.62**	**289**	P	Pg	15 12 43.4	-0.4
EVR	**Evrytania**	**0.62**	**289**	ePN	Pg	15 12 43.8	0.0
EVR	**Evrytania**	**0.62**	**289**	P	Pg	15 12 43.4	-0.4
EVR	**Evrytania**	**0.62**	**289**	ePn	Pg	15 12 43.8	0.0
LAKA	**Lakka**	**0.66**	**224**	P	Pg	15 12 43.4	-0.8
LAKA				S	Sg	15 12 52.6	-0.7
LAKA	**Lakka**	**0.66**	**224**	P	Pg	15 12 43.8	-0.8
LAKA				S	Sg	15 12 52.6	-0.7
UPR	**University Cam**	**0.74**	**234**	ePN	Pg	15 12 45.6	-0.6
UPR				eSN	Sg	15 12 56.1	+0.2
UPR	**University Cam**	**0.74**	**234**	ePn	Pg	15 12 45.6	-0.6
UPR				eSn	Sg	15 12 56.1	+0.2
LTK	**Loutraki**	**0.77**	**155**	P	Pg	15 12 45.8	-0.8
LTK				S	Sb	15 12 57.8	+0.2
LTK	**Loutraki**	**0.77**	**155**	ePN	Pg	15 12 46.2	-0.4
LTK	**Loutraki**	**0.77**	**155**	P	Pg	15 12 45.8	-0.8
LTK	**Loutraki**	**0.77**	**155**	ePn	Pg	15 12 46.2	-0.4
LTK				S	Sb	15 12 57.8	+0.2
NEO	**Neokhori**	**0.78**	**41**	P	Pg	15 12 46.4	-0.5
NEO				S	Sb	15 12 57.9	-0.2
NEO	**Neokhori**	**0.78**	**41**	ePN	Pg	15 12 46.6	-0.3
NEO				eSN	Sb	15 12 58.0	-0.2
NEO	**Neokhori**	**0.78**	**41**	P	Pg	15 12 46.4	-0.5
NEO				eSn	Sb	15 12 58.0	-0.2
GUR	**Goura**	**0.80**	**192**	P	Pg	15 12 46.7	-0.5
GUR	**Goura**	**0.80**	**192**	ePN	Pg	15 12 46.8	-0.5
GUR	**Goura**	**0.80**	**192**	P	Pg	15 12 46.7	-0.5
MRKA	**Markates**	**0.81**	**91**	P	Pg	15 12 46.8	-0.6
MRKA	**Markates**	**0.81**	**91**	P	Pg	15 12 46.8	-0.6
XOR	**Xorichti**	**0.81**	**37**	P	Pg	15 12 46.9	-0.6
XOR				S	Sg	15 12 58.2	+0.1
XOR	**Xorichti**	**0.81**	**37**	P	Pg	15 12 46.9	-0.6
XOR				S	Sg	15 12 58.2	+0.1
VIL1	**Vilia, Western**	**0.82**	**132**	ePN	Pg	15 12 47.1	-0.5
VIL1	**Vilia, Western**	**0.82**	**132**	ePn	Pg	15 12 47.1	-0.5
SKIA	**Skiathos**	**0.84**	**58**	P	Pg	15 12 47.6	-0.4
SKIA				S	Sb	15 12 59.3	-0.4
SKIA	**Skiathos**	**0.84**	**58**	P	Pg	15 12 47.6	-0.4
SKIA				S	Sb	15 12 59.3	-0.4
THL	**Klokotos Trika**	**0.94**	**334**	P	Pg	15 12 49.3	-0.7
THL	**Klokotos Trika**	**0.94**	**334**	ePN	Pg	15 12 49.4	-0.6
THL				eSN	Sb	15 13 02.5	-0.2
THL	**Klokotos Trika**	**0.94**	**334**	P	Pg	15 12 49.3	-0.7
THL				eSn	Sb	15 13 02.5	-0.2
RLS	**Riolos of Patr**	**1.08**	**233**	P	Pg	15 12 52.0	-0.6
RLS				S	Sb	15 13 07.3	+0.6
RLS	**Riolos of Patr**	**1.08**	**233**	ePN	Pg	15 12 52.3	-0.3
RLS				eSN	Sn	15 13 08.5	+0.6
RLS	**Riolos of Patr**	**1.08**	**233**	P	Pg	15 12 52.0	-0.6
RLS	**Riolos of Patr**	**1.08**	**233**	ePn	Pg	15 12 52.3	-0.3
RLS				S	Sb	15 13 07.3	+0.6
RLS				eSn	Sn	15 13 08.5	+0.6
AOS	**Alonnisos**	**1.12**	**66**	P	Pg	15 12 52.5	-0.9
AOS				S	Sg	15 13 07.6	-0.5
AOS	**Alonnisos**	**1.12**	**66**	P	Pg	15 12 52.5	-0.9
AOS				S	Sg	15 13 07.6	-0.5
ATH	**Athens Observa**	**1.18**	**129**	P	Pb	15 12 53.8	-0.4
ATH				S	Sb	15 13 10.2	+0.7
ATH	**Athens Observa**	**1.18**	**129**	ePN	Pb	15 12 53.9	-0.3
ATH				eSN	Sn	15 13 10.8	+0.5
ATH	**Athens Observa**	**1.18**	**129**	P	Pb	15 12 53.8	-0.4
ATH				S	Sb	15 13 10.2	+0.7
ATH				eSn	Sn	15 13 10.8	+0.5
NAIG	**Nisos Aigina**	**1.21**	**142**	ePN	Pb	15 12 54.7	0.0
NAIG	**Nisos Aigina**	**1.21**	**142**	ePn	Pb	15 12 54.7	0.0
PTL	**Penteli**	**1.23**	**123**	P	Pn	15 12 54.7	-0.3
PTL	**Penteli**	**1.23**	**123**	ePN	Pn	15 12 55.1	+0.1
PTL				eSN	Sg	15 13 11.7	+0.4
PTL	**Penteli**	**1.23**	**123**	P	Pn	15 12 54.7	-0.3
PTL	**Penteli**	**1.23**	**123**	ePn	Pn	15 12 55.1	+0.1
PTL				eSn	Sg	15 13 11.7	+0.4
VLY	**Voula,Athens**	**1.30**	**131**	P	Pn	15 12 55.6	-0.4
VLY	**Voula,Athens**	**1.30**	**131**	ePN	Pn	15 12 55.7	-0.3
VLY	**Voula,Athens**	**1.30**	**131**	ePn	Pn	15 12 55.7	-0.3
VLX	**Vlachokerasia**	**1.35**	**186**	P	Pn	15 12 56.6	-0.2
VLX	**Vlachokerasia**	**1.35**	**186**	ePN	Pn	15 12 56.8	0.0
VLX				eSN	Sg	15 13 15.7	+0.3
VLX	**Vlachokerasia**	**1.35**	**186**	P	Pn	15 12 56.6	-0.2
VLX				eSn	Sg	15 13 15.7	+0.3
MEV	**Metsovon**	**1.48**	**316**	P	Pb	15 12 59.0	-0.5
MEV	**Metsovon**	**1.48**	**316**	P	Pb	15 12 59.0	-0.5
PAIG	**Paliouri**	**1.49**	**35**	P	Pn	15 12 57.6	-0.9
PAIG				S	Sg	15 13 20.4	+0.7
PAIG	**Paliouri**	**1.49**	**35**	P	Pn	15 12 57.6	-0.9
PAIG				S	Sg	15 13 20.4	+0.7
ITM	**Ithomi**	**1.62**	**198**	P	Pn	15 13 01.0	+0.7
ITM	**Ithomi**	**1.62**	**198**	ePN	Pb	15 13 01.2	-0.5
ITM	**Ithomi**	**1.62**	**198**	P	Pn	15 13 01.0	+0.7
JAN	**Janina**	**1.62**	**306**	ePN	Pb	15 13 01.9	+0.1
JAN	**Janina**	**1.62**	**306**	ePn	Pb	15 13 01.9	+0.1
VLS	**Valsamata**	**1.64**	**251**	ePN	Pb	15 13 02.4	+0.4
VLS	**Valsamata**	**1.64**	**251**	ePn	Pb	15 13 02.4	+0.4
KZN	**Kozani**	**1.70**	**339**	P	Pn	15 13 01.6	+0.1
KZN	**Kozani**	**1.70**	**339**	ePN	Pb	15 13 02.5	-0.6
KZN	**Kozani**	**1.70**	**339**	P	Pn	15 13 01.6	+0.1
KZN	**Kozani**	**1.70**	**339**	ePn	Pb	15 13 02.5	-0.6
PLG	**Polygyros**	**1.79**	**22**	P	Pn	15 13 01.7	-1.0
PLG	**Polygyros**	**1.79**	**22**	ePB	Pn	15 13 01.9	-0.8
PLG				eSN	Sn	15 13 23.9	-1.6
PLG	**Polygyros**	**1.79**	**22**	P	Pn	15 13 01.7	-1.0
PLG				eSn	Sn	15 13 23.9	-1.6
HORT	**Hortiatis**	**1.92**	**12**	P	Pn	15 13 04.0	-0.6
HORT	**Hortiatis**	**1.92**	**12**	P	Pn	15 13 04.0	-0.6
PYL	**PYLOS**	**1.93**	**200**	ePN	Pb	15 13 06.3	-0.8
PYL	**PYLOS**	**1.93**	**200**	ePn	Pb	15 13 06.3	-0.8
OUR	**Ouranopolis**	**1.95**	**34**	P	Pn	15 13 04.3	-0.6
OUR	**Ouranopolis**	**1.95**	**34**	P	Pn	15 13 04.3	-0.6
VLI	**Veliai**	**2.02**	**171**	P	Pn	15 13 05.4	-0.5
VLI	**Veliai**	**2.02**	**171**	ePB	Pn	15 13 05.6	-0.3
VLI	**Veliai**	**2.02**	**171**	P	Pn	15 13 05.4	-0.5
NEST	**Nestorio**	**2.06**	**326**	P	Pn	15 13 07.4	+1.0
NEST	**Nestorio**	**2.06**	**326**	P	Pn	15 13 07.4	+1.0
SOH	**Sokhos**	**2.19**	**16**	P	Pn	15 13 08.6	+0.3
SOH	**Sokhos**	**2.19**	**16**	ePN	Pn	15 13 08.5	+0.3
SOH				eSN	Sn	15 13 36.3	+1.0
SOH	**Sokhos**	**2.19**	**16**	ePn	Pn	15 13 08.5	+0.3
SOH				eSn	Sn	15 13 36.3	+1.0
GRG	**Griva**	**2.24**	**357**	P	Pn	15 13 08.8	-0.1
GRG	**Griva**	**2.24**	**357**	P	Pn	15 13 08.8	-0.1
FNA	**Florina**	**2.25**	**337**	P	Pn	15 13 09.7	+0.6
FNA	**Florina**	**2.25**	**337**	P	Pn	15 13 09.7	+0.6
KEK	**Kerkira**	**2.36**	**296**	ePN	Pn	15 13 10.7	+0.1
KEK	**Kerkira**	**2.36**	**296**	ePn	Pn	15 13 10.7	+0.1
KNT	**Kendrikon**	**2.45**	**6**	P	Pn	15 13 12.0	+0.2
KNT	**Kendrikon**	**2.45**	**6**	P	Pn	15 13 12.0	+0.2
KYTH	**Kithira**	**2.46**	**171**	P	Pn	15 13 12.4	+0.4
KYTH	**Kithira**	**2.46**	**171**	ePN	Pn	15 13 12.5	+0.4
KYTH	**Kithira**	**2.46**	**171**	P	Pn	15 13 12.4	+0.4
BIA	**Bitola**	**2.48**	**338**	ePn	Pb	15 13 16.2	-0.3
BIA	**Bitola**	**2.48**	**338**	ePn	Pb	15 13 16.2	-0.3
SRS	**Serrai**	**2.52**	**18**	P	Pn	15 13 12.5	-0.3
SRS	**Serrai**	**2.52**	**18**	P	Pn	15 13 12.5	-0.3
VAY	**Valandovo**	**2.60**	**0**	ePn	Pn	15 13 09.9	-3.9
VAY	**Valandovo**	**2.60**	**0**	ePn	Pn	15

CACH	**El Canelo**	**1.96**	**147**	*i*P	Pn	15 36 21.7	+1.5
CACH				*i*S	Sb	15 36 48.0	+0.3
LMEL	**Las Melosas**	**1.97**	**134**	*e*P	Pn	15 36 21.7	+1.4
LMEL				*i*S	Sb	15 36 47.3	-0.6
TLL	**Tololo Astrono**	**2.48**	**22**	*e*P	Pn	15 36 27.9	+0.4
TLL				*i*S	Sb	15 37 03.5	+0.7

*ISCJB **08** 15:43:55.8±0.4,38°.01N±0°.03×22°.56E±0°.03,h20km±4km, Error ellipse: s-maj=4.4km s-min=4.1km az=39.8*
*ATH **08** 15:43:55.7,37°.99N×22°.55E,h18km±2km, MD2.8/9*
*CSEM **08** 15:43:55.8±0.2,37°.99N×22°.54E,h20km, MD2.8, Error ellipse: s-maj=4.7km s-min=4.1km az=64.0*
*THE **08** 15:43:56.4,38°.02N×22°.55E,h9km±4km, ML2.2/3, Error ellipse: s-maj=4.4km s-min=0.7km az=247.0*
ISC 08 15:43:55.8±0.9,**38°.00N**±0°.02×**22°.55E**±0°.02,**h18**km±3km, **n36**,σ0°**38**/63,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUR	**Goura**	**0.17**	**248**	P	**Pg**	**15 44 00.5**	**+0.1**
GUR				S	**Sb**	**15 44 03.2**	**+0.1**
GUR	**Goura**	**0.17**	**248**	*e*PB	**Pg**	**15 44 00.5**	**+0.1**
GUR				*e*SB	**Sb**	**15 44 03.2**	**+0.1**
GUR	**Goura**	**0.17**	**248**	*e*Pb	**Pg**	**15 44 00.5**	**+0.1**
GUR				S	**Sb**	**15 44 03.2**	**+0.1**
LTK	**Loutraki**	**0.33**	**86**	P	**Pg**	**15 44 03.0**	**+0.1**
LTK	**Loutraki**	**0.33**	**86**	*e*PB	**Pg**	**15 44 03.0**	**+0.1**
LTK				*e*SB	**Sb**	**15 44 08.1**	**-0.2**
LTK	**Loutraki**	**0.33**	**86**	P	**Pg**	**15 44 03.0**	**+0.1**
LTK				*e*Sb	**Sb**	**15 44 08.1**	**-0.2**
DSF	**Desfina**	**0.41**	**358**	P	**Pg**	**15 44 04.1**	**-0.2**
DSF				S	**Sg**	**15 44 10.1**	**+0.1**
DESF	**Desfina**	**0.41**	**359**	P	**Pg**	**15 44 03.2**	**-1.1**
DESF				S	**Sg**	**15 44 09.3**	**-0.8**
KALE	**Kalithea**	**0.50**	**321**	P	**Pg**	**15 44 06.1**	**+0.1**
KALE				S	**Sg**	**15 44 12.9**	**+0.1**
KALE	**Kalithea**	**0.50**	**321**	P	**Pg**	**15 44 06.1**	**+0.1**
KALE				S	**Sg**	**15 44 12.9**	**+0.1**
LAKA	**Lakka**	**0.51**	**298**	P	**Pb**	**15 44 06.3**	**+0.1**
LAKA				S	**Sg**	**15 44 13.0**	**+0.1**
LAKA	**Lakka**	**0.51**	**298**	P	**Pb**	**15 44 06.3**	**+0.1**
LAKA				S	**Sg**	**15 44 13.0**	**+0.1**
TRIZ	**Trizonia**	**0.52**	**315**	P	**Pg**	**15 44 06.3**	**0.0**
TRIZ				S	**Sg**	**15 44 13.5**	**+0.2**
TRIZ	**Trizonia**	**0.52**	**315**	P	**Pg**	**15 44 06.3**	**0.0**
TRIZ				S	**Sg**	**15 44 13.5**	**+0.2**
VIL1	**Vilia, Western**	**0.64**	**75**	*e*PN	**Pg**	**15 44 08.7**	**+0.2**
VIL1				*e*SN	**Sg**	**15 44 18.1**	**+1.1**
VIL1	**Vilia, Western**	**0.64**	**75**	*e*Pn	**Pg**	**15 44 08.7**	**+0.2**
VIL1				*e*Sn	**Sg**	**15 44 18.1**	**+1.1**
VLX	**Vlachokerasia**	**0.64**	**192**	P	**Pg**	**15 44 08.6**	**0.0**
VLX	**Vlachokerasia**	**0.64**	**192**	*e*PN	**Pg**	**15 44 08.6**	**0.0**
VLX				*e*SN	**Sb**	**15 44 17.0**	**-0.2**
VLX	**Vlachokerasia**	**0.64**	**192**	P	**Pg**	**15 44 08.6**	**0.0**
VLX				*e*Sn	**Sb**	**15 44 17.0**	**-0.2**
LKR	**Lokris**	**0.74**	**29**	P	**Pb**	**15 44 09.7**	**-0.5**
LKR	**Lokris**	**0.74**	**29**	*e*PB	**Pb**	**15 44 09.7**	**-0.5**
LKR				*e*SN	**Sg**	**15 44 21.0**	**+0.8**
LKR	**Lokris**	**0.74**	**29**	*e*Pb	**Pb**	**15 44 09.7**	**-0.5**
LKR				*e*Sn	**Sg**	**15 44 21.0**	**+0.8**
NAIG	**Nisos Aigina**	**0.79**	**108**	*e*PN	**Pg**	**15 44 11.3**	**+0.1**
NAIG	**Nisos Aigina**	**0.79**	**108**	*e*Pn	**Pg**	**15 44 11.3**	**+0.1**
RLS	**Riolos of Patr**	**0.85**	**274**	*e*PN	**Pn**	**15 44 13.1**	**+0.2**
RLS				*e*SN	**Sn**	**15 44 24.9**	**-0.1**
RLS	**Riolos of Patr**	**0.85**	**274**	*e*Pn	**Pn**	**15 44 13.1**	**+0.2**
RLS				*e*Sn	**Sn**	**15 44 24.9**	**-0.1**
VLY	**Voula,Athens**	**1.00**	**98**	*e*PN	**Pg**	**15 44 15.1**	**-0.1**
VLY				*e*SN	**Sn**	**15 44 28.4**	**-0.2**
VLY	**Voula,Athens**	**1.00**	**98**	*e*Pn	**Pg**	**15 44 15.1**	**-0.1**
VLY				*e*Sn	**Sn**	**15 44 28.4**	**-0.2**
AGG	**Agios Georgios**	**1.03**	**351**	*e*PN	**Pb**	**15 44 15.1**	**-0.1**
AGG				*e*SN	**Sn**	**15 44 29.5**	**0.0**
AGG	**Agios Georgios**	**1.03**	**351**	*e*Pn	**Pb**	**15 44 15.1**	**-0.1**
AGG				*e*Sn	**Sn**	**15 44 29.5**	**0.0**
EVR	**Evrytania**	**1.08**	**328**	*e*PN	**Pb**	**15 44 16.2**	**+0.1**
EVR	**Evrytania**	**1.08**	**328**	*e*Pn	**Pb**	**15 44 16.2**	**+0.1**
PYL	**PYLOS**	**1.27**	**210**	*e*PN	**Pb**	**15 44 19.0**	**-0.3**
PYL	**PYLOS**	**1.27**	**210**	*e*Pn	**Pb**	**15 44 19.0**	**-0.3**
VLI	**Veliai**	**1.32**	**166**	*e*PN	**Pb**	**15 44 19.9**	**-0.1**
VLI				*e*SN	**Sg**	**15 44 37.7**	**-0.8**
VLI	**Veliai**	**1.32**	**166**	*e*Pn	**Pb**	**15 44 19.9**	**-0.1**
VLI				*e*Sn	**Sg**	**15 44 37.7**	**-0.8**

*HLW **08** 15:43:57.3,38°.12N×27°.59E,h32km±15km, Md0.0, MI3.9*
*NEIC **08** 15:43:57.0,37°.80N×27°.51E,h13km, ML4.1(ISK), After ISK.*
*MOS **08** 15:43:57.8±1.3,38°.06N×27°.47E,h10km,mb4.4/12, Error ellipse: s-maj=13.3km s-min=7.7km az=75.0*
*IDC **08** 15:43:57.3±0.6,37°.80N×27°.56E,h0km,mb4.1/16, mb1 4.2/21,mb1mx4.1/30,mbtmp4.1/21,ML3.5/4,MS3.2/9, Ms1 3.2/9,ms1mx2.9/49, Error ellipse: s-maj=16.4km s-min=13.9km az=152.0*
*ISK **08** 15:43:58.2,37°.85N×27°.61E,h8km,ML4.2*
*THE **08** 15:43:58.9,37°.83N×27°.56E,h0km±1km,ML4.1/3, Error ellipse: s-maj=2.3km s-min=0.8km az=70.0*
*ISCJB **08** 15:43:58.1±0.4,37°.82N±0°.02×27°.59E±0°.02,h10km±3km, mb4.1/21,MS3.4/5, Error ellipse: s-maj=2.7km s-min=2.4km az=19.0*
*CSEM **08** 15:43:58.4±0.1,37°.80N×27°.57E,h5km,mb4.2/13, Error ellipse: s-maj=2.7km s-min=2.1km az=47.0*
*DDA **08** 15:43:58.4,37°.86N×27°.59E,h7km,ML4.1*
*ATH **08** 15:44:00.4,37°.85N×27°.42E,h39km±4km, MD3.9/21*
ISC 08 15:43:58.3±1.0,**37°.81N**±0°.02×**27°.58E**±0°.02,**h6**km±7km, **n362**,σ1°**09**/372,**mb4.2**/21,**MS3.3**/5,**16C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.30**	**249**	*i* Pg	**Pg**	**15 44 04.8**	**+0.7**
GCAM				*i* Sg	**Sg**	**15 44 08.5**	**+0.5**
SMG	**Samos**	**0.60**	**261**	*e*PB	**Pg**	**15 44 10.7**	**+0.8**
SMG				*e*SB	**Sb**	**15 44 20.0**	**0.0**
SMG	**Samos**	**0.60**	**261**	*e*Pb	**Pg**	**15 44 10.7**	**+0.8**
IZM	**Izmir**	**0.64**	**337**	PG	**Pg**	**15 44 10.4**	**-0.3**
IZM	**Izmir**	**0.64**	**337**	*i* Pg	**Pg**	**15 44 10.4**	**-0.3**
BLCB	**Balcova**	**0.72**	**324**	PG	**Sg**	**15 44 12.2**	**+0.1**
BLCB				*e*SG	**Sg**	**15 44 22.2**	**+0.7**
BLCB	**Balcova**	**0.72**	**324**	*i* Pg	**Pg**	**15 44 12.2**	**+0.1**
BLCB				*e*Sg	**Sg**	**15 44 22.2**	**+0.7**
BODT	**Bodrum**	**0.78**	**196**	*e*PG	**Pg**	**15 44 13.9**	**+0.7**
BODT				*e*SG	**Sb**	**15 44 26.1**	**+1.1**
BODT	**Bodrum**	**0.78**	**196**	*e*Pg	**Pg**	**15 44 13.9**	**+0.7**
BODT				*e*Sg	**Sb**	**15 44 26.1**	**+1.1**
YER	**Yerkesik**	**0.87**	**140**	*e*PG	**Pg**	**15 44 15.9**	**+0.8**
YER	**Yerkesik**	**0.87**	**140**	*e*Pg	**Pg**	**15 44 15.9**	**+0.8**
URLA	**Izmir**	**0.95**	**306**	*i* P	**Pg**	**15 44 16.9**	**+0.3**
URLA				*i* S	**Sg**	**15 44 29.8**	**+0.7**
URLA	**Izmir**	**0.95**	**306**	*i* P	**Pg**	**15 44 16.9**	**+0.3**
URLA				*i* S	**Sg**	**15 44 29.8**	**+0.7**
AKHS	**Akhisar**	**1.08**	**10**	*i* P	**Pb**	**15 44 18.6**	**-0.9**
AKHS				*i* S	**Sb**	**15 44 32.9**	**-1.1**
AKHS	**Akhisar**	**1.08**	**10**	*i* P	**Pb**	**15 44 18.6**	**-0.9**
AKHS				*i* S	**Sb**	**15 44 32.9**	**-1.1**
AKS	**Akhisar**	**1.08**	**10**	*e*PG	**Pb**	**15 44 18.7**	**-0.9**
AKS	**Akhisar**	**1.08**	**10**	*e*Pg	**Pb**	**15 44 18.7**	**-0.9**
KULA	**Kula-Manisa**	**1.10**	**50**	*e*PG	**Pb**	**15 44 19.1**	**-0.8**
KULA				*e*SG	**Sb**	**15 44 33.7**	**-0.9**
KULA	**Kula-Manisa**	**1.10**	**50**	*e*Pg	**Pb**	**15 44 19.1**	**-0.8**
KULA				*e*Sg	**Sb**	**15 44 33.7**	**-0.9**
DENT	**Denizli**	**1.15**	**92**	*e*PN	**Pb**	**15 44 20.2**	**-0.4**
DENT	**Denizli**	**1.15**	**92**	*e*Pn	**Pb**	**15 44 20.2**	**-0.4**
CHOS	**Chios island**	**1.34**	**296**	P	**Pn**	**15 44 23.1**	**-0.5**
CHOS				S	**Sg**	**15 44 42.2**	**+0.9**
CHOS	**Chios island**	**1.34**	**296**	*e*PN	**Pn**	**15 44 23.2**	**-0.4**
CHOS	**Chios island**	**1.34**	**296**	P	**Pn**	**15 44 23.1**	**-0.5**
CHOS				S	**Sg**	**15 44 42.2**	**+0.9**
KHL	**Karahalli**	**1.62**	**71**	*e*PN	**Pn**	**15 44 27.5**	**0.0**
KHL	**Karahalli**	**1.62**	**71**	*e*Pn	**Pn**	**15 44 27.5**	**0.0**
ARG	**Arkhangelos**	**1.65**	**165**	P	**Pn**	**15 44 27.9**	**+0.1**
ARG				S	**Sg**	**15 44 51.3**	**+0.1**
ARG	**Arkhangelos**	**1.65**	**165**	*e*PN	**Pn**	**15 44 28.2**	**+0.4**
ARG	**Arkhangelos**	**1.65**	**165**	P	**Pn**	**15 44 27.9**	**+0.1**
ARG	**Arkhangelos**	**1.65**	**165**	*e*Pn	**Pn**	**15 44 28.2**	**+0.4**
ARG				S	**Sg**	**15 44 51.3**	**+0.1**
AYVA	**Ayvalik**	**1.65**	**335**	*i* P	**Pn**	**15 44 27.4**	**-0.5**
AYVA				*i* S	**Sg**	**15 44 51.6**	**+0.1**
AYVA	**Ayvalik**	**1.65**	**335**	*i* P	**Pn**	**15 44 27.4**	**-0.5**
AYVA				*i* S	**Sg**	**15 44 51.6**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.66**	**113**	*e*PN	**Pn**	**15 44 28.5**	**+0.5**
GLHS	**Glhisar (BURDU**	**1.66**	**113**	*e*Pn	**Pn**	**15 44 28.5**	**+0.5**
FETY	**Fethiye**	**1.67**	**134**	*e*PN	**Pn**	**15 44 28.7**	**+0.5**
FETY	**Fethiye**	**1.67**	**134**	*e*Pn	**Pn**	**15 44 28.7**	**+0.5**
PRK	**Paraskevi**	**1.77**	**325**	P	**Pn**	**15 44 29.1**	**-0.4**
PRK				S	**Sn**	**15 44 52.5**	**+0.2**
PRK	**Paraskevi**	**1.77**	**325**	*e*PB	**Pn**	**15 44 29.0**	**-0.4**
PRK	**Paraskevi**	**1.77**	**325**	P	**Pn**	**15 44 29.1**	**-0.4**
PRK				S	**Sn**	**15 44 52.5**	**+0.2**
APE	**Apeiranthos**	**1.79**	**246**	*e*PN	**Pn**	**15 44 30.8**	**+1.0**
APE	**Apeiranthos**	**1.79**	**246**	*i*P	**Pg**	**15 44 32.7**	**0.0**
APE	**Apeiranthos**	**1.79**	**246**	P	**Pn**	**15 44 29.2**	**-0.7**
APE	**Apeiranthos**	**1.79**	**246**	*e*PN	**Pn**	**15 44 29.4**	**-0.5**
APE	**Apeiranthos**	**1.79**	**246**	*i*P	**Pg**	**15 44 32.7**	**0.0**
APE	**Apeiranthos**	**1.79**	**246**	*e*Pn	**Pn**	**15 44 29.4**	**-0.5**
BALB	**Balikesir**	**1.84**	**7**	*e*PN	**Pn**	**15 44 30.1**	**-0.5**
BALB	**Balikesir**	**1.84**	**7**	*e*Pn	**Pn**	**15 44 30.1**	**-0.5**
ELL	**Elmali**	**2.13**	**119**	*e*PN	**Pn**	**15 44 35.7**	**+1.0**
ELL	**Elmali**	**2.13**	**119**	*e*Pn	**Pn**	**15 44 35.7**	**+1.0**
THR2	**Thira island,**	**2.19**	**232**	P	**Pn**	**15 44 34.9**	**-0.4**
THR2	**Thira island,**	**2.19**	**232**	P	**Pn**	**15 44 34.9**	**-0.4**
THR1	**Thera Island**	**2.22**	**230**	P	**Pn**	**15 44 35.4**	**-0.4**
THR1	**Thera Island**	**2.22**	**230**	P	**Pn**	**15 44 35.4**	**-0.4**
GONE	**Gonen-Balikesi**	**2.24**	**2**	*e*PN	**Pn**	**15 44 36.1**	**+0.1**
GONE	**Gonen-Balikesi**	**2.24**	**2**	*e*Pn	**Pn**	**15 44 36.1**	**+0.1**
EZN	**Ezine**	**2.24**	**334**	*e*PN	**Pn**	**15 44 36.1**	**+0.1**
EZN	**Ezine**	**2.24**	**334**	*e*Pn	**Pn**	**15 44 36.1**	**+0.1**
KARP	**Karpathos**	**2.28**	**189**	P	**Pn**	**15 44 36.3**	**-0.3**
KARP				S	**Sb**	**15 45 07.3**	**-1.1**
KARP	**Karpathos**	**2.28**	**189**	*e*PN	**Pn**	**15 44 36.5**	**-0.1**
KARP	**Karpathos**	**2.28**	**189**	*e*Pn	**Pn**	**15 44 36.5**	**-0.1**
KARP				S	**Sb**	**15 45 07.3**	**-1.1**
KSL	**Kastellorizon**	**2.30**	**135**	*e*PN	**Pb**	**15 44 40.0**	**-0.3**
ALT	**Altintas**	**2.34**	**57**	*e*PN	**Pn**	**15 44 37.4**	**-0.1**
ALT	**Altintas**	**2.34**	**57**	*e*Pn	**Pn**	**15 44 37.4**	**-0.1**
BCK	**Bucak**	**2.41**	**97**	*e*PN	**Pn**	**15 44 38.8**	**+0.4**
BCK	**Bucak**	**2.41**	**97**	*e*Pn	**Pn**	**15 44 38.8**	**+0.4**
SHUT	**Suhut-Afyon**	**2.46**	**71**	*e*PN	**Pn**	**15 44 39.2**	**+0.2**
SHUT	**Suhut-Afyon**	**2.46**	**71**	*e*Pn	**Pn**	**15 44 39.2**	**+0.2**
KCTX	**Karacabey (Bur**	**2.53**	**14**	*e*PN	**Pn**	**15 44 39.5**	**-0.5**
KCTX	**Karacabey (Bur**	**2.53**	**14**	*e*Pn	**Pn**	**15 44 39.5**	**-0.5**
EDC	**Edincik**	**2.54**	**5**	*e*PN	**Pn**	**15 44 39.6**	**-0.6**
EDC	**Edincik**	**2.54**	**5**	*e*Pn	**Pn**	**15 44 39.6**	**-0.6**
BNT	**Bandirma**	**2.56**	**6**	*e*PN	**Pn**	**15 44 39.6**	**-0.8**
BNT	**Bandirma**	**2.56**	**6**	*e*Pn	**Pn**	**15 44 39.6**	**-0.8**
KRBG	**Karabiga-Canak**	**2.59**	**355**	*e*PN	**Pn**	**15 44 41.2**	**+0.4**
KRBG	**Karabiga-Canak**	**2.59**	**355**	*e*Pn	**Pn**	**15 44 41.2**	**+0.4**
ANTB	**Antalya**	**2.61**	**109**	*e*PN	**Pn**	**15 44 41.8**	**+0.8**
ANTB	**Antalya**	**2.61**	**109**	*e*Pn	**Pn**	**15 44 41.8**	**+0.8**
LPK	**Lapseki**	**2.64**	**346**	*e*PN	**Pn**	**15 44 41.7**	**+0.2**
LPK	**Lapseki**	**2.64**	**346**	*e*Pn	**Pn**	**15 44 41.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.73**	**342**	*e*PN	**Pn**	**15 44 43.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.73**	**342**	*e*Pn	**Pn**	**15 44 43.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.75**	**21**	*e*PN	**Pn**	**15 44 43.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.75**	**21**	*e*Pn	**Pn**	**15 44 43.3**	**+0.3**
LIA	**Limnos Island**	**2.81**	**319**	P	**Pn**	**15 44 43.9**	**+0.2**
LIA	**Limnos Island**	**2.81**	**319**	*e*PN	**Pn**	**15 44 43.5**	**-0.2**
LIA	**Limnos Island**	**2.81**	**319**	*e*Pn	**Pn**	**15 44 43.5**	**-0.2**
LIA	**Limnos Island**	**2.81**	**319**	P	**Pn**	**15 44 43.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.89**	**354**	*e*PN	**Pn**	**15 44 45.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.89**	**354**	*e*Pn	**Pn**	**15 44 45.1**	**+0.1**
ZKR	**Zakros**	**2.90**	**203**	P	**Pn**	**15 44 46.1**	**+1.0**
ZKR	**Zakros**	**2.90**	**203**	*e*PN	**Pn**	**15 44 46.3**	**+1.2**
ZKR	**Zakros**	**2.90**	**203**	P	**Pn**	**15 44 46.1**	**+1.0**
PTL	**Penteli**	**2.95**	**276**	*e*PN	**Pn**	**15 44 45.4**	**-0.4**
PTL	**Penteli**	**2.95**	**276**	*e*Pn	**Pn**	**15 44 45.4**	**-0.4**
CAVI	**Cavuskoy**	**2.97**	**36**	*e*PN	**Pn**	**15 44 46.4**	**+0.4**
CAVI	**Cavuskoy**	**2.97**	**36**	*e*Pn	**Pn**	**15 44 46.4**	**+0.4**
ERIK	**Erikli-Kesan**	**2.98**	**344**	*e*PN	**Pn**	**15 44 46.6**	**+0.5**
ERIK	**Erikli-Kesan**	**2.98**	**344**	*e*Pn	**Pn**	**15 44 46.6**	**+0.5**
NPS	**Neapolis**	**3.00**	**213**	*e*PN	**Pn**	**15 44 46.5**	**+0.1**
NPS	**Neapolis**	**3.00**	**213**	*e*Pn	**Pn**	**15 44 46.5**	**+0.1**
VLY	**Voula,Athens**	**3.00**	**272**	*e*PN	**Pn**	**15 44 46.5**	**+0.1**
VLY	**Voula,Athens**	**3.00**	**272**	*e*Pn	**Pn**	**15 44 46.5**	**+0.1**
ESKT	**Eskisehir**	**3.08**	**55**	*e*PN	**Pn**	**15 44 47.9**	**+0.3**
ESKT	**Eskisehir**	**3.08**	**55**	*e*Pn	**Pn**	**15 44 47.9**	**+0.3**
ADVT	**Abdulvahap**	**3.11**	**32**	*e*PN	**Pn**	**15 44 48.3**	**+0.3**
ADVT	**Abdulvahap**	**3.11**	**32**	*e*Pn	**Pn**	**15 44 48.3**	**+0.3**
ENEZ	**Enez**	**3.13**	**340**	*e*PN	**Pn**	**15 44 49.0**	**+0.9**
TKR	**Tekirdag**	**3.18**	**359**	*e*PN	**Pn**	**15 44 49.5**	**+0.6**
TKR	**Tekirdag**	**3.18**	**359**	*e*Pn	**Pn**	**15 44 49.5**	**+0.6**
ALN	**Alexandroupoli**	**3.31**	**339**	P	**Pn**	**15 44 50.0**	**-0.6**
ALN	**Alexandroupoli**	**3.31**	**339**	*e*PN	**Pn**	**15 44 50.3**	**-0.3**
ALN	**Alexandroupoli**	**3.31**	**339**	*e*Pn	**Pn**	**15 44 50.3**	**-0.3**
IDI	**Anoyia**	**3.32**	**222**	P	**Pn**	**15 44 50.9**	**0.0**
IDI	**Anoyia**	**3.32**	**222**	*e*PN	**Pn**	**15 44 51.0**	**0.0**
IDI	**Anoyia**	**3.32**	**222**	P	**Pn**	**15 44 50.9**	**0.0**
VIL1	**Vilia, Western**	**3.38**	**277**	*e*PN	**Pn**	**15 44 51.0**	**-0.7**
VIL1	**Vilia, Western**	**3.38**	**277**	*e*Pn	**Pn**	**15 44 51.0**	**-0.7**
HRT	**Hereke**	**3.42**	**28**	*e*PN	**Pn**	**15 44 53.0**	**+0.8**
HRT	**Hereke**	**3.42**	**28**	*e*Pn	**Pn**	**15 44 53.0**	**+0.8**
ISK	**Istanbul-Kandi**	**3.45**	**19**	*e*PN	**Pn**	**15 44 53.1**	**+0.5**
ISK	**Istanbul-Kandi**	**3.45**	**19**	*e*Pn	**Pn**	**15 44 53.1**	**+0.5**
SLVT	**Silivri**	**3.45**	**8**	*e*PN	**Pn**	**15 44 53.2**	**+0.6**
SLVT	**Silivri**	**3.45**	**8**	*e*Pn	**Pn**	**15 44 53.2**	**+0.6**
GULT	**Gulveren**	**3.47**	**40**	*e*PN	**Pn**	**15 44 53.8**	**+0.8**
GULT	**Gulveren**	**3.47**	**40**	*e*Pn	**Pn**	**15 44 53.8**	**+0.8**
BGKT	**Bogazkoy**	**3.49**	**15**	*e*PN	**Pn**	**15 44 53.9**	**+0.7**
BGKT	**Bogazkoy**	**3.49**	**15**	*e*Pn	**Pn**	**15 44 53.9**	**+0.7**
SVRH	**Sivrihisar-ESK**	**3.49**	**61**	*e*PN	**Pn**	**15 44 54.2**	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.49**	**61**	*e*Pn	**Pn**	**15 44 54.2**	**+0.9**
CTKS	**Kestanelik-??a**	**3.50**	**11**	*e*PN	**Pn**	**15 44 54.2**	**+0.9**
CTKS	**Kestanelik-??a**	**3.50**	**11**	*e*Pn	**Pn**	**15 44 54.2**	**+0.9**
SKIA	**Skiathos**	**3.50**	**294**	P	**Pn**	**15 44 53.9**	**+0.5**
SKIA	**Skiathos**	**3.50**	**294**	P	**Pn**	**15 44 53.9**	**+0.5**
KIZT	**Kizilcal**	**3.54**	**71**	*e*PN	**Pn**	**15 44 54.8**	**+0.8**
KIZT	**Kizilcal**	**3.54**	**71**	*e*Pn	**Pn**	**15 44 54.8**	**+0.8**
SIVA	**Sivas**	**3.57**	**220**	*e*PN	**Pn**	**15 44 56.7**	**+2.4**
KLYT	**Kilyos**	**3.62**	**18**	*e*PN	**Pn**	**15 44 55.8**	**+0.8**
KLYT	**Kilyos**	**3.62**	**18**	*e*Pn	**Pn**	**15 44 55.8**	**+0.8**
VAM	**Vamos**	**3.63**	**230**	*e*PN	**Pn**	**15 44 55.1**	**+0.1**
VAM	**Vamos**	**3.63**	**230**	*e*Pn	**Pn**	**15 44 55.1**	**+0.1**
LTK	**Loutraki**	**3.66**	**275**	*e*PN	**Pn**	**15 44 55.7**	**+0.2**
LTK	**Loutraki**	**3.66**	**275**	*e*Pn	**Pn**	**15 44 55.7**	**+0.2**
RDO	**Rodhopi**	**3.69**	**335**	*e*PN	**Pn**	**15 44 55.7**	**-0.2**
RDO	**Rodhopi**	**3.69**	**335**	*e*Pn	**Pn**	**15 44 55.7**	**-0.2**
CTYL	**Yal??k??y-??at**	**3.70**	**8**	*e*PN	**Pn**	**15 44 56.5**	**+0.4**
CTYL	**Yal??k??y-??at**	**3.70**	**8**	*e*Pn	**Pn**	**15 44 56.5**	**+0.4**
NEO	**Neokhori**	**3.73**	**295**	*e*PN	**Pn**	**15 44 56.7**	**+0.2**
NEO	**Neokhori**	**3.73**	**295**	*e*Pn	**Pn**	**15 44 56.7**	**+0.2**
OUR	**Ouranopolis**	**3.77**	**313**	P	**Pn**	**15 44 57.7**	**+0.7**
OUR	**Ouranopolis**	**3.77**	**313**	P	**Pn**	**15 44 57.7**	**+0.7**
KONT	**Konya--Tatoy**	**3.78**	**86**	*e*PN	**Pn**	**15 44 58.4**	**+1.2**
KONT	**Konya--Tatoy**	**3.78**	**86**	*e*Pn	**Pn**	**15 44 58.4**	**+1.2**
LADK	**Ladik-KONYA**	**3.80**	**83**	*e*PN	**Pn**	**15 44 58.1**	**+0.6**
LADK	**Ladik-KONYA**	**3.80**	**83**	*e*Pn	**Pn**	**15 44 58.1**	**+0.6**
KAVA	**Kavala**	**3.97**	**324**	P	**Pn**	**15 44 59.5**	**-0.3**
KAVA	**Kavala**	**3.97**	**324**	P	**Pn**	**15 44 59.5**	**-0.3**
EDRB	**Edirne**	**4.09**	**351**	*e*PN	**Pn**	**15 45 02.0**	**+0.7**
PLG	**Polygyros**	**4.12**	**310**	*e*PN	**Pn**	**15 45 02.4**	**+0.6**
PLG	**Polygyros**	**4.12**	**310**	*e*Pn	**Pn**	**15 45 02.4**	**+0.6**
GUR	**Goura**	**4.15**	**273**	*e*PN	**Pn**	**15 45 03.2**	**+0.9**
GUR	**Goura**	**4.15**	**273**	*e*Pn	**Pn**	**15 45 03.2**	**+0.9**
VLX	**Vlachokerasia**	**4.16**	**266**	*e*PN	**Pn**	**15 45 03.6**	**+1.2**
VLX	**Vlachokerasia**	**4.16**	**266**	*e*Pn	**Pn**	**15 45 03.6**	**+1.2**
KDZ	**Kurdzhali**	**4.18**	**337**	*i* P	**Pn**	**15 45 02.6**	**-0.1**
KDZ	**Kurdzhali**	**4.18**	**337**	*i* P	**Pn**	**15 45 02.6**	**-0.1**
AGG	**Agios Georgios**	**4.30**	**288**	*e*PN	**Pn**	**15 45 05.5**	**+1.2**
AGG	**Agios Georgios**	**4.30**	**288**	*e*Pn	**Pn**	**15 45 05.5**	**+1.2**
RZN	**Rozhen**	**4.46**	**331**	*i* P	**Pn**	**15 45 07.1**	**+0.4**
RZN	**Rozhen**	**4.46**	**331**	*i* P	**Pn**	**15 45 07.1**	**+0.4**
DIM	**Dimitrovgrad**	**4.52**	**340**	*i* P	**Pn**	**15 45 07.4**	**+0.1**
DIM	**Dimitrovgrad**	**4.52**	**340**	*i* P	**Pn**	**15 45 07.4**	**+0.1**
SRS	**Serrai**	**4.52**	**318**	P	**Pn**	**15 45 07.7**	**+0.3**
SRS	**Serrai**	**4.52**	**318**	P	**Pn**	**15 45 07.7**	**+0.3**
ITM	**Ithomi**	**4.54**	**264**	*e*PN	**Pn**	**15 45 04.7**	**-2.9**
NVR	**Nevrokopi**	**4.56**	**322**	P	**Pn**	**15 45 08.0**	**+0.1**
NVR	**Nevrokopi**	**4.56**	**322**	*e*PN	**Pn**	**15 45 08.1**	**+0.1**
NVR	**Nevrokopi**	**4.56**	**322**	P	**Pn**	**15 45 08.0**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**4.60**	**67**	*e*PN	**Pn**	**15 45 09.9**	**+1.4**
AFSR	**Af˙ar-Bala (A**	**4.60**	**67**	*e*Pn	**Pn**	**15 45 09.9**	**+1.4**
EVR	**Evrytania**	**4.67**	**285**	*e*PN	**Pn**	**15 45 09.4**	**-0.1**
EVR	**Evrytania**	**4.67**	**285**	*e*Pn	**Pn**	**15 45 09.4**	**-0.1**
THL	**Klokotos Trika**	**4.70**	**294**	*e*PN	**Pn**	**15 45 09.6**	**-0.1**
THL	**Klokotos Trika**	**4.70**	**294**	*e*Pn	**Pn**	**15 45 09.6**	**-0.1**
PYL	**PYLOS**	**4.74**	**261**	*e*PN	**Pn**	15 45 06.8	-3.6
MMB	**Musomiste**	**4.81**	**323**	*i* P	**Pn**	**15 45 11.6**	**+0.3**
MMB	**Musomiste**	**4.81**	**323**	*i* P	**Pn**	**15 45 11.6**	**+0.3**
KNT	**Kendrikon**	**4.94**	**314**	P	**Pn**	**15 45 13.9**	**+0.9**
KNT	**Kendrikon**	**4.94**	**314**	P	**Pn**	**15 45 13.9**	**+0.9**
KAMT	**Kaman**	**5.05**	**70**	*e*PN	**Pn**	**15 45 16.1**	**+1.4**
KAMT	**Kaman**	**5.05**	**70**

	comp=Z,4.0nm,0.8s							
AKTO	**Aktyubinsk**	**25.04**	**50**	P	**P**	**15 49 23.2**	**+0.1**	
AKTO	**Aktyubinsk**	**25.04**	**50**	P	**P**	**15 49 23.2**	**+0.1**	
NOA	**NORSAR Array B**	**25.43**	**341**	LR	LR	16 00 34.3		
	comp=Z,49nm,19.5s,baz=130,slow=39							
ARCES	**ARCESS Array B**	**31.81**	**359**	LR	LR	16 02 47.5		
	comp=Z,62nm,19.0s,baz=158,slow=36							
BVAR	**Borovoye Array**	**33.12**	**49**	LR	LR	16 07 52.5		
	comp=Z,33nm,18.2s,baz=128,slow=43							
TORD	**Torodi Ar. Bea**	**33.68**	**230**	P	**P**	**15 50 39.9**	**-0.4**	
	comp=Z,2.9nm,0.7s,baz=36,slow=8.7,SNR=24							
TORD	**Torodi Ar. Bea**	**33.68**	**230**	P	**P**	**15 50 39.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**33.68**	**230**	P	**P**	**15 50 39.8**	**-0.4**	
AAK	**Ala-Archa**	**35.78**	**67**	*e*P	**P**	**15 50 58.7**	**+0.3**	
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	**35.78**	**67**	*e*P	**P**	**15 50 58.7**	**+0.3**	
	comp=Z,4.0nm,1.0s							
KURK	**Kurchatov**	**38.02**	**53**	P	**P**	**15 51 16.8**	**-0.3**	
	comp=Z,1.2nm,0.6s,baz=276,slow=8.8,SNR=16							
KURK	**Kurchatov**	**38.02**	**53**	P	**P**	**15 51 16.8**	**-0.3**	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**38.02**	**53**	P	**P**	**15 51 16.8**	**-0.3**	
KURK	**Kurchatov**	**38.02**	**53**	P	**P**	**15 51 16.8**	**-0.3**	
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**40.72**	**59**	P	**P**	**15 51 39.8**	**0.0**	
	comp=Z,1.9nm,0.7s,baz=287,slow=6.0,SNR=24							
MKAR				PcP	**PcP**	**15 53 41.1**	**0.0**	
	comp=Z,0.9nm,0.9s,baz=276,slow=2.8,SNR=3.5							
MKAR	**Makanchi Array**	**40.72**	**59**	P	**P**	**15 51 39.8**	**0.0**	
MKAR						15 53 41.1		
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**40.72**	**59**	P	**P**	**15 51 39.8**	**0.0**	
MKAR				PcP	**PcP**	**15 53 41.1**	**0.0**	
MKAR	**Makanchi Array**	**40.72**	**59**	P	**P**	**15 51 39.8**	**0.0**	
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**40.72**	**59**	PcP	**PcP**	**15 53 41.1**	**0.0**	
	comp=Z,1.0nm,0.9s							
MSKU	**Masuku**	**41.34**	**201**	LR	LR	16 11 02.3		
	comp=Z,53nm,20.6s,baz=357,slow=39							
ZALV	**Zalesovo Beam**	**41.78**	**48**	P	**P**	**15 51 48.0**	**-0.3**	
	comp=Z,2.7nm,1.1s,baz=271,slow=8.9,SNR=5.4							
ZALV	**Zalesovo Beam**	**41.78**	**48**	P	**P**	**15 51 48.0**	**-0.3**	
ZALV				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ZALV	**Zalesovo Beam**	**41.78**	**48**	P	**P**	**15 51 48.0**	**-0.3**	
ZALV	**Zalesovo Beam**	**41.78**	**48**	P	**P**	**15 51 48.0**	**-0.3**	
	comp=Z,3.0nm,1.1s							
DBIC	**Dimbokro**	**42.74**	**232**	P	**P**	**15 51 56.2**	**-0.4**	
	comp=Z,3.0nm,0.8s,baz=4.9,slow=9.7,SNR=3.4							
DBIC	**Dimbokro**	**42.74**	**232**	P	**P**	**15 51 56.2**	**-0.4**	
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.8s							
DBIC	**Dimbokro**	**42.74**	**232**	P	**P**	**15 51 56.2**	**-0.4**	
DBIC	**Dimbokro**	**42.74**	**232**	P	**P**	**15 51 56.2**	**-0.4**	
	comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**56.31**	**53**	P	**P**	**15 53 40.6**	**+0.6**	
	comp=Z,1.0nm,0.8s,baz=298,slow=7.3,SNR=8.5							
SONM	**Songino Array**	**56.31**	**53**	P	**P**	**15 53 40.6**	**+0.6**	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**56.31**	**53**	P	**P**	**15 53 40.6**	**+0.6**	
SONM	**Songino Array**	**56.31**	**53**	P	**P**	**15 53 40.6**	**+0.6**	
	comp=Z,1.0nm,0.8s							
SCHQ	**Schefferville**	**62.45**	**319**	P	**P**	**15 54 21.3**	**-0.8**	
	comp=Z,7.3nm,1.0s,baz=31,slow=2.8,SNR=4.2							
SCHQ	**Schefferville**	**62.45**	**319**	P	**P**	**15 54 21.3**	**-0.8**	
SCHQ	**Schefferville**	**62.45**	**319**	P	**P**	**15 54 21.3**	**-0.8**	
CMAR	**Chiang Mai Arr**	**64.38**	**86**	P	**P**	**15 54 35.5**	**0.0**	
	comp=Z,5.4nm,0.8s,baz=300,slow=8.0,SNR=24							
CMAR	**Chiang Mai Arr**	**64.38**	**86**	P	**P**	**15 54 35.5**	**0.0**	
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**64.38**	**86**	P	**P**	**15 54 35.5**	**0.0**	
CMAR	**Chiang Mai Arr**	**64.38**	**86**	P	**P**	**15 54 35.5**	**0.0**	
	comp=Z,5.0nm,0.8s							
BOSA	**Boshof**	**66.11**	**182**	P	**P**	**15 54 47.2**	**+0.8**	
	comp=Z,2.5nm,0.7s,baz=282,slow=7.4,SNR=4.6							
BOSA	**Boshof**	**66.11**	**182**	P	**P**	**15 54 47.2**	**+0.8**	
BOSA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BOSA	**Boshof**	**66.11**	**182**	P	**P**	**15 54 47.2**	**+0.8**	
BOSA	**Boshof**	**66.11**	**182**	P	**P**	**15 54 47.2**	**+0.8**	
	comp=Z,3.0nm,0.7s							
WHN	**Wuhan**	**69.68**	**67**	P	**P**	**15 55 10.3**	**+1.3**	
BILL	**Bilibino**	**70.01**	**15**	*e*P	**P**	**15 55 10.1**	**-0.3**	
BILL				*e*S	**S**	**16 04 25.6**	**+4.7**	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
USRK	**Ussuriysk Array**	**73.61**	**47**	P	**P**	**15 55 31.9**	**-0.4**	
	comp=Z,2.2nm,0.8s,baz=246,slow=7.5,SNR=5.6							
KSAR	**Wonju Array Be**	**75.12**	**54**	P	**P**	**15 55 41.6**	**+0.3**	
KSAR	**Wonju Array Be**	**75.12**	**54**	P	**P**	**15 55 41.6**	**+0.3**	
KSAR	**Wonju Array Be**	**75.12**	**54**	P	**P**	**15 55 41.6**	**+0.3**	
KSRS	**Korea Array**	**75.14**	**54**	P	**P**	**15 55 41.6**	**+0.2**	
	comp=Z,3.1nm,0.8s,baz=290,slow=5.7,SNR=6.9							
KSRS	**Korea Array**	**75.14**	**54**	P	**P**	**15 55 41.6**	**+0.2**	
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KSRS	**Korea Array**	**75.14**	**54**	P	**P**	**15 55 41.6**	**+0.2**	
	comp=Z,3.0nm,0.8s							
YKA	**Yellowknife Ar**	**75.52**	**343**	P	**P**	**15 55 42.1**	**-1.0**	
	comp=Z,0.8nm,1.0s,baz=38,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**75.52**	**343**	P	**P**	**15 55 42.1**	**-1.0**	
YKA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**75.52**	**343**	P	**P**	**15 55 42.1**	**-1.0**	
YKA	**Yellowknife Ar**	**75.52**	**343**	P	**P**	**15 55 42.1**	**-1.0**	
	comp=Z,1.0nm,1.0s							
ILAR	**Eielson Array**	**77.66**	**358**	P	**P**	**15 55 55.6**	**+0.4**	
	comp=Z,0.6nm,0.9s,baz=19,slow=2.5,SNR=4.4							
ILAR	**Eielson Array**	**77.66**	**358**	P	**P**	**15 55 55.7**	**+0.4**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**77.66**	**358**	P	**P**	**15 55 55.6**	**+0.4**	
ILAR	**Eielson Array**	**77.66**	**358**	P	**P**	**15 55 55.7**	**+0.4**	
	comp=Z,1.0nm,0.9s							
ULM	**Lac du Bonnet**	**79.18**	**327**	LR	LR	16 27 43.2		
	comp=Z,100nm,19.9s,baz=12,slow=33							
MJAR	**Matsushiro Arr**	**82.11**	**50**	P	**P**	**15 56 20.3**	**+0.4**	
	comp=Z,2.9nm,0.8s,baz=302,slow=4.4,SNR=7.4							
MJAR	**Matsushiro Arr**	**82.11**	**50**	P	**P**	**15 56 20.3**	**+0.4**	
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MJAR	**Matsushiro Arr**	**82.11**	**50**	P	**P**	**15 56 20.3**	**+0.4**	
MJAR	**Matsushiro Arr**	**82.11**	**50**	P	**P**	**15 56 20.3**	**+0.4**	
	comp=Z,3.0nm,0.8s							
WRA	**Warramunga Arr**	**114.95**	**97**	PKP	PKPdf	16 02 39.6	-1.0	
	comp=Z,0.6nm,1.0s,baz=316,slow=2.2,SNR=3.6							
WRA	**Warramunga Arr**	**114.95**	**97**	PKIKP	PKPdf	16 02 39.6	-0.9	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**114.95**	**97**	PKP	PKPdf	16 02 39.6	-1.0	
ASAR	**Alice Springs**	**116.60**	**100**	PKhKP	PKPpre	16 02 40.6		
	comp=Z,0.5nm,0.7s,baz=285,slow=1.4,SNR=5.2							
ASAR				PKP	**PKPdf**	**16 02 42.8**	**-0.8**	
	comp=Z,0.7nm,0.9s,baz=276,slow=1.2,SNR=6.2							
ASAR	**Alice Springs**	**116.60**	**100**	PKPpre	PKPpre	16 02 40.6		
ASAR				PKP	**PKPdf**	**16 02 42.8**	**-0.8**	

*ISCJB **08** 15:49:27.9±3.0, 8°.08N±0°.08×92°.28E±0°.08, h28km±21km, mb4.1/18, MS3.6/6, Error ellipse: s-maj=15.7km s-min=9.0km az=43.3*

*IDC **08** 15:49:29.1±0.8, 7°.90N×91°.95E, h30km±4km, mb3.7/11, mb1 3.9/12, mb1mx3.7/27, mbtmp3.7/12, ML3.8/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/38, Error ellipse: s-maj=29.9km s-min=14.4km az=57.0*

*NEIC **08** 15:49:29.9±0.5, 7°.98N×92°.16E, h35km, mb4.3/5, Error ellipse: s-maj=12.8km s-min=7.8km az=58.0*

*DJA **08** 15:49:32, 7°.50N×92°.30E, h10km, mb4.5/6*

ISC 08 15:49:29.8±0.8, 8°.07N±0°.10×92°.1E±0°.1, h30km±4km, h29km:pP-P, n61, σ1°26/72, mb4.0/18, MS3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.27**	**32**	*e*Pn	**Pn**	**15 52 20.8**	**-1.8**
	4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.27**	**32**	Pn	**Pn**	**15 52 23.8**	**+1.3**
	0.2nm,0.3s,baz=233,slow=14,SNR=32						
CMAR				LR	LR	15 57 52.0	
	comp=Z,173nm,19.4s,baz=210,slow=40						
CMAR	**Chiang Mai Arr**	**12.27**	**32**	Pn	**Pn**	**15 52 23.8**	**+1.3**
CHTO	**Chiang Mai**	**12.56**	**31**	*e*Pn	**Pn**	**15 52 25.8**	**-0.8**
	2.7nm,0.7s						
HYB	**Hyderabad**	**16.16**	**306**	*i* P	**P**	**15 53 17.0**	**-0.9**
HYB				*e*S	**Sn**	**15 56 14.0**	**+0.6**
ODAN	**Odare**	**19.22**	**347**	*e*P	**Pn**	**15 53 52.9**	**0.0**
ODAN	**Odare**	**19.22**	**347**	*e*P	**Pn**	**15 53 52.9**	**0.0**
RAMN	**Ramite**	**19.49**	**345**	*e*P	**Pn**	**15 53 56.6**	**+0.4**
	18nm,0.5s						
RAMN	**Ramite**	**19.49**	**345**	*e*P	**Pn**	**15 53 56.6**	**+0.4**
	18nm,0.5s						
TAPN	**Taplejung**	**19.62**	**348**	*e*P	**Pn**	**15 53 57.9**	**+0.1**
	38nm,0.9s						
TAPN	**Taplejung**	**19.62**	**348**	*e*P	**Pn**	**15 53 57.9**	**+0.1**
	38nm,0.9s						
JIRN	**Jiri**	**20.28**	**345**	*e*P	Pn	15 54 05.0	-0.7
JIRN	**Jiri**	**20.28**	**345**	*e*P	Pn	15 54 05.0	-0.7
PKI	**Pulchoki**	**20.41**	**343**	*e*P	**P**	**15 54 06.1**	**+1.2**
PKI	**Pulchoki**	**20.41**	**343**	*e*P	**P**	**15 54 06.1**	**+1.2**
DMN	**Daman**	**20.54**	**342**	*e*P	**P**	**15 54 07.2**	**+1.0**
DMN	**Daman**	**20.54**	**342**	*e*P	**P**	**15 54 07.2**	**+1.0**
POO	**Poona**	**20.58**	**302**	*e*P	Pn	15 54 10.0	+1.1
GUN	**Gumba**	**20.60**	**344**	*e*P	**P**	**15 54 07.7**	**+0.8**
	33nm,0.6s						
GUN	**Gumba**	**20.60**	**344**	*e*P	**P**	**15 54 07.7**	**+0.8**
	33nm,0.6s						
KKN	**Kakani**	**20.65**	**343**	*e*P	**P**	**15 54 08.5**	**+1.1**
KKN	**Kakani**	**20.65**	**343**	*e*P	**P**	**15 54 08.5**	**+1.1**
GKN	**Gorkha**	**21.05**	**341**	*e*P	**P**	**15 54 12.5**	**+0.9**
	24nm,0.3s						
KOLN	**Koldanda**	**21.19**	**339**	*e*P	**P**	**15 54 13.8**	**+0.6**
	30nm,0.8s						
KOLN	**Koldanda**	**21.19**	**339**	*e*P	**P**	**15 54 13.8**	**+0.6**
	30nm,0.8s						
LSA	**Lhasa**	**21.54**	**358**	*e*P	**P**	**15 54 19.1**	**+2.0**
	29nm,1.1s						
LSA				*e*S	**S**	**15 58 09.6**	**-5.1**
DANN	**Dangsing**	**21.66**	**340**	*e*P	**P**	**15 54 19.0**	**+0.7**
DANN	**Dangsing**	**21.66**	**340**	*e*P	**P**	**15 54 19.0**	**+0.7**
DDI	**Dehra Dun**	**25.76**	**331**	*ex*	**P**	**15 55 02.5**	**+4.4**
KAPI	**Kappang**	**30.47**	**114**	LR	LR	16 09 09.7	
	comp=Z,146nm,19.5s,baz=297,slow=39						
DAV	**Davao City (W)**	**33.17**	**89**	LR	LR	16 09 51.0	
	comp=Z,97nm,19.1s,baz=207,slow=37						
AAK	**Ala-Archa**	**37.76**	**339**	*e*P	**P**	**15 56 43.6**	**+0.3**
	36nm,1.4s						
MK31	**Makanchi Array**	**39.49**	**349**	*e*P	**P**	**15 56 57.3**	**-0.3**
MKAR	**Makanchi Array**	**39.49**	**349**	P	**P**	**15 56 58.1**	**+0.4**
	0.7nm,0.7s,baz=164,slow=8.7,SNR=7.3						
MKAR				pP	**pP**	**15 57 06.6**	**+0.1**
	0.8nm,0.5s,baz=171,slow=8.4,SNR=7.9						
MKAR				LR	LR	16 15 17.5	
	comp=Z,77nm,21.6s,baz=304,slow=39						
MKAR	**Makanchi Array**	**39.49**	**349**	P	**P**	**15 56 58.1**	**+0.4**
MKAR				pP	**pP**	**15 57 06.6**	**+0.1**
KKAR	**Karatay Array**	**39.72**	**335**	*e*P	**P**	**15 56 59.7**	**+0.1**
	3.3nm,0.8s						
SONM	**Songino Array**	**41.44**	**15**	P	**P**	**15 57 14.7**	**+0.8**
	1.9nm,0.7s,baz=197,slow=8.5,SNR=19						
SONM				pP	**pP**	**15 57 23.7**	**+1.0**
	1.9nm,0.7s,baz=196,slow=7.6,SNR=3.5						
SONM				LR	LR	16 17 17.0	
	comp=Z,147nm,21.1s,baz=9.7,slow=40						
SONM	**Songino Array**	**41.44**	**15**	P	**P**	**15 57 14.7**	**+0.8**
SONM				pP	**pP**	**15 57 23.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**42.08**	**128**	P	**P**	**15 57 18.5**	**-0.8**
	1.8nm,0.7s,baz=342,slow=9.6,SNR=4.9						
FITZ	**Fitzroy Crossi**	**42.08**	**128**	P	**P**	**15 57 18.5**	**-0.8**
KURK	**Kurchatov**	**43.96**	**348**	P	**P**	**15 57 34.3**	**+0.2**
	1.4nm,0.8s,baz=167,slow=7.2,SNR=11						
KURK				pP	**pP**	**15 57 43.3**	**+0.3**
	1.7nm,0.7s,baz=172,slow=7.4,SNR=12						
KURK	**Kurchatov**	**43.96**	**348**	P	**P**	**15 57 34.3**	**+0.2**
KURK				pP	**pP**	**15 57 43.3**	**+0.3**
ZALV	**Zalesovo Beam**	**46.12**	**354**	P	**P**	**15 57 51.7**	**+0.4**
	0.5nm,0.3s,baz=176,slow=8.9,SNR=7.1						
ZALV				LR	LR	16 19 49.9	
	comp=Z,78nm,20.8s,baz=248,slow=39						
ZALV	**Zalesovo Beam**	**46.12**	**354**	P	**P**	**15 57 51.7**	**+0.4**
BVAR	**Borovoye Array**	**48.18**	**343**	P	**P**	**15 58 06.9**	**-0.5**
	0.2nm,0.3s,baz=123,slow=5.5,SNR=3.6						
BVAR	**Borovoye Array**	**48.18**	**343**	P	**P**	**15 58 06.9**	**-0.5**
ABKAR	**Akbulak array**	**49.12**	**333**	*e*P	**P**	**15 58 14.8**	**+0.2**
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**50.01**	**124**	P	**P**	**15 58 21.0**	**-0.9**
	3.5nm,0.8s,baz=305,slow=8.7,SNR=26						
WRA				PcP	**PcP**	**15 59 41.2**	**-0.4**
	0.4nm,0.5s,baz=312,slow=2.9,SNR=4.9						
WRA	**Warramunga Arr**	**50.01**	**124**	P	**P**	**15 58 21.0**	**-0.9**
WRA				PcP	**PcP**	**15 59 41.2**	**-0.4**
AS31	**Alice Springs**	**51.58**	**129**	*e*P	**P**	**15 58 32.5**	**-1.2**
ASAR	**Alice Springs**	**51.58**	**129**	P	**P**	**15 58 33.1**	**-0.5**
	1.4nm,0.7s,baz=299,slow=8.1,SNR=25						
ASAR				PcP	**PcP**	**15 59 47.8**	**+0.4**
	0.5nm,0.5s,baz=302,slow=3.4,SNR=4.9						
ASAR	**Alice Springs**	**51.58**	**129**	P	**P**	**15 58 33.1**	**-0.5**
ASAR				PcP	**PcP**	**15 59 47.8**	**+0.4**
BR131	**Keskin Array S**	**60.79**	**311**	P	**P**	**15 59 36.9**	**-2.6**
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**60.79**	**311**	P	**P**	**15 59 37.8**	**-1.7**
	0.6nm,0.9s,baz=124,slow=9.4,SNR=3.1						
BRTR				pP	**pP**	**15 59 47.2**	**-1.4**
	1.8nm,0.8s,baz=123,slow=7.4,SNR=8.6						
BRTR				LR	LR	16 28 25.7	
	comp=Z,27nm,19.5s,baz=93,slow=38						
BRTR	**Keskin Array B**	**60.79**	**311**	P	**P**	**15 59 37.8**	**-1.7**
BRTR				pP	**pP**	**15 59 47.2**	**-1.4**
GERES	**GERESS Array B**	**76.35**	**318**	P	**P**	**16 01 16.4**	**+0.1**
	0.4nm,0.5s,baz=104,slow=5.6,SNR=3.5						
GERES				pP	**pP**	**16 01 25.5**	**-0.2**
	1.7nm,0.8s,baz=108,slow=4.3,SNR=6.8						
GERES	**GERESS Array B**	**76.35**	**318**	P	**P**	**16 01 16.4**	**+0.1**
GERES				pP	**pP**	**16 01 25.5**	**-0.2**
LPG	**La Plagne**	**81.06**	**315**	*e*P	**P**	**16 01 45.1**	**+2.5**
	14nm,1.0s						
LPL	**La Plagne**	**81.08**	**315**	*e*P	**P**	**16 01 45.1**	**+2.6**
	9.1nm,0.7s						
ILAR	**Eielson Array**	**95.30**	**22**	P	**P**	**16 02 50.9**	**+0.2**
	0.3nm,0.6s,baz=311,slow=4.2,SNR=4.8						
ILAR	**Eielson Array**	**95.30**	**22**	P	**P**	**16 02 50.9**	**+0.2**

*ISCJB **08** 15:50:42.4±1.0, 32°.59S±0°.03×72°.11W±0°.06, h21km±6km, mb4.0/3, Error ellipse: s-maj=9.1km s-min=4.9km az=163.8*

*GUC **08** 15:50:43.6±0.8, 32°.61S×72°.02W, h14km±6km, MD4.1, ML3.6*

*IDC **08** 15:50:45.2±0.9, 32°.61S×71°.95W, h28km±5km, mb3.8/3, mb1 3.9/6, mb1mx3.8/14, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=34.0km s-min=30.5km az=117.0*

ISC 08 15:50:44.7±0.9, 32°.59S±0°.03×71°.95W±0°.07, h26km±6km, n28, σ0°78/46, mb4.4/3, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.51**	**149**	*i* P	**Pb**	**15 50 54.0**	**-1.1**
IHA				*i* S	**Sb**	**15 51 01.1**	**-1.1**
CHNG	**Los Chungos**	**0.80**	**29**	*i* P	**Pb**	**15 50 58.8**	**-1.1**
CHNG				*i* S	**Sb**	**15 51 10.6**	**+0.3**
CHNG				AML	AML	15 51 13.1	
	comp=E,3μm,0.7s						
ROCH	**El Roble**	**0.88**	**116**	*i* P	**Pn**	**15 51 00.5**	**-1.1**
PTCH	**Petorca**	**0.92**	**70**	*i* P	**Pn**	**15 51 01.3**	**-0.7**
PTCH				*i* S	**Sb**	**15 51 14.8**	**+0.9**
PTCH				AML	AML	15 51 18.1	
	comp=N,4μm,0.2s						
JACH	**Jahuel**	**1.15**	**95**	*i* P	**Pn**	**15 51 04.6**	**-0.6**
JACH				*e*S	**Sn**	**15 51 20.8**	**+0.6**
RCDM	**Rinconada Maip**	**1.32**	**133**	*e*P	**Pn**	**15 51 06.8**	**-0.7**
RCDM				*i* S	**Sn**	**15 51 24.4**	**+0.1**
RCDM				AML	AML	15 51 28.5	
	comp=E,2μm,0.8s						
TACH	**Talagante**	**1.36**	**142**	*i* P	**Pn**	**15 51 07.8**	**-0.3**
SAN	**Santiago**	**1.39**	**129**	*i* P	**Pn**	**15 51 08.6**	**+0.2**
SAN				*e*S	**Sb**	**15 51 27.0**	**-0.3**
SAN				AML	AML	15 51 32.0	
	comp=N,2μm,0.3s						
STL	**Santa Lucia**	**1.39**	**128**	*e*P	**Pn**	**15 51 08.2**	**-0.2**
STL				*e*S	**Sn**	**15 51 26.8**	**+0.8**
STL				AML	AML	15 51 32.9	
	comp=E,470nm,0.7s						
CLCH	**Cerro Calan**	**1.44**	**125**	⇓*i* P	**Pn**	**15 51 09.3**	**+0.1**
CLCH				*i* S	**Sb**	**15 51 28.4**	**-0.4**
CLCH				AML	AML	15 51 40.8	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.48**	**132**	*e*P	**Pn**	**15 51 10.0**	**+0.3**
ANTU				*i* S	**Sn**	**15 51 29.3**	**+1.0**
ANTU				AML	AML	15 51 35.8	
	comp=N,2μm,0.6s						
FSR	**Penalolen**	**1.49**	**127**	*e*P	**Pn**	**15 51 10.2**	**+0.3**
FSR				*e*S	**Sn**	**15 51 29.7**	**+1.1**
FSR				AML	AML	15 51 39.1	
	comp=N,568nm,0.3s						
FCH	**Farellones**	**1.58**	**118**	⇓*i* P	Pn	15 50 59.5	-12
FCH				*i* S	Sn	15 51 21.5	-10
FCH				AML	AML	15 51 24.4	
	comp=E,2μm,0.8s						
PCH	**Pirque**	**1.59**	**131**	*e*P	**Pn**	**15 51 11.6**	**+0.4**
CMCH	**Combarbala**	**1.62**	**30**	*e*P	**Pn**	**15 51 11.2**	**-0.5**
CMCH				*e*S	**Sn**	**15 51 32.6**	**+0.8**
SJCH	**San Jose de Ma**	**1.70**	**129**	*e*P	**Pn**	**15 51 12.7**	**-0.2**
SJCH				*e*S	**Sb**	**15 51 35.6**	**-0.9**
SJCH				AML	AML	15 51 40.9	
	comp=N,1μm,0.9s						
CACH	**El Canelo**	**1.90**	**144**	⇑*i* P	**Pn**	**15 51 16.5**	**+0.9**
CACH				*e*S	**Sb**	**15 51 42.5**	**+0.4**
LMEL	**Las Melosas**	**1.93**	**131**	*e*P	**Pn**	**15 51 17.1**	**+1.0**
LMEL				*i* S	**Sb**	**15 51 42.3**	**-0.7**
LMEL				AML	AML	15 51 50.2	
	comp=N,2μm,0.8s						
CFAA	**Coronel Fontan**	**3.30**	**74**	Pn	**Pn**	**15 51 36.9**	**+2.1**
	comp=N,2.0nm,0.3s,baz=252,slow=11,SNR=81						
CFAA				Sn	**Sb**	**15 52 21.0**	**-1.3**
	comp=N,1.8nm,0.3s,baz=46,slow=9.2,SNR=5.0						
PLCA	**Paso Flores**	**8.21**	**173**	Pn	**Pn**	**15 52 41.6**	**-0.6**
	comp=N,0.3nm,0.3s,baz=330,slow=11,SNR=6.9						
LPAZ	**La Paz**	**16.59**	**13**	Pn	**Pn**	**15 54 36.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=183,slow=7.9,SNR=8.8						
TXAR	**Lajitas Array**	**68.54**	**330**	P	**P**	**16 01 45.6**	**+0.5**
	comp=N,0.2nm,0.8s,baz=140,slow=7.1,SNR=2.7						
DBIC	**Dimbokro**	**74.66**	**72**	P	**P**	**16 02 21.6**	**-0.7**
	comp=N,3.6nm,0.8s,baz=198,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.66**	**70**	P	**P**	**16 03 11.2**	**-0.2**
	comp=N,2.2nm,0.8s,baz=232,slow=3.5,SNR=12						
WRA	**Warramunga Arr**	**122.03**	**209**	PKP	**PKiKP**	**16 09 38.2**	**+0.5**
	comp=N,0.2nm,0.8s,baz=159,slow=8.2,SNR=4.1						
WRA				pPKP	**pPKPdf**	**16 09 46.7**	**+0.6**
	comp=N,0.3nm,0.4s,baz=157,slow=1.8,SNR=5.4						
KURK	**Kurchatov**	**151.78**	**41**	PKPbc	**PKPbc**	**16 10 36.6**	**0.0**
	comp=N,1.1nm,0.7s,baz=302,slow=2.8,SNR=16						
KURK				pPKPbc	**PKPab**	**16 10 46.1**	**+0.5**
	comp=N,0.8nm,0.6s,baz=302,slow=2.8,SNR=9.1						
ZALV	**Zalesovo Beam**	**152.99**	**31**	PKPbc	**PKPbc**	**16 10 38.7**	**-0.5**
	comp=N,1.3nm,0.6s,baz=328,slow=3.5,SNR=7.7						
ZALV				pPKPbc	**pPKPbc**	**16 10 48.5**	**+0.7**
	comp=N,0.9nm,0.5s,baz=306,slow=3.4,SNR=5.2						
MKAR	**Makanchi Array**	**155.76**	**47**	PKPab	**PKPab**	**16 11 02.8**	**+0.1**
	comp=N,0.7nm,0.7s,baz=306,slow=3.7,SNR=9.4						
MKAR				pPKPab	**pPKPab**	**16 11 12.4**	**+1.3**
	comp=N,0.7nm,0.8s,baz=287,slow=3.9,SNR=4.0						

IDC 08 15:58:55.8±2.0, 0°.27S×132°.59E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=92.9km s-min=21.9km az=78.0, Irian Jaya region

| Code | Station Name | Δ° | AZ° | Phase ID Op

NIZ Pmax
comp=N,48nm,0.3s
NIZ Smax
comp=N,245nm,0.3s
ZRHB Zarechye 1.94 224 *e*Pg **Pg 16 09 56.0 0.0**
ZRHB *e* 16 10 01.8
ZRHB *e*Sg **Sg 16 10 21.8 +0.6**
ZRHB max
comp=N,47nm,0.3s
ZRHB Smax
comp=N,363nm,0.4s
TRG Tyrgan 2.17 237 *e*PN **Pn 16 09 56.5 +0.3**
TRG *e* 16 09 58.9
TRG *e*S **Sb 16 10 23.9 -2.5**
TRG *e* 16 10 27.3
TRG pmax pmax
comp=Z,28nm,0.2s
TRG smax smax
comp=N,441nm,0.3s
TRG Tyrgan 2.17 237 *e*Pn **Pn 16 09 56.5 +0.3**
TRG *e*Pg **Pg 16 09 59.6 -0.8**
TRG *e*Sn **Sn 16 10 23.5 -0.3**
TRG *i* Sg **Sg 16 10 27.6 -0.9**
TRG Pmax
comp=N,22nm,0.3s
TRG Smax
comp=N,440nm,0.3s
KMO Kumora 2.19 28 *e*PN **Pb 16 09 57.4 -1.7**
KMO *e* 16 10 27.8
KMO pmax pmax
comp=Z,35nm,0.4s
KMO smax smax
comp=N,170nm,1.1s
KMO Kumora 2.19 28⇑ *i*Pn **Pb 16 09 57.5 -1.7**
KMO ⇑*i*Pg **Pg 16 09 59.9 -0.8**
KMO *e* 16 10 03.7
KMO *e* 16 10 20.0
KMO *i* Sg **Sg 16 10 29.6 +0.6**
KMO max
comp=N,84nm,0.4s
KMO Smax
comp=N,169nm,0.8s
UUDB Ulan-Yde 2.35 206 *e*Pg **Pb 16 10 02.1 +0.2**
UUDB *e*Sg **Sg 16 10 34.5 +0.4**
UUDB Pmax
comp=N,14nm,0.3s
UUDB Smax
comp=N,59nm,0.4s
FFNB Fofonovo 2.49 220 *e*Pn **Pn 16 10 00.3 -0.2**
FFNB *e* 16 10 04.9
FFNB *e*Pg **Pg 16 10 05.8 -0.6**
FFNB *e*PgPg Pb 16 10 11.2 +6.9
FFNB *e* 16 10 30.0
FFNB *e*Sg **Sg 16 10 37.3 -1.3**
FFNB Pmax
comp=N,15nm,0.7s
FFNB Smax
comp=N,107nm,0.8s
KAB Kabansk 2.53 221 *e* **Pg 16 10 08.0 +0.9**
KAB *e*Sg **Sg 16 10 39.7 -0.2**
KAB Smax
comp=N,301nm,0.8s
YOA Uoyan 2.55 31 *e*Pg **Pg 16 10 06.8 -0.8**
YOA *e* 16 10 10.1
YOA *e*Sg **Sg 16 10 41.6 +0.9**
HRMR Khuramsha 2.77 213 *e*Pn **Pn 16 10 05.6 +1.3**
HRMR *e*Pg **Pb 16 10 10.2 +1.1**
HRMR *e* 16 10 17.4
HRMR *e* 16 10 36.9
HRMR *i* Sg **Sg 16 10 47.2 -0.4**
HRMR *e* 16 10 51.4
HRMR max
comp=N,52nm,0.5s
HRMR max
comp=N,334nm,0.4s
UKT Uakit 2.90 57⇑ *i*Pn **Pn 16 10 07.2 +0.9**
UKT *e*Pg **Pb 16 10 12.1 +0.7**
UKT *e* 16 10 17.1
UKT *e*Sn **Sn 16 10 43.6 +1.7**
UKT *e*Sg **Sg 16 10 51.1 -0.9**
UKT max
comp=N,7.0nm,0.4s
UKT Smax
comp=N,87nm,1.0s
CIT Chita 3.21 126 *e* **Sn 16 10 50.1 +0.8**
CIT *e*Sg **Sg 16 10 59.9 -1.8**
CIT Smax
comp=N,192nm,0.3s
SVKR Severomuysk 3.23 47 *i* Sg **Sg 16 11 02.8 +0.3**
SVKR Smax
comp=N,298nm,0.9s
LSTR Listvyanka 3.46 234 Pg **Pb 16 10 21.2 +0.4**
LSTR *e* 16 10 23.6
LSTR *e* 16 10 54.8
LSTR *e*Sg **Sb 16 11 05.9 +2.6**
LSTR Smax
comp=N,133nm,1.6s
IRK Irkutsk 3.52 242 *e* x 16 10 45.8
IRK *e*Sg **Sb 16 11 06.3 +1.2**
IRK *e* 16 11 10.9
IRK max
comp=N,240nm,0.3s
TLY Talaya 4.16 239 *e*PN **Pn 16 10 21.0 -2.4**
TLY *e* 16 10 31.4
TLY *e* 16 11 24.5
TLY pmax pmax
comp=Z,5.0nm,0.2s
TLY smax smax
comp=E,66nm,0.5s
TLY Talaya 4.16 239 *e*Pg **Pb 16 10 34.0 +1.3**
TLY *e* 16 11 24.5
TLY *e*Sg **Sg 16 11 28.6 -3.6**
TLY Pmax
comp=E,6.0nm,0.3s
TLY Smax
comp=E,58nm,0.5s
NLYR Nelyaty 4.42 53 *e*PN **Pn 16 10 26.4 -0.6**
NLYR *e* 16 10 39.0
NLYR *e* 16 11 37.2
NLYR pmax pmax
comp=Z,15nm,0.8s
NLYR smax smax
comp=N,121nm,1.1s
NLYR Nelyaty 4.42 53⇓ *i*Pn **Pn 16 10 27.7 +0.7**
NLYR *e*Pg Pb 16 10 40.3 +3.1
NLYR *e* 16 10 48.1
NLYR *e* 16 11 16.2
NLYR *e*Sg **Sg 16 11 38.9 -1.8**
NLYR *e* 16 11 42.2
NLYR max
comp=N,7.0nm,0.6s
NLYR max
comp=N,122nm,1.4s
BOD Bodaibo 4.65 32 *e*Pn **Pn 16 10 31.6 +1.4**
BOD *e* 16 10 37.0
BOD *e*Pg Pb 16 10 44.2 +3.1
BOD *e*Sn **Sn 16 11 22.7 -2.2**
BOD *e*Sg **Sg 16 11 45.1 -3.0**
BOD Pmax
comp=N,3.0nm,0.4s
BOD Smax
comp=N,34nm,0.9s
ARS Arshan 4.67 247 *e*PN **Pb 16 10 41.0 -0.5**
ARS *e* 16 11 44.9
ARS pmax pmax
comp=Z,8.0nm,0.1s
ARS smax smax
comp=E,200nm,0.6s
ARS Arshan 4.67 247 *e*Pn **Pn 16 10 28.0 -2.5**
ARS *e*Pg **Pb 16 10 41.5 0.0**
ARS *e* 16 10 48.8
ARS *e* 16 11 24.3
ARS *e*Sg **Sb 16 11 41.7 +3.5**
ARS Pmax
comp=E,8.0nm,0.1s
ARS Smax
comp=E,199nm,0.7s
KPC Khapcheranga 4.67 155 *e*PN **Pn 16 10 30.1 -0.5**
KPC *e* 16 10 44.3
KPC *e* 16 11 47.0
KPC pmax pmax
comp=Z,7.0nm,0.3s
KPC smax smax
comp=E,94nm,1.1s
KPC Khapcheranga 4.67 155⇓ *i*Pn **Pn 16 10 30.2 -0.4**
KPC *e* 16 10 37.0
KPC *e*Pg Pg 16 10 45.3 -3.0
KPC *e*Sn **Sn 16 11 21.5 -4.0**
KPC *e*Sg **Sg 16 11 46.9 -1.9**
KPC Pmax
comp=E,8.0nm,0.7s
KPC Smax
comp=E,94nm,1.0s
ZAK Zakamensk 5.19 228 *e*PG Pg 16 11 06.7 +8.6
ZAK *e* 16 11 58.9
ZAK Zakamensk 5.19 228 *e*Pn **Pn 16 10 38.6 +0.9**
ZAK *e* 16 10 45.7
ZAK *e*Pg Pb 16 10 53.6 +3.3
ZAK *e* 16 11 03.8
ZAK *e*Sg **Sg 16 12 00.5 -4.8**
ZAK *e* 16 12 02.2
ZAK max
comp=E,2.0nm,0.4s
ZAK max
comp=E,14nm,0.9s
MOY Mondy 5.57 249 *e*Pn Pn 16 10 45.1 +2.2
MOY *e*Pg **Pb 16 10 58.9 +2.0**
MOY *e* 16 11 04.8
MOY *e*Sn **Sn 16 11 47.4 -0.3**
MOY *e*Sg Sb 16 12 10.1 +5.9
MOY max
comp=E,5.0nm,0.4s
MOY Smax
comp=E,45nm,0.7s
CRS Chara 5.86 56 *e*Pn **Pn 16 10 47.2 +0.4**
CRS *e* 16 10 56.2
CRS Pg Pg 16 11 07.0 -3.9
CRS *e* 16 11 54.5
CRS *e*Sg **Sg 16 12 23.4 -3.3**
CRS Pmax
comp=E,3.0nm,0.9s
CRS Smax
comp=E,47nm,3.5s
ORL Orlik 5.91 260 *e*PN **Pn 16 10 48.3 +0.8**
ORL *e* 16 11 06.1
ORL *e* 16 12 21.7
ORL pmax pmax
comp=Z,5.0nm,0.4s
ORL smax smax
comp=N,28nm,0.6s
ORL Orlik 5.91 260⇑ *i*Pn **Pn 16 10 48.7 +1.2**
ORL *e* 16 10 56.2
ORL *e*Pg Pb 16 11 06.7 +4.1
ORL *e*Sn **Sn 16 11 54.5 -1.4**
ORL *e*Sg **Sg 16 12 23.3 -5.0**
ORL max
comp=N,5.0nm,0.5s
ORL Smax
comp=N,35nm,0.8s
TUP Tupik 6.24 82 *e*PN **Pn 16 10 52.1 +0.1**
TUP *e* 16 11 11.8
TUP *e*S **Sn 16 12 02.7 -1.3**
TUP *e* 16 12 32.4
TUP pmax pmax
comp=Z,4.0nm,0.4s
TUP smax smax
comp=N,48nm,1.0s
TUP Tupik 6.24 82 *e*Pn **Pn 16 10 52.2 +0.2**
TUP *e*Pg Pg 16 11 13.4 -4.8
TUP *i* Sg **Sg 16 12 36.3 -2.7**
TUP Pmax
comp=N,2.0nm,0.3s
TUP Smax
comp=N,51nm,1.0s
ULN Ulaanbaatar 6.29 194 *e* **Pg 16 11 20.6 +1.4**
ULN *e*Sg **Sg 16 12 37.0 -3.7**

BJI ***08*** *16:18:44.7,0.°71S×133.°21E,h14km,mB5.3/43,mb5.1/65, Ms4.9/62,Ms7 4.6/59*

ISCJB ***08*** *16:18:47.0±0.9,0.°35S±0.°02×133.°07E±0.°03,h8km±5km, mb5.3/159,MS4.8/163,Error ellipse: s-maj=4.9km s-min=3.9km az=157.0*

IDC ***08*** *16:18:47.4±0.4,0.°44S×132.°89E,h0km,mb4.7/19, mb1 4.7/20,mb1mx4.7/22,mbtmp4.7/20,ML4.6/2,MS4.6/21, Ms1 4.6/21,ms1mx4.4/37,Error ellipse: s-maj=21.8km s-min=9.2km az=84.0*

NEIC ***08*** *16:18:50.1±0.2,0.°41S×132.°93E,h18km,mb5.4/73, MS4.9/118,MW5.4,Error ellipse: s-maj=5.9km s-min=3.7km az=65.0,Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁷Nm; Mrr=0.01; Mθθ-1.47; Mϕϕ 1.48; Mrθ-0.44; Mθϕ0.66; Mϕr0.04; Best double couple: Mo1.70000×10¹⁷ NP1:ϕs56.00000°,δ81.00000°, λ-12.00000°. NP2:ϕs148.00000°,δ79.00000°, λ-171.00000°. Principal axes: T 1.6200, Plg1.0000°, Azm102.0000°; N 0.1000, Plg75.0000°, Azm199.0000°; P -1.7200, Plg14.0000°, Azm11.0000°;*

NEIC Felt [III] at Manokwari.

MOS ***08*** *16:18:51.0±0.9,0.°32S×132.°86E,h33km,mb5.4/39, MS4.7/31 Error ellipse: s-maj=11.2km s-min=5.7km az=111.5*

DJA ***08*** *16:18:52,0.°68S×132.°99E,h10km,Mw5.5/59*

ISC 08 16:18:51.0±0.3,0.°43S±0.°03×133.°00E±0.°04,h23km±1km, h23km:pP-P,n496,σ1s75/477,mb5.3/156,MS4.8/164, 20C-7D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FAKI	**Fak Fak**	**2.59**	**197**	P	**Pn**		**16 19 30.9**	**-0.6**
BAKI	**Biak**	**3.20**	**104**	P	**Pn**		**16 19 40.4**	**+0.5**
MSAI	**Masohi**	**5.00**	**234**	P	**Pn**		**16 20 06.3**	**+1.6**
TLE	**Tual**	**5.18**	**183**	P	**Pn**		**16 20 08.9**	**+1.7**
	6μm,0.9s,59μm24nm							
LBMI	**Labuha**	**5.50**	**268**	P	**Pn**		**16 20 10.7**	**-0.9**
	2μm,1.1s,26μm9.6nm							
TNTI	**Ternate**	**5.76**	**282**	P	**Pn**		**16 20 17.1**	**+2.0**
	1μm,0.9s,12μm4.4nm							
AAI	**Ambon**	**5.79**	**236**	P	**Pn**		**16 20 15.7**	**+0.1**
	4μm,0.8s,55μm14nm							
MNI	**Manado**	**8.37**	**283**	P	**Pn**		**16 20 53.5**	**+2.5**
	632nm,0.7s,6μm2.1nm							
SGSI	**Sangihe**	**8.51**	**299**	P	Pn		16 21 11.2	+18
KMSI	**Kibinong**	**9.07**	**276**	P	**Pn**		**16 21 03.2**	**+2.5**
	1μm,0.9s,16μm							
LUWI	**Luwuk**	**10.24**	**267**	P	**Pn**		**16 21 15.5**	**-1.2**
	764nm,1.4s,11μm							
DAV	**Davao City (W)**	**10.50**	**315**	Pn	**Pn**		**16 21 21.5**	**+1.3**
	8.4nm,0.3s,baz=124,slow=5.7,SNR=15							
DAV				LR	LR		16 25 42.1	
	comp=Z,5μm,18.2s,baz=148,slow=40							
DAV	**Davao City (W)**	**10.50**	**315**	*e*Pn	**Pn**		**16 21 20.3**	**0.0**
	267nm,0.8s							
DAV	**Davao City (W)**	**10.50**	**315**	P	Pn		16 21 25.7	+5.5
	410nm,1.7s,6μm							
MRSI	**Marisa**	**11.09**	**275**	P	**Pn**		**16 21 30.0**	**+1.6**
	259nm,1.2s,2μm							
BBSI	**Bau Bau**	**11.56**	**244**	P	Pn		16 21 41.4	+6.6
MMRI	**Maumere**	**13.47**	**232**	P	**P**		**16 22 08.1**	**-1.9**
SPSI	**Sidrap Palu**	**13.68**	**255**	P	**Pn**		**16 22 05.3**	**+1.6**
	342nm,1.5s,5μm							
BKSI	**Bulukumba**	**13.75**	**249**	P	**Pn**		**16 22 06.0**	**+1.4**
	181nm,1.5s,3μm							
KAPI	**Kappang**	**13.99**	**251**	Pn	**Pn**		**16 22 09.3**	**+1.3**
	3.8nm,0.3s,baz=74,slow=11,SNR=18							
KAPI	**Kappang**	**13.99**	**251**⇑	*e*Pn	**Pn**		**16 22 06.9**	**-1.1**
	249nm,1.1s							
KAPI	**Kappang**	**13.99**	**251**	P	**Pn**		**16 22 11.2**	**+3.2**
	270nm,1.2s,3μm							
MJSI	**Majene**	**14.35**	**257**	P	**P**		**16 22 17.8**	**-2.0**
	261nm,1.5s							
MYLDM	**Lahad Datu**	**15.51**	**291**	P	**P**		**16 22 30.6**	**-2.1**
MYLDM	**Lahad Datu**	**15.51**	**291**	P	**P**		**16 22 31.0**	**-1.7**
	128nm,1.8s,6μm							
WSI	**Waingapu**	**15.62**	**234**	P	P		16 22 41.7	+7.8
SMKI	**Samarinda**	**15.79**	**270**	P	**P**		**16 22 36.6**	**+0.8**
	1μm,1.2s,14μm							
TSM	**Tawau**	**15.82**	**287**	P	**Pn**		**16 22 31.5**	**-1.0**
PVCP	**Virac**	**16.46**	**328**	*e*P	**Pn**		**16 22 39.6**	**-1.1**
PVCP				*e*S	**pP**		**16 22 48.4**	**-1.0**
PMG	**Port Moresby**	**16.68**	**123**	Pn	**P**		**16 22 46.1**	**+0.4**
	1.1nm,0.3s,baz=291,slow=15,SNR=29							
PMG	**Port Moresby**	**16.68**	**123**⇑	*i*P	**P**		**16 22 45.4**	**-0.3**
PMG				pmax	pmax			
	comp=Z,870nm,1.7s							
PMG	**Port Moresby**	**16.68**	**123**⇑	*i*Pn	**P**		**16 22 45.4**	**-0.3**
	comp=Z,870nm,1.7s							
COEN	**Coen**	**16.80**	**144**	*e*Pn	**Pn**		**16 22 42.8**	**-2.2**
	comp=Z,1μm,1.2s							
COEN				*e*Sn	**Sn**		**16 25 44.4**	**-6.7**
KBKI	**Kotabaru**	**17.06**	**260**	P	**P**		**16 22 49.2**	**-0.7**
	comp=Z,191nm,1.6s,comp=Z,3μm							
AUQP	**San Andres**	**17.07**	**324**	*e*P	**P**		**16 22 54.4**	**+4.4**
AUQP				*e*S	**sP**		**16 23 01.8**	**+2.6**
KDM	**Kudat**	**17.70**	**295**	P	**P**		**16 23 01.5**	**+4.5**
KKM	**Kota Kinabalu**	**17.95**	**291**⇑	*e*Pn	**Pn**		**16 22 58.4**	**-1.0**
	comp=Z,116nm,0.9s							
KKM	**Kota Kinabalu**	**17.95**	**291**	P	**P**		**16 23 01.2**	**+1.4**
KKM	**Kota Kinabalu**	**17.95**	**291**	P	**P**		**16 23 03.1**	**+3.3**
	comp=Z,118nm,1.4s,comp=Z,3μm							
GUMO	**Guam**	**18.23**	**40**	LR	LR		16 28 03.6	
	comp=Z,1μm,19.8s,baz=222,slow=30							
BBKI	**Banjar Baru**	**18.39**	**260**	P	**Pn**		**16 23 06.4**	**+1.6**
	comp=Z,300nm,1.4s,comp=Z,8μm							
MTNI	**Mataram**	**18.64**	**244**	P	**Pn**		**16 23 07.8**	**+0.1**
	comp=Z,277nm,0.9s,comp=Z,4μmcomp=Z,94μm							
TGY	**Tagaytay City**	**18.73**	**321**	P	**Pn**		**16 23 10.4**	**+1.5**
	comp=Z,58nm,0.3s,baz=250,slow=15,SNR=6.5							
TGY	**Tagaytay City**	**18.73**	**321**	P	**Pn**		**16 23 10.4**	**+1.5**
TGY	**Tagaytay City**	**18.73**	**321**	P	**Pn**		**16 23 10.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.00**	**202**	P	**P**		**16 23 09.0**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=30,slow=12,SNR=36							
FITZ				S	Sn		16 26 30.3	-14
	comp=Z,1.6nm,0.3s,baz=108,slow=20,SNR=4.9							
FITZ	**Fitzroy Crossi**	**19.00**	**202**	*e*P	**P**		**16 23 06.8**	**-4.4**
	comp=Z,198nm,0.7s							
FITZ				*e*S	Sn		16 26 28.9	-15
FITZ	**Fitzroy Crossi**	**19.00**	**202**⇑	*i*P	**P**		**16 23 07.9**	**-3.3**
	comp=Z,266nm,1.1s							
FITZ				*e*Sn	Sn		16 26 27.7	-17
FITZ				S	S		16 26 30.3	-15
KHKI	**Kahang-Kahang**	**19.04**	**245**	P	**P**		**16 23 11.9**	**+0.2**
	comp=Z,232nm,1.4s,comp=Z,4μm							
WRAB	**Tennant Creek**	**19.43**	**176**	*e*P	**P**		**16 23 13.9**	**-2.1**
WRAB				pmax	pmax			
	comp=Z,382nm,1.0s							
WRAB	**Tennant Creek**	**19.43**	**176**	*e*Pn	**P**		**16 23 13.9**	**-2.1**
	comp=Z,382nm,1.0s							
WRAB				*e*Sn	S		16 26 38.5	-16
WRAB	**Tennant Creek**	**19.43**	**176**	P	**P**		**16 23 15.0**	**-1.0**
	comp=Z,2μm,0.7s,SNR=67							
WRA	**Warramunga Arr**	**19.44**	**176**	P	**P**		**16 23 15.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=356,slow=10,SNR=96							
WRA				S	S		16 26 44.6	-10
	comp=Z,5.2nm,0.3s,baz=1.7,slow=23,SNR=6.2							
WRA	**Warramunga Arr**	**19.44**	**176**	P	**P**		**16 23 15.5**	**-0.6**
WRA				S	S		16 26 44.6	-10
WRA	**Warramunga Arr**	**19.44**	**176**	P	**P**		**16 23 15.5**	**-0.6**
WRA				S	S		16 26 44.6	-10
WB2	**Warramunga Arr**	**19.44**	**176**	*e*P	**P**		**16 23 15.2**	**-0.9**
WB2				*e*Sn	S		16 26 37.8	-17
IGBI	**Denpasar**	**19.64**	**244**	P	Pn		16 23 25.2	+5.5
NBBI	**Negara**	**19.94**	**246**	P	**Pn**		**16 23 24.3**	**+1.0**
	comp=Z,558nm,2.3s,comp=Z,11μm							
KMMI	**Kalianget**	**20.09**	**250**	P	Pn		16 23 34.2	+9.1
BTM	**Bintulu**	**20.23**	**280**	P	Pn		16 23 28.1	+1.3
JAGI	**Jajag, Banyuwa**	**20.41**	**246**	P	Pn		16 23 29.7	+0.9
	comp=Z,198nm,0.9s,comp=Z,5μm							
BLJI	**Banyuglugur**	**20.66**	**249**	P	Pn		16 23 34.7	+2.9
	comp=Z,275nm,1.3s,comp=Z,5μm							
SBUM	**Sibu**	**20.97**	**278**	P	Pn		16 23 36.9	+1.5
SBUM	**Sibu**	**20.97**	**278**	P	Pn		16 23 39.1	+3.7
	comp=Z,208nm,1.3s,comp=Z,3μm							
GMJI	**Gumukmas**	**20.98**	**248**	P	Pn		16 23 35.3	-0.3
	comp=Z,272nm,1.5s,comp=Z,4μm							
PBKI	**Pangkalan Bun**	**21.44**	**264**	P	P		16 23 42.9	+5.1
	comp=Z,884nm,0.8s,comp=Z,5μm							
STKI	**Sintang**	**21.53**	**271**	P	**P**		**16 23 42.3**	**+3.5**
	comp=Z,177nm,1.4s,comp=Z,3μm							
KRKI	**Karangkates**	**21.87**	**249**	P	P		16 23 49.0	+6.6
	comp=Z,459nm,1.2s,comp=Z,6μm							
SJI	**Sawahan**	**22.38**	**251**	P	**P**		**16 23 49.2**	**+1.2**
	comp=Z,167nm,1.5s,comp=Z,4μm							
PWJI	**Pagerwojo**	**22.43**	**250**	P	**P**		**16 23 50.8**	**+2.3**
	comp=Z,129nm,1.5s,comp=Z,2μm							
KSM	**Kuching**	**22.77**	**275**	*e*Pn	**P**		**16 23 52.8**	**+0.7**
	comp=Z,296nm,1.3s							
KSM				LR	LR			
	comp=Z,2μm,22.0s							
KSM	**Kuching**	**22.77**	**275**	P	**P**		**16 23 55.0**	**+2.9**
KSM	**Kuching**	**22.77**	**275**	P	P		16 23 59.1	+7.0
	comp=Z,203nm,1.4s,comp=Z,3μm							
PCJI	**Pacitan**	**23.07**	**250**	P	P		16 24 01.3	+6.1
	comp=Z,208nm,1.0s,comp=Z,4μm							
AS31	**Alice Springs**	**23.12**	**178**⇓	*e*Pn	**P**		**16 23 55.0**	**-0.6**
AS31				*e*S	**S**		**16 28 02.0**	**-3.8**
ASAR	**Alice Springs**	**23.12**	**178**	P	**P**		**16 23 55.9**	**+0.3**
	comp=Z,642nm,0.9s,baz=2.8,slow=11,SNR=762							
ASAR				S	**S**		**16 28 06.9**	**+1.0**
	comp=Z,32nm,1.0s,baz=1.0,slow=22,SNR=4.5							
ASAR	**Alice Springs**	**23.12**	**178**	P	**P**		**16 23 55.9**	**+0.3**
ASAR				S	**S**		**16 28 06.9**	**+1.0**
ASAR	**Alice Springs**	**23.12**	**178**	P	**P**		**16 23 55.9**	**+0.3**
ASAR				S	**S**		**16 28 06.9**	**+1.0**
SMRI	**Semarang**	**23.44**	**253**	P	P		16 24 09.9	+11
CTA	**Charters Tower**	**23.46**	**147**	P	**P**		**16 24 00.7**	**+1.7**
	comp=Z,313nm,0.9s,baz=321,slow=12,SNR=106							
CTA				LR	LR		16 34 24.5	
	comp=Z,9μm,18.4s,baz=320,slow=40							
CTA	**Charters Tower**	**23.46**	**147**	*e*P	**P**		**16 24 00.2**	**+1.2**
	comp=Z,275nm,0.9s							
CTA				*e*S	**S**		**16 28 10.9**	**-0.5**
CTA	**Charters Tower**	**23.46**	**147**	P	**P**		**16 24 00.7**	**+1.7**
CTA	**Charters Tower**	**23.46**	**147**	P	**P**		**16 24 00.7**	**+1.7**
CTAO	**Charters Tower**	**23.46**	**147**	*e*P	**P**		**16 23 59.7**	**+0.7**
CTAO				pmax	pmax			
	comp=Z,502nm,1.0s							
CTAO				MLR	MLR			
	comp=Z,8μm,19.0s							
CTAO	**Charters Tower**	**23.46**	**147**	*e*Pn	**P**		**16 23 59.7**	**+0.7**
	comp=Z,502nm,1.0s							
CTAO				*e*S	Sn		16 28 30.3	-1.2
CTAO				LR	LR			
	comp=Z,8μm,19.0s							
UGM	**Wanagama**	**23.60**	**251**	P	**P**		**16 24 03.2**	**+2.7**
	comp=Z,398nm,1.3s,comp=Z,6μm							
BJII	**Banjamegara**	**24.21**	**253**	P	**P**		**16 24 07.9**	**+1.5**
	comp=Z,593nm,1.9s,comp=Z,11μm							
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**		**16 24 07.3**	**-0.1**
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**		**16 24 07.1**	**-0.3**
	comp=Z,327nm,1.1s							
MBWA				LR	LR			
	comp=Z,2μm,21.0s							
CISI	**Cisompet, Garu**	**26.09**	**254**	P	**P**		**16 24 23.4**	**0.0**
	comp=Z,565nm,1.0s,comp=Z,4μm							
LEM	**Lembang**	**26.10**	**255**	P	**P**		**16 24 25.7**	**+2.1**
	comp=Z,110nm,1.4s,comp=Z,3μm							
YULB	**Yu-li**	**26.27**	**335**	*e*P	**P**		**16 24 25.3**	**+0.5**
SSLB	**Suanglung**	**26.76**	**335**	*e*P	**P**		**16 24 27.7**	**-1.6**
	comp=Z,105nm,1.1s							
CBJI	**Citeko**	**26.76**	**257**	P	**P**		**16 24 33.2**	**+3.8**
	comp=Z,444nm,0.9s,comp=Z,7μm							
NACB	**Ninganchiao**	**26.84**	**336**	P	**P**		**16 24 25.2**	**-4.8**
PPBI	**Pangkal Pinang**	**26.91**	**266**	P	P		16 24 38.6	+7.9
	comp=Z,76nm,1.3s							
YHNB	**Yeheng**	**27.37**	**337**	*e*P	**P**		**16 24 35.0**	**+0.2**
	comp=Z,34nm,0.9s							
YHNB				LR	LR			
	comp=Z,1μm,20.0s							
JOW	**Kunigami**	**27.48**	**351**	P	**P**		**16 24 36.7**	**+1.0**
	comp=Z,40nm,0.9s,baz=102,slow=3.6,SNR=3.2							
JOW	**Kunigami**	**27.48**	**351**	P	**P**		**16 24 36.7**	**+1.0**
CGJI	**Cibinong**	**27.93**	**257**	P	**P**		**16 24 42.8**	**+3.0**
	comp=Z,104nm,1.1s,comp=Z,1μm							
HNR	**Honiara**	**28.27**	**109**	PFAKE			16 25 00.0	+17
HNR				LR	LR			
	comp=Z,2μm,19.0s							
KLI	**Kotabumi**	**28.45**	**261**	P	P		16 24 53.2	+8.7
	comp=Z,120nm,1.1s,comp=Z,2μm							
GIRL	**Giralia**	**28.65**	**218**	*e*P	**P**		**16 24 48.1**	**+1.9**
	comp=Z,870nm,1.0s							
QZH	**Quanzhou**	**28.82**	**332**	P	**P**		**16 24 49.6**	**+2.0**
QZH				S	**S**		**16 29 32.0**	**-4.4**
QZH				pmax	pmax			
	comp=Z,2μm,3.6s							
QZH				LR	LR			
	comp=Z,2μm,18.2s							
MYKOM	**Kota Tinggi**	**29.23**	**274**	P	**P**		**16 24 52.2**	**+0.7**
MYKOM	**Kota Tinggi**	**29.23**	**274**	P	P		16 25 07.6	+16
LWLI	**Liwa**	**29.26**	**261**	P	P		16 24 56.8	+5.0
	comp=Z,128nm,1.1s,comp=Z,2μm							
QIZ	**Qiongzhong**	**29.84**	**312**	P	**P**		**16 24 57.1**	**+0.3**

QIZ pP **pP** **16 25 00.3 -3.4**
QIZ S **S** **16 29 55.1 +2.4**
QIZ pmax pmax
comp=Z,39nm,1.5s
QIZ LR LR
comp=N,2μm,25.6s
QIZ LR LR
comp=Z,2μm,26.9s
QIZ Qiongzhong 29.84 312 P **P** **16 24 55.6 -1.2**
QIZ LR LR
comp=Z,2μm,22.0s
EIDS Eidsvold 30.33 146 *e*P **P** **16 25 02.7 +1.7**
comp=Z,85nm,1.0s
FORT Forrest 30.55 188 *e*P **P** **16 25 03.6 +0.7**
comp=Z,127nm,0.7s
FORT Forrest 30.55 188 *e*P **P** **16 25 03.2 +0.3**
comp=Z,275nm,1.0s
RGRI Rengat 30.66 270 P P 16 25 13.2 +9.0
comp=Z,327nm,0.4s,comp=Z,115μm
FRIM Kepong 31.57 277 P **P** **16 25 12.7 +0.5**
KRJI Kerinci 31.57 267 P P 16 25 17.7 +5.4
comp=Z,768nm,1.1s,comp=Z,8μm
IPM Ipoh 32.31 279 *e*P **P** **16 25 18.8 +0.1**
comp=Z,70nm,1.3s
IPM Ipoh 32.31 279 P **P** **16 25 19.5 +0.8**
IPM Ipoh 32.31 279 P P 16 25 24.2 +5.5
comp=Z,48nm,1.4s
STKA Stephens Creek 32.32 166 P **P** **16 25 17.8 -0.8**
comp=Z,327nm,0.9s,baz=337,slow=9.6,SNR=186
STKA LR LR 16 40 42.8
comp=Z,3μm,18.0s,baz=338,slow=41
STKA Stephens Creek 32.32 166 *e*P **P** **16 25 17.5 -1.0**
comp=Z,279nm,0.9s
STKA Stephens Creek 32.32 166 *e*P **P** **16 25 17.6 -1.0**
STKA pmax pmax
comp=Z,2.0nm,0.5s
STKA Stephens Creek 32.32 166 *e*P **P** **16 25 17.6 -1.0**
comp=Z,1.9nm,0.5s
BBOO Buckleboo 32.34 175 *e*P **P** **16 25 18.5 -0.2**
comp=Z,2μm,0.9s
BBOO *e* 16 25 58.5
KMBL Kambalda 32.53 198 *e*P **P** **16 25 20.2 -0.1**
comp=Z,196nm,0.5s
PPI Padang Panjang 32.60 270 P **P** **16 25 22.3 +1.1**
comp=Z,68nm,1.4s,comp=Z,950nm
KULM Kulim 32.80 280 *e*P **P** **16 25 22.0 -1.0**
comp=Z,120nm,1.4s
KULM LR LR
comp=Z,887nm,21.0s
KULM Kulim 32.80 280 P **P** **16 25 25.0 +2.0**
KULM Kulim 32.80 280 P P 16 25 28.4 +5.4
comp=Z,61nm,1.3s,comp=Z,1μm
SSE Sheshan 33.29 341 *e*P **P** **16 25 26.3 -0.7**
SSE pP **pP** **16 25 36.0 +2.1**
SSE S **S** **16 30 44.7 -1.6**
SSE sS **sS** **16 30 59.8 +2.2**
SSE LR LR
comp=N,320nm,18.5s
SSE LR LR
comp=E,490nm,18.4s
SSE LR LR
comp=Z,700nm,20.9s
JNU Nakatsue 33.43 357 *e*P **P** **16 25 27.6 -0.7**
comp=Z,30nm,1.1s
MNSI Mandailing Nat 33.44 272 P P 16 25 35.2 +6.6
comp=Z,38nm,1.1s
KLBR Kellerberrin 34.19 204 *e*P **P** **16 25 34.6 -0.3**
comp=Z,83nm,1.2s
PSI Prapat 34.21 276 P **P** **16 25 35.2 -0.2**
comp=Z,105nm,1.2s,comp=Z,1μm
TSI Tuntungan 34.63 277 P P 16 25 47.8 +8.9
comp=Z,120nm,1.1s
ARMA Armidale 34.69 151 *e*P **P** **16 25 39.6 +0.3**
ARMA Armidale 34.69 151 *e*P **P** **16 25 39.6 +0.3**
comp=Z,131nm,0.9s
NJ2 Nanjing 34.96 339 *e*P **P** **16 25 42.5 +1.0**
NJ2 pP **pP** **16 25 48.5 +0.1**
NJ2 sP **sP** **16 25 51.9 +0.7**
NJ2 PP **PP** **16 27 03.1 +2.0**
NJ2 S **S** **16 31 14.0 +1.9**
NJ2 sS **sS** **16 31 26.0 +2.5**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,520nm,3.7s
NJ2 LR LR
comp=N,1μm,20.8s
NJ2 LR LR
comp=E,2μm,22.2s
NJ2 LR LR
comp=Z,710nm,16.4s
WHN Wuhan 35.54 332⇑ *i*P **P** **16 25 47.5 +1.0**
WHN S **S** **16 31 25.2 +4.2**
WHN pmax pmax
comp=Z,84nm,1.0s
WHN LR LR
comp=Z,2μm,13.6s
NWAO Narrogin (SRO) 35.58 203 P **P** **16 25 46.5 -0.3**
comp=Z,33nm,0.9s,baz=29,slow=10,SNR=13
NWAO LR LR 16 42 33.3
comp=Z,2μm,20.4s,baz=21,slow=40
NWAO Narrogin (SRO) 35.58 203 *e*P **P** **16 25 46.4 -0.4**
NWAO pmax pmax
comp=Z,24nm,0.8s
NWAO Narrogin (SRO) 35.58 203 *e*P **P** **16 25 46.4 -0.4**
comp=Z,24nm,0.8s
TPTI 35.99 276 P Px 16 26 06.8
GYA Guiyang 36.86 318⇑ *i*P **P** **16 25 58.3 +0.3**
GYA PP **PnPn** **16 27 25.4 +3.1**
GYA S **S** **16 31 44.0 +2.4**
GYA ScP **ScP** **16 32 08.2 +2.8**
GYA SS **SnSn** **16 34 11.9 -2.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,150nm,4.9s
GYA LR LR
comp=N,840nm,17.8s
GYA LR LR
comp=E,780nm,18.0s
GYA LR LR
comp=Z,910nm,17.9s
MJAR Matsushiro Arr 37.10 7 P **P** **16 25 58.8 -0.9**
comp=Z,4.3nm,0.9s,baz=186,slow=10,SNR=6.0
MJAR LR LR 16 41 05.4
comp=Z,985nm,18.2s,baz=195,slow=36
MJAR Matsushiro Arr 37.10 7 P **P** **16 25 58.8 -0.9**
MJAR Matsushiro Arr 37.10 7 P **P** **16 25 58.8 -0.9**
MAJO Matsushiro 37.10 7 *e*P **P** **16 25 57.5 -2.3**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 37.10 7 *e*P **P** **16 25 57.5 -2.3**
comp=Z,10nm,0.9s
MAJO LR LR
comp=Z,1μm,19.0s
COCO West Island 37.73 251 P **P** **16 26 03.9 -1.5**
COCO pmax pmax
comp=Z,57nm,0.9s
COCO MLR MLR
comp=Z,1μm,20.0s
COCO West Island 37.73 251 P **P** **16 26 03.9 -1.5**
comp=Z,57nm,0.9s
COCO LR LR
comp=Z,1μm,20.0s
CAN Canberra 37.79 158 *e*P **P** **16 26 07.2 +1.5**
CAN pmax pmax
comp=Z,184nm,1.3s
CAN MLR MLR
comp=Z,3μm,21.0s
CAN Canberra 37.79 158 *e*P **P** **16 26 07.2 +1.5**
comp=Z,184nm,1.3s
CAN LR LR
comp=Z,3μm,21.0s
ENH Enshi 37.85 326 *e*P **P** **16 26 05.6 -0.7**
comp=Z,74nm,1.3s
ENH LR LR
comp=Z,541nm,19.0s
CNB Canberra Magne 37.92 158 *e*P **P** **16 26 08.2 +1.4**
comp=Z,298nm,1.2s
KSAR Wonju Array Be 37.98 353 P **P** **16 26 07.1 0.0**
KSAR Wonju Array Be 37.98 353 P **P** **16 26 07.1 0.0**
KSRS Korea Array 37.98 353 P **P** **16 26 07.1 -0.1**
comp=Z,8.9nm,1.2s,baz=168,slow=8.0,SNR=6.0
KSRS LR LR 16 43 04.5

comp=Z,504nm,18.3s,baz=180,slow=38
BSI Banda Aceh 38.10 279 P P 16 26 13.3 +4.7
comp=Z,65nm,1.1s
INCN Inchon 38.18 352 PFAKE 16 26 20.0 +11
INCN LR LR
comp=Z,509nm,19.0s
CM31 Chiang Mai Arr 38.37 301 *e*P **P** **16 26 09.9 -0.8**
comp=Z,59nm,1.2s
CM31 LR LR
comp=Z,547nm,19.0s
CMAR Chiang Mai Arr 38.37 301 P **P** **16 26 10.3 -0.5**
comp=Z,14nm,0.9s,baz=116,slow=6.4,SNR=72
CMAR Chiang Mai Arr 38.37 301 P **P** **16 26 10.3 -0.5**
CMAR Chiang Mai Arr 38.37 301 P **P** **16 26 10.3 -0.5**
CHTO Chiang Mai 38.52 302 *e*P **P** **16 26 11.3 -0.7**
CHTO pmax pmax
comp=Z,61nm,1.2s
CHTO MLR MLR
comp=Z,579nm,22.0s
CHTO Chiang Mai 38.52 302 *e*P **P** **16 26 11.3 -0.7**
comp=Z,61nm,1.2s
CHTO LR LR
comp=Z,579nm,22.0s
CHTO Chiang Mai 38.52 302 P **P** **16 26 11.9 -0.1**
comp=Z,27nm,0.9s,comp=Z,536nm
TOO Toolangi 38.72 164 *e*P **P** **16 26 14.1 +0.6**
comp=Z,874nm,0.9s
KMI Kunming 38.75 313 P **P** **16 26 14.5 +0.3**
KMI pP **pP** **16 26 19.2 -1.9**
KMI sP **sP** **16 26 20.4 -3.5**
KMI PP **PnPn** **16 27 47.2 +1.8**
KMI S **ScP** **16 32 13.3 +0.6**
KMI SS **SnSn** **16 34 54.6 -5.8**
KMI ScS **ScS** **16 36 24.6 +0.8**
KMI pmax pmax
comp=Z,29nm,1.6s
KMI pmax pmax
comp=Z,180nm,4.3s
KMI LR LR
comp=N,1μm,17.9s
KMI LR LR
comp=E,830nm,20.8s
KMI LR LR
comp=Z,1μm,26.0s
DZM Mont Dzumac 39.04 126 *e*P **P** **16 26 19.3 +2.8**
comp=Z,126nm,1.1s
DZM *e*LR LR 16 37 00.0
comp=Z,2μm,29.3s
DZM Mont Dzumac 39.04 126 *e*P **P** **16 26 16.5 +0.1**
comp=Z,64nm,1.1s
TARA Tarawa 39.96 87 PFAKE 16 26 40.0 +16
TARA LR LR
comp=Z,353nm,22.0s
DL2 Dalian 40.51 346 P **P** **16 26 27.4 -0.9**
DL2 S **S** **16 32 35.2 -0.9**
DL2 pmax pmax
comp=Z,30nm,1.0s
DL2 pmax pmax
comp=Z,260nm,6.5s
DL2 LR LR
comp=N,600nm,30.9s
DL2 LR LR
comp=E,800nm,28.9s
DL2 LR LR
comp=Z,330nm,17.1s
XAN Xi'an 41.06 329 P **P** **16 26 32.1 -0.9**
XAN pP **pP** **16 26 36.3 -3.7**
XAN sP **sP** **16 26 39.2 -3.6**
XAN PcP **PcP** **16 28 31.8 -0.8**
XAN S **S** **16 32 39.6 -5.0**
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN pmax pmax
comp=Z,50nm,5.7s
XAN LR LR
comp=N,370nm,20.7s
XAN LR LR
comp=E,69nm,13.4s
XAN LR LR
comp=Z,190nm,19.0s
CD2 Chengdu 41.74 321 P **P** **16 26 37.8 -0.8**
CD2 pP **pP** **16 26 42.3 -3.3**
CD2 sP **sP** **16 26 44.8 -3.6**
CD2 PP **PP** **16 28 17.8 +2.4**
CD2 S **S** **16 32 55.0 +0.3**
CD2 SS **SS** **16 35 55.2 -5.8**
CD2 pmax pmax
comp=Z,60nm,1.7s
CD2 pmax pmax
comp=Z,200nm,6.5s
CD2 LR LR
comp=N,990nm,14.9s
CD2 LR LR
comp=Z,970nm,17.8s
SNY Shenyang 42.91 350⇑ P **P** **16 26 48.6 +0.7**
SNY S **S** **16 33 08.3 -3.3**
SNY pmax pmax
comp=Z,11nm,1.0s
SNY pmax pmax
comp=Z,470nm,5.4s
SNY LR LR
comp=N,490nm,20.4s
SNY LR LR
comp=E,750nm,26.4s
SNY LR LR
comp=Z,750nm,37.2s
BJT Baijiatuau 43.09 341 *e*P **P** **16 26 49.4 0.0**
BJT pmax pmax
comp=Z,91nm,0.9s
BJT MLR MLR
comp=Z,518nm,20.0s
BJT Baijiatuau 43.09 341 *e*P **P** **16 26 49.4 0.0**
comp=Z,91nm,0.9s
BJT LR LR
comp=Z,518nm,20.0s
BJI Beijing 43.10 341 P **P** **16 26 49.4 -0.1**
BJI sP **sP** **16 26 55.6 -3.7**
BJI PP **PP** **16 28 32.1 +2.2**
BJI S **S** **16 33 14.1 -0.3**
BJI sS **sS** **16 33 24.4 -1.5**
BJI SS **SS** **16 36 26.5 -1.0**
BJI pmax pmax
comp=Z,86nm,1.6s
BJI pmax pmax
comp=Z,380nm,3.5s
BJI LR LR
comp=N,570nm,19.0s
BJI LR LR
comp=E,1μm,22.2s
BJI LR LR
comp=Z,620nm,27.4s
ERM Erimo 43.23 11 PFAKE 16 27 00.0 +10
ERM LR LR
comp=Z,857nm,21.0s
VLA Vladivostok 43.36 359 *e*P **P** **16 26 50.6 -0.9**
MOO Moorlands 43.73 165 *e*P **P** **16 26 55.6 +1.0**
comp=Z,351nm,1.0s
TAU Tasmania Unive 44.20 165 *e*P **P** **16 26 59.8 +1.4**
TAU pmax pmax
comp=Z,23nm,0.7s
TAU MLR MLR
comp=Z,3μm,21.0s
TAU Tasmania Unive 44.20 165 *e*P **P** **16 26 59.8 +1.4**
comp=Z,23nm,0.7s
TAU LR LR
comp=Z,3μm,21.0s
USRK Ussuriysk Arra 44.44 359 P **P** **16 26 59.9 -0.3**
comp=Z,4.5nm,0.7s,baz=172,slow=7.5,SNR=12
CN2 Changchun 44.55 352 *e*P **P** **16 27 00.7 -0.4**
CN2 *e*sP **sP** **16 27 08.0 -2.9**
CN2 *e*S **S** **16 33 37.0 +1.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,500nm,16.0s
CN2 LR LR
comp=Z,500nm,19.0s
MDJ Mudanjiang 44.95 357 P **P** **16 27 04.9 +0.6**
MDJ pP **pP** **16 27 11.1 -0.2**
MDJ sP **sP** **16 27 13.8 -0.3**
MDJ ScP **ScP** **16 32 36.8 +0.1**
MDJ PcS **PcS** **16 32 39.4 +0.5**

MDJ S **S** **16 33 43.1 +1.9**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,81nm,3.1s
MDJ LR LR
comp=N,370nm,22.7s
MDJ LR LR
comp=E,280nm,29.0s
MDJ LR LR
comp=Z,240nm,24.4s
MDJ Mudanjiang 44.95 357 *e*P **P** **16 27 04.8 +0.6**
comp=Z,16nm,0.6s
MDJ LR LR
comp=Z,586nm,20.0s
ASAJ Asahikawa 45.17 10 P **P** **16 27 05.3 -0.6**
comp=Z,5.2nm,0.9s,baz=114,slow=24,SNR=2.5
ASAJ Asahikawa 45.17 10 P **P** **16 27 05.3 -0.6**
LZH Lanzhou 45.33 326⇑ P **P** **16 27 08.7 +1.1**
LZH pP **pP** **16 27 13.2 -1.5**
LZH sP **sP** **16 27 15.6 -1.8**
LZH PP PP 16 28 59.1 +5.2
LZH S **S** **16 33 48.6 +1.3**
LZH sS **sS** **16 33 56.1 -2.8**
LZH SS **ScS** **16 37 04.1 +0.6**
LZH pmax pmax
comp=Z,50nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.1s
LZH LR LR
comp=N,800nm,16.9s
LZH LR LR
comp=E,1μm,19.6s
LZH LR LR
comp=Z,1μm,17.5s
HHC Hu-ho-hao-te 45.47 337 *e*P **P** **16 27 09.0 +0.4**
HHC sP **sP** **16 27 16.1 -2.3**
HHC PcP **PcP** **16 28 47.8 +0.4**
HHC PP **PP** **16 28 56.1 +0.8**
HHC ScP **ScP** **16 32 38.6 -0.5**
HHC S **S** **16 33 50.3 +1.2**
HHC SS **ScS** **16 37 06.1 +2.0**
HHC pmax pmax
comp=Z,46nm,1.1s
HHC pmax pmax
comp=Z,340nm,5.2s
HHC LR LR
comp=N,350nm,15.7s
HHC LR LR
comp=E,480nm,15.5s
HHC LR LR
comp=Z,310nm,16.9s
YUK Yuzh-Kuril'sk 45.73 13*c* *i*P **P** **16 27 10.6 +0.2**
YUK *i* 16 28 56.8
YUK *i* PPP PPP 16 29 35.3
YUK *i* S **S** **16 33 54.5 +2.0**
YUK *i* 16 36 57.1
YUK *i* SSS SSS 16 38 10.0
YUK pmax pmax
comp=N,45nm,0.8s
YUK pmax pmax
comp=Z,127nm,1.7s
YUK pmax pmax
comp=E,40nm,0.8s
YUK pmax pmax
comp=Z,169nm,1.4s
YUK MLR MLR
comp=Z,192nm,18.0s
YUK MLR MLR
comp=E,207nm,18.0s
BTO Baotou 45.88 336 *e*P **P** **16 27 09.9 -2.0**
FUNA Funafuti 46.71 101 PFAKE 16 27 30.0 +11
FUNA LR LR
comp=Z,4μm,19.0s
YSS Yuzh-Sakhalins 47.95 9⇑ *e*P **P** **16 27 28.3 +0.5**
YSS *e**SP sP 16 27 43.8 +6.2
YSS *e*S **S** **16 34 22.0 -2.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 47.95 9 *e*P **P** **16 27 26.4 -1.4**
comp=Z,24nm,0.7s
HABR Khabarovsk 48.74 2 *e*P **P** **16 27 31.8 -2.0**
HABR *e**PP **pP** **16 27 41.9 +1.0**
HABR *e**SP **sP** **16 27 46.1 +2.5**
HABR *e*S **S** **16 34 33.5 -1.7**
HABR *e**SS **sS** **16 34 50.5 +3.7**
HABR *e* 16 37 21.4
HABR *e*SSS SSS 16 39 21.8
HABR pmax pmax
comp=E,37nm,2.2s
HABR pmax pmax
comp=Z,29nm,1.8s
HABR pmax pmax
comp=N,24nm,1.8s
HABR MLR MLR
comp=Z,300nm,20.0s
KLR Kul'dur 49.47 359 *e*P **P** **16 27 36.4 -3.1**
KLR pmax pmax
comp=Z,190nm,2.0s
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,1μm,13.5s
LSA Lhasa 49.87 311 P **P** **16 27 44.3 +0.9**
LSA pmax pmax
comp=Z,40nm,0.9s
LSA Lhasa 49.87 311 *e*P **P** **16 27 43.5 +0.1**
LSA pmax pmax
comp=Z,70nm,1.0s
LSA MLR MLR
comp=Z,632nm,22.0s
LSA Lhasa 49.87 311 *e*P **P** **16 27 43.5 +0.1**
comp=Z,70nm,1.0s
LSA LR LR
comp=Z,632nm,22.0s
GTA Gaotai 49.93 326 *e*P **P** **16 27 43.4 +0.1**
GTA pP **pP** **16 27 47.7 -2.7**
GTA sP **sP** **16 27 51.0 -2.2**
GTA PP **PP** **16 29 37.9 -0.5**
GTA S **S** **16 34 49.7 -2.9**
GTA sS **sS** **16 35 07.4 +3.1**
GTA ScS **ScS** **16 37 32.1 -1.7**
GTA SS **SS** **16 38 19.4 -6.4**
GTA pmax pmax
comp=Z,23nm,1.4s
GTA pmax pmax
comp=Z,240nm,6.9s
GTA LR LR
comp=N,330nm,20.7s
GTA LR LR
comp=E,400nm,20.0s
GTA LR LR
comp=Z,500nm,17.3s
HIA Hailar 50.80 349 *e*P **P** **16 27 48.8 -0.8**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA MLR MLR
comp=Z,648nm,22.0s
HIA Hailar 50.80 349 *e*P **P** **16 27 48.8 -0.8**
comp=Z,20nm,1.0s
HIA LR LR
comp=Z,648nm,22.0s
OUZ Omahuta 51.25 137 *e*P P 16 27 58.3 +5.1
comp=Z,56nm,1.1s
TAPN Taplejung 51.51 306 *e*P **P** **16 27 55.3 -0.3**
comp=Z,287nm,1.4s
TAPN Taplejung 51.51 306 *e*P **P** **16 27 55.3 -0.3**
comp=Z,287nm,1.4s
ODAN Odare 51.57 305 *e*P **P** **16 27 55.3 -0.7**
comp=Z,109nm,0.8s
ODAN Odare 51.57 305 *e*P **P** **16 27 55.3 -0.7**
comp=Z,109nm,0.8s
RAMN Ramite 52.25 305 *e*P **P** **16 28 00.5 -0.6**
comp=Z,256nm,1.2s
RAMN Ramite 52.25 305 *e*P **P** **16 28 00.5 -0.6**
comp=Z,256nm,1.2s
JIRN Jiri 52.87 306 *e*P **P** **16 28 05.2 -0.6**
comp=Z,156nm,1.2s
JIRN Jiri 52.87 306 *e*P **P** **16 28 05.2 -0.6**
comp=Z,156nm,1.2s
ULN Ulaanbaatar 53.13 338 *e*P **P** **16 28 06.8 -0.3**
ULN pmax pmax
comp=Z,50nm,1.2s
ULN Ulaanbaatar 53.13 338 *e*P **P** **16 28 06.8 -0.3**

comp=Z,50nm,1.2s
ULN Ulaanbaatar 53.13 338 P **P** **16 28 07.7 +0.6**
comp=Z,34nm,1.1s,comp=Z,504nm
GUN Gumba 53.22 306 *e*P **P** **16 28 07.8 -0.6**
comp=Z,305nm,1.2s
GUN Gumba 53.22 306 *e*P **P** **16 28 07.8 -0.6**
comp=Z,305nm,1.2s
SONM Songino Array 53.35 338 P **P** **16 28 08.8 +0.1**
comp=Z,4.6nm,0.8s,baz=150,slow=8.1,SNR=36
SONM Songino Array 53.35 338 P **P** **16 28 08.8 +0.1**
SONM Songino Array 53.35 338 P **P** **16 28 08.8 +0.1**
PKI Pulchoki 53.47 305 *e*P **P** **16 28 09.2 -1.0**
comp=Z,126nm,1.4s
PKI Pulchoki 53.47 305 *e*P **P** **16 28 09.2 -1.0**
PKI pmax pmax
comp=Z,126nm,1.4s
PKI Pulchoki 53.47 305 *e*P **P** **16 28 09.2 -1.0**
comp=Z,126nm,1.4s
KKN Kakani 53.66 306 *e*P **P** **16 28 10.5 -0.9**
comp=Z,87nm,1.0s
KKN Kakani 53.66 306 *e*P **P** **16 28 10.5 -0.9**
KKN pmax pmax
comp=Z,87nm,1.0s
KKN Kakani 53.66 306 *e*P **P** **16 28 10.5 -0.9**
comp=Z,87nm,1.0s
DMN Daman 53.73 305 *e*P **P** **16 28 11.1 -0.9**
comp=Z,155nm,1.3s
DMN Daman 53.73 305 *e*P **P** **16 28 11.1 -0.9**
comp=Z,155nm,1.3s
GKN Gorkha 54.26 306 *e*P **P** **16 28 15.3 -0.5**
comp=Z,142nm,1.2s
GKN Gorkha 54.26 306 *e*P **P** **16 28 15.3 -0.5**
comp=Z,142nm,1.2s
RPZ Rata Peaks 54.83 147 *e*P **P** **16 28 19.7 +0.3**
comp=Z,68nm,0.9s
KOLN Koldanda 55.02 305 *e*P **P** **16 28 20.8 -0.6**
comp=Z,93nm,0.9s
KOLN Koldanda 55.02 305 *e*P **P** **16 28 20.8 -0.6**
comp=Z,93nm,0.9s
DANN Dangsing 55.11 306 *e*P **P** **16 28 21.9 -0.2**
comp=Z,124nm,0.9s
DANN Dangsing 55.11 306 *e*P **P** **16 28 21.9 -0.2**
comp=Z,124nm,0.9s
URZ Urewera 55.27 138 *e*P **P** **16 28 24.6 +1.9**
comp=Z,55nm,0.8s
KHZ Kahutara 55.41 144 *e*P **P** **16 28 23.9 +0.3**
comp=Z,33nm,0.7s
SNZO South Karori 55.44 143 PFAKE 16 28 40.0 +16
SNZO LR LR
comp=Z,2µm,20.0s
HYB Hyderabad 56.43 291 *i* P **P** **16 28 29.0 -2.4**
HYB *e*S **S** **16 36 24.0 +2.4**
ZAK Zakamensk 56.61 338 *e*P **P** **16 28 31.9 -0.3**
ZAK pmax pmax
comp=Z,17nm,1.2s
PEA0B Petropavlovsk- 57.19 17 *e*P **P** **16 28 36.2 +0.1**
PETK Petropavlovsk- 57.19 17 P **P** **16 28 36.1 -0.1**
comp=Z,16nm,1.0s,baz=187,slow=5.7,SNR=10
PETK LR LR 16 51 58.2
comp=Z,218nm,20.1s,baz=202,slow=35
PETK Petropavlovsk- 57.19 17 P **P** **16 28 36.1 -0.1**
PETK Petropavlovsk- 57.19 17 P **P** **16 28 36.1 -0.1**
PET Petropavlovsk 57.41 18 *e*P P 16 28 45.7 +8.1
PET *e*S S 16 36 40.4 +7.2
PET *e*SS **SS** **16 40 20.6 -2.5**
PET pmax pmax
comp=Z,100nm,16.8s
PET MLR MLR
comp=Z,300nm,20.0s
PET Petropavlovsk 57.41 18 PFAKE 16 28 50.0 +12
PET LR LR
comp=Z,370nm,22.0s
CLNS Chul'man 57.46 355 *e*P **P** **16 28 37.7 -0.3**
CLNS *e**PP **pP** **16 28 49.9 +4.7**
CLNS *e* 16 29 26.9
CLNS *e* 16 30 46.2
CLNS *e*PPP PPP 16 32 04.6
CLNS *e*S **S** **16 36 34.8 +1.0**
CLNS *e*SSS SSS 16 42 31.0
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,1.2s
CLNS pmax pmax
comp=Z,3.0nm,1.0s
CLNS smax smax
comp=E,189nm,13.0s
CLNS smax smax
comp=N,201nm,13.5s
CLNS MLR MLR
comp=E,321nm,15.0s
CLNS MLR MLR
comp=N,195nm,11.0s
CLNS MLR MLR
comp=Z,133nm,12.0s
TLY Talaya 57.53 339 PFAKE 16 28 50.0 +11
TLY LR LR
comp=Z,371nm,21.0s
MCQ Macquarie Isla 57.97 162 *e*P **P** **16 28 43.0 +1.5**
MCQ pmax pmax
comp=Z,10µm,1.2s
MCQ Macquarie Isla 57.97 162 *e*P **P** **16 28 43.0 +1.5**
comp=Z,19µm,1.2s
MOY Mondy 58.51 337 *e*P **P** **16 28 46.1 +0.5**
MOY pmax pmax
comp=Z,60nm,2.7s
JOHN Johnston Islan 59.13 70 PFAKE 16 29 00.0 +10
JOHN LR LR
comp=Z,66µm,20.0s
WMQ Urumqi 59.73 323 P **P** **16 28 54.7 +0.5**
WMQ pP **pP** **16 28 59.7 -1.7**
WMQ sP **sP** **16 29 01.7 -2.4**
WMQ PcP **PcP** **16 29 38.7 -2.2**
WMQ S **S** **16 37 02.7 -1.3**
WMQ SS **SS** **16 40 59.7 -0.6**
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ pmax pmax
comp=Z,310nm,3.3s
WMQ LR LR
comp=N,1µm,26.5s
WMQ LR LR
comp=E,650nm,27.2s
WMQ LR LR
comp=Z,380nm,23.0s
BOD Bodaibo 60.01 348⇓ *i* P **P** **16 28 55.8 +0.1**
BOD pmax pmax
comp=Z,43nm,1.3s
DDI Dehra Dun 60.47 306 *e*P **P** **16 29 00.0 +0.6**
YAK Yakutsk 62.34 358 *d* *i* P **P** **16 29 11.1 -0.3**
YAK *e**PP **pP** **16 29 16.2 -2.4**
YAK *e* 16 29 49.5
YAK *e* 16 31 29.2
YAK *e*S **S** **16 37 37.0 +0.6**
YAK *e* 16 38 58.9
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,40nm,1.6s
YAK pmax pmax
comp=N,61nm,2.0s
YAK pmax pmax
comp=E,33nm,1.7s
YAK smax smax
comp=N,67nm,2.8s
YAK smax smax
comp=E,47nm,2.3s
YAK MLR MLR
comp=Z,409nm,18.0s
YAK MLR MLR
comp=N,270nm,15.0s
YAK MLR MLR
comp=E,196nm,18.0s
YAK Yakutsk 62.34 358 *e*P **P** **16 29 11.5 +0.1**
comp=E,94nm,0.8s
MK31 Makanchi Array 64.55 324 *e*P **P** **16 29 25.3 -1.1**
MK31 Makanchi Array 64.55 324 *e*P **P** **16 29 25.3 -1.1**
MKAR Makanchi Array 64.55 324 P **P** **16 29 26.1 -0.3**
comp=E,5.2nm,0.6s,baz=117,slow=7.3,SNR=44
MKAR PKPPKP **P'P'df** **16 58 16.4 +1.9**
comp=E,0.7nm,1.0s,baz=300,slow=2.8,SNR=4.4
MKAR Makanchi Array 64.55 324 P **P** **16 29 26.1 -0.3**
MKAR Makanchi Array 64.55 324 P **P** **16 29 26.1 -0.3**
MKAR P'P' 16 58 16.4
SEY Seymchan 64.85 10⇑ *i* P **P** **16 29 29.1 +1.1**
KSH Kashi 65.40 314⇑ *i* P **P** **16 29 33.5 +1.3**
KSH *e*pP **pP** **16 29 38.1 -1.4**
KSH *e*sP **sP** **16 29 40.8 -1.4**
KSH *e*PcP **PcP** **16 30 05.3 +1.2**
KSH *e*PP **PP** **16 32 00.6 +4.3**
KSH *e*ScP 16 34 06.5
KSH *e*PcS 16 34 08.6
KSH *e*S **S** **16 38 14.6 -0.9**
KSH *e*sS **sS** **16 38 31.5 +4.0**
KSH *e*ScS **SKSac** **16 39 23.6 -2.9**
KSH *e*SS **SS** **16 42 28.6 -0.5**
KSH pmax pmax
comp=Z,70nm,1.3s
KSH LR LR
comp=N,180nm,7.3s
KSH LR LR
comp=E,180nm,5.1s
KSH LR LR
comp=Z,140nm,5.6s
NIL Nilore 65.41 308 PFAKE 16 29 40.0 +7.8
NIL LR LR
comp=Z,25nm,20.0s
DRV Dumont d'Urvil 66.29 177 PP PP 16 31 40.0 -23
DRV S S 16 38 02.0 -23
DRV SS SS 16 42 08.0 -34
DRV L L 16 45 00.0
DRV R 16 50 00.0
TKM2 Tokmak 2 67.00 318 *e*P **P** **16 29 40.2 -2.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
TKM2 MLR MLR
comp=Z,575nm,19.0s
TKM2 Tokmak 2 67.00 318 *e*P **P** **16 29 40.2 -2.3**
comp=Z,9.3nm,0.7s
TKM2 LR LR
comp=Z,575nm,19.0s
ZAA0 Zalesovo Array 67.16 331 *e*P **P** **16 29 42.1 -0.9**
ZALV Zalesovo Beam 67.16 331 P **P** **16 29 41.8 -1.2**
comp=Z,7.7nm,1.0s,baz=113,slow=5.5,SNR=31
ZALV PKP2bc 16 58 12.0
comp=Z,0.6nm,0.8s,baz=318,slow=1.9,SNR=4.9
ZALV LR LR 17 00 56.6
comp=Z,157nm,18.9s,baz=287,slow=38
ZALV Zalesovo Beam 67.16 331 P **P** **16 29 41.8 -1.2**
ZALV Zalesovo Beam 67.16 331 P **P** **16 29 41.8 -1.2**
ZALV ⇑*e* 16 58 12.0
FRU Bishkek 67.63 317 *e*P **P** **16 29 46.5 +0.2**
FRU *e* 16 30 06.0
CASY Casey 67.63 190 PFAKE 16 30 00.0 +14
CASY LR LR
comp=Z,1µm,19.0s
AAK Ala-Archa 67.63 317 *c* *i* P **P** **16 29 45.5 -1.0**
AAK pmax pmax
comp=Z,41nm,2.5s
AAK Ala-Archa 67.63 317 *e*P **P** **16 29 46.7 +0.2**
comp=Z,353nm,1.8s
AAK LR LR
comp=Z,480nm,20.0s
EKS2 Erkin-Say 68.13 317 *e*P **P** **16 29 48.6 -0.9**
EKS2 pmax pmax
comp=Z,19nm,0.9s
EKS2 MLR MLR
comp=Z,585nm,20.0s
EKS2 Erkin-Say 68.13 317 *e*P **P** **16 29 48.6 -0.9**
comp=Z,19nm,0.9s
EKS2 LR LR
comp=Z,585nm,20.0s
NVS Novosibirsk 68.43 332⇓ *i* P **P** **16 29 49.0 -2.0**
NVS *e*S **S** **16 38 53.1 +1.9**
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,20nm,1.2s
NVS pmax pmax
comp=Z,42nm,1.2s
NVS smax smax
comp=N,7.0nm,2.1s
NVS smax smax
comp=E,14nm,2.1s
KURK Kurchatov 68.62 326 P **P** **16 29 52.0 -0.2**
comp=E,9.4nm,0.8s,baz=125,slow=6.1,SNR=55
KURK LR LR 17 02 12.6
comp=E,262nm,21.8s,baz=125,slow=38
KURK Kurchatov 68.62 326 *d* *i* P **P** **16 29 51.8 -0.4**
KURK pmax pmax
comp=Z,65nm,1.7s
KURK Kurchatov 68.62 326 *e*P **P** **16 29 51.6 -0.7**
comp=Z,43nm,1.0s
KURK Kurchatov 68.62 326 P **P** **16 29 52.6 +0.4**
comp=Z,224nm,0.9s,SNR=29
KBL Kabul 69.00 307 *e*P **P** **16 29 53.2 -2.1**
KBL pmax pmax
comp=Z,38nm,1.0s
KBL Kabul 69.00 307 *e*P **P** **16 29 53.2 -2.1**
comp=Z,38nm,1.0s
KK31 Karatay Array 70.53 316 *i* P **P** **16 30 03.9 -0.4**
KK31 pmax pmax
comp=Z,26nm,1.1s
KKAR Karatay Array 70.53 316 *e*P **P** **16 30 03.0 -1.3**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 70.53 316 *e*P **P** **16 30 03.0 -1.3**
comp=Z,8.9nm,0.7s
KIP Kipapa 70.65 67 *e*P **P** **16 30 05.3 0.0**
BILL Bilibino 72.08 13 *c* *i* P **P** **16 30 13.2 +0.1**
BILL *e**PP **pP** **16 30 24.9 +4.5**
BILL pmax pmax
comp=Z,8.0nm,2.5s
BILL MLR MLR
comp=Z,400nm,25.0s
BILL Bilibino 72.08 13 *e*P **P** **16 30 12.5 -0.6**
comp=Z,7.0nm,1.0s
BILL LR LR
comp=Z,286nm,20.0s
VOSK Vostochnaya 73.77 326 P **P** **16 30 23.9 +0.5**
VOSK pmax pmax
comp=Z,118nm,2.8s
BVA0 Borovoye Array 74.22 326 *i* P **P** **16 30 25.1 -0.9**
BVA0 pmax pmax
comp=Z,28nm,2.2s
BRVK Borovoye 74.29 326 *c* *i* P **P** **16 30 26.1 -0.3**
BRVK pmax pmax
comp=Z,44nm,1.7s
BRVK Borovoye 74.29 326 *e*P **P** **16 30 25.7 -0.7**
comp=Z,37nm,0.9s
BRVK LR LR
comp=Z,387nm,19.0s
BRVK Borovoye 74.29 326 P **P** **16 30 26.8 +0.4**
comp=Z,180nm,1.2s,SNR=15
ZRNK Zerenda 74.96 326 P **P** **16 30 29.6 -0.8**
ZRNK pmax pmax
comp=Z,90nm,1.7s
MSEY Mahe Island 77.53 265 PFAKE 16 31 00.0 +14
MSEY LR LR
comp=Z,357nm,20.0s
PPT2 Papeete2 77.89 108 *e*P **P** **16 30 47.4 -0.3**
comp=Z,35nm,1.1s
PPT2 *e*S **S** **16 40 34.9 -5.2**
comp=Z,274nm,32.0s
PPT2 *e*LQ LQ 16 51 38.2
comp=Z,2µm,43.5s
PPT2 *e*LR LR 16 54 51.2
comp=Z,493nm,24.5s
PAE Paea 77.89 108 *e*P **P** **16 30 46.0 -1.6**
TNA Tin City 78.05 21 *e*P **P** **16 30 49.2 +1.7**
comp=Z,13nm,1.1s
TBI Tubuai 78.39 114 *e*S **S** **16 40 42.8 -2.5**
comp=Z,233nm,36.0s
TBI *e*LQ LQ 16 51 50.5
comp=Z,618nm,39.2s
TBI *e*LR LR 16 55 13.8
comp=Z,684nm,35.5s
VNDA Vanda 78.60 174 *e*P **P** **16 30 49.5 -0.9**
VNDA pmax pmax
comp=Z,18nm,0.8s
VNDA Vanda 78.60 174 *e*P **P** **16 30 49.5 -0.9**
comp=Z,18nm,0.8s
AB31 Akbulak array 79.32 320 *i* P **P** **16 30 53.8 -1.1**
AB31 pmax pmax
comp=Z,30nm,1.0s
ABKAR Akbulak array 79.32 320 *e*P **P** **16 30 53.5 -1.4**
comp=Z,16nm,0.8s
SBA Scott Base 79.44 173 *e*P **P** **16 30 55.7 +0.7**
SBA pmax pmax
comp=Z,36nm,1.3s
SBA MLR MLR
comp=Z,1µm,20.0s
SBA Scott Base 79.44 173 *e*P **P** **16 30 55.6 +0.7**
comp=Z,36nm,1.3s
SBA LR LR
comp=Z,1µm,20.0s
SVE Sverdlovsk 80.77 328⇓ *i* P **P** **16 31 02.4 -0.2**
SVE pmax pmax
comp=Z,45nm,1.3s
AKTO Aktyubinsk 80.79 321 P **P** **16 31 01.9 -1.0**
AKTO pmax pmax
comp=Z,4.0nm,1.1s
ARU Arti 81.78 327 *d* *i* P **P** **16 31 08.0 0.0**
ARU 16 34 14.4
ARU S **S** **16 41 22.0 +2.3**
ARU SS **SS** **16 46 41.8 +4.0**
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 81.78 327 *e*P **P** **16 31 06.9 -1.1**
comp=Z,29nm,0.9s
ARU Arti 81.78 327 P **P** **16 31 07.4 -0.6**
comp=Z,135nm,0.8s,SNR=5.6
TTA Tatalina 81.81 26 *e*P **P** **16 31 07.9 -0.2**
TTA pmax pmax
comp=Z,21nm,1.0s
TTA Tatalina 81.81 26 *e*P **P** **16 31 07.9 -0.2**
comp=Z,21nm,1.0s
KDAK Kodiak Island 82.09 31 P **P** **16 31 10.0 +0.5**
comp=Z,8.1nm,0.9s,baz=270,slow=8.1,SNR=3.0
KDAK LR LR 17 04 18.4
comp=Z,256nm,19.6s,baz=253,slow=33
KDAK Kodiak Island 82.09 31 P **P** **16 31 10.0 +0.5**
KDAK Kodiak Island 82.09 31 P **P** **16 31 10.0 +0.5**
MAW Mawson 82.12 201 LR LR 17 07 41.7
comp=Z,495nm,18.7s,baz=72,slow=36
MAW Mawson 82.12 201 *e*P **P** **16 31 10.5 +1.0**
MAW pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 82.12 201 *e*P **P** **16 31 10.5 +1.0**
comp=Z,5.4nm,0.9s
RSO Redoubt South 82.64 29 P P **16 31 11.4 -1.2**
comp=Z,46nm,1.1s
SOKR Solikamsk 83.39 330 *e*P **P** **16 31 15.5 -0.7**
SOKR pmax pmax
comp=Z,30nm,1.5s
PPLA Purkeypile 83.49 26 *e*P **P** **16 31 17.2 +0.2**
comp=Z,20nm,1.0s
SLKM Skilak Lake 83.87 29 *e*P **P** **16 31 17.7 -1.1**
SLKM Skilak Lake 83.87 29 *e*P **P** **16 31 17.7 -1.1**
RC01 Rabbit Creek A 84.22 28 *e*P **P** **16 31 18.0 -2.5**
comp=Z,38nm,0.9s
TRF Thorofare Moun 84.45 26 *e*P **P** **16 31 20.7 -1.2**
comp=Z,36nm,1.4s
PMR Palmer 84.61 28 *e*P P 16 31 18.1 -4.3
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 84.61 28 *e*P P 16 31 18.1 -4.3
comp=Z,23nm,1.0s
MCK McKinley 85.10 26 *e*P **P** **16 31 24.5 -0.4**
MCK pmax pmax
comp=Z,14nm,1.5s
MCK McKinley 85.10 26 *e*P **P** **16 31 24.5 -0.4**
comp=Z,14nm,1.5s
COLD Coldfoot 85.29 22 *e*P **P** **16 31 26.8 +1.0**
comp=Z,16nm,1.1s
COLA College 85.77 25 P **P** **16 31 29.0 +0.8**
COLA pmax pmax
comp=Z,8.0nm,0.7s
COLA MLR MLR
comp=Z,240nm,20.0s
COLA College 85.77 25 P **P** **16 31 29.0 +0.8**
comp=Z,8.4nm,0.7s
COLA LR LR
comp=Z,240nm,20.0s
OPO Ambohidratompo 85.89 252 P **P** **16 31 29.6 -0.4**
comp=Z,4.8nm,0.9s,baz=111,slow=3.7,SNR=5.5
OPO Ambohidratompo 85.89 252 P **P** **16 31 29.6 -0.4**
ILAR Eielson Array 86.16 25 P **P** **16 31 29.1 -1.1**
comp=Z,2.7nm,0.9s,baz=252,slow=5.3,SNR=33
ILAR Eielson Array 86.16 25 P **P** **16 31 29.1 -1.1**
ILAR Eielson Array 86.16 25 P **P** **16 31 29.1 -1.1**
MIB Mutribah 86.44 300 *e*P **P** **16 31 32.6 +0.3**
MIB AMb AMB 16 31 45.4
comp=Z,52nm,1.2s
NAY Al-Naaiem 86.50 299 *e*P **P** **16 31 32.1 -0.5**
NAY AMb AMB 16 31 45.4
comp=Z,43nm,1.0s
PAX Paxson 86.52 27 *e*P **P** **16 31 33.1 +1.0**
PAX pmax pmax
comp=Z,82nm,1.6s
PAX Paxson 86.52 27 *e*P **P** **16 31 33.1 +1.0**
comp=Z,82nm,1.6s
MAK Makhachkala 86.98 313 *e*P **P** **16 31 33.1 -1.5**
MAK *e* 16 34 57.5
MAK *e*PPP PPP 16 36 47.9
MAK *e*S **SKSac** **16 41 55.3 -5.3**
MAK *e*SS **SS** **16 47 55.1 -0.1**
MAK *e*SSS SSS 16 51 24.9
MAK pmax pmax
comp=Z,39nm,0.7s
MAK MLR MLR
comp=Z,187nm,15.0s
EGAK Eagle 88.60 25 PFAKE 16 31 50.0 +8.1
EGAK LR LR
comp=Z,192nm,20.0s
GNI Garni 88.94 310 LR LR 17 14 40.0
comp=Z,120nm,21.1s,baz=94,slow=38
BHD Baghdad 89.07 303 *e*P P 16 31 53.0 +8.2
BHD *i* S **S** **16 42 29.0 -3.5**
DAWY Dawson 89.33 26 *e*P **P** **16 31 45.4 -0.1**
QSPA South Pole Qui 89.51 180 LR LR 17 12 24.5
comp=Z,1µm,19.3s,baz=16,slow=36
QSPA South Pole Qui 89.51 180 *e*P **P** **16 31 46.9 +0.6**
comp=Z,50nm,1.0s
ZEI Tsey 89.62 313 *e*P P 16 31 51.4 +3.9
ZEI pmax pmax
comp=Z,16nm,1.5s
KIV Kislovodsk 90.52 314 *e*P **P** **16 31 51.2 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 90.52 314 PFAKE 16 32 00.0 +8.5
KIV LR LR
comp=Z,207nm,19.0s
SYO Syowa Base 90.83 201⇑ *e*P **P** **16 31 51.4 -0.8**
INK Inuvik 91.69 22 P **P** **16 31 58.0 +1.8**
comp=Z,0.8nm,0.3s,baz=249,slow=7.7,SNR=4.1
INK Inuvik 91.69 22 P **P** **16 31 58.0 +1.8**
INK Inuvik 91.69 22 P **P** **16 31 58.0 +1.8**
VSR Storozhevoye 92.74 321 *e*P **P** **16 31 59.6 -1.9**
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,9.0nm,1.1s
MOS Moscow 93.39 326 *e*P **P** **16 32 07.2 +2.9**
MALT Malatya 93.86 308 PFAKE 16 32 20.0 +13
MALT LR LR
comp=Z,16nm,20.0s
OBN Obninsk 94.03 325 *e*P **P** **16 32 06.7 -0.6**
OBN *e**PP **pP** **16 32 17.3 +2.5**
OBN *e* 16 35 51.9
OBN *e*PS **PS** **16 44 32.4 -1.3**
OBN *e*SS SS 16 49 36.7 +0.3
OBN pmax pmax
comp=Z,16nm,1.3s
OBN MLR MLR
comp=Z,200nm,19.0s
ASF Jabal al Asfar 95.40 302 LR LR 17 22 37.9
comp=Z,110nm,19.4s,baz=326,slow=40
KMBO Kilima Mbogo 95.74 269 *e*P **P** **16 32 16.9 +0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO MLR MLR
comp=Z,201nm,20.0s
KMBO Kilima Mbogo 95.74 269 *e*P **P** **16 32 16.9 +0.5**
comp=Z,1.6nm,0.8s
KMBO LR LR

comp=Z,201nm,20.0s
ARCES **ARCESS Array B 96.47 340** P **P** **16 32 16.5 -1.7**
comp=Z,1.6nm,0.6s,baz=80,slow=5.6,SNR=5.4
ARCES LR LR 17 24 11.3
comp=Z,200nm,19.7s,baz=174,slow=41
ARCES ARCESS Array B 96.47 340 P **P** **16 32 16.5 -1.7**
ARCES ARCESS Array B 96.47 340 P **P** **16 32 16.5 -1.7**
MMAI Mount Meron Ar 96.61 303 LR LR 17 23 44.8
comp=Z,137nm,20.0s,baz=115,slow=40
EIL Elat 97.21 300 LR LR 17 21 40.1
comp=Z,212nm,21.3s,baz=82,slow=39
BRTR Keskin Array B 97.48 310 P **P** **16 32 23.2 -0.4**
comp=Z,0.4nm,0.7s,baz=35,slow=5.3,SNR=2.8
BRTR LR LR 17 23 46.4
comp=Z,93nm,21.7s,baz=257,slow=40
BRTR Keskin Array B 97.48 310 P **P** **16 32 23.2 -0.4**
BRTR Keskin Array B 97.48 310 P **P** **16 32 23.2 -0.4**
CSS Prodhromos 98.17 305 PFAKE 16 32 40.0 +13
CSS LR LR
comp=Z,188nm,19.0s
FINES FINESS Array B 98.41 332 LR LR 17 20 53.6
comp=Z,246nm,18.1s,baz=272,slow=38
AKASG Malin Array Be 99.04 321 P **Pdif** **16 32 28.5 -1.7**
comp=Z,0.3nm,0.4s,baz=150,slow=35,SNR=3.4
AKASG LR LR 17 22 55.4
comp=Z,166nm,20.2s,baz=115,slow=39
AKASG Malin Array Be 99.04 321 P **Pdif** **16 32 28.5 -1.7**
AKASG Malin Array Be 99.04 321 P **Pdif** **16 32 28.5 -1.7**
YKA Yellowknife Ar 100.57 26 P **Pdif** **16 32 34.9 -1.8**
comp=Z,0.2nm,0.7s,baz=288,slow=4.7,SNR=3.7
YKA Yellowknife Ar 100.57 26 P **Pdif** **16 32 34.9 -1.8**
YKA Yellowknife Ar 100.57 26 P **Pdif** **16 32 34.9 -1.8**
NEW Newport 103.45 40 PFAKE 16 33 00.0 +10
NEW LR LR
comp=Z,526nm,20.0s
BMO Blue Mountains 104.17 44 PFAKE 16 33 00.0 +6.7
BMO LR LR
comp=Z,253nm,22.0s
BMN Battle Mountai 105.25 48 PFAKE 16 37 20.0
BMN LR LR
comp=Z,429nm,21.0s
BOSA Boshof 105.33 240 PFAKE 16 37 20.0
BOSA LR LR
comp=Z,317nm,19.0s
LBTB Lobatse 105.56 244 PFAKE 16 37 20.0
LBTB LR LR
comp=Z,323nm,20.0s
PSZ Piszkesteto 105.63 320 PFAKE 16 37 20.0
PSZ LR LR
comp=Z,276nm,22.0s
DAC Darwin (Calif) 105.83 52 PFAKE 16 37 30.0
DAC LR LR
comp=Z,496nm,19.0s
HLID Hailey 106.52 44 PFAKE 16 37 30.0
HLID LR LR
comp=Z,336nm,19.0s
PFO Pinyon Flat Ob 107.27 55 PFAKE 16 37 30.0
PFO LR LR
comp=Z,222nm,19.0s
TIR Tirane 107.50 313 PFAKE 16 37 30.0
TIR LR LR
comp=Z,262nm,19.0s
BOZ Bozeman (W) 107.81 42 PFAKE 16 37 30.0
BOZ LR LR
comp=Z,401nm,21.0s
EGMT Eagleton 108.23 39 PFAKE 16 37 30.0
EGMT LR LR
comp=Z,462nm,21.0s
DUG Dugway 108.58 47 PFAKE 16 37 30.0
DUG LR LR
comp=Z,336nm,19.0s
CLL Collm 108.64 325 *e*Sdif Sdif 16 45 18.0 -1.9
CLL *e*PS PS 16 46 54.0 -15
CLL *e*PPS PPS 16 47 54.0
CLL e(SS) 16 54 00.0
CLL *e*SSS SSS 16 57 12.0
CLL *e*SSSS 17 00 12.0
CLL *e* 17 03 12.0
CLL *e* 17 04 30.0
CLL LmV 17 22 00.0
comp=Z,200nm,21.4s
LKWY Lake 108.98 43 PFAKE 16 37 30.0
LKWY LR LR
comp=Z,498nm,20.0s
AHID Auburn Hatcher 109.07 44 PFAKE 16 37 30.0
AHID LR LR
comp=Z,328nm,20.0s
HWUT Hardware Ranch 109.08 46 PFAKE 16 37 30.0
HWUT LR LR
comp=Z,307nm,20.0s
MVU Marysvale 109.48 49 PFAKE 16 37 30.0
MVU LR LR
comp=Z,351nm,20.0s
RLMT Red Lodge 109.55 42 PFAKE 16 37 30.0
RLMT LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 109.81 30 PFAKE 16 37 30.0
FFC LR LR
comp=Z,331nm,20.0s
TRI Trieste 110.33 319 PFAKE 16 37 30.0
TRI LR LR
comp=Z,293nm,21.0s
TIP Timpagrande 110.38 312 PFAKE 16 37 30.0
TIP LR LR
comp=Z,154nm,19.0s
CUC Castrocucco 110.83 313 PFAKE 16 37 30.0
CUC LR LR
comp=Z,109nm,20.0s
WTTA Wattenberg 111.09 321 P PKiKP 16 37 36.3 +13
comp=Z,6.5nm,0.9s
CEL Celeste 111.30 311 PFAKE 16 37 40.0
CEL LR LR
comp=Z,144nm,20.0s
DGMT Dagmar 111.47 37 PFAKE 16 37 40.0
DGMT LR LR
comp=Z,495nm,22.0s
DAVA Damuels 112.17 322⇑ *i*P **PKiKP** **16 37 30.3 +5.1**
DAVA Damuels 112.17 322⇑ *i*pPKiKP **PKiKP** **16 37 30.3 +5.1**
comp=Z,5.4nm,0.9s
TUC Tucson 112.21 55 PFAKE 16 37 40.0
TUC LR LR
comp=Z,251nm,19.0s
BFO Black Forest 112.65 324 PFAKE 16 37 40.0
BFO LR LR
comp=Z,234nm,21.0s
MVCO Mesa Verde 112.67 49 PFAKE 16 37 40.0
MVCO LR LR
comp=Z,256nm,22.0s
TUE Stuetta 112.85 321 PFAKE 16 37 40.0
TUE LR LR
comp=Z,325nm,21.0s
WLF Walferdange 113.28 326 PFAKE 16 37 40.0
WLF LR LR
comp=Z,257nm,21.0s
ECH Echery 113.39 324 PFAKE 16 37 40.0
ECH LR LR
comp=Z,270nm,19.0s
TSUM Tsumeb 113.78 249 PFAKE 16 37 40.0
TSUM LR LR
comp=Z,309nm,21.0s
ISCO Idaho Springs 113.95 46 PFAKE 16 37 40.0
ISCO LR LR
comp=Z,323nm,22.0s
ESK Eskdalemuir 114.75 334 PFAKE 16 37 40.0 +10
ESK LR LR
comp=Z,224nm,20.0s
SDCO Great Sand Dun 114.75 48 PFAKE 16 37 40.0 +9.4
SDCO LR LR
comp=Z,292nm,19.0s
LPG La Plagne 114.90 321 *e*PKIKP PKPdf 16 37 31.7 +1.1
comp=Z,10nm,0.9s
LPL La Plagne 114.91 321 *e*PKIKP PKPdf 16 37 32.0 +1.4
ANMO Albuquerque 114.94 51 PFAKE 16 37 40.0 +9.1
ANMO LR LR
comp=Z,226nm,19.0s
BNI Bardonecchia 115.15 321 PFAKE 16 37 40.0 +9.1
BNI LR LR
comp=Z,244nm,19.0s
ULM Lac du Bonnet 115.33 32 PFAKE 16 37 40.0 +9.1
ULM LR LR
comp=Z,513nm,19.0s
OGNE Ogallala 116.04 44 PFAKE 16 37 40.0 +7.3
OGNE LR LR
comp=Z,377nm,21.0s
AGMN Agassiz Nation 116.41 34 PFAKE 16 37 40.0 +6.9
AGMN LR LR
comp=Z,511nm,20.0s
MNTX Cornudas Mount 116.79 54 PFAKE 16 37 50.0 +16
MNTX LR LR
comp=Z,220nm,19.0s
CBKS Cedar Bluff 118.53 45 PFAKE 16 37 50.0 +12
CBKS LR LR
comp=Z,252nm,21.0s
AMTX Amarillo 118.65 50 PFAKE 16 37 50.0 +12
AMTX LR LR
comp=Z,286nm,20.0s
TXAR Lajitas Array 118.91 56 PKP **PKPdf** **16 37 40.1 +1.6**
comp=Z,0.7nm,0.9s,baz=259,slow=1.8,SNR=3.8
TXAR PKKPbc **PKKPab** **16 47 55.5 -0.4**
comp=Z,0.4nm,0.7s,baz=74,slow=3.9,SNR=4.2
TXAR Lajitas Array 118.91 56 PKIKP **PKPdf** **16 37 40.2 +1.6**
TXAR Lajitas Array 118.91 56 PKP **PKPdf** **16 37 40.1 +1.6**
TXAR PKKPbc **PKKPab** **16 47 55.5 -0.4**
MSKU Masuku 119.36 268 PFAKE 16 37 50.0 +10
MSKU LR LR
comp=Z,2.0nm,22.0s
KSU1 Kansas State U 120.59 44 PFAKE 16 37 50.0 +8.6
KSU1 LR LR
comp=Z,379nm,19.0s
WMOK Wichita Mounta 120.91 49 *e*PKIKP **PKPdf** **16 37 43.7 +1.5**
WMOK Wichita Mounta 120.91 49 *e*PKPdf **PKPdf** **16 37 43.7 +1.5**
SCIA State Center 121.43 39 PFAKE 16 37 50.0 +7.1
SCIA LR LR
comp=Z,361nm,21.0s
JCT Junction City 121.71 54 *e*PKIKP **PKPdf** **16 37 43.2 -0.7**
JCT MLR MLR
comp=Z,293nm,19.0s
JCT Junction City 121.71 54 *e*PKPdf **PKPdf** **16 37 43.2 -0.7**
JCT LR LR
comp=Z,293nm,19.0s
JFWS Jewell Farm 122.69 37 PFAKE 16 38 00.0 +15
JFWS LR LR
comp=Z,632nm,21.0s
SCHQ Schefferville 123.38 14 PFAKE 16 38 00.0 +14
SCHQ LR LR
comp=Z,938nm,19.0s
KVTX Kingsville 124.30 57 PFAKE 16 38 00.0 +11
KVTX LR LR
comp=Z,380nm,19.0s
TAM Tamanrasset 124.35 297 PKIKP **PKPdf** **16 37 53.6 +4.3**
TAM MLR MLR
comp=Z,148nm,21.0s
TAM Tamanrasset 124.35 297 PKPdf **PKPdf** **16 37 53.6 +4.3**
TAM LR LR
comp=Z,148nm,21.0s
ESLA Sonseca Array 124.66 320 PFAKE 16 38 00.0 +11
ESLA LR LR
comp=Z,944nm,20.0s
MIAR Mount Ida 124.86 47 *e*PKIKP **PKPdf** **16 37 49.8 +0.1**
MIAR MLR MLR
comp=Z,354nm,20.0s
MIAR Mount Ida 124.86 47 *e*PKPdf **PKPdf** **16 37 49.8 +0.1**
MIAR LR LR
comp=Z,354nm,20.0s
PAB San Pablo 124.98 320 PFAKE 16 38 00.0 +10
PAB LR LR
comp=Z,257nm,19.0s
NATX Nacogdoches 125.28 50 PFAKE 16 38 00.0 +9.4
NATX LR LR
comp=Z,346nm,19.0s
OLIL Olney 126.44 40 *e*PKPdf **PKPdf** **16 37 53.5 +0.9**
EFI East Falkland 127.25 171 PFAKE 16 38 10.0 +16
EFI LR LR
comp=Z,381nm,19.0s
OXF Oxford 127.87 45 PFAKE 16 38 10.0 +15
OXF LR LR
comp=Z,382nm,21.0s
SFS San Fernando 127.92 318 PFAKE 16 38 10.0 +14
SFS LR LR
comp=Z,480nm,19.0s
VBMS Vicksburg 128.21 48 PFAKE 16 38 10.0 +14
VBMS LR LR
comp=Z,521nm,22.0s
PLAL Pickwick Lake 128.55 44 PFAKE 16 38 10.0 +13
PLAL LR LR
comp=Z,394nm,19.0s
RTC Rabat Centre 129.73 316 PFAKE 16 38 10.0 +11
RTC LR LR
comp=Z,284nm,20.0s
TORD Torodi Ar. Bea 130.14 287 PKP **PKPdf** **16 38 01.1 +0.8**
comp=Z,2.4nm,0.8s,baz=56,slow=1.3,SNR=11
TORD Torodi Ar. Bea 130.14 287 PKP **PKPdf** **16 38 01.1 +0.8**
LRAL Lakeview Retre 130.35 45 *e*PKPdf **PKPdf** **16 37 59.9 -0.3**
LRAL LR LR
comp=Z,467nm,19.0s
GOGA Godfrey 132.59 42 PFAKE 16 38 20.0 +16
GOGA LR LR
comp=Z,304nm,19.0s
CBN Corbin 133.17 33 PFAKE 16 38 20.0 +15
CBN LR LR
comp=Z,616nm,21.0s
PLCA Paso Flores 133.78 155 PKP **PKPdf** **16 38 06.7 +0.1**
comp=Z,2.9nm,0.8s,baz=197,slow=3.6,SNR=8.8
PLCA Paso Flores 133.78 155 *e*PKIKP **PKPdf** **16 38 05.9 -0.7**
PLCA MLR MLR
comp=Z,411nm,19.0s
PLCA Paso Flores 133.78 155 *e*PKPdf **PKPdf** **16 38 05.8 -0.7**
PLCA PKP **PKPdf** **16 38 06.7 +0.1**
PLCA LR LR
comp=Z,411nm,19.0s
NHSC New Hope 134.95 40 PFAKE 16 38 20.0 +11
NHSC LR LR
comp=Z,509nm,20.0s
CNNC Cliffs of the 134.97 36 PFAKE 16 38 20.0 +11
CNNC LR LR
comp=Z,452nm,19.0s
DBIC Dimbokro 137.50 279 *e*PKIKP **PKPdf** **16 38 12.5 -1.7**
DBIC MLR MLR
comp=Z,185nm,20.0s
DBIC Dimbokro 137.50 279 *e*PKPdf **PKPdf** **16 38 12.5 -1.7**
DBIC LR LR
comp=Z,185nm,20.0s
TRQA Tornquist 139.29 162 PFAKE 16 38 30.0 +13
TRQA LR LR
comp=Z,607nm,22.0s
JTS JuntasAbangare 141.01 74 PFAKE 16 38 30.0 +9.4
JTS LR LR
comp=Z,213nm,20.0s
LCO Las Campanas 142.98 144 *e*PKPdf **PKPdf** **16 38 22.0 -2.1**
LCO LR LR
comp=Z,395nm,20.0s
BCIP Isla Barro Col 146.18 74 PFAKE 16 38 40.0 +8.7
BCIP LR LR
comp=Z,209nm,21.0s
GTBY Guantanamo Bay 146.34 53 *e*PKPbc **PKPbc** **16 38 30.5 -0.4**
GTBY LR LR
comp=Z,215nm,21.0s
BBTS Babate 146.72 297 PKPbc **PKPab** **16 38 33.3 0.0**
comp=Z,16nm,0.7s,baz=195,slow=1.1,SNR=3.3
BBTS Babate 146.72 297 PKPbc **PKPab** **16 38 33.3 0.0**
ATAH Atahualpa 147.80 104 PKPbc **PKPbc** **16 38 36.7 +0.9**
comp=Z,14nm,0.9s,baz=269,slow=2.8,SNR=11
ATAH Atahualpa 147.80 104 PKPbc **PKPbc** **16 38 36.7 +0.9**
NNA Nana 147.91 114 *e*PKIKP **PKPdf** **16 38 31.8 -0.8**
NNA MLR MLR
comp=Z,331nm,21.0s
NNA Nana 147.91 114 *e*PKPdf **PKPdf** **16 38 31.8 -0.8**
NNA LR LR
comp=Z,331nm,21.0s
OTAV Otavalo 148.55 90 *e*PKPbc **PKPbc** **16 38 38.5 +0.6**
OTAV LR LR
comp=Z,167nm,21.0s
LVC Limon Verde 148.70 138 *e*PKPbc **PKPab** **16 38 39.7 -1.6**
LVC LR LR
comp=Z,413nm,20.0s
SDDR Presa de Saban 149.87 51 PFAKE 16 38 50.0 +4.1
SDDR LR LR
comp=Z,287nm,19.0s
CPUP Villa Florida 151.60 160 PKPbc **PKPbc** **16 38 44.5 +0.3**
comp=Z,14nm,0.8s,baz=215,slow=1.9,SNR=26
CPUP Villa Florida 151.60 160 PKIKP **PKPbc** **16 38 44.5 +0.3**
CPUP MLR MLR
comp=Z,80nm,20.0s
CPUP Villa Florida 151.60 160 PKPbc **PKPbc** **16 38 44.5 +0.3**
CPUP LR LR
comp=Z,80nm,20.0s
ROSC El Rosal 152.35 80 *e*PKPdf **PKPdf** **16 38 37.9 -2.1**
ROSC *e*PKPbc **PKiKP** **16 38 47.7 +0.6**
SACV Santiago Islan 152.74 303 PFAKE 16 38 50.0 +2.9
SACV LR LR
comp=Z,289nm,21.0s
LPAZ La Paz 153.34 129 PKPbc **PKPbc** **16 38 50.5 +1.3**
comp=Z,4.9nm,0.9s,baz=266,slow=2.9,SNR=5.6
LPAZ La Paz 153.34 129 *e*PKIKP **PKPdf** **16 38 42.0 +0.3**
LPAZ 16 38 50.5
LPAZ MLR MLR
comp=Z,217nm,21.0s
LPAZ La Paz 153.34 129 *e*PKPdf **PKPdf** **16 38 42.0 +0.3**
LPAZ PKPbc **PKPbc** **16 38 50.5 +1.3**
LPAZ LR LR
comp=Z,217nm,21.0s
LRS Lares 153.63 47 *e*PKPdf **PKPdf** **16 38 44.5 +3.2**
LRS *e*PKPbc **PKiKP** **16 38 50.9 +1.7**
SDV Santo Domingo 155.01 70 *e*PKPbc PKPdf 16 38 51.9 +8.3
SDV LR LR
comp=Z,128nm,22.0s
SPB Sao Paulo 156.12 179 PFAKE 16 39 00.0 -12
SPB LR LR
comp=Z,364nm,20.0s
SAML Samuel 161.38 120 *e*PKPdf **PKPdf** **16 38 51.8 +0.7**
SAML *e*PKPab **PKPab** **16 39 36.3 +1.2**
SAML LR LR
comp=Z,158nm,19.0s
RCBR Riachuelo 167.30 241 PFAKE 16 39 10.0 +14
RCBR LR LR
comp=Z,372nm,20.0s

IDC 08 16:36:29.7±2.9, 0.74S×133.00E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=127.6km s-min=26.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.70**	**202**	P	P	16 40 49.7	-0.1
	0.1nm,0.3s,baz=26,slow=13,SNR=3.4						
FITZ				S	Sn	16 44 05.0	-15
	0.2nm,0.3s,baz=270,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**19.13**	**176**	P	P	16 40 53.9	-0.7
	0.1nm,0.3s,baz=356,slow=12,SNR=8.3						
WRA				S	Sn	16 44 16.9	-13
	0.1nm,0.3s,baz=358,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	16 41 34.8	+0.5
	0.6nm,0.5s,baz=359,slow=11,SNR=24						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	16 47 10.3	-0.1
	0.2nm,0.6s,baz=113,slow=8.2,SNR=4.7						

MAN 08 16:57:03, 16.16N×119.80E, h10km, mb4.4, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.24**	**26**	*e*P	Pg	16 57 09.8	+1.8
BOLP				*e*S	Sg	16 57 13.5	+2.1
SCZP	**Santa Cruz**	**0.40**	**165**	*e*P	Pg	16 57 12.5	+1.7
SCZP				*e*S	Sg	16 57 19.7	+3.6
BCPH	**Baguio City Da**	**0.78**	**74**⇑	*i*P	Pg	16 57 18.3	0.0
ABRA	**Dolores**	**1.72**	**30**	*e*P	Pn	16 57 32.1	-0.9
BALP	**Baler**	**1.76**	**104**	*e*P	Pn	16 57 34.4	+0.9
CAUA	**Cauayan**	**2.09**	**68**	*e*P	Pb	16 57 40.1	-0.9
LUBP	**Lubang**	**2.45**	**170**	*e*P	Pn	16 57 44.0	+0.9

*NEIC **08** 17:01:09.4, 37.32S×176.50E, h300km, MG4.6(WEL), After WEL.*

WEL 08 17:01:09.2±0.8, 37.27S×176.50E, h301km±6km, ML4.6/20, 8C, Error ellipse: s-maj=4.8km s-min=3.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.50**	**203**	PN	Pn	17 01 48.0	+0.3
TGRZ	**Tauranga**	**0.50**	**203**	Pn	Pn	17 01 48.2	+0.5
OPRZ	**Ohinepanea**	**0.57**	**176**	PN	Pn	17 01 47.9	0.0
OPRZ	**Ohinepanea**	**0.57**	**176**	Pn	Pn	17 01 47.6	-0.3
MARZ	**Manawahe**	**0.72**	**169**	PN	Pn	17 01 48.6	+0.2
MARZ	**Manawahe**	**0.72**	**169**	Pn	Pn	17 01 48.8	+0.3
TARZ	**Mount Tarawera**	**0.96**	**180**	*e*PN	Pn	17 01 49.7	+0.2
TARZ	**Mount Tarawera**	**0.96**	**180**	Pn	Pn	17 01 49.9	+0.4
RRRZ	**Republican Roa**	**1.07**	**180**	PN	Pn	17 01 49.8	0.0
RRRZ	**Republican Roa**	**1.07**	**180**	Pn	Pn	17 01 49.8	0.0
URZ	**Urewera**	**1.10**	**154**⇑	PN	Pn	17 01 49.6	-0.4
URZ	**Urewera**	**1.10**	**154**	Pn	Pn	17 01 49.6	-0.4
PRRZ	**Plateau Road**	**1.23**	**184**	PN	Pn	17 01 50.8	+0.1
PRRZ	**Plateau Road**	**1.23**	**184**	Pn	Pn	17 01 50.8	+0.1
ALRZ	**Allen Road**	**1.29**	**186**	PN	Pn	17 01 51.1	0.0
ALRZ	**Allen Road**	**1.29**	**186**	Pn	Pn	17 01 51.1	0.0
MWZ	**Matawai**	**1.33**	**143**⇑	PN	Pn	17 01 51.3	0.0
MWZ	**Matawai**	**1.33**	**143**	Pn	Pn	17 01 51.4	0.0
WHTZ	**Whakaora**	**1.46**	**197**	PN	Pn	17 01 52.5	+0.4
WHTZ	**Whakaora**	**1.46**	**197**	Pn	Pn	17 01 52.5	+0.4
MXZ	**Matakaoa Point**	**1.46**	**102**	PN	Pn	17 01 52.4	+0.3
MXZ	**Matakaoa Point**	**1.46**	**102**	Pn	Pn	17 01 52.5	+0.4
WATZ	**Wairara**	**1.56**	**203**	PN	Pn	17 01 52.8	0.0
WATZ	**Wairara**	**1.56**	**203**	Pn	Pn	17 01 52.8	0.0
PUZ	**Puketiti**	**1.60**	**120**⇑	PN	Pn	17 01 53.2	+0.2
PUZ				SN	S	17 02 27.4	-0.5
PUZ	**Puketiti**	**1.60**	**120**	Pn	Pn	17 01 53.2	+0.2
PUZ				Sn	S	17 02 27.4	-0.5
HATZ	**Hinemaiaia**	**1.65**	**191**	Pn	Pn	17 01 52.9	-0.5
RATZ	**Rangitukua**	**1.69**	**200**	PN	Pn	17 01 53.2	-0.5
RATZ	**Rangitukua**	**1.69**	**200**	Pn	Pn	17 01 53.3	-0.4
RAHZ	**Arahi**	**1.71**	**165**	PN	Pn	17 01 54.0	+0.3
RAHZ	**Arahi**	**1.71**	**165**	Pn	Pn	17 01 54.0	+0.3
RITZ	**Rihia Road**	**1.78**	**196**	PN	Pn	17 01 54.4	+0.1
RITZ	**Rihia Road**	**1.78**	**196**	Pn	Pn	17 01 54.5	+0.2
HIZ	**Hauiti**	**1.80**	**226**	PN	Pn	17 01 54.6	+0.3
HIZ	**Hauiti**	**1.80**	**226**	Pn	Pn	17 01 54.7	+0.4
CNGZ	**Carnagh Statio**	**1.81**	**132**⇑	PN	Pn	17 01 55.2	+0.8
CNGZ	**Carnagh Statio**	**1.81**	**132**	Pn	Pn	17 01 55.3	+0.8
KATZ	**Kakaramea**	**1.82**	**200**	PN	Pn	17 01 54.3	-0.3
KATZ	**Kakaramea**	**1.82**	**200**	Pn	Pn	17 01 54.4	-0.3
NMHZ	**Naumai**	**1.84**	**173**	PN	Pn	17 01 55.2	+0.5
NMHZ	**Naumai**	**1.84**	**173**	Pn	Pn	17 01 55.2	+0.5
BKZ	**Black Stump Fm**	**1.89**	**180**⇑	PN	Pn	17 01 54.6	-0.5
BKZ				SN	S	17 02 30.0	-1.7
BKZ	**Black Stump Fm**	**1.89**	**180**	Pn	Pn	17 01 54.6	-0.5
BKZ				Sn	S	17 02 30.0	-1.7
KRVZ	**Karewarewa**	**1.94**	**200**	PN	Pn	17 01 54.9	-0.8
KRVZ	**Karewarewa**	**1.94**	**200**	Pn	Pn	17 01 55.1	-0.5
KNZ	**Kokohu**	**1.97**	**153**⇑	PN	Pn	17 01 55.6	-0.1
KNZ	**Kokohu**	**1.97**	**153**	Pn	Pn	17 01 55.6	0.0
PRGZ	**Paritu Road**	**1.98**	**147**	PN	Pn	17 01 56.0	+0.2
PRGZ	**Paritu Road**	**1.98**	**147**	Pn	Pn	17 01 56.0	+0.2
WTVZ	**West Tongariro**	**1.98**	**201**	PN	Pn	17 01 55.2	-0.7
WTVZ	**West Tongariro**	**1.98**	**201**	Pn	Pn	17 01 55.3	-0.6
TWVZ	**Taurewa**	**1.98**	**205**	PN	Pn	17 01 55.3	-0.6
TWVZ	**Taurewa**	**1.98**	**205**	Pn	Pn	17 01 55.3	-0.6
OTVZ	**Oturere**	**2.00**	**199**	PN	Pn	17 01 55.8	-0.3
OTVZ	**Oturere**	**2.00**	**199**	Pn	Pn	17 01 55.8	-0.3
NGZ	**Ngauruhoe**	**2.03**	**200**	PN	Pn	17 01 55.9	-0.4
NGZ	**Ngauruhoe**	**2.03**	**200**	Pn	Pn	17 01 55.9	-0.4
WPVZ	**Whakapapa**	**2.07**	**201**	PN	Pn	17 01 56.0	-0.6
WPVZ	**Whakapapa**	**2.07**	**201**	Pn	Pn	17 01 56.0	-0.6
TUVZ	**Tukino**	**2.10**	**198**	PN	Pn	17 01 56.4	-0.5
TUVZ	**Tukino**	**2.10**	**198**	Pn	Pn	17 01 56.4	-0.5
FWVZ	**Far West T-bar**	**2.12**	**200**	PN	Pn	17 01 56.6	-0.5
FWVZ	**Far West T-bar**	**2.12**	**200**	Pn	Pn	17 01 56.6	-0.5
DRZ	**Dome Shelter**	**2.13**	**200**	PN	Pn	17 01 57.2	-0.2
DRZ	**Dome Shelter**	**2.13**	**200**	Pn	Pn	17 01 57.2	-0.2
TRVZ	**Turoa**	**2.16**	**200**	PN	Pn	17 01 57.0	-0.5
TRVZ	**Turoa**	**2.16**	**200**	Pn	Pn	17 01 57.0	-0.5
MCHZ	**McNeill Hill**	**2.17**	**176**	PN	Pn	17 01 57.4	+0.1
MCHZ	**McNeill Hill**	**2.17**	**176**	Pn	Pn	17 01 57.4	+0.1
WNVZ	**Wahianoa**	**2.17**	**199**⇑	PN	Pn	17 01 56.7	-0.8
WNVZ	**Wahianoa**	**2.17**	**199**	Pn	Pn	17 01 56.8	-0.8
MHGZ	**Mahia Peninsul**	**2.18**	**150**	PN	Pn	17 01 57.7	+0.3
MHGZ	**Mahia Peninsul**	**2.18**	**150**	Pn	Pn	17 01 57.7	+0.4
MOVZ	**Moawhango**	**2.21**	**195**	PN	Pn	17 01 56.8	-1.0
MOVZ	**Moawhango**	**2.21**	**195**	Pn	Pn	17 01 56.8	-1.0
BHHZ	**Black Hill Sta**	**2.24**	**189**⇑	PN	Pn	17 01 57.2	-0.8
MTVZ	**Mangateitei**	**2.26**	**201**	PN	Pn	17 01 57.5	-0.7
MTVZ	**Mangateitei**	**2.26**	**201**	Pn	Pn	17 01 57.6	-0.6
VRZ	**Vera Road**	**2.31**	**216**	Pn	Pn	17 01 58.0	-0.5
CKHZ	**Cape Kidnapper**	**2.42**	**169**	PN	Pn	17 01 59.4	-0.1
CKHZ	**Cape Kidnapper**	**2.42**	**169**	Pn	Pn	17 01 59.4	-0.1
KAHZ	**Kahuranaki**	**2.54**	**173**	PN	Pn	17 02 00.2	-0.3
KAHZ	**Kahuranaki**	**2.54**	**173**	Pn	Pn	17 02 00.2	-0.3
PNHZ	**Pukenui**	**2.65**	**185**	PN	Pn	17 02 00.3	-1.3
PNHZ	**Pukenui**	**2.65**	**185**	Pn	Pn	17 02 00.4	-1.2

WAZ	**Wanganui**	**2.75 205**	PN	Pn	17 02 01.2	-1.3
WAZ	**Wanganui**	**2.75 205**	Pn	Pn	17 02 01.4	-1.1
NEZ	**North Egmont**	**2.75 223**	PN	Pn	17 02 02.5	-0.1
NEZ	**North Egmont**	**2.75 223**	Pn	Pn	17 02 02.7	+0.1
PKE	**Pukeiti**	**2.76 225**	PN	Pn	17 02 02.7	+0.1
PKE	**Pukeiti**	**2.76 225**	Pn	Pn	17 02 02.7	+0.1
PXZ	**Pawanui**	**2.77 174**	PN	Pn	17 02 01.9	-0.6
PXZ	**Pawanui**	**2.77 174**	Pn	Pn	17 02 01.9	-0.6
DFE	**Dawson Falls**	**2.79 222**	PN	Pn	17 02 02.7	-0.2
DFE	**Dawson Falls**	**2.79 222**	Pn	Pn	17 02 02.8	-0.2
WPHZ	**Waipukurau**	**2.79 181**	PN	Pn	17 02 01.9	-0.9
WPHZ	**Waipukurau**	**2.79 181**	Pn	Pn	17 02 01.9	-0.9
TSZ	**Takapari Road**	**2.81 189**	Pn	Pn	17 01 59.6	-3.5
PRHZ	**Porangahau**	**2.99 178**	PN	Pn	17 02 03.8	-1.0
PRHZ	**Porangahau**	**2.99 178**	Pn	Pn	17 02 03.9	-0.9
DVHZ	**Dannevirke**	**3.04 185**	PN	Pn	17 02 03.7	-1.5
DVHZ	**Dannevirke**	**3.04 185**	Pn	Pn	17 02 03.7	-1.5
POWZ	**Post Office Ro**	**3.17 190**	PN	Pn	17 02 05.1	-1.5
POWZ	**Post Office Ro**	**3.17 190**	Pn	Pn	17 02 05.1	-1.4
BFZ	**Birch Farm**	**3.41 183**	PN	Pn	17 02 07.5	-1.5
BFZ	**Birch Farm**	**3.41 183**	Pn	Pn	17 02 07.4	-1.6
MRZ	**Mangatainoka R**	**3.46 192**	PN	Pn	17 02 07.4	-2.2
MRZ	**Mangatainoka R**	**3.46 192**	Pn	Pn	17 02 07.4	-2.2
TIWZ	**Tintock**	**3.53 188**	Pn	Pn	17 02 05.2	-5.1
OGWZ	**Otaki Gorge**	**3.69 196**	PN	Pn	17 02 09.7	-2.2
OGWZ	**Otaki Gorge**	**3.69 196**	Pn	Pn	17 02 09.7	-2.2
HOWZ	**Holdsworth Sta**	**3.70 192**	PN	Pn	17 02 09.6	-2.5
HOWZ	**Holdsworth Sta**	**3.70 192**	Pn	Pn	17 02 09.7	-2.4
KIW	**Kapiti Island**	**3.79 199**	PN	Pn	17 02 10.6	-2.4
KIW	**Kapiti Island**	**3.79 199**	Pn	Pn	17 02 10.7	-2.4
TMWZ	**Te Maipa**	**3.86 187**	PN	Pn	17 02 12.0	-1.8
TMWZ	**Te Maipa**	**3.86 187**	Pn	Pn	17 02 12.1	-1.7
MTW	**Mount Morrison**	**3.96 191**	PN	Pn	17 02 12.1	-2.8
MTW	**Mount Morrison**	**3.96 191**	Pn	Pn	17 02 12.3	-2.6
CAW	**Cannon Point**	**3.99 196**	PN	Pn	17 02 12.7	-2.5
CAW	**Cannon Point**	**3.99 196**	Pn	Pn	17 02 12.7	-2.5
DUWZ	**D'Urville Isla**	**4.06 209**	PN	Pn	17 02 13.1	-2.9
DUWZ	**D'Urville Isla**	**4.06 209**	Pn	Pn	17 02 13.1	-2.9
TRWZ	**Traveller**	**4.17 188**	PN	Pn	17 02 15.0	-2.2
TRWZ	**Traveller**	**4.17 188**	Pn	Pn	17 02 15.0	-2.2
PAWZ	**Paruwai Farm**	**4.19 191**	PN	Pn	17 02 14.8	-2.6
PAWZ	**Paruwai Farm**	**4.19 191**	Pn	Pn	17 02 14.8	-2.6
WEL	**Wellington**	**4.23 198**	Pn	Pn	17 02 15.4	-2.4
MSWZ	**Moikau Station**	**4.25 193**	PN	Pn	17 02 15.3	-2.8
MSWZ	**Moikau Station**	**4.25 193**	Pn	Pn	17 02 15.3	-2.8
SNZO	**South Karori**	**4.27 199**	PN	Pn	17 02 15.6	-2.6
SNZO	**South Karori**	**4.27 199**	Pn	Pn	17 02 15.6	-2.6
TCW	**Tory Channel**	**4.30 203**	PN	Pn	17 02 16.0	-2.6
TCW	**Tory Channel**	**4.30 203**	Pn	Pn	17 02 16.0	-2.6
BHW	**Baring Head**	**4.32 197**	PN	Pn	17 02 16.4	-2.4
BHW	**Baring Head**	**4.32 197**	Pn	Pn	17 02 16.4	-2.4
PLWZ	**Palliser**	**4.40 192**	PN	Pn	17 02 17.0	-2.8
PLWZ	**Palliser**	**4.40 192**	Pn	Pn	17 02 17.0	-2.8
TUWZ	**Tuamarina**	**4.60 205**	PN	Pn	17 02 19.0	-3.0
TUWZ	**Tuamarina**	**4.60 205**	Pn	Pn	17 02 19.0	-3.0
NNZ	**Nelson**	**4.63 211**	PN	Pn	17 02 18.7	-3.6
NNZ	**Nelson**	**4.63 211**	Pn	Pn	17 02 18.7	-3.6
QRZ	**Quartz Range**	**4.71 220**	PN	Pn	17 02 19.1	-4.1
QRZ	**Quartz Range**	**4.71 220**	Pn	Pn	17 02 19.1	-4.1
BSWZ	**Blackbirch Sta**	**4.88 204**	PN	Pn	17 02 22.4	-2.8
BSWZ	**Blackbirch Sta**	**4.88 204**	Pn	Pn	17 02 22.4	-2.8
THZ	**Tophouse**	**5.28 211**	PN	Pn	17 02 25.9	-4.0
THZ	**Tophouse**	**5.28 211**	Pn	Pn	17 02 25.9	-4.0
KHZ	**Kahutara**	**5.62 203**	PN	Pn	17 02 30.4	-3.4
KHZ	**Kahutara**	**5.62 203**	Pn	Pn	17 02 30.4	-3.4
DSZ	**Denniston Nort**	**5.76 218**	PN	Pn	17 02 30.7	-4.9
DSZ			S	S	17 03 36.8	-8.3
LTZ	**Lake Taylor**	**6.39 209**	PN	Pn	17 02 39.4	-3.7
LTZ	**Lake Taylor**	**6.39 209**	Pn	Pn	17 02 39.4	-3.7
CRLZ	**Canterbury Las**	**6.96 204**	PN	Pn	17 02 46.1	-3.7
CRLZ	**Canterbury Las**	**6.96 204**	Pn	Pn	17 02 46.1	-3.7
MQZ	**McQueen's Vall**	**7.07 203**	PN	Pn	17 02 46.5	-4.6
MQZ	**McQueen's Vall**	**7.07 203**	Pn	Pn	17 02 46.5	-4.6
WVZ	**Waitaha Valley**	**7.29 215**	PN	Pn	17 02 49.1	-4.7
WVZ	**Waitaha Valley**	**7.29 215**	Pn	Pn	17 02 49.5	-4.4
RPZ	**Rata Peaks**	**7.66 211**	PN	Pn	17 02 54.0	-4.4
RPZ	**Rata Peaks**	**7.66 211**	Pn	Pn	17 02 54.3	-4.1
FOZ	**Fox Glacier**	**8.15 217**	PN	Pn	17 02 58.8	-5.7
FOZ	**Fox Glacier**	**8.15 217**	Pn	Pn	17 02 58.8	-5.7
LBZ	**Lake Benmore**	**8.57 212**	PN	Pn	17 03 05.5	-4.1
LBZ	**Lake Benmore**	**8.57 212**	Pn	Pn	17 03 05.5	-4.1
WKZ	**Wanaka**	**9.43 214**	*e*PN	Pn	17 03 14.4	-5.7
EAZ	**Earnscleugh**	**9.62 212**	*e*PN	Pn	17 03 17.0	-5.4

*ISCJB **08** 17:10:03.9±0.5, 51°.44N±0°.03×16°.13E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.7km az=15.3*
*CSEM **08** 17:10:05.1±0.3, 51°.49N×16°.09E, h2km, ML2.8/5, Error ellipse: s-maj=5.0km s-min=3.9km az=7.0*
*IDC **08** 17:10:06.2±1.1, 51°.53N×15°.82E, h0km, mb1 3.4/4, mb1mx3.1/24, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=17.2km s-min=9.0km az=114.0*
*PRU **08** 17:10:06.1, 51°.48N×16°.11E, h0km*
*WAR **08** 17:10:07.2, 51°.44N×16°.20E*
*VIE **08** 17:10:08.0±0.5, 51°.29N×16°.11E, h0km, mb2.4/3, ML2.8/5, Error ellipse: s-maj=2.9km s-min=2.8km az=118.0 66 km WNW of Wroclaw Suspected Mining induced.*

ISC 08 17:10:06.5±1.1, 51°.45N±0°.05×16°.12E±0°.02, h0km, n49, σ0s94/79, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**170**	*e*Pg	**Pg**	**17 10 18.5**	**+0.2**
KSP				*e*Sg	**Sg**	**17 10 27.7**	**+1.5**
KSP	**Ksiaz**	**0.62**	**170**	*i* Pg	**Pg**	**17 10 18.5**	**+0.2**
KSP				*e*Sg	**Sg**	**17 10 27.1**	**+0.9**
KSP	**Ksiaz**	**0.62**	**170**	↓*i* Pg	**Pg**	**17 10 18.5**	**+0.2**
KSP				*e*Sg	**Sg**	**17 10 27.1**	**+0.9**
UPC	**Upice**	**0.94**	**184**	*e*PG	**Pg**	**17 10 24.6**	**0.0**
UPC	**Upice**	**0.94**	**184**	Pg	**Pg**	**17 10 24.6**	**0.0**
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	**Pg**	**17 10 27.4**	**-0.3**
DPC				*e*SG	**Sg**	**17 10 41.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.11**	**173**	Pg	**Pg**	**17 10 27.4**	**-0.3**
DPC				Sg	**Sg**	**17 10 41.9**	**-0.1**
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	**Pg**	**17 10 27.4**	**-0.8**
PVCC	**Panska Ves**	**1.34**	**227**	Pg	**Pg**	**17 10 31.4**	**-0.8**
BRG	**Berggiesshubel**	**1.49**	**248**	PG	**Pn**	**17 10 34.3**	**-0.1**
BRG				SG	**Sn**	**17 10 54.2**	**-0.3**
	64nm,0.4s						
PRU	**Pruhonice**	**1.77**	**215**	*e*PN	**Pn**	**17 10 37.0**	**-1.4**
PRU				*e*PG	**Pb**	**17 10 39.0**	**-0.8**
PRU				*e*SG	**Sn**	**17 11 03.0**	**+1.4**
PRU	**Pruhonice**	**1.77**	**215**	Pn	**Pn**	**17 10 37.0**	**-1.4**
MORC	**Moravsky Berou**	**1.90**	**151**	*e*Pn	**Pn**	**17 10 39.0**	**-1.2**
MORC				*e*Sg	**Sb**	**17 11 06.4**	**0.0**
CLL	**Collm**	**1.96**	**267**	*e*Pn	**Pn**	**17 10 39.0**	**-1.9**
CLL				*e*Pg	Pb	17 10 41.0	-2.0
CLL				*i*		17 10 46.2	
CLL				*i* Sg	**Sn**	**17 11 07.7**	**+1.5**
	comp=Z,18nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*PG	**Pb**	**17 10 45.0**	**+0.2**
OKC				*e*SG	**Sg**	**17 11 12.7**	**-0.1**
OKC	**Ostrava-Krasne**	**2.07**	**141**	Pg	**Pb**	**17 10 45.0**	**+0.2**
OKC				Sg	**Sg**	**17 11 12.7**	**-0.1**
VRAC	**Vranov**	**2.16**	**172**	Pn	**Pn**	**17 10 44.0**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=352,slow=19,SNR=11						
VRAC				Sn	**Sg**	**17 11 15.2**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=84,slow=22,SNR=3.9						
VRAC	**Vranov**	**2.16**	**172**	*e*Pn	**Pn**	**17 10 43.1**	**-0.7**
VRAC				*e*Sg	**Sg**	**17 11 15.8**	**-0.2**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**17 10 49.5**	**-0.6**
NKC				*e*PG	**Pb**	**17 10 54.7**	**+0.3**
NKC				*e*SG	**Sb**	**17 11 30.6**	**+3.4**
NKC	**Novy Kostel**	**2.63**	**244**	Pn	**Pn**	**17 10 49.5**	**-0.6**
OJC	**Ojcow**	**2.64**	**116**	*e*Pg	**Pb**	**17 10 54.9**	**+0.3**
OJC				*e*Sg	**Sg**	**17 11 30.1**	**-1.1**
OJC	**Ojcow**	**2.64**	**116**	*e*Pg	**Pb**	**17 10 54.9**	**+0.3**
OJC				*e*Sg	**Sg**	**17 11 30.1**	**-1.1**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**17 10 52.2**	**-0.8**
KHC				*e*PG	**Pb**	**17 10 58.3**	**+0.3**
KHC				*e*SN	**Sn**	**17 11 27.3**	**-0.6**
KHC				*e*SG	**Sg**	**17 11 37.1**	**-0.4**
KHC	**Kasperske Hory**	**2.83**	**216**	Pn	**Pn**	**17 10 52.2**	**-0.8**
KHC	**Kasperske Hory**	**2.83**	**216**	Pg	**Pb**	**17 10 58.3**	**+0.3**
KHC				Sn	**Sn**	**17 11 27.3**	**-0.6**
KHC				Sg	**Sg**	**17 11 37.1**	**-0.4**
GERES	**GERESS Array B**	**3.04**	**212**	Pn	**Pn**	**17 10 55.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=28,slow=12,SNR=41						
GERES				Lg	Lg	17 11 41.1	
	comp=Z,3.9nm,0.3s,baz=26,slow=27,SNR=15						
SMOL	**Smolenice**	**3.06**	**163**	*e*	**Pg**	**17 11 04.4**	**-0.6**
SMOL	**Smolenice**	**3.06**	**163**	*e*SG	**Sg**	**17 11 42.9**	**-1.7**
SMOL	**Smolenice**	**3.06**	**163**	*e*Sg	**Sg**	**17 11 42.9**	**-1.7**
KOLL	**Kolacno**	**3.23**	**152**	*e*PN	**Pn**	**17 10 56.0**	**-2.4**
KOLL				*e*		17 11 08.2	
KOLL	**Kolacno**	**3.23**	**152**	*e*Pn	**Pn**	**17 10 56.0**	**-2.4**
KOLL				*e*Sg	**Sg**	**17 11 49.7**	**-0.4**
NIE	**Niedzica**	**3.36**	**126**	*e*P	**Pg**	**17 11 09.8**	**-1.1**
NIE				*e*S	**Sg**	**17 11 54.2**	**-0.3**
VYHS	**Vyhne**	**3.44**	**148**	*e*PN	**Pn**	**17 11 00.6**	**-0.7**
VYHS				*e*		17 11 11.7	
VYHS	**Vyhne**	**3.44**	**148**	*e*Pn	**Pn**	**17 11 00.6**	**-0.7**
VYHS				*e*Sg	**Sg**	**17 11 56.1**	**-0.8**
CONA	**Conrad Observa**	**3.53**	**183**	↓*i*Pn	**Pn**	**17 11 02.5**	**-0.1**
CONA				↑↑*i*Sg	**Sg**	**17 11 59.6**	**-0.2**
	comp=Z,17nm,0.5s						
CONA	**Conrad Observa**	**3.53**	**183**	Pn	**Pn**	**17 11 02.5**	**-0.1**
CONA				Sg	**Sg**	**17 11 59.6**	**-0.2**
	comp=Z,17nm,0.5s						
BSD	**Bornholm Skovb**	**3.74**	**349**	*i* P	Pn	17 11 02.5	-2.9
BSD				*i* S	Sn	17 11 44.8	-5.3
BSD	**Bornholm Skovb**	**3.74**	**349**	*i* P	Pn	17 11 02.5	-2.9
BSD				*i* S	Sn	17 11 44.8	-5.3
MOA	**Molln**	**3.80**	**199**	↓*i*Pn	**Pn**	**17 11 05.7**	**-0.5**
MOA				↑↑*i*Sg	**Sg**	**17 12 08.0**	**-0.4**
	comp=Z,15nm,0.6s						
MOA	**Molln**	**3.80**	**199**	Pn	**Pn**	**17 11 05.7**	**-0.5**
MOA				Sg	**Sg**	**17 12 08.0**	**-0.4**
	comp=Z,15nm,0.6s						
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*PN	**Pn**	**17 11 06.6**	**-0.4**
STHS				*e*		17 11 19.8	
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*Pn	**Pn**	**17 11 06.6**	**-0.4**
STHS				*e*Sg	**Sg**	**17 12 11.5**	**+1.2**
KECS	**Kecovo**	**4.09**	**135**	*e*	**Pg**	**17 11 25.8**	**+0.9**
ARSA	**Arzberg**	**4.22**	**186**	↓*i*Pn	**Pn**	**17 11 11.6**	**-0.5**
ARSA				↑↑*i*Sg	**Sg**	**17 12 22.0**	**0.0**
	comp=Z,9.4nm,0.6s						
ARSA	**Arzberg**	**4.22**	**186**	Pn	**Pn**	**17 11 11.6**	**-0.5**
ARSA				Sg	**Sg**	**17 12 22.0**	**0.0**
	comp=Z,9.4nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*PN	**Pn**	**17 11 13.9**	**+1.1**
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*Pn	**Pn**	**17 11 13.9**	**+1.1**
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**17 12 06.7**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=282,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**11.42**	**25**	Pn	Pn	17 12 45.7	-4.9
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=2.6						
FINES				Sn	Sn	17 14 47.7	-11
	comp=Z,0.1nm,0.3s,baz=218,slow=18,SNR=2.8						

*DJA **08** 17:12:04, 0°.69S×133°.61E, h40km, MLv3.9/4*
IDC 08 17:12:02.9±2.9, 1°.15S×133°.66E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.2/1, MS3.5/1, Ms1 3.7/1, ms1mx2.9/15, Error ellipse: s-maj=142.7km s-min=27.6km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.69**	**178**	P	P	17 16 22.8	-0.1
	0.1nm,0.3s,baz=357,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.39**	**179**	P	P	17 17 03.2	+0.1
	0.6nm,0.7s,baz=359,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**39.30**	**301**	LR	LR	17 35 53.2	
	comp=Z,54nm,18.1s,baz=65,slow=36						
MKAR	**Makanchi Array**	**65.52**	**324**	P	P	17 22 48.1	-0.1
	0.1nm,0.4s,baz=121,slow=7.7,SNR=5.2						

*ISCJB **08** 17:19:42.1±0.6, 19°.05S±0°.1×169°.57E±0°.09, h246km, mb4.3/11, Error ellipse: s-maj=14.7km s-min=10.1km az=153.2*
*IDC **08** 17:19:46.6±2.0, 19°.09S×169°.51E, h279km±21km, mb4.0/10, mb1 4.1/13, mb1mx3.9/21, mbtmp4.0/13, Error ellipse: s-maj=30.7km s-min=12.7km az=162.0*
*NEIC **08** 17:19:46.5±1.0, 19°.13S×169°.50E, h282km±10km, mb4.5/1, Error ellipse: s-maj=14.8km s-min=9.1km az=163.0*

ISC 08 17:19:42.8±0.6, 19°.05S±0°.1×169°.67E±0°.09, h246km, n50, σ1s15/49, mb4.5/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.06**	**220**	*e*P	**Pn**	**17 20 48.1**	**+1.0**
DZM	**Mont Dzumac**	**4.28**	**224**	P	**Pn**	**17 20 52.5**	**+2.7**
	15nm,0.3s,baz=39,slow=18,SNR=102						
DZM	**Mont Dzumac**	**4.28**	**224**	*e*P	**Pn**	**17 20 50.7**	**+0.9**
DZM	**Mont Dzumac**	**4.28**	**224**	P	**Pn**	**17 20 52.5**	**+2.7**
NOUC	**Port Laguerre**	**4.39**	**225**	*e*P	**Pn**	**17 20 51.9**	**+0.9**
HNR	**Honiara**	**13.41**	**314**	P	**P**	**17 22 46.1**	**+0.7**
	9.7nm,0.3s,baz=176,slow=2.4,SNR=5.3						
HNR	**Honiara**	**13.41**	**314**	P	**P**	**17 22 46.1**	**+0.7**
EIDS	**Eidsvold**	**18.32**	**247**	*e*P	**P**	**17 23 40.2**	**+0.9**
	27nm,0.4s						
AFI	**Afiamalu**	**18.50**	**77**	P	**Pn**	**17 23 45.3**	**+0.6**
	1.2nm,0.3s,baz=71,slow=23,SNR=5.6						
AFI	**Afiamalu**	**18.50**	**77**	P	**Pn**	**17 23 45.3**	**+0.6**
ARMA	**Armidale**	**19.90**	**232**	*e*P	**P**	**17 23 56.3**	**+0.1**
RMQ	**Roma**	**20.64**	**245**	*e*P	**P**	**17 24 04.6**	**+0.5**
	13nm,0.7s						
CTA	**Charters Tower**	**22.09**	**263**	P	**P**	**17 24 18.4**	**+0.3**
	13nm,0.6s,baz=93,slow=12,SNR=17						
CTA	**Charters Tower**	**22.09**	**263**	*e*P	**P**	**17 24 18.0**	**-0.2**
	9.4nm,0.6s						
CTA	**Charters Tower**	**22.09**	**263**	P	**P**	**17 24 18.4**	**+0.3**
CTAO	**Charters Tower**	**22.09**	**263**	*e*P	**P**	**17 24 17.8**	**-0.3**
PMG	**Port Moresby**	**23.80**	**291**	P	**P**	**17 24 34.3**	**+0.5**
	30nm,0.8s,baz=90,slow=7.1,SNR=12						
PMG	**Port Moresby**	**23.80**	**291**	P	**P**	**17 24 34.3**	**+0.5**
STKA	**Stephens Creek**	**28.30**	**238**	P	**P**	**17 25 14.1**	**+0.3**
	9.0nm,0.7s,baz=71,slow=11,SNR=26						
STKA	**Stephens Creek**	**28.30**	**238**	*e*P	**P**	**17 25 13.9**	**0.0**
	6.5nm,0.6s						
STKA	**Stephens Creek**	**28.30**	**238**	*e*P	**P**	**17 25 13.8**	**0.0**
WB2	**Warramunga Arr**	**33.27**	**262**	*e*P	**P**	**17 25 55.6**	**-2.0**
WRAB	**Tennant Creek**	**33.27**	**262**	*e*P	**P**	**17 25 55.5**	**-2.1**
	5.3nm,0.4s						
WRA	**Warramunga Arr**	**33.28**	**262**	P	**P**	**17 25 56.1**	**-1.5**
	3.9nm,0.3s,baz=96,slow=8.7,SNR=220						
WRA	**Warramunga Arr**	**33.28**	**262**	P	**P**	**17 25 56.1**	**-1.5**
AS31	**Alice Springs**	**33.57**	**256**	*e*P	**P**	**17 25 59.0**	**-1.2**
ASAR	**Alice Springs**	**33.57**	**256**	P	**P**	**17 25 59.4**	**-0.8**
	40nm,0.5s,baz=82,slow=9.2,SNR=1100						
ASAR	**Alice Springs**	**33.57**	**256**	P	**P**	**17 25 59.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.67**	**264**	P	**P**	**17 27 07.6**	**-0.2**
	13nm,0.6s,baz=103,slow=8.3,SNR=44						
FITZ	**Fitzroy Crossi**	**41.67**	**264**	*e*P	**P**	**17 27 07.5**	**-0.2**
	19nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.67**	**264**	P	**P**	**17 27 07.6**	**-0.2**
MBWA	**Marble Bar**	**46.80**	**259**	*e*P	**P**	**17 27 47.3**	**-1.0**
VNDA	**Vanda**	**58.65**	**182**	*e*P	**P**	17 29 07.9	-6.1
QSPA	**South Pole Qui**	**71.02**	**180**	*e*P	**P**	**17 30 33.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**78.79**	**294**	P	**P**	**17 31 19.0**	**+0.1**
	1.1nm,0.8s,baz=116,slow=6.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**78.79**	**294**	P	**P**	**17 31 19.0**	**+0.1**
NVAR	**Mina Array Bea**	**88.36**	**48**	P	**P**	**17 32 08.8**	**+1.5**
	2.2nm,0.9s,baz=232,slow=6.7,SNR=9.3						
NVAR	**Mina Array Bea**	**88.36**	**48**	P	**P**	**17 32 08.8**	**+1.5**
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**	**17 32 12.4**	**-1.2**
	0.8nm,0.7s,baz=237,slow=5.1,SNR=10						
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**	**17 32 12.4**	**-1.2**
VNA3	**Neumayer Olymp**	**89.96**	**180**	*e*	**P**	**17 32 12.8**	**-1.1**
VNA2	**Neumayer--Watz**	**90.25**	**181**	*e*	**P**	**17 32 14.6**	**-0.7**
PDAR	**Pinedale Array**	**96.18**	**47**	P	**P**	**17 32 44.1**	**+0.9**
	0.2nm,0.6s,baz=255,slow=3.5,SNR=2.3						
PDAR	**Pinedale Array**	**96.18**	**47**	P	**P**	**17 32 44.1**	**+0.9**
YKA	**Yellowknife Ar**	**100.30**	**27**	P	**Pdif**	**17 33 03.0**	**+2.2**
	0.4nm,0.5s,baz=256,slow=4.7,SNR=7.0						
YKA	**Yellowknife Ar**	**100.30**	**27**	P	**Pdif**	**17 33 03.0**	**+2.2**
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	**PKPdf**	**17 38 12.2**	**-0.8**
	3.6nm,1.0s,baz=84,slow=3.2,SNR=5.7						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	**PKPdf**	**17 38 12.2**	**-0.8**
GERES	**GERESS Array B**	**144.50**	**332**	PKP	**PKPab**	**17 38 48.2**	**-0.9**
	1.0nm,0.7s,baz=33,slow=3.8,SNR=4.6						
GERES	**GERESS Array B**	**144.50**	**332**	PKP	**PKPab**	**17 38 48.2**	**-0.9**

*ISCJB **08** 17:23:28.9±1.8, 19°.86N±0°.03×120°.59E±0°.05, h17km±13km, mb4.5/47, MS3.6/10, Error ellipse: s-maj=7.9km s-min=5.2km az=153.4*
*NEIC **08** 17:23:30.0±3.2, 19°.82N×120°.60E, h12km±20km, mb4.8/20, Error ellipse: s-maj=6.6km s-min=4.4km az=59.0*
*MOS **08** 17:23:31.3±0.8, 19°.84N×120°.60E, h33km, mb4.8/13, Error ellipse: s-maj=12.6km s-min=7.8km az=122.2*
*IDC **08** 17:23:33.0±0.6, 19°.83N×120°.61E, h32km±4km, mb4.1/20, mb1 4.3/21, mb1mx4.2/26, mbtmp4.1/21, ML3.5/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/38, Error ellipse: s-maj=20.3km s-min=9.8km az=72.0*
*BJI **08** 17:23:35.6, 20°.43N×120°.16E, h15km, mB4.5/9, mb4.2/22, ML3.7/3, Ms4.1/9, Ms7 3.9/9*

ISC 08 17:23:32.6±0.5, 19°.83N±0°.05×120°.56E±0°.07, h29km±3km, h28km:pP-P, n148, σ0s83/160, mb4.7/46, MS3.5/10, 8C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.49**	**178**	↑*i* P	**Pn**	**17 23 55.8**	**-1.7**
SIPP	**Brgy, Tapao**	**1.89**	**183**	↓*e*P	**Pn**	**17 24 02.1**	**-0.9**
ABRA	**Dolores**	**2.17**	**176**	*e*P	**Pn**	**17 24 06.8**	**0.0**
ABRA				*e*S	Sn	17 24 17.5	-15
CAUP	**Cauayan**	**3.11**	**157**	*e*P	**Pn**	**17 24 22.3**	**+2.6**
CAUP				*e*S	Sn	17 24 34.4	-21
BCPH	**Baguio City Da**	**3.42**	**180**	↑*i* P	**Pn**	**17 24 23.9**	**-0.3**
QZH	**Quanzhou**	**5.41**	**341**	Pn	Pn	17 24 47.6	-3.7
QZH				Sn	Sn	17 25 44.0	-8.6
QZH				smax	smax		
	comp=N,130nm,0.5s						
QZH				smax	smax		
	comp=E,160nm,0.7s						
QZH				LR	LR		
	comp=Z,1μm,11.8s						
JOW	**Kunigami**	**9.94**	**44**	LR	LR	17 29 42.8	
	comp=Z,268nm,21.2s,baz=92,slow=37						
QIZ	**Qiongzhong**	**10.14**	**267**	P	**Pn**	**17 25 56.3**	**0.0**
QIZ				S	**Sn**	**17 27 53.0**	**+3.9**
QIZ				LR	LR		
	comp=N,810nm,13.4s						
QIZ				LR	LR		
	comp=Z,550nm,10.0s						
QIZ	**Qiongzhong**	**10.14**	**267**	*e*P	**Pn**	**17 25 55.0**	**-1.3**
WHN	**Wuhan**	**12.06**	**333**	↑↑P	Pn	17 26 18.6	-3.9
WHN				*e*S	**Sn**	**17 28 36.9**	**+0.9**
WHN				LR	LR		
	comp=N,670nm,3.8s						
WHN				LR	LR		
	comp=E,760nm,6.0s						
DAV	**Davao City (W)**	**13.58**	**158**	LR	LR	17 33 00.1	
	comp=E,314nm,20.1s,baz=328,slow=42						
ENH	**Enshi**	**14.44**	**318**	*e*P	**Pn**	**17 26 53.7**	**-1.3**
	comp=E,23nm,1.2s						
KSAR	**Wonju Array Be**	**18.68**	**18**	P	**P**	**17 27 47.5**	**-0.9**
KSAR	**Wonju Array Be**	**18.68**	**18**	P	**P**	**17 27 47.5**	**-0.9**
**K

comp=Z,63nm,18.5s,baz=279,slow=37
MKAR Makanchi Array 41.16 320 P **P** 17 31 15.0 +0.6
MKAR Makanchi Array 41.16 320 P **P** 17 31 15.0 +0.6
WRAB Tennant Creek 41.76 160 *eP* **P** 17 31 18.5 -1.0
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB Tennant Creek 41.76 160 *eP* **P** 17 31 18.5 -1.0
comp=Z,16nm,0.8s
WRA Warramunga Arr 41.77 160 P **P** 17 31 18.9 -0.6
comp=Z,8.4nm,0.4s,baz=341,slow=9.2,SNR=94
WRA pP **pP** 17 31 28.2 +0.1
comp=Z,17nm,0.8s,baz=342,slow=9.0,SNR=24
WRA PcP **PcP** 17 33 15.4 -0.2
comp=Z,3.0nm,0.8s,baz=338,slow=3.7,SNR=6.8
WRA Warramunga Arr 41.77 160 P **P** 17 31 18.9 -0.6
WRA *PP **pP** 17 31 28.2 +0.1
WRA 17 33 15.4
WRA Warramunga Arr 41.77 160 P **P** 17 31 18.9 -0.6
WRA pP **pP** 17 31 28.2 +0.1
WRA PcP **PcP** 17 33 15.4 -0.2
WB2 Warramunga Arr 41.77 160 *eP* **P** 17 31 18.6 -0.9
ZAA0 Zalesovo Array 43.65 330 *eP* **P** 17 31 35.1 +0.7
ZALV Zalesovo Beam 43.65 330 P **P** 17 31 34.1 -0.2
comp=Z,1.5nm,0.7s,baz=118,slow=8.7,SNR=11
ZALV pP **pP** 17 31 44.1 +1.0
comp=Z,3.9nm,0.7s,baz=125,slow=7.9,SNR=12
ZALV PcP **PcP** 17 33 19.8 -1.5
comp=Z,0.4nm,0.4s,baz=127,slow=3.8,SNR=2.3
ZALV LR LR 17 50 23.7
comp=Z,43nm,19.4s,baz=71,slow=37
ZALV Zalesovo Beam 43.65 330 P **P** 17 31 34.2 -0.2
ZALV *PP **pP** 17 31 44.1 +1.0
ZALV 17 33 19.8
ZALV Zalesovo Beam 43.65 330 P **P** 17 31 34.1 -0.2
ZALV pP **pP** 17 31 44.1 +1.0
ZALV PcP **PcP** 17 33 19.8 -1.5
KURK Kurchatov 45.13 323 *eP* **P** 17 31 47.0 +0.6
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 45.13 323 *eP* **P** 17 31 47.0 +0.6
comp=Z,9.9nm,0.9s
AS31 Alice Springs 45.14 163 *eP* **P** 17 31 46.5 -0.2
ASAR Alice Springs 45.14 163 P **P** 17 31 46.9 +0.1
comp=Z,6.8nm,0.6s,baz=345,slow=6.8,SNR=69
ASAR pP **pP** 17 31 56.4 +0.9
comp=Z,8.8nm,0.7s,baz=342,slow=6.9,SNR=14
ASAR Alice Springs 45.14 163 P **P** 17 31 46.9 +0.1
ASAR *PP **pP** 17 31 56.4 +0.9
ASAR Alice Springs 45.14 163 P **P** 17 31 46.9 +0.1
ASAR pP **pP** 17 31 56.4 +0.9
MEEK Meekatharra 46.22 182 *eP* **P** 17 31 54.2 -1.0
comp=Z,62nm,0.8s
CTA Charters Tower 46.98 146 P **P** 17 32 02.5 +1.2
comp=Z,5.7nm,0.8s,baz=340,slow=10,SNR=3.6
CTA Charters Tower 46.98 146 *eP* **P** 17 32 02.7 +1.4
comp=Z,7.3nm,1.1s
CTA Charters Tower 46.98 146 P **P** 17 32 02.5 +1.2
CTA Charters Tower 46.98 146 P **P** 17 32 02.5 +1.2
KBL Kabul 47.63 299 *eP* **P** 17 32 07.1 +0.6
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 47.63 299 *eP* **P** 17 32 07.1 +0.6
comp=Z,4.6nm,0.8s
KKAR Karatay Array 47.75 311 *eP* **P** 17 32 07.7 +0.6
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 47.75 311 *eP* **P** 17 32 07.7 +0.6
comp=Z,1.4nm,0.7s
HNR Honiara 48.47 123 LR LR 17 49 38.4
comp=Z,47nm,18.4s,baz=60,slow=32
BRVK Borovoye 50.80 323 *i*P **P** 17 32 30.4 +0.2
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 50.80 323 *eP* **P** 17 32 30.1 -0.1
comp=Z,3.6nm,0.8s
FORT Forrest 50.83 172 *eP* **P** 17 32 30.4 -0.2
comp=Z,14nm,0.7s
KLBR Kellerberrin 51.19 183 *eP* P 17 32 27.8 -5.5
comp=Z,3μm,6.5s
QLP Quilpie 51.53 153 *eP* **P** 17 32 36.2 +0.2
EIDS Eidsvold 53.84 145 *eP* **P** 17 32 54.3 +1.2
comp=Z,36nm,0.6s
BBOO Buckleboo 54.40 164 *eP* **P** 17 32 57.4 +0.4
comp=Z,87nm,0.7s
BBOO Buckleboo 54.40 164 *eP* **P** 17 32 57.4 +0.4
comp=Z,222nm,0.6s
STKA Stephens Creek 55.22 158 P **P** 17 33 02.4 -0.6
comp=Z,3.9nm,0.7s,baz=337,slow=8.7,SNR=9.5
STKA Stephens Creek 55.22 158 P **P** 17 33 02.4 -0.6
STKA Stephens Creek 55.22 158 P **P** 17 33 02.4 -0.6
BILL Bilibino 55.97 19¶ *i*P **P** 17 33 07.3 -0.6
BILL *e*SS SS 17 44 42.5 +2.7
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 55.97 19 *eP* **P** 17 33 08.0 +0.1
comp=Z,6.3nm,0.8s
ABKAR Akbulak array 56.13 317 *eP* **P** 17 33 09.3 -0.1
comp=Z,0.9nm,0.4s
CMSA Cobar Meteorol 56.48 154 *eP* **P** 17 33 13.1 +1.1
comp=Z,41nm,0.9s
SVE Sverdlovsk 57.25 326 *eP* **P** 17 33 17.6 +0.4
AKTO Aktyubinsk 57.53 318 P **P** 17 33 19.3 0.0
comp=Z,0.9nm,0.6s,baz=109,slow=14,SNR=3.8
AKTO Aktyubinsk 57.53 318 P **P** 17 33 19.3 0.0
AKTO Aktyubinsk 57.53 318 P **P** 17 33 19.3 0.0
ARU Arti 58.27 325*c i*P **P** 17 33 23.6 -0.8
ARU 17 35 35.3
ARU S **S** 17 41 24.8 +0.3
ARU pmax pmax
comp=Z,6.0nm,0.8s
RDF Al-Radifah 66.21 294 *eP* **P** 17 34 17.5 -0.5
MIB Mutribah 66.23 295 *eP* **P** 17 34 17.5 -0.7
NAY Al-Naaiem 66.42 294 *eP* **P** 17 34 18.7 -0.7
ZEI Tsey 67.17 309 *eP* **P** 17 34 23.4 -0.8
ZEI pmax pmax
comp=Z,8.0nm,1.3s
KIV Kislovodsk 67.91 310 *eP* **P** 17 34 28.7 0.0
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 67.91 310 *eP* **P** 17 34 28.7 0.0
comp=Z,10.0nm,0.9s
OBN Obninsk 70.57 323 *eP* **P** 17 34 45.2 +0.3
OBN pmax pmax
comp=Z,7.0nm,1.6s
MCK McKinley 72.65 28 *eP* **P** 17 34 57.1 -0.2
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 72.65 28 *eP* **P** 17 34 57.1 -0.2
comp=Z,11nm,1.0s
ILAR Eielson Array 73.34 27 P **P** 17 35 00.1 -1.3
comp=Z,2.0nm,0.8s,baz=271,slow=4.9,SNR=23
ILAR Eielson Array 73.34 27 P **P** 17 35 00.1 -1.3
ILAR Eielson Array 73.34 27 P **P** 17 35 00.1 -1.3
FINES FINESS Array B 74.91 330 P **P** 17 35 10.6 +0.1
comp=Z,2.4nm,0.9s,baz=81,slow=8.6,SNR=4.5
FINES pP **pP** 17 35 21.3 +1.7
comp=Z,3.6nm,0.9s,baz=77,slow=6.3,SNR=2.0
FINES FINESS Array B 74.91 330 P **P** 17 35 10.6 +0.1
FINES *PP **pP** 17 35 21.3 +1.7
FINES FINESS Array B 74.91 330 P **P** 17 35 10.6 +0.1
FINES pP **pP** 17 35 21.3 +1.7
BRTR Keskin Array B 75.31 307 P **P** 17 35 13.3 -0.1
comp=Z,0.7nm,0.6s,baz=79,slow=3.1,SNR=4.5
BRTR Keskin Array B 75.31 307*ce*P **P** 17 35 13.3 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 75.31 307 P **P** 17 35 13.3 -0.1
AKASG Malin Array Be 75.74 319 P **P** 17 35 14.7 -0.8
comp=Z,0.9nm,0.6s,baz=63,slow=5.8,SNR=4.7
AKASG Malin Array Be 75.74 319*ce*P **P** 17 35 16.2 +0.7
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 75.74 319 P **P** 17 35 14.7 -0.8
NOA NORSAR Array B 81.79 332 LR LR 18 14 24.8
comp=Z,48nm,21.1s,baz=40,slow=37
CLL Collm 85.17 323 *eP* **P** 17 36 06.0 -0.1
CLL Collm 85.17 323 *eP* **P** 17 36 06.0 -0.1
CLL *ep*P **PcP** 17 36 10.0 +0.7
GERES GERESS Array B 85.83 321 P **P** 17 36 09.5 -0.1
comp=Z,1.3nm,0.8s,baz=63,slow=6.7,SNR=6.8
GERES GERESS Array B 85.83 321 P **P** 17 36 09.5 -0.1
GERES GERESS Array B 85.83 321 P **P** 17 36 09.5 -0.1
YKA Yellowknife Ar 87.20 22 P **P** 17 36 16.1 +0.3
comp=Z,7.3nm,0.8s,baz=310,slow=4.7,SNR=75
YKA Yellowknife Ar 87.20 22 P **P** 17 36 16.2 +0.3
YKA Yellowknife Ar 87.20 22 P **P** 17 36 16.1 +0.3
NVAR Mina Array Bea 100.00 43 P **Pdif** 17 37 15.9 +0.3
comp=Z,0.6nm,0.7s,baz=298,slow=3.9,SNR=5.0
NVAR Mina Array Bea 100.00 43 P **Pdif** 17 37 15.9 +0.3
TXAR Lajitas Array 115.14 42 PKIKP **PKPdf** 17 42 11.7 -0.1
comp=Z,0.4nm,0.7s,baz=180,slow=1.8,SNR=5.5
TXAR Lajitas Array 115.14 42 PKIKP **PKPdf** 17 42 11.7 -0.1
TXAR Lajitas Array 115.14 42 PKP **PKPdf** 17 42 11.7 -0.1
SDV Santo Domingo 149.42 22 *e*PKPdf **PKPdf** 17 43 16.1 +0.4
SDV *e*PKPbc **PKPbc** 17 43 19.6 -0.5

***IDC 08** 17:23:54.2±1.8, 2.74N×125.30E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=186.7km s-min=23.8km az=64.0, Talaud Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.23**	**159**	P	P	17 29 13.6	+0.6
	0.6nm,0.4s,baz=336,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**27.56**	**163**	P	P	17 29 44.9	+1.8
	0.2nm,0.3s,baz=349,slow=7.0,SNR=5.5						
STKA	**Stephens Creek**	**37.75**	**157**	P	P	17 31 10.1	-2.0
	1.6nm,0.8s,baz=336,slow=10.0,SNR=3.9						
MKAR	**Makanchi Array**	**57.56**	**326**	P	P	17 33 45.3	-0.4
	0.2nm,0.4s,baz=115,slow=8.7,SNR=4.8						

*IDC **08** 17:34:59.5±0.8, 0.29S×133.11E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, ML4.0/2, MS3.7/4, Ms1 3.7/4, ms1mx2.9/37, Error ellipse: s-maj=37.7km s-min=12.5km az=76.0*
*ISCJB **08** 17:35:02.3±0.5, 0.35S±0.05×133.00E±0.1, h32km, mb4.3/18, MS3.6/4, Error ellipse: s-maj=14.6km s-min=7.2km az=166.8*
*DJA **08** 17:35:02, 0.23S×132.94E, h24km, MLv4.7/11*
*NEIC **08** 17:35:04.7±0.3, 0.38S×132.95E, h35km, mb4.5/12, Error ellipse: s-maj=15.0km s-min=5.0km az=68.0*

ISC 08 17:35:04.5±0.7, 0.29S±0.08×133.1E±0.1, h32km, n57, σ1¶17/54, mb4.2/18, MS3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**5.12**	**234**	P	**Pn**	**17 36 19.7**	**+0.6**
AAI	**Ambon**	**5.92**	**235**	P	**Pn**	**17 36 29.0**	**-1.0**
SGSI	**Sangihe**	**8.50**	**298**	P	Px	17 37 57.2	
	653nm,0.4s,13μm3.5nm						
FITZ	**Fitzroy Crossi**	**19.14**	**202**	P	**P**	**17 39 25.2**	**-0.1**
	0.3nm,0.3s,baz=31,slow=12,SNR=5.8						
FITZ				S	Sn	17 42 46.8	-13
	0.2nm,0.3s,baz=196,slow=18,SNR=3.6						
FITZ	**Fitzroy Crossi**	**19.14**	**202**	P	**P**	**17 39 25.2**	**-0.1**
FITZ				S	Sn	17 42 46.8	-13
WRAB	**Tennant Creek**	**19.56**	**176**	*e*P	**P**	**17 39 29.1**	**-0.8**
	9.1nm,0.8s						
WRA	**Warramunga Arr**	**19.57**	**176**	P	**P**	**17 39 28.9**	**-1.0**
	0.6nm,0.3s,baz=353,slow=11,SNR=30						
WRA				S	S	17 42 57.9	-11
	0.3nm,0.3s,baz=356,slow=22,SNR=7.3						
WRA	**Warramunga Arr**	**19.57**	**176**	P	**P**	**17 39 28.9**	**-1.0**
WRA				S	S	17 42 58.0	-11
AS31	**Alice Springs**	**23.25**	**178**	*e*P	**P**	**17 40 08.0**	**-1.3**
ASAR	**Alice Springs**	**23.25**	**178**	P	**P**	**17 40 08.3**	**-1.0**
	3.4nm,0.6s,baz=354,slow=8.4,SNR=50						
ASAR				S	**S**	**17 44 23.6**	**+4.0**
	1.8nm,0.9s,baz=1.0,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**23.25**	**178**	P	**P**	**17 40 08.3**	**-1.0**
ASAR				S	**S**	**17 44 23.6**	**+4.0**
CTA	**Charters Tower**	**23.54**	**148**	P	**P**	**17 40 12.6**	**+0.4**
	8.6nm,1.0s,baz=323,slow=10,SNR=2.5						
CTA	**Charters Tower**	**23.54**	**148**	P	**P**	**17 40 12.6**	**+0.4**
CTAO	**Charters Tower**	**23.54**	**148**	*e*P	**P**	**17 40 11.4**	**-0.8**
JOW	**Kunigami**	**27.36**	**351**	LR	LR	17 49 04.1	
	comp=Z,247nm,19.3s,baz=44,slow=31						
STKA	**Stephens Creek**	**32.44**	**166**	P	**P**	**17 41 30.2**	**-1.6**
	8.0nm,0.8s,baz=346,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**32.44**	**166**	*e*P	**P**	**17 41 30.4**	**-1.4**
	1.5nm,0.8s						
MJAR	**Matsushiro Arr**	**36.96**	**7**	LR	LR	17 53 42.0	
	comp=Z,89nm,20.3s,baz=290,slow=30						
KSRS	**Korea Array**	**37.86**	**353**	LR	LR	17 55 59.8	
	comp=Z,70nm,19.2s,baz=303,slow=33						
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P	**P**	**17 42 22.9**	**0.0**
	1.7nm,0.9s,baz=117,slow=6.2,SNR=10						
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P	**P**	**17 42 22.9**	**0.0**
BJT	**Baijiatuan**	**42.98**	**341**	P	**P**	**17 43 02.3**	**+1.5**
ASAJ	**Asahikawa**	**45.02**	**10**	LR	LR	17 58 06.7	
	comp=Z,73nm,21.6s,baz=335,slow=31						
LSA	**Lhasa**	**49.83**	**310**	*e*P	**P**	**17 43 55.0**	**-0.4**
	1.8nm,0.7s						
TAPN	**Taplejung**	**51.48**	**306**	*e*P	**P**	**17 44 06.1**	**-1.5**
	18nm,1.2s						
TAPN	**Taplejung**	**51.48**	**306**	*e*P	**P**	**17 44 06.1**	**-1.5**
	18nm,1.2s						
ODAN	**Odare**	**51.54**	**305**	*e*P	**P**	**17 44 07.4**	**-0.6**
	12nm,1.0s						
ODAN	**Odare**	**51.54**	**305**	*e*P	**P**	**17 44 07.4**	**-0.6**
	12nm,1.0s						
RAMN	**Ramite**	**52.22**	**305**	*e*P	**P**	**17 44 12.5**	**-0.6**
	18nm,0.9s						
RAMN	**Ramite**	**52.22**	**305**	*e*P	**P**	**17 44 12.5**	**-0.6**
	18nm,0.9s						
JIRN	**Jiri**	**52.84**	**306**	*e*P	**P**	**17 44 17.1**	**-0.7**
	7.6nm,0.8s						
JIRN	**Jiri**	**52.84**	**306**	*e*P	**P**	**17 44 17.1**	**-0.7**
	7.6nm,0.8s						
ULN	**Ulaanbaatar**	**53.03**	**338**	*e*P	**P**	**17 44 20.0**	**+1.4**
	3.0nm,1.0s						
GUN	**Gumba**	**53.19**	**306**	*e*P	**P**	**17 44 19.7**	**-0.7**
	20nm,0.9s						
GUN	**Gumba**	**53.19**	**306**	*e*P	**P**	**17 44 19.7**	**-0.7**
	20nm,0.9s						
SONM	**Songino Array**	**53.25**	**338**	P	**P**	**17 44 20.7**	**+0.5**
	0.6nm,0.9s,baz=153,slow=6.2,SNR=4.5						
SONM	**Songino Array**	**53.25**	**338**	P	**P**	**17 44 20.7**	**+0.5**
PKI	**Pulchoki**	**53.44**	**305**	*e*P	**P**	**17 44 21.1**	**-1.1**
PKI	**Pulchoki**	**53.44**	**305**	*e*P	**P**	**17 44 21.1**	**-1.1**
KKN	**Kakani**	**53.63**	**305**	*e*P	**P**	**17 44 22.4**	**-1.1**
KKN	**Kakani**	**53.63**	**305**	*e*P	**P**	**17 44 22.4**	**-1.1**
DMN	**Daman**	**53.70**	**305**	*e*P	**P**	**17 44 23.4**	**-0.6**
DMN	**Daman**	**53.70**	**305**	*e*P	**P**	**17 44 23.4**	**-0.6**
GKN	**Gorkha**	**54.23**	**305**	*e*P	**P**	**17 44 26.6**	**-1.2**
GKN	**Gorkha**	**54.23**	**305**	*e*P	**P**	**17 44 26.6**	**-1.2**
KOLN	**Kolkanda**	**55.00**	**305**	*e*P	**P**	**17 44 32.7**	**-0.7**
	8.8nm,0.8s						
KOLN	**Koldanda**	**55.00**	**305**	*e*P	**P**	**17 44 32.7**	**-0.7**
MK31	**Makanchi Array**	**64.48**	**324**	*e*P	**P**	**17 45 38.5**	**+0.4**
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**17 45 38.5**	**+0.4**
	1.4nm,0.9s,baz=115,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**17 45 38.5**	**+0.4**
ZALV	**Zalesovo Beam**	**67.07**	**331**	P	**P**	**17 45 53.9**	**-0.7**
	0.7nm,0.7s,baz=122,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**67.07**	**331**	P	**P**	**17 45 53.9**	**-0.7**
KURK	**Kurchatov**	**68.54**	**326**	*e*P	**P**	**17 46 04.1**	**+0.1**
	3.9nm,1.1s						
BRVK	**Borovoye**	**74.21**	**326**	*e*P	**P**	**17 46 38.0**	**-0.2**
	4.5nm,0.8s						
ABKAR	**Akbulak array**	**79.25**	**320**	*e*P	**P**	**17 47 06.2**	**-0.5**
	1.8nm,0.9s						
ILAR	**Eielson Array**	**86.02**	**25**	P	**P**	**17 47 41.4**	**-0.2**
	0.7nm,0.7s,baz=264,slow=5.1,SNR=10						
ILAR	**Eielson Array**	**86.02**	**25**	P	**P**	**17 47 41.4**	**-0.2**

***BJI 08** 17:41:33.7, 33.26N×120.98E, h14km, ML3.6/7, Southeastern China*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**2.16**	**237**	*e*Pg	Pn	17 42 09.6	+0.3
NJ2				Sg	Sn	17 42 36.3	+0.5
NJ2				smax	smax		
	comp=N,410nm,0.6s						
NJ2				smax	smax		
	comp=E,510nm,0.8s						
WHN	**Wuhan**	**6.25**	**246**	Pg	Pb	17 43 26.4	+4.0
WHN				Sn	Sb	17 44 29.4	-7.6

*IDC **08** 17:51:47.4±0.8, 0.75S×133.21E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/21, mbtmp4.2/11, ML4.5/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/34, Error ellipse: s-maj=43.0km s-min=11.8km az=79.0*
*DJA **08** 17:51:54, 0.79S×133.30E, h38km, mb5.0/14*

ISC 08 17:51:51.8±0.7, 0.82S±0.08×133.1E±0.1, h29km, n24, σ1¶99/19, mb4.3/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.26**	**203**	P	**Pb**	**17 52 31.0**	**-0.9**
BAKI	**Biak**	**3.01**	**97**	P	**Pn**	**17 52 36.9**	**-0.7**
TLE	**Tual**	**4.80**	**185**	P	Pn	17 53 08.5	+6.3
MSAI	**Masohi**	**4.88**	**239**	P	Pn	17 53 09.1	+5.8
	94nm,0.8s,1μm0.3nm						
LBMI	**Labuha**	**5.62**	**272**	P	Pn	17 53 17.2	+3.7
	105nm,0.6s,1μm0.4nm						
AAI	**Ambon**	**5.68**	**240**	P	Pn	17 53 18.3	+4.0
	326nm,0.7s,3μm1.0nm						
DAV	**Davao City (W)**	**10.87**	**316**	P	Pn	17 54 29.0	+3.5
	213nm,0.5s						
BKSI	**Bulukumba**	**13.72**	**251**	P	**P**	**17 55 12.4**	**-0.5**
KAPI	**Kappang**	**13.98**	**252**	Pn	**P**	**17 55 13.6**	**-2.1**
	1.8nm,0.3s,baz=119,slow=7.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**18.68**	**203**	P	**Pn**	**17 56 08.7**	**+0.5**
	0.9nm,0.3s,baz=38,slow=11,SNR=20						
FITZ				S	Sn	17 59 27.2	-9.3
	0.6nm,0.3s,baz=286,slow=20,SNR=9.3						
FITZ				LR	LR	18 04 45.9	
	comp=Z,35nm,18.2s,baz=234,slow=42						
WRA	**Warramunga Arr**	**19.04**	**176**	P	**Pn**	**17 56 12.5**	**-0.2**
	1.5nm,0.3s,baz=356,slow=11,SNR=72						
WRA				S	**Sn**	**17 59 39.5**	**-5.7**
	0.4nm,0.3s,baz=358,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**22.72**	**178**	P	**P**	**17 56 52.8**	**+1.2**
	12nm,0.4s,baz=357,slow=11,SNR=156						
ASAR				S	**S**	**18 01 01.9**	**+3.4**
	3.8nm,1.0s,baz=0.5,slow=21,SNR=6.3						
CTA	**Charters Tower**	**23.06**	**147**	P	**P**	**17 56 56.4**	**+1.3**
	3.0nm,0.7s,baz=330,slow=11,SNR=5.1						
MBWA	**Marble Bar**	**24.07**	**212**	*e*P	**P**	**17 57 06.8**	**+2.0**
STKA	**Stephens Creek**	**31.91**	**166**	P	**P**	**17 58 15.4**	**+0.5**
	6.7nm,0.5s,baz=335,slow=9.6,SNR=25						
KMBL	**Kambalda**	**32.19**	**198**	*e*P	**P**	**17 58 19.1**	**+1.7**
	63nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.26**	**203**	LR	LR	18 13 11.6	
	comp=Z,31nm,21.8s,baz=259,slow=36						
SONM	**Songino Array**	**53.76**	**338**	P	**P**	**18 01 11.5**	**-0.2**
	0.6nm,1.0s,baz=155,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**18 02 29.0**	**+0.2**
	1.2nm,0.5s,baz=114,slow=7.9,SNR=27						
ZALV	**Zalesovo Beam**	**67.56**	**331**	P	**P**	**18 02 45.5**	**+0.1**
	0.8nm,0.6s,baz=126,slow=7.3,SNR=5.0						
KURK	**Kurchatov**	**69.01**	**326**	P	**P**	**18 02 54.9**	**+0.3**
	2.2nm,0.7s,baz=123,slow=5.6,SNR=27						
ILAR	**Eielson Array**	**86.47**	**25**	P	**P**	**18 04 30.1**	**-1.5**
	0.7nm,0.6s,baz=250,slow=5.1,SNR=14						
QSPA	**South Pole Qui**	**89.11**	**180**	P	**P**	**18 04 44.5**	**+0.2**
	1.9nm,0.8s,baz=339,slow=2.5,SNR=7.8						
SPITS	**Spitsbergen Ar**	**96.13**	**349**	LR	LR	18 49 43.3	
	comp=Z,74nm,18.3s,baz=345,slow=36						

***IDC 08** 18:01:11.2±3.7, 0.80N×99.03E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=158.6km s-min=26.5km az=55.0, Northern Sumatera*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.27**	**123**	P	P	18 08 50.4	0.0
	0.4nm,0.9s,baz=291,slow=10.0,SNR=7.0						
SONM	**Songino Array**	**47.28**	**7**	P	P	18 09 45.6	-1.0
	0.3nm,0.4s,baz=191,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**48.09**	**345**	P	P	18 09 54.0	+1.3
	0.1nm,0.3s,baz=155,slow=8.1,SNR=6.1						
KURK	**Kurchatov**	**52.67**	**344**	P	P	18 10 25.9	-1.3
	0.2nm,0.6s,baz=161,slow=6.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**54.26**	**350**	P	P	18 10 38.9	0.0
	1.0nm,0.4s,baz=159,slow=6.8,SNR=8.1						

*IDC **08** 18:04:53.4±0.8, 20.67S×174.37W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.2/19, mbtmp4.1/12, MS3.9/12, Ms1 3.9/12, ms1mx3.6/32, Error ellipse: s-maj=31.3km s-min=19.6km az=139.0*
*NEIC **08** 18:04:57.6±0.5, 21.05S×174.18W, h35km, mb4.9/3, Error ellipse: s-maj=18.5km s-min=11.2km az=126.0*

ISC 08 18:04:56.5±0.7, 21.1S±0.1×174.2W±0.2, h26km, n63, σ0¶88/47, mb4.2/14, MS3.9/10, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.46**	**18**	Pn	Pn	18 06 35.0	-8.8
	4.7nm,0.3s,baz=285,slow=20,SNR=7.5						
AFI				Sn	Sn	18 07 51.6	-16
	5.1nm,0.3s,baz=231,slow=14,SNR=3.2						
AFI	**Afiamalu**	**7.46**	**18**	Pn	Pn	18 06 35.0	-8.8
AFI				Sn	Sn	18 07 51.6	-16
RAR	**Rarotonga**	**13.43**	**93**	Pn	Pn	18 07 58.1	-7.3
	3.4nm,0.3s,baz=274,slow=7.2,SNR=14						
RAR				Sn	Sn	18 10 13.0	-21
	1.4nm,0.3s,baz=180,slow=20,SNR=2.6						
RAR				LR	LR	18 12 25.7	
	comp=Z,314nm,20.7s,baz=241,slow=33						
RAR	**Rarotonga**	**13.43**	**93**	*e*P	Pn	18 07 58.5	-6.9
	1μm,2.3s						
RAR				Sn	Sn	18 10 13.0	-21
DZM	**Mont Dzumac**	**18.07**	**263**	*e*LR	LR	18 13 45.6	
	582nm,22.4s						
DZM	**Mont Dzumac**	**18.07**	**263**	P	Pn	18 08 59.1	-6.8
	0.1nm,0.3s,baz=138,slow=17,SNR=3.0						
DZM	**Mont Dzumac**	**18.07**	**263**	P	Pn	18 08 59.1	-6.8
URZ	**Urewera**	**18.73**	**202**	P	**P**	**18 09 12.3**	**-0.9**
	0.2nm,0.3s,baz=18,slow=19,SNR=1.9						
URZ				S	**Sn**	**18 12 42.4**	**-0.1**
	0.4nm,0.3s,baz=97,slow=8.1,SNR=3.7						
URZ				LR	LR	18 15 56.9	
	comp=Z,246nm,20.4s,baz=14,slow=35						
URZ	**Urewera**	**18.73**	**202**	P	**P**	**18 09 12.3**	**-0.9**
URZ				S	**Sn**	**18 12 42.4**	**-0.1**
TBI	**Tubuai**	**22.98**	**100**	*e*LQ	LQ	18 14 05.4	
	252nm,28.0s						
TBI				*e*LR	LR	18 15 08.9	
	565nm,32.2s,baz=276						
PPT2	**Papeete2**	**23.45**	**86**	*e*LQ	LQ	18 14 23.7	
	457nm,27.5s						
PPT2				*e*LR	LR	18 15 32.9	
	549nm,27.2s,baz=265						
HNR	**Honiara**	**27.47**	**291**	LR	LR	18 19 51.6	
	comp=Z,249nm,19.5s,baz=230,slow=33						
CTA	**Charters Tower**	**37.01**	**264**	LR	LR	18 25 05.3	
	comp=Z,168nm,19.6s,baz=92,slow=33						
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**18 12 36.6**	**+0.7**
	2.4nm,0.9s,baz=73,slow=11,SNR=2.5						
STKA				LR	LR	18 28 16.7	
	comp=Z,161nm,19.1s,baz=200,slow=34						
STKA	**Stephens Creek**	**40.80**

TXAR	**Lajitas Array**	**84.36**	**56**	LR	LR	18 50 22.4		
	comp=Z,66nm,18.1s,baz=180,slow=32							
PLCA	**Paso Flores**	**86.27**	**132**	LR	LR	18 47 21.6		
	comp=Z,54nm,19.3s,baz=246,slow=29							
PDAR	**Pinedale Array**	**86.94**	**42**	P	**P**	**18 17 40.2**	**+0.7**	
	0.3nm,0.7s,baz=258,slow=3.4,SNR=2.3							
PDAR	**Pinedale Array**	**86.94**	**42**	P	**P**	**18 17 40.2**	**+0.7**	
ILAR	**Eielson Array**	**88.10**	**11**	P	**P**	**18 17 43.9**	**-0.4**	
	1.5nm,1.1s,baz=212,slow=4.9,SNR=7.1							
ILAR	**Eielson Array**	**88.10**	**11**	P	**P**	**18 17 43.9**	**-0.4**	
ENH	**Enshi**	**89.34**	**303**	*e*P	**P**	**18 17 52.5**	**+1.5**	
	16nm,1.2s							
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**18 18 12.9**	**+1.6**	
	2.7nm,0.9s,baz=120,slow=2.9,SNR=17							
CMAR				LR	LR	18 58 06.5		
	comp=Z,45nm,19.9s,baz=115,slow=34							
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**18 18 12.9**	**+1.6**	
YKA	**Yellowknife Ar**	**95.54**	**24**	P	**P**	**18 18 18.4**	**-0.4**	
	0.2nm,0.7s,baz=241,slow=4.3,SNR=4.0							
YKA	**Yellowknife Ar**	**95.54**	**24**	P	**P**	**18 18 18.4**	**-0.4**	
MKAR	**Makanchi Array**	**114.20**	**313**	PKiKP	PKPdf	18 23 32.5	-1.1	
	0.2nm,0.4s,baz=96,slow=1.4,SNR=4.2							
MKAR	**Makanchi Array**	**114.20**	**313**	PKiKP	PKPdf	18 23 32.5	-1.1	
KURK	**Kurchatov**	**116.84**	**317**	PKP	**PKPdf**	**18 23 37.9**	**-0.6**	
	0.5nm,0.7s,baz=100,slow=2.0,SNR=6.7							
KURK	**Kurchatov**	**116.84**	**317**	PKP	**PKPdf**	**18 23 37.9**	**-0.6**	
BVAR	**Borovoye Array**	**121.81**	**320**	PKP	**PKPdf**	**18 23 47.6**	**-0.4**	
	0.7nm,0.6s,baz=48,slow=2.2,SNR=5.6							
BVAR	**Borovoye Array**	**121.81**	**320**	PKP	**PKPdf**	**18 23 47.6**	**-0.4**	
AKASG	**Malin Array Be**	**145.17**	**334**	PKP	**PKPab**	**18 24 30.4**	**-0.7**	
	0.7nm,0.3s,baz=40,slow=4.5,SNR=8.5							
AKASG	**Malin Array Be**	**145.17**	**334**	PKP	**PKPab**	**18 24 30.4**	**-0.7**	
BUR08	**Bucovina Ar. S**	**149.21**	**334**	*e*PKPab	**PKPab**	**18 24 46.8**	**-0.4**	
CLL	**Collm**	**149.29**	**351**	*e*PKPdf	**PKPdf**	**18 24 39.0**	**+0.6**	
CLL				*i* PKPbc	**PKiKP**	**18 24 43.2**	**-0.7**	
	comp=Z,15nm,1.5s							
CLL				*e*(pPKPab)		18 24 58.0		
BRG	**Berggiesshubel**	**149.57**	**350**	*e*P	**PKPbc**	**18 24 44.9**	**+1.4**	
	comp=Z,54nm,2.1s							
DPC	**Dobruska-Polom**	**149.61**	**347**⇑	*e*PKP	**PKPbc**	**18 24 45.2**	**+1.6**	
PVCC	**Panska Ves**	**149.79**	**349**	*e*PKPDF	**PKPbc**	**18 24 40.4**	**+1.2**	
BRTR	**Keskin Array B**	**149.83**	**314**	PKPbc	**PKPbc**	**18 24 44.8**	**+0.2**	
	comp=Z,1.2nm,0.8s,baz=89,slow=4.0,SNR=5.7							
BRTR	**Keskin Array B**	**149.83**	**314**	PKPbc	**PKPbc**	**18 24 44.8**	**+0.2**	
PRU	**Pruhonice**	**150.31**	**349**⇑	*e*PKP	**PKPbc**	**18 24 46.7**	**+1.4**	
KHC	**Kasperske Hory**	**151.31**	**349**⇑	*e*PKP	**PKPbc**	**18 24 49.0**	**+1.3**	
GERES	**GERESS Array B**	**151.57**	**349**	PKPbc	**PKPbc**	**18 24 48.2**	**-0.2**	
	comp=Z,1.2nm,0.8s,baz=350,slow=3.2,SNR=7.1							
GERES	**GERESS Array B**	**151.57**	**349**	PKPbc	**PKPbc**	**18 24 48.2**	**-0.2**	

NEIC ***08*** *18:19:30.6±1.9, 40.59N×112.30W, h0km, ML2.0, Error ellipse: s-maj=25.8km s-min=20.7km az=83.0, Suspected Mining explosion.*

NEIC NEAR Tooele.

IDC ***08*** *18:19:40.1±1.0, 40.94N×111.82W, h0km, mb1 3.2/3, mb1mx3.0/26, mbtmp2.7/3, ML2.9/3, Error ellipse: s-maj=20.7km s-min=7.6km az=138.0*

ISC 08 18:19:29.8±1.0, **40.52N**±0.05×**112.36W**±0.04, **h0**km, **n21**, σ1**8**/**86**/17, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUG	**Dugway**	**0.48**	**227**	*e*P	**Pg**	**18 19 40.6**	**+1.7**
MPU	**Maple Canyon**	**0.75**	**132**	*e*P	Pg	18 19 41.6	-2.5
DAU	**Daniels Canyon**	**0.84**	**97**	*e*P	Pg	18 19 42.6	-3.4
HWUT	**Hardware Ranch**	**1.24**	**29**	*e*P	**Pg**	**18 19 50.2**	**-3.3**
HVU	**Hansel Valley**	**1.30**	**346**	*e*P	**Pg**	**18 19 53.7**	**-1.0**
TMUT	**Trail Mountain**	**1.51**	**144**	*e*P	**Pn**	**18 19 56.0**	**-2.3**
SRU	**San Rafael**	**1.99**	**134**	*e*P	Pn	18 20 02.7	-2.2
MSU	**Marysvale**	**2.01**	**176**	*e*P	**Pn**	**18 20 05.6**	**+0.4**
ELK	**Elko**	**2.21**	**277**	*e*P	**Pb**	**18 20 11.6**	**+0.9**
PD01	**Pinedale Array**	**3.07**	**42**	*e*Pg	**Pn**	**18 20 21.4**	**+1.6**
PDAR	**Pinedale Array**	**3.07**	**42**	Pn	**Pn**	**18 20 21.9**	**+2.2**
	0.3nm,0.3s,baz=211,slow=14,SNR=20						
PDAR				Lg	Lg	18 21 00.3	
	0.7nm,0.3s,baz=218,slow=31,SNR=12						
PDAR	**Pinedale Array**	**3.07**	**42**	Pn	**Pn**	**18 20 21.9**	**+2.2**
PDAR				Lg	Lg	18 21 00.3	
PD02	**Pinedale Array**	**3.08**	**42**	*e*Pg	**Pn**	**18 20 21.5**	**+1.7**
TPAW	**Teton Pass**	**3.15**	**19**	*e*P	Pn	18 20 16.5	-4.4
PV04	**Paradox Valley**	**3.41**	**127**	*e*Pg	**Pb**	**18 20 31.2**	**0.0**
SMCO	**Snowmass**	**4.35**	**106**	*e*Pg	**Pb**	**18 20 48.5**	**+1.1**
MVCO	**Mesa Verde**	**4.47**	**136**	*e*Pg	**Pb**	**18 20 49.9**	**+0.7**
NVAR	**Mina Array Bea**	**5.05**	**248**	Pn	**Pg**	**18 21 05.5**	**-1.2**
	0.1nm,0.3s,baz=72,slow=14,SNR=3.3						
NVAR				Sn	**Sg**	**18 22 10.2**	**-2.0**
	0.1nm,0.3s,baz=69,slow=22,SNR=2.1						
NVAR	**Mina Array Bea**	**5.05**	**248**	Pn	**Pg**	**18 21 05.5**	**-1.2**
NVAR				Sn	**Sg**	**18 22 10.2**	**-2.0**
TXAR	**Lajitas Array**	**13.23**	**145**	Pn	P	18 22 54.1	+4.9
	0.0nm,0.3s,baz=329,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**13.23**	**145**	Pn	P	18 22 54.1	+4.9

IDC 08 18:23:39.1±1.1, **0.43S**×**133.52E**, **h0**km, **mb3.8**/5, **mb1 3.9**/7, **mb1mx3.7**/18, **mbtmp3.8**/7, **ML3.9**/1, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.4**/25, **Error ellipse: s-maj=58.2km s-min=18.1km az=83.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.90**	**38**	LR	LR	18 32 44.3	
	comp=Z,104nm,19.3s,baz=104,slow=30						
FITZ	**Fitzroy Crossi**	**19.19**	**203**	P	P	18 28 03.2	-1.4
	0.3nm,0.3s,baz=28,slow=12,SNR=7.1						
FITZ				S	Sn	18 31 25.2	-16
	0.1nm,0.3s,baz=54,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**19.41**	**178**	P	P	18 28 07.1	+0.1
	0.4nm,0.3s,baz=356,slow=11,SNR=21						
WRA				S	Sn	18 31 34.3	-12
	0.1nm,0.3s,baz=360,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**23.10**	**179**	P	P	18 28 47.0	+0.2
	2.4nm,0.4s,baz=356,slow=11,SNR=88						
STKA	**Stephens Creek**	**32.19**	**167**	P	P	18 30 09.4	+0.5
	1.0nm,0.4s,baz=347,slow=8.7,SNR=4.0						
SONM	**Songino Array**	**53.55**	**338**	P	P	18 33 01.5	-0.4
	0.2nm,0.4s,baz=150,slow=6.7,SNR=2.5						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	18 34 20.8	+0.6
	0.7nm,0.6s,baz=115,slow=8.0,SNR=9.9						
ILAR	**Eielson Array**	**85.95**	**25**	P	P	18 36 20.4	-0.5
	0.3nm,0.7s,baz=245,slow=5.8,SNR=2.3						

IDC 08 18:40:22.6±2.6, **0.91S**×**132.87E**, **h0**km, **mb3.1**/2, **mb1 3.4**/3, **mb1mx3.2**/17, **mbtmp3.2**/3, **ML3.2**/1, **Error ellipse: s-maj=133.4km s-min=26.4km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**176**	P	P	18 44 45.7	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**22.65**	**178**	P	P	18 45 25.9	+0.2
	0.4nm,0.6s,baz=1.1,slow=12,SNR=7.7						
MKAR	**Makanchi Array**	**64.86**	**324**	P	P	18 51 03.6	-0.1
	0.2nm,0.9s,baz=115,slow=7.6,SNR=2.9						

IDC 08 18:40:40.2±2.8, **0.61S**×**132.74E**, **h0**km, **mb2.9**/2, **mb1 3.2**/3, **mb1mx3.1**/17, **mbtmp3.0**/3, **ML3.1**/1, **Error ellipse: s-maj=147.2km s-min=26.6km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.27**	**175**	P	P	18 45 05.8	-0.8
	0.1nm,0.3s,baz=354,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**22.94**	**177**	P	P	18 45 46.8	+0.6
	0.2nm,0.4s,baz=357,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**64.55**	**324**	P	P	18 51 19.1	0.0
	0.1nm,0.6s,baz=120,slow=5.6,SNR=2.6						

DJA ***08*** *18:51:16, 3.26N×99.50E, h276km, MLv3.4/9*

IDC 08 18:51:21.6±2.4, **1.92N**×**97.64E**, **h0**km, **mb3.7**/6, **mb1 3.7**/7, **mb1mx3.5**/24, **mbtmp3.6**/7, **ML3.5**/1, **Error ellipse: s-maj=99.6km s-min=22.1km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.48**	**4**	Pn	Pn	18 55 15.0	+0.5
	0.1nm,0.3s,baz=306,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**42.05**	**123**	P	P	18 59 15.1	-0.4
	0.2nm,0.5s,baz=302,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**43.49**	**128**	P	P	18 59 27.3	+0.2
	0.3nm,0.8s,baz=300,slow=7.6,SNR=2.9						
SONM	**Songino Array**	**46.36**	**8**	P	P	18 59 49.4	-0.4
	0.8nm,0.7s,baz=190,slow=8.7,SNR=7.3						
MKAR	**Makanchi Array**	**46.65**	**346**	P	P	18 59 52.0	+0.1
	0.6nm,0.5s,baz=161,slow=9.5,SNR=14						
ZALV	**Zalesovo Beam**	**52.92**	**351**	P	P	19 00 39.4	-0.1
	1.4nm,0.4s,baz=165,slow=7.2,SNR=17						
BVAR	**Borovoye Array**	**55.72**	**340**	P	P	19 00 59.6	-0.3
	1.3nm,0.6s,baz=142,slow=9.0,SNR=10.0						

ISCJB ***08*** *19:10:05.9±0.7, 37.26N±0.04×28.51E±0.03, h1km±8km, Error ellipse: s-maj=6.0km s-min=4.6km az=171.4*

ISK ***08*** *19:10:05.3, 37.21N×28.52E, h3km, MD2.0*

CSEM ***08*** *19:10:06.0±0.2, 37.24N×28.50E, h10km, MD2.0, Error ellipse: s-maj=6.4km s-min=4.9km az=170.0*

DDA ***08*** *19:10:06.1, 37.27N×28.49E, h7km, MD3.0*

ISC 08 19:10:05.7±1.2, **37.26N**±0.03×**28.52E**±0.03, **h2**km±12km, **n16**, σ1**9**/**01**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.22**	**237**	*e*PG	**Pg**	**19 10 10.1**	**+0.1**
YER				*e*SG	**Sg**	**19 10 13.6**	**+0.7**
YER	**Yerkesik**	**0.22**	**237**	*e*Pg	**Pg**	**19 10 10.1**	**+0.1**
YER				*e*Sg	**Sg**	**19 10 13.6**	**+0.7**
DNZL	**Cakiroluk**	**0.60**	**44**	*e*P	**Pb**	**19 10 18.7**	**-0.4**
DNZL				*e*S	**Sg**	**19 10 27.1**	**+2.0**
DNZL	**Cakiroluk**	**0.60**	**44**	*e*P	**Pb**	**19 10 18.7**	**-0.4**
DNZL				*e*S	**Sg**	**19 10 27.1**	**+2.0**
FETY	**Fethiye**	**0.77**	**144**	*e*PG	**Pg**	**19 10 19.9**	**-0.5**
FETY				*e*SG	**Sb**	**19 10 31.1**	**-1.6**
FETY	**Fethiye**	**0.77**	**144**	*e*Pg	**Pg**	**19 10 19.9**	**-0.5**
FETY				*e*Sg	**Sb**	**19 10 31.1**	**-1.6**
BODT	**Bodrum**	**0.98**	**259**	*e*PG	**Pb**	**19 10 25.0**	**-0.5**
BODT				*e*SG	**Sb**	**19 10 39.0**	**+0.1**
BODT	**Bodrum**	**0.98**	**259**	*e*Pg	**Pb**	**19 10 25.0**	**-0.5**
BODT				*e*Sg	**Sb**	**19 10 39.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.11**	**294**	*e*P	**Pg**	**19 10 25.5**	**-1.6**
GCAM				*e*S	**Sb**	**19 10 42.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.11**	**294**	*e*P	**Pg**	**19 10 25.5**	**-1.6**
GCAM				*e*S	**Sb**	**19 10 42.9**	**+0.3**
ELL	**Elmali**	**1.22**	**114**	*e*PN	**Pb**	**19 10 29.1**	**-0.5**
ELL	**Elmali**	**1.22**	**114**	*e*Pn	**Pb**	**19 10 29.1**	**-0.5**
AKAS	**Kas**	**1.34**	**139**	*e*P	**Pb**	**19 10 32.2**	**+0.5**
AKAS				*e*S	**Sn**	**19 10 51.6**	**+1.5**
AKAS	**Kas**	**1.34**	**139**	*e*P	**Pb**	**19 10 32.2**	**+0.5**
AKAS				*e*S	**Sn**	**19 10 51.6**	**+1.5**
KHAL	**Karahalli**	**1.35**	**34**	*e*P	**Pn**	**19 10 31.4**	**-0.3**
KHAL				*e*S	**Sg**	**19 10 49.1**	**-0.1**
KHAL	**Karahalli**	**1.35**	**34**	*e*P	**Pn**	**19 10 31.4**	**-0.3**
KHAL				*e*S	**Sg**	**19 10 49.1**	**-0.1**

IDC 08 19:17:20.8±1.9, **22.10N**×**143.06E**, **h230**km±17km, **mb3.2**/10, **mb1 3.4**/11, **mb1mx3.2**/24, **mbtmp3.2**/11, **Error ellipse: s-maj=26.1km s-min=13.2km az=85.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.04**	**351**	P	Pn	19 18 37.4	+1.0
	11nm,0.3s,baz=108,slow=20,SNR=8.9						
CBIJ				S	S	19 19 35.5	-0.9
	11nm,0.3s,baz=252,slow=20,SNR=12						
MJAR	**Matsushiro Arr**	**15.00**	**345**	P	Pn	19 20 41.3	-0.4
	0.6nm,0.3s,baz=167,slow=11,SNR=8.0						
KSRS	**Korea Array**	**20.13**	**323**	P	P	19 21 39.0	+1.5
	2.2nm,0.7s,baz=144,slow=9.4,SNR=6.8						
SONM	**Songino Array**	**38.96**	**320**	P	P	19 24 25.2	+0.3
	0.5nm,0.4s,baz=122,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**42.65**	**192**	P	P	19 24 54.9	-0.1
	0.6nm,0.5s,baz=17,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**46.35**	**192**	P	P	19 25 23.9	-0.3
	0.4nm,0.8s,baz=15,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**53.83**	**321**	P	P	19 26 19.3	-0.6
	0.9nm,0.4s,baz=111,slow=7.0,SNR=10						
MKAR	**Makanchi Array**	**54.34**	**312**	P	P	19 26 23.8	0.0
	0.5nm,0.6s,baz=86,slow=9.5,SNR=7.4						
MKAR				PcP	PcP	19 27 24.3	-0.4
	0.3nm,0.4s,baz=77,slow=3.0,SNR=5.4						
ILAR	**Eielson Array**	**61.74**	**27**	P	P	19 27 14.4	-0.2
	0.3nm,0.6s,baz=268,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**76.16**	**28**	P	P	19 28 44.3	+1.1
	0.3nm,0.5s,baz=292,slow=6.1,SNR=6.0						
ARCES	**ARCESS Array B**	**78.51**	**341**	P	P	19 28 56.2	0.0
	4.2nm,0.9s,baz=64,slow=5.5,SNR=3.8						
FINES	**FINESS Array B**	**82.77**	**334**	P	P	19 29 17.9	-1.0
	0.9nm,0.4s,baz=62,slow=7.2,SNR=16						

ISK ***08*** *19:17:52.6, 39.10N×36.06E, h6km, MD2.9*

DDA ***08*** *19:17:53.0, 39.13N×36.03E, h7km, MD3.0*

ISCJB ***08*** *19:17:53.2±0.8, 39.12N±0.03×36.04E±0.04, h1km±8km, Error ellipse: s-maj=5.8km s-min=4.6km az=24.5*

CSEM ***08*** *19:17:53.4±0.2, 39.11N×36.04E, h5km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.3km az=4.0*

ISC 08 19:17:53.3±1.1, **39.12N**±0.04×**36.03E**±0.02, **h9**km±12km, **n22**, σ0**8**/**43**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.30**	**209**	*e*PG	**Pg**	**19 17 59.2**	**-0.2**
BNN				*e*SG	**Sg**	**19 18 03.8**	**+0.4**
BNN	**Bunyan**	**0.30**	**209**	*e*Pg	**Pg**	**19 17 59.2**	**-0.2**
BNN				*e*Sg	**Sg**	**19 18 03.8**	**+0.4**
PINB	**Pinarbasi**	**0.53**	**146**	*e*P	**Pg**	**19 18 03.5**	**-0.1**
PINB				*e*S	**Sg**	**19 18 10.2**	**-0.3**
PINB	**Pinarbasi**	**0.53**	**146**	*e*P	**Pg**	**19 18 03.5**	**-0.1**
PINB				*e*S	**Sg**	**19 18 10.2**	**-0.3**
YOZ	**Yozgat**	**0.76**	**314**	*e*PG	**Pb**	**19 18 08.3**	**-0.6**
YOZ				*e*SG	**Sb**	**19 18 19.6**	**+0.2**
YOZ	**Yozgat**	**0.76**	**314**	*e*Pg	**Pb**	**19 18 08.3**	**-0.6**
YOZ				*e*Sg	**Sb**	**19 18 19.6**	**+0.2**
AVNT	**Avonos**	**0.98**	**250**	*e*P	**Pg**	**19 18 12.0**	**-0.2**
AVNT				*e*S	**Sb**	**19 18 25.6**	**0.0**
AVNT	**Avonos**	**0.98**	**250**	*e*P	**Pg**	**19 18 12.0**	**-0.2**
AVNT				*e*S	**Sb**	**19 18 25.6**	**0.0**
SCER	**sogukcermik**	**1.13**	**48**	*e*P	**Pb**	**19 18 15.2**	**0.0**
SCER				*e*S	**Sb**	**19 18 29.9**	**-0.1**
SCER	**sogukcermik**	**1.13**	**48**	*e*P	**Pb**	**19 18 15.2**	**0.0**
SCER				*e*S	**Sb**	**19 18 29.9**	**-0.1**
CDAG	**Cicekdag**	**1.38**	**292**	*e*P	**Pb**	**19 18 19.4**	**-0.1**
CDAG				*e*S	**Sg**	**19 18 38.5**	**+0.6**
CDAG	**Cicekdag**	**1.38**	**292**	*e*P	**Pb**	**19 18 19.4**	**-0.1**
CDAG				*e*S	**Sg**	**19 18 38.5**	**+0.6**
CORM	**Corum**	**1.52**	**315**	*e*PN	**Pb**	**19 18 21.6**	**-0.1**
CORM	**Corum**	**1.52**	**315**	*e*Pn	**Pb**	**19 18 21.6**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.62**	**38**	*e*PN	**Pn**	**19 18 22.0**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.62**	**38**	*e*Pn	**Pn**	**19 18 22.0**	**-0.2**
KOZT	**Kozan**	**1.64**	**186**	*e*PN	**Pn**	**19 18 22.5**	**+0.1**
KOZT	**Kozan**	**1.64**	**186**	*e*Pn	**Pn**	**19 18 22.5**	**+0.1**
AKCD	**Akcadag**	**1.69**	**118**	*e*P	**Pg**	**19 18 25.2**	**-0.6**
AKCD				*e*S	**Sg**	**19 18 48.9**	**+1.2**
AKCD	**Akcadag**	**1.69**	**118**	*e*P	**Pg**	**19 18 25.2**	**-0.6**
AKCD				*e*S	**Sg**	**19 18 48.9**	**+1.2**
ILIC	**ilic-Erzincan**	**2.00**	**80**	*e*PN	**Pn**	**19 18 27.6**	**+0.2**
ILIC	**ilic-Erzincan**	**2.00**	**80**	*e*Pn	**Pn**	**19 18 27.6**	**+0.2**

CASC ***08*** *19:21:30.8±17.0, 10.55N×83.89W, h6km±37km, MD5.1, mb5.7(NEIC), Fault plane solution: NP1:ϕs30.48000°, δ48.44000°, λ30.79000°.*

SZGRF ***08*** *19:21:33.4, 10.40N×84.71W, h33km, mb5.2, MS6.2, Costa Rica*

IDC ***08*** *19:21:33.5±0.4, 10.46N×84.13W, h0km, mb5.0/19, mb1 5.2/22, mb1mx5.1/24, mbtmp5.0/22, ML4.3/3, MS5.9/26, Ms1 5.9/26, ms1mx5.8/32, Error ellipse: s-maj=17.8km s-min=6.6km az=67.0*

ISCJB ***08*** *19:21:34.9±0.5, 10.31N±0.02×84.23W±0.01, h14km±3km, mb5.5/285, MS6.0/192, Error ellipse: s-maj=3.7km s-min=1.9km az=25.1*

BJI ***08*** *19:21:35.1, 10.20N×84.20W, h5km, mB6.1/30, Ms6.5/39, Ms7 6.3/39*

NEIC ***08*** *19:21:35.6±0.1, 10.17N×84.20W, h14km, mb5.7/179, ME6.0, MS6.0/121, MW6.1, MW6.1, MW6.0(USGS), Error ellipse: s-maj=3.6km s-min=2.3km az=206.0 Broadband fault plane solution: P waves. NP1:ϕ45.00000°, δ70.00000°, λ-15.00000°. NP2:ϕ135.00000°, δ76.00000°, λ-159.00000°. Principal axes: T Plg4.0000°, Azm272.0000°; N Plg0.0000°, Azm0.0000°; P Plg24.0000°, Azm4.0000°; Moment Tensor Solution. s67 Moment tensor: Scale 10^18 Nm; Mrr=0.43; Mθθ-1.46; Mϕϕ 1.89; Mrθ-0.08; Mrϕ-0.76; Mθϕ 0.05; Best double couple: Mo1.90000×10^18 NP1:ϕs33.00000°, δ87.00000°, λ-1.00000°. NP2:ϕs123.00000°, δ89.00000°, λ-177.00000°. Principal axes: T 2.0600, Plg1.0000°, Azm257.0000°; N -0.4300, Plg86.0000°, Azm143.0000°; P -1.6300, Plg3.0000°, Azm347.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 23 people killed, 100 injured and 17 missing in central Costa Rica. Many of the casualties were caused by landslides. A total of 518 houses destroyed or damaged at Barrio Fatima de Heredia, Barrio Santa Cecilia de Aserri, Cinchona, Dulce Nombre de Alajuela, Infiernillo, Leon XIII, Los Guido, Poasito, Rio Cuarto, Sabana Redonda, Santa Rosa de Poas and Vara Blanca. Roads were damaged in the Cinchona and Vara Blanca areas and bridges were destroyed or damaged at Los Angeles, Rio Cuarto de Grecia and Bajos del Toro. Electricity was disrupted in parts of San Jose. Felt [VII] at Naranjo and [VI] at Alajuela, Asuncion, Cinco Esquinas, Escazu, Grecia, Heredia, Llorente, Mercedes, Sabanilla, San Francisco, San Jose, San Josecito, San Juan, San Pablo, San Rafael, San Vicente and Santa Ana. Felt throughout Costa Rica and in southern and central Nicaragua.

MOS ***08*** *19:21:38.2±1.2, 10.32N×84.34W, h33km, mb5.6/54, MS6.0/51 Error ellipse: s-maj=6.8km s-min=4.3km az=98.1*

NEIC ***08*** *19:21:52.2±0.0, 10.56N×83.76W, h10km, Moment Tensor Solution. s180 Moment tensor: Scale 10^18Nm; Mrr=0.15; Mθθ-1.32; Mϕϕ 1.17; Mrθ 0.86; Mθϕ -0.41; Mϕr-0.15; Best double couple: Mo1.50000×10^18 NP1:ϕs213.00000°, δ61.00000°, λ-4.00000°. NP2:ϕs306.00000°, δ86.00000°, λ-150.00000°. Principal axes: T 1.3200, Plg17.0000°, Azm75.0000°; N 0.4300, Plg60.0000°, Azm313.0000°; P -1.7500, Plg23.0000°, Azm173.0000°;*

ISC 08 19:21:34.8±0.5, **10.22N**±0.02×**84.22W**±0.02, **h11**km±2km, **n1283**, σ1**8**/**31**/2118, **mb5.5**/285, **MS6.0**/195, **659C-656D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	**0.32**	**231**	*e*P	**Pb**	**19 21 42.2**	**-0.4**
CGA2	**Cerro Gallo 2**	**0.32**	**231**	*e*P	**Pb**	**19 21 42.2**	**-0.4**
SJS	**Escuela Geolog**	**0.32**	**150**⇓	*e*P	**Pg**	**19 21 40.8**	**-0.5**
SJS				*e*S	**Sg**	**19 21 44.0**	**-1.6**
LAJ	**Bijagual**	**0.36**	**165**⇑	*i*P	**Pn**	**19 21 46.9**	**+0.7**
LAJ	**Bijagual**	**0.36**	**165**⇑	*i*P	**Pn**	**19 21 46.9**	**+0.7**
ARE1	**Arenal 1**	**0.55**	**296**	*i* P	**Pb**	**19 21 46.6**	**0.0**
CASO	**Castillo**	**0.55**	**293**⇑	*i*P	**Pg**	**19 21 46.2**	**+0.5**
URSC	**Urasca**	**0.57**	**131**⇓	*i*P	**Pg**	**19 21 45.5**	**-0.5**
URSC	**Urasca**	**0.57**	**131**⇓	*i*P	**Pg**	**19 21 45.5**	**-0.5**
TRTC	**Tortuguero**	**0.61**	**54**⇓	*e*P	**Pg**	**19 21 46.4**	**-0.3**
JTS	**JuntasAbangare**	**0.73**	**276**⇑	*i*P	**Pg**	**19 21 48.8**	**-0.1**
JTS				*e*		19 22 00.2	
JTS	**JuntasAbangare**	**0.73**	**276**⇑	*i*Pg	**Pg**	**19 21 48.8**	**-0.1**
JTS				*e*Sg	**Sb**	**19 22 00.2**	**+0.6**
QCR	**Quepos**	**0.79**	**176**⇓	*i*P	**Pg**	**19 21 49.2**	**-0.8**
BUS	**Buena Vista**	**0.80**	**145**⇓	*i*P	**Pg**	**19 21 49.2**	**-1.1**
BUS	**Buena Vista**	**0.80**	**145**⇓	*i*P	**Pg**	**19 21 49.2**	**-1.1**
AMAS	**Alto Masis**	**0.86**	**297**⇑	*i*P	**Pg**	**19 21 50.9**	**-0.5**
AMAS				⇓*e*P	**Pb**	**19 21 51.2**	**-0.6**
AMAS				*i* S	**Sb**	**19 22 03.5**	**+0.1**
PTEN	**Parque Tenorio**	**0.91**	**303**⇓	*i*P	**Pg**	**19 21 52.1**	**-0.2**
JCR	**Jicaral**	**0.95**	**248**⇑	*i*P	**Pg**	**19 21 52.7**	**-0.5**
JCR	**Jicaral**	**0.95**	**248**⇑	*i*P	**Pg**	**19 21 52.7**	**-0.5**
CUI	**Cuipilapa**	**1

OTAV **Otavalo** 11.45 150 ⇓*iP* **Pn** 19 24 21.2 +2.3
LMGC **Las Mercedes** 12.01 35 *eP* Pn 19 24 29.5 +3.4
LMGC *eS* Sn 19 26 48.2 +8.1
comp=N,10nm,19.0s
LMGC *e*
comp=E,25nm,19.0s
CMIG Matias Romero 12.41 305 Pn **Pn** **19 24 32.5 +0.9**
comp=E,6.7nm,0.3s,baz=115,slow=9,6,SNR=83
CMIG Sn **Sn** **19 26 53.4 +3.3**
comp=E,0.3nm,0.3s,baz=108,slow=20,SNR=1.6
CMIG Matias Romero 12.41 305 Pn **Pn** **19 24 32.5 +0.9**
CMIG Sn **Sn** **19 26 53.4 +3.3**
MGV Manicaragua 12.51 18 *eP* P 19 24 39.1 -5.5
MGV *eS* Sn 19 27 03.9 +12
comp=N,5μm,2.8s
MGV *e*
comp=E,6μm,5.1s
SOR Soroa 12.56 5 *eP* **Pn** **19 24 32.5 -1.1**
SOR *eS* **Sn** **19 26 56.5 +2.9**
comp=N,7.3nm,3.6s
SOR *e*
comp=E,5.2nm,2.4s
GTBY Guantanamo Bay 13.05 41 *eP* **Pn** **19 24 41.7 +1.4**
comp=E,730nm,1.1s
HLGC Holguin 13.20 36 *eP* Pn 19 24 30.0 -12
SDV Santo Domingo 13.46 94⇑*eP* **Pn** **19 24 43.8 -2.4**
comp=E,229nm,0.6s
SDV Santo Domingo 13.46 94⇑*iP* **Pn** **19 24 43.7 -2.4**
SDV *eS* Sn 19 27 08.6 -7.4
MASC Masc 13.81 43 *eP* **P** **19 24 56.1 -3.0**
OXX Oaxaca 13.94 301 P **Pn** **19 24 55.4 +2.8**
VHO Vista Hermosa 13.94 301 P **Pn** **19 24 52.2 -0.5**
PNIG Pinotepa 14.86 296 P **Pn** **19 25 05.6 +0.5**
TPIG Tehuac#an 15.12 304 P **Pn** **19 25 09.0 +0.3**
UTMO Huajuapan 15.19 301 P **Pn** **19 25 11.1 +1.4**
SDDR Presa de Saban 15.24 54 *eP* **Pn** **19 25 12.2 +2.0**
comp=E,592nm,1.2s
SDDR Presa de Saban 15.24 54⇑*iP* **Pn** **19 25 12.5 +2.3**
SDDR *eS* **Sn** **19 28 05.8 +6.7**
PPM Popocatepetl 16.48 304 P **Pn** **19 25 27.9 +1.3**
PPM Popocatepetl 16.48 304 P **Pn** **19 25 27.9 +1.3**
ACX Acapulco 16.58 295 P **P** **19 25 31.7 +1.7**
YAIG Yautepec 16.74 303 P **Pn** **19 25 30.5 +0.9**
MEIG Mezcala 16.78 299 P **P** **19 25 32.3 -0.1**
PLIG Platanillo 16.89 300 P **P** **19 25 33.3 -0.2**
CAIG El Cayaco 17.01 295 P **P** **19 25 35.3 +0.6**
DEIG Demacu 17.45 307 P **P** **19 25 39.4 -0.4**
DWPF Disney 17.99 8 *eP* **P** **19 25 45.9 +0.4**
comp=E,1μm,1.9s
ATAH Atahualpa 18.18 161 P **P** **19 25 51.7 +3.5**
comp=E,0.5nm,0.3s,baz=342,slow=11,SNR=62
ATAH S **S** **19 29 18.6 +1.9**
comp=E,0.4nm,0.3s,baz=24,slow=17,SNR=2.1
ATAH LR LR 19 32 06.3
comp=E,120μm,19.6s,baz=168,slow=34
ATAH Atahualpa 18.18 161 P **P** **19 25 51.7 +3.5**
ZIIG Zihuatanejo 18.27 296 P **P** **19 25 51.4 +2.7**
LSP Las Mesas 18.39 63 *eP* **Pn** **19 25 48.7 -1.2**
AGPR Aguadilla, PR 18.48 62 *eP* **Pn** **19 25 52.6 +1.5**
comp=E,2μm,1.3s
LRS Lares 18.64 63 *eP* **Pn** **19 25 53.8 +0.7**
OBIP Obispado Ponce 18.75 64 *eP* **Pn** **19 25 55.0 +0.6**
comp=E,379nm,1.1s
ICM Isla Caja Muer 18.77 64 *eP* **P** **19 25 52.8 -1.4**
CELP Cerrillos 18.79 63 *eP* **Pn** **19 25 55.9 +1.0**
MOIG Morelia 18.89 302 P **Pn** **19 25 56.4 +0.1**
CBYP Canovanas 19.50 64 *eP* **Pn** **19 26 03.0 -0.5**
comp=E,2μm,1.4s
PTP Ponta Puerca 19.70 64 *eP* x 19 22 15.2
PTP ⇓*iP* x 19 22 16.5
MTP Monte Pirata 19.71 65 *eP* **P** **19 26 04.8 +0.4**
comp=E,1μm,1.3s
MMIG Aquila 20.19 296 P Pn 19 26 11.5 -0.1
CDVI St. Croix 20.29 66 *eP* **P** **19 26 10.9 +0.1**
comp=E,4μm,1.9s
STVI Saint Thomas 20.33 64 *eP* **P** **19 26 11.1 -0.1**
comp=E,857nm,1.4s
LNIG Linares 20.57 317 P **P** **19 26 13.4 -0.5**
SFJM Santa Fe 20.80 302 P Pn 19 26 19.5 +0.5
BRAL Brewton 20.86 353 *eP* **P** **19 26 17.1 +0.2**
comp=E,4μm,1.8s
BRAL LR LR
comp=E,23μm,21.0s
KVTX Kingsville 21.52 325 *eP* **P** **19 26 25.4 +1.4**
comp=E,4μm,1.8s
ZAIG Zacatecas 21.54 308 P **P** **19 26 24.3 -0.4**
CJM Chamela 22.12 297 P **P** **19 26 31.4 +0.8**
GRW Mount Saint Ca 22.21 83 *e* **P** **19 26 33.3 +1.6**
GRGR Grenville 22.21 83 *eP* **P** **19 26 31.8 +0.2**
comp=E,8μm,1.8s
GRGR LR LR
comp=E,21μm,20.0s
ANIG Ahuacatlan 22.30 301 P **P** **19 26 33.6 +1.0**
HKT Hockley 22.43 333 *eP* **P** **19 26 34.3 +0.6**
HKT pmax pmax
comp=E,1μm,1.7s
HKT Hockley 22.43 333 *eP* **P** **19 26 34.2 +0.6**
comp=E,1μm,1.7s
TRN Trinidad (W) 22.44 87 *e* **P** **19 26 36.2 +2.1**
LZG Guadaloupe-1 22.62 73 *eP* **P** **19 26 36.1 +0.1**
VBMS Vicksburg 22.66 346 *eP* **P** **19 26 38.1 +1.9**
comp=E,4μm,1.7s
VBMS LR LR
comp=E,31μm,21.0s
TBG Guadaloupe-3 22.68 73 *eP* **P** **19 26 38.0 +1.4**
SCG Saint Claude 22.68 73 *eP* **P** **19 26 38.7 +2.0**
PHG Guadaloupe-2 22.72 73 *eP* **P** **19 26 38.9 +1.8**
DOG Dongo Capester 22.74 73 *eP* **P** **19 26 38.0 +0.7**
BPA Boggy Peak 22.75 70 *e* **P** **19 26 37.5 +0.1**
TBH Brigand Hill 22.77 87 *e* **P** **19 26 40.5 +2.9**
BHS Barnard House 22.81 80 *e* P 19 26 43.4 +5.5
MDN Morne-Daniel 22.82 75 *e* **P** **19 26 39.2 +1.2**
LRAL Lakeview Retre 22.86 354 *eP* **P** **19 26 39.9 +1.6**
comp=Z,414nm,0.9s
LRAL LR LR
comp=Z,19μm,19.0s
SEG Port Louis 22.93 72 *eP* **P** **19 26 39.6 +0.4**
SLB Belfond 22.95 79 *e* **P** **19 26 41.1 +1.6**
FDF Fort de France 22.96 76 *eP* **P** **19 26 39.7 +0.1**
FDF pmax pmax
comp=Z,1μm,1.4s
FDF MLR MLR
comp=Z,19μm,19.0s
FDF Fort de France 22.96 76 *eP* **P** **19 26 39.7 +0.1**
comp=Z,1μm,1.4s
FDF LR LR
comp=Z,19μm,19.0s
FDF Fort de France 22.96 76 *eP* **P** **19 26 40.3 +0.7**
ANWB Willy Bob 22.98 69 *eP* **P** **19 26 37.8 -1.9**
comp=Z,1μm,1.5s
ANWB LR LR
comp=Z,23μm,20.0s
MGG Marie-Galante 23.00 73 *eP* **P** **19 26 42.3 +2.3**
NHSC New Hope 23.08 9 *eP* **P** **19 26 42.9 +2.3**
comp=Z,1μm,1.5s
NHSC LR LR
comp=Z,53μm,20.0s
GOGA Godfrey 23.10 2 *eP* **P** **19 26 41.6 +0.9**
GOGA pmax pmax
comp=Z,1μm,1.5s
GOGA MLR MLR
comp=Z,48μm,19.0s
GOGA Godfrey 23.10 2 *eP* **P** **19 26 41.6 +0.9**
comp=Z,1μm,1.5s
GOGA LR LR
comp=Z,48μm,19.0s
NNA Nana 23.24 161 P **P** **19 26 45.6 +3.1**
comp=Z,266nm,1.1s,baz=335,slow=11,SNR=26
NNA S **S** **19 30 59.0 +4.3**
comp=Z,3.0nm,0.3s,baz=333,slow=16,SNR=2.0
NNA LR LR 19 35 00.9
comp=Z,29μm,20.9s,baz=344,slow=34
NNA Nana 23.24 161 *eP* **P** **19 26 44.6 +2.2**
NNA S **S** **19 30 59.0 +4.3**
NNA pmax pmax
comp=Z,682nm,1.4s
NNA Nana 23.24 161 *eP* **P** **19 26 44.6 +2.2**
comp=Z,682nm,1.4s
NNA S **S** **19 30 59.0 +4.3**
NNA Nana 23.24 161 P **P** **19 26 44.9 +2.5**
comp=Z,2μm,1.3s,SNR=31
NATX Nacogdoches 23.52 337 *eP* **P** **19 26 45.9 +0.8**
comp=Z,2μm,1.4s
NATX LR LR
comp=Z,15μm,20.0s

JSC Jenkinsville 24.11 6 *eP* **P** **19 26 52.7 +2.1**
JSC Jenkinsville 24.11 6 *eP* **P** **19 26 52.7 +2.1**
BBGH Gun Hill 24.32 81 PFAKE 19 27 00.0 +7.2
BBGH LR LR
comp=Z,38μm,21.0s
OXF Oxford 24.65 350 *eP* **P** **19 26 56.4 +0.8**
OXF pmax pmax
comp=Z,781nm,1.3s
OXF MLR MLR
comp=Z,21μm,20.0s
OXF Oxford 24.65 350 *eP* **P** **19 26 56.4 +0.8**
comp=Z,781nm,1.3s
OXF LR LR
comp=Z,21μm,20.0s
MAIG Mazatlaan 24.83 304 P **P** **19 26 58.8 +1.5**
JCT Junction City 24.84 326 *eP* **P** **19 26 58.1 +0.6**
JCT pmax pmax
comp=Z,417nm,1.3s
JCT Junction City 24.84 326 *eP* **P** **19 26 58.0 +0.6**
comp=Z,417nm,1.3s
JCT Junction City 24.84 326 ⇑P **P** **19 26 56.4 -1.0**
baz=25,SNR=52
JCT ⇑P **P** **19 26 56.4 -1.0**
baz=25,SNR=52
JCT ⇑P **P** **19 26 56.4 -1.0**
baz=25,SNR=52
JCT ⇑S **S** **19 31 19.6 -0.7**
baz=25
JCT ⇑S **S** **19 31 19.6 -0.7**
baz=25
JCT ⇑S **S** **19 31 19.6 -0.7**
baz=25
PLAL Pickwick Lake 24.90 352 *eP* **P** **19 26 57.9 0.0**
comp=Z,931nm,1.8s
PLAL LR LR
comp=Z,25μm,20.0s
SWET Sewanee 24.94 357 *eP* **P** **19 26 59.8 +1.5**
comp=Z,333nm,1.0s
CPCT Cooper Cave 25.12 359 *eP* **P** **19 27 01.7 +1.8**
TKL Tuckaleechee C 25.33 1 P **P** **19 27 03.3 +1.5**
comp=Z,270nm,1.1s,baz=174,slow=9.8,SNR=34
TKL S **S** **19 31 30.0 +2.0**
comp=Z,9.6nm,1.0s,baz=175,slow=12,SNR=2.1
TKL LR LR 19 37 13.1
comp=Z,41μm,18.4s,baz=157,slow=38
TKL Tuckaleechee C 25.33 1 *eP* **P** **19 27 03.3 +1.5**
TKL S **S** **19 31 30.0 +2.0**
TKL Tuckaleechee C 25.33 1 *eP* **P** **19 27 03.3 +1.5**
TKL S **S** **19 31 30.0 +2.0**
RFTA Plano 25.43 335 *eP* **P** **19 27 04.0 +1.3**
CNNC Cliffs of the 25.57 12 *eP* **P** **19 27 05.5 +1.6**
comp=Z,205nm,0.8s
MIAR Mount Ida 25.69 342 *eP* **P** **19 27 05.4 +0.4**
MIAR pmax pmax
comp=Z,740nm,1.1s
MIAR Mount Ida 25.69 342 *eP* **P** **19 27 05.4 +0.4**
comp=Z,740nm,1.1s
HBAR Harrisburg 25.90 348 *eP* **P** **19 27 07.7 +0.8**
628A Black Gap, Mar 25.93 320 ⇑P **P** **19 27 07.5 +0.1**
baz=26,SNR=56
628A ⇑P **P** **19 27 07.5 +0.1**
baz=26,SNR=56
628A ⇑P **P** **19 27 07.5 +0.1**
baz=26,SNR=56
HALT Halls 26.00 350 *eP* **P** **19 27 08.1 +0.3**
WVT Waverly 26.01 353 *eP* **P** **19 27 07.5 -0.4**
WVT pmax pmax
comp=Z,732nm,1.8s
WVT Waverly 26.01 353 *eP* **P** **19 27 07.5 -0.4**
comp=Z,732nm,1.8s
GNAR Gosnell 26.17 349 *eP* **P** **19 27 10.3 +0.9**
comp=Z,15μm,1.7s
GNAR *e* 19 31 59.7
TZTN Tazewell 26.22 1 *eP* **P** **19 27 11.5 +1.7**
comp=Z,743nm,1.4s
627A Terlingua Ranc 26.22 320 ⇑P **P** **19 27 09.6 -0.4**
baz=26,SNR=26
627A ⇑P **P** **19 27 09.6 -0.4**
baz=26,SNR=26
627A ⇑P **P** **19 27 09.6 -0.4**
baz=26,SNR=26
TXAR Lajitas Array 26.32 319 P **P** **19 27 11.4 +0.5**
comp=Z,9.0nm,0.7s,baz=140,slow=7.7,SNR=24
TXAR LR LR 19 41 02.5
comp=Z,15μm,18.5s,baz=300,slow=45
TXAR P3KPbc 19 59 56.8
comp=Z,1.1nm,1.1s,baz=252,slow=1.2,SNR=4.0
TXAR Lajitas Array 26.32 319 P **P** **19 27 11.4 +0.5**
TXAR Lajitas Array 26.32 319 P **P** **19 27 11.4 +0.5**
TXAR *e* 19 59 56.8
528A Cox Ranch, San 26.34 322 ⇓P **P** **19 27 10.2 -0.9**
baz=26,SNR=38
528A ⇓P **P** **19 27 10.2 -0.9**
baz=26,SNR=38
528A ⇓P **P** **19 27 10.2 -0.9**
baz=26,SNR=38
GLAT Glass 26.34 351 *eP* **P** **19 27 11.6 +0.6**
GLAT *e* 19 32 02.8
UTMT University of 26.35 352 *eP* **P** **19 27 11.5 +0.6**
comp=Z,774nm,1.3s
428A Kincaid Ranch, 26.68 323 ⇑P **P** **19 27 13.9 -0.2**
baz=27,SNR=16
428A ⇑P **P** **19 27 13.9 -0.2**
baz=27,SNR=16
428A ⇑P **P** **19 27 13.9 -0.2**
baz=27,SNR=16
626A Big Bend Ranch 26.77 319 ⇓P **P** **19 27 15.2 +0.2**
baz=27,SNR=19
626A ⇓P **P** **19 27 15.2 +0.2**
baz=27,SNR=19
626A ⇓P **P** **19 27 15.2 +0.2**
baz=27,SNR=19
PARMO Parma 26.80 350 *eP* **P** **19 27 16.2 +1.1**
526A Mary Lane Ranc 27.08 320 ⇓P **P** **19 27 17.5 -0.4**
baz=27,SNR=18
526A ⇓P **P** **19 27 17.5 -0.4**
baz=27,SNR=18
526A ⇓P **P** **19 27 17.5 -0.4**
baz=27,SNR=18
BLA Blacksburg 27.09 7 *eP* **P** **19 27 19.8 +2.0**
BLA pmax pmax
comp=Z,612nm,1.5s
BLA MLR MLR
comp=Z,44μm,22.0s
BLA Blacksburg 27.09 7 *eP* **P** **19 27 19.8 +2.0**
comp=Z,612nm,1.5s
BLA *e* 19 32 20.3
BLA LR LR
comp=Z,44μm,22.0s
VWCC Virginia Weste 27.18 7 *eP* **P** **19 27 20.4 +1.9**
427A Hayter Ranch, 27.20 322 ⇑P **P** **19 27 18.6 -0.2**
baz=27,SNR=10
427A ⇑P **P** **19 27 18.6 -0.2**
baz=27,SNR=10
427A ⇑P **P** **19 27 18.6 -0.2**
baz=27,SNR=10
328A Wristen Ranch, 27.22 323 ⇑P **P** **19 27 18.6 -0.4**
baz=27,SNR=29
328A ⇑P **P** **19 27 18.6 -0.4**
baz=27,SNR=29
328A ⇑P **P** **19 27 18.6 -0.4**
baz=27,SNR=29
426A McDonald Obser 27.46 321 ⇑P **P** **19 27 21.2 -0.1**
baz=28
426A ⇑P **P** **19 27 21.2 -0.1**
baz=28
426A ⇑P **P** **19 27 21.2 -0.1**
baz=28
327A Balmorhea Ranc 27.62 322 ⇑P **P** **19 27 22.5 -0.1**
baz=28
327A ⇑P **P** **19 27 22.5 -0.1**
baz=28
327A ⇑P **P** **19 27 22.5 -0.1**
baz=28
TUL1 Tulsa 27.66 339 ⇑P **P** **19 27 22.1 -0.7**
baz=28,SNR=26
TUL1 ⇑P **P** **19 27 22.1 -0.7**
baz=28,SNR=26
TUL1 ⇑P **P** **19 27 22.1 -0.7**
baz=28,SNR=26
SIUC Southern Illin 27.75 351 *eP* **P** **19 27 24.5 +1.0**
comp=Z,562nm,1.5s
WMOK Wichita Mounta 27.80 334 *eP* **P** **19 27 23.6 -0.6**
WMOK pmax pmax
comp=Z,1μm,0.8s
WMOK Wichita Mounta 27.80 334 *eP* **P** **19 27 23.6 -0.6**
comp=Z,1μm,0.8s

USIN University of 27.80 354 *eP* **P** **19 27 24.9 +0.9**
comp=Z,317nm,1.1s
USIN *e* 19 32 30.9
326A Caldwell Ranch 27.87 322 ⇓P **P** **19 27 24.4 -0.5**
baz=28,SNR=22
326A ⇓P **P** **19 27 24.4 -0.5**
baz=28,SNR=22
326A ⇓P **P** **19 27 24.4 -0.5**
baz=28,SNR=22
WCI Wyandotte Cave 27.96 357 *eP* **P** **19 27 26.2 +0.8**
WCI pmax pmax
comp=Z,688nm,1.5s
WCI Wyandotte Cave 27.96 357 *eP* **P** **19 27 26.2 +0.8**
comp=Z,688nm,1.5s
227A Bennet, Jal 27.96 324 ⇑P **P** **19 27 26.0 +0.4**
baz=28
227A ⇑P **P** **19 27 26.0 +0.4**
baz=28
227A ⇑P **P** **19 27 26.0 +0.4**
baz=28
425A Indio Mountain 28.14 320 ⇓P **P** **19 27 26.7 -0.6**
baz=28,SNR=24
425A ⇓P **P** **19 27 26.7 -0.6**
baz=28,SNR=24
425A ⇓P **P** **19 27 26.7 -0.6**
baz=28,SNR=24
FVM French Village 28.21 350 *eP* **P** **19 27 27.8 +0.1**
FVM pmax pmax
comp=Z,557nm,1.8s
FVM French Village 28.21 350 *eP* **P** **19 27 27.8 +0.1**
comp=Z,557nm,1.8s
SAML Samuel 28.30 132 *eP* **P** **19 27 28.3 -0.4**
comp=Z,84nm,2.0s
CCM Cathedral Cave 28.43 348 *eP* **P** **19 27 29.9 +0.3**
CCM pmax pmax
comp=Z,690nm,1.6s
CCM Cathedral Cave 28.43 348 *eP* **P** **19 27 29.9 +0.3**
comp=Z,690nm,1.6s
226A Malaga, Loving 28.47 323 ⇑P **P** **19 27 30.0 -0.2**
baz=29,SNR=13
226A ⇑P **P** **19 27 30.0 -0.2**
baz=29,SNR=13
226A ⇑P **P** **19 27 30.0 -0.2**
baz=29,SNR=13
BBSR BB Station 28.48 36 PFAKE 19 27 40.0 +10
BBSR LR LR
comp=Z,15μm,19.0s
127A Arkansas Junct 28.48 325 ⇑P **P** **19 27 30.0 -0.3**
baz=29
127A ⇑P **P** **19 27 30.0 -0.3**
baz=29
127A ⇑P **P** **19 27 30.0 -0.3**
baz=29
CLNB Carlsbad 28.49 323 *eP* **P** **19 27 31.9 +1.5**
comp=Z,1μm,1.2s
CLNB *e* 19 28 28.1
325A Bean Ranch, Si 28.52 321 ⇑P **P** **19 27 30.6 -0.2**
baz=29
325A ⇑P **P** **19 27 30.6 -0.2**
baz=29
325A ⇑P **P** **19 27 30.6 -0.2**
baz=29
CBN Corbin 28.54 11 *eP* **P** **19 27 32.7 +2.1**
comp=Z,403nm,1.3s
CBN LR LR
comp=Z,45μm,19.0s
OLIL Olney 28.61 354 *eP* **P** **19 27 32.2 +1.0**
comp=Z,549nm,1.3s
GDL2 Guadalupe Moun 28.73 323 *eP* **P** **19 27 34.0 +1.4**
comp=Z,146nm,1.5s
SLM Saint Louis 28.81 350 *eP* **P** **19 27 33.6 +0.6**
SLM pmax pmax
comp=Z,225nm,1.1s
SLM Saint Louis 28.81 350 *eP* **P** **19 27 33.6 +0.6**
comp=Z,225nm,1.1s
SLM *e* 19 32 55.6
126A Clayton Basin, 28.84 324 ⇓P **P** **19 27 33.3 -0.3**
baz=29
126A ⇓P **P** **19 27 33.3 -0.3**
baz=29
126A ⇓P **P** **19 27 33.3 -0.3**
baz=29
Z27A Tatum 28.88 326 ⇓P **P** **19 27 32.2 -1.6**
baz=29,SNR=18
Z27A ⇓P **P** **19 27 32.2 -1.6**
baz=29,SNR=18
Z27A ⇓P **P** **19 27 32.2 -1.6**
baz=29,SNR=18
324A Moseley Ranch, 28.89 320 ⇓P **P** **19 27 33.1 -0.9**
baz=29,SNR=15
324A ⇓P **P** **19 27 33.1 -0.9**
baz=29,SNR=15
324A ⇓P **P** **19 27 33.1 -0.9**
baz=29,SNR=15
BLO Bloomington 28.91 356 *eP* **P** **19 27 34.1 +0.2**
BLO pmax pmax
comp=Z,304nm,1.3s
BLO Bloomington 28.91 356 *eP* **P** **19 27 34.1 +0.2**
comp=Z,304nm,1.3s
225A Deer Hill, Car 28.94 322 ⇓P **P** **19 27 34.7 +0.1**
baz=29,SNR=12
225A ⇓P **P** **19 27 34.7 +0.1**
baz=29,SNR=12
225A ⇓P **P** **19 27 34.7 +0.1**
baz=29,SNR=12
MNTX Cornudas Mount 29.00 321 *eP* **P** **19 27 34.7 -0.2**
comp=Z,85nm,1.5s
MNTX Cornudas Mount 29.00 321 ⇑P **P** **19 27 34.0 -0.9**
baz=29,SNR=29
MNTX ⇑P **P** **19 27 34.0 -0.9**
baz=29,SNR=29
MNTX ⇑P **P** **19 27 34.0 -0.9**
baz=29,SNR=29
MNTX ⇑P **P** **19 27 34.0 -0.9**
baz=29,SNR=29
MNTX ⇑P **P** **19 27 34.0 -0.9**
baz=29,SNR=29
CPRX Cap Rock 29.03 324 *eP* **P** **19 27 36.4 +1.2**
comp=Z,50nm,1.0s
MSTX Muleshoe 29.13 327 ⇓P **P** **19 27 35.0 -1.1**
baz=29,SNR=14
MSTX ⇓P **P** **19 27 35.0 -1.1**
baz=29,SNR=14
MSTX ⇓P **P** **19 27 35.0 -1.1**
baz=29,SNR=14
125A Gardner Draw, 29.23 323 ⇑P **P** **19 27 37.1 +0.1**
baz=29,SNR=16
125A ⇑P **P** **19 27 37.1 +0.1**
baz=29,SNR=16
125A ⇑P **P** **19 27 37.1 +0.1**
baz=29,SNR=16
Y27A Causey 29.27 326 ⇑P **P** **19 27 36.8 -0.6**
baz=29,SNR=21
Y27A ⇑P **P** **19 27 36.8 -0.6**
baz=29,SNR=21
Y27A ⇑P **P** **19 27 36.8 -0.6**
baz=29,SNR=21
Z26A Caprock 29.27 325 ⇓P **P** **19 27 36.5 -0.8**
baz=29
Z26A ⇓P **P** **19 27 36.5 -0.8**
baz=29
Z26A ⇓P **P** **19 27 36.5 -0.8**
baz=29
AMTX Amarillo 29.28 330 *eP* **P** **19 27 37.7 +0.4**
comp=Z,109nm,1.2s
AMTX LR LR
comp=Z,22μm,20.0s
AMTX Amarillo 29.28 330 ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
AMTX ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
AMTX ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
AMTX ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
AMTX ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
AMTX ⇑P **P** **19 27 36.4 -1.0**
baz=29,SNR=19
224A Cornudas Mount 29.35 321 ⇑P **P** **19 27 37.8 -0.3**
baz=30,SNR=9.5
224A ⇑P **P** **19 27 37.8 -0.3**
baz=30,SNR=9.5
224A ⇑P **P** **19 27 37.8 -0.3**
baz=30,SNR=9.5
Y26A Elida 29.67 326 ⇓P **P** **19 27 41.3 +0.4**

baz=30,SNR=6.4
Y26A ⇓P P 19 27 41.3 +0.4
baz=30,SNR=6.4
Y26A ⇓P P 19 27 41.3 +0.4
baz=30,SNR=6.4
Z25A Roswell 29.70 324 ⇓P P 19 27 41.0 -0.2
baz=30,SNR=12
Z25A ⇓P P 19 27 41.0 -0.2
baz=30,SNR=12
Z25A ⇓P P 19 27 41.0 -0.2
baz=30,SNR=12
SDMD Soldier's Deli 29.81 12 eP P 19 27 43.4 +1.6
comp=Z,225nm,1.3s
X27A F and S Farms, 29.82 328 ⇑P P 19 27 41.2 -1.0
baz=30
X27A ⇑P P 19 27 41.2 -1.0
baz=30
X27A ⇑P P 19 27 41.2 -1.0
baz=30
CGIG 29.86 316 P P 19 27 42.8 +0.2
223A Chaparral, Ant 29.87 320 ⇑P P 19 27 42.3 -0.4
baz=30
223A ⇑P P 19 27 42.3 -0.4
baz=30
223A ⇑P P 19 27 42.3 -0.4
baz=30
ACSO Alum Creek Sta 29.91 2 eP P 19 27 44.0 +1.2
comp=Z,531nm,1.0s
W27A Bowe Ranch, En 30.12 328 ⇑P P 19 27 44.0 -0.9
baz=30,SNR=13
W27A ⇑P P 19 27 44.0 -0.9
baz=30,SNR=13
W27A ⇑P P 19 27 44.0 -0.9
baz=30,SNR=13
Z24A Sheeppen Canyo 30.12 323 ⇓P P 19 27 44.8 -0.2
baz=30
Z24A ⇓P P 19 27 44.8 -0.2
baz=30
Z24A ⇓P P 19 27 44.8 -0.2
baz=30
X26A CR and CF Fran 30.13 327 ⇓P P 19 27 44.7 -0.3
baz=30,SNR=9.9
X26A ⇓P P 19 27 44.7 -0.3
baz=30,SNR=9.9
X26A ⇓P P 19 27 44.7 -0.3
baz=30,SNR=9.9
SFIN Scholer Farm 30.15 356 ⇑P P 19 27 45.0 +0.2
baz=30,SNR=6.2
SFIN ⇑P P 19 27 45.0 +0.2
baz=30,SNR=6.2
SFIN ⇑P P 19 27 45.0 +0.2
baz=30,SNR=6.2
Y25A Mesa, Roswell 30.16 325 ⇑P P 19 27 45.0 -0.2
baz=30,SNR=5.6
Y25A ⇑P P 19 27 45.0 -0.2
baz=30,SNR=5.6
Y25A ⇑P P 19 27 45.0 -0.2
baz=30,SNR=5.6
123A Bell Site, Whi 30.19 321 ⇓P P 19 27 45.4 0.0
baz=30
123A ⇓P P 19 27 45.4 0.0
baz=30
123A ⇓P P 19 27 45.4 0.0
baz=30
222A Williams Famil 30.36 319 ⇑P P 19 27 46.4 -0.7
baz=30
222A ⇑P P 19 27 46.4 -0.7
baz=30
222A ⇑P P 19 27 46.4 -0.7
baz=30
W26A Owens Ranch, T 30.51 327 ⇓P P 19 27 47.1 -1.2
baz=31
W26A ⇓P P 19 27 47.1 -1.2
baz=31
W26A ⇓P P 19 27 47.1 -1.2
baz=31
HDIL Hopedale 30.55 352 eP P 19 27 48.8 +0.3
comp=Z,936nm,1.6s
X25A Clemmons Ranch 30.58 325 ⇓P P 19 27 49.3 +0.4
baz=31,SNR=17
X25A ⇓P P 19 27 49.3 +0.4
baz=31,SNR=17
X25A ⇓P P 19 27 49.3 +0.4
baz=31,SNR=17
Y24A Capitan 30.59 324 ⇓P P 19 27 49.2 +0.1
baz=31,SNR=13
Y24A ⇓P P 19 27 49.2 +0.1
baz=31,SNR=13
Y24A ⇓P P 19 27 49.2 +0.1
baz=31,SNR=13
Z23A Rita Site, Whi 30.59 322 ⇓P P 19 27 48.5 -0.6
baz=31
Z23A ⇓P P 19 27 48.5 -0.6
baz=31
Z23A ⇓P P 19 27 48.5 -0.6
baz=31
122A Conniff Cattle 30.69 320 ⇓P P 19 27 50.9 +1.0
baz=31
122A ⇓P P 19 27 50.9 +1.0
baz=31
122A ⇓P P 19 27 50.9 +1.0
baz=31
221A Mesquite Ranch 30.74 318 ⇑P P 19 27 51.4 +1.0
baz=31
221A ⇑P P 19 27 51.4 +1.0
baz=31
221A ⇑P P 19 27 51.4 +1.0
baz=31
LPAZ La Paz 30.77 149 P P 19 27 52.5 +1.3
comp=Z,18nm,1.0s,baz=341,slow=9.1,SNR=29
LPAZ S S 19 32 55.4 +0.3
comp=Z,5.8nm,1.2s,baz=304,slow=7.3,SNR=1.4
LPAZ LR LR 19 41 33.3
comp=Z,32µm,21.1s,baz=324,slow=39
LPAZ La Paz 30.77 149 eP P 19 27 52.6 +1.3
LPAZ e 19 30 51.9
LPAZ S S 19 32 55.4 +0.3
LPAZ pmax pmax
comp=Z,77nm,1.4s
LPAZ La Paz 30.77 149 eP P 19 27 52.5 +1.3
comp=Z,77nm,1.4s
LPAZ e 19 30 51.9
LPAZ S S 19 32 55.4 +0.3
SSPA Standing Stone 30.81 9 eP P 19 27 52.1 +1.4
comp=Z,347nm,1.1s
320A Kipp Ranch, An 30.82 317 ⇓P P 19 27 52.2 +1.0
baz=31
320A ⇓P P 19 27 52.2 +1.0
baz=31
320A ⇓P P 19 27 52.2 +1.0
baz=31
KSU1 Kansas State U 30.82 341 eP P 19 27 50.7 -0.1
comp=Z,394nm,1.5s
KSU1 LR LR
comp=Z,16µm,20.0s
Y23A Lovelace Mesa, 30.95 323 ⇑P P 19 27 51.8 -0.5
baz=31,SNR=9.2
Y23A ⇑P P 19 27 51.8 -0.5
baz=31,SNR=9.2
Y23A ⇑P P 19 27 51.8 -0.5
baz=31,SNR=9.2
W25A X Bar L Ranch, 30.98 327 ⇓P P 19 27 51.6 -0.9
baz=31,SNR=17
W25A ⇓P P 19 27 51.6 -0.9
baz=31,SNR=17
W25A ⇓P P 19 27 51.6 -0.9
baz=31,SNR=17
Z22A Elephant Butte 31.04 321 ⇓P P 19 27 53.7 +0.6
baz=31,SNR=8.8
Z22A ⇓P P 19 27 53.7 +0.6
baz=31,SNR=8.8
Z22A ⇓P P 19 27 53.7 +0.6
baz=31,SNR=8.8
X24A Lazy VL Ranch, 31.04 325 ⇑P P 19 27 53.0 -0.2
baz=31
X24A ⇑P P 19 27 53.0 -0.2
baz=31
X24A ⇑P P 19 27 53.0 -0.2
baz=31
121A Cookes Peak, D 31.08 319 ⇑P P 19 27 54.2 +0.7
baz=31,SNR=14
121A ⇑P P 19 27 54.2 +0.7
baz=31,SNR=14
121A ⇑P P 19 27 54.2 +0.7
baz=31,SNR=14
220A Playas Peak, P 31.17 317 ⇓P P 19 27 54.4 +0.2
baz=31,SNR=48
220A ⇓P P 19 27 54.4 +0.2
baz=31,SNR=48
T28A Walsh 31.28 332 ⇓P P 19 27 54.4 -0.7
baz=31
T28A ⇓P P 19 27 54.4 -0.7
baz=31
T28A ⇓P P 19 27 54.4 -0.7
baz=31
319A Douglas 31.36 316 ⇓P P 19 27 56.1 +0.3
baz=32,SNR=26
319A ⇓P P 19 27 56.1 +0.3
baz=32,SNR=26
319A ⇓P P 19 27 56.1 +0.3
baz=32,SNR=26
SRIG Santa Rosalia 31.40 307 P P 19 27 57.8 +1.7
BNM Barren Site 31.45 323 eP P 19 27 57.4 +0.7
comp=Z,2µm,1.0s
X23A Hourglass Bar 31.49 324 ⇓P P 19 27 56.2 -0.9
baz=32
X23A ⇓P P 19 27 56.2 -0.9
baz=32
X23A ⇓P P 19 27 56.2 -0.9
baz=32
W24A Lazy 6 Ranch, 31.50 325 ⇑P P 19 27 56.8 -0.3
baz=32
W24A ⇑P P 19 27 56.8 -0.3
baz=32
W24A ⇑P P 19 27 56.8 -0.3
baz=32
U26A Atchley Ranch, 31.50 329 ⇓P P 19 27 57.0 -0.2
baz=32,SNR=8.0
U26A ⇓P P 19 27 57.0 -0.2
baz=32,SNR=8.0
U26A ⇓P P 19 27 57.0 -0.2
baz=32,SNR=8.0
Y22A Socorro 31.50 322 ⇓P P 19 27 58.0 +0.8
baz=32,SNR=28
Y22A ⇓P P 19 27 58.0 +0.8
baz=32,SNR=28
Y22A ⇓P P 19 27 58.0 +0.8
baz=32,SNR=28
ALLY Alegheny Colle 31.52 6 eP P 19 27 57.5 +0.6
comp=Z,275nm,1.3s
Z21A St. Cloud Mine 31.52 320 ⇓P P 19 27 57.6 +0.3
baz=32
Z21A ⇓P P 19 27 57.6 +0.3
baz=32
Z21A ⇓P P 19 27 57.6 +0.3
baz=32
T27A Campo 31.52 331 ⇑P P 19 27 56.0 -1.2
baz=32
T27A ⇑P P 19 27 56.0 -1.2
baz=32
T27A ⇑P P 19 27 56.0 -1.2
baz=32
BRNJ Basking Ridge 31.52 14 eP P 19 27 55.6 -1.4
comp=Z,80µm,1.2s
V25A Rancho No Teng 31.53 327 ⇑P P 19 27 57.4 0.0
baz=32,SNR=16
V25A ⇑P P 19 27 57.4 0.0
baz=32,SNR=16
V25A ⇑P P 19 27 57.4 0.0
baz=32,SNR=16
LPM Los Pinos Moun 31.56 323 eP P 19 27 58.1 +0.4
comp=Z,17nm,1.3s
Y22D IRIS PASSCAL I 31.57 322 ⇓P P 19 27 58.2 +0.5
baz=32
Y22D ⇓P P 19 27 58.2 +0.5
baz=32
Y22D ⇓P P 19 27 58.2 +0.5
baz=32
120A U Bar Ranch, L 31.64 318 ⇓P P 19 27 59.5 +1.1
baz=32,SNR=21
120A ⇓P P 19 27 59.5 +1.1
baz=32,SNR=21
120A ⇓P P 19 27 59.5 +1.1
baz=32,SNR=21
LENM Lemitar 31.66 322 eP P 19 27 58.4 -0.1
comp=Z,50nm,1.6s
CBKS Cedar Bluff 31.68 337 eP P 19 27 59.6 +1.1
CBKS pmax pmax
comp=Z,220nm,1.5s
CBKS MLR MLR
comp=Z,13µm,21.0s
CBKS Cedar Bluff 31.68 337 eP P 19 27 59.6 +1.1
comp=Z,220nm,1.5s
CBKS LR LR
comp=Z,13µm,21.0s
CBKS Cedar Bluff 31.68 337 ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
CBKS ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
CBKS ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
CBKS ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
CBKS ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
CBKS ⇑P P 19 27 58.5 0.0
baz=32,SNR=9.0
219A White Tail Can 31.72 317 ⇑P P 19 27 59.7 +0.6
baz=32,SNR=40
219A ⇑P P 19 27 59.7 +0.6
baz=32,SNR=40
219A ⇑P P 19 27 59.7 +0.6
baz=32,SNR=40
CPNY Central Park 31.78 15 eP P 19 28 01.6 +2.4
comp=Z,650nm,1.8s
V24A Ramsart Ranch, 31.80 326 ⇓P P 19 27 59.5 -0.3
baz=32,SNR=6.9
V24A ⇓P P 19 27 59.5 -0.3
baz=32,SNR=6.9
V24A ⇓P P 19 27 59.5 -0.3
baz=32,SNR=6.9
U25A Circle Dot Ran 31.85 328 ⇓P P 19 27 59.6 -0.6
baz=32,SNR=11
U25A ⇓P P 19 27 59.6 -0.6
baz=32,SNR=11
U25A ⇓P P 19 27 59.6 -0.6
baz=32,SNR=11
W23A Werner Place, 31.88 325 ⇓P P 19 28 01.5 +1.0
baz=32
W23A ⇓P P 19 28 01.5 +1.0
baz=32
W23A ⇓P P 19 28 01.5 +1.0
baz=32
318A Bisbee 31.88 315 ⇓P P 19 28 00.9 +0.4
baz=32,SNR=28
318A ⇓P P 19 28 00.9 +0.4
baz=32,SNR=28
318A ⇓P P 19 28 00.9 +0.4
baz=32,SNR=28
ANMO Albuquerque 31.91 324 eP P 19 28 01.1 +0.4
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO MLR MLR
comp=Z,20µm,21.0s
ANMO Albuquerque 31.91 324 eP P 19 28 01.1 +0.4
comp=Z,20nm,1.0s
ANMO LR LR
comp=Z,20µm,21.0s
LAZ Ladron 31.93 322 eP P 19 28 02.3 +1.4
AAM Ann Arbor 31.96 1 eP P 19 28 01.4 +0.5
AAM pmax pmax
comp=Z,570nm,1.5s
AAM Ann Arbor 31.96 1 eP P 19 28 01.4 +0.5
comp=Z,570nm,1.5s
Z20A Nine Sixteen R 31.97 319 ⇑P P 19 28 01.9 +0.6
baz=32
Z20A ⇑P P 19 28 01.9 +0.6
baz=32
Z20A ⇑P P 19 28 01.9 +0.6
baz=32
Y21A Point of Rocks 31.98 321 ⇓P P 19 28 02.6 +1.1
baz=32,SNR=29
Y21A ⇓P P 19 28 02.6 +1.1
baz=32,SNR=29
Y21A ⇓P P 19 28 02.6 +1.1
baz=32,SNR=29
PAL Palisades 31.99 15 eP P 19 28 03.3 +2.2
PAL pmax pmax
comp=Z,270nm,1.1s
PAL Palisades 31.99 15 eP P 19 28 03.3 +2.2
comp=Z,270nm,1.1s
ERPA Erie 31.99 6 eP P 19 28 01.6 +0.4
comp=Z,441nm,1.4s
ERPA LR LR
comp=Z,43µm,20.0s
S27A Las Animas 32.10 331 ⇓P P 19 28 02.0 -0.3
baz=32
S27A ⇓P P 19 28 02.0 -0.3
baz=32
S27A ⇓P P 19 28 02.0 -0.3
baz=32
W22A Albuquerque 32.23 324 ⇑P P 19 28 03.9 +0.3
baz=32
W22A ⇑P P 19 28 03.9 +0.3
baz=32
W22A ⇑P P 19 28 03.9 +0.3
baz=32
218A Dragoon 32.24 316 ⇓P P 19 28 04.2 +0.6
baz=32,SNR=22
218A ⇓P P 19 28 04.2 +0.6
baz=32,SNR=22
218A ⇓P P 19 28 04.2 +0.6
baz=32,SNR=22
V23A Ortiz Mt. (NFS 32.32 325 ⇓P P 19 28 04.6 +0.3
baz=32
V23A ⇓P P 19 28 04.6 +0.3
baz=32
V23A ⇓P P 19 28 04.6 +0.3
baz=32
S26A Kim 32.33 331 ⇓P P 19 28 04.8 +0.5
baz=32,SNR=7.6
S26A ⇓P P 19 28 04.8 +0.5
baz=32,SNR=7.6
S26A ⇓P P 19 28 04.8 +0.5
baz=32,SNR=7.6
X21A Alamocita Cree 32.34 322 ⇑P P 19 28 05.2 +0.5
baz=32,SNR=14
X21A ⇑P P 19 28 05.2 +0.5
baz=32,SNR=14
X21A ⇑P P 19 28 05.2 +0.5
baz=32,SNR=14
Y20A Horse Springs, 32.35 320 ⇑P P 19 28 05.4 +0.7
baz=32,SNR=13
Y20A ⇑P P 19 28 05.4 +0.7
baz=32,SNR=13
Y20A ⇑P P 19 28 05.4 +0.7
baz=32,SNR=13
T25A Trinidad 32.41 329 ⇓P P 19 28 06.3 +1.2
baz=33,SNR=5.5
T25A ⇓P P 19 28 06.3 +1.2
baz=33,SNR=5.5
T25A ⇓P P 19 28 06.3 +1.2
baz=33,SNR=5.5
Z19A T-Link Ranch, 32.52 319 ⇓P P 19 28 06.6 +0.6
baz=33
Z19A ⇓P P 19 28 06.6 +0.6
baz=33
Z19A ⇓P P 19 28 06.6 +0.6
baz=33
YLE Yale 32.53 16 eP P 19 28 05.7 -0.2
comp=Z,677nm,1.1s
SCIA State Center 32.54 347 eP P 19 28 06.1 +0.1
comp=Z,2µm,2.2s
R27A Eads 32.55 332 ⇑P P 19 28 05.9 -0.3
baz=33,SNR=8.5
R27A ⇑P P 19 28 05.9 -0.3
baz=33,SNR=8.5
R27A ⇑P P 19 28 05.9 -0.3
baz=33,SNR=8.5
BINY Binghamton 32.67 11 eP P 19 28 08.0 +1.0
comp=Z,583nm,1.3s
BINY LR LR
comp=Z,37µm,20.0s
T24A Torres, Weston 32.69 328 ⇓P P 19 28 08.7 +1.0
baz=33,SNR=10
T24A ⇓P P 19 28 08.7 +1.0
baz=33,SNR=10
T24A ⇓P P 19 28 08.7 +1.0
baz=33,SNR=10
W21A San Fidel 32.72 323 ⇓P P 19 28 08.1 +0.2
baz=33,SNR=6.1
W21A ⇓P P 19 28 08.1 +0.2
baz=33,SNR=6.1
W21A ⇓P P 19 28 08.1 +0.2
baz=33,SNR=6.1
U23A El Rito 32.75 326 ⇓P P 19 28 08.1 0.0
baz=33,SNR=9.7
U23A ⇓P P 19 28 08.1 0.0
baz=33,SNR=9.7
U23A ⇓P P 19 28 08.1 0.0
baz=33,SNR=9.7
S25A Robets Cordova 32.83 330 ⇑P P 19 28 08.6 -0.2
baz=33
S25A ⇑P P 19 28 08.6 -0.2
baz=33
S25A ⇑P P 19 28 08.6 -0.2
baz=33
X20A Quemado 32.85 321 ⇑P P 19 28 09.5 +0.5
baz=33,SNR=16
X20A ⇑P P 19 28 09.5 +0.5
baz=33,SNR=16
X20A ⇑P P 19 28 09.5 +0.5
baz=33,SNR=16
V22A San Miguel Ran 32.85 325 ⇑P P 19 28 09.5 +0.5
baz=33
V22A ⇑P P 19 28 09.5 +0.5
baz=33
V22A ⇑P P 19 28 09.5 +0.5
baz=33
R26A Arlington 32.86 331 ⇓P P 19 28 09.4 +0.4
baz=33,SNR=9.5
R26A ⇓P P 19 28 09.4 +0.4
baz=33,SNR=9.5
R26A ⇓P P 19 28 09.4 +0.4
baz=33,SNR=9.5
Z18A Geronimo 32.90 318 ⇓P P 19 28 10.4 +1.1
baz=33,SNR=6.8
Z18A ⇓P P 19 28 10.4 +1.1
baz=33,SNR=6.8
Z18A ⇓P P 19 28 10.4 +1.1
baz=33,SNR=6.8
TUC Tucson 32.94 316 eP P 19 28 10.4 +0.7
TUC pmax pmax
comp=Z,52nm,1.4s
TUC Tucson 32.94 316 eP P 19 28 10.4 +0.7
comp=Z,52nm,1.4s
JFWS Jewell Farm 33.00 352 eP P 19 28 09.8 -0.1
JFWS pmax pmax
comp=Z,523nm,1.6s
JFWS Jewell Farm 33.00 352 eP P 19 28 09.8 -0.1
comp=Z,523nm,1.6s
KSCO Kaye Shedlock' 33.06 333 ⇓P P 19 28 11.2 +0.5
baz=33
KSCO ⇓P P 19 28 11.2 +0.5
baz=33
KSCO ⇓P P 19 28 11.2 +0.5
baz=33
R25A Fountain Ranch 33.14 330 ⇓P P 19 28 11.9 +0.5
baz=33,SNR=8.9
R25A ⇓P P 19 28 11.9 +0.5
baz=33,SNR=8.9
R25A ⇓P P 19 28 11.9 +0.5
baz=33,SNR=8.9
U22A Llaves 33.15 325 ⇓P P 19 28 12.1 +0.4
baz=33,SNR=7.0
U22A ⇓P P 19 28 12.1 +0.4
baz=33,SNR=7.0
U22A ⇓P P 19 28 12.1 +0.4
baz=33,SNR=7.0
T23A Casias Ranch, 33.19 327 ⇑P P 19 28 11.8 -0.1
baz=33,SNR=8.4
T23A ⇑P P 19 28 11.8 -0.1
baz=33,SNR=8.4
T23A ⇑P P 19 28 11.8 -0.1
baz=33,SNR=8.4
V21A Milan 33.19 324 ⇓P P 19 28 11.9 -0.1
baz=33,SNR=12
V21A ⇓P P 19 28 11.9 -0.1
baz=33,SNR=12
V21A ⇓P P 19 28 11.9 -0.1
baz=33,SNR=12
S24A Houchin Ranch, 33.21 329 ⇓P P 19 28 12.2 -0.1
baz=33,SNR=9.6
S24A ⇓P P 19 28 12.2 -0.1
baz=33,SNR=9.6
S24A ⇓P P 19 28 12.2 -0.1
baz=33,SNR=9.6
W20A Ramah 33.24 322 ⇑P P 19 28 12.6 +0.2
baz=33,SNR=15
W20A ⇑P P 19 28 12.6 +0.2
baz=33,SNR=15
W20A ⇑P P 19 28 12.6 +0.2

	baz=33,SNR=15								
X19A	**St. Johns**	**33.26**	**320**	⇓P		**P**	**19 28 13.5 +0.9**
	baz=33,SNR=12								
X19A				⇓P		**P**	**19 28 13.5 +0.9**
	baz=33,SNR=12								
X19A				⇓P		**P**	**19 28 13.5 +0.9**
	baz=33,SNR=12								
Z17A	**San Carlos Hig**	**33.32**	**318**	⇓P		**P**	**19 28 13.4 +0.4**
	baz=33,SNR=9.3								
Z17A				⇓P		**P**	**19 28 13.4 +0.4**
	baz=33,SNR=9.3								
Z17A				⇓P		**P**	**19 28 13.4 +0.4**
	baz=33,SNR=9.3								
Y18A	**Canyon Day Jun**	**33.33**	**319**	⇓P		**P**	**19 28 13.9 +0.8**
	baz=33								
Y18A				⇓P		**P**	**19 28 13.9 +0.8**
	baz=33								
Y18A				⇓P		**P**	**19 28 13.9 +0.8**
	baz=33								
Q26A	**Hugo**	**33.39**	**332**	⇑P		**P**	**19 28 14.1 +0.5**
	baz=34,SNR=7.9								
Q26A				⇑P		**P**	**19 28 14.1 +0.5**
	baz=34,SNR=7.9								
Q26A				⇑P		**P**	**19 28 14.1 +0.5**
	baz=34,SNR=7.9								
BGNE	**Belgrade**	**33.41**	**341**	⇑P		**P**	**19 28 13.3 -0.2**
	baz=34,SNR=6.6								
BGNE				⇑P		**P**	**19 28 13.3 -0.2**
	baz=34,SNR=6.6								
BGNE				⇑P		**P**	**19 28 13.3 -0.2**
	baz=34,SNR=6.6								
SDCO	**Great Sand Dun**	**33.44**	**329**	*e*P		**P**	**19 28 14.5 +0.3**
	comp=Z,30nm,1.1s								
SDCO				*e*PP		PP	19 29 27.2 -2.7
SDCO				LR		LR	
	comp=Z,18µm,19.0s								
SDCO	**Great Sand Dun**	**33.44**	**329**	⇓P		**P**	**19 28 14.0 -0.2**
	baz=34,SNR=22								
SDCO				⇓P		**P**	**19 28 14.0 -0.2**
	baz=34,SNR=22								
SDCO				⇓P		**P**	**19 28 14.0 -0.2**
	baz=34,SNR=22								
SDCO				⇓P		**P**	**19 28 14.0 -0.2**
	baz=34,SNR=22								
SDCO				⇓P		**P**	**19 28 14.0 -0.2**
	baz=34,SNR=22								
BRYW	**Bryant College**	**33.49**	**17**	*e*P		**P**	**19 28 12.1 -2.1**
	comp=Z,74nm,0.9s								
QUA2	**Belchertown**	**33.59**	**16**	*e*P		**P**	**19 28 16.1 +1.0**
	comp=Z,2µm,1.9s								
R24A	**Sanders Place,**	**33.61**	**330**	⇓P		**P**	**19 28 16.2 +0.6**
	baz=34,SNR=5.5								
R24A				⇓P		**P**	**19 28 16.2 +0.6**
	baz=34,SNR=5.5								
R24A				⇓P		**P**	**19 28 16.2 +0.6**
	baz=34,SNR=5.5								
T22A	**Edith**	**33.64**	**326**	⇓P		**P**	**19 28 16.3 +0.4**
	baz=34,SNR=7.4								
T22A				⇓P		**P**	**19 28 16.3 +0.4**
	baz=34,SNR=7.4								
T22A				⇓P		**P**	**19 28 16.3 +0.4**
	baz=34,SNR=7.4								
U21A	**Nageezi**	**33.64**	**325**	⇑P		**P**	**19 28 17.1 +1.1**
	baz=34,SNR=9.5								
U21A				⇑P		**P**	**19 28 17.1 +1.1**
	baz=34,SNR=9.5								
U21A				⇑P		**P**	**19 28 17.1 +1.1**
	baz=34,SNR=9.5								
V20A	**Brimhall**	**33.67**	**323**	⇓P		**P**	**19 28 17.1 +0.9**
	baz=34								
V20A				⇓P		**P**	**19 28 17.1 +0.9**
	baz=34								
V20A				⇓P		**P**	**19 28 17.1 +0.9**
	baz=34								
TRY	**Troy**	**33.68**	**14**	*e*P		**P**	**19 28 17.8 +2.0**
	comp=Z,504nm,1.1s								
Q25A	**Bedland, Calha**	**33.73**	**331**	⇓P		**P**	**19 28 16.3 -0.3**
	baz=34,SNR=7.2								
Q25A				⇓P		**P**	**19 28 16.3 -0.3**
	baz=34,SNR=7.2								
Q25A				⇓P		**P**	**19 28 16.3 -0.3**
	baz=34,SNR=7.2								
X18A	**Snowflake**	**33.75**	**320**	⇓P		**P**	**19 28 17.7 +0.9**
	baz=34,SNR=6.1								
X18A				⇓P		**P**	**19 28 17.7 +0.9**
	baz=34,SNR=6.1								
X18A				⇓P		**P**	**19 28 17.7 +0.9**
	baz=34,SNR=6.1								
Y17A	**Roosevelt**	**33.81**	**318**	⇓P		**P**	**19 28 17.3 +0.1**
	baz=34,SNR=10								
Y17A				⇓P		**P**	**19 28 17.3 +0.1**
	baz=34,SNR=10								
Y17A				⇓P		**P**	**19 28 17.3 +0.1**
	baz=34,SNR=10								
P26A	**Davis Ranch, A**	**33.83**	**333**	⇑P		**P**	**19 28 17.3 -0.1**
	baz=34								
P26A				⇑P		**P**	**19 28 17.3 -0.1**
	baz=34								
P26A				⇑P		**P**	**19 28 17.3 -0.1**
	baz=34								
R23A	**Moffat**	**33.94**	**329**	⇑P		**P**	**19 28 18.8 +0.3**
	baz=34,SNR=34								
R23A				⇑P		**P**	**19 28 18.8 +0.3**
	baz=34,SNR=34								
R23A				⇑P		**P**	**19 28 18.8 +0.3**
	baz=34,SNR=34								
V19A	**Window Rock**	**33.96**	**322**	⇑P		**P**	**19 28 19.6 +0.9**
	baz=34								
V19A				⇑P		**P**	**19 28 19.6 +0.9**
	baz=34								
V19A				⇑P		**P**	**19 28 19.6 +0.9**
	baz=34								
O27A	**Beecher Island**	**33.97**	**335**	⇑P		**P**	**19 28 19.5 +1.0**
	baz=34,SNR=9.0								
O27A				⇑P		**P**	**19 28 19.5 +1.0**
	baz=34,SNR=9.0								
O27A				⇑P		**P**	**19 28 19.5 +1.0**
	baz=34,SNR=9.0								
T21A	**Navajo Lake**	**33.97**	**325**	⇑P		**P**	**19 28 18.9 +0.1**
	baz=34,SNR=8.4								
T21A				⇑P		**P**	**19 28 18.9 +0.1**
	baz=34,SNR=8.4								
T21A				⇑P		**P**	**19 28 18.9 +0.1**
	baz=34,SNR=8.4								
W18A	**Petrified Fore**	**33.99**	**321**	⇑P		**P**	**19 28 20.1 +1.2**
	baz=34,SNR=16								
W18A				⇑P		**P**	**19 28 20.1 +1.2**
	baz=34,SNR=16								
W18A				⇑P		**P**	**19 28 20.1 +1.2**
	baz=34,SNR=16								
U20A	**Newcomb**	**34.10**	**324**	⇓P		**P**	**19 28 20.3 +0.4**
	baz=34								
U20A				⇓P		**P**	**19 28 20.3 +0.4**
	baz=34								
U20A				⇓P		**P**	**19 28 20.3 +0.4**
	baz=34								
S22A	**4UR Ranch, Cre**	**34.13**	**327**	⇑P		**P**	**19 28 21.3 +1.0**
	baz=34,SNR=34								
S22A				⇑P		**P**	**19 28 21.3 +1.0**
	baz=34,SNR=34								
S22A				⇑P		**P**	**19 28 21.3 +1.0**
	baz=34,SNR=34								
214A	**Organ Pipe Nat**	**34.16**	**314**	⇑P		**P**	**19 28 21.1 +0.9**
	baz=34,SNR=18								
214A				⇑P		**P**	**19 28 21.1 +0.9**
	baz=34,SNR=18								
214A				⇑P		**P**	**19 28 21.1 +0.9**
	baz=34,SNR=18								
P25A	**Willow Gulch B**	**34.16**	**332**	⇓P		**P**	**19 28 21.2 +0.8**
	baz=34,SNR=12								
P25A				⇓P		**P**	**19 28 21.2 +0.8**
	baz=34,SNR=12								
P25A				⇓P		**P**	**19 28 21.2 +0.8**
	baz=34,SNR=12								
X17A	**Forest Lakes**	**34.17**	**319**	⇑P		**P**	**19 28 20.7 +0.1**
	baz=34,SNR=6.1								
X17A				⇑P		**P**	**19 28 20.7 +0.1**
	baz=34,SNR=6.1								
X17A				⇑P		**P**	**19 28 20.7 +0.1**
	baz=34,SNR=6.1								
Q24A	**Divide**	**34.20**	**330**	⇓P		**P**	**19 28 21.0 +0.1**
	baz=34								
Q24A				⇓P		**P**	**19 28 21.0 +0.1**
	baz=34								
Q24A				⇓P		**P**	**19 28 21.0 +0.1**
	baz=34								
ACCN	**Adirondack Com**	**34.30**	**14**	*e*P		**P**	**19 28 21.8 +0.5**
	comp=Z,316nm,1.4s								
O26A	**Horse Wrangler**	**34.37**	**334**	⇓P		**P**	**19 28 22.3 +0.2**
	baz=34,SNR=8.3								
O26A				⇓P		**P**	**19 28 22.3 +0.2**
	baz=34,SNR=8.3								
O26A				⇓P		**P**	**19 28 22.3 +0.2**
	baz=34,SNR=8.3								
OGNE	**Ogallala**	**34.42**	**336**	*e*P		**P**	**19 28 23.5 +1.1**
	comp=Z,1µm,1.7s								
OGNE	**Ogallala**	**34.42**	**336**	⇑P		**P**	**19 28 23.0 +0.6**
	baz=35,SNR=27								
OGNE				⇑P		**P**	**19 28 23.0 +0.6**
	baz=35,SNR=27								
OGNE				⇑P		**P**	**19 28 23.0 +0.6**
	baz=35,SNR=27								
U19A	**Dine' College,**	**34.45**	**323**	⇓P		**P**	**19 28 23.7 +0.8**
	baz=35								
U19A				⇓P		**P**	**19 28 23.7 +0.8**
	baz=35								
U19A				⇓P		**P**	**19 28 23.7 +0.8**
	baz=35								
GLMI	**Grayling**	**34.49**	**359**	*e*P		**P**	**19 28 23.3 +0.4**
	comp=Z,261nm,1.0s								
GLMI				LR		LR	
	comp=Z,26µm,19.0s								
Q23A	**Hartsel**	**34.49**	**329**	⇑P		**P**	**19 28 24.1 +0.8**
	baz=35								
Q23A				⇑P		**P**	**19 28 24.1 +0.8**
	baz=35								
Q23A				⇑P		**P**	**19 28 24.1 +0.8**
	baz=35								
V18A	**Ganado**	**34.50**	**321**	⇑P		**P**	**19 28 24.0 +0.6**
	baz=35								
V18A				⇑P		**P**	**19 28 24.0 +0.6**
	baz=35								
V18A				⇑P		**P**	**19 28 24.0 +0.6**
	baz=35								
N27A	**Anderson Farm,**	**34.51**	**335**	⇓P		**P**	**19 28 23.7 +0.4**
	baz=35								
N27A				⇓P		**P**	**19 28 23.7 +0.4**
	baz=35								
N27A				⇓P		**P**	**19 28 23.7 +0.4**
	baz=35								
P24A	**Kohler Place,**	**34.51**	**331**	⇓P		**P**	**19 28 23.5 +0.1**
	baz=35								
P24A				⇓P		**P**	**19 28 23.5 +0.1**
	baz=35								
P24A				⇓P		**P**	**19 28 23.5 +0.1**
	baz=35								
W17A	**Winslow**	**34.58**	**320**	⇓P		**P**	**19 28 24.9 +0.9**
	baz=35								
W17A				⇓P		**P**	**19 28 24.9 +0.9**
	baz=35								
W17A				⇓P		**P**	**19 28 24.9 +0.9**
	baz=35								
S21A	**Coal Bank Pass**	**34.59**	**326**	⇑P		**P**	**19 28 24.5 +0.2**
	baz=35,SNR=11								
S21A				⇑P		**P**	**19 28 24.5 +0.2**
	baz=35,SNR=11								
S21A				⇑P		**P**	**19 28 24.5 +0.2**
	baz=35,SNR=11								
O25A	**Wiggins**	**34.62**	**333**	⇓P		**P**	**19 28 25.6 +1.3**
	baz=35,SNR=7.7								
O25A				⇓P		**P**	**19 28 25.6 +1.3**
	baz=35,SNR=7.7								
O25A				⇓P		**P**	**19 28 25.6 +1.3**
	baz=35,SNR=7.7								
X16A	**Lo Mia Camp, P**	**34.64**	**318**	⇑P		**P**	**19 28 26.0 +1.4**
	baz=35,SNR=19								
X16A				⇑P		**P**	**19 28 26.0 +1.4**
	baz=35,SNR=19								
X16A				⇑P		**P**	**19 28 26.0 +1.4**
	baz=35,SNR=19								
114A	**Black Gap (USA**	**34.65**	**315**	⇓P		**P**	**19 28 25.2 +0.8**
	baz=35,SNR=11								
114A				⇓P		**P**	**19 28 25.2 +0.8**
	baz=35,SNR=11								
114A				⇓P		**P**	**19 28 25.2 +0.8**
	baz=35,SNR=11								
MVCO	**Mesa Verde**	**34.67**	**325**	*e*P		**P**	**19 28 25.8 +1.0**
	comp=Z,24nm,0.8s								
MVCO	**Mesa Verde**	**34.67**	**325**	⇑P		**P**	**19 28 24.4 -0.4**
	baz=35,SNR=32								
MVCO				⇑P		**P**	**19 28 24.4 -0.4**
	baz=35,SNR=32								
MVCO				⇑P		**P**	**19 28 24.4 -0.4**
	baz=35,SNR=32								
T19A	**Beclabito**	**34.71**	**324**	⇓P		**P**	**19 28 25.4 +0.3**
	baz=35,SNR=16								
T19A				⇓P		**P**	**19 28 25.4 +0.3**
	baz=35,SNR=16								
T19A				⇓P		**P**	**19 28 25.4 +0.3**
	baz=35,SNR=16								
N26A	**Koester Ranch,**	**34.82**	**334**	⇓P		**P**	**19 28 26.5 +0.6**
	baz=35								
N26A				⇓P		**P**	**19 28 26.5 +0.6**
	baz=35								
N26A				⇓P		**P**	**19 28 26.5 +0.6**
	baz=35								
P23A	**Jefferson**	**34.85**	**330**	⇓P		**P**	**19 28 27.1 +0.5**
	baz=35,SNR=12								
P23A				⇓P		**P**	**19 28 27.1 +0.5**
	baz=35,SNR=12								
P23A				⇓P		**P**	**19 28 27.1 +0.5**
	baz=35,SNR=12								
FFD	**Franklin Falls**	**34.89**	**16**	*e*P		P	19 28 29.6 +3.3
	comp=Z,2µm,1.8s								
U18A	**Rough Rock, Ch**	**34.93**	**322**	⇓P		**P**	**19 28 27.5 +0.4**
	baz=35,SNR=6.8								
U18A				⇓P		**P**	**19 28 27.5 +0.4**
	baz=35,SNR=6.8								
U18A				⇓P		**P**	**19 28 27.5 +0.4**
	baz=35,SNR=6.8								
HNH	**Hanover**	**34.94**	**15**	*e*P		**P**	**19 28 29.4 +2.7**
	comp=Z,242nm,1.0s								
V17A	**Tonalea, Kykot**	**34.98**	**321**	⇓P		**P**	**19 28 28.6 +1.2**
	baz=35,SNR=40								
V17A				⇓P		**P**	**19 28 28.6 +1.2**
	baz=35,SNR=40								
V17A				⇓P		**P**	**19 28 28.6 +1.2**
	baz=35,SNR=40								
R21A	**Cimarron**	**34.98**	**327**	⇓P		**P**	**19 28 28.3 +0.8**
	baz=35								
R21A				⇓P		**P**	**19 28 28.3 +0.8**
	baz=35								
R21A				⇓P		**P**	**19 28 28.3 +0.8**
	baz=35								
MDV	**Middlebury**	**34.99**	**14**	*e*P		**P**	**19 28 27.0 -0.2**
	comp=Z,19µm,0.9s								
Q22A	**Crested Butte,**	**35.01**	**328**	⇑P		**P**	**19 28 28.6 +0.8**
	baz=35,SNR=11								
Q22A				⇑P		**P**	**19 28 28.6 +0.8**
	baz=35,SNR=11								
Q22A				⇑P		**P**	**19 28 28.6 +0.8**
	baz=35,SNR=11								
S20A	**Disappointment**	**35.03**	**326**	⇑P		**P**	**19 28 28.1 +0.1**
	baz=35,SNR=11								
S20A				⇑P		**P**	**19 28 28.1 +0.1**
	baz=35,SNR=11								
S20A				⇑P		**P**	**19 28 28.1 +0.1**
	baz=35,SNR=11								
Z14A	**Wintersburg**	**35.03**	**316**	⇑P		**P**	**19 28 28.6 +0.9**
	baz=35,SNR=7.9								
Z14A				⇑P		**P**	**19 28 28.6 +0.9**
	baz=35,SNR=7.9								
Z14A				⇑P		**P**	**19 28 28.6 +0.9**
	baz=35,SNR=7.9								
M27A	**Reverse DX Ran**	**35.05**	**336**	⇓P		**P**	**19 28 28.8 +0.9**
	baz=35,SNR=7.6								
M27A				⇓P		**P**	**19 28 28.8 +0.9**
	baz=35,SNR=7.6								
M27A				⇓P		**P**	**19 28 28.8 +0.9**
	baz=35,SNR=7.6								
O24A	**Longmont**	**35.07**	**332**	⇑P		**P**	**19 28 29.1 +0.9**
	baz=35								
O24A				⇑P		**P**	**19 28 29.1 +0.9**
	baz=35								
O24A				⇑P		**P**	**19 28 29.1 +0.9**
	baz=35								
ISCO	**Idaho Springs**	**35.07**	**331**	*e*P		**P**	**19 28 28.8 +0.4**
ISCO				pmax		pmax	
	comp=Z,62nm,1.5s								
ISCO	**Idaho Springs**	**35.07**	**331**	*e*P		**P**	**19 28 28.8 +0.4**
	comp=Z,62nm,1.5s								
ISCO	**Idaho Springs**	**35.07**	**331**	⇑P		**P**	**19 28 29.2 +0.8**
	baz=35,SNR=14								
ISCO				⇑P		**P**	**19 28 29.2 +0.8**
	baz=35,SNR=14								
ISCO				⇑P		**P**	**19 28 29.2 +0.8**
	baz=35,SNR=14								
ECSD	**EROS Data Cent**	**35.09**	**344**	*e*P		**P**	**19 28 27.7 -0.4**
	comp=Z,640nm,1.8s								
ECSD				LR		LR	
	comp=Z,16µm,19.0s								
N25A	**Grover**	**35.18**	**333**	⇓P		**P**	**19 28 29.7 +0.6**
	baz=35								
N25A				⇓P		**P**	**19 28 29.7 +0.6**
	baz=35								
N25A				⇓P		**P**	**19 28 29.7 +0.6**
	baz=35								
SMCO	**Snowmass**	**35.27**	**329**	*e*P		**P**	**19 28 30.9 +0.7**
	comp=Z,91nm,1.4s								
WUAZ	**Wupatki**	**35.27**	**320**	*e*P		**P**	**19 28 30.8 +0.8**
	comp=Z,6.3nm,0.1s								
WUAZ	**Wupatki**	**35.27**	**320**	⇓P		**P**	**19 28 30.8 +0.8**
	baz=35,SNR=25								
WUAZ				⇓P		**P**	**19 28 30.8 +0.8**
	baz=35,SNR=25								
WUAZ				⇓P		**P**	**19 28 30.8 +0.8**
	baz=35,SNR=25								
113A	**Mohawk Valley,**	**35.28**	**314**	⇑P		**P**	**19 28 30.5 +0.7**
	baz=35,SNR=26								
113A				⇑P		**P**	**19 28 30.5 +0.7**
	baz=35,SNR=26								
113A				⇑P		**P**	**19 28 30.5 +0.7**
	baz=35,SNR=26								
R20A	**Redvale**	**35.30**	**326**	⇓P		**P**	**19 28 30.8 +0.5**
	baz=35								
R20A				⇓P		**P**	**19 28 30.8 +0.5**
	baz=35								
R20A				⇓P		**P**	**19 28 30.8 +0.5**
	baz=35								
M26A	**McRoberts Ranc**	**35.31**	**335**	⇓P		**P**	**19 28 30.6 +0.4**
	baz=36,SNR=6.2								
M26A				⇓P		**P**	**19 28 30.6 +0.4**
	baz=36,SNR=6.2								
M26A				⇓P		**P**	**19 28 30.6 +0.4**
	baz=36,SNR=6.2								
Q21A	**Lamborn Mesa,**	**35.33**	**328**	⇑P		**P**	**19 28 31.3 +0.8**
	baz=36,SNR=12								
Q21A				⇑P		**P**	**19 28 31.3 +0.8**
	baz=36,SNR=12								
Q21A				⇑P		**P**	**19 28 31.3 +0.8**
	baz=36,SNR=12								
PV01	**Paradox Valley**	**35.36**	**326**	*e*P		**P**	**19 28 32.4 +1.6**
	comp=Z,277nm,1.5s								
Y14A	**Wickenburg**	**35.40**	**316**	⇑P		**P**	**19 28 31.7 +0.7**
	baz=36,SNR=7.3								
Y14A				⇑P		**P**	**19 28 31.7 +0.7**
	baz=36,SNR=7.3								
Y14A				⇑P		**P**	**19 28 31.7 +0.7**
	baz=36,SNR=7.3								
S19A	**Harvey Farm, M**	**35.41**	**325**	⇑P		**P**	**19 28 30.1 -1.0**
	baz=36,SNR=26								
S19A				⇑P		**P**	**19 28 30.1 -1.0**
	baz=36,SNR=26								
S19A				⇑P		**P**	**19 28 30.1 -1.0**
	baz=36,SNR=26								
T18A	**Mexican Hat**	**35.41**	**323**	⇑P		**P**	**19 28 31.3 +0.2**
	baz=36,SNR=16								
T18A				⇑P		**P**	**19 28 31.3 +0.2**
	baz=36,SNR=16								
T18A				⇑P		**P**	**19 28 31.3 +0.2**
	baz=36,SNR=16								
Z13A	**Yuma Proving G**	**35.44**	**315**	⇓P		**P**	**19 28 32.1 +0.9**
	baz=36,SNR=20								
Z13A				⇓P		**P**	**19 28 32.1 +0.9**
	baz=36,SNR=20								
Z13A				⇓P		**P**	**19 28 32.1 +0.9**
	baz=36,SNR=20								
P22A	**Eagle**	**35.48**	**329**	⇓P		**P**	**19 28 32.1 +0.2**
	baz=36,SNR=22								
P22A				⇓P		**P**	**19 28 32.1 +0.2**
	baz=36,SNR=22								
P22A				⇓P		**P**	**19 28 32.1 +0.2**
	baz=36,SNR=22								
L27A	**T5 Ranch, Ells**	**35.50**	**337**	⇓P		**P**	**19 28 31.6 -0.2**
	baz=36								
L27A				⇓P		**P**	**19 28 31.6 -0.2**
	baz=36								
L27A				⇓P		**P**	**19 28 31.6 -0.2**
	baz=36								
U16A	**Tuba City**	**35.52**	**321**	⇓P		**P**	**19 28 32.4 +0.3**
	baz=36,SNR=18								
U16A				⇓P		**P**	**19 28 32.4 +0.3**
	baz=36,SNR=18								
U16A				⇓P		**P**	**19 28 32.4 +0.3**
	baz=36,SNR=18								
U17A	**Shonto**	**35.53**	**322**	⇑P		**P**	**19 28 32.1 -0.1**
	baz=36								
U17A				⇑P		**P**	**19 28 32.1 -0.1**
	baz=36								
U17A				⇑P		**P**	**19 28 32.1 -0.1**
	baz=36								
LBNH	**Lisbon**	**35.53**	**15**	*e*P		**P**	**19 28 33.6 +1.7**
LBNH				pmax		pmax	
LBNH	comp=Z,501nm,1.4s			MLR		MLR	
	comp=Z,26µm,21.0s								
LBNH	**Lisbon**	**35.53**	**15**	*e*P		**P**	**19 28 33.6 +1.7**
	comp=Z,501nm,1.4s								
LBNH				LR		LR	
	comp=Z,26µm,21.0s								
O23A	**Lake Granby, G**	**35.54**	**331**	⇑P		**P**	**19 28 32.5 +0.2**
	baz=36								
O23A				⇑P		**P**	**19 28 32.5 +0.2**
	baz=36								
O23A				⇑P		**P**	**19 28 32.5 +0.2**
	baz=36								
MSNY	**Massena**	**35.58**	**11**	*e*P		**P**	**19 28 33.7 +1.5**
	comp=Z,3µm,0.9s								
SPMN	**St. Paul**	**35.66**	**350**	⇓P		**P**	**19 28 33.3 +0.3**
	baz=36								
SPMN				⇓P		**P**	**19 28 33.3 +0.3**
	baz=36								
SPMN				⇓P		**P**	**19 28 33.3 +0.3**
	baz=36								
M25A	**Palm-Egli Farm**	**35.67**	**334**	⇓P		**P**	**19 28 33.4 +0.1**
	baz=36								
M25A				⇓P		**P**	**19 28 33.4 +0.1**
	baz=36								
M25A				⇓P		**P**	**19 28 33.4 +0.1**
	baz=36								
FRNY	**Flat Rock**	**35.69**	**13**	*e*P		**P**	**19 28 34.6 +1.3**
	comp=Z,338nm,1.7s								
PV04	**Paradox Valley**	**35.73**	**326**	*e*P		**P**	**19 28 33.7 -0.2**
L26A	**Underwood Farm**	**35.76**	**336**	⇓P		**P**	**19 28 34.4 +0.4**
	baz=36								
L26A				⇓P		**P**	**19 28 34.4 +0.4**
	baz=36								
L26A				⇓P		**P**	**19 28 34.4 +0.4**
	baz=36								
P21A	**Newcastle**	**35.78**	**329**	⇑P		**P**	**19 28 34.6 +0.3**
	baz=36								
P21A				⇑P		**P**	**19 28 34.6 +0.3**
	baz=36								
P21A				⇑P		**P**	**19 28 34.6 +0.3**
	baz=36								
O22A	**Kremmling**	**35.81**	**330**	⇑P		**P**	**19 28 35.0 +0.2**
	baz=36,SNR=11								
O22A				⇑P		**P**	**19 28 35.0 +0.2**
	baz=36,SNR=11								
O22A				⇑P		**P**	**19 28 35.0 +0.2**
	baz=36,SNR=11								
R19A	**Curley Farm, L**	**35.86**	**325**	⇑P		**P**	**19 28 34.9 -0.2**
	baz=36								
R19A				⇑P		**P**	**19 28 34.9 -0.2**
	baz=36								
R19A				⇑P		**P**	**19 28 34.9 -0.2**
	baz=36								
S18A	**Hurst Farm, Bl**	**35.86**	**324**	⇓P		**P**	**19 28 35.5 +0.4**
	baz=36,SNR=16								
S18A				⇓P		**P**	**19 28 35.5 +0.4**
	baz=36,SNR=16								
S18A				⇓P		**P**	**19 28 35.5 +0.4**
	baz=36,SNR=16								
T17A	**Navajo Res., N**	**35.87**	**322**	⇑P		**P**	**19 28 35.9 +0.7**
	baz=36,SNR=12								
T17A				⇑P		**P**	**19 28 35.9 +0.7**
	baz=36,SNR=12								
T17A				⇑P		**P**	**19 28 35.9 +0.7**
	baz=36,SNR=12								
LVC	**

comp=Z,22µm,19.0s
K27A **Flueckinger Fa** **35.99 337** ⇓P **P** **19 28 36.2 +0.2**
baz=36,SNR=19
K27A ⇓P **P** **19 28 36.2 +0.2**
baz=36,SNR=19
K27A ⇓P **P** **19 28 36.2 +0.2**
baz=36,SNR=19
M24A **Cheyenne** **36.03 333** ⇑P **P** **19 28 37.4 +0.9**
baz=36,SNR=11
M24A ⇑P **P** **19 28 37.4 +0.9**
baz=36,SNR=11
M24A ⇑P **P** **19 28 37.4 +0.9**
baz=36,SNR=11
N23A **Red Feather La** **36.09 332** ⇑P **P** **19 28 37.5 +0.4**
baz=36
N23A ⇑P **P** **19 28 37.5 +0.4**
baz=36
N23A ⇑P **P** **19 28 37.5 +0.4**
baz=36
GLA **Glamis** **36.18 314** *e*P **P** **19 28 38.9 +1.2**
GLA pmax pmax
comp=Z,113nm,1.3s
GLA **Glamis** **36.18 314** *e*P **P** **19 28 38.9 +1.2**
comp=Z,113nm,1.3s
GLA **Glamis** **36.18 314** ⇓P **P** **19 28 38.2 +0.5**
baz=36,SNR=7.7
GLA ⇓P **P** **19 28 38.2 +0.5**
baz=36,SNR=7.7
GLA ⇓P **P** **19 28 38.2 +0.5**
baz=36,SNR=7.7
L25A **Engebretsen Ra** **36.23 335** ⇓P **P** **19 28 38.8 +0.8**
baz=36
L25A ⇓P **P** **19 28 38.8 +0.8**
baz=36
L25A ⇓P **P** **19 28 38.8 +0.8**
baz=36
P20A **De Beque** **36.25 328** ⇑P **P** **19 28 39.1 +0.8**
baz=36,SNR=19
P20A ⇑P **P** **19 28 39.1 +0.8**
baz=36,SNR=19
P20A ⇑P **P** **19 28 39.1 +0.8**
baz=36,SNR=19
N22A **Wattenberg Ran** **36.26 331** ⇑P **P** **19 28 39.4 +0.9**
baz=36,SNR=8.2
N22A ⇑P **P** **19 28 39.4 +0.9**
baz=36,SNR=8.2
N22A ⇑P **P** **19 28 39.4 +0.9**
baz=36,SNR=8.2
R18A **Canyonlands Na** **36.28 325** ⇑P **P** **19 28 38.6 -0.1**
baz=36,SNR=12
R18A ⇑P **P** **19 28 38.6 -0.1**
baz=36,SNR=12
R18A ⇑P **P** **19 28 38.6 -0.1**
baz=36,SNR=12
S17A **Black Ridge (B** **36.30 323** ⇑P **P** **19 28 39.0 +0.3**
baz=36,SNR=8.8
S17A ⇑P **P** **19 28 39.0 +0.3**
baz=36,SNR=8.8
S17A ⇑P **P** **19 28 39.0 +0.3**
baz=36,SNR=8.8
O21A **Pagoda** **36.31 329** ⇓P **P** **19 28 39.1 +0.1**
baz=36
O21A ⇓P **P** **19 28 39.1 +0.1**
baz=36
O21A ⇓P **P** **19 28 39.1 +0.1**
baz=36
Q19A **Hogan Spring (** **36.33 326** ⇑P **P** **19 28 39.2 +0.3**
baz=36,SNR=13
Q19A ⇑P **P** **19 28 39.2 +0.3**
baz=36,SNR=13
Q19A ⇑P **P** **19 28 39.2 +0.3**
baz=36,SNR=13
Y12C **Blythe** **36.34 315** ⇑P **P** **19 28 39.7 +0.7**
baz=36,SNR=7.1
Y12C ⇑P **P** **19 28 39.7 +0.7**
baz=36,SNR=7.1
Y12C ⇑P **P** **19 28 39.7 +0.7**
baz=36,SNR=7.1
K26A **Motz Farm, Whi** **36.36 336** ⇓P **P** **19 28 39.2 0.0**
baz=36
K26A ⇓P **P** **19 28 39.2 0.0**
baz=36
K26A ⇓P **P** **19 28 39.2 0.0**
baz=36
PDMCI **Parker Dam,Lak** **36.38 316** ⇑P **P** **19 28 40.3 +1.0**
baz=36,SNR=18
PDMCI ⇑P **P** **19 28 40.3 +1.0**
baz=36,SNR=18
PDMCI ⇑P **P** **19 28 40.3 +1.0**
baz=36,SNR=18
BRSD **Miller** **36.41 342** ⇓P **P** **19 28 38.4 -1.0**
baz=37
BRSD ⇓P **P** **19 28 38.4 -1.0**
baz=37
BRSD ⇓P **P** **19 28 38.4 -1.0**
baz=37
U15A **North Rim** **36.42 320** ⇑P **P** **19 28 40.0 0.0**
baz=36,SNR=25
U15A ⇑P **P** **19 28 40.0 0.0**
baz=36,SNR=25
U15A ⇑P **P** **19 28 40.0 0.0**
baz=36,SNR=25
M23A **Laramie** **36.44 332** ⇑P **P** **19 28 40.3 +0.3**
baz=37
M23A ⇑P **P** **19 28 40.3 +0.3**
baz=37
M23A ⇑P **P** **19 28 40.3 +0.3**
baz=37
WVL **Waterville** **36.46 18** *e*P **P** **19 28 42.6 +2.8**
comp=Z,415nm,1.1s
L24A **Wheatland** **36.55 334** ⇓P **P** **19 28 40.7 -0.1**
baz=37
L24A ⇓P **P** **19 28 40.7 -0.1**
baz=37
L24A ⇓P **P** **19 28 40.7 -0.1**
baz=37
K25A **Mack Ranch, Ha** **36.56 335** ⇑P **P** **19 28 40.5 -0.5**
baz=37,SNR=6.8
K25A ⇑P **P** **19 28 40.5 -0.5**
baz=37,SNR=6.8
K25A ⇑P **P** **19 28 40.5 -0.5**
baz=37,SNR=6.8
O20A **White River Ci** **36.64 328** ⇑P **P** **19 28 42.4 +0.7**
baz=37,SNR=18
O20A ⇑P **P** **19 28 42.4 +0.7**
baz=37,SNR=18
O20A ⇑P **P** **19 28 42.4 +0.7**
baz=37,SNR=18
P19A **Cripple Cowboy** **36.66 327** ⇓P **P** **19 28 41.0 -0.9**
baz=37,SNR=6.3
P19A ⇓P **P** **19 28 41.0 -0.9**
baz=37,SNR=6.3
P19A ⇓P **P** **19 28 41.0 -0.9**
baz=37,SNR=6.3
W13A **Hualapai Mount** **36.66 317** ⇓P **P** **19 28 42.5 +0.6**
baz=37,SNR=29
W13A ⇓P **P** **19 28 42.5 +0.6**
baz=37,SNR=29
W13A ⇓P **P** **19 28 42.5 +0.6**
baz=37,SNR=29
N21A **Black Mountain** **36.74 330** ⇑P **P** **19 28 42.0 -0.6**
baz=37,SNR=11
N21A ⇑P **P** **19 28 42.0 -0.6**
baz=37,SNR=11
N21A ⇑P **P** **19 28 42.0 -0.6**
baz=37,SNR=11
R17A **Hanksville Air** **36.77 324** ⇓P **P** **19 28 43.0 +0.3**
baz=37,SNR=9.7
R17A ⇓P **P** **19 28 43.0 +0.3**
baz=37,SNR=9.7
R17A ⇓P **P** **19 28 43.0 +0.3**
baz=37,SNR=9.7
M22A **Cedar Creek Ra** **36.79 331** ⇓P **P** **19 28 42.8 -0.3**
baz=37
M22A ⇓P **P** **19 28 42.8 -0.3**
baz=37
M22A ⇓P **P** **19 28 42.8 -0.3**
baz=37
SWSC **Sam W. Stewart** **36.82 313** ⇓P **P** **19 28 44.4 +1.3**
baz=37,SNR=7.5
SWSC ⇓P **P** **19 28 44.4 +1.3**
baz=37,SNR=7.5
SWSC ⇓P **P** **19 28 44.4 +1.3**
baz=37,SNR=7.5
S16A **Weppner Ranch,** **36.83 323** ⇑P **P** **19 28 44.1 +0.8**
baz=37,SNR=19
S16A ⇑P **P** **19 28 44.1 +0.8**
baz=37,SNR=19
S16A ⇑P **P** **19 28 44.1 +0.8**
baz=37,SNR=19
DVTC **Desert V Tower** **36.90 312** ⇑P **P** **19 28 44.8 +0.9**
baz=37
DVTC ⇑P **P** **19 28 44.8 +0.9**
baz=37
DVTC ⇑P **P** **19 28 44.8 +0.9**
baz=37
Q18A **Rafter H Ranch** **36.91 326** ⇑P **P** **19 28 44.5 +0.6**
baz=37,SNR=21
Q18A ⇑P **P** **19 28 44.5 +0.6**
baz=37,SNR=21
Q18A ⇑P **P** **19 28 44.5 +0.6**
baz=37,SNR=21
L23A **Garrett** **36.94 333** ⇓P **P** **19 28 44.4 +0.1**
baz=37
L23A ⇓P **P** **19 28 44.4 +0.1**
baz=37
L23A ⇓P **P** **19 28 44.4 +0.1**
baz=37
BC3 **Big Chuckawall** **36.95 314** ⇑P **P** **19 28 45.1 +0.8**
baz=37,SNR=11
BC3 ⇑P **P** **19 28 45.1 +0.8**
baz=37,SNR=11
BC3 ⇑P **P** **19 28 45.1 +0.8**
baz=37,SNR=11
NEE2 **Needles Airpor** **36.97 316** ⇓P **P** **19 28 45.5 +1.1**
baz=37
NEE2 ⇓P **P** **19 28 45.5 +1.1**
baz=37
NEE2 ⇓P **P** **19 28 45.5 +1.1**
baz=37
IRM **Iron Mountain** **37.00 315** ⇑P **P** **19 28 45.6 +1.0**
baz=37
IRM ⇑P **P** **19 28 45.6 +1.0**
baz=37
IRM ⇑P **P** **19 28 45.6 +1.0**
baz=37
K24A **Anderson Ranch** **37.05 335** ⇓P **P** **19 28 45.1 0.0**
baz=37
K24A ⇓P **P** **19 28 45.1 0.0**
baz=37
K24A ⇓P **P** **19 28 45.1 0.0**
baz=37
R16A **Teasdale** **37.13 323** ⇓P **P** **19 28 46.7 +0.7**
baz=37,SNR=22
R16A ⇓P **P** **19 28 46.7 +0.7**
baz=37,SNR=22
R16A ⇓P **P** **19 28 46.7 +0.7**
baz=37,SNR=22
SRU **San Rafael** **37.14 325** *e*P **P** **19 28 45.8 -0.1**
SRU pmax pmax
comp=Z,83nm,0.8s
SRU **San Rafael** **37.14 325** *e*P **P** **19 28 45.8 -0.1**
comp=Z,83nm,0.8s
N20A **Spence Gulch,** **37.17 329** ⇓P **P** **19 28 46.5 +0.3**
baz=37,SNR=15
N20A ⇓P **P** **19 28 46.5 +0.3**
baz=37,SNR=15
N20A ⇓P **P** **19 28 46.5 +0.3**
baz=37,SNR=15
PKME **Peaks-Kenny Pk** **37.21 18** *e*P **P** **19 28 48.6 +2.5**
comp=Z,131nm,0.9s
L22A **Ellis Ranch, M** **37.21 332** ⇓P **P** **19 28 46.9 +0.4**
baz=37
L22A ⇓P **P** **19 28 46.9 +0.4**
baz=37
L22A ⇓P **P** **19 28 46.9 +0.4**
baz=37
O19A **Miners Draw (B** **37.22 328** ⇓P **P** **19 28 46.3 -0.2**
baz=37,SNR=23
O19A ⇓P **P** **19 28 46.3 -0.2**
baz=37,SNR=23
O19A ⇓P **P** **19 28 46.3 -0.2**
baz=37,SNR=23
MONP **Monument Peak** **37.25 312** ⇑P **P** **19 28 47.6 +0.7**
baz=37
MONP ⇑P **P** **19 28 47.6 +0.7**
baz=37
MONP ⇑P **P** **19 28 47.6 +0.7**
baz=37
EMMW **East Machias** **37.29 20** *e*P **P** **19 28 47.1 +0.2**
comp=Z,1µm,1.6s
M21A **Separation Pea** **37.31 331** ⇑P **P** **19 28 47.8 +0.4**
baz=38
M21A ⇑P **P** **19 28 47.8 +0.4**
baz=38
M21A ⇑P **P** **19 28 47.8 +0.4**
baz=38
P18A **Preston Nutter** **37.34 326** ⇑P **P** **19 28 47.9 +0.1**
baz=38,SNR=8.9
P18A ⇑P **P** **19 28 47.9 +0.1**
baz=38,SNR=8.9
P18A ⇑P **P** **19 28 47.9 +0.1**
baz=38,SNR=8.9
Q16A **Castle Valley** **37.37 324** ⇑P **P** **19 28 48.0 0.0**
baz=38,SNR=5.5
Q16A ⇑P **P** **19 28 48.0 0.0**
baz=38,SNR=5.5
Q16A ⇑P **P** **19 28 48.0 0.0**
baz=38,SNR=5.5
K23A **Bowen Ranch, D** **37.42 334** ⇑P **P** **19 28 48.7 +0.4**
baz=38
K23A ⇑P **P** **19 28 48.7 +0.4**
baz=38
K23A ⇑P **P** **19 28 48.7 +0.4**
baz=38
LDFC **Landfair** **37.48 316** *e*P **P** **19 28 51.7 +2.9**
comp=Z,38nm,0.9s
J24A **Dixon Ranch, L** **37.48 335** ⇓P **P** **19 28 49.0 +0.2**
baz=38
J24A ⇓P **P** **19 28 49.0 +0.2**
baz=38
J24A ⇓P **P** **19 28 49.0 +0.2**
baz=38
P17A **Butcher Ranch,** **37.51 325** ⇓P **P** **19 28 49.1 0.0**
baz=38,SNR=5.8
P17A ⇓P **P** **19 28 49.1 0.0**
baz=38,SNR=5.8
P17A ⇓P **P** **19 28 49.1 0.0**
baz=38,SNR=5.8
BELC **Belle Mtn. Jos** **37.51 314** ⇓P **P** **19 28 50.3 +1.2**
baz=38,SNR=9.5
BELC ⇓P **P** **19 28 50.3 +1.2**
baz=38,SNR=9.5
BELC ⇓P **P** **19 28 50.3 +1.2**
baz=38,SNR=9.5
R15A **Junction** **37.55 323** ⇑P **P** **19 28 50.2 +0.7**
baz=38
R15A ⇑P **P** **19 28 50.2 +0.7**
baz=38
R15A ⇑P **P** **19 28 50.2 +0.7**
baz=38
L21A **Rawlins** **37.59 331** ⇑P **P** **19 28 49.9 +0.2**
baz=38
L21A ⇑P **P** **19 28 49.9 +0.2**
baz=38
L21A ⇑P **P** **19 28 49.9 +0.2**
baz=38
PFO **Pinyon Flat Ob** **37.64 313** *e*P **P** **19 28 51.3 +1.1**
PFO pmax pmax
comp=Z,16nm,0.9s
PFO MLR MLR
comp=Z,22µm,20.0s
PFO **Pinyon Flat Ob** **37.64 313** *e*P **P** **19 28 51.3 +1.1**
comp=Z,16nm,0.9s
PFO LR LR
comp=Z,22µm,20.0s
PFO **Pinyon Flat Ob** **37.64 313** P P 19 28 54.4 +4.2
comp=Z,105nm,1.0s,SNR=5.3
PFO **Pinyon Flat Ob** **37.64 313** ⇓P **P** **19 28 51.7 +1.5**
baz=38,SNR=6.9
PFO ⇓P **P** **19 28 51.7 +1.5**
baz=38,SNR=6.9
PFO ⇓P **P** **19 28 51.7 +1.5**
baz=38,SNR=6.9
TMUT **Trail Mountain** **37.65 325** *e*P **P** **19 28 50.9 +0.5**
comp=Z,34nm,0.9s
O18A **Roosevelt** **37.66 327** ⇑P **P** **19 28 50.7 +0.4**
baz=38,SNR=18
O18A ⇑P **P** **19 28 50.7 +0.4**
baz=38,SNR=18
O18A ⇑P **P** **19 28 50.7 +0.4**
baz=38,SNR=18
N19A **John Jarvie Ra** **37.68 328** ⇓P **P** **19 28 50.8 +0.3**
baz=38
N19A ⇓P **P** **19 28 50.8 +0.3**
baz=38
N19A ⇓P **P** **19 28 50.8 +0.3**
baz=38
MSU **Marysvale** **37.69 323** *e*P **P** **19 28 52.2 +1.5**
MSU pmax pmax
comp=Z,53nm,1.5s
MSU **Marysvale** **37.69 323** *e*P **P** **19 28 52.2 +1.5**
comp=Z,53nm,1.5s
GMRC **Granite Mounta** **37.69 315** ⇑P **P** **19 28 51.5 +0.9**
baz=38,SNR=6.2
GMRC ⇑P **P** **19 28 51.5 +0.9**
baz=38,SNR=6.2
GMRC ⇑P **P** **19 28 51.5 +0.9**
baz=38,SNR=6.2
MVU **Marysvale** **37.70 323** PFAKE 19 29 00.0 +9.2
MVU LR LR
comp=Z,36µm,19.0s
K22A **Casper** **37.74 333** ⇑P **P** **19 28 51.4 +0.4**
baz=38
K22A ⇑P **P** **19 28 51.4 +0.4**
baz=38
K22A ⇑P **P** **19 28 51.4 +0.4**
baz=38
109C **Camp Elliot, M** **37.75 312** ⇓P **P** **19 28 51.7 +0.8**
baz=38
109C ⇓P **P** **19 28 51.7 +0.8**
baz=38
109C ⇓P **P** **19 28 51.7 +0.8**
baz=38
CCUT **Cedar City** **37.79 321** *e*P **P** **19 28 52.6 +1.1**
comp=Z,53nm,1.7s
CCUT *e* 19 30 18.8
RSSD **Black Hills** **37.89 337** *e*P **P** **19 28 53.0 +0.7**
RSSD pmax pmax
comp=Z,162nm,1.7s
RSSD **Black Hills** **37.89 337** *e*P **P** **19 28 53.0 +0.7**
comp=Z,162nm,1.7s
I24A **Kuemmerle Ranc** **37.91 336** ⇑P **P** **19 28 53.4 +1.1**
baz=38,SNR=9.1
I24A ⇑P **P** **19 28 53.4 +1.1**
baz=38,SNR=9.1
I24A ⇑P **P** **19 28 53.4 +1.1**
baz=38,SNR=9.1
J23A **Dilts Ranch, B** **37.92 334** ⇓P **P** **19 28 52.8 +0.4**
baz=38
J23A ⇓P **P** **19 28 52.8 +0.4**
baz=38
J23A ⇓P **P** **19 28 52.8 +0.4**
baz=38
ARUT **Antelope Range** **37.99 321** *e*P **P** **19 28 55.0 +1.9**
ARUT pmax pmax
comp=Z,45nm,1.3s
ARUT **Antelope Range** **37.99 321** *e*P **P** **19 28 55.0 +1.9**
comp=Z,45nm,1.3s
O17A **Robinson Place** **38.01 326** ⇓P **P** **19 28 53.0 -0.3**
baz=38,SNR=17
O17A ⇓P **P** **19 28 53.0 -0.3**
baz=38,SNR=17
O17A ⇓P **P** **19 28 53.0 -0.3**
baz=38,SNR=17
K21A **Alcova** **38.06 332** ⇑P **P** **19 28 53.6 -0.1**
baz=38
K21A ⇑P **P** **19 28 53.6 -0.1**
baz=38
K21A ⇑P **P** **19 28 53.6 -0.1**
baz=38
L20A **Wamsutter** **38.09 330** ⇑P **P** **19 28 54.0 0.0**
baz=38
L20A ⇑P **P** **19 28 54.0 0.0**
baz=38
L20A ⇑P **P** **19 28 54.0 0.0**
baz=38
EYMN **Ely** **38.10 352** *e*P **P** **19 28 53.6 -0.1**
comp=Z,280nm,1.8s
M19A **Rock Springs** **38.12 329** ⇓P **P** **19 28 53.5 -0.8**
baz=38
M19A ⇓P **P** **19 28 53.5 -0.8**
baz=38
M19A ⇓P **P** **19 28 53.5 -0.8**
baz=38
P16A **Fountain Green** **38.12 325** ⇑P **P** **19 28 54.7 +0.4**
baz=38
P16A ⇑P **P** **19 28 54.7 +0.4**
baz=38
P16A ⇑P **P** **19 28 54.7 +0.4**
baz=38
MURC **Murrieta** **38.17 313** ⇓P **P** **19 28 55.1 +0.5**
baz=38,SNR=6.0
MURC ⇓P **P** **19 28 55.1 +0.5**
baz=38,SNR=6.0
MURC ⇓P **P** **19 28 55.1 +0.5**
baz=38,SNR=6.0
HEC **Hector,Ludlow** **38.18 315** ⇑P **P** **19 28 56.1 +1.4**
baz=38,SNR=8.9
HEC ⇑P **P** **19 28 56.1 +1.4**
baz=38,SNR=8.9
HEC ⇑P **P** **19 28 56.1 +1.4**
baz=38,SNR=8.9
TUQ **Turquoise Moun** **38.23 316** ⇓P **P** **19 28 55.6 +0.4**
baz=38,SNR=8.1
TUQ ⇓P **P** **19 28 55.6 +0.4**
baz=38,SNR=8.1
TUQ ⇓P **P** **19 28 55.6 +0.4**
baz=38,SNR=8.1
BBRC **Big Bear Solar** **38.30 314** ⇑P **P** **19 28 57.0 +1.1**
baz=38
BBRC ⇑P **P** **19 28 57.0 +1.1**
baz=38
BBRC ⇑P **P** **19 28 57.0 +1.1**
baz=38
I23A **Meade Ranch, G** **38.33 335** ⇓P **P** **19 28 55.7 -0.2**
baz=38
I23A ⇓P **P** **19 28 55.7 -0.2**
baz=38
I23A ⇓P **P** **19 28 55.7 -0.2**
baz=38
MPU **Maple Canyon** **38.38 325** *e*P **P** **19 28 56.4 -0.1**
comp=Z,53nm,1.1s
O16A **Springville** **38.44 326** ⇓P **P** **19 28 56.8 -0.1**
baz=39
O16A ⇓P **P** **19 28 56.8 -0.1**
baz=39
O16A ⇓P **P** **19 28 56.8 -0.1**
baz=39
DAU **Daniels Canyon** **38.44 326** *e*P **P** **19 28 58.3 +1.2**
DAU pmax pmax
comp=Z,37nm,0.8s
DAU **Daniels Canyon** **38.44 326** *e*P **P** **19 28 58.3 +1.2**
comp=Z,37nm,0.8s
P15A **Leamington** **38.45 324** ⇓P **P** **19 28 57.1 +0.1**
baz=39
P15A ⇓P **P** **19 28 57.1 +0.1**
baz=39
P15A ⇓P **P** **19 28 57.1 +0.1**
baz=39
M18A **Lyman** **38.53 328** ⇑P **P** **19 28 57.2 -0.5**
baz=39
M18A ⇑P **P** **19 28 57.2 -0.5**
baz=39
M18A ⇑P **P** **19 28 57.2 -0.5**
baz=39
R13A **O'Grain Ranch,** **38.56 321** ⇑P **P** **19 28 58.5 +0.5**
baz=39,SNR=20
R13A ⇑P **P** **19 28 58.5 +0.5**
baz=39,SNR=20
R13A ⇑P **P** **19 28 58.5 +0.5**
baz=39,SNR=20
N17A **Moffit Pass** **38.59 327** ⇓P **P** **19 28 58.0 -0.3**
baz=39,SNR=11
N17A ⇓P **P** **19 28 58.0 -0.3**
baz=39,SNR=11
N17A ⇓P **P** **19 28 58.0 -0.3**
baz=39,SNR=11
K20A **Yellowstone Ra** **38.59 331** ⇑P **P** **19 28 58.5 +0.4**
baz=39
K20A ⇑P **P** **19 28 58.5 +0.4**
baz=39
K20A ⇑P **P** **19 28 58.5 +0.4**
baz=39
H24A **Dirks Ranch, A** **38.62 337** ⇑P **P** **19 28 58.1 -0.1**
baz=39,SNR=48
H24A ⇑P **P** **19 28 58.1 -0.1**
baz=39,SNR=48
H24A ⇑P **P** **19 28 58.1 -0.1**
baz=39,SNR=48
L19A **Farson** **38.66 330** ⇓P **P** **19 28 58.9 +0.1**
baz=39,SNR=8.2
L19A ⇓P **P** **19 28 58.9 +0.1**
baz=39,SNR=8.2

L19A				⇓P		P	19 28 58.9	+0.1	
	baz=39,SNR=8.2								
RRX	**Edison Barstow**	**38.68**	**315**	⇓P		P	19 28 60.0	+1.2	
	baz=39								
RRX				⇓P		P	19 28 60.0	+1.2	
	baz=39								
RRX				⇓P		P	19 28 60.0	+1.2	
	baz=39								
JLU	**Jordanelle**	**38.68**	**326**	*e*P		P	19 28 58.5	-0.6	
	comp=Z,41nm,0.9s								
J21A	**Lysite**	**38.70**	**333**	⇑P		P	19 28 58.9	-0.2	
	baz=39,SNR=17								
J21A				⇑P		P	19 28 58.9	-0.2	
	baz=39,SNR=17								
J21A				⇑P		P	19 28 58.9	-0.2	
	baz=39,SNR=17								
I22A	**9 Mile Ranch,**	**38.71**	**334**	⇓P		P	19 28 58.6	-0.5	
	baz=39,SNR=13								
I22A				⇓P		P	19 28 58.6	-0.5	
	baz=39,SNR=13								
I22A				⇓P		P	19 28 58.6	-0.5	
	baz=39,SNR=13								
SHOC	**Shoshone**	**38.73**	**316**	⇓P		P	19 29 00.1	+1.0	
	baz=39								
SHOC				⇓P		P	19 29 00.1	+1.0	
	baz=39								
SHOC				⇓P		P	19 29 00.1	+1.0	
	baz=39								
GSC	**Goldstone**	**38.76**	**315**	*e*P		P	19 29 01.2	+1.6	
GSC				pmax		pmax			
	comp=Z,30nm,1.2s								
GSC	**Goldstone**	**38.76**	**315**	*e*P		P	19 29 01.2	+1.6	
	comp=Z,30nm,1.2s								
GSC	**Goldstone**	**38.76**	**315**	⇓P		P	19 28 59.8	+0.2	
	baz=39								
GSC				⇓P		P	19 28 59.8	+0.2	
	baz=39								
GSC				⇓P		P	19 28 59.8	+0.2	
	baz=39								
H23A	**Clabaugh Cattl**	**38.80**	**336**	⇓P		P	19 28 59.6	-0.2	
	baz=39								
H23A				⇓P		P	19 28 59.6	-0.2	
	baz=39								
H23A				⇓P		P	19 28 59.6	-0.2	
	baz=39								
BFSC	**Mount Baldy Ra**	**38.82**	**313**	⇑P		P	19 29 01.0	+0.9	
	baz=39								
BFSC				⇑P		P	19 29 01.0	+0.9	
	baz=39								
BFSC				⇑P		P	19 29 01.0	+0.9	
	baz=39								
PQI	**Presque Isle**	**38.86**	**18**	*e*P		P	19 29 03.3	+3.2	
	comp=Z,661nm,1.3s								
SCI	**San Clemente I**	**38.86**	**311**	⇑P		P	19 29 01.6	+1.3	
	baz=39								
SCI				⇑P		P	19 29 01.6	+1.3	
	baz=39								
SCI				⇑P		P	19 29 01.6	+1.3	
	baz=39								
N16A	**Rees Ranch, Co**	**38.87**	**326**	⇑P		P	19 29 00.6	0.0	
	baz=39								
N16A				⇑P		P	19 29 00.6	0.0	
	baz=39								
N16A				⇑P		P	19 29 00.6	0.0	
	baz=39								
L18A	**Fontenelle, Gr**	**38.87**	**329**	⇑P		P	19 29 00.7	+0.1	
	baz=39,SNR=19								
L18A				⇑P		P	19 29 00.7	+0.1	
	baz=39,SNR=19								
L18A				⇑P		P	19 29 00.7	+0.1	
	baz=39,SNR=19								
M17A	**Scullys Gap (B**	**38.87**	**328**	⇓P		P	19 29 00.4	-0.2	
	baz=39,SNR=13								
M17A				⇓P		P	19 29 00.4	-0.2	
	baz=39,SNR=13								
M17A				⇓P		P	19 29 00.4	-0.2	
	baz=39,SNR=13								
CIS	**Catalina Islan**	**38.95**	**312**	⇑P		P	19 29 01.6	+0.5	
	baz=39								
CIS				⇑P		P	19 29 01.6	+0.5	
	baz=39								
CIS				⇑P		P	19 29 01.6	+0.5	
	baz=39								
K19A	**Absolon Red Bu**	**38.95**	**331**	⇑P		P	19 29 01.1	-0.1	
	baz=39,SNR=9.8								
K19A				⇑P		P	19 29 01.1	-0.1	
	baz=39,SNR=9.8								
K19A				⇑P		P	19 29 01.1	-0.1	
	baz=39,SNR=9.8								
J20A	**Shoshoni**	**39.00**	**332**	⇑P		P	19 29 02.1	+0.5	
	baz=39,SNR=11								
J20A				⇑P		P	19 29 02.1	+0.5	
	baz=39,SNR=11								
J20A				⇑P		P	19 29 02.1	+0.5	
	baz=39,SNR=11								
I21A	**Big Trails, Te**	**39.00**	**333**	⇑P		P	19 29 01.7	+0.1	
	baz=39,SNR=13								
I21A				⇑P		P	19 29 01.7	+0.1	
	baz=39,SNR=13								
I21A				⇑P		P	19 29 01.7	+0.1	
	baz=39,SNR=13								
FMP	**Fort Macarthur**	**39.02**	**312**	⇑P		P	19 29 02.4	+0.8	
	baz=39								
FMP				⇑P		P	19 29 02.4	+0.8	
	baz=39								
FMP				⇑P		P	19 29 02.4	+0.8	
	baz=39								
G24A	**Alzada**	**39.05**	**337**	⇓P		P	19 29 01.5	-0.4	
	baz=39,SNR=24								
G24A				⇓P		P	19 29 01.5	-0.4	
	baz=39,SNR=24								
G24A				⇓P		P	19 29 01.5	-0.4	
	baz=39,SNR=24								
MWC	**Mount Wilson**	**39.10**	**313**	*e*P		P	19 29 05.1	+2.6	
MWC				pmax		pmax			
	comp=Z,27nm,1.3s								
MWC	**Mount Wilson**	**39.10**	**313**	*e*P		P	19 29 05.1	+2.6	
	comp=Z,27nm,1.3s								
DUG	**Dugway**	**39.17**	**325**	*e*P		P	19 29 04.3	+1.3	
DUG				pmax		pmax			
	comp=Z,228nm,0.6s								
DUG	**Dugway**	**39.17**	**325**	*e*P		P	19 29 04.2	+1.3	
	comp=Z,228nm,0.6s								
DUG	**Dugway**	**39.17**	**325**	⇑P		P	19 29 03.8	+0.8	
	baz=39,SNR=12								
DUG				⇑P		P	19 29 03.8	+0.8	
	baz=39,SNR=12								
DUG				⇑P		P	19 29 03.8	+0.8	
	baz=39,SNR=12								
H22A	**Clearmont**	**39.22**	**335**	⇓P		P	19 29 02.9	-0.4	
	baz=39,SNR=9.3								
H22A				⇓P		P	19 29 02.9	-0.4	
	baz=39,SNR=9.3								
H22A				⇓P		P	19 29 02.9	-0.4	
	baz=39,SNR=9.3								
BW06	**Boulder Array**	**39.26**	**330**	*e*P		P	19 29 04.1	+0.3	
	comp=Z,56nm,1.0s								
BW06				LR		LR			
	comp=Z,26µm,19.0s								
BW06	**Boulder Array**	**39.26**	**330**	⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
BW06				⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
BW06				⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
BW06				⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
BW06				⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
BW06				⇑P		P	19 29 03.3	-0.6	
	baz=39,SNR=13								
PDAR	**Pinedale Array**	**39.26**	**330**	P		P	19 29 03.0	-0.8	
	comp=Z,11nm,1.1s,baz=138,slow=6.9,SNR=15								
PDAR				S		S	19 35 02.5	-2.0	
	comp=Z,0.5nm,0.9s,baz=122,slow=25,SNR=2.6								
PDAR	**Pinedale Array**	**39.26**	**330**	P		P	19 29 03.0	-0.8	
PDAR				S		S	19 35 02.5	-2.0	
PD02	**Pinedale Array**	**39.27**	**330**	*e*P		P	19 29 03.7	-0.2	
PD01	**Pinedale Array**	**39.28**	**330**	*e*P		P	19 29 03.4	-0.6	
DECC	**Green Verdugo**	**39.30**	**313**	⇓P		P	19 29 04.8	+0.7	
	baz=39								
DECC				⇓P		P	19 29 04.8	+0.7	
	baz=39								
DECC				⇓P		P	19 29 04.8	+0.7	
	baz=39								
G23A	**Biddle**	**39.33**	**336**	⇑P		P	19 29 04.3	+0.1	
	baz=40,SNR=5.1								
G23A				⇑P		P	19 29 04.3	+0.1	
	baz=40,SNR=5.1								
EDW2	**Edwards Air Fo**	**39.38**	**314**	⇑P		P	19 29 05.4	+0.7	
	baz=40								
EDW2				⇑P		P	19 29 05.4	+0.7	
	baz=40								
EDW2				⇑P		P	19 29 05.4	+0.7	
	baz=40								
J19A	**Crowheart**	**39.39**	**331**	⇑P		P	19 29 04.8	0.0	
	baz=40								
J19A				⇑P		P	19 29 04.8	0.0	
	baz=40								
J19A				⇑P		P	19 29 04.8	0.0	
	baz=40								
K18A	**Toltan Ranch,**	**39.40**	**330**	⇑P		P	19 29 04.2	-0.8	
	baz=40,SNR=14								
K18A				⇑P		P	19 29 04.2	-0.8	
	baz=40,SNR=14								
K18A				⇑P		P	19 29 04.2	-0.8	
	baz=40,SNR=14								
FURC	**Furnace Creek,**	**39.43**	**317**	⇓P		P	19 29 06.1	+1.1	
	baz=40								
FURC				⇓P		P	19 29 06.1	+1.1	
	baz=40								
FURC				⇓P		P	19 29 06.1	+1.1	
	baz=40								
L17A	**Cokeville**	**39.43**	**328**	⇑P		P	19 29 04.7	-0.6	
	baz=40								
L17A				⇑P		P	19 29 04.7	-0.6	
	baz=40								
L17A				⇑P		P	19 29 04.7	-0.6	
	baz=40								
HWUT	**Hardware Ranch**	**39.45**	**327**	*e*P		P	19 29 05.9	+0.6	
	comp=Z,77nm,1.0s								
HWUT				LR		LR			
	comp=Z,20µm,22.0s								
LRMC	**Laurel Mountai**	**39.47**	**315**	⇓P		P	19 29 06.3	+0.8	
	baz=40								
LRMC				⇓P		P	19 29 06.3	+0.8	
	baz=40								
LRMC				⇓P		P	19 29 06.3	+0.8	
	baz=40								
N15A	**Stansbury Isla**	**39.47**	**326**	⇑P		P	19 29 05.6	+0.1	
	baz=40								
N15A				⇑P		P	19 29 05.6	+0.1	
	baz=40								
N15A				⇑P		P	19 29 05.6	+0.1	
	baz=40								
I20A	**Worland**	**39.48**	**333**	⇓P		P	19 29 06.1	+0.5	
	baz=40,SNR=5.9								
I20A				⇓P		P	19 29 06.1	+0.5	
	baz=40,SNR=5.9								
I20A				⇓P		P	19 29 06.1	+0.5	
	baz=40,SNR=5.9								
F24A	**Ekalaka**	**39.50**	**338**	⇑P		P	19 29 05.8	+0.2	
	baz=40,SNR=26								
F24A				⇑P		P	19 29 05.8	+0.2	
	baz=40,SNR=26								
F24A				⇑P		P	19 29 05.8	+0.2	
	baz=40,SNR=26								
H21A	**Big Horn, Sher**	**39.54**	**334**	⇓P		P	19 29 05.5	-0.5	
	baz=40								
H21A				⇓P		P	19 29 05.5	-0.5	
	baz=40								
H21A				⇓P		P	19 29 05.5	-0.5	
	baz=40								
MPMC	**Manual Prospec**	**39.64**	**316**	⇓P		P	19 29 07.1	0.0	
	baz=40,SNR=16								
MPMC				⇓P		P	19 29 07.1	0.0	
	baz=40,SNR=16								
MPMC				⇓P		P	19 29 07.1	0.0	
	baz=40,SNR=16								
L16A	**Fish Haven**	**39.66**	**328**	⇓P		P	19 29 06.7	-0.4	
	baz=40								
L16A				⇓P		P	19 29 06.7	-0.4	
	baz=40								
L16A				⇓P		P	19 29 06.7	-0.4	
	baz=40								
R11A	**Troy Canyon, C**	**39.67**	**320**	⇑P		P	19 29 08.2	+0.9	
	baz=40,SNR=28								
R11A				⇑P		P	19 29 08.2	+0.9	
	baz=40,SNR=28								
R11A				⇑P		P	19 29 08.2	+0.9	
	baz=40,SNR=28								
MDND	**Maddock**	**39.69**	**344**	⇑P		P	19 29 07.0	-0.1	
	baz=40,SNR=23								
MDND				⇑P		P	19 29 07.0	-0.1	
	baz=40,SNR=23								
MDND				⇑P		P	19 29 07.0	-0.1	
	baz=40,SNR=23								
G22A	**Birney**	**39.70**	**335**	⇓P		P	19 29 07.2	-0.2	
	baz=40,SNR=8.2								
G22A				⇓P		P	19 29 07.2	-0.2	
	baz=40,SNR=8.2								
G22A				⇓P		P	19 29 07.2	-0.2	
	baz=40,SNR=8.2								
F23A	**Volborg**	**39.76**	**337**	⇓P		P	19 29 07.6	-0.2	
	baz=40,SNR=34								
F23A				⇓P		P	19 29 07.6	-0.2	
	baz=40,SNR=34								
F23A				⇓P		P	19 29 07.6	-0.2	
	baz=40,SNR=34								
OSI	**Osito Adit**	**39.77**	**313**	⇑P		P	19 29 08.5	+0.5	
	baz=40								
OSI				⇑P		P	19 29 08.5	+0.5	
	baz=40								
OSI				⇑P		P	19 29 08.5	+0.5	
	baz=40								
BLG	**Laguna Peak**	**39.77**	**312**	⇓P		P	19 29 09.1	+1.1	
	baz=40								
BLG				⇓P		P	19 29 09.1	+1.1	
	baz=40								
BLG				⇓P		P	19 29 09.1	+1.1	
	baz=40								
M15A	**Larsen Ranch,**	**39.82**	**326**	⇓P		P	19 29 08.2	-0.2	
	baz=40,SNR=12								
M15A				⇓P		P	19 29 08.2	-0.2	
	baz=40,SNR=12								
M15A				⇓P		P	19 29 08.2	-0.2	
	baz=40,SNR=12								
DAC	**Darwin (Calif)**	**39.82**	**316**	PFAKE			19 29 20.0	+11	
DAC				LR		LR			
	comp=Z,33µm,20.0s								
H20A	**Greybull**	**39.84**	**333**	⇑P		P	19 29 08.4	-0.1	
	baz=40,SNR=15								
H20A				⇑P		P	19 29 08.4	-0.1	
	baz=40,SNR=15								
H20A				⇑P		P	19 29 08.4	-0.1	
	baz=40,SNR=15								
K17A	**Gardner Place,**	**39.92**	**329**	⇑P		P	19 29 09.3	0.0	
	baz=40								
K17A				⇑P		P	19 29 09.3	0.0	
	baz=40								
K17A				⇑P		P	19 29 09.3	0.0	
	baz=40								
I19A	**Meeteetse**	**39.95**	**332**	⇑P		P	19 29 09.7	+0.2	
	baz=40								
I19A				⇑P		P	19 29 09.7	+0.2	
	baz=40								
I19A				⇑P		P	19 29 09.7	+0.2	
	baz=40								
AHID	**Auburn Hatcher**	**40.03**	**329**	*e*P		P	19 29 09.5	-0.7	
	comp=Z,81nm,0.8s								
AHID				LR		LR			
	comp=Z,15µm,19.0s								
E24A	**Baker**	**40.06**	**338**	⇑P		P	19 29 09.5	-0.7	
	baz=40,SNR=22								
E24A				⇑P		P	19 29 09.5	-0.7	
	baz=40,SNR=22								
E24A				⇑P		P	19 29 09.5	-0.7	
	baz=40,SNR=22								
GRAC	**Grapevine Rang**	**40.06**	**317**	⇓P		P	19 29 11.4	+1.0	
	baz=40,SNR=17								
GRAC				⇓P		P	19 29 11.4	+1.0	
	baz=40,SNR=17								
GRAC				⇓P		P	19 29 11.4	+1.0	
	baz=40,SNR=17								
I18A	**Diamond G Ranc**	**40.08**	**331**	⇓P		P	19 29 11.0	+0.3	
	baz=40								
I18A				⇓P		P	19 29 11.0	+0.3	
	baz=40								
I18A				⇓P		P	19 29 11.0	+0.3	
	baz=40								
G21A	**Lodge Grass**	**40.09**	**335**	⇓P		P	19 29 10.6	+0.1	
	baz=40,SNR=5.2								
G21A				⇓P		P	19 29 10.6	+0.1	
	baz=40,SNR=5.2								
G21A				⇓P		P	19 29 10.6	+0.1	
	baz=40,SNR=5.2								
ARVC	**Arvin**	**40.09**	**314**	⇓P		P	19 29 11.2	+0.5	
	baz=40								
ARVC				⇓P		P	19 29 11.2	+0.5	
	baz=40								
ARVC				⇓P		P	19 29 11.2	+0.5	
	baz=40								
ISA	**Isabella**	**40.11**	**315**	*e*P		P	19 29 11.6	+0.8	
ISA				pmax		pmax			
	comp=Z,31nm,1.4s								
ISA	**Isabella**	**40.11**	**315**	*e*P		P	19 29 11.6	+0.8	
	comp=Z,31nm,1.4s								
ISA	**Isabella**	**40.11**	**315**	⇑P		P	19 29 11.7	+0.9	
	baz=40								
ISA				⇑P		P	19 29 11.7	+0.9	
	baz=40								
ISA				⇑P		P	19 29 11.7	+0.9	
	baz=40								
BSC	**Santa Cruz Isl**	**40.13**	**312**	⇓P		P	19 29 11.9	+1.0	
	baz=40								
BSC				⇓P		P	19 29 11.9	+1.0	
	baz=40								
BSC				⇓P		P	19 29 11.9	+1.0	
	baz=40								
F22A	**Rosebud**	**40.15**	**336**	⇓P		P	19 29 10.9	0.0	
	baz=40,SNR=27								
F22A				⇓P		P	19 29 10.9	0.0	
	baz=40,SNR=27								
F22A				⇓P		P	19 29 10.9	0.0	
	baz=40,SNR=27								
L15A	**Malad City**	**40.16**	**327**	⇑P		P	19 29 11.3	0.0	
	baz=40,SNR=13								
L15A				⇑P		P	19 29 11.3	0.0	
	baz=40,SNR=13								
L15A				⇑P		P	19 29 11.3	0.0	
	baz=40,SNR=13								
HVU	**Hansel Valley**	**40.22**	**326**	P		P	19 29 13.0	+1.3	
HVU				pmax		pmax			
	comp=Z,104nm,1.7s								
HVU	**Hansel Valley**	**40.22**	**326**	P		P	19 29 13.0	+1.3	
	comp=Z,104nm,1.7s								
CWC	**Cottonwood Cre**	**40.24**	**316**	⇓P		P	19 29 12.8	+0.7	
	baz=40								
CWC				⇓P		P	19 29 12.8	+0.7	
	baz=40								
CWC				⇓P		P	19 29 12.8	+0.7	
	baz=40								
J17A	**Brown Place, J**	**40.27**	**330**	⇓P		P	19 29 12.6	+0.4	
	baz=40,SNR=20								
J17A				⇓P		P	19 29 12.6	+0.4	
	baz=40,SNR=20								
J17A				⇓P		P	19 29 12.6	+0.4	
	baz=40,SNR=20								
K16A	**Soda Springs**	**40.32**	**328**	⇓P		P	19 29 13.3	+0.7	
	baz=40								
K16A				⇓P		P	19 29 13.3	+0.7	
	baz=40								
K16A				⇓P		P	19 29 13.3	+0.7	
	baz=40								
REDW	**Red Top Meadow**	**40.34**	**330**	*e*P		P	19 29 13.8	+1.0	
	comp=Z,138nm,1.2s								
SNOW	**Snow King Moun**	**40.36**	**330**	*e*P		P	19 29 14.8	+1.8	
	comp=Z,138nm,1.3s								
E23A	**Ismay**	**40.37**	**337**	⇓P		P	19 29 12.7	-0.1	
	baz=40								
E23A				⇓P		P	19 29 12.7	-0.1	
	baz=40								
E23A				⇓P		P	19 29 12.7	-0.1	
	baz=40								
LOHW	**Long Hollow**	**40.40**	**330**	*e*P		P	19 29 14.3	+1.1	
	comp=Z,34nm,1.1s								
SBC	**Santa Barbara**	**40.40**	**312**	⇓P		P	19 29 13.8	+0.6	
	baz=40								
SBC				⇓P		P	19 29 13.8	+0.6	
	baz=40								
SBC				⇓P		P	19 29 13.8	+0.6	
	baz=40								
H19A	**Powell**	**40.43**	**333**	⇓P		P	19 29 13.3	-0.1	
	baz=41								
H19A				⇓P		P	19 29 13.3	-0.1	
	baz=41								
H19A				⇓P		P	19 29 13.3	-0.1	
	baz=41								
TPAW	**Teton Pass**	**40.48**	**330**	*e*P		P	19 29 14.5	+0.5	
	comp=Z,83nm,1.2s								
G20A	**Bridger**	**40.52**	**334**	⇑P		P	19 29 13.3	-0.9	
	baz=41								
G20A				⇑P		P	19 29 13.3	-0.9	
	baz=41								
G20A				⇑P		P	19 29 13.3	-0.9	
	baz=41								
F21A	**Absaloka Mine,**	**40.53**	**335**	⇓P		P	19 29 14.0	-0.2	
	baz=41								
F21A				⇓P		P	19 29 14.0	-0.2	
	baz=41								
F21A				⇓P		P	19 29 14.0	-0.2	
	baz=41								
D24A	**Glendive**	**40.54**	**339**	⇓P		P	19 29 14.5	+0.4	
	baz=41								
D24A				⇓P		P	19 29 14.5	+0.4	
	baz=41								
D24A				⇓P		P	19 29 14.5	+0.4	
	baz=41								
RRI2	**Red Ridge**	**40.56**	**329**	*e*P		P	19 29 15.7	+1.0	
	comp=Z,139nm,1.5s								
MOOW	**Moose Ponds**	**40.57**	**330**	*e*P		P	19 29 15.1	+0.4	
	comp=Z,92nm,1.7s								
E22A	**Miles City**	**40.57**	**337**	⇑P		P	19 29 14.3	-0.2	
	baz=41,SNR=45								
E22A				⇑P		P	19 29 14.3	-0.2	
	baz=41,SNR=45								
E22A				⇑P		P	19 29 14.3	-0.2	
	baz=41,SNR=45								
I17A	**Pilgrim Ck.**	**40.61**	**330**	⇑P		P	19 29 15.0	0.0	
	baz=41								
I17A				⇑P		P	19 29 15.0	0.0	
	baz=41								
I17A				⇑P		P	19 29 15.0	0.0	
	baz=41								
VES	**Vestal, Richgr**	**40.63**	**314**	⇑P		P	19 29 16.2	+1.1	
	baz=41								
VES				⇑P		P	19 29 16.2	+1.1	
	baz=41								
VES				⇑P		P	19 29 16.2	+1.1	
	baz=41								
L14A	**Malta**	**40.64**	**326**	⇑P		P	19 29 14.7	-0.6	
	baz=41,SNR=12								
L14A				⇑P		P	19 29 14.7	-0.6	
	baz=41,SNR=12								
L14A				⇑P		P	19 29 14.7	-0.6	
	baz=41,SNR=12								
TIN	**Tinemaha**	**40.67**	**317**	⇓P		P	19 29 16.4	+0.9	
	baz=41								
TIN				⇓P		P	19 29 16.4	+0.9	
	baz=41								
TIN				⇓P		P	19 29 16.4	+0.9	
	baz=41								
PKM	**Peak Mountain**	**40.69**	**313**	⇓P		P	19 29 15.6	-0.2	
	baz=41								
PKM				⇓P		P	19 29 15.6	-0.2	
	baz=41								
PKM				⇓P		P	19 29 15.6	-0.2	
	baz=41								
K15A	**Arbon**	**40.71**	**328**	⇓P		P	19 29 15.3	-0.5	
	baz=41								
K15A				⇓P		P	19 29 15.3	-0.5	
	baz=41								
K15A				⇓P		P	19 29 15.3	-0.5	
	baz=41								
H18A	**Shoshone NF, C**	**40.75**	**332**	⇓P		P	19 29 15.6	-0.6	
	baz=41								
H18A				⇓P		P	19 29 15.6	-0.6	
	baz=41								
H18A				⇓P		P	19 29 15.6	-0.6	
	baz=41								
RLMT	**Red Lodge**	**40.91**	**333**	PFAKE			19 29 30.0	+13	
RLMT				LR		LR			
	comp=Z,21µm,22.0s								
RLMT	**Red Lodge**	**40.91**	**333**	⇑P		P	19 29 16.9	-0.6	
	baz=41								
RLMT				⇑P		P	19 29 16.9	-0.6	
	baz=41								
RLMT				⇑P		P	19 29 16.9	-0.6	
	baz=41								
RLMT				⇑P		P	19 29 16.9	-0.6	
	baz=41								
RLMT				⇑P		P	19 29 16.9	-0.6	

	baz=41							
RLMT				⇑P		P	19 29 16.9	-0.6
	baz=41							
C24A	**Savage**	**40.92**	**339**	⇓P		P	19 29 17.6	+0.3
	baz=41,SNR=55							
C24A				⇓P		P	19 29 17.6	+0.3
	baz=41,SNR=55							
C24A				⇓P		P	19 29 17.6	+0.3
	baz=41,SNR=55							
ELK	**Elko**	**40.93**	**323**	*e*P		P	19 29 17.8	0.0
ELK	**Elko**	**40.93**	**323**	*e*P		P	19 29 17.8	0.0
F20A	**Billings**	**40.95**	**334**	⇑P		P	19 29 16.7	-0.9
	baz=41,SNR=13							
F20A				⇑P		P	19 29 16.7	-0.9
	baz=41,SNR=13							
F20A				⇑P		P	19 29 16.7	-0.9
	baz=41,SNR=13							
H17A	**Grant Village**	**40.96**	**331**	⇑P		P	19 29 16.9	-1.0
	baz=41							
H17A				⇑P		P	19 29 16.9	-1.0
	baz=41							
H17A				⇑P		P	19 29 16.9	-1.0
	baz=41							
RCTC	**Rector, Farmer**	**40.98**	**315**	⇓P		P	19 29 19.0	+1.1
	baz=41							
RCTC				⇓P		P	19 29 19.0	+1.1
	baz=41							
RCTC				⇓P		P	19 29 19.0	+1.1
	baz=41							
LKWY	**Lake**	**41.01**	**331**	PFAKE			19 29 30.0	+12
LKWY				LR		LR		
	comp=Z,30µm,19.0s							
SMMC	**Simmler**	**41.02**	**313**	⇑P		P	19 29 19.1	+0.8
	baz=41							
SMMC				⇑P		P	19 29 19.1	+0.8
	baz=41							
SMMC				⇑P		P	19 29 19.1	+0.8
	baz=41							
I16A	**Newdale**	**41.02**	**330**	⇑P		P	19 29 18.5	+0.1
	baz=41							
I16A				⇑P		P	19 29 18.5	+0.1
	baz=41							
I16A				⇑P		P	19 29 18.5	+0.1
	baz=41							
ULM	**Lac du Bonnet**	**41.06**	**349**	P		P	19 29 16.2	-2.1
	comp=Z,24nm,0.8s,baz=164,slow=8.5,SNR=29							
ULM				S		S	19 35 25.9	-4.9
	comp=Z,4.2nm,1.1s,baz=210,slow=14,SNR=2.0							
ULM				LR		LR	19 48 33.5	
	comp=Z,13µm,19.1s,baz=153,slow=40							
ULM	**Lac du Bonnet**	**41.06**	**349**	P		P	19 29 16.3	-2.1
ULM				S		S	19 35 26.0	-4.9
ULM	**Lac du Bonnet**	**41.06**	**349**	P		P	19 29 16.2	-2.1
ULM				*e*P		pP	19 29 17.2	-4.5
ULM				S		S	19 35 25.9	-4.9
E21A	**Keefer Ranch,**	**41.10**	**336**	⇑P		P	19 29 18.1	-0.7
	baz=41,SNR=7.4							
E21A				⇑P		P	19 29 18.1	-0.7
	baz=41,SNR=7.4							
E21A				⇑P		P	19 29 18.1	-0.7
	baz=41,SNR=7.4							
LCO	**Las Campanas**	**41.12**	**162**	*e*P		P	19 29 21.8	+2.4
	comp=Z,304nm,1.6s							
LCO				LR		LR		
	comp=Z,9µm,19.0s							
YFT	**Old Faithful**	**41.13**	**331**	*e*P		P	19 29 19.6	+0.3
	comp=Z,131nm,1.4s							
G18A	**Lazy EL Ranch,**	**41.19**	**333**	⇓P		P	19 29 19.9	+0.1
	baz=41							
G18A				⇓P		P	19 29 19.9	+0.1
	baz=41							
G18A				⇓P		P	19 29 19.9	+0.1
	baz=41							
D22A	**Cohagen**	**41.25**	**337**	⇓P		P	19 29 19.9	-0.1
	baz=41,SNR=42							
D22A				⇓P		P	19 29 19.9	-0.1
	baz=41,SNR=42							
D22A				⇓P		P	19 29 19.9	-0.1
	baz=41,SNR=42							
F19A	**Roth Farm, Mol**	**41.33**	**334**	⇑P		P	19 29 20.5	-0.3
	baz=42,SNR=31							
F19A				⇑P		P	19 29 20.5	-0.3
	baz=42,SNR=31							
F19A				⇑P		P	19 29 20.5	-0.3
	baz=42,SNR=31							
MLAC	**Mammoth Lakes**	**41.39**	**317**	⇓P		P	19 29 22.0	+0.5
	baz=42							
MLAC				⇓P		P	19 29 22.0	+0.5
	baz=42							
MLAC				⇓P		P	19 29 22.0	+0.5
	baz=42							
C23A	**Lambert**	**41.43**	**339**	⇓P		P	19 29 21.2	-0.3
	baz=42,SNR=53							
C23A				⇓P		P	19 29 21.2	-0.3
	baz=42,SNR=53							
C23A				⇓P		P	19 29 21.2	-0.3
	baz=42,SNR=53							
NVAR	**Mina Array Bea**	**41.47**	**318**	P		P	19 29 22.4	+0.2
	comp=Z,13nm,0.9s,baz=128,slow=5.8,SNR=18							
NVAR				S		S	19 35 32.8	-4.9
	comp=Z,0.5nm,0.4s,baz=134,slow=13,SNR=1.7							
NVAR				LR		LR	19 49 43.7	
	comp=Z,33µm,20.3s,baz=228,slow=41							
NVAR	**Mina Array Bea**	**41.47**	**318**	P		P	19 29 22.4	+0.2
NVAR				S		S	19 35 32.8	-4.9
D21A	**La Casta Ranch**	**41.49**	**336**	⇓P		P	19 29 22.5	+0.4
	baz=42,SNR=15							
D21A				⇓P		P	19 29 22.5	+0.4
	baz=42,SNR=15							
D21A				⇓P		P	19 29 22.5	+0.4
	baz=42,SNR=15							
E20A	**Meyer Farm, Mu**	**41.50**	**335**	⇓P		P	19 29 22.7	+0.6
	baz=42,SNR=69							
E20A				⇓P		P	19 29 22.7	+0.6
	baz=42,SNR=69							
E20A				⇓P		P	19 29 22.7	+0.6
	baz=42,SNR=69							
H16A	**Russell Place,**	**41.51**	**331**	⇑P		P	19 29 22.2	-0.3
	baz=42,SNR=7.6							
H16A				⇑P		P	19 29 22.2	-0.3
	baz=42,SNR=7.6							
H16A				⇑P		P	19 29 22.2	-0.3
	baz=42,SNR=7.6							
GCMT	**Greycliff**	**41.60**	**333**	*e*P		P	19 29 23.8	+0.8
	comp=Z,50nm,1.0s							
I15A	**Monteview**	**41.62**	**329**	⇑P		P	19 29 22.9	-0.3
	baz=42							
I15A				⇑P		P	19 29 22.9	-0.3
	baz=42							
I15A				⇑P		P	19 29 22.9	-0.3
	baz=42							
C22A	**Vida**	**41.63**	**338**	⇑P		P	19 29 22.7	-0.5
	baz=42,SNR=33							
C22A				⇑P		P	19 29 22.7	-0.5
	baz=42,SNR=33							
C22A				⇑P		P	19 29 22.7	-0.5
	baz=42,SNR=33							
DGMT	**Dagmar**	**41.65**	**340**	*e*P		P	19 29 23.8	+0.4
	comp=Z,151nm,0.9s							
DGMT	**Dagmar**	**41.65**	**340**	⇑P		P	19 29 23.6	+0.3
	baz=42,SNR=28							
DGMT				⇑P		P	19 29 23.6	+0.3
	baz=42,SNR=28							
DGMT				⇑P		P	19 29 23.6	+0.3
	baz=42,SNR=28							
QLMT	**Earthquake Lak**	**41.70**	**331**	*e*P		P	19 29 25.2	+1.3
	comp=Z,7.3nm,1.2s							
F18A	**Big Timber**	**41.71**	**333**	⇑P		P	19 29 24.0	+0.1
	baz=42							
F18A				⇑P		P	19 29 24.0	+0.1
	baz=42							
F18A				⇑P		P	19 29 24.0	+0.1
	baz=42							
G17A	**Pierce Place,**	**41.73**	**332**	⇓P		P	19 29 24.8	+0.6
	baz=42,SNR=5.3							
G17A				⇓P		P	19 29 24.8	+0.6
	baz=42,SNR=5.3							
G17A				⇓P		P	19 29 24.8	+0.6
	baz=42,SNR=5.3							
E19A	**Rath Farm, Rou**	**41.74**	**334**	⇓P		P	19 29 24.3	+0.2
	baz=42,SNR=13							
E19A				⇓P		P	19 29 24.3	+0.2
	baz=42,SNR=13							
E19A				⇓P		P	19 29 24.3	+0.2
	baz=42,SNR=13							
B23A	**Brockton**	**41.92**	**339**	⇓P		P	19 29 25.8	+0.3
	baz=42,SNR=29							
B23A				⇓P		P	19 29 25.8	+0.3
	baz=42,SNR=29							
BMN	**Battle Mountai**	**41.93**	**322**	*e*P		P	19 29 25.9	0.0
BMN				pmax		pmax		
	comp=Z,112nm,1.4s							
BMN				MLR		MLR		
	comp=Z,20µm,19.0s							
BMN	**Battle Mountai**	**41.93**	**322**	*e*P		P	19 29 25.9	0.0
	comp=Z,112nm,1.4s							
BMN				LR		LR		
	comp=Z,20µm,19.0s							
D20A	**Manuel Ranch,**	**41.97**	**336**	⇓P		P	19 29 26.1	+0.2
	baz=42,SNR=33							
D20A				⇓P		P	19 29 26.1	+0.2
	baz=42,SNR=33							
D20A				⇓P		P	19 29 26.1	+0.2
	baz=42,SNR=33							
A24A	**Westby**	**41.98**	**341**	⇑P		P	19 29 26.0	0.0
	baz=42,SNR=22							
A24A				⇑P		P	19 29 26.0	0.0
	baz=42,SNR=22							
A24A				⇑P		P	19 29 26.0	0.0
	baz=42,SNR=22							
I14A	**Mackay**	**42.06**	**328**	⇓P		P	19 29 27.5	+0.6
	baz=42,SNR=8.6							
I14A				⇓P		P	19 29 27.5	+0.6
	baz=42,SNR=8.6							
I14A				⇓P		P	19 29 27.5	+0.6
	baz=42,SNR=8.6							
J13A	**Cove Ranch, Pi**	**42.08**	**327**	⇑P		P	19 29 27.1	+0.1
	baz=42							
J13A				⇑P		P	19 29 27.1	+0.1
	baz=42							
J13A				⇑P		P	19 29 27.1	+0.1
	baz=42							
H15A	**Lima**	**42.14**	**330**	⇑P		P	19 29 27.5	-0.1
	baz=42,SNR=17							
H15A				⇑P		P	19 29 27.5	-0.1
	baz=42,SNR=17							
H15A				⇑P		P	19 29 27.5	-0.1
	baz=42,SNR=17							
F17A	**Fitzpatrick Pl**	**42.14**	**332**	⇓P		P	19 29 27.4	-0.1
	baz=42							
F17A				⇓P		P	19 29 27.4	-0.1
	baz=42							
F17A				⇓P		P	19 29 27.4	-0.1
	baz=42							
B22A	**Reddig Ranch S**	**42.14**	**338**	⇑P		P	19 29 27.2	-0.2
	baz=42,SNR=30							
B22A				⇑P		P	19 29 27.2	-0.2
	baz=42,SNR=30							
B22A				⇑P		P	19 29 27.2	-0.2
	baz=42,SNR=30							
G16A	**Moss Hill, Enn**	**42.17**	**331**	⇓P		P	19 29 28.5	+0.7
	baz=42,SNR=9.2							
G16A				⇓P		P	19 29 28.5	+0.7
	baz=42,SNR=9.2							
G16A				⇓P		P	19 29 28.5	+0.7
	baz=42,SNR=9.2							
TLL	**Tololo Astrono**	**42.17**	**163**	⇑*i*P		P	19 29 31.0	+3.0
A23A	**Redstone**	**42.31**	**340**	⇓P		P	19 29 28.8	+0.2
	baz=42							
A23A				⇓P		P	19 29 28.8	+0.2
	baz=42							
A23A				⇓P		P	19 29 28.8	+0.2
	baz=42							
E18A	**Harlowton**	**42.31**	**334**	⇑P		P	19 29 28.8	-0.1
	baz=42							
E18A				⇑P		P	19 29 28.8	-0.1
	baz=42							
E18A				⇑P		P	19 29 28.8	-0.1
	baz=42							
HLID	**Hailey**	**42.32**	**327**	*e*P		P	19 29 28.9	-0.1
	comp=Z,15nm,0.9s							
HLID	**Hailey**	**42.32**	**327**	⇓P		P	19 29 29.1	+0.2
	baz=42,SNR=12							
HLID				⇓P		P	19 29 29.1	+0.2
	baz=42,SNR=12							
HLID				⇓P		P	19 29 29.1	+0.2
	baz=42,SNR=12							
D19A	**Cripps Ranch,**	**42.34**	**335**	⇑P		P	19 29 29.0	0.0
	baz=42,SNR=11							
D19A				⇑P		P	19 29 29.0	0.0
	baz=42,SNR=11							
D19A				⇑P		P	19 29 29.0	0.0
	baz=42,SNR=11							
MCMT	**McKenzie Canyo**	**42.39**	**330**	*e*P		P	19 29 30.8	+1.1
	comp=Z,19nm,1.0s							
BOZ	**Bozeman (W)**	**42.39**	**331**	*e*P		P	19 29 29.2	-0.3
BOZ				pmax		pmax		
	comp=Z,72nm,1.3s							
BOZ				MLR		MLR		
	comp=Z,16µm,19.0s							
BOZ	**Bozeman (W)**	**42.39**	**331**	*e*P		P	19 29 29.2	-0.3
	comp=Z,72nm,1.3s							
BOZ				LR		LR		
	comp=Z,16µm,19.0s							
BOZ	**Bozeman (W)**	**42.39**	**331**	⇑P		P	19 29 29.4	-0.1
	baz=42,SNR=6.2							
BOZ				⇑P		P	19 29 29.4	-0.1
	baz=42,SNR=6.2							
BOZ				⇑P		P	19 29 29.4	-0.1
	baz=42,SNR=6.2							
BOZ				⇑P		P	19 29 29.4	-0.1
	baz=42,SNR=6.2							
BOZ				⇑P		P	19 29 29.4	-0.1
	baz=42,SNR=6.2							
I13A	**Wildhorse Cree**	**42.40**	**328**	⇑P		P	19 29 30.0	+0.3
	baz=42,SNR=28							
I13A				⇑P		P	19 29 30.0	+0.3
	baz=42,SNR=28							
I13A				⇑P		P	19 29 30.0	+0.3
	baz=42,SNR=28							
C20A	**Veseth Ranch,**	**42.42**	**336**	⇑P		P	19 29 29.1	-0.5
	baz=43,SNR=5.8							
C20A				⇑P		P	19 29 29.1	-0.5
	baz=43,SNR=5.8							
C20A				⇑P		P	19 29 29.1	-0.5
	baz=43,SNR=5.8							
G15A	**Dillon**	**42.45**	**330**	⇓P		P	19 29 29.8	-0.3
	baz=43,SNR=20							
G15A				⇓P		P	19 29 29.8	-0.3
	baz=43,SNR=20							
G15A				⇓P		P	19 29 29.8	-0.3
	baz=43,SNR=20							
F16A	**Kennard Place,**	**42.49**	**332**	⇓P		P	19 29 30.7	+0.4
	baz=43							
F16A				⇓P		P	19 29 30.7	+0.4
	baz=43							
F16A				⇓P		P	19 29 30.7	+0.4
	baz=43							
B21A	**Ellsworth Farm**	**42.62**	**338**	⇑P		P	19 29 31.7	+0.5
	baz=43							
B21A				⇑P		P	19 29 31.7	+0.5
	baz=43							
B21A				⇑P		P	19 29 31.7	+0.5
	baz=43							
CMB	**Columbia Colle**	**42.64**	**317**	*e*P		P	19 29 32.6	+1.0
CMB				pmax		pmax		
	comp=Z,24nm,1.4s							
CMB	**Columbia Colle**	**42.64**	**317**	*e*P		P	19 29 32.6	+1.0
	comp=Z,24nm,1.4s							
DLMT	**Dillon**	**42.65**	**330**	*e*P		P	19 29 31.7	+0.1
	comp=Z,75nm,1.2s							
DLMT				*e*			19 31 11.4	
E17A	**Martinsdale**	**42.65**	**333**	⇓P		P	19 29 31.8	+0.2
	baz=43							
E17A				⇓P		P	19 29 31.8	+0.2
	baz=43							
E17A				⇓P		P	19 29 31.8	+0.2
	baz=43							
A22A	**Carney Farms,**	**42.69**	**339**	⇑P		P	19 29 31.9	+0.1
	baz=43,SNR=40							
A22A				⇑P		P	19 29 31.9	+0.1
	baz=43,SNR=40							
A22A				⇑P		P	19 29 31.9	+0.1
	baz=43,SNR=40							
D18A	**Linhart Farms,**	**42.75**	**334**	⇓P		P	19 29 32.1	-0.3
	baz=43,SNR=18							
D18A				⇓P		P	19 29 32.1	-0.3
	baz=43,SNR=18							
D18A				⇓P		P	19 29 32.1	-0.3
	baz=43,SNR=18							
I12A	**Atlanta**	**42.86**	**327**	⇑P		P	19 29 33.3	-0.1
	baz=43,SNR=12							
I12A				⇑P		P	19 29 33.3	-0.1
	baz=43,SNR=12							
C19A	**Slack Wire Ran**	**42.86**	**335**	⇓P		P	19 29 33.4	+0.2
	baz=43,SNR=32							
C19A				⇓P		P	19 29 33.4	+0.2
	baz=43,SNR=32							
C19A				⇓P		P	19 29 33.4	+0.2
	baz=43,SNR=32							
WCN	**Washoe City**	**42.89**	**318**	⇓P		P	19 29 34.3	+0.5
	baz=43							
WCN				⇓P		P	19 29 34.3	+0.5
	baz=43							
WCN				⇓P		P	19 29 34.3	+0.5
	baz=43							
LRM	**Limekiln Ridge**	**42.91**	**331**	*e*P		P	19 29 34.6	+0.8
	comp=Z,596nm,0.9s							
H13A	**Challis**	**42.92**	**328**	⇓P		P	19 29 33.7	-0.1
	baz=43,SNR=14							
H13A				⇓P		P	19 29 33.7	-0.1
	baz=43,SNR=14							
H13A				⇓P		P	19 29 33.7	-0.1
	baz=43,SNR=14							
F15A	**Butte**	**42.95**	**331**	⇓P		P	19 29 34.0	-0.1
	baz=43,SNR=12							
F15A				⇓P		P	19 29 34.0	-0.1
	baz=43,SNR=12							
F15A				⇓P		P	19 29 34.0	-0.1
	baz=43,SNR=12							
MFID	**Camas Ranch**	**42.99**	**326**	*e*P		P	19 29 34.8	+0.5
	comp=Z,37nm,1.3s							
MFID	**Camas Ranch**	**42.99**	**326**	⇑P		P	19 29 34.3	0.0
	baz=43,SNR=6.4							
MFID				⇑P		P	19 29 34.3	0.0
	baz=43,SNR=6.4							
MFID				⇑P		P	19 29 34.3	0.0
	baz=43,SNR=6.4							
G14A	**Jackson**	**42.99**	**330**	⇓P		P	19 29 34.3	-0.2
	baz=43							
G14A				⇓P		P	19 29 34.3	-0.2
	baz=43							
G14A				⇓P		P	19 29 34.3	-0.2
	baz=43							
A21A	**Bergtoll Ranch**	**43.06**	**338**	⇓P		P	19 29 35.5	+0.8
	baz=43,SNR=50							
A21A				⇓P		P	19 29 35.5	+0.8
	baz=43,SNR=50							
A21A				⇓P		P	19 29 35.5	+0.8
	baz=43,SNR=50							
E16A	**East Helena**	**43.08**	**332**	⇑P		P	19 29 35.3	+0.2
	baz=43,SNR=19							
E16A				⇑P		P	19 29 35.3	+0.2
	baz=43,SNR=19							
E16A				⇑P		P	19 29 35.3	+0.2
	baz=43,SNR=19							
D17A	**Six Diamond Ra**	**43.10**	**334**	⇑P		P	19 29 35.7	+0.4
	baz=43,SNR=24							
D17A				⇑P		P	19 29 35.7	+0.4
	baz=43,SNR=24							
D17A				⇑P		P	19 29 35.7	+0.4
	baz=43,SNR=24							
H12A	**Diamond D Ranc**	**43.22**	**328**	⇓P		P	19 29 36.3	0.0
	baz=43,SNR=17							
H12A				⇓P		P	19 29 36.3	0.0
	baz=43,SNR=17							
H12A				⇓P		P	19 29 36.3	0.0
	baz=43,SNR=17							
G13A	**Cobalt**	**43.27**	**329**	⇓P		P	19 29 36.4	-0.3
	baz=43							
G13A				⇓P		P	19 29 36.4	-0.3
	baz=43							
G13A				⇓P		P	19 29 36.4	-0.3
	baz=43							
HRY	**Holter Researc**	**43.28**	**332**	*e*P		P	19 29 37.3	+0.6
	comp=Z,62nm,1.2s							
A20A	**Cobblestone Ra**	**43.34**	**337**	⇓P		P	19 29 36.9	-0.2
	baz=44,SNR=30							
A20A				⇓P		P	19 29 36.9	-0.2
	baz=44,SNR=30							
A20A				⇓P		P	19 29 36.9	-0.2
	baz=44,SNR=30							
F14A	**Wisdom**	**43.35**	**330**	⇑P		P	19 29 37.0	-0.3
	baz=44							
F14A				⇑P		P	19 29 37.0	-0.3
	baz=44							
F14A				⇑P		P	19 29 37.0	-0.3
	baz=44							
EGMT	**Eagleton**	**43.38**	**335**	*e*P		P	19 29 38.3	+0.9
	comp=Z,89nm,1.3s							
EGMT	**Eagleton**	**43.38**	**335**	⇑P		P	19 29 36.8	-0.7
	baz=44,SNR=11							
EGMT				⇑P		P	19 29 36.8	-0.7
	baz=44,SNR=11							
EGMT				⇑P		P	19 29 36.8	-0.7
	baz=44,SNR=11							
D16A	**Dana Ranch, Ca**	**43.39**	**333**	⇓P		P	19 29 37.4	-0.1
	baz=44							
D16A				⇓P		P	19 29 37.4	-0.1
	baz=44							
D16A				⇓P		P	19 29 37.4	-0.1
	baz=44							
B19A	**Brinkman Farms**	**43.39**	**336**	⇑P		P	19 29 37.1	-0.4
	baz=44,SNR=28							
B19A				⇑P		P	19 29 37.1	-0.4
	baz=44,SNR=28							
B19A				⇑P		P	19 29 37.1	-0.4
	baz=44,SNR=28							
E15A	**Deer Lodge**	**43.44**	**331**	⇓P		P	19 29 38.4	+0.4
	baz=44							
E15A				⇓P		P	19 29 38.4	+0.4
	baz=44							
E15A				⇓P		P	19 29 38.4	+0.4
	baz=44							
C17A	**Wharram Farm,**	**43.50**	**334**	⇓P		P	19 29 38.4	0.0
	baz=44,SNR=5.5							
C17A				⇓P		P	19 29 38.4	0.0
	baz=44,SNR=5.5							
C17A				⇓P		P	19 29 38.4	0.0
	baz=44,SNR=5.5							
B18A	**Beardsley Farm**	**43.68**	**335**	⇑P		P	19 29 39.9	+0.1
	baz=44,SNR=16							
B18A				⇑P		P	19 29 39.9	+0.1
	baz=44,SNR=16							
B18A				⇑P		P	19 29 39.9	+0.1
	baz=44,SNR=16							
A19A	**Klindworth Far**	**43.69**	**337**	⇑P		P	19 29 39.3	-0.6
	baz=44,SNR=14							
A19A				⇑P		P	19 29 39.3	-0.6
	baz=44,SNR=14							
A19A				⇑P		P	19 29 39.3	-0.6
	baz=44,SNR=14							
F13A	**Darby**	**43.81**	**330**	⇑P		P	19 29 40.3	-0.6
	baz=44,SNR=7.7							
F13A				⇑P		P	19 29 40.3	-0.6
	baz=44,SNR=7.7							
F13A				⇑P		P	19 29 40.3	-0.6
	baz=44,SNR=7.7							
D15A	**Lincoln**	**43.84**	**332**	⇓P		P	19 29 40.8	-0.5
	baz=44,SNR=15							
D15A				⇓P		P	19 29 40.8	-0.5
	baz=44,SNR=15							
D15A				⇓P		P	19 29 40.8	-0.5
	baz=44,SNR=15							
E14A	**Clinton**	**43.84**	**331**	⇓P		P	19 29 41.0	-0.2
	baz=44							
E14A				⇓P		P	19 29 41.0	-0.2
	baz=44							
E14A				⇓P		P	19 29 41.0	-0.2
	baz=44							
WVOR	**Wild Horse Val**	**43.98**	**323**	*e*P		P	19 29 41.8	-0.6
WVOR				pmax		pmax		
	comp=Z,102nm,1.3s							
WVOR	**Wild Horse Val**	**43.98**	**323**	*e*P		P	19 29 41.8	-0.6
	comp=Z,102nm,1.3s							
B17A	**L&G Farms, Che**	**44.03**	**335**	⇑P		P	19 29 41.8	-0.8
	baz=44							
B17A				⇑P		P	19 29 41.8	-0.8
	baz=44							
B17A				⇑P		P	19 29 41.8	-0.8
	baz=44							
C16A	**Fuhringer Ranc**	**44.06**	**333**	⇑P		P	19 29 42.5	-0.5
	baz=44							
C16A				⇑P		P	19 29 42.5	-0.5
	baz=44							
C16A				⇑P		P	19 29 42.5	-0.5
	baz=44							
A18A	**Metzger Ranch,**	**44.12**	**336**	⇓P		P	19 29 43.1	-0.3

baz=44,SNR=21
A18A ⇓P P 19 29 43.1 -0.3
baz=44,SNR=21
A18A ⇓P P 19 29 43.1 -0.3
baz=44,SNR=21
E13A Victor 44.20 330 ⇑P P 19 29 43.5 -0.5
baz=44,SNR=12
E13A ⇑P P 19 29 43.5 -0.5
baz=44,SNR=12
E13A ⇑P P 19 29 43.5 -0.5
baz=44,SNR=12
D14A Greenough 44.33 331 ⇑P P 19 29 44.7 -0.4
baz=44
D14A ⇑P P 19 29 44.7 -0.4
baz=44
D14A ⇑P P 19 29 44.7 -0.4
baz=44
RPN Rapa Nui 44.40 213 P P 19 29 49.6 +3.8
comp=Z,96nm,1.0s,baz=350,slow=4.7,SNR=5.6
RPN LR LR 19 43 52.3
comp=Z,8µm,18.6s,baz=30,slow=30
RPN Rapa Nui 44.40 213 P P 19 29 49.6 +3.8
RPN Rapa Nui 44.40 213 P P 19 29 49.6 +3.8
C15A Salmond Ranch, 44.42 333 ⇓P P 19 29 45.4 -0.5
baz=45,SNR=17
C15A ⇓P P 19 29 45.4 -0.5
baz=45,SNR=17
C15A ⇓P P 19 29 45.4 -0.5
baz=45,SNR=17
A17A Triple J Farms 44.49 335 ⇑P P 19 29 46.2 -0.1
baz=45,SNR=26
A17A ⇑P P 19 29 46.2 -0.1
baz=45,SNR=26
A17A ⇑P P 19 29 46.2 -0.1
baz=45,SNR=26
B16A M & M Farms, S 44.51 334 ⇑P P 19 29 46.0 -0.4
baz=45
B16A ⇑P P 19 29 46.0 -0.4
baz=45
B16A ⇑P P 19 29 46.0 -0.4
baz=45
BMO Blue Mountains 44.73 327 PFAKE 19 30 00.0 +12
BMO LR LR
comp=Z,16µm,19.0s
B15A Bradely Ranch, 44.80 333 ⇑P P 19 29 48.7 -0.2
baz=45,SNR=12
B15A ⇑P P 19 29 48.7 -0.2
baz=45,SNR=12
B15A ⇑P P 19 29 48.7 -0.2
baz=45,SNR=12
B14A Marquette Ranc 45.16 333 ⇑P P 19 29 50.6 -1.1
baz=45,SNR=20
B14A ⇑P P 19 29 50.6 -1.1
baz=45,SNR=20
B14A ⇑P P 19 29 50.6 -1.1
baz=45,SNR=20
FCH Farellones 45.29 164 ⇓*i*P P 19 29 56.8 +3.7
A15A Johnson Ranch, 45.38 334 ⇓P P 19 29 53.4 0.0
baz=46,SNR=24
A15A ⇓P P 19 29 53.4 0.0
baz=46,SNR=24
A15A ⇓P P 19 29 53.4 0.0
baz=46,SNR=24
BSMT Bassoo Peak 45.49 331 *e*P P 19 29 55.0 +0.6
comp=Z,65nm,1.8s
A14A Double T Ranch 45.68 333 ⇑P P 19 29 56.0 +0.2
baz=46,SNR=21
A14A ⇑P P 19 29 56.0 +0.2
baz=46,SNR=21
A14A ⇑P P 19 29 56.0 +0.2
baz=46,SNR=21
C12B Naegeli Ranch, 45.72 331 ⇓P P 19 29 55.1 -0.9
baz=46
C12B ⇓P P 19 29 55.1 -0.9
baz=46
C12B ⇓P P 19 29 55.1 -0.9
baz=46
WALA Waterton Lakes 45.96 333 *e*P P 19 29 58.7 +0.7
comp=Z,1.9nm,1.4s
WALA *e*PP PP 19 31 47.1 +1.3
FFC Flin Flon 46.58 346 *e*P P 19 30 03.0 +0.3
FFC *e* 19 31 54.7
FFC pmax pmax
comp=Z,88nm,1.1s
FFC MLR MLR
comp=Z,18µm,20.0s
FFC Flin Flon 46.58 346 *e*P P 19 30 03.0 +0.3
comp=Z,88nm,1.1s
FFC *e*PP PP 19 31 54.7 +2.5
FFC LR LR
comp=Z,18µm,20.0s
FFC Flin Flon 46.58 346 P P 19 30 03.6 +0.9
comp=Z,376nm,1.0s,SNR=24
SCHQ Schefferville 46.59 14 P P 19 30 02.3 -0.5
comp=Z,64nm,0.9s,baz=212,slow=6.3,SNR=28
SCHQ LR LR 19 49 49.8
comp=Z,32µm,19.1s,baz=205,slow=37
SCHQ Schefferville 46.59 14 P P 19 30 02.3 -0.5
SCHQ *e*P **pP** 19 30 02.7 -3.4
NEW Newport 46.90 330 *e*P P 19 30 05.3 -0.1
NEW pmax pmax
comp=Z,49nm,1.4s
NEW Newport 46.90 330 *e*P P 19 30 05.2 -0.1
comp=Z,49nm,1.4s
NEW Newport 46.90 330 ⇑P P 19 30 04.7 -0.6
baz=47
NEW ⇑P P 19 30 04.7 -0.6
baz=47
NEW ⇑P P 19 30 04.7 -0.6
baz=47
HAWA Hanford 46.91 327 *e*P P 19 30 06.1 +0.6
comp=Z,39nm,1.4s
HAWA LR LR
comp=Z,25µm,20.0s
RSW Rattlesnake Hi 46.95 327 *e*P P 19 30 06.6 +0.8
comp=Z,66nm,1.2s
OD2 Odessa Site #2 47.12 328 *e*P P 19 30 05.7 -1.3
comp=Z,58nm,1.4s
SPB Sao Paulo 49.22 133 *e*P P 19 30 23.4 -0.2
comp=Z,86nm,1.1s
SPB LR LR
comp=Z,31µm,19.0s
RPW Rockport 49.25 328 *e*P P 19 30 24.4 +0.9
comp=Z,37nm,1.2s
RCBR Riachuelo 50.69 106 *e*P P 19 30 34.6 -0.4
comp=Z,98nm,1.4s
LPA La Plata 51.32 152 *ce*P P 19 30 44.0 +4.8
LPA PP PP 19 32 42.0 +5.5
LPA PPP PPP 19 33 34.0
LPA S S **19 38 04.0 +5.6**
LPA PS PS 19 38 08.0
LPA PKIKP PKiKP 19 38 31.0 -5.9
LPA PKIKP 19 41 35.0
LPA SSS SSS 19 43 14.0
LPA SKIKS 19 45 42.0
CAM4 Nova Friburgo 52.10 129 ⇓*i*P P 19 30 58.2 +12
CAM4 *i* 19 31 01.8
CAM4 *i* 19 31 07.6
CAM4 *i* 19 31 10.7
CAM4 *i* 19 31 33.3
CAM4 *i* 19 32 10.3
CAM4 *i* 19 33 09.4
PLCA Paso Flores 52.24 167 P P 19 30 47.4 +1.2
comp=Z,64nm,1.0s,baz=341,slow=8.1,SNR=50
PLCA S S 19 38 10.4 -0.8
comp=Z,1.6nm,0.9s,baz=57,slow=17,SNR=1.0
PLCA Paso Flores 52.24 167 *e*P P 19 30 48.0 +1.8
PLCA S S 19 38 10.4 -0.8
PLCA pmax pmax
comp=Z,143nm,1.3s
PLCA MLR MLR
comp=Z,8µm,19.0s
PLCA Paso Flores 52.24 167 *e*P P 19 30 48.0 +1.8
comp=Z,143nm,1.3s
PLCA S S 19 38 10.4 -0.8
PLCA LR LR
comp=Z,8µm,19.0s
TRQA Tornquist 52.33 158 *e*P P 19 30 47.2 +0.4
comp=Z,348nm,1.8s
COYC Coyhaique 56.60 170 ⇑*i*P P 19 31 19.8 +2.1
YKA Yellowknife Ar 56.61 344 P P 19 31 17.2 -0.3
comp=Z,18nm,0.8s,baz=140,slow=6.5,SNR=71
YKA LR LR 19 56 59.8
comp=Z,2µm,20.8s,baz=185,slow=38
YKA PKPPKP **P'P'df** **20 01 14.6 +0.2**
comp=Z,0.7nm,0.9s,baz=332,slow=2.7,SNR=4.7
YKA PKP2bc 20 01 24.5
comp=Z,2.7nm,1.1s,baz=326,slow=2.6,SNR=8.5
YKA Yellowknife Ar 56.61 344 P P 19 31 17.3 -0.3
YKA Yellowknife Ar 56.61 344 P P 19 31 17.2 -0.3
YKA P'P' 20 01 14.7
YKA ⇑*e* 20 01 24.6
TAOE Nuku Hiva Isla 58.80 253 *e*S S 19 39 36.5 -3.3
comp=Z,16µm,25.4s
TAOE *e*LQ LQ 19 46 24.3
comp=Z,11µm,31.6s
TAOE *e*LR LR 19 48 50.0
comp=Z,24µm,26.1s,baz=72
CMLA Cha da Macela 59.15 52 PFAKE 19 31 50.0 +14
CMLA LR LR
comp=Z,7µm,21.0s
DLBC Dease Lake 59.29 334 *e*P P 19 31 36.5 0.0
RKT Rikitea 59.70 236 *e*P P 19 31 39.3 -0.5
comp=Z,120nm,1.2s
RKT *e*S S 19 39 46.8 -4.1
comp=Z,8µm,27.2s
RKT *e*LQ LQ 19 46 45.6
comp=Z,24µm,29.2s
RKT *e*LR LR 19 49 16.4
comp=Z,13µm,31.5s,baz=56
SFJD Kangerlussuaq 61.03 14 *i*P P 19 31 49.4 +1.2
SFJD pmax pmax
comp=Z,18nm,0.8s
SFJD MLR MLR
comp=Z,19µm,18.0s
SFJD Kangerlussuaq 61.03 14 *i*P P 19 31 49.4 +1.2
comp=Z,18nm,0.8s
SFJD
comp=Z,19µm,18.0s
RES Resolute Bay 64.73 357 *e*P P 19 32 12.3 -0.4
RES pmax pmax
comp=Z,26nm,0.8s
RES Resolute Bay 64.73 357 *e*P P 19 32 12.3 -0.4
comp=Z,26nm,0.8s
PMOZ Porto Moniz, M 65.25 59 *e*S S 19 41 05.6 +4.8
PMOZ *e*LQ LQ 19 48 51.1
PMOZ *e*LR LR 19 52 17.4
comp=Z,4µm,22.0s
EFI East Falkland 65.65 162 PFAKE 19 32 30.0 +11
EFI LR LR
comp=Z,13µm,20.0s
BBTS Babate 66.04 78 LR LR 19 56 45.9
comp=Z,8µm,20.9s,baz=270,slow=32
DAWY Dawson 66.08 337 *e*P P 19 32 22.1 +0.4
INK Inuvik 66.28 342 *e*P P 19 32 23.4 +0.5
INK pmax pmax
comp=Z,88nm,1.2s
INK Inuvik 66.28 342 *e*P P 19 32 23.4 +0.5
comp=Z,88nm,1.2s
EGAK Eagle 67.09 337 *e*P P 19 32 27.8 -0.3
comp=Z,31nm,1.1s
MENT Mentasta 67.35 335 *e*P P 19 32 30.5 +0.7
PMOR Pomariorio Ree 67.89 249 *e*P P 19 32 33.5 -0.5
comp=Z,433nm,1.4s
SUMG Summit 67.98 13 *i*P P 19 32 34.4 +0.3
SUMG *i*S S 19 41 32.2 -1.0
SUMG pmax pmax
comp=Z,66nm,1.0s
SUMG MLR MLR
comp=Z,17µm,19.0s
SUMG Summit 67.98 13 *e*P P 19 32 34.3 +0.3
comp=Z,142nm,1.1s
SUMG Summit 67.98 13 *i*P P 19 32 34.4 +0.3
comp=Z,66nm,1.0s
SUMG *i*S S 19 41 32.2 -1.0
SUMG
comp=Z,17µm,19.0s
PAX Paxson 68.10 334 *e*P P 19 32 34.9 +0.3
PAX pmax pmax
comp=Z,26nm,1.0s
PAX Paxson 68.10 334 *e*P P 19 32 34.9 +0.3
comp=Z,26nm,1.0s
MEH Mehetia 68.94 246 *e*P P 19 32 39.8 -0.8
comp=Z,282nm,1.5s
SML Sawmill 68.95 333 *e*P P 19 32 40.5 +0.5
SML pmax pmax
comp=Z,12nm,1.2s
SML Sawmill 68.95 333 *e*P P 19 32 40.5 +0.5
comp=Z,12nm,1.2s
PMR Palmer 69.25 332 *e*P P 19 32 42.4 +0.7
PMR pmax pmax
comp=Z,35nm,1.2s
PMR Palmer 69.25 332 *e*P P 19 32 42.4 +0.7
comp=Z,35nm,1.2s
ILAR Eielson Array 69.34 336 P P 19 32 42.3 +0.1
comp=Z,19nm,1.0s,baz=112,slow=4.2,SNR=52
ILAR PP **PP** 19 35 08.2 -7.1
comp=Z,5.7nm,1.1s,baz=98,slow=6.5,SNR=3.8
ILAR PKP2bc 20 00 51.8
comp=Z,2.3nm,1.2s,baz=295,slow=3.1,SNR=5.9
ILAR LR LR 20 07 31.3
comp=Z,12µm,18.4s,baz=123,slow=40
ILAR Eielson Array 69.34 336 P P 19 32 42.3 +0.1
ILAR Eielson Array 69.34 336 P P 19 32 42.3 +0.1
ILAR PP **PP** 19 35 08.2 -7.1
ILAR ⇑*e* 20 00 51.8
RC01 Rabbit Creek A 69.38 332 *e*P P 19 32 42.8 +0.3
comp=Z,31nm,1.0s
BORG Borgarnes 69.42 24 PFAKE 19 33 00.0 +17
BORG LR LR
comp=Z,8µm,19.0s
SLKM Skilak Lake 69.44 331 *e*P P 19 32 43.4 +0.4
SLKM Skilak Lake 69.44 331 *e*P P 19 32 43.4 +0.4
COLA College 69.76 336 *e*P P 19 32 45.1 +0.3
COLA pmax pmax
comp=Z,15nm,0.8s
COLA MLR MLR
comp=Z,11µm,20.0s
COLA College 69.76 336 *e*P P 19 32 45.1 +0.3
comp=Z,15nm,0.8s
COLA LR LR
comp=Z,11µm,20.0s
MCK McKinley 69.83 335 *e*P P 19 32 45.9 +0.6
MCK pmax pmax
comp=Z,65nm,1.1s
MCK McKinley 69.83 335 *e*P P 19 32 45.9 +0.6
comp=Z,65nm,1.1s
KDAK Kodiak Island 69.93 328 PFAKE 19 33 00.0 +14
KDAK LR LR
comp=Z,11µm,19.0s
TIAR Tiarei 70.00 247 *e*P P 19 32 46.2 -0.9
comp=Z,130nm,1.2s
PPT2 Papeete2 70.21 247 *e*P P 19 32 47.8 -0.7
comp=Z,89nm,1.5s
PPT2 *e*S S 19 41 56.7 -3.9
comp=Z,11µm,25.5s
PPT2 *e*LQ LQ 19 51 12.3
comp=Z,6µm,28.0s
PPT2 *e*LR LR 19 54 10.8
comp=Z,20µm,27.5s,baz=61
PAE Paea 70.24 247 *e*P P 19 32 47.7 -0.9
comp=Z,39nm,1.4s
TRF Thorofare Moun 70.32 334 *e*P P 19 32 47.7 -0.8
comp=Z,33nm,1.0s
RSO Redoubt South 70.64 331 *e*P P 19 32 50.9 +0.3
comp=Z,104nm,0.9s
PPLA Purkeypile 70.99 333 *e*P P 19 32 51.9 -0.7
comp=Z,58nm,1.2s
SCO Scoresbysund 71.34 18 *i*P P 19 32 56.1 +1.7
SCO *i*S S 19 42 12.7 +0.8
SCO pmax pmax
comp=Z,14nm,0.9s
SCO MLR MLR
comp=Z,13µm,18.0s
SCO Scoresbysund 71.34 18 *i*P P 19 32 56.1 +1.7
comp=Z,14nm,0.9s
SCO *i*S S 19 42 12.7 +0.8
SCO
comp=Z,13µm,18.0s
KIP Kipapa 71.34 289 PFAKE 19 33 10.0 +15
KIP LR LR
comp=Z,8µm,19.0s
COLD Coldfoot 71.44 338 *e*P P 19 32 56.0 +0.9
comp=Z,44nm,1.1s
TBI Tubuai 71.98 241 *e*S S 19 42 16.4 -4.4
comp=Z,5µm,25.0s
TBI *e*LR LR 19 54 58.5
comp=Z,13µm,29.2s,baz=63
LIS Lisbon 72.05 53 *e*P P 19 32 58.7 -0.5
LIS *e*S S 19 42 21.3 +0.1
LIS AMS AMS 19 55 29.7
comp=N,9µm,25.2s
LIS Lisbon 72.05 53 *e*P P 19 32 58.7 -0.5
LIS *e*S S 19 42 21.3 +0.1
LIS Lisbon 72.05 53 *e*P P 19 32 58.7 -0.5
LIS *e*S S 19 42 21.3 +0.1
PTEO Sao Teotonio 72.37 54 *e*P P 19 33 03.1 +1.9
comp=N,173nm,1.8s
MORF Marmelete 72.42 54 *e*P P 19 33 03.1 +1.5
comp=N,145nm,1.5s
MORF Marmelete 72.42 54 *e*P P 19 33 01.1 -0.5
MORF *e*S S 19 42 25.9 +0.2
PNCL Nicolau / Gran 72.53 53 *e*P P 19 33 01.9 -0.2
comp=N,85nm,1.6s
PTOM Tomar 72.64 52 *e*P P 19 33 05.5 +2.7
comp=N,82nm,1.6s
TTA Tatalina 72.70 333 *e*P P 19 33 02.9 +0.1
TTA pmax pmax
comp=Z,26nm,1.0s
TTA Tatalina 72.70 333 *e*P P 19 33 02.9 +0.1
comp=Z,26nm,1.0s
MESJ Messejana 72.77 54 *e*P P 19 33 03.3 -0.3
MESJ *e*S S 19 42 29.8 +0.3
MESJ AMS AMS 19 59 01.1
comp=Z,8µm,22.4s
MESJ Messejana 72.77 54 *e*P P 19 33 03.3 -0.3
MESJ *e*S S 19 42 29.8 +0.3
PGAV Gavieira, Arco 72.80 49 *e*P P 19 33 05.6 +1.8
comp=Z,128nm,1.9s
PGAV *e*S S 19 42 29.0 -1.0
PGAV *e*LR LR 19 54 12.8
comp=Z,5µm,18.0s
PCVE Castro Verde 72.91 54 *e*P P 19 33 06.8 +2.4
comp=Z,74nm,1.7s
EVO Evora 72.94 53 *e*P P 19 33 03.9 -0.7
comp=Z,70nm,1.0s
EVO *e*R
comp=Z,9µm,22.5s
PCAB Cabril 72.98 49 *e*P P 19 33 07.0 +2.2
comp=Z,81nm,1.6s
PBDV Barranco-do-Ve 73.00 54 *e*P P 19 33 07.1 +2.1
comp=Z,113nm,1.9s
PBEJ Beja 73.05 53 *e*P P 19 33 07.9 +2.7
comp=Z,58nm,2.3s
PVIS Viseu 73.06 51 *e*P P 19 33 06.9 +1.6
comp=Z,88nm,1.4s
POLO Lamas de Olo 73.14 50 *e*P P 19 33 07.5 +1.6
comp=Z,43nm,1.6s
PVAQ Vaqueiros 73.17 54 *e*P P 19 33 07.8 +1.9
comp=Z,75nm,1.7s
PVAQ *e*S S 19 42 31.8 -2.3
PVAQ *e*LR LR 19 55 50.7
comp=Z,8µm,22.0s
PESTR Estremoz 73.27 52 *e*P P 19 33 08.4 +1.8
comp=Z,109nm,1.5s
MTE Manteigas 73.32 51 *e*P P 19 33 08.6 +1.7
comp=Z,109nm,1.6s
MTE *e*S S 19 42 34.9 -0.9
MTE *e*LQ LQ 19 50 39.0
MTE *e*LR LR 19 54 28.0
comp=Z,6µm,18.0s
MTE Manteigas 73.32 51 *e*P P 19 33 06.7 -0.2
comp=Z,68nm,1.4s
MTE LR LR
comp=Z,4µm,20.0s
PCBR Castelo Branco 73.36 51 *e*P P 19 33 08.8 +1.8
comp=Z,73nm,1.7s
PMRV Marv??o 73.43 52 *e*P P 19 33 08.9 +1.4
comp=Z,86nm,1.7s
PMRV *e*S **SKiKP** 19 42 39.3 +0.4
PMRV *e*LQ LQ 19 51 20.9
PMRV *e*LR LR 19 55 58.0
comp=Z,6µm,22.0s
PBAR Barrancos 73.70 53 *e*P P 19 33 10.8 +1.7
comp=Z,82nm,1.5s
MVO Moncorvo 73.72 50 *e*P P 19 33 11.0 +1.8
comp=Z,89nm,1.8s
MVO *e*S **SKiKP** 19 42 38.9 -0.4
MVO *e*LR LR 19 56 12.6
comp=Z,6µm,18.0s
RTC Rabat Centre 73.92 58 PFAKE 19 33 20.0 +10
RTC LR LR
comp=Z,9µm,20.0s
PBRG Braganca 73.94 49 *e*P P 19 33 12.3 +1.8
comp=Z,78nm,1.6s
SFS San Fernando 74.39 55 PFAKE 19 33 30.0 +17
SFS LR LR
comp=Z,6µm,21.0s
DAG Danmarks Havn 74.62 13 *i*P P 19 33 13.0 -0.7
DAG *i*S **SKiKP** 19 42 41.9 +2.3
DAG pmax pmax
comp=Z,22nm,1.0s
DAG MLR MLR
comp=Z,22µm,19.0s
DAG Danmarks Havn 74.62 13 *i*P P 19 33 13.0 -0.7
comp=Z,224nm,1.0s
DAG
comp=Z,30µm,19.0s
PAB San Pablo 75.78 52 PFAKE 19 33 30.0 +8.8
PAB LR LR
comp=Z,7µm,20.0s
BST Brest 75.90 43 *e*P P 19 33 26.1 +4.5
BST Brest 75.90 43 *e*P P 19 33 26.1 +4.5
ESDC Sonseca Array 76.07 52 P P 19 33 22.7 -0.1
comp=Z,34nm,0.9s,baz=280,slow=5.6,SNR=42
ESDC LR LR 20 03 18.3
comp=Z,4µm,18.7s,baz=250,slow=33
ESDC Sonseca Array 76.07 52 P P 19 33 22.8 -0.1
ESLA Sonseca Array 76.07 52 *e*P P 19 33 23.1 +0.2
comp=Z,13nm,1.0s
ESLA LR LR
comp=Z,27µm,19.0s
PMSA Palmer Station 76.30 171 PFAKE 19 33 40.0 +17
PMSA LR LR
comp=Z,5µm,20.0s
ROSF Rostrenen 76.43 43 *e*P P 19 33 25.2 +0.6
comp=Z,96nm,1.2s
QUIF Quistinic 76.50 43 *e*P P 19 33 25.7 +0.7
comp=Z,125nm,1.4s
ESK Eskdalemuir 76.56 35 *e*P P 19 33 25.5 +0.3
ESK pmax pmax
comp=Z,78nm,1.3s
ESK MLR MLR
comp=Z,5µm,19.0s
ESK Eskdalemuir 76.56 35 *e*P P 19 33 25.5 +0.3
comp=Z,78nm,1.3s
ESK LR LR
comp=Z,5µm,19.0s
ESK Eskdalemuir 76.56 35 P P 19 33 25.6 +0.3
comp=Z,261nm,1.1s,SNR=5.7
SGMF Saint Gilles 76.91 43 *e*P P 19 33 27.8 +0.5
comp=Z,196nm,1.7s
SJPF Ste Jean 78.00 48 *e*P P 19 33 34.9 +1.3
comp=Z,142nm,1.1s
GRR Gorron 78.04 43 *e*P P 19 33 34.3 +0.7
comp=Z,144nm,1.2s
TNA Tin City 78.16 335 *e*P P 19 33 34.8 +0.8
comp=Z,20nm,1.2s
FLN La Foliniere 78.28 42 *e*P P 19 33 35.7 +0.8
comp=Z,132nm,1.3s
FLN *e*R
comp=Z,13µm,21.2s
LIC Lamto 78.31 86 *e*P P 19 33 33.9 -1.9
comp=Z,99nm,1.1s
LIC *e*R
comp=Z,6µm,22.8s
DBIC Dimbokro 78.41 85 P P 19 33 35.8 -0.5
comp=Z,18nm,1.0s,baz=266,slow=8.6,SNR=10
DBIC LR LR 20 05 09.2
comp=Z,3µm,20.8s,baz=241,slow=33
DBIC Dimbokro 78.41 85 *e*P P 19 33 36.3 -0.1
DBIC pmax pmax
comp=Z,80nm,1.5s
DBIC Dimbokro 78.41 85 *e*P P 19 33 36.3 -0.1
comp=Z,80nm,1.5s
ETSF Etsaut 78.50 48 *e*P P 19 33 37.7 +1.3
comp=Z,108nm,1.5s
LDF La Druitiere 78.52 42 *e*P P 19 33 36.8 +0.5
comp=Z,28nm,1.0s
MFF Saint Martin d 78.59 44 *e*P P 19 33 36.8 0.0
comp=Z,118nm,1.3s
VIEF Viey 78.92 48 *e*P P 19 33 40.3 +1.5
VIEF Viey 78.92 48 *e*P P 19 33 40.3 +1.5
EPF Esparros 79.15 48 *e*P P 19 33 41.0 +1.0
comp=Z,129nm,1.3s
RESF Ens 79.16 48 *e*P P 19 33 40.2 +0.1
RESF Ens 79.16 48 *e*P P 19 33 40.2 +0.1
SALF Salau 79.79 48 *e*P P 19 33 45.0 +1.5
SALF Salau 79.79 48 *e*P P 19 33 45.0 +1.5

RJF Les Rejaudoux 79.83 46 *e*P **P 19 33 44.1 +0.5**
comp=Z,82nm,1.2s
RJF *e*R
comp=Z,14µm,22.0s
CAF Calviac 80.25 46 *e*P **P 19 33 46.5 +0.6**
comp=Z,88nm,1.2s
MTLF Montolieu 80.49 48 *e*P **P 19 33 47.8 +0.6**
comp=Z,139nm,1.4s
BGF Bois d'Agland 80.66 44 *e*P **P 19 33 48.3 +0.3**
comp=Z,58nm,1.1s
FOO Floro 80.75 29 *e*P **P 19 33 50.4 +2.3**
BER Bergen 80.98 30 *e*P P 19 33 54.6 +5.2
BER *e* 19 43 57.0
BER AMS AMS 20 08 59.9
comp=Z,6µm,16.8s
AVF Avril sur Loir 80.98 44 *e*P **P 19 33 49.7 0.0**
comp=Z,41nm,1.1s
LBL Lubilhac 81.06 46 *e*P **P 19 33 51.7 +1.4**
LBL Lubilhac 81.06 46 *e*P **P 19 33 51.7 +1.4**
LBL Lubilhac 81.06 46 *e*P **P 19 33 51.7 +1.4**
SSF Saint Saulge 81.06 44 *e*P **P 19 33 50.1 -0.1**
comp=Z,31nm,1.0s
KBS Kingsbay 81.23 11 *e*P P 19 33 58.6 +8.1
KBS *e* 19 44 05.2
KBS AMS AMS 20 08 09.3
comp=Z,12µm,21.4s
KBS Kingsbay 81.23 11 PFAKE 19 34 00.0 +10
KBS LR LR
comp=Z,14µm,21.0s
BAIF Baives 81.25 41 *e*P **P 19 33 51.4 +0.4**
comp=Z,80nm,1.6s
PLDF La Plantade 81.25 45 *e*P **P 19 33 51.0 -0.3**
PLDF La Plantade 81.25 45 *e*P **P 19 33 51.0 -0.3**
PLDF La Plantade 81.25 45 *e*P **P 19 33 51.0 -0.3**
SNF Seneffe 81.25 40 P **P 19 33 52.2 +1.2**
comp=Z,45nm,2.5s
LOR Lormes 81.28 44 *e*P **P 19 33 51.4 0.0**
comp=Z,57nm,1.2s
LOR *e*R
comp=Z,17µm,22.2s
DOU Dourbes 81.49 41 P **P 19 33 53.1 +0.8**
comp=Z,27nm,2.7s
LASF Ste Croix 81.61 47 *e*P **P 19 33 54.2 +1.1**
comp=Z,65nm,1.2s
MOL Molde 81.83 28 AMS AMS 20 05 06.8
comp=Z,5µm,17.0s
SHEL Horse Pasture 81.89 108 PFAKE 19 34 10.0 +15
SHEL LR LR
comp=Z,11µm,21.0s
MEZF Maizieres J'vi 81.95 42 *e*P **P 19 33 55.3 +0.5**
comp=Z,263nm,1.8s
SSB Saint Sauveur 81.96 45 *e*P **P 19 33 54.5 -0.5**
SSB pmax pmax
comp=Z,25nm,1.3s
SSB MLR MLR
comp=Z,7µm,21.0s
SSB Saint Sauveur 81.96 45 *e*P **P 19 33 54.5 -0.5**
comp=Z,25nm,1.3s
SSB LR LR
comp=Z,7µm,21.0s
SFTF Sexfontaines 81.98 42 *e*P **P 19 33 55.2 +0.2**
comp=Z,187nm,1.7s
VIVF Saint-Julien-l 82.10 46 *e*P **P 19 33 56.9 +1.2**
comp=Z,118nm,1.3s
BEBN Eben Emael 82.11 40 P **P 19 33 55.9 +0.3**
SPITS Spitsbergen Ar 82.23 12 LR LR 20 11 34.0
comp=Z,27µm,19.2s,baz=275,slow=37
HGN Heimansgroeve 82.27 40 *e*P **P 19 33 56.8 +0.4**
comp=Z,109nm,1.6s
HGN Heimansgroeve 82.27 40 *e*S S 19 43 57.9 -14
HGN *e*SS **SS 19 49 33.9 +2.2**
MEM Membach 82.34 40 P **P 19 33 57.6 +0.8**
comp=Z,29nm,2.5s
PAGF Fort de Pagny 82.39 42 *e*P **P 19 33 57.7 +0.5**
comp=Z,27nm,1.3s
WLF Walferdange 82.54 41 P **P 19 33 57.5 -0.3**
comp=Z,58nm,2.5s
WLF Walferdange 82.54 41 *e*P **P 19 33 59.2 +1.3**
comp=Z,51nm,1.2s
WLF Walferdange 82.54 41 *e*P **P 19 33 58.0 +0.1**
WLF pmax pmax
comp=Z,46nm,1.1s
WLF MLR MLR
comp=Z,8µm,19.0s
WLF Walferdange 82.54 41 *e*P **P 19 33 58.0 +0.1**
comp=Z,46nm,1.1s
WLF LR LR
comp=Z,8µm,19.0s
THEF They Montfort 82.61 42 *e*P **P 19 33 59.0 +0.7**
THEF They Montfort 82.61 42 *e*P **P 19 33 59.0 +0.7**
THEF They Montfort 82.61 42 *e*P **P 19 33 59.0 +0.7**
WTSB Winterswijk 82.67 39 *e*P **P 19 33 58.4 0.0**
comp=Z,113nm,1.4s
SMRF Simiane la Rot 82.85 47 *e*P **P 19 34 00.9 +1.2**
comp=Z,129nm,1.5s
HAU Haudompre 82.87 43 *e*P **P 19 33 59.9 +0.2**
HAU *e*R
comp=Z,12µm,20.2s
CABF La Chapelle 82.88 44 *e*P **P 19 34 00.3 +0.5**
comp=Z,105nm,1.4s
ORIF Oris-en-Rattie 82.94 46 *e*P **P 19 34 01.5 +1.3**
comp=Z,313nm,1.9s
ORIF *e*R
comp=Z,10µm,22.2s
BUG Bochum--Univer 83.02 39 *e*P **P 19 34 02.3 +2.0**
comp=Z,105nm,1.6s
RUP Ruppelstein 83.12 41 *e*P **P 19 34 02.0 +1.0**
RUP Ruppelstein 83.12 41 *e*P **P 19 34 02.0 +1.0**
KONO Kongsberg 83.19 31 *e*P P 19 34 05.5 +4.5
KONO AMS AMS 20 08 14.9
comp=Z,6µm,24.6s
KONO Kongsberg 83.19 31 PFAKE 19 34 10.0 +9.0
KONO LR LR
comp=Z,7µm,20.0s
IBBN Ibbenburen 83.21 38 *e*P **P 19 34 02.8 +1.5**
comp=Z,25nm,0.9s
HINF Hinteralfeld 83.24 43 *e*P **P 19 34 01.6 0.0**
comp=Z,57nm,1.3s
ECH Echery 83.39 42 *e*P **P 19 34 02.6 +0.2**
ECH pmax pmax
comp=Z,77nm,1.6s
ECH MLR MLR
comp=Z,8µm,20.0s
ECH Echery 83.39 42 *e*P **P 19 34 02.6 +0.2**
comp=Z,77nm,1.6s
ECH LR LR
comp=Z,8µm,20.0s
ECH Echery 83.39 42 *e*P **P 19 34 02.7 +0.4**
ABH Alteburg 83.41 41 *e*P **P 19 34 03.1 +0.7**
MOF Molkenrain 83.42 43 *e*P **P 19 34 02.9 +0.3**
MOF Molkenrain 83.42 43 *e*P **P 19 34 02.9 +0.3**
MOF Molkenrain 83.42 43 *e*P **P 19 34 02.9 +0.3**
CDF Champ du Feu 83.44 42 *e*P **P 19 34 02.9 +0.2**
MUD Monsted U'grnd 83.44 34 *e*P P 19 34 07.0 +4.7
MUD MLR MLR
comp=Z,5µm,20.0s
MUD Monsted U'grnd 83.44 34 *i* P P 19 34 07.0 +4.7
MUD
comp=Z,5µm,20.0s
LPL La Plagne 83.46 45 *e*P **P 19 34 03.9 +0.8**
comp=Z,26nm,1.0s
LPG La Plagne 83.48 45 *e*P **P 19 34 04.2 +1.0**
comp=Z,83nm,1.4s
BNI Bardonecchia 83.49 46 PFAKE 19 34 10.0 +6.9
BNI LR LR
comp=Z,10µm,19.0s
BBS Basel-Blauen 83.72 43 *e*P **P 19 34 04.4 +0.3**
BBS Basel-Blauen 83.72 43 *e*P **P 19 34 04.4 +0.3**
NB2 NORSAR Subarra 83.77 29 P **P 19 34 05.7 +1.7**
comp=Z,86nm,1.4s,baz=280,slow=5.3
NOA NORSAR Array B 83.77 29 P **P 19 34 03.2 -0.8**
comp=Z,15nm,1.0s,baz=278,slow=5.1,SNR=9.0
NOA LR LR 20 11 51.0
comp=Z,4µm,18.5s,baz=290,slow=36
NOA NORSAR Array B 83.77 29 P **P 19 34 03.2 -0.8**
NOA NORSAR Array B 83.77 29 P **P 19 34 03.2 -0.8**
BJO Bjornoya 83.78 15 AMS AMS 20 10 52.1
comp=Z,9µm,13.9s
TORD Torodi Ar. Bea 83.79 78 P **P 19 34 03.7 -1.3**
comp=Z,4.7nm,0.9s,baz=275,slow=3.9,SNR=26
TORD LR LR 20 11 02.9
comp=Z,5µm,18.4s,baz=270,slow=36
TORD Torodi Ar. Bea 83.79 78 P **P 19 34 03.7 -1.3**
TNS Taunus Mts 83.94 40 *e*P **P 19 34 06.2 +1.0**
comp=Z,14nm,1.0s
TNS Taunus Mts 83.94 40 *e*P **P 19 34 06.2 +1.0**
TNS pmax pmax
comp=Z,14nm,1.0s
FELD Feldberg im Sc 84.00 43 *e*P **P 19 34 05.9 +0.3**
DFRA Djebel Bou Aff 84.08 54 P P 19 34 09.9 +3.6
BFO Black Forest 84.14 42 *e*P **P 19 34 07.2 +1.0**
comp=Z,9.0nm,1.1s
BFO Black Forest 84.14 42 *e*P **P 19 34 07.2 +1.0**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 84.14 42 *e*P **P 19 34 06.0 -0.2**
comp=Z,77nm,1.9s
BFO LR LR
comp=Z,9µm,19.0s
SBF Sospel 84.19 47 *e*P **P 19 34 07.1 +0.5**
comp=Z,144nm,1.2s
TOD Tromm 84.26 41 *e*P **P 19 34 06.8 0.0**
TOD Tromm 84.26 41 *e*P **P 19 34 06.8 0.0**
SAOF Saorge 84.26 46 *e*P **P 19 34 08.5 +1.6**
SAOF Saorge 84.26 46 *e*P **P 19 34 08.5 +1.6**
SAOF Saorge 84.26 46 *e*P **P 19 34 08.5 +1.6**
BSEG Bad Segeberg 84.48 36 *e*P **P 19 34 08.9 +1.2**
comp=Z,24nm,1.1s
BSEG Bad Segeberg 84.48 36 *e*P **P 19 34 08.9 +1.2**
BSEG pmax pmax
comp=Z,24nm,1.1s
NRDL Niedersach Rie 84.60 38 *e*P **P 19 34 09.8 +1.5**
comp=Z,27nm,1.2s
CASM Ain Smara 84.61 54 P **P 19 34 10.3 +1.4**
STU Stuttgart 84.64 42 *e*P **P 19 34 10.6 +1.9**
comp=Z,28nm,1.1s
STU Stuttgart 84.64 42 *e*P **P 19 34 09.3 +0.6**
STU pmax pmax
comp=Z,12nm,0.3s
STU Stuttgart 84.64 42 *e*P **P 19 34 09.3 +0.6**
comp=Z,12nm,0.3s
CKFL Kef-Lekhel 84.77 54 P **P 19 34 11.7 +1.9**
CAEH 'Ain El Ouahch 84.82 54 P **P 19 34 12.5 +2.6**
UBBA Unterbreizbach 84.82 39 *e*P P 19 34 12.7 +3.3
comp=Z,8.0nm,1.1s
CLZ Clausthal 84.88 38 *e*P **P 19 34 11.3 +1.4**
comp=Z,21nm,1.0s
CLZ Clausthal 84.88 38 *e*P **P 19 34 11.3 +1.4**
CLZ pmax pmax
comp=Z,21nm,1.0s
TUE Stuetta 85.12 44 *e*P **P 19 34 11.6 +0.1**
comp=Z,23nm,0.9s
TUE LR LR
comp=Z,11µm,20.0s
HFS Hagfors 85.14 30 LR LR 20 12 09.6
comp=Z,6µm,19.3s,baz=274,slow=36
CMAH Djebel Manchou 85.29 54 P **P 19 34 13.0 +0.7**
DAVA Damuels 85.34 43⇑*i*P **P 19 34 13.5 +1.1**
comp=Z,67nm,1.4s
DAVA Damuels 85.34 43⇑*i*PcP **P 19 34 13.5 +1.1**
comp=Z,67nm,1.4s,SNR=8.1
COP Copenhagen 85.37 34 *e*P P 19 34 16.0 +3.8
COP *i*S **S 19 44 43.6 +0.6**
COP MLR MLR
comp=Z,3µm,19.0s
COP Copenhagen 85.37 34 *i* P P 19 34 16.0 +3.8
COP Copenhagen 85.37 34 *i* S **S 19 44 43.6 +0.6**
COP
comp=Z,3µm,19.0s
ABSA Djebel Ababsia 85.39 54 P **P 19 34 14.6 +1.7**
PGF Ploggiola 85.53 48 *e*P **P 19 34 13.8 +0.4**
comp=Z,208nm,1.5s
GRF Grafenberg Arr 85.79 40 *e*P **P 19 34 15.8 +1.3**
comp=Z,72nm,1.4s
GRF *e*S **S 19 44 45.5 -2.0**
GRF *e*L L 20 07 58.0
comp=Z,9µm,18.8s
GRF Grafenberg Arr 85.79 40 *e*P **P 19 34 15.8 +1.3**
GRF *e*S **S 19 44 45.5 -2.0**
GRF pmax pmax
comp=Z,72nm,1.4s
GRF MLR MLR
comp=Z,9µm,18.8s
GRFO Grafenberg 85.79 40 *e*P **P 19 34 15.9 +1.5**
GRFO pmax pmax
comp=Z,193nm,1.9s
GRFO Grafenberg 85.79 40 *e*P **P 19 34 15.9 +1.5**
comp=Z,193nm,1.9s
MOX Moxa 85.86 39 *e*P **P 19 34 15.9 +1.1**
comp=Z,13nm,1.1s
MOX Moxa 85.86 39 *e*P **P 19 34 15.9 +1.1**
MOX pmax pmax
comp=Z,13nm,1.1s
TAM Tamanrasset 85.87 68 *e*P **P 19 34 16.3 +0.7**
TAM pmax pmax
comp=Z,112nm,1.6s
TAM MLR MLR
comp=Z,7µm,19.0s
TAM Tamanrasset 85.87 68 *e*P **P 19 34 16.2 +0.7**
comp=Z,112nm,1.6s
TAM LR LR
comp=Z,7µm,19.0s
RETA Reutte 85.90 43⇓*i*P **P 19 34 16.4 +1.2**
comp=Z,42nm,1.4s
RETA Reutte 85.90 43⇓*i*PcP **P 19 34 16.4 +1.2**
comp=Z,42nm,1.4s,SNR=6.7
FETA Feichten 85.96 43⇑*i*P **P 19 34 17.6 +2.1**
comp=Z,46nm,1.4s
FETA Feichten 85.96 43⇑*i*PcP **P 19 34 17.6 +2.1**
comp=Z,46nm,1.4s
FUR Furstenfeldbru 86.11 42 *e*P **P 19 34 18.2 +2.1**
comp=Z,19nm,1.1s
FUR Furstenfeldbru 86.11 42 *e*P **P 19 34 18.2 +2.1**
FUR pmax pmax
comp=Z,19nm,1.1s
MOTA Moosalm 86.15 43⇑*i*P **P 19 34 18.8 +2.3**
MOTA pmax pmax
comp=Z,27nm,1.5s
MOTA Moosalm 86.15 43⇑*i*P **P 19 34 18.8 +2.3**
comp=Z,27nm,1.5s
MOTA Moosalm 86.15 43⇑*i*PcP **P 19 34 18.7 +2.3**
comp=Z,27nm,1.5s
VSL Villasalto 86.34 51 *e*P **P 19 34 17.6 +0.3**
comp=Z,47nm,0.9s
VSL LR LR
comp=Z,5µm,19.0s
ROTZ Rotzenmuhle 86.40 40 *e*P **P 19 34 19.1 +1.6**
comp=Z,16nm,1.2s
TANN Tannenbergstha 86.43 40 *e*P **P 19 34 19.1 +1.4**
comp=Z,37nm,1.1s
NKC Novy Kostel 86.46 40 *e*P **P 19 34 19.4 +1.6**
NKC *e*S **S 19 44 54.2 +0.2**
NKC MLR MLR
comp=Z,7µm,18.1s
NKC Novy Kostel 86.46 40 *e*P **P 19 34 19.4 +1.6**
NKC *e*S **S 19 44 54.2 +0.2**
NKC AMS AMS 20 12 40.0
comp=Z,7µm,18.1s
CLL Collm 86.59 39 *e*P **P 19 34 19.5 +1.2**
comp=Z,14nm,0.9s
CLL Collm 86.59 39 *e*P **P 19 34 18.0 -0.3**
CLL *i* 19 34 30.6
CLL *e*S **S 19 44 55.0 -0.1**
CLL pmax pmax
comp=Z,273nm,2.5s
CLL MLR MLR
comp=Z,5µm,19.5s
CLL Collm 86.59 39 *e*P **P 19 34 18.0 -0.3**
comp=Z,18nm,1.5s
CLL ⇑*i*Pmax 19 34 21.0
comp=Z,273nm,2.5s
CLL *i* 19 34 30.6
CLL *i* (PP) 19 37 54.9
CLL *e* 19 39 06.0
CLL *e*S **S 19 44 55.0 -0.1**
comp=N,2µm,32.5s
CLL *e*S **S 19 44 55.0 -0.1**
comp=E,400nm,34.7s
CLL *e* 19 49 00.0
CLL *e*SS **SS 19 50 30.0 -5.4**
CLL *e*SSS SSS 19 53 48.0
CLL LmV 20 13 00.0
comp=Z,5µm,19.5s
BSD Bornholm Skovb 86.88 35 *e*P **P 19 34 21.5 +1.9**
BSD *i*S **S 19 44 59.6 +1.9**
BSD MLR MLR
comp=Z,4µm,20.0s
BSD Bornholm Skovb 86.88 35 *i* P **P 19 34 21.5 +1.9**
BSD
comp=Z,4µm,20.0s
WET Wettzell 86.96 41 *e*P **P 19 34 21.8 +1.6**
comp=Z,26nm,1.1s
WET Wettzell 86.96 41 *e*P **P 19 34 21.8 +1.6**
WET pmax pmax
comp=Z,26nm,1.1s
KEST Kesra 86.98 54 P **P 19 34 20.2 -0.5**
comp=Z,18nm,1.0s,baz=237,slow=2.5,SNR=22
KEST LR LR 20 07 15.4
comp=Z,2µm,20.8s,baz=220,slow=32
KEST Kesra 86.98 54 *e*P **P 19 34 21.4 +0.7**
RJOB Jochberg 87.20 42 *e*P **P 19 34 22.7 +1.2**
comp=Z,23nm,1.2s
ABTA Abfaltersbach 87.21 43⇑*i*P **P 19 34 22.5 +0.9**
comp=Z,49nm,1.3s
ABTA Abfaltersbach 87.21 43⇑*i*PcP **P 19 34 22.5 +0.9**
comp=Z,49nm,1.3s,SNR=7.4
ARCES ARCESS Array B 87.24 19 P **P 19 34 21.3 +0.1**
comp=Z,7.5nm,0.7s,baz=286,slow=4.2,SNR=5.2
ARCES PP **PP 19 37 41.1 -3.6**
comp=Z,7.7nm,1.1s,baz=310,slow=3.1,SNR=2.7
ARCES LR LR 20 11 29.8
comp=Z,5µm,21.6s,baz=304,slow=34
ARCES ARCESS Array B 87.24 19 P **P 19 34 21.3 +0.1**
ARCES ARCESS Array B 87.24 19 P **P 19 34 21.3 +0.1**
ARCES PP **PP 19 37 41.1 -3.6**
BRG Berggiesshubel 87.26 39 *i* P **P 19 34 22.7 +1.1**
comp=Z,223nm,2.3s
BRG *e* 19 34 34.6
comp=Z,160nm,2.1s
BRG *e* 19 34 49.1
comp=Z,52nm,1.6s
BRG S **S 19 44 56.0 -5.7**
BRG SS **SS 19 50 48.0 +2.7**
BRG
comp=Z,6µm,20.6s
BRG
comp=N,4µm,18.3s
BRG
comp=E,5µm,18.3s
BRG Berggiesshubel 87.26 39 *e*P **P 19 34 22.9 +1.3**
comp=Z,11nm,1.0s
BRG Berggiesshubel 87.26 39 *i* P **P 19 34 22.7 +1.1**
BRG *e* 19 34 34.6
BRG S **S 19 44 56.0 -5.7**
BRG SS **SS 19 50 48.0 +2.7**
BRG pmax pmax
comp=Z,223nm,2.3s
BRG pmax pmax
comp=Z,160nm,2.1s
BRG pmax pmax
comp=Z,52nm,1.6s
BRG MLR MLR
comp=Z,6µm,20.6s
BRG MLR MLR
comp=N,4µm,18.3s
BRG MLR MLR
comp=E,5µm,18.3s
KHC Kasperske Hory 87.41 41 *e*P **P 19 34 23.6 +1.1**
KHC *e* 19 34 32.5
KHC *e*S **S 19 45 04.8 +1.5**
KHC *e*SS **SS 19 50 49.1 +1.4**
KHC MLR MLR
comp=Z,10µm,21.1s
KHC Kasperske Hory 87.41 41 *e*P **P 19 34 23.6 +1.1**
comp=Z,60nm,1.5s
KHC Kasperske Hory 87.41 41 *e*P **P 19 34 23.6 +1.1**
KHC *e*x x 19 34 32.5
KHC *e*S **S 19 45 04.8 +1.5**
KHC *e*SS **SS 19 50 49.1 +1.4**
KHC AMS AMS 20 07 00.0
comp=Z,10µm,21.1s
GEC2 GERESS Array S 87.55 41 *e*P **P 19 34 24.4 +1.2**
comp=Z,19nm,1.1s
GEC2 GERESS Array S 87.55 41 *e*P **P 19 34 24.4 +1.2**
GEC2 pmax pmax
comp=Z,19nm,1.1s
GERES GERESS Array B 87.55 41 P **P 19 34 23.6 +0.4**
comp=Z,9.5nm,1.0s,baz=280,slow=2.4,SNR=34
GERES LR LR 20 09 42.3
comp=Z,9µm,19.6s,baz=282,slow=33
GERES GERESS Array B 87.55 41 P **P 19 34 23.6 +0.4**
GERES GERESS Array B 87.55 41 P **P 19 34 23.6 +0.4**
KEV Kevo 87.64 19 PFAKE 19 34 30.0 +7.0
KEV LR LR
comp=Z,6µm,19.0s
KBA Koelnbreinsper 87.70 43⇑*i*P **P 19 34 25.8 +1.7**
KBA pmax pmax
comp=Z,48nm,1.3s
KBA Koelnbreinsper 87.70 43⇑*i*P **P 19 34 25.8 +1.7**
comp=Z,48nm,1.3s
KBA Koelnbreinsper 87.70 43⇑*i*PcP **P 19 34 25.7 +1.7**
comp=Z,48nm,1.2s,SNR=7.8
PVCC Panska Ves 87.72 39 *e*P **P 19 34 25.4 +1.5**
PVCC *e*S **S 19 45 04.2 -2.0**
PVCC *e*SS **SS 19 50 50.5 -1.6**
PVCC MLR MLR
comp=Z,5µm,18.0s
PVCC Panska Ves 87.72 39 *e*P **P 19 34 25.4 +1.5**
PVCC *e*S **S 19 45 04.2 -2.0**
PVCC *e*SS **SS 19 50 50.5 -1.6**
PVCC AMS AMS 20 12 50.0
comp=Z,5µm,18.0s
BILL Bilibino 87.73 339*d* *i*P **P 19 34 23.8 +0.3**
BILL *PP pP 19 34 34.7 +7.6
BILL *e*SS SS 19 50 49.5 -1.8
BILL pmax pmax
comp=Z,57nm,1.7s
BILL Bilibino 87.73 339 *e*P **P 19 34 24.5 +1.0**
comp=Z,54nm,1.3s
BILL LR LR
comp=Z,9µm,20.0s
PRA Prague 87.75 40 P **P 19 34 26.0 +2.1**
PRA pP pP 19 34 35.0 +7.5
PRA S **S 19 45 08.0 +1.7**
PRA AMS AMS 20 14 00.0
PRU Pruhonice 87.83 40 *e*P **P 19 34 26.9 +2.5**
PRU *e*S **S 19 45 06.8 -0.4**
PRU *e*SS **SS 19 50 57.2 +3.5**
PRU MLR MLR
comp=Z,8µm,19.0s
PRU Pruhonice 87.83 40 *e*P **P 19 34 26.9 +2.5**
PRU *e*S **S 19 45 06.8 -0.4**
PRU *e*SS **SS 19 50 57.2 +3.5**
PRU AMS AMS 20 08 30.0
comp=Z,8µm,19.0s
MIDW Midway 87.99 298 PFAKE 19 34 40.0 +14
MIDW LR LR
comp=Z,6µm,20.0s
MYKA Terra Mystica 88.00 43⇑*i*P **P 19 34 25.1 -0.2**
comp=Z,42nm,1.4s
MYKA Terra Mystica 88.00 43⇑*i*P **P 19 34 25.1 -0.2**
comp=Z,42nm,1.4s
TRI Trieste 88.28 44 PFAKE 19 34 40.0 +13
TRI LR LR
comp=Z,6µm,19.0s
JAVS Javornik 88.45 44 *i* P **P 19 34 30.5 +2.9**
TREC Trest 88.59 40 *e*P **P 19 34 30.7 +2.7**
TREC *e*S **S 19 45 10.8 -3.7**
TREC *e*SS **SS 19 51 06.4 +1.6**
TREC MLR MLR
comp=Z,9µm,21.0s
TREC Trest 88.59 40 *e*P **P 19 34 30.7 +2.7**
TREC *e*S **S 19 45 10.8 -3.7**
TREC *e*SS **SS 19 51 06.4 +1.6**
TREC AMS AMS 20 07 50.0
comp=Z,9µm,21.0s
UPC Upice 88.62 39 *e*P **P 19 34 30.9 +2.8**
UPC Upice 88.62 39 *e*P **P 19 34 30.9 +2.8**
KSP Ksiaz 88.72 39 *e*P **P 19 34 31.5 +2.9**
KSP LMZ LR 20 14 18.3
comp=Z,5µm,19.8s
KSP Ksiaz 88.72 39 *e*P **P 19 34 31.2 +2.6**
KSP *e*S **S 19 45 14.0 -1.6**
KSP MLR MLR
comp=Z,11µm,19.8s
AQU L'Aquila 88.77 47 PFAKE 19 34 40.0 +11
AQU LR LR
comp=Z,6µm,20.0s
DPC Dobruska-Polom 88.86 39 *e*P **P 19 34 31.0 +1.7**
DPC *e*S **S 19 45 18.1 +1.1**
DPC *e*SS **SS 19 51 10.8 +2.1**
DPC MLR MLR
comp=Z,6µm,20.1s
DPC Dobruska-Polom 88.86 39 *e*P **P 19 34 31.0 +1.7**
DPC *e*S **S 19 45 18.1 +1.1**
DPC *e*SS **SS 19 51 10.8 +2.1**
DPC AMS AMS 20 09 00.0

comp=Z,6µm,20.1s
PERS Pernice 88.99 43 *i* P **P 19 34 32.2 +2.2**
VISS Visnje 89.00 44 *i* P P 19 34 40.2 +10
CONA Conrad Observa 89.17 41⇑*i*P **P 19 34 31.4 +0.5**
comp=Z,38nm,1.5s
CONA Conrad Observa 89.17 41⇑*i*PcP **P 19 34 31.4 +0.5**
comp=Z,38nm,1.5s,SNR=8.9
VRAC Vranov 89.29 40⇑P P 19 34 35.0 +3.7
VRAC Vranov 89.29 40⇑*i*P P 19 34 35.0 +3.7
MORC Moravsky Berou 89.77 39⇓P **P 19 34 36.1 +2.5**
MORC Moravsky Berou 89.77 39 *e*P **P 19 34 33.8 +0.2**
comp=Z,156nm,2.4s
MORC Moravsky Berou 89.77 39⇓*i*P **P 19 34 36.1 +2.5**
SMOL Smolenice 90.03 41 *e*P P 19 34 38.2 +3.4
SMOL Smolenice 90.03 41 *e*P P 19 34 38.2 +3.4
OKC Ostrava-Krasne 90.12 39 *e*P **P 19 34 38.2 +3.0**
OKC *e*S **S 19 45 30.7 +1.9**
OKC MLR MLR
comp=Z,6µm,18.0s
OKC Ostrava-Krasne 90.12 39 *e*P **P 19 34 38.2 +3.0**
OKC *e*S **S 19 45 30.7 +1.9**
OKC AMS AMS 20 14 20.0
comp=Z,6µm,18.0s
FINES FINESS Array B 90.55 27 P **P 19 34 37.4 +0.6**
comp=Z,11nm,1.0s,baz=323,slow=4.4,SNR=10.0
FINES LR LR 20 15 04.0
comp=Z,6µm,19.1s,baz=285,slow=36
FINES FINESS Array B 90.55 27 P **P 19 34 37.4 +0.6**
FINES FINESS Array B 90.55 27 P **P 19 34 37.4 +0.6**
KOLL Kolacno 90.63 40 *e*P **P 19 34 40.2 +2.6**
KOLL Kolacno 90.63 40 *e*P **P 19 34 40.2 +2.6**
APA Apatity 90.71 20⇓*i*P P 19 34 42.8 +5.3
APA MLR MLR
comp=Z,8µm,22.0s
VYHS Vyhne 90.94 40 *e*P **P 19 34 41.2 +2.2**
VYHS pmax pmax
comp=Z,46nm,2.2s
VYHS Vyhne 90.94 40 *e*P **P 19 34 41.2 +2.2**
PKSG 90.96 42 *e*P **P 19 34 41.2 +2.1**
LVZ Lovozero 90.96 19 *e*P **P 19 34 40.8 +2.1**
LVZ pmax pmax
comp=Z,34nm,1.0s
LVZ Lovozero 90.96 19 PFAKE 19 34 50.0 +11
LVZ LR LR
comp=Z,6µm,21.0s
OJC Ojcow 91.04 39 *e*P **P 19 34 40.2 +0.8**
OJC *ep*P pP 19 34 50.8 +7.8
OJC *e*S **S 19 45 35.3 -1.9**
OJC *e*SS **SS 19 51 40.1 0.0**
OJC MLR MLR
comp=Z,7µm,23.0s
OJC Ojcow 91.04 39 *e*P **P 19 34 40.2 +0.8**
OJC *e**PP pP 19 34 50.8 +7.8
OJC *e*S **S 19 45 35.3 -1.9**
OJC *e*SS **SS 19 51 40.1 0.0**
OJC MLR MLR
comp=Z,7µm,23.0s
WDD Wield Dalam 91.07 53 PFAKE 19 34 50.0 +10
WDD LR LR
comp=Z,4µm,22.0s
CUC Castrocucco 91.08 49 PFAKE 19 34 50.0 +10
CUC LR LR
comp=Z,4µm,20.0s
PKS9 Tamasi 91.11 42⇓*e*P P 19 34 43.0 +3.2
PKSM Moragy 91.45 43⇓P **P 19 34 43.7 +2.3**
PKSM Moragy 91.45 43⇓*i*P **P 19 34 43.7 +2.3**
PKSM Moragy 91.45 43⇑*e*P **P 19 34 43.8 +2.3**
CEL Celeste 91.57 51 PFAKE 19 34 50.0 +7.8
CEL LR LR
comp=Z,5µm,22.0s
PSZ Piszkesteto 91.78 41⇓P **P 19 34 45.4 +2.4**
PSZ Piszkesteto 91.78 41 PFAKE 19 34 50.0 +7.0
PSZ LR LR
comp=Z,5µm,22.0s
PSZ Piszkesteto 91.78 41⇓*i*P **P 19 34 45.4 +2.4**
PSZ Piszkesteto 91.78 41⇓*e*P P 19 34 46.7 +3.7
SUW Suwalki 91.80 34 *e*P **P 19 34 45.2 +2.3**
SUW LMZ LR 20 14 51.8
SUW Suwalki 91.80 34 *e*P **P 19 34 45.2 +2.3**
KECS Kecovo 91.99 40 *e*P P 19 34 47.1 +3.2
KECS pmax pmax
comp=Z,5.0nm,1.2s
KECS Kecovo 91.99 40 *e*P P 19 34 47.1 +3.2
STHS Stebnicka Huta 92.17 39 *e*P P 19 34 48.1 +3.4
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 92.17 39 *e*P P 19 34 48.1 +3.4
CRVS Cervenica-Dubn 92.47 39 *e*P P 19 34 49.5 +3.4
CRVS pmax pmax
comp=Z,50nm,1.9s
CRVS Cervenica-Dubn 92.47 39 *e*P P 19 34 49.5 +3.4
KOLS Kolonicke sedl 92.97 39 *e*P P 19 34 53.3 +4.9
KOLS pmax pmax
comp=Z,9.0nm,1.4s
KOLS Kolonicke sedl 92.97 39 *e*P P 19 34 53.3 +4.9
KWP Kalwaria Pacla 93.01 39 PFAKE 19 35 00.0 +11
KWP LR LR
comp=Z,4µm,20.0s
UZH Uzhgorod 93.08 40 *e*P **P 19 34 51.0 +2.1**
UZH *e*S **S 19 45 54.0 -1.5**
UZH MLR MLR
comp=Z,3µm,19.0s
PUL Pulkovo 93.14 27 *e*P **P 19 34 51.6 +2.7**
PUL pmax pmax
comp=Z,29nm,0.6s
TRPA Tarpa 93.40 40⇑*i*P P 19 34 53.7 +3.3
BZS Buzias 93.61 43⇓P **P 19 34 53.1 +1.7**
BZS Buzias 93.61 43⇓*i*P **P 19 34 53.1 +1.7**
TIR Tirane 93.69 47 PFAKE 19 35 00.0 +8.1
TIR LR LR
comp=Z,3µm,20.0s
LVV L'vov 93.75 38 *e*P **P 19 34 52.0 0.0**
LVV *e* 19 38 47.6
LVV *e*PPP PPP 19 40 41.6
LVV *e*S **S 19 45 58.0 -3.4**
LVV *e*PS PS 19 47 20.6 +4.5
LVV MLR MLR
comp=Z,4µm,20.0s
LVV MLR MLR
comp=N,1µm,19.0s
LVV MLR MLR
comp=E,5µm,21.0s
DRGR 93.95 41⇑P **P 19 34 54.7 +1.6**
DRGR 93.95 41⇑*i*P **P 19 34 54.7 +1.6**
VNA3 Neumayer Olymp 94.70 162 *e* **P 19 34 56.5 +0.7**
VNA1 Neumayer--Stat 94.96 161 *e* **P 19 34 58.6 +1.7**
VNA2 Neumayer--Watz 95.31 161 *e* **P 19 34 59.7 +1.1**
KIEV Kiev 96.48 36 PFAKE 19 35 20.0 +16
KIEV LR LR
comp=Z,6µm,20.0s
AKASG Malin Array Be 96.49 36 LR LR 20 21 16.6
comp=Z,6µm,18.1s,baz=305,slow=37
MLR Muntele Rosu 96.51 42 LR LR 20 15 07.7
comp=Z,2µm,20.7s,baz=284,slow=33
MLR Muntele Rosu 96.51 42⇓P **P 19 35 07.2 +2.3**
MLR Muntele Rosu 96.51 42⇓*i*P **P 19 35 07.2 +2.3**
SNAA Sanae 96.92 162 *e*P **P 19 35 05.6 -0.3**
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 96.92 162 *e*P **P 19 35 05.6 -0.3**
comp=Z,6.4nm,1.0s
PET Petropavlovsk 97.51 327 *e*P Pdif 19 35 13.4 +4.3
PET *e* 19 39 11.7
PET *e* 19 45 47.6
PET *e*S **S 19 46 29.8 -4.0**
PET *e*PS PS 19 47 56.1 -1.0
PET *e*PPS PPS 19 48 39.4
PET *e*SS **SS 19 53 19.6 +7.6**
PET pmax pmax
comp=Z,200nm,13.0s
PET pmax pmax
comp=Z,300nm,19.0s
PET MLR MLR
comp=Z,4µm,21.0s
PET MLR MLR
comp=Z,6µm,22.0s
PET Petropavlovsk 97.51 327 PFAKE 19 35 20.0 +11
PET LR LR
comp=Z,5µm,22.0s
KIS Kishinev 97.77 39 *e*PP PP 19 39 12.0 +4.0
KIS *e*SKS **SKSac 19 45 48.0 -0.1**
KIS *e*S **S 19 46 31.0 -5.3**
KIS Kishinev 97.77 39 *e*PS PS 19 48 04.0 +3.8
comp=Z,6µm,18.0s
KIS Kishinev 97.77 39 *e*PPS PPS 19 49 03.0
KIS *e*SS SS 19 53 30.0 +14
KIS *e*SSS SSS 19 56 46.0
KIS *e*L L 20 05 00.0
KIS LRM MLR 20 20 20.0
comp=Z,5µm,18.0s
FUNA Funafuti 97.91 263 PFAKE 19 35 20.0 +8.3
FUNA LR LR
comp=Z,9µm,20.0s
PETK Petropavlovsk- **97.98 328** LR LR 20 27 03.8
comp=Z,4µm,19.2s,baz=62,slow=40
OBN Obninsk 98.35 30 *e*P Pdif 19 35 13.7 +1.0
OBN *e**PP pP 19 35 23.8 +7.5
OBN *e* 19 39 09.6
OBN pmax pmax
comp=Z,4.0nm,1.3s
OBN MLR MLR
comp=Z,4µm,18.0s
OBN Obninsk 98.35 30 PFAKE 19 35 20.0 +7.3
OBN LR LR
comp=Z,5µm,20.0s
MSVF Nonsavu 100.35 254 PFAKE 19 35 30.0 +7.5
MSVF LR LR
comp=Z,5µm,20.0s
YAK Yakutsk 103.29 344 *e*P **Pdif 19 35 28.1 -6.5**
YAK *e*PS PS 19 48 51.8 -6.6
YAK pmax pmax
comp=N,19nm,8.5s
YAK pmax pmax
comp=Z,96nm,11.1s
YAK pmax pmax
comp=E,32nm,11.3s
YAK pmax pmax
comp=N,59nm,1.9s
YAK pmax pmax
comp=E,116nm,3.2s
YAK pmax pmax
comp=Z,182nm,3.2s
YAK MLR MLR
comp=Z,9µm,27.0s
YAK MLR MLR
comp=N,6µm,22.0s
BR131 Keskin Array S 104.04 45 PFAKE 19 35 50.0 +11
BR131 LR LR
comp=Z,2µm,20.0s
BRTR Keskin Array B 104.04 45 PP PP 19 40 00.9 +5.1
comp=Z,2.6nm,1.1s,baz=336,slow=3.2,SNR=2.6
ANN Anapa 104.12 39 *i* P **Pdif 19 35 37.5 -1.2**
ANN *i* 19 39 56.3
ANN *e*PPP PPP 19 42 08.9
ANN *e*S 19 47 30.5
ANN pmax pmax
comp=Z,224nm,5.7s
ANN pmax pmax
comp=Z,398nm,6.7s
ANN MLR MLR
comp=N,3µm,20.0s
ANN MLR MLR
comp=E,2µm,20.0s
ANN MLR MLR
comp=Z,5µm,20.0s
CSS Prodhromos 105.87 49 PFAKE 19 40 10.0
CSS LR LR
comp=Z,3µm,21.0s
ARU Arti 106.80 21 PFAKE 19 40 10.0
ARU LR LR
comp=Z,4µm,20.0s
KIV Kislovodsk 107.76 37 PFAKE 19 40 10.0
KIV LR LR
comp=Z,3µm,20.0s
MALT Malatya 107.99 44 PFAKE 19 40 20.0
MALT LR LR
comp=Z,59µm,21.0s
SUR Sutherland 108.05 121 PFAKE 19 40 20.0
SUR LR LR
comp=Z,7µm,21.0s
AKH Akhalkalaki 109.68 39 P **PP 19 40 36.5 -0.6**
GOR Gori 109.73 38 P **PP 19 40 37.3 0.0**
TBLG Delisi 110.27 38 P **PP 19 40 34.3 -6.9**
GNI Garni 111.17 40 PFAKE 19 40 20.0
GNI LR LR
comp=Z,2µm,20.0s
MAK Makhachkala 111.18 36 *i* PKIKP 19 40 04.0
MAK *e* 19 46 40.6
MAK *e* 19 47 13.1
MAK *e*PS PS 19 50 15.2 -4.2
MAK *e*SS SS 19 56 16.5 -3.2
MAK *e*SSS SSS 20 00 31.1
MAK pmax pmax
comp=Z,11nm,0.3s
MAK MLR MLR
comp=Z,5µm,21.0s
AKTO Aktyubinsk 111.23 25 PKKPbc PKKPbc 19 51 05.5 -1.0
comp=Z,3.6nm,1.1s,baz=162,slow=4.7,SNR=6.1
AKTO Aktyubinsk 111.23 25 PKKPbc PKKPbc 19 51 05.5 -1.0
DZM Mont Dzumac 111.61 250 *e*PP **PP 19 40 51.8 -0.3**
comp=Z,206nm,24.8s
DZM *e*SP SP 19 50 17.4 -5.9
comp=Z,2µm,30.0s
DZM *e*SS **SS 19 56 21.2 -6.9**
comp=Z,2µm,25.1s
DZM *e*LR LR 20 13 22.8
comp=Z,7µm,22.6s
BOSA Boshof 111.87 117 PKiKP **PKiKP 19 40 11.4 +0.5**
comp=Z,3.2nm,0.8s,baz=222,slow=5.8,SNR=4.4
BOSA Boshof 111.87 117 PKiKP **PKiKP 19 40 11.4 +0.5**
BOSA MLR MLR
comp=Z,11µm,20.0s
BOSA Boshof 111.87 117 PKiKP **PKiKP 19 40 11.4 +0.5**
BOSA LR LR
comp=Z,11µm,20.0s
HABR Khabarovsk 112.06 333 *e*P **Pdif 19 36 23.5 +10**
HABR *i* 19 40 10.1
HABR *e* 19 40 21.0
HABR *e*PPP PPP 19 43 14.5
HABR *e*PS PS 19 50 26.3 -0.9
HABR *e*SS SS 19 56 28.2 -2.8
HABR *e*SSS SSS 20 00 39.1
HABR MLR MLR
comp=Z,4µm,20.0s
LBTB Lobatse 112.14 113 PFAKE 19 40 20.0
LBTB LR LR
comp=Z,11µm,20.0s
ERM Erimo 112.29 324 PFAKE 19 40 20.0
ERM LR LR
comp=Z,3µm,21.0s
BRVK Borovoye 113.31 16 PFAKE 19 40 20.0
BRVK LR LR
comp=Z,11µm,20.0s
BVAR Borovoye Array 113.37 16 PKKPbc PKKPbc 19 50 58.5 -1.0
comp=Z,2.0nm,1.0s,baz=130,slow=6.0,SNR=6.6
BVAR Borovoye Array 113.37 16 PKKPbc PKKPbc 19 50 58.5 -1.0
MBAR Mbarara 114.65 86 PFAKE 19 40 30.0 +13
MBAR LR LR
comp=Z,1µm,20.0s
BHD Baghdad 114.72 46 *e*PKP PKPdf 19 40 19.0 +3.0
BHD *i* PP **PP 19 41 19.0 +5.8**
BHD *i* PPP PPP 19 43 33.0
BHD *i* PKS PKSdf 19 44 00.0 +7.2
BHD *i* SKKKS 19 49 00.0
BHD *i* PS **PKKPab 19 50 58.0 -2.7**
ZALV Zalesovo Beam 115.41 7 PKP **PKPdf 19 40 17.1 +0.4**
comp=Z,0.5nm,0.6s,baz=329,slow=1.7,SNR=4.1
ZALV PP **PP 19 41 09.9 -7.1**
comp=Z,0.6nm,0.6s,baz=331,slow=5.6,SNR=3.7
ZALV PKKPbc **PKKPbc 19 50 50.0 -2.5**
comp=Z,1.1nm,0.9s,baz=166,slow=3.1,SNR=5.1
ZALV Zalesovo Beam 115.41 7 PKiKP **PKPdf 19 40 17.2 +0.4**
ZALV 19 50 50.1
ZALV Zalesovo Beam 115.41 7 PKP **PKPdf 19 40 17.1 +0.4**
ZALV PP **PP 19 41 09.9 -7.1**
ZALV PKKPbc **PKKPbc 19 50 50.0 -2.5**
DRV Dumont d'Urvil 116.27 198 PP PP 19 41 03.0 -20
DRV SKKS 19 49 06.0
DRV SP SP 19 51 07.0 +3.9
DRV SS SS 19 57 39.0 +13
HNR Honiara 116.87 265 PFAKE 19 40 30.0 +9.4
HNR LR LR
comp=Z,7µm,20.0s
MDJ Mudanjiang 117.44 333 Pdif **Pdif 19 36 35.1 -2.8**
MDJ LR LR
comp=N,3µm,26.3s
MDJ LR LR
comp=E,5µm,22.7s
MDJ LR LR
comp=Z,5µm,23.8s
KURK Kurchatov 117.51 12 PKKPbc PKKPbc 19 50 42.8 -2.3
comp=Z,1.8nm,0.8s,baz=174,slow=2.7,SNR=14
KURK Kurchatov 117.51 12*c i*PKIKP **PKPdf 19 40 22.5 +1.6**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 117.51 12 PKKPbc PKKPbc 19 50 42.8 -2.3
KURK LR LR
comp=Z,10µm,20.0s
TLY Talaya 117.98 354 PFAKE 19 40 30.0 +8.1
TLY LR LR
comp=Z,6µm,19.0s
MAW Mawson 118.65 166 PKP **PKPdf 19 40 23.2 +0.7**
comp=Z,4.4nm,0.9s,baz=243,slow=2.3,SNR=4.2
MAW Mawson 118.65 166 *e*PKIKP **PKPdf 19 40 22.8 +0.3**
MAW MLR MLR
comp=Z,11µm,22.0s
MAW Mawson 118.65 166 *e*PKPdf **PKPdf 19 40 22.8 +0.3**
MAW PKP **PKPdf 19 40 23.2 +0.7**
MAW LR LR
comp=Z,11µm,22.0s
MAJO Matsushiro 118.73 322 PFAKE 19 40 40.0 +16
MAJO LR LR
comp=Z,3µm,21.0s
CN2 Changchun 119.85 336 *e*PKP **PKPdf 19 40 23.6 -2.0**
CN2 *e*PP **PP 19 41 50.5 +2.3**
CN2 AMB AMB
comp=Z,200nm,9.0s
CN2 LR LR
comp=N,2µm,20.0s
CN2 LR LR
comp=E,3µm,20.0s
CN2 LR LR
comp=Z,5µm,19.0s
SONM Songino Array 121.44 352 PKP **PKPdf 19 40 28.0 -0.8**
comp=Z,1.5nm,0.8s,baz=28,slow=1.1,SNR=11
SONM PP **PP 19 41 53.6 -5.3**
comp=Z,1.6nm,1.1s,baz=27,slow=2.9,SNR=2.9
SONM PKKPbc **PKKPbc 19 50 30.2 -0.5**
comp=Z,1.0nm,0.8s,baz=190,slow=3.1,SNR=7.2
SONM SKKP 19 54 38.5
comp=Z,1.0nm,1.1s,baz=160,slow=4.7,SNR=3.5
SONM Songino Array 121.44 352 PKIKP **PKPdf 19 40 28.0 -0.8**
SONM Songino Array 121.44 352 PKP **PKPdf 19 40 28.0 -0.8**
SONM PP **PP 19 41 53.6 -5.3**
SONM PKKPbc **PKKPbc 19 50 30.2 -0.5**
SONM SKKP 19 54 38.5
MK31 Makanchi Array 121.98 11 *e*PKIKP **PKPdf 19 40 29.9 +0.2**
MK31 Makanchi Array 121.98 11 *e*PKPdf **PKPdf 19 40 29.9 +0.2**
MKAR Makanchi Array 121.98 11 PKP **PKPdf 19 40 28.6 -1.1**
comp=Z,0.6nm,0.7s,baz=301,slow=2.6,SNR=9.5
MKAR PP **PP 19 41 55.9 -6.6**
comp=Z,1.6nm,1.0s,baz=359,slow=2.8,SNR=3.0
MKAR PKKPbc **PKKPbc 19 50 28.8 +0.2**
comp=Z,0.7nm,1.1s,baz=132,slow=2.1,SNR=2.8
MKAR Makanchi Array 121.98 11 PKIKP **PKPdf 19 40 28.6 -1.1**
MKAR Makanchi Array 121.98 11 PKP **PKPdf 19 40 28.6 -1.1**
MKAR PP **PP 19 41 55.9 -6.6**
MKAR PKKPbc **PKKPbc 19 50 28.8 +0.2**
CASY Casey 123.11 187 PFAKE 19 40 40.0 +8.9
CASY LR LR
comp=Z,11µm,20.0s
FRU Bishkek 123.77 19 *e*PKIKP **PKPdf 19 40 32.0 -1.3**
FRU pmax pmax
comp=Z,20nm,1.9s
FRU MLR MLR
comp=E,7µm,20.0s
KSRS Korea Array 123.82 329 PKP **PKPdf 19 40 33.6 +0.2**
comp=E,5.1nm,0.9s,baz=17,slow=1.3,SNR=9.6
KSAR Wonju Array Be 123.85 329 PKIKP **PKPdf 19 40 33.6 +0.1**
KSAR Wonju Array Be 123.85 329 PKP **PKPdf 19 40 33.6 +0.1**
AAK Ala-Archa 123.91 19 *e*PKIKP **PKPdf 19 40 34.4 +0.7**
AAK MLR MLR
comp=Z,6µm,21.0s
AAK Ala-Archa 123.91 19 *e*PKPdf **PKPdf 19 40 34.4 +0.7**
AAK LR LR
comp=Z,6µm,21.0s
TKM2 Tokmak 2 123.99 18 PFAKE 19 40 50.0 +16
TKM2 LR LR
comp=Z,7µm,20.0s
INCN Inchon 124.44 330 PFAKE 19 40 50.0 +15
INCN LR LR
comp=Z,4µm,20.0s
TAU Tasmania Unive 124.71 224 PFAKE 19 40 50.0 +15
TAU LR LR
comp=Z,3µm,20.0s
DL2 Dalian 125.52 335 *e*PKP **PKPdf 19 40 32.3 -4.3**
DL2 PP **PP 19 42 31.6 +5.1**
DL2 *e*SS SS 19 59 32.8 +7.9
DL2 AMB AMB
comp=Z,340nm,7.5s
DL2 LR LR
comp=N,2µm,19.5s
DL2 LR LR
comp=E,2µm,17.4s
DL2 LR LR
comp=Z,3µm,19.4s
CAN Canberra 125.69 234 PFAKE 19 40 50.0 +13
CAN LR LR
comp=Z,3µm,20.0s
WMQ Urumqi 125.72 7 PKP **PKPdf 19 40 38.9 +1.9**
WMQ PP **PP 19 42 35.5 +7.9**
WMQ SKS **SKSdf 19 47 45.9 -3.3**
WMQ SS **SS 19 59 29.9 +3.0**
WMQ AMB AMB
comp=Z,330nm,10.4s
WMQ LR LR
comp=N,9µm,24.7s
WMQ LR LR
comp=E,4µm,21.2s
WMQ LR LR
comp=Z,9µm,22.4s
GUMO Guam 125.86 295 PFAKE 19 40 50.0 +12
GUMO LR LR
comp=Z,2µm,19.0s
BJI Beijing 126.54 341 Pdif **Pdif 19 37 21.9 +3.4**
BJI SKS **SKSdf 19 47 50.2 -0.4**
BJI AMB AMB
comp=Z,520nm,9.9s
BJI LR LR
comp=N,2µm,27.6s
BJI LR LR
comp=E,5µm,24.8s
BJI LR LR
comp=Z,5µm,34.5s
HHC Hu-ho-hao-te 127.14 345 *e*PKP **PKPdf 19 40 37.1 -2.8**
HHC PKS **PKSdf 19 44 13.4 -3.2**
HHC SKS **SKSdf 19 47 45.8 -6.2**
HHC SKKS **SKKSac 19 49 29.9 -6.7**
HHC AMB AMB
comp=Z,520nm,9.1s
HHC LR LR
comp=N,5µm,22.6s
HHC LR LR
comp=E,4µm,20.8s
HHC LR LR
comp=Z,7µm,22.2s
KSH Kashi 127.21 19 *e*PKP **PKPdf 19 40 44.2 +4.1**
KSH *e*PP **PP 19 42 43.0 +5.2**
KSH *e*PKS **PKSdf 19 44 19.1 +2.3**
KSH *e*SKS **SKSdf 19 47 50.5 -1.8**
KSH AMB AMB
comp=Z,420nm,6.3s
KSH LR LR
comp=N,2µm,16.0s
KSH LR LR
comp=E,6µm,23.2s
KSH LR LR
comp=Z,5µm,23.3s
PMG Port Moresby 129.41 266 PFAKE 19 41 00.0 +15
PMG LR LR
comp=Z,6µm,19.0s
CTAO Charters Tower 130.47 252 PFAKE 19 41 00.0 +13
CTAO LR LR
comp=Z,3µm,22.0s
GTA Gaotai 130.49 356 PKP **PKPdf 19 40 49.0 +2.7**
GTA PP **PP 19 43 04.6 +5.6**
GTA PKS **PKSdf 19 44 25.1 +2.1**
GTA SKS **SKSdf 19 47 58.4 +0.1**
GTA SKKS **SKKSac 19 49 58.6 +1.0**
GTA SS **SS 20 00 30.6 +4.5**
GTA AMB AMB
comp=Z,850nm,7.8s
GTA LR LR
comp=N,3µm,23.0s

GTA				LR	LR			
	comp=E,4μm,20.2s							
GTA				LR	LR			
	comp=E,3μm,26.6s							
NIL	**Nilore**	**131.39**	**25**	PFAKE		19 41 00.0	+12	
NIL				LR	LR			
	comp=E,79nm,19.0s							
SSE	**Sheshan**	**132.24**	**330**	*e*PKP	**PKPdf**	**19 40 50.4**	**+0.7**	
SSE				LR	LR			
	comp=N,2μm,22.9s							
SSE				LR	LR			
	comp=E,4μm,23.0s							
SSE				LR	LR			
	comp=Z,4μm,19.5s							
NJ2	**Nanjing**	**132.53**	**333**	*e*PKP	PKPdf	19 40 43.3	-6.9	
NJ2				sPKP		19 40 57.7		
NJ2				PP	**PP**	**19 43 13.0**	**+0.5**	
NJ2				PKS	**PKSdf**	**19 44 26.0**	**-0.7**	
NJ2				SKS	**SKSdf**	**19 48 02.0**	**+0.1**	
NJ2				SKKS	**SKKSac**	**19 50 09.0**	**-1.1**	
NJ2				AMB	AMB			
	comp=Z,300nm,10.8s							
NJ2				LR	LR			
	comp=N,4μm,18.7s							
NJ2				LR	LR			
	comp=E,4μm,20.3s							
NJ2				LR	LR			
	comp=Z,4μm,19.4s							
STKA	**Stephens Creek**	**132.56**	**236**	PKhKP	PKPpre	19 40 46.9		
	comp=Z,1.1nm,0.7s,baz=63,slow=13,SNR=3.1							
STKA	**Stephens Creek**	**132.56**	**236**	*e*PKP	**PKPdf**	**19 40 50.7**	**+0.5**	
	comp=Z,9.8nm,1.8s							
STKA	**Stephens Creek**	**132.56**	**236**	PKIKP	**PKPdf**	**19 40 46.9**	**-3.3**	
STKA	**Stephens Creek**	**132.56**	**236**	PKPpre	PKPpre	19 40 46.9		
STKA				*e*PKPdf	**PKPdf**	**19 40 50.7**	**+0.5**	
LZH	**Lanzhou**	**133.32**	**351**	PKP	PKPdf	19 40 58.4	+6.6	
LZH				PP	PP	19 43 28.5	+11	
LZH				PKS	**PKSdf**	**19 44 23.5**	**-4.9**	
LZH				SKS	**SKSdf**	**19 48 05.5**	**+1.9**	
LZH				SKKS	**SKKSac**	**19 50 16.6**	**+1.5**	
LZH				SS	**SS**	**20 01 06.7**	**+5.8**	
LZH				AMB	AMB			
	comp=Z,380nm,4.6s							
LZH				LR	LR			
	comp=N,3μm,19.5s							
LZH				LR	LR			
	comp=E,3μm,19.2s							
LZH				LR	LR			
	comp=E,6μm,20.5s							
PAF	**Port-aux-Franc**	**135.56**	**156**	PFAKE		19 41 10.0	+15	
PAF				LR	LR			
	comp=Z,4μm,19.0s							
WHN	**Wuhan**	**135.72**	**337**	PKP	**PKPdf**	**19 40 53.6**	**-2.6**	
WHN				PP	**PP**	**19 43 34.3**	**+1.6**	
WHN				PKS	**PKSdf**	**19 44 31.2**	**-1.4**	
WHN				SKKS		19 50 26.6		
WHN				LR	LR			
	comp=N,10μm,16.1s							
WHN				LR	LR			
	comp=E,7μm,20.8s							
WHN				LR	LR			
	comp=E,12μm,20.2s							
DDI	**Dehra Dun**	**136.24**	**22**	*ex*	x	19 41 02.4		
YHNB	**Yeheng**	**137.27**	**325**	PFAKE		19 41 10.0	+11	
YHNB				LR	LR			
	comp=Z,4μm,21.0s							
NDI	**New Delhi**	**137.37**	**24**	*e*P	**PKPdf**	**19 40 58.7**	**-0.7**	
CD2	**Chengdu**	**138.40**	**350**	PKP	**PKPdf**	**19 41 00.6**	**-0.7**	
CD2				PP	**PP**	**19 43 53.8**	**+4.6**	
CD2				PKS	**PKSdf**	**19 44 35.3**	**-2.3**	
CD2				AMB	AMB			
	comp=Z,270nm,5.9s							
CD2				LR	LR			
	comp=N,4μm,24.0s							
CD2				LR	LR			
	comp=E,6μm,19.1s							
QZH	**Quanzhou**	**138.58**	**328**	PKP	**PKPdf**	**19 40 59.6**	**-2.0**	
QZH				PKS	**PKSdf**	**19 44 34.2**	**-3.7**	
QZH				LR	LR			
	comp=N,4μm,14.4s							
QZH				LR	LR			
	comp=E,5μm,15.4s							
QZH				LR	LR			
	comp=E,6μm,17.7s							
MSEY	**Mahe Island**	**139.68**	**85**	PFAKE		19 41 20.0	+16	
MSEY				LR	LR			
	comp=Z,4μm,21.0s							
DANN	**Dangsing**	**139.94**	**17**	*e*P	**PKPdf**	**19 41 05.2**	**+0.7**	
DANN	**Dangsing**	**139.94**	**17**	*e*P	**PKPdf**	**19 41 05.2**	**+0.7**	
RER	**Riviere de l'E**	**140.06**	**111**	PFAKE		19 41 20.0	+15	
RER				LR	LR			
	comp=Z,6μm,20.0s							
LSA	**Lhasa**	**140.07**	**6**	P	PKPdf	19 41 11.1	+6.2	
KOLN	**Koldanda**	**140.44**	**17**	*e*P	**PKPdf**	**19 41 05.2**	**-0.1**	
KOLN	**Koldanda**	**140.44**	**17**	*e*P	**PKPdf**	**19 41 05.2**	**-0.1**	
GKN	**Gorkha**	**140.50**	**16**	*e*P	**PKPdf**	**19 41 04.2**	**-1.1**	
	comp=Z,21nm,0.9s							
GKN	**Gorkha**	**140.50**	**16**	*e*P	**PKPdf**	**19 41 04.2**	**-1.1**	
KKN	**Kakani**	**140.87**	**15**	*e*P	**PKPdf**	**19 41 03.3**	**-2.8**	
	comp=Z,12nm,0.7s							
KKN	**Kakani**	**140.87**	**15**	*e*P	**PKPdf**	**19 41 03.3**	**-2.8**	
GUN	**Gumba**	**140.91**	**14**	*e*P	**PKPdf**	**19 41 02.7**	**-3.6**	
	comp=Z,30nm,1.1s							
GUN	**Gumba**	**140.91**	**14**	*e*P	**PKPdf**	**19 41 02.7**	**-3.6**	
DMN	**Daman**	**141.00**	**15**	*e*P	**PKPdf**	**19 41 04.3**	**-2.1**	
DMN	**Daman**	**141.00**	**15**	*e*P	**PKPdf**	**19 41 04.3**	**-2.1**	
PKI	**Pulchoki**	**141.12**	**15**	*e*P	**PKPdf**	**19 41 02.9**	**-3.8**	
PKI	**Pulchoki**	**141.12**	**15**	*e*P	**PKPdf**	**19 41 02.9**	**-3.8**	
JIRN	**Jiri**	**141.22**	**14**	*e*P	PKPdf	19 41 01.6	-5.3	
	comp=Z,23nm,1.1s							
ASAR	**Alice Springs**	**141.29**	**245**	PKhKP	PKPpre	19 41 01.2		
	comp=Z,1.5nm,0.4s,baz=111,slow=3.4,SNR=28							
ASAR	**Alice Springs**	**141.29**	**245**	PKPpre	PKPpre	19 41 01.2		
WB2	**Warramunga Arr**	**141.61**	**251**	*e*PKPpre	PKPpre	19 41 03.5		
WRAB	**Tennant Creek**	**141.61**	**251**	*e*PKPpre	PKPpre	19 41 01.8		
WRAB				LR	LR			
	comp=Z,5μm,21.0s							
WRA	**Warramunga Arr**	**141.62**	**251**	PKhKP	PKPpre	19 41 03.0		
	comp=Z,7.4nm,0.8s,baz=102,slow=2.8,SNR=32							
WRA	**Warramunga Arr**	**141.62**	**251**	PKPpre	PKPpre	19 41 03.0		
TAPN	**Taplejung**	**141.85**	**12**	*e*P	PKPdf	19 41 00.2	-7.7	
	comp=Z,19nm,0.9s							
RAMN	**Ramite**	**142.00**	**13**	*e*P	PKPdf	19 41 01.0	-7.1	
GYA	**Guiyang**	**142.04**	**344**	PKP	**PKPdf**	**19 41 08.2**	**+0.1**	
GYA				PP	**PP**	**19 44 15.0**	**+3.2**	
GYA				PKS	**PKSdf**	**19 44 41.8**	**-2.4**	
GYA				SKKS		19 51 04.2		
GYA				SS	**SS**	**20 02 45.0**	**+0.5**	
GYA				AMB	AMB			
	comp=Z,260nm,7.8s							
GYA				LR	LR			
	comp=N,4μm,22.8s							
GYA				LR	LR			
	comp=E,3μm,24.0s							
GYA				LR	LR			
	comp=Z,4μm,23.9s							
ODAN	**Odare**	**142.26**	**12**	*e*P	PKPdf	19 41 00.9	-7.7	
FORT	**Forrest**	**143.71**	**231**	*e*PKP	PKPbc	19 41 08.9	+0.8	
	comp=Z,73nm,0.8s							
FORT	**Forrest**	**143.71**	**231**	*e*PKPdf	**PKPdf**	**19 41 09.7**	**-1.0**	
AKL	**Akola**	**144.16**	**31**	↓*i*P	PKPbc	19 41 10.1	+0.3	
AKL				*i* x	x	19 43 32.6		
POO	**Poona**	**144.16**	**37**	↑*i*P	PKPbc	19 41 10.0	+0.1	
	comp=Z,91nm,1.2s							
KMI	**Kunming**	**144.23**	**349**	PKP	**PKPdf**	**19 41 12.1**	**0.0**	
KMI				pPKP	**pPKPdf**	**19 41 16.8**	**+1.0**	
KMI				sPKP		19 41 18.4		
KMI				PP	**PP**	**19 44 29.7**	**+4.7**	
KMI				PKS	**PKSdf**	**19 44 46.4**	**-1.7**	
KMI				SKS	**SKSdf**	**19 48 18.5**	**-3.7**	
KMI				SKKS	**SKKSac**	**19 51 17.5**	**-2.3**	
KMI				SS	**SS**	**20 03 10.7**	**+1.0**	
KMI				AMB	AMB			
	comp=Z,370nm,8.7s							
KMI				LR	LR			
	comp=N,3μm,17.5s							
KMI				LR	LR			
	comp=E,4μm,20.2s							
KMI				LR	LR			
	comp=Z,5μm,20.3s							
SHL	**Shillong**	**144.23**	**6**	*e*P	PKPbc	19 41 10.8	+0.7	
NGP	**Nagpur**	**144.76**	**28**	*e*P	**PKPdf**	**19 41 12.3**	**-0.5**	
DAV	**Davao City (W)**	**145.72**	**299**	PKPbc	**PKPab**	**19 41 16.4**	**+1.1**	
	comp=Z,136nm,0.4s,baz=69,slow=8.6,SNR=2.6							
DAV	**Davao City (W)**	**145.72**	**299**	PKPbc	**PKPab**	**19 41 16.4**	**+1.1**	
DAV				LR	LR			
	comp=Z,2μm,21.0s							
CAL	**Calcutta**	**146.64**	**13**	*e*P	**PKPdf**	**19 41 14.1**	**-1.8**	
CAL				*ex*	x	19 47 16.6		
HYB	**Hyderabad**	**147.69**	**32**	*i* PKP	**PKPbc**	**19 41 21.0**	**+0.4**	
QIZ	**Qiongzhong**	**147.80**	**334**	PKPbc	**PKPab**	**19 41 25.4**	**+2.3**	
QIZ				PP	**PP**	**19 44 48.4**	**+2.1**	
QIZ				SS	SS	20 03 52.1	+1.4	
QIZ				AMB	AMB			
	comp=Z,550nm,9.6s							
QIZ				LR	LR			
	comp=N,3μm,19.2s							
QIZ				LR	LR			
	comp=Z,5μm,19.1s							
NWAO	**Narrogin (SRO)**	**149.98**	**218**	PFAKE		19 41 30.0	-1.6	
NWAO				LR	LR			
	comp=Z,3μm,20.0s							
FITZ	**Fitzroy Crossi**	**150.04**	**251**	PKP	**PKPdf**	**19 41 22.6**	**+1.0**	
	comp=Z,2.6nm,0.8s,baz=104,slow=1.5,SNR=5.2							
FITZ				PKPbc	**PKiKP**	**19 41 28.2**	**+0.8**	
	comp=Z,21nm,1.1s,baz=45,slow=3.7,SNR=9.1							
FITZ	**Fitzroy Crossi**	**150.04**	**251**	*e*PKP	**PKPdf**	**19 41 23.7**	**+2.1**	
	comp=Z,74nm,1.4s							
FITZ	**Fitzroy Crossi**	**150.04**	**251**	PKP	PKP	19 41 22.6		
FITZ				*e*PKPdf	**PKPdf**	**19 41 22.8**	**+1.2**	
FITZ				PKPbc	**PKiKP**	**19 41 28.2**	**+0.8**	
KLBR	**Kellerberrin**	**150.56**	**221**	*e*PKP	**PKPbc**	**19 41 25.1**	**-2.4**	
	comp=Z,149nm,1.3s							
CHTO	**Chiang Mai**	**150.99**	**354**	PFAKE		19 41 30.0	+1.2	
CHTO				LR	LR			
	comp=Z,5μm,21.0s							
CM31	**Chiang Mai Arr**	**151.34**	**354**	PFAKE		19 41 40.0	+2.5	
CM31				LR	LR			
	comp=Z,4μm,21.0s							
CMAR	**Chiang Mai Arr**	**151.34**	**354**	PKP	**PKPdf**	**19 41 24.4**	**+0.8**	
	comp=Z,2.6nm,0.9s,baz=316,slow=2.5,SNR=14							
CMAR				PKPbc	**PKiKP**	**19 41 31.5**	**+1.3**	
	comp=Z,7.9nm,0.8s,baz=333,slow=2.9,SNR=37							
CMAR	**Chiang Mai Arr**	**151.34**	**354**	PKP	**PKPdf**	**19 41 24.4**	**+0.8**	
CMAR				PKPbc	**PKiKP**	**19 41 31.5**	**+1.3**	
BLDU	**Ballidu**	**151.88**	**221**	*e*PKP	**PKPdf**	**19 41 26.7**	**+2.6**	
TRD	**Trivandrum**	**153.60**	**46**	↑*ex*	**PKPab**	**19 41 46.7**	**-0.5**	
KKM	**Kota Kinabalu**	**154.02**	**308**	PFAKE		19 41 40.0	+4.1	
KKM				LR	LR			
	comp=Z,4μm,21.0s							
MBWA	**Marble Bar**	**154.55**	**242**	*e*PKPdf	**PKPdf**	**19 41 27.9**	**-0.4**	
MBWA				LR	LR			
	comp=Z,4μm,19.0s							
KAPI	**Kappang**	**155.70**	**280**	PFAKE		19 41 40.0	+10	
KAPI				LR	LR			
	comp=Z,2μm,20.0s							
DGAR	**Diego Garcia**	**156.78**	**85**	PFAKE		19 41 40.0	+8.6	
DGAR				LR	LR			
	comp=Z,4μm,20.0s							
KSM	**Kuching**	**161.46**	**308**	PFAKE		19 41 50.0	+13	
KSM				LR	LR			
	comp=Z,4μm,20.0s							
KULM	**Kulim**	**163.85**	**342**	PFAKE		19 41 50.0	+11	
KULM				LR	LR			
	comp=Z,5μm,22.0s							
COCO	**West Island**	**177.78**	**208**	PFAKE		19 42 00.0	+13	
COCO				LR	LR			
	comp=Z,6μm,22.0s							

IDC 08 19:30:14.5±1.2, 10°13N×84°07W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/21, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=29.1km s-min=10.6km az=5.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**0.88**	**280**	Pg	Pb	19 30 32.4	-0.4
	430nm,0.3s,baz=81,slow=22,SNR=25						
JTS				Lg	Lg	19 30 43.2	
	559nm,0.3s,baz=178,slow=17,SNR=16						
CMIG	**Matias Romero**	**12.58**	**305**	Pn	Pn	19 33 16.4	+1.5
	0.6nm,0.3s,baz=151,slow=10,SNR=3.4						
TKL	**Tuckaleechee C**	**25.41**	**1**	P	P	19 35 44.9	+1.1
	15nm,1.0s,baz=160,slow=14,SNR=4.4						
TXAR	**Lajitas Array**	**26.47**	**319**	P	P	19 35 54.1	+0.4
	0.5nm,1.0s,baz=143,slow=7.9,SNR=2.9						
PLCA	**Paso Flores**	**52.13**	**167**	P	P	19 39 26.4	-0.3
	1.3nm,0.7s,baz=350,slow=3.3,SNR=2.1						
YKA	**Yellowknife Ar**	**56.73**	**344**	P	P	19 39 59.1	-0.7
	1.0nm,0.8s,baz=140,slow=7.0,SNR=9.0						
ILAR	**Eielson Array**	**69.47**	**336**	P	P	19 41 23.4	-1.1
	1.3nm,0.9s,baz=120,slow=4.5,SNR=7.9						
ESDC	**Sonseca Array**	**76.01**	**52**	P	P	19 42 04.1	+0.1
	1.1nm,0.7s,baz=281,slow=5.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**83.67**	**78**	P	P	19 42 46.5	+0.6
	0.4nm,0.8s,baz=268,slow=3.8,SNR=2.5						

IDC 08 19:30:52.9±2.7, 0°78S×133°09E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=137.1km s-min=26.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**176**	P	P	19 35 17.1	-0.2
	0.1nm,0.3s,baz=356,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**22.76**	**178**	P	P	19 35 57.4	+0.2
	0.6nm,0.4s,baz=358,slow=12,SNR=18						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	19 41 34.1	-0.1
	0.6nm,0.6s,baz=111,slow=7.1,SNR=7.1						

MAN 08 19:32:30, 9°88N×121°96E, h1km, mb4.5, ML3.3, MS3.2, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.96**	**40**	*e*P	Pg	19 32 48.9	+0.4
GUIM				*e*S	Sg	19 32 59.2	-1.8
CUYO	**Cuyo Island**	**1.33**	**316**	*e*P	Pb	19 32 56.7	+0.8
SNPH	**Sibulan**	**1.37**	**113**	↓*i*P	Pb	19 32 57.3	+0.8
SNPH				*i* S	Sn	19 33 16.7	+1.5
IPIL	**Ipil**	**2.17**	**164**	*e*P	Pn	19 33 07.8	+0.6
MSLP	**Maasin**	**2.87**	**85**	*e*P	Pn	19 33 18.8	+1.9

MAN 08 19:35:22, 5°12N×125°62E, h34km, mb4.2, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.92**	**19**	*e*P	Pn	19 35 52.9	+0.6
MATI				*e*S	Sn	19 36 15.5	+0.1
DMPH	**Davao City--Mi**	**1.95**	**357**	↑*e*P	Pb	19 35 55.9	-1.1
DMPH				*e*S	Sb	19 36 27.2	+6.2
BUKP	**Musuan**	**2.80**	**349**	*e*P	Pn	19 36 05.9	+1.5
IPIL	**Ipil**	**4.03**	**311**	*e*P	Pn	19 36 22.5	+1.2

*DJA **08** 19:37:58, 2°27N×133°54E, h117km, MLv4.8/1*
IDC 08 19:38:31.9±1.9, 0°26S×132°64E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=91.4km s-min=21.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.02**	**201**	P	P	19 42 54.5	-1.0
	0.1nm,0.3s,baz=20,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**19.63**	**175**	P	P	19 43 02.6	+0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**23.30**	**177**	P	P	19 43 41.9	+0.2
	3.1nm,1.0s,baz=358,slow=8.9,SNR=8.7						
MKAR	**Makanchi Array**	**64.20**	**324**	P	P	19 49 09.0	+0.3
	0.4nm,0.8s,baz=120,slow=7.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**66.84**	**332**	P	P	19 49 25.3	-0.2
	0.1nm,0.3s,baz=114,slow=6.0,SNR=2.4						

*DJA **08** 19:41:49, 0°56S×133°12E, h23km, MLv4.5/1*
IDC 08 19:41:44.4±0.8, 0°65S×133°17E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/21, mbtmp4.0/10, ML4.1/2, Error ellipse: s-maj=47.4km s-min=15.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**203**	P	P	19 46 05.3	-1.1
	0.4nm,0.3s,baz=29,slow=12,SNR=9.2						
FITZ				S	Sn	19 49 22.4	-16
	0.2nm,0.3s,baz=343,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**19.21**	**177**	P	P	19 46 10.4	+0.2
	0.6nm,0.3s,baz=360,slow=13,SNR=14						
WRA				S	Sn	19 49 32.7	-14
	0.2nm,0.3s,baz=358,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**22.89**	**178**	P	P	19 46 50.5	+0.6
	6.8nm,0.5s,baz=358,slow=9.7,SNR=39						
ASAR				S	S	19 50 50.7	-10
	0.5nm,0.9s,baz=358,slow=18,SNR=2.7						
CTA	**Charters Tower**	**23.18**	**147**	P	P	19 46 54.2	+1.3
	7.5nm,1.0s,baz=338,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**32.07**	**166**	P	P	19 48 12.2	-0.9
	2.8nm,0.6s,baz=338,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**64.83**	**324**	P	P	19 52 25.5	+0.2
	0.9nm,0.7s,baz=115,slow=7.7,SNR=9.9						
ZALV	**Zalesovo Beam**	**67.44**	**331**	P	P	19 52 42.6	+0.7
	0.5nm,0.5s,baz=132,slow=6.6,SNR=3.6						
KURK	**Kurchatov**	**68.90**	**326**	P	P	19 52 51.0	-0.1
	1.1nm,0.7s,baz=122,slow=5.9,SNR=7.7						
BVAR	**Borovoye Array**	**74.50**	**326**	P	P	19 53 24.9	+0.1
	0.4nm,0.7s,baz=121,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**86.29**	**25**	P	P	19 54 27.2	-0.8
	0.3nm,0.6s,baz=250,slow=5.0,SNR=2.7						

*TIR **08** 19:48:54.8±3.9, 41°85N×20°73E, h0km±14km, ML3.5*
*IDC **08** 19:48:55.7±0.8, 41°68N×20°79E, h0km, mb3.7/13, mb1 3.8/21, mb1mx3.8/33, mbtmp3.7/21, ML3.6/7, Error ellipse: s-maj=16.7km s-min=12.7km az=1.0*
*PRU **08** 19:48:56.8, 41°71N×20°71E, h0km*
*ATH **08** 19:48:56.0, 41°85N×20°83E, h9km±8km, MD4.0/30*
*ISCJB **08** 19:48:57.5±0.3, 41°82N±0°01×20°79E±0°02, h13km±2km, mb3.9/13, Error ellipse: s-maj=2.2km s-min=1.6km az=137.8*
*PDG **08** 19:48:57.5±0.7, 41°78N×20°84E, h3km±1km, MD3.9/10, ML4.0/8, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*CSEM **08** 19:48:57.7±0.1, 41°78N×20°80E, h2km, ML3.5, Ms3.9, Error ellipse: s-maj=2.3km s-min=1.6km az=51.0*
*SKO **08** 19:48:57.1, 41°71N×20°79E, h20km, M3.8, ML4.2*
*LDG **08** 19:48:57.1±0.7, 42°00N×20°71E, h10km, Mb4.8/14, Error ellipse: s-maj=33.1km s-min=10.1km az=2.0*
*THE **08** 19:48:58.5, 41°75N×20°83E, h2km±3km, ML3.8/4, Error ellipse: s-maj=3.5km s-min=1.3km az=254.0*
*BEO **08** 19:48:58.8±0.5, 41°78N×20°82E, h12km±4km, ML3.6/7*
*VIE **08** 19:48:59.7±0.5, 41°88N×20°80E, h10km, mb3.7/9, Ms3.9/9, Error ellipse: s-maj=5.5km s-min=4.2km az=32.0 58 km WSW of Skopje*

ISC 08 19:48:57.5±0.9, 41°78N±0°01×20°81E±0°01, h9km±7km, n342, σ1§41/445, mb3.8/13, 53C-30D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.30**	**251**	*e*PG	**Pg**	**19 49 03.1**	**-0.3**
PHP				*e*SG	**Sg**	**19 49 07.1**	**-0.2**
PHP	**Peshkopia**	**0.30**	**251**	P	**Pg**	**19 49 03.1**	**-0.3**
PHP				S	**Sg**	**19 49 07.4**	**+0.1**
PHP	**Peshkopia**	**0.30**	**251**	P	**Pg**	**19 49 03.1**	**-0.3**
PHP				*e*Sg	**Sg**	**19 49 07.1**	**-0.2**
	SNR=9.0						
PHP				S	**Sg**	**19 49 07.4**	**+0.1**
SKO	**Skopje**	**0.50**	**68**	↑*i*Pg	**Pb**	**19 49 08.3**	**-0.2**
SKO				*i* Sg	**Sb**	**19 49 16.1**	**0.0**
SKO				*e*Lg	Lg	19 49 16.2	
	comp=N,18μm,0.3s						
SKO				*e*Lg	Lg	19 49 16.3	
	comp=E,18μm,0.4s						
KRUS	**Krusevo**	**0.53**	**141**	*i* Pg	**Pg**	**19 49 07.3**	**-0.4**
KRUS				*e*Sg	**Sg**	**19 49 14.3**	**-0.3**
KRUS				*e*Lg	Lg	19 49 14.7	
	comp=N,14nm,0.2s						
KRUS				*e*Lg	Lg	19 49 14.7	
	comp=E,4.0nm,0.1s						
KRUS	**Krusevo**	**0.53**	**141**	*i* Pg	**Pg**	**19 49 07.3**	**-0.4**
KRUS				*e*Sg	**Sg**	**19 49 14.2**	**-0.3**
KRUS				*e*Lg	Lg	19 49 14.6	
	comp=E,4.0nm,0.1s						
PUK	**Puka**	**0.74**	**291**	*e*PG	**Pg**	**19 49 11.2**	**-0.5**
PUK				*e*SG	**Sb**	**19 49 23.1**	**+0.3**
PUK	**Puka**	**0.74**	**291**	*e*Pg	**Pg**	**19 49 11.2**	**-0.5**
	SNR=9.0						
PUK				*e*Sg	**Sb**	**19 49 23.1**	**+0.3**
	SNR=9.0						
BCI	**Bajram Curri**	**0.81**	**317**	*e*PG	**Pg**	**19 49 12.7**	**-0.3**
BCI				*e*SG	**Sn**	**19 49 26.4**	**-0.9**
BCI	**Bajram Curri**	**0.81**	**317**	*e*Pg	**Pg**	**19 49 12.7**	**-0.3**
	SNR=9.0						
TIR	**Tirane**	**0.83**	**239**	*e*PG	**Pg**	**19 49 13.2**	**-0.3**
TIR				*e*SG	**Sn**	**19 49 27.2**	**-0.7**
TIR	**Tirane**	**0.83**	**239**	P	**Pg**	**19 49 13.0**	**-0.5**
TIR				S	**Sb**	**19 49 26.3**	**+0.8**
TIR	**Tirane**	**0.83**	**239**	*e*Pg	**Pg**	**19 49 13.1**	**-0.5**
TIR				*e*Sg	**Sb**	**19 49 26.6**	**+1.1**
TIR	**Tirane**	**0.83**	**239**	P	**Pg**	**19 49 13.0**	**-0.5**
TIR				S	**Sb**	**19 49 26.3**	**+0.8**
TIR				*e*Sg	**Sb**	**19 49 26.6**	**+1.1**
BIA	**Bitola**	**0.85**	**153**	*i* Pg	**Pg**	**19 49 12.9**	**-0.9**
BIA				*e*Sg	**Sg**	**19 49 24.6**	**-0.4**
BIA				*e*Lg	Lg	19 49 26.2	
	comp=E,2μm,0.2s						
BIA				*e*Lg	Lg	19 49 26.4	
	comp=N,2μm,0.2s						
BIA	**Bitola**	**0.85**	**153**	*i* Pg	**Pg**	**19 49 12.9**	**-0.9**
BIA				*e*Sg	**Sg**	**19 49 24.5**	**-0.4**
BIA				*e*Lg	Lg	19 49 26.3	
	comp=N,2μm,0.2s						
PVY	**Plav**	**1.03**	**322**	↑*i*Pg	**Pg**	**19 49 16.6**	**-0.7**
PVY				*e*Sg	**Sn**	**19 49 32.7**	**-0.3**
PVY	**Plav**	**1.03**	**322**	*e*PG	**Pg**	**19 49 16.6**	**-0.7**
PVY				*e*SG	**Sn**	**19 49 32.7**	**-0.3**
PVY	**Plav**	**1.03**	**322**	*e*Pg	**Pg**	**19 49 16.6**	**-0.7**
	SNR=91						
PVY				*e*Sg	**Sn**	**19 49 32.7**	**-0.3**
	SNR=91						

SELS	**Selova**	**1.46 9**	⇑	*e*Pg	**Pn**	**19 49 24.2 +0.2**
BUM	**Brajici-Budva**	**1.52 291**	⇓	*i*Pg	**Pb**	**19 49 25.6 -0.3**
BUM				*e*Sg	**Sg**	**19 49 50.0 +3.6**
BUM	**Brajici-Budva**	**1.52 291**	⇓	*i*Pg	**Pb**	**19 49 25.6 -0.3**
BUM				*e*Sg	**Sg**	**19 49 50.0 +3.6**
LSK	**Leskovik**	**1.64 186**		*e*PN	**Pg**	**19 49 28.9 0.0**
LSK	**Leskovik**	**1.64 186**		*e*Pn	**Pg**	**19 49 28.9 0.0**
	SNR=4.0					
KZN	**Kozani**	**1.64 154**		P	**Pb**	**19 49 27.7 -0.3**
KZN	**Kozani**	**1.64 154**		*e*PN	**Pb**	**19 49 28.4 +0.4**
KZN				*e*SN	**Sg**	**19 49 51.4 +1.2**
KZN	**Kozani**	**1.64 154**		P	**Pb**	**19 49 27.7 -0.3**
KZN	**Kozani**	**1.64 154**		*e*Pn	**Pb**	**19 49 28.4 +0.4**
KZN				*e*Sn	**Sg**	**19 49 51.4 +1.2**
VLO	**Vlora**	**1.65 218**		*e*PN	**Pg**	**19 49 29.3 +0.3**
VLO				*e*SN	**Sg**	**19 49 54.2 +3.8**
VLO	**Vlora**	**1.65 218**		P	**Pg**	**19 49 29.6 +0.6**
VLO	**Vlora**	**1.65 218**		*e*Pn	**Pg**	**19 49 29.3 +0.3**
	SNR=4.0					
VLO	**Vlora**	**1.65 218**		P	**Pg**	**19 49 29.6 +0.6**
KNT	**Kendrikon**	**1.68 111**		P	**Pn**	**19 49 27.6 +0.5**
KNT	**Kendrikon**	**1.68 111**		P	**Pn**	**19 49 27.6 +0.5**
NKY	**Niksic**	**1.70 308**	⇑	*i*Pn	**Pb**	**19 49 29.4 +0.4**
NKY				*e*Sn	**Sg**	**19 49 54.2 +2.1**
NKY	**Niksic**	**1.70 308**	⇑	*i*Pn	**Pb**	**19 49 29.4 +0.4**
NKY				*e*Sn	**Sg**	**19 49 54.2 +2.1**
HCY	**Herceg Novi**	**1.85 292**	⇑	*i*Pn	**Pb**	**19 49 31.0 -0.5**
HCY				*e*Sn	**Sg**	**19 49 58.2 +1.3**
HCY	**Herceg Novi**	**1.85 292**	⇑	*i*Pn	**Pb**	**19 49 31.0 -0.5**
HCY				*e*Sn	**Sg**	**19 49 58.2 +1.3**
PLE	**Pljevlja**	**1.87 326**	⇓	*i*Pn	**Pb**	**19 49 31.2 -0.7**
PLE				*i* Sn	**Sg**	**19 49 58.5 +0.8**
PLE	**Pljevlja**	**1.87 326**	⇓	*i*Pn	**Pb**	**19 49 31.2 -0.7**
PLE				*i* Sn	**Sg**	**19 49 58.5 +0.8**
VTS	**Vitosha**	**1.96 65**		P	**Pn**	**19 49 31.9 +0.9**
VTS	**Vitosha**	**1.96 65**	⇑	*i*P	**Pb**	**19 49 32.5 -0.9**
VTS	**Vitosha**	**1.96 65**		*e*Pn	**Pn**	**19 49 32.2 +1.2**
VTS	**Vitosha**	**1.96 65**		P	**Pn**	**19 49 31.9 +0.9**
VTS	**Vitosha**	**1.96 65**		*e*Pn	**Pn**	**19 49 32.2 +1.2**
VTS				S	**Sb**	**19 49 59.3 +1.4**
THE	**Thessaloniki**	**1.99 125**		P	**Pn**	**19 49 32.4 +1.1**
THE	**Thessaloniki**	**1.99 125**		P	**Pn**	**19 49 32.4 +1.1**
SRN	**Sarande**	**2.00 198**		*e*PN	**Pn**	**19 49 31.9 +0.5**
SRN				*e*SN	**Sg**	**19 50 04.5 +2.9**
SRN	**Sarande**	**2.00 198**		P	**Pn**	**19 49 31.6 +0.2**
SRN	**Sarande**	**2.00 198**		P	**Pn**	**19 49 31.6 +0.2**
SRN	**Sarande**	**2.00 198**		*e*Pn	**Pn**	**19 49 31.9 +0.5**
	SNR=4.0					
UPM	**Unac-Piva**	**2.00 316**	⇑	*i*Pn	**Pb**	**19 49 34.0 -0.2**
UPM				*e*Sn	**Sg**	**19 50 02.0 +0.1**
UPM	**Unac-Piva**	**2.00 316**	⇑	*i*Pn	**Pb**	**19 49 34.0 -0.2**
UPM				*e*Sn	**Sg**	**19 50 02.0 +0.1**
ZAPS	**Zavoj**	**2.01 41**	⇑	*i*Pn	**Pb**	**19 49 33.2 -1.0**
MEV	**Metsovon**	**2.02 171**		P	**Pb**	**19 49 33.7 -0.8**
MEV	**Metsovon**	**2.02 171**		P	**Pb**	**19 49 33.7 -0.8**
BRY	**Bratogost**	**2.02 304**	⇑	*i*Pn	**Pb**	**19 49 34.6 0.0**
BRY				*e*Sn	**Sg**	**19 50 02.7 +0.2**
BRY	**Bratogost**	**2.02 304**	⇑	*i*Pn	**Pb**	**19 49 34.6 0.0**
BRY				*e*Sn	**Sg**	**19 50 02.7 +0.2**
HORT	**Hortiatis**	**2.09 124**		P	**Pn**	**19 49 33.7 +0.9**
HORT	**Hortiatis**	**2.09 124**		P	**Pn**	**19 49 33.7 +0.9**
GRUS	**Gruza**	**2.11 358**		*e*Pn	**Pn**	**19 49 33.7 +0.7**
GRUS	**Gruza**	**2.11 358**		*e*Pn	**Pn**	**19 49 33.7 +0.7**
JAN	**Janina**	**2.12 179**		*e*PN	**Pb**	**19 49 35.5 -0.6**
JAN				*e*SN	**Sb**	**19 50 03.0 +0.4**
JAN	**Janina**	**2.12 179**		*e*Pb	**Pb**	**19 49 35.5 -0.6**
JAN				*e*Sn	**Sb**	**19 50 03.0 +0.4**
SOH	**Sokhos**	**2.14 116**		P	**Pn**	**19 49 34.5 +1.0**
SOH	**Sokhos**	**2.14 116**		*e*PN	**Pn**	**19 49 34.8 +1.3**
SOH				*e*SB	**Sb**	**19 50 03.1 0.0**
SOH	**Sokhos**	**2.14 116**		P	**Pn**	**19 49 34.5 +1.0**
SOH	**Sokhos**	**2.14 116**		*e*Pn	**Pn**	**19 49 34.8 +1.3**
SOH				*e*Sn	**Sb**	**19 50 03.1 0.0**
SRS	**Serrai**	**2.19 107**		P	**Pn**	**19 49 35.1 +1.0**
SRS	**Serrai**	**2.19 107**		P	**Pn**	**19 49 35.1 +1.0**
KEK	**Kerkira**	**2.21 201**		P	**Pn**	**19 49 35.9 +1.6**
KEK	**Kerkira**	**2.21 201**		*e*PN	**Pn**	**19 49 35.9 +1.6**
KEK	**Kerkira**	**2.21 201**		*e*Pb	**Pn**	**19 49 35.9 +1.6**
BOLS	**Boljevac**	**2.21 22**		*e*Pn	**Pn**	**19 49 35.3 +0.9**
BOLS	**Boljevac**	**2.21 22**		*e*Pn	**Pn**	**19 49 35.3 +0.9**
IGT	**Igoumenitsa**	**2.28 189**		P	**Pb**	**19 49 37.6 -1.1**
IGT	**Igoumenitsa**	**2.28 189**		P	**Pb**	**19 49 37.6 -1.1**
NVR	**Nevrokopi**	**2.33 100**		P	**Pn**	**19 49 37.0 +1.0**
NVR	**Nevrokopi**	**2.33 100**		*e*PN	**Pn**	**19 49 37.4 +1.4**
NVR				*e*SN	**Sn**	**19 50 05.6 +0.8**
NVR	**Nevrokopi**	**2.33 100**		P	**Pn**	**19 49 37.0 +1.0**
NVR	**Nevrokopi**	**2.33 100**		*e*Pb	**Pn**	**19 49 37.4 +1.4**
NVR				*e*Sn	**Sn**	**19 50 05.6 +0.8**
DIVS	**Divibare**	**2.39 346**		P	**Pn**	**19 49 37.6 +0.6**
DIVS	**Divibare**	**2.39 346**		*e*Pn	**Pn**	**19 49 37.7 +0.7**
DIVS	**Divibare**	**2.39 346**		*e*Pn	**Pn**	**19 49 37.7 +0.7**
THL	**Klokotos Trika**	**2.40 157**		P	**Pn**	**19 49 37.9 +1.0**
THL	**Klokotos Trika**	**2.40 157**		*e*PN	**Pn**	**19 49 38.1 +1.2**
THL	**Klokotos Trika**	**2.40 157**		P	**Pn**	**19 49 37.9 +1.0**
PLG	**Polygyros**	**2.44 124**		P	**Pn**	**19 49 39.0 +1.5**
PLG	**Polygyros**	**2.44 124**		*e*PN	**Pn**	**19 49 38.8 +1.3**
PLG	**Polygyros**	**2.44 124**		P	**Pn**	**19 49 39.0 +1.5**
SCTE	**Santa Cesarea**	**2.46 227**		*e*Pn	**Pn**	**19 49 38.5 +0.6**
SVIS	**Svilajnac**	**2.50 7**		*e*Pn	**Pn**	**19 49 40.2 +1.8**
STON	**Ston**	**2.55 296**		*e*Pn	**Pb**	**19 49 41.4 -2.0**
STON				Sn	**Sb**	**19 50 13.6 -1.4**
STON	**Ston**	**2.55 296**		*e*Pn	**Pb**	**19 49 41.4 -2.0**
STON				Sn	**Sb**	**19 50 13.5 -1.4**
PE1	**Pezze di Greco**	**2.73 250**		*e*Pn	**Pn**	**19 49 41.9 +0.3**
PE1				*e*Sn	**Sn**	**19 50 15.2 +0.4**
OUR	**Ouranopolis**	**2.80 120**		P	**Pn**	**19 49 43.6 +1.2**
OUR	**Ouranopolis**	**2.80 120**		P	**Pn**	**19 49 43.6 +1.2**
PAIG	**Paliouri**	**2.85 129**		P	**Pn**	**19 49 44.2 +1.0**
PAIG	**Paliouri**	**2.85 129**		P	**Pn**	**19 49 44.2 +1.0**
KAVA	**Kavala**	**2.89 104**		P	**Pn**	**19 49 44.7 +1.0**
KAVA	**Kavala**	**2.89 104**		P	**Pn**	**19 49 44.7 +1.0**
PLD	**Plovdiv**	**2.92 82**		P	**Pn**	**19 49 45.6 +1.5**
PLD	**Plovdiv**	**2.92 82**		P	**Pn**	**19 49 45.6 +1.5**
TEKS	**Tekeris**	**2.92 342**		*i*Pg	**Pg**	**19 49 51.8 -1.7**
TEKS	**Tekeris**	**2.92 342**		*i*Pg	**Pg**	**19 49 51.8 -1.7**
TAR1	**Taranto**	**2.95 246**		*e*Pn	**Pn**	**19 49 45.9 +1.4**
EVR	**Evrytania**	**2.96 165**		*e*PB	**Pn**	**19 49 47.6 +2.8**
EVR	**Evrytania**	**2.96 165**		*e*Pb	**Pn**	**19 49 47.6 +2.8**
AGG	**Agios Georgios**	**2.99 157**		P	**Pn**	**19 49 46.2 +1.1**
AGG				S	**Sn**	**19 50 21.0 -0.1**
AGG	**Agios Georgios**	**2.99 157**		*e*PN	**Pn**	**19 49 46.2 +1.1**
AGG				*e*SN	**Sn**	**19 50 20.1 -1.0**
AGG	**Agios Georgios**	**2.99 157**		P	**Pn**	**19 49 46.2 +1.1**
AGG				*e*Sn	**Sn**	**19 50 20.1 -1.0**
AGG				S	**Sn**	**19 50 21.0 -0.1**
XOR	**Xorichti**	**3.02 142**		P	**Pn**	**19 49 46.0 +0.5**
XOR	**Xorichti**	**3.02 142**		P	**Pn**	**19 49 46.0 +0.5**
BAI	**Bari**	**3.03 258**		*e*Pn	**Pn**	**19 49 46.6 +0.9**
BAI				*e*Sn	**Sn**	**19 50 20.9 -1.2**
NEO	**Neokhori**	**3.08 143**		*e*PN	**Pn**	**19 49 47.2 +0.9**
NEO	**Neokhori**	**3.08 143**		*e*Pn	**Pn**	**19 49 47.2 +0.9**
DJES	**Djerdap**	**3.14 23**	⇑	*i*Pn	**Pb**	**19 49 47.6 +0.4**
RMGR	**Halanga-Turnu**	**3.19 25**	⇑	*i*P	**Pn**	**19 49 49.2 +1.4**
RMGR	**Halanga-Turnu**	**3.19 25**	⇑	*i*P	**Pn**	**19 49 49.2 +1.4**
RMGR				S	**Sn**	**19 50 29.1 +3.1**
FGSL	**Fruska Gora**	**3.45 348**	⇑	*i*Pn	**Pn**	**19 49 52.3 +0.8**
FRGS	**Fruska Gora**	**3.45 348**	⇑	*i*Pn	**Pn**	**19 49 52.3 +0.8**
CDT	**Castel del Mon**	**3.48 260**		*e*Pn	**Pn**	**19 49 52.8 +0.9**
CDT				*e*Sn	**Sn**	**19 50 32.5 -0.8**
LKR	**Lokris**	**3.55 151**		P	**Pn**	**19 49 54.1 +1.4**
LKR	**Lokris**	**3.55 151**		*e*PN	**Pn**	**19 49 54.3 +1.6**
LKR	**Lokris**	**3.55 151**		P	**Pn**	**19 49 54.1 +1.4**
VLS	**Valsamata**	**3.60 183**		*e*PN	**Pn**	**19 49 54.8 +1.2**
VLS	**Valsamata**	**3.60 183**		*e*Pn	**Pn**	**19 49 54.8 +1.2**
RDO	**Rodhopi**	**3.61 99**		P	**Pn**	**19 49 54.9 +1.4**
RDO	**Rodhopi**	**3.61 99**		*e*PN	**Pn**	**19 49 54.9 +1.4**
RDO	**Rodhopi**	**3.61 99**		P	**Pn**	**19 49 54.9 +1.4**
DSF	**Desfina**	**3.61 158**		P	**Pn**	**19 49 54.8 +1.1**
DSF	**Desfina**	**3.61 158**		P	**Pn**	**19 49 54.8 +1.1**
MS1	**Monte Sant'Ang**	**3.65 270**		*e*Pn	**Pn**	**19 49 55.3 +1.1**
MS1				*e*Sn	**Sn**	**19 50 37.8 +0.4**
RLS	**Riolos of Patr**	**3.75 172**		*e*PN	**Pn**	**19 49 58.5 +2.9**
RLS	**Riolos of Patr**	**3.75 172**		*e*Pn	**Pn**	**19 49 58.5 +2.9**
LIA	**Limnos Island**	**3.81 118**		*e*PN	**Pn**	**19 49 57.3 +0.9**
LIA	**Limnos Island**	**3.81 118**		*e*Pn	**Pn**	**19 49 57.3 +0.9**
BZS	**Buzias**	**3.88 8**	⇑	*i*P	**Pn**	**19 49 57.5 +0.2**
BZS	**Buzias**	**3.88 8**	⇑	*i*P	**Pn**	**19 49 57.5 +0.2**
GZR	**Gura Zlata**	**3.88 21**	⇓	*i*P	**Pn**	**19 49 58.4 +1.0**
GZR	**Gura Zlata**	**3.88 21**	⇓	*i*P	**Pn**	**19 49 58.4 +1.0**
TIM	**Timisoara**	**3.96 4**	⇑	*i*P	**Pn**	**19 49 55.3 -3.2**
TIM	**Timisoara**	**3.96 4**	⇑	*i*P	**Pn**	**19 49 55.3 -3.2**
GUR	**Goura**	**4.02 162**		*e*Pn	**Pn**	**19 50 01.1 +1.8**
GUR	**Goura**	**4.02 162**		*e*Pn	**Pn**	**19 50 01.1 +1.8**
ALN	**Alexandroupoli**	**4.04 101**		*e*PN	**Pn**	**19 50 00.9 +1.4**
ALN	**Alexandroupoli**	**4.04 101**		*e*Pn	**Pn**	**19 50 00.9 +1.4**
VIL1	**Vilia, Western**	**4.09 151**		*e*PN	**Pn**	**19 50 01.6 +1.3**
VIL1	**Vilia, Western**	**4.09 151**		*e*Pn	**Pn**	**19 50 01.6 +1.3**
HUMR	**Humele**	**4.10 47**	⇓	*i*P	**Pn**	**19 50 02.0 +1.6**
HUMR	**Humele**	**4.10 47**	⇓	*i*P	**Pn**	**19 50 02.0 +1.6**
LTK	**Loutraki**	**4.10 156**		*e*PN	**Pn**	**19 50 01.7 +1.3**
LTK	**Loutraki**	**4.10 156**		*e*Pn	**Pn**	**19 50 01.7 +1.3**
PTL	**Penteli**	**4.40 147**		*e*PN	**Pn**	**19 50 07.0 +2.4**
PTL	**Penteli**	**4.40 147**		*e*Pn	**Pn**	**19 50 07.0 +2.4**
RHK3	**Tenkes**	**4.50 337**	⇑	*e*	**Pn**	**19 50 06.6 +0.7**
RHK3	**Tenkes**	**4.50 337**	⇑	*e*Pn	**Pn**	**19 50 06.6 +0.7**
NAIG	**Nisos Aigina**	**4.51 152**		*e*PN	**Pn**	**19 50 08.4 +2.3**
NAIG	**Nisos Aigina**	**4.51 152**		*e*Pn	**Pn**	**19 50 08.4 +2.3**
VLY	**Voula,Athens**	**4.54 149**		*e*PN	**Pn**	**19 50 08.4 +1.9**
VLY	**Voula,Athens**	**4.54 149**		*e*Pn	**Pn**	**19 50 08.4 +1.9**
VLX	**Vlachokerasia**	**4.57 164**		*e*PN	**Pn**	**19 50 08.2 +1.3**
VLX	**Vlachokerasia**	**4.57 164**		*e*Pn	**Pn**	**19 50 08.2 +1.3**
ITM	**Ithomi**	**4.67 169**		*e*PN	**Pn**	**19 50 10.7 +2.4**
ITM	**Ithomi**	**4.67 169**		*e*Pn	**Pn**	**19 50 10.7 +2.4**
PKSM	**Moragy**	**4.70 341**	⇑	*i*P	**Pn**	**19 50 09.1 +0.5**
PKSM	**Moragy**	**4.70 341**		*e*Pn	**Pn**	**19 50 09.1 +0.5**
PKSM				*e*Sn	**Sn**	**19 51 00.2 -3.0**
PKSM	**Moragy**	**4.70 341**	⇑	*i*P	**Pn**	**19 50 09.1 +0.5**
PKSM				*e*Sn	**Sn**	**19 51 00.2 -3.0**
PKSM				S	Sb	19 51 03.0 -14
VOIR		**4.78 39**	⇓	*i*P	**Pn**	**19 50 11.9 +2.2**
VOIR		**4.78 39**	⇓	*i*P	**Pn**	**19 50 11.9 +2.2**
PKS2	**Kecel**	**4.85 347**	⇓	*e*PKKPdf	**Pn**	**19 50 11.8 +1.2**
PKS2				*e*Sn	**Sn**	**19 51 09.8 +2.9**
PKS2	**Kecel**	**4.85 347**	⇓	*e*Pn	**Pn**	**19 50 11.8 +1.2**
PKS2				*e*Sn	**Sn**	**19 51 09.8 +2.9**
PRK	**Paraskevi**	**4.87 120**		*e*PN	**Pn**	**19 50 12.0 +1.1**
PRK	**Paraskevi**	**4.87 120**		*e*Pn	**Pn**	**19 50 12.0 +1.1**
SULR		**4.92 52**	⇑	*i*P	**Pn**	**19 50 12.4 +0.8**
SULR		**4.92 52**	⇑	*i*P	**Pn**	**19 50 12.4 +0.8**
PYL	**PYLOS**	**4.93 171**		*e*PN	**Pn**	**19 50 13.1 +1.3**
PYL	**PYLOS**	**4.93 171**		*e*Pn	**Pn**	**19 50 13.1 +1.3**
PKS9	**Tamasi**	**5.14 340**		*e*PKKPdf	**Pn**	**19 50 15.5 +0.9**
PKS9	**Tamasi**	**5.14 340**		*e*Pn	**Pn**	**19 50 15.5 +0.9**
NVLJ	**Novalja**	**5.16 305**		*e*Pn	**Pn**	**19 50 17.0 +2.1**
NVLJ				Sn	**Sn**	**19 51 15.4 +0.9**
NVLJ	**Novalja**	**5.16 305**		*e*Pn	**Pn**	**19 50 16.9 +2.1**
NVLJ				Sn	**Sn**	**19 51 15.4 +0.9**
DRGR		**5.19 15**	⇓	*i*P	**Pn**	**19 50 16.7 +1.3**
DRGR		**5.19 15**	⇓	*i*P	**Pn**	**19 50 16.7 +1.3**
MLR	**Muntele Rosu**	**5.25 43**		Pn	**Pn**	**19 50 18.6 +2.2**
	comp=N,1.3nm,0.3s,baz=223,slow=9.7,SNR=33					
MLR	**Muntele Rosu**	**5.25 43**	⇑	*i*P	**Pn**	**19 50 18.5 +2.2**
MLR	**Muntele Rosu**	**5.25 43**	⇑	*i*P	**Pn**	**19 50 18.5 +2.2**
CHOS	**Chios island**	**5.26 128**		*e*PN	**Pn**	**19 50 18.3 +2.0**
CHOS	**Chios island**	**5.26 128**		*e*Pn	**Pn**	**19 50 18.3 +2.0**
VLI	**Veliai**	**5.32 161**		*e*PN	**Pn**	**19 50 18.3 +1.2**
VLI	**Veliai**	**5.32 161**		*e*Pn	**Pn**	**19 50 18.3 +1.2**
BEHE	**Becsehely**	**5.51 330**	⇑	*e*Pn	**Pn**	**19 50 21.8 +2.0**
BEHE				*e*Sn	**Sn**	**19 51 22.0 -1.3**
BEHE	**Becsehely**	**5.51 330**	⇑	*e*Pn	**Pn**	**19 50 21.8 +2.0**
KYTH	**Kithira**	**5.76 162**		*e*PN	**Pn**	**19 50 25.7 +2.5**
KYTH	**Kithira**	**5.76 162**		*e*Pn	**Pn**	**19 50 25.7 +2.5**
BUD	**Budapest**	**5.84 348**		*e*	**Sn**	**19 51 33.7 +2.3**
BUD	**Budapest**	**5.84 348**		*e*Sn	**Sn**	**19 51 33.7 +2.3**
PLOR	**Plostina**	**5.86 44**	⇓	*i*P	**Pn**	**19 50 26.7 +2.1**
PLOR	**Plostina**	**5.86 44**	⇓	*i*P	**Pn**	**19 50 26.7 +2.1**
PKSG		**5.87 344**	⇑	*e*Pn	**Pn**	**19 50 24.6 -0.1**
PKSG				*e*n	**Sn**	**19 51 34.1 +2.0**
PKSG		**5.87 344**	⇑	*e*Pn	**Pn**	**19 50 24.6 -0.1**
PKSG				*e*Sn	**Sn**	**19 51 34.1 +2.0**
VISS	**Visnje**	**5.90 315**		*i* Pn	**Pn**	**19 50 28.2 +3.1**
VISS	**Visnje**	**5.90 315**		Pn	**Pn**	**19 50 28.2 +3.1**
VRI	**Vrincioaia**	**5.91 44**	⇑	*i*P	**Pn**	**19 50 27.6 +2.3**
VRI	**Vrincioaia**	**5.91 44**	⇑	*i*P	**Pn**	**19 50 27.6 +2.3**
APE	**Apeiranthos**	**5.96 141**		*e*PN	**Pn**	**19 50 27.9 +2.0**
APE	**Apeiranthos**	**5.96 141**		*e*Pn	**Pn**	**19 50 27.9 +2.0**
PSZ	**Piszkesteto**	**6.17 354**	⇓	*e*Pn	**Pn**	**19 50 28.8 -0.1**
PSZ				*e*sn	**Sn**	**19 51 39.3 -0.3**
PSZ	**Piszkesteto**	**6.17 354**	⇓	*e*Pn	**Pn**	**19 50 28.8 -0.1**
PSZ				*e*Sn	**Sn**	**19 51 39.3 -0.3**
SKDS	**Skadanscina**	**6.20 310**		*e*Pn	**Pn**	**19 50 31.1 +1.8**
SKDS				*e*Sn	**Sn**	**19 51 39.4 -0.9**
SKDS	**Skadanscina**	**6.20 310**		*e*Pn	**Pn**	**19 50 31.1 +1.8**
SKDS				*e*Sn	**Sn**	**19 51 39.4 -0.9**
TESR		**6.32 40**	⇓	*i*P	**Pn**	**19 50 33.0 +2.1**
TESR		**6.32 40**	⇓	*i*P	**Pn**	**19 50 33.0 +2.1**
CRNS	**Crni Vrh**	**6.39 314**		*i* Pn	**Pn**	**19 50 34.8 +2.9**
SOKA	**Soboth**	**6.42 322**	⇑	*i*Pn	**Pn**	**19 50 33.8 +1.5**
SOKA	**Soboth**	**6.42 322**		Pn	**Pn**	**19 50 33.8 +1.5**
TRPA	**Tarpa**	**6.47 10**	⇓	*i*P	**Pn**	**19 50 33.6 +0.8**
TRPA	**Tarpa**	**6.47 10**	⇓	*i*P	**Pn**	**19 50 33.6 +0.8**
OBKA	**Obir**	**6.53 318**	⇑	*i*Pn	**Pn**	**19 50 36.1 +2.3**
OBKA	**Obir**	**6.53 318**		Pn	**Pn**	**19 50 36.1 +2.3**
VOY	**Vojsko**	**6.56 313**		*e*Pn	**Pn**	**19 50 37.0 +2.8**
VOY				*e*(Sn)	**Sn**	**19 51 47.7 -1.5**
VOY				*e*		19 51 50.0
VOY	**Vojsko**	**6.56 313**		*e*Pn	**Pn**	**19 50 37.0 +2.8**
BURAR	**Bucovina Array**	**6.62 27**	⇑	*i*P	**Pn**	**19 50 37.3 +2.2**
BURAR	**Bucovina Array**	**6.62 27**	⇑	*i*P	**Pn**	**19 50 37.3 +2.2**
ARSA	**Arzberg**	**6.65 327**	⇑	*i*Pn	**Pn**	**19 50 36.9 +1.5**
ARSA			⇓	*i*Sn	**Sn**	**19 51 51.1 -0.2**
ARSA	**Arzberg**	**6.65 327**	⇓	Pn	**Pn**	**19 50 36.9 +1.5**
ARSA				Sn	**Sn**	**19 51 51.1 -0.2**
KECS	**Kecovo**	**6.71 358**		*e*PN	**Pn**	**19 50 37.9 +1.8**
KECS				*e*SN	**Sn**	**19 51 54.6 +1.9**
KECS	**Kecovo**	**6.71 358**		*e*Pn	**Pn**	**19 50 37.9 +1.8**
KECS				*e*Sn	**Sn**	**19 51 54.6 +1.9**
TLCR		**6.74 57**	⇑	*i*P	**Pn**	**19 50 37.5 +0.9**
TLCR		**6.74 57**	⇑	*i*P	**Pn**	**19 50 37.5 +0.9**
VYHS	**Vyhne**	**6.86 349**		*e*PN	**Pn**	**19 50 39.7 +1.5**
VYHS				*e*SN	**Sn**	**19 51 52.8 -3.6**
VYHS	**Vyhne**	**6.86 349**		*e*Pn	**Pn**	**19 50 39.7 +1.5**
KOLL	**Kolacno**	**7.01 347**		*e*PN	**Pn**	**19 50 42.2 +1.9**
KOLL				*e*SN	**Sn**	**19 51 55.4 -4.7**
KOLL	**Kolacno**	**7.01 347**		*e*Pn	**Pn**	**19 50 42.2 +1.9**
CRVS	**Cervenica-Dubn**	**7.14 3**		*e*PN	**Pn**	**19 50 43.4 +1.4**
CRVS	**Cervenica-Dubn**	**7.14 3**		*e*Pn	**Pn**	**19 50 43.4 +1.4**
SMOL	**Smolenice**	**7.14 342**		*e*PN	**Pn**	**19 50 42.2 +0.1**
SMOL				*e*SN	**Sn**	**19 51 59.5 -3.9**
SMOL	**Smolenice**	**7.14 342**		*e*Pn	**Pn**	**19 50 42.3 +0.1**
STHS	**Stebnicka Huta**	**7.64 2**		*e*PN	**Pn**	**19 50 51.0 +2.0**
STHS	**Stebnicka Huta**	**7.64 2**		*e*Pn	**Pn**	**19 50 51.0 +2.0**
MOA	**Molln**	**7.64 325**	⇓	*i*Pn	**Pn**	**19 50 50.9 +1.8**
MOA			⇑	*i*Sn	**Sn**	**19 52 14.0 -1.8**
MOA	**Molln**	**7.64 325**		Pn	**Pn**	**19 50 50.9 +1.8**
NIE	**Niedzica**	**7.65 358**		*e*P	**Pn**	19 50 52.5 +3.4
NIE	**Niedzica**	**7.65 358**		*e*P	**Pn**	19 50 52.5 +3.4
ABTA	**Abfaltersbach**	**7.75 313**	⇑	*i*Pn	**Pn**	**19 50 52.5 +1.9**
	SNR=27					
ABTA			⇑	*i*Sn	**Sn**	**19 52 19.0 +0.4**
ABTA	**Abfaltersbach**	**7.75 313**		Pn	**Pn**	**19 50 52.5 +1.9**
	SNR=27					
ABTA				Sn	**Sn**	**19 52 19.0 +0.4**
MORC	**Moravsky Berou**	**8.32 345**	⇓	*i*P	**Pn**	**19 50 57.6 -0.7**
MORC	**Moravsky Berou**	**8.32 345**	⇓	*i*P	**Pn**	**19 50 57.6 -0.7**
WTTA	**Wattenberg**	**8.54 313**	⇓	*i*Pn	**Pn**	**19 51 03.0 +1.5**
	SNR=8.5					
WTTA			⇓	*i*Sn	**Sn**	**19 52 38.0 -0.1**
WTTA	**Wattenberg**	**8.54 313**		Pn	**Pn**	**19 51 03.0 +1.5**
	SNR=8.5					
WTTA				Sn	**Sn**	**19 52 38.0 -0.1**
WATA	**Walderalm**	**8.62 313**	⇑	*i*Pn	**Pn**	**19 51 03.9 +1.4**
	SNR=11					
WATA			⇑	*i*Sn	**Sn**	**19 52 40.7 +0.8**
WATA	**Walderalm**	**8.62 313**		Pn	**Pn**	**19 51 03.9 +1.4**
	SNR=11					
WATA				Sn	**Sn**	**19 52 40.7 +0.8**
GERES	**GERESS Array B**	**8.66 327**		Pn	**Pn**	**19 51 04.8 +1.8**
	comp=N,0.4nm,0.3s,baz=154,slow=13,SNR=11					
PGF	**Pioggiola**	**8.81 279**		*e*P	**Pn**	**19 51 07.3 +2.2**
	comp=N,20nm,0.5s					
PGF	**Pioggiola**	**8.81 279**		*e*P	**Pn**	**19 51 07.3 +2.2**
	comp=N,10nm,0.5s					
MOTA	**Moosalm**	**8.88 312**	⇓	*i*Pn	**Pn**	**19 51 08.0 +1.8**
	SNR=26					
MOTA			⇑	*i*Sn	**Sn**	**19 52 48.2 +1.7**
MOTA	**Moosalm**	**8.88 312**		Pn	**Pn**	**19 51 08.0 +1.8**
	SNR=26					
MOTA				Sn	**Sn**	**19 52 48.2 +1.7**
KHC	**Kasperske Hory**	**8.93 328**		*e*PN	**Pn**	**19 51 08.7 +2.0**
KHC				*e*SN	**Sn**	**19 52 46.5 -1.0**
KHC	**Kasperske Hory**	**8.93 328**		Pn	**Pn**	**19 51 08.7 +2.0**
KHC				Sn	**Sn**	**19 52 46.5 -1.0**
DAVOX	**Davos/Dischmat**	**9.30 306**		Pn	**Pn**	**19 51 13.6 +1.7**
	comp=N,1.7nm,0.3s,baz=127,slow=10,SNR=22					
DAVOX				Sn	**Sn**	**19 52 50.8 -5.8**
	comp=N,0.5nm,0.3s,baz=143,slow=20,SNR=1.7					
BRTR	**Keskin Array B**	**9.95 98**		Pn	**Pn**	**19 51 21.3 +0.6**
	comp=N,0.2nm,0.3s,baz=278,slow=15,SNR=6.8					
SBF	**Sospel**	**10.05 286**		*e*P	**Pn**	**19 51 22.8 +0.8**
SBF	**Sospel**	**10.

SMG	**Samos**	**0.36**	**331**	*e*PB	**Pb**	19 55 27.1	**-0.2**
SMG				*e*SB	**Sg**	**19 55 32.0**	**-0.4**
SMG	**Samos**	**0.36**	**331**	*e*PB	**Pb**	**19 55 27.1**	**-0.2**
SMG				*e*Sb	**Sg**	**19 55 32.0**	**-0.4**
BODT	**Bodrum**	**0.39**	**149**	*e*PG	**Pg**	**19 55 27.4**	**-0.3**
BODT				*e*SG	**Sb**	**19 55 33.2**	**-0.3**
BODT	**Bodrum**	**0.39**	**149**	*e*Pg	**Pg**	**19 55 27.4**	**-0.3**
BODT				*e*Sg	**Sb**	**19 55 33.2**	**-0.3**
BLCB	**Balcova**	**0.99**	**359**	*e*PG	**Pb**	**19 55 38.0**	**0.0**
BLCB				*e*SG	**Sn**	**19 55 51.9**	**+0.2**
BLCB	**Balcova**	**0.99**	**359**	*e*Pg	**Pb**	**19 55 38.0**	**0.0**
BLCB				*e*Sg	**Sn**	**19 55 51.9**	**+0.2**
YER	**Yerkesik**	**1.01**	**105**	*e*PG	**Pn**	**19 55 38.7**	**0.0**
YER	**Yerkesik**	**1.01**	**105**	*e*Pg	**Pn**	**19 55 38.7**	**0.0**
IZM	**Izmir**	**1.01**	**9**	*e*PG	**Pn**	**19 55 38.5**	**-0.2**
IZM				*e*SG	**Sn**	**19 55 52.7**	**+0.3**
IZM	**Izmir**	**1.01**	**9**	*e*Pg	**Pn**	**19 55 38.5**	**-0.2**
IZM				*e*Sg	**Sn**	**19 55 52.7**	**+0.3**
URLA	**Izmir**	**1.03**	**339**	*e*P	**Pn**	**19 55 39.0**	**+0.1**
URLA				*e*S	**Sg**	**19 55 52.7**	**-0.5**
URLA	**Izmir**	**1.03**	**339**	*e*P	**Pn**	**19 55 39.0**	**+0.1**
URLA				*e*S	**Sg**	**19 55 52.7**	**-0.5**
APE	**Apeiranthos**	**1.26**	**255**	*e*PN	**Pg**	**19 55 43.8**	**-0.2**
APE	**Apeiranthos**	**1.26**	**255**	*e*PN	**Pb**	**19 55 42.7**	**0.0**
APE				*e*SN	**Sg**	**19 56 00.1**	**-0.4**
APE	**Apeiranthos**	**1.26**	**255**	*e*Pn	**Pg**	**19 55 43.8**	**-0.2**
APE				*e*Sn	**Sg**	**19 56 00.1**	**-0.4**
CHOS	**Chios island**	**1.27**	**322**	*e*PN	**Pb**	**19 55 42.7**	**-0.1**
CHOS				*e*SN	**Sg**	**19 56 01.2**	**+0.5**
CHOS	**Chios island**	**1.27**	**322**	*e*Pn	**Pb**	**19 55 42.7**	**-0.1**
CHOS				*e*Sn	**Sg**	**19 56 01.2**	**+0.5**
TURN	**Turunc**	**1.34**	**112**	*e*P	Pn	19 55 39.8	-3.4
TURN				*e*S	**Sn**	**19 55 56.9**	**-3.5**
TURN	**Turunc**	**1.34**	**112**	*e*P	Pn	19 55 39.8	-3.4
AKHS	**Akhisar**	**1.59**	**22**	*e*P	**Pb**	**19 55 48.8**	**+0.4**
AKHS				*e*S	**Sn**	**19 56 06.6**	**-0.1**
AKHS	**Akhisar**	**1.59**	**22**	*e*P	**Pb**	**19 55 48.8**	**+0.4**
AKHS				*e*S	**Sn**	**19 56 06.6**	**-0.1**
AKS	**Akhisar**	**1.59**	**22**	*e*PN	**Pb**	**19 55 47.7**	**-0.7**
AKS	**Akhisar**	**1.59**	**22**	*e*Pn	**Pb**	**19 55 47.7**	**-0.7**
DNZL	**Cakiroluk**	**1.61**	**79**	*e*P	**Pb**	**19 55 48.8**	**+0.1**
DNZL				*e*S	**Sg**	**19 56 12.0**	**+0.5**
DNZL	**Cakiroluk**	**1.61**	**79**	*e*P	**Pb**	**19 55 48.8**	**+0.1**
DNZL				*e*S	**Sg**	**19 56 12.0**	**+0.5**
DENT	**Denizli**	**1.61**	**77**	*e*PN	**Pb**	**19 55 49.0**	**+0.4**
DENT	**Denizli**	**1.61**	**77**	*e*Pn	**Pb**	**19 55 49.0**	**+0.4**
MANT	**Manisa**	**1.61**	**47**	*e*P	Pg	19 55 49.5	-1.2
MANT				*e*S	**Sb**	**19 56 08.6**	**-0.2**
MANT	**Manisa**	**1.61**	**47**	*e*P	Pg	19 55 49.5	-1.2
MANT				*e*S	**Sb**	**19 56 08.6**	**-0.2**
KULA	**Kula-Manisa**	**1.69**	**48**	*e*PN	**Pb**	**19 55 50.2**	**+0.2**
KULA	**Kula-Manisa**	**1.69**	**48**	*e*Pn	**Pb**	**19 55 50.2**	**+0.2**
PRK	**Paraskevi**	**1.95**	**342**	*e*PN	**Pn**	**19 55 52.8**	**+1.3**
PRK				*e*SN	**Sb**	**19 56 18.4**	**+0.2**
PRK	**Paraskevi**	**1.95**	**342**	*e*Pn	**Pn**	**19 55 52.8**	**+1.3**
PRK				*e*Sn	**Sb**	**19 56 18.4**	**+0.2**
KHL	**Karahalli**	**2.16**	**64**	*e*PN	**Pn**	**19 55 55.9**	**+1.4**
KHL	**Karahalli**	**2.16**	**64**	*e*Pn	**Pn**	**19 55 55.9**	**+1.4**
ELL	**Elmali**	**2.37**	**105**	*e*PN	**Pn**	**19 55 59.3**	**+1.9**
ELL	**Elmali**	**2.37**	**105**	*e*Pn	**Pn**	**19 55 59.3**	**+1.9**
LIA	**Limnos Island**	**2.90**	**330**	*e*PN	**Pn**	**19 56 05.6**	**+1.0**
LIA	**Limnos Island**	**2.90**	**330**	*e*Pn	**Pn**	**19 56 05.6**	**+1.0**
ALT	**Altintas**	**2.92**	**54**	*e*PN	**Pn**	**19 56 06.5**	**+1.5**
ALT	**Altintas**	**2.92**	**54**	*e*Pn	**Pn**	**19 56 06.5**	**+1.5**
ALN	**Alexandroupoli**	**3.58**	**348**	*e*PN	**Pn**	**19 56 14.8**	**+0.8**
ALN	**Alexandroupoli**	**3.58**	**348**	*e*Pn	**Pn**	**19 56 14.8**	**+0.8**

*ISCJB **08** 20:04:09.7±0.9, 10°.36N±0°.05×84°.17W±0°.04, h2km±6km, mb3.6/7, Error ellipse: s-maj=9.2km s-min=3.5km az=36.8*
*IDC **08** 20:04:10.3±1.0, 10°.33N×84°.18W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.9/20, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=25.9km s-min=9.7km az=174.0*
*CASC **08** 20:04:10.8±2.2, 10°.27N×84°.23W, h1km±6km, MD4.1*
ISC 08 20:04:11.4±1.3, 10°.29N±0°.05×84°.23W±0°.04, h7km±9km, n44, σ0°92/50, mb3.8/7, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	**0.36**	**220**	⇑*i*P	**Pg**	**20 04 18.0**	**-0.4**
CGA2				*e*S	**Sg**	**20 04 25.0**	**+1.8**
SJS	**Escuela Geolog**	**0.39**	**153**	⇓*i*P	**Pg**	**20 04 18.6**	**-0.5**
SJS				*e*S	**Sg**	**20 04 24.6**	**+0.3**
LAJ	**Bijagual**	**0.44**	**165**	⇓*e*P	**Pn**	**20 04 23.9**	**-0.5**
CASO	**Castillo**	**0.51**	**286**	*i* P	**Pb**	**20 04 22.0**	**-0.8**
URSC	**Urasca**	**0.64**	**135**	⇓*e*P	**Pg**	**20 04 22.7**	**-1.1**
JTS	**JuntasAbangare**	**0.71**	**270**	Pg	**Pg**	**20 04 25.0**	**0.0**
	869nm,0.3s,baz=78,slow=15,SNR=97						
JTS				Lg	Lg	20 04 35.8	
	643nm,0.3s,baz=330,slow=20,SNR=27						
AMAS	**Alto Masis**	**0.81**	**293**	*i* P	**Pg**	**20 04 26.5**	**-0.6**
AMAS				*i* S	**Sg**	**20 04 38.2**	**+0.5**
PTEN	**Parque Tenorio**	**0.85**	**300**	*i* P	**Pg**	**20 04 27.7**	**-0.2**
QCR	**Quepos**	**0.86**	**176**	⇓*i*P	**Pg**	**20 04 26.6**	**-1.4**
BUS	**Buena Vista**	**0.87**	**147**	⇓*i*P	**Pg**	**20 04 27.1**	**-1.1**
JCR	**Jicaral**	**0.97**	**243**	⇑*i*P	**Pg**	**20 04 29.1**	**-1.0**
CUI	**Cuipilapa**	**0.99**	**292**	*i* P	**Pg**	**20 04 29.7**	**-0.7**
CUI				*i* S	**Sg**	**20 04 43.6**	**+0.4**
COLC	**Colonia**	**1.02**	**291**	*i* P	**Pg**	**20 04 30.4**	**-0.7**
MESS	**Mesas**	**1.05**	**295**	⇑*i*P	**Pg**	**20 04 30.7**	**-0.8**
GUAB	**Guayabo de Bag**	**1.06**	**293**	*i* P	**Pg**	**20 04 30.9**	**-0.9**
LIM1	**Limonal**	**1.08**	**292**	*i* P	**Pg**	**20 04 31.3**	**-0.9**
A494	**Palo Verde**	**1.10**	**273**	*i* P	**Pg**	**20 04 32.2**	**-0.4**
GPS2	**Hotel Rinc˜‡n**	**1.19**	**293**	*i* P	**Pg**	**20 04 33.5**	**-0.8**
GPS1	**Guardaparques**	**1.20**	**294**	*i* P	**Pg**	**20 04 33.3**	**-1.1**
GPS1				*i* S	**Sn**	**20 04 51.7**	**+0.4**
GPS3	**Bodega del ICE**	**1.21**	**293**	*i* P	**Pg**	**20 04 34.3**	**-0.3**
A490	**San Lazaro**	**1.21**	**269**	*i* P	**Pg**	**20 04 33.0**	**-1.6**
A495	**El Viejo**	**1.21**	**275**	*i* P	**Pg**	**20 04 33.7**	**-0.9**
BUEV	**Buena Vista**	**1.26**	**294**	*i* P	**Pb**	**20 04 35.7**	**+0.1**
GB1A	**Borinquen Arri**	**1.26**	**295**	*i* P	**Pg**	**20 04 34.7**	**-0.9**
LAPC	**Finca la Perla**	**1.27**	**292**	*i* P	**Pn**	**20 04 34.5**	**-1.1**
LAPC				*i* S	**Sn**	**20 04 54.2**	**+1.2**
GBS3	**Finca Las Im˜¡**	**1.30**	**292**	*i* P	**Pn**	**20 04 35.2**	**-0.8**
GBS2	**Las Lilas**	**1.32**	**294**	*i* P	**Pn**	**20 04 35.5**	**-0.8**
NY14	**Universidad de**	**1.33**	**286**	*i* P	**Pn**	**20 04 35.6**	**-0.8**
A492	**Arado**	**1.34**	**267**	*i* P	**Pn**	**20 04 35.7**	**-0.9**
ACR	**Cerro Adams**	**1.94**	**147**	*e*P	**Pn**	**20 04 44.1**	**-0.8**
BRU2	**Volcan**	**2.13**	**134**	*i* P	**Pn**	**20 04 48.3**	**+0.7**
BRU2				*i* S	**Sb**	**20 05 17.8**	**+0.7**
TBS2		**2.15**	**134**	*e*P	**Pn**	**20 04 49.2**	**+1.3**
TBS2				*i* S	**Sb**	**20 05 17.6**	**-0.2**
CMIG	**Matias Romero**	**12.36**	**304**	Pn	**Pn**	**20 07 09.9**	**+2.0**
	0.7nm,0.3s,baz=125,slow=12,SNR=5.8						
PTP	**Ponta Puerca**	**19.68**	**64**	*e*P	x	20 04 53.2	
PTP				*i* S	x	20 05 24.6	
TXAR	**Lajitas Array**	**26.25**	**319**	P	**P**	**20 09 47.2**	**-0.3**
	0.4nm,0.6s,baz=144,slow=7.8,SNR=4.8						
PDAR	**Pinedale Array**	**39.18**	**330**	P	**P**	**20 11 41.5**	**+1.1**
	0.7nm,1.1s,baz=105,slow=5.7,SNR=3.0						
PLCA	**Paso Flores**	**52.32**	**167**	P	**P**	**20 13 23.6**	**-0.4**
	2.7nm,0.8s,baz=351,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**56.54**	**344**	P	**P**	**20 13 53.2**	**-1.0**
	1.0nm,0.8s,baz=138,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**69.26**	**336**	P	**P**	**20 15 18.2**	**-0.7**
	0.5nm,0.6s,baz=119,slow=4.4,SNR=7.5						
ESDC	**Sonseca Array**	**76.04**	**52**	P	**P**	**20 15 59.3**	**-0.6**
	0.3nm,0.5s,baz=277,slow=6.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.79**	**78**	P	**P**	**20 16 43.3**	**+1.1**
	0.5nm,0.8s,baz=278,slow=3.9,SNR=3.7						
ASAR	**Alice Springs**	**141.31**	**245**	PKhKP	PKPpre	20 23 37.9	
	0.2nm,0.6s,baz=98,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**141.63**	**251**	PKP	**PKPdf**	**20 23 43.6**	**-1.0**
	0.2nm,0.4s,baz=104,slow=2.5,SNR=7.5						
CMAR	**Chiang Mai Arr**	**151.26**	**354**	PKPbc	**PKPbc**	**20 24 06.8**	**0.0**
	0.3nm,0.6s,baz=357,slow=3.4,SNR=4.2						

IDC 08 20:12:32.4±1.4, 12°.43N×85°.86W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=113.9km s-min=25.3km az=62.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.31**	**157**	Pn	Pn	20 13 10.6	-1.1
	7.2nm,0.3s,baz=267,slow=17,SNR=3.8						
JTS				Lg	Lg	20 13 52.1	
	11nm,0.3s,baz=309,slow=20,SNR=3.8						
TXAR	**Lajitas Array**	**23.60**	**318**	P	P	20 17 44.2	-1.0
	0.7nm,0.7s,baz=135,slow=10,SNR=8.4						
PDAR	**Pinedale Array**	**36.55**	**330**	P	P	20 19 41.1	+1.0
	0.4nm,0.8s,baz=139,slow=9.5,SNR=2.7						
YKA	**Yellowknife Ar**	**54.05**	**344**	P	P	20 21 56.5	-1.9
	0.1nm,0.3s,baz=136,slow=7.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**148.94**	**351**	PKPbc	PKPbc	20 32 24.4	+1.2
	1.1nm,0.8s,baz=345,slow=4.0,SNR=11						

*DJA **08** 20:23:55, 0°.23S×131°.66E, h12km, MLv4.1/6*
IDC 08 20:23:53.3±2.8, 0°.54S×131°.59E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.3/18, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=129.8km s-min=28.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.40**	**198**	P	P	20 28 10.3	+0.2
	0.1nm,0.3s,baz=30,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**19.47**	**172**	P	P	20 28 21.6	-0.3
	0.1nm,0.3s,baz=352,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**23.09**	**175**	P	P	20 29 00.6	-0.4
	0.6nm,0.6s,baz=354,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**63.82**	**325**	P	P	20 34 27.8	+0.3
	0.2nm,0.8s,baz=130,slow=8.0,SNR=2.9						

CASC 08 20:31:49.3±6.3, 10°.12N×84°.16W, h0km±15km, MD4.3, 6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.21**	**149**	⇓*e*P	Pg	20 31 55.4	+1.8
LAJ	**Bijagual**	**0.26**	**171**	⇓*e*P	Pn	20 32 02.5	+1.8
CGA2	**Cerro Gallo 2**	**0.32**	**251**	*e*P	Pb	20 31 57.2	-0.8
URSC	**Urasca**	**0.47**	**127**	⇓*i*P	Pb	20 31 59.9	-0.9
CASO	**Castillo**	**0.64**	**299**	*i* P	Pb	20 32 03.1	-0.4
BUS	**Buena Vista**	**0.69**	**145**	⇓*e*P	Pg	20 32 03.6	+0.4
QCR	**Quepos**	**0.69**	**180**	⇓*i*P	Pb	20 32 04.1	-0.2
AMAS	**Alto Masis**	**0.95**	**301**	*i* P	Pg	20 32 07.8	0.0
JCR	**Jicaral**	**0.97**	**254**	*e*P	Pg	20 32 08.5	+0.4
CUI	**Cuipilapa**	**1.12**	**299**	*i* P	Pg	20 32 10.3	-0.6
A494	**Palo Verde**	**1.19**	**281**	*i* P	Pg	20 32 11.4	-0.8
GUAB	**Guayabo de Bag**	**1.20**	**299**	*i* P	Pg	20 32 12.4	0.0
GUAB				*i* S	Sn	20 32 30.9	+0.4
A490	**San Lazaro**	**1.28**	**277**	*i* P	Pg	20 32 13.0	-0.9
GB1A	**Borinquen Arri**	**1.40**	**300**	*i* P	Pn	20 32 15.5	-0.7
LAPC	**Finca la Perla**	**1.40**	**297**	*i* P	Pn	20 32 14.9	-1.3
GBS3	**Finca Las Im˜¡**	**1.43**	**297**	*i* P	Pn	20 32 15.4	-1.2
GBS2	**Las Lilas**	**1.45**	**299**	*i* P	Pn	20 32 16.5	-0.4
ACR	**Cerro Adams**	**1.76**	**146**	⇓*e*P	Pn	20 32 20.1	-1.0
BRU2	**Volcan**	**1.96**	**132**	*i* P	Pb	20 32 26.3	+0.1
	baz=250,slow=14						
BRU2				*i* S	Sg	20 32 53.9	+1.1
TBS2		**1.99**	**131**	*e*P	Pn	20 32 24.1	-0.3
TBS2				*e*S	Sg	20 32 53.4	-0.2
PTP	**Ponta Puerca**	**19.69**	**64**	*e*P	x	20 32 24.9	

*ISK **08** 20:49:45.3, 37°.90N×29°.23E, h5km, MD2.8*
*DDA **08** 20:49:45.7, 37°.91N×29°.22E, h2km, MD2.9*
*CSEM **08** 20:49:46.4±0.2, 37°.90N×29°.22E, h2km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.3km az=116.0*
ISC 08 20:49:46.8±1.0, 37°.91N±0°.02×29°.21E±0°.03, h8km±10km, n40, σ0°96/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.20**	**222**	*e*PG	**Pg**	**20 49 50.7**	**-0.3**
DENT	**Denizli**	**0.20**	**222**	*e*Pg	**Pg**	**20 49 50.7**	**-0.3**
DNZL	**Cakiroluk**	**0.25**	**210**	*i* P	**Pg**	**20 49 52.0**	**+0.1**
DNZL				*i* S	**Sg**	**20 49 55.8**	**+0.5**
DNZL	**Cakiroluk**	**0.25**	**210**	*i* P	**Pg**	**20 49 52.0**	**+0.1**
DNZL				*i* S	**Sg**	**20 49 55.8**	**+0.5**
KHL	**Karahalli**	**0.48**	**31**	*e*PG	**Pg**	**20 49 55.4**	**-0.8**
KHL				*e*SG	**Sg**	**20 50 03.4**	**+0.7**
KHL	**Karahalli**	**0.48**	**31**	*e*Pg	**Pg**	**20 49 55.4**	**-0.8**
KHL				*e*Sg	**Sg**	**20 50 03.4**	**+0.7**
KHAL	**Karahalli**	**0.52**	**26**	*i* P	**Pg**	**20 49 55.6**	**-1.2**
KHAL				*i* S	**Sg**	**20 50 03.4**	**-0.2**
KHAL	**Karahalli**	**0.52**	**26**	*i* P	**Pg**	**20 49 55.6**	**-1.2**
KHAL				*i* S	**Sg**	**20 50 03.4**	**-0.2**
GOLH	**Golhisar**	**0.73**	**157**	*e*P	**Pg**	**20 49 59.3**	**-1.5**
GOLH				*e*S	**Sg**	**20 50 10.4**	**+0.1**
GOLH	**Golhisar**	**0.73**	**157**	*e*P	**Pg**	**20 49 59.3**	**-1.5**
GOLH				*e*S	**Sg**	**20 50 10.4**	**+0.1**
KULA	**Kula-Manisa**	**0.74**	**325**	*e*PG	**Pg**	**20 50 00.9**	**-0.2**
KULA				*e*SG	**Sb**	**20 50 13.3**	**+0.9**
KULA	**Kula-Manisa**	**0.74**	**325**	*e*Pg	**Pg**	**20 50 00.9**	**-0.2**
KULA				*e*Sg	**Sb**	**20 50 13.3**	**+0.9**
MANT	**Manisa**	**0.77**	**319**	*e*P	**Pb**	**20 50 01.7**	**-1.0**
MANT				*e*S	**Sb**	**20 50 12.8**	**-0.6**
MANT	**Manisa**	**0.77**	**319**	*e*P	**Pb**	**20 50 01.7**	**-1.0**
MANT				*e*S	**Sb**	**20 50 12.8**	**-0.6**
YER	**Yerkesik**	**1.06**	**224**	*e*PG	**Pg**	**20 50 06.1**	**-1.1**
YER	**Yerkesik**	**1.06**	**224**	*e*Pg	**Pg**	**20 50 06.1**	**-1.1**
GDZ	**Gediz**	**1.20**	**10**	*e*P	**Pg**	**20 50 08.7**	**-1.1**
GDZ				*e*S	**Sg**	**20 50 25.8**	**+0.3**
GDZ	**Gediz**	**1.20**	**10**	*e*P	**Pg**	**20 50 08.7**	**-1.1**
GDZ				*e*S	**Sg**	**20 50 25.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*PN	**Pg**	**20 50 09.6**	**-1.0**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*Pn	**Pg**	**20 50 09.6**	**-1.0**
ALT	**Altintas**	**1.35**	**32**	*e*PN	**Pn**	**20 50 12.1**	**+0.1**
ALT	**Altintas**	**1.35**	**32**	*e*Pn	**Pn**	**20 50 12.1**	**+0.1**
AKS	**Akhisar**	**1.46**	**312**	*e*PN	**Pg**	**20 50 14.3**	**-0.6**
AKS	**Akhisar**	**1.46**	**312**	*e*Pn	**Pg**	**20 50 14.3**	**-0.6**
BOLV	**Bolvadin**	**1.59**	**59**	*e*P	**Pn**	**20 50 15.9**	**+0.5**
BOLV				*e*S	**Sg**	**20 50 40.4**	**+2.3**
BOLV	**Bolvadin**	**1.59**	**59**	*e*P	**Pn**	**20 50 15.9**	**+0.5**
BOLV				*e*S	**Sg**	**20 50 40.4**	**+2.3**
IZM	**Izmir**	**1.61**	**288**	*e*PN	**Pb**	**20 50 16.1**	**-0.7**
IZM	**Izmir**	**1.61**	**288**	*e*Pn	**Pb**	**20 50 16.1**	**-0.7**
BODT	**Bodrum**	**1.73**	**241**	*e*PN	**Pn**	**20 50 17.5**	**+0.4**
BODT	**Bodrum**	**1.73**	**241**	*e*Pn	**Pn**	**20 50 17.5**	**+0.4**
BALB	**Balikesir**	**2.02**	**330**	*e*PN	**Pn**	**20 50 22.0**	**+0.9**
BALB	**Balikesir**	**2.02**	**330**	*e*Pn	**Pn**	**20 50 22.0**	**+0.9**
ESKT	**Eskisehir**	**2.06**	**38**	*e*PN	**Pn**	**20 50 22.8**	**+1.0**
ESKT	**Eskisehir**	**2.06**	**38**	*e*Pn	**Pn**	**20 50 22.8**	**+1.0**
KIZT	**Kizilcal**	**2.32**	**64**	*e*PN	**Pn**	**20 50 26.4**	**+1.1**
KIZT	**Kizilcal**	**2.32**	**64**	*e*Pn	**Pn**	**20 50 26.4**	**+1.1**
KONT	**Konya--Tatoy**	**2.50**	**88**	*e*PN	**Pn**	**20 50 29.0**	**+1.3**
KONT	**Konya--Tatoy**	**2.50**	**88**	*e*Pn	**Pn**	**20 50 29.0**	**+1.3**
LADK	**Ladik-KONYA**	**2.51**	**82**	*e*PN	**Pn**	**20 50 29.3**	**+1.3**
LADK	**Ladik-KONYA**	**2.51**	**82**	*e*Pn	**Pn**	**20 50 29.3**	**+1.3**

CASC 08 20:55:45.9±1.8, 10°.15N×84°.22W, h0km±5km, MD4.2, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.26**	**141**	⇓*i*P	Pg	20 55 51.9	+0.7
SJS				*e*S	Sb	20 55 57.4	-1.6
CGA2	**Cerro Gallo 2**	**0.27**	**242**	⇑*i*P	Pg	20 55 52.6	+1.2
LAJ	**Bijagual**	**0.30**	**161**	⇓*i*P	Pn	20 55 58.0	+0.2
CASO	**Castillo**	**0.58**	**299**	*i* P	Pb	20 55 58.3	-0.8
QCR	**Quepos**	**0.72**	**176**	⇓*i*P	Pg	20 56 00.1	+0.4
BUS	**Buena Vista**	**0.74**	**142**	⇓*i*P	Pg	20 56 00.1	-0.7
AMAS	**Alto Masis**	**0.89**	**301**	*i* P	Pg	20 56 02.6	-0.5
JCR	**Jicaral**	**0.93**	**251**	⇑*e*P	Pg	20 56 04.0	+0.2
CUI	**Cuipilapa**	**1.06**	**299**	*i* P	Pg	20 56 06.4	+0.1
MESS	**Mesas**	**1.12**	**302**	*i* P	Pg	20 56 07.2	-0.4
A494	**Palo Verde**	**1.13**	**280**	*i* P	Pg	20 56 07.4	-0.2
GUAB	**Guayabo de Bag**	**1.14**	**299**	*i* P	Pg	20 56 07.6	-0.2
A490	**San Lazaro**	**1.22**	**276**	*i* P	Pg	20 56 09.1	-0.3
A490				*i* S	Sb	20 56 26.0	-0.3
A495	**El Viejo**	**1.24**	**281**	*i* P	Pg	20 56 09.5	-0.2
GB1A	**Borinquen Arri**	**1.34**	**300**	*i* P	Pg	20 56 11.8	+0.1
LAPC	**Finca la Perla**	**1.34**	**297**	*i* P	Pg	20 56 11.2	-0.5
A492	**Arado**	**1.36**	**273**	*i* P	Pg	20 56 11.2	-0.7
GBS3	**Finca Las Im˜¡**	**1.37**	**298**	*i* P	Pg	20 56 11.5	-0.7
GBS2	**Las Lilas**	**1.39**	**300**	*i* P	Pn	20 56 11.7	-1.0
ACR	**Cerro Adams**	**1.81**	**145**	*e*P	Pn	20 56 16.7	-1.7
BRU2	**Volcan**	**2.02**	**132**	*e*P	Pn	20 56 22.3	+0.8
BRU2				*i* S	Sg	20 56 53.0	+1.7
TBS2		**2.05**	**131**	*e*P	Pb	20 56 24.0	-0.2
TBS2				*i* S	Sb	20 56 50.9	+0.5
PTP	**Ponta Puerca**	**19.73**	**64**	*e*P	x	20 56 28.2	
PTP				*i* S	x	20 57 04.0	

*CASC **08** 21:15:46.2±4.8, 8°.27N×82°.78W, h20km±25km, MD4.2, ML4.7, mb4.4(NEIC)*
*IDC **08** 21:15:46.2±2.6, 8°.86N×82°.79W, h0km, mb3.9/7, mb1 4.2/9, mb1mx4.0/22, mbtmp3.9/9, ML3.8/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/27, Error ellipse: s-maj=84.8km s-min=17.9km az=25.0*
*ISCJB **08** 21:15:48.3±0.6, 8°.41N±0°.06×82°.84W±0°.05, h45km±6km, mb3.8/7, MS3.7/1, Error ellipse: s-maj=11.5km s-min=5.8km az=37.1*
*NEIC **08** 21:15:51.1±2.8, 8°.94N×82°.80W, h29km±22km, mb4.4/2, Error ellipse: s-maj=22.5km s-min=9.5km az=214.0*
ISC 08 21:15:49.0±1.4, 8°.48N±0°.08×82°.87W±0°.04, h31km±9km, n43, σ1°940/44, mb3.9/7, 5C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.34**	**300**	⇓*i*P	Pb	21 15 52.5	-4.6
BRU2	**Volcan**	**0.36**	**29**	⇓*i*P	**Pb**	**21 15 56.7**	**-0.8**
	baz=157,slow=3.6						
BRU2				AML	AML	21 15 59.0	
	comp=Z,51µm,0.3s						
TBS2		**0.37**	**34**	*i* P	**Pn**	**21 15 58.0**	**-0.5**
TBS2				*i* S	**Sn**	**21 16 06.1**	**+1.3**
BUS	**Buena Vista**	**1.38**	**321**	*e*P	**Pn**	**21 16 11.1**	**-1.5**
BUS				*e*S	**Sb**	**21 16 32.4**	**+0.4**
QCR	**Quepos**	**1.59**	**306**	⇑*e*P	**Pn**	**21 16 13.5**	**-1.5**
QCR				*e*S	**Sn**	**21 16 35.4**	**+0.9**
URSC	**Urasca**	**1.62**	**326**	*e*P	**Pn**	**21 16 14.6**	**-1.0**
LAJ	**Bijagual**	**1.85**	**318**	*e*P	**Pb**	**21 16 22.2**	**-0.1**
SJS	**Escuela Geolog**	**1.86**	**321**	⇑*e*P	**Pn**	**21 16 19.0**	**0.0**
SJS				*e*S	**Sb**	**21 16 46.9**	**+1.5**
CGA2	**Cerro Gallo 2**	**2.19**	**314**	*e*P	**Pn**	**21 16 25.0**	**+1.5**
CASO	**Castillo**	**2.67**	**317**	*i* P	**Pn**	**21 16 32.7**	**+2.6**
CASO				*i* S	**Sb**	**21 17 10.7**	**+1.9**
JTS	**JuntasAbangare**	**2.73**	**311**	Pn	**Pn**	**21 16 28.5**	**-2.3**
	comp=Z,16nm,0.3s,baz=103,slow=18,SNR=7.9						
JTS				Pg	Pb	21 16 32.1	-5.2
	comp=Z,61nm,0.3s,baz=98,slow=23,SNR=9.3						
JTS				Lg	Lg	21 17 06.9	
	com

VC1	**Cotopaxi 1**	**2.28 354**	⇓P		Pb	21 17 56.3	-0.6
NAS2	**Nasa**	**2.29 353**	S		Sg	21 18 28.4	-1.4
NAS2	**Nasa**	**2.29 353**	P		Pb	21 17 57.1	+0.1
PITA	**Cotopaxi Volc**	**2.37 354**	P		Pb	21 17 58.0	-0.3
ANTI	**Antisana**	**2.46 0**	⇓P		Pn	21 17 57.5	+1.7
CONE	**Cono NE Rev Vo**	**2.89 11**	S		Sb	21 18 42.8	+0.2
CAYR	**Refugio Cayamb**	**2.93 3**	S		Sb	21 18 43.4	-1.0
CAYA	**Cayambe**	**2.98 4**	⇑P		Pb	21 18 06.9	-2.0
OTAV	**Otavalo**	**3.16 355**	P		Pb	21 18 12.4	+0.7

CASC 08 21:25:49.0±2.3, 10°20N×84°20W, h0km±5km, MD3.9, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.30**	**150**	⇓*e*P		Pb	21 25 56.2	-1.2
SJS				*e*S		Sb	21 26 01.3	-1.8
CGA2	**Cerro Gallo 2**	**0.32**	**235**	*e*P		Pb	21 25 57.1	-0.6
LAJ	**Bijagual**	**0.34**	**166**	*e*P		Pn	21 26 02.8	+1.2
URSC	**Urasca**	**0.55**	**131**	*e*P		Pb	21 26 00.9	-1.0
QCR	**Quepos**	**0.77**	**177**	⇓*i*P		Pb	21 26 04.8	-0.5
QCR				*e*S		Sb	21 26 16.2	-0.2
BUS	**Buena Vista**	**0.78**	**146**	*e*P		Pg	21 26 04.5	0.0
JCR	**Jicaral**	**0.96**	**249**	*e*P		Pb	21 26 08.8	+0.2
CUI	**Cuipilapa**	**1.05**	**296**	*i* P		Pg	21 26 07.8	-1.5
CUI				*i* S		Sn	21 26 28.0	+1.5
COLC	**Colonia**	**1.09**	**295**	*i* P		Pg	21 26 09.6	-0.3
LIM1	**Limonal**	**1.14**	**296**	*i* P		Pg	21 26 08.9	-2.2
GB1A	**Borinquen Arri**	**1.33**	**298**	*i* P		Pg	21 26 12.7	-1.9
LAPC	**Finca la Perla**	**1.33**	**295**	*i* P		Pg	21 26 13.6	-1.1
GBS2	**Las Lilas**	**1.38**	**297**	*i* P		Pg	21 26 15.1	-0.5
ACR	**Cerro Adams**	**1.84**	**146**	*e*P		Pb	21 26 22.9	-0.8
BRU2	**Volcan** baz=320,slow=5.3	**2.04**	**133**	*e*P		Pb	21 26 26.3	-0.9
BRU2				*i* S		Sg	21 26 55.0	-0.1
TBS2		**2.07**	**132**	*e*P		Pb	21 26 27.2	-0.5
TBS2				*i* S		Sb	21 26 53.2	-0.9
PTP	**Ponta Puerca**	**19.69**	**64**	*e*P		x	21 26 27.4	

IDC 08 21:28:39.9±2.3, 2°94S×133°46E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=121.9km s-min=26.2km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.92**	**177**	Pn		P	21 32 40.2	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=11							
ASAR	**Alice Springs**	**20.61**	**179**	P		P	21 33 20.1	-0.8
	1.7nm,0.8s,baz=5.4,slow=11,SNR=12							
MKAR	**Makanchi Array**	**66.84**	**324**	P		P	21 39 35.2	+1.4
	0.3nm,0.9s,baz=113,slow=5.5,SNR=2.6							
KURK	**Kurchatov**	**70.95**	**327**	P		P	21 39 57.6	-1.6
	0.3nm,0.6s,baz=119,slow=7.1,SNR=5.8							

*MOS **08** 21:47:00.0±1.2, 4°69S×153°04E, h33km, mb5.2/19, Error ellipse: s-maj=9.9km s-min=7.1km az=94.0*
*ISCJB **08** 21:47:02.5±0.9, 4°79S±0°04×153°15E±0°04, h58km±8km, mb4.9/67, MS4.5/37, Error ellipse: s-maj=6.9km s-min=6.3km az=165.7*
*IDC **08** 21:47:03.7±0.5, 4°71S×153°15E, h54km±4km, mb4.3/20, mb1 4.5/23, mb1mx4.4/24, mbtmp4.4/23, MS4.4/25, Ms1 4.5/25, ms1mx4.3/32, Error ellipse: s-maj=13.3km s-min=8.8km az=106.0*
*NEIC **08** 21:47:03.9±0.2, 4°77S×153°07E, mb5.1/30, Error ellipse: s-maj=7.5km s-min=5.0km az=92.0*
NEIC Felt at Rabaul.
*DJA **08** 21:47:05, 4°79S×153°35E, h70km, mb5.2/18*
*BJI **08** 21:47:05.7, 4°60S×153°00E, h77km, mB5.1/29, mb4.9/50, Ms5.0/35, Ms7 4.6/36*

ISC 08 21:47:05.1±0.3, 4°82S±0°04×153°16E±0°05, h68km±2km, h64km:pP-P, n248, σ1°94/309, mb4.9/67, 8C-4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.49**	**232**	P		**Pn**	**21 48 51.0**	**-0.7**
	25nm,0.3s,baz=40,slow=14,SNR=45							
PMG				S		**Sn**	**21 50 16.4**	**+1.2**
	38nm,0.3s,baz=333,slow=20,SNR=6.1							
PMG	**Port Moresby**	**7.49**	**232**	*e*P		**Pn**	**21 48 51.0**	**-0.7**
PMG				*e*			21 50 10.6	
PMG	**Port Moresby**	**7.49**	**232**	*e*Pn		**Pn**	**21 48 51.0**	**-0.7**
PMG				*e*Sn		**Sn**	**21 50 10.6**	**-4.6**
HNR	**Honiara**	**8.15**	**125**	P		**Pn**	**21 49 01.2**	**+0.5**
	64nm,0.3s,baz=218,slow=2.6,SNR=8.2							
HNR	**Honiara**	**8.15**	**125**	*e*P		**Pn**	**21 49 02.6**	**+1.9**
HNR				*e*			21 50 31.3	
HNR				pmax	pmax			
	comp=Z,434nm,0.8s							
HNR	**Honiara**	**8.15**	**125**	*e*Pn		**Pn**	**21 49 02.6**	**+1.9**
	comp=Z,434nm,0.8s							
HNR				*e*Sn		**Sn**	**21 50 31.3**	**0.0**
JAY	**Jayapura**	**12.63**	**280**	P		**Pn**	**21 50 03.1**	**+1.1**
	comp=Z,122nm,1.9s,comp=Z,12μm							
COEN	**Coen**	**13.38**	**227**	*e*Pn		**Pn**	**21 50 12.5**	**+0.4**
	comp=Z,223nm,0.9s							
COEN				*e*Sn		**Sn**	**21 52 36.2**	**-3.1**
SMPI	**Sarmi**	**14.69**	**281**	P		**Pn**	**21 50 30.1**	**+0.8**
	comp=Z,217nm,1.6s,comp=Z,3μm							
CTA	**Charters Tower**	**16.59**	**203**	P		**Pn**	**21 50 52.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=12,SNR=10							
CTA				LR		LR	21 56 21.3	
	comp=Z,3μm,21.2s,baz=24,slow=33							
CTA	**Charters Tower**	**16.59**	**203**	*e*P		Pn	21 50 48.2	-5.3
	comp=Z,51nm,3.0s							
CTA	**Charters Tower**	**16.59**	**203**	P		**Pn**	**21 50 52.2**	**-1.3**
CTA	**Charters Tower**	**16.59**	**203**	P		**Pn**	**21 50 52.2**	**-1.3**
CTAO	**Charters Tower**	**16.59**	**203**	*e*P		**Pn**	**21 50 52.8**	**-0.7**
CTAO				pmax	pmax			
	comp=Z,311nm,2.0s							
CTAO	**Charters Tower**	**16.59**	**203**	*e*Pn		**Pn**	**21 50 52.8**	**-0.7**
	comp=Z,310nm,2.0s							
GUMO	**Guam**	**20.06**	**336**	P		**P**	**21 51 32.4**	**-0.5**
	comp=Z,6.6nm,0.3s,baz=174,slow=7.8,SNR=16							
GUMO				LR		LR	21 58 33.1	
	comp=Z,237nm,18.2s,baz=144,slow=35							
GUMO	**Guam**	**20.06**	**336**	*e*P		Pn	21 51 33.7	-1.6
GUMO				pmax	pmax			
	comp=Z,972nm,1.1s							
GUMO	**Guam**	**20.06**	**336**	*e*P		**P**	**21 51 33.7**	**+0.7**
	comp=Z,972nm,1.1s							
EIDS	**Eidsvold**	**20.53**	**185**	*e*P		**P**	**21 51 38.1**	**+0.2**
	comp=Z,62nm,1.1s							
FAKI	**Fak Fak**	**20.94**	**274**	P		Pn	21 51 46.4	+0.6
	comp=Z,116nm,1.4s,comp=Z,2μm							
DZM	**Mont Dzumac**	**21.44**	**144**	P		**P**	**21 51 48.8**	**+0.9**
	comp=Z,21nm,0.6s,baz=111,slow=18,SNR=24							
DZM				LR		LR	21 58 32.6	
	comp=Z,2μm,21.3s,baz=162,slow=32							
DZM	**Mont Dzumac**	**21.44**	**144**	*e*P		**P**	**21 51 48.1**	**+0.2**
	comp=Z,72nm,0.8s							
DZM				*e*Sn		Sn	21 55 54.3	+0.4
WRAB	**Tennant Creek**	**23.68**	**229**	*e*P		**P**	**21 52 10.0**	**-0.8**
WRAB				*e*S		S	21 56 29.1	+8.2
WRAB				pmax	pmax			
	comp=Z,101nm,1.0s							
WRAB	**Tennant Creek**	**23.68**	**229**	*e*Pn		**P**	**21 52 09.9**	**-0.8**
	comp=Z,101nm,1.0s							
WRAB				*e*S		S	21 56 29.1	+8.2
WRAB	**Tennant Creek**	**23.68**	**229**	P		**P**	**21 52 09.0**	**-1.8**
	comp=Z,366nm,1.1s,SNR=40							
WB2	**Warramunga Arr**	**23.69**	**229**	*e*P		**P**	**21 52 10.1**	**-0.8**
WB2				*e*S		**S**	**21 56 23.9**	**+2.9**
WRA	**Warramunga Arr**	**23.70**	**229**	P		**P**	**21 52 10.2**	**-0.8**
	comp=Z,23nm,0.6s,baz=52,slow=9.8,SNR=68							
WRA				S		**S**	**21 56 24.8**	**+3.6**
	comp=Z,9.5nm,1.1s,baz=58,slow=17,SNR=6.4							
WRA	**Warramunga Arr**	**23.70**	**229**	P		**P**	**21 52 10.2**	**-0.8**
WRA				S		**S**	**21 56 24.8**	**+3.6**
WRA	**Warramunga Arr**	**23.70**	**229**	P		**P**	**21 52 10.2**	**-0.8**
WRA				S		**S**	**21 56 24.8**	**+3.6**
ARMA	**Armidale**	**25.50**	**183**	*e*P		**P**	**21 52 29.5**	**+2.2**
LBMI	**Labuha**	**25.95**	**278**	P		**P**	**21 52 31.9**	**+0.4**
	comp=Z,174nm,1.5s,comp=Z,2μm							
TNTI	**Ternate**	**26.35**	**282**	P		**P**	**21 52 36.5**	**+1.4**
	comp=Z,102nm,1.3s							
AS31	**Alice Springs**	**26.37**	**223**	*e*P		**P**	**21 52 38.2**	**+3.0**
AS31				*e*S		**S**	**21 57 02.4**	**-1.3**
ASAR	**Alice Springs**	**26.37**	**223**	P		**P**	**21 52 37.3**	**+2.1**
	comp=Z,5.7nm,0.4s,baz=52,slow=9.0,SNR=27							
ASAR				S		**S**	**21 57 08.0**	**+4.2**
	comp=Z,1.0nm,1.0s,baz=31,slow=18,SNR=2.5							
ASAR	**Alice Springs**	**26.37**	**223**	P		**P**	**21 52 37.3**	**+2.1**
ASAR				S		**S**	**21 57 08.0**	**+4.2**
ASAR	**Alice Springs**	**26.37**	**223**	P		**P**	**21 52 37.3**	**+2.1**
ASAR				S		**S**	**21 57 08.0**	**+4.2**
STKA	**Stephens Creek**	**29.02**	**201**	P		**P**	**21 52 57.8**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=17,slow=12,SNR=12							
STKA				LR		LR	22 04 34.3	
	comp=Z,1μm,19.7s,baz=22,slow=36							
STKA	**Stephens Creek**	**29.02**	**201**	*e*P		**P**	**21 52 58.0**	**-0.7**
	comp=Z,7.2nm,0.9s							
STKA	**Stephens Creek**	**29.02**	**201**	*e*P		**P**	**21 52 58.2**	**-0.5**
STKA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**29.02**	**201**	*e*P		**P**	**21 52 58.2**	**-0.5**
	comp=Z,7.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**29.96**	**242**	P		**P**	**21 53 06.1**	**-1.2**
	comp=Z,23nm,0.5s,baz=67,slow=8.0,SNR=35							
FITZ				LR		LR	22 06 22.9	
	comp=Z,1μm,19.1s,baz=68,slow=39							
FITZ	**Fitzroy Crossi**	**29.96**	**242**	*e*P		**P**	**21 53 05.8**	**-1.4**
	comp=Z,48nm,0.8s							
FITZ	**Fitzroy Crossi**	**29.96**	**242**	*e*P		**P**	**21 53 06.0**	**-1.2**
	comp=Z,38nm,0.9s							
LUWI	**Luwuk**	**30.57**	**276**	P		**P**	**21 53 12.9**	**+0.2**
	comp=Z,65nm,1.5s,comp=Z,1μm							
MRSI	**Marisa**	**31.62**	**279**	P		P	21 53 33.4	+11
FORT	**Forrest**	**34.99**	**220**	*e*P		**P**	**21 53 49.8**	**-1.3**
	comp=Z,71nm,1.0s							
FORT	**Forrest**	**34.99**	**220**	*e*P		**P**	**21 53 50.4**	**-0.7**
	comp=Z,64nm,0.8s							
AFI	**Afiamalu**	**35.71**	**107**	LR		LR	22 06 53.4	
	comp=Z,618nm,18.6s,baz=293,slow=33							
MYLDM	**Lahad Datu**	**36.01**	**286**	P		**P**	**21 54 01.0**	**+1.0**
	comp=Z,52nm,1.6s							
MBWA	**Marble Bar**	**36.27**	**240**	*e*P		**P**	**21 54 01.5**	**-0.6**
	comp=Z,30nm,0.8s							
TAU	**Tasmania Unive**	**38.28**	**187**	P		**P**	**21 54 19.8**	**+1.0**
TAU	**Tasmania Unive**	**38.28**	**187**	P		**P**	**21 54 19.8**	**+1.0**
KKM	**Kota Kinabalu**	**38.43**	**286**	*e*P		**P**	**21 54 20.7**	**+0.1**
URZ	**Urewera**	**39.79**	**150**	P		**P**	**21 54 33.8**	**+2.3**
	comp=Z,2.8nm,0.6s,baz=135,slow=4.3,SNR=3.9							
URZ				LR		LR	22 06 49.4	
	comp=Z,597nm,21.5s,baz=332,slow=30							
URZ	**Urewera**	**39.79**	**150**	P		**P**	**21 54 33.8**	**+2.3**
RPZ	**Rata Peaks**	**41.83**	**160**	P		**P**	**21 54 49.0**	**+0.7**
	comp=Z,6.3nm,0.6s,baz=225,slow=1.4,SNR=3.8							
RPZ				LR		LR	22 10 44.8	
	comp=Z,1μm,19.0s,baz=325,slow=34							
RPZ	**Rata Peaks**	**41.83**	**160**	*e*P		**P**	**21 54 50.4**	**+2.1**
	comp=Z,62nm,1.0s							
NACB	**Ninganchiao**	**42.14**	**315**	*e*P		**P**	**21 54 50.6**	**-0.4**
KLBR	**Kellerberrin**	**42.55**	**227**	*e*P		**P**	**21 54 52.5**	**-1.8**
	comp=Z,75nm,1.6s							
YHNB	**Yeheng**	**42.61**	**315**	*e*P		**P**	**21 54 55.1**	**+0.1**
KSM	**Kuching**	**43.26**	**277**	*e*P		**P**	**21 54 59.9**	**-0.4**
	comp=Z,47nm,1.2s							
MJAR	**Matsushiro Arr**	**43.46**	**342**	P		**P**	**21 54 58.5**	**-3.1**
	comp=Z,3.9nm,0.9s,baz=178,slow=8.1,SNR=6.3							
MJAR				LR		LR	22 12 58.4	
	comp=Z,298nm,18.3s,baz=165,slow=36							
MJAR	**Matsushiro Arr**	**43.46**	**342**	P		**P**	**21 54 58.5**	**-3.1**
MJAR	**Matsushiro Arr**	**43.46**	**342**	P		**P**	**21 54 58.5**	**-3.1**
MAT	**Matsushiro**	**43.46**	**342**	P		**P**	**21 55 00.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**43.62**	**226**	*e*P		**P**	**21 55 02.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**43.62**	**226**	*e*P		**P**	**21 55 02.4**	**-0.6**
KSRS	**Korea Array**	**48.18**	**333**	P		**P**	**21 55 37.9**	**-0.8**
	comp=Z,10nm,1.0s,baz=148,slow=9.2,SNR=13							
KSRS				LR		LR	22 14 11.9	
	comp=Z,262nm,21.0s,baz=144,slow=34							
KSAR	**Wonju Array Be**	**48.19**	**333**	P		**P**	**21 55 37.9**	**-0.9**
KSAR	**Wonju Array Be**	**48.19**	**333**	P		**P**	**21 55 37.9**	**-0.9**
RAR	**Rarotonga**	**48.45**	**114**	LR		LR	22 11 36.4	
	comp=Z,320nm,20.4s,baz=48,slow=30							
QIZ	**Qiongzhong**	**48.78**	**300**	P		P	21 55 40.2	-3.5
QIZ				S		**S**	**22 02 37.9**	**-4.2**
QIZ				LR		LR		
	comp=E,320nm,15.8s							
QIZ				LR		LR		
	comp=Z,710nm,22.6s							
INCN	**Inchon**	**48.80**	**332**	*e*P		**P**	**21 55 44.4**	**+0.9**
	comp=Z,96nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**49.08**	**353**	*d*iP		**P**	**21 55 45.1**	**-0.3**
YUK				*i*			21 57 40.7	
YUK				S		**S**	**22 02 44.8**	**-0.5**
YUK				pmax	pmax			
	comp=Z,120nm,10.6s							
NJ2	**Nanjing**	**49.09**	**321**	*e*P		**P**	**21 55 47.1**	**+1.3**
NJ2				pmax	pmax			
	comp=Z,120nm,1.0s							
ASAJ	**Asahikawa**	**49.63**	**350**	P		**P**	**21 55 49.5**	**-0.2**
	comp=Z,6.1nm,0.7s,baz=222,slow=16,SNR=4.3							
ASAJ	**Asahikawa**	**49.63**	**350**	P		**P**	**21 55 49.5**	**-0.2**
WHN	**Wuhan**	**51.12**	**316**	⇓P		**P**	**21 56 02.7**	**+1.5**
WHN				pP		**pP**	**21 56 15.6**	**-2.9**
WHN				LR		LR		
	comp=Z,1μm,16.7s							
USRK	**Ussuriysk Arra**	**52.38**	**341**	P		**P**	**21 56 09.3**	**-1.0**
	comp=Z,18nm,0.9s,baz=153,slow=7.6,SNR=25							
USRK				LR		LR	22 14 41.1	
	comp=Z,179nm,20.3s,baz=143,slow=32							
KULM	**Kulim**	**53.39**	**280**	*e*P		**P**	**21 56 16.9**	**-1.4**
MDJ	**Mudanjiang**	**53.57**	**339**	P		**P**	**21 56 20.5**	**+1.4**
MDJ				pP		**pP**	**21 56 40.4**	**+3.9**
MDJ				sP		sP	21 56 49.7	+5.5
MDJ				ScP		**ScP**	**22 01 16.0**	**-1.0**
MDJ				PcS		**PcS**	**22 01 24.8**	**+0.8**
MDJ				S		**S**	**22 03 48.5**	**+1.2**
MDJ				pmax	pmax			
	comp=Z,16nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,100nm,4.4s							
MDJ				LR	LR			
	comp=N,530nm,32.5s							
MDJ				LR	LR			
	comp=E,850nm,33.4s							
MDJ				LR	LR			
	comp=Z,250nm,17.4s							
MDJ	**Mudanjiang**	**53.57**	**339**	*e*P		**P**	**21 56 20.1**	**+1.0**
	comp=Z,11nm,0.9s							
ENH	**Enshi**	**54.43**	**313**	*e*P		**P**	**21 56 25.1**	**-0.6**
	comp=Z,20nm,0.9s							
CN2	**Changchun**	**54.47**	**336**	*e*P		**P**	**21 56 27.8**	**+2.2**
CN2				*ep*P		**pP**	**21 56 47.0**	**+3.9**
CN2				*e*S		**S**	**22 04 00.8**	**+1.4**
CN2				pmax	pmax			
	comp=Z,30nm,1.2s							
CN2				LR	LR			
	comp=N,500nm,20.0s							
CN2				LR	LR			
	comp=E,400nm,20.0s							
CN2				LR	LR			
	comp=Z,300nm,22.0s							
GYA	**Guiyang**	**54.69**	**307**	⇑*i*P		**P**	**21 56 30.5**	**+2.8**
GYA				pP		pP	21 56 51.3	+6.0
GYA				sP		sP	21 57 01.2	+8.3
GYA				PP		PP	21 58 34.6	+3.6
GYA				ScP		**ScP**	**22 01 21.0**	**-1.6**
GYA				PcS		**PcS**	**22 01 29.8**	**-0.1**
GYA				S		**S**	**22 04 02.7**	**-0.6**
GYA				sS		sS	22 04 37.9	+4.9
GYA				SS		SS	22 07 45.0	-2.4
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=N,740nm,18.8s							
GYA				LR	LR			
	comp=E,680nm,19.0s							
GYA				LR	LR			
	comp=Z,710nm,18.9s							
HABR	**Khabarovsk**	**55.39**	**345**	P		**P**	**21 56 31.6**	**-0.6**
HABR				*e**PP		**pP**	**21 56 45.6**	**-4.1**
HABR				*e*			21 57 30.6	
HABR				*e*S		**S**	**22 04 09.9**	**-1.7**
HABR				*e**SS		sS	22 04 35.3	-6.0
HABR				*e*			22 06 13.5	
HABR				*e*SS		SS	22 07 53.7	-3.6
HABR				*e*SSS			22 10 03.9	
HABR				MLR	MLR			
	comp=Z,191nm,19.0s							
COCO	**West Island**	**56.09**	**259**	*e*P		**P**	**21 56 36.6**	**-1.3**
	comp=Z,5.7nm,0.4s,baz=52,slow=9.0,SNR=27							
COCO	**West Island**	**56.09**	**259**	*e*P		**P**	**21 56 36.5**	**-1.3**
BJT	**Baijiatuan**	**56.10**	**326**	*e*P		**P**	**21 56 36.3**	**-1.1**
BJT	**Baijiatuan**	**56.10**	**326**	*e*P		**P**	**21 56 36.3**	**-1.1**
BJI	**Beijing**	**56.11**	**326**	P		**P**	**21 56 36.0**	**-1.5**
BJI				S		**S**	**22 04 23.5**	**+2.0**
BJI				pmax	pmax			
	comp=Z,8.0nm,1.9s							
BJI				pmax	pmax			
	comp=Z,98nm,4.5s							
BJI				LR	LR			
	comp=N,370nm,21.4s							
BJI				LR	LR			
	comp=E,220nm,19.5s							
BJI				LR	LR			
	comp=Z,290nm,26.4s							
XAN	**Xi'an**	**56.88**	**316**	P		**P**	**21 56 42.5**	**-0.7**
XAN				pP		**pP**	**21 57 02.0**	**+1.2**
XAN				sP		**sP**	**21 57 09.7**	**+1.2**
XAN				pmax	pmax			
	comp=Z,3.0nm,1.4s							
XAN				pmax	pmax			
	comp=Z,52nm,13.6s							
KLR	**Kul'dur**	**56.97**	**343**	*e*P		P	21 56 39.5	-3.9
KLR				pmax	pmax			
	comp=E,34nm,1.6s							
KLR				pmax	pmax			
	comp=Z,100nm,1.6s							
KMI	**Kunming**	**57.29**	**304**	P		**P**	**21 56 49.0**	**+2.5**
KMI				pP		pP	21 57 10.1	+6.0
KMI				sP		sP	21 57 19.5	+7.7
KMI				PcP		**PcP**	**21 57 41.8**	**+1.7**
KMI				PP		**PP**	**21 58 58.7**	**+4.3**
KMI				S		**S**	**22 04 37.0**	**-1.1**
KMI				sS		sS	22 05 12.6	+4.6
KMI				ScS		**ScS**	**22 06 26.7**	**-3.7**
KMI				SS		**SS**	**22 08 28.5**	**-0.1**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KMI				pmax	pmax			
	comp=Z,190nm,6.5s							
KMI				LR	LR			
	comp=N,350nm,17.2s							
KMI				LR	LR			
	comp=E,410nm,19.5s							
KMI				LR	LR			
	comp=Z,410nm,25.4s							
PEA0B	**Petropavlovsk-**	**57.84**	**3**	*e*P		**P**	**21 56 49.7**	**+0.1**
PETK	**Petropavlovsk-**	**57.84**	**3**	P		**P**	**21 56 49.1**	**-0.4**
	comp=Z,7.7nm,0.9s,baz=166,slow=7.8,SNR=9.6							
PETK				LR		LR	22 17 14.5	
	comp=Z,351nm,20.4s,baz=181,slow=31							
PETK	**Petropavlovsk-**	**57.84**	**3**	P		**P**	**21 56 49.1**	**-0.4**
PETK	**Petropavlovsk-**	**57.84**	**3**	P		**P**	**21 56 49.1**	**-0.4**
CM31	**Chiang Mai Arr**	**58.21**	**295**	*e*P		**P**	**21 56 53.3**	**+0.6**
	comp=Z,3.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**58.21**	**295**	P		**P**	**21 56 53.2**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=118,slow=5.2,SNR=21							
CMAR				LR		LR	22 20 47.4	
	comp=Z,247nm,18.8s,baz=276,slow=35							
CMAR	**Chiang Mai Arr**	**58.21**	**295**	P		**P**	**21 56 53.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.21**	**295**	P		**P**	**21 56 53.2**	**+0.4**
CHTO	**Chiang Mai**	**58.32**	**295**	*e*P		**P**	**21 56 53.4**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,18nm,1.1s							
CHTO	**Chiang Mai**	**58.32**	**295**	*e*P		**P**	**21 56 53.4**	**-0.1**
	comp=Z,18nm,1.1s							
CHTO	**Chiang Mai**	**58.32**	**295**	P		**P**	**21 56 54.4**	**+0.9**
	comp=Z,19nm,1.2s							
CD2	**Chengdu**	**59.02**	**310**	P		**P**	**21 56 58.2**	**-0.1**
CD2				pP		**pP**	**21 57 19.0**	**+3.0**
CD2				sP		**sP**	**21 57 28.1**	**+4.5**
CD2				PP		**PP**	**21 59 11.4**	**+1.9**
CD2				S		**S**	**22 04 57.1**	**-3.0**
CD2				sS		**sS**	**22 05 32.8**	**+2.7**
CD2				SS		**SS**	**22 08 54.0**	**-1.2**
CD2				pmax	pmax			
	comp=Z,30nm,0.6s							
CD2				pmax	pmax			
	comp=Z,150nm,4.7s							
CD2				LR	LR			
	comp=N,700nm,14.3s							
CD2				LR	LR			
	comp=Z,520nm,15.5s							
HHC	**Hu-ho-hao-te**	**59.27**	**324**	*e*P		**P**	**21 57 00.4**	**+0.5**
HHC				pP		**pP**	**21 57 22.0**	**+4.4**
HHC				sP		sP	21 57 30.6	+5.4
HHC				PP		**PP**	**21 59 16.3**	**+4.7**
HHC				S		**S**	**22 05 00.9**	**-2.3**
HHC				ScS		**ScS**	**22 06 41.6**	**-2.5**
HHC				pmax	pmax			
	comp=Z,12nm,0.7s							
HHC				pmax	pmax			
	comp=Z,180nm,6.3s							
HHC				LR	LR			
	comp=N,250nm,15.5s							
HHC				LR	LR			
	comp=E,270nm,16.9s							
HHC				LR	LR			
	comp=Z,400nm,17.1s							
BTO	**Baotou**	**60.03**	**323**	*e*P		P	21 56 56.6	-8.5
HIA	**Hailar**	**61.20**	**336**	*e*P		**P**	**21 57 13.2**	**+0.4**
HIA				pmax	pmax			
	comp=Z,20nm,1.1s							
HIA	**Hailar**	**61.20**	**336**	*e*P		**P**	**21 57 13.2**	**+0.4**
	comp=Z,20nm,1.1s							
LZH	**Lanzhou**	**61.49**	**316**	⇑P		**P**	**21 57 16.1**	**+0.9**
LZH

comp=Z,11nm,0.9s
LSA Lhasa 68.54 304 *e*P **P** **21 58 01.6 +0.1**
comp=Z,11nm,0.9s
YAK Yakutsk 69.07 348 *e*P **P** **21 58 01.6 -1.8**
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK Yakutsk 69.07 348 *e*P **P** **21 58 03.8 +0.4**
comp=N,16nm,1.0s
ZAK Zakamensk 69.70 329 *e*P **P** **21 58 07.2 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
BOD Bodaibo 69.94 339 *e*P P 21 58 05.3 -3.6
BOD pmax pmax
comp=Z,12nm,1.6s
MOY Mondy 71.62 329 *e*P P 21 58 23.3 +3.9
VNDA Vanda 72.79 178 *e*P **P** **21 58 25.2 -0.7**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 72.79 178 *e*P **P** **21 58 25.2 -0.7**
comp=Z,17nm,1.0s
BILL Bilibino 73.28 5*c i*P **P** **21 58 30.6 +1.8**
BILL *e* 21 58 42.4
BILL *e*SS SS 22 12 32.8 -2.2
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 73.28 5 *e*P **P** **21 58 28.6 -0.2**
comp=Z,15nm,0.9s
WMQ Urumqi 76.00 317 P **P** **21 58 45.4 +0.3**
WMQ PcP **PcP** **21 58 57.7 +0.5**
WMQ pP **pP** **21 59 06.2 +2.7**
WMQ sP **sP** **21 59 13.4 +2.4**
WMQ LR LR
comp=N,470nm,20.9s
WMQ LR LR
comp=E,200nm,19.5s
WMQ LR LR
comp=Z,230nm,19.5s
KDAK Kodiak Island 76.04 27 LR LR 22 26 18.3
comp=Z,550nm,21.2s,baz=170,slow=31
HYB Hyderabad 76.83 289 *i* P **P** **21 58 50.0 -0.3**
SLKM Skilak Lake 78.54 25 *e*P **P** **21 59 00.2 +1.3**
SLKM Skilak Lake 78.54 25 *e*P **P** **21 59 00.2 +1.3**
DDI Dehra Dun 79.65 302 *ex* **P** **21 59 06.1 +0.4**
MK31 Makanchi Array 80.58 319 *e*P **P** **21 59 10.3 0.0**
MK31 Makanchi Array 80.58 319 *e*P **P** **21 59 10.3 0.0**
MKAR Makanchi Array 80.58 319 P **P** **21 59 10.2 -0.1**
comp=Z,3.0nm,0.6s,baz=92,slow=7.8,SNR=78
MKAR pP **pP** **21 59 26.4 -2.4**
comp=Z,8.8nm,0.8s,baz=97,slow=6.6,SNR=13
MKAR LR LR 22 36 26.1
comp=Z,246nm,18.9s,baz=112,slow=37
MKAR Makanchi Array 80.58 319 P **P** **21 59 10.2 -0.1**
MKAR *PP **pP** **21 59 26.5 -2.4**
MKAR Makanchi Array 80.58 319 P **P** **21 59 10.2 -0.1**
MKAR pP **pP** **21 59 26.4 -2.4**
ZAA0 Zalesovo Array 81.37 326 *e*P **P** **21 59 13.1 -1.2**
ZALV Zalesovo Beam 81.37 326 P **P** **21 59 13.1 -1.2**
comp=Z,1.8nm,0.4s,baz=115,slow=6.3,SNR=15
ZALV pP **pP** **21 59 29.9 -2.9**
comp=Z,6.1nm,0.8s,baz=108,slow=5.4,SNR=7.5
ZALV LR LR 22 35 36.4
comp=Z,175nm,20.0s,baz=270,slow=36
ZALV Zalesovo Beam 81.37 326 P **P** **21 59 13.1 -1.2**
ZALV *PP **pP** **21 59 30.0 -2.9**
ZALV Zalesovo Beam 81.37 326 P **P** **21 59 13.1 -1.2**
ZALV pP **pP** **21 59 29.9 -2.9**
COLA College 81.74 22 *e*P **P** **21 59 16.1 +0.1**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 81.74 22 *e*P **P** **21 59 16.1 +0.1**
comp=Z,12nm,0.8s
ILAR Eielson Array 82.05 22 P **P** **21 59 16.1 -1.6**
comp=Z,1.5nm,0.9s,baz=263,slow=4.6,SNR=12
ILAR LR LR 22 36 59.0
comp=Z,238nm,18.1s,baz=79,slow=37
ILAR Eielson Array 82.05 22 P **P** **21 59 16.1 -1.6**
ILAR Eielson Array 82.05 22 P **P** **21 59 16.1 -1.6**
NVS Novosibirsk 82.54 327⇑ *i*P **P** **21 59 18.7 -1.7**
NVS *e*S **S** **22 09 31.8 -0.1**
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,15nm,1.8s
NVS pmax pmax
comp=Z,30nm,1.8s
NVS pmax pmax
comp=N,2.0nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.8s
NVS pmax pmax
comp=Z,10.0nm,1.8s
NVS smax smax
comp=N,4.0nm,1.7s
NVS smax smax
comp=E,19nm,2.2s
KSH Kashi 83.22 311 P **P** **21 59 26.6 +2.1**
KSH *e*pP **pP** **21 59 46.6 +3.5**
KSH *e*sP **sP** **21 59 54.7 +4.2**
KSH *e*PP **PP** **22 02 40.5 +3.7**
KSH *e*SKS **S** **22 09 36.1 -3.7**
KSH *e*S **SKSac** **22 09 37.1 -3.9**
KSH *e*sS **sS** **22 10 14.6 +3.2**
KSH *e*SS **SS** **22 15 09.3 +3.5**
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH pmax pmax
comp=Z,130nm,3.4s
KSH LR LR
comp=N,140nm,5.4s
KSH LR LR
comp=E,200nm,5.7s
KSH LR LR
comp=Z,130nm,6.1s
KURK Kurchatov 84.00 322*c i*P **P** **21 59 27.5 -0.6**
KURK pmax pmax
comp=Z,24nm,1.7s
KURK Kurchatov 84.00 322 *e*P **P** **21 59 27.4 -0.6**
comp=Z,36nm,1.3s
KURK Kurchatov 84.00 322 P **P** **21 59 27.9 -0.1**
comp=Z,50nm,0.8s,SNR=9.6
TKM2 Tokmak 2 84.20 314 P **P** **21 59 29.8 +0.3**
SNR=6.7
TKM2 P **P** **21 59 29.8 +0.3**
SNR=6.7
TKM2 Tokmak 2 84.20 314 *i* P **P** **21 59 29.8 +0.3**
TKM2 Tokmak 2 84.20 314 *e*P **P** **21 59 29.3 -0.3**
comp=Z,11nm,0.8s
KZA Kyzart 84.28 313 P **P** **21 59 31.4 +1.1**
SNR=7.3
KZA P **P** **21 59 31.4 +1.1**
SNR=7.3
KBK Karagaybulak 84.61 314 P **P** **21 59 31.8 +0.2**
SNR=6.8
KBK P **P** **21 59 31.8 +0.2**
SNR=6.8
CHMS Chumysh 84.82 314 P **P** **21 59 33.2 +0.7**
SNR=8.9
CHMS P **P** **21 59 33.2 +0.7**
SNR=8.9
FRU Bishkek 84.89 314 *e*P **P** **21 59 34.0 +1.2**
FRU pmax pmax
comp=Z,50nm,1.9s
AAK Ala-Archa 84.94 313 P **P** **21 59 33.7 +0.4**
SNR=11
AAK P **P** **21 59 33.7 +0.4**
SNR=11
AAK Ala-Archa 84.94 313*d i*P **P** **21 59 33.6 +0.4**
AAK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 84.94 313 *e*P **P** **21 59 33.5 +0.3**
comp=Z,68nm,0.9s
AAK Ala-Archa 84.94 313 P **P** **21 59 33.9 +0.7**
comp=Z,88nm,0.6s,SNR=8.2
USP Ospenovka 85.06 314 P **P** **21 59 34.0 +0.4**
SNR=17
USP P **P** **21 59 34.0 +0.4**
SNR=17
QSPA South Pole Qui 85.14 180 *e*P **P** **21 59 35.1 +1.4**
comp=Z,31nm,1.1s
AML Almayashu 85.42 313 P **P** **21 59 36.6 +0.7**
SNR=15
AML P **P** **21 59 36.6 +0.7**
SNR=15
EKS2 Erkin-Say 85.46 313 P **P** **21 59 36.6 +0.9**
SNR=11
EKS2 P **P** **21 59 36.6 +0.9**
SNR=11
EKS2 Erkin-Say 85.46 313 *e*P **P** **21 59 35.8 0.0**
EKS2 pmax pmax
comp=Z,20nm,0.9s
EKS2 Erkin-Say 85.46 313 *e*P **P** **21 59 35.8 0.0**
comp=Z,20nm,0.9s
MAW Mawson 85.68 203 P **P** **21 59 36.0 -0.1**
comp=Z,2.6nm,0.4s,baz=55,slow=8.4,SNR=13
MAW Mawson 85.68 203 P **P** **21 59 36.0 -0.1**
MAW Mawson 85.68 203 P **P** **21 59 36.0 -0.1**
BBB Bella Bella 86.90 37 LR LR 22 33 54.4
comp=Z,146nm,18.0s,baz=72,slow=32
DLBC Dease Lake 87.22 31 LR LR 22 34 31.0
comp=Z,570nm,19.0s,baz=112,slow=33
KKAR Karatay Array 87.90 313 *e*P **P** **21 59 47.5 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 87.90 313 *e*P **P** **21 59 47.5 0.0**
comp=Z,2.7nm,0.6s
INK Inuvik 88.35 21 LR LR 22 43 07.0
comp=Z,366nm,18.0s,baz=315,slow=38
BRVK Borovoye 89.54 323*d i*P **P** **21 59 53.9 -1.0**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 89.54 323 *e*P **P** **21 59 54.1 -0.9**
comp=Z,17nm,0.9s
ZRNK Zerenda 90.29 323 *i* P P 21 59 55.3 -3.2
ZRNK pmax pmax
comp=Z,15nm,1.0s
NVAR Mina Array Bea 91.82 52 P **P** **22 00 07.9 +1.7**
comp=Z,0.5nm,0.6s,baz=335,slow=5.7,SNR=3.6
NVAR LR LR 22 34 01.8
comp=Z,290nm,18.8s,baz=96,slow=31
NVAR Mina Array Bea 91.82 52 P **P** **22 00 07.9 +1.7**
SYO Syowa Base 93.76 199⇑ *e*SP sP 22 00 42.2 +1.8
YKA Yellowknife Ar 95.28 28 P **P** **22 00 21.5 +0.2**
comp=Z,0.6nm,0.8s,baz=273,slow=5.1,SNR=6.7
YKA pP **pP** **22 00 35.2 -4.8**
comp=Z,1.0nm,0.8s,baz=265,slow=4.5,SNR=6.9
YKA LR LR 22 37 19.8
comp=Z,40nm,19.8s,baz=280,slow=32
YKA Yellowknife Ar 95.28 28 P **P** **22 00 21.5 +0.2**
YKA *PP **pP** **22 00 35.3 -4.8**
YKA Yellowknife Ar 95.28 28 P **P** **22 00 21.5 +0.2**
YKA pP **pP** **22 00 35.2 -4.8**
ABKAR Akbulak array 95.72 319 *e*P **P** **22 00 20.5 -3.1**
comp=Z,1.1nm,0.6s
ARU Arti 96.53 326 P **P** **22 00 24.2 -2.9**
PDAR Pinedale Array 98.60 48 LR LR 22 43 30.7
comp=Z,263nm,18.0s,baz=95,slow=34
KIV Kislovodsk 108.03 315 *e*P **Pdif** **22 01 18.7 -0.1**
KIV pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 114.72 324 PKP PKPdf 22 05 36.7 -1.1
comp=Z,0.7nm,0.4s,baz=55,slow=3.1,SNR=3.3
AKASG pPKP pPKiKP 22 05 54.0 -3.4
comp=Z,1.8nm,0.6s,baz=55,slow=2.6,SNR=4.1
AKASG Malin Array Be 114.72 324 PKIKP PKPdf 22 05 36.7 -1.1
AKASG Malin Array Be 114.72 324 PKP PKPdf 22 05 36.7 -1.1
AKASG pPKP pPKiKP 22 05 54.0 -3.4
BRTR Keskin Array B 115.58 312 PKP **PKPdf** **22 05 39.4 -0.7**
comp=Z,0.4nm,0.7s,baz=338,slow=3.4,SNR=2.6
BRTR Keskin Array B 115.58 312 PKIKP **PKPdf** **22 05 39.4 -0.7**
BRTR Keskin Array B 115.58 312 PKP **PKPdf** **22 05 39.4 -0.7**
NOA NORSAR Array B 117.05 340 PKP **PKPdf** **22 05 43.4 +1.3**
comp=Z,1.2nm,0.8s,baz=121,slow=12,SNR=2.7
NOA pPKP **pPKPdf** **22 05 58.8 -2.9**
comp=Z,1.2nm,0.7s,baz=45,slow=2.0,SNR=2.5
NOA NORSAR Array B 117.05 340 PKIKP **PKPdf** **22 05 43.4 +1.3**
NOA 22 05 58.8
NOA NORSAR Array B 117.05 340 PKP **PKPdf** **22 05 43.4 +1.3**
NOA pPKP **pPKPdf** **22 05 58.8 -2.9**
PLCA Paso Flores 119.55 143 PKP **PKPdf** **22 05 47.1 -0.5**
comp=Z,1.1nm,0.7s,baz=258,slow=12,SNR=2.5
PLCA Paso Flores 119.55 143 PKIKP **PKPdf** **22 05 47.1 -0.5**
PLCA Paso Flores 119.55 143 PKP **PKPdf** **22 05 47.1 -0.5**
BOSA Boshof 119.89 233 PKP **PKPdf** **22 05 50.3 +1.6**
comp=Z,1.7nm,0.9s,baz=191,slow=12,SNR=2.0
BOSA pPKP **pPKPdf** **22 06 04.8 -3.4**
comp=Z,2.8nm,0.8s,baz=162,slow=3.9,SNR=2.7
BOSA Boshof 119.89 233 PKIKP **PKPdf** **22 05 50.3 +1.6**
BOSA 22 06 04.8
BOSA Boshof 119.89 233 PKP **PKPdf** **22 05 50.3 +1.6**
BOSA pPKP **pPKPdf** **22 06 04.8 -3.4**
PVCC Panska Ves 122.77 330 *e*PKIKP pPKPdf 22 06 08.9 -4.0
PVCC Panska Ves 122.77 330 *e*pPKP pPKPdf 22 06 08.9 -4.0
BRG Berggiesshubel 122.86 330 *e*PKP pPKPdf 22 06 09.2 -3.8
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 122.86 330 *e*PKIKP **pPKPdf** **22 06 09.2 -3.8**
BRG pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 123.04 331 *e*PKIKP **PKPdf** **22 05 58.0 +4.2**
CLL *e* 22 06 11.0
CLL MLR MLR
comp=Z,200nm,21.7s
CLL Collm 123.04 331 *e*(PKPdf) **PKPdf** **22 05 58.0 +4.2**
CLL *e*pPKPdf **pPKPdf** **22 06 11.0 -2.4**
CLL *es*PKPdf **sPKPdf** **22 06 16.0 -4.6**
CLL LmV 23 00 00.0
comp=Z,200nm,21.7s
TREC Trest 123.05 328 *e*PKIKP pPKPdf 22 06 09.4 -4.1
TREC Trest 123.05 328 *e*pPKP pPKPdf 22 06 09.4 -4.1
CSNA Conrad Observa 123.66 327⇑ *i*pPKPdf pPKPdf 22 06 10.1 -4.8
comp=Z,10nm,1.5s
KHC Kasperske Hory 124.14 329 *e*PKIKP pPKPdf 22 06 11.2 -4.5
KHC Kasperske Hory 124.14 329 *e*PKPdf **PKPdf** **22 05 56.5 +0.4**
KHC *e*pPKP **pPKPdf** **22 06 11.2 -4.5**
GERES GERESS Array B 124.26 329 PKP **PKPdf** **22 05 56.7 +0.3**
comp=Z,0.9nm,0.5s,baz=49,slow=1.8,SNR=16
GERES pPKP **pPKPdf** **22 06 11.7 -4.3**
comp=Z,2.7nm,0.7s,baz=82,slow=1.4,SNR=8.3
GERES GERESS Array B 124.26 329 PKIKP **PKPdf** **22 05 56.7 +0.3**
GERES 22 06 11.7
GERES GERESS Array B 124.26 329 PKP **PKPdf** **22 05 56.7 +0.3**
GERES pPKP **pPKPdf** **22 06 11.7 -4.3**
FETA Feichten 126.96 329⇑ *i*pPKPdf pPKPdf 22 06 16.6 -4.6
comp=Z,17nm,1.1s
CDF Champ du Feu 127.73 332 *e*PKIKP **PKPdf** **22 06 04.5 +1.5**
BAIF Baives 127.89 335 *e*PKIKP **PKPdf** **22 06 05.5 +2.3**
comp=Z,29nm,1.3s
HINF Hinteralfeld 128.35 332 *e*PKIKP **PKPdf** **22 06 06.5 +2.3**
comp=Z,38nm,1.5s
HAU Haudompre 128.45 332 *e*PKIKP **PKPdf** **22 06 06.0 +1.6**
MEZF Maizieres J'vi 128.69 333 *e*PKIKP **PKPdf** **22 06 05.7 +1.0**
LPL La Plagne 130.03 329 *e*PKIKP **PKPdf** **22 06 09.2 +1.5**
LPG La Plagne 130.03 329 *e*PKIKP **PKPdf** **22 06 08.9 +1.1**
LOR Lormes 130.14 333 *e*PKIKP **PKPdf** **22 06 09.3 +1.7**
comp=Z,8.3nm,0.8s
SSF Saint Saulge 130.46 333 *e*PKIKP **PKPdf** **22 06 09.8 +1.6**
comp=Z,55nm,1.6s
BGF Bois d'Agland 131.13 333 *e*PKIKP **PKPdf** **22 06 11.6 +2.1**
LPAZ La Paz 134.09 118 PKP **PKPdf** **22 06 15.8 -0.8**
comp=Z,0.7nm,0.5s,baz=37,slow=5.1,SNR=2.7
LPAZ pPKP **pPKPdf** **22 06 33.0 -3.2**
comp=Z,2.6nm,0.7s,baz=274,slow=2.8,SNR=3.7
LPAZ La Paz 134.09 118 PKIKP **PKPdf** **22 06 15.8 -0.8**
LPAZ La Paz 134.09 118 PKP **PKPdf** **22 06 15.8 -0.8**
LPAZ pPKP **pPKPdf** **22 06 33.0 -3.2**
ESDC Sonseca Array 139.61 332 PKP **PKPdf** **22 06 24.8 -0.7**
comp=Z,0.2nm,0.5s,baz=7.1,slow=32,SNR=2.6
ESDC pPKP **pPKPdf** **22 06 41.4 -3.7**
comp=Z,1.1nm,0.7s,baz=16,slow=1.9,SNR=4.4
ESDC Sonseca Array 139.61 332 PKP **PKPdf** **22 06 24.8 -0.7**
ESDC pPKP **pPKPdf** **22 06 41.4 -3.7**
TAM Tamanrasset 143.99 303 *e*PKIKP PKPbc 22 06 32.5 +0.5
TAM Tamanrasset 143.99 303 *e*PKPdf PKPbc 22 06 32.5 +0.5
TORD Torodi Ar. Bea 150.65 288 PKPbc **PKPbc** **22 06 50.2 -0.3**
comp=Z,7.5nm,0.7s,baz=70,slow=2.4,SNR=44
TORD Torodi Ar. Bea 150.65 288 PKPbc **PKPbc** **22 06 50.2 -0.3**
DBIC Dimbokro 158.04 276 PKPab **PKPab** **22 07 30.4 +1.4**
comp=Z,4.4nm,0.6s,baz=82,slow=3.4,SNR=6.9
DBIC Dimbokro 158.04 276 PKP2 **PKPab** **22 07 30.4 +1.4**
DBIC Dimbokro 158.04 276 PKPab **PKPab** **22 07 30.4 +1.4**

IDC 08 22:02:41.3±3.4,**19.03S**×**177.67W**,**h590**km±39km,
mb3.1/9,**mb1 3.3**/11,**mb1mx3.2**/20,**mbtmp3.1**/11,**Error ellipse: s-maj=25.6km s-min=19.4km az=162.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.19**	**256**	P		P	22 05 53.2	+1.5
	0.6nm,0.3s,baz=81,slow=19,SNR=5.2							
URZ	**Urewera**	**19.70**	**192**	P		P	22 06 31.1	-1.5
	1.0nm,0.3s,baz=279,slow=12,SNR=5.1							
STKA	**Stephens Creek**	**38.73**	**243**	P		P	22 09 16.8	+0.5
	1.0nm,0.4s,baz=334,slow=20,SNR=6.2							
WRA	**Warramunga Arr**	**45.13**	**261**	P		P	22 10 06.0	-0.7
	1.2nm,0.4s,baz=98,slow=7.4,SNR=43							
WRA				PcP		PcP	22 11 34.0	-0.3
	0.4nm,0.5s,baz=90,slow=3.9,SNR=6.3							
ASAR	**Alice Springs**	**45.18**	**255**	P		P	22 10 06.8	-0.2
	1.7nm,0.5s,baz=88,slow=8.3,SNR=26							
ASAR				PcP		PcP	22 11 33.7	-0.8
	0.8nm,0.6s,baz=97,slow=4.0,SNR=7.0							
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P		P	22 11 08.6	+0.3
	0.8nm,0.4s,baz=116,slow=8.0,SNR=2.8							
NVAR	**Mina Array Bea**	**79.74**	**43**	P		P	22 13 49.4	+0.1
	0.4nm,0.5s,baz=230,slow=2.1,SNR=2.5							
MAW	**Mawson**	**83.05**	**200**	P		P	22 14 06.2	+0.9
	1.4nm,0.6s,baz=121,slow=5.9,SNR=2.8							
TXAR	**Lajitas Array**	**86.00**	**57**	P		P	22 14 22.2	+1.6
	0.9nm,0.8s,baz=223,slow=7.7,SNR=7.8							
ILAR	**Eielson Array**	**86.81**	**13**	P		P	22 14 22.1	-1.4
	0.4nm,0.6s,baz=230,slow=4.9,SNR=11							
CMAR	**Chiang Mai Arr**	**89.92**	**289**	P		P	22 14 40.1	+1.1
	0.3nm,0.5s,baz=113,slow=2.0,SNR=4.1							
ZALV	**Zalesovo Beam**	**109.54**	**322**	PKiKP		PKiKP	22 20 04.1	-1.2
	0.2nm,0.3s,baz=201,slow=2.5,SNR=2.5							
MKAR	**Makanchi Array**	**110.41**	**314**	PKiKP		PKiKP	22 20 05.6	-1.7
	0.3nm,0.7s,baz=209,slow=1.4,SNR=7.4							
ARCES	**ARCESS Array B**	**127.53**	**350**	PKP		PKPdf	22 20 38.7	-0.8
	6.8nm,1.0s,baz=34,slow=0.3,SNR=7.3							
BRTR	**Keskin Array B**	**146.06**	**314**	PKPbc		PKPbc	22 21 16.1	-0.4
	1.7nm,0.9s,baz=354,slow=2.5,SNR=4.6							
GERES	**GERESS Array B**	**148.87**	**345**	PKPbc		PKPbc	22 21 22.9	-0.5
	0.8nm,0.6s,baz=10,slow=1.5,SNR=7.0							
TORD	**Torodi Ar. Bea**	**174.12**	**174**	PKPab		PKPab	22 23 20.7	+0.3
	0.6nm,0.8s,baz=3.1,slow=0.7,SNR=1.8							

CASC 08 22:07:42.2±2.3,**10.16N**×**84.20W**,**h0**km±3km,**MD3.9, ML4.4,2C-5D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.26**	**147**⇓ *i*P			Pg	22 07 48.6	+1.2
SJS				*e*S		Sb	22 07 54.4	-0.9
CGA2	**Cerro Gallo 2**	**0.30**	**241**⇑ *i*P			Pb	22 07 49.6	-1.0
LAJ	**Bijagual**	**0.30**	**165**⇓ *i*P			Pn	22 07 55.0	+0.7
URSC	**Urasca**	**0.53**	**128**⇓ *i*P			Pg	22 07 53.1	+0.5
CASO	**Castillo**	**0.59**	**297** *i* P			Pb	22 07 55.2	-0.4
CASO				*i* P		Pb	22 07 55.2	-0.4
QCR	**Quepos**	**0.73**	**177**⇓ *i*P			Pg	22 07 56.8	+0.5
QCR				*e*S		Sb	22 08 07.2	-1.3
BUS	**Buena Vista**	**0.74**	**144**⇓ *i*P			Pg	22 07 56.8	-0.3
AMAS	**Alto Masis**	**0.90**	**300** *i* P			Pg	22 07 59.8	+0.1
AMAS				*i* S		Sg	22 08 12.2	+0.8
JCR	**Jicaral**	**0.95**	**251**⇑ *i*P			Pg	22 08 01.0	+0.5
JCR				*e*S		Sb	22 08 15.1	+0.2
CUI	**Cuipilapa**	**1.07**	**298** *i* P			Pg	22 08 02.9	+0.1
GUAB	**Guayabo de Bag**	**1.15**	**298** *i* P			Pg	22 08 04.5	+0.2
LIM1	**Limonal**	**1.16**	**297** *i* P			Pg	22 08 04.8	+0.1
BUEV	**Buena Vista**	**1.34**	**298** *i* P			Pg	22 08 08.2	0.0
GB1A	**Borinquen Arri**	**1.35**	**299** *i* P			Pg	22 08 08.0	-0.2
LAPC	**Finca la Perla**	**1.35**	**297** *i* P			Pg	22 08 07.2	-1.1
LAPC				*i* S		Sb	22 08 26.6	+0.2
GBS3	**Finca Las Im˜¡**	**1.38**	**297** *i* P			Pg	22 08 08.3	-0.5
GBS2	**Las Lilas**	**1.40**	**299** *i* P			Pn	22 08 08.2	-0.9
ACR	**Cerro Adams**	**1.81**	**146** *e*P			Pn	22 08 14.9	+0.1
BRU2	**Volcan**	**2.02**	**132** *i* P			Pn	22 08 18.5	+0.8
BRU2				AML		AML	22 08 21.7	
	comp=Z,5μm,0.6s							
BRU2				*i* S		Sg	22 08 47.7	+0.3
TBS2		**2.04**	**132** *e*P			Pn	22 08 19.0	+1.0
TBS2				*i* S		Sb	22 08 46.0	-0.6
TBS2				*i* S		Sn	22 08 46.0	+1.6
PTP	**Ponta Puerca**	**19.71**	**64** *i* P			x	22 08 26.0	

WEL 08 22:08:16.7±0.5,**39.69S**×**174.00E**,**h203**km±4km,**ML3.7**/11, **Error ellipse: s-maj=2.7km s-min=1.5km az=90.0,Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WAZ	**Wanganui**	**0.77**	**95**	PN		Pn	22 08 46.3	+0.9
DUWZ	**D'Urville Isla**	**1.11**	**183**	PN		Pn	22 08 47.9	+0.3
DUWZ				SN		S	22 09 10.4	-1.1
MTVZ	**Mangateitei**	**1.18**	**75**	PN		Pn	22 08 48.1	0.0
MTVZ				SN		S	22 09 10.5	-1.7
TRVZ	**Turoa**	**1.26**	**72**	PN		Pn	22 08 48.9	-0.1
TWVZ	**Taurewa**	**1.28**	**61**	PN		Pn	22 08 48.3	-0.6
FWVZ	**Far West T-bar**	**1.28**	**71**	PN		Pn	22 08 48.7	-0.4
DRZ	**Dome Shelter**	**1.28**	**72**	PN		Pn	22 08 49.4	+0.1
WNVZ	**Wahianoa**	**1.29**	**74**	PN		Pn	22 08 49.1	0.0
WPVZ	**Whakapapa**	**1.29**	**68**	PN		Pn	22 08 49.0	-0.1
NGZ	**Ngauruhoe**	**1.34**	**68**	PN		Pn	22 08 49.4	-0.2
HIZ	**Hauiti**	**1.35**	**30**	PN		Pn	22 08 48.8	-0.7
WTVZ	**West Tongariro**	**1.36**	**66**	PN		Pn	22 08 49.4	-0.3
KIW	**Kapiti Island**	**1.36**	**149**	PN		Pn	22 08 49.5	0.0
MOVZ	**Moawhango**	**1.39**	**79**	PN		Pn	22 08 49.2	-0.6
OTVZ	**Oturere**	**1.40**	**68**	PN		Pn	22 08 50.0	0.0
KRVZ	**Karewarewa**	**1.41**	**65**	PN		Pn	22 08 49.8	-0.3
OGWZ	**Otaki Gorge**	**1.44**	**142**	PN		Pn	22 08 50.2	+0.1
KATZ	**Kakaramea**	**1.50**	**62**	PN		Pn	22 08 50.6	-0.2
POWZ	**Post Office Ro**	**1.53**	**118**	PN		Pn	22 08 50.8	-0.1
TCW	**Tory Channel**	**1.53**	**172**	PN		Pn	22 08 51.2	+0.3
MRZ	**Mangatainoka R**	**1.55**	**129**	PN		Pn	22 08 51.0	-0.1
TSZ	**Takapari Road**	**1.56**	**104**	PN		Pn	22 08 51.1	-0.1
NNZ	**Nelson**	**1.60**	**197**	PN		Pn	22 08 51.5	0.0
QRZ	**Quartz Range**	**1.60**	**224**	PN		Pn	22 08 51.0	-0.5
BHHZ	**Black Hill Sta**	**1.61**	**83**	PN		Pn	22 08 50.9	-0.8
CAW	**Cannon Point**	**1.64**	**150**	PN		Pn	22 08 51.7	-0.2
SNZO	**South Karori**	**1.70**	**162**	PN		Pn	22 08 52.1	-0.3
PNHZ	**Pukenui**	**1.71**	**98**	PN		Pn	22 08 52.5	-0.2
TUWZ	**Tuamarina**	**1.74**	**181**	PN		Pn	22 08 52.8	0.0
DVHZ	**Dannevirke**	**1.77**	**111**	PN		Pn	22 08 53.0	-0.2
BHW	**Baring Head**	**1.84**	**159**	SN		S	22 09 20.4	-1.9
MTW	**Mount Morrison**	**1.86**	**142**	PN		Pn	22 08 53.6	-0.4
WPHZ	**Waipukurau**	**1.92**	**102**	PN		Pn	22 08 54.6	0.0
MSWZ	**Moikau Station**	**1.97**	**151**	PN		Pn	22 08 54.4	-0.6
BFZ	**Birch Farm**	**1.99**	**121**	PN		Pn	22 08 54.9	-0.4
BKZ	**Black Stump Fm**	**2.00**	**76**	PN		Pn	22 08 54.8	-0.8
BSWZ	**Blackbirch Sta**	**2.02**	**183**	PN		Pn	22 08 55.8	+0.2
MCHZ	**McNeill Hill**	**2.10**	**84**	PN		Pn	22 08 56.8	+0.3
PLWZ	**Palliser**	**2.11**	**153**	PN		Pn	22 08 55.8	-0.8
PRHZ	**Porangahau**	**2.11**	**107**	PN		Pn	22 08 56.4	-0.1
TRWZ	**Traveller**	**2.14**	**143**	SN		S	22 09 25.7	-2.0
KAHZ	**Kahuranaki**	**2.22**	**94**	PN		Pn	22 08 57.8	0.0
THZ	**Tophouse**	**2.23**	**202**	PN		Pn	22 08 57.4	-0.5
PXZ	**Pawanui**	**2.23**	**100**	PN		Pn	22 08 57.6	-0.2
NMHZ	**Naumai**	**2.26**	**76**	PN		Pn	22 08 58.2	0.0
CKHZ	**Cape Kidnapper**	**2.38**	**90**	PN		Pn	22 08 59.4	0.0
KHZ	**Kahutara**	**2.75**	**187**	PN		Pn	22 09 02.7	-0.7
URZ	**Urewera**	**2.82**	**60**	PN		Pn	22 09 02.4	-1.9
KNZ	**Kokohu**	**2.93**	**78**	PN		Pn	22 09 04.6	-1.0
MHGZ	**Mahia Peninsul**	**3.08**	**81**	PN		Pn	22 09 06.9	-0.5
PRGZ	**Paritu Road**	**3.11**	**77**	PN		Pn	22 09 06.8	-1.1
LTZ	**Lake Taylor**	**3.35**	**202**	PN		Pn	22 09 09.6	-1.0
CNGZ	**Carnagh Statio**	**3.49**	**71**	PN		Pn	22 09 11.6	-0.8
MXZ	**Matakaoa Point**	**3.99**	**59**	PN		Pn	22 09 16.2	-2.2
MQZ	**McQueen's Vall**	**4.14**	**194**	PN		Pn	22 09 17.6	-2.5
WVZ	**Waitaha Valley**	**4.18**	**215**	PN		Pn	22 09 19.2	-1.4
ODZ	**Otahua Downs**	**5.90**	**204**	SN		S	22 10 44.3	-6.0

*ISCJB **08** 22:09:45.5±1.5, 12.98N±0.05×122.53E±0.05, h7km±11km, mb3.6/7, MS3.5/2, Error ellipse: s-maj=11.2km s-min=5.4km az=137.1*
*IDC **08** 22:09:45.

AUQP	**San Andres**	**0.32**	**23**	*e*P	**Pg**	22 09 52.5	**+0.2**
AUQP				*e*S	**Sb**	**22 10 01.8**	**+1.9**
BOAC	**Boac**	**0.81**	**302**	*e*P	**Pg**	**22 10 00.8**	**-0.8**
BOAC				*e*S	**Sg**	**22 10 12.7**	**+0.5**
GQP	**Guinayangan**	**0.88**	**353**⇑	*e*P	**Pb**	**22 10 02.1**	**-1.8**
GQP				*i* S	**Sn**	**22 10 17.1**	**-1.4**
MMPH	**Masbate**	**1.24**	**122**⇑	*e*P	**Pn**	**22 10 09.3**	**-1.0**
MMPH				*e*S	**Sb**	**22 10 26.3**	**-0.2**
LQP	**Lukban**	**1.46**	**318**	*e*P	**Pg**	**22 10 14.8**	**+0.7**
RCP	**Roxas**	**1.47**	**172**⇓	*e*P	**Pn**	**22 10 13.1**	**-0.3**
RCP				*e*S	**Sg**	**22 10 35.4**	**+2.0**
PVCP	**Virac**	**1.66**	**70**	*e*P	**Pn**	**22 10 15.3**	**-0.7**
TGY	**Tagaytay City**	**1.90**	**304**	Pn	**Pn**	**22 10 19.3**	**-0.1**
	100nm,0.3s,baz=281,slow=2.2,SNR=20						
TGY				Lg	Lg	22 10 45.1	
	167nm,0.3s,baz=319,slow=21,SNR=11						
TGY	**Tagaytay City**	**1.90**	**304**⇑	*i*P	**Pb**	**22 10 20.7**	**-0.6**
PLP	**Palo**	**3.01**	**128**⇑	*e*P	**Pn**	**22 10 34.2**	**-0.4**
SNPH	**Sibulan**	**3.72**	**169**	*e*P	Pn	22 10 48.1	+3.7
JOW	**Kunigami**	**14.75**	**21**	LR	LR	22 18 35.6	
	comp=Z,539nm,19.1s,baz=284,slow=36						
KAPI	**Kappang**	**18.14**	**189**	LR	LR	22 21 10.0	
	comp=Z,287nm,19.2s,baz=169,slow=38						
GUMO	**Guam**	**21.73**	**86**	LR	LR	22 22 46.8	
	comp=Z,218nm,19.5s,baz=268,slow=36						
CMAR	**Chiang Mai Arr**	**23.34**	**286**	P	**P**	**22 14 55.4**	**-0.3**
	1.1nm,1.0s,baz=90,slow=9.0,SNR=4.6						
KSRS	**Korea Array**	**24.80**	**10**	LR	LR	22 26 02.1	
	comp=Z,113nm,19.4s,baz=174,slow=39						
USRK	**Ussuriysk Arra**	**32.11**	**13**	P	**P**	**22 16 14.0**	**-0.4**
	1.3nm,0.8s,baz=192,slow=8.0,SNR=3.5						
WRA	**Warramunga Arr**	**34.76**	**160**	P	**P**	**22 16 36.8**	**-1.0**
	1.4nm,1.1s,baz=342,slow=9.0,SNR=6.3						
SONM	**Songino Array**	**37.23**	**342**	P	**P**	**22 17 00.6**	**+1.7**
	0.2nm,0.4s,baz=150,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**38.12**	**163**	P	**P**	**22 17 06.1**	**-0.4**
	1.9nm,1.0s,baz=342,slow=7.4,SNR=7.7						
MKAR	**Makanchi Array**	**47.64**	**323**	P	**P**	**22 18 25.1**	**+1.6**
	0.2nm,0.6s,baz=124,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**48.24**	**158**	P	**P**	**22 18 28.0**	**-0.2**
	3.2nm,1.1s,baz=352,slow=7.0,SNR=3.4						

CASC 08 22:11:03.1±1.3, 13°.17N×89°.20W, h52km±15km, MD3.6, ML3.5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.47**	**16**	*e*P	Pn	22 11 14.2	-0.1
LFRS				*e*S	Sn	22 11 22.3	0.0
SNET	**Serv Nac Est T**	**0.51**	**356**	*e*P	Pn	22 11 14.9	+0.1
SNET				*e*P		22 11 14.9	
SNET				*e*S	Sn	22 11 24.0	+0.8
SNET				AML	AML	22 11 24.5	
	comp=Z,2μm,0.4s						
SNVI	**San Vicente**	**0.56**	**38**	*e*P	Pn	22 11 15.5	0.0
SNVI				*e*S	Sn	22 11 24.7	+0.4
BOQS	**Boqueron**	**0.57**	**352**	*e*P	Pn	22 11 15.6	-0.1
BOQS				*e*S	Sn	22 11 25.5	+0.9
LBRS	**Las Brisas**	**0.58**	**15**	*e*P	Pn	22 11 15.9	+0.3
SBLS	**San Blas**	**0.78**	**328**	*e*P	Pn	22 11 18.4	+0.1
SNJE	**San Jose**	**0.80**	**330**	*e*P	Pn	22 11 18.4	-0.1
SNJE				*e*S	Sn	22 11 30.4	+0.6
RTR	**El Retiro**	**0.84**	**329**	*e*P	Pn	22 11 19.3	+0.3
VSM	**San Miguel**	**0.94**	**74**	*e*P	Pn	22 11 20.3	-0.1
VSM				*e*S	Sn	22 11 34.5	+1.4
BLLM	**Bellamira**	**0.97**	**74**	*e*P	Pn	22 11 20.6	-0.1
BLLM				*e*S	Sn	22 11 35.2	+1.7
RBDL	**Robledal**	**1.05**	**333**	*e*P	Pn	22 11 21.6	-0.2
RBDL				*e*S	Sn	22 11 36.6	+1.0
CAHU	**Cacacuatique**	**1.13**	**58**	*e*P	Pn	22 11 22.5	-0.4
MTO2	**Montecristo 2**	**1.23**	**353**	*e*P	Pn	22 11 24.1	-0.3
CNCH	**Conchagua**	**1.33**	**85**	*e*P	Pn	22 11 25.0	-0.6
IXG	**Ixpaco**	**1.58**	**309**	*e*P	Pn	22 11 29.4	+0.5
IXG				*e*S	Sn	22 11 48.7	+0.3
NBG	**Las Nubes**	**1.80**	**322**	*e*P	Pn	22 11 31.4	-0.6
NBG				*e*S	Sn	22 11 49.7	-4.3
FUG	**Fuego 3**	**2.04**	**309**	*e*P	Pn	22 11 36.4	+1.1
FUG				*e*S	Sn	22 12 00.1	+0.3

*NEIC **08** 22:21:44.0, 52°.39N×164°.82W, h17km, ML3.5(AEIC), After AEIC.*
*IDC **08** 22:21:43.9±1.3, 52°.67N×164°.46W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.7/29, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=30.2km s-min=20.0km az=7.0*
*ISCJB **08** 22:21:44.7±0.7, 52°.50N±0°.05×164°.74W±0°.06, h33km, mb3.7/7, Error ellipse: s-maj=7.3km s-min=4.9km az=5.2*
ISC 08 22:21:46.7±0.9, 52°.54N±0°.08×164°.83W±0°.05, h35km, n35, σ1s30/41, mb3.7/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**1.65**	**323**	*e*Pn	**Pn**	**22 22 12.0**	**-1.1**
UNV				*e*Sn	**Sn**	**22 22 32.0**	**-0.9**
AHB	**Akutan Harbor**	**1.68**	**340**	P	**Pn**	**22 22 13.2**	**-0.4**
AHB				S	**Sn**	**22 22 36.0**	**+2.1**
AKA	**Akutan**	**1.69**	**341**	P	**Pn**	**22 22 13.2**	**-0.5**
AKA				S	**Sn**	**22 22 36.0**	**+2.0**
AKUT	**Akutan**	**1.69**	**341**	*e*Pn	**Pn**	**22 22 12.8**	**-0.8**
AKUT				*e*Sn	**Sn**	**22 22 35.8**	**+1.8**
ZRO	**Akutan Zero**	**1.69**	**337**	P	**Pn**	**22 22 13.2**	**-0.5**
MREP	**Makushin Rep't**	**1.71**	**319**	P	**Pn**	**22 22 13.0**	**-1.1**
AKGG	**Akutan Green G**	**1.80**	**338**	P	**Pn**	**22 22 14.7**	**-0.5**
MSOM	**Makushin Julie**	**1.80**	**316**	P	**Pn**	**22 22 14.2**	**-1.0**
MCIR	**Makushin Cirqu**	**1.88**	**320**	P	**Pn**	**22 22 15.7**	**-0.6**
FALS	**False Pass**	**2.47**	**19**	*e*Pn	**Pn**	**22 22 23.7**	**-0.6**
FALS				*e*Sn	**Sn**	**22 22 53.0**	**-0.1**
NIKO	**Nikolski**	**2.48**	**282**	*e*Pn	**Pn**	**22 22 22.3**	**-2.2**
NIKO				*e*S	**Sn**	**22 22 54.9**	**+1.4**
DRIA	**Deer Island**	**2.87**	**31**	P	**Pn**	**22 22 29.4**	**-0.4**
DT1	**Dutton Round H**	**2.98**	**29**	P	**Pn**	**22 22 31.0**	**-0.4**
DTNA	**Dutton South F**	**3.02**	**29**	P	**Pn**	**22 22 31.8**	**-0.2**
PS4A	**Pavlof South-4**	**3.31**	**31**	P	**Pn**	**22 22 36.1**	**+0.1**
SDPT	**Sand Point**	**3.81**	**41**	*e*Pn	**Pn**	**22 22 42.4**	**-0.3**
SDPT				*e*Sn	**Sn**	**22 23 26.4**	**+0.2**
CHGN	**Chignik**	**5.31**	**42**	*e*Pn	**Pn**	**22 23 02.9**	**-0.4**
CHGN				*e*Sn	**Sn**	**22 24 04.9**	**+1.7**
KDAK	**Kodiak Island**	**8.75**	**48**	Pn	**Pn**	**22 23 49.6**	**-0.9**
	0.6nm,0.3s,baz=357,slow=22,SNR=9.1						
KDAK				Sn	Sn	22 25 21.4	-6.4
	0.3nm,0.3s,baz=288,slow=7.3,SNR=4.6						
KDAK	**Kodiak Island**	**8.75**	**48**	Pn	**Pn**	**22 23 49.6**	**-0.9**
KDAK				Sn	Sn	22 25 21.4	-6.4
ILAR	**Eielson Array**	**15.32**	**30**	Pn	**Pn**	**22 25 17.2**	**-2.8**
	0.1nm,0.3s,baz=229,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**15.32**	**30**	Pn	**Pn**	**22 25 17.2**	**-2.8**
INK	**Inuvik**	**21.71**	**31**	P	**P**	**22 26 34.2**	**0.0**
	3.1nm,0.8s,baz=235,slow=12,SNR=11						
INK	**Inuvik**	**21.71**	**31**	P	**P**	**22 26 34.2**	**0.0**
NVAR	**Mina Array Bea**	**34.90**	**95**	P	**P**	**22 28 35.8**	**+0.9**
	0.4nm,0.6s,baz=287,slow=9.2,SNR=2.9						
NVAR	**Mina Array Bea**	**34.90**	**95**	P	**P**	**22 28 35.8**	**+0.9**
PDAR	**Pinedale Array**	**37.64**	**82**	P	**P**	**22 28 58.5**	**+0.3**
	1.2nm,0.6s,baz=292,slow=4.7,SNR=12						
PDAR	**Pinedale Array**	**37.64**	**82**	P	**P**	**22 28 58.5**	**+0.3**
ULM	**Lac du Bonnet**	**41.59**	**65**	P	**P**	**22 29 30.4**	**-0.3**
	0.5nm,0.3s,baz=310,slow=12,SNR=3.0						
ULM	**Lac du Bonnet**	**41.59**	**65**	P	**P**	**22 29 30.4**	**-0.3**
TXAR	**Lajitas Array**	**49.98**	**93**	P	**P**	**22 30 37.3**	**0.0**
	1.7nm,0.6s,baz=300,slow=5.6,SNR=28						
TXAR	**Lajitas Array**	**49.98**	**93**	P	**P**	**22 30 37.3**	**0.0**
SONM	**Songino Array**	**53.56**	**303**	P	P	22 31 07.3	+3.4
	0.3nm,0.3s,baz=90,slow=4.4,SNR=4.1						
SONM	**Songino Array**	**53.56**	**303**	P	P	22 31 07.3	+3.4
MKAR	**Makanchi Array**	**65.66**	**316**	P	**P**	**22 32 29.8**	**+2.8**
	0.3nm,0.8s,baz=27,slow=6.6,SNR=3.4						
MKAR	**Makanchi Array**	**65.66**	**316**	P	**P**	**22 32 29.8**	**+2.8**

CASC 08 22:34:54.3±2.3, 10°.18N×84°.17W, h0km±3km, MD3.9, ML4.3, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.27**	**154**⇓	*e*P	Pg	22 35 00.5	+0.9
SJS				*e*S	Sg	22 35 04.0	+0.8
LAJ	**Bijagual**	**0.32**	**171**⇑	*e*P	Pn	22 35 07.0	+0.5
CGA2	**Cerro Gallo 2**	**0.33**	**241**	*e*P	Pg	22 35 01.5	+0.7
URSC	**Urasca**	**0.52**	**131**⇑	*e*P	Pg	22 35 05.0	+0.5
BUS	**Buena Vista**	**0.74**	**146**⇓	*e*P	Pg	22 35 08.8	-0.3
QCR	**Quepos**	**0.75**	**179**⇓	*i*P	Pg	22 35 09.0	+0.3
JCR	**Jicaral**	**0.98**	**251**⇑	*e*P	Pg	22 35 13.0	-0.2
CUI	**Cuipilapa**	**1.08**	**296**	*i*P	Pg	22 35 14.7	-0.5
CUI				*i* S	Sn	22 35 33.3	+0.6
COLC	**Colonia**	**1.12**	**296**	*i*P	Pg	22 35 15.8	-0.2
COLC				*i* S	Sn	22 35 34.0	+0.4
MESS	**Mesas**	**1.15**	**299**	*i*P	Pg	22 35 15.8	-0.6
GUAB	**Guayabo de Bag**	**1.16**	**297**	*i*P	Pg	22 35 16.9	+0.1
LIM1	**Limonal**	**1.18**	**296**	*i*P	Pg	22 35 16.4	-0.6
GB1A	**Borinquen Arri**	**1.36**	**298**	*i*P	Pg	22 35 19.5	-1.1
LAPC	**Finca la Perla**	**1.37**	**295**	*i*P	Pg	22 35 19.4	-1.2
LAPC				*i* S	Sn	22 35 40.0	+0.4
GBS3	**Finca Las Im˜¡**	**1.40**	**296**	*i*P	Pn	22 35 20.0	-1.1
GBS3				*i* S	Sn	22 35 41.0	+0.8
GBS2	**Las Lilas**	**1.42**	**298**	*i*P	Pn	22 35 20.5	-0.9
ACR	**Cerro Adams**	**1.81**	**147**	*e*P	Pn	22 35 26.2	-0.7
BRU2	**Volcan**	**2.01**	**133**	*e*P	Pb	22 35 30.8	-1.1
BRU2				AML	AML	22 35 33.7	
	comp=Z,4μm,0.2s						
BRU2				*i* S	Sb	22 35 57.4	-0.2
TBS2		**2.03**	**132**	*e*P	Pb	22 35 31.8	-0.6
TBS2				*i* S	Sb	22 35 57.6	-0.8
PTP	**Ponta Puerca**	**19.68**	**64**	*e*P	x	22 35 35.2	
PTP				*i* S	x	22 36 07.6	

*ISCJB **08** 22:35:48.7±0.7, 36°.66N±0°.06×70°.7E±0°.1, h188km, mb3.7/4, Error ellipse: s-maj=12.5km s-min=6.1km az=154.4*
*IDC **08** 22:35:52.6±13.0, 36°.27N×71°.29E, h270km±176km, mb3.1/5, mb1 3.3/5, mb1mx2.8/25, mbtmp3.1/5, Error ellipse: s-maj=102.2km s-min=46.6km az=97.0*
*NNC **08** 22:35:55.4±2.8, 37°.00N×70°.89E, h195km±31km, mb2.4, mpv3.5, Error ellipse: s-maj=25.6km s-min=14.4km az=11.0*
ISC 08 22:35:50.5±1.1, 36°.72N±0°.09×70°.9E±0°.1, h188km, n19, σ1s09/20, mb3.6/4, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.39**	**358**	P	**Pn**	**22 37 24.1**	**+1.5**
	2.5nm,0.5s,baz=181,slow=12,SNR=36						
KK31				⇑S	**Sn**	**22 38 34.1**	**-1.3**
	1.2nm,0.3s,baz=194,slow=21,SNR=4.7						
TKM2	**Tokmak 2**	**7.19**	**29**	⇓P	**Pn**	**22 37 34.3**	**+1.0**
	5.3nm,1.4s						
TKM2				⇑S	**Sn**	**22 38 54.0**	**-0.6**
	4.7nm,0.8s						
MK31	**Makanchi Array**	**13.18**	**37**	P	**P**	**22 38 52.8**	**-1.1**
	0.1nm,0.3s,baz=227,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**13.18**	**37**	P	**P**	**22 38 52.8**	**-1.1**
	0.1nm,0.3s,baz=223,slow=18,SNR=4.9						
GKN	**Gorkha**	**14.51**	**123**	*e*P	**Pn**	**22 39 07.7**	**+0.2**
	5.9nm,0.4s						
AB31	**Akbulak array**	**14.84**	**331**	P	**P**	**22 39 13.5**	**+1.3**
	0.5nm,0.6s,baz=142,slow=11,SNR=12						
DMN	**Daman**	**15.08**	**123**	*e*P	**Pn**	**22 39 14.3**	**-0.3**
	3.2nm,0.4s						
KKN	**Kakani**	**15.09**	**122**	*e*P	**Pn**	**22 39 15.0**	**+0.5**
	4.6nm,0.3s						
GUN	**Gumba**	**15.42**	**120**	*e*P	**P**	**22 39 19.3**	**+0.1**
	3.1nm,0.3s						
JIRN	**Jiri**	**15.79**	**121**	*e*P	**P**	**22 39 24.0**	**+0.7**
	4.8nm,0.3s						
BVA0	**Borovoye Array**	**16.31**	**359**	P	**Pn**	**22 39 30.9**	**+2.0**
	baz=165,slow=12,SNR=4.9						
RAMN	**Ramite**	**16.52**	**122**	*e*P	**P**	**22 39 31.1**	**-0.2**
AKTO	**Aktyubinsk**	**16.54**	**330**	⇑P	**P**	**22 39 31.1**	**+0.2**
	0.5nm,1.4s						
TAPN	**Taplejung**	**17.05**	**118**	*e*P	**Pn**	**22 39 38.3**	**0.0**
	1.7nm,0.3s						
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	**22 40 05.0**	**-0.9**
	0.4nm,0.5s,baz=227,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**37.24**	**326**	P	**P**	**22 42 42.6**	**-1.0**
	7.8nm,1.2s,baz=180,slow=3.8,SNR=1.7						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**22 43 13.5**	**-0.3**
	3.3nm,0.9s,baz=116,slow=8.2,SNR=5.4						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**22 43 38.0**	**-2.0**
	0.9nm,0.9s,baz=98,slow=7.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.61**	**268**	P	P	22 46 10.4	-4.2
	0.2nm,0.4s,baz=53,slow=6.0,SNR=12						

*ISCJB **08** 22:46:59.9±0.4, 53°.24S±0°.06×9°.2E±0°.1, h10km, mb4.5/21, MS4.2/14, Error ellipse: s-maj=13.0km s-min=7.6km az=15.6*
*IDC **08** 22:47:00.5±0.6, 53°.24S×9°.42E, h0km, mb4.4/12, mb1 4.4/12, mb1mx4.4/15, mbtmp4.4/12, MS4.1/14, Ms1 4.1/14, ms1mx4.0/20, Error ellipse: s-maj=21.2km s-min=17.0km az=97.0*
*NEIC **08** 22:47:01.7±0.4, 53°.26S×9°.29E, h10km, mb4.8/15, Error ellipse: s-maj=13.4km s-min=8.9km az=112.0*
ISC 08 22:47:01.9±0.5, 53°.29S±0°.07×9°.4E±0°.1, h10km, n55, σ1s18/48, mb4.5/21, MS4.2/14, 1C-1D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAIT	**Maitri**	**17.58**	**177**	*e*P	**P**	**22 51 06.8**	**-0.9**
VNA1	**Neumayer--Stat**	**19.14**	**198**	*e*	**Pn**	**22 51 25.9**	**+0.2**
SNAA	**Sanae**	**19.21**	**192**	*e*P	**Pn**	**22 51 25.8**	**-0.9**
	67nm,0.8s						
VNA2	**Neumayer--Watz**	**19.22**	**197**	*e*	**Pn**	**22 51 26.4**	**-0.3**
VNA3	**Neumayer Olymp**	**19.89**	**198**	*e*	**Pn**	**22 51 34.2**	**-0.5**
SYO	**Syowa Base**	**21.11**	**150**⇑	*e*P	P	22 51 40.0	-6.2
SYO	**Syowa Base**	**21.11**	**150**⇓	*i*P		22 51 49.2	
SUR	**Sutherland**	**22.47**	**26**	P	**P**	**22 52 01.8**	**+0.5**
	6.0nm,0.8s,baz=250,slow=6.4,SNR=2.6						
SUR				LR	LR	22 58 43.0	
	comp=Z,458nm,18.2s,baz=206,slow=31						
SUR	**Sutherland**	**22.47**	**26**	*e*P	**P**	**22 52 00.6**	**-0.8**
	51nm,1.3s						
SUR				*e*PcP	**PcP**	**22 55 54.7**	**-0.8**
SUR				*e*S	**S**	**22 56 06.2**	**-1.8**
BOSA	**Boshof**	**27.30**	**32**	P	**P**	**22 52 46.1**	**-0.6**
	4.2nm,0.8s,baz=184,slow=7.0,SNR=6.8						
BOSA				LR	LR	23 01 22.3	
	comp=Z,332nm,21.3s,baz=346,slow=32						
BOSA	**Boshof**	**27.30**	**32**	*e*P	**P**	**22 52 45.3**	**-1.4**
	10nm,1.1s						
MAW	**Mawson**	**28.90**	**140**	P	**P**	**22 53 01.5**	**+1.1**
	3.4nm,0.9s,baz=280,slow=21,SNR=3.3						
MAW				LR	LR	23 02 51.5	
	comp=Z,298nm,18.4s,baz=279,slow=33						
MAW	**Mawson**	**28.90**	**140**	P	**P**	**22 53 01.5**	**+1.1**
LBTB	**Lobatse**	**30.77**	**30**	*e*P	**P**	**22 53 16.7**	**-0.9**
	4.0nm,0.6s						
TSUM	**Tsumeb**	**34.62**	**14**	*e*P	**P**	**22 53 50.7**	**-0.6**
	14nm,1.4s						
QSPA	**South Pole Qui**	**36.95**	**180**	P	**P**	**22 54 11.4**	**+0.5**
	8.4nm,0.6s,baz=227,slow=4.7,SNR=26						
QSPA	**South Pole Qui**	**36.95**	**180**	*e*P	**P**	**22 54 11.0**	**+0.1**
	41nm,1.3s						
QSPA				*e*PP	PP	22 55 36.5	+1.7
EFI	**East Falkland**	**39.71**	**244**	P	**P**	**22 54 32.0**	**-2.0**
	114nm,1.6s						
USHA	**Ushuaia**	**43.47**	**235**	P	**P**	**22 55 05.0**	**+0.2**
	13nm,1.1s,baz=136,slow=8.7,SNR=3.7						
USHA	**Ushuaia**	**43.47**	**235**	P	**P**	**22 55 05.0**	**+0.2**
ABPO	**Ambohimpanom**	**44.98**	**55**	*e*P	**P**	**22 55 18.2**	**+0.7**
	4.7nm,0.9s						
VNDA	**Vanda**	**48.34**	**172**	*e*P	**P**	**22 55 41.0**	**-2.0**
	34nm,0.9s						
VNDA				*e*PP	PP	22 57 34.7	-0.3
SBA	**Scott Base**	**48.38**	**174**	*e*P	**P**	**22 55 44.7**	**+1.5**
	30nm,1.1s						
TRQA	**Tornquist**	**50.01**	**257**	*e*P	**P**	**22 55 55.6**	**-0.7**
	4.6nm,0.8s						
PLCA	**Paso Flores**	**53.14**	**249**	P	**P**	**22 56 20.0**	**+0.2**
	7.1nm,0.8s,baz=131,slow=8.3,SNR=14						
PLCA				LR	LR	23 14 53.5	
	comp=Z,117nm,19.8s,baz=234,slow=31						
PLCA	**Paso Flores**	**53.14**	**249**	*e*P	**P**	**22 56 19.4**	**-0.4**
	6.8nm,0.8s						
DBIC	**Dimbokro**	**60.93**	**344**	P	**P**	**22 57 14.3**	**-0.7**
	6.7nm,0.9s,baz=154,slow=2.9,SNR=6.5						
DBIC				LR	LR	23 20 01.0	
	comp=Z,214nm,19.4s,baz=224,slow=32						
DBIC	**Dimbokro**	**60.93**	**344**	*e*P	**P**	**22 57 14.1**	**-0.9**
	5.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.49**	**352**	P	**P**	**22 57 51.0**	**-0.6**
	2.8nm,0.9s,baz=190,slow=6.5,SNR=14						
TORD				LR	LR	23 21 50.4	
	comp=Z,139nm,19.1s,baz=180,slow=32						
TORD	**Torodi Ar. Bea**	**66.49**	**352**	P	**P**	**22 57 51.0**	**-0.6**

LPAZ	**La Paz**	**69.64**	**270**	P	**P**	**22 58 13.3**	**+1.0**
	8.0nm,0.7s,baz=143,slow=5.4,SNR=26						
LPAZ	**La Paz**	**69.64**	**270**	*e*P	**P**	**22 58 12.5**	**+0.2**
	7.9nm,0.8s						
SAML	**Samuel**	**72.45**	**279**	*e*P	**P**	**22 58 27.9**	**-0.7**
	5.7nm,0.9s						
EIL	**Elat**	**85.56**	**22**	LR	LR	23 38 01.1	
	comp=Z,221nm,18.1s,baz=264,slow=36						
STKA	**Stephens Creek**	**85.59**	**141**	P	**P**	**22 59 40.4**	**0.0**
	1.9nm,0.7s,baz=197,slow=11,SNR=4.2						
ASF	**Jabal al Asfar**	**88.42**	**23**	LR	LR	23 38 46.7	
	comp=Z,120nm,18.7s,baz=72,slow=35						
KEST	**Kesra**	**88.65**	**360**	LR	LR	23 35 41.7	
	comp=Z,37nm,20.5s,baz=274,slow=33						
MMAI	**Mount Meron Ar**	**88.88**	**22**	LR	LR	23 40 31.7	
	comp=Z,126nm,18.6s,baz=220,slow=36						
ASAR	**Alice Springs**	**89.60**	**131**	P	**P**	**22 59 58.6**	**-1.3**
	0.6nm,0.7s,baz=201,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**89.60**	**131**	P	**P**	**22 59 58.6**	**-1.3**
ROSC	**El Rosal**	**90.08**	**278**	LR	LR	23 37 22.3	
	comp=Z,128nm,21.9s,baz=47,slow=34						
WRA	**Warramunga Arr**	**93.02**	**129**	P	**P**	**23 00 14.9**	**-0.8**
	0.2nm,0.3s,baz=210,slow=4.8,SNR=5.1						
WRA	**Warramunga Arr**	**93.02**	**129**	P	**P**	**23 00 14.9**	**-0.8**
ESDC	**Sonseca Array**	**93.31**	**350**	P	**P**	**23 00 18.6**	**+2.2**
	0.3nm,0.5s,baz=161,slow=3.2,SNR=4.5						
ESDC				LR	LR	23 36 09.3	
	comp=Z,87nm,19.2s,baz=320,slow=32						
ESDC	**Sonseca Array**	**93.31**	**350**	P	**P**	**23 00 18.6**	**+2.2**
BRTR	**Keskin Array B**	**94.99**	**19**	LR	LR	23 42 48.9	
	comp=Z,76nm,21.8s,baz=54,slow=35						
DAVOX	**Davos/Dischmat**	**99.69**	**0**	LR	LR	23 42 49.7	
	comp=Z,133nm,20.1s,baz=241,slow=34						
MKAR	**Makanchi Array**	**117.39**	**48**	PKP	**PKPdf**	**23 05 47.9**	**+1.1**
	0.3nm,0.8s,baz=225,slow=0.6,SNR=3.0						
MKAR	**Makanchi Array**	**117.39**	**48**	PKP	**PKPdf**	**23 05 47.9**	**+1.1**
TXAR	**Lajitas Array**	**126.50**	**271**	PKP	**PKPdf**	**23 06 05.4**	**+0.4**
	0.4nm,0.7s,baz=116,slow=2.9,SNR=4.4						
TXAR	**Lajitas Array**	**126.50**	**271**	PKP	**PKPdf**	**23 06 05.4**	**+0.4**
YKA	**Yellowknife Ar**	**149.77**	**310**	PKPbc	**PKPbc**	**23 06 50.4**	**-0.2**
	3.6nm,0.6s,baz=94,slow=2.7,SNR=45						
YKA	**Yellowknife Ar**	**149.77**	**310**	PKPbc	**PKPbc**	**23 06 50.4**	**-0.2**
ILAR	**Eielson Array**	**163.35**	**323**	PKPab	**PKPab**	**23 07 57.3**	**+3.0**
	0.5nm,0.8s,baz=69,slow=2.6,SNR=4.1						
ILAR	**Eielson Array**	**163.35**	**323**	PKPab	**PKPab**	**23 07 57.3**	**+3.0**

MEX 08 22:55:19.9±0.9, 17°.13N×94°.93W, h130km±8km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.06**	**132**	*i*P	Pn	22 55 36.2	-1.4
CMIG				*i* S	Sn	22 55 48.8	-2.2
VHO	**Vista Hermosa**	**1.73**	**268**	*i*P	Pn	22 55 49.4	-1.5
VHO				*i* S	Sn	22 56 13.5	-1.1
TGIG		**1.76**	**101**	*i*P	Pn	22 55 50.5	-0.6
TGIG				*i* S	Sn	22 56 13.1	-1.9
HUIG	**Huatulco**	**1.76**	**220**	*i*P	Pn	22 55 48.9	-2.2
HUIG				*e*S	Sn	22 56 13.6	-1.3
UTMO	**Huajuapan**	**2.83**	**285**	*i*P	Pn	22 56 03.5	-1.1
UTMO				*e*S	Sn	22 56 37.4	-1.7
PNIG	**Pinotepa**	**3.15**	**257**	*i*P	Pn	22 56 05.6	-2.9
PNIG				*e*S	Sn	22 56 44.9	-1.2

*NEIC **08** 22:59:31.6, 19°.74N×67°.91W, h7km, M

ZALV	**Zalesovo Beam**	**66.39**	**332**	P	P	23 56 58.0 -1.2
	0.2nm,0.3s,baz=156,slow=44,SNR=2.3					
BVAR	**Borovoye Array**	**73.33**	**327**	P	P	23 57 43.0 +1.0
	0.2nm,0.5s,baz=236,slow=39,SNR=2.0					
ILAR	**Eielson Array**	**86.78**	**25**	P	P	23 58 54.1 -0.2
	0.7nm,0.7s,baz=267,slow=4.2,SNR=5.1					

IDC 09 00:13:14.5±4.8, 4°.52S×77°.57W, h118km±55km, mb3.4/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.4/6, Error ellipse: s-maj=58.0km s-min=24.1km az=45.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.72**	**197**	P	Pn	00 13 58.3	+0.6
	14nm,0.3s,baz=17,slow=14,SNR=63						
ATAH				S	Sn	00 14 30.9	+0.1
	18nm,0.3s,baz=194,slow=20,SNR=26						
TXAR	**Lajitas Array**	**41.96**	**325**	P	P	00 20 55.0	+0.9
	0.1nm,0.7s,baz=135,slow=12,SNR=2.5						
ULM	**Lac du Bonnet**	**56.80**	**346**	P	P	00 22 45.5	-0.8
	1.9nm,0.5s,baz=163,slow=11,SNR=6.0						
YKA	**Yellowknife Ar**	**72.54**	**343**	P	P	00 24 27.6	-0.6
	0.4nm,0.7s,baz=140,slow=6.0,SNR=7.1						
DBIC	**Dimbokro**	**73.43**	**82**	P	P	00 24 35.2	+0.7
	2.7nm,0.8s,baz=216,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**80.61**	**76**	P	P	00 25 14.5	-0.3
	0.2nm,0.4s,baz=280,slow=5.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**128.67**	**13**	PKP	PKPdf	00 32 07.9	+0.1
	0.3nm,0.4s,baz=329,slow=1.7,SNR=4.1						
MKAR	**Makanchi Array**	**134.43**	**19**	PKP	PKPdf	00 32 18.6	-0.3
	0.1nm,0.4s,baz=334,slow=2.2,SNR=5.4						

PRE 09 00:17:30.4±1.1, 23°.54S×15°.17E, h10km, ML4.4, Namibia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOMG	**Komaggas**	**6.56**	**162**	*e*P	Pn	00 19 08.0	+0.9
KOMG				*e*S	Sn	00 20 18.8	-3.3
KOMG				AML	AML	00 20 47.5	
	comp=Z,20nm,0.4s						
CVNA	**Calvinia**	**8.90**	**154**	*e*P	Pn	00 19 39.8	+0.6
CVNA				*e*S	Sn	00 21 15.0	-4.7
CVNA				AML	AML	00 21 57.9	
	comp=Z,24nm,0.5s						
LBTB	**Lobatse**	**9.62**	**101**	*e*P	Pn	00 19 51.0	+1.8
LBTB				*e*S	Sn	00 21 32.7	-4.9
LBTB				AML	AML	00 22 38.6	
	comp=Z,5.6nm,0.7s						
SUR	**Sutherland**	**10.12**	**152**	*e*P	Pn	00 19 58.0	+1.9
SUR				*e*S	Sn	00 21 44.9	-4.9
SUR				AML	AML	00 22 32.1	
	comp=Z,9.6nm,0.6s						
BOSA	**Boshof**	**10.38**	**121**	*e*P	Pn	00 20 00.4	+0.9
BOSA				*e*S	Sn	00 21 50.0	-6.0
BOSA				AML	AML	00 22 51.3	
	comp=Z,8.0nm,0.7s						
HVD	**Gariep Dam**	**11.58**	**130**	*e*P	Pn	00 20 17.1	+1.0
HVD				*e*S	Sn	00 22 19.2	-6.3
HVD				AML	AML	00 23 33.5	
	comp=Z,8.3nm,0.5s						
SLR	**Silverton**	**12.12**	**103**	*e*P	Pn	00 20 24.4	+1.0
SLR				*e*S	Sn	00 22 33.0	-5.9
SLR				AML	AML	00 24 02.0	
	comp=Z,7.5nm,0.6s						
ERPM	**east rand prop**	**12.18**	**106**	*e*P	Pn	00 20 25.1	+0.8
ERPM				*e*S	Sn	00 22 32.9	-7.6
ERPM				AML	AML	00 24 01.2	
	comp=Z,3.4nm,0.6s						

IDC 09 00:24:06.5±59.0, 0°.04N×97°.17E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=1150.0km s-min=151.9km az=175.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**48.27**	**8**	P	P	00 32 49.4	-0.1
	0.1nm,0.4s,baz=193,slow=9.4,SNR=3.0						
MKAR	**Makanchi Array**	**48.35**	**346**	P	P	00 32 50.0	0.0
	0.3nm,0.5s,baz=163,slow=9.4,SNR=11						
ZALV	**Zalesovo Beam**	**54.69**	**351**	P	P	00 33 37.1	-0.2
	0.6nm,0.4s,baz=164,slow=6.9,SNR=6.1						

*TRN **09** 00:24:19.3, 18°.69N×64°.92W, h35km, MD3.0(RSPR)*
*NEIC **09** 00:24:21.2, 18°.81N×64°.91W, h21km, MD3.0(RSPR), After RSPR.*
*RSPR **09** 00:24:21.2, 18°.81N×64°.91W, h21km±12km, MD3.0/6*
ISC 09 00:24:19.8±2.2, 18°.8N±0°.1×64°.93W±0°.05, h31km±10km, n22, σ0°29/35, 7C-8D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.43**	**183**	↓*e*P	**Pn**	**00 24 29.7**	**-0.2**
STVI	**Saint Thomas**	**0.43**	**183**	*e*Pb	**Pn**	**00 24 29.7**	**-0.2**
STVI				*e*Sb	**Sn**	**00 24 36.9**	**+0.2**
STVI	**Saint Thomas**	**0.43**	**183**	↓*e*P	**Pn**	**00 24 29.7**	**-0.2**
STVI				*e*S	**Sb**	**00 24 36.2**	**+0.7**
TBVI	**Tortola**	**0.47**	**140**	↑*e*P	**Pb**	**00 24 29.7**	**-0.1**
TBVI				*e*S	**Sb**	**00 24 36.5**	**-0.1**
TBVI	**Tortola**	**0.47**	**140**	↑*e*P	**Pb**	**00 24 29.7**	**-0.1**
TBVI				*e*S	**Sb**	**00 24 36.5**	**-0.1**
TBVI	**Tortola**	**0.47**	**140**	↑*e*P	**Pb**	**00 24 29.7**	**-0.1**
TBVI				*e*S	**Sb**	**00 24 36.5**	**-0.1**
MTP	**Monte Pirata**	**0.90**	**221**	↓*e*P	**Pn**	**00 24 36.5**	**+0.2**
MTP	**Monte Pirata**	**0.90**	**221**	*e*Pb	**Pn**	**00 24 36.5**	**+0.2**
MTP				*e*Sb	**Sb**	**00 24 48.0**	**-0.6**
MTP	**Monte Pirata**	**0.90**	**221**	↓*e*P	**Pn**	**00 24 36.5**	**+0.2**
MTP				*e*S	**Sb**	**00 24 48.4**	**-0.1**
CBYP	**Canovanas**	**1.01**	**240**	↑*e*P	**Pn**	**00 24 38.0**	**0.0**
CBYP	**Canovanas**	**1.01**	**240**	*e*Pb	**Pb**	**00 24 39.0**	**+0.1**
CBYP				*e*Sb	**Sb**	**00 24 51.3**	**-0.5**
CBYP	**Canovanas**	**1.01**	**240**	↑*e*P	**Pn**	**00 24 38.0**	**0.0**
CBYP				*e*S	**Sb**	**00 24 51.1**	**-0.7**
CDVI	**St. Croix**	**1.04**	**171**	↓*e*P	**Pn**	**00 24 38.3**	**+0.1**
CDVI	**St. Croix**	**1.04**	**171**	↓*e*P	**Pn**	**00 24 38.6**	**+0.4**
CDVI	**St. Croix**	**1.04**	**171**	*e*Pn	**Pn**	**00 24 38.2**	**-0.1**
CDVI				*e*Sb	**Sn**	**00 24 51.8**	**+0.1**
CDVI	**St. Croix**	**1.04**	**171**	↓*e*P	**Pn**	**00 24 38.3**	**+0.1**
CDVI				*e*S	**Sn**	**00 24 51.7**	**0.0**
HUMP	**Col San Antoni**	**1.08**	**234**	↑*e*P	**Pn**	**00 24 39.1**	**+0.3**
HUMP	**Col San Antoni**	**1.08**	**234**	*e*S	**Sn**	**00 24 52.9**	**+0.2**
HUMP	**Col San Antoni**	**1.08**	**234**	↑*e*P	**Pn**	**00 24 39.1**	**+0.3**
HUMP				*e*S	**Sn**	**00 24 52.9**	**+0.2**
HUMP	**Col San Antoni**	**1.08**	**234**	↓*e*P	**Pn**	**00 24 39.1**	**+0.3**
HUMP				*e*S	**Sn**	**00 24 52.9**	**+0.2**
CPD	**Cerro la Pandu**	**1.19**	**232**	*e*S	**Sn**	**00 24 55.6**	**0.0**
CPD	**Cerro la Pandu**	**1.19**	**232**	*e*S	**Sn**	**00 24 55.6**	**0.0**

CASC 09 01:11:21.8±2.5, 10°.22N×84°.23W, h0km±4km, MD3.8, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	**0.31**	**229**	↑*e*P	Pg	01 11 28.8	+0.9
SJS	**Escuela Geolog**	**0.33**	**148**	↓*i*P	Pb	01 11 29.9	-0.9
SJS				*e*S	Sb	01 11 35.2	-1.6
LAJ	**Bijagual**	**0.37**	**163**	↑*e*P	Pn	01 11 34.8	0.0
URSC	**Urasca**	**0.59**	**131**	↓*e*P	Pb	01 11 34.5	-0.8
URSC				*e*S	Sg	01 11 41.4	+0.2
QCR	**Quepos**	**0.79**	**175**	↓*i*P	Pg	01 11 37.6	+0.5
QCR				*e*S	Sb	01 11 49.1	-0.7
BUS	**Buena Vista**	**0.81**	**145**	↓*e*P	Pg	01 11 38.1	+0.2
JCR	**Jicaral**	**0.94**	**247**	↑*e*P	Pg	01 11 40.0	+0.1
CUI	**Cuipilapa**	**1.01**	**295**	*i* P	Pg	01 11 40.7	-0.7
COLC	**Colonia**	**1.05**	**295**	*i* P	Pg	01 11 42.2	+0.1
COLC				*i* S	Sn	01 11 59.3	-0.1
MESS	**Mesas**	**1.08**	**299**	*i* P	Pg	01 11 42.1	-0.5
LIM1	**Limonal**	**1.11**	**295**	*i* P	Pg	01 11 42.8	-0.4
LIM1				*i* S	Sn	01 12 00.9	+0.1
GPS3	**Bodega del ICE**	**1.23**	**296**	*i* P	Pg	01 11 45.1	-0.5
BUEV	**Buena Vista**	**1.29**	**297**	*i* P	Pg	01 11 45.7	-1.0
LAPC	**Finca la Perla**	**1.30**	**295**	*i* P	Pg	01 11 45.5	-1.4
GBS3	**Finca Las Im¯¡**	**1.33**	**295**	*i* P	Pg	01 11 46.2	-1.1
GBS2	**Las Lilas**	**1.35**	**297**	*i* P	Pg	01 11 46.6	-1.2
ACR	**Cerro Adams**	**1.88**	**146**	*e*P	Pn	01 11 55.7	+0.4
BRU2	**Volcan**	**2.08**	**133**	*i* P	Pb	01 12 00.2	-0.4
	baz=117,slow=12						
BRU2				*i* S	Sg	01 12 28.9	-0.2
TBS2		**2.10**	**132**	*e*P	Pb	01 12 00.6	-0.5
TBS2				*i* S	Sg	01 12 29.1	-0.8
PTP	**Ponta Puerca**	**19.71**	**64**	*e*P	x	01 12 03.4	
PTP				*e*S	x	01 12 36.2	

GUC 09 01:24:19.4±0.7, 32°.72S×71°.73W, h17km±245km, MD3.6, ML2.8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.31**	**167**	↓*i*P	Pb	01 24 26.9	+0.3
IHA				*i* S	Sb	01 24 31.6	+0.1
PTCH	**Petorca**	**0.81**	**56**	↑*i*P	Pb	01 24 34.5	-0.7
PTCH				*i* S	Sb	01 24 45.6	-0.3
PTCH				AML	AML	01 24 49.9	
	comp=N,408nm,0.2s						
CHNG	**Los Chungos**	**0.86**	**13**	↑*i*P	Pb	01 24 35.2	-0.7
CHNG				*i* S	Sb	01 24 46.2	-0.8
CHNG				AML	AML	01 24 48.4	
	comp=E,138nm,0.5s						
RCDM	**Rinconada Maip**	**1.09**	**135**	↓*i*P	Pb	01 24 38.3	-1.6
RCDM				*i* S	Sb	01 24 52.9	-1.0
RCDM				AML	AML	01 24 54.5	
	comp=N,511nm,0.1s						
CLCH	**Cerro Calan**	**1.21**	**124**	↑*i*P	Pn	01 24 40.4	-1.3
CLCH				*i* S	Sb	01 24 56.5	-0.9
CLCH				AML	AML	01 25 01.6	
	comp=N,238nm,0.4s						
ANTU	**Antumapu**	**1.25**	**133**	*e*P	Pn	01 24 41.2	-1.0
ANTU				*i* S	Sb	01 24 57.6	-0.9
ANTU				AML	AML	01 25 02.5	
	comp=N,353nm,0.4s						
LNV	**Longovilo**	**1.26**	**168**	*e*P	Pn	01 24 40.8	-1.5
LNV				*i* S	Sb	01 24 57.5	-1.3
FCH	**Farellones**	**1.35**	**117**	*e*P	Pn	01 24 41.0	-3.0
FCH				*i* S	Sn	01 24 58.8	-3.1
FCH				AML	AML	01 24 59.4	
	comp=E,418nm,0.2s						
PCH	**Pirque**	**1.36**	**132**	*e*P	Pn	01 24 43.0	-0.8
PCH				*i* S	Sn	01 25 00.9	-0.7
CHCH	**Chadas Angostu**	**1.51**	**144**	*e*P	Pn	01 24 45.5	-0.3
CHCH				*i* S	Sn	01 25 05.0	-0.2
CMCH	**Combarbala**	**1.66**	**22**	↑*i*P	Pn	01 24 47.2	-0.7
CMCH				*i* S	Sn	01 25 09.0	0.0
CMCH				AML	AML	01 25 12.2	
	comp=E,466nm,0.5s						
CACH	**El Canelo**	**1.68**	**146**	↓*i*P	Pn	01 24 48.9	+0.6
CACH				*i* S	Sb	01 25 11.3	+0.1
LMEL	**Las Melosas**	**1.70**	**132**	*e*P	Pn	01 24 48.6	0.0
LMEL				*i* S	Sn	01 25 10.4	+0.2
LMEL				AML	AML	01 25 13.3	
	comp=N,351nm,0.2s						

IDC 09 01:28:09.1±2.1, 6°.61S×129°.20E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=116.2km s-min=31.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**160**	Pn	Pn	01 31 30.4	-0.8
	0.3nm,0.3s,baz=338,slow=13,SNR=2.9						
WRA				Sn	Sn	01 33 56.2	-13
	1.2nm,0.3s,baz=334,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.56**	**166**	P	Pn	01 32 15.8	+0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=18						
ASAR				S	Sn	01 35 22.8	-9.0
	0.2nm,0.3s,baz=320,slow=15,SNR=6.4						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	01 39 06.9	0.0
	0.3nm,0.5s,baz=122,slow=7.9,SNR=5.2						

CASC 09 01:33:50.1±1.5, 13°.38N×90°.20W, h33km±4km, MD3.4, ML3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.73**	**51**	*e*P	Pn	01 34 04.0	-0.4
SBLS				*e*S	Sb	01 34 15.5	+0.8
RTR	**El Retiro**	**0.75**	**46**	*e*P	Pn	01 34 04.5	-0.2
SNJE	**San Jose**	**0.76**	**50**	*e*P	Pn	01 34 04.4	-0.5
PSG	**Pto de San Jos**	**0.81**	**315**	*e*P	Pb	01 34 05.8	+0.1
PSG				*e*S	Sb	01 34 16.9	+0.5
RBDL	**Robledal**	**0.89**	**34**	*e*P	Pn	01 34 06.4	-0.2
BOQS	**Boqueron**	**0.96**	**68**	*e*P	Pn	01 34 07.4	-0.2
BOQS				*e*S	Sb	01 34 21.2	-0.2
SNET	**Serv Nac Est T**	**0.99**	**72**	*e*P	Pn	01 34 08.3	+0.4
SNET				*e*P	Pb	01 34 08.3	-0.7
SNVI				*e*S	Sn	01 34 21.3	+0.4
SNET				AML	AML	01 34 25.7	
	comp=Z,2µm,0.3s						
SNET				AML	AML	01 34 25.8	
	comp=Z,2µm,0.3s						
PCG	**Pacaya**	**1.09**	**339**	*e*P	Pn	01 34 09.8	+0.4
PCG				*e*S	Sb	01 34 24.5	-0.4
LFRS	**El Faro**	**1.14**	**77**	*e*P	Pn	01 34 09.3	-0.5
LBRS	**Las Brisas**	**1.18**	**72**	*e*P	Pn	01 34 10.7	+0.2
LBRS				*e*S	Sn	01 34 26.2	+0.6
NBG	**Las Nubes**	**1.21**	**353**	*e*P	Pb	01 34 12.4	-0.6
NBG				*e*S	Sb	01 34 27.7	-0.8
FUG	**Fuego 3**	**1.23**	**330**	*e*P	Pn	01 34 10.6	-0.7
FUG				*e*S	Sn	01 34 26.2	-0.6
SNVI	**San Vicente**	**1.35**	**80**	*e*P	Pn	01 34 13.2	+0.4
SNVI				*e*S	Sn	01 34 29.9	+0.1
FG6		**1.35**	**331**	*e*P	Pn	01 34 12.3	-0.8
FG6				*e*S	Sn	01 34 31.3	+1.1
JAT	**Jato**	**1.68**	**304**	*e*P	Pn	01 34 16.6	-0.6
JAT				*e*S	Sn	01 34 38.8	+1.2
BLLM	**Bellamira**	**1.91**	**88**	*e*P	Pn	01 34 20.9	+0.3
CAHU	**Cacacuatique**	**1.98**	**78**	*e*P	Pn	01 34 21.2	-0.3
CNCH	**Conchagua**	**2.31**	**92**	*e*P	Pn	01 34 26.1	+0.1
CNCH				*e*S	Sn	01 34 53.3	-0.1

*SKO **09** 01:36:12.9, 41°.72N×20°.73E, h18km, M2.1, ML2.5*
*CSEM **09** 01:36:14.3±0.2, 41°.74N×20°.81E, h2km, ML2.8, Error ellipse: s-maj=4.0km s-min=3.0km az=13.0*
*TIR **09** 01:36:14.2±0.8, 41°.81N×20°.67E, h6km±9km, ML2.8*
*BEO **09** 01:36:15.2±0.4, 41°.76N×20°.84E, h0km, ML2.2/4*
ISC 09 01:36:14.0±1.1, 41°.76N±0°.03×20°.82E±0°.02, h2km±10km, n33, σ0°66/59, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.29**	**256**	*e*PG	**Pg**	**01 36 19.6**	**-0.1**
PHP				*e*SG	**Sg**	**01 36 23.2**	**-0.3**
PHP	**Peshkopia**	**0.29**	**256**	*e*Pg	**Pg**	**01 36 19.6**	**-0.1**
	SNR=11						
PHP				*e*Sg	**Sg**	**01 36 23.2**	**-0.3**
	SNR=11						
KRUS	**Krusevo**	**0.50**	**140**	*e*Pg	**Pg**	**01 36 23.7**	**+0.1**
KRUS				*e*Sg	**Sg**	**01 36 30.5**	**+0.3**
KRUS	**Krusevo**	**0.50**	**140**	*e*Pg	**Pg**	**01 36 23.7**	**+0.1**
KRUS				*e*Sg	**Sg**	**01 36 30.4**	**+0.3**
SKO	**Skopje**	**0.51**	**65**	*e*Pg	**Pg**	**01 36 24.7**	**+0.9**
SKO				*e*Sg	**Sb**	**01 36 32.8**	**-0.8**
SKO				*e*Lg	Lg	01 36 32.9	
	comp=E,344nm,0.3s						
SKO				*e*Lg	Lg	01 36 33.0	
	comp=N,476nm,0.3s						
SKO	**Skopje**	**0.51**	**65**	*e*Pg	**Pb**	**01 36 25.2**	**-0.5**
SKO				*e*Sg	**Sb**	**01 36 33.3**	**-0.3**
SKO				*e*Lg	Lg	01 36 33.5	
	comp=N,476nm,0.3s						
PUK	**Puka**	**0.75**	**293**	*e*PG	**Pg**	**01 36 27.9**	**-0.5**
PUK				*e*SG	**Sg**	**01 36 38.0**	**-0.1**
PUK	**Puka**	**0.75**	**293**	*e*Pg	**Pg**	**01 36 27.9**	**-0.5**
	SNR=9.0						
PUK				*e*Sg	**Sg**	**01 36 38.0**	**-0.1**
	SNR=9.0						
TIR	**Tirane**	**0.83**	**241**	*e*PG	**Pg**	**01 36 30.3**	**+0.5**
TIR				*e*SG	**Sb**	**01 36 43.4**	**+0.7**
TIR	**Tirane**	**0.83**	**241**	*e*Pg	**Pg**	**01 36 30.1**	**+0.3**
TIR				*e*Sg	**Sb**	**01 36 42.0**	**-0.7**
TIR	**Tirane**	**0.83**	**241**	*e*Pg	**Pg**	**01 36 30.1**	**+0.3**
TIR				*e*Sg	**Sb**	**01 36 42.0**	**-0.7**
BCI	**Bajram Curri**	**0.83**	**318**	*e*PG	**Pg**	**01 36 30.1**	**+0.2**
BCI				*e*SG	**Sb**	**01 36 42.1**	**-0.7**
BCI	**Bajram Curri**	**0.83**	**318**	*e*Pg	**Pg**	**01 36 30.1**	**+0.2**
	SNR=9.0						
BCI				*e*Sg	**Sb**	**01 36 42.1**	**-0.7**
	SNR=9.0						

BIA	**Bitola**	**0.83**	**153**	*e*Pg	**Pg**	**01 36 29.3 -0.6**
BIA				*e*Sg	**Sg**	**01 36 40.8 +0.1**
BIA				*e*Lg	Lg	01 36 42.5
	comp=E,60nm,0.2s					
BIA				*e*Lg	Lg	01 36 42.6
	comp=N,27nm,0.2s					
BIA	**Bitola**	**0.83**	**153**	*e*Pg	**Pg**	**01 36 29.3 -0.6**
BIA				*e*Sg	**Sg**	**01 36 40.7 +0.1**
BIA				*e*Lg	Lg	01 36 42.5
	comp=N,27nm,0.2s					
BARS	**Barje**	**1.29**	**35**	*e*Pg	**Pg**	**01 36 38.2 -0.6**
BARS				*e*Sg	**Sb**	**01 36 55.9 -0.2**
PDG	**Podgorica**	**1.35**	**301**	*e*Pg	**Pg**	**01 36 39.0 -0.8**
PDG				*e*Sg	**Sn**	**01 36 58.8 +0.5**
PDG	**Podgorica**	**1.35**	**301**	*e*Pg	**Pg**	**01 36 39.0 -0.8**
PDG				*e*Sg	**Sn**	**01 36 58.8 +0.5**
VAY	**Valandovo**	**1.38**	**108**	*e*Pg	**Pn**	**01 36 39.9 -0.5**
VAY				*i* Sg	**Sb**	**01 36 58.9 +0.1**
VAY				*e*Lg	Lg	01 37 00.1
	comp=N,31nm,0.8s					
VAY				*e*Lg	Lg	01 37 00.2
	comp=E,26nm,0.5s					
VAY	**Valandovo**	**1.38**	**108**	*e*Pg	**Pn**	**01 36 40.3 -0.1**
VAY				*i* Sg	**Sn**	**01 36 59.3 0.0**
VAY				*e*Lg	Lg	01 37 00.7
	comp=E,26nm,0.5s					
SELS	**Selova**	**1.48**	**8**	*e*Pg	**Pn**	**01 36 41.1 -0.6**
VTS	**Vitosha**	**1.96**	**64**	*e*Pn	**Pn**	**01 36 49.2 +0.7**
VTS				*e*Sg	**Sg**	**01 37 17.2 +0.2**
VTS	**Vitosha**	**1.96**	**64**	*e*Pn	**Pn**	**01 36 49.2 +0.7**
VTS				*e*Sg	**Sg**	**01 37 17.2 +0.2**
ZAPS	**Zavoj**	**2.02**	**41**	*e*Pn	**Pb**	**01 36 51.2 -0.4**
ZAPS	**Zavoj**	**2.02**	**41**	*e*Pn	**Pb**	**01 36 51.2 -0.4**
GRUS	**Gruza**	**2.13**	**358**	*e*Pn	**Pn**	**01 36 51.5 +0.8**
GRUS	**Gruza**	**2.13**	**358**	*e*Pn	**Pn**	**01 36 51.5 +0.8**
DIVS	**Divibare**	**2.42**	**346**	*e*Pn	**Pn**	**01 36 56.2 +1.5**
DIVS	**Divibare**	**2.42**	**346**	*e*Pn	**Pn**	**01 36 56.2 +1.5**
STON	**Ston**	**2.57**	**297**	*e*Pn	**Pn**	**01 36 58.3 +1.6**
STON				*e*Sn	**Sn**	**01 37 28.4 -0.2**
STON	**Ston**	**2.57**	**297**	*e*Pn	**Pn**	**01 36 58.3 +1.6**
STON				Sn	**Sn**	**01 37 28.3 -0.2**
NVLJ	**Novalja**	**5.18**	**305**	*e*Pn	**Pn**	**01 37 33.4 +0.8**
NVLJ				Sn	**Sn**	**01 38 32.1 -0.8**
NVLJ	**Novalja**	**5.18**	**305**	*e*Pn	**Pn**	**01 37 33.3 +0.8**
NVLJ				Sn	**Sn**	**01 38 32.0 -0.8**

*NEIC **09** 01:52:10.9, 39°.05S×173°.47E, h22km, ML3.8(WEL), After WEL.*
NEIC Felt at New Plymouth and Oakura.
WEL 09 01:52:12.6±0.4, 39°.11S×173°.64E, h14km±1km, ML3.7/35, Error ellipse: s-maj=3.3km s-min=1.8km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWEZ	**Newall Road**	**0.24**	**133**	P*	Pg	01 52 18.0	+0.1
NWEZ				S*	Sb	01 52 22.2	-0.7
NWEZ	**Newall Road**	**0.24**	**133**	P*	Pg	01 52 18.0	+0.1
PKE	**Pukeiti**	**0.28**	**108**	P*	Pg	01 52 18.7	+0.1
PKE				S*	Sg	01 52 23.1	+0.3
PKE	**Pukeiti**	**0.28**	**108**	P*	Pg	01 52 18.7	+0.1
PKE				S*	Sg	01 52 23.1	+0.3
NRZ	**Ngariki Road**	**0.32**	**135**	P*	Pg	01 52 19.3	0.0
NRZ				S*	Sg	01 52 23.9	+0.1
NRZ	**Ngariki Road**	**0.32**	**135**	P*	Pg	01 52 19.3	0.0
NEZ	**North Egmont**	**0.39**	**115**	P*	Pg	01 52 19.7	-0.9
NEZ				S*	Sg	01 52 25.1	-1.0
NEZ	**North Egmont**	**0.39**	**115**	P*	Pg	01 52 19.7	-0.9
DFE	**Dawson Falls**	**0.42**	**121**	P*	Pg	01 52 20.7	-0.5
DFE	**Dawson Falls**	**0.42**	**121**	P*	Pg	01 52 20.7	-0.5
DREZ	**Durham Road**	**0.45**	**101**	P*	Pg	01 52 21.5	0.0
DREZ				S*	Sg	01 52 27.9	+0.4
DREZ	**Durham Road**	**0.45**	**101**	P*	Pg	01 52 21.5	0.0
DREZ				S*	Sg	01 52 27.9	+0.4
MHEZ	**Mangahewa**	**0.54**	**87**	P*	Pg	01 52 23.3	+0.2
MHEZ				S*	Sg	01 52 30.0	-0.3
MHEZ	**Mangahewa**	**0.54**	**87**	P*	Pg	01 52 23.3	+0.2
MHEZ				S*	Sg	01 52 30.0	-0.3
RAEZ	**Rainy Point**	**0.61**	**107**	P*	Pg	01 52 24.7	0.0
RAEZ	**Rainy Point**	**0.61**	**107**	P*	Pg	01 52 24.7	0.0
VRZ	**Vera Road**	**0.87**	**91**	P*	Pb	01 52 28.7	-0.8
VRZ	**Vera Road**	**0.87**	**91**	Pn	Pb	01 52 28.6	-0.8
HIZ	**Hauiti**	**1.12**	**58**	P*	Pb	01 52 32.4	-1.4
HIZ	**Hauiti**	**1.12**	**58**	Pn	Pb	01 52 32.4	-1.4
WAZ	**Wanganui**	**1.23**	**122**	PN	Pn	01 52 34.5	-0.8
WAZ	**Wanganui**	**1.23**	**122**	Pn	Pn	01 52 34.5	-0.8
TWVZ	**Taurewa**	**1.40**	**89**	PN	Pn	01 52 36.2	-1.6
TWVZ	**Taurewa**	**1.40**	**89**	Pn	Pn	01 52 36.2	-1.6
WPVZ	**Whakapapa**	**1.49**	**94**	PN	Pn	01

s-min=19.1km az=85.0
*ISCJB **09** 01:58:26.8±0.5,0.°74S×0.°05×133.°92E±0.°08,h27km, mb4.3/14, MS3.8/9, Error ellipse: s-maj=11.9km s-min=7.2km az=179.0*
*DJA **09** 01:58:29,0.°77S×133.°62E,h16km, MLv4.6/7*
*NEIC **09** 01:58:30.3±0.5,0.°73S×133.°79E,h35km, mb4.5/10, Error ellipse: s-maj=25.7km s-min=5.9km az=79.0*

ISC 09 01:58:28.7±0.6,0.°88S±0.°07×133.°93E±0.°09,h27km,n46,σ1§84/37,mb4.5/14,MS3.9/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.20**	**98**	P	**Pb**	**01 59 08.8**	**+1.0**
FAKI	**Fak Fak**	**2.63**	**220**	P	**Pn**	**01 59 10.7**	**+1.4**
MSAI	**Masohi**	**5.56**	**244**	P	**Pn**	**01 59 51.9**	**+2.2**
	38nm,0.9s,1µm0.1nm						
AAI	**Ambon**	**6.37**	**244**	P	**Pn**	**02 00 01.8**	**+1.0**
	138nm,1.0s,2µm0.5nm						
LBMI	**Labuha**	**6.43**	**272**	P	Pn	02 00 08.1	+6.4
	67nm,1.0s,0.3nm						
NLAI	**Namlea**	**7.21**	**251**	P	**Pn**	**02 00 13.6**	**+1.2**
	46nm,1.5s,769nm0.2nm						
SGSI	**Sangihe**	**9.54**	**298**	P	**Pn**	**02 00 46.8**	**+2.4**
	900nm,0.4s,18µm						
LUWI	**Luwuk**	**11.15**	**269**	P	**Pn**	**02 01 07.0**	**+0.5**
	60nm,1.5s,2µm						
DAV	**Davao City (W)**	**11.48**	**314**	LR	LR	02 04 44.3	
	comp=Z,233nm,18.9s,baz=116,slow=34						
GUMO	**Guam**	**18.01**	**37**	LR	LR	02 09 03.4	
	comp=Z,104nm,19.0s,baz=58,slow=36						
WRAB	**Tennant Creek**	**18.94**	**179**	*e*P	**Pn**	**02 02 50.9**	**+2.4**
	32nm,1.3s						
WB2	**Warramunga Arr**	**18.95**	**179**	*e*P	**Pn**	**02 02 49.7**	**+1.1**
WRA	**Warramunga Arr**	**18.95**	**179**	P	**Pn**	**02 02 50.3**	**+1.7**
	0.6nm,0.3s,baz=356,slow=12,SNR=5.7						
WRA				S	**Sn**	**02 06 14.9**	**-5.2**
	0.2nm,0.3s,baz=1.2,slow=23,SNR=3.9						
WRA	**Warramunga Arr**	**18.95**	**179**	P	**Pn**	**02 02 50.3**	**+1.7**
WRA				S	**Sn**	**02 06 14.9**	**-5.2**
FITZ	**Fitzroy Crossi**	**18.95**	**205**	P	**P**	**02 02 48.2**	**+0.4**
	0.5nm,0.3s,baz=37,slow=13,SNR=8.2						
FITZ				S	Sn	02 06 10.7	-9.4
	0.1nm,0.3s,baz=206,slow=8.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**18.95**	**205**	P	**P**	**02 02 48.2**	**+0.4**
FITZ				S	Sn	02 06 10.7	-9.4
AS31	**Alice Springs**	**22.65**	**180**	*e*P	**P**	**02 03 31.1**	**+3.2**
ASAR	**Alice Springs**	**22.65**	**180**	P	**P**	**02 03 29.6**	**+1.7**
	5.2nm,0.9s,baz=4.7,slow=13,SNR=27						
ASAR	**Alice Springs**	**22.65**	**180**	P	**P**	**02 03 29.6**	**+1.7**
JOW	**Kunigami**	**28.09**	**349**	LR	LR	02 13 13.2	
	comp=Z,447nm,19.8s,baz=192,slow=32						
STKA	**Stephens Creek**	**31.67**	**168**	LR	LR	02 20 08.6	
	comp=Z,242nm,18.0s,baz=189,slow=41						
MJAR	**Matsushiro Arr**	**37.45**	**6**	LR	LR	02 18 15.7	
	comp=Z,179nm,19.2s,baz=190,slow=32						
KSRS	**Korea Array**	**38.55**	**352**	LR	LR	02 20 23.3	
	comp=Z,104nm,18.2s,baz=10,slow=34						
USRK	**Ussuriysk Arra**	**44.92**	**358**	LR	LR	02 22 13.3	
	comp=Z,70nm,21.3s,baz=47,slow=32						
LSA	**Lhasa**	**50.88**	**310**	*e*P	**P**	**02 07 28.1**	**-0.1**
	5.1nm,0.6s						
ULN	**Ulaanbaatar**	**53.90**	**338**	*e*P	**P**	**02 07 48.9**	**-1.0**
	6.0nm,1.1s						
SONM	**Songino Array**	**54.12**	**337**	P	**P**	**02 07 50.2**	**-1.3**
	1.2nm,0.9s,baz=151,slow=7.0,SNR=7.8						
SONM				LR	LR	02 31 33.8	
	comp=Z,60nm,18.3s,baz=228,slow=37						
SONM	**Songino Array**	**54.12**	**337**	P	**P**	**02 07 50.2**	**-1.3**
PETK	**Petropavlovsk-**	**57.35**	**17**	LR	LR	02 31 55.1	
	comp=Z,35nm,18.1s,baz=7.9,slow=35						
MK31	**Makanchi Array**	**65.47**	**324**	*e*P	**P**	**02 09 08.6**	**-0.9**
MKAR	**Makanchi Array**	**65.47**	**324**	P	**P**	**02 09 08.4**	**-1.0**
	2.0nm,0.7s,baz=115,slow=7.9,SNR=21						
MKAR	**Makanchi Array**	**65.47**	**324**	P	**P**	**02 09 08.4**	**-1.0**
TKM2	**Tokmak 2**	**67.96**	**318**	*e*P	**P**	**02 09 26.1**	**+0.4**
	3.9nm,1.0s						
ZAA0	**Zalesovo Array**	**68.00**	**331**	*e*P	**P**	**02 09 23.8**	**-1.6**
ZALV	**Zalesovo Beam**	**68.00**	**331**	P	**P**	**02 09 24.7**	**-0.7**
	1.4nm,0.8s,baz=108,slow=4.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**68.00**	**331**	P	**P**	**02 09 24.7**	**-0.7**
EKS2	**Erkin-Say**	**69.10**	**317**	*e*P	**P**	**02 09 32.2**	**-0.5**
	7.1nm,1.0s						
KURK	**Kurchatov**	**69.52**	**326**	*e*P	**P**	**02 09 33.8**	**-1.1**
	21nm,1.6s						
KBL	**Kabul**	**70.02**	**307**	*e*P	**P**	**02 09 37.3**	**-1.3**
	5.8nm,1.0s						
KKAR	**Karatay Array**	**71.50**	**316**	*e*P	**P**	**02 09 45.8**	**-1.4**
	4.9nm,1.1s						
BRVK	**Borovoye**	**75.19**	**326**	*e*P	**P**	**02 10 08.1**	**-0.6**
	5.0nm,0.8s						
ABKAR	**Akbulak array**	**80.26**	**320**	*e*P	**P**	**02 10 36.9**	**-0.1**
	5.9nm,1.1s						
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**	**02 11 07.0**	**-0.3**
	2.0nm,1.0s,baz=254,slow=5.7,SNR=8.5						
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**	**02 11 07.0**	**-0.3**
ARCES	**ARCESS Array B**	**97.21**	**340**	LR	LR	02 58 57.2	
	comp=Z,58nm,19.1s,baz=307,slow=37						
FINES	**FINESS Array B**	**99.25**	**332**	LR	LR	02 58 31.3	
	comp=Z,54nm,19.4s,baz=315,slow=36						

TRN 09 02:18:47.2,14.°74N×59.°89W,h35km,MD3.7,M3.8(FDF), 4C-1D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.99**	**260**	⇓*e*P	Pb	02 19 06.0	0.0
BIM	**Bigot**	**1.16**	**259**	⇓*e*P	Pb	02 19 08.4	-0.6
BIM				⇑*e*S	Sb	02 19 24.9	+1.0
FDF	**Fort de France**	**1.22**	**270**	⇓*e*P	Pn	02 19 08.6	+0.7
FDF				⇑*e*S	Sn	02 19 23.3	+0.1
SLB	**Belfond**	**1.44**	**231**	*e*P	Pb	02 19 12.6	-1.0
DLPL	**La Plaine**	**1.44**	**295**	*e*P	Pb	02 19 13.5	-0.1
DLPL				*e*S	Sb	02 19 30.5	-1.2
MCLT	**Moule a Chique**	**1.44**	**225**	*e*P	Pn	02 19 11.8	+0.9
MCLT				*e*S	Sb	02 19 30.6	-1.1
DSTT	**Stowe**	**1.46**	**291**	*e*P	Pb	02 19 12.7	-1.1
DSTT				*e*S	Sb	02 19 31.2	-0.9
SVV	**Soufriere Volc**	**1.91**	**223**	*e*P	Pn	02 19 19.1	+1.7
SVV				*e*S	Sn	02 19 41.9	+1.7
DEG	**La Desirade**	**1.93**	**324**	*e*P	Pn	02 19 19.5	+1.7
SVB	**Belmont**	**1.96**	**222**	*e*P	Pn	02 19 20.3	+2.1
SVB				*e*S	Sb	02 19 44.1	-2.5
PHG	**Guadaloupe-2**	**2.12**	**307**	*e*P	Pn	02 19 22.2	+1.8
BCG	**Bois Riant Cap**	**2.14**	**309**	*e*P	Pn	02 19 22.4	+1.9
HMG	**Houelmont**	**2.14**	**306**	*e*P	Pn	02 19 21.5	+0.9
SCG	**Saint Claude**	**2.15**	**307**	*e*P	Pn	02 19 23.1	+2.4
LZG	**Guadaloupe-1**	**2.29**	**308**	*e*P	Pn	02 19 23.6	+1.0

*GUC **09** 02:23:23.9±0.8,24.°39S×69.°36W,h77km±21km, ML4.6*
*ISCJB **09** 02:23:25.1±0.5,24.°36S±0.°03×69.°55W±0.°07,h87km±6km, mb4.0/6, Error ellipse: s-maj=10.7km s-min=5.1km az=4.2*
*IDC **09** 02:23:26.1±0.6,24.°25S×69.°31W,h78km±5km, mb3.9/6, mb1 4.1/9, mb1mx3.9/16, mbtmp3.9/9, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=21.2km s-min=14.7km az=92.0*

ISC 09 02:23:25.8±0.6,24.°31S±0.°05×69.°46W±0.°08,h76km±5km, n30,σ1§25/42,mb4.2/6,2C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.07**	**306**	*e*P	**Pn**	**02 23 45.5**	**-0.1**
ANCH				AML	AML	02 24 03.6	
	comp=E,14µm,0.3s						
CEN1	**Los Morros**	**1.14**	**323**	*i* S		02 24 02.0	
CEN1				AML	AML	02 24 04.8	
	comp=N,7µm,1.0s						
MECH	**Mejillones**	**1.50**	**323**	*e*P	**Pn**	**02 23 51.4**	**+0.3**
MECH				*i* S	**Sn**	**02 24 12.0**	**+1.8**
MECH				AML	AML	02 24 17.6	
	comp=E,9µm,0.4s						
LVC	**Limon Verde**	**1.76**	**17**	*e*P	**Pn**	**02 23 54.8**	**0.0**
LVC				*i* S	**Sn**	**02 24 17.6**	**+0.9**
LVC				AML	AML	02 24 20.6	
	comp=N,8µm,0.8s						
SPCH	**San Pedro de A**	**1.81**	**40**	*e*P	**Pn**	**02 23 57.1**	**+1.7**
SPCH				*i* S	**Sn**	**02 24 20.7**	**+2.9**
PB04	**Plate Boundary**	**2.04**	**359**	⇓*i*P	**Pn**	**02 23 58.0**	**-0.2**
PB04				*i* S	**Sn**	**02 24 25.0**	**+2.3**
PB04				AML	AML	02 24 30.1	
	comp=E,14µm,0.2s						
MACH	**Maria Elena**	**2.12**	**353**	*e*P	**Pn**	**02 23 59.4**	**-0.2**
MACH				*i* S	**Sn**	**02 24 25.1**	**-0.1**
PB09	**Plate Boundary**	**2.51**	**5**	⇑*i*P	**Pn**	**02 24 04.8**	**+0.1**
PB09				*i* S	**Sn**	**02 24 36.3**	**+1.8**
PB07	**Plate Boundary**	**2.60**	**351**	⇑*i*P	**Pn**	**02 24 05.0**	**-0.9**
PB07				*i* S	**Sn**	**02 24 37.7**	**+1.1**
PB07				AML	AML	02 24 44.4	
	comp=E,6µm,0.5s						
CDCH	**Caldera**	**3.01**	**204**	*e*P	**Pn**	**02 24 10.5**	**-0.7**
VACH	**Vallenar**	**4.40**	**195**	*e*P	**Pn**	**02 24 29.7**	**-0.6**
CFAA	**Coronel Fontan**	**7.35**	**172**	P	**Pn**	**02 25 10.4**	**-0.1**
	comp=E,0.8nm,0.3s,baz=351,slow=14,SNR=52						
CFAA				S	**Sn**	**02 26 34.0**	**+1.7**
	comp=E,0.9nm,0.3s,baz=242,slow=19,SNR=4.1						
LPAZ	**La Paz**	**8.08**	**9**	P	**Pn**	**02 25 20.7**	**-0.3**
	comp=E,3.3nm,0.3s,baz=192,slow=6.0,SNR=65						
LPAZ				S	**Sn**	**02 26 55.1**	**+4.0**
	baz=229,slow=9.7,SNR=1.4						
SIV	**San Ignacio**	**11.42**	**45**	P	Pn	02 26 02.8	-3.3
SIV				S	**Sn**	**02 28 09.1**	**-3.0**
PLCA	**Paso Flores**	**16.40**	**183**	P	**P**	**02 27 13.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=4.6,slow=14,SNR=4.9						
PLCA				LR	LR	02 33 55.7	
	comp=E,71nm,19.1s,baz=77,slow=38						
ROSC	**El Rosal**	**29.38**	**350**	LR	LR	02 43 11.2	
	comp=E,42nm,18.1s,baz=37,slow=40						
VNA3	**Neumayer Olymp**	**57.60**	**161**	*e*	**P**	**02 33 08.2**	**+0.8**
VNA2	**Neumayer--Watz**	**58.19**	**160**	*e*	**P**	**02 33 12.3**	**+0.7**
	baz=290,slow=8.9						
TXAR	**Lajitas Array**	**62.66**	**326**	P	**P**	**02 33 42.8**	**+0.2**
	comp=E,0.8nm,0.8s,baz=142,slow=8.8,SNR=8.0						
DBIC	**Dimbokro**	**70.03**	**73**	P	**P**	**02 34 29.2**	**-0.8**
	comp=E,3.6nm,0.6s,baz=217,slow=6.7,SNR=12						
DBIC				pP	**pP**	**02 34 49.5**	**-0.6**
	comp=E,5.6nm,0.8s,baz=209,slow=6.3,SNR=4.8						
PPT2	**Papeete2**	**74.20**	**258**	*e*LR	LR	02 34 15.2	
	comp=E,86nm,26.2s						
PPT2				*e*LR	LR	02 58 07.7	
	comp=E,68nm,27.2s						
PDAR	**Pinedale Array**	**76.29**	**331**	P	**P**	**02 35 07.2**	**+0.6**
	comp=E,0.6nm,0.9s,baz=64,slow=3.4,SNR=3.7						
ULM	**Lac du Bonnet**	**77.84**	**343**	P	**P**	**02 35 14.2**	**-0.5**
	comp=E,1.2nm,0.4s,baz=122,slow=5.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.78**	**70**	P	**P**	**02 35 20.0**	**-0.7**
	comp=E,4.1nm,0.5s,baz=257,slow=5.4,SNR=92						
TORD				pP	**pP**	**02 35 41.2**	**+0.1**
	comp=E,8.4nm,0.5s,baz=258,slow=5.5,SNR=22						
ESDC	**Sonseca Array**	**88.18**	**45**	LR	LR	03 15 18.5	
	comp=E,48nm,18.2s,baz=330,slow=35						
YKA	**Yellowknife Ar**	**93.66**	**341**	P	**P**	**02 36 32.8**	**-0.4**
	comp=E,0.7nm,0.7s,baz=138,slow=4.6,SNR=13						
YKA				pP	**pP**	**02 36 53.3**	**-0.7**
	comp=E,0.7nm,0.8s,baz=137,slow=4.4,SNR=5.3						
ASAR	**Alice Springs**	**127.19**	**207**	PKP	**PKPdf**	**02 42 21.9**	**-0.3**
	comp=E,0.8nm,0.5s,baz=125,slow=1.7,SNR=12						
ASAR				pPKP	**pPKPdf**	**02 42 43.9**	**0.0**
	comp=E,0.6nm,0.6s,baz=138,slow=1.6,SNR=3.4						
WRA	**Warramunga Arr**	**130.28**	**210**	PKP	**PKPdf**	**02 42 28.3**	**+0.2**
	comp=E,1.0nm,0.7s,baz=155,slow=1.6,SNR=4.2						
WRA				pPKP	**pPKPdf**	**02 42 49.6**	**-0.1**
	comp=E,0.6nm,0.8s,baz=144,slow=1.5,SNR=1.7						
ZALV	**Zalesovo Beam**	**144.69**	**26**	PKP	**PKPdf**	**02 42 53.3**	**-0.1**
	comp=E,5.2nm,0.9s,baz=296,slow=4.8,SNR=21						
ZALV				pPKP	**pPKPdf**	**02 43 14.4**	**-0.7**
	comp=E,3.9nm,0.8s,baz=304,slow=4.3,SNR=7.1						
MKAR	**Makanchi Array**	**148.17**	**38**	PKPbc	**PKPbc**	**02 43 03.0**	**+0.1**
	comp=E,1.7nm,0.7s,baz=322,slow=2.3,SNR=21						
MKAR				pPKPbc	**pPKPbc**	**02 43 24.9**	**+0.5**
	comp=E,2.2nm,0.8s,baz=324,slow=2.9,SNR=7.9						

IGQ 09 02:45:43.0,0.°95S×79.°53W,h17km±156km,Mb4.1,Ms3.9, 3C-24D,Error ellipse: s-maj=1.7km s-min=1.6km az=5.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.04**	**121**	⇓S	Sn	02 46 16.2	-1.9
IGUA	**Igualata**	**1.04**	**121**	⇓P	Pb	02 46 03.1	-0.2
BMOR	**Cotopaxi Volca**	**1.09**	**78**	⇓P	Pb	02 46 04.0	-0.2
NAS2	**Nasa**	**1.10**	**74**	⇓P	Pn	02 46 04.5	+0.2
MOV1	**Cotopaxi Vol s**	**1.11**	**78**	⇓P	Pb	02 46 04.3	-0.4
BREF	**Cotopaxi Volca**	**1.12**	**75**	⇓S	Sb	02 46 19.8	+0.1
BREF	**Cotopaxi Volca**	**1.12**	**75**	⇓P	Pb	02 46 05.0	+0.2
BIL2	**Estacion Bilba**	**1.14**	**116**	P	Pn	02 46 04.3	-0.3
PISA	**Pisayambo**	**1.15**	**95**	⇑P	Pn	02 46 04.8	-0.1
BBIL	**Ulba Tungurahu**	**1.15**	**115**	⇓P	Pn	02 46 04.7	-0.1
BVC2	**Cotopaxi Volca**	**1.15**	**75**	⇓P	Pb	02 46 05.3	0.0
JUI6	**Juive**	**1.16**	**114**	⇓P	Pn	02 46 04.9	+0.1
JUI6	**Juive**	**1.16**	**114**	⇓S	Sn	02 46 19.2	-1.4
PITA	**Cotopaxi Volc**	**1.16**	**70**	⇓P	Pb	02 46 05.3	0.0
VC1	**Cotopaxi 1**	**1.17**	**75**	⇓P	Pb	02 46 05.5	+0.1
BMAS	**Trigal station**	**1.18**	**118**	⇓P	Pn	02 46 05.2	0.0
TAMB	**Tambo**	**1.19**	**77**	⇓P	Pn	02 46 05.7	+0.1
RUN5	**Runtun**	**1.19**	**113**	⇑P	Pb	02 46 05.6	0.0
CHIS	**Cerro-Chispas-**	**1.20**	**265**	P	Pn	02 46 04.2	-0.9
ARRY	**Arrayan**	**1.20**	**117**	⇓S	Sn	02 46 21.1	-0.8
ARRY	**Arrayan**	**1.20**	**117**	⇓P	Pn	02 46 05.5	0.0
TERV	**Terraza Guagua**	**1.21**	**50**	P	Pn	02 46 05.7	-0.2
BRUN	**Tungurahua Vol**	**1.21**	**113**	⇓S	Sn	02 46 21.1	-0.8
BRUN	**Tungurahua Vol**	**1.21**	**113**	⇓P	Pn	02 46 05.3	-0.3
PINO	**Pino**	**1.21**	**49**	⇑P	Pn	02 46 05.6	-0.4
BULB	**Ulba Tungurahu**	**1.22**	**113**	⇓P	Pg	02 46 06.8	-0.2
BULB	**Ulba Tungurahu**	**1.22**	**113**	⇓S	Sn	02 46 23.0	+0.8
COV1	**Cotopaxi Volc**	**1.22**	**76**	⇓P	Pn	02 46 05.1	-1.0
PAT1	**Patacocha**	**1.22**	**117**	⇓P	Pb	02 46 06.1	-0.1
ULBA	**Ulba**	**1.22**	**114**	P	Pn	02 46 05.9	+0.1
ANTI	**Antisana**	**1.46**	**70**	⇓P	Pn	02 46 09.8	+0.5
OTAV	**Otavalo**	**1.60**	**42**	⇓P	Pn	02 46 11.4	+0.3
COTA	**Cotacachi**	**1.75**	**43**	P	Pb	02 46 15.9	+0.6
CAYR	**Refugio Cayamb**	**1.80**	**58**	P	Pb	02 46 17.3	+1.0
CAYA	**Cayambe**	**1.84**	**56**	P	Pb	02 46 17.2	+0.2
YANT	**Yantaza**	**2.99**	**165**	P	Pn	02 46 31.6	+1.8
CATE	**Catamayo**	**2.99**	**177**	P	Pn	02 46 32.3	+2.4

CASC 09 02:50:01.0±2.2,10.°24N×84.°23W,h4km±8km,MD4.0, 1C-4D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.32**	**226**	*e*P	Pg	02 50 07.4	+0.1
SJS	**Escuela Geolog**	**0.34**	**149**	⇓*e*P	Pg	02 50 08.5	+0.6
CASO	**Castillo**	**0.53**	**292**	*i* P	Pg	02 50 11.7	+0.4
URSC	**Urasca**	**0.60**	**132**	⇓*e*P	Pg	02 50 13.1	+0.3
QCR	**Quepos**	**0.81**	**175**	⇓*e*P	Pg	02 50 16.3	-0.3
BUS	**Buena Vista**	**0.82**	**145**	⇓*e*P	Pg	02 50 16.8	-0.6
AMAS	**Alto Masis**	**0.83**	**297**	*i* P	Pg	02 50 15.9	-1.3
JCR	**Jicaral**	**0.95**	**246**	⇑*e*P	Pg	02 50 18.7	-0.6
CUI	**Cuipilapa**	**1.01**	**295**	*i* P	Pg	02 50 19.6	-0.9
COLC	**Colonia**	**1.04**	**294**	*i* P	Pg	02 50 20.2	-0.9
LIM1	**Limonal**	**1.10**	**295**	*i* P	Pg	02 50 21.5	-0.8
GPS3	**Bodega del ICE**	**1.23**	**295**	*i* P	Pg	02 50 24.4	-0.2
GB1A	**Boringuen Arri**	**1.28**	**297**	*i* P	Pg	02 50 25.6	-0.1
LAPC	**Finca la Perla**	**1.29**	**294**	*i* P	Pg	02 50 24.3	-1.6
GBS3	**Finca Las Im¯¡**	**1.32**	**294**	*i* P	Pn	02 50 24.8	-1.4
GBS2	**Las Lilas**	**1.34**	**297**	*i* P	Pn	02 50 25.3	-1.2
NY14	**Universidad de**	**1.34**	**288**	*i* P	Pn	02 50 25.6	-0.9
ACR	**Cerro Adams**	**1.89**	**146**	*e*P	Pn	02 50 34.9	+0.7
ACR				*e*S	Sn	02 50 58.8	+0.3
BRU2	**Volcan**	**2.09**	**133**	*i* P	Pn	02 50 38.1	+1.1
BRU2				*i* S	Sb	02 51 06.4	+0.2
TBS2		**2.12**	**133**	*i* P	Pb	02 50 39.2	-0.9
TBS2				*e*S	Sg	02 51 08.3	-1.1
BCIP	**Isla Barro Col**	**4.46**	**103**	*i* P	Pn	02 51 08.7	-0.8
BCIP				*i* S	Sn	02 51 58.7	-3.2
PTP	**Ponta Puerca**	**19.71**	**64**	*i* P	x	02 50 43.6	

IDC 09 03:02:38.2±3.4,17.°46S×175.°56W,h0km,mb4.4/3, mb1 4.5/4,mb1mx3.9/18,mbtmp4.4/4,ML2.7/1,Error ellipse: s-maj=183.9km s-min=31.7km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.07**	**46**	P	Pn	03 03 55.7	+0.1
	16nm,0.3s,baz=45,slow=23,SNR=6.4						
AFI				Sn	Sn	03 04 42.9	-12
	46nm,0.3s,baz=53,slow=22,SNR=17						
STKA	**Stephens Creek**	**41.23**	**241**	P	P	03 10 25.8	+0.6
	1.6nm,0.5s,baz=94,slow=7.1,SNR=6.6						
WRA	**Warramunga Arr**	**47.39**	**259**	P	P	03 11 14.2	-0.4
	1.1nm,0.4s,baz=98,slow=6.8,SNR=39						
ASAR	**Alice Springs**	**47.53**	**254**	P	P	03 11 15.2	-0.5
	9.9nm,0.6s,baz=90,slow=8.2,SNR=20						

IDC 09 03:03:29.4±2.1,4.°77N×126.°68E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=184.4km s-min=24.5km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.69**	**163**	P	P	03 09 02.2	+0.8
	3.4nm,0.9s,baz=343,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**29.13**	**166**	P	P	03 09 31.8	-0.5
	0.2nm,0.4s,baz=353,slow=8.2,SNR=4.8						
STKA	**Stephens Creek**	**39.12**	**160**	P	P	03 10 58.2	-0.5
	1.3nm,0.4s,baz=324,slow=9.6,SNR=6.5						
MKAR	**Makanchi Array**	**56.68**	**325**	P	P	03 13 14.7	-0.1
	0.2nm,0.5s,baz=112,slow=7.8,SNR=7.2						

*DDA **09** 03:04:17.5,39.°80N×25.°53E,h7km,MD3.0*
*ATH **09** 03:04:18.8,39.°82N×25.°59E,h25km,MD3.3/8*
*ISK **09** 03:04:18.0,39.°76N×25.°62E,h5km,MD3.4*
*ISCJB **09** 03:04:18.4±0.6,39.°81N±0.°02×25.°57E±0.°03,h7km±4km, Error ellipse: s-maj=3.6km s-min=2.5km az=145.0*
*THE **09** 03:04:19.7,39.°83N×25.°62E,h11km±1km,ML3.1/1, Error ellipse: s-maj=1.5km s-min=0.8km az=190.0*
*CSEM **09** 03:04:19.2±0.1,39.°79N×25.°57E,h10km,MD3.3, Error ellipse: s-maj=2.5km s-min=2.0km az=40.0*

ISC 09 03:04:19.3±0.9,39.80N±0.°02×25.60E±0.°02,h14km±7km, n112,σ0§76/155,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.33**	**287**	P	**Pg**	**03 04 26.4**	**+0.2**
LIA				S	**Sg**	**03 04 31.6**	**+0.8**
LIA	**Limnos Island**	**0.33**	**287**	*e*PB	**Pg**	**03 04 26.4**	**+0.2**
LIA				*e*SB	**Sg**	**03 04 31.6**	**+0.8**
LIA	**Limnos Island**	**0.33**	**287**	P	**Pg**	**03 04 26.4**	**+0.2**
LIA				S	**Sg**	**03 04 31.6**	**+0.8**
BOZC	**Bozcaada**	**0.35**	**83**	*i* Pg	**Pg**	**03 04 26.2**	**-0.3**
BOZC				*i* Sg	**Sg**	**03 04 31.1**	**-0.2**
EZN	**Ezine**	**0.56**	**87**	*e*PG	**Pg**	**03 04 29.1**	**-1.3**
EZN				*e*SG	**Sg**	**03 04 37.4**	**-0.4**
EZN	**Ezine**	**0.56**	**87**	*e*Pg	**Pg**	**03 04 29.1**	**-1.3**
EZN				*e*Sg	**Sg**	**03 04 37.4**	**-0.4**
PRK	**Paraskevi**	**0.76**	**137**	P	**Pb**	**03 04 34.0**	**-0.4**
PRK				S	**Sb**	**03 04 44.9**	**+0.3**
PRK	**Paraskevi**	**0.76**	**137**	*e*PN	**Pb**	**03 04 34.2**	**-0.2**
PRK				*e*SN	**Sb**	**03 04 44.8**	**+0.2**
PRK	**Paraskevi**	**0.76**	**137**	P	**Pb**	**03 04 34.0**	**-0.4**
PRK				S	**Sb**	**03 04 44.9**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.90**	**48**	*e*PG	**Pg**	**03 04 36.0**	**-0.7**
GELI				*e*SG	**Sb**	**03 04 49.1**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.90**	**48**	*e*Pg	**Pg**	**03 04 36.1**	**-0.7**
GELI				*e*Sg	**Sb**	**03 04 49.1**	**+0.5**
AYVA	**Ayvalik**	**0.98**	**120**	*i* P	**Pg**	**03 04 37.7**	**-0.5**
AYVA				*i* S	**Sn**	**03 04 52.3**	**0.0**
AYVA	**Ayvalik**	**0.98**	**120**	*i* P	**Pg**	**03 04 37.7**	**-0.5**
AYVA				*i* S	**Sn**	**03 04 52.3**	**0.0**
ENEZ	**Enez**	**1.03**	**24**	*e*PG	**Pg**	**03 04 38.7**	**-0.4**
ENEZ				*e*SG	**Sn**	**03 04 53.6**	**+0.2**
ENEZ	**Enez**	**1.03**	**24**	*e*Pg	**Pg**	**03 04 38.7**	**-0.4**
ENEZ				*e*Sg	**Sn**	**03 04 53.7**	**+0.2**
LPK	**Lapseki**	**1.06**	**57**	*e*PG	**

APE	Apeiranthos	2.73	181	*e*Pn	Pn	03 05 02.8	0.0
BGKT	Bogazkoy	2.79	59	*e*PN	Pn	03 05 04.7	+1.2
BGKT	Bogazkoy	2.79	59	*e*Pn	Pn	03 05 04.7	+1.2
GEMT	Gemlik	2.83	76	*e*PN	Pn	03 05 05.0	+1.0
GEMT	Gemlik	2.83	76	*e*Pn	Pn	03 05 05.0	+1.0
ISK	Istanbul-Kandi	2.93	63	*e*PN	Pn	03 05 07.0	+1.5
ISK	Istanbul-Kandi	2.93	63	*e*Pn	Pn	03 05 07.0	+1.5
BODT	Bodrum	3.05	153	*e*PN	Pn	03 05 07.0	-0.1
BODT	Bodrum	3.05	153	*e*Pn	Pn	03 05 07.0	-0.1
ADVT	Abdulvahap	3.24	77	*e*PN	Pn	03 05 10.7	+1.0
ADVT	Abdulvahap	3.24	77	*e*Pn	Pn	03 05 10.7	+1.0
HRT	Hereke	3.27	71	*e*PN	Pn	03 05 11.3	+1.1
HRT	Hereke	3.27	71	*e*Pn	Pn	03 05 11.4	+1.1
KHL	Karahalli	3.39	115	*e*PN	Pn	03 05 12.7	+0.7
KHL	Karahalli	3.39	115	*e*Pn	Pn	03 05 12.7	+0.7
GULT	Gulveren	3.82	79	*e*PN	Pn	03 05 20.0	+2.1
GULT	Gulveren	3.82	79	*e*Pn	Pn	03 05 20.0	+2.1
SHUT	Suhut-Afyon	4.05	106	*e*PN	Pn	03 05 22.3	+1.3
SHUT	Suhut-Afyon	4.05	106	*e*Pn	Pn	03 05 22.3	+1.3
ESKT	Eskisehir	4.06	92	*e*PN	Pn	03 05 22.6	+1.5
ESKT	Eskisehir	4.06	92	*e*Pn	Pn	03 05 22.7	+1.5
BARS	Barje	4.14	318	*e*Pn	Pn	03 05 23.5	+1.3
ELL	Elmali	4.56	131	*e*PN	Pn	03 05 29.0	+0.9
ELL	Elmali	4.56	131	*e*Pn	Pn	03 05 29.0	+0.9
KIZT	Kizilcal	4.96	99	*e*PN	Pn	03 05 35.4	+1.9
KIZT	Kizilcal	4.96	99	*e*Pn	Pn	03 05 35.4	+1.9

CASC 09 03:06:23.9±2.6, 10°.19N×84°.25W, h0km±3km, MD3.9, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGA2	Cerro Gallo 2	0.27	230	*e*P	Pg	03 06 30.6	+1.2
CGA2				*e*S	Sg	03 06 34.6	+1.5
SJS	Escuela Geolog	0.32	142	*e*P	Pg	03 06 31.7	+1.5
URSC	Urasca	0.59	127	*e*P	Pg	03 06 36.4	+0.9
QCR	Quepos	0.77	174	*e*P	Pg	03 06 39.4	+0.7
BUS	Buena Vista	0.80	142	*e*P	Pg	03 06 39.9	+0.1
AMAS	Alto Masis	0.84	300	*i*P	Pg	03 06 40.9	+0.7
JICR	Jicaral	0.91	248	*e*P	Pg	03 06 42.0	+0.5
CUI	Cuipilapa	1.01	297	*i*P	Pg	03 06 43.4	0.0
COLC	Colonia	1.05	297	*i*P	Pg	03 06 44.2	+0.1
COLC				*i*S	Sn	03 07 01.4	0.0
MESS	Mesas	1.07	301	*i*P	Pg	03 06 43.9	-0.8
A495	El Viejo	1.20	280	*i*P	Pg	03 06 46.7	-0.3
GPS3	Bodega del ICE	1.23	297	*i*P	Pg	03 06 47.7	+0.1
LAPC	Finca la Perla	1.29	296	*i*P	Pg	03 06 47.5	-1.4
GBS3	Finca Las Im¯¡	1.32	296	*i*P	Pg	03 06 48.2	-1.1
A492	Arado	1.32	271	*i*P	Pg	03 06 48.5	-0.8
ACR	Cerro Adams	1.87	145	*e*P	Pn	03 06 57.4	+0.2
BRU2	Volcan	2.07	132	*e*P	Pb	03 07 02.1	-0.5
PTP	Ponta Puerca	19.74	64	*e*P	x	03 07 06.6	

*IDC **09** 03:08:03.5±0.8, 0°.31S×132°.48E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/20, mbtmp4.1/10, ML4.3/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/39, Error ellipse: s-maj=48.9km s-min=15.0km az=74.0*

*ISCJB **09** 03:08:06.9±0.7, 0°.48S±0°.06×132°.1E±0°.2, h33km, mb4.0/8, MS3.6/3, Error ellipse: s-maj=23.1km s-min=8.2km az=176.8*

*DJA **09** 03:08:11, 0°.53S×132°.42E, h20km, MLv4.6/12*

ISC 09 03:08:09.3±1.0, 0°.63S±0°.09×132°.0E±0°.2, h33km, n14, σ1.9s78/11, mb4.1/8, MS3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	13.00	250	LR	LR	03 16 49.4	
	comp=Z,98nm,18.8s,baz=177,slow=39						
FITZ	Fitzroy Crossi	18.46	199	P	P	03 12 24.6	+1.9
	0.8nm,0.3s,baz=54,slow=8.5,SNR=12						
FITZ				S	Sn	03 15 47.3	-0.9
	0.3nm,0.3s,baz=159,slow=17,SNR=3.1						
FITZ				LR	LR	03 18 47.3	
	comp=Z,78nm,21.1s,baz=27,slow=34						
GUMO	Guam	19.02	42	LR	LR	03 18 24.1	
	comp=Z,120nm,18.1s,baz=263,slow=34						
WRA	Warramunga Arr	19.33	173	P	P	03 12 33.1	-0.2
	0.8nm,0.3s,baz=353,slow=12,SNR=19						
WRA				S	S	03 16 05.5	-3.6
	0.4nm,0.3s,baz=353,slow=20,SNR=6.3						
ASAR	Alice Springs	22.98	176	P	P	03 13 13.1	+1.9
	13nm,1.0s,baz=356,slow=10,SNR=46						
ASAR				S	Sn	03 17 33.1	-3.7
	4.0nm,1.0s,baz=358,slow=26,SNR=6.9						
CTA	Charters Tower	23.84	145	P	P	03 13 19.6	-0.1
	6.9nm,0.8s,baz=317,slow=8.4,SNR=5.4						
STKA	Stephens Creek	32.38	165	P	P	03 14 37.1	+1.2
	2.0nm,0.7s,baz=9.5,slow=6.9,SNR=6.5						
STKA				LR	LR	03 28 01.3	
	comp=Z,93nm,18.4s,baz=201,slow=37						
MJAR	Matsushiro Arr	37.42	8	LR	LR	03 27 40.6	
	comp=Z,85nm,19.1s,baz=140,slow=32						
ASAJ	Asahikawa	45.54	1	LR	LR	03 31 37.4	
	comp=Z,76nm,21.6s,baz=161,slow=31						
SONM	Songino Array	53.17	339	P	P	03 17 24.2	-0.1
	0.3nm,0.6s,baz=146,slow=6.2,SNR=3.4						
MKAR	Makanchi Array	64.13	324	P	P	03 18 39.8	-0.7
	1.8nm,1.0s,baz=110,slow=7.7,SNR=12						
ZALV	Zalesovo Beam	66.86	332	P	P	03 18 56.5	-1.5
	0.5nm,0.5s,baz=111,slow=8.1,SNR=4.1						
KURK	Kurchatov	68.24	327	P	P	03 19 06.1	-0.6
	2.0nm,0.9s,baz=120,slow=5.8,SNR=15						
ILAR	Eielson Array	86.76	25	P	P	03 20 45.2	-4.6
	0.5nm,0.8s,baz=243,slow=4.3,SNR=5.6						

*NEIC **09** 03:17:00.9±1.1, 5°.44N×126°.02E, h68km±10km, mb4.5/8, Error ellipse: s-maj=28.0km s-min=6.2km az=71.0*

*IDC **09** 03:17:00.7±1.7, 5°.41N×125°.95E, h64km±15km, mb3.9/12, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, Error ellipse: s-maj=47.3km s-min=11.2km az=74.0*

ISC 09 03:17:00.7±0.6, 5°.7N±0°.1×126°.7E±0°.1, h66km, n42, σ1.9s59/44, mb4.4/20, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	1.32	339	*e*P	Pn	03 17 24.6	+1.4
MATI				*e*S	Sn	03 17 39.9	-0.1
DAV	Davao City (W)	1.77	320	P	Pn	03 17 28.0	-1.2
	42nm,0.3s,baz=184,slow=7.4,SNR=12						
DAV				S	Sn	03 17 48.7	-2.2
	58nm,0.3s,baz=98,slow=23,SNR=6.2						
DAV	Davao City (W)	1.77	320	P	Pn	03 17 28.1	-1.2
DAV				S	Sn	03 17 48.7	-2.2
GSPH	General Santos	1.81	282	*i*P	Pn	03 17 21.6	-8.2
KCP	Kidapawan	2.08	308	*e*P	Pn	03 17 35.5	+2.1
KCP				*i*S	Sn	03 18 04.1	+5.7
BUKP	Musuan	2.72	322	*e*P	Pn	03 17 34.0	-8.1
PAGZ	Pagadian	3.95	303	*e*P	Pn	03 17 55.1	-3.7
FITZ	Fitzroy Crossi	23.68	183	P	P	03 22 03.2	-3.4
	1.3nm,0.3s,baz=303,slow=7.2,SNR=9.6						
FITZ	Fitzroy Crossi	23.68	183	P	P	03 22 03.2	-3.4
WRAB	Tennant Creek	26.56	164	*e*P	P	03 22 32.1	-0.5
	17nm,1.1s						
WRA	Warramunga Arr	26.57	164	P	P	03 22 31.7	-1.0
	2.6nm,0.8s,baz=342,slow=10,SNR=7.9						
WRA	Warramunga Arr	26.57	164	P	P	03 22 31.7	-1.0
ASAR	Alice Springs	30.02	167	P	P	03 23 04.8	+1.2
	0.3nm,0.4s,baz=349,slow=8.0,SNR=3.9						
ASAR				PcP	PcP	03 26 03.4	-1.1
	0.4nm,0.5s,baz=332,slow=1.8,SNR=5.0						
ASAR	Alice Springs	30.02	167	P	P	03 23 04.8	+1.2
ASAR				PcP	PcP	03 26 03.4	-1.1
BJT	Baijiatuan	35.46	346	*e*P	P	03 23 52.1	+1.4
	16nm,0.6s						
USRK	Ussuriysk Arra	38.62	6	P	P	03 24 21.3	+3.9
	3.7nm,0.8s,baz=202,slow=8.3,SNR=6.0						
STKA	Stephens Creek	39.97	160	P	P	03 24 29.1	+0.2
	1.3nm,0.4s,baz=335,slow=7.7,SNR=6.7						
STKA	Stephens Creek	39.97	160	P	P	03 24 29.1	+0.2
ULN	Ulaanbaatar	45.25	341	*e*P	P	03 25 12.4	+0.7
	5.1nm,1.1s						
SONM	Songino Array	45.44	341	P	P	03 25 13.8	+0.6
	1.5nm,0.9s,baz=161,slow=5.5,SNR=11						
SONM				PcP	PcP	03 26 51.9	+0.5
	1.5nm,0.8s,baz=165,slow=3.1,SNR=9.9						
SONM	Songino Array	45.44	341	P	P	03 25 13.8	+0.6
SONM				PcP	PcP	03 26 51.9	+0.5
MK31	Makanchi Array	55.95	325	*e*P	P	03 26 31.3	-0.9
MKAR	Makanchi Array	55.95	325	P	P	03 26 31.4	-0.7
	3.0nm,0.6s,baz=120,slow=7.4,SNR=57						
MKAR	Makanchi Array	55.95	325	P	P	03 26 31.4	-0.7
TKM2	Tokmak 2	58.28	318	*e*P	P	03 26 47.3	-1.7
	3.7nm,0.9s						
ZAA0	Zalesovo Array	58.84	333	*e*P	P	03 26 51.1	-1.2
ZALV	Zalesovo Beam	58.84	333	P	P	03 26 51.1	-1.2
	1.5nm,0.6s,baz=122,slow=7.0,SNR=9.0						
ZALV	Zalesovo Beam	58.84	333	P	P	03 26 51.1	-1.2
EKS2	Erkin-Say	59.41	317	*e*P	P	03 26 55.6	-1.1
	7.9nm,1.2s						
KURK	Kurchatov	60.09	327	P	P	03 27 00.0	-1.0
	3.6nm,0.6s,baz=124,slow=6.5,SNR=50						
KURK	Kurchatov	60.09	327	P	P	03 27 00.0	-1.0
KKAR	Karatay Array	61.80	316	*e*P	P	03 27 11.1	-1.7
	4.0nm,1.0s						
BRVK	Borovoye	65.75	327	*e*P	P	03 27 36.7	-1.8
	4.5nm,0.8s						
ABKAR	Akbulak array	70.63	320	*e*P	P	03 28 07.6	-1.6
	1.2nm,0.6s						
ILAR	Eielson Array	83.33	26	P	P	03 29 23.0	+2.8
	0.9nm,1.0s,baz=241,slow=5.2,SNR=4.4						
ILAR	Eielson Array	83.33	26	P	P	03 29 23.0	+2.8
ARCES	ARCESS Array B	88.60	340	P	P	03 29 46.0	-0.1
	4.9nm,0.8s,baz=71,slow=5.4,SNR=7.3						
ARCES	ARCESS Array B	88.60	340	P	P	03 29 46.0	-0.1
FINES	FINESS Array B	90.10	332	P	P	03 29 52.5	-0.8
	3.8nm,1.0s,baz=34,slow=4.8,SNR=5.0						
FINES	FINESS Array B	90.10	332	P	P	03 29 52.5	-0.8
TORD	Torodi Ar. Bea	122.29	289	PKP	PKPdf	03 35 48.2	-1.1
	0.6nm,0.8s,baz=66,slow=1.7,SNR=11						
TORD	Torodi Ar. Bea	122.29	289	PKP	PKPdf	03 35 48.2	-1.1

*DJA **09** 03:26:51, 0°.79S×131°.96E, h5km, MLv4.9/10*

IDC 09 03:26:48.5±0.7, 0°.85S×131°.05E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/22, mbtmp4.1/12, ML4.1/2, MS3.8/3, Ms1 3.8/3, ms1mx3.1/29, Error ellipse: s-maj=29.6km s-min=9.0km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	9.58	325	LR	LR	03 32 42.5	
	comp=Z,286nm,20.0s,baz=197,slow=37						
FITZ	Fitzroy Crossi	17.95	197	P	P	03 31 01.3	+1.1
	0.5nm,0.3s,baz=32,slow=16,SNR=16						
FITZ				S	Sn	03 34 21.2	+0.7
	0.3nm,0.3s,baz=137,slow=16,SNR=3.3						
WRA	Warramunga Arr	19.24	171	P	Pn	03 31 15.5	0.0
	0.6nm,0.3s,baz=352,slow=11,SNR=15						
WRA				S	Sn	03 34 52.7	+0.8
	0.4nm,0.3s,baz=345,slow=16,SNR=4.9						
ASAR	Alice Springs	22.85	173	P	P	03 31 54.8	+1.2
	11nm,0.7s,baz=358,slow=9.8,SNR=80						
ASAR				S	Sn	03 36 12.8	-5.8
	1.0nm,0.7s,baz=354,slow=27,SNR=3.8						
CTA	Charters Tower	24.23	143	P	P	03 32 05.7	-1.5
	7.4nm,0.9s,baz=326,slow=11,SNR=3.7						
CTA				LR	LR	03 41 15.8	
	comp=Z,191nm,20.4s,baz=316,slow=36						
STKA	Stephens Creek	32.43	163	P	P	03 33 18.9	-1.5
	2.7nm,0.9s,baz=358,slow=10,SNR=4.4						
SONM	Songino Array	53.03	339	P	P	03 36 06.3	-1.1
	0.7nm,0.6s,baz=162,slow=5.6,SNR=4.2						
RPZ	Rata Peaks	55.56	146	LR	LR	04 01 40.2	
	comp=Z,220nm,18.1s,baz=114,slow=38						
MKAR	Makanchi Array	63.76	325	P	P	03 37 22.4	+0.1
	0.7nm,0.6s,baz=112,slow=8.4,SNR=16						
ZALV	Zalesovo Beam	66.61	332	P	P	03 37 40.8	+0.1
	1.1nm,0.7s,baz=123,slow=5.5,SNR=3.9						
KURK	Kurchatov	67.90	327	P	P	03 37 48.8	-0.1
	3.3nm,0.8s,baz=122,slow=5.9,SNR=18						
BVAR	Borovoye Array	73.49	327	P	P	03 38 22.3	-0.6
	2.1nm,0.9s,baz=120,slow=8.2,SNR=8.6						
AKTO	Aktyubinsk	79.91	322	P	P	03 38 58.4	-0.9
	0.5nm,0.4s,baz=108,slow=6.4,SNR=4.0						
ILAR	Eielson Array	87.38	25	P	P	03 39 38.5	+1.2
	0.5nm,0.8s,baz=246,slow=5.8,SNR=3.6						
TORD	Torodi Ar. Bea	128.38	286	PKP	PKPdf	03 45 59.8	+1.5
	0.3nm,0.8s,baz=62,slow=2.4,SNR=2.6						

TRN 09 03:33:06.8, 15°.49N×61°.08W, h146km, MD3.2, M3.3(FDF), 10C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLPL	La Plaine	0.23	226	*e*P	Pn	03 33 27.9	+1.1
DLPL				*e*S	Sn	03 33 43.0	+1.1
DWS	Wesley	0.24	289	*e*P	Pn	03 33 29.8	+3.1
DWS				*e*S	Sn	03 33 43.6	+1.8
DSTT	Stowe	0.33	222	*e*P	Pn	03 33 27.7	+0.7
DBCT	Belle View Cho	0.34	230	*e*P	Pn	03 33 28.3	+1.2
DVCT	Vielle Casse P	0.34	291	*e*P	Pn	03 33 29.6	+2.6
DVCT				*e*S	Sn	03 33 44.4	+2.0
MDN	Morne-Daniel	0.35	240	*e*P	Pn	03 33 28.1	+1.0
DFBT	Forest Bistro	0.37	227	*e*P	Pn	03 33 27.8	+0.7
DSHT	Scott's Head	0.40	226	*e*P	Pn	03 33 28.1	+0.8
MGG	Marie-Galante	0.48	331	↑*i*P	Pn	03 33 29.0	+1.3
MGG				↑*e*S	Sn	03 33 43.8	+0.3
TBG	Guadaloupe-3	0.65	303	*e*P	Pn	03 33 29.4	+0.8
DOG	Dongo Capester	0.75	316	*e*P	Pn	03 33 30.3	+1.0
PHG	Guadaloupe-2	0.75	314	*e*P	Pn	03 33 30.2	+0.8
FDF	Fort de France	0.76	185	↓*e*P	Pn	03 33 30.1	+0.7
FDF				↓*e*S	Sn	03 33 47.0	+0.4
HMG	Houelmont	0.77	309	↑*i*P	Pn	03 33 30.4	+0.9
BCG	Bois Riant Cap	0.79	319	*e*P	Pn	03 33 30.7	+1.1
SCG	Saint Claude	0.79	313	↑*i*P	Pn	03 33 30.8	+1.1
DEG	La Desirade	0.82	1	↑*i*P	Pn	03 33 31.6	+1.8
DEG				↑*e*S	Sn	03 33 48.9	+1.4
LZG	Guadaloupe-1	0.93	314	↑*i*P	Pn	03 33 31.6	+1.0
MVM	Montagne Vaucl	0.95	169	↑*e*P	Pn	03 33 31.8	+0.9
MVM				↑*e*S	Sn	03 33 49.8	+0.6
BIM	Bigot	0.97	180	↓*e*P	Pn	03 33 31.8	+0.7
SEG	Port Louis	0.99	336	↑*i*P	Pn	03 33 32.7	+1.5
SLB	Belfond	1.66	179	*e*P	Pn	03 33 38.9	+0.9
SLB				*e*S	Sn	03 34 02.9	+1.2
BPA	Boggy Peak	1.72	334	*e*P	Pn	03 33 39.8	+1.2
BPA				*e*S	Sn	03 34 02.8	-0.1
MCLT	Moule a Chique	1.78	176	*e*P	Pn	03 33 40.4	+1.1
MCLT				*e*S	Sn	03 34 03.7	-0.3
SVV	Soufriere Volc	2.17	184	*e*P	Pn	03 33 44.9	+1.1
SVV				*e*S	Sn	03 34 13.0	+0.8
BHS	Barnard House	2.18	181	*e*P	Pn	03 33 45.0	+1.1
FCV	Fort Charlotte	2.33	184	*e*S	Sn	03 34 16.8	+1.2
SKI	Saint Kitts	2.43	319	*e*P	Pn	03 33 47.6	+0.7
SKI				*e*S	Sn	03 34 18.8	+1.0

*DJA **09** 03:33:23, 0°.85S×131°.95E, h10km, MLv4.1/4*

IDC 09 03:33:20.6±2.7, 0°.87S×131°.56E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=127.2km s-min=26.9km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.09	198	P	Pn	03 37 33.4	-0.1
	0.1nm,0.3s,baz=28,slow=11,SNR=3.2						
WRA	Warramunga Arr	19.15	172	P	P	03 37 45.6	-0.2
	0.2nm,0.3s,baz=352,slow=11,SNR=5.0						
ASAR	Alice Springs	22.78	174	P	P	03 38 25.1	+0.1
	1.0nm,0.6s,baz=357,slow=10,SNR=5.6						
MKAR	Makanchi Array	64.06	325	P	P	03 43 56.5	0.0
	0.3nm,0.7s,baz=111,slow=8.2,SNR=4.0						

*BJI **09** 03:44:27.9, 9°.73N×56°.22E, h5km, mB5.4/37, mb5.0/56, Ms5.5/57, Ms7 5.3/55*

*IDC **09** 03:44:36.9±0.4, 10°.42N×57°.07E, h0km, mb4.8/30, mb1 4.9/31, mb1mx4.9/34, mbtmp4.8/31, ML5.0/1, MS5.1/31, Ms1 5.1/31, ms1mx5.1/36, Error ellipse: s-maj=12.6km s-min=11.3km az=24.0*

*ISCJB **09** 03:44:37.1±0.6, 10°.36N±0°.03×56°.97E±0°.02, h13km±3km, mb5.3/247, MS5.2/91, Error ellipse: s-maj=4.5km s-min=3.3km az=10.5*

*BGS **09** 03:44:37.9±2.3, 10°.44N×56°.96E, h10km, mb5.1*

*MOS **09** 03:44:37.2±1.2, 10°.50N×56°.94E, h10km, mb5.5/78, MS5.1/48, Error ellipse: s-maj=6.5km s-min=3.5km az=108.0*

*NEIC **09** 03:44:38.8±0.2, 10°.44N×56°.96E, h10km, mb5.4/69, MW5.7, Error ellipse: s-maj=5.2km s-min=4.2km az=10.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^17 Nm; Mrr0.42; Mθθ-3.30; Mφφ2.88; Mrθ-0.32; Mθφ-2.45; Mφr~0.95; Best double couple: M0 4.10000×10^17 NP1: φs206.00000°, δ86.00000°, λ15.00000°. NP2: φs115.00000°, δ75.00000°, λ176.00000°. Principal axes: T 3.9100, Plg12.0000°, Azm71.0000°; N 0.3200, Plg74.0000°, Azm219.0000°; P -4.2400, Plg7.0000°, Azm340.0000°;*

*CSEM **09** 03:44:38.9±0.1, 10°.41N×56°.98E, h10km, mb5.4/99, Ms5.1, Mw5.6 Error ellipse: s-maj=5.1km s-min=3.8km az=7.0*

*STR **09** 03:44:38.4±0.0, 11°.42N×57°.90E, Mb5.2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0*

*DJA **09** 03:44:39, 10°.47N×57°.00E, h10km, mb5.2/17*

*OMAN **09** 03:44:41.0±1.4, 10°.51N×57°.19E, h10km, Error ellipse: s-maj=2.7km s-min=1.6km az=225.0*

*DHMR **09** 03:44:45.5±3.2, 11°.15N×56°.89E, h35km±999km, mb5.6*

*SZGRF **09** 03:44:45.2, 10°.29N×54°.75E, h10km, mb5.2, Carlsberg Ridge*

ISC 09 03:44:39.1±0.3, 10°.43N±0°.04×57°.03E±0°.03, h13km±1km, h12km: pP-P, n1160, σ1.9s32/1348, mb5.3/247, MS5.2/93, 157C-70D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RBK	Rabkut	7.55	339	P	Pn	03 46 32.3	+3.3
	SNR=143						
RBK	Rabkut	7.55	339	P	Pn	03 46 32.3	+3.3
	SNR=143						
ABTO	Aybut	7.78	333	P	Pn	03 46 35.1	+2.9
	SNR=86						
ABTO				P	Pn	03 46 35.4	+3.2
	SNR=184						
ABTO	Aybut	7.78	333	P	Pn	03 46 35.1	+2.9
	SNR=86						
MUKL	Al Mukalla	8.78	298	*i*P	Pn	03 46 43.7	-2.2
MUKL				*i*S	Sn	03 48 17.6	-7.2
BDHA	Al Bayda'	11.74	289	*i*P	Pn	03 47 26.7	-0.1
BDHA	Al Bayda'	11.74	289	*i*P	Pn	03 47 26.7	-0.1
JMDO	Jabal Madar	11.92	5	P	Pn	03 47 30.1	+1.2
	SNR=26						
JMDO				P		03 47 31.7	
	SNR=24						
JMDO	Jabal Madar	11.92	5	P	Pn	03 47 30.1	+1.2
	SNR=26						
LBOS		12.01	288	*i*P	Pn	03 47 29.9	-0.6
LBOS				AMb	AMB	03 47 31.4	
	comp=Z,210nm,1.6s						
BSYO	Bisya	12.23	1	P	Pn	03 47 34.5	+1.3
	SNR=59						
BSY	Bisya	12.25	1	P	Pn	03 47 34.5	+1.1
	SNR=59						
BSY				P	Pn	03 47 35.2	+1.8
	SNR=114						
WBK	Wadi Bani Khal	12.25	8	P	Pn	03 47 35.7	+2.2
	SNR=23						
WBK				P	Pn	03 47 36.0	+2.5
	SNR=15						
WBK	Wadi Bani Khal	12.25	8	P	Pn	03 47 35.7	+2.2
	SNR=23						
SMDO	Samad	12.60	4	P	Pn	03 47 39.3	+1.1
	SNR=26						
SMDO				P	Pn	03 47 39.6	+1.3
	SNR=50						
SMDO	Samad	12.60	4	P	Pn	03 47 39.6	+1.3
	SNR=50						
ARQ	Araqi	12.84	358	P	Pn	03 47 42.7	+1.1
	SNR=54						
ARQ	Araqi	12.84	358	P	Pn	03 47 42.7	+1.1
	SNR=54						
TRBA	At Turbah	12.94	284	↑*e*P	Pn	03 47 42.8	-0.3
HOQ	Hoqain	13.08	1	P	Pn	03 47 46.8	+2.0
	SNR=74						
HOQ	Hoqain	13.08	1	P	Pn	03 47 46.8	+2.0
	SNR=74						
ATD	Arta Tunnel	13.97	276	Pn	Pn	03 47 55.0	-2.0
	comp=Z,6.5nm,0.3s,baz=91,slow=7.8,SNR=14						
ATD				LR	LR	03 52 28.1	
	comp=Z,11μm,18.2s,baz=91,slow=34						
ATD	Arta Tunnel	13.97	276	Pn	Pn	03 47 55.0	-2.0
ATD	Arta Tunnel	13.97	276	Pn	Pn	03 47 55.0	-2.0
ASHO	Ashiyiah	14.21	356	P	Pn	03 48 00.2	-0.1
	SNR=58						
ASUD	Al Ashush, Dub	14.21	354	P	Pn	03 48 03.0	+2.8
	SNR=12						
ASUD	Al Ashush, Dub	14.21	354	P	Pn	03 47 59.2	-1.0
	SNR=19						
NAZ	Nazwa, Dubai	14.54	355	P	Pn	03 48 07.0	+2.3
	SNR=24						
RAYN	Ar Rayn	17.04	321	Pn	Pn	03 48 34.0	-3.4
	comp=Z,748nm,1.0s,SNR=29						
POO	Poona	18.16	62	*e*P	Pn	03 48 49.9	-1.4
POO				AMb	AMB	03 49 16.4	
	comp=Z,102nm,1.2s						
RDF	Al-Radifah	20.43	336	*e*P	P	03 49 14.5	-1.8
RDF				AMb	AMB	03 49 20.6	
	comp=Z,603nm,1.0s						
KBD	Kabd	20.59	336	*e*P	P	03 49 16.6	-1.4
KBD				AMb	AMB	03 49 20.4	
	comp=Z,525nm,1.0s						
NAY	Al-Naaiem	20.84	335	*e*P	P	03 49 20.1	-0.7
NAY				AMb	AMB	03 49 24.7	
	comp=Z,278nm,1.0s						
UMR	Umm

comp=Z,1µm,21.7s
ASF Jabal al Asfar 28.53 322 P P 03 50 35.5 +0.8
CUKT Cukurca 29.32 338 eP P 03 50 43.1 +1.4
HAKT HAKKARI 29.55 338 i P P 03 50 45.5 +1.5
SIRN S¨¨rnak 29.99 336 i P P 03 50 49.7 +2.1
MMAI Mount Meron Ar 30.02 322 P P 03 50 49.5 +1.6
comp=Z,5.7nm,0.8s,baz=122,slow=11,SNR=8.7
MMAI PcP PcP 03 53 51.5 +1.4
comp=Z,4.3nm,0.7s,baz=93,slow=3.2,SNR=4.0
MMAI LR LR 04 02 46.8
comp=Z,6µm,19.5s,baz=125,slow=36
MMAI Mount Meron Ar 30.02 322 P P 03 50 49.5 +1.6
MMAI PcP PcP 03 53 51.5 +1.4
MMAI Mount Meron Ar 30.02 322 P P 03 50 49.5 +1.6
KOLN Koldanda 30.35 52⇑ iP P 03 50 52.5 +1.4
comp=Z,143nm,0.9s
KOLN Koldanda 30.35 52⇑ iP P 03 50 52.5 +1.4
comp=Z,143nm,0.9s
KOLN Koldanda 30.35 52⇑ iP P 03 50 52.5 +1.4
comp=Z,143nm,0.9s
OPO Ambohidratompo 30.41 199 P P 03 50 52.7 +1.2
comp=Z,21nm,1.1s,baz=36,slow=7.5,SNR=7.6
OPO LR LR 04 00 22.8
comp=Z,7µm,19.0s,baz=14,slow=31
OPO Ambohidratompo 30.41 199 P P 03 50 52.7 +1.2
OPO Ambohidratompo 30.41 199 P P 03 50 52.7 +1.2
MARD Mardin 30.51 334 i P P 03 50 54.5 +2.2
MRIV Mauritius Mete 30.54 179 eP P 03 50 52.1 -0.4
MRIV Mauritius Mete 30.54 179 eP P 03 50 52.1 -0.4
VANB Van 30.59 339 eP P 03 50 55.7 +2.8
DANN Dangsing 30.76 51⇑ iP P 03 50 56.1 +1.3
DANN Dangsing 30.76 51⇑ iP P 03 50 56.1 +1.3
DANN Dangsing 30.76 51⇑ iP P 03 50 56.1 +1.3
ABPO Ambohimpanom 30.82 198 eP P 03 50 55.3 +0.1
ABPO pmax pmax
comp=Z,105nm,1.2s
ABPO Ambohimpanom 30.82 198 eP P 03 50 55.3 +0.1
comp=Z,105nm,1.2s
ABPO Ambohimpanom 30.82 198 eP P 03 50 55.3 +0.1
comp=Z,105nm,1.2s
CLDR Caldiran 30.90 340 eP P 03 50 57.8 +2.1
GKN Gorkha 31.27 52⇑ iP P 03 51 00.3 +1.2
GKN Gorkha 31.27 52⇑ iP P 03 51 00.3 +1.2
GKN Gorkha 31.27 52⇑ iP P 03 51 00.3 +1.2
DIYA Diyarbakir 31.31 334 i P P 03 51 02.0 +2.7
DYDN Diyadin 31.33 340 i P P 03 51 01.6 +2.0
DMN Daman 31.45 53⇑ iP P 03 51 02.4 +1.6
comp=Z,168nm,0.9s
DMN Daman 31.45 53⇑ iP P 03 51 02.4 +1.6
comp=Z,168nm,0.9s
DMN Daman 31.45 53⇑ iP P 03 51 02.4 +1.6
comp=Z,168nm,0.9s
URFA Urfa 31.50 332 eP P 03 51 04.7 +3.8
GNI Garni 31.54 342 eP P 03 51 04.2 +2.8
GNI Garni 31.54 342 d iP P 03 51 00.3 -1.1
GNI pmax pmax
comp=Z,107nm,1.7s
GNI MLR MLR
comp=Z,9µm,17.0s
GNI Garni 31.54 342 eP P 03 51 01.7 +0.3
comp=Z,137nm,1.1s
GNI Garni 31.54 342 P P 03 51 04.0 +2.6
SNR=16
GNI Garni 31.54 342 eP P 03 51 01.7 +0.3
comp=Z,137nm,1.1s
AGRB Hanur-Agry 31.60 339 eP P 03 51 04.3 +2.3
KKN Kakani 31.67 53⇑ iP P 03 51 04.3 +1.6
comp=Z,157nm,0.8s
KKN Kakani 31.67 53⇑ iP P 03 51 04.3 +1.6
KKN pmax pmax
comp=Z,157nm,0.8s
KKN Kakani 31.67 53⇑ iP P 03 51 04.3 +1.6
comp=Z,157nm,0.8s
KKN Kakani 31.67 53 i P P 03 51 04.3 +1.6
comp=Z,157nm,0.8s
PKI Pulchoki 31.67 53⇑ iP P 03 51 04.1 +1.2
comp=Z,80nm,0.7s
PKI Pulchoki 31.67 53⇑ iP P 03 51 04.1 +1.2
PKI pmax pmax
comp=Z,80nm,0.7s
PKI Pulchoki 31.67 53⇑ iP P 03 51 04.1 +1.2
comp=Z,80nm,0.7s
PKI Pulchoki 31.67 53 i P P 03 51 04.1 +1.2
comp=Z,80nm,0.7s
BNGL BINGOL 31.75 336 i P P 03 51 06.3 +3.0
ATAB Bozova 31.77 331 i P P 03 51 06.0 +2.8
YAYL Yayladag 31.78 327 i P P 03 51 05.6 +2.1
VRTB Varto-Mus 31.81 337 eP P 03 51 07.4 +3.7
KUZU Kuzuini 31.83 329 i P P 03 51 05.9 +2.1
BNGB Bing¨ll 31.97 336 eP P 03 51 08.6 +3.4
GAZ Gaziantep 32.07 329 eP P 03 51 08.6 +2.6
GUN Gumba 32.20 53⇑ iP P 03 51 09.0 +1.5
comp=Z,190nm,0.8s
GUN Gumba 32.20 53⇑ iP P 03 51 09.0 +1.5
comp=Z,190nm,0.8s
GUN Gumba 32.20 53⇑ iP P 03 51 09.0 +1.5
comp=Z,190nm,0.8s
CAL Calcutta 32.26 64 eP P 03 51 07.7 0.0
CAL ex x 03 57 36.0
ELZG Elazig 32.28 333 i P P 03 51 10.7 +2.7
JIRN Jiri 32.33 54⇑ iP P 03 51 10.1 +1.4
comp=Z,127nm,0.8s
JIRN Jiri 32.33 54⇑ iP P 03 51 10.1 +1.4
comp=Z,127nm,0.8s
JIRN Jiri 32.33 54⇑ iP P 03 51 10.1 +1.4
comp=Z,127nm,0.8s
RAMN Ramite 32.35 55⇑ iP P 03 51 10.3 +1.5
comp=Z,106nm,0.6s
RAMN Ramite 32.35 55⇑ iP P 03 51 10.3 +1.5
comp=Z,106nm,0.6s
RAMN Ramite 32.35 55⇑ iP P 03 51 10.3 +1.5
comp=Z,106nm,0.6s
HOMI Horasan 32.41 338 i P P 03 51 11.2 +2.2
PTK Pertek 32.43 334 eP P 03 51 12.0 +2.8
KMRS Kahramanmaras 32.48 329 eP P 03 51 12.5 +3.0
EZM Erzurum 32.49 337 eP P 03 51 13.1 +3.3
KARS Kars 32.51 340 eP P 03 51 11.7 +1.8
CSS Prodhromos 32.60 322 eP P 03 51 08.4 -2.2
comp=Z,26nm,0.9s
CSS Prodhromos 32.60 322 eP P 03 51 08.4 -2.2
comp=Z,26nm,0.9s
AKCD Akcadag 32.61 331 i P P 03 51 13.6 +2.8
CEYT Ceyhan 32.70 327 eP P 03 51 15.3 +4.0
ANDN Andirin 32.82 329 i P P 03 51 08.4 -4.2
KOPT Kop Dagi 32.92 336 i P P 03 51 16.9 +3.3
ODAN Odare 32.96 56 eP P 03 51 15.6 +1.5
ODAN Odare 32.96 56 eP P 03 51 15.6 +1.5
ODAN Odare 32.96 56 eP P 03 51 15.6 +1.5
TBLG Delisi 33.00 343 eP P 03 51 15.0 +1.0
TBLG Delisi 33.00 343 P P 03 51 15.0 +1.0
TBLG S Px 03 52 09.2
TBLG Delisi 33.00 343 eP P 03 51 15.0 +1.0
KOZT Kozan 33.01 328 eP P 03 51 18.1 +4.0
AKH Akhalkalaki 33.08 341 P P 03 51 16.7 +1.8
KEMA Kemaliye 33.13 333 i P P 03 51 17.7 +2.4
DDEM Demirkent 33.21 339 i P P 03 51 17.2 +1.2
ILIC ilic-Erzincan 33.25 333 eP P 03 51 18.9 +2.6
MERS Mersin 33.25 326 eP P 03 51 16.8 +0.4
DAGI Agillar 33.31 339 i P P 03 51 18.4 +1.5
DBAD Bademkaya 33.34 339 i P P 03 51 18.6 +1.5
BAYT Ayd¨¨ntepe-Bay 33.38 336 eP P 03 51 20.8 +3.3
ARTV Artvin 33.40 339 i P P 03 51 19.1 +1.4
GOR Gori 33.42 342 P P 03 51 19.1 +1.4
TAPN Taplejung 33.42 55⇑ iP P 03 51 19.7 +1.5
TAPN Taplejung 33.42 55⇑ iP P 03 51 19.7 +1.5
TAPN Taplejung 33.42 55⇑ iP P 03 51 19.7 +1.5
GULE Gulek 33.42 327 i P P 03 51 20.1 +2.2
MAK Makhachkala 33.46 347 eP P 03 51 18.1 +0.2
MAK i PPP PPP 03 52 35.3
MAK eS S 03 56 41.6 +2.5
MAK eSSS SSS 03 58 58.6
MAK pmax pmax
comp=Z,241nm,1.2s
MAK MLR MLR
comp=Z,7µm,17.0s
MAK Makhachkala 33.46 347 eP P 03 51 18.1 +0.2
comp=Z,241nm,1.2s
KSH Kashi 33.52 27⇑ iP P 03 51 15.5 -3.2
KSH epP pP 03 51 19.5 -3.2
KSH esP sP 03 51 22.4 -1.9
KSH pmax pmax
comp=Z,32nm,1.2s
KSH LR LR
comp=N,1µm,12.7s
KSH LR LR
comp=E,2µm,10.9s
KSH LR LR
comp=Z,1µm,12.8s
KELT Kelkit 33.54 335 i P P 03 51 21.1 +2.2
PINB Pinarbasi 33.64 330 i P P 03 51 22.3 +2.5
GUMT Gumushane 33.70 336 eP P 03 51 22.6 +2.3
MACK Trabzon 34.00 336 i P P 03 51 24.4 +1.7
KTUT Trabzon 34.04 336 eP P 03 51 25.5 +2.5
BNN Bunyan 34.05 330 eP P 03 51 23.4 +0.1
ZEI Tsey 34.20 343 eP P 03 51 25.8 +1.1
ZEI pmax pmax
comp=Z,159nm,1.4s
ZEI Tsey 34.20 343 eP P 03 51 25.8 +1.1
comp=Z,159nm,1.4s
SCER sogukcermik 34.23 332 i P P 03 51 27.1 +2.2
AVNT Avonos 34.49 329 i P P 03 51 28.7 +1.5
RSDY Resadiye-TOKAT 34.57 333 eP P 03 51 30.7 +3.0
KK31 Karatay Array 34.61 17 i P P 03 51 29.3 +1.3
KK31 pmax pmax
comp=Z,44nm,0.8s
KK31 Karatay Array 34.61 17 i P P 03 51 29.3 +1.3
comp=Z,44nm,0.8s
KKAR Karatay Array 34.61 17 eP P 03 51 29.3 +1.3
KKAR pmax pmax
comp=Z,37nm,0.8s
KKAR Karatay Array 34.61 17 eP P 03 51 29.3 +1.3
comp=Z,37nm,0.8s
KKAR Karatay Array 34.61 17 eP P 03 51 29.3 +1.3
comp=Z,37nm,0.8s
AML Almayashu 34.80 22 P P 03 51 32.6 +2.6
SNR=11
AML P P 03 51 32.6 +2.6
SNR=11
AML Almayashu 34.80 22 P P 03 51 30.3 +0.2
SNR=11
TOKA Tokat 34.90 332 i P P 03 51 32.9 +2.4
YOZ Yozgat 34.91 330 eP P 03 51 32.5 +1.7
ERBA Erbaa 35.06 333 i P P 03 51 33.6 +1.6
KONT Konya--Tatoy 35.23 325 eP P 03 51 36.1 +2.7
EKS2 Erkin-Say 35.29 22 P P 03 51 36.7 +2.7
SNR=37
EKS2 P P 03 51 36.7 +2.7
SNR=37
EKS2 Erkin-Say 35.29 22 eP P 03 51 36.8 +2.8
EKS2 pmax pmax
comp=Z,164nm,1.2s
EKS2 Erkin-Say 35.29 22 eP P 03 51 36.8 +2.8
comp=Z,164nm,1.2s
EKS2 Erkin-Say 35.29 22 eP P 03 51 36.8 +2.8
comp=Z,164nm,1.2s
KZA Kyzart 35.34 24 P P 03 51 36.7 +1.9
SNR=18
KZA P P 03 51 36.7 +1.9
SNR=18
LADK Ladik-KONYA 35.40 325 eP P 03 51 33.8 -1.3
KAMT Kaman 35.52 328 eP P 03 51 37.5 +1.5
AAK Ala-Archa 35.53 22 P P 03 51 38.8 +2.7
SNR=16
AAK P P 03 51 38.8 +2.7
SNR=16
AAK Ala-Archa 35.53 22 i P P 03 51 35.9 -0.2
AAK pmax pmax
comp=Z,83nm,1.3s
AAK MLR MLR
comp=Z,7µm,19.0s
AAK Ala-Archa 35.53 22 eP P 03 51 37.6 +1.5
comp=Z,1µm,2.2s
AAK Ala-Archa 35.53 22 P P 03 51 38.0 +1.9
comp=Z,200nm,1.3s,SNR=17
AAK Ala-Archa 35.53 22 P P 03 51 39.0 +2.9
SNR=36
AAK Ala-Archa 35.53 22 i P P 03 51 35.9 -0.2
comp=Z,7µm,19.0s
KIV Kislovodsk 35.64 342 d iP P 03 51 37.6 +0.7
KIV i 03 51 41.9
KIV e 03 53 02.0
KIV i S S 03 57 20.9 +7.9
KIV pmax pmax
comp=Z,95nm,1.0s
KIV MLR MLR
comp=Z,7µm,21.0s
KIV Kislovodsk 35.64 342 eP P 03 51 38.2 +1.3
comp=Z,82nm,1.0s
KIV ePP PP 03 52 57.4 -0.5
KIV Kislovodsk 35.64 342 P P 03 51 39.1 +2.1
SNR=13
KIV Kislovodsk 35.64 342 P P 03 51 38.9 +2.0
comp=Z,431nm,0.9s,SNR=7.3
KIV Kislovodsk 35.64 342 i P P 03 51 37.6 +0.7
comp=Z,95nm,1.0s
KBK Karagaybulak 35.72 23 P P 03 51 40.2 +2.5
SNR=10.0
KBK P P 03 51 40.2 +2.5
SNR=10.0
AKAS Kas 35.73 320 eP P 03 51 36.6 -1.3
FRU Bishkek 35.74 22⇓ iP P 03 51 40.0 +2.2
FRU i 03 51 48.0
FRU pmax pmax
comp=Z,256nm,2.2s
FRU MLR MLR
comp=Z,3µm,19.0s
FRU Bishkek 35.74 22 i P P 03 51 40.0 +2.2
comp=Z,256nm,2.2s
KORT Korkueli 35.76 322 i P P 03 51 39.8 +1.7
KDHN Kadinhani 35.77 326 i P P 03 51 40.9 +2.7
BR131 Keskin Array S 35.83 328 eP P 03 51 39.2 +0.6
comp=Z,13nm,0.8s
BR131 Keskin Array S 35.83 328 eP P 03 51 39.2 +0.6
comp=Z,13nm,0.8s
BRTR Keskin Array B 35.83 328 P P 03 51 39.5 +0.9
comp=Z,17nm,0.9s,baz=146,slow=8.9,SNR=57
BRTR LR LR 04 07 09.8
comp=Z,3µm,20.1s,baz=267,slow=38
BRTR Keskin Array B 35.83 328 ceP P 03 51 39.5 +0.9
BRTR pmax pmax
comp=Z,17nm,0.9s
BRTR Keskin Array B 35.83 328 P P 03 51 39.5 +0.9
BRTR Keskin Array B 35.83 328 eP P 03 51 39.5 +0.9
comp=Z,17nm,0.9s
ELL Elmali 35.87 321 eP P 03 51 41.1 +2.1
BBAL Bala 35.96 328 i P P 03 51 41.2 +1.4
USP Ospenovka 36.08 22 P P 03 51 42.5 +1.9
SNR=8.5
USP P P 03 51 42.5 +1.9
SNR=8.5
KIZT Kizilcal 36.15 326 eP P 03 51 42.8 +1.4
TKM2 Tokmak 2 36.19 23 P P 03 51 43.4 +1.6
SNR=10
TKM2 P P 03 51 43.4 +1.6
SNR=10
TKM2 Tokmak 2 36.19 23 i P P 03 51 43.4 +1.6
TKM2 Tokmak 2 36.19 23 eP P 03 51 43.5 +1.6
comp=Z,21nm,0.9s
TKM2 Tokmak 2 36.19 23 i P P 03 51 43.4 +1.6
SHL Shillong 36.27 61 eP P 03 51 42.9 +0.2
SHL ex x 03 57 26.0
LOD Lodumlu 36.40 328 eP P 03 51 45.7 +2.2
TOS Tosya 36.62 330 eP P 03 51 47.3 +2.0
SHUT Suhut-Afyon 36.68 324 eP P 03 51 48.2 +2.3
SVRH Sivrihisar-ESK 36.75 326 eP P 03 51 48.4 +1.9
LSA Lhasa 37.14 54 eP P 03 51 50.7 +0.3
LSA pmax pmax
comp=Z,163nm,2.0s
LSA Lhasa 37.14 54 eP P 03 51 50.7 +0.3
comp=Z,163nm,2.0s
LSA Lhasa 37.14 54 eP P 03 51 50.7 +0.3
comp=Z,163nm,2.0s
KHAL Karahalli 37.17 323 i P P 03 51 50.8 +0.7
ALT Altintas 37.27 324 eP P 03 51 50.7 -0.2
BODT Bodrum 37.69 320 eP P 03 51 55.7 +1.2
KULA Kula-Manisa 37.76 323 eP P 03 51 56.3 +1.2
ANN Anapa 38.18 337 eP P 03 51 57.6 -0.8
ANN e 03 53 24.1
ANN eS S 03 57 53.5 +2.0
ANN eSS SnSn 04 00 35.9 +0.4
ANN pmax pmax
comp=Z,142nm,1.4s
ANN MLR MLR
comp=N,3µm,15.0s
ANN MLR MLR
comp=E,478nm,15.0s
ANN MLR MLR
comp=Z,3µm,15.0s
ANN Anapa 38.18 337 eP P 03 51 57.6 -0.8
comp=Z,142nm,1.4s
AKHS Akhisar 38.50 322 i P P 03 52 02.2 +0.9
AKS Akhisar 38.50 322 eP P 03 52 02.8 +1.5
AB31 Akbulak array 38.78 3 P P 03 52 03.7 +0.3
AB31 pmax pmax
comp=Z,152nm,1.2s
AB31 Akbulak array 38.78 3 P P 03 52 03.7 +0.3
comp=Z,152nm,1.2s
ABKAR Akbulak array 38.78 3 eP P 03 52 03.2 -0.2
comp=Z,118nm,1.1s
ABKAR Akbulak array 38.78 3 eP P 03 52 03.2 -0.2
comp=Z,118nm,1.1s
APE Apeiranthos 38.85 318 eP P 03 52 05.6 +1.4
APE Apeiranthos 38.85 318 ⇑P P 03 52 05.8 +1.6
APE Apeiranthos 38.85 318 ⇑iP P 03 52 05.8 +1.6
APE Apeiranthos 38.85 318 P P 03 52 05.8 +1.6
SIM Simferopol' 39.64 334 eP P 03 52 11.5 +0.8
SIM eS S 03 58 14.0 +0.4
SIM Simferopol' 39.64 334 eP P 03 52 11.5 +0.8
SIM eS S 03 58 14.0 +0.4
AKTK Aktyubinsk 39.89 1 P P 03 52 13.0 +0.3
comp=Z,50nm,0.7s
AKTO Aktyubinsk 39.89 1 P P 03 52 13.0 +0.3
comp=Z,50nm,0.7s,baz=182,slow=8.8,SNR=183
AKTO Aktyubinsk 39.89 1 P P 03 52 13.0 +0.3
AKTO pmax pmax
comp=Z,50nm,0.7s
AKTO Aktyubinsk 39.89 1 P P 03 52 13.0 +0.3
AKTO Aktyubinsk 39.89 1 P P 03 52 13.0 +0.3
CM31 Chiang Mai Arr 41.29 74 eP P 03 52 25.6 +0.9
comp=Z,61nm,1.0s
CM31 Chiang Mai Arr 41.29 74 eP P 03 52 25.6 +0.9
comp=Z,60nm,1.0s
CMAR Chiang Mai Arr 41.29 74 P P 03 52 25.2 +0.6
comp=Z,40nm,0.9s,baz=269,slow=8.8,SNR=125
CMAR LR LR 04 09 26.4
comp=Z,1µm,18.4s,baz=82,slow=36
CMAR Chiang Mai Arr 41.29 74 P P 03 52 25.3 +0.6
CMAR pmax pmax
comp=Z,40nm,0.9s
CMAR MLR MLR
comp=Z,1µm,18.4s
CMAR Chiang Mai Arr 41.29 74 P P 03 52 25.2 +0.6
CMAR Chiang Mai Arr 41.29 74 P P 03 52 25.2 +0.6
CHTO Chiang Mai 41.32 73 eP P 03 52 25.3 +0.3
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 41.32 73 eP P 03 52 25.3 +0.3
comp=Z,17nm,0.9s
CHTO Chiang Mai 41.32 73 P P 03 52 25.9 +0.9
SNR=6.0
CHTO Chiang Mai 41.32 73 P P 03 52 25.5 +0.5
comp=Z,25nm,0.9s,comp=Z,842nm
CHTO Chiang Mai 41.32 73 eP P 03 52 25.3 +0.3
comp=Z,17nm,0.9s
TIRR Tirgusor 41.93 329 ⇑P P 03 52 29.7 +0.1
TIRR Tirgusor 41.93 329 eP P 03 52 29.6 0.0
comp=Z,54nm,1.0s
TIRR ePP PP 03 54 05.0 -1.7
TIRR Tirgusor 41.93 329 ⇑iP P 03 52 29.7 +0.1
TIRR Tirgusor 41.93 329 eP P 03 52 29.6 0.0
comp=Z,54nm,1.0s
TIRR Tirgusor 41.93 329 ePP PP 03 54 05.0 -1.6
MK31 Makanchi Array 42.10 26 eP P 03 52 31.2 +0.2
MK31 Makanchi Array 42.10 26 eP P 03 52 31.1 +0.2
MK31 Makanchi Array 42.10 26 eP P 03 52 31.1 +0.1
MKAR Makanchi Array 42.10 26 P P 03 52 31.4 +0.3
comp=Z,17nm,0.8s,baz=210,slow=8.6,SNR=80
MKAR LR LR 04 11 08.6
comp=Z,2µm,18.1s,baz=218,slow=38
MKAR Makanchi Array 42.10 26 ceP P 03 52 31.3 +0.3
MKAR pmax pmax
comp=Z,17nm,0.9s
MKAR Makanchi Array 42.10 26 P P 03 52 31.4 +0.3
MKAR Makanchi Array 42.10 26 P P 03 52 31.4 +0.3
PSI Prapat 42.26 97 P P 03 52 38.1 +5.2
comp=Z,24nm,1.0s,comp=Z,735nm
VRHR Novokhopersk 42.47 346 eP P 03 52 34.5 +0.6
VRHR e*PP pP 03 52 37.7 -0.2
VRHR e 03 54 13.1
VRHR eS S 03 58 57.5 +2.1
VRHR pmax pmax
comp=Z,80nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=N,230nm,1.8s
VRHR pmax pmax
comp=E,130nm,1.8s
VRHR pmax pmax
comp=Z,350nm,1.8s
VRHR smax smax
comp=N,820nm,4.6s
VRHR smax smax
comp=E,740nm,4.6s
VRHR smax smax
comp=Z,810nm,4.6s
VRHR MLR MLR
comp=N,2µm,20.0s
VRHR MLR MLR
comp=E,2µm,20.0s
VRHR MLR MLR
comp=Z,6µm,20.0s
VRHR Novokhopersk 42.47 346 eP P 03 52 34.5 +0.6
comp=Z,80nm,0.8s
WMQ Urumqi 42.56 33 P P 03 52 35.7 +0.9
WMQ pP pP 03 52 44.7 +5.8
WMQ sP sP 03 52 48.7 +8.2
WMQ pmax pmax
comp=Z,31nm,1.2s
WMQ pmax pmax
comp=Z,450nm,3.3s
WMQ LR LR
comp=N,5µm,15.7s
WMQ LR LR
comp=E,4µm,14.6s
WMQ LR LR
comp=Z,3µm,16.3s
VSR Storozhevoye 43.22 344 eP P 03 52 39.7 -0.3
VSR e*PP pP 03 52 42.9 -1.1
VSR e 03 54 20.3
VSR eS S 03 59 07.5 +1.0
VSR pmax pmax
comp=N,110nm,1.1s
VSR pmax pmax
comp=E,50nm,1.1s
VSR pmax pmax
comp=Z,90nm,1.1s
VSR pmax pmax
comp=Z,640nm,2.5s
VSR pmax pmax
comp=N,110nm,0.8s
VSR pmax pmax
comp=E,240nm,2.5s
VSR smax smax
comp=N,920nm,4.2s
VSR smax smax
comp=E,750nm,4.2s
VSR smax smax
comp=Z,720nm,4.2s
VSR MLR MLR
comp=N,2µm,20.0s
VSR MLR MLR
comp=E,2µm,20.0s
VSR MLR MLR
comp=Z,4µm,20.0s
VSR Storozhevoye 43.22 344 eP P 03 52 39.7 -0.3
VSR eS S 03 59 07.5 +1.0
ISR Istrita 43.35 328 ⇓P P 03 52 42.5 +1.3
ISR Istrita 43.35 328 ⇓iP P 03 52 42.5 +1.3
ISR Istrita 43.35 328 P P 03 52 42.5 +1.3
KULM Kulim 43.48 93 eP P 03 52 42.1 -0.5
comp=Z,21nm,0.9s
KULM Kulim 43.48 93 eP P 03 52 42.1 -0.5
comp=Z,21nm,0.9s
VTS Vitosha 43.55 323 ⇑P P 03 52 43.3 +0.3
VTS Vitosha 43.55 323 ⇑iP P 03 52 43.3 +0.3
VTS Vitosha 43.55 323 i P P 03 52 43.6 +0.6
VTS Vitosha 43.55 323 P P 03 52 43.3 +0.3
KIS Kishinev 43.58 332 ⇑iP P 03 52 43.0 +0.1
KIS e 03 52 51.0
KIS e 03 54 23.0
KIS eS S 03 59 12.0 +0.2

KIS pmax pmax
comp=Z,140nm,1.3s
KIS MLR MLR
comp=Z,3μm,20.0s
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 43.58 332⇑ *i*P **P 03 52 43.0 +0.1**
comp=Z,100nm,1.3s
KIS Kishinev 43.58 332 *e*PP PP 03 54 23.0 -1.3
KIS *e*S **S 03 59 12.0 +0.2**
KIS *e*SSS SSS 04 02 08.0
KIS *e*L L 04 06 00.0
KIS LRM MLR 04 13 24.0
comp=Z,2μm,20.0s
KIS Kishinev 43.58 332 *i*P **P 03 52 43.0 +0.1**
comp=Z,140nm,1.3s
KIS *e*S **S 03 59 12.0 +0.2**
comp=Z,2μm,20.0s
VOSK Vostochnaya 43.66 12 P **P 03 52 43.5 0.0**
VOSK pmax pmax
comp=Z,63nm,1.3s
VOSK Vostochnaya 43.66 12 P **P 03 52 43.5 0.0**
comp=Z,63nm,1.3s
VOR Voronezh 43.68 344 P **P 03 52 44.0 +0.4**
VOR pmax pmax
comp=Z,260nm,1.4s
VOR Voronezh 43.68 344 P **P 03 52 44.0 +0.4**
comp=Z,260nm,1.4s
VRI Vrincioaia 43.77 329⇑P **P 03 52 45.4 +0.9**
VRI Vrincioaia 43.77 329⇑*i*P **P 03 52 45.4 +0.9**
VRI Vrincioaia 43.77 329 P **P 03 52 45.4 +0.9**
HUMR Humele 43.77 327⇓*i*P **P 03 52 44.4 -0.1**
PLOR Plostina 43.80 329⇑P **P 03 52 45.8 +1.0**
PLOR Plostina 43.80 329⇑*i*P **P 03 52 45.8 +1.0**
PLOR Plostina 43.80 329 P **P 03 52 45.8 +1.0**
BVA0 Borovoye Array 43.83 12 *i*P **P 03 52 44.9 +0.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.5s
BVA0 Borovoye Array 43.83 12 *i*P **P 03 52 44.9 +0.1**
comp=Z,4.0nm,1.5s
BVAR Borovoye Array 43.83 12 P **P 03 52 44.3 -0.5**
comp=Z,4.9nm,0.9s,baz=205,slow=6.6,SNR=17
BVAR Borovoye Array 43.83 12 P **P 03 52 44.3 -0.5**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 43.83 12 P **P 03 52 44.3 -0.5**
BVAR Borovoye Array 43.83 12 P **P 03 52 44.3 -0.5**
comp=Z,5.0nm,0.9s
BRVK Borovoye 43.84 12*d* *i*P **P 03 52 45.2 +0.3**
BRVK pmax pmax
comp=Z,59nm,2.5s
BRVK MLR MLR
comp=Z,3μm,20.0s
BRVK Borovoye 43.84 12 *e*P **P 03 52 45.3 +0.4**
comp=Z,177nm,2.4s
BRVK Borovoye 43.84 12 P **P 03 52 45.8 +0.9**
SNR=13
BRVK Borovoye 43.84 12 *i*P **P 03 52 45.2 +0.3**
comp=Z,3μm,20.0s
MLR Muntele Rosu 43.91 328⇑P **P 03 52 46.7 +0.9**
MLR Muntele Rosu 43.91 328⇑*i*P **P 03 52 46.7 +0.9**
MLR Muntele Rosu 43.91 328 P **P 03 52 46.7 +0.9**
KURK Kurchatov 43.92 20*c* *i*P **P 03 52 45.8 +0.2**
KURK pmax pmax
comp=Z,57nm,2.5s
KURK MLR MLR
comp=Z,7μm,22.0s
KURK Kurchatov 43.92 20 *e*P **P 03 52 44.9 -0.7**
comp=Z,107nm,1.6s
KURK Kurchatov 43.92 20 P **P 03 52 46.8 +1.2**
SNR=15
KURK Kurchatov 43.92 20 P **P 03 52 46.2 +0.6**
comp=Z,174nm,0.9s,SNR=12
KURK Kurchatov 43.92 20 *i*P **P 03 52 45.8 +0.2**
comp=Z,7μm,22.0s
TESR 44.26 330⇓*i*P **P 03 52 49.3 +0.9**
IAS Iasi 44.30 331⇓P **P 03 52 47.8 -0.9**
IAS Iasi 44.30 331⇓*i*P **P 03 52 47.8 -0.9**
IAS Iasi 44.30 331 P **P 03 52 47.8 -0.9**
VOIR 44.34 328⇑P **P 03 52 49.4 +0.2**
VOIR 44.34 328⇑*i*P **P 03 52 49.3 +0.1**
VOIR 44.34 328 P **P 03 52 49.4 +0.2**
POGA Pongola 44.94 213 *e*P P 03 52 50.6 -3.4
GZR Gura Zlata 45.53 326⇓P **P 03 52 59.4 +0.8**
GZR Gura Zlata 45.53 326⇓*i*P **P 03 52 59.4 +0.8**
GZR Gura Zlata 45.53 326 P **P 03 52 59.4 +0.8**
SLR Silverton 45.56 217 *e*P **P 03 52 59.6 +0.5**
SLR AMS AMS 04 08 56.1
comp=Z,4μm,20.6s
KMI Kunming 45.69 65 P **P 03 53 00.7 +0.3**
KMI pP **pP 03 53 04.7 +0.3**
KMI sP **sP 03 53 05.9 -0.1**
KMI PP **PP 03 54 49.6 +2.2**
KMI S **S 03 59 43.5 -0.1**
KMI ScS **ScS 04 02 55.9 -1.3**
KMI pmax pmax
comp=Z,44nm,0.9s
KMI pmax pmax
comp=Z,230nm,3.5s
KMI LR LR
comp=N,2μm,15.8s
KMI LR LR
comp=E,2μm,20.3s
KMI LR LR
comp=Z,3μm,21.4s
BURAR Bucovina Array 45.73 330⇑P **P 03 53 00.8 +0.6**
BURAR Bucovina Array 45.73 330⇑*i*P **P 03 53 00.8 +0.6**
BUR08 Bucovina Ar. S 45.76 330 *e*P **P 03 53 00.4 -0.1**
BUR08 Bucovina Ar. S 45.76 330 *e*P **P 03 53 00.4 -0.1**
TIP Timpagrande 45.85 316 *e*P **P 03 53 03.6 +2.3**
comp=Z,11nm,0.8s
TIP Timpagrande 45.85 316 *e*P **P 03 53 03.6 +2.3**
comp=Z,11nm,0.8s
ARU Arti 45.91 1 *e*P **P 03 53 01.4 +0.1**
ARU 03 54 39.1
ARU *e* 03 54 50.2
ARU S **S 03 59 45.1 -0.2**
ARU SSS SSS 04 04 08.2
ARU MLR MLR
comp=Z,2μm,29.0s
ARU Arti 45.91 1 *e*P **P 03 53 01.2 -0.2**
comp=Z,36nm,1.0s
ARU Arti 45.91 1 P **P 03 53 01.1 -0.2**
comp=Z,150nm,1.0s,SNR=6.6
ARU Arti 45.91 1 *e*P **P 03 53 01.2 -0.2**
comp=Z,36nm,1.0s
ARU Arti 45.91 1 PcP **PcP 03 54 39.1 +0.9**
ARU S **S 03 59 45.1 -0.2**
ERPM east rand prop 46.03 217 *e*P **P 03 53 02.8 -0.2**
AKASG Malin Array Be 46.20 336 P **P 03 53 02.8 -0.9**
comp=Z,14nm,0.7s,baz=139,slow=7.3,SNR=45
AKASG PP **PP 03 54 49.4 -2.8**
comp=Z,27nm,1.1s,baz=142,slow=9.7,SNR=6.0
AKASG LR LR 04 15 16.3
comp=Z,2μm,19.8s,baz=155,slow=40
AKASG Malin Array Be 46.20 336 P **P 03 53 02.8 -0.9**
AKASG 03 54 49.4
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG pmax pmax
comp=Z,27nm,1.1s
AKASG MLR MLR
comp=Z,2μm,19.8s
AKASG Malin Array Be 46.20 336 P **P 03 53 02.8 -0.9**
AKASG PP **PP 03 54 49.4 -2.8**
AKASG Malin Array Be 46.20 336 P **P 03 53 02.8 -0.9**
comp=Z,14nm,0.7s
AKBB Malin Array Si 46.20 336 *e*P **P 03 53 02.1 -1.6**
AKBB *e* 03 54 51.0
AKBB Malin Array Si 46.20 336 *e*P **P 03 53 02.1 -1.6**
AKBB *e*PP **PP 03 54 51.0 -1.2**
AKBB Malin Array Si 46.20 336 *e*P **P 03 53 02.1 -1.6**
KIEV Kiev 46.20 336*c* *i*P **P 03 53 02.9 -0.8**
KIEV Kiev 46.20 336 *e*P **P 03 53 02.3 -1.4**
comp=Z,46nm,1.1s
KIEV Kiev 46.20 336 *i*P **P 03 53 02.9 -0.8**
BZS Buzias 46.30 326⇑P **P 03 53 04.3 -0.4**
BZS Buzias 46.30 326⇑*i*P **P 03 53 04.3 -0.4**
BZS Buzias 46.30 326 P **P 03 53 04.3 -0.4**
SVE Sverdlovsk 46.37 3⇑ *i*P **P 03 53 05.2 +0.2**
SVE *e* 03 54 58.2
SVE *e*PPP PPP 03 55 38.9
SVE *e*S **S 03 59 55.5 +3.4**
SVE pmax pmax
comp=Z,43nm,1.5s
SVE MLR MLR
comp=Z,2μm,20.0s
SVE Sverdlovsk 46.37 3 *i*P **P 03 53 05.2 +0.2**
comp=Z,43nm,1.5s
SVE *e*S **S 03 59 55.5 +3.4**
comp=Z,2μm,20.0s
DRGR 46.45 328 P **P 03 53 07.0 +1.1**
DRGR 46.45 328 P **P 03 53 07.0 +1.1**
BMR Baia Mare 46.63 329 P **P 03 53 08.3 +1.1**
BMR Baia Mare 46.63 329 P **P 03 53 08.3 +1.1**
LBTB Lobatse 46.69 221 P **P 03 53 07.8 -0.3**
comp=Z,27nm,0.8s,baz=50,slow=7.9,SNR=25
LBTB Lobatse 46.69 221 *e*P **P 03 53 08.8 +0.8**
LBTB AMS AMS 04 10 11.2
comp=Z,2μm,20.5s
LBTB Lobatse 46.69 221 P **P 03 53 07.8 -0.3**
LBTB pmax pmax
comp=Z,27nm,0.9s
LBTB Lobatse 46.69 221 *e*P **P 03 53 08.9 +0.8**
comp=Z,126nm,1.4s
LBTB Lobatse 46.69 221 P **P 03 53 07.8 -0.3**
comp=Z,27nm,0.9s
CUC Castrocucco 46.87 316 *e*P **P 03 53 10.9 +1.6**
comp=Z,24nm,0.8s
CUC Castrocucco 46.87 316 *e*P **P 03 53 10.9 +1.6**
comp=Z,24nm,0.8s
OBN Obninsk 47.41 344*c* *i*P **P 03 53 12.8 -0.3**
OBN *i* 03 55 04.3
OBN *i*S **S 04 00 06.6 -0.3**
OBN pmax pmax
comp=Z,166nm,2.5s
OBN MLR MLR
comp=Z,5μm,21.0s
OBN Obninsk 47.41 344 *e*P **P 03 53 12.8 -0.3**
comp=Z,192nm,1.7s
OBN Obninsk 47.41 344 *i*P **P 03 53 12.8 -0.3**
comp=Z,166nm,2.5s
TRPA Tarpa 47.41 329⇑*i*P **P 03 53 13.4 +0.2**
TRPA Tarpa 47.41 329⇑*e*P **P 03 53 13.5 +0.2**
MOS Moscow 47.70 345 *e*P **P 03 53 12.9 -2.4**
MOS *e* 03 55 04.4
MOS *e*S **S 04 00 06.1 -4.8**
MOS *e*SS **SS 04 03 34.7 -4.5**
MOS pmax pmax
comp=Z,199nm,2.0s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=Z,3μm,17.0s
MOS Moscow 47.70 345 *e*P **P 03 53 12.9 -2.4**
comp=Z,199nm,2.0s
GTA Gaotai 47.70 45 *e*P **P 03 53 15.8 -0.1**
GTA pP **pP 03 53 20.0 +0.1**
GTA sP **sP 03 53 23.5 +2.0**
GTA S **S 04 00 11.3 -0.6**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,150nm,4.5s
GTA LR LR
comp=N,1μm,15.7s
GTA LR LR
comp=E,2μm,14.3s
GTA LR LR
comp=Z,2μm,19.5s
CD2 Chengdu 47.82 58 P **P 03 53 15.5 -1.3**
CD2 pP **pP 03 53 20.0 -0.9**
CD2 sP **sP 03 53 22.5 0.0**
CD2 PP **PP 03 55 06.7 -2.0**
CD2 S **S 04 00 11.5 -2.1**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,310nm,8.8s
CD2 LR LR
comp=N,3μm,17.8s
CD2 LR LR
comp=Z,3μm,17.8s
LVV L'vov 47.82 332*c* *i*P **P 03 53 16.8 +0.4**
LVV *e* 03 55 09.6
LVV *e*S **S 04 00 16.6 +3.6**
LVV MLR MLR
comp=N,800nm,19.0s
LVV MLR MLR
comp=Z,1μm,19.0s
LVV MLR MLR
comp=E,600nm,18.0s
LVV L'vov 47.82 332 *i*P **P 03 53 16.8 +0.4**
UZH Uzhgorod 47.87 329 *i*P **P 03 53 17.0 +0.2**
UZH *e*S **S 04 00 08.0 -5.6**
UZH MLR MLR
comp=Z,800nm,16.0s
UZH Uzhgorod 47.87 329 *i*P **P 03 53 17.0 +0.2**
comp=Z,800nm,16.0s
KOLS Kolonicke sedl 48.07 330 *e*P **P 03 53 18.9 +0.5**
KOLS pmax pmax
comp=Z,25nm,1.1s
KOLS Kolonicke sedl 48.07 330 *e*P **P 03 53 18.9 +0.5**
KOLS Kolonicke sedl 48.07 330 *e*P **P 03 53 18.9 +0.5**
comp=Z,25nm,1.1s
KWP Kalwaria Pacla 48.32 331 *e*P **P 03 53 20.2 -0.1**
KWP LMZ LR 04 18 14.3
comp=Z,2μm,21.9s
KWP Kalwaria Pacla 48.32 331⇓P **P 03 53 20.2 -0.1**
KWP Kalwaria Pacla 48.32 331 *e*P **P 03 53 19.9 -0.4**
comp=Z,112nm,1.3s
KWP Kalwaria Pacla 48.32 331⇓*i*P **P 03 53 20.2 -0.1**
KWP Kalwaria Pacla 48.32 331 P **P 03 53 20.2 -0.1**
PKSM Moragy 48.33 325⇑P **P 03 53 20.3 -0.1**
PKSM Moragy 48.33 325⇑*i*P **P 03 53 20.3 -0.1**
PKSM Moragy 48.33 325⇑*e*P **P 03 53 20.4 0.0**
PKSM Moragy 48.33 325 P **P 03 53 20.3 -0.1**
CRVS Cervenica-Dubn 48.46 329 *e*P **P 03 53 21.5 +0.1**
CRVS pmax pmax
comp=Z,71nm,1.6s
CRVS Cervenica-Dubn 48.46 329 *e*P **P 03 53 21.5 +0.1**
CRVS Cervenica-Dubn 48.46 329 *e*P **P 03 53 21.5 +0.1**
comp=Z,71nm,1.6s
PSZ Piszkesteto 48.65 327⇓P **P 03 53 22.7 -0.3**
PSZ Piszkesteto 48.65 327 *e*P **P 03 53 22.6 -0.3**
comp=Z,22nm,1.0s
PSZ *e*PP **PP 03 55 14.8 -1.2**
PSZ Piszkesteto 48.65 327⇓*i*P **P 03 53 22.7 -0.3**
PSZ Piszkesteto 48.65 327⇓*e*P **P 03 53 22.9 -0.1**
PSZ Piszkesteto 48.65 327 *e*P **P 03 53 22.6 -0.4**
comp=Z,22nm,1.0s
KECS Kecovo 48.69 328 *e*P **P 03 53 23.4 +0.2**
KECS pmax pmax
comp=Z,6.0nm,1.1s
KECS Kecovo 48.69 328 *e*P **P 03 53 23.4 +0.2**
KECS Kecovo 48.69 328 *e*P **P 03 53 23.4 +0.2**
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 48.74 22 *e*P **P 03 53 23.1 -0.4**
ZAA0 Zalesovo Array 48.74 22 *e*P **P 03 53 23.1 -0.4**
ZALV Zalesovo Beam 48.74 22 P **P 03 53 23.1 -0.3**
comp=Z,13nm,0.6s,baz=224,slow=7.5,SNR=37
ZALV LR LR 04 14 58.8
comp=Z,2μm,21.3s,baz=215,slow=37
ZALV Zalesovo Beam 48.74 22 P **P 03 53 23.1 -0.3**
ZALV pmax pmax
comp=Z,13nm,0.6s
ZALV MLR MLR
comp=Z,2μm,21.3s
ZALV Zalesovo Beam 48.74 22 P **P 03 53 23.1 -0.3**
ZALV Zalesovo Beam 48.74 22 P **P 03 53 23.1 -0.3**
comp=Z,2μm,21.3s
TSUM Tsumeb 48.77 233 *e*P **P 03 53 25.0 +0.7**
comp=Z,43nm,0.8s
TSUM Tsumeb 48.77 233 *e*P **P 03 53 25.0 +0.7**
comp=Z,43nm,0.8s
BUD Budapest 48.86 326⇑*e*P **P 03 53 24.6 +0.1**
STHS Stebnicka Huta 48.90 330 *e*P **P 03 53 25.0 +0.2**
STHS pmax pmax
comp=Z,14nm,1.0s
STHS Stebnicka Huta 48.90 330 *e*P **P 03 53 25.0 +0.2**
STHS Stebnicka Huta 48.90 330 *e*P **P 03 53 25.0 +0.2**
comp=Z,14nm,1.0s
NVS Novosibirsk 48.91 20⇑ *i*P **P 03 53 23.8 -0.9**
NVS *e* 03 55 22.6
NVS *e*S **S 04 00 27.0 -1.1**
NVS pmax pmax
comp=Z,69nm,1.2s
NVS pmax pmax
comp=N,25nm,1.0s
NVS pmax pmax
comp=E,19nm,1.0s
NVS pmax pmax
comp=Z,26nm,1.7s
NVS pmax pmax
comp=N,42nm,2.1s
NVS pmax pmax
comp=E,13nm,1.5s
NVS smax smax
comp=N,30nm,2.6s
NVS smax smax
comp=E,12nm,2.0s
NVS Novosibirsk 48.91 20 *i*P **P 03 53 23.8 -0.9**
comp=E,26nm,1.7s
SOKR Solikamsk 49.04 360*d* *i*P **P 03 53 26.0 +0.4**
SOKR S **S 04 00 29.3 -0.4**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,4μm,33.0s
SOKR Solikamsk 49.04 360 *i*P **P 03 53 26.0 +0.4**
comp=Z,40nm,1.3s
NIE Niedzica 49.37 329 *e*P **P 03 53 28.2 -0.2**
NIE Niedzica 49.37 329 *e*P **P 03 53 28.2 -0.2**
NIE Niedzica 49.37 329 *e*P **P 03 53 28.2 -0.2**
GYA Guiyang 49.40 64⇑*i*P **P 03 53 30.7 +1.6**
GYA PP **PP 03 55 24.3 +1.1**
GYA ScP **ScP 03 58 45.6 -1.3**
GYA S **S 04 00 41.0 +4.9**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.0s
GYA LR LR
comp=N,2μm,17.8s
GYA LR LR
comp=E,2μm,18.0s
GYA LR LR
comp=Z,2μm,17.9s
LZH Lanzhou 49.40 51⇑P **P 03 53 29.2 +0.1**
LZH pP **pP 03 53 33.4 +0.3**
LZH sP **sP 03 53 36.6 +1.9**
LZH *e*S **S 04 00 34.4 -1.6**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.5s
LZH LR LR
comp=N,2μm,15.5s
LZH LR LR
comp=E,3μm,15.8s
LZH LR LR
comp=Z,5μm,18.4s
BOSA Boshof 49.49 218 P **P 03 53 29.6 -0.1**
comp=Z,49nm,1.1s,baz=48,slow=7.4,SNR=22
BOSA LR LR 04 11 46.7
comp=Z,4μm,21.7s,baz=47,slow=33
BOSA Boshof 49.49 218 *e*P **P 03 53 29.5 -0.1**
BOSA AMS AMS 04 11 15.8
comp=Z,3μm,21.4s
BOSA Boshof 49.49 218 P **P 03 53 29.6 -0.1**
BOSA pmax pmax
comp=Z,49nm,1.1s
BOSA Boshof 49.49 218 *e*P **P 03 53 29.8 +0.1**
comp=Z,105nm,1.4s
BOSA Boshof 49.49 218 *e*P **P 03 53 29.8 +0.1**
comp=Z,105nm,1.4s
BEHE Becsehely 49.54 324⇑*e*P **P 03 53 29.6 -0.1**
VYHS Vyhne 49.56 327 *e*P **P 03 53 29.2 -0.7**
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 49.56 327 *e*P **P 03 53 29.2 -0.7**
VYHS Vyhne 49.56 327 *e*P **P 03 53 29.2 -0.7**
comp=Z,16nm,1.5s
AQU L'Aquila 49.57 318⇓P **P 03 53 32.2 +2.1**
AQU L'Aquila 49.57 318 *e*P **P 03 53 29.5 -0.6**
comp=Z,26nm,0.8s
AQU L'Aquila 49.57 318⇓*i*P **P 03 53 32.2 +2.1**
AQU L'Aquila 49.57 318 *e*P **P 03 53 29.5 -0.6**
comp=Z,26nm,0.8s
MICGM Minsk 49.67 338⇑*i*P **P 03 53 30.0 -0.5**
MNK Minsk 49.69 338⇑*i*P **P 03 53 30.0 -0.7**
MNK pmax pmax
comp=Z,250nm,1.0s
MNK Minsk 49.69 338 *i*P **P 03 53 30.0 -0.7**
comp=Z,250nm,1.0s
KOGS Kog 49.84 324 *e*P **P 03 53 32.2 +0.2**
KOGS *e* 03 56 24.6
KOLL Kolacno 49.85 327 *e*P **P 03 53 31.9 -0.1**
KOLL Kolacno 49.85 327 *e*P **P 03 53 31.9 -0.1**
KOLL Kolacno 49.85 327 *e*P **P 03 53 31.9 -0.1**
BOJS Bojanci 49.93 322 *i*P **P 03 53 32.3 -0.3**
BOJS *e* 04 00 34.9
BOJS *e*S **S 04 00 42.3 -0.4**
BOJS *e*SS SS 04 04 31.4 +16
KEST Kesra 49.95 308 P **P 03 53 34.1 +1.0**
comp=Z,2.8nm,0.8s,baz=349,slow=5.3,SNR=8.2
KEST LR LR 04 14 20.7
comp=Z,928nm,18.8s,baz=235,slow=36
KEST Kesra 49.95 308 *e*P **P 03 53 33.8 +0.6**
KEST Kesra 49.95 308 *e*P **P 03 53 33.8 +0.6**
OJC Ojcow 50.13 330 *e*P **P 03 53 33.5 -0.7**
OJC *e*sP **sP 03 53 39.0 -0.8**
OJC *e*PcP **PcP 03 54 58.7 +5.1**
OJC *e*PP **PP 03 55 28.4 -1.0**
OJC *e*S **S 04 00 43.6 -1.9**
OJC L L 04 19 54.9
comp=Z,1.5nm,19.9s
OJC Ojcow 50.13 330 *e*P **P 03 53 33.5 -0.7**
OJC *e**SP **sP 03 53 39.0 -0.8**
OJC *e* 03 54 58.7
OJC *e* 03 55 28.4
OJC *e*S **S 04 00 43.6 -1.9**
OJC MLR MLR
comp=Z,2μm,19.9s
OJC Ojcow 50.13 330 *e*P **P 03 53 33.5 -0.7**
comp=Z,426nm,2.9s
OJC Ojcow 50.13 330 *e*P **P 03 53 33.5 -0.7**
SMOL Smolenice 50.33 327 *e*P **P 03 53 35.5 -0.2**
SMOL Smolenice 50.33 327 *e*P **P 03 53 35.5 -0.2**
SMOL Smolenice 50.33 327 *e*P **P 03 53 35.5 -0.2**
SOP Sopron 50.34 325⇑*e*P **P 03 53 35.5 -0.3**
NACGM Naroch 50.38 338 *e*P **P 03 53 33.0 -3.0**
PERS Pernice 50.60 323 *e*P **P 03 53 37.2 -0.6**
PERS *e*PP PP 03 55 39.2 +5.5
TAM Tamanrasset 50.63 291 *e*P **P 03 53 38.5 -0.1**
TAM pmax pmax
comp=Z,39nm,1.0s
TAM Tamanrasset 50.63 291 *e*P **P 03 53 38.5 -0.1**
comp=Z,39nm,1.0s
TAM Tamanrasset 50.63 291 *e*P **P 03 53 38.5 -0.1**
comp=Z,39nm,1.0s
LJU Ljubljana 50.64 323 *e*P **P 03 53 37.8 -0.3**
LJU *e*S **S 04 00 51.2 -1.5**
SOKA Soboth 50.67 323⇑*i*P **P 03 53 38.0 -0.3**
comp=Z,18nm,0.9s
ARSA Arzberg 50.69 324 *i*P **P 03 53 38.2 -0.3**
comp=Z,22nm,0.8s,SNR=7.8
OKC Ostrava-Krasne 50.74 328 *e*P **P 03 53 38.0 -0.7**
OKC *e**PP **pP 03 53 44.0 +1.2**
OKC *e*S **S 04 00 51.8 -2.1**
OKC MLR MLR
comp=Z,2μm,23.8s
OKC Ostrava-Krasne 50.74 328 *e*P **P 03 53 38.0 -0.7**
OKC *e*pP **pP 03 53 44.0 +1.2**
OKC *e*S **S 04 00 51.8 -2.1**
OKC AMS AMS 04 17 20.0
comp=Z,2μm,23.8s
OKC Ostrava-Krasne 50.74 328 *e*P **P 03 53 38.0 -0.7**
HVD Gariep Dam 50.82 216 *e*P **P 03 53 40.0 +0.2**
HVD AMS AMS 04 20 27.9
comp=Z,1μm,19.4s
CONA Conrad Observa 50.87 325 *i*P **P 03 53 39.2 -0.6**
comp=Z,25nm,1.0s,SNR=14
TRI Trieste 50.93 322 *e*P **P 03 53 39.9 -0.4**
TRI pmax pmax
comp=Z,63nm,0.8s
TRI Trieste 50.93 322 *e*P **P 03 53 39.9 -0.4**
comp=Z,63nm,0.8s
TRI Trieste 50.93 322 *e*P **P 03 53 39.9 -0.4**
comp=Z,63nm,0.8s
IIGN Ignalina 50.94 338 *e*P **P 03 53 39.2 -0.9**
IIGN AMB AMB 03 53 42.1

comp=Z,39nm,1.4s
IIGN Ignalina 50.94 338 *e*P **P** **03 53 39.2 -0.9**
comp=Z,39nm,1.4s,SNR=24
MORC Moravsky Berou 51.01 328 ⇓P **P** **03 53 40.2 -0.7**
MORC Moravsky Berou 51.01 328 *e*P **P** **03 53 40.5 -0.4**
comp=Z,71nm,1.3s
MORC Moravsky Berou 51.01 328 ⇓*i*P **P** **03 53 40.2 -0.7**
MORC Moravsky Berou 51.01 328 *e*P **P** **03 53 40.5 -0.4**
comp=Z,71nm,1.3s
ISAL Salakas 51.14 338 *e*P **P** **03 53 40.8 -0.8**
ISAL AMB AMB 03 53 43.5
comp=Z,26nm,1.4s
ISAL Salakas 51.14 338 *e*P **P** **03 53 40.8 -0.8**
comp=Z,26nm,1.4s,SNR=24
SUW Suwalki 51.14 335 *e*P **P** **03 53 41.4 -0.3**
SUW *e*PP **PP** **03 55 40.2 +1.8**
SUW LMZ LR 04 18 17.6
comp=Z,4µm,21.4s
SUW Suwalki 51.14 335 *e*P **P** **03 53 41.4 -0.3**
SUW *e* 03 55 40.2
SUW MLR MLR
comp=Z,4µm,21.4s
SUW Suwalki 51.14 335 *e*P **P** **03 53 41.3 -0.4**
comp=Z,155nm,1.0s
SUW Suwalki 51.14 335 *e*P **P** **03 53 41.3 -0.4**
comp=Z,155nm,1.0s
IZAR Zarasai 51.23 338 *e*P **P** **03 53 41.5 -0.8**
IZAR AMB AMB 03 53 44.2
comp=Z,29nm,1.4s
VRAC Vranov 51.24 327 ⇑P **P** **03 53 42.1 -0.5**
VRAC Vranov 51.24 327 ⇑*i*P **P** **03 53 42.1 -0.5**
VRAC Vranov 51.24 327 P **P** **03 53 42.1 -0.5**
MYKA Terra Mystica 51.47 323 ⇑*i*P **P** **03 53 43.8 -0.5**
comp=Z,40nm,0.8s
ABSA Djebel Ababsia 51.56 308 P P 03 53 51.4 +6.1
KRLC Kraliky 51.59 328 *e*P **P** **03 53 44.4 -0.8**
QIZ Qiongzhong 51.63 74 P **P** **03 53 44.1 -1.9**
QIZ pP **pP** **03 53 46.7 -3.3**
QIZ S **S** **04 01 08.5 +1.4**
QIZ SS **SS** **04 04 44.4 +0.8**
QIZ pmax pmax
comp=Z,32nm,1.6s
QIZ LR LR
comp=N,2µm,20.3s
QIZ LR LR
comp=E,610nm,22.7s
QIZ LR LR
comp=Z,2µm,17.1s
CMAH Djebel Manchou 51.71 309 P **P** **03 53 46.8 +0.4**
CMAH Djebel Manchou 51.71 309 P **P** **03 53 46.8 +0.4**
MOA Molln 51.73 324 *i*P **P** **03 53 45.7 -0.6**
comp=Z,32nm,0.8s,SNR=13
TREC Trest 51.83 326 *e*P **P** **03 53 45.9 -1.1**
TREC *e*PP **pP** **03 53 52.7 +1.6**
TREC *e*S **S** **04 01 05.4 -3.7**
TREC MLR MLR
comp=Z,2µm,23.3s
TREC Trest 51.83 326 *e*P **P** **03 53 45.9 -1.1**
TREC *e*pP **pP** **03 53 52.7 +1.6**
TREC *e*S **S** **04 01 05.4 -3.7**
TREC AMS AMS 04 21 00.0
comp=Z,2µm,23.3s
TREC Trest 51.83 326 *e*P **P** **03 53 45.9 -1.1**
DPC Dobruska-Polom 51.99 328 *i*P **P** **03 53 47.4 -0.8**
DPC *e*PP **pP** **03 53 54.8 +2.5**
DPC *e*S **S** **04 01 06.4 -4.9**
DPC MLR MLR
comp=Z,2µm,20.0s
DPC Dobruska-Polom 51.99 328 *e*P **P** **03 53 46.9 -1.3**
comp=Z,45nm,1.1s
DPC Dobruska-Polom 51.99 328 *i*P **P** **03 53 47.4 -0.8**
DPC *e*pP **pP** **03 53 54.8 +2.5**
DPC *e*S **S** **04 01 06.4 -4.9**
DPC AMS AMS 04 17 50.0
comp=Z,2µm,20.0s
DPC Dobruska-Polom 51.99 328 *i*P **P** **03 53 47.4 -0.8**
CKFL Kef-Lekhel 52.18 308 P P 03 53 53.4 +3.4
CAEH 'Ain El Ouahch 52.19 309 P **P** **03 53 53.0 +3.1**
ABTA Abfaltersbach 52.20 322 ⇑*i*P **P** **03 53 48.9 -1.0**
comp=Z,30nm,1.1s
UPC Upice 52.24 328 *i*P **P** **03 53 49.5 -0.5**
UPC *e*PP **pP** **03 53 55.3 +1.2**
UPC Upice 52.24 328 *i*P **P** **03 53 49.5 -0.5**
UPC *e*pP **pP** **03 53 55.3 +1.2**
UPC Upice 52.24 328 *i*P **P** **03 53 49.5 -0.5**
KSP Ksiaz 52.29 328 *e*P **P** **03 53 49.9 -0.4**
KSP *e*PP **PP** **03 55 49.6 +0.7**
KSP LMZ LR 04 15 46.9
comp=Z,2µm,26.0s
KSP Ksiaz 52.29 328 *e*P **P** **03 53 49.8 -0.6**
KSP *e* 03 55 47.5
KSP *e*S **S** **04 01 09.5 -5.8**
KSP MLR MLR
comp=Z,5µm,26.1s
KSP Ksiaz 52.29 328 *e*P **P** **03 53 49.8 -0.6**
CASM Ain Smara 52.32 308 P **P** **03 53 53.6 +2.7**
ENH Enshi 52.50 60 *e*P **P** **03 53 50.9 -1.4**
comp=Z,59nm,1.0s
ENH Enshi 52.50 60 *e*P **P** **03 53 50.9 -1.4**
comp=Z,59nm,1.0s
RJOB Jochberg 52.52 324 *e*P **P** **03 53 51.2 -1.0**
comp=Z,19nm,0.8s
GEC2 GERESS Array S 52.57 325 *e*P **P** **03 53 53.2 +0.6**
comp=Z,111nm,0.8s
GEC2 GERESS Array S 52.57 325 *e*P **P** **03 53 53.2 +0.6**
GEC2 pmax pmax
comp=Z,11nm,0.8s
GEC2 GERESS Array S 52.57 325 *e*P **P** **03 53 53.2 +0.6**
comp=Z,11nm,0.8s
GERES GERESS Array B 52.57 325 P **P** **03 53 51.3 -1.3**
comp=Z,2.1nm,0.7s,baz=126,slow=6.8,SNR=15
GERES PcP **PcP** **03 55 03.9 +1.1**
comp=Z,2.2nm,0.8s,baz=139,slow=4.7,SNR=2.8
GERES LR LR 04 19 48.7
comp=Z,733nm,19.1s,baz=125,slow=40
GERES GERESS Array B 52.57 325 P **P** **03 53 51.3 -1.3**
GERES 03 55 03.9
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,733nm,19.1s
GERES GERESS Array B 52.57 325 P **P** **03 53 51.3 -1.3**
GERES PcP **PcP** **03 55 03.9 +1.1**
GERES GERESS Array B 52.57 325 P **P** **03 53 51.3 -1.3**
comp=Z,2.0nm,0.7s
PGF Pioggiola 52.60 316 *e*P **P** **03 53 52.2 -0.8**
comp=Z,257nm,1.6s
PGF Pioggiola 52.60 316 *e*P **P** **03 53 52.2 -0.8**
comp=Z,128nm,1.6s
PRU Pruhonice 52.73 327 *e*P **P** **03 53 52.4 -1.2**
PRU *e*PP **pP** **03 54 00.6 +2.9**
PRU *e*S **S** **04 01 16.8 -4.5**
PRU MLR MLR
comp=Z,1µm,25.1s
PRU Pruhonice 52.73 327 *e*P **P** **03 53 52.4 -1.2**
PRU *e*pP **pP** **03 54 00.6 +2.9**
PRU *e*S **S** **04 01 16.8 -4.5**
PRU AMS AMS 04 19 50.0
comp=Z,1µm,25.1s
PRU Pruhonice 52.73 327 *e*P **P** **03 53 52.4 -1.2**
KHC Kasperske Hory 52.79 325 *e*P **P** **03 53 52.4 -1.8**
KHC *e*PP **pP** **03 53 58.3 0.0**
KHC *e*S S 04 01 14.2 -8.1
KHC MLR MLR
comp=Z,1µm,19.7s
KHC Kasperske Hory 52.79 325 *e*P **P** **03 53 52.6 -1.6**
comp=Z,20nm,1.3s
KHC Kasperske Hory 52.79 325 *e*P **P** **03 53 52.4 -1.8**
KHC *e*pP **pP** **03 53 58.3 0.0**
KHC *ex* x 03 54 40.0
KHC *ex* x 03 54 56.0
KHC *e*S S 04 01 14.2 -8.1
KHC AMS AMS 04 19 10.0
comp=Z,1µm,19.7s
KHC Kasperske Hory 52.79 325 *e*P **P** **03 53 52.6 -1.6**
comp=Z,20nm,1.3s
XAN Xi'an 52.82 55 P **P** **03 53 53.6 -1.1**
XAN PP **PP** **03 55 53.2 -0.9**
XAN S **S** **04 01 23.4 +0.2**
XAN SS **SS** **04 05 05.2 +3.2**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,64nm,6.2s
XAN LR LR
comp=N,1µm,19.8s
XAN LR LR
comp=E,350nm,23.4s
XAN LR LR
comp=Z,550nm,21.2s
PRA Prague 52.83 327 P **P** **03 53 54.0 -0.4**
PRA S **S** **04 01 22.0 -0.7**
DFRA Djebel Bou Aff 52.88 308 P **P** **03 53 56.6 +1.5**
DFRA Djebel Bou Aff 52.88 308 P **P** **03 53 56.6 +1.5**
WTTA Wattenberg 52.97 323 ⇑*i*P **P** **03 53 54.5 -1.3**
comp=Z,53nm,1.0s
PVCC Panska Ves 53.01 327 *e*P **P** **03 53 54.4 -1.3**
PVCC *e**PP **pP** **03 54 01.4 +1.6**
PVCC *e*S **S** **04 01 20.2 -4.9**
PVCC MLR MLR
comp=Z,2µm,23.9s
PVCC Panska Ves 53.01 327 *e*P **P** **03 53 54.4 -1.3**
PVCC *e*pP **pP** **03 54 01.4 +1.6**
PVCC *e*S **S** **04 01 20.2 -4.9**
PVCC AMS AMS 04 17 50.0
comp=Z,2µm,23.9s
PVCC Panska Ves 53.01 327 *e*P **P** **03 53 54.4 -1.3**
WATA Walderalm 53.04 323 ⇑*i*P **P** **03 53 54.5 -1.7**
comp=Z,23nm,0.5s,SNR=9.4
SET Setif 53.15 308 P P 03 54 04.0 +6.9
VSU Vasula 53.17 341 *e*P **P** **03 53 56.0 -0.7**
VSU pmax pmax
comp=Z,49nm,1.2s
VSU MLR MLR
comp=Z,2µm,20.0s
VSU Vasula 53.17 341 *e*P **P** **03 53 56.0 -0.7**
comp=Z,2µm,20.0s
GKP Gorka Klasztor 53.29 331 *e*P **P** **03 53 58.2 +0.5**
GKP LMZ LR 04 20 24.1
comp=Z,3µm,19.1s
GKP Gorka Klasztor 53.29 331 *e*P **P** **03 53 58.2 +0.5**
GKP MLR MLR
comp=Z,3µm,19.1s
GKP Gorka Klasztor 53.29 331 *e*P **P** **03 53 58.2 +0.5**
comp=Z,3µm,19.1s
MOTA Moosalm 53.33 322 ⇓*i*P **P** **03 53 56.5 -1.8**
comp=Z,40nm,0.8s,SNR=23
FETA Feichten 53.40 322 ⇓*i*P **P** **03 53 57.7 -1.2**
comp=Z,30nm,0.7s,SNR=13
FUORN Ofenpass-Fuorn 53.50 321 *e*P **P** **03 53 59.2 -0.5**
comp=Z,142nm,1.9s
FUORN Ofenpass-Fuorn 53.50 321 *e*P **P** **03 53 59.2 -0.5**
comp=Z,142nm,1.9s
BRG Berggiesshubel 53.53 327 *i*P **P** **03 53 59.1 -0.4**
comp=Z,38nm,1.6s
BRG *e* 03 54 06.1
comp=Z,29nm,1.5s
BRG *e* 03 54 16.0
comp=Z,18nm,1.1s
BRG S **S** **04 01 32.0 -0.2**
BRG
comp=N,1µm,19.5s
BRG
comp=E,1µm,17.0s
BRG
comp=Z,1µm,16.3s
BRG Berggiesshubel 53.53 327 *e*P **P** **03 53 58.9 -0.6**
comp=Z,11nm,0.9s
BRG Berggiesshubel 53.53 327 *i*P **P** **03 53 59.1 -0.4**
BRG *e* 03 54 06.1
BRG S **S** **04 01 32.0 -0.2**
BRG pmax pmax
comp=Z,38nm,1.6s
BRG pmax pmax
comp=Z,29nm,1.5s
BRG pmax pmax
comp=Z,18nm,1.2s
BRG MLR MLR
comp=N,1µm,19.5s
BRG MLR MLR
comp=E,1µm,17.0s
BRG MLR MLR
comp=Z,1µm,16.3s
BRG Berggiesshubel 53.53 327 *i*P **P** **03 53 59.1 -0.4**
comp=Z,38nm,1.6s
RETA Reutte 53.60 322 ⇑*i*P **P** **03 53 58.6 -1.6**
comp=Z,25nm,0.7s,SNR=9.7
FUR Furstenfeldbru 53.62 323 *e*P **P** **03 53 59.0 -1.3**
comp=Z,74nm,0.8s
FUR Furstenfeldbru 53.62 323 *e*P **P** **03 53 59.0 -1.3**
FUR pmax pmax
comp=Z,74nm,0.8s
FUR Furstenfeldbru 53.62 323 *e*P **P** **03 53 59.0 -1.3**
comp=Z,74nm,0.8s
ROTZ Rotzenmuhle 53.89 326 *e*P **P** **03 54 01.4 -0.8**
comp=Z,19nm,1.4s
NKC Novy Kostel 54.00 326 *i*P **P** **03 54 02.7 -0.3**
NKC *e**PP **pP** **03 54 10.1 +3.0**
NKC *e*S **S** **04 01 35.5 -3.1**
NKC MLR MLR
comp=Z,2µm,20.1s
NKC Novy Kostel 54.00 326 *i*P **P** **03 54 02.7 -0.3**
NKC *e*pP **pP** **03 54 10.1 +3.0**
NKC *e*S S **04 01 35.5 -3.1**
NKC AMS AMS 04 20 10.0
comp=Z,2µm,20.1s
NKC Novy Kostel 54.00 326 *i*P **P** **03 54 02.7 -0.3**
TUE Stuetta 54.01 321 *e*P **P** **03 54 02.7 -0.7**
comp=Z,111nm,1.9s
TUE Stuetta 54.01 321 *e*P **P** **03 54 02.7 -0.7**
comp=Z,111nm,1.9s
DAVA Damuels 54.04 322 *i*P **P** **03 54 02.3 -1.3**
comp=Z,40nm,0.8s,SNR=13
TANN Tannenbergstha 54.08 326 *e*P **P** **03 54 03.1 -0.6**
comp=Z,74nm,1.8s
SAOF Saorge 54.13 317 *e*P **P** **03 54 03.5 -0.6**
SAOF Saorge 54.13 317 *e*P **P** **03 54 03.5 -0.6**
SAOF Saorge 54.13 317 *e*P **P** **03 54 03.5 -0.6**
SAOF Saorge 54.13 317 *e*P **P** **03 54 03.5 -0.6**
TORD Torodi Ar. Bea 54.15 279 P **P** **03 54 04.5 -0.1**
comp=Z,20nm,0.8s,baz=97,slow=6.1,SNR=55
TORD PcP **PcP** **03 55 08.9 -0.4**
comp=Z,5.4nm,1.0s,baz=83,slow=5.6,SNR=1.6
TORD LR LR 04 16 35.6
comp=Z,2µm,19.4s,baz=110,slow=35
TORD Torodi Ar. Bea 54.15 279 P **P** **03 54 04.5 -0.1**
TORD PcP **PcP** **03 55 08.9 -0.4**
TORD Torodi Ar. Bea 54.15 279 P **P** **03 54 04.5 -0.1**
TORD Torodi Ar. Bea 54.15 279 PcP **PcP** **03 55 08.9 -0.4**
SBF Sospel 54.17 317 *e*P **P** **03 54 03.9 -0.5**
comp=Z,98nm,0.8s
SBF Sospel 54.17 317 *e*P **P** **03 54 03.9 -0.5**
comp=Z,49nm,0.8s
CLL Collm 54.27 327 *e*P **P** **03 54 04.6 -0.3**
comp=Z,72nm,1.7s
CLL Collm 54.27 327 ⇑*i*P **P** **03 54 04.0 -0.9**
CLL *e*S **S** **04 01 39.0 -3.1**
CLL pmax pmax
comp=Z,72nm,1.7s
CLL MLR MLR
comp=Z,1µm,21.2s
CLL Collm 54.27 327 ⇑*i*P **P** **03 54 04.0 -0.9**
comp=Z,72nm,1.7s
CLL *e*(pP) **pP** **03 54 11.0 +2.0**
CLL *e* 03 54 33.0
CLL *e*PPP PPP 03 57 18.0
CLL *e*S **S** **04 01 39.0 -3.1**
CLL *e*SS **SS** **04 05 30.0 +5.9**
CLL *e*SSS SSS 04 07 18.0
CLL LV 04 19 00.0
comp=Z,1µm,21.2s
CLL Collm 54.27 327 *i*P **P** **03 54 04.0 -0.9**
comp=Z,72nm,1.7s
GRA1 Grafenberg Arr 54.40 325 *e*P **P** **03 54 04.4 -1.5**
comp=Z,31nm,2.1s
GRF Grafenberg Arr 54.40 325 *e*P **P** **03 54 04.4 -1.5**
comp=Z,31nm,2.1s
GRF Grafenberg Arr 54.40 325 *e*P **P** **03 54 04.4 -1.5**
GRF pmax pmax
comp=Z,31nm,2.1s
GRFO Grafenberg 54.40 325 *e*P **P** **03 54 04.5 -1.4**
GRFO pmax pmax
comp=Z,44nm,1.0s
GRFO Grafenberg 54.40 325 *e*P **P** **03 54 04.5 -1.4**
comp=Z,44nm,1.0s
GRFO Grafenberg 54.40 325 *e*P **P** **03 54 04.5 -1.4**
comp=Z,44nm,1.0s
MOY Mondy 54.43 32 *e*P **P** **03 54 07.4 +1.2**
MOY pmax pmax
comp=Z,52nm,2.8s
MOY Mondy 54.43 32 *e*P **P** **03 54 07.4 +1.2**
comp=Z,52nm,2.8s
RUE Ruedersdorf 54.51 329 *e*P **P** **03 54 06.0 -0.5**
comp=Z,111nm,1.2s
RUE Ruedersdorf 54.51 329 *e*P **P** **03 54 06.1 -0.5**
comp=Z,111nm,1.2s
MOX Moxa 54.66 326 *e*P **P** **03 54 07.0 -0.8**
comp=Z,52nm,1.8s
MOX Moxa 54.66 326 *e*P **P** **03 54 07.0 -0.8**
MOX pmax pmax
comp=Z,52nm,1.8s
MOX Moxa 54.66 326 *e*P **P** **03 54 07.0 -0.8**
comp=Z,52nm,1.8s
SUR Sutherland 54.85 218 *e*P **P** **03 54 09.3 -0.3**
SUR Sutherland 54.85 218 *e*P **P** **03 54 10.1 +0.4**
comp=Z,94nm,1.2s
SUR Sutherland 54.85 218 *e*P **P** **03 54 10.1 +0.4**
comp=Z,94nm,1.2s
CVNA Calvinia 54.88 219 *e*P P 03 54 16.5 +6.8
CVNA AMS AMS 04 14 44.4
comp=Z,3µm,18.6s
ZAK Zakamensk 54.99 34 *e*P **P** **03 54 10.5 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
ZAK Zakamensk 54.99 34 *e*P **P** **03 54 10.5 +0.2**
comp=Z,8.0nm,1.4s
BNI Bardonecchia 55.12 318 *e*P **P** **03 54 10.4 -1.0**
BNI pmax pmax
comp=Z,144nm,2.0s
BNI Bardonecchia 55.12 318 *e*P **P** **03 54 10.4 -1.0**
comp=Z,144nm,2.0s
BNI Bardonecchia 55.12 318 *e*P **P** **03 54 10.4 -1.0**
comp=Z,144nm,2.0s
BERF Bertagne 55.14 316 *e*P P 03 54 18.7 +7.2
SENIN Lac Senin/Sane 55.24 320 *e*P **P** **03 54 11.9 -0.4**
comp=Z,48nm,0.7s
SENIN Lac Senin/Sane 55.24 320 *e*P **P** **03 54 11.9 -0.4**
comp=Z,48nm,0.7s
LPG La Plagne 55.25 319 *e*P **P** **03 54 11.4 -1.1**
comp=Z,121nm,0.9s
LPG La Plagne 55.25 319 *e*P **P** **03 54 11.4 -1.1**
comp=Z,60nm,0.9s
LPL La Plagne 55.27 319 *e*P **P** **03 54 11.4 -1.1**
comp=Z,45nm,0.6s
LPL La Plagne 55.27 319 *e*P **P** **03 54 11.4 -1.1**
comp=Z,22nm,0.6s
RSL Roselend 55.40 319 *e*P **P** **03 54 13.7 +0.3**
RSL Roselend 55.40 319 *e*P **P** **03 54 13.7 +0.3**
RSL Roselend 55.40 319 *e*P **P** **03 54 13.7 +0.3**
RSL Roselend 55.40 319 *e*P **P** **03 54 13.7 +0.3**
BTO Baotou 55.43 48 *e*P P 03 54 16.9 +3.2
FELD Feldberg im Sc 55.44 322 *e*P **P** **03 54 11.1 -2.6**
BFO Black Forest 55.44 323 *e*P **P** **03 54 13.1 -0.5**
comp=Z,23nm,1.2s
BFO Black Forest 55.44 323 *e*P **P** **03 54 13.0 -0.5**
BFO pmax pmax
comp=Z,137nm,1.8s
BFO Black Forest 55.44 323 *e*P **P** **03 54 13.0 -0.5**
comp=Z,137nm,1.8s
BFO Black Forest 55.44 323 P **P** **03 54 13.2 -0.3**
comp=Z,109nm,1.0s,SNR=5.8
BFO Black Forest 55.44 323 *e*P **P** **03 54 13.0 -0.5**
comp=Z,137nm,1.8s
SMRF Simiane la Rot 55.46 317 *e*P **P** **03 54 13.5 -0.2**
comp=Z,27nm,0.7s
SMRF Simiane la Rot 55.46 317 *e*P **P** **03 54 13.5 -0.2**
comp=Z,13nm,0.7s
JOF Joensuu 55.56 346 *e*P **P** **03 54 13.1 -0.9**
JOF pmax pmax
comp=Z,16nm,0.7s
JOF Joensuu 55.56 346 *e*p **P** **03 54 13.1 -0.9**
comp=Z,16nm,0.7s
JOF Joensuu 55.56 346 *e*p **P** **03 54 13.1 -0.9**
comp=Z,16nm,0.7s
JOF Joensuu 55.56 346 *e*P **P** **03 54 13.1 -0.9**
comp=Z,16nm,0.7s
BBS Basel-Blauen 55.57 321 *e*P **P** **03 54 13.7 -0.7**
BBS Basel-Blauen 55.57 321 *e*P **P** **03 54 13.7 -0.7**
BBS Basel-Blauen 55.57 321 *e*P **P** **03 54 13.7 -0.7**
ORIF Oris-en-Rattie 55.60 318 *e*P **P** **03 54 14.0 -0.8**
comp=Z,37nm,0.9s
ORIF *e*R
comp=Z,1µm,22.8s
ORIF Oris-en-Rattie 55.60 318 *e*P **P** **03 54 14.0 -0.8**
comp=Z,19nm,0.9s
OG01 Vacheresse 55.62 320 *e*P **P** **03 54 14.3 -0.6**
OG01 Vacheresse 55.62 320 *e*P **P** **03 54 14.3 -0.6**
OG01 Vacheresse 55.62 320 *e*P **P** **03 54 14.3 -0.6**
SONM Songino Array 55.63 38 P **P** **03 54 15.0 0.0**
comp=Z,18nm,0.8s,baz=238,slow=7.2,SNR=49
SONM Songino Array 55.63 38 P **P** **03 54 15.0 0.0**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 55.63 38 P **P** **03 54 15.0 0.0**
SONM Songino Array 55.63 38 P **P** **03 54 15.0 0.0**
comp=Z,4.0nm,0.8s
UBBA Unterbreizbach 55.64 326 *e*P **P** **03 54 14.8 +0.1**
comp=Z,40nm,1.9s
FINES FINESS Array B 55.73 343 P **P** **03 54 14.3 -0.9**
comp=Z,18nm,0.6s,baz=125,slow=9.3,SNR=62
FINES LR LR 04 20 55.9
comp=Z,2µm,19.5s,baz=141,slow=39
FINES FINESS Array B 55.73 343 P **P** **03 54 14.4 -0.9**
FINES pmax pmax
comp=Z,18nm,0.6s
FINES MLR MLR
comp=Z,2µm,19.5s
FINES FINESS Array B 55.73 343 P **P** **03 54 14.3 -0.9**
FINES FINESS Array B 55.73 343 P **P** **03 54 14.4 -0.9**
comp=Z,2µm,19.5s
TOD Tromm 55.74 324 *e*P **P** **03 54 13.5 -2.1**
TOD Tromm 55.74 324 *e*P **P** **03 54 13.5 -2.1**
TOD Tromm 55.74 324 *e*P **P** **03 54 13.5 -2.1**
TLY Talaya 55.84 33 *e*P **P** **03 54 16.8 +0.5**
TLY *e*S **S** **04 02 04.9 +1.5**
TLY *e* 04 03 56.5
TLY *e*SS **SS** **04 05 46.5 -2.5**
TLY pmax pmax
comp=Z,11nm,0.7s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY Talaya 55.84 33 *e*P **P** **03 54 16.8 +0.5**
comp=Z,11nm,0.7s
LOMF Lomont 55.94 321 *e*P **P** **03 54 16.5 -0.7**
LOMF Lomont 55.94 321 *e*P **P** **03 54 16.5 -0.7**
LOMF Lomont 55.94 321 *e*P **P** **03 54 16.5 -0.7**
LOMF Lomont 55.94 321 *e*P **P** **03 54 16.5 -0.7**
CLZ Clausthal 55.95 327 *e*P **P** **03 54 17.1 0.0**
comp=Z,74nm,1.7s
CLZ Clausthal 55.95 327 *e*P **P** **03 54 17.1 0.0**
CLZ pmax pmax
comp=Z,74nm,1.7s
CLZ Clausthal 55.95 327 *e*P **P** **03 54 17.1 0.0**
comp=Z,74nm,1.7s
MOF Molkenrain 55.96 322 *e*P **P** **03 54 16.3 -1.0**
MOF Molkenrain 55.96 322 *e*P **P** **03 54 16.3 -1.0**
MOF Molkenrain 55.96 322 *e*P **P** **03 54 16.3 -1.0**
MOF Molkenrain 55.96 322 *e*P **P** **03 54 16.3 -1.0**
ULN Ulaanbaatar 56.05 38 *e*P **P** **03 54 17.9 -0.1**
ULN pmax pmax
comp=Z,79nm,2.1s
ULN Ulaanbaatar 56.05 38 *e*P **P** **03 54 17.9 -0.1**
comp=Z,79nm,2.1s
ULN Ulaanbaatar 56.05 38 P **P** **03 54 18.2 +0.2**
comp=Z,7.1nm,1.0s
ULN Ulaanbaatar 56.05 38 *e*P **P** **03 54 17.9 -0.1**
comp=Z,79nm,2.1s
ECH Echery 56.10 322 *e*P **P** **03 54 16.9 -1.3**
ECH pmax pmax
comp=Z,28nm,0.9s
ECH Echery 56.10 322 *e*P **P** **03 54 16.9 -1.3**
comp=Z,28nm,0.9s
ECH Echery 56.10 322 *e*P **P** **03 54 16.9 -1.3**
ECH Echery 56.10 322 *e*P **P** **03 54 16.9 -1.3**
comp=Z,28nm,0.9s
CABF La Chapelle 56.11 320 *e*P **P** **03 54 18.3 -0.1**
comp=Z,408nm,0.9s
CABF La Chapelle 56.11 320 *e*P **P** **03 54 18.3 -0.1**
comp=Z,204nm,0.9s
CDF Champ du Feu 56.11 322 *e*P **P** **03 54 17.7 -0.7**
comp=Z,84nm,0.9s
CDF Champ du Feu 56.11 322 *e*P **P** **03 54 17.7 -0.7**
comp=Z,42nm,0.9s
HINF Hinteralfeld 56.12 321 *e*P **P** **03 54 17.3 -1.1**

comp=Z,49nm,0.9s
HINF Hinteralfeld 56.12 321 *e*P **P** 03 54 17.3 -1.1
comp=Z,24nm,0.9s
KAF Kangasniemi 56.20 343 *e*P **P** 03 54 17.8 -0.8
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 56.20 343 *e*p **P** 03 54 17.8 -0.8
comp=Z,7.7nm,0.6s
KAF Kangasniemi 56.20 343 *e*p **P** 03 54 17.8 -0.8
comp=Z,7.7nm,0.6s
KAF Kangasniemi 56.20 343 *e*P **P** 03 54 17.8 -0.8
comp=Z,8.0nm,0.6s
ETRT Tiaret 56.20 306 P **P** 03 54 22.0 +2.7
EBNR Beni Rached 56.21 307 P P 03 54 24.0 +4.7
TNS Taunus Mts 56.23 325 *e*P **P** 03 54 18.2 -1.0
comp=Z,16nm,1.3s
TNS Taunus Mts 56.23 325 *e*P **P** 03 54 18.2 -1.0
TNS pmax pmax
comp=Z,16nm,1.3s
TNS Taunus Mts 56.23 325 *e*P **P** 03 54 18.2 -1.0
comp=Z,16nm,1.3s
ECHA Ech Chlef 56.31 307 P P 03 54 28.0 +8.1
VIVF Saint-Julien-l 56.38 317 *e*P **P** 03 54 19.3 -1.0
comp=Z,23nm,0.7s
VIVF Saint-Julien-l 56.38 317 *e*P **P** 03 54 19.3 -1.0
comp=Z,12nm,0.7s
NRDL Niedersach Rie 56.42 328 *e*P **P** 03 54 20.6 +0.3
comp=Z,94nm,1.6s
CER Ceres 56.45 218 *e*P **P** 03 54 22.0 +1.1
CER AMS AMS 04 10 47.3
comp=Z,1µm,30.0s
IRK Irkutsk 56.46 33 *e*P **P** 03 54 20.9 +0.2
IRK pmax pmax
comp=Z,70nm,1.7s
IRK Irkutsk 56.46 33 *e*P **P** 03 54 20.9 +0.2
comp=Z,70nm,1.7s
EANR 'Ain N'Sour 56.48 306 P **P** 03 54 23.0 +1.8
EANR 'Ain N'Sour 56.48 306 P **P** 03 54 23.0 +1.8
HAU Haudompre 56.51 321 *e*P **P** 03 54 20.1 -1.0
comp=Z,40nm,0.9s
HAU *e*R
comp=Z,1µm,21.8s
HAU Haudompre 56.51 321 *e*P **P** 03 54 20.1 -1.0
comp=Z,20nm,0.9s
SSB Saint Sauveur 56.61 318 *e*P **P** 03 54 20.6 -1.4
SSB pmax pmax
comp=Z,18nm,0.8s
SSB Saint Sauveur 56.61 318 *e*P **P** 03 54 20.6 -1.4
comp=Z,18nm,0.8s
SSB Saint Sauveur 56.61 318 *e*P **P** 03 54 20.6 -1.4
comp=Z,18nm,0.8s
HHC Hu-ho-hao-te 56.62 48 *e*P **P** 03 54 21.9 -0.3
HHC pP **pP** 03 54 26.9 +0.6
HHC sP **sP** 03 54 29.8 +1.9
HHC PP **PP** 03 56 32.1 +3.9
HHC S **S** 04 02 11.6 -2.6
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,310nm,4.3s
HHC LR LR
comp=N,3µm,16.7s
HHC LR LR
comp=E,4µm,16.3s
HHC LR LR
comp=Z,5µm,16.6s
LASF Ste Croix 56.66 316 *e*P **P** 03 54 21.7 -0.6
comp=Z,54nm,0.9s
LASF Ste Croix 56.66 316 *e*P **P** 03 54 21.7 -0.6
comp=Z,27nm,0.9s
WHN Wuhan 56.69 60 P **P** 03 54 21.9 -0.8
WHN S **S** 04 02 12.9 -2.3
WHN LR LR
comp=N,3µm,12.8s
WHN LR LR
comp=E,2µm,14.1s
WHN LR LR
comp=Z,6µm,19.0s
PAGF Fort de Pagny 57.11 322 *e*P **P** 03 54 24.9 -0.5
comp=Z,25nm,0.9s
PAGF Fort de Pagny 57.11 322 *e*P **P** 03 54 24.9 -0.5
comp=Z,12nm,0.9s
WLF Walferdange 57.31 323 P **P** 03 54 26.6 -0.1
comp=Z,56nm,1.4s
WLF Walferdange 57.31 323 *e*P **P** 03 54 26.3 -0.5
comp=Z,46nm,1.2s
WLF Walferdange 57.31 323 *e*P **P** 03 54 26.7 -0.1
WLF pmax pmax
comp=Z,78nm,1.1s
WLF Walferdange 57.31 323 *e*P **P** 03 54 26.7 -0.1
comp=Z,78nm,1.1s
WLF Walferdange 57.31 323 *e*P **P** 03 54 26.7 -0.1
comp=Z,78nm,1.1s
SFTF Sexfontaines 57.39 321 *e*P **P** 03 54 27.0 -0.4
comp=Z,185nm,0.8s
SFTF Sexfontaines 57.39 321 *e*P **P** 03 54 27.0 -0.4
comp=Z,92nm,0.8s
VALF Valcebollere 57.41 314 *e*P **P** 03 54 27.3 -0.5
VALF Valcebollere 57.41 314 *e*P **P** 03 54 27.3 -0.5
VALF Valcebollere 57.41 314 *e*P **P** 03 54 27.3 -0.5
BUG Bochum--Univer 57.45 325 *e*P **P** 03 54 27.1 -0.6
LBL Lubilhac 57.45 317 *e*P **P** 03 54 27.8 -0.2
LBL Lubilhac 57.45 317 *e*P **P** 03 54 27.8 -0.2
LBL Lubilhac 57.45 317 *e*P **P** 03 54 27.8 -0.2
LBL Lubilhac 57.45 317 *e*P **P** 03 54 27.8 -0.2
MEZF Maizieres J'vi 57.50 322 *e*P **P** 03 54 27.9 -0.2
comp=Z,342nm,1.2s
MEZF Maizieres J'vi 57.50 322 *e*P **P** 03 54 27.9 -0.2
comp=Z,171nm,1.2s
MTLF Montolieu 57.55 315 *e*P **P** 03 54 28.2 -0.4
comp=Z,44nm,1.1s
MTLF Montolieu 57.55 315 *e*P **P** 03 54 28.2 -0.4
comp=Z,22nm,1.1s
IBBN Ibbenburen 57.58 327 *e*P **P** 03 54 28.5 -0.1
comp=Z,48nm,1.5s
LOR Lormes 57.77 320 *e*P **P** 03 54 29.4 -0.7
comp=Z,99nm,0.8s
LOR *e*R
comp=Z,1µm,21.0s
LOR Lormes 57.77 320 *e*P **P** 03 54 29.4 -0.7
comp=Z,49nm,0.8s
MEM Membach 57.80 324 P **P** 03 54 30.5 +0.3
comp=Z,17nm,1.3s
HGN Heimansgroeve 57.91 324 *e*P **P** 03 54 28.9 -2.0
comp=Z,24nm,0.9s
HGN *e*S **S** 04 02 30.6 0.0
SSF Saint Saulge 57.92 320 *e*P **P** 03 54 30.3 -0.8
comp=Z,103nm,0.8s
SSF Saint Saulge 57.92 320 *e*P **P** 03 54 30.3 -0.8
comp=Z,52nm,0.8s
AVF Avril sur Loir 57.92 319 *e*P **P** 03 54 30.0 -1.1
comp=Z,42nm,0.9s
AVF Avril sur Loir 57.92 319 *e*P **P** 03 54 30.0 -1.1
comp=Z,21nm,0.9s
WTSB Winterswijk 57.95 326 *e*P **P** 03 54 30.5 -0.7
comp=Z,176nm,2.1s
BEBN Eben Emael 58.07 324 P **P** 03 54 32.8 +0.8
VERF Verneugheol 58.13 318 *e*P **P** 03 54 33.7 +1.0
VERF Verneugheol 58.13 318 *e*P **P** 03 54 33.7 +1.0
VERF Verneugheol 58.13 318 *e*P **P** 03 54 33.7 +1.0
CAF Calviac 58.15 317 *e*P **P** 03 54 31.9 -0.9
comp=Z,27nm,0.8s
CAF Calviac 58.15 317 *e*P **P** 03 54 31.9 -0.9
comp=Z,13nm,0.8s
BGF Bois d'Agland 58.17 319 *e*P **P** 03 54 32.5 -0.4
comp=Z,106nm,0.8s
BGF Bois d'Agland 58.17 319 *e*P **P** 03 54 32.5 -0.4
comp=Z,53nm,0.8s
DOU Dourbes 58.41 323 P **P** 03 54 34.4 0.0
comp=Z,30nm,1.2s
BAIF Baives 58.62 323 *e*P **P** 03 54 35.7 -0.3
comp=Z,148nm,1.1s
BAIF Baives 58.62 323 *e*P **P** 03 54 35.7 -0.3
comp=Z,74nm,1.1s
RJF Les Rejaudoux 58.63 317 *e*P **P** 03 54 35.4 -0.7
comp=Z,36nm,0.9s
RJF *e*R
comp=Z,1µm,21.8s
RJF Les Rejaudoux 58.63 317 *e*P **P** 03 54 35.4 -0.7
comp=Z,18nm,0.9s
KKM Kota Kinabalu 58.67 89 *e*P **P** 03 54 38.0 +1.0
comp=Z,37nm,1.2s
KKM Kota Kinabalu 58.67 89 *e*P **P** 03 54 38.0 +1.0
comp=Z,37nm,1.2s
RESF Ens 58.71 314 *e*P **P** 03 54 36.9 0.0
RESF Ens 58.71 314 *e*P **P** 03 54 36.9 0.0
RESF Ens 58.71 314 *e*P **P** 03 54 36.9 0.0

SNF Seneffe 58.76 324 P **P** 03 54 36.8 -0.1
comp=Z,33nm,2.0s
EPF Esparros 58.77 314 *e*P **P** 03 54 35.6 -1.6
comp=Z,13nm,0.8s
EPF Esparros 58.77 314 *e*P **P** 03 54 35.6 -1.6
comp=Z,6.3nm,0.8s
MUD Monsted U'grnd 58.93 331 *i* P **P** 03 54 39.5 +1.6
MUD pmax pmax
comp=Z,30nm,0.9s
MUD Monsted U'grnd 58.93 331 *i* P **P** 03 54 39.5 +1.6
comp=Z,30nm,0.9s
MUD Monsted U'grnd 58.93 331 *i* P **P** 03 54 39.5 +1.6
comp=Z,30nm,0.9s
VIEF Viey 58.96 314 *e*P **P** 03 54 38.5 0.0
VIEF Viey 58.96 314 *e*P **P** 03 54 38.5 0.0
VIEF Viey 58.96 314 *e*P **P** 03 54 38.5 0.0
APA Apatity 59.20 350 *i* P 03 54 47.0 +7.3
APA *i* 04 02 44.0
ETSF Etsaut 59.37 314 *e*P **P** 03 54 41.4 0.0
comp=Z,99nm,0.8s
ETSF Etsaut 59.37 314 *e*P **P** 03 54 41.4 0.0
comp=Z,50nm,0.8s
BJT Baijiatuao 59.82 50 *e*P **P** 03 54 44.8 +0.3
BJT pmax pmax
comp=Z,43nm,0.6s
BJT Baijiatuao 59.82 50 *e*P **P** 03 54 44.8 +0.3
comp=Z,43nm,0.6s
BJT Baijiatuao 59.82 50 *e*P **P** 03 54 44.8 +0.3
comp=Z,43nm,0.6s
SJPF Ste Jean 59.90 314 *e*P **P** 03 54 45.0 0.0
comp=Z,102nm,0.8s
SJPF Ste Jean 59.90 314 *e*P **P** 03 54 45.0 0.0
comp=Z,51nm,0.8s
QZH Quanzhou 59.96 67 *e*P **P** 03 54 46.7 +1.1
QZH S **S** 04 02 56.4 -1.6
QZH LR LR
comp=N,3µm,16.4s
QZH LR LR
comp=E,8µm,22.4s
QZH LR LR
comp=Z,3µm,16.9s
KONO Kongsberg 60.47 335 *e*P **P** 03 54 46.4 -2.2
KONO *e*S **S** 04 03 00.9 -2.5
KONO Kongsberg 60.47 335 *e*P **P** 03 54 46.3 -2.2
SNR=21
KONO *e*S **S** 04 03 00.9 -2.5
SNR=23
NB2 NORSAR Subarra 60.60 336 P **P** 03 54 47.6 -1.9
comp=Z,17nm,1.1s,baz=120,slow=6.2
NB2 NORSAR Subarra 60.60 336 P **P** 03 54 47.6 -1.9
SNR=21
NOA NORSAR Array B 60.60 336 P **P** 03 54 47.7 -1.8
comp=Z,2.8nm,0.7s,baz=111,slow=8.6,SNR=8.4
NOA LR LR 04 23 35.7
comp=Z,3µm,19.8s,baz=120,slow=39
NOA NORSAR Array B 60.60 336 P **P** 03 54 47.7 -1.8
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,3µm,19.8s
NOA NORSAR Array B 60.60 336 P **P** 03 54 47.7 -1.8
NOA NORSAR Array B 60.60 336 P **P** 03 54 47.7 -1.8
comp=Z,3µm,19.8s
NAO01 NORSAR Array S 60.62 336 *e*P **P** 03 54 49.8 +0.2
comp=Z,9.5nm,0.8s
NAO01 NORSAR Array S 60.62 336 *e*P **P** 03 54 49.8 +0.2
comp=Z,9.5nm,0.8s
NJ2 Nanjing 60.70 59 *e*P **P** 03 54 50.1 -0.5
NJ2 pP **pP** 03 54 54.1 -0.6
NJ2 sP **sP** 03 54 55.9 -0.4
NJ2 PP **PP** 03 57 04.1 -0.3
NJ2 S **S** 04 03 08.0 +0.7
NJ2 pmax pmax
comp=Z,80nm,1.0s
NJ2 pmax pmax
comp=Z,340nm,4.7s
NJ2 LR LR
comp=N,1µm,26.3s
NJ2 LR LR
comp=E,2µm,23.5s
NJ2 LR LR
comp=Z,2µm,24.6s
LDF La Druitiere 60.74 320 *e*P **P** 03 54 49.6 -1.0
comp=Z,121nm,0.8s
LDF La Druitiere 60.74 320 *e*P **P** 03 54 49.6 -1.0
comp=Z,60nm,0.8s
FLN La Foliniere 61.02 320 *e*P **P** 03 54 51.4 -1.1
comp=Z,109nm,1.0s
FLN *e*R
comp=Z,1µm,20.5s
FLN La Foliniere 61.02 320 *e*P **P** 03 54 51.4 -1.1
comp=Z,54nm,1.0s
GRR Gorron 61.14 320 *e*P **P** 03 54 52.2 -1.1
comp=Z,46nm,0.6s
GRR Gorron 61.14 320 *e*P **P** 03 54 52.2 -1.1
comp=Z,23nm,0.6s
ESDC Sonseca Array 61.15 310 P **P** 03 54 53.5 -0.1
comp=Z,7.8nm,0.7s,baz=86,slow=5.9,SNR=38
ESDC LR LR 04 25 13.7
comp=Z,594nm,19.7s,baz=145,slow=40
ESDC Sonseca Array 61.15 310 P **P** 03 54 53.5 -0.1
ESDC Sonseca Array 61.15 310 P **P** 03 54 53.5 -0.1
ESLA Sonseca Array 61.15 310 *e*P **P** 03 54 53.5 -0.1
comp=Z,8.1nm,0.8s
ESLA Sonseca Array 61.15 310 *e*P **P** 03 54 53.5 -0.1
comp=Z,8.1nm,0.8s
DBIC Dimbokro 61.23 272 P **P** 03 54 54.1 -0.4
comp=Z,12nm,0.9s,baz=63,slow=8.4,SNR=11
DBIC LR LR 04 20 55.0
comp=Z,2µm,20.1s,baz=61,slow=36
DBIC Dimbokro 61.23 272 *e*P **P** 03 54 54.5 0.0
DBIC Dimbokro 61.23 272 P **P** 03 54 54.1 -0.4
DBIC pmax pmax
comp=Z,12nm,0.9s
DBIC MLR MLR
comp=Z,2µm,20.1s
DBIC Dimbokro 61.23 272 *e*P **P** 03 54 54.6 0.0
comp=Z,37nm,1.0s
DBIC Dimbokro 61.23 272 *e*P **P** 03 54 54.6 0.0
comp=Z,37nm,1.0s
PAB San Pablo 61.42 309 *e*P **P** 03 54 55.7 +0.2
PAB pmax pmax
comp=Z,75nm,1.3s
PAB San Pablo 61.42 309 *e*P **P** 03 54 55.7 +0.2
comp=Z,75nm,1.3s
PAB San Pablo 61.42 309 *e*P **P** 03 54 55.7 +0.2
comp=Z,75nm,1.3s
LIC Lamto 61.47 271 *e*P **P** 03 54 56.1 0.0
comp=Z,116nm,1.0s,baz=79
LIC *e*R
comp=Z,2µm,20.8s
LIC Lamto 61.47 271 *e*P **P** 03 54 56.1 0.0
comp=Z,58nm,1.0s
CIT Chita 61.53 36 *e*P P 03 54 59.7 +3.7
CIT *e* 03 55 41.3
CIT Chita 61.53 36 *e*P P 03 54 59.7 +3.7
CIT Chita 61.53 36 *e*PcP **PcP** 03 55 41.3 +3.6
SGMF Saint Gilles 62.19 319 *e*P **P** 03 54 59.1 -1.3
comp=Z,151nm,1.2s
SGMF Saint Gilles 62.19 319 *e*P **P** 03 54 59.1 -1.3
comp=Z,75nm,1.2s
SKP1 Kophill 62.19 323 *e*P **P** 03 54 59.0 -1.3
SKP1 Kophill 62.19 323 P **P** 03 54 59.0 -1.3
SKP1 Kophill 62.19 323 *e*P **P** 03 54 59.0 -1.3
TGY Tagaytay City 62.40 80 LR LR 04 22 58.0
comp=Z,8.9nm,18.3s,baz=291,slow=37
ARCES ARCESS Array B 62.40 348 P **P** 03 55 00.9 -0.5
comp=Z,17nm,0.7s,baz=147,slow=8.1,SNR=60
ARCES LR LR 04 25 16.0
comp=Z,3µm,20.4s,baz=145,slow=39
ARCES ARCESS Array B 62.40 348 P **P** 03 55 01.0 -0.5
ARCES pmax pmax
comp=Z,17nm,0.7s
ARCES MLR MLR
comp=Z,3µm,20.4s
ARCES ARCESS Array B 62.40 348 P **P** 03 55 00.9 -0.5
ARCES ARCESS Array B 62.40 348 P **P** 03 55 00.9 -0.5
ARE0 ARCESS Array S 62.40 348 *e*P **P** 03 55 00.6 -0.8
ARE0 ARCESS Array S 62.40 348 *e*P **P** 03 55 00.6 -0.8
SSE Sheshan 62.60 60 *e*P **P** 03 55 03.0 -0.4
SSE pP **pP** 03 55 06.0 -1.6
SSE sP **sP** 03 55 07.3 -1.8
SSE PP **PP** 03 57 21.1 -0.1
SSE S **S** 04 03 31.2 -0.2
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,160nm,3.5s
SSE LR LR
comp=N,1µm,22.8s
SSE LR LR
comp=E,2µm,22.8s
SSE LR LR
comp=Z,2µm,21.7s
ROSF Rostrenen 62.67 319 *e*P **P** 03 55 02.1 -1.5
comp=Z,53nm,0.8s
ROSF Rostrenen 62.67 319 *e*P **P** 03 55 02.1 -1.5
comp=Z,26nm,0.8s
BER Bergen 62.68 334 *e*S **S** 04 03 28.1 -3.3
BER Bergen 62.68 334 *e*S **S** 04 03 28.1 -3.3
SNR=22
STOK Stokkvaagen 63.25 342 *e*P **P** 03 55 06.0 -1.1
PBAR Barrancos 63.27 307 *e*P **P** 03 55 08.1 +0.3
comp=Z,47nm,1.8s
PBAR Barrancos 63.27 307 *e*P **P** 03 55 08.1 +0.3
comp=Z,47nm,1.8s
HGH Gray Hill 63.34 323 *e*P **P** 03 55 07.4 -0.6
HGH Gray Hill 63.34 323 P **P** 03 55 07.4 -0.6
HGH Gray Hill 63.34 323 *e*P **P** 03 55 07.4 -0.6
STNC Stoke 63.45 325 *e*P **P** 03 55 07.8 -0.9
STNC AMB AMB 03 55 10.9
comp=Z,86nm,3.6s
STNC Stoke 63.45 325 P **P** 03 55 07.8 -0.9
STNC AMB AMB 03 55 10.9
comp=Z,86nm,3.6s
STNC Stoke 63.45 325 *e*P **P** 03 55 07.8 -0.9
MCH1 Michaelchurch 63.56 323 *e*P **P** 03 55 09.1 -0.4
MCH1 AMB AMB 03 55 19.8
comp=Z,69nm,2.2s
MCH1 Michaelchurch 63.56 323 P **P** 03 55 09.1 -0.4
MCH1 AMB AMB 03 55 19.8
comp=Z,69nm,2.2s
MCH1 Michaelchurch 63.56 323 *e*P **P** 03 55 09.1 -0.4
PBRG Braganca 63.61 312 *e*P **P** 03 55 10.5 +0.5
comp=Z,68nm,1.8s
PBRG Braganca 63.61 312 *e*P **P** 03 55 10.5 +0.5
comp=Z,68nm,1.8s
HLM1 Long Mynd 63.66 324 *e*P **P** 03 55 08.9 -1.2
HLM1 AMB AMB 03 55 11.9
comp=Z,64nm,5.4s
HLM1 Long Mynd 63.66 324 P **P** 03 55 08.9 -1.2
HLM1 AMB AMB 03 55 11.9
comp=Z,64nm,5.4s
HLM1 Long Mynd 63.66 324 *e*P **P** 03 55 08.9 -1.2
PVAQ Vaqueiros 63.70 307 *e*S **S** 04 03 45.5 +0.4
PVAQ *e*LQ LQ 04 10 56.8
PVAQ *e*LR LR 04 16 07.3
comp=Z,768nm,20.0s
PVAQ Vaqueiros 63.70 307 *e*S **S** 04 03 45.5 +0.4
MVO Moncorvo 63.71 311 *e*P **P** 03 55 11.1 +0.3
comp=Z,66nm,1.7s
MVO *e*S **S** 04 03 50.7 +5.4
MVO *e*LR LR 04 20 20.4
comp=Z,753nm,20.0s
MVO Moncorvo 63.71 311 *e*P **P** 03 55 11.1 +0.3
comp=Z,66nm,1.7s
PMRV Marv??o 63.72 309 *e*P **P** 03 55 11.0 +0.2
comp=Z,86nm,1.7s
PMRV *e*S **S** 04 03 43.2 -2.1
PMRV *e*LR LR 04 20 41.7
comp=Z,1µm,18.0s
PMRV Marv??o 63.72 309 *e*P **P** 03 55 11.0 +0.2
comp=Z,86nm,1.7s
PMRV *e*S **S** 04 03 43.2 -2.1
DL2 Dalian 63.79 52 P **P** 03 55 11.2 0.0
DL2 S **S** 04 03 48.0 +2.0
DL2 pmax pmax
comp=Z,40nm,0.8s
DL2 pmax pmax
comp=Z,170nm,4.9s
DL2 LR LR
comp=N,650nm,15.8s
DL2 LR LR
comp=E,1µm,18.5s
DL2 LR LR
comp=Z,1µm,19.4s
PESTR Estremoz 63.80 308 *e*P **P** 03 55 11.5 +0.2
comp=Z,43nm,1.5s
PESTR Estremoz 63.80 308 *e*P **P** 03 55 11.5 +0.2
comp=Z,43nm,1.5s
PCBR Castelo Branco 63.85 309 *e*P **P** 03 55 11.7 +0.1
comp=Z,46nm,1.7s
PCBR Castelo Branco 63.85 309 *e*P **P** 03 55 11.7 +0.1
comp=Z,46nm,1.7s
PBDV Barranco-do-Ve 63.85 306 *e*P **P** 03 55 11.6 -0.1
comp=Z,33nm,1.5s
PBDV Barranco-do-Ve 63.85 306 *e*P **P** 03 55 11.6 -0.1
comp=Z,33nm,1.5s
PBEJ Beja 63.90 307 *e*P **P** 03 55 12.7 +0.7
comp=Z,49nm,1.6s
PBEJ Beja 63.90 307 *e*P **P** 03 55 12.7 +0.7
comp=Z,49nm,1.6s
TRO Tromso 63.93 346 *e*P **P** 03 55 11.7 +0.1
TRO *e*S **S** 04 03 47.4 +0.7
TRO Tromso 63.93 346 *e*P **P** 03 55 11.6 +0.1
SNR=20
TRO *e*S **S** 04 03 47.4 +0.7
SNR=22
FOEL Foel Wylfa 63.96 324 *e*P **P** 03 55 11.2 -0.9
FOEL AMB AMB 03 55 24.0
comp=Z,44nm,1.4s
FOEL Foel Wylfa 63.96 324 P **P** 03 55 11.2 -0.9
FOEL AMB AMB 03 55 24.0
comp=Z,44nm,1.4s
FOEL Foel Wylfa 63.96 324 *e*P **P** 03 55 11.2 -0.9
BOD Bodaibo 63.97 30 *e*P **P** 03 55 11.5 -0.5
BOD pmax pmax
comp=Z,12nm,1.5s
BOD Bodaibo 63.97 30 *e*P **P** 03 55 11.5 -0.5
comp=Z,12nm,1.5s
MTE Manteigas 63.98 310 *e*P **P** 03 55 13.1 +0.6
comp=Z,68nm,1.6s
MTE *e*S **S** 04 03 49.8 +1.2
MTE *e*LR LR 04 20 11.2
comp=Z,725nm,20.0s
MTE Manteigas 63.98 310 *e*P **P** 03 55 13.5 +0.9
comp=Z,33nm,1.2s
MTE Manteigas 63.98 310 *e*P **P** 03 55 13.1 +0.6
comp=Z,68nm,1.6s
MTE *e*S **S** 04 03 49.8 +1.2
PCVE Castro Verde 63.99 307 *e*P **P** 03 55 12.6 +0.1
comp=Z,43nm,1.7s
PCVE Castro Verde 63.99 307 *e*P **P** 03 55 12.6 +0.1
comp=Z,43nm,1.7s
XAL Allendale 64.05 326 *e*P **P** 03 55 11.7 -0.9
XAL Allendale 64.05 326 P **P** 03 55 11.7 -0.9
XAL Allendale 64.05 326 *e*P **P** 03 55 11.7 -0.9
EVO Evora 64.08 308 *e*P **P** 03 55 13.0 -0.1
comp=Z,141nm,1.6s
EVO *e*R
comp=Z,931nm,21.5s
MESJ Messejana 64.15 307 *e*P **P** 03 55 12.9 -0.8
MESJ AMb AMB 03 55 26.6
comp=Z,57nm,1.7s
MESJ *e*S **S** 04 03 50.2 -0.5
MESJ Messejana 64.15 307 *e*P **P** 03 55 12.9 -0.8
comp=Z,57nm,1.7s
MESJ *e*S **S** 04 03 50.2 -0.5
MESJ Messejana 64.15 307 *e*P **P** 03 55 12.8 -0.8
MESJ *e*S **S** 04 03 50.1 -0.5
MESJ Messejana 64.15 307 *e*P **P** 03 55 12.9 -0.8
comp=Z,57nm,1.7s
MESJ *e*S **S** 04 03 50.2 -0.5
EVOP Sao Brissos 64.16 308 *e*P **P** 03 55 13.0 -0.7
comp=Z,71nm,1.6s
PVIS Viseu 64.29 310 *e*P **P** 03 55 15.7 +1.1
comp=Z,121nm,1.5s
PVIS Viseu 64.29 310 *e*P **P** 03 55 15.7 +1.1
comp=Z,121nm,1.5s
KAPI Kappang 64.31 101 P **P** 03 55 14.6 -0.4
comp=Z,32nm,1.0s,baz=280,slow=6.5,SNR=4.6
KAPI LR LR 04 19 36.0
comp=Z,3µm,21.4s,baz=278,slow=33
KAPI Kappang 64.31 101 *e*P **P** 03 55 13.0 -2.0
comp=Z,35nm,1.0s
KAPI Kappang 64.31 101 *e*P **P** 03 55 13.0 -2.0
comp=Z,35nm,1.0s
POLO Lamas de Olo 64.32 311 *e*P **P** 03 55 15.6 +0.8
comp=Z,29nm,1.3s
POLO Lamas de Olo 64.32 311 *e*P **P** 03 55 15.6 +0.8
comp=Z,29nm,1.3s
PNCL Nicolau / Gran 64.43 307 *e*P **P** 03 55 16.6 +1.2

comp=Z,51nm,1.7s
PNCL Nicolau / Gran 64.43 307 eP P 03 55 16.6 +1.2
comp=Z,51nm,1.7s
MORF Marmelete 64.43 306 eP P 03 55 15.0 -0.5
MORF eS **S** **04 03 53.7 -0.5**
MORF Marmelete 64.43 306 eP P 03 55 15.0 -0.5
HIA Hailar 64.45 40 eP P 03 55 15.7 +0.3
HIA pmax pmax
comp=Z,25nm,0.9s
HIA Hailar 64.45 40 eP P 03 55 15.7 +0.3
comp=Z,25nm,0.9s
HIA Hailar 64.45 40 eP P 03 55 15.7 +0.3
comp=Z,25nm,0.9s
PTOM Tomar 64.53 309 eP P 03 55 16.6 +0.5
comp=Z,63nm,1.9s
PTOM Tomar 64.53 309 eP P 03 55 16.6 +0.5
comp=Z,63nm,1.9s
PFVI Vila Bisbo 64.55 306 eP P 03 55 17.1 +0.8
comp=Z,70nm,1.3s
PFVI Vila Bisbo 64.55 306 eP P 03 55 17.1 +0.8
comp=Z,70nm,1.3s
ESK Eskdalemuir 64.74 327 eP P 03 55 15.5 -1.6
ESK AMB AMB 03 55 22.5
comp=Z,53nm,3.0s
ESK Eskdalemuir 64.74 327 P P 03 55 15.5 -1.6
ESK AMB AMB 03 55 22.5
comp=Z,53nm,3.0s
ESK Eskdalemuir 64.74 327 eP P 03 55 16.1 -1.0
ESK pmax pmax
comp=Z,13nm,0.8s
ESK Eskdalemuir 64.74 327 eP P 03 55 16.1 -1.0
comp=Z,13nm,0.8s
ESK Eskdalemuir 64.74 327 eP P 03 55 15.5 -1.6
PGAV Gavieira, Arco 64.76 311 eP P 03 55 18.3 +0.6
comp=Z,59nm,1.8s
PGAV eS **S** **04 04 00.2 +1.9**
PGAV eLQ LQ 04 11 49.9
PGAV eLR LR 04 16 29.0
comp=Z,928nm,22.0s
PGAV Gavieira, Arco 64.76 311 eP P 03 55 18.3 +0.6
comp=Z,59nm,1.8s
PGAV eS **S** **04 04 00.2 +1.9**
SNY Shenyang 65.67 49 ⇑P P 03 55 21.8 -1.6
SNY pmax pmax
comp=Z,20nm,1.2s
SNY pmax pmax
comp=Z,430nm,4.5s
SNY LR LR
comp=N,1μm,20.0s
SNY LR LR
comp=E,2μm,19.0s
SNY LR LR
comp=Z,2μm,19.1s
DLF Lyons Farm 66.00 324 eP P 03 55 27.0 +1.7
CN2 Changchun 67.29 47 eP P 03 55 33.1 -0.7
CN2 PcP **PcP** **03 55 59.7 -1.8**
CN2 eS **S** **04 04 30.8 +2.0**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
DAV Davao City (W) 67.73 87 LR LR 04 22 11.3
comp=Z,590nm,20.5s,baz=270,slow=33
HOPEN Hopen 68.24 352 eS S 04 04 39.3 +0.2
HOPEN Hopen 68.24 352 eS S 04 04 39.3 +0.2
SNR=21
KSAR Wonju Array Be 68.55 54 P P 03 55 40.9 -0.9
KSAR Wonju Array Be 68.55 54 P P 03 55 40.9 -0.9
KSAR Wonju Array Be 68.55 54 P P 03 55 40.9 -0.9
KSRS Korea Array 68.58 54 P P 03 55 40.9 -1.1
comp=Z,8.6nm,0.8s,baz=267,slow=6.9,SNR=20
KSRS LR LR 04 28 33.6
comp=Z,1μm,18.7s,baz=9.3,slow=38
KSRS Korea Array 68.58 54 P P 03 55 40.9 -1.1
KSRS pmax pmax
comp=Z,9.0nm,0.8s
KSRS MLR MLR
comp=Z,1μm,18.7s
KSRS Korea Array 68.58 54 P P 03 55 40.9 -1.1
comp=Z,1μm,18.7s
MBWA Marble Bar 69.11 117 eP P 03 55 46.1 +0.5
comp=Z,14nm,1.0s
MBWA Marble Bar 69.11 117 eP P 03 55 46.1 +0.5
comp=Z,14nm,1.0s
MDJ Mudanjiang 70.34 46 P P 03 55 52.6 -0.2
MDJ pP **pP** **03 55 55.9 -1.1**
MDJ sP **sP** **03 55 57.2 -1.3**
MDJ PP **PP** **03 58 27.3 -1.1**
MDJ S **S** **04 05 04.8 -0.2**
MDJ ScS **ScS** **04 05 55.0 -0.6**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,230nm,4.6s
MDJ LR LR
comp=N,1μm,17.1s
MDJ LR LR
comp=E,1μm,24.0s
MDJ LR LR
comp=Z,2μm,24.7s
MDJ Mudanjiang 70.34 46 eP P 03 55 52.2 -0.6
comp=Z,31nm,1.0s
MDJ Mudanjiang 70.34 46 eP P 03 55 52.2 -0.6
comp=Z,31nm,1.0s
SPB4 Spitsbergen Ar 70.74 352 eP P 03 55 56.8 +2.2
SPB4 Spitsbergen Ar 70.74 352 eP P 03 55 56.8 +2.2
JNU Nakatsue 70.89 59 eP P 03 55 56.2 -0.2
comp=Z,40nm,1.1s
JNU Nakatsue 70.89 59 eP P 03 55 56.2 -0.2
comp=Z,40nm,1.1s
KBS Kingsbay 71.90 352 eS S 04 05 15.3 -6.6
USRK Ussuriysk Arra 72.04 47 P P 03 56 03.9 +0.9
comp=Z,6.0nm,0.9s,baz=292,slow=5.7,SNR=5.9
USRK LR LR 04 29 55.9
comp=Z,1μm,18.4s,baz=241,slow=38
KLR Kul'dur 72.20 42 eP P 03 56 00.0 -3.9
KLR *e* 03 56 00.0
KLR eS **S** **04 05 21.5 -4.8**
KLR smax smax
comp=N,2μm,9.0s
KLR smax smax
comp=E,500nm,9.0s
KLR Kul'dur 72.20 42 eP P 03 56 00.0 -3.9
YAK Yakutsk 72.73 28 eP P 03 56 05.2 -1.6
YAK *e**PP **pP** **03 56 13.9 +2.9**
YAK *e* 03 56 23.5
YAK *e* 03 58 46.6
YAK *e*PPP PPP 04 00 30.0
YAK eS **S** **04 05 27.3 -4.5**
YAK *e* 04 06 12.4
YAK eSS **SS** **04 10 06.5 -4.7**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=Z,118nm,4.6s
YAK pmax pmax
comp=N,76nm,4.0s
YAK pmax pmax
comp=E,155nm,7.8s
YAK smax smax
comp=N,160nm,4.8s
YAK smax smax
comp=E,81nm,4.6s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=E,1μm,27.0s
YAK MLR MLR
comp=N,1μm,24.0s
YAK Yakutsk 72.73 28 eP P 03 56 06.3 -0.5
comp=N,88nm,1.1s
YAK Yakutsk 72.73 28 eP P 03 56 06.3 -0.5
comp=N,88nm,1.1s
YAK Yakutsk 72.73 28 e PcP **PcP** **03 56 23.5 -0.6**
FITZ Fitzroy Crossi 73.40 112 P P 03 56 11.2 -0.4
comp=N,4.2nm,0.8s,baz=296,slow=7.3,SNR=8.5
FITZ LR LR 04 22 44.9
comp=N,1μm,20.4s,baz=294,slow=31
FITZ Fitzroy Crossi 73.40 112 P **P 03 56 11.2 -0.4**
FITZ Fitzroy Crossi 73.40 112 P **P 03 56 11.2 -0.4**

HABR Khabarovsk 74.33 43 eP P 03 56 16.1 -0.4
HABR *e**SP **sP** **03 56 19.5 -2.8**
HABR *e**SP 03 56 19.7
HABR 03 56 30.7
HABR 03 59 01.2
HABR *e*PPP PPP 04 00 46.5
HABR eS **S** **04 05 51.3 +0.8**
HABR *e* 04 06 26.1
HABR eSS **SS** **04 10 38.1 +1.9**
HABR pmax pmax
comp=Z,41nm,1.8s
HABR pmax pmax
comp=N,30nm,1.8s
HABR pmax pmax
comp=E,54nm,1.8s
HABR MLR MLR
comp=Z,1μm,19.0s
HABR Khabarovsk 74.33 43 eP P 03 56 16.1 -0.4
comp=Z,41nm,1.8s
HABR Khabarovsk 74.33 43 PcP **PcP** **03 56 30.7 -0.5**
SCO Scoresbysund 76.55 340 iP **P 03 56 29.8 +1.0**
SCO pmax pmax
comp=Z,23nm,0.8s
SCO Scoresbysund 76.55 340 iP **P 03 56 29.8 +1.0**
comp=Z,23nm,0.8s
SCO Scoresbysund 76.55 340 iP **P 03 56 29.8 +1.0**
comp=Z,23nm,0.8s
DAG Danmarks Havn 76.64 347 iP **P 03 56 29.3 +0.1**
DAG pmax pmax
comp=Z,28nm,0.8s
DAG Danmarks Havn 76.64 347 iP **P 03 56 29.3 +0.1**
comp=Z,275nm,0.8s
MAJO Matsushiro 76.81 55 eP P 03 56 30.5 -0.5
MAJO pmax pmax
comp=Z,43nm,1.3s
MAJO Matsushiro 76.81 55 eP P 03 56 30.5 -0.5
comp=Z,43nm,1.3s
MAJO Matsushiro 76.81 55 eP P 03 56 30.5 -0.5
comp=Z,43nm,1.3s
MAT Matsushiro 76.81 55 P **P 03 56 28.9 -2.1**
MAT S **S** **04 06 14.0 -4.5**
MJAR Matsushiro Arr 76.81 55 P **P 03 56 30.4 -0.7**
comp=Z,4.2nm,0.8s,baz=274,slow=5.8,SNR=12
MJAR Matsushiro Arr 76.81 55 P **P 03 56 30.4 -0.7**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 76.81 55 P **P 03 56 30.4 -0.7**
MJAR Matsushiro Arr 76.81 55 P **P 03 56 30.4 -0.7**
comp=Z,4.0nm,0.8s
MAW Mawson 77.94 178 LR LR 04 23 59.4
comp=Z,3μm,19.7s,baz=349,slow=30
YSS Yuzh-Sakhalins 79.56 44 eP P 03 56 45.6 -0.4
YSS eS **S** **04 06 44.0 -3.6**
YSS *e* 04 06 53.0
YSS eSS SS 04 12 04.0 +8.7
YSS eSSS SSS 04 15 17.0
YSS MLR MLR
comp=E,600nm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 79.56 44 eP P 03 56 45.6 -0.4
ASAJ Asahikawa 79.66 47 eP P 03 56 46.5 -0.1
comp=Z,8.9nm,1.3s
ASAJ Asahikawa 79.66 47 eP P 03 56 46.5 -0.1
comp=Z,8.9nm,1.3s
SYO Syowa Base 80.19 186 ||eP P 03 56 48.2 -0.6
SYO Syowa Base 80.19 186 ||e PP 03 59 50.7 -0.7
SUMG Summit 81.77 342 iP **P 03 56 58.1 +0.2**
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit 81.77 342 eP P 03 56 58.2 +0.4
comp=Z,71nm,1.3s
SUMG Summit 81.77 342 iP **P 03 56 58.1 +0.2**
comp=Z,24nm,1.0s
SUMG Summit 81.77 342 iP **P 03 56 58.1 +0.2**
comp=Z,24nm,1.0s
WRA Warramunga Arr 81.82 112 P **P 03 56 57.7 -0.9**
comp=Z,7.7nm,0.9s,baz=296,slow=4.4,SNR=23
WRA LR LR 04 31 11.4
comp=Z,816nm,18.2s,baz=265,slow=34
WRA Warramunga Arr 81.82 112 P **P 03 56 57.7 -0.9**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 81.82 112 P **P 03 56 57.7 -0.9**
WRA Warramunga Arr 81.82 112 P **P 03 56 57.7 -0.9**
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 81.83 112 eP P 03 56 58.3 -0.4
WRAB pmax pmax
comp=Z,96nm,1.8s
WRAB Tennant Creek 81.83 112 eP P 03 56 58.2 -0.4
comp=Z,96nm,1.8s
WRAB Tennant Creek 81.83 112 P **P 03 56 58.5 -0.2**
comp=Z,116nm,0.9s,SNR=7.1
WRAB Tennant Creek 81.83 112 eP P 03 56 58.3 -0.4
comp=Z,96nm,1.8s
WB2 Warramunga Arr 81.83 112 eP P 03 56 57.6 -1.1
WB2 Warramunga Arr 81.83 112 eP P 03 56 57.6 -1.1
YUK Yuzh-Kuril'sk 82.01 47 d iP **P 03 56 59.1 0.0**
YUK *i* 04 00 10.3
YUK *i*S S 04 07 05.1 -8.2
YUK pmax pmax
comp=N,65nm,0.7s
YUK pmax pmax
comp=E,101nm,1.5s
YUK pmax pmax
comp=Z,258nm,1.5s
YUK pmax pmax
comp=Z,492nm,2.0s
YUK MLR MLR
comp=N,293nm,19.0s
YUK MLR MLR
comp=E,671nm,19.0s
YUK MLR MLR
comp=Z,708nm,19.0s
YUK Yuzh-Kuril'sk 82.01 47 iP **P 03 56 59.1 0.0**
comp=Z,492nm,2.0s
ASAR Alice Springs 82.36 116 P **P 03 56 59.9 -1.5**
comp=Z,3.6nm,0.7s,baz=289,slow=5.0,SNR=19
ASAR Alice Springs 82.36 116 P **P 03 56 59.9 -1.5**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 82.36 116 P **P 03 56 59.9 -1.5**
ASAR Alice Springs 82.36 116 P **P 03 56 59.9 -1.5**
comp=Z,4.0nm,0.7s
AS31 Alice Springs 82.36 116 eP P 03 57 00.2 -1.2
AS31 Alice Springs 82.36 116 eP P 03 57 00.2 -1.2
SEY Seymchan 83.23 27 eP P 03 57 05.3 +0.2
SEY Seymchan 83.23 27 eP P 03 57 05.3 +0.2
ALE Alert 83.40 353 P **P 03 57 06.0 +0.3**
comp=Z,118nm,0.7s,SNR=8.0
NVL N'lazarevskaya 86.56 194 eP P 03 57 26.2 +4.6
NVL *e**PP pP 03 57 34.1 +8.2
NVL pmax pmax
comp=Z,3.0nm,0.2s
NVL N'lazarevskaya 86.56 194 eP P 03 57 26.2 +4.6
comp=Z,3.0nm,0.2s
MAIT Maitri 86.59 194 eP P 03 57 23.1 +1.4
BILL Bilibino 87.44 21 eP P 03 57 27.8 +1.7
BILL *e* 04 00 50.8
BILL eS S 04 07 58.5 -8.0
BILL *i* SS **SS** **04 13 52.2 +1.4**
BILL pmax pmax
comp=Z,10.0nm,1.6s
BILL MLR MLR
comp=Z,2μm,17.0s
BILL Bilibino 87.44 21 eP P 03 57 26.3 +0.2
comp=Z,8.2nm,1.3s
BILL Bilibino 87.44 21 eP P 03 57 26.3 +0.2
comp=Z,8.2nm,1.3s
PETK Petropavlovsk- 88.07 36 LR LR 04 40 23.9
comp=Z,1μm,19.7s,baz=181,slow=38
PET Petropavlovsk 88.65 36 eP P 03 57 30.4 -1.7
PET *e* 04 01 03.2
PET eS S 04 08 10.4 -8.1
PET eSS **SS** **04 14 07.6 -1.5**
PET pmax pmax
comp=Z,100nm,15.9s
PET pmax pmax
comp=Z,100nm,13.6s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 88.65 36 eP P 03 57 30.4 -1.7
comp=Z,100nm,15.9s
COEN Coen 88.79 104 eP P 03 57 33.9 +0.3
COEN Coen 88.79 104 eP P 03 57 33.8 +0.3

SNAA Sanae 90.82 196 eP P 03 57 43.4 +1.5
SNAA Sanae 90.82 196 eP P 03 57 44.1 +2.2
SNAA pmax pmax
comp=Z,19nm,1.9s
SNAA Sanae 90.82 196 eP P 03 57 44.1 +2.2
comp=Z,19nm,1.9s
SNAA Sanae 90.82 196 eP P 03 57 44.1 +2.2
comp=Z,19nm,1.9s
STKA Stephens Creek 90.88 122 P **P 03 57 43.6 +0.6**
comp=Z,3.6nm,1.0s,baz=286,slow=13,SNR=3.5
STKA LR LR 04 32 48.9
comp=Z,2μm,21.6s,baz=272,slow=32
STKA Stephens Creek 90.88 122 P **P 03 57 43.6 +0.6**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 90.88 122 P **P 03 57 43.6 +0.6**
STKA Stephens Creek 90.88 122 P **P 03 57 43.6 +0.6**
comp=Z,4.0nm,1.0s
VNA2 Neumayer--Watz 91.73 197 e P 03 57 46.8 +0.7
baz=32,slow=5.1
PMG Port Moresby 91.80 99 LR LR 04 36 20.3
comp=Z,1μm,19.2s,baz=195,slow=34
VNA3 Neumayer Olymp 92.54 197 e P 03 57 50.4 +0.6
CTA Charters Tower 92.80 110 LR LR 04 37 13.6
comp=Z,2μm,19.0s,baz=273,slow=34
DRV Dumont d'Urvil 96.72 157 P P 03 58 16.0 +7.0
DRV Dumont d'Urvil 96.72 157 PP PP 04 02 19.0 +15
DRV SKS 04 07 52.0
DRV S **S** **04 09 27.0 -3.0**
DRV SP **SP** **04 10 49.0 -1.1**
DRV SS SS 04 15 47.0 -18
SCHQ Schefferville 99.81 331 LR LR 04 44 34.1
comp=Z,660nm,18.4s,baz=254,slow=36
ILAR Eielson Array 102.88 10 PP **PP 04 02 52.3 +2.3**
comp=Z,2.0nm,1.0s,baz=324,slow=6.1,SNR=5.5
ILAR Eielson Array 102.88 10 PP **PP 04 02 52.3 +2.3**
YKA Yellowknife Ar 107.01 356 PP **PP 04 03 17.9 -2.6**
comp=Z,1.9nm,1.1s,baz=5.3,slow=7.5,SNR=6.5
YKA Yellowknife Ar 107.01 356 PP **PP 04 03 17.9 -2.6**
DZM Mont Dzumac 111.75 110 ePP PP 04 03 37.2 -20
comp=Z,259nm,31.2s
DZM Mont Dzumac 111.75 110 ePS PS 04 13 31.4 +1.2
comp=Z,274nm,26.2s
DZM eSS SS 04 19 38.1 +4.3
comp=Z,290nm,28.9s
DZM eLR LR 04 36 28.2
comp=Z,1μm,24.4s
ULM Lac du Bonnet 115.11 341 PKP **PKPdf 04 03 20.6 +0.3**
comp=Z,1.3nm,0.5s,baz=34,slow=5.7,SNR=3.1
ULM PP **PP** **04 04 21.1 +2.2**
comp=Z,3.2nm,0.9s,baz=26,slow=4.1,SNR=3.8
ULM Lac du Bonnet 115.11 341 PKIKP **PKPdf 04 03 20.6 +0.3**
ULM 04 04 21.1
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM pmax pmax
comp=Z,3.0nm,0.9s
ULM Lac du Bonnet 115.11 341 PKP **PKPdf 04 03 20.6 +0.3**
ULM PP **PP** **04 04 21.1 +2.2**
ULM Lac du Bonnet 115.11 341 PP PP 04 04 21.1 +2.1
C20A Veseth Ranch, 120.60 348 ⇑P PKPdf 04 03 31.3 +0.3
baz=120
C20A ⇑P **PKPdf** **04 03 31.3 +0.3**
baz=120
NEW Newport 121.33 355 ePKIKP **PKPdf 04 03 32.6 +0.2**
NEW Newport 121.33 355 ePKPdf **PKPdf 04 03 32.6 +0.2**
NEW Newport 121.33 355 ePKIKP **PKPdf 04 03 32.6 +0.2**
SWMT Swartz Lake 121.77 353 ePKPdf **PKPdf 04 03 33.8 +0.4**
SWMT Swartz Lake 121.77 353 ePKIKP **PKPdf 04 03 33.8 +0.4**
D14A Greenough 122.13 352 ⇑P PKPdf 04 03 33.9 -0.1
baz=122
D14A ⇑P **PKPdf** **04 03 33.9 -0.1**
baz=122
H24A Dirks Ranch, A 122.61 344 ⇓P PKPdf 04 03 35.4 +0.3
baz=122
H24A ⇓P **PKPdf** **04 03 35.4 +0.3**
baz=122
FVM French Village 123.02 330 ePKIKP **PKPdf 04 03 36.8 +0.9**
FVM French Village 123.02 330 ePKPdf **PKPdf 04 03 36.8 +0.9**
FVM French Village 123.02 330 ePKIKP **PKPdf 04 03 36.8 +0.9**
RSSD Black Hills 123.05 344 ePKIKP **PKPdf 04 03 36.3 +0.2**
RSSD Black Hills 123.05 344 ePKPdf **PKPdf 04 03 36.3 +0.2**
RSSD Black Hills 123.05 344 ePKIKP **PKPdf 04 03 36.3 +0.2**
F13A Darby 123.50 353 ⇑P PKPdf 04 03 37.2 +0.4
baz=123
F13A ⇑P **PKPdf** **04 03 37.2 +0.4**
baz=123
DLMT Dillon 123.68 351 ePKPdf **PKPdf 04 03 37.5 +0.3**
DLMT Dillon 123.68 351 ePKIKP **PKPdf 04 03 37.5 +0.3**
H18A Shoshone NF, C 123.84 349 ⇓P PKPdf 04 03 37.1 -0.5
baz=124
H18A ⇓P **PKPdf** **04 03 37.1 -0.5**
baz=124
G15A Dillon 123.86 351 ⇑P PKPdf 04 03 37.5 0.0
baz=124
G15A ⇑P **PKPdf** **04 03 37.5 0.0**
baz=124
I22A 9 Mile Ranch, 123.89 346 ⇓P PKPdf 04 03 37.0 -0.6
baz=124
I22A ⇓P **PKPdf** **04 03 37.0 -0.6**
baz=124
I21A Big Trails, Te 124.16 346 ⇑P PKPdf 04 03 38.0 -0.1
baz=124
I21A ⇑P **PKPdf** **04 03 38.0 -0.1**
baz=124
I20A Worland 124.22 347 ⇓P PKPdf 04 03 38.1 -0.1
baz=124
I20A ⇓P **PKPdf** **04 03 38.1 -0.1**
baz=124
I19A Meeteetse 124.32 348 ⇑P PKPdf 04 03 38.8 +0.3
baz=124
I19A ⇑P **PKPdf** **04 03 38.8 +0.3**
baz=124
MOOW Moose Ponds 124.94 349 ePKPdf **PKPdf 04 03 40.2 +0.5**
MOOW Moose Ponds 124.94 349 ePKIKP **PKPdf 04 03 40.2 +0.5**
LOHW Long Hollow 125.05 349 ePKPdf **PKPdf 04 03 39.2 -0.7**
LOHW Long Hollow 125.05 349 ePKIKP **PKPdf 04 03 39.2 -0.7**
J19A Crowheart 125.07 348 ⇑P PKPdf 04 03 40.0 0.0
baz=125
J19A ⇑P **PKPdf** **04 03 40.0 0.0**
baz=125
SNOW Snow King Moun 125.22 349 ePKPdf **PKPdf 04 03 41.1 +0.8**
SNOW Snow King Moun 125.22 349 ePKIKP **PKPdf 04 03 41.1 +0.8**
TPAW Teton Pass 125.23 349 ePKPdf **PKPdf 04 03 39.8 -0.5**
TPAW Teton Pass 125.23 349 ePKIKP **PKPdf 04 03 39.8 -0.5**
K21A Alcova 125.27 346 ⇑P PKPdf 04 03 40.0 -0.3
baz=125
K21A ⇑P **PKPdf** **04 03 40.0 -0.3**
baz=125
RRI2 Red Ridge 125.44 350 ePKPdf **PKPdf 04 03 41.2 +0.4**
RRI2 Red Ridge 125.44 350 ePKIKP **PKPdf 04 03 41.2 +0.4**
K19A Absolon Red Bu 125.45 347 ⇓P PKPdf 04 03 39.7 -1.0
baz=125
K19A ⇓P **PKPdf** **04 03 39.7 -1.0**
baz=125
PD02 Pinedale Array 125.65 348 ePKPdf **PKPdf 04 03 41.0 -0.1**
PD02 Pinedale Array 125.65 348 ePKIKP **PKPdf 04 03 41.0 -0.1**
PD01 Pinedale Array 125.65 348 ePKPdf **PKPdf 04 03 41.2 +0.1**
PD01 Pinedale Array 125.65 348 ePKIKP **PKPdf 04 03 41.2 +0.1**
PDAR Pinedale Array 125.66 348 PKP **PKPdf 04 03 39.8 -1.3**
comp=Z,3.7nm,0.7s,baz=61,slow=2.9,SNR=17
PDAR Pinedale Array 125.66 348 PKP **PKPdf 04 03 39.8 -1.3**
PDAR Pinedale Array 125.66 348 PKIKP **PKPdf 04 03 39.8 -1.3**
HLID Hailey 125.70 352 ePKPdf **PKPdf 04 03 41.8 +0.7**
HLID e PKPdf **PKiKP** **04 03 42.9 +1.4**
HLID Hailey 125.70 352 ⇑P PKPdf 04 03 42.6 +1.5
baz=125
HLID ⇑P **PKPdf** **04 03 42.6 +1.5**
baz=125
HLID Hailey 125.70 352 ePKIKP **PKPdf 04 03 41.8 +0.7**
J14A Carey 125.81 351 ⇑P PKPdf 04 03 43.1 +1.8
baz=126
J14A ⇑P **PKPdf** **04 03 43.1 +1.8**
baz=126
M23A Laramie 125.97 344 ⇑P PKPdf 04 03 42.1 +0.3
baz=126
M23A ⇑P **PKPdf** **04 03 42.1 +0.3**
baz=126
K16A Soda Springs 125.98 350 ⇑P PKPdf 04 03 42.4 +0.7
baz=126
K16A ⇑P **PKPdf** **04 03 42.4 +0.7**
baz=126
MFID Camas Ranch 126.02 354 ePKPdf **PKPdf 04 03 42.0 +0.4**
MFID Camas Ranch 126.02 354 ⇓P PKPdf 04 03 42.1 +0.5
baz=126

MFID			⇓P	PKPdf	04 03 42.1	+0.5
	baz=126					
MFID	**Camas Ranch**	**126.02 354**	*e*PKIKP	**PKPdf**	**04 03 42.0**	**+0.4**
LPAZ	**La Paz**	**126.45 257**	*e*PKIKP	**PKPdf**	**04 03 43.5**	**-0.2**
LPAZ	**La Paz**	**126.45 257**	*e*PKPdf	**PKPdf**	**04 03 43.5**	**-0.2**
LPAZ	**La Paz**	**126.45 257**	*e*PKIKP	**PKPdf**	**04 03 43.5**	**-0.2**
K14A	**Jones Ranch, D**	**126.53 351**	⇑P	**PKPdf**	**04 03 43.7**	**+1.0**
	baz=126					
K14A			⇑P	**PKPdf**	**04 03 43.7**	**+1.0**
	baz=126					
P26A	**Davis Ranch, A**	**127.03 341**	⇑P	**PKPdf**	**04 03 43.9**	**+0.1**
	baz=127					
P26A			⇑P	**PKPdf**	**04 03 43.9**	**+0.1**
	baz=127					
LVC	**Limon Verde**	**127.03 250**	*e*PKPdf	**PKPdf**	**04 03 44.9**	**+0.6**
LVC	**Limon Verde**	**127.03 250**	*e*PKIKP	**PKPdf**	**04 03 44.9**	**+0.6**
M18A	**Lyman**	**127.05 348**	⇑P	**PKPdf**	**04 03 44.5**	**+0.7**
	baz=127					
M18A			⇑P	**PKPdf**	**04 03 44.5**	**+0.7**
	baz=127					
O23A	**Lake Granby, G**	**127.19 344**	⇑P	**PKPdf**	**04 03 44.4**	**+0.2**
	baz=127					
O23A			⇑P	**PKPdf**	**04 03 44.4**	**+0.2**
	baz=127					
N20A	**Spence Gulch,**	**127.21 346**	⇓P	**PKPdf**	**04 03 44.6**	**+0.5**
	baz=127					
N20A			⇓P	**PKPdf**	**04 03 44.6**	**+0.5**
	baz=127					
WVOR	**Wild Horse Val**	**127.25 356**	*e*PKIKP	**PKPdf**	**04 03 45.9**	**+1.9**
WVOR	**Wild Horse Val**	**127.25 356**	*e*PKPdf	**PKPdf**	**04 03 45.9**	**+1.9**
WVOR	**Wild Horse Val**	**127.25 356**	*e*PKIKP	**PKPdf**	**04 03 45.9**	**+1.9**
MIAR	**Mount Ida**	**127.29 329**	*e*PKIKP	**PKPdf**	**04 03 44.5**	**+0.3**
MIAR	**Mount Ida**	**127.29 329**	*e*PKPdf	**PKPdf**	**04 03 44.5**	**+0.3**
MIAR	**Mount Ida**	**127.29 329**	*e*PKIKP	**PKPdf**	**04 03 44.5**	**+0.3**
O22A	**Kremmling**	**127.41 344**	⇑P	**PKPdf**	**04 03 44.9**	**+0.2**
	baz=127					
O22A			⇑P	**PKPdf**	**04 03 44.9**	**+0.2**
	baz=127					
N17A	**Moffit Pass**	**127.67 348**	⇑P	**PKPdf**	**04 03 45.9**	**+0.8**
	baz=127					
N17A			⇑P	**PKPdf**	**04 03 45.9**	**+0.8**
	baz=127					
Q25A	**Bedland, Calha**	**127.90 341**	⇑P	**PKPdf**	**04 03 45.1**	**-0.4**
	baz=128					
Q25A			⇑P	**PKPdf**	**04 03 45.1**	**-0.4**
	baz=128					
P23A	**Jefferson**	**127.95 343**	⇓P	**PKPdf**	**04 03 45.9**	**+0.2**
	baz=128					
P23A			⇓P	**PKPdf**	**04 03 45.9**	**+0.2**
	baz=128					
P22A	**Eagle**	**128.00 344**	⇓P	**PKPdf**	**04 03 45.7**	**0.0**
	baz=128					
P22A			⇓P	**PKPdf**	**04 03 45.7**	**0.0**
	baz=128					
R26A	**Arlington**	**128.20 340**	⇑P	**PKPdf**	**04 03 46.9**	**+0.9**
	baz=128					
R26A			⇑P	**PKPdf**	**04 03 46.9**	**+0.9**
	baz=128					
P21A	**Newcastle**	**128.25 345**	⇓P	**PKPdf**	**04 03 46.6**	**+0.4**
	baz=128					
P21A			⇓P	**PKPdf**	**04 03 46.6**	**+0.4**
	baz=128					
DAU	**Daniels Canyon**	**128.26 349**	*e*PKIKP	**PKPdf**	**04 03 46.4**	**+0.1**
DAU	**Daniels Canyon**	**128.26 349**	*e*PKPdf	**PKPdf**	**04 03 46.4**	**+0.1**
DAU	**Daniels Canyon**	**128.26 349**	*e*PKIKP	**PKPdf**	**04 03 46.4**	**+0.1**
O17A	**Robinson Place**	**128.37 348**	⇓P	**PKPdf**	**04 03 46.8**	**+0.4**
	baz=128					
O17A			⇓P	**PKPdf**	**04 03 46.8**	**+0.4**
	baz=128					
P19A	**Cripple Cowboy**	**128.52 346**	⇑P	**PKPdf**	**04 03 46.9**	**+0.2**
	baz=128					
P19A			⇑P	**PKPdf**	**04 03 46.9**	**+0.2**
	baz=128					
ELK	**Elko**	**128.58 352**	*e*PKIKP	**PKPdf**	**04 03 46.6**	**-0.2**
ELK	**Elko**	**128.58 352**	*e*PKPdf	**PKPdf**	**04 03 46.6**	**-0.2**
ELK	**Elko**	**128.58 352**	*e*PKIKP	**PKPdf**	**04 03 46.6**	**-0.2**
DUG	**Dugway**	**128.76 350**	*e*PKIKP	**PKPdf**	**04 03 47.0**	**0.0**
DUG	**Dugway**	**128.76 350**	*e*PKPdf	**PKPdf**	**04 03 47.0**	**0.0**
DUG	**Dugway**	**128.76 350**	⇑P	**PKPdf**	**04 03 46.9**	**0.0**
	baz=128					
DUG			⇑P	**PKPdf**	**04 03 46.9**	**0.0**
	baz=128					
DUG	**Dugway**	**128.76 350**	*e*PKIKP	**PKPdf**	**04 03 47.0**	**0.0**
R24A	**Sanders Place,**	**128.79 342**	⇓P	**PKPdf**	**04 03 47.3**	**+0.1**
	baz=128					
R24A			⇓P	**PKPdf**	**04 03 47.3**	**+0.1**
	baz=128					
S26A	**Kim**	**128.82 340**	⇓P	**PKPdf**	**04 03 47.6**	**+0.4**
	baz=129					
S26A			⇓P	**PKPdf**	**04 03 47.6**	**+0.4**
	baz=129					
Q20A	**Ridgley Place,**	**129.00 345**	⇓P	**PKPdf**	**04 03 47.6**	**+0.1**
	baz=129					
Q20A			⇓P	**PKPdf**	**04 03 47.6**	**+0.1**
	baz=129					
Q19A	**Hogan Spring (**	**129.24 346**	⇓P	**PKPdf**	**04 03 48.1**	**+0.2**
	baz=129					
Q19A			⇓P	**PKPdf**	**04 03 48.1**	**+0.2**
	baz=129					
S24A	**Houchin Ranch,**	**129.37 342**	⇑P	**PKPdf**	**04 03 48.4**	**0.0**
	baz=129					
S24A			⇑P	**PKPdf**	**04 03 48.4**	**0.0**
	baz=129					
WMOK	**Wichita Mounta**	**129.56 334**	*e*PKIKP	**PKPdf**	**04 03 49.3**	**+0.8**
WMOK	**Wichita Mounta**	**129.56 334**	*e*PKPdf	**PKPdf**	**04 03 49.3**	**+0.8**
WMOK	**Wichita Mounta**	**129.56 334**	*e*PKIKP	**PKPdf**	**04 03 49.3**	**+0.8**
T25A	**Trinidad**	**129.57 341**	⇑P	**PKPdf**	**04 03 48.7**	**0.0**
	baz=129					
T25A			⇑P	**PKPdf**	**04 03 48.7**	**0.0**
	baz=129					
U26A	**Atchley Ranch,**	**130.03 340**	⇑P	**PKPdf**	**04 03 49.9**	**+0.3**
	baz=130					
U26A			⇑P	**PKPdf**	**04 03 49.9**	**+0.3**
	baz=130					
R17A	**Hanksville Air**	**130.07 347**	⇓P	**PKPdf**	**04 03 49.5**	**0.0**
	baz=130					
R17A			⇓P	**PKPdf**	**04 03 49.5**	**0.0**
	baz=130					
S20A	**Disappointment**	**130.08 345**	⇑P	**PKPdf**	**04 03 49.9**	**+0.2**
	baz=130					
S20A			⇑P	**PKPdf**	**04 03 49.9**	**+0.2**
	baz=130					
U25A	**Circle Dot Ran**	**130.25 340**	⇑P	**PKPdf**	**04 03 50.6**	**+0.6**
	baz=130					
U25A			⇑P	**PKPdf**	**04 03 50.6**	**+0.6**
	baz=130					
MSU	**Marysvale**	**130.28 349**	*e*PKIKP	**PKPdf**	**04 03 51.9**	**+1.8**
MSU	**Marysvale**	**130.28 349**	*e*PKPdf	**PKPdf**	**04 03 51.9**	**+1.8**
MSU	**Marysvale**	**130.28 349**	*e*PKIKP	**PKPdf**	**04 03 51.9**	**+1.8**
T22A	**Edith**	**130.45 343**	⇑P	**PKPdf**	**04 03 51.1**	**+0.7**
	baz=130					
T22A			⇑P	**PKPdf**	**04 03 51.1**	**+0.7**
	baz=130					
S17A	**Black Ridge (B**	**130.84 347**	⇑P	**PKPdf**	**04 03 50.0**	**-1.0**
	baz=131					
S17A			⇑P	**PKPdf**	**04 03 50.0**	**-1.0**
	baz=131					
W27A	**Bowe Ranch, En**	**130.98 338**	⇓P	**PKPdf**	**04 03 51.4**	**0.0**
	baz=131					
W27A			⇓P	**PKPdf**	**04 03 51.4**	**0.0**
	baz=131					
NVAR	**Mina Array Bea**	**131.20 355**	PKP	**PKPdf**	**04 03 53.5**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=24,slow=1.9,SNR=6.0					
NVAR	**Mina Array Bea**	**131.20 355**	PKP	**PKPdf**	**04 03 53.5**	**+1.7**
NVAR	**Mina Array Bea**	**131.20 355**	PKIKP	**PKPdf**	**04 03 53.5**	**+1.7**
U21A	**Nageezi**	**131.21 344**	⇓P	**PKPdf**	**04 03 51.3**	**-0.6**
	baz=131					
U21A			⇓P	**PKPdf**	**04 03 51.3**	**-0.6**
	baz=131					
HKT	**Hockley**	**132.10 328**	*e*PKIKP	**PKPdf**	**04 03 54.4**	**+1.1**
HKT	**Hockley**	**132.10 328**	*e*PKPdf	**PKPdf**	**04 03 54.4**	**+1.1**
HKT	**Hockley**	**132.10 328**	*e*PKIKP	**PKPdf**	**04 03 54.4**	**+1.1**
ANMO	**Albuquerque**	**132.24 342**	*e*PKIKP	**PKPdf**	**04 03 54.3**	**+0.5**
ANMO	**Albuquerque**	**132.24 342**	*e*PKPdf	**PKPdf**	**04 03 54.3**	**+0.5**
ANMO	**Albuquerque**	**132.24 342**	*e*PKIKP	**PKPdf**	**04 03 54.3**	**+0.5**
LAZ	**Ladron**	**132.95 342**	*e*PKPdf	**PKPdf**	**04 03 56.6**	**+1.4**
LAZ	**Ladron**	**132.95 342**	*e*PKIKP	**PKPdf**	**04 03 56.6**	**+1.4**
WUAZ	**Wupatki**	**133.00 347**	*e*PKPdf	**PKPdf**	**04 03 57.0**	**+1.8**
WUAZ	**Wupatki**	**133.00 347**	*e*PKIKP	**PKPdf**	**04 03 57.0**	**+1.8**
Y22A	**Socorro**	**133.33 342**	⇓P	**PKPdf**	**04 03 56.9**	**+1.0**
	baz=133					
Y22A			⇓P	**PKPdf**	**04 03 56.9**	**+1.0**
	baz=133					
Z24A	**Sheeppen Canyo**	**133.36 340**	⇑P	**PKPdf**	**04 03 57.0**	**+1.0**
	baz=133					
Z24A			⇑P	**PKPdf**	**04 03 57.0**	**+1.0**
	baz=133					
JCT	**Junction City**	**133.62 332**	*e*PKIKP	**PKPdf**	**04 03 56.9**	**+0.5**
JCT	**Junction City**	**133.62 332**	*e*PKPdf	**PKPdf**	**04 03 56.9**	**+0.5**
JCT	**Junction City**	**133.62 332**	⇑P	**PKPdf**	**04 03 56.8**	**+0.5**
	baz=133					
JCT			⇑P	**PKPdf**	**04 03 56.8**	**+0.5**
	baz=133					
JCT	**Junction City**	**133.62 332**	*e*PKIKP	**PKPdf**	**04 03 56.8**	**+0.5**
226A	**Malaga, Loving**	**134.05 338**	⇓P	**PKPdf**	**04 03 57.8**	**+0.6**
	baz=134					
226A			⇓P	**PKPdf**	**04 03 57.8**	**+0.6**
	baz=134					
328A	**Wristen Ranch,**	**134.15 336**	⇑P	**PKPdf**	**04 03 58.0**	**+0.7**
	baz=134					
328A			⇑P	**PKPdf**	**04 03 58.0**	**+0.7**
	baz=134					
OTAV	**Otavalo**	**134.48 281**	*e*PKPdf	**PKPdf**	**04 03 59.0**	**+0.1**
OTAV	**Otavalo**	**134.48 281**	*e*PKIKP	**PKPdf**	**04 03 59.0**	**+0.1**
Z20A	**Nine Sixteen R**	**134.58 343**	⇑P	**PKPdf**	**04 03 58.8**	**+0.5**
	baz=134					
Z20A			⇑P	**PKPdf**	**04 03 58.8**	**+0.5**
	baz=134					
428A	**Kincaid Ranch,**	**134.68 335**	⇑P	**PKPdf**	**04 03 59.0**	**+0.6**
	baz=134					
428A			⇑P	**PKPdf**	**04 03 59.0**	**+0.6**
	baz=134					
120A	**U Bar Ranch, L**	**135.12 343**	⇑P	**PKPdf**	**04 03 59.8**	**+0.5**
	baz=135					
120A			⇑P	**PKPdf**	**04 03 59.8**	**+0.5**
	baz=135					
426A	**McDonald Obser**	**135.27 337**	⇑P	**PKPdf**	**04 04 00.2**	**+0.5**
	baz=135					
426A			⇑P	**PKPdf**	**04 04 00.2**	**+0.5**
	baz=135					
TUC	**Tucson**	**135.93 345**	*e*PKIKP	**PKPdf**	**04 04 01.9**	**+1.2**
TUC	**Tucson**	**135.93 345**	*e*PKPdf	**PKPdf**	**04 04 01.9**	**+1.2**
114A	**Black Gap (USA**	**135.99 348**	⇓P	**PKPdf**	**04 04 01.2**	**+0.5**
	baz=136					
114A			⇓P	**PKPdf**	**04 04 01.2**	**+0.5**
	baz=136					
627A	**Terlingua Ranc**	**136.08 335**	⇓P	**PKPdf**	**04 04 01.0**	**-0.1**
	baz=136					
627A			⇓P	**PKPdf**	**04 04 01.0**	**-0.1**
	baz=136					
TXAR	**Lajitas Array**	**136.30 335**	PKhKP	PKPpre	04 03 50.9	
	comp=Z,0.2nm,0.6s,baz=56,slow=4.9,SNR=3.6					
TXAR			PKP	**PKPdf**	**04 04 01.0**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=60,slow=2.7,SNR=9.0					
TXAR	**Lajitas Array**	**136.30 335**	PKHKP	PKPpre	04 03 50.9	
TXAR					04 04 01.0	
TXAR	**Lajitas Array**	**136.30 335**	PKPpre	PKPpre	04 03 50.9	
TXAR			PKP	**PKPdf**	**04 04 01.0**	**-0.5**
TXAR	**Lajitas Array**	**136.30 335**	PKIKP	**PKPdf**	**04 04 01.0**	**-0.5**
TGUH	**Tegucigalpa,Un**	**137.04 304**	*e*PKPdf	**PKPdf**	**04 04 03.6**	**+0.6**
TBI	**Tubuai**	**151.65 120**	*e*SS	SS	04 27 31.3	-8.6
	comp=Z,322nm,28.2s					
TBI			*e*LR	LR	04 54 55.6	
	comp=Z,1μm,27.8s					
PPT2	**Papeete2**	**153.25 108**	*e*SS	SS	04 27 59.8	+1.5
	comp=Z,648nm,27.2s					
PPT2			*e*LR	LR	04 55 29.9	
	comp=Z,982nm,28.8s					
RKT	**Rikitea**	**162.95 139**	*e*LR	LR	05 00 05.5	
	comp=Z,1μm,30.8s					

*IDC **09** 03:49:44.3±1.6,34.03N×117.28W,h0km,mb4.2/7, mb1 4.4/11,mb1mx4.0/29,mbtmp4.2/11,ML4.2/4,MS3.7/5, Ms1 3.7/5,ms1mx3.3/37,Error ellipse: s-maj=27.6km s-min=13.5km az=48.0*

*BJI **09** 03:49:46.3,34.68N×118.16W,h9km,mB5.3/2,mb5.1/4, Ms5.2/2,Ms7 5.1/3*

*NEIC **09** 03:49:46.3,34.11N×117.30W,h14km,mb4.4/12, MW4.5(PAS),After PAS.*

NEIC Felt [IV] at Bloomington, Cedarpines Park, Colton, Fontana, Grand Terrace, Highland, Loma Linda, Rialto, Riverside and San Bernardino; [III] at Adelanto, Angelus Oaks, Apple Valley, Banning, Big Bear Lake, Calimesa, Cedar Glen, Claremont, Compton, Corona, Covina, Crestline, Glendale, Hemet, Hesperia, Homeland, Huntington Park, Idyllwild, Indian Wells, La Verne, Lake Arrowhead, Lake Elsinore, Los Angeles, Lynwood, Lytle Creek, March Air Base, Menifee, Mentone, Midway, Mira Loma, Moreno Valley, Mount Baldy, Murrieta, Norco, Nuevo, Ontario, Palm Desert, Palmdale, Perris, Phelan, Pomona, Rancho Cucamonga, Redlands, Rimforest, Running Springs, San Dimas, San Jacinto, Sun City, Twin Peaks, Upland, Victorville, Wildomar, Winchester and Yucaipa. Felt in much of Southern California from Santa Barbara to Desert Center and from Trona to Imperial Beach and Calexico. Also felt at Tijuana, Baja California.

ISC 09 03:49:45.8±0.5,34.04N±0.02×117.33W±0.01,h12km±3km, n359,σ1°66/377,mb4.3/15,MS4.0/5,154C-128D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BFSC	**Mount Baldy Ra**	**0.34**	**307**	⇑P		**Pg**	**03 49 52.4**	**-0.4**
	baz=0.3,SNR=1000							
BFSC				⇓S		**Sg**	**03 49 56.8**	**-0.7**
	baz=0.3							
BBRC	**Big Bear Solar**	**0.41**	**56**	⇓P		**Pg**	**03 49 53.2**	**-0.8**
	baz=0.4							
BBRC				⇓S		**Sg**	**03 49 58.4**	**-1.2**
	baz=0.4							
MURC	**Murrieta**	**0.45**	**166**	⇓P		**Pb**	**03 49 55.6**	**0.0**
	baz=0.5,SNR=1000							
MURC				⇓S		**Sb**	**03 50 02.6**	**+0.3**
	baz=0.5							
MWC	**Mount Wilson**	**0.63**	**287**	*e*Pg		**Pg**	**03 49 57.8**	**-0.5**
MWC				*e*Sg		**Sg**	**03 50 06.2**	**-0.4**
PASC	**Pasadena Art C**	**0.72**	**281**	*e*Pg		**Pg**	**03 49 59.3**	**-0.6**
PASC				*e*Sg		**Sg**	**03 50 08.1**	**-1.2**
PFO	**Pinyon Flat Ob**	**0.84**	**120**	*e*Pg		**Pg**	**03 50 01.9**	**-0.2**
PFO				*e*Sg		**Sg**	**03 50 13.0**	**-0.2**
PFO	**Pinyon Flat Ob**	**0.84**	**120**	⇓P		**Pg**	**03 50 01.8**	**-0.4**
	baz=0.9,SNR=1000							
PFO				⇓S		**Sg**	**03 50 13.0**	**-0.2**
	baz=0.9							
DECC	**Green Verdugo**	**0.86**	**285**	⇑P		**Pg**	**03 50 01.8**	**-0.6**
	baz=0.9,SNR=841							
DECC				⇓S		**Sg**	**03 50 13.6**	**0.0**
	baz=0.9							
FMP	**Fort Macarthur**	**0.86**	**248**	⇑P		**Pg**	**03 50 02.5**	**-0.1**
	baz=0.9,SNR=174							
FMP				⇓S		**Sb**	**03 50 14.4**	**+0.2**
	baz=0.9							
RRX	**Edison Barstow**	**0.89**	**18**	⇑P		**Pg**	**03 50 01.3**	**-1.7**
	baz=0.8							
RRX				⇑S		**Sg**	**03 50 12.2**	**-2.3**
	baz=0.8							
EDW2	**Edwards Air Fo**	**1.00**	**327**	⇓P		**Pg**	**03 50 03.3**	**-1.9**
	baz=1.0,SNR=1000							
EDW2				⇓S		**Sg**	**03 50 16.1**	**-2.2**
	baz=1.0							
CIS	**Catalina Islan**	**1.09**	**235**	⇓P		**Pg**	**03 50 06.0**	**-0.9**
	baz=1.2,SNR=1000							
CIS				⇑S		**Sn**	**03 50 22.2**	**+0.2**
	baz=1.2							
BELC	**Belle Mtn. Jos**	**1.11**	**91**	⇓P		**Pg**	**03 50 05.9**	**-1.3**
	baz=1.1,SNR=1000							
BELC				⇓S		**Sg**	**03 50 20.9**	**-0.7**
	baz=1.1							
HEC	**Hector,Ludlow**	**1.15**	**46**	P		**Pg**	**03 50 06.0**	**-1.9**
	baz=1.1,SNR=1000							
HEC				⇓S		**Sg**	**03 50 20.4**	**-2.4**
	baz=1.1							
109C	**Camp Elliot, M**	**1.16**	**171**	⇑P		**Pg**	**03 50 07.1**	**-1.0**
	baz=1.2,SNR=592							
109C				⇓S		**Sg**	**03 50 23.0**	**-0.2**
	baz=1.2							
OSI	**Osito Adit**	**1.29**	**297**	*e*Pn		**Pn**	**03 50 08.5**	**-1.2**
OSI				*e*Sn		**Sb**	**03 50 26.8**	**+0.2**
OSI	**Osito Adit**	**1.29**	**297**	P		**Pn**	**03 50 08.8**	**-0.9**
	baz=1.3,SNR=457							
OSI				⇑S		**Sb**	**03 50 26.0**	**-0.6**
	baz=1.3							
GSC	**Goldstone**	**1.33**	**19**	*e*Pn		**Pn**	**03 50 08.8**	**-1.6**
GSC				*e*Sn		**Sb**	**03 50 25.4**	**-2.5**
GSC	**Goldstone**	**1.33**	**19**	⇑P		**Pn**	**03 50 08.9**	**-1.4**
	baz=1.3,SNR=654							
GSC				⇑S		**Sb**	**03 50 25.5**	**-2.5**
	baz=1.3							
MONP	**Monument Peak**	**1.37**	**146**	⇑P		**Pn**	**03 50 11.2**	**+0.3**
	baz=1.4							
MONP				⇓S		**Sb**	**03 50 29.1**	**0.0**
	baz=1.4							
BLG	**Laguna Peak**	**1.44**	**273**	⇓P		**Pn**	**03 50 10.1**	**-1.6**
	baz=1.5,SNR=327							
BLG				⇑S		**Sn**	**03 50 30.2**	**-0.4**
	baz=1.5							
BAR	**Barrett**	**1.46**	**158**	*e*Pn		**Pn**	**03 50 12.0**	**0.0**
BAR				*e*Sn		**Sn**	**03 50 30.9**	**-0.1**
SCI	**San Clemente I**	**1.46**	**224**	⇓P		**Pn**	**03 50 11.5**	**-0.5**
	baz=1.5,SNR=105							
LRMC	**Laurel Mountai**	**1.47**	**348**	⇑P		**Pn**	**03 50 10.7**	**-1.5**
	baz=1.4,SNR=222							
LRMC				⇑S		**Sn**	**03 50 29.5**	**-1.9**
	baz=1.4							
GMRC	**Granite Mounta**	**1.57**	**61**	P		**Pn**	**03 50 11.9**	**-1.7**
	baz=1.5,SNR=1000							
GMRC				⇓Sb		**Sn**	**03 50 33.7**	**-0.2**
	baz=1.5							
BC3	**Big Chuckawall**	**1.61**	**103**	P		**Pn**	**03 50 13.1**	**-1.0**
	baz=1.6,SNR=721							
BC3				⇑S		**Sn**	**03 50 34.2**	**-0.5**
	baz=1.6							
ARVC	**Arvin**	**1.65**	**312**	P		**Pn**	**03 50 13.4**	**-1.1**
	baz=1.6,SNR=1000							
ARVC				⇑S		**Sn**	**03 50 34.8**	**-0.9**
	baz=1.6							
SWSC	**Sam W. Stewart**	**1.68**	**130**	⇑P		**Pn**	**03 50 13.8**	**-1.2**
	baz=1.7,SNR=1000							
SWSC				⇓Sb		**Sb**	**03 50 39.2**	**+1.4**
	baz=1.7							
DVTC	**Desert V Tower**	**1.71**	**143**	⇑P		**Pn**	**03 50 15.3**	**-0.3**
	baz=1.8,SNR=262							
DVTC				⇓Sb		**Sb**	**03 50 40.3**	**+1.5**
	baz=1.8							
IRM	**Iron Mountain**	**1.81**	**85**	⇑P		**Pn**	**03 50 15.4**	**-1.4**
	baz=1.8,SNR=531							
IRM				⇓Sb		**Sb**	**03 50 41.9**	**+0.3**
	baz=1.8							
TUQ	**Turquoise Moun**	**1.81**	**39**	P		**Pn**	**03 50 15.4**	**-1.6**
	baz=1.7,SNR=552							
TUQ				⇑Sb		**Sn**	**03 50 40.1**	**+0.1**
	baz=1.7							
ISA	**Isabella**	**1.88**	**330**	*e*Pn		**Pn**	**03 50 16.3**	**-1.5**
ISA				*e*Pg		**Pb**	**03 50 19.4**	**-0.6**
ISA				*e*Sn		**Sn**	**03 50 40.2**	**-1.2**
ISA	**Isabella**	**1.88**	**330**	P		**Pn**	**03 50 16.4**	**-1.3**
	baz=1.8,SNR=1000							
ISA				⇑Sb		**Sn**	**03 50 42.8**	**+1.4**
	baz=1.8							
BSC	**Santa Cruz Isl**	**1.91**	**269**	⇓P		**Pn**	**03 50 16.6**	**-1.6**
	baz=1.9,SNR=69							
BSC				⇑Sb		**Sg**	**03 50 46.1**	**-1.3**
	baz=1.9							
SBC	**Santa Barbara**	**2.02**	**282**	⇑P		**Pn**	**03 50 18.9**	**-0.7**
	baz=2.0,SNR=25							
MPMC	**Manual Prospec**	**2.02**	**356**	P		**Pn**	**03 50 18.4**	**-1.5**
	baz=2.0,SNR=874							
MPMC				⇑Sb		**Sn**	**03 50 47.1**	**+1.9**
	baz=2.0							
SHOC	**Shoshone**	**2.05**	**25**	⇑P		**Pn**	**03 50 18.7**	**-1.4**
	baz=2.0,SNR=28							
SHOC				⇑Sb		**Sb**	**03 50 47.7**	**-0.7**
	baz=2.0							
LDFC	**Landfair**	**2.11**	**60**	*e*Pn		**Pn**	**03 50 19.3**	**-1.7**
LDFC				*e*Pg		**Pb**	**03 50 23.4**	**-0.6**
LDFC				*e*Sg		**Sb**	**03 50 49.7**	**-0.5**
PKM	**Peak Mountain**	**2.23**	**293**	⇑P		**Pn**	**03 50 22.0**	**-0.7**
	baz=2.2							
VES	**Vestal, Richgr**	**2.31**	**322**	⇓P		**Pn**	**03 50 22.6**	**-1.0**
	baz=2.3,SNR=771							
GLA	**Glamis**	**2.31**	**114**	*e*Pn		**Pn**	**03 50 22.5**	**-1.2**
GLA				*e*Pg		**Pb**	**03 50 28.8**	**+1.4**
GLA				*e*Sg		**Sb**	**03 50 58.3**	**+2.4**
GLA	**Glamis**	**2.31**	**114**	⇓P		**Pn**	**03 50 22.5**	**-1.2**
	baz=2.3,SNR=73							
GLA				⇓Sb		**Sb**	**03 50 57.6**	**+1.7**
	baz=2.3							
Y12C	**Blythe**	**2.35**	**96**	⇓P		**Pn**	**03 50 22.7**	**-1.5**
	baz=2.3,SNR=75							
Y12C				⇑Sb		**Sb**	**03 50 58.7**	**+1.6**
	baz=2.3							
NEE2	**Needles Airpor**	**2.36**	**71**	⇑P		**Pn**	**03 50 22.5**	**-1.7**
	baz=2.3,SNR=29							
NEE2				⇑Sb		**Sb**	**03 50 57.6**	**+0.3**
	baz=2.3							
FURC	**Furnace Creek,**	**2.46**	**9**	⇓P		**Pn**	**03 50 24.4**	**-1.3**
	baz=2.4,SNR=62							
CWC	**Cottonwood Cre**	**2.48**	**346**	⇑P		**Pn**	**03 50 25.1**	**-0.9**
	baz=2.4,SNR=18							
CWC				⇓Sb		**Sb**	**03 51 00.7**	**-0.1**
	baz=2.4							
SMMC	**Simmler**	**2.54**	**301**	⇑P		**Pn**	**03 50 26.0**	**-0.9**
	baz=2.5,SNR=182							
SMMC				⇑S		**Sn**	**03 50 57.5**	**-0.2**
	baz=2.5							
PDMCI	**Parker Dam,Lak**	**2.66**	**83**	⇑P		**Pn**	**03 50 27.1**	**-1.3**
	baz=2.6,SNR=20							
RCTC	**Rector, Farmer**	**2.76**	**326**	⇑P		**Pn**	**03 50 28.8**	**-0.9**
	baz=2.7,SNR=32							
PTRM	**Twissleman Ran**	**2.87**	**305**	*e*Pn		**Pn**	**03 50 30.3**	**-1.1**
GRAC	**Grapevine Rang**	**2.96**	**359**	⇑P		**Pn**	**03 50 32.3**	**-0.3**
	baz=2.9,SNR=150							
GRAC				⇑S		**Sn**	**03 51 06.3**	**-1.8**
	baz=2.9							
W13A	**Hualapai Mount**	**3.03**	**69**	⇑P		**Pn**	**03 50 32.7**	**-1.1**
	baz=

baz=5.4
W17A Winslow 5.56 77 ⇑P Pn 03 51 08.6 +0.1
baz=5.5
V17A Tonalea, Kykot 5.60 72 ⇑P Pn 03 51 09.8 +0.7
baz=5.6
WCN Washoe City 5.61 340 *e*Pn Pn 03 51 10.5 +1.4
WCN *e*Pg Pb 03 51 28.5 +4.8
WCN *e*Sg Sb 03 52 37.4 +6.5
WCN Washoe City 5.61 340 ⇓P Pn 03 51 10.4 +1.3
baz=5.6
TUC Tucson 5.75 106 *e*Pn Pn 03 51 09.2 -1.9
TUC *e*Pg Pg 03 51 34.5 -1.5
TUC *e*Sg Sg 03 52 44.9 -5.6
Z17A San Carlos Hig 5.76 95 ⇓P Pn 03 51 10.6 -0.6
baz=5.7,SNR=11
R15A Junction 5.84 43 ⇑P Pn 03 51 13.2 +0.9
baz=5.8
S16A Weppner Ranch, 5.93 50 ⇑P Pn 03 51 14.4 +0.8
baz=5.9
U17A Shonto 6.02 63 ⇓P Pn 03 51 15.6 +0.7
baz=6.0
Y18A Canyon Day Jun 6.07 90 ⇑P Pn 03 51 15.5 0.0
baz=6.0,SNR=32
MCCM Marconi Confer 6.08 314 *e*Pn Pn 03 51 14.8 -0.6
T17A Navajo Res., N 6.09 59 ⇓P Pn 03 51 16.2 +0.5
baz=6.0
MSU Marysvale 6.11 41 *e*Pn Pn 03 51 17.0 +1.0
MSU *e*Pg Pb 03 51 36.9 +4.7
MSU *e*Sg Sg 03 52 54.3 -7.4
X18A Snowflake 6.13 83 ⇓P Pn 03 51 17.0 +0.7
baz=6.1
Z18A Geronimo 6.16 97 ⇑P Pn 03 51 16.3 -0.4
baz=6.1,SNR=19
OHCM Honcut 6.25 329 *e*Pn Pn 03 51 18.6 +0.8
R16A Teasdale 6.35 46 ⇓P Pn 03 51 20.2 +0.8
baz=6.3
W18A Petrified Fore 6.36 78 ⇓P Pn 03 51 20.2 +0.8
baz=6.3
BMN Battle Mountai 6.38 1 *e*Pg Pg 03 51 44.5 -3.5
BMN *e*Sg Sb 03 53 02.1 +8.8
S17A Black Ridge (B 6.40 54 ⇑P Pn 03 51 20.9 +0.8
baz=6.3
U18A Rough Rock, Ch 6.55 67 ⇓P Pn 03 51 23.1 +1.0
baz=6.5
X19A St. Johns 6.67 84 ⇑P Pn 03 51 24.4 +0.6
baz=6.6
318A Bisbee 6.70 111 ⇑P Pn 03 51 23.5 -0.7
baz=6.7,SNR=25
Z19A T-Link Ranch, 6.76 94 ⇓P Pn 03 51 25.6 +0.6
baz=6.7
HOPS Hopland 6.77 319 *e*Pn Pn 03 51 24.0 -0.9
T18A Mexican Hat 6.82 61 ⇑P Pn 03 51 26.2 +0.5
baz=6.8
119A Ashpeak Ranch, 6.83 98 ⇓P Pn 03 51 25.5 -0.5
baz=6.8,SNR=21
P15A Leamington 6.85 35 ⇓P Pn 03 51 25.5 -0.7
baz=6.8
ELK Elko 6.90 13 *e*Pn Pn 03 51 27.9 +0.9
ELK *e*Pg Pg 03 51 53.4 -4.5
ELK *e*Sg Sb 03 53 16.9 +8.7
R17A Hanksville Air 6.91 49 ⇓P Pn 03 51 28.0 +1.1
baz=6.8
Q16A Castle Valley 6.95 44 ⇑P Pn 03 51 29.3 +1.7
baz=6.9
S18A Hurst Farm, Bl 6.98 56 ⇓P Pn 03 51 27.9 -0.2
baz=6.9
U19A Dine' College, 7.02 69 ⇑P Pn 03 51 28.2 -0.4
baz=7.0
219A White Tail Can 7.08 104 ⇑P Pn 03 51 28.3 -1.0
baz=7.1,SNR=8.3
DUG Dugway 7.13 29 *e*Pn Pn 03 51 30.8 +0.8
DUG *e*Pg Pb 03 51 55.2 +5.7
DUG *e*Sg **Sg 03 53 29.1 -5.5**
DUG Dugway 7.13 29 ⇓P Pn 03 51 30.0 +0.1
baz=7.1
P16A Fountain Green 7.18 38 ⇑P Pn 03 51 32.2 +1.4
baz=7.1
TMUT Trail Mountain 7.19 41 *e*Pn Pn 03 51 32.1 +1.0
TMUT *e*Pg Pb 03 51 56.2 +5.4
319A Douglas 7.28 109 ⇓P Pn 03 51 31.8 -0.3
baz=7.3,SNR=7.2
X20A Quemado 7.33 84 ⇑P Pn 03 51 34.2 +1.3
baz=7.3
T19A Beclabito 7.33 65 ⇓P Pn 03 51 32.9 +0.1
baz=7.3
O15A The Old Anders 7.34 30 ⇑P Pn 03 51 34.3 +1.3
baz=7.3
Z20A Nine Sixteen R 7.35 95 ⇑P Pn 03 51 32.9 -0.2
baz=7.3
W20A Ramah 7.36 79 ⇓P Pn 03 51 34.5 +1.1
baz=7.3
R18A Canyonlands Na 7.41 52 ⇓P Pn 03 51 34.4 +0.4
baz=7.3
120A U Bar Ranch, L 7.43 99 ⇑P Pn 03 51 34.2 0.0
baz=7.4
Y20A Horse Springs, 7.44 88 ⇓P Pn 03 51 35.6 +1.2
baz=7.4
SRU San Rafael 7.46 45 *e*Pn Pn 03 51 37.0 +2.5
SRU *e*Lg Lg 03 51 60.0
V20A Brimhall 7.49 74 ⇑P Pn 03 51 35.4 +0.4
baz=7.4
MPU Maple Canyon 7.51 36 *e*Pn Pn 03 51 35.8 +0.6
MPU *e*Lg Lg 03 53 38.1
KCPM Cahto Peak 7.54 320 *e*Pn Pn 03 51 35.1 -0.5
P17A Butcher Ranch, 7.58 42 ⇓P Pn 03 51 34.9 -1.3
baz=7.5
S19A Harvey Farm, M 7.61 59 ⇓P Pn 03 51 37.4 +0.7
baz=7.5
Q18A Rafter H Ranch 7.69 47 ⇓P Pn 03 51 37.2 -0.4
baz=7.6
220A Playas Peak, P 7.70 104 ⇑P Pn 03 51 37.3 -0.5
baz=7.7,SNR=16
O16A Springville 7.72 35 ⇑P Pn 03 51 41.2 +3.0
baz=7.7
WDC Whiskeytown Da 7.74 329 *e*Pn Pn 03 51 36.9 -1.3
18nm,0.9s
R19A Curley Farm, L 7.78 55 ⇑P Pn 03 51 39.8 +0.7
baz=7.7
N15A Stansbury Isla 7.84 28 ⇑P Pn 03 51 41.9 +2.2
baz=7.8
MVCO Mesa Verde 7.86 64 *e*Pn Pn 03 51 41.2 +1.1
MVCO *e*Lg Lg 03 53 55.9
MVCO Mesa Verde 7.86 64 ⇑P Pn 03 51 41.4 +1.3
baz=7.8
320A Kipp Ranch, An 7.89 108 ⇓P Pn 03 51 40.7 +0.2
baz=7.9
X21A Alamocita Cree 7.91 84 ⇑P Pn 03 51 42.3 +1.5
baz=7.9
DAU Daniels Canyon 8.00 36 *e*Pn Pn 03 51 45.6 +3.6
Y21A Point of Rocks 8.02 87 ⇑P Pn 03 51 43.8 +1.5
baz=8.0
JLU Jordanelle 8.05 34 *e*Pn Pn 03 51 46.4 +3.6
W21A San Fidel 8.06 80 ⇓P Pn 03 51 44.4 +1.6
baz=8.0
PV04 Paradox Valley 8.08 55 *e*Pn Pn 03 51 44.6 +1.5
PV04 *e*Lg Lg 03 53 56.3
Z21A St. Cloud Mine 8.08 92 ⇓P Pn 03 51 43.6 +0.4
baz=8.1
O17A Robinson Place 8.09 39 ⇑P Pn 03 51 46.6 +3.3
baz=8.0
121A Cookes Peak, D 8.13 98 ⇑P Pn 03 51 44.2 +0.4
baz=8.1
Q19A Hogan Spring (8.14 51 ⇓P Pn 03 51 44.5 +0.6
baz=8.1
V21A Milan 8.15 75 ⇓P Pn 03 51 44.8 +0.6
baz=8.1
PV01 Paradox Valley 8.18 58 *e*Pn Pn 03 51 45.5 +0.9
9µm,0.6s
PV01 *e*Lg Lg 03 53 58.0
MOD Modoc 8.20 344 *e*Pn Pn 03 51 47.6 +3.0
25nm,0.6s
MOD *e*Lg Lg 03 54 07.9
S20A Disappointment 8.20 60 ⇓P Pn 03 51 46.0 +1.2
baz=8.1
U21A Nageezi 8.27 70 ⇓P Pn 03 51 47.3 +1.6
baz=8.2
221A Mesquite Ranch 8.27 102 ⇓P Pn 03 51 46.5 +0.8
baz=8.3
N16A Rees Ranch, Co 8.29 33 ⇑P Pn 03 51 47.2 +1.3
baz=8.2
R20A Redvale 8.34 58 ⇑P Pn 03 51 48.2 +1.4
baz=8.3
M15A Larsen Ranch, 8.36 26 ⇓P Pn 03 51 48.8 +2.0
baz=8.3
LAZ Ladron 8.45 85 *e*Pn Pn 03 51 49.0 +0.8
25nm,1.1s
LAZ *e*Lg Lg 03 54 10.0
T21A Navajo Lake 8.51 67 ⇑P Pn 03 51 51.2 +2.2
baz=8.5
HVU Hansel Valley 8.53 24 *e*Pn Pn 03 51 52.2 +3.1
HVU *e* 03 52 23.9
HVU *e*Lg Lg 03 54 09.6
O18A Roosevelt 8.53 41 ⇓P Pn 03 51 52.7 +3.5
baz=8.5
S21A Coal Bank Pass 8.55 62 ⇑P Pn 03 51 51.0 +1.3
baz=8.5
X22A Bernardo 8.55 84 ⇓P Pn 03 51 51.3 +1.7
baz=8.5
LENM Lemitar 8.59 86 *e*Pn Pn 03 51 55.0 +4.9
LENM *e*Lg Lg 03 54 16.1
Y22A Socorro 8.61 88 ⇑P Pn 03 51 51.5 +1.1
baz=8.6
N17A Moffit Pass 8.61 35 ⇓P Pn 03 51 54.0 +3.5
baz=8.5
Z22A Elephant Butte 8.68 92 ⇓P Pn 03 51 52.2 +0.9
baz=8.6
W22A Albuquerque 8.69 80 ⇓P Pn 03 51 53.1 +1.6
baz=8.6
122A Conniff Cattle 8.74 96 ⇑P Pn 03 51 53.4 +1.3
baz=8.7
V22A San Miguel Ran 8.76 75 ⇓P Pn 03 51 54.9 +2.5
baz=8.7
Q20A Ridgley Place, 8.77 53 ⇑P Pn 03 51 53.4 +0.9
baz=8.7
222A Williams Famil 8.80 100 ⇑P Pn 03 51 53.2 +0.3
baz=8.8
L15A Malad City 8.86 25 ⇑P Pn 03 51 55.7 +1.9
baz=8.8
LPM Los Pinos Moun 8.87 85 *e*Pn Pn 03 51 55.7 +1.7
LPM *e*Lg Lg 03 54 27.4
BNM Barren Site 8.88 86 *e*Pn Pn 03 51 54.9 +0.8
23nm,0.7s
BNM *e*Lg Lg 03 54 24.6
U22A Llaves 8.88 72 ⇓P Pn 03 51 57.4 +3.2
baz=8.8
T22A Edith 9.00 68 ⇑P Pn 03 51 57.7 +1.9
baz=8.9
P20A De Beque 9.01 50 ⇓P Pn 03 51 56.9 +1.1
baz=8.9
R21A Cimarron 9.01 59 ⇑P Pn 03 51 57.5 +1.7
baz=8.9
ANMO Albuquerque 9.02 81 Pn Pn 03 51 57.4 +1.4
0.5nm,0.3s,baz=272,slow=10,SNR=7.1
ANMO Lg Lg 03 54 25.1
0.5nm,0.3s,baz=173,slow=23,SNR=8.6
ANMO LR LR 03 55 58.5
comp=Z,231nm,18.3s,baz=270,slow=42
ANMO Albuquerque 9.02 81 *e*Pn Pn 03 51 57.0 +1.0
30nm,0.8s
ANMO *e*Lg Lg 03 54 21.6
ANMO Lg Lg 03 54 25.1
O19A Miners Draw (B 9.05 44 ⇑P Pn 03 51 59.1 +2.7
baz=9.0
K14A Jones Ranch, D 9.10 20 ⇑P Pn 03 51 58.6 +1.6
baz=9.0
M17A Sculls Gap (B 9.11 33 ⇑P Pn 03 52 00.0 +2.9
baz=9.0
Q21A Lamborn Mesa, 9.20 56 ⇑P Pn 03 51 59.6 +1.1
baz=9.1
N18A Larsen Ranch, 9.22 39 ⇓P Pn 03 52 02.4 +3.7
baz=9.1
L16A Fish Haven 9.22 29 ⇑P Pn 03 52 02.1 +3.3
baz=9.2
W23A Werner Place, 9.29 80 ⇓P Pn 03 52 01.3 +1.7
baz=9.2
Z23A Rita Site, Whi 9.29 92 ⇑P Pn 03 52 01.1 +1.5
baz=9.2
S22A 4UR Ranch, Cre 9.29 64 ⇓P Pn 03 52 01.3 +1.5
baz=9.2
V23A Ortiz Mt. (NFS 9.31 76 ⇑P Pn 03 52 02.3 +2.2
baz=9.3
M18A Lyman 9.35 36 ⇑P Pn 03 52 04.1 +3.6
baz=9.3
Y23A Lovelace Mesa, 9.36 87 ⇑P Pn 03 52 02.1 +1.4
baz=9.3
U23A El Rito 9.40 73 ⇓P Pn 03 52 03.4 +2.2
baz=9.3
K15A Arbon 9.42 22 ⇓P Pn 03 52 04.7 +3.3
baz=9.4
N19A John Jarvie Ra 9.42 41 ⇑P Pn 03 52 04.1 +2.6
baz=9.4
MFID Camas Ranch 9.44 7 *e*Pn Pn 03 52 05.5 +3.9
8.5nm,0.8s
MFID *e*Lg Lg 03 54 37.8
MFID Camas Ranch 9.44 7 ⇓P Pn 03 52 04.7 +3.1
baz=9.4
O20A White River Ci 9.47 47 ⇓P Pn 03 52 04.2 +2.0
baz=9.4
R22A Saguache, Gunn 9.52 61 ⇑P Pn 03 52 04.6 +1.6
baz=9.5
L17A Cokeville 9.52 30 ⇓P Pn 03 52 05.6 +2.7
baz=9.5
P21A Newcastle 9.63 52 ⇓P Pn 03 52 06.8 +2.4
baz=9.6
J13A Cove Ranch, Pi 9.67 14 ⇓P Pn 03 52 07.7 +2.9
baz=9.6
Q22A Crested Butte, 9.68 57 ⇓P Pn 03 52 06.8 +1.7
baz=9.6
T23A Casias Ranch, 9.68 69 ⇑P Pn 03 52 07.8 +2.7
baz=9.6
L18A Fontenelle, Gr 9.75 34 ⇑P Pn 03 52 08.4 +2.4
baz=9.7
SMCO Snowmass 9.78 55 *e*Pn Pn 03 52 07.4 +0.8
25nm,0.8s
SMCO *e*Lg Lg 03 54 48.0
HLID Hailey 9.78 13 *e*Pn Pn 03 52 08.8 +2.4
18nm,0.7s
HLID *e*Lg Lg 03 54 48.1
HLID Hailey 9.78 13 ⇑P Pn 03 52 08.7 +2.3
baz=9.7
K16A Soda Springs 9.87 25 ⇑P Pn 03 52 10.6 +3.1
baz=9.8
Y24A Capitan 9.88 87 ⇑P Pn 03 52 08.7 +0.9
baz=9.8
I12A Atlanta 9.89 9 ⇑P Pn 03 52 10.9 +3.0
baz=9.8
W24A Lazy 6 Ranch, 9.89 80 ⇑P Pn 03 52 09.7 +1.7
baz=9.8
N20A Spence Gulch, 9.90 44 ⇑P Pn 03 52 10.6 +2.5
baz=9.8
Z24A Sheppen Canyo 9.99 91 ⇑P Pn 03 52 09.9 +0.5
baz=10.0
O21A Pagoda 10.00 49 ⇑P Pn 03 52 11.3 +1.9
baz=9.9
K17A Gardner Place, 10.05 28 ⇓P Pn 03 52 12.7 +2.6
baz=10.0
V24A Rampart Ranch, 10.05 77 ⇑P Pn 03 52 12.3 +2.2
baz=10.0
224A Cornudas Mount 10.10 98 ⇓P Pn 03 52 10.9 +0.1
baz=10
P22A Eagle 10.12 54 ⇓P Pn 03 52 12.2 +1.1
baz=10
I13A Wildhorse Cree 10.18 13 ⇑P Pn 03 52 14.9 +3.1
baz=10
R23A Moffat 10.19 63 ⇑P Pn 03 52 14.2 +2.2
baz=10
L19A Farson 10.21 36 ⇑P Pn 03 52 15.6 +3.3
baz=10
324A Moseley Ranch, 10.31 101 ⇓P Pn 03 52 13.6 0.0
baz=10
I14A Mackay 10.33 16 ⇑P Pn 03 52 17.7 +3.8
baz=10
M20A Sweetwater, Wa 10.38 42 ⇑P Pn 03 52 18.4 +3.8
baz=10
T24A Torres, Weston 10.45 70 ⇓P Pn 03 52 18.5 +2.8
baz=10
S24A Houchin Ranch, 10.47 66 ⇓P Pn 03 52 18.3 +2.3
baz=10
Y25A Mesa, Roswell 10.49 87 ⇓P Pn 03 52 18.6 +2.4
baz=10
Z25A Roswell 10.54 91 ⇓P Pn 03 52 19.4 +2.6
baz=10
O22A Kremmling 10.56 51 ⇑P Pn 03 52 19.0 +1.9
baz=10
V25A Rancho No Teng 10.59 77 ⇓P Pn 03 52 21.6 +4.1
baz=10
PD01 Pinedale Array 10.63 33 *e*Pn Pn 03 52 20.4 +2.3
PDAR Pinedale Array 10.63 33 Pn Pn 03 52 20.6 +2.5
0.4nm,0.3s,baz=203,slow=11,SNR=37
PDAR Lg Lg 03 55 27.0
0.2nm,0.3s,baz=222,slow=46,SNR=4.3
PDAR Pinedale Array 10.63 33 Pn Pn 03 52 20.6 +2.5
PDAR Lg Lg 03 55 27.0
PD02 Pinedale Array 10.64 33 *e*Pn Pn 03 52 20.5 +2.3
J17A Brown Place, J 10.65 27 ⇑P Pn 03 52 20.3 +2.0
baz=11
P23A Jefferson 10.65 57 ⇑P Pn 03 52 20.4 +2.0
baz=11
L20A Wamsutter 10.65 39 ⇑P Pn 03 52 22.5 +4.1
baz=11
225A Deer Hill, Car 10.67 97 ⇑P Pn 03 52 20.1 +1.5
baz=11
TPAW Teton Pass 10.67 26 *e*Pn Pn 03 52 22.9 +4.3
18nm,1.0s
W25A X Bar L Ranch, 10.67 80 ⇑P Pn 03 52 23.3 +4.7
baz=11
H12A Diamond D Ranc 10.67 10 ⇑P Pn 03 52 22.8 +4.2
baz=11
DCID1 Drake Creek 10.68 25 *e*Pn Pn 03 52 23.1 +4.4
26nm,1.0s
125A Gardner Draw, 10.69 94 ⇓P Pn 03 52 20.9 +2.1
baz=11
SNOW Snow King Moun 10.72 27 *e*Pn Pn 03 52 22.6 +3.3
29nm,1.2s
R24A Sanders Place, 10.73 64 ⇓P Pn 03 52 20.4 +0.9
baz=11
325A Bean Ranch, Si 10.74 101 ⇓P Pn 03 52 20.2 +0.6
baz=11
H13A Challis 10.78 12 ⇓P Pn 03 52 23.1 +3.0
baz=11
I16A Newdale 10.82 23 ⇓P Pn 03 52 22.9 +2.2
baz=11
U25A Circle Dot Ran 10.83 74 ⇓P Pn 03 52 21.4 +0.6
baz=11
LOHW Long Hollow 10.90 27 *e*Pn Pn 03 52 25.2 +3.4
12nm,0.8s
425A Indio Mountain 10.92 104 ⇓P Pn 03 52 23.7 +1.7
baz=11
T25A Trinidad 10.96 70 ⇓P Pn 03 52 23.3 +0.7
baz=11
MOOW Moose Ponds 10.97 26 *e*Pn Pn 03 52 26.2 +3.5
8.1nm,1.0s
O23A Lake Granby, G 10.99 53 ⇓P Pn 03 52 24.6 +1.4
baz=11
H14A Leadore 11.00 15 ⇓P Pn 03 52 26.5 +3.4
baz=11
K19A Absolon Red Bu 11.01 35 ⇑P Pn 03 52 25.0 +1.9
baz=11
GDL2 Guadalupe Moun 11.03 96 *e*Pn Pn 03 52 25.7 +2.3
21nm,0.7s
S25A Robets Cordova 11.07 67 ⇓P Pn 03 52 25.4 +1.3
baz=11
L21A Rawlins 11.15 42 ⇑P Pn 03 52 27.7 +2.5
baz=11
Z26A Caprock 11.15 90 ⇓P Pn 03 52 28.0 +2.9
baz=11
X26A CR and CF Fran 11.20 84 ⇑P Pn 03 52 28.2 +2.5
baz=11
126A Clayton Basin, 11.22 93 ⇓P Pn 03 52 28.3 +2.2
baz=11
M22A Cedar Creek Ra 11.23 46 ⇓P Pn 03 52 27.7 +1.3
baz=11
J19A Crowheart 11.25 33 ⇓P Pn 03 52 29.0 +2.5
baz=11
226A Malaga, Loving 11.27 96 ⇑P Pn 03 52 29.5 +2.7
baz=11
CPRX Cap Rock 11.28 91 *e*Pn Pn 03 52 33.1 +6.2
12nm,0.6s
I18A Diamond G Ranc 11.28 29 ⇑P Pn 03 52 28.8 +1.8
baz=11
G13A Cobalt 11.30 11 ⇑P Pn 03 52 30.4 +3.3
baz=11
U26A Atchley Ranch, 11.36 74 ⇓P Pn 03 52 31.1 +3.0
baz=11
CLNB Carlsbad 11.41 95 *e*Pn Pn 03 52 33.8 +5.1
3.8nm,0.7s
326A Caldwell Ranch 11.57 100 ⇑P Pn 03 52 32.8 +1.9
baz=12
H17A Grant Village 11.59 25 ⇓P Pn 03 52 33.4 +2.1
baz=12
K21A Alcova 11.67 40 ⇓P Pn 03 52 34.2 +2.0
baz=12
L22A Ellis Ranch, M 11.72 44 ⇑P Pn 03 52 33.6 +0.6
baz=12
G15A Dillon 11.72 17 ⇑P Pn 03 52 35.7 +2.7
baz=12
426A McDonald Obser 11.74 103 ⇑P Pn 03 52 35.0 +1.7
baz=12
127A Arkansas Junct 11.76 93 ⇓P Pn 03 52 38.7 +5.2
baz=12
Y27A Causey 11.77 87 ⇑P Pn 03 52 36.3 +2.8
baz=12
J20A Shoshoni 11.77 35 ⇑P Pn 03 52 36.3 +2.8
baz=12
X27A F and S Farms, 11.78 83 ⇑P Pn 03 52 38.8 +5.1
baz=12
Z27A Tatum 11.78 90 ⇑P Pn 03 52 38.1 +4.3
baz=12
M23A Laramie 11.80 48 ⇑P Pn 03 52 36.0 +1.9
baz=12
S26A Kim 11.80 68 ⇑P Pn 03 52 39.1 +5.1
baz=12
W27A Bowe Ranch, En 11.81 81 ⇑P Pn 03 52 38.9 +4.7
baz=12
F12A Elk City 11.81 7 ⇑P Pn 03 52 39.8 +5.7
baz=12
DLMT Dillon 11.88 16 *e*Pn Pn 03 52 40.6 +5.5
6.6nm,0.8s
526A Mary Lane Ranc 11.91 106 ⇑P Pn 03 52 37.8 +2.3
baz=12
G16A Moss Hill, Enn 11.96 19 ⇓P Pn 03 52 38.6 +2.4
baz=12
F13A Darby 11.96 10 ⇑P Pn 03 52 39.8 +3.6
baz=12
K22A Casper 12.07 41 ⇑P Pn 03 52 39.7 +2.0
baz=12
J21A Lysite 12.07 37 ⇑P Pn 03 52 40.4 +2.6
baz=12
626A Big Bend Ranch 12.08 108 ⇓P Pn 03 52 40.2 +2.4
baz=12
MSTX Muleshoe 12.08 86 ⇑P Pn 03 52 39.9 +2.1
baz=12
427A Hayter Ranch, 12.19 101 ⇓P Pn 03 52 41.8 +2.5
baz=12
L23A Garrett 12.20 45 ⇓P Pn 03 52 40.8 +1.3
baz=12
I20A Worland 12.21 33 ⇑P Pn 03 52 41.9 +2.4
baz=12
T27A Campo 12.28 72 ⇓P Pn 03 52 43.1 +2.6
baz=12
LRM Limekiln Ridge 12.35 16 *e*Pn Pn 03 52 46.1 +4.5
29nm,0.9s
M24A Cheyenne 12.36 49 ⇑P Pn 03 52 43.9 +2.2
baz=12
HAWA Hanford 12.46 353 *e*Pn Pn 03 52 46.9 +4.1
38nm,1.4s
I21A Big Trails, Te 12.49 36 ⇓P Pn 03 52 46.4 +2.9
baz=12
TXAR Lajitas Array 12.54 108 Pn Pn 03 52 45.8 +1.7
0.4nm,0.3s,baz=290,slow=13,SNR=30
TXAR Lg Lg 03 56 25.0
0.2nm,0.3s,baz=283,slow=28,SNR=8.4
TXAR LR LR 03 57 28.6
comp=Z,190nm,18.9s,baz=5.0,slow=37
TXAR Lajitas Array 12.54 108 Pn Pn 03 52 45.8 +1.7
TXAR Lg Lg 03 56 25.0
J22A Midwest 12.62 39 ⇓P Pn 03 52 47.3 +2.2
baz=12
K23A Bowen Ranch, D 12.64 43 ⇓P Pn 03 52 47.3 +1.8
baz=13
H20A Greybull 12.69 32 ⇑P Pn 03 52 48.9 +2.8
baz=13
E14A Clinton 12.71 12 ⇑P Pn 03 52 50.7 +4.3
baz=13
627A Terlingua Ranc 12.71 107 ⇑P Pn 03 52 48.2 +1.7
baz=13
G18A Lazy EL Ranch, 12.75 26 ⇑P Pn 03 52 50.5 +3.5
baz=13
T28A Walsh 12.76 72 ⇑P Pn 03 52 51.1 +3.9
baz=13
O26A Horse Wrangler 12.78 57 ⇓P Pn 03 52 50.9 +3.6
baz=13
528A Cox Ranch, San 12.92 103 ⇑P Pn 03 52 51.2 +1.9
baz=13
I22A 9 Mile Ranch, 12.95 37 ⇓P Pn 03 52 53.2 +3.5
baz=13
628A Black Gap, Mar 13.10 106 ⇓P Pn 03 52 54.0 +2.4
baz=13
G20A Bridger 13.18 29 ⇓P Pn 03 52 54.8 +1.9
baz=13
E16A East Helena 13.20 17 ⇑P Pn 03 52 57.0 +3.9

baz=13
F18A **Big Timber** 13.21 24 ⇑P Pn 03 52 56.3 +3.1
baz=13
D14A **Greenough** 13.35 11 ⇑P Pn 03 52 57.9 +2.8
baz=13
E17A **Martinsdale** 13.35 20 ⇓P Pn 03 52 59.3 +4.1
baz=13
SWMT **Swartz Lake** 13.69 10 *e*Pn Pn 03 53 04.1 +4.3
5.0nm,1.0s
SWMT *e*Lg Lg 03 56 57.7
BSMT **Bassoo Peak** 13.93 7 *e*Pn **Pn** **03 53 05.2 +2.0**
7.7nm,0.9s
NEW **Newport** 14.22 1 *e*Pn **Pn** **03 53 06.8 -0.1**
6.4nm,0.7s
RSSD **Black Hills** 14.40 42 *e*Pn **Pn** **03 53 09.4 -0.2**
5.7nm,1.0s
WALA **Waterton Lakes** 15.22 9 *e*Pn **Pn** **03 53 22.4 +1.8**
2.1nm,1.6s
JCT **Junction City** 15.25 99 *e*Pn **Pn** **03 53 21.4 +0.5**
24nm,1.1s
WMOK **Wichita Mounta** 15.33 82 *e*Pn **Pn** **03 53 22.6 +0.6**
11nm,1.1s
HKT **Hockley** 18.68 97 *e*Pn **Pn** **03 54 06.6 +2.6**
8.2nm,1.2s
MIAR **Mount Ida** 19.63 82 *e*P **P** **03 54 15.0 +0.8**
26nm,1.0s
BBB **Bella Bella** 19.73 340 LR LR 04 01 54.5
comp=Z,212nm,19.9s,baz=185,slow=37
AGMN **Agassiz Nation** 21.45 42 *e*P **P** **03 54 33.9 +0.2**
18nm,1.0s
ULM **Lac du Bonnet** 22.58 38 P **P** **03 54 44.6 -1.3**
3.6nm,0.6s,baz=244,slow=9.5,SNR=5.2
ULM **Lac du Bonnet** 22.58 38 *e*P **P** **03 54 44.8 -1.1**
13nm,1.2s
FFC **Flin Flon** 23.32 23 *e*P **P** **03 54 52.7 -0.8**
5.8nm,0.9s
WCI **Wyandotte Cave** 25.35 72 *e*P **P** **03 55 13.0 +0.4**
4.4nm,0.6s
DLBC **Dease Lake** 25.85 345 P **P** **03 55 18.6 +1.6**
5.6nm,0.9s,baz=151,slow=12,SNR=5.8
DLBC LR LR 04 06 26.8
comp=Z,397nm,19.1s,baz=123,slow=39
DLBC **Dease Lake** 25.85 345 P **P** **03 55 18.6 +1.6**
CMIG **Matias Romero** 26.26 124 P P 03 55 26.6 +5.6
3.5nm,0.8s,baz=325,slow=7.2,SNR=6.8
CMIG LR LR 04 06 17.8
comp=Z,287nm,18.2s,baz=274,slow=38
CMIG **Matias Romero** 26.26 124 P P 03 55 26.6 +5.6
TKL **Tuckaleechee C** 27.51 77 LR LR 04 07 32.6
comp=Z,12nm,19.9s,baz=95,slow=39
YKA **Yellowknife Ar** 28.53 3 P **P** **03 55 40.9 0.0**
0.8nm,0.7s,baz=180,slow=9.1,SNR=22
YKA PcP **PcP** **03 58 51.4 -0.7**
0.4nm,0.7s,baz=172,slow=3.3,SNR=4.5
YKA **Yellowknife Ar** 28.53 3 P **P** **03 55 41.0 0.0**
YKA PcP **PcP** **03 58 51.4 -0.7**
INK **Inuvik** 35.54 350 P **P** **03 56 43.1 +0.9**
3.7nm,0.8s,baz=153,slow=10,SNR=12
INK **Inuvik** 35.54 350 *e*P **P** **03 56 42.5 +0.2**
5.3nm,0.8s
MCK **McKinley** 35.55 336 *e*P **P** **03 56 43.1 +0.7**
8.5nm,0.8s
ILAR **Eielson Array** 35.62 339 P **P** **03 56 43.9 +0.9**
7.5nm,0.8s,baz=154,slow=8.1,SNR=117
ILAR **Eielson Array** 35.62 339 P **P** **03 56 43.9 +0.9**
COLA **College** 35.98 338 *e*P **P** **03 56 47.2 +1.1**
3.3nm,0.7s
FRB **Frobisher Bay** 42.07 30 P **P** **03 57 36.6 -0.4**
2.8nm,0.9s,baz=260,slow=6.1,SNR=4.4
FRB **Frobisher Bay** 42.07 30 P **P** **03 57 36.6 -0.4**
RES **Resolute Bay** 42.18 9 P **P** **03 57 37.9 +0.1**
3.8nm,0.8s,baz=198,slow=11,SNR=8.6
RES **Resolute Bay** 42.18 9 *e*P **P** **03 57 37.4 -0.4**
5.3nm,0.8s
BJI **Beijing** 91.27 322 P **P** **04 02 50.3 -0.8**
BJI S **S** **04 13 48.2 -1.4**
BJI LR LR
comp=Z,860nm,19.9s
HHC **Hu-ho-hao-te** 92.93 325 *e*P **P** **04 02 58.2 -0.8**
HHC pP **pP** **04 03 02.0 -1.2**
HHC sP **sP** **04 03 05.3 +0.7**
HHC PP **PP** **04 06 41.6 +0.9**
HHC SKS **SKSac** **04 13 29.5 -3.4**
HHC S **S** **04 14 00.3 -4.5**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.2s
HHC LR LR
comp=N,330nm,18.2s
HHC LR LR
comp=E,200nm,18.0s
HHC LR LR
comp=Z,190nm,19.9s
NJ2 **Nanjing** 95.64 315 *e*P **P** **04 03 11.1 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
LZH **Lanzhou** 100.35 327 *e*P **Pdif** **04 03 32.8 +0.1**
LZH pP pP 04 03 38.4 +1.4
LZH sP sP 04 03 41.5 +3.1

*DJA **09** 03:54:59.1±17.5s×130.7°45E,h17km,MLv3.7/4*
IDC 09 03:54:56.5±2.8,**0.70S**×**132.98E,h0**km,**mb3.6**/2,
mb1 3.9/4,**mb1mx3.6**/18,**mbtmp3.6**/4,**ML3.7**/2,**Error ellipse: s-maj=123.9km s-min=24.5km az=78.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.74**	**202**	P	Pn	03 59 17.5	+0.2
	0.1nm,0.3s,baz=25,slow=14,SNR=5.8						
WRA	**Warramunga Arr**	**19.17**	**176**	P	P	03 59 22.0	+0.2
	0.3nm,0.3s,baz=353,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.85**	**178**	P	P	04 00 01.0	-0.5
	1.7nm,0.3s,baz=357,slow=11,SNR=19						
MKAR	**Makanchi Array**	**64.76**	**324**	P	P	04 05 36.9	0.0
	0.1nm,0.6s,baz=121,slow=5.6,SNR=2.6						

*NEIC **09** 03:55:27.6±5.2,31.07°S×178.50°W,h60km±38km,mb4.5/2,Error ellipse: s-maj=46.3km s-min=16.3km az=222.0*
*IDC **09** 03:55:30.0±7.5,31.25°S×178.68°W,h72km±58km,mb4.1/5,mb1 4.2/7,mb1mx4.0/19,mbtmp4.2/7,ML4.3/2,MS3.0/1,Ms1 3.0/1,ms1mx2.7/30,Error ellipse: s-maj=52.1km s-min=22.9km az=47.0*
*ISCJB **09** 03:55:32.2±1.2,31.48S±0.05°×179.0W±0.2°,h87km,mb4.5/8,Error ellipse: s-maj=23.0km s-min=7.7km az=179.5*
ISC 09 03:55:32.2±1.1,**31.45S**±0.09°×**178.8W**±0.2,**h87**km,**n32,** σ1**9**/**26**/36,**mb4.5**/8,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.05**	**199**	PN	**Pn**	**03 57 12.9**	**+0.2**
PUZ				SN	**Sn**	**03 58 30.5**	**-0.7**
CNGZ	**Carnagh Statio**	**7.45**	**199**	PN	**Pn**	**03 57 18.4**	**+0.4**
MWZ	**Matawai**	**7.51**	**203**	PN	**Pn**	**03 57 19.6**	**+0.5**
MWZ				SN	**Sn**	**03 58 42.6**	**0.0**
URZ	**Urewera**	**7.59**	**205**	P	**Pn**	**03 57 21.1**	**+1.1**
	3.5nm,0.3s,baz=296,slow=2.7,SNR=16						
URZ				S	**Sn**	**03 58 45.7**	**+1.3**
	3.1nm,0.3s,baz=169,slow=19,SNR=7.5						
URZ	**Urewera**	**7.59**	**205**	P	**Pn**	**03 57 21.1**	**+1.1**
URZ				S	**Sn**	**03 58 45.7**	**+1.3**
URZ	**Urewera**	**7.59**	**205**	PN	**Pn**	**03 57 19.3**	**-0.8**
URZ				SN	**Sn**	**03 58 42.8**	**-1.6**
BKZ	**Black Stump Fm**	**8.62**	**205**	PN	**Pn**	**03 57 33.3**	**-0.8**
PXZ	**Pawanui**	**9.27**	**201**	PN	**Pn**	**03 57 40.1**	**-2.8**
RPZ	**Rata Peaks**	**14.65**	**210**	P	**P**	**03 58 57.2**	**-1.6**
	1.9nm,0.3s,baz=302,slow=23,SNR=7.2						
RPZ	**Rata Peaks**	**14.65**	**210**	P	**P**	**03 58 57.2**	**-1.6**
DZM	**Mont Dzumac**	**16.15**	**302**	LR	LR	04 03 50.5	
	comp=Z,48nm,18.3s,baz=22,slow=31						
CTA	**Charters Tower**	**33.33**	**281**	P	**P**	**04 02 03.0**	**+1.0**
	8.2nm,0.6s,baz=112,slow=10,SNR=11						
CTA	**Charters Tower**	**33.33**	**281**	P	**P**	**04 02 03.0**	**+1.0**
CTAO	**Charters Tower**	**33.33**	**281**	*e*P	**P**	**04 02 02.9**	**+1.0**
	12nm,0.8s						
STKA	**Stephens Creek**	**33.60**	**259**	P	**P**	**04 02 05.5**	**+1.3**
	4.1nm,0.8s,baz=98,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**33.60**	**259**	P	**P**	**04 02 05.5**	**+1.3**
AS31	**Alice Springs**	**42.40**	**268**	*e*P	**P**	**04 03 17.5**	**-0.8**
ASAR	**Alice Springs**	**42.40**	**268**	P	**P**	**04 03 17.8**	**-0.5**
	4.3nm,0.5s,baz=105,slow=7.3,SNR=57						
ASAR	**Alice Springs**	**42.40**	**268**	P	**P**	**04 03 17.8**	**-0.5**
WRAB	**Tennant Creek**	**43.48**	**274**	*e*P	**P**	**04 03 26.1**	**-0.9**
	9.2nm,0.4s						
WRA	**Warramunga Arr**	**43.48**	**274**	P	**P**	**04 03 26.4**	**-0.7**
	17nm,0.3s,baz=111,slow=8.1,SNR=64						
WRA	**Warramunga Arr**	**43.48**	**274**	P	**P**	**04 03 26.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.70**	**271**	P	**P**	**04 04 30.0**	**-0.6**
	2.3nm,0.8s,baz=106,slow=7.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**51.70**	**271**	P	**P**	**04 04 30.0**	**-0.6**
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**04 05 22.1**	**+1.9**
	1.1nm,0.3s,baz=288,slow=1.0,SNR=4.3						
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**04 05 22.1**	**+1.9**
SNAA	**Sanae**	**77.13**	**179**	*e*P	**P**	**04 07 17.6**	**+1.8**
	3.5nm,1.2s						
AAK	**Ala-Archa**	**122.13**	**303**	*e*PKPdf	**PKPdf**	**04 14 15.3**	**-1.5**
FINES	**FINESS Array B**	**145.89**	**339**	PKPbc	**PKPdf**	**04 14 58.5**	**-1.5**
	1.6nm,0.5s,baz=57,slow=5.1,SNR=15						
FINES	**FINESS Array B**	**145.89**	**339**	PKPbc	**PKPdf**	**04 14 58.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**161.78**	**181**	PKPab	**PKPab**	**04 16 08.4**	**-0.9**
	0.7nm,0.8s,baz=166,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**161.78**	**181**	PKPab	**PKPab**	**04 16 08.4**	**-0.9**

CASC 09 04:08:03.6±2.7,**10.21N**×**84.19W,h0**km±4km,**MD3.9, 3C-3D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRS1	**Puriscal**	**0.26**	**208**	*e*P	Pn	04 08 14.9	+0.1
SJS	**Escuela Geolog**	**0.30**	**154**	⇑*i*P	Pg	04 08 10.6	+1.0
SJS				*e*S	Sb	04 08 15.9	-1.8
CGA2	**Cerro Gallo 2**	**0.33**	**235**	⇓*i*P	Pg	04 08 10.9	+0.6
URSC	**Urasca**	**0.55**	**133**	⇑*i*P	Pg	04 08 15.3	+0.8
CASO	**Castillo**	**0.58**	**292**	*i* P	Pb	04 08 16.0	-0.8
BUS	**Buena Vista**	**0.78**	**147**	⇑*i*P	Pg	04 08 18.9	-0.2
QCR	**Quepos**	**0.78**	**178**	⇓*e*P	Pg	04 08 18.7	+0.1
QCR				*e*S	Sg	04 08 29.0	+0.2
AMAS	**Alto Masis**	**0.89**	**297**	*i* P	Pg	04 08 20.8	0.0
JCR	**Jicaral**	**0.98**	**249**	⇓*e*P	Pg	04 08 22.3	-0.2
CUI	**Cuipilapa**	**1.06**	**295**	*i* P	Pg	04 08 23.6	-0.4
LIM1	**Limonal**	**1.15**	**295**	*i* P	Pg	04 08 25.4	-0.4
A495	**El Viejo**	**1.26**	**278**	*i* P	Pg	04 08 27.1	-0.6
A495				*i* S	Sb	04 08 45.0	0.0
GB1A	**Borinquen Arri**	**1.33**	**297**	*i* P	Pg	04 08 28.5	-0.8
A492	**Arado**	**1.39**	**270**	*i* P	Pg	04 08 29.0	-1.2
A492				*i* S	Sg	04 08 48.1	-0.1
GBS2	**Las Lilas**	**1.39**	**297**	*i* P	Pn	04 08 29.3	-1.0
NY14	**Universidad de**	**1.39**	**288**	*i* P	Pn	04 08 29.8	-0.5
ACR	**Cerro Adams**	**1.85**	**147**	*e*P	Pn	04 08 35.6	-1.0
BRU2	**Volcan**	**2.04**	**133**	*i* P	Pn	04 08 40.5	+1.0
	baz=331,slow=18						
BRU2				*i* S	Sb	04 09 07.1	-0.8
TBS2		**2.07**	**133**	*e*P	Pb	04 08 41.4	-0.9
TBS2				*e*S	Sb	04 09 07.9	-0.8
BCIP	**Isla Barro Col**	**4.41**	**103**	*e*P	Pn	04 09 10.2	-1.7
BCIP				*e*S	Sn	04 09 59.7	-4.4
PTP	**Ponta Puerca**	**19.68**	**64**	*i* P	x	04 08 46.1	
PTP				*i* S	x	04 09 15.2	

IDC 09 04:08:17.9±2.0,**6.73S**×**128.77E,h0**km,**mb3.6**/1, **mb1 4.0**/3,**mb1mx3.6**/15,**mbtmp3.8**/3,**ML3.8**/2,**Error ellipse: s-maj=114.6km s-min=31.2km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.20**	**158**	Pn	Pn	04 11 40.0	-0.5
	0.4nm,0.3s,baz=336,slow=13,SNR=3.4						
WRA				Sn	Sn	04 14 03.9	-15
	0.9nm,0.3s,baz=331,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.55**	**164**	P	Pn	04 12 24.4	+0.2
	0.5nm,0.3s,baz=350,slow=11,SNR=31						
ASAR				S	Sn	04 15 28.1	-12
	0.3nm,0.3s,baz=352,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	04 19 14.9	0.0
	0.3nm,0.3s,baz=120,slow=7.5,SNR=8.1						

IDC 09 04:14:53.9±3.0,**1.17S**×**133.40E,h0**km,**mb3.2**/2, **mb1 3.6**/4,**mb1mx3.4**/18,**mbtmp3.4**/4,**ML3.6**/2,**Error ellipse: s-maj=132.4km s-min=25.9km az=80.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.48**	**204**	P	Pn	04 19 12.1	+0.5
	0.1nm,0.3s,baz=24,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**18.68**	**177**	P	P	04 19 13.0	-0.9
	0.4nm,0.3s,baz=352,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**22.37**	**179**	P	P	04 19 53.9	-0.1
	0.2nm,0.3s,baz=5.6,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**65.38**	**324**	P	P	04 25 38.4	0.0
	0.3nm,0.5s,baz=114,slow=8.3,SNR=8.4						

*DJA **09** 04:30:15.1°00S×129.49E,h20km,MLv3.7/3*
IDC 09 04:30:22.2±2.5,**0.20S**×**132.87E,h0**km,**mb3.4**/2, **mb1 3.5**/4,**mb1mx3.4**/18,**mbtmp3.4**/4,**ML3.4**/2,**Error ellipse: s-maj=100.3km s-min=27.4km az=78.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.16**	**201**	P	P	04 34 47.5	+0.1
	0.1nm,0.3s,baz=29,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**19.68**	**176**	P	P	04 34 53.0	0.0
	0.2nm,0.3s,baz=355,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**23.35**	**178**	P	P	04 35 32.5	0.0
	0.8nm,0.7s,baz=356,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	04 40 59.5	-0.1
	0.2nm,0.5s,baz=117,slow=6.0,SNR=3.7						

*ISK **09** 04:43:44.2,35.92N×29.20E,h16km,MD2.7*
*CSEM **09** 04:43:45.2±0.8,35.90N×29.22E,h20km,MD3.1,Error ellipse: s-maj=15.3km s-min=8.6km az=168.0*
*DDA **09** 04:43:46.1,36.08N×29.15E,h22km,MD3.1*
ISC 09 04:43:43.6±2.9,**35.9N**±0.2×**29.16E**±0.05,**h13**km±13km, **n16,** σ0**55**/**28**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.50**	**46**	*i* P	**Pb**	**04 43 54.5**	**+0.1**
AKAS				*i* S	**Sb**	**04 44 02.3**	**+0.5**
AKAS	**Kas**	**0.50**	**46**	*i* P	**Pb**	**04 43 54.5**	**+0.1**
AKAS				*i* S	**Sb**	**04 44 02.3**	**+0.5**
FETY	**Fethiye**	**0.75**	**356**	*e*PG	**Pg**	**04 43 58.1**	**-0.1**
FETY				*e*SG	**Sb**	**04 44 09.0**	**+0.3**
FETY	**Fethiye**	**0.75**	**356**	*e*Pg	**Pg**	**04 43 58.1**	**-0.1**
FETY				*e*Sg	**Sb**	**04 44 09.0**	**+0.3**
ELL	**Elmali**	**1.05**	**35**	*e*PG	**Pg**	**04 44 04.0**	**+0.1**
ELL				*e*SG	**Sn**	**04 44 18.2**	**-0.7**
ELL	**Elmali**	**1.05**	**35**	*e*Pg	**Pg**	**04 44 04.0**	**+0.1**
ELL				*e*Sg	**Sn**	**04 44 18.2**	**-0.7**
TURN	**Turunc**	**1.08**	**336**	*e*P	**Pg**	**04 44 04.9**	**+0.5**
TURN				*e*S	**Sn**	**04 44 20.1**	**+0.8**
TURN	**Turunc**	**1.08**	**336**	*e*P	**Pg**	**04 44 04.9**	**+0.5**
TURN				*e*S	**Sn**	**04 44 20.1**	**+0.8**
GOLH	**Golhisar**	**1.39**	**13**	*e*P	**Pb**	**04 44 08.9**	**-0.6**
GOLH				*e*S	**Sb**	**04 44 26.2**	**-1.0**
GOLH	**Golhisar**	**1.39**	**13**	*e*P	**Pb**	**04 44 08.9**	**-0.6**
GOLH				*e*S	**Sb**	**04 44 26.2**	**-1.0**
YER	**Yerkesik**	**1.43**	**331**	*e*PN	**Pb**	**04 44 10.3**	**+0.1**
YER	**Yerkesik**	**1.43**	**331**	*e*Pn	**Pb**	**04 44 10.3**	**+0.1**
DNZL	**Cakiroluk**	**1.80**	**357**	*e*P	**Pb**	**04 44 16.9**	**+0.3**
DNZL				*e*S	**Sn**	**04 44 37.5**	**+0.1**
DNZL	**Cakiroluk**	**1.80**	**357**	*e*P	**Pb**	**04 44 16.9**	**+0.3**
DNZL				*e*S	**Sn**	**04 44 37.5**	**+0.1**
BODT	**Bodrum**	**1.90**	**309**	*e*PN	**Pb**	**04 44 17.3**	**-0.8**
BODT	**Bodrum**	**1.90**	**309**	*e*Pn	**Pb**	**04 44 17.3**	**-0.8**

IDC 09 04:48:41.0±2.6,**0.16S**×**132.71E,h0**km,**mb3.4**/2, **mb1 3.6**/3,**mb1mx3.4**/17,**mbtmp3.4**/3,**Error ellipse: s-maj=133.8km s-min=27.6km az=74.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.72**	**175**	P	P	04 53 12.5	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.39**	**177**	P	P	04 53 51.5	-0.2
	0.8nm,0.6s,baz=358,slow=9.2,SNR=6.5						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	04 59 17.6	0.0
	0.3nm,0.5s,baz=120,slow=7.1,SNR=5.3						

*IDC **09** 04:56:27.6±0.7,45.89N×154.38E,h0km,mb3.7/14, mb1 3.9/19,mb1mx3.8/29,mbtmp3.8/19,ML3.4/5,Error ellipse: s-maj=21.1km s-min=14.7km az=155.0*
*ISCJB **09** 04:56:28.5±0.6,45.94N±0.10°×154.29E±0.09,h19km, mb3.7/16,Error ellipse: s-maj=15.2km s-min=6.6km az=155.0*
*MOS **09** 04:56:32.8±1.8,45.98N×154.25E,h57km,mb4.1/10,Error ellipse: s-maj=15.6km s-min=11.3km az=70.6*
ISC 09 04:56:30.7±0.7,**45.98N**±0.10°×**154.32E**±0.08,**h19**km,**n42,** σ0**94**/**44**,**mb3.8**/16,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.59**	**263**	P	**Pn**	**04 57 39.0**	**0.0**
KUR				*e*S	**Sn**	**04 58 30.0**	**-1.8**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax	smax		
	comp=N,220nm,0.8s						
KUR				smax	smax		
	comp=E,150nm,0.7s						
SKR	**Severo-Kuril's**	**4.85**	**14**	*e*P	**Pg**	**04 58 02.4**	**-1.1**
PETK	**Petropavlovsk-**	**7.46**	**16**	Pn	**Pn**	**04 58 18.4**	**0.0**
	comp=E,1.4nm,0.3s,baz=192,slow=14,SNR=12						
PETK	**Petropavlovsk-**	**7.46**	**16**	*e*P	**Pn**	**04 58 18.1**	**-0.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.51**	**262**	Pn	**Pn**	**04 58 33.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=90,slow=7.1,SNR=2.2						
ASAJ	**Asahikawa**	**8.51**	**262**	P	**Pn**	**04 58 33.0**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**14.05**	**54**	Pn	**Pn**	**04 59 48.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=253,slow=17,SNR=2.3						
FX1	**Attu Island--F**	**14.05**	**54**	P	**Pn**	**04 59 48.6**	**+0.1**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**15.31**	**238**	*e*P	**P**	**05 00 10.7**	**+0.3**
MJAR	**Matsushiro Arr**	**15.33**	**238**	Pn	**Pn**	**05 00 05.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=22,slow=9.5,SNR=2.9						
MJAR	**Matsushiro Arr**	**15.33**	**238**	P	**Pn**	**05 00 05.1**	**-0.9**
USRK	**Ussuriysk Arra**	**15.86**	**272**	Pn	**Pn**	**05 00 12.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=77,slow=12,SNR=3.8						
BILL	**Bilibino**	**22.96**	**12**	*e*P	**P**	**05 01 33.5**	**-0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**32.38**	**291**	P	**P**	**05 03 01.4**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=60,slow=6.8,SNR=2.3						
SONM	**Songino Array**	**32.38**	**291**	P	**P**	**05 03 01.4**	**+2.3**
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**05 03 35.6**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=258,slow=7.0,SNR=3.8						
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**05 03 35.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.74**	**307**	P	**P**	**05 04 33.5**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=52,slow=9.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**43.74**	**307**	P	**P**	**05 04 33.5**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**	**05 05 08.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=68,slow=7.3,SNR=13						
MKAR				PcP	**PcP**	**05 06 35.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=66,slow=3.5,SNR=2.1						
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**	**05 05 08.2**	**-0.3**
MKAR						05 06 35.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.48**	**305**	*e*P	**P**	**05 05 11.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**51.04**	**37**	P	**P**	**05 05 31.6**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=295,slow=7.3,SNR=2.7						
YKA	**Yellowknife Ar**	**51.04**	**37**	P	**P**	**05 05 31.6**	**+0.5**
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**05 05 39.3**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=59,slow=7.5,SNR=10						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**05 05 39.3**	**+0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**62.05**	**63**	P	**P**	**05 06 49.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=308,slow=6.6,SNR=3.1						
FINES	**FINESS Array B**	**65.09**	**335**	P	**P**	**05 07 10.2**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=45,slow=6.5,SNR=6.1						
FINES	**FINESS Array B**	**65.09**	**335**	P	**P**	**05 07 10.2**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.07**	**200**	P	**P**	**05 07 27.8**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=23,slow=6.3,SNR=4.8						
WRA	**Warramunga Arr**	**68.07**	**200**	P	**P**	**05 07 27.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.22**	**342**	P	**P**	**05 07 35.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=40,slow=7.0,SNR=2.7						
NOA	**NORSAR Array B**	**69.22**	**342**	P	**P**	**05 07 35.3**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.76**	**200**	P	**P**	**05 07 51.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=13,slow=6.1,SNR=6.8						
ASAR	**Alice Springs**	**71.76**	**200**	P	**P**	**05 07 51.8**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.65**	**327**	P	**P**	**05 07 57.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=34,slow=6.4,SNR=4.6						
AKASG	**Malin Array Be**	**72.65**	**327**	P	**P**	**05 07 57.8**	**+1.1**
TXAR	**Lajitas Array**	**77.14**	**61**	P	**P**	**05 08 23.1**	**0.0**
	comp=Z,0.6nm,0.7s,baz=307,slow=3.7,SNR=8.4						
TXAR	**Lajitas Array**	**77.14**	**61**	P	**P**	**05 08 23.2**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**77.50**	**336**	*e*P	**P**	**05 08 22.0**	**-2.7**
GERES	**GERESS Array B**	**79.51**	**335**	P	**P**	**05 08 36.5**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=0.0,slow=4.9,SNR=3.1						
GERES	**GERESS Array B**	**79.51**	**335**	P	**P**	**05 08 36.5**	**+0.6**

CASC 09 05:00:19.5±2.4,**10.22N**×**84.25W,h4**km±3

IDC 09 05:13:29.1±15.0, 3°15S×103°84E, h267km±140km, mb2.9/4, mb1 3.1/4, mb1mx2.9/20, mbtmp2.9/4, Error ellipse: s-maj=239.6km s-min=21.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.11**	**122**	P	P	05 19 49.2	-0.1
	0.6nm,1.0s,baz=301,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**35.49**	**128**	P	P	05 20 00.9	-0.1
	0.2nm,0.4s,baz=301,slow=7.6,SNR=7.1						
MKAR	**Makanchi Array**	**53.25**	**342**	P	P	05 22 20.2	-0.4
	0.2nm,0.4s,baz=155,slow=8.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**59.08**	**347**	P	P	05 23 01.8	+0.3
	0.9nm,0.4s,baz=171,slow=5.4,SNR=5.5						
TXAR	**Lajitas Array**	**143.12**	**42**	PKP	PKPdf	05 32 31.7	-0.6
	0.1nm,0.3s,baz=271,slow=2.1,SNR=3.7						

*NEIC **09** 05:36:11.4, 15°46N×94°75W, h16km, MD4.2(MEX), After MEX.*

MEX 09 05:36:11.4±0.8, 15°46N×94°75W, h16km±12km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.35**	**283**	*i* P	Pn	05 36 32.0	-3.6
HUIG				*e*S	Sn	05 36 47.1	-6.0
HUIG	**Huatulco**	**1.35**	**283**	*i* P	Pn	05 36 32.0	-3.6
HUIG				*e*S	Sn	05 36 47.1	-6.0
PCIG		**1.49**	**81**	*i* P	Pn	05 36 33.5	-4.1
PCIG				*e*S	Sn	05 36 50.8	-5.9
PCIG		**1.49**	**81**	*i* P	Pn	05 36 33.5	-4.1
PCIG				*e*S	Sn	05 36 50.8	-5.9
CMIG	**Matias Romero**	**1.62**	**355**	*i* P	Pn	05 36 35.6	-3.8
CMIG				*e*S	Sn	05 36 54.0	-6.0
CMIG	**Matias Romero**	**1.62**	**355**	*i* P	Pn	05 36 35.6	-3.8
CMIG				*e*S	Sn	05 36 54.0	-6.0
TGIG		**2.04**	**50**	*i* P	Pn	05 36 42.1	-3.0
TGIG				*i* S	Sn	05 37 06.5	-3.8
TGIG		**2.04**	**50**	*i* P	Pn	05 36 42.1	-3.0
TGIG				*i* S	Sn	05 37 06.5	-3.8
VHO	**Vista Hermosa**	**2.49**	**310**	*i* P	Pn	05 36 49.2	-2.3
VHO				*e*S	Sn	05 37 18.1	-3.7
VHO	**Vista Hermosa**	**2.49**	**310**	*i* P	Pn	05 36 49.2	-2.3
VHO				*e*S	Sn	05 37 18.1	-3.7
CCIG	**Comitan**	**2.64**	**72**	*i* P	Pn	05 36 51.6	-2.0
CCIG				*e*S	Sn	05 37 20.8	-4.7
CCIG	**Comitan**	**2.64**	**72**	*i* P	Pn	05 36 51.6	-2.0
CCIG				*e*S	Sn	05 37 20.8	-4.7
PNIG	**Pinotepa**	**3.38**	**286**	*i* P	Pn	05 37 01.2	-2.4
PNIG				*e*S	Sn	05 37 39.8	-3.6
PNIG	**Pinotepa**	**3.38**	**286**	*i* P	Pn	05 37 01.2	-2.4
PNIG				*e*S	Sn	05 37 39.8	-3.6
UTMO	**Huajuapan**	**3.76**	**309**	*i* P	Pn	05 37 05.2	-3.9
UTMO				*e*S	Sn	05 37 50.0	-3.2
UTMO	**Huajuapan**	**3.76**	**309**	*i* P	Pn	05 37 05.2	-3.9
UTMO				*e*S	Sn	05 37 50.0	-3.2

*DJA **09** 05:37:59, 10°11S×110°31E, h10km, MLv4.0/10*

IDC 09 05:37:57.8±2.8, 9°79S×110°91E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=120.5km s-min=21.9km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.51**	**122**	Pn	Pn	05 41 51.0	+0.1
	0.2nm,0.3s,baz=307,slow=10,SNR=7.1						
FITZ				Sn	Sn	05 44 46.8	-8.1
	0.1nm,0.3s,baz=180,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**24.76**	**117**	P	P	05 43 22.1	+0.6
	2.4nm,1.1s,baz=287,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**25.93**	**125**	P	P	05 43 31.6	-0.4
	0.8nm,0.6s,baz=301,slow=9.1,SNR=12						
SONM	**Songino Array**	**57.51**	**356**	P	P	05 47 48.1	-0.9
	0.3nm,0.3s,baz=156,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**61.85**	**338**	P	P	05 48 19.3	+0.5
	0.2nm,0.5s,baz=142,slow=7.3,SNR=4.1						

MEX 09 05:50:41.3±0.5, 18°48N×99°37W, h7km±2km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.15**	**234**	*i* P	Pg	05 50 44.1	-0.5
PLIG				*i* S	Sg	05 50 46.6	-0.2
YAIG	**Yautepec**	**0.48**	**38**	*i* P	Pg	05 50 50.3	-0.5
YAIG				*i* S	Sg	05 50 56.7	-0.4
MEIG	**Mezcala**	**0.60**	**203**	*e*P	Pg	05 50 52.3	-0.8
MEIG				*e*S	Sg	05 51 00.5	-0.5
MZVM		**0.72**	**11**	*i* P	Pg	05 50 54.7	-0.4
MZVM				*e*S	Sg	05 51 04.1	-0.3
SZVM	**Salazar**	**0.84**	**360**	*i* P	Pg	05 50 56.0	-2.0
SZVM				*e*S	Sg	05 51 07.0	-2.2
PPM	**Popocatepetl**	**0.92**	**51**	*i* P	Pg	05 50 57.4	-2.2
PPM				*e*S	Sg	05 51 10.0	-2.0
CAIG	**El Cayaco**	**1.66**	**211**	*i* P	Pn	05 51 07.4	-3.5
CAIG				*i* S	Sn	05 51 27.5	-5.1
ACX	**Acapulco**	**1.67**	**196**	*i* P	Pn	05 51 08.6	-2.4
ACX				*i* S	Sn	05 51 29.2	-3.6
ZIIG	**Zihuatanejo**	**2.17**	**247**	*i* P	Pn	05 51 13.9	-4.0
ZIIG				*i* S	Sn	05 51 40.3	-4.8

IDC 09 05:52:03.2±20.0, 6°35S×127°76E, h355km±251km, mb2.5/1, mb1 3.3/4, mb1mx2.9/16, mbtmp3.0/4, Error ellipse: s-maj=145.3km s-min=57.9km az=27.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.87**	**190**	P	P	05 54 42.4	-0.8
	0.1nm,0.3s,baz=0.0,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**14.95**	**155**	P	P	05 55 17.2	0.0
	0.7nm,0.3s,baz=334,slow=11,SNR=12						
ASAR	**Alice Springs**	**18.21**	**162**	P	P	05 55 52.4	+0.1
	0.3nm,0.3s,baz=342,slow=12,SNR=16						
MKAR	**Makanchi Array**	**66.48**	**328**	P	P	06 02 15.6	0.0
	0.1nm,0.5s,baz=126,slow=7.3,SNR=3.3						

*ISCJB **09** 05:57:19.6±0.8, 35°89N±0°03×28°85E±0°03, h11km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=34.9*
*ISK **09** 05:57:20.8, 36°02N×28°79E, h14km, MD3.0*
*ATH **09** 05:57:21.8, 35°99N×28°81E, h32km±3km, MD3.4/6*
*CSEM **09** 05:57:21.7±0.2, 35°94N×28°84E, h20km, MD3.0, Error ellipse: s-maj=4.6km s-min=3.9km az=116.0*
*DDA **09** 05:57:24.2, 36°23N×28°89E, h7km, MD3.2*

ISC 09 05:57:21.8±1.1, 35°97N±0°03×28°83E±0°02, h24km±13km, n43, σ1908/66, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.62**	**294**	*e*PN	Pb	05 57 34.4	+0.3
ARG				*e*SN	Sn	05 57 44.1	-0.3
ARG	**Arkhangelos**	**0.62**	**294**	*e*Pn	Pb	05 57 34.4	+0.3
ARG				*e*Sn	Sn	05 57 44.1	-0.3
KSL	**Kastellorizon**	**0.64**	**73**	*e*PN	Pb	05 57 34.7	+0.4
KSL				*e*SN	Sn	05 57 45.1	+0.4
AKAS	**Kas**	**0.68**	**67**	*i* P	Pb	05 57 35.3	+0.1
AKAS				*i* S	Sn	05 57 45.7	-0.3
AKAS	**Kas**	**0.68**	**67**	*i* P	Pb	05 57 35.3	+0.1
AKAS				*i* S	Sn	05 57 45.7	-0.3
FETY	**Fethiye**	**0.70**	**17**	*e*PG	Pb	05 57 34.3	-1.1
FETY				*e*SG	Sb	05 57 43.9	-0.7
FETY	**Fethiye**	**0.70**	**17**	*e*Pg	Pb	05 57 34.3	-1.1
FETY				*e*Sg	Sb	05 57 43.9	-0.7
TURN	**Turunc**	**0.92**	**348**	*e*P	Pb	05 57 38.6	-0.6
TURN				*e*S	Sb	05 57 51.1	0.0
TURN	**Turunc**	**0.92**	**348**	*e*P	Pb	05 57 38.6	-0.6
TURN				*e*S	Sb	05 57 51.1	0.0
ELL	**Elmali**	**1.17**	**48**	*e*PN	Pb	05 57 43.3	-0.1
ELL				*e*SN	Sb	05 57 59.4	+1.2
ELL	**Elmali**	**1.17**	**48**	*e*Pn	Pb	05 57 43.3	-0.1
ELL				*e*Sn	Sb	05 57 59.4	+1.2
YER	**Yerkesik**	**1.25**	**339**	*e*PN	Pn	05 57 43.5	-0.4
YER				*e*SN	Sn	05 58 00.3	+0.4
YER	**Yerkesik**	**1.25**	**339**	*e*Pn	Pn	05 57 43.5	-0.4
YER				*e*Sn	Sn	05 58 00.3	+0.4
GOLH	**Golhisar**	**1.40**	**25**	*i* P	Pn	05 57 46.3	+0.4
GOLH				*i* S	Sn	05 58 03.7	0.0
GOLH	**Golhisar**	**1.40**	**25**	*i* P	Pn	05 57 46.3	+0.4
GOLH				*i* S	Sn	05 58 03.7	0.0
KARP	**Karpathos**	**1.42**	**253**	*e*PN	Pb	05 57 47.1	-0.6
KARP				*e*SN	Sb	05 58 05.9	+0.5
KARP	**Karpathos**	**1.42**	**253**	*e*Pn	Pb	05 57 47.1	-0.6
KARP				*e*Sn	Sb	05 58 05.9	+0.5
KORT	**Korkueli**	**1.60**	**49**	*e*P	Pn	05 57 49.4	+0.6
KORT				*e*S	Sb	05 58 10.0	-0.7
KORT	**Korkueli**	**1.60**	**49**	*e*P	Pn	05 57 49.4	+0.6
KORT				*e*S	Sb	05 58 10.0	-0.7
BODT	**Bodrum**	**1.64**	**312**	*e*PN	Pn	05 57 49.1	-0.1
BODT	**Bodrum**	**1.64**	**312**	*e*Pn	Pn	05 57 49.1	-0.1
DNZL	**Cakiroluk**	**1.73**	**6**	*e*P	Pb	05 57 52.5	-0.5
DNZL				*e*S	Sb	05 58 14.3	-0.1
DNZL	**Cakiroluk**	**1.73**	**6**	*e*P	Pb	05 57 52.5	-0.5
DNZL				*e*S	Sb	05 58 14.3	-0.1
DENT	**Denizli**	**1.79**	**5**	*e*PN	Pn	05 57 51.5	+0.2
DENT	**Denizli**	**1.79**	**5**	*e*Pn	Pn	05 57 51.5	+0.2
ZKR	**Zakros**	**2.30**	**249**	*e*PN	Pn	05 57 59.7	+1.5
ZKR				*e*SN	Sn	05 58 27.0	+1.3
ZKR	**Zakros**	**2.30**	**249**	*e*Pn	Pn	05 57 59.7	+1.5
ZKR				*e*Sn	Sn	05 58 27.0	+1.3
NPS	**Neapolis**	**2.72**	**256**	*e*PN	Pn	05 58 05.0	+1.0
NPS	**Neapolis**	**2.72**	**256**	*e*Pn	Pn	05 58 05.0	+1.0
APE	**Apeiranthos**	**2.88**	**293**	*e*PN	Pn	05 58 06.9	+0.7
APE	**Apeiranthos**	**2.88**	**293**	*e*Pn	Pn	05 58 06.9	+0.7
KONT	**Konya--Tatoy**	**3.45**	**54**	*e*PN	Pn	05 58 15.8	+1.7
KONT	**Konya--Tatoy**	**3.45**	**54**	*e*Pn	Pn	05 58 15.8	+1.7
KIZT	**Kizilcal**	**3.79**	**39**	*e*PN	Pn	05 58 20.4	+1.6
KIZT	**Kizilcal**	**3.79**	**39**	*e*Pn	Pn	05 58 20.4	+1.6
HNAT	**Matruh**	**5.07**	**197**	S	Sn	05 59 28.7	-5.5
HNAT	**Natroun**	**6.49**	**166**	P	Pn	05 58 54.9	-1.0
KOT	**Kottamia**	**6.53**	**156**	P	Pn	05 58 58.1	+1.7
KOT				S	Sn	06 00 02.3	-7.8
HSAF	**As Saff**	**6.73**	**159**	P	Pn	05 58 58.0	-1.2
GLL	**Jalalah**	**6.81**	**158**	P	Pn	05 58 59.7	-0.6
SUZ		**6.97**	**150**	P	Pn	05 59 01.7	-0.8
SWA2		**7.28**	**204**	P	Pn	05 59 05.7	-1.0
SWA2				S	Sn	06 00 22.1	-6.5
HKAT	**Jabal Katrina**	**8.61**	**148**	P	Pn	05 59 24.3	-0.8

IDC 09 06:05:08.5±2.4, 1°77S×133°09E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=95.0km s-min=25.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.80**	**204**	P	Pn	06 09 18.3	+0.4
	0.1nm,0.3s,baz=12,slow=9.3,SNR=3.4						
WRA	**Warramunga Arr**	**18.10**	**176**	P	P	06 09 22.0	-0.1
	0.2nm,0.3s,baz=355,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**21.78**	**178**	P	P	06 10 01.9	-0.3
	0.9nm,0.6s,baz=358,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**65.68**	**324**	P	P	06 15 54.9	-0.1
	0.2nm,0.5s,baz=114,slow=8.4,SNR=3.4						

IDC 09 06:12:20.0±3.0, 6°36N×93°49E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx2.8/34, Error ellipse: s-maj=125.4km s-min=21.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**38.85**	**54**	LR	LR	06 38 24.4	
	comp=Z,230nm,19.6s,baz=48,slow=40						
MKAR	**Makanchi Array**	**41.42**	**348**	P	P	06 20 07.9	-0.4
	0.3nm,0.6s,baz=164,slow=7.5,SNR=3.8						
SONM	**Songino Array**	**42.77**	**13**	P	P	06 20 19.5	+0.1
	0.3nm,0.7s,baz=200,slow=7.7,SNR=3.7						
KURK	**Kurchatov**	**45.92**	**347**	P	P	06 20 43.6	-0.8
	0.3nm,0.4s,baz=160,slow=7.2,SNR=1.9						
WRA	**Warramunga Arr**	**47.94**	**124**	P	P	06 21 00.2	-0.5
	0.4nm,0.4s,baz=303,slow=9.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**47.97**	**353**	P	P	06 21 00.5	+0.1
	0.3nm,0.4s,baz=152,slow=6.4,SNR=3.3						
ASAR	**Alice Springs**	**49.47**	**129**	P	P	06 21 12.8	+0.3
	0.3nm,0.5s,baz=304,slow=7.9,SNR=4.5						

*IDC **09** 06:23:08.4±0.8, 0°91S×133°12E, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/19, mbtmp4.2/10, ML4.1/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/26, Error ellipse: s-maj=44.9km s-min=12.0km az=80.0*
*NEIC **09** 06:23:13.8±0.4, 0°81S×133°39E, h35km, mb4.6/9, Error ellipse: s-maj=14.1km s-min=7.0km az=73.0*
*DJA **09** 06:23:16, 0°78S×133°14E, h26km, mb5.1/10*

ISC 09 06:23:14.6±0.7, 1°06S±0°07×132°9E±0°1, h35km, n36, σ2818/37, mb4.4/13, MS3.4/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.70**	**253**	LR	LR	06 30 53.7	
	comp=Z,77nm,21.2s,baz=261,slow=33						
KAPI	**Kappang**	**13.70**	**253**	*e*Pn	**P**	**06 26 34.2**	**-0.4**
COEN	**Coen**	**16.36**	**142**	*e*P	**Pn**	**06 26 59.1**	**-2.6**
	227nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.37**	**202**	P	**Pn**	**06 27 27.8**	**+1.2**
	0.6nm,0.3s,baz=69,slow=8.7,SNR=12						
FITZ				S	**Sn**	**06 30 46.5**	**-4.5**
	0.9nm,0.3s,baz=126,slow=18,SNR=7.1						
FITZ	**Fitzroy Crossi**	**18.37**	**202**	*e*P	**Pn**	**06 27 27.9**	**+1.2**
	14nm,0.8s						
FITZ				S	**Sn**	**06 30 46.5**	**-4.5**
GUMO	**Guam**	**18.78**	**39**	LR	LR	06 33 54.8	
	comp=Z,98nm,20.2s,baz=290,slow=35						
WRAB	**Tennant Creek**	**18.81**	**176**	*e*P	**Pn**	**06 27 32.2**	**+0.2**
	11nm,0.6s						
WRAB				*e*S	**Sn**	**06 30 60.0**	**-1.6**
WRA	**Warramunga Arr**	**18.82**	**176**	P	**Pn**	**06 27 32.6**	**+0.5**
	0.6nm,0.3s,baz=354,slow=12,SNR=19						
WRA				S	**Sn**	**06 30 58.0**	**-3.8**
	0.4nm,0.3s,baz=355,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**18.82**	**176**	P	**Pn**	**06 27 32.6**	**+0.5**
WRA				S	**Sn**	**06 30 58.0**	**-3.8**
WB2	**Warramunga Arr**	**18.82**	**176**	*e*P	**Pn**	**06 27 33.4**	**+1.3**
WB2				*e*S	**Sn**	**06 30 57.4**	**-4.4**
AS31	**Alice Springs**	**22.49**	**178**	*e*P	**P**	**06 28 13.8**	**+2.7**
ASAR	**Alice Springs**	**22.49**	**178**	P	**P**	**06 28 12.7**	**+1.5**
	7.9nm,0.9s,baz=5.1,slow=9.6,SNR=32						
ASAR				S	**S**	**06 32 19.2**	**+3.3**
	3.7nm,1.0s,baz=2.4,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**22.49**	**178**	P	**P**	**06 28 12.7**	**+1.5**
ASAR				S	**S**	**06 32 19.2**	**+3.3**
CTA	**Charters Tower**	**22.99**	**146**	P	**P**	**06 28 16.6**	**+0.2**
	13nm,1.1s,baz=327,slow=12,SNR=3.1						
CTA	**Charters Tower**	**22.99**	**146**	P	**P**	**06 28 16.6**	**+0.2**
MBWA	**Marble Bar**	**23.75**	**212**	*e*P	**P**	**06 28 27.5**	**+3.7**
	32nm,1.3s						
STKA	**Stephens Creek**	**31.73**	**166**	P	**P**	**06 29 35.7**	**+0.4**
	1.8nm,0.4s,baz=333,slow=9.6,SNR=11						
STKA				LR	LR	06 41 41.8	
	comp=Z,115nm,18.9s,baz=24,slow=35						
STKA	**Stephens Creek**	**31.73**	**166**	*e*P	**P**	**06 29 35.6**	**+0.3**
	9.9nm,2.0s						
MJAR	**Matsushiro Arr**	**37.74**	**7**	LR	LR	06 42 29.1	
	comp=Z,64nm,19.1s,baz=60,slow=31						
KSRS	**Korea Array**	**38.60**	**354**	LR	LR	06 43 58.0	
	comp=Z,56nm,19.4s,baz=343,slow=32						
SONM	**Songino Array**	**53.90**	**338**	P	**P**	**06 32 33.4**	**-1.2**
	0.7nm,0.9s,baz=143,slow=5.0,SNR=4.7						
SONM	**Songino Array**	**53.90**	**338**	P	**P**	**06 32 33.4**	**-1.2**
PETK	**Petropavlovsk-**	**57.83**	**17**	LR	LR	06 52 56.5	
	comp=Z,26nm,20.8s,baz=88,slow=31						
MK31	**Makanchi Array**	**65.00**	**324**	*e*P	**P**	**06 33 51.1**	**-0.1**
MKAR	**Makanchi Array**	**65.00**	**324**	P	**P**	**06 33 51.0**	**-0.1**
	2.0nm,0.6s,baz=113,slow=7.9,SNR=25						
MKAR	**Makanchi Array**	**65.00**	**324**	P	**P**	**06 33 51.0**	**-0.1**
ZALV	**Zalesovo Beam**	**67.67**	**332**	P	**P**	**06 34 06.9**	**-1.1**
	2.2nm,0.8s,baz=116,slow=6.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**67.67**	**332**	P	**P**	**06 34 06.9**	**-1.1**
KURK	**Kurchatov**	**69.09**	**326**	*e*P	**P**	**06 34 16.0**	**-1.0**
	6.4nm,1.0s						
KKAR	**Karatay Array**	**70.92**	**317**	*e*P	**P**	**06 34 28.1**	**-0.3**
	3.4nm,0.9s						
ABKAR	**Akbulak array**	**79.74**	**320**	*e*P	**P**	**06 35 20.2**	**+1.3**
	11nm,1.3s						
ILAR	**Eielson Array**	**86.78**	**25**	P	P	06 35 51.5	-3.4
	1.0nm,0.8s,baz=270,slow=4.2,SNR=9.2						
ILAR				LR	LR	07 12 42.4	
	comp=Z,39nm,20.1s,baz=338,slow=34						
ILAR	**Eielson Array**	**86.78**	**25**	P	P	06 35 51.5	-3.4
QSPA	**South Pole Qui**	**88.87**	**180**	*e*P	**P**	**06 36 06.0**	**+0.9**
	7.2nm,1.3s						
ARCES	**ARCESS Array B**	**97.03**	**340**	P	**P**	**06 36 41.3**	**-1.1**
	1.8nm,0.9s,baz=98,slow=6.5,SNR=3.1						
ARCES	**ARCESS Array B**	**97.03**	**340**	P	**P**	**06 36 41.3**	**-1.1**

CASC 09 06:25:18.9±12.0, 10°17N×84°32W, h4km±23km, MD3.7, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.21**	**223**	*e*P	Pg	06 25 24.9	+1.7
CGA2				*e*S	Sg	06 25 29.6	+3.5
SJS	**Escuela Geolog**	**0.35**	**131**	*e*P	Pg	06 25 25.9	+0.1
SJS				*e*S	Sg	06 25 31.8	+1.2
CASO	**Castillo**	**0.48**	**303**	*i* P	Pb	06 25 29.4	-0.7
CASO				*i* S	Sb	06 25 36.2	-1.4
URSC	**Urasca**	**0.63**	**122**	*e*P	Pg	06 25 30.6	-0.7
QCR	**Quepos**	**0.76**	**168**	*e*P	Pg	06 25 33.7	+0.3
AMAS	**Alto Masis**	**0.79**	**304**	*i* P	Pg	06 25 33.8	-0.5
AMAS				*i* S	Sg	06 25 45.5	+0.8
BUS	**Buena Vista**	**0.83**	**138**	*e*P	Pg	06 25 34.2	-1.2
JCR	**Jicaral**	**0.84**	**248**	*e*P	Pb	06 25 36.2	-0.1
LIM1	**Limonal**	**1.05**	**300**	*i* P	Pg	06 25 39.0	-0.3
LAPC	**Finca la Perla**	**1.24**	**299**	*i* P	Pg	06 25 41.4	-1.4
ACR	**Cerro Adams**	**1.89**	**143**	*e*P	Pn	06 25 51.7	-0.4
BRU2	**Volcan**	**2.11**	**130**	*i* P	Pb	06 25 56.7	-1.3
	baz=196,slow=6.2						
BRU2				*i* S	Sb	06 26 26.0	+1.2
TBS2		**2.14**	**130**	*i* P	Pn	06 25 55.3	-0.4
TBS2				*e*S	Sb	06 26 24.7	-0.8
BCIP	**Isla Barro Col**	**4.53**	**102**	*e*P	Pn	06 26 26.2	-2.1
PTP	**Ponta Puerca**	**19.81**	**64**	*i* P	x	06 26 02.9	

*ISCJB **09** 06:28:34.9±0.4, 19°32S±0°03×66°79W±0°05, h250km±3km, mb4.5/84, Error ellipse: s-maj=7.6km s-min=4.7km az=161.2*
*IDC **09** 06:28:35.6±1.0, 19°26S×66°67W, h248km±7km, mb4.1/14, mb1 4.1/19, mb1mx4.1/21, mbtmp4.0/19, Error ellipse: s-maj=14.3km s-min=10.2km az=48.0*
*GUC **09** 06:28:35.2±0.5, 19°31S×66°95W, h239km±11km*
*NEIC **09** 06:28:35.5±0.5, 19°30S×66°66W, h246km±4km, mb4.6/74, Error ellipse: s-maj=7.8km s-min=5.1km az=73.0*
*BJI **09** 06:28:36.5, 19°30S×66°60W, h243km, mB4.9/6*

ISC 09 06:28:35.5±0.5, 19°40S±0°04×66°81W±0°06, h251km±4km, h250km:pP-P, n530, σ1913/565, mb4.6/84, 176C-184D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**2.65**	**275**	*i* P	**Pn**	**06 29 25.5**	**+1.0**
MNMC				*i* S	**S**	**06 30 02.9**	**-0.4**
PB01	**Plate Boundary**	**3.00**	**236**	*i* P	**Pn**	**06 29 28.9**	**+0.8**
PB01				*e*S	**S**	**06 30 09.2**	**-0.5**
HMBC	**Humberstone**	**3.03**	**253**	*i* P	**Pn**	**06 29 28.5**	**+0.1**
HMBC				*i* S	**S**	**06 30 08.8**	**-1.4**
PSGC	**Pisagua**	**3.13**	**266**	*i* P	**Pn**	**06 29 29.3**	**-0.2**
PSGC				*e*S	**S**	**06 30 10.3**	**-2.0**
PB09	**Plate Boundary**	**3.30**	**223**	*i* P	**Pn**	**06 29 32.8**	**+1.4**
PB09				*i* S	**S**	**06 30 16.7**	**+0.9**
LPAZ	**La Paz**	**3.34**	**338**	P	**Pn**	**06 29 33.3**	**+0.9**
	20nm,0.3s,baz=119,slow=5.9,SNR=365						
LPAZ				S	**S**	**06 30 15.6**	**-1.9**
	16nm,0.3s,baz=155,slow=8.3,SNR=15						
LPAZ	**La Paz**	**3.34**	**338**	*e*Pn	**Pn**	**06 29 33.4**	**+0.9**
LPAZ				S	**S**	**06 30 15.6**	**-1.9**
LPAZ				*e*S	S	06 30 16.6	-1.2
LPAZ	**La Paz**	**3.34**	**338**	*i* P	**Pn**	**06 29 33.4**	**+0.9**
LPAZ				*e*S	**S**	**06 30 16.6**	**-0.9**
ARCH	**Arica**	**3.42**	**285**	*i* P	**Pn**	**06 29 32.6**	**0.0**
ARCH				*i* S	**S**	**06 30 15.8**	**-2.2**
LVC	**Limon Verde**	**3.75**	**211**	*e*Pn	**Pn**	**06 29 38.4**	**+1.8**
LVC				*e*S	**S**	**06 30 26.9**	**+1.7**
LVC	**Limon Verde**	**3.75**	**211**	*i* P	**Pn**	**06 29 38.4**	**+1.8**
LVC				*i* S	**S**	**06 30 25.9**	**+0.6**
MACH	**Maria Elena**	**3.92**	**224**	*i* P	**Pn**	**06 29 40.2**	**+1.7**
MACH	**Maria Elena**	**3.92**	**224**	*i* P	**Pn**	**06 29 40.2**	**+1.7**
SIV	**San Ignacio**	**6.43**	**59**	P	**Pn**	**06 30 08.1**	**-1.0**
	baz=274,slow=14						
SIV	**San Ignacio**	**6.43**	**59**	P	**Pn**	**06 30 08.1**	**-1.0**
LCO	**Las Campanas**	**10.21**	**200**	*e*Pn	**Pn**	**06 30 56.2**	**-0.6**
LCO				*e*S	**S**	**06 32 47.2**	**-4.5**
SAML	**Samuel**	**10.97**	**19**	*e*Pn	**Pn**	**06 31 05.0**	**-1.3**
CPUP	**Villa Florida**	**11.13**	**130**	P	**P**	**06 31 11.4**	**-0.9**
	0.4nm,0.3s,baz=

426A	McDonald Obser	61.31 324	⇑P	P	06 38 24.9	-0.2
	baz=62					
VNA3	Neumayer Olymp	61.44 162	*e*	P	06 38 27.3	+2.2
TUL1	Tulsa	61.48 333	⇑P	P	06 38 25.2	-0.5
	baz=62,SNR=13					
CCM	Cathedral Cave	61.59 338	*e*P	P	06 38 25.1	-1.4
	54nm,0.5s					
VNA1	Neumayer--Stat	61.61 161	*e*	P	06 38 29.1	+2.9
326A	Caldwell Ranch	61.77 324	⇓P	P	06 38 27.8	-0.2
	baz=62,SNR=7.6					
WMOK	Wichita Mounta	61.82 330	*e*P	P	06 38 28.1	0.0
	4.0nm,0.4s					
227A	Bennet, Jal	61.93 325	⇑P	P	06 38 28.9	-0.1
	baz=62					
425A	Indio Mountain	61.94 323	⇓P	P	06 38 28.9	-0.2
	baz=62,SNR=19					
VNA2	Neumayer--Watz	61.98 161	*e*	P	06 38 31.0	+2.3
	baz=292,slow=7.9					
325A	Bean Ranch, Si	62.37 323	⇑P	P	06 38 31.8	-0.2
	baz=63,SNR=26					
SFIN	Scholer Farm	62.40 343	⇑P	P	06 38 29.6	-2.2
	baz=63,SNR=6.0					
226A	Malaga, Loving	62.41 325	⇑P	P	06 38 32.5	+0.3
	baz=63,SNR=8.8					
CLNB	Carlsbad	62.44 325	*e*P	P	06 38 32.6	+0.2
	1.5nm,0.7s					
127A	Arkansas Junct	62.48 326	⇑P	P	06 38 32.1	-0.6
	baz=63					
GDL2	Guadalupe Moun	62.66 324	*e*P	P	06 38 34.3	+0.5
324A	Moseley Ranch,	62.71 323	⇓P	P	06 38 33.3	-0.9
	baz=63,SNR=22					
126A	Clayton Basin,	62.81 325	⇓P	P	06 38 34.8	0.0
	baz=63,SNR=7.3					
225A	Deer Hill, Car	62.84 324	⇓P	P	06 38 35.0	-0.1
	baz=63,SNR=11					
Z27A	Tatum	62.89 326	⇑P	P	06 38 34.6	-0.8
	baz=63,SNR=10					
CPRX	Cap Rock	63.02 325	*e*P	P	06 38 36.9	+0.6
	7.9nm,0.8s					
125A	Gardner Draw,	63.16 325	⇑P	P	06 38 36.4	-0.7
	baz=63					
MSTX	Muleshoe	63.17 327	⇓P	P	06 38 36.6	-0.6
	baz=63,SNR=10					
224A	Cornudas Mount	63.20 324	⇓P	P	06 38 36.8	-0.7
	baz=63,SNR=22					
HDIL	Hopedale	63.21 341	*e*P	P	06 38 34.9	-2.3
	16nm,0.5s					
Z26A	Caprock	63.27 325	⇑P	P	06 38 37.4	-0.4
	baz=64,SNR=13					
Y27A	Causey	63.31 326	⇑P	P	06 38 37.3	-0.7
	baz=64,SNR=8.7					
SNAA	Sanae	63.62 161	*e*P	P	06 38 40.7	+1.2
	3.3nm,0.6s					
Z25A	Roswell	63.67 325	⇓P	P	06 38 39.8	-0.6
	baz=64,SNR=19					
Y26A	Elida	63.69 326	⇓P	P	06 38 40.7	+0.2
	baz=64					
X27A	F and S Farms,	63.87 327	⇓P	P	06 38 41.3	-0.5
	baz=64					
Z24A	Sheeppen Canyo	64.06 325	⇑P	P	06 38 42.9	-0.2
	baz=64,SNR=19					
222A	Williams Famil	64.12 322	⇓P	P	06 38 43.8	+0.3
	baz=64					
Y25A	Mesa, Roswell	64.15 325	⇑P	P	06 38 43.0	-0.6
	baz=64,SNR=11					
X26A	CR and CF Fran	64.16 327	⇑P	P	06 38 43.4	-0.3
	baz=64,SNR=5.8					
W27A	Bowe Ranch, En	64.18 327	⇓P	P	06 38 43.4	-0.4
	baz=64					
320A	Kipp Ranch, An	64.41 321	⇓P	P	06 38 46.0	+0.7
	baz=65					
Z23A	Rita Site, Whi	64.49 324	⇓P	P	06 38 46.1	+0.3
	baz=65					
122A	Conniff Cattle	64.50 323	⇑P	P	06 38 46.8	+0.9
	baz=65					
KSU1	Kansas State U	64.53 335	*e*P	P	06 38 45.1	-0.7
	35nm,0.9s					
W26A	Owens Ranch, T	64.56 327	⇑P	P	06 38 47.1	+0.9
	baz=65					
X25A	Clemmons Ranch	64.59 326	⇓P	P	06 38 45.9	-0.5
	baz=65,SNR=5.6					
220A	Playas Peak, P	64.81 321	⇑P	P	06 38 48.5	+0.5
	baz=65,SNR=10					
121A	Cookes Peak, D	64.83 322	⇓P	P	06 38 48.9	+0.9
	baz=65,SNR=7.8					
319A	Douglas	64.88 320	⇓P	P	06 38 49.1	+0.7
	baz=65,SNR=18					
Y23A	Lovelace Mesa,	64.89 324	⇑P	P	06 38 48.7	+0.2
	baz=65,SNR=9.1					
Z22A	Elephant Butte	64.89 323	⇑P	P	06 38 49.3	+0.8
	baz=65,SNR=6.0					
W25A	X Bar L Ranch,	65.02 327	⇓P	P	06 38 49.0	-0.1
	baz=65,SNR=16					
219A	White Tail Can	65.31 321	⇓P	P	06 38 51.9	+0.8
	baz=66,SNR=11					
Z21A	St. Cloud Mine	65.33 323	⇑P	P	06 38 52.3	+0.9
	baz=66,SNR=16					
T28A	Walsh	65.33 329	⇑P	P	06 38 50.6	-0.5
	baz=66,SNR=6.0					
120A	U Bar Ranch, L	65.33 322	⇓P	P	06 38 52.3	+1.0
	baz=66,SNR=8.1					
318A	Bisbee	65.36 320	⇓P	P	06 38 52.1	+0.7
	baz=66,SNR=15					
BNM	Barren Site	65.37 324	*e*P	P	06 38 52.1	+0.6
	6.1nm,0.8s					
Y22A	Socorro	65.40 324	⇓P	P	06 38 52.2	+0.5
	baz=66,SNR=7.0					
LPM	Los Pinos Moun	65.49 324	*e*P	P	06 38 52.8	+0.5
W24A	Lazy 6 Ranch,	65.51 326	⇑P	P	06 38 52.3	-0.1
	baz=66,SNR=5.3					
U26A	Atchley Ranch,	65.56 328	⇑P	P	06 38 52.7	0.0
	baz=66,SNR=12					
V25A	Rancho No Teng	65.57 327	⇓P	P	06 38 53.0	+0.2
	baz=66,SNR=18					
T27A	Campo	65.58 329	⇑P	P	06 38 52.7	-0.1
	baz=66,SNR=12					
JFWS	Jewell Farm	65.65 341	*e*P	P	06 38 51.6	-1.3
	16nm,0.6s					
Z20A	Nine Sixteen R	65.72 322	⇑P	P	06 38 54.8	+1.1
	baz=66,SNR=9.4					
218A	Dragoon	65.77 320	⇓P	P	06 38 54.6	+0.5
	baz=66					
V24A	Rampart Ranch,	65.83 326	⇑P	P	06 38 54.6	+0.1
	baz=66,SNR=14					
LAZ	Ladron	65.84 324	*e*P	P	06 38 55.5	+0.9
	7.4nm,1.1s					
X22A	Bernardo	65.84 324	⇓P	P	06 38 55.8	+1.3
	baz=66					
Y21A	Point of Rocks	65.85 323	⇓P	P	06 38 55.7	+1.1
	baz=66,SNR=9.1					
W23A	Werner Place,	65.87 325	⇓P	P	06 38 55.1	+0.4
	baz=66,SNR=9.9					
ANMO	Albuquerque	65.88 325	*e*P	P	06 38 54.7	0.0
	4.2nm,0.8s					
119A	Ashpeak Ranch,	65.89 321	⇓P	P	06 38 55.7	+1.0
	baz=66,SNR=6.6					
U25A	Circle Dot Ran	65.90 327	⇓P	P	06 38 55.2	+0.3
	baz=66,SNR=12					
Y20A	Horse Springs,	66.17 323	⇓P	P	06 38 57.7	+1.0
	baz=66,SNR=5.8					
W22A	Albuquerque	66.19 325	⇓P	P	06 38 57.7	+1.0
	baz=66,SNR=9.0					
X21A	Alamocita Cree	66.23 324	⇑P	P	06 38 58.0	+0.9
	baz=66,SNR=10					
Z19A	T-Link Ranch,	66.24 322	⇓P	P	06 38 58.1	+1.1
	baz=66					
DBIC	Dimbokro	66.25 73	P	P	06 38 56.0	-1.2
	7.6nm,0.6s,baz=230,slow=7.5,SNR=16					
DBIC	Dimbokro	66.25 73	*e*P	P	06 38 56.6	-0.6
	6.9nm,0.6s					
V23A	Ortiz Mt. (NFS	66.32 326	⇓P	P	06 38 58.4	+0.8
	baz=67,SNR=13					
U24A	Moreno Valley	66.36 327	⇓P	P	06 38 58.6	+0.8
	baz=67,SNR=5.7					
S26A	Kim	66.39 329	⇑P	P	06 38 58.3	+0.5
	baz=67,SNR=12					
TUC	Tucson	66.45 320	*e*P	P	06 38 59.1	+0.9
	6.4nm,0.8s					
T25A	Trinidad	66.48 328	⇓P	P	06 38 59.1	+0.6
	baz=67,SNR=5.9					
Z18A	Geronimo	66.54 321	⇑P	P	06 38 59.9	+1.1
	baz=67					
R27A	Eads	66.59 330	⇓P	P	06 38 59.2	+0.1
	baz=67					
X20A	Quemado	66.70 323	⇓P	P	06 39 01.1	+1.1
	baz=67,SNR=11					
T24A	Torres, Weston	66.75 327	⇑P	P	06 39 01.4	+1.1
	baz=67,SNR=7.7					
U23A	El Rito	66.77 326	⇑P	P	06 39 01.2	+0.8
	baz=67,SNR=6.7					
V22A	San Miguel Ran	66.84 325	⇑P	P	06 39 01.9	+1.0
	baz=67,SNR=16					
S25A	Robets Cordova	66.89 328	⇑P	P	06 39 01.6	+0.5
	baz=67,SNR=7.7					
R26A	Arlington	66.91 329	⇓P	P	06 39 01.2	+0.1
	baz=67,SNR=7.0					
Z17A	San Carlos Hig	66.95 321	⇑P	P	06 39 02.2	+0.8
	baz=67					
Y18A	Canyon Day Jun	67.03 322	⇓P	P	06 39 02.9	+0.9
	baz=67,SNR=6.3					
X19A	St. Johns	67.07 323	⇑P	P	06 39 02.9	+0.6
	baz=67					
KSCO	Kaye Shedlock'	67.09 330	⇓P	P	06 39 02.8	+0.6
	baz=67					
BGNE	Belgrade	67.11 335	⇑P	P	06 39 01.9	-0.3
	baz=67,SNR=16					
W20A	Ramah	67.13 324	⇑P	P	06 39 03.6	+1.0
	baz=67,SNR=9.1					
V21A	Milan	67.15 325	⇑P	P	06 39 03.7	+0.9
	baz=67					
U22A	Llaves	67.16 326	⇓P	P	06 39 04.0	+1.2
	baz=67,SNR=5.6					
R25A	Fountain Ranch	67.20 329	⇑P	P	06 39 03.3	+0.3
	baz=67					
T23A	Casias Ranch,	67.23 327	⇓P	P	06 39 03.9	+0.6
	baz=68					
S24A	Houchin Ranch,	67.27 328	⇑P	P	06 39 04.6	+1.0
	baz=68,SNR=7.6					
Q26A	Hugo	67.44 330	⇓P	P	06 39 04.9	+0.4
	baz=68					
214A	Organ Pipe Nat	67.45 319	⇓P	P	06 39 05.8	+1.3
	baz=68,SNR=12					
Y17A	Roosevelt	67.45 321	⇓P	P	06 39 05.6	+1.1
	baz=68,SNR=22					
X18A	Snowflake	67.52 322	⇓P	P	06 39 06.0	+0.9
	baz=68,SNR=5.8					
V20A	Brimhall	67.60 324	⇓P	P	06 39 06.3	+0.7
	baz=68					
W19A	Sanders	67.62 323	⇑P	P	06 39 06.6	+0.9
	baz=68,SNR=5.5					
U21A	Nageezi	67.62 325	⇑P	P	06 39 06.5	+0.8
	baz=68,SNR=7.8					
T22A	Edith	67.66 326	⇑P	P	06 39 07.0	+1.0
	baz=68,SNR=13					
R24A	Sanders Place,	67.67 328	⇑P	P	06 39 06.8	+0.8
	baz=68,SNR=13					
S23A	Nye Farm, Mont	67.72 327	⇓P	P	06 39 07.3	+0.9
	baz=68,SNR=5.5					
Q25A	Bedland, Calha	67.78 329	⇓P	P	06 39 06.8	+0.1
	baz=68					
W18A	Petrified Fore	67.82 323	⇑P	P	06 39 07.7	+0.7
	baz=68,SNR=5.4					
P26A	Davis Ranch, A	67.86 330	⇑P	P	06 39 07.8	+0.7
	baz=68					
V19A	Window Rock	67.86 324	⇓P	P	06 39 08.3	+1.1
	baz=68					
X17A	Forest Lakes	67.88 322	⇓P	P	06 39 08.8	+1.3
	baz=68,SNR=11					
PICO	Pico	67.92 32	*e*S	S	06 47 44.9	-0.6
O27A	Beecher Island	67.96 331	⇑P	P	06 39 08.4	+0.8
	baz=68,SNR=12					
T21A	Navajo Lake	67.98 326	⇓P	P	06 39 08.8	+0.8
	baz=68					
R23A	Moffat	68.00 328	⇑P	P	06 39 08.8	+0.7
	baz=68,SNR=11					
114A	Black Gap (USA	68.03 319	⇓P	P	06 39 09.2	+1.2
	baz=68,SNR=8.9					
U20A	Newcomb	68.05 325	⇓P	P	06 39 09.1	+0.7
	baz=68,SNR=9.1					
S22A	4UR Ranch, Cre	68.17 327	⇓P	P	06 39 10.0	+0.8
	baz=68,SNR=13					
P25A	Willow Gulch B	68.21 330	⇓P	P	06 39 09.9	+0.7
	baz=68,SNR=5.5					
Q24A	Divide	68.26 329	⇑P	P	06 39 10.4	+0.7
	baz=68,SNR=6.9					
X16A	Lo Mia Camp, P	68.31 321	⇑P	P	06 39 11.2	+1.2
	baz=68,SNR=14					
W17A	Winslow	68.35 322	⇑P	P	06 39 11.1	+0.9
	baz=69					
V18A	Ganado	68.36 323	⇑P	P	06 39 10.7	+0.4
	baz=69,SNR=6.8					
U19A	Dine' College,	68.37 324	⇓P	P	06 39 10.6	+0.2
	baz=69					
OGNE	Ogallala	68.37 332	⇓P	P	06 39 10.5	+0.3
	baz=69					
O26A	Horse Wrangler	68.39 331	⇓P	P	06 39 11.0	+0.7
	baz=69					
N27A	Anderson Farm,	68.48 332	⇑P	P	06 39 11.2	+0.4
	baz=69					
Z14A	Wintersburg	68.49 320	⇓P	P	06 39 11.8	+0.9
	baz=69					
R22A	Saguache, Gunn	68.50 327	⇑P	P	06 39 12.1	+0.9
	baz=69,SNR=8.7					
ECSD	EROS Data Cent	68.51 337	*e*P	P	06 39 10.1	-0.8
	4.9nm,0.5s					
P24A	Kohler Place,	68.57 329	⇑P	P	06 39 12.3	+0.8
	baz=69,SNR=6.8					
S21A	Coal Bank Pass	68.61 326	⇑P	P	06 39 12.6	+0.7
	baz=69,SNR=10					
MVCO	Mesa Verde	68.66 325	*e*P	P	06 39 13.2	+1.1
	25nm,1.1s					
MVCO	Mesa Verde	68.66 325	⇑P	P	06 39 12.8	+0.7
	baz=69,SNR=14					
T19A	Beclabito	68.66 325	⇑P	P	06 39 12.7	+0.5
	baz=69,SNR=9.5					
V17A	Tonalea, Kykot	68.78 323	⇓P	P	06 39 14.0	+1.2
	baz=69					
Z13A	Yuma Proving G	68.82 319	⇓P	P	06 39 14.1	+1.2
	baz=69,SNR=7.4					
U18A	Rough Rock, Ch	68.83 324	⇑P	P	06 39 14.1	+0.9
	baz=69,SNR=6.7					
P23A	Jefferson	68.92 328	⇓P	P	06 39 14.5	+0.7
	baz=69					
Y14A	Wickenburg	68.92 320	⇓P	P	06 39 14.8	+1.2
	baz=69,SNR=16					
R21A	Cimarron	69.02 327	⇑P	P	06 39 15.2	+0.8
	baz=69,SNR=13					
S20A	Disappointment	69.04 326	⇓P	P	06 39 15.7	+1.1
	baz=69,SNR=14					
WUAZ	Wupatki	69.04 322	*e*P	P	06 39 15.7	+1.3
	16nm,0.9s					
WUAZ	Wupatki	69.04 322	⇓P	P	06 39 15.8	+1.3
	baz=69,SNR=15					
Q22A	Crested Butte,	69.06 327	⇑P	P	06 39 15.7	+1.0
	baz=69,SNR=9.4					
O24A	Longmont	69.12 329	⇓P	P	06 39 15.7	+0.8
	baz=69					
ISCO	Idaho Springs	69.13 329	*e*P	P	06 39 15.5	+0.4
	3.5nm,0.7s					
ISCO	Idaho Springs	69.13 329	⇑P	P	06 39 15.9	+0.8
	baz=69,SNR=7.6					
R20A	Redvale	69.32 326	⇑P	P	06 39 17.4	+1.2
	baz=70,SNR=23					
SMCO	Snowmass	69.33 328	*e*P	P	06 39 17.3	+0.8
	15nm,1.0s					
U16A	Tuba City	69.34 323	⇑P	P	06 39 17.5	+1.2
	baz=70,SNR=9.0					
T18A	Mexican Hat	69.35 324	⇑P	P	06 39 17.0	+0.7
	baz=70,SNR=14					
PV01	Paradox Valley	69.38 326	*e*P	P	06 39 17.6	+1.1
	1µm,1.0s					
Q21A	Lamborn Mesa,	69.38 327	⇓P	P	06 39 17.3	+0.8
	baz=70					
S19A	Harvey Farm, M	69.39 325	⇓P	P	06 39 17.3	+0.6
	baz=70,SNR=9.8					
U17A	Shonto	69.40 323	⇓P	P	06 39 17.9	+1.2
	baz=70,SNR=6.9					
L27A	T5 Ranch, Ells	69.42 332	⇓P	P	06 39 17.7	+1.2
	baz=70					
GLA	Glamis	69.45 318	*e*P	P	06 39 17.8	+1.0
	4.9nm,0.7s					
GLA	Glamis	69.45 318	⇑P	P	06 39 17.9	+1.0
	baz=70					
P22A	Eagle	69.54 328	⇑P	P	06 39 18.3	+0.8
	baz=70,SNR=7.7					
N24A	Carr	69.58 330	⇑P	P	06 39 18.5	+0.9
	baz=70					
O23A	Lake Granby, G	69.60 329	⇓P	P	06 39 18.7	+0.8
	baz=70,SNR=8.2					
M25A	Palm-Egli Farm	69.68 331	⇑P	P	06 39 18.9	+0.7
	baz=70					
L26A	Underwood Farm	69.72 332	⇓P	P	06 39 19.1	+0.7
	baz=70					
Y12C	Blythe	69.72 319	⇓P	P	06 39 19.9	+1.4
	baz=70,SNR=7.4					
PV04	Paradox Valley	69.75 326	*e*P	P	06 39 19.4	+0.7
T17A	Navajo Res., N	69.77 324	⇑P	P	06 39 20.4	+1.5
	baz=70,SNR=12					
PV10	Paradox Valley	69.81 326	*e*P	P	06 39 19.4	+0.2
	62nm,0.7s					
S18A	Hurst Farm, Bl	69.82 325	⇓P	P	06 39 20.5	+1.2
	baz=70,SNR=17					
P21A	Newcastle	69.83 328	⇑P	P	06 39 20.5	+1.2
	baz=70,SNR=16					
Q20A	Ridgley Place,	69.84 327	⇓P	P	06 39 19.7	+0.4
	baz=70					
PDMCI	Parker Dam,Lak	69.85 320	⇓P	P	06 39 20.1	+0.9
	baz=70					
R19A	Curley Farm, L	69.86 326	⇓P	P	06 39 20.0	+0.5
	baz=70,SNR=9.6					
O22A	Kremmling	69.87 329	⇓P	P	06 39 20.0	+0.4
	baz=70,SNR=12					
K27A	Fluecklinger Fa	69.89 333	⇑P	P	06 39 20.1	+0.7
	baz=70,SNR=6.1					
SWSC	Sam W. Stewart	69.99 318	⇑P	P	06 39 21.1	+1.0
	baz=70					
DVTC	Desert V Tower	70.00 317	⇑P	P	06 39 21.6	+1.3
	baz=70					
M24A	Cheyenne	70.06 331	⇓P	P	06 39 21.5	+1.0
	baz=70,SNR=12					
N23A	Red Feather La	70.14 329	⇑P	P	06 39 21.7	+0.6
	baz=70,SNR=5.3					
U15A	North Rim	70.21 322	⇓P	P	06 39 23.3	+1.6
	baz=70,SNR=24					
S17A	Black Ridge (B	70.22 324	⇑P	P	06 39 22.7	+1.2
	baz=70,SNR=5.1					
PHWY	Pilot Hill	70.22 330	*e*P	P	06 39 22.2	+0.5
	6.6nm,0.6s					
W13A	Hualapai Mount	70.24 320	⇓P	P	06 39 23.3	+1.5
	baz=70,SNR=9.4					
BC3	Big Chuckawall	70.24 318	⇓P	P	06 39 22.9	+1.2
	baz=70,SNR=8.4					
R18A	Canyonlands Na	70.27 325	⇑P	P	06 39 22.5	+0.6
	baz=70					
K26A	Motz Farm, Whi	70.29 332	⇓P	P	06 39 22.9	+1.1
	baz=70					
P20A	De Beque	70.30 327	⇓P	P	06 39 23.0	+1.0
	baz=70					
N22A	Wattenberg Ran	70.31 329	⇓P	P	06 39 23.3	+1.1
	baz=71					
Q19A	Hogan Spring (	70.35 326	⇓P	P	06 39 23.3	+1.0
	baz=71,SNR=26					
MONP	Monument Peak	70.36 317	⇑P	P	06 39 23.9	+1.3
	baz=71,SNR=5.1					
O21A	Pagoda	70.37 328	⇓P	P	06 39 23.8	+1.2
	baz=71					
IRM	Iron Mountain	70.38 319	⇑P	P	06 39 23.7	+1.2
	baz=71,SNR=7.7					
BAR	Barrett	70.38 317	*e*P	P	06 39 23.8	+1.3
	8.1nm,0.6s					
M23A	Laramie	70.48 330	⇓P	P	06 39 23.7	+0.6
	baz=71,SNR=9.4					
K25A	Mack Ranch, Ha	70.53 332	⇓P	P	06 39 24.6	+1.3
	baz=71					
O20A	White River Ci	70.70 327	⇓P	P	06 39 25.3	+0.8
	baz=71,SNR=10.0					
P19A	Cripple Cowboy	70.70 327	⇑P	P	06 39 25.5	+0.9
	baz=71,SNR=10					
S16A	Weppner Ranch,	70.73 324	⇑P	P	06 39 25.5	+0.8
	baz=71,SNR=7.8					
R17A	Hanksville Air	70.73 325	⇑P	P	06 39 25.6	+1.0
	baz=71,SNR=22					
QSPA	South Pole Qui	70.78 180	*e*P	P	06 39 26.5	+1.9
	10nm,0.8s					
N21A	Black Mountain	70.81 328	⇓P	P	06 39 26.3	+1.1
	baz=71					
BELC	Belle Mtn. Jos	70.81 318	⇓P	P	06 39 26.5	+1.3
	baz=71,SNR=6.8					
PFO	Pinyon Flat Ob	70.84 318	*e*P	P	06 39 26.5	+1.1
	14nm,1.3s					
PFO	Pinyon Flat Ob	70.84 318	⇓P	P	06 39 26.7	+1.3
	baz=71,SNR=5.1					
M22A	Cedar Creek Ra	70.84 329	⇑P	P	06 39 26.6	+1.2
	baz=71					
Q18A	Rafter H Ranch	70.92 326	⇓P	P	06 39 26.7	+1.0
	baz=71					
LDFC	Landfair	70.97 320	*e*P	P	06 39 28.4	+2.3
	23nm,1.0s					
L23A	Garrett	70.97 330	⇑P	P	06 39 26.9	+0.8
	baz=71					
K24A	Anderson Ranch	71.04 331	⇓P	P	06 39 27.5	+1.1
	baz=71					
GMRC	Granite Mounta	71.11 319	⇑P	P	06 39 28.5	+1.6
	baz=71,SNR=14					
SRU	San Rafael	71.13 325	*e*P	P	06 39 28.0	+0.9
	22nm,0.7s					
N20A	Spens Gulch,	71.23 328	⇑P	P	06 39 28.4	+0.7
	baz=72,SNR=6.5					
O19A	Miners Draw (B	71.27 327	⇑P	P	06 39 28.6	+0.8
	baz=72,SNR=17					
Q16A	Castle Valley	71.34 325	⇓P	P	06 39 29.4	+1.0
	baz=72,SNR=14					
P18A	Preston Nutter	71.36 326	⇑P	P	06 39 29.6	+1.0
	baz=72,SNR=20					
M21A	Separation Pea	71.37 329	⇓P	P	06 39 29.2	+0.7
	baz=72,SNR=6.3					
K23A	Bowen Ranch, D	71.44 331	⇑P	P	06 39 29.5	+0.7
	baz=72					
J24A	Dixon Ranch, L	71.45 332	⇑P	P	06 39 29.9	+1.1
	baz=72,SNR=7.2					
R15A	Junction	71.45 324	⇓P	P	06 39 30.2	+1.2
	baz=72,SNR=8.1					
P17A	Butcher Ranch,	71.51 326	⇓P	P	06 39 30.2	+0.9
	baz=72,SNR=12					
HEC	Hector,Ludlow	71.56 319	⇓P	P	06 39 31.2	+1.6
	baz=72					
BBRC	Big Bear Solar	71.56 318	⇑P	P	06 39 30.9	+1.1
	baz=72					
CCUT	Cedar City	71.61 323	*e*P	P	06 39 32.3	+2.3
	16nm,0.8s					
MSU	Marysvale	71.61 324	*e*P	P	06 39 31.4	+1.4
TMUT	Trail Mountain	71.64 325	*e*P	P	06 39 31.5	+1.3
	9.4nm,0.6s					
L21A	Rawlins	71.65 329	⇓P	P	06 39 30.6	+0.5
	baz=72,SNR=15					
M20A	Sweetwater, Wa	71.69 328	⇓P	P	06 39 31.0	+0.6
	baz=72,SNR=5.2					
O18A	Roosevelt	71.70 327	⇓P	P	06 39 31.5	+1.1
	baz=72					
N19A	John Jarvie Ra	71.74 327	⇑P	P	06 39 31.1	+0.5
	baz=72,SNR=8.9					
RSSD	Black Hills	71.81 333	*e*P	P	06 39 31.2	+0.2
	7.6nm,0.8s					
ARUT	Antelope Range	71.81 323	*e*P	P	06 39 32.9	+1.7
	18nm,1.0s					
I24A	Kuemmerle Ranc	71.85 332	⇓P	P	06 39 32.1	+0.9
	baz=72					
BFSC	Mount Baldy Ra	72.01 318	⇓P	P	06 39 33.7	+1.3
	baz=72					
O17A	Robinson Place	72.03 326	⇓P	P	06 39 33.7	+1.2
	baz=72,SNR=16					
N18A	Larsen Ranch,	72.05 327	⇑P	P	06 39 33.5	+1.0
	baz=72					
K21A	Alcova	72.10 330	⇑P	P	06 39 33.7	+0.9
	baz=72,SNR=19					
P16A	Fountain Green	72.10 325	⇓P	P	06 39 33.9	+1.0
	baz=72					
L20A	Wamsutter	72.15 329	⇓P	P	06 39 33.8	+0.7
	baz=72,SNR=12					
GSC	Goldstone	72.16 319	*e*P	P	06 39 34.5	+1.4
	4.4nm,0.6s					
GSC	Goldstone	72.16 319	⇓P	P	06 39 34.6	+1.4
	baz=72,SNR=5.2					
AGMN	Agassiz Nation	72.23 340	*e*P	P	06 39 32.5	-0.6
	18nm,0.8s					
J22A	Midwest	72.34 331	⇓P	P	06 39 34.4	+0.3
	baz=73,SNR=20					
MPU	Maple

baz=73,SNR=5.1
K20A **Yellowstone Ra** 72.64 329 ⇑P P 06 39 36.1 +0.2
baz=73,SNR=20
JLU **Jordanelle** 72.70 326 *e*P P 06 39 37.9 +1.5
14nm,0.8s
I22A **9 Mile Ranch,** 72.71 331 ⇓P P 06 39 36.6 +0.3
baz=73,SNR=11
L19A **Farson** 72.72 328 ⇓P P 06 39 37.2 +0.7
baz=73,SNR=11
J21A **Lysite** 72.74 330 ⇓P P 06 39 35.5 -1.0
baz=73
H23A **Clabaugh Cattl** 72.75 332 ⇑P P 06 39 36.9 +0.4
baz=73
BLG **Laguna Peak** 72.83 317 ⇑P P 06 39 38.0 +0.9
baz=73
N16A **Rees Ranch, Co** 72.90 326 ⇓P P 06 39 38.6 +1.1
baz=73,SNR=6.1
M17A **Scullys Gap (B** 72.92 327 ⇑P P 06 39 37.9 +0.2
baz=73,SNR=5.4
L18A **Fontenelle, Gr** 72.93 328 ⇓P P 06 39 38.3 +0.6
baz=73,SNR=17
FURC **Furnace Creek,** 72.95 320 P P 06 39 39.3 +1.7
baz=73,SNR=7.9
K19A **Absolon Red Bu** 73.01 329 ⇑P P 06 39 38.2 +0.1
baz=73,SNR=11
I21A **Big Trails, Te** 73.02 331 ⇓P P 06 39 38.3 +0.1
baz=73,SNR=25
J20A **Shoshoni** 73.05 330 ⇓P P 06 39 39.2 +1.0
baz=73
MPMC **Manual Prospec** 73.07 319 ⇓P P 06 39 39.6 +1.0
baz=73,SNR=6.4
MDND **Maddock** 73.11 338 ⇓P P 06 39 38.6 +0.2
baz=73,SNR=15
DUG **Dugway** 73.14 325 *e*P P 06 39 40.2 +1.3
11nm,0.8s
DUG **Dugway** 73.14 325 ⇓P P 06 39 40.0 +1.1
baz=73,SNR=12
H22A **Clearmont** 73.20 332 ⇑P P 06 39 39.4 +0.3
baz=73,SNR=6.0
G23A **Biddle** 73.25 333 ⇓P P 06 39 39.5 +0.2
baz=74,SNR=14
PDAR **Pinedale Array** 73.32 329 P P 06 39 40.0 +0.1
4.6nm,0.5s,baz=124,slow=8.3,SNR=62
PDAR **Pinedale Array** 73.32 329 P P 06 39 40.0 +0.1
PD02 **Pinedale Array** 73.33 329 *e*P P 06 39 40.1 0.0
PD01 **Pinedale Array** 73.34 329 *e*P P 06 39 40.2 +0.1
F24A **Ekalaka** 73.36 334 ⇓P P 06 39 40.0 +0.1
baz=74,SNR=7.6
ISA **Isabella** 73.43 318 *e*P P 06 39 42.5 +1.9
7.9nm,0.8s
ISA **Isabella** 73.43 318 ⇑P P 06 39 41.8 +1.2
baz=74
R11A **Troy Canyon, C** 73.44 322 ⇑P P 06 39 42.2 +1.5
baz=74,SNR=16
J19A **Crowheart** 73.44 329 ⇓P P 06 39 41.1 +0.5
baz=74,SNR=12
K18A **Toltan Ranch,** 73.46 328 ⇑P P 06 39 41.7 +0.9
baz=74,SNR=8.9
L17A **Cokeville** 73.48 327 ⇑P P 06 39 41.2 +0.3
baz=74,SNR=12
I20A **Worland** 73.52 330 ⇓P P 06 39 41.4 +0.4
baz=74,SNR=9.9
H21A **Big Horn, Sher** 73.54 331 ⇓P P 06 39 41.0 -0.1
baz=74,SNR=8.1
G22A **Birney** 73.66 332 ⇑P P 06 39 41.9 +0.1
baz=74
F23A **Volborg** 73.67 333 ⇓P P 06 39 42.0 +0.3
baz=74
L16A **Fish Haven** 73.71 327 ⇓P P 06 39 43.0 +0.8
baz=74
PKM **Peak Mountain** 73.81 317 ⇓P P 06 39 43.6 +0.6
baz=74
M15A **Larsen Ranch,** 73.84 326 ⇓P P 06 39 43.5 +0.6
baz=74,SNR=15
H20A **Greybull** 73.87 331 ⇓P P 06 39 43.0 +0.1
baz=74,SNR=10
E24A **Baker** 73.87 334 ⇓P P 06 39 43.3 +0.4
baz=74,SNR=5.2
SCHQ **Schefferville** 73.93 360 P P 06 39 42.4 -0.6
11nm,0.9s,baz=229,slow=7.7,SNR=12
SCHQ **Schefferville** 73.93 360 P P 06 39 42.4 -0.6
VES **Vestal, Richgr** 73.93 318 ⇑P P 06 39 44.6 +1.3
baz=74
ULM **Lac du Bonnet** 73.95 341 P P 06 39 42.3 -0.8
20nm,0.6s,baz=150,slow=5.8,SNR=39
ULM **Lac du Bonnet** 73.95 341 *e*P P 06 39 42.2 -0.8
13nm,0.6s
K17A **Gardner Place,** 73.98 328 ⇑P P 06 39 44.1 +0.3
baz=74,SNR=16
I19A **Meeteetse** 73.99 330 ⇓P P 06 39 44.4 +0.5
baz=74,SNR=9.6
G21A **Lodge Grass** 74.07 332 ⇑P P 06 39 44.3 +0.2
baz=74
F22A **Rosebud** 74.08 332 ⇓P P 06 39 44.2 +0.1
baz=74,SNR=8.2
I18A **Diamond G Ranc** 74.14 329 ⇓P P 06 39 45.5 +0.7
baz=74,SNR=18
SMMC **Simmler** 74.18 317 ⇓P P 06 39 46.3 +1.4
baz=74
L15A **Malad City** 74.20 326 ⇑P P 06 39 45.5 +0.5
baz=74,SNR=23
E23A **Ismay** 74.24 333 ⇓P P 06 39 45.1 +0.1
baz=74
HVU **Hansel Valley** 74.24 326 *e*P P 06 39 45.4 +0.1
12nm,1.0s
RCTC **Rector, Farmer** 74.32 318 ⇓P P 06 39 46.8 +1.2
baz=74
D24A **Glendive** 74.33 334 ⇓P P 06 39 46.1 +0.7
baz=75
J17A **Brown Place, J** 74.33 328 ⇑P P 06 39 46.7 +0.9
baz=75,SNR=16
K16A **Soda Springs** 74.38 327 ⇑P P 06 39 47.1 +1.0
baz=75,SNR=15
REDW **Red Top Meadow** 74.40 328 *e*P P 06 39 47.0 +0.8
9.3nm,0.8s
LOHW **Long Hollow** 74.46 329 *e*P P 06 39 47.4 +0.9
7.2nm,0.7s
E22A **Miles City** 74.47 333 ⇓P P 06 39 46.4 +0.1
baz=75
H19A **Powell** 74.47 330 ⇓P P 06 39 46.9 +0.4
baz=75,SNR=6.9
G20A **Bridger** 74.53 331 ⇑P P 06 39 46.6 -0.1
baz=75,SNR=9.0
TPAW **Teton Pass** 74.54 328 *e*P P 06 39 47.9 +0.8
10.0nm,0.6s
RRI2 **Red Ridge** 74.62 328 *e*P P 06 39 48.4 +0.9
24nm,0.8s
MOOW **Moose Ponds** 74.63 329 *e*P P 06 39 48.1 +0.6
12nm,1.1s
L14A **Malta** 74.67 326 ⇓P P 06 39 48.2 +0.6
baz=75,SNR=7.2
I17A **Pilgrim Ck.** 74.67 329 ⇑P P 06 39 49.0 +1.2
baz=75,SNR=21
C24A **Savage** 74.70 335 ⇑P P 06 39 48.2 +0.6
baz=75,SNR=5.8
DCID1 **Drake Creek** 74.73 328 *e*P P 06 39 49.4 +1.3
7.6nm,0.4s
D23A **Lindsay** 74.73 334 ⇓P P 06 39 48.5 +0.7
baz=75
K15A **Arbon** 74.76 327 ⇑P P 06 39 49.0 +0.8
baz=75,SNR=9.2
TORD **Torodi Ar. Bea** 74.79 70 P P 06 39 47.2 -1.6
8.1nm,0.7s,baz=254,slow=5.6,SNR=59
TORD pP pP 06 40 49.9 +2.5
4.3nm,0.9s,baz=250,slow=5.2,SNR=8.6
TORD **Torodi Ar. Bea** 74.79 70 P P 06 39 47.2 -1.6
TORD pP pP 06 40 49.9 +2.5
ELK **Elko** 74.86 324 *e*P P 06 39 49.9 +0.9
F20A **Billings** 74.94 331 ⇓P P 06 39 49.5 +0.4
baz=75
K14A **Jones Ranch, D** 74.99 326 ⇑P P 06 39 50.1 +0.5
baz=75,SNR=5.4
H17A **Grant Village** 75.02 329 ⇓P P 06 39 51.1 +1.3
baz=75,SNR=12
E21A **Keefer Ranch,** 75.03 332 ⇑P P 06 39 50.2 +0.7
baz=75
I16A **Newdale** 75.09 328 ⇓P P 06 39 51.1 +1.0
baz=75,SNR=8.4
NVAR **Mina Array Bea** 75.10 321 P P 06 39 51.3 +1.0
4.8nm,0.8s,baz=150,slow=6.5,SNR=21
NVAR **Mina Array Bea** 75.10 321 P P 06 39 51.3 +1.0
D22A **Cohagen** 75.12 333 ⇓P P 06 39 50.9 +0.8
baz=75,SNR=8.5
YFT **Old Faithful** 75.19 329 *e*P P 06 39 53.3 +2.6
23nm,1.1s
G18A **Lazy EL Ranch,** 75.22 330 ⇑P P 06 39 51.4 +0.6
baz=76,SNR=9.2
C23A **Lambert** 75.22 334 ⇑P P 06 39 51.3 +0.8
baz=76
YNR **Norris Junctio** 75.31 329 *e*P P 06 39 53.1 +1.7
8.0nm,0.9s
F19A **Roth Farm, Mol** 75.34 331 ⇓P P 06 39 51.8 +0.5
baz=76,SNR=15
DGMT **Dagmar** 75.36 335 *e*P P 06 39 52.4 +1.1
22nm,0.6s
DGMT **Dagmar** 75.36 335 ⇑P P 06 39 52.0 +0.7
baz=76,SNR=6.4
D21A **La Casta Ranch** 75.40 333 ⇑P P 06 39 52.3 +0.6
baz=76
YMR **Madison River** 75.41 329 *e*P P 06 39 53.6 +1.7
14nm,0.4s
E20A **Meyer Farm, Mu** 75.47 332 ⇑P P 06 39 52.7 +0.7
baz=76,SNR=13
H16A **Russell Place,** 75.57 329 ⇑P P 06 39 54.2 +1.4
baz=76,SNR=14
A24A **Westby** 75.65 336 ⇑P P 06 39 53.7 +0.8
baz=76,SNR=5.1
B23A **Brockton** 75.67 335 ⇓P P 06 39 53.8 +0.7
baz=76,SNR=9.8
I15A **Monteview** 75.67 328 ⇓P P 06 39 54.9 +1.6
baz=76,SNR=12
E19A **Rath Farm, Rou** 75.73 332 ⇓P P 06 39 54.2 +0.7
baz=76,SNR=18
F18A **Big Timber** 75.73 331 ⇑P P 06 39 54.2 +0.6
baz=76,SNR=14
G17A **Pierce Place,** 75.78 330 ⇓P P 06 39 55.1 +1.2
baz=76
D20A **Manuel Ranch,** 75.92 332 ⇑P P 06 39 54.9 +0.3
baz=76,SNR=7.2
C21A **Desert Coulee** 76.04 333 ⇑P P 06 39 55.7 +0.5
baz=76
I14A **Mackay** 76.11 327 ⇑P P 06 39 57.4 +1.5
baz=76,SNR=18
J13A **Cove Ranch, Pi** 76.11 326 ⇓P P 06 39 57.2 +1.3
baz=76,SNR=11
F17A **Fitzpatrick Pl** 76.17 330 ⇑P P 06 39 57.3 +1.2
baz=76,SNR=15
H15A **Lima** 76.20 328 ⇑P P 06 39 57.7 +1.4
baz=76,SNR=7.2
G16A **Moss Hill, Enn** 76.22 329 ⇓P P 06 39 57.2 +0.8
baz=76,SNR=9.1
D19A **Cripps Ranch,** 76.30 332 ⇑P P 06 39 57.0 +0.3
baz=76,SNR=8.6
E18A **Harlowton** 76.32 331 ⇓P P 06 39 57.5 +0.6
baz=77,SNR=6.3
C20A **Veseth Ranch,** 76.34 333 ⇓P P 06 39 57.5 +0.6
baz=77
HLID **Hailey** 76.35 326 *e*P P 06 39 58.8 +1.5
18nm,0.7s
HLID **Hailey** 76.35 326 ⇓P P 06 39 58.8 +1.5
baz=77,SNR=27
I13A **Wildhorse Cree** 76.45 327 ⇓P P 06 39 59.3 +1.5
baz=77,SNR=20
A22A **Carney Farms,** 76.47 335 ⇓P P 06 39 58.2 +0.6
baz=77,SNR=8.2
B21A **Ellsworth Farm** 76.47 334 ⇑P P 06 39 58.4 +0.8
baz=77
G15A **Dillon** 76.51 329 ⇓P P 06 39 59.0 +0.9
baz=77,SNR=13
WCN **Washoe City** 76.53 320 ⇑P P 06 39 59.4 +1.1
baz=77
F16A **Kennard Place,** 76.54 330 ⇑P P 06 39 59.1 +0.9
baz=77
H14A **Leadore** 76.56 328 ⇓P P 06 39 59.9 +1.5
baz=77,SNR=8.7
E17A **Martinsdale** 76.68 330 ⇓P P 06 39 59.7 +0.8
baz=77,SNR=11
DLMT **Dillon** 76.71 329 *e*P P 06 40 00.1 +1.0
7.6nm,0.7s
D18A **Linart Farms,** 76.74 331 ⇑P P 06 39 59.9 +0.7
baz=77
C19A **Slack Wire Ran** 76.81 332 ⇑P P 06 40 00.1 +0.5
baz=77
A21A **Bergtoll Ranch** 76.88 334 ⇑P P 06 40 00.4 +0.5
baz=77
I12A **Atlanta** 76.89 326 ⇓P P 06 40 01.7 +1.4
baz=77,SNR=14
B20A **Solberg Farm,** 76.91 333 ⇑P P 06 40 00.6 +0.6
baz=77
LRM **Limekiln Ridge** 76.97 329 *e*P P 06 40 01.6 +0.9
38nm,0.7s
H13A **Challis** 76.97 327 ⇑P P 06 40 02.0 +1.4
baz=77,SNR=19
MFID **Camas Ranch** 77.00 326 *e*P P 06 40 02.1 +1.4
14nm,0.8s
MFID **Camas Ranch** 77.00 326 ⇑P P 06 40 02.3 +1.5
baz=77,SNR=12
F15A **Butte** 77.00 329 ⇑P P 06 40 01.9 +1.1
baz=77
G14A **Jackson** 77.05 328 ⇑P P 06 40 02.2 +1.1
baz=77
D17A **Six Diamond Ra** 77.11 331 ⇓P P 06 40 01.8 +0.5
baz=77,SNR=7.2
E16A **East Helena** 77.11 330 ⇑P P 06 40 02.3 +0.9
baz=77
H12A **Diamond D Ranc** 77.27 327 ⇓P P 06 40 03.6 +1.3
baz=78,SNR=17
B19A **Brinkman Farms** 77.31 333 ⇑P P 06 40 02.8 +0.5
baz=78
HRY **Holter Researc** 77.32 330 *e*P P 06 40 03.8 +1.3
G13A **Cobalt** 77.33 328 ⇓P P 06 40 04.0 +1.4
baz=78,SNR=49
EGMT **Eagleton** 77.34 332 ⇑P P 06 40 03.1 +0.6
baz=78
F14A **Wisdom** 77.41 329 ⇑P P 06 40 04.3 +1.2
baz=78,SNR=11
D16A **Dana Ranch, Ca** 77.42 330 ⇑P P 06 40 04.0 +1.0
baz=78,SNR=15
E15A **Deer Lodge** 77.50 329 ⇑P P 06 40 04.3 +0.8
baz=78,SNR=9.8
C17A **Wharram Farm,** 77.50 331 ⇑P P 06 40 03.5 +0.1
baz=78
A19A **Klindworth Far** 77.59 333 ⇓P P 06 40 04.0 +0.2
baz=78
OHCM **Honcut** 77.59 320 *e*P P 06 40 06.3 +2.3
B18A **Beardsley Farm** 77.63 332 ⇓P P 06 40 04.5 +0.5
baz=78,SNR=12.2
SYO **Syowa Base** 77.76 159⇑ *e*P P 06 40 04.8 +0.3
F13A **Darby** 77.87 328 ⇑P P 06 40 06.6 +1.0
baz=78,SNR=28
D15A **Lincoln** 77.88 330 ⇑P P 06 40 06.7 +1.1
baz=78,SNR=11
E14A **Clinton** 77.90 329 ⇓P P 06 40 06.8 +1.1
baz=78,SNR=8.3
B17A **L&G Farms, Che** 78.01 332 ⇑P P 06 40 06.1 -0.1
baz=78
A18A **Metzger Ranch,** 78.06 333 ⇑P P 06 40 06.6 +0.3
baz=78
C16A **Fuhringer Ranc** 78.08 331 ⇑P P 06 40 06.9 +0.3
baz=78
E13A **Victor** 78.26 329 ⇑P P 06 40 08.8 +1.2
baz=78,SNR=16
D14A **Greenough** 78.38 329 ⇑P P 06 40 08.9 +0.6
baz=79
A17A **Triple J Farms** 78.45 332 ⇓P P 06 40 09.2 +0.6
baz=79,SNR=8.2
C15A **Salmond Ranch,** 78.45 330 ⇑P P 06 40 09.6 +0.9
baz=79,SNR=14
MOD **Modoc** 78.49 322 *e*P P 06 40 10.1 +1.1
4.9nm,0.6s
B15A **Bradely Ranch,** 78.82 331 ⇓P P 06 40 10.5 -0.2
baz=79,SNR=8.2
A16A **West Butte Ran** 78.85 332 ⇓P P 06 40 11.2 +0.4
baz=79
SWMT **Swartz Lake** 78.92 330 *e*P P 06 40 12.3 +1.1
WDC **Whiskeytown Da** 79.00 320 *e*P P 06 40 11.1 -0.6
7.1nm,0.7s
YBMT **Yellow Bay** 79.18 330 *e*P P 06 40 13.5 +0.9
B14A **Marquette Ranc** 79.19 331 ⇑P P 06 40 12.7 0.0
baz=79
JTMT **Jette** 79.22 330 *e*P P 06 40 14.0 +1.1
A15A **Johnson Ranch,** 79.38 331 ⇓P P 06 40 13.5 -0.1
baz=80
BSMT **Bassoo Peak** 79.54 329 *e*P P 06 40 15.8 +1.1
A14A **Double T Ranch** 79.69 331 ⇑P P 06 40 15.3 0.0
baz=80
B13A **Whitefish** 79.75 330 ⇓P P 06 40 16.4 +0.7
baz=80,SNR=7.8
C12B **Naegeli Ranch,** 79.77 329 ⇓P P 06 40 16.6 +0.9
baz=80,SNR=9.1
WALA **Waterton Lakes** 79.98 331 *e*P P 06 40 17.1 +0.2
0.3nm,0.9s
B12A **Libby** 80.36 329 ⇑P P 06 40 19.8 +1.0
baz=81,SNR=9.0
A12A **Yaak River Ran** 80.71 330 ⇑P P 06 40 21.5 +0.8
baz=81,SNR=12
HAWA **Hanford** 80.94 326 *e*P P 06 40 22.9 +1.0
10.0nm,0.5s
NEW **Newport** 80.96 329 *e*P P 06 40 21.6 -0.4
4.7nm,0.9s
NEW **Newport** 80.96 329 ⇓P P 06 40 22.0 0.0
baz=81
OD2 **Odessa Site #2** 81.17 327 *e*P P 06 40 23.9 +0.8
ETW **Entiat** 82.14 327 *e*P P 06 40 29.5 +1.2
HEBO **Mount Hebo** 82.51 323 *e*P P 06 40 28.9 -1.2
BOSA **Boshof** 82.68 118 P P 06 40 31.9 +0.3
1.8nm,0.4s,baz=220,slow=9.1,SNR=9.7
BOSA **Boshof** 82.68 118 *e*P P 06 40 31.9 +0.3
2.6nm,0.5s
ESDC **Sonseca Array** 82.96 44 P P 06 40 32.8 +0.2
0.4nm,0.4s,baz=253,slow=3.7,SNR=4.5
ESDC **Sonseca Array** 82.96 44 P P 06 40 32.8 +0.2
LBTB **Lobatse** 84.09 114 *e*P P 06 40 39.6 +0.7
4.8nm,0.7s
MAW **Mawson** 85.76 163 P P 06 40 47.8 +1.7
2.7nm,0.6s,baz=200,slow=7.5,SNR=4.1
MAW **Mawson** 85.76 163 P P 06 40 47.8 +1.7
YKA **Yellowknife Ar** 89.89 340 P P 06 41 05.5 0.0
5.2nm,0.5s,baz=129,slow=4.7,SNR=221
YKA pP pP 06 42 10.0 +3.7
1.6nm,0.9s,baz=131,slow=4.7,SNR=6.0
YKA **Yellowknife Ar** 89.89 340 P P 06 41 05.5 0.0
YKA pP pP 06 42 10.0 +3.7
ARU **Arti** 125.32 34 *e*PKPdf PKPdf 06 47 05.5 -0.5
ABKAR **Akbulak array** 128.28 42 *e*PKPdf PKPdf 06 47 12.8 +0.8
ASAR **Alice Springs** 132.67 206 PKP PKPdf 06 47 21.5 +0.3
1.2nm,0.6s,baz=125,slow=1.8,SNR=9.8
ASAR **Alice Springs** 132.67 206 PKP PKPdf 06 47 21.5 +0.3
WRA **Warramunga Arr** 135.75 209 PKP PKPdf 06 47 27.7 +0.7
2.4nm,0.5s,baz=161,slow=1.5,SNR=12
WRA **Warramunga Arr** 135.75 209 PKP PKPdf 06 47 27.7 +0.7
KKAR **Karatay Array** 137.14 47 *e*PKPdf PKPdf 06 47 29.5 +0.7
KURK **Kurchatov** 138.50 33 *e*PKPdf PKPdf 06 47 32.0 +1.0
ZALV **Zalesovo Beam** 139.22 25 PKhKP PKPpre 06 47 27.7
2.0nm,0.6s,baz=339,slow=2.0,SNR=4.8
ZALV PKP PKPdf 06 47 33.0 +0.8
7.1nm,0.6s,baz=287,slow=2.8,SNR=34
ZALV SKPbc SKPbc 06 50 43.4 -0.2
1.5nm,0.6s,baz=295,slow=3.4,SNR=7.5
ZALV **Zalesovo Beam** 139.22 25 PKPpre PKPpre 06 47 27.7
ZALV PKP PKPdf 06 47 33.0 +0.8
ZALV SKPbc SKPbc 06 50 43.4 -0.2
AAK **Ala-Archa** 140.04 46 *e*PKPdf PKPdf 06 47 35.0 +0.6
MKAR **Makanchi Array** 142.79 36 PKhKP PKPpre 06 47 28.5
0.3nm,0.4s,baz=184,slow=24,SNR=8.1
MKAR PKP PKPdf 06 47 36.4 -2.5
2.3nm,1.0s,baz=325,slow=2.1,SNR=8.9
MKAR SKPbc SKPbc 06 50 53.0 0.0
1.4nm,0.6s,baz=324,slow=2.5,SNR=14
MKAR **Makanchi Array** 142.79 36 PKPpre PKPpre 06 47 28.5
MKAR PKP PKPdf 06 47 36.4 -2.5
MKAR SKPbc SKPbc 06 50 53.0 0.0
ASAJ **Asahikawa** 145.22 322 *e*PKPdf PKPab 06 47 44.1 +0.2
TLY **Talaya** 146.92 11 *e*PKPdf PKPdf 06 47 45.3 -0.6
HYB **Hyderabad** 147.11 88 *i* PKP PKPbc 06 47 50.0 +0.2
WMQ **Urumqi** 147.62 36 *e*PKPbc PKPbc 06 47 49.3 -1.2
USRK **Ussuriysk Arra** 150.70 332 PKPbc PKPbc 06 47 58.6 +0.7
15nm,0.7s,baz=20,slow=0.9,SNR=28
SONM **Songino Array** 151.10 9 PKP PKPdf 06 47 53.9 +1.0
2.0nm,0.9s,baz=327,slow=1.1,SNR=14
SONM PKPbc PKiKP 06 47 59.3 -0.1
16nm,0.7s,baz=330,slow=1.6,SNR=96
SONM **Songino Array** 151.10 9 PKP PKPdf 06 47 53.9 +1.0
SONM PKPbc PKiKP 06 47 59.3 -0.1
ULN **Ulaanbaatar** 151.17 9 *e*PKPdf PKPdf 06 47 54.0 +1.0
ULN *e*PKPbc PKPbc 06 47 59.4 +0.2
ULN *e*PKPab PKPab 06 48 08.5 +0.7
MJAR **Matsushiro Arr** 152.20 313 PKPbc PKPbc 06 48 02.1 +0.5
3.1nm,0.6s,baz=121,slow=1.3,SNR=10
MJAR PKPab PKPab 06 48 12.4 0.0
6.2nm,0.8s,baz=61,slow=2.4,SNR=12
MJAR **Matsushiro Arr** 152.20 313 PKPbc PKPbc 06 48 02.1 +0.5
MJAR PKPab PKPab 06 48 12.4 0.0
MAT **Matsushiro** 152.20 313 PKP PKPbc 06 48 01.6 -0.1
CN2 **Changchun** 153.59 340 *e*PKPbc PKPdf 06 47 58.5 +2.0
KSRS **Korea Array** 157.88 327 PKPab PKPab 06 48 36.2 -0.3
2.5nm,0.8s,baz=31,slow=4.7,SNR=3.8
KSAR **Wonju Array Be** 157.91 328 PKPab PKPab 06 48 36.2 -0.5
HHC **Hu-ho-hao-te** 158.57 3 *e*PKP PKPdf 06 48 05.0 +1.7
HHC pPKP pPKPdf 06 49 02.9 -4.6
HHC sPKP 06 49 27.0
HHC PKS PKSdf 06 51 37.9 +1.0
HHC PP PP 06 52 24.8 +5.0
HHC SKS SKSdf 06 54 46.2 +1.2
HHC SKKS SKKSac 06 58 47.7 +3.1
HHC SS SS 07 12 02.1 +2.5
HHC AMB AMB
comp=Z,59nm,5.3s
CD2 **Chengdu** 165.72 35 PKP PKPdf 06 48 09.8 -0.8
KMI **Kunming** 168.77 58 PKP PKPdf 06 48 11.5 -1.8
GYA **Guiyang** 170.75 39 *e*PKP PKPdf 06 48 13.2 -1.0
GYA pPKP pPKPdf 06 49 15.6 -3.1
GYA PKPab PKPab 06 49 33.0 -0.7
GYA sPKP 06 49 40.0
GYA PKS PKSdf 06 51 44.4 -2.5
GYA PP PP 06 53 25.3 +1.3
GYA AMB AMB
comp=Z,90nm,8.3s

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*DJA **09** 06:41:30,2.67S×139.64E,h43km,mb4.4/8*
IDC 09 06:41:20.9±1.3,2.83S×139.80E,h0km,mb3.7/5,
mb1 4.0/6,mb1mx3.7/15,mbtmp3.8/6,ML4.0/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.4/26,Error ellipse: s-maj=50.8km
s-min=15.8km az=99.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.82**	**197**	P	P	06 45 31.2	-0.2
	0.5nm,0.3s,baz=19,slow=12,SNR=5.1						
WRA				S	Sn	06 48 40.5	-10
	0.3nm,0.3s,baz=16,slow=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**20.57**	**221**	P	Pn	06 46 03.3	-0.3
	1.4nm,0.6s,baz=30,slow=12,SNR=5.8						
FITZ				S	S	06 49 41.7	-11
	1.5nm,0.5s,baz=229,slow=20,SNR=5.7						
FITZ				LR	LR	06 54 38.6	
	comp=Z,44nm,18.0s,baz=113,slow=39						
ASAR	**Alice Springs**	**21.48**	**195**	P	P	06 46 12.8	+1.3
	1.9nm,0.8s,baz=28,slow=11,SNR=8.7						
ASAR				S	S	06 50 09.5	-1.2
	0.5nm,0.8s,baz=18,slow=25,SNR=4.4						
STKA	**Stephens Creek**	**28.94**	**177**	P	P	06 47 23.2	+1.2
	1.2nm,0.8s,baz=5.7,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**70.55**	**322**	P	P	06 52 37.2	-0.7
	0.2nm,0.7s,baz=126,slow=7.1,SNR=2.7						
ILAR	**Eielson Array**	**85.49**	**24**	P	P	06 54 00.3	-0.2
	0.4nm,0.8s,baz=260,slow=5.1,SNR=3.4						

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*DJA **09** 06:51:11,0.44S×132.69E,h24km,mb5.0/3*
IDC 09 06:51:04.7±2.6,0.62S×131.32E,h0km,mb3.8/2,
mb1 4.1/4,mb1mx3.7/18,mbtmp3.8/4,ML3.4/2,Error
ellipse: s-maj=121.7km s-min=25.7km az=76.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.25**	**198**	P	P	06 55 19.9	0.0
	0.1nm,0.3s,baz=40,slow=7.9,SNR=6.0						
WRA	**Warramunga Arr**	**19.43**	**171**	P	P	06 55 32.7	-0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.05**	**174**	P	P	06 56 11.7	-0.1
	0.7nm,0.5s,baz=356,slow=9.8,SNR=14						
MKAR	**Makanchi Array**	**63.73**	**325**	P	P	07 01 38.3	0.0
	0.5nm,0.7s,baz=123,slow=5.3,SNR=5.2						

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*BJI **09** 06:54:39.7,3.00S×99.83E,h35km,mB5.1/32,mb5.1/52,*
Ms5.0/45,Ms7 4.7/44
*IDC **09** 06:54:42.8±0.5,2.17S×99.79E,h0km,mb4.9/23,*
mb1 5.0/23,mb1mx4.9/25,mbtmp4.9/23,MS4.3/18,
Ms1 4.3/18,ms1mx4.1/32,Error ellipse: s-maj=20.3km
s-min=11.7km az=52.0
*ISCJB **09** 06:54:45.6±0.2,2.20S±0.03×99.79E±0.03,h30km,*
mb5.1/90,MS4.5/40,Error ellipse: s-maj=5.6km
s-min=4.2km az=43.9
*NEIC **09** 06:54:45.1±2.3,2.24S×99.76E,h16km±13km,mb5.1/32,*
Error ellipse: s-maj=7.0km s-min=4.3km az=66.0

MOS ***09*** *06:54:46.7±1.0,2.°02S±99.°93E,h33km,mb5.4/31, MS4.4/7, Error ellipse: s-maj=11.4km s-min=5.4km az=108.5*

DJA ***09*** *06:54:49,2.°07S±99.°51E,h55km,mb5.2/27*

ISC 09 06:54:47.1±0.3,2.30S±0.04±99.63E±0.05,h30km,n406, σ1ᵎ50/456,mb5.2/91,MS4.4/40,82C-52D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.98**	**23**	P			**Pn**	**06 55 17.3**	**-1.3**
BKNI	**Bangkinang**	**2.96**	**29**	P			**Pn**	**06 55 31.8**	**-0.3**
MNAI	**Manna**	**3.91**	**122**	P			**Pb**	**06 55 57.0**	**+1.7**
PSI	**Prapat**	**5.11**	**352**	P			**Pn**	**06 55 59.2**	**-2.6**
KGM	**Kluang**	**5.66**	**41**	P			**Pn**	**06 56 09.2**	**+0.1**
FRIM	**Kepong**	**5.85**	**20**	P			**Pn**	**06 56 11.6**	**-0.2**
MYKOM	**Kota Tinggi**	**5.86**	**46**	P			**Pn**	**06 56 11.9**	**0.0**
MYKOM	**Kota Tinggi**	**5.86**	**46**	P			**Pn**	**06 56 12.5**	**+0.6**
	133nm,1.2s,2μm1.0nm								
IPM	**Ipoh**	**6.87**	**12**	*e*Pn			**Pn**	**06 56 25.9**	**-0.1**
IPM	**Ipoh**	**6.87**	**12**	P			**Pn**	**06 56 27.2**	**+1.3**
IPM	**Ipoh**	**6.87**	**12**	P			**Pn**	**06 56 26.6**	**+0.7**
	103nm,1.1s,1μm1.1nm								
KULM	**Kulim**	**7.61**	**8**	*e*Pn			**Pn**	**06 56 35.8**	**-0.1**
KULM	**Kulim**	**7.61**	**8**	P			**Pn**	**06 56 35.6**	**-0.3**
KULM	**Kulim**	**7.61**	**8**	P			**Pn**	**06 56 35.1**	**-0.8**
	75nm,1.0s,940nm0.4nm								
BSI	**Banda Aceh**	**8.87**	**331**	P			Pn	06 57 04.0	+11
LEM	**Lembang**	**9.15**	**120**	P			Pn	06 57 08.2	+11
CISI	**Cisompet, Garu**	**9.69**	**123**	P			**Pn**	**06 57 07.5**	**+2.9**
	197nm,0.6s,3μm								
COCO	**West Island**	**10.21**	**196**	*e*P			**Pn**	**06 57 11.0**	**-0.7**
COCO					pmax	pmax			
	comp=Z,78nm,0.8s								
COCO	**West Island**	**10.21**	**196**	*e*Pn			**Pn**	**06 57 11.0**	**-0.7**
	comp=Z,78nm,0.8s								
COCO	**West Island**	**10.21**	**196**	P			Pn	06 57 17.5	+5.8
	comp=Z,111nm,0.8s,comp=Z,3μm								
SBUM	**Sibu**	**13.44**	**70**	P			**Pn**	**06 57 56.8**	**+0.8**
SBUM	**Sibu**	**13.44**	**70**	P			Pn	06 58 00.3	+4.3
KKM	**Kota Kinabalu**	**18.52**	**63**	*e*P			**P**	**06 59 00.1**	**-1.2**
	comp=Z,41nm,0.9s								
KKM	**Kota Kinabalu**	**18.52**	**63**	P			Pn	06 59 07.6	+5.9
SDKM	**Sandakan**	**19.24**	**66**	P			**P**	**06 59 08.6**	**-0.6**
TSM	**Tawau**	**19.37**	**70**	P			**P**	**06 59 10.2**	**-0.5**
KDM	**Kudat**	**19.46**	**62**	P			**P**	**06 59 11.5**	**0.0**
KAPI	**Kappang**	**20.26**	**98**	P			**P**	**06 59 17.9**	**-2.4**
	comp=Z,121nm,1.1s,baz=273,slow=11,SNR=14								
KAPI	**Kappang**	**20.26**	**98**	*e*P			**P**	**06 59 19.3**	**-1.1**
	comp=Z,108nm,0.9s								
KAPI	**Kappang**	**20.26**	**98**	P			**P**	**06 59 21.6**	**+1.3**
	comp=Z,133nm,1.1s,comp=Z,1μm								
MYLDM	**Lahad Datu**	**20.27**	**68**	P			**P**	**06 59 20.7**	**+0.3**
MYLDM	**Lahad Datu**	**20.27**	**68**	P			**P**	**06 59 20.2**	**-0.1**
	comp=Z,110nm,1.0s,comp=Z,1μm								
CM31	**Chiang Mai Arr**	**20.63**	**358**	*e*P			**P**	**06 59 22.9**	**-1.4**
	comp=Z,38nm,0.8s								
CMAR	**Chiang Mai Arr**	**20.63**	**358**	P			**P**	**06 59 22.6**	**-1.6**
	comp=Z,36nm,0.8s,baz=182,slow=10.0,SNR=29								
CMAR					LR		LR	07 07 42.7	
	comp=Z,1μm,19.4s,baz=315,slow=38								
CMAR	**Chiang Mai Arr**	**20.63**	**358**	P			**P**	**06 59 22.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**20.63**	**358**	P			**P**	**06 59 22.6**	**-1.6**
CHTO	**Chiang Mai**	**20.99**	**358**	*e*P			**P**	**06 59 26.5**	**-1.6**
CHTO					pmax	pmax			
	comp=Z,18nm,0.9s								
CHTO	**Chiang Mai**	**20.99**	**358**	*e*P			**P**	**06 59 26.5**	**-1.6**
	comp=Z,18nm,0.9s								
CHTO	**Chiang Mai**	**20.99**	**358**	P			**P**	**06 59 26.5**	**-1.6**
	comp=Z,24nm,1.0s,comp=Z,411nm								
LUWI	**Luwuk**	**23.17**	**87**	P			**P**	**06 59 51.0**	**-0.4**
	comp=Z,69nm,1.0s,comp=Z,1μm								
QIZ	**Qiongzhong**	**23.45**	**25**	P			**P**	**06 59 53.1**	**-1.0**
QIZ				S			**S**	**07 04 02.8**	**-3.0**
QIZ					pmax	pmax			
	comp=Z,66nm,1.0s								
QIZ					pmax	pmax			
	comp=Z,290nm,4.1s								
QIZ					LR	LR			
	comp=N,870nm,17.9s								
QIZ					LR	LR			
	comp=E,500nm,15.2s								
QIZ					LR	LR			
	comp=Z,1μm,19.0s								
QIZ	**Qiongzhong**	**23.45**	**25**	*e*P			**P**	**06 59 52.5**	**-1.6**
	comp=Z,85nm,1.1s								
MNI	**Manado**	**25.48**	**82**	P			pP	07 00 27.4	+5.8
KMI	**Kunming**	**27.42**	**6**	P			**P**	**07 00 30.1**	**-0.5**
KMI				pP			**pP**	**07 00 43.2**	**+3.9**
KMI				sP			**sP**	**07 00 47.3**	**+4.3**
KMI				PP			**PnPn**	**07 01 21.9**	**+6.2**
KMI				S			**S**	**07 05 08.6**	**-0.8**
KMI				sS			**sS**	**07 05 27.4**	**+3.6**
KMI					pmax	pmax			
	comp=Z,16nm,1.2s								
KMI					pmax	pmax			
	comp=Z,130nm,4.0s								
KMI					LR	LR			
	comp=N,610nm,13.8s								
KMI					LR	LR			
	comp=E,640nm,13.4s								
KMI					LR	LR			
	comp=Z,750nm,15.4s								
DAV	**Davao City (W)**	**27.52**	**70**	LR			LR	07 12 49.4	
	comp=Z,712nm,19.1s,baz=255,slow=40								
SHL	**Shillong**	**28.70**	**345**	*e*P			**P**	**07 00 41.5**	**-0.4**
GYA	**Guiyang**	**29.39**	**13**	P			**P**	**07 00 49.8**	**+1.9**
GYA				pP			**pP**	**07 01 01.2**	**+4.5**
GYA				sP			sP	07 01 06.7	+6.4
GYA				PP			**PnPn**	**07 01 45.8**	**+3.4**
GYA				S			**S**	**07 05 41.4**	**+1.4**
GYA				sS			**sS**	**07 05 57.8**	**+3.3**
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,4.8s								
GYA					LR	LR			
	comp=N,640nm,17.4s								
GYA					LR	LR			
	comp=E,580nm,18.2s								
GYA					LR	LR			
	comp=Z,610nm,17.7s								
FITZ	**Fitzroy Crossi**	**29.96**	**123**	P			**P**	**07 00 52.1**	**-0.9**
	comp=Z,9.6nm,1.0s,baz=304,slow=7.5,SNR=4.4								
FITZ	**Fitzroy Crossi**	**29.96**	**123**	*e*P			**P**	**07 00 51.9**	**-1.1**
	comp=Z,22nm,1.2s								
ODAN	**Odare**	**31.30**	**339**	*e*P			**P**	**07 01 05.6**	**+0.6**
ODAN	**Odare**	**31.30**	**339**	*e*P			**P**	**07 01 05.6**	**+0.6**
TAPN	**Taplejung**	**31.63**	**340**	⇑*i*P			**P**	**07 01 09.1**	**+1.1**
	comp=Z,150nm,0.9s								
TAPN	**Taplejung**	**31.63**	**340**	⇑*i*P			**P**	**07 01 09.1**	**+1.1**
RAMN	**Ramite**	**31.68**	**337**	⇑*i*P			**P**	**07 01 09.4**	**+1.1**
RAMN	**Ramite**	**31.68**	**337**	⇑*i*P			**P**	**07 01 09.4**	**+1.1**
JIRN	**Jiri**	**32.47**	**337**	⇑*i*P			**P**	**07 01 16.3**	**+0.9**
	comp=Z,124nm,0.9s								
JIRN	**Jiri**	**32.47**	**337**	⇑*i*P			**P**	**07 01 16.3**	**+0.9**
PKI	**Pulchoki**	**32.70**	**336**	⇑*i*P			**P**	**07 01 17.7**	**+0.3**
PKI	**Pulchoki**	**32.70**	**336**	⇑*i*P			**P**	**07 01 17.7**	**+0.3**
PKI	**Pulchoki**	**32.70**	**336**	⇑*i*P			**P**	**07 01 17.7**	**+0.3**
GUN	**Gumba**	**32.82**	**337**	⇑*i*P			**P**	**07 01 19.3**	**+0.9**
	comp=Z,62nm,0.6s								
GUN	**Gumba**	**32.82**	**337**	⇑*i*P			**P**	**07 01 19.3**	**+0.9**
LSA	**Lhasa**	**32.83**	**346**	P			**P**	**07 01 19.4**	**+0.7**
LSA					pmax	pmax			
	comp=Z,40nm,0.9s								
LSA	**Lhasa**	**32.83**	**346**	*e*P			**P**	**07 01 19.1**	**+0.4**
LSA					pmax	pmax			
	comp=Z,45nm,1.1s								
LSA	**Lhasa**	**32.83**	**346**	*e*P			**P**	**07 01 19.1**	**+0.4**
	comp=Z,45nm,1.1s								
DMN	**Daman**	**32.86**	**336**	⇑*i*P			**P**	**07 01 19.0**	**+0.3**
DMN	**Daman**	**32.86**	**336**	⇑*i*P			**P**	**07 01 19.0**	**+0.3**
KKN	**Kakani**	**32.95**	**336**	⇑*i*P			**P**	**07 01 19.9**	**+0.5**
	comp=Z,53nm,0.9s								
KKN	**Kakani**	**32.95**	**336**	⇑*i*P			**P**	**07 01 19.9**	**+0.5**
KKN	**Kakani**	**32.95**	**336**	⇑*i*P			**P**	**07 01 19.9**	**+0.5**
SSLB	**Suanglung**	**33.21**	**37**	*e*P			**P**	**07 01 20.7**	**-0.9**
	comp=Z,67nm,1.1s								
CD2	**Chengdu**	**33.26**	**6**	P			**P**	**07 01 24.1**	**+2.2**
CD2				pP			**pP**	**07 01 34.1**	**+3.4**
CD2				sP			**sP**	**07 01 38.2**	**+3.9**
CD2				PP			**PP**	**07 02 36.4**	**-1.1**
CD2				S			**S**	**07 06 41.7**	**+1.4**
CD2				sS			**sS**	**07 06 58.4**	**+3.6**
CD2					SS		**SnSn**	**07 08 45.5**	**+3.5**
CD2					pmax	pmax			
	comp=Z,20nm,0.5s								
CD2					pmax	pmax			
	comp=Z,80nm,4.5s								
CD2					LR	LR			
	comp=N,1μm,16.1s								
CD2					LR	LR			
	comp=E,850nm,17.2s								
GKN	**Gorkha**	**33.40**	**335**	⇑*i*P			**P**	**07 01 23.9**	**+0.6**
GKN	**Gorkha**	**33.40**	**335**	⇑*i*P			**P**	**07 01 23.9**	**+0.6**
KOLN	**Koldanda**	**33.64**	**334**	⇑*i*P			**P**	**07 01 26.2**	**+0.8**
	comp=Z,31nm,0.7s								
KOLN	**Koldanda**	**33.64**	**334**	⇑*i*P			**P**	**07 01 26.2**	**+0.8**
ENH	**Enshi**	**33.73**	**15**	*e*P			**P**	**07 01 23.6**	**-2.4**
	comp=Z,22nm,0.8s								
DANN	**Dangsing**	**34.07**	**335**	⇑*i*P			**P**	**07 01 29.9**	**+0.6**
DANN	**Dangsing**	**34.07**	**335**	⇑*i*P			**P**	**07 01 29.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**34.66**	**153**	P			**P**	**07 01 35.6**	**+1.6**
	comp=Z,7.8nm,0.8s,baz=320,slow=7.9,SNR=5.3								
NWAO					LR		LR	07 15 04.6	
	comp=Z,593nm,20.7s,baz=343,slow=35								
NWAO	**Narrogin (SRO)**	**34.66**	**153**	*e*P			**P**	**07 01 35.7**	**+1.6**
NWAO				*e*				07 01 44.9	
NWAO					pmax	pmax			
	comp=Z,17nm,0.9s								
NWAO	**Narrogin (SRO)**	**34.66**	**153**	*e*P			**P**	**07 01 35.7**	**+1.6**
	comp=Z,17nm,0.9s								
NWAO				*e*				07 01 44.9	
WHN	**Wuhan**	**35.55**	**22**	P			**P**	**07 01 41.5**	**-0.2**
WHN				*e*S			**S**	**07 07 14.4**	**-1.2**
WHN					LR		LR		
	comp=N,2μm,12.1s								
WHN					LR		LR		
	comp=E,2μm,13.0s								
WHN					LR		LR		
	comp=Z,3μm,17.4s								
XAN	**Xi'an**	**37.19**	**13**	P			**P**	**07 01 53.3**	**-2.4**
XAN					pmax	pmax			
	comp=Z,12nm,0.9s								
XAN					LR		LR		
	comp=N,710nm,15.7s								
XAN					LR		LR		
	comp=E,200nm,17.6s								
XAN					LR		LR		
	comp=Z,400nm,15.7s								
WRA	**Warramunga Arr**	**38.17**	**120**	P			**P**	**07 02 03.0**	**-1.2**
	comp=Z,37nm,0.9s,baz=296,slow=9.7,SNR=85								
WRA					PcP		**PcP**	**07 04 18.9**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=294,slow=2.5,SNR=4.1								
WRA					S		**S**	**07 07 53.2**	**-2.8**
	comp=Z,2.0nm,1.0s,baz=296,slow=16,SNR=5.4								
WRA	**Warramunga Arr**	**38.17**	**120**	P			**P**	**07 02 03.0**	**-1.2**
WRA								07 04 18.9	
WRA					S		**S**	**07 07 53.2**	**-2.8**
WRA	**Warramunga Arr**	**38.17**	**120**	P			**P**	**07 02 03.0**	**-1.2**
WRA					PcP		**PcP**	**07 04 18.9**	**+0.2**
WRA					S		**S**	**07 07 53.2**	**-2.8**
WRAB	**Tennant Creek**	**38.17**	**120**	*e*P			P	07 02 01.8	-2.4
WRAB					pmax	pmax			
	comp=Z,41nm,0.9s								
WRAB	**Tennant Creek**	**38.17**	**120**	*e*P			P	07 02 01.8	-2.4
	comp=Z,41nm,0.9s								
WRAB	**Tennant Creek**	**38.17**	**120**	P			**P**	**07 02 02.2**	**-2.0**
	comp=Z,276nm,0.9s,SNR=12								
WB2	**Warramunga Arr**	**38.18**	**120**	*e*P			**P**	**07 02 02.6**	**-1.6**
LZH	**Lanzhou**	**38.39**	**6**	*e*P			**P**	**07 02 04.7**	**-1.2**
LZH				pP			**pP**	**07 02 14.9**	**+0.1**
LZH				sP			**sP**	**07 02 19.2**	**+0.7**
LZH				PP			**PnPn**	**07 03 42.0**	**+5.9**
LZH				*e*S			**ScP**	**07 08 04.0**	**-1.2**
LZH				sS			**sS**	**07 08 17.1**	**+3.4**
LZH					pmax	pmax			
	comp=Z,47nm,1.5s								
LZH					pmax	pmax			
	comp=Z,110nm,4.2s								
LZH					LR	LR			
	comp=N,690nm,14.4s								
LZH					LR	LR			
	comp=E,500nm,15.2s								
LZH					LR	LR			
	comp=Z,780nm,16.5s								
NJ2	**Nanjing**	**38.73**	**27**	*e*P			**P**	**07 02 09.5**	**+0.9**
NJ2				pP			**pP**	**07 02 19.1**	**+1.6**
NJ2				sP			**sP**	**07 02 23.1**	**+1.9**
NJ2				PP			**PnPn**	**07 03 39.1**	**-0.9**
NJ2				S			**ScP**	**07 08 06.0**	**-0.3**
NJ2				sS			**sS**	**07 08 21.0**	**+2.4**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
NJ2					pmax	pmax			
	comp=Z,260nm,4.6s								
NJ2					LR	LR			
	comp=N,490nm,22.5s								
NJ2					LR	LR			
	comp=E,740nm,25.1s								
NJ2					LR	LR			
	comp=Z,660nm,20.4s								
ASAR	**Alice Springs**	**39.38**	**126**	P			**P**	**07 02 14.1**	**-0.3**
	comp=Z,15nm,0.9s,baz=304,slow=7.9,SNR=70								
ASAR					PcP		**PcP**	**07 04 22.8**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=299,slow=3.2,SNR=6.8								
ASAR					S		**S**	**07 08 12.0**	**-2.2**
	comp=Z,7.2nm,1.1s,baz=298,slow=16,SNR=17								
ASAR	**Alice Springs**	**39.38**	**126**	P			**P**	**07 02 14.1**	**-0.3**
ASAR								07 04 22.8	
ASAR					S		**S**	**07 08 12.1**	**-2.2**
ASAR	**Alice Springs**	**39.38**	**126**	P			**P**	**07 02 14.1**	**-0.3**
ASAR					PcP		**PcP**	**07 04 22.8**	**+0.3**
ASAR					S		**S**	**07 08 12.1**	**-2.2**
AS31	**Alice Springs**	**39.38**	**126**	*e*P			**P**	**07 02 13.9**	**-0.5**
AS31				*e*				07 02 25.4	
QIS	**Mount Isa**	**43.00**	**118**	*e*P			**P**	**07 02 42.8**	**-1.3**
HHC	**Hu-ho-hao-te**	**44.30**	**13**	*e*P			**P**	**07 02 56.1**	**+1.7**
HHC				pP			**pP**	**07 03 06.0**	**+2.6**
HHC				sP			**sP**	**07 03 10.3**	**+3.3**
HHC				PP			**PcP**	**07 04 41.6**	**+3.2**
HHC				S			**S**	**07 09 29.7**	**+3.1**
HHC				sS			**sS**	**07 09 45.7**	**+4.3**
HHC				SS			**SS**	**07 12 42.8**	**-3.1**
HHC					pmax	pmax			
	comp=Z,9.0nm,1.0s								
HHC					pmax	pmax			
	comp=Z,210nm,5.3s								
HHC					LR	LR			
	comp=N,890nm,12.4s								
HHC					LR	LR			
	comp=E,440nm,14.8s								
HHC					LR	LR			
	comp=Z,720nm,14.8s								
BJT	**Baijiatuau**	**44.76**	**18**	*e*P			**P**	**07 02 57.5**	**-0.4**
BJT					pmax	pmax			
	comp=Z,9.0nm,0.5s								
BJT	**Baijiatuau**	**44.76**	**18**	*e*P			**P**	**07 02 57.5**	**-0.4**
	comp=Z,9.5nm,0.5s								
BJI	**Beijing**	**44.78**	**18**	P			**P**	**07 02 57.0**	**-1.0**
BJI				sP			**sP**	**07 03 12.5**	**+1.9**
BJI				S			**S**	**07 09 35.9**	**+2.6**
BJI				sS			**sS**	**07 09 52.9**	**+4.8**
BJI					pmax	pmax			
	comp=Z,36nm,0.9s								
BJI					pmax	pmax			
	comp=Z,300nm,3.9s								
BJI					LR	LR			
	comp=N,710nm,14.2s								
BJI					LR	LR			
	comp=E,420nm,13.8s								
BJI					LR	LR			
	comp=Z,340nm,17.5s								
JNU	**Nakatsue**	**45.96**	**37**	*e*P			**P**	**07 03 06.0**	**-1.6**
	comp=Z,22nm,0.9s								
KSH	**Kashi**	**46.94**	**335**	P			**P**	**07 03 14.0**	**-1.3**
KSH				*e*pP			**pP**	**07 03 23.3**	**-1.1**
KSH				*e*sP			**sP**	**07 03 27.1**	**-0.8**
KSH				*e*PcP			**PcP**	**07 04 48.1**	**+0.5**
KSH				*e*PP			**PP**	**07 05 03.1**	**-3.0**
KSH				*e*S			S	07 09 58.5	-6.2
KSH				*e*ScS			**ScS**	**07 13 03.3**	**-4.7**
KSH					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KSH					pmax	pmax			
	comp=Z,80nm,3.6s								
KSH					LR	LR			
	comp=N,150nm,7.7s								
KSH					LR	LR			
	comp=E,190nm,4.9s								
KSH					LR	LR			
	comp=Z,140nm,5.0s								
WMQ	**Urumqi**	**47.14**	**348**	P			**P**	**07 03 17.6**	**+0.9**
WMQ				pP			**pP**	**07 03 27.6**	**+1.8**
WMQ				sP			**sP**	**07 03 31.4**	**+2.0**
WMQ				S			**S**	**07 10 06.6**	**-0.8**
WMQ					pmax	pmax			
	comp=Z,140nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,260nm,4.9s								
WMQ					LR	LR			
	comp=N,220nm,23.7s								
WMQ					LR	LR			
	comp=E,250nm,24.5s								
WMQ					LR	LR			
	comp=Z,220nm,26.3s								
KSAR	**Wonju Array Be**	**47.44**	**31**	P			**P**	**07 03 18.0**	**-1.0**
KSAR	**Wonju Array Be**	**47.44**	**31**	P			**P**	**07 03 17.9**	**-1.0**
KSRS	**Korea Array**	**47.46**	**31**	P			**P**	**07 03 17.9**	**-1.3**
	comp=Z,22nm,0.8s,baz=223,slow=8.5,SNR=39								
KSRS					LR		LR	07 22 27.9	
	comp=Z,240nm,19.9s,baz=229,slow=35								
GUMO	**Guam**	**47.56**	**69**	LR			LR	07 23 12.2	
	comp=Z,133nm,20.4s,baz=164,slow=36								
CTA	**Charters Tower**	**48.81**	**115**	P			**P**	**07 03 29.3**	**-0.7**
	comp=Z,21nm,0.9s,baz=281,slow=8.7,SNR=12								
CTA	**Charters Tower**	**48.81**	**115**	P			**P**	**07 03 29.3**	**-0.7**
CTA	**Charters Tower**	**48.81**	**115**	P			**P**	**07 03 29.3**	**-0.7**
SNY	**Shenyang**	**49.00**	**24**	⇓P			**P**	**07 03 28.4**	**-2.6**
SNY				S			**S**	**07 10 31.4**	**-2.2**
SNY					pmax	pmax			
	comp=Z,13nm,1.0s								
SNY					pmax	pmax			
	comp=Z,150nm,4.3s								
SNY					LR	LR			
	comp=E,680nm,14.1s								
SNY					LR	LR			
	comp=Z,540nm,12.9s								
QLP	**Quilpie**	**49.10**	**124**	*e*P			**P**	**07 03 32.2**	**+0.1**
ULHL	**Ulahol**	**49.13**	**337**	P			**P**	**07 03 33.4**	**+1.1**
	SNR=6.4								
ULHL					P		**P**	**07 03 33.4**	**+1.1**
	SNR=6.4								
STKA	**Stephens Creek**	**49.23**	**131**	P			**P**	**07 03 33.3**	**+0.3**
	comp=Z,16nm,0.9s,baz=305,slow=8.6,SNR=12								
STKA					LR		LR	07 25 50.6	
	comp=Z,540nm,21.4s,baz=115,slow=38								
STKA	**Stephens Creek**	**49.23**	**131**	*e*P			**P**	**07 03 33.6**	**+0.5**
	comp=Z,12nm,1.0s								
STKA	**Stephens Creek**	**49.23**	**131**	*e*P			**P**	**07 03 33.9**	**+0.8**
STKA					pmax	pmax			
	comp=Z,6.0nm,1.1s								
STKA	**Stephens Creek**	**49.23**	**131**	*e*P			**P**	**07 03 33.9**	**+0.8**
	comp=Z,6.2nm,1.1s								
KZA	**Kyzart**	**49.38**	**336**	P			**P**	**07 03 36.8**	**+2.3**
	SNR=6.8								
KZA					P		**P**	**07 03 36.8**	**+2.3**
	SNR=6.8								
TKM2	**Tokmak 2**	**49.96**	**337**	P			**P**	**07 03 39.4**	**+0.8**
	SNR=45								
TKM2					P		**P**	**07 03 39.4**	**+0.8**
	SNR=45								
TKM2	**Tokmak 2**	**49.96**	**337**	*i* P			**P**	**07 03 39.4**	**+0.8**
KBK	**Karagaybulak**	**49.99**	**336**	P			**P**	**07 03 40.1**	**+1.3**
	SNR=17								
KBK					P		**P**	**07 03 40.1**	**+1.3**
	SNR=17								
AML	**Almayashu**	**50.07**	**335**	P			**P**	**07 03 40.6**	**+0.9**
	SNR=14								
AML					P		**P**	**07 03 40.6**	**+0.9**
	SNR=14								
AAK	**Ala-Archa**	**50.16**	**336**	P			**P**	**07 03 40.9**	**+0.8**
	SNR=7.8								
AAK					P		**P**	**07 03 40.9**	**+0.8**
	SNR=7.8								
AAK	**Ala-Archa**	**50.16**	**336**	*e*P			**P**	**07 03 40.8**	**+0.8**
AAK					pmax	pmax			
	comp=Z,97nm,1.3s								
AAK	**Ala-Archa**	**50.16**	**336**	*e*P			**P**	**07 03 40.8**	**+0.8**
	comp=Z,97nm,1.3s								
AAK	**Ala-Archa**	**50.16**	**336**	P			**P**	**07 03 40.8**	**+0.8**
	comp=Z,58nm,0.7s,SNR=5.1								
FRU	**Bishkek**	**50.27**	**336**	⇓*i*P			**P**	**07 03 42.0**	**+1.2**
FRU					pmax	pmax			
	comp=Z,57nm,1.8s								
SONM	**Songino Array**	**50.27**	**6**	P			**P**	**07 03 40.7**	**-0.1**
	comp=Z,72nm,0.8s,baz=186,slow=8.5,SNR=485								
SONM					PcP		**PcP**	**07 04 59.6**	**+0.2**
	comp=Z,8.6nm,0.9s,baz=189,slow=3.9,SNR=3.1								
SONM	**Songino Array**	**50.27**	**6**	P			**P**	**07 03 40.7**	**-0.1**
SONM								07 04 59.7	
SONM	**Songino Array**	**50.27**	**6**	P			**P**	**07 03 40.7**	**-0.1**
SONM					PcP		**PcP**	**07 04 59.6**	**+0.2**
CHMS	**Chumysh**	**50.36**	**336**	P			**P**	**07 03 42.1**	**+0.7**
	SNR=8.3								
CHMS					P		**P**	**07 03 42.1**	**+0.7**
	SNR=8.3								
ULN	**Ulaanbaatar**	**50.38**	**6**	*e*P			**P**	**07 03 40.8**	**-0.8**
ULN					pmax	pmax			
	comp=Z,50nm,0.8s								
ULN	**Ulaanbaatar**	**50.38**	**6**	*e*P			**P**	**07 03 40.8**	**-0.8**
	comp=Z,50nm,0.8s								
EKS2	**Erkin-Say**	**50.47**	**335**	P			**P**	**07 03 43.1**	**+0.6**
	SNR=26								
EKS2					P		**P**	**07 03 43.1**	**+0.6**
	SNR=26								
EKS2	**Erkin-Say**	**50.47**	**335**	*e*P			**P**	**07 03 42.8**	**+0.4**
EKS2					pmax	pmax			
	comp=Z,32nm,0.8s

MDJ pP **pP** 07 04 15.4 -0.8
MDJ sP **sP** 07 04 18.9 -0.9
MDJ PP **PP** 07 06 09.6 +1.1
MDJ S S 07 11 49.0 +9.0
MDJ ScS **ScS** 07 13 52.6 -1.8
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ pmax pmax
comp=Z,120nm,5.0s
MDJ LR LR
comp=N,450nm,15.3s
MDJ LR LR
comp=E,280nm,15.3s
MDJ LR LR
comp=Z,560nm,15.3s
MDJ Mudanjiang 53.82 26 *e*P **P** 07 04 06.7 -0.4
comp=Z,23nm,1.0s
TLY Talaya 53.88 3 *e*P **P** 07 04 06.2 -1.3
TLY *e*S S 07 11 32.5 -8.2
TLY *e*SS **SS** 07 15 19.0 -3.2
TLY pmax pmax
comp=Z,32nm,0.9s
TLY MLR MLR
comp=Z,283nm,16.0s
TLY Talaya 53.88 3 *e*P **P** 07 04 07.8 +0.4
comp=Z,32nm,0.9s
TLY Talaya 53.88 3 P **P** 07 04 07.6 +0.1
comp=Z,205nm,0.9s,SNR=14
HIA Hailar 54.23 16 *e*P **P** 07 04 09.1 -1.0
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 54.23 16 *e*P **P** 07 04 09.1 -1.0
comp=Z,17nm,0.9s
IRK Irkutsk 54.48 4 *e*P **P** 07 04 11.3 -0.5
IRK pmax pmax
comp=Z,54nm,1.5s
EIDS Eidsvold 54.53 120 *e*P **P** 07 04 12.5 -0.2
comp=Z,6.8nm,0.7s
USRK Ussuriysk Arra 54.60 28 P **P** 07 04 12.2 -0.6
comp=Z,74nm,0.8s,baz=226,slow=6.0,SNR=102
USRK LR LR 07 30 39.3
comp=Z,277nm,18.7s,baz=22,slow=40
KURK Kurchatov 55.79 344*ce*P **P** 07 04 21.1 -0.1
KURK pmax pmax
comp=Z,75nm,1.2s
KURK Kurchatov 55.79 344 *e*P **P** 07 04 21.3 +0.1
comp=Z,54nm,1.0s
KURK Kurchatov 55.79 344 P **P** 07 04 21.9 +0.7
comp=Z,291nm,0.9s,SNR=41
CAN Canberra 56.29 132 *e*P **P** 07 04 25.9 +0.6
comp=Z,8.5nm,1.1s
ZALV Zalesovo Beam 57.39 350 P **P** 07 04 32.3 -0.3
comp=Z,58nm,0.8s,baz=163,slow=5.6,SNR=230
ZALV LR LR 07 31 39.9
comp=Z,129nm,20.9s,baz=184,slow=39
ZALV Zalesovo Beam 57.39 350 P **P** 07 04 32.3 -0.3
ZALV Zalesovo Beam 57.39 350 P **P** 07 04 32.3 -0.3
KLR Kul'dur 58.35 24⇓*i*P P 07 04 34.6 -4.8
KLR *e*S S 07 12 48.5 +8.4
KLR pmax pmax
comp=E,38nm,1.4s
KLR pmax pmax
comp=Z,130nm,1.4s
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s
NVS Novosibirsk 58.53 349 *e*P **P** 07 04 38.5 -2.0
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s
NAY Al-Naaiem 59.09 306 *e*P **P** 07 04 43.5 -1.4
NAY AMb AMB 07 05 04.2
comp=Z,26nm,1.0s
HABR Khabarovsk 59.19 27 *e*P P 07 04 41.8 -3.5
HABR *e**SP sP 07 04 56.1 -2.0
HABR *e* 07 05 30.5
HABR 07 06 52.5
HABR *e*S **S** **07 12 46.3 -4.7**
HABR *e**SS sS 07 13 03.6 -2.6
HABR *e* 07 14 28.9
HABR *e*SS **SS** **07 16 41.4 -4.5**
HABR pmax pmax
comp=E,99nm,2.6s
HABR pmax pmax
comp=Z,130nm,2.6s
HABR pmax pmax
comp=N,116nm,2.6s
HABR MLR MLR
comp=Z,352nm,21.0s
MIB Mutribah 59.23 307 *e*P **P** **07 04 45.3 -0.6**
MIB AMb AMB 07 05 05.2
comp=Z,86nm,1.0s
ASAJ Asahikawa 60.07 35 *e*P **P** **07 04 50.8 -0.6**
comp=Z,11nm,1.0s
BVA0 Borovoye Array 60.33 340 *i* P **P** **07 04 52.1 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.8s
BRVK Borovoye 60.40 340*ce*P **P** **07 04 52.5 -1.0**
BRVK pmax pmax
comp=Z,20nm,2.5s
BRVK Borovoye 60.40 340 *e*P **P** **07 04 53.0 -0.4**
comp=Z,7.6nm,0.9s
BOD Bodaibo 61.03 9 *e*P **P** **07 04 56.8 -0.9**
BOD pmax pmax
comp=Z,45nm,1.0s
AB31 Akbulak array 61.72 332 *i* P **P** **07 05 01.8 -0.7**
AB31 pmax pmax
comp=Z,23nm,0.8s
ABKAR Akbulak array 61.72 332 *e*P **P** **07 05 01.5 -1.0**
comp=Z,19nm,0.8s
YUK Yuzh-Kuril'sk 61.91 36 *e*P P 07 04 59.8 -4.1
YUK *e* 07 07 20.8
YUK *e*PPP PPP 07 08 44.9
YUK S S 07 13 19.7 -6.2
YUK pmax pmax
comp=Z,44nm,4.7s
YSS Yuzh-Sakhalins 61.93 32⇑*e*P **P** **07 05 03.4 -0.6**
YSS *e* 07 05 15.2
YSS pmax pmax
comp=Z,100nm,1.1s
YSS Yuzh-Sakhalins 61.93 32 *e*P **P** **07 05 03.5 -0.4**
comp=Z,49nm,0.8s
CLNS Chul'man 62.40 15 *e*P **P** **07 05 06.8 -0.2**
CLNS *e* 07 05 42.9
CLNS *e* 07 07 27.9
CLNS *e*PPP PPP 07 08 57.7
CLNS *e*S S 07 13 40.6 +8.9
CLNS pmax pmax
comp=Z,30nm,1.0s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS smax smax
comp=N,106nm,14.0s
CLNS smax smax
comp=E,119nm,17.7s
CLNS MLR MLR
comp=N,280nm,16.0s
CLNS MLR MLR
comp=Z,404nm,16.0s
CLNS MLR MLR
comp=E,420nm,16.0s
SVE Sverdlovsk 66.81 338⇓*i*P **P** **07 05 35.6 -0.2**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,446nm,19.0s
ZEI Tsey 67.21 319 *e*P **P** **07 05 39.2 +0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 67.33 337*c*iP **P** **07 05 38.4 -0.6**
ARU S **S** **07 14 33.2 +0.8**
ARU SS **SS** **07 18 49.2 -3.5**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 67.33 337 *e*P **P** 07 05 38.5 -0.6
comp=Z,27nm,1.2s
ARU *e* 07 05 54.9
DZM Mont Dzumac 67.68 113 *e*LR LR 07 26 09.5
comp=Z,388nm,23.9s
YAK Yakutsk 68.12 15*c*iP **P** **07 05 42.2 -1.7**
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=E,18nm,1.2s
YAK Yakutsk 68.12 15 *e*P **P** **07 05 42.3 -1.6**
comp=E,44nm,0.7s
KIV Kislovodsk 68.52 319⇓*i*P **P** **07 05 47.8 +0.8**
KIV *i* 07 06 05.0
KIV *e*S **S** **07 14 43.9 -3.4**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,100nm,15.0s
MAW Mawson 69.91 194 LR LR 07 29 09.0
comp=Z,333nm,21.7s,baz=62,slow=30
SOKR Solikamsk 70.20 338 *e*P **P** **07 05 57.1 +0.3**
SOKR pmax pmax
comp=Z,20nm,1.0s
VRHR Novokhopersk 72.36 326 *e*P **P** **07 06 09.5 -0.6**
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,9.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
BR131 Keskin Array S 73.25 313 *e*P **P** **07 06 15.9 +0.1**
comp=Z,5.1nm,0.7s
BR131 *e* 07 06 28.3
BRTR Keskin Array B 73.25 313 P **P** **07 06 15.4 -0.4**
comp=Z,4.0nm,0.8s,baz=122,slow=6.9,SNR=16
BRTR Keskin Array B 73.25 313*ce*P **P** **07 06 15.6 -0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 73.25 313 P **P** **07 06 15.4 -0.4**
PETK Petropavlovsk- 73.33 32 P **P** **07 06 14.6 -1.3**
comp=Z,7.4nm,0.8s,baz=193,slow=5.8,SNR=9.6
PETK Petropavlovsk- 73.33 32 P **P** **07 06 14.6 -1.3**
PETK Petropavlovsk- 73.33 32 P **P** **07 06 14.6 -1.3**
PET Petropavlovsk 73.81 33 *e*P **P** **07 06 17.8 -0.8**
PET *e*S **SKiKP** **07 15 44.6 -1.3**
PET pmax pmax
comp=Z,44nm,0.9s
VSR Storozhevoye 73.81 325 *e*P **P** **07 06 18.2 -0.4**
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
BOSA Boshof 75.19 241 P **P** **07 06 29.2 +1.8**
comp=Z,1.7nm,0.9s,baz=100,slow=4.6,SNR=4.5
BOSA LR LR 07 34 47.3
comp=Z,266nm,18.1s,baz=100,slow=32
BOSA Boshof 75.19 241 P **P** **07 06 29.2 +1.8**
BOSA Boshof 75.19 241 P **P** **07 06 29.2 +1.8**
SEY Seymchan 76.04 22*ce*P **P** **07 06 30.2 -1.1**
MOS Moscow 76.56 329 *e*P **P** **07 06 33.0 -1.4**
OBN Obninsk 76.85 328⇓*i*P **P** **07 06 36.4 +0.4**
OBN *i* 07 06 45.9
OBN *i* 07 06 52.9
OBN pmax pmax
comp=Z,47nm,1.1s
OBN MLR MLR
comp=Z,100nm,15.0s
URZ Urewera 78.75 128 LR LR 07 42 19.0
comp=Z,289nm,19.8s,baz=276,slow=36
AKASG Malin Array Be 79.49 322 P **P** **07 06 50.6 -0.2**
comp=Z,2.4nm,0.7s,baz=95,slow=4.9,SNR=8.7
AKASG LR LR 07 45 49.3
comp=Z,96nm,21.1s,baz=220,slow=39
AKASG Malin Array Be 79.49 322*ce*P **P** **07 06 50.5 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 79.49 322 P **P** **07 06 50.6 -0.2**
VRI Vrincioaia 79.81 317⇑P **P** **07 06 53.9 +1.2**
VRI Vrincioaia 79.81 317⇑*i*P **P** **07 06 53.8 +1.1**
PLOR Plostina 79.86 317⇑P **P** **07 06 54.1 +1.1**
PLOR Plostina 79.86 317⇑*i*P **P** **07 06 54.1 +1.1**
TESR 80.02 318⇓*i*P **P** **07 06 55.8 +2.0**
MLR Muntele Rosu 80.26 317⇑P **P** **07 06 56.2 +0.9**
MLR Muntele Rosu 80.26 317⇑*i*P **P** **07 06 56.2 +0.9**
VOIR 80.86 317⇓P **P** **07 06 58.6 +0.2**
VOIR 80.86 317⇓*i*P **P** **07 06 58.6 +0.2**
BURAR Bucovina Array 81.23 319⇑P **P** **07 07 02.1 +1.7**
BURAR Bucovina Array 81.23 319⇑*i*P **P** **07 07 02.1 +1.7**
BUR08 Bucovina Ar. S 81.25 319 *e*P **P** **07 07 01.7 +1.2**
BUR08 *e* 07 07 19.1
VTS Vitosha 81.58 313⇑P **P** **07 07 02.8 +0.4**
VTS Vitosha 81.58 313⇑*i*P **P** **07 07 02.8 +0.4**
NACGM Naroch 82.08 326 *e* **P** **07 07 03.0 -1.6**
JOF Joensuu 82.32 335 *e*P **P** **07 07 06.2 +0.6**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 82.32 335 *ep* **P** **07 07 06.2 +0.6**
comp=Z,5.7nm,0.7s
JOF Joensuu 82.32 335 *ep* **P** **07 07 06.2 +0.6**
comp=Z,5.7nm,0.7s
GZR Gura Zlata 82.42 316⇑P P 07 07 13.1 +6.4
GZR Gura Zlata 82.42 316⇑*i*P P 07 07 13.1 +6.4
LVV L'vov 82.49 321 *e*P P 07 07 19.6 +13
TRPA Tarpa 83.11 319⇑*i*P **P** **07 07 11.4 +1.4**
BZS Buzias 83.26 316⇑P **P** **07 07 11.5 +0.6**
BZS Buzias 83.26 316⇑*i*P **P** **07 07 11.5 +0.6**
KWP Kalwaria Pacla 83.29 320⇓P P 07 07 06.8 -4.2
KWP Kalwaria Pacla 83.29 320⇓*i*P P 07 07 06.8 -4.2
KOLS Kolonicke sedl 83.43 320 *e*P **P** **07 07 13.1 +1.3**
KOLS pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 83.43 320 *e*P **P** **07 07 13.1 +1.3**
BILL Bilibino 83.56 20 *e*P **P** **07 07 11.2 -0.8**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,200nm,18.0s
SUW Suwalki 83.91 325 *e*P **P** **07 07 14.3 +0.3**
SUW Suwalki 83.91 325 *e*P **P** **07 07 14.4 +0.3**
SUW Suwalki 83.91 325 *e*P **P** **07 07 14.6 +0.6**
comp=Z,78nm,1.1s
STHS Stebnicka Huta 84.19 320 *e*P **P** **07 07 16.8 +1.2**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 84.19 320 *e*P **P** **07 07 16.8 +1.2**
FINES FINESS Array B 84.20 332 P **P** **07 07 16.0 +0.6**
comp=Z,8.0nm,0.7s,baz=95,slow=7.0,SNR=17
FINES LR LR 07 50 52.5
comp=Z,168nm,19.8s,baz=321,slow=40
FINES FINESS Array B 84.20 332 P **P** **07 07 16.0 +0.6**
FINES FINESS Array B 84.20 332 P **P** **07 07 16.0 +0.6**
KAF Kangasniemi 84.28 333 *e*P **P** **07 07 16.6 +0.9**
KAF pmax pmax
comp=Z,15nm,0.8s
KAF Kangasniemi 84.28 333 *ep* **P** **07 07 16.6 +0.9**
comp=Z,15nm,0.8s
KAF Kangasniemi 84.28 333 *ep* **P** **07 07 16.6 +0.9**
comp=Z,15nm,0.8s
NIE Niedzica 84.79 320 *e*P **P** **07 07 20.0 +1.3**
NIE Niedzica 84.79 320 *e*P **P** **07 07 20.0 +1.3**
PSZ Piszkesteto 84.81 318⇓P **P** **07 07 18.5 -0.4**
PSZ Piszkesteto 84.81 318⇓*i*P **P** **07 07 18.5 -0.4**
MORC Moravsky Berou 86.62 320⇑P **P** **07 07 28.7 +0.9**
MORC Moravsky Berou 86.62 320⇑*i*P **P** **07 07 28.7 +0.9**
ARCES ARCESS Array B 86.62 340 P **P** **07 07 28.1 +0.8**
comp=Z,12nm,0.8s,baz=99,slow=5.8,SNR=13
ARCES ARCESS Array B 86.62 340 P **P** **07 07 28.2 +0.8**
ARCES ARCESS Array B 86.62 340 P **P** **07 07 28.1 +0.8**
ZST Bratislava 86.71 318 *e*P P 07 07 32.0 +3.8
ZST Bratislava 86.71 318 *e*P P 07 07 32.0 +3.8
KRLC Kraliky 87.15 320 *e*P **P** **07 07 31.5 +1.1**
DPC Dobruska-Polom 87.47 320 *e*P **P** **07 07 33.4 +1.5**
DPC *e* 07 07 42.7
DPC Dobruska-Polom 87.47 320 *e*P **P** **07 07 33.4 +1.5**
DPC *ex* x 07 07 42.7
KSP Ksiaz 87.55 321 *e*P **P** **07 07 33.4 +1.2**
QSPA South Pole Qui 87.67 180 LR LR 07 43 49.0
comp=Z,384nm,18.7s,baz=313,slow=34
UPC Upice 87.69 321 *e*P **P** **07 07 34.3 +1.4**
UPC Upice 87.69 321 *e*P **P** **07 07 34.3 +1.4**
GERES GERESS Array B 89.02 319 P **P** **07 07 40.1 +0.8**
comp=Z,2.7nm,0.8s,baz=96,slow=4.9,SNR=18
GERES GERESS Array B 89.02 319 P **P** **07 07 40.2 +0.8**
GERES GERESS Array B 89.02 319 P **P** **07 07 40.1 +0.8**
BRG Berggiesshubel 89.03 321 *i* P **P** **07 07 40.8 +1.5**
comp=Z,16nm,1.3s
BRG *e* 07 07 50.0
BRG Berggiesshubel 89.03 321 *i* P **P** **07 07 40.8 +1.5**
BRG *e* 07 07 50.0
BRG pmax pmax
comp=Z,16nm,1.3s
BRG pmax pmax
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 89.13 319 *e*P **P** **07 07 40.8 +1.0**
KHC Kasperske Hory 89.13 319 *e*P **P** **07 07 40.8 +1.0**
CLL Collm 89.66 321⇓*i*P **P** **07 07 43.1 +1.0**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 89.66 321⇓*i*P **P** **07 07 43.1 +1.0**
comp=Z,10.0nm,1.1s
CLL *e* 07 07 51.0
CLL *i* 07 08 00.1
CLL L L 07 57 00.0
comp=Z,100nm,19.1s
WTTA Wattenberg 90.30 317⇑*i*P **P** **07 07 45.4 -0.2**
comp=Z,14nm,1.0s
MOTA Moosalm 90.67 317⇓*i*P **P** **07 07 47.4 +0.2**
comp=Z,12nm,1.0s
NOA NORSAR Array B 91.22 331 P **P** **07 07 49.5 +0.3**
comp=Z,2.4nm,0.9s,baz=91,slow=4.5,SNR=4.1
NOA LR LR 07 54 24.7
comp=Z,93nm,18.9s,baz=235,slow=39
NOA NORSAR Array B 91.22 331 P **P** **07 07 49.6 +0.3**
NOA NORSAR Array B 91.22 331 P **P** **07 07 49.5 +0.3**
DAVA Damuels 91.50 317⇑*i*PcP **P** **07 07 52.1 +1.0**
comp=Z,16nm,1.0s
KEST Kesra 91.55 306 P **P** **07 07 52.6 +1.2**
comp=Z,4.0nm,0.9s,baz=27,slow=2.7,SNR=7.0
KEST LR LR 07 50 16.3
comp=Z,51nm,18.1s,baz=322,slow=36
KEST Kesra 91.55 306 *e*P **P** **07 07 53.8 +2.3**
comp=Z,94nm,18.9s,baz=100,slow=35
TBI Tubuai 108.19 115 *e*LR LR 07 44 55.2
comp=Z,154nm,23.2s
PPT2 Papeete2 109.05 109 *e*LR LR 07 45 17.9
comp=Z,149nm,24.5s
YKA Yellowknife Ar 114.76 17 PKP PKPdf 07 13 24.0 -0.4
comp=Z,0.5nm,0.9s,baz=318,slow=2.2,SNR=6.8
YKA PP **PP** **07 14 20.6 -1.4**
comp=Z,0.8nm,0.9s,baz=325,slow=7.3,SNR=7.2
YKA Yellowknife Ar 114.76 17 PKIKP PKPdf 07 13 24.0 -0.4
YKA 07 14 20.7
YKA Yellowknife Ar 114.76 17 PKP PKPdf 07 13 24.0 -0.4
YKA PP **PP** **07 14 20.6 -1.4**
B13A Whitefish 125.55 27⇑P **PKPdf** **07 13 45.8 +0.1**
baz=125
B15A Bradely Ranch, 126.45 26⇓P **PKPdf** **07 13 47.7 +0.2**
baz=126
C15A Salmond Ranch, 126.83 27⇑P **PKPdf** **07 13 48.2 0.0**
baz=127
D14A Greenough 126.93 28⇓P **PKPdf** **07 13 48.5 0.0**
baz=127
E13A Victor 127.07 29⇓P **PKPdf** **07 13 48.5 -0.2**
baz=127
E14A Clinton 127.42 28⇑P **PKPdf** **07 13 49.6 +0.2**
baz=127
B18A Beardsley Farm 127.58 24⇑P **PKPdf** **07 13 49.8 +0.2**
baz=127
C17A Wharram Farm, 127.75 26⇓P **PKPdf** **07 13 49.9 -0.1**
baz=128
D16A Dana Ranch, Ca 127.87 27⇑P **PKPdf** **07 13 50.2 -0.1**
baz=128
G13A Cobalt 128.01 30⇑P **PKPdf** **07 13 50.4 -0.2**
baz=128
H12A Diamond D Ranc 128.08 31⇑P **PKPdf** **07 13 50.4 -0.4**
baz=128
D17A Six Diamond Ra 128.16 26⇓P **PKPdf** **07 13 50.5 -0.3**
baz=128
F15A Butte 128.32 28⇓P **PKPdf** **07 13 50.6 -0.6**
baz=128
H13A Challis 128.38 31⇓P **PKPdf** **07 13 51.6 +0.3**
baz=128
I12A Atlanta 128.46 32⇓P **PKPdf** **07 13 52.0 +0.5**
baz=128
DLMT Dillon 128.62 29 *e*PKPdf **PKPdf** **07 13 52.3 +0.6**
H14A Leadore 128.78 30⇑P **PKPdf** **07 13 52.7 +0.6**
baz=128
G15A Dillon 128.82 29⇓P **PKPdf** **07 13 52.5 +0.3**
baz=129
I13A Wildhorse Cree 128.90 31⇓P **PKPdf** **07 13 53.4 +1.0**
baz=129
HLID Hailey 128.99 32⇑P **PKPdf** **07 13 53.8 +1.3**
baz=129
G16A Moss Hill, Enn 129.10 28⇓P **PKPdf** **07 13 53.7 +1.0**
baz=129
F17A Fitzpatrick Pl 129.12 27⇑P **PKPdf** **07 13 53.8 +1.1**
baz=129
H15A Lima 129.14 29⇓P **PKPdf** **07 13 54.4 +1.5**
baz=129
J13A Cove Ranch, Pi 129.23 32⇑P **PKPdf** **07 13 53.8 +0.8**
baz=129
J14A Carey 129.63 31⇑P **PKPdf** **07 13 54.7 +0.9**
baz=129
H16A Russell Place, 129.75 28⇓P **PKPdf** **07 13 55.6 +1.6**
baz=130
D21A La Casta Ranch 129.77 23⇑P **PKPdf** **07 13 54.2 +0.4**
baz=130
NVAR Mina Array Bea 130.06 39 PKP **PKPdf** **07 13 55.3 +0.5**
comp=Z,0.8nm,0.6s,baz=280,slow=2.7,SNR=4.8
NVAR Mina Array Bea 130.06 39 PKP **PKPdf** **07 13 55.3 +0.5**
F20A Billings 130.31 25⇑P **PKPdf** **07 13 56.0 +1.1**
baz=130
ULM Lac du Bonnet 130.44 13 PKP **PKPdf** **07 13 55.1 +0.2**
comp=Z,1.6nm,0.8s,baz=324,slow=2.8,SNR=5.5
ULM Lac du Bonnet 130.44 13 PKIKP **PKPdf** **07 13 55.1 +0.2**
ULM Lac du Bonnet 130.44 13 PKP **PKPdf** **07 13 55.1 +0.2**
G20A Bridger 130.74 26⇓P **PKPdf** **07 13 56.6 +0.8**
baz=130
H19A Powell 130.83 27⇓P **PKPdf** **07 13 57.4 +1.4**
baz=131
J17A Brown Place, J 131.01 29⇓P **PKPdf** **07 13 57.5 +1.1**
baz=131
H20A Greybull 131.41 26⇓P **PKPdf** **07 13 57.8 +0.8**
baz=131
I20A Worland 131.78 27⇓P **PKPdf** **07 13 59.4 +1.6**
baz=132
R11A Troy Canyon, C 131.80 37⇓P **PKPdf** **07 13 59.0 +0.9**
baz=132
J19A Crowheart 131.88 28⇓P **PKPdf** **07 13 58.6 +0.6**
baz=132
PDAR Pinedale Array 132.02 29 PKP **PKPdf** **07 13 58.4 0.0**
comp=Z,0.9nm,1.0s,baz=292,slow=2.8,SNR=6.9
PDAR PP **PP** **07 16 15.3 -3.7**
comp=Z,1.0nm,1.0s,baz=311,slow=7.0,SNR=3.8
PDAR Pinedale Array 132.02 29 PKP **PKPdf** **07 13 58.4 0.0**
PDAR PP **PP** **07 16 15.3 -3.7**
DUG Dugway 132.19 34⇓P **PKPdf** **07 14 00.2 +1.5**
baz=132
I21A Big Trails, Te 132.26 26⇑P **PKPdf** **07 13 59.3 +0.5**
baz=132
K19A Absolon Red Bu 132.31 28⇑P **PKPdf** **07 13 59.2 +0.3**
baz=132
J22A Midwest 132.93 26⇓P **PKPdf** **07 13 60.0 0.0**
baz=133
O17A Robinson Place 133.31 32⇓P **PKPdf** **07 14 02.2 +1.3**
baz=133
RSSD Black Hills 133.37 23 *e*PKIKP **PKPdf** **07 14 00.7 -0.2**
RSSD Black Hills 133.37 23 *e*PKPdf **PKPdf** **07 14 00.7 -0.2**
MSU Marysvale 133.70 35 *e*PKIKP **PKPdf** **07 14 02.7 +1.0**
MSU Marysvale 133.70 35 *e*PKPdf **PKPdf** **07 14 02.7 +1.0**
N21A Black Mountain 134.53 29⇑P **PKPdf** **07 14 03.8 +0.5**
baz=134
S16A Weppner Ranch, 134.57 35⇓P **PKPdf** **07 14 03.8 +0.5**
baz=134
R17A Hanksville Air 134.59 34⇑P **PKPdf** **07 14 03.5 +0.3**
baz=134
O20A White River Ci 134.65 30⇑P **PKPdf** **07 14 04.1 +0.7**
baz=134
Q19A Hogan Spring (135.00 32⇓P **PKPdf** **07 14 04.6 +0.7**
baz=135
U15A North Rim 135.04 37⇑P **PKPdf** **07 14 04.3 -0.1**
baz=135
O23A Lake Granby, G 135.72 28⇓P **PKPdf** **07 14 05.4 -0.1**
baz=136

S21A	**Coal Bank Pass** baz=136	**136.73**	**32**	⇓P		**PKPdf**	**07 14 08.4**	**+0.9**
S22A	**4UR Ranch, Cre** baz=137	**137.17**	**31**	⇑P		**PKPdf**	**07 14 07.5**	**-0.8**
T22A	**Edith** baz=137	**137.68**	**32**	⇓P		**PKPdf**	**07 14 08.5**	**-0.7**
V24A	**Rampart Ranch,** baz=139	**139.52**	**32**	⇓P		**PKPdf**	**07 14 12.4**	**-0.2**
Z21A	**St. Cloud Mine** baz=140	**139.94**	**37**	⇓P		**PKPdf**	**07 14 12.8**	**-0.6**
224A	**Cornudas Mount** baz=142	**142.08**	**36**	⇑P		**PKPdf**	**07 14 13.5**	**-3.7**
Z27A	**Tatum** baz=142	**142.45**	**32**	⇑P		**PKPdf**	**07 14 14.3**	**-3.5**
324A	**Moseley Ranch,** baz=142	**142.56**	**37**	⇑P		**PKPdf**	**07 14 15.1**	**-3.0**
GDL2	**Guadalupe Moun**	**142.66**	**35**	*e*PKPdf		**PKPdf**	**07 14 18.5**	**+0.3**
325A	**Bean Ranch, Si** baz=143	**142.91**	**36**	⇓P		**PKPdf**	**07 14 15.9**	**-2.9**
425A	**Indio Mountain** baz=143	**143.33**	**37**	⇑P	PKPbc		07 14 17.0	+0.5
TUL1	**Tulsa** baz=143	**143.63**	**21**	⇑P	PKPbc		07 14 17.5	+0.5
CPUP	**Villa Florida** comp=Z,2.3nm,0.8s,baz=106,slow=4.7,SNR=7.3	**143.86**	**217**	PKP	PKPbc		07 14 19.6	+1.6
CPUP	**Villa Florida**	**143.86**	**217**	PKIKP	PKPbc		07 14 19.6	+1.6
CPUP	**Villa Florida**	**143.86**	**217**	PKP	PKPbc		07 14 19.6	+1.6
426A	**McDonald Obser** baz=144	**143.98**	**36**	⇑P	PKPab		07 14 18.3	+0.4
328A	**Wristen Ranch,** baz=144	**144.15**	**34**	⇓P	**PKPab**		**07 14 18.6**	**+0.3**
427A	**Hayter Ranch,** baz=144	**144.21**	**35**	⇑P	**PKPab**		**07 14 19.3**	**+0.6**
526A	**Mary Lane Ranc** baz=144	**144.38**	**37**	⇑P	**PKPab**		**07 14 19.9**	**+0.5**
428A	**Kincaid Ranch,** baz=144	**144.71**	**34**	⇑P	PKPbc		07 14 21.3	+0.6
626A	**Big Bend Ranch** baz=144	**144.72**	**37**	⇓P	**PKPab**		**07 14 20.9**	**+0.3**
528A	**Cox Ranch, San** baz=145	**145.08**	**35**	⇓P	**PKPbc**		**07 14 22.1**	**+0.2**
TXAR	**Lajitas Array** comp=Z,32nm,0.8s,baz=284,slow=1.5,SNR=296	**145.16**	**37**	PKP	**PKPbc**		**07 14 22.5**	**+0.4**
TXAR	comp=Z,2.0nm,1.2s,baz=316,slow=5.0,SNR=4.4			PP	**PP**		**07 17 39.8**	**-0.8**
TXAR	**Lajitas Array**	**145.16**	**37**	PKIKP	**PKPbc**		**07 14 22.5**	**+0.4**
TXAR							07 17 39.8	
TXAR	**Lajitas Array**	**145.16**	**37**	PKP	**PKPbc**		**07 14 22.5**	**+0.4**
TXAR				PP	**PP**		**07 17 39.8**	**-0.8**
627A	**Terlingua Ranc** baz=145	**145.24**	**37**	⇓P	**PKPbc**		**07 14 22.8**	**+0.4**
628A	**Black Gap, Mar** baz=145	**145.52**	**36**	⇓P	**PKPbc**		**07 14 23.4**	**+0.2**
WVT	**Waverly**	**145.63**	**11**	*e*PKIKP	**PKPdf**		**07 14 22.6**	**-0.5**
WVT	**Waverly**	**145.63**	**11**	*e*PKPdf	**PKPdf**		**07 14 22.6**	**-0.5**
MIAR	**Mount Ida**	**145.64**	**20**	*e*PKIKP	**PKPdf**		**07 14 23.0**	**-0.2**
MIAR	**Mount Ida**	**145.64**	**20**	*e*PKPdf	**PKPdf**		**07 14 23.0**	**-0.2**
TZTN	**Tazewell**	**145.79**	**5**	*e*PKPdf	**PKPdf**		**07 14 23.3**	**-0.1**
UALR	**University of**	**145.82**	**18**	*e*PKPdf	**PKPdf**		**07 14 23.2**	**-0.2**
JCT	**Junction City**	**146.47**	**31**	*e*PKP2	**PKPdf**		**07 14 25.4**	**+0.7**
JCT	**Junction City**	**146.47**	**31**	*e*PKPdf	**PKPdf**		**07 14 25.4**	**+0.7**
JCT	**Junction City** baz=146	**146.47**	**31**	⇑P	**PKPdf**		**07 14 25.5**	**+0.8**
TKL	**Tuckaleechee C**	**146.66**	**5**	*e*PKP2	**PKPdf**		**07 14 25.8**	**+0.9**
TKL	**Tuckaleechee C**	**146.66**	**5**	*e*PKPbc	**PKPdf**		**07 14 25.8**	**+0.9**
PLAL	**Pickwick Lake**	**146.70**	**12**	*e*PKPbc	**PKPdf**		**07 14 25.6**	**+0.7**
CPCT	**Cooper Cave**	**146.79**	**6**	*e*PKPdf	**PKPdf**		**07 14 25.9**	**+0.8**
SWET	**Sewanee**	**146.84**	**8**	*e*PKPbc	**PKPdf**		**07 14 25.9**	**+0.7**
JSC	**Jenkinsville**	**148.17**	**1**	*e*PKP2	**PKPbc**		**07 14 30.4**	**-0.2**
JSC	**Jenkinsville**	**148.17**	**1**	*e*PKPbc	**PKPbc**		**07 14 30.4**	**-0.2**
HKT	**Hockley**	**148.83**	**27**	*e*PKP2	**PKPbc**		**07 14 32.1**	**-0.3**
HKT	**Hockley**	**148.83**	**27**	*e*PKPbc	**PKPbc**		**07 14 32.1**	**-0.3**
GOGA	**Godfrey**	**148.91**	**5**	*e*PKP2	**PKPbc**		**07 14 31.6**	**-1.0**
GOGA	**Godfrey**	**148.91**	**5**	*e*PKPbc	**PKPbc**		**07 14 31.6**	**-1.0**

*MOS **09** 07:28:41.1±1.4, 16°.20N×119°.55E, h33km, mb5.3/42, MS4.1/7, Error ellipse: s-maj=12.9km s-min=5.9km az=107.0*

*IDC **09** 07:28:42.1±0.5, 16°.15N×119°.72E, h30km±3km, mb4.5/24, mb1 4.7/25, mb1mx4.6/27, mbtmp4.5/25, ML4.7/1, MS4.1/13, Ms1 4.1/13, ms1mx3.8/36, Error ellipse: s-maj=17.5km s-min=9.3km az=75.0*

*MAN **09** 07:28:42, 16°.20N×119°.55E, h6km, mb5.6, ML4.6, MS5.1*

MAN Intensity III - Pasig City; Manila City Intensity II - Makati City; Quezon City; Bolinao Pangasinan.

*ISCJB **09** 07:28:45.3±0.5, 16°.17N±0°.02×119°.80E±0°.03, h70km±4km, mb5.0/139, Error ellipse: s-maj=5.2km s-min=3.5km az=168.1*

*BJI **09** 07:28:45.6, 16°.38N×119°.83E, h61km, mB5.0/32, mb4.8/48, Ms4.6/49, Ms7 4.5/45*

*NEIC **09** 07:28:46.2±0.6, 16°.09N×119°.74E, h66km±5km, mb5.2/57, Error ellipse: s-maj=5.3km s-min=3.9km az=74.0*

NEIC Felt [III PIVS] at Manila and Pasig; [II PIVS] at Bolinao, Makati and Quezon City. Also felt at San Jacinto.

*DJA **09** 07:28:54, 15°.86N×119°.43E, h95km, mb4.9/27*

ISC 09 07:28:45.8±0.3, 16°.19N±0°.03×119°.71E±0°.04, h58km±2km, h58km:pP-P, n440, σ1%51/492, mb5.1/144, MS4.3/31, 37C-33D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.27**	**44**	*e*P		Pn		07 28 51.2	-4.4
BOLP				*e*S		Sn		07 28 56.0	-6.6
BCPH	**Baguio City Da**	**0.85**	**77**	⇑*i*P		**Pn**		**07 29 00.1**	**-2.0**
ABRA	**Dolores**	**1.74**	**33**	*e*P		**Pn**		**07 29 13.5**	**-0.3**
SIPP	**Brgy, Tapao**	**1.87**	**22**	⇓*e*P		**Pn**		**07 29 14.1**	**-1.4**
CAUP	**Cauayan**	**2.16**	**69**	*e*P		**Pn**		**07 29 22.2**	**+2.7**
PIP	**Pasuquin**	**2.30**	**22**	⇑*i*P		**Pn**		**07 29 21.1**	**-0.3**
TGY	**Tagaytay City** 643nm,0.3s,baz=290,slow=2.2,SNR=54	**2.38**	**150**	Pn		**Sn**		**07 29 23.2**	**+0.6**
TGY				Sn		**Sn**		**07 29 52.4**	**+1.7**
	687nm,0.3s,baz=169,slow=7.0,SNR=5.7								
TGY	**Tagaytay City**	**2.38**	**150**	P		**Pn**		**07 29 23.2**	**+0.6**
TGY								07 29 52.4	
TGY	**Tagaytay City**	**2.38**	**150**	Pn		**Pn**		**07 29 23.2**	**+0.6**
TGY				Sn		**Sn**		**07 29 52.4**	**+1.7**
TGY	**Tagaytay City**	**2.38**	**150**	⇑*i*P		**Pn**		**07 29 23.6**	**+1.0**
LQP	**Lukban**	**2.71**	**139**	*e*P		Pn		07 29 30.6	+3.4
GQP	**Guinayangan**	**3.48**	**130**	⇑*e*P		**Pn**		**07 29 39.4**	**+1.9**
GQP				*i* S		Sn		07 30 29.1	+12
PVCP	**Virac**	**5.00**	**120**	⇓*i*P		**Pn**		**07 30 00.2**	**+1.8**
TWG	**Pinlang** 62nm,0.6s	**6.72**	**11**	*e*Pn		Pn		07 30 25.9	+3.9
TPUB	**Ta-pu** 126nm,0.8s	**7.13**	**7**	*e*Pn		**Pn**		**07 30 27.3**	**-0.3**
YULB	**Yu-li** 46nm,0.6s	**7.32**	**11**	*e*Pn		**Pn**		**07 30 31.2**	**+1.0**
SSLB	**Suanglung** 127nm,1.0s	**7.65**	**9**	*e*Pn		**Pn**		**07 30 34.8**	**0.0**
NACB	**Ninganchiao** 100nm,1.0s	**8.14**	**12**	*e*Pn		**Pn**		**07 30 43.3**	**+1.9**
YHNB	**Yeheng** 120nm,0.8s	**8.58**	**10**	*e*Pn		**Pn**		**07 30 49.0**	**+1.5**
TATO	**Taipei**	**8.90**	**10**	*e*Pn		Pn		07 30 54.9	+3.1
QIZ	**Qiongzhong**	**9.83**	**288**	P		Pn		07 30 59.7	-4.8
QIZ				S		**Sn**		**07 32 54.4**	**+1.0**
QIZ				LR		LR			
	comp=E,820nm,15.8s								
QIZ				LR		LR			
	comp=Z,2μm,17.3s								
QIZ	**Qiongzhong** comp=Z,300nm,0.7s	**9.83**	**288**	*e*Pn		Pn		07 30 58.3	-6.2
QIZ				*e*Sn		Sn		07 32 42.4	-11
SDKM	**Sandakan**	**10.77**	**194**	P		**Pn**		**07 31 18.6**	**+1.2**
MYLDM	**Lahad Datu**	**11.00**	**186**	P		Pn		07 31 24.8	+4.2
MYLDM	**Lahad Datu** comp=Z,67nm,0.8s	**11.00**	**186**	P		Pn		07 31 25.5	+4.9
JOW	**Kunigami** comp=Z,299nm,21.0s,baz=108,slow=38	**13.25**	**35**	LR		LR		07 37 04.9	
WHN	**Wuhan**	**15.11**	**342**	P		**Pn**		**07 32 15.8**	**0.0**
WHN				S		**Sn**		**07 35 06.1**	**+4.0**
WHN				LR		LR			
	comp=N,2μm,13.1s								
WHN				LR		LR			
	comp=E,720nm,11.1s								
WHN				LR		LR			
	comp=Z,3μm,19.6s								
SBUM	**Sibu**	**15.52**	**209**	P		**P**		**07 32 24.5**	**+0.1**
SBUM	**Sibu** comp=Z,139nm,1.3s	**15.52**	**209**	P		**P**		**07 32 25.6**	**+1.2**
MRSI	**Marisa**	**15.76**	**172**	P		P		07 32 36.3	+9.1
	comp=Z,50nm,0.7s								
NJ2	**Nanjing**	**15.82**	**357**	*e*P		**Pn**		**07 32 25.9**	**+1.1**
NJ2				pmax		pmax			
	comp=Z,30nm,0.9s								
NJ2				pmax		pmax			
	comp=Z,360nm,5.6s								
NJ2				LR		LR			
	comp=N,8μm,14.0s								
NJ2				LR		LR			
	comp=E,7μm,18.1s								
NJ2				LR		LR			
	comp=Z,6μm,14.5s								
GYA	**Guiyang**	**15.87**	**312**	⇑*i*P		**P**		**07 32 27.6**	**-0.8**
GYA				pP		**pP**		**07 32 37.8**	**-3.2**
GYA				S		**Sn**		**07 35 23.4**	**+2.6**
GYA				pmax		pmax			
	comp=Z,20nm,0.7s								
GYA				pmax		pmax			
	comp=Z,130nm,4.4s								
GYA				LR		LR			
	comp=N,1μm,14.4s								
GYA				LR		LR			
	comp=E,1μm,15.2s								
GYA				LR		LR			
	comp=Z,1μm,14.7s								
ENH	**Enshi** comp=Z,5.8nm,0.5s	**16.86**	**328**	*e*P		**Pn**		**07 32 38.3**	**+0.2**
LUWI	**Luwuk** comp=Z,157nm,0.8s,comp=Z,2μm	**17.38**	**170**	P		**P**		**07 32 47.4**	**+2.3**
KMI	**Kunming**	**18.19**	**302**	P		**Pn**		**07 32 55.9**	**+1.3**
KMI				pP		**pP**		**07 33 09.0**	**+2.2**
KMI				PP		**PnPn**		**07 33 14.5**	**+7.2**
KMI				sP		**sP**		**07 33 18.4**	**+4.2**
KMI				S		**Sn**		**07 36 13.9**	**-3.2**
KMI				sS		**sS**		**07 36 35.3**	**-4.7**
KMI				SS		SS		07 36 42.2	
KMI				pmax		pmax			
	comp=Z,17nm,1.6s								
KMI				pmax		pmax			
	comp=Z,360nm,4.8s								
KMI				LR		LR			
	comp=N,600nm,13.1s								
KMI				LR		LR			
	comp=E,730nm,16.2s								
KMI				LR		LR			
	comp=Z,1μm,16.2s								
LBMI	**Labuha** comp=Z,64nm,0.9s	**18.40**	**155**	P		Pn		07 33 04.9	+8.0
TTSI	**Tana Toraja** comp=Z,59nm,1.0s,comp=Z,995nm	**19.11**	**180**	P		**Pn**		**07 33 05.3**	**-0.1**
JNU	**Nakatsue** comp=Z,16nm,0.9s	**19.65**	**29**	*e*P		**P**		**07 33 09.3**	**-0.7**
KBKI	**Kotabaru** comp=Z,90nm,1.5s	**19.68**	**191**	P		**Pn**		**07 33 12.1**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.3s,baz=99,slow=8.9,SNR=27	**19.96**	**280**	P		**P**		**07 33 13.9**	**+0.6**
CMAR				PcP		**PcP**		**07 37 29.3**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=133,slow=0.3,SNR=5.5								
CMAR	**Chiang Mai Arr**	**19.96**	**280**	P		**P**		**07 33 14.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.96**	**280**	P		**P**		**07 33 13.9**	**+0.6**
CMAR				PcP		**PcP**		**07 37 29.3**	**+1.1**
CHTO	**Chiang Mai**	**19.98**	**281**	*e*P		**Pn**		**07 33 17.6**	**+1.8**
CHTO				pmax		pmax			
	comp=Z,12nm,0.7s								
CHTO	**Chiang Mai** comp=Z,12nm,0.7s	**19.98**	**281**	*e*P		**Pn**		**07 33 17.6**	**+1.8**
CHTO	**Chiang Mai** comp=Z,22nm,1.2s	**19.98**	**281**	P		**Pn**		**07 33 17.5**	**+1.8**
SPSI	**Sidrap Palu** comp=Z,61nm,1.2s	**20.02**	**180**	P		Pn		07 33 15.8	-0.4
BBKI	**Banjar Baru** comp=Z,253nm,1.0s	**20.11**	**194**	P		Pn		07 33 16.2	-1.1
XAN	**Xi'an**	**20.26**	**333**	P		**P**		**07 33 16.9**	**+0.3**
XAN				PP		pP		07 33 35.1	+5.8
XAN				sS		Sn		07 37 12.4	+5.8
XAN				LR		LR			
	comp=N,610nm,15.3s								
XAN				LR		LR			
	comp=E,260nm,14.5s								
XAN				LR		LR			
	comp=Z,450nm,15.4s								
CD2	**Chengdu**	**20.67**	**318**	P		Pn		07 33 23.6	-0.3
CD2				pP		pP		07 33 37.8	+4.0
CD2				sP		sP		07 33 45.9	+4.7
CD2				PP		**PnPn**		**07 33 48.2**	**+7.1**
CD2				S		**S**		**07 37 07.4**	**-1.4**
CD2				sS		sS		07 37 29.5	-0.3
CD2				pmax		pmax			
	comp=Z,60nm,0.9s								
CD2				pmax		pmax			
	comp=Z,410nm,4.9s								
CD2				LR		LR			
	comp=N,1μm,14.3s								
CD2				LR		LR			
	comp=Z,2μm,15.5s								
KAPI	**Kappang** comp=Z,18nm,0.7s,baz=354,slow=9.2,SNR=6.7	**21.06**	**180**	P		**P**		**07 33 24.3**	**-1.0**
KAPI				LR		LR		07 41 53.9	
	comp=Z,403nm,18.9s,baz=10,slow=38								
KAPI	**Kappang**	**21.06**	**180**	P		**P**		**07 33 24.2**	**-1.0**
BKSI	**Bulukumba** comp=Z,45nm,1.1s,comp=Z,652nm	**21.37**	**179**	P		P		07 33 35.6	+7.0
MSAI	**Masohi** comp=Z,26nm,1.1s	**21.44**	**154**	P		P		07 33 34.2	+4.9
KULM	**Kulim** comp=Z,26nm,0.9s	**21.61**	**242**	*e*P		**P**		**07 33 33.1**	**+2.0**
KULM	**Kulim** comp=Z,38nm,1.4s	**21.61**	**242**	P		**P**		**07 33 33.8**	**+2.6**
IPM	**Ipoh** comp=Z,31nm,0.8s	**21.73**	**240**	*e*P		**P**		**07 33 32.0**	**-0.5**
IPM	**Ipoh** comp=Z,42nm,1.4s	**21.73**	**240**	P		**P**		**07 33 33.4**	**+0.9**
KSAR	**Wonju Array Be**	**22.37**	**17**	P		**P**		**07 33 38.2**	**-1.0**
KSAR								07 37 33.3	
KSAR	**Wonju Array Be**	**22.37**	**17**	P		**P**		**07 33 38.2**	**-1.0**
KSAR				PcP		**PcP**		**07 37 33.2**	**+0.8**
KSRS	**Korea Array** comp=Z,16nm,0.9s,baz=204,slow=10,SNR=15	**22.39**	**17**	P		**P**		**07 33 38.2**	**-1.2**
KSRS				PcP		**PcP**		**07 37 33.2**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=192,slow=1.6,SNR=5.1								
KSRS				LR		LR		07 42 50.5	
	comp=Z,577nm,18.6s,baz=202,slow=38								
BJT	**Baijiatuau**	**23.95**	**353**	*e*P		**P**		**07 33 55.3**	**+0.7**
BJT				pmax		pmax			
	comp=Z,25nm,0.6s								
BJT	**Baijiatuau** comp=Z,25nm,0.6s	**23.95**	**353**	*e*P		**P**		**07 33 55.3**	**+0.7**
BJI	**Beijing**	**23.97**	**353**	P		**P**		**07 33 55.4**	**+0.6**
BJI				pmax		pmax			
	comp=Z,42nm,1.2s								
BJI				pmax		pmax			
	comp=Z,240nm,3.7s								
BJI				LR		LR			
	comp=N,610nm,17.0s								
BJI				LR		LR			
	comp=E,360nm,18.3s								
BJI				LR		LR			
	comp=Z,390nm,18.7s								
BKNI	**Bangkinang** comp=Z,120nm,1.1s	**24.24**	**231**	P		**P**		**07 33 59.4**	**+1.9**
LZH	**Lanzhou**	**24.34**	**327**	⇑P		**P**		**07 34 00.2**	**+1.7**
LZH				pP		**pP**		**07 34 11.2**	**-1.7**
LZH				sP		**sP**		**07 34 19.8**	**0.0**
LZH				*e*S		**S**		**07 38 18.0**	**+4.1**
LZH				sS		**sS**		**07 38 36.3**	**-2.0**
LZH				pmax		pmax			
	comp=Z,90nm,1.0s								
LZH				pmax		pmax			
	comp=Z,110nm,4.2s								
LZH				LR		LR			
	comp=N,1μm,13.6s								
LZH				LR		LR			
	comp=E,2μm,14.4s								
LZH				LR		LR			
	comp=Z,2μm,15.6s								
PSI	**Prapat** comp=Z,34nm,1.3s	**24.40**	**239**	P		**P**		**07 34 00.2**	**+1.1**
GUMO	**Guam** comp=Z,369nm,20.0s,baz=282,slow=32	**24.44**	**93**	LR		LR		07 41 38.7	
BLJI	**Banyuglugur** comp=Z,183nm,0.9s,comp=Z,4μm	**24.54**	**195**	P		**P**		**07 34 01.3**	**+1.2**
KHKI	**Kahang-Kahang** comp=Z,74nm,1.1s	**24.73**	**190**	P		**P**		**07 34 05.0**	**+3.1**
SJI	**Sawahan** comp=Z,59nm,1.2s	**25.04**	**199**	P		**P**		**07 34 06.5**	**+1.7**
MNSI	**Mandailing Nat**	**25.06**	**234**	P		**P**		**07 34 05.1**	**+0.1**
	comp=Z,71nm,0.8s,comp=Z,9μm								
BJII	**Banjamegara** comp=Z,108nm,2.1s,comp=Z,2μm	**25.38**	**204**	P		**P**		**07 34 11.2**	**+3.3**
HHC	**Hu-ho-hao-te**	**25.57**	**346**	*e*P		**P**		**07 34 10.6**	**+1.1**
HHC				pP		**pP**		**07 34 25.0**	**+1.1**
HHC				sP		**sP**		**07 34 32.5**	**+1.7**
HHC				PP		**PnPn**		**07 34 53.3**	**+5.2**
HHC				S		**S**		**07 38 33.6**	**+0.3**
HHC				sS		**sS**		**07 38 58.1**	**+0.3**
HHC				pmax		pmax			
	comp=Z,36nm,0.9s								
HHC				pmax		pmax			
	comp=Z,190nm,5.2s								
HHC				LR		LR			
	comp=N,580nm,13.7s								
HHC				LR		LR			
	comp=E,350nm,12.2s								
HHC				LR		LR			
	comp=Z,560nm,14.3s								
PCJI	**Pacitan** comp=Z,120nm,1.2s	**25.66**	**200**	P		**P**		**07 34 12.5**	**+2.2**
SNY	**Shenyang**	**25.77**	**7**	⇓P		**P**		**07 34 11.0**	**-0.1**
SNY				pmax		pmax			
	comp=Z,25nm,1.0s								
SNY				pmax		pmax			
	comp=Z,210nm,4.1s								
SNY				LR		LR			
	comp=N,480nm,16.3s								
SNY				LR		LR			
	comp=Z,670nm,16.1s								
MJAR	**Matsushiro Arr** comp=Z,1.3nm,0.4s,baz=201,slow=6.5,SNR=4.8	**26.09**	**36**	P		**P**		**07 34 13.3**	**-0.9**
MJAR				PcP		**PcP**		**07 37 41.4**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=215,slow=3.0,SNR=7.1								
MJAR	**Matsushiro Arr**	**26.09**	**36**	P		**P**		**07 34 13.3**	**-0.9**
MJAR								07 37 41.4	
MJAR	**Matsushiro Arr**	**26.09**	**36**	P		**P**		**07 34 13.3**	**-0.9**
MJAR				PcP		**PcP**		**07 37 41.4**	**+0.8**
LWLI	**Liwa** comp=Z,130nm,1.2s	**26.15**	**218**	P		**P**		**07 34 16.1**	**+1.1**
CISI	**Cisompet, Garu** comp=Z,123nm,1.1s	**26.37**	**207**	P		P		07 34 23.0	+6.2
SHL	**Shillong**	**27.58**	**294**	*e*P		**P**		**07 34 28.0**	**+0.1**
CN2	**Changchun**	**27.95**	**9**	*e*P		**P**		**07 34 29.9**	**-0.9**
CN2				*e*pP		**pP**		**07 34 44.5**	**-0.7**
CN2				*e*sP		**sP**		**07 34 51.7**	**-0.4**
CN2				*e*S		**S**		**07 39 08.6**	**-2.0**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=N,700nm,15.0s								
CN2				LR		LR			
	comp=E,500nm,15.0s								
CN2				LR		LR			
	comp=Z,800nm,15.0s								
GTA	**Gaotai**	**28.94**	**327**	*e*P		**P**		**07 34 40.9**	**+1.1**
GTA				pmax		pmax			
	comp=Z,33nm,1.2s								
GTA				pmax		pmax			
	comp=Z,150nm,5.2s								
GTA				LR		LR			
	comp=N,800nm,16.6s								
GTA				LR		LR			
	comp=E,930nm,15.7s								
GTA				LR		LR			
	comp=Z,2μm,17.1s								
LSA	**Lhasa**	**29.45**	**302**	P		**P**		**07 34 46.0**	**+1.2**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LSA	**Lhasa**	**29.45**	**302**	*e*P		**P**		**07 34 45.7**	**+1.0**
LSA				pmax		pmax			
	comp=Z,25nm,1.1s								
LSA	**Lhasa** comp=Z,25nm,1.1s	**29.45**	**302**	*e*P		**P**		**07 34 45.7**	**+1.0**
MDJ	**Mudanjiang**	**29.55**	**14**	P		**P**		**07 34 45.3**	**+0.4**
MDJ				pP		**pP**		**07 35 00.2**	**+0.8**
MDJ				sP		**sP**		**07 35 07.4**	**+1.1**
MDJ				S		**S**		**07 39 38.6**	**+3.0**
MDJ				sS		**sS**		**07 40 01.6**	**+1.3**
MDJ				pmax		pmax			
	comp=Z,14nm,1.7s								
MDJ				pmax		pmax			
	comp=Z,160nm,4.4s								
MDJ				LR		LR			
	comp=N,380nm,17.1s								
MDJ				LR		LR			
	comp=E,230nm,15.4s								
MDJ				LR		LR			
	comp=Z,530nm,14.1s								
USRK	**Ussuriysk Arra** comp=Z,2.8nm,0.7s,baz=207,slow=8.1,SNR=5.2	**29.80**	**18**	P		**P**		**07 34 45.9**	**-1.3**
USRK				LR		LR		07 47 15.5	
	comp=Z,238nm,19.3s,baz=355,slow=37								
TAPN	**Taplejung** comp=Z,36nm,0.9s	**31.64**	**296**	*e*P		**P**		**07 35 04.1**	**+0.1**
TAPN	**Taplejung** comp=Z,36nm,0.9s	**31.64**	**296**	*e*P		**P**		**07 35 04.1**	**+0.1**
ODAN	**Odare** comp=Z,66nm,0.9s	**31.80**	**295**	*e*P		**P**		**07 35 05.6**	**+0.3**
ODAN	**Odare** comp=Z,66nm,0.9s	**31.80**	**295**	*e*P		**P**		**07 35 05.6**	**+0.3**
RAMN	**Ramite** comp=Z,54nm,0.7s	**32.51**	**295**	*e*P		**P**		**07 35 11.8**	**+0.2**
RAMN	**Ramite** comp=Z,54nm,0.7s	**32.51**	**295**	*e*P		**P**		**07 35 11.8**	**+0.2**
JIRN	**Jiri** comp=Z,68nm,0.8s	**33.02**	**296**	*e*P		**P**		**07 35 16.5**	**+0.3**
JIRN	**Jiri** comp=Z,68nm,0.8s	**33.02**	**296**	*e*P		**P**		**07 35 16.5**	**+0.3**
ULN	**Ulaanbaatar**	**33.27**	**344**	*e*P		**P**		**07 35 18.1**	**+0.3**
ULN				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ULN	**Ulaanbaatar** comp=Z,9.4nm,0.9s	**33.27**	**344**	*e*P		**P**		**07 35 18.1**	**+0.3**
ULN	**Ulaanbaatar** comp=Z,12nm,1.7s,comp=Z,328nm	**33.27**	**344**	P		**P**		**07 35 18.1**	**+0.3**
GUN	**Gumba** comp=Z,97nm,0.8s	**33.35**	**296**	*e*P		**P**		**07 35 19.1**	**+0.1**
GUN	**Gumba** comp=Z,97nm,0.8s	**33.35**	**296**	*e*P		**P**		**07 35 19.1**	**+0.1**
SONM	**Songino Array** comp=Z,9.1nm,0.9s,baz=161,slow=9.9,SNR=54	**33.42**	**344**	P		**P**		**07 35 19.2**	**+0.2**
SONM				LR		LR		07 49 43.1	
	comp=Z,470nm,19.1s,baz=157,slow=38								
SONM	**Songino Array**	**33.42**	**344**	P		**P**		**07 35 19.2**	**+0.2**
SONM	**Songino Array**	**33.42**	**344**	P		**P**		**07 35 19.2**	**+0.2**
PKI	**Pulchoki**	**33.68**	**296**	*e*P		**P**		**07 35 21.3**	**-0

KOLN Koldanda 35.29 295 *e*P **P** **07 35 35.3 -0.3**
comp=Z,24nm,0.9s
YUK Yuzh-Kuril'sk 35.51 33 *e*P **P** **07 35 38.2 +1.2**
YUK *e* 07 37 10.4
YUK *e*S **S** **07 41 11.0 +2.7**
YUK *e*SS SS 07 43 31.3 -14
YUK pmax pmax
comp=Z,64nm,5.1s
YUK MLR MLR
comp=Z,163nm,20.0s
ZAK Zakamensk 36.60 342 *e*P **P** **07 35 44.1 -2.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
MBWA Marble Bar 37.11 180 *e*P **P** **07 35 49.0 -1.8**
comp=Z,32nm,0.9s
TLY Talaya 37.66 344 *e*P **P** **07 35 55.0 -0.3**
TLY *e* 07 36 05.0
TLY *e* 07 41 38.5
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,247nm,18.0s
TLY Talaya 37.66 344 *e*P **P** **07 35 56.1 +0.9**
COEN Coen 37.88 141 *e*P **P** **07 35 54.9 -2.5**
comp=Z,212nm,1.3s
MOY Mondy 38.42 341 *e*P **P** **07 36 01.8 0.0**
WMQ Urumqi 38.66 322 P **P** **07 36 04.4 +0.5**
WMQ pP **pP** **07 36 19.7 +1.0**
WMQ sP **sP** **07 36 26.9 +1.4**
WMQ SS SS 07 44 42.4 -6.3
WMQ pmax pmax
comp=Z,14nm,0.8s
WMQ pmax pmax
comp=Z,110nm,5.0s
WMQ LR LR
comp=N,580nm,16.3s
WMQ LR LR
comp=E,630nm,17.6s
WMQ LR LR
comp=Z,700nm,16.7s
WRAB Tennant Creek 38.67 158 *e*P P 07 36 00.8 -3.2
WRAB pmax pmax
comp=Z,49nm,0.9s
WRAB Tennant Creek 38.67 158 *e*P P 07 36 00.8 -3.2
comp=Z,49nm,0.9s
WRAB Tennant Creek 38.67 158 P **P** **07 36 01.0 -3.0**
comp=Z,271nm,0.8s,SNR=23
WRA Warramunga Arr 38.67 158 P **P** **07 36 01.9 -2.1**
comp=Z,29nm,0.7s,baz=337,slow=9.3,SNR=100
WRA PcP **PcP** **07 38 15.5 +0.2**
comp=Z,6.0nm,0.9s,baz=337,slow=3.3,SNR=6.6
WRA Warramunga Arr 38.67 158 P **P** **07 36 02.0 -2.1**
WRA 07 38 15.5
WRA Warramunga Arr 38.67 158 P **P** **07 36 01.9 -2.1**
WRA PcP **PcP** **07 38 15.5 +0.2**
WB2 Warramunga Arr 38.68 158 *e*P **P** **07 36 01.4 -2.7**
HYB Hyderabad 39.37 278 *i*P **P** **07 36 08.5 -1.6**
BOD Bodaibo 41.78 355 *e*P **P** **07 36 28.2 -1.2**
BOD pmax pmax
comp=Z,5.0nm,1.3s
AS31 Alice Springs 41.97 160 *e*P **P** **07 36 29.5 -1.8**
ASAR Alice Springs 41.97 160 P **P** **07 36 29.6 -1.7**
comp=Z,26nm,0.8s,baz=341,slow=6.8,SNR=235
ASAR PcP **PcP** **07 38 26.2 +0.4**
comp=Z,5.8nm,0.8s,baz=350,slow=2.3,SNR=9.7
ASAR Alice Springs 41.97 160 P **P** **07 36 29.6 -1.7**
ASAR 07 38 26.2
ASAR Alice Springs 41.97 160 P **P** **07 36 29.6 -1.7**
ASAR PcP **PcP** **07 38 26.2 +0.4**
MK31 Makanchi Array 43.48 323 *i*P **P** **07 36 43.8 +0.4**
MK31 pmax pmax
comp=Z,23nm,0.8s
MK31 Makanchi Array 43.48 323 *e*P **P** **07 36 43.9 +0.4**
MKAR Makanchi Array 43.48 323 P **P** **07 36 44.0 +0.6**
comp=Z,17nm,0.8s,baz=130,slow=9.3,SNR=185
MKAR PcP **PcP** **07 38 30.9 +0.3**
comp=Z,3.2nm,0.8s,baz=95,slow=5.2,SNR=4.0
MKAR pPcP 07 38 41.0
comp=Z,5.9nm,0.7s,baz=108,slow=4.0,SNR=7.1
MKAR LR LR 07 56 11.2
comp=Z,384nm,18.0s,baz=141,slow=38
MKAR Makanchi Array 43.48 323 P **P** **07 36 44.0 +0.6**
MKAR 07 38 30.9
MKAR Makanchi Array 43.48 323 P **P** **07 36 44.0 +0.6**
MKAR PcP **PcP** **07 38 30.9 +0.3**
MKAR pPcP 07 38 41.0
POO Poona 43.75 280 *e*P **P** **07 36 45.0 -1.0**
CTA Charters Tower 44.49 143 P **P** **07 36 51.4 -0.3**
comp=Z,8.5nm,0.8s,baz=336,slow=8.3,SNR=6.9
CTA Charters Tower 44.49 143 P **P** **07 36 51.4 -0.3**
CTA Charters Tower 44.49 143 P **P** **07 36 51.4 -0.3**
KSH Kashi 44.56 310 P **P** **07 36 54.3 +2.1**
KSH *ep*P **pP** **07 37 09.4 +2.1**
KSH *es*P **sP** **07 37 16.6 +2.5**
KSH *e*PcP PP 07 38 36.3 -0.8
KSH *e*PP **PcP** **07 38 39.2 +4.7**
KSH *e*ScP **ScP** **07 42 22.4 +0.5**
KSH *e*PcS **PcS** **07 42 28.3 +0.2**
KSH *e*S **S** **07 43 24.6 +0.7**
KSH *es*S **sS** **07 43 51.2 +1.8**
KSH *e*SS ScS 07 46 37.1 -8.0
KSH *e*ScS ScS 07 46 43.4 -1.7
KSH pmax pmax
comp=Z,20nm,0.9s
KSH pmax pmax
comp=Z,93nm,4.1s
KSH LR LR
comp=N,170nm,4.9s
KSH LR LR
comp=E,220nm,13.1s
KSH LR LR
comp=Z,310nm,9.4s
ULHL Ulahol 45.31 314 P **P** **07 36 59.8 +1.5**
SNR=13
ULHL P **P** **07 36 59.8 +1.5**
SNR=13
KZA Kyzart 45.94 313 P **P** **07 37 04.9 +1.4**
SNR=27
KZA P **P** **07 37 04.9 +1.4**
SNR=27
TKM2 Tokmak 2 46.00 315 P **P** **07 37 04.5 +0.8**
SNR=15
TKM2 P **P** **07 37 04.5 +0.8**
SNR=15
TKM2 Tokmak 2 46.00 315 *i*P **P** **07 37 04.5 +0.8**
TKM2 Tokmak 2 46.00 315 *e*P **P** **07 37 04.3 +0.6**
comp=Z,30nm,1.5s
YAK Yakutsk 46.33 6 *e*P **P** **07 37 04.2 -1.5**
YAK pmax pmax
comp=Z,18nm,0.9s
KBK Karagaybulak 46.35 314 P **P** **07 37 07.7 +1.3**
SNR=19
KBK P **P** **07 37 07.7 +1.3**
SNR=19
ZAA0 Zalesovo Array 46.43 332 *e*P **P** **07 37 05.8 -0.8**
ZALV Zalesovo Beam 46.43 332 P **P** **07 37 05.3 -1.3**
comp=Z,4.9nm,0.7s,baz=126,slow=7.0,SNR=32
ZALV pP pP 07 37 14.4 -7.4
comp=Z,3.5nm,0.6s,baz=123,slow=5.5,SNR=7.5
ZALV LR LR 07 57 23.2
comp=Z,238nm,19.3s,baz=83,slow=37
ZALV Zalesovo Beam 46.43 332 P **P** **07 37 05.3 -1.3**
ZALV *PP pP 07 37 14.4 -7.4
ZALV Zalesovo Beam 46.43 332 P **P** **07 37 05.3 -1.3**
ZALV pP pP 07 37 14.4 -7.4
UCH Uchtor 46.50 313 P **P** **07 37 09.6 +1.6**
SNR=6.6
UCH P **P** **07 37 09.6 +1.6**
SNR=6.6
CHMS Chumysh 46.60 314 P **P** **07 37 09.2 +1.0**
SNR=5.3
CHMS P **P** **07 37 09.2 +1.0**
SNR=5.3
AAK Ala-Archa 46.65 314 P **P** **07 37 09.8 +1.0**
SNR=8.0
AAK P **P** **07 37 09.8 +1.0**
SNR=8.0
AAK Ala-Archa 46.65 314 *e*P **P** **07 37 09.7 +1.0**
AAK pmax pmax
comp=Z,41nm,0.9s
AAK Ala-Archa 46.65 314 *e*P **P** **07 37 09.7 +1.0**
comp=Z,41nm,0.9s
AAK Ala-Archa 46.65 314 P **P** **07 37 09.9 +1.1**
comp=Z,60nm,0.8s,SNR=7.7
USP Ospenovka 46.87 315 P **P** **07 37 11.0 +0.7**
SNR=17
USP P **P** **07 37 11.0 +0.7**
SNR=17
AML Almayashu 47.04 313 P **P** **07 37 13.0 +0.9**
SNR=23
AML P **P** **07 37 13.0 +0.9**
SNR=23
EKS2 Erkin-Say 47.16 314 P **P** **07 37 13.8 +1.1**
SNR=13
EKS2 P **P** **07 37 13.8 +1.1**
SNR=13
EKS2 Erkin-Say 47.16 314 *e*P **P** **07 37 13.3 +0.6**
EKS2 pmax pmax
comp=Z,29nm,1.2s
EKS2 Erkin-Say 47.16 314 *e*P **P** **07 37 13.3 +0.6**
comp=Z,29nm,1.2s
PETK Petropavlovsk- 47.34 30 P **P** **07 37 14.1 +0.3**
comp=Z,12nm,0.8s,baz=211,slow=7.2,SNR=12
PETK LR LR 07 58 55.8
comp=Z,92nm,18.4s,baz=90,slow=38
PETK Petropavlovsk- 47.34 30 P **P** **07 37 14.1 +0.3**
PETK Petropavlovsk- 47.34 30 P **P** **07 37 14.1 +0.3**
FORT Forrest 47.38 170 *e*P **P** **07 37 12.8 -1.4**
comp=Z,30nm,0.8s
FORT Forrest 47.38 170 *e*P **P** **07 37 13.2 -1.0**
comp=Z,38nm,0.8s
KLBR Kellerberrin 47.54 182 *e*P **P** **07 37 13.9 -1.6**
comp=Z,25nm,0.8s
KURK Kurchatov 47.61 326 *e*P **P** **07 37 16.0 +0.1**
KURK pmax pmax
comp=Z,64nm,0.8s
KURK Kurchatov 47.61 326 *e*P **P** **07 37 16.0 +0.1**
comp=Z,64nm,0.8s
KURK Kurchatov 47.61 326 P **P** **07 37 16.5 +0.6**
comp=Z,524nm,0.7s,SNR=62
NVS Novosibirsk 47.71 332 *e*P **P** **07 37 13.8 -2.8**
NVS *e* 07 38 49.6
NVS pmax pmax
comp=Z,13nm,1.2s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
QLP Quilpie 48.73 150 *e*P **P** **07 37 23.1 -1.7**
KBL Kabul 48.77 302 *e*P **P** **07 37 25.8 +0.4**
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 48.77 302 *e*P **P** **07 37 25.8 +0.4**
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 48.89 183 P **P** **07 37 24.2 -1.6**
comp=Z,22nm,0.7s,baz=356,slow=7.6,SNR=15
NWAO Narrogin (SRO) 48.89 183 *e*P **P** **07 37 24.7 -1.2**
NWAO pmax pmax
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 48.89 183 *e*P **P** **07 37 24.7 -1.2**
comp=Z,17nm,0.7s
KK31 Karatay Array 49.58 313 *i*P **P** **07 37 31.3 +0.1**
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 49.58 313 *e*P **P** **07 37 31.4 +0.2**
KKAR pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 49.58 313 *e*P **P** **07 37 31.4 +0.2**
comp=Z,14nm,0.6s
BBOO Buckleboo 51.17 162 *e*P **P** **07 37 41.1 -2.1**
comp=Z,126nm,0.9s
BBOO Buckleboo 51.17 162 *e*P **P** **07 37 41.9 -1.2**
comp=Z,429nm,0.9s
SEY Seymchan 51.95 18 *ce*P **P** **07 37 49.9 +1.3**
STKA Stephens Creek 52.19 156 P **P** **07 37 49.3 -1.5**
comp=Z,9.4nm,0.6s,baz=332,slow=7.7,SNR=32
STKA LR LR 08 00 28.5
comp=Z,156nm,18.1s,baz=215,slow=37
STKA Stephens Creek 52.19 156 *e*P **P** **07 37 49.2 -1.6**
comp=Z,12nm,1.2s
STKA Stephens Creek 52.19 156 *e*P **P** **07 37 49.5 -1.4**
STKA pmax pmax
comp=Z,6.0nm,1.1s
STKA Stephens Creek 52.19 156 *e*P **P** **07 37 49.5 -1.4**
comp=Z,5.8nm,1.1s
BVA0 Borovoye Array 53.20 325 *i*P **P** **07 37 58.0 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 53.27 325 *ce*P **P** **07 37 58.8 +0.3**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 53.27 325 *e*P **P** **07 37 58.9 +0.3**
comp=Z,46nm,1.1s
BRVK Borovoye 53.27 325 P **P** **07 37 58.0 -0.6**
comp=Z,197nm,0.7s,SNR=22
CMSA Cobar Meteorol 53.60 152 *e*P **P** **07 38 00.4 -0.8**
comp=Z,219nm,0.7s
YNG Young 57.15 152 *e*P **P** **07 38 26.2 -0.5**
comp=Z,8.3nm,1.0s
ABKT Ailbek 57.93 305 P **P** **07 38 33.1 +0.8**
comp=Z,215nm,0.9s,SNR=8.9
AB31 Akbulak array 58.25 318 *i*P **P** **07 38 34.4 +0.1**
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR Akbulak array 58.25 318 *e*P **P** **07 38 34.3 0.0**
comp=Z,18nm,0.7s
CNB Canberra Magne 58.43 152 *e*P **P** **07 38 35.3 -0.5**
comp=Z,74nm,0.8s
TOO Toolangi 58.72 156 *e*P **P** **07 38 36.9 -0.7**
comp=Z,70nm,0.9s
BILL Bilibino 59.66 18 *e*P **P** **07 38 43.8 +0.1**
BILL *e* 07 39 31.3
BILL pmax pmax
comp=Z,39nm,2.5s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 59.66 18 *e*P **P** **07 38 43.4 -0.3**
comp=Z,7.1nm,0.6s
SVE Sverdlovsk 59.81 327 *i*P **P** **07 38 44.7 -0.3**
SVE *e* 07 41 03.8
SVE *e*PPP PPP 07 42 23.9
SVE pmax pmax
comp=Z,44nm,1.2s
SVE MLR MLR
comp=Z,297nm,17.0s
ARU Arti 60.80 326 *c*P **P** **07 38 51.2 -0.5**
ARU 07 41 01.2
ARU S **S** **07 47 05.5 +0.9**
ARU SS **SS** **07 50 59.8 -4.2**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 60.80 326 *e*P **P** **07 38 50.9 -0.9**
comp=Z,12nm,0.4s
SOKR Solikamsk 62.54 329 *e*P **P** **07 39 02.9 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,670nm,19.0s
GAMB Gambell 66.17 27 *e*P **P** **07 39 27.8 +0.8**
comp=Z,42nm,1.3s
UMR Umm Al-Rimmam 66.75 296 *e*P **P** **07 39 30.9 -0.5**
UMR AMb AMB 07 39 31.6
comp=Z,66nm,0.9s
KBD Kabd 66.81 295 *e*P **P** **07 39 31.1 -0.7**
KBD AMb AMB 07 39 33.2
comp=Z,44nm,1.3s
MIB Mutribah 67.05 296 *e*P **P** **07 39 32.6 -0.7**
MIB AMb AMB 07 39 33.9
comp=Z,66nm,0.9s
NAY Al-Naaiem 67.20 295 *e*P **P** **07 39 33.5 -0.7**
NAY AMb AMB 07 39 34.8
comp=Z,49nm,0.8s
TNA Tin City 68.10 25 *e*P **P** **07 39 41.2 +2.0**
comp=Z,23nm,1.4s
TBLG Delisi 68.28 309 *e*P **P** **07 39 41.6 +0.7**
TBLG Delisi 68.28 309 P **P** **07 39 41.6 +0.7**
ZEI Tsey 68.85 310 *e*P **P** **07 39 43.9 -0.8**
ZEI pmax pmax
comp=Z,30nm,1.0s
ONI Oni 69.19 310 P P 07 39 37.9 -8.6
AKH Akhalkalaki 69.23 309 P **P** **07 39 46.8 -0.2**
RAYN Ar Rayn 69.52 289 P **P** **07 39 49.0 +0.1**
comp=Z,135nm,1.4s,SNR=9.3
KIV Kislovodsk 69.67 311 *de*P **P** **07 39 50.3 +0.8**
KIV *i* 07 40 00.6
KIV *i* 07 40 08.4
KIV pmax pmax
comp=Z,48nm,1.0s
KIV MLR MLR
comp=Z,200nm,17.0s
KIV Kislovodsk 69.67 311 *e*P **P** **07 39 50.4 +0.8**
comp=Z,47nm,0.9s
VRHR Novokhopersk 70.12 319 *e*P **P** **07 39 51.2 -0.8**
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 71.66 319 *e*P **P** **07 40 00.6 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,4.0nm,0.3s
VSR pmax pmax
comp=E,8.0nm,0.6s
OBN Obninsk 72.98 323 *e*P **P** **07 40 08.3 -0.8**
OBN *i* 07 40 19.1
OBN *e* 07 40 24.7
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,200nm,17.0s
TTA Tatalina 73.13 28 *e*P **P** **07 40 10.9 +0.9**
TTA pmax pmax
comp=Z,44nm,1.4s
TTA Tatalina 73.13 28 *e*P **P** **07 40 10.9 +0.9**
comp=Z,44nm,1.4s
ANN Anapa 73.36 313 *e*P **P** **07 40 10.4 -1.2**
ANN pmax pmax
comp=Z,52nm,1.1s
RSO Redoubt South 74.86 31 *e*P **P** **07 40 20.7 +0.4**
comp=Z,42nm,0.9s
PPLA Purkeypile 74.88 28 *e*P **P** **07 40 20.7 +0.4**
comp=Z,50nm,1.4s
JOF Joensuu 75.02 332 *e*P **P** **07 40 20.4 -0.5**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 75.02 332 *ep* **P** **07 40 20.4 -0.5**
comp=Z,11nm,0.6s
JOF Joensuu 75.02 332 *ep* **P** **07 40 20.4 -0.5**
comp=Z,11nm,0.6s
KDAK Kodiak Island 75.25 34 *ce*P **P** **07 40 23.3 +1.0**
TRF Thorofare Moun 75.67 28 *e*P **P** **07 40 25.1 +0.2**
comp=Z,57nm,1.5s
RPZ Rata Peaks 75.85 144 P **P** **07 40 24.3 -1.6**
comp=Z,7.3nm,0.7s,baz=211,slow=3.0,SNR=3.4
RPZ Rata Peaks 75.85 144 P **P** **07 40 24.3 -1.6**
KEV Kevo 75.88 339 *e*P P 07 40 30.8 +5.1
KEV Kevo 75.88 339 *ep* P 07 40 30.8 +5.1
KEV Kevo 75.88 339 *ep* P 07 40 30.8 +5.1
MCK McKinley 76.23 27 *e*P **P** **07 40 28.3 +0.4**
MCK pmax pmax
comp=Z,52nm,1.1s
MCK McKinley 76.23 27 *e*P **P** **07 40 28.3 +0.4**
comp=Z,52nm,1.1s
ARCES ARCESS Array B 76.44 339 P **P** **07 40 27.0 -1.9**
comp=Z,7.4nm,0.8s,baz=22,slow=6.8,SNR=11
ARCES LR LR 08 18 44.6
comp=Z,195nm,18.2s,baz=48,slow=39
ARCES ARCESS Array B 76.44 339 P **P** **07 40 27.0 -1.9**
ARCES ARCESS Array B 76.44 339 P **P** **07 40 27.0 -1.9**
PMR Palmer 76.47 29 *e*P **P** **07 40 28.9 -0.3**
PMR pmax pmax
comp=Z,26nm,1.0s
PMR Palmer 76.47 29 *e*P **P** **07 40 28.9 -0.3**
comp=Z,26nm,1.0s
COLA College 76.52 26 *e*P **P** **07 40 29.5 +0.1**
COLA pmax pmax
comp=Z,17nm,1.0s
COLA College 76.52 26 *e*P **P** **07 40 29.5 +0.1**
comp=Z,17nm,1.0s
BR131 Keskin Array S 76.88 308 *e*P **P** **07 40 31.0 -1.1**
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 76.88 308 P **P** **07 40 31.6 -0.5**
comp=Z,2.5nm,0.8s,baz=112,slow=5.4,SNR=10
BRTR pP **PcP** **07 40 40.4 -2.8**
comp=Z,4.3nm,0.9s,baz=117,slow=4.0,SNR=7.3
BRTR Keskin Array B 76.88 308 P **P** **07 40 31.7 -0.5**
BRTR *PP **PcP** **07 40 40.4 -2.8**
BRTR Keskin Array B 76.88 308 P **P** **07 40 31.6 -0.5**
BRTR pP **PcP** **07 40 40.4 -2.8**
ILAR Eielson Array 76.95 26 P **P** **07 40 30.9 -1.0**
comp=Z,3.0nm,0.8s,baz=266,slow=6.0,SNR=38
ILAR Eielson Array 76.95 26 P **P** **07 40 30.9 -1.0**
ILAR Eielson Array 76.95 26 P **P** **07 40 30.9 -1.0**
KAF Kangasniemi 77.43 331 *e*P **P** **07 40 34.3 -0.3**
KAF Kangasniemi 77.43 331 *ep* **P** **07 40 34.3 -0.3**
KAF Kangasniemi 77.43 331 *ep* **P** **07 40 34.3 -0.3**
FINES FINESS Array B 77.66 331 P **P** **07 40 35.6 -0.2**
comp=Z,7.1nm,0.6s,baz=53,slow=7.9,SNR=34
FINES FINESS Array B 77.66 331 P **P** **07 40 35.7 -0.2**
FINES FINESS Array B 77.66 331 P **P** **07 40 35.6 -0.2**
PAX Paxson 77.90 28 *e*P **P** **07 40 37.5 +0.1**
PAX pmax pmax
comp=Z,97nm,1.9s
PAX Paxson 77.90 28 *e*P **P** **07 40 37.5 +0.1**
comp=Z,97nm,1.9s
AKASG Malin Array Be 77.96 319 P **P** **07 40 37.0 -0.7**
comp=Z,9.9nm,0.7s,baz=68,slow=5.3,SNR=26
AKASG pP **PcP** **07 40 46.9 -0.5**
comp=Z,18nm,0.9s,baz=65,slow=5.3,SNR=13
AKASG Malin Array Be 77.96 319 *ce*P **P** **07 40 37.0 -0.7**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 77.96 319 P **P** **07 40 37.0 -0.7**
AKASG pP **PcP** **07 40 46.9 -0.5**
AKBB Malin Array Si 77.96 319 *e*P **P** **07 40 36.4 -1.4**
AKBB Malin Array Si 77.96 319 *e*P **P** **07 40 36.4 -1.4**
KIEV Kiev 77.97 319 *e*P **P** **07 40 36.4 -1.4**
KIEV *e* 07 40 45.4
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 77.97 319 *e*P **P** **07 40 36.4 -1.4**
comp=Z,18nm,0.9s
KIEV *e* 07 40 45.4
CSS Prodhromos 78.01 303 *e*P **P** **07 40 38.7 +0.3**
comp=Z,48nm,0.8s
CSS *e* 07 40 48.1
NACGM Naroch 78.60 324 *e* P 07 40 38.0 -3.2
OPO Ambohidratompo 79.28 247 P **P** **07 40 45.5 -0.3**
comp=Z,5.0nm,0.7s,baz=27,slow=4.2,SNR=8.3
OPO Ambohidratompo 79.28 247 P **P** **07 40 45.5 -0.3**
EGAK Eagle 79.34 25 *e*P **P** **07 40 45.6 +0.5**
comp=Z,26nm,1.3s
ABPO Ambohimpanom 79.41 247 *e*P **P** **07 40 46.3 -0.2**
ABPO pmax pmax
comp=Z,9.0nm,0.9s
ABPO Ambohimpanom 79.41 247 *e*P **P** **07 40 46.3 -0.2**
comp=Z,8.6nm,0.9s
DAWY Dawson 80.27 26 *e*P **P** **07 40 50.8 +0.6**
TESR 80.51 316 ⇑*i*P **P** **07 40 52.7 +0.9**
VRI Vrincioaia 80.61 315 ⇑P **P** **07 40 53.5 +1.1**
VRI Vrincioaia 80.61 315 ⇑*i*P **P** **07 40 53.5 +1.1**
PLOR Plostina 80.66 315 ⇓P **P** **07 40 53.1 +0.4**
PLOR Plostina 80.66 315 ⇓*i*P **P** **07 40 53.1 +0.4**
SUW Suwalki 80.84 324 *e*P **P** **07 40 53.2 -0.3**
SUW *e* 07 41 03.0
SUW Suwalki 80.84 324 *e*P **P** **07 40 53.2 -0.3**
SUW *e* 07 41 03.0
SUW Suwalki 80.84 324 *e*P **P** **07 40 53.1 -0.3**
comp=Z,53nm,1.0s
SUW *e* 07 41 02.8
INK Inuvik 81.14 21 *e*P **P** **07 40 54.9 +0.2**
INK pmax pmax
comp=Z,39nm,1.3s
INK Inuvik 81.14 21 *e*P **P** **07 40 54.9 +0.2**
comp=Z,39nm,1.3s
BURAR Bucovina Array 81.20 317 ⇑P **P** **07 40 55.7 +0.1**
BURAR Bucovina Array 81.20 317 ⇑*i*P **P** **07 40 55.7 +0.1**
BUR08 Bucovina Ar. S 81.20 317 *e*P **P** **07 40 55.5 -0.1**
MLR Muntele Rosu 81.23 315 ⇓P **P** **07 40 56.3 +0.5**
MLR Muntele Rosu 81.23 315 ⇓*i*P **P** **07 40 56.3 +0.5**
LVV L'vov 81.41 319 *e*P **P** **07 40 56.2 -0.3**
LVV *e* 07 41 07.4
VOIR 81.85 315 ⇓P **P** **07 40 58.7 -0.4**
VOIR 81.85 315 ⇓*i*P **P** **07 40 58.7 -0.4**
HUMR Humele 82.13 314 ⇑*i*P **P** **07 41 00.2 -0.2**
KWP Kalwaria Pacla 82.28 319 *e*P **P** **07 41 01.6 +0.5**
KWP *e* 07 41 11.0
KWP Kalwaria Pacla 82.28 319 *e*P **P** **07 41 01.6 +0.5**
KWP *e* 07 41 11.0
KWP Kalwaria Pacla 82.28 319 ⇑*i*P **P** **07 41 01.6 +0.5**
TRPA Tarpa 82.80 318 ⇓*i*P **P** **07 41 04.3 +0.5**
DRGR 83.06 317 ⇓P **P** **07 41 05.8 +0.5**

DRGR		83.06	317	⇓*iP*		**P**	07 41 05.8	+0.5
KMBO	**Kilima Mbogo**	83.07	267	*eP*		**P**	07 41 07.1	+0.9
KMBO				*e*			07 41 17.5	
KMBO				pmax	pmax			
	comp=Z,24nm,1.4s							
KMBO	**Kilima Mbogo**	83.07	267	*eP*		**P**	07 41 07.1	+0.9
	comp=Z,24nm,1.4s							
KMBO				*e*			07 41 17.4	
CRVS	**Cervenica-Dubn**	83.27	319	*eP*		**P**	07 41 06.7	+0.4
CRVS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CRVS	**Cervenica-Dubn**	83.27	319	*eP*		**P**	07 41 06.7	+0.4
GZR	**Gura Zlata**	83.41	315	⇓*iP*		**P**	07 41 07.3	+0.2
GZR	**Gura Zlata**	83.41	315	⇓*iP*		**P**	07 41 07.3	+0.2
NIE	**Niedzica**	83.84	320	*eP*		**P**	07 41 10.0	+0.8
NIE				*e*			07 41 19.7	
NIE	**Niedzica**	83.84	320	*eP*		**P**	07 41 10.0	+0.8
NIE				*e*			07 41 19.7	
VTS	**Vitosha**	83.89	312	⇑*iP*		**P**	07 41 09.8	0.0
VTS	**Vitosha**	83.89	312	⇑*iP*		**P**	07 41 09.8	0.0
OJC	**Ojcow**	83.91	320	*eP*		**P**	07 41 09.2	-0.3
OJC				*e*			07 41 19.6	
OJC	**Ojcow**	83.91	320	*eP*		**P**	07 41 09.2	-0.3
OJC				*e*			07 41 19.6	
KECS	**Kecovo**	84.01	319	*eP*		P	07 41 03.5	-6.6
KECS	**Kecovo**	84.01	319	*eP*		P	07 41 03.5	-6.6
DAG	**Danmarks Havn**	84.02	351	*iP*		**P**	07 41 08.8	-0.7
DAG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
DAG	**Danmarks Havn**	84.02	351	*i* P		**P**	07 41 08.8	-0.7
	comp=Z,79nm,0.8s							
BZS	**Buzias**	84.13	316	⇑P		**P**	07 41 10.2	-0.5
BZS	**Buzias**	84.13	316	⇑*iP*		**P**	07 41 10.2	-0.5
PSZ	**Piszkesteto**	84.56	318	⇓P		**P**	07 41 13.3	+0.3
PSZ	**Piszkesteto**	84.56	318	*eP*		**P**	07 41 12.5	-0.5
	comp=Z,8.0nm,1.2s							
PSZ	**Piszkesteto**	84.56	318	⇓*iP*		**P**	07 41 13.3	+0.3
NB2	**NORSAR Subarra**	84.63	332	P		**P**	07 41 12.0	-0.9
	comp=Z,9.9nm,0.7s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	84.63	332	P		**P**	07 41 12.1	-0.9
	comp=Z,3.9nm,0.6s,baz=67,slow=4.7,SNR=13							
NOA				pP		PcP	07 41 22.4	+6.0
	comp=Z,7.0nm,0.6s,baz=66,slow=4.7,SNR=8.4							
NOA				LR		LR	08 21 23.4	
	comp=Z,189nm,20.1s,baz=75,slow=37							
NOA	**NORSAR Array B**	84.63	332	P		**P**	07 41 12.1	-0.9
NOA				*PP		PcP	07 41 22.4	+6.0
NOA	**NORSAR Array B**	84.63	332	P		**P**	07 41 12.1	-0.9
NOA				pP		PcP	07 41 22.4	+6.0
OKC	**Ostrava-Krasne**	85.05	320	*iP*		**P**	07 41 15.5	+0.3
OKC				*e*PP		PcP	07 41 24.8	+6.4
OKC	**Ostrava-Krasne**	85.05	320	*iP*		**P**	07 41 15.5	+0.3
OKC				*ex*		x	07 41 24.8	
VYHS	**Vyhne**	85.05	319	*eP*		**P**	07 41 15.5	+0.2
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
VYHS	**Vyhne**	85.05	319	*eP*		**P**	07 41 15.5	+0.2
MORC	**Moravsky Berou**	85.44	321	⇓P		**P**	07 41 17.0	-0.3
MORC	**Moravsky Berou**	85.44	321	*eP*		**P**	07 41 17.5	+0.3
	comp=Z,13nm,1.4s							
MORC	**Moravsky Berou**	85.44	321	⇓*iP*		**P**	07 41 17.0	-0.3
KRLC	**Kraliky**	85.80	321	*iP*		**P**	07 41 19.2	+0.1
KRLC				*ex*		x	07 41 29.4	
KSP	**Ksiaz**	85.82	322	*eP*		**P**	07 41 19.4	+0.4
KSP				*e*			07 41 28.6	
KSP	**Ksiaz**	85.82	322	*eP*		**P**	07 41 19.3	+0.2
KSP				*e*PP		PcP	07 41 28.6	+6.8
DPC	**Dobruska-Polom**	85.98	321	*iP*		**P**	07 41 20.5	+0.6
DPC				*e*PP		pP	07 41 30.0	-6.5
DPC	**Dobruska-Polom**	85.98	321	*iP*		**P**	07 41 20.5	+0.6
DPC				*ex*		x	07 41 30.0	
UPC	**Upice**	86.11	322	*iP*		**P**	07 41 20.9	+0.4
UPC	**Upice**	86.11	322	*iP*		**P**	07 41 20.9	+0.4
RES	**Resolute Bay**	86.74	9	*eP*		**P**	07 41 22.8	-0.3
RES				pmax	pmax			
	comp=Z,17nm,0.3s							
RES	**Resolute Bay**	86.74	9	*eP*		**P**	07 41 22.8	-0.3
	comp=Z,17nm,0.3s							
TREC	**Trest**	86.86	321	*iP*		**P**	07 41 24.7	+0.4
TREC				*e*PP		pP	07 41 33.9	-6.9
TREC	**Trest**	86.86	321	*iP*		**P**	07 41 24.7	+0.4
TREC				*ex*		x	07 41 33.9	
PVCC	**Panska Ves**	86.96	322	*iP*		**P**	07 41 25.1	+0.4
PVCC				*e*PP		PcP	07 41 33.2	+6.4
PVCC	**Panska Ves**	86.96	322	*iP*		**P**	07 41 25.1	+0.4
PVCC				*ex*		x	07 41 33.2	
CONA	**Conrad Observa**	87.12	319	⇑*iP*		**P**	07 41 25.3	-0.3
	comp=Z,11nm,1.3s							
PRU	**Pruhonice**	87.18	321	*iP*		**P**	07 41 25.8	+0.1
PRU				*e*PP		pP	07 41 35.8	-6.5
PRU	**Pruhonice**	87.18	321	*iP*		**P**	07 41 25.8	+0.1
PRU				*ex*		x	07 41 35.8	
BRG	**Berggiesshubel**	87.20	322	*eP*		**P**	07 41 26.1	+0.2
	comp=Z,15nm,1.3s							
BRG				*i*			07 41 36.0	
	comp=Z,19nm,1.1s							
BRG	**Berggiesshubel**	87.20	322	*eP*		**P**	07 41 26.0	+0.2
BRG				*i*			07 41 36.0	
BRG				pmax	pmax			
	comp=Z,15nm,1.3s							
BRG				pmax	pmax			
	comp=Z,19nm,1.1s							
CLL	**Collm**	87.58	323	⇓*iP*		**P**	07 41 27.5	-0.1
CLL				*i*			07 41 37.3	
CLL				pmax	pmax			
	comp=Z,12nm,1.4s							
CLL	**Collm**	87.58	323	⇓*iP*		**P**	07 41 27.5	-0.1
	comp=Z,12nm,1.4s							
CLL				L		L	08 22 00.0	
	comp=Z,200nm,18.5s							
CLL	**Collm**	87.58	323	*i* (P)		P	07 41 37.3	+10
	comp=Z,10.0nm,0.7s							
KHC	**Kasperske Hory**	88.08	321	*iP*		**P**	07 41 30.3	+0.1
KHC				*e*PP		pP	07 41 39.7	-7.0
KHC	**Kasperske Hory**	88.08	321	*iP*		**P**	07 41 30.3	+0.1
KHC				*ex*		x	07 41 39.7	
GERES	**GERESS Array B**	88.12	321	P		**P**	07 41 30.4	0.0
	comp=Z,1.8nm,0.8s,baz=64,slow=6.1,SNR=12							
GERES				pP		pP	07 41 40.3	-6.7
	comp=Z,2.2nm,0.7s,baz=70,slow=4.4,SNR=9.4							
GERES				LR		LR	08 23 09.7	
	comp=Z,107nm,18.4s,baz=73,slow=37							
GERES	**GERESS Array B**	88.12	321	P		**P**	07 41 30.4	0.0
GERES				*PP		pP	07 41 40.3	-6.7
GERES	**GERESS Array B**	88.12	321	P		**P**	07 41 30.4	0.0
GERES				pP		pP	07 41 40.3	-6.7
MOA	**Molln**	88.14	319	⇓*i*PcP		**P**	07 41 30.6	+0.1
	comp=Z,10nm,0.9s							
WTTA	**Wattenberg**	90.01	320	⇑*i*PcP		**P**	07 41 38.9	-0.6
	comp=Z,25nm,1.2s							
SUMG	**Summit**	90.26	354	*iP*		**P**	07 41 40.5	+0.1
SUMG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SUMG	**Summit**	90.26	354	*iP*		**P**	07 41 40.5	+0.1
	comp=Z,4.2nm,0.9s							
MOTA	**Moosalm**	90.31	320	⇑*i*PcP		**P**	07 41 40.2	-0.6
	comp=Z,11nm,1.0s							
FETA	**Feichten**	90.68	320	⇑*i*PcP		**P**	07 41 41.9	-0.7
	comp=Z,14nm,1.0s							
YKA	**Yellowknife Ar**	90.85	22	P		**P**	07 41 43.2	+0.5
	comp=Z,8.2nm,0.9s,baz=315,slow=4.6,SNR=128							
YKA				PKiKP		**PKiKP**	07 46 36.2	+0.2
	comp=Z,0.4nm,0.8s,baz=305,slow=1.7,SNR=5.9							
YKA				PKKPbc		**PKKPdf**	07 59 06.6	+1.8
	comp=Z,0.2nm,0.6s,baz=131,slow=3.0,SNR=8.3							
YKA	**Yellowknife Ar**	90.85	22	P		**P**	07 41 43.3	+0.5
YKA	**Yellowknife Ar**	90.85	22	P		**P**	07 41 43.2	+0.5
YKA				PKiKP		**PKiKP**	07 46 36.2	+0.2
YKA				PKKPbc		**PKKPdf**	07 59 06.7	+1.8
DAVA	**Damuels**	91.09	320	⇑*i*PcP		**P**	07 41 44.1	-0.4
	comp=Z,5.5nm,0.8s							
TUE	**Stuetta**	91.77	320	*eP*		**P**	07 41 47.9	+0.2
	comp=Z,9.2nm,0.8s							
CDF	**Champ du Feu**	92.16	322	*eP*		**P**	07 41 49.0	-0.3
	comp=Z,36nm,1.0s							
HINF	**Hinteralfeld**	92.69	322	*eP*		**P**	07 41 52.0	+0.3
BAIF	**Baives**	93.15	324	*eP*		**P**	07 41 53.5	-0.1
	comp=Z,26nm,1.3s							
LPG	**La Plagne**	93.83	320	*eP*		**P**	07 41 57.2	-0.1
	comp=Z,40nm,1.1s							
LPL	**La Plagne**	93.83	320	*eP*		**P**	07 41 57.0	-0.2
	comp=Z,25nm,0.8s							
ORIF	**Oris-en-Rattie**	94.64	319	*eP*		**P**	07 42 00.4	-0.4
	comp=Z,23nm,0.9s							

AVF	**Avril sur Loir**	95.27	322	*eP*		**P**	07 42 03.6	+0.1
	comp=Z,16nm,1.0s								
TORD	**Torodi Ar. Bea**	112.15	292	PKiKP		**PKiKP**	07 47 13.9	-1.8
	comp=Z,0.9nm,0.9s,baz=15,slow=2.1,SNR=4.7								
TORD				pPKiKP		**pPKiKP**	07 47 25.9	-7.1
	comp=Z,1.7nm,0.8s,baz=30,slow=2.2,SNR=8.4								
TORD				PP		**PP**	07 47 52.9	-7.7
	comp=Z,2.4nm,0.9s,baz=60,slow=5.4,SNR=11								
TORD				PKKPbc		**PKKPbc**	07 58 07.4	+0.8	
	comp=Z,0.6nm,0.9s,baz=282,slow=1.4,SNR=4.6								
TORD	**Torodi Ar. Bea**	112.15	292	PKiKP		**PKiKP**	07 47 13.9	-1.8	
TORD				*e*			07 47 25.9		
TORD				PP		**PP**	07 47 52.9	-7.7	
TORD				PKKPbc		**PKKPbc**	07 58 07.4	+0.8	
BGNE	**Belgrade**	112.83	30	⇓P		**PKiKP**	07 47 16.5	0.0	
	baz=113								
Z24A	**Sheeppen Canyo**	114.62	41	⇑P		PKPdf	07 47 21.5	+1.2	
	baz=114								
Y25A	**Mesa, Roswell**	114.64	40	⇑P		PKPdf	07 47 21.2	+0.9	
	baz=114								
W27A	**Bowe Ranch, En**	114.84	38	⇓P		PKPdf	07 47 21.2	+0.6	
	baz=115								
125A	**Gardner Draw,**	115.51	41	⇓P		**PKPdf**	07 47 22.7	+0.7	
	baz=115								
324A	**Moseley Ranch,**	115.78	42	⇓P		**PKPdf**	07 47 23.0	+0.4	
	baz=116								
Z27A	**Tatum**	115.96	39	⇑P		**PKPdf**	07 47 23.0	+0.2	
	baz=116								
226A	**Malaga, Loving**	116.25	41	⇑P		**PKPdf**	07 47 23.5	+0.1	
	baz=116								
425A	**Indio Mountain**	116.53	43	⇓P		**PKPdf**	07 47 24.8	+0.8	
	baz=116								
427A	**Hayter Ranch,**	117.51	42	⇑P		**PKPdf**	07 47 26.6	+0.7	
	baz=117								
WMOK	**Wichita Mounta**	117.53	35	*e*PKiKP		**PKPdf**	07 47 25.8	+0.1	
WMOK	**Wichita Mounta**	117.53	35	*e*PKPdf		**PKPdf**	07 47 25.8	+0.1	
526A	**Mary Lane Ranc**	117.59	43	⇓P		**PKPdf**	07 47 26.4	+0.3	
	baz=118								
626A	**Big Bend Ranch**	117.89	43	⇓P		**PKPdf**	07 47 27.2	+0.6	
	baz=118								
428A	**Kincaid Ranch,**	118.05	41	⇓P		**PKPdf**	07 47 27.9	+1.1	
	baz=118								
TUL1	**Tulsa**	118.24	32	⇓P		**PKPdf**	07 47 27.2	+0.2	
	baz=118								
TXAR	**Lajitas Array**	118.34	43	PKP		**PKPdf**	07 47 28.3	+0.8	
	comp=Z,2.2nm,0.7s,baz=212,slow=0.5,SNR=29								
TXAR				pPKP		**pPKPdf**	07 47 38.2	-6.5	
	comp=Z,1.8nm,0.8s,baz=208,slow=0.8,SNR=8.5								
TXAR	**Lajitas Array**	118.34	43	PKiKP		**PKPdf**	07 47 28.3	+0.8	
TXAR							07 47 38.2		
TXAR	**Lajitas Array**	118.34	43	PKP		**PKPdf**	07 47 28.3	+0.8	
TXAR				pPKP		**pPKPdf**	07 47 38.2	-6.5	
528A	**Cox Ranch, San**	118.36	42	⇑P		**PKPdf**	07 47 28.1	+0.6	
	baz=118								
627A	**Terlingua Ranc**	118.45	43	⇓P		**PKPdf**	07 47 28.5	+0.8	
	baz=118								
628A	**Black Gap, Mar**	118.75	42	⇑P		**PKPdf**	07 47 29.1	+0.8	
	baz=119								
JCT	**Junction City**	120.01	39	*e*PKiKP		**PKPdf**	07 47 31.1	+0.5	
JCT	**Junction City**	120.01	39	*e*PKPdf		**PKPdf**	07 47 31.1	+0.5	
JCT	**Junction City**	120.01	39	⇑P		**PKPdf**	07 47 31.4	+0.8	
	baz=120								
DBIC	**Dimbokro**	120.64	288	PKP		**PKPdf**	07 47 31.5	-0.6	
	comp=Z,2.9nm,1.0s,baz=108,slow=3.2,SNR=3.6								
DBIC				pPKP		**pPKPdf**	07 47 42.6	-6.7	
	comp=Z,4.7nm,0.8s,baz=155,slow=3.6,SNR=3.5								
DBIC	**Dimbokro**	120.64	288	PKiKP		**PKPdf**	07 47 31.5	-0.6	
DBIC							07 47 42.6		
DBIC	**Dimbokro**	120.64	288	PKP		**PKPdf**	07 47 31.5	-0.6	
DBIC				pPKP		**pPKPdf**	07 47 42.6	-6.7	
LIC	**Lamto**	120.97	288	*e*PKiKP		**PKPdf**	07 47 30.8	-2.0	
WVT	**Waverly**	121.81	26	*e*PKiKP		**PKPdf**	07 47 33.8	0.0	
WVT	**Waverly**	121.81	26	*e*PKPdf		**PKPdf**	07 47 33.8	0.0	
LRS	**Lares**	145.14	11	*e*PKPdf		**PKPbc**	07 48 17.0	-0.2	
LSP	**Las Mesas**	145.21	11	*e*PKPdf		**PKPbc**	07 48 16.9	-0.5	
STVI	**Saint Thomas**	145.37	8	*e*PKPdf		**PKPdf**	07 48 18.0	-0.1	
CELP	**Cerrillos**	145.40	11	*e*PKPdf		**PKPbc**	07 48 17.8	-0.3	
OBIP	**Obispado Ponce**	145.42	11	*e*PKPdf		**PKPbc**	07 48 17.8	-0.3	
MTP	**Monte Pirata**	145.54	9	*e*PKPdf		**PKPbc**	07 48 18.5	0.0	
SDV	**Santo Domingo**	153.07	23	*e*PKPdf		**PKPdf**	07 48 31.5	+0.7	
SDV				*e*PKPbc		**PKPbc**	07 48 37.7	-0.4	
SDV				*e*PKPab		**PKPab**	07 48 48.5	-0.9	
PLCA	**Paso Flores**	153.97	162	PKPbc		**PKPbc**	07 48 40.5	+1.3	
	comp=Z,6.8nm,0.8s,baz=216,slow=2.6,SNR=14								
PLCA	**Paso Flores**	153.97	162	*e*PKiKP		**PKPbc**	07 48 40.2	+1.0	
PLCA	**Paso Flores**	153.97	162	*e*PKPbc		**PKPbc**	07 48 40.2	+1.0	
ROSC	**El Rosal**	154.90	35	PKPbc		**PKPbc**	07 48 43.5	+1.2	
	comp=Z,6.0nm,0.8s,baz=71,slow=23,SNR=4.1								
ROSC	**El Rosal**	154.90	35	PKPbc		**PKPbc**	07 48 43.5	+1.2	
CFAA	**Coronel Fontan**	163.03	156	PKP		**PKPdf**	07 48 42.4	+0.2	
	comp=Z,0.1nm,0.6s,baz=0.0,slow=3.0,SNR=3.5								
CFAA	**Coronel Fontan**	163.03	156	PKP		**PKPdf**	07 48 42.4	+0.2	
LPAZ	**La Paz**	172.46	92	PKP		**PKPdf**	07 48 49.6	-0.3	
	comp=Z,2.1nm,0.9s,baz=192,slow=1.3,SNR=5.4								
LPAZ	**La Paz**	172.46	92	PKiKP		**PKPdf**	07 48 49.6	-0.3	
LPAZ	**La Paz**	172.46	92	PKP		**PKPdf**	07 48 49.6	-0.3	
LPAZ				*e*PKPdf		PKPdf	07 48 50.4	+0.4	

*TRN **09** 07:29:28.6, 18°.76N×64°.57W, h28km, MD3.4(RSPR)*
*NEIC **09** 07:29:30.3, 18°.83N×64°.57W, h6km, MD3.4(RSPR), After RSPR.*

RSPR 09 07:29:30.3, 18°.83N×64°.57W, h6km, MD3.4/16**, 27C-14D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ABV	**Anegada**	0.25	113	⇓*iP*		Pg	07 29 35.6	+0.4
ABV	**Anegada**	0.25	113	⇓*iP*		Pg	07 29 35.6	+0.4
TBVI	**Tortola**	0.41	186	⇑*iP*		Pg	07 29 38.5	+0.2
TBVI	**Tortola**	0.41	186	*i* Pu		Pg	07 29 38.5	+0.2
TBVI	**Tortola**	0.41	186	⇑*iP*		Pg	07 29 38.5	+0.2
STVI	**Saint Thomas**	0.60	217	⇓*eP*		Pg	07 29 41.6	-0.3
STVI	**Saint Thomas**	0.60	217	*eS*		Sb	07 29 50.8	-1.0
STVI	**Saint Thomas**	0.60	217	⇓*eP*		Pg	07 29 41.6	-0.3
STVI				*eS*		Sb	07 29 50.8	-1.0
STVI	**Saint Thomas**	0.60	217	⇓*eP*		Pg	07 29 41.6	-0.3
STVI				*eS*		Sb	07 29 50.8	-1.0
CDVI	**St. Croix**	1.08	190	⇓*eP*		Pg	07 29 48.5	-2.7
CDVI	**St. Croix**	1.08	190	⇓*eP*		Pg	07 29 48.5	-2.7
CDVI	**St. Croix**	1.08	190	⇓*eP*		Pg	07 29 48.5	-2.7
MTP	**Monte Pirata**	1.18	232	⇓*eP*		Pg	07 29 50.1	-2.9
MTP	**Monte Pirata**	1.18	232	*eS*		Sg	07 30 05.8	-2.5
MTP	**Monte Pirata**	1.18	232	⇓*eP*		Pg	07 29 50.1	-2.9
MTP				*eS*		Sg	07 30 05.8	-2.5
MTP	**Monte Pirata**	1.18	232	⇓*eP*		Pg	07 29 50.1	-2.9
MTP				*eS*		Sg	07 30 05.8	-2.5
CBYP	**Canovanas**	1.34	246	⇓*eP*		Pn	07 29 52.0	-3.6
CBYP	**Canovanas**	1.34	246	⇓*eP*		Pn	07 29 52.0	-3.6
CBYP	**Canovanas**	1.34	246	⇓*eP*		Pn	07 29 52.3	-3.4
HUMP	**Col San Antoni**	1.39	241	⇓*eP*		Pn	07 29 52.9	-3.4
HUMP	**Col San Antoni**	1.39	241	*eS*		Sb	07 30 11.3	-3.5
HUMP	**Col San Antoni**	1.39	241	⇓*eP*		Pn	07 29 52.9	-3.4
HUMP				*eS*		Sb	07 30 11.3	-3.5
HUMP	**Col San Antoni**	1.39	241	⇓*eP*		Pn	07 29 52.9	-3.4
HUMP				*eS*		Sb	07 30 11.3	-3.5
CPD	**Cerro la Pandu**	1.50	239	⇓*eP*		Pn	07 29 54.6	-3.2
CPD	**Cerro la Pandu**	1.50	239	*eS*		Sn	07 30 13.4	-4.4
CPD	**Cerro la Pandu**	1.50	239	⇓*eP*		Pn	07 29 54.6	-3.2
CPD				*eS*		Sn	07 30 13.4	-4.4
CPD	**Cerro la Pandu**	1.50	239	⇓*eP*		Pn	07 29 54.6	-3.2
CPD				*eS*		Sn	07 30 13.4	-4.4
SMRT	**St. Maarten**	1.62	118	⇑*eP*		Pn	07 29 57.1	-2.3
SMRT	**St. Maarten**	1.62	118	*eS*		Sn	07 30 16.6	-4.1
SMRT	**St. Maarten**	1.62	118	⇑*eP*		Pn	07 29 57.1	-2.3
SMRT				*eS*		Sn	07 30 16.6	-4.1
SMRT	**St. Maarten**	1.62	118	⇑*eP*		Pn	07 29 57.1	-2.3
SMRT				*eS*		Sn	07 30 16.6	-4.1
SJG	**San Juan**	1.66	245	⇑*iP*		Pn	07 29 56.8	-3.1
SJG	**San Juan**	1.66	245	*i* Pu		Pn	07 29 56.8	-3.1
SJG	**San Juan**	1.66	245	⇑*iP*		Pn	07 29 56.8	-3.1
CELP	**Cerrillos**	2.05	249	⇑*iP*		Pn	07 30 02.9	-2.4
CELP				*eS*		Sn	07 30 28.0	-3.2
CELP	**Cerrillos**	2.05	249	*i* Pu		Pn	07 30 02.9	-2.4
CELP				*eS*		Sn	07 30 28.0	-3.2
CELP	**Cerrillos**	2.05	249	⇑*iP*		Pn	07 30 02.9	-2.4
CELP				*eS*		Sn	07 30 28.0	-3.2
ICM	**Isla Caja Muer**	2.07	244	*e*Pn		Pn	07 30 03.6	-2.1
OBIP	**Obispado Ponce**	2.08	248	*eS*		Sn	07 30 29.0	-3.1
OBIP	**Obispado Ponce**	2.08	248	⇑*eP*		Pn	07 30 03.4	-2.4
OBIP	**Obispado Ponce**	2.08	248	⇑*eP*		Pn	07 30 03.4	-2.4
OBIP				*eS*		Sn	07 30 29.0	-3.1
OBIP	**Obispado Ponce**	2.08	248	⇑*eP*		Pn	07 30 03.4	-2.4
OBIP				*eS*		Sn	07 30 29.0	-3.1
AOPR	**Arecibo Observ**	2.12	257	*eS*		Sn	07 30 29.1	-4.1
AOPR	**Arecibo Observ**	2.12	257	⇑*eP*		Pn	07 30 03.9	-2.5
AOPR	**Arecibo Observ**	2.12	257	⇑*eP*		Pn	07 30 03.9	-2.5
AOPR				*eS*		Sn	07 30 29.1	-4.1
AOPR	**Arecibo Observ**	2.12	257	⇑*eP*		Pn	07 30 03.9	-2.5
AOPR				*eS*		Sn	07 30 29.6	-3.6
LRS	**Lares**	2.22	256	⇑*eP*		Pn	07 30 05.4	-2.4
LRS	**Lares**	2.22	256	⇑*eP*		Pn	07 30 05.4	-2.4
LRS	**Lares**	2.22	256	⇑*eP*		Pn	07 30 05.4	-2.4
AGPR	**Aguadilla, PR**	2.43	262	*eS*		Sn	07 30 37.0	-3.7
AGPR	**Aguadilla, PR**	2.43	262	⇑*eP*		Pn	07 30 07.8	-2.9
AGPR	**Aguadilla, PR**	2.43	262	⇑*eP*		Pn	07 30 07.8	-2.9
AGPR				*eS*		Sn	07 30 37.0	-3.7
AGPR	**Aguadilla, PR**	2.43	262	⇑*eP*		Pn	07 30 07.8	-2.9
AGPR				*eS*		Sn	07 30 37.3	-3.5
LSP	**Las Mesas**	2.47	255	⇑*eP*		Pn	07 30 08.9	-2.3
LSP				*eS*		Sn	07 30 38.3	-3.5
LSP	**Las Mesas**	2.47	255	⇑*eP*		Pn	07 30 08.9	-2.3
LSP				*eS*		Sn	07 30 38.3	-3.5
LSP	**Las Mesas**	2.47	255	⇑*eP*		Pn	07 30 08.9	-2.3
LSP				*eS*		Sn	07 30 38.3	-3.5

*ISCJB **09** 07:50:15.7±0.7, 27°.4N±0°.1×141°.0E±0°.3, h479km, mb3.3/5, Error ellipse: s-maj=35.9km s-min=17.7km az=164.2*
*IDC **09** 07:50:15.7±0.9, 27°.40N×140°.26E, h446km±21km, mb3.6/4, mb1 3.7/4, mb1mx3.0/20, mbtmp3.6/4, Error ellipse: s-maj=65.1km s-min=16.1km az=82.0*

ISC 09 07:50:16.3±1.0, 27°.5N±0°.2×141°.0E±0°.3, h479km, n10, σ1ᵖ40/11, mb3.3/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	1.10	110	P		**P**	07 51 15.8

PTP	**Ponta Puerca**	**19.92**	**60**	⇓*i*P	x	08 22 02.9	
PTP				*i* S	x	08 22 11.2	
NVAR	**Mina Array Bea**	**42.91**	**319**	P	**P**	**08 29 45.4**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=132,slow=6.4,SNR=6.2						
YKA	**Yellowknife Ar**	**58.16**	**344**	P	**P**	**08 31 37.6**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=140,slow=6.6,SNR=7.5						
YKA				PcP	**PcP**	**08 32 30.0**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=131,slow=3.3,SNR=4.2						
ILAR	**Eielson Array**	**70.89**	**336**	P	**P**	**08 33 01.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=112,slow=6.6,SNR=3.6						

ISCJB ***09*** *08:31:09.8±0.6,36.˚63N±0.˚04×4.˚63W±0.˚02, h77km±6km, Error ellipse: s-maj=6.9km s-min=3.1km az=170.8*
INMG ***09*** *08:31:10.3±1.5,36.˚47N×4.˚58W, h63km±7km, ML2.0, Error ellipse: s-maj=6.3km s-min=4.0km az=169.0*
CSEM ***09*** *08:31:10.9±0.2,36.˚58N×4.˚61W, h60km, mb3.5/13, Error ellipse: s-maj=6.3km s-min=2.8km az=173.0*
MDD ***09*** *08:31:10.9±0.7,36.˚48N×4.˚58W, h60km±5km, mb3.5/13, Error ellipse: s-maj=8.0km s-min=3.4km az=166.0, PRXIMO*

ISC 09 08:31:09.1±1.4, 36˚52N±0˚05×4˚58W±0˚02, h77km±7km, n76, σ1⇕46/141, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.17**	**287**	⇓P	**Pn**	**08 31 19.9**	**-0.6**
	42nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**08 31 26.2**	**-2.6**
	79nm,0.1s,SNR=5.0						
EMIJ	**Mijas**	**0.17**	**287**	P	**Pn**	**08 31 19.9**	**-0.6**
	42nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**08 31 26.2**	**-2.6**
	79nm,0.1s,SNR=5.0						
ELOJ	**Sierra Loja**	**0.71**	**28**	P	**Pn**	**08 31 26.9**	**+2.1**
	2.6nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**08 31 37.1**	**+0.7**
	34nm,0.4s,SNR=15						
ELOJ	**Sierra Loja**	**0.71**	**28**	P	**Pn**	**08 31 26.9**	**+2.1**
	2.6nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**08 31 37.1**	**+0.7**
	34nm,0.4s,SNR=15						
EJIF	**Jimena Fronter**	**0.72**	**265**	P	**Pn**	**08 31 26.6**	**+1.8**
	1.0nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**08 31 35.3**	**-1.1**
	1.9nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.72**	**265**	P	**Pn**	**08 31 26.6**	**+1.8**
	1.0nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**08 31 35.3**	**-1.1**
	1.9nm,0.1s,SNR=7.9						
ERON	**Agron**	**0.80**	**51**	P	**Pn**	**08 31 26.1**	**+0.4**
	SNR=7.9						
ERON				S	**Sn**	**08 31 37.7**	**-0.3**
	2.8nm,0.1s,SNR=7.9						
ERON	**Agron**	**0.80**	**51**	P	**Pn**	**08 31 26.1**	**+0.4**
	SNR=7.9						
ERON				S	**Sn**	**08 31 37.7**	**-0.3**
	2.8nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**0.87**	**68**	P	**Pn**	**08 31 26.4**	**-0.1**
	19nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**08 31 38.5**	**-0.9**
	37nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.87**	**68**	P	**Pn**	**08 31 26.4**	**-0.1**
	19nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**08 31 38.5**	**-0.9**
	37nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.07**	**13**	P	**Pn**	**08 31 30.2**	**+1.3**
	3.9nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**08 31 44.3**	**+0.7**
	20nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.07**	**13**	P	**Pn**	**08 31 30.2**	**+1.3**
	3.9nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**08 31 44.3**	**+0.7**
	20nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.11**	**47**	P	**Pn**	**08 31 31.1**	**+1.7**
	2.3nm,0.1s,SNR=4.0						
ECOG				S	**Sn**	**08 31 46.2**	**+1.6**
	13nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.11**	**47**	P	**Pn**	**08 31 31.1**	**+1.7**
	2.3nm,0.1s,SNR=4.0						
ECOG				S	**Sn**	**08 31 46.2**	**+1.6**
	13nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.14**	**53**	P	**Pn**	**08 31 30.9**	**+1.1**
	0.6nm,0.1s,SNR=5.7						
EQUE				S	**Sn**	**08 31 47.4**	**+2.1**
	1.9nm,0.2s,SNR=8.9						
EQUE	**Quentar**	**1.14**	**53**	P	**Pn**	**08 31 30.9**	**+1.1**
	0.6nm,0.1s,SNR=5.7						
EQUE				S	**Sn**	**08 31 47.4**	**+2.1**
	1.9nm,0.2s,SNR=8.9						
EBER	**Berja**	**1.41**	**74**	P	**Pn**	**08 31 33.7**	**+0.4**
	2.2nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**08 31 51.1**	**-0.3**
	7.0nm,0.3s,SNR=8.3						
EBER	**Berja**	**1.41**	**74**	P	**Pn**	**08 31 33.7**	**+0.4**
	2.2nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**08 31 51.1**	**-0.3**
	7.0nm,0.3s,SNR=8.3						
EADA	**Adamuz**	**1.65**	**360**	P	**Pn**	**08 31 37.2**	**+0.9**
	0.5nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**08 31 57.6**	**+0.8**
	3.2nm,0.1s,SNR=5.3						
EADA	**Adamuz**	**1.65**	**360**	P	**Pn**	**08 31 37.2**	**+0.9**
	0.5nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**08 31 57.6**	**+0.8**
	3.2nm,0.1s,SNR=5.3						
EQES	**Quesada**	**1.76**	**43**	P	**Pn**	**08 31 38.8**	**+1.0**
	0.5nm,0.0s,SNR=7.9						
EQES				S	**Sn**	**08 31 59.5**	**0.0**
	6.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.76**	**43**	P	**Pn**	**08 31 38.8**	**+1.0**
	0.5nm,0.0s,SNR=7.9						
EQES				S	**Sn**	**08 31 59.5**	**0.0**
	6.2nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.04**	**50**	P	**Pn**	**08 31 42.9**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**08 32 06.5**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.04**	**50**	P	**Pn**	**08 31 42.9**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**08 32 06.5**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.09**	**307**	⇑P	**Pn**	**08 31 42.7**	**+0.6**
	1.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**08 32 05.7**	**-1.6**
	2.0nm,0.0s,SNR=12						
EMIN	**Mina Concepcio**	**2.09**	**307**	P	**Pn**	**08 31 42.7**	**+0.6**
	1.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**08 32 05.7**	**-1.6**
	2.0nm,0.0s,SNR=12						
EGRO	**El Granado**	**2.54**	**294**	P	**Pn**	**08 31 49.0**	**+0.9**
	0.4nm,0.1s,SNR=5.6						
EGRO				S	**Sn**	**08 32 17.5**	**-0.6**
	2.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.54**	**294**	P	**Pn**	**08 31 49.0**	**+0.9**
	0.4nm,0.1s,SNR=5.6						
EGRO				S	**Sn**	**08 32 17.5**	**-0.6**
	2.7nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.57**	**311**	*e*P	**Pn**	**08 31 49.5**	**+1.0**
PBAR				*e*S	**Sn**	**08 32 18.8**	**0.0**
PBAR				A	A	08 32 21.1	
	2.6nm,0.1s						
PBAR	**Barrancos**	**2.57**	**311**	P	**Pn**	**08 31 49.5**	**+1.0**
PBAR				S	**Sn**	**08 32 18.8**	**0.0**
	2.6nm,0.1s						
PBAR	**Barrancos**	**2.57**	**311**	P	**Pn**	**08 31 49.5**	**+1.0**
PBAR				*e*S	**Sn**	**08 32 18.8**	**0.0**
	2.6nm,0.1s						
PVAQ	**Vaqueiros**	**2.67**	**290**	*e*P	**Pn**	**08 31 51.0**	**+1.1**
PVAQ				*e*S	**Sn**	**08 32 19.7**	**-1.5**
PVAQ				A	A	08 32 23.9	
	4.5nm,0.4s						
PVAQ	**Vaqueiros**	**2.67**	**290**	P	**Pn**	**08 31 51.0**	**+1.1**
PVAQ				S	**Sn**	**08 32 19.7**	**-1.5**
	4.5nm,0.4s						
PVAQ	**Vaqueiros**	**2.67**	**290**	P	**Pn**	**08 31 51.0**	**+1.1**
PVAQ				*e*S	**Sn**	**08 32 19.7**	**-1.5**
	4.5nm,0.4s						
EVIA	**Vianos**	**2.68**	**37**	P	**Pn**	**08 31 51.1**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**08 32 19.6**	**-2.1**
	2.6nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.68**	**37**	P	**Pn**	**08 31 51.1**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**08 32 19.6**	**-2.1**
	2.6nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.79**	**286**	*e*P	**Pn**	**08 31 52.9**	**+1.4**
PBDV				*e*S	**Sn**	**08 32 23.7**	**-0.5**
PBDV				A	A	08 32 26.2	
	1.9nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.79**	**286**	P	**Pn**	**08 31 52.9**	**+1.4**
PBDV				S	**Sn**	**08 32 23.7**	**-0.5**
	1.9nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.79**	**286**	P	**Pn**	**08 31 52.9**	**+1.4**
PBDV				*e*S	**Sn**	**08 32 23.7**	**-0.5**
	1.9nm,0.1s						
EBAD	**Badajoz**	**2.96**	**320**	P	**Pn**	**08 31 54.7**	**+0.9**
	2.5nm,0.1s,SNR=21						
EBAD				S	**Sn**	**08 32 26.4**	**-1.8**
	5.4nm,0.1s,SNR=7.0						
EBAD	**Badajoz**	**2.96**	**320**	P	**Pn**	**08 31 54.7**	**+0.9**
	2.5nm,0.1s,SNR=21						
EBAD				S	**Sn**	**08 32 26.4**	**-1.8**
	5.4nm,0.1s,SNR=7.0						
PCVE	**Castro Verde**	**2.99**	**293**	*e*P	**Pn**	**08 31 55.0**	**+0.8**
PCVE				*e*S	**Sn**	**08 32 28.4**	**-0.5**
PCVE				A	A	08 32 29.6	
	2.0nm,0.9s						
PCVE	**Castro Verde**	**2.99**	**293**	P	**Pn**	**08 31 55.0**	**+0.8**
PCVE				S	**Sn**	**08 32 28.4**	**-0.5**
	2.0nm,0.9s						
PCVE	**Castro Verde**	**2.99**	**293**	P	**Pn**	**08 31 55.0**	**+0.8**
PCVE				*e*S	**Sn**	**08 32 28.4**	**-0.5**
	2.0nm,0.9s						
ESDC	**Sonseca Array**	**3.19**	**9**	P	**Pn**	**08 31 58.3**	**+1.3**
	7.5nm,0.1s,baz=195,slow=12,SNR=5.0						
ESDC				S	**Sn**	**08 32 33.4**	**-0.5**
	1.4nm,0.1s,baz=186,slow=23,SNR=5.2						
ESDC	**Sonseca Array**	**3.19**	**9**	P	**Pn**	**08 31 58.3**	**+1.3**
	7.5nm,0.1s,slow=12,SNR=5.0						
ESDC				S	**Sn**	**08 32 33.4**	**-0.5**
	1.4nm,0.1s,slow=23,SNR=5.2						
ETOB	**Tobarra**	**3.21**	**48**	P	**Pn**	**08 31 58.0**	**+0.7**
	0.9nm,0.1s,SNR=18						
ETOB				S	**Sn**	**08 32 32.6**	**-1.9**
	1.0nm,0.1s,SNR=5.5						
ETOB	**Tobarra**	**3.21**	**48**	P	**Pn**	**08 31 58.0**	**+0.7**
	0.9nm,0.1s,SNR=18						
ETOB				S	**Sn**	**08 32 32.6**	**-1.9**
	1.0nm,0.1s,SNR=5.5						
PESTR	**Estremoz**	**3.35**	**315**	*e*S	**Sn**	**08 32 36.0**	**-1.8**
PESTR	**Estremoz**	**3.35**	**315**	S	**Sn**	**08 32 36.0**	**-1.8**
PESTR	**Estremoz**	**3.35**	**315**	*e*S	**Sn**	**08 32 36.0**	**-1.8**
MORF	**Marmelete**	**3.36**	**285**	*e*S	**Sn**	**08 32 38.8**	**+0.7**
MORF				A	A	08 32 40.4	
	3.8nm,0.2s						
MORF	**Marmelete**	**3.36**	**285**	S	**Sn**	**08 32 38.8**	**+0.7**
	3.8nm,0.2s						
MORF	**Marmelete**	**3.36**	**285**	*e*S	**Sn**	**08 32 38.8**	**+0.7**
	3.8nm,0.2s						
PFVI	**Vila Bisbo**	**3.47**	**281**	*e*P	**Pn**	**08 32 02.9**	**+2.2**
PFVI				*e*S	**Sn**	**08 32 40.2**	**-0.4**
PFVI				A	A	08 32 44.5	
	2.9nm,0.1s						
PFVI	**Vila Bisbo**	**3.47**	**281**	P	**Pn**	**08 32 01.9**	**+1.2**
	SNR=7.9						
PFVI				S	**Sn**	**08 32 39.4**	**-1.2**
	8.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.47**	**281**	P	**Pn**	**08 32 01.9**	**+1.2**
	SNR=7.9						
PFVI				S	**Sn**	**08 32 39.4**	**-1.2**
	8.8nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.53**	**298**	*e*P	**Pn**	**08 32 03.1**	**+1.5**
PNCL				*e*S	**Sn**	**08 32 41.8**	**-0.4**
PNCL				A	A	08 32 51.3	
	3.1nm,0.6s						
PNCL	**Nicolau / Gran**	**3.53**	**298**	*e*P	**Pn**	**08 32 03.1**	**+1.5**
PNCL				*e*S	**Sn**	**08 32 41.8**	**-0.4**
	3.1nm,0.6s						
PMRV	**Marv??o**	**3.66**	**323**	*e*S	**Sn**	**08 32 44.3**	**-1.1**
PMRV	**Marv??o**	**3.66**	**323**	S	**Sn**	**08 32 44.3**	**-1.1**
PMRV	**Marv??o**	**3.66**	**323**	S	**Sn**	**08 32 44.3**	**-1.1**
EPLA	**Plasencia**	**3.73**	**342**	P	**Pn**	**08 32 05.9**	**+1.5**
	0.7nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**08 32 43.8**	**-3.4**
	0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.73**	**342**	P	**Pn**	**08 32 05.9**	**+1.5**
	0.7nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**08 32 43.8**	**-3.4**
	0.7nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**4.08**	**56**	P	**Pn**	**08 32 09.9**	**+0.7**
	SNR=7.9						
EBEN	**Beniarda**	**4.08**	**56**	P	**Pn**	**08 32 09.9**	**+0.7**
	SNR=7.9						
GUD	**Guadarrama**	**4.13**	**4**	P	**Pn**	**08 32 11.1**	**+1.2**
	2.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**08 32 55.3**	**-1.8**
	0.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.13**	**4**	P	**Pn**	**08 32 11.1**	**+1.2**
	2.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**08 32 55.3**	**-1.8**
	0.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**4.73**	**24**	P	**Pn**	**08 32 18.8**	**+0.9**
	4.1nm,0.1s,SNR=11						
ETOR				S	**Sn**	**08 33 08.3**	**-3.2**
	7.7nm,0.1s,SNR=8.9						
ETOR	**Torete**	**4.73**	**24**	P	**Pn**	**08 32 18.8**	**+0.9**
	4.1nm,0.1s,SNR=11						
ETOR				S	**Sn**	**08 33 08.3**	**-3.2**
	7.7nm,0.1s,SNR=8.9						
EMOS	**Mosqueruela**	**5.01**	**39**	P	**Pn**	**08 32 23.2**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**08 33 14.8**	**-3.8**
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.01**	**39**	P	**Pn**	**08 32 23.2**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**08 33 14.8**	**-3.8**
	0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.02**	**338**	P	**Pn**	**08 32 23.6**	**+1.7**
	2.1nm,0.1s,SNR=8.0						
MVO				S	**Sn**	**08 33 15.8**	**-2.8**
	1.8nm,0.1s						
MVO	**Moncorvo**	**5.02**	**338**	P	**Pn**	**08 32 23.6**	**+1.7**
	2.1nm,0.1s,SNR=8.0						
MVO				S	**Sn**	**08 33 15.8**	**-2.8**
	1.8nm,0.1s						
ECAL	**Calabor**	**5.67**	**343**	P	**Pn**	**08 32 32.9**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**08 33 32.7**	**-1.9**
	0.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.67**	**343**	P	**Pn**	**08 32 32.9**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**08 33 32.7**	**-1.9**
	0.5nm,0.1s,SNR=7.9						

IDC 09 08:35:52.8±25.0, 17˚49S×178˚21W, h508km±234km, mb3.1/3, mb1 3.4/3, mb1mx2.9/17, mbtmp3.1/3, Error ellipse: s-maj=308.4km s-min=71.3km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.89**	**259**	P	P	08 43 21.5	-0.4
	0.4nm,0.5s,baz=95,slow=7.8,SNR=6.2						
ASAR	**Alice Springs**	**45.09**	**254**	P	P	08 43 23.4	+0.1
	2.3nm,0.6s,baz=88,slow=8.4,SNR=35						
ILAR	**Eielson Array**	**85.44**	**13**	P	P	08 47 35.8	-0.1
	0.2nm,0.5s,baz=212,slow=4.8,SNR=6.6						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc	08 54 38.2	-0.7
	0.5nm,0.5s,baz=36,slow=2.5,SNR=4.1						

IDC 09 08:38:24.0±0.7, 13˚50N×144˚78E, h96km±7km, mb3.1/5, mb1 3.4/5, mb1mx3.2/22, mbtmp3.1/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/21, Error ellipse: s-maj=38.9km s-min=18.3km az=103.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.12**	**46**	P	Pn	08 38 38.5	+0.9
	195nm,0.3s,baz=332,slow=0.7,SNR=398						
GUMO				S	Sn	08 38 48.5	+0.9
	676nm,0.3s,baz=41,slow=19,SNR=104						
HNR	**Honiara**	**27.31**	**146**	LR	LR	08 52 49.8	
	comp=Z,158nm,18.6s,baz=273,slow=32						
WRA	**Warramunga Arr**	**34.79**	**197**	P	P	08 45 05.4	-0.2
	0.6nm,0.6s,baz=20,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**38.44**	**196**	P	P	08 45 36.2	-0.5
	0.4nm,0.5s,baz=22,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**61.49**	**316**	P	P	08 48 31.1	+0.3
	0.1nm,0.4s,baz=93,slow=9.8,SNR=4.1						
KURK	**Kurchatov**	**64.59**	**320**	P	P	08 48 50.9	-0.2
	0.2nm,0.3s,baz=105,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**68.68**	**25**	P	P	08 49 16.1	-0.8
	0.3nm,0.4s,baz=252,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**82.98**	**27**	P	P	08 50 39.5	+1.2
	0.2nm,0.4s,baz=287,slow=5.0,SNR=5.2						

CASC 09 08:44:21.1±2.5, 8˚64N×83˚74W, h12km±17km, MD4.0, 3C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.56**	**89**	⇓*i*P	Pg	08 44 31.8	-0.4
ACR				*e*S	Sg	08 44 39.8	+0.1
QCR	**Quepos**	**0.88**	**331**	⇑*i*P	Pg	08 44 36.6	-1.6
QCR				*e*S	Sg	08 44 48.4	-1.4
BUS	**Buena Vista**	**0.91**	**359**	⇑*i*P	Pg	08 44 37.9	-1.4
BRU2	**Volcan**	**1.04**	**82**	*i* P	Pb	08 44 40.3	-1.1
BRU2				*i* S	Sn	08 44 56.1	-0.4
TBS2		**1.08**	**82**	*i* P	Pb	08 44 41.9	0.0
TBS2				*i* S	Sn	08 44 58.9	+1.4
URSC	**Urasca**	**1.19**	**358**	⇑*i*P	Pn	08 44 42.3	-1.6
URSC				*e*S	Sb	08 44 59.5	+0.1
SJS	**Escuela Geolog**	**1.32**	**346**	*e*P	Pn	08 44 43.9	-1.8
SJS				*e*S	Sb	08 45 02.5	-0.8
CNI	**Changuinola**	**1.43**	**57**	*e*P	Pg	08 44 54.2	+5.6
CGA2	**Cerro Gallo 2**	**1.54**	**332**	*e*P	Pn	08 44 46.9	-1.8
JCR	**Jicaral**	**1.81**	**312**	*e*P	Pn	08 44 50.9	-1.4
AMAS	**Alto Masis**	**2.31**	**328**	*i* P	Pn	08 45 00.4	+1.1
PTEN	**Parque Tenorio**	**2.40**	**329**	*i* P	Pn	08 45 01.4	+1.0
CUI	**Cuipilapa**	**2.45**	**325**	*i* P	Pn	08 45 01.8	+0.8
MESS	**Mesas**	**2.53**	**326**	*i* P	Pn	08 45 02.4	+0.2
GB1A	**Borinquen Arri**	**2.71**	**323**	*i* P	Pn	08 45 05.4	+0.7
BCIP	**Isla Barro Col**	**3.89**	**82**	*e*P	Pb	08 45 25.3	-4.4
BCIP				*i* S	Sn	08 46 06.8	+0.3
PTP	**Ponta Puerca**	**20.02**	**60**	*i* P	x	08 44 38.3	
PTP				*i* S	x	08 44 50.8	

SZGRF ***09*** *08:45:23.5, 7.˚33S×148.˚19E, h33km, Eastern New Guinea, Papua New Guinea, region*
MOS ***09*** *08:45:49.0±1.0, 4.˚14S×152.˚12E, h158km, mb4.9/30, Error ellipse: s-maj=8.9km s-min=6.9km az=96.5*
ISCJB ***09*** *08:45:51.4±0.8, 4.˚25S±0.˚03×152.˚15E±0.˚03, h182km±7km, mb5.0/146, Error ellipse: s-maj=5.4km s-min=4.5km az=170.6*
IDC ***09*** *08:45:51.4±0.6, 4.˚30S×152.˚13E, h172km±5km, mb4.7/29, mb1 4.8/33, mb1mx4.8/33, mbtmp4.7/33, MS3.5/2, Ms1 3.5/2, ms1mx3.0/27, Error ellipse: s-maj=9.1km s-min=6.7km az=98.0*
NEIC ***09*** *08:45:52.8±0.9, 4.˚28S×152.˚17E, h184km±8km, mb4.9/69, Error ellipse: s-maj=5.0km s-min=4.9km az=64.0*
BJI ***09*** *08:45:53.0, 3.˚98S×152.˚62E, h205km, mB5.0/25, mb5.0/50*
DJA ***09*** *08:45:57, 4.˚52S×152.˚61E, h265km, mb5.3/23*

ISC 09 08:45:53.1±0.3, 4˚34S±0.˚04×152˚18E±0.˚04, h189km±2km, h189km: pP-P, n456, σ1⇕42/532, mb5.0/140, 13C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.08**	**224**	P	**Pn**	**08 47 33.9**	**-0.5**
	33nm,0.3s,baz=47,slow=6.0,SNR=35						
PMG				S	**Sn**	**08 48 53.9**	**-0.8**
	67nm,0.3s,baz=336,slow=21,SNR=13						
PMG	**Port Moresby**	**7.08**	**224**	*e*P	**Pn**	**08 47 33.6**	**-0.8**
PMG				S	**Sn**	**08 48 53.9**	**-0.8**
PMG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PMG	**Port Moresby**	**7.08**	**224**	*e*Pn	**Pn**	**08 47 33.6**	**-0.8**
	comp=Z,9.9nm,1.4s						
PMG				S	**Sn**	**08 48 53.9**	**-0.8**
HNR	**Honiara**	**9.23**	**124**	P	**Pn**	**08 48 00.7**	**-1.8**
	comp=Z,8.3nm,0.3s,baz=160,slow=3.2,SNR=4.8						
HNR				S	**Sn**	**08 49 45.0**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=190,slow=18,SNR=2.9						
HNR	**Honiara**	**9.23**	**124**	P	**Pn**	**08 48 00.7**	**-1.8**
HNR				S	**Sn**	**08 49 45.0**	**-0.7**
HNR	**Honiara**	**9.23**	**124**	P	**Pn**	**08 48 00.7**	**-1.8**
HNR				S	**Sn**	**08 49 45.0**	**-0.7**
JAY	**Jayapura**	**11.59**	**279**	P	**P**	**08 48 37.2**	**-1.8**
	comp=Z,167nm,0.8s						
COEN	**Coen**	**13.05**	**222**	*e*Pn	**P**	**08 48 53.9**	**-1.3**
SMPI	**Sarmi**	**13.65**	**279**	P	**P**	**08 49 03.2**	**+1.4**
	comp=Z,262nm,0.8s,comp=Z,3μm						
BAKI	**Biak**	**16.35**	**281**	P	Pn	08 49 39.7	+7.4
	comp=Z,175nm,0.9s						
CTA	**Charters Tower**	**16.69**	**200**	P	**Pn**	**08 49 36.6**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=30,slow=11,SNR=12						
CTA	**Charters Tower**	**16.69**	**200**	P	**Pn**	**08 49 36.6**	**+0.3**
CTA	**Charters Tower**	**16.69**	**200**	P	**Pn**	**08 49 36.6**	**+0.3**
GUMO	**Guam**	**19.23**	**338**	P	**P**	**08 50 03.1**	**0.0**
	comp=Z,17nm,0.3s,baz=173,slow=7.6,SNR=8.8						
GUMO	**Guam**	**19.23**	**338**	*e*P	**Pn**	**08 50 04.6**	**-1.7**
GUMO				pmax	pmax		
	comp=Z,672nm,1.0s						
GUMO	**Guam**	**19.23**	**338**	*e*P	**Pn**	**08 50 04.6**	**-1.7**
	comp=Z,672nm,1.0s						
TLE	**Tual**	**19.41**	**265**	P	**Pn**	**08 50 11.4**	**+2.9**
	comp=Z,251nm,1.2s						
FAKI	**Fak Fak**	**19.94**	**273**	P

STKA Stephens Creek 29.14 199 *e*P P 08 51 36.7 +0.1
comp=Z,4.6nm,0.9s
STKA Stephens Creek 29.14 199 *e*P P 08 51 37.1 +0.6
STKA pmax pmax
comp=Z,2.0nm,1.1s
STKA Stephens Creek 29.14 199 *e*P P 08 51 37.1 +0.6
comp=Z,2.4nm,1.1s
FITZ Fitzroy Crossi 29.34 240 P P 08 51 38.3 -0.2
comp=Z,144nm,0.6s,baz=70,slow=7.3,SNR=520
FITZ LR LR 09 05 12.2
comp=Z,46nm,19.2s,baz=61,slow=40
FITZ Fitzroy Crossi 29.34 240 *e*P P 08 51 38.5 0.0
comp=Z,137nm,0.6s
LUWI Luwuk 29.55 276 P P 08 51 42.5 +2.1
comp=Z,141nm,0.8s,comp=Z,2µm
CAN Canberra 30.97 185 *e*P P 08 51 54.6 +1.9
comp=Z,4.0nm,0.7s
BBOO Buckleboo 32.09 206 *e*P P 08 52 02.7 +0.3
comp=Z,240nm,0.6s
KAPI Kappang 32.32 267 P P 08 52 04.4 -0.3
comp=Z,52nm,0.6s,baz=92,slow=4.4,SNR=17
KAPI Kappang 32.32 267 *e*P P 08 52 04.1 -0.7
comp=Z,57nm,0.7s
KAPI Kappang 32.32 267 P P 08 52 05.1 +0.4
comp=Z,97nm,1.1s
SPSI Sidrap Palu 32.32 269 P P 08 52 05.3 +0.6
comp=Z,76nm,0.8s,comp=Z,851nm
FORT Forrest 34.76 218⇑ *i*P P 08 52 25.8 +0.2
comp=Z,98nm,0.6s
FORT Forrest 34.76 218 *e*P P 08 52 25.5 -0.1
comp=Z,120nm,0.7s
MYLDM Lahad Datu 34.94 285 P P 08 52 29.7 +2.4
comp=Z,48nm,0.9s
MBWA Marble Bar 35.67 239 *e*P P 08 52 33.0 -0.4
comp=Z,164nm,0.6s
MTNI Mataram 36.02 261 P P 08 52 36.0 -0.5
comp=Z,131nm,0.8s
KHKI Kahang-Kahang 36.55 262 P P 08 52 40.6 -0.4
comp=Z,135nm,0.9s
AFI Afiamalu 36.79 107 P P 08 52 43.2 +0.1
comp=Z,22nm,0.6s,baz=296,slow=16,SNR=5.7
AFI Afiamalu 36.79 107 P P 08 52 43.2 +0.1
AFI Afiamalu 36.79 107 P P 08 52 43.2 +0.1
KKM Kota Kinabalu 37.36 286 *e*P P 08 52 48.3 +0.3
comp=Z,40nm,0.8s
KKM Kota Kinabalu 37.36 286 P P 08 52 49.5 +1.5
comp=Z,67nm,0.8s
JOW Kunigami 38.66 325 P P 08 52 59.0 +0.4
comp=Z,37nm,0.5s,baz=147,slow=16,SNR=4.5
JOW Kunigami 38.66 325 *e*P P 08 52 59.6 +1.1
comp=Z,32nm,0.9s
KRKI Karangkates 39.66 262 P P 08 53 07.3 +0.3
comp=Z,237nm,0.4s,comp=Z,33µm
PWJI Pagerwojo 40.29 263 P P 08 53 11.3 -0.9
comp=Z,88nm,1.1s
SJI Sawahan 40.31 263 P P 08 53 13.0 +0.5
comp=Z,57nm,0.7s,comp=Z,5µm
PBKI Pangkalan Bun 40.46 271 P P 08 53 15.9 +2.3
comp=Z,398nm,1.1s
SBUM Sibu 40.49 279 P P 08 53 15.8 +1.9
comp=Z,73nm,0.9s
URZ Urewera 40.70 149 P P 08 53 15.3 +0.1
comp=Z,15nm,0.6s,baz=30,slow=4.5,SNR=17
URZ Urewera 40.70 149 *e*P P 08 53 16.9 +1.7
comp=Z,60nm,1.5s
STKI Sintang 40.90 275 P P 08 53 19.6 +2.4
comp=Z,63nm,1.1s,comp=Z,14µm
PCJI Pacitan 40.92 263 P P 08 53 16.9 -0.5
comp=Z,249nm,0.8s
NACB Ninganchiao 41.11 315 *e*P P 08 53 19.2 +0.5
SSLB Suanglung 41.32 314 *e*P P 08 53 20.6 +0.1
comp=Z,19nm,0.6s
YHNB Yeheng 41.58 315 *e*P P 08 53 23.7 +1.1
comp=Z,126nm,1.3s
KLBR Kellerberrin 42.17 226⇑ *i*P P 08 53 26.6 -0.8
comp=Z,38nm,0.6s
KSM Kuching 42.23 277 *e*P P 08 53 29.3 +1.2
comp=Z,51nm,0.7s
BJII Banjamegara 42.34 264 P P 08 53 31.0 +2.0
comp=Z,57nm,0.9s
JNU Nakatsue 42.37 333 *e*P P 08 53 28.8 0.0
comp=Z,48nm,0.8s
RPZ Rata Peaks 42.62 160 P P 08 53 32.3 +1.5
comp=Z,58nm,0.6s,baz=17,slow=0.4,SNR=26
RPZ Rata Peaks 42.62 160 *e*P P 08 53 32.2 +1.5
comp=Z,59nm,0.7s
MJAR Matsushiro Arr 42.71 343 P P 08 53 29.7 -1.8
comp=Z,10nm,1.0s,baz=171,slow=8.9,SNR=19
MJAR PcP PcP 08 55 19.9 +0.2
comp=Z,3.5nm,0.7s,baz=168,slow=4.3,SNR=6.2
MJAR Matsushiro Arr 42.71 343 P P 08 53 29.7 -1.8
MJAR 08 55 19.9
MJAR Matsushiro Arr 42.71 343 P P 08 53 29.7 -1.8
MJAR PcP PcP 08 55 19.9 +0.2
MAJO Matsushiro 42.71 343 *e*P P 08 53 29.7 -1.9
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 42.71 343 *e*P P 08 53 29.7 -1.9
comp=Z,11nm,0.6s
MAT Matsushiro 42.71 343 P P 08 53 29.3 -2.3
NWAO Narrogin (SRO) 43.27 225 P P 08 53 35.8 -0.4
comp=Z,7.6nm,0.6s,baz=50,slow=7.2,SNR=13
NWAO Narrogin (SRO) 43.27 225 *e*P P 08 53 35.7 -0.4
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 43.27 225 *e*P P 08 53 35.7 -0.4
comp=Z,6.3nm,0.6s
QZH Quanzhou 43.73 313⇓ *i*P P 08 53 40.9 +1.1
QZH pmax pmax
comp=Z,110nm,0.9s
CISI Cisompet, Garu 44.22 264 P P 08 53 43.0 -1.1
comp=Z,388nm,0.8s,comp=Z,5µm
LEM Lembang 44.41 265 P P 08 53 46.0 +0.4
comp=Z,79nm,0.8s
CGJI Cibinong 46.31 265 P P 08 53 58.7 -1.7
comp=Z,110nm,0.9s
KSRS Korea Array 47.31 334 P P 08 54 07.8 0.0
comp=Z,15nm,0.8s,baz=148,slow=8.2,SNR=31
KSAR Wonju Array Be 47.32 334 P P 08 54 07.8 0.0
KSAR Wonju Array Be 47.32 334 P P 08 54 07.8 0.0
INCN Inchon 47.92 332 *e*P P 08 54 13.3 +0.9
comp=Z,109nm,0.8s
LWLI Liwa 47.95 267 P P 08 54 13.4 +0.1
comp=Z,146nm,0.9s
NJ2 Nanjing 48.09 321 *e*P P 08 54 15.3 +1.4
NJ2 pmax pmax
comp=Z,20nm,1.0s
ASAJ Asahikawa 48.99 351 P P 08 54 20.8 +0.2
comp=Z,27nm,0.8s,baz=222,slow=14,SNR=15
ASAJ Asahikawa 48.99 351 *e*P P 08 54 20.5 0.0
comp=Z,14nm,0.9s
RGRI Rengat 49.95 273 P P 08 54 25.6 -2.7
comp=Z,575nm,0.4s,comp=Z,300µm
WHN Wuhan 50.09 316 P P 08 54 30.0 +0.9
USRK Ussuriysk Arra 51.61 342 P P 08 54 40.1 0.0
comp=Z,15nm,0.7s,baz=174,slow=8.2,SNR=31
YSS Yuzh-Sakhalins 51.74 352 *e*P P 08 54 41.0 -0.1
YSS Yuzh-Sakhalins 51.74 352 *e*P P 08 54 40.5 -0.5
comp=Z,13nm,0.4s
IPM Ipoh 51.84 279 *e*P P 08 54 42.6 +0.2
comp=Z,25nm,0.9s
IPM Ipoh 51.84 279 P P 08 54 43.3 +0.8
comp=Z,32nm,1.0s
PPI Padang Panjang 51.87 273 P P 08 54 41.7 -0.9
comp=Z,104nm,0.9s,comp=Z,953nm
KULM Kulim 52.34 280 *e*P P 08 54 46.1 0.0
comp=Z,47nm,0.9s
KULM Kulim 52.34 280 P P 08 54 46.2 +0.1
comp=Z,51nm,1.1s
MDJ Mudanjiang 52.77 340 P P 08 54 48.2 -0.5
MDJ pP pP 08 55 30.5 -0.7
MDJ sP sP 08 55 51.8 -0.3
MDJ S S 09 01 57.5 -4.6
MDJ sS sS 09 03 15.9 -0.4
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,140nm,5.2s
MDJ Mudanjiang 52.77 340 *e*P P 08 54 48.6 0.0
comp=Z,71nm,1.7s
MNSI Mandailing Nat 52.80 274 P P 08 54 48.7 -0.8
comp=Z,61nm,0.9s,comp=Z,11µm
ENH Enshi 53.38 313 *e*P P 08 54 54.0 +0.4
comp=Z,44nm,0.9s
GYA Guiyang 53.62 307 P P 08 54 57.8 +2.4
GYA pP pP 08 55 40.4 +2.4
GYA sP sP 08 56 02.0 +3.1
GYA PP PP 08 57 02.4 +4.1
GYA ScP ScP 08 59 38.9 -0.5
GYA PcS PcS 08 59 58.7 -0.3
GYA S S 09 02 13.2 -1.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
CN2 Changchun 53.62 336 *e*P P 08 54 54.3 -0.6
CN2 *e*pP pP 08 55 43.8 +6.2
CN2 PcP PcP 08 55 58.3 -0.6
CN2 *e*S S 09 02 08.0 -5.7
CN2 SS SKiKP 09 05 52.5 +3.2
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
PSI Prapat 53.68 277 P P 08 54 56.0 -0.1
comp=Z,30nm,1.5s,comp=Z,572nm
HABR Khabarovsk 54.68 346 *e*P P 08 55 01.4 -1.0
HABR *e* 08 56 01.4
HABR *e*S S 09 02 24.2 -3.4
HABR 09 04 27.5
HABR *e*SS SS 09 06 11.5 -2.2
HABR pmax pmax
comp=E,36nm,1.8s
HABR pmax pmax
comp=Z,38nm,1.2s
HABR pmax pmax
comp=N,33nm,1.8s
HABR MLR MLR
comp=Z,43nm,18.0s
KIP Kipapa 55.09 60 *e*P P 08 55 06.6 +0.7
KIP pmax pmax
comp=Z,587nm,2.1s
KIP Kipapa 55.09 60 *e*P P 08 55 06.6 +0.7
comp=Z,587nm,2.1s
BJT Baijiatuau 55.15 327 *e*P P 08 55 06.1 +0.1
BJT pmax pmax
comp=Z,12nm,0.4s
BJT Baijiatuau 55.15 327 *e*P P 08 55 06.1 +0.1
comp=Z,12nm,0.4s
BJI Beijing 55.16 327 P P 08 55 06.1 0.0
BJI pmax pmax
comp=Z,22nm,0.7s
XAN Xi'an 55.86 317 P P 08 55 11.5 +0.2
XAN pmax pmax
comp=Z,8.0nm,0.8s
KMI Kunming 56.21 304 P P 08 55 15.7 +1.6
KMI pmax pmax
comp=Z,25nm,1.2s
KLR Kul'dur 56.23 344 *e*P P 08 55 09.1 -4.4
KLR *e* 08 56 02.9
KLR pmax pmax
comp=Z,100nm,1.8s
CM31 Chiang Mai Arr 57.12 295 *e*P P 08 55 22.4 +2.0
comp=Z,28nm,0.7s
CMAR Chiang Mai Arr 57.12 295 P P 08 55 21.4 +1.1
comp=Z,37nm,0.7s,baz=112,slow=4.8,SNR=121
CMAR Chiang Mai Arr 57.12 295 P P 08 55 21.5 +1.1
CMAR Chiang Mai Arr 57.12 295 P P 08 55 21.4 +1.1
CHTO Chiang Mai 57.23 296 *e*P P 08 55 22.5 +1.4
CHTO pmax pmax
comp=Z,40nm,1.2s
CHTO Chiang Mai 57.23 296 *e*P P 08 55 22.5 +1.4
comp=Z,40nm,1.2s
CHTO Chiang Mai 57.23 296 P P 08 55 22.3 +1.2
comp=Z,34nm,1.4s
PETK Petropavlovsk- 57.42 4 P P 08 55 20.9 -0.9
comp=Z,6.7nm,0.6s,baz=177,slow=8.7,SNR=11
PETK Petropavlovsk- 57.42 4 P P 08 55 20.9 -0.9
PETK Petropavlovsk- 57.42 4 P P 08 55 20.9 -0.9
CD2 Chengdu 57.97 311 P P 08 55 27.2 +1.1
CD2 pP PcP 08 56 15.6 -0.5
CD2 sP sP 08 56 39.0 +8.9
CD2 PP PP 08 57 40.0 +3.1
CD2 S S 09 03 09.1 -2.6
CD2 sS sS 09 04 33.5 +6.4
CD2 SS SS 09 07 05.4 -0.7
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,220nm,5.1s
HHC Hu-ho-hao-te 58.31 325 *e*P P 08 55 28.8 +0.4
HHC S S 09 03 18.4 +2.5
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,97nm,5.4s
TIAR Tiarei 58.68 108 *e*P P 08 55 34.1 +2.9
comp=Z,120nm,0.9s
PMOR Pomariorio Ree 59.86 105 *e*P P 08 55 42.1 +2.8
comp=Z,157nm,1.2s
MEH Mehetia 59.92 108 *e*P P 08 55 42.2 +2.4
comp=Z,128nm,1.0s
HIA Hailar 60.36 336 *e*P P 08 55 42.0 -0.2
HIA pmax pmax
comp=Z,17nm,1.1s
HIA Hailar 60.36 336 *e*P P 08 55 42.0 -0.2
comp=Z,17nm,1.1s
LZH Lanzhou 60.47 316 ⇑P P 08 55 44.7 +1.4
LZH pP pP 08 56 31.0 +4.0
LZH sP sP 08 56 55.3 +7.7
LZH PP PP 08 58 01.2 +2.2
LZH *e*S S 09 03 41.3 -2.6
LZH sS sS 09 05 04.2 +4.4
LZH pmax pmax
comp=Z,57nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.0s
LZH LR LR
comp=N,160nm,15.8s
LZH LR LR
comp=E,160nm,14.0s
LZH LR LR
comp=Z,300nm,18.1s
GTA Gaotai 64.90 317 *e*P P 08 56 13.3 +0.8
GTA pP pP 08 57 05.0 +8.3
GTA S S 09 04 35.6 -3.3
GTA SS SS 09 08 56.2 +1.8
GTA pmax pmax
comp=Z,33nm,1.0s
GTA pmax pmax
comp=Z,170nm,5.7s
ULN Ulaanbaatar 65.28 328 *e*P P 08 56 15.2 +0.4
ULN pmax pmax
comp=Z,15nm,1.1s
ULN Ulaanbaatar 65.28 328 *e*P P 08 56 15.2 +0.4
comp=Z,15nm,1.1s
ULN Ulaanbaatar 65.28 328 P P 08 56 15.5 +0.7
comp=Z,16nm,1.5s
SHL Shillong 65.54 300⇑ *i*P P 08 56 13.5 -3.5
SONM Songino Array 65.60 328 P P 08 56 17.4 +0.5
comp=Z,4.1nm,0.6s,baz=148,slow=6.0,SNR=28
SONM PcP PcP 08 56 46.8 -0.1
comp=Z,3.0nm,0.7s,baz=151,slow=2.8,SNR=5.4
SONM Songino Array 65.60 328 P P 08 56 17.4 +0.5
SONM 08 56 46.8
SONM Songino Array 65.60 328 P P 08 56 17.4 +0.5
SONM PcP PcP 08 56 46.8 -0.1
SEY Seymchan 67.08 0 *e*P P 08 56 25.5 -0.3
LSA Lhasa 67.47 305 *e*P P 08 56 30.4 +0.9
LSA pmax pmax
comp=Z,23nm,1.0s
LSA Lhasa 67.47 305 *e*P P 08 56 30.4 +0.9
comp=Z,23nm,1.0s
YAK Yakutsk 68.40 349 *e*P P 08 56 32.8 -1.2
YAK pmax pmax
comp=Z,14nm,1.2s
ZAK Zakamensk 68.78 329 *e*P P 08 56 35.7 -1.1
ZAK pmax pmax
comp=Z,10.0nm,1.1s
BOD Bodaibo 69.14 339 *e*P P 08 56 37.5 -1.2
BOD pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 69.37 330 *e*P P 08 56 39.4 -0.9
TLY pmax pmax
comp=Z,6.0nm,1.0s
TAPN Taplejung 69.64 301 *e*P P 08 56 43.4 +0.6
comp=Z,112nm,0.8s
TAPN Taplejung 69.64 301 *e*P P 08 56 43.4 +0.6
ODAN Odare 69.77 301 *e*P P 08 56 44.2 +0.7
comp=Z,142nm,0.7s
ODAN Odare 69.77 301 *e*P P 08 56 44.2 +0.7
RAMN Ramite 70.48 300 *e*P P 08 56 48.1 +0.3
RAMN Ramite 70.48 300 *e*P P 08 56 48.1 +0.3
MOY Mondy 70.70 329 *e*P P 08 56 49.0 +0.5
MOY pmax pmax
comp=Z,28nm,2.2s
JIRN Jiri 71.02 301 *e*P P 08 56 51.9 +0.7
JIRN Jiri 71.02 301 *e*P P 08 56 51.9 +0.7
GUN Gumba 71.35 301 *e*P P 08 56 53.8 +0.6
GUN Gumba 71.35 301 *e*P P 08 56 53.8 +0.6
PKI Pulchoki 71.66 301 *e*P P 08 56 55.1 0.0
PKI Pulchoki 71.66 301 *e*P P 08 56 55.1 0.0
PKI Pulchoki 71.66 301 *e*P P 08 56 55.1 0.0
KKN Kakani 71.83 301 *e*P P 08 56 56.3 +0.4
comp=Z,55nm,0.6s
KKN Kakani 71.83 301 *e*P P 08 56 56.3 +0.4
KKN Kakani 71.83 301 *e*P P 08 56 56.3 +0.4
DMN Daman 71.93 301 *e*P P 08 56 57.2 +0.6
DMN Daman 71.93 301 *e*P P 08 56 57.2 +0.6
GKN Gorkha 72.44 301 *e*P P 08 56 59.7 +0.3
GKN Gorkha 72.44 301 *e*P P 08 56 59.7 +0.3
RKT Rikitea 72.54 113 *e*P P 08 57 02.4 +2.5
comp=Z,86nm,1.2s
BILL Bilibino 72.89 6⇑ *e*P P 08 57 01.0 0.0
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 72.89 6 *e*P P 08 57 00.8 -0.2
comp=Z,5.0nm,0.9s
KOLN Koldanda 73.27 301 *e*P P 08 57 04.4 0.0
comp=Z,97nm,0.7s
KOLN Koldanda 73.27 301 *e*P P 08 57 04.4 0.0
DANN Dangsing 73.27 301 *e*P P 08 57 04.3 -0.2
DANN Dangsing 73.27 301 *e*P P 08 57 04.3 -0.2
WMQ Urumqi 74.98 317 P P 08 57 14.5 +0.7
WMQ PcP PcP 08 57 28.5 +1.8
WMQ pP pP 08 58 01.5 +2.2
WMQ pmax pmax
comp=Z,41nm,1.2s
WMQ pmax pmax
comp=Z,120nm,4.0s
HYB Hyderabad 75.75 289 *i*P P 08 57 17.0 -1.7
HYB *e*sP sP 08 58 24.0 -0.4
RC01 Rabbit Creek A 79.02 25 *e*P P 08 57 35.3 -0.5
comp=Z,49nm,1.3s
PMR Palmer 79.52 25 *e*P P 08 57 38.1 -0.4
PMR Palmer 79.52 25 *e*P P 08 57 38.0 -0.4
MK31 Makanchi Array 79.57 319 *e*P P 08 57 39.3 +0.1
MK31 Makanchi Array 79.57 319 *e*P P 08 57 39.2 +0.1
MKAR Makanchi Array 79.57 319 P P 08 57 39.5 +0.3
comp=Z,47nm,1.2s,baz=101,slow=6.3,SNR=72
MKAR Makanchi Array 79.57 319 P P 08 57 39.5 +0.3
MKAR Makanchi Array 79.57 319 P P 08 57 39.5 +0.3
SML Sawmill 79.96 25 *e*P P 08 57 41.0 0.0
SML pmax pmax
comp=Z,5.0nm,0.6s
SML Sawmill 79.96 25 *e*P P 08 57 41.0 0.0
comp=Z,4.9nm,0.6s
TRF Thorofare Moun 80.01 23 *e*P P 08 57 40.0 -1.4
comp=Z,18nm,1.1s
POO Poona 80.35 290 *e*P P 08 57 43.0 -0.9
ZAA0 Zalesovo Array 80.42 326 *e*P P 08 57 42.3 -1.2
ZALV Zalesovo Beam 80.42 326 P P 08 57 42.8 -0.8
comp=Z,19nm,0.6s,baz=111,slow=5.9,SNR=122
ZALV pP pP 08 58 26.4 -3.2
comp=Z,2.8nm,0.7s,baz=103,slow=4.7,SNR=1.8
ZALV Zalesovo Beam 80.42 326 P P 08 57 42.8 -0.8
ZALV *PP pP 08 58 26.4 -3.2
ZALV Zalesovo Beam 80.42 326 P P 08 57 42.8 -0.8
ZALV pP pP 08 58 26.4 -3.2
MCK McKinley 80.68 23 *e*P P 08 57 43.4 -1.3
MCK pmax pmax
comp=Z,88nm,1.4s
MCK McKinley 80.68 23 *e*P P 08 57 43.4 -1.3
comp=Z,88nm,1.4s
NVS Novosibirsk 81.61 327 *e*P P 08 57 47.7 -2.0
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.5s
NVS pmax pmax
comp=Z,32nm,1.5s
COLA College 81.65 22 *e*P P 08 57 48.7 -1.1
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 81.65 22 *e*P P 08 57 48.7 -1.1
comp=Z,16nm,0.9s
ILAR Eielson Array 81.97 22 P P 08 57 49.8 -1.7
comp=Z,6.0nm,0.5s,baz=250,slow=5.3,SNR=129
ILAR PKKPbc PKKPbc 09 16 20.1 -3.5
comp=Z,0.5nm,0.6s,baz=345,slow=1.5,SNR=7.7
ILAR Eielson Array 81.97 22 P P 08 57 49.8 -1.7
ILAR Eielson Array 81.97 22 P P 08 57 49.8 -1.7
ILAR PKKPbc PKKPbc 09 16 20.1 -3.5
COLD Coldfoot 82.03 19 *e*P P 08 57 52.4 +0.6
comp=Z,8.0nm,1.0s
KSH Kashi 82.16 311 *e*P P 08 57 55.4 +2.2
KSH *e*pP pP 08 58 48.1 +8.6
KSH *e*sP sP 08 59 06.4 +7.0
KSH *e*PP PP 09 01 08.4 +4.1
KSH *e*S S 09 07 46.4 -6.2
KSH *e*sS sS 09 09 18.5 +5.4
KSH *e*SS SS 09 13 19.3 +2.4
KSH pmax pmax
comp=Z,20nm,0.9s
KSH pmax pmax
comp=Z,150nm,5.5s
KSH LR LR
comp=N,140nm,4.6s
KSH LR LR
comp=E,160nm,5.1s
KSH LR LR
comp=Z,160nm,5.2s
KURK Kurchatov 83.02 322 P P 08 57 57.1 -0.1
comp=Z,10nm,0.8s,baz=110,slow=4.0,SNR=62
KURK pP pP 08 58 40.8 -2.7
comp=Z,2.7nm,0.8s,baz=106,slow=4.3,SNR=2.5
KURK Kurchatov 83.02 322 *e*P P 08 57 56.8 -0.4
KURK pmax pmax
comp=Z,28nm,1.1s
KURK Kurchatov 83.02 322 *e*P P 08 57 56.7 -0.4
comp=Z,44nm,1.3s
TKM2 Tokmak 2 83.16 314 P P 08 57 59.1 +0.6
SNR=6.6
TKM2 P P 08 57 59.1 +0.6
SNR=6.6
TKM2 Tokmak 2 83.16 314 *i*P P 08 57 59.0 +0.6
KZA Kyzart 83.24 313 P P 08 58 00.6 +1.5
SNR=14
KZA P P 08 58 00.6 +1.5
SNR=14
CHMS Chumysh 83.79 314 P P 08 58 02.4 +1.0
SNR=10
CHMS P P 08 58 02.4 +1.0
SNR=10
UCH Uchtor 83.80 313 P P 08 58 03.8 +1.8
SNR=5.8
UCH P P 08 58 03.8 +1.8
SNR=5.8
FRU Bishkek 83.85 314 *e*P P 08 58 02.5 +0.8
FRU pmax pmax
comp=Z,63nm,1.2s
AAK Ala-Archa 83.90 314 P P 08 58 02.9 +0.8
SNR=11
AAK P P 08 58 02.9 +0.8
SNR=11
AAK Ala-Archa 83.90 314 *i*P P 08 58 02.8 +0.8
AAK pmax pmax
comp=Z,56nm,0.8s
AAK Ala-Archa 83.90 314 *e*P P 08 58 02.6 +0.5
comp=Z,84nm,0.7s
USP Ospenovka 84.02 314 P P 08 58 03.3 +0.7
SNR=13
USP P P 08 58 03.3 +0.7
SNR=13
EGAK Eagle 84.18 23 *e*P P 08 58 03.9 +1.1
comp=Z,24nm,1.2s
AML Almayashu 84.38 313 P P 08 58 06.2 +1.4
SNR=31
AML P P 08 58 06.2 +1.4
SNR=31
EKS2 Erkin-Say 84.42 313 P P 08 58 05.7 +1.0
SNR=14
EKS2 P P 08 58 05.7 +1.0
SNR=14
DAWY Dawson 84.62 24 *e*P P 08 58 05.2 +0.1
QSPA South Pole Qui 85.62 180 *e*P P 08 58 11.0 +0.8
comp=Z,7.6nm,0.9s

MAW	**Mawson**	**85.76**	**203**	P		**P**		**08 58 11.2**	**+0.6**
	comp=Z,14nm,0.6s,baz=103,slow=6.0,SNR=38								
MAW	**Mawson**	**85.76**	**203**	*e*P		**P**		**08 58 11.0**	**+0.4**
MAW				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MAW	**Mawson**	**85.76**	**203**	*e*P		**P**		**08 58 11.0**	**+0.4**
	comp=Z,3.2nm,0.6s								
KBL	**Kabul**	**86.79**	**305**	*e*P		**P**		**08 58 16.2**	**-0.4**
KBL				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KBL	**Kabul**	**86.79**	**305**	*e*P		**P**		**08 58 16.2**	**-0.4**
	comp=Z,7.8nm,0.7s								
INK	**Inuvik**	**88.25**	**21**	P		**P**		**08 58 21.6**	**-0.9**
	comp=Z,10nm,1.0s,baz=251,slow=6.3,SNR=15								
INK	**Inuvik**	**88.25**	**21**	*e*P		**P**		**08 58 22.1**	**-0.4**
INK				pmax		pmax			
	comp=Z,17nm,1.1s								
INK	**Inuvik**	**88.25**	**21**	*e*P		**P**		**08 58 22.1**	**-0.4**
	comp=Z,17nm,1.1s								
BVA0	**Borovoye Array**	**88.50**	**323**	*i* P		**P**		**08 58 22.7**	**-1.4**
BVA0				pmax		pmax			
	comp=Z,5.0nm,1.1s								
BVAR	**Borovoye Array**	**88.50**	**323**	P		**P**		**08 58 23.2**	**-0.9**
	comp=Z,13nm,0.5s,baz=104,slow=6.3,SNR=87								
BVAR	**Borovoye Array**	**88.50**	**323**	P		**P**		**08 58 23.2**	**-0.9**
BVAR	**Borovoye Array**	**88.50**	**323**	P		**P**		**08 58 23.2**	**-0.9**
BRVK	**Borovoye**	**88.57**	**323**	*ce*P		**P**		**08 58 23.2**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,25nm,1.3s								
BRVK	**Borovoye**	**88.57**	**323**	*e*P		**P**		**08 58 23.5**	**-0.9**
	comp=Z,26nm,1.1s								
HUMO	**Hull Mountain**	**89.13**	**47**	*e*P		**P**		**08 58 28.5**	**+1.2**
	comp=Z,19nm,0.8s								
YBH	**Yreka Blue Hor**	**89.21**	**48**	*e*P		**P**		**08 58 28.3**	**+0.5**
YBH				pmax		pmax			
	comp=Z,16nm,1.2s								
YBH	**Yreka Blue Hor**	**89.21**	**48**	*e*P		**P**		**08 58 28.3**	**+0.5**
	comp=Z,16nm,1.2s								
CMB	**Columbia Colle**	**90.62**	**52**	*e*P		**P**		**08 58 35.5**	**+1.1**
CMB				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CMB	**Columbia Colle**	**90.62**	**52**	*e*P		**P**		**08 58 35.5**	**+1.1**
	comp=Z,6.0nm,0.9s								
MOD	**Modoc**	**91.02**	**48**	*e*P		**P**		**08 58 36.7**	**+0.4**
	comp=Z,14nm,0.8s								
WCN	**Washoe City**	**91.22**	**51**	*e*P		**P**		**08 58 38.3**	**+1.0**
WCN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WCN	**Washoe City**	**91.22**	**51**	*e*P		**P**		**08 58 38.3**	**+1.0**
	comp=Z,5.1nm,0.8s								
ETW	**Entiat**	**91.48**	**43**	*e*P		**P**		**08 58 38.4**	**+0.2**
HAWA	**Hanford**	**91.93**	**44**	*e*P		**P**		**08 58 40.5**	**+0.4**
	comp=Z,7.4nm,0.8s								
ISA	**Isabella**	**91.97**	**55**	*e*P		**P**		**08 58 41.1**	**+0.4**
ISA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ISA	**Isabella**	**91.97**	**55**	*e*P		**P**		**08 58 41.1**	**+0.4**
	comp=Z,1.8nm,0.7s								
MTUM	**Tungsten Hills**	**92.01**	**53**	*e*P		**P**		**08 58 42.2**	**+1.1**
PASC	**Pasadena Art C**	**92.11**	**56**	*e*P		**P**		**08 58 41.8**	**+0.5**
	comp=Z,9.1nm,0.7s								
MWC	**Mount Wilson**	**92.22**	**56**	*e*P		**P**		**08 58 42.7**	**+0.7**
MWC				pmax		pmax			
	comp=Z,22nm,0.8s								
MWC	**Mount Wilson**	**92.22**	**56**	*e*P		**P**		**08 58 42.7**	**+0.7**
	comp=Z,22nm,0.8s								
NVAR	**Mina Array Bea**	**92.29**	**52**	P		**P**		**08 58 42.4**	**+0.1**
	comp=Z,8.2nm,0.7s,baz=253,slow=5.9,SNR=42								
NVAR	**Mina Array Bea**	**92.29**	**52**	P		**P**		**08 58 42.4**	**+0.1**
WVOR	**Wild Horse Val**	**92.29**	**48**	*e*P		**P**		**08 58 42.5**	**+0.4**
WVOR				pmax		pmax			
	comp=Z,14nm,1.0s								
WVOR	**Wild Horse Val**	**92.29**	**48**	*e*P		**P**		**08 58 42.5**	**+0.4**
	comp=Z,14nm,1.0s								
OD2	**Odessa Site #2**	**92.56**	**43**	*e*P		**P**		**08 58 43.3**	**+0.2**
GSC	**Goldstone**	**93.31**	**55**	*e*P		**P**		**08 58 47.9**	**+1.0**
GSC	**Goldstone**	**93.31**	**55**	*e*P		**P**		**08 58 47.9**	**+1.0**
PFO	**Pinyon Flat Ob**	**93.51**	**57**	*e*P		**P**		**08 58 49.1**	**+1.1**
PFO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PFO	**Pinyon Flat Ob**	**93.51**	**57**	*e*P		**P**		**08 58 49.1**	**+1.1**
	comp=Z,4.6nm,0.8s								
NEW	**Newport**	**93.67**	**42**	*e*P		**P**		**08 58 47.5**	**-0.7**
NEW				pmax		pmax			
	comp=Z,11nm,1.1s								
NEW	**Newport**	**93.67**	**42**	*e*P		**P**		**08 58 47.5**	**-0.7**
	comp=Z,11nm,1.1s								
SYO	**Syowa Base**	**93.90**	**199**⇑	*e*X		**P**		**08 58 45.8**	**-2.9**
LDFC	**Landfair**	**94.69**	**55**	*e*P		**P**		**08 58 54.6**	**+1.3**
	comp=Z,24nm,0.9s								
AB31	**Akbulak array**	**94.71**	**319**	*i* P		**P**		**08 58 50.7**	**-2.2**
AB31				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ABKAR	**Akbulak array**	**94.71**	**319**	*e*P		**P**		**08 58 51.0**	**-2.0**
	comp=Z,0.6nm,0.4s								
ELK	**Elko**	**94.76**	**50**	*e*P		**P**		**08 58 54.2**	**+0.5**
ELK				pmax		pmax			
	comp=Z,60nm,2.8s								
ELK	**Elko**	**94.76**	**50**	*e*P		**P**		**08 58 54.2**	**+0.5**
	comp=Z,60nm,2.8s								
BSMT	**Bassoo Peak**	**95.23**	**42**	*e*P		**P**		**08 58 55.4**	**-0.2**
YKA	**Yellowknife Ar**	**95.31**	**28**	P		**P**		**08 58 55.2**	**0.0**
	comp=Z,3.4nm,0.7s,baz=271,slow=4.7,SNR=72								
YKA				PKiKP		**PKiKP**		**09 03 34.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=278,slow=1.7,SNR=7.1								
YKA				PKKPbc		**PKKPdf**		**09 15 47.1**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=87,slow=2.7,SNR=17								
YKA	**Yellowknife Ar**	**95.31**	**28**	P		**P**		**08 58 55.3**	**0.0**
YKA	**Yellowknife Ar**	**95.31**	**28**	P		**P**		**08 58 55.2**	**0.0**
YKA				PKiKP		**PKiKP**		**09 03 34.8**	**-0.2**
YKA				PKKPbc		**PKKPdf**		**09 15 47.1**	**-2.8**
HLID	**Hailey**	**95.43**	**47**	*e*P		**P**		**08 58 56.3**	**-0.3**
	comp=Z,3.3nm,1.0s								
ARU	**Arti**	**95.59**	**326**	P		**P**		**08 58 54.7**	**-2.0**
ARU	**Arti**	**95.59**	**326**	*e*P		**P**		**08 58 54.6**	**-2.0**
	comp=Z,6.0nm,0.9s								
WALA	**Waterton Lakes**	**95.81**	**41**	*e*P		**P**		**08 58 58.6**	**+0.5**
	comp=Z,0.4nm,0.8s								
AKTO	**Aktyubinsk**	**95.97**	**320**	P		**P**		**08 58 57.0**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=90,slow=5.3,SNR=5.2								
AKTO	**Aktyubinsk**	**95.97**	**320**	P		**P**		**08 58 57.0**	**-1.6**
AKTO	**Aktyubinsk**	**95.97**	**320**	P		**P**		**08 58 57.0**	**-1.6**
DUG	**Dugway**	**96.60**	**50**	*e*P		**P**		**08 59 02.2**	**+0.3**
DUG				pmax		pmax			
	comp=Z,2.0nm,0.6s								
DUG	**Dugway**	**96.60**	**50**	*e*P		**P**		**08 59 02.2**	**+0.3**
	comp=Z,1.8nm,0.6s								
HVU	**Hansel Valley**	**96.63**	**49**	*e*P		**P**		**08 59 02.4**	**+0.3**
HVU				pmax		pmax			
	comp=Z,9.0nm,1.0s								
HVU	**Hansel Valley**	**96.63**	**49**	*e*P		**P**		**08 59 02.4**	**+0.3**
	comp=Z,9.4nm,1.0s								
JLU	**Jordanelle**	**97.64**	**50**	*e*P		Pdif		08 59 06.8	+0.1
	comp=Z,6.5nm,1.2s								
RRI2	**Red Ridge**	**97.69**	**47**	*e*P		Pdif		08 59 07.3	+0.4
	comp=Z,8.6nm,0.8s								
WUAZ	**Wupatki**	**97.75**	**55**	*e*P		Pdif		08 59 08.5	+1.2
	comp=Z,8.1nm,0.8s								
TMUT	**Trail Mountain**	**97.85**	**51**	*e*P		Pdif		08 59 08.4	+0.6
	comp=Z,12nm,0.9s								
YFT	**Old Faithful**	**98.01**	**46**	*e*P		Pdif		08 59 10.7	+2.4
LOHW	**Long Hollow**	**98.20**	**47**	*e*P		Pdif		08 59 09.3	+0.2
	comp=Z,2.2nm,0.8s								
PD01	**Pinedale Array**	**98.98**	**48**	*e*P		**P**		**08 59 11.7**	**-1.0**
PD02	**Pinedale Array**	**98.99**	**48**	*e*P		**P**		**08 59 12.0**	**-0.7**
PDAR	**Pinedale Array**	**99.00**	**48**	P		**P**		**08 59 11.8**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=236,slow=2.3,SNR=46								
PDAR	**Pinedale Array**	**99.00**	**48**	P		**P**		**08 59 11.8**	**-0.9**
PV04	**Paradox Valley**	**99.67**	**52**	*e*P		**Pdif**		**08 59 15.7**	**0.0**
MVCO	**Mesa Verde**	**100.03**	**53**	*e*Pdif		**Pdif**		**08 59 18.1**	**+0.6**
TXAR	**Lajitas Array**	**104.45**	**61**	Pdiff		**Pdif**		**08 59 44.4**	**+7.3**
	comp=Z,0.3nm,0.6s,baz=273,slow=4.5,SNR=4.3								
TXAR				PKKPbc		**PKKPbc**		**09 15 24.2**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=119,slow=4.7,SNR=5.1								
TXAR	**Lajitas Array**	**104.45**	**61**	P		**Pdif**		**08 59 44.4**	**+7.3**
TXAR	**Lajitas Array**	**104.45**	**61**	Pdif		**Pdif**		**08 59 44.4**	**+7.3**
TXAR				PKKPbc		**PKKPbc**		**09 15 24.2**	**+0.9**
ARCES	**ARCESS Array B**	**106.25**	**343**	PKiKP		**PKiKP**		**09 03 54.8**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=115,slow=1.2,SNR=11								
ARCES	**ARCESS Array B**	**106.25**	**343**	PKiKP		**PKiKP**		**09 03 54.8**	**+0.3**
FINES	**FINESS Array B**	**110.38**	**336**	PKiKP		**PKiKP**		**09 04 01.9**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=56,slow=4.8,SNR=6.7								
FINES	**FINESS Array B**	**110.38**	**336**	PKiKP		**PKiKP**		**09 04 01.9**	**-0.5**
FINES	**FINESS Array B**	**110.38**	**336**	PKiKP		**PKiKP**		**09 04 01.9**	**-0.5**
AKASG	**Malin Array Be**	**113.76**	**324**	PKiKP		**PKiKP**		**09 04 08.8**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=61,slow=2.1,SNR=8.4								
AKASG	**Malin Array Be**	**113.76**	**324**	PKiKP		**PKiKP**		**09 04 08.8**	**-0.4**
BRTR	**Keskin Array B**	**114.53**	**312**	PKP		PKPdf		09 04 10.6	-0.6
	comp=Z,1.2nm,0.6s,baz=102,slow=3.1,SNR=4.4								
BRTR	**Keskin Array B**	**114.53**	**312***c*	*i* PKiKP		PKPdf		09 04 12.3	+1.1
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**114.53**	**312**	PKP		PKPdf		09 04 10.6	-0.6
NB2	**NORSAR Subarra**	**116.27**	**340**	PKP		**PKPdf**		**09 04 13.0**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**116.27**	**340**	PKP		**PKPdf**		**09 04 12.5**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=47,slow=1.9,SNR=12								
NOA	**NORSAR Array B**	**116.27**	**340**	PKiKP		**PKPdf**		**09 04 12.5**	**-1.3**
NOA	**NORSAR Array B**	**116.27**	**340**	PKP		**PKPdf**		**09 04 12.5**	**-1.3**
KOLS	**Kolonicke sedl**	**118.57**	**325**	*e*PKiKP		**PKPdf**		**09 04 15.9**	**-2.7**
KOLS	**Kolonicke sedl**	**118.57**	**325**	*e*PKP		**PKPdf**		**09 04 15.9**	**-2.7**
BOSA	**Boshof**	**119.40**	**234**	PKP		**PKPdf**		**09 04 21.6**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=336,slow=20,SNR=5.5								
BOSA	**Boshof**	**119.40**	**234**	PKiKP		**PKPdf**		**09 04 21.6**	**+0.7**
BOSA	**Boshof**	**119.40**	**234**	PKP		**PKPdf**		**09 04 21.6**	**+0.7**
KECS	**Kecovo**	**119.82**	**325**	*e*PP		PP		09 05 47.6	+0.8
PLCA	**Paso Flores**	**120.52**	**143**	PKP		**PKPdf**		**09 04 23.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=112,slow=4.6,SNR=5.9								
PLCA	**Paso Flores**	**120.52**	**143**	PKiKP		**PKPdf**		**09 04 23.1**	**+0.4**
PLCA	**Paso Flores**	**120.52**	**143**	PKP		**PKPdf**		**09 04 23.1**	**+0.4**
SCHQ	**Schefferville**	**120.63**	**25**	PKP		**PKPdf**		**09 04 22.3**	**0.0**
	comp=Z,2.6nm,0.7s,baz=235,slow=14,SNR=5.1								
SCHQ	**Schefferville**	**120.63**	**25**	PKP		**PKPdf**		**09 04 22.3**	**0.0**
VYHS	**Vyhne**	**120.75**	**326**	*e*PKiKP		**PKPdf**		**09 04 21.0**	**-1.8**
VYHS				*e*				09 05 52.6	
VYHS	**Vyhne**	**120.75**	**326**	*e*PKP		**PKPdf**		**09 04 21.0**	**-1.8**
VYHS				*e*PP		**PP**		**09 05 52.6**	**-0.5**
DPC	**Dobruska-Polom**	**121.07**	**329**	*e*PKiKP		**PKPdf**		**09 04 23.7**	**+0.3**
DPC	**Dobruska-Polom**	**121.07**	**329**	*e*PKPdf		**PKPdf**		**09 04 23.7**	**+0.3**
UPC	**Upice**	**121.14**	**329**	*e*PKiKP		**PKPdf**		**09 04 23.9**	**+0.5**
UPC	**Upice**	**121.14**	**329**	*e*PKPdf		**PKPdf**		**09 04 23.9**	**+0.5**
BSEG	**Bad Segeberg**	**121.62**	**335**	*e*PKPdf		**PKPdf**		**09 04 25.3**	**+1.1**
BSEG	**Bad Segeberg**	**121.62**	**335**	*e*PKiKP		**PKPdf**		**09 04 25.3**	**+1.1**
BRG	**Berggiesshubel**	**121.96**	**330**	*e*PKP		**PKPdf**		**09 04 24.9**	**-0.1**
	comp=Z,4.2nm,0.7s								
BRG	**Berggiesshubel**	**121.96**	**330**	*e*PKPdf		**PKPdf**		**09 04 25.3**	**+0.3**
BRG	**Berggiesshubel**	**121.96**	**330**	*e*PKiKP		**PKPdf**		**09 04 24.9**	**-0.1**
BRG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
TREC	**Trest**	**122.13**	**328**	*e*PKiKP		**PKPdf**		**09 04 25.8**	**+0.4**
TREC	**Trest**	**122.13**	**328**	*e*PKPdf		**PKPdf**		**09 04 25.8**	**+0.4**
CLL	**Collm**	**122.15**	**331**	*e*PKPdf		**PKPdf**		**09 04 25.4**	**+0.2**
CLL	**Collm**	**122.15**	**331**	*i* PKiKP		**PKPdf**		**09 04 25.5**	**+0.2**
CLL				pmax		pmax			
	comp=Z,13nm,0.9s								
CLL	**Collm**	**122.15**	**331**	*i* PKPdf		**PKPdf**		**09 04 25.5**	**+0.2**
	comp=Z,13nm,0.9s								
CLL				*e*PP		**PP**		**09 06 02.0**	**-0.3**
PRU	**Pruhonice**	**122.20**	**329**	*e*PKiKP		**PKPdf**		**09 04 25.6**	**+0.1**
PRU	**Pruhonice**	**122.20**	**329**	*e*PKPdf		**PKPdf**		**09 04 25.6**	**+0.1**
NRDL	**Niedersach Rie**	**122.70**	**333**	*e*PKPdf		**PKPdf**		**09 04 26.7**	**+0.5**
CONA	**Conrad Observa**	**122.72**	**326**⇑	*i* PKiKP		**PKPdf**		**09 04 26.6**	**-0.1**
	comp=Z,6.7nm,0.9s								
TANN	**Tannenbergstha**	**122.98**	**330**	*e*PKPdf		**PKPdf**		**09 04 27.4**	**+0.4**
CLZ	**Clausthal**	**123.03**	**333**	*e*PKPdf		**PKPdf**		**09 04 28.0**	**+0.9**
CLZ	**Clausthal**	**123.03**	**333**	*e*PKiKP		**PKPdf**		**09 04 28.0**	**+0.9**
NKC	**Novy Kostel**	**123.11**	**330**	*e*PKiKP		**PKPdf**		**09 04 27.7**	**+0.5**
NKC	**Novy Kostel**	**123.11**	**330**	*e*PKPdf		**PKPdf**		**09 04 27.7**	**+0.5**
KHC	**Kasperske Hory**	**123.22**	**329**	*e*PKiKP		**PKPdf**		**09 04 28.0**	**+0.5**
KHC	**Kasperske Hory**	**123.22**	**329**	*e*PKPdf		**PKPdf**		**09 04 27.8**	**+0.2**
KHC	**Kasperske Hory**	**123.22**	**329**	*e*PKPdf		**PKPdf**		**09 04 28.0**	**+0.5**
MOX	**Moxa**	**123.25**	**331**	*e*PKPdf		**PKPdf**		**09 04 27.4**	**-0.1**
MOX	**Moxa**	**123.25**	**331**	*e*PKiKP		**PKPdf**		**09 04 27.4**	**-0.1**
GEC2	**GERESS Array S**	**123.34**	**328**	*e*PKPdf		**PKPdf**		**09 04 27.9**	**+0.1**
GEC2	**GERESS Array S**	**123.34**	**328**	*e*PKiKP		**PKPdf**		**09 04 27.9**	**+0.1**
GERES	**GERESS Array B**	**123.34**	**328**	PKP		**PKPdf**		**09 04 28.1**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=63,slow=1.6,SNR=41								
GERES	**GERESS Array B**	**123.34**	**328**	PKiKP		**PKPdf**		**09 04 28.2**	**+0.3**
GERES	**GERESS Array B**	**123.34**	**328**	PKP		**PKPdf**		**09 04 28.1**	**+0.3**
WET	**Wettzell**	**123.58**	**329**	*e*PKPdf		**PKPdf**		**09 04 28.4**	**+0.2**
WET	**Wettzell**	**123.58**	**329**	*e*PKiKP		**PKPdf**		**09 04 28.4**	**+0.2**
SOKA	**Soboth**	**123.90**	**326**⇑	*i* PKiKP		**PKPdf**		**09 04 28.6**	**-0.4**
	comp=Z,8.3nm,1.1s								
GRF	**Grafenberg Arr**	**124.06**	**330**	*e*pPKPdf		**PKPdf**		**09 04 29.6**	**+0.5**
BOJS	**Bojanci**	**124.45**	**324**	*e*PKPdf		**PKPdf**		**09 04 29.8**	**-0.1**
RJOB	**Jochberg**	**124.49**	**328**	*e*PKPdf		**PKPdf**		**09 04 28.8**	**-1.2**
LJU	**Ljubljana**	**124.55**	**325**	*e*PKPdf		**PKPdf**		**09 04 29.1**	**-1.0**
CRNS	**Crni Vrh**	**124.68**	**325**	*e*PKPdf		**PKPdf**		**09 04 30.0**	**-0.4**
TNS	**Taunus Mts**	**125.03**	**332**	*e*PKPdf		**PKPdf**		**09 04 31.4**	**+0.4**
TNS	**Taunus Mts**	**125.03**	**332**	*e*PKiKP		**PKPdf**		**09 04 31.4**	**+0.4**
ABTA	**Abfaltersbach**	**125.25**	**327**⇑	*i* PKPdf		**PKPdf**		**09 04 30.4**	**-1.1**
	comp=Z,15nm,1.0s								
WTTA	**Wattenberg**	**125.40**	**328**⇑	*i* PKiKP		**PKPdf**		**09 04 31.8**	**-0.2**
	comp=Z,16nm,0.8s								
MOTA	**Moosalm**	**125.63**	**328**⇓	*i* PKiKP		**PKPdf**		**09 04 32.4**	**0.0**
	comp=Z,15nm,0.9s								
STU	**Stuttgart**	**125.66**	**331**	*e*PKPdf		**PKPdf**		**09 04 33.3**	**+1.1**
MEM	**Membach**	**125.85**	**334**	PKP		**PKPdf**		**09 04 33.1**	**+0.7**
FETA	**Feichten**	**126.04**	**328**⇓	*i* PKiKP		**PKPdf**		**09 04 33.3**	**+0.2**
	comp=Z,17nm,1.1s								
BFO	**Black Forest**	**126.39**	**331**	*e*PKPdf		**PKPdf**		**09 04 33.2**	**-0.4**
BFO	**Black Forest**	**126.39**	**331**	*e*PKiKP		**PKPdf**		**09 04 33.2**	**-0.4**
UCC	**Uccle**	**126.41**	**335**	PKP		**PKPdf**		**09 04 34.0**	**+0.5**
WLF	**Walferdange**	**126.47**	**333**	PKP		**PKPdf**		**09 04 34.5**	**+0.8**
WLF	**Walferdange**	**126.47**	**333**	*e*pPKPdf		**PKPdf**		**09 04 34.3**	**+0.6**
SNF	**Seneffe**	**126.66**	**335**	PKP		**PKPdf**		**09 04 34.8**	**+0.8**
CDF	**Champ du Feu**	**126.84**	**331**	*e*PKiKP		**PKPdf**		**09 04 34.3**	**-0.2**
	comp=Z,9.9nm,0.8s								
DOU	**Dourbes**	**126.84**	**334**	PKP		**PKPdf**		**09 04 34.7**	**+0.4**
BAIF	**Baives**	**127.03**	**335**	*e*PKiKP		**PKPdf**		**09 04 35.2**	**+0.5**
	comp=Z,11nm,0.8s								
TUE	**Stuetta**	**127.12**	**328**	*e*PKPdf		**PKPdf**		**09 04 35.6**	**+0.3**
HINF	**Hinteralfeld**	**127.46**	**331**	*e*PKiKP		**PKPdf**		**09 04 35.6**	**-0.1**
	comp=Z,36nm,1.1s								
PAGF	**Fort de Pagny**	**127.47**	**332**	*e*PKiKP		**PKPdf**		**09 04 36.0**	**+0.4**
	comp=Z,4.7nm,0.9s								
HAU	**Haudompre**	**127.57**	**332**	*e*PKiKP		**PKPdf**		**09 04 36.0**	**+0.1**
	comp=Z,20nm,0.7s								
MEZF	**Maizieres J'vi**	**127.81**	**333**	*e*PKiKP		**PKPdf**		**09 04 36.9**	**+0.6**
SFTF	**Sexfontaines**	**128.03**	**333**	*e*PKiKP		**PKPdf**		**09 04 37.0**	**+0.3**
	comp=Z,19nm,0.8s								
CABF	**La Chapelle**	**128.68**	**330**	*e*PKiKP		**PKPdf**		**09 04 38.7**	**+0.6**
	comp=Z,27nm,1.1s								
LPL	**La Plagne**	**129.11**	**329**	*e*PKiKP		**PKPdf**		**09 04 39.5**	**+0.4**
LPG	**La Plagne**	**129.11**	**329**	*e*PKPdf		**PKPdf**		**09 04 39.5**	**+0.3**
LOR	**Lormes**	**129.26**	**332**	*e*PKiKP		**PKPdf**		**09 04 39.7**	**+0.6**
	comp=Z,18nm,0.9s								
SSF	**Saint Saulge**	**129.58**	**333**	*e*PKiKP		**PKPdf**		**09 04 40.2**	**+0.5**
	comp=Z,31nm,1.2s								
MBDF	**Montbardon**	**129.63**	**328**	*e*PKiKP		**PKPdf**		**09 04 40.8**	**+0.7**
AVF	**Avril sur Loir**	**129.85**	**332**	*e*PKiKP		**PKPdf**		**09 04 40.4**	**+0.2**
ORIF	**Oris-en-Rattie**	**129.96**	**329**	*e*PKiKP		**PKPdf**		**09 04 41.1**	**+0.5**
	comp=Z,14nm,0.8s								
LDF	**La Druitiere**	**129.96**	**336**	*e*PKiKP		**PKPdf**		**09 04 40.5**	**+0.1**
	comp=Z,5.1nm,0.5s								
FLN	**La Foliniere**	**129.97**	**337**	*e*PKiKP		**PKPdf**		**09 04 40.3**	**-0.1**
	comp=Z,13nm,0.5s								
BGF	**Bois d'Agland**	**130.26**	**333**	*e*PKiKP		**PKPdf**		**09 04 41.7**	**+0.7**
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**130.42**	**337**	*e*PKiKP		**PKPdf**		**09 04 41.3**	**+0.1**
	comp=Z,15nm,0.6s								
SGMF	**Saint Gilles**	**131.19**	**338**	*e*PKiKP		**PKPdf**		**09 04 42.5**	**-0.2**
	comp=Z,12nm,0.6s								
ROSF	**Rostrenen**	**131.39**	**338**	*e*PKiKP		**PKPdf**		**09 04 43.5**	**+0.4**
MFF	**Saint Martin d**	**131.55**	**335**	*e*PKiKP		**PKPdf**		**09 04 44.0**	**+0.6**
	comp=Z,12nm,0.7s								
LASF	**Ste Croix**	**131.58**	**330**	*e*PKiKP		**PKPdf**		**09 04 44.5**	**+0.9**
	comp=Z,30nm,1.0s								
QUIF	**Quistinic**	**131.70**	**338**	*e*PKiKP		**PKPdf**		**09 04 43.6**	**0.0**
	comp=Z,26nm,1.0s								
MTLF	**Montolieu**	**132.93**	**330**	*e*PKiKP		**PKPdf**		**09 04 46.9**	**+0.7**
	comp=Z,19nm,1.0s								
KEST	**Kesra**	**133.64**	**317**	PKP		**PKPdf**		**09 04 49.1**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=259,slow=7.2,SNR=4.4								
KEST	**Kesra**	**133.64**	**317**	PKP		**PKPdf**		**09 04 49.1**	**+1.3**
ROSC	**El Rosal**	**133.65**	**87**	SKP		**SKPdf**		**09 08 05.1**	**-1.1**
	comp=Z,5.6nm,0.7s,baz=114,slow=17,SNR=4.8								
ROSC	**El Rosal**	**133.65**	**87**	SKP		**SKPdf**		**09 08 05.1**	**-1.1**
ETSF	**Etsaut**	**134.61**	**332**	*e*PKiKP		**PKPdf**		**09 04 50.2**	**+0.8**
	comp=Z,36nm,1.2s								
SJPF	**Ste Jean**	**134.75**	**333**	*e*PKiKP		**PKPdf**		**09 04 50.2**	**+0.6**
	comp=Z,18nm,1.1s								
LPAZ	**La Paz**	**135.18**	**118**	PKP		**PKPdf**		**09 04 53.5**	**+1.6**
	comp=Z,3.5nm,0.7s,baz=234,slow=1.2,SNR=12								
LPAZ				SKPbc		**SKPab**		**09 08 08.7**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=259,slow=4.0,SNR=12								
LPAZ	**La Paz**	**135.18**	**118**	*e*PKiKP		**PKPdf**		**09 04 53.5**	**+1.6**
LPAZ	**La Paz**	**135.18**	**118**	*e*PKPdf		**PKPdf**		**09 04 53.5**	**+1.6**
LPAZ				SKPbc		**SKPab**		**09 08 08.7**	**-0.7**
SDV	**Santo Domingo**	**137.26**	**82**	*e*PKPdf		**PKPdf**		**09 04 56.1**	**+0.8**
CPUP	**Villa Florida**	**138.22**	**138**	PKP		**PKPdf**		**09 04 55.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=302,slow=4.4,SNR=4.2

	baz=226						
ELDTW				*e*S	**Sn**	**08 47 58.6**	**-1.0**
	baz=226						
CHN5	**Tsauling**	**1.96**	**242**	P	**Pn**	**08 47 36.6**	**+0.7**
	baz=241						
CHN5				*e*S	**Sn**	**08 48 01.8**	**+1.9**
	baz=241						
STYT	**Tauyuan**	**2.15**	**231**	P	**Pn**	**08 47 38.7**	**+0.5**
	baz=230						
STYT				*e*S	**Sn**	**08 48 04.3**	**+0.1**
	baz=230						
CHN4	**Tsaushan**	**2.16**	**238**	*e*P	**Pn**	**08 47 39.2**	**+0.9**
	baz=237						
CHN4				S	**Sn**	**08 48 06.0**	**+1.6**
	baz=237						
TWG	**Pinlang**	**2.19**	**219**	*e*P	**Pn**	**08 47 38.0**	**-0.7**
	baz=219						
TWG				*e*S	**Sn**	**08 48 03.6**	**-1.5**
	baz=219						
WTP	**Ta-pu**	**2.20**	**235**	*e*P	**Pn**	**08 47 39.5**	**+0.5**
	baz=234						
WTP				*e*S	**Sn**	**08 48 06.9**	**+1.4**
	baz=234						
CHN1	**Nanshi**	**2.30**	**235**	P	**Pn**	**08 47 41.0**	**+0.7**
	baz=234						
CHN1				*e*S	**Sn**	**08 48 08.1**	**+0.3**
	baz=234						
SSD	**Sandimen**	**2.51**	**226**	*e*P	**Pn**	**08 47 44.7**	**+1.6**
	baz=225						
LAY	**Lan-yu**	**2.65**	**201**	*e*S	**Sn**	**08 48 14.1**	**-2.1**
	baz=201						
EAST	**Anshuo**	**2.66**	**217**	*e*P	**Pn**	**08 47 44.5**	**-0.6**
	baz=216						
EAST				*e*S	**Sn**	**08 48 16.1**	**-0.3**
	baz=216						

*NNC **09** 08:55:14.2±1.9, 42.°63N×77.°81E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=14.3km s-min=9.2km az=2.0*
*KNET **09** 08:55:18.1±0.6, 42.°62N×77.°52E, h11km±4km, ml3.0, Error ellipse: s-maj=7.4km s-min=1.8km az=143.0*
ISC 09 08:55:16.2±4.1, 42.°68N±0.°08×77.°6E±0.°2, h10km, n11, σ1s96/19, 9C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.73**	**317**	⇓P		**Pb**	**08 55 31.5**	**+0.4**
	19nm,0.2s							
KNDC				⇑S		**Sb**	**08 55 42.8**	**+1.6**
	232nm,0.3s							
ULHL	**Ulahol**	**1.12**	**248**	P		**Pg**	**08 55 37.8**	**0.0**
	SNR=401							
ULHL				P		**Pg**	**08 55 37.8**	**0.0**
	51nm,0.2s,SNR=401							
ULHL				⇓S		**Sb**	**08 55 53.1**	**+0.5**
	205nm,0.1s							
TKM2	**Tokmak 2**	**1.52**	**280**	P		**Pb**	**08 55 45.2**	**+0.5**
	36nm,0.2s,SNR=204							
TKM2				P		**Pb**	**08 55 45.3**	**+0.5**
	SNR=204							
TKM2	**Tokmak 2**	**1.52**	**280**	⇑P		**Pb**	**08 55 45.2**	**+0.5**
	5.8nm,0.3s							
TKM2				⇑S		**Sb**	**08 56 05.7**	**+1.6**
	91nm,0.2s							
KZA	**Kyzart**	**1.87**	**252**	⇑P		**Pb**	**08 55 50.8**	**+0.1**
	18nm,0.2s,SNR=61							
KZA				P		**Pg**	**08 55 51.0**	**-1.1**
	SNR=61							
KBK	**Karagaybulak**	**1.99**	**270**	P		**Pb**	**08 55 53.1**	**+0.6**
	SNR=34							
KBK				⇑P		**Pg**	**08 55 53.5**	**-0.8**
	25nm,0.2s,SNR=34							
CHMS	**Chumysh**	**2.15**	**279**	P		**Pb**	**08 55 55.8**	**+0.5**
	SNR=17							
CHMS				⇑P		**Pb**	**08 55 55.8**	**+0.5**
	13nm,0.2s,SNR=17							
AAK	**Ala-Archa**	**2.32**	**270**	⇑P		**Pb**	**08 55 58.1**	**-0.1**
	16nm,0.2s,SNR=33							
AAK				P		**Pg**	**08 55 58.3**	**-2.4**
	SNR=33							
USP	**Ospenovka**	**2.38**	**285**	⇓P		**Pb**	**08 55 58.8**	**-0.4**
	19nm,0.2s,SNR=24							
USP				P		**Pg**	**08 56 00.1**	**-1.7**
	SNR=24							
KK31	**Karatay Array**	**5.26**	**277**	⇑Pg		Pb	08 56 52.3	+4.1
	0.7nm,0.5s,baz=93,slow=16,SNR=22							
KK31				Lg		Lg	08 58 02.7	
	2.7nm,0.3s,baz=93,slow=30,SNR=13							
MK31	**Makanchi Array**	**5.28**	**37**	⇓Pn		Pn	08 56 37.7	+2.6
	0.1nm,0.2s,baz=216,slow=14,SNR=16							
MK31				⇑Lg		Lg	08 57 58.8	
	1.9nm,0.5s,baz=216,slow=27,SNR=4.5							

*DJA **09** 08:57:29, 3.°11S×130.°30E, h57km, MLv3.9/7*
IDC 09 08:57:20.6±2.6, 3.°14S×130.°54E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=139.8km s-min=26.2km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.62**	**198**		Pn	Pn	09 01 01.1	-1.2
	0.1nm,0.3s,baz=18,slow=13,SNR=4.7							
FITZ					Sn	Sn	09 03 42.8	-13
	0.2nm,0.3s,baz=158,slow=19,SNR=3.9							
WRA	**Warramunga Arr**	**17.10**	**168**		P	Pn	09 01 19.6	-1.7
	0.3nm,0.3s,baz=352,slow=13,SNR=9.8							
WRA					S	Sn	09 04 18.5	-14
	0.7nm,0.3s,baz=345,slow=25,SNR=6.1							
ASAR	**Alice Springs**	**20.66**	**171**		P	Pn	09 02 03.4	-1.1
	3.2nm,0.6s,baz=351,slow=11,SNR=34							
ASAR					S	S	09 05 44.4	-10
	0.6nm,0.5s,baz=352,slow=25,SNR=6.0							
MKAR	**Makanchi Array**	**65.34**	**326**		P	P	09 08 04.8	0.0
	0.3nm,0.6s,baz=120,slow=7.6,SNR=3.1							

MAN 09 08:58:13, 6.°80N×126.°37E, h9km, mb4.4, ML3.2, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.18**	**321**	*e*P		Pg	08 58 18.0	+1.2
MATI				*e*S		Sg	08 58 23.2	+3.7
DMPH	**Davao City--Mi**	**0.90**	**288**	⇑*i*P		Pg	08 58 30.2	-0.2
DMPH				*i* S		Sn	08 58 44.9	-0.1
BUKP	**Musuan**	**1.68**	**310**	*e*P		Pn	08 58 42.2	-0.5
BUKP				*e*S		Sb	08 59 05.6	0.0

KRSC 09 09:11:33.3±0.4, 53.°61N×160.°58E, h21km±20km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.61**	**213**	*e*P		Pb	09 11 45.9	+0.5
SPN				*i* S		Sn	09 11 55.1	-0.8
NLC	**Nalytchevo**	**0.86**	**240**	P		Pb	09 11 49.6	+0.1
NLC				*i* S		Sn	09 12 01.7	-0.3
SDLR	**Sedlovina**	**1.07**	**253**	P		Pb	09 11 53.2	0.0
SDLR				*i* S		Sn	09 12 07.4	-0.1
SMAR	**Somma**	**1.12**	**253**	P		Pb	09 11 54.2	0.0
UGLR	**Uglovaya**	**1.12**	**250**	*e*P		Pb	09 11 54.2	0.0
UGLR				*i* S		Sn	09 12 08.8	-0.1
AVH	**Avacha**	**1.16**	**253**	*e*P		Pb	09 11 54.7	+0.1
AVH				*i* S		Sn	09 12 10.4	+0.9
MKZ	**Mys Kozlova**	**1.17**	**35**	P		Pn	09 11 52.6	-1.7
MKZ				*i* S		Sb	09 12 06.7	-2.6
KOK	**Koryaka**	**1.21**	**255**	P		Pn	09 11 55.2	+0.2
KOK				*i* S		Sn	09 12 10.9	+0.1
PET	**Petropavlovsk**	**1.30**	**244**	P		Pn	09 11 56.0	-0.1
PET				*i* S		Sn	09 12 12.7	-0.1
TUMR	**Tumrok**	**1.70**	**352**	*e*P		Pn	09 12 02.0	+0.2
TUMR				*i* S		Sn	09 12 22.8	-0.2
RUS	**Russkaya**	**1.72**	**227**	P		Pn	09 12 01.8	-0.1
RUS				*i* S		Sn	09 12 22.0	-1.2
MTVR	**Mutnovka**	**1.83**	**233**	P		Pn	09 12 03.8	0.0
MTVR				*i* S		Sn	09 12 26.4	-0.1
GRL	**Gorelyy**	**1.85**	**236**	P		Pb	09 12 05.7	-0.8
GRL				*i* S		Sb	09 12 29.1	-0.1
ASAK	**Asacha**	**2.03**	**234**	*e*P		Pn	09 12 07.7	+1.3
ASAK				*i* S		Sn	09 12 32.7	+1.5
KMNR	**Kamenistaya**	**2.16**	**355**	P		Pb	09 12 10.2	-1.6
MIPR	**Malaya Ipel'ka**	**2.67**	**242**	P		Pn	09 12 17.1	+2.0
SRDR	**Sredinnyy**	**2.76**	**350**	*e*P		Pn	09 12 16.9	+0.6
KBTR	**Krutoberegovo**	**2.91**	**25**	P		Pn	09 12 18.4	+0.1
KBTR				*i* S		Sn	09 12 52.3	-0.2
SRKR	**Sorokina**	**3.07**	**6**	*e*P		Pn	09 12 22.5	+1.9
SRKR				*i* S		Sn	09 12 58.8	+2.1

*DJA **09** 09:21:21, 11.°94S×118.°34E, h10km, MLv4.9/5*
IDC 09 09:22:06.7±2.5, 8.°94S×120.°36E, h105km±20km, mb3.6/5, mb1 3.8/9, mb1mx3.6/20, mbtmp3.6/9, Error ellipse: s-maj=64.2km s-min=13.0km az=65.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.95**	**351**	P		Pn	09 23 06.5	+1.3
	6.1nm,0.3s,baz=164,slow=8.0,SNR=15							
KAPI				S		Sn	09 23 51.1	+0.4
	7.6nm,0.3s,baz=44,slow=23,SNR=15							
FITZ	**Fitzroy Crossi**	**10.45**	**151**	P		Pn	09 24 31.9	-1.6
	0.8nm,0.3s,baz=346,slow=12,SNR=24							
FITZ				S		Sn	09 26 20.1	-8.7
	2.2nm,0.3s,baz=171,slow=22,SNR=12							
WRA	**Warramunga Arr**	**17.39**	**130**	P		P	09 26 01.2	-1.4
	1.0nm,0.3s,baz=305,slow=14,SNR=41							
WRA				S		Sn	09 29 00.6	-16
	0.8nm,0.3s,baz=306,slow=24,SNR=7.8							
ASAR	**Alice Springs**	**19.56**	**140**	P		Pn	09 26 28.2	-0.5
	0.5nm,0.3s,baz=323,slow=11,SNR=26							
ASAR				S		S	09 29 56.2	-5.5
	0.3nm,0.3s,baz=319,slow=22,SNR=7.6							
ASAR				ScP		ScP	09 34 09.3	+0.1
	0.0nm,0.3s,baz=313,slow=1.8,SNR=4.7							
CMAR	**Chiang Mai Arr**	**34.46**	**322**	P		P	09 28 45.4	+0.6
	0.7nm,0.3s,baz=150,slow=7.3,SNR=4.8							
SONM	**Songino Array**	**57.87**	**349**	P		P	09 31 47.3	-0.3
	0.5nm,0.4s,baz=156,slow=7.7,SNR=2.9							
MKAR	**Makanchi Array**	**65.02**	**332**	P		P	09 32 36.0	+0.3
	0.8nm,0.5s,baz=144,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**69.47**	**338**	P		P	09 33 03.0	-0.6
	0.8nm,0.3s,baz=140,slow=4.5,SNR=7.1							
KURK	**Kurchatov**	**69.54**	**333**	P		P	09 33 03.3	-0.8
	0.5nm,0.6s,baz=143,slow=5.6,SNR=6.1							

*ISCJB **09** 09:26:53.5±0.5, 25.°92N±0.°10×124.°30E±0.°07, h191km±9km, mb3.6/4, Error ellipse: s-maj=18.3km s-min=5.1km az=147.4*
*JMA **09** 09:26:55.5±0.3, 25.°97N×124.°22E, h174km, M4.0*
*IDC **09** 09:26:56.4±6.7, 26.°12N×124.°64E, h214km±87km, mb3.2/4, mb1 3.3/5, mb1mx3.0/24, mbtmp3.3/5, Error ellipse: s-maj=107.2km s-min=20.5km az=61.0*
ISC 09 09:26:54.1±1.0, 25.°9N±0.°1×124.°32E±0.°07, h192km±10km, n21, σ1s50/37, mb3.5/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.33**	**165**	P		Pn	09 27 26.2	+0.6
JTJ				S		Sn	09 27 49.1	-0.9
JMJ	**Miyako jima 2**	**1.42**	**141**	P		Pn	09 27 27.4	+1.0
JMJ				S		Sn	09 27 51.0	-0.3
JOGS	**Gusukube**	**1.52**	**140**	P		Pn	09 27 28.7	+1.4
JOGS				S		Sn	09 27 53.1	0.0
JIJ	**Ishigaki jima**	**1.57**	**186**	P		Pn	09 27 27.5	-0.3
JIJ				*e*S		Sn	09 27 51.2	-2.7
IRIF	**Iriomote-Funau**	**1.68**	**199**	P		Pn	09 27 28.9	+0.1
IRIF				S		Sn	09 27 55.1	-0.6
JKRS	**Kuro-shima**	**1.71**	**190**	P		Pn	09 27 29.2	+0.1
JKRS				*e*S		Sn	09 27 55.1	-1.2
YOJ	**Yonaguni jima**	**1.88**	**219**	P		Pn	09 27 30.9	0.0
YOJ				*e*S		Sn	09 27 58.0	-1.3
HATJ	**Hateruma jima**	**1.92**	**194**	P		Pn	09 27 31.2	-0.1
HATJ				S		Sn	09 27 58.5	-1.6
JKE	**Kume jima 2**	**2.25**	**79**	P		Pn	09 27 35.9	+1.2
JKE				*e*S		Sn	09 28 07.3	+1.0
JAGN	**Aguni-jima**	**2.70**	**75**	P		Pn	09 27 40.7	+0.9
JAGN				S		Sn	09 28 15.2	-0.3
NAH1	**Naha**	**3.04**	**84**	P		Pn	09 27 44.9	+1.1
NAH1				S		Sn	09 28 22.4	-0.2
JJT2	**Tamagusuku 2**	**3.09**	**85**	P		Pn	09 27 45.8	+1.4
JJT2				S		Sn	09 28 23.9	+0.2
JIH	**Iheya**	**3.45**	**71**	P		Pn	09 27 49.6	+0.9
JIH				*e*S		Sn	09 28 30.3	-1.2
JOW	**Kunigami**	**3.66**	**75**	P		Pn	09 27 51.6	+0.3
	16nm,0.3s,baz=144,slow=26,SNR=21							
JOW				S		Sn	09 28 33.4	-2.8
	30nm,0.3s,baz=152,slow=28,SNR=16							
JOW	**Kunigami**	**3.66**	**75**	P		Pn	09 27 51.6	+0.3
JOW				S		Sn	09 28 33.1	-3.1
JTK	**Tokunoshima**	**4.53**	**65**	P		Pn	09 28 02.1	-0.2
JTK				*e*S		Sn	09 28 52.9	-3.0
JMZ	**Minamidaito 2**	**6.22**	**90**	S		Sn	09 29 30.7	-4.5
MKAR	**Makanchi Array**	**39.15**	**313**	P		P	09 34 03.7	+0.6
	1.2nm,0.6s,baz=102,slow=9.2,SNR=17							
ZALV	**Zalesovo Beam**	**40.41**	**325**	P		P	09 34 13.3	0.0
	0.6nm,0.3s,baz=116,slow=8.5,SNR=5.2							
KURK	**Kurchatov**	**42.65**	**318**	P		P	09 34 32.4	+0.8
	0.5nm,0.4s,baz=112,slow=9.1,SNR=5.3							
WRA	**Warramunga Arr**	**46.62**	**167**	P		P	09 35 04.1	+0.8
	0.4nm,0.3s,baz=348,slow=8.8,SNR=4.5							

*DDA **09** 09:53:14.8, 37.°93N×29.°17E, h7km, MD2.8*
*ISCJB **09** 09:53:15.2±0.6, 37.°92N±0.°02×29.°12E±0.°05, h3km±8km, Error ellipse: s-maj=7.0km s-min=4.0km az=176.7*
*CSEM **09** 09:53:15.3±0.2, 37.°93N×29.°14E, h2km, MD2.6, Error ellipse: s-maj=6.3km s-min=3.8km az=96.0*
*ISK **09** 09:53:16.0, 37.°91N×28.°98E, h17km, MD2.6*
ISC 09 09:53:15.0±0.9, 37.°93N±0.°02×29.°11E±0.°05, h11km±9km, n22, σ0s54/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**200**	*e*PG		**Pb**	**09 53 20.5**	**+0.1**
DENT	**Denizli**	**0.19**	**200**	*e*Pg		**Pb**	**09 53 20.5**	**+0.1**
DNZL	**Cakiroluk**	**0.24**	**192**	*i* P		**Pg**	**09 53 20.0**	**-0.2**
DNZL				*i* S		**Sg**	**09 53 24.0**	**+0.3**
DNZL	**Cakiroluk**	**0.24**	**192**	*i* P		**Pg**	**09 53 20.0**	**-0.2**
DNZL				*i* S		**Sg**	**09 53 24.0**	**+0.3**
KHAL	**Karahalli**	**0.53**	**34**	*i* P		**Pg**	**09 53 24.2**	**-1.2**
KHAL				*i* S		**Sg**	**09 53 32.8**	**+0.3**
KHAL	**Karahalli**	**0.53**	**34**	*i* P		**Pg**	**09 53 24.2**	**-1.2**
KHAL				*i* S		**Sg**	**09 53 32.8**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*PG		**Pb**	**09 53 29.4**	**+0.4**
KULA				*e*SG		**Sb**	**09 53 38.7**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*Pg		**Pb**	**09 53 29.4**	**+0.4**
KULA				*e*Sg		**Sb**	**09 53 38.7**	**+0.2**
MANT	**Manisa**	**0.71**	**322**	*i* P		**Pb**	**09 53 29.6**	**+0.1**
MANT				*i* S		**Sb**	**09 53 39.9**	**+0.5**
MANT	**Manisa**	**0.71**	**322**	*i* P		**Pb**	**09 53 29.6**	**+0.1**
MANT				*i* S		**Sb**	**09 53 39.9**	**+0.5**
GOLH	**Golhisar**	**0.78**	**153**	*i* P		Pg	09 53 26.9	-3.1
GOLH				*i* S		**Sb**	**09 53 41.0**	**-0.2**
GOLH	**Golhisar**	**0.78**	**153**	*i* P		Pg	09 53 26.9	-3.1
GOLH				*i* S		**Sb**	**09 53 41.0**	**-0.2**
YER	**Yerkesik**	**1.03**	**220**	*e*PG		**Pb**	**09 53 34.7**	**-0.2**
YER				*e*SG		**Sb**	**09 53 48.4**	**0.0**
YER	**Yerkesik**	**1.03**	**220**	*e*Pg		**Pb**	**09 53 34.7**	**-0.2**
YER				*e*Sg		**Sb**	**09 53 48.4**	**0.0**
DEMI	**Demirci**	**1.15**	**344**	*i* P		**Pn**	**09 53 36.9**	**-0.3**
DEMI				*i* S		**Sn**	**09 53 52.5**	**-0.4**
DEMI	**Demirci**	**1.15**	**344**	*i* P		**Pn**	**09 53 36.9**	**-0.3**
DEMI				*i* S		**Sn**	**09 53 52.5**	**-0.4**
FETY	**Fethiye**	**1.29**	**181**	*e*PN		**Pg**	**09 53 40.0**	**+0.2**
FETY	**Fethiye**	**1.29**	**181**	*e*Pn		**Pg**	**09 53 40.0**	**+0.2**
SHUT	**Suhut-Afyon**	**1.29**	**61**	*e*PN		**Pg**	**09 53 41.2**	**+1.3**
SHUT	**Suhut-Afyon**	**1.29**	**61**	*e*Pn		**Pg**	**09 53 41.2**	**+1.3**
ALT	**Altintas**	**1.37**	**35**	*e*PN		**Pg**	**09 53 41.5**	**+0.2**
ALT	**Altintas**	**1.37**	**35**	*e*Pn		**Pg**	**09 53 41.5**	**+0.2**

*ISK **09** 10:06:46.7, 39.°78N×25.°61E, h15km, MD3.1*
*ISCJB **09** 10:06:47.2±0.7, 39.°83N±0.°03×25.°60E±0.°03, h8km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=28.6*
*ATH **09** 10:06:48.6, 39.°83N×25.°63E, h14km±3km, MD3.3/7*
*DDA **09** 10:06:49.0, 39.°69N×25.°77E, h5km, MD2.8*
*CSEM **09** 10:06:48.0±0.2, 39.°84N×25.°61E, h15km, MD3.3, Error ellipse: s-maj=4.4km s-min=3.9km az=68.0*
ISC 09 10:06:48.6±1.0, 39.°85N±0.°02×25.°67E±0.°02, h11km±8km, n55, σ0s72/78, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.30**	**91**	*i* P		**Pg**	**10 06 55.0**	**+0.5**
BOZC				*i* S		**Sg**	**10 06 58.3**	**-0.3**
LIA	**Limnos Island**	**0.38**	**278**	*e*PB		**Pg**	**10 06 55.5**	**-0.5**
LIA				*e*SB		**Sg**	**10 07 00.8**	**-0.2**
LIA	**Limnos Island**	**0.38**	**278**	*e*Pb		**Pg**	**10 06 55.5**	**-0.5**
LIA				*e*Sb		**Sg**	**10 07 00.8**	**-0.2**
EZN	**Ezine**	**0.51**	**92**	*e*PG		**Pg**	**10 06 58.6**	**+0.1**
EZN				*e*SG		**Sg**	**10 07 05.8**	**+0.6**
EZN	**Ezine**	**0.51**	**92**	*e*Pg		**Pg**	**10 06 58.6**	**+0.1**
EZN				*e*Sg		**Sg**	**10 07 05.8**	**+0.6**
PRK	**Paraskevi**	**0.76**	**142**	*e*PB		**Pg**	**10 07 03.3**	**0.0**
PRK				*e*SB		**Sb**	**10 07 14.1**	**0.0**
PRK	**Paraskevi**	**0.76**	**142**	*e*Pb		**Pg**	**10 07 03.3**	**0.0**
PRK				*e*Sb		**Sb**	**10 07 14.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.83**	**48**	*e*PG		**Pg**	**10 07 04.3**	**-0.3**
GELI				*e*SG		**Sn**	**10 07 17.8**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.83**	**48**	*e*Pg		**Pg**	**10 07 04.3**	**-0.3**
GELI				*e*Sg		**Sn**	**10 07 17.8**	**-0.6**
AYVA	**Ayvalik**	**0.96**	**124**	*i* P		**Pn**	**10 07 07.7**	**-0.2**
AYVA				*i* S		**Sb**	**10 07 20.4**	**+0.6**
AYVA	**Ayvalik**	**0.96**	**124**	*i* P		**Pn**	**10 07 07.7**	**-0.2**
AYVA				*i* S		**Sb**	**10 07 20.4**	**+0.6**
ENEZ	**Enez**	**0.96**	**23**	*e*PG		**Pg**	**10 07 06.9**	**-0.2**
ENEZ				*e*SG		**Sn**	**10 07 22.2**	**+0.5**
ENEZ	**Enez**	**0.96**	**23**	*e*Pg		**Pg**	**10 07 06.9**	**-0.2**
ENEZ				*e*Sg		**Sn**	**10 07 22.2**	**+0.5**
LPK	**Lapseki**	**0.99**	**58**	*e*PG		**Pg**	**10 07 07.5**	**-0.1**
LPK				*e*SG		**Sn**	**10 07 23.2**	**+0.9**
LPK	**Lapseki**	**0.99**	**58**	*e*Pg		**Pg**	**10 07 07.5**	**-0.1**
LPK				*e*Sg		**Sn**	**10 07 23.2**	**+0.9**
ERIK	**Erikli-Kesan**	**1.05**	**38**	*e*PN		**Pb**	**10 07 08.2**	**-0.5**
ERIK	**Erikli-Kesan**	**1.05**	**38**	*e*Pn		**Pb**	**10 07 08.2**	**-0.5**
RDO	**Rodhopi**	**1.30**	**356**	*e*PN		**Pg**	**10 07 12.7**	**0.0**
RDO				*e*SB		**Sg**	**10 07 32.0**	**+1.5**
RDO	**Rodhopi**	**1.30**	**356**	*e*Pn		**Pn**	**10 07 12.7**	**0.0**
RDO				*e*Sb		**Sg**	**10 07 32.0**	**+1.5**
KRBG	**Karabiga-Canak**	**1.36**	**66**	*e*PN		**Pn**	**10 07 12.2**	**-1.3**
KRBG	**Karabiga-Canak**	**1.36**	**66**	*e*Pn		**Pn**	**10 07 12.2**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.43**	**54**	*e*PN		**Pn**	**10 07 14.1**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.43**	**54**	*e*Pn		**Pn**	**10 07 14.1**	**-0.4**
CHOS	**Chios island**	**1.49**	**168**	*e*PG		**Pb**	**10 07 16.3**	**0.0**
CHOS				*e*SB		**Sg**	**10 07 37.2**	**+0.7**
CHOS	**Chios island**	**1.49**	**168**	*e*Pg		**Pb**	**10 07 16.3**	**0.0**
CHOS				*e*Sb		**Sg**	**10 07 37.2**	**+0.7**
BALY	**Balya**	**1.51**	**93**	*i* P		**Pb**	**10 07 16.4**	**-0.2**
BALY				*i* S		**Sg**	**10 07 37.2**	**+0.1**
BALY	**Balya**	**1.51**	**93**	*i* P		**Pb**	**10 07 16.4**	**-0.2**
BALY				*i* S		**Sg**	**10 07 37.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.56**	**82**	*e*PN		**Pn**	**10 07 16.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.56**	**82**	*e*Pn		**Pn**	**10 07 16.2**	**-0.1**
BALB	**Balikesir**	**1.72**	**96**	*e*PN		**Pn**	**10 07 17.6**	**-0.8**
BALB	**Balikesir**	**1.72**	**96**	*e*Pn		**Pn**	**10 07 17.6**	**-0.8**
EDC	**Edincik**	**1.76**	**73**	*e*PN		**Pn**	**10 07 18.5**	**-0.4**
EDC	**Edincik**	**1.76**	**73**	*e*Pn		**Pn**	**10 07 18.5**	**-0.4**
PLG	**Polygyros**	**1.78**	**288**	*e*PG		**Pb**	**10 07 21.2**	**-0.1**
PLG	**Polygyros**	**1.78**	**288**	*e*Pg		**Pb**	**10 07 21.2**	**-0.1**
BLCB	**Balcova**	**1.81**	**143**	*e*PN		**Pn**	**10 07 18.5**	**-1.1**
BLCB	**Balcova**	**1.81**	**143**	*e*Pn		**Pn**	**10 07 18.5**	**-1.1**
IZM	**Izmir**	**1.91**	**139**	*e*PN		**Pn**	**10 07 19.9**	**-1.1**
IZM	**Izmir**	**1.91**	**139**	*e*Pn		**Pn**	**10 07 19.9**	**-1.1**
AKHS	**Akhisar**	**1.92**	**119**	*i* P		**Pn**	**10 07 21.8**	**+0.5**
AKHS				*i* S		**Sn**	**10 07 45.2**	**-0.3**
AKHS	**Akhisar**	**1.92**	**119**	*i* P		**Pn**	**10 07 21.8**	**+0.5**
AKHS				*i* S		**Sn**	**10 07 45.2**	**-0.3**
NVR	**Nevrokopi**	**2.04**	**318**	*e*PB		**Pn**	**10 07 22.8**	**0.0**
KCTX	**Karacabey (Bur**	**2.11**	**78**	*e*PN		**Pn**	**10 07 22.0**	**-1.8**
KCTX	**Karacabey (Bur**	**2.11**	**78**	*e*Pn		**Pn**	**10 07 22.0**	**-1.8**
EDRB	**Edirne**	**2.16**	**22**	*e*PN		**Pn**	**10 07 24.4**	**-0.1**
EDRB	**Edirne**	**2.16**	**22**	*e*Pn		**Pn**	**10 07 24.4**	**-0.1**
SMG	**Samos**	**2.32**	**156**	*e*PN		**Pn**	**10 07 28.4**	**+1.7**
ARMT	**Armutlu**	**2.55**	**73**	*e*PN		**Pn**	**10 07 28.9**	**-1.0**
ARMT	**Armutlu**	**2.55**	**73**	*e*Pn		**Pn**	**10 07 28.9**	**-1.0**
CTKS	**Kestanelik-??a**	**2.57**	**56**	*e*PN		**Pn**	**10 07 30.0**	**-0.1**
CTKS	**Kestanelik-??a**	**2.57**	**56**	*e*Pn		**Pn**	**10 07 30.0**	**-0.1**
KULA	**Kula-Manisa**	**2.68**

mb3.2/6, Error ellipse: s-maj=26.3km s-min=7.0km az=157.1
*NEIC **09** 10:52:17.6, 53°37'N×169°64'W, h242km, MG3.3(AEIC), After AEIC.*
*IDC **09** 10:52:19.7±17.0, 53°.95N×169°.43W, h209±92km, mb2.8/6, mb1 3.2/8, mb1mx3.0/29, mbtmp2.9/8, Error ellipse: s-maj=170.6km s-min=35.6km az=69.0*

ISC 09 10:52:17.3±0.9, 53°.9N±0°.2×170°05.0W±0°.09, h217km±9km, n33, σ0°978/38, mb3.1/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKAK	**Okmok**	**1.05**	**107**	P	**Pn**	**10 52 49.5**	**+0.5**
OKWE	**Okmok W'ng Wal**	**1.16**	**111**	P	**Pn**	**10 52 50.2**	**+0.4**
OKRE	**Okmok R'deer P**	**1.18**	**108**	P	**Pn**	**10 52 50.5**	**+0.5**
OKSP	**Okmok Steeple**	**1.23**	**121**	P	**Pn**	**10 52 50.3**	**-0.1**
OKSO	**Okmok South**	**1.25**	**115**	P	**Pn**	**10 52 50.2**	**-0.3**
OKSO				S	**S**	**10 53 17.2**	**+1.0**
MSOM	**Makushin Julie**	**1.84**	**91**	P	**Pn**	**10 52 55.6**	**+0.2**
MREP	**Makushin Rep't**	**1.96**	**91**	P	**Pn**	**10 52 56.8**	**+0.1**
UNV	**Unalaska Valle**	**2.10**	**90**	P	**Pn**	**10 52 58.1**	**+0.1**
UNV				S	**S**	**10 53 29.3**	**-0.3**
AKUT	**Akutan**	**2.54**	**83**	P	**Pn**	**10 53 02.7**	**+0.2**
AKUT				S	**S**	**10 53 37.8**	**+0.1**
KOFP	**Korovin Flat P**	**2.93**	**238**	P	**Pn**	**10 53 08.6**	**+1.6**
ATKA	**Atka Island**	**3.02**	**238**	P	**Pn**	**10 53 08.3**	**+0.4**
ATKA				S	**S**	**10 53 46.9**	**-0.4**
FALS	**False Pass**	**4.00**	**73**	P	**Pn**	**10 53 20.0**	**+0.5**
FALS				S	**S**	**10 54 09.5**	**+1.1**
DRIA	**Deer Island**	**4.67**	**74**	P	**Pn**	**10 53 27.7**	**-0.2**
DT1	**Dutton Round H**	**4.69**	**72**	P	**Pn**	**10 53 28.0**	**0.0**
DTNA	**Dutton South F**	**4.72**	**71**	P	**Pn**	**10 53 28.5**	**+0.1**
PS4A	**Pavlof South-4**	**4.98**	**70**	P	**Pn**	**10 53 32.1**	**+0.4**
SDPT	**Sand Point**	**5.75**	**71**	P	**Pn**	**10 53 40.4**	**-1.1**
KDAK	**Kodiak Island** 2.6nm,0.3s,baz=244,slow=2.2,SNR=38	**10.56**	**61**	P	**Pn**	**10 54 40.9**	**-2.2**
KDAK	**Kodiak Island**	**10.56**	**61**	P	**Pn**	**10 54 40.9**	**-2.2**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=228,slow=10.0,SNR=26	**15.96**	**38**	P	**Pn**	**10 55 49.4**	**-0.6**
ILAR	**Eielson Array**	**15.96**	**38**	P	**Pn**	**10 55 49.4**	**-0.6**
INK	**Inuvik** 1.1nm,0.5s,baz=269,slow=6.1,SNR=9.9	**22.32**	**36**	P	**P**	**10 56 56.5**	**0.0**
INK	**Inuvik**	**22.32**	**36**	P	**P**	**10 56 56.5**	**0.0**
DLBC	**Dease Lake** 1.5nm,0.6s,baz=290,slow=12,SNR=3.2	**22.50**	**62**	P	**P**	**10 56 59.1**	**+0.8**
DLBC	**Dease Lake**	**22.50**	**62**	P	**P**	**10 56 59.1**	**+0.8**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=271,slow=9.0,SNR=4.1	**29.57**	**51**	P	**P**	**10 58 01.1**	**-0.3**
YKA	**Yellowknife Ar**	**29.57**	**51**	P	**P**	**10 58 01.1**	**-0.3**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=321,slow=8.6,SNR=3.6	**38.12**	**92**	P	**P**	**10 59 16.1**	**+0.6**
NVAR	**Mina Array Bea**	**38.12**	**92**	P	**P**	**10 59 16.1**	**+0.6**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=325,slow=4.4,SNR=4.9	**40.54**	**80**	P	**P**	**10 59 35.4**	**0.0**
PDAR	**Pinedale Array**	**40.54**	**80**	P	**P**	**10 59 35.4**	**0.0**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=301,slow=6.2,SNR=7.6	**53.14**	**90**	P	**P**	**11 01 12.8**	**0.0**
TXAR	**Lajitas Array**	**53.14**	**90**	P	**P**	**11 01 12.8**	**0.0**

*TRN **09** 10:54:48.7, 18°.71N×64°.90W, h35km, MD3.0(RSPR)*
*NEIC **09** 10:54:51.1, 18°.76N×64°.93W, h11km, MD3.0(RSPR), After RSPR.*

RSPR 09 10:54:51.1, 18°.76N×64°.93W, h11km±1km, MD3.0/6, 14C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.41**	**184**	*eP*	Pg	10 54 59.2	0.0
STVI	**Saint Thomas**	**0.41**	**184**	*eS*	Sb	10 55 05.8	-0.8
STVI	**Saint Thomas**	**0.41**	**184**	*eP*	Pg	10 54 59.2	0.0
STVI				*eS*	Sb	10 55 05.8	-0.8
STVI	**Saint Thomas**	**0.41**	**184**	*eP*	Pg	10 54 59.2	0.0
STVI				*eS*	Sb	10 55 05.8	-0.8
TBVI	**Tortola**	**0.45**	**139**	*eP*	Pg	10 54 59.3	-0.7
TBVI				*eS*	Sg	10 55 06.0	+0.1
TBVI	**Tortola**	**0.45**	**139**	*eP*	Pg	10 54 59.3	-0.7
TBVI				*eS*	Sg	10 55 06.0	+0.1
TBVI	**Tortola**	**0.45**	**139**	*eP*	Pg	10 54 59.3	-0.7
TBVI				*eS*	Sg	10 55 06.5	+0.5
ABV	**Anegada**	**0.56**	**93**	*eP*	Pg	10 55 01.8	-0.3
ABV				*eS*	Sg	10 55 09.6	0.0
ABV	**Anegada**	**0.56**	**93**	*eP*	Pg	10 55 01.8	-0.3
ABV				*eS*	Sg	10 55 09.6	0.0
MTP	**Monte Pirata**	**0.89**	**222**	*eS*	Sg	10 55 17.9	-2.0
MTP	**Monte Pirata**	**0.89**	**222**	*eP*	Pg	10 55 06.2	-2.1
MTP	**Monte Pirata**	**0.89**	**222**	*eP*	Pg	10 55 06.2	-2.1
MTP				*eS*	Sg	10 55 17.9	-2.0
MTP	**Monte Pirata**	**0.89**	**222**	*eP*	Pg	10 55 06.2	-2.1
MTP				*eS*	Sg	10 55 17.9	-2.0
CBYP	**Canovanas**	**1.01**	**241**	*eP*	Pg	10 55 08.5	-2.2
CBYP	**Canovanas**	**1.01**	**241**	*eP*	Pg	10 55 08.5	-2.2
CBYP	**Canovanas**	**1.01**	**241**	*eP*	Pg	10 55 08.5	-2.2
CDVI	**St. Croix**	**1.01**	**171**	*eS*	Sg	10 55 21.7	-2.2
CDVI	**St. Croix**	**1.01**	**171**	*eP*	Pg	10 55 08.0	-2.7
CDVI	**St. Croix**	**1.01**	**171**	*eP*	Pg	10 55 08.0	-2.7
CDVI				*eS*	Sg	10 55 21.7	-2.2
CDVI	**St. Croix**	**1.01**	**171**	*eP*	Pg	10 55 08.0	-2.7
CDVI				*eS*	Sg	10 55 21.7	-2.2
HUMP	**Col San Antoni**	**1.07**	**235**	*eS*	Sg	10 55 22.6	-3.1
HUMP	**Col San Antoni**	**1.07**	**235**	*eP*	Pb	10 55 08.6	-3.1
HUMP	**Col San Antoni**	**1.07**	**235**	*eP*	Pb	10 55 08.6	-3.1
HUMP				*eS*	Sg	10 55 22.6	-3.1
HUMP	**Col San Antoni**	**1.07**	**235**	*eP*	Pb	10 55 08.6	-3.1
HUMP				*eS*	Sg	10 55 22.6	-3.1
CPD	**Cerro la Pandu**	**1.18**	**233**	*eP*	Pb	10 55 10.7	-3.0
CPD	**Cerro la Pandu**	**1.18**	**233**	*eS*	Sb	10 55 26.0	-3.1
CPD	**Cerro la Pandu**	**1.18**	**233**	*eP*	Pb	10 55 10.7	-3.0
CPD				*eS*	Sb	10 55 26.0	-3.1
CPD	**Cerro la Pandu**	**1.18**	**233**	*eP*	Pb	10 55 10.7	-3.0
CPD				*eS*	Sb	10 55 26.0	-3.1
AOPR	**Arecibo Observ**	**1.78**	**257**	*eS*	Sn	10 55 40.6	-4.0
AOPR	**Arecibo Observ**	**1.78**	**257**	*eS*	Sn	10 55 40.6	-4.0

*IDC **09** 10:59:39.1±1.3, 24°.99N×125°.28E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=55.2km s-min=27.5km az=61.0*
*JMA **09** 10:59:39.2±0.2, 24°.21N×125°.21E, h0km, M3.6*
*ISCJB **09** 10:59:43.2±0.6, 24°.7N±0°.1×125°.07E±0°.07, h51km±5km, mb3.6/6, Error ellipse: s-maj=23.3km s-min=6.5km az=156.6*

ISC 09 10:59:44.5±0.9, 24°.8N±0°.1×125°03E±0°07, h43km±8km, n13, σ1973/19, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.25**	**74**	P	**Pn**	**10 59 51.4**	**-1.1**
JMJ				*eS*	**Sn**	**10 59 59.8**	**+1.8**
JTJ	**Tarama**	**0.32**	**251**	P	**Pn**	**10 59 51.9**	**-1.3**
JTJ				*eS*	**Sn**	**11 00 01.4**	**+2.2**
JOGS	**Gusukube**	**0.34**	**88**	P	**Pn**	**10 59 51.1**	**-2.3**
JOGS				*eS*	**Sn**	**10 59 59.6**	**-0.1**
JIJ	**Ishigaki jima**	**0.90**	**245**	P	**Pn**	**10 59 58.1**	**-2.6**
JIJ				*eS*	**Sn**	**11 00 11.5**	**-1.0**
JKRS	**Kuro-shima**	**1.06**	**242**	P	**Pn**	**11 00 00.6**	**-2.3**
JKRS				*eS*	**Sn**	**11 00 16.1**	**-0.4**
IRIF	**Iriomote-Funau**	**1.25**	**251**	P	**Pn**	**11 00 05.5**	**-0.1**
IRIF				*eS*	**Sn**	**11 00 24.0**	**+2.7**
HATJ	**Hateruma jima**	**1.31**	**239**	P	**Pn**	**11 00 04.6**	**-1.8**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=103,slow=9.2,SNR=13	**40.42**	**314**	P	**P**	**11 07 19.2**	**+0.5**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=113,slow=6.5,SNR=3.6	**41.74**	**325**	P	**P**	**11 07 28.9**	**-0.3**
KURK	**Kurchatov** 0.6nm,0.6s,baz=106,slow=8.2,SNR=5.4	**43.96**	**318**	P	**P**	**11 07 48.0**	**+0.7**
ASAR	**Alice Springs** 0.5nm,1.1s,baz=0.5,slow=10,SNR=4.4	**48.89**	**169**	P	**P**	**11 08 28.2**	**+2.0**
FINES	**FINESS Array B** 3.4nm,1.0s,baz=70,slow=12,SNR=3.4	**72.72**	**330**	P	**P**	**11 11 07.4**	**-0.4**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=302,slow=5.2,SNR=3.6	**91.06**	**64**	P	**P**	**11 11 54.4**	**-0.4**

IDC 09 11:09:35.5±2.2, 0°.15S×133°.06E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=117.3km s-min=25.9km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=11,SNR=7.6	**19.71**	**176**	P	**P**	11 14 06.3	-0.4
ASAR	**Alice Springs** 1.4nm,0.8s,baz=356,slow=11,SNR=24	**23.39**	**178**	P	**P**	11 14 46.5	+0.4
STKA	**Stephens Creek** 0.9nm,0.7s,baz=352,slow=14,SNR=2.3	**32.57**	**166**	P	**P**	11 16 08.6	-0.1
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=110,slow=7.9,SNR=4.3	**64.36**	**324**	P	**P**	11 20 13.2	-0.1

*ISCJB **09** 11:31:00.3±0.3, 6°.25S±0°.04×130°.36E±0°.06, h90km, mb4.7/30, Error ellipse: s-maj=9.2km s-min=4.5km az=160.0*
*NEIC **09** 11:31:04.0±1.1, 6°.27S×130°.28E, h109km±12km, mb4.5/13, Error ellipse: s-maj=9.2km s-min=5.9km az=222.0*
*IDC **09** 11:31:03.0±3.1, 6°.21S×130°.36E, h101km±29km, mb4.1/10, mb1 4.2/14, mb1mx4.1/18, mbtmp4.2/14, Error ellipse: s-maj=24.1km s-min=13.3km az=71.0*
*BJI **09** 11:31:04.9, 6°.65S×130°.46E, h167km, mb4.4/5*
*DJA **09** 11:31:08, 6°.33S×130°.35E, h142km, mb5.0/27*

ISC 09 11:31:02.0±0.4, 6°.46S±0°.05×130°.31E±0°.06, h90km, n101, σ2°.00/107, mb4.6/30, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.54**	**71**	P	Pn	11 31 48.7	+7.3
MSAI	**Masohi**	**3.39**	**336**	P	Pn	11 31 59.7	+6.9
FAKI	**Fak Fak**	**4.01**	**29**	P	**Pn**	**11 32 04.3**	**+3.0**
NLAI	**Namlea**	**4.53**	**315**	P	Pn	11 32 18.3	+10
LBMI	**Labuha** 89nm,1.0s,2µm0.7nm	**6.43**	**334**	P	Pn	11 32 39.3	+5.1
BAKI	**Biak** 249nm,0.9s,3µm1.0nm	**7.80**	**48**	P	Pn	11 32 57.5	+4.7
LUWI	**Luwuk**	**9.25**	**305**	P	sPn	11 33 29.7	-5.9
SMPI	**Sarmi**	**9.48**	**62**	P	Pn	11 33 23.6	+7.9
KAPI	**Kappang** 0.1nm,0.3s,baz=108,slow=20,SNR=2.0	**10.61**	**277**	P	**Pn**	**11 33 32.7**	**+1.5**
KAPI	**Kappang**	**10.61**	**277**	*e*Pn	**Pn**	**11 33 32.6**	**+1.5**
FITZ	**Fitzroy Crossi** 6.5nm,0.3s,baz=36,slow=10,SNR=91	**12.44**	**201**	P	**Pn**	**11 33 58.1**	**+2.3**
FITZ	10nm,0.3s,baz=33,slow=13,SNR=6.3			S	**Sn**	**11 36 06.8**	**-5.8**
FITZ	**Fitzroy Crossi** 45nm,0.6s	**12.44**	**201**	*e*P	**Pn**	**11 33 57.9**	**+2.1**
FITZ				*e*S	**Sn**	**11 36 10.7**	**-1.9**
FITZ	**Fitzroy Crossi** 22nm,0.5s	**12.44**	**201**	*e*Pn	**Pn**	**11 33 58.3**	**+2.5**
FITZ				S	**Sn**	**11 36 06.8**	**-5.8**
FITZ				*e*Sn	S	11 36 10.4	-24
WRAB	**Tennant Creek** 14nm,0.4s	**13.96**	**164**	*e*Pn	**P**	**11 34 18.6**	**-2.3**
WRAB				*e*Sn	**Sn**	**11 36 46.8**	**-2.7**
WRA	**Warramunga Arr** 3.3nm,0.3s,baz=346,slow=13,SNR=86	**13.96**	**164**	P	**Pn**	**11 34 17.8**	**+1.8**
WRA	17nm,0.3s,baz=333,slow=24,SNR=14			S	**Sn**	**11 36 46.9**	**-2.8**
WRA	**Warramunga Arr**	**13.96**	**164**	P	**Pn**	**11 34 17.8**	**+1.8**
WRA				*e*S	**Sn**	**11 36 46.9**	**-2.8**
WB2	**Warramunga Arr**	**13.96**	**164**	*e*Pn	**P**	**11 34 18.7**	**-2.4**
WB2				*e*Sn	**Sn**	**11 36 46.5**	**-3.2**
COEN	**Coen** 193nm,0.3s	**14.68**	**121**	*e*P	**P**	**11 34 29.9**	**+0.9**
COEN				*e*S	Sn	11 37 00.2	-6.9
COEN	**Coen** 308nm,0.5s	**14.68**	**121**	*e*Pn	**P**	**11 34 29.9**	**+0.9**
COEN				*e*Sn	Sn	11 37 00.6	-6.5
BBKI	**Banjar Baru**	**15.70**	**280**	P	P	11 34 46.0	+5.6
BLJI	**Banyuglugur** 196nm,0.7s	**16.64**	**265**	P	**P**	**11 34 55.2**	**+4.4**
QIS	**Mount Isa**	**16.66**	**148**	*e*P	**P**	**11 34 54.1**	**+3.1**
QIS				*e*S	**Sn**	**11 37 51.5**	**-3.4**
PMG	**Port Moresby** 4.9nm,0.3s,baz=285,slow=7.2,SNR=21	**16.94**	**101**	P	**P**	**11 34 57.1**	**+3.1**
PMG	**Port Moresby** 86nm,1.1s	**16.94**	**101**	*e*Pn	**P**	**11 34 55.6**	**+1.5**
PMG				*e*Sn	**Sn**	**11 38 02.2**	**+0.6**
ASAR	**Alice Springs** 2.2nm,0.3s,baz=343,slow=10,SNR=193	**17.45**	**169**	P	**Pn**	**11 35 03.9**	**+4.1**
ASAR	3.0nm,0.3s,baz=350,slow=26,SNR=13			S	**Sn**	**11 38 11.3**	**-2.7**
ASAR	**Alice Springs**	**17.45**	**169**	P	**Pn**	**11 35 03.9**	**+4.1**
ASAR				S	**Sn**	**11 38 11.3**	**-2.7**
MBWA	**Marble Bar** 30nm,0.8s	**17.85**	**214**	*e*P	**Pn**	**11 35 07.4**	**+2.8**
MBWA				*e*S	**Sn**	**11 38 18.4**	**-5.0**
SJI	**Sawahan**	**18.45**	**265**	P	Pn	11 35 19.8	+7.8
CTA	**Charters Tower** 6.0nm,0.6s,baz=306,slow=12,SNR=7.6	**20.57**	**133**	P	Pn	11 35 36.5	-0.2
CTA	**Charters Tower**	**20.57**	**133**	P	Pn	11 35 36.5	-0.2
CISI	**Cisompet, Garu** 192nm,0.9s	**22.36**	**266**	P	**P**	**11 35 54.8**	**+1.8**
CBJI	**Citeko** 250nm,0.8s	**23.32**	**269**	P	**P**	**11 36 03.6**	**+1.1**
FORT	**Forrest** 14nm,0.6s	**24.29**	**185**	*e*P	**P**	**11 36 13.6**	**+2.6**
FORT				*e*S	S	11 40 50.0	+26
CGJI	**Cibinong** 100nm,0.7s,951nm	**24.46**	**268**	P	**P**	**11 36 14.0**	**+1.2**
STKA	**Stephens Creek** 0.9nm,0.3s,baz=165,slow=22,SNR=8.3	**27.40**	**159**	P	**P**	**11 36 41.0**	**+1.9**
STKA	**Stephens Creek** 2.4nm,0.8s	**27.40**	**159**	*e*P	**P**	**11 36 40.8**	**+1.7**
STKA	**Stephens Creek**	**27.40**	**159**	P	**P**	**11 36 41.0**	**+1.9**
KLBR	**Kellerberrin** 5.4nm,0.4s	**27.63**	**204**	*e*P	**P**	**11 36 42.6**	**+1.4**
KLBR				*e*S	sS	11 42 07.6	+16
NWAO	**Narrogin (SRO)** 3.0nm,0.4s,baz=26,slow=5.8,SNR=7.7	**29.01**	**203**	P	**P**	**11 36 55.5**	**+2.0**
NWAO	**Narogin (SRO)**	**29.01**	**203**	P	**P**	**11 36 55.5**	**+2.0**
PSI	**Prapat** 33nm,1.0s	**32.66**	**285**	P	**P**	**11 37 28.6**	**+2.6**
CM31	**Chiang Mai Arr** 8.6nm,0.9s	**39.63**	**309**	*e*P	**P**	**11 38 25.2**	**-0.1**
CMAR	**Chiang Mai Arr** 4.8nm,0.7s,baz=137,slow=7.5,SNR=36	**39.63**	**309**	P	**P**	**11 38 24.7**	**-0.5**
CMAR	1.0nm,0.6s,baz=179,slow=3.3,SNR=5.5			PcP	**PcP**	**11 40 30.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.63**	**309**	P	P	**11 38 24.7**	**-0.5**
CMAR				PcP	**PcP**	**11 40 30.3**	**-0.4**
CHTO	**Chiang Mai** 14nm,1.0s	**39.84**	**310**	*e*P	**P**	**11 38 26.4**	**-0.6**
CHTO	**Chiang Mai** 17nm,0.9s	**39.84**	**310**	P	P	**11 38 26.4**	**-0.6**
MJAR	**Matsushiro Arr** 4.3nm,0.9s,baz=190,slow=10,SNR=7.8	**43.41**	**9**	P	P	**11 38 53.1**	**-2.7**
MJAR	**Matsushiro Arr**	**43.41**	**9**	P	**P**	**11 38 53.1**	**-2.7**
ODAN	**Odare** 14nm,0.5s	**53.14**	**311**	*e*P	**P**	**11 40 10.0**	**-1.2**
ODAN	**Odare** 14nm,0.5s	**53.14**	**311**	*e*P	**P**	**11 40 10.0**	**-1.2**
TAPN	**Taplejung** 13nm,0.4s	**53.16**	**311**	*e*P	**P**	**11 40 10.3**	**-1.1**
TAPN	**Taplejung** 13nm,0.4s	**53.16**	**311**	*e*P	**P**	**11 40 10.3**	**-1.1**
GTA	**Gaotai**	**53.65**	**331**	*e*P	**P**	**11 40 14.0**	**-0.6**
GTA	comp=Z,6.0nm,0.7s			pmax	pmax		
RAMN	**Ramite** comp=Z,48nm,0.5s	**53.79**	**310**	*e*P	**P**	**11 40 15.2**	**-0.7**
RAMN	**Ramite** comp=Z,48nm,0.5s	**53.79**	**310**	*e*P	**P**	**11 40 15.2**	**-0.7**
JIRN	**Jiri**	**54.47**	**311**	*e*P	**P**	**11 40 19.9**	**-1.1**
JIRN	**Jiri**	**54.47**	**311**	*e*P	**P**	**11 40 19.9**	**-1.1**
GUN	**Gumba**	**54.84**	**311**	*e*P	**P**	**11 40 22.4**	**-1.2**
GUN	**Gumba**	**54.84**	**311**	*e*P	**P**	**11 40 22.4**	**-1.2**
PKI	**Pulchoki**	**55.02**	**310**	*e*P	**P**	**11 40 23.5**	**-1.4**
PKI	**Pulchoki**	**55.02**	**310**	*e*P	**P**	**11 40 23.5**	**-1.4**
KKN	**Kakani**	**55.23**	**310**	*e*P	**P**	**11 40 25.0**	**-1.3**
KKN	**Kakani**	**55.23**	**310**	*e*P	**P**	**11 40 25.0**	**-1.3**
DMN	**Daman** comp=Z,14nm,0.6s	**55.27**	**310**	*e*P	**P**	**11 40 25.5**	**-1.1**
DMN	**Daman** comp=Z,14nm,0.6s	**55.27**	**310**	*e*P	**P**	**11 40 25.5**	**-1.1**
GKN	**Gorkha**	**55.82**	**310**	*e*P	**P**	**11 40 29.4**	**-1.1**
GKN	**Gorkha**	**55.82**	**310**	*e*P	**P**	**11 40 29.4**	**-1.1**
KOLN	**Koldanda** comp=Z,14nm,0.6s	**56.50**	**309**	*e*P	**P**	**11 40 34.5**	**-0.9**
KOLN	**Koldanda** comp=Z,14nm,0.6s	**56.50**	**309**	*e*P	**P**	**11 40 34.5**	**-0.9**
DANN	**Dangsing**	**56.67**	**310**	*e*P	**P**	**11 40 35.3**	**-1.4**
DANN	**Dangsing**	**56.67**	**310**	*e*P	**P**	**11 40 35.3**	**-1.4**
ULN	**Ulaanbaatar** comp=Z,3.2nm,0.8s	**57.85**	**342**	*e*P	**P**	**11 40 44.0**	**-0.5**
SONM	**Songino Array**	**58.03**	**341**	P	**P**	**11 40 44.1**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=152,slow=6.7,SNR=4.2						
SONM	**Songino Array**	**58.03**	**341**	P	**P**	**11 40 44.1**	**-1.6**
PETK	**Petropavlovsk-** comp=Z,5.2nm,0.7s,baz=209,slow=5.4,SNR=5.1	**63.72**	**18**	P	**P**	**11 41 22.0**	**-1.9**
PETK	**Petropavlovsk-**	**63.72**	**18**	P	**P**	**11 41 22.1**	**-1.9**
MK31	**Makanchi Array**	**67.95**	**327**	*e*P	**P**	**11 41 50.6**	**-0.7**
MKAR	**Makanchi Array** comp=Z,12nm,0.4s,baz=113,slow=8.4,SNR=238	**67.95**	**327**	P	**P**	**11 41 50.5**	**-0.8**
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**11 41 50.5**	**-0.8**
KZA	**Kyzart** SNR=9.6	**69.57**	**319**	P	**P**	**11 42 02.4**	**+0.4**
KZA	SNR=9.6			P	**P**	**11 42 02.4**	**+0.4**
TKM2	**Tokmak 2** SNR=11	**69.77**	**320**	P	**P**	**11 42 02.4**	**-0.5**
TKM2	SNR=11			P	**P**	**11 42 02.4**	**-0.5**
TKM2	**Tokmak 2** comp=Z,5.2nm,0.7s	**69.77**	**320**	*e*P	**P**	**11 42 02.3**	**-0.7**
AAK	**Ala-Archa** SNR=6.6	**70.33**	**320**	P	**P**	**11 42 06.3**	**0.0**
AAK	SNR=6.6			P	**P**	**11 42 06.3**	**0.0**
AAK	**Ala-Archa** comp=Z,28nm,0.9s	**70.33**	**320**	*e*P	**P**	**11 42 06.2**	**-0.1**
AML	**Almayashu** SNR=14	**70.61**	**319**	P	**P**	**11 42 08.2**	**-0.2**
AML	SNR=14			P	**P**	**11 42 08.2**	**-0.2**
USP	**Ospenovka** SNR=9.5	**70.64**	**320**	P	**P**	**11 42 07.5**	**-0.5**
USP	SNR=9.5			P	**P**	**11 42 07.5**	**-0.5**
EKS2	**Erkin-Say** SNR=8.4	**70.81**	**319**	P	**P**	**11 42 09.1**	**-0.1**
EKS2	SNR=8.4			P	**P**	**11 42 09.1**	**-0.1**
EKS2	**Erkin-Say** comp=Z,5.3nm,0.8s	**70.81**	**319**	*e*P	**P**	**11 42 08.8**	**-0.4**
ZAA0	**Zalesovo Array**	**71.24**	**334**	*e*P	**P**	**11 42 09.5**	**-1.9**
ZALV	**Zalesovo Beam** comp=Z,4.5nm,0.7s,baz=120,slow=5.0,SNR=22	**71.24**	**334**	P	**P**	**11 42 09.1**	**-2.3**
ZALV	**Zalesovo Beam**	**71.24**	**334**	P	**P**	**11 42 09.1**	**-2.3**
KKAR	**Karatay Array** comp=Z,1.3nm,0.5s	**73.14**	**319**	*e*P	**P**	**11 42 22.1**	**-0.9**
MAW	**Mawson** comp=Z,2.0nm,0.4s,baz=87,slow=7.6,SNR=5.3	**75.56**	**201**	P	**P**	**11 42 37.6**	**+1.1**
MAW	**Mawson**	**75.56**	**201**	P	**P**	**11 42 37.6**	**+1.1**
BRVK	**Borovoye** comp=Z,5.6nm,0.9s	**77.85**	**328**	*e*P	**P**	**11 42 48.2**	**-1.5**
ABKAR	**Akbulak array** comp=Z,1.4nm,0.6s	**82.28**	**321**	*e*P	**P**	**11 43 11.9**	**-1.7**
KHC	**Kasperske Hory**	**112.20**	**321**	*e*PP	PP	11 50 15.0	+1.9
KHC				*ex*	x	11 50 22.5	
KHC				*ex*	x	11 50 56.0	
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.5s,baz=59,slow=2.1,SNR=6.2	**129.01**	**282**	PKP	**PKPdf**	**11 49 59.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**129.01**	**282**	PKP	**PKPdf**	**11 49 59.0**	**-1.5**
JTS	**JuntasAbangare** comp=Z,5.8nm,0.5s,baz=302,slow=2.2,SNR=4.7	**144.92**	**81**	PKP	PKPbc	11 50 28.8	-0.4
JTS	**JuntasAbangare**	**144.92**	**81**	PKP	PKPbc	11 50 28.8	-0.4

*MOS **09** 11:34:53.8±1.2, 51°.88N×176°.11W, h33km, mb5.1/25, Error ellipse: s-maj=10.0km s-min=7.1km az=55.9*
*ISCJB **09** 11:34:55.8±0.1, 51°.77N±0°.04×176°.07W±0°.03, h51km, mb4.8/101, MS3.6/12, Error ellipse: s-maj=5.7km s-min=2.2km az=176.7*
*BJI **09** 11:34:55.4, 52°.11N×175°.91W, h55km, mB5.1/20, mb4.7/28, Ms4.8/15, Ms7 4.5/15*
*IDC **09** 11:34:58.5±1.9, 51°.94N×175°.98W, h60km±16km, mb4.1/27, mb1 4.3/31, mb1mx4.3/34, mbtmp4.2/31, MS3.2/12, Ms1 3.3/12, ms1mx3.1/43, Error ellipse: s-maj=15.9km s-min=8.6km az=165.0*
*NEIC **09** 11:34:59.7±0.4, 51°.84N×176°.05W, h71km±3km, mb4.9/63, Error ellipse: s-maj=6.1km s-min=2.5km az=175.0*

ISC 09 11:34:57.5±0.3, 51°.64N±0°.06×176°.00W±0°.03, h56km±2km, h56km:pP-P, n639, σ1s14/794, mb4.8/103, MS3.5/12, 156C-158D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.25**	**63**	P	**Pn**	**11 35 18.0**	**-0.7**
ATKA				S	**Sn**	**11 35 33.4**	**-1.1**
KOKL	**Mount Kliuchef**	**1.30**	**58**	P	**Pn**	**11 35 20.2**	**+0.7**
KOFP	**Korovin Flat P**	**1.33**	**61**	P	**Pn**	**11 35 20.4**	**+0.5**
CERAA	**Semis' Rag'd T**	**2.69**	**277**	P	**Pn**	**11 35 40.0**	**+1.6**
CEAP	**Semis' Anvil P**	**2.77**	**279**	P	**Pn**	**11 35 41.2**	**+1.8**
CESW	**Semis' Southwe**	**2.77**	**277**	P	**Pn**	**11 35 40.7**	**+1.4**
NIKO	**Nikolski**	**4.58**	**70**	*e*Pn	**Pn**	**11 36 05.1**	**+0.9**
NIKO				S	**Sn**	**11 36 57.6**	**+1.6**
OKSP	**Okmok Steeple**	**4.98**	**68**	P	**Pn**	**11 36 10.7**	**+1.0**
OKWE	**Okmok W'ng Wal**	**5.08**	**66**	P	**Pn**	**11 36 12.6**

BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 18.57 339 *eP* **Pn 11 39 10.4 +0.2**
comp=Z,14nm,0.6s
MCK McKinley 18.68 39 *eP* **Pn 11 39 11.2 -0.4**
MCK pmax pmax
comp=Z,108nm,1.6s
MCK McKinley 18.68 39 *eP* **Pn 11 39 11.2 -0.4**
comp=Z,108nm,1.6s
DIV Divide 19.07 48 *eP* **P 11 39 15.0 0.0**
COLA College 19.64 37 *eP* **P 11 39 19.8 -1.3**
COLA pmax pmax
comp=Z,14nm,0.6s
COLA College 19.64 37 *eP* **P 11 39 19.8 -1.3**
comp=Z,14nm,0.6s
PAX Paxson 19.79 43 *eP* **P 11 39 23.6 +0.7**
PAX Paxson 19.79 43 *eP* **P 11 39 23.6 +0.7**
ILAR Eielson Array 19.95 38 P **P 11 39 22.1 -2.4**
comp=Z,0.9nm,0.3s,baz=239,slow=10,SNR=87
ILAR PcP **PcP 11 43 38.4 -0.3**
comp=Z,0.3nm,0.3s,baz=284,slow=3.5,SNR=13
ILAR ScP **ScP 11 47 09.9 +0.1**
comp=Z,0.1nm,0.3s,baz=275,slow=3.2,SNR=5.0
ILAR LR LR 11 47 15.9
comp=Z,77nm,18.8s,baz=132,slow=37
ILAR pScP 11 47 33.9
comp=Z,0.1nm,0.3s,baz=287,slow=3.4,SNR=7.9
ILAR Eielson Array 19.95 38 P **P 11 39 22.2 -2.4**
ILAR Eielson Array 19.95 38 P **P 11 39 22.1 -2.4**
ILAR PcP **PcP 11 43 38.4 -0.3**
ILAR ScP **ScP 11 47 09.9 +0.1**
ILAR pScP 11 47 33.9
COLD Coldfoot 20.14 29 *eP* **P 11 39 27.5 +0.9**
comp=Z,25nm,0.9s
SEY Seymchan 20.25 316 *eP* **P 11 39 26.7 -1.0**
MENT Mentasta 20.53 44 *eP* **P 11 39 31.5 +0.6**
EGAK Eagle 22.21 40 *eP* **P 11 39 48.1 -0.7**
comp=Z,25nm,0.6s
DAWY Dawson 22.72 43 *eP* **P 11 39 54.0 -0.3**
INK Inuvik 26.24 35 P **P 11 40 25.3 -1.5**
comp=Z,3.7nm,0.4s,baz=238,slow=6.9,SNR=33
INK PcP **PcP 11 43 52.1 +0.4**
comp=Z,7.2nm,0.5s,baz=310,slow=3.1,SNR=20
INK Inuvik 26.24 35 P **P 11 40 25.3 -1.5**
INK 11 43 52.1
INK Inuvik 26.24 35 P **P 11 40 25.3 -1.5**
INK *eP* **P 11 40 25.6 -1.2**
INK PcP **PcP 11 43 52.1 +0.4**
ASAJ Asahikawa 28.45 271 P **P 11 40 48.4 +1.6**
comp=Z,19nm,0.8s,baz=6.4,slow=7.1,SNR=8.5
ASAJ LR LR 11 51 26.7
comp=Z,23nm,18.1s,baz=158,slow=35
ASAJ Asahikawa 28.45 271 P **P 11 40 48.4 +1.6**
ASAJ pmax pmax
comp=Z,19nm,0.8s
ASAJ MLR MLR
comp=Z,23nm,18.1s
ASAJ Asahikawa 28.45 271 *eP* **P 11 40 48.4 +1.6**
comp=Z,38nm,1.8s
BBB Bella Bella 29.12 70 P **P 11 40 53.5 +0.9**
comp=Z,41nm,1.0s,baz=72,slow=1.6,SNR=3.9
BBB Bella Bella 29.12 70 P **P 11 40 53.5 +0.9**
YKA Yellowknife Ar 33.77 47 P **P 11 41 31.8 -1.6**
comp=Z,3.0nm,0.5s,baz=285,slow=8.7,SNR=69
YKA PcP **PcP 11 44 11.9 +0.6**
comp=Z,6.6nm,0.4s,baz=284,slow=3.1,SNR=80
YKA ScP **ScP 11 47 51.6 +0.7**
comp=Z,0.2nm,0.5s,baz=287,slow=3.6,SNR=4.6
YKA pScP 11 48 15.1
comp=Z,0.3nm,0.7s,baz=291,slow=2.7,SNR=3.6
YKA LR LR 11 55 43.7
comp=Z,9.6nm,18.1s,baz=65,slow=37
YKA Yellowknife Ar 33.77 47 P **P 11 41 31.8 -1.6**
YKA 11 44 11.9
YKA Yellowknife Ar 33.77 47 P **P 11 41 31.8 -1.6**
YKA PcP **PcP 11 44 11.9 +0.6**
YKA ScP **ScP 11 47 51.6 +0.7**
YKA pScP 11 48 15.1
JCW Jim Creek 34.32 74 *eP* **P 11 41 37.9 -0.5**
JCW *epP* **pP 11 41 52.8 +0.2**
USRK Ussuriysk Arra 34.99 279 P **P 11 41 44.6 +0.6**
comp=Z,4.1nm,0.6s,baz=91,slow=7.7,SNR=7.0
USRK PcP **PcP 11 44 16.1 +1.1**
comp=Z,5.1nm,0.8s,baz=16,slow=1.6,SNR=5.8
LON Longmire 35.06 76 *eP* **P 11 41 47.1 +2.4**
LON *e*PP* **pP 11 41 59.4 +0.4**
LON pmax pmax
comp=Z,87nm,2.1s
LON Longmire 35.06 76 *eP* **P 11 41 47.1 +2.4**
comp=Z,87nm,2.1s
LON *epP* **pP 11 41 59.4 +0.4**
ETW Entiat 35.55 74 *eP* **P 11 41 50.2 +1.2**
ETW *epP* **pP 11 42 03.2 -0.1**
MJAR Matsushiro Arr 35.55 263 P **P 11 41 50.1 +1.1**
comp=Z,3.2nm,0.8s,baz=44,slow=8.6,SNR=6.3
MJAR PcP **PcP 11 44 17.8 +0.9**
comp=Z,0.5nm,0.5s,baz=45,slow=1.5,SNR=4.2
MJAR LR LR 11 54 42.1
comp=Z,46nm,20.8s,baz=75,slow=33
MJAR Matsushiro Arr 35.55 263 P **P 11 41 50.2 +1.1**
MJAR 11 44 17.8
MJAR Matsushiro Arr 35.55 263 P **P 11 41 50.1 +1.1**
MJAR PcP **PcP 11 44 17.8 +0.9**
MAT Matsushiro 35.56 263 P **P 11 41 50.2 +1.1**
MDJ Mudanjiang 36.25 281 P **P 11 41 53.5 -1.4**
MDJ pP **pP 11 42 06.4 -2.8**
MDJ sP **sP 11 42 12.6 -3.2**
MDJ PcP **PcP 11 44 16.5 -2.4**
MDJ S **S 11 47 26.3 -4.8**
MDJ sS sS 11 47 49.8 -5.5
MDJ pmax pmax
comp=Z,13nm,1.7s
MDJ pmax pmax
comp=Z,84nm,3.7s
RSW Rattlesnake Hi 36.57 75 *eP* **P 11 41 59.3 +1.6**
RSW *epP* **pP 11 42 12.5 +0.4**
HAWA Hanford 36.60 75 *eP* **P 11 41 59.4 +1.5**
comp=Z,22nm,0.6s
HAWA *epP* **pP 11 42 12.3 +0.1**
OD2 Odessa Site #2 36.61 73 *eP* **P 11 41 59.1 +1.1**
OD2 *epP* **pP 11 42 11.9 -0.5**
YBH Yreka Blue Hor 37.11 84 *eP* **P 11 42 03.4 +1.0**
YBH *e*PP* pP 11 42 11.1 -5.6
YBH pmax pmax
comp=Z,156nm,2.9s
YBH Yreka Blue Hor 37.11 84 *eP* **P 11 42 03.4 +1.0**
comp=Z,156nm,2.9s
YBH *epP* pP 11 42 11.1 -5.6
NEW Newport 37.15 71 *eP* **P 11 42 03.4 +0.9**
NEW *e*PP* **pP 11 42 17.0 +0.1**
NEW pmax pmax
comp=Z,17nm,0.6s
NEW Newport 37.15 71 *eP* **P 11 42 03.4 +0.9**
comp=Z,17nm,0.6s
NEW *epP* **pP 11 42 17.0 +0.1**
NEW Newport 37.15 71 ⇑P **P 11 42 03.2 +0.6**
baz=37,SNR=12
A12A Yaak River Ran 37.70 70 ⇑P **P 11 42 08.2 +1.0**
baz=38
B12A Libby 37.95 70 ⇑P **P 11 42 09.8 +0.4**
baz=38
C12B Naegeli Ranch, 38.38 71 ⇑P **P 11 42 13.6 +0.6**
baz=38,SNR=9.3
WALA Waterton Lakes 38.65 69 *eP* **P 11 42 15.9 +0.6**
comp=Z,0.5nm,0.9s
B13A Whitefish 38.65 70 ⇑P **P 11 42 15.5 +0.3**
baz=38,SNR=5.1
BSMT Bassoo Peak 38.72 71 *eP* **P 11 42 16.7 +0.7**
BSMT *epP* **pP 11 42 30.6 +0.2**
A14A Double T Ranch 38.98 68 ⇑P **P 11 42 18.2 +0.2**
baz=39,SNR=26
JTMT Jette 39.07 71 *eP* **P 11 42 19.4 +0.5**
JTMT *epP* **pP 11 42 33.2 -0.1**
YBMT Yellow Bay 39.17 70 *eP* **P 11 42 20.5 +0.9**
YBMT *epP* **pP 11 42 31.0 -3.1**
CN2 Changchun 39.21 282 *eP* **P 11 42 20.1 +0.2**
WVOR Wild Horse Val 39.23 80 *eP* **P 11 42 22.0 +1.7**
WVOR *e*PP* **pP 11 42 35.9 +1.2**
WVOR pmax pmax
comp=Z,21nm,0.8s
WVOR Wild Horse Val 39.23 80 *eP* **P 11 42 22.0 +1.7**
comp=Z,21nm,0.8s
WVOR *epP* **pP 11 42 35.9 +1.2**
SWMT Swartz Lake 39.35 71 *eP* **P 11 42 21.4 +0.3**
B14A Marquette Ranc 39.36 69 ⇓P **P 11 42 21.8 +0.5**
baz=39,SNR=5.2
A15A Johnson Ranch, 39.37 68 ⇑P **P 11 42 21.0 -0.3**
baz=39,SNR=11
E13A Victor 39.78 72 ⇓P **P 11 42 25.0 +0.3**
baz=40,SNR=7.4
B15A Bradely Ranch, 39.79 69 ⇑P **P 11 42 24.8 -0.1**
baz=40,SNR=15
D14A Greough 39.85 71 ⇓P **P 11 42 25.5 +0.1**
baz=40,SNR=14
F13A Darby 40.03 73 ⇑P **P 11 42 27.6 +0.7**
baz=40
C15A Salmond Ranch, 40.03 70 ⇑P **P 11 42 27.4 +0.5**
baz=40,SNR=24
E14A Clinton 40.20 72 ⇑P **P 11 42 28.6 +0.3**
baz=40,SNR=8.4
B16A M & M Farms, S 40.24 68 ⇑P **P 11 42 28.2 -0.3**
baz=40,SNR=11
WCN Washoe City 40.35 85 *eP* **P 11 42 31.4 +1.8**
WCN *e*PP* **pP 11 42 45.3 +1.2**
WCN pmax pmax
comp=Z,109nm,3.0s
WCN Washoe City 40.35 85 *eP* **P 11 42 31.4 +1.8**
comp=Z,109nm,3.0s
WCN *epP* **pP 11 42 45.3 +1.2**
WCN Washoe City 40.35 85 ⇓P **P 11 42 30.2 +0.6**
baz=40
MFID Camas Ranch 40.40 77 *eP* **P 11 42 31.2 +1.2**
comp=Z,4.6nm,0.7s
MFID *epP* **pP 11 42 43.9 -0.5**
MFID Camas Ranch 40.40 77 ⇓P **P 11 42 30.5 +0.5**
baz=40
D15A Lincoln 40.46 71 ⇓P **P 11 42 30.4 0.0**
baz=40,SNR=8.1
G13A Cobalt 40.46 74 ⇑P **P 11 42 30.8 +0.4**
baz=40,SNR=7.2
C16A Fuhringer Ranc 40.52 69 ⇓P **P 11 42 30.9 0.0**
baz=40,SNR=24
A17A Triple J Farms 40.56 67 ⇑P **P 11 42 31.0 -0.1**
baz=40,SNR=26
F14A Wisdom 40.59 73 ⇑P **P 11 42 32.1 +0.6**
baz=40,SNR=5.4
E15A Deer Lodge 40.70 71 ⇑P **P 11 42 32.5 +0.1**
baz=40,SNR=7.4
H13A Challis 40.73 75 ⇓P **P 11 42 32.9 +0.3**
baz=41
B17A L&G Farms, Che 40.83 68 ⇑P **P 11 42 33.1 -0.2**
baz=41,SNR=10
G14A Jackson 40.84 73 ⇑P **P 11 42 34.1 +0.4**
baz=41,SNR=6.7
D16A Dana Ranch, Ca 41.03 70 ⇑P **P 11 42 35.4 +0.3**
baz=41
HRY Holter Researc 41.03 71 *eP* **P 11 42 35.6 +0.5**
HRY *epP* **pP 11 42 49.2 -0.4**
A18A Metzger Ranch, 41.06 67 ⇑P **P 11 42 34.8 -0.4**
baz=41
F15A Butte 41.10 72 ⇓P **P 11 42 35.9 +0.1**
baz=41
LRM Limekiln Ridge 41.13 72 *eP* **P 11 42 36.5 +0.4**
comp=Z,18nm,0.8s
LRM *epP* **pP 11 42 49.9 -0.7**
I13A Wildhorse Cree 41.16 76 ⇓P **P 11 42 36.9 +0.6**
baz=41,SNR=8.2
HLID Hailey 41.18 76 *eP* **P 11 42 37.8 +1.3**
comp=Z,22nm,1.4s
HLID *epP* **pP 11 42 50.6 -0.3**
HLID *esP* **sP 11 42 56.8 -0.7**
HLID Hailey 41.18 76 ⇑P **P 11 42 36.9 +0.5**
baz=41
C17A Wharram Farm, 41.18 69 ⇑P **P 11 42 36.2 -0.1**
baz=41,SNR=9.6
E16A East Helena 41.22 71 ⇑P **P 11 42 36.9 +0.3**
baz=41,SNR=7.3
H14A Leadore 41.23 74 ⇓P **P 11 42 37.2 +0.3**
baz=41,SNR=5.2
DLMT Dillon 41.29 73 *eP* **P 11 42 37.7 +0.5**
comp=Z,1.7nm,0.6s
DLMT *epP* **pP 11 42 51.1 -0.7**
B18A Beardsley Farm 41.36 67 ⇑P **P 11 42 37.6 -0.1**
baz=41,SNR=14
KSRS Korea Array 41.38 273 P **P 11 42 39.4 +1.5**
comp=Z,15nm,0.8s,baz=56,slow=7.6,SNR=31
KSRS LR LR 12 00 31.9
comp=Z,33nm,19.1s,baz=253,slow=37
KSRS Korea Array 41.38 273 P **P 11 42 39.4 +1.5**
KSRS pmax pmax
comp=Z,15nm,0.8s
KSRS MLR MLR
comp=Z,33nm,19.1s
KSAR Wonju Array Be 41.41 273 P **P 11 42 39.4 +1.3**
KSAR Wonju Array Be 41.41 273 P **P 11 42 39.4 +1.3**
J13A Cove Ranch, Pi 41.42 76 ⇓P **P 11 42 39.2 +0.8**
baz=41,SNR=13
G15A Dillon 41.46 73 ⇓P **P 11 42 38.8 +0.1**
baz=41,SNR=5.4
D17A Six Diamond Ra 41.47 69 ⇑P **P 11 42 38.6 -0.1**
baz=41,SNR=6.5
I14A Makay 41.56 75 ⇓P **P 11 42 40.3 +0.7**
baz=41,SNR=5.3
EGMT Eagleton 41.56 68 ⇑P **P 11 42 40.0 +0.6**
baz=41
F16A Kennard Place, 41.64 72 ⇓P **P 11 42 40.7 +0.6**
baz=41
H15A Lima 41.66 74 ⇓P **P 11 42 40.8 +0.4**
baz=42,SNR=6.4
A19A Klindworth Far 41.69 66 ⇑P **P 11 42 40.3 0.0**
baz=42,SNR=6.6
E17A Martinsdale 41.73 70 ⇓P **P 11 42 41.1 +0.2**
baz=42,SNR=8.1
NVAR Mina Array Bea 41.78 85 P **P 11 42 42.5 +1.0**
comp=Z,1.4nm,0.6s,baz=288,slow=7.0,SNR=11
NVAR PcP **PcP 11 44 38.0 +1.3**
comp=Z,1.7nm,0.7s,baz=273,slow=2.9,SNR=5.3
NVAR Mina Array Bea 41.78 85 P **P 11 42 42.5 +1.0**
NVAR PcP **PcP 11 44 38.0 +1.3**
B19A Brinkman Farms 41.81 67 ⇓P **P 11 42 41.6 +0.3**
baz=42,SNR=8.3
G16A Moss Hill, Enn 41.83 73 ⇓P **P 11 42 41.8 0.0**
baz=42,SNR=6.6
MLAC Mammoth Lakes 41.94 86 ⇑P **P 11 42 44.1 +1.3**
baz=42
D18A Linhart Farms, 41.97 69 ⇓P **P 11 42 43.5 +0.8**
baz=42,SNR=10
I15A Monteview 42.10 74 ⇓P **P 11 42 44.6 +0.7**
baz=42
C19A Slack Wire Ran 42.12 68 ⇑P **P 11 42 44.4 +0.5**
baz=42,SNR=17
F17A Fitzpatrick Pl 42.15 71 ⇓P **P 11 42 44.5 +0.3**
baz=42,SNR=5.4
E18A Harlowton 42.23 70 ⇑P **P 11 42 45.8 +0.9**
baz=42,SNR=7.4
ELK Elko 42.29 80 *eP* **P 11 42 46.8 +1.2**
ELK *e*PP* **pP 11 43 00.7 +0.6**
ELK Elko 42.29 80 *eP* **P 11 42 46.8 +1.2**
ELK *eP* **P 11 42 47.1 +1.5**
ELK *epP* **pP 11 43 00.7 +0.6**
B20A Solberg Farm, 42.35 66 ⇑P **P 11 42 45.6 -0.2**
baz=42
G17A Pierce Place, 42.41 72 ⇓P **P 11 42 46.8 +0.4**
baz=42
H16A Russell Place, 42.45 73 ⇓P **P 11 42 47.1 +0.2**
baz=42,SNR=6.3
D19A Cripps Ranch, 42.52 68 ⇑P **P 11 42 47.4 +0.3**
baz=42,SNR=6.7
YMR Madison River 42.64 73 *eP* **P 11 42 49.2 +0.9**
comp=Z,9.4nm,1.0s
YMR *epP* **pP 11 43 02.9 -0.1**
A21A Bergtoll Ranch 42.69 65 ⇓P **P 11 42 48.7 +0.3**
baz=42
F18A Big Timber 42.70 70 ⇓P **P 11 42 49.2 +0.4**
baz=42
C20A Veseth Ranch, 42.73 67 ⇓P **P 11 42 49.4 +0.5**
baz=42
L14A Malta 42.76 77 ⇓P **P 11 42 50.4 +1.1**
baz=43,SNR=7.1
YNR Norris Junctio 42.78 73 *eP* **P 11 42 51.6 +2.0**
comp=Z,16nm,1.0s
YNR *epP* **pP 11 43 04.1 0.0**
YFT Old Faithful 42.84 73 *eP* **P 11 42 52.8 +2.8**
comp=Z,20nm,1.1s
YFT *epP* **pP 11 43 05.0 +0.4**
VES Vestal, Richgr 42.92 89 ⇑P **P 11 42 51.9 +1.4**
baz=43
B21A Ellsworth Farm 42.92 66 ⇑P **P 11 42 50.7 +0.3**
baz=43
E19A Rath Farm, Rou 42.95 69 ⇓P **P 11 42 50.9 +0.3**
baz=43
D20A Manuel Ranch, 42.99 68 ⇓P **P 11 42 51.5 +0.5**
baz=43
H17A Grant Village 43.02 73 ⇓P **P 11 42 53.2 +1.7**
baz=43,SNR=11
DCID1 Drake Creek 43.11 74 *eP* **P 11 42 53.2 +1.1**
comp=Z,7.9nm,1.0s
DCID1 *epP* **pP 11 43 06.6 -0.1**
G18A Lazy EL Ranch, 43.11 71 ⇓P **P 11 42 52.4 +0.3**
baz=43
RRI2 Red Ridge 43.17 75 *eP* **P 11 42 54.0 +1.3**
comp=Z,15nm,0.9s
RRI2 *epP* **pP 11 43 07.7 +0.4**
F19A Roth Farm, Mol 43.18 70 ⇓P **P 11 42 53.0 +0.4**
baz=43
HVU Hansel Valley 43.19 77 *eP* **P 11 42 54.2 +1.4**
HVU *e*PP* **pP 11 43 07.6 +0.3**
HVU pmax pmax
comp=Z,12nm,0.6s
HVU Hansel Valley 43.19 77 *eP* **P 11 42 54.2 +1.4**
comp=Z,12nm,0.6s
HVU *epP* **pP 11 43 07.6 +0.3**
C21A Desert Coulee 43.20 67 ⇓P **P 11 42 53.0 +0.4**
baz=43
A22A Carney Farms, 43.26 65 ⇑P **P 11 42 53.1 +0.1**
baz=43,SNR=5.7
MOOW Moose Ponds 43.28 74 *eP* **P 11 42 54.5 +0.9**
comp=Z,3.8nm,1.0s
MOOW *epP* **pP 11 43 07.2 -1.0**
K16A Soda Springs 43.30 75 ⇑P **P 11 42 55.8 +2.1**
baz=43,SNR=8.3
E20A Meyer Farm, Mu 43.30 69 ⇑P **P 11 42 53.8 +0.3**
baz=43,SNR=12
ISA Isabella 43.41 88 *eP* **P 11 42 56.1 +1.6**
ISA *e*PP* **pP 11 43 09.9 +0.8**
ISA pmax pmax
comp=Z,1.0nm,0.6s
ISA Isabella 43.41 88 *eP* **P 11 42 56.0 +1.6**
comp=Z,1.5nm,0.6s
ISA *epP* **pP 11 43 09.9 +0.8**
ISA Isabella 43.41 88 ⇑P **P 11 42 55.9 +1.4**
baz=43
REDW Red Top Meadow 43.44 74 *eP* **P 11 42 55.9 +1.0**
comp=Z,5.4nm,1.2s
REDW *epP* **pP 11 43 08.8 -0.6**
LOHW Long Hollow 43.45 74 *eP* **P 11 42 55.6 +0.8**
comp=Z,81nm,3.0s
LOHW *epP* **pP 11 43 08.9 -0.6**
R11A Troy Canyon, C 43.52 83 ⇓P **P 11 42 56.4 +0.9**
baz=43,SNR=7.9
J17A Brown Place, J 43.52 74 ⇑P **P 11 42 56.3 +0.8**
baz=43
B22A Reddig Ranch S 43.57 66 ⇑P **P 11 42 55.7 +0.1**
baz=43
M15A Larsen Ranch, 43.57 77 ⇓P **P 11 42 56.4 +0.6**
baz=43
D21A La Casta Ranch 43.66 68 ⇑P **P 11 42 56.7 +0.3**
baz=43
F20A Billings 43.68 70 ⇑P **P 11 42 56.8 +0.3**
baz=44,SNR=8.1
MPMC Manual Prospec 43.77 87 ⇑P **P 11 42 58.6 +1.1**
baz=44
H19A Powell 43.81 72 ⇓P **P 11 42 58.4 +0.7**
baz=44,SNR=13
A23A Redstone 43.85 64 ⇓P **P 11 42 58.2 +0.3**
baz=44
I18A Diamond G Ranc 43.87 73 ⇓P **P 11 42 58.9 +0.6**
baz=44
G20A Bridger 43.96 70 ⇑P **P 11 42 58.9 0.0**
baz=44,SNR=16
B23A Brockton 44.05 65 ⇓P **P 11 42 59.4 0.0**
baz=44,SNR=8.6
D22A Cohagen 44.08 67 ⇓P **P 11 42 60.0 +0.3**
baz=44,SNR=12
DUG Dugway 44.10 79 *eP* **P 11 43 01.2 +1.1**
DUG *e*PP* **pP 11 43 15.1 +0.4**
DUG pmax pmax
comp=Z,25nm,0.8s
DUG Dugway 44.10 79 *eP* **P 11 43 01.2 +1.1**
comp=Z,24nm,0.8s
DUG *epP* **pP 11 43 15.1 +0.4**
DUG Dugway 44.10 79 ⇓P **P 11 43 00.9 +0.8**
baz=44,SNR=38
L17A Cokeville 44.15 76 ⇑P **P 11 43 00.7 +0.1**
baz=44
I19A Meeteetse 44.16 72 ⇑P **P 11 43 00.9 +0.3**
baz=44
F21A Absaloka Mine, 44.26 69 ⇓P **P 11 43 00.3 -1.0**
baz=44,SNR=6.6
C23A Lambert 44.30 66 ⇑P **P 11 43 01.4 0.0**
baz=44,SNR=18
K18A Toltan Ranch, 44.34 75 ⇑P **P 11 43 02.5 +0.4**
baz=44,SNR=6.0
A24A Westby 44.36 64 ⇑P **P 11 43 01.9 -0.1**
baz=44,SNR=5.9
DGMT Dagmar 44.50 64 ⇓P **P 11 43 03.0 0.0**
baz=44
H20A Greybull 44.50 71 ⇑P **P 11 43 03.2 +0.1**
baz=44
PD01 Pinedale Array 44.54 74 *eP* **P 11 43 04.3 +0.7**
PD01 *epP* **pP 11 43 17.3 -1.0**
PD02 Pinedale Array 44.55 74 *eP* **P 11 43 04.2 +0.5**
PD02 *epP* **pP 11 43 17.1 -1.2**
G21A Lodge Grass 44.55 70 ⇓P **P 11 43 03.7 +0.2**
baz=44
PDAR Pinedale Array 44.56 74 P **P 11 43 04.3 +0.5**
comp=Z,8.9nm,0.6s,baz=303,slow=4.2,SNR=73
PDAR Pinedale Array 44.56 74 P **P 11 43 04.3 +0.5**
E22A Miles City 44.60 68 ⇑P **P 11 43 04.1 +0.1**
baz=44
R13A O'Grain Ranch, 44.62 82 ⇑P **P 11 43 04.8 +0.5**
baz=44
D23A Lindsay 44.63 67 ⇓P **P 11 43 04.4 +0.3**
baz=44
M17A Scullys Gap (B 44.65 76 ⇓P **P 11 43 04.9 +0.4**
baz=44
GSC Goldstone 44.68 87 *eP* **P 11 43 06.1 +1.4**
GSC *e*PP* **pP 11 43 20.5 +1.1**
GSC pmax pmax
comp=Z,6.0nm,0.7s
GSC Goldstone 44.68 87 *eP* **P 11 43 06.1 +1.4**
comp=Z,5.6nm,0.7s
GSC *epP* **pP 11 43 20.5 +1.1**
GSC Goldstone 44.68 87 ⇑P **P 11 43 05.5 +0.8**
baz=45
JLU Jordanelle 44.69 78 *eP* **P 11 43 05.8 +0.9**
comp=Z,12nm,0.9s
JLU *epP* **pP 11 43 19.2 -0.3**
I20A Worland 44.73 72 ⇓P **P 11 43 05.3 +0.3**
baz=44,SNR=5.2
L18A Fontenelle, Gr 44.76 75 ⇓P **P 11 43 05.8 +0.4**
baz=45
F22A Rosebud 44.79 69 ⇓P **P 11 43 05.3 -0.1**
baz=45,SNR=7.3
C24A Savage 44.88 66 ⇓P **P 11 43 06.6 +0.6**
baz=45,SNR=8.9
O16A Springville 44.90 78 ⇓P **P 11 43 07.4 +1.0**
baz=45,SNR=8.0
DAU Daniels Canyon 44.92 78 *eP* **P 11 43 08.6 +1.8**
DAU *e*PP* **pP 11 43 22.3 +0.8**
DAU Daniels Canyon 44.92 78 *eP* **P 11 43 08.6 +1.8**
DAU *epP* **pP 11 43 22.3 +0.8**
MPU Maple Canyon 44.93 79 *eP* **P 11 43 08.3 +1.5**
comp=Z,13nm,0.6s
MPU *epP* **pP 11 43 22.2 +0.8**
E23A Ismay 44.94 67 ⇓P **P 11 43 07.0 +0.4**
baz=45,SNR=7.0
K19A Absolon Red Bu 44.95 74 ⇓P **P 11 43 06.8 -0.1**
baz=45,SNR=13
H21A Big Horn, Sher 44.98 71 ⇑P **P 11 43 07.1 +0.1**
baz=45
M18A Lyman 45.04 76 ⇓P **P 11 43 07.8 +0.1**
baz=45
L19A Farson 45.07 75 ⇓P **P 11 43 08.2 +0.4**
baz=45
G22A Birney 45.09 69 ⇑P **P 11 43 07.7 -0.1**
baz=45,SNR=7.0
J20A Shoshoni 45.10 73 ⇓P **P 11 43 08.4 +0.4**
baz=45
D24A Glendive 45.16 66 ⇓P **P 11 43 08.8 +0.5**
baz=45,SNR=13
P16A Fountain Green 45.16 79 ⇓P **P 11 43 09.4 +0.8**
baz=45
I21A Big Trails, Te 45.30 72 ⇓P **P 11 43 09.5 -0.1**
baz=45,SNR=8.3
F23A Volborg 45.32 68 ⇓P **P 11 43 09.4 -0.2**
baz=45,SNR=17
K20A Yellowstone Ra 45.35 74 ⇑P **P 11 43 09.6 -0.4**
baz=45,SNR=6.5

O17A **Robinson Place** 45.37 78 ⇓P P 11 43 10.8 +0.5
baz=45
H22A **Clearmont** 45.41 70 ⇑P P 11 43 10.3 -0.1
baz=45,SNR=8.2
E24A **Baker** 45.48 67 ⇑P P 11 43 11.2 +0.3
baz=45,SNR=6.4
J21A **Lysite** 45.48 72 ⇓P P 11 43 11.2 +0.1
baz=45
MSU **Marysvale** 45.52 81 *eP* P 11 43 13.1 +1.6
MSU *e*PP pP 11 43 27.0 +0.8
MSU Marysvale 45.52 81 *eP* P 11 43 13.1 +1.6
MSU *ep*P pP 11 43 27.0 +0.8
M19A **Rock Springs** 45.54 75 ⇓P P 11 43 11.6 0.0
baz=45
N18A **Larsen Ranch,** 45.54 76 ⇓P P 11 43 12.1 +0.5
baz=45
G23A **Biddle** 45.62 69 ⇑P P 11 43 11.3 -0.7
baz=45,SNR=8.0
TMUT **Trail Mountain** 45.63 79 *eP* P 11 43 13.8 +1.4
comp=Z,26nm,0.7s
TMUT *ep*P pP 11 43 27.6 +0.5
R15A **Junction** 45.65 81 ⇑P P 11 43 13.2 +0.8
baz=46
I22A **9 Mile Ranch,** 45.73 71 ⇓P P 11 43 13.4 +0.4
baz=46,SNR=6.3
GMRC **Granite Mounta** 45.74 87 ⇑P P 11 43 14.2 +1.1
baz=46
O18A **Roosevelt** 45.77 77 ⇓P P 11 43 14.4 +1.1
baz=46,SNR=5.4
P17A **Butcher Ranch,** 45.81 79 ⇓P P 11 43 14.4 +0.7
baz=46,SNR=5.8
Q16A **Castle Valley** 45.88 80 ⇑P P 11 43 15.1 +0.8
baz=46
N19A **John Jarvie Ra** 45.89 76 ⇓P P 11 43 14.7 +0.3
baz=46
K21A **Alcova** 46.01 73 ⇓P P 11 43 15.4 +0.1
baz=46,SNR=6.7
J22A **Midwest** 46.01 72 ⇑P P 11 43 15.2 0.0
baz=46,SNR=12
P18A **Preston Nutter** 46.01 78 ⇑P P 11 43 16.1 +0.6
baz=46
R16A **Teasdale** 46.09 80 ⇓P P 11 43 16.8 +0.8
baz=46,SNR=5.7
SRU **San Rafael** 46.16 79 *eP* P 11 43 17.0 +0.5
SRU *e*PP pP 11 43 32.5 +1.3
SRU pmax pmax
comp=Z,23nm,0.7s
SRU **San Rafael** 46.16 79 *eP* P 11 43 17.0 +0.5
comp=Z,23nm,0.7s
SRU *ep*P pP 11 43 32.5 +1.3
O19A **Miners Draw (B** 46.29 77 ⇑P P 11 43 18.0 +0.5
baz=46,SNR=14
L21A **Rawlins** 46.34 74 ⇑P P 11 43 18.0 +0.1
baz=46,SNR=5.4
H24A **Dirks Ranch, A** 46.37 69 ⇑P P 11 43 17.4 -0.5
baz=46,SNR=7.9
S16A **Weppner Ranch,** 46.37 81 ⇓P P 11 43 18.9 +0.8
baz=46
Q18A **Rafter H Ranch** 46.41 79 ⇑P P 11 43 19.1 +0.8
baz=46,SNR=8.7
K22A **Casper** 46.44 72 ⇓P P 11 43 18.8 +0.2
baz=46
IRM **Iron Mountain** 46.46 87 ⇓P P 11 43 19.6 +0.9
baz=46
R17A **Hanksville Air** 46.48 80 ⇑P P 11 43 19.5 +0.6
baz=46,SNR=6.5
M21A **Separation Pea** 46.56 74 ⇓P P 11 43 20.0 +0.4
baz=46
J23A **Dilts Ranch, B** 46.57 71 ⇑P P 11 43 19.7 +0.1
baz=46
W13A **Hualapai Mount** 46.63 86 ⇓P P 11 43 21.1 +0.8
baz=46
U15A **North Rim** 46.76 83 ⇓P P 11 43 22.5 +1.1
baz=47,SNR=8.9
P19A **Cripple Cowboy** 46.78 77 ⇑P P 11 43 21.9 +0.5
baz=47,SNR=15
I24A **Kuemmerle Ranc** 46.84 70 ⇑P P 11 43 21.7 +0.1
baz=47
L22A **Ellis Ranch, M** 46.86 73 ⇓P P 11 43 22.2 +0.3
baz=47
K23A **Bowen Ranch, D** 46.91 72 ⇑P P 11 43 22.5 +0.3
baz=47
S17A **Black Ridge (B** 46.91 81 ⇑P P 11 43 23.2 +0.9
baz=47,SNR=10.0
O20A **White River Ci** 46.92 76 ⇓P P 11 43 22.9 +0.5
baz=47,SNR=12
N21A **Black Mountain** 46.98 75 ⇑P P 11 43 23.1 +0.2
baz=47
PDMCI **Parker Dam,Lak** 47.00 87 ⇑P P 11 43 23.5 +0.7
baz=47
R18A **Canyonlands Na** 47.00 79 ⇓P P 11 43 23.3 +0.3
baz=47
Q19A **Hogan Spring (** 47.03 78 ⇑P P 11 43 23.1 -0.1
baz=47,SNR=11
RSSD **Black Hills** 47.03 69 *eP* P 11 43 22.9 -0.4
RSSD *e*PP pP 11 43 37.3 -0.8
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD **Black Hills** 47.03 69 *eP* P 11 43 22.9 -0.4
comp=Z,7.5nm,0.7s
RSSD *ep*P pP 11 43 37.3 -0.8
Y12C **Blythe** 47.12 87 ⇑P P 11 43 24.6 +0.8
baz=47
J24A **Dixon Ranch, L** 47.13 71 ⇓P P 11 43 24.0 0.0
baz=47
M22A **Cedar Creek Ra** 47.14 74 ⇑P P 11 43 24.2 0.0
baz=47
P20A **De Beque** 47.22 77 ⇑P P 11 43 25.0 +0.2
baz=47
L23A **Garrett** 47.24 73 ⇓P P 11 43 24.8 -0.2
baz=47,SNR=11
T17A **Navajo Res., N** 47.32 81 ⇑P P 11 43 26.0 +0.4
baz=47
O21A **Pagoda** 47.34 76 ⇑P P 11 43 25.9 +0.1
baz=47
S18A **Hurst Farm, Bl** 47.37 80 ⇓P P 11 43 26.4 +0.3
baz=47,SNR=12
MDND **Maddock** 47.41 63 ⇑P P 11 43 25.7 -0.1
baz=47
R19A **Curley Farm, L** 47.45 79 ⇑P P 11 43 27.1 +0.6
baz=47,SNR=5.8
N22A **Wattenberg Ran** 47.59 74 ⇓P P 11 43 28.0 +0.3
baz=47
PV04 **Paradox Valley** 47.60 79 *eP* P 11 43 28.5 +0.8
PV04 *ep*P pP 11 43 42.2 -0.2
Q20A **Ridgley Place,** 47.62 78 ⇓P P 11 43 28.1 +0.3
baz=47
U17A **Shonto** 47.66 82 ⇑P P 11 43 28.6 +0.4
baz=48
U16A **Tuba City** 47.66 82 ⇓P P 11 43 28.8 +0.6
baz=48
L24A **Wheatland** 47.74 72 ⇓P P 11 43 28.9 +0.2
baz=48
P21A **Newcastle** 47.78 76 ⇑P P 11 43 29.6 +0.5
baz=48,SNR=5.8
T18A **Mexican Hat** 47.80 81 ⇓P P 11 43 29.3 +0.1
baz=48,SNR=8.0
N23A **Red Feather La** 47.84 74 ⇓P P 11 43 29.8 +0.2
baz=48
S19A **Harvey Farm, M** 47.87 79 ⇓P P 11 43 30.3 +0.4
baz=48,SNR=13
WUAZ **Wupatki** 47.92 83 *eP* P 11 43 31.0 +0.8
comp=Z,11nm,0.6s
WUAZ *ep*P pP 11 43 45.1 +0.1
WUAZ Wupatki 47.92 83 ⇑P P 11 43 31.0 +0.8
baz=48
O22A **Kremmling** 47.93 75 ⇓P P 11 43 30.6 +0.2
baz=48
Y14A **Wickenburg** 47.94 86 ⇑P P 11 43 31.2 +1.0
baz=48
PV01 **Paradox Valley** 47.97 79 *eP* P 11 43 31.4 +0.8
comp=Z,3µm,0.7s
PV01 *ep*P pP 11 43 44.4 -1.0
Z13A **Yuma Proving G** 48.03 87 ⇓P P 11 43 31.8 +0.9
baz=48
K25A **Mack Ranch, Ha** 48.03 71 ⇑P P 11 43 31.2 +0.2
baz=48
R20A **Redvale** 48.05 78 ⇑P P 11 43 31.8 +0.5
baz=48,SNR=8.5
ULM **Lac du Bonnet** 48.06 58 P P 11 43 29.2 -1.7
comp=Z,2.1nm,0.3s,baz=304,slow=6.8,SNR=14
ULM PcP PcP 11 44 57.2 -0.7
comp=Z,6.4nm,0.5s,baz=305,slow=4.4,SNR=11
ULM Lac du Bonnet 48.06 58 P P 11 43 29.2 -1.7
ULM *e* 11 44 57.7
ULM Lac du Bonnet 48.06 58 P P 11 43 29.2 -1.7
ULM PcP PcP 11 44 57.2 -0.7
ULM *e*PcP PcP 11 44 57.7 -0.1
SONM Songino Array 48.08 298 P P 11 43 30.6 -0.7
comp=Z,0.9nm,0.6s,baz=76,slow=12,SNR=2.4
SONM PcP PcP 11 44 58.4 +0.2
comp=Z,2.4nm,0.8s,baz=42,slow=2.4,SNR=4.3
SONM Songino Array 48.08 298 P P 11 43 30.6 -0.7
SONM 11 44 58.4
SONM Songino Array 48.08 298 P P 11 43 30.6 -0.7
SONM PcP PcP 11 44 58.4 +0.2
Q21A **Lamborn Mesa,** 48.13 77 ⇓P P 11 43 32.2 +0.4
baz=48,SNR=5.2
P22A **Eagle** 48.15 76 ⇓P P 11 43 32.5 +0.5
baz=48
V17A **Tonalea, Kykot** 48.21 83 ⇑P P 11 43 33.4 +1.0
baz=48
U18A **Rough Rock, Ch** 48.26 81 ⇓P P 11 43 33.6 +0.8
baz=48
O23A **Lake Granby, G** 48.28 75 ⇓P P 11 43 33.7 +0.7
baz=48,SNR=6.5
SMCO **Snowmass** 48.28 76 *eP* P 11 43 34.0 +0.8
comp=Z,2.3nm,0.6s
SMCO *ep*P pP 11 43 47.9 -0.1
S20A **Disappointment** 48.29 79 ⇓P P 11 43 33.6 +0.5
baz=48,SNR=15
ZAK **Zakamensk** 48.31 302 *eP* P 11 43 32.3 -0.6
ZAK *e* 11 44 58.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s
R21A **Cimarron** 48.44 78 ⇓P P 11 43 34.9 +0.6
baz=48,SNR=5.8
Q22A **Crested Butte,** 48.52 77 ⇑P P 11 43 35.4 +0.5
baz=48,SNR=6.4
T19A **Beclabito** 48.52 80 ⇑P P 11 43 35.2 +0.4
baz=48,SNR=19
X16A **Lo Mia Camp, P** 48.60 84 ⇑P P 11 43 36.5 +1.0
baz=48
MVCO **Mesa Verde** 48.60 80 *eP* P 11 43 36.2 +0.7
comp=Z,10nm,0.8s
MVCO *ep*P pP 11 43 50.0 -0.4
MVCO Mesa Verde 48.60 80 ⇓P P 11 43 36.1 +0.7
baz=48
M25A **Palm-Egli Farm** 48.63 72 ⇑P P 11 43 36.2 +0.5
baz=48
V18A **Ganado** 48.68 82 ⇓P P 11 43 36.8 +0.7
baz=48
ISCO **Idaho Springs** 48.72 75 *eP* P 11 43 36.9 +0.5
ISCO *e*PP pP 11 43 51.2 -0.1
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO **Idaho Springs** 48.72 75 *eP* P 11 43 36.9 +0.5
comp=Z,10.0nm,1.2s
ISCO *ep*P pP 11 43 51.2 -0.1
ISCO Idaho Springs 48.72 75 ⇓P P 11 43 36.8 +0.3
baz=48
S21A **Coal Bank Pass** 48.74 79 ⇓P P 11 43 37.5 +0.8
baz=49,SNR=8.3
U19A **Dine' College,** 48.75 81 ⇓P P 11 43 36.9 +0.2
baz=49,SNR=5.6
114A **Black Gap (USA** 48.81 87 ⇓P P 11 43 38.0 +1.1
baz=49
K27A **Flueckinger Fa** 48.93 70 ⇓P P 11 43 38.1 +0.3
baz=49
R22A **Saguache, Gunn** 49.01 77 ⇑P P 11 43 39.1 +0.4
baz=49,SNR=6.0
X17A **Forest Lakes** 49.04 84 ⇑P P 11 43 39.7 +0.7
baz=49
Q23A **Hartsel** 49.14 76 ⇓P P 11 43 40.5 +0.8
baz=49
W18A **Petrified Fore** 49.19 83 ⇓P P 11 43 41.0 +1.1
baz=49
S22A **4UR Ranch, Cre** 49.27 78 ⇓P P 11 43 41.5 +0.8
baz=49,SNR=5.6
HHC **Hu-ho-hao-te** 49.29 287 *eP* P 11 43 39.3 -1.3
HHC pP pP 11 43 54.9 -0.5
HHC sP sP 11 44 02.0 +0.1
HHC PcP PcP 11 45 02.4 -0.2
HHC PP PP 11 45 33.8 -0.8
HHC S S 11 50 39.2 -3.4
HHC sS sS 11 51 04.8 -2.8
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,150nm,5.2s
HHC LR LR
comp=N,330nm,15.4s
HHC LR LR
comp=E,170nm,15.6s
HHC LR LR
comp=Z,150nm,16.4s
T21A **Navajo Lake** 49.33 79 ⇑P P 11 43 41.5 +0.4
baz=49,SNR=5.3
O25A **Wiggins** 49.41 74 ⇓P P 11 43 42.6 +1.0
baz=49
Y17A **Roosevelt** 49.45 85 ⇓P P 11 43 43.1 +1.3
baz=49
X18A **Snowflake** 49.45 83 ⇑P P 11 43 42.9 +0.9
baz=49
Q24A **Divide** 49.52 76 ⇓P P 11 43 43.2 +0.6
baz=49
V20A **Brimhall** 49.53 81 ⇑P P 11 43 43.2 +0.7
baz=49,SNR=5.3
R23A **Moffat** 49.60 77 ⇑P P 11 43 43.9 +0.7
baz=49
U21A **Nageezi** 49.62 80 ⇑P P 11 43 44.2 +1.0
baz=50,SNR=9.7
T22A **Edith** 49.70 79 ⇑P P 11 43 44.9 +1.0
baz=50,SNR=8.5
P25A **Willow Gulch B** 49.76 74 ⇑P P 11 43 45.5 +1.2
baz=50,SNR=5.6
BRSD **Miller** 49.77 66 ⇑P P 11 43 43.8 -0.3
baz=50,SNR=9.7
S23A **Nye Farm, Mont** 49.80 77 ⇓P P 11 43 45.9 +1.2
baz=50
Y18A **Canyon Day Jun** 49.89 84 ⇓P P 11 43 46.4 +1.1
baz=50
X19A **St. Johns** 49.92 83 ⇑P P 11 43 46.7 +1.1
baz=50
W20A **Ramah** 49.95 82 ⇓P P 11 43 46.9 +1.1
baz=50
R24A **Sanders Place,** 50.01 76 ⇑P P 11 43 47.0 +0.8
baz=50
V21A **Milan** 50.03 80 ⇓P P 11 43 47.3 +0.9
baz=50
Q25A **Bedland, Calha** 50.09 75 ⇑P P 11 43 47.9 +1.0
baz=50,SNR=5.7
OGNE **Ogallala** 50.14 72 ⇑P P 11 43 47.7 +0.7
baz=50
U22A **Naves** 50.14 79 ⇑P P 11 43 48.2 +0.9
baz=50,SNR=7.3
T23A **Casias Ranch,** 50.21 78 ⇑P P 11 43 49.2 +1.3
baz=50,SNR=5.6
P26A **Davis Ranch, A** 50.23 74 ⇑P P 11 43 48.6 +0.8
baz=50,SNR=6.5
S24A **Houchin Ranch,** 50.33 77 ⇑P P 11 43 49.6 +0.9
baz=50,SNR=5.5
X20A **Quemado** 50.34 82 ⇑P P 11 43 49.9 +1.2
baz=50,SNR=7.0
O27A **Beecher Island** 50.34 73 ⇓P P 11 43 49.2 +0.6
baz=50
V22A **San Miguel Ran** 50.41 80 ⇓P P 11 43 49.5 +0.2
baz=50,SNR=6.4
TUC **Tucson** 50.41 86 *eP* P 11 43 49.5 +0.3
TUC *e*PP pP 11 44 04.2 +0.1
TUC Tucson 50.41 86 *eP* P 11 43 49.5 +0.3
TUC *ep*P pP 11 44 04.2 +0.1
Q26A **Hugo** 50.53 75 ⇓P P 11 43 50.9 +0.8
baz=50
NJ2 **Nanjing** 50.55 274 *eP* P 11 43 50.4 +0.3
NJ2 pmax pmax
comp=Z,40nm,0.8s
R25A **Fountain Ranch** 50.56 76 ⇓P P 11 43 51.3 +1.0
baz=50
U23A **El Rito** 50.58 79 ⇑P P 11 43 51.6 +1.1
baz=50,SNR=14
S25A **Robets Cordova** 50.78 76 ⇓P P 11 43 53.1 +1.0
baz=51
T24A **Torres, Weston** 50.79 77 ⇑P P 11 43 53.3 +1.1
baz=51,SNR=5.8
Y20A **Horse Springs,** 50.83 83 ⇓P P 11 43 53.7 +1.2
baz=51
X21A **Alamocita Cree** 50.84 82 ⇑P P 11 43 53.6 +1.0
baz=51,SNR=6.0
V23A **Ortiz Mt. (NFS** 50.97 79 ⇑P P 11 43 54.7 +1.2
baz=51,SNR=6.0
R26A **Arlington** 50.97 75 ⇓P P 11 43 54.2 +0.8
baz=51
TARA **Tarawa** 50.97 194 *eP* P 11 43 56.5 +3.1
comp=Z,6.7nm,0.7s
TARA *ep*P pP 11 44 05.9 -2.3
TARA *e*PcP PcP 11 45 05.1 -3.8
W22A Albuquerque 50.99 81 ⇑P P 11 43 54.6 +1.0
baz=51
KSCO **Kaye Shedlock'** 51.01 74 ⇑P P 11 43 54.7 +1.1
baz=51
119A **Ashpeak Ranch,** 51.02 84 ⇓P P 11 43 55.2 +1.4
baz=51
218A **Dragoon** 51.10 86 ⇓P P 11 43 55.5 +1.1
baz=51
T25A **Trinidad** 51.14 77 ⇓P P 11 43 55.8 +1.1
baz=51,SNR=6.2
Y21A **Point of Rocks** 51.20 82 ⇓P P 11 43 56.4 +1.1
baz=51
Z20A **Nine Sixteen R** 51.23 84 ⇓P P 11 43 56.5 +1.1
baz=51
LAZ **Ladron** 51.27 81 *eP* P 11 43 57.2 +1.5
comp=Z,5.1nm,0.6s
LAZ *ep*P pP 11 44 11.0 +0.3
X22A **Bernardo** 51.28 81 ⇑P P 11 43 57.1 +1.3
baz=51,SNR=5.9
ANMO **Albuquerque** 51.32 80 *eP* P 11 43 57.6 +1.5
ANMO *e*PP pP 11 44 11.0 0.0
ANMO pmax pmax
comp=Z,20nm,1.5s
ANMO Albuquerque 51.32 80 *eP* P 11 43 57.6 +1.5
comp=Z,20nm,1.5s
ANMO *ep*P pP 11 44 11.0 0.0
R27A **Eads** 51.37 75 ⇓P P 11 43 57.0 +0.7
baz=51,SNR=5.0
W23A **Werner Place,** 51.37 80 ⇓P P 11 43 57.2 +0.7
baz=51,SNR=7.5
S26A **Kim** 51.39 76 ⇓P P 11 43 56.8 +0.3
baz=51,SNR=5.3
V24A **Rampart Ranch,** 51.54 79 ⇓P P 11 43 59.1 +1.3
baz=51,SNR=6.2
ECSD **EROS Data Cent** 51.54 65 *eP* P 11 43 56.3 -1.1
comp=Z,21nm,1.4s
219A **White Tail Can** 51.57 85 ⇑P P 11 43 58.8 +0.9
baz=52
120A **U Bar Ranch, L** 51.59 84 ⇑P P 11 43 59.2 +1.1
baz=52
U25A **Circle Dot Ran** 51.62 78 ⇑P P 11 43 58.9 +0.6
baz=51,SNR=7.0
LPM **Los Pinos Moun** 51.64 81 *eP* P 11 43 59.0 +0.5
LPM *ep*P pP 11 44 13.6 +0.2
Z21A **St. Cloud Mine** 51.67 83 ⇑P P 11 43 59.9 +1.2
baz=52
Y22A **Socorro** 51.68 82 ⇓P P 11 43 59.9 +1.1
baz=52,SNR=5.9
X23A **Hourglass Bar** 51.73 81 ⇓P P 11 43 59.6 +0.4
baz=52,SNR=5.9
BNM **Barren Site** 51.75 81 *eP* P 11 44 00.9 +1.5
comp=Z,6.1nm,0.6s
BNM *ep*P pP 11 44 14.5 +0.2
W24A **Lazy 6 Ranch,** 51.79 79 ⇑P P 11 43 59.9 +0.2
baz=52,SNR=6.4
V25A **Rancho No Teng** 51.86 78 ⇑P P 11 44 01.0 +0.8
baz=52,SNR=6.6
319A **Douglas** 51.98 86 ⇓P P 11 44 02.1 +1.1
baz=52
U26A **Atchley Ranch,** 52.03 77 ⇓P P 11 44 02.3 +0.9
baz=52,SNR=6.2
220A **Playas Peak, P** 52.09 85 ⇓P P 11 44 02.9 +1.0
baz=52,SNR=7.5
121A **Cookes Peak, D** 52.12 84 ⇓P P 11 44 03.1 +1.0
baz=52
Z22A **Elephant Butte** 52.14 82 ⇓P P 11 44 03.1 +0.9
baz=52
T27A **Campo** 52.21 76 ⇑P P 11 44 03.1 +0.5
baz=52
Y23A **Lovelace Mesa,** 52.25 81 ⇓P P 11 44 04.1 +1.1
baz=52,SNR=7.1
W25A **X Bar L Ranch,** 52.37 79 ⇓P P 11 44 04.7 +0.9
baz=52,SNR=6.6
122A **Conniff Cattle** 52.49 83 ⇑P P 11 44 05.6 +0.8
baz=52
T28A **Walsh** 52.54 75 ⇓P P 11 44 05.5 +0.5
baz=52,SNR=5.6
Z23A **Rita Site, Whi** 52.59 82 ⇑P P 11 44 06.5 +1.0
baz=52
Y24A **Capitan** 52.63 81 ⇑P P 11 44 06.6 +0.7
baz=52,SNR=13
X25A **Clemmons Ranch** 52.70 80 ⇑P P 11 44 07.0 +0.7
baz=52,SNR=5.8
SPMN **St. Paul** 52.73 62 ⇓P P 11 44 06.0 -0.2
baz=52
Z24A **Sheeppen Canyo** 53.08 81 ⇓P P 11 44 09.7 +0.6
baz=53,SNR=5.3
Y25A **Mesa, Roswell** 53.09 80 ⇑P P 11 44 09.8 +0.6
baz=53,SNR=5.4
X26A **CR and CF Fran** 53.21 79 ⇓P P 11 44 11.0 +1.0
baz=53
W27A **Bowe Ranch, En** 53.32 78 ⇑P P 11 44 11.7 +0.8
baz=53
Z25A **Roswell** 53.51 81 ⇑P P 11 44 12.9 +0.7
baz=53,SNR=6.6
X27A **F and S Farms,** 53.58 78 ⇑P P 11 44 13.4 +0.6
baz=53
Y26A **Elida** 53.62 79 ⇓P P 11 44 13.8 +0.7
baz=54
224A **Cornudas Mount** 53.83 82 ⇑P P 11 44 15.3 +0.7
baz=54
125A **Gardner Draw,** 53.97 81 ⇓P P 11 44 16.2 +0.6
baz=54,SNR=6.5
Z26A **Caprock** 53.97 80 ⇓P P 11 44 16.1 +0.5
baz=54,SNR=8.3
Y27A **Causey** 54.05 79 ⇑P P 11 44 16.6 +0.3
baz=54,SNR=13
MSTX **Muleshoe** 54.24 79 ⇑P P 11 44 17.5 0.0
baz=54,SNR=6.5
225A **Deer Hill, Car** 54.24 82 ⇓P P 11 44 18.5 +0.8
baz=54
324A **Moseley Ranch,** 54.29 83 ⇓P P 11 44 18.8 +0.8
baz=54
126A **Clayton Basin,** 54.37 81 ⇑P P 11 44 19.0 +0.5
baz=54
WHN **Wuhan** 54.38 276 P P 11 44 18.0 -0.4
Z27A **Tatum** 54.41 80 ⇓P P 11 44 18.9 +0.1
baz=54,SNR=6.9
GDL2 **Guadalupe Moun** 54.46 81 *eP* P 11 44 20.1 +0.9
comp=Z,3.6nm,0.7s
GDL2 *ep*P pP 11 44 34.0 -0.2
325A **Bean Ranch, Si** 54.66 83 ⇑P P 11 44 21.4 +0.7
baz=54,SNR=9.5
226A **Malaga, Loving** 54.72 81 ⇑P P 11 44 21.4 +0.4
baz=55,SNR=6.0
127A **Arkansas Junct** 54.76 80 ⇑P P 11 44 20.9 -0.4
baz=55
425A **Indio Mountain** 55.05 83 ⇓P P 11 44 24.1 +0.6
baz=55,SNR=6.3
ZALV **Zalesovo Beam** 55.10 315 P P 11 44 22.9 -0.4
comp=Z,0.4nm,0.3s,baz=46,slow=6.4,SNR=2.7
ZALV PcP PcP 11 45 23.1 -1.0
comp=Z,1.5nm,0.7s,baz=30,slow=4.9,SNR=5.4
ZALV LR LR 12 09 27.8
comp=Z,45nm,19.7s,baz=71,slow=38
ZALV Zalesovo Beam 55.10 315 P P 11 44 22.9 -0.4
ZALV 11 45 23.1
ZALV Zalesovo Beam 55.10 315 P P 11 44 22.9 -0.4
ZALV PcP PcP 11 45 23.1 -1.0
326A **Caldwell Ranch** 55.31 82 ⇓P P 11 44 25.6 +0.3
baz=55,SNR=6.4
426A **McDonald Obser** 55.73 83 ⇑P P 11 44 28.6 +0.1
baz=56,SNR=6.1
328A **Wristen Ranch,** 55.98 81 ⇑P P 11 44 30.2 +0.2
baz=56,SNR=6.7
427A **Hayter Ranch,** 55.99 82 ⇑P P 11 44 30.4 +0.2
baz=56
526A **Mary Lane Ranc** 56.11 83 ⇓P P 11 44 31.5 +0.4
baz=56,SNR=9.5
WMOK **Wichita Mounta** 56.14 75 *eP* P 11 44 31.7 +0.6
WMOK *e*PP pP 11 44 45.6 -0.6
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 56.14 75 *eP* P 11 44 31.7 +0.6
comp=Z,9.1nm,1.0s
WMOK *ep*P pP 11 44 45.6 -0.6
626A **Big Bend Ranch** 56.44 84 ⇓P P 11 44 33.7 +0.4
baz=56,SNR=12
428A **Kincaid Ranch,** 56.52 81 ⇑P P 11 44 34.6 +0.6
baz=56,SNR=13
528A **Cox Ranch, San** 56.85 82 ⇑P P 11 44 36.3 0.0
baz=57,SNR=5.9
TXAR **Lajitas Array** 56.88 83 P P 11 44 36.9 +0.4
comp=Z,4.0nm,0.8s,baz=303,slow=4.8,SNR=45

TXAR	Lajitas Array	56.88	83		P		P	11 44 36.9	+0.4
TXAR	Lajitas Array	56.88	83		P		P	11 44 36.9	+0.4
627A	Terlingua Ranc	56.97	83	⇑	P		P	11 44 37.3	+0.1
	baz=57,SNR=7.1								
LZH	Lanzhou	56.98	288		*e*P		P	11 44 35.5	-1.7
LZH					pP		pP	11 44 50.4	-2.0
LZH					sP		sP	11 44 57.4	-1.4
LZH					PP		PP	11 46 42.4	-1.6
LZH					*e*S		S	11 52 27.5	+0.2
LZH					sS		sS	11 52 45.1	-7.7
LZH					pmax	pmax			
	comp=Z,13nm,1.1s								
LZH					pmax	pmax			
	comp=Z,43nm,5.2s								
LZH					LR	LR			
	comp=N,140nm,12.6s								
LZH					LR	LR			
	comp=E,120nm,14.5s								
LZH					LR	LR			
	comp=Z,200nm,17.1s								
TUL1	Tulsa	57.13	72	⇑	P		P	11 44 38.1	0.0
	baz=57								
628A	Black Gap, Mar	57.26	83	⇓	P		P	11 44 39.3	+0.1
	baz=57,SNR=10								
ENH	Enshi	57.57	279		*e*P		P	11 44 41.4	+0.1
	comp=Z,12nm,0.7s								
HDIL	Hopedale	57.73	64		*e*P		P	11 44 41.5	-0.7
KEV	Kevo	57.75	351		*e*P		P	11 44 40.7	-1.2
KEV	Kevo	57.75	351		*e*p		P	11 44 40.7	-1.2
KEV	Kevo	57.75	351		*e*p		P	11 44 40.7	-1.2
ARCES	ARCESS Array B	58.11	351		P		P	11 44 43.5	-1.0
	comp=Z,8.5nm,1.1s,baz=12,slow=7.3,SNR=8.5								
ARCES	ARCESS Array B	58.11	351		P		P	11 44 43.5	-1.0
ARCES	ARCESS Array B	58.11	351		P		P	11 44 43.5	-1.0
CCM	Cathedral Cave	58.33	67		*e*P		P	11 44 45.0	-1.4
CCM					*e**PP		pP	11 45 00.8	-0.8
CCM					pmax	pmax			
	comp=Z,13nm,0.7s								
CCM	Cathedral Cave	58.33	67		*e*P		P	11 44 45.0	-1.4
	comp=Z,13nm,0.7s								
CCM					*e*pP		pP	11 45 00.8	-0.8
JCT	Junction City	58.46	80		*e*P		P	11 44 46.9	-0.7
JCT					*e**PP		pP	11 45 01.4	-1.3
JCT					pmax	pmax			
	comp=Z,10.0nm,0.9s								
JCT	Junction City	58.46	80		*e*P		P	11 44 46.9	-0.7
	comp=Z,10nm,0.9s								
JCT					*e*pP		pP	11 45 01.4	-1.3
JCT	Junction City	58.46	80	⇑	P		P	11 44 47.4	-0.2
	baz=58								
SCHQ	Schefferville	58.70	40		P		P	11 44 47.7	-1.1
	comp=Z,3.5nm,0.8s,baz=233,slow=18,SNR=8.5								
SCHQ	Schefferville	58.70	40		P		P	11 44 47.7	-1.1
FVM	French Village	58.84	67		*e*P		P	11 44 49.1	-1.0
FVM					pmax	pmax			
	comp=Z,32nm,0.5s								
FVM	French Village	58.84	67		*e*P		P	11 44 49.1	-1.0
	comp=Z,32nm,0.5s								
SFIN	Scholer Farm	59.08	63	⇑	P		P	11 44 51.0	-0.6
	baz=59								
MIAR	Mount Ida	59.38	72		*e*P		P	11 44 54.1	+0.3
MIAR					*e**PP		pP	11 45 07.8	-1.2
MIAR					pmax	pmax			
	comp=Z,97nm,1.7s								
MIAR	Mount Ida	59.38	72		*e*P		P	11 44 54.1	+0.3
	comp=Z,97nm,1.7s								
MIAR					*e*pP		pP	11 45 07.8	-1.2
OLIL	Olney	59.65	65		*e*P		P	11 44 55.2	-0.4
	comp=Z,30nm,0.7s								
OLIL					*e*pP		pP	11 45 08.5	-2.4
SIUC	Southern Illin	59.72	66		*e*P		P	11 44 55.4	-0.7
	comp=Z,23nm,0.6s								
SIUC					*e*pP		pP	11 45 09.2	-2.1
KURK	Kurchatov	60.09	315		*i*P		P	11 44 56.6	-1.8
KURK					pmax	pmax			
	comp=Z,5.0nm,0.5s								
PARMO	Parma	60.15	68		*e*P		P	11 44 58.3	-0.7
BLO	Bloomington	60.23	64		*e*P		P	11 45 00.1	+0.5
BLO					pmax	pmax			
	comp=Z,9.0nm,0.4s								
BLO	Bloomington	60.23	64		*e*P		P	11 45 00.1	+0.5
	comp=Z,8.9nm,0.4s								
USIN	University of	60.43	65		*e*P		P	11 45 00.6	-0.3
	comp=Z,48nm,0.6s								
USIN					*e*pP		pP	11 45 14.3	-1.9
CD2	Chengdu	60.62	284		P		P	11 45 03.8	+1.4
CD2					pP		pP	11 45 19.0	+1.3
CD2					sP		sP	11 45 25.4	+1.3
CD2					PP		PP	11 47 19.3	+3.1
CD2					S		S	11 53 12.7	-1.8
CD2					sS		sS	11 53 38.5	-1.7
CD2					SS		SS	11 57 12.3	-0.8
CD2					pmax	pmax			
	comp=Z,20nm,0.5s								
CD2					pmax	pmax			
	comp=Z,150nm,5.4s								
CD2					LR	LR			
	comp=N,390nm,5.3s								
CD2					LR	LR			
	comp=Z,270nm,4.5s								
WMQ	Urumqi	60.65	304		*e*P		P	11 45 04.1	+1.6
MKAR	Makanchi Array	61.23	310		P		P	11 45 04.7	-1.6
	comp=Z,1.8nm,0.5s,baz=42,slow=6.9,SNR=12								
MKAR					LR	LR		12 11 01.3	
	comp=Z,41nm,18.4s,baz=11,slow=35								
MKAR	Makanchi Array	61.23	310	*ce*	P		P	11 45 04.6	-1.6
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
MKAR	Makanchi Array	61.23	310		P		P	11 45 04.7	-1.6
WVT	Waverly	61.62	67		*e*P		P	11 45 08.7	-0.4
WVT	Waverly	61.62	67		*e*P		P	11 45 08.7	-0.4
BRVK	Borovoye	61.82	321	*de*	P		P	11 45 09.5	-0.6
BRVK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
BRVK	Borovoye	61.82	321		*e*P		P	11 45 09.7	-0.4
	comp=Z,4.9nm,1.2s								
GYA	Guiyang	62.03	278		P		P	11 45 13.0	+0.9
GYA					pP		pP	11 45 28.7	+1.3
GYA					sP		sP	11 45 35.4	+1.7
GYA					PP		PP	11 47 31.2	+2.4
GYA					ScP		ScP	11 49 48.9	0.0
GYA					PcS		PcS	11 49 55.7	+0.2
GYA					S		S	11 53 30.6	-1.9
GYA					sS		sS	11 53 55.0	-3.3
GYA					SS		SS	11 57 34.5	-0.9
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,5.0s								
GYA					LR	LR			
	comp=N,340nm,18.4s								
GYA					LR	LR			
	comp=E,380nm,19.2s								
GYA					LR	LR			
	comp=Z,410nm,18.7s								
ARU	Arti	63.28	330		P		P	11 45 20.5	+0.7
ARU					*e*			11 47 40.1	
ARU					S		S	11 53 50.1	+3.0
ARU					SS		SS	11 57 55.0	+1.7
SWET	Sewanee	63.36	66		*e*P		P	11 45 20.0	-0.7
	comp=Z,47nm,1.6s								
JOF	Joensuu	63.77	346		*e*P		P	11 45 20.3	-2.6
JOF					pmax	pmax			
	comp=Z,1.0nm,0.3s								
JOF	Joensuu	63.77	346		*e*p		P	11 45 20.3	-2.6
	comp=Z,0.9nm,0.3s								
JOF	Joensuu	63.77	346		*e*p		P	11 45 20.3	-2.6
	comp=Z,0.9nm,0.3s								
CPCT	Cooper Cave	63.99	65		*e*P		P	11 45 24.4	-0.4
TKL	Tuckaleechee C	64.26	65		*e*P		P	11 45 26.9	+0.3
TKL	Tuckaleechee C	64.26	65		*e*P		P	11 45 26.9	+0.3
ELN	Prospectdale	64.81	61		*e*P		P	11 45 30.4	+0.3
KAF	Kangasniemi	65.22	349		*e*P		P	11 45 38.6	+6.3
KAF					pmax	pmax			
	comp=Z,2.0nm,0.4s								
KAF	Kangasniemi	65.22	349		*e*p		P	11 45 38.6	+6.3
	comp=Z,2.1nm,0.4s								
KAF	Kangasniemi	65.22	349		*e*p		P	11 45 38.6	+6.3
	comp=Z,2.1nm,0.4s								
KMI	Kunming	65.42	280		P		P	11 45 35.1	+0.6
KMI					pmax	pmax			
	comp=Z,11nm,1.0s								
FINES	FINESS Array B	65.89	349		P		P	11 45 35.2	-1.5
	comp=Z,0.9nm,0.5s,baz=359,slow=10,SNR=4.3								
FINES	FINESS Array B	65.89	349		P		P	11 45 35.2	-1.5
FINES	FINESS Array B	65.89	349		P		P	11 45 35.2	-1.5
GOGA	Godfrey	66.07	66		*e*P		P	11 45 37.4	-0.9
GOGA					pmax	pmax			
	comp=Z,23nm,1.0s								
GOGA	Godfrey	66.07	66		*e*P		P	11 45 37.4	-0.9
	comp=Z,23nm,1.0s								
JSC	Jenkinsville	66.68	64		*e*P		P	11 45 42.3	+0.1
JSC	Jenkinsville	66.68	64		*e*P		P	11 45 42.3	+0.1
TKM2	Tokmak 2	67.28	311		*e*P		P	11 45 46.0	-0.2
TKM2	Tokmak 2	67.28	311		*e*P		P	11 45 46.0	-0.2
NOA	NORSAR Array B	67.52	356		P		P	11 45 45.3	-1.8
	comp=Z,0.5nm,0.7s,baz=20,slow=6.4,SNR=3.7								
NOA					LR	LR		12 16 18.6	
	comp=Z,18nm,19.0s,baz=205,slow=37								
NOA	NORSAR Array B	67.52	356		P		P	11 45 45.3	-1.8
NOA	NORSAR Array B	67.52	356		P		P	11 45 45.3	-1.8
COW	Cow Castle Cre	67.66	64		*e*P		P	11 45 48.8	+0.4
TAOE	Nuku Hiva Isla	67.69	141		*e*T		T	12 59 42.4	
	comp=Z,241nm,0.3s								
AAK	Ala-Archa	68.02	311	*de*	P		P	11 45 50.3	-0.5
AAK					pmax	pmax			
	comp=Z,7.0nm,0.5s								
AAK	Ala-Archa	68.02	311		*e*P		P	11 45 50.5	-0.3
	comp=Z,22nm,0.7s								
EKS2	Erkin-Say	68.33	312		*e*P		P	11 45 52.4	-0.3
EKS2					pmax	pmax			
	comp=Z,6.0nm,0.6s								
EKS2	Erkin-Say	68.33	312		*e*P		P	11 45 52.4	-0.3
	comp=Z,5.9nm,0.6s								
ABKAR	Akbulak array	68.77	324		*e*P		P	11 45 55.0	-0.1
KKAR	Karatay Array	69.48	314		*e*P		P	11 45 59.3	-0.4
KKAR	Karatay Array	69.48	314		*e*P		P	11 45 59.2	-0.4
KSH	Kashi	69.73	308		*e*P		P	11 46 04.0	+2.6
KSH					*e*pP		pP	11 46 20.0	+3.1
KSH					*e*PcP		PcP	11 46 26.4	+2.6
KSH					*e*sP		sP	11 46 27.6	+4.3
KSH					*e*PP		PP	11 48 40.3	+4.7
KSH					*e*S		S	11 55 05.1	-0.8
KSH					*e*sS		sS	11 55 35.3	+3.2
KSH					*e*ScS		SKSac	11 55 56.1	-1.1
KSH					*e*SS		SS	11 59 38.2	+4.1
KSH					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KSH					pmax	pmax			
	comp=Z,65nm,4.1s								
KSH					LR	LR			
	comp=N,110nm,5.1s								
KSH					LR	LR			
	comp=E,160nm,5.2s								
KSH					LR	LR			
	comp=Z,120nm,5.0s								
PMOR	Pomariorio Ree	70.73	151		*e*T		T	13 03 26.8	
	comp=Z,18nm,0.3s								
CHTO	Chiang Mai	72.45	278		*e*P		P	11 46 17.1	-0.8
CHTO					pmax	pmax			
	comp=Z,12nm,1.2s								
CHTO	Chiang Mai	72.45	278		*e*P		P	11 46 17.1	-0.8
	comp=Z,12nm,1.2s								
CHTO					*e*P		P	11 46 18.4	+0.5
PPT2	Papeete2	72.70	154		*e*LR		LR	12 08 35.7	
	comp=Z,66nm,25.8s								
PPT2					*e*T		T	13 05 52.1	
	comp=Z,22nm,0.3s								
CM31	Chiang Mai Arr	72.72	278		*e*P		P	11 46 20.4	+0.8
	comp=Z,1.8nm,0.4s								
CMAR	Chiang Mai Arr	72.72	278		P		P	11 46 20.2	+0.6
	comp=Z,7.4nm,0.8s,baz=27,slow=7.2,SNR=33								
CMAR					LR	LR		12 19 09.6	
	comp=Z,23nm,19.4s,baz=160,slow=36								
CMAR	Chiang Mai Arr	72.72	278		P		P	11 46 20.2	+0.6
CMAR	Chiang Mai Arr	72.72	278		P		P	11 46 20.2	+0.6
TAPN	Taplejung	72.74	292		*e*P		P	11 46 19.7	-0.3
TAPN	Taplejung	72.74	292		*e*P		P	11 46 19.7	-0.3
PAE	Paea	72.77	154		*e*T		T	13 05 58.6	
	comp=Z,4.5nm,0.3s								
GUN	Gumba	73.36	294		*e*P		P	11 46 23.5	-0.2
	comp=Z,38nm,0.4s								
GUN	Gumba	73.36	294		*e*P		P	11 46 23.5	-0.2
	comp=Z,38nm,0.4s								
JIRN	Jiri	73.38	293		*e*P		P	11 46 23.9	+0.1
	comp=Z,38nm,0.6s								
JIRN	Jiri	73.38	293		*e*P		P	11 46 23.9	+0.1
	comp=Z,38nm,0.6s								
RAMN	Ramite	73.69	293		*e*P		P	11 46 24.9	-0.6
	comp=Z,20nm,0.5s								
RAMN	Ramite	73.69	293		*e*P		P	11 46 24.9	-0.6
	comp=Z,20nm,0.5s								
KKN	Kakani	73.80	294		*e*P		P	11 46 26.8	+0.7
	comp=Z,14nm,0.5s								
KKN	Kakani	73.80	294		*e*P		P	11 46 26.8	+0.7
KKN					pmax	pmax			
	comp=Z,14nm,0.5s								
KKN	Kakani	73.80	294		*e*P		P	11 46 26.8	+0.7
	comp=Z,14nm,0.5s								
PKI	Pulchoki	73.89	294		*e*P		P	11 46 26.5	-0.3
PKI	Pulchoki	73.89	294		*e*P		P	11 46 26.5	-0.3
PKI	Pulchoki	73.89	294		*e*P		P	11 46 26.5	-0.3
GKN	Gorkha	74.00	295		*e*P		P	11 46 27.4	+0.2
	comp=Z,18nm,0.6s								
GKN	Gorkha	74.00	295		*e*P		P	11 46 27.4	+0.2
	comp=Z,18nm,0.6s								
DMN	Daman	74.04	294		*e*P		P	11 46 27.6	+0.1
DMN	Daman	74.04	294		*e*P		P	11 46 27.6	+0.1
DANN	Dangsing	74.23	296		*e*P		P	11 46 28.8	+0.1
	comp=Z,20nm,0.6s								
DANN	Dangsing	74.23	296		*e*P		P	11 46 28.8	+0.1
	comp=Z,20nm,0.6s								
KOLN	Koldanda	74.76	295		*e*P		P	11 46 32.2	+0.5
	comp=Z,6.1nm,0.4s								
KOLN	Koldanda	74.76	295		*e*P		P	11 46 32.2	+0.5
	comp=Z,6.1nm,0.4s								
AKASG	Malin Array Be	75.81	344		P		P	11 46 34.6	-2.4
	comp=Z,0.7nm,0.3s,baz=18,slow=6.1,SNR=3.8								
AKASG	Malin Array Be	75.81	344		P		P	11 46 34.6	-2.4
AKASG	Malin Array Be	75.81	344		P		P	11 46 34.6	-2.4
KBL	Kabul	77.03	310		*e*P		P	11 46 43.3	-1.2
KBL	Kabul	77.03	310		*e*P		P	11 46 43.3	-1.2
TBI	Tubuai	78.22	155		*e*LR		LR	12 11 14.9	
	comp=Z,49nm,25.5s								
TBI					*e*T		T	13 12 46.5	
	comp=Z,8.9nm,0.3s								
CTA	Charters Tower	78.69	216		P		P	11 46 54.3	+0.9
	comp=Z,8.7nm,0.9s,baz=15,slow=7.6,SNR=3.7								
CTA	Charters Tower	78.69	216		P		P	11 46 54.3	+0.9
CTA	Charters Tower	78.69	216		P		P	11 46 54.3	+0.9
GERES	GERESS Array B	79.55	354		P		P	11 46 56.1	-2.0
	comp=Z,0.3nm,0.5s,baz=348,slow=8.0,SNR=3.0								
GERES					LR	LR		12 21 02.6	
	comp=Z,41nm,19.4s,baz=60,slow=35								
GERES	GERESS Array B	79.55	354		P		P	11 46 56.1	-2.0
GERES	GERESS Array B	79.55	354		P		P	11 46 56.1	-2.0
VOIR		81.61	345	‖	*i*P		P	11 47 10.6	+1.5
PKSM	Moragy	81.71	350	‖	*i*P		pP	11 47 27.8	+2.4
GZR	Gura Zlata	82.00	347	‖	*i*P		P	11 47 09.6	-1.5
RKT	Rikitea	82.68	142		*e*T		T	13 18 25.0	
	comp=Z,7.4nm,0.3s								
WRA	Warramunga Arr	83.44	226		P		P	11 47 19.2	+0.5
	comp=Z,3.0nm,0.6s,baz=33,slow=5.8,SNR=15								
WRA					PKKPbc		PKKPbc	12 05 37.0	+1.0
	comp=Z,0.2nm,0.4s,baz=151,slow=2.1,SNR=9.1								
WRA	Warramunga Arr	83.44	226		P		P	11 47 19.2	+0.5
WRA	Warramunga Arr	83.44	226		P		P	11 47 19.2	+0.5
WRA					PKKPbc		PKKPbc	12 05 37.0	+1.0
BRTR	Keskin Array B	85.40	338		P		P	11 47 27.6	-1.2
	comp=Z,0.9nm,0.5s,baz=16,slow=3.9,SNR=3.9								
BRTR	Keskin Array B	85.40	338	*ce*	P		P	11 47 30.1	+1.4
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BRTR	Keskin Array B	85.40	338		P		P	11 47 27.6	-1.2
HYB	Hyderabad	85.75	293		*i*P		P	11 47 30.0	-0.6
FITZ	Fitzroy Crossi	86.02	234		P		P	11 47 32.9	+1.2
	comp=Z,4nm,0.7s,baz=21,slow=9.1,SNR=7.0								
FITZ	Fitzroy Crossi	86.02	234		P		P	11 47 32.9	+1.2
ASAR	Alice Springs	86.89	225		P		P	11 47 37.0	+1.2
	comp=Z,5.2nm,0.8s,baz=30,slow=4.6,SNR=25								
ASAR					PKKPbc		PKKPbc	12 05 28.8	+0.8
	comp=Z,0.2nm,0.5s,baz=206,slow=2.1,SNR=5.5								
ASAR	Alice Springs	86.89	225		P		P	11 47 37.1	+1.2
ASAR	Alice Springs	86.89	225		P		P	11 47 37.0	+1.2
ASAR					PKKPbc		PKKPbc	12 05 28.8	+0.8
LRS	Lares	87.15	64		*e*P		P	11 47 38.2	+0.7
STKA	Stephens Creek	91.12	215		P		P	11 47 56.3	+0.7
	comp=Z,3.4nm,0.7s,baz=334,slow=5.7,SNR=5.6								
STKA	Stephens Creek	91.12	215		P		P	11 47 56.3	+0.7
STKA	Stephens Creek	91.12	215		P		P	11 47 56.3	+0.7
TORD	Torodi Ar. Bea	115.45	2		PKP		PKPdf	11 53 32.6	-0.5
	comp=Z,1.7nm,0.5s,baz=346,slow=2.2,SNR=22								
TORD					PKKPbc		PKKPbc	12 04 06.4	+1.8
	comp=Z,0.4nm,0.6s,baz=174,slow=2.4,SNR=4.7								
TORD					PKKPab		PKKPab	12 04 12.2	-2.6
	comp=Z,0.9nm,0.6s,baz=178,slow=3.6,SNR=9.1								
TORD					PKKP		PKKPdf	12 04 27.2	-0.5
	comp=Z,0.9nm,0.8s,baz=172,slow=3.3,SNR=5.1								
TORD	Torodi Ar. Bea	115.45	2		PKP		PKPdf	11 53 32.6	-0.5
TORD					PKKPbc		PKKPbc	12 04 06.4	+1.8
TORD					PKKPab		PKKPab	12 04 12.2	-2.6
TORD					PKKP		PKKPdf	12 04 27.2	-0.5
DBIC	Dimbokro	121.42	10		PKP		PKPdf	11 53 43.8	-0.8
	comp=Z,1.9nm,0.3s,baz=345,slow=1.1,SNR=12								
DBIC	Dimbokro	121.42	10		PKIKP		PKPdf	11 53 43.8	-0.8
DBIC	Dimbokro	121.42	10		PKP		PKPdf	11 53 43.8	-0.8
CPUP	Villa Florida	127.83	86		PKP		PKPdf	11 53 55.6	-0.8
	comp=Z,0.4nm,0.3s,baz=208,slow=5.9,SNR=3.3								
CPUP	Villa Florida	127.83	86		PKIKP		PKPdf	11 53 55.6	-0.8
CPUP	Villa Florida	127.83	86		PKP		PKPdf	11 53 55.6	-0.8
PLCA	Paso Flores	129.38	109		PKP		PKPdf	11 53 59.5	+0.5
	comp=Z,2.2nm,0.6s,baz=353,slow=1.4,SNR=5.7								
PLCA	Paso Flores	129.38	109		PKIKP		PKPdf	11 53 59.5	+0.5
PLCA	Paso Flores	129.38	109		PKP		PKPdf	11 53 59.5	+0.5
QSPA	South Pole Qui	141.40	180	*e*	PKPdf		PKPdf	11 54 15.9	-4.6
MAW	Mawson	147.76	218		PKPbc		PKPbc	11 54 35.4	+1.0
	comp=Z,12nm,0.6s,baz=92,slow=1.0,SNR=15								
MAW	Mawson	147.76	218		PKP2		PKPbc	11 54 35.4	+1.0
MAW	Mawson	147.76	218		PKPbc		PKPbc	11 54 35.4	+1.0
BOSA	Boshof	152.03	317		PKPbc		PKPbc	11 54 46.2	0.0
	comp=Z,14nm,0.6s,baz=42,slow=2.2,SNR=40								
BOSA	Boshof	152.03	317		PKIKP		PKPbc	11 54 46.2	0.0
BOSA	Boshof	152.03	317		PKPbc		PKPbc	11 54 46.2	0.0

*IDC **09** 11:43:07.5±0.6, 4.°44N×78.°62W, h0km, mb4.0/14, mb1 4.3/15, mb1mx4.2/22, mbtmp4.1/15, ML3.3/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/34, Error ellipse: s-maj=32.6km s-min=13.9km az=63.0*

*ISCJB **09** 11:43:08.6±0.3, 4.°41N±0.°04×78.°74W±0.°05, h11km, mb4.4/27, MS3.5/5, Error ellipse: s-maj=8.2km s-min=5.4km az=155.6*

*NEIC **09** 11:43:15.0±1.2, 4.°32N×78.°81W, h52km±12km, mb4.6/17, Error ellipse: s-maj=14.7km s-min=8.2km az=55.0*

ISC 09 11:43:10.0±0.4, **4.°41N**±0.°06×**78.°70W**±0.°08, **h11**km, **n68, σ1°65/60, mb4.5/29, MS3.5/5, South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
OTAV	Otavalo	4.16	177	*e*	Pn	Pn	11 44 13.2		-0.7
OTAV				*e*	Sn	Sn	11 45 02.5		-0.2
ROSC	El Rosal	4.38	84		Pn	Pn	11 44 22.2		+5.4
	13nm,0.3s,baz=317,slow=5.2,SNR=12								
ROSC					LR	LR	11 46 17.3		
	comp=Z,189nm,19.9s,baz=207,slow=44								
ROSC	El Rosal	4.38	84		Pn	Pn	11 44 22.2		+5.4
JTS	JuntasAbangare	8.52	314		Pn	Pn	11 45 12.8		-0.6
	0.3nm,0.3s,baz=74,slow=19,SNR=3.2								
JTS					LR	LR	11 48 09.8		
	comp=Z,460nm,20.5s,baz=132,slow=35								
JTS	JuntasAbangare	8.52	314	*e*	Pn	Pn	11 45 15.7		+2.2
JTS				*e*	Sn	Sn	11 46 53.5		+3.9
SDV	Santo Domingo	9.16	61	*e*	Pn	Pn	11 45 27.1		+4.7
SDV				*e*	Sn	Sn	11 47 09.7		+4.1
ATAH	Atahualpa	11.48	178		Pn	Pn	11 45 57.8		+3.5
	1.8nm,0.3s,baz=345,slow=8.4,SNR=8.8								
ATAH					LR	LR	11 50 33.9		
	comp=Z,159nm,19.3s,baz=189,slow=39								
ATAH	Atahualpa	11.48	178		Pn	Pn	11 45 57.8		+3.5
NNA	Nana	16.40	174		Pn	P	11 47 06.8		+3.6
	5.6nm,0.3s,baz=354,slow=12,SNR=16								
NNA	Nana	16.40	174		Pn	P	11 47 06.8		+3.6
TEIG	Tepich	18.28	330		LR	LR	11 53 47.8		
	comp=Z,150nm,21.6s,baz=80,slow=35								
CMIG	Matias Romero	20.26	310		P	P	11 47 45.7		0.0
	2.8nm,0.9s,baz=96,slow=11,SNR=2.6								
CMIG					LR	LR	11 55 21.9		
	comp=Z,92nm,21.4s,baz=298,slow=36								
CMIG	Matias Romero	20.26	310		P	P	11 47 45.7		0.0
SAML	Samuel	20.38	131	*e*	P	P	11 47 47.6		+0.6
	18nm,0.8s								
LPAZ	La Paz	23.07	153		P	P	11 48 19.7		+3.2
	6.5nm,0.8s,baz=336,slow=13,SNR=15								
LPAZ	La Paz	23.07	153	*e*	P	P	11 48 18.3		+1.9
	7.0nm,0.8s								
TXAR	Lajitas Array	34.26	319		P	P	11 49 54.1		-2.2
	1.6nm,1.1s,baz=115,slow=6.1,SNR=5.0								
TXAR

MKAR	**Makanchi Array**	**126.31**	**16**	PKP	**PKPdf**	**12 02 12.5**	**-0.7**
	0.4nm,0.9s,baz=48,slow=2.1,SNR=3.0						
MKAR	**Makanchi Array**	**126.31**	**16**	PKP	**PKPdf**	**12 02 12.5**	**-0.7**
ASAR	**Alice Springs**	**143.19**	**236**	PKhKP	PKPpre	12 02 40.5	
	1.0nm,0.7s,baz=116,slow=3.7,SNR=15						
ASAR	**Alice Springs**	**143.19**	**236**	PKPpre	PKPpre	12 02 40.5	
WRA	**Warramunga Arr**	**144.32**	**242**	PKP	**PKPab**	**12 02 44.5**	**-0.7**
	6.1nm,0.8s,baz=108,slow=3.3,SNR=25						
WRA	**Warramunga Arr**	**144.32**	**242**	PKP	**PKPab**	**12 02 44.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**152.58**	**238**	PKPbc	**PKPbc**	**12 03 06.9**	**-0.8**
	1.0nm,0.4s,baz=126,slow=16,SNR=5.9						
FITZ	**Fitzroy Crossi**	**152.58**	**238**	PKPbc	**PKPbc**	**12 03 06.9**	**-0.8**

JMA 09 11:46:30.8±0.2, 32°.92N×137°.24E, h414^{km}, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.11**	**23**	P	P	11 47 25.3	+1.9
JWZ	**Kozaga**	**1.42**	**296**	P	P	11 47 25.1	+0.2
JIE	**Ise**	**1.53**	**343**	P	P	11 47 25.7	+0.3
JKN2	**Miekihoku**	**1.54**	**329**	P	P	11 47 25.7	+0.2
JWY	**Kouya**	**1.89**	**314**	P	P	11 47 27.6	+0.2
JAI	**Aioi**	**2.49**	**291**	P	P	11 47 31.7	+0.6
JWT	**Wachi**	**2.81**	**328**	P	P	11 47 34.9	+1.5
BSO3	**Boso 3**	**3.31**	**55**	P	P	11 47 37.8	+0.8
JHU	**Hanno**	**3.38**	**29**	P	P	11 47 38.8	+0.8
JHU				eS	S	11 48 27.2	-5.5
JRY	**Ryogami san**	**3.38**	**23**	P	P	11 47 39.5	+1.5
JRY				eS	S	11 48 30.1	-2.8
BSO1	**Boso 1**	**3.56**	**60**	P	P	11 47 40.1	+1.2
JAG	**Ashikaga**	**3.94**	**27**	P	P	11 47 43.0	0.0
JAG				eS	S	11 48 35.3	-6.6
JYT	**Yasato**	**4.10**	**36**	P	P	11 47 44.6	+0.2
JHO	**Hitachi**	**4.59**	**36**	P	P	11 47 48.8	-0.3
JFK	**Kawauchi**	**5.34**	**33**	P	P	11 47 57.1	+0.4
JFK				eS	S	11 48 59.5	-7.6

IDC 09 12:14:07.2±3.7, 10°.62N×84°.22W, h0^{km}, mb3.3/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.3/5, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/15, Error ellipse: s-maj=72.9km s-min=18.8km az=133.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.79**	**246**	Pn	Pn	12 14 25.3	-0.4
	161nm,0.3s,baz=346,slow=9.7,SNR=331						
JTS				Sn	Sn	12 14 40.1	+2.0
	197nm,0.3s,baz=310,slow=21,SNR=23						
CMIG	**Matias Romero**	**12.19**	**303**	Pn	Pn	12 17 01.3	-1.0
	0.1nm,0.3s,baz=112,slow=11,SNR=2.4						
TXAR	**Lajitas Array**	**26.02**	**318**	P	P	12 19 40.5	-1.7
	0.1nm,0.6s,baz=138,slow=12,SNR=3.7						
SADO	**Sadowa**	**34.31**	**6**	LR	LR	12 36 11.0	
	comp=Z,86nm,18.2s,baz=243,slow=39						
NVAR	**Mina Array Bea**	**41.17**	**318**	P	P	12 21 55.3	+1.5
	0.3nm,0.6s,baz=145,slow=6.5,SNR=3.3						
YKA	**Yellowknife Ar**	**56.23**	**344**	P	P	12 23 49.3	+0.3
	0.3nm,0.9s,baz=143,slow=6.9,SNR=4.2						
ILAR	**Eielson Array**	**68.97**	**336**	P	P	12 25 13.7	-0.4
	0.5nm,0.8s,baz=124,slow=4.5,SNR=6.0						

*ISK **09** 12:19:12.4, 39°.91N×40°.63E, h5^{km}, MD2.8*
*ISCJB **09** 12:19:13.8±0.7, 39°.85N±0°.05×40°.68E±0°.04, h2^{km}±8^{km}, Error ellipse: s-maj=7.9km s-min=4.8km az=9.4*
*CSEM **09** 12:19:13.4±0.2, 39°.87N×40°.66E, h2^{km}, MD2.8, Error ellipse: s-maj=7.5km s-min=3.5km az=173.0*
*DDA **09** 12:19:13.8, 39°.91N×40°.72E, h7^{km}, MD2.8*
ISC 09 12:19:14.0±1.0, 39°.89N±0°.05×40°.67E±0°.03, h10^{km}±9^{km}, n19, σ0^{s}.68/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.18**	**314**	*i* P	**Pg**	**12 19 17.4**	**-0.6**
KOPT				*i* S	**Sg**	**12 19 22.2**	**+1.3**
KOPT	**Kop Dagi**	**0.18**	**314**	*i* P	**Pg**	**12 19 17.4**	**-0.6**
KOPT				*i* S	**Sg**	**12 19 22.2**	**+1.3**
EZM	**Erzurum**	**0.53**	**88**	*e*PG	**Pg**	**12 19 24.3**	**-0.1**
EZM				*e*SG	**Sb**	**12 19 33.4**	**-0.1**
ERZM	**Erzurum**	**0.54**	**88**	*i* P	**Pg**	**12 19 24.2**	**-0.3**
ERZM				*i* S	**Sg**	**12 19 31.2**	**-0.4**
ERZM	**Erzurum**	**0.54**	**88**	*i* P	**Pg**	**12 19 24.2**	**-0.3**
ERZM				*i* S	**Sg**	**12 19 31.2**	**-0.4**
ERZN	**Erzincan**	**0.79**	**248**	*e*PG	**Pg**	**12 19 28.2**	**-1.0**
BNGB	**Bing¶ll**	**0.90**	**180**	*e*PG	**Pg**	**12 19 31.1**	**-0.2**
BNGL	**BINGOL**	**1.01**	**158**	*i* P	**Pg**	**12 19 33.5**	**+0.1**
KELT	**Kelkit**	**1.12**	**284**	*i* P	**Pb**	**12 19 34.8**	**-0.8**
KELT				*i* S	**Sn**	**12 19 52.7**	**+1.1**
KELT	**Kelkit**	**1.12**	**284**	*i* P	**Pb**	**12 19 34.8**	**-0.8**
DDEM	**Demirkent**	**1.30**	**39**	*i* P	**Pn**	**12 19 38.4**	**+0.1**
DDEM	**Demirkent**	**1.30**	**39**	*i* P	**Pn**	**12 19 38.4**	**+0.1**
PTK	**Pertek**	**1.41**	**225**	*e*PN	**Pn**	**12 19 40.1**	**+0.2**
PTK	**Pertek**	**1.41**	**225**	*e*Pn	**Pn**	**12 19 40.1**	**+0.2**
DAGI	**Agillar**	**1.52**	**38**	*i* P	**Pn**	**12 19 41.2**	**-0.1**
ILIC	**ilic-Erzincan**	**1.68**	**256**	*e*PN	**Pn**	**12 19 44.0**	**+0.4**
ILIC	**ilic-Erzincan**	**1.68**	**256**	*e*Pn	**Pn**	**12 19 44.0**	**+0.4**
AGRB	**Hanur-Agry**	**1.82**	**99**	*e*PN	**Pn**	**12 19 46.3**	**+0.8**
AGRB	**Hanur-Agry**	**1.82**	**99**	*e*Pn	**Pn**	**12 19 46.3**	**+0.8**

*MDD **09** 12:26:41.6±2.6, 37°.07N×15°.86W, h0^{km}, mb3.9/7, Error ellipse: s-maj=36.4km s-min=11.8km az=138.0, PRXIMO SOLUCIN POBRE*
*INMG **09** 12:26:45.1±1.1, 37°.30N×16°.17W, h10^{km}, ML2.7, Error ellipse: s-maj=11.4km s-min=4.4km az=125.0*
*CSEM **09** 12:26:46.3±0.4, 37°.56N×15°.50W, h10^{km}, mb3.9/7, Error ellipse: s-maj=9.6km s-min=7.1km az=8.0*
ISC 09 12:26:38.7±1.6, 37°.24N±0°.09×15°.93W±0°.09, h10^{km}, n56, σ2^{s}.37/81, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.16**	**185**	*e*Pn	**Pn**	**12 27 44.1**	**+1.8**
PMPST				*e*Sn	**Sn**	**12 28 26.7**	**-4.3**
PMPST				A	A	12 28 28.7	
	22nm,0.8s						
PMPS	**Porto Santo**	**4.18**	**185**	P	**Pn**	**12 27 44.1**	**+1.5**
PMPS				S	**Sn**	**12 28 26.7**	**-4.8**
	11nm,0.8s						
PMPS	**Porto Santo**	**4.18**	**185**	P	**Pn**	**12 27 44.1**	**+1.5**
PMPS				S	**Sn**	**12 28 26.7**	**-4.8**
	11nm,0.8s						
PMAFR	**Mafra**	**5.52**	**70**	*e*Pn	**Pn**	**12 28 03.6**	**+2.6**
PMAFR				*e*Sn	**Sn**	**12 29 03.0**	**-1.5**
PMAFR				A	A	12 29 12.4	
	16nm,0.6s						
PMAFR	**Mafra**	**5.52**	**70**	P	**Pn**	**12 28 03.5**	**+2.6**
	8.8nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**12 29 03.6**	**-0.9**
	58nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**5.52**	**70**	P	**Pn**	**12 28 03.5**	**+2.6**
	8.8nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**12 29 03.0**	**-1.5**
	16nm,0.6s						
PMAFR				S	Sb	12 29 03.6	-18
	58nm,0.5s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.67**	**89**	*e*Pn	**Pn**	**12 28 05.8**	**+2.7**
PFVI				*e*Sn	**Sn**	**12 29 06.5**	**-1.8**
PFVI				A	A	12 29 11.1	
	5.1nm,0.9s						
PFVI	**Vila Bisbo**	**5.67**	**89**	P	**Pn**	**12 28 05.7**	**+2.6**
	0.7nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**12 29 06.4**	**-1.8**
	3.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.67**	**89**	*e*Pn	**Pn**	**12 28 05.8**	**+2.7**
PFVI				S	**Sn**	**12 29 06.4**	**-1.8**
	3.6nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**5.81**	**87**	*e*Pn	**Pn**	**12 28 07.3**	**+2.3**
MORF				*e*Sn	**Sn**	**12 29 11.0**	**-0.7**
MORF				A	A	12 29 17.7	
	3.8nm,0.2s						
MORF	**Marmelete**	**5.81**	**87**	P	**Pn**	**12 28 07.3**	**+2.3**
MORF				S	**Sn**	**12 29 11.0**	**-0.7**
	3.8nm,0.2s						
MORF	**Marmelete**	**5.81**	**87**	P	**Pn**	**12 28 07.3**	**+2.3**
MORF				S	**Sn**	**12 29 11.0**	**-0.7**
	3.8nm,0.2s						
PNCL	**Nicolau / Gran**	**5.94**	**79**	*e*Pn	**Pn**	**12 28 08.9**	**+2.2**
PNCL				*e*Sn	**Sn**	**12 29 12.2**	**-2.6**
PNCL				A	A	12 29 16.8	
	5.4nm,0.2s						
PNCL	**Nicolau / Gran**	**5.94**	**79**	*e*Pn	**Pn**	**12 28 08.9**	**+2.2**
PNCL				*e*Sn	**Sn**	**12 29 12.2**	**-2.6**
	5.4nm,0.2s						
MOE	**Montemor**	**6.13**	**76**	*e*Sn	**Sn**	**12 29 17.3**	**-2.3**
MOE	**Montemor**	**6.13**	**76**	S	**Sn**	**12 29 17.3**	**-2.3**
MOE	**Montemor**	**6.13**	**76**	S	**Sn**	**12 29 17.3**	**-2.3**
PCVE	**Castro Verde**	**6.29**	**84**	*e*Pn	**Pn**	**12 28 13.7**	**+2.1**
PCVE				*e*Sn	**Sn**	**12 29 20.7**	**-2.9**
PCVE				A	A	12 29 27.0	
	2.6nm,0.4s						
PCVE	**Castro Verde**	**6.29**	**84**	P	**Pn**	**12 28 13.7**	**+2.1**
PCVE				S	**Sn**	**12 29 20.7**	**-2.9**
	2.6nm,0.4s						
PCVE	**Castro Verde**	**6.29**	**84**	P	**Pn**	**12 28 13.7**	**+2.1**
PCVE				S	**Sn**	**12 29 20.7**	**-2.9**
	2.6nm,0.4s						
PBDV	**Barranco-do-Ve**	**6.38**	**88**	*e*Pn	**Pn**	**12 28 15.8**	**+2.9**
PBDV				*e*Sn	**Sn**	**12 29 24.6**	**-1.2**
PBDV				A	A	12 29 36.0	
	3.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**6.38**	**88**	P	**Pn**	**12 28 15.8**	**+2.9**
PBDV				S	**Sn**	**12 29 24.6**	**-1.2**
	3.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**6.38**	**88**	P	**Pn**	**12 28 15.8**	**+2.9**
PBDV				S	**Sn**	**12 29 24.6**	**-1.2**
	3.6nm,0.3s						
EVO	**Evora**	**6.40**	**76**	*e*Sn	**Sn**	**12 29 23.9**	**-2.2**
EVO	**Evora**	**6.40**	**76**	S	**Sn**	**12 29 23.9**	**-2.2**
EVO	**Evora**	**6.40**	**76**	S	**Sn**	**12 29 23.9**	**-2.2**
PVAQ	**Vaqueiros**	**6.55**	**86**	*e*Pn	**Pn**	**12 28 17.7**	**+2.6**
PVAQ				*e*Sn	**Sn**	**12 29 27.9**	**-1.9**
PVAQ				A	A	12 29 36.3	
	2.6nm,0.2s						
PVAQ	**Vaqueiros**	**6.55**	**86**	P	**Pn**	**12 28 17.7**	**+2.6**
PVAQ				S	**Sn**	**12 29 27.9**	**-1.9**
	2.6nm,0.2s						
PVAQ	**Vaqueiros**	**6.55**	**86**	P	**Pn**	**12 28 17.7**	**+2.6**
PVAQ				S	**Sn**	**12 29 27.9**	**-1.9**
	2.6nm,0.2s						
EGRO	**El Granado**	**6.74**	**85**	P	**Pn**	**12 28 20.1**	**+2.5**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**12 29 32.8**	**-1.6**
	0.8nm,0.1s,SNR=6.1						
EGRO	**El Granado**	**6.74**	**85**	P	**Pn**	**12 28 20.1**	**+2.5**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**12 29 32.8**	**-1.6**
	0.8nm,0.1s,SNR=6.1						
PMRV	**Marv??o**	**7.06**	**69**	*e*Pn	**Pn**	**12 28 24.4**	**+2.2**
PMRV				*e*Sn	Sn	12 29 38.5	-4.0
PMRV				A	A	12 29 44.9	
	3.0nm,0.3s						
PMRV	**Marv??o**	**7.06**	**69**	P	**Pn**	**12 28 24.4**	**+2.2**
PMRV				S	Sn	12 29 38.5	-4.0
	3.0nm,0.3s						
PMRV	**Marv??o**	**7.06**	**69**	P	**Pn**	**12 28 24.4**	**+2.2**
PMRV				S	Sn	12 29 38.5	-4.0
	3.0nm,0.3s						
PBAR	**Barrancos**	**7.11**	**80**	*e*Pn	**Pn**	**12 28 25.7**	**+2.9**
PBAR				*e*Sn	**Sn**	**12 29 41.8**	**-1.9**
PBAR				A	A	12 29 47.0	
	2.0nm,0.2s						
PBAR	**Barrancos**	**7.11**	**80**	P	**Pn**	**12 28 25.7**	**+2.9**
PBAR				S	**Sn**	**12 29 41.8**	**-1.9**
	2.0nm,0.2s						
PBAR	**Barrancos**	**7.11**	**80**	P	**Pn**	**12 28 25.7**	**+2.9**
PBAR				S	**Sn**	**12 29 41.8**	**-1.9**
	2.0nm,0.2s						
EBAD	**Badajoz**	**7.21**	**75**	S	**Sn**	**12 29 43.7**	**-2.3**
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.21**	**75**	S	**Sn**	**12 29 43.7**	**-2.3**
	1.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.38**	**83**	P	**Pn**	**12 28 29.2**	**+2.7**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 29 47.0**	**-3.3**
	4.9nm,0.7s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.38**	**83**	P	**Pn**	**12 28 29.2**	**+2.7**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 29 47.0**	**-3.3**
	4.9nm,0.7s,SNR=7.9						
POLO	**Lamas de Olo**	**7.54**	**54**	*e*Sn	Sn	12 29 47.2	-7.3
POLO				A	A	12 29 53.5	
	1.2nm,0.5s						
PGAV	**Gavieira, Arco**	**7.57**	**49**	*e*Pn	**Pn**	**12 28 30.6**	**+1.4**
PGAV				*e*Sn	Sn	12 29 46.7	-8.5
PGAV				A	A	12 29 51.0	
	4.8nm,0.2s						
PGAV	**Gavieira, Arco**	**7.57**	**49**	*e*Pn	**Pn**	**12 28 30.6**	**+1.4**
ELOB	**Lobios**	**7.64**	**50**	P	Pn	12 28 29.8	-0.4
	0.1nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 29 48.8	-8.1
	1.7nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.64**	**50**	P	Pn	12 28 29.8	-0.4
	0.1nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 29 48.8	-8.1
	1.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**7.81**	**41**	S	Sn	12 29 50.3	-11
	1.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.81**	**41**	S	Sn	12 29 50.3	-11
	1.5nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**7.95**	**58**	*e*Pn	**Pn**	**12 28 35.8**	**+1.4**
MVO				*e*Sn	Sn	12 30 00.6	-3.8
MVO				A	A	12 30 03.3	
	2.9nm,0.2s						
MVO	**Moncorvo**	**7.95**	**58**	*e*Pn	**Pn**	**12 28 35.8**	**+1.4**
MVO				S	Sn	12 29 59.4	-5.0
	0.6nm,0.1s,SNR=7.9						
MVO				*e*Sn	Sb	12 30 00.6	-31
	2.9nm,0.2s						
ECAL	**Calabor**	**8.51**	**54**	P	**Pn**	**12 28 42.9**	**+0.8**
	0.5nm,0.3s,SNR=7.9						
ECAL				S	Sn	12 30 10.6	-7.8
	2.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**8.51**	**54**	P	**Pn**	**12 28 42.9**	**+0.8**
	0.5nm,0.3s,SNR=7.9						
ECAL				S	Sn	12 30 10.6	-7.7
	2.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.05**	**81**	P	**Pn**	**12 28 51.3**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 30 29.5**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.05**	**81**	P	**Pn**	**12 28 51.3**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 30 29.5**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**9.06**	**45**	S	Sn	12 30 20.0	-11
	0.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**9.06**	**45**	S	Sn	12 30 20.0	-11
	0.8nm,0.2s,SNR=7.9						

*ATH **09** 12:26:59.5, 37°.79N×27°.73E, h5^{km}, MD3.2/3*
*ISK **09** 12:27:01.8, 37°.87N×27°.57E, h7^{km}, MD2.7*
*DDA **09** 12:27:01.4, 37°.84N×27°.54E, h12^{km}, MD2.7*
*CSEM **09** 12:27:02.2±0.2, 37°.87N×27°.58E, h2^{km}, MD2.7, Error ellipse: s-maj=3.5km s-min=3.1km az=122.0*
ISC 09 12:27:01.5±1.0, 37°.84N±0°.02×27°.58E±0°.02, h12^{km}±8^{km}, n32, σ0^{s}.95/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.31**	**244**	*i* P	**Pg**	**12 27 07.9**	**+0.2**
GCAM				*i* S	**Sg**	**12 27 11.1**	**-0.8**
GCAM	**G?zelcaml?**	**0.31**	**244**	*i* P	**Pg**	**12 27 07.9**	**+0.2**
GCAM				*i* S	**Sg**	**12 27 11.1**	**-0.8**
SMG	**Samos**	**0.60**	**258**	*e*PB	**Pb**	**12 27 14.2**	**+0.2**
SMG				*e*SG	**Sb**	**12 27 22.8**	**+0.3**
SMG	**Samos**	**0.60**	**258**	*e*Pb	**Pb**	**12 27 14.2**	**+0.2**
SMG				*e*Sg	**Sb**	**12 27 22.8**	**+0.3**
BLCB	**Balcova**	**0.69**	**322**	*e*PG	**Pb**	**12 27 15.5**	**0.0**
BLCB				*e*SG	**Sb**	**12 27 24.4**	**-0.7**
BLCB	**Balcova**	**0.69**	**322**	*e*Pg	**Pb**	**12 27 15.5**	**0.0**
BLCB				*e*Sg	**Sb**	**12 27 24.4**	**-0.7**
BODT	**Bodrum**	**0.80**	**196**	*e*PG	**Pn**	**12 27 18.5**	**-0.2**
BODT				*e*SG	**Sn**	**12 27 30.0**	**-0.5**
BODT	**Bodrum**	**0.80**	**196**	*e*Pg	**Pn**	**12 27 18.5**	**-0.2**
BODT				*e*Sg	**Sn**	**12 27 30.0**	**-0.5**
YER	**Yerkesik**	**0.90**	**141**	*e*PG	**Pn**	**12 27 20.1**	**+0.1**
YER				*e*SG	**Sn**	**12 27 32.9**	**0.0**
YER	**Yerkesik**	**0.90**	**141**	*e*Pg	**Pn**	**12 27 20.1**	**+0.1**
YER				*e*Sg	**Sn**	**12 27 32.9**	**0.0**
MANT	**Manisa**	**1.01**	**49**	*i* P	**Pb**	**12 27 21.0**	**-0.1**
MANT				*i* S	**Sg**	**12 27 33.1**	**-1.1**
MANT	**Manisa**	**1.01**	**49**	*i* P	**Pb**	**12 27 21.0**	**-0.1**
MANT				*i* S	**Sg**	**12 27 33.1**	**-1.1**
AKHS	**Akhisar**	**1.05**	**10**	*i* P	**Pn**	**12 27 22.0**	**-0.1**
AKHS				*i* S	**Sn**	**12 27 35.8**	**-1.0**
AKHS	**Akhisar**	**1.05**	**10**	*i* P	**Pn**	**12 27 22.0**	**-0.1**
AKHS				*i* S	**Sn**	**12 27 35.8**	**-1.0**
AKS	**Akhisar**	**1.06**	**10**	*e*PG	**Pn**	**12 27 22.0**	**-0.2**
AKS	**Akhisar**	**1.06**	**10**	*e*Pg	**Pn**	**12 27 22.0**	**-0.2**
KULA	**Kula-Manisa**	**1.09**	**51**	*e*PG	**Pn**	**12 27 22.7**	**+0.1**
KULA	**Kula-Manisa**	**1.09**	**51**	*e*Pg	**Pn**	**12 27 22.7**	**+0.1**
DNZL	**Cakiroluk**	**1.17**	**97**	*i* P	**Pg**	**12 27 25.2**	**+1.2**
DNZL				*i* S	**Sn**	**12 27 41.3**	**+1.4**
DNZL	**Cakiroluk**	**1.17**	**97**	*i* P	**Pg**	**12 27 25.2**	**+1.2**
DNZL				*i* S	**Sn**	**12 27 41.3**	**+1.4**
TURN	**Turunc**	**1.26**	**139**	*i* P	**Pn**	**12 27 23.4**	**-1.5**
TURN				*i* S	**Sb**	**12 27 41.1**	**-0.2**
CHOS	**Chios island**	**1.32**	**295**	*e*PG	**Pb**	**12 27 26.1**	**-0.2**
CHOS				*e*SB	**Sg**	**12 27 47.5**	**+3.4**
CHOS	**Chios island**	**1.32**	**295**	*e*Pg	**Pb**	**12 27 26.1**	**-0.2**
CHOS				*e*Sb	**Sg**	**12 27 47.5**	**+3.4**
APE	**Apeiranthos**	**1.80**	**245**	*e*PN	**Pb**	**12 27 34.2**	**-0.3**
APE	**Apeiranthos**	**1.80**	**245**	*e*PN	**Pg**	**12 27 35.6**	**-0.5**
APE	**Apeiranthos**	**1.80**	**245**	*e*Pn	**Pg**	**12 27 35.6**	**-0.5**
DURS	**Dursunbey**	**1.89**	**21**	*i* P	**Pb**	**12 27 36.0**	**-0.1**
DURS				*i* S	**Sb**	**12 27 59.6**	**-0.1**
DURS	**Dursunbey**	**1.89**	**21**	*i* P	**Pb**	**12 27 36.0**	**-0.1**
DURS				*i* S	**Sb**	**12 27 59.6**	**-0.1**
BALY	**Balya**	**1.90**	**1**	*i* P	**Pn**	**12 27 33.7**	**-0.1**
BALY				*i* S	**Sb**	**12 28 00.3**	**+0.4**
BALY	**Balya**	**1.90**	**1**	*i* P	**Pn**	**12 27 33.7**	**-0.1**
BALY				*i* S	**Sb**	**12 28 00.3**	**+0.4**
GONE	**Gonen-Balikesi**	**2.21**	**2**	*e*PN	**Pb**	**12 27 39.6**	**-1.7**
GONE	**Gonen-Balikesi**	**2.21**	**2**	*e*Pn	**Pb**	**12 27 39.6**	**-1.7**

IDC 09 12:28:34.0±1.1, 0°.06N×133°.87E, h0^{km}, mb3.8/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=66.9km s-min=19.3km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.89**	**179**	P	P	12 33 06.8	-0.2
	0.2nm,0.3s,baz=358,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**23.59**	**180**	P	P	12 33 46.1	-0.4
	2.0nm,0.8s,baz=356,slow=11,SNR=15						
STKA	**Stephens Creek**	**32.59**	**168**	P	P	12 35 08.0	+0.6
	2.0nm,0.9s,baz=346,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**64.68**	**323**	P	P	12 39 13.8	-0.1
	0.8nm,0.5s,baz=108,slow=8.4,SNR=16						
ZALV	**Zalesovo Beam**	**67.16**	**331**	P	P	12 39 29.8	+0.2
	0.2nm,0.3s,baz=131,slow=7.5,SNR=2.8						
ILAR	**Eielson Array**	**85.36**	**25**	P	P	12 41 12.7	-0.2
	0.4nm,1.0s,baz=255,slow=5.4,SNR=3.2						

IDC 09 12:30:17.6±1.9, 13°.15N×85°.86W, h0^{km}, mb3.1/3, mb1 3.5/4, mb1mx3.4/21, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=113.7km s-min=27.7km az=66.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.97**	**163**	Pn	Pn	12 31 06.3	+0.1
	3.3nm,0.3s,baz=317,slow=16,SNR=8.8						
JTS				Sn	Sn	12 31 32.4	-10
	8.5nm,0.3s,baz=34,slow=23,SNR=4.7						
TXAR	**Lajitas Array**	**23.08**	**317**	P	P	12 35 24.4	-0.7
	0.4nm,0.6s,baz=135,slow=10,SNR=9.0						
PDAR	**Pinedale Array**	**35.93**	**330**	P	P	12 37 21.0	+0.9
	0.4nm,0.9s,baz=170,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**53.37**	**344**	P	P	12 39 38.0	-0.6
	0.1nm,0.4s,baz=141,slow=7.4,SNR=3.1						

IDC 09 12:36:51.3±13.0, 0°.74S×133°.27E, h0^{km}, mb3.7/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/35, Error ellipse: s-maj=205.4km s-min=119.1km az=158.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.81**	**203**	LR	LR	12 48 12.3	
	comp=Z,40nm,18.2s,baz=158,slow=36						
WRA	**Warramunga Arr**	**19.12**	**177**	P	Pn	12 41 16.6	-0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	12

SONA				*e*S		**Sn**	12 41 58.1	**-0.9**
KHET	**Khetri**	**4.31**	**211**	*e*P		**Pn**	12 41 23.2	**-0.8**
KHET				*e*S		**Sn**	12 42 09.5	**-4.7**
AGRA	**Agra**	**4.57**	**184**	*ex*		**Pb**	12 41 39.8	**+1.3**
AGRA				*e*S		**Sn**	12 42 17.6	**-2.8**
AGRA				AML		AML	12 42 48.7	
	comp=N,295nm,0.6s							
AGRA				AML		AML	12 42 49.2	
	comp=E,346nm,0.3s							
CHCP	**Chirah Chowk**	**4.66**	**295**	P		**Pn**	12 41 30.2	**+1.6**
SARP	**Sargodha**	**4.82**	**273**	P		**Pn**	12 41 30.7	**-0.1**
THW	**Thamme Wali**	**5.67**	**282**	P		**Pn**	12 41 43.0	**+0.5**
CEP	**Cherat**	**5.77**	**292**	P		**Pn**	12 41 44.0	**-0.1**
CEP				S		**Sn**	12 42 48.0	**-2.3**
DANN	**Dangsing**	**5.83**	**125**	*e*Pn		**Pn**	12 41 46.4	**+1.4**
DANN				*e*Sn		**Sn**	12 42 52.9	**+1.0**
	comp=E,119nm,0.6s							
DANN	**Dangsing**	**5.83**	**125**	*e*Pn		**Pn**	12 41 46.4	**+1.4**
DANN				*e*Sn		**Sn**	12 42 52.9	**+1.0**
KOLN	**Koldanda**	**6.09**	**130**	*e*Pn		**Pn**	12 41 50.2	**+1.7**
KOLN				*e*Sn		**Sn**	12 42 58.7	**+0.4**
	comp=E,104nm,0.5s							
KOLN	**Koldanda**	**6.09**	**130**	*e*Pn		**Pn**	12 41 50.2	**+1.7**
KOLN				*e*Sn		**Sn**	12 42 58.7	**+0.4**
GKN	**Gorkha**	**6.65**	**123**	*e*Pn		**Pn**	12 41 58.0	**+1.8**
GKN				*e*Sn		**Sn**	12 43 11.2	**-0.9**
	comp=E,168nm,0.6s							
GKN	**Gorkha**	**6.65**	**123**	*e*Pn		**Pn**	12 41 58.0	**+1.8**
GKN				*e*Sn		**Sn**	12 43 11.2	**-0.9**
DMN	**Daman**	**7.22**	**124**	*e*Pn		**Pn**	12 42 05.5	**+1.4**
DMN				*e*Sn		**Sn**	12 43 25.8	**-0.4**
	comp=E,76nm,0.5s							
DMN	**Daman**	**7.22**	**124**	*e*Pn		**Pn**	12 42 05.5	**+1.4**
DMN				*e*Sn		**Sn**	12 43 25.8	**-0.4**
KKN	**Kakani**	**7.24**	**122**	*e*Pn		**Pn**	12 42 05.2	**+0.9**
KKN				*e*Sn		**Sn**	12 43 25.3	**-1.3**
	comp=E,110nm,0.6s							
KKN	**Kakani**	**7.24**	**122**	*e*P		**Pn**	12 42 05.2	**+0.9**
KKN				*e*			12 43 25.3	
KKN	**Kakani**	**7.24**	**122**	*e*Pn		**Pn**	12 42 05.2	**+0.9**
KKN				*e*Sn		**Sn**	12 43 25.3	**-1.3**
PKI	**Pulchoki**	**7.46**	**123**	*e*Pn		**Pn**	12 42 08.2	**+0.7**
PKI				*e*Sn		**Sn**	12 43 31.6	**-0.6**
	comp=E,118nm,0.6s							
PKI	**Pulchoki**	**7.46**	**123**	*e*P		**Pn**	12 42 08.2	**+0.7**
PKI				*e*			12 43 31.6	
PKI	**Pulchoki**	**7.46**	**123**	*e*Pn		**Pn**	12 42 08.2	**+0.7**
PKI				*e*Sn		**Sn**	12 43 31.6	**-0.6**
GUN	**Gumba**	**7.61**	**119**	*e*Pn		**Pn**	12 42 10.3	**+0.7**
GUN	**Gumba**	**7.61**	**119**	*e*Pn		**Pn**	12 42 10.3	**+0.7**
JIRN	**Jiri**	**7.98**	**119**	*e*Pn		**Pn**	12 42 15.3	**+0.6**
JIRN				*e*Sn		**Sn**	12 43 43.3	**-1.8**
	comp=E,206nm,0.5s							
JIRN	**Jiri**	**7.98**	**119**	*e*Pn		**Pn**	12 42 15.3	**+0.6**
JIRN				*e*Sn		**Sn**	12 43 43.3	**-1.8**
KBL	**Kabul**	**8.25**	**292**	*e*P		**Pn**	12 42 18.9	**+0.7**
KBL				*e*			12 43 50.1	
KBL				pmax		pmax		
	comp=Z,43nm,0.9s							
KBL	**Kabul**	**8.25**	**292**	*e*Pn		**Pn**	12 42 18.9	**+0.7**
	comp=Z,43nm,0.9s							
KBL				*e*Sn		**Sn**	12 43 50.1	**-1.3**
BHPL	**Bhopal**	**8.56**	**186**	*e*P		**Pn**	12 42 22.5	**+0.1**
BHPL				*e*S		Sn	12 43 50.7	-8.3
BHPL				AML		AML	12 44 43.8	
	comp=N,45nm,0.3s							
BHPL				AML		AML	12 44 55.2	
	comp=E,85nm,0.4s							
RAMN	**Ramite**	**8.68**	**122**	*e*Pn		**Pn**	12 42 23.9	**-0.3**
RAMN				*e*Sn		**Sn**	12 43 59.9	**-2.2**
	comp=E,123nm,0.6s							
RAMN	**Ramite**	**8.68**	**122**	*e*Pn		**Pn**	12 42 23.9	**-0.3**
RAMN				*e*Sn		**Sn**	12 43 59.9	**-2.2**
TAPN	**Taplejung**	**9.29**	**116**	*e*Pn		**Pn**	12 42 32.9	**+0.3**
TAPN				*e*Sn		**Sn**	12 44 14.3	**-2.9**
	comp=E,63nm,0.7s							
TAPN	**Taplejung**	**9.29**	**116**	*e*Pn		**Pn**	12 42 32.9	**+0.3**
TAPN				*e*Sn		**Sn**	12 44 14.3	**-2.9**
ODAN	**Odare**	**9.31**	**120**	*e*Pn		**Pn**	12 42 33.2	**+0.4**
ODAN				*e*Sn		**Sn**	12 44 14.5	**-3.1**
	comp=E,65nm,0.5s							
ODAN	**Odare**	**9.31**	**120**	*e*Pn		**Pn**	12 42 33.2	**+0.4**
ODAN				*e*Sn		**Sn**	12 44 14.5	**-3.1**
BOK	**Bokaro**	**10.40**	**138**	*e*P		**Pn**	12 42 47.5	**-0.1**
BOK				*e*S		Sn	12 44 35.4	-8.8
BOK				AML		AML	12 44 43.0	
	comp=E,37nm,0.6s							
BOK				AML		AML	12 44 47.1	
	comp=N,36nm,0.4s							
AAK	**Ala-Archa**	**11.23**	**345**	*e*P		**Pn**	12 43 00.3	**+1.3**
AAK				*e*			12 45 09.1	
AAK				pmax		pmax		
	comp=Z,16nm,0.6s							
AAK	**Ala-Archa**	**11.23**	**345**	*e*Pn		**Pn**	12 43 00.3	**+1.3**
	comp=Z,16nm,0.6s							
AAK				*e*Sn		**Sn**	12 45 09.1	**+4.5**
TKM2	**Tokmak 2**	**11.31**	**350**	⇑Pg		Pn	12 43 11.0	+11
TKM2				⇑Lg		Lg	12 45 16.5	
	comp=Z,7.6nm,1.4s							
TKM2	**Tokmak 2**	**11.31**	**350**	*e*P		**Pn**	12 43 01.0	**+0.9**
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TKM2	**Tokmak 2**	**11.31**	**350**	*e*P		**Pn**	12 43 01.0	**+0.9**
	comp=Z,3.5nm,0.6s							
EKS2	**Erkin-Say**	**11.43**	**343**	*e*P		Pn	12 43 05.8	+4.2
EKS2				*e*			12 45 16.2	
EKS2				pmax		pmax		
	comp=Z,4.0nm,0.7s							
EKS2	**Erkin-Say**	**11.43**	**343**	*e*P		Pn	12 43 05.8	+4.2
	comp=Z,4.3nm,0.7s							
EKS2				*e*Sn		Sn	12 45 16.2	+6.9
KK31	**Karatay Array**	**12.87**	**333**	⇓Pg		**Pn**	12 43 21.7	**+0.5**
	comp=Z,2.5nm,0.4s							
KK31				⇓Lg		Lg	12 45 27.4	
	comp=Z,12nm,0.8s,baz=163,slow=24,SNR=9.8							
KK31	**Karatay Array**	**12.87**	**333**	P		**Pn**	12 43 20.3	**-0.9**
KK31				pmax		pmax		
	comp=Z,5.0nm,0.4s							
KKAR	**Karatay Array**	**12.87**	**333**	*e*P		**Pn**	12 43 19.6	**-1.7**
KKAR				pmax		pmax		
	comp=Z,6.0nm,0.4s							
KKAR	**Karatay Array**	**12.87**	**333**	*e*Pn		**Pn**	12 43 19.6	**-1.7**
	comp=Z,5.6nm,0.4s							
MK31	**Makanchi Array**	**15.28**	**10**	Pn		**Pn**	12 43 53.2	**-0.8**
	comp=Z,2.3nm,0.6s,baz=190,slow=13,SNR=53							
MK31				⇑Sn		Sn	12 46 36.4	-6.7
	comp=Z,2.8nm,1.1s,baz=184,slow=23,SNR=4.0							
MK31	**Makanchi Array**	**15.28**	**10**	*e*P		**Pn**	12 43 53.2	**-0.8**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.4s							
MK31	**Makanchi Array**	**15.28**	**10**	*e*Pn		**Pn**	12 43 53.6	**-0.4**
MKAR	**Makanchi Array**	**15.28**	**10**	Pn		**Pn**	12 43 53.6	**-0.4**
	comp=Z,0.4nm,0.3s,baz=192,slow=12,SNR=17							
MKAR				Sn		Sn	12 46 34.5	-8.7
	comp=Z,0.1nm,0.3s,baz=177,slow=23,SNR=3.5							
MKAR	**Makanchi Array**	**15.28**	**10**	P		**Pn**	12 43 53.6	**-0.4**
MKAR							12 46 34.5	
MKAR	**Makanchi Array**	**15.28**	**10**	Pn		**Pn**	12 43 53.6	**-0.4**
MKAR				Sn		Sn	12 46 34.5	-8.7
KURK	**Kurchatov**	**18.90**	**1**	Pn		**P**	12 44 36.0	**-2.8**
	comp=Z,0.1nm,0.3s,baz=188,slow=11,SNR=24							
KURK	**Kurchatov**	**18.90**	**1**	*ce*P		**P**	12 44 39.3	**+0.5**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**18.90**	**1**	Pn		**P**	12 44 36.0	**-2.8**
KURK				*e*P		**Pn**	12 44 38.2	**-1.1**
BVA0	**Borovoye Array**	**21.98**	**347**	*i* P		**P**	12 45 11.5	**-0.7**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**21.98**	**347**	P		**P**	12 45 12.0	**-0.2**
	comp=Z,1.9nm,0.3s,baz=156,slow=11,SNR=18							
BVAR	**Borovoye Array**	**21.98**	**347**	P		**P**	12 45 12.0	**-0.2**
BVAR	**Borovoye Array**	**21.98**	**347**	P		**P**	12 45 12.0	**-0.2**
BRVK	**Borovoye**	**22.03**	**347**	*ce*P		**P**	12 45 13.0	**+0.3**
BRVK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BRVK	**Borovoye**	**22.03**	**347**	*e*P		**P**	12 45 14.8	**+2.1**
	comp=Z,7.6nm,0.9s							
AB31	**Akbulak array**	**22.25**	**327**	P		**P**	12 45 14.5	**-0.6**
AB31				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ABKAR	**Akbulak array**	**22.25**	**327**	*e*P		**P**	12 45 14.3	**-0.7**
	comp=Z,4.6nm,0.6s							

ZAA0	**Zalesovo Array**	**22.62**	**10**	*e*P		**P**	12 45 20.8	**+1.8**
ZALV	**Zalesovo Beam**	**22.62**	**10**	P		**P**	12 45 19.2	**+0.2**
	comp=Z,2.0nm,0.6s,baz=194,slow=9.7,SNR=14							
ZALV	**Zalesovo Beam**	**22.62**	**10**	P		**P**	12 45 19.2	**+0.2**
ZALV	**Zalesovo Beam**	**22.62**	**10**	P		**P**	12 45 19.2	**+0.2**
CMAR	**Chiang Mai Arr**	**22.85**	**121**	P		**P**	12 45 21.1	**-0.7**
	comp=Z,2.7nm,0.7s,baz=311,slow=9.9,SNR=20							
CMAR	**Chiang Mai Arr**	**22.85**	**121**	P		**P**	12 45 21.1	**-0.7**
CMAR	**Chiang Mai Arr**	**22.85**	**121**	P		**P**	12 45 21.1	**-0.7**
NVS	**Novosibirsk**	**23.29**	**7**	*e*P		**P**	12 45 27.2	**+1.3**
NVS				pmax		pmax		
	comp=Z,8.0nm,1.0s							
NVS				pmax		pmax		
	comp=N,2.0nm,0.6s							
AKTO	**Aktyubinsk**	**23.96**	**327**	P		**P**	12 45 32.4	**-0.2**
	comp=N,2.9nm,0.4s,baz=127,slow=11,SNR=20							
AKTO	**Aktyubinsk**	**23.96**	**327**	P		**P**	12 45 32.4	**-0.2**
AKTO	**Aktyubinsk**	**23.96**	**327**	P		**P**	12 45 32.4	**-0.2**
ZAK	**Zakamensk**	**26.22**	**38**	*e*P		**P**	12 45 54.2	**+1.0**
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**26.65**	**45**	P		**P**	12 45 57.4	**+0.2**
	comp=Z,1.2nm,0.6s,baz=232,slow=11,SNR=3.3							
SONM	**Songino Array**	**26.65**	**45**	P		**P**	12 45 57.4	**+0.2**
SONM	**Songino Array**	**26.65**	**45**	P		**P**	12 45 57.4	**+0.2**
BRTR	**Keskin Array B**	**36.81**	**295**	P		**P**	12 47 27.3	**+0.8**
	comp=Z,0.3nm,0.5s,baz=115,slow=9.8,SNR=2.9							
BRTR	**Keskin Array B**	**36.81**	**295**	P		**P**	12 47 27.3	**+0.8**
BRTR	**Keskin Array B**	**36.81**	**295**	P		**P**	12 47 27.3	**+0.8**
YULB	**Yu-li**	**38.79**	**92**	*e*P		**P**	12 47 43.0	**-0.2**
	comp=Z,5.6nm,0.5s							
AKASG	**Malin Array Be**	**40.61**	**312**	P		**P**	12 47 59.2	**+1.2**
	comp=Z,0.7nm,0.4s,baz=78,slow=7.3,SNR=5.1							
AKASG	**Malin Array Be**	**40.61**	**312**	*ce*P		**P**	12 48 00.1	**+2.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**40.61**	**312**	P		**P**	12 47 59.2	**+1.2**
KSAR	**Wonju Array Be**	**40.79**	**68**	P		**P**	12 48 00.0	**+0.3**
KSAR	**Wonju Array Be**	**40.79**	**68**	P		**P**	12 47 60.0	**+0.3**
KSRS	**Korea Array**	**40.82**	**68**	P		**P**	12 47 60.0	**+0.1**
	comp=Z,1.7nm,0.7s,baz=268,slow=8.3,SNR=4.2							
KSRS	**Korea Array**	**40.82**	**68**	P		**P**	12 48 00.0	**+0.1**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**44.74**	**327**	P		**P**	12 48 33.4	**+2.0**
	comp=Z,2.3nm,0.5s,baz=108,slow=8.9,SNR=14							
FINES	**FINESS Array B**	**44.74**	**327**	P		**P**	12 48 33.4	**+2.0**
FINES	**FINESS Array B**	**44.74**	**327**	P		**P**	12 48 33.4	**+2.0**
ARCES	**ARCESS Array B**	**47.79**	**338**	P		**P**	12 48 57.0	**+1.8**
	comp=Z,2.8nm,0.7s,baz=104,slow=7.4,SNR=9.8							
ARCES				LR		LR	13 08 37.7	
	comp=Z,45nm,21.6s,baz=170,slow=36							
ARCES	**ARCESS Array B**	**47.79**	**338**	P		**P**	12 48 57.1	**+1.8**
ARCES	**ARCESS Array B**	**47.79**	**338**	P		**P**	12 48 57.0	**+1.8**
NOA	**NORSAR Array B**	**51.74**	**325**	P		**P**	12 49 27.6	**+2.1**
	comp=Z,0.9nm,0.6s,baz=94,slow=7.5,SNR=3.3							
NOA	**NORSAR Array B**	**51.74**	**325**	P		**P**	12 49 27.6	**+2.1**
NOA	**NORSAR Array B**	**51.74**	**325**	P		**P**	12 49 27.6	**+2.1**
PETK	**Petropavlovsk-**	**59.13**	**44**	LR		LR	13 17 07.9	
	comp=Z,28nm,18.7s,baz=64,slow=37							
TORD	**Torodi Ar. Bea**	**71.93**	**274**	P		**P**	12 51 40.5	**-1.6**
	comp=Z,1.2nm,0.5s,baz=49,slow=5.1,SNR=16							
TORD	**Torodi Ar. Bea**	**71.93**	**274**	P		**P**	12 51 40.5	**-1.6**
WRA	**Warramunga Arr**	**74.33**	**126**	P		**P**	12 51 55.5	**-0.6**
	comp=Z,0.8nm,0.5s,baz=314,slow=6.9,SNR=11							
WRA	**Warramunga Arr**	**74.33**	**126**	P		**P**	12 51 55.5	**-0.6**
WRA	**Warramunga Arr**	**74.33**	**126**	P		**P**	12 51 55.5	**-0.6**
WRAB	**Tennant Creek**	**74.33**	**126**	*e*P		**P**	12 51 56.1	**-0.1**
WRAB				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WRAB	**Tennant Creek**	**74.33**	**126**	*e*P		**P**	12 51 56.1	**-0.1**
	comp=Z,2.8nm,0.8s							
WB2	**Warramunga Arr**	**74.34**	**126**	*e*P		**P**	12 51 55.9	**-0.3**
ASAR	**Alice Springs**	**76.58**	**129**	P		**P**	12 52 08.4	**-0.6**
	comp=Z,0.9nm,0.8s,baz=317,slow=5.7,SNR=7.6							
ASAR	**Alice Springs**	**76.58**	**129**	P		**P**	12 52 08.4	**-0.6**
ASAR	**Alice Springs**	**76.58**	**129**	P		**P**	12 52 08.4	**-0.6**
ILAR	**Eielson Array**	**77.48**	**18**	P		**P**	12 52 12.2	**-1.3**
	comp=Z,0.6nm,0.7s,baz=299,slow=5.2,SNR=4.3							
ILAR	**Eielson Array**	**77.48**	**18**	P		**P**	12 52 12.2	**-1.3**
ILAR	**Eielson Array**	**77.48**	**18**	P		**P**	12 52 12.2	**-1.3**
YKA	**Yellowknife Ar**	**85.46**	**6**	P		**P**	12 52 54.2	**-1.5**
	comp=Z,0.1nm,0.5s,baz=341,slow=5.3,SNR=3.5							
YKA	**Yellowknife Ar**	**85.46**	**6**	P		**P**	12 52 54.2	**-1.5**
YKA	**Yellowknife Ar**	**85.46**	**6**	P		**P**	12 52 54.2	**-1.5**
QUA2	**Belchertown**	**101.51**	**338**	*e*Pdif		**Pdif**	12 54 08.0	**-2.3**

IDC 09 12:42:50.0±1.3, 0.93S×134.07E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx2.6/29, Error ellipse: s-maj=62.0km s-min=20.9km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.89**	**179**	P		P	P	12 47 11.7	-0.6
	0.2nm,0.3s,baz=356,slow=12,SNR=7.4								
FITZ	**Fitzroy Crossi**	**18.97**	**205**	P		P	P	12 47 13.2	+0.1
	0.1nm,0.3s,baz=52,slow=16,SNR=3.6								
ASAR	**Alice Springs**	**22.50**	**180**	P		P	P	12 47 52.8	+0.3
	2.1nm,0.8s,baz=4.7,slow=1,SNR=12								
JOW	**Kunigami**	**28.16**	**349**	LR		LR	LR	12 57 18.0	
	comp=Z,437nm,20.9s,baz=268,slow=31								
MKAR	**Makanchi Array**	**65.59**	**324**	P		P	P	12 53 35.8	-0.1
	0.4nm,0.5s,baz=110,slow=7.7,SNR=11								
KURK	**Kurchatov**	**69.64**	**326**	P		P	P	12 54 01.3	0.0
	0.5nm,0.8s,baz=120,slow=5.3,SNR=4.6								
ILAR	**Eielson Array**	**86.17**	**25**	P		P	P	12 55 33.0	0.0
	0.5nm,0.9s,baz=260,slow=5.8,SNR=5.0								

*ISCJB **09** 12:43:57.7±0.3, 32.54N±0.02×115.25W±0.02, h25km±3km, Error ellipse: s-maj=4.0km s-min=2.6km az=163.5*
*NEIC **09** 12:43:58.6, 32.56N×115.25W, h17km, ML3.7(ECX), ML3.3(PAS), After ECX.*
*ECX **09** 12:43:58.6±0.7, 32.56N×115.25W, h17km±2km, ML3.6*
ISC 09 12:43:57.5±1.0, 32.54N±0.02×115.26W±0.02, h13km±8km, n45, σ0.97/73, 20C-21D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**196**	⇓*e*P		**Pg**	**Pb**	12 44 02.0	**+0.2**
CPBX				*e*S		**Sg**	**Sb**	12 44 05.5	**+0.9**
CPBX				⇑*e*				12 44 06.5	
	comp=N,50μm,0.3s								
CPBX				⇓*e*				12 44 06.5	
	comp=E,41μm,0.3s								
COA	**Coachella**	**0.34**	**20**	⇓*e*P		**Pg**		12 44 05.0	**+0.6**
SNR	**Schaffner Ranc**	**0.35**	**335**	⇓*e*P		**Pg**	**Pb**	12 44 05.6	**0.0**
SGL	**Mount Signal**	**0.41**	**285**	⇑*e*P		**Pg**		12 44 06.2	**+0.6**
COK	**Cook Ranch**	**0.50**	**308**	⇑*e*P		**Pg**		12 44 07.9	**+0.6**
YUH	**Yuha Desert**	**0.57**	**281**	⇑*e*P		**Pg**		12 44 08.7	**+0.1**
SWSC	**Sam W. Stewart**	**0.60**	**312**	⇑P		**Pg**		12 44 09.1	**-0.2**
	baz=0.6								
SWSC				⇑S		**Sg**		12 44 17.7	**+0.5**
	baz=0.6								
YMD	**Yuma Desert**	**0.60**	**89**	⇑*e*P		**Pg**		12 44 09.4	**+0.1**
GLA	**Glamis**	**0.63**	**36**	*e*Pg		**Pg**		12 44 09.4	**-0.4**
GLA				*e*Sg		**Sg**		12 44 17.4	**-0.6**
GLA	**Glamis**	**0.63**	**36**	⇓*e*P		**Pg**		12 44 09.3	**-0.4**
GLA				*e*S		**Sg**		12 44 17.7	**-0.3**
GLA	**Glamis**	**0.63**	**36**	⇓P		**Pg**		12 44 09.3	**-0.5**
	baz=0.6								
GLA				⇓S		**Sg**		12 44 17.3	**-0.7**
	baz=0.6								
CRR	**Carrizo Plain**	**0.69**	**300**	⇑*e*P		**Pg**		12 44 10.7	**-0.2**
RMX	**La Rumorosa**	**0.69**	**275**	⇓*e*P		**Pg**		12 44 11.1	**+0.1**
RMX				*e*S		**Sg**		12 44 20.9	**+0.8**
RMX				⇑*e*				12 44 21.8	
	comp=N,2μm,0.3s								
RMX				*e*				12 44 22.2	
	comp=E,2μm,0.2s								
DVTC	**Desert V Tower**	**0.72**	**279**	⇓S		**Sg**		12 44 21.2	**+0.2**
	baz=0.7								
RDX	**Rancho Dawling**	**0.84**	**223**	⇓*e*P		**Pb**		12 44 13.9	**-0.1**
RDX				*e*S		**Sb**		12 44 25.4	**+0.1**
RDX				⇓*e*				12 44 27.5	
	comp=N,2μm,0.5s								
MONP	**Monument Peak**	**1.04**	**290**	⇓P		**Pb**		12 44 16.1	**-1.3**
	baz=1.0								
BC3	**Big Chuckawall**	**1.12**	**352**	⇓S		**Sn**		12 44 33.0	**-1.2**
	baz=1.1								
BAR	**Barrett**	**1.20**	**277**	*e*Pn		**Pn**		12 44 18.7	**-1.2**
BAR				*e*Sn		**Sb**		12 44 34.8	**-0.6**
CBX	**Cerro Bola**	**1.21**	**259**	⇓*e*P		**Pn**		12 44 19.8	**-0.3**
CBX				*e*S		**Sb**		12 44 35.8	**+0.1**
113A	**Mohawk Valley,**	**1.28**	**80**	⇓P		**Pn**		12 44 19.5	**-1.5**
	baz=1.3								
113A				⇑S		**Sb**		12 44 36.8	**-0.9**
	baz=1.3								
ECNX	**Esteban Cantu**	**1.44**	**232**	⇑*e*P		**Pb**		12 44 23.6	**-0.5**
ECNX				*e*P		**Pn**		12 44 22.1	**-1.2**
ECNX				*e*S		**Sn**		12 44 40.6	**-1.4**
ECNX				*e*S		**Sb**		12 44 42.4	**+0.1**
PFO	**Pinyon Flat Ob**	**1.46**	**317**	⇑P		**Pn**		12 44 21.7	**-2.0**
	baz=1.5								
PBX	**Punta Banda**	**1.48**	**238**	⇑*e*P		**Pn**		12 44 24.1	**+0.4**
PBX				*e*S		**Sb**		12 44 43.8	**+0.4**
Z13A	**Yuma Proving G**	**1.50**	**64**	⇓P		**Pn**		12 44 22.6	**-1.5**
	baz=1.5								
Z13A				⇑Sb		**Sb**		12 44 44.2	**+0.1**
	baz=1.5								
SPX	**San Pedro Mart**	**1.50**	**187**	*e*P		**Pn**		12 44 23.8	**-0.6**
SPX				⇓*e*				12 44 59.5	
	comp=N,632nm,0.8s								
109C	**Camp Elliot, M**	**1.59**	**283**	⇓P		**Pn**		12 44 24.4	**-0.9**
	baz=1.6								
109C				⇑Sn		**Sn**		12 44 44.9	**-0.8**
	baz=1.6								
IRM	**Iron Mountain**	**1.61**	**3**	⇓Pb		**Pb**		12 44 27.1	**0.0**
	baz=1.6								
IRM				⇑Sb		**Sb**		12 44 48.2	**+0.8**
	baz=1.6								
PDMCI	**Parker Dam,Lak**	**1.99**	**28**	⇓Sb		**Sb**		12 44 58.8	**+0.7**
	baz=2.0								
114A	**Black Gap (USA**	**2.02**	**83**	⇑P		**Pn**		12 44 30.0	**-1.1**
	baz=2.0								
Z14A	**Wintersburg**	**2.11**	**67**	⇑Sb		**Sb**		12 45 02.2	**+0.5**
	baz=2.1								
214A	**Organ Pipe Nat**	**2.16**	**105**	⇑P		**Pn**		12 44 31.0	**-2.1**
	baz=2.1								
GMRC	**Granite Mounta**	**2.26**	**352**	⇓Sb		**Sg**		12 45 08.5	**-1.5**
	baz=2.3								
Y14A	**Wickenburg**	**2.35**	**53**	⇓Sb		**Sb**		12 45 09.8	**+1.2**
	baz=2.3								
LDFC	**Landfair**	**2.53**	**3**	*e*Pg		**Pg**		12 44 48.1	**+2.1**
LDFC				*e*Sn		**Sn**		12 45 09.9	**+0.8**
LDFC				*e*Sg		**Sg**		12 45 18.7	**-0.1**
MWC	**Mount Wilson**	**2.88**	**306**	*e*Pn		**Pn**		12 44 43.9	**+0.7**
MWC				*e*Sn		**Sn**		12 45 18.5	**+0.8**
PASC	**Pasadena Art C**	**2.94**	**304**	*e*Pg		**Pg**		12 44 54.9	**+1.2**
PASC				*e*Sn		**Sn**		12 45 18.5	**-0.4**
GSC	**Goldstone**	**3.04**	**335**	*e*Pg		**Pg**		12 44 55.2	**-0.5**
GSC				*e*Sg		**Sg**		12 45 36.3	**+1.2**
OSI	**Osito Adit**	**3.55**	**306**	*e*Pg		**Pg**		12 45 06.5	**+0.9**
OSI				*e*Sn		**Sn**		12 45 34.9	**+0.8**
TUC	**Tucson**	**3.79**	**92**	*e*Pn		**Pn**		12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**194**⇓	*e*P	**Pg**	**12 55 09.8**	**+0.5**
CPBX				*e*S	**Sb**	**12 55 13.4**	**+0.6**
CPBX				⇑*e*		12 55 14.3	
	comp=N,41μm,0.3s						
CPBX				⇑*e*		12 55 16.4	
	comp=E,32μm,0.3s						
COA	**Coachella**	**0.34**	**21**⇓	*e*P	**Pg**	**12 55 12.8**	**0.0**
SGL	**Mount Signal**	**0.40**	**285**⇑	*e*P	**Pg**	**12 55 13.9**	**+0.1**
COK	**Cook Ranch**	**0.49**	**308**⇑	*e*P	**Pg**	**12 55 15.7**	**+0.2**
YUH	**Yuha Desert**	**0.56**	**281**⇑	*e*P	**Pg**	**12 55 16.5**	**-0.3**
GLA	**Glamis**	**0.63**	**36**	*e*Pg	**Pg**	**12 55 17.1**	**-1.0**
GLA				*e*Sg	**Sg**	**12 55 25.3**	**-1.1**
GLA	**Glamis**	**0.63**	**36**⇓	*e*P	**Pg**	**12 55 17.1**	**-1.0**
GLA				*e*S	**Sg**	**12 55 25.2**	**-1.1**
CRR	**Carrizo Plain**	**0.68**	**300**⇑	*e*P	**Pg**	**12 55 18.5**	**-0.6**
RMX	**La Rumorosa**	**0.69**	**275**⇑	*e*P	**Pg**	**12 55 18.8**	**-0.4**
RMX				*e*S	**Sg**	**12 55 28.9**	**+0.5**
RDX	**Rancho Dawling**	**0.84**	**223**⇓	*e*P	**Pg**	**12 55 21.7**	**-0.4**
RDX				*e*S	**Sg**	**12 55 33.3**	**+0.2**
RDX				⇓*e*		12 55 35.3	
	comp=N,1μm,0.7s						
RDX				*e*		12 55 37.5	
	comp=E,2μm,0.6s						
BAR	**Barrett**	**1.19**	**277**	*e*Pn	**Pn**	**12 55 26.5**	**-1.6**
BAR				*e*Sg	**Sb**	**12 55 43.9**	**+0.4**
CBX	**Cerro Bola**	**1.20**	**259**⇑	*e*P	**Pn**	**12 55 27.4**	**-0.8**
CBX				*e*S	**Sb**	**12 55 43.3**	**-0.6**
ECNX	**Esteban Cantu**	**1.44**	**232**⇑	*e*P	**Pn**	**12 55 31.4**	**-0.1**
ECNX				*e*S	**Sn**	**12 55 50.1**	**0.0**
PFO	**Pinyon Flat Ob**	**1.46**	**317**	*e*Pn	Pn	12 55 28.6	-3.2
PBX	**Punta Banda**	**1.47**	**238**⇑	*e*P	**Pn**	**12 55 31.8**	**-0.1**
PBX				*e*S	**Sn**	**12 55 51.5**	**+0.5**
SPX	**San Pedro Mart**	**1.50**	**186**⇓	*e*P	**Pn**	**12 55 31.5**	**-1.1**
SPX				⇓*e*		12 56 07.2	
	comp=N,328nm,0.7s						
SPX				⇓*e*		12 56 09.3	
	comp=E,266nm,0.8s						
GSC	**Goldstone**	**3.03**	**335**	*e*Pn	**Pn**	**12 55 54.3**	**+0.9**
GSC				*e*Sn	**Sn**	**12 56 27.2**	**-2.4**
TUC	**Tucson**	**3.80**	**92**	*e*Pn	**Pn**	**12 56 02.7**	**-1.2**
TUC				*e*Sn	**Sn**	**12 56 50.9**	**+2.5**
TUC				*e*Sg	**Sg**	**12 57 07.0**	**-0.7**
ISA	**Isabella**	**4.09**	**320**	*e*Pg	**Pg**	**12 56 24.3**	**+0.1**
ISA				*e*Sg	**Sg**	**12 57 18.5**	**+1.2**
WUAZ	**Wupatki**	**4.39**	**46**	*e*Pn	**Pn**	**12 56 13.9**	**+1.9**
WUAZ				*e*Sn	**Sn**	**12 57 04.2**	**+1.2**
CCUT	**Cedar City**	**5.23**	**17**	*e*Pn	**Pn**	**12 56 24.9**	**+1.1**
	comp=E,13nm,1.0s						
ARUT	**Antelope Range**	**5.44**	**15**	*e*Pn	**Pn**	**12 56 29.3**	**+2.7**
	comp=E,8.9nm,0.6s						
MSU	**Marysvale**	**6.46**	**22**	*e*Pn	**Pn**	**12 56 42.1**	**+1.4**
	comp=E,4.1nm,0.7s						
MSU				*e*Pg	**Pg**	**12 57 09.2**	**-0.3**
MSU				*e*Sg	**Sg**	**12 58 30.2**	**-3.1**

*DDA **09** 13:01:08.6,37.86N×27.56E,h7km,MD2.7*
*CSEM **09** 13:01:09.0±0.4,37.81N×27.61E,h7km,MD2.7,Error ellipse: s-maj=10.0km s-min=7.1km az=163.0*
*ATH **09** 13:01:09.4,37.75N×27.58E,h10km,MD3.1/3*
ISC 09 13:01:07.8±1.2,37.83N±0.04×27.60E±0.03,h4km±10km, n20,σ1§09/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.32**	**245**	*i*P	**Pg**	**13 01 14.7**	**+0.7**
GCAM				*i*S	**Sg**	**13 01 17.6**	**-0.5**
GCAM	**G?zelcaml?**	**0.32**	**245**	*i*P	**Pg**	**13 01 14.7**	**+0.7**
GCAM				*i*S	**Sg**	**13 01 17.6**	**-0.5**
SMG	**Samos**	**0.61**	**259**	*e*PB	**Pb**	**13 01 20.8**	**-0.4**
SMG				*e*SB	**Sb**	**13 01 29.1**	**-1.0**
SMG	**Samos**	**0.61**	**259**	*e*Pb	**Pb**	**13 01 20.8**	**-0.4**
SMG				*e*Sb	**Sb**	**13 01 29.1**	**-1.0**
MANT	**Manisa**	**1.00**	**49**	*i*P	**Pg**	**13 01 27.4**	**+0.3**
MANT				*i*S	**Sg**	**13 01 40.4**	**+0.3**
MANT	**Manisa**	**1.00**	**49**	*i*P	**Pg**	**13 01 27.4**	**+0.3**
MANT				*i*S	**Sg**	**13 01 40.4**	**+0.3**
AKHS	**Akhisar**	**1.06**	**9**	*i*P	**Pn**	**13 01 29.1**	**-0.4**
AKHS				*i*S	**Sn**	**13 01 43.4**	**-1.3**
AKHS	**Akhisar**	**1.06**	**9**	*i*P	**Pn**	**13 01 29.1**	**-0.4**
AKHS				*i*S	**Sn**	**13 01 43.4**	**-1.3**
DNZL	**Cakiroluk**	**1.16**	**97**	*i*P	**Pn**	**13 01 32.3**	**+1.3**
DNZL				*i*S	**Sn**	**13 01 48.8**	**+1.4**
DNZL	**Cakiroluk**	**1.16**	**97**	*i*P	**Pn**	**13 01 32.3**	**+1.3**
DNZL				*i*S	**Sn**	**13 01 48.8**	**+1.4**
TURN	**Turunc**	**1.25**	**140**	*i*P	**Pn**	**13 01 30.9**	**-1.2**
TURN	**Turunc**	**1.25**	**140**	*i*P	**Pn**	**13 01 30.9**	**-1.2**
CHOS	**Chios island**	**1.33**	**295**	*e*PB	**Pg**	**13 01 35.0**	**+1.5**
CHOS				*e*SB	**Sn**	**13 01 53.7**	**+2.1**
CHOS	**Chios island**	**1.33**	**295**	*e*Pb	**Pg**	**13 01 35.0**	**+1.5**
CHOS				*e*Sb	**Sn**	**13 01 53.7**	**+2.1**
DEMI	**Demirci**	**1.49**	**36**	*i*P	**Pg**	**13 01 37.1**	**+0.6**
DEMI	**Demirci**	**1.49**	**36**	*i*P	**Pg**	**13 01 37.1**	**+0.6**
APE	**Apeiranthos**	**1.81**	**246**	*e*PN	**Pg**	**13 01 42.3**	**-0.3**
APE	**Apeiranthos**	**1.81**	**246**	*e*Pn	**Pg**	**13 01 42.3**	**-0.3**
DURS	**Dursunbey**	**1.90**	**21**	*i*P	**Pg**	**13 01 43.5**	**-0.7**
DURS	**Dursunbey**	**1.90**	**21**	*i*P	**Pg**	**13 01 43.5**	**-0.7**

IDC 09 13:03:25.1±26.0,20.35S×173.09W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.9/20,mbtmp4.2/4,Error ellipse: s-maj=486.9km s-min=149.4km az=75.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.08**	**263**	P	P	13 10 46.2	+0.3
	5.7nm,0.7s,baz=94,slow=8.4,SNR=6.8						
STKA	**Stephens Creek**	**42.01**	**245**	P	P	13 11 18.0	-0.3
	1.7nm,0.5s,baz=99,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**49.03**	**256**	P	P	13 12 14.2	+0.1
	3.4nm,0.7s,baz=100,slow=8.0,SNR=40						
WRA	**Warramunga Arr**	**49.17**	**261**	P	P	13 12 14.7	-0.5
	0.8nm,0.6s,baz=97,slow=8.1,SNR=17						

IDC 09 13:03:59.0±3.0,1.62S×133.78E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/16,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=152.6km s-min=27.7km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.22**	**178**	P	P	13 08 14.3	+0.5
	0.0nm,0.3s,baz=357,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**21.92**	**180**	P	P	13 08 53.6	-0.5
	0.5nm,0.9s,baz=1.1,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**65.97**	**324**	P	P	13 14 47.2	0.0
	0.3nm,0.8s,baz=136,slow=7.2,SNR=2.5						

*IDC **09** 13:04:08.9±0.8,30.33N×67.45E,h0km,mb4.0/16, mb1 4.2/16,mb1mx4.0/30,mbtmp4.0/16,MS3.3/5, Ms1 3.3/5,ms1mx2.9/43,Error ellipse: s-maj=21.8km s-min=15.4km az=44.0*
*NNC **09** 13:04:09.9±1.8,30.60N×67.93E,h0km,mb3.9,Error ellipse: s-maj=32.8km s-min=14.0km az=89.0*
*NEIC **09** 13:04:10.6±0.5,30.39N×67.48E,h10km,mb4.3/5,Error ellipse: s-maj=8.6km s-min=7.0km az=50.0*
NEIC Felt at Quetta.
*MOS **09** 13:04:12.7±1.0,30.48N×67.58E,h33km,mb4.3/7,Error ellipse: s-maj=14.4km s-min=6.5km az=82.5*
ISC 09 13:04:10.9±0.6,30.30N±0.07×67.51E±0.07,h14km,n123, σ1§16/118,mb4.2/33,MS3.2/5,5C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**4.39**	**54**	P	**Pn**	**13 05 18.1**	**+0.9**
KBL	**Kabul**	**4.42**	**17**	*e*P	**Pn**	**13 05 20.4**	**+2.6**
KBL				*e*		13 06 08.2	
KBL	**Kabul**	**4.42**	**17**	*e*Pn	**Pn**	**13 05 20.4**	**+2.6**
KBL				*e*Sn	**Sn**	**13 06 08.2**	**-1.0**
CEP	**Cherat**	**5.13**	**46**	P	**Pn**	**13 05 28.8**	**+1.4**
CEP				S	**Sn**	**13 06 26.0**	**-0.5**
CHCP	**Chirah Chowk**	**5.92**	**54**	P	**Pn**	**13 05 39.6**	**+1.3**
NDI	**New Delhi**	**8.61**	**98**	*e*P	Pn	13 06 11.0	-4.2
NDI				*e*S	Sn	13 07 43.0	-9.2
AML	**Almayashu** SNR=18	**12.81**	**21**	P	**Pn**	**13 07 12.9**	**0.0**
AML				P	**Pn**	**13 07 12.9**	**0.0**
KK31	**Karatay Array**	**13.00**	**10**	⇓Pn	**Pn**	**13 07 13.3**	**-1.9**
	2.3nm,0.6s,baz=204,slow=17,SNR=16						
KK31				⇑Sn	**Sn**	**13 09 38.8**	**-0.9**
	2.6nm,0.7s						
KK31	**Karatay Array**	**13.00**	**10**	P	**Pn**	**13 07 13.3**	**-1.9**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**13.00**	**10**	*e*P	**Pn**	**13 07 13.2**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**13.00**	**10**	*e*Pn	**Pn**	**13 07 13.2**	**-2.0**
	comp=Z,3.6nm,0.6s						
EKS2	**Erkin-Say**	**13.32**	**20**	P	**Pn**	**13 07 19.8**	**+0.1**
	SNR=13						
EKS2				P	**Pn**	**13 07 19.8**	**+0.1**
	SNR=13						
EKS2	**Erkin-Say**	**13.32**	**20**	*e*P	**Pn**	**13 07 18.8**	**-0.9**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
EKS2	**Erkin-Say**	**13.32**	**20**	*e*Pn	**Pn**	**13 07 18.8**	**-0.9**
	comp=Z,8.1nm,0.6s						
AAK	**Ala-Archa**	**13.52**	**23**	P	**Pn**	**13 07 22.3**	**-0.1**
	SNR=13						
AAK				P	**Pn**	**13 07 22.3**	**-0.1**
	SNR=13						
AAK	**Ala-Archa**	**13.52**	**23**	*e*P	**Pn**	**13 07 21.9**	**-0.5**
AAK				*e*		13 09 51.7	
AAK				pmax	pmax		
	comp=Z,32nm,0.5s						
AAK	**Ala-Archa**	**13.52**	**23**	*e*Pn	**Pn**	**13 07 21.9**	**-0.5**
	comp=Z,32nm,0.5s						
AAK				*e*Sn	**Sn**	**13 09 51.7**	**-0.9**
KBK	**Karagaybulak**	**13.70**	**24**	P	**Pn**	**13 07 25.4**	**+0.6**
	SNR=7.4						
KBK				P	**Pn**	**13 07 25.4**	**+0.6**
	SNR=7.4						
CHMS	**Chumysh**	**13.93**	**23**	P	**Pn**	**13 07 28.7**	**+0.8**
	SNR=6.2						
CHMS				P	**Pn**	**13 07 28.7**	**+0.8**
	SNR=6.2						
USP	**Ospenovka**	**14.09**	**21**	P	**Pn**	**13 07 28.1**	**-2.1**
	SNR=8.8						
USP				P	**Pn**	**13 07 28.1**	**-2.1**
	SNR=8.8						
TKM2	**Tokmak 2**	**14.16**	**25**	P	**Pn**	**13 07 29.9**	**-1.3**
	SNR=20						
TKM2				P	**Pn**	**13 07 29.9**	**-1.3**
	SNR=20						
TKM2	**Tokmak 2**	**14.16**	**25**	⇓Pn	Pn	13 07 26.9	-4.3
	comp=Z,11nm,0.7s						
TKM2	**Tokmak 2**	**14.16**	**25**	*e*P	**Pn**	**13 07 29.7**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,16nm,0.8s						
TKM2	**Tokmak 2**	**14.16**	**25**	*e*Pn	**Pn**	**13 07 29.7**	**-1.5**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**14.30**	**96**	*e*P	**Pn**	**13 07 31.1**	**-2.2**
	comp=Z,30nm,0.6s						
DANN	**Dangsing**	**14.31**	**94**	*e*P	Pn	13 07 31.1	-2.4
	comp=Z,48nm,0.6s						
GKN	**Gorkha**	**15.14**	**94**	*e*P	Pn	13 07 39.5	-5.1
DMN	**Daman**	**15.64**	**96**	*e*P	Pn	13 07 47.2	-4.0
	comp=Z,43nm,0.9s						
KKN	**Kakani**	**15.74**	**95**	*e*P	Pn	13 07 47.9	-4.6
	comp=Z,34nm,0.5s						
PKI	**Pulchoki**	**15.91**	**95**	*e*P	Pn	13 07 50.5	-4.3
GUN	**Gumba**	**16.23**	**94**	*e*P	**Pn**	**13 07 55.1**	**-3.9**
	comp=Z,275nm,0.9s						
JIRN	**Jiri**	**16.56**	**95**	*e*P	**Pn**	**13 08 00.1**	**-3.0**
RAMN	**Ramite**	**17.09**	**97**	*e*P	**Pn**	**13 08 07.0**	**-2.7**
	comp=Z,51nm,0.5s						
ODAN	**Odare**	**17.80**	**96**	*e*P	**Pn**	**13 08 16.0**	**-2.5**
AB31	**Akbulak array**	**19.78**	**345**	Pn	**P**	**13 08 41.0**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=154,slow=12,SNR=40						
AB31	**Akbulak array**	**19.78**	**345**	*e*P	**P**	**13 08 41.0**	**+0.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	**19.78**	**345**	*e*P	**P**	**13 08 40.5**	**-0.1**
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**20.06**	**31**	⇓Pn	**P**	**13 08 42.8**	**-1.0**
	comp=Z,4.8nm,0.6s,baz=208,slow=9.6,SNR=50						
MK31	**Makanchi Array**	**20.06**	**31**	*e*P	**P**	**13 08 43.1**	**-0.6**
MK31	**Makanchi Array**	**20.06**	**31**	*e*P	**P**	**13 08 43.1**	**-0.6**
MK31				*e*pP	**pP**	**13 08 48.7**	**+1.0**
MK31				*e*sP	**sP**	**13 08 52.1**	**+2.6**
MKAR	**Makanchi Array**	**20.06**	**31**	P	**P**	**13 08 42.7**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=208,slow=9.9,SNR=30						
MKAR				LR	LR	13 17 12.7	
	comp=Z,64nm,20.0s,baz=222,slow=39						
MKAR	**Makanchi Array**	**20.06**	**31**	P	**P**	**13 08 42.7**	**-1.0**
MKAR	**Makanchi Array**	**20.06**	**31**	P	**P**	**13 08 42.7**	**-1.0**
LSA	**Lhasa**	**20.48**	**86**	*e*P	**P**	**13 08 49.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,14nm,1.0s						
LSA	**Lhasa**	**20.48**	**86**	*e*P	**P**	**13 08 49.9**	**+1.0**
	comp=Z,14nm,1.0s						
AKTO	**Aktyubinsk**	**21.34**	**343**	P	**P**	**13 08 57.2**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=180,slow=10,SNR=10						
AKTO	**Aktyubinsk**	**21.34**	**343**	⇑Pn	**P**	**13 08 58.8**	**+1.4**
	comp=Z,2.1nm,1.4s						
AKTO	**Aktyubinsk**	**21.34**	**343**	P	**P**	**13 08 57.1**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.4s						
AKTO	**Aktyubinsk**	**21.34**	**343**	P	**P**	**13 08 57.2**	**-0.2**
KURBB	**Kurchatov Arra**	**21.92**	**19**	Pn	**P**	**13 09 03.3**	**-0.3**
	comp=Z,1.9nm,0.9s						
KURK	**Kurchatov**	**22.02**	**19**	P	**P**	**13 09 02.6**	**-2.2**
	comp=Z,5.3nm,0.9s,baz=210,slow=11,SNR=25						
KURK	**Kurchatov**	**22.02**	**19**	⇑Pn	**P**	**13 09 04.9**	**+0.1**
	comp=Z,8.4nm,0.9s						
KURK	**Kurchatov**	**22.02**	**19**	*e*P	**P**	**13 09 05.7**	**+0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**22.02**	**19**	P	**P**	**13 09 02.6**	**-2.2**
SHL	**Shillong**	**22.03**	**96**	*e*P	**P**	**13 09 06.0**	**+0.7**
VOSK	**Vostochnaya**	**22.55**	**6**	⇓Pn	**P**	**13 09 11.1**	**+0.7**
	comp=Z,6.0nm,0.8s						
VOSK	**Vostochnaya**	**22.55**	**6**	P	**P**	**13 09 09.6**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZRNK	**Zerenda**	**22.66**	**2**	⇑Pn	**P**	**13 09 12.4**	**+0.8**
	comp=Z,8.3nm,1.1s						
ZRNK	**Zerenda**	**22.66**	**2**	P	**P**	**13 09 11.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVA0	**Borovoye Array**	**22.80**	**4**	Pn	**P**	**13 09 13.8**	**+0.7**
	comp=Z,1.2nm,1.3s,baz=176,slow=10,SNR=21						
BVA0	**Borovoye Array**	**22.80**	**4**	*i*P	**P**	**13 09 12.9**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.6s						
BVAR	**Borovoye Array**	**22.80**	**4**	P	**P**	**13 09 12.9**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=173,slow=9.8,SNR=16						
BVAR				LR	LR	13 20 06.9	
	comp=Z,46nm,18.1s,baz=67,slow=42						
BVAR	**Borovoye Array**	**22.80**	**4**	P	**P**	**13 09 12.9**	**-0.2**
BVAR	**Borovoye Array**	**22.80**	**4**	P	**P**	**13 09 12.9**	**-0.2**
BRVK	**Borovoye**	**22.83**	**4**	⇓Pn	**P**	**13 09 14.4**	**+1.0**
	comp=Z,24nm,1.4s						
BRVK	**Borovoye**	**22.83**	**4**	*e*P	**P**	**13 09 13.1**	**-0.3**
BRVK				*e*PP	**pP**	**13 09 18.8**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**22.83**	**4**	*e*P	**P**	**13 09 13.1**	**-0.3**
	comp=Z,7.1nm,0.8s						
BRVK				*e*pP	**pP**	**13 09 18.8**	**+1.4**
ASF	**Jabal al Asfar**	**26.20**	**282**	P	P	13 09 51.2	+5.8
	comp=Z,2.5nm,0.8s,baz=355,slow=1.5,SNR=4.0						
ASF	**Jabal al Asfar**	**26.20**	**282**	P	P	13 09 51.2	+5.8
ASF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**26.75**	**23**	*e*P	**P**	**13 09 50.0**	**+0.1**
ZALV	**Zalesovo Beam**	**26.75**	**23**	P	**P**	**13 09 50.9**	**+0.9**
	comp=Z,3.8nm,0.5s,baz=224,slow=10,SNR=34						
ZALV	**Zalesovo Beam**	**26.75**	**23**	P	**P**	**13 09 50.9**	**+0.9**
ZALV	**Zalesovo Beam**	**26.75**	**23**	P	**P**	**13 09 50.9**	**+0.9**
NVS	**Novosibirsk**	**26.99**	**20**	*e*P	**P**	**13 09 52.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
CHTO	**Chiang Mai**	**30.70**	**105**	*e*P	**P**	**13 10 25.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**30.70**	**105**	*e*P	**P**	**13 10 25.6**	**+0.1**
	comp=Z,5.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.86**	**105**	P	**P**	**13 10 28.0**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=304,slow=8.1,SNR=17						
CMAR				PcP	**PcP**	**13 13 24.7**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=288,slow=4.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**30.86**	**105**	P	**P**	**13 10 28.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.86**	**105**	P	**P**	**13 10 28.0**	**+1.1**
ZAK	**Zakamensk**	**33.40**	**43**	*e*P	**P**	**13 10 48.7**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AKASG	**Malin Array Be**	**35.00**	**317**	P	**P**	**13 11 03.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=105,slow=6.9,SNR=3.2						
AKASG	**Malin Array Be**	**35.00**	**317**	P	**P**	**13 11 03.0**	**+0.2**
AKASG	**Malin Array Be**	**35.00**	**317**	P	**P**	**13 11 03.0**	**+0.2**
ENH	**Enshi**	**36.10**	**79**	*e*P	**P**	**13 11 13.4**	**+0.9**
	comp=Z,5.5nm,0.5s						
FINES	**FINESS Array B**	**41.25**	**331**	P	**P**	**13 11 54.9**	**-0.3**
	comp=Z,5.5nm,1.1s,baz=115,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**41.25**	**331**	P	**P**	**13 11 54.9**	**-0.3**
FINES	**FINESS Array B**	**41.25**	**331**	P	**P**	**13 11 54.9**	**-0.3**
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**13 12 19.9**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=98,slow=7.4,SNR=2.3						
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**13 12 19.9**	**-1.3**
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**13 12 19.9**	**-1.3**
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**	**13 12 31.9**	**-0.7**
	comp=Z,7.4nm,1.1s,baz=22,slow=3.9,SNR=7.0						
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**	**13 12 31.9**	**-0.7**
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**	**13 12 31.9**	**-0.7**
NOA	**NORSAR Array B**	**47.77**	**327**	P	**P**	**13 12 48.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=108,slow=7.4,SNR=3.0						
NOA				LR	LR	13 37 28.2	
	comp=Z,26nm,20.5s,baz=325,slow=42						
NOA	**NORSAR Array B**	**47.77**	**327**	P	**P**	**13 12 48.1**	**+0.7**
NOA	**NORSAR Array B**	**47.77**	**327**	P	**P**	**13 12 48.1**	**+0.7**
SBF	**Sospel**	**48.80**	**304**	*e*P	P	13 12 59.8	+4.2
	comp=Z,50nm,0.8s						
LPG	**La Plagne**	**49.15**	**306**	*e*P	P	13 13 02.8	+4.2
LPL	**La Plagne**	**49.16**	**306**	*e*P	P	13 13 02.7	+4.1
CABF	**La Chapelle**	**49.54**	**307**	*e*P	P	13 13 05.4	+4.1
	comp=Z,21nm,1.1s						
BAIF	**Baives**	**50.63**	**312**	*e*P	P	13 13 13.9	+4.5
	comp=Z,15nm,1.1s						
SSF	**Saint Saulge**	**51.28**	**308**	*e*P	P	13 13 19.6	+5.3
	comp=Z,25nm,1.3s						
AVF	**Avril sur Loir**	**51.41**	**308**	*e*P	P	13 13 20.5	+5.2
CAF	**Calviac**	**52.51**	**305**	*e*P	P	13 13 28.2	+4.6
	comp=Z,17nm,0.9s						
ETSF	**Etsaut**	**54.70**	**303**	*e*P	P	13 13 43.5	+3.8
	comp=Z,27nm,1.0s						
SJPF	**Ste Jean**	**55.14**	**304**	*e*P	P	13 13 47.6	+4.7
	comp=Z,57nm,1.4s						
SGMF	**Saint Gilles**	**55.21**	**310**	*e*P	P	13 13 47.8	+4.5
	comp=Z,16nm,0.9s						
SEY	**Seymchan**	**61.20**	**31**	*e*P	**P**	**13 14 23.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**62.70**	**270**	P	**P**	**13 14 35.4**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=58,slow=6.5,SNR=20						
TORD				LR	LR	13 45 22.8	
	comp=Z,43nm,19.3s,baz=120,slow=40						
TORD	**Torodi Ar. Bea**	**62.70**	**270**	P	**P**	**13 14 35.4**	**-0.4**
PETK	**Petropavlovsk-**	**66.50**	**41**	LR	LR	13 46 15.0	
	comp=Z,26nm,18.2s,baz=281,slow=38						
WRA	**Warramunga Arr**	**81.38**	**119**	P	**P**	**13 16 27.9**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=321,slow=4.9,SNR=20						
WRA	**Warramunga Arr**	**81.38**	**119**	P	**P**	**13 16 27.9**	**+0.3**
WRA	**Warramunga Arr**	**81.38**	**119**	P	**P**	**13 16 27.9**	**+0.3**
ILAR	**Eielson Array**	**81.50**	**14**	P	**P**	**13 16 27.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=311,slow=4.8,SNR=3.3						
ILAR	**Eielson Array**	**81.50**	**14**	P	**P**	**13 16 27.2**	**-0.4**
ILAR	**Eielson Array**	**81.50**	**14**	P	**P**	**13 16 27.2**	**-0.4**
ASAR	**Alice Springs**	**83.27**	**122**	P	**P**	**13 16 37.8**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=308,slow=5.3,SNR=41						
ASAR	**Alice Springs**	**83.27**	**122**	P	**P**	**13 16 37.8**	**+0.4**
ASAR	**Alice Springs**	**83.27**	**122**	P	**P**	**13 16 37.8**	**+0.4**
YKA	**Yellowknife Ar**	**87.51**	**1**	P	**P**	**13 16 58.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=349,slow=4.9,SNR=21						
YKA	**Yellowknife Ar**	**87.51**	**1**	P	**P**	**13 16 58.1**	**+0.1**
YKA	**Yellowknife Ar**	**87.51**	**1**	P	**P**	**13 16 58.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.47**	**307**	*eP*	**Pn**	**13 28 36.1**	**-0.9**
MATI				*eS*	Sn	13 28 41.6	-14
DAV	**Davao City (W)**	**2.11**	**298**	P	**Pn**	**13 28 46.2**	**+0.5**
	76nm,0.3s,baz=232,slow=8.9,SNR=6.3						
DAV				S	**Sn**	**13 29 11.2**	**+0.5**
	79nm,0.3s,baz=270,slow=14,SNR=5.3						
DMPH	**Davao City--Mi**	**2.17**	**298**	*eP*	**Pn**	**13 28 45.6**	**-1.0**
BUKP	**Musuan**	**2.98**	**307**	*eP*	**Pn**	**13 28 57.6**	**0.0**
BUKP				*eS*	Sn	13 29 16.0	-16
WRA	**Warramunga Arr**	**26.72**	**165**	P	**P**	**13 33 48.9**	**+1.3**
	0.7nm,0.5s,baz=343,slow=10,SNR=10						
ASAR	**Alice Springs**	**30.22**	**168**	P	**P**	**13 34 18.1**	**-0.6**
	0.5nm,0.8s,baz=338,slow=7.1,SNR=5.9						
ASAR				PcP	**PcP**	**13 37 18.9**	**+0.1**
	0.4nm,0.6s,baz=359,slow=2.9,SNR=9.1						
MKAR	**Makanchi Array**	**56.08**	**324**	P	**P**	**13 37 46.6**	**-0.1**
	0.4nm,0.4s,baz=116,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**58.86**	**332**	P	**P**	**13 38 06.3**	**+0.2**
	0.4nm,0.4s,baz=120,slow=7.0,SNR=4.1						

*NEIC **09** 13:32:39.2, 62°.26N×141°.48W, h12km, ML2.7(AEIC), After AEIC.*
*PGC **09** 13:32:39.3±6.2, 62°.26N×141°.54W, h10km, ML2.9/3, 226km southwest of Dawson, Yt Central Alaska*
ISC 09 13:32:37.7±1.5, 62°.25N±0°.03×141°.46W±0°.04, h2km±13km, n30, σ1§18/40, 4D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA3	**Beaver Creek A**	**0.83**	**350**	P	**Pg**	**13 32 54.0**	**+0.4**
MENT	**Mentasta**	**1.25**	**305**	P	**Pn**	**13 33 01.5**	**-0.8**
BALM	**Baldy**	**1.29**	**200**	P	**Pn**	**13 33 01.5**	**-1.3**
WASW	**Wrangell South**	**1.32**	**257**	P	**Pn**	**13 33 02.3**	**-1.1**
GLB	**Gilahina Butte**	**1.38**	**235**	P	**Pn**	**13 33 03.2**	**-0.7**
ISLE	**Juniper Island**	**1.71**	**195**	P	**Pn**	**13 33 08.8**	**+0.3**
ISLE				S	**Sn**	**13 33 31.3**	**+0.2**
BAGL	**Bagley Icefiel**	**1.79**	**190**	P	**Pn**	**13 33 10.8**	**+1.3**
BAGL				S	**Sn**	**13 33 33.3**	**+0.4**
TABL	**Table Mountain**	**1.82**	**175**	P	**Pn**	**13 33 11.2**	**+1.0**
TABL				S	**Sb**	**13 33 35.0**	**-0.1**
BARK	**Barkley Ridge**	**1.92**	**195**	P	**Pn**	**13 33 11.9**	**+0.5**
RKAV	**Rock Avalanche**	**1.96**	**178**	P	**Pn**	**13 33 13.2**	**+1.2**
RKAV				S	**Sn**	**13 33 38.0**	**+0.7**
PAX	**Paxson**	**1.99**	**293**	P	**Pn**	**13 33 13.5**	**+1.0**
KHIT	**Khitrov Hills**	**2.01**	**206**	P	**Pb**	**13 33 14.3**	**-0.6**
DAWY	**Dawson**	**2.05**	**26**	P	**Pn**	**13 33 13.5**	**+0.3**
DAWY				S	**Sb**	**13 33 40.6**	**-1.1**
DAWY	**Dawson**	**2.05**	**26**	⇓Pn	**Pn**	**13 33 13.6**	**+0.3**
DAWY				⇑Pg	**Pb**	**13 33 16.1**	**+0.4**
DAWY				⇑Sg	**Sg**	**13 33 43.2**	**-0.3**
KLU	**Klutina**	**2.25**	**252**	P	**Pn**	**13 33 16.4**	**+0.5**
DIV	**Divide**	**2.34**	**243**	*e*Pn	**Pn**	**13 33 18.7**	**+1.5**
DIV				*e*Sn	**Sb**	**13 33 48.4**	**-1.6**
HYT	**Haines Junctio**	**2.37**	**125**	⇑Pn	**Pn**	**13 33 18.6**	**+0.8**
HYT				⇑Sg	**Sg**	**13 33 54.9**	**+1.1**
EGAK	**Eagle**	**2.54**	**3**	*e*P	**Pn**	**13 33 20.1**	**+0.1**
SCM	**Sheep Creek Mo**	**2.80**	**264**	P	**Pn**	**13 33 25.2**	**+1.7**
IL1	**Eielson Array**	**3.51**	**319**	P	**Pn**	**13 33 32.8**	**-0.5**
WHY	**Whitehorse**	**3.54**	**114**	⇓Pn	**Pn**	**13 33 34.4**	**+0.7**
WHY				⇓Sg	**Sg**	**13 34 29.4**	**-1.8**
MCK	**McKinley**	**3.72**	**297**	*e*Pn	**Pn**	**13 33 38.4**	**+2.2**
MDM	**Murphy Dome**	**4.07**	**315**	P	**Pn**	**13 33 40.4**	**-0.5**
TRF	**Thorofare Moun**	**4.22**	**290**	P	**Pn**	**13 33 45.0**	**+1.8**
SUA	**Susitna One**	**4.47**	**264**	P	**Pn**	**13 33 48.4**	**+1.9**
STLK	**Strandline Lak**	**4.97**	**266**	P	**Pn**	**13 33 55.6**	**+2.3**
PPLA	**Purkeypile**	**5.00**	**282**	P	**Pn**	**13 33 56.0**	**+2.2**
BM3	**Burnt Mountain**	**5.36**	**347**	P	**Pn**	**13 33 59.6**	**+0.9**
INK	**Inuvik**	**6.93**	**25**	⇓Pn	**Pn**	**13 34 20.1**	**0.0**
JCW	**Jim Creek**	**17.84**	**133**	*e*Pn	**Pn**	**13 36 45.6**	**-1.3**

*DDA **09** 13:32:47.4, 36°.85N×30°.54E, h13km, MD3.1*
*ISK **09** 13:32:48.5, 36°.84N×30°.30E, h5km, MD2.8*
*ISCJB **09** 13:32:50.0±0.6, 36°.84N±0°.04×30°.32E±0°.04, h2km±7km, Error ellipse: s-maj=7.6km s-min=4.5km az=148.9*
*CSEM **09** 13:32:50.1±0.3, 36°.87N×30°.30E, h2km, MD3.1, Error ellipse: s-maj=8.3km s-min=4.8km az=154.0*
ISC 09 13:32:49.6±1.1, 36°.81N±0°.04×30°.33E±0°.03, h5km±10km, n27, σ0§89/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.19**	**4**	*i*P	**Pg**	**13 32 52.3**	**-1.1**
KORT				*i*S	**Sg**	**13 32 56.0**	**+0.1**
KORT	**Korkueli**	**0.19**	**4**	*i*P	**Pg**	**13 32 52.3**	**-1.1**
KORT				*i*S	**Sg**	**13 32 56.0**	**+0.1**
ANTB	**Antalya**	**0.27**	**71**	*e*PG	**Pg**	**13 32 55.4**	**+0.5**
ANTB				*e*SG	**Sb**	**13 33 00.4**	**-1.6**
ANTB	**Antalya**	**0.27**	**71**	*e*Pg	**Pg**	**13 32 55.4**	**+0.5**
ANTB				*e*Sg	**Sb**	**13 33 00.4**	**-1.6**
ELL	**Elmali**	**0.35**	**259**	*e*PG	**Pg**	**13 32 55.7**	**-0.7**
ELL				*e*SG	**Sg**	**13 33 01.7**	**+0.8**
ELL	**Elmali**	**0.35**	**259**	*e*Pg	**Pg**	**13 32 55.7**	**-0.7**
ELL				*e*Sg	**Sg**	**13 33 01.7**	**+0.8**
BCK	**Bucak**	**0.68**	**18**	*e*PG	**Pg**	**13 33 02.6**	**-0.1**
BCK	**Bucak**	**0.68**	**18**	*e*Pg	**Pg**	**13 33 02.6**	**-0.1**
GOLH	**Golhisar**	**0.75**	**305**	*i*P	**Pg**	**13 33 02.9**	**-1.1**
GOLH				*i*S	**Sb**	**13 33 16.9**	**+1.1**
GOLH	**Golhisar**	**0.75**	**305**	*i*P	**Pg**	**13 33 02.9**	**-1.1**
AKAS	**Kas**	**0.82**	**226**	*i*P	**Pb**	**13 33 06.7**	**+0.2**
AKAS				*i*S	**Sn**	**13 33 19.7**	**-1.0**
AKAS	**Kas**	**0.82**	**226**	*i*P	**Pb**	**13 33 06.7**	**+0.2**
AKAS				*i*S	**Sn**	**13 33 19.7**	**-1.0**
FETY	**Fethiye**	**1.02**	**260**	*e*PG	**Pg**	**13 33 08.9**	**-0.3**
FETY	**Fethiye**	**1.02**	**260**	*e*Pg	**Pg**	**13 33 08.9**	**-0.3**
DNZL	**Cakiroluk**	**1.35**	**311**	*i*P	**Pg**	**13 33 17.0**	**+1.5**
DNZL				*i*S	**Sn**	**13 33 35.5**	**+1.8**
DNZL	**Cakiroluk**	**1.35**	**311**	*i*P	**Pg**	**13 33 17.0**	**+1.5**
KHL	**Karahalli**	**1.64**	**337**	*e*PN	**Pn**	**13 33 18.7**	**-0.5**
KHL	**Karahalli**	**1.64**	**337**	*e*Pn	**Pn**	**13 33 18.7**	**-0.5**
YER	**Yerkesik**	**1.67**	**282**	*e*PN	**Pn**	**13 33 19.7**	**0.0**
YER	**Yerkesik**	**1.67**	**282**	*e*Pn	**Pn**	**13 33 19.7**	**0.0**
BOLV	**Bolvadin**	**1.96**	**14**	*i*P	**Pg**	**13 33 27.8**	**+0.5**
KONT	**Konya--Tatoy**	**1.97**	**54**	*e*PN	**Pn**	**13 33 24.5**	**+0.8**
KONT	**Konya--Tatoy**	**1.97**	**54**	*e*Pn	**Pn**	**13 33 24.5**	**+0.8**
KULA	**Kula-Manisa**	**2.15**	**323**	*e*PN	**Pn**	**13 33 26.3**	**0.0**
KULA	**Kula-Manisa**	**2.15**	**323**	*e*Pn	**Pn**	**13 33 26.3**	**0.0**
BODT	**Bodrum**	**2.43**	**277**	*e*PN	**Pn**	**13 33 30.6**	**+0.5**
BODT	**Bodrum**	**2.43**	**277**	*e*Pn	**Pn**	**13 33 30.6**	**+0.5**

IDC 09 13:33:39.9±1.7, 1°.84N×126°.39E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=168.8km s-min=21.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**161**	P	P	13 38 46.3	-0.3
	1.4nm,0.6s,baz=339,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.38**	**164**	P	P	13 39 18.4	+0.3
	0.4nm,0.5s,baz=344,slow=11,SNR=13						
MKAR	**Makanchi Array**	**58.92**	**326**	P	P	13 43 40.4	-0.5
	0.2nm,0.5s,baz=125,slow=7.2,SNR=6.7						
KURK	**Kurchatov**	**63.15**	**328**	P	P	13 44 09.9	+0.4
	0.3nm,0.4s,baz=128,slow=6.4,SNR=4.3						

*IDC **09** 13:40:54.9±0.7, 8°.45S×157°.28E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/19, mbtmp4.4/13, ML3.9/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/24, Error ellipse: s-maj=25.6km s-min=17.9km az=134.0*
*ISCJB **09** 13:40:58.1±4.8, 8°.48S±0°.10×157°.25E±0°.06, h33km±34km, mb4.5/20, MS3.5/4, Error ellipse: s-maj=16.8km s-min=10.3km az=167.4*
*NEIC **09** 13:40:59.5±2.3, 8°.48S×157°.31E, h37km±23km, mb4.6/9, Error ellipse: s-maj=21.4km s-min=11.7km az=148.0*
ISC 09 13:40:57.3±3.1, 8°.5S±0°.1×157°.26E±0°.07, h18km±16km, n60, σ1§23/48, mb4.5/19, MS3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.82**	**110**	Pn	**Pn**	**13 41 42.5**	**+1.0**
	65nm,0.3s,baz=264,slow=2.5,SNR=16						
HNR				Sn	**Sg**	**13 42 28.1**	**+0.1**
	266nm,0.3s,baz=320,slow=21,SNR=14						
HNR	**Honiara**	**2.82**	**110**	*e*Pn	**Pn**	**13 41 41.0**	**-0.5**
HNR				*e*Sn	**Sn**	**13 42 15.4**	**+0.3**
CTA	**Charters Tower**	**15.70**	**222**	Pn	**P**	**13 44 40.3**	**-1.4**
	0.2nm,0.3s,baz=51,slow=17,SNR=2.7						
CTA				LR	LR	13 50 06.8	
	comp=Z,198nm,18.5s,baz=284,slow=35						
CTA	**Charters Tower**	**15.70**	**222**	Pn	**P**	**13 44 40.3**	**-1.4**
DZM	**Mont Dzumac**	**16.15**	**148**	*e*LR	LR	13 48 26.4	
	84nm,22.0s						
DZM	**Mont Dzumac**	**16.15**	**148**	LR	LR	13 49 24.7	
	comp=Z,135nm,19.8s,baz=316,slow=32						
QLP	**Quilpie**	**21.84**	**213**	*e*P	**P**	**13 45 50.2**	**+1.3**
WRAB	**Tennant Creek**	**24.92**	**240**	*e*P	**P**	**13 46 18.5**	**-1.1**
	12nm,0.9s						
WRAB				*e*PcP	**PcP**	**13 49 54.5**	**-0.8**
WB2	**Warramunga Arr**	**24.92**	**240**	*e*P	**P**	**13 46 18.8**	**-0.8**
WB2				*e*PcP	**PcP**	**13 49 56.1**	**+0.9**
WRA	**Warramunga Arr**	**24.93**	**240**	P	**P**	**13 46 19.6**	**-0.1**
	9.8nm,0.8s,baz=65,slow=9.6,SNR=45						
WRA				PcP	**PcP**	**13 49 56.2**	**+0.9**
	5.2nm,0.9s,baz=64,slow=2.3,SNR=13						
WRA				LR	LR	13 55 36.8	
	comp=Z,219nm,20.5s,baz=55,slow=35						
WRA	**Warramunga Arr**	**24.93**	**240**	P	**P**	**13 46 19.6**	**-0.1**
WRA				PcP	**PcP**	**13 49 56.2**	**+0.9**
GUMO	**Guam**	**25.14**	**331**	LR	LR	13 53 59.2	
	comp=Z,93nm,18.3s,baz=256,slow=31						
CMSA	**Cobar Meteorol**	**25.35**	**204**	*e*P	**P**	**13 46 23.8**	**+0.5**
	51nm,0.8s						
AS31	**Alice Springs**	**26.98**	**233**	*e*P	**P**	**13 46 38.0**	**-0.3**
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**13 46 37.6**	**-0.7**
	2.3nm,0.9s,baz=63,slow=9.0,SNR=12						
ASAR				PcP	**PcP**	**13 50 00.7**	**+0.7**
	1.4nm,0.9s,baz=59,slow=1.8,SNR=6.6						
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**13 46 37.6**	**-0.7**
ASAR				PcP	**PcP**	**13 50 00.7**	**+0.7**
STKA	**Stephens Creek**	**27.46**	**210**	P	**P**	**13 46 43.6**	**+1.1**
	7.6nm,0.7s,baz=5.8,slow=14,SNR=19						
STKA				LR	LR	13 56 45.9	
	comp=Z,142nm,19.4s,baz=26,slow=35						
STKA	**Stephens Creek**	**27.46**	**210**	*e*P	**P**	**13 46 45.1**	**+2.6**
	4.4nm,0.6s						
STKA	**Stephens Creek**	**27.46**	**210**	*e*P	**P**	**13 46 42.0**	**-0.5**
	2.0nm,0.9s						
STKA				*e*PcP	**PcP**	**13 49 59.7**	**-1.2**
AFI	**Afiamalu**	**30.83**	**103**	LR	LR	13 56 24.7	
	comp=Z,89nm,19.4s,baz=332,slow=30						
USRK	**Ussuriysk Arra**	**57.20**	**339**	P	**P**	**13 50 44.2**	**+1.0**
	7.7nm,1.2s,baz=159,slow=5.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**63.44**	**295**	P	**P**	**13 51 28.4**	**+1.8**
	5.5nm,0.8s,baz=115,slow=5.0,SNR=23						
CMAR	**Chiang Mai Arr**	**63.44**	**295**	P	**P**	**13 51 28.4**	**+1.8**
CHTO	**Chiang Mai**	**63.56**	**296**	*e*P	**P**	**13 51 28.1**	**+0.7**
	9.9nm,1.1s						
VNDA	**Vanda**	**69.06**	**179**	*e*P	**P**	**13 52 01.4**	**-0.2**
	4.1nm,1.0s						
ULN	**Ulaanbaatar**	**71.46**	**327**	*e*P	**P**	**13 52 16.5**	**-0.4**
	26nm,0.5s						
LSA	**Lhasa**	**73.96**	**304**	*e*P	**P**	**13 52 33.2**	**+0.7**
	2.8nm,0.6s						
TAPN	**Taplejung**	**76.08**	**301**	*e*P	P	13 52 48.7	+4.0
	28nm,1.3s						
TAPN	**Taplejung**	**76.08**	**301**	*e*P	P	13 52 48.7	+4.0
ODAN	**Odare**	**76.21**	**300**	*e*P	P	13 52 49.8	+4.4
	26nm,1.0s						
ODAN	**Odare**	**76.21**	**300**	*e*P	P	13 52 49.8	+4.4
JIRN	**Jiri**	**77.47**	**301**	*e*P	P	13 52 57.2	+4.6
JIRN	**Jiri**	**77.47**	**301**	*e*P	P	13 52 57.2	+4.6
GUN	**Gumba**	**77.80**	**301**	*e*P	P	13 52 59.3	+4.9
	20nm,0.8s						
PKI	**Pulchoki**	**78.11**	**300**	*e*P	P	13 53 00.4	+4.3
PKI	**Pulchoki**	**78.11**	**300**	*e*P	P	13 53 00.4	+4.3
KKN	**Kakani**	**78.28**	**301**	*e*P	P	13 53 01.7	+4.8
DMN	**Daman**	**78.37**	**300**	*e*P	P	13 53 01.8	+4.3
	30nm,0.9s						
DMN	**Daman**	**78.37**	**300**	*e*P	P	13 53 01.8	+4.3
GKN	**Gorkha**	**78.88**	**301**	*e*P	P	13 53 03.8	+3.6
	34nm,1.0s						
GKN	**Gorkha**	**78.88**	**301**	*e*P	P	13 53 03.8	+3.6
KOLN	**Koldanda**	**79.70**	**300**	*e*P	**P**	**13 53 06.3**	**+1.6**
	16nm,0.8s						
KOLN	**Koldanda**	**79.70**	**300**	*e*P	**P**	**13 53 06.3**	**+1.6**
QSPA	**South Pole Qui**	**81.51**	**180**	*e*P	**P**	**13 53 14.1**	**+0.5**
	13nm,1.0s						
MCK	**McKinley**	**82.60**	**21**	*e*P	**P**	**13 53 16.4**	**-2.7**
	7.4nm,0.9s						
ILAR	**Eielson Array**	**83.94**	**21**	P	**P**	**13 53 25.7**	**-0.3**
	0.9nm,0.8s,baz=258,slow=5.3,SNR=9.5						
ILAR	**Eielson Array**	**83.94**	**21**	P	**P**	**13 53 25.7**	**-0.3**
MK31	**Makanchi Array**	**86.00**	**318**	*e*P	**P**	**13 53 33.8**	**-2.9**
MKAR	**Makanchi Array**	**86.00**	**318**	P	**P**	**13 53 36.9**	**+0.1**
	5.6nm,0.8s,baz=104,slow=5.1,SNR=10						
MKAR	**Makanchi Array**	**86.00**	**318**	P	**P**	**13 53 36.9**	**+0.1**
TKM2	**Tokmak 2**	**89.66**	**313**	*e*P	**P**	**13 53 52.9**	**-1.8**
	1.7nm,0.9s						
NVAR	**Mina Array Bea**	**90.88**	**51**	P	**P**	**13 53 59.0**	**-1.5**
	1.5nm,0.9s,baz=244,slow=6.5,SNR=5.8						
NVAR	**Mina Array Bea**	**90.88**	**51**	P	**P**	**13 53 59.0**	**-1.5**
BVAR	**Borovoye Array**	**94.82**	**323**	P	**P**	**13 54 17.4**	**-0.6**
	1.8nm,0.8s,baz=121,slow=6.9,SNR=5.4						
BVAR	**Borovoye Array**	**94.82**	**323**	P	**P**	**13 54 17.4**	**-0.6**
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**13 54 27.3**	**+1.5**
	0.7nm,0.8s,baz=258,slow=4.7,SNR=13						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**13 54 27.3**	**+1.5**
PDAR	**Pinedale Array**	**98.02**	**48**	P	Pdif	13 54 33.5	+0.3
	0.4nm,0.8s,baz=319,slow=3.6,SNR=3.9						
PDAR	**Pinedale Array**	**98.02**	**48**	P	Pdif	13 54 33.5	+0.3
TORD	**Torodi Ar. Bea**	**155.56**	**283**	PKPbc	PKPdf	14 01 02.0	+11
	0.9nm,0.8s,baz=109,slow=1.7,SNR=5.3						

*ISCJB **09** 13:50:47.7±0.5, 50°.13N±0°.09×97°.67E±0°.06, h10km, mb3.7/10, MS2.9/3, Error ellipse: s-maj=12.6km s-min=5.7km az=5.3*
*IDC **09** 13:50:47.9±0.7, 50°.27N×97°.83E, h0km, mb3.8/10, mb1 3.8/15, mb1mx3.7/31, mbtmp3.7/15, ML3.4/4, MS2.9/5, Ms1 3.0/5, ms1mx2.6/45, Error ellipse: s-maj=22.1km s-min=10.6km az=13.0*
*MOS **09** 13:50:48.3±1.1, 50°.10N×97°.67E, h17km, mb4.0/8, Error ellipse: s-maj=13.0km s-min=10.5km az=31.9*
*ASRS **09** 13:50:51.5±1.6, 50°.34N×97°.44E, h15km, Ms3.8*
ISC 09 13:50:50.4±0.6, 50°.19N±0°.08×97°.79E±0°.05, h10km, n54, σ1§45/42, mb3.8/10, MS2.9/3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**2.51**	**53**	*e*PN	**Pn**	**13 51 31.8**	**+0.5**
MOY				*e*		13 52 04.9	
MOY				pmax	pmax		
	comp=Z,1μm,0.5s						
MOY				smax	smax		
	comp=E,3μm,0.8s						
ORL	**Orlik**	**2.67**	**28**	*e*PN	**Pn**	**13 51 34.7**	**+1.2**
ORL				*e*		13 52 09.7	
ORL				pmax	pmax		
	comp=Z,495nm,0.3s						
ORL				smax	smax		
	comp=N,1μm,0.7s						
ARS	**Arshan**	**3.40**	**58**	*e*PN	Pn	13 51 48.6	+5.1
ARS				*e*		13 52 33.6	
ARS				pmax	pmax		
	comp=Z,254nm,0.5s						
ARS				smax	smax		
	comp=E,1μm,0.6s						
ZAK	**Zakamensk**	**3.52**	**85**	*e*PN	**Pn**	**13 51 45.5**	**+0.2**
ZAK				*e*		13 51 52.7	
ZAK				*e*		13 52 38.5	
ZAK				pmax	pmax		
	comp=Z,159nm,0.6s						
ZAK				smax	smax		
	comp=N,821nm,0.4s						
TLY	**Talaya**	**3.99**	**66**	*e*PN	Pb	13 51 59.1	-1.7
TLY				*e*		13 52 51.1	
TLY				pmax	pmax		
	comp=Z,96nm,0.5s						
TLY				smax	smax		
	comp=N,846nm,1.2s						
IRK	**Irkutsk**	**4.56**	**61**	*e*PN	Pb	13 52 09.5	-1.0
IRK				*e*		13 53 08.7	
IRK				pmax	pmax		
	comp=Z,316nm,0.5s						
IRK				smax	smax		
	comp=N,2μm,0.6s						
LSTR	**Listvyanka**	**4.75**	**67**	*e*PN	Pb	13 52 12.0	-1.7
LSTR				*e*		13 53 14.6	
LSTR				pmax	pmax		
	comp=Z,75nm,1.0s						
LSTR				smax	smax		
	comp=N,765nm,0.9s						
CERR	**Cheremushki**	**4.79**	**306**	*e*Pn	**Pn**	**13 52 02.3**	**-0.3**
CERR				*i* Pg	**Pb**	**13 52 13.2**	**-1.2**
CERR				*i* Sg	**Sb**	**13 53 13.7**	**+1.7**
CERR	**Cheremushki**	**4.79**	**306**	*e*Pn	**Pn**	**13 52 02.3**	**-0.3**
CERR				*i*		13 52 13.2	
CERR				*i*		13 53 13.7	
KAB	**Kabansk**	**5.88**	**68**	*e*PN	**Pb**	**13 52 36.0**	**+3.0**
KAB				*e*		13 53 50.2	
KAB				pmax	pmax		
	comp=Z,101nm,0.6s						
KAB				smax	smax		
	comp=N,857nm,1.1s						
TRG	**Tyrgan**	**5.93**	**61**	*e*PN	Pn	13 52 14.8	-3.5
SONM	**Songino Array**	**6.13**	**109**	Pn	Pn	13 52 20.1	-1.0
	comp=N,1.8nm,0.3s,baz=298,slow=15,SNR=26						
SONM				Pg	**Pb**	**13 52 39.3**	**+2.0**
	comp=N,4.1nm,0.3s,baz=288,slow=15,SNR=10.0						
SONM				Lg	Lg	13 54 01.9	
	comp=N,33nm,0.3s,baz=288,slow=33,SNR=15						
SONM	**Songino Array**	**6.13**	**109**	PN	Pn	13 52 20.1	-1.0
SONM						13 52 39.3	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKAR	**Aktash**	**6.53**	**275**	*e*Pg	**Pb**	**13 52 45.6**	**+1.6**
AKAR				*e*Sn	Sn	13 53 34.8	-6.2
AKAR				*e*Sg	**Sb**	**13 54 06.5**	**+4.4**
AKAR	**Aktash**	**6.53**	**275**	*e*PN	**Pb**	**13 52 45.6**	**+1.6**
AKAR				*e*		13 54 06.5	
ARTR	**Artybash**	**6.83**	**288**	*e*Pn	**Pn**	**13 52 29.7**	**-0.8**
ARTR				*e*Pg	**Pb**	**13 52 48.1**	**-1.0**
ARTR	**Artybash**	**6.83**	**288**	*e*PN	**Pn**	**13 52 29.7**	**-0.8**
ARTR				*e*		13 52 48.1	
OGRR	**Ongureny**	**6.98**	**57**	*e*PN	**Pn**	**13 52 33.0**	**+0.4**
OGRR				*e*		13 52 54.6	
OGRR				*e*		13 54 22.0	
OGRR				pmax	pmax		
	comp=Z,41nm,0.7s						
OGRR				smax	smax		
	comp=N,294nm,1.1s						
ELT	**Yel'tsovka**	**7.80**	**298**	*e*Pn	**Pn**	**13 52 43.4**	**-0.5**
ELT				*e*Pg	**Pb**	**13 53 08.5**	**+2.8**
ELT				*e*Sg	Sb	13 54 45.4	+6.8
ELT	**Yel'tsovka**	**7.80**	**298**	*e*P	**Pn**	**13 52 43.4**	**-0.5**
UKR	**Ust'-Kan**	**8.32**	**280**	*e*Pg	Pb	13 53 19.3	+4.7
UKR				*e*Sg	Sb	13 55 04.0	+10
ZALV	**Zalesovo Beam**	**8.83**	**300**	Pn	**Pn**	**13 52 58.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=114,slow=12,SNR=3.7						
ZALV				Lg	Lg	13 55 13.6	
	comp=N,0.8nm,0.3s,baz=108,slow=22,SNR=7.7						
ZALV				LR	LR	13 56 34.0	
	comp=N,47nm,19.1s,baz=65,slow=39						
ZALV	**Zalesovo Beam**	**8.83**	**300**	P	**Pn**	**13 52 58.4**	**+0.4**
ZALV				MLR	MLR		
	comp=Z,47nm,19.1s						
NIZ	**Nizh Angarsk**	**9.02**	**47**	*e*P	Pn	13 53 11.3	+11
KPC	**Khapcheranga**	**9.42**	**87**	*e*P	Pn	13 53 03.9	-2.3
KPC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NVS	**Novosibirsk**	**10.01**	**303**	*e*Sg	Sn	13 55 51.4	+45
MKAR	**Makanchi Array**	**10.84**	**258**	Pn	**Pn**	**13 53 25.3**	**-0.2**
	baz=80,slow=10,SNR=1.8						
MKAR				Lg	Lg	13 56 25.7	
	comp=Z,0.3nm,0.3s,baz=95,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**10.84**	**258**	P	**Pn**	**13 53 25.3**	**-0.2**
BOD	**Bodaibo**	**12.19**	**45**	*e*P	Pn	13 53 41.6	-2.3
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**12.23**	**280**	Pn	**Pn**	**13 53 43.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=9.9						
KURK				Sn	Sn	13 55 46.0	-15
	comp=Z,0.1nm,0.3s,baz=78,slow=16,SNR=4.0						
KURK				Lg	Lg	13 57 11.9	
	comp=Z,0.1nm,0.3s,baz=83,slow=32,SNR=5.8						
KURK				LR	LR	13 58 32.0	
	comp=Z,96nm,19.6s,baz=70,slow=38						
KURK	**Kurchatov**	**12.23**	**280**	P	**Pn**	**13 53 43.2**	**-1.3**
KURK				MLR	MLR		
	comp=Z,97nm,19.6s						
BVAR	**Borovoye Array**	**17.21**	**290**	P	**Pn**	**13 54 49.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=80,slow=16,SNR=3.9						
BVAR	**Borovoye Array**

	SNR=30							
UCH					P		**Pb**	**14 00 08.4 -2.7**
	SNR=30							
KZA	**Kyzart**	**2.94**	**24**		P		**Pn**	**14 00 06.7 +1.8**
	SNR=17							
KZA					P		**Pn**	**14 00 06.7 +1.8**
	SNR=17							
EKS2	**Erkin-Say**	**3.26**	**2**		P		**Pn**	**14 00 10.6 +1.5**
	SNR=15							
EKS2					P		**Pn**	**14 00 10.6 +1.5**
	SNR=15							
AAK	**Ala-Archa**	**3.29**	**11**		P		**Pn**	**14 00 11.3 +1.8**
	SNR=42							
AAK					P		**Pn**	**14 00 11.3 +1.8**
	SNR=42							
KBK	**Karagaybulak**	**3.40**	**16**		P		**Pn**	**14 00 12.9 +2.0**
	SNR=54							
KBK					P		**Pn**	**14 00 12.9 +2.0**
	SNR=54							
ULHL	**Ulahol**	**3.46**	**34**		P		Pn	14 00 15.2 +3.5
	SNR=7.4							
ULHL					P		Pn	14 00 15.2 +3.5
	SNR=7.4							
FRU	**Bishkek**	**3.51**	**12**	*e*	PN		Pb	14 00 17.0 -4.1
FRU				*i*				14 00 19.0
FRU				*i*				14 01 04.0
FRU					pmax	pmax		
	comp=Z,152nm,1.8s							
FRU					pmax	pmax		
	comp=N,1μm,1.8s							
CHMS	**Chumysh**	**3.69**	**13**		P		**Pn**	**14 00 16.4 +1.5**
	SNR=10							
CHMS					P		**Pn**	**14 00 16.4 +1.5**
	SNR=10							
TKM2	**Tokmak 2**	**3.81**	**22**		P		**Pn**	**14 00 19.8 +3.1**
	SNR=6.5							
TKM2					P		**Pn**	**14 00 19.8 +3.1**
	SNR=6.5							
TKM2	**Tokmak 2**	**3.81**	**22**	⇑	Pn		**Pn**	**14 00 18.4 +1.7**
	comp=N,9.7nm,0.6s							
TKM2				⇑	Pg		**Pb**	**14 00 26.0 -0.4**
	comp=N,20nm,0.7s							
TKM2				⇑	Lg		Lg	14 01 09.5
	comp=N,62nm,0.6s							
TKM2	**Tokmak 2**	**3.81**	**22**		PN		**Pn**	**14 00 17.8 +1.1**
TKM2								14 01 12.4
TKM2					pmax	pmax		
	comp=Z,33nm,0.7s							
TKM2					pmax	pmax		
	comp=Z,165nm,1.5s							
USP	**Ospenovka**	**3.92**	**9**		P		**Pn**	**14 00 19.4 +1.4**
	SNR=8.3							
USP					P		**Pn**	**14 00 19.4 +1.4**
	SNR=8.3							
KK31	**Karatay Array**	**4.40**	**328**	⇑	Pn		**Pn**	**14 00 27.7 +3.2**
	comp=Z,7.0nm,0.6s,baz=132,slow=13,SNR=114							
KK31				⇑	Pg		**Pb**	**14 00 35.8 -0.4**
	comp=Z,36nm,0.7s,baz=139,slow=15,SNR=13							
KK31				⇑	Lg		Lg	14 01 24.9
	comp=Z,33nm,0.6s,baz=135,slow=28,SNR=5.0							
KK31	**Karatay Array**	**4.40**	**328**		PN		**Pn**	**14 00 25.4 +0.9**
KK31				*i*				14 00 35.7
KK31				*i*				14 01 36.4
KK31					pmax	pmax		
	comp=Z,5.0nm,0.2s							
KK31					pmax	pmax		
	comp=Z,10.0nm,0.3s							
KK31					pmax	pmax		
	comp=Z,25nm,0.4s							
KNDC	**Almaty**	**4.56**	**32**	⇑	Pg		**Pb**	**14 00 39.5 +0.5**
	comp=Z,49nm,0.7s							
KNDC				⇓	Lg		Lg	14 01 34.8
	comp=Z,227nm,0.8s							
AAA	**Alma-Ata**	**4.60**	**32**	*e*	PN		**Pb**	**14 00 38.2 -1.4**
AAA					pmax	pmax		
	comp=Z,49nm,0.5s							
MK31	**Makanchi Array**	**9.72**	**38**	⇑	Pn		Pn	14 01 42.6 +5.1
	comp=Z,1.2nm,0.7s,baz=223,slow=14,SNR=4.6							
MK31				⇑	Lg		Lg	14 04 15.7
	comp=Z,4.7nm,0.8s,baz=234,slow=26							
MKAR	**Makanchi Array**	**9.72**	**38**		Pn		Pn	14 01 40.9 +3.4
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=3.1							
MKAR					Lg		Lg	14 04 17.0
	comp=Z,0.1nm,0.3s,baz=225,slow=18,SNR=3.4							
MKAR	**Makanchi Array**	**9.72**	**38**		P		Pn	14 01 40.9 +3.4
KURBB	**Kurchatov Arra**	**11.74**	**15**		Pn		**Pn**	**14 02 06.1 +1.1**
	comp=Z,0.6nm,1.0s							
KURK	**Kurchatov**	**11.85**	**16**		Pn		**Pn**	**14 02 03.9 -2.7**
	comp=Z,0.0nm,0.3s,baz=200,slow=11,SNR=3.0							
KURK					Lg		Lg	14 05 21.3
	comp=Z,0.1nm,0.3s,baz=203,slow=28,SNR=9.8							
KURK	**Kurchatov**	**11.85**	**16**	⇑	Pn		**Pn**	**14 02 08.3 +1.8**
	comp=Z,2.1nm,0.6s							
KURK				⇓	Lg		Lg	14 05 19.4
	comp=Z,58nm,1.4s							
KURK	**Kurchatov**	**11.85**	**16**		P		**Pn**	**14 02 03.9 -2.7**
VOSK	**Vostochnaya**	**13.46**	**353**	⇑	Pn		**Pn**	**14 02 26.0 -2.6**
	comp=Z,1.9nm,0.8s							
VOSK				⇓	Lg		Lg	14 06 09.2
	comp=Z,7.9nm,1.0s							
VOSK	**Vostochnaya**	**13.46**	**353**		P		**Pn**	**14 02 25.5 -3.1**
VOSK					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BVA0	**Borovoye Array**	**13.81**	**352**	⇑	Pn		**Pn**	**14 02 32.4 -1.0**
	comp=Z,0.7nm,0.8s,baz=164,slow=13,SNR=14							
BVA0				⇓	Lg		Lg	14 06 19.9
	comp=Z,2.2nm,1.2s							
BVA0	**Borovoye Array**	**13.81**	**352**	*i*	P		**Pn**	**14 02 30.4 -3.0**
BVA0					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**13.81**	**352**		Pn		**Pn**	**14 02 31.3 -2.2**
	comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=14							
BVAR					Lg		Lg	14 06 22.9
	comp=Z,0.1nm,0.3s,baz=170,slow=25,SNR=3.5							
BVAR	**Borovoye Array**	**13.81**	**352**		P		**Pn**	**14 02 31.3 -2.2**
DANN	**Dangsing**	**13.84**	**140**	*e*	P		**Pn**	**14 02 31.9 -2.3**
	comp=Z,9.4nm,0.4s							
BRVK	**Borovoye**	**13.86**	**351**	⇑	Pn		**Pn**	**14 02 32.3 -1.7**
	comp=Z,7.9nm,0.6s							
BRVK				⇑	Lg		Lg	14 06 20.5
	comp=Z,20nm,1.4s							
AB31	**Akbulak array**	**13.89**	**320**	⇓	Pn		**Pn**	**14 02 35.8 +1.4**
	comp=Z,1.2nm,0.5s,baz=125,slow=12,SNR=37							
AB31				⇓	Sn		**Sn**	**14 05 04.3 -3.2**
	comp=Z,2.9nm,0.8s							
AB31	**Akbulak array**	**13.89**	**320**		P		**Pn**	**14 02 31.9 -2.5**
AB31					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZRNK	**Zerenda**	**13.93**	**348**	⇓	Pn		**Pn**	**14 02 32.7 -2.3**
	comp=Z,3.7nm,0.8s							
ZRNK				⇓	Lg		Lg	14 06 23.2
	comp=Z,13nm,1.3s							
KOLN	**Koldanda**	**14.24**	**142**	*e*	P		**Pn**	**14 02 36.5 -3.1**
	comp=Z,13nm,0.6s							
GKN	**Gorkha**	**14.57**	**138**	*e*	P		**Pn**	**14 02 42.2 -1.8**
	comp=Z,10nm,0.4s							
GUN	**Gumba**	**15.31**	**135**	*e*	P		**Pn**	**14 02 51.5 -2.5**
AKTO	**Aktyubinsk**	**15.60**	**320**		Pn		**Pn**	**14 02 56.5 -0.9**
	comp=Z,0.2nm,0.3s,baz=130,slow=14,SNR=14							
AKTO	**Aktyubinsk**	**15.60**	**320**	⇑	Pn		**Pn**	**14 02 59.1 +1.6**
	comp=Z,1.7nm,0.8s							
AKTO				⇑	Sn		**Sn**	**14 05 48.1 -1.2**
	comp=Z,0.3nm,0.8s							
AKTO	**Aktyubinsk**	**15.60**	**320**		P		**Pn**	**14 02 56.5 -0.9**
JIRN	**Jiri**	**15.67**	**135**	*e*	P		**Pn**	**14 02 56.0 -2.8**
ZALV	**Zalesovo Beam**	**16.42**	**24**		Pn		**Pn**	**14 03 06.8 -0.9**
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=8.0							
ZALV					Lg		Lg	14 07 53.9
	comp=Z,0.1nm,0.3s,baz=198,slow=21,SNR=3.6							
ZALV	**Zalesovo Beam**	**16.42**	**24**		P		**Pn**	**14 03 06.9 -0.9**
RAMN	**Ramite**	**16.45**	**135**	*e*	P		**Pn**	**14 03 07.1 -1.6**
	comp=Z,12nm,0.7s							
NVS	**Novosibirsk**	**16.74**	**20**	*e*	P		**Pn**	**14 03 12.2 +0.3**
ODAN	**Odare**	**16.96**	**133**	*e*	P		**Pn**	**14 03 13.5 -1.6**
	comp=Z,17nm,0.7s							
ARU	**Arti**	**19.74**	**335**		P		**Pn**	**14 03 48.3 -0.2**
ZAK	**Zakamensk**	**23.53**	**52**	*e*	P		**P**	**14 04 30.6 +3.2**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**25.01**	**60**		P		**P**	**14 04 42.2 +1.1**
	comp=Z,0.7nm,0.8s,baz=280,slow=8.6,SNR=3.2							
SONM	**Songino Array**	**25.01**	**60**		P		**P**	**14 04 42.2 +1.1**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**30.68**	**284**		P		**P**	**14 05 32.9 +1.0**
	comp=Z,0.7nm,0.7s,baz=81,slow=6.7,SNR=3.2							
BRTR	**Keskin Array B**	**30.68**	**284**		P		**P**	**14 05 32.9 +1.0**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**36.34**	**323**		P		**P**	**14 06 20.8 +0.1**
	comp=Z,2.8nm,0.8s,baz=101,slow=12,SNR=6.9							
FINES	**FINESS Array B**	**36.34**	**323**		P		**P**	**14 06 20.8 +0.1**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**39.32**	**336**		P		**P**	**14 06 46.5 +0.7**
	comp=Z,1.7nm,0.7s,baz=112,slow=9.3,SNR=7.6							
ARCES	**ARCESS Array B**	**39.32**	**336**		P		**P**	**14 06 46.5 +0.7**
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**43.39**	**321**		P		**P**	**14 07 19.6 +0.3**
	comp=Z,1.1nm,0.7s,baz=92,slow=7.9,SNR=3.3							
NOA	**NORSAR Array B**	**43.39**	**321**		P		**P**	**14 07 19.6 +0.3**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**67.88**	**269**		P		**P**	**14 10 15.7 0.0**
	comp=Z,1.3nm,0.5s,baz=47,slow=5.1,SNR=20							
ILAR	**Eielson Array**	**71.41**	**17**		P		**P**	**14 10 36.6 -0.1**
	comp=Z,0.4nm,0.7s,baz=335,slow=3.5,SNR=6.3							
ILAR	**Eielson Array**	**71.41**	**17**		P		**P**	**14 10 36.6 -0.1**
YKA	**Yellowknife Ar**	**78.24**	**4**		P		**P**	**14 11 16.3 +0.1**
	comp=Z,0.4nm,0.6s,baz=349,slow=5.6,SNR=10							
YKA	**Yellowknife Ar**	**78.24**	**4**		P		**P**	**14 11 16.3 +0.1**
WRA	**Warramunga Arr**	**81.80**	**124**		P		**P**	**14 11 35.8 -0.3**
	comp=Z,0.9nm,0.7s,baz=324,slow=5.1,SNR=3.1							
WRA	**Warramunga Arr**	**81.80**	**124**		P		**P**	**14 11 35.8 -0.3**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.7s							

IDC 09 14:05:52.4±2.2, 0.19°S×132.66°E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=94.2km s-min=23.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.09**	**201**	P		P	14 10 16.3	-0.5
	0.2nm,0.3s,baz=28,slow=11,SNR=6.2							
FITZ				S		Sn	14 13 35.6	-17
	0.1nm,0.3s,baz=76,slow=19,SNR=3.2							
WRA	**Warramunga Arr**	**19.70**	**175**	P		P	14 10 23.7	+0.2
	0.4nm,0.3s,baz=354,slow=11,SNR=21							
WRA				S		S	14 13 55.8	-11
	0.2nm,0.3s,baz=356,slow=23,SNR=4.7							
ASAR	**Alice Springs**	**23.36**	**177**	P		P	14 11 03.0	+0.1
	11nm,0.9s,baz=359,slow=10,SNR=42							
ASAR				S		S	14 15 06.8	-10
	1.8nm,0.8s,baz=18,slow=12,SNR=7.0							
MKAR	**Makanchi Array**	**64.17**	**324**	P		P	14 16 28.9	0.0
	0.8nm,0.7s,baz=116,slow=7.9,SNR=11							

IDC 09 14:27:45.1±1.5, 0.30°S×133.21°E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=64.4km s-min=17.1km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.19**	**202**	P		P	14 32 09.8	-0.8
	0.4nm,0.3s,baz=27,slow=12,SNR=6.8							
WRA	**Warramunga Arr**	**19.55**	**177**	P		Pn	14 32 15.2	-0.5
	0.5nm,0.3s,baz=356,slow=12,SNR=20							
WRA				S		Sn	14 35 47.6	-8.3
	0.2nm,0.3s,baz=353,slow=24,SNR=5.0							
ASAR	**Alice Springs**	**23.23**	**178**	P		P	14 32 54.5	+0.3
	4.2nm,0.5s,baz=355,slow=11,SNR=53							
STKA	**Stephens Creek**	**32.39**	**167**	P		P	14 34 16.3	-0.3
	1.8nm,0.3s,baz=346,slow=10.0,SNR=12							
CMAR	**Chiang Mai Arr**	**38.48**	**301**	P		P	14 35 09.2	-0.1
	0.8nm,0.8s,baz=110,slow=7.1,SNR=5.4							
MKAR	**Makanchi Array**	**64.58**	**324**	P		P	14 38 24.6	+0.3
	0.4nm,0.6s,baz=110,slow=8.2,SNR=6.6							
KURK	**Kurchatov**	**68.64**	**326**	P		P	14 38 49.7	-0.3
	0.6nm,0.8s,baz=121,slow=5.3,SNR=5.0							
BVAR	**Borovoye Array**	**74.23**	**326**	P		P	14 39 23.9	0.0
	0.9nm,0.8s,baz=123,slow=7.1,SNR=6.3							

*TEH **09** 14:35:00.0, 0.68°×133.79°E, h35km, ML5.2*
*IDC **09** 14:35:16.9±0.5, 0.72°S×133.81°E, h0km, mb4.8/18, mb1 4.8/21, mb1mx4.8/24, mbtmp4.8/21, ML4.6/3, MS4.1/21, Ms1 4.1/21, ms1mx3.9/32, Error ellipse: s-maj=23.6km s-min=9.8km az=82.0*
*BJI **09** 14:35:19.0, 0.76°S×133.95°E, h31km, mB5.2/33, mb5.0/55, Ms4.8/41, Ms7 4.4/40*
*MOS **09** 14:35:20.2±0.9, 0.73°S×133.73°E, h33km, mb5.3/28, Error ellipse: s-maj=12.9km s-min=6.1km az=110.1*
*ISCJB **09** 14:35:21.6±0.7, 0.72°S±0.04×133.80°E±0.04, h44km±6km, mb5.0/87, MS4.2/35, Error ellipse: s-maj=6.4km s-min=5.4km az=40.6*
*DJA **09** 14:35:21, 0.64°S×133.78°E, h17km, mb5.3/34*
*NEIC **09** 14:35:22.2±0.2, 0.71°S×133.78°E, h35km, mb5.2/40, Error ellipse: s-maj=6.4km s-min=4.1km az=76.0*
NEIC Felt [IV] at Manokwari.

ISC 09 14:35:22.5±0.3, 0.65S±0.04×133.83E±0.05, h34km, h34km:pP-P,n297,σ1s39/369,mb5.1/86,MS4.2/36,37C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAKI	**Biak**	**2.34**	**103**	P		**Pn**	**14 35 59.1**	**+0.6**
FAKI	**Fak Fak**	**2.75**	**215**	P		**Pn**	**14 36 04.0**	**-0.3**
SMPI	**Sarmi**	**5.06**	**105**	P		**Pn**	**14 36 38.6**	**+2.7**
	246nm,1.0s,1.1nm							
TLE	**Tual**	**5.08**	**192**	P		**Pn**	**14 36 38.5**	**+2.3**
	2μm,1.1s,15μm4.6nm							
MSAI	**Masohi**	**5.58**	**241**	P		**Pn**	**14 36 45.2**	**+2.0**
	136nm,0.8s,2μm0.7nm							
LBMI	**Labuha**	**6.33**	**270**	P		**Pn**	**14 36 53.3**	**-0.1**
	171nm,0.9s,2μm1.2nm							
AAI	**Ambon**	**6.39**	**242**	P		**Pn**	**14 36 54.8**	**+0.5**
	510nm,0.7s,6μm1.8nm							
MNI	**Manado**	**9.23**	**283**	P		**Pn**	**14 37 35.8**	**+2.6**
	199nm,0.9s,2μm							
KMSI	**Cibinong**	**9.92**	**277**	P		Pn	14 37 55.2	+12
LUWI	**Luwuk**	**11.06**	**268**	P		Pn	14 38 03.8	+5.4
	140nm,1.4s,2μm							
MRSI	**Marisa**	**11.94**	**275**	P		Pn	14 38 21.3	+11
BKSI	**Bulukumba**	**14.45**	**251**	P		**P**	**14 38 53.8**	**+2.8**
KAPI	**Kappang**	**14.71**	**253**	Pn		**Pn**	**14 38 47.3**	**-0.9**
	1.3nm,0.3s,baz=130,slow=18,SNR=2.3							
KAPI	**Kappang**	**14.71**	**253**	*e*Pn		**Pn**	**14 38 45.8**	**-2.5**
KAPI				Pn		Pn	**14 38 47.3**	**-0.9**
KAPI	**Kappang**	**14.71**	**253**	P		P	14 38 59.5	+5.6
PMG	**Port Moresby**	**15.86**	**124**	Pn		**P**	**14 39 08.7**	**+2.0**
	0.8nm,0.3s,baz=298,slow=15,SNR=6.0							
PMG	**Port Moresby**	**15.86**	**124**	*e*P		**Pn**	**14 39 02.8**	**-0.6**
PMG					pmax	pmax		
	comp=Z,63nm,1.0s							
PMG	**Port Moresby**	**15.86**	**124**	*e*Pn		**Pn**	**14 39 02.8**	**-0.6**
	comp=Z,63nm,1.0s							
PMG				Pn		**P**	**14 39 08.7**	**+2.0**
COEN	**Coen**	**16.14**	**145**	*e*Pn		**Pn**	**14 39 06.8**	**-0.1**
	comp=Z,180nm,0.8s							
MYLDM	**Lahad Datu**	**16.37**	**291**	P		**P**	**14 39 12.7**	**+0.4**
MYLDM	**Lahad Datu**	**16.37**	**291**	P		**P**	**14 39 12.5**	**+0.1**
	comp=Z,176nm,1.5s							
RCP	**Roxas**	**16.38**	**318**	⇑*e*P		**P**	**14 39 15.9**	**+3.4**
TSM	**Tawau**	**16.68**	**287**	P		**Pn**	**14 39 13.7**	**-0.1**
SDKM	**Sandakan**	**17.75**	**291**	P		**P**	**14 39 28.5**	**+0.8**
GUMO	**Guam**	**17.88**	**37**	LR		LR	14 45 05.8	
	comp=Z,155nm,20.3s,baz=207,slow=33							
KDM	**Kudat**	**18.55**	**294**	P		**Pn**	**14 39 37.1**	**+0.2**
KKM	**Kota Kinabalu**	**18.80**	**291**	*e*P		**P**	**14 39 38.1**	**-1.3**
	comp=Z,3μm,1.1s							
KKM	**Kota Kinabalu**	**18.80**	**291**	P		**Pn**	**14 39 40.5**	**+0.5**
KKM	**Kota Kinabalu**	**18.80**	**291**	P		**Pn**	**14 39 41.4**	**+1.4**
	comp=Z,89nm,1.4s,comp=Z,1μm							
FITZ	**Fitzroy Crossi**	**19.12**	**204**	P		**P**	**14 39 41.8**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=32,slow=12,SNR=40							
FITZ				S		Sn	14 43 06.0	-11
	comp=Z,2.2nm,0.3s,baz=178,slow=18,SNR=3.8							
FITZ				LR		LR	14 48 03.4	
	comp=Z,518nm,18.2s,baz=33,slow=40							
FITZ	**Fitzroy Crossi**	**19.12**	**204**	*e*P		**P**	**14 39 41.1**	**-1.6**
	comp=Z,33nm,0.6s							
FITZ				P		**P**	**14 39 41.8**	**-0.9**
FITZ				S		Sn	14 43 06.0	-11
WRAB	**Tennant Creek**	**19.17**	**179**	*e*P		**P**	**14 39 41.0**	**-2.3**
WRAB					pmax	pmax		
	comp=Z,93nm,0.9s							
WRAB	**Tennant Creek**	**19.17**	**179**	*e*P		**P**	**14 39 41.0**	**-2.3**
	comp=Z,92nm,0.9s							
WRAB				*e*			14 39 49.9	
WRAB	**Tennant Creek**	**19.17**	**179**	P		**P**	**14 39 41.0**	**-2.3**
	comp=Z,639nm,0.6s,SNR=32							
WB2	**Warramunga Arr**	**19.18**	**179**	*e*P		**P**	**14 39 41.3**	**-2.1**
WRA	**Warramunga Arr**	**19.18**	**179**	P		**P**	**14 39 42.0**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=358,slow=12,SNR=76							
WRA				LR		LR	14 47 01.4	
	comp=Z,703nm,20.0s,baz=10.0,slow=37							
WRA	**Warramunga Arr**	**19.18**	**179**	P		**P**	**14 39 42.0**	**-1.4**
WRA	**Warramunga Arr**	**19.18**	**179**	P		**P**	**14 39 42.0**	**-1.4**
TGY	**Tagaytay City**	**19.44**	**319**	P		**Pn**	**14 39 49.7**	**+2.1**
	comp=Z,13nm,0.3s,baz=225,slow=5.3,SNR=3.7							
TGY	**Tagaytay City**	**19.44**	**319**	P		**Pn**	**14 39 49.7**	**+2.1**
TGY	**Tagaytay City**	**19.44**	**319**	P		**Pn**	**14 39 49.7**	**+2.1**
KHKI	**Kahang-Kahang**	**19.70**	**247**	P		Pn	14 39 56.3	+5.5
BTM	**Bintulu**	**21.09**	**281**	P		**P**	**14 40 05.5**	**+1.3**
SBUM	**Sibu**	**21.82**	**278**	P		**P**	**14 40 13.5**	**+1.4**
STKI	**Sintang**	**22.36**	**272**	P		P	14 40 26.4	+8.5
CTA	**Charters Tower**	**22.83**	**149**	P		**P**	**14 40 23.1**	**+0.4**
	comp=Z,23nm,1.0s,baz=328,slow=10,SNR=7.3							
CTA	**Charters Tower**	**22.83**	**149**	P		**P**	**14 40 23.2**	**+0.4**
CTA	**Charters Tower**	**22.83**	**149**	P		**P**	**14 40 23.1**	**+0.4**
ASAR	**Alice Springs**	**22.88**	**180**	P		**P**	**14 40 22.2**	**-1.0**
	comp=Z,24nm,0.9s,baz=1.1,slow=11,SNR=88							
ASAR				S		**S**	**14 44 30.7**	**-0.1**
	comp=Z,3.4nm,1.0s,baz=1.0,slow=21,SNR=2.9							
ASAR	**Alice Springs**	**22.88**	**180**	P		**P**	**14 40 22.3**	**-1.0**
ASAR				S		**S**	**14 44 30.7**	**-0.1**
ASAR	**Alice Springs**	**22.88**	**180**	P		**P**	**14 40 22.2**	**-1.0**
ASAR				S		**S**	**14 44 30.7**	**-0.1**
KSM	**Kuching**	**23.61**	**275**	*e*P		**P**	**14 40 31.8**	**+1.1**
	comp=Z,83nm,1.1s							
KSM	**Kuching**	**23.61**	**275**	P		**P**	**14 40 30.5**	**-0.2**
MBWA	**Marble Bar**	**24.60**	**213**	*e*P		**P**	**14 40 38.8**	**-0.9**
	comp=Z,62nm,0.9s							
BJII	**Banjamegara**	**24.95**	**254**	P		**P**	**14 40 45.3**	**+2.3**
	comp=Z,125nm,2.0s,comp=Z,3μm							
CISI	**Cisompet, Garu**	**26.82**	**254**	P		pP	14 41 12.9	+3.1
SSLB	**Suanglung**	**27.32**	**334**	*e*P		**P**	**14 41 02.8**	**-1.5**
	comp=Z,42nm,1.0s							
SSLB				*e*P		**P**	**14 41 03.9**	**-0.4**
CBJI	**Citeko**	**27.52**	**257**	P		P	14 41 15.4	+9.2
JOW	**Kunigami**	**27.84**	**349**	LR		LR	14 49 40.1	
	comp=Z,529nm,21.8s,baz=282,slow=31							
CGJI	**Cibinong**	**28.69**	**257**	P		P	14 41 27.2	+11
MYKOM	**Kota Tinggi**	**30.07**	**275**	P		**P**	**14 41 28.0**	**-0.9**
FORT	**Forrest**	**30.46**	**190**	*e*P		**P**	**14 41 32.7**	**+0.6**
	comp=Z,24nm,0.6s							
FORT	**Forrest**	**30.46**	**190**	*e*P		**P**	**14 41 33.5**	**+1.4**
	comp=Z,39nm,0.7s							
QIZ	**Qiongzhong**	**30.61**	**311**	P		**P**	**14 41 30.5**	**-3.1**
QIZ				S		**S**	**14 46 30.4**	**-3.4**
QIZ					pmax	pmax		
	comp=Z,45nm,2.3s							
QIZ					pmax	pmax		
	comp=Z,230nm,3.8s							
KSI	**Kapahiang**	**31.35**	**264**	P		P	14 41 51.7	+11
STKA	**Stephens Creek**	**31.92**	**167**	P		**P**	**14 41 43.0**	**-1.9**
	comp=Z,4.3nm,0.6s,baz=340,slow=8.6,SNR=10							
STKA				LR		LR	14 55 51.8	
	comp=Z,1μm,20.7s,baz=344,slow=39							
STKA	**Stephens Creek**	**31.92**	**167**	*e*P		**P**	**14 41 42.5**	**-2.4**
	comp=Z,10nm,0.9s							
STKA	**Stephens Creek**	**31.92**	**167**	*e*P		**P**	**14 41 43.0**	**-1.9**
STKA					pmax	pmax		
	comp=Z,5.0nm,1.3s							
STKA	**Stephens Creek**	**31.92**	**167**	*e*P		**P**	**14 41 43.0**	**-1.9**
	comp=Z,5.4nm,1.3s							
KRJI	**Kerinci**	**32.39**	**267**	P		pP	14 42 03.2	+3.8
FRIM	**Kepong**	**32.42**	**277**	P		**P**	**14 41 48.2**	**-1.5**
IPM	**Ipoh**	**33.17**	**279**	*e*P		**P**	**14 41 55.0**	**-1.2**
	comp=Z,21nm,0.8s							
IPM	**Ipoh**	**33.17**	**279**	P		**P**	**14 41 54.8**	**-1.4**
PPI	**Padang Panjang**	**33.43**	**270**	P		**P**	**14 41 58.3**	**-0.2**
	comp=Z,37nm,1.2s							
KULM	**Kulim**	**33.66**	**280**	P		**P**	**14 41 59.0**	**-1.4**
JNU	**Nakatsue**	**33.70**	**356**	*e*P		**P**	**14 41 60.0**	**-0.6**
	comp=Z,41nm,1.4s							
SSE	**Sheshan**

CMAR	**Chiang Mai Arr**	**39.19**	**301**	P	**P**	**14 42 47.6**	**0.0**		
CHTO	**Chiang Mai**	**39.34**	**301**	*e*P	**P**	**14 42 47.8**	**-1.1**		
CHTO				*e*		14 42 58.6			
CHTO				pmax	pmax				
	comp=Z,44nm,0.8s								
CHTO	**Chiang Mai**	**39.34**	**301**	*e*P	**P**	**14 42 47.8**	**-1.1**		
	comp=Z,44nm,0.8s								
CHTO				*e*		14 42 58.6			
CHTO	**Chiang Mai**	**39.34**	**301**	P	**P**	**14 42 48.6**	**-0.3**		
	comp=Z,68nm,0.8s,comp=Z,686nm								
KMI	**Kunming**	**39.51**	**313**	P	**P**	**14 42 50.9**	**+0.4**		
KMI				pP	pP	**14 43 00.3**	**-0.2**		
KMI				sP	**sP**	**14 43 05.9**	**+1.3**		
KMI				PP	**PnPn**	**14 44 27.3**	**+2.6**		
KMI				S	**S**	**14 48 50.0**	**-0.9**		
KMI				sS	**sS**	**14 49 09.5**	**+2.0**		
KMI				SS	**SS**	**14 51 41.1**	**-5.3**		
KMI				pmax	pmax				
	comp=Z,17nm,1.5s								
KMI				pmax	pmax				
	comp=Z,150nm,5.4s								
KMI				LR	LR				
	comp=N,300nm,15.2s								
KMI				LR	LR				
	comp=E,180nm,15.7s								
KMI				LR	LR				
	comp=Z,210nm,24.6s								
XAN	**Xi'an**	**41.68**	**328**	P	**P**	**14 43 07.2**	**-0.8**		
XAN				pmax	pmax				
	comp=Z,3.0nm,1.3s								
CD2	**Chengdu**	**42.44**	**320**	P	**P**	**14 43 15.1**	**+0.8**		
CD2				pP	**pP**	**14 43 25.4**	**+1.0**		
CD2				sP	**sP**	**14 43 29.6**	**+1.1**		
CD2				PP	**PP**	**14 44 57.0**	**+3.9**		
CD2				S	**S**	**14 49 35.1**	**+1.1**		
CD2				sS	**sS**	**14 49 52.0**	**+1.4**		
CD2				SS	**SS**	**14 52 39.2**	**-4.9**		
CD2				pmax	pmax				
	comp=Z,40nm,0.6s								
CD2				pmax	pmax				
	comp=Z,290nm,5.4s								
CD2				LR	LR				
	comp=N,390nm,7.1s								
CD2				LR	LR				
	comp=Z,400nm,15.5s								
SNY	**Shenyang**	**43.29**	**349**	P	P	14 43 24.8	+3.9		
SNY				pmax	pmax				
	comp=Z,17nm,1.0s								
SNY				pmax	pmax				
	comp=Z,190nm,3.5s								
SNY				LR	LR				
	comp=E,510nm,3.9s								
SNY				LR	LR				
	comp=Z,340nm,16.1s								
BJT	**Baijiatuau**	**43.57**	**340**	*e*P	**P**	**14 43 23.2**	**0.0**		
BJT				pmax	pmax				
	comp=Z,133nm,0.9s								
BJT	**Baijiatuau**	**43.57**	**340**	*e*P	**P**	**14 43 23.2**	**0.0**		
	comp=Z,133nm,0.9s								
BJI	**Beijing**	**43.59**	**340**	P	**P**	**14 43 23.5**	**+0.2**		
BJI				pP	**pP**	**14 43 33.7**	**+0.2**		
BJI				PcP	**PcP**	**14 45 11.6**	**+1.1**		
BJI				S	**S**	**14 49 53.6**	**+3.2**		
BJI				sS	**sS**	**14 50 07.9**	**+0.8**		
BJI				pmax	pmax				
	comp=Z,78nm,1.1s								
BJI				pmax	pmax				
	comp=Z,160nm,3.8s								
BJI				LR	LR				
	comp=N,340nm,14.5s								
BJI				LR	LR				
	comp=E,300nm,14.9s								
BJI				LR	LR				
	comp=Z,180nm,19.1s								
USRK	**Ussuriysk Arra**	**44.68**	**358**	P	**P**	**14 43 32.2**	**+0.2**		
	comp=Z,40nm,1.3s,baz=180,slow=6.2,SNR=9.7								
USRK				LR	LR	14 59 01.8			
	comp=Z,124nm,21.1s,baz=351,slow=32								
CN2	**Changchun**	**44.88**	**351**	*e*P	**P**	**14 43 32.7**	**-1.0**		
CN2				*ep*P	**pP**	**14 43 42.7**	**-1.1**		
CN2				*e*S	**S**	**14 50 04.6**	**-4.6**		
CN2				SS	**ScS**	**14 53 25.1**	**-3.4**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=N,200nm,16.0s								
CN2				LR	LR				
	comp=E,400nm,16.0s								
CN2				LR	LR				
	comp=Z,400nm,16.0s								
MDJ	**Mudanjiang**	**45.23**	**356**	P	**P**	**14 43 35.4**	**-1.0**		
MDJ				pP	**pP**	**14 43 44.0**	**-2.5**		
MDJ				sP	**sP**	**14 43 47.7**	**-2.9**		
MDJ				PP	**PP**	**14 45 21.0**	**-1.6**		
MDJ				S	**S**	**14 50 13.6**	**-0.5**		
MDJ				sS	**sS**	**14 50 28.3**	**-2.6**		
MDJ				pmax	pmax				
	comp=Z,24nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,110nm,4.7s								
MDJ				LR	LR				
	comp=N,260nm,25.6s								
MDJ				LR	LR				
	comp=E,180nm,12.6s								
MDJ				LR	LR				
	comp=Z,270nm,17.5s								
MDJ	**Mudanjiang**	**45.23**	**356**	*e*P	**P**	**14 43 36.5**	**+0.1**		
	comp=Z,40nm,1.0s								
ASAJ	**Asahikawa**	**45.25**	**9**	LR	LR	14 59 15.9			
	comp=Z,150nm,21.9s,baz=188,slow=32								
YUK	**Yuzh-Kuril'sk**	**45.77**	**12**	*e*P	**P**	**14 43 40.6**	**0.0**		
YUK				*i*		14 45 30.6			
YUK				*e*PPP	PPP	14 46 09.7			
YUK				*e*S	**S**	**14 50 23.2**	**+1.3**		
YUK				*e*SSS	SSS	14 54 40.8			
YUK				pmax	pmax				
	comp=Z,57nm,5.5s								
YUK				MLR	MLR				
	comp=Z,156nm,21.0s								
LZH	**Lanzhou**	**45.98**	**326**	*e*P	**P**	**14 43 44.1**	**+1.4**		
LZH				pP	**pP**	**14 43 53.4**	**+0.5**		
LZH				sP	**sP**	**14 43 57.8**	**+0.9**		
LZH				*e*S	**S**	**14 50 29.3**	**+3.7**		
LZH				sS	**sS**	**14 50 44.0**	**+1.7**		
LZH				pmax	pmax				
	comp=Z,67nm,1.5s								
LZH				pmax	pmax				
	comp=Z,190nm,5.5s								
LZH				LR	LR				
	comp=N,460nm,14.2s								
LZH				LR	LR				
	comp=E,400nm,12.9s								
LZH				LR	LR				
	comp=Z,550nm,15.3s								
HHC	**Hu-ho-hao-te**	**46.00**	**336**	⇑P	**P**	**14 43 43.4**	**+0.7**		
HHC				pP	**pP**	**14 43 53.2**	**+0.3**		
HHC				sP	**sP**	**14 43 57.2**	**+0.2**		
HHC				PcP	**PcP**	**14 45 18.6**	**-0.4**		
HHC				PP	**PP**	**14 45 31.5**	**+0.5**		
HHC				S	**S**	**14 50 27.3**	**+1.7**		
HHC				sS	**sS**	**14 50 42.5**	**+0.1**		
HHC				SS	**SS**	**14 53 44.3**	**-6.7**		
HHC				pmax	pmax				
	comp=Z,44nm,1.1s								
HHC				pmax	pmax				
	comp=Z,200nm,6.5s								
HHC				LR	LR				
	comp=N,1μm,15.9s								
HHC				LR	LR				
	comp=E,250nm,15.1s								
HHC				LR	LR				
	comp=Z,280nm,14.5s								
BTO	**Baotou**	**46.43**	**335**	*e*P	**P**	**14 43 45.7**	**-0.4**		
YSS	**Yuzh-Sakhalins**	**48.05**	**8**	*e*P	**P**	**14 43 58.2**	**-0.2**		
YSS				pmax	pmax				
	comp=Z,47nm,0.8s								
YSS	**Yuzh-Sakhalins**	**48.05**	**8**	*e*P	**P**	**14 43 58.2**	**-0.2**		
	comp=Z,47nm,0.8s								
SHL	**Shillong**	**48.17**	**306**	⇑*i*P	**P**	**14 44 00.2**	**+0.2**		
SHL				*e*S	S	14 50 49.0	-8.2		
HABR	**Khabarovsk**	**48.94**	**1**	*e*P	**P**	**14 44 04.7**	**-0.5**		
HABR				*e**PP	**pP**	**14 44 14.6**	**-0.9**		
HABR				S	**S**	**14 51 07.5**	**+0.6**		
HABR				*e**SS	**sS**	**14 51 24.3**	**+0.6**		
HABR						14 53 54.3			
HABR				*e*SSS	SSS	14 55 57.4			
HABR				pmax	pmax				
	comp=N,46nm,2.5s								
HABR				pmax	pmax				
	comp=Z,68nm,1.5s								
HABR				pmax	pmax				
	comp=E,54nm,1.9s								
HABR				MLR	MLR				
	comp=Z,70nm,17.0s								
KLR	**Kul'dur**	**49.72**	**358**	*e*P	P	14 44 06.8	-4.4		
GTA	**Gaotai**	**50.58**	**326**	*e*P	**P**	**14 44 18.6**	**+0.5**		
GTA				pP	**pP**	**14 44 28.0**	**-0.4**		
GTA				sP	**sP**	**14 44 32.6**	**+0.1**		
GTA				S	**S**	**14 51 31.5**	**+1.0**		
GTA				sS	**sS**	**14 51 46.0**	**-1.4**		
GTA				SS	**SS**	**14 55 02.0**	**-3.1**		
GTA				pmax	pmax				
	comp=Z,22nm,1.2s								
GTA				pmax	pmax				
	comp=Z,190nm,5.7s								
GTA				LR	LR				
	comp=N,160nm,12.4s								
GTA				LR	LR				
	comp=E,150nm,15.0s								
GTA				LR	LR				
	comp=Z,200nm,14.7s								
LSA	**Lhasa**	**50.65**	**310**	P	**P**	**14 44 19.8**	**+0.5**		
LSA				pmax	pmax				
	comp=Z,20nm,1.0s								
LSA	**Lhasa**	**50.65**	**310**	*e*P	**P**	**14 44 19.7**	**+0.5**		
LSA				*e**PP	**pP**	**14 44 29.5**	**0.0**		
LSA				*e**SP	**sP**	**14 44 33.1**	**-0.5**		
LSA				pmax	pmax				
	comp=Z,26nm,0.7s								
LSA	**Lhasa**	**50.65**	**310**	*e*P	**P**	**14 44 19.6**	**+0.4**		
	comp=Z,26nm,0.7s								
LSA				*ep*P	**pP**	**14 44 29.5**	**0.0**		
LSA				*es*P	**sP**	**14 44 33.0**	**-0.5**		
TAPN	**Taplejung**	**52.31**	**306**	⇑*i*P	**P**	**14 44 31.2**	**-0.3**		
	comp=Z,263nm,1.1s								
TAPN	**Taplejung**	**52.31**	**306**	⇑*i*P	**P**	**14 44 31.2**	**-0.3**		
ODAN	**Odare**	**52.37**	**305**	⇑*i*P	**P**	**14 44 31.6**	**-0.3**		
ODAN	**Odare**	**52.37**	**305**	⇑*i*P	**P**	**14 44 31.6**	**-0.3**		
RAMN	**Ramite**	**53.05**	**305**	⇑*i*P	**P**	**14 44 37.0**	**0.0**		
	comp=Z,152nm,0.7s								
RAMN	**Ramite**	**53.05**	**305**	⇑*i*P	**P**	**14 44 37.0**	**0.0**		
ULN	**Ulaanbaatar**	**53.64**	**338**	*e*P	**P**	**14 44 40.6**	**-0.2**		
ULN				pmax	pmax				
	comp=Z,27nm,1.1s								
ULN	**Ulaanbaatar**	**53.64**	**338**	*e*P	**P**	**14 44 40.6**	**-0.2**		
	comp=Z,27nm,1.1s								
ULN	**Ulaanbaatar**	**53.64**	**338**	P	**P**	**14 44 41.6**	**+0.8**		
	comp=Z,24nm,1.5s								
JIRN	**Jiri**	**53.67**	**306**	⇑*i*P	**P**	**14 44 41.3**	**-0.3**		
JIRN	**Jiri**	**53.67**	**306**	⇑*i*P	**P**	**14 44 41.3**	**-0.3**		
SONM	**Songino Array**	**53.87**	**337**	P	**P**	**14 44 43.1**	**+0.7**		
	comp=Z,5.4nm,0.9s,baz=147,slow=7.2,SNR=26								
SONM				PcP	**PcP**	**14 45 48.0**	**+0.3**		
	comp=Z,3.2nm,0.8s,baz=161,slow=5.0,SNR=5.6								
SONM				LR	LR	15 06 48.2			
	comp=Z,251nm,18.0s,baz=137,slow=35								
SONM	**Songino Array**	**53.87**	**337**	P	**P**	**14 44 43.1**	**+0.7**		
SONM						14 45 48.0			
SONM	**Songino Array**	**53.87**	**337**	P	**P**	**14 44 43.1**	**+0.7**		
SONM				PcP	**PcP**	**14 45 48.0**	**+0.3**		
GUN	**Gumba**	**54.02**	**306**	⇑*i*P	**P**	**14 44 43.9**	**-0.3**		
	comp=Z,147nm,0.8s								
GUN	**Gumba**	**54.02**	**306**	⇑*i*P	**P**	**14 44 43.9**	**-0.3**		
PKI	**Pulchoki**	**54.27**	**305**	⇑*i*P	**P**	**14 44 45.3**	**-0.7**		
PKI	**Pulchoki**	**54.27**	**305**	⇑*i*P	**P**	**14 44 45.3**	**-0.7**		
PKI	**Pulchoki**	**54.27**	**305**	⇑*i*P	**P**	**14 44 45.3**	**-0.7**		
KKN	**Kakani**	**54.46**	**305**	⇑*i*P	**P**	**14 44 46.7**	**-0.5**		
	comp=Z,58nm,0.8s								
KKN	**Kakani**	**54.46**	**305**	⇑*i*P	**P**	**14 44 46.7**	**-0.5**		
KKN	**Kakani**	**54.46**	**305**	⇑*i*P	**P**	**14 44 46.7**	**-0.5**		
DMN	**Daman**	**54.54**	**305**	⇑*i*P	**P**	**14 44 47.5**	**-0.3**		
DMN	**Daman**	**54.54**	**305**	⇑*i*P	**P**	**14 44 47.5**	**-0.3**		
GKN	**Gorkha**	**55.07**	**305**	⇑*i*P	**P**	**14 44 51.0**	**-0.5**		
	comp=Z,72nm,0.7s								
GKN	**Gorkha**	**55.07**	**305**	⇑*i*P	**P**	**14 44 51.0**	**-0.5**		
KOLN	**Koldanda**	**55.83**	**305**	⇑*i*P	**P**	**14 44 57.1**	**0.0**		
	comp=Z,140nm,0.7s								
KOLN	**Koldanda**	**55.83**	**305**	⇑*i*P	**P**	**14 44 57.1**	**0.0**		
DANN	**Dangsing**	**55.92**	**305**	⇑*i*P	**P**	**14 44 57.6**	**-0.2**		
	comp=Z,178nm,1.0s								
DANN	**Dangsing**	**55.92**	**305**	⇑*i*P	**P**	**14 44 57.6**	**-0.2**		
ZAK	**Zakamensk**	**57.13**	**337**	*i*P	**P**	**14 45 06.1**	**+0.3**		
ZAK				pmax	pmax				
	comp=Z,14nm,1.2s								
PETK	**Petropavlovsk-**	**57.16**	**17**	P	**P**	**14 45 06.7**	**+0.9**		
	comp=Z,11nm,0.9s,baz=185,slow=7.2,SNR=5.9								
PETK				LR	LR	15 04 47.6			
	comp=Z,100nm,21.5s,baz=121,slow=31								
PETK	**Petropavlovsk-**	**57.16**	**17**	P	**P**	**14 45 06.7**	**+0.9**		
PETK	**Petropavlovsk-**	**57.16**	**17**	P	**P**	**14 45 06.7**	**+0.9**		
PET	**Petropavlovsk**	**57.37**	**18**	*e*P	P	14 45 12.6	+5.4		
PET				*e*S	**S**	**14 53 05.9**	**+4.5**		
PET				*e*SS	**SS**	**14 56 55.3**	**+3.9**		
PET				pmax	pmax				
	comp=Z,100nm,14.9s								
PET				MLR	MLR				
	comp=Z,100nm,16.0s								
CLNS	**Chul'man**	**57.76**	**354**	*e*P	P	14 45 20.1	+10		
CLNS				*e*		14 46 03.5			
CLNS				*e*S	S	14 53 26.6	+20		
CLNS				pmax	pmax				
	comp=Z,22nm,1.0s								
CLNS				pmax	pmax				
	comp=N,13nm,1.1s								
CLNS				pmax	pmax				
	comp=E,9.0nm,1.1s								
CLNS				pmax	pmax				
	comp=N,3.0nm,1.1s								
CLNS				pmax	pmax				
	comp=Z,3.0nm,1.1s								
CLNS				pmax	pmax				
	comp=E,4.0nm,1.1s								
CLNS				smax	smax				
	comp=N,151nm,14.3s								
CLNS				smax	smax				
	comp=E,291nm,17.7s								
CLNS				MLR	MLR				
	comp=Z,85nm,17.0s								
CLNS				MLR	MLR				
	comp=E,295nm,15.0s								
CLNS				MLR	MLR				
	comp=N,250nm,18.0s								
TLY	**Talaya**	**58.04**	**338**	*e*P	**P**	**14 45 11.7**	**-0.3**		
TLY				pmax	pmax				
	comp=Z,11nm,1.3s								
TLY				MLR	MLR				
	comp=Z,117nm,19.0s								
TLY	**Talaya**	**58.04**	**338**	*e*P	**P**	**14 45 11.2**	**-0.8**		
	comp=Z,21nm,1.4s								
IRK	**Irkutsk**	**58.27**	**339**	*e*P	**P**	**14 45 14.2**	**+0.6**		
IRK				pmax	pmax				
	comp=Z,51nm,1.9s								
BOD	**Bodaibo**	**60.40**	**348**	*e*P	**P**	**14 45 27.9**	**-0.3**		
BOD				pmax	pmax				
	comp=Z,11nm,1.1s								
WMQ	**Urumqi**	**60.41**	**323**	P	**P**	**14 45 29.3**	**+0.6**		
WMQ				pP	**pP**	**14 45 38.3**	**-0.8**		
WMQ				sP	**sP**	**14 45 43.3**	**+0.1**		
WMQ				PcP	**PcP**	**14 46 14.3**	**+0.9**		
WMQ				S	**S**	**14 53 40.2**	**-1.3**		
WMQ				SS	**SS**	**14 57 39.3**	**-0.5**		
WMQ				pmax	pmax				
	comp=Z,72nm,1.0s								
WMQ				LR	LR				
	comp=N,110nm,19.2s								
WMQ				LR	LR				
	comp=E,67nm,18.5s								
WMQ				LR	LR				
	comp=Z,66nm,18.5s								
POO	**Poona**	**61.90**	**291**	*e*P	P	14 45 35.5	-3.7		
YAK	**Yakutsk**	**62.59**	**358**	*e*P	**P**	**14 45 42.9**	**0.0**		
YAK				*e*		14 46 23.5			
YAK				*e*		14 47 58.7			
YAK				*e**SS	S	14 54 44.3	+36		
YAK				*e*		14 55 34.7			
YAK				pmax	pmax				
	comp=Z,82nm,0.9s								
YAK				pmax	pmax				
	comp=N,43nm,1.2s								
YAK				pmax	pmax				
	comp=Z,79nm,3.5s								
YAK				pmax	pmax				
	comp=N,72nm,4.8s								
YAK				pmax	pmax				
	comp=E,201nm,5.8s								
YAK	**Yakutsk**	**62.59**	**358**	*e*P	**P**	**14 45 42.2**	**-0.8**		
	comp=E,82nm,0.9s								
YAK				*e*		14 45 52.9			
FX1	**Attu Island--F**	**62.63**	**26**	LR	LR	15 10 21.9			
	comp=E,74nm,20.0s,baz=282,slow=34								
SEY	**Seymchan**	**64.93**	**9**	*ce*P	**P**	**14 45 59.3**	**+1.0**		
MK31	**Makanchi Array**	**65.22**	**324**	*e*P	**P**	**14 46 01.0**	**+0.4**		
MK31				*e**PP	**pP**	**14 46 10.7**	**-0.4**		
MK31	**Makanchi Array**	**65.22**	**324**	*e*P	**P**	**14 46 01.0**	**+0.4**		
MK31				*ep*P	**pP**	**14 46 10.7**	**-0.4**		
MKAR	**Makanchi Array**	**65.22**	**324**	P	**P**	**14 46 00.9**	**+0.3**		
	comp=E,11nm,0.6s,baz=114,slow=8.1,SNR=66								
MKAR				LR	LR	15 13 37.1			
	comp=E,88nm,20.8s,baz=226,slow=35								
MKAR	**Makanchi Array**	**65.22**	**324**	*ce*P	**P**	**14 46 01.1**	**+0.5**		
MKAR				pmax	pmax				
	comp=Z,11nm,0.6s								
MKAR	**Makanchi Array**	**65.22**	**324**	P	**P**	**14 46 00.9**	**+0.3**		
MKAR				*e*P	**P**	**14 46 01.2**	**+0.6**		
DRV	**Dumont d'Urvil**	**66.03**	**177**	P	PcP	14 46 28.0	-7.7		
DRV	**Dumont d'Urvil**	**66.03**	**177**	PP	PP	14 47 54.0	-37		
DRV				S	S	14 55 10.0	+19		
DRV				SKS	**SKiKP**	**14 56 08.0**	**-0.5**		
DRV				SS	SS	14 59 38.0	+32		
DRV				L	L	15 01 00.0			
DRV				R		15 06 00.0			
KSH	**Kashi**	**66.15**	**314**	P	**P**	**14 46 08.4**	**+1.5**		
KSH				*ep*P	**pP**	**14 46 18.4**	**+1.0**		
KSH				*es*P	**sP**	**14 46 22.5**	**+1.1**		
KSH				*e*PcP	**PcP**	**14 46 38.6**	**+1.6**		
KSH				*e*PP	**PP**	**14 48 36.5**	**+3.7**		
KSH				*e*ScP		14 50 37.4			
KSH				*e*PcS		14 50 41.6			
KSH				*e*S	**S**	**14 54 51.6**	**-1.8**		
KSH				*es*S	**sS**	**14 55 09.0**	**-1.9**		
KSH				*e*ScS	**SKSac**	**14 55 57.5**	**-3.3**		
KSH				pmax	pmax				
	comp=Z,31nm,1.2s								
KSH				LR	LR				
	comp=N,140nm,5.9s								
KSH				LR	LR				
	comp=E,91nm,5.0s								
KSH				LR	LR				
	comp=Z,130nm,4.9s								
KZA	**Kyzart**	**67.63**	**317**	P	**P**	**14 46 17.9**	**+1.3**		
	SNR=22								
KZA				P	**P**	**14 46 17.9**	**+1.3**		
	SNR=22								
TKM2	**Tokmak 2**	**67.72**	**318**	P	**P**	**14 46 17.5**	**+0.5**		
	SNR=11								
TKM2				P	**P**	**14 46 17.5**	**+0.5**		
	SNR=11								
TKM2	**Tokmak 2**	**67.72**	**318**	*e*P	**P**	**14 46 17.4**	**+0.5**		
TKM2				pmax	pmax				
	comp=Z,18nm,0.8s								
TKM2	**Tokmak 2**	**67.72**	**318**	*e*P	**P**	**14 46 17.4**	**+0.5**		
	comp=Z,18nm,0.8s								
ZAA0	**Zalesovo Array**	**67.75**	**331**	*e*P	**P**	**14 46 15.8**	**-0.7**		
ZAA0				*e*		14 46 25.9			
ZALV	**Zalesovo Beam**	**67.75**	**331**	P	**P**	**14 46 15.7**	**-0.9**		
	comp=Z,3.8nm,0.6s,baz=121,slow=6.8,SNR=21								
ZALV	**Zalesovo Beam**	**67.75**	**331**	P	**P**	**14 46 15.7**	**-0.9**		
ZALV	**Zalesovo Beam**	**67.75**	**331**	P	**P**	**14 46 15.7**	**-0.9**		
AAK	**Ala-Archa**	**68.36**	**317**	P	**P**	**14 46 21.5**	**+0.6**		
	SNR=7.7								
AAK				P	**P**	**14 46 21.5**	**+0.6**		
	SNR=7.7								
AAK	**Ala-Archa**	**68.36**	**317**	*ce*P	**P**	**14 46 21.4**	**+0.5**		
AAK				pmax	pmax				
	comp=Z,61nm,2.5s								
AAK	**Ala-Archa**	**68.36**	**317**	*e*P	**P**	**14 46 20.7**	**-0.2**		
	comp=Z,90nm,1.3s								
AAK	**Ala-Archa**	**68.36**	**317**	P	**P**	**14 46 21.5**	**+0.6**		
	comp=Z,63nm,0.9s,SNR=5.3								
USP	**Ospenovka**	**68.60**	**318**	P	**P**	**14 46 22.7**	**+0.5**		
	SNR=20								
USP				P	**P**	**14 46 22.7**	**+0.5**		
	SNR=20								
AML	**Almayashu**	**68.72**	**316**	P	**P**	**14 46 24.4**	**+0.9**		
	SNR=24								
AML				P	**P**	**14 46 24.4**	**+0.9**		
	SNR=24								
EKS2	**Erkin-Say**	**68.86**	**317**	P	**P**	**14 46 24.6**	**+0.6**		
	SNR=14								
EKS2				P	**P**	**14 46 24.6**	**+0.6**		
	SNR=14								
EKS2	**Erkin-Say**	**68.86**	**317**	*e*P	**P**	**14 46 24.7**	**+0.7**		
EKS2				pmax	pmax				
	comp=Z,18nm,0.8s								
EKS2	**Erkin-Say**	**68.86**	**317**	*e*P	**P**	**14 46 24.7**	**+0.7**		
	comp=Z,18nm,0.8s								
NVS	**Novosibirsk**	**69.02**	**331**	⇑*i*P	**P**	**14 46 23.3**	**-1.2**		
NVS				*e*		14 46 30.5			
NVS				*e*S	**S**	**14 55 31.1**	**+4.1**		
NVS				pmax	pmax				
	comp=Z,62nm,1.8s								
NVS				pmax	pmax				
	comp=N,19nm,1.6s								
NVS				pmax	pmax				
	comp=E,32nm,1.7s								
NVS				smax	smax				
	comp=E,29nm,2.5s								
KURK	**Kurchatov**	**69.27**	**326**	P	**P**	**14 46 26.3**	**+0.2**		
	comp=E,25nm,1.0s,baz=119,slow=5.8,SNR=65								
KURK	**Kurchatov**	**69.27**	**326**	*ce*P	**P**	**14 46 26.0**	**-0.1**		
KURK				pmax	pmax				
	comp=Z,75nm,1.7s								
KURK	**Kurchatov**	**69.27**	**326**	*e*P	**P**	**14 46 26.4**	**+0.2**		
	comp=Z,40nm,0.9s								
KURK				*e*		14 46 35.8			
KURK	**Kurchatov**	**69.27**	**326**	P	**P**	**14 46 26.9**	**+0.8**		
	comp=Z,256nm,0.9s,SNR=22								
KBL	**Kabul**	**69.80**	**307**	*e*P	**P**	**14 46 29.8**	**-0.2**		
KBL				*e*		14 46 39.4			
KBL				pmax	pmax				
	comp=Z,18nm,0.8s								
KBL	**Kabul**	**69.80**	**307**	*e*P	**P**	**14 46 29.8**	**-0.2**		
	comp=Z,18nm,0.8s								
KBL				*e*		14 46 39.4			
KK31	**Karatay Array**	**71.26**	**316**	*i*P	**P**	**14 46 38.6**	**0.0**		
KK31				pmax	pmax				
	comp=Z,16nm,0.8s								
KKAR	**Karatay Array**	**71.26**	**316**	*e*P	**P**	**14 46 38.8**	**+0.2**		
KKAR	**Karatay Array**	**71.26**	**316**	*e*P	**P**	**14 46 38.8**	**+0.2**		
BILL	**Bilibino**	**72.12**	**12**	*e*P	**P**	**14 46 44.6**	**+1.4**		
BILL				pmax	pmax				
	comp=Z,8.0nm,1.4s								
VOSK	**Vostochnaya**	**74.42**	**326**	P	**P**	**14 46 56.1**	**-0.9**		
VOSK				pmax	pmax				
	comp=Z,18nm,1.0s								
BVA0	**Borovoye Array**	**74.86**	**326**	*i*P	**P**	**

	comp=Z,9.0nm,0.9s								
VNDA	**Vanda**	**78.29**	**174**	*e*P		**P**	**14 47 18.3**	**-0.2**
	comp=Z,8.7nm,0.9s								
IEMG	**Emamgholi**	**78.64**	**308**	*e*P		**P**	**14 47 22.3**	**+0.6**
IKRD	**Kardeh**	**78.65**	**308**	*e*P		**P**	**14 47 18.5**	**-3.2**
ISFR	**Sfrayin**	**79.10**	**308**	*e*P		**P**	**14 47 24.7**	**+0.5**
ABKT	**Ailbek**	**79.15**	**309**	P		**P**	**14 47 24.4**	**+0.3**
	comp=Z,156nm,1.2s,SNR=8.4								
AB31	**Akbulak array**	**80.02**	**320**	*i* P		**P**	**14 47 27.7**	**-0.8**
AB31				pmax		pmax			
	comp=Z,22nm,1.0s								
ABKAR	**Akbulak array**	**80.02**	**320**	*e*P		**P**	**14 47 28.2**	**-0.3**
IBAF	**Bafgh**	**80.34**	**302**	*e*P		**P**	**14 47 29.1**	**-1.8**
SVE	**Sverdlovsk**	**81.40**	**328**⇑	*i*P		**P**	**14 47 36.1**	**+0.4**
SVE				pmax		pmax			
	comp=Z,27nm,1.4s								
AKTO	**Aktyubinsk**	**81.48**	**321**	P		**P**	**14 47 36.1**	**-0.3**
	comp=Z,12nm,1.2s,baz=270,slow=6.1,SNR=12								
AKTO	**Aktyubinsk**	**81.48**	**321**	P		**P**	**14 47 36.1**	**-0.3**
AKTO	**Aktyubinsk**	**81.48**	**321**	P		**P**	**14 47 36.1**	**-0.3**
TTA	**Tatalina**	**81.64**	**26**	*e*P		**P**	**14 47 37.7**	**+0.7**
TTA	**Tatalina**	**81.64**	**26**	*e*P		**P**	**14 47 37.7**	**+0.7**
KDAK	**Kodiak Island**	**81.84**	**31**	P		**P**	**14 47 38.0**	**0.0**
	comp=Z,20nm,0.9s,baz=284,slow=4.2,SNR=4.2								
KDAK	**Kodiak Island**	**81.84**	**31**	*ce*P		**P**	**14 47 40.2**	**+2.2**
KDAK	**Kodiak Island**	**81.84**	**31**	P		**P**	**14 47 38.0**	**0.0**
MAW	**Mawson**	**82.22**	**201**	P		**P**	**14 47 40.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=68,slow=5.4,SNR=2.2								
MAW				LR		LR	15 22 02.3		
	comp=Z,176nm,19.0s,baz=233,slow=34								
MAW	**Mawson**	**82.22**	**201**	*e*P		**P**	**14 47 37.5**	**-2.3**
MAW				pmax		pmax			
	comp=Z,4.0nm,1.4s								
MAW	**Mawson**	**82.22**	**201**	*e*P		**P**	**14 47 37.5**	**-2.3**
	comp=Z,3.8nm,1.4s								
ARU	**Arti**	**82.42**	**327**	*d i*P		**P**	**14 47 40.6**	**-0.5**
ARU							14 50 46.2		
ARU				S		**S**	**14 57 55.2**	**+0.3**
ARU				SS		**SS**	**15 03 12.1**	**-4.1**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.7s								
ARU	**Arti**	**82.42**	**327**	*e*P		**P**	**14 47 40.6**	**-0.5**
	comp=Z,22nm,1.1s								
ARU				*e*			14 47 50.0		
IALA	**Alasht**	**83.12**	**306**	*e*P		**P**	**14 47 44.9**	**-0.7**
SLKM	**Skilak Lake**	**83.66**	**29**	*e*P		**P**	**14 47 47.4**	**-0.1**
SLKM	**Skilak Lake**	**83.66**	**29**	*e*P		**P**	**14 47 47.4**	**-0.1**
IDMV	**Damavand**	**83.70**	**306**	*e*P		**P**	**14 47 47.7**	**-0.9**
IKLH	**Kolahrood**	**83.87**	**303**	*e*P		**P**	**14 47 49.1**	**-0.4**
SOKR	**Solikamsk**	**84.00**	**330**	*e*P		**P**	**14 47 50.0**	**+0.9**
SOKR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
RC01	**Rabbit Creek A**	**84.02**	**28**	*e*P		**P**	**14 47 49.6**	**+0.4**
	comp=Z,52nm,1.2s								
PMR	**Palmer**	**84.41**	**28**	*e*P		**P**	**14 47 50.7**	**-0.5**
PMR				pmax		pmax			
	comp=Z,153nm,2.3s								
PMR	**Palmer**	**84.41**	**28**	*e*P		**P**	**14 47 50.7**	**-0.5**
	comp=Z,153nm,2.3s								
MCK	**McKinley**	**84.94**	**26**	*e*P		**P**	**14 47 54.2**	**+0.3**
MCK				pmax		pmax			
	comp=Z,66nm,1.3s								
MCK	**McKinley**	**84.94**	**26**	*e*P		**P**	**14 47 54.1**	**+0.3**
	comp=Z,66nm,1.3s								
COLD	**Coldfoot**	**85.18**	**22**	*e*P		**P**	**14 47 56.6**	**+1.6**
	comp=Z,9.6nm,1.0s								
COLA	**College**	**85.62**	**25**	*e*P		**P**	**14 47 57.1**	**-0.1**
COLA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
COLA	**College**	**85.62**	**25**	*e*P		**P**	**14 47 57.1**	**-0.1**
	comp=Z,2.3nm,0.9s								
DIV	**Divide**	**85.92**	**29**	*e*P		**P**	**14 48 00.2**	**+1.3**
	comp=Z,84nm,1.5s								
ILAR	**Eielson Array**	**86.01**	**25**	P		**P**	**14 47 58.4**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=252,slow=4.8,SNR=35								
ILAR				LR		LR	15 24 46.5		
	comp=Z,59nm,18.2s,baz=267,slow=34								
ILAR	**Eielson Array**	**86.01**	**25**	P		**P**	**14 47 58.4**	**-0.8**
ILAR	**Eielson Array**	**86.01**	**25**	P		**P**	**14 47 58.4**	**-0.8**
PAX	**Paxson**	**86.34**	**27**	*e*P		**P**	**14 48 01.9**	**+0.9**
PAX	**Paxson**	**86.34**	**27**	*e*P		**P**	**14 48 01.9**	**+0.9**
RDF	**Al-Radifah**	**87.05**	**299**	*e*P		**P**	**14 48 04.2**	**-0.9**
RDF				AMb		AMB	14 48 15.4		
	comp=Z,76nm,1.0s								
NAY	**Al-Naaiem**	**87.33**	**299**	*e*P		**P**	**14 48 06.0**	**-0.5**
NAY				AMb		AMB	14 48 16.7		
	comp=Z,53nm,0.9s								
IDHR	**Dehrash**	**88.26**	**305**	*e*P		**P**	**14 48 09.7**	**-1.3**
IMRD	**Marand**	**88.94**	**309**	*e*P		**P**	**14 48 14.5**	**+0.4**
DAWY	**Dawson**	**89.16**	**26**	*e*P		**P**	**14 48 14.8**	**+0.3**
QSPA	**South Pole Qui**	**89.29**	**180**	LR		LR	15 27 04.4		
	comp=Z,278nm,20.8s,baz=116,slow=35								
QSPA	**South Pole Qui**	**89.29**	**180**	*e*P		**P**	**14 48 14.7**	**-0.3**
	comp=Z,18nm,0.9s								
QSPA				*e*			14 48 25.8		
OBN	**Obninsk**	**94.69**	**325**	*e*P		**P**	**14 48 37.5**	**-2.6**
OBN				*e*			14 48 45.4		
OBN				pmax		pmax			
	comp=Z,9.0nm,1.2s								
ARCES	**ARCESS Array B**	**96.95**	**340**	P		**P**	**14 48 49.3**	**-0.9**
	comp=Z,7.2nm,1.1s,baz=67,slow=6.9,SNR=5.5								
ARCES				LR		LR	15 32 18.1		
	comp=Z,103nm,20.8s,baz=282,slow=35								
ARCES	**ARCESS Array B**	**96.95**	**340**	P		**P**	**14 48 49.3**	**-0.9**
ARCES	**ARCESS Array B**	**96.95**	**340**	P		**P**	**14 48 49.3**	**-0.9**
FINES	**FINESS Array B**	**99.00**	**332**	LR		LR	15 36 09.7		
	comp=Z,117nm,20.3s,baz=139,slow=37								
AKASG	**Malin Array Be**	**99.73**	**321**	P		**Pdif**	**14 49 00.8**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=64,slow=4.8,SNR=4.1								
AKASG				LR		LR	15 39 35.4		
	comp=Z,61nm,18.8s,baz=35,slow=39								
AKASG	**Malin Array Be**	**99.73**	**321**	*ce*P		**Pdif**	**14 49 02.2**	**-0.8**
AKASG	**Malin Array Be**	**99.73**	**321**	P		**Pdif**	**14 49 00.8**	**-2.2**
YKA	**Yellowknife Ar**	**100.40**	**26**	P		**Pdif**	**14 49 04.8**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=292,slow=4.7,SNR=9.0								
YKA	**Yellowknife Ar**	**100.40**	**26**	P		**Pdif**	**14 49 04.8**	**-0.9**
YKA	**Yellowknife Ar**	**100.40**	**26**	P		**Pdif**	**14 49 04.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**131.00**	**287**	PKP		**PKPdf**	**14 54 31.4**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=60,slow=1.4,SNR=6.9								
TORD	**Torodi Ar. Bea**	**131.00**	**287**	PKP		**PKPdf**	**14 54 31.4**	**-0.2**
PLCA	**Paso Flores**	**133.22**	**155**	PKP		**PKPdf**	**14 54 36.3**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=242,slow=1.9,SNR=5.2								
PLCA	**Paso Flores**	**133.22**	**155**	PKIKP		**PKPdf**	**14 54 36.3**	**+1.0**
PLCA	**Paso Flores**	**133.22**	**155**	PKP		**PKPdf**	**14 54 36.3**	**+1.0**
LVC	**Limon Verde**	**147.98**	**138**	*e*PKPdf		**PKPdf**	**14 55 01.8**	**-0.7**
LVC				*e*PKPab		**PKiKP**	**14 55 07.6**	**+0.2**
CPUP	**Villa Florida**	**151.10**	**159**	PKPbc		**PKPbc**	**14 55 13.4**	**+0.6**
	comp=Z,6.5nm,0.7s,baz=256,slow=1.2,SNR=26								
CPUP	**Villa Florida**	**151.10**	**159**	PKIKP		**PKPbc**	**14 55 13.4**	**+0.6**
CPUP	**Villa Florida**	**151.10**	**159**	PKPbc		**PKPbc**	**14 55 13.4**	**+0.6**
LPAZ	**La Paz**	**152.56**	**129**	PKPbc		**PKPbc**	**14 55 17.9**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=246,slow=2.9,SNR=11								
LPAZ	**La Paz**	**152.56**	**129**	*e*PKIKP		**PKPdf**	**14 55 09.8**	**-0.4**
LPAZ							14 55 17.9		
LPAZ	**La Paz**	**152.56**	**129**	*e*PKPdf		**PKPdf**	**14 55 09.8**	**-0.4**
LPAZ				PKPbc		**PKPbc**	**14 55 17.9**	**+0.7**

IDC 09 14:49:58.4±1.0, 0.56S×133.14E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=45.3km s-min=14.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.93**	**203**	P	P	14 54 19.8	-1.2
	0.3nm,0.3s,baz=33,slow=11,SNR=7.0						
FITZ				S	Sn	14 57 36.6	-18
	0.1nm,0.3s,baz=18,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**19.30**	**177**	P	P	14 54 25.2	+0.1
	0.4nm,0.3s,baz=356,slow=11,SNR=19						
WRA				S	Sn	14 57 48.4	-15
	0.1nm,0.3s,baz=358,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**22.98**	**178**	P	P	14 55 05.3	+0.5
	3.0nm,0.5s,baz=356,slow=11,SNR=40						
ASAR				S	S	14 59 17.9	+1.4
	1.4nm,0.9s,baz=2.0,slow=29,SNR=5.8						
CTA	**Charters Tower**	**23.27**	**147**	P	P	14 55 09.0	+1.2
	7.1nm,0.7s,baz=329,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**32.16**	**166**	P	P	14 56 26.8	-1.1
	2.9nm,0.6s,baz=338,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	15 00 39.0	+0.4
	0.3nm,0.6s,baz=109,slow=7.8,SNR=4.5						
KURK	**Kurchatov**	**68.81**	**326**	P	P	15 01 04.5	+0.1
	0.2nm,0.3s,baz=121,slow=5.7,SNR=4.6						
ILAR	**Eielson Array**	**86.22**	**25**	P	P	15 02 41.2	-0.4
	0.2nm,0.7s,baz=267,slow=5.4,SNR=3.4						

*ISCJB **09** 15:02:29.9±0.4, 40.50N±0.03×29.23E±0.03, h10km±4km, Error ellipse: s-maj=5.8km s-min=3.8km az=1.9*
*CSEM **09** 15:02:29.9±0.1, 40.47N×29.23E, h10km, MD2.7*
*ISK **09** 15:02:29.4, 40.46N×29.21E, h4km, MD2.7*
*DDA **09** 15:02:30.3, 40.45N×29.20E, h6km, MD2.7*

ISC 09 15:02:30.0±0.9, 40.46N±0.03×29.22E±0.02, h6km±6km, n40, σ0.73/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.03**	**227**	PG	**Pg**	**15 02 30.6**	**-0.7**
GEMT	**Gemlik**	**0.03**	**227**	*i* Pg	**Pg**	**15 02 30.6**	**-0.7**
YLV	**Yalova**	**0.16**	**47**	*e*PG	**Pg**	**15 02 33.8**	**+0.4**
YLV				*e*SG	**Sg**	**15 02 36.8**	**+1.2**
YLV	**Yalova**	**0.16**	**47**	*e*Pg	**Pg**	**15 02 33.8**	**+0.4**
YLV				*e*Sg	**Sg**	**15 02 36.8**	**+1.2**
MDNY	**Mudanya-Bursa**	**0.27**	**251**	*e*PG	**Pg**	**15 02 35.6**	**+0.3**
MDNY				*e*SG	**Sg**	**15 02 40.3**	**+1.4**
MDNY	**Mudanya-Bursa**	**0.27**	**251**	*e*Pg	**Pg**	**15 02 35.6**	**+0.3**
MDNY				*e*Sg	**Sg**	**15 02 40.3**	**+1.4**
ARMT	**Armutlu**	**0.29**	**292**	*e*PG	**Pg**	**15 02 35.7**	**-0.1**
ARMT				*e*SG	**Sg**	**15 02 40.5**	**+0.8**
ARMT	**Armutlu**	**0.29**	**292**	*e*Pg	**Pg**	**15 02 35.7**	**-0.1**
ARMT				*e*Sg	**Sg**	**15 02 40.5**	**+0.8**
ADVT	**Abdulvahap**	**0.40**	**93**	*e*PG	**Pg**	**15 02 38.0**	**+0.3**
ADVT				*e*SG	**Sg**	**15 02 44.1**	**+1.1**
ADVT	**Abdulvahap**	**0.40**	**93**	*e*Pg	**Pg**	**15 02 38.1**	**+0.3**
ADVT				*e*Sg	**Sg**	**15 02 44.1**	**+1.1**
HRT	**Hereke**	**0.50**	**43**	*e*PG	**Pg**	**15 02 39.8**	**+0.1**
HRT	**Hereke**	**0.50**	**43**	*e*Pg	**Pg**	**15 02 39.8**	**+0.1**
CAVI	**Cavuskoy**	**0.54**	**118**	*e*PG	**Pg**	**15 02 40.5**	**+0.1**
CAVI	**Cavuskoy**	**0.54**	**118**	*e*Pg	**Pg**	**15 02 40.6**	**+0.1**
ISK	**Istanbul-Kandi**	**0.62**	**349**	*e*PG	**Pg**	**15 02 42.3**	**+0.3**
ISK	**Istanbul-Kandi**	**0.62**	**349**	*e*Pg	**Pg**	**15 02 42.3**	**+0.3**
KCTX	**Karacabey (Bur**	**0.69**	**254**	*e*PG	**Pg**	**15 02 43.4**	**+0.2**
KCTX	**Karacabey (Bur**	**0.69**	**254**	*e*Pg	**Pg**	**15 02 43.4**	**+0.2**
BGKT	**Bogazkoy**	**0.80**	**335**	*e*PG	**Pg**	**15 02 44.8**	**-0.6**
BGKT	**Bogazkoy**	**0.80**	**335**	*e*Pg	**Pg**	**15 02 44.8**	**-0.6**
KLYT	**Kilyos**	**0.81**	**351**	*e*PG	**Pg**	**15 02 45.0**	**-0.6**
KLYT	**Kilyos**	**0.81**	**351**	*e*Pg	**Pg**	**15 02 45.0**	**-0.6**
CTKS	**Kestanelik-??a**	**0.95**	**326**	*e*PG	**Pg**	**15 02 47.7**	**-0.5**
CTKS	**Kestanelik-??a**	**0.95**	**326**	*e*Pg	**Pg**	**15 02 47.7**	**-0.5**
GULT	**Gulveren**	**0.99**	**91**	*e*PG	**Pg**	**15 02 48.7**	**-0.4**
GULT	**Gulveren**	**0.99**	**91**	*e*Pg	**Pg**	**15 02 48.7**	**-0.4**
DURS	**Dursunbey**	**1.03**	**214**	*i* P	**Pn**	**15 02 50.8**	**-0.2**
DURS				*i* S	**Sn**	**15 03 06.4**	**+0.6**
DURS	**Dursunbey**	**1.03**	**214**	*i* P	**Pn**	**15 02 50.8**	**-0.2**
DURS				*i* S	**Sn**	**15 03 06.4**	**+0.6**
EDC	**Edincik**	**1.04**	**264**	*e*PG	**Pb**	**15 02 50.4**	**0.0**
EDC	**Edincik**	**1.04**	**264**	*e*Pg	**Pb**	**15 02 50.4**	**0.0**
SLVT	**Silivri**	**1.09**	**316**	*e*PN	**Pg**	**15 02 50.5**	**-0.4**
SLVT	**Silivri**	**1.09**	**316**	*e*Pn	**Pg**	**15 02 50.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.24**	**251**	*e*PN	**Pn**	**15 02 53.2**	**-0.6**
GONE	**Gonen-Balikesi**	**1.24**	**251**	*e*Pn	**Pn**	**15 02 53.3**	**-0.6**
GDZ	**Gediz**	**1.38**	**171**	*i* P	**Pn**	**15 02 55.6**	**-0.3**
GDZ				*i* S	**Sg**	**15 03 14.6**	**+0.2**
GDZ	**Gediz**	**1.38**	**171**	*i* P	**Pn**	**15 02 55.6**	**-0.3**
GDZ				*i* S	**Sg**	**15 03 14.6**	**+0.2**
BALY	**Balya**	**1.42**	**240**	*i* P	**Pn**	**15 02 55.8**	**-0.6**
BALY				*i* S	**Sg**	**15 03 16.6**	**+1.0**
BALY	**Balya**	**1.42**	**240**	*i* P	**Pn**	**15 02 55.8**	**-0.6**
BALY				*i* S	**Sg**	**15 03 16.6**	**+1.0**
SEYT	**Eskypehyr**	**1.56**	**126**	*i* P	**Pn**	**15 02 56.6**	**-1.9**
SEYT				*i* S	**Sn**	**15 03 18.5**	**-0.6**
SEYT	**Eskypehyr**	**1.56**	**126**	*i* P	**Pn**	**15 02 56.6**	**-1.9**
SEYT				*i* S	**Sn**	**15 03 18.5**	**-0.6**

MDD 09 15:03:38.0±0.8, 36.97N×2.71E, h0km, mb3.5/5, Error ellipse: s-maj=18.5km s-min=5.9km az=44.0, PRXIMO SOLUCIN POBRE, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.31**	**123**	P	Pg	15 03 43.6	-0.4
ABA	**Alger-Bouzarea**	**0.31**	**123**	P	Pg	15 03 43.6	-0.4
EIBI	**Ibiza**	**2.32**	**333**	P	Pn	15 04 16.7	-0.8
	5.1nm,0.2s,SNR=7.0						
EIBI				S	Sn	15 04 44.0	-2.7
	3.4nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**2.79**	**2**	P	Pn	15 04 22.6	-1.4
	0.4nm,0.2s,SNR=7.9						
ETOS				S	Sn	15 04 56.0	-2.5
	0.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.76**	**298**	P	Pn	15 04 35.6	-1.9
	1.9nm,0.1s,SNR=18						
ETOB				S	Sn	15 05 18.4	-4.1
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.20**	**325**	P	Pn	15 04 42.4	-1.2
	0.7nm,0.1s,SNR=7.5						
EMOS				S	Sn	15 05 29.5	-4.1
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.68**	**282**	P	Pn	15 04 49.5	-0.5
	0.2nm,0.1s,SNR=7.9						

*TAP **09** 15:16:52.9, 24.63N×122.75E, h115km, ML3.4, C*
*ISCJB **09** 15:16:53.2±0.7, 24.61N±0.06×122.79E±0.02, h103km±6km, Error ellipse: s-maj=10.1km s-min=3.5km az=179.7*
*JMA **09** 15:16:53.1±0.2, 24.75N×122.83E, h104km±2km, M2.8*

ISC 09 15:16:53.7±1.7, 24.61N±0.08×122.78E±0.03, h102km±12km, n37, σ0.58/58, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.25**	**125**	P	**Pn**	**15 17 08.3**	**0.0**
YOJ				S	**Sn**	**15 17 20.0**	**+0.8**
TWC	**Suao**	**0.85**	**270**	*i* P	**Pn**	**15 17 12.4**	**-0.2**
	baz=265						
TWC				S	**Sn**	**15 17 26.6**	**-0.4**
	baz=265						
IRIF	**Iriomote-Funau**	**0.90**	**107**	P	**Pn**	**15 17 13.0**	**-0.2**
IRIF				*e*S	**Sn**	**15 17 27.8**	**-0.1**
ILA	**Ilan**	**0.96**	**280**	*e*P	**Pn**	**15 17 13.8**	**+0.1**
	baz=273						
ENA	**Nanau**	**0.97**	**260**⇑	*i*P	**Pn**	**15 17 13.9**	**+0.1**
	baz=252						
ENA				*e*S	**Sn**	**15 17 29.4**	**+0.4**
	baz=252						
NWF	**Wu-fen Shan**	**1.02**	**297**	*e*P	**Pn**	**15 17 14.8**	**+0.2**
	baz=289						
TWE	**Neicheng**	**1.02**	**277**	P	**Pn**	**15 17 14.5**	**+0.1**
	baz=273						
TWE				*e*S	**Sn**	**15 17 29.7**	**-0.4**
	baz=273						
HATJ	**Hateruma jima**	**1.08**	**120**	P	**Pn**	**15 17 15.3**	**+0.2**
HATJ				S	**Sn**	**15 17 32.4**	**+1.1**
ENTT	**Nioudou**	**1.11**	**272**	P	**Pn**	**15 17 15.8**	**+0.3**
	baz=268						
TWA	**Mucha**	**1.15**	**289**	*e*P	**Pn**	**15 17 15.8**	**-0.1**
	baz=280						
JKRS	**Kuro-shima**	**1.18**	**108**	P	**Pn**	**15 17 16.2**	**0.0**
JKRS				S	**Sn**	**15 17 33.8**	**+0.6**
TWD	**Chiawan**	**1.20**	**244**	P	**Pn**	**15 17 16.0**	**-0.5**
	baz=236						
TWD				*i* S	**Sn**	**15 17 33.4**	**-0.4**
	baz=236						
HWA	**Hwalien**	**1.25**	**240**	*e*P	**Pn**	**15 17 16.8**	**-0.2**
	baz=237						
JIJ	**Ishigaki jima**	**1.26**	**101**	P	**Pn**	**15 17 16.8**	**-0.4**
JIJ				S	**Sn**	**15 17 33.9**	**-1.0**
NNS	**Nan Shan**	**1.30**	**263**	P	**Pn**	**15 17 17.7**	**0.0**
	baz=255						
NNS				*e*S	**Sn**	**15 17 35.7**	**-0.2**
	baz=255						
NSK	**Sanguang**	**1.30**	**273**⇓	*i*P	**Pn**	**15 17 17.9**	**+0.3**
	baz=266						
NSK				S	**Sn**	**15 17 35.9**	**0.0**
	baz=266						
TWS1	**Kuangyinshan**	**1.33**	**292**	*e*P	**Pn**	**15 17 17.8**	**-0.2**
	baz=284						
WHF	**Hehuan Shan**	**1.46**	**252**	*i* P	**Pn**	**15 17 19.9**	**-0.1**
	baz=253						
WHF				*e*S	**Sn**	**15 17 39.4**	**-0.4**
	baz=253						
ESL	**Shilin**	**1.47**	**238**⇓	*i*P	**Pn**	**15 17 18.9**	**-0.7**
	baz=234						
ESL				*e*S	**Sn**	**15 17 38.3**	**-0.9**
	baz=234						
TWT	**Tachien**	**1.51**	**257**	*e*P	**Pn**	**15 17 20.5**	**+0.2**
	baz=252						
TWT				*e*S	**Sn**	**15 17 41.2**	**+0.7**
	baz=252						
NSTT	**Nanjuang**	**1.62**	**271**	*e*P	**Pn**	**15 17 21.1**	**-0.5**
	baz=269						
NSTT				*e*S	**Sn**	**15 17 42.2**	**-0.5**
	baz=269						
EHY	**Hungye**	**1.73**	**231**	P	**Pn**	**15 17 22.1**	**-0.8**
	baz=228						
EHY				*e*S	**Sn**	**15 17 43.9**	**-1.2**
	baz=228						
JTJ	**Tarama**	**1.75**	**88**	P	**Pn**	**15 17 22.8**	**-0.3**
JTJ				S	**Sn**	**15 17 45.3**	**-0.1**
TWQ1	**Liyutan**	**1.85**	**262**	*e*P	**Pn**	**15 17 24.4**	**0.0**
	baz=260						
TWQ1				*e*S	**Sn**	**15 17 47.0**	**-0.9**
	baz=260						
NSY	**Sanyi**	**1.85**	**265**	*e*P	**Pn**	**15 17 24.8**	**+0.3**
	baz=263						
SMLT	**Sun Moon Lake**	**1.86**	**248**	*e*P	**Pn**	**15 17 25.2**	**+0.5**
	baz=240						
SMLT				*e*S	**Sn**	**15 17 49.0**	**+0.7**
	baz=240						
TYC	**Yuchr**	**1.89**	**249**	*e*P	**Pn**	**15 17 25.4**	**+0.5**
	baz=241						
TYC				*e*S	**Sn**	**15 17 49.3**	**+0.5**
	baz=241						
YUS	**Yu-Shan**	**2.01**	**237**	*e*P	**Pn**	**15 17 27.5**	**+0.5**
	baz=234						
WNT	**Mingjian**	**2.05**	**250**	*e*P	**Pn**	**15 17 27.9**	**+0.9**
	baz=257						
ELDTW	**Lidau**	**2.15**	**229**⇑	*i*P	**Pn**	**15 17 27.8**	**-0.5**
	baz=227						
CHN5	**Tsauling**	**2.17**	**243**	P	**Pn**	**15 17 29.2**	**+0.6**
	baz=234						
CHN5				*e*S	**Sn**	**15 17 56.8**	**+1.4**
	baz=234						
STYT	**Tauyuan**	**2.35**	**233**	*e*P	**Pn**	**15 17 31.6**	**+0.7**
	baz=226						
CHN4	**Tsaushan**	**2.36**	**238**	*e*P	**Pn**	**15 17 31.9**	**+0.8**
	baz=237						
TWG	**Pinlang**	**2.37**	**222**	*e*P	**Pn**	**15 17 30.2**	**-1.0**
	baz=224						
WTP	**Ta-pu**	**2.40**	**236**	*e*P	**Pn**	**15 17 31.7**	**+0.1**
	baz=234						
CHN1	**Nanshi**	**2.50**	**236**	*e*P	**Pn**	**15 17 33.0**	**+0.1**
	baz=243						
SSD	**Sandimen**	**2.71**	**227**	*e*P	**Pn**	**15 17 36.1**	**+0.5**
	baz=225						

*IDC **09** 15:34:18.8±0.8, 0.67S×133.36E, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.1/21, mbtmp4.3/10, ML4.2/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/29, Error ellipse: s-maj=46.9km s-min=15.4km az=75.0*
*NEIC **09** 15:34:24.0±0.5, 0.73S×133.27E, h35km, mb4.4/5, Error ellipse: s-maj=21.1km s-min=7.7km az=80.0*

ISC 09 15:34:24.4±0.7, 0.94S±0.07×133.0E±0.2, h35km, n33, σ2.54/38, mb4.5/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.54**	**203**	P	**Pn**	**15 38 40.6**	**+2.0**
	0.5nm,0.3s,baz=34,slow=12,SNR=13						
FITZ				S	**Sn**	**15 41 59.0**	**-5.9**
	0.6nm,0.3s,baz=141,slow=18,SNR=7.1						
FITZ				LR	LR	15 46 35.5	
	comp=Z,82nm,19.8s,baz=25,slow=39						
FITZ	**Fitzroy Crossi**	**18.54**	**203**	*e*P	**Pn**	**15 38 41.8**	**+3.3**
	16nm,0.9s						
FITZ				*e*S	Sn	15 41 56.2	-8.7
FITZ	**Fitzroy Crossi**	**18.54**	**203**	P	**Pn**	**15 38 40.6**	**+2.0**
FITZ				S	**Sn**	**15 41 59.0**	**-5.9**
GUMO	**Guam**	**18.60**	**39**	LR	LR	15 44 42.7	
	comp=Z,55nm,21.6s,baz=239,slow=34						
WRAB	**Tennant Creek**	**18.92**	**176**	*e*P	**Pn**	**15 38 43.7**	**+0.5**
	7.6nm,0.6s						
WRA	**Warram

	SNR=8.5						
KZA				P	Pn	15 49 09.4	+3.0
	SNR=8.5						
AAK	**Ala-Archa**	**5.52 244**		P	**Pn**	**15 49 10.0**	**+1.8**
	SNR=5.6						
AAK				P	**Pn**	**15 49 10.0**	**+1.8**
	SNR=5.6						
KURK	**Kurchatov**	**5.73 343**	⇑	Pn	**Pn**	**15 49 09.0**	**-1.8**
	1.8nm,0.5s						
KURK			⇑	Sn	**Sn**	**15 50 16.2**	**+0.9**
	6.1nm,0.8s						
KURK			⇑	Lg	Lg	15 50 45.1	
	9.2nm,0.5s						
KK31	**Karatay Array**	**8.00 258**	⇑	Pn	**Pn**	**15 49 42.5**	**+0.5**
	1.0nm,0.5s,baz=70,slow=16,SNR=4.7						
KK31			⇓	Sn	Sn	15 51 18.1	+6.9
	3.7nm,0.6s,baz=65,slow=31,SNR=6.0						

NEIC ***09*** *15:55:32.2, 19°.24N×67°.26W, h10km, MD3.1(RSPR), After RSPR.*

RSPR 09 15:55:32.2, 19°.24N×67°.26W, h10km±31km, MD3.1/14, 17C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.78**	**170**	⇑*e*P	P*g*	15 55 46.3	-2.0
AGPR	**Aguadilla, PR**	**0.78**	**170**	*e*S	S*g*	15 55 56.2	-1.4
AGPR	**Aguadilla, PR**	**0.78**	**170**	⇑*e*P	P*g*	15 55 45.3	-2.0
AGPR				*e*S	S*g*	15 55 56.2	-1.4
AOPR	**Arecibo Observ**	**1.01**	**152**	⇑*e*P	P*g*	15 55 48.8	-2.9
AOPR	**Arecibo Observ**	**1.01**	**152**	*e*S	S*g*	15 56 02.1	-2.8
AOPR	**Arecibo Observ**	**1.01**	**152**	⇑*e*P	P*g*	15 55 48.8	-2.9
AOPR				*e*S	S*g*	15 56 02.1	-2.8
LRS	**Lares**	**1.02**	**157**	⇓*e*P	P*g*	15 55 49.2	-2.8
LRS				*e*S	S*g*	15 56 02.5	-2.9
LRS	**Lares**	**1.02**	**157**	*e*P*g*	P*g*	15 55 48.7	-3.3
LRS				*e*S*g*	S*g*	15 56 01.8	-3.5
LRS				*e*S	S*b*	15 56 02.5	-3.2
LSP	**Las Mesas**	**1.07**	**171**	⇓*i*P	P*g*	15 55 49.8	-3.1
LSP				*e*S	S*g*	15 56 03.1	-3.8
LSP	**Las Mesas**	**1.07**	**171**	*e*P*g*	P*g*	15 55 49.7	-3.2
LSP				*e*S	S*g*	15 56 03.1	-3.8
LSP				*e*S*g*	S*b*	15 56 04.2	-2.9
IMO	**Isla Mona**	**1.28**	**209**	⇑*e*P	P*n*	15 55 54.0	-2.3
IMO	**Isla Mona**	**1.28**	**209**	⇑*e*P	P*n*	15 55 54.0	-2.3
GBPR	**Guanica, Bosqu**	**1.31**	**164**	⇑*e*P	P*n*	15 55 54.1	-2.4
GBPR	**Guanica, Bosqu**	**1.31**	**164**	⇑*e*P	P*n*	15 55 54.1	-2.4
CELP	**Cerrillos**	**1.33**	**151**	⇓*i*P	P*n*	15 55 53.9	-3.0
CELP				*e*S	S*b*	15 56 11.2	-3.1
CELP	**Cerrillos**	**1.33**	**151**	*e*P*n*	P*n*	15 55 54.0	-2.9
CELP				*e*S*n*	S*b*	15 56 11.1	-3.3
CELP				*e*S	S*n*	15 56 11.2	-3.4
OBIP	**Obispado Ponce**	**1.34**	**152**	⇓*i*P	P*n*	15 55 54.2	-2.9
OBIP	**Obispado Ponce**	**1.34**	**152**	*e*S	S*n*	15 56 11.4	-3.5
OBIP	**Obispado Ponce**	**1.34**	**152**	⇓*i*P	P*n*	15 55 54.2	-2.9
OBIP				*e*S	S*b*	15 56 11.4	-3.3
ICM	**Isla Caja Muer**	**1.51**	**152**	⇑*e*P	P*n*	15 55 57.0	-2.4
ICM	**Isla Caja Muer**	**1.51**	**152**	*e*S	S*n*	15 56 16.0	-3.1
ICM	**Isla Caja Muer**	**1.51**	**152**	⇑*e*P	P*n*	15 55 57.0	-2.4
ICM				*e*S	S*n*	15 56 16.0	-3.1
SJG	**San Juan**	**1.54**	**137**	⇑*e*P	P*n*	15 55 56.4	-3.3
SJG				*e*S	S*n*	15 56 17.9	-1.9
SJG	**San Juan**	**1.54**	**137**	⇑*e*P	P*n*	15 55 56.4	-3.3
SJG				*e*S	S*n*	15 56 17.9	-1.9
CBYP	**Canovanas**	**1.64**	**126**	⇓*e*P	P*n*	15 55 57.3	-3.9
CBYP	**Canovanas**	**1.64**	**126**	⇓*e*P	P*n*	15 55 57.3	-3.9
HUMP	**Col San Antoni**	**1.73**	**129**	⇓*e*P	P*n*	15 55 59.0	-3.4
HUMP	**Col San Antoni**	**1.73**	**129**	⇓*e*P	P*n*	15 55 59.0	-3.4
CPD	**Cerro la Pandu**	**1.75**	**133**	⇑*e*P	P*n*	15 55 59.6	-3.1
CPD	**Cerro la Pandu**	**1.75**	**133**	*e*S	S*n*	15 56 21.9	-3.1
CPD	**Cerro la Pandu**	**1.75**	**133**	⇑*e*P	P*n*	15 55 59.6	-3.1
CPD				*e*S	S*n*	15 56 21.9	-3.1
SMN1	**Samana, DR**	**1.90**	**269**	⇑*e*P	P*n*	15 56 02.2	-2.6
MTP	**Monte Pirata**	**1.98**	**125**	⇑*e*P	P*n*	15 56 02.2	-3.6
MTP	**Monte Pirata**	**1.98**	**125**	*e*S	S*n*	15 56 29.0	-1.7
MTP	**Monte Pirata**	**1.98**	**125**	⇑*e*P	P*n*	15 56 02.2	-3.6
MTP				*e*S	S*n*	15 56 29.0	-1.7
STVI	**Saint Thomas**	**2.36**	**112**	*e*P*n*	P*n*	15 56 06.6	-4.4
STVI				*e*S*n*	S*n*	15 56 36.2	-3.8
SDDR	**Presa de Saban**	**3.82**	**267**	*e*P*n*	P*n*	15 56 31.0	-0.2

IDC 09 16:06:27.1±2.9, 15°.04S×173°.39W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=158.7km s-min=19.9km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.93**	**55**	P*n*	P*n*	16 07 01.3	+0.1
	7.1nm,0.3s,baz=127,slow=18,SNR=11						
AFI				S*n*	S*b*	16 07 27.3	-0.4
	37nm,0.3s,baz=350,slow=19,SNR=8.2						
WRA	**Warramunga Arr**	**49.94**	**256**	P	P	16 15 23.9	+0.8
	0.3nm,0.7s,baz=90,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**50.23**	**252**	P	P	16 15 24.6	-0.8
	1.0nm,0.6s,baz=88,slow=8.4,SNR=25						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	16 18 48.9	-0.1
	0.3nm,0.7s,baz=219,slow=5.8,SNR=7.1						

IDC 09 16:10:02.2±5.8, 29°.25N×138°.60E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/23, mbtmp3.5/3, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/20, Error ellipse: s-maj=407.4km s-min=42.7km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**9.44**	**258**	LR	LR	16 14 49.5	
	comp=Z,212nm,19.6s,baz=325,slow=30						
USRK	**Ussuriysk Arra**	**15.82**	**342**	P*n*	P*n*	16 13 46.6	+0.3
	0.2nm,0.3s,baz=153,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**49.08**	**185**	P	P	16 18 52.0	+0.6
	0.4nm,0.5s,baz=360,slow=7.7,SNR=7.8						
ASAR	**Alice Springs**	**52.81**	**185**	P	P	16 19 18.7	-0.8
	0.2nm,0.4s,baz=8.1,slow=7.0,SNR=7.4						

IDC 09 16:19:40.7±1.7, 6°.83S×143°.43E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/15, mbtmp3.8/5, ML3.0/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=34.4km s-min=28.7km az=44.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.50**	**125**	P*n*	P*n*	16 20 50.4	+0.3
	0.6nm,0.3s,baz=260,slow=15,SNR=5.8						
PMG				S*n*	S*n*	16 21 42.7	-0.4
	1.5nm,0.3s,baz=38,slow=19,SNR=3.9						
CTA	**Charters Tower**	**13.46**	**169**	LR	LR	16 28 02.3	
	comp=Z,68nm,20.0s,baz=230,slow=37						
WRA	**Warramunga Arr**	**15.74**	**213**	P*n*	P*n*	16 23 21.9	-2.1
	0.1nm,0.3s,baz=30,slow=13,SNR=7.9						
WRA				LR	LR	16 28 55.9	
	comp=Z,27nm,21.2s,baz=40,slow=35						
ASAR	**Alice Springs**	**19.08**	**208**	P	P*n*	16 24 05.5	-0.2
	0.3nm,0.3s,baz=34,slow=10,SNR=35						
FITZ	**Fitzroy Crossi**	**20.64**	**236**	P	P	16 24 22.5	+0.4
	4.1nm,1.0s,baz=57,slow=9.7,SNR=4.3						
STKA	**Stephens Creek**	**24.98**	**184**	LR	LR	16 35 05.4	
	comp=Z,63nm,19.1s,baz=204,slow=37						
MKAR	**Makanchi Array**	**75.91**	**322**	P	P	16 31 29.3	0.0
	0.7nm,0.9s,baz=103,slow=6.3,SNR=5.5						

IDC 09 16:21:51.5±1.4, 5°.81S×146°.59E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=42.8km s-min=25.7km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.62**	**171**	P*n*	P*n*	16 22 48.9	+0.1
	2.9nm,0.3s,baz=185,slow=22,SNR=12						
PMG				S*n*	S*n*	16 23 29.8	-2.4
	18nm,0.3s,baz=163,slow=24,SNR=10.0						
WRA	**Warramunga Arr**	**18.42**	**219**	P	P*n*	16 26 06.4	-2.0
	0.1nm,0.3s,baz=43,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**21.55**	**213**	P	P	16 26 43.1	+0.5
	1.1nm,0.8s,baz=34,slow=12,SNR=5.9						
CMAR	**Chiang Mai Arr**	**52.80**	**298**	P	P	16 31 09.2	+0.2
	0.5nm,0.7s,baz=119,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**85.47**	**23**	P	P	16 34 30.9	0.0
	0.5nm,0.7s,baz=256,slow=4.7,SNR=9.2						
TORD	**Torodi Ar. Bea**	**144.65**	**284**	PKP	PKPdf	16 41 30.7	-0.6
	1.6nm,0.9s,baz=71,slow=2.7,SNR=8.1						

IDC 09 16:29:45.8±7.1, 0°.11S×132°.72E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=442.9km s-min=28.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**175**	P	P	16 34 17.6	-0.2
	0.1nm,0.3s,baz=357,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**23.45**	**177**	P	P	16 34 57.1	+0.1
	0.3nm,0.6s,baz=353,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**64.13**	**324**	P	P	16 40 22.1	0.0
	0.3nm,0.6s,baz=122,slow=8.0,SNR=3.8						

DJA ***09*** *16:45:22, 0°.46S×132°.48E, h29km, MLv4.6/6*

IDC 09 16:45:13.9±1.8, 0°.31S×132°.88E, h0km, mb4.2/3, mb1 4.4/5, mb1mx3.9/18, mbtmp4.2/5, ML4.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=77.3km s-min=22.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.06**	**202**	P	P	16 49 37.3	-0.7
	1.2nm,0.3s,baz=30,slow=12,SNR=20						
FITZ				S	S*n*	16 52 58.8	-14
	0.3nm,0.3s,baz=79,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**19.56**	**176**	P	P	16 49 43.7	+0.2
	1.4nm,0.3s,baz=355,slow=12,SNR=60						
WRA				S	S*n*	16 53 15.8	-9.3
	0.2nm,0.3s,baz=360,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**23.23**	**178**	P	P	16 50 23.4	+0.4
	7.1nm,0.6s,baz=4.9,slow=10,SNR=140						
CTA	**Charters Tower**	**23.61**	**147**	LR	LR	17 00 47.5	
	comp=Z,58nm,19.3s,baz=231,slow=40						
STKA	**Stephens Creek**	**32.46**	**166**	P	P	16 51 45.9	-0.2
	5.2nm,0.8s,baz=345,slow=9.2,SNR=7.1						
STKA	**Stephens Creek**	**32.46**	**166**	*e*P	P	16 51 45.8	-0.3
	3.7nm,0.9s						
MKAR	**Makanchi Array**	**64.39**	**324**	P	P	16 55 51.9	0.0
	0.4nm,0.5s,baz=122,slow=7.0,SNR=11						

MEX 09 16:51:44.7±1.0, 17°.17N×95°.03W, h129km±7km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.16**	**118**	*e*P	P*n*	16 52 01.0	-1.4
CMIG				*i* S	S*n*	16 52 13.6	-2.1
OXX	**Oaxaca**	**1.62**	**267**	*i* P	P*n*	16 52 12.3	-2.0
OXX				*i* S	S*n*	16 52 35.0	-2.0
VHO	**Vista Hermosa**	**1.63**	**267**	*e*P	P*n*	16 52 13.6	-0.8
VHO				*i* S	S*n*	16 52 36.0	-1.2
HUIG	**Huatulco**	**1.73**	**217**	*i* P	P*n*	16 52 13.2	-2.3
HUIG				*i* S	S*n*	16 52 37.6	-1.3
TGIG		**1.87**	**102**	*e*P	P*n*	16 52 15.9	-1.2
TGIG				*i* S	S*n*	16 52 39.8	-2.2
PCIG		**2.27**	**130**	*e*P	P*n*	16 52 21.5	-0.5
PCIG				*e*S	S*n*	16 52 48.1	-2.5
TPIG	**Tehuac#an**	**2.54**	**300**	*e*P	P*n*	16 52 24.3	-1.3
TPIG				*i* S	S*n*	16 52 56.2	-0.9
UTMO	**Huajuapan**	**2.72**	**284**	*e*P	P*n*	16 52 26.7	-1.3
UTMO				*i* S	S*n*	16 52 58.7	-2.7
CCIG	**Comitan**	**2.91**	**107**	*i* P	P*n*	16 52 29.8	-0.6
CCIG				*i* S	S*n*	16 53 03.5	-2.1
PNIG	**Pinotepa**	**3.06**	**256**	*i* P	P*n*	16 52 29.2	-3.0
PNIG				*i* S	S*n*	16 53 05.1	-3.7
ACX	**Acapulco**	**4.62**	**267**	*i* P	P*n*	16 52 55.0	+2.2

IDC 09 17:04:36.8±1.9, 5°.79S×129°.40E, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=96.0km s-min=25.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.78**	**196**	P*n*	P*n*	17 07 40.1	+0.2
	1.2nm,0.3s,baz=30,slow=9.9,SNR=32						
FITZ				S*n*	S*n*	17 09 48.7	-14
	0.3nm,0.3s,baz=121,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**14.87**	**162**	P*n*	P*n*	17 08 10.3	+1.8
	0.3nm,0.3s,baz=344,slow=13,SNR=21						
WRA				S*n*	S*n*	17 10 39.7	-14
	0.3nm,0.3s,baz=333,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**18.30**	**167**	P	P*n*	17 08 51.1	-1.2
	1.0nm,0.3s,baz=337,slow=9.6,SNR=133						
ASAR				S	S*n*	17 12 08.9	-8.4
	0.2nm,0.3s,baz=349,slow=24,SNR=5.1						
TAPN	**Taplejung**	**52.04**	**311**	*e*P	P	17 13 49.0	+0.1
RAMN	**Ramite**	**52.66**	**310**	*e*P	P	17 13 53.8	+0.3
	3.6nm,0.4s						
JIRN	**Jiri**	**53.34**	**311**	*e*P	P	17 13 58.5	-0.2
	2.3nm,0.3s						
GUN	**Gumba**	**53.71**	**311**	*e*P	P	17 14 01.0	-0.4
GKN	**Gorkha**	**54.70**	**310**	*e*P	P	17 14 07.7	-0.6
	2.5nm,0.4s						
MKAR	**Makanchi Array**	**66.89**	**327**	P	P	17 15 31.2	+0.3
	0.5nm,0.5s,baz=112,slow=7.7,SNR=13						
KURK	**Kurchatov**	**71.18**	**329**	P	P	17 15 57.0	-0.4
	0.1nm,0.3s,baz=127,slow=4.9,SNR=4.4						

IDC 09 17:12:53.4±2.4, 0°.33S×132°.72E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=97.7km s-min=26.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.98**	**201**	P	P	17 17 16.0	-0.6
	0.1nm,0.3s,baz=7.8,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**19.56**	**175**	P	P	17 17 22.9	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.23**	**177**	P	P	17 18 02.5	+0.1
	0.8nm,0.8s,baz=359,slow=7.7,SNR=16						
MKAR	**Makanchi Array**	**64.31**	**324**	P	P	17 23 31.0	+0.2
	0.2nm,0.5s,baz=108,slow=7.6,SNR=4.6						

IDC 09 17:15:41.3±5.5, 20°.37S×176°.38W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=253.3km s-min=88.6km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.10**	**261**	*e*LR	LR	17 23 03.6	
	346nm,25.6s						
DZM	**Mont Dzumac**	**16.10**	**261**	LR	LR	17 23 10.7	
	comp=Z,64nm,19.7s,baz=93,slow=28						
CTA	**Charters Tower**	**35.01**	**264**	P	P	17 22 37.8	+1.9
	5.7nm,0.8s,baz=89,slow=14,SNR=3.1						
CTA				LR	LR	17 33 17.0	
	comp=Z,79nm,18.2s,baz=231,slow=30						
ASAR	**Alice Springs**	**46.02**	**256**	P	P	17 24 06.0	-0.9
	1.2nm,0.8s,baz=96,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**46.12**	**262**	P	P	17 24 06.7	-1.0
	0.6nm,0.3s,baz=96,slow=7.7,SNR=42						
AKASG	**Malin Array Be**	**143.62**	**332**	PKP	PKPdf	17 35 18.0	-0.1
	1.1nm,0.6s,baz=47,slow=4.3,SNR=4.7						

IDC 09 17:16:16.3±4.8, 30°.08N×67°.72E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/29, mbtmp3.5/5, Error ellipse: s-maj=139.3km s-min=29.4km az=137.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.16**	**30**	P	P	17 20 52.3	+0.1
	0.4nm,0.5s,baz=205,slow=10,SNR=12						
KURK	**Kurchatov**	**22.17**	**19**	P	P	17 21 12.8	-1.0
	1.0nm,0.7s,baz=211,slow=10,SNR=9.8						
BVAR	**Borovoye Array**	**23.01**	**4**	P	P	17 21 22.4	-0.2
	0.5nm,0.6s,baz=176,slow=8.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**26.88**	**23**	P	P	17 21 58.5	-0.1
	1.0nm,0.5s,baz=223,slow=11,SNR=10						
TORD	**Torodi Ar. Bea**	**62.89**	**270**	P	P	17 26 44.6	0.0
	0.5nm,0.7s,baz=59,slow=5.3,SNR=3.9						

IDC 09 17:24:40.2±1.8, 1°.05N×126°.98E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=176.7km s-min=21.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.08**	**161**	P	P	17 29 35.8	-1.2
	0.6nm,0.4s,baz=340,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**25.48**	**165**	P	P	17 30 11.2	+0.9
	0.8nm,0.7s,baz=344,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	17 34 47.9	-0.1
	0.2nm,0.5s,baz=129,slow=7.6,SNR=4.8						
KURK	**Kurchatov**	**64.12**	**328**	P	P	17 35 16.3	0.0
	0.3nm,0.6s,baz=129,slow=6.5,SNR=3.4						

IDC 09 17:33:06.5±7.7, 7°.78S×129°.50E, h57km±59km, mb3.6/1, mb1 3.7/4, mb1mx3.3/16, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=59.1km s-min=52.9km az=163.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.92**	**200**	P	P*n*	17 35 41.5	+1.3
	0.3nm,0.3s,baz=33,slow=2.9,SNR=15						
FITZ				S	S*n*	17 37 42.2	+1.3
	0.5nm,0.3s,baz=76,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**12.96**	**159**	P	P*n*	17 36 07.0	-1.2
	0.4nm,0.3s,baz=341,slow=14,SNR=8.5						
WRA				S	S*n*	17 38 30.3	-0.6
	0.4nm,0.3s,baz=331,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**16.35**	**166**	P	P*n*	17 36 51.8	-0.7
	0.2nm,0.3s,baz=343,slow=9.6,SNR=10						
ASAR				S	S*n*	17 39 55.6	+2.5
	0.1nm,0.3s,baz=343,slow=25,SNR=4.6						
STKA	**Stephens Creek**	**26.49**	**156**	P	P	17 38 38.5	-0.1
	1.8nm,0.9s,baz=329,slow=12,SNR=3.0						

BJI ***09*** *17:43:47.0, 1°.53S×127°.38E, h45km, mB5.1/19, mb4.7/36, Ms4.8/16, Ms7 4.4/15*

ISCJB ***09*** *17:43:49.8±0.7, 1°.03S±0°.04×127°.12E±0°.04, h37km±6km, mb4.7/55, MS3.7/8, Error ellipse: s-maj=7.2km s-min=6.0km az=160.7*

DJA ***09*** *17:43:49, 1°.04S×127°.00E, h11km, mb4.9/11*

IDC ***09*** *17:43:50.2±3.0, 1°.08S×126°.99E, h28km±21km, mb4.1/16, mb1 4.3/18, mb1mx4.2/25, mbtmp4.2/18, ML4.2/2, MS3.5/6, Ms1 3.6/6, ms1mx3.1/34, Error ellipse: s-maj=23.3km s-min=12.1km az=67.0*

NEIC ***09*** *17:43:51.5±1.5, 1°.11S×127°.05E, h41km±15km, mb4.6/20, Error ellipse: s-maj=10.2km s-min=5.4km az=47.0*

ISC 09 17:43:52.6±0.4, 1°.08S±0°.05×127°.01E±0°.06, h44km±3km, n120, σ1°20/141, mb4.7/55, MS3.6/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.66**	**48**	P	P*n*	17 44 00.5	-5.2
TNTI	**Ternate**	**1.88**	**11**	P	**Pn**	**17 44 19.7**	**-2.5**
AAI	**Ambon**	**2.84**	**155**	P	**Pn**	**17 44 34.9**	**-0.6**
MSAI	**Masohi**	**2.96**	**140**	P	**Pn**	**17 44 37.7**	**+0.6**
KMSI	**Cibinong**	**3.44**	**299**	P	**Pn**	**17 44 42.2**	**-1.6**
LUWI	**Luwuk**	**4.23**	**271**	P	**Pn**	**17 44 52.0**	**-2.6**
FAKI	**Fak Fak**	**5.55**	**109**	P	**Pn**	**17 45 13.9**	**+1.2**
	260nm,1.0s,2µm0.7nm						
BKSI	**Bulukumba**	**8.06**	**238**	P	**Pn**	**17 45 48.3**	**+1.2**
	85nm,1.0s,959nm0.3nm						
KAPI	**Kappang**	**8.23**	**242**	P*n*	**Pn**	**17 45 48.7**	**-0.8**
	7.5nm,0.3s,baz=67,slow=5.5,SNR=17						
KAPI	**Kappang**	**8.23**	**242**	*e*P*n*	**Pn**	**17 45 48.4**	**-1.1**
	31nm,0.4s						
KAPI	**Kappang**	**8.23**	**242**	P	P*n*	17 45 58.4	+8.9
MYLDM	**Lahad Datu**	**10.53**	**306**	P	P*n*	17 46 30.1	+9.1
PWJI	**Pagerwojo**	**16.64**	**245**	P	**P**	**17 47 45.3**	**+0.6**
	63nm,1.0s						
KSM	**Kuching**	**16.89**	**279**	P*n*	**Pn**	**17 47 45.7**	**-0.3**
	28nm,1.1s						
FITZ	**Fitzroy Crossi**	**16.96**	**184**	P*n*	**Pn**	**17 47 47.0**	**+0.2**
	0.4nm,0.3s,baz=13,slow=11,SNR=9.2						
FITZ				LR	LR	17 54 46.0	
	comp=Z,123nm,18.1s,baz=12,slow=39						
FITZ	**Fitzroy Crossi**	**16.96**	**184**	*e*P*n*	**Pn**	**17 47 46.9**	**+0.1**
	25nm,1.3s						
BJII	**Banjamegara**	**18.32**	**250**	P	**Pn**	**17 48 05.7**	**+2.0**
	81nm,1.4s						
WRAB	**Tennant Creek**	**20.07**	**159**	*e*P	**P**	**17 48 20.0**	**-2.4**
	35nm,1.1s						
WRA	**Warramunga Arr**	**20.07**	**160**	P	**P**	**17 48 20.1**	**-2.3**
	8.9nm,0.6s,baz=340,slow=11,SNR=74						
WRA	**Warramunga Arr**	**20.07**	**160**	P	**P**	**17 48 20.1**	**-2.3**
WB2	**Warramunga Arr**	**20.07**	**159**	*e*P	**P**	**17 48 19.9**	**-2.5**
LEM	**Lembang**	**20.16**	**253**	P	Pn	17 48 27.7	+1.9
	60nm,1.2s						
COEN	**Coen**	**20.48**	**129**	*e*P	**P**	**17 48 26.7**	**-0.2**
	213nm,0.8s						
COEN	**Coen**	**20.48**	**129**	*e*P	**P**	**17 48 26.2**	**-0.7**
	367nm,0.9s						
CBJI	**Citeko**	**20.79**	**255**	P	Pn	17 48 34.5	+1.4
	191nm,0.9s						
MBWA	**Marble

comp=Z,15nm,1.1s
CD2 Chengdu 38.74 327 P **P** **17 51 14.3 +1.5**
CD2 pP **pP** **17 51 25.6 +0.7**
CD2 sP **sP** **17 51 30.5 +0.4**
CD2 PP PP 17 52 48.3 +6.1
CD2 S **ScP** **17 57 09.4 +0.7**
CD2 sS **sS** **17 57 28.5 +1.2**
CD2 SS SS 17 59 54.0 -5.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.4s
CD2 LR LR
comp=N,470nm,5.4s
CD2 LR LR
comp=Z,310nm,4.9s
XAN Xi'an 38.85 336 P **P** **17 51 13.5 -0.2**
XAN pmax pmax
comp=Z,4.0nm,1.0s
MAJO Matsushiro 38.86 14 P **P** **17 51 11.9 -1.8**
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 38.86 14 P **P** **17 51 12.2 -1.4**
comp=Z,1.5nm,0.8s,baz=188,slow=9.8,SNR=4.7
MJAR LR LR 18 06 40.0
comp=Z,53nm,18.1s,baz=215,slow=35
MJAR Matsushiro Arr 38.86 14 P **P** **17 51 12.2 -1.4**
BJI Beijing 42.11 348 P **P** **17 51 39.9 -0.5**
BJI S **S** **17 58 02.0 +5.1**
BJI pmax pmax
comp=Z,12nm,0.8s
LZH Lanzhou 42.81 332 *eP* **P** **17 51 47.6 +1.1**
LZH pP **pP** **17 51 56.6 -2.0**
LZH sP **sP** **17 52 01.0 -2.8**
LZH *eS* S 17 58 16.0 +8.1
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,140nm,5.1s
LZH LR LR
comp=N,250nm,14.6s
LZH LR LR
comp=E,370nm,15.8s
LZH LR LR
comp=Z,400nm,17.3s
HHC Hu-ho-hao-te 44.04 343 *eP* **P** **17 51 56.0 -0.2**
HHC pP **pP** **17 52 08.4 0.0**
HHC sP **sP** **17 52 13.8 +0.2**
HHC PP **PcP** **17 53 41.8 +0.7**
HHC S **S** **17 58 26.6 +1.1**
HHC sS **sS** **17 58 47.5 +1.6**
HHC SS SS 18 01 38.4 -5.7
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=N,510nm,14.7s
HHC LR LR
comp=E,150nm,14.1s
HHC LR LR
comp=Z,140nm,14.0s
CN2 Changchun 44.71 358 *eP* **P** **17 52 01.3 0.0**
USRK Ussuriysk Arra 45.30 5 P **P** **17 52 05.6 -0.4**
comp=Z,1.1nm,0.6s,baz=185,slow=5.3,SNR=5.0
LSA Lhasa 45.91 315 *eP* **P** **17 52 12.5 +0.8**
comp=Z,2.9nm,0.6s
TAPN Taplejung 47.19 310 *eP* **P** **17 52 21.7 +0.2**
TAPN Taplejung 47.19 310 *eP* **P** **17 52 21.7 +0.2**
ODAN Odare 47.19 309 *eP* **P** **17 52 21.5 0.0**
ODAN Odare 47.19 309 *eP* **P** **17 52 21.5 0.0**
GTA Gaotai 47.38 331 *eP* **P** **17 52 23.6 +0.9**
GTA pmax pmax
comp=Z,6.0nm,1.2s
RAMN Ramite 47.85 309 *eP* **P** **17 52 27.4 +0.8**
RAMN Ramite 47.85 309 *eP* **P** **17 52 27.4 +0.8**
JIRN Jiri 48.51 309 *eP* **P** **17 52 32.5 +0.6**
comp=Z,23nm,0.7s
JIRN Jiri 48.51 309 *eP* **P** **17 52 32.5 +0.6**
comp=Z,23nm,0.7s
GUN Gumba 48.87 309 *eP* **P** **17 52 34.3 -0.3**
comp=Z,39nm,0.7s
GUN Gumba 48.87 309 *eP* **P** **17 52 34.3 -0.3**
comp=Z,39nm,0.7s
PKI Pulchoki 49.07 309 *eP* **P** **17 52 36.1 0.0**
PKI Pulchoki 49.07 309 *eP* **P** **17 52 36.1 0.0**
KKN Kakani 49.28 309 *eP* **P** **17 52 38.0 +0.4**
comp=Z,26nm,0.9s
KKN Kakani 49.28 309 *eP* **P** **17 52 38.0 +0.4**
comp=Z,26nm,0.9s
DMN Daman 49.33 309 *eP* **P** **17 52 38.6 +0.6**
comp=Z,50nm,1.1s
DMN Daman 49.33 309 *eP* **P** **17 52 38.6 +0.6**
comp=Z,50nm,1.1s
GKN Gorkha 49.88 309 *eP* **P** **17 52 42.5 +0.4**
GKN Gorkha 49.88 309 *eP* **P** **17 52 42.5 +0.4**
KOLN Koldanda 50.59 308 *eP* **P** **17 52 48.2 +0.7**
comp=Z,53nm,0.7s
KOLN Koldanda 50.59 308 *eP* **P** **17 52 48.2 +0.7**
comp=Z,53nm,0.7s
DANN Dangsing 50.73 309 *eP* **P** **17 52 49.3 +0.7**
comp=Z,87nm,0.7s
DANN Dangsing 50.73 309 *eP* **P** **17 52 49.3 +0.7**
comp=Z,87nm,0.7s
ULN Ulaanbaatar 51.76 343 *eP* **P** **17 52 55.9 0.0**
comp=Z,8.1nm,1.0s
SONM Songino Array 51.93 342 P **P** **17 52 56.9 -0.2**
comp=Z,4.9nm,0.9s,baz=158,slow=8.5,SNR=18
SONM ScP **ScP** **17 58 04.1 +1.3**
comp=Z,0.7nm,0.8s,baz=143,slow=3.0,SNR=5.1
SONM LR LR 18 19 45.1
comp=Z,49nm,18.3s,baz=101,slow=42
SONM Songino Array 51.93 342 P **P** **17 52 56.9 -0.2**
SONM ScP **ScP** **17 58 04.1 +1.3**
WMQ Urumqi 56.84 327 P **P** **17 53 33.1 +0.3**
WMQ pP **pP** **17 53 45.1 -0.3**
WMQ sP **sP** **17 53 50.1 -0.4**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=N,66nm,25.0s
WMQ LR LR
comp=E,11nm,26.7s
WMQ LR LR
comp=Z,41nm,25.0s
PETK Petropavlovsk- 59.78 21 P **P** **17 53 52.4 -0.6**
comp=Z,1.7nm,0.6s,baz=32,slow=8.7,SNR=5.3
PETK Petropavlovsk- 59.78 21 P **P** **17 53 52.4 -0.6**
MK31 Makanchi Array 61.67 327 *eP* **P** **17 54 05.4 -0.8**
MKAR Makanchi Array 61.67 327 P **P** **17 54 05.9 -0.3**
comp=Z,2.4nm,0.4s,baz=118,slow=7.9,SNR=36
MKAR ScP **ScP** **17 58 46.6 +1.1**
comp=Z,0.2nm,0.6s,baz=127,slow=4.5,SNR=3.5
MKAR Makanchi Array 61.67 327 P **P** **17 54 05.9 -0.3**
MKAR ScP **ScP** **17 58 46.6 +1.1**
KSH Kashi 61.68 317 *eP* **P** **17 54 07.6 +1.2**
KSH *ePP* **pP** **17 54 19.6 +0.5**
KSH *eSP* **sP** **17 54 25.6 +1.4**
KSH *ePcP* **PcP** **17 54 47.6 +0.1**
KSH *ePP* **PP** **17 56 25.6 +3.0**
KSH ScP **ScP** **17 58 44.7 -1.2**
KSH *ePcS* **PcS** **17 58 49.6 -1.0**
KSH *eSS* **S** **18 02 24.5 -1.6**
KSH *eSS* **SS** **18 06 29.5 +1.2**
KSH pmax pmax
comp=Z,3.0nm,1.1s
KSH LR LR
comp=N,100nm,5.2s
KSH LR LR
comp=E,84nm,4.3s
KSH LR LR
comp=Z,120nm,6.4s
YAK Yakutsk 62.98 1 P **P** **17 54 13.6 -0.8**
comp=Z,18nm,0.9s
TKM2 Tokmak 2 63.55 320 *eP* **P** **17 54 19.0 0.0**
comp=Z,8.9nm,1.2s
AAK Ala-Archa 64.13 319 *eP* **P** **17 54 23.2 +0.5**
comp=Z,43nm,1.3s
EKS2 Erkin-Say 64.61 319 *eP* **P** **17 54 27.3 +1.5**
comp=Z,11nm,1.2s
KBL Kabul 64.71 309 *eP* **P** **17 54 26.0 -0.7**
comp=Z,6.2nm,0.8s
ZAA0 Zalesovo Array 64.99 334 *eP* **P** **17 54 26.3 -1.6**
ZALV Zalesovo Beam 64.99 334 P **P** **17 54 26.4 -1.5**
comp=Z,0.5nm,0.4s,baz=115,slow=5.6,SNR=8.8
ZALV Zalesovo Beam 64.99 334 P **P** **17 54 26.4 -1.5**
KURK Kurchatov 65.94 329 P **P** **17 54 33.5 -0.7**
comp=Z,2.8nm,0.6s,baz=127,slow=5.9,SNR=20
KURK Kurchatov 65.94 329 *eP* **P** **17 54 32.9 -1.2**
comp=Z,7.5nm,0.8s
BVAR Borovoye Array 71.50 328 P **P** **17 55 08.0 -0.7**
comp=Z,0.7nm,0.4s,baz=96,slow=7.4,SNR=8.3
BVAR Borovoye Array 71.50 328 P **P** **17 55 08.0 -0.7**
BRVK Borovoye 71.57 328 *eP* **P** **17 55 07.7 -1.4**
comp=Z,6.5nm,1.1s
ABKAR Akbulak array 76.05 322 *eP* **P** **17 55 33.6 -1.8**
comp=Z,2.3nm,0.8s
AKTO Aktyubinsk 77.60 322 P **P** **17 55 43.6 -0.5**
comp=Z,2.8nm,0.8s,baz=105,slow=5.7,SNR=12
AKTO Aktyubinsk 77.60 322 P **P** **17 55 43.6 -0.5**
VNDA Vanda 78.65 173 P P 17 55 41.7 -7.7
TORD Torodi Ar. Bea 124.56 285 PKP **PKPdf** **18 02 47.9 -0.3**
comp=Z,0.7nm,0.9s,baz=75,slow=1.6,SNR=3.2
TORD Torodi Ar. Bea 124.56 285 PKP **PKPdf** **18 02 47.9 -0.3**

IDC 09 17:50:12.5±1.9, 0.54S×133.35E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=118.9km s-min=19.4km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.31**	**177**	P		P	17 54 39.2	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=9.5							
ASAR	**Alice Springs**	**23.00**	**179**	P		P	17 55 19.2	+0.1
	3.3nm,0.8s,baz=356,slow=11,SNR=21							
STKA	**Stephens Creek**	**32.13**	**167**	P		P	17 56 41.7	0.0
	3.7nm,0.9s,baz=339,slow=8.0,SNR=4.4							
MKAR	**Makanchi Array**	**64.85**	**324**	P		P	18 00 53.5	+0.1
	0.4nm,0.7s,baz=114,slow=5.0,SNR=5.0							
KURK	**Kurchatov**	**68.91**	**326**	P		P	18 01 19.5	+0.3
	0.5nm,0.3s,baz=126,slow=5.5,SNR=4.2							
BVAR	**Borovoye Array**	**74.50**	**326**	P		P	18 01 52.4	-0.5
	0.3nm,0.6s,baz=127,slow=9.6,SNR=4.6							

*ISCJB **09** 17:56:10.3±0.6, 85.29N±0.06×1.4E±, h10km, mb3.6/10, MS3.1/10, Error ellipse: s-maj=12.6km s-min=8.0km az=161.5*
*IDC **09** 17:56:10.8±0.8, 85.37N×14.18E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/29, mbtmp3.7/11, ML3.2/2, MS3.2/12, Ms1 3.2/12, ms1mx3.0/50, Error ellipse: s-maj=27.0km s-min=14.6km az=65.0*
*NEIC **09** 17:56:11.8±0.5, 85.33N×14.79E, h10km, mb4.1/4, Error ellipse: s-maj=12.5km s-min=8.1km az=72.0*
ISC 09 17:56:12.1±0.6, 85.23N±0.07×13.1E±0.1, h10km, n38, σ1§12/32, mb3.6/10, MS3.2/10, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**6.35**	**182**	Pn		**Pn**	**17 57 47.3**	**+1.8**
	26nm,0.8s							
SPB4	**Spitsbergen Ar**	**7.11**	**175**	*eP*		**Pn**	**17 57 57.1**	**+1.2**
SPITS	**Spitsbergen Ar**	**7.11**	**175**	Pn		**Pn**	**17 57 55.7**	**-0.2**
	baz=36,slow=10,SNR=40							
SPITS				Sn		**Sn**	**17 59 14.7**	**-2.0**
	baz=356,slow=26,SNR=2.1							
SPITS	**Spitsbergen Ar**	**7.11**	**175**	Pn		**Pn**	**17 57 55.7**	**-0.2**
SPITS				Sn		**Sn**	**17 59 14.7**	**-2.0**
DAG	**Danmarks Havn**	**9.57**	**227**	*i* P		Pn	17 58 33.5	+3.9
	33nm,0.8s							
SUMG	**Summit**	**15.02**	**246**	*eP*		**Pn**	**17 59 44.9**	**+0.6**
	10nm,0.9s							
SUMG	**Summit**	**15.02**	**246**	*i* P		**Pn**	**17 59 44.9**	**+0.6**
	7.4nm,0.9s							
ARCES	**ARCESS Array B**	**15.94**	**164**	Pn		**Pn**	**17 59 55.6**	**-0.3**
	0.1nm,0.3s,baz=359,slow=11,SNR=9.8							
ARCES				Sn		Sn	18 02 44.6	-7.7
	0.1nm,0.3s,baz=358,slow=23,SNR=2.3							
ARCES				LR		LR	18 05 25.5	
	comp=Z,68nm,21.4s,baz=336,slow=35							
ARCES	**ARCESS Array B**	**15.94**	**164**	Pn		**Pn**	**17 59 55.6**	**-0.3**
ARCES				Sn		Sn	18 02 44.6	-7.7
RES	**Resolute Bay**	**17.49**	**303**	LR		LR	18 07 08.3	
	comp=Z,132nm,18.9s,baz=299,slow=38							
RES	**Resolute Bay**	**17.49**	**303**	*e*Pn		**P**	**18 00 17.1**	**+0.5**
	3.7nm,0.5s							
SFJD	**Kangerlussuaq**	**21.43**	**255**	P		**P**	**18 00 56.8**	**-2.9**
	16nm,1.1s							
FINES	**FINESS Array B**	**24.06**	**165**	LR		LR	18 10 03.4	
	comp=Z,42nm,22.0s,baz=136,slow=34							
NOA	**NORSAR Array B**	**24.33**	**182**	P		**P**	**18 01 31.1**	**+1.7**
	1.3nm,0.9s,baz=336,slow=9.1,SNR=2.9							
NOA				LR		LR	18 10 44.3	
	comp=Z,22nm,21.9s,baz=20,slow=36							
NOA	**NORSAR Array B**	**24.33**	**182**	P		**P**	**18 01 31.1**	**+1.7**
HFS	**Hagfors**	**25.23**	**179**	LR		LR	18 10 26.0	
	comp=Z,78nm,21.1s,baz=257,slow=34							
INK	**Inuvik**	**25.96**	**332**	P		**P**	**18 01 44.0**	**-0.1**
	1.7nm,0.7s,baz=13,slow=13,SNR=5.4							
INK	**Inuvik**	**25.96**	**332**	*eP*		**P**	**18 01 43.3**	**-0.8**
	2.9nm,1.0s							
FRB	**Frobisher Bay**	**26.12**	**271**	LR		LR	18 11 17.1	
	comp=Z,61nm,20.1s,baz=275,slow=35							
ILAR	**Eielson Array**	**29.93**	**343**	P		**P**	**18 02 19.4**	**-0.2**
	0.8nm,0.9s,baz=6.4,slow=5.4,SNR=4.9							
ILAR				LR		LR	18 13 50.1	
	comp=Z,20nm,19.3s,baz=56,slow=36							
ILAR	**Eielson Array**	**29.93**	**343**	P		**P**	**18 02 19.4**	**-0.2**
YAK	**Yakutsk**	**30.55**	**56**	P		P	18 02 20.8	-4.2
YKA	**Yellowknife Ar**	**30.82**	**314**	P		**P**	**18 02 27.9**	**+0.5**
	0.1nm,0.3s,baz=12,slow=11,SNR=4.7							
YKA				PcP		**PcP**	**18 05 23.2**	**-0.7**
	0.3nm,0.7s,baz=352,slow=2.8,SNR=5.0							
YKA				LR		LR	18 15 18.6	
	comp=Z,5.1nm,18.8s,baz=185,slow=37							
YKA	**Yellowknife Ar**	**30.82**	**314**	P		**P**	**18 02 27.9**	**+0.5**
YKA				PcP		**PcP**	**18 05 23.2**	**-0.7**
BVAR	**Borovoye Array**	**34.77**	**117**	LR		LR	18 21 17.3	
	comp=Z,47nm,18.5s,baz=60,slow=43							
ZALV	**Zalesovo Beam**	**34.98**	**102**	LR		LR	18 20 45.8	
	comp=Z,39nm,18.5s,baz=24,slow=42							
KURK	**Kurchatov**	**37.69**	**109**	P		**P**	**18 03 27.4**	**+0.4**
	0.4nm,0.3s,baz=350,slow=8.5,SNR=4.3							
KURK	**Kurchatov**	**37.69**	**109**	P		**P**	**18 03 27.4**	**+0.4**
SONM	**Songino Array**	**42.85**	**82**	P		**P**	**18 04 09.2**	**-0.7**
	0.1nm,0.4s,baz=339,slow=3.7,SNR=3.6							
SONM	**Songino Array**	**42.85**	**82**	P		**P**	**18 04 09.2**	**-0.7**
PDAR	**Pinedale Array**	**50.14**	**306**	P		**P**	**18 05 06.7**	**-0.6**
	0.2nm,0.3s,baz=169,slow=3.0,SNR=3.8							
PDAR	**Pinedale Array**	**50.14**	**306**	P		**P**	**18 05 06.7**	**-0.6**
MJAR	**Matsushiro Arr**	**56.49**	**52**	LR		LR	18 27 34.0	
	comp=Z,56nm,19.6s,baz=2,slow=33							
TXAR	**Lajitas Array**	**63.08**	**299**	P		**P**	**18 06 39.4**	**+0.1**
	0.8nm,0.8s,baz=336,slow=2.7,SNR=3.7							
TXAR	**Lajitas Array**	**63.08**	**299**	P		**P**	**18 06 39.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.23**	**192**	P		**P**	**18 07 38.5**	**+1.5**
	2.0nm,1.1s,baz=355,slow=7.5,SNR=6.2							
TORD	**Torodi Ar. Bea**	**72.23**	**192**	P		**P**	**18 07 38.5**	**+1.5**
ROSC	**El Rosal**	**84.98**	**268**	LR		LR	18 43 35.9	
	comp=Z,122nm,20.4s,baz=49,slow=33							

*ISCJB **09** 18:03:37.8±0.7, 67.12N±0.03×20.7E±0.1, h0km, Error ellipse: s-maj=8.3km s-min=4.6km az=4.1*
*HEL **09** 18:03:40.8±0.2, 67.13N×20.96E, h0km, ML2.2, Suspected explosion*
*IDC **09** 18:03:40.6±0.9, 67.04N×21.44E, h0km, mb1 2.9/4, mb1mx2.8/26, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=19.3km s-min=8.7km az=112.0*
ISC 09 18:03:39.2±1.2, 67.09N±0.04×21.00E±0.08, h0km, n14, σ1§21/16, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LANU	**Lannavaara**	**1.04**	**21**	*eP*		**Pg**	**18 03 58.6**	**-0.5**
LANU				*eS*		**Sg**	**18 04 11.9**	**-0.6**
HEF	**Hetta**	**1.67**	**36**	*eP*		**Pn**	**18 04 09.7**	**0.0**
HEF				*eS*		**Sn**	**18 04 31.4**	**-0.4**
KIF	**Kilpisjarvi**	**1.93**	**358**	*eP*		**Pb**	**18 04 14.7**	**-0.5**
KIF				*e*SG		**Sg**	**18 04 40.3**	**-0.8**
RNF	**Rovaniemi**	**2.04**	**101**	*eP*		**Pb**	**18 04 16.1**	**-1.0**
RNF				*eS*		**Sb**	**18 04 43.0**	**0.0**
OUL	**Oulu**	**2.83**	**133**	*eP*		**Pn**	**18 04 27.9**	**+2.3**
OUL				*eS*		**Sn**	**18 05 02.1**	**+1.8**
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn		**Pn**	**18 04 28.2**	**+0.6**
	0.7nm,0.3s,baz=208,slow=14,SNR=89							
ARCES				Sn		**Sn**	**18 05 05.0**	**+1.0**
	0.8nm,0.3s,baz=207,slow=24,SNR=8.3							
VAF	**Ylistaro**	**4.12**	**169**	MSG			18 05 54.6	
	comp=Z,1.9nm,0.2s							
SUF	**Sumiainen**	**4.90**	**151**	MSN			18 05 58.7	
	comp=Z,1.3nm,0.2s							
KAF	**Kangasniemi**	**5.49**	**153**	MSN			18 06 09.8	
	comp=Z,0.9nm,0.2s							
JOF	**Joensuu**	**6.05**	**129**	MSN			18 06 24.2	
	comp=Z,0.7nm,0.2s							
FIA0	**FINESS Array S**	**6.08**	**156**	MSN			18 06 23.2	
	comp=Z,0.7nm,0.2s							
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**18 05 11.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=14,SNR=5.3							
FINES				Sn		**Sn**	**18 06 18.3**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=358,slow=19,SNR=5.1							
NOA	**NORSAR Array B**	**7.42**	**220**	Pn		**Pn**	**18 05 29.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=10,SNR=3.0							
HFS	**Hagfors**	**7.70**	**208**	Pn		**Pn**	**18 05 32.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=13							

*ISCJB **09** 18:07:12.2±0.5, 35.06N±0.04×140.28E±0.04, h33km±5km, mb3.6/5, Error ellipse: s-maj=8.0km s-min=5.1km az=34.2*
*JMA **09** 18:07:12.9±0.1, 35.12N×140.28E, h17km±1km, M3.0*
JMA Felt I J1.
*IDC **09** 18:07:13.1±2.7, 34.66N×139.01E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=108.2km s-min=19.7km az=71.0*
ISC 09 18:07:11.6±1.0, 35.01N±0.04×140.22E±0.03, h14km±7km, n17, σ1§50/26, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO4	**Boso 4**	**0.10**	**103**	P		Pg	18 07 16.9	+2.3
BSO4				*eS*		Sg	18 07 21.2	+4.6
KTR	**Katsuura**	**0.16**	**29**	P		**Pg**	**18 07 15.6**	**+0.1**
KTR				S		**Sg**	**18 07 18.5**	**+0.4**
TATJ	**Tateyama 2**	**0.27**	**274**	P		**Pn**	**18 07 20.6**	**-0.6**
TATJ				S		**Sb**	**18 07 27.9**	**+5.1**
BSO3	**Boso 3**	**0.32**	**131**	P		**Pn**	**18 07 20.9**	**-0.7**
BSO3				*eS*		**Sb**	**18 07 26.9**	**+3.1**
JCN	**Nagara**	**0.41**	**358**	P		**Pg**	**18 07 20.3**	**+0.5**
JCN				*eS*		**Sb**	**18 07 27.1**	**+0.4**
JIM2	**Oshima 3**	**0.71**	**246**	P		**Pn**	**18 07 26.8**	**-0.5**
JIM2				*eS*		**Sb**	**18 07 36.6**	**+1.1**
BSO1	**Boso 1**	**0.72**	**120**	P		**Pn**	**18 07 25.8**	**-1.0**
BSO1				*eS*		**Sn**	**18 07 37.2**	**-0.2**
KTJJ	**Kamata 2**	**0.95**	**265**	P		**Pg**	**18 07 29.4**	**-0.7**
KTJJ				*eS*		**Sg**	**18 07 42.1**	**-0.5**
JOD2	**Odawara 2**	**0.96**	**285**	P		**Pg**	**18 07 29.3**	**-0.9**
JOD2				*eS*		**Sg**	**18 07 43.2**	**+0.4**
JHU	**Hanno**	**1.14**	**318**	P		**Pb**	**18 07 31.7**	**-1.4**
MJAR	**Matsushiro Arr**	**2.24**	**314**	Pn		**Pn**	**18 07 47.4**	**-0.9**
	3.8nm,0.3s,baz=207,slow=11,SNR=46							
MJAR				Sn		**Sn**	**18 08 17.3**	**+1.5**
	3.9nm,0.3s,baz=268,slow=39,SNR=4.7							
MAT	**Matsushiro**	**2.24**	**314**	P		**Pn**	**18 07 47.8**	**-0.5**
MAT				S		**Sn**	**18 08 16.6**	**+0.8**
ZALV	**Zalesovo Beam**	**42.59**	**314**	P		**P**	**18 15 06.2**	**-0.8**
	0.5nm,0.6s,baz=82,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**44.40**	**304**	P		**P**	**18 15 20.9**	**-0.9**
	0.5nm,0.7s,baz=92,slow=9.4,SNR=7.2							
KURK	**Kurchatov**	**46.44**	**309**	P		**P**	**18 15 37.3**	**-0.5**
	1.4nm,0.8s,baz=86,slow=7.6,SNR=13							
WRA	**Warramunga Arr**	**54.94**	**187**	P		**P**	**18 16 41.9**	**-0.2**
	0.6nm,0.6s,baz=1.9,slow=7.7,SNR=7.9							
ASAR	**Alice Springs**	**58.66**	**187**	P		**P**	**18 17 09.4**	**+0.9**
	0.2nm,0.8s,baz=359,slow=5.8,SNR=2.6							

IDC 09 18:08:15.6±2.6, 0.76S×132.79E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=134.4km s-min=25.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.12**	**176**	P		P	18 12 40.0	-0.4
	0.1nm,0.3s,baz=355,slow=12,SNR=7.2							
ASAR	**Alice Springs**	**22.79**	**177**	P		P	18 13 20.6	+0.4
	0.9nm,0.6s,baz=358,slow=12,SNR=14							
MKAR	**Makanchi Array**	**64.70**	**324**	P		P	18 18 55.5	-0.1
	0.1nm,0.6s,baz=134,slow=6.2,SNR=2.1							

*BJI **09** 18:14:21.1, 23.23S×179.68W, h515km, mB4.8/10, mb4.5/18*
*ISCJB **09** 18:14:21.3±0.7, 23.67S±0.04×180.00E±0.05, h514km±8km, mb4.6/69, Error ellipse: s-maj=7.0km s-min=5.1km az=35.6*
*IDC **09** 18:14:22.9±0.6, 23.52S×179.99W, h526km±6km, mb4.1/19, mb1 4.3/19, mb1mx4.2/20, mbtmp4.1/19, Error ellipse: s-maj=12.1km s-min=9.3km az=159.0*
*NEIC **09** 18:14:22.1±0.2, 23.60S×179.90W, mb4.8/40, Error ellipse: s-maj=8.1km s-min=5.5km az=134.0*
*MOS **09** 18:14:23.1±1.2, 23.51S×179.89W, h512km, mb4.8/18, Error ellipse: s-maj=11.8km s-min=9.3km az=67.4*
*BGS **09** 18:14:26.4±4.2, 23.60S×179.90W, h521km, mb4.8(NEIC)*
ISC 09 18:14:22.3±0.3, 23.67S±0.05×179.89W±0.05, h522km±2km, h522km†pP-P, n570, σ1§09/645, mb4.7/68, 149C-147D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**5.84**	**163**	*eP*		**P**	**18 15 58.6**	**+0.6**
RAO				*e*			18 17 10.2	
RAO	**Raoul Island**	**5.84**	**163**	*e*Pn		**P**	**18 15 58.6**	**+0.6**
RAO				*e*Sn		S	18 17 10.2	-6.1
MSVF	**Nonsavu**	**6.21**	**342**	*eP*		**P**	**18 16 01.1**	**-0.7**
MSVF				pmax	pmax			
	comp=Z,129nm,0.9s							
MSVF	**Nonsavu**	**6.21**	**342**	*eP*		**P**	**18 16 01.1**	**-0.7**
	comp=Z,129nm,0.9s							
AFI	**Afiamalu**	**12.37**	**40**	P		P	18 17 00.6	-4.3
	comp=Z,2.9nm,0.3s,baz=180,slow=2.0,SNR=4.6							
AFI				S		S	18 19 08.4	-10
	comp=Z,2.4nm,0.3s,baz=30,slow=20,SNR=6.0							
AFI	**Afiamalu**	**12.37**	**40**	P		P	18 17 00.6	-4.3
AFI				S		S	18 19 08.4	-10
AFI	**Afiamalu**	**12.37**	**40**	P		P	18 17 00.6	-4.3
AFI				S		S	18 19 08.4	-10
DZM	**Mont Dzumac**	**12.70**	**274**	*e*LR		LR	18 19 30.9	
	comp=Z,169nm,22.9s							
DZM	**Mont Dzumac**	**12.70**	**274**	P		**P**	**18 17 10.5**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=112,slow=18,SNR=5.2							
DZM	**Mont Dzumac**	**12.70**	**274**	P		**P**	**18 17 10.5**	**+2.2**
PUZ	**Puketiti**	**14.45**	**186**	PN		**P**	**18 17 25.8**	**-0.5**
PUZ				SN		**S**	**18 19 55.2**	**-2.8**
URZ	**Urewera**	**14.77**	**189**	*eP*		**P**	**18 17 27.3**	**-2.4**
	comp=Z,29nm,0.7s							
URZ				*eS*		S	18 19 54.2	-10
URZ	**Urewera**	**14.77**	**189**	PN		**P**	**18 17 26.8**	**-2.8**
FUNA	**Funafuti**	**15.08**	**357**	P		**P**	**18 17 32.0**	**-1.2**
BKZ	**Black Stump Fm**	**15.76**	**190**	PN		**P**	**18 17 36.2**	**-3.8**
BKZ				SN		**S**	**18 20 16.6**	**-5.8**
PXZ	**Pawanui**	**16.55**	**189**	SN		S	18 20 27.6	-8.4
BFZ	**Birch Farm**	**17.27**	**190**	SN		**S**	**18 20 46.1**	**-2.1**
MRZ	**Mangatainoka R**	**17.37**	**192**	PN		**P**	**18 17 52.3**	**-3.3**
OGWZ	**Otaki Gorge**	**17.60**	**192**	PN		**P**	**18 17 55.2**	**-2.5**
SNZO	**South Karori**	**18.17**	**193**	*eP*		**P**	**18 18 02.0**	**-0.8**
TCW	**Tory Channel**	**18.17**	**194**	PN		**P**	**18 18 01.9**	**-1.0**
QRZ	**Quartz Range**	**18.26**	**199**	PN		**P**	**18 18 04.7**	**+0.9**
NNZ	**Nelson**	**18.39**	**196**	PN		**P**	**18 18 03.8**	**-1.1**
KHZ	**Kahutara**	**19.48**	**195**

TAU Tasmania Unive 33.17 227 *e*P **P** 18 20 16.7 +1.4
TAU pmax pmax
comp=Z,47nm,1.3s
TAU Tasmania Unive 33.17 227 *e*P **P** 18 20 16.7 +1.4
comp=Z,47nm,1.3s
PMG Port Moresby 34.51 289 P **P** 18 20 27.3 +0.3
comp=Z,90nm,0.8s,baz=112,slow=5.9,SNR=19
PMG Port Moresby 34.51 289 *e*P **P** 18 20 26.8 -0.2
PMG pmax pmax
comp=Z,104nm,0.9s
PMG Port Moresby 34.51 289 *e*P **P** 18 20 26.8 -0.2
comp=Z,104nm,0.9s
STKA Stephens Creek 34.90 248 P **P** 18 20 30.6 +0.5
comp=Z,4.5nm,0.5s,baz=88,slow=11,SNR=19
STKA Stephens Creek 34.90 248 *e*P **P** 18 20 31.0 +0.9
comp=Z,2.8nm,0.4s
STKA Stephens Creek 34.90 248 P **P** 18 20 30.6 +0.5
STKA Stephens Creek 34.90 248 P **P** 18 20 30.6 +0.5
ASAR Alice Springs 42.17 260 P **P** 18 21 29.0 -0.2
comp=Z,22nm,0.6s,baz=81,slow=7.4,SNR=122
ASAR pP **pP** 18 23 04.0 +0.5
comp=Z,5.7nm,1.1s,baz=96,slow=7.9,SNR=2.2
ASAR ScP **ScP** 18 26 14.8 +2.4
comp=Z,13nm,0.9s,baz=108,slow=3.9,SNR=19
ASAR S **S** 18 27 09.0 -2.5
comp=Z,2.5nm,0.9s,baz=93,slow=19,SNR=4.2
ASAR Alice Springs 42.17 260 P **P** 18 21 29.0 -0.2
ASAR *"*P **pP** 18 23 04.0 +0.5
ASAR S **S** 18 27 09.0 -2.5
ASAR Alice Springs 42.17 260 P **P** 18 21 29.0 -0.2
ASAR pP **pP** 18 23 04.0 +0.5
ASAR ScP **ScP** 18 26 14.8 +2.4
ASAR S **S** 18 27 09.0 -2.5
WB2 Warramunga Arr 42.51 266 *e*Pn **P** 18 21 31.4 -0.5
WRAB Tennant Creek 42.52 266⇓*i*P **P** 18 21 31.4 -0.6
WRAB pmax pmax
comp=Z,37nm,0.8s
WRAB Tennant Creek 42.52 266⇓*i*P **P** 18 21 31.4 -0.6
comp=Z,37nm,0.8s
WRA Warramunga Arr 42.52 266 P **P** 18 21 31.6 -0.4
comp=Z,22nm,0.3s,baz=93,slow=8.5,SNR=94
WRA ScP **ScP** 18 26 15.3 +1.5
comp=Z,7.8nm,0.9s,baz=99,slow=4.1,SNR=8.3
WRA S **S** 18 27 13.0 -3.6
comp=Z,3.0nm,0.7s,baz=98,slow=14,SNR=6.9
WRA Warramunga Arr 42.52 266 P **P** 18 21 31.6 -0.4
WRA S **S** 18 27 13.0 -3.6
WRA Warramunga Arr 42.52 266 P **P** 18 21 31.6 -0.4
WRA ScP **ScP** 18 26 15.3 +1.5
WRA S **S** 18 27 13.0 -3.6
FORT Forrest 46.49 249 *e*P **P** 18 22 02.1 -0.3
comp=Z,26nm,0.5s
GUMO Guam 50.58 313 P **P** 18 22 32.7 -0.3
comp=Z,94nm,0.9s,baz=212,slow=18,SNR=4.1
GUMO Guam 50.58 313 P **P** 18 22 32.7 -0.3
GUMO Guam 50.58 313 P **P** 18 22 32.7 -0.3
SBA Scott Base 54.62 183 *e*P **P** 18 23 03.2 +2.3
SBA *e* 18 23 57.3
SBA pmax pmax
comp=Z,20nm,1.1s
SBA Scott Base 54.62 183 *e*P **P** 18 23 03.2 +2.3
comp=Z,20nm,1.1s
SBA *e*PcP **PcP** 18 23 57.3 +1.4
VNDA Vanda 54.62 185 *e*P **P** 18 23 03.0 +2.0
VNDA *e* 18 23 56.6
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 54.62 185 *e*P **P** 18 23 03.0 +2.0
comp=Z,1.6nm,0.6s
VNDA *e*PcP **PcP** 18 23 56.5 +0.6
KLBR Kellerberrin 55.17 247 *e*P **P** 18 23 05.5 -0.2
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 55.42 245 P **P** 18 23 07.3 -0.1
NWAO Narrogin (SRO) 55.42 245 P **P** 18 23 07.3 -0.1
MBWA Marble Bar 55.51 260 *e*P **P** 18 23 07.8 -0.4
MBWA *e*pP **pP** 18 24 49.5 -0.6
CASY Casey 60.36 206 *e*P **P** 18 23 40.2 -0.1
comp=Z,21nm,0.9s
QSPA South Pole Qui 66.42 180 P **P** 18 24 20.8 +1.5
comp=Z,36nm,1.0s,baz=25,slow=1.3,SNR=89
QSPA South Pole Qui 66.42 180⇑*i*P **P** 18 24 20.5 +1.2
comp=Z,29nm,0.8s
QSPA *e*pP **pP** 18 26 09.8 +3.5
KKM Kota Kinabalu 68.93 287 *e*P **P** 18 24 35.1 -0.4
comp=Z,82nm,1.3s
MJAR Matsushiro Arr 71.76 326 P **P** 18 24 50.1 -1.6
comp=Z,1.3nm,0.7s,baz=157,slow=5.3,SNR=5.3
MJAR Matsushiro Arr 71.76 326 P **P** 18 24 50.1 -1.6
MJAR Matsushiro Arr 71.76 326 P **P** 18 24 50.1 -1.6
MAJO Matsushiro 71.76 326 *e*P **PcP** 18 25 05.0 -2.0
MAJO Matsushiro 71.76 326 *e*P **PcP** 18 25 05.0 -2.0
KSM Kuching 72.17 280 P **P** 18 24 53.8 -0.7
YUK Yuzh-Kuril'sk 74.33 335*d*i P 18 24 55.5 -11
YUK pmax pmax
comp=N,37nm,0.1s
YUK pmax pmax
comp=E,44nm,0.3s
YUK pmax pmax
comp=Z,256nm,0.3s
MAW Mawson 78.00 200 P **P** 18 25 27.3 +1.1
comp=Z,12nm,0.8s,baz=119,slow=6.2,SNR=15
MAW Mawson 78.00 200 *e*P **P** 18 25 26.9 +0.7
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 78.00 200 *e*P **P** 18 25 26.9 +0.7
comp=Z,4.5nm,1.1s
PETK Petropavlovsk- 78.90 346 P **P** 18 25 30.3 -0.8
comp=Z,3.0nm,0.6s,baz=150,slow=6.8,SNR=6.8
PETK Petropavlovsk- 78.90 346 P **P** 18 25 30.3 -0.8
PETK Petropavlovsk- 78.90 346 P **P** 18 25 30.3 -0.8
NJ2 Nanjing 80.58 311 *e*P **P** 18 25 40.9 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 80.62 327 P **P** 18 25 41.6 +1.4
comp=Z,1.5nm,0.7s,baz=151,slow=3.4,SNR=5.0
BSC Santa Cruz Isl 81.04 47⇓P **P** 18 25 43.9 +1.2
baz=81
SCI San Clemente I 81.18 48⇓P **P** 18 25 44.5 +1.0
baz=81
CIS Catalina Islan 81.53 48⇑P **P** 18 25 45.7 +0.4
baz=82
MDJ Mudanjiang 82.13 326 P **P** 18 25 49.0 +0.9
MDJ pP **pP** 18 27 41.2 0.0
MDJ sP **sP** 18 28 34.9 +0.4
MDJ S **SKKSac** 18 35 22.4 -0.8
MDJ SS **SS** 18 40 52.6 -2.3
MDJ pmax pmax
comp=Z,11nm,1.7s
MDJ pmax pmax
comp=Z,120nm,3.6s
MURC Murrieta 82.46 48⇑P **P** 18 25 50.9 +0.8
baz=83
MONP Monument Peak 82.60 49⇓P **P** 18 25 51.9 +0.9
baz=83
EDW2 Edwards Air Fo 82.66 47⇓P **P** 18 25 51.7 +0.7
baz=83,SNR=7.5
DVTC Desert V Tower 82.69 50⇑P **P** 18 25 52.3 +1.0
baz=83
ISA Isabella 82.79 46 *e*P **P** 18 25 52.3 +0.6
ISA pmax pmax
comp=Z,25nm,0.9s
ISA Isabella 82.79 46 *e*P **P** 18 25 52.3 +0.6
comp=Z,25nm,0.9s
ISA Isabella 82.79 46⇑P **P** 18 25 52.5 +0.8
baz=83,SNR=15
CMB Columbia Colle 82.96 43 *e*P **P** 18 25 52.8 +0.3
CMB pmax pmax
comp=Z,27nm,1.0s
CMB Columbia Colle 82.96 43 *e*P **P** 18 25 52.8 +0.3
comp=Z,27nm,1.0s
PFO Pinyon Flat Ob 82.98 49⇓P **P** 18 25 53.6 +0.8
baz=83
SWSC Sam W. Stewart 83.06 50⇓P **P** 18 25 54.0 +0.9
baz=83
LRMC Laurel Mountai 83.20 47⇑P **P** 18 25 54.5 +0.7
baz=83,SNR=5.2
SYO Syowa Base 83.26 193⇑*i*P **P** 18 25 52.0 -1.4
SYO Syowa Base 83.26 193⇑*e*PcP **P** 18 25 55.0 +1.6
BELC Belle Mtn. Jos 83.51 49⇑P **P** 18 25 56.2 +0.8
baz=84
MPMC Manual Prospec 83.67 46⇓P **P** 18 25 56.8 +0.5
baz=84,SNR=5.7
GSC Goldstone 83.69 47 *e*P **P** 18 25 56.3 0.0
GSC pmax pmax
comp=Z,26nm,1.1s
GSC Goldstone 83.69 47 *e*P **P** 18 25 56.3 0.0
comp=Z,26nm,1.1s
GSC Goldstone 83.69 47⇑P **P** 18 25 56.8 +0.5
baz=84,SNR=8.5
BC3 Big Chuckawall 83.69 49⇓P **P** 18 25 57.5 +1.2
baz=84
HEC Hector,Ludlow 83.75 48⇓P **P** 18 25 57.1 +0.5
baz=84,SNR=27
CN2 Changchun 83.76 324 *e*P **P** 18 25 55.7 -0.6
GLA Glamis 83.80 50 *e*P **P** 18 25 54.8 -2.0
GLA pmax pmax
comp=Z,44nm,1.2s
GLA Glamis 83.80 50 *e*P **P** 18 25 54.8 -2.0
comp=Z,44nm,1.2s
GLA Glamis 83.80 50⇑P **P** 18 25 58.0 +1.2
baz=84
YBH Yreka Blue Hor 83.84 39 *e*P **P** 18 25 57.4 +0.5
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 83.84 39 *e*P **P** 18 25 57.4 +0.5
comp=Z,6.3nm,0.8s
WCN Washoe City 84.12 43⇑P **P** 18 25 59.0 +0.6
baz=84
GMRC Granite Mounta 84.18 48⇓P **P** 18 25 59.4 +0.7
baz=84,SNR=10
IRM Iron Mountain 84.18 49⇑P **P** 18 25 59.6 +0.9
baz=84,SNR=16
FURC Furnace Creek, 84.32 46⇓P **P** 18 26 00.7 +1.6
baz=84
Y12C Blythe 84.39 50⇑P **P** 18 26 00.9 +1.3
baz=84
113A Mohawk Valley, 84.39 51⇓P **P** 18 26 01.0 +1.4
baz=84
NVAR Mina Array Bea 84.52 44 P **P** 18 26 01.2 +0.8
comp=Z,6.5nm,0.8s,baz=220,slow=7.1,SNR=19
NVAR Mina Array Bea 84.52 44 P **P** 18 26 01.2 +0.8
214A Organ Pipe Nat 84.65 52⇑P **P** 18 26 02.1 +1.1
baz=85
Z13A Yuma Proving G 84.70 50⇑P **P** 18 26 02.1 +0.9
baz=85
NEE2 Needles Airpor 84.88 49⇑P **P** 18 26 03.0 +0.9
baz=85
SNAA Sanae 84.90 179⇑*i*P **P** 18 26 00.2 -1.4
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 84.90 179⇑*i*P **P** 18 26 00.2 -1.4
comp=Z,2.2nm,0.6s
PDMCI Parker Dam,Lak 84.96 49⇑P **P** 18 26 03.3 +0.9
baz=85,SNR=5.7
114A Black Gap (USA 85.02 51⇑P **P** 18 26 03.7 +1.0
baz=85
Z14A Wintersburg 85.30 51⇓P **P** 18 26 05.2 +1.2
baz=85,SNR=7.2
NVL N'lazarevskaya 85.46 184 *e*P **P** 18 26 07.2 +3.0
NVL pmax pmax
comp=Z,8.0nm,0.6s
VNA2 Neumayer--Watz 85.52 178 *e* **P** 18 26 04.6 +0.1
VNA2 *e* **PP** 18 29 32.2 +0.5
Y14A Wickenburg 85.56 50⇓P **P** 18 26 06.3 +0.9
baz=86
W13A Hualapai Mount 85.57 49⇑P **P** 18 26 06.4 +0.7
baz=86,SNR=6.1
R11A Troy Canyon, C 86.22 45⇓P **P** 18 26 09.1 +0.5
baz=86
TUC Tucson 86.30 52⇑*i*P **P** 18 26 10.2 +1.2
TUC pmax pmax
comp=Z,24nm,1.0s
TUC Tucson 86.30 52⇑*i*P **P** 18 26 10.2 +1.2
comp=Z,24nm,1.0s
218A Dragoon 86.67 53⇑P **P** 18 26 12.2 +1.4
baz=87,SNR=18
WVOR Wild Horse Val 86.67 41 *e*P **P** 18 26 10.9 +0.4
WVOR pmax pmax
comp=Z,31nm,1.4s
WVOR Wild Horse Val 86.67 41 *e*P **P** 18 26 10.9 +0.4
comp=Z,31nm,1.4s
GYA Guiyang 86.72 301 P **P** 18 26 11.4 +0.3
GYA pP **pP** 18 28 07.5 +1.6
GYA sP **sP** 18 28 58.7 -0.1
GYA PP **PP** 18 29 44.9 +1.6
GYA SKS **SKSac** 18 35 46.8 -1.6
GYA S **S** 18 36 03.4 -1.7
GYA sS **sS** 18 39 27.3 -2.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
X16A Lo Mia Camp, P 86.91 50⇑P **P** 18 26 13.1 +1.1
baz=87,SNR=9.6
319A Douglas 86.93 54⇑P **P** 18 26 13.6 +1.6
baz=87,SNR=18
BJI Beijing 86.93 316 P **P** 18 26 12.1 +0.5
BJI sP **sP** 18 28 59.5 +0.1
BJI S **SKKSac** 18 36 02.6 +3.1
BJI pmax pmax
comp=Z,8.0nm,0.7s
Y17A Roosevelt 86.96 51⇑P **P** 18 26 13.4 +1.3
baz=87
R13A O'Grain Ranch, 87.19 46⇓P **P** 18 26 14.3 +1.1
baz=87
SLKM Skilak Lake 87.29 14 *e*P **P** 18 26 12.4 -0.5
SLKM Skilak Lake 87.29 14 *e*P **P** 18 26 12.4 -0.5
U15A North Rim 87.37 48⇑P **P** 18 26 15.2 +0.9
baz=88,SNR=21
WUAZ Wupatki 87.53 49⇑P **P** 18 26 15.9 +1.1
baz=88
Y18A Canyon Day Jun 87.59 52⇓P **P** 18 26 16.3 +1.2
baz=88,SNR=11
119A Ashpeak Ranch, 87.61 53⇓P **P** 18 26 16.4 +1.2
baz=88,SNR=6.9
220A Playas Peak, P 87.75 54⇓P **P** 18 26 17.3 +1.4
baz=88,SNR=14
Z19A T-Link Ranch, 87.90 52⇑P **P** 18 26 17.7 +1.1
baz=88
120A U Bar Ranch, L 87.99 53⇓P **P** 18 26 18.4 +1.3
baz=88
V17A Tonalea, Kykot 87.99 50⇓P **P** 18 26 17.8 +0.8
baz=88,SNR=14
U16A Tuba City 88.02 49⇓P **P** 18 26 18.2 +1.1
baz=88,SNR=8.3
X18A Snowflake 88.03 51⇑P **P** 18 26 18.2 +1.0
baz=88
Z20A Nine Sixteen R 88.30 53⇓P **P** 18 26 19.7 +1.3
baz=88,SNR=9.7
R15A Junction 88.33 47⇑P **P** 18 26 19.7 +1.2
baz=88
JCW Jim Creek 88.35 35 *e*P **P** 18 26 17.7 -0.5
PLCA Paso Flores 88.35 134 P **P** 18 26 19.9 +1.2
comp=Z,5.8nm,1.0s,baz=234,slow=5.2,SNR=8.0
PLCA Paso Flores 88.35 134 *e*P **P** 18 26 19.0 +0.4
PLCA Paso Flores 88.35 134 *e*P **P** 18 26 19.0 +0.4
221A Mesquite Ranch 88.36 54⇑P **P** 18 26 19.9 +1.2
baz=88
X19A St. Johns 88.45 51⇓P **P** 18 26 20.3 +1.1
baz=89
W18A Petrified Fore 88.48 50⇑P **P** 18 26 20.1 +0.8
baz=89
PMR Palmer 88.50 14 *e*P **P** 18 26 18.0 -0.4
PMR Palmer 88.50 14 *e*P **P** 18 26 18.0 -0.4
S16A Weppner Ranch, 88.53 47⇑P **P** 18 26 20.3 +0.9
baz=89
MSU Marysvale 88.55 47 *e*P **P** 18 26 20.5 +0.9
MSU pmax pmax
comp=Z,21nm,1.3s
MSU Marysvale 88.55 47 *e*P **P** 18 26 20.5 +0.9
comp=Z,21nm,1.3s
121A Cookes Peak, D 88.60 54⇓P **P** 18 26 21.2 +1.3
baz=89,SNR=6.3
V18A Ganado 88.64 50⇓P **P** 18 26 20.8 +0.8
baz=89
T17A Navajo Res., N 88.69 48⇓P **P** 18 26 21.2 +1.0
baz=89,SNR=5.1
W19A Sanders 88.72 51⇑P **P** 18 26 21.1 +0.7
baz=89,SNR=8.2
ETW Entiat 88.83 36 *e*P **P** 18 26 20.9 +0.3
comp=Z,58nm,1.2s
Y20A Horse Springs, 88.85 52⇑P **P** 18 26 22.5 +1.4
baz=89,SNR=13
R16A Teasdale 88.90 47⇓P **P** 18 26 22.6 +1.3
baz=89
222A Williams Famil 88.90 54⇓P **P** 18 26 22.5 +1.2
baz=89
MFID Camas Ranch 88.92 41 *e*P **P** 18 26 21.2 +0.1
comp=Z,27nm,1.0s
MFID Camas Ranch 88.92 41⇓P **P** 18 26 21.6 +0.5
baz=89,SNR=17
S17A Black Ridge (B 89.02 48⇑P **P** 18 26 22.4 +0.7
baz=89
DUG Dugway 89.03 45 *e*P **P** 18 26 21.8 +0.1
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 89.03 45 *e*P **P** 18 26 21.8 +0.1
comp=Z,4.8nm,1.0s
DUG Dugway 89.03 45⇓P **P** 18 26 22.8 +1.2
baz=89
U18A Rough Rock, Ch 89.04 49⇓P **P** 18 26 22.7 +0.8
baz=89
SEY Seymchan 89.06 348*de*P **P** 18 26 21.4 +0.3
Z21A St. Cloud Mine 89.06 53⇓P **P** 18 26 23.7 +1.6
baz=89
X20A Quemado 89.07 51⇓P **P** 18 26 23.1 +1.0
baz=89,SNR=8.8
KMI Kunming 89.24 298 P **P** 18 26 24.2 +1.1
KMI pmax pmax
comp=Z,7.0nm,1.1s
122A Conniff Cattle 89.26 54⇓P **P** 18 26 24.5 +1.6
baz=89
O15A The Old Anders 89.30 45⇓P **P** 18 26 23.8 +0.9
baz=90
W20A Ramah 89.36 51⇑P **P** 18 26 24.4 +1.0
baz=90,SNR=15
T18A Mexican Hat 89.40 49⇓P **P** 18 26 24.2 +0.8
baz=90,SNR=17
Y21A Point of Rocks 89.40 52⇑P **P** 18 26 24.8 +1.1
baz=90,SNR=29
Q16A Castle Valley 89.43 47⇑P **P** 18 26 24.7 +1.0
baz=90,SNR=8.1
U19A Dine' College, 89.44 50⇑P **P** 18 26 24.1 +0.3
baz=90,SNR=6.8
R17A Hanksville Air 89.48 47⇑P **P** 18 26 23.9 +0.1
baz=90,SNR=5.4
X21A Alamocita Cree 89.54 52⇑P **P** 18 26 25.1 +0.8
baz=90,SNR=10
CMAR Chiang Mai Arr 89.54 290 P **P** 18 26 26.1 +1.8
comp=Z,1.7nm,0.9s,baz=149,slow=3.4,SNR=9.4
CMAR pP pP 18 28 27.8 +7.9
comp=Z,1.8nm,1.1s,baz=115,slow=3.3,SNR=5.1
CMAR PKKPbc **PKKPbc** 18 43 55.5 +0.2
comp=Z,0.6nm,0.4s,baz=286,slow=4.4,SNR=6.1
CMAR Chiang Mai Arr 89.54 290 P **P** 18 26 26.2 +1.8
CMAR Chiang Mai Arr 89.54 290 P **P** 18 26 26.1 +1.8
CMAR pP pP 18 28 27.8 +7.9
CMAR PKKPbc **PKKPbc** 18 43 55.5 +0.2
Z22A Elephant Butte 89.56 53⇑P **P** 18 26 25.2 +0.9
baz=90,SNR=21
N15A Stansbury Isla 89.59 44⇑P **P** 18 26 25.3 +1.1
baz=90
S18A Hurst Farm, Bl 89.60 48⇑P **P** 18 26 25.4 +0.9
baz=90
TMUT Trail Mountain 89.61 46 *e*P **P** 18 26 25.4 +0.8
comp=Z,38nm,0.9s
CHTO Chiang Mai 89.69 291 *e*P **P** 18 26 25.4 +0.3
CHTO Chiang Mai 89.69 291 *e*P **P** 18 26 25.4 +0.3
V20A Brimhall 89.71 50⇓P **P** 18 26 25.8 +0.7
baz=90
L14A Malta 89.75 43⇑P **P** 18 26 25.3 +0.4
baz=90,SNR=7.0
324A Moseley Ranch, 89.80 55⇑P **P** 18 26 26.1 +0.6
baz=90,SNR=12
T19A Beclabito 89.83 49⇓P **P** 18 26 26.5 +0.9
baz=90
HLID Hailey 89.85 41 *e*P **P** 18 26 25.9 +0.4
comp=Z,13nm,1.1s
HLID Hailey 89.85 41⇑P **P** 18 26 25.9 +0.4
baz=90,SNR=13
425A Indio Mountain 89.87 56⇓P **P** 18 26 26.7 +0.9
baz=90,SNR=11
Y22A Socorro 89.88 53⇑P **P** 18 26 26.6 +0.7
baz=90,SNR=11
O16A Springville 89.89 45⇑P **P** 18 26 26.2 +0.5
baz=90,SNR=10.0
J13A Cove Ranch, Pi 89.91 42⇓P **P** 18 26 26.4 +0.7
baz=90,SNR=13
M15A Larsen Ranch, 89.94 44⇓P **P** 18 26 26.1 +0.3
baz=90,SNR=8.2
U20A Newcomb 89.96 50⇑P **P** 18 26 26.7 +0.5
baz=90
626A Big Bend Ranch 89.96 58⇑P **P** 18 26 27.1 +1.0
baz=90,SNR=14
W21A San Fidel 89.96 51⇓P **P** 18 26 26.9 +0.7
baz=90
SRU San Rafael 89.97 47 *e*P **P** 18 26 26.3 +0.2
SRU pmax pmax
comp=Z,30nm,0.9s
SRU San Rafael 89.97 47 *e*P **P** 18 26 26.2 +0.2
comp=Z,30nm,0.9s
LAZ Ladron 89.98 52 *e*P **P** 18 26 26.9 +0.6
comp=Z,5.3nm,1.1s
LENM Lemitar 89.99 52 *e*P **P** 18 26 26.9 +0.6
comp=Z,16nm,1.5s
MNTX Cornudas Mount 90.00 55 *e*P **P** 18 26 26.5 +0.3
comp=Z,26nm,1.5s
MNTX Cornudas Mount 90.00 55⇑P **P** 18 26 27.2 +1.0
baz=90,SNR=13
MNTX ⇑P **P** 18 26 27.2 +1.0
baz=90,SNR=13
P17A Butcher Ranch, 90.01 46⇓P **P** 18 26 27.1 +0.8
baz=90
R18A Canyonlands Na 90.02 48⇓P **P** 18 26 26.6 +0.2
baz=90,SNR=9.4
K14A Jones Ranch, D 90.06 43⇓P **P** 18 26 26.8 +0.5
baz=90,SNR=6.8
224A Cornudas Mount 90.07 55⇓P **P** 18 26 27.5 +0.8
baz=90,SNR=7.3
Z23A Rita Site, Whi 90.10 54⇓P **P** 18 26 27.5 +0.7
baz=90
H12A Diamond D Ranc 90.14 40⇓P **P** 18 26 27.1 +0.3
baz=90,SNR=15
325A Bean Ranch, Si 90.16 56⇓P **P** 18 26 27.7 +0.5
baz=90,SNR=12
S19A Harvey Farm, M 90.21 48⇓P **P** 18 26 27.9 +0.5
baz=90
Q18A Rafter H Ranch 90.22 47⇓P **P** 18 26 27.5 +0.3
baz=90,SNR=9.7
TXAR Lajitas Array 90.22 58 P **P** 18 26 28.3 +0.9
comp=Z,8.5nm,0.8s,baz=213,slow=6.5,SNR=84
TXAR Lajitas Array 90.22 58 P **P** 18 26 28.3 +0.9
TXAR Lajitas Array 90.22 58 P **P** 18 26 28.3 +0.9
526A Mary Lane Ranc 90.23 57⇓P **P** 18 26 28.2 +0.7
baz=90,SNR=8.8
I13A Wildhorse Cree 90.23 41⇓P **P** 18 26 27.8 +0.6
baz=90,SNR=6.8
N16A Rees Ranch, Co 90.28 45⇓P **P** 18 26 28.2 +0.6
baz=90,SNR=6.6
HHC Hu-ho-hao-te 90.33 315 *e*P **P** 18 26 29.3 +1.7
HHC pP **pP** 18 28 22.2 -1.1
HHC sP **sP** 18 29 13.3 -2.6
HHC PP **PP** 18 30 14.0 +2.5
HHC S **S** 18 36 38.2 +0.6
HHC sS sS 18 39 58.6 -5.6
HHC SS **SS** 18 42 56.3 +2.4
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.3s
O17A Robinson Place 90.38 46⇓P **P** 18 26 28.9 +0.8
baz=90,SNR=20
P18A Preston Nutter 90.42 46⇑P **P** 18 26 28.7 +0.4
baz=91,SNR=6.5
MCK McKinley 90.44 13 *e*P **P** 18 26 27.1 -0.4
MCK McKinley 90.44 13 *e*P **P** 18 26 27.1 -0.4
627A Terlingua Ranc 90.49 58⇑P **P** 18 26 29.5 +0.9
baz=91,SNR=14
H13A Challis 90.50 41⇓P **P** 18 26 28.8 +0.4
baz=91,SNR=7.5
K15A Arbon 90.54 43⇓P **P** 18 26 29.0 +0.4
baz=91,SNR=10
Y23A Lovelace Mesa, 90.55 53⇑P **P** 18 26 29.4 +0.5
baz=91,SNR=6.5
426A McDonald Obser 90.55 57⇓P **P** 18 26 29.8 +0.8
baz=91,SNR=9.5
HWUT Hardware Ranch 90.58 44 *e*P **P** 18 26 28.8 -0.1
comp=Z,6.7nm,0.8s
U21A Nageezi 90.59 50⇑P **P** 18 26 29.7 +0.6
baz=91,SNR=21
225A Deer Hill, Car 90.61 55⇑P **P** 18 26 30.0 +0.7
baz=91,SNR=6.2
I14A Mackay 90.64 41⇑P **P** 18 26 29.8 +0.7
baz=91,SNR=11
N17A Moffit Pass 90.70 45⇓P **P** 18 26 30.2 +0.6
baz=91
Q19A Hogan Spring (90.73 47⇓P **P** 18 26 30.1 +0.5
baz=91,SNR=7.2
ANMO Albuquerque 90.73 52 P **P** 18 26 30.2 +0.5

comp=Z,4.7nm,0.8s,baz=217,slow=4.6,SNR=11
ANMO Albuquerque 90.73 52 *e*P **P 18 26 29.6 -0.2**
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO Albuquerque 90.73 52 *e*P **P 18 26 29.6 -0.2**
comp=Z,13nm,1.2s
X23A Hourglass Bar 90.76 52 ⇑P **P 18 26 30.4 +0.5**
baz=91
Z24A Sheeppen Canyo 90.77 54 ⇑P **P 18 26 30.5 +0.5**
baz=91
S20A Disappointment 90.79 49 ⇑P **P 18 26 30.8 +0.7**
baz=91
PV01 Paradox Valley 90.80 48 *e*P **P 18 26 29.9 -0.1**
G13A Cobalt 90.81 40 ⇑P **P 18 26 30.1 +0.3**
baz=91,SNR=5.6
V22A San Miguel Ran 90.87 51 ⇑P **P 18 26 31.0 +0.5**
baz=91
L16A Fish Haven 90.88 44 ⇑P **P 18 26 31.0 +0.7**
baz=91
628A Black Gap, Mar 90.90 58 ⇓P **P 18 26 31.3 +0.8**
baz=91,SNR=14
O18A Roosevelt 90.90 46 ⇑P **P 18 26 31.4 +1.1**
baz=91
NEW Newport 90.95 36 *e*P **P 18 26 29.0 -1.2**
NEW Newport 90.95 36 *e*P **P 18 26 29.0 -1.2**
T21A Navajo Lake 90.95 50 ⇓P **P 18 26 31.1 +0.4**
baz=91
R20A Redvale 90.95 48 ⇑P **P 18 26 31.1 +0.4**
baz=91
J15A Blackfoot 90.98 42 ⇓P **P 18 26 31.7 +1.1**
baz=91,SNR=9.3
Y24A Capitan 91.00 53 ⇑P **P 18 26 31.9 +0.8**
baz=91,SNR=18
CD2 Chengdu 91.04 303 P **P 18 26 31.7 +0.6**
CD2 pP **pP 18 28 28.1 +1.3**
CD2 sP **sP 18 29 19.6 +0.2**
CD2 PP **PP 18 30 20.2 +3.1**
CD2 SKS **SKSac 18 36 13.4 +0.3**
CD2 S **S 18 36 43.2 -1.0**
CD2 sS **sS 18 40 09.4 -1.8**
CD2 SS **SS 18 43 07.1 +2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.4s
H14A Leadore 91.06 41 ⇑P **P 18 26 31.9 +0.8**
baz=91
M17A Scullys Gap (B 91.08 45 ⇑P **P 18 26 31.8 +0.5**
baz=91
S21A Coal Bank Pass 91.10 49 ⇓P **P 18 26 32.1 +0.6**
baz=91,SNR=6.4
427A Hayter Ranch, 91.11 57 ⇑P **P 18 26 32.4 +1.0**
baz=91,SNR=14
F13A Darby 91.13 40 ⇓P **P 18 26 31.3 +0.1**
baz=91,SNR=8.3
U22A Llaves 91.14 51 ⇓P **P 18 26 31.9 +0.3**
baz=91
K16A Soda Springs 91.20 43 ⇑P **P 18 26 32.6 +0.9**
baz=91,SNR=10
Z25A Roswell 91.23 54 ⇓P **P 18 26 32.4 +0.4**
baz=91
P19A Cripple Cowboy 91.26 47 ⇓P **P 18 26 32.6 +0.4**
baz=91
528A Cox Ranch, San 91.28 58 ⇓P **P 18 26 33.3 +1.0**
baz=91,SNR=6.1
G14A Jackson 91.34 40 ⇑P **P 18 26 33.3 +0.9**
baz=92
Q20A Ridgley Place, 91.39 48 ⇓P **P 18 26 33.3 +0.6**
baz=92
T22A Edith 91.41 50 ⇑P **P 18 26 33.4 +0.6**
baz=92
M18A Lyman 91.45 45 ⇓P **P 18 26 33.4 +0.5**
baz=92,SNR=9.3
AHID Auburn Hatcher 91.48 43 *e*P **P 18 26 34.0 +1.0**
comp=Z,13nm,0.9s
N18A Larsen Ranch, 91.48 45 ⇑P **P 18 26 33.4 +0.4**
baz=92,SNR=6.1
MCMT McKenzie Canyo 91.49 41 *e*P **P 18 26 33.5 +0.5**
comp=Z,2.6nm,1.1s
H15A Lima 91.50 41 ⇑P **P 18 26 34.0 +0.9**
baz=92
O19A Miners Draw (B 91.50 46 ⇓P **P 18 26 33.5 +0.4**
baz=92,SNR=5.1
Y25A Mesa, Roswell 91.54 54 ⇑P **P 18 26 34.0 +0.6**
baz=92
C12B Naegeli Ranch, 91.54 38 ⇓P **P 18 26 33.5 +0.5**
baz=92
E13A Victor 91.57 39 ⇓P **P 18 26 34.1 +0.9**
baz=92
K17A Gardner Place, 91.58 43 ⇑P **P 18 26 34.2 +0.7**
baz=92,SNR=5.3
P20A De Beque 91.59 47 ⇓P **P 18 26 34.5 +0.9**
baz=92
428A Kincaid Ranch, 91.61 57 ⇑P **P 18 26 34.6 +0.8**
baz=92
R21A Cimarron 91.61 49 ⇓P **P 18 26 34.4 +0.6**
baz=92,SNR=12
W24A Lazy 6 Ranch, 91.62 52 ⇓P **P 18 26 34.3 +0.4**
baz=92
RRI2 Red Ridge 91.64 43 *e*P **P 18 26 34.0 +0.1**
comp=Z,15nm,1.2s
COLA College 91.67 13 P **P 18 26 31.6 -1.5**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 91.67 13 P **P 18 26 31.6 -1.5**
comp=Z,5.0nm,0.8s
L18A Fontenelle, Gr 91.72 44 ⇓P **P 18 26 35.0 +0.8**
baz=92
N19A John Jarvie Ra 91.76 46 ⇓P **P 18 26 34.3 0.0**
baz=92,SNR=5.3
Z26A Caprock 91.77 54 ⇓P **P 18 26 35.0 +0.5**
baz=92,SNR=5.6
ILAR Eielson Array 91.78 14 P **P 18 26 32.5 -1.2**
comp=Z,1.5nm,0.8s,baz=216,slow=4.9,SNR=12
ILAR pP **pP 18 28 29.7 +0.3**
comp=Z,0.6nm,0.9s,baz=234,slow=4.3,SNR=3.3
ILAR Eielson Array 91.78 14 P **P 18 26 32.5 -1.2**
ILAR *PP **pP 18 28 29.7 +0.3**
ILAR Eielson Array 91.78 14 P **P 18 26 32.5 -1.2**
ILAR pP **pP 18 28 29.7 +0.3**
328A Wristen Ranch, 91.81 57 ⇑P **P 18 26 34.9 +0.3**
baz=92
S22A 4UR Ranch, Cre 91.81 49 ⇓P **P 18 26 35.5 +0.7**
baz=92,SNR=13
I16A Newdale 91.81 42 ⇑P **P 18 26 35.3 +0.8**
baz=92,SNR=5.1
Q21A Lamborn Mesa, 91.82 48 ⇓P **P 18 26 35.6 +0.9**
baz=92
X25A Clemmons Ranch 91.84 53 ⇓P **P 18 26 35.2 +0.3**
baz=92
G15A Dillon 91.88 41 ⇓P **P 18 26 35.5 +0.7**
baz=92
REDW Red Top Meadow 91.94 43 *e*P **P 18 26 35.0 -0.1**
comp=Z,15nm,1.2s
BILL Bilibino 92.00 355⇓ *e*P **P 18 26 35.0 +0.4**
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL Bilibino 92.00 355 *e*P **P 18 26 33.9 -0.7**
comp=Z,1.5nm,0.7s
J17A Brown Place, J 92.03 43 ⇑P **P 18 26 36.3 +0.7**
baz=92
M19A Rock Springs 92.08 45 ⇓P **P 18 26 36.2 +0.4**
baz=92
K18A Toltan Ranch, 92.08 44 ⇓P **P 18 26 36.7 +0.8**
baz=92,SNR=12
R22A Saguache, Gunn 92.09 49 ⇑P **P 18 26 36.8 +0.7**
baz=92
A12A Yaak River Ran 92.14 36 ⇓P **P 18 26 36.3 +0.6**
baz=92
F15A Butte 92.24 40 ⇓P **P 18 26 37.1 +0.7**
baz=92
L19A Farson 92.25 45 ⇑P **P 18 26 37.1 +0.5**
baz=92,SNR=5.5
Q22A Crested Butte, 92.29 48 ⇓P **P 18 26 37.4 +0.4**
baz=92
CMIG Matias Romero 92.31 72 P **P 18 26 37.5 +0.4**
comp=Z,3.1nm,0.8s,baz=256,slow=8.7,SNR=5.3
CMIG Matias Romero 92.31 72 P **P 18 26 37.5 +0.4**
W25A X Bar L Ranch, 92.31 52 ⇑P **P 18 26 37.2 +0.2**
baz=92
D14A Greenough 92.31 39 ⇓P **P 18 26 36.9 +0.2**
baz=92
G16A Moss Hill, Enn 92.33 41 ⇓P **P 18 26 37.3 +0.4**
baz=92
Z27A Tatum 92.36 55 ⇓P **P 18 26 37.2 0.0**
baz=92
J18A Kendall Valley 92.39 43 ⇑P **P 18 26 37.5 +0.2**
baz=92,SNR=11
H16A Russell Place, 92.39 42 ⇓P **P 18 26 37.9 +0.7**
baz=93
I17A Pilgrim Ck. 92.40 43 ⇑P **P 18 26 38.4 +1.2**
baz=93
BW06 Boulder Array 92.45 44 ⇑P **P 18 26 37.8 +0.2**
baz=93,SNR=6.6
BW06 ⇑P **P 18 26 37.8 +0.2**
baz=93,SNR=6.6
PDAR Pinedale Array 92.45 44 P **P 18 26 37.5 -0.1**
comp=Z,4.3nm,0.8s,baz=204,slow=3.5,SNR=27
PDAR PP PP 18 30 18.3 -10
comp=Z,0.7nm,0.9s,baz=211,slow=4.9,SNR=3.4
PDAR Pinedale Array 92.45 44 P **P 18 26 37.5 -0.1**
PDAR PP PP 18 30 18.3 -10
E15A Deer Lodge 92.46 40 ⇑P **P 18 26 38.3 +0.9**
baz=93
V25A Rancho No Teng 92.48 52 ⇓P **P 18 26 38.3 +0.5**
baz=93
H17A Grant Village 92.64 42 ⇓P **P 18 26 40.2 +1.8**
baz=93
BOZ Bozeman (W) 92.65 41 *e*P **P 18 26 37.5 -0.8**
BOZ pmax pmax
comp=Z,1.0nm,0.7s
BOZ Bozeman (W) 92.65 41 *e*P **P 18 26 37.5 -0.8**
comp=Z,1.2nm,0.7s
BOZ Bozeman (W) 92.65 41 ⇑P **P 18 26 39.0 +0.7**
baz=93
BOZ ⇑P **P 18 26 39.0 +0.7**
baz=93
Y27A Causey 92.66 54 ⇓P **P 18 26 39.1 +0.5**
baz=93
M20A Sweetwater, Wa 92.70 46 ⇓P **P 18 26 39.7 +0.9**
baz=93
R23A Moffat 92.72 49 ⇓P **P 18 26 39.7 +0.7**
baz=93
F16A Kenard Place, 92.72 41 ⇓P **P 18 26 39.2 +0.6**
baz=93
SDCO Great Sand Dun 92.73 50 *e*P **P 18 26 38.9 -0.1**
comp=Z,4.9nm,0.9s
SDCO Great Sand Dun 92.73 50 ⇓P **P 18 26 39.3 +0.3**
baz=93
SDCO ⇓P **P 18 26 39.3 +0.3**
baz=93
P22A Eagle 92.74 48 ⇓P **P 18 26 39.3 +0.4**
baz=93
I18A Diamond G Ranc 92.76 43 ⇑P **P 18 26 39.8 +0.9**
baz=93
N21A Black Mountain 92.79 46 ⇓P **P 18 26 39.5 +0.4**
baz=93,SNR=7.0
L20A Wamsutter 92.86 45 ⇑P **P 18 26 40.1 +0.7**
baz=93
U25A Circle Dot Ran 92.89 51 ⇑P **P 18 26 40.2 +0.5**
baz=93
S24A Houchin Ranch, 92.89 50 ⇓P **P 18 26 40.2 +0.4**
baz=93
G17A Pierce Place, 93.02 41 ⇓P **P 18 26 40.8 +0.8**
baz=93
J19A Crowheart 93.02 44 ⇓P **P 18 26 40.8 +0.7**
baz=93
X27A F and S Farms, 93.05 53 ⇓P **P 18 26 40.9 +0.5**
baz=93
B14A Marquette Ranc 93.14 38 ⇑P **P 18 26 40.6 +0.2**
baz=93
O22A Kremmling 93.15 47 ⇑P **P 18 26 40.9 0.0**
baz=93
WALA Waterton Lakes 93.16 37 *e*P **P 18 26 38.0 -2.5**
K20A Yellowstone Ra 93.18 44 ⇑P **P 18 26 40.8 0.0**
baz=93
T25A Trinidad 93.22 51 ⇑P **P 18 26 41.7 +0.5**
baz=93
R24A Sanders Place, 93.24 50 ⇑P **P 18 26 42.0 +0.8**
baz=93
M21A Separation Pea 93.30 46 ⇑P **P 18 26 41.9 +0.4**
baz=94
LZH Lanzhou 93.31 308 P **P 18 26 41.5 -0.1**
LZH pP **pP 18 28 37.5 +0.1**
LZH sP **sP 18 29 29.4 -0.6**
LZH PP **PP 18 30 37.6 +2.8**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,86nm,8.7s
A14A Double T Ranch 93.38 37 ⇑P **P 18 26 41.9 +0.3**
baz=94
I19A Meeteetse 93.44 43 ⇓P **P 18 26 43.2 +1.2**
baz=94
S25A Robets Cordova 93.45 50 ⇓P **P 18 26 42.6 +0.4**
baz=94
N22A Wattenberg Ran 93.52 47 ⇓P **P 18 26 43.4 +0.8**
baz=94
Q24A Divide 93.55 49 ⇓P **P 18 26 43.1 +0.3**
baz=94
O23A Lake Granby, G 93.60 48 ⇓P **P 18 26 43.7 +0.8**
baz=94
ISCO Idaho Springs 93.62 48 ⇓P **P 18 26 43.5 +0.5**
baz=94
J20A Shoshoni 93.68 44 ⇓P **P 18 26 43.6 +0.6**
baz=94
C16A Fuhringer Ranc 93.71 39 ⇑P **P 18 26 43.3 +0.3**
baz=94
G18A Lazy EL Ranch, 93.73 42 ⇑P **P 18 26 43.6 +0.4**
baz=94
JCT Junction City 93.74 58 ⇓P **P 18 26 43.7 +0.2**
baz=94
R25A Fountain Ranch 93.77 50 ⇓P **P 18 26 43.8 +0.2**
baz=94
RLMT Red Lodge 93.81 42 ⇓P **P 18 26 44.4 +0.7**
baz=94
RLMT ⇓P **P 18 26 44.4 +0.7**
baz=94
K21A Alcova 93.87 45 ⇑P **P 18 26 44.3 +0.3**
baz=94
I20A Worland 93.94 43 ⇑P **P 18 26 44.6 +0.4**
baz=94
D17A Six Diamond Ra 93.99 40 ⇓P **P 18 26 44.7 +0.3**
baz=94
S26A Kim 94.11 51 ⇑P **P 18 26 45.2 +0.1**
baz=94
L22A Ellis Ranch, M 94.11 46 ⇓P **P 18 26 45.9 +0.8**
baz=94
C17A Wigwam Farm, 94.19 39 ⇓P **P 18 26 45.3 +0.2**
baz=94
I21A Big Trails, Te 94.41 44 ⇑P **P 18 26 46.4 0.0**
baz=95
PHWY Pilot Hill 94.42 47 *e*P P 18 26 40.5 -6.1
comp=Z,32nm,0.9s
P25A Willow Gulch B 94.47 49 ⇑P **P 18 26 47.4 +0.6**
baz=95
B17A L&Q Farms, Che 94.51 39 ⇑P **P 18 26 46.5 0.0**
baz=95
J22A Midwest 94.74 44 ⇓P **P 18 26 48.5 +0.6**
baz=95
R27A Eads 94.88 50 ⇓P **P 18 26 48.9 +0.3**
baz=95
A17A Triple J Farms 94.90 38 ⇓P **P 18 26 49.1 +0.8**
baz=95
D19A Cripps Ranch, 95.06 40 ⇓P **P 18 26 50.4 +1.2**
baz=95
C19A Slack Wire Ran 95.24 40 ⇓P **P 18 26 50.9 +1.0**
baz=95
SONM Songino Array 96.99 319 PP PP 18 31 04.9 +2.3
comp=Z,1.6nm,1.1s,baz=109,slow=5.1,SNR=5.2
SONM PKKPbc **PKKPbc 18 43 35.6 -1.7**
comp=Z,0.7nm,0.7s,baz=289,slow=5.1,SNR=4.7
SONM Songino Array 96.99 319 PP PP 18 31 04.9 +2.3
SONM PKKPbc **PKKPbc 18 43 35.6 -1.7**
INK Inuvik 97.78 16 P Pdif 18 27 00.2 -0.5
comp=Z,1.4nm,0.9s,baz=185,slow=3.8,SNR=4.2
INK Inuvik 97.78 16 P Pdif 18 27 00.2 -0.5
INK Inuvik 97.78 16 P Pdif 18 27 00.2 -0.5
ZALV Zalesovo Beam 111.83 321 SKP **SKPdf 18 34 42.9 -0.3**
comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=4.7
ZALV PKKPbc **PKKPbc 18 42 51.8 -1.1**
comp=Z,0.3nm,0.4s,baz=230,slow=4.7,SNR=3.5
ZALV Zalesovo Beam 111.83 321 PKKPbc PKKPbc 18 42 51.8 -1.1
MKAR Makanchi Array 112.07 313 PKiKP **PKiKP 18 31 56.5 -1.6**
comp=Z,1.1nm,0.6s,baz=123,slow=0.6,SNR=14
MKAR SKP **SKPdf 18 34 43.2 -0.8**
comp=Z,0.8nm,0.7s,baz=67,slow=2.1,SNR=5.5
MKAR PKKPbc **PKKPbc 18 42 51.5 -0.5**
comp=Z,0.7nm,0.8s,baz=266,slow=3.3,SNR=7.0
MKAR PKKPab **PKKPab 18 43 01.9 +1.1**
comp=Z,1.3nm,0.8s,baz=278,slow=4.3,SNR=9.9
MKAR Makanchi Array 112.07 313*c i*PKiKP **PKiKP 18 31 57.2 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 112.07 313 PKiKP **PKiKP 18 31 56.5 -1.6**
MKAR SKP **SKPdf 18 34 43.2 -0.8**
MKAR PKKPbc **PKKPbc 18 42 51.5 -0.5**
MKAR PKKPab **PKKPab 18 43 01.9 +1.1**
KURK Kurchatov 115.10 317 PKP **PKPdf 18 32 02.9 -0.9**
comp=Z,2.2nm,0.7s,baz=98,slow=1.9,SNR=28
KURK Kurchatov 115.10 317 PKiKP **PKPdf 18 32 02.9 -0.9**
KURK Kurchatov 115.10 317 PKP **PKPdf 18 32 02.9 -0.9**
KSH Kashi 115.23 304 PKP **PKPdf 18 32 05.2 +0.6**
BVAR Borovoye Array 120.33 319 PKP **PKPdf 18 32 13.1 -0.7**
comp=Z,2.1nm,0.3s,baz=122,slow=2.3,SNR=37
BVAR Borovoye Array 120.33 319 PKiKP **PKPdf 18 32 13.1 -0.7**
BVAR Borovoye Array 120.33 319 PKP **PKPdf 18 32 13.1 -0.7**
BRVK Borovoye 120.39 319*d i*PKiKP **PKPdf 18 32 13.4 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
SCHQ Schefferville 122.23 39 PKP **PKPdf 18 32 16.1 -1.3**
comp=Z,0.9nm,0.4s,baz=326,slow=7.3,SNR=5.8
SCHQ Schefferville 122.23 39 PKP **PKPdf 18 32 16.1 -1.3**
BOSA Boshof 122.66 206 PKP **PKPdf 18 32 19.4 +0.1**
comp=Z,3.3nm,0.6s,baz=156,slow=6.0,SNR=6.5
BOSA PKKPbc **PKKPbc 18 42 14.4 -1.1**
comp=Z,4.9nm,1.1s,baz=108,slow=6.8,SNR=3.6
BOSA Boshof 122.66 206 PKiKP **PKPdf 18 32 19.4 +0.1**
BOSA Boshof 122.66 206 PKP **PKPdf 18 32 19.4 +0.1**
BOSA PKKPbc **PKKPbc 18 42 14.4 -1.1**
SVE Sverdlovsk 125.55 324*e*PKiKP **PKPdf 18 32 23.6 -0.1**
ARU Arti 126.75 324 *i* PKiKP **PKPdf 18 32 26.0 0.0**
ARU 18 34 29.2
ARU 18 38 42.0
AKTO Aktyubinsk 128.20 316 PKP **PKPdf 18 32 28.4 -0.5**
comp=Z,2.9nm,0.7s,baz=90,slow=3.2,SNR=18
AKTO Aktyubinsk 128.20 316 PKiKP **PKPdf 18 32 28.4 -0.5**
AKTO Aktyubinsk 128.20 316 PKP **PKPdf 18 32 28.4 -0.5**
KEV Kevo 131.21 348*e*PKiKP **PKPdf 18 32 33.7 -0.3**
ARCES ARCESS Array B 131.68 348 PKhKP PKPpre 18 32 25.2
comp=Z,4.0nm,1.0s,baz=53,slow=1.9,SNR=5.1
ARCES PKP **PKPdf 18 32 34.5 -0.5**
comp=Z,3.4nm,0.7s,baz=79,slow=2.8,SNR=15
ARCES ARCESS Array B 131.68 348 PKHKP PKPpre 18 32 25.3
ARCES 18 32 34.5
ARCES ARCESS Array B 131.68 348 PKPpre PKPpre 18 32 25.2
ARCES PKP **PKPdf 18 32 34.5 -0.5**
JOF Joensuu 135.55 340*e*PKiKP **PKPdf 18 32 41.4 -1.0**
KAF Kangasniemi 137.66 342*e*PKiKP **PKPdf 18 32 45.5 -0.8**
FINES FINESS Array B 138.26 342 PKhKP PKPpre 18 32 37.0
comp=Z,3.4nm,1.0s,baz=60,slow=4.6,SNR=9.4
FINES PKP **PKPdf 18 32 46.6 -0.8**
comp=Z,1.6nm,0.4s,baz=74,slow=3.1,SNR=9.1
FINES SKPab **SKPbc 18 35 32.0 -0.5**
comp=Z,6.7nm,0.7s,baz=48,slow=5.7,SNR=10
FINES FINESS Array B 138.26 342 PKHKP PKPpre 18 32 37.0
FINES 18 32 46.7
FINES FINESS Array B 138.26 342 PKPpre PKPpre 18 32 37.0
FINES PKP **PKPdf 18 32 46.6 -0.8**
FINES SKPab **SKPbc 18 35 32.0 -0.5**
OBN Obninsk 138.62 329 *i* PKiKP **PKPdf 18 32 48.6 +0.4**
OBN pmax pmax
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra141.87 351 PKP PKPpre 18 32 49.5
comp=Z,0.5nm,0.4s,baz=16,slow=3.2
NOA NORSAR Array B141.87 351 PKhKP PKPpre 18 32 49.5
comp=Z,3.9nm,0.8s,baz=16,slow=4.7,SNR=12
NOA SKPbc **SKPbc 18 35 41.7 -0.4**
comp=Z,3.0nm,0.8s,baz=15,slow=4.3,SNR=5.6
NOA NORSAR Array B141.87 351 PKHKP PKPpre 18 32 49.5
NOA NORSAR Array B141.87 351 PKPpre PKPpre 18 32 49.5
NOA SKPbc **SKPbc 18 35 41.7 -0.4**
AKASG Malin Array Be 144.83 328 PKP **PKPdf 18 32 59.3 -0.1**
comp=Z,5.6nm,0.4s,baz=43,slow=4.1,SNR=31
AKASG pPKP **pPKPdf 18 35 01.4 -1.4**
comp=Z,1.5nm,0.9s,baz=45,slow=3.1,SNR=2.4
AKASG SKPbc **SKPbc 18 35 49.2 -0.3**
comp=Z,8.6nm,0.8s,baz=46,slow=2.4,SNR=16
AKASG Malin Array Be 144.83 328 PKiKP **PKPdf 18 32 59.3 -0.1**
AKASG 18 35 01.4
AKASG 18 35 49.2
AKASG Malin Array Be 144.83 328 PKP **PKPdf 18 32 59.3 -0.1**
AKASG pPKP **pPKPdf 18 35 01.4 -1.4**
AKASG SKPbc **SKPbc 18 35 49.2 -0.3**
AKBB Malin Array Si 144.83 328*e*PKHKP **PKPdf 18 32 58.2 -1.2**
AKBB Malin Array Si 144.83 328*e*PKPdf **PKPdf 18 32 58.2 -1.2**
AKBB *e*SKP **SKPbc 18 35 47.2 -2.2**
KIEV Kiev 144.84 328*e*PKHKP **PKPdf 18 32 58.8 -0.7**
KIEV Kiev 144.84 328*e*PKPdf **PKPdf 18 32 58.8 -0.7**
KIEV *e*SKP **SKPbc 18 35 48.8 -0.9**
KAC Achnashellach 145.97 5 *e*P **PKPbc 18 33 02.5 -0.5**
MCD Coleburn Disti 146.03 3 *e*P **PKPbc 18 33 02.6 -0.6**
KPL Plockton 146.10 6 *e*P **PKPdf 18 33 01.9 +0.5**
EAB Aberfoyle 147.35 5 *e*P **PKPbc 18 33 06.2 -0.6**
BR131 Keskin Array S 147.52 308*e*PKPdf **PKPdf 18 33 03.3 -1.3**
BR131 *e*PKPbc **PKPbc 18 33 07.3 -0.7**
BRTR Keskin Array B 147.52 308 PKPbc **PKPbc 18 33 07.2 -0.7**
comp=Z,2.9nm,0.7s,baz=147,slow=2.5,SNR=7.3
BRTR pPKPbc **pPKPbc 18 35 09.7 +0.2**
comp=Z,0.8nm,0.9s,baz=46,slow=6.2,SNR=2.5
BRTR Keskin Array B 147.52 308 PKiKP **PKPbc 18 33 07.3 -0.7**
BRTR 18 35 09.7
BRTR Keskin Array B 147.52 308 PKPbc **PKPbc 18 33 07.2 -0.7**
BRTR pPKPbc **pPKPbc 18 35 09.7 +0.2**
EDI Edinburgh 147.69 3 *e*P **PKPbc 18 33 06.3 -1.3**
PGBU Glenifferbraes 147.71 5 *e*P **PKPbc 18 33 07.0 -0.7**
GKP Gorka Klasztor 147.72 341*e*PKP **PKPbc 18 33 08.1 +0.3**
GKP Gorka Klasztor 147.72 341*e*PKiKP **PKPbc 18 33 08.1 +0.3**
ESY Stoneypath 147.72 3 *e*P **PKPbc 18 33 07.1 -0.7**
EAU Auchinoon 147.75 4 *e*P **PKPbc 18 33 07.5 -0.3**
EBL Broad Law 147.85 3 *e*P **PKPbc 18 33 07.6 -0.5**
LVV L'vov 147.88 330*e*PKiKP **PKPbc 18 33 08.1 -0.3**
TLCR 148.31 320 ⇓PKHKP **PKPbc 18 33 09.4 -0.2**
TLCR 148.31 320 ⇓*i*P **PKPbc 18 33 09.4 -0.2**
KWP Kalwaria Pacla 148.61 331*e*PKP **PKPbc 18 33 10.4 +0.2**
KWP Kalwaria Pacla 148.61 331 ⇑PKHKP **PKPbc 18 33 10.2 0.0**
KWP Kalwaria Pacla 148.61 331*e*PKPbc **PKPbc 18 33 10.1 -0.2**
KWP Kalwaria Pacla 148.61 331 ⇑*i*P **PKPbc 18 33 10.2 0.0**
CFR Carcaliu 148.72 320 ⇑PKHKP **PKPbc 18 33 10.8 +0.2**
CFR Carcaliu 148.72 320 ⇑*i*P **PKPbc 18 33 10.8 +0.2**
TESR 148.78 323 ⇑*i*P **PKPbc 18 33 09.0 -0.8**
XAL Allendale 148.80 3 *e*P **PKPbc 18 33 10.0 -0.5**
BUR08 Bucovina Ar. S 148.82 326*e*PKPbc **PKPbc 18 33 11.0 0.0**
BURAR Bucovina Array 148.83 326 ⇓*i*P **PKPbc 18 33 10.6 -0.4**
TIRR Tirgusor 148.95 319 ⇓PKHKP **PKPdf 18 33 06.9 +0.4**
TIRR Tirgusor 148.95 319 ⇓*i*P **PKPdf 18 33 06.9 +0.4**
KESW Keswick, Cumbr 149.03 4 *e*P **PKPbc 18 33 09.7 -1.4**
VRI Vrincioaia 149.13 322 ⇑PKHKP **PKPdf 18 33 07.9 +1.1**
VRI Vrincioaia 149.13 322 ⇑*i*P **PKPdf 18 33 07.8 +1.0**
PLOR Plostina 149.18 322 ⇑PKHKP **PKPbc 18 33 11.2 -0.6**
PLOR Plostina 149.18 322 ⇑*i*P **PKPbc 18 33 11.2 -0.6**
MANR Mangalia 149.18 318 ⇑*i*P **PKPbc 18 33 12.7 +0.9**
CVD Cernavoda 149.25 319 ⇓PKHKP **PKPbc 18 33 13.2 +1.3**
CVD Cernavoda 149.25 319 ⇓*i*P **PKPbc 18 33 13.2 +1.3**
KOLS Kolonicke sedl 149.32 331*e*PKHKP **PKPbc 18 33 12.5 +0.5**
KOLS Kolonicke sedl 149.32 331*e*PKP **PKPbc 18 33 12.5 +0.5**
OJC Ojcow 149.37 335*e*PKPbc **PKPbc 18 33 11.5 -0.5**
OJC Ojcow 149.37 335*e*PKHKP **PKPbc 18 33 11.5 -0.5**
BMR Baia Mare 149.65 328 ⇑PKHKP **PKPbc 18 33 11.1 -1.7**
BMR Baia Mare 149.65 328 ⇑*i*P **PKPbc 18 33 11.1 -1.7**
CRVS Cervenica-Dubn 149.70 332*e*PKHKP **PKPbc 18 33 12.8 -0.1**
CRVS Cervenica-Dubn 149.70 332*e*PKP **PKPbc 18 33 12.8 -0.1**
CRVS *e* 18 35 22.4
TRPA Tarpa 149.78 329 ⇓*i*P **PKPbc 18 33 10.8 -2.2**
MLR Muntele Rosu 149.79 322 ⇓PKHKP **PKiKP 18 33 13.0 -1.1**
NIE Niedzica 149.79 333*e*PKiKP **PKiKP 18 33 14.1 +0.3**
NIE Niedzica 149.79 333 *i* PKHKP **PKiKP 18 33 14.1 +0.3**
KSP Ksiaz 150.11 339*e*PKP **PKPbc 18 33 14.3 +0.5**
KSP Ksiaz 150.11 339*e*PKHKP **PKPbc 18 33 14.1 +0.3**
OKC Ostrava-Krasne 150.31 336 *i* PKiKP **PKPbc 18 33 14.1 -0.1**
OKC Ostrava-Krasne 150.31 336 ⇑*i*PKP **PKPbc 18 33 14.1 -0.1**
VOIR 150.32 323 ⇑PKiKP **PKPbc 18 33 12.8 -1.7**
VOIR 150.32 323 ⇑*i*P **PKPbc 18 33 12.8 -1.7**
KBI1 Birley Grange 150.43 2*e*P **PKPbc 18 33 13.3 -1.1**
CIOR Ciorogarla 150.45 321 ⇑*i*P **PKPbc 18 33 12.4 -2.3**
UPC Upice 150.49 339 *i* PKiKP **PKPbc 18 33 15.2 +0.5**
UPC Upice 150.49 339 ⇑*i*PKP **PKPbc 18 33 15.2 +0.5**
UPC *e*pPKP pPKPdf 18 35 22.5 +10
DPC Dobruska-Polom 150.52 339 *i* PKiKP **PKPbc 18 33 14.8 0.0**
DPC *e* 18 33 27.0
DPC Dobruska-Polom 150.52 339 ⇑*i*PKP **PKPbc 18 33 14.8 0.0**
DPC *e*PKPAB **PKPab 18 33 27.0 +3.2**
DPC *e*pPKP pPKPdf 18 35 22.4 +10
MORC Moravsky Berou 150.58 337*e*PKiKP **PKPbc 18 33 14.9 0.0**
MORC Moravsky Berou 150.58 337*e*PKPbc **PKPbc 18 33 14.9 0.0**
MORC Moravsky Berou 150.58 337 ⇓*i*P **PKPbc 18 33 15.4 +0.4**

KRLC	**Kraliky**	**150.60**	**338**	⇑*i*PKP	**PKPbc**	**18 33 15.5**	**+0.5**
KRLC				*e*pPKP	pPKPdf	18 35 22.7	+10
DRGR		**150.65**	**327**	⇑PKIKP	**PKPbc**	**18 33 15.2**	**0.0**
DRGR		**150.65**	**327**	⇑*i*P	**PKPbc**	**18 33 15.1**	**-0.1**
KWE	**Weaver Farm**	**150.66**	**2**	*eP*	**PKPbc**	**18 33 14.4**	**-0.5**
CLL	**Collm**	**150.66**	**343**	⇑*i*PKIKP	**PKPbc**	**18 33 14.9**	**-0.1**
CLL				pmax	pmax		
	comp=Z,37nm,0.9s						
FOEL	**Foel Wylfa**	**150.71**	**4**	*eP*	**PKPbc**	**18 33 14.3**	**-0.8**
BRG	**Berggiesshubel**	**150.80**	**342**	*i* PKIKP	**PKPbc**	**18 33 15.5**	**+0.2**
BRG				pmax	pmax		
	comp=Z,28nm,1.1s						
BRG				pmax	pmax		
	comp=Z,25nm,1.5s						
HUMR	**Humele**	**150.92**	**322**	⇑*i*P	**PKPbc**	**18 33 15.6**	**-0.2**
PVCC	**Panska Ves**	**150.92**	**341**	*i* PKIKP	**PKPbc**	**18 33 15.8**	**+0.2**
PVCC	**Panska Ves**	**150.92**	**341**	⇑*i*PKP	**PKPbc**	**18 33 15.8**	**+0.2**
PVCC				*e*pPKP	pPKPdf	18 35 23.1	+10
HLM1	**Long Mynd**	**151.10**	**4**	*eP*	**PKPbc**	**18 33 15.2**	**-0.9**
VYHS	**Vyhne**	**151.12**	**334**	*e*PKIKP	**PKPbc**	**18 33 16.2**	**0.0**
VYHS	**Vyhne**	**151.12**	**334**	*e*PKP	**PKPbc**	**18 33 16.2**	**0.0**
VYHS				*e*		18 35 23.8	
PSZ	**Piszkesteto**	**151.13**	**332**	⇑PKIKP	**PKPbc**	**18 33 16.0**	**-0.3**
VRAC	**Vranov**	**151.31**	**337**	⇑PKIKP	**PKPdf**	**18 33 12.4**	**+2.4**
PRU	**Pruhonice**	**151.40**	**340**	*i* PKIKP	**PKPbc**	**18 33 16.7**	**-0.1**
PRU	**Pruhonice**	**151.40**	**340**	⇑*i*PKP	**PKPbc**	**18 33 16.7**	**-0.1**
PRU				*e*pPKP	pPKPdf	18 35 22.7	+9.0
GZR	**Gura Zlata**	**151.57**	**325**	⇑PKIKP	**PKPbc**	**18 33 16.2**	**-1.2**
GZR	**Gura Zlata**	**151.57**	**325**	⇑*i*P	**PKPbc**	**18 33 16.2**	**-1.2**
MCH1	**Michaelchurch**	**151.61**	**4**	*eP*	**PKPbc**	**18 33 15.3**	**-1.8**
TREC	**Trest**	**151.70**	**339**	*i* PKIKP	**PKPbc**	**18 33 17.2**	**-0.3**
TREC	**Trest**	**151.70**	**339**	⇑*i*PKP	**PKPbc**	**18 33 17.2**	**-0.3**
NKC	**Novy Kostel**	**151.79**	**343**	*i* PKIKP	**PKPbc**	**18 33 17.5**	**-0.1**
NKC	**Novy Kostel**	**151.79**	**343**	⇑*i*PKP	**PKPbc**	**18 33 17.5**	**-0.1**
SKP1	**Kophill**	**151.98**	**1**	*eP*	**PKPbc**	**18 33 16.9**	**-1.1**
SKP1	**Kophill**	**151.98**	**1**	P	**PKPbc**	**18 33 16.9**	**-1.1**
BZS	**Buzias**	**152.01**	**327**	⇓PKIKP	**PKPbc**	**18 33 18.2**	**0.0**
BZS	**Buzias**	**152.01**	**327**	⇓*i*P	**PKPbc**	**18 33 18.2**	**0.0**
WOL	**Wolverton**	**152.38**	**2**	*eP*	**PKPbc**	**18 33 17.7**	**-1.2**
WOL	**Wolverton**	**152.38**	**2**	P	**PKPbc**	**18 33 17.7**	**-1.2**
KHC	**Kasperske Hory**	**152.46**	**341**	*i* PKIKP	**PKPbc**	**18 33 19.0**	**-0.2**
KHC				*e*		18 33 32.4	
KHC	**Kasperske Hory**	**152.46**	**341**	⇑*i*PKP	**PKPbc**	**18 33 19.0**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**18 33 32.4**	**+0.4**
KHC				*e*pPKP	pPKPdf	18 35 27.0	+12
GERES	**GERESS Array B**	**152.67**	**340**	PKP	**PKPdf**	**18 33 12.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=32,slow=3.3,SNR=3.4						
GERES				PKPbc	**PKPbc**	**18 33 18.9**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=17,slow=1.4,SNR=17						
GERES				*e*PKPbc	**pPKPbc**	**18 35 21.2**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=19,slow=4.8,SNR=2.8						
GERES	**GERESS Array B**	**152.67**	**340**	PKIKP	**PKPdf**	**18 33 12.7**	**+0.5**
GERES						18 33 18.9	
GERES	**GERESS Array B**	**152.67**	**340**	PKP	**PKPdf**	**18 33 12.7**	**+0.5**
GERES				PKPbc	**PKPbc**	**18 33 18.9**	**-0.8**
GERES				*e*PKPbc	**pPKPbc**	**18 35 21.2**	**-1.1**
PKSM	**Moragy**	**152.99**	**331**	⇑PKIKP	**PKPdf**	**18 33 11.9**	**-0.6**
PKSM	**Moragy**	**152.99**	**331**	⇑*i*P	**PKPdf**	**18 33 11.9**	**-0.6**
VTS	**Vitosha**	**153.12**	**320**	⇓PKIKP	**PKPdf**	**18 33 16.9**	**+3.8**
VTS	**Vitosha**	**153.12**	**320**	⇓*i*P	**PKPdf**	**18 33 16.9**	**+3.8**
MVO	**Moncorvo**	**161.55**	**17**	*e*PKPdf	**PKPdf**	**18 33 24.0**	**+0.6**
MVO	**Moncorvo**	**161.55**	**17**	*e*PKPab	**PKPab**	**18 34 11.6**	**0.0**
MTE	**Manteigas**	**162.11**	**19**	*e*PKPdf	**PKPdf**	**18 33 24.6**	**+0.6**
DBIC	**Dimbokro**	**162.44**	**163**	PKP	**PKPdf**	**18 33 24.4**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=188,slow=2.5,SNR=5.8						
DBIC				PKPab	**PKPab**	**18 34 15.2**	**-0.7**
	comp=Z,7.4nm,0.9s,baz=175,slow=4.7,SNR=5.1						
DBIC	**Dimbokro**	**162.44**	**163**	PKP	**PKPdf**	**18 33 24.4**	**-0.6**
DBIC				PKPab	**PKPab**	**18 34 15.2**	**-0.7**
EVO	**Evora**	**163.64**	**23**	*e*PKPdf	**PKPdf**	**18 33 25.8**	**+0.4**
ESDC	**Sonseca Array**	**163.67**	**11**	PKPab	**PKPab**	**18 34 20.1**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=346,slow=5.3,SNR=9.3						
ESDC	**Sonseca Array**	**163.67**	**11**	PKPab	**PKPab**	**18 34 20.1**	**-0.8**
PNCL	**Nicolau / Gran**	**163.82**	**25**	*e*PKPdf	**PKPdf**	**18 33 26.3**	**+0.7**
PBAR	**Barrancos**	**164.30**	**21**	*e*PKPdf	**PKPdf**	**18 33 25.6**	**-0.4**
PBAR	**Barrancos**	**164.30**	**21**	*e*PKPab	**PKPab**	**18 34 23.6**	**-0.1**
MORF	**Marmelete**	**164.46**	**27**	*e*PKPdf	**PKPdf**	**18 33 27.2**	**+0.9**
PFVI	**Vila Bisbo**	**164.53**	**28**	*e*PKPdf	**PKPdf**	**18 33 27.3**	**+1.1**
PVAQ	**Vaqueiros**	**164.75**	**24**	*e*PKPab	**PKPab**	**18 34 25.7**	**0.0**
PBDV	**Barranco-do-Ve**	**164.81**	**25**	*e*PKPdf	**PKPdf**	**18 33 27.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**169.43**	**188**	PKP	**PKPdf**	**18 33 29.2**	**-1.2**
	comp=Z,5.5nm,1.1s,baz=305,slow=0.5,SNR=17						
TORD				PKPab	**PKPab**	**18 34 46.8**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=181,slow=3.8,SNR=15						
TORD				pPKPab	**pPKPab**	**18 36 45.4**	**+2.2**
	comp=Z,1.0nm,1.0s,baz=154,slow=3.7,SNR=4.1						
TORD				PP	**PP**	**18 38 34.0**	**-2.0**
	comp=Z,1.3nm,1.0s,baz=169,slow=4.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**169.43**	**188**	PKP	**PKPdf**	**18 33 29.2**	**-1.2**
TORD				PKPab	**PKPab**	**18 34 46.8**	**+0.1**
TORD				pPKPab	**pPKPab**	**18 36 45.4**	**+2.2**
TORD				PP	**PP**	**18 38 34.0**	**-2.0**

*IDC **09** 18:17:01.5±1.6, 6°.75S×129°.46E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML3.9/3, Error ellipse: s-maj=86.4km s-min=24.0km az=77.0*
*ISCJB **09** 18:17:02.9±0.8, 6°.85S±0°.07×129°.9E±0°.2, h35km, mb4.0/7, Error ellipse: s-maj=30.0km s-min=10.7km az=177.7*
*NEIC **09** 18:17:05.6±0.6, 6°.79S×129°.74E, h35km, mb4.2/4, Error ellipse: s-maj=23.3km s-min=8.1km az=78.0*
ISC 09 18:17:05.5±0.9, 6°.8S±0°.1×129°.8E±0°.2, h35km, n21, σ0s77/21, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.95**	**199**	Pn	**Pn**	**18 19 53.5**	**0.0**
	0.7nm,0.3s,baz=28,slow=10.0,SNR=49						
FITZ				Sn	Sn	18 21 54.0	-12
	2.0nm,0.3s,baz=134,slow=21,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.95**	**199**	Pn	**Pn**	**18 19 53.5**	**0.0**
FITZ				Sn	Sn	18 21 54.0	-12
WRAB	**Tennant Creek**	**13.79**	**162**	*e*Pn	**Pn**	**18 20 18.0**	**-0.7**
WRAB				*e*Sn	Sn	18 22 38.3	-13
WRA	**Warramunga Arr**	**13.80**	**162**	Pn	**Pn**	**18 20 19.4**	**+0.5**
	0.4nm,0.3s,baz=341,slow=13,SNR=27						
WRA				Sn	Sn	18 22 40.2	-11
	4.5nm,0.3s,baz=334,slow=22,SNR=14						
WRA	**Warramunga Arr**	**13.80**	**162**	Pn	**Pn**	**18 20 19.4**	**+0.5**
WRA				Sn	Sn	18 22 40.2	-11
ASAR	**Alice Springs**	**17.24**	**167**	P	**P**	**18 21 05.3**	**+0.4**
	0.6nm,0.3s,baz=343,slow=8.7,SNR=76						
ASAR				S	Sn	18 24 03.8	-11
	1.2nm,0.3s,baz=350,slow=26,SNR=7.3						
ASAR	**Alice Springs**	**17.24**	**167**	P	**P**	**18 21 05.3**	**+0.4**
ASAR				S	Sn	18 24 03.8	-11
MBWA	**Marble Bar**	**17.28**	**213**	*e*Pn	**Pn**	**18 21 03.4**	**-0.8**
	19nm,1.2s						
CHTO	**Chiang Mai**	**39.65**	**310**	*eP*	**P**	**18 24 35.5**	**+1.1**
	5.5nm,1.2s						
MDJ	**Mudanjiang**	**51.17**	**360**	*eP*	**P**	**18 26 05.0**	**-0.2**
MK31	**Makanchi Array**	**67.94**	**327**	*eP*	**P**	**18 28 01.2**	**+0.3**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**18 28 01.4**	**+0.5**
	1.1nm,0.5s,baz=118,slow=8.0,SNR=39						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**18 28 01.4**	**+0.5**
AAK	**Ala-Archa**	**70.25**	**320**	*eP*	**P**	**18 28 13.0**	**-2.4**
	8.4nm,1.1s						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**18 28 21.3**	**-0.1**
	0.3nm,0.4s,baz=137,slow=5.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**18 28 21.3**	**-0.1**
KURK	**Kurchatov**	**72.23**	**329**	P	**P**	**18 28 27.0**	**-0.1**
	0.5nm,0.4s,baz=129,slow=5.3,SNR=5.9						
KURK	**Kurchatov**	**72.23**	**329**	P	**P**	**18 28 27.0**	**-0.1**
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**18 28 59.1**	**+0.1**
	0.7nm,0.8s,baz=132,slow=2.2,SNR=4.3						
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**18 28 59.1**	**+0.1**
ABKAR	**Akbulak array**	**82.22**	**322**	*eP*	**P**	**18 29 22.2**	**-0.9**
	0.4nm,0.4s						

*NEIC **09** 18:17:31.0, 44°.68N×110°.25W, h3km, ML3.4(BUT), ML3.3(SLC), After SLC.*
*IDC **09** 18:17:34.0±1.0, 44°.50N×109°.93W, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/26, mbtmp3.5/4, ML2.3/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/32, Error ellipse: s-maj=15.8km s-min=10.4km az=109.0*
ISC 09 18:17:30.7±1.1, 44°.67N±0°.02×110°.22W±0°.02, h0km±12km, n120, σ1s09/125, 43C-34D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNR	**Norris Junctio**	**0.34**	**279**	*e*Pg	**Pg**	**18 17 37.9**	**+0.7**
H17A	**Grant Village**	**0.37**	**224**	P	**Pg**	**18 17 39.2**	**+1.4**
	baz=0.4,SNR=750						
YFT	**Old Faithful**	**0.49**	**244**	*e*Pg	**Pg**	**18 17 41.4**	**+1.2**
YMR	**Madison River**	**0.54**	**271**	*e*Pg	**Pg**	**18 17 42.1**	**+1.1**
H16A	**Russell Place,**	**0.74**	**273**	⇓P	**Pg**	**18 17 45.8**	**+0.9**
	baz=0.7,SNR=180						
G17A	**Pierce Place,**	**0.75**	**331**	⇑P	**Pb**	**18 17 46.4**	**-0.5**
	baz=0.7,SNR=169						
I17A	**Pilgrim Ck.**	**0.79**	**199**	⇓P	**Pb**	**18 17 47.3**	**-0.1**
	baz=0.8,SNR=93						
G18A	**Lazy EL Ranch,**	**0.80**	**35**	⇑P	**Pb**	**18 17 47.3**	**-0.3**
	baz=0.8						
RLMT	**Red Lodge**	**0.81**	**56**	*e*Pg	**Pg**	**18 17 47.1**	**+0.7**
RLMT	**Red Lodge**	**0.81**	**56**	⇓P	**Pb**	**18 17 47.6**	**-0.3**
	baz=0.8						
RLMT				⇓P	**Pb**	**18 17 47.6**	**-0.3**
	baz=0.8						
H19A	**Powell**	**0.88**	**89**	⇑P	**Pb**	**18 17 49.5**	**-1.0**
	baz=0.9,SNR=82						
QLMT	**Earthquake Lak**	**0.88**	**281**	*e*Pg	**Pg**	**18 17 48.1**	**+0.5**
MOOW	**Moose Ponds**	**0.99**	**203**	*e*Pg	**Pb**	**18 17 50.6**	**-0.3**
I18A	**Diamond G Ranc**	**1.01**	**163**	⇑P	**Pn**	**18 17 51.2**	**-1.1**
	baz=1.0,SNR=42						
I19A	**Meeteetse**	**1.08**	**125**	⇓P	**Pn**	**18 17 52.8**	**-0.5**
	baz=1.1,SNR=118						
LOHW	**Long Hollow**	**1.09**	**195**	*e*Pg	**Pb**	**18 17 52.2**	**-0.4**
GCMT	**Greycliff**	**1.19**	**19**	*e*Pg	**Pb**	**18 17 53.8**	**-0.5**
I16A	**Newdale**	**1.21**	**230**	⇑P	**Pg**	**18 17 55.2**	**+1.3**
	baz=1.2,SNR=20						
G16A	**Moose Hill, Enn**	**1.26**	**297**	⇓P	**Pn**	**18 17 55.0**	**-0.8**
	baz=1.2,SNR=33						
SNOW	**Snow King Moun**	**1.27**	**198**	*e*Pn	**Pg**	**18 17 55.5**	**+0.5**
F17A	**Fitzpatrick Pl**	**1.28**	**346**	⇑P	**Pg**	**18 17 56.2**	**+0.9**
	baz=1.3						
DCID1	**Drake Creek**	**1.28**	**213**	*e*Pn	**Pg**	**18 17 56.5**	**+1.3**
F18A	**Big Timber**	**1.29**	**16**	⇓P	**Pb**	**18 17 55.8**	**-0.2**
	baz=1.3						
TPAW	**Teton Pass**	**1.29**	**205**	*e*Pn	**Pg**	**18 17 56.2**	**+0.7**
J17A	**Brown Place, J**	**1.35**	**196**	⇑P	**Pg**	**18 17 57.4**	**+0.8**
	baz=1.4,SNR=15						
REDW	**Red Top Meadow**	**1.38**	**200**	*e*Pn	**Pg**	**18 17 58.1**	**+0.9**
BOZ	**Bozeman (W)**	**1.40**	**315**	*e*Pn	**Pn**	**18 17 56.8**	**-0.9**
BOZ	**Bozeman (W)**	**1.40**	**315**	⇓P	**Pb**	**18 17 57.5**	**-0.4**
	baz=1.4,SNR=123						
BOZ				⇓P	**Pb**	**18 17 57.5**	**-0.4**
	baz=1.4,SNR=123						
BOZ				⇑S	**Sg**	**18 18 16.6**	**+0.8**
	baz=1.4						
BOZ				⇑S	**Sg**	**18 18 16.6**	**+0.8**
	baz=1.4						
J18A	**Kendall Valley**	**1.46**	**174**	⇑P	**Pg**	**18 17 59.2**	**+0.5**
	baz=1.5,SNR=28						
F19A	**Roth Farm, Mol**	**1.49**	**37**	⇓P	**Pg**	**18 17 59.6**	**+0.3**
	baz=1.5						
F19A				⇓S	**Sg**	**18 18 19.7**	**+1.2**
	baz=1.5						
F16A	**Kennard Place,**	**1.50**	**319**	⇑P	**Pb**	**18 17 59.1**	**-0.4**
	baz=1.5,SNR=296						
G20A	**Bridger**	**1.52**	**68**	⇑P	**Pg**	**18 18 00.2**	**+0.2**
	baz=1.5,SNR=191						
G20A				⇓S	**Sg**	**18 18 21.0**	**+1.2**
	baz=1.5						
RRI2	**Red Ridge**	**1.54**	**212**	*e*Pn	**Pg**	**18 18 00.6**	**+0.3**
H20A	**Greybull**	**1.59**	**96**	⇑Pb	**Pg**	**18 18 01.8**	**+0.5**
	baz=1.6,SNR=32						
H20A				⇑S	**Sg**	**18 18 23.1**	**+1.1**
	baz=1.6						
J19A	**Crowheart**	**1.63**	**149**	Pb	**Pg**	**18 18 02.7**	**+0.7**
	baz=1.7,SNR=50						
I20A	**Worland**	**1.66**	**115**	⇓Pb	**Pg**	**18 18 03.1**	**+0.5**
	baz=1.7,SNR=65						
I20A				⇓S	**Sg**	**18 18 24.1**	**+0.1**
	baz=1.7						
G15A	**Dillon**	**1.69**	**288**	⇓Pb	**Pb**	**18 18 03.1**	**+0.2**
	baz=1.7,SNR=166						
H15A	**Lima**	**1.73**	**269**	⇑Pb	**Pg**	**18 18 04.0**	**0.0**
	baz=1.7						
I15A	**Monteview**	**1.76**	**249**	⇑Pb	**Pg**	**18 18 04.3**	**-0.2**
	baz=1.7,SNR=19						
DLMT	**Dillon**	**1.83**	**293**	*e*Pn	**Pb**	**18 18 05.5**	**+0.3**
F20A	**Billings**	**1.85**	**51**	⇓Pb	**Pg**	**18 18 06.3**	**+0.1**
	baz=1.9,SNR=143						
E17A	**Martinsdale**	**1.85**	**346**	⇓Pg	**Pg**	**18 18 07.1**	**+0.9**
	baz=1.8,SNR=188						
MCMT	**McKenzie Canyo**	**1.88**	**276**	*e*Pn	**Pb**	**18 18 06.1**	**0.0**
E18A	**Harlowton**	**1.91**	**6**	⇑Pb	**Pg**	**18 18 07.3**	**-0.1**
	baz=1.9,SNR=93						
PD01	**Pinedale Array**	**1.94**	**166**	*e*Pn	**Pb**	**18 18 07.5**	**+0.4**
PD01				*e*Sn	**Sb**	**18 18 32.0**	**-0.1**
PD02	**Pinedale Array**	**1.94**	**166**	*e*Pn	**Pb**	**18 18 07.5**	**+0.3**
LRM	**Limekiln Ridge**	**1.96**	**307**	*e*Pn	**Pb**	**18 18 07.7**	**+0.3**
BW06	**Boulder Array**	**1.96**	**166**	*e*Pn	**Pb**	**18 18 07.5**	**+0.1**
BW06	**Boulder Array**	**1.96**	**166**	⇑Pb	**Pg**	**18 18 08.0**	**-0.2**
	baz=2.0,SNR=119						
BW06				⇑Pb	**Pg**	**18 18 08.0**	**-0.2**
	baz=2.0,SNR=119						
PDAR	**Pinedale Array**	**1.96**	**166**	Pn	**Pg**	**18 18 08.1**	**-0.2**
	23nm,0.3s,baz=357,slow=14,SNR=562						
PDAR				Sn	**Sg**	**18 18 32.9**	**-0.7**
	4.3nm,0.3s,baz=358,slow=30,SNR=9.5						
PDAR	**Pinedale Array**	**1.96**	**166**	Pn	**Pg**	**18 18 08.1**	**-0.2**
PDAR				Sn	**Sg**	**18 18 32.9**	**-0.7**
K17A	**Gardner Place,**	**1.98**	**195**	⇑Pb	**Pg**	**18 18 08.4**	**-0.3**
	baz=2.0						
F15A	**Butte**	**1.99**	**307**	⇑Pb	**Pb**	**18 18 08.2**	**+0.2**
	baz=2.0,SNR=124						
AHID	**Auburn Hatcher**	**2.00**	**199**	*e*Pn	**Pb**	**18 18 08.4**	**+0.2**
J20A	**Shoshoni**	**2.02**	**130**	⇓Pb	**Pg**	**18 18 09.5**	**0.0**
	baz=2.0,SNR=15						
K18A	**Toltan Ranch,**	**2.03**	**176**	⇑Pg	**Pg**	**18 18 11.1**	**+1.5**
	baz=2.0						
J15A	**Blackfoot**	**2.04**	**232**	⇓Pb	**Pb**	**18 18 08.8**	**0.0**
	baz=2.0,SNR=14						
E19A	**Rath Farm, Rou**	**2.06**	**29**	⇑Pb	**Pb**	**18 18 09.2**	**+0.2**
	baz=2.1,SNR=34						
E19A				⇑Sb	**Sg**	**18 18 36.9**	**+0.1**
	baz=2.1						
K16A	**Soda Springs**	**2.09**	**209**	⇓Pb	**Pg**	**18 18 10.1**	**-0.6**
	baz=2.1,SNR=6.4						
E16A	**East Helena**	**2.13**	**332**	⇓Pb	**Pb**	**18 18 10.1**	**-0.3**
	baz=2.1,SNR=27						
G21A	**Lodge Grass**	**2.21**	**74**	⇑Pb	**Pb**	**18 18 11.9**	**+0.3**
	baz=2.2,SNR=59						
H14A	**Leadore**	**2.25**	**270**	⇑Pb	**Pb**	**18 18 12.6**	**+0.2**
	baz=2.2,SNR=28						
H21A	**Big Horn, Sher**	**2.27**	**90**	⇑Pb	**Pb**	**18 18 13.0**	**+0.4**
	baz=2.3,SNR=15						
I21A	**Big Trails, Te**	**2.27**	**111**	⇑Pb	**Pb**	**18 18 13.0**	**+0.3**
	baz=2.3,SNR=49						
HRY	**Holter Researc**	**2.34**	**332**	*e*Pn	**Pb**	**18 18 12.9**	**-1.0**
E20A	**Meyer Farm, Mu**	**2.35**	**38**	⇓Pb	**Pb**	**18 18 14.0**	**0.0**
	baz=2.4,SNR=6.8						
E20A				⇓Sb	**Sg**	**18 18 45.1**	**-1.1**
	baz=2.4						
G14A	**Jackson**	**2.38**	**285**	⇑Pb	**Pb**	**18 18 14.2**	**-0.3**
	baz=2.3,SNR=14						
J21A	**Lysite**	**2.40**	**122**	⇓Pb	**Pb**	**18 18 15.7**	**+0.9**
	baz=2.4						
K20A	**Yellowstone Ra**	**2.42**	**145**	⇑P	**Pb**	**18 18 15.2**	**-0.2**
	baz=2.4,SNR=17						
K20A				⇓Sb	**Sg**	**18 18 48.4**	**-0.3**
	baz=2.4						
I14A	**Mackay**	**2.44**	**254**	⇓P	**Pb**	**18 18 14.8**	**-0.8**
	baz=2.4,SNR=30						
F21A	**Absaloka Mine,**	**2.47**	**61**	⇑P	**Pb**	**18 18 15.9**	**-0.1**
	baz=2.5,SNR=13						
F21A				⇓Sb	**Sg**	**18 18 49.2**	**-0.9**
	baz=2.5						
F14A	**Wisdom**	**2.51**	**298**	⇑Pb	**Pb**	**18 18 16.6**	**-0.1**
	baz=2.5						
D17A	**Six Diamond Ra**	**2.51**	**353**	⇑P	**Pb**	**18 18 15.0**	**-1.7**
	baz=2.5,SNR=42						
D16A	**Dana Ranch, Ca**	**2.54**	**339**	⇓P	**Pb**	**18 18 15.5**	**-1.8**
	baz=2.5						
D18A	**Linhart Farms,**	**2.55**	**6**	⇑P	**Pb**	**18 18 16.0**	**-1.3**
	baz=2.5,SNR=17						
D19A	**Cripps Ranch,**	**2.67**	**20**	⇓Pb	**Pb**	**18 18 19.4**	**0.0**
	baz=2.7,SNR=13						
D19A				⇓Sb	**Sb**	**18 18 54.6**	**+1.9**
	baz=2.7						
I22A	**9 Mile Ranch,**	**2.79**	**105**	⇑Pb	**Pb**	**18 18 21.6**	**0.0**
	baz=2.8,SNR=18						
I22A				⇑Sb	**Sg**	**18 19 00.0**	**-0.3**
	baz=2.8						
D20A	**Manuel Ranch,**	**2.83**	**30**	⇑P	**Pb**	**18 18 21.5**	**-0.7**
	baz=2.8,SNR=12						
D15A	**Lincoln**	**2.87**	**327**	⇓P	**Pb**	**18 18 20.5**	**-2.4**
	baz=2.8						
H13A	**Challis**	**2.89**	**269**	⇓P	**Pb**	**18 18 21.2**	**-2.0**
	baz=2.9						
G13A	**Cobalt**	**2.89**	**280**	⇑P	**Pb**	**18 18 21.0**	**-2.2**
	baz=2.9						
E14A	**Clinton**	**2.89**	**308**	⇑P	**Pb**	**18 18 20.8**	**-2.5**
	baz=2.9						
E21A	**Keefer Ranch,**	**2.89**	**49**	⇑P	**Pb**	**18 18 21.5**	**-1.8**
	baz=2.9,SNR=8.8						
I13A	**Wildhorse Cree**	**2.90**	**256**	⇑P	**Pb**	**18 18 21.3**	**-2.1**
	baz=2.9						
J22A	**Midwest**	**2.97**	**114**	⇑P	**Pb**	**18 18 22.8**	**-1.8**
	baz=3.0,SNR=34						
C17A	**Wharram Farm,**	**2.99**	**353**	⇓P	**Pb**	**18 18 21.9**	**-3.1**
	baz=3.0						
CHMT	**Chamberlain Mo**	**3.09**	**318**	*e*Pn	**Pn**	**18 18 22.8**	**+1.8**
F13A	**Darby**	**3.12**	**293**	⇓P	**Pn**	**18 18 23.4**	**+2.2**
	baz=3.1,SNR=15						
C19A	**Slack Wire Ran**	**3.17**	**14**	⇑P	**Pb**	**18 18 25.0**	**-3.0**
	baz=3.2,SNR=16						
HWUT	**Hardware Ranch**	**3.21**	**198**	*e*Pn	**Pn**	**18 18 22.2**	**-0.4**
HLID	**Hailey**	**3.22**	**251**	*e*Pn	Pb	18 18 25.4	-3.5
EGMT	**Eagleton**	**3.37**	**5**	*e*Pn	**Pn**	**18 18 27.1**	**+2.3**
EGMT				*e*Sg	**Sg**	**18 19 17.1**	**-2.0**
HVU	**Hansel Valley**	**3.44**	**214**	*e*Pn	**Pn**	**18 18 24.5**	**-1.2**
SLMT	**Seeley Lake**	**3.44**	**320**	Pn	**Pn**	**18 18 27.1**	**+1.3**
RWWY	**Rawlins**	**3.70**	**143**	*e*Pn	**Pn**	**18 18 30.1**	**+0.7**
SWMT	**Swartz Lake**	**3.88**	**319**	*e*Pn	**Pn**	**18 18 34.0**	**+2.3**
YBMT	**Yellow Bay**	**4.14**	**322**	*e*Pn	Pn	18 18 38.3	+2.9
JLU	**Jordanelle**	**4.16**	**193**	Pn	Pn	18 18 38.9	+3.1
JTMT	**Jette**	**4.18**	**319**	*e*Pn	Pn	18 18 38.7	+2.8
MFID	**Camas Ranch**	**4.24**	**255**	*e*Pn	**Pn**	**18 18 38.7**	**+2.1**
MFID				*e*Pb	**Pb**	**18 18 45.1**	**-1.0**
MFID				*e*Pg	Pg	18 18 49.4	-2.5
RSSD	**Black Hills**	**4.46**	**95**	Pn	**Pn**	**18 18 38.1**	**-1.7**
BSMT	**Bassoo Peak**	**4.49**	**317**	*e*Pn	**Pn**	**18 18 42.4**	**+2.1**
BSMT				*e*Pg	**Pg**	**18 18 55.2**	**-1.6**
PHWY	**Pilot Hill**	**4.85**	**132**	*e*Pn	**Pn**	**18 18 46.1**	**+1.0**
DUG	**Dugway**	**4.86**	**204**	*e*Pg	Pn	18 18 49.3	+4.0
BMO	**Blue Mountains**	**5.05**	**275**	*e*Pn	**Pn**	**18 18 47.9**	**0.0**
	10nm,0.8s						
ELK	**Elko**	**5

*IDC **09** 18:25:15.1±3.3, 13°.39N×120°.40E, h35km±28km, mb3.9/12, mb1 4.1/12, mb1mx3.8/24, mbtmp3.9/12, Error ellipse: s-maj=37.7km s-min=14.9km az=66.0*
*ISCJB **09** 18:25:16.3±0.3, 13°.30N±0°.04×120°.42E±0°.05, h70km, mb4.2/25, Error ellipse: s-maj=7.6km s-min=5.1km az=152.9*
*NEIC **09** 18:25:16.4±0.8, 13°.44N×120°.54E, h52km±8km, mb4.2/9, Error ellipse: s-maj=10.4km s-min=5.5km az=56.0*

ISC 09 18:25:18.3±0.6, 13°.28N±0°.05×120°.29E±0°.06, h70km, n62, σ1♀29/62, mb4.3/25, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.03**	**37**	Pg	Pn	18 25 31.1	-6.1
	687nm,0.3s,baz=196,slow=3.2,SNR=36						
TGY				Lg	Lg	18 25 45.8	
	704nm,0.3s,baz=315,slow=19,SNR=22						
TGY	**Tagaytay City**	**1.03**	**37**	Pg	Pn	18 25 31.1	-6.1
TGY				Lg	Lg	18 25 45.8	
TGY	**Tagaytay City**	**1.03**	**37**	↓*iP*	Pn	18 25 31.3	-5.9
BUSP	**Coron**	**1.27**	**184**	*eP*	**Pn**	**18 25 37.2**	**-3.0**
BUSP				*eS*	**Sn**	**18 25 56.2**	**-0.5**
BOAC	**Boac**	**1.52**	**83**	*eP*	**Pn**	**18 25 39.5**	**-4.0**
BOAC				*eS*	**Sn**	**18 26 03.1**	**+0.6**
OTRP	**Odiongan**	**1.92**	**118**	*eP*	**Pn**	**18 25 46.1**	**-2.7**
GQP	**Guinayangan**	**2.18**	**73**	↑*eP*	**Pn**	**18 25 50.7**	**-1.7**
GQP				*eS*	**Sn**	**18 26 19.2**	**+0.7**
ENPP	**El Nido**	**2.23**	**202**	*eP*	**Pn**	**18 25 50.3**	**-2.7**
SCZP	**Santa Cruz**	**2.51**	**352**	*eP*	Pn	18 25 52.1	-4.8
CUYO	**Cuyo Island**	**2.52**	**164**	*eP*	**Pn**	**18 25 54.2**	**-2.7**
BALP	**Baler**	**2.75**	**27**	*eP*	**Pn**	**18 25 58.0**	**-2.0**
RCP	**Roxas**	**2.94**	**125**	↑*eP*	**Pn**	**18 26 02.2**	**-0.5**
BCPH	**Baguio City Da**	**3.10**	**5**	↑*iP*	**Pn**	**18 26 01.9**	**-3.1**
GUIM	**Jordan**	**3.46**	**139**	*eP*	**Pn**	**18 26 08.2**	**-1.6**
CM31	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**18 29 59.8**	**+1.8**
	2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**18 29 59.4**	**+1.4**
	2.7nm,0.8s,baz=96,slow=8.8,SNR=15						
CMAR	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**18 29 59.4**	**+1.4**
ODAN	**Odare**	**33.61**	**299**	*eP*	**P**	**18 31 53.7**	**+1.2**
	8.7nm,0.7s						
ODAN	**Odare**	**33.61**	**299**	*eP*	**P**	**18 31 53.7**	**+1.2**
	8.7nm,0.7s						
RAMN	**Ramite**	**34.31**	**299**	*eP*	**P**	**18 31 59.4**	**+0.8**
RAMN	**Ramite**	**34.31**	**299**	*eP*	**P**	**18 31 59.4**	**+0.8**
JIRN	**Jiri**	**34.87**	**300**	*eP*	**P**	**18 32 04.4**	**+0.9**
	12nm,0.6s						
JIRN	**Jiri**	**34.87**	**300**	*eP*	**P**	**18 32 04.4**	**+0.9**
	12nm,0.6s						
GUN	**Gumba**	**35.21**	**300**	*eP*	**P**	**18 32 06.9**	**+0.5**
	6.9nm,0.4s						
PKI	**Pulchoki**	**35.51**	**299**	*eP*	**P**	**18 32 09.2**	**+0.3**
	6.9nm,0.6s						
PKI	**Pulchoki**	**35.51**	**299**	*eP*	**P**	**18 32 09.2**	**+0.3**
	6.9nm,0.6s						
KKN	**Kakani**	**35.68**	**299**	*eP*	**P**	**18 32 10.8**	**+0.5**
	9.4nm,0.9s						
KKN	**Kakani**	**35.68**	**299**	*eP*	**P**	**18 32 10.8**	**+0.5**
	9.4nm,0.9s						
WRAB	**Tennant Creek**	**35.78**	**157**	*eP*	**P**	**18 32 11.1**	**+0.2**
	4.5nm,0.5s						
WRA	**Warramunga Arr**	**35.79**	**157**	P	**P**	**18 32 11.5**	**+0.5**
	4.0nm,0.5s,baz=336,slow=9.5,SNR=22						
WRA	**Warramunga Arr**	**35.79**	**157**	P	**P**	**18 32 11.5**	**+0.5**
WB2	**Warramunga Arr**	**35.79**	**157**	*eP*	**P**	**18 32 10.8**	**-0.2**
ULN	**Ulaanbaatar**	**36.21**	**345**	*eP*	**P**	**18 32 13.2**	**-1.3**
	2.3nm,0.6s						
SONM	**Songino Array**	**36.35**	**344**	P	**P**	**18 32 15.2**	**-0.4**
	3.4nm,0.6s,baz=164,slow=9.8,SNR=25						
SONM	**Songino Array**	**36.35**	**344**	P	**P**	**18 32 15.2**	**-0.4**
KOLN	**Koldanda**	**37.10**	**299**	*eP*	**P**	**18 32 23.1**	**+0.7**
	6.0nm,0.7s						
KOLN	**Koldanda**	**37.10**	**299**	*eP*	**P**	**18 32 23.1**	**+0.7**
	6.0nm,0.7s						
ASAR	**Alice Springs**	**39.06**	**160**	P	**P**	**18 32 40.0**	**+1.4**
	5.7nm,0.5s,baz=338,slow=6.9,SNR=54						
ASAR	**Alice Springs**	**39.06**	**160**	P	**P**	**18 32 40.0**	**+1.4**
MKAR	**Makanchi Array**	**46.14**	**324**	P	**P**	**18 33 36.4**	**+0.6**
	1.2nm,0.7s,baz=130,slow=9.7,SNR=9.2						
MKAR	**Makanchi Array**	**46.14**	**324**	P	**P**	**18 33 36.4**	**+0.6**
TKM2	**Tokmak 2**	**48.45**	**316**	*eP*	**P**	**18 33 54.5**	**+0.5**
AAK	**Ala-Archa**	**49.09**	**316**	P	**P**	**18 34 00.0**	**+1.2**
	4.7nm,0.7s						
ZALV	**Zalesovo Beam**	**49.25**	**333**	P	**P**	**18 33 59.0**	**-0.6**
	0.4nm,0.4s,baz=142,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**49.25**	**333**	P	**P**	**18 33 59.0**	**-0.6**
EKS2	**Erkin-Say**	**49.59**	**315**	*eP*	**P**	**18 34 03.7**	**+1.1**
	1.6nm,0.7s						
KURK	**Kurchatov**	**50.32**	**327**	P	**P**	**18 34 08.6**	**+0.7**
	1.7nm,0.6s,baz=132,slow=8.0,SNR=11						
KURK	**Kurchatov**	**50.32**	**327**	*eP*	**P**	**18 34 08.1**	**+0.3**
	3.0nm,0.6s						
KURK				P	**P**	**18 34 08.6**	**+0.7**
KKAR	**Karatay Array**	**51.99**	**315**	*eP*	**P**	**18 34 21.1**	**+0.6**
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	**18 34 49.4**	**+0.6**
	0.7nm,0.5s,baz=118,slow=8.8,SNR=7.1						
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	**18 34 49.4**	**+0.6**
BRVK	**Borovoye**	**55.97**	**326**	*eP*	**P**	**18 34 48.9**	**-0.4**
	2.8nm,0.9s						
ABKAR	**Akbulak array**	**60.79**	**319**	*eP*	**P**	**18 35 23.0**	**0.0**
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**62.28**	**320**	P	**P**	**18 35 33.4**	**+0.3**
	0.9nm,0.7s,baz=84,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**62.28**	**320**	P	**P**	**18 35 33.4**	**+0.3**
ARCES	**ARCESS Array B**	**79.34**	**339**	P	**P**	**18 37 16.1**	**0.0**
	3.6nm,0.9s,baz=2.6,slow=2.7,SNR=3.7						
ARCES	**ARCESS Array B**	**79.34**	**339**	P	**P**	**18 37 16.1**	**0.0**
FINES	**FINESS Array B**	**80.46**	**331**	P	**P**	**18 37 21.6**	**-0.6**
	2.6nm,0.9s,baz=54,slow=4.9,SNR=5.0						
FINES	**FINESS Array B**	**80.46**	**331**	P	**P**	**18 37 21.6**	**-0.6**
NB2	**NORSAR Subarra**	**87.45**	**333**	P	**P**	**18 37 57.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**87.45**	**333**	P	**P**	**18 37 57.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=68,slow=4.7,SNR=4.8						
NOA	**NORSAR Array B**	**87.45**	**333**	P	**P**	**18 37 57.5**	**-0.5**

*TRN **09** 18:33:12.3, 10°.95N×60°.65W, h33km, MD4.0, M4.5(FDF)*
*FUNV **09** 18:33:13.1, 10°.95N×60°.66W, h24km, MW4.0*
*IDC **09** 18:33:13.4±0.8, 11°.05N×60°.92W, h38km±7km, mb3.5/13, mb1 3.8/13, mb1mx3.7/23, mbtmp3.5/13, MS3.0/2, Ms1 3.0/2, ms1mx2.7/35, Error ellipse: s-maj=19.2km s-min=13.0km az=90.0*

ISC 09 18:33:10.5±1.2, 10°.95N±0°.03×60°.72W±0°.04, h17km±7km, n54, σ1♀36/69, mb3.7/14, 2C-11D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOT	**Bacolet**	**0.21**	**0**	↓*iP*	Pb	18 33 20.5	+4.5
TPR	**Prospect**	**0.24**	**346**	↑*iP*	**Sg**	**18 33 20.9**	**+1.2**
TOSP	**Speyside**	**0.39**	**27**	↓*iP*	**Pn**	**18 33 22.5**	**+1.1**
TOSP				*eS*	**Sn**	**18 33 28.7**	**+0.2**
TBH	**Brigand Hill**	**0.58**	**216**	*eP*	**Pn**	**18 33 23.8**	**-0.1**
TRN	**Trinidad (W)**	**0.74**	**246**	↓*iP*	**Pn**	**18 33 28.7**	**+2.6**
TRN				*eS*	**Sn**	**18 33 39.3**	**+2.3**
TPP	**Pointe-a-Pierr**	**0.96**	**229**	*eP*	**Pn**	**18 33 31.5**	**+2.4**
GUIV	**Guiria**	**1.51**	**259**	↓*eP*	**Pg**	**18 33 39.4**	**-0.2**
GUIV				*eS*	**Sg**	**18 33 58.2**	**-1.1**
GRW	**Mount Saint Ca**	**1.52**	**323**	*eP*	**Pg**	**18 33 39.1**	**-0.6**
GRHS	**Sauteurs**	**1.56**	**325**	*eP*	**Pg**	**18 33 40.1**	**-0.3**
GRHS				*eS*	**Sb**	**18 33 58.2**	**-0.1**
GRSS	**Sisters**	**1.60**	**327**	*eP*	**Pb**	**18 33 40.2**	**+0.6**
GRSS				*eS*	**Sb**	**18 34 00.7**	**+1.1**
GUNV	**Guanoco**	**2.32**	**250**	*eP*	**Pb**	**18 33 50.7**	**-1.2**
GUNV				*eS*	**Sn**	**18 34 17.4**	**+1.2**
BHS	**Barnard House**	**2.37**	**350**	*eP*	**Pb**	**18 33 51.3**	**-1.4**
SVB	**Belmont**	**2.37**	**347**	*eP*	**Pn**	**18 33 50.3**	**+1.7**
SVB				*eS*	**Sn**	**18 34 18.6**	**+1.3**
ITEV	**Isla Los Testi**	**2.40**	**280**	*eP*	**Pn**	**18 33 51.1**	**+2.1**
ITEV				*eS*	**Sn**	**18 34 19.3**	**+1.1**
SVV	**Soufriere Volc**	**2.40**	**348**	*eP*	**Pb**	**18 33 51.8**	**-1.5**
CRUV	**Carupano**	**2.49**	**264**	↓*eP*	**Pn**	**18 33 51.6**	**+1.4**
CRUV				*eS*	**Sn**	**18 34 19.4**	**-0.9**
MCLT	**Moule a Chique**	**2.75**	**355**	*eP*	**Pn**	**18 33 55.6**	**+1.7**
MCLT				*eS*	**Sn**	**18 34 27.3**	**+0.5**
SLB	**Belfond**	**2.88**	**354**	*eP*	**Pn**	**18 33 57.9**	**+2.2**
SLB				*eS*	**Sn**	**18 34 30.0**	**0.0**
RIOV	**Rio Grande**	**3.06**	**201**	↓*eP*	**Pn**	**18 34 00.2**	**+2.1**
RIOV				*eS*	**Sn**	**18 34 33.3**	**-1.2**
ORIV	**Oritupano**	**3.24**	**235**	*eP*	**Pn**	**18 34 02.1**	**+1.5**
ORIV				*eS*	**Sn**	**18 34 38.8**	**-0.1**
BIM	**Bigot**	**3.56**	**355**	*eP*	**Pn**	**18 34 06.9**	**+1.8**
BIM				*eS*	**Sn**	**18 34 48.0**	**+1.1**
MVM	**Montagne Vaucl**	**3.59**	**357**	*eP*	**Pn**	**18 34 07.2**	**+1.8**
MVM				*eS*	**Sn**	**18 34 48.2**	**+0.7**
FDF	**Fort de France**	**3.78**	**354**	↓*eP*	**Pn**	**18 34 09.8**	**+1.7**
FDF				↓*eS*	**Sn**	**18 34 53.2**	**+0.9**
IBAV	**Isla La Blanqu**	**3.88**	**283**	↓*eP*	**Pn**	**18 34 10.8**	**+1.4**
IBAV				*eS*	**Sn**	**18 34 53.7**	**-0.9**
PCRV	**Puerto La Cruz**	**3.93**	**259**	↓*eP*	**Pn**	**18 34 11.0**	**+0.9**
GURV	**El Guri**	**3.94**	**217**	↓*eP*	**Pn**	**18 34 11.8**	**+1.6**
PHG	**Guadaloupe-2**	**5.11**	**350**	*eP*	**Pn**	**18 34 28.4**	**+2.0**
LUEV	**Luepa**	**5.13**	**188**	*eP*	**Pn**	**18 34 26.5**	**-0.2**
LZG	**Guadaloupe-1**	**5.26**	**349**	*eP*	**Pn**	**18 34 28.6**	**+0.2**
BIRV	**Birongo**	**5.47**	**266**	*eP*	**Pn**	**18 34 33.1**	**+1.7**
MERV	**Las Mercedes**	**5.75**	**253**	*eP*	**Pn**	**18 34 35.7**	**+0.6**
TURV	**Turiamo**	**7.02**	**267**	*eP*	**Pn**	**18 34 52.0**	**-0.5**
BAUV	**El Baul**	**7.48**	**255**	*eP*	**Pn**	**18 34 58.3**	**-0.7**
MAPV	**Macapo**	**7.69**	**262**	↓*eP*	**Pn**	**18 35 01.4**	**-0.5**
TEPV	**Terepaima**	**8.39**	**264**	*eP*	**Pn**	**18 35 10.7**	**-0.8**
MONV	**Montecano**	**9.12**	**277**	*eP*	**Pn**	**18 35 21.9**	**+0.3**
CURV	**Curarigua**	**9.14**	**265**	*eP*	**Pn**	**18 35 21.3**	**-0.4**
SOCV	**Socops**	**10.34**	**256**	*eP*	**Pn**	**18 35 36.6**	**-1.6**
ROSC	**El Rosal**	**14.77**	**247**	Pn	**P**	**18 36 48.0**	**+2.8**
	2.5nm,0.3s,baz=93,slow=3.8,SNR=11						
ATAH	**Atahualpa**	**25.14**	**225**	P	**P**	**18 38 36.1**	**+0.7**
	20nm,0.7s,baz=34,slow=5.4,SNR=12						
LPAZ	**La Paz**	**28.04**	**195**	P	**P**	**18 39 03.3**	**+1.5**
	1.1nm,0.7s,baz=12,slow=9.7,SNR=4.7						
LPAZ				LR	LR	18 51 31.3	
	comp=Z,40nm,18.6s,baz=345,slow=39						
CPUP	**Villa Florida**	**37.20**	**175**	P	**P**	**18 40 21.5**	**+0.5**
	0.4nm,0.3s,baz=350,slow=11,SNR=3.9						
CFAA	**Coronel Fontan**	**42.92**	**189**	P	**P**	**18 41 08.1**	**-0.4**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=5.1						
TXAR	**Lajitas Array**	**43.98**	**301**	P	**P**	**18 41 14.8**	**-2.5**
	0.4nm,0.5s,baz=113,slow=10.0,SNR=13						
TXAR				PcP	**PcP**	**18 43 03.4**	**+0.4**
	0.6nm,0.6s,baz=115,slow=5.4,SNR=7.0						
PLCA	**Paso Flores**	**52.22**	**189**	P	**P**	**18 42 21.1**	**+0.4**
	1.9nm,0.7s,baz=2.4,slow=7.0,SNR=5.5						
PDAR	**Pinedale Array**	**52.87**	**316**	P	P	18 42 22.4	-3.4
	0.5nm,0.5s,baz=116,slow=9.4,SNR=7.5						
ESDC	**Sonseca Array**	**57.62**	**50**	P	**P**	**18 43 02.0**	**+2.0**
	0.2nm,0.4s,baz=270,slow=7.7,SNR=4.2						
ESDC				pP	pP	18 43 13.2	+7.9
	1.5nm,0.7s,baz=263,slow=7.1,SNR=6.1						
NVAR	**Mina Array Bea**	**57.98**	**309**	P	**P**	**18 43 00.4**	**-2.3**
	0.3nm,0.5s,baz=101,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**60.95**	**81**	P	**P**	**18 43 23.7**	**+0.5**
	0.7nm,0.6s,baz=288,slow=5.7,SNR=7.4						
TORD				pP	pP	18 43 34.9	+6.1
	0.8nm,0.9s,baz=285,slow=5.8,SNR=2.6						
YKA	**Yellowknife Ar**	**64.16**	**335**	P	**P**	**18 43 42.4**	**-1.4**
	1.5nm,0.6s,baz=110,slow=7.5,SNR=21						
YKA				LR	LR	19 10 37.1	
	comp=Z,6.4nm,18.2s,baz=65,slow=35						
GERES	**GERESS Array B**	**71.58**	**42**	P	**P**	**18 44 30.5**	**-0.6**
	0.2nm,0.4s,baz=263,slow=7.8,SNR=3.7						
GERES				pP	pP	18 44 42.0	+5.4
	0.5nm,0.6s,baz=256,slow=5.4,SNR=3.8						
INK	**Inuvik**	**73.55**	**338**	P	**P**	**18 44 41.6**	**-0.6**
	1.1nm,0.6s,baz=113,slow=5.6,SNR=8.4						
ILAR	**Eielson Array**	**78.54**	**334**	P	**P**	**18 45 09.9**	**-0.8**
	0.4nm,0.5s,baz=88,slow=4.8,SNR=9.7						
CMAR	**Chiang Mai Arr**	**144.55**	**35**	PKP	PKPbc	18 52 46.2	+0.5
	1.1nm,0.9s,baz=306,slow=4.6,SNR=5.7						

IDC 09 18:39:38.0±2.3, 0°.69S×132°.74E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=97.7km s-min=24.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.66**	**202**	P	P	18 43 57.6	-0.1
	0.1nm,0.3s,baz=0.0,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**19.20**	**175**	P	P	18 44 03.6	0.0
	0.1nm,0.3s,baz=354,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**22.87**	**177**	P	P	18 44 43.3	0.0
	0.4nm,0.3s,baz=358,slow=11,SNR=20						
MKAR	**Makanchi Array**	**64.61**	**324**	P	P	18 50 17.4	0.0
	0.1nm,0.5s,baz=116,slow=8.3,SNR=2.7						

*IDC **09** 18:45:02.3±1.2, 7°.73N×127°.76E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=36.5km s-min=22.4km az=79.0*
*ISCJB **09** 18:45:06.6±0.9, 7°.57N±0°.08×127°.32E±0°.07, h41km, mb3.4/5, Error ellipse: s-maj=11.6km s-min=9.2km az=24.7*
*MAN **09** 18:45:07, 7°.58N×127°.27E, h31km, mb4.7, ML3.6, MS3.6*

ISC 09 18:45:08.3±1.1, 7°.66N±0°.09×127°.37E±0°.10, h41km, n10, σ2♀33/13, mb3.3/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.32**	**237**	*eP*	**Pn**	**18 45 27.3**	**-2.9**
MATI				*eS*	**Sn**	**18 45 42.8**	**-3.8**
DAV	**Davao City (W)**	**1.88**	**252**	Pn	**Pn**	**18 45 40.6**	**+2.8**
	28nm,0.3s,baz=93,slow=6.2,SNR=4.3						
DAV				Sn	**Sn**	**18 46 04.2**	**+3.8**
	21nm,0.3s,baz=289,slow=20,SNR=12						
BUTP	**Butuan**	**2.17**	**307**	*eP*	**Pn**	**18 45 40.8**	**-1.1**
BUKP	**Musuan**	**2.30**	**275**	*eP*	**Pn**	**18 45 44.5**	**+0.7**
CGP	**Cagayan de Oro**	**2.77**	**287**	↓*eP*	**Pn**	**18 45 49.9**	**-0.2**
CGP				*eS*	**Sn**	**18 46 21.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**25.66**	**184**	P	**P**	**18 50 34.3**	**-0.1**
	2.6nm,0.9s,baz=20,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**28.28**	**166**	P	**P**	**18 50 56.0**	**-1.9**
	0.4nm,0.8s,baz=3.9,slow=7.7,SNR=5.3						
ASAR	**Alice Springs**	**31.79**	**169**	P	**P**	**18 51 29.8**	**+0.8**
	0.1nm,0.4s,baz=348,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**54.75**	**323**	P	**P**	**18 54 33.5**	**-0.3**
	0.5nm,0.6s,baz=108,slow=7.3,SNR=5.6						
ILAR	**Eielson Array**	**81.30**	**26**	P	**P**	**18 57 21.1**	**+1.1**
	0.2nm,0.6s,baz=233,slow=5.1,SNR=4.7						

*IDC **09** 18:48:21.1±1.3, 7°.39S×131°.26E, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.8/13, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=57.1km s-min=24.9km az=84.0*
*NEIC **09** 18:48:22.9±0.7, 7°.47S×130°.92E, h10km, mb4.2/1, Error ellipse: s-maj=18.2km s-min=11.0km az=79.0*
*ISCJB **09** 18:48:23.9±0.6, 7°.67S±0°.05×130°.88E±0°.09, h33km, mb3.8/5, Error ellipse: s-maj=12.7km s-min=6.2km az=170.8*

ISC 09 18:48:26.2±0.8, 7°.60S±0°.07×130°.9E±0°.1, h35km, n20, σ1♀52/26, mb3.7/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.63**	**206**	Pn	Pn	18 51 13.5	+3.7
	0.9nm,0.3s,baz=30,slow=13,SNR=18						
FITZ				Sn	**Sn**	**18 53 18.2**	**-0.4**
	0.5nm,0.3s,baz=98,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.63**	**206**	Pn	Pn	18 51 13.5	+3.7
FITZ				Sn	**Sn**	**18 53 18.2**	**-0.4**
WRAB	**Tennant Creek**	**12.71**	**165**	*eP*n	**Pn**	**18 51 25.2**	**+0.6**
WRAB				*eS*n	**Sn**	**18 53 42.4**	**-2.5**
WRA	**Warramunga Arr**	**12.71**	**165**	Pn	**Pn**	**18 51 25.2**	**+0.6**
	1.0nm,0.3s,baz=348,slow=13,SNR=27						
WRA				Sn	**Sn**	**18 53 43.4**	**-1.6**
	0.7nm,0.3s,baz=334,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**12.71**	**165**	Pn	**Pn**	**18 51 25.2**	**+0.6**
WRA				Sn	**Sn**	**18 53 43.4**	**-1.6**
WB2	**Warramunga Arr**	**12.72**	**165**	*eP*n	**Pn**	**18 51 24.7**	**0.0**
WB2				*eS*n	**Sn**	**18 53 43.8**	**-1.3**
PMG	**Port Moresby**	**16.17**	**98**	P	**Pn**	**18 52 11.0**	**+0.1**
ASAR	**Alice Springs**	**16.23**	**170**	Pn	**Pn**	**18 52 12.3**	**+0.6**
	1.1nm,0.3s,baz=357,slow=13,SNR=50						
ASAR				Sn	**Sn**	**18 55 10.1**	**-0.7**
	0.2nm,0.3s,baz=350,slow=24,SNR=4.4						
ASAR	**Alice Springs**	**16.23**	**170**	Pn	**Pn**	**18 52 12.3**	**+0.6**
ASAR				Sn	**Sn**	**18 55 10.1**	**-0.7**
MBWA	**Marble Bar**	**17.28**	**218**	Pn	**Pn**	**18 52 23.2**	**-1.6**
STKA	**Stephens Creek**	**26.13**	**159**	P	**P**	**18 54 01.5**	**+4.4**
	1.7nm,0.7s,baz=328,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**26.13**	**159**	P	**P**	**18 53 60.0**	**+2.9**
SONM	**Songino Array**	**59.29**	**341**	P	**P**	**18 58 24.3**	**-0.3**
	0.4nm,0.6s,baz=150,slow=4.3,SNR=3.3						
SONM	**Songino Array**	**59.29**	**341**	P	**P**	**18 58 24.3**	**-0.3**
MK31	**Makanchi Array**	**69.22**	**327**	*eP*	**P**	**18 59 28.9**	**-0.6**
MKAR	**Makanchi Array**	**69.22**	**327**	P	**P**	**18 59 30.2**	**+0.7**
	1.4nm,0.5s,baz=119,slow=8.1,SNR=34						
MKAR	**Makanchi Array**	**69.22**	**327**	P	**P**	**18 59 30.2**	**+0.7**
TKM2	**Tokmak 2**	**71.02**	**320**	P	**P**	**18 59 41.4**	**+0.5**
	1.2nm,0.7s						
ILAR	**Eielson Array**	**93.50**	**25**	P	**P**	**19 01 36.4**	**-1.6**
	0.2nm,0.6s,baz=243,slow=6.0,SNR=3.0						
ILAR	**Eielson Array**	**93.50**	**25**	P	**P**	**19 01 36.4**	**-1.6**

MEX 09 18:50:02.5±1.0, 15°.57N×97°.27W, h6km±15km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.14**	**80**	*eP*	Pg	18 50 20.4	-4.0
HUIG				*i* S	Sg	18 50 36.4	-2.8
PNIG	**Pinotepa**	**1.16**	**315**	*eP*	Pg	18 50 21.9	-2.9
PNIG				*i* S	Sg	18 50 35.7	-4.2
VHO	**Vista Hermosa**	**1.58**	**19**	*i* P	Pn	18 50 28.1	-3.2
VHO				*i* S	Sn	18 50 46.9	-5.4
OXX	**Oaxaca**	**1.59**	**19**	*eP*	Pn	18 50 27.4	-4.0
OXX				*i* S	Sn	18 50 47.4	-5.1
UTMO	**Huajuapan**	**2.30**	**347**	*i* P	Pn	18 50 37.9	-3.3
UTMO				*i* S	Sn	18 51 05.9	-4.2
CMIG	**Matias Romero**	**2.75**	**56**	*eP*	Pn	18 50 44.2	-2.9
CMIG				*i* S	Sn	18 51 16.1	-4.5
TPIG	**Tehuac#an**	**2.83**	**358**	*i* S	Sn	18 51 19.1	-4.0
TGIG		**4.17**	**73**	*i* P	Pn	18 51 04.2	-2.4
CCIG	**Comitan**	**4.99**	**81**	*i* P	Pn	18 51 14.2	-4.0
CCIG				*i* S	Sn	18 52 12.4	-4.0

*ISCJB **09** 18:50:02.6±1.2, 34°.62N±0°.06×36°.34E±0°.09, h8km±14km, Error ellipse: s-maj=12.9km s-min=10.1km az=19.4*
*CSEM **09** 18:50:02.9, 34°.65N×36°.38E, h5km, ML2.9, After GRAL*
*GRAL **09** 18:50:02.9±0.3, 34°.65N×36°.38E, h5km±4km, MD2.9*

ISC 09 18:50:03.0±1.3, 34°.60N±0°.07×36°.33E±0°.08, h15km±13km, n10, σ0♀72/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.36**	**169**	*eP*	**Pg**	**18 50 10.2**	**-0.1**
FKH				*eS*	**Sg**	**18 50 15.6**	**+0.3**
FKH	**Fakeheh**	**0.36**	**169**	*eP*	**Pg**	**18 50 10.2**	**-0.1**
FKH				*eS*	**Sg**	**18 50 15.6**	**+0.3**
HWQ	**Hawqa**	**0.45**	**225**	*eP*	**Pg**	**18 50 12.1**	**+0.1**
HWQ				*eS*	**Sb**	**18 50 19.0**	**-0.2**
HWQ	**Hawqa**	**0.45**	**225**	*eP*	**Pg**	**18 50 12.1**	**+0.1**
HWQ				*eS*	**Sb**	**18 50 19.0**	**-0.2**
BHL	**Bhannes**	**0.89**	**219**	*eP*	**Pb**	**18 50 20.0**	**-0.1**
BHL	**Bhannes**	**0.89**	**219**	*eP*	**Pb**	**18 50 20.0**	**-0.1**
RCY	**Rachaya**	**1.17**	**201**	*eP*	**Pb**	**18 50 24.7**	**-0.3**
YAYL	**Yayladag**	**1.45**	**353**	*i* P	**Pn**	**18 50 28.0**	**-0.7**
YAYL				*i* S	**Sn**	**18 50 47.3**	**-0.3**
KUZU	**Kuzuini**	**2.26**	**15**	*i* P	**P

IDC 09 20:35:40.0±8.7, 22.16S×68.38W, h69km±60km, mb3.8/3, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=93.5km s-min=39.8km az=37.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.85**	**2**	P	Pn	20 37 05.4	+0.5
	0.7nm,0.3s,baz=193,slow=7.7,SNR=10						
SIV	**San Ignacio**	**9.24**	**50**	P	Pn	20 37 49.9	-0.7
	baz=254,slow=12						
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	P	20 47 26.4	-0.1
	1.4nm,0.6s,baz=255,slow=5.6,SNR=19						
BOSA	**Boshof**	**82.70**	**118**	P	P	20 47 56.8	0.0
	1.5nm,0.8s,baz=239,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**91.97**	**340**	P	P	20 48 39.5	-1.0
	0.3nm,0.6s,baz=133,slow=4.1,SNR=5.9						
MKAR	**Makanchi Array**	**145.87**	**37**	PKPbc	PKPab	20 55 11.8	-0.2
	0.2nm,0.3s,baz=306,slow=4.2,SNR=4.5						

IDC 09 20:51:23.7±2.8, 4.96S×134.28E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=103.8km s-min=30.8km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.90**	**180**	Pn	Pn	20 54 57.1	+1.3
	0.1nm,0.3s,baz=0.2,slow=13,SNR=4.0						
WRA				Sn	Sn	20 57 32.0	-10
	0.1nm,0.3s,baz=353,slow=24,SNR=3.1						
FITZ	**Fitzroy Crossi**	**15.56**	**212**	Pn	Pn	20 55 02.6	-2.0
	0.1nm,0.3s,baz=34,slow=12,SNR=6.2						
FITZ				Sn	Sn	20 57 43.8	-14
	0.2nm,0.3s,baz=196,slow=18,SNR=4.3						
ASAR	**Alice Springs**	**18.61**	**181**	P	P	20 55 42.8	0.0
	0.0nm,0.3s,baz=7.0,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**68.95**	**325**	P	P	21 02 30.8	+0.1
	0.1nm,0.5s,baz=115,slow=7.4,SNR=4.5						

IDC 09 20:51:35.4±1.8, 16.61S×178.40W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/17, mbtmp3.9/5, Error ellipse: s-maj=105.4km s-min=25.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.27**	**240**	P	P	20 59 06.3	+0.2
	1.3nm,0.5s,baz=87,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**44.89**	**258**	P	P	20 59 52.0	-0.1
	0.5nm,0.4s,baz=96,slow=7.4,SNR=8.4						
ASAR	**Alice Springs**	**45.16**	**253**	P	P	20 59 54.0	-0.4
	7.4nm,0.6s,baz=88,slow=8.1,SNR=103						
ILAR	**Eielson Array**	**84.63**	**13**	P	P	21 04 10.1	-0.4
	0.6nm,1.0s,baz=220,slow=6.9,SNR=3.1						
TXAR	**Lajitas Array**	**85.30**	**58**	P	P	21 04 15.2	+0.4
	0.2nm,0.8s,baz=219,slow=5.8,SNR=4.3						

IDC 09 21:04:07.8±1.6, 16.99S×167.56E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.8/9, ML4.0/1, Error ellipse: s-maj=45.0km s-min=21.3km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.17**	**192**	Pn	Pn	21 05 28.3	+1.8
	5.8nm,0.3s,baz=334,slow=18,SNR=18						
DZM				Sn	Sn	21 06 25.5	-1.5
	6.4nm,0.3s,baz=317,slow=21,SNR=7.8						
DZM	**Mont Dzumac**	**5.17**	**192**	*e*P	Pn	21 05 27.1	+0.6
DZM				*e*S	Sn	21 06 24.7	-2.3
CTA	**Charters Tower**	**20.43**	**258**	P	Pn	21 08 47.9	-1.0
	5.2nm,0.8s,baz=27,slow=6.7,SNR=2.9						
STKA	**Stephens Creek**	**27.81**	**233**	P	P	21 09 58.9	+0.1
	1.0nm,0.8s,baz=84,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**31.62**	**259**	P	P	21 10 32.0	-0.7
	0.3nm,0.4s,baz=80,slow=6.0,SNR=4.4						
ASAR	**Alice Springs**	**32.20**	**252**	P	P	21 10 37.0	-0.8
	0.4nm,0.5s,baz=80,slow=9.0,SNR=7.8						
PETK	**Petropavlovsk-**	**70.32**	**354**	P	P	21 15 23.9	+0.9
	2.2nm,0.8s,baz=117,slow=9.9,SNR=4.1						
SONM	**Songino Array**	**84.47**	**324**	P	P	21 16 43.0	+0.5
	0.5nm,0.8s,baz=135,slow=4.6,SNR=4.5						
ILAR	**Eielson Array**	**88.58**	**18**	P	P	21 17 00.7	-1.4
	0.2nm,0.6s,baz=244,slow=5.1,SNR=4.3						
MKAR	**Makanchi Array**	**99.02**	**316**	P	Pdif	21 17 50.3	-0.3
	0.1nm,0.6s,baz=92,slow=5.7,SNR=2.6						

IDC 09 21:04:15.6±2.4, 13.18S×66.15E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, Error ellipse: s-maj=71.7km s-min=29.0km az=61.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**45.10**	**47**	P	P	21 12 34.9	+1.0
	0.3nm,0.6s,baz=244,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**61.43**	**13**	P	P	21 14 32.3	-1.4
	0.3nm,0.8s,baz=199,slow=5.8,SNR=3.3						
ASAR	**Alice Springs**	**64.63**	**110**	P	P	21 14 54.5	-1.0
	0.4nm,0.7s,baz=274,slow=5.8,SNR=7.3						
WRA	**Warramunga Arr**	**65.34**	**106**	P	P	21 15 00.5	+0.3
	0.7nm,0.6s,baz=279,slow=5.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**68.74**	**12**	P	P	21 15 20.1	-0.9
	0.4nm,0.6s,baz=180,slow=7.6,SNR=2.9						
SONM	**Songino Array**	**70.52**	**27**	P	P	21 15 33.3	+0.9
	0.3nm,0.7s,baz=220,slow=3.8,SNR=2.5						
PDAR	**Pinedale Array**	**150.29**	**354**	PKPbc	PKPbc	21 24 10.6	+1.3
	0.8nm,0.7s,baz=76,slow=3.8,SNR=4.7						

IDC 09 21:06:41.1±2.0, 5.51S×147.28E, h212km±36km, mb2.9/4, mb1 3.1/6, mb1mx3.0/16, mbtmp3.0/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/16, Error ellipse: s-maj=73.9km s-min=13.5km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.87**	**182**	P	Pn	21 07 42.2	+0.3
	5.7nm,0.3s,baz=342,slow=13,SNR=2.1						
PMG				S	S	21 08 28.9	-0.5
	5.4nm,0.3s,baz=290,slow=20,SNR=9.6						
CTA	**Charters Tower**	**14.53**	**184**	LR	LR	21 14 56.6	
	comp=Z,79nm,19.1s,baz=234,slow=34						
WRA	**Warramunga Arr**	**19.08**	**220**	P	P	21 10 49.4	+1.4
	0.2nm,0.3s,baz=38,slow=11,SNR=11						
WRA				S	S	21 14 11.5	-1.6
	0.0nm,0.3s,baz=39,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**22.18**	**214**	P	P	21 11 21.9	+1.7
	0.8nm,0.5s,baz=48,slow=8.1,SNR=5.3						
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	P	21 11 42.7	+0.9
	7.3nm,0.4s,baz=52,slow=11,SNR=54						
SONM	**Songino Array**	**64.11**	**331**	P	P	21 16 52.1	-0.8
	0.2nm,0.4s,baz=145,slow=5.3,SNR=3.3						
MKAR	**Makanchi Array**	**77.30**	**320**	P	P	21 18 11.8	-0.4
	0.2nm,0.4s,baz=122,slow=5.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**78.75**	**328**	P	P	21 18 19.2	-0.7
	0.8nm,0.6s,baz=114,slow=6.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.23**	**285**	PKPbc	PKPdf	21 25 54.2	-0.3
	0.5nm,0.5s,baz=98,slow=2.9,SNR=7.1						

*ISCJB **09** 21:11:17.7±0.7, 38.40N±0.04×39.25E±0.05, h10km±4km, Error ellipse: s-maj=7.5km s-min=6.8km az=0.1*
*CSEM **09** 21:11:17.4±0.2, 38.41N×39.24E, h10km, MD2.6, Error ellipse: s-maj=6.0km s-min=5.0km az=7.0*
*ISK **09** 21:11:17.6, 38.40N×39.23E, h8km, MD2.6*
*DDA **09** 21:11:17.1, 38.43N×39.23E, h20km, MD2.7*

ISC 09 21:11:17.3±1.0, 38.40N±0.04×39.25E±0.03, h11km±6km, n18, σ0964/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.05**	**120**	PG	**Pg**	**21 11 19.9**	**+0.2**
SVRC				*e*SG	**Sg**	**21 11 21.2**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.05**	**120**	*i* Pg	**Pg**	**21 11 19.9**	**+0.2**
SVRC				*e*Sg	**Sg**	**21 11 21.2**	**-0.2**
ELZG	**Elazig**	**0.23**	**294**	*i* P	**Pg**	**21 11 22.9**	**+0.7**
ELZG				*i* S	**Sg**	**21 11 25.9**	**+0.4**
ELZG	**Elazig**	**0.23**	**294**	*i* P	**Pg**	**21 11 22.9**	**+0.7**
ELZG				*i* S	**Sg**	**21 11 25.9**	**+0.4**
PTK	**Pertek**	**0.50**	**13**	*e*PG	**Pg**	**21 11 27.8**	**+0.7**
PTK				*e*SG	**Sb**	**21 11 35.6**	**0.0**
PTK	**Pertek**	**0.50**	**13**	*e*Pg	**Pg**	**21 11 27.8**	**+0.7**
PTK				*e*Sg	**Sb**	**21 11 35.6**	**0.0**
MALT	**Malataya**	**0.65**	**262**	*e*PG	**Pb**	**21 11 30.5**	**-0.2**
MALT	**Malataya**	**0.65**	**262**	*e*Pg	**Pb**	**21 11 30.5**	**-0.2**
MYA	**Malataya**	**0.65**	**263**	*e*PG	**Pg**	**21 11 30.1**	**+0.1**
MYA	**Malataya**	**0.65**	**263**	*e*Pg	**Pg**	**21 11 30.1**	**+0.1**
DIYA	**Diyarbakir**	**0.84**	**125**	*i* P	**Pb**	**21 11 33.8**	**0.0**
DIYA	**Diyarbakir**	**0.84**	**125**	*i* P	**Pb**	**21 11 33.8**	**0.0**
KEMA	**Kemaliye**	**1.05**	**326**	*i* P	**Pb**	**21 11 35.7**	**-1.8**
KEMA				*i* S	**Sb**	**21 11 51.1**	**-0.1**
KEMA	**Kemaliye**	**1.05**	**326**	*i* P	**Pb**	**21 11 35.7**	**-1.8**
KEMA				*i* S	**Sb**	**21 11 51.1**	**-0.1**
AKCD	**Akcadag**	**1.05**	**264**	*i* P	**Pb**	**21 11 37.4**	**-0.1**
AKCD				*i* S	**Sn**	**21 11 52.5**	**-0.2**
AKCD	**Akcadag**	**1.05**	**264**	*i* P	**Pb**	**21 11 37.4**	**-0.1**
AKCD				*i* S	**Sn**	**21 11 52.5**	**-0.2**
ILIC	**ilic-Erzincan**	**1.17**	**333**	*e*PN	**Pg**	**21 11 40.5**	**+0.6**
ILIC	**ilic-Erzincan**	**1.17**	**333**	*e*Pn	**Pg**	**21 11 40.5**	**+0.6**

IDC 09 21:27:02.0±2.3, 0.97S×133.32E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=93.4km s-min=24.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.63**	**203**	P	P	21 31 21.0	-0.2
	0.3nm,0.3s,baz=33,slow=13,SNR=5.6						
FITZ				S	Sn	21 34 38.1	-12
	0.2nm,0.3s,baz=353,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**18.89**	**177**	P	P	21 31 23.2	-0.9
	0.6nm,0.3s,baz=356,slow=12,SNR=23						
WRA				S	Sn	21 34 49.9	-6.9
	0.1nm,0.3s,baz=348,slow=25,SNR=4.8						
ASAR	**Alice Springs**	**22.57**	**179**	P	P	21 32 04.9	+0.8
	3.3nm,0.7s,baz=0.3,slow=12,SNR=27						
MKAR	**Makanchi Array**	**65.17**	**324**	P	P	21 37 45.0	-0.1
	0.4nm,0.5s,baz=118,slow=7.6,SNR=7.8						

*MOS **09** 21:41:36.9±0.8, 49.96N×159.60E, h11km, mb3.8/4, Error ellipse: s-maj=24.7km s-min=8.5km az=89.8*
*IDC **09** 21:41:37.4±0.9, 49.93N×159.38E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.7/2, Error ellipse: s-maj=22.4km s-min=16.0km az=167.0*
*ISCJB **09** 21:41:41.1±0.7, 50.18N±0.04×159.80E±0.10, h29km, mb3.7/8, Error ellipse: s-maj=9.0km s-min=5.6km az=163.0*
*KRSC **09** 21:41:41.9±0.3, 50.39N×159.73E, h5km±5km, ML4.1*

ISC 09 21:41:42.1±0.8, 50.11N±0.08×159.68E±0.07, h29km, n39, σ1929/54, mb3.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.44**	**343**	PN	**Pn**	**21 42 19.6**	**-0.3**
RUS	**Russkaya**	**2.44**	**343**	*e*P	**Pn**	**21 42 19.6**	**-0.3**
RUS				*e*S	**Sn**	**21 42 47.9**	**-0.9**
ASAK	**Asacha**	**2.54**	**335**	*e*P	**Pn**	**21 42 21.6**	**+0.2**
ASAK				*i* S	**Sn**	**21 42 51.4**	**0.0**
MTVR	**Mutnovka**	**2.56**	**339**	*e*P	**Pn**	**21 42 21.8**	**+0.1**
MTVR				*i* S	**Sn**	**21 42 50.4**	**-1.5**
GRL	**Gorelyy**	**2.65**	**338**	*e*P	**Pn**	**21 42 23.1**	**+0.2**
GRL				*i* S	**Sn**	**21 42 53.8**	**-0.3**
PET	**Petropavlovsk**	**2.99**	**348**	*e*PN	**Pn**	**21 42 27.7**	**+0.2**
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
PET	**Petropavlovsk**	**2.99**	**348**	*e*P	**Pn**	**21 42 27.9**	**+0.4**
PET				*e*S	**Sn**	**21 43 01.1**	**-1.2**
SPN	**Mys Shipunski**	**3.00**	**4**	PN	**Pn**	**21 42 28.5**	**+0.9**
SPN	**Mys Shipunski**	**3.00**	**4**	*e*P	**Pn**	**21 42 28.5**	**+0.9**
SPN				*i* S	**Sn**	**21 43 01.3**	**-1.3**
NLC	**Nalytchevo**	**3.08**	**356**	PN	**Pn**	**21 42 28.3**	**-0.3**
NLC	**Nalytchevo**	**3.08**	**356**	*e*P	**Pn**	**21 42 28.3**	**-0.3**
NLC				*i* S	**Sn**	**21 43 02.7**	**-1.7**
UGLR	**Uglovaya**	**3.15**	**351**	*e*P	**Pn**	**21 42 30.2**	**+0.4**
UGLR				*e*S	**Sn**	**21 43 04.8**	**-1.7**
SDLR	**Sedlovina**	**3.21**	**351**	*e*P	**Pn**	**21 42 31.1**	**+0.4**
SDLR				*e*S	**Sn**	**21 43 06.2**	**-1.8**
AVH	**Avacha**	**3.22**	**350**	*e*P	**Pn**	**21 42 31.4**	**+0.7**
AVH				*i* S	**Sn**	**21 43 06.5**	**-1.5**
PETK	**Petropavlovsk-**	**3.25**	**338**	Pn	**Pn**	**21 42 31.9**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=148,slow=17,SNR=32						
PETK				Sn	**Sn**	**21 43 11.0**	**+2.2**
	comp=Z,4.0nm,0.3s,baz=163,slow=25,SNR=7.1						
PETK	**Petropavlovsk-**	**3.25**	**338**	*e*PN	**Pn**	**21 42 32.2**	**+1.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOK	**Koryaka**	**3.26**	**349**	*e*P	**Pn**	**21 42 31.7**	**+0.5**
KOK				*i* S	**Sn**	**21 43 07.9**	**-1.1**
MKZ	**Mys Kozlova**	**4.63**	**15**	PN	**Pn**	**21 42 50.3**	**+0.3**
MKZ	**Mys Kozlova**	**4.63**	**15**	P	**Pn**	**21 42 50.3**	**+0.3**
MKZ				*i* S	**Sn**	**21 43 41.4**	**-1.3**
KBTR	**Krutoberegovo**	**6.40**	**16**	PN	**Pn**	**21 43 15.7**	**+1.5**
KBTR	**Krutoberegovo**	**6.40**	**16**	*e*P	**Pn**	**21 43 15.7**	**+1.5**
KBTR				*i* S	**Sn**	**21 44 25.1**	**-1.1**
FX1	**Attu Island--F**	**8.86**	**67**	Pn	**Pn**	**21 43 48.5**	**+0.5**
	comp=Z,4.6nm,0.3s,baz=236,slow=3.6,SNR=7.7						
FX1				Sn	**Sn**	**21 45 22.0**	**-4.8**
	comp=Z,11nm,0.3s,baz=308,slow=20,SNR=14						
FX1	**Attu Island--F**	**8.86**	**67**	PN	**Pn**	**21 43 48.5**	**+0.5**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ILAR	**Eielson Array**	**31.16**	**42**	P	**P**	**21 47 59.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=251,slow=7.3,SNR=8.3						
ILAR	**Eielson Array**	**31.16**	**42**	P	**P**	**21 47 59.4**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**44.23**	**305**	P	**P**	**21 49 47.7**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=64,slow=6.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**44.23**	**305**	P	**P**	**21 49 47.7**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**49.27**	**298**	P	**P**	**21 50 27.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=65,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**49.27**	**298**	*e*P	**P**	**21 50 29.3**	**+1.4**
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**21 50 48.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=61,slow=6.8,SNR=4.4						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**21 50 48.1**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**62.77**	**337**	P	**P**	**21 52 04.0**	**-0.1**
	comp=Z,8.2nm,1.2s,baz=24,slow=14,SNR=3.7						
FINES	**FINESS Array B**	**62.77**	**337**	P	**P**	**21 52 04.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TXAR	**Lajitas Array**	**72.07**	**66**	P	**P**	**21 53 05.2**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=300,slow=4.1,SNR=8.0						
TXAR	**Lajitas Array**	**72.07**	**66**	P	**P**	**21 53 05.2**	**+1.6**
WRA	**Warramunga Arr**	**73.26**	**205**	P	**P**	**21 53 08.2**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=22,slow=6.5,SNR=4.8						
WRA	**Warramunga Arr**	**73.26**	**205**	P	**P**	**21 53 08.2**	**-2.2**
ASAR	**Alice Springs**	**76.92**	**204**	P	**P**	**21 53 30.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=10,slow=5.7,SNR=3.3						
ASAR	**Alice Springs**	**76.92**	**204**	P	**P**	**21 53 30.7**	**-0.8**

PGC 09 21:44:44.0±0.1, 48.91N×128.90W, h10km, ML2.9/3, Mw3.5, 6D, 219km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.45**	**30**	⇓Sn	Sn	21 45 26.1	-3.4
EDB	**Eliza Dome**	**1.51**	**50**	⇑Pn	Pn	21 45 08.8	-2.3
EDB				⇑Sn	Sn	21 45 26.4	-4.5
MAYB	**Maynard**	**1.87**	**36**	⇑Pn	Pn	21 45 14.4	-1.9
MAYB				⇓Sn	Sn	21 45 35.8	-4.3
WOSB	**Woss**	**1.97**	**50**	⇓Pn	Pn	21 45 15.9	-1.7
WOSB				⇑Sn	Sn	21 45 39.1	-3.3
PHC	**Port Hardy**	**2.04**	**27**	⇓Sn	Sn	21 45 39.7	-4.1
NCRB	**Newcastle Ridg**	**2.38**	**50**	⇑Pn	Pn	21 45 22.3	-1.0
NCRB				⇑Sn	Sn	21 45 48.5	-4.1
CBB	**Campbell River**	**2.56**	**63**	⇓Sn	Sn	21 45 55.2	-1.7
BBB	**Bella Bella**	**3.32**	**8**	⇑Pn	Pn	21 45 35.5	-0.4
BBB				⇓Sn	Sn	21 46 12.4	-3.0

IDC 09 21:46:39.1±0.9, 18.90N×145.73E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=36.7km s-min=20.3km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.19**	**197**	P	P	21 54 17.4	0.0
	1.8nm,0.3s,baz=13,slow=8.2,SNR=72						
ASAR	**Alice Springs**	**43.86**	**196**	P	P	21 54 47.1	-0.3
	0.8nm,0.3s,baz=15,slow=7.0,SNR=21						
ZALV	**Zalesovo Beam**	**57.88**	**322**	P	P	21 56 31.6	-1.1
	0.3nm,0.5s,baz=107,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**58.35**	**314**	P	P	21 56 37.6	+1.4
	0.2nm,0.6s,baz=95,slow=6.8,SNR=4.9						
KURK	**Kurchatov**	**61.14**	**318**	P	P	21 56 56.5	+1.1
	0.3nm,0.4s,baz=96,slow=7.3,SNR=6.8						
YKA	**Yellowknife Ar**	**77.79**	**28**	P	P	21 58 38.4	+0.3
	0.4nm,0.6s,baz=288,slow=5.4,SNR=7.6						
NVAR	**Mina Array Bea**	**82.99**	**52**	P	P	21 59 07.2	+0.4
	0.8nm,0.6s,baz=278,slow=4.9,SNR=4.6						
FINES	**FINESS Array B**	**86.71**	**335**	P	P	21 59 22.9	-1.9
	2.7nm,0.9s,baz=54,slow=7.2,SNR=6.0						

*IDC **09** 21:52:09.2±3.0, 30.27N×67.63E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/29, mbtmp3.7/9, Error ellipse: s-maj=72.3km s-min=24.0km az=142.0*
*ISCJB **09** 21:52:10.0±0.9, 30.14N±0.1×67.59E±0.09, h14km, mb3.8/8, Error ellipse: s-maj=21.0km s-min=8.2km az=26.0*

ISC 09 21:52:11.2±1.2, 30.3N±0.2×67.7E±0.1, h14km, n20, σ1969/17, mb3.9/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLN	**Koldanda**	**14.13**	**96**	*e*P	**Pn**	**21 55 32.0**	**+0.8**
DANN	**Dangsing**	**14.14**	**94**	*e*P	P	21 55 35.1	-3.9
GKN	**Gorkha**	**14.97**	**95**	*e*P	**Pn**	**21 55 43.4**	**+0.8**
DMN	**Daman**	**15.47**	**96**	*e*P	**Pn**	**21 55 49.8**	**+0.5**
KKN	**Kakani**	**15.57**	**95**	*e*P	**P**	**21 55 51.8**	**-3.1**
	11nm,0.6s						
PKI	**Pulchoki**	**15.74**	**96**	*e*P	**P**	**21 55 54.2**	**-2.6**
GUN	**Gumba**	**16.06**	**94**	*e*P	**P**	**21 55 58.5**	**-1.9**
	53nm,0.8s						
JIRN	**Jiri**	**16.39**	**95**	*e*P	**P**	**21 56 02.6**	**-1.5**
RAMN	**Ramite**	**16.92**	**97**	*e*P	**P**	**21 56 10.4**	**+0.5**
	11nm,0.4s						
ODAN	**Odare**	**17.62**	**96**	*e*P	**P**	**21 56 21.0**	**+3.4**
	14nm,0.8s						
TAPN	**Taplejung**	**17.77**	**95**	*e*P	P	21 56 24.0	+4.7
	8.2nm,0.7s						
MKAR	**Makanchi Array**	**19.95**	**30**	P	Pn	21 56 44.1	-0.4
	0.3nm,0.4s,baz=212,slow=11,SNR=11						
KURK	**Kurchatov**	**21.95**	**19**	P	**P**	**21 57 04.0**	**-0.3**
	1.9nm,0.9s,baz=211,slow=10,SNR=14						
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**21 57 13.6**	**+0.6**
	0.5nm,0.4s,baz=168,slow=8.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**26.66**	**23**	P	**P**	**21 57 51.1**	**+1.7**
	1.6nm,0.5s,baz=220,slow=10,SNR=15						
FINES	**FINESS Array B**	**41.31**	**331**	P	**P**	**21 59 56.3**	**+0.3**
	3.1nm,1.0s,baz=109,slow=8.8,SNR=3.6						
ARCES	**ARCESS Array B**	**45.93**	**341**	P	**P**	**22 00 32.6**	**-0.6**
	1.9nm,0.9s,baz=124,slow=11,SNR=4.3						
ESDC	**Sonseca Array**	**58.04**	**300**	P	**P**	**22 02 04.2**	**+0.3**
	0.6nm,0.6s,baz=73,slow=7.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**62.87**	**270**	P	**P**	**22 02 37.3**	**+0.1**
	0.8nm,0.7s,baz=54,slow=5.5,SNR=6.9						
YKA	**Yellowknife Ar**	**87.49**	**1**	P	**P**	**22 04 57.3**	**-0.9**
	0.4nm,0.7s,baz=349,slow=5.2,SNR=6.6						

IDC 09 21:59:42.7±3.6, 4.65S×153.89E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=119.1km s-min=23.6km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.36**	**230**	P	P	22 05 02.9	+0.2
	3.0nm,0.6s,baz=53,slow=9.7,SNR=35						
ASAR	**Alice Springs**	**27.00**	**224**	P	P	22 05 26.8	+0.2
	0.4nm,0.5s,baz=55,slow=9.0,SNR=7.9						
FITZ	**Fitzroy Crossi**	**30.69**	**242**	P	P	22 05 58.8	-0.6
	1.1nm,0.5s,baz=61,slow=9.9,SNR=5.1						
SONM	**Songino Array**	**66.78**	**327**	P	P	22 10 36.8	+0.5
	0.2nm,0.4s,baz=124,slow=6.5,SNR=2.0						
MKAR	**Makanchi Array**	**80.93**	**319**	P	P	22 12 00.0	+0.9
	0.3nm,0.5s,baz=97,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	P	22 12 01.8	-0.9
	0.2nm,0.3s,baz=143,slow=5.2,SNR=3.6						
KURK	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.38**	**178**	P	P	22 17 14.4	-0.3
	0.1nm,0.3s,baz=359,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.07**	**180**	P	P	22 17 54.7	+0.1
	0.7nm,1.0s,baz=354,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	22 23 29.2	0.0
	0.1nm,0.7s,baz=134,slow=6.2,SNR=2.4						

IDC 09 22:30:07.4±2.2,0.57S×133.50E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.6/17,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=116.1km s-min=23.8km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.27**	**178**	P	Pn	22 34 34.6	-0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.97**	**179**	P	P	22 35 14.3	+0.6
	1.6nm,0.3s,baz=358,slow=11,SNR=29						
STKA	**Stephens Creek**	**32.07**	**167**	P	P	22 36 34.9	-1.2
	1.5nm,0.6s,baz=336,slow=10.0,SNR=4.6						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	22 40 49.1	0.0
	0.3nm,0.4s,baz=110,slow=8.2,SNR=8.0						

WEL 09 22:31:32.5±0.7,35.83S×178.24E,h198km±10km,ML3.5/6, Error ellipse: s-maj=13.9km s-min=9.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.73**	**178**	PN	Pn	22 32 08.3	+0.1
MXZ				SN	Sn	22 32 35.2	-0.8
PUZ	**Puketiti**	**2.24**	**180**	PN	Pn	22 32 13.9	+0.5
PUZ				SN	Sn	22 32 44.9	-0.6
MWZ	**Matawai**	**2.56**	**193**	PN	Pn	22 32 17.8	+0.7
MWZ				SN	Sn	22 32 52.2	+0.3
URZ	**Urewera**	**2.59**	**200**	PN	Pn	22 32 17.6	+0.3
URZ				SN	Sn	22 32 52.1	-0.2
CNGZ	**Carnagh Statio**	**2.65**	**181**	PN	Pn	22 32 18.7	+0.7
KNZ	**Kokohu**	**3.22**	**188**	PN	Pn	22 32 24.2	-0.4
BKZ	**Black Stump Fm**	**3.61**	**202**	PN	Pn	22 32 29.8	+0.4
BKZ				SN	Sn	22 33 13.3	-0.9
PXZ	**Pawanui**	**4.33**	**194**	PN	Pn	22 32 37.0	-1.3
PRHZ	**Porangahau**	**4.61**	**195**	PN	Pn	22 32 40.8	-1.1
KIW	**Kapiti Island**	**5.67**	**206**	PN	Pn	22 32 53.2	-2.1

IDC 09 22:33:33.6±2.0,7.34S×129.55E,h0km,mb3.9/1, mb1 3.8/4,mb1mx3.6/16,mbtmp3.7/4,ML3.4/3,Error ellipse: s-maj=80.9km s-min=25.0km az=81.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.36**	**199**	Pn	Pn	22 36 18.4	+1.1
	0.7nm,0.3s,baz=14,slow=16,SNR=5.2						
FITZ				Sn	Sn	22 38 23.5	-1.5
	0.5nm,0.3s,baz=0.0,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**13.36**	**160**	Pn	Pn	22 36 43.7	-1.0
	0.1nm,0.3s,baz=338,slow=14,SNR=2.5						
WRA				Sn	Sn	22 39 02.1	-12
	1.2nm,0.3s,baz=352,slow=21,SNR=9.5						
ASAR	**Alice Springs**	**16.76**	**166**	Pn	Pn	22 37 30.8	+0.7
	0.1nm,0.3s,baz=348,slow=9.5,SNR=4.0						
ASAR				Sn	Sn	22 40 26.6	-10
	0.2nm,0.3s,baz=349,slow=26,SNR=4.8						
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	22 44 36.4	0.0
	0.7nm,0.5s,baz=114,slow=7.3,SNR=23						

IDC 09 22:41:04.1±2.0,7.34S×129.28E,h0km,mb3.2/1, mb1 3.5/4,mb1mx3.4/16,mbtmp3.3/4,ML3.1/3,Error ellipse: s-maj=66.8km s-min=25.7km az=81.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.27**	**198**	Pn	Pn	22 43 48.2	+1.7
	0.1nm,0.3s,baz=11,slow=16,SNR=3.0						
FITZ				Sn	Sn	22 45 52.1	-1.1
	0.1nm,0.3s,baz=17,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**13.46**	**159**	Pn	Pn	22 44 17.4	+1.0
	0.2nm,0.3s,baz=338,slow=11,SNR=6.6						
WRA				Sn	Sn	22 46 40.7	-6.2
	0.2nm,0.3s,baz=338,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**16.83**	**165**	Pn	Pn	22 44 59.6	-1.8
	0.1nm,0.3s,baz=346,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**68.12**	**327**	P	P	22 52 05.9	0.0
	0.2nm,0.6s,baz=137,slow=5.1,SNR=2.5						

*IDC **09** 22:43:28.3±0.5,22.93S×70.60W,h0km,mb4.7/15, mb1 4.7/17,mb1mx4.7/19,mbtmp4.6/17,ML3.8/3,MS4.2/15, Ms1 4.2/15,ms1mx4.1/19,Error ellipse: s-maj=22.1km s-min=13.6km az=56.0*

*ISCJB **09** 22:43:29.3±0.9,23.05S±0.03×70.83W±0.03,h10km±5km, mb4.8/75,MS4.4/10,Error ellipse: s-maj=4.4km s-min=4.1km az=135.7*

*NEIC **09** 22:43:30.0,23.04S×70.81W,h20km,mb5.0/56, ML5.0(GUC),After GUC.*

NEIC Felt [III] at Baquedano and Mejillones.

*GUC **09** 22:43:30.7±0.6,23.04S×70.81W,h20km±3km,ML5.0*

*BJI **09** 22:43:32.1,23.10S×70.70W,h20km,mB5.2/9,Ms5.3/8, Ms7 5.0/8*

ISC 09 22:43:31.1±0.3,23.09S±0.03×70.76W±0.05,h20km±2km, n444,σ1°44/740,mb4.9/75,MS4.5/10,263C-262D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MECH	**Mejillones**	**0.29**	**92**	⇓*iP*	**Pb**	**22 43 37.5**	**-0.1**
MECH				*i* S	**Sb**	**22 43 42.3**	**+0.2**
MECH	**Mejillones**	**0.29**	**92**	⇓*iP*	**Pb**	**22 43 37.5**	**-0.1**
MECH				*i* S	**Sb**	**22 43 42.3**	**+0.2**
MECH				AML	AML	22 43 49.2	
	comp=N,465μm,0.5s						
CEN1	**Los Morros**	**0.59**	**120**	⇓*iP*	**Pb**	**22 43 43.1**	**+0.1**
CEN1				*i* S	**Sb**	**22 43 52.2**	**+1.2**
CEN1				AML	AML	22 43 58.3	
	comp=N,34μm,0.7s						
ANCH	**Antofagasta**	**0.67**	**151**	⇓*iP*	**Pb**	**22 43 43.7**	**-0.4**
ANCH				*i* S	**Sb**	**22 43 53.2**	**+0.2**
ANCH	**Antofagasta**	**0.67**	**151**	⇓*iP*	**Pb**	**22 43 43.7**	**-0.4**
ANCH				*i* S	**Sb**	**22 43 53.2**	**+0.2**
ANCH				AML	AML	22 43 57.1	
	comp=E,54μm,0.5s						
MACH	**Maria Elena**	**1.29**	**46**	⇑*iP*	**Pn**	**22 43 52.9**	**-1.2**
MACH				*i* S	**Sn**	**22 44 10.5**	**-0.4**
MACH	**Maria Elena**	**1.29**	**46**	⇑*iP*	**Pn**	**22 43 52.9**	**-1.2**
MACH				*i* S	**Sn**	**22 44 10.5**	**-0.4**
PB04	**Plate Boundary**	**1.44**	**55**	⇓*iP*	Pn	22 43 47.3	-8.6
PB04				*i* S	Sn	22 44 00.1	-14
PB04				AML	AML	22 44 01.5	
	comp=N,47μm,0.5s						
PB07	**Plate Boundary**	**1.58**	**31**	⇑*iP*	**Pn**	**22 43 57.3**	**-0.8**
PB07				*i* S	**Sn**	**22 44 17.9**	**-0.2**
PB07				AML	AML	22 44 25.0	
	comp=E,31μm,0.6s						
LVC	**Limon Verde**	**1.77**	**75**	⇑*iP*	**Pn**	**22 44 01.8**	**+1.0**
LVC				*i* S	**Sb**	**22 44 25.1**	**+0.2**
LVC	**Limon Verde**	**1.77**	**75**	⇑*iP*	**Pn**	**22 44 01.8**	**+1.0**
LVC				*i* S	**Sb**	**22 44 25.1**	**+0.2**
LVC				AML	AML	22 44 28.4	
	comp=N,20μm,0.5s						
PB09	**Plate Boundary**	**1.91**	**48**	⇑*iP*	**Pn**	**22 44 03.2**	**+0.6**
PB09				*i* S	**Sb**	**22 44 28.1**	**-0.7**
PB09				AML	AML	22 44 33.8	
	comp=N,84μm,0.6s						
PB01	**Plate Boundary**	**2.36**	**30**	*eP*	**Pn**	**22 44 06.4**	**-2.3**
PB01				*eS*	**Sn**	**22 44 36.3**	**-0.8**
PB01				AML	AML	22 44 45.2	
	comp=E,8μm,0.6s						
SPCH	**San Pedro de A**	**2.37**	**86**	*eP*	**Pb**	**22 44 11.6**	**-1.6**
SPCH				*eS*	**Sb**	**22 44 42.6**	**+0.5**
SPCH	**San Pedro de A**	**2.37**	**86**	*eP*	**Pb**	**22 44 11.6**	**-1.6**
SPCH				*eS*	**Sb**	**22 44 42.6**	**+0.5**
SPCH				AML	AML	22 45 00.4	
	comp=E,42μm,0.6s						
PSGC	**Pisagua**	**3.53**	**10**	*eP*	**Pn**	**22 44 23.1**	**-1.8**
PSGC				*i* S	**Sn**	**22 45 05.6**	**-0.5**
PSGC				AML	AML	22 45 35.5	
	comp=E,2μm,0.3s						
CPCH	**Copiapo**	**4.26**	**175**	⇑*iP*	**Pn**	**22 44 32.9**	**-2.0**
CPCH				*i* S	**Sn**	**22 45 23.7**	**-0.3**
CPCH	**Copiapo**	**4.26**	**175**	⇑*iP*	**Pn**	**22 44 32.9**	**-2.0**
CPCH				*i* S	**Sn**	**22 45 23.7**	**-0.3**
LCO	**Las Campanas**	**5.89**	**180**	*ePn*	**Pn**	**22 44 55.5**	**-2.1**
LPAZ	**La Paz**	**7.21**	**21**	Pn	**Pn**	**22 45 18.1**	**+2.1**
	comp=E,6.9nm,0.3s,baz=202,slow=7.2,SNR=62						
LPAZ				Sn	**Sn**	**22 46 35.7**	**-1.9**
	baz=113,slow=13,SNR=1.1						
LPAZ				LR	LR	22 47 49.9	
	comp=E,628nm,19.5s,baz=24,slow=37						
LPAZ	**La Paz**	**7.21**	**21**	*ePn*	**Pn**	**22 45 18.0**	**+2.0**
LPAZ				Sn	**Sn**	**22 46 35.7**	**-1.9**
CFAA	**Coronel Fontan**	**8.77**	**166**	Pn	**Pn**	**22 45 36.0**	**-0.8**
	comp=E,0.2nm,0.3s,baz=336,slow=13,SNR=13						
CFAA				Sn	Sn	22 47 25.8	+11
	comp=E,0.6nm,0.3s,baz=49,slow=11,SNR=3.7						
CFAA				LR	LR	22 48 44.5	
	comp=E,255nm,18.6s,baz=333,slow=36						
CFAA	**Coronel Fontan**	**8.77**	**166**	Pn	**Pn**	**22 45 36.0**	**-0.8**
CFAA				Sn	Sn	22 47 25.8	+11
NNA	**Nana**	**12.47**	**331**	Pn	**Pn**	**22 46 26.2**	**-1.4**
	comp=E,3.4nm,0.3s,baz=150,slow=9.6,SNR=4.4						
NNA				Sn	Sn	22 48 37.2	-8.8
	comp=E,1.0nm,0.3s,baz=221,slow=18,SNR=3.0						
NNA				LR	LR	22 50 33.8	
	comp=E,2μm,20.7s,baz=154,slow=34						
NNA	**Nana**	**12.47**	**331**	Pn	**Pn**	**22 46 26.2**	**-1.4**
NNA				Sn	Sn	22 48 37.2	-8.8
TRQA	**Tornquist**	**16.71**	**155**	*eP*	**P**	**22 47 25.1**	**-1.1**
	comp=E,89nm,1.1s						
ATAH	**Atahualpa**	**17.48**	**334**	P	**Pn**	**22 47 31.8**	**-2.5**
	comp=E,0.4nm,0.3s,baz=162,slow=9.6,SNR=2.4						
ATAH				LR	LR	22 53 24.4	
	comp=E,908nm,21.0s,baz=162,slow=34						
ATAH	**Atahualpa**	**17.48**	**334**	P	**Pn**	**22 47 31.8**	**-2.5**
PLCA	**Paso Flores**	**17.59**	**179**	P	**Pn**	**22 47 32.3**	**-2.7**
	comp=E,0.1nm,0.3s,baz=5.5,slow=10,SNR=3.4						
PLCA				LR	LR	22 54 12.0	
	comp=E,859nm,19.6s,baz=344,slow=36						
PLCA	**Paso Flores**	**17.59**	**179**	*ePn*	**Pn**	**22 47 33.5**	**-1.5**
	comp=E,19nm,1.0s						
SPB	**Sao Paulo**	**21.42**	**96**	*eP*	**P**	**22 48 16.3**	**-1.6**
	comp=E,22nm,0.6s						
OTAV	**Otavalo**	**24.37**	**341**	*eP*	**P**	**22 48 50.8**	**+2.3**
	comp=E,29nm,1.0s						
CAM4	**Nova Friburgo**	**26.00**	**94**	⇑*iP*	pP	22 49 16.5	+7.3
CAM4				*i*		22 49 21.4	
CAM4				*i*		22 49 26.6	
CAM4				*i*		22 49 28.7	
CAM4				*i*		22 49 30.9	
CAM4				*i*		22 49 34.2	
CAM4				*i*		22 49 43.2	
CAM4				*i*		22 49 46.0	
CAM4				*i*		22 49 46.0	
CAM4				*i*		22 49 51.2	
CAM4				*i*		22 49 55.4	
CAM4				*i*		22 50 01.7	
ROSC	**El Rosal**	**28.00**	**352**	P	**P**	**22 49 21.5**	**+0.3**
	comp=E,2.6nm,0.4s,baz=90,slow=20,SNR=3.1						
ROSC				LR	LR	23 01 28.6	
	comp=E,358nm,18.8s,baz=193,slow=39						
ROSC	**El Rosal**	**28.00**	**352**	P	**P**	**22 49 21.5**	**+0.3**
USHA	**Ushuaia**	**31.74**	**177**	P	P	22 49 56.9	+3.4
	comp=E,5.5nm,0.9s,baz=342,slow=11,SNR=1.9						
USHA	**Ushuaia**	**31.74**	**177**	P	P	22 49 56.9	+3.4
RCBR	**Riachuelo**	**37.71**	**68**	P	**P**	**22 50 44.4**	**-1.2**
	comp=E,51nm,0.9s,baz=232,slow=6.2,SNR=19						
RCBR	**Riachuelo**	**37.71**	**68**	*eP*	**P**	**22 50 44.6**	**-1.1**
	comp=E,50nm,0.8s						
CELP	**Cerrillos**	**41.12**	**6**	*eP*	**P**	**22 51 13.9**	**0.0**
LRS	**Lares**	**41.31**	**6**	*eP*	**P**	**22 51 15.9**	**+0.4**
CBYP	**Canovanas**	**41.39**	**7**	*eP*	**P**	**22 51 15.0**	**-1.1**
	comp=E,16nm,0.7s						
TEIG	**Tepich**	**46.33**	**337**	P	**P**	**22 51 55.8**	**+0.1**
	comp=E,5.8nm,0.4s,baz=157,slow=1.3,SNR=3.0						
TEIG	**Tepich**	**46.33**	**337**	P	**P**	**22 51 55.8**	**+0.1**
CMIG	**Matias Romero**	**46.38**	**327**	P	**P**	**22 51 55.4**	**-0.9**
	comp=E,5.6nm,0.8s,baz=150,slow=3.3,SNR=7.5						
CMIG	**Matias Romero**	**46.38**	**327**	P	**P**	**22 51 55.4**	**-0.9**
JSC	**Jenkinsville**	**57.93**	**350**	*eP*	**P**	**22 53 22.1**	**+0.3**
RKT	**Rikitea**	**58.60**	**256**	*eS*	**S**	**23 01 30.6**	**+0.4**
	comp=E,223nm,23.5s						
RKT				*e*LR	LR	23 10 42.7	
	comp=E,896nm,23.2s						
VNA3	**Neumayer Olymp**	**59.13**	**161**	*e*	**P**	**22 53 31.2**	**+1.3**
VNA1	**Neumayer--Stat**	**59.37**	**160**	*e*	**P**	**22 53 33.4**	**+1.9**
CPCT	**Cooper Cave**	**59.67**	**347**	*eP*	**P**	**22 53 33.4**	**-0.5**
TKL	**Tuckaleechee C**	**59.72**	**348**	*eP*	**P**	**22 53 33.7**	**-0.6**
VNA2	**Neumayer--Watz**	**59.73**	**160**	*e*	**P**	**22 53 35.4**	**+1.4**
	baz=295,slow=8.6						
SWET	**Sewanee**	**59.75**	**346**	*eP*	**P**	**22 53 33.6**	**-0.9**
	comp=E,20nm,0.9s						
OXF	**Oxford**	**59.97**	**342**	*eP*	**P**	**22 53 35.5**	**-0.5**
	comp=E,37nm,1.0s						
JCT	**Junction City**	**60.12**	**331**	*eP*	**P**	**22 53 37.7**	**+0.5**
	comp=E,11nm,0.7s						
JCT	**Junction City**	**60.12**	**331**	⇓P	**P**	**22 53 37.4**	**+0.1**
	baz=60,SNR=6.5						
JCT				⇓P	**P**	**22 53 37.4**	**+0.1**
	baz=60,SNR=6.5						
628A	**Black Gap, Mar**	**60.73**	**328**	⇑P	**P**	**22 53 42.3**	**+0.9**
	baz=61,SNR=10						
628A				⇑P	**P**	**22 53 42.3**	**+0.9**
	baz=61,SNR=10						
627A	**Terlingua Ranc**	**60.95**	**327**	⇑P	**P**	**22 53 44.0**	**+1.0**
	baz=61,SNR=7.5						
627A				⇑P	**P**	**22 53 44.0**	**+1.0**
	baz=61,SNR=7.5						
TXAR	**Lajitas Array**	**60.99**	**327**	P	**P**	**22 53 43.6**	**+0.3**
	comp=E,1.4nm,0.7s,baz=150,slow=8.1,SNR=18						
TXAR				LR	LR	23 16 29.0	
	comp=E,266nm,19.3s,baz=5.0,slow=32						
TXAR	**Lajitas Array**	**60.99**	**327**	P	**P**	**22 53 43.6**	**+0.3**
WVT	**Waverly**	**61.08**	**344**	*eP*	**P**	**22 53 42.3**	**-1.2**
	comp=E,13nm,0.8s						
528A	**Cox Ranch, San**	**61.24**	**328**	⇓P	**P**	**22 53 45.8**	**+0.8**
	baz=61						
528A				⇓P	**P**	**22 53 45.8**	**+0.8**
	baz=61						
MIAR	**Mount Ida**	**61.28**	**339**	*eP*	**P**	**22 53 45.2**	**+0.2**
	comp=E,28nm,1.3s						
SNAA	**Sanae**	**61.35**	**160**	*eP*	**P**	**22 53 45.3**	**+0.2**
	comp=E,15nm,0.8s						
626A	**Big Bend Ranch**	**61.41**	**327**	⇓P	**P**	**22 53 47.0**	**+0.9**
	baz=62,SNR=15						
626A				⇓P	**P**	**22 53 47.0**	**+0.9**
	baz=62,SNR=15						
428A	**Kincaid Ranch,**	**61.66**	**329**	⇑P	**P**	**22 53 49.0**	**+1.2**
	baz=62						
428A				⇑P	**P**	**22 53 49.0**	**+1.2**
	baz=62						
526A	**Mary Lane Ranc**	**61.80**	**327**	⇓P	**P**	**22 53 49.5**	**+0.8**
	baz=62,SNR=14						
526A				⇓P	**P**	**22 53 49.5**	**+0.8**
	baz=62,SNR=14						
427A	**Hayter Ranch,**	**62.11**	**328**	⇑P	**P**	**22 53 50.9**	**+0.1**
	baz=62,SNR=5.0						
427A				⇑P	**P**	**22 53 50.9**	**+0.1**
	baz=62,SNR=5.0						
328A	**Wristen Ranch,**	**62.26**	**329**	⇓P	**P**	**22 53 52.1**	**+0.3**
	baz=62,SNR=5.6						
328A				⇓P	**P**	**22 53 52.1**	**+0.3**
	baz=62,SNR=5.6						
426A	**McDonald Obser**	**62.26**	**328**	⇓P	**P**	**22 53 52.5**	**+0.6**
	baz=62,SNR=9.4						
426A				⇓P	**P**	**22 53 52.5**	**+0.6**
	baz=62,SNR=9.4						
326A	**Caldwell Ranch**	**62.77**	**328**	⇑P	**P**	**22 53 55.8**	**+0.6**
	baz=63,SNR=5.9						
326A				⇑P	**P**	**22 53 55.8**	**+0.6**
	baz=63,SNR=5.9						
425A	**Indio Mountain**	**62.83**	**327**	⇓P	**P**	**22 53 55.9**	**+0.3**
	baz=63,SNR=8.8						
425A				⇓P	**P**	**22 53 55.9**	**+0.3**
	baz=63,SNR=8.8						
227A	**Bennet, Jal**	**63.02**	**329**	⇑P	**P**	**22 53 57.4**	**+0.7**
	baz=63						
227A				⇑P	**P**	**22 53 57.4**	**+0.7**
	baz=63						
TUL1	**Tulsa**	**63.28**	**337**	⇓P	**P**	**22 53 58.7**	**+0.4**
	baz=64						
TUL1				⇓P	**P**	**22 53 58.7**	**+0.4**
	baz=64						
325A	**Bean Ranch, Si**	**63.30**	**327**	⇓P	**P**	**22 53 59.0**	**+0.2**
	baz=64,SNR=20						
325A				⇓P	**P**	**22 53 59.0**	**+0.2**
	baz=64,SNR=20						
226A	**Malaga, Loving**	**63.44**	**329**	⇑P	**P**	**22 54 00.9**	**+1.3**
	baz=64,SNR=7.2						
226A				⇑P	**P**	**22 54 00.9**	**+1.3**
	baz=64,SNR=7.2						
FVM	**French Village**	**63.50**	**343**	*eP*	**P**	**22 53 58.8**	**-1.0**
	comp=E,22nm,1.0s						
127A	**Arkansas Junct**	**63.60**	**330**	⇑P	**P**	**22 54 01.2**	**+0.5**
	baz=64						
127A				⇑P	**P**	**22 54 01.2**	**+0.5**
	baz=64						
324A	**Moseley Ranch,**	**63.61**	**327**	⇑P	**P**	**22 54 00.5**	**-0.4**
	baz=64,SNR=6.8						
324A				⇑P	**P**	**22 54 00.5**	**-0.4**
	baz=64,SNR=6.8						
GDL2	**Guadalupe Moun**	**63.68**	**328**	*eP*	**P**	**22 54 02.2**	**+1.0**
	comp=E,6.0nm,0.8s						
MNTX	**Cornudas Mount**	**63.77**	**327**	*eP*	**P**	**22 54 01.9**	**+0.1**
	comp=E,15nm,1.4s						
MNTX	**Cornudas Mount**	**63.77**	**327**	⇑P	**P**	**22 54 02.1**	**+0.4**
	baz=64						
MNTX				⇑P	**P**	**22 54 02.1**	**+0.4**
	baz=64						
MNTX				⇑P	**P**	**22 54 02.1**	**+0.4**
	baz=64						
MNTX				⇑P	**P**	**22 54 02.1**	**+0.4**
	baz=64						
CCM	**Cathedral Cave**	**63.80**	**342**	*eP*	**P**	**22 54 01.3**	**-0.5**
	comp=E,6.9nm,0.8s						
225A	**Deer Hill, Car**	**63.83**	**328**	⇓P	**P**	**22 54 02.9**	**+0.6**
	baz=64						
225A				⇓P	**P**	**22 54 02.9**	**+0.6**
	baz=64						
126A	**Clayton Basin,**	**63.88**	**329**	⇓P	**P**	**22 54 03.2**	**+0.6**
	baz=64						
126A				⇓P	**P**	**22 54 03.2**	**+0.6**
	baz=64						
ACSO	**Alum Creek Sta**	**64.02**	**350**	*eP*	**P**	**22 54 02.2**	**-0.9**
	comp=E,17nm,0.8s						
Z27A	**Tatum**	**64.06**	**330**	⇓P	**P**	**22 54 03.7**	**0.0**
	baz=64,SNR=5.5						
Z27A				⇓P	**P**	**22 54 03.7**	**0.0**
	baz=64,SNR=5.5						
224A	**Cornudas Mount**	**64.15**	**327**	⇑P	**P**	**22 54 04.4**	**0.0**
	baz=64,SNR=5.9						
224A				⇑P	**P**	**22 54 04.4**	**0.0**
	baz=64,SNR=5.9						
Z26A	**Caprock**	**64.38**	**329**	⇓P	**P**	**22 54 05.8**	**0.0**
	baz=65,SNR=12						
Z26A				⇓P	**P**	**22 54 05.8**	**0.0**
	baz=65,SNR=12						
MSTX	**Muleshoe**	**64.41**	**331**	⇓P	**P**	**22 54 06.4**	**+0.4**
	baz=65						
MSTX				⇓P	**P**	**22 54 06.4**	**+0.4**
	baz=65						
Y27A	**Causey**	**64.51**	**330**	⇑P	**P**	**22 54 06.8**	**+0.1**
	baz=65,SNR=5.4						
Y27A				⇑P	**P**	**22 54 06.8**	**+0.1**
	baz=65,SNR=5.4						
Z25A	**Roswell**	**64.74**	**329**	⇑P	**P**	**22 54 08.5**	**+0.3**
	baz=65						
Z25A				⇑P	**P**	**22 54 08.5**	**+0.3**
	baz=65						
Z24A	**Sheeppen Canyo**	**65.09**	**328**	⇑P	**P**	**22 54 11.5**	**+1.0**
	baz=65,SNR=5.5						
Z24A				⇑P	**P**	**22 54 11.5**	**+1.0**
	baz=65,SNR=5.5						
X26A	**CR and CF Fran**	**65.36**	**330**	⇓P	**P**	**22 54 12.7**	**+0.5**
	baz=66						
X26A				⇓P	**P**	**22 54 12.7**	**+0.5**
	baz=66						
W27A	**Bowe Ranch, En**	**65.45**	**331**	⇓P	**P**	**22 54 13.9**	**+1.2**
	baz=66						
W27A				⇓P	**P**	**22 54 13.9**	**+1.2**
	baz=66						
Z23A	**Rita Site, Whi**	**65.46**	**328**	⇓P	**P**	**22 54 14.0**	**+1.2**
	baz=66						
Z23A				⇓P	**P**	**22 54 14.0**	**+1.2**
	baz=66						
319A	**Douglas**	**65.54**	**324**	⇑P	**P**	**22 54 14.8**	**+1.4**
	baz=66,SNR=7.2						
319A				⇑P	**P**	**22 54 14.8**	**+1.4**
	baz=66,SNR=7.2						
220A	**Playas Peak, P**	**65.55**	**325**	⇑P	**P**	**22 54 14.9**	**+1.4**
	baz=66						
220A				⇑P	**P**	**22 54 14.9**	**+1.4**
	baz=66						
Y24A	**Capitan**	**65.61**	**329**	⇑P	**P**	**22 54 15.2**	**+1.4**
	baz=66						
Y24A				⇑P	**P**	**22 54 15.2**	**+1.4**
	baz=66						
MAIT	**Maitri**	**65.93**	**159**	*eP*	**P**	**22 54 17.6**	**+2.4**
MAIT				*e*		22 54 24.5	
219A	**White Tail Can**	**66.01**	**325**	⇓P	**P**	**22 54 18.2**	**+1.8**
	baz=66						
219A				⇓P	**P**	**22 54 18.2**	**+1.8**
	baz=66						
120A	**U Bar Ranch, L**	**66.11**	**325**	⇓P	**P**	**22 54 18.9**	**+1.8**
	baz=66						
120A				⇓P	**P**	**22 54 18.9**	**+1.8**
	baz=66						
Z21A	**St. Cloud Mine**	**66.21**	**327**	⇑P	**P**	**22 54 19.2**	**+1.4**
	baz=66						
Z21A				⇑P	**P**	**22 54 19.2**	**+1.4**
	baz=66						
W25A	**X Bar L Ranch,**	**66.21**	**330**	⇑P	**P**	**22 54 19.2**	**+1.5**
	baz=66						
W25A				⇑P	**P**	**22 54 19.2**	**+1.5**
	baz=66						
Y22A	**Socorro**	**66.36**	**328**	⇑P	**P**	**22 54 20.2**	**+1.5**
	baz=67						
Y22A				⇑P	**P**	**22 54 20.2**	**+1.5**
	baz=67						
BNM	**Barren Site**	**66.37**	**328**	*eP*	**P**	**22 54 20.3**	**+1.5**
	comp=E,18nm,1.5s						
218A	**Dragoon**	**66.41**	**324**	⇑P	**P**	**22 54 20.3**	**+1.3**
	baz=67,SNR=6.5						

baz=67
Z19A T-Link Ranch, 67.02 325 ⇓P **P 22 54 24.7 +1.8**
baz=67
Z19A ⇓P **P 22 54 24.7 +1.8**
baz=67
Y20A Horse Springs, 67.04 327 ⇑P **P 22 54 25.1 +2.0**
baz=67
Y20A ⇑P **P 22 54 25.1 +2.0**
baz=67
TUC Tucson 67.07 324 *e*P **P 22 54 24.4 +1.3**
comp=E,27nm,1.7s
QSPA South Pole Qui 67.10 180 *e*P **P 22 54 22.7 -0.3**
comp=E,18nm,0.8s
U25A Circle Dot Ran 67.17 331 ⇓P **P 22 54 25.3 +1.4**
baz=67
U25A ⇓P **P 22 54 25.3 +1.4**
baz=67
X21A Alamocita Cree 67.17 327 ⇑P **P 22 54 25.5 +1.5**
baz=67,SNR=5.1
X21A ⇑P **P 22 54 25.5 +1.5**
baz=67,SNR=5.1
W22A Albuquerque 67.23 328 ⇓P **P 22 54 26.1 +1.9**
baz=67
W22A ⇓P **P 22 54 26.1 +1.9**
baz=67
V23A Ortiz Mt. (NFS 67.44 329 ⇑P **P 22 54 27.5 +1.9**
baz=68
V23A ⇑P **P 22 54 27.5 +1.9**
baz=68
X20A Quemado 67.61 327 ⇓P **P 22 54 28.4 +1.8**
baz=68,SNR=6.5
X20A ⇓P **P 22 54 28.4 +1.8**
baz=68,SNR=6.5
W21A San Fidel 67.64 328 ⇑P **P 22 54 28.4 +1.6**
baz=68
W21A ⇑P **P 22 54 28.4 +1.6**
baz=68
S26A Kim 67.78 332 ⇓P **P 22 54 28.5 +0.9**
baz=68,SNR=6.9
S26A ⇓P **P 22 54 28.5 +0.9**
baz=68,SNR=6.9
T25A Trinidad 67.79 331 ⇓P **P 22 54 29.3 +1.5**
baz=68
T25A ⇓P **P 22 54 29.3 +1.5**
baz=68
Y18A Canyon Day Jun 67.80 325 ⇓P **P 22 54 29.7 +1.9**
baz=68
Y18A ⇓P **P 22 54 29.7 +1.9**
baz=68
V22A San Miguel Ran 67.93 329 ⇑P **P 22 54 30.4 +1.7**
baz=68,SNR=8.4
V22A ⇑P **P 22 54 30.4 +1.7**
baz=68,SNR=8.4
214A Organ Pipe Nat 67.93 322 ⇓P **P 22 54 30.4 +1.8**
baz=68
214A ⇓P **P 22 54 30.4 +1.8**
baz=68
SADO Sadowa 67.97 354 P **P 22 54 27.1 -1.4**
comp=E,6.3nm,0.7s,baz=201,slow=2.2,SNR=9.2
SADO Sadowa 67.97 354 P **P 22 54 27.1 -1.4**
T24A Torres, Weston 68.02 331 ⇑P **P 22 54 31.1 +1.8**
baz=68
T24A ⇑P **P 22 54 31.1 +1.8**
baz=68
W20A Ramah 68.07 327 ⇓P **P 22 54 31.4 +1.8**
baz=68
W20A ⇓P **P 22 54 31.4 +1.8**
baz=68
JFWS Jewell Farm 68.09 345 *e*P **P 22 54 29.1 -0.2**
comp=E,190nm,2.5s
Y17A Roosevelt 68.16 325 ⇑P **P 22 54 32.0 +2.0**
baz=68,SNR=8.2
Y17A ⇑P **P 22 54 32.0 +2.0**
baz=68,SNR=8.2
S25A Robets Cordova 68.23 332 ⇓P **P 22 54 32.1 +1.6**
baz=68
S25A ⇓P **P 22 54 32.1 +1.6**
baz=68
X18A Snowflake 68.34 326 ⇓P **P 22 54 32.9 +1.6**
baz=68
X18A ⇓P **P 22 54 32.9 +1.6**
baz=68
R26A Arlington 68.34 333 ⇓P **P 22 54 32.8 +1.7**
baz=69
R26A ⇓P **P 22 54 32.8 +1.7**
baz=69
S24A Houchin Ranch, 68.56 331 ⇑P **P 22 54 35.2 +2.5**
baz=69,SNR=7.0
S24A ⇑P **P 22 54 35.2 +2.5**
baz=69,SNR=7.0
114A Black Gap (USA 68.56 323 ⇓P **P 22 54 34.8 +2.4**
baz=69
114A ⇓P **P 22 54 34.8 +2.4**
baz=69
U21A Nageezi 68.70 329 ⇓P **P 22 54 35.4 +1.9**
baz=69
U21A ⇓P **P 22 54 35.4 +1.9**
baz=69
SDCO Great Sand Dun 68.77 331 *e*P **P 22 54 35.4 +1.3**
comp=E,8.3nm,0.9s
SDCO Great Sand Dun 68.77 331 ⇑P **P 22 54 35.9 +1.9**
baz=69,SNR=10
SDCO ⇑P **P 22 54 35.9 +1.9**
baz=69,SNR=10
SDCO ⇑P **P 22 54 35.9 +1.9**
baz=69,SNR=10
SDCO ⇑P **P 22 54 35.9 +1.9**
baz=69,SNR=10
T22A Edith 68.81 330 ⇑P **P 22 54 36.0 +1.8**
baz=69
T22A ⇑P **P 22 54 36.0 +1.8**
baz=69
R24A Sanders Place, 69.00 332 ⇓P **P 22 54 37.1 +1.8**
baz=69
R24A ⇓P **P 22 54 37.1 +1.8**
baz=69
X16A Lo Mia Camp, P 69.03 325 ⇑P **P 22 54 37.4 +1.8**
baz=69
X16A ⇑P **P 22 54 37.4 +1.8**
baz=69
U20A Newcomb 69.07 328 ⇓P **P 22 54 37.6 +1.9**
baz=69
U20A ⇓P **P 22 54 37.6 +1.9**
baz=69
V18A Ganado 69.25 327 ⇓P **P 22 54 38.6 +1.6**
baz=69
V18A ⇓P **P 22 54 38.6 +1.6**
baz=69
R23A Moffat 69.28 331 ⇑P **P 22 54 39.0 +1.8**
baz=70
R23A ⇑P **P 22 54 39.0 +1.8**
baz=70
S22A 4UR Ranch, Cre 69.38 330 ⇓P **P 22 54 39.5 +1.8**
baz=70
S22A ⇓P **P 22 54 39.5 +1.8**
baz=70
V17A Tonalea, Kykot 69.62 326 ⇑P **P 22 54 40.7 +1.5**
baz=70,SNR=9.8
V17A ⇑P **P 22 54 40.7 +1.5**
baz=70,SNR=9.8
Q24A Divide 69.63 332 ⇓P **P 22 54 40.9 +1.5**
baz=70
Q24A ⇓P **P 22 54 40.9 +1.5**
baz=70
P25A Willow Gulch B 69.67 333 ⇑P **P 22 54 41.1 +1.7**
baz=70
P25A ⇑P **P 22 54 41.1 +1.7**
baz=70
T19A Beclabito 69.68 328 ⇑P **P 22 54 41.5 +2.0**
baz=70
T19A ⇑P **P 22 54 41.5 +2.0**
baz=70
MVCO Mesa Verde 69.73 329 ⇑P **P 22 54 41.9 +2.0**
baz=70
MVCO ⇑P **P 22 54 41.9 +2.0**
baz=70
R22A Saguache, Gunn 69.73 330 ⇑P **P 22 54 42.1 +2.1**
baz=70
R22A ⇑P **P 22 54 42.1 +2.1**
baz=70
S21A Coal Bank Pass 69.75 329 ⇑P **P 22 54 42.2 +2.1**
baz=70
S21A ⇑P **P 22 54 42.2 +2.1**
baz=70
U18A Rough Rock, Ch 69.77 327 ⇑P **P 22 54 42.3 +2.2**
baz=70
U18A ⇑P **P 22 54 42.3 +2.2**
baz=70
WUAZ Wupatki 69.84 326 *e*P **P 22 54 42.5 +2.0**
WUAZ Wupatki 69.84 326 ⇑P **P 22 54 43.2 +2.6**
baz=70
WUAZ ⇑P **P 22 54 43.2 +2.6**
baz=70
S20A Disappointment 70.16 329 ⇑P **P 22 54 44.3 +1.8**
baz=70,SNR=6.6
S20A ⇑P **P 22 54 44.3 +1.8**
baz=70,SNR=6.6
U16A Tuba City 70.19 326 ⇓P **P 22 54 44.9 +2.2**
baz=70
U16A ⇓P **P 22 54 44.9 +2.2**
baz=70
R21A Cimarron 70.21 330 ⇑P **P 22 54 44.9 +2.1**
baz=70
R21A ⇑P **P 22 54 44.9 +2.1**
baz=70
U17A Shonto 70.31 327 ⇓P **P 22 54 45.8 +2.4**
baz=70
U17A ⇓P **P 22 54 45.8 +2.4**
baz=70
T18A Mexican Hat 70.34 328 ⇑P **P 22 54 44.6 +1.1**
baz=70,SNR=5.4
T18A ⇑P **P 22 54 44.6 +1.1**
baz=70,SNR=5.4
R20A Redvale 70.45 329 ⇓P **P 22 54 46.2 +2.0**
baz=71,SNR=5.0
R20A ⇓P **P 22 54 46.2 +2.0**
baz=71,SNR=5.0
S19A Harvey Farm, M 70.46 329 ⇑P **P 22 54 46.0 +1.7**
baz=71
S19A ⇑P **P 22 54 46.0 +1.7**
baz=71
ISCO Idaho Springs 70.52 332 *e*P **P 22 54 46.0 +1.2**
comp=E,77nm,2.7s
ISCO Idaho Springs 70.52 332 ⇓P **P 22 54 46.3 +1.5**
baz=71
ISCO ⇓P **P 22 54 46.3 +1.5**
baz=71
Q21A Lamborn Mesa, 70.60 330 ⇑P **P 22 54 47.3 +2.1**
baz=71
Q21A ⇑P **P 22 54 47.3 +2.1**
baz=71
SMCO Snowmass 70.61 331 *e*P **P 22 54 47.2 +1.7**
comp=E,11nm,1.1s
ECSD EROS Data Cent 70.61 340 *e*P **P 22 54 44.8 -0.1**
comp=E,161nm,2.6s
T17A Navajo Res., N 70.69 327 ⇑P **P 22 54 47.5 +1.8**
baz=71
T17A ⇑P **P 22 54 47.5 +1.8**
baz=71
DBIC Dimbokro 70.83 74 P **P 22 54 46.7 -0.1**
comp=E,12nm,0.8s,baz=223,slow=6.6,SNR=18
DBIC LR LR 23 26 46.4
comp=E,493nm,18.1s,baz=222,slow=37
DBIC Dimbokro 70.83 74 *e*P **P 22 54 46.4 -0.4**
comp=E,19nm,1.0s
S18A Hurst Farm, Bl 70.83 328 ⇑P **P 22 54 48.0 +1.4**
baz=71,SNR=10
S18A ⇑P **P 22 54 48.0 +1.4**
baz=71,SNR=10
P22A Eagle 70.85 331 ⇓P **P 22 54 48.7 +2.0**
baz=71
P22A ⇓P **P 22 54 48.7 +2.0**
baz=71
O23A Lake Granby, G 70.99 332 ⇓P **P 22 54 49.4 +1.8**
baz=71
O23A ⇓P **P 22 54 49.4 +1.8**
baz=71
U15A North Rim 71.01 326 ⇓P **P 22 54 49.9 +2.1**
baz=71
U15A ⇓P **P 22 54 49.9 +2.1**
baz=71
O22A Kremmling 71.22 332 ⇑P **P 22 54 50.6 +1.5**
baz=71
O22A ⇑P **P 22 54 50.6 +1.5**
baz=71
R18A Canyonlands Na 71.33 328 ⇑P **P 22 54 51.0 +1.5**
baz=72
R18A ⇑P **P 22 54 51.0 +1.5**
baz=72
TBI Tubuai 71.37 252 *e*S **S 23 04 09.1 +1.8**
comp=E,251nm,27.0s
TBI *e*LR LR 23 16 38.0
comp=E,373nm,22.5s,baz=106
Q19A Hogan Spring (71.48 329 ⇑P **P 22 54 52.6 +2.2**
baz=72
Q19A ⇑P **P 22 54 52.6 +2.2**
baz=72
N23A Red Feather La 71.57 333 ⇑P **P 22 54 53.0 +2.0**
baz=72
N23A ⇑P **P 22 54 53.0 +2.0**
baz=72
M24A Cheyenne 71.58 334 ⇑P **P 22 54 53.2 +2.2**
baz=72
M24A ⇑P **P 22 54 53.2 +2.2**
baz=72
GMRC Granite Mounta 71.61 322 ⇑P **P 22 54 53.6 +2.3**
baz=72
GMRC ⇑P **P 22 54 53.6 +2.3**
baz=72
N22A Wattenberg Ran 71.71 332 ⇑P **P 22 54 53.6 +1.7**
baz=72
N22A ⇑P **P 22 54 53.6 +1.7**
baz=72
R17A Hanksville Air 71.75 328 ⇓P **P 22 54 53.4 +1.4**
baz=72
R17A ⇓P **P 22 54 53.4 +1.4**
baz=72
P19A Cripple Cowboy 71.89 330 ⇓P **P 22 54 54.3 +1.3**
baz=72,SNR=7.8
P19A ⇓P **P 22 54 54.3 +1.3**
baz=72,SNR=7.8
M23A Laramie 71.95 333 ⇓P **P 22 54 55.0 +1.7**
baz=72
M23A ⇓P **P 22 54 55.0 +1.7**
baz=72
O20A White River Ci 71.95 331 ⇑P **P 22 54 54.4 +1.1**
baz=72,SNR=5.4
O20A ⇑P **P 22 54 54.4 +1.1**
baz=72,SNR=5.4
Q18A Rafter H Ranch 72.01 329 ⇑P **P 22 54 56.0 +2.4**
baz=72
Q18A ⇑P **P 22 54 56.0 +2.4**
baz=72
HEC Hector,Ludlow 72.03 322 ⇑P **P 22 54 55.7 +2.0**
baz=72
HEC ⇑P **P 22 54 55.7 +2.0**
baz=72
SRU San Rafael 72.20 328 *e*P **P 22 54 56.2 +1.4**
comp=E,10nm,0.9s
M22A Cedar Creek Ra 72.27 332 ⇓P **P 22 54 57.1 +1.9**
baz=72
M22A ⇓P **P 22 54 57.1 +1.9**
baz=72
Q16A Castle Valley 72.37 328 ⇑P **P 22 54 57.8 +2.0**
baz=73
Q16A ⇑P **P 22 54 57.8 +2.0**
baz=73
CCUT Cedar City 72.42 326 *e*P **P 22 54 58.3 +2.1**
comp=E,12nm,1.0s
P18A Preston Nutter 72.48 329 ⇓P **P 22 54 58.4 +1.8**
baz=73
P18A ⇓P **P 22 54 58.4 +1.8**
baz=73
L23A Garrett 72.48 333 ⇑P **P 22 54 58.1 +1.7**
baz=73
L23A ⇑P **P 22 54 58.1 +1.7**
baz=73
O19A Miners Draw (B 72.49 330 ⇓P **P 22 54 58.3 +1.9**
baz=73
O19A ⇓P **P 22 54 58.3 +1.9**
baz=73
MSU Marysvale 72.55 327 *e*P **P 22 54 58.9 +2.0**
P17A Butcher Ranch, 72.59 329 ⇓P **P 22 54 58.7 +1.6**
baz=73
P17A ⇓P **P 22 54 58.7 +1.6**
baz=73
GSC Goldstone 72.64 322 *e*P **P 22 54 59.3 +2.0**
comp=E,11nm,1.3s
ARUT Antelope Range 72.64 326 *e*P **P 22 54 59.0 +1.5**
comp=E,9.7nm,0.8s
M21A Separation Pea 72.76 332 ⇑P **P 22 54 59.9 +1.7**
baz=73
M21A ⇑P **P 22 54 59.9 +1.7**
baz=73
O18A Roosevelt 72.87 330 ⇑P **P 22 55 00.6 +1.9**
baz=73
O18A ⇑P **P 22 55 00.6 +1.9**
baz=73
N19A John Jarvie Ra 72.99 330 ⇑P **P 22 55 00.8 +1.4**
baz=73
N19A ⇑P **P 22 55 00.8 +1.4**
baz=73
EDW2 Edwards Air Fo 73.02 321 ⇑P **P 22 55 01.0 +1.4**
baz=73
EDW2 ⇑P **P 22 55 01.0 +1.4**
baz=73
M20A Sweetwater, Wa 73.03 331 ⇑P **P 22 55 01.4 +1.7**
baz=73
M20A ⇑P **P 22 55 01.4 +1.7**
baz=73
L21A Rawlins 73.06 332 ⇓P **P 22 55 00.6 +0.8**
baz=73,SNR=6.1
L21A ⇓P **P 22 55 00.6 +0.8**
baz=73,SNR=6.1
J24A Dixon Ranch, L 73.08 335 ⇑P **P 22 55 01.4 +1.6**
baz=73
J24A ⇑P **P 22 55 01.4 +1.6**
baz=73
O17A Robinson Place 73.16 329 ⇑P **P 22 55 01.9 +1.4**
baz=73,SNR=12
O17A ⇑P **P 22 55 01.9 +1.4**
baz=73,SNR=12
K22A Casper 73.27 333 ⇑P **P 22 55 03.5 +2.5**
baz=74
K22A ⇑P **P 22 55 03.5 +2.5**
baz=74
PPT2 Papeete2 73.29 258 *e*S **S 23 04 29.6 -0.1**
comp=E,116nm,24.5s
PPT2 *e*LR LR 23 17 34.1
comp=E,600nm,24.8s,baz=110
RSSD Black Hills 73.51 336 *e*P **P 22 55 03.3 +0.8**
comp=E,5.0nm,0.9s
L20A Wamsutter 73.51 332 ⇓P **P 22 55 04.2 +1.6**
baz=74
L20A ⇓P **P 22 55 04.2 +1.6**
baz=74
K21A Alcova 73.56 333 ⇓P **P 22 55 03.8 +1.0**
baz=74,SNR=6.7
K21A ⇓P **P 22 55 03.8 +1.0**
baz=74,SNR=6.7
MPMC Manual Prospec 73.57 322 ⇓P **P 22 55 04.2 +1.2**
baz=74
MPMC ⇓P **P 22 55 04.2 +1.2**
baz=74
N17A Moffit Pass 73.79 329 ⇑P **P 22 55 06.2 +2.0**
baz=74
N17A ⇑P **P 22 55 06.2 +2.0**
baz=74
M18A Lyman 73.82 330 ⇑P **P 22 55 05.7 +1.3**
baz=74
M18A ⇑P **P 22 55 05.7 +1.3**
baz=74
ISA Isabella 73.85 321 ⇑P **P 22 55 06.2 +1.7**
baz=74
ISA ⇑P **P 22 55 06.2 +1.7**
baz=74
J22A Midwest 73.88 334 ⇑P **P 22 55 06.2 +1.6**
baz=74
J22A ⇑P **P 22 55 06.2 +1.6**
baz=74
N16A Rees Ranch, Co 74.03 329 ⇑P **P 22 55 07.4 +1.8**
baz=74
N16A ⇑P **P 22 55 07.4 +1.8**
baz=74
L19A Farson 74.03 331 ⇓P **P 22 55 07.1 +1.5**
baz=74
L19A ⇓P **P 22 55 07.1 +1.5**
baz=74
K20A Yellowstone Ra 74.04 332 ⇓P **P 22 55 06.8 +1.2**
baz=74
K20A ⇓P **P 22 55 06.8 +1.2**
baz=74
PKM Peak Mountain 74.11 320 ⇑P **P 22 55 08.1 +1.9**
baz=74
PKM ⇑P **P 22 55 08.1 +1.9**
baz=74
DUG Dugway 74.16 328 *e*P **P 22 55 06.6 +0.3**
comp=E,8.8nm,1.2s
DUG Dugway 74.16 328 ⇑P **P 22 55 07.6 +1.3**
baz=74
DUG ⇑P **P 22 55 07.6 +1.3**
baz=74
R11A Troy Canyon, C 74.19 325 ⇑P **P 22 55 08.0 +1.4**
baz=74,SNR=6.2
R11A ⇑P **P 22 55 08.0 +1.4**
baz=74,SNR=6.2
L18A Fontenelle, Gr 74.20 331 ⇓P **P 22 55 07.3 +0.7**
baz=74,SNR=6.7
L18A ⇓P **P 22 55 07.3 +0.7**
baz=74,SNR=6.7
H24A Dirks Ranch, A 74.24 336 ⇓P **P 22 55 07.7 +1.1**
baz=74
H24A ⇓P **P 22 55 07.7 +1.1**
baz=74
I22A 9 Mile Ranch, 74.28 334 ⇓P **P 22 55 07.9 +1.0**
baz=74
I22A ⇓P **P 22 55 07.9 +1.0**
baz=74
K19A Absolon Red Bu 74.39 332 ⇓P **P 22 55 08.5 +0.9**
baz=75
K19A ⇓P **P 22 55 08.5 +0.9**
baz=75
I21A Big Trails, Te 74.54 333 ⇓P **P 22 55 09.0 +0.6**
baz=75
I21A ⇓P **P 22 55 09.0 +0.6**
baz=75
AGMN Agassiz Nation 74.55 343 *e*P **P 22 55 08.0 -0.2**
comp=E,10nm,0.9s
HWUT Hardware Ranch 74.65 329 *e*P **P 22 55 10.0 +0.8**
comp=E,116nm,2.7s
BW06 Boulder Array 74.66 331 ⇑P **P 22 55 10.3 +1.1**
baz=75
BW06 ⇑P **P 22 55 10.3 +1.1**
baz=75
BW06 ⇑P **P 22 55 10.3 +1.1**
baz=75
BW06 ⇑P **P 22 55 10.3 +1.1**
baz=75
PDAR Pinedale Array 74.66 331 P **P 22 55 09.4 +0.2**
comp=E,1.9nm,1.1s,baz=144,slow=6.7,SNR=5.9
PDAR LR LR 23 30 00.6
comp=E,77nm,18.8s,baz=6.4,slow=37
PDAR Pinedale Array 74.66 331 P **P 22 55 09.4 +0.2**
PD02 Pinedale Array 74.67 331 *e*P **P 22 55 09.7 +0.4**
G24A Alzada 74.68 336 ⇑P **P 22 55 10.2 +1.1**
baz=75
G24A ⇑P **P 22 55 10.2 +1.1**
baz=75
J19A Crowheart 74.84 332 ⇓P **P 22 55 11.6 +1.4**
baz=75
J19A ⇓P **P 22 55 11.6 +1.4**
baz=75
L16A Fish Haven 74.91 330 ⇓P **P 22 55 12.0 +1.3**
baz=75
L16A ⇓P **P 22 55 12.0 +1.3**
baz=75
VNDA Vanda 74.99 190 *e*P **P 22 55 12.6 +2.2**
comp=E,6.7nm,1.0s
H21A Big Horn, Sher 75.11 334 ⇑P **P 22 55 12.6 +0.9**
baz=75
H21A ⇑P **P 22 55 12.6 +0.9**
baz=75
F24A Ekalaka 75.13 336 ⇑P **P 22 55 12.7 +1.0**
baz=75
F24A ⇑P **P 22 55 12.7 +1.0**
baz=75
J18A Kendall Valley 75.22 331 ⇑P **P 22 55 13.5 +1.0**
baz=75
J18A ⇑P **P 22 55 13.5 +1.0**
baz=75
MDND Maddock 75.22 340 ⇓P **P 22 55 13.6 +1.4**
baz=76
MDND ⇓P **P 22 55 13.6 +1.4**
baz=76
K17A Gardner Place, 75.25 331 ⇑P **P 22 55 14.0 +1.3**
baz=76
K17A ⇑P **P 22 55 14.0 +1.3**
baz=76
G22A Birney 75.30 335 ⇑P **P 22 55 13.5 +0.7**
baz=76
G22A ⇑P **P 22 55 13.5 +0.7**
baz=76
L15A Malad City 75.35 329 ⇓P **P 22 55 14.1 +1.0**
baz=76

L15A ⇓P P 22 55 14.1 +1.0
baz=76
F23A Volborg 75.38 336 ⇓P P 22 55 14.7 +1.5
baz=76
F23A ⇓P P 22 55 14.7 +1.5
baz=76
H20A Greybull 75.38 333 ⇓P P 22 55 14.5 +1.3
baz=76
H20A ⇓P P 22 55 14.5 +1.3
baz=76
I18A Diamond G Ranc 75.52 332 ⇓P P 22 55 15.0 +0.8
baz=76,SNR=5.3
I18A ⇓P P 22 55 15.0 +0.8
baz=76,SNR=5.3
SYO Syowa Base 75.62 160⇑*iP* P 22 55 14.0 -0.2
SYO Syowa Base 75.62 160⇑*epP* pP 22 55 19.6 -1.3
K16A Soda Springs 75.62 330 ⇑P P 22 55 16.2 +1.4
baz=76,SNR=7.3
K16A ⇑P P 22 55 16.2 +1.4
baz=76,SNR=7.3
G21A Lodge Grass 75.67 334 ⇓P P 22 55 15.9 +1.0
baz=76
G21A ⇓P P 22 55 15.9 +1.0
baz=76
E24A Baker 75.69 337 ⇓P P 22 55 15.8 +0.9
baz=76,SNR=5.9
E24A ⇓P P 22 55 15.8 +0.9
baz=76,SNR=5.9
REDW Red Top Meadow 75.70 331 *e*P P 22 55 16.6 +1.3
comp=E,112nm,2.6s
NVAR Mina Array Bea 75.71 323 P P 22 55 17.0 +1.6
comp=E,2.0nm,0.8s,baz=158,slow=6.6,SNR=12
NVAR Mina Array Bea 75.71 323 P P 22 55 17.0 +1.6
F22A Rosebud 75.76 335 ⇓P P 22 55 16.3 +1.0
baz=76
F22A ⇓P P 22 55 16.3 +1.0
baz=76
L14A Malta 75.78 329 ⇓P P 22 55 16.8 +1.2
baz=76
L14A ⇓P P 22 55 16.8 +1.2
baz=76
ELK Elko 75.78 327 *e*P P 22 55 17.0 +1.2
LOHW Long Hollow 75.79 331 *e*P P 22 55 16.8 +1.0
comp=E,83nm,2.8s
TPAW Teton Pass 75.85 331 *e*P P 22 55 17.1 +1.0
comp=E,11nm,1.1s
RRI2 Red Ridge 75.90 331 *e*P P 22 55 17.6 +1.2
comp=E,94nm,2.5s
K15A Arbon 75.94 330 ⇓P P 22 55 17.8 +1.2
baz=76
K15A ⇓P P 22 55 17.8 +1.2
baz=76
H19A Powell 75.94 333 ⇑P P 22 55 17.9 +1.5
baz=76
H19A ⇑P P 22 55 17.9 +1.5
baz=76
MOOW Moose Ponds 75.96 331 *e*P P 22 55 17.9 +1.1
comp=E,69nm,2.6s
I17A Pilgrim Ck. 76.03 332 ⇓P P 22 55 18.5 +1.4
baz=76
I17A ⇓P P 22 55 18.5 +1.4
baz=76
G20A Bridger 76.07 334 ⇑P P 22 55 18.7 +1.5
baz=76
G20A ⇑P P 22 55 18.7 +1.5
baz=76
H18A Shoshone NF, C 76.23 333 ⇑P P 22 55 19.3 +1.1
baz=76,SNR=6.9
H18A ⇑P P 22 55 19.3 +1.1
baz=76,SNR=6.9
ULM Lac du Bonnet 76.34 344 P P 22 55 18.2 -0.2
comp=E,4.0nm,0.6s,baz=145,slow=5.4,SNR=10
ULM Lac du Bonnet 76.34 344 P P 22 55 18.2 -0.2
I16A Newdale 76.39 331 ⇓P P 22 55 20.5 +1.4
baz=77
I16A ⇓P P 22 55 20.5 +1.4
baz=77
H17A Grant Village 76.40 332 ⇓P P 22 55 20.9 +1.6
baz=77
H17A ⇓P P 22 55 20.9 +1.6
baz=77
RLMT Red Lodge 76.43 333 *e*P P 22 55 20.4 +1.1
comp=E,93nm,2.3s
RLMT Red Lodge 76.43 333 ⇓P P 22 55 20.8 +1.5
baz=77,SNR=5.7
RLMT ⇓P P 22 55 20.8 +1.5
baz=77,SNR=5.7
RLMT ⇓P P 22 55 20.8 +1.5
baz=77,SNR=5.7
RLMT ⇓P P 22 55 20.8 +1.5
baz=77,SNR=5.7
J15A Blackfoot 76.45 330 ⇑P P 22 55 21.0 +1.6
baz=77
J15A ⇑P P 22 55 21.0 +1.6
baz=77
D23A Lindsay 76.53 337 ⇓P P 22 55 21.3 +1.6
baz=77
D23A ⇓P P 22 55 21.3 +1.6
baz=77
C24A Savage 76.55 337 ⇓P P 22 55 20.9 +1.2
baz=77,SNR=7.4
C24A ⇓P P 22 55 20.9 +1.2
baz=77,SNR=7.4
E21A Keefer Ranch, 76.71 335 ⇑P P 22 55 22.3 +1.6
baz=77
E21A ⇑P P 22 55 22.3 +1.6
baz=77
G18A Lazy EL Ranch, 76.71 333 ⇑P P 22 55 22.0 +1.2
baz=77,SNR=6.3
G18A ⇑P P 22 55 22.0 +1.2
baz=77,SNR=6.3
D22A Cohagen 76.87 336 ⇑P P 22 55 22.8 +1.3
baz=77,SNR=7.3
D22A ⇑P P 22 55 22.8 +1.3
baz=77,SNR=7.3
F19A Roth Farm, Mol 76.89 334 ⇑P P 22 55 23.3 +1.5
baz=77
F19A ⇑P P 22 55 23.3 +1.5
baz=77
H16A Russell Place, 76.94 332 ⇓P P 22 55 23.4 +1.2
baz=77,SNR=5.8
H16A ⇓P P 22 55 23.4 +1.2
baz=77,SNR=5.8
C23A Lambert 77.06 337 ⇓P P 22 55 24.2 +1.7
baz=77
C23A ⇓P P 22 55 24.2 +1.7
baz=77
E20A Meyer Farm, Mu 77.09 335 ⇓P P 22 55 24.0 +1.2
baz=77,SNR=9.9
E20A ⇓P P 22 55 24.0 +1.2
baz=77,SNR=9.9
D21A La Casta Ranch 77.11 336 ⇓P P 22 55 23.9 +1.0
baz=77,SNR=5.8
D21A ⇓P P 22 55 23.9 +1.0
baz=77,SNR=5.8
G17A Pierce Place, 77.21 332 ⇑P P 22 55 25.7 +2.0
baz=77
G17A ⇑P P 22 55 25.7 +2.0
baz=77
F18A Big Timber 77.24 333 ⇓P P 22 55 25.0 +1.2
baz=78,SNR=8.0
F18A ⇓P P 22 55 25.0 +1.2
baz=78,SNR=8.0
J13A Cove Ranch, Pi 77.26 329 ⇑P P 22 55 25.5 +1.6
baz=78
J13A ⇑P P 22 55 25.5 +1.6
baz=78
C22A Vida 77.26 337 ⇑P P 22 55 25.0 +1.3
baz=78
C22A ⇑P P 22 55 25.0 +1.3
baz=78
DGMT Dagmar 77.28 338 *e*P P 22 55 24.9 +1.1
comp=E,67nm,1.6s
DGMT Dagmar 77.28 338 ⇑P P 22 55 25.4 +1.6
baz=78
DGMT ⇑P P 22 55 25.4 +1.6
baz=78
E19A Rath Farm, Rou 77.31 334 ⇓P P 22 55 25.2 +1.0
baz=78,SNR=9.2
E19A ⇓P P 22 55 25.2 +1.0
baz=78,SNR=9.2
I14A Mackay 77.33 330 ⇓P P 22 55 26.1 +1.7
baz=78
I14A ⇓P P 22 55 26.1 +1.7
baz=78
HLID Hailey 77.50 329 *e*P P 22 55 27.1 +1.8
comp=E,8.5nm,1.0s
HLID Hailey 77.50 329 ⇓P P 22 55 27.0 +1.6
baz=78,SNR=8.2
HLID ⇓P P 22 55 27.0 +1.6
baz=78,SNR=8.2
B23A Brockton 77.55 337 ⇑P P 22 55 26.9 +1.5
baz=78
B23A ⇑P P 22 55 26.9 +1.5
baz=78
D20A Manuel Ranch, 77.57 335 ⇑P P 22 55 26.2 +0.7
baz=78,SNR=6.8
D20A ⇑P P 22 55 26.2 +0.7
baz=78,SNR=6.8
A24A Westby 77.60 338 ⇑P P 22 55 27.4 +1.8
baz=78
A24A ⇑P P 22 55 27.4 +1.8
baz=78
G16A Moss Hill, Enn 77.60 332 ⇑P P 22 55 27.1 +1.2
baz=78
G16A ⇑P P 22 55 27.1 +1.2
baz=78
I13A Wildhorse Cree 77.63 329 ⇑P P 22 55 27.7 +1.6
baz=78,SNR=7.5
I13A ⇑P P 22 55 27.7 +1.6
baz=78,SNR=7.5
F17A Fitzpatrick Pl 77.64 333 ⇓P P 22 55 27.7 +1.7
baz=78
F17A ⇓P P 22 55 27.7 +1.7
baz=78
MCMT McKenzie Canyo 77.75 331 *e*P P 22 55 28.3 +1.5
comp=E,3.0nm,1.0s
H14A Leadore 77.82 330 ⇓P P 22 55 29.0 +1.9
baz=78
H14A ⇓P P 22 55 29.0 +1.9
baz=78
G15A Dillon 77.85 331 ⇓P P 22 55 28.6 +1.3
baz=78,SNR=6.1
G15A ⇓P P 22 55 28.6 +1.3
baz=78,SNR=6.1
BOZ Bozeman (W) 77.85 332 ⇓P P 22 55 28.7 +1.5
baz=78
BOZ ⇓P P 22 55 28.7 +1.5
baz=78
BOZ ⇓P P 22 55 28.7 +1.5
baz=78
BOZ ⇓P P 22 55 28.7 +1.5
baz=78
E18A Harlowton 77.86 334 ⇓P P 22 55 28.8 +1.6
baz=78
E18A ⇓P P 22 55 28.8 +1.6
baz=78
D19A Cripps Ranch, 77.92 334 ⇑P P 22 55 28.8 +1.3
baz=78
D19A ⇑P P 22 55 28.8 +1.3
baz=78
F16A Kennard Place, 77.96 332 ⇓P P 22 55 29.3 +1.5
baz=78
F16A ⇓P P 22 55 29.3 +1.5
baz=78
I12A Atlanta 78.02 329 ⇓P P 22 55 29.6 +1.4
baz=78
I12A ⇓P P 22 55 29.6 +1.4
baz=78
DLMT Dillon 78.05 331 *e*P P 22 55 29.8 +1.4
comp=E,6.7nm,0.9s
MFID Camas Ranch 78.07 328 ⇓P P 22 55 30.0 +1.6
baz=78
MFID ⇓P P 22 55 30.0 +1.6
baz=78
E17A Martinsdale 78.17 333 ⇑P P 22 55 30.6 +1.6
baz=78
E17A ⇑P P 22 55 30.6 +1.6
baz=78
H13A Challis 78.19 330 ⇓P P 22 55 30.9 +1.8
baz=78,SNR=10
H13A ⇓P P 22 55 30.9 +1.8
baz=78,SNR=10
D18A Linhart Farms, 78.32 334 ⇓P P 22 55 31.1 +1.4
baz=78
D18A ⇓P P 22 55 31.1 +1.4
baz=78
A22A Carney Farms, 78.32 337 ⇓P P 22 55 30.6 +1.0
baz=78,SNR=5.2
A22A ⇓P P 22 55 30.6 +1.0
baz=78,SNR=5.2
G14A Jackson 78.34 331 ⇑P P 22 55 31.3 +1.2
baz=78
G14A ⇑P P 22 55 31.3 +1.2
baz=78
LRM Limekiln Ridge 78.34 332 *e*P P 22 55 31.4 +1.3
F15A Butte 78.38 332 ⇓P P 22 55 31.3 +1.0
baz=79,SNR=5.9
F15A ⇓P P 22 55 31.3 +1.0
baz=79,SNR=5.9
H12A Diamond D Ranc 78.45 329 ⇑P P 22 55 31.6 +1.0
baz=79
H12A ⇑P P 22 55 31.6 +1.0
baz=79
C19A Slack Wire Ran 78.46 335 ⇑P P 22 55 31.7 +1.3
baz=79
C19A ⇑P P 22 55 31.7 +1.3
baz=79
E16A East Helena 78.57 333 ⇑P P 22 55 32.8 +1.7
baz=79
E16A ⇑P P 22 55 32.8 +1.7
baz=79
G13A Cobalt 78.58 330 ⇑P P 22 55 32.7 +1.4
baz=79,SNR=20
G13A ⇑P P 22 55 32.7 +1.4
baz=79,SNR=20
D17A Six Diamond Ra 78.65 333 ⇓P P 22 55 32.5 +0.9
baz=79,SNR=7.7
D17A ⇓P P 22 55 32.5 +0.9
baz=79,SNR=7.7
A21A Bergtoll Ranch 78.69 337 ⇓P P 22 55 32.6 +1.0
baz=79
A21A ⇓P P 22 55 32.6 +1.0
baz=79
F14A Wisdom 78.74 331 ⇑P P 22 55 33.9 +1.7
baz=79,SNR=5.2
F14A ⇑P P 22 55 33.9 +1.7
baz=79,SNR=5.2
HRY Holter Researc 78.77 333 *e*P P 22 55 33.4 +1.1
E15A Deer Lodge 78.90 332 ⇓P P 22 55 34.6 +1.6
baz=79
E15A ⇓P P 22 55 34.6 +1.6
baz=79
D16A Dana Ranch, Ca 78.91 333 ⇓P P 22 55 34.4 +1.4
baz=79
D16A ⇓P P 22 55 34.4 +1.4
baz=79
A20A Cobblestone Ra 78.96 336 ⇓P P 22 55 34.3 +1.1
baz=79
A20A ⇓P P 22 55 34.3 +1.1
baz=79
EGMT Eagleton 78.97 335 *e*P P 22 55 33.1 -0.1
comp=E,10.0nm,1.1s
EGMT Eagleton 78.97 335 ⇑P P 22 55 34.3 +1.0
baz=79
EGMT ⇑P P 22 55 34.3 +1.0
baz=79
B19A Brinkman Farms 79.00 335 ⇓P P 22 55 34.6 +1.2
baz=79
B19A ⇓P P 22 55 34.6 +1.2
baz=79
C17A Wharram Farm, 79.06 334 ⇓P P 22 55 34.8 +1.0
baz=79
C17A ⇓P P 22 55 34.8 +1.0
baz=79
F13A Darby 79.16 331 ⇓P P 22 55 35.5 +1.1
baz=79,SNR=15
F13A ⇓P P 22 55 35.5 +1.1
baz=79,SNR=15
MOD Modoc 79.25 325 *e*P P 22 55 36.2 +1.2
comp=E,103nm,2.6s
E14A Clinton 79.26 331 ⇑P P 22 55 36.7 +1.7
baz=80
E14A ⇑P P 22 55 36.7 +1.7
baz=80
B18A Beardsley Farm 79.28 335 ⇓P P 22 55 35.6 +0.7
baz=80,SNR=7.5
B18A ⇓P P 22 55 35.6 +0.7
baz=80,SNR=7.5
A19A Klindworth Far 79.31 336 ⇓P P 22 55 36.4 +1.3
baz=80
A19A ⇓P P 22 55 36.4 +1.3
baz=80
TORD Torodi Ar. Bea 79.50 71 P P 22 55 36.5 -0.2
comp=E,14nm,0.8s,baz=253,slow=5.2,SNR=121
TORD LR LR 23 29 42.8
comp=E,213nm,19.7s,baz=230,slow=35
TORD Torodi Ar. Bea 79.50 71 P P 22 55 36.5 -0.2
CHMT Chamberlain Mo 79.54 332 *e*P P 22 55 37.4 +0.8
comp=E,15nm,1.8s
F12A Elk City 79.55 330 ⇓P P 22 55 37.9 +1.3
baz=80
F12A ⇓P P 22 55 37.9 +1.3
baz=80
E13A Victor 79.59 331 ⇑P P 22 55 38.2 +1.5
baz=80,SNR=6.3
E13A ⇑P P 22 55 38.2 +1.5
baz=80,SNR=6.3
C16A Fuhringer Ranc 79.60 333 ⇓P P 22 55 37.8 +1.1
baz=80
C16A ⇓P P 22 55 37.8 +1.1
baz=80
B17A L&G Farms, Che 79.60 334 ⇑P P 22 55 37.4 +0.8
baz=80
B17A ⇑P P 22 55 37.4 +0.8
baz=80
A18A Metzger Ranch, 79.73 335 ⇓P P 22 55 38.3 +0.9
baz=80
A18A ⇓P P 22 55 38.3 +0.9
baz=80
MSO Missoula 79.78 331 ⇑P P 22 55 39.7 +2.0
baz=80
MSO ⇑P P 22 55 39.7 +2.0
baz=80
D14A Greenough 79.78 332 ⇓P P 22 55 39.5 +1.7
baz=80
D14A ⇓P P 22 55 39.5 +1.7
baz=80
BMO Blue Mountains 79.84 328 *e*P P 22 55 39.0 +0.9
comp=E,43nm,2.2s
SLMT Seeley Lake 79.90 332 *e*P P 22 55 37.9 -0.5
comp=E,4.6nm,0.9s
C15A Salmond Ranch, 79.94 333 ⇓P P 22 55 40.2 +1.6
baz=80
C15A ⇓P P 22 55 40.2 +1.6
baz=80
A17A Triple J Farms 80.08 335 ⇑P P 22 55 40.7 +1.4
baz=80
A17A ⇑P P 22 55 40.7 +1.4
baz=80
SWMT Swartz Lake 80.33 332 *e*P P 22 55 41.0 +0.3
comp=E,6.9nm,1.1s
B15A Bradely Ranch, 80.34 333 ⇓P P 22 55 41.3 +0.5
baz=80,SNR=6.4
B15A ⇓P P 22 55 41.3 +0.5
baz=80,SNR=6.4
B14A Marquette Ranc 80.67 333 ⇓P P 22 55 43.7 +1.1
baz=81
B14A ⇓P P 22 55 43.7 +1.1
baz=81
A15A Johnson Ranch, 80.93 333 ⇓P P 22 55 44.3 +0.4
baz=81
A15A ⇓P P 22 55 44.3 +0.4
baz=81
BSMT Bassoo Peak 80.93 332 *e*P P 22 55 45.4 +1.4
C12B Naegeli Ranch, 81.12 331 ⇓P P 22 55 46.4 +1.5
baz=81
C12B ⇓P P 22 55 46.4 +1.5
baz=81
B13A Whitefish 81.19 332 ⇑P P 22 55 46.8 +1.5
baz=81
B13A ⇑P P 22 55 46.8 +1.5
baz=81
A14A Double T Ranch 81.21 333 ⇑P P 22 55 46.6 +1.2
baz=81
A14A ⇑P P 22 55 46.6 +1.2
baz=81
FFC Flin Flon 82.00 342 *e*P P 22 55 49.3 0.0
comp=E,6.0nm,1.0s
HAWA Hanford 82.04 328 *e*P P 22 55 51.0 +1.3
comp=E,8.4nm,0.9s
A12A Yaak River Ran 82.13 332 ⇑P P 22 55 51.8 +1.6
baz=82
A12A ⇑P P 22 55 51.8 +1.6
baz=82
OD2 Odessa Site #2 82.36 329 *e*P P 22 55 52.5 +1.1
ETW Entiat 83.28 329 *e*P P 22 55 57.2 +0.9
MAW Mawson 83.29 164 P P 22 55 56.9 +1.0
comp=E,11nm,0.9s,baz=240,slow=7.1,SNR=7.1
MAW LR LR 23 32 19.8
comp=E,226nm,18.4s,baz=48,slow=35
MAW Mawson 83.29 164 *e*P P 22 55 56.8 +0.8
comp=E,5.2nm,0.8s
BOSA Boshof 84.20 118 P P 22 56 02.0 +0.4
comp=E,9.0nm,0.8s,baz=284,slow=7.0,SNR=24
BOSA LR LR 23 30 59.5
comp=E,536nm,18.3s,baz=211,slow=34
BOSA Boshof 84.20 118 P P 22 56 02.0 +0.4
PBDV Barranco-do-Ve 84.23 46 *e*P P 22 56 04.2 +2.9
comp=E,28nm,1.4s
PCVE Castro Verde 84.38 45 *e*P P 22 56 04.3 +2.3
comp=E,11nm,1.5s
PVAQ Vaqueiros 84.46 45 *e*LR LR 23 32 28.4
comp=E,150nm,18.0s
PBEJ Beja 84.72 45 *e*P P 22 56 05.8 +2.1
comp=E,14nm,1.3s
PTOM Tomar 85.28 43 *e*P P 22 56 07.9 +1.5
comp=E,31nm,1.3s
PBAR Barrancos 85.34 45 *e*P P 22 56 08.0 +1.2
comp=E,17nm,1.5s
PMRV Marv??o 85.81 44 *e*LR LR 23 38 01.4
comp=E,146nm,18.0s
MTE Manteigas 86.27 43 *e*S S 23 06 49.0 +3.3
MTE *e*LR LR 23 33 38.5
comp=E,167nm,18.0s
PGAV Gavieira, Arco 86.71 41 *e*P P 22 56 11.3 -2.3
comp=E,46nm,1.8s
PGAV *e*LR LR 23 31 47.7
comp=E,184nm,20.0s
MVO Moncorvo 87.02 43 *e*P P 22 56 16.1 +1.0
comp=E,16nm,1.5s
MVO *e*LR LR 23 33 08.3
comp=E,218nm,18.0s
TAM Tamanrasset 87.06 64 *e*P P 22 56 16.4 +0.5
comp=E,12nm,1.8s
PBRG Braganca 87.56 42 *e*P P 22 56 18.8 +1.1
comp=E,16nm,1.8s
ESDC Sonseca Array 88.17 45 P P 22 56 20.4 -0.3
comp=E,0.2nm,0.6s,baz=232,slow=5.0,SNR=2.7
ESDC LR LR 23 37 52.3
comp=E,129nm,18.7s,baz=240,slow=37
ESDC Sonseca Array 88.17 45 P P 22 56 20.4 -0.3
YKA Yellowknife Ar 92.13 341 P P 22 56 38.5 0.0
comp=E,3.2nm,0.7s,baz=136,slow=4.5,SNR=68
YKA LR LR 23 39 20.3
comp=E,14nm,18.4s,baz=155,slow=36
YKA Yellowknife Ar 92.13 341 P P 22 56 38.5 0.0
KEST Kesra 95.62 54 LR LR 23 43 47.2
comp=E,163nm,19.3s,baz=286,slow=38
ASAR Alice Springs 127.70 209 PKP PKPdf 23 02 36.2 +0.5
comp=E,3.1nm,0.8s,baz=139,slow=2.3,SNR=23
ASAR Alice Springs 127.70 209 PKP PKPdf 23 02 36.2 +0.5
WRA Warramunga Arr 130.71 212 PKP PKPdf 23 02 42.1 +0.6
comp=E,2.9nm,0.8s,baz=148,slow=1.5,SNR=18
WRA Warramunga Arr 130.71 212 PKP PKPdf 23 02 42.1 +0.6
BVAR Borovoye Array 138.07 35 PKP PKPdf 23 02 52.2 -2.0
comp=E,1.2nm,0.7s,baz=270,slow=2.9,SNR=7.4
BVAR Borovoye Array 138.07 35 PKP PKPdf 23 02 52.2 -2.0
KURK Kurchatov 143.59 33 PKP PKPdf 23 03 02.9 -1.4
comp=E,1.3nm,0.6s,baz=307,slow=3.4,SNR=13
KURK Kurchatov 143.59 33 PKP PKPdf 23 03 02.9 -1.4
ZAA0 Zalesovo Array 144.11 25 *e*PKPdf PKPdf 23 03 04.5 -0.5
ZALV Zalesovo Beam 144.11 25 PKP PKPbc 23 03 03.6 +0.6
comp=E,4.8nm,0.7s,baz=339,slow=3.4,SNR=26
ZALV Zalesovo Beam 144.11 25 PKP PKPbc 23 03 03.6 +0.6
EKS2 Erkin-Say 144.74 48 P PKPdf 23 03 07.4 +0.7
SNR=9.8
EKS2 P PKPdf 23 03 07.4 +0.7
SNR=9.8
EKS2 Erkin-Say 144.74 48 *e*PKPdf PKPdf 23 03 07.0 +0.4
AML Almayashu 144.88 49 P PKPdf 23 03 07.8 +0.6
SNR=22
AML P PKPdf 23 03 07.8 +0.6
SNR=22
USP Ospenovka 144.99 47 P PKPdf 23 03 07.3 +0.3
SNR=6.8
USP P PKPdf 23 03 07.3 +0.3
SNR=6.8
AAK Ala-Archa 145.24 48 P PKPdf 23 03 09.3 +1.7
SNR=19
AAK P PKPdf 23 03 09.3 +1.7
SNR=19
AAK Ala-Archa 145.24 48 *e*PKPdf PKPdf 23 03 09.0 +1.4
CHMS Chumysh 145.27 47 P PKPdf 23 03 08.2 +0.7

SNR=7.3
CHMS P **PKPdf** 23 03 08.2 +0.7
SNR=7.3
KBK Karagaybulak 145.54 47 P **PKPab** 23 03 10.0 +1.5
SNR=13
KBK P **PKPab** 23 03 10.0 +1.5
SNR=13
TKM2 Tokmak 2 145.87 46 P **PKPbc** 23 03 09.0 -0.3
SNR=9.4
TKM2 P **PKPbc** 23 03 09.0 -0.3
SNR=9.4
TKM2 Tokmak 2 145.87 46 *e*PKPdf **PKPbc** 23 03 08.9 -0.3
POO Poona 146.66 91 *ex* **PKPdf** 23 03 10.0 -0.5
KSH Kashi 147.43 52 *e*PKPbc **PKPbc** 23 03 13.1 -0.8
KSH *ep*PKP **pPKPdf** 23 03 23.1 +4.7
KSH *e*PP **PP** 23 06 39.0 -0.9
KSH *e*PKS **PKSdf** 23 06 46.0 -0.6
KSH *e*SKS **SKSdf** 23 10 15.1 -4.0
KSH AMB AMB
comp=Z,76nm,4.4s
KSH LR LR
comp=N,140nm,4.8s
KSH LR LR
comp=E,190nm,5.2s
KSH LR LR
comp=Z,94nm,5.6s
MK31 Makanchi Array 147.92 36 *e*PKPdf **PKPdf** 23 03 12.3 +0.5
MKAR Makanchi Array 147.92 36 PKPbc **PKPdf** 23 03 12.8 +1.0
comp=Z,5.6nm,0.7s,baz=325,slow=2.2,SNR=44
MKAR Makanchi Array 147.92 36 PKPbc **PKPdf** 23 03 12.8 +1.0
NDI New Delhi 150.71 72 *e*P **PKPbc** 23 03 22.0 -0.3
DDI Dehra Dun 151.29 69 *ex* **PKPbc** 23 03 24.6 +0.9
MJAR Matsushiro Arr 151.64 305 PKPbc **PKPbc** 23 03 24.9 +0.7
comp=Z,5.6nm,0.7s,baz=119,slow=2.2,SNR=12
MJAR PKPab **PKPab** 23 03 32.5 -0.5
comp=Z,9.8nm,0.9s,baz=105,slow=1.6,SNR=12
MJAR Matsushiro Arr 151.64 305 PKPbc **PKPbc** 23 03 24.9 +0.7
MJAR PKPab **PKPab** 23 03 32.5 -0.5
MAT Matsushiro 151.64 305 APKP **PKPbc** 23 03 24.9 +0.6
USRK Ussuriysk Arra 151.85 324 PKP **PKPdf** 23 03 19.0 +1.0
comp=Z,2.6nm,0.9s,baz=106,slow=5.1,SNR=3.3
USRK PKPbc **PKiKP** 23 03 25.4 +0.6
comp=Z,5.8nm,0.8s,baz=299,slow=1.4,SNR=10
USRK PKPab **PKPab** 23 03 32.6 -0.8
comp=Z,6.3nm,0.9s,baz=115,slow=0.4,SNR=6.2
WMQ Urumqi 152.75 35 *e*PKPbc **PKPdf** 23 03 19.3 -0.2
SONM Songino Array 155.21 5 PKP **PKPdf** 23 03 24.0 +1.0
comp=Z,0.7nm,0.8s,baz=327,slow=1.3,SNR=6.2
SONM Songino Array 155.21 5 PKP **PKPdf** 23 03 24.0 +1.0
CN2 Changchun 155.40 331 *e*PKP **PKPdf** 23 03 25.1 +2.0
GTA Gaotai 161.87 24 *e*PKP **PKPdf** 23 03 33.5 +2.3
GTA pPKP **pPKPdf** 23 03 37.8 -0.4
GTA sPKP 23 03 41.3
HHC Hu-ho-hao-te 162.19 354 *e*PKP **PKPdf** 23 03 26.5 -4.9
HHC pPKP **pPKPdf** 23 03 36.9 -1.6
HHC sPKP 23 03 40.6
HHC PKS PKSdf 23 06 58.7 -5.9
HHC SKKS 23 14 45.9
HHC SS SS 23 28 18.8 -1.0
HHC AMB AMB
comp=Z,170nm,6.1s
HHC LR LR
comp=N,400nm,21.4s
HHC LR LR
comp=E,230nm,19.3s
HHC LR LR
comp=Z,140nm,20.7s
LZH Lanzhou 166.23 19 *e*PKP **PKPdf** 23 03 31.5 -3.8
LZH pPKP **pPKPdf** 23 03 42.3 0.0
LZH sPKP 23 03 45.9
LZH PKPab **PKPab** 23 04 34.6 -1.5
LZH *e*PP PP 23 08 23.0 +0.3
LZH SKKS 23 15 06.1
LZH *e*SS SS 23 29 01.6 -0.2
LZH AMB AMB
comp=Z,110nm,9.0s
LZH LR LR
comp=E,120nm,18.2s
LZH LR LR
comp=Z,160nm,20.1s
NJ2 Nanjing 167.66 318 *e*PKP **PKPdf** 23 03 36.1 -0.1
CMAR Chiang Mai Arr 169.32 114 PKP **PKPdf** 23 03 37.3 -0.4
comp=Z,1.0nm,0.8s,baz=317,slow=3.7,SNR=3.8
CMAR PKPab **PKPab** 23 04 50.0 -0.2
comp=Z,0.4nm,0.4s,baz=286,slow=3.4,SNR=4.1
CMAR Chiang Mai Arr 169.32 114 PKP **PKPdf** 23 03 37.3 -0.4
CMAR PKPab **PKPab** 23 04 50.0 -0.2
CD2 Chengdu 170.81 31 PKP **PKPdf** 23 03 37.1 -1.2
CD2 pPKP **pPKPdf** 23 03 47.9 +2.6
CD2 sPKP 23 03 51.5
CD2 PKPab **PKPab** 23 04 57.4 +1.0
CD2 PKS **PKSdf** 23 07 08.3 -2.5
CD2 PP PP 23 08 48.6 +2.5
CD2 SKS **SKSdf** 23 10 38.0 -2.8
CD2 SKKS **SKKSac** 23 15 33.4 +0.6
CD2 SS SS 23 29 48.6 +0.6
CD2 AMB AMB
comp=Z,140nm,5.9s
CD2 LR LR
comp=N,550nm,6.5s
CD2 LR LR
comp=Z,310nm,5.9s
KMI Kunming 173.73 70 PKP **PKPdf** 23 03 39.3 -0.7
GYA Guiyang 175.91 34 PKP **PKPdf** 23 03 39.5 -1.0
GYA PKPab **PKPab** 23 05 20.0 +0.8
GYA PKS **PKSdf** 23 07 10.3 -2.5
GYA PP PP 23 09 13.4 +2.1
GYA AMB AMB
comp=Z,120nm,8.4s

IDC 09 22:59:46.3±3.0, 0.70S×133.79E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=146.2km s-min=27.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**178**	P	P	23 04 11.5	+0.3
	0.2nm,0.3s,baz=358,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.83**	**180**	P	P	23 04 51.1	-0.1
	0.8nm,0.5s,baz=360,slow=11,SNR=9.1						
MKAR	**Makanchi Array**	**65.23**	**324**	P	P	23 10 29.7	-0.1
	0.4nm,0.7s,baz=122,slow=7.8,SNR=5.1						

IDC 09 23:35:20.3±3.2, 0.13S×133.00E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=177.2km s-min=26.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.73**	**176**	P	P	23 39 51.5	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.41**	**178**	P	P	23 40 31.4	+0.2
	0.7nm,0.5s,baz=354,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	23 45 57.8	-0.1
	0.3nm,0.9s,baz=134,slow=7.3,SNR=3.3						

*IDC **09** 23:47:55.9±1.8, 32.62S×178.67W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.9/14, mbtmp3.9/2, Error ellipse: s-maj=67.7km s-min=43.8km az=14.0*
*ISCJB **09** 23:48:00.9±3.8, 32.90S±0.10×179.0W±0.6, h32km, mb3.7/2, Error ellipse: s-maj=72.0km s-min=13.8km az=179.7*
ISC 09 23:48:00.8±1.6, 32.8S±0.1×178.8W±0.3, h32km, n14, σ1s11/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.78**	**204**	PN	**Pn**	**23 49 22.8**	**-1.5**
PUZ				SN	**Sn**	**23 50 29.0**	**-0.6**
CNGZ	**Carnagh Statio**	**6.17**	**203**	PN	**Pn**	**23 49 31.5**	**+1.9**
MWZ	**Matawai**	**6.28**	**208**	PN	**Pn**	**23 49 32.9**	**+1.7**
URZ	**Urewera**	**6.39**	**211**	PN	**Pn**	**23 49 32.9**	**+0.3**
BKZ	**Black Stump Fm**	**7.41**	**210**	PN	**Pn**	**23 49 45.8**	**-0.9**
TSZ	**Takapari Road**	**8.39**	**209**	PN	Pn	23 50 06.0	+5.9
ASAR	**Alice Springs**	**42.39**	**270**	P	**P**	**23 55 52.5**	**+0.1**
	0.7nm,0.5s,baz=106,slow=7.7,SNR=8.2						
WRA	**Warramunga Arr**	**43.60**	**275**	P	**P**	**23 56 02.7**	**+0.5**
	1.0nm,0.4s,baz=115,slow=8.0,SNR=16						
JOF	**Joensuu**	**144.39**	**337**	*ep*	PKPbc	00 07 31.2	-0.1
JOF	**Joensuu**	**144.39**	**337**	*ep*	PKPbc	00 07 31.2	-0.1
KAF	**Kangasniemi**	**146.58**	**339**	*ep*	**PKPdf**	**00 07 36.1**	**-0.5**
KAF	**Kangasniemi**	**146.58**	**339**	*ep*	**PKPdf**	**00 07 36.1**	**-0.5**
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	**PKPbc**	**00 07 39.5**	**-0.4**
	2.2nm,0.7s,baz=41,slow=3.1,SNR=20						
TORD	**Torodi Ar. Bea**	**160.42**	**181**	PKPab	**PKPab**	**00 08 38.9**	**+0.4**
	0.6nm,0.6s,baz=172,slow=3.4,SNR=6.2						

IDC 09 23:56:07.0±3.4, 1.44S×137.86E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=137.0km s-min=25.6km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.71**	**190**	P	P	00 00 26.7	-0.6
	0.1nm,0.3s,baz=11,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**20.45**	**215**	P	P	00 00 46.3	0.0
	2.6nm,1.1s,baz=34,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**22.43**	**190**	P	P	00 01 08.0	+0.4
	0.3nm,0.5s,baz=17,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**56.21**	**335**	P	P	00 05 48.9	-0.1
	0.1nm,0.5s,baz=158,slow=7.2,SNR=2.5						

IDC 09 23:59:47.3±2.4, 18.51N×145.68E, h168km±22km, mb3.3/11, mb1 3.5/12, mb1mx3.4/24, mbtmp3.3/12, Error ellipse: s-maj=24.1km s-min=13.7km az=95.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.96**	**189**	P	Pn	00 01 01.3	+0.8
	19nm,0.3s,baz=39,slow=6.5,SNR=8.4						
GUMO				S	Sn	00 01 57.8	0.0
	21nm,0.3s,baz=11,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**39.80**	**197**	P	P	00 07 03.9	-0.2
	1.1nm,0.4s,baz=15,slow=8.6,SNR=20						
FITZ	**Fitzroy Crossi**	**41.37**	**210**	P	P	00 07 16.5	-0.5
	2.6nm,0.8s,baz=19,slow=15,SNR=20						
SONM	**Songino Array**	**43.28**	**322**	P	P	00 07 33.2	+0.9
	0.2nm,0.4s,baz=141,slow=8.0,SNR=4.1						
ASAR	**Alice Springs**	**43.47**	**196**	P	P	00 07 33.8	-0.1
	0.6nm,0.5s,baz=21,slow=11,SNR=11						
STKA	**Stephens Creek**	**50.25**	**185**	P	P	00 08 26.4	+0.1
	1.7nm,0.9s,baz=14,slow=9.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**58.15**	**323**	P	P	00 09 23.0	-0.2
	0.4nm,0.5s,baz=116,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**58.58**	**314**	P	P	00 09 26.1	-0.3
	0.2nm,0.7s,baz=93,slow=7.2,SNR=3.1						
KURK	**Kurchatov**	**61.40**	**318**	P	P	00 09 45.7	+0.2
	0.5nm,0.8s,baz=96,slow=7.2,SNR=5.3						
KURK				pP	PcP	00 10 32.7	+6.7
	0.7nm,0.6s,baz=95,slow=7.7,SNR=4.4						
ILAR	**Eielson Array**	**63.82**	**26**	P	P	00 10 00.5	-0.8
	0.6nm,0.7s,baz=246,slow=5.9,SNR=7.4						
YKA	**Yellowknife Ar**	**78.16**	**28**	P	P	00 11 27.4	-0.2
	0.3nm,0.4s,baz=289,slow=5.4,SNR=7.1						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	P	00 11 56.0	+0.4
	1.6nm,0.8s,baz=265,slow=6.8,SNR=7.9						
LPAZ	**La Paz**	**147.69**	**91**	PKPbc	PKPbc	00 19 13.8	+0.1
	0.8nm,0.4s,baz=274,slow=5.1,SNR=4.8						

*ISCJB **10** 00:36:51.6±0.6, 37.42N±0.02×23.45E±0.03, h13km±3km, Error ellipse: s-maj=4.6km s-min=3.1km az=135.5*
*ATH **10** 00:36:51.9, 37.47N×23.38E, h15km±2km, ML2.8*
*CSEM **10** 00:36:51.3±0.2, 37.42N×23.46E, h15km, ML2.8, Error ellipse: s-maj=5.3km s-min=3.0km az=132.0*
*THE **10** 00:36:52.5, 37.48N×23.43E, h9km, ML2.7/11, Error ellipse: s-maj=0.9km s-min=0.5km az=142.0*
ISC 10 00:36:51.9±0.8, 37.47N±0.02×23.43E±0.02, h15km±5km, n89, σ0s49/160, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DID	**Didima**	**0.16**	**283**	P	**Pg**	**00 36 55.8**	**-0.2**
DID				S	**Sg**	**00 36 58.8**	**+0.1**
DID	**Didima**	**0.16**	**283**	P	**Pg**	**00 36 55.8**	**-0.2**
DID				S	**Sg**	**00 36 58.8**	**+0.1**
DID	**Didima**	**0.16**	**283**	*e*PB	**Pg**	**00 36 55.7**	**-0.2**
DID				*e*SB	**Sg**	**00 36 58.7**	**+0.1**
DID	**Didima**	**0.16**	**283**	*e*Pb	**Pg**	**00 36 55.7**	**-0.2**
DID				*e*Sb	**Sg**	**00 36 58.7**	**+0.1**
DIDY	**Didyma**	**0.17**	**272**	P	**Pb**	**00 36 56.9**	**0.0**
DIDY				S	**Sb**	**00 36 59.9**	**-0.3**
DIDY	**Didyma**	**0.17**	**272**	P	**Pb**	**00 36 56.9**	**0.0**
DIDY				S	**Sb**	**00 36 59.9**	**-0.3**
DIDY	**Didyma**	**0.17**	**272**	P	**Pb**	**00 36 56.9**	**0.0**
DIDY				S	**Sb**	**00 36 59.9**	**-0.3**
VLY	**Voula,Athens**	**0.48**	**37**	P	**Pg**	**00 37 01.3**	**-0.1**
VLY				S	**Sb**	**00 37 08.8**	**+0.1**
VLY	**Voula,Athens**	**0.48**	**37**	P	**Pg**	**00 37 01.3**	**-0.1**
VLY				S	**Sb**	**00 37 08.8**	**+0.1**
VLY	**Voula,Athens**	**0.48**	**37**	P	**Pg**	**00 37 01.3**	**-0.1**
VLY				S	**Sb**	**00 37 08.8**	**-0.1**
ATH	**Athens Observa**	**0.55**	**24**	P	**Pg**	**00 37 02.8**	**+0.1**
ATH				S	**Sb**	**00 37 11.5**	**+0.5**
ATH	**Athens Observa**	**0.55**	**24**	P	**Pg**	**00 37 02.8**	**+0.1**
ATH				S	**Sb**	**00 37 11.5**	**+0.5**
ATH	**Athens Observa**	**0.55**	**24**	*e*PN	**Pg**	**00 37 02.5**	**-0.2**
ATH				*e*SN	**Sb**	**00 37 11.2**	**+0.2**
ATH	**Athens Observa**	**0.55**	**24**	*e*Pn	**Pg**	**00 37 02.5**	**-0.2**
ATH	**Athens Observa**	**0.55**	**24**	P	**Pg**	**00 37 02.8**	**+0.1**
ATH				*e*Sn	**Sb**	**00 37 11.2**	**+0.2**
ATH				S	**Sb**	**00 37 11.5**	**+0.5**
LTK	**Loutraki**	**0.66**	**326**	P	**Pg**	**00 37 05.0**	**+0.1**
LTK				S	**Sb**	**00 37 15.1**	**+0.8**
LTK	**Loutraki**	**0.66**	**326**	P	**Pg**	**00 37 05.0**	**+0.1**
LTK				S	**Sb**	**00 37 15.1**	**+0.8**
LTK	**Loutraki**	**0.66**	**326**	*e*PB	**Pg**	**00 37 03.6**	**-1.3**
LTK	**Loutraki**	**0.66**	**326**	*e*Pb	**Pg**	**00 37 03.6**	**-1.3**
LTK	**Loutraki**	**0.66**	**326**	P	**Pg**	**00 37 05.0**	**+0.1**
LTK				S	**Sb**	**00 37 15.1**	**+0.8**
PTL	**Penteli**	**0.67**	**31**	P	**Pg**	**00 37 04.8**	**-0.2**
PTL				S	**Sb**	**00 37 15.1**	**+0.6**
PTL	**Penteli**	**0.67**	**31**	P	**Pg**	**00 37 04.8**	**-0.2**
PTL				S	**Sb**	**00 37 15.1**	**+0.6**
PTL	**Penteli**	**0.67**	**31**	P	**Pg**	**00 37 04.8**	**-0.2**
PTL				S	**Sb**	**00 37 15.1**	**+0.6**
VLX	**Vlachokerasia**	**0.84**	**264**	P	**Pg**	**00 37 08.3**	**0.0**
VLX				S	**Sb**	**00 37 19.9**	**+0.4**
VLX	**Vlachokerasia**	**0.84**	**264**	P	**Pg**	**00 37 08.3**	**0.0**
VLX				S	**Sb**	**00 37 19.9**	**+0.4**
VLX	**Vlachokerasia**	**0.84**	**264**	*e*PN	**Pg**	**00 37 07.4**	**-0.9**
VLX				*e*SN	**Sg**	**00 37 19.2**	**-0.1**
VLX	**Vlachokerasia**	**0.84**	**264**	*e*Pn	**Pg**	**00 37 07.4**	**-0.9**
VLX	**Vlachokerasia**	**0.84**	**264**	P	**Pg**	**00 37 08.3**	**0.0**
VLX				*e*Sn	**Sg**	**00 37 19.3**	**-0.1**
VLX				S	**Sb**	**00 37 19.9**	**+0.4**
VLI	**Veliai**	**0.85**	**208**	P	**Pb**	**00 37 08.3**	**0.0**
VLI				S	**Sn**	**00 37 21.4**	**0.0**
VLI	**Veliai**	**0.85**	**208**	P	**Pb**	**00 37 08.3**	**0.0**
VLI				S	**Sn**	**00 37 21.4**	**0.0**
VLI	**Veliai**	**0.85**	**208**	*e*PN	**Pg**	**00 37 07.0**	**-1.3**
VLI				*e*SN	**Sb**	**00 37 19.6**	**+0.1**
VLI	**Veliai**	**0.85**	**208**	*e*Pn	**Pg**	**00 37 07.0**	**-1.3**
VLI	**Veliai**	**0.85**	**208**	P	**Pb**	**00 37 08.3**	**0.0**
VLI				*e*Sn	**Sb**	**00 37 19.6**	**+0.1**
VLI				S	**Sn**	**00 37 21.4**	**0.0**
MRMA	**Marmari**	**0.95**	**52**	P	**Pb**	**00 37 09.9**	**-0.2**
MRMA				S	**Sn**	**00 37 23.5**	**-0.6**
MRMA	**Marmari**	**0.95**	**52**	P	**Pb**	**00 37 09.9**	**-0.2**
MRMA				S	**Sn**	**00 37 23.5**	**-0.6**
MRMA	**Marmari**	**0.95**	**52**	P	**Pb**	**00 37 09.9**	**-0.2**
MRMA				S	**Sn**	**00 37 23.5**	**-0.6**
GUR	**Goura**	**0.98**	**299**	P	**Pb**	**00 37 09.9**	**-0.8**
GUR				S	**Sn**	**00 37 24.9**	**0.0**
GUR	**Goura**	**0.98**	**299**	P	**Pb**	**00 37 09.9**	**-0.8**
GUR				S	**Sn**	**00 37 24.9**	**0.0**
GUR	**Goura**	**0.98**	**299**	*e*PN	**Pb**	**00 37 09.8**	**-0.9**
GUR				*e*SN	**Sb**	**00 37 23.5**	**0.0**
GUR	**Goura**	**0.98**	**299**	*e*Pn	**Pb**	**00 37 09.8**	**-0.9**
GUR				*e*Sn	**Sb**	**00 37 23.5**	**0.0**
GUR				S	**Sn**	**00 37 24.9**	**0.0**
ERET	**Eretria**	**1.02**	**17**	P	**Pg**	**00 37 11.4**	**-0.1**
ERET				S	**Sn**	**00 37 25.8**	**+0.1**
ERET	**Eretria**	**1.02**	**17**	P	**Pg**	**00 37 11.4**	**-0.1**
ERET				S	**Sn**	**00 37 25.8**	**+0.1**
ERET	**Eretria**	**1.02**	**17**	P	**Pg**	**00 37 11.4**	**-0.1**
ERET				S	**Sn**	**00 37 25.8**	**+0.1**
DESF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.4**	**-0.5**
DESF				S	**Sg**	**00 37 30.9**	**+0.8**
DESF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.4**	**-0.5**
DESF				S	**Sg**	**00 37 30.9**	**+0.8**
DESF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.4**	**-0.5**
DESF				S	**Sg**	**00 37 30.9**	**+0.8**
DSF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.9**	**0.0**
DSF				S	**Sg**	**00 37 31.3**	**+1.2**
DSF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.9**	**0.0**
DSF				S	**Sg**	**00 37 31.3**	**+1.2**
DSF	**Desfina**	**1.18**	**323**	P	**Pn**	**00 37 13.9**	**0.0**
DSF				S	**Sg**	**00 37 31.3**	**+1.2**
KYTH	**Kithira**	**1.23**	**195**	P	**Pg**	**00 37 16.1**	**+0.6**
KYTH	**Kithira**	**1.23**	**195**	P	**Pg**	**00 37 16.1**	**+0.6**
KYTH	**Kithira**	**1.23**	**195**	P	**Pg**	**00 37 16.1**	**+0.6**
LKR	**Lokris**	**1.23**	**344**	P	**Pn**	**00 37 14.2**	**-0.3**
LKR				S	**Sg**	**00 37 32.2**	**+0.7**
LKR	**Lokris**	**1.23**	**344**	P	**Pn**	**00 37 14.2**	**-0.3**
LKR				S	**Sg**	**00 37 32.2**	**+0.7**
LKR	**Lokris**	**1.23**	**344**	*e*PB	**Pn**	**00 37 14.1**	**-0.4**
LKR				*e*SN	**Sg**	**00 37 32.6**	**+1.1**
LKR	**Lokris**	**1.23**	**344**	*e*Pb	**Pn**	**00 37 14.1**	**-0.4**
LKR				S	**Sg**	**00 37 32.2**	**+0.7**
LKR				*e*Sn	**Sg**	**00 37 32.6**	**+1.1**
ITM	**Ithomi**	**1.23**	**257**	P	**Pb**	**00 37 15.0**	**+0.1**
ITM				S	**Sg**	**00 37 32.6**	**+0.9**
ITM	**Ithomi**	**1.23**	**257**	P	**Pb**	**00 37 15.0**	**+0.1**
ITM				S	**Sg**	**00 37 32.6**	**+0.9**
ITM	**Ithomi**	**1.23**	**257**	*e*PN	**Pb**	**00 37 14.8**	**-0.1**
ITM	**Ithomi**	**1.23**	**257**	*e*Pn	**Pb**	**00 37 14.8**	**-0.1**
ITM				S	**Sg**	**00 37 32.6**	**+0.9**
MRKA	**Markates**	**1.24**	**6**	P	**Pb**	**00 37 15.0**	**0.0**
MRKA				S	**Sn**	**00 37 31.6**	**+0.4**
MRKA	**Markates**	**1.24**	**6**	P	**Pb**	**00 37 15.0**	**0.0**
MRKA				S	**Sn**	**00 37 31.6**	**+0.4**
MRKA	**Markates**	**1.24**	**6**	P	**Pb**	**00 37 15.0**	**0.0**
MRKA				S	**Sn**	**00 37 31.6**	**+0.4**
ATAL	**Atalanti**	**1.26**	**345**	P	**Pb**	**00 37 15.4**	**0.0**
ATAL				S	**Sg**	**00 37 32.5**	**-0.2**
ATAL	**Atalanti**	**1.26**	**345**	P	**Pb**	**00 37 15.4**	**0.0**
ATAL				S	**Sg**	**00 37 32.5**	**-0.2**
ATAL	**Atalanti**	**1.26**	**345**	P	**Pb**	**00 37 15.4**	**0.0**
ATAL				S	**Sg**	**00 37 32.5**	**-0.2**
KALE	**Kalithea**	**1.38**	**312**	P	**Pn**	**00 37 16.8**	**+0.2**
KALE	**Kalithea**	**1.38**	**312**	P	**Pn**	**00 37 16.8**	**+0.2**
KALE	**Kalithea**	**1.38**	**312**	P	**Pn**	**00 37 16.8**	**+0.2**
LAKA	**Lakka**	**1.38**	**304**	P	**Pn**	**00 37 17.0**	**+0.3**
LAKA				S	**Sg**	**00 37 36.1**	**-0.4**
LAKA	**Lakka**	**1.38**	**304**	P	**Pn**	**00 37 17.0**	**+0.3**
LAKA				S	**Sg**	**00 37 36.1**	**-0.4**
LAKA	**Lakka**	**1.38**	**304**	P	**Pn**	**00 37 17.0**	**+0.3**
LAKA				S	**Sg**	**00 37 36.1**	**-0.4**
SMIA	**Simia**	**1.42**	**353**	P	**Pn**	**00 37 17.1**	**-0.1**
SMIA				S	**Sg**	**00 37 37.5**	**-0.1**
SMIA	**Simia**	**1.42**	**353**	P	**Pn**	**00 37 17.1**	**-0.1**
SMIA				S	**Sg**	**00 37 37.5**	**-0.1**
SMIA	**Simia**	**1.42**	**353**	P	**Pn**	**00 37 17.1**	**-0.1**
SMIA				S	**Sg**	**00 37 37.5**	**-0.1**
PYL	**PYLOS**	**1.47**	**248**	*e*PN	**Pb**	**00 37 19.2**	**+0.4**
PYL	**PYLOS**	**1.47**	**248**	*e*Pn	**Pb**	**00 37 19.2**	**+0.4**
EFP	**Efpalio**	**1.54**	**309**	*e*PN	**Pb**	**00 37 19.5**	**-0.6**
EFP	**Efpalio**	**1.54**	**309**	*e*Pn	**Pb**	**00 37 19.5**	**-0.6**
SKIA	**Skiathos**	**1.69**	**1**	P	**Pn**	**00 37 21.0**	**0.0**
SKIA	**Skiathos**	**1.69**	**1**	P	**Pn**	**00 37 21.0**	**0.0**
SKIA	**Skiathos**	**1.69**	**1**	P	**Pn**	**00 37 21.0**	**0.0**
APE	**Apeiranthos**	**1.72**	**103**	*e*PN	**Pg**	**00 37 24.3**	**-0.6**
APE	**Apeiranthos**	**1.72**	**103**	*e*Pn	**Pg**	**00 37 24.3**	**-0.6**
AOS	**Alonnisos**	**1.73**	**12**	P	**Pn**	**00 37 21.5**	**0.0**
AOS				S	**Sb**	**00 37 45.0**	**0.0**
AOS	**Alonnisos**	**1.73**	**12**	P	**Pn**	**00 37 21.5**	**0.0**
AOS				S	**Sb**	**00 37 45.0**	**0.0**
AOS	**Alonnisos**	**1.73**	**12**	P	**Pn**	**00 37 21.5**	**0.0**
AOS				S	**Sb**	**00 37 45.0**	**0.0**
AGG	**Agios Georgios**	**1.78**	**331**	*e*PN	**Pb**	**00 37 23.3**	**-0.9**
AGG	**Agios Georgios**	**1.78**	**331**	*e*Pn	**Pb**	**00 37 23.3**	**-0.9**

*IDC **10** 00:37:37.1±1.1, 21.07S×173.94W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/21, mbtmp4.2/9, ML4.8/1, Error ellipse: s-maj=54.1km s-min=20.2km az=155.0*
ISC 10 00:37:39.7±0.8, 21.1S±0.3×173.41W±0.09, h46km, n17, σ2s16/12, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.73**	**93**	Pn	**P**	**00 40 46.7**	**-1.4**
	5.2nm,0.3s,baz=225,slow=8.8,SNR=10						
RAR				Sn	**Sn**	**00 43 00.5**	**+2.0**
	2.0nm,0.3s,baz=194,slow=12,SNR=2.5						
TBI	**Tubuai**	**22.29**	**100**	*e*LR	LR	00 48 10.3	
	64nm,28.0s						
PPT2	**Papeete2**	**22.75**	**85**	*e*LR	LR	00 48 28.3	
	76nm,25.0s						
CTA	**Charters Tower**	**37.70**	**264**	P	**P**	**00 44 52.4**	**+1.2**
	5.8nm,0.8s,baz=141,slow=6.5,SNR=2.3						
ASAR	**Alice Springs**	**48.57**	**257**	P	**P**	**00 46 18.9**	**0.0**
	0.6nm,0.4s,baz=85,slow=7.8,SNR=6.5						
WRA	**Warramunga Arr**	**48.77**	**262**	P	**P**	**00 46 21.2**	**+0.7**
	0.7nm,0.4s,baz=99,slow=8.8,SNR=4.0						
NWAO	**Narrogin (SRO)**	**61.95**	**243**	P	**P**	**00 47 54.2**	**-0.9**
	5.9nm,0.8s,baz=132,slow=6.8,SNR=3.2						
MJAR	**Matsushiro Arr**	**73.27**	**321**	P	**P**	**00 49 07.6**	**+1.2**
	1.1nm,0.3s,baz=172,slow=7.4,SNR=4.2						
NVAR	**Mina Array Bea**	**78.55**	**41**	P	P	00 49 43.3	+6.6
	1.2nm,0.7s,baz=221,slow=8.6,SNR=9.4						
PDAR	**Pinedale Array**	**86.48**	**41**	P	P	00 50 23.6	+5.7
	0.5nm,0.8s,baz=338,slow=1.6,SNR=4.6						
ILAR	**Eielson Array**	**87.97**	**11**	P	P	00 50 27.7	+3.4
	0.6nm,0.7s,baz=231,slow=5.2,SNR=7.1						
MKAR	**Makanchi Array**	**114.71**	**313**	PKP	PKPdf	00 56 18.8	+3.7
	0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.43**	**32**	⇑Pn	Pn	01 17 25.4	-2.6
BPBC				⇑Sn	Sn	01 17 42.5	-4.4
EDB	**Eliza Dome**	**1.50**	**51**	⇑Pn	Pn	01 17 26.3	-2.7
HOLB	**Holberg**	**1.77**	**17**	⇑Pn	Pn	01 17 32.2	-0.5
MAYB	**Maynard**	**1.85**	**37**	⇓Pn	Pn	01 17 31.4	-2.6
MAYB				⇑Sn	Sn	01 17 53.8	-3.9
WOSB	**Woss**	**1.96**	**51**	⇓Pn	Pn	01 17 33.4	-2.0
WOSB				⇓Sn	Sn	01 17 56.5	-3.7
PHC	**Port Hardy**	**2.01**	**28**	⇓Pn	Pn	01 17 34.4	-1.6
PHC				⇑Sn	Sn	01 17 57.2	-3.9
GDR	**Gold River**	**2.07**	**65**	⇑Pn	Pn	01 17 34.3	-2.5
BTB	**Buttle Lake**	**2.30**	**76**	⇑Pn	Pn	01 17 38.1	-2.0
NCRB	**Newcastle Ridg**	**2.37**	**51**	⇓Pn	Pn	01 17 39.6	-1.4
CBB	**Campbell River**	**2.57**	**64**	⇓Pn	Pn	01 17 42.2	-1.5
BBB	**Bella Bella**	**3.29**	**9**	⇓Sn	Sn	01 18 29.5	-3.0

IDC 10 01:20:52.6±1.9, 0°25S×132°78E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=97.3km s-min=20.0km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.08**	**201**	P	Pn	01 25 17.3	-0.3
	0.2nm,0.3s,baz=17,slow=14,SNR=8.5						
FITZ				S	Sn	01 28 36.4	-16
	0.1nm,0.3s,baz=307,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**19.64**	**176**	P	P	01 25 22.9	-0.1
	0.4nm,0.3s,baz=353,slow=12,SNR=10						
WRA				S	Sn	01 28 51.0	-15
	0.2nm,0.3s,baz=7.6,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**23.31**	**177**	P	P	01 26 02.7	+0.3
	4.0nm,0.6s,baz=356,slow=12,SNR=36						
STKA	**Stephens Creek**	**32.55**	**166**	P	P	01 27 24.9	-0.6
	1.1nm,0.6s,baz=345,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**64.27**	**324**	P	P	01 31 29.8	0.0
	0.3nm,0.7s,baz=111,slow=7.5,SNR=2.5						
KURK	**Kurchatov**	**68.35**	**326**	P	P	01 31 55.8	0.0
	0.4nm,0.8s,baz=123,slow=6.0,SNR=4.4						

*GEN **10** 01:22:11.9, 44°.56N×10°.45E, h27km, ML2.0*
*ROM **10** 01:22:12.8±0.2, 44°.54N×10°.40E, h24km±3km, Md2.5/17, Ml2.5/9, Error ellipse: s-maj=4.0km s-min=2.6km az=86.0*
*CSEM **10** 01:22:12.9±0.1, 44°.53N×10°.40E, h22km±1km, ML2.6/11, Error ellipse: s-maj=3.2km s-min=2.5km az=149.0*
*ISCJB **10** 01:22:12.6±0.2, 44°.52N±0°.02×10°.37E±0°.02, h30km±2km, Error ellipse: s-maj=3.4km s-min=2.7km az=140.4*
*VIE **10** 01:22:13.4±0.9, 44°.53N×10°.85E, h10km, mb2.3/4, ML2.8/5, Error ellipse: s-maj=17.7km s-min=7.3km az=97.0 38 km W of Bologna*
*LDG **10** 01:22:14.1±0.4, 44°.57N×10°.50E, h20km, Ml2.6/15, Error ellipse: s-maj=8.3km s-min=4.8km az=99.0*

ISC 10 01:22:12.9±0.8, 44°53N±0°02×10°39E±0°02, h24km±5km, n103, σ1s13/161, 5C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.11**	**172**	Pg	**Pb**	**01 22 17.2**	**-0.4**
ERBM				Sg	**Sb**	**01 22 21.5**	**+0.8**
ERBM	**Eremo**	**0.11**	**172**	Pg	**Pb**	**01 22 17.2**	**-0.4**
ERBM				*e*Sg	**Sb**	**01 22 21.5**	**+0.8**
GSCL	**Gusciola**	**0.23**	**142**	Pg	**Pb**	**01 22 18.2**	**-0.6**
GSCL				Sg	**Sb**	**01 22 23.0**	**+0.1**
GSCL	**Gusciola**	**0.23**	**142**	Pg	**Pb**	**01 22 18.2**	**-0.6**
GSCL				Sg	**Sb**	**01 22 23.0**	**+0.1**
GRAM	**Graiana**	**0.24**	**261**	P	**Pb**	**01 22 18.8**	**-0.2**
GRAM				S	**Sb**	**01 22 23.5**	**+0.4**
PRMA	**PARMA**	**0.24**	**347**	Pg	**Pb**	**01 22 18.5**	**-0.5**
PRMA				Sg	**Sb**	**01 22 24.4**	**+1.3**
PRMA	**PARMA**	**0.24**	**347**	Pg	**Pb**	**01 22 18.5**	**-0.5**
PRMA				*e*Sg	**Sb**	**01 22 24.4**	**+1.3**
NOVE	**Novellara**	**0.35**	**41**	Pg	**Pb**	**01 22 19.7**	**-0.9**
NOVE				Sg	**Sb**	**01 22 26.8**	**+0.9**
	250nm,0.5s						
NOVE	**Novellara**	**0.35**	**41**	Pg	**Pb**	**01 22 19.7**	**-0.9**
NOVE				*e*Sg	**Sb**	**01 22 26.8**	**+0.9**
CODM	**Codolo**	**0.41**	**250**	P	**Pb**	**01 22 21.4**	**-0.2**
CODM				S	**Sb**	**01 22 27.7**	**+0.2**
ZCCA	**Zocca**	**0.46**	**113**	Pg	**Pb**	**01 22 22.9**	**+0.6**
ZCCA	**Zocca**	**0.46**	**113**	Pg	**Pb**	**01 22 22.9**	**+0.6**
BDI	**Bagni Di Lucca**	**0.49**	**162**	Pg	**Pb**	**01 22 22.6**	**-0.3**
BDI				Sg	**Sb**	**01 22 30.3**	**+0.6**
	125nm,0.3s						
BDI	**Bagni Di Lucca**	**0.49**	**162**	Pg	**Pb**	**01 22 22.6**	**-0.3**
BDI				Sg	**Sb**	**01 22 30.3**	**+0.6**
	125nm,0.3s						
CRDM	**Cardoso**	**0.51**	**173**	P	**Pb**	**01 22 22.4**	**-0.8**
CRDM				S	**Sb**	**01 22 29.7**	**-0.5**
RAVA	**Ravarino**	**0.57**	**66**	Pg	**Pn**	**01 22 24.8**	**-0.7**
	389nm,0.7s						
RAVA	**Ravarino**	**0.57**	**66**	Pg	**Pn**	**01 22 24.8**	**-0.7**
	389nm,0.7s						
MAIM	**Mastiano**	**0.62**	**173**	Pg	**Pb**	**01 22 25.3**	**+0.2**
	48nm,0.3s						
MAIM	**Mastiano**	**0.62**	**173**	P	**Pb**	**01 22 24.3**	**-0.8**
MAIM	**Mastiano**	**0.62**	**173**	Pg	**Pb**	**01 22 25.3**	**+0.2**
	48nm,0.3s						
MAIM				S	**Sb**	**01 22 32.7**	**-0.7**
SC2M	**Scurtabo**	**0.63**	**259**	Pg	**Pn**	**01 22 26.1**	**-0.2**
	82nm,0.5s						
SC2M	**Scurtabo**	**0.63**	**259**	Pg	**Pn**	**01 22 26.1**	**-0.2**
	82nm,0.5s						
FIU	**Minerbio Fiu**	**0.79**	**82**	Pg	**Pn**	**01 22 29.7**	**+1.1**
FIU	**Minerbio Fiu**	**0.79**	**82**	*e*Pg	**Pn**	**01 22 29.7**	**+1.1**
CMPO	**Campotto Po**	**1.01**	**87**	Pg	**Pb**	**01 22 33.0**	**+1.3**
CMPO	**Campotto Po**	**1.01**	**87**	Pg	**Pb**	**01 22 33.0**	**+1.3**
SALO	**Salr**	**1.09**	**5**	Pg	**Pn**	**01 22 32.9**	**+0.1**
	350nm,0.5s						
SALO	**Salr**	**1.09**	**5**	Pg	**Pn**	**01 22 32.9**	**+0.1**
	350nm,0.5s						
BALD	**Monte Baldo**	**1.19**	**15⇑**	*e*Pg	**Pn**	**01 22 34.5**	**+0.2**
BALD				*e*Sg	**Sb**	**01 22 50.4**	**+0.4**
BALD	**Monte Baldo**	**1.19**	**15**	*e*Pg	**Pn**	**01 22 34.5**	**+0.2**
BALD				*e*Sg	**Sb**	**01 22 50.4**	**+0.4**
ROVR	**Rover¯¤ Verone**	**1.22**	**23**	Pg	**Pn**	**01 22 34.6**	**0.0**
ROVR				Sg	**Sn**	**01 22 50.5**	**+0.2**
	386nm,0.2s						
ROVR	**Rover¯¤ Verone**	**1.22**	**23**	Pg	**Pn**	**01 22 34.6**	**0.0**
ROVR				Sg	**Sn**	**01 22 50.5**	**+0.2**
	386nm,0.2s						
CSNT	**Castellina Chi**	**1.24**	**148**	Pg	**Pb**	**01 22 36.5**	**+0.9**
CSNT	**Castellina Chi**	**1.24**	**148**	Pg	**Pb**	**01 22 36.5**	**+0.9**
MDI	**Monti di Nese**	**1.34**	**339**	Pg	**Pb**	**01 22 37.1**	**-0.2**
MDI	**Monti di Nese**	**1.34**	**339**	Pg	**Pb**	**01 22 37.1**	**-0.2**
DDS	**Dosso del Somm**	**1.46**	**22**	*e*Pg	**Pn**	**01 22 37.7**	**-0.3**
DDS				*e*Sg	**Sn**	**01 22 55.5**	**-1.0**
DDS	**Dosso del Somm**	**1.46**	**22**	*e*Pg	**Pn**	**01 22 37.7**	**-0.3**
DDS				*e*Sg	**Sn**	**01 22 55.5**	**-1.0**
RNI	**Roncone**	**1.46**	**7**	*e*Pg	**Pn**	**01 22 38.2**	**+0.3**
RNI				*e*Sg	**Sn**	**01 22 56.4**	**0.0**
RNI	**Roncone**	**1.46**	**7**	*e*Pg	**Pn**	**01 22 38.2**	**+0.3**
RNI				*e*Sg	**Sn**	**01 22 56.4**	**0.0**
MABI	**Malga Bissina**	**1.53**	**3**	Pg	**Pn**	**01 22 38.9**	**0.0**
MABI				Sg	**Sn**	**01 22 58.1**	**0.0**
	32nm,0.4s						
MABI	**Malga Bissina**	**1.53**	**3**	Pg	**Pn**	**01 22 38.9**	**0.0**
MABI				Sg	**Sn**	**01 22 58.1**	**0.0**
	32nm,0.4s						
PANI	**Panarotta**	**1.65**	**23**	*e*Pg	**Pn**	**01 22 40.2**	**-0.4**
PANI	**Panarotta**	**1.65**	**23**	*e*Pg	**Pn**	**01 22 40.2**	**-0.4**
CGRP	**Cima Grappa**	**1.68**	**36⇓**	*e*Pg	**Pn**	**01 22 40.9**	**-0.1**
CGRP				*e*Sg	**Sn**	**01 23 01.2**	**-0.6**
CGRP	**Cima Grappa**	**1.68**	**36**	Pg	**Pn**	**01 22 40.6**	**-0.3**
CGRP	**Cima Grappa**	**1.68**	**36**	*e*Pg	**Pn**	**01 22 40.9**	**-0.1**
CGRP				*e*Sg	**Sn**	**01 23 01.2**	**-0.6**
CTI	**Castel Tesino**	**1.76**	**30**	Pg	**Pn**	**01 22 41.5**	**-0.5**
	87nm,0.2s						
CTI	**Castel Tesino**	**1.76**	**30**	*e*Pg	**Pn**	**01 22 41.5**	**-0.5**
APPI	**Appiano**	**2.04**	**16**	Pg	**Pn**	**01 22 46.1**	**+0.3**
KOSI	**Kohlern**	**2.05**	**19⇑**	*e*Pn	**Pn**	**01 22 46.5**	**+0.4**
MOSI	**Grossmontoni**	**2.09**	**3**	*e*Pn	**Pn**	**01 22 48.0**	**+1.4**
AGOR	**Agordo**	**2.11**	**33**	*e*Pg	**Pn**	**01 22 46.7**	**0.0**
POLC	**Polcenigo**	**2.11**	**44**	*e*Pg	**Pn**	**01 22 46.2**	**-0.5**
PGF	**Pioggiola**	**2.22**	**208**	*e*Pn	**Pn**	**01 22 48.5**	**+0.1**
PGF				*e*Sn	**Sn**	**01 23 15.7**	**+0.5**
	5.8nm,0.3s						
PGF	**Pioggiola**	**2.22**	**208**	*e*Pn	**Pn**	**01 22 48.5**	**+0.1**
PGF				*e*Sn	**Sn**	**01 23 15.7**	**+0.5**
	2.9nm,0.3s						
SBF	**Sospel**	**2.23**	**254**	*e*Pn	**Pn**	**01 22 49.0**	**+0.6**
SBF				*e*Sn	**Sn**	**01 23 16.5**	**+1.3**
	12nm,0.4s						
SBF	**Sospel**	**2.23**	**254**	*e*Pn	**Pn**	**01 22 49.0**	**+0.6**
SBF	**Sospel**	**2.23**	**254**	*e*Pn	**Pn**	**01 23 16.5**	**+1.3**
	5.8nm,0.4s						
DAVOX	**Davos/Dischmat**	**2.28**	**351**	Pg	**Pn**	**01 22 51.0**	**+1.8**
CIMO	**Cimolais**	**2.29**	**38**	*e*Pg	**Pn**	**01 22 48.4**	**-0.9**
CIMO	**Cimolais**	**2.29**	**38**	*e*Pg	**Pn**	**01 22 48.4**	**-0.9**
MBDF	**Montbardon**	**2.59**	**276**	*e*Pn	**Pn**	**01 22 53.9**	**+0.4**
MBDF				*e*Sn	**Sn**	**01 23 23.4**	**-0.9**
	5.2nm,0.5s						
MBDF	**Montbardon**	**2.59**	**276**	*e*Pn	**Pn**	**01 22 53.9**	**+0.4**
MBDF				*e*Sn	**Sn**	**01 23 23.4**	**-0.9**
	2.6nm,0.5s						
RISI	**Rein**	**2.69**	**25**	*e*Pn	**Pn**	**01 22 56.6**	**+1.7**
LPG	**La Plagne**	**2.76**	**292**	*e*Pn	**Pn**	**01 22 55.8**	**-0.1**
LPG				*e*Sn	**Sn**	**01 23 26.8**	**-1.8**
	3.3nm,0.6s						
LPG	**La Plagne**	**2.76**	**292**	*e*Pn	**Pn**	**01 22 55.8**	**-0.1**
LPG				*e*Sn	**Sn**	**01 23 26.8**	**-1.8**
	1.6nm,0.6s						
SKDS	**Skadanscina**	**2.76**	**67**	*i* Pn	**Pn**	**01 22 54.3**	**-1.4**
SKDS	**Skadanscina**	**2.76**	**67**	*i* Pn	**Pn**	**01 22 54.3**	**-1.4**
LPL	**La Plagne**	**2.78**	**292**	*e*Pn	**Pn**	**01 22 56.4**	**+0.3**
LPL				*e*Sn	**Sn**	**01 23 27.4**	**-1.5**
	5.6nm,0.6s						
LPL	**La Plagne**	**2.78**	**292**	*e*Pn	**Pn**	**01 22 56.4**	**+0.3**
LPL				*e*Sn	**Sn**	**01 23 27.4**	**-1.5**
	2.8nm,0.6s						
MOTA	**Moosalm**	**2.86**	**10⇑**	*i* Pn	**Pn**	**01 22 59.2**	**+2.0**
MOTA				⇑*i* Sn	**Sn**	**01 23 34.2**	**+3.3**
MOTA	**Moosalm**	**2.86**	**10**	Pn	**Pn**	**01 22 59.2**	**+2.0**
MOTA				Sn	**Sn**	**01 23 34.2**	**+3.3**
WTTA	**Wattenberg**	**2.87**	**17⇑**	Pn	**Pn**	**01 22 59.0**	**+1.7**
WTTA				⇓*i* Sn	**Sn**	**01 23 32.3**	**+1.1**
WTTA	**Wattenberg**	**2.87**	**17**	Pn	**Pn**	**01 22 59.0**	**+1.7**
WTTA				Sn	**Sn**	**01 23 32.3**	**+1.1**
VOJS	**Vojsko**	**2.89**	**57**	*i* Pn	**Pn**	**01 22 56.6**	**-0.9**
VOJS	**Vojsko**	**2.89**	**57**	*i* Pn	**Pn**	**01 22 56.6**	**-0.9**
VOY	**Vojsko**	**2.89**	**57**	*e*Sn	Sn	01 23 29.8	-1.9
VOY	**Vojsko**	**2.89**	**57**	*e*Sn	Sn	01 23 29.8	-1.9
LMR	**La Mourre**	**3.05**	**248**	*e*Pn	**Pn**	**01 22 59.9**	**+0.3**
LMR				*e*Sn	**Sn**	**01 23 35.6**	**+0.3**
	7.6nm,0.4s						
LMR	**La Mourre**	**3.05**	**248**	*e*Pn	**Pn**	**01 22 59.9**	**+0.3**
LMR				*e*Sn	**Sn**	**01 23 35.6**	**+0.3**
	3.8nm,0.4s						
NVLJ	**Novalja**	**3.20**	**88**	*e*Pn	**Pn**	**01 23 01.7**	**0.0**
NVLJ				Sn	**Sn**	**01 23 36.7**	**-2.4**
ORIF	**Oris-en-Rattie**	**3.24**	**278**	*e*Pn	**Pn**	**01 23 04.4**	**+2.1**
ORIF				*e*Sn	**Sn**	**01 23 38.4**	**-1.8**
	6.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.24**	**278**	*e*Pn	**Pn**	**01 23 04.4**	**+2.1**
ORIF				*e*Sn	**Sn**	**01 23 38.4**	**-1.8**
	3.0nm,0.6s						
VISS	**Visnje**	**3.39**	**66**	*i* Pn	**Pn**	**01 23 04.0**	**-0.4**
VISS	**Visnje**	**3.39**	**66**	*i* Pn	**Pn**	**01 23 04.0**	**-0.4**
SMRF	**Simiane la Rot**	**3.50**	**263**	*e*Pn	**Pn**	**01 23 08.1**	**+2.2**
SMRF				*e*Sn	**Sn**	**01 23 46.1**	**-0.5**
	2.6nm,0.5s						
SMRF	**Simiane la Rot**	**3.50**	**263**	*e*Pn	**Pn**	**01 23 08.1**	**+2.2**
SMRF				*e*Sn	**Sn**	**01 23 46.1**	**-0.5**
	1.3nm,0.5s						
VIVF	**Saint-Julien-l**	**4.09**	**277**	*e*Pn	**Pn**	**01 23 14.9**	**+0.9**
VIVF				*e*Sn	**Sn**	**01 23 58.6**	**-2.5**
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**4.09**	**277**	*e*Pn	**Pn**	**01 23 14.9**	**+0.9**
VIVF				*e*Sn	**Sn**	**01 23 58.6**	**-2.5**
	0.3nm,0.3s						
HINF	**Hinteralfeld**	**4.11**	**324**	*e*Pn	**Pn**	**01 23 14.0**	**-0.2**
HINF				*e*Sn	**Sn**	**01 23 58.6**	**-2.8**
	4.0nm,0.3s						
HINF	**Hinteralfeld**	**4.11**	**324**	*e*Pn	**Pn**	**01 23 14.0**	**-0.2**
HINF				*e*Sn	**Sn**	**01 23 58.6**	**-2.8**
	2.0nm,0.3s						
CDF	**Champ du Feu**	**4.44**	**332**	*e*Pn	**Pn**	**01 23 18.6**	**-0.2**
CDF				*e*Sn	Sn	01 24 03.5	-6.3
	3.2nm,0.3s						
CDF	**Champ du Feu**	**4.44**	**332**	*e*Pn	**Pn**	**01 23 18.6**	**-0.2**
HAU	**Haudompre**	**4.47**	**323**	*e*Pn	**Pn**	**01 23 19.3**	**+0.2**
HAU				*e*Sn	**Sn**	**01 24 07.0**	**-3.3**
	6.9nm,0.3s						
HAU	**Haudompre**	**4.47**	**323**	*e*Pn	**Pn**	**01 23 19.3**	**+0.2**
HAU				*e*Sn	**Sn**	**01 24 07.0**	**-3.3**
	3.5nm,0.3s						
KHC	**Kasperske Hory**	**5.09**	**24**	*e*PN	**Pn**	**01 23 27.5**	**-0.3**
KHC				*e*PG	Pb	01 23 46.0	+4.7
KHC				*e*SN	**Sn**	**01 24 24.0**	**-1.8**
KHC	**Kasperske Hory**	**5.09**	**24**	Pn	**Pn**	**01 23 27.5**	**-0.3**
KHC				Sn	**Sn**	**01 24 24.0**	**-1.8**
LOR	**Lormes**	**5.32**	**303**	*e*Pn	**Pn**	**01 23 30.9**	**+0.1**
LOR				*e*Sn	**Sn**	**01 24 30.6**	**-0.7**
	4.6nm,0.6s						
LOR	**Lormes**	**5.32**	**303**	*e*Pn	**Pn**	**01 23 30.9**	**+0.1**
LOR				*e*Sn	**Sn**	**01 24 30.6**	**-0.7**
	2.3nm,0.6s						
SSF	**Saint Saulge**	**5.44**	**300**	*e*Pn	**Pn**	**01 23 32.3**	**-0.2**
SSF				*e*Sn	**Sn**	**01 24 31.2**	**-3.1**
	1.9nm,0.6s						
SSF	**Saint Saulge**	**5.44**	**300**	*e*Pn	**Pn**	**01 23 32.3**	**-0.2**
STON	**Ston**	**5.55**	**105**	*e*Pn	**Pn**	**01 23 34.8**	**+0.8**
STON				Sn	**Sn**	**01 24 36.4**	**-0.6**
STON	**Ston**	**5.55**	**105**	*e*Pn	**Pn**	**01 23 34.7**	**+0.8**
STON				Sn	**Sn**	**01 24 36.3**	**-0.6**

KRSC 10 01:31:54.2±1.4, 54°45N×159°20E, h288km±87km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**1.19**	**189**	*e*P	Pn	01 32 35.7	+1.2
UGLR	**Uglovaya**	**1.26**	**190**	*e*P	Pn	01 32 36.5	+1.6
NLC	**Nalytchevo**	**1.28**	**176**	*e*P	Pn	01 32 36.1	+1.3
NLC				S	S	01 33 06.3	-0.8
SPN	**Mys Shipunski**	**1.44**	**160**	*e*P	Pn	01 32 37.4	+1.6
SPN				*e*S	S	01 33 08.7	-0.2
MKZ	**Mys Kozlova**	**1.48**	**85**	*e*P	Pn	01 32 37.8	+1.9
MKZ				*e*S	S	01 33 09.2	+0.1
MTVR	**Mutnovka**	**2.06**	**198**	S	S	01 33 18.0	+0.4
RUS	**Russkaya**	**2.06**	**192**	*e*S	S	01 33 16.5	-0.7
KBTR	**Krutoberegovo**	**2.72**	**48**	*e*P	Pn	01 32 47.8	+1.6
KBTR				*e*S	S	01 33 27.5	-0.1

IDC 10 01:33:11.7±1.4, 24°00S×66°73W, h187km±14km, mb3.4/7, mb1 3.6/10, mb1mx3.5/17, mbtmp3.3/10, Error ellipse: s-maj=19.9km s-min=13.2km az=84.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.69**	**190**	P	Pn	01 35 02.5	+1.5
	0.1nm,0.3s,baz=15,slow=13,SNR=22						
CFAA				S	Sn	01 36 24.5	-3.1
	0.6nm,0.3s,baz=142,slow=18,SNR=19						
LPAZ	**La Paz**	**7.79**	**350**	P	Pn	01 35 04.6	+1.5
	0.5nm,0.3s,baz=155,slow=6.6,SNR=9.2						
LPAZ				S	Sn	01 36 29.1	-2.1
	0.2nm,0.3s,baz=60,slow=20,SNR=3.0						
CPUP	**Villa Florida**	**8.83**	**107**	P	Pn	01 35 17.0	+1.1
	baz=273,slow=14						
SIV	**San Ignacio**	**9.58**	**35**	P	Pn	01 35 24.9	-1.0
	baz=237,slow=10						
PLCA	**Paso Flores**	**16.99**	**190**	P	Pn	01 36 58.4	-0.2
	0.1nm,0.3s,baz=12,slow=9.5,SNR=3.4						
TXAR	**Lajitas Array**	**63.82**	**324**	P	P	01 43 24.7	+0.4
	0.5nm,0.7s,baz=148,slow=6.2,SNR=9.1						
ANMO	**Albuquerque**	**69.69**	**326**	P	P	01 44 00.5	-0.9
	0.4nm,0.3s,baz=101,slow=5.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	P	01 44 40.3	-0.3
	0.6nm,0.5s,baz=257,slow=5.9,SNR=15						
PDAR	**Pinedale Array**	**77.27**	**329**	P	P	01 44 46.0	+0.4
	0.4nm,0.5s,baz=132,slow=10,SNR=4.8						
ULM	**Lac du Bonnet**	**78.31**	**341**	P	P	01 44 50.5	-0.3
	0.6nm,0.5s,baz=151,slow=5.8,SNR=5.0						
ESDC	**Sonseca Array**	**86.23**	**43**	P	P	01 45 31.8	-0.4
	0.2nm,0.5s,baz=218,slow=5.2,SNR=3.6						
YKA	**Yellowknife Ar**	**94.21**	**340**	P	P	01 46 08.5	-0.4
	0.6nm,0.6s,baz=131,slow=5.1,SNR=4.1						
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	01 52 03.3	0.0
	0.6nm,0.5s,baz=156,slow=1.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**143.28**	**28**	PKP	PKPbc	01 52 21.0	+0.1
	0.8nm,0.4s,baz=296,slow=4.5,SNR=7.9						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	PKPbc	01 52 29.9	-0.7
	1.8nm,0.6s,baz=297,slow=3.2,SNR=20						
SONM	**Songino Array**	**155.59**	**11**	PKPab	PKPab	01 53 10.6	+0.6
	0.3nm,0.7s,baz=313,slow=4.3,SNR=3.0						

KRSC 10 01:51:32.8±0.0, 55°01N×165°58E, h28km±22km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**49**	*e*P	Pb	01 51 39.2	-0.8
BKI				*i* S	Sb	01 51 43.7	-1.2
KBTR	**Krutoberegovo**	**1.97**	**309**	P	Pn	01 52 03.7	-0.6
KBTR				*i* S	Sn	01 52 26.9	-1.2
MKZ	**Mys Kozlova**	**2.28**	**260**	*e*P	Pn	01 52 09.2	+0.8
MKZ				*i* S	Sn	01 52 35.8	+0.3
SMKR	**Semkarok**	**2.81**	**306**	*e*P	Pn	01 52 17.4	+1.5
SMKR				*i* S	Sn	01 52 51.0	+2.2
BDR	**Baidarnaya**	**2.92**	**304**	*e*P	Pn	01 52 18.8	+1.3
BDR				*i* S	Sn	01 52 53.1	+1.4
SPN	**Mys Shipunski**	**3.79**	**242**	*e*P	Pn	01 52 30.2	+0.9
SPN				*i* S	Sn	01 53 10.4	-2.6
NLC	**Nalytchevo**	**4.11**	**246**	*e*P	Pn	01 52 34.4	+0.8
NLC				*i* S	Sn	01 53 19.3	-1.4
SDLR	**Sedlovina**	**4.30**	**249**	*e*P	Pn	01 52 38.5	+2.0
SDLR				*i* S	Sn	01 53 26.0	+0.2
UGLR	**Uglovaya**	**4.37**	**248**	*e*P	Pn	01 52 39.6	+2.2
UGLR				*i* S	Sn	01 53 28.6	+1.2
KOK	**Koryaka**	**4.43**	**250**	P	Pn	01 52 40.6	+2.4
KOK				*i* S	Sn	01 53 28.7	-0.2
RUS	**Russkaya**	**4.93**	**241**	*e*P	Pn	01 52 46.7	+1.8
RUS				*i* S	Sn	01 53 40.6	-0.3
MTVR	**Mutnovka**	**5.07**	**243**	*e*P	Pn	01 52 49.0	+2.0
ASAK	**Asacha**	**5.27**	**243**	*e*P	Pn	01 52 52.3	+2.6
ASAK				*i* S	Sn	01 53 49.9	+0.4

IDC 10 01:51:40.8±1.1, 0°50S×133°88E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=65.0km s-min=21.4km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.33**	**179**	P	P	01 56 07.7	-0.2
	0.4nm,0.3s,baz=1.4,slow=11,SNR=5.7						
WRA				S	Sn	01 59 27.4	-19
	0.1nm,0.3s,baz=11,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**23.03**	**180**	P	P	01 56 47.9	+0.1
	1.3nm,0.6s,baz=358,slow=9.6,SNR=13						
STKA	**Stephens Creek**	**32.05**	**168**	P	P	01 58 09.2	-0.1
	0.9nm,0.7s,baz=323,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**65.13**	**324**	P	P	02 02 23.6	0.0
	0.8nm,0.5s,baz=112,slow=8.0,SNR=18						
ILAR	**Eielson Array**	**85.86**	**25**	P	P	02 04 22.3	+0.1
	0.2nm,0.6s,baz=253,slow=5.6,SNR=3.8						

*IDC **10** 02:16:10.0±0.6, 0°.34S×132°.12E, h0km, mb4.7/9, mb1 4.8/12, mb1mx4.5/21, mbtmp4.6/12, ML4.4/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/30, Error ellipse: s-maj=36.2km s-min=12.0km az=76.0*
*ISCJB **10** 02:16:12.8±0.3, 0°.42S±0°.04×132°.28E±0°.07, h31km, mb4.8/43, MS3.8/6, Error ellipse: s-maj=11.2km s-min=5.0km az=159.9*
*BJI **10** 02:16:13.9, 0°.30S×132°.40E, h35km, mB5.2/12, mb4.6/20, Ms4.5/10, Ms7 4.3/10*
*DJA **10** 02:16:14, 0°.37S×

CD2	**Chengdu**	**41.31**	**322**	P	**P**	**02 23 59.1**	**+1.2**
CD2				pP	**pP**	**02 24 09.3**	**+2.2**
CD2				sP	**sP**	**02 24 13.8**	**+3.0**
CD2				PP	PP	02 25 38.6	+5.0
CD2				S	**S**	**02 30 11.8**	**+1.4**
CD2				sS	**sS**	**02 30 28.8**	**+3.3**
CD2				SS	SS	02 33 12.0	-2.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,4.2s						
CD2				LR	LR		
	comp=N,590nm,6.0s						
CD2				LR	LR		
	comp=Z,280nm,6.5s						
CN2	**Changchun**	**44.55**	**353**	*e*P	**P**	**02 24 25.9**	**+2.1**
CN2				*e*sP	**sP**	**02 24 40.0**	**+3.2**
CN2				*e*S	S	02 31 03.6	+6.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
LZH	**Lanzhou**	**44.97**	**327**	*e*P	**P**	**02 24 27.5**	**0.0**
LZH				pP	**pP**	**02 24 37.7**	**+0.9**
LZH				sP	**sP**	**02 24 41.4**	**+0.9**
LZH				PP	PP	02 26 12.4	-0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,6.0s						
LZH				LR	LR		
	comp=N,190nm,12.3s						
LZH				LR	LR		
	comp=E,130nm,10.3s						
LZH				LR	LR		
	comp=Z,230nm,11.8s						
MDJ	**Mudanjiang**	**45.01**	**357**	P	**P**	**02 24 27.3**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,15nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,270nm,4.8s						
HHC	**Hu-ho-hao-te**	**45.25**	**338**	*e*P	**P**	**02 24 28.6**	**-1.0**
HHC				sP	**sP**	**02 24 43.3**	**+0.7**
HHC				PcP	**PcP**	**02 26 08.0**	**-1.3**
HHC				PP	PP	02 26 14.8	-1.1
HHC				ScP	**ScP**	**02 29 57.0**	**-2.9**
HHC				PcS	**PcS**	**02 30 00.9**	**-2.3**
HHC				S	**S**	**02 31 06.1**	**-1.9**
HHC				sS	**sS**	**02 31 22.6**	**-0.7**
HHC				ScS	**ScS**	**02 34 20.2**	**-4.3**
HHC				SS	SS	02 34 21.3	-10
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,6.3s						
HHC				LR	LR		
	comp=N,230nm,15.2s						
HHC				LR	LR		
	comp=E,260nm,15.9s						
HHC				LR	LR		
	comp=Z,150nm,16.0s						
GTA	**Gaotai**	**49.57**	**327**	*e*P	**P**	**02 25 02.3**	**-1.0**
GTA				pP	**pP**	**02 25 13.6**	**+0.9**
GTA				sP	**sP**	**02 25 17.2**	**+0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ULN	**Ulaanbaatar**	**52.93**	**339**	*e*P	**P**	**02 25 27.8**	**-0.6**
	comp=Z,8.3nm,1.3s						
SONM	**Songino Array**	**53.14**	**339**	P	**P**	**02 25 29.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=153,slow=8.0,SNR=9.8						
SONM	**Songino Array**	**53.14**	**339**	P	**P**	**02 25 29.1**	**-0.8**
WMQ	**Urumqi**	**59.33**	**324**	*e*P	**P**	**02 26 13.6**	**-0.5**
WMQ				pP	**pP**	**02 26 23.6**	**-0.1**
WMQ				sP	**sP**	**02 26 27.6**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				LR	LR		
	comp=N,59nm,16.0s						
WMQ				LR	LR		
	comp=Z,51nm,24.1s						
MK31	**Makanchi Array**	**64.15**	**324**	*e*P	**P**	**02 26 45.4**	**-1.1**
MKAR	**Makanchi Array**	**64.15**	**324**	P	**P**	**02 26 45.7**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=116,slow=7.7,SNR=27						
MKAR	**Makanchi Array**	**64.15**	**324**	P	**P**	**02 26 45.7**	**-0.8**
KSH	**Kashi**	**64.89**	**315**	*e*P	**P**	**02 26 52.2**	**+0.6**
KSH				*e*pP	**pP**	**02 27 02.1**	**+0.9**
KSH				*e*sP	**sP**	**02 27 06.1**	**+1.3**
KSH				*e*PcP	**PcP**	**02 27 25.1**	**+0.4**
KSH				*e*PP	**PP**	**02 29 16.1**	**+1.5**
KSH				*e*ScP		02 31 24.1	
KSH				*e*PcS		02 31 27.1	
KSH				*e*S	**S**	**02 35 27.5**	**-3.7**
KSH				*e*sS	**sS**	**02 35 45.1**	**-1.9**
KSH				*e*ScS	**SKSac**	**02 36 40.1**	**-4.3**
KSH				*e*SS	**SS**	**02 39 42.3**	**-0.9**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KSH				pmax	pmax		
	comp=Z,67nm,3.8s						
KSH				LR	LR		
	comp=N,130nm,4.4s						
KSH				LR	LR		
	comp=E,150nm,4.8s						
KSH				LR	LR		
	comp=Z,220nm,6.1s						
TKM2	**Tokmak 2**	**66.53**	**318**	*e*P	**P**	**02 27 02.0**	**-0.2**
	comp=Z,3.7nm,0.7s						
ZAA0	**Zalesovo Array**	**66.86**	**332**	*e*P	**P**	**02 27 02.0**	**-1.7**
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**02 27 02.1**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=121,slow=6.6,SNR=13						
ZALV	**Zalesovo Beam**	**66.86**	**332**	P	**P**	**02 27 02.1**	**-1.7**
EKS2	**Erkin-Say**	**67.65**	**317**	*e*P	**P**	**02 27 08.7**	**-0.6**
	comp=Z,3.7nm,0.7s						
KURK	**Kurchatov**	**68.25**	**327**	*e*P	**P**	**02 27 11.1**	**-1.6**
	comp=Z,16nm,1.6s						
KBL	**Kabul**	**68.42**	**308**	*e*P	**P**	**02 27 14.2**	**-0.1**
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**70.04**	**317**	*e*P	**P**	**02 27 23.2**	**-0.8**
	comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**73.92**	**326**	*e*P	**P**	**02 27 46.0**	**-1.0**
	comp=Z,3.3nm,0.7s						
VNDA	**Vanda**	**78.58**	**174**	*e*P	**P**	**02 28 13.5**	**+0.5**
	comp=Z,4.2nm,0.7s						
ABKAR	**Akbulak array**	**78.88**	**321**	*e*P	**P**	**02 28 14.6**	**-0.5**
	comp=Z,4.1nm,0.7s						
ARU	**Arti**	**81.43**	**327**	*e*P	**P**	**02 28 27.6**	**-1.1**
	comp=Z,5.4nm,0.8s						
SLKM	**Skilak Lake**	**84.37**	**29**	*e*P	**P**	**02 28 42.4**	**-1.5**
RC01	**Rabbit Creek A**	**84.71**	**29**	*e*P	**P**	**02 28 43.8**	**-1.9**
	comp=Z,6.6nm,0.8s						
RDF	**Al-Radifah**	**85.55**	**299**	*e*P	**P**	**02 28 51.0**	**+0.5**
RDF				AMb	AMB	02 28 53.4	
	comp=Z,17nm,0.9s						
MCK	**McKinley**	**85.56**	**26**	*e*P	**P**	**02 28 47.7**	**-2.1**
	comp=Z,9.9nm,1.1s						
MIB	**Mutribah**	**85.78**	**300**	*e*P	**P**	**02 28 50.1**	**-1.6**
MIB				AMb	AMB	02 28 54.3	
	comp=Z,19nm,0.9s						
NAY	**Al-Naaiem**	**85.83**	**299**	*e*P	**P**	**02 28 51.2**	**-0.8**
NAY				AMb	AMB	02 28 53.9	
	comp=Z,17nm,0.9s						
ILAR	**Eielson Array**	**86.61**	**25**	P	**P**	**02 28 53.0**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=240,slow=4.7,SNR=13						
ILAR	**Eielson Array**	**86.61**	**25**	P	**P**	**02 28 53.0**	**-2.0**
DIV	**Divide**	**86.62**	**29**	*e*P	**P**	**02 28 53.3**	**-1.9**
	comp=Z,10nm,0.7s						
QSPA	**South Pole Qui**	**89.40**	**180**	P	**P**	**02 29 09.1**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=324,slow=1.9,SNR=17						
QSPA	**South Pole Qui**	**89.40**	**180**	*e*P	**P**	**02 29 09.1**	**+0.6**
	comp=Z,10nm,0.9s						
ARCES	**ARCESS Array B**	**96.29**	**340**	P	**P**	**02 29 38.3**	**-1.7**
	comp=Z,3.7nm,0.9s,baz=96,slow=9.9,SNR=4.1						
ARCES	**ARCESS Array B**	**96.29**	**340**	P	**P**	**02 29 38.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**129.38**	**287**	PKP	**PKPdf**	**02 35 21.5**	**+0.1**
	comp=Z,0.7nm,1.1s,baz=264,slow=4.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**129.38**	**287**	PKP	**PKPdf**	**02 35 21.5**	**+0.1**
PLCA	**Paso Flores**	**134.02**	**156**	PKP	**PKPdf**	**02 35 30.6**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=117,slow=2.6,SNR=3.3						
PLCA	**Paso Flores**	**134.02**	**156**	PKP	**PKPdf**	**02 35 30.6**	**+0.9**

CPUP	**Villa Florida**	**151.76**	**162**	PKPbc	**PKPbc**	**02 36 07.0**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=181,slow=1.3,SNR=9.3						
CPUP	**Villa Florida**	**151.76**	**162**	PKPbc	**PKPbc**	**02 36 07.0**	**-0.2**
LPAZ	**La Paz**	**153.91**	**131**	PKPbc	**PKPbc**	**02 36 14.9**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=212,slow=11,SNR=3.5						
LPAZ				PKPab	**PKPab**	**02 36 28.5**	**+2.4**
	comp=Z,2.1nm,0.7s,baz=193,slow=4.2,SNR=4.2						
LPAZ	**La Paz**	**153.91**	**131**	PKPbc	**PKPbc**	**02 36 14.9**	**+1.8**
LPAZ				PKPab	**PKPab**	**02 36 28.5**	**+2.4**

IDC 10 02:22:47.1±2.1, 29°91S×176°69W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.9/17, mbtmp4.0/3, MS3.8/2, Ms1 3.8/2, ms1mx2.9/30, Error ellipse: s-maj=59.7km s-min=41.4km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.85**	**278**	LR	LR	02 41 42.5	
	comp=Z,57nm,18.8s,baz=232,slow=33						
ASAR	**Alice Springs**	**44.27**	**266**	P	P	02 30 58.9	+0.1
	0.8nm,0.7s,baz=100,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**45.22**	**271**	P	P	02 31 05.9	-0.4
	2.2nm,0.8s,baz=110,slow=7.7,SNR=4.8						
QSPA	**South Pole Qui**	**60.20**	**180**	P	P	02 32 56.5	-0.2
	0.8nm,0.3s,baz=44,slow=4.3,SNR=4.3						
DLBC	**Dease Lake**	**96.23**	**23**	LR	LR	03 13 30.3	
	comp=Z,118nm,18.7s,baz=180,slow=32						
FINES	**FINESS Array B**	**145.07**	**341**	PKPbc	PKPbc	02 42 24.5	-0.6
	5.4nm,0.9s,baz=67,slow=4.7,SNR=7.3						

CASC 10 03:23:48.3±2.5, 8°37N×82°96W, h7km±11km, MD4.0, 3C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.35**	**324**	*i*P	Pg	03 23 55.1	-0.1
ACR				*e*S	Sb	03 24 01.9	-0.8
BRU2	**Volcan**	**0.50**	**33**	*i*P	Pb	03 23 59.3	-0.4
BRU2				*i* S	Sb	03 24 07.8	+0.6
TBS2		**0.52**	**36**	*e*P	Pg	03 23 59.1	+0.6
TBS2				*e*S	Sn	03 24 10.6	-1.0
BUS	**Buena Vista**	**1.42**	**326**	*e*P	Pn	03 24 13.7	-1.4
QCR	**Quepos**	**1.58**	**311**	*e*P	Pn	03 24 16.0	-0.8
QCR				*e*S	Sb	03 24 38.4	+0.3
URSC	**Urasca**	**1.66**	**331**	*e*P	Pn	03 24 17.7	-0.4
URSC				*e*S	Sg	03 24 43.9	+1.7
LAJ	**Bijagual**	**1.87**	**322**	*e*P	Pb	03 24 23.0	-0.2
SJS	**Escuela Geolog**	**1.89**	**325**	*e*P	Pb	03 24 23.5	+0.1
PTP	**Ponta Puerca**	**19.50**	**58**	*i*P	x	03 23 51.3	
PTP				*i* S	x	03 23 57.4	

*IDC **10** 04:29:53.8±1.6, 21°.65S×179°.32W, h601km±16km, mb3.9/18, mb1 4.1/19, mb1mx4.0/21, mbtmp3.9/19, Error ellipse: s-maj=19.8km s-min=12.2km az=153.0*
*SZGRF **10** 04:29:54.1, 21°.81S×179°.78E, h600km, South of Fiji Islands*
*ISCJB **10** 04:29:55.9±1.4, 21°.7S±0°.1×179°.49W±0°.05, h638km±19km, mb4.4/50, Error ellipse: s-maj=16.8km s-min=7.0km az=175.0*
*BJI **10** 04:29:57.3, 21°.46S×179°.03W, h664km, mB4.9/10, mb4.5/19*
*NEIC **10** 04:29:58.1±1.2, 21°.75S×179°.50W, h654km±15km, mb4.5/27, Error ellipse: s-maj=12.3km s-min=7.2km az=167.0*

ISC 10 04:29:58.2±0.6, 21°.88S±0°.09×179°.39W±0°.07, h656km±5km, n318, σ0°.99/352, mb4.4/50, 91C-75D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.14**	**267**	P	**P**	**04 32 45.6**	**-1.9**
	3.2nm,0.3s,baz=77,slow=19,SNR=18						
DZM	**Mont Dzumac**	**13.14**	**267**	P	**P**	**04 32 45.6**	**-1.9**
OUZ	**Omahuta**	**14.65**	**203**	*e*P	**P**	**04 33 02.2**	**+1.3**
	30nm,0.7s						
URZ	**Urewera**	**16.61**	**190**	*e*P	**P**	**04 33 17.5**	**-1.3**
	22nm,1.0s						
ARMA	**Armidale**	**27.31**	**246**	*e*P	**P**	**04 34 55.2**	**+1.0**
	22nm,0.8s						
CTA	**Charters Tower**	**32.09**	**267**	P	**P**	**04 35 34.2**	**-0.7**
	36nm,0.5s,baz=90,slow=12,SNR=26						
CTA				PcP	**PcP**	**04 38 03.9**	**+0.7**
	2.8nm,0.4s,baz=22,slow=5.4,SNR=3.0						
CTA	**Charters Tower**	**32.09**	**267**	P	**P**	**04 35 34.2**	**-0.7**
CTA				PcP	**PcP**	**04 38 03.9**	**+0.7**
PMG	**Port Moresby**	**34.42**	**286**	*e*P	**P**	**04 35 53.1**	**-1.4**
	66nm,0.8s						
STKA	**Stephens Creek**	**36.03**	**246**	P	**P**	**04 36 08.1**	**+0.6**
	12nm,0.4s,baz=92,slow=9.8,SNR=44						
STKA	**Stephens Creek**	**36.03**	**246**	*e*P	**P**	**04 36 08.1**	**+0.6**
	3.7nm,0.6s						
COEN	**Coen**	**36.40**	**276**	*e*P	**P**	**04 36 10.3**	**-0.4**
	184nm,0.6s						
BBOO	**Buckleboo**	**40.78**	**245**	*e*P	**P**	**04 36 45.6**	**+0.1**
	445nm,0.8s						
AS31	**Alice Springs**	**42.95**	**258**	*e*P	**P**	**04 37 02.2**	**-0.4**
ASAR	**Alice Springs**	**42.95**	**258**	P	**P**	**04 37 02.4**	**-0.3**
	41nm,0.5s,baz=94,slow=7.9,SNR=530						
ASAR				PcP	**PcP**	**04 38 38.5**	**+1.1**
	3.3nm,0.5s,baz=94,slow=4.3,SNR=5.9						
ASAR				ScP	ScP	04 41 34.9	+7.4
	2.6nm,0.7s,baz=100,slow=3.9,SNR=9.8						
ASAR				S	**S**	**04 42 43.0**	**+0.1**
	6.4nm,0.8s,baz=94,slow=16,SNR=26						
ASAR	**Alice Springs**	**42.95**	**258**	P	**P**	**04 37 02.4**	**-0.3**
ASAR				PcP	**PcP**	**04 38 38.5**	**+1.1**
ASAR				ScP	ScP	04 41 34.9	+7.4
ASAR				S	**S**	**04 42 43.0**	**+0.1**
WB2	**Warramunga Arr**	**43.13**	**264**	*e*P	**P**	**04 37 02.8**	**-1.2**
WRAB	**Tennant Creek**	**43.13**	**264**	*e*P	**P**	**04 37 03.0**	**-1.0**
	45nm,0.9s						
WRA	**Warramunga Arr**	**43.14**	**264**	P	**P**	**04 37 03.0**	**-1.1**
	19nm,0.3s,baz=96,slow=7.5,SNR=67						
WRA				ScP	ScP	04 41 35.5	+7.2
	1.7nm,1.0s,baz=90,slow=4.0,SNR=6.7						
WRA				S	**S**	**04 42 44.2**	**-1.3**
	2.0nm,0.8s,baz=98,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**43.14**	**264**	P	**P**	**04 37 03.0**	**-1.1**
WRA				ScP	ScP	04 41 35.5	+7.2
WRA				S	**S**	**04 42 44.2**	**-1.3**
FORT	**Forrest**	**47.56**	**248**	*e*P	**P**	**04 37 36.3**	**-1.0**
	48nm,0.7s						
MBWA	**Marble Bar**	**56.30**	**259**	*e*P	**P**	**04 38 39.1**	**-0.4**
	35nm,0.6s						
KKM	**Kota Kinabalu**	**68.87**	**286**	*e*P	**P**	**04 40 00.1**	**-0.1**
	12nm,0.6s						
MJAR	**Matsushiro Arr**	**70.56**	**325**	P	**P**	**04 40 08.3**	**-1.3**
	6.9nm,0.6s,baz=156,slow=5.9,SNR=12						
MJAR	**Matsushiro Arr**	**70.56**	**325**	P	**P**	**04 40 08.3**	**-1.3**
MAT	**Matsushiro**	**70.56**	**325**	P	**P**	**04 40 08.5**	**-1.1**
TPUB	**Ta-pu**	**73.64**	**304**	*e*P	**P**	**04 40 26.2**	**-1.4**
SSLB	**Sunglung**	**73.66**	**305**	*e*P	**P**	**04 40 26.5**	**-1.2**
ASAJ	**Asahikawa**	**74.33**	**333**	P	**P**	**04 40 30.7**	**-0.2**
	12nm,0.8s,baz=253,slow=19,SNR=3.7						
ASAJ	**Asahikawa**	**74.33**	**333**	P	**P**	**04 40 30.7**	**-0.2**
KSRS	**Korea Array**	**77.07**	**320**	P	**P**	**04 40 46.0**	**-0.1**
	1.5nm,0.7s,baz=125,slow=4.9,SNR=4.3						
KSAR	**Wonju Array Be**	**77.08**	**319**	P	**P**	**04 40 46.0**	**-0.2**
PETK	**Petropavlovsk-**	**77.27**	**346**	P	**P**	**04 40 45.9**	**-1.0**
	3.9nm,0.5s,baz=164,slow=4.2,SNR=6.7						
PETK	**Petropavlovsk-**	**77.27**	**346**	P	**P**	**04 40 45.9**	**-1.0**
USRK	**Ussuriysk Arra**	**79.37**	**327**	P	**P**	**04 40 58.8**	**+0.6**
	3.8nm,0.7s,baz=77,slow=3.7,SNR=6.8						
NJ2	**Nanjing**	**79.77**	**311**	*e*P	**P**	**04 41 00.7**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**80.91**	**326**	P	**P**	**04 41 06.6**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,12nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.3s						
VES	**Vestal, Richgr**	**80.92**	**46**	P	**P**	**04 41 06.1**	**-0.3**
	baz=81						
MONP	**Monument Peak**	**81.09**	**49**	P	**P**	**04 41 07.9**	**+0.3**
	baz=81						
EDW2	**Edwards Air Fo**	**81.11**	**47**	P	**P**	**04 41 07.5**	**+0.1**
	baz=81						
ISA	**Isabella**	**81.22**	**46**	*e*P	**P**	**04 41 08.4**	**+0.4**
	comp=Z,8.8nm,0.9s						
ISA	**Isabella**	**81.22**	**46**	P	**P**	**04 41 08.2**	**+0.1**
	baz=81,SNR=5.6						

CMB	**Columbia Colle**	**81.35**	**43**	*e*P	**P**	**04 41 08.5**	**-0.1**
	comp=Z,7.8nm,1.0s						
OHCM	**Honcut**	**81.44**	**42**	*e*P	**P**	**04 41 09.7**	**+0.7**
SWSC	**Sam W. Stewart**	**81.56**	**50**	P	**P**	**04 41 09.6**	**-0.1**
	baz=82						
WDC	**Whiskeytown Da**	**81.56**	**40**	*e*P	**P**	**04 41 09.8**	**+0.3**
LRMC	**Laurel Mountai**	**81.64**	**47**	P	**P**	**04 41 09.8**	**-0.4**
	baz=82						
CWC	**Cottonwood Cre**	**81.92**	**46**	P	**P**	**04 41 11.6**	**-0.1**
	baz=82						
IPM	**Ipoh**	**82.02**	**278**	*e*P	**P**	**04 41 13.0**	**+0.5**
	comp=Z,18nm,0.6s						
MPMC	**Manual Prospec**	**82.11**	**46**	P	**P**	**04 41 12.6**	**-0.1**
	baz=82,SNR=5.4						
MTUM	**Tungsten Hills**	**82.13**	**45**	*e*P	**P**	**04 41 13.2**	**+0.5**
GSC	**Goldstone**	**82.14**	**47**	P	**P**	**04 41 12.7**	**0.0**
	baz=82						
YBH	**Yreka Blue Hor**	**82.17**	**39**	*e*P	**P**	**04 41 13.3**	**+0.6**
HEC	**Hector,Ludlow**	**82.21**	**48**	P	**P**	**04 41 12.9**	**-0.1**
	baz=82						
WCN	**Washoe City**	**82.50**	**42**	*e*P	**P**	**04 41 14.4**	**-0.1**
WCN	**Washoe City**	**82.50**	**42**	P	**P**	**04 41 14.5**	**-0.1**
	baz=83						
HUMO	**Hull Mountain**	**82.57**	**38**	*e*P	**P**	**04 41 15.6**	**+1.0**
	comp=Z,7.6nm,0.8s						
CN2	**Changchun**	**82.60**	**323**	*e*P	**P**	**04 41 14.9**	**+0.2**
CN2				*e*pP	**pP**	**04 43 30.0**	**-1.1**
CN2				*e*S	**S**	**04 50 38.8**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
GMRC	**Granite Mounta**	**82.65**	**48**	P	**P**	**04 41 15.3**	**-0.1**
	baz=83						
IRM	**Iron Mountain**	**82.67**	**49**	P	**P**	**04 41 14.9**	**-0.4**
	baz=83						
KULM	**Kulim**	**82.68**	**279**	*e*P	**P**	**04 41 16.8**	**+1.0**
	comp=Z,10.0nm,0.7s						
FURC	**Furnace Creek,**	**82.76**	**46**	P	**P**	**04 41 15.8**	**+0.2**
	baz=83						
TUQ	**Turquoise Moun**	**82.82**	**47**	P	**P**	**04 41 15.9**	**-0.3**
	baz=83						
113A	**Mohawk Valley,**	**82.91**	**51**	P	**P**	**04 41 16.8**	**+0.3**
	baz=83						
NVAR	**Mina Array Bea**	**82.91**	**44**	P	**P**	**04 41 16.6**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=226,slow=8.3,SNR=27						
NVAR	**Mina Array Bea**	**82.91**	**44**	P	**P**	**04 41 16.6**	**-0.1**
214A	**Organ Pipe Nat**	**83.18**	**52**	P	**P**	**04 41 18.6**	**+0.7**
	baz=83						
Z13A	**Yuma Proving G**	**83.22**	**50**	P	**P**	**04 41 18.5**	**+0.4**
	baz=83						
PDMCI	**Parker Dam,Lak**	**83.45**	**49**	P	**P**	**04 41 19.5**	**+0.3**
	baz=84						
114A	**Black Gap (USA**	**83.54**	**51**	P	**P**	**04 41 19.8**	**+0.1**
	baz=84						
Z14A	**Wintersburg**	**83.81**	**51**	P	**P**	**04 41 21.4**	**+0.5**
	baz=84						
W13A	**Hualapai Mount**	**84.05**	**49**	P	**P**	**04 41 22.6**	**+0.3**
	baz=84						
Y14A	**Wickenburg**	**84.06**	**50**	P	**P**	**04 41 22.2**	**0.0**
	baz=84						
TUC	**Tucson**	**84.85**	**52**	*e*P	**P**	**04 41 27.2**	**+1.1**
318A	**Bisbee**	**85.01**	**53**	P	**P**	**04 41 27.7**	**+0.7**
	baz=85,SNR=8.1						
218A	**Dragoon**	**85.23**	**53**	P	**P**	**04 41 28.8**	**+0.8**
	baz=85,SNR=9.5						
X16A	**Lo Mia Camp, P**	**85.42**	**50**	P	**P**	**04 41 29.5**	**+0.6**
	baz=86						
319A	**Douglas**	**85.51**	**54**	P	**P**	**04 41 30.1**	**+0.8**
	baz=86,SNR=6.8						
CCUT	**Cedar City**	**85.69**	**47**	*e*P	**P**	**04 41 30.8**	**+0.6**
	comp=Z,3.9nm,1.0s						
219A	**White Tail Can**	**85.82**	**53**	P	**P**	**04 41 31.5**	**+0.7**
	baz=86,SNR=5.3						
U15A	**North Rim**	**85.84**	**48**	P	**P**	**04 41 31.4**	**+0.4**
	baz=86,SNR=9.7						
BJI	**Beijing**	**85.96**	**316**	P	**P**	**04 41 31.7**	**+0.6**
320A	**Kipp Ranch, An**	**86.05**	**54**	P	**P**	**04 41 32.9**	**+1.0**
	baz=86,SNR=6.9						
Y18A	**Canyon Day Jun**	**86.12**	**51**	P	**P**	**04 41 32.9**	**+0.7**
	baz=86,SNR=7.3						
ELK	**Elko**	**86.17**	**43**	*e*P	**P**	**04 41 32.4**	**+0.1**
	comp=Z,59nm,2.8s						
GYA	**Guiyang**	**86.21**	**300**	P	**P**	**04 41 33.2**	**+0.5**
GYA				pP	**pP**	**04 43 51.0**	**+0.2**
GYA				sP	**sP**	**04 44 55.4**	**-0.4**
GYA				PP	**PP**	**04 45 08.7**	**+1.9**
GYA				SKS	**SKSac**	**04 50 55.6**	**-2.4**
GYA				S	**S**	**04 51 13.9**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
220A	**Playas Peak, P**	**86.33**	**54**	P	**P**	**04 41 33.8**	**+0.6**
	baz=86						
V17A	**Tonalea, Kykot**	**86.48**	**49**	P	**P**	**04 41 34.1**	**+0.2**
	baz=87						
U16A	**Tuba City**	**86.51**	**49**	P	**P**	**04 41 34.3**	**+0.3**
	baz=87,SNR=5.7						
X18A	**Snowflake**	**86.55**	**51**	P	**P**	**04 41 34.5**	**+0.3**
	baz=87						
HAWA	**Hanford**	**86.82**	**37**	*e*P	**P**	**04 41 35.3**	**+0.3**
	comp=Z,12nm,1.0s						
S16A	**Weppner Ranch,**	**86.98**	**47**	P	**P**	**04 41 36.4**	**+0.2**
	baz=87						
MSU	**Marysvale**	**86.99**	**46**	*e*P	**P**	**04 41 36.7**	**+0.4**
ETW	**Entiat**	**87.11**	**36**	*e*P	**P**	**04 41 36.8**	**+0.3**
T17A	**Navajo Res., N**	**87.16**	**48**	P	**P**	**04 41 37.5**	**+0.5**
	baz=87						
121A	**Cookes Peak, D**	**87.17**	**53**	P	**P**	**04 41 38.0**	**+0.8**
	baz=87						
MFID	**Camas Ranch**	**87.27**	**41**	*e*P	**P**	**04 41 36.9**	**-0.4**
	comp=Z,8.2nm,1.1s						
MFID	**Camas Ranch**	**

MNTX	**Cornudas Mount** baz=89,SNR=11	88.60	55	⇑P		P	04 41 44.1	+0.5
MNTX	baz=89,SNR=11			⇑P		P	04 41 44.1	+0.5
626A	**Big Bend Ranch** baz=89,SNR=6.8	88.62	57	⇑P		P	04 41 44.5	+0.6
J14A	**Carey** baz=89	88.64	42	⇑P		P	04 41 44.4	+0.7
L15A	**Malad City** baz=89,SNR=5.8	88.66	43	⇓P		P	04 41 43.6	-0.3
224A	**Cornudas Mount** baz=89,SNR=7.4	88.67	55	⇑P		P	04 41 44.9	+0.7
Q18A	**Rafter H Ranch** baz=89,SNR=5.2	88.67	47	⇑P		P	04 41 43.8	-0.1
325A	**Bean Ranch, Si** baz=89,SNR=8.5	88.77	56	⇑P		P	04 41 44.7	+0.1
O17A	**Robinson Place** baz=89,SNR=20	88.81	46	⇓P		P	04 41 45.1	+0.4
H13A	**Challis** baz=89,SNR=6.0	88.85	40	⇓P		P	04 41 44.8	+0.1
P18A	**Preston Nutter** baz=89	88.85	46	⇑P		P	04 41 45.3	+0.2
526A	**Mary Lane Ranc** baz=89,SNR=7.6	88.87	57	⇑P		P	04 41 45.7	+0.5
TXAR	**Lajitas Array** comp=Z,4.7nm,0.8s,baz=214,slow=5.8,SNR=50	88.89	58	P		P	04 41 45.8	+0.6
TXAR	**Lajitas Array**	88.89	58	P		P	04 41 45.8	+0.6
F12A	**Elk City** baz=89,SNR=5.3	88.90	39	⇑P		P	04 41 44.6	-0.3
K15A	**Arbon** baz=89,SNR=7.9	88.92	43	⇑P		P	04 41 45.1	0.0
HWUT	**Hardware Ranch** comp=Z,4.5nm,0.7s	88.98	44	*e*P		P	04 41 44.5	-1.0
I14A	**Mackay** baz=89,SNR=8.1	89.00	41	⇑P		P	04 41 46.1	+0.7
U21A	**Nageezi** baz=89,SNR=7.7	89.10	50	⇓P		P	04 41 46.2	+0.1
Y23A	**Lovelace Mesa,** baz=89	89.11	53	⇓P		P	04 41 46.4	+0.2
N17A	**Moffit Pass** baz=89	89.12	45	⇑P		P	04 41 46.4	+0.2
G13A	**Cobalt** baz=89	89.15	40	⇑P		P	04 41 46.1	0.0
627A	**Terlingua Ranc** baz=89,SNR=6.6	89.16	58	⇑P		P	04 41 46.9	+0.4
426A	**McDonald Obser** baz=89,SNR=11	89.19	56	⇑P		P	04 41 47.1	+0.4
Q19A	**Hogan Spring (** baz=89	89.19	47	⇓P		P	04 41 46.2	-0.2
PLCA	**Paso Flores** comp=Z,1.1nm,0.6s,baz=282,slow=8.5,SNR=6.3	89.27	134	P		P	04 41 47.8	+1.0
PLCA	**Paso Flores** comp=Z,1.4nm,0.6s	89.27	134	*e*P		P	04 41 48.5	+1.7
L16A	**Fish Haven** baz=89,SNR=6.2	89.27	44	⇑P		P	04 41 46.6	-0.2
ANMO	**Albuquerque** comp=Z,1.4nm,0.7s,baz=218,slow=5.1,SNR=13	89.27	52	P		P	04 41 46.8	-0.1
ANMO	**Albuquerque**	89.27	52	P		P	04 41 46.8	-0.1
O18A	**Roosevelt** baz=90	89.33	46	⇑P		P	04 41 47.5	+0.5
Z24A	**Sheeppen Canyo** baz=90	89.35	54	⇓P		P	04 41 47.5	+0.2
J15A	**Blackfoot** baz=90,SNR=12	89.35	42	⇑P		P	04 41 47.8	+0.8
CMAR	**Chiang Mai Arr** comp=Z,7.4nm,0.8s,baz=133,slow=3.1,SNR=30	89.35	290	P		P	04 41 48.6	+1.1
CMAR	**Chiang Mai Arr**	89.35	290	P		P	04 41 48.6	+1.1
HHC	**Hu-ho-hao-te**	89.39	315	*e*P		P	04 41 54.1	+6.9
HHC					pP	pP	04 44 15.2	+8.7
HHC					sP	sP	04 45 17.5	+6.4
HHC					PP	**PP**	**04 45 39.5**	**+8.0**
HHC					SKS	**SKSac**	**04 51 22.0**	**+6.0**
HHC					S	**ScS**	**04 51 48.5**	**+2.5**
HHC					sS	sS	04 55 57.2	+5.1
HHC					SS	**SS**	**04 58 09.5**	**+8.6**
HHC	comp=Z,14nm,0.7s				pmax	pmax		
HHC	comp=Z,180nm,7.1s				pmax	pmax		
H14A	**Leadore** baz=90	89.41	41	⇑P		P	04 41 47.8	+0.5
T21A	**Navajo Lake** baz=90	89.45	50	⇑P		P	04 41 47.7	-0.1
F13A	**Darby** baz=90	89.46	39	⇓P		P	04 41 47.1	-0.4
CHTO	**Chiang Mai** comp=Z,8.3nm,0.6s	89.49	290	*e*P		P	04 41 49.8	+1.7
M17A	**Scullys Gap (B** baz=90	89.49	44	⇑P		P	04 41 47.4	-0.4
326A	**Caldwell Ranch** baz=90	89.51	56	⇑P		P	04 41 48.0	0.0
Y24A	**Capitan** baz=90,SNR=15	89.56	53	⇓P		P	04 41 48.4	+0.1
628A	**Black Gap, Mar** baz=90,SNR=5.2	89.57	58	⇑P		P	04 41 48.6	+0.3
K16A	**Soda Springs** baz=90,SNR=7.6	89.59	43	⇓P		P	04 41 48.5	+0.2
GDL2	**Guadalupe Moun**	89.60	55	*e*P		P	04 41 49.2	+0.8
I15A	**Monteview** baz=90	89.63	42	⇑P		P	04 41 48.8	+0.5
L17A	**Cokeville** baz=90	89.67	44	⇑P		P	04 41 47.9	-0.7
P19A	**Cripple Cowboy** baz=90	89.71	47	⇓P		P	04 41 48.8	-0.1
226A	**Malaga, Loving** baz=90	89.74	55	⇓P		P	04 41 49.5	+0.4
427A	**Hayter Ranch,** baz=90,SNR=18	89.75	57	⇑P		P	04 41 49.7	+0.5
J16A	**Bone** baz=90	89.80	43	⇓P		P	04 41 49.6	+0.4
Z25A	**Roswell** baz=90	89.81	54	⇑P		P	04 41 49.7	+0.3
COLA	**College** comp=Z,2.0nm,0.4s	89.83	13	*e*P		P	04 41 46.9	-1.5
V23A	**Ortiz Mt. (NFS** baz=90	89.84	51	⇑P		P	04 41 50.2	+0.6
X24A	**Lazy VL Ranch,** baz=90	89.85	52	⇓P		P	04 41 49.7	+0.1
C12B	**Naegeli Ranch,** baz=90	89.85	37	⇓P		P	04 41 48.7	-0.4
H15A	**Lima** baz=90	89.85	41	⇑P		P	04 41 49.6	+0.2
M18A	**Lyman** baz=90,SNR=6.6	89.86	45	⇓P		P	04 41 49.6	+0.1
N18A	**Larsen Ranch,** baz=90,SNR=5.6	89.90	45	⇓P		P	04 41 49.4	-0.3
O19A	**Miners Draw (B** baz=90	89.93	46	⇑P		P	04 41 49.8	-0.1
ILAR	**Eielson Array** comp=Z,0.7nm,0.4s,baz=216,slow=4.9,SNR=29	89.94	13	P		P	04 41 47.7	-1.4
ILAR	**Eielson Array**	89.94	13	P		P	04 41 47.7	-1.4
K17A	**Gardner Place,** baz=90,SNR=8.8	89.97	43	⇓P		P	04 41 50.0	+0.1
RRI2	**Red Ridge** comp=Z,6.6nm,0.7s	90.02	43	*e*P		P	04 41 50.8	+0.4
R21A	**Cimarron** baz=90	90.08	48	⇓P		P	04 41 50.7	+0.1
Y25A	**Mesa, Roswell** baz=90	90.11	53	⇑P		P	04 41 50.6	-0.2
I16A	**Newdale** baz=90	90.18	42	⇑P		P	04 41 51.4	+0.5
N19A	**John Jarvie Ra** baz=90	90.19	46	⇑P		P	04 41 50.4	-0.6
428A	**Kincaid Ranch,** baz=90	90.25	57	⇓P		P	04 41 51.7	+0.2
REDW	**Red Top Meadow**	90.32	43	*e*P		P	04 41 51.9	+0.3
X25A	**Clemmons Ranch** baz=91	90.40	53	⇓P		P	04 41 51.5	-0.6
J17A	**Brown Place, J** baz=91,SNR=6.8	90.41	43	⇓P		P	04 41 52.1	+0.1
SNOW	**Snow King Moun**	90.43	43	*e*P		P	04 41 53.0	+0.9
328A	**Wristen Ranch,** baz=91	90.44	56	⇓P		P	04 41 52.3	0.0
CD2	**Chengdu**	90.44	303	P		P	04 41 52.7	+0.5
O20A	**White River Ci** baz=91	90.45	47	⇑P		P	04 41 52.5	+0.2
K18A	**Toltan Ranch,** baz=91,SNR=7.1	90.48	44	⇓P		P	04 41 52.6	+0.2
M19A	**Rock Springs** baz=91	90.50	45	⇓P		P	04 41 52.2	-0.3
127A	**Arkansas Junct** baz=91	90.57	55	⇓P		P	04 41 52.9	0.0
L19A	**Farson** baz=91	90.66	44	⇑P		P	04 41 53.2	0.0
H16A	**Russell Place,** baz=91	90.75	41	⇑P		P	04 41 53.8	+0.2
Q22A	**Crested Butte,** baz=91,SNR=5.4	90.76	48	⇓P		P	04 41 53.8	0.0
N20A	**Spence Gulch,** baz=91	90.77	46	⇓P		P	04 41 53.6	-0.1
J18A	**Kendall Valley** baz=91,SNR=16	90.77	43	⇓P		P	04 41 53.6	-0.2
PD01	**Pinedale Array**	90.84	44	*e*P		P	04 41 53.3	-0.7
BW06	**Boulder Array** baz=91	90.85	44	⇓P		P	04 41 53.5	-0.6
BW06	baz=91			⇓P		P	04 41 53.5	-0.6
PDAR	**Pinedale Array** comp=Z,2.3nm,0.8s,baz=186,slow=3.1,SNR=17	90.85	44	P		P	04 41 53.6	-0.4
PDAR	**Pinedale Array**	90.85	44	P		P	04 41 53.6	-0.4
W25A	**X Bar L Ranch,** baz=91	90.86	52	⇑P		P	04 41 53.8	-0.4
V25A	**Rancho No Teng** baz=91	91.02	52	⇓P		P	04 41 54.7	-0.3
M20A	**Sweetwater, Wa** baz=91	91.13	45	⇑P		P	04 41 55.4	0.0
N21A	**Black Mountain** baz=91	91.23	46	⇑P		P	04 41 56.0	+0.1
L20A	**Wamsutter** baz=91	91.27	45	⇑P		P	04 41 56.2	+0.2
CMIG	**Matias Romero** comp=Z,1.8nm,0.7s,baz=340,slow=16,SNR=3.9	91.33	72	P		P	04 41 56.4	-0.2
CMIG	**Matias Romero**	91.33	72	P		P	04 41 56.4	-0.2
M21A	**Separation Pea** baz=92	91.73	46	⇑P		P	04 41 57.7	-0.5
S25A	**Rebets Cordova** baz=92	91.95	50	⇓P		P	04 41 59.1	-0.1
N22A	**Wattenberg Ran** baz=92	91.96	47	⇑P		P	04 41 59.5	+0.2
J20A	**Shoshoni** baz=92	92.08	44	⇑P		P	04 41 59.6	0.0
R25A	**Fountain Ranch** baz=92	92.27	50	⇑P		P	04 42 00.2	-0.4
D17A	**Six Diamond Ra** baz=92	92.32	40	⇓P		P	04 42 00.3	-0.3
I20A	**Worland** baz=92	92.33	43	⇑P		P	04 42 00.4	-0.4
LZH	**Lanzhou**	92.58	308	*e*P		P	04 42 02.3	+0.2
LZH				pP		**pP**	**04 44 23.7**	**+1.8**
LZH				sP		**sP**	**04 45 27.8**	**+1.5**
LZH	comp=Z,12nm,1.0s			pmax		pmax		
R26A	**Arlington** baz=93	92.93	50	⇑P		P	04 42 03.0	-0.6
I22A	**9 Mile Ranch,** baz=94	93.36	44	⇓P		P	04 42 04.7	-0.8
R27A	**Eads** baz=94	93.39	50	⇑P		P	04 42 05.1	-0.6
SONM	**Songino Array** comp=Z,0.7nm,1.0s,baz=109,slow=8.1,SNR=4.1	95.94	319	P		P	04 42 16.0	-1.0
SONM	**Songino Array**	95.94	319	P		P	04 42 16.0	-1.0
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.5s,baz=95,slow=2.2,SNR=4.5	110.74	321	PKiKP		**PKiKP**	04 47 16.8	-1.2
ZALV	**Zalesovo Beam**	110.74	321	PKiKP		**PKiKP**	04 47 16.8	-1.2
MK31	**Makanchi Array**	111.19	313	*e*PKP		**PKiKP**	04 47 18.2	-1.0
MKAR	**Makanchi Array** comp=Z,0.4nm,0.8s,baz=100,slow=6.3,SNR=3.7	111.19	313	Pdiff		**Pdif**	04 43 26.2	+1.5
MKAR				PKiKP		**PKiKP**	04 47 18.5	-0.7
MKAR	comp=Z,0.3nm,0.3s,baz=114,slow=2.0,SNR=12			PKKPbc		**PKKPbc**	04 58 18.1	0.0
MKAR	comp=Z,0.3nm,0.6s,baz=289,slow=3.7,SNR=3.8			PKiKP		**PKiKP**	04 47 18.5	-0.7
MKAR	**Makanchi Array**	111.19	313	Pdif		**Pdif**	04 43 26.2	+1.5
MKAR				PKiKP		**PKiKP**	04 47 18.5	-0.7
MKAR				PKKPbc		**PKKPbc**	04 58 18.1	0.0
KURK	**Kurchatov**	114.11	317	*e*PKP		PKPdf	04 47 23.5	-1.1
BRVK	**Borovoye**	119.34	320	*e*PKPdf		**PKPdf**	04 47 34.2	-0.4
KBL	**Kabul**	119.40	298	*e*PKPdf		**PKPdf**	04 47 36.2	+0.6
ARU	**Arti**	125.58	325	*e*PKPdf		**PKPdf**	04 47 46.6	+0.2
ABKAR	**Abkulak array**	126.17	316	*e*PKPdf		**PKPdf**	04 47 48.1	+0.3
ARCES	**ARCESS Array B** comp=Z,2.7nm,0.6s,baz=17,slow=1.3,SNR=12	130.02	349	PKP		**PKPdf**	04 47 54.4	-0.2
ARCES	**ARCESS Array B**	130.02	349	PKP		**PKPdf**	04 47 54.4	-0.2
JOF	**Joensuu**	134.02	341	*ep*		**PKPdf**	04 48 03.0	+0.8
JOF	**Joensuu**	134.02	341	*ep*		**PKPdf**	04 48 03.0	+0.8
KAF	**Kangasniemi**	136.09	343	*ep*		**PKPdf**	04 48 04.0	-2.1
KAF	**Kangasniemi**	136.09	343	*ep*		**PKPdf**	04 48 04.0	-2.1
FINES	**FINESS Array B** comp=Z,2.4nm,0.9s,baz=48,slow=5.6,SNR=7.2	136.70	342	PKhKP		PKPpre	04 47 54.6	
FINES				PKP		**PKPdf**	04 48 07.6	+0.4
FINES	comp=Z,1.6nm,0.5s,baz=61,slow=4.7,SNR=11			SKP			04 50 45.2	
FINES	**FINESS Array B**	136.70	342	PKPpre		PKPpre	04 47 54.6	
FINES				PKP		**PKPdf**	04 48 07.6	+0.4
FINES				SKP			04 50 45.2	
NB2	**NORSAR Subarra1** comp=Z,0.2nm,0.3s,baz=10,slow=3.2	140.17	352	PKP		PKPpre	04 48 06.6	
NOA	**NORSAR Array B** comp=Z,1.3nm,0.8s,baz=13,slow=4.6,SNR=6.6	140.17	352	PKhKP		PKPpre	04 48 06.3	
NOA				PKP		**PKiKP**	04 48 15.8	-0.5
NOA	comp=Z,0.3nm,0.4s,baz=14,slow=3.7,SNR=2.5			PKPpre		PKPpre	04 48 06.3	
NOA	**NORSAR Array B**	140.17	352	PKPpre		**PKiKP**	04 48 15.8	-0.5
AKASG	**Malin Array Be** comp=Z,4.7nm,0.3s,baz=45,slow=4.3,SNR=48	143.55	329	PKP		PKPbc	04 48 18.0	-1.0
AKASG	**Malin Array Be**	143.55	329	PKP		PKPbc	04 48 18.0	-1.0
AKBB	**Malin Array Si**	143.55	329	*e*PKPdf		PKPbc	04 48 17.1	-1.9
KIEV	**Kiev**	143.56	329	*e*PKPdf		PKPbc	04 48 17.6	-1.5
MALT	**Malatya**	143.70	305	⇓*i*P		**PKPdf**	**04 48 22.3**	**+1.6**
BR131	**Keskin Array S**	146.76	310	*e*PKPbc		**PKPbc**	**04 48 28.6**	**-0.3**
BRTR	**Keskin Array B** comp=Z,4.7nm,0.7s,baz=132,slow=4.1,SNR=31	146.76	310	PKPbc		**PKPbc**	**04 48 28.7**	**-0.2**
BRTR	**Keskin Array B**	146.76	310	PKPbc		**PKPbc**	**04 48 28.7**	**-0.2**
BSEG	**Bad Segeberg**	147.15	349	*e*PKPbc		**PKPbc**	**04 48 29.7**	**+0.5**
KWP	**Kalwaria Pacla**	147.25	333	⇓*i*P		**PKPbc**	**04 48 29.8**	**+0.1**
BUR08	**Bucovina Ar. S**	147.57	328	*e*PKPbc		**PKPbc**	**04 48 31.8**	**+1.1**
BURAR	**Bucovina Array**	147.58	328	⇓*i*P		**PKPbc**	**04 48 31.3**	**+0.6**
TESR		147.59	326	⇑*i*P		**PKPbc**	**04 48 31.6**	**+0.9**
TIRR	**Tirgusor**	147.88	321	⇑*i*P		**PKPbc**	**04 48 31.5**	**+0.1**
STHS	**Stebnicka Huta**	148.02	334	*e*PKP		**PKPbc**	**04 48 31.9**	**+0.3**
PLOR	**Plostina**	148.02	325	⇓*i*P		**PKPbc**	**04 48 32.4**	**+0.6**
MANR	**Mangalia**	148.14	320	⇓*i*P		**PKPbc**	**04 48 32.8**	**+0.7**
TRPA	**Tarpa**	148.46	331	⇑*i*P		**PKPbc**	**04 48 32.5**	**-0.2**
CSS	**Prodhromos**	148.55	302	*e*PKPbc		**PKPbc**	**04 48 33.3**	**-0.1**
MLR	**Muntele Rosu**	148.63	325	⇓*i*P		**PKPbc**	**04 48 34.4**	**+1.0**
UPC	**Upice**	148.97	341	⇑*e*PKP		**PKPbc**	**04 48 34.3**	**+0.4**
UPC				*e*PKPAB		**PKPab**	**04 48 40.9**	**0.0**
DPC	**Dobruska-Polom**	149.01	340	⇑*e*PKP		**PKPbc**	**04 48 34.7**	**+0.6**
DPC				*e*PKPAB		**PKPab**	**04 48 41.4**	**+0.3**
KECS	**Kecovo**	149.06	334	*e*PKP		**PKPbc**	**04 48 34.3**	**+0.1**
CLL	**Collm**	149.07	345	*e*PKPbc		**PKPbc**	**04 48 34.4**	**+0.3**
CLL	**Collm** comp=Z,7.0nm,0.6s	149.07	345	*i* PKPbc		**PKPbc**	**04 48 34.1**	**0.0**
CLL				*i* PKPab		**PKPab**	**04 48 40.5**	**-0.7**
KRLC	**Kraliky**	149.10	340	⇑*e*PKP		**PKPbc**	**04 48 34.7**	**+0.4**
KRLC				*e*PKPAB		**PKPab**	**04 48 41.3**	**-0.2**
MORC	**Moravsky Berou**	149.10	338	*e*PKPbc		**PKPbc**	**04 48 34.6**	**+0.3**
MORC	**Moravsky Berou**	149.10	338	⇓*i*P		**PKPbc**	**04 48 34.0**	**-0.3**
VOIR		149.14	325	⇑*i*P		**PKPbc**	**04 48 34.6**	**0.0**
CLZ	**Clausthal**	149.14	348	*e*PKPbc		**PKPbc**	**04 48 35.0**	**+0.7**
CLZ				*e*PKPab		**PKPab**	**04 48 41.0**	**-0.6**
BRG	**Berggiesshubel** comp=Z,4.4nm,0.5s	149.23	343	*i* PKP		**PKPbc**	**04 48 34.7**	**+0.2**
BRG	comp=Z,6.3nm,1.2s			*e*			04 48 41.4	
BRG	**Berggiesshubel**	149.23	343	*e*PKPbc		**PKPbc**	**04 48 34.5**	**0.0**
BRG				*e*PKPab		**PKPab**	**04 48 41.5**	**-0.4**
DRGR		149.37	330	⇑*i*P		**PKPbc**	**04 48 35.1**	**0.0**
PVCC	**Panska Ves**	149.37	342	⇑*e*PKP		**PKPbc**	**04 48 35.3**	**+0.4**
PVCC				*e*PKPAB		**PKPab**	**04 48 42.6**	**+0.1**
VYHS	**Vyhne**	149.71	336	*e*PKP		**PKPbc**	**04 48 35.8**	**+0.1**
KOLL	**Kolacno**	149.80	336	*e*PKP		**PKPbc**	**04 48 36.5**	**+0.6**
VRAC	**Vranov**	149.82	339	⇑*i*P		**PKPbc**	**04 48 36.2**	**+0.2**
PRU	**Pruhonice**	149.86	342	⇑*e*PKP		**PKPbc**	**04 48 36.2**	**+0.2**
PRU				*e*PKPAB		**PKPab**	**04 48 44.9**	**+0.3**
MOX	**Moxa**	150.01	346	*e*PKPbc		**PKPbc**	**04 48 36.6**	**+0.2**
TANN	**Tannenbergstha**	150.03	345	*e*PKPbc		**PKPbc**	**04 48 36.8**	**+0.3**
UBBA	**Unterbreizbach**	150.19	348	*e*PKPbc		**PKPbc**	**04 48 37.7**	**+1.1**
TREC	**Trest**	150.19	340	⇑*e*PKP		**PKPbc**	**04 48 37.0**	**+0.1**
TREC				*e*PKPAB		**PKPab**	**04 48 45.9**	**-0.2**
GZR	**Gura Zlata**	150.34	328	⇓*i*P		**PKPbc**	**04 48 37.3**	**-0.1**
ROTZ	**Rotzenmuhle**	150.69	345	*e*PKPbc		**PKPbc**	**04 48 38.6**	**+0.6**
BZS	**Buzias**	150.74	329	⇓*i*P		**PKPbc**	**04 48 38.1**	**-0.1**
KHC	**Kasperske Hory**	150.91	342	⇑*e*PKP		**PKPbc**	**04 48 38.7**	**+0.2**
KHC				*e*PKPAB		**PKPab**	**04 48 49.0**	**-0.1**
GRF	**Grafenberg Arr**	151.00	346	*e*PKPab		**PKPab**	**04 48 49.5**	**+0.1**
MEM	**Membach**	151.01	353	PKPbc		**PKPbc**	**04 48 38.5**	**-0.1**
TNS	**Taunus Mts**	151.04	350	*e*PKPbc		**PKPbc**	**04 48 39.0**	**+0.2**
GEC2	**GERESS Array S**	151.13	342	*e*PKPbc		**PKPbc**	**04 48 39.4**	**+0.3**
GERES	**GERESS Array B** comp=Z,1.7nm,0.6s,baz=24,slow=1.7,SNR=18	151.13	342	PKPbc		**PKPbc**	**04 48 39.1**	**0.0**
GERES				PKPab		**PKPab**	**04 48 49.8**	**-0.3**
GERES	comp=Z,0.4nm,0.4s,baz=44,slow=5.3,SNR=4.7			PKPbc		**PKPbc**	**04 48 39.1**	**0.0**
GERES	**GERESS Array B**	151.13	342	PKPbc		**PKPbc**	**04 48 39.1**	**0.0**
GERES				PKPab		**PKPab**	**04 48 49.8**	**-0.3**
PKSM	**Moragy**	151.63	333	⇑*i*P		**PKPbc**	**04 48 39.5**	**-0.6**
RJOB	**Jochberg**	152.39	342	*e*PKPab		**PKPab**	**04 48 55.8**	**+0.3**
PERS	**Pernice**	152.63	338	*i* PKPbc		**PKPab**	**04 48 55.9**	**-0.7**
BFO	**Black Forest**	152.89	349	*e*PKPab		**PKPab**	**04 48 56.6**	**-0.9**
VISS	**Visnje**	153.45	337	*i* PKPbc		**PKPab**	**04 48 58.5**	**-1.4**
BOJS	**Bojanci**	153.55	336	*i* PKPbc		**PKPab**	**04 48 59.9**	**-0.5**
JAVS	**Javornik**	153.64	339	*i* PKPbc		**PKPab**	**04 48 59.7**	**-1.2**
ESDC	**Sonseca Array** comp=Z,0.1nm,0.4s,baz=347,slow=4.5,SNR=3.1	161.83	11	PKPab		**PKPab**	**04 49 35.0**	**-1.6**
ESDC	**Sonseca Array**	161.83	11	PKPab		**PKPab**	**04 49 35.0**	**-1.6**
KEST	**Kesra** comp=Z,1.1nm,0.9s,baz=307,slow=5.1,SNR=2.9	164.22	333	PKPab		**PKPab**	**04 49 46.7**	**-0.7**
KEST	**Kesra**	164.22	333	PKPab		**PKPab**	**04 49 46.7**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=249,slow=4.0,SNR=7.2	171.26	187	PKP		**PKPdf**	**04 48 53.8**	**-0.1**
TORD				PKPab		**PKPab**	**04 50 19.0**	**+0.3**
TORD	comp=Z,0.4nm,0.9s,baz=146,slow=3.4,SNR=4.9			PKP		**PKPdf**	**04 48 53.8**	**-0.1**
TORD	**Torodi Ar. Bea**	171.26	187	PKP		**PKPdf**	**04 48 53.8**	**-0.1**
TORD				PKPab		**PKPab**	**04 50 19.0**	**+0.3**

IDC 10 04:52:26.6±1.4, 0.44S×132.81E, h0km, mb4.0/4, mb1 4.2/6, mb1mx4.0/18, mbtmp4.0/6, ML4.1/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/26, Error ellipse: s-maj=75.5km s-min=14.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,154nm,19.4s,baz=261,slow=31	18.36	40	LR		LR		05 01 57.6	
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=25,slow=13,SNR=16	18.92	201	P		Pn		04 56 49.8	+0.1
FITZ				S		Sn		05 00 11.7	-11
FITZ	0.1nm,0.3s,baz=54,slow=19,SNR=2.5			LR		LR		05 03 41.2	
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=355,slow=11,SNR=16	19.45	176	P		P		04 56 55.4	+0.4
WRA				S		Sn		05 00 27.8	-7.2
ASAR	**Alice Springs** 12nm,0.9s,baz=357,slow=10,SNR=54	23.12	177	P		P		04 57 35.2	+0.7
ASAR				S		S		05 01 48.1	+1.1
STKA	**Stephens Creek** 3.8nm,0.5s,baz=331,slow=8.7,SNR=13	32.36	166	P		P		04 58 57.1	-0.8
STKA				LR		LR		05 12 05.8	
KSRS	**Korea Array** comp=Z,46nm,20.7s,baz=170,slow=32	37.97	354	LR		LR		05 12 22.3	
SONM	**Songino Array** 0.4nm,0.9s,baz=148,slow=8.5,SNR=2.8	53.29	338	P		P		05 01 48.4	+1.0
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=114,slow=7.0,SNR=10	64.45	324	P		P		05 03 04.0	-1.0

MEX 10 04:54:27.5±0.5, 17.00N×94.98W, h63km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.13	45	*e*P		Pn		04 54 36.0	-1.1
CMIG				*e*S		Sn		04 54 42.0	-2.0
HUIG	**Huatulco**	1.63	222	*e*P		Pn		04 54 52.5	-1.5
HUIG				*i* S		Sn		04 55 12.3	-1.7
VHO	**Vista Hermosa**	1.68	273	*e*P		Pn		04 54 53.4	-1.5
VHO				*i* S		Sn		04 55 13.7	-2.0
TGIG		1.80	97	*i* P		Pn		04 54 54.8	-1.5
TGIG				*i* S		Sn		04 55 16.0	-2.2
PCIG		2.13	127	*e*P		Pn		04 55 00.1	-0.6
PCIG				*i* S		Sn		04 55 23.7	-2.4
UTMO	**Huajuapan**	2.82	288	*i* P		Pn		04 55 09.7	-0.8
UTMO				*i* S		Sn		04 55 40.9	-2.6
CCIG	**Comitan**	2.82	104	*i* P		Pn		04 55 10.4	0.0
CCIG				*i* S		Sn		04 55 40.5	-3.0
PNIG	**Pinotepa**	3.07	259	*i* P		Pn		04 55 11.2	-2.4
PNIG				*i* S		Sn		04 55 46.4	-2.9

IDC 10 05:00:27.0±2.1, 47.81N×154.64E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/25, mbtmp3.7/4, ML3.7/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=62.2km s-min=29.6km az=160.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 1.3nm,0.3s,baz=182,slow=14,SNR=5.6	5.65	19	Pn		Pn		05 01 51.0	-1.2
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=270,slow=20,SNR=11	9.17

NEM2					*e*S		**Sn**	**05 28 49.8**	**-2.0**
KUR	**Kuril'sk**	**1.69**	**7**	*e*PN			**Pn**	**05 28 39.0**	**-0.2**
KUR				*i* S			**Sn**	**05 28 58.7**	**-1.2**
KUR					pmax	pmax			
	comp=Z,290nm,0.8s								
KUR					pmax	pmax			
	comp=N,140nm,0.3s								
KUR					pmax	pmax			
	comp=E,150nm,0.6s								
KUR					smax	smax			
	comp=N,910nm,0.6s								
KUR					smax	smax			
	comp=E,580nm,0.6s								
JRA	**Rausu**	**1.83**	**283**	P			**Pn**	**05 28 41.0**	**-0.1**
JRA				*e*S			**Sn**	**05 29 02.7**	**-0.5**
JNK	**Nakash**	**2.09**	**272**	P			**Pn**	**05 28 43.9**	**-0.7**
JNK				*e*S			**Sn**	**05 29 08.2**	**-1.3**
JAK	**Akkeshi**	**2.19**	**256**	P			**Pn**	**05 28 45.1**	**-0.8**
JTKR	**Abashiri--Toko**	**2.70**	**280**	P			**Pn**	**05 28 53.3**	**+0.4**
JAR	**Ashorobuto**	**2.80**	**266**	P			**Pn**	**05 28 54.3**	**+0.1**
JOB	**Onbets**	**2.82**	**258**	P			**Pn**	**05 28 54.4**	**-0.1**
JMP	**Maruseppu**	**3.10**	**280**	P			**Pn**	**05 28 59.2**	**+0.8**
JCH	**Churui**	**3.24**	**255**	P			**Pn**	**05 29 00.3**	**+0.1**
JCH				*e*S			**Sn**	**05 29 36.7**	**-0.8**
ASAJ	**Asahikawa**	**3.66**	**281**	P			Pn	05 29 10.2	+4.2
	comp=E,2.0nm,0.3s,baz=82,slow=15,SNR=6.5								
ASAJ				S			Sn	05 29 55.0	+7.2
	comp=E,1.9nm,0.3s,baz=18,slow=20,SNR=3.5								
ASAJ	**Asahikawa**	**3.66**	**281**	PN			Pn	05 29 10.2	+4.2
ASAJ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
JFR	**Furan**	**3.67**	**266**	P			**Pn**	**05 29 07.2**	**+1.1**
JFR				*e*S			**Sn**	**05 29 48.6**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.77**	**252**	P			**Pn**	**05 29 07.4**	**-0.2**
PETK	**Petropavlovsk-**	**11.68**	**32**	P			Pn	05 30 49.4	-6.2
	comp=Z,0.2nm,0.3s,baz=200,slow=14,SNR=3.8								
FX1	**Attu Island--F**	**19.34**	**52**	LR			LR	05 39 17.6	
	comp=Z,43nm,18.9s,baz=80,slow=35								
SONM	**Songino Array**	**28.84**	**293**	P			**P**	**05 34 04.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=91,slow=8.2,SNR=3.0								
SONM	**Songino Array**	**28.84**	**293**	P			**P**	**05 34 04.5**	**0.0**
ILAR	**Eielson Array**	**41.46**	**36**	P			**P**	**05 35 52.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=258,slow=7.1,SNR=8.1								
ILAR				pP			**pP**	**05 36 06.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=274,slow=8.4,SNR=3.4								
ILAR	**Eielson Array**	**41.46**	**36**	P			**P**	**05 35 52.1**	**-0.3**
MKAR	**Makanchi Array**	**44.96**	**298**	P			**P**	**05 36 21.5**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=72,slow=7.8,SNR=6.6								
MKAR				pP			**pP**	**05 36 38.4**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=81,slow=11,SNR=2.3								
MKAR	**Makanchi Array**	**44.96**	**298**	P			**P**	**05 36 21.5**	**+0.7**
MKAR				*PP			**pP**	**05 36 38.4**	**+2.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**55.79**	**34**	P			**P**	**05 37 42.5**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=299,slow=6.9,SNR=12								
YKA				pP			**pP**	**05 37 58.3**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=219,slow=9.9,SNR=2.4								
YKA	**Yellowknife Ar**	**55.79**	**34**	P			**P**	**05 37 42.5**	**+0.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**59.55**	**340**	P			**P**	**05 38 08.2**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=36,slow=7.8,SNR=3.5								
ARCES	**ARCESS Array B**	**59.55**	**340**	P			**P**	**05 38 08.2**	**-0.3**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
WRA	**Warramunga Arr**	**64.34**	**194**	pP			pP	05 38 59.2	+1.6
	comp=Z,0.9nm,0.7s,baz=16,slow=6.8,SNR=2.9								
FINES	**FINESS Array B**	**65.20**	**333**	P			**P**	**05 38 45.3**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=35,slow=7.2,SNR=8.4								
FINES	**FINESS Array B**	**65.20**	**333**	P			**P**	**05 38 45.3**	**-1.0**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NVAR	**Mina Array Bea**	**67.41**	**58**	P			**P**	**05 39 01.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=5.6								
ASAR	**Alice Springs**	**68.06**	**194**	pP			pP	05 39 24.9	+3.4
	comp=Z,0.6nm,0.8s,baz=8.2,slow=6.2,SNR=2.7								
PDAR	**Pinedale Array**	**69.79**	**50**	P			**P**	**05 39 16.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=233,slow=0.9,SNR=2.7								
NB2	**NORSAR Subarra**	**69.90**	**339**	P			**P**	**05 39 15.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**69.90**	**339**	P			**P**	**05 39 15.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=32,slow=6.4,SNR=6.4								
NOA	**NORSAR Array B**	**69.90**	**339**	P			**P**	**05 39 15.6**	**-0.5**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**71.93**	**324**	P			**P**	**05 39 28.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=40,slow=7.2,SNR=3.6								
AKASG	**Malin Array Be**	**71.93**	**324**	P			**P**	**05 39 28.2**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**82.49**	**57**	P			**P**	**05 40 28.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=299,slow=3.2,SNR=7.0								
TXAR				pP			**pP**	**05 40 45.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=301,slow=4.7,SNR=2.7								
TXAR	**Lajitas Array**	**82.49**	**57**	P			**P**	**05 40 28.1**	**0.0**

NEIC ***10*** *05:35:58.1, 37.71S×176.30E, h290km, MG3.9(WEL), After WEL.*

WEL 10 05:35:58.1±0.3, 37.71S×176.32E, h289km±4km, ML3.9/12, Error ellipse: s-maj=7.6km s-min=7.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MWZ	**Matawai**	**1.14**	**124**	PN		Pn	05 36 38.2		+0.2
MWZ				SN		S	05 37 08.7		-1.0
MWZ	**Matawai**	**1.14**	**124**	Pn		Pn	05 36 38.2		+0.2
MWZ				Sn		S	05 37 08.7		-1.0
BKZ	**Black Stump Fm**	**1.46**	**175**	PN		Pn	05 36 40.0		+0.1
BKZ				SN		S	05 37 12.7		-0.4
BKZ	**Black Stump Fm**	**1.46**	**175**	Pn		Pn	05 36 40.0		+0.1
BKZ				Sn		S	05 37 12.7		-0.4
PUZ	**Puketiti**	**1.58**	**104**	PN		Pn	05 36 40.6		-0.1
PUZ				SN		S	05 37 13.1		-1.4
PUZ	**Puketiti**	**1.58**	**104**	Pn		Pn	05 36 40.8		+0.1
KNZ	**Kokohu**	**1.69**	**141**	PN		Pn	05 36 41.6		+0.3
KNZ	**Kokohu**	**1.69**	**141**	Pn		Pn	05 36 41.6		+0.3
WNVZ	**Wahianoa**	**1.71**	**199**	PN		Pn	05 36 41.9		+0.1
WNVZ	**Wahianoa**	**1.71**	**199**	Pn		Pn	05 36 41.9		+0.1
MOVZ	**Moawhango**	**1.75**	**194**	PN		Pn	05 36 41.8		-0.2
MOVZ	**Moawhango**	**1.75**	**194**	Pn		Pn	05 36 41.8		-0.2
BHHZ	**Black Hill Sta**	**1.79**	**186**	PN		Pn	05 36 42.3		0.0
BHHZ	**Black Hill Sta**	**1.79**	**186**	Pn		Pn	05 36 42.3		0.0
PNHZ	**Pukenui**	**2.21**	**182**	PN		Pn	05 36 45.6		0.0
PNHZ	**Pukenui**	**2.21**	**182**	Pn		Pn	05 36 45.6		0.0
WAZ	**Wanganui**	**2.30**	**207**	PN		Pn	05 36 46.2		-0.1
WAZ	**Wanganui**	**2.30**	**207**	Pn		Pn	05 36 46.2		-0.1
TSZ	**Takapari Road**	**2.37**	**187**	PN		Pn	05 36 46.7		-0.3
TSZ	**Takapari Road**	**2.37**	**187**	Pn		Pn	05 36 46.7		-0.3
BFZ	**Birch Farm**	**2.97**	**181**	PN		Pn	05 36 51.8		-0.9
BFZ	**Birch Farm**	**2.97**	**181**	Pn		Pn	05 36 51.8		-0.9
MRZ	**Mangatainoka R**	**3.01**	**191**	PN		Pn	05 36 52.2		-0.9
MRZ				SN		S	05 37 35.7		-1.2
MRZ	**Mangatainoka R**	**3.01**	**191**	Pn		Pn	05 36 52.2		-0.9
OGWZ	**Otaki Gorge**	**3.23**	**196**	PN		Pn	05 36 54.5		-0.8
OGWZ	**Otaki Gorge**	**3.23**	**196**	Pn		Pn	05 36 54.5		-0.8
HOWZ	**Holdsworth Sta**	**3.25**	**191**	PN		Pn	05 36 54.4		-1.1
HOWZ	**Holdsworth Sta**	**3.25**	**191**	Pn		Pn	05 36 54.4		-1.1
KIW	**Kapiti Island**	**3.33**	**199**	PN		Pn	05 36 55.4		-1.1
KIW	**Kapiti Island**	**3.33**	**199**	Pn		Pn	05 36 55.4		-1.1
MTW	**Mount Morrison**	**3.50**	**190**	PN		Pn	05 36 57.0		-1.2
MTW	**Mount Morrison**	**3.50**	**190**	Pn		Pn	05 36 57.0		-1.2
CAW	**Cannon Point**	**3.53**	**196**	PN		Pn	05 36 57.3		-1.2
CAW	**Cannon Point**	**3.53**	**196**	Pn		Pn	05 36 57.3		-1.2
DUWZ	**D'Urville Isla**	**3.61**	**210**	PN		Pn	05 36 57.7		-1.7
DUWZ	**D'Urville Isla**	**3.61**	**210**	Pn		Pn	05 36 57.7		-1.7
TCW	**Tory Channel**	**3.84**	**204**	PN		Pn	05 37 00.6		-1.2
TCW	**Tory Channel**	**3.84**	**204**	Pn		Pn	05 37 00.6		-1.2
PLWZ	**Palliser**	**3.94**	**192**	PN		Pn	05 37 01.5		-1.5
PLWZ	**Palliser**	**3.94**	**192**	Pn		Pn	05 37 01.5		-1.5
TUWZ	**Tuamarina**	**4.15**	**206**	PN		Pn	05 37 03.8		-1.4
TUWZ	**Tuamarina**	**4.15**	**206**	Pn		Pn	05 37 03.9		-1.4
NNZ	**Nelson**	**4.18**	**212**	PN		Pn	05 37 03.2		-2.4
NNZ	**Nelson**	**4.18**	**212**	Pn		Pn	05 37 03.2		-2.4
QRZ	**Quartz Range**	**4.28**	**222**	PN		Pn	05 37 03.6		-3.2
QRZ	**Quartz Range**	**4.28**	**222**	Pn		Pn	05 37 03.6		-3.2
BSWZ	**Blackbirch Sta**	**4.42**	**204**	PN		Pn	05 37 07.0		-1.4
BSWZ	**Blackbirch Sta**	**4.42**	**204**	Pn		Pn	05 37 07.0		-1.4
THZ	**Tophouse**	**4.83**	**212**	PN		Pn	05 37 10.9		-2.3
THZ	**Tophouse**	**4.83**	**212**	Pn		Pn	05 37 10.9		-2.3
KHZ	**Kahutara**	**5.17**	**203**	PN		Pn	05 37 15.1		-1.8
KHZ	**Kahutara**	**5.17**	**203**	Pn		Pn	05 37 15.1		-1.8
DSZ	**Denniston Nort**	**5.33**	**219**	PN		Pn	05 37 15.2		-3.8
DSZ	**Denniston Nort**	**5.33**	**219**	Pn		Pn	05 37 15.2		-3.8
LTZ	**Lake Taylor**	**5.94**	**210**	PN		Pn	05 37 23.5		-2.8
LTZ	**Lake Taylor**	**5.94**	**210**	Pn		Pn	05 37 23.5		-2.8

ISCJB ***10*** *06:10:17.4±0.7, 56.26S±0.09×143.0W±0.3, h11km, mb4.5/7, MS4.0/20, Error ellipse: s-maj=22.0km s-min=12.1km az=168.5*

IDC ***10*** *06:10:17.5±0.8, 56.22S×143.09W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.2/12, mbtmp4.3/4, MS4.0/19, Ms1 4.0/19, ms1mx4.0/22, Error ellipse: s-maj=36.0km s-min=25.5km az=6.0*

NEIC ***10*** *06:10:19.2±0.6, 56.22S×142.91W, h10km, mb4.7/5, Error ellipse: s-maj=21.7km s-min=19.7km az=115.0*

ISC 10 06:10:19.1±0.7, 56.2S±0.2×143.0W±0.2, h11km, n56, σ1°11/33, mb4.5/7, MS4.1/20, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
VNDA	**Vanda**	**28.50**	**202**	*e*P		**P**	**06 16 14.6**		**+0.9**
	11nm,1.8s								
RPZ	**Rata Peaks**	**31.51**	**274**	LR		LR	06 26 16.8		
	comp=Z,379nm,19.0s,baz=98,slow=30								
TBI	**Tubuai**	**33.17**	**349**	*e*S		S	06 22 15.5		+0.8
	62nm,27.0s								
TBI				*e*LR		LR	06 25 32.2		
	728nm,28.8s,baz=176								
TBI				*e*T		T	06 51 37.5		
	88nm,0.3s								
RKT	**Rikitea**	**33.57**	**13**	*e*LQ		LQ	06 24 28.6		
	318nm,31.5s								
RKT				*e*T		T	06 52 15.7		
	18nm,0.3s								
QSPA	**South Pole Qui**	**33.95**	**180**	P		**P**	**06 17 02.7**		**+0.7**
	12nm,1.0s,baz=64,slow=3.4,SNR=17								
QSPA	**South Pole Qui**	**33.95**	**180**	*e*P		**P**	**06 17 02.4**		**+0.3**
	20nm,1.1s								
RAR	**Rarotonga**	**37.12**	**333**	LR		LR	06 28 00.7		
	comp=Z,477nm,21.1s,baz=163,slow=29								
PMSA	**Palmer Station**	**37.30**	**136**	LR		LR	06 30 15.5		
	comp=Z,114nm,19.9s,baz=336,slow=32								
MEH	**Mehetia**	**38.47**	**352**	*e*T		T	06 58 15.4		
	170nm,0.3s								
PAE	**Paea**	**38.81**	**350**	*e*T		T	06 58 40.1		
	4.3nm,0.3s								
PPT2	**Papeete2**	**38.88**	**350**	*e*S		S	06 23 42.3		0.0
	90nm,26.0s								
PPT2				*e*LR		LR	06 28 07.7		
	777nm,28.0s,baz=176								
PPT2				*e*T		T	06 58 47.0		
	8.7nm,0.3s								
TIAR	**Tiarei**	**38.89**	**350**	*e*T		T	06 58 46.4		
	20nm,0.3s								
USHA	**Ushuaia**	**40.29**	**120**	LR		LR	06 29 38.0		
	comp=Z,185nm,20.0s,baz=216,slow=29								
PMOR	**Pomariorio Ree**	**41.30**	**353**	*e*T		T	07 01 48.2		
	7.9nm,0.3s								
CASY	**Casey**	**46.04**	**213**	*e*P		**P**	**06 18 43.4**		**+1.4**
	12nm,0.9s								
AFI	**Afiamalu**	**47.67**	**321**	LR		LR	06 35 10.7		
	comp=Z,82nm,20.7s,baz=14,slow=31								
PLCA	**Paso Flores**	**48.13**	**103**	LR		LR	06 33 44.2		
	comp=Z,130nm,20.8s,baz=228,slow=29								
VNA3	**Neumayer Olymp**	**48.64**	**162**	*e*		**P**	**06 19 01.3**		**-0.9**
VNA2	**Neumayer--Watz**	**49.30**	**162**	*e*		**P**	**06 19 06.2**		**-1.1**
	baz=205,slow=7.7								
SNAA	**Sanae**	**49.37**	**164**	*e*P		**P**	**06 19 06.3**		**-1.6**
	4.5nm,1.0s								
VNA1	**Neumayer--Stat**	**49.39**	**162**	*e*		**P**	**06 19 08.1**		**+0.2**
DZM	**Mont Dzumac**	**50.30**	**291**	*e*LR		LR	06 33 30.0		
	204nm,24.0s								
DZM	**Mont Dzumac**	**50.30**	**291**	LR		LR	06 37 36.3		
	comp=Z,169nm,19.1s,baz=212,slow=33								
MAW	**Mawson**	**55.02**	**192**	LR		LR	06 40 02.2		
	comp=Z,192nm,21.8s,baz=335,slow=32								
CFAA	**Coronel Fontan**	**56.07**	**97**	LR		LR	06 37 14.0		
	comp=Z,6.1nm,21.8s,baz=218,slow=29								
STKA	**Stephens Creek**	**56.27**	**262**	LR		LR	06 39 16.8		
	comp=Z,187nm,19.2s,baz=204,slow=31								
CTA	**Charters Tower**	**62.88**	**274**	LR		LR	06 45 01.9		
	comp=Z,107nm,18.1s,baz=49,slow=33								
CPUP	**Villa Florida**	**66.16**	**102**	LR		LR	06 45 26.5		
	comp=Z,80nm,19.0s,baz=13,slow=32								
NNA	**Nana**	**66.88**	**77**	LR		LR	06 43 32.3		
	comp=Z,130nm,19.5s,baz=134,slow=30								
ASAR	**Alice Springs**	**66.91**	**262**	P		**P**	**06 21 10.8**		**-0.5**
	3.3nm,1.0s,baz=143,slow=6.5,SNR=11								
ASAR	**Alice Springs**	**66.91**	**262**	P		**P**	**06 21 10.8**		**-0.5**
LPAZ	**La Paz**	**68.18**	**87**	P		**P**	**06 21 20.8**		**+0.8**
	4.2nm,1.1s,baz=250,slow=3.1,SNR=6.6								
LPAZ				LR		LR	06 44 22.0		
	comp=Z,84nm,19.9s,baz=72,slow=30								
LPAZ	**La Paz**	**68.18**	**87**	*e*P		**P**	**06 21 21.1**		**+1.0**
	6.2nm,1.2s								
NWAO	**Narrogin (SRO)**	**68.37**	**243**	LR		LR	06 43 08.5		
	comp=Z,96nm,20.3s,baz=107,slow=29								
WRA	**Warramunga Arr**	**69.64**	**264**	P		**P**	**06 21 27.9**		**-0.6**
	4.0nm,1.2s,baz=150,slow=5.6,SNR=4.3								
WRA	**Warramunga Arr**	**69.64**	**264**	P		**P**	**06 21 27.9**		**-0.6**
FITZ	**Fitzroy Crossi**	**75.94**	**259**	LR		LR	06 51 17.3		
	comp=Z,159nm,20.1s,baz=140,slow=32								
ROSC	**El Rosal**	**82.34**	**69**	LR		LR	06 51 36.4		
	comp=Z,46nm,21.3s,baz=199,slow=30								
TXAR	**Lajitas Array**	**91.52**	**34**	LR		LR	06 55 26.5		
	comp=Z,62nm,18.8s,baz=0.0,slow=30								
BOSA	**Boshof**	**94.92**	**170**	LR		LR	07 00 18.1		
	comp=Z,116nm,20.8s,baz=172,slow=32								
NVAR	**Mina Array Bea**	**96.58**	**19**	LR		LR	06 59 54.0		
	comp=Z,118nm,18.7s,baz=111,slow=31								
ILAR	**Eielson Array**	**120.69**	**358**	PKP		**PKPdf**	**06 29 09.6**		**+0.2**
	1.7nm,0.9s,baz=230,slow=1.9,SNR=16								
ILAR	**Eielson Array**	**120.69**	**358**	PKP		**PKPdf**	**06 29 09.6**		**+0.2**
TORD	**Torodi Ar. Bea**	**129.15**	**133**	PKP		**PKPdf**	**06 29 28.3**		**+1.2**
	0.7nm,0.9s,baz=231,slow=0.2,SNR=4.2								
TORD	**Torodi Ar. Bea**	**129.15**	**133**	PKP		**PKPdf**	**06 29 28.3**		**+1.2**
ESDC	**Sonseca Array**	**148.51**	**104**	PKPbc		**PKPbc**	**06 30 04.0**		**-1.1**
	0.6nm,0.7s,baz=244,slow=1.2,SNR=4.6								
ESDC	**Sonseca Array**	**148.51**	**104**	PKPbc		**PKPbc**	**06 30 04.0**		**-1.1**
KBL	**Kabul**	**149.24**	**239**	*e*PKPbc		**PKPab**	**06 30 09.5**		**-2.4**
MK31	**Makanchi Array**	**150.80**	**271**	*e*PKPbc		**PKPbc**	**06 30 12.1**		**+1.6**
MKAR	**Makanchi Array**	**150.80**	**271**	PKPbc		**PKPbc**	**06 30 10.9**		**+0.4**
	10.0nm,0.9s,baz=112,slow=2.8,SNR=50								
MKAR	**Makanchi Array**	**150.80**	**271**	PKPbc		**PKPbc**	**06 30 10.9**		**+0.4**
AAK	**Ala-Archa**	**152.50**	**256**	*e*PKPdf		**PKPdf**	**06 30 08.6**		**+0.8**
ZALV	**Zalesovo Beam**	**152.99**	**285**	PKPbc		**PKPbc**	**06 30 14.5**		**-0.7**
	0.2nm,0.3s,baz=169,slow=3.0,SNR=4.8								
ZALV				PKPab		**PKPab**	**06 30 27.1**		**+0.5**
	2.1nm,0.8s,baz=129,slow=4.0,SNR=3.7								
ZALV	**Zalesovo Beam**	**152.99**	**285**	PKPbc		**PKPbc**	**06 30 14.5**		**-0.7**
ZALV				PKPab		**PKPab**	**06 30 27.1**		**+0.5**
BRTR	**Keskin Array B**	**163.35**	**171**	PKP		**PKPdf**	**06 30 21.6**		**+0.4**
	0.5nm,0.8s,baz=319,slow=4.2,SNR=4.4								
BRTR				PKPab		**PKPab**	**06 31 09.7**		**-2.3**
	0.9nm,1.0s,baz=191,slow=6.0,SNR=4.1								
BRTR	**Keskin Array B**	**163.35**	**171**	PKP		**PKPdf**	**06 30 21.6**		**+0.4**
BRTR				PKPab		**PKPab**	**06 31 09.7**		**-2.3**

IDC 10 06:19:22.8±16.0, 0.03N×132.87E, h0km, mb4.3/2, mb1 4.3/4, mb1mx3.7/18, mbtmp4.1/4, ML4.0/2, Error ellipse: s-maj=245.9km s-min=95.4km az=165.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**19.37**	**201**	P		P	06 23 50.6		+0.4
	0.2nm,0.3s,baz=32,slow=12,SNR=5.3								
FITZ				S		Sn	06 27 07.4		-22
	0.1nm,0.3s,baz=102,slow=18,SNR=2.3								
WRA	**Warramunga Arr**	**19.90**	**176**	P		P	06 23 55.9		-0.2
	0.6nm,0.3s,baz=352,slow=11,SNR=7.2								
WRA				S		S	06 27 21.8		-19
	0.2nm,0.3s,baz=358,slow=23,SNR=5.3								
ASAR	**Alice Springs**	**23.58**	**178**	P		P	06 24 35.5		+0.2
	5.3nm,0.6s,baz=359,slow=10,SNR=49								
ASAR				S		S	06 28 49.4		-1.4
	0.2nm,0.3s,baz=0.2,slow=28,SNR=3.9								
STKA	**Stephens Creek**	**32.79**	**166**	P		P	06 25 57.5		-0.3
	3.8nm,0.7s,baz=0.0,slow=8.4,SNR=7.4								

IDC 10 06:28:40.3±7.6, 23.90S×179.92W, h567km±87km, mb3.3/5, mb1 3.6/5, mb1mx3.2/17, mbtmp3.3/5, Error ellipse: s-maj=119.5km s-min=41.5km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CTA	**Charters Tower**	**31.55**	**270**	P		P	06 34 17.5		+0.2
	6.0nm,0.4s,baz=100,slow=12,SNR=10								
ASAR	**Alice Springs**	**42.10**	**261**	P		P	06 35 43.4		-0.3
	2.5nm,0.8s,baz=96,slow=8.0,SNR=18								
WRA	**Warramunga Arr**	**42.48**	**266**	P		P	06 35 45.7		-0.9
	4.3nm,0.5s,baz=103,slow=8.1,SNR=22								
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P		P	06 36 50.6		+0.5
	2.6nm,0.7s,baz=97,slow=5.9,SNR=10								
TXAR	**Lajitas Array**	**90.37**	**58**	P		P	06 40 41.9		0.0
	0.2nm,0.6s,baz=224,slow=6.3,SNR=5.3								
AKASG	**Malin Array Be**	**145.01**	**327**	PKPbc		PKPdf	06 47 12.8		-0.3
	0.3nm,0.3s,baz=44,slow=4.1,SNR=4.3								
BRTR	**Keskin Array B**	**147.63**	**307**	PKPbc		PKPbc	06 47 21.3		-0.6
	0.6nm,0.6s,baz=134,slow=4.2,SNR=2.2								
BRTR				PKPab		PKPab	06 47 25.8		-0.4
	0.6nm,0.6s,baz=95,slow=4.3,SNR=4.9								

IDC ***10*** *06:40:26.9±0.9, 2.15N×126.60E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=51.9km s-min=15.8km az=71.0*

ISCJB ***10*** *06:40:31.4±0.6, 2.2N±0.1×126.6E±0.2, h47km, mb4.1/10, Error ellipse: s-maj=29.7km s-min=8.6km az=154.5*

NEIC ***10*** *06:40:31.4±0.6, 2.26N×126.84E, h35km, mb4.5/4, Error ellipse: s-maj=37.5km s-min=7.3km az=67.0*

ISC 10 06:40:33.1±0.8, 2.1N±0.1×126.6E±0.2, h47km, n30, σ0°56/29, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**20.14**	**183**	P		**P**	**06 45 04.3**		**+0.9**
	1.9nm,0.7s,baz=27,slow=11,SNR=7.6								
FITZ	**Fitzroy Crossi**	**20.14**	**183**	*e*P		Pn	06 45 04.7		-0.8
	116nm,2.1s								
WRAB	**Tennant Creek**	**23.22**	**161**	*e*P		**P**	**06 45 35.5**		**-0.7**
	18nm,1.3s								
WRA	**Warramunga Arr**	**23.22**	**161**	P		**P**	**06 45 35.5**		**-0.7**
	2.2nm,0.4s,baz=339,slow=11,SNR=7.4								
WRA	**Warramunga Arr**	**23.22**	**161**	P		**P**	**06 45 35.5**		**-0.7**
WB2	**Warramunga Arr**	**23.23**	**161**	*e*P		**P**	**06 45 36.9**		**+0.6**
ASAR	**Alice Springs**	**26.62**	**165**	P		**P**	**06 46 06.3**		**-1.0**
	0.2nm,0.3s,baz=346,slow=12,SNR=7.0								
ASAR	**Alice Springs**	**26.62**	**165**	P		**P**	**06 46 06.3**		**-1.0**
CMAR	**Chiang Mai Arr**	**31.59**	**303**	P		**P**	**06 46 52.0**		**+0.3**
	2.6nm,0.3s,baz=102,slow=5.5,SNR=6.8

LTK	Loutraki	2.23	65	*e*Pb	Pb	07 29 37.7	-1.7
AGG	Agios Georgios	2.44	38	*e*PN	Pn	07 29 40.7	+2.2
AGG	Agios Georgios	2.44	38	*e*Pn	Pn	07 29 40.7	+2.2
VIL1	Vilia, Western	2.55	65	*e*PB	Pb	07 29 43.2	-1.6
VIL1	Vilia, Western	2.55	65	*e*Pb	Pb	07 29 43.2	-1.6
THL	Klokotos Trika	2.75	27	*e*PN	Pn	07 29 45.2	+2.4
THL	Klokotos Trika	2.75	27	*e*Pn	Pn	07 29 45.2	+2.4

IDC 10 07:37:08.4±3.0, 1°09.5′×132°66.6′E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/22, Error ellipse: s-maj=131.2km s-min=28.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.25**	**202**	P	P	07 41 23.7	+0.2
	0.1nm,0.3s,baz=42,slow=11,SNR=2.9						
FITZ				S	Sn	07 44 43.4	-4.5
	0.1nm,0.3s,baz=189,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**18.80**	**175**	P	P	07 41 29.8	+0.1
	0.1nm,0.3s,baz=353,slow=11,SNR=5.4						
WRA				S	Sn	07 44 57.8	-3.5
	0.1nm,0.3s,baz=344,slow=23,SNR=2.5						
ASAR	**Alice Springs**	**22.47**	**177**	P	P	07 42 08.9	-0.5
	0.3nm,0.4s,baz=356,slow=12,SNR=4.9						
CTA	**Charters Tower**	**23.09**	**146**	LR	LR	07 50 58.2	
	comp=Z,44nm,20.1s,baz=230,slow=36						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	07 47 49.7	+0.1
	0.2nm,0.7s,baz=110,slow=8.0,SNR=2.9						

IDC 10 07:49:20.3±2.3, 6°22.5′×130°43.6′E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=89.6km s-min=29.1km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.71**	**201**	Pn	Pn	07 52 21.1	-1.3
	0.3nm,0.3s,baz=32,slow=11,SNR=15						
FITZ				Sn	Sn	07 54 23.4	-21
	0.8nm,0.3s,baz=147,slow=16,SNR=7.1						
WRA	**Warramunga Arr**	**14.16**	**165**	Pn	Pn	07 52 43.0	+0.7
	0.3nm,0.3s,baz=349,slow=13,SNR=4.2						
WRA				Sn	Sn	07 55 05.0	-15
	0.4nm,0.3s,baz=341,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.67**	**169**	P	Pn	07 53 28.4	+0.3
	0.1nm,0.3s,baz=347,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.81**	**326**	P	P	08 00 20.3	+0.1
	0.1nm,0.3s,baz=122,slow=7.4,SNR=4.7						

IDC 10 08:20:54.7±3.6, 0°31.5′×132°53.6′E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=208.4km s-min=27.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.59**	**175**	P	P	08 25 24.3	-0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**23.25**	**177**	P	P	08 26 04.2	+0.3
	0.9nm,0.8s,baz=357,slow=12,SNR=8.7						
MKAR	**Makanchi Array**	**64.18**	**324**	P	P	08 31 31.2	-0.1
	0.3nm,0.7s,baz=127,slow=7.5,SNR=4.4						

*ISCJB **10** 08:25:56.1±0.9, 8°.79N±0°.10×77°.69W±0°.05, h34km, mb4.0/9, Error ellipse: s-maj=14.9km s-min=5.9km az=161.7*
*CASC **10** 08:26:02.6±1.7, 8°.60N×78°.14W, h14km±507km, MD3.7*
*IDC **10** 08:26:03.2±2.3, 8°.97N×77°.96W, h85km±26km, mb3.7/9, mb1 3.9/12, mb1mx3.7/22, mbtmp3.7/12, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=35.2km s-min=14.6km az=34.0*

ISC 10 08:25:56.1±0.6, 8°.63N±0°.08×77°.71W±0°.06, h34km, n28, σ1 8.76/30, mb3.9/9, 2C-1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.17**	**284**	↑*i*P	**Pn**	**08 26 32.2**	**+2.4**
BCIP				*i*S	**Sn**	**08 26 55.4**	**-0.2**
PINA	**Piqa, Costa Ab**	**2.41**	**285**	*i*P	**Pn**	**08 26 35.7**	**+2.6**
PINA				*i*S	**Sn**	**08 27 01.3**	**-0.1**
BRU2	**Volcan**	**4.93**	**272**	*e*P	**Pn**	**08 27 10.8**	**+2.8**
BRU2				*i*S	**Sn**	**08 28 03.6**	**-0.3**
ROSC	**El Rosal**	**5.03**	**138**	P	**Pb**	**08 27 22.0**	**-1.7**
	2.5nm,0.3s,baz=104,slow=23,SNR=5.6						
ROSC				S	**Sb**	**08 28 25.2**	**+1.3**
	7.1nm,0.3s,baz=76,slow=17,SNR=4.1						
BUS	**Buena Vista**	**6.05**	**279**	↓*e*P	**Pn**	**08 27 26.0**	**+2.4**
URSC	**Urasca**	**6.11**	**282**	*e*P	**Pn**	**08 27 26.4**	**+2.2**
URSC				*e*S	**sPb**	**08 27 50.5**	**-0.9**
SJS	**Escuela Geolog**	**6.40**	**282**	*e*P	Pn	08 27 31.6	+3.4
QCR	**Quepos**	**6.43**	**278**	↑*e*P	**Pn**	**08 27 31.0**	**+2.6**
JTS	**JuntasAbangare**	**7.34**	**284**	P	**Pn**	**08 27 43.9**	**+3.0**
	7.1nm,0.3s,baz=76,slow=7.0,SNR=42						
PCJ	**Portland Cotta**	**9.07**	**3**	*i*P	**Pn**	**08 28 05.4**	**+0.7**
YHJ	**Yallahs**	**9.28**	**7**	*e*P	**Pn**	**08 28 09.3**	**+1.6**
HOJ	**Hope**	**9.37**	**6**	*i*P	**Pn**	**08 28 11.8**	**+3.0**
STH	**Stony Hill**	**9.43**	**5**	*e*P	**Pn**	**08 28 10.3**	**+0.6**
GWJ	**Greenwich**	**9.44**	**6**	*i*P	**Pn**	**08 28 10.6**	**+0.7**
BBJ	**Bamboo Saint A**	**9.71**	**2**	*i*P	**Pn**	**08 28 14.3**	**+0.8**
PTP	**Ponta Puerca**	**15.14**	**50**	*e*P	x	08 27 13.2	
PTP				*e*S	x	08 28 08.5	
ATAH	**Atahualpa**	**15.67**	**183**	LR	LR	08 35 36.4	
	comp=Z,46nm,20.9s,baz=190,slow=36						
CMIG	**Matias Romero**	**18.73**	**298**	P	**P**	**08 30 09.2**	**-2.9**
	0.1nm,0.3s,baz=120,slow=8.1,SNR=3.0						
TXAR	**Lajitas Array**	**31.90**	**314**	P	**P**	**08 32 17.8**	**-0.9**
	0.4nm,0.7s,baz=138,slow=9.9,SNR=7.3						
PDAR	**Pinedale Array**	**44.00**	**326**	P	**P**	**08 33 59.1**	**-1.5**
	0.5nm,0.6s,baz=134,slow=12,SNR=3.4						
SCHQ	**Schefferville**	**46.89**	**9**	P	**P**	**08 34 22.9**	**-0.1**
	3.6nm,0.6s,baz=208,slow=8.4,SNR=13						
YKA	**Yellowknife Ar**	**60.06**	**341**	P	**P**	**08 35 57.8**	**-1.6**
	1.5nm,0.6s,baz=130,slow=7.3,SNR=32						
ILAR	**Eielson Array**	**73.42**	**335**	P	**P**	**08 37 23.6**	**-1.1**
	0.5nm,0.6s,baz=110,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**77.83**	**78**	P	**P**	**08 37 52.6**	**+1.8**
	0.3nm,0.6s,baz=283,slow=6.7,SNR=4.5						
GERES	**GERESS Array B**	**84.50**	**42**	P	**P**	**08 38 26.2**	**+0.4**
	0.8nm,0.9s,baz=243,slow=1.5,SNR=4.1						
ARCES	**ARCESS Array B**	**86.56**	**20**	P	**P**	**08 38 35.6**	**+0.1**
	2.8nm,0.6s,baz=269,slow=3.9,SNR=19						
FINES	**FINESS Array B**	**89.00**	**28**	P	**P**	**08 38 47.7**	**+0.4**
	11nm,1.3s,baz=352,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**146.26**	**240**	PKPbc	**PKPbc**	**08 45 34.2**	**+0.2**
	0.4nm,0.5s,baz=116,slow=3.7,SNR=8.2						
ASAR				pPKPbc	pPKPbc	08 45 51.5	+6.4
	1.3nm,0.9s,baz=119,slow=3.8,SNR=6.2						

IDC 10 08:27:21.3±2.5, 0°10.5′×133°23.6′E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=167.3km s-min=20.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.75**	**177**	P	P	08 31 53.4	+0.3
	0.1nm,0.3s,baz=355,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.44**	**178**	P	P	08 32 32.6	+0.2
	1.4nm,0.8s,baz=355,slow=12,SNR=12						
STKA	**Stephens Creek**	**32.58**	**167**	P	P	08 33 54.2	-0.4
	1.4nm,0.6s,baz=326,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**64.42**	**324**	P	P	08 38 00.0	+0.5
	0.4nm,0.7s,baz=123,slow=7.4,SNR=6.7						
KURK	**Kurchatov**	**68.48**	**326**	P	P	08 38 24.9	-0.4
	0.4nm,0.6s,baz=123,slow=5.0,SNR=3.1						

*DDA **10** 08:37:26.9, 37°.91N×29°.24E, h2km, MD2.6*
*ISK **10** 08:37:26.5, 37°.82N×29°.41E, h8km, MD2.6*
*ISCJB **10** 08:37:27.9±0.5, 37°.89N±0°.03×29°.23E±0°.06, h23km±6km, Error ellipse: s-maj=7.6km s-min=4.3km az=8.1*
*CSEM **10** 08:37:27.0±0.3, 37°.89N×29°.27E, h5km, MD2.6, Error ellipse: s-maj=8.5km s-min=5.0km az=99.0*

ISC 10 08:37:27.6±1.1, 37°.88N±0°.03×29°.25E±0°.04, h20km±2km, n26, σ0 8.85/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**235**	*e*PG	**Pb**	**08 37 32.9**	**-0.5**
DENT				*e*SG	**Sb**	**08 37 38.5**	**+1.1**
DENT	**Denizli**	**0.22**	**235**	*e*Pg	**Pb**	**08 37 32.9**	**-0.5**
DENT				*e*Sg	**Sb**	**08 37 38.5**	**+1.1**
DNZL	**Cakiroluk**	**0.25**	**221**	*i*P	**Pb**	**08 37 33.3**	**-0.6**
DNZL				*i*S	**Sb**	**08 37 37.3**	**-0.9**
DNZL	**Cakiroluk**	**0.25**	**221**	*i*P	**Pb**	**08 37 33.3**	**-0.6**
DNZL				*i*S	**Sb**	**08 37 37.3**	**-0.9**
KHL	**Karahalli**	**0.49**	**25**	*e*PG	**Pb**	**08 37 37.2**	**-0.4**
KHL				*e*SG	**Sb**	**08 37 44.9**	**+0.5**
KHL	**Karahalli**	**0.49**	**25**	*e*Pg	**Pb**	**08 37 37.2**	**-0.4**
KHL				*e*Sg	**Sb**	**08 37 44.9**	**+0.5**
KHAL	**Karahalli**	**0.53**	**21**	*i*P	**Pb**	**08 37 37.2**	**-1.1**
KHAL				*i*S	**Sb**	**08 37 45.3**	**-0.2**
KHAL	**Karahalli**	**0.53**	**21**	*i*P	**Pb**	**08 37 37.2**	**-1.1**
KHAL				*i*S	**Sb**	**08 37 45.3**	**-0.2**
GOLH	**Golhisar**	**0.69**	**159**	*i*P	**Pb**	**08 37 40.9**	**-0.1**
GOLH				*i*S	**Sn**	**08 37 52.2**	**-0.2**
GOLH	**Golhisar**	**0.69**	**159**	*i*P	**Pb**	**08 37 40.9**	**-0.1**
GOLH				*i*S	**Sn**	**08 37 52.2**	**-0.2**
KULA	**Kula-Manisa**	**0.79**	**324**	*e*PG	**Pn**	**08 37 43.9**	**+0.2**
KULA				*e*SG	**Sn**	**08 37 56.9**	**+2.0**
KULA	**Kula-Manisa**	**0.79**	**324**	*e*Pg	**Pn**	**08 37 43.9**	**+0.2**
KULA				*e*Sg	**Sn**	**08 37 56.9**	**+2.0**
MANT	**Manisa**	**0.82**	**318**	*i*P	**Pb**	**08 37 42.0**	**-1.4**
MANT				*i*S	**Sb**	**08 37 53.3**	**-0.8**
MANT	**Manisa**	**0.82**	**318**	*i*P	**Pb**	**08 37 42.0**	**-1.4**
MANT				*i*S	**Sb**	**08 37 53.3**	**-0.8**
YER	**Yerkesik**	**1.07**	**226**	*e*PN	**Pb**	**08 37 48.2**	**+0.7**
YER	**Yerkesik**	**1.07**	**226**	*e*Pn	**Pb**	**08 37 48.2**	**+0.7**
GDZ	**Gediz**	**1.22**	**8**	*i*P	**Pb**	**08 37 50.2**	**+0.1**
GDZ				*i*S	**Sn**	**08 38 07.1**	**+1.5**
GDZ	**Gediz**	**1.22**	**8**	*i*P	**Pb**	**08 37 50.2**	**+0.1**
GDZ				*i*S	**Sn**	**08 38 07.1**	**+1.5**
SHUT	**Suhut-Afyon**	**1.22**	**56**	*e*PN	**Pn**	**08 37 49.1**	**-0.6**
SHUT	**Suhut-Afyon**	**1.22**	**56**	*e*Pn	**Pn**	**08 37 49.1**	**-0.6**
DEMI	**Demirci**	**1.24**	**340**	*i*P	**Pn**	**08 37 50.2**	**+0.3**
DEMI				*i*S	**Sn**	**08 38 05.2**	**-0.8**
DEMI	**Demirci**	**1.24**	**340**	*i*P	**Pn**	**08 37 50.2**	**+0.3**
DEMI				*i*S	**Sn**	**08 38 05.2**	**-0.8**
FETY	**Fethiye**	**1.25**	**186**	*e*PN	**Pn**	**08 37 49.5**	**-0.4**
FETY	**Fethiye**	**1.25**	**186**	*e*Pn	**Pn**	**08 37 49.6**	**-0.4**
ALT	**Altintas**	**1.35**	**30**	*e*PN	**Pb**	**08 37 52.3**	**0.0**
ALT	**Altintas**	**1.35**	**30**	*e*Pn	**Pb**	**08 37 52.3**	**0.0**

*ISCJB **10** 09:02:00.5±0.5, 3°.24S±0°.08×27°.98E±0°.10, h10km, mb4.1/11, MS3.1/2, Error ellipse: s-maj=14.6km s-min=11.0km az=21.0*
*IDC **10** 09:02:01.2±0.8, 3°.24S×28°.00E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/24, mbtmp4.2/12, ML4.6/1, MS3.2/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=21.8km s-min=17.4km az=99.0*
*NEIC **10** 09:02:02.4±0.5, 3°.26S×28°.03E, h10km, mb3.8/2, Error ellipse: s-maj=12.4km s-min=10.2km az=127.0*

ISC 10 09:02:02.9±0.8, 3°.3S±0°.1×27°.83E±0°.09, h10km, n28, σ1 8.12/27, mb4.2/11, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.65**	**77**	*e*Pn	Pn	09 04 16.7	-5.5
	3.2nm,0.4s						
KMBO				*e*Sn	Sn	09 05 52.9	-18
MSKU	**Masuku**	**14.29**	**276**	Pn	**Pn**	**09 05 25.7**	**+0.1**
	2.9nm,0.3s,baz=312,slow=22,SNR=4.2						
MSKU				Sn	**Sn**	**09 08 02.5**	**-1.8**
	2.6nm,0.3s,baz=322,slow=21,SNR=2.0						
MSKU				Lg	Lg	09 09 39.0	
	baz=30,slow=20,SNR=2.0						
MSKU	**Masuku**	**14.29**	**276**	Pn	**Pn**	**09 05 25.7**	**+0.1**
MSKU				Sn	**Sn**	**09 08 02.5**	**-1.8**
MSKU				Lg	Lg	09 09 39.0	
TSUM	**Tsumeb**	**18.74**	**212**	*e*P	**Pn**	**09 06 22.5**	**-0.1**
	3.2nm,0.7s						
TSUM				*e*S	Sn	09 09 34.8	-18
LBTB	**Lobatse**	**21.73**	**185**	P	**P**	**09 06 55.4**	**+0.8**
	2.9nm,0.7s,baz=52,slow=11,SNR=4.7						
LBTB				Lg	Lg	09 13 16.1	
	2.9nm,0.8s,baz=123,slow=17,SNR=2.5						
LBTB	**Lobatse**	**21.73**	**185**	P	**P**	**09 06 55.4**	**+0.8**
LBTB				Lg	Lg	09 13 16.1	
BOSA	**Boshof**	**25.33**	**185**	P	**P**	**09 07 29.0**	**-1.1**
	5.1nm,1.0s,baz=37,slow=9.7,SNR=4.5						
BOSA				LR	LR	09 18 02.2	
	comp=Z,42nm,20.0s,baz=172,slow=38						
BOSA	**Boshof**	**25.33**	**185**	P	**P**	**09 07 29.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.64**	**303**	P	**P**	**09 08 19.1**	**+1.4**
	1.4nm,0.5s,baz=109,slow=8.1,SNR=35						
TORD				LR	LR	09 20 32.4	
	comp=Z,56nm,19.5s,baz=155,slow=36						
TORD	**Torodi Ar. Bea**	**30.64**	**303**	P	**P**	**09 08 19.1**	**+1.4**
DBIC	**Dimbokro**	**34.09**	**287**	P	**P**	**09 08 49.3**	**+1.3**
	1.7nm,0.5s,baz=121,slow=2.9,SNR=4.4						
DBIC	**Dimbokro**	**34.09**	**287**	P	**P**	**09 08 49.3**	**+1.3**
BR131	**Keskin Array S**	**43.11**	**7**	*e*P	**P**	**09 10 03.6**	**+0.1**
	2.3nm,0.8s						
BRTR	**Keskin Array B**	**43.11**	**7**	P	**P**	**09 10 03.8**	**+0.3**
	2.7nm,0.7s,baz=181,slow=9.6,SNR=18						
BRTR	**Keskin Array B**	**43.11**	**7**	P	**P**	**09 10 03.8**	**+0.3**
GERES	**GERESS Array B**	**53.34**	**348**	P	**P**	**09 11 22.3**	**-0.1**
	0.5nm,0.6s,baz=170,slow=8.1,SNR=5.7						
GERES	**GERESS Array B**	**53.34**	**348**	P	**P**	**09 11 22.3**	**-0.1**
NOA	**NORSAR Array B**	**65.40**	**351**	P	**P**	**09 12 45.8**	**+0.2**
	2.5nm,0.9s,baz=166,slow=6.1,SNR=2.9						
NOA	**NORSAR Array B**	**65.40**	**351**	P	**P**	**09 12 45.8**	**+0.2**
MAW	**Mawson**	**68.56**	**166**	P	P	09 13 06.5	+1.1
	7.3nm,0.9s,baz=264,slow=10,SNR=4.8						
MAW	**Mawson**	**68.56**	**166**	P	P	09 13 06.5	+1.1
MK31	**Makanchi Array**	**69.05**	**37**	*e*P	**P**	**09 13 07.5**	**-1.5**
MKAR	**Makanchi Array**	**69.05**	**37**	P	**P**	**09 13 07.8**	**-1.2**
	1.9nm,0.7s,baz=244,slow=5.6,SNR=23						
MKAR	**Makanchi Array**	**69.05**	**37**	P	**P**	**09 13 07.8**	**-1.2**
KURK	**Kurchatov**	**69.05**	**32**	P	**P**	**09 13 07.7**	**-1.1**
	3.0nm,0.7s,baz=241,slow=6.6,SNR=14						
KURK	**Kurchatov**	**69.05**	**32**	P	**P**	**09 13 07.7**	**-1.1**
ZALV	**Zalesovo Beam**	**73.98**	**31**	P	**P**	**09 13 37.0**	**-1.5**
	1.1nm,0.8s,baz=245,slow=6.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**73.98**	**31**	P	**P**	**09 13 37.0**	**-1.5**

*IDC **10** 09:05:16.5±0.5, 0°.41N×125°.91E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, ML3.8/1, MS3.7/4, Ms1 3.8/4, ms1mx3.1/36, Error ellipse: s-maj=32.2km s-min=11.8km az=82.0*
*ISCJB **10** 09:05:22.7±2.7, 0°.43N±0°.07×126°.0E±0°.1, h61km±26km, mb4.5/21, Error ellipse: s-maj=22.1km s-min=9.7km az=165.9*
*DJA **10** 09:05:22, 0°.56N×126°.17E, h20km, MLv4.6/6*
*NEIC **10** 09:05:24.4±1.6, 0°.43N×126°.09E, h59km±15km, mb4.6/4, Error ellipse: s-maj=14.4km s-min=6.6km az=75.0*

ISC 10 09:05:24.9±2.5, 0°.44N±0°.08×126°.1E±0°.2, h62km±23km, n53, σ0 8.82/57, mb4.4/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.33**	**229**	Pn	**Pn**	**09 07 23.7**	**+0.7**
	4.4nm,0.3s,baz=61,slow=4.1,SNR=8.2						
KAPI	**Kappang**	**8.33**	**229**	*e*Pn	**Pn**	**09 07 23.4**	**+0.3**
	32nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.43**	**181**	P	**P**	**09 09 34.8**	**-0.6**
	0.2nm,0.3s,baz=14,slow=9.9,SNR=6.7						
FITZ	**Fitzroy Crossi**	**18.43**	**181**	*e*P	**P**	**09 09 35.1**	**-0.3**
WRAB	**Tennant Creek**	**21.80**	**159**	*e*P	**P**	**09 10 10.8**	**-1.1**
	38nm,0.6s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**09 10 10.7**	**-1.3**
	48nm,0.7s,baz=338,slow=12,SNR=21						
WRA				PcP	**PcP**	**09 14 09.8**	**-0.6**
	0.6nm,0.5s,baz=326,slow=2.4,SNR=3.5						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**09 10 10.7**	**-1.3**
WRA				PcP	**PcP**	**09 14 09.8**	**-0.6**
WB2	**Warramunga Arr**	**21.81**	**159**	*e*P	**P**	**09 10 10.8**	**-1.2**
AS31	**Alice Springs**	**25.13**	**163**	*e*P	**P**	**09 10 44.8**	**+0.5**
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**09 10 43.8**	**-0.5**
	10nm,0.6s,baz=345,slow=12,SNR=145						
ASAR				PcP	**PcP**	**09 14 17.8**	**+0.4**
	0.9nm,0.6s,baz=354,slow=1.5,SNR=5.5						
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**09 10 43.8**	**-0.5**
ASAR				PcP	**PcP**	**09 14 17.8**	**+0.4**
JOW	**Kunigami**	**26.33**	**4**	P	**P**	**09 10 54.4**	**-0.7**
	42nm,0.5s,baz=144,slow=19,SNR=4.7						
JOW	**Kunigami**	**26.33**	**4**	P	**P**	**09 10 54.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**32.12**	**305**	LR	LR	09 24 11.9	
	comp=Z,56nm,18.8s,baz=20,slow=36						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**09 12 14.3**	**-0.1**
	7.7nm,0.8s,baz=335,slow=7.9,SNR=15						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**09 12 14.3**	**-0.1**
KSAR	**Wonju Array Be**	**36.86**	**2**	P	**P**	**09 12 27.9**	**+0.6**
KSRS	**Korea Array**	**36.87**	**2**	P	**P**	**09 12 27.9**	**+0.5**
	2.0nm,0.8s,baz=181,slow=9.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**37.64**	**16**	P	**P**	**09 12 32.8**	**-1.2**
	1.8nm,0.5s,baz=186,slow=8.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**37.64**	**16**	P	**P**	**09 12 32.8**	**-1.2**
USRK	**Ussuriysk Arra**	**43.89**	**6**	P	**P**	**09 13 26.1**	**+0.8**
	4.1nm,0.9s,baz=193,slow=6.1,SNR=7.4						
ASAJ	**Asahikawa**	**45.91**	**17**	P	**P**	**09 13 41.8**	**+0.4**
	28nm,1.2s,baz=194,slow=8.3,SNR=3.9						
ASAJ	**Asahikawa**	**45.91**	**17**	P	P	**09 13 41.8**	**+0.4**
SONM	**Songino Array**	**50.22**	**343**	P	**P**	**09 14 14.5**	**-0.2**
	2.0nm,0.8s,baz=155,slow=9.3,SNR=9.0						
SONM				PcP	**PcP**	**09 15 33.7**	**+0.6**
	0.9nm,0.8s,baz=140,slow=5.4,SNR=2.4						
SONM	**Songino Array**	**50.22**	**343**	P	P	**09 14 14.5**	**-0.2**
SONM				PcP	**PcP**	**09 15 33.7**	**+0.6**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**09 15 16.7**	**+0.7**
	1.7nm,0.5s,baz=198,slow=5.1,SNR=7.3						
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**09 15 16.7**	**+0.7**
RPZ	**Rata Peaks**	**59.48**	**144**	LR	LR	09 40 04.6	
	comp=Z,77nm,19.9s,baz=349,slow=35						
MK31	**Makanchi Array**	**59.91**	**327**	*e*P	**P**	**09 15 23.7**	**-0.8**
MKAR	**Makanchi Array**	**59.91**	**327**	P	**P**	**09 15 23.7**	**-0.8**
	1.6nm,0.3s,baz=121,slow=7.6,SNR=32						
MKAR				LR	LR	09 44 08.1	
	comp=Z,31nm,19.1s,baz=323,slow=39						
MKAR	**Makanchi Array**	**59.91**	**327**	P	**P**	**09 15 23.7**	**-0.8**
ZALV	**Zalesovo Beam**	**63.23**	**334**	P	**P**	**09 15 45.8**	**-0.9**
	0.7nm,0.4s,baz=148,slow=6.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**63.23**	**334**	P	**P**	**09 15 45.8**	**-0.9**
KURK	**Kurchatov**	**64.18**	**329**	P	**P**	**09 15 52.5**	**-0.5**
	5.1nm,0.7s,baz=126,slow=6.2,SNR=13						
KURK	**Kurchatov**	**64.18**	**329**	P	**P**	**09 15 52.5**	**-0.5**
	1.4nm,0.8s						
KKAR	**Karatay Array**	**65.22**	**318**	*e*P	**P**	**09 15 59.8**	**-0.2**
	1.8nm,0.6s						
ABKAR	**Akbulak array**	**74.30**	**322**	*e*P	**P**	**09 16 55.2**	**-0.4**
	1.2nm,0.6s						
MAW	**Mawson**	**80.47**	**200**	P	**P**	**09 17 29.6**	**-0.1**
	7.5nm,1.1s,baz=40,slow=7.9,SNR=5.8						
MAW	**Mawson**	**80.47**	**200**	P	P	**09 17 29.6**	**-0.1**
KDAK	**Kodiak Island**	**85.00**	**32**	P	**P**	**09 17 55.6**	**+2.2**
	3.5nm,0.8s,baz=356,slow=6.7,SNR=4.6						
KDAK	**Kodiak Island**	**85.00**	**32**	P	P	**09 17 55.6**	**+2.2**
ILAR	**Eielson Array**	**88.33**	**25**	P	**P**	**09 18 08.4**	**-1.2**
	0.2nm,0.4s,baz=242,slow=4.6,SNR=7.1						
ILAR	**Eielson Array**	**88.33**	**25**	P	P	**09 18 08.4**	**-1.2**
QSPA	**South Pole Qui**	**90.36**	**180**	P	**P**	**09 18 19.0**	**-0.3**
	1.3nm,0.7s,baz=206,slow=1.8,SNR=11						
QSPA	**South Pole Qui**	**90.36**	**180**	P	P	**09 18 19.0**	**-0.3**
ARCES	**ARCESS Array B**	**93.30**	**340**	P	**P**	**09 18 32.4**	**-0.2**
	5.9nm,1.0s,baz=27,slow=8.1,SNR=3.4						
ARCES				LR	LR	10 05 55.8	
	comp=Z,107nm,18.7s,baz=228,slow=39						
ARCES	**ARCESS Array B**	**93.30**	**340**	P	P	**09 18 32.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	**PKPdf**	**09 24 15.9**	**+0.1**
	0.5nm,0.7s,baz=82,slow=2.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	**PKPdf**	**09 24 15.9**	**+0.1**
TXAR	**Lajitas Array**	**124.08**	**54**	PKP	**PKPdf**	**09 24 18.2**	**+1.0**
	0.2nm,0.7s,baz=224,slow=2.5,SNR=3.1						
TXAR	**Lajitas Array**	**124.08**	**54**	PKP	**PKPdf**	**09 24 18.2**	**+1.0

OBIP				*e*S	Sn	09 17 01.7	-4.1
OBIP	**Obispado Ponce**	**1.53**	**236**⇑	*e*P	Pn	09 16 43.5	-2.6
OBIP				*e*S	Sn	09 17 01.7	-4.1
LRS	**Lares**	**1.61**	**248**⇑	*e*P	Pn	09 16 44.6	-2.6
LRS	**Lares**	**1.61**	**248**⇑	*e*P	Pn	09 16 44.6	-2.6
LRS	**Lares**	**1.61**	**248**⇑	*e*P	Pn	09 16 44.6	-2.6
AGPR	**Aguadilla, PR**	**1.79**	**256**⇑	*e*P	Pn	09 16 46.7	-3.0
AGPR	**Aguadilla, PR**	**1.79**	**256**	*e*S	Sn	09 17 08.1	-4.2
AGPR	**Aguadilla, PR**	**1.79**	**256**⇑	*e*P	Pn	09 16 46.7	-3.0
AGPR				*e*S	Sn	09 17 08.1	-4.2
AGPR	**Aguadilla, PR**	**1.79**	**256**⇑	*e*P	Pn	09 16 46.7	-3.0
AGPR				*e*S	Sn	09 17 08.9	-3.4
LSP	**Las Mesas**	**1.87**	**247**⇑	*e*P	Pn	09 16 48.2	-2.6
LSP	**Las Mesas**	**1.87**	**247**⇑	*e*P	Pn	09 16 48.2	-2.6
LSP	**Las Mesas**	**1.87**	**247**⇑	*e*P	Pn	09 16 48.2	-2.6

ISCJB ***10*** *09:18:09.7±0.7, 38°.96N±0°.04×123°.39W±0°.07, h10km, mb3.2/2, Error ellipse: s-maj=9.0km s-min=3.8km az=151.8*
NEIC ***10*** *09:18:11.2, 39°.03N×123°.34W, h7km, MW3.7(BRK), After NCEDC.*
NEIC Felt [III] at Ukiah. Also felt at Boonville.
IDC ***10*** *09:18:14.5±3.4, 39°.35N×123°.03W, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.3/25, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=58.6km s-min=18.3km az=36.0*
ISC 10 09:18:11.0±1.1, 38°.98N±0°.04×123°.39W±0°.07, h10km, n29, σ1§34/34, 1C-2D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
HOPS	**Hopland**	**0.25**	**86**	*e*Pg		**Pg**		**09 18 15.7**	**-0.3**
HOPS				*e*Sg		**Sg**		**09 18 19.2**	**-0.1**
KCPM	**Cahto Peak**	**0.72**	**348**	*e*Pg		**Pb**		**09 18 25.1**	**-0.7**
KCPM				*e*Sg		**Sb**		**09 18 35.5**	**-0.3**
KIPM	**Iron Peak**	**0.83**	**355**	*e*Pg		**Pb**		**09 18 26.6**	**-1.0**
KIPM				*e*Sg		**Sb**		**09 18 38.8**	**-0.2**
MCCM	**Marconi Confer**	**0.92**	**154**	*e*Pg		**Pb**		**09 18 28.2**	**-0.8**
OHCM	**Honcut**	**1.52**	**76**	*e*Pn		**Pn**		**09 18 36.0**	**-2.2**
SAC	**San Andreas**	**1.59**	**151**	*e*Pn		**Pn**		**09 18 37.9**	**-1.2**
WDC	**Whiskeytown Da**	**1.73**	**22**	*e*Pn		**Pn**		**09 18 39.8**	**-1.2**
KHMM	**Horse Mountain**	**1.91**	**352**	*e*Pn		**Pn**		**09 18 42.8**	**-1.0**
CMB	**Columbia Colle**	**2.54**	**111**	*e*Pn		**Pn**		**09 18 51.8**	**-0.5**
CMB				*e*Sn		**Sn**		**09 19 21.7**	**-1.5**
SAO	**San Andreas Ge**	**2.69**	**145**	*e*Pn		**Pn**		**09 18 52.5**	**-1.9**
YBH	**Yreka Blue Hor**	**2.80**	**10**	*e*Pn		**Pn**		**09 18 55.9**	**0.0**
WCN	**Washoe City**	**2.84**	**82**	*e*Pn		**Pn**		**09 18 57.1**	**+0.5**
WCN	**Washoe City** baz=2.8	**2.84**	**82**	⇓P		**Pn**		**09 18 56.9**	**+0.3**
HUMO	**Hull Mountain**	**3.64**	**5**	*e*Pn		**Pn**		**09 19 07.2**	**-0.2**
MOD	**Modoc**	**3.75**	**38**	*e*Pn		**Pn**		**09 19 08.9**	**-0.1**
KEBM	**Edson Butte**	**3.96**	**350**	*e*Pn		**Pn**		**09 19 11.7**	**-0.1**
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=276,slow=14,SNR=9.8	**4.01**	**96**	Pn		**Pn**		**09 19 13.7**	**+1.0**
NVAR	1.3nm,0.3s,baz=269,slow=18,SNR=25			Pg		**Pb**		**09 19 21.1**	**-0.8**
NVAR	1.1nm,0.3s,baz=304,slow=16,SNR=4.6			Lg		Lg		09 20 12.8	
NVAR	**Mina Array Bea**	**4.01**	**96**	Pn		**Pn**		**09 19 13.7**	**+1.0**
NVAR				Pg		**Pb**		**09 19 21.1**	**-0.8**
NVAR				Lg		Lg		09 20 12.8	
MTUM	**Tungsten Hills**	**4.13**	**112**	*e*Pn		Pn		09 19 16.9	+2.6
VES	**Vestal, Richgr** baz=4.6	**4.64**	**131**	⇓P		**Pn**		**09 19 21.1**	**0.0**
WVOR	**Wild Horse Val**	**5.00**	**45**	*e*Pn		**Pn**		**09 19 25.1**	**-1.0**
ISA	**Isabella** 9.6nm,0.6s	**5.13**	**129**	*e*Pn		**Pn**		**09 19 28.2**	**+0.4**
ISA	**Isabella** baz=5.1	**5.13**	**129**	⇑P		**Pn**		**09 19 28.6**	**+0.7**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=294,slow=9.4,SNR=3.9	**18.91**	**115**	P		**Pn**		**09 22 35.0**	**+2.4**
TXAR	**Lajitas Array**	**18.91**	**115**	P		**Pn**		**09 22 35.0**	**+2.4**
ULM	**Lac du Bonnet** 2.0nm,0.7s,baz=264,slow=11,SNR=4.2	**22.46**	**51**	P		**P**		**09 23 08.3**	**-1.8**
ULM	**Lac du Bonnet**	**22.46**	**51**	P		**P**		**09 23 08.3**	**-1.8**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=193,slow=9.2,SNR=2.9	**24.15**	**10**	P		**P**		**09 23 29.5**	**+2.7**
YKA	**Yellowknife Ar**	**24.15**	**10**	P		**P**		**09 23 29.6**	**+2.7**

TRN ***10*** *09:25:08.9, 18°.75N×64°.49W, h34km, MD2.2(RSPR)*
RSPR 10 09:25:10.0, 18°.71N×64°.35W, h47km±1km, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ABV	**Anegada**	**0.03**	**40**⇑	*e*P		Pn		09 25 16.7	-0.6
ABV				*e*S		Sn		09 25 21.3	-1.1
ABV	**Anegada**	**0.03**	**40**⇑	*e*P		Pn		09 25 16.7	-0.6
ABV				*e*S		Sn		09 25 21.3	-1.1
TBVI	**Tortola**	**0.38**	**221**⇓	*e*P		Pn		09 25 19.1	-0.6
TBVI				*e*S		Sn		09 25 25.9	-0.6
TBVI	**Tortola**	**0.38**	**221**⇓	*e*P		Pn		09 25 19.6	-0.1
TBVI				*e*S		Sn		09 25 25.9	-0.6
STVI	**Saint Thomas**	**0.67**	**238**⇑	*e*P		Pn		09 25 22.3	-1.0
STVI	**Saint Thomas**	**0.67**	**238**⇑	*e*P		Pn		09 25 22.3	-1.0
STVI				*e*S		Sn		09 25 32.1	-0.6
MTP	**Monte Pirata**	**1.29**	**242**⇑	*e*P		Pn		09 25 30.7	-0.9
MTP	**Monte Pirata**	**1.29**	**242**⇑	*e*P		Pn		09 25 30.7	-0.9
MTP				*e*S		Sn		09 25 46.6	-1.2

IDC 10 09:29:22.5±1.8, 1°.70N×127°.05E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/26, Error ellipse: s-maj=157.6km s-min=21.9km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=341,slow=11,SNR=8.6	**22.67**	**162**	P		P		09 34 26.1	+0.4
ASAR	**Alice Springs** 0.4nm,0.3s,baz=344,slow=7.8,SNR=17	**26.09**	**166**	P		P		09 34 57.9	-0.3
STKA	**Stephens Creek** 1.6nm,0.4s,baz=350,slow=8.3,SNR=12	**36.14**	**159**	P		P		09 36 26.4	-0.2
MJAR	**Matsushiro Arr** comp=Z,70nm,18.1s,baz=30,slow=36	**36.17**	**15**	LR		LR		09 50 55.4	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=116,slow=7.9,SNR=12	**59.39**	**326**	P		P		09 39 26.9	0.0

IDC 10 09:30:11.4±1.9, 23°.69S×179°.83E, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.0/5, Error ellipse: s-maj=144.1km s-min=23.5km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek** 1.4nm,0.4s,baz=94,slow=10,SNR=7.2	**34.66**	**248**	P		P		09 37 02.8	+0.1
ASAR	**Alice Springs** 4.5nm,0.9s,baz=94,slow=9.3,SNR=26	**41.92**	**260**	P		P		09 38 03.6	-0.5
WRA	**Warramunga Arr** 3.2nm,0.6s,baz=102,slow=8.1,SNR=13	**42.27**	**266**	P		P		09 38 07.0	+0.1
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=228,slow=9.4,SNR=3.3	**84.70**	**44**	P		P		09 42 48.1	+0.5
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=211,slow=6.9,SNR=2.7	**90.45**	**58**	P		P		09 43 14.7	-0.6

ISK ***10*** *09:30:27.7, 38°.10N×37°.81E, h5km, MD2.7*
ISCJB ***10*** *09:30:28.2±0.6, 38°.02N±0°.04×37°.87E±0°.04, h9km±5km, Error ellipse: s-maj=7.8km s-min=4.5km az=150.9*
CSEM ***10*** *09:30:28.4±0.1, 38°.06N×37°.85E, h10km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.5km az=156.0*
DDA ***10*** *09:30:28.3, 38°.04N×37°.88E, h7km, MD2.9*
ISC 10 09:30:27.9±1.1, 38°.01N±0°.04×37°.85E±0°.03, h13km±8km, n23, σ0§80/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AKCD	**Akcadag**	**0.29**	**11**	*i* P		**Pg**		**09 30 34.1**	**0.0**
AKCD				*i* S		**Sg**		**09 30 38.5**	**+0.2**
AKCD	**Akcadag**	**0.29**	**11**	*i* P		**Pg**		**09 30 34.1**	**0.0**
AKCD				*i* S		**Sg**		**09 30 38.5**	**+0.2**
MALT	**Malatya**	**0.55**	**56**	*e*PG		**Pg**		**09 30 38.5**	**-0.2**
MALT	**Malatya**	**0.55**	**56**	*e*Pg		**Pg**		**09 30 38.5**	**-0.2**
MYA	**Malataya**	**0.56**	**55**	*e*PG		**Pg**		**09 30 38.4**	**-0.5**
MYA				*e*SG		**Sg**		**09 30 46.3**	**+0.1**
MYA	**Malataya**	**0.56**	**55**	*e*Pg		**Pg**		**09 30 38.4**	**-0.5**
MYA				*e*Sg		**Sg**		**09 30 46.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.90**	**237**	*e*PG		**Pg**		**09 30 45.7**	**+0.3**
KMRS				*e*SG		**Sn**		**09 30 59.5**	**+0.2**
KMRS	**Kahramanmaras**	**0.90**	**237**	*e*Pg		**Pg**		**09 30 45.7**	**+0.3**
KMRS				*e*Sg		**Sn**		**09 30 59.5**	**+0.2**
URFA	**Urfa**	**0.95**	**126**	*e*PG		**Pn**		**09 30 47.9**	**+0.8**
URFA	**Urfa**	**0.95**	**126**	*e*Pg		**Pn**		**09 30 47.9**	**+0.8**
ELZG	**Elazig**	**1.02**	**61**	*i* P		**Pb**		**09 30 47.0**	**-0.6**
ELZG				*i* S		**Sb**		**09 31 00.5**	**-0.4**
ELZG	**Elazig**	**1.02**	**61**	*i* P		**Pb**		**09 30 47.0**	**-0.6**
ELZG				*i* S		**Sb**		**09 31 00.5**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.21**	**72**	*e*PN		**Pg**		**09 30 51.4**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.21**	**72**	*e*Pn		**Pg**		**09 30 51.4**	**+0.2**
ANDN	**Andirin**	**1.27**	**251**	*i* P		Pn		09 30 46.1	-5.3
ANDN				*i* S		**Sb**		**09 31 04.1**	**-3.9**
PINB	**Pinarbasi**	**1.32**	**301**	*i* P		**Pn**		**09 30 52.7**	**+0.4**
PINB				*i* S		**Sb**		**09 31 09.8**	**+0.1**
PINB	**Pinarbasi**	**1.32**	**301**	*i* P		**Pn**		**09 30 52.7**	**+0.4**
PINB				*i* S		**Sb**		**09 31 09.8**	**+0.1**
PTK	**Pertek**	**1.50**	**53**	*e*PN		**Pn**		**09 30 55.5**	**+0.7**
PTK	**Pertek**	**1.50**	**53**	*e*Pn		**Pn**		**09 30 55.5**	**+0.7**
ILIC	**ilic-Erzincan**	**1.55**	**21**	*e*Pn		**Pn**		**09 30 55.9**	**+0.5**
ILIC				*e*SN		**Sn**		**09 31 15.7**	**+0.3**
ILIC	**ilic-Erzincan**	**1.55**	**21**	*e*Pn		**Pn**		**09 30 55.9**	**+0.5**
ILIC				*e*Sn		**Sn**		**09 31 15.7**	**+0.3**
KOZT	**Kozan**	**1.69**	**252**	*e*PN		**Pb**		**09 30 58.9**	**+0.1**
KOZT	**Kozan**	**1.69**	**252**	*e*Pn		**Pb**		**09 30 58.9**	**+0.1**

DDA ***10*** *10:00:40.2, 39°.81N×39°.99E, h7km, MD2.7*
CSEM ***10*** *10:00:40.6±0.3, 39°.90N×39°.99E, h2km, MD2.7, Error ellipse: s-maj=7.3km s-min=4.8km az=177.0*
ISK ***10*** *10:00:40.6, 39°.99N×40°.01E, h13km, MD2.5*
ISC 10 10:00:41.3±1.1, 39°.95N±0°.03×39°.98E±0°.03, h4km±11km, n14, σ0§87/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KOPT	**Kop Dagi**	**0.41**	**80**	*i* P		**Pg**		**10 00 48.6**	**-0.6**
KOPT				*i* S		**Sg**		**10 00 55.8**	**+1.2**
KOPT	**Kop Dagi**	**0.41**	**80**	*i* P		**Pg**		**10 00 48.6**	**-0.6**
KOPT				*i* S		**Sg**		**10 00 55.8**	**+1.2**
ERZN	**Erzincan**	**0.41**	**208**	*e*PG		**Pg**		**10 00 49.9**	**+0.6**
ERZN				*e*SG		**Sb**		**10 00 57.0**	**-0.9**
EZC	**Erzincan**	**0.52**	**248**	*e*PG		**Pb**		**10 00 52.5**	**-0.5**
EZC				*e*SG		**Sb**		**10 01 00.2**	**-0.7**
EZC	**Erzincan**	**0.52**	**248**	*e*Pg		**Pg**		**10 00 49.9**	**-1.4**
EZC				*e*Sg		**Sg**		**10 00 57.0**	**-1.1**
KELT	**Kelkit**	**0.59**	**290**	*i* P		**Pg**		**10 00 53.0**	**+0.4**
KELT				*i* S		**Sg**		**10 01 00.6**	**+1.3**
KELT	**Kelkit**	**0.59**	**290**	*i* P		**Pg**		**10 00 53.0**	**+0.4**
KELT				*i* S		**Sg**		**10 01 01.6**	**+1.3**
GUMT	**Gumushane**	**0.64**	**323**	*e*PG		**Pg**		**10 00 53.3**	**-0.2**
GUMT				*e*SG		**Sg**		**10 01 02.1**	**+0.3**
GUMT	**Gumushane**	**0.64**	**323**	*e*Pg		**Pg**		**10 00 53.3**	**-0.2**
GUMT				*e*Sg		**Sg**		**10 01 02.1**	**+0.3**
MACK	**Trabzon**	**1.00**	**351**	*i* P		**Sg**		**10 01 12.5**	**-1.1**
PTK	**Pertek**	**1.15**	**203**	*e*PN		**Pg**		**10 01 03.4**	**+0.1**
PTK	**Pertek**	**1.15**	**203**	*e*Pn		**Pg**		**10 01 03.4**	**+0.1**
SUSE	**Susehri**	**1.39**	**281**	*i* P		**Pn**		**10 01 07.7**	**+0.2**
SUSE				*i* S		**Sn**		**10 01 27.2**	**+0.9**
SUSE	**Susehri**	**1.39**	**281**	*i* P		**Pn**		**10 01 07.7**	**+0.2**
SUSE				*i* S		**Sn**		**10 01 27.2**	**+0.9**

DDA ***10*** *10:01:30.8, 37°.22N×28°.06E, h7km, MD2.7*
ISK ***10*** *10:01:30.9, 37°.28N×28°.18E, h5km, MD2.5*
ISCJB ***10*** *10:01:31.2±0.5, 37°.31N±0°.03×28°.23E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=3.6km az=32.7*
CSEM ***10*** *10:01:31.5±0.3, 37°.30N×28°.21E, h2km, MD2.5, Error ellipse: s-maj=6.2km s-min=5.0km az=38.0, Mining explosion.*
ISC 10 10:01:31.3±0.8, 37°.31N±0°.03×28°.16E±0°.03, h0km, n22, σ1§31/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
YER	**Yerkesik**	**0.20**	**151**	*e*PG		**Pg**		**10 01 34.9**	**-0.1**
YER				*e*SG		**Sg**		**10 01 37.8**	**+0.3**
YER	**Yerkesik**	**0.20**	**151**	*e*Pg		**Pg**		**10 01 34.9**	**-0.1**
YER				*e*Sg		**Sg**		**10 01 37.8**	**+0.3**
TURN	**Turunc**	**0.56**	**141**	*i* P		**Pg**		**10 01 40.4**	**-1.5**
TURN				*i* S		**Sg**		**10 01 47.5**	**-1.7**
TURN	**Turunc**	**0.56**	**141**	*i* P		**Pg**		**10 01 40.4**	**-1.5**
TURN				*i* S		**Sg**		**10 01 47.5**	**-1.7**
BODT	**Bodrum**	**0.72**	**251**	*e*PG		**Pb**		**10 01 46.3**	**-0.4**
BODT				*e*SG		**Sb**		**10 01 57.2**	**+0.1**
BODT	**Bodrum**	**0.72**	**251**	*e*Pg		**Pb**		**10 01 46.3**	**-0.4**
BODT				*e*Sg		**Sb**		**10 01 57.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.84**	**298**	*i* P		**Pg**		**10 01 46.5**	**-0.8**
GCAM				*i* S		**Sb**		**10 02 00.8**	**+0.3**
GCAM	**G?zelcaml?**	**0.84**	**298**	*i* P		**Pg**		**10 01 46.5**	**-0.8**
GCAM				*i* S		**Sb**		**10 02 00.8**	**+0.3**
FETY	**Fethiye**	**1.00**	**132**	*e*PG		**Pg**		**10 01 50.6**	**+0.2**
FETY				*e*SG		**Sb**		**10 02 05.2**	**+0.1**
FETY	**Fethiye**	**1.00**	**132**	*e*Pg		**Pg**		**10 01 50.6**	**+0.2**
GOLH	**Golhisar**	**1.12**	**93**	*i* P		**Pg**		**10 01 51.2**	**-1.5**
GOLH				*i* S		**Sg**		**10 02 06.0**	**-1.2**
GOLH	**Golhisar**	**1.12**	**93**	*i* P		**Pg**		**10 01 51.2**	**-1.5**
GOLH				*i* S		**Sg**		**10 02 06.0**	**-1.2**
MANT	**Manisa**	**1.22**	**15**	*i* P		**Pg**		**10 01 55.4**	**+0.7**
MANT				*i* S		**Sn**		**10 02 15.8**	**+2.6**
MANT	**Manisa**	**1.22**	**15**	*i* P		**Pg**		**10 01 55.4**	**+0.7**
MANT				*i* S		**Sn**		**10 02 15.8**	**+2.6**
KULA	**Kula-Manisa**	**1.27**	**18**	*e*PN		**Pn**		**10 01 56.7**	**+0.3**
KULA	**Kula-Manisa**	**1.27**	**18**	*e*Pn		**Pn**		**10 01 56.7**	**+0.3**
KHAL	**Karahalli**	**1.50**	**44**	*i* P		**Pb**		**10 02 00.1**	**+0.1**
KHAL				*i* S		**Sg**		**10 02 16.8**	**-2.5**
KHAL	**Karahalli**	**1.50**	**44**	*i* P		**Pb**		**10 02 00.1**	**+0.1**
KHAL				*i* S		**Sg**		**10 02 16.8**	**-2.5**
ELL	**Elmali**	**1.50**	**111**	*e*PN		**Pb**		**10 02 00.1**	**0.0**
ELL	**Elmali**	**1.50**	**111**	*e*Pn		**Pb**		**10 02 00.1**	**0.0**
AKAS	**Kas**	**1.58**	**132**	*i* P		**Pn**		**10 02 00.3**	**-0.3**
AKAS				*i* S		**Sg**		**10 02 24.6**	**+2.7**
AKAS	**Kas**	**1.58**	**132**	*i* P		**Pn**		**10 02 00.3**	**-0.3**
AKAS				*i* S		**Sg**		**10 02 24.6**	**+2.7**

IDC 10 10:15:14.9±3.0, 0°.66S×132°.91E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, MS3.4/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=163.4km s-min=26.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=11,SNR=6.0	**19.22**	**176**	P		P		10 19 40.6	-0.1
ASAR	**Alice Springs** 1.1nm,0.8s,baz=5.0,slow=11,SNR=6.9	**22.89**	**178**	P		P		10 20 20.5	+0.1
STKA	**Stephens Creek** comp=Z,67nm,19.0s,baz=38,slow=38	**32.12**	**166**	LR		LR		10 35 48.4	
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=102,slow=7.8,SNR=2.6	**64.69**	**324**	P		P		10 25 54.8	0.0

WEL 10 10:32:08.5±0.5, 36°.08S×178°.41E, h199km±7km, ML3.7/11, Error ellipse: s-maj=10.3km s-min=8.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PUZ	**Puketiti**	**1.99**	**184**	PN		Pn		10 32 46.8	0.0
PUZ				SN		Sn		10 33 15.8	-1.0
MWZ	**Matawai**	**2.36**	**197**	*e*PN		Pn		10 32 51.4	+0.7
MWZ				SN		Sn		10 33 23.8	0.0
URZ	**Urewera**	**2.41**	**205**	Pn		Pn		10 32 51.1	-0.2
URZ				*e*SN		Sn		10 33 25.3	+0.6
KNZ	**Kokohu**	**2.99**	**191**	PN		Pn		10 32 57.7	-0.1
RAHZ	**Arahi**	**3.02**	**200**	PN		Pn		10 32 58.5	+0.3
MHGZ	**Mahia Peninsul**	**3.09**	**187**	PN		Pn		10 32 59.5	+0.4
BKZ	**Black Stump Fm**	**3.44**	**206**	PN		Pn		10 33 03.6	+0.3
MCHZ	**McNeill Hill**	**3.62**	**202**	PN		Pn		10 33 05.6	+0.2
BHHZ	**Black Hill Sta**	**3.88**	**208**	PN		Pn		10 33 09.0	+0.3
PXZ	**Pawanui**	**4.13**	**197**	PN		Pn		10 33 10.8	-0.9
PXZ				SN		Sn		10 34 01.5	-0.1
BFZ	**Birch Farm**	**4.90**	**200**	*e*PN		Pn		10 33 20.7	-0.8
MRZ	**Mangatainoka R**	**5.09**	**205**	Pn		Pn		10 33 22.3	-1.5
MRZ				*e*SN		Sn		10 34 20.6	-2.8
HOWZ	**Holdsworth Sta**	**5.32**	**204**	PN		Pn		10 33 25.1	-1.8
OGWZ	**Otaki Gorge**	**5.37**	**207**	PN		Pn		10 33 25.7	-1.8
MTW	**Mount Morrison**	**5.56**	**203**	PN		Pn		10 33 28.0	-1.9
CAW	**Cannon Point**	**5.66**	**207**	*e*PN		Pn		10 33 28.9	-2.4
TUWZ	**Tuamarina**	**6.38**	**212**	*e*PN		Pn		10 33 38.3	-2.2
KHZ	**Kahutara**	**7.37**	**209**	PN		Pn		10 33 51.5	-1.8

ISCJB ***10*** *10:33:42.3±0.7, 36°.93N±0°.05×28°.24E±0°.04, h3km±6km, Error ellipse: s-maj=8.0km s-min=4.6km az=14.8*
CSEM ***10*** *10:33:42.6±0.4, 36°.96N×28°.24E, h8km, MD2.6, Error ellipse: s-maj=8.6km s-min=5.6km az=22.0*
ISK ***10*** *10:33:42.5, 36°.99N×28°.24E, h15km, MD2.6*
DDA ***10*** *10:33:43.1, 36°.98N×28°.19E, h7km, MD2.7*
ISC 10 10:33:42.6±1.0, 36°.96N±0°.04×28°.26E±0°.03, h9km±7km, n24, σ1§19/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
YER	**Yerkesik**	**0.18**	**7**	*e*PG		**Pg**		**10 33 46.6**	**+0.3**
YER				*e*SG		**Sg**		**10 33 49.7**	**+0.8**
YER	**Yerkesik**	**0.18**	**7**	*e*Pg		**Pg**		**10 33 46.7**	**+0.3**
YER				*e*Sg		**Sg**		**10 33 49.7**	**+0.8**
TURN	**Turunc**	**0.29**	**107**	*i* P		**Pg**		**10 33 47.3**	**-1.1**
TURN				*i* S		**Sg**		**10 33 50.7**	**-1.6**
TURN	**Turunc**	**0.29**	**107**	*i* P		**Pg**		**10 33 47.3**	**-1.1**
TURN				*i* S		**Sg**		**10 33 50.7**	**-1.6**
FETY	**Fethiye**	**0.74**	**116**	*e*PG		**Pb**		**10 33 57.8**	**+0.2**
FETY	**Fethiye**	**0.74**	**116**	*e*Pg		**Pb**		**10 33 57.8**	**+0.2**
BODT	**Bodrum**	**0.76**	**278**	*e*PG		**Pg**		**10 33 57.4**	**+0.1**
BODT				*e*SG		**Sb**		**10 34 08.3**	**-0.2**
BODT	**Bodrum**	**0.76**	**278**	*e*Pg		**Pg**		**10 33 57.4**	**+0.1**
BODT				*e*Sg		**Sb**		**10 34 08.3**	**-0.2**
DNZL	**Cakiroluk**	**0.96**	**41**	*i* P		**Pg**		**10 34 01.5**	**+0.4**
DNZL				*i* S		**Sn**		**10 34 16.2**	**-0.2**
DNZL	**Cakiroluk**	**0.96**	**41**	*i* P		**Pg**		**10 34 01.5**	**+0.4**
DNZL				*i* S		**Sn**		**10 34 16.2**	**-0.2**
GOLH	**Golhisar**	**1.08**	**75**	*i* P		**Pg**		**10 34 03.3**	**0.0**
GOLH				*i* S		**Sn**		**10 34 20.1**	**+1.0**
GOLH	**Golhisar**	**1.08**	**75**	*i* P		**Pg**		**10 34 03.3**	**0.0**
GCAM	**G?zelcaml?**	**1.10**	**313**	*i* P		**Pg**		**10 34 02.8**	**-0.9**
GCAM				*i* S		**Sn**		**10 34 19.2**	**-0.2**
GCAM	**G?zelcaml?**	**1.10**	**313**	*i* P		**Pg**		**10 34 02.8**	**-0.9**
GCAM				*i* S		**Sn**		**10 34 19.2**	**-0.2**
AKAS	**Kas**	**1.31**	**123**	*i* P		**Pg**		**10 34 08.8**	**+1.2**
AKAS				*i* S		**Sg**		**10 34 30.2**	**+5.7**
AKAS	**Kas**	**1.31**	**123**	*i* P		**Pg**		**10 34 08.8**	**+1.2**
KULA	**Kula-Manisa**	**1.58**	**12**	*e*PN		**Pn**		**10 34 10.4**	**-0.5**
KULA	**Kula-Manisa**	**1.58**	**12**	*e*Pn		**Pn**		**10 34 10.4**	**-0.5**
IZM	**Izmir**	**1.64**	**332**	*e*PN		**Pn**		**10 34 11.1**	**-0.5**
IZM	**Izmir**	**1.64**	**332**	*e*Pn		**Pn**		**10 34 11.1**	**-0.5**
KHL	**Karahalli**	**1.69**	**36**	*e*PN		**Pn**		**10 34 11.7**	**-0.6**
KHL	**Karahalli**	**1.69**	**36**	*e*Pn		**Pn**		**10 34 11.7**	**-0.6**
KHAL	**Karahalli**	**1.72**	**34**	*i* P		**Pb**		**10 34 14.4**	**+0.1**
KHAL				*i* S		**Sb**		**10 34 35.7**	**-0.3**
KHAL	**Karahalli**	**1.72**	**34**	*i* P		**Pb**		**10 34 14.4**	**+0.1**
KHAL				*i* S		**Sb**		**10 34 35.7**	**-0.3**

IPEC ***10*** *10:37:53.8±0.3, 51°.55N×16°.21E, h0km, ML2.2/3, Error ellipse: s-maj=1.8km s-min=1.5km az=30.0*
ISCJB ***10*** *10:37:54.4±0.7, 51°.40N±0°.04×16°.06E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=3.1km az=21.6*
CSEM ***10*** *10:37:55.1±0.3, 51°.44N×16°.08E, h2km, ML3.3/10, Error ellipse: s-maj=5.8km s-min=3.

MOA				⇑*i*	Sg		**Sg**	**10 39 57.1**	**-0.8**
	comp=Z,9.9nm,0.4s								
MOA	**Molln**	**3.83**	**199**		**Pn**		**Pn**	**10 38 54.5**	**-0.6**
MOA					Sg		**Sg**	**10 39 57.1**	**-0.8**
	comp=Z,9.9nm,0.4s								
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PN			**Pg**	**10 39 08.4**	**-0.8**
STHS				*e*SN			**Sg**	**10 39 56.3**	**-3.1**

IDC 10 10:45:53.7±2.6, 0.°44S×132.°29E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=173.5km s-min=23.5km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.49**	**174**	P	Pn	10 50 23.2	-0.4
	0.2nm,0.3s,baz=353,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**23.15**	**176**	P	P	10 51 02.9	+1.1
	1.2nm,0.6s,baz=356,slow=9.6,SNR=17						
STKA	**Stephens Creek**	**32.49**	**165**	P	P	10 52 24.6	-1.5
	2.3nm,1.0s,baz=339,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**64.14**	**324**	P	P	10 56 30.2	+0.1
	0.2nm,0.6s,baz=121,slow=7.7,SNR=2.5						

GUC 10 10:47:34.5±0.4, 23.°02S×70.°80W, h25km±4km, MD3.5, ML3.1, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MECH	**Mejillones**	**0.33**	**105**	⇓*i* P	Pb	10 47 41.2	-0.8
MECH				*i* S	Sb	10 47 46.6	-0.5
MECH				AML	AML	10 47 52.7	
	comp=N,4μm,0.4s						
CEN1	**Los Morros**	**0.66**	**124**	⇑*e* P	Pb	10 47 47.2	-0.5
CEN1				⇓*e* P	Pb	10 47 47.2	-0.5
CEN1				*i* S	Sb	10 47 56.9	+0.3
ANCH	**Antofagasta**	**0.75**	**152**	*i* P	Pb	10 47 47.7	-1.3
ANCH				*i* S	Sb	10 47 57.9	-0.9
ANCH				AML	AML	10 48 00.7	
	comp=E,470nm,0.2s						
MACH	**Maria Elena**	**1.26**	**50**	*i* P	Pn	10 47 56.7	-0.2
MACH				*i* S	Sn	10 48 13.4	+0.1
LVC	**Limon Verde**	**1.79**	**77**	*e*P	Pn	10 48 05.4	+1.2
LVC				*i* S	Sb	10 48 28.8	-0.4
LVC				AML	AML	10 48 31.1	
	comp=N,155nm,0.4s						
PB09	**Plate Boundary**	**1.88**	**50**	*e*P	Pb	10 48 07.0	-1.5
PB09				*i* S	Sb	10 48 31.6	-0.2
PB09				AML	AML	10 48 35.7	
	comp=N,578nm,0.4s						
HMBC	**Humberstone**	**2.85**	**17**	AML	AML	10 49 10.5	
	comp=N,57nm,0.6s						
PSGC	**Pisagua**	**3.46**	**11**	AML	AML	10 49 36.1	
	comp=E,16nm,0.3s						
MNMC	**Minimini**	**4.03**	**16**	AML	AML	10 50 01.2	
	comp=N,30nm,0.5s						

IDC 10 10:54:58.8±1.0, 0.°70S×133.°77E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.9/19, mbtmp3.9/8, ML3.7/2, MS3.4/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=56.8km s-min=18.0km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.05**	**204**	P	P	10 59 22.3	-0.4
	0.1nm,0.3s,baz=40,slow=7.9,SNR=5.3						
FITZ				S	Sn	11 02 41.3	-16
	0.1nm,0.3s,baz=29,slow=7.0,SNR=2.6						
WRA	**Warramunga Arr**	**19.13**	**178**	P	P	10 59 23.4	-0.2
	0.4nm,0.3s,baz=356,slow=11,SNR=25						
WRA				S	Sn	11 02 49.9	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**22.83**	**180**	P	P	11 00 03.9	+0.2
	2.4nm,0.7s,baz=2.3,slow=12,SNR=29						
STKA	**Stephens Creek**	**31.88**	**167**	LR	LR	11 16 04.0	
	comp=Z,67nm,21.4s,baz=25,slow=40						
SONM	**Songino Array**	**53.90**	**337**	P	P	11 04 25.2	+1.1
	0.6nm,0.7s,baz=140,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**65.23**	**324**	P	P	11 05 42.1	-0.1
	1.9nm,0.7s,baz=114,slow=8.2,SNR=24						
ZALV	**Zalesovo Beam**	**67.77**	**331**	P	P	11 05 57.0	-1.3
	0.4nm,0.5s,baz=108,slow=9.5,SNR=3.5						
ILAR	**Eielson Array**	**86.08**	**25**	P	P	11 07 41.0	-0.3
	0.6nm,0.6s,baz=261,slow=4.7,SNR=13						
QSPA	**South Pole Qui**	**89.23**	**180**	P	P	11 07 56.8	+0.3
	0.5nm,0.6s,baz=15,slow=2.6,SNR=5.5						

IDC 10 10:59:39.4±3.8, 17.°00S×68.°94W, h183km±14km, mb3.6/3, mb1 3.8/4, mb1mx3.4/16, mbtmp3.7/4, Error ellipse: s-maj=83.2km s-min=28.5km az=23.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.05**	**47**	P	Pn	11 00 08.3	-0.3
	3.7nm,0.3s,baz=230,slow=7.6,SNR=72						
LPAZ				S	Sn	11 00 31.4	+0.2
	4.2nm,0.3s,baz=316,slow=22,SNR=8.4						
SIV	**San Ignacio**	**7.61**	**84**	P	Pn	11 01 27.4	-0.3
	5.1nm,0.3s,baz=283,slow=13,SNR=79						
ULM	**Lac du Bonnet**	**71.05**	**342**	P	P	11 10 36.6	-0.6
	1.5nm,0.4s,baz=147,slow=6.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**75.91**	**71**	P	P	11 11 06.4	+0.1
	0.5nm,0.4s,baz=256,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**86.96**	**341**	P	P	11 12 04.0	+0.7
	0.5nm,0.5s,baz=131,slow=4.8,SNR=9.6						

ISC 10 11:02:39.8±1.4, 35.°79N±0.°05×36.°5E±0.°1, h17km, n5, σ0s35/7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.39**	**309**	*i* P	**Pg**	**11 02 48.1**	**+0.3**
COBT	**Iskenderun**	**0.75**	**346**	*i* P	**Pb**	**11 02 54.1**	**-0.4**
COBT				*i* S	**Sn**	**11 03 06.7**	**-0.1**
KUZU	**Kuzuini**	**1.09**	**26**	*i* P	**Pb**	**11 03 00.1**	**-0.2**
KUZU				*i* S	**Sn**	**11 03 15.5**	**+0.3**
FKH	**Fakeheh**	**1.54**	**182**	*e*P	**Pb**	**11 03 07.7**	**-0.3**
HWQ	**Hawqa**	**1.57**	**196**	*e*P	**Pb**	**11 03 08.2**	**-0.2**

*CSEM **10** 11:17:18.7±0.6, 27.°03N×56.°04E, h2km, ML3.5/2, Error ellipse: s-maj=22.7km s-min=8.3km az=57.0*
*OMAN **10** 11:17:32.6±99.0, 26.°02N×55.°87E, h2km±15km, Error ellipse: s-maj=26.8km s-min=5.0km az=318.0*

ISC 10 11:17:20.5±5.0, 27.°0N±0.°3×56.°1E±0.°3, h14km, n11, σ0s52/12, 2C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.07**	**169**	⇑P	**Pb**	**11 17 40.2**	**-0.7**
	SNR=155						
BANOM	**Banah**	**1.07**	**169**	P	**Pb**	**11 17 40.2**	**-0.7**
	SNR=155						
BANOM				Sg	**Sb**	**11 17 55.1**	**+0.3**
HATD	**Hatta, Dubai**	**2.15**	**179**	Pn	**Pn**	**11 17 56.5**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.27**	**191**	Pn	**Pn**	**11 17 57.4**	**-0.2**
ASHO	**Ashiyiah**	**2.29**	**180**	P	**Pn**	**11 17 58.3**	**+0.4**
	SNR=7.8						
ASHO	**Ashiyiah**	**2.29**	**180**	Pn	**Pn**	**11 17 57.9**	**0.0**
	SNR=7.8						
ASHO	**Ashiyiah**	**2.29**	**180**	P	**Pn**	**11 17 58.3**	**+0.4**
	SNR=7.8						
ASUD	**Al Ashush, Dub**	**2.44**	**196**	P	**Pn**	**11 18 00.3**	**+0.4**
	SNR=10.0						
ASUD	**Al Ashush, Dub**	**2.44**	**196**	P	**Pn**	**11 18 00.3**	**+0.4**
	SNR=10.0						
ARQ	**Araqi**	**3.65**	**173**	⇑P	**Pn**	**11 18 17.0**	**+0.4**
ARQ	**Araqi**	**3.65**	**173**	P	**Pn**	**11 18 17.0**	**+0.4**

*NIED **10** 11:17:00, 41.°70N×144.°00E, h23km, Mw4.3 Best double couple: M0 2.71000×10^15 NP1: φ=83.00000°, δ=47.00000°, λ=-97.00000°. NP2: φ=273.00000°, δ=44.00000°, λ=-82.00000°.*
*ISCJB **10** 11:17:55.6±0.7, 41.°61N±0.°03×144.°03E±0.°06, h34km±6km, mb4.2/30, MS3.5/2, Error ellipse: s-maj=8.1km s-min=4.7km az=30.5*
*MOS **10** 11:17:56.5±0.8, 41.°60N×143.°88E, h41km, mb4.3/4, Error ellipse: s-maj=13.0km s-min=9.5km az=109.0*

*NEIC **10** 11:17:57.8±1.7, 41.°66N×143.°92E, h34km±12km, mb4.4/4, Error ellipse: s-maj=6.3km s-min=5.0km az=128.0*
*JMA **10** 11:17:57.0±0.2, 41.°70N×144.°03E, h46km±3km, M4.3*
*IDC **10** 11:17:57.9±2.9, 41.°62N×143.°88E, h34km±21km, mb3.8/19, mb1 4.0/22, mb1mx3.9/29, mbtmp3.8/22, ML3.1/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/41, Error ellipse: s-maj=16.1km s-min=13.4km az=139.0*

ISC 10 11:17:57.2±1.1, 41.°71N±0.°04×143.°95E±0.°05, h30km±7km, n113, σ0s89/137, mb4.2/30, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.67**	**297**	*e*P	**Pn**	**11 18 11.1**	**+0.5**
ERM				*e*		11 18 21.0	
ERM	**Erimo**	**0.67**	**297**	*e*Pg	**Pn**	**11 18 11.1**	**+0.5**
ERM				*e*Sg	**Sn**	**11 18 21.0**	**+1.0**
JEM	**Erimo**	**0.67**	**297**	P	**Pn**	**11 18 11.1**	**+0.5**
JEM				*e*S	**Sn**	**11 18 21.2**	**+1.2**
JCH	**Churui**	**1.00**	**334**	P	**Pb**	**11 18 15.4**	**-0.6**
JCH				*e*S	**Sb**	**11 18 29.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.06**	**303**	P	**Pb**	**11 18 17.1**	**+0.2**
JOB	**Onbets**	**1.19**	**356**	P	**Pb**	**11 18 18.2**	**-1.0**
JAK	**Akkeshi**	**1.40**	**23**	P	**Pn**	**11 18 20.5**	**-0.1**
JBT2	**Biratori 2**	**1.59**	**313**	P	**Pn**	**11 18 23.3**	**0.0**
JAR	**Ashorobuto**	**1.59**	**355**	P	**Pn**	**11 18 23.2**	**-0.1**
JAR				*e*S	**Sn**	**11 18 42.7**	**-0.1**
JFR	**Furan**	**1.77**	**326**	P	**Pn**	**11 18 25.1**	**-0.6**
JNK	**Nakash**	**1.96**	**17**	P	**Pn**	**11 18 28.1**	**-0.2**
JNK				*e*S	**Sn**	**11 18 50.4**	**-1.5**
ASAJ	**Asahikawa**	**2.60**	**338**	Pn	**Pn**	**11 18 38.6**	**+1.4**
	2.5nm,0.3s,baz=330,slow=24,SNR=39						
ASAJ				Pg	Pb	11 18 47.7	+4.6
	5.8nm,0.3s,baz=162,slow=17,SNR=15						
ASAJ				Sn	**Sb**	**11 19 11.9**	**-2.7**
	9.9nm,0.3s,baz=251,slow=29,SNR=6.1						
ASAJ				Lg	Lg	11 19 22.1	
	11nm,0.3s,baz=304,slow=15,SNR=5.5						
ASAJ				LR	LR	11 20 10.8	
	comp=Z,838nm,18.6s,baz=178,slow=50						
ASAJ	**Asahikawa**	**2.60**	**338**	P	**Pn**	**11 18 38.6**	**+1.4**
ASAJ						11 19 12.0	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,10.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,838nm,18.7s						
ASAJ	**Asahikawa**	**2.60**	**338**	*e*Pn	**Pn**	**11 18 38.3**	**+1.1**
ASAJ				Pg	Pb	11 18 47.7	+4.6
ASAJ				Sn	**Sb**	**11 19 11.9**	**-2.7**
ASAJ				Lg	Lg	11 19 22.1	
YUK	**Yuzh-Kuril'sk**	**2.71**	**31**	*d*/*i* P	Pb	11 18 53.2	+8.2
YUK				*i* S	**Sn**	**11 19 09.9**	**-0.6**
YUK				pmax	pmax		
	comp=E,94nm,0.2s						
YUK				pmax	pmax		
	comp=Z,194nm,0.4s						
YUK				smax	smax		
	comp=N,404nm,0.3s						
YUK				smax	smax		
	comp=E,576nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.31**	**351**	*e*P	**Pb**	**11 19 27.0**	**-2.2**
MAJO	**Matsushiro**	**6.82**	**223**	*e*P	**Pn**	**11 19 34.7**	**-0.6**
MAJO				*e*		11 20 51.3	
MAJO				pmax	pmax		
	comp=Z,108nm,1.5s						
MAJO	**Matsushiro**	**6.82**	**223**	*e*Pn	**Pn**	**11 19 34.7**	**-0.6**
	comp=Z,108nm,1.5s						
MAJO				*e*Sn	**Sn**	**11 20 51.3**	**-0.7**
MAT	**Matsushiro**	**6.82**	**223**	P	**Pn**	**11 19 35.2**	**-0.1**
MAT				*e*S	**Sn**	**11 20 53.7**	**+1.8**
MJAR	**Matsushiro Arr**	**6.82**	**223**	Pn	**Pn**	**11 19 35.0**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=28,slow=14,SNR=28						
MJAR				Sn	**Sn**	**11 20 48.8**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=25,slow=7.5,SNR=4.1						
MJAR	**Matsushiro Arr**	**6.82**	**223**	P	**Pn**	**11 19 35.0**	**-0.3**
MJAR						11 20 48.8	
MJAR	**Matsushiro Arr**	**6.82**	**223**	Pn	**Pn**	**11 19 35.0**	**-0.3**
MJAR				Sn	**Sn**	**11 20 48.8**	**-3.1**
USRK	**Ussuriysk Arra**	**9.11**	**290**	Pn	**Pn**	**11 20 06.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=101,slow=16,SNR=5.6						
USRK				LR	LR	11 24 06.8	
	comp=Z,214nm,18.9s,baz=209,slow=40						
PETK	**Petropavlovsk-**	**14.69**	**34**	LR	LR	11 28 35.6	
	comp=Z,27nm,18.1s,baz=44,slow=43						
HIA	**Hailar**	**18.52**	**302**	*e*P	**P**	**11 22 10.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,21nm,1.1s						
HIA	**Hailar**	**18.52**	**302**	*e*P	**P**	**11 22 10.4**	**-0.7**
	comp=Z,21nm,1.1s						
BOD	**Bodaibo**	**24.88**	**321**	*e*P	**P**	**11 23 13.5**	**-3.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s						
SONM	**Songino Array**	**27.16**	**296**	P	**P**	**11 23 38.6**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=76,slow=6.3,SNR=9.7						
SONM				LR	LR	11 35 31.9	
	comp=Z,135nm,19.2s,baz=205,slow=39						
SONM	**Songino Array**	**27.16**	**296**	P	**P**	**11 23 38.6**	**+0.7**
SONM	**Songino Array**	**27.16**	**296**	P	**P**	**11 23 38.6**	**+0.7**
ZAK	**Zakamensk**	**29.21**	**301**	*e*P	**P**	**11 23 56.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAA0	**Zalesovo Array**	**40.38**	**308**	*e*P	**P**	**11 25 32.2**	**+0.1**
ZAA0				*e*PcP	**PcP**	**11 27 35.2**	**+0.4**
ZALV	**Zalesovo Beam**	**40.38**	**308**	P	**P**	**11 25 32.1**	**0.0**
	comp=Z,3.0nm,0.8s,baz=90,slow=7.4,SNR=11						
ZALV				PcP	**PcP**	**11 27 35.1**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=86,slow=2.8,SNR=5.9						
ZALV				LR	LR	11 43 15.6	
	comp=Z,48nm,18.7s,baz=3.8,slow=38						
ZALV	**Zalesovo Beam**	**40.38**	**308**	P	**P**	**11 25 32.1**	**0.0**
ZALV						11 27 35.1	
ZALV	**Zalesovo Beam**	**40.38**	**308**	P	**P**	**11 25 32.1**	**0.0**
ZALV				PcP	**PcP**	**11 27 35.1**	**+0.4**
KDAK	**Kodiak Island**	**42.36**	**45**	P	**P**	**11 25 48.7**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=288,slow=4.9,SNR=5.8						
KDAK	**Kodiak Island**	**42.36**	**45**	P	**P**	**11 25 48.7**	**+0.4**
KDAK	**Kodiak Island**	**42.36**	**45**	P	**P**	**11 25 48.7**	**+0.4**
MK31	**Makanchi Array**	**43.46**	**298**	*e*P	**P**	**11 25 57.3**	**-0.1**
MK31				*e*		11 27 45.7	
MK31	**Makanchi Array**	**43.46**	**298**	*e*P	**P**	**11 25 57.3**	**-0.1**
MK31				*e*PcP	**PcP**	**11 27 45.7**	**+0.5**
MKAR	**Makanchi Array**	**43.46**	**298**	P	**P**	**11 25 57.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=81,slow=9.2,SNR=30						
MKAR				PcP	**PcP**	**11 27 45.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=62,slow=3.1,SNR=3.8						
MKAR	**Makanchi Array**	**43.46**	**298**	P	**P**	**11 25 57.4**	**0.0**
MKAR						11 27 45.6	
MKAR	**Makanchi Array**	**43.46**	**298**	P	**P**	**11 25 57.4**	**0.0**
MKAR				PcP	**PcP**	**11 27 45.5**	**+0.4**
ILAR	**Eielson Array**	**44.52**	**35**	P	**P**	**11 26 06.2**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=258,slow=5.8,SNR=16						
ILAR	**Eielson Array**	**44.52**	**35**	P	**P**	**11 26 06.2**	**+0.6**
ILAR	**Eielson Array**	**44.52**	**35**	P	**P**	**11 26 06.2**	**+0.6**
KURK	**Kurchatov**	**44.74**	**305**	P	**P**	**11 26 07.8**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=74,slow=9.0,SNR=27						
KURK				PcP	**PcP**	**11 27 49.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=81,slow=3.3,SNR=5.1						
KURK	**Kurchatov**	**44.74**	**305**	P	**P**	**11 26 07.9**	**+0.4**
KURK						11 27 49.5	
KURK	**Kurchatov**	**44.74**	**305**	P	**P**	**11 26 07.8**	**+0.4**
KURK				PcP	**PcP**	**11 27 49.5**	**+0.2**
TAPN	**Taplejung**	**47.70**	**271**	*e*P	**P**	**11 26 32.3**	**+0.8**
TAPN	**Taplejung**	**47.70**	**271**	*e*P	**P**	**11 26 32.3**	**+0.8**
RAMN	**Ramite**	**48.75**	**271**	*e*P	**P**	**11 26 39.7**	**+0.2**
	comp=Z,17nm,0.8s						
RAMN	**Ramite**	**48.75**	**271**	*e*P	**P**	**11 26 39.7**	**+0.2**
	comp=Z,17nm,0.8s						
GUN	**Gumba**	**48.77**	**273**	*e*P	**P**	**11 26 40.3**	**+0.5**
	comp=Z,44nm,0.7s						
GUN	**Gumba**	**48.77**	**273**	*e*P	**P**	**11 26 40.3**	**+0.5**
	comp=Z,44nm,0.7s						
BVAR	**Borovoye Array**	**48.98**	**310**	P	**P**	**11 26 40.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=58,slow=7.4,SNR=6.7						
BVAR				PcP	**PcP**	**11 28 04.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=86,slow=4.6,SNR=3.5						
BVAR	**Borovoye Array**	**48.98**	**310**	P	**P**	**11 26 40.7**	**0.0**
BVAR						11 28 04.8	
BVAR	**Borovoye Array**	**48.98**	**310**	P	**P**	**11 26 40.7**	**0.0**
BVAR				PcP	**PcP**	**11 28 04.8**	**+0.4**
TKM2	**Tokmak 2**	**49.26**	**296**	*e*P	**P**	**11 26 43.3**	**+0.1**
TKM2				*e*		11 28 34.0	
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TKM2	**Tokmak 2**	**49.26**	**296**	*e*P	**P**	**11 26 43.3**	**+0.1**
	comp=Z,3.9nm,0.8s						
TKM2				*e*PP	PP	11 28 34.0	-3.0
KKN	**Kakani**	**49.28**	**273**	*e*P	**P**	**11 26 44.0**	**+0.4**
KKN	**Kakani**	**49.28**	**273**	*e*P	**P**	**11 26 44.0**	**+0.4**
KKN	**Kakani**	**49.28**	**273**	*e*P	**P**	**11 26 44.0**	**+0.4**
PKI	**Pulchoki**	**49.30**	**273**	*e*P	**P**	**11 26 43.8**	**-0.1**
PKI	**Pulchoki**	**49.30**	**273**	*e*P	**P**	**11 26 43.8**	**-0.1**
PKI	**Pulchoki**	**49.30**	**273**	*e*P	**P**	**11 26 43.8**	**-0.1**
INK	**Inuvik**	**49.34**	**29**	P	**P**	**11 26 44.1**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=308,slow=7.5,SNR=12						
INK	**Inuvik**	**49.34**	**29**	P	**P**	**11 26 44.1**	**+0.9**
INK	**Inuvik**	**49.34**	**29**	P	**P**	**11 26 44.1**	**+0.9**
DMN	**Daman**	**49.51**	**273**	*e*P	**P**	**11 26 45.2**	**-0.2**
DMN	**Daman**	**49.51**	**273**	*e*P	**P**	**11 26 45.2**	**-0.2**
GKN	**Gorkha**	**49.65**	**274**	*e*P	**P**	**11 26 46.4**	**+0.1**
	comp=Z,16nm,0.8s						
GKN	**Gorkha**	**49.65**	**274**	*e*P	**P**	**11 26 46.4**	**+0.1**
	comp=Z,16nm,0.8s						
DANN	**Dangsing**	**50.12**	**275**	*e*P	**P**	**11 26 50.8**	**+0.8**
	comp=Z,63nm,0.7s						
DANN	**Dangsing**	**50.12**	**275**	*e*P	**P**	**11 26 50.8**	**+0.8**
	comp=Z,63nm,0.7s						
KOLN	**Koldanda**	**50.55**	**274**	*e*P	**P**	**11 26 53.7**	**+0.5**
	comp=Z,13nm,0.5s						
KOLN	**Koldanda**	**50.55**	**274**	*e*P	**P**	**11 26 53.7**	**+0.5**
	comp=Z,13nm,0.5s						
KKAR	**Karatay Array**	**52.58**	**298**	*e*P	**P**	**11 27 07.7**	**-0.3**
KKAR				*e**PP	**pP**	**11 27 18.9**	**+1.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**52.58**	**298**	*e*P	**P**	**11 27 07.7**	**-0.3**
	comp=Z,2.3nm,0.7s						
KKAR				*e*pP	**pP**	**11 27 18.9**	**+1.8**
ABKAR	**Akbulak array**	**56.50**	**309**	*e*P	**P**	**11 27 36.3**	**+0.1**
	comp=Z,3.4nm,0.7s						
YKA	**Yellowknife Ar**	**58.79**	**32**	P	**P**	**11 27 52.7**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=304,slow=7.4,SNR=2.6						
YKA				PcP	**PcP**	**11 28 42.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=307,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**58.79**	**32**	P	**P**	**11 27 52.7**	**+0.5**
YKA						11 28 42.0	
YKA	**Yellowknife Ar**	**58.79**	**32**	P	**P**	**11 27 52.7**	**+0.5**
YKA				PcP	**PcP**	**11 28 42.0**	**+0.5**
WRA	**Warramunga Arr**	**61.98**	**190**	P	**P**	**11 28 12.9**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=6.6,slow=6.8,SNR=5.7						
WRA	**Warramunga Arr**	**61.98**	**190**	P	**P**	**11 28 12.9**	**-1.5**
WRA	**Warramunga Arr**	**61.98**	**190**	P	**P**	**11 28 12.9**	**-1.5**
FINES	**FINESS Array B**	**65.60**	**332**	P	**P**	**11 28 37.6**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=44,slow=10,SNR=17						
FINES	**FINESS Array B**	**65.60**	**332**	P	**P**	**11 28 37.6**	**-0.1**
FINES	**FINESS Array B**	**65.60**	**332**	P	**P**	**11 28 37.6**	**-0.1**
ASAR	**Alice Springs**	**65.71**	**190**	P	**P**	**11 28 38.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=9.5,slow=4.2,SNR=5.7						
ASAR	**Alice Springs**	**65.71**	**190**	P	**P**	**11 28 38.5**	**-0.4**
ASAR	**Alice Springs**	**65.71**	**190**	P	**P**	**11 28 38.5**	**-0.4**
NB2	**NORSAR Subarra**	**70.62**	**338**	P	**P**	**11 29 09.1**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=40,slow=6.5						
NOA	**NORSAR Array B**	**70.62**	**338**	P	**P**	**11 29 09.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=35,slow=6.2,SNR=4.5						
NOA	**NORSAR Array B**	**70.62**	**338**	P	**P**	**11 29 09.4**	**0.0**
NOA	**NORSAR Array B**	**70.62**	**338**	P	**P**	**11 29 09.3**	**0.0**
NVAR	**Mina Array Bea**	**70.67**	**56**	P	**P**	**11 29 11.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=293,slow=6.8,SNR=8.5						
NVAR	**Mina Array Bea**	**70.67**	**56**	P	**P**	**11 29 11.1**	**+0.8**
AKASG	**Malin Array Be**	**71.79**	**323**	P	**P**	**11 29 16.0**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=42,slow=5.7,SNR=12						
AKASG	**Malin Array Be**	**71.79**	**323**	P	**P**	**11 29 16.0**	**-0.6**
AKASG	**Malin Array Be**	**71.79**	**323**	P	**P**	**11 29 16.0**	**-0.6**
PDAR	**Pinedale Array**	**73.02**	**48**	P	**P**	**11 29 25.0**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=273,slow=2.1,SNR=11						
PDAR	**Pinedale Array**	**73.02**	**48**	P	**P**	**11 29 25.0**	**+0.6**
BRTR	**Keskin Array B**	**77.20**	**312**	P	**P**	**11 29 49.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=98,slow=2.9,SNR=2.9						
BRTR	**Keskin Array B**	**77.20**	**312**	P	**P**	**11 29 49.1**	**+0.7**
BRTR	**Keskin Array B**	**77.20**	**312**	P	**P**	**11 29 49.0**	**+0.7**
CLL	**Collm**	**77.99**	**331**	*i* P	**P**	**11 29 52.5**	**+0.1**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**79.74**	**329**	P	**P**	**11 30 02.9**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=4.8						
GERES	**GERESS Array B**	**79.74**	**329**	P	**P**	**11 30 02.9**	**+0.7**
GERES

LTK	Loutraki	2.12	66	P	Pn	11 38 52.9	+0.2
LTK	Loutraki	2.12	66	*e*PB	Pn	11 38 53.0	+0.2
LTK	Loutraki	2.12	66	P	Pn	11 38 52.9	+0.2
DID	Didima	2.19	81	P	Pn	11 38 53.6	-0.2
DID	Didima	2.19	81	*e*PN	Pn	11 38 55.3	+1.5
DID	Didima	2.19	81	P	Pn	11 38 53.6	-0.2
DID	Didima	2.19	81	*e*Pn	Pn	11 38 55.3	+1.5
AGG	Agios Georgios	2.32	38	*e*PN	Pb	11 38 57.8	-1.2
AGG	Agios Georgios	2.32	38	*e*Pn	Pb	11 38 57.8	-1.2
VIL1	Vilia, Western	2.43	66	*e*PN	Pn	11 38 57.0	-0.1
VIL1	Vilia, Western	2.43	66	*e*Pn	Pn	11 38 57.0	-0.1
LKR	Lokris	2.44	53	*e*PB	Pn	11 38 58.1	+0.9
LKR	Lokris	2.44	53	*e*Pb	Pn	11 38 58.1	+0.9
ATH	Athens Observa	2.66	72	*e*PG	Pb	11 39 05.6	+0.7
ATH	Athens Observa	2.66	72	*e*Pg	Pb	11 39 05.6	+0.7
VLY	Voula,Athens	2.69	75	*e*PN	Pn	11 39 02.8	+2.2
VLY	Voula,Athens	2.69	75	*e*Pn	Pn	11 39 02.8	+2.2
NEO	Neokhori	3.00	45	*e*PN	Pn	11 39 05.8	+1.0
NEO				*e*SN	Sn	11 39 42.8	+1.8
NEO	Neokhori	3.00	45	*e*Pn	Pn	11 39 05.8	+1.0
NEO				*e*Sn	Sn	11 39 42.8	+1.8
STON	Ston	6.06	340	*e*Pn	Pn	11 39 48.1	+1.3
STON				Sn	Sn	11 40 52.8	-3.6
STON	Ston	6.06	340	*e*Pn	Pn	11 39 48.1	+1.3
NVLJ	Novalja	8.50	332	*e*Pn	Pn	11 40 25.3	+5.0
NVLJ				Sn	Sn	11 41 52.4	-4.1

NIED ***10*** *11:39:00, 41°.70N×144°.00E, h23km, Mw4.1 Best double couple: M₀1.47000×10¹⁵ NP1:φ₈96.00000°, δ49.00000°, λ-91.00000°. NP2:φ₂278.00000°, δ41.00000°, λ-89.00000°.*

ISCJB ***10*** *11:39:41.0±0.7, 41°.62N±0°.04×144°.06E±0°.06, h38km±6km, mb4.0/19, MS3.2/2, Error ellipse: s-maj=8.0km s-min=5.1km az=38.2*

MOS ***10*** *11:39:41.3±0.9, 41°.58N×143°.93E, h44km, mb4.6/5, Error ellipse: s-maj=14.3km s-min=9.1km az=86.0*

IDC ***10*** *11:39:42.5±3.3, 41°.63N×143°.92E, h34km±23km, mb3.8/13, mb1 4.0/16, mb1mx3.8/26, mbtmp3.8/16, ML3.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=19.5km s-min=16.2km az=154.0*

JMA ***10*** *11:39:42.1±0.2, 41°.70N×144°.03E, h44km±3km, M3.9*

NEIC ***10*** *11:39:42.7±0.8, 41°.66N×143°.96E, h36km±7km, mb4.2/3, Error ellipse: s-maj=9.5km s-min=6.9km az=134.0*

ISC 10 11:39:41.0±0.8, 41°.70N±0°.04×144°.13E±0°.05, h22km±6km, n81, σ1§19/96, mb4.1/19, 2C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.79**	**294**	*e*P	**Pb**	**11 39 56.0**	**0.0**
ERM				*e*		11 40 06.6	
ERM	**Erimo**	**0.79**	**294**	*e*Pn	**Pb**	**11 39 56.0**	**0.0**
ERM				*e*Sn	**Sb**	**11 40 06.6**	**+0.3**
JEM	**Erimo**	**0.79**	**294**	P	**Pb**	**11 39 55.9**	**-0.1**
JEM				*e*S	**Sb**	**11 40 06.1**	**-0.2**
JCH	**Churui**	**1.08**	**328**	P	**Pn**	**11 40 00.4**	**-0.3**
JCH				*e*S	**Sb**	**11 40 14.0**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.18**	**300**	P	**Pn**	**11 40 02.3**	**+0.2**
JOB	**Onbets**	**1.22**	**350**	P	**Pn**	**11 40 03.2**	**+0.5**
JAK	**Akkeshi**	**1.36**	**18**	P	**Pb**	**11 40 05.5**	**-0.3**
JAR	**Ashorobuto**	**1.62**	**351**	P	**Pn**	**11 40 08.0**	**-0.2**
JAR				*e*S	**Sn**	**11 40 27.9**	**-0.5**
JBT2	**Biratori 2**	**1.70**	**310**	P	**Pn**	**11 40 10.1**	**+0.8**
JBT2				*e*S	**Sn**	**11 40 30.1**	**-0.2**
JNK	**Nakash**	**1.94**	**13**	P	**Pn**	**11 40 13.0**	**+0.4**
JNK				*e*S	**Sn**	**11 40 35.4**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**2.66**	**28**	*i* P	**Pb**	**11 40 26.2**	**-1.7**
YUK				*i* S	**Sn**	**11 40 55.0**	**+1.0**
YUK				pmax	pmax		
	comp=N,108nm,0.4s						
YUK				pmax	pmax		
	comp=E,195nm,0.3s						
YUK				pmax	pmax		
	comp=Z,277nm,0.4s						
YUK				smax	smax		
	comp=E,228nm,0.4s						
YUK				smax	smax		
	comp=N,573nm,0.4s						
ASAJ	**Asahikawa**	**2.67**	**336**	Pn	**Pn**	**11 40 24.1**	**+1.5**
	comp=N,2.5nm,0.3s,baz=265,slow=23,SNR=23						
ASAJ				Pg	Pb	11 40 33.4	+5.4
	comp=N,6.3nm,0.3s,baz=176,slow=16,SNR=15						
ASAJ				Sn	**Sn**	**11 40 56.3**	**+2.1**
	comp=N,16nm,0.3s,baz=200,slow=19,SNR=8.9						
ASAJ				Lg	Lg	11 41 07.0	
	comp=N,9.4nm,0.3s,baz=290,slow=21,SNR=4.2						
ASAJ				LR	LR	11 41 55.6	
	comp=N,399nm,19.7s,baz=96,slow=50						
ASAJ	**Asahikawa**	**2.67**	**336**	P	**Pn**	**11 40 24.1**	**+1.5**
ASAJ						11 40 56.3	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,16nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,399nm,19.7s						
ASAJ	**Asahikawa**	**2.67**	**336**	Pn	**Pn**	**11 40 24.1**	**+1.5**
ASAJ				Pg	Pb	11 40 33.4	+5.4
ASAJ				Sn	**Sn**	**11 40 56.3**	**+2.1**
ASAJ				Lg	Lg	11 41 07.0	
MJAR	**Matsushiro Arr**	**6.90**	**224**	Pn	**Pn**	**11 41 20.1**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=28,slow=14,SNR=11						
MJAR				Sn	**Sn**	**11 42 43.3**	**+4.6**
	comp=Z,0.5nm,0.3s,baz=297,slow=8.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**6.90**	**224**	P	**Pn**	**11 41 20.1**	**-0.8**
MJAR						11 42 43.3	
MJAR	**Matsushiro Arr**	**6.90**	**224**	Pn	**Pn**	**11 41 20.1**	**-0.8**
MJAR				Sn	**Sn**	**11 42 43.3**	**+4.6**
MAJO	**Matsushiro**	**6.90**	**224**	*e*P	**Pn**	**11 41 19.9**	**-1.0**
MAJO	**Matsushiro**	**6.90**	**224**	*e*Pn	**Pn**	**11 41 19.9**	**-1.0**
MAT	**Matsushiro**	**6.90**	**224**	P	**Pn**	**11 41 20.0**	**-0.9**
MAT				S	**Sn**	**11 42 39.0**	**+0.3**
USRK	**Ussuriysk Arra**	**9.24**	**290**	LR	LR	11 45 43.3	
	comp=Z,128nm,18.1s,baz=334,slow=40						
PETK	**Petropavlovsk-**	**14.62**	**34**	Pn	**Pn**	**11 43 06.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=4.7						
PETK	**Petropavlovsk-**	**14.62**	**34**	P	**Pn**	**11 43 06.8**	**+0.4**
PETK	**Petropavlovsk-**	**14.62**	**34**	Pn	**Pn**	**11 43 06.8**	**+0.4**
SEY	**Seymchan**	**21.82**	**10**	*ce*P	**P**	**11 44 33.2**	**+1.8**
YAK	**Yakutsk**	**22.13**	**342**	*e*P	P	11 44 29.7	-5.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**27.28**	**296**	P	**P**	**11 45 22.6**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=56,slow=11,SNR=5.4						
SONM				LR	LR	11 57 19.7	
	comp=Z,59nm,20.7s,baz=121,slow=39						
SONM	**Songino Array**	**27.28**	**296**	P	**P**	**11 45 22.6**	**-1.2**
SONM	**Songino Array**	**27.28**	**296**	P	**P**	**11 45 22.6**	**-1.2**
TLY	**Talaya**	**29.16**	**304**	*e*P	**P**	**11 45 40.8**	**+0.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,53nm,16.0s						
ZALV	**Zalesovo Beam**	**40.49**	**308**	P	**P**	**11 47 16.9**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=90,slow=5.9,SNR=8.1						
ZALV				PcP	**PcP**	**11 49 20.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=62,slow=4.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**40.49**	**308**	P	**P**	**11 47 17.0**	**-0.9**
ZALV						11 49 20.1	
ZALV	**Zalesovo Beam**	**40.49**	**308**	P	**P**	**11 47 16.9**	**-0.9**
ZALV				PcP	**PcP**	**11 49 20.1**	**0.0**
KDAK	**Kodiak Island**	**42.27**	**45**	P	P	**11 47 32.4**	**0.0**
	comp=Z,5.9nm,1.0s,baz=295,slow=23,SNR=5.7						
KDAK	**Kodiak Island**	**42.27**	**45**	*i* P	**P**	**11 47 33.9**	**+1.5**
KDAK	**Kodiak Island**	**42.27**	**45**	P	**P**	**11 47 32.4**	**0.0**
MK31	**Makanchi Array**	**43.58**	**299**	*e*P	**P**	**11 47 42.4**	**-0.8**
MK31	**Makanchi Array**	**43.58**	**299**	*e*P	**P**	**11 47 42.4**	**-0.8**
MKAR	**Makanchi Array**	**43.58**	**299**	P	**P**	**11 47 42.4**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=83,slow=9.6,SNR=14						
MKAR				PcP	**PcP**	**11 49 30.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=59,slow=4.9,SNR=4.0						
MKAR	**Makanchi Array**	**43.58**	**299**	P	**P**	**11 47 42.4**	**-0.9**
MKAR						11 49 30.4	
MKAR	**Makanchi Array**	**43.58**	**299**	P	**P**	**11 47 42.4**	**-0.9**
MKAR				PcP	**PcP**	**11 49 30.4**	**-0.1**
ILAR	**Eielson Array**	**44.45**	**35**	P	**P**	**11 47 51.0**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=257,slow=5.7,SNR=26						
ILAR	**Eielson Array**	**44.45**	**35**	P	**P**	**11 47 51.0**	**+1.1**
ILAR	**Eielson Array**	**44.45**	**35**	P	**P**	**11 47 51.0**	**+1.1**
KURK	**Kurchatov**	**44.85**	**305**	⇓*i*P	**P**	**11 47 51.9**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**44.85**	**305**	*e*P	**P**	**11 47 52.1**	**-1.2**
	comp=Z,2.4nm,0.6s						
TAPN	**Taplejung**	**47.83**	**271**	*e*P	**P**	**11 48 17.7**	**+0.3**
GUN	**Gumba**	**48.90**	**273**	*e*P	**P**	**11 48 25.1**	**-0.6**
	comp=Z,27nm,0.6s						
KKN	**Kakani**	**49.41**	**273**	*e*P	**P**	**11 48 29.0**	**-0.5**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**49.64**	**273**	*e*P	**P**	**11 48 31.3**	**+0.1**
	comp=Z,9.0nm,0.8s						
GKN	**Gorkha**	**49.78**	**274**	*e*P	**P**	**11 48 31.2**	**-1.0**
	comp=Z,6.1nm,0.4s						
DANN	**Dangsing**	**50.25**	**275**	*e*P	**P**	**11 48 35.7**	**-0.2**
	comp=Z,35nm,0.7s						
KOLN	**Koldanda**	**50.68**	**274**	*e*P	**P**	**11 48 38.4**	**-0.6**
	comp=Z,7.8nm,0.6s						
KKAR	**Karatay Array**	**52.70**	**298**	*e*P	**P**	**11 48 52.5**	**-1.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**52.70**	**298**	*e*P	**P**	**11 48 52.5**	**-1.3**
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**56.61**	**309**	*e*P	**P**	**11 49 21.4**	**-0.5**
	comp=Z,1.6nm,0.6s						
ABKAR				*e*PP	**PP**	**11 51 25.1**	**-2.5**
YKA	**Yellowknife Ar**	**58.73**	**32**	P	**P**	**11 49 37.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=307,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**58.73**	**32**	P	**P**	**11 49 37.5**	**+0.9**
YKA	**Yellowknife Ar**	**58.73**	**32**	P	**P**	**11 49 37.5**	**+0.9**
WRA	**Warramunga Arr**	**61.99**	**190**	P	**P**	**11 49 57.8**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=6.8,slow=6.7,SNR=5.0						
WRA	**Warramunga Arr**	**61.99**	**190**	P	**P**	**11 49 57.8**	**-1.6**
WRA	**Warramunga Arr**	**61.99**	**190**	P	**P**	**11 49 57.8**	**-1.6**
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**11 50 22.6**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=50,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**11 50 22.7**	**-0.5**
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**11 50 22.6**	**-0.5**
KIV	**Kislovodsk**	**69.44**	**311**	*e*P	**P**	**11 50 47.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NVAR	**Mina Array Bea**	**70.56**	**56**	P	**P**	**11 50 56.4**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=295,slow=7.0,SNR=9.1						
NVAR	**Mina Array Bea**	**70.56**	**56**	P	**P**	**11 50 56.4**	**+1.8**
NOA	**NORSAR Array B**	**70.68**	**338**	P	**P**	**11 50 54.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=34,slow=6.4,SNR=2.8						
NOA	**NORSAR Array B**	**70.68**	**338**	P	**P**	**11 50 54.1**	**-0.6**
NOA	**NORSAR Array B**	**70.68**	**338**	P	**P**	**11 50 54.1**	**-0.6**
AKASG	**Malin Array Be**	**71.88**	**323**	P	**P**	**11 51 01.3**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=42,slow=6.4,SNR=9.4						
AKASG	**Malin Array Be**	**71.88**	**323**	*ce*P	**P**	**11 51 01.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.88**	**323**	P	**P**	**11 51 01.3**	**-0.7**
PDAR	**Pinedale Array**	**72.94**	**48**	P	**P**	**11 51 09.8**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=254,slow=2.3,SNR=11						
PDAR	**Pinedale Array**	**72.94**	**48**	P	**P**	**11 51 09.8**	**+1.0**
CLL	**Collm**	**78.07**	**331**	*i* P	**P**	**11 51 37.2**	**-0.5**
CLL	**Collm**	**78.07**	**331**	*i* P	**P**	**11 51 37.2**	**-0.5**
TXAR	**Lajitas Array**	**85.65**	**54**	P	**P**	**11 52 19.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=270,slow=3.5,SNR=4.8						
TXAR	**Lajitas Array**	**85.65**	**54**	P	**P**	**11 52 19.3**	**+1.1**
TXAR	**Lajitas Array**	**85.65**	**54**	P	**P**	**11 52 19.3**	**+1.1**

IDC 10 11:47:01.7±1.5, 19°.63S×174°.09W, h0km, mb3.8/5, mb1 4.2/6, mb1mx4.0/19, mbtmp3.9/6, ML2.3/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/19, Error ellipse: s-maj=73.4km s-min=20.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.10**	**22**	Pn	Pn	11 48 32.4	-0.9
	3.8nm,0.3s,baz=129,slow=23,SNR=4.1						
AFI				Sn	Sn	11 49 42.7	-1.3
	1.6nm,0.3s,baz=30,slow=20,SNR=2.5						
RPZ	**Rata Peaks**	**27.06**	**204**	LR	LR	12 03 14.1	
	comp=Z,132nm,19.1s,baz=190,slow=36						
ASAR	**Alice Springs**	**48.30**	**255**	P	P	11 55 43.5	-1.7
	1.6nm,0.8s,baz=88,slow=8.5,SNR=15						
ASAR				PcP	PcP	11 57 11.8	-0.4
	0.9nm,0.8s,baz=115,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	**48.37**	**260**	P	P	11 55 46.5	+0.8
	0.8nm,0.7s,baz=303,slow=9.2,SNR=8.1						
WRA				PcP	PcP	11 57 12.5	0.0
	0.4nm,0.8s,baz=97,slow=4.6,SNR=2.5						
NVAR	**Mina Array Bea**	**77.90**	**42**	P	P	11 59 02.0	+0.1
	1.8nm,0.9s,baz=224,slow=7.4,SNR=8.8						
PDAR	**Pinedale Array**	**85.83**	**42**	P	P	11 59 42.5	-1.1
	0.7nm,0.9s,baz=194,slow=4.4,SNR=4.1						
ILAR	**Eielson Array**	**86.69**	**11**	P	P	11 59 48.1	+1.2
	0.3nm,0.7s,baz=227,slow=6.0,SNR=7.0						
AKASG	**Malin Array Be**	**143.92**	**335**	PKP	PKPbc	12 06 36.9	+0.2
	1.2nm,0.6s,baz=40,slow=4.3,SNR=5.9						
BRTR	**Keskin Array B**	**148.88**	**316**	PKPbc	PKPbc	12 06 52.4	+0.5
	0.5nm,0.7s,baz=74,slow=2.1,SNR=3.0						

DJA ***10*** *11:47:23, 3°.81N×95°.92E, h25km, MLv3.8/3*

IDC 10 11:47:15.6±2.6, 3°.90N×95°.81E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=117.4km s-min=19.7km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.79**	**12**	Pn	P	11 50 54.0	+1.6
	0.2nm,0.3s,baz=200,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**44.31**	**347**	P	P	11 55 27.2	0.0
	0.4nm,0.4s,baz=160,slow=6.3,SNR=4.8						
WRA	**Warramunga Arr**	**44.65**	**124**	P	P	11 55 30.1	-0.4
	0.7nm,0.5s,baz=302,slow=9.3,SNR=7.6						
SONM	**Songino Array**	**44.71**	**10**	P	P	11 55 30.5	-0.1
	1.2nm,0.6s,baz=194,slow=8.8,SNR=5.9						
ASAR	**Alice Springs**	**46.13**	**128**	P	P	11 55 42.3	+0.1
	0.2nm,0.6s,baz=334,slow=27,SNR=15						
KURK	**Kurchatov**	**48.84**	**346**	P	P	11 56 02.5	-0.2
	0.5nm,0.5s,baz=161,slow=6.9,SNR=15						
ZALV	**Zalesovo Beam**	**50.70**	**352**	P	P	11 56 16.6	-0.1
	1.6nm,0.5s,baz=181,slow=7.7,SNR=9.7						
BVAR	**Borovoye Array**	**53.26**	**341**	P	P	11 56 35.1	-0.8
	0.5nm,0.7s,baz=116,slow=9.8,SNR=4.6						

NEIC ***10*** *11:48:04.3, 19°.47N×66°.33W, h50km, MD3.5(RSPR), After RSPR.*

RSPR 10 11:48:04.3, 19°.47N×66°.33W, h51km±20km, 5C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.19**	**200**	⇑*e*P	Pn	11 48 23.3	-1.4
AOPR				*e*S	Sn	11 48 38.8	-1.1
AOPR	**Arecibo Observ**	**1.19**	**200**	⇑*e*P	Pn	11 48 23.3	-1.4
AOPR				*e*S	Sn	11 48 38.8	-1.1
CBYP	**Canovanas**	**1.27**	**159**	⇑*e*P	Pn	11 48 25.0	-0.9
CBYP	**Canovanas**	**1.27**	**159**	*e*S	Sn	11 48 40.7	-1.2
CBYP	**Canovanas**	**1.27**	**159**	⇓*e*P	Pn	11 48 25.0	-0.9
CBYP				*e*S	Sn	11 48 40.7	-1.2
LSP	**Las Mesas**	**1.48**	**209**	⇑*e*P	Pn	11 48 28.1	-0.5
LSP	**Las Mesas**	**1.48**	**209**	*e*Pn	Pn	11 48 28.2	-0.4
LSP				*e*Sn	Sn	11 48 46.1	-0.7
MTP	**Monte Pirata**	**1.55**	**152**	⇑*e*P	Pn	11 48 28.4	-1.2
MTP	**Monte Pirata**	**1.55**	**152**	*e*S	Sn	11 48 47.9	-0.6
MTP	**Monte Pirata**	**1.55**	**152**	⇓*e*P	Pn	11 48 28.4	-1.2
MTP				*e*S	Sn	11 48 47.9	-0.6
STVI	**Saint Thomas**	**1.71**	**130**	*e*Pn	Pn	11 48 30.0	-1.8
STVI				*e*Sn	Sn	11 48 52.4	-0.1

ISK ***10*** *11:49:30.6, 41°.23N×36°.43E, h11km, MD2.6*

DDA ***10*** *11:49:31.1, 41°.23N×36°.38E, h6km, MD2.9*

CSEM ***10*** *11:49:32.3±0.3, 41°.18N×36°.32E, h8km, MD2.6, Error ellipse: s-maj=10.2km s-min=4.3km az=23.0*

ISC 10 11:49:31.9±1.3, 41°.21N±0°.06×36°.38E±0°.04, h14km±8km, n24, σ0§72/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.28**	**244**	*e*PG	**Pg**	**11 49 37.2**	**-0.6**
KVT				*e*SG	**Sg**	**11 49 42.8**	**+1.0**
KVT	**Kavak**	**0.28**	**244**	*e*Pg	**Pg**	**11 49 37.2**	**-0.6**
KVT				*e*Sg	**Sg**	**11 49 42.8**	**+1.0**
HAVZ	**Havza**	**0.52**	**256**	*i* P	**Pg**	**11 49 41.4**	**-0.6**
HAVZ	**Havza**	**0.52**	**256**	*i* P	**Pg**	**11 49 41.4**	**-0.6**
ERBA	**Erbaa**	**0.60**	**151**	*i* P	**Pb**	**11 49 43.8**	**-0.3**
ERBA				*i* S	**Sb**	**11 49 52.2**	**-0.3**
ERBA	**Erbaa**	**0.60**	**151**	*i* P	**Pb**	**11 49 43.8**	**-0.3**
ERBA				*i* S	**Sb**	**11 49 52.2**	**-0.3**
DIKM	**Dikmen**	**0.95**	**298**	*e*PG	**Pb**	**11 49 49.6**	**-0.6**
DIKM				*e*SG	**Sn**	**11 50 03.9**	**-0.4**
DIKM	**Dikmen**	**0.95**	**298**	*e*Pg	**Pb**	**11 49 49.6**	**-0.6**
DIKM				*e*Sg	**Sn**	**11 50 03.9**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.08**	**138**	*e*PG	**Pb**	**11 49 51.6**	**-0.8**
RSDY				*e*SG	**Sn**	**11 50 07.6**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.08**	**138**	*e*Pg	**Pb**	**11 49 51.6**	**-0.8**
RSDY				*e*Sg	**Sn**	**11 50 07.6**	**+0.1**
CTKT	**Corum**	**1.34**	**245**	*i* P	**Pn**	**11 49 56.8**	**+0.5**
CTKT				*i* S	**Sb**	**11 50 14.5**	**+0.6**
CTKT	**Corum**	**1.34**	**245**	*i* P	**Pn**	**11 49 56.8**	**+0.5**
CTKT				*i* S	**Sb**	**11 50 14.5**	**+0.6**
CORM	**Corum**	**1.68**	**233**	*e*PN	**Pn**	**11 50 01.2**	**+0.2**
CORM	**Corum**	**1.68**	**233**	*e*Pn	**Pn**	**11 50 01.2**	**+0.2**
SUSE	**Susehri**	**1.71**	**125**	*i* P	**Pb**	**11 50 03.2**	**0.0**
SUSE				*i* S	**Sg**	**11 50 26.6**	**-0.3**
SUSE	**Susehri**	**1.71**	**125**	*i* P	**Pb**	**11 50 03.2**	**0.0**
SUSE				*i* S	**Sg**	**11 50 26.6**	**-0.3**
YOZ	**Yozgat**	**1.76**	**208**	*e*PN	**Pn**	**11 50 02.1**	**0.0**
YOZ	**Yozgat**	**1.76**	**208**	*e*Pn	**Pn**	**11 50 02.1**	**0.0**
TOS	**Tosya**	**1.79**	**265**	*e*PN	**Pn**	**11 50 02.9**	**+0.5**
TOS	**Tosya**	**1.79**	**265**	*e*Pn	**Pn**	**11 50 02.9**	**+0.5**
BZK	**Bozkurt**	**1.93**	**294**	*e*PN	**Pn**	**11 50 04.9**	**+0.5**
BZK	**Bozkurt**	**1.93**	**294**	*e*Pn	**Pn**	**11 50 04.9**	**+0.5**
KELT	**Kelkit**	**2.43**	**115**	*i* P	**Pb**	**11 50 14.6**	**-0.9**
KELT				*i* S	**Sb**	**11 50 47.3**	**+1.9**
KELT	**Kelkit**	**2.43**	**115**	*i* P	**Pb**	**11 50 14.6**	**-0.9**
KELT				*i* S	**Sb**	**11 50 47.3**	**+1.9**

BJI ***10*** *11:53:22.2, 34°.86S×179°.05E, h176km, mB5.3/9, mb5.0/16*

ISCJB ***10*** *11:53:24.3±0.4, 35°.28S±0°.03×178°.74E±0°.07, h200km, mb4.7/33, Error ellipse: s-maj=7.7km s-min=3.6km az=4.2*

NEIC ***10*** *11:53:25.2, 35°.32S×178°.90E, h211km, mb4.9/14, After WEL.*

WEL ***10*** *11:53:26.1±0.7, 35°.39S×178°.80E, h212km±6km, ML5.5/21, Error ellipse: s-maj=5.9km s-min=5.4km az=0.0*

IDC ***10*** *11:53:29.6±1.7, 34°.88S×178°.72E, h237km±15km, mb4.5/14, mb1 4.6/15, mb1mx4.5/20, mbtmp4.5/15, Error ellipse: s-maj=13.7km s-min=10.3km az=14.0*

DJA ***10*** *11:53:39, 34°.99S×178°.37E, h327km, mb4.5/11*

ISC 10 11:53:24.4±0.5, 35°.37S±0°.04×178°.86E±0°.05, h203km±3km, n306, σ1§92/307, mb4.8/33, 1C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.24**	**191**	PN	**Pn**	**11 54 07.8**	**+2.2**
MXZ				SN	**S**	**11 54 39.7**	**+2.3**
MXZ	**Matakaoa Point**	**2.24**	**191**	Pn	**Pn**	**11 54 07.8**	**+2.2**
MXZ				Sn	**S**	**11 54 39.7**	**+2.3**
WIZ	**White Island**	**2.55**	**212**	PN	**Pn**	**11 54 11.3**	**+2.3**
WIZ	**White Island**	**2.55**	**212**	Pn	**Pn**	**11 54 11.3**	**+2.3**
PUZ	**Puketiti**	**2.75**	**190**	⇓PN	**Pn**	**11 54 13.4**	**+2.2**
PUZ	**Puketiti**	**2.75**	**190**	Pn	**Pn**	**11 54 13.2**	**+1.9**
MYRZ	**Mayor Island**	**2.85**	**227**	PN	**Pn**	**11 54 14.4**	**+2.0**
KUZ	**Kuaotunu**	**2.90**	**241**	⇓PN	**Pn**	**11 54 13.9**	**+1.0**
KUZ	**Kuaotunu**	**2.90**	**241**	Pn	**Pn**	**11 54 13.4**	**+0.5**
OPRZ	**Ohinepanea**	**3.10**	**216**	PN	**Pn**	**11 54 17.7**	**+2.5**
OPRZ	**Ohinepanea**	**3.10**	**216**	Pn	**Pn**	**11 54 17.8**	**+2.6**
MARZ	**Manawahe**	**3.15**	**213**	PN	**Pn**	**11 54 18.6**	**+2.7**
MARZ	**Manawahe**	**3.15

WNVZ	Wahianoa	4.74	212	PN	Pn	11 54 36.3	+0.7		S	S	12 06 58.1 -0.8
WNVZ	Wahianoa	4.74	212	Pn	Pn	11 54 36.3	+0.7		1.1nm,0.7s,baz=116,slow=15,SNR=4.3		
PKVZ	Pokaka	4.82	215	PN	Pn	11 54 37.8	+1.2	WRA	PKiKP	PKiKP	12 09 51.4 -1.1
PKVZ	Pokaka	4.82	215	Pn	Pn	11 54 37.8	+1.2		1.9nm,1.4s,baz=116,slow=0.3,SNR=4.5		
MTVZ	Mangateitei	4.84	213	Pn	Pn	11 54 37.7	+0.9	**WRA**	**Warramunga Arr 41.97 279**	P	P	12 00 55.0 -0.5
PXZ	Pawanui	4.92	198	PN	Pn	11 54 37.6	-0.2	WRA	ScP	ScP	12 06 15.2 -2.6
PXZ	Pawanui	4.92	198	Pn	Pn	11 54 37.6	-0.2	WRA	S	S	12 06 58.1 -0.8
PNHZ	Pukenui	5.01	204	PN	Pn	11 54 38.8	-0.2	WRA	PKiKP	PKiKP	12 09 51.4 -1.1
PNHZ	Pukenui	5.01	204	Pn	Pn	11 54 38.8	-0.2	**FORT**	**Forrest 42.44 261**	*e*P	P	12 00 58.2 -1.1
WPHZ	Waipukurau	5.07	202	PN	Pn	11 54 39.5	-0.2		22nm,0.6s		
WPHZ	Waipukurau	5.07	202	Pn	Pn	11 54 39.5	-0.2	**VNDA**	**Vanda 42.91 185**	*e*P	P	12 01 08.1 +5.7
PRHZ	Porangahau	5.20	199	PN	Pn	11 54 41.3	-0.1		3.3nm,0.7s		
PRHZ	Porangahau	5.20	199	Pn	Pn	11 54 41.3	-0.1	**FITZ**	**Fitzroy Crossi 49.96 276**	P	P	12 01 58.4 +0.5
TSZ	Takapari Road	5.22	205	PN	Pn	11 54 41.1	-0.5		6.9nm,0.6s,baz=148,slow=6.5,SNR=21		
RAEZ	Rainy Point	5.29	221	PN	Pn	11 54 45.6	+3.1	**FITZ**	**Fitzroy Crossi 49.96 276**	P	P	12 01 58.4 +0.5
RAEZ	Rainy Point	5.29	221	Pn	Pn	11 54 45.6	+3.1	**QSPA**	**South Pole Qui 54.76 180**	P	P	12 02 38.4 +5.7
WAZ	Wanganui	5.36	214	PN	Pn	11 54 44.0	+0.6		24nm,0.4s,baz=293,slow=0.1,SNR=503		
WAZ	Wanganui	5.36	214	Pn	Pn	11 54 44.0	+0.6	**QSPA**	**South Pole Qui 54.76 180**	P	P	12 02 38.4 +5.7
DVHZ	Dannevirke	5.37	203	PN	Pn	11 54 42.7	-0.8	**KAPI**	**Kappang 62.09 285**	*e*P	P	**12 03 22.5 -1.4**
DVHZ	Dannevirke	5.37	203	Pn	Pn	11 54 42.7	-0.8		17nm,0.9s		
NEZ	North Egmont	5.44	223	PN	Pn	11 54 47.8	+3.3	**SYO**	**Syowa Base 71.68 194⇧**	*e*P	P	**12 04 24.4 +0.9**
NEZ	North Egmont	5.44	223	Pn	Pn	11 54 47.8	+3.3	**SNAA**	**Sanae 73.25 179**	*e*P	P	**12 04 34.5 +1.7**
PKE	Pukeiti	5.45	224	PN	Pn	11 54 47.6	+3.0		6.2nm,0.8s		
PKE	Pukeiti	5.45	224	Pn	Pn	11 54 47.6	+3.0	SNAA	*e*pP	pP	**12 05 17.5 -3.6**
DFE	Dawson Falls	5.48	222	PN	Pn	11 54 47.9	+2.9	**VNA2**	**Neumayer--Watz 73.92 178**	*e*	P	12 04 40.5 +3.9
DFE	Dawson Falls	5.48	222	Pn	Pn	11 54 47.9	+2.9		baz=184,slow=5.2		
NWEZ	Newall Road	5.58	224	PN	Pn	11 54 49.3	+3.2	VNA2	*e*		12 05 20.0
NRZ	Ngariki Road	5.58	223	Pn	Pn	11 54 49.0	+2.8	**VNA1**	**Neumayer--Stat 74.16 178**	*e*	P	12 04 42.3 +4.3
POWZ	Post Office Ro	5.58	205	PN	Pn	11 54 45.8	-0.4	**PLCA**	**Paso Flores 81.02 134**	P	P	12 05 21.8 +5.2
POWZ	Post Office Ro	5.58	205	Pn	Pn	11 54 45.8	-0.4		5.3nm,0.5s,baz=224,slow=5.9,SNR=22		
BFZ	Birch Farm	5.70	200	PN	Pn	11 54 46.7	-1.0	**PLCA**	**Paso Flores 81.02 134**	*e*P	P	12 05 21.4 +4.8
BFZ	Birch Farm	5.70	200	Pn	Pn	11 54 46.7	-1.0		25nm,1.5s		
MRZ	Mangatainoka R	5.89	205	PN	Pn	11 54 48.9	-1.3	PLCA	*e*pP	pP	12 06 04.2 -1.6
MRZ	Mangatainoka R	5.89	205	Pn	Pn	11 54 48.9	-1.3	**QIZ**	**Qiongzhong 84.83 298**	P	P	**12 05 38.4 +2.1**
TIWZ	Tintock	5.89	203	PN	Pn	11 54 49.3	-0.9	QIZ	S	S	12 15 53.2 +5.9
TIWZ	Tintock	5.89	203	Pn	Pn	11 54 49.3	-0.9	QIZ	pmax	pmax	
HOWZ	Holdsworth Sta	6.12	205	PN	Pn	11 54 51.6	-1.6		comp=Z,25nm,1.8s		
HOWZ	Holdsworth Sta	6.12	205	Pn	Pn	11 54 51.6	-1.6	**KSRS**	**Korea Array 86.51 322**	P	P	**12 05 44.1 +0.1**
OGWZ	Otaki Gorge	6.17	207	PN	Pn	11 54 52.7	-1.1		comp=Z,2.9nm,0.8s,baz=140,slow=5.5,SNR=6.2		
OGWZ	Otaki Gorge	6.17	207	Pn	Pn	11 54 52.7	-1.1	**KSAR**	**Wonju Array Be 86.52 322**	P	P	**12 05 44.1 0.0**
TMWZ	Te Maipa	6.19	201	PN	Pn	11 54 52.9	-1.2	**NJ2**	**Nanjing 87.56 313**	*e*P	P	**12 05 51.6 +2.4**
TMWZ	Te Maipa	6.19	201	Pn	Pn	11 54 52.9	-1.2	NJ2	pmax	pmax	
KIW	Kapiti Island	6.31	208	PN	Pn	11 54 54.1	-1.5		comp=Z,10.0nm,0.5s		
KIW	Kapiti Island	6.31	208	Pn	Pn	11 54 54.1	-1.5	**WHN**	**Wuhan 89.31 309**	P	P	**12 05 57.8 +0.3**
MTW	Mount Morrison	6.36	204	PN	Pn	11 54 54.3	-1.9	**USRK**	**Ussuriysk Arra 89.91 328**	P	P	**12 05 59.5 -0.5**
MTW	Mount Morrison	6.36	204	Pn	Pn	11 54 54.3	-1.9		comp=Z,2.1nm,0.6s,baz=163,slow=4.8,SNR=4.9		
CAW	Cannon Point	6.46	206	PN	Pn	11 54 55.6	-2.0	**PETK**	**Petropavlovsk- 90.01 347**	P	P	**12 05 59.2 -1.0**
CAW	Cannon Point	6.46	206	Pn	Pn	11 54 55.6	-2.0		comp=Z,2.6nm,0.4s,baz=141,slow=6.2,SNR=19		
TRWZ	Traveller	6.52	202	PN	Pn	11 54 57.0	-1.3	**PETK**	**Petropavlovsk- 90.01 347**	P	P	**12 05 59.2 -1.0**
TRWZ	Traveller	6.52	202	Pn	Pn	11 54 57.0	-1.3	**MDJ**	**Mudanjiang 91.29 327**	P	P	12 06 09.6 +3.2
PAWZ	Paruwai Farm	6.59	203	PN	Pn	11 54 57.4	-1.8	MDJ	pmax	pmax	
PAWZ	Paruwai Farm	6.59	203	Pn	Pn	11 54 57.4	-1.8		comp=Z,12nm,1.3s		
MSWZ	Moikau Station	6.67	204	PN	Pn	11 54 58.4	-1.9	MDJ	pmax	pmax	
MSWZ	Moikau Station	6.67	204	Pn	Pn	11 54 58.4	-1.9		comp=Z,81nm,3.6s		
DUWZ	D'Urville Isla	6.68	214	PN	Pn	11 54 58.7	-1.7	**GYA**	**Guiyang 91.80 301**	P	P	**12 06 12.2 +2.9**
DUWZ	D'Urville Isla	6.68	214	Pn	Pn	11 54 58.7	-1.7	GYA	pP	pP	**12 06 55.8 -3.7**
WEL	Wellington	6.73	207	PN	Pn	11 54 59.4	-1.7	GYA	sP	sP	12 07 15.4 -5.3
WEL	Wellington	6.73	207	Pn	Pn	11 54 59.4	-1.7	GYA	PP	PP	**12 09 55.6 +4.0**
SNZO	South Karori	6.78	208	PN	Pn	11 54 59.4	-2.2	GYA	SKS	SKSac	**12 16 25.5 +2.7**
SNZO	South Karori	6.78	208	*e*Pn	Pn	11 54 59.4	-2.2	GYA	S	ScS	**12 16 54.3 -0.6**
SNZO				*e*Sn	S	11 56 15.4	-3.2	GYA	pmax	pmax	
BHW	Baring Head	6.80	206	PN	Pn	11 54 59.9	-2.0		comp=Z,20nm,1.0s		
BHW	Baring Head	6.80	206	Pn	Pn	11 54 59.9	-2.0	GYA	pmax	pmax	
PLWZ	Palliser	6.81	203	PN	Pn	11 55 00.0	-2.1		comp=Z,120nm,5.6s		
PLWZ	Palliser	6.81	203	Pn	Pn	11 55 00.0	-2.1	**CMB**	**Columbia Colle 92.19 44**	*e*P	P	**12 06 12.1 +1.3**
TCW	Tory Channel	6.86	210	PN	Pn	11 55 00.6	-2.1		comp=Z,11nm,1.3s		
TCW	Tory Channel	6.86	210	Pn	Pn	11 55 00.6	-2.1	**CN2**	**Changchun 92.56 324**	*e*P	P	12 06 15.6 +3.3
TUWZ	Tuamarina	7.18	211	PN	Pn	11 55 04.6	-2.3	CN2	pmax	pmax	
TUWZ	Tuamarina	7.18	211	Pn	Pn	11 55 04.6	-2.3		comp=Z,10.0nm,0.7s		
NNZ	Nelson	7.26	215	Pn	Pn	11 55 03.8	-4.1	CN2	pmax	pmax	
QRZ	Quartz Range	7.39	221	PN	Pn	11 55 07.4	-2.3		comp=Z,200nm,4.0s		
QRZ	Quartz Range	7.39	221	Pn	Pn	11 55 07.3	-2.3	**CMAR**	**Chiang Mai Arr 92.61 291**	P	P	**12 06 14.1 +1.0**
BSWZ	Blackbirch Sta	7.45	210	PN	Pn	11 55 08.0	-2.3		comp=Z,0.8nm,0.3s,baz=158,slow=3.9,SNR=4.7		
BSWZ	Blackbirch Sta	7.45	210	Pn	Pn	11 55 08.1	-2.3	CMAR	PP	PP	**12 09 54.2 -3.7**
THZ	Tophouse	7.91	214	PN	Pn	11 55 13.9	-2.5		comp=Z,2.1nm,1.0s,baz=137,slow=6.1,SNR=6.6		
THZ	Tophouse	7.91	214	Pn	Pn	11 55 13.9	-2.5	**CMAR**	**Chiang Mai Arr 92.61 291**	P	P	**12 06 14.1 +1.0**
KHZ	Kahutara	8.17	209	PN	Pn	11 55 17.0	-2.7	CMAR	PP	PP	**12 09 54.2 -3.7**
KHZ	Kahutara	8.17	209	*e*Pn	Pn	11 55 17.2	-2.5	**NVAR**	**Mina Array Bea 93.64 44**	P	P	**12 06 19.3 +1.6**
KHZ				*e*Sn	S	11 56 46.8	-4.9		comp=Z,2.2nm,0.7s,baz=228,slow=7.6,SNR=17		
DSZ	Denniston Nort	8.44	219	PN	Pn	11 55 20.1	-3.1	**NVAR**	**Mina Array Bea 93.64 44**	P	P	**12 06 19.3 +1.6**
DSZ	Denniston Nort	8.44	219	Pn	Pn	11 55 20.1	-3.1	**KMI**	**Kunming 93.76 298**	P	P	**12 06 20.7 +2.1**
LTZ	Lake Taylor	9.01	213	PN	Pn	11 55 27.3	-3.3	KMI	pmax	pmax	
LTZ	Lake Taylor	9.01	213	Pn	Pn	11 55 27.3	-3.3		comp=Z,7.0nm,1.4s		
CTZ	Chatham Island	9.06	159	PN	Pn	11 55 36.7	+5.5	**MOD**	**Modoc 94.94 41**	*e*P	P	**12 06 24.1 +0.6**
CTZ	Chatham Island	9.06	159	Pn	Pn	11 55 36.7	+5.5		comp=Z,3.2nm,1.0s		
CRLZ	Canterbury Las	9.51	209	PN	Pn	11 55 34.0	-3.1	**CD2**	**Chengdu 96.54 303**	P	P	**12 06 32.7 +1.8**
CRLZ	Canterbury Las	9.51	209	Pn	Pn	11 55 34.0	-3.1	CD2	pP	pP	12 07 16.9 -4.3
MQZ	McQueen's Vall	9.61	208	PN	Pn	11 55 34.9	-3.5	CD2	sP	sP	12 07 35.4 -7.0
MQZ	McQueen's Vall	9.61	208	Pn	Pn	11 55 34.9	-3.5	CD2	PP	PP	**12 10 32.6 +4.2**
WVZ	Waitaha Valley	9.95	217	PN	Pn	11 55 39.8	-2.9	CD2	S	ScS	**12 17 35.4 +1.2**
WVZ	Waitaha Valley	9.95	217	Pn	Pn	11 55 39.9	-2.9	CD2	sS	sS	12 18 53.4 -9.0
RPZ	Rata Peaks	10.29	213	PN	Pn	11 55 44.1	-3.1	CD2	SS	SS	**12 24 18.6 +5.1**
RPZ	Rata Peaks	10.29	213	P	Pn	11 55 44.7	-2.5	CD2	pmax	pmax	
	16nm,0.3s,baz=37,slow=2.2,SNR=60								comp=Z,10.0nm,0.5s		
RPZ				S	S	11 57 34.3	-8.1	CD2	pmax	pmax	
	16nm,0.3s,baz=210,slow=23,SNR=13								comp=Z,200nm,4.9s		
RPZ	**Rata Peaks**	**10.29**	**213**	*e*Pn	**Pn**	**11 55 44.6**	**-2.5**	**HHC**	**Hu-ho-hao-te 97.83 315**	*e*P	Pdif	12 06 38.2 +1.7
RPZ				S	S	11 57 34.3	-8.1	HHC	pP	pP	12 07 23.3 -3.5
RPZ				*e*Sn		11 55		HHC	sP	sP	12 07 40.9 -7.1
FOZ	**Fox Glacier**	**10.83**	**218**	PN	Pn	11 55 49.8	-4.2	HHC	PP	PP	**12 10 42.4 +4.3**
FOZ	**Fox Glacier**	**10.83**	**218**	Pn	Pn	11 55 49.8	-4.2	HHC	SKS	SKSac	**12 16 57.3 +3.1**
LBZ	**Lake Benmore**	**11.20**	**214**	PN	Pn	11 55 55.8	-3.1	HHC	S	ScS	**12 17 45.8 +1.3**
LBZ	**Lake Benmore**	**11.20**	**214**	Pn	Pn	11 55 55.8	-3.1	HHC	sS	sS	12 19 03.2 -10
ODZ	**Otahua Downs**	**11.52**	**210**	PN	Pn	**11 56 00.8**	**-2.1**	HHC	pmax	pmax	
ODZ	**Otahua Downs**	**11.52**	**210**	*e*Pn	Pn	**11 56 01.0**	**-2.0**		comp=Z,15nm,0.8s		
JCZ	**Jackson Bay**	**11.66**	**219**	*e*PN	Pn	11 56 00.3	-4.6	HHC	pmax	pmax	
JCZ	**Jackson Bay**	**11.66**	**219**	Pn	Pn	11 56 00.8	-4.1		comp=Z,210nm,5.6s		
WKZ	**Wanaka**	**12.08**	**216**	Pn	Pn	11 56 05.8	-4.3	**LZH**	**Lanzhou 99.60 307**	*e*P	**Pdif**	**12 06 47.5 +2.9**
EAZ	**Earnscleugh**	**12.25**	**214**	Pn	Pn	11 56 09.3	-2.9	LZH	pP	**pP**	**12 07 31.5 -3.5**
MSZ	**Milford Sound**	**12.51**	**219**	Pn	Pn	**11 56 12.9**	**-2.5**	LZH	sP	sP	12 07 50.1 -6.1
TUZ	**Tuapeka**	**12.68**	**211**	PN	Pn	**11 56 16.4**	**-1.1**	LZH	pmax	pmax	
TUZ	**Tuapeka**	**12.68**	**211**	Pn	Pn	**11 56 16.4**	**-1.1**		comp=Z,11nm,1.1s		
SYZ	**Scrubby Hill**	**13.35**	**210**	PN	Pn	**11 56 25.8**	**-0.1**	**PDAR**	**Pinedale Array 101.52 45**	P	**Pdif**	**12 06 54.1 +1.1**
SYZ	**Scrubby Hill**	**13.35**	**210**	Pn	Pn	**11 56 25.8**	**-0.1**		comp=Z,0.4nm,0.6s,baz=212,slow=3.2,SNR=4.2			
WHZ	**Wether Hill Ro**	**13.38**	**215**	*e*Pn	Pn	**11 56 24.0**	**-2.3**	**PDAR**	**Pinedale Array 101.52 45**	P	**Pdif**	**12 06 54.1 +1.1**
DZM	**Mont Dzumac**	**17.13**	**317**	P	P	**11 57 10.8**	**+0.1**	**YKA**	**Yellowknife Ar 111.05 27**	PKiKP	**PKiKP**	**12 11 32.5 0.0**
	4.1nm,0.3s,baz=123,slow=12,SNR=39								comp=Z,0.1nm,0.5s,baz=223,slow=1.8,SNR=4.0			
DZM	**Mont Dzumac**	**17.13**	**317**	*e*P	P	**11 57 07.9**	**-2.7**	**YKA**	**Yellowknife Ar 111.05 27**	PKiKP	**PKiKP**	**12 11 32.5 0.0**
DZM	**Mont Dzumac**	**17.13**	**317**	P	P	**11 57 10.8**	**+0.1**	**MKAR**	**Makanchi Array 118.88 309**	PKP	**PKPdf**	**12 22 07.7 +3.1**
MSVF	**Nonsavu**	**17.58**	**357**	*e*P	P	**11 57 14.3**	**-1.2**		comp=Z,0.5nm,0.5s,baz=282,slow=2.9,SNR=8.4			
	125nm,0.5s							MKAR		PKKPbc	**PKKPab**	**12 22 07.7 +3.1**
AFI	**Afiamalu**	**22.97**	**24**	P	P	**11 58 10.2**	**-1.1**	**MKAR**	**Makanchi Array 118.88 309**	PKP	**PKPdf**	**12 11 47.3 -0.8**
	204nm,0.8s,baz=22,slow=7.8,SNR=18							**SPA0**	**Spitsbergen Ar 136.43 355**	*e*PKPdf	**PKPdf**	**12 12 22.9 +2.3**
AFI	**Afiamalu**	**22.97**	**24**	P	P	**11 58 10.2**	**-1.1**	**KEV**	**Kevo 142.28 344**	*ep*	PKPpre	12 12 25.6
	12nm,0.8s							**KEV**	**Kevo 142.28 344**	*ep*	PKPpre	12 12 25.6
ARMA	**Armidale**	**23.36**	**274**	*e*P	P	**11 58 17.1**	**+2.2**	**ARCES**	**ARCESS Array B 142.78 345**	PKhKP	PKPpre	12 12 28.8
	53nm,1.5s								comp=Z,3.2nm,0.5s,baz=60,slow=2.9,SNR=12			
EIDS	**Eidsvold**	**25.88**	**285**	*e*P	P	**11 58 37.5**	**0.0**	**ARCES**	**ARCESS Array B 142.78 345**	PKPpre	PKPpre	12 12 28.8
	13nm,0.8s							**ARE0**	**ARCESS Array S 142.78 345**	*e*PKPdf	**PKPdf**	**12 12 28.6 -3.7**
STKA	**Stephens Creek**	**31.11**	**266**	P	P	**11 59 25.7**	**+1.9**	**JOF**	**Joensuu 145.89 334**	*ep*	**PKPdf**	**12 12 37.8 -0.1**
	10nm,0.6s,baz=101,slow=9.7,SNR=24								comp=Z,23nm,0.4s			
STKA	**Stephens Creek**	**31.11**	**266**	P	P	**11 59 25.7**	**+1.9**	**JOF**	**Joensuu 145.89 334**	*ep*	**PKPdf**	**12 12 37.8 -0.1**
CTA	**Charters Tower**	**32.45**	**289**	P	P	**11 59 36.4**	**+0.8**		comp=Z,23nm,0.4s			
	46nm,0.9s,baz=117,slow=10,SNR=22							**STEI**	**Steigen 146.08 349**	*e*PKPdf	**PKPdf**	**12 12 39.0 +1.0**
CTA	**Charters Tower**	**32.45**	**289**	P	P	**11 59 36.4**	**+0.8**	**LOF**	**Lofoten 146.14 350**	*e*PKPdf	**PKPdf**	**12 12 37.1 -1.1**
CTAO	**Charters Tower**	**32.45**	**289**	*e*P	P	**11 59 36.5**	**+0.8**	**STOK**	**Stokkvaagen 147.90 349**	*e*PKPdf	**PKPbc**	**12 12 44.3 -0.1**
	64nm,1.0s							**KAF**	**Kangasniemi 148.17 336**	*ep*	**PKPdf**	**12 12 43.6 +1.9**
COEN	**Coen**	**38.50**	**295**	*e*P	P	**12 00 27.1**	**-0.1**		comp=Z,6.8nm,0.4s			
	233nm,0.8s							**KAF**	**Kangasniemi 148.17 336**	*ep*	**PKPdf**	**12 12 43.6 +1.9**
PMG	**Port Moresby**	**38.77**	**304**	P	P	**12 00 29.1**	**-0.3**		comp=Z,6.8nm,0.4s			
	36nm,0.9s,baz=253,slow=18,SNR=3.1							**FINES**	**FINESS Array B 148.71 335**	PKPbc	**PKPbc**	**12 12 45.7 -0.9**
PMG	**Port Moresby**	**38.77**	**304**	*e*P	P	**12 00 29.2**	**-0.1**		comp=Z,7.1nm,0.4s,baz=36,slow=6.8,SNR=51			
AS31	**Alice Springs**	**40.51**	**274**	*e*P	P	**12 00 44.1**	**+0.3**	**FINES**	**FINESS Array B 148.71 335**	PKPbc	**PKPbc**	**12 12 45.7 -0.9**
ASAR	**Alice Springs**	**40.51**	**274**	P	P	**12 00 44.1**	**+0.3**	**DBIC**	**Dimbokro 151.24 172**	PKPbc	**PKPbc**	**12 12 56.8 +2.6**
	26nm,0.5s,baz=116,slow=7.6,SNR=712								comp=Z,4.4nm,0.5s,baz=172,slow=3.1,SNR=15			
ASAR				ScP	ScP	12 06 07.7	-4.4	DBIC		PKPab	**PKPab**	**12 13 05.5 +2.8**
	1.1nm,0.7s,baz=115,slow=4.2,SNR=5.7								comp=Z,2.0nm,0.5s,baz=140,slow=3.6,SNR=4.2			
ASAR				S	S	12 06 35.1	-2.3	**DBIC**	**Dimbokro 151.24 172**	PKPbc	**PKPbc**	**12 12 56.8 +2.6**
	0.8nm,0.8s,baz=114,slow=15,SNR=4.2							DBIC		PKPab	**PKPab**	**12 13 05.5 +2.8**
ASAR	**Alice Springs**	**40.51**	**274**	P	P	**12 00 44.1**	**+0.3**	**BR131**	**Keskin Array S 152.19 289**	*e*PKPbc	**PKPbc**	**12 12 55.8 0.0**
ASAR				ScP	ScP	12 06 07.7	-4.4	**BRTR**	**Keskin Array B 152.19 289**	PKPbc	**PKPbc**	**12 12 55.8 0.0**
ASAR				S	S	12 06 35.1	-2.3		comp=Z,2.5nm,0.5s,baz=152,slow=3.8,SNR=15			
WB2	**Warramunga Arr**	**41.96**	**279**	*e*P	P	**12 00 55.0**	**-0.5**	BRTR		PKPab	**PKPab**	**12 13 05.8 -0.6**
WRAB	**Tennant Creek**	**41.96**	**279**	*e*P	P	**12 00 55.2**	**-0.3**		comp=Z,0.8nm,0.6s,baz=131,slow=3.8,SNR=4.5			
	51nm,0.7s							**BRTR**	**Keskin Array B 152.19 289**	PKPbc	**PKPbc**	**12 12 55.8 0.0**
WRAB	**Tennant Creek**	**41.96**	**279**	P	P	**12 00 55.0**	**-0.5**	BRTR		PKPab	**PKPab**	**12 13 05.8 -0.6**
	453nm,0.6s,SNR=55							**MOL**	**Molde 152.23 351**	*e*PKPdf	**PKPdf**	**12 12 45.4 -2.7**
WRA	**Warramunga Arr**	**41.97**	**279**	P	P	**12 00 55.0**	**-0.5**	**NB2**	**NORSAR Subarra 153.12 347**	PKP	**PKPbc**	**12 12 56.3 -0.7**
	57nm,0.8s,baz=118,slow=7.7,SNR=388								comp=Z,1.7nm,0.6s,baz=17,slow=2.6			
WRA				ScP	ScP	12 06 15.2	-2.6	**NB2**	**NORSAR Subarra 153.12 347**	PKP	**PKPbc**	**12 12 56.3 -0.7**
	0.5nm,0.7s,baz=116,slow=3.6,SNR=3.4								baz=17,slow=2.6			
								NOA	**NORSAR Array B 153.12 347**	PKPbc	**PKPbc**	**12 12 56.6 -0.4**
									comp=Z,1.1nm,0.4s,baz=29,slow=3.6,SNR=7.1			
								NOA		PKPab	**PKPab**	**12 13 07.2 -2.2**
									comp=Z,1.2nm,0.9s,baz=27,slow=2.1,SNR=4.3			
								NOA	**NORSAR Array B 153.12 347**	PKPbc	**PKPbc**	**12 12 56.6 -0.4**
								NOA		PKPab	**PKPab**	**12 13 07.2 -2.2**
								AKASG	**Malin Array Be 153.27 314**	PKPbc	**PKPbc**	**12 12 56.9 -0.7**
									comp=Z,1.6nm,0.4s,baz=49,slow=2.8,SNR=17			
								AKASG		PKPab	**PKPab**	**12 13 09.4 -1.0**
									comp=Z,0.5nm,0.4s,baz=54,slow=2.9,SNR=4.2			
								AKASG	**Malin Array Be 153.27 314**	PKPbc	**PKPbc**	**12 12 56.9 -0.7**
								AKASG		PKPab	**PKPab**	**12 13 09.4 -1.0**
								NC602	**NORSAR Array S 153.33 346**	*e*PKPdf	**PKPbc**	**12 12 56.9 -0.5**
								TORD	**Torodi Ar. Bea 157.73 187**	PKPbc	PKPdf	12 13 10.9 +14
									comp=Z,0.4nm,0.6s,baz=162,slow=3.0,SNR=5.7			
								TORD		PKPab	**PKPab**	**12 13 31.9 +1.6**
									comp=Z,1.3nm,0.5s,baz=170,slow=4.2,SNR=14			
								TORD	**Torodi Ar. Bea 157.73 187**	PKPab	**PKPab**	**12 13 31.9 +1.6**
								KHC	**Kasperske Hory 162.50 326**	*e*PKPab	**PKPab**	**12 13 47.0 -3.4**
								GERES	**GERESS Array B 162.65 325**	PKPab	**PKPab**	**12 13 49.7 -1.5**
									comp=Z,0.6nm,0.5s,baz=36,slow=5.4,SNR=8.5			
								GERES	**GERESS Array B 162.65 325**	PKPab	**PKPab**	**12 13 49.7 -1.5**

BEO ***10*** *12:02:07.7,41.62N×13.69E,h0km*
ROM ***10*** *12:02:24.0±1.1,43.34N×16.50E,h10km,Md2.9/5,Ml3.1/2, Error ellipse: s-maj=20.3km s-min=7.5km az=64.0*
CSEM ***10*** *12:02:31.3±0.3,42.97N×15.91E,h10km,MD2.9/5, Error ellipse: s-maj=10.9km s-min=5.9km az=87.0*
VIE ***10*** *12:02:35.2±0.6,43.23N×15.70E,h10km,mb2.6/2,ML2.8/3, Error ellipse: s-maj=6.6km s-min=4.7km az=78.0 69 km WSW of Split*

ISC 10 12:02:28.6±1.2, 43.13N±0.03×15.90E±0.04, h7km±9km, n34, σ2s52/36, 3C-1D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**1.35**	**100**	*e*Pg		**Pn**	**12 02 54.1**	**+0.3**
STON						Sg	**12 03 13.0**	**+1.1**
SGRT	**San Giovanni R**	**1.38**	**185**	Pn		**Pn**	**12 02 53.9**	**-0.4**
	127nm,0.3s							
SGRT	**San Giovanni R**	**1.38**	**185**	Pn		**Pn**	**12 02 53.9**	**-0.4**
	127nm,0.3s							
MSAG	**Monte S. Angel**	**1.42**	**180**	Pn		**Pn**	**12 02 54.4**	**-0.4**
MSAG				Sn		**Sb**	**12 03 16.0**	**+2.3**
	230nm,0.5s							
MSAG	**Monte S. Angel**	**1.42**	**180**	Pn		**Pn**	**12 02 54.4**	**-0.4**
MSAG				Sn		**Sb**	**12 03 16.0**	**+2.3**
	230nm,0.5s							
RGNG	**Rignano Grg**	**1.47**	**189**	Pn		**Pn**	**12 02 55.4**	**-0.1**
RGNG	**Rignano Grg**	**1.47**	**189**	Pn		**Pn**	**12 02 55.4**	**-0.1**
NVLJ	**Novalja**	**1.61**	**333**	*i* Pn		**Pg**	**12 03 01.5**	**+2.0**
NVLJ						Sn	**12 03 25.6**	**+5.2**
NVLJ	**Novalja**	**1.61**	**333**	*i* Pn		**Pg**	**12 03 01.4**	**+2.0**
NVLJ						Sn	**12 03 25.6**	**+5.2**
BLY	**Banja Luka**	**1.87**	**29**	*e*Pn		**Pg**	**12 03 06.7**	**+2.4**
BLY	**Banja Luka**	**1.87**	**29**	*e*Pn		**Pg**	**12 03 06.7**	**+2.4**
NRCA	**Norcia**	**2.06**	**263**	Pn		**Pb**	**12 03 05.4**	**-1.0**
	11nm,0.6s							
NRCA	**Norcia**	**2.06**	**263**	Pn		**Pb**	**12 03 05.4**	**-1.0**
	11nm,0.6s							
SDI	**San Donato**	**2.10**	**228**	Pn		**Pb**	**12 03 07.5**	**+0.6**
SDI	**San Donato**	**2.10**	**228**	Pn		**Pb**	**12 03 07.5**	**+0.6**
BOJS	**Bojanci**	**2.42**	**349**	*i* Pn		**Pb**	**12 03 13.0**	**+0.7**
BOJS	**Bojanci**	**2.42**	**349**	*i* Pn		**Pb**	**12 03 13.0**	**+0.7**
GBRS	**Gornja Briga**	**2.52**	**342**	*i* Pn		**Pb**	**12 03 14.7**	**+0.5**
SKDS	**Skadanscina**	**2.77**	**331**	*i* Pn		**Pb**	**12 03 16.7**	**-1.7**
SKDS	**Skadanscina**	**2.77**	**331**	*i* Pn		**Pb**	**12 03 16.7**	**-1.7**
LJU	**Ljubljana**	**3.07**	**342**	*e*Pn		Pn	12 03 13.3	-4.2
VNIS	**Vrh nad Dolski**	**3.09**	**344**	*i* Pn		**Pb**	**12 03 22.2**	**-1.7

ellipse: s-maj=21.6km s-min=11.0km az=156.0

ISC 10 12:35:41.4±0.5, 23°.27S±0'.09×175°.55W±0'.10, h30km, n56, σ1°71/56, mb4.5/15, MS3.6/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.97**	**22**	Pn	**Pn**	**12 38 04.3**	**+1.4**
	8.0nm,0.3s,baz=81,slow=23,SNR=8.6						
AFI				Sn	**Sn**	**12 39 49.3**	**-4.5**
	5.0nm,0.3s,baz=164,slow=21,SNR=4.6						
AFI	**Afiamalu**	**9.97**	**22**	Pn	**Pn**	**12 38 04.3**	**+1.4**
AFI				Sn	**Sn**	**12 39 49.3**	**-4.5**
RAR	**Rarotonga**	**14.75**	**85**	Pn	**Pn**	**12 39 06.4**	**-1.6**
	6.5nm,0.3s,baz=239,slow=12,SNR=10.0						
RAR				LR	LR	12 43 05.9	
	comp=Z,248nm,21.2s,baz=277,slow=30						
RAR	**Rarotonga**	**14.75**	**85**	Pn	**Pn**	**12 39 06.5**	**-1.6**
DZM	**Mont Dzumac**	**16.67**	**271**	*e*LR	LR	12 43 50.8	
	263nm,25.9s						
TBI	**Tubuai**	**23.95**	**95**	*e*T	T	13 05 34.9	
	10.0nm,0.4s						
PAE	**Paea**	**24.94**	**82**	*e*T	T	13 06 44.0	
	5.2nm,0.4s						
PPT2	**Papeete2**	**24.96**	**82**	*e*LR	LR	12 46 57.1	
	344nm,29.5s						
PPT2				*e*T	T	13 06 46.2	
	8.1nm,0.3s						
MEH	**Mehetia**	**26.26**	**83**	*e*T	T	13 08 22.6	
	64nm,0.3s						
HNR	**Honiara**	**27.18**	**296**	LR	LR	12 49 20.1	
	comp=Z,60nm,18.9s,baz=111,slow=30						
EIDS	**Eidsvold**	**30.44**	**259**	*e*P	**P**	**12 41 50.1**	**-1.4**
	6.0nm,0.8s						
CTA	**Charters Tower**	**35.57**	**268**	P	**P**	**12 42 35.9**	**-0.5**
	6.2nm,0.4s,baz=88,slow=11,SNR=18						
CTA				LR	LR	12 55 36.6	
	comp=Z,47nm,19.1s,baz=231,slow=34						
CTA	**Charters Tower**	**35.57**	**268**	P	**P**	**12 42 35.9**	**-0.5**
RKT	**Rikitea**	**37.21**	**98**	*e*T	T	13 22 09.7	
	2.6nm,0.4s						
STKA	**Stephens Creek**	**38.74**	**248**	P	**P**	**12 43 00.9**	**-2.3**
	2.0nm,0.5s,baz=96,slow=8.7,SNR=7.2						
STKA				LR	LR	12 56 02.9	
	comp=Z,92nm,19.8s,baz=26,slow=32						
STKA	**Stephens Creek**	**38.74**	**248**	P	**P**	**12 43 00.9**	**-2.3**
AS31	**Alice Springs**	**46.16**	**259**	*e*P	**P**	**12 44 02.0**	**-1.7**
ASAR	**Alice Springs**	**46.17**	**259**	P	**P**	**12 44 01.9**	**-1.8**
	3.7nm,0.8s,baz=90,slow=8.1,SNR=28						
ASAR				PcP	**PcP**	**12 45 39.0**	**-0.4**
	0.9nm,0.7s,baz=104,slow=4.0,SNR=4.4						
ASAR	**Alice Springs**	**46.17**	**259**	P	**P**	**12 44 01.9**	**-1.8**
ASAR				PcP	**PcP**	**12 45 39.0**	**-0.4**
WB2	**Warramunga Arr**	**46.52**	**264**	*e*P	**P**	**12 44 03.9**	**-2.6**
WRAB	**Tennant Creek**	**46.52**	**264**	*e*P	**P**	**12 44 04.4**	**-2.1**
	6.3nm,0.9s						
WRA	**Warramunga Arr**	**46.53**	**264**	P	**P**	**12 44 03.8**	**-2.8**
	2.9nm,0.6s,baz=92,slow=8.4,SNR=58						
WRA				PcP	**PcP**	**12 45 40.3**	**-0.4**
	1.5nm,0.8s,baz=98,slow=3.9,SNR=4.2						
WRA	**Warramunga Arr**	**46.53**	**264**	P	**P**	**12 44 03.8**	**-2.8**
WRA				PcP	**PcP**	**12 45 40.3**	**-0.4**
GUMO	**Guam**	**53.31**	**309**	LR	LR	13 04 10.6	
	comp=Z,15nm,20.6s,baz=90,slow=32						
FITZ	**Fitzroy Crossi**	**54.95**	**264**	P	**P**	**12 45 08.5**	**-1.6**
	3.2nm,0.7s,baz=42,slow=3.2,SNR=8.7						
FITZ	**Fitzroy Crossi**	**54.95**	**264**	P	**P**	**12 45 08.5**	**-1.6**
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**12 46 29.4**	**-0.7**
	1.6nm,0.8s,baz=52,slow=6.1,SNR=6.7						
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**12 46 29.4**	**-0.7**
PETK	**Petropavlovsk-**	**79.53**	**344**	P	**P**	**12 47 46.3**	**+1.2**
	5.5nm,0.8s,baz=132,slow=8.5,SNR=6.3						
PETK				LR	LR	13 24 21.1	
	comp=Z,30nm,18.2s,baz=112,slow=37						
PETK	**Petropavlovsk-**	**79.53**	**344**	P	**P**	**12 47 46.3**	**+1.2**
MAW	**Mawson**	**79.73**	**199**	LR	LR	13 23 53.9	
	comp=Z,71nm,18.6s,baz=116,slow=36						
USRK	**Ussuriysk Arra**	**82.52**	**325**	P	**P**	**12 48 03.1**	**+2.0**
	11nm,0.9s,baz=167,slow=4.0,SNR=9.4						
PLCA	**Paso Flores**	**85.72**	**133**	LR	LR	13 19 34.6	
	comp=Z,42nm,18.5s,baz=265,slow=31						
TXAR	**Lajitas Array**	**86.66**	**56**	P	**P**	**12 48 24.8**	**+2.2**
	1.2nm,0.8s,baz=224,slow=8.8,SNR=7.9						
TXAR	**Lajitas Array**	**86.66**	**56**	P	**P**	**12 48 24.8**	**+2.2**
ENH	**Enshi**	**89.47**	**303**	*e*P	**P**	**12 48 37.0**	**+1.1**
	21nm,1.2s						
ILAR	**Eielson Array**	**90.52**	**12**	P	**P**	**12 48 40.9**	**+0.9**
	0.8nm,0.9s,baz=215,slow=6.0,SNR=7.1						
ILAR	**Eielson Array**	**90.52**	**12**	P	**P**	**12 48 40.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.17**	**289**	P	**P**	**12 48 55.2**	**+1.9**
	5.8nm,0.9s,baz=133,slow=3.1,SNR=30						
CMAR				LR	LR	13 26 10.9	
	comp=Z,46nm,19.7s,baz=259,slow=33						
CMAR	**Chiang Mai Arr**	**93.17**	**289**	P	**P**	**12 48 55.2**	**+1.9**
CHTO	**Chiang Mai**	**93.31**	**289**	*e*P	**P**	**12 48 55.6**	**+1.6**
	4.9nm,0.8s						
ARCES	**ARCESS Array B**	**132.04**	**350**	PKP	**PKPdf**	**12 54 52.0**	**+0.7**
	11nm,1.1s,baz=18,slow=0.4,SNR=5.5						
ARCES	**ARCESS Array B**	**132.04**	**350**	PKP	**PKPdf**	**12 54 52.0**	**+0.7**
FINES	**FINESS Array B**	**139.05**	**344**	PKP	**PKPdf**	**12 55 07.0**	**+2.5**
	1.1nm,0.6s,baz=77,slow=8.2,SNR=4.3						
FINES	**FINESS Array B**	**139.05**	**344**	PKP	**PKPdf**	**12 55 07.0**	**+2.5**
AKASG	**Malin Array Be**	**146.53**	**331**	PKPbc	**PKPbc**	**12 55 19.3**	**-0.3**
	3.3nm,0.6s,baz=42,slow=3.7,SNR=15						
AKASG	**Malin Array Be**	**146.53**	**331**	PKPbc	**PKPbc**	**12 55 19.3**	**-0.3**
BR131	**Keskin Array S**	**150.37**	**310**	*e*PKPbc	**PKPbc**	**12 55 30.1**	**-0.2**
BRTR	**Keskin Array B**	**150.37**	**310**	PKPbc	**PKPbc**	**12 55 30.1**	**-0.2**
	1.8nm,0.7s,baz=134,slow=3.2,SNR=10.0						
BRTR				PKPab	**PKPab**	**12 55 38.1**	**+1.4**
	0.4nm,0.5s,baz=161,slow=7.9,SNR=3.9						
BRTR	**Keskin Array B**	**150.37**	**310**	PKPbc	**PKPbc**	**12 55 30.1**	**-0.2**
BRTR				PKPab	**PKPab**	**12 55 38.1**	**+1.4**
CLL	**Collm**	**151.24**	**349**	*i* PKPbc	**PKPbc**	**12 55 32.1**	**+0.4**
	comp=Z,6.0nm,0.6s						
BRG	**Berggiesshubel**	**151.48**	**347**	*i* P	**PKPbc**	**12 55 32.9**	**+0.6**
	comp=Z,6.9nm,0.6s						
BRG				*e*		12 55 44.6	
	comp=Z,3.1nm,0.7s						
GERES	**GERESS Array B**	**153.45**	**346**	PKPbc	**PKPbc**	**12 55 37.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=30,slow=3.2,SNR=4.2						
GERES	**GERESS Array B**	**153.45**	**346**	PKPbc	**PKPbc**	**12 55 37.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**169.60**	**165**	PKP	**PKPdf**	**12 55 45.6**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=238,slow=2.2,SNR=2.9						
TORD				PKPab	**PKPab**	**12 57 00.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=181,slow=4.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**169.60**	**165**	PKP	**PKPdf**	**12 55 45.6**	**-1.2**
TORD				PKPab	**PKPab**	**12 57 00.4**	**+0.3**

IDC 10 12:40:31.3±1.6, 5°.12S×146°.06E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, ML3.0/2, MS4.6/1, Ms1 4.6/1, ms1mx2.9/23, Error ellipse: s-maj=48.3km s-min=26.0km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.40**	**166**	Pn	Pn	12 41 37.3	-2.1
	3.1nm,0.3s,baz=357,slow=11,SNR=20						
PMG				Sn	Sn	12 42 23.6	-7.8
	3.4nm,0.3s,baz=314,slow=21,SNR=3.5						
WRA	**Warramunga Arr**	**18.63**	**217**	P	P	12 44 50.7	-0.1
	0.1nm,0.3s,baz=36,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**21.85**	**211**	P	P	12 45 27.0	+1.3
	0.7nm,0.5s,baz=52,slow=8.9,SNR=5.2						
FITZ	**Fitzroy Crossi**	**23.76**	**235**	P	P	12 45 45.2	-0.5
	2.3nm,0.6s,baz=47,slow=15,SNR=3.7						
AFI	**Afiamalu**	**42.43**	**105**	LR	LR	13 02 37.9	
	comp=Z,716nm,19.4s,baz=59,slow=31						
ILAR	**Eielson Array**	**85.05**	**23**	P	P	12 53 08.8	+0.2
	0.2nm,0.5s,baz=249,slow=4.8,SNR=7.4						

IDC 10 12:42:51.6±0.8, 13°.44N×154°.76E, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/19, mbtmp3.9/13, Error ellipse: s-maj=24.9km s-min=19.5km az=126.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**27.37**	**330**	P	P	12 48 38.7	0.0
	0.5nm,0.5s,baz=159,slow=9.3,SNR=4.3						
USRK	**Ussuriysk Arra**	**36.31**	**332**	P	P	12 49 57.9	+0.9
	2.6nm,0.8s,baz=148,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**38.79**	**212**	P	P	12 50 18.4	+0.1
	0.6nm,0.6s,baz=37,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**42.15**	**209**	P	P	12 50 45.5	-0.6
	0.3nm,0.6s,baz=40,slow=7.0,SNR=5.8						
SONM	**Songino Array**	**52.68**	**321**	P	P	12 52 08.2	+0.2
	1.7nm,0.9s,baz=118,slow=7.5,SNR=9.2						
CMAR	**Chiang Mai Arr**	**53.73**	**283**	P	P	12 52 16.1	0.0
	2.5nm,0.7s,baz=75,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**64.69**	**24**	P	P	12 53 30.1	-1.1
	0.6nm,0.8s,baz=245,slow=5.8,SNR=7.4						
ZALV	**Zalesovo Beam**	**67.44**	**323**	P	P	12 53 48.3	-0.8
	0.4nm,0.5s,baz=98,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**68.33**	**315**	P	P	12 53 54.9	-0.1
	1.0nm,0.7s,baz=93,slow=8.3,SNR=12						
YKA	**Yellowknife Ar**	**78.49**	**28**	P	P	12 54 53.9	-0.5
	0.8nm,0.8s,baz=277,slow=5.6,SNR=9.7						
NVAR	**Mina Array Bea**	**79.41**	**53**	P	P	12 55 01.6	+1.3
	1.1nm,0.8s,baz=264,slow=5.2,SNR=7.5						
PDAR	**Pinedale Array**	**85.11**	**47**	P	P	12 55 30.3	+0.2
	0.3nm,0.4s,baz=247,slow=1.8,SNR=6.6						
ULM	**Lac du Bonnet**	**91.72**	**37**	P	P	12 56 01.3	+0.1
	0.9nm,0.7s,baz=301,slow=5.9,SNR=3.1						

IDC 10 12:48:40.3±2.2, 1°.97N×126°.46E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/15, Error ellipse: s-maj=182.3km s-min=26.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**161**	P	P	12 53 46.4	-1.7
	0.4nm,0.5s,baz=339,slow=11,SNR=6.7						
WRA				LR	LR	13 02 09.5	
	comp=Z,52nm,21.6s,baz=270,slow=35						
ASAR	**Alice Springs**	**26.49**	**165**	P	P	12 54 20.8	+1.3
	0.2nm,0.6s,baz=344,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**58.85**	**326**	P	P	12 58 40.8	-0.1
	0.1nm,0.4s,baz=114,slow=8.0,SNR=4.3						

MEX 10 12:53:00.6±1.1, 16°.95N×94°.97W, h117km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.17**	**31**	*e*P	Pn	12 53 15.3	-1.5
CMIG				*i* S	Sn	12 53 27.2	-1.8
HUIG	**Huatulco**	**1.60**	**223**	*e*P	Pn	12 53 26.7	-2.3
HUIG				*i* S	Sn	12 53 49.8	-0.9
OXX	**Oaxaca**	**1.68**	**275**	*i* P	Pn	12 53 29.4	-0.8
OXX				*i* S	Sn	12 53 50.5	-2.3
VHO	**Vista Hermosa**	**1.69**	**274**	*i* P	Pn	12 53 29.7	-0.7
VHO				*i* S	Sn	12 53 51.5	-1.4
TGIG		**1.78**	**95**	*i* P	Pn	12 53 29.9	-1.4
TGIG				*i* S	Sn	12 53 52.3	-2.4
PCIG		**2.09**	**126**	*e*P	Pn	12 53 34.2	-0.8
PCIG				*i* S	Sn	12 53 59.7	-1.7
TPIG	**Tehuac#an**	**2.71**	**303**	*i* P	Pn	12 53 42.3	-0.9
TPIG				*i* S	Sn	12 54 13.6	-2.3
CCIG	**Comitan**	**2.80**	**103**	*e*P	Pn	12 53 43.6	-0.9
CCIG				*i* S	Sn	12 54 17.4	-0.8
UTMO	**Huajuapan**	**2.84**	**288**	*i* P	Pn	12 53 44.1	-0.9
UTMO				*i* S	Sn	12 54 16.0	-3.1
PNIG	**Pinotepa**	**3.07**	**260**	*e*P	Pn	12 53 45.2	-2.6
PNIG				*i* S	Sn	12 54 21.9	-2.4

IDC 10 13:09:33.7±7.4, 5°.32S×147°.11E, h143km±74km, mb3.3/2, mb1 3.3/4, mb1mx3.0/17, mbtmp3.2/4, Error ellipse: s-maj=91.7km s-min=50.7km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.06**	**179**	P	Pn	13 10 36.4	+1.8
	3.2nm,0.3s,baz=8.5,slow=7.1,SNR=48						
PMG				S	Sn	13 11 21.3	-0.6
	3.9nm,0.3s,baz=60,slow=20,SNR=10						
WRA	**Warramunga Arr**	**19.12**	**219**	P	P	13 13 45.7	-0.1
	0.2nm,0.3s,baz=39,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.24**	**214**	P	P	13 14 20.7	+1.7
	0.4nm,0.3s,baz=31,slow=13,SNR=10						
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P	P	13 14 39.4	-0.6
	3.7nm,1.0s,baz=44,slow=11,SNR=7.0						
TORD	**Torodi Ar. Bea**	**145.02**	**285**	PKPbc	PKPbc	13 28 53.1	-1.6
	0.2nm,0.6s,baz=72,slow=3.7,SNR=3.7						

*ISCJB **10** 13:13:21.0±0.8, 35°.04N±0'.05×86°.2E±0°.3, h33km, mb3.1/1, MS3.0/1, Error ellipse: s-maj=36.1km s-min=7.0km az=174.3*

*IDC **10** 13:13:21.6±2.9, 35°.17N×86°.22E, h0km, mb3.1/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML3.1/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/16, Error ellipse: s-maj=138.9km s-min=25.8km az=64.0*

ISC 10 13:13:23.2±1.3, 35°.05N±0'.10×86°.4E±0°.3, h35km, n14, σ1°15/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**7.05**	**199**	*e*P	**Pn**	**13 15 03.3**	**-0.9**
	13nm,0.5s						
GUN	**Gumba**	**7.13**	**184**	*e*P	**Pn**	**13 15 04.7**	**-0.7**
	24nm,0.8s						
GKN	**Gakkha**	**7.19**	**193**	*e*P	**Pn**	**13 15 07.0**	**+1.0**
KKN	**Kakani**	**7.30**	**188**	*e*P	**Pn**	**13 15 08.2**	**+0.6**
	8.4nm,0.6s						
JIRN	**Jiri**	**7.37**	**181**	*e*P	**Pn**	**13 15 09.8**	**+1.1**
	4.8nm,0.6s						
TAPN	**Taplejung**	**7.76**	**171**	*e*P	**Pn**	**13 15 13.9**	**-0.1**
	9.9nm,0.7s						
RAMN	**Ramite**	**8.08**	**179**	*e*P	**Pn**	**13 15 17.3**	**-1.0**
	13nm,0.7s						
ODAN	**Odare**	**8.21**	**174**	*e*P	**Pn**	**13 15 19.5**	**-0.6**
	7.5nm,0.5s						
MKAR	**Makanchi Array**	**12.13**	**346**	Pn	**Pn**	**13 16 12.7**	**-0.8**
	0.1nm,0.3s,baz=158,slow=13,SNR=16						
KURK	**Kurchatov**	**16.64**	**343**	Pn	**Pn**	**13 17 11.8**	**-1.8**
	0.0nm,0.3s,baz=159,slow=11,SNR=14						
KURK				LR	LR	13 24 30.7	
	comp=Z,54nm,19.6s,baz=135,slow=41						
ZALV	**Zalesovo Beam**	**18.93**	**357**	P	**Pn**	**13 17 42.4**	**+0.7**
	0.1nm,0.3s,baz=176,slow=8.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**19.33**	**143**	P	Pn	13 17 57.1	+3.1
	0.8nm,0.7s,baz=312,slow=11,SNR=5.6						
BVAR	**Borovoye Array**	**21.25**	**333**	P	**P**	**13 18 07.6**	**+1.5**
	0.6nm,0.6s,baz=136,slow=9.2,SNR=5.2						
KSRS	**Korea Array**	**33.38**	**74**	LR	LR	13 35 36.0	
	comp=Z,26nm,19.7s,baz=220,slow=40						

*IDC **10** 13:36:37.1±1.8, 35°.06N×86°.06E, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/28, mbtmp3.6/7, ML3.5/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/33, Error ellipse: s-maj=59.5km s-min=24.4km az=57.0*

*ISCJB **10** 13:36:38.5±0.6, 34°.99N±0'.05×85°.9E±0°.2, h33km, mb3.4/3, MS3.0/3, Error ellipse: s-maj=23.5km s-min=6.1km az=173.7*

ISC 10 13:36:41.1±0.9, 35°.00N±0'.09×85°.9E±0°.2, h35km, n18, σ1°09/17, mb3.5/3, MS2.9/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.87**	**196**	*e*P	**Pn**	**13 38 18.7**	**-0.9**
GUN	**Gumba**	**7.07**	**180**	*e*P	**Pn**	**13 38 22.1**	**-0.3**
	43nm,0.9s						
KKN	**Kakani**	**7.20**	**184**	*e*P	**Pn**	**13 38 25.0**	**+0.9**
	23nm,0.9s						
JIRN	**Jiri**	**7.32**	**178**	*e*P	**Pn**	**13 38 26.9**	**+1.0**
	3.9nm,0.5s						
DMN	**Daman**	**7.39**	**185**	*e*P	**Pn**	**13 38 27.6**	**+0.8**
	16nm,0.8s						
PKI	**Pulchoki**	**7.41**	**183**	*e*P	**Pn**	**13 38 27.6**	**+0.5**
	11nm,0.5s						
KOLN	**Koldanda**	**7.46**	**196**	*e*P	**Pn**	**13 38 26.4**	**-1.3**
TAPN	**Taplejung**	**7.78**	**168**	*e*P	**Pn**	**13 38 31.1**	**-1.1**
	37nm,1.3s						
RAMN	**Ramite**	**8.05**	**175**	*e*P	**Pn**	**13 38 34.4**	**-1.3**
	20nm,0.7s						
ODAN	**Odare**	**8.21**	**170**	*e*P	**Pn**	**13 38 36.9**	**-1.1**
	12nm,0.7s						
MKAR	**Makanchi Array**	**12.09**	**348**	Pn	**Pn**	**13 39 29.7**	**-1.1**
	0.2nm,0.3s,baz=158,slow=12,SNR=22						
KURK	**Kurchatov**	**16.57**	**344**	Pn	**Pn**	**13 40 29.1**	**-1.5**
	0.1nm,0.3s,baz=159,slow=11,SNR=18						
KURK				LR	LR	13 47 48.9	
	comp=Z,92nm,18.6s,baz=135,slow=41						
ZALV	**Zalesovo Beam**	**18.96**	**358**	P	**P**	**13 40 59.2**	**+0.1**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=4.9						
ZALV				LR	LR	13 49 33.4	
	comp=Z,85nm,18.4s,baz=209,slow=41						
CMAR	**Chiang Mai Arr**	**20.15**	**141**	P	**P**	**13 41 13.0**	**+0.6**
	0.5nm,0.5s,baz=321,slow=8.7,SNR=5.5						
CMAR				LR	LR	13 49 19.8	
	comp=Z,54nm,18.1s,baz=350,slow=38						
BVAR	**Borovoye Array**	**21.11**	**333**	P	**P**	**13 41 23.8**	**+1.4**
	1.1nm,0.6s,baz=138,slow=12,SNR=8.5						
BVAR				LR	LR	13 50 23.5	
	comp=Z,76nm,18.3s,baz=316,slow=39						
AKTO	**Aktyubinsk**	**25.43**	**316**	P	**P**	**13 42 06.5**	**+1.1**
	1.3nm,0.9s,baz=116,slow=16,SNR=3.0						
KSRS	**Korea Array**	**33.81**	**73**	LR	LR	13 58 16.7	
	comp=Z,26nm,21.9s,baz=270,slow=39						
ILAR	**Eielson Array**	**72.36**	**21**	P	**P**	**13 48 03.5**	**+0.5**
	0.5nm,0.8s,baz=316,slow=5.0,SNR=3.6						

*ISCJB **10** 13:40:33.1±0.6, 31°.33S±0'.04×68°.25W±0'.05, h106km±7km, mb3.7/1, Error ellipse: s-maj=7.5km s-min=6.7km az=179.8*

*NEIC **10** 13:40:33.3±0.5, 31°.44S×68°.24W, h103km±6km, mb4.5/2, Error ellipse: s-maj=10.3km s-min=8.6km az=61.0*

*IDC **10** 13:40:33.6±1.7, 31°.51S×68°.35W, h104km±11km, mb3.2/1, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, Error ellipse: s-maj=64.7km s-min=28.6km az=133.0*

*GUC **10** 13:40:34.2±1.0, 31°.32S×68°.53W, h150km, ML3.9*

ISC 10 13:40:33.1±0.7, 31°.34S±0'.05×68°.18W±0'.05, h101km±6km, n29, σ1°47/46, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.27**	**190**	P	**Pn**	**13 40 48.8**	**+0.9**
	26nm,0.3s,baz=359,slow=4.5,SNR=1260						
CFAA				S	**Sn**	**13 41 00.2**	**+1.5**
	79nm,0.3s,baz=155,slow=18,SNR=169						
CFAA	**Coronel Fontan**	**0.27**	**190**	P	**Pn**	**13 40 48.8**	**+0.9**
CFAA				S	**Sn**	**13 41 00.2**	**+1.5**
CMCH	**Combarbala**	**2.42**	**273**	⇓*i*P	**Pn**	**13 41 11.5**	**+0.2**
CMCH				*e*S	**Sn**	**13 41 39.9**	**-0.6**
CMCH	**Combarbala**	**2.42**	**273**	⇓*i*P	**Pn**	**13 41 11.5**	**+0.2**
CMCH				*e*S	**Sn**	**13 41 39.9**	**-0.6**
TLL	**Tololo Astrono**	**2.54**	**297**	⇑*i*P	**Pn**	**13 41 13.8**	**+0.8**
TLL				*i* S	**Sn**	**13 41 44.1**	**+0.5**
TLL	**Tololo Astrono**	**2.54**	**297**	⇑*i*P	**Pn**	**13 41 13.8**	**+0.8**
TLL				*i* S	**Sn**	**13 41 44.1**	**+0.5**
TLL				AML	AML	13 41 49.6	
	comp=N,498nm,0.7s						
PEL	**Peldehue**	**2.78**	**229**	*e*P	**Pn**	**13 41 17.3**	**+1.2**
PEL				*i* S	**Sn**	**13 41 49.4**	**+0.4**
PEL				AML	AML	13 41 59.4	
	comp=N,369nm,0.8s						
CLCH	**Cerro Calan**	**2.86**	**223**	*e*P	**Pn**	**13 41 18.6**	**+1.5**
CLCH				*e*S	**Sn**	**13 41 51.4**	**+0.5**
CLCH				AML	AML	13 41 59.9	
	comp=N,251nm,0.7s						
CHNG	**Los Chungos**	**2.88**	**258**	*e*P	**Pn**	**13 41 16.9**	**-0.3**
CHNG				*i* S	**Sn**	**13 41 49.1**	**-2.2**
CHNG	**Los Chungos**	**2.88**	**258**	*e*P	**Pn**	**13 41 16.9**	**-0.3**
CHNG				*i* S	**Sn**	**13 41 49.1**	**-2.2**
CHNG				AML	AML	13 41 57.4	
	comp=N,204nm,0.6s						
ROCH	**El Roble**	**2.90**	**235**	*e*P	**Pn**	**13 41 18.4**	**+0.6**
ROCH				*i* S	**Sn**	**13 41 52.0**	**-0.1**
ROCH				AML	AML	13 42 01.6	
	comp=N,290nm,0.4s						
LCO	**Las Campanas**	**3.18**	**316**	*e*P	**Pn**	**13 41 22.0**	**+0.4**
LCO				*i* S	**Sn**	**13 41 58.5**	**-0.5**
LCO	**Las Campanas**	**3.18**	**316**	*e*P	**Pn**	**13 41 22.0**	**+0.4**
LCO				*i* S	**Sn**	**13 41 58.5**	**-0.5**
LCO				AML	AML	13 42 02.2	
	comp=E,478nm,0.5s						
VACH	**Vallenar**	**3.54**	**320**	*i* S	**Sn**	**13 42 06.3**	**-0.9**
TRQA	**Tornquist**	**8.43**	**144**	*e*Pn	**Pn**	**13 42 31.6**	**-0.7**
	comp=E,9.8nm,0.6s						
LVC	**Limon Verde**	**8.71**	**356**	*e*Pn	**Pn**	**13 42 36.3**	**-0.3**
	comp=E,1.6nm,0.3s						
PLCA	**Paso Flores**	**9.57**	**191**	P	**Pn**	**13 42 45.2**	**-2.7**
	comp=E,0.2nm,0.3s,baz=286,slow=21,SNR=4.0						
PLCA	**Paso Flores**	**9.57**	**191**	P	**Pn**	**13 42 45.2**	**-2.7**
CPUP	**Villa Florida**	**10.74**	**65**	P	**Pn**	**13 43 05.2**	**+1.3**
	comp=E,1.0nm,0.3s,baz=178,slow=4.6,SNR=7.6						
CPUP				S	**Sn**	**13 44 58.1**	**-4.0**
	comp=E,1.1nm,0.3s,baz=252,slow=12,SNR=2.9						
CPUP	**Villa Florida**	**

EVR	**Evrytania**	**0.64**	**344**	P	**Pg**	**13 48 00.1**	**-0.5**
EVR	**Evrytania**	**0.64**	**344**	*e*PN	**Pg**	**13 48 00.1**	**-0.5**
EVR	**Evrytania**	**0.64**	**344**	P	**Pg**	**13 48 00.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.71**	**6**	P	**Pg**	**13 48 02.0**	**0.0**
MAKR	**Makrakomi, Fth**	**0.71**	**6**	P	**Pg**	**13 48 02.0**	**0.0**
AGG	**Agios Georgios**	**0.76**	**18**	P	**Pg**	**13 48 02.4**	**-0.4**
AGG				S	**Sg**	**13 48 13.3**	**+0.7**
AGG	**Agios Georgios**	**0.76**	**18**	*e*PB	**Pg**	**13 48 01.5**	**-1.3**
AGG				*e*SN	**Sg**	**13 48 13.1**	**+0.5**
AGG	**Agios Georgios**	**0.76**	**18**	*e*Pb	**Pg**	**13 48 01.5**	**-1.3**
AGG	**Agios Georgios**	**0.76**	**18**	P	**Pg**	**13 48 02.4**	**-0.4**
AGG				*e*Sn	**Sg**	**13 48 13.1**	**+0.5**
LTK	**Loutraki**	**0.79**	**111**	P	**Pg**	**13 48 03.3**	**0.0**
LTK	**Loutraki**	**0.79**	**111**	*e*PN	**Pg**	**13 48 03.1**	**-0.2**
LTK	**Loutraki**	**0.79**	**111**	P	**Pg**	**13 48 03.3**	**0.0**
LKR	**Lokris**	**0.83**	**65**	P	**Pg**	**13 48 03.5**	**-0.7**
LKR				S	**Sb**	**13 48 16.1**	**-0.2**
LKR	**Lokris**	**0.83**	**65**	*e*PN	**Pg**	**13 48 04.2**	**0.0**
LKR				*e*SN	**Sb**	**13 48 15.8**	**-0.5**
LKR	**Lokris**	**0.83**	**65**	P	**Pg**	**13 48 03.5**	**-0.7**
LKR	**Lokris**	**0.83**	**65**	*e*Pn	**Pg**	**13 48 04.2**	**0.0**
LKR				*e*Sn	**Sb**	**13 48 15.8**	**-0.5**
LKR				S	**Sb**	**13 48 16.1**	**-0.2**
ATAL	**Atalanti**	**0.86**	**63**	P	**Pg**	**13 48 04.0**	**-0.9**
ATAL				S	**Sg**	**13 48 16.3**	**+0.1**
ATAL	**Atalanti**	**0.86**	**63**	P	**Pg**	**13 48 04.0**	**-0.9**
ATAL				S	**Sg**	**13 48 16.3**	**+0.1**
VLX	**Vlachokerasia**	**0.97**	**164**	P	**Pg**	**13 48 06.2**	**-0.7**
VLX				S	**Sn**	**13 48 21.8**	**-0.4**
VLX	**Vlachokerasia**	**0.97**	**164**	*e*PB	**Pg**	**13 48 05.8**	**-1.1**
VLX	**Vlachokerasia**	**0.97**	**164**	*e*Pb	**Pg**	**13 48 05.8**	**-1.1**
VLX	**Vlachokerasia**	**0.97**	**164**	P	**Pg**	**13 48 06.2**	**-0.7**
KFL	**Anninata**	**1.00**	**259**	P	**Pg**	**13 48 07.2**	**-0.3**
KFL				S	**Sn**	**13 48 22.5**	**-0.4**
KFL	**Anninata**	**1.00**	**259**	P	**Pg**	**13 48 07.2**	**-0.3**
KFL				S	**Sn**	**13 48 22.5**	**-0.4**
VIL1	**Vilia, Western**	**1.02**	**97**	*e*PN	**Pg**	**13 48 07.9**	**0.0**
VIL1	**Vilia, Western**	**1.02**	**97**	*e*Pn	**Pg**	**13 48 07.9**	**0.0**
ITM	**Ithomi**	**1.12**	**184**	P	**Pg**	**13 48 09.1**	**-0.7**
ITM				S	**Sn**	**13 48 26.5**	**+0.6**
ITM	**Ithomi**	**1.12**	**184**	*e*PN	**Pg**	**13 48 08.7**	**-1.1**
ITM	**Ithomi**	**1.12**	**184**	*e*Pn	**Pg**	**13 48 08.7**	**-1.1**
ITM	**Ithomi**	**1.12**	**184**	P	**Pg**	**13 48 09.1**	**-0.7**
ITM				S	**Sn**	**13 48 26.5**	**+0.6**
VLS	**Valsamata**	**1.15**	**264**	P	**Pb**	**13 48 08.9**	**-1.4**
VLS	**Valsamata**	**1.15**	**264**	*e*PB	**Pb**	**13 48 08.9**	**-1.4**
VLS	**Valsamata**	**1.15**	**264**	P	**Pb**	**13 48 08.9**	**-1.4**
LKD2	**Lefkada island**	**1.19**	**295**	P	**Pb**	**13 48 10.2**	**-0.8**
LKD2				S	**Sn**	**13 48 28.6**	**+1.1**
LKD2	**Lefkada island**	**1.19**	**295**	P	**Pb**	**13 48 10.2**	**-0.8**
LKD2				S	**Sn**	**13 48 28.6**	**+1.1**
DID	**Didima**	**1.24**	**130**	P	**Pn**	**13 48 11.0**	**-0.9**
DID				S	**Sn**	**13 48 29.6**	**+0.8**
DID	**Didima**	**1.24**	**130**	*e*PN	**Pn**	**13 48 11.2**	**-0.7**
DID	**Didima**	**1.24**	**130**	P	**Pn**	**13 48 11.0**	**-0.9**
DID				S	**Sn**	**13 48 29.6**	**+0.8**
THL	**Klokotos Trika**	**1.26**	**359**	P	**Pb**	**13 48 12.2**	**-0.1**
THL				S	**Sn**	**13 48 30.1**	**+0.8**
THL	**Klokotos Trika**	**1.26**	**359**	*e*PN	**Pn**	**13 48 11.9**	**-0.2**
THL	**Klokotos Trika**	**1.26**	**359**	*e*Pn	**Pn**	**13 48 11.9**	**-0.2**
THL	**Klokotos Trika**	**1.26**	**359**	P	**Pb**	**13 48 12.2**	**-0.1**
THL				S	**Sn**	**13 48 30.1**	**+0.8**
NAIG	**Nisos Aigina**	**1.27**	**115**	*e*PN	**Pg**	**13 48 12.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.27**	**115**	*e*Pn	**Pg**	**13 48 12.5**	**-0.1**
MRKA	**Markates**	**1.28**	**71**	P	**Pb**	**13 48 12.5**	**-0.1**
MRKA				S	**Sn**	**13 48 30.8**	**+1.0**
MRKA	**Markates**	**1.28**	**71**	P	**Pb**	**13 48 12.5**	**-0.1**
MRKA				S	**Sn**	**13 48 30.8**	**+1.0**
ATH	**Athens Observa**	**1.36**	**103**	*e*PN	**Pn**	**13 48 13.4**	**-0.2**
ATH	**Athens Observa**	**1.36**	**103**	*e*Pn	**Pn**	**13 48 13.4**	**-0.2**
NEO	**Neokhori**	**1.37**	**42**	P	**Pn**	**13 48 13.6**	**0.0**
NEO				S	**Sg**	**13 48 32.8**	**+0.6**
NEO	**Neokhori**	**1.37**	**42**	*e*PN	**Pn**	**13 48 13.4**	**-0.2**
NEO	**Neokhori**	**1.37**	**42**	P	**Pn**	**13 48 13.6**	**0.0**
NEO				S	**Sg**	**13 48 32.8**	**+0.6**
XOR	**Xorichti**	**1.39**	**40**	P	**Pn**	**13 48 13.4**	**-0.6**
XOR	**Xorichti**	**1.39**	**40**	P	**Pn**	**13 48 13.4**	**-0.6**
ERET	**Eretria**	**1.40**	**84**	P	**Pn**	**13 48 13.2**	**-0.9**
ERET				S	**Sn**	**13 48 33.1**	**+0.3**
ERET	**Eretria**	**1.40**	**84**	P	**Pn**	**13 48 13.2**	**-0.9**
ERET				S	**Sn**	**13 48 33.1**	**+0.3**
SKIA	**Skiathos**	**1.41**	**52**	P	**Pn**	**13 48 14.0**	**-0.3**
SKIA				S	**Sg**	**13 48 34.7**	**+1.0**
SKIA	**Skiathos**	**1.41**	**52**	P	**Pn**	**13 48 14.0**	**-0.3**
SKIA				S	**Sg**	**13 48 34.7**	**+1.0**
PYL	**PYLOS**	**1.42**	**190**	P	**Pn**	**13 48 14.3**	**-0.1**
PYL	**PYLOS**	**1.42**	**190**	*e*PN	**Pn**	**13 48 13.9**	**-0.5**
PYL	**PYLOS**	**1.42**	**190**	*e*Pn	**Pn**	**13 48 13.9**	**-0.5**
PYL	**PYLOS**	**1.42**	**190**	P	**Pn**	**13 48 14.3**	**-0.1**
VLY	**Voula,Athens**	**1.46**	**107**	P	**Pn**	**13 48 14.9**	**0.0**
VLY	**Voula,Athens**	**1.46**	**107**	*e*PN	**Pb**	**13 48 15.3**	**-0.3**
VLY	**Voula,Athens**	**1.46**	**107**	P	**Pn**	**13 48 14.9**	**0.0**
VLY	**Voula,Athens**	**1.46**	**107**	*e*Pn	**Pb**	**13 48 15.3**	**-0.3**
PTL	**Penteli**	**1.46**	**99**	P	**Pn**	**13 48 14.9**	**-0.1**
PTL				S	**Sg**	**13 48 35.2**	**-0.1**
PTL	**Penteli**	**1.46**	**99**	*e*PN	**Pn**	**13 48 14.9**	**-0.1**
PTL	**Penteli**	**1.46**	**99**	P	**Pn**	**13 48 14.9**	**-0.1**
PTL				S	**Sg**	**13 48 35.2**	**-0.1**
JAN	**Janina**	**1.64**	**326**	*e*PN	**Pb**	**13 48 18.6**	**-0.1**
JAN	**Janina**	**1.64**	**326**	*e*Pn	**Pb**	**13 48 18.6**	**-0.1**
AOS	**Alonnisos**	**1.68**	**58**	P	**Pn**	**13 48 17.2**	**-0.7**
AOS				S	**Sb**	**13 48 40.7**	**-0.1**
AOS	**Alonnisos**	**1.68**	**58**	P	**Pn**	**13 48 17.2**	**-0.7**
AOS				S	**Sb**	**13 48 40.7**	**-0.1**
VLI	**Veliai**	**1.74**	**155**	P	**Pn**	**13 48 19.2**	**+0.5**
VLI				S	**Sb**	**13 48 42.7**	**+0.4**
VLI	**Veliai**	**1.74**	**155**	*e*PN	**Pn**	**13 48 19.2**	**+0.5**
VLI	**Veliai**	**1.74**	**155**	P	**Pn**	**13 48 19.2**	**+0.5**
VLI				S	**Sb**	**13 48 42.7**	**+0.4**
KYTH	**Kithira**	**2.17**	**158**	*e*PN	**Pb**	**13 48 26.6**	**-1.2**
KYTH	**Kithira**	**2.17**	**158**	*e*Pn	**Pb**	**13 48 26.6**	**-1.2**
PLG	**Polygyros**	**2.34**	**27**	*e*PN	**Pn**	**13 48 26.9**	**-0.1**
PLG	**Polygyros**	**2.34**	**27**	*e*Pn	**Pn**	**13 48 26.9**	**-0.1**
SOH	**Sokhos**	**2.71**	**22**	*e*PN	**Pn**	**13 48 32.1**	**-0.1**
SOH	**Sokhos**	**2.71**	**22**	*e*Pn	**Pn**	**13 48 32.1**	**-0.1**
APE	**Apeiranthos**	**3.03**	**113**	*e*PN	**Pn**	**13 48 38.1**	**+1.5**
APE	**Apeiranthos**	**3.03**	**113**	*e*Pn	**Pn**	**13 48 38.1**	**+1.5**
NVR	**Nevrokopi**	**3.35**	**24**	*e*PN	**Pn**	**13 48 40.7**	**-0.3**
NVR	**Nevrokopi**	**3.35**	**24**	*e*Pn	**Pn**	**13 48 40.7**	**-0.3**
STON	**Ston**	**5.63**	**326**	*e*PN	**Pn**	**13 49 12.3**	**+0.1**
STON				S	**Sn**	**13 50 16.1**	**-1.0**
STON	**Ston**	**5.63**	**326**	*e*Pn	**Pn**	**13 49 12.3**	**+0.1**
STON				S	**Sn**	**13 50 16.0**	**-1.0**
NVLJ	**Novalja**	**8.25**	**322**	*e*PN	**Pn**	**13 49 48.5**	**+0.3**
NVLJ				S	**Sn**	**13 51 20.7**	**-0.8**
NVLJ	**Novalja**	**8.25**	**322**	*e*Pn	**Pn**	**13 49 48.4**	**+0.3**
NVLJ				S	**Sn**	**13 51 20.6**	**-0.8**
BRTR	**Keskin Array B**	**9.14**	**77**	Pn	Pn	13 50 04.7	+4.2
	0.1nm,0.3s,baz=264,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.89**	**221**	P	**P**	**13 54 06.9**	**+1.6**
	0.3nm,0.5s,baz=32,slow=10.0,SNR=4.5						
KURK	**Kurchatov**	**41.24**	**54**	P	**P**	**13 55 32.6**	**-0.9**
	0.4nm,0.6s,baz=279,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**44.22**	**59**	P	**P**	**13 55 56.8**	**-1.0**
	0.4nm,0.6s,baz=275,slow=6.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**44.72**	**48**	P	**P**	**13 56 02.0**	**+0.4**
	0.5nm,0.5s,baz=264,slow=11,SNR=3.6						

*ISCJB **10** 14:01:26.4±0.5,34°.87N±0°.08×135°.77E±0°.08, h375km±4km, mb2.8/5, Error ellipse: s-maj=13.8km s-min=9.0km az=148.6*

*IDC **10** 14:01:27.4±1.3,34°.84N×135°.74E, h363km±14km, mb2.7/5, mb1 3.0/9, mb1mx2.8/28, mbtmp2.9/9, Error ellipse: s-maj=22.9km s-min=15.3km az=103.0*

*JMA **10** 14:01:27.6±0.1,34°.99N×135°.68E, h365km±2km, M3.1*

ISC 10 14:01:27.4±0.8,34°.79N±0°.10×135°.77E±0°.08, h370km±7km, n24, σ1s29/31, mb2.9/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.57**	**328**	P	**Pn**	**14 02 13.5**	**-0.4**
JWY	**Kouya**	**0.59**	**194**	P	**Pn**	**14 02 14.6**	**+0.3**
JWY				S	**S**	**14 02 51.3**	**-0.5**
JEG	**Eigenji**	**0.61**	**56**	P	**Pn**	**14 02 14.3**	**+0.2**
JKN2	**Miekihoku**	**0.69**	**143**	P	**Pn**	**14 02 14.7**	**+0.3**
JKN2				S	**S**	**14 02 51.4**	**-0.6**
JWZ	**Kozaga**	**1.26**	**182**	P	**Pn**	**14 02 16.9**	**+0.4**
JWZ				S	**S**	**14 02 55.3**	**-0.5**
JNY	**Yasuok**	**1.81**	**71**	P	**Pn**	**14 02 19.4**	**+0.1**
JYN	**Shimob**	**2.38**	**72**	P	**Pn**	**14 02 23.2**	**-0.1**
MAT	**Matsushiro**	**2.64**	**48**	P	**Pn**	**14 02 24.6**	**-0.6**
MAT				*e*S	**S**	**14 03 14.0**	**+2.1**
MAT	**Matsushiro**	**2.64**	**48**	P	**Pn**	**14 02 24.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.64**	**48**	P	**Pn**	**14 02 25.0**	**-0.3**
	3.3nm,0.3s,baz=224,slow=6.6,SNR=44						
MJAR				S	**S**	**14 03 16.9**	**+5.0**
	baz=9.2,slow=30,SNR=2.4						
JHU	**Hanno**	**3.06**	**69**	P	**Pn**	**14 02 28.7**	**0.0**
JHU				S	**S**	**14 03 17.6**	**-0.6**
JTO	**Tosashimizu**	**3.13**	**233**	P	**Pn**	**14 02 30.0**	**+0.5**
JAG	**Ashikaga**	**3.42**	**60**	P	**Pn**	**14 02 30.6**	**-1.3**
BSO4	**Boso 4**	**3.76**	**86**	P	**Pn**	**14 02 34.7**	**-0.4**
BSO4				S	**S**	**14 03 29.4**	**-0.4**
JHO	**Hitachi**	**4.31**	**64**	P	**Pn**	**14 02 39.5**	**-1.1**
JFK	**Kawauchi**	**4.87**	**57**	P	**Pn**	**14 02 44.7**	**-1.8**
KSRS	**Korea Array**	**6.88**	**295**	P	**Pn**	**14 03 08.6**	**-0.2**
	0.1nm,0.3s,baz=100,slow=12,SNR=3.6						
USRK	**Ussuriysk Arra**	**9.83**	**344**	P	**Pn**	**14 03 42.0**	**-1.2**
	2.8nm,0.3s,baz=156,slow=11,SNR=48						
ASAJ	**Asahikawa**	**10.70**	**27**	P	**Pn**	**14 03 51.6**	**-1.8**
	0.8nm,0.3s,baz=218,slow=13,SNR=12						
MKAR	**Makanchi Array**	**41.48**	**304**	P	**P**	**14 08 39.5**	**-0.1**
	0.1nm,0.3s,baz=87,slow=8.7,SNR=4.4						
ILAR	**Eielson Array**	**53.81**	**31**	P	**P**	**14 10 13.1**	**+0.2**
	0.2nm,0.6s,baz=254,slow=5.9,SNR=8.0						
WRA	**Warramunga Arr**	**54.45**	**182**	P	**P**	**14 10 18.8**	**+0.7**
	0.4nm,0.3s,baz=359,slow=7.7,SNR=9.1						
ASAR	**Alice Springs**	**58.17**	**182**	P	**P**	**14 10 44.7**	**+0.7**
	0.4nm,0.8s,baz=356,slow=6.5,SNR=5.0						
INK	**Inuvik**	**58.43**	**26**	P	**P**	**14 10 45.7**	**+0.5**
	0.4nm,0.5s,baz=274,slow=4.9,SNR=3.2						

*INMG **10** 14:03:17.8±0.7,32°.13N×5°.39W, h31km, ML2.1, Error ellipse: s-maj=13.4km s-min=7.5km az=86.0*

*CSEM **10** 14:03:18.2±0.3,32°.31N×5°.34W, h20km, mb3.7/3, Error ellipse: s-maj=5.7km s-min=4.7km az=21.0*

*CNRM **10** 14:03:18.9,32°.28N×5°.33W, h15km, MD3.0*

*MDD **10** 14:03:18.1±0.7,32°.30N×5°.33W, h0km, mb3.7/3, Error ellipse: s-maj=6.6km s-min=4.4km az=7.0, PRXIMO*

*IGIL **10** 14:03:20.5,32°.13N×5°.39W, h31km*

ISC 10 14:03:17.9±1.1,32°.28N±0°.04×5°.34W±0°.03, h27km±12km, n32, σ1s09/58, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIB	**El Ksiba**	**0.66**	**296**	P	**Pb**	**14 03 31.0**	**0.0**
KIB				S	**Sb**	**14 03 40.0**	**+0.1**
KIB	**El Ksiba**	**0.66**	**296**	P	**Pb**	**14 03 31.0**	**0.0**
KIB				S	**Sb**	**14 03 40.0**	**+0.1**
CZD	**Col de Zad**	**0.79**	**18**	P	**Pb**	**14 03 33.0**	**-0.3**
CZD				S	**Sb**	**14 03 43.0**	**-0.7**
CZD	**Col de Zad**	**0.79**	**18**	P	**Pb**	**14 03 33.0**	**-0.3**
CZD				S	**Sb**	**14 03 43.0**	**-0.7**
ZFT	**Errachidia**	**0.87**	**106**	P	**Pb**	**14 03 34.5**	**-0.1**
ZFT				S	**Sb**	**14 03 46.0**	**0.0**
ZFT	**Errachidia**	**0.87**	**106**	P	**Pb**	**14 03 34.5**	**-0.1**
ZFT				S	**Sb**	**14 03 46.0**	**0.0**
TZC	**Tazercounte**	**0.98**	**262**	P	**Pn**	**14 03 36.0**	**-0.1**
TZC				S	**Sn**	**14 03 49.0**	**-0.3**
TZC	**Tazercounte**	**0.98**	**262**	P	**Pn**	**14 03 36.0**	**-0.1**
TZC				S	**Sn**	**14 03 49.0**	**-0.3**
PBDV	**Barranco-do-Ve**	**5.39**	**337**	*e*Pn	**Pn**	**14 04 37.3**	**+0.8**
PBDV				*e*Sn	**Sn**	**14 05 36.7**	**-0.9**
PBDV	**Barranco-do-Ve**	**5.39**	**337**	P	**Pn**	**14 04 37.3**	**+0.8**
PBDV				S	**Sn**	**14 05 36.7**	**-0.9**
PBDV	**Barranco-do-Ve**	**5.39**	**337**	P	**Pn**	**14 04 37.3**	**+0.8**
PBDV				S	**Sn**	**14 05 36.7**	**-0.9**
PVAQ	**Vaqueiros**	**5.47**	**340**	*e*Pn	**Pn**	**14 04 38.3**	**+0.7**
PVAQ				*e*Sn	**Sn**	**14 05 39.4**	**-0.2**
PVAQ				A	A	14 05 40.0	
	1.5nm,0.9s						
PVAQ	**Vaqueiros**	**5.47**	**340**	P	**Pn**	**14 04 38.3**	**+0.7**
PVAQ				S	**Sn**	**14 05 39.4**	**-0.2**
	1.5nm,0.9s						
PVAQ	**Vaqueiros**	**5.47**	**340**	P	**Pn**	**14 04 38.3**	**+0.7**
PVAQ				S	**Sn**	**14 05 39.4**	**-0.2**
	1.5nm,0.9s						
EGRO	**El Granado**	**5.53**	**342**	P	**Pn**	**14 04 39.1**	**+0.7**
	0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 05 39.8**	**-1.2**
	1.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.53**	**342**	P	**Pn**	**14 04 39.1**	**+0.7**
	0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 05 39.8**	**-1.2**
	1.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.58**	**349**	P	**Pn**	**14 04 39.9**	**+0.8**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 05 42.7**	**+0.4**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.58**	**349**	P	**Pn**	**14 04 39.9**	**+0.8**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 05 42.7**	**+0.4**
	0.2nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**5.78**	**338**	*e*Sn	**Sn**	**14 05 46.8**	**-0.4**
PCVE				A	A	14 05 47.9	
	1.5nm,0.7s						
PCVE	**Castro Verde**	**5.78**	**338**	S	**Sn**	**14 05 46.8**	**-0.4**
	1.5nm,0.7s						
PCVE	**Castro Verde**	**5.78**	**338**	S	**Sn**	**14 05 46.8**	**-0.4**
	1.5nm,0.7s						
MESJ	**Messejana**	**6.03**	**338**	*e*P	**Pn**	**14 04 47.3**	**+2.1**
MESJ				*e*S	**Sn**	**14 05 50.6**	**-2.7**
MESJ	**Messejana**	**6.03**	**338**	*e*P	**Pn**	**14 04 47.3**	**+2.1**
MESJ				*e*S	**Sn**	**14 05 50.6**	**-2.7**
MESJ	**Messejana**	**6.03**	**338**	P	**Pn**	**14 04 47.3**	**+2.1**
MESJ				S	**Sn**	**14 05 50.6**	**-2.7**
MESJ	**Messejana**	**6.03**	**338**	P	**Pn**	**14 04 47.3**	**+2.1**
PBAR	**Barrancos**	**6.04**	**347**	*e*Pn	**Pn**	**14 04 46.7**	**+1.3**
PBAR				*e*Sn	**Sn**	**14 05 53.5**	**-0.2**
PBAR	**Barrancos**	**6.04**	**347**	P	**Pn**	**14 04 46.7**	**+1.3**
PBAR				S	**Sn**	**14 05 53.5**	**-0.2**
PBAR	**Barrancos**	**6.04**	**347**	P	**Pn**	**14 04 46.7**	**+1.3**
PBAR				S	**Sn**	**14 05 53.5**	**-0.2**
PNCL	**Nicolau / Gran**	**6.37**	**337**	*e*Pn	**Pn**	**14 04 51.7**	**+1.7**
PNCL	**Nicolau / Gran**	**6.37**	**337**	*e*Pn	**Pn**	**14 04 51.7**	**+1.7**
EBAD	**Badajoz**	**6.60**	**349**	P	**Pn**	**14 04 54.0**	**+0.9**
	1.1nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**14 06 07.0**	**-0.5**
	1.5nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.60**	**349**	P	**Pn**	**14 04 54.0**	**+0.9**
	1.1nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**14 06 06.9**	**-0.5**
	1.5nm,0.3s,SNR=7.9						

IDC 10 14:16:55.7±4.1,20°.38S×65°.76E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=125.6km s-min=30.3km az=57.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**37.24**	**255**	LR	LR	14 36 58.0	
	comp=Z,50nm,21.1s,baz=242,slow=32						
CMAR	**Chiang Mai Arr**	**50.48**	**42**	P	P	14 25 55.5	-0.1
	0.4nm,0.6s,baz=235,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**62.72**	**107**	P	P	14 27 22.9	-0.1
	0.8nm,0.8s,baz=260,slow=6.1,SNR=9.4						
WRA	**Warramunga Arr**	**63.92**	**103**	P	P	14 27 31.0	+0.1
	1.3nm,0.9s,baz=261,slow=5.4,SNR=4.8						
MKAR	**Makanchi Array**	**68.50**	**12**	P	P	14 27 60.0	+0.2
	0.7nm,1.0s,baz=180,slow=6.9,SNR=5.4						
KURK	**Kurchatov**	**71.68**	**9**	P	P	14 28 18.7	-0.4
	0.3nm,0.6s,baz=205,slow=6.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**75.82**	**11**	P	P	14 28 42.9	-0.4
	1.1nm,0.9s,baz=199,slow=4.1,SNR=4.9						

MEX 10 14:27:06.4±0.5,16°.03N×97°.26W, h14km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.91**	**294**	*e*P	Pb	14 27 20.9	-3.1
PNIG				*i* S	Sb	14 27 32.6	-3.4
HUIG	**Huatulco**	**1.14**	**103**	*i* P	Pb	14 27 23.9	-3.9
HUIG				*i* S	Sb	14 27 38.1	-4.3
VHO	**Vista Hermosa**	**1.15**	**26**	*i* P	Pn	14 27 24.6	-3.8
VHO				*i* S	Sb	14 27 38.5	-5.0
TPIG	**Tehuac#an**	**2.38**	**358**	*i* P	Pn	14 27 42.8	-2.4
TPIG				*i* S	Sn	14 28 10.5	-3.8
CMIG	**Matias Romero**	**2.51**	**65**	*i* P	Pn	14 27 44.8	-2.0
CMIG				*i* S	Sn	14 28 13.3	-3.9
MEIG	**Mezcala**	**2.95**	**310**	*i* P	Pn	14 27 50.0	-2.9
MEIG				*i* S	Sn	14 28 24.4	-3.8

IDC 10 14:33:12.8±1.4,20°.16S×66°.20E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, MS3.9/19, Ms1 3.9/19, ms1mx3.8/35, Error ellipse: s-maj=43.2km s-min=23.6km az=33.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.01**	**272**	LR	LR	14 42 44.3	
	comp=Z,455nm,19.3s,baz=228,slow=32						
LBTB	**Lobatse**	**37.70**	**255**	LR	LR	14 53 13.2	
	comp=Z,153nm,21.3s,baz=126,slow=32						
BOSA	**Boshof**	**38.08**	**249**	LR	LR	14 53 21.6	
	comp=Z,138nm,18.6s,baz=144,slow=32						
ATD	**Arta Tunnel**	**38.99**	**322**	LR	LR	14 55 11.1	
	comp=Z,32nm,21.4s,baz=69,slow=34						
SUR	**Sutherland**	**42.20**	**244**	LR	LR	14 55 51.6	
	comp=Z,165nm,20.1s,baz=258,slow=32						
NWAO	**Narrogin (SRO)**	**46.98**	**117**	LR	LR	14 57 53.3	
	comp=Z,123nm,18.9s,baz=30,slow=32						
MAW	**Mawson**	**47.48**	**182**	LR	LR	14 56 24.2	
	comp=Z,144nm,18.4s,baz=105,slow=29						
CMAR	**Chiang Mai Arr**	**50.04**	**42**	P	P	14 42 10.2	+0.7
	2.0nm,1.0s,baz=236,slow=8.9,SNR=10						
CMAR				LR	LR	15 01 08.3	
	comp=Z,158nm,18.9s,baz=230,slow=34						
FITZ	**Fitzroy Crossi**	**55.93**	**99**	LR	LR	15 02 00.8	
	comp=Z,70nm,20.6s,baz=279,slow=31						
ASAR	**Alice Springs**	**62.38**	**107**	P	P	14 43 37.7	-0.2
	1.3nm,0.9s,baz=268,slow=5.7,SNR=12						
WRA	**Warramunga Arr**	**63.56**	**103**	P	P	14 43 45.9	+0.2
	1.8nm,1.1s,baz=259,slow=5.7,SNR=5.5						
WRA				LR	LR	15 08 59.4	
	comp=Z,102nm,20.2s,baz=300,slow=34						
BRTR	**Keskin Array B**	**66.88**	**333**	P	P	14 44 08.0	+1.0
	0.9nm,0.8s,baz=151,slow=7.8,SNR=5.1						
STKA	**Stephens Creek**	**67.57**	**117**	LR	LR	15 09 12.1	
	comp=Z,92nm,21.2s,baz=206,slow=32						
MKAR	**Makanchi Array**	**68.20**	**12**	P	P	14 44 14.6	-0.4
	1.5nm,0.9s,baz=202,slow=5.2,SNR=12						
MKAR				LR	LR	15 12 41.1	
	comp=Z,56nm,19.1s,baz=353,slow=35						
TORD	**Torodi Ar. Bea**	**71.55**	**292**	P	P	14 44 36.4	+0.1
	1.3nm,1.2s,baz=116,slow=8.4,SNR=3.8						
CTA	**Charters Tower**	**74.36**	**106**	LR	LR	15 14 49.7	
	comp=Z,123nm,18.2s,baz=89,slow=34						
DBIC	**Dimbokro**	**74.73**	**283**	LR	LR	15 15 57.0	
	comp=Z,101nm,18.6s,baz=85,slow=34						
ZALV	**Zalesovo Beam**	**75.53**	**11**	P	P	14 44 58.4	-0.4
	2.1nm,0.8s,baz=210,slow=5.8,SNR=9.1						
ZALV				LR	LR	15 16 06.8	
	comp=Z,47nm,

BRTR	**Keskin Array B**	**66.71**	**333**	P	P	14 56 40.5	-1.6
	1.1nm,0.9s,baz=157,slow=6.7,SNR=6.1						
STKA	**Stephens Creek**	**67.33**	**117**	LR	LR	15 21 10.1	
	comp=Z,86nm,19.5s,baz=206,slow=32						
MKAR	**Makanchi Array**	**67.66**	**11**	P	P	14 56 47.9	0.0
	0.6nm,0.8s,baz=201,slow=6.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**74.99**	**11**	P	P	14 57 31.7	-0.2
	1.3nm,0.7s,baz=190,slow=5.7,SNR=7.8						
SONM	**Songino Array**	**76.06**	**26**	P	P	14 57 39.8	+1.4
	1.1nm,0.9s,baz=218,slow=4.8,SNR=4.2						
ULM	**Lac du Bonnet**	**146.53**	**340**	PKPbc	PKPbc	15 05 32.7	+0.4
	0.6nm,0.4s,baz=44,slow=3.6,SNR=3.7						

*ISK **10** 14:47:25.2, 37.˝18N×27.˝93E, h2km, MD2.5*
*DDA **10** 14:47:25.8, 37.˝13N×27.˝95E, h7km, MD2.8*
*CSEM **10** 14:47:26.5±0.2, 37.˝21N×27.˝94E, h2km, MD2.5, Error ellipse: s-maj=6.0km s-min=3.9km az=11.0*

ISC 10 14:47:26.6±1.0, **37.˝20N**±0.˝04×**27.˝92E**±0.˝02, **h11**km±9km, **n21**,σ1§**28**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	**Yerkesik**	**0.30**	**102**	*e*PG		**Pg**	**14 47 31.6**	**-1.1**
YER				*e*SG		**Sg**	**14 47 36.6**	**-0.1**
YER	**Yerkesik**	**0.30**	**102**	*e*Pg		**Pg**	**14 47 31.6**	**-1.1**
YER				*e*Sg		**Sg**	**14 47 36.6**	**-0.1**
BODT	**Bodrum**	**0.50**	**255**	*e*PG		**Pg**	**14 47 36.2**	**-0.2**
BODT				*e*SG		**Sg**	**14 47 44.0**	**+0.9**
BODT	**Bodrum**	**0.50**	**255**	*e*Pg		**Pg**	**14 47 36.2**	**-0.2**
BODT				*e*Sg		**Sg**	**14 47 44.0**	**+0.9**
TURN	**Turunc**	**0.64**	**120**	*i* P		Pg	14 47 33.2	-5.7
TURN				*i* S		Sg	14 47 40.6	-6.7
GCAM	**G?zelcaml?**	**0.74**	**313**	*i* P		**Pb**	**14 47 41.6**	**+0.1**
GCAM				*i* S		**Sn**	**14 47 53.8**	**-0.3**
GCAM	**G?zelcaml?**	**0.74**	**313**	*i* P		**Pb**	**14 47 41.6**	**+0.1**
GCAM				*i* S		**Sn**	**14 47 53.8**	**-0.3**
DNZL	**Cakiroluk**	**1.02**	**61**	*i* P		**Pg**	**14 47 45.8**	**-0.6**
DNZL				*i* S		**Sn**	**14 48 01.1**	**-0.4**
DNZL	**Cakiroluk**	**1.02**	**61**	*i* P		**Pg**	**14 47 45.8**	**-0.6**
DNZL				*i* S		**Sn**	**14 48 01.1**	**-0.4**
FETY	**Fethiye**	**1.09**	**121**	*e*PG		**Pb**	**14 47 46.8**	**-0.7**
FETY				*e*SG		**Sn**	**14 48 02.6**	**-0.3**
FETY	**Fethiye**	**1.09**	**121**	*e*Pg		**Pb**	**14 47 46.8**	**-0.7**
FETY				*e*Sg		**Sn**	**14 48 02.6**	**-0.3**
GOLH	**Golhisar**	**1.31**	**88**	*i* P		**Pg**	**14 47 51.6**	**-0.2**
GOLH				*i* S		**Sg**	**14 48 12.9**	**+4.0**
GOLH	**Golhisar**	**1.31**	**88**	*i* P		**Pg**	**14 47 51.6**	**-0.2**
GOLH				*i* S		**Sg**	**14 48 12.9**	**+4.0**
MANT	**Manisa**	**1.39**	**21**	*i* P		**Pn**	**14 47 51.6**	**-0.5**
MANT	**Manisa**	**1.39**	**21**	*i* P		**Pn**	**14 47 51.6**	**-0.5**
KULA	**Kula-Manisa**	**1.44**	**24**	*e*PN		**Pg**	**14 47 53.5**	**-0.8**
KULA	**Kula-Manisa**	**1.44**	**24**	*e*Pn		**Pg**	**14 47 53.5**	**-0.8**
ELL	**Elmali**	**1.66**	**105**	*e*PN		**Pb**	**14 47 56.7**	**-0.5**
ELL	**Elmali**	**1.66**	**105**	*e*Pn		**Pb**	**14 47 56.7**	**-0.5**
AKAS	**Kas**	**1.66**	**125**	*i* P		**Pb**	**14 47 57.2**	**-0.1**
AKAS				*i* S		**Sg**	**14 48 22.1**	**+2.0**
AKAS	**Kas**	**1.66**	**125**	*i* P		**Pb**	**14 47 57.2**	**-0.1**
AKAS				*i* S		**Sg**	**14 48 22.1**	**+2.0**

*DJA **10** 14:48:21, 0.˝14S×132.˝83E, h85km, MLv3.9/4*

IDC 10 14:48:14.1±1.9, **0.˝15N×132.˝87E, h0**km, **mb3.6**/4, **mb1 3.8**/5, **mb1mx3.6**/18, **mbtmp3.7**/5, **Error ellipse: s-maj=80.3km s-min=23.0km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**19.48**	**201**	P		P	14 52 41.9	-0.9
	0.3nm,0.3s,baz=20,slow=14,SNR=7.2							
WRA	**Warramunga Arr**	**20.02**	**176**	P		P	14 52 48.0	-0.7
	0.9nm,0.4s,baz=356,slow=12,SNR=15							
ASAR	**Alice Springs**	**23.69**	**178**	P		P	14 53 27.7	-0.1
	1.7nm,0.5s,baz=353,slow=6.6,SNR=36							
STKA	**Stephens Creek**	**32.91**	**166**	P		P	14 54 50.4	+0.2
	0.5nm,0.3s,baz=343,slow=12,SNR=7.0							
MKAR	**Makanchi Array**	**64.01**	**324**	P		P	14 58 50.0	+0.4
	0.2nm,0.5s,baz=108,slow=9.4,SNR=2.8							

IDC 10 14:55:17.4±2.5, **0.˝56S×132.˝97E, h0**km, **mb3.2**/2, **mb1 3.6**/4, **mb1mx3.4**/18, **mbtmp3.4**/4, **ML3.2**/2, **Error ellipse: s-maj=105.5km s-min=24.7km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**202**	P		Pn	14 59 40.1	+0.3
	0.1nm,0.3s,baz=37,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**19.31**	**176**	P		P	14 59 44.6	+0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**22.99**	**178**	P		P	15 00 23.4	-0.5
	0.4nm,0.4s,baz=354,slow=11,SNR=9.7							
MKAR	**Makanchi Array**	**64.64**	**324**	P		P	15 05 57.0	-0.1
	0.1nm,0.6s,baz=111,slow=7.9,SNR=2.7							

*ISCJB **10** 15:18:24.4±0.4, 23.˝91N±0.˝02×122.˝55E±0.˝02, h16km±4km, mb3.4/7, Error ellipse: s-maj=3.6km s-min=2.4km az=171.7*
*JMA **10** 15:18:25.5±0.3, 23.˝99N×122.˝54E, h22km, M3.1*
*TAP **10** 15:18:25.2, 23.˝97N×122.˝51E, h27km, ML3.8, C*
*IDC **10** 15:18:33.5±6.2, 24.˝03N×122.˝38E, h105km±58km, mb3.2/7, mb1 3.4/8, mb1mx3.2/23, mbtmp3.3/8, Error ellipse: s-maj=47.8km s-min=16.3km az=68.0*

ISC 10 15:18:24.6±1.1, **23.˝93N**±0.˝03×**122.˝51E**±0.˝02, **h28**km±9km, **n65**,σ1§**03**/115, **mb3.4**/7, **2C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.70**	**41**	P		**Pb**	**15 18 37.8**	**-0.5**
YOJ				S		**Sb**	**15 18 46.3**	**-1.2**
HWA	**Hwalien**	**0.83**	**273**	*e*P		**Pn**	**15 18 40.6**	**+0.2**
	baz=258							
HWA				*e*S		**Sb**	**15 18 51.4**	**+0.1**
	baz=258							
TWD	**Chiawan**	**0.85**	**280**	P		**Pn**	**15 18 40.6**	**-0.1**
	baz=278							
TWD				*e*S		**Sb**	**15 18 52.1**	**+0.3**
	baz=278							
ENA	**Nanau**	**0.86**	**305**	⇑*i*P		**Pn**	**15 18 41.0**	**+0.1**
	baz=303							
ENA				*e*S		**Sn**	**15 18 53.2**	**+0.7**
	baz=303							
TWC	**Suao**	**0.90**	**318**	*i* P		**Pn**	**15 18 41.4**	**-0.1**
	baz=317							
TWC				*e*S		**Sb**	**15 18 53.5**	**+0.1**
	baz=317							
ESL	**Shilin**	**0.99**	**263**	*e*P		**Pn**	**15 18 42.2**	**-0.5**
	baz=261							
ESL				*e*S		**Sn**	**15 18 56.1**	**+0.3**
	baz=261							
ILA	**Ilan**	**1.08**	**320**	*e*P		**Pb**	**15 18 44.9**	**+0.2**
	baz=311							
ILA				*e*S		**Sb**	**15 18 59.0**	**+0.5**
	baz=311							
TWE	**Neicheng**	**1.10**	**316**	⇓*i*P		**Pb**	**15 18 45.2**	**+0.2**
	baz=315							
TWE				*e*S		**Sb**	**15 18 59.8**	**+0.8**
	baz=315							
ENTT	**Nioudou**	**1.11**	**309**	⇓*i*P		**Pb**	**15 18 45.4**	**+0.1**
	baz=294							
ENTT				*e*S		**Sb**	**15 19 00.8**	**+1.5**
	baz=294							
NNS	**Nan Shan**	**1.15**	**296**	⇓*i*P		**Pn**	**15 18 45.8**	**+0.8**
	baz=295							
NNS				*e*S		**Sb**	**15 19 01.1**	**+0.4**
	baz=295							
WHF	**Hehuan Shan**	**1.16**	**281**	P		**Pn**	**15 18 45.7**	**+0.4**
	baz=279							
WHF				*e*S		**Sn**	**15 19 00.8**	**+0.3**
	baz=279							
EHY	**Hungye**	**1.17**	**249**	⇓*i*P		**Pn**	**15 18 45.5**	**+0.3**
	baz=247							
EHY				*e*S		**Sn**	**15 19 00.8**	**+0.6**
	baz=247							
TWB1	**Santiao Chiao**	**1.17**	**336**	P		**Pn**	**15 18 45.4**	**+0.2**
	baz=352							
TWB1				S		**Sb**	**15 19 01.7**	**+0.7**
	baz=352							
IRIF	**Iriomote-Funau**	**1.19**	**70**	P		**Pb**	**15 18 46.0**	**-0.5**
IRIF				*e*S		**Sb**	**15 19 02.0**	**+0.6**
HATJ	**Hateruma jima**	**1.19**	**84**	P		**Pb**	**15 18 46.2**	**-0.4**
HATJ				*e*S		**Sb**	**15 19 01.6**	**0.0**
TWT	**Tachien**	**1.26**	**285**	*e*P		**Pn**	**15 18 47.5**	**+0.9**
	baz=271							
TWT				*e*S		**Sb**	**15 19 04.7**	**+0.9**
	baz=271							
NSK	**Sanguang**	**1.28**	**305**	⇓*i*P		**Pb**	**15 18 47.8**	**-0.4**
	baz=292							
NSK				*e*S		**Sb**	**15 19 04.5**	**+0.2**
	baz=292							
NWF	**Wu-fen Shan**	**1.31**	**330**	⇓*i*P		**Pb**	**15 18 48.1**	**-0.6**
	baz=329							
NWF				*e*S		**Sb**	**15 19 06.1**	**+0.9**
	baz=329							
TWA	**Mucha**	**1.34**	**321**	⇓P		**Pb**	**15 18 48.8**	**-0.3**
	baz=320							
TWA				*e*S		**Sb**	**15 19 07.0**	**+1.1**
	baz=320							
JKRS	**Kuro-shima**	**1.40**	**77**	P		**Pn**	**15 18 49.3**	**+0.9**
JKRS				*e*S		**Sb**	**15 19 07.8**	**+0.1**
TAP1	**Taipei**	**1.42**	**321**	*e*P		**Pb**	**15 18 50.5**	**0.0**
	baz=320							
TAP1				*e*S		**Sb**	**15 19 08.9**	**+0.7**
	baz=320							
SMLT	**Sun Moon Lake**	**1.47**	**268**	P		**Pn**	**15 18 50.7**	**+1.2**
	baz=256							
TYC	**Yuchr**	**1.51**	**269**	⇓P		**Pn**	**15 18 51.2**	**+1.4**
	baz=267							
TWS1	**Kuangyinshan**	**1.53**	**320**	*e*P		**Pn**	**15 18 51.3**	**+1.2**
	baz=336							
TWS1				*e*S		**Sb**	**15 19 11.7**	**+0.4**
	baz=336							
NSTT	**Nanjuang**	**1.54**	**297**	P		**Pb**	**15 18 52.1**	**-0.4**
	baz=296							
NSTT				*e*S		**Sb**	**15 19 11.9**	**+0.2**
	baz=296							
JIJ	**Ishigaki jima**	**1.55**	**74**	P		**Pn**	**15 18 50.8**	**+0.4**
JIJ				S		**Sn**	**15 19 10.0**	**+0.4**
ELDTW	**Lidau**	**1.56**	**242**	*e*P		**Pn**	**15 18 51.0**	**+0.4**
	baz=241							
ELDTW				*e*S		**Sn**	**15 19 09.0**	**-0.9**
	baz=241							
TWY	**Chenhua**	**1.57**	**328**	*e*P		**Pb**	**15 18 52.8**	**-0.3**
	baz=328							
TWY				*e*S		**Sb**	**15 19 13.3**	**+0.8**
	baz=328							
NCU	**National Centr**	**1.59**	**311**	*e*P		**Pn**	**15 18 52.0**	**+1.1**
	baz=310							
NCU				*e*S		**Sb**	**15 19 13.3**	**+0.3**
	baz=310							
TWQ1	**Liyutan**	**1.64**	**285**	*e*P		**Pb**	**15 18 54.1**	**-0.1**
	baz=284							
TWQ1				*e*S		**Sb**	**15 19 14.7**	**+0.2**
	baz=284							
NSY	**Sanyi**	**1.67**	**287**	*e*P		**Pb**	**15 18 53.9**	**-0.8**
	baz=286							
NSY				*e*S		**Sb**	**15 19 15.9**	**+0.6**
	baz=286							
WNT	**Mingjian**	**1.67**	**268**	*e*P		**Pb**	**15 18 54.8**	**0.0**
	baz=267							
WNT				*e*S		**Sb**	**15 19 15.9**	**+0.5**
	baz=267							
TCU	**Taichung**	**1.69**	**278**	*e*P		**Pb**	**15 18 54.8**	**-0.3**
	baz=276							
TCU				*e*S		**Sb**	**15 19 16.1**	**+0.2**
	baz=276							
CHN5	**Tsauling**	**1.71**	**259**	P		**Pb**	**15 18 55.0**	**-0.5**
	baz=247							
CHN5				*e*S		**Sb**	**15 19 16.5**	**-0.1**
	baz=247							
TTN	**Taitung**	**1.72**	**227**	*e*P		**Pb**	**15 18 54.8**	**-0.8**
	baz=226							
TWG	**Pinlang**	**1.72**	**230**	*e*P		**Pn**	**15 18 53.2**	**+0.5**
	baz=220							
TWG				*e*S		**Sn**	**15 19 13.4**	**-0.5**
	baz=220							
STYT	**Tauyuan**	**1.78**	**245**	*e*P		**Pn**	**15 18 55.2**	**+1.6**
	baz=234							
STYT				*e*S		**Sn**	**15 19 17.3**	**+1.9**
	baz=234							
WGK	**Gukeng**	**1.80**	**263**	*e*P		**Pb**	**15 18 55.8**	**-1.2**
	baz=261							
WGK				*e*S		**Sb**	**15 19 20.0**	**+0.9**
	baz=261							
CHN4	**Tsaushan**	**1.85**	**252**	*e*P		**Pn**	**15 18 56.4**	**+1.9**
	baz=251							
CHN4				*e*S		**Sb**	**15 19 20.6**	**0.0**
	baz=251							
WTP	**Ta-pu**	**1.87**	**249**	⇓P		**Pb**	**15 18 57.1**	**-1.1**
	baz=238							
WTP				*e*S		**Sb**	**15 19 20.6**	**-0.5**
	baz=238							
ECL	**Taimali**	**1.95**	**227**	*e*P		**Pn**	**15 18 56.4**	**+0.4**
	baz=237							
CHY	**Chiayi**	**1.96**	**258**	*e*P		**Pb**	**15 18 58.8**	**-0.9**
	baz=256							
CHY				*e*S		**Sb**	**15 19 23.2**	**-0.5**
	baz=256							
SGST	**Jiashian**	**1.96**	**245**	*e*P		**Pb**	**15 18 58.4**	**-1.3**
	baz=244							
SGST				*e*S		**Sb**	**15 19 24.3**	**+0.6**
	baz=244							
CHN1	**Nanshi**	**1.96**	**248**	⇓P		**Pb**	**15 18 58.7**	**-1.1**
	baz=238							
CHN1				*e*S		**Sb**	**15 19 23.3**	**-0.6**
	baz=238							
WTCT	**Ta-ch'eng**	**2.04**	**268**	*e*P		**Pb**	**15 18 59.8**	**-1.3**
	baz=267							
WTCT				*e*S		**Sb**	**15 19 25.7**	**-0.3**
	baz=267							
LAY	**Lan-yu**	**2.08**	**205**	*e*P		**Pn**	**15 18 56.6**	**-1.2**
	baz=204							
SSD	**Sandimen**	**2.09**	**236**	*e*P		**Pn**	**15 18 59.9**	**+2.1**
	baz=229							
SSD				*e*S		**Sn**	**15 19 25.6**	**+2.7**
	baz=229							
WSF	**Szhu**	**2.12**	**262**	*e*P		**Pn**	**15 19 00.5**	**+2.3**
	baz=261							
WSF				*e*S		**Sb**	**15 19 27.3**	**-0.9**
	baz=261							
JTJ	**Tarama**	**2.12**	**70**	P		**Pn**	**15 18 59.7**	**+1.5**
JTJ				S		**Sn**	**15 19 24.9**	**+1.2**
CHN3	**Shinhua**	**2.15**	**247**	*e*P		**Pn**	**15 19 00.1**	**+1.5**
	baz=246							
CHN3				*e*S		**Sb**	**15 19 27.8**	**-1.2**
	baz=246							
EAST	**Anshuo**	**2.17**	**225**	*e*P		**Pn**	**15 18 59.6**	**+0.6**
	baz=224							
CHN8	**Yiju**	**2.19**	**255**	*e*P		**Pn**	**15 19 00.5**	**+1.3**
	baz=254							
CHN8				*e*S		**Sb**	**15 19 28.3**	**-1.9**
	baz=254							
TWM1	**Shoushan**	**2.21**	**240**	*e*P		**Pb**	**15 19 02.4**	**-1.6**
	baz=239							
TWM1				*e*S		**Sb**	**15 19 31.7**	**+0.7**
	baz=239							
SCZT	**Fangliau**	**2.33**	**229**	*e*P		**Pn**	**15 19 03.6**	**+2.5**
	baz=220							
HEN	**Hengchun**	**2.52**	**221**	*e*P		**Pn**	**15 19 06.5**	**+2.8**
	baz=220							
HEN				*e*S		**Sn**	**15 19 35.4**	**+1.9**
	baz=220							
PNG	**Penghu**	**2.73**	**263**	*e*P		**Pn**	**15 19 08.5**	**+1.9**
	baz=261							
QZH	**Quanzhou**	**3.71**	**287**	*i*Pn		**Pn**	**15 19 20.8**	**+0.7**
QZH				Sn		**Sn**	**15 20 01.7**	**-1.1**
QZH				smax	smax			
	comp=N,60nm,0.4s							
QZH				smax	smax			
	comp=E,60nm,0.4s							
KSRS	**Korea Array**	**14.25**	**18**	P		**P**	**15 21 50.1**	**-1.4**
	comp=E,0.4nm,0.3s,baz=197,slow=11,SNR=13							
SONM	**Songino Array**	**27.08**	**336**	P		**P**	**15 24 04.8**	**-0.2**
	comp=E,0.3nm,0.8s,baz=161,slow=9.2,SNR=2.7							
MKAR	**Makanchi Array**	**39.36**	**316**	P		**P**	**15 25 51.9**	**+0.2**
	comp=E,0.4nm,0.6s,baz=100,slow=9.3,SNR=8.7							
MKAR				PcP		**PcP**	**15 27 57.8**	**-1.9**
	comp=E,0.2nm,0.4s,baz=85,slow=3.6,SNR=4.4							
ZALV	**Zalesovo Beam**	**41.11**	**327**	P		**P**	**15 26 04.6**	**-1.4**
	comp=E,0.5nm,0.6s,baz=121,slow=5.7,SNR=3.9							
WRA	**Warramunga Arr**	**45.11**	**164**	P		**P**	**15 26 39.5**	**+0.9**
	comp=E,0.7nm,0.7s,baz=352,slow=8.0,SNR=5.2							
ASAR	**Alice Springs**	**48.59**	**166**	P		**P**	**15 27 08.0**	**+2.1**
	comp=E,0.3nm,0.6s,baz=353,slow=12,SNR=13							
FINES	**FINESS Array B**	**72.27**	**330**	P		**P**	**15 29 47.2**	**0.0**
	comp=E,1.6nm,1.0s,baz=54,slow=7.1,SNR=5.2							
YKA	**Yellowknife Ar**	**82.72**	**23**	P		**P**	**15 30 45.1**	**-0.5**
	comp=E,0.2nm,0.6s,baz=314,slow=5.3,SNR=4.9							

*NOU **10** 15:35:02.9±0.3, 18.˝61S×168.˝55E, h30km, MD3.1, ML2.8*
*IDC **10** 15:35:10.8±1.8, 23.˝10S×169.˝72E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.9/15, mbtmp3.7/6, ML3.2/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/24, Error ellipse: s-maj=74.8km s-min=25.3km az=171.0*
*ISCJB **10** 15:35:11.8±0.6, 23.˝3S±0.˝1×169.˝74E±0.˝06, h23km, mb4.3/8, MS3.4/4, Error ellipse: s-maj=16.7km s-min=7.5km az=11.6*
*NEIC **10** 15:35:16.2±0.7, 23.˝18S×169.˝67E, h45km, mb4.6/1, Error ellipse: s-maj=23.4km s-min=14.0km az=163.0*

ISC 10 15:35:13.7±0.7, **23.˝2S**±0.˝1×**169.˝72E**±0.˝07, **h23**km, **n28**, σ1§**14**/25, **mb3.9**/8, **MS3.3**/4, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**2.83**	**292**	AMP			15 36 52.9	
	comp=Z,9.7nm,0.7s							
LASL	**Noumea**	**3.10**	**288**	*e*P		**Pn**	**15 36 01.9**	**+0.7**
DZM	**Mont Dzumac**	**3.24**	**290**	Pn		**Pn**	**15 36 03.3**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=318,slow=18,SNR=22							
DZM				Sn		**Sn**	**15 36 40.5**	**-0.5**
	comp=Z,4.7nm,0.3s,baz=323,slow=22,SNR=2.6							
DZM	**Mont Dzumac**	**3.24**	**290**	*e*P		**Pn**	**15 36 00.8**	**-2.4**
DZM				AMP			15 37 10.0	
	comp=Z,492nm,1.7s							
DZM	**Mont Dzumac**	**3.24**	**290**	*e*Pn		**Pn**	**15 36 01.6**	**-1.6**
DZM				Sn		**Sn**	**15 36 40.5**	**-0.5**
NOUC	**Port Laguerre**	**3.35**	**289**	*e*P		**Pn**	**15 36 02.2**	**-2.4**
NOUC				*e*S		**Sn**	**15 36 46.1**	**+2.5**
NOUC				AMP			15 36 51.2	
	comp=Z,19nm,1.7s							
MSVF	**Nonsavu**	**9.54**	**56**	*e*Pn		**Pn**	**15 37 29.3**	**-0.5**
HNR	**Honiara**	**16.61**	**324**	LR		LR	15 44 19.2	
	comp=Z,46nm,19.5s,baz=116,slow=33							
RPZ	**Rata Peaks**	**20.45**	**177**	LR		LR	15 47 02.8	
	comp=Z,173nm,20.2s,baz=41,slow=35							
CAN	**Canberra**	**21.66**	**232**	*e*P		**P**	**15 40 01.2**	**-1.5**
CTA	**Charters Tower**	**22.02**	**274**	LR		LR	15 48 00.5	
	comp=Z,42nm,19.4s,baz=85,slow=35							
STKA	**Stephens Creek**	**26.31**	**245**	LR		LR	15 49 41.4	
	comp=Z,69nm,18.6s,baz=205,slow=33							
ASAR	**Alice Springs**	**32.80**	**262**	P		**P**	**15 41 46.2**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=101,slow=9.5,SNR=9.6							
ASAR	**Alice Springs**	**32.80**	**262**	P		**P**	**15 41 46.2**	**+0.7**
WRA	**Warramunga Arr**	**33.01**	**269**	P		**P**	**15 41 47.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=98,slow=8.5,SNR=6.2							
WRA	**Warramunga Arr**	**33.01**	**269**	P		**P**	**15 41 47.5**	**+0.1**
QSPA	**South Pole Qui**	**66.83**	**180**	*e*P		**P**	**15 46 03.5**	**0.0**
	comp=Z,6.2nm,1.1s							
BJT	**Baijiatuau**	**80.30**	**321**	*e*P		**P**	**15 47 22.6**	**-0.1**
	comp=Z,17nm,0.4s							
CMAR	**Chiang Mai Arr**	**80.56**	**295**	P		**P**	**15 47 25.8**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=130,slow=6.3,SNR=5.5							
CMAR	**Chiang Mai Arr**	**80.56**	**295**	P		**P**	**15 47 25.8**	**+1.1**
NVAR	**Mina Array Bea**	**91.11**	**48**	P		**P**	**15 48 17.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=242,slow=3.2,SNR=4.0							
NVAR	**Mina Array Bea**	**91.11**	**48**	P		**P**	**15 48 17.3**	**+0.4**
ILAR	**Eielson Array**	**93.90**	**17**	P		**P**	**15 48 28.4**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=237,slow=6.0,SNR=3.6							
ILAR	**Eielson Array**	**93.90**	**17**	P		**P**	**15 48 28.4**	**-0.4**
PLCA	**Paso Flores**	**95.26**	**138**	*e*P		**P**	**15 48 36.0**	**0.0**
	comp=Z,3nm,0.9s							
TXAR	**Lajitas Array**	**98.27**	**62**	LR		LR	16 22 11.9	
	comp=Z,50nm,20.2s,baz=205,slow=29							
GERES	**GERESS Array B**	**148.18**	**329**	PKPbc		**PKPbc**	**15 54 58.3**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=32,slow=3.3,SNR=7.2							
GERES	**GERESS Array B**	**148.18**	**329**	PKPbc		**PKPbc**	**15 54 58.3**	**+0.6**

IDC 10 16:17:18.8±2.9, **0.˝09S×133.˝06E, h0**km, **mb3.3**/2, **mb1 3.4**/3, **mb1mx3.2**/17, **mbtmp3.2**/3, **ML3.1**/1, **Error ellipse: s-maj=141.8km s-min=29.4km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**176**	P		P	16 21 50.2	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**23.45**	**178**	P		P	16 22 30.3	+0.3
	0.3nm,0.3s,baz=357,slow=11,SNR=18							
MKAR	**Makanchi Array**	**64.32**	**324**	P		P	16 27 56.2	-0.1
	0.3nm,0.8s,baz=119,slow=5.1,SNR=2.4							

IDC 10 16:17:52.6±2.4, **0.˝58S×133.˝05E, h0**km, **mb3.4**/2, **mb1 3.7**/4, **mb1mx3.4**/18, **mbtmp3.5**/4, **ML3.3**/2, **Error ellipse: s-maj=97.2km s-min=24.6km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**202**	P		Pn	16 22 14.9	-0.2
	0.1nm,0.3s,baz=37,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**19.29**	**176**	P		P	16 22 18.6	-0.5
	0.1nm,0.3s,baz=355,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**22.97**	**178**	P		P	16 22 59.1	+0.3
	0.8nm,0.3s,baz=358,slow=12,SNR=24							
MKAR	**Makanchi Array**	**64.70**	**324**	P		P	16 28 32.5	-0.1
	0.1nm,0.4s,baz=104,slow=8.1,SNR=3.7							

IDC 10 16:19:43.6±6.2, **21.˝22S×68.˝39W, h117**km±45km, **mb3.7**/

PRK				*e*SN	**Sb**	**16 31 42.4**	**+0.2**
PRK	**Paraskevi**	**1.06**	**347**	*e*Pn	**Pg**	**16 31 28.0**	**0.0**
PRK				*e*Sn	**Sb**	**16 31 42.4**	**+0.2**
AKS	**Akhisar**	**1.18**	**55**	*e*PN	**Pb**	**16 31 29.5**	**-0.7**
AKS	**Akhisar**	**1.18**	**55**	*e*Pn	**Pb**	**16 31 29.5**	**-0.7**
AKHS	**Akhisar**	**1.18**	**55**	*i* P	**Pb**	**16 31 29.0**	**-1.2**
AKHS				*i* S	**Sn**	**16 31 46.6**	**0.0**
AKHS	**Akhisar**	**1.18**	**55**	*i* P	**Pb**	**16 31 29.0**	**-1.2**
AKHS				*i* S	**Sn**	**16 31 46.6**	**0.0**
BODT	**Bodrum**	**1.28**	**153**	*e*PN	**Pg**	**16 31 32.4**	**+0.2**
BODT	**Bodrum**	**1.28**	**153**	*e*Pn	**Pg**	**16 31 32.4**	**+0.2**
APE	**Apeiranthos**	**1.41**	**216**	*e*PN	**Pg**	**16 31 35.2**	**+0.7**
APE	**Apeiranthos**	**1.41**	**216**	*e*Pn	**Pg**	**16 31 31.8**	**-1.6**
APE				*e*SN	**Sg**	**16 31 54.2**	**+1.4**
APE	**Apeiranthos**	**1.41**	**216**	*e*Pb	**Pn**	**16 31 31.8**	**-1.6**
APE	**Apeiranthos**	**1.41**	**216**	*e*Pn	**Pg**	**16 31 35.2**	**+0.7**
APE				*e*Sn	**Sg**	**16 31 54.2**	**+1.4**
MANT	**Manisa**	**1.58**	**79**	*i* P	**Pn**	**16 31 36.3**	**+0.2**
MANT				*i* S	**Sn**	**16 31 56.8**	**0.0**
MANT	**Manisa**	**1.58**	**79**	*i* P	**Pn**	**16 31 36.3**	**+0.2**
MANT				*i* S	**Sn**	**16 31 56.8**	**0.0**
EZN	**Ezine**	**1.63**	**353**	*e*PN	**Pg**	**16 31 38.5**	**-0.2**
EZN	**Ezine**	**1.63**	**353**	*e*Pn	**Pg**	**16 31 38.6**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**79**	*e*PN	**Pb**	**16 31 38.3**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**79**	*e*Pn	**Pb**	**16 31 38.3**	**-0.2**
YER	**Yerkesik**	**1.73**	**128**	*e*PN	**Pb**	**16 31 38.8**	**-0.7**
YER	**Yerkesik**	**1.73**	**128**	*e*Pn	**Pb**	**16 31 38.8**	**-0.7**
BALB	**Balikesir**	**1.76**	**35**	*e*PN	**Pb**	**16 31 39.6**	**-0.4**
BALB	**Balikesir**	**1.76**	**35**	*e*Pn	**Pb**	**16 31 39.6**	**-0.4**
GONE	**Gonen-Balikesi**	**2.03**	**25**	*e*PN	**Pb**	**16 31 44.1**	**-0.5**
GONE	**Gonen-Balikesi**	**2.03**	**25**	*e*Pn	**Pb**	**16 31 44.1**	**-0.5**
LPK	**Lapseki**	**2.17**	**4**	*e*PN	**Pb**	**16 31 46.0**	**-1.0**
LPK	**Lapseki**	**2.17**	**4**	*e*Pn	**Pb**	**16 31 46.0**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.19**	**358**	*e*PN	**Pb**	**16 31 46.2**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.19**	**358**	*e*Pn	**Pb**	**16 31 46.3**	**-1.1**
KRBG	**Karabiga-Canak**	**2.25**	**14**	*e*PN	**Pb**	**16 31 47.3**	**-1.2**
KRBG	**Karabiga-Canak**	**2.25**	**14**	*e*Pn	**Pb**	**16 31 47.3**	**-1.2**
KHL	**Karahalli**	**2.32**	**86**	*e*PN	**Pn**	**16 31 47.6**	**+1.5**
KHL	**Karahalli**	**2.32**	**86**	*e*Pn	**Pn**	**16 31 47.6**	**+1.5**
EDC	**Edincik**	**2.36**	**25**	*e*PN	**Pn**	**16 31 48.3**	**+1.8**
EDC	**Edincik**	**2.36**	**25**	*e*Pn	**Pn**	**16 31 48.3**	**+1.8**
BNT	**Bandirma**	**2.39**	**26**	*e*PN	**Pn**	**16 31 48.6**	**+1.7**
BNT	**Bandirma**	**2.39**	**26**	*e*Pn	**Pn**	**16 31 48.6**	**+1.7**
ERIK	**Erikli-Kesan**	**2.46**	**359**	*e*PN	**Pb**	**16 31 50.0**	**-2.0**
ERIK	**Erikli-Kesan**	**2.46**	**359**	*e*Pn	**Pb**	**16 31 50.0**	**-2.0**
KCTX	**Karacabey (Bur**	**2.48**	**33**	*e*PN	**Pn**	**16 31 49.6**	**+1.4**
KCTX	**Karacabey (Bur**	**2.48**	**33**	*e*Pn	**Pn**	**16 31 49.6**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.52**	**10**	*e*PN	**Pb**	**16 31 51.3**	**-1.8**
RKY	**Sarkoy-Tekirda**	**2.52**	**10**	*e*Pn	**Pb**	**16 31 51.3**	**-1.8**
FETY	**Fethiye**	**2.54**	**127**	*e*PN	**Pn**	**16 31 50.5**	**+1.5**
FETY	**Fethiye**	**2.54**	**127**	*e*Pn	**Pn**	**16 31 50.5**	**+1.5**
ENEZ	**Enez**	**2.55**	**353**	*e*PN	**Pb**	**16 31 51.3**	**-2.2**
ENEZ	**Enez**	**2.55**	**353**	*e*Pn	**Pb**	**16 31 51.3**	**-2.2**
MFT	**Murefte**	**2.63**	**12**	*e*PN	**Pb**	**16 31 53.0**	**-2.0**
MFT	**Murefte**	**2.63**	**12**	*e*Pn	**Pb**	**16 31 53.0**	**-2.0**
ALT	**Altintas**	**2.90**	**72**	*e*PN	**Pn**	**16 31 55.3**	**+1.3**
ALT	**Altintas**	**2.90**	**72**	*e*Pn	**Pn**	**16 31 55.3**	**+1.3**

*IDC **10** 17:02:34.5±2.3, 43.°32N×105.°20W, h0km, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=47.2km s-min=7.3km az=152.0*
*ISCJB **10** 17:02:36.7±0.2, 43.°70N±0.°01×105.°32W±0.°02, h0km, Error ellipse: s-maj=2.5km s-min=1.9km az=148.4*
*NEIC **10** 17:02:37.1±0.3, 43.°73N×105.°28W, h0km, ML3.0, Error ellipse: s-maj=4.6km s-min=4.0km az=202.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 10 17:02:36.7±0.6, 43.°68N±0.°02×105.°29W±0.°02, h0km, n89, σ1℘05/107, 32C-24D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.3	**0.31**	**336**	⇑S	**Sg**	**17 02 47.0**	**+0.3**
J23A	**Dilts Ranch, B** baz=0.4,SNR=1000	**0.34**	**215**	P	**Pg**	**17 02 43.8**	**+0.6**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=350	**0.51**	**69**	⇑P	**Pb**	**17 02 47.7**	**-1.0**
J24A	**Dixon Ranch, L** baz=0.6,SNR=41	**0.57**	**127**	⇑P	**Pg**	**17 02 48.4**	**+0.7**
J24A				⇑S	**Sg**	**17 02 56.6**	**+1.4**
H23A	**Clabaugh Cattl** baz=0.8,SNR=15	**0.89**	**355**	⇓P	**Pg**	**17 02 53.9**	**+0.2**
I22A	**9 Mile Ranch,** baz=0.9,SNR=437	**0.89**	**284**	⇓P	**Pg**	**17 02 53.8**	**-0.1**
I22A				⇑S	**Sg**	**17 03 05.6**	**+0.2**
J22A	**Midwest** baz=0.9,SNR=487	**0.91**	**253**	P	**Pg**	**17 02 53.6**	**-0.5**
J22A				⇓S	**Sg**	**17 03 06.2**	**+0.3**
K23A	**Bowen Ranch, D** baz=1.0	**0.96**	**195**	⇑S	**Sg**	**17 03 08.6**	**+1.1**
RSSD	**Black Hills**	**1.01**	**64**	*e*Pg	**Pg**	**17 02 56.4**	**+0.4**
K24A	**Anderson Ranch** baz=1.1,SNR=76	**1.02**	**160**	⇑P	**Pg**	**17 02 56.4**	**+0.2**
H24A	**Dirks Ranch, A** baz=1.1,SNR=296	**1.19**	**26**	P	**Pg**	**17 02 59.3**	**-0.2**
H22A	**Clearmont** baz=1.2,SNR=80	**1.19**	**320**	⇓P	**Pg**	**17 02 59.6**	**+0.1**
K22A	**Casper** baz=1.4	**1.37**	**222**	⇓P	**Pg**	**17 03 02.1**	**-0.9**
K22A				⇓S	**Sb**	**17 03 21.8**	**+0.3**
I21A	**Big Trails, Te** baz=1.5	**1.46**	**276**	⇓P	**Pn**	**17 03 03.4**	**-1.1**
K25A	**Mack Ranch, Ha** baz=1.5,SNR=12	**1.49**	**135**	⇑P	**Pg**	**17 03 05.5**	**+0.2**
K25A				⇓S	**Sn**	**17 03 26.0**	**+1.0**
G23A	**Biddle** baz=1.5,SNR=67	**1.52**	**357**	⇑P	**Pn**	**17 03 05.1**	**-0.2**
H21A	**Big Horn, Sher** baz=1.6,SNR=123	**1.58**	**307**	⇑P	**Pn**	**17 03 06.1**	**0.0**
H21A				⇑S	**Sn**	**17 03 27.4**	**+0.1**
L23A	**Garrett** baz=1.6,SNR=96	**1.59**	**191**	⇑P	**Pn**	**17 03 06.0**	**-0.5**
L23A				⇓S	**Sg**	**17 03 28.5**	**+0.5**
J21A	**Lysite** baz=1.6,SNR=152	**1.61**	**259**	P	**Pn**	**17 03 05.8**	**-0.8**
L24A	**Wheatland** baz=1.7,SNR=17	**1.66**	**171**	⇓P	**Pn**	**17 03 07.4**	**+0.2**
G22A	**Birney** baz=1.7,SNR=64	**1.70**	**335**	⇑Pb	**Pb**	**17 03 08.4**	**-0.5**
G24A	**Alzada** baz=1.7,SNR=16	**1.76**	**20**	⇑Pb	**Pb**	**17 03 09.8**	**-0.2**
K21A	**Alcova** baz=1.8,SNR=344	**1.78**	**235**	⇓Pb	**Pn**	**17 03 09.2**	**+0.3**
K21A				⇓S	**Sn**	**17 03 32.3**	**0.0**
L25A	**Engebretsen Ra** baz=1.8,SNR=62	**1.81**	**147**	⇓Pb	**Pb**	**17 03 10.7**	**-0.1**
L25A				⇓Sb	**Sg**	**17 03 35.7**	**+0.9**
K26A	**Motz Farm, Whi** baz=1.8,SNR=20	**1.83**	**122**	⇓Pb	**Pb**	**17 03 10.9**	**-0.1**
L22A	**Ellis Ranch, M** baz=1.9	**1.85**	**207**	⇑S	**Sb**	**17 03 34.9**	**-0.5**
F23A	**Volborg** baz=2.0	**2.04**	**358**	⇓Sb	**Sg**	**17 03 42.0**	**-0.4**
J20A	**Shoshoni** baz=2.1	**2.06**	**262**	⇑Pb	**Pb**	**17 03 14.4**	**-0.7**
J20A				⇑Sb	**Sb**	**17 03 41.8**	**+0.5**
I20A	**Worland** baz=2.1,SNR=518	**2.07**	**278**	⇓Pb	**Pn**	**17 03 14.2**	**+1.3**
I20A				⇑Sb	**Sb**	**17 03 42.4**	**+0.7**
H20A	**Greybull** baz=2.1,SNR=127	**2.11**	**293**	⇑P	**Pn**	**17 03 13.5**	**0.0**
H20A				⇑Sb	**Sb**	**17 03 43.6**	**+0.8**
F22A	**Rosebud** baz=2.2,SNR=70	**2.21**	**342**	P	**Pn**	**17 03 14.9**	**+0.2**
F22A				⇑Sb	**Sb**	**17 03 46.7**	**+1.2**
M23A	**Laramie** baz=2.3,SNR=88	**2.23**	**188**	⇑Pb	**Pb**	**17 03 17.2**	**-0.9**
M24A	**Cheyenne** baz=2.3,SNR=124	**2.24**	**171**	⇓Pb	**Pb**	**17 03 18.3**	**+0.1**
L26A	**Underwood Farm** baz=2.3	**2.31**	**135**	⇑Sb	**Sg**	**17 03 51.1**	**+0.2**
PHWY	**Pilot Hill**	**2.38**	**183**	*e*Pn	**Pn**	**17 03 18.0**	**+0.7**
M25A	**Palm-Egli Farm** baz=2.5	**2.42**	**158**	⇑Sb	**Sg**	**17 03 53.8**	**-0.8**
K20A	**Yellowstone Ra** baz=2.5	**2.46**	**246**	⇑Pb	**Pb**	**17 03 20.7**	**-1.2**
M22A	**Cedar Creek Ra** baz=2.5	**2.47**	**203**	⇑Pb	**Pb**	**17 03 21.8**	**-0.4**
M22A	baz=2.5			⇑Sb	**Sb**	**17 03 54.6**	**+1.3**
F21A	**Absaloka Mine,** baz=2.5	**2.51**	**329**	⇓Sb	**Sb**	**17 03 55.6**	**+1.4**
M21A	**Separation Pea** baz=2.6	**2.58**	**217**	⇓Sb	**Sb**	**17 03 57.6**	**+1.3**
G20A	**Bridger** baz=2.6,SNR=108	**2.60**	**307**	⇑P	**Pn**	**17 03 20.0**	**-0.2**
K19A	**Absolon Red Bu** baz=2.8,SNR=213	**2.74**	**253**	⇓Pb	**Pb**	**17 03 25.4**	**-1.3**
E22A	**Miles City** baz=2.7,SNR=7.2	**2.80**	**351**	⇓P	**Pn**	**17 03 22.6**	**-0.2**
E23A	**Ismay** baz=2.8	**2.82**	**360**	⇓P	**Pn**	**17 03 23.3**	**+0.3**
F20A	**Billings** baz=2.9,SNR=23	**2.94**	**317**	⇑P	**Pn**	**17 03 24.7**	**-0.1**
N25A	**Grover** baz=3.0	**3.00**	**162**	⇑Sb	**Sg**	**17 04 11.3**	**-1.8**
N22A	**Wattenberg Ran** baz=3.1	**3.00**	**197**	⇑Pb	**Pb**	**17 03 30.5**	**-0.8**
M27A	**Reverse DX Ran** baz=3.1	**3.04**	**134**	⇓Sb	**Sg**	**17 04 12.6**	**-1.6**
M20A	**Sweetwater, Wa** baz=3.1	**3.06**	**225**	⇑Pb	**Pb**	**17 03 31.8**	**-0.4**
RLMT	**Red Lodge**	**3.20**	**298**	*e*Pn	**Pn**	**17 03 28.7**	**+0.3**
BW06	**Boulder Array**	**3.25**	**255**	*e*Pn	**Pn**	**17 03 29.3**	**+0.1**
PDAR	**Pinedale Array** 7.6nm,0.3s,baz=70,slow=14,SNR=124	**3.25**	**255**	Pn	**Pn**	**17 03 29.8**	**+0.6**
PDAR	12nm,0.3s,baz=67,slow=21,SNR=29			Pg	**Pg**	**17 03 38.4**	**-0.7**
PDAR	5.1nm,0.3s,baz=83,slow=30,SNR=3.1			Sn	**Sn**	**17 04 09.3**	**+0.5**
PDAR	5.7nm,0.3s,baz=70,slow=14,SNR=4.6			Lg	Lg	17 04 13.9	
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**17 03 29.8**	**+0.6**
PDAR				Pg	**Pg**	**17 03 38.4**	**-0.7**
PDAR				Sn	**Sn**	**17 04 09.3**	**+0.5**
PDAR				Lg	Lg	17 04 13.9	
PD02	**Pinedale Array**	**3.25**	**255**	*e*Pn	**Pn**	**17 03 29.7**	**+0.4**
PD01	**Pinedale Array**	**3.27**	**255**	*e*Pn	**Pn**	**17 03 28.8**	**-0.7**
OGNE	**Ogallala**	**3.65**	**137**	*e*Pn	**Pn**	**17 03 35.2**	**+0.7**
GCMT	**Greycliff**	**3.77**	**306**	*e*Pn	**Pn**	**17 03 36.9**	**+0.7**
LOHW	**Long Hollow**	**3.86**	**271**	*e*Pn	**Pn**	**17 03 38.5**	**+0.9**
ISCO	**Idaho Springs**	**3.89**	**184**	*e*Pn	**Pn**	**17 03 38.8**	**+0.8**
MOOW	**Moose Ponds**	**3.96**	**273**	*e*Pn	**Pn**	**17 03 40.1**	**+1.2**
SNOW	**Snow King Moun**	**3.98**	**269**	*e*Pn	Pn	17 03 42.7	+3.5
REDW	**Red Top Meadow**	**4.06**	**267**	*e*Pn	**Pn**	**17 03 41.5**	**+1.1**
YFT	**Old Faithful**	**4.07**	**283**	*e*Pn	**Pn**	**17 03 41.4**	**+0.9**
DCID1	**Drake Creek**	**4.28**	**271**	*e*Pn	**Pn**	**17 03 44.6**	**+1.2**
AHID	**Auburn Hatcher**	**4.35**	**260**	*e*Pg	**Pb**	**17 03 56.5**	**+2.4**
RRI2	**Red Ridge**	**4.40**	**268**	*e*Pn	**Pn**	**17 03 44.0**	**-1.1**
QLMT	**Earthquake Lak**	**4.56**	**287**	Pn	**Pn**	**17 03 50.3**	**+3.1**
SMCO	**Snowmass**	**4.67**	**196**	*e*Pn	**Pb**	**17 03 57.7**	**-2.1**
BOZ	**Bozeman (W)**	**4.93**	**296**	*e*Pn	**Pn**	**17 03 52.0**	**-0.2**
HWUT	**Hardware Ranch** 13nm,0.3s	**5.07**	**248**	*e*Pn	**Pn**	**17 03 54.5**	**+0.3**
EGMT	**Eagleton** 9.9nm,0.3s	**5.35**	**326**	*e*Pn	**Pn**	**17 03 57.7**	**-0.2**
HRY	**Holter Researc** 7.8nm,0.6s	**5.53**	**306**	*e*Pn	**Pn**	**17 04 00.7**	**+0.3**
MCMT	**McKenzie Canyo** 1.2nm,0.3s	**5.55**	**285**	*e*Pn	Pn	17 04 04.2	+3.3
PV04	**Paradox Valley**	**5.95**	**209**	*e*Pn	**Pn**	**17 04 07.4**	**+1.2**
SRU	**San Rafael** 15nm,0.3s	**6.03**	**223**	*e*Pn	**Pn**	**17 04 06.9**	**-0.4**
PV01	**Paradox Valley** 253nm,0.3s	**6.07**	**205**	*e*Pn	**Pn**	**17 04 09.6**	**+1.7**
TMUT	**Trail Mountain** 3.5nm,0.4s	**6.24**	**227**	*e*Pn	**Pn**	**17 04 10.1**	**-0.2**
ECSD	**EROS Data Cent** 5.4nm,0.3s	**6.29**	**87**	*e*Pn	**Pn**	**17 04 10.7**	**0.0**
CBKS	**Cedar Bluff**	**6.41**	**137**	*e*Pn	**Pn**	**17 04 14.1**	**+1.7**
CHMT	**Chamberlain Mo** 10nm,1.2s	**6.48**	**303**	*e*Pn	**Pn**	**17 04 13.8**	**+0.3**
DUG	**Dugway** 3.4nm,0.3s	**6.60**	**241**	*e*Pn	**Pn**	**17 04 15.2**	**0.0**
MVCO	**Mesa Verde**	**6.91**	**202**	*e*Pn	**Pn**	**17 04 21.8**	**+2.3**
SWMT	**Swartz Lake** 2.7nm,0.3s	**7.21**	**305**	*e*Pn	**Pn**	**17 04 23.2**	**-0.3**
JTMT	**Jette**	**7.49**	**306**	*e*Pn	**Pn**	**17 04 26.8**	**-0.5**
ULM	**Lac du Bonnet** 3.7nm,0.3s,baz=231,slow=11,SNR=26	**9.19**	**41**	Pn	**Pn**	**17 04 48.3**	**-2.2**
ULM	baz=285,slow=22,SNR=4.7			Sn	**Sn**	**17 06 31.4**	**-3.1**
ULM	0.5nm,0.3s,baz=139,slow=15,SNR=4.1			Lg	Lg	17 07 27.2	
ULM	**Lac du Bonnet** 5.7nm,0.3s	**9.19**	**41**	*e*Pn	**Pn**	**17 04 48.2**	**-2.3**
ULM				Pn	Pn	17 04 48.3	-2.2
ULM				Sn	**Sn**	**17 06 31.4**	**-3.1**
ULM				Lg	Lg	17 07 27.2	
WUAZ	**Wupatki**	**9.41**	**212**	*e*Pn	**Pn**	**17 04 54.6**	**+0.9**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=154,slow=8.9,SNR=6.3	**19.62**	**347**	P	**Pn**	**17 07 09.4**	**+1.7**
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**17 07 09.4**	**+1.7**

*JMA **10** 17:11:53.4±0.1, 36.°99N×142.°13E, h18km±2km, M3.5*
*IDC **10** 17:12:08.0±3.9, 34.°56N×137.°18E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=70.5km s-min=34.8km az=164.0*

ISC 10 17:11:54.9±2.2, 37.°06N±0.°07×142.°03E±0.°09, h19km±5km, n14, σ1℘30/21, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**289**	P	**Pn**	**17 12 12.9**	**-0.7**
JFK				*e*S	**Sn**	**17 12 26.9**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.98**	**273**	P	**Pn**	**17 12 13.0**	**-0.8**
ONAJ				*e*S	**Sn**	**17 12 26.8**	**-0.4**
JHO	**Hitachi**	**1.25**	**249**	P	**Pb**	**17 12 16.7**	**-1.3**
JMM	**Marumori**	**1.27**	**310**	P	**Pb**	**17 12 17.7**	**-0.5**
JMM				*e*S	**Sg**	**17 12 35.5**	**-0.6**
JFT	**Otama**	**1.42**	**289**	P	**Pb**	**17 12 20.5**	**-0.4**
JFT				*e*S	**Sb**	**17 12 40.3**	**+1.6**
JIO	**Ouri**	**1.49**	**339**	P	**Pb**	**17 12 20.9**	**-1.1**
JIO				*e*S	**Sb**	**17 12 41.2**	**+0.6**
JFY	**Yanaizu**	**1.89**	**281**	P	**Pb**	**17 12 27.4**	**-1.4**
JFY				*e*S	**Sb**	**17 12 52.7**	**+0.7**
JYS	**Shirataka**	**1.94**	**307**	P	**Pb**	**17 12 28.5**	**-1.2**
JYS				*e*S	**Sb**	**17 12 53.5**	**-0.1**
JMK	**Ichinoseki**	**1.99**	**342**	P	**Pb**	**17 12 28.6**	**-2.0**
MJAR	**Matsushiro Arr** 1.1nm,0.3s,baz=204,slow=25,SNR=16	**3.11**	**262**	Pn	Pn	17 12 45.3	+2.3
MJAR	1.6nm,0.3s,baz=149,slow=9.6,SNR=5.6			Sn	**Sb**	**17 13 25.2**	**-2.0**
MAT	**Matsushiro**	**3.11**	**262**	P	**Pn**	**17 12 42.2**	**-0.8**
MAT				*e*S	**Sn**	**17 13 21.9**	**+2.3**
SONM	**Songino Array** 0.6nm,0.9s,baz=94,slow=8.0,SNR=4.4	**28.18**	**304**	P	**P**	**17 17 47.6**	**+1.4**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=87,slow=8.9,SNR=5.5	**44.52**	**302**	P	**P**	**17 20 06.5**	**+1.2**
KURK	**Kurchatov** 0.6nm,0.5s,baz=83,slow=8.0,SNR=5.3	**46.30**	**308**	P	P	17 20 22.4	+3.2

*ISCJB **10** 17:12:28.7±0.2, 51.°54N±0.°01×16.°08E±0.°02, h0km, mb4.0/20, Error ellipse: s-maj=1.7km s-min=1.4km az=4.8*
*IPEC **10** 17:12:29.4±0.4, 51.°65N×16.°18E, h0km±1km, ML3.6/4, Error ellipse: s-maj=2.3km s-min=1.6km az=12.0*
*MOS **10** 17:12:29.1±1.7, 51.°58N×15.°89E, h10km, mb4.5/8, Error ellipse: s-maj=5.4km s-min=3.3km az=75.5*
*NEIC **10** 17:12:29.6±0.3, 51.°59N×15.°91E, h5km, mb4.1/9, Error ellipse: s-maj=5.8km s-min=3.5km az=155.0*
*LDG **10** 17:12:30.6±0.1, 51.°49N×16.°05E, h1km, Ml4.3/25, Error ellipse: s-maj=3.0km s-min=1.4km az=8.0, Suspected Mining induced.*
*CSEM **10** 17:12:30.4±0.1, 51.°57N×16.°11E, h0km, mb4.1/8, ML4.4/14, Ms4.0, Error ellipse: s-maj=1.9km s-min=1.7km az=166.0*
*BGR **10** 17:12:31.9±0.5, 51.°52N×16.°13E, h1km, ML3.9/16, Error ellipse: s-maj=6.7km s-min=2.2km az=23.0*
*IDC **10** 17:12:31.8±0.5, 51.°57N×16.°04E, h0km, mb3.7/11, mb1 3.9/19, mb1mx3.9/30, mbtmp3.8/19, ML3.7/7, Error ellipse: s-maj=9.3km s-min=5.4km az=108.0*
*PRU **10** 17:12:32.2, 51.°52N×16.°09E, h0km, M4.1, Felt In Harrachov*
*BNS **10** 17:12:32.1±0.4, 51.°61N×16.°15E, h5km, ML3.7*
*VIE **10** 17:12:34.3±1.2, 51.°30N×16.°06E, h1km±6km, mb3.6/15, ML3.6/14, Ms4.0/3, Error ellipse: s-maj=6.2km s-min=2.7km az=7.0 70 km WNW of Wroclaw Suspected Mining induced.*
*WAR **10** 17:12:34.1, 51.°44N×16.°20E*
*UPP **10** 17:12:35.0, 51.°76N×15.°55E, h0km, ML3.2, Suspected Mining explosion.*

ISC 10 17:12:30.0±0.4, 51.°55N±0.°02×16.°11E±0.°02, h0km, n463, σ1℘60/577, mb4.0/20, 27C-23D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pb**	**17 12 45.3**	**0.0**
KSP				*e*Sg	**Sg**	**17 12 53.3**	**+0.5**
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pb**	**17 12 45.3**	**0.0**
KSP				*i* Sg	**Sg**	**17 12 52.9**	**0.0**
KSP				*e*L	L	17 12 59.1	
KSP	**Ksiaz**	**0.71**	**170**	⇓*i* P	**Pb**	**17 12 45.3**	**0.0**
KSP				*e*		17 12 52.8	
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pb**	**17 12 45.3**	**0.0**
KSP				*e*Sg	**Sg**	**17 12 51.7**	**-1.2**
KSP	**Ksiaz**	**0.71**	**170**	Pg	**Pb**	**17 12 45.3**	**0.0**
KSP				Sg	**Sg**	**17 12 51.7**	**-1.2**
KSP				*e*S	**Sb**	**17 12 52.8**	**-2.8**
UPC	**Upice**	**1.04**	**183**	*e*P	**Pb**	**17 12 51.2**	**+0.3**
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pb**	**17 12 51.2**	**+0.3**
UPC	**Upice**	**1.04**	**183**	Pg	**Pb**	**17 12 51.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*P	**Pb**	**17 12 54.1**	**+0.4**
DPC				*e*		17 13 09.5	
DPC	comp=N,585nm,0.6s			smax	smax		
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pb**	**17 12 54.1**	**+0.4**
DPC				*e*Sg	**Sg**	**17 13 09.5**	**+0.9**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pb**	**17 12 54.1**	**+0.4**
DPC	comp=N,585nm,0.6s			*e*SG	**Sg**	**17 13 09.5**	**+0.9**
DPC	**Dobruska-Polom** baz=356	**1.21**	**173**	*e*Pg	**Pb**	**17 12 54.0**	**+0.4**
DPC	baz=356			*e*Sg	**Sg**	**17 13 09.6**	**+0.9**
PVCC	**Panska Ves**	**1.41**	**224**	*e*P	**Pb**	**17 12 57.6**	**+0.5**
PVCC				*e*		17 13 16.6	
PVCC	comp=N,821nm,0.2s			smax	smax		
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**17 12 57.6**	**+0.5**
PVCC				*e*SG	**Sn**	**17 13 16.6**	**+0.5**
PVCC	**Panska Ves** comp=N,821nm,0.2s	**1.41**	**224**	*e*P	**Pb**	**17 12 57.6**	**+0.5**
PVCC	comp=N,821nm,0.2s			Sg	**Sn**	**17 13 16.6**	**+0.5**
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**17 12 58.7**	**+0.3**
BRG				PG	**Pg**	**17 13 00.4**	**+1.3**
BRG	comp=N,788nm,0.4s			SG	**Sn**	**17 13 20.8**	**+2.0**
BRG	**Berggiesshubel**	**1.52**	**245**	P	**Pn**	**17 12 58.7**	**+0.3**
BRG				*e*		17 13 20.8	
BRG	comp=N,788nm,0.4s			smax	smax		
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pg	**Pn**	**17 12 58.7**	**+0.3**
BRG				*e*Sg	**Sn**	**17 13 20.5**	**+1.7**
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pn**	**17 12 58.7**	**+0.3**
BRG				Sg	**Sn**	**17 13 20.5**	**+1.7**
BRG	comp=N,788nm,0.4s			S	**Sn**	**17 13 20.8**	**+2.0**
KRLC	**Kraliky**	**1.53**	**164**	*e*PG	**Pn**	**17 12 59.3**	**+0.7**
KRLC				*e*SG	**Sg**	**17 13 20.4**	**+1.2**
KRLC	**Kraliky**	**1.53**	**164**	Pg	**Pn**	**17 12 59.3**	**+0.7**
KRLC				Sg	**Sg**	**17 13 20.4**	**+1.2**
RUE	**Ruedersdorf**	**1.71**	**304**	*e*Pn	**Pn**	**17 13 01.1**	**0.0**
RUE				*e*Sn	**Sg**	**17 13 26.6**	**+1.6**
RUE	**Ruedersdorf**	**1.71**	**304**	*e*Pn	**Pn**	**17 13 01.1**	**0.0**
RUE				*e*Sn	**Sg**	**17 13 26.6**	**+1.6**
FBE	**Freiberg** SNR=104	**1.84**	**251**	*e*Pn	**Pn**	**17 13 03.4**	**+0.6**
FBE				*e*Pg	**Pg**	**17 13 06.1**	**+0.8**
FBE				*e*Sg	**Sg**	**17 13 30.5**	**+1.4**
FBE	**Freiberg** SNR=104	**1.84**	**251**	Pn	**Pn**	**17 13 03.4**	**+0.6**
PRU	**Pruhonice**	**1.85**	**213**	*e*P	**Pg**	**17 13 05.5**	**+0.1**
PRU				*e*		17 13 29.7	
PRU	comp=N,285nm,0.4s			smax	smax		
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pg**	**17 13 05.5**	**+0.1**
PRU				*e*SG	**Sg**	**17 13 29.7**	**+0.4**
PRU	**Pruhonice** comp=N,285nm,0.4s	**1.85**	**213**	Pg	**Pg**	**17 13 05.5**	**+0.1**
PRU				Sg	**Sg**	**17 13 29.7**	**+0.4**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pg**	**17 13 05.4**	**-0.2**
GKP				*

TREC	**Trest**	**2.29 190**	*e*P	**Pn**	**17 13 10.3 +1.3**
TREC	**Trest**	**2.29 190**	*e*PN	**Pn**	**17 13 10.3 +1.3**
TREC	**Trest**	**2.29 190**	Pn	**Pn**	**17 13 10.3 +1.3**
KRUC	**Moravsky**	**2.49 176**	*e*Pn	**Pn**	**17 13 12.5 +0.7**
	baz=357				
KRUC			*e*Sg	**Sg**	**17 13 51.0 +1.0**
	comp=Z,159nm,0.5s,baz=357				
TANN	**Tannenbergstha**	**2.57 245**	*e*Pn	**Pn**	**17 13 13.4 +0.5**
	SNR=37				
TANN			*e*Pg	**Pg**	**17 13 20.1 +1.0**
TANN			*e*Sg	**Sg**	**17 13 53.1 +0.7**
TANN	**Tannenbergstha**	**2.57 245**	Pn	**Pn**	**17 13 13.4 +0.5**
	SNR=37				
WERD	**Werda**	**2.64 247**	*e*Pn	**Pn**	**17 13 14.7 +0.9**
	SNR=28				
WERD			*e*Pg	**Pg**	**17 13 21.3 +0.7**
WERD			*e*Sg	**Sg**	**17 13 54.4 -0.4**
WERD	**Werda**	**2.64 247**	Pn	**Pn**	**17 13 14.7 +0.9**
	SNR=28				
NKC	**Novy Kostel**	**2.66 242**	*e*P	**Pn**	**17 13 15.3 +1.1**
NKC	**Novy Kostel**	**2.66 242**	*e*PN	**Pn**	**17 13 15.3 +1.1**
NKC			*e*PG	**Pg**	**17 13 22.0 +1.0**
NKC			*e*SG	**Sg**	**17 13 57.4 +1.9**
	comp=Z,553nm,0.4s				
NKC	**Novy Kostel**	**2.66 242**	Pn	**Pn**	**17 13 15.3 +1.1**
NKC	**Novy Kostel**	**2.66 242**	Pg	**Pg**	**17 13 22.0 +1.0**
NKC			Sg	**Sg**	**17 13 57.4 +1.9**
	comp=Z,553nm,0.4s				
OJC	**Ojcow**	**2.69 118**	*e*Pn	**Pn**	**17 13 13.3 -1.2**
OJC			*e*Pg	**Pg**	**17 13 22.6 +1.1**
OJC			*e*Sg	**Sg**	**17 13 58.0 +1.7**
OJC	**Ojcow**	**2.69 118**	*e*P	**Pn**	**17 13 13.3 -1.2**
OJC			*e*		17 13 58.0
OJC	**Ojcow**	**2.69 118**	*e*Pn	**Pn**	**17 13 13.5 -1.0**
	SNR=6.1				
OJC			*e*Pg	**Pg**	**17 13 21.4 -0.1**
OJC			*e*Sg	**Sg**	**17 13 57.4 +1.1**
OJC	**Ojcow**	**2.69 118**	Pn	**Pn**	**17 13 13.5 -1.0**
	SNR=6.1				
JAVC	**Velka Javorina**	**2.87 159**	*e*Sg	**Sg**	**17 14 03.8 +1.6**
	comp=Z,328nm,0.8s				
KHC	**Kasperske Hory**	**2.91 215**	*e*P	**Pn**	**17 13 18.3 +0.7**
KHC			*e*		17 13 54.5
KHC			smax	smax	
	comp=N,153nm,0.5s				
KHC	**Kasperske Hory**	**2.91 215**	*e*Pn	**Pn**	**17 13 17.9 +0.4**
KHC			*e*Sn	**Sn**	**17 13 52.4 -0.8**
KHC	**Kasperske Hory**	**2.91 215**	*e*PN	**Pn**	**17 13 18.3 +0.7**
KHC			*e*PG	**Pg**	**17 13 24.8 -0.9**
KHC			*e*SN	**Sn**	**17 13 54.5 +1.3**
KHC			*e*SG	**Sg**	**17 14 03.7 +0.3**
	comp=N,153nm,0.5s				
KHC	**Kasperske Hory**	**2.91 215**	Pn	**Pn**	**17 13 18.3 +0.7**
KHC	**Kasperske Hory**	**2.91 215**	Pg	**Pg**	**17 13 24.8 -0.9**
KHC			Sn	**Sn**	**17 13 54.5 +1.3**
KHC			Sg	**Sg**	**17 14 03.7 +0.3**
	comp=N,153nm,0.5s				
MGBB	**Grossbuechelbe**	**2.93 239**	⇓*i*Pn	**Pn**	**17 13 18.9 +1.1**
MGRB	**Grossbuechelbe**	**2.93 239**	Pn	**Pn**	**17 13 18.9 +1.1**
MOX	**Moxa**	**2.97 254**	*e*P	**Pn**	**17 13 19.1 +0.7**
MOX	**Moxa**	**2.97 254**	*e*Pn	**Pn**	**17 13 19.1 +0.7**
	SNR=12				
MOX			*e*Pg	**Pg**	**17 13 27.8 +0.9**
MOX			*e*Sg	**Sg**	**17 14 06.8 +1.5**
MOX	**Moxa**	**2.97 254**	Pn	**Pn**	**17 13 19.1 +0.7**
	SNR=12				
ROTZ	**Rotzenmuhle**	**3.05 236**	*e*Pn	**Pn**	**17 13 20.5 +1.0**
	SNR=48				
ROTZ			*e*Pg	**Pg**	**17 13 28.5 0.0**
ROTZ			*e*Sg	**Sg**	**17 14 07.8 -0.2**
ROTZ	**Rotzenmuhle**	**3.05 236**	Pn	**Pn**	**17 13 20.5 +1.0**
	SNR=48				
GEC2	**GERESS Array S**	**3.11 211**	*e*P	**Pn**	**17 13 21.3 +0.9**
GEC2	**GERESS Array S**	**3.11 211**	*e*Pn	**Pn**	**17 13 21.3 +0.9**
	SNR=73				
GEC2			*e*Pg	**Pg**	**17 13 29.7 +0.1**
GEC2			*e*Sg	**Sg**	**17 14 08.9 -1.1**
GEC2	**GERESS Array S**	**3.11 211**	Pn	**Pn**	**17 13 21.3 +0.9**
	SNR=73				
GERES	**GERESS Array B**	**3.11 211**	Pn	**Pn**	**17 13 21.3 +0.9**
	comp=N,13nm,0.3s,baz=31,slow=12,SNR=391				
GERES			Pg	**Pg**	**17 13 30.0 +0.4**
	comp=N,19nm,0.3s,baz=23,slow=15,SNR=57				
GERES			Sn	**Sn**	**17 14 00.9 +2.5**
	comp=N,14nm,0.3s,baz=27,slow=27,SNR=6.8				
GERES			Lg	Lg	17 14 09.4
	comp=N,17nm,0.3s,baz=31,slow=26,SNR=5.2				
GERES	**GERESS Array B**	**3.11 211**	P	**Pn**	**17 13 21.3 +0.9**
GERES					17 14 00.9
GERES	**GERESS Array B**	**3.11 211**	Pn	**Pn**	**17 13 21.3 +0.9**
GERES			Pg	**Pg**	**17 13 30.0 +0.4**
GERES			Sn	**Sn**	**17 14 00.9 +2.5**
GERES			Lg	Lg	17 14 09.4
GERES	**GERESS Array B**	**3.11 211**	Pn	**Pn**	**17 13 21.3 +0.9**
GERES	**GERESS Array B**	**3.11 211**	Pg	**Pg**	**17 13 30.0 +0.4**
GERES			S	**Sn**	**17 14 00.9 +2.5**
LIKS	**Likavka**	**3.15 141**	*e*P	**Pn**	**17 13 23.1 +2.2**
LIKS	**Likavka**	**3.15 141**	*e*PN	**Pn**	**17 13 23.1 +2.2**
LIKS			*e*PG	**Pg**	**17 13 32.9 +2.6**
LIKS	**Likavka**	**3.15 141**	*e*P	**Pn**	**17 13 23.1 +2.2**
LIKS	**Likavka**	**3.15 141**	*e*Pg	**Pg**	**17 13 33.0 +2.6**
SMOL	**Smolenice**	**3.15 164**	*e*P	**Pn**	**17 13 18.2 -2.7**
SMOL	**Smolenice**	**3.15 164**	*e*PN	**Pn**	**17 13 18.2 -2.7**
SMOL			*e*PG	**Pg**	**17 13 30.5 +0.1**
SMOL			*e*SG	**Sg**	**17 14 11.6 +0.4**
SMOL	**Smolenice**	**3.15 164**	*e*P	**Pn**	**17 13 18.2 -2.7**
WET	**Wettzell**	**3.17 222**	*e*P	**Pn**	**17 13 22.0 +0.9**
WET	**Wettzell**	**3.17 222**	*e*Pn	**Pn**	**17 13 22.0 +0.9**
	SNR=64				
WET			*e*Sg	**Sg**	**17 14 12.9 +1.1**
WET	**Wettzell**	**3.17 222**	Pn	**Pn**	**17 13 22.0 +0.9**
	SNR=64				
WET			Sg	**Sg**	**17 14 12.9 +1.1**
KOLL	**Kolacno**	**3.32 153**	*e*P	**Pn**	**17 13 23.4 +0.3**
KOLL	**Kolacno**	**3.32 153**	*e*PN	**Pn**	**17 13 23.4 +0.3**
KOLL			*e*PG	**Pg**	**17 13 34.1 +0.6**
KOLL			*e*SG	**Sg**	**17 14 17.4 +0.9**
KOLL	**Kolacno**	**3.32 153**	*e*P	**Pn**	**17 13 23.4 +0.3**
ZST	**Bratislava**	**3.42 169**	*e*P	**Pn**	**17 13 26.8 +2.4**
ZST	**Bratislava**	**3.42 169**	*e*PN	**Pn**	**17 13 26.8 +2.4**
ZST			*e*PG	**Pg**	**17 13 34.4 -1.0**
ZST			*e*SG	**Sg**	**17 14 21.6 +2.0**
ZST	**Bratislava**	**3.42 169**	*e*P	**Pn**	**17 13 26.8 +2.4**
NIE	**Niedzica**	**3.43 127**	*e*P	**Pg**	**17 13 35.3 -0.3**
NIE			*e*S	**Sg**	**17 14 19.5 -0.6**
NIE	**Niedzica**	**3.43 127**	*e*P	**Pg**	**17 13 35.3 -0.3**
RGN	**Rugen**	**3.44 332**	*e*Pn	**Pn**	**17 13 23.0 -1.8**
RGN	**Rugen**	**3.44 332**	*e*Pn	**Pn**	**17 13 23.0 -1.8**
VYHS	**Vyhne**	**3.53 149**	*e*P	**Pn**	**17 13 26.5 +0.5**
VYHS	**Vyhne**	**3.53 149**	*e*PN	**Pn**	**17 13 26.5 +0.5**
VYHS			*e*PG	**Pg**	**17 13 38.1 +0.6**
VYHS	**Vyhne**	**3.53 149**	*e*P	**Pn**	**17 13 26.5 +0.5**
CLZ	**Clausthal**	**3.58 277**	*e*P	**Pn**	**17 13 28.0 +1.2**
CLZ	**Clausthal**	**3.58 277**	*e*Pn	**Pn**	**17 13 28.0 +1.2**
	SNR=27				
CLZ			*e*Pg	**Pg**	**17 13 39.1 +0.6**
CLZ			*e*Sg	**Sg**	**17 14 26.5 +1.6**
CLZ	**Clausthal**	**3.58 277**	Pn	**Pn**	**17 13 28.0 +1.2**
	SNR=27				
GRA1	**Grafenberg Arr**	**3.62 241**	Pn	**Pn**	**17 13 28.8 +1.5**
	SNR=27				
GRA1	**Grafenberg Arr**	**3.62 241**	Pg	**Pg**	**17 13 40.6 +1.3**
GRA1			Sg	**Sg**	**17 14 27.4 +1.2**
GRF	**Grafenberg Arr**	**3.62 241**	*e*P	**Pn**	**17 13 28.8 +1.5**
GRF	**Grafenberg Arr**	**3.62 241**	*e*Pn	**Pn**	**17 13 28.8 +1.5**
	SNR=27				
GRF			*e*Pg	**Pg**	**17 13 40.6 +1.3**
GRF			*e*Sg	**Sg**	**17 14 27.4 +1.2**
GRFO	**Grafenberg**	**3.62 241**	*e*P	**Pn**	**17 13 27.2 -0.1**
GRFO	**Grafenberg**	**3.62 241**	*e*Pn	**Pn**	**17 13 27.2 -0.1**
GRFO			*e*Pb	**Pb**	**17 13 34.2 -0.7**
GRFO			*e*Pg	**Pg**	**17 13 41.2 +1.8**
GRFO			*e*Sg	**Sg**	**17 14 27.9 +1.6**
GRFO	**Grafenberg**	**3.62 241**	*e*P	**Pn**	**17 13 27.2 -0.1**
CONA	**Conrad Observa**	**3.62 183**	⇑*i*Pn	**Pn**	**17 13 28.6 +1.2**
	SNR=16				
CONA			⇑*i*Sg	**Sg**	**17 14 27.6 +1.2**
	comp=N,241nm,0.5s				
CONA	**Conrad Observa**	**3.62 183**	Pn	**Pn**	**17 13 28.6 +1.2**
	SNR=16				
CONA			Sg	**Sg**	**17 14 27.6 +1.2**
	comp=N,241nm,0.5s				
BSD	**Bornholm Skovb**	**3.65 349**	*i* P	**Pn**	**17 13 27.8 +0.2**
BSD			*i* S	**Sn**	**17 14 07.9 -3.4**
SOP	**Sopron**	**3.88 175**	*e*Pn	**Pn**	**17 13 32.1 +1.3**
SOP			*e*Sb	**Sg**	**17 14 33.0 -1.5**
HROE	**Hohe Rhon--Fla**	**3.89 257**	⇑*i*Pn	**Pn**	**17 13 31.5 +0.5**
HROE	**Hohe Rhon--Fla**	**3.89 257**	Pn	**Pn**	**17 13 31.5 +0.5**
MOA	**Molln**	**3.89 199**	⇓*i*Pn	**Pn**	**17 13 32.1 +1.1**
	SNR=35				
MOA			⇑*i*Sg	**Sg**	**17 14 34.2 -0.6**
	comp=N,200nm,0.6s				
MOA	**Molln**	**3.89 199**	Pn	**Pn**	**17 13 32.1 +1.1**
	SNR=35				
MOA			Sg	**Sg**	**17 14 34.2 -0.6**
	comp=N,200nm,0.6s				
STHS	**Stebnicka Huta**	**3.91 121**	*e*P	**Pn**	**17 13 32.5 +1.2**
STHS	**Stebnicka Huta**	**3.91 121**	*e*PN	**Pn**	**17 13 32.5 +1.2**
STHS			*e*PG	**Pg**	**17 13 46.2 +1.3**
STHS	**Stebnicka Huta**	**3.91 121**	*e*P	**Pn**	**17 13 32.5 +1.2**
KECS	**Kecovo**	**4.17 136**	*e*P	**Pn**	**17 13 35.5 +0.7**
KECS	**Kecovo**	**4.17 136**	*e*PN	**Pn**	**17 13 35.5 +0.7**
KECS			*e*PG	**Pg**	**17 13 50.4 +0.6**
KECS	**Kecovo**	**4.17 136**	*e*P	**Pn**	**17 13 35.5 +0.7**
ARSA	**Arzberg**	**4.32 185**	*i* Pn	**Pn**	**17 13 38.8 +1.9**
	SNR=39				
ARSA			⇑*i*Sg	**Sg**	**17 14 49.2 +0.6**
	comp=N,173nm,0.6s				
ARSA	**Arzberg**	**4.32 185**	Pn	**Pn**	**17 13 38.8 +1.9**
	SNR=39				
ARSA			Sg	**Sg**	**17 14 49.2 +0.6**
	comp=N,173nm,0.6s				
CRVS	**Cervenica-Dubn**	**4.34 125**	*e*P	**Pn**	**17 13 39.1 +1.9**
CRVS	**Cervenica-Dubn**	**4.34 125**	*e*PN	**Pn**	**17 13 39.0 +1.9**
CRVS			*e*PG	**Pg**	**17 13 54.7 +1.6**
CRVS	**Cervenica-Dubn**	**4.34 125**	*e*P	**Pn**	**17 13 39.1 +1.9**
PSZ	**Piszkesteto**	**4.38 144**	*e*P	**Pn**	**17 13 39.0 +1.2**
PSZ	**Piszkesteto**	**4.38 144**	*e*Pn	**Pn**	**17 13 39.0 +1.2**
PSZ	**Piszkesteto**	**4.38 144**	⇓*i*P	**Pn**	**17 13 39.1 +1.2**
PSZ	**Piszkesteto**	**4.38 144**	⇓*e*Pn	**Pn**	**17 13 39.6 +1.8**
PSZ	**Piszkesteto**	**4.38 144**	*e*P	**Pn**	**17 13 39.0 +1.2**
PKSG		**4.42 159**	*e*Pn	**Pn**	**17 13 39.4 +1.2**
PKSG			*e*Sb	**Sg**	**17 14 49.7 -2.1**
PKSG		**4.42 159**	⇓*e*P	**Pn**	**17 13 39.4 +1.2**
PKST	**T"s**	**4.47 163**	⇓*e*Pn	**Pn**	**17 13 40.3 +1.3**
PKST			*e*Sb	**Sb**	**17 14 47.0 +3.2**
PKST	**T"s**	**4.47 163**	⇓*e*P	**Pn**	**17 13 40.3 +1.3**
KWP	**Kalwaria Pacla**	**4.62 112**	*e*Pn	**Pn**	**17 13 41.5 +0.5**
KWP			*e*Pb	**Pb**	**17 13 50.9 -1.0**
KWP			*e*Pg	**Pg**	**17 13 56.4 -2.1**
KWP			*e*Sn	**Sn**	**17 14 36.1 +0.7**
KWP			*e*Sb	**Sg**	**17 14 53.8 -4.5**
KWP	**Kalwaria Pacla**	**4.62 112**	⇑P	**Pn**	**17 13 41.7 +0.7**
KWP	**Kalwaria Pacla**	**4.62 112**	*e*Pn	**Pn**	**17 13 40.7 -0.4**
KWP			*e*Pg	**Pg**	**17 13 56.5 -2.0**
KWP			*e*Sg	**Sg**	**17 15 03.8 +5.4**
KWP	**Kalwaria Pacla**	**4.62 112**	⇑*i*P	**Pn**	**17 13 41.7 +0.7**
KWP	**Kalwaria Pacla**	**4.62 112**	*e*Pn	**Pn**	**17 13 40.7 -0.4**
KWP	**Kalwaria Pacla**	**4.62 112**	P	**Pn**	**17 13 41.7 +0.7**
KOLS	**Kolonicke sedl**	**4.74 121**	*e*P	**Pn**	**17 13 43.2 +0.5**
KOLS	**Kolonicke sedl**	**4.74 121**	*e*PN	**Pn**	**17 13 43.2 +0.5**
KOLS			*e*PG	Pg	17 14 04.6 +3.8
KOLS	**Kolonicke sedl**	**4.74 121**	*e*P	**Pn**	**17 13 43.2 +0.5**
KBA	**Koelnbreinsper**	**4.82 203**	*i* Pn	**Pn**	**17 13 45.8 +1.8**
	SNR=23				
KBA			⇑*i*Sg	**Sg**	**17 15 04.4 -0.4**
	comp=N,100nm,0.6s				
KBA	**Koelnbreinsper**	**4.82 203**	Pn	**Pn**	**17 13 45.8 +1.8**
	SNR=23				
KBA			Sg	**Sg**	**17 15 04.4 -0.4**
	comp=N,100nm,0.6s				
BJUU	**Bjuv**	**4.89 339**	P	**Pn**	**17 13 43.8 -0.9**
BJUU			S	**Sn**	**17 14 38.3 -3.6**
SOKA	**Soboth**	**4.92 189**	⇓*i*Pn	**Pn**	**17 13 46.4 +1.1**
SOKA	**Soboth**	**4.92 189**	Pn	**Pn**	**17 13 46.4 +1.1**
SUW	**Suwalki**	**4.95 57**	*e*P	Pn	17 13 42.3 -3.3
SUW			pmax	pmax	
	comp=Z,37nm,0.6s				
SUW	**Suwalki**	**4.95 57**	*e*Pn	Pn	17 13 42.3 -3.3
	comp=Z,37nm,0.6s				
SUW	**Suwalki**	**4.95 57**	*e*P	Pn	17 13 42.3 -3.3
	comp=Z,37nm,0.6s				
PERS	**Pernice**	**4.96 188**	*i* Pn	**Pn**	**17 13 47.4 +1.6**
PERS	**Pernice**	**4.96 188**	Pn	**Pn**	**17 13 47.3 +1.6**
TOD	**Tromm**	**5.04 250**	P	**Pn**	**17 13 46.7 -0.1**
TOD			S	**Sn**	**17 14 49.5 +3.7**
BEHE	**Becsehely**	**5.10 175**	⇓*e*pPn	**Pn**	**17 13 50.3 +2.7**
BEHE	**Becsehely**	**5.10 175**	⇓*e*P	**Pn**	**17 13 50.3 +2.7**
KOGS	**Kog**	**5.10 179**	*i* Pn	**Pn**	**17 13 49.5 +1.9**
KOGS	**Kog**	**5.10 179**	*i* Pn	**Pn**	**17 13 49.5 +1.9**
DEL	**Delary**	**5.11 346**	P	**Pn**	**17 13 47.4 -0.3**
WATA	**Walderalm**	**5.15 217**	⇑*i*Pn	**Pn**	**17 13 49.7 +1.3**
	SNR=34				
WATA			⇓*i*Sg	**Sg**	**17 15 17.7 +2.5**
	comp=Z,65nm,0.7s				
WATA	**Walderalm**	**5.15 217**	Pn	**Pn**	**17 13 49.7 +1.3**
	SNR=34				
WATA			Sg	**Sg**	**17 15 17.7 +2.5**
	comp=Z,65nm,0.7s				
WTTA	**Wattenberg**	**5.18 216**	⇑*i*Pn	**Pn**	**17 13 50.4 +1.5**
	SNR=22				
WTTA	**Wattenberg**	**5.18 216**	Pn	**Pn**	**17 13 50.4 +1.5**
	SNR=22				
STU	**Stuttgart**	**5.24 241**	*e*P	**Pn**	**17 13 48.9 -0.6**
STU			pmax	pmax	
	comp=Z,22nm,0.4s				
STU	**Stuttgart**	**5.24 241**	*e*Pn	**Pn**	**17 13 48.9 -0.6**
	comp=Z,22nm,0.4s				
STU			*e*Pg	**Pg**	**17 14 10.9 +0.6**
STU			*e*Sg	**Sg**	**17 15 17.8 -0.4**
STU	**Stuttgart**	**5.24 241**	*e*P	**Pn**	**17 13 48.9 -0.6**
	comp=Z,22nm,0.4s				
MOTA	**Moosalm**	**5.32 220**	⇑*i*Pn	**Pn**	**17 13 51.6 +0.8**
	SNR=34				
MOTA	**Moosalm**	**5.32 220**	Pn	**Pn**	**17 13 51.6 +0.8**
	SNR=34				
LVV	**L'vov**	**5.33 106**	*e*P	**Pn**	**17 13 50.9 +0.2**
LVV			*e*S	**Sn**	**17 14 52.6 -0.1**
LVV	**L'vov**	**5.33 106**	*e*P	**Pn**	**17 13 50.9 +0.2**
LVV			*e*S	**Sn**	**17 14 52.6 -0.1**
RETA	**Reutte**	**5.35 223**	⇑*i*Pn	**Pn**	**17 13 51.6 +0.5**
	SNR=21				
RETA	**Reutte**	**5.35 223**	Pn	**Pn**	**17 13 51.6 +0.5**
	SNR=21				
ABTA	**Abfaltersbach**	**5.35 208**	⇑*i*Pn	**Pn**	**17 13 53.0 +1.9**
	SNR=10				
ABTA	**Abfaltersbach**	**5.35 208**	Pn	**Pn**	**17 13 53.0 +1.9**
	SNR=10				
TRPA	**Tarpa**	**5.38 127**	⇑*i*P	**Pn**	**17 13 51.7 +0.2**
TRPA	**Tarpa**	**5.38 127**	⇓*e*Pn	**Pn**	**17 13 52.2 +0.7**
TRPA	**Tarpa**	**5.38 127**	⇓*e*P	**Pn**	**17 13 52.2 +0.7**
KOE	**Koeppel**	**5.41 261**	*e*Pn	**Pn**	**17 13 52.5 +0.7**
KOE	**Koeppel**	**5.41 261**	Pn	**Pn**	**17 13 52.5 +0.7**
VXJU	**Vaexsjoe**	**5.43 353**	P	**Pn**	**17 13 52.8 +0.7**
HOBG	**Hohbusch**	**5.54 268**	*e*Pn	**Pn**	**17 13 54.5 +0.9**
HOBG	**Hohbusch**	**5.54 268**	Pn	**Pn**	**17 13 54.5 +0.9**
CADS	**Cadrg**	**5.55 197**	*e*Pn	**Pn**	**17 13 55.1 +1.3**
CADS	**Cadrg**	**5.55 197**	*e*Pn	**Pn**	**17 13 55.1 +1.3**
PKSM	**Moragy**	**5.59 162**	⇑P	**Pn**	**17 13 55.2 +0.8**
PKSM	**Moragy**	**5.59 162**	⇑*i*P	**Pn**	**17 13 55.2 +0.8**
PKSM	**Moragy**	**5.59 162**	*e*Pn	**Pn**	**17 13 56.5 +2.1**
PKSM	**Moragy**	**5.59 162**	P	**Pn**	**17 13 55.2 +0.8**
BNS	**Bensberg**	**5.64 268**	*e*Pn	**Pn**	**17 13 55.9 +0.9**
BNS	**Bensberg**	**5.64 268**	Pn	**Pn**	**17 13 55.9 +0.9**
OSKU	**Oskarshamn**	**5.66 360**	P	**Pn**	**17 13 56.0 +0.7**
ABH	**Alteburg**	**5.69 256**	P	**Pn**	**17 13 56.5 +0.8**
VOY	**Vojsko**	**5.71 196**	*e*Sn	**Sg**	**17 15 33.4 +0.1**
BGG	**Burgeitz**	**5.71 260**	*e*Pn	**Pn**	**17 13 56.6 +0.6**
BGG	**Burgeitz**	**5.71 260**	Pn	**Pn**	**17 13 56.6 +0.6**
FETA	**Feichten**	**5.73 220**	⇓*i*Pn	**Pn**	**17 13 57.9 +1.4**
	SNR=16				
FETA	**Feichten**	**5.73 220**	Pn	**Pn**	**17 13 57.9 +1.4**
	SNR=16				
LAUG	**Laupendahl**	**5.73 272**	*e*Pn	**Pn**	**17 13 56.7 +0.4**
LAUG	**Laupendahl**	**5.73 272**	Pn	**Pn**	**17 13 56.7 +0.4**
BYXU	**Byxelkrok**	**5.78 5**	P	**Pn**	**17 13 57.7 +0.8**
FABU	**Falkenberg**	**5.81 341**	P	**Pn**	**17 13 56.8 -0.6**
SPAK	**Spaichingen-Ko**	**5.86 237**	P	**Pn**	**17 14 00.2 +2.1**
LANF	**Langenberg**	**5.91 247**	P	**Pn**	**17 13 59.3 +0.6**
LANF			S	**Sn**	**17 15 09.8 +2.7**
GNOU	**Gnosjoe**	**5.92 348**	P	**Pn**	**17 13 58.8 0.0**
STB	**Steinbach**	**5.92 264**	*e*Sn	**Sn**	**17 15 06.0 -1.3**
	comp=Z,30nm,0.8s				
STB	**Steinbach**	**5.92 264**	Sn	**Sn**	**17 15 06.0 -1.3**
	comp=Z,30nm,0.8s				
BFO	**Black Forest**	**5.96 240**	*e*P	**Pn**	**17 13 58.5 -1.0**
BFO			pmax	pmax	
	comp=Z,23nm,0.6s				
BFO	**Black Forest**	**5.96 240**	*e*Pn	**Pn**	**17 13 58.5 -1.0**
	comp=Z,23nm,0.6s				
BFO			*e*Pg	**Pg**	**17 14 23.5 -0.7**
BFO			*e*Sb	Sb	17 15 19.4 -7.2
BFO			*e*Sg	**Sg**	**17 15 36.0 -5.4**
BFO	**Black Forest**	**5.96 240**	*e*P	**Pn**	**17 13 58.5 -1.0**
	comp=Z,23nm,0.6s				
EKSU	**Eksjoe**	**6.06 356**	P	**Pn**	**17 14 01.2 +0.5**
HILG	**Hillesheim**	**6.09 262**	*e*Pn	**Pn**	**17 14 02.5 +1.2**
HILG	**Hillesheim**	**6.09 262**	Pn	**Pn**	**17 14 02.5 +1.2**
VSTU	**Vaestervik**	**6.13 2**	P	**Pn**	**17 14 02.3 +0.6**
KLL	**Kalltalsperre**	**6.24 266**	*e*Pn	**Pn**	**17 14 04.0 +0.8**
KLL	**Kalltalsperre**	**6.24 266**	Pn	**Pn**	**17 14 04.0 +0.8**
DAVOX	**Davos/Dischmat**	**6.28 223**	Pn	**Pn**	**17 14 04.8 +0.9**
	baz=25,slow=17				
DAVOX			Lg	Lg	17 15 49.8
	comp=Z,2.3nm,0.3s,baz=216,slow=20,SNR=4.8				
DAVOX	**Davos/Dischmat**	**6.28 223**	P	**Pn**	**17 14 04.9 +0.9**
DAVOX	**Davos/Dischmat**	**6.28 223**	Pn	**Pn**	**17 14 04.8 +0.9**
DAVOX			Lg	Lg	17 15 49.8
DAVOX	**Davos/Dischmat**	**6.28 223**	P	**Pn**	**17 14 04.9 +0.9**
DREG	**Dreilaegerbach**	**6.28 266**	*e*Pn	**Pn**	**17 14 04.6 +0.8**
DREG	**Dreilaegerbach**	**6.28 266**	Pn	**Pn**	**17 14 04.6 +0.8**
BORU	**Boraas**	**6.40 344**	P	**Pn**	**17 14 05.7 +0.3**
FELD	**Feldberg im Sc**	**6.41 238**	P	**Pn**	**17 14 07.5 +1.8**
DRGR		**6.43 135**	⇓P	**Pn**	**17 14 06.5 +0.5**
DRGR		**6.43 135**	⇓*i*P	**Pn**	**17 14 06.5 +0.5**
DRGR		**6.43 135**	P	**Pn**	**17 14 06.5 +0.5**
MEM	**Membach**	**6.43 266**	PN	**Pn**	**17 14 06.5 +0.6**
MEM	**Membach**	**6.43 266**	Pn	**Pn**	**17 14 06.5 +0.6**
CDF	**Champ du Feu**	**6.50 245**	*e*Pn	**Pn**	**17 14 04.4 -2.5**
CDF			*e*Sg	Sg	17 15 52.6 -6.1
	comp=Z,125nm,0.8s				
CDF	**Champ du Feu**	**6.50 245**	*e*P	**Pn**	**17 14 04.4 -2.5**
CDF	**Champ du Feu**	**6.50 245**	*e*Pn	**Pn**	**17 14 04.4 -2.5**
CDF			*e*Sg	Sg	17 15 52.6 -6.1
WLF	**Walferdange**	**6.61 257**	PN	**Pn**	**17 14 09.4 +1.1**
WLF	**Walferdange**	**6.61 257**	*e*P	**Pn**	**17 14 05.1 -3.2**
WLF	**Walferdange**	**6.61 257**	*e*Pn	Pn	17 14 05.1 -3.2
WLF			*e*Sg	**Sg**	**17 15 57.9 -4.3**
WLF	**Walferdange**	**6.61 257**	Pn	**Pn**	**17 14 09.4 +1.1**
ECH	**Echery**	**6.67 244**	*e*P	**Pn**	**17 14 08.2 -1.0**
ECH			pmax	pmax	
	comp=Z,8.0nm,0.8s				
ECH	**Echery**	**6.67 244**	*e*Pn	**Pn**	**17 14 08.2 -1.0**
	comp=Z,8.2nm,0.8s				
ECH			*e*Pg	**Pg**	**17 14 38.2 +0.4**
ECH			*e*Sg	Sg	17 15 56.4 -7.8
ECH	**Echery**	**6.67 244**	*e*P	**Pn**	**17 14 08.2 -1.0**
	comp=Z,8.0nm,0.8s				
TUE	**Stuetta**	**6.75 224**	*e*Pn	**Pn**	**17 14 09.0 -1.4**
	comp=Z,8.8nm,0.6s				
TUE			*e*Sg	Sb	17 15 58.4 +9.0
TUE	**Stuetta**	**6.75 224**	*e*Pn	**Pn**	**17 14 09.0 -1.4**
	comp=Z,8.8nm,0.6s				
FKPU	**Falk**	**6.77 349**	P	**Pn**	**17 14 11.3 +0.8**
BZS	**Buzias**	**6.97 146**	⇓P	**Pn**	**17 14 14.5 +1.3**
BZS	**Buzias**	**6.97 146**	⇓*i*P	**Pn**	**17 14 14.5 +1.3**
BZS	**Buzias**	**6.97 146**	P	**Pn**	**17 14 14.5 +1.3**
VIKU	**Vikbolandet**	**6.98 3**	P	**Pn**	**17 14 14.2 +0.8**
NVLJ	**Novalja**	**7.04 187**	P	**Pn**	**17 14 16.0 +1.9**
NVLJ	**Novalja**	**7.04 187**	*i* P	**Pn**	**17 14 16.0 +1.9**
HINF	**Hinteralfeld**	**7.07 242**	*e*Pn	**Pn**	**17 14 11.9 -2.8**
HINF			*e*Sg	Sg	17 16 10.0 -6.8
	comp=Z,107nm,0.9s				
**HINF

comp=Z,0.5nm,0.3s,baz=183,slow=15,SNR=14
HFS Sn **Sn** **17 16 14.8 -1.2**
comp=Z,0.4nm,0.3s,baz=185,slow=27,SNR=3.1
HFS Hagfors 8.71 352 P **Pn** **17 14 36.7 -0.4**
HFS 17 16 14.8
HFS Hagfors 8.71 352 Pn **Pn** **17 14 36.7 -0.4**
HFS Sn **Sn** **17 16 14.8 -1.2**
HFS Hagfors 8.71 352 P **Pn** **17 14 36.7 -0.4**
HFS S **Sn** **17 16 14.8 -1.2**
KONO Kongsberg 8.91 338 P Pn 17 14 44.1 +4.2
KONO Kongsberg 8.91 338 P Pn 17 14 44.1 +4.2
BNI Bardonecchia 9.03 228 *e*P **Pn** **17 14 42.2 +0.5**
BNI Bardonecchia 9.03 228 *e*Pn **Pn** **17 14 42.2 +0.5**
BNI Bardonecchia 9.03 228 *e*Pn **Pn** **17 14 42.2 +0.5**
LOR Lormes 9.06 247 *e*Pn **Pn** **17 14 39.2 -2.7**
baz=65
LOR *e*Sg Sn 17 17 12.3 +48
comp=Z,43nm,1.0s
LOR Lormes 9.06 247 *e*P **Pn** **17 14 39.2 -2.7**
LOR Lormes 9.06 247 *e*Pn **Pn** **17 14 39.2 -2.7**
LOR *e*Sg Sn 17 17 12.3 +48
LOR Lormes 9.06 247 *e*Sg Sn 17 17 12.3 +48
comp=Z,22nm,1.0s
VSU Vasula 9.23 37⇑*i*P **Pn** **17 14 45.6 +1.4**
VSU pmax pmax
comp=Z,43nm,1.4s
VSU Vasula 9.23 37 *i* P **Pn** **17 14 45.6 +1.4**
comp=Z,43nm,1.4s
MBDF Montbardon 9.24 226 *e*Pn Pn 17 14 41.4 -3.2
MBDF *e*Sg Sn 17 17 17.4 +48
comp=Z,42nm,1.1s
MBDF Montbardon 9.24 226 *e*P Pn 17 14 41.4 -3.2
MBDF Montbardon 9.24 226 *e*Pn Pn 17 14 41.4 -3.2
MBDF *e*Sg Sn 17 17 17.4 +48
SSF Saint Saulge 9.37 246 *e*Pn **Pn** **17 14 43.4 -2.8**
SSF *e*Sg Sn 17 17 22.2 +50
comp=Z,28nm,0.9s
SSF Saint Saulge 9.37 246 *e*P **Pn** **17 14 43.4 -2.8**
SSF Saint Saulge 9.37 246 *e*Pn **Pn** **17 14 43.4 -2.8**
SSF *e*Sg Sn 17 17 22.2 +50
AQU L'Aquila 9.38 192 *e*P **Pn** **17 14 45.1 -1.3**
AQU L'Aquila 9.38 192 *e*Pn **Pn** **17 14 45.1 -1.3**
AQU L'Aquila 9.38 192 *e*P **Pn** **17 14 45.1 -1.3**
SMF Signal de Mont 9.42 243 *e*Pn **Pn** **17 14 44.1 -2.8**
SMF *e*Sg Sn 17 17 23.5 +50
comp=Z,60nm,1.0s
SMF Signal de Mont 9.42 243 *e*P **Pn** **17 14 44.1 -2.8**
SMF Signal de Mont 9.42 243 *e*Pn **Pn** **17 14 44.1 -2.8**
SMF *e*Sg Sn 17 17 23.5 +50
ORIF Oris-en-Rattie 9.51 230 *e*Pn **Pn** **17 14 45.6 -2.6**
ORIF *e*Sg Sn 17 17 25.5 +50
comp=Z,31nm,0.9s
ORIF Oris-en-Rattie 9.51 230 *e*P **Pn** **17 14 45.6 -2.6**
ORIF Oris-en-Rattie 9.51 230 *e*Pn **Pn** **17 14 45.6 -2.6**
ORIF *e*Sg Sn 17 17 25.5 +50
AVF Avril sur Loir 9.61 245 *e*Pn **Pn** **17 14 46.9 -2.6**
AVF *e*Sg Sn 17 17 29.0 +51
comp=Z,29nm,0.9s
AVF Avril sur Loir 9.61 245 *e*P **Pn** **17 14 46.9 -2.6**
AVF Avril sur Loir 9.61 245 *e*Pn **Pn** **17 14 46.9 -2.6**
AVF *e*Sg Sn 17 17 29.0 +51
NA001 NORSAR Array S 9.76 345 Pn **Pn** **17 14 48.5 -3.0**
HYF Humbligny 9.76 249 *e*Pn **Pn** **17 14 48.8 -2.8**
HYF *e*Sg Sn 17 17 34.6 +53
HYF Humbligny 9.76 249 *e*Pn **Pn** **17 14 48.8 -2.8**
HYF *e*Sg Sn 17 17 34.6 +53
NOA NORSAR Array B 9.89 346 Pn **Pn** **17 14 51.9 -1.4**
comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=4.3
NOA NORSAR Array B 9.89 346 P **Pn** **17 14 51.9 -1.4**
NOA NORSAR Array B 9.89 346 Pn **Pn** **17 14 51.9 -1.4**
NOA NORSAR Array B 9.89 346 P **Pn** **17 14 51.9 -1.4**
BGF Bois d'Agland 10.03 245 *e*Pn **Pn** **17 14 52.6 -2.6**
BGF *e*Sg Sn 17 17 42.4 +54
comp=Z,41nm,0.8s
BGF Bois d'Agland 10.03 245 *e*P **Pn** **17 14 52.6 -2.6**
BGF Bois d'Agland 10.03 245 *e*Pn **Pn** **17 14 52.6 -2.6**
BGF *e*Sg Sn 17 17 42.4 +54
VIVF Saint-Julien-l 10.14 233 *e*Pn **Pn** **17 14 53.8 -3.0**
VIVF *e*Sg Sn 17 17 45.6 +54
comp=Z,69nm,1.4s
VIVF Saint-Julien-l 10.14 233 *e*P **Pn** **17 14 53.8 -3.0**
VIVF Saint-Julien-l 10.14 233 *e*Pn **Pn** **17 14 53.8 -3.0**
VIVF *e*Sg Sn 17 17 45.6 +54
LMR La Mourre 10.47 222 *e*Pn **Pn** **17 14 58.3 -2.9**
LMR *e*Sg Sn 17 17 55.6 +56
comp=Z,0.5nm,0.3s
LMR La Mourre 10.47 222 *e*P **Pn** **17 14 58.3 -2.9**
LMR La Mourre 10.47 222 *e*Pn **Pn** **17 14 58.3 -2.9**
LMR *e*Sg Sn 17 17 55.6 +56
TCF Toulx Ste Croi 10.54 246 *e*Pn **Pn** **17 14 59.5 -2.8**
TCF *e*Sg Sn 17 17 58.4 +57
comp=Z,31nm,1.0s
TCF Toulx Ste Croi 10.54 246 *e*P **Pn** **17 14 59.5 -2.8**
TCF Toulx Ste Croi 10.54 246 *e*Pn **Pn** **17 14 59.5 -2.8**
TCF *e*Sg Sn 17 17 58.4 +57
LASF Ste Croix 11.11 233 *e*Pn **Pn** **17 15 07.3 -2.7**
LASF *e*Sg 17 18 15.4
comp=Z,111nm,1.6s
LASF Ste Croix 11.11 233 *e*Pn **Pn** **17 15 07.3 -2.7**
LASF *e*Sg 17 18 15.4
FINES FINESS Array B 11.33 25 Pn **Pn** **17 15 11.2 -1.7**
comp=Z,0.6nm,0.3s,baz=197,slow=8.2,SNR=22
FINES Sn Sn 17 17 10.7 -9.5
comp=Z,0.7nm,0.3s,baz=217,slow=19,SNR=6.4
FINES FINESS Array B 11.33 25 P **Pn** **17 15 11.2 -1.7**
FINES FINESS Array B 11.33 25 Pn **Pn** **17 15 11.2 -1.7**
FINES Sn Sn 17 17 10.7 -9.5
FINES FINESS Array B 11.33 25 P **Pn** **17 15 11.2 -1.7**
KAF Kangasniemi 11.96 24 *e*P **Pn** **17 15 19.8 -1.7**
KAF Kangasniemi 11.96 24 *e*p **Pn** **17 15 19.8 -1.7**
KAF Kangasniemi 11.96 24 *e*p **Pn** **17 15 19.8 -1.7**
KAF Kangasniemi 11.96 24 *e*P **Pn** **17 15 19.8 -1.7**
ESK Eskdalemuir 12.11 296 *e*P Pn 17 15 19.8 -3.8
ESK Eskdalemuir 12.11 296 *e*Pn Pn 17 15 19.8 -3.8
OBN Obninsk 12.73 66⇓*e*P Pn 17 15 35.2 +3.1
OBN *e*S **Sn** **17 17 53.0 -1.4**
OBN pmax pmax
comp=Z,24nm,1.8s
JOF Joensuu 14.01 30 *e*P **Pn** **17 15 46.5 -3.0**
JOF Joensuu 14.01 30 *e*p **Pn** **17 15 46.5 -3.0**
JOF Joensuu 14.01 30 *e*p **Pn** **17 15 46.5 -3.0**
VSR Storozhevoye 14.40 82 *e*P Pn 17 15 51.0 -3.8
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.5s
VSR pmax pmax
comp=Z,5.0nm,0.5s
VRHR Novokhopersk 15.94 82 *e*P Pn 17 16 10.2 -5.2
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.9s
ARCES ARCESS Array B 18.59 10 Pn **P** **17 16 45.5 -2.8**
comp=E,0.7nm,0.3s,baz=185,slow=12,SNR=17
ARCES ARCESS Array B 18.59 10 P **P** **17 16 45.5 -2.8**
ARCES ARCESS Array B 18.59 10 Pn **P** **17 16 45.5 -2.8**
CSS Prodhromos 20.70 137 P **P** **17 17 10.6 -1.1**
comp=E,9.7nm,1.2s
CSS Prodhromos 20.70 137 P **P** **17 17 10.6 -1.1**
comp=E,9.7nm,1.2s
ARU Arti 25.12 62 P **P** **17 17 56.7 +0.5**
ARU Arti 25.12 62 *e*P **P** **17 17 56.3 +0.1**
comp=E,4.8nm,0.7s
ARU Arti 25.12 62 P **P** **17 17 56.7 +0.5**
AKTK Aktyubinsk 26.15 76 P **P** **17 18 06.3 +0.7**
AKTO Aktyubinsk 26.15 76 P **P** **17 18 06.2 +0.6**
comp=E,2.3nm,0.7s,baz=293,slow=9.5,SNR=10
AKTO Aktyubinsk 26.15 76 P **P** **17 18 06.3 +0.6**
AKTO Aktyubinsk 26.15 76 P **P** **17 18 06.2 +0.6**
AKTO Aktyubinsk 26.15 76 P **P** **17 18 06.2 +0.6**
SVE Sverdlovsk 26.21 61 *e*P **P** **17 18 07.6 +1.5**
SVE pmax pmax
comp=Z,12nm,1.2s
SVE Sverdlovsk 26.21 61 *e*P **P** **17 18 07.6 +1.5**
comp=Z,12nm,1.2s
ABKAR Akbulak array 27.73 77 P **P** **17 18 20.1 +0.3**
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 27.73 77 P **P** **17 18 20.1 +0.3**
comp=Z,1.5nm,0.8s
BRVK Borovoye 32.51 66⇑*i*P **P** **17 19 04.6 +2.6**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BRVK Borovoye 32.51 66 *e*P **P** **17 19 03.8 +1.7**
comp=Z,2.3nm,0.7s
BRVK Borovoye 32.51 66 *e*P **P** **17 19 03.8 +1.7**
comp=Z,2.3nm,0.7s
KKAR Karatay Array 37.06 81 P **P** **17 19 43.1 +1.6**
KKAR pmax pmax
comp=Z,6.0nm,1.4s
KKAR Karatay Array 37.06 81 P **P** **17 19 43.1 +1.6**
comp=Z,6.3nm,1.4s
KKAR Karatay Array 37.06 81 P **P** **17 19 43.1 +1.6**
comp=Z,6.3nm,1.4s
KURK Kurchatov 38.17 66 P **P** **17 19 51.8 +1.1**
comp=Z,1.2nm,0.6s,baz=297,slow=9.2,SNR=12
KURK Kurchatov 38.17 66⇓*i*P **P** **17 19 51.9 +1.1**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 38.17 66 P **P** **17 19 51.5 +0.7**
comp=Z,3.4nm,1.1s
KURK Kurchatov 38.17 66 P **P** **17 19 51.5 +0.7**
comp=Z,3.4nm,1.1s
NVS Novosibirsk 38.97 58⇑*i*P **P** **17 19 59.0 +1.6**
NVS *e* 17 21 49.8
NVS pmax pmax
comp=Z,19nm,1.7s
NVS pmax pmax
comp=N,2.0nm,2.3s
NVS pmax pmax
comp=E,3.0nm,2.3s
NVS Novosibirsk 38.97 58 *i* P **P** **17 19 59.0 +1.6**
comp=E,19nm,1.7s
EKS2 Erkin-Say 39.31 80 *e*P **P** **17 20 02.0 +1.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 39.31 80 *e*P **P** **17 20 02.0 +1.4**
comp=Z,2.6nm,0.8s
EKS2 Erkin-Say 39.31 80 *e*P **P** **17 20 02.0 +1.4**
comp=Z,2.6nm,0.8s
AAK Ala-Archa 39.77 79⇑*e*P **P** **17 20 07.4 +2.9**
AAK pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 39.77 79 *e*P **P** **17 20 07.0 +2.5**
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 40.03 202 P **P** **17 20 07.2 +0.5**
comp=Z,1.4nm,0.8s,baz=13,slow=8.4,SNR=8.0
TORD Torodi Ar. Bea 40.03 202 P **P** **17 20 07.2 +0.5**
TORD Torodi Ar. Bea 40.03 202 P **P** **17 20 07.2 +0.5**
ZAA0 Zalesovo Array 40.18 59 *e*P **P** **17 20 07.0 -0.5**
ZAA0 Zalesovo Array 40.18 59 *e*P **P** **17 20 07.1 -0.5**
ZALV Zalesovo Beam 40.18 59 P **P** **17 20 09.8 +2.3**
comp=Z,0.4nm,0.4s,baz=294,slow=7.8,SNR=6.3
ZALV Zalesovo Beam 40.18 59 P **P** **17 20 09.8 +2.3**
ZALV Zalesovo Beam 40.18 59 P **P** **17 20 09.8 +2.3**
ZALV Zalesovo Beam 40.18 59 P **P** **17 20 09.8 +2.3**
MK31 Makanchi Array 42.20 69 P **P** **17 20 24.3 0.0**
MK31 Makanchi Array 42.20 69 P **P** **17 20 24.3 0.0**
MK31 Makanchi Array 42.20 69 P **P** **17 20 24.3 0.0**
MKAR Makanchi Array 42.20 69 P **P** **17 20 26.1 +1.7**
comp=Z,0.6nm,0.7s,baz=296,slow=7.0,SNR=7.5
MKAR Makanchi Array 42.20 69 P **P** **17 20 26.1 +1.7**
MKAR Makanchi Array 42.20 69 P **P** **17 20 26.1 +1.7**
MKAR Makanchi Array 42.20 69 P **P** **17 20 26.0 +1.7**
SONM Songino Array 54.90 55 P **P** **17 22 04.2 +2.0**
comp=Z,0.8nm,0.8s,baz=290,slow=9.4,SNR=6.1
SONM Songino Array 54.90 55 P **P** **17 22 04.2 +2.0**
SONM Songino Array 54.90 55 P **P** **17 22 04.2 +2.0**
SONM Songino Array 54.90 55 P **P** **17 22 04.2 +2.0**
LSA Lhasa 58.32 81 P **P** **17 22 27.7 +0.6**
LSA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 58.32 81 P **P** **17 22 27.7 +0.6**
comp=Z,2.3nm,0.8s
LSA Lhasa 58.32 81 P **P** **17 22 27.7 +0.6**
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 59.82 336 P **P** **17 22 38.2 +1.7**
comp=Z,1.2nm,0.6s,baz=28,slow=6.7,SNR=22
YKA Yellowknife Ar 59.82 336 P **P** **17 22 38.3 +1.7**
YKA Yellowknife Ar 59.82 336 P **P** **17 22 38.2 +1.7**
YKA Yellowknife Ar 59.82 336 P **P** **17 22 38.2 +1.7**
ILAR Eielson Array 63.27 352 P **P** **17 23 01.8 +2.0**
comp=Z,0.3nm,0.7s,baz=358,slow=5.6,SNR=5.2
ILAR Eielson Array 63.27 352 P **P** **17 23 01.8 +2.0**
ILAR Eielson Array 63.27 352 P **P** **17 23 01.8 +2.0**
ILAR Eielson Array 63.27 352 P **P** **17 23 01.8 +2.0**
CMAR Chiang Mai Arr 71.36 84 P **P** **17 23 52.3 +0.6**
comp=Z,1.2nm,1.0s,baz=318,slow=5.5,SNR=5.4
CMAR Chiang Mai Arr 71.36 84 P **P** **17 23 52.3 +0.6**
CMAR Chiang Mai Arr 71.36 84 P **P** **17 23 52.3 +0.6**
CMAR Chiang Mai Arr 71.36 84 P **P** **17 23 52.3 +0.6**
PDAR Pinedale Array 74.91 322 P **P** **17 24 14.0 +1.3**
comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=4.3
PDAR Pinedale Array 74.91 322 P **P** **17 24 14.0 +1.3**
PDAR Pinedale Array 74.91 322 P **P** **17 24 14.0 +1.3**
TXAR Lajitas Array 83.69 310 P **P** **17 25 02.9 +2.2**
comp=Z,0.2nm,0.6s,baz=88,slow=2.9,SNR=3.6
TXAR Lajitas Array 83.69 310 P **P** **17 25 02.9 +2.2**
TXAR Lajitas Array 83.69 310 P **P** **17 25 02.9 +2.2**
TXAR Lajitas Array 83.69 310 P **P** **17 25 02.9 +2.2**
ASAR Alice Springs 125.36 84 PKIKP **PKPdf** **17 31 32.2 -0.5**
comp=Z,0.4nm,0.8s,baz=353,slow=2.9,SNR=5.8
ASAR Alice Springs 125.36 84 PKIKP **PKPdf** **17 31 32.2 -0.5**
ASAR Alice Springs 125.36 84 PKP **PKPdf** **17 31 32.1 -0.5**

*ISCJB **10** 17:16:02.5±0.6,26°.77N±0°.07×54°.95E±0°.07,h17km, mb3.5/4, Error ellipse: s-maj=12.9km s-min=5.1km az=37.9*
*IDC **10** 17:16:02.7±3.0,26°.80N×55°.01E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/26,mbtmp3.6/4, Error ellipse: s-maj=80.4km s-min=28.0km az=157.0*
*CSEM **10** 17:16:03.1±0.2,26°.76N×55°.12E,h10km,ML3.4/6, Error ellipse: s-maj=9.5km s-min=2.6km az=41.0*
*KISR **10** 17:16:04.0±0.3,27°.30N×54°.69E,h34km,ML3.1*
*OMAN **10** 17:16:06.6±99.0,26°.70N×55°.20E,h60km±999km, Error ellipse: s-maj=106.6km s-min=18.9km az=335.0*
ISC 10 17:16:04.3±0.9, 26.7N±0°.1×55.02E±0°.08, h17km, n20,
σ0s93/24, mb3.3/4, 2C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.40**	**125**	P		**Pn**		**17 16 28.0**	**-1.2**
	SNR=307								
BANOM	**Banah**	**1.40**	**125**	P		**Pn**		**17 16 28.0**	**-1.2**
	SNR=307								
BANOM					Sn	**Sn**		**17 16 46.3**	**-1.0**
NAZ	**Nazwa, Dubai**	**1.83**	**162**	⇑P		**Pn**		**17 16 34.8**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.83**	**162**	P		**Pn**		**17 16 34.8**	**-0.3**
FAQ	**Al Faqa, Dubai**	**2.05**	**165**	Pn		**Pn**		**17 16 37.5**	**-0.5**
ASUD	**Al Ashush, Dub**	**2.12**	**172**	P		**Pn**		**17 16 39.0**	**0.0**
	SNR=10								
ASUD	**Al Ashush, Dub**	**2.12**	**172**	P		**Pn**		**17 16 39.0**	**0.0**
	SNR=10								
HATD	**Hatta, Dubai**	**2.15**	**152**	⇑P		**Pn**		**17 16 39.4**	**0.0**
HATD	**Hatta, Dubai**	**2.15**	**152**	Pn		**Pn**		**17 16 38.7**	**-0.7**
HATD	**Hatta, Dubai**	**2.15**	**152**	P		**Pn**		**17 16 39.4**	**0.0**
ASHO	**Ashiyiah**	**2.25**	**155**	P		**Pn**		**17 16 40.0**	**-0.8**
	SNR=15								
ASHO	**Ashiyiah**	**2.25**	**155**	P		**Pn**		**17 16 40.0**	**-0.8**
	SNR=15								
NAY	**Al-Naaiem**	**7.32**	**292**	*e*P		**Pn**		**17 17 51.1**	**+0.6**
NAY				*e*S		**Sn**		**17 19 11.8**	**-1.4**
NAY				AML		AML		17 19 14.1	
	comp=Z,4.8nm,0.6s								
NAY	**Al-Naaiem**	**7.32**	**292**	*e*P		**Pn**		**17 17 51.1**	**+0.6**
NAY				*e*S		**Sn**		**17 19 11.8**	**-1.4**
	comp=Z,4.8nm,0.6s								
MIB	**Mutribah**	**7.43**	**296**	*e*P		**Pn**		**17 17 52.5**	**+0.5**
MIB				*e*S		**Sn**		**17 19 13.6**	**-2.3**
MIB				AML		AML		17 19 17.0	
	comp=Z,2.2nm,0.4s								
MIB	**Mutribah**	**7.43**	**296**	*e*P		**Pn**		**17 17 52.5**	**+0.5**
BRTR	**Keskin Array B**	**22.02**	**311**	P		**P**		**17 20 58.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=130,slow=13,SNR=3.6								
MKAR	**Makanchi Array**	**29.39**	**40**	P		**P**		**17 22 07.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=232,slow=7.3,SNR=5.2								
ZALV	**Zalesovo Beam**	**34.95**	**31**	P		**P**		**17 22 55.6**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=241,slow=9.1,SNR=8.7								
TORD	**Torodi Ar. Bea**	**51.58**	**266**	P		**P**		**17 25 10.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=59,slow=8.0,SNR=5.0								

*IDC **10** 17:26:33.9±5.2,23°.35N×121°.65E,h0km,mb3.4/3,*

mb1 3.6/3,mb1mx3.2/22,mbtmp3.4/3, Error ellipse: s-maj=372.9km s-min=27.1km az=60.0
*TAP **10** 17:26:35.8,23°.03N×120°.22E,h15km,ML3.8,B*
*ISCJB **10** 17:26:36.9±0.4,23°.03N±0°.02×120°.16E±0°.03,h19km±3km, mb3.3/3, Error ellipse: s-maj=4.2km s-min=2.7km az=163.4*
ISC 10 17:26:36.5±0.8, 23°.04N±0°.02×120°.18E±0°.03, h16km±5km, n57, σ0s70/81, mb3.4/3, 7C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAI1	**Yung-k'ang**	**0.04**	**91**	⇓*i*P		**Pg**		**17 26 38.8**	**-0.5**
	baz=73								
TAI1				S		**Sg**		**17 26 41.4**	**+0.3**
	baz=73								
SCLT	**Jiali**	**0.13**	**5**	⇓*i*P		**Pb**		**17 26 40.6**	**-0.1**
	baz=2.0								
SCLT				*i* S		**Sb**		**17 26 44.5**	**+1.0**
	baz=2.0								
CHN3	**Shinhua**	**0.17**	**78**	⇑*i*P		**Pg**		**17 26 40.9**	**+0.1**
	baz=66								
CHN3				S		**Sb**		**17 26 44.9**	**+0.4**
	baz=66								
CHN8	**Yiju**	**0.30**	**5**	*e*P		**Pb**		**17 26 43.5**	**-0.1**
	baz=1.0								
CHN8				*e*S		**Sb**		**17 26 49.4**	**+1.0**
	baz=1.0								
TWM1	**Shoushan**	**0.31**	**134**	⇓*i*P		**Pb**		**17 26 43.9**	**+0.2**
	baz=137								
CHN1	**Nanshi**	**0.35**	**66**	⇑*i*P		**Pg**		**17 26 43.6**	**-0.1**
	baz=62								
SGST	**Jiashian**	**0.37**	**84**	⇑P		**Pg**		**17 26 44.4**	**+0.3**
	baz=82								
SGLT	**Jiouru**	**0.42**	**138**	*e*P		**Pb**		**17 26 46.1**	**+0.5**
	baz=140								
WTP	**Ta-pu**	**0.45**	**63**	⇑*i*P		**Pg**		**17 26 45.2**	**-0.2**
	baz=60								
KAU	**Kaohsiung**	**0.48**	**166**	*e*P		**Pb**		**17 26 47.1**	**+0.5**
	baz=169								
CHN4	**Tsushan**	**0.49**	**51**	⇑*i*P		**Pg**		**17 26 46.1**	**-0.1**
	baz=47								
CHY	**Chiayi**	**0.51**	**26**	P		**Pg**		**17 26 46.8**	**+0.2**
	baz=13								
CHY				*e*S		**Sb**		**17 26 55.6**	**+1.4**
	baz=13								
SSD	**Sandimen**	**0.51**	**125**	⇓P		**Pg**		**17 26 46.5**	**-0.1**
	baz=126								
WDGT	**Dungji**	**0.53**	**295**	*e*P		**Pg**		**17 26 47.2**	**+0.2**
	baz=294								
WDGT				*e*S		**Sb**		**17 26 55.5**	**+0.7**
	baz=294								
STYT	**Tauyuan**	**0.54**	**77**	⇑P		**Pg**		**17 26 47.2**	**-0.1**
	baz=66								
WSF	**Szhu**	**0.60**	**4**	*e*P		**Pb**		**17 26 48.5**	**-0.1**
	baz=1.0								
WSF				*e*S		**Sb**		**17 26 58.1**	**+1.3**
	baz=1.0								
TWP	**Hsiaoliuchiu**	**0.71**	**166**	*e*P		**Pn**		**17 26 51.4**	**-0.5**
	baz=181								
TWP				*e*S		**Sn**		**17 27 03.6**	**+1.1**
	baz=181								
CHN5	**Tsauling**	**0.72**	**39**	⇑*i*P		**Pg**		**17 26 50.3**	**-0.3**
	baz=37								
CHN5				S		**Sb**		**17 27 01.0**	**+0.6**
	baz=37								
WGK	**Gukeng**	**0.73**	**28**	P		**Pb**		**17 26 51.1**	**+0.2**
	baz=27								
WGK				*e*S		**Sn**		**17 27 02.6**	**-0.5**
	baz=27								
PNG	**Penghu**	**0.78**	**312**	*e*P		**Pg**		**17 26 51.1**	**-0.6**
	baz=311								
PNG				*e*S		**Sb**		**17 27 02.3**	**+0.2**
	baz=311								
SCZT	**Fangliau**	**0.78**	**149**	P		**Pb**		**17 26 52.2**	**+0.5**
	baz=134								
SCZT				*e*S		**Sn**		**17 27 03.9**	**-0.3**
	baz=134								
ELDTW	**Lidau**	**0.78**	**79**	*e*P		**Pg**		**17 26 51.5**	**-0.3**
	baz=90								
ELDTW				*e*S		**Sg**		**17 27 02.4**	**+0.2**
	baz=90								
WTCT	**Ta-ch'eng**	**0.82**	**6**	*e*P		**Pb**		**17 26 52.0**	**-0.5**
	baz=5.0								
WTCT				*e*S		**Sg**		**17 27 04.3**	**+0.9**
	baz=5.0								
YUS	**Yu-Shan**	**0.84**	**58**	*e*P		**Pb**		**17 26 53.2**	**+0.2**
	baz=57								
YUS				*e*S		**Sg**		**17 27 05.5**	**+1.5**
	baz=57								
ECL	**Taimali**	**0.84**	**122**	*e*P		**Pb**		**17 26 52.2**	**-0.5**
	baz=130								
TWG	**Pinlang**	**0.85**	**105**	*i* P		**Pb**		**17 26 52.8**	**-0.1**
	baz=106								
TWG				S		**Sg**		**17 27 05.1**	**+0.9**
	baz=106								
EAST	**Anshuo**	**0.90**	**137**	⇓P		**Pg**		**17 26 54.1**	**+0.2**
	baz=129								
EAST				S		**Sn**		**17 27 07.4**	**+0.2**
	baz=129								
TTN	**Taitung**	**0.93**	**108**	*e*P		**Pg**		**17 26 54.8**	**+0.2**
	baz=109								
TTN				*e*S		**Sn**		**17 27 09.5**	**+1.5**
	baz=109								
TAW	**Tawu**	**0.95**	**136**	P		**Pb**		**17 26 54.7**	**+0.1**
	baz=125								
TAW				S		**Sn**		**17 27 08.2**	**-0.1**
	baz=125								
WNT	**Mingjian**	**0.95**	**29**	*e*P		**Pb**		**17 26 53.7**	**-1.0**
	baz=27								
WNT				*e*S		**Sg**		**17 27 08.0**	**+0.5**
	baz=27								
TYC	**Yuchr**	**1.06**	**36**	P		**Pb**		**17 26 55.8**	**-0.7**
	baz=35								
TYC				*e*S		**Sn**		**17 27 11.2**	**+0.1**
	baz=35								
SMLT	**Sun Moon Lake**	**1.07**	**38**	*e*P		**Pb**		**17 26 55.7**	**-1.0**
	baz=36								
EHY	**Hungye**	**1.15**	**66**	⇓P		**Pg**		**17 26 57.6**	**-0.3**
	baz=77								
EHY				*e*S		**Sb**		**17 27 13.1**	**+0.4**
	baz=77								
HEN	**Hengchun**	**1.15**	**153**	*e*P		**Pn**		**17 26 57.6**	**-0.3**
	baz=154								
TCU	**Taichung**	**1.19**	**22**	*e*P		**Pn**		**17 26 58.5**	**-0.1**
	baz=20								
TWK1	**Hengchun**	**1.23**	**152**	⇓*e*P		**Pn**		**17 26 58.7**	**-0.4**
	baz=154								
TWK1				*e*S		**Sb**		**17 27 15.1**	**-0.1**
	baz=154								
ESL	**Shilin**	**1.38**	**56**	*e*P		**Pn**		**17 27 01.1**	**-0.1**
	baz=55								
TWQ1	**Liyutan**	**1.41**	**22**	*e*P		**Pn**		**17 27 01.7**	**+0.1**
	baz=21								
TWQ1				*e*S		**Sg**		**17 27 21.9**	**-0.1**
	baz=21								
NSY	**Sanyi**	**1.47**	**21**	*e*P		**Pn**		**17 27 03.0**	**+0.6**
	baz=19								
WHF	**Hehuan Shan**	**1.48**	**42**	*e*P		**Pn**		**17 27 03.2**	**+0.3**
	baz=41								
TWT	**Tachien**	**1.51**	**37**	*e*P		**Pn**		**17 27 03.1**	**0.0**
	baz=36								
TWT				*e*S		**Sb**		**17 27 23.5**	**+0.1**
	baz=36								
HWA	**Hwalien**	**1.60**	**54**	*e*P		**Pb**		**17 27 05.2**	**-0.5**
	baz=53								
LAY	**Lan-yu**	**1.61**	**128**	*e*P		**Pn**		**17 27 02.9**	**-1.4**
	baz=129								
TWD	**Chiawan**	**1.66**	**51**	*e*P		**Pn**		**17 27 05.9**	**+0.9**
	baz=65								
NSTT	**Nanjuang**	**1.75**	**25**	*e*P		**Pb**		**17 27 08.0**	**-0.3**
	baz=23								
NNS	**Nan Shan**	**1.77**	**38**	*e*P		**Pn**		**17 27 07.7**	**+1.1**
	baz=23								
NSK	**Sanguang**	**1.95**	**33**	*e*P		**Pn**		**17 27 09.5**	**+0.4**
	baz=14								
ENA	**Nanau**	**1.99**	**46**	*e*P		**Pn**		**17 27 10.3**	**+0.8**
	baz=64

baz=18
MKAR Makanchi Array 38.53 317 P P 17 34 03.9 +5.6
0.4nm,0.6s,baz=113,slow=10,SNR=6.3
WRA Warramunga Arr 44.90 161 P **P** **17 34 48.8 -1.8**
0.6nm,1.0s,baz=344,slow=8.2,SNR=4.8
ASAR Alice Springs 48.30 163 P **P** **17 35 16.9 -0.3**
0.1nm,0.3s,baz=340,slow=7.4,SNR=9.1

*DDA **10** 17:35:34.5,37.89N×29.27E,h7km,MD2.8*
*ISCJB **10** 17:35:36.0±0.7,37.95N±0.04×29.23E±0.07,h5km±15km, Error ellipse: s-maj=10.6km s-min=4.6km az=25.8*
*CSEM **10** 17:35:35.9±0.4,37.94N×29.26E,h2km,MD2.6, Error ellipse: s-maj=12.1km s-min=5.7km az=122.0*
*ISK **10** 17:35:35.9,37.98N×29.22E,h5km,MD2.6*
ISC 10 17:35:36.2±1.1,37.93N±0.03×29.22E±0.04,h11km±14km, n12,σ0°89/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.23**	**220**	*e*PG	**Pb**	**17 35 42.4**	**0.0**
DENT				*e*SG	**Sg**	**17 35 45.8**	**+1.5**
DENT	**Denizli**	**0.23**	**220**	*e*Pg	**Pb**	**17 35 42.4**	**0.0**
DENT				*e*Sg	**Sg**	**17 35 45.8**	**+1.5**
DNZL	**Cakiroluk**	**0.28**	**210**	*i* P	**Pg**	**17 35 40.6**	**-1.3**
DNZL				*i* S	**Sg**	**17 35 45.0**	**-0.8**
DNZL	**Cakiroluk**	**0.28**	**210**	*i* P	**Pg**	**17 35 40.6**	**-1.3**
DNZL				*i* S	**Sg**	**17 35 45.0**	**-0.8**
KHL	**Karahalli**	**0.46**	**31**	*e*PG	**Sg**	**17 35 44.5**	**-0.7**
KHL				*e*SG	**Sg**	**17 35 50.8**	**-0.6**
KHL	**Karahalli**	**0.46**	**31**	*e*Pg	**Pg**	**17 35 44.5**	**-0.7**
KHL				*e*Sg	**Sg**	**17 35 50.8**	**-0.6**
KHAL	**Karahalli**	**0.49**	**26**	*i* P	**Pg**	**17 35 44.6**	**-1.2**
KHAL				*i* S	**Sg**	**17 35 52.5**	**+0.2**
KHAL	**Karahalli**	**0.49**	**26**	*i* P	**Pg**	**17 35 44.6**	**-1.2**
KHAL				*i* S	**Sg**	**17 35 52.5**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**323**	*e*PG	**Pg**	**17 35 49.8**	**-0.5**
KULA				*e*SG	**Sg**	**17 35 59.9**	**0.0**
KULA	**Kula-Manisa**	**0.73**	**323**	*e*Pg	**Pg**	**17 35 49.8**	**-0.5**
KULA				*e*Sg	**Sg**	**17 35 59.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.22**	**59**	*e*PN	**Pg**	**17 35 59.7**	**+0.1**
SHUT	**Suhut-Afyon**	**1.22**	**59**	*e*Pn	**Pg**	**17 35 59.7**	**+0.1**

IDC 10 17:44:12.9±2.0,6.91S×127.71E,h0km,mb3.1/1, mb1 3.6/4,mb1mx3.4/16,mbtmp3.4/4,ML3.7/2,Error ellipse: s-maj=105.2km s-min=26.9km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.31**	**190**	Pn	Pn	17 46 57.3	+1.4
	0.2nm,0.3s,baz=260,slow=16,SNR=6.7						
FITZ				Sn	Sn	17 48 47.2	-16
	0.5nm,0.3s,baz=311,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**14.47**	**154**	Pn	Pn	17 47 38.1	-1.1
	0.5nm,0.3s,baz=325,slow=13,SNR=18						
WRA				Sn	Sn	17 50 00.9	-20
	0.5nm,0.3s,baz=334,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**17.70**	**161**	P	Pn	17 48 20.6	-0.4
	0.2nm,0.3s,baz=328,slow=9.7,SNR=16						
ASAR				S	Sn	17 51 22.2	-17
	0.1nm,0.3s,baz=308,slow=19,SNR=6.0						
MKAR	**Makanchi Array**	**66.92**	**328**	P	P	17 55 07.2	0.0
	0.1nm,0.7s,baz=143,slow=5.5,SNR=2.3						

RSPR 10 17:59:27.3,17.90N×65.40W,h8km±11km,6C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.24**	**324**⇑	*e*P		17 59 32.4	+0.2
MTP	**Monte Pirata**	**0.24**	**324**⇑	*e*P		17 59 32.4	+0.2
MTP				*e*S		17 59 36.2	+0.8
HUMP	**Col San Antoni**	**0.49**	**299**⇑	*e*P		17 59 36.6	-0.2
HUMP	**Col San Antoni**	**0.49**	**299**⇑	*e*P		17 59 36.6	-0.2
HUMP				*e*S		17 59 43.7	+0.5
CBYP	**Canovanas**	**0.57**	**311**⇑	*e*P		17 59 37.9	-0.5
CBYP	**Canovanas**	**0.57**	**311**⇑	*e*P		17 59 37.9	-0.5
CBYP				*e*S		17 59 46.5	+0.5

IDC 10 18:05:34.7±8.2,10.48S×161.82E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/17,mbtmp3.7/4,Error ellipse: s-maj=241.2km s-min=36.5km az=120.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.10**	**247**	P	P	18 11 28.5	0.0
	0.5nm,0.6s,baz=77,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**29.66**	**240**	P	P	18 11 42.4	0.0
	0.3nm,0.7s,baz=68,slow=11,SNR=3.2						
SONM	**Songino Array**	**75.97**	**325**	P	P	18 17 24.1	+0.4
	0.8nm,0.8s,baz=143,slow=4.0,SNR=5.2						
MKAR	**Makanchi Array**	**90.49**	**317**	P	P	18 18 38.1	-0.4
	0.2nm,0.5s,baz=103,slow=5.8,SNR=8.4						

*HLW **10** 18:29:58.9,36.80N×26.78E,h31km±21km,Md0.0,Ml4.2*
*DDA **10** 18:30:00.7,36.36N×26.30E,h28km,MD3.7*
*ISCJB **10** 18:30:02.4±0.1,36.51N±0.02×26.60E±0.02,h151km±2km, mb3.9/15,Error ellipse: s-maj=3.1km s-min=2.0km az=25.6*
*ATH **10** 18:30:03.5,36.60N×26.58E,h138km±1km,ML3.6*
*NIC **10** 18:30:03.8±0.4,36.40N×26.77E,h100km,mb4.2,ML3.6, MW3.6*
*CSEM **10** 18:30:03.2±0.1,36.54N×26.60E,h146km±1km,mb3.9/8, Mw3.6,Error ellipse: s-maj=3.0km s-min=1.8km az=29.0*
*IDC **10** 18:30:04.2±1.5,36.45N×26.68E,h148km±16km,mb3.6/7, mb1 3.6/14,mb1mx3.4/32,mbtmp3.6/14,MS3.5/1, Ms1 3.5/1,ms1mx2.3/44,Error ellipse: s-maj=13.9km s-min=12.7km az=9.0*
*THE **10** 18:30:06.3,36.52N×26.55E,h152km±2km,ML3.9/6,Error ellipse: s-maj=2.4km s-min=0.7km az=123.0*
*NSSC **10** 18:30:22.9±1.7,35.68N×28.65E,h0km,669km,ML3.3*
ISC 10 18:30:03.7±0.6,36.55N±0.03×26.62E±0.03,h146km±5km, n345,σ1s07/392,mb3.9/15,2C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.45**	**83**	P	**Pn**	**18 30 24.4**	**+0.1**
NIS1				S	**Sn**	**18 30 39.8**	**-0.2**
NIS1	**Nisyros Isl.**	**0.45**	**83**	P	**Pn**	**18 30 24.4**	**+0.1**
NIS1				S	**Sn**	**18 30 39.8**	**-0.2**
THR1	**Thera Island**	**0.95**	**260**	P	**Pn**	**18 30 27.6**	**-0.1**
THR1	**Thera Island**	**0.95**	**260**	P	**Pn**	**18 30 27.6**	**-0.1**
THR2	**Thira island,**	**0.96**	**264**	P	**Pn**	**18 30 27.7**	**0.0**
THR2	**Thira island,**	**0.96**	**264**	P	**Pn**	**18 30 27.7**	**0.0**
APE	**Apeiranthos**	**1.02**	**301**	P	**Pn**	**18 30 27.9**	**-0.4**
APE				S	**Sn**	**18 30 45.2**	**-1.8**
APE	**Apeiranthos**	**1.02**	**301**	*e*P	**Pn**	**18 30 27.9**	**-0.4**
APE				*e*S	**Sn**	**18 30 45.3**	**-1.8**
APE	**Apeiranthos**	**1.02**	**301**	P	**Pn**	**18 30 27.9**	**-0.4**
APE				*e*S	**Sn**	**18 30 45.3**	**-1.8**
KARP	**Karpathos**	**1.09**	**156**	P	**Pn**	**18 30 29.3**	**+0.4**
KARP				S	**Sn**	**18 30 47.3**	**-0.7**
KARP	**Karpathos**	**1.09**	**156**	*e*P	**Pn**	**18 30 29.2**	**+0.4**
KARP				*e*S	**Sn**	**18 30 47.6**	**-0.4**
KARP	**Karpathos**	**1.09**	**156**	*e*P	**Pn**	**18 30 29.2**	**+0.4**
KARP				*e*S	**Sn**	**18 30 47.6**	**-0.4**
SMG	**Samos**	**1.17**	**8**	*e*P	**Pn**	**18 30 29.2**	**-0.4**
SMG				*e*S	**Sn**	**18 30 47.6**	**-1.9**
SMG	**Samos**	**1.17**	**8**	*e*P	**Pn**	**18 30 29.2**	**-0.4**
SMG				*e*S	**Sn**	**18 30 47.6**	**-1.9**
GCAM	**G?zelcaml?**	**1.25**	**23**	*i* P	**Pn**	**18 30 29.0**	**-1.3**
GCAM				*i* S	**Sn**	**18 30 49.3**	**-1.5**
GCAM	**G?zelcaml?**	**1.25**	**23**	*i* P	**Pn**	**18 30 29.0**	**-1.3**
GCAM				*i* S	**Sn**	**18 30 49.3**	**-1.5**
ARG	**Arkhangelos**	**1.26**	**105**	P	**Pn**	**18 30 31.1**	**+0.7**
ARG				S	**Sn**	**18 30 50.9**	**+0.1**
ARG	**Arkhangelos**	**1.26**	**105**	*e*P	**Pn**	**18 30 31.1**	**+0.7**
ARG				*e*S	**Sn**	**18 30 50.9**	**+0.1**
ARG	**Arkhangelos**	**1.26**	**105**	P	**Pn**	**18 30 31.1**	**+0.7**
ARG				S	**Sn**	**18 30 50.9**	**+0.1**
YER	**Yerkesik**	**1.46**	**66**	*e*PN	**Pn**	**18 30 33.2**	**+0.8**
YER				*e*SN	**Sn**	**18 30 54.4**	**-0.1**
YER	**Yerkesik**	**1.46**	**66**	*e*Pn	**Pn**	**18 30 33.2**	**+0.8**
YER				*e*Sn	**Sn**	**18 30 54.4**	**-0.1**
ZKR	**Zakros**	**1.47**	**193**	*e*P	**Pn**	**18 30 33.5**	**+0.9**
ZKR				*e*S	**Sn**	**18 30 55.3**	**+0.7**
ZKR	**Zakros**	**1.47**	**193**	*e*P	**Pn**	**18 30 33.5**	**+0.9**
ZKR				*e*S	**Sn**	**18 30 55.3**	**+0.7**
NPS	**Neapolis**	**1.52**	**213**	P	**Pn**	**18 30 33.3**	**+0.1**
NPS				S	**Sn**	**18 30 54.5**	**-1.2**
NPS	**Neapolis**	**1.52**	**213**	*e*P	**Pn**	**18 30 33.3**	**+0.1**
NPS				*e*S	**Sn**	**18 30 54.3**	**-1.4**
NPS	**Neapolis**	**1.52**	**213**	P	**Pn**	**18 30 33.3**	**+0.1**
NPS				S	**Sn**	**18 30 54.5**	**-1.2**
TURN	**Turunc**	**1.62**	**78**	*i* P	Pn	18 30 30.4	-3.8
TURN				*i* S	Sn	18 30 50.6	-6.9
TURN	**Turunc**	**1.62**	**78**	*i* P	Pn	18 30 30.4	-3.8
BLCB	**Balcova**	**1.87**	**10**	*e*PN	**Pn**	**18 30 36.3**	**-0.6**
BLCB	**Balcova**	**1.87**	**10**	*e*Pn	**Pn**	**18 30 36.3**	**-0.6**
IDI	**Anoyia**	**1.89**	**229**	P	**Pn**	**18 30 37.1**	**-0.2**
IDI				S	**Sn**	**18 31 01.3**	**-1.7**
IDI	**Anoyia**	**1.89**	**229**	*e*P	**Pn**	**18 30 37.0**	**-0.2**
IDI	**Anoyia**	**1.89**	**229**	P	**Pn**	**18 30 37.1**	**-0.2**
IDI				S	**Sn**	**18 31 01.3**	**-1.7**
CHOS	**Chios island**	**1.89**	**346**	*e*P	**Pn**	**18 30 36.8**	**-0.5**
CHOS	**Chios island**	**1.89**	**346**	*e*P	**Pn**	**18 30 36.8**	**-0.5**
IZM	**Izmir**	**1.92**	**15**	*e*PN	**Pn**	**18 30 37.2**	**-0.4**
IZM	**Izmir**	**1.92**	**15**	*e*Pn	**Pn**	**18 30 37.2**	**-0.4**
FETY	**Fethiye**	**1.98**	**87**	*e*PN	**Pn**	**18 30 38.7**	**+0.4**
FETY	**Fethiye**	**1.98**	**87**	*e*Pn	**Pn**	**18 30 38.7**	**+0.4**
SIVA	**Sivas**	**2.12**	**225**	*e*P	**Pn**	**18 30 40.8**	**+0.8**
SIVA	**Sivas**	**2.12**	**225**	*e*P	**Pn**	**18 30 40.8**	**+0.8**
DNZL	**Cakiroluk**	**2.25**	**59**	*i* P	**Pn**	**18 30 42.8**	**+1.2**
DNZL				*i* S	**Sn**	**18 31 10.9**	**0.0**
DNZL				*i* S	**Sn**	**18 31 10.9**	**0.0**
DNZL	**Cakiroluk**	**2.25**	**59**	*i* P	**Pn**	**18 30 42.8**	**+1.2**
DNZL				*i* S	**Sn**	**18 31 10.9**	**0.0**
DENT	**Denizli**	**2.27**	**57**	*e*PN	**Pn**	**18 30 42.4**	**+0.6**
DENT	**Denizli**	**2.27**	**57**	*e*Pn	**Pn**	**18 30 42.4**	**+0.6**
VAM	**Vamos**	**2.27**	**241**	P	**Pn**	**18 30 41.6**	**-0.2**
VAM				S	**Sn**	**18 31 09.2**	**-1.9**
VAM	**Vamos**	**2.27**	**241**	*e*P	**Pn**	**18 30 41.7**	**-0.1**
VAM	**Vamos**	**2.27**	**241**	P	**Pn**	**18 30 41.6**	**-0.2**
VAM				S	**Sn**	**18 31 09.2**	**-1.9**
KSL	**Kastellorizon**	**2.42**	**99**	*e*P	**Pn**	**18 30 44.7**	**+1.1**
KSL	**Kastellorizon**	**2.42**	**99**	*e*P	**Pn**	**18 30 44.7**	**+1.1**
AKAS	**Kas**	**2.42**	**96**	*i* P	**Pn**	**18 30 44.2**	**+0.4**
AKAS				*i* S	**Sn**	**18 31 14.1**	**-0.5**
AKAS	**Kas**	**2.42**	**96**	*i* P	**Pn**	**18 30 44.2**	**+0.4**
AKAS				*i* S	**Sn**	**18 31 14.1**	**-0.5**
GOLH	**Golhisar**	**2.45**	**73**	*i* P	**Pn**	**18 30 45.1**	**+1.0**
GOLH				*i* S	**Sn**	**18 31 15.5**	**+0.3**
GOLH	**Golhisar**	**2.45**	**73**	*i* P	**Pn**	**18 30 45.1**	**+1.0**
GOLH				*i* S	**Sn**	**18 31 15.5**	**+0.3**
AKS	**Akhisar**	**2.51**	**22**	*e*PN	**Pn**	**18 30 44.4**	**-0.3**
AKS	**Akhisar**	**2.51**	**22**	*e*Pn	**Pn**	**18 30 44.4**	**-0.3**
KULA	**Kula-Manisa**	**2.55**	**39**	*e*PN	**Pn**	**18 30 45.2**	**+0.1**
KULA	**Kula-Manisa**	**2.55**	**39**	*e*Pn	**Pn**	**18 30 45.3**	**+0.1**
VLY	**Voula,Athens**	**2.61**	**301**	P	**Pn**	**18 30 46.1**	**+0.2**
VLY	**Voula,Athens**	**2.61**	**301**	*e*P	**Pn**	**18 30 46.2**	**+0.3**
VLY	**Voula,Athens**	**2.61**	**301**	*e*P	**Pn**	**18 30 46.2**	**+0.3**
ELL	**Elmali**	**2.65**	**85**	*e*PN	**Pn**	**18 30 47.3**	**+0.8**
ELL	**Elmali**	**2.65**	**85**	*e*Pn	**Pn**	**18 30 47.3**	**+0.8**
PTL	**Penteli**	**2.66**	**305**	P	**Pn**	**18 30 46.9**	**+0.3**
PTL	**Penteli**	**2.66**	**305**	*e*P	**Pn**	**18 30 46.9**	**+0.3**
PTL	**Penteli**	**2.66**	**305**	P	**Pn**	**18 30 46.9**	**+0.3**
GVD	**Gavdhos**	**2.68**	**231**	*e*P	**Pn**	**18 30 47.6**	**+0.8**
GVD	**Gavdhos**	**2.68**	**231**	*e*P	**Pn**	**18 30 47.6**	**+0.8**
PRK	**Paraskevi**	**2.71**	**354**	*e*P	**Pn**	**18 30 46.4**	**-0.7**
PRK	**Paraskevi**	**2.71**	**354**	*e*P	**Pn**	**18 30 46.4**	**-0.7**
ATH	**Athens Observa**	**2.72**	**302**	*e*P	**Pn**	**18 30 46.7**	**-0.6**
ATH	**Athens Observa**	**2.72**	**302**	*e*P	**Pn**	**18 30 46.7**	**-0.6**
DID	**Didima**	**2.88**	**290**	P	**Pn**	**18 30 49.4**	**+0.1**
DID				S	**Sn**	**18 31 23.0**	**-1.5**
DID	**Didima**	**2.88**	**290**	*e*P	**Pn**	**18 30 49.3**	**0.0**
DID	**Didima**	**2.88**	**290**	P	**Pn**	**18 30 49.4**	**+0.1**
DID				S	**Sn**	**18 31 23.0**	**-1.5**
KYTH	**Kithira**	**2.91**	**266**	P	**Pn**	**18 30 50.0**	**+0.3**
KYTH	**Kithira**	**2.91**	**266**	*e*P	**Pn**	**18 30 50.0**	**+0.3**
KYTH	**Kithira**	**2.91**	**266**	P	**Pn**	**18 30 50.0**	**+0.3**
VLI	**Veliai**	**2.97**	**274**	*e*P	**Pn**	**18 30 50.3**	**-0.2**
VLI	**Veliai**	**2.97**	**274**	*e*P	**Pn**	**18 30 50.3**	**-0.2**
VIL1	**Vilia, Western**	**3.08**	**303**	*e*P	**Pn**	**18 30 52.4**	**+0.5**
VIL1	**Vilia, Western**	**3.08**	**303**	*e*P	**Pn**	**18 30 52.4**	**+0.5**
BALB	**Balikesir**	**3.24**	**17**	*e*PN	**Pn**	**18 30 53.5**	**-0.4**
BALB	**Balikesir**	**3.24**	**17**	*e*Pn	**Pn**	**18 30 53.5**	**-0.4**
ANTB	**Antalya**	**3.26**	**83**	*e*PN	**Pn**	**18 30 54.9**	**+0.8**
ANTB	**Antalya**	**3.26**	**83**	*e*Pn	**Pn**	**18 30 54.9**	**+0.8**
LTK	**Loutraki**	**3.27**	**298**	P	**Pn**	**18 30 54.8**	**+0.5**
LTK				S	**Sn**	**18 31 18.7**	**-1.1**
LTK	**Loutraki**	**3.27**	**298**	*e*P	**Pn**	**18 30 54.7**	**+0.5**
LTK	**Loutraki**	**3.27**	**298**	*e*P	**Pn**	**18 30 54.7**	**+0.5**
LTK				S	**Sn**	**18 31 32.4**	**-1.1**
EZN	**Ezine**	**3.28**	**356**	*e*PN	**Pn**	**18 30 52.1**	**-2.3**
EZN	**Ezine**	**3.28**	**356**	*e*Pn	**Pn**	**18 30 52.1**	**-2.3**
BCK	**Bucak**	**3.30**	**73**	*e*PN	**Pn**	**18 30 56.2**	**+1.5**
BCK	**Bucak**	**3.30**	**73**	*e*Pn	**Pn**	**18 30 56.3**	**+1.5**
VLX	**Vlachokerasia**	**3.50**	**285**	P	**Pn**	**18 30 57.7**	**+0.4**
VLX				S	**Sn**	**18 31 36.9**	**-2.0**
VLX	**Vlachokerasia**	**3.50**	**285**	*e*P	**Pn**	**18 30 57.6**	**+0.3**
VLX	**Vlachokerasia**	**3.50**	**285**	*e*P	**Pn**	**18 30 57.6**	**+0.3**
VLX				S	**Sn**	**18 31 36.9**	**-2.0**
LKR	**Lokris**	**3.56**	**307**	*e*P	**Pn**	**18 30 58.3**	**+0.2**
LKR	**Lokris**	**3.56**	**307**	*e*P	**Pn**	**18 30 58.3**	**+0.2**
GONE	**Gonen-Balikesi**	**3.59**	**13**	*e*PN	**Pn**	**18 30 57.6**	**-0.8**
GONE	**Gonen-Balikesi**	**3.59**	**13**	*e*Pn	**Pn**	**18 30 57.7**	**-0.8**
GUR	**Goura**	**3.69**	**293**	*e*P	**Pn**	**18 31 00.8**	**+1.0**
GUR	**Goura**	**3.69**	**293**	*e*P	**Pn**	**18 31 00.8**	**+1.0**
SHUT	**Suhut-Afyon**	**3.71**	**56**	*e*PN	**Pn**	**18 31 00.9**	**+0.8**
SHUT	**Suhut-Afyon**	**3.71**	**56**	*e*Pn	**Pn**	**18 31 00.9**	**+0.8**
ALT	**Altintas**	**3.73**	**47**	*e*PN	**Pn**	**18 31 00.6**	**+0.3**
ALT	**Altintas**	**3.73**	**47**	*e*Pn	**Pn**	**18 31 00.6**	**+0.3**
DSF	**Desfina**	**3.75**	**301**	P	**Pn**	**18 31 00.9**	**+0.3**
DSF	**Desfina**	**3.75**	**301**	P	**Pn**	**18 31 00.9**	**+0.3**
ITM	**Ithomi**	**3.82**	**281**	*e*P	**Pn**	**18 31 02.2**	**+0.8**
ITM	**Ithomi**	**3.82**	**281**	*e*P	**Pn**	**18 31 02.2**	**+0.8**
GELI	**Tayfur-Gelibol**	**3.85**	**358**	*e*PN	**Pn**	**18 30 59.5**	**-2.2**
GELI	**Tayfur-Gelibol**	**3.85**	**358**	*e*Pn	**Pn**	**18 30 59.5**	**-2.2**
PYL	**PYLOS**	**3.94**	**277**	*e*P	**Pn**	**18 31 02.4**	**-0.6**
PYL	**PYLOS**	**3.94**	**277**	*e*P	**Pn**	**18 31 02.4**	**-0.6**
KALE	**Kalithea**	**4.01**	**299**	P	**Pn**	**18 31 04.3**	**+0.3**
KALE				S	**Sn**	**18 31 48.8**	**-2.1**
KALE	**Kalithea**	**4.01**	**299**	P	**Pn**	**18 31 04.3**	**+0.3**
AGG	**Agios Georgios**	**4.21**	**307**	P	**Pn**	**18 31 07.4**	**+1.0**
AGG	**Agios Georgios**	**4.21**	**307**	*e*P	**Pn**	**18 31 07.5**	**+1.0**
AGG	**Agios Georgios**	**4.21**	**307**	P	**Pn**	**18 31 07.4**	**+1.0**
RLS	**Riolos of Patr**	**4.38**	**292**	*e*P	**Pn**	**18 31 10.4**	**+1.7**
RLS	**Riolos of Patr**	**4.38**	**292**	*e*P	**Pn**	**18 31 10.4**	**+1.7**
CAVI	**Cavuskoy**	**4.44**	**34**	*e*PN	**Pn**	**18 31 10.1**	**+0.6**
CAVI	**Cavuskoy**	**4.44**	**34**	*e*Pn	**Pn**	**18 31 10.1**	**+0.6**
ESKT	**Eskisehir**	**4.47**	**47**	*e*PN	**Pn**	**18 31 10.8**	**+0.8**
ESKT	**Eskisehir**	**4.47**	**47**	*e*Pn	**Pn**	**18 31 10.8**	**+0.8**
EVR	**Evrytania**	**4.49**	**303**	*e*P	**Pn**	**18 31 13.1**	**+2.8**
EVR	**Evrytania**	**4.49**	**303**	*e*P	**Pn**	**18 31 13.1**	**+2.8**
YLV	**Yalova**	**4.56**	**27**	*e*PN	**Pn**	**18 31 10.2**	**-0.9**
YLV	**Yalova**	**4.56**	**27**	*e*Pn	**Pn**	**18 31 10.2**	**-0.9**
ADVT	**Abdulvahap**	**4.59**	**31**	*e*PN	**Pn**	**18 31 11.6**	**+0.2**
ADVT	**Abdulvahap**	**4.59**	**31**	*e*Pn	**Pn**	**18 31 11.6**	**+0.2**
THL	**Klokotos Trika**	**4.72**	**311**	*e*P	**Pn**	**18 31 14.0**	**+0.7**
THL	**Klokotos Trika**	**4.72**	**311**	*e*P	**Pn**	**18 31 14.0**	**+0.7**
KIZT	**Kizilcal**	**4.77**	**59**	*e*PN	**Pn**	**18 31 15.2**	**+1.1**
KIZT	**Kizilcal**	**4.77**	**59**	*e*Pn	**Pn**	**18 31 15.2**	**+1.1**
KONT	**Konya--Tatoy**	**4.79**	**71**	*e*PN	**Pn**	**18 31 12.1**	**+0.9**
KONT	**Konya--Tatoy**	**4.79**	**71**	*e*Pn	**Pn**	**18 31 15.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**4.83**	**52**	*e*PN	**Pn**	**18 31 15.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**4.83**	**52**	*e*Pn	**Pn**	**18 31 15.3**	**+0.5**
LADK	**Ladik-KONYA**	**4.86**	**68**	*e*PN	**Pn**	**18 31 15.9**	**+0.7**
LADK	**Ladik-KONYA**	**4.86**	**68**	*e*Pn	**Pn**	**18 31 15.9**	**+0.7**
CTKS	**Kestanelik-??a**	**4.91**	**17**	*e*PN	**Pn**	**18 31 15.1**	**-0.6**
CTKS	**Kestanelik-??a**	**4.91**	**17**	*e*Pn	**Pn**	**18 31 15.1**	**-0.6**
GULT	**Gulveren**	**4.94**	**37**	*e*PN	**Pn**	**18 31 16.7**	**+0.5**
GULT	**Gulveren**	**4.94**	**37**	*e*Pn	**Pn**	**18 31 16.7**	**+0.5**
PPCY	**Paphos**	**4.94**	**108**	P	**Pn**	**18 31 15.4**	**-0.8**
PPCY	**Paphos**	**4.94**	**108**	P	**Pn**	**18 31 15.4**	**-0.8**
ALFC	**Alevga**	**5.05**	**104**	P	**Pn**	**18 31 16.6**	**-1.0**
	10nm,0.2s						
ALFC				S	**Sn**	**18 32 13.0**	**-2.3**
ALFC	**Alevga**	**5.05**	**104**	P	**Pn**	**18 31 16.6**	**-1.0**
	10nm,0.2s						
ALFC				S	**Sn**	**18 32 13.0**	**-2.3**
VLS	**Valsamata**	**5.08**	**291**	*e*P	**Pn**	**18 31 17.2**	**-0.8**
VLS	**Valsamata**	**5.08**	**291**	*e*P	**Pn**	**18 31 17.2**	**-0.8**
SLUM		**5.17**	**193**	P	**Pn**	**18 31 18.3**	**-1.0**
LEF	**Lefka**	**5.29**	**104**	*e*PN	**Pn**	**18 31 19.6**	**-1.1**
LEF	**Lefka**	**5.29**	**104**	*e*Pn	**Pn**	**18 31 19.6**	**-1.1**
MDUB	**Mudurnu**	**5.31**	**41**	*e*PN	**Pn**	**18 31 22.3**	**+1.1**
MDUB	**Mudurnu**	**5.31**	**41**	*e*Pn	**Pn**	**18 31 22.3**	**+1.1**
SZAC	**Souni-Zanaja**	**5.40**	**107**	P	**Pn**	**18 31 21.2**	**-1.1**
SZAC	**Souni-Zanaja**	**5.40**	**107**	P	**Pn**	**18 31 21.2**	**-1.1**
HMAT	**Matruh**	**5.45**	**176**	S	**Sn**	**18 32 22.2**	**-2.8**
MAMC	**Mammari**	**5.53**	**102**	P	**Pn**	**18 31 23.1**	**-0.9**
MAMC	**Mammari**	**5.53**	**102**	P	**Pn**	**18 31 23.1**	**-0.9**
CSS	**Prodhromos**	**5.68**	**104**	P	**Pn**	**18 31 25.0**	**-1.0**
CSS	**Prodhromos**	**5.68**	**104**	*e*P	**Pn**	**18 31 25.8**	**-0.2**
CSS	**Prodhromos**	**5.68**	**104**	P	**Pn**	**18 31 25.0**	**-1.0**
LFK	**Lefkose**	**5.75**	**101**	*e*P	**Pn**	**18 31 26.9**	**-0.1**
LFK	**Lefkose**	**5.75**	**101**	*e*P	**Pn**	**18 31 26.9**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**5.86**	**58**	*e*P	**Pn**	**18 31 30.1**	**+1.7**
AFSR	**Af˙ar-Bala (A**	**5.86**	**58**	*e*P	**Pn**	**18 31 30.1**	**+1.7**
EREN	**Erenkoy**	**6.20**	**97**	*e*P	**Pn**	**18 31 33.0**	**+0.2**
EREN	**Erenkoy**	**6.20**	**97**	*e*P	**Pn**	**18 31 33.1**	**+0.2**
PHNC	**Paralimni**	**6.21**	**102**	P	**Pn**	**18 31 34.4**	**+1.2**
	2.6nm,0.6s						
PHNC				S	**Sn**	**18 32 43.1**	**-0.1**
PHNC	**Paralimni**	**6.21**	**102**	P	**Pn**	**18 31 34.4**	**+1.2**
	2.6nm,0.6s						
PHNC				S	**Sn**	**18 32 43.1**	**-0.1**
MERS	**Mersin**	**6.35**	**85**	*e*P	**Pn**	**18 31 36.3**	**+1.2**
MERS	**Mersin**	**6.35**	**85**	*e*P	**Pn**	**18 31 36.3**	**+1.2**
BRTR	**Keskin Array B**	**6.38**	**58**	P	**Pn**	**18 31 37.2**	**+1.8**
	0.3nm,0.3s,baz=240,slow=13,SNR=62						
BRTR				S	**Sn**	**18 32 51.2**	**+4.1**
	0.4nm,0.3s,baz=221,slow=24,SNR=10.0						
KRUS	**Krusevo**	**6.38**	**321**	*e*Pn	**Pn**	**18 31 34.1**	**-1.3**
KRUS	**Krusevo**	**6.38**	**321**	*e*Pn	**Pn**	**18 31 34.1**	**-1.3**
HNAT	**Natroun**	**7.66**	**153**	P	**Pn**	**18 31 51.5**	**-1.1**
FYM	**Al Fayyum**	**7.77**	**150**	S	**Sn**	**18 33 19.7**	**-1.0**
BHL	**Bhannes**	**7.84**	**107**	*e*P	**Pn**	**18 31 52.7**	**-2.4**
BHL	**Bhannes**	**7.84**	**107**	*e*P	**Pn**	**18 31 52.7**	**-2.4**
HWQ	**Hawqa**	**7.94**	**104**	*e*P	**Pn**	**18 31 55.

WET	**Wettzell**	**16.10 326**	*eP*	**P**	**18 33 42.8**	**+0.7**
	comp=Z,4.0nm,0.9s					
FUR	**Furstenfeldbru**	**16.20 321**	*eP*	**Pn**	**18 33 42.6**	**-0.3**
	comp=Z,12nm,0.8s					
SBF	**Sospel**	**16.36 302**	*eP*	**Pn**	**18 33 43.4**	**-1.5**
	comp=Z,25nm,0.7s					
SBF	**Sospel**	**16.36 302**	*eP*	**Pn**	**18 33 43.4**	**-1.5**
	comp=Z,13nm,0.7s					
TANN	**Tannenbergstha**	**17.21 328**	*eP*	**Pn**	**18 33 55.7**	**+0.5**
GRF	**Grafenberg Arr**	**17.25 324**	*eP*	**P**	**18 33 54.1**	**-0.7**
	comp=Z,7.0nm,1.1s					
LPG	**La Plagne**	**17.43 307**	*eP*	**P**	**18 33 56.7**	**-0.4**
	comp=Z,6.5nm,0.4s					
LPG	**La Plagne**	**17.43 307**	*eP*	**P**	**18 33 56.7**	**-0.4**
	comp=Z,3.2nm,0.4s					
LPL	**La Plagne**	**17.44 307**	*eP*	**P**	**18 33 56.7**	**-0.5**
	comp=Z,11nm,0.6s					
LPL	**La Plagne**	**17.44 307**	*eP*	**P**	**18 33 56.7**	**-0.5**
	comp=Z,5.4nm,0.6s					
RSL	**Roselend**	**17.58 307**	*eP*	**Pn**	**18 33 59.7**	**-0.1**
RSL	**Roselend**	**17.58 307**	*eP*	**Pn**	**18 33 59.7**	**-0.1**
MOX	**Moxa**	**17.75 327**	*eP*	**Pn**	**18 34 02.7**	**+1.2**
	comp=Z,2.0nm,0.9s					
ORIF	**Oris-en-Rattie**	**17.77 304**	*eP*	**P**	**18 34 00.2**	**-0.5**
ORIF	**Oris-en-Rattie**	**17.77 304**	*eP*	**P**	**18 34 00.2**	**-0.5**
BFO	**Black Forest**	**17.86 317**	*eP*	**P**	**18 34 01.3**	**-0.3**
	comp=Z,7.0nm,0.9s					
CABF	**La Chapelle**	**18.31 310**	*eP*	**P**	**18 34 05.5**	**-1.1**
	comp=Z,22nm,0.6s					
CABF	**La Chapelle**	**18.31 310**	*eP*	**P**	**18 34 05.5**	**-1.1**
	comp=Z,11nm,0.6s					
HINF	**Hinteralfeld**	**18.42 314**	*eP*	**P**	**18 34 07.9**	**+0.2**
HINF	**Hinteralfeld**	**18.42 314**	*eP*	**P**	**18 34 07.9**	**+0.2**
CDF	**Champ du Feu**	**18.50 316**	*eP*	**P**	**18 34 08.9**	**+0.4**
CDF	**Champ du Feu**	**18.50 316**	*eP*	**P**	**18 34 08.9**	**+0.4**
LANF	**Langenberg**	**18.52 318**	*eP*	**Pn**	**18 34 10.0**	**-0.7**
LANF	**Langenberg**	**18.52 318**	*eP*	**Pn**	**18 34 10.0**	**-0.7**
VIVF	**Saint-Julien-l**	**18.56 303**	*eP*	**P**	**18 34 08.5**	**-0.7**
	comp=Z,5.4nm,0.6s					
VIVF	**Saint-Julien-l**	**18.56 303**	*eP*	**P**	**18 34 08.5**	**-0.7**
	comp=Z,2.7nm,0.6s					
MIB	**Mutribah**	**18.58 105**	*eP*	**Pn**	**18 34 11.3**	**-0.2**
MIB			AMb	AMB	18 34 13.8	
	comp=Z,18nm,0.9s					
MIB	**Mutribah**	**18.58 105**	*eP*	**Pn**	**18 34 11.3**	**-0.2**
	comp=Z,18nm,0.9s					
NAY	**Al-Naaiem**	**18.76 107**	*eP*	**Pn**	**18 34 13.3**	**-0.3**
NAY			AMb	AMB	18 34 15.4	
	comp=Z,14nm,1.0s					
NAY	**Al-Naaiem**	**18.76 107**	*eP*	**Pn**	**18 34 13.3**	**-0.3**
	comp=Z,14nm,1.0s					
HAU	**Haudompre**	**18.81 314**	*eP*	**P**	**18 34 11.8**	**-0.1**
	comp=Z,7.3nm,0.4s					
HAU	**Haudompre**	**18.81 314**	*eP*	**P**	**18 34 11.8**	**-0.1**
	comp=Z,3.7nm,0.4s					
LASF	**Ste Croix**	**18.89 300**	*eP*	**P**	**18 34 11.8**	**-0.9**
LASF	**Ste Croix**	**18.89 300**	*eP*	**P**	**18 34 11.8**	**-0.9**
TNS	**Taunus Mts**	**18.94 322**	*eP*	**P**	**18 34 13.9**	**+0.6**
	comp=Z,6.0nm,0.8s					
UMR	**Umm Al-Rimmam**	**18.99 105**	*eP*	**Pn**	**18 34 15.5**	**-0.8**
UMR	**Umm Al-Rimmam**	**18.99 105**	*eP*	**Pn**	**18 34 15.5**	**-0.8**
THEF	**They Montfort**	**19.13 314**	*eP*	**P**	**18 34 16.5**	**+1.1**
THEF	**They Montfort**	**19.13 314**	*eP*	**P**	**18 34 16.5**	**+1.1**
PAGF	**Fort de Pagny**	**19.45 315**	*eP*	**P**	**18 34 18.8**	**0.0**
PAGF	**Fort de Pagny**	**19.45 315**	*eP*	**P**	**18 34 18.8**	**0.0**
LBL	**Lubilhac**	**19.64 303**	*eP*	**Pn**	**18 34 25.1**	**+1.3**
SFTF	**Sexfontaines**	**19.68 313**	*eP*	**P**	**18 34 20.8**	**-0.4**
SFTF	**Sexfontaines**	**19.68 313**	*eP*	**P**	**18 34 20.8**	**-0.4**
MEZF	**Maizieres J'vi**	**19.81 314**	*eP*	**P**	**18 34 21.3**	**-1.4**
	comp=Z,6.0nm,0.4s					
MEZF	**Maizieres J'vi**	**19.81 314**	*eP*	**P**	**18 34 21.3**	**-1.4**
	comp=Z,3.0nm,0.4s					
MTLF	**Montolieu**	**19.87 297**	*eP*	**P**	**18 34 22.8**	**-0.5**
	comp=Z,2.5nm,0.4s					
MTLF	**Montolieu**	**19.87 297**	*eP*	**P**	**18 34 22.8**	**-0.5**
	comp=Z,1.2nm,0.4s					
PYM	**Petit Puy Mans**	**19.96 305**	*eP*	**P**	**18 34 25.4**	**+1.0**
PYM	**Petit Puy Mans**	**19.96 305**	*eP*	**P**	**18 34 25.4**	**+1.0**
LOR	**Lormes**	**19.98 310**	*eP*	**P**	**18 34 24.3**	**-0.2**
LOR	**Lormes**	**19.98 310**	*eP*	**P**	**18 34 24.3**	**-0.2**
AVF	**Avril sur Loir**	**20.11 308**	*eP*	**P**	**18 34 24.8**	**-1.0**
AVF	**Avril sur Loir**	**20.11 308**	*eP*	**P**	**18 34 24.8**	**-1.0**
SSF	**Saint Saulge**	**20.11 309**	*eP*	**P**	**18 34 25.5**	**-0.4**
	comp=Z,9.1nm,0.5s					
SSF	**Saint Saulge**	**20.11 309**	*eP*	**P**	**18 34 25.5**	**-0.4**
	comp=Z,4.6nm,0.5s					
BGF	**Bois d'Agland**	**20.34 307**	*eP*	**P**	**18 34 28.7**	**+0.3**
	comp=Z,9.9nm,0.7s					
BGF	**Bois d'Agland**	**20.34 307**	*eP*	**P**	**18 34 28.7**	**+0.3**
	comp=Z,4.9nm,0.7s					
CAF	**Calviac**	**20.35 302**	*eP*	**P**	**18 34 28.0**	**-0.5**
CAF	**Calviac**	**20.35 302**	*eP*	**P**	**18 34 28.0**	**-0.5**
TCF	**Toulx Ste Croi**	**20.66 306**	*eP*	**P**	**18 34 31.4**	**-0.5**
TCF	**Toulx Ste Croi**	**20.66 306**	*eP*	**P**	**18 34 31.4**	**-0.5**
RJF	**Les Rejaudoux**	**20.83 303**	*eP*	**P**	**18 34 33.1**	**-0.5**
RJF	**Les Rejaudoux**	**20.83 303**	*eP*	**P**	**18 34 33.1**	**-0.5**
BAIF	**Baives**	**21.07 317**	*eP*	**P**	**18 34 35.7**	**-0.5**
BAIF	**Baives**	**21.07 317**	*eP*	**P**	**18 34 35.7**	**-0.5**
EPF	**Esparros**	**21.16 296**	*eP*	**P**	**18 34 35.8**	**-1.5**
EPF	**Esparros**	**21.16 296**	*eP*	**P**	**18 34 35.8**	**-1.5**
ETSF	**Etsaut**	**21.80 295**	*eP*	**P**	**18 34 42.5**	**-1.5**
	comp=Z,2.6nm,0.3s					
ETSF	**Etsaut**	**21.80 295**	*eP*	**P**	**18 34 42.5**	**-1.5**
	comp=Z,1.3nm,0.3s					
MFF	**Saint Martin d**	**22.31 305**	*eP*	**P**	**18 34 48.1**	**-1.0**
	comp=Z,2.3nm,0.5s					
MFF	**Saint Martin d**	**22.31 305**	*eP*	**P**	**18 34 48.1**	**-1.0**
	comp=Z,1.1nm,0.5s					
SJPF	**Ste Jean**	**22.31 296**	*eP*	**P**	**18 34 48.4**	**-0.7**
	comp=Z,2.4nm,0.3s					
SJPF	**Ste Jean**	**22.31 296**	*eP*	**P**	**18 34 48.4**	**-0.7**
	comp=Z,1.2nm,0.3s					
LDF	**La Druitiere**	**22.96 310**	*eP*	**P**	**18 34 54.0**	**-1.2**
	comp=Z,2.6nm,0.3s					
LDF	**La Druitiere**	**22.96 310**	*eP*	**P**	**18 34 54.0**	**-1.2**
	comp=Z,1.3nm,0.3s					
FLN	**La Foliniere**	**23.24 310**	*eP*	**P**	**18 34 55.4**	**-2.4**
	comp=Z,7.1nm,0.5s					
FLN	**La Foliniere**	**23.24 310**	*eP*	**P**	**18 34 55.4**	**-2.4**
	comp=Z,3.5nm,0.5s					
GRR	**Gorron**	**23.34 309**	*eP*	**P**	**18 34 57.4**	**-1.3**
	comp=Z,3.7nm,0.3s					
GRR	**Gorron**	**23.34 309**	*eP*	**P**	**18 34 57.4**	**-1.3**
	comp=Z,1.9nm,0.3s					
ESDC	**Sonseca Array**	**24.21 287**	P	**P**	**18 35 07.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=83,slow=10,SNR=9.7					
SGMF	**Saint Gilles**	**24.37 308**	*eP*	**P**	**18 35 06.9**	**-1.1**
SGMF	**Saint Gilles**	**24.37 308**	*eP*	**P**	**18 35 06.9**	**-1.1**
QUIF	**Quistinic**	**24.66 307**	*eP*	**P**	**18 35 09.9**	**-0.7**
	comp=Z,2.7nm,0.4s					
QUIF	**Quistinic**	**24.66 307**	*eP*	**P**	**18 35 09.9**	**-0.7**
	comp=Z,1.4nm,0.4s					
FINES	**FINESS Array B**	**24.92 359**	P	**P**	**18 35 14.1**	**+1.2**
	comp=Z,3.6nm,0.9s,baz=154,slow=8.0,SNR=8.0					
HFS	**Hagfors**	**25.03 345**	P	**P**	**18 35 13.3**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=147,slow=12,SNR=11					
KAF	**Kangasniemi**	**25.59 360**	*ep*	**P**	**18 35 21.2**	**+2.3**
	comp=Z,2.1nm,0.4s					
KAF	**Kangasniemi**	**25.59 360**	*ep*	**P**	**18 35 21.2**	**+2.3**
	comp=Z,2.1nm,0.4s					
KAF	**Kangasniemi**	**25.59 360**	*eP*	**P**	**18 35 21.2**	**+2.3**
	comp=Z,2.1nm,0.4s					
AKTO	**Aktyubinsk**	**26.44 48**	P	**P**	**18 35 26.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=265,slow=11,SNR=2.8					
TORD	**Torodi Ar. Bea**	**32.29 230**	P	**P**	**18 36 20.2**	**+1.5**
	comp=Z,2.0nm,0.3s,baz=32,slow=8.9,SNR=60					
MKAR	**Makanchi Array**	**42.03 59**	P	**P**	**18 37 41.6**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=267,slow=8.4,SNR=59					
MKAR			ScP	**ScP**	**18 43 09.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=262,slow=4.1,SNR=5.4					
ZALV	**Zalesovo Beam**	**43.19 47**	P	**P**	**18 37 50.0**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=266,slow=9.6,SNR=14					

IDC 10 18:31:21.0±4.1, 4.97S×69.09E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=139.1km s-min=28.3km az=63.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**52.85**	**11**	P	P	18 40 38.5	0.0
	0.2nm,0.4s,baz=195,slow=7.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.17**	**11**	P	P	18 41 30.1	-0.3
	1.0nm,0.5s,baz=211,slow=6.8,SNR=5.8						
SONM	**Songino Array**	**61.95**	**28**	P	P	18 41 43.0	+0.2
	0.2nm,0.5s,baz=194,slow=5.5,SNR=3.8						
ASAR	**Alice Springs**	**64.97**	**114**	P	P	18 42 03.3	+0.1
	0.2nm,0.6s,baz=280,slow=5.4,SNR=2.9						
WRA	**Warramunga Arr**	**65.06**	**110**	P	P	18 42 03.7	-0.1
	1.2nm,1.0s,baz=288,slow=5.8,SNR=3.8						
NVAR	**Mina Array Bea**	**146.02**	**10**	PKPbc	PKPdf	18 51 02.9	0.0
	0.5nm,0.7s,baz=2.9,slow=3.6,SNR=4.4						

IDC 10 18:43:28.4±1.1, 8.82S×71.51W, h537km±10km, mb3.3/5, mb1 3.5/9, mb1mx3.1/22, mbtmp3.3/9, Error ellipse: s-maj=19.5km s-min=13.0km az=62.0, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**6.11**	**239**	P	P	18 45 08.4	+0.8
	9.2nm,0.3s,baz=42,slow=7.9,SNR=20						
NNA				S	S	18 46 28.4	-0.2
	0.8nm,0.3s,baz=157,slow=21,SNR=3.1						
ATAH	**Atahualpa**	**7.02**	**283**	P	P	18 45 17.4	+0.7
	3.6nm,0.3s,baz=119,slow=8.6,SNR=24						
ATAH				S	S	18 46 44.7	-0.5
	0.5nm,0.3s,baz=310,slow=18,SNR=4.3						
LPAZ	**La Paz**	**8.12**	**156**	P	P	18 45 28.4	+0.5
	0.7nm,0.3s,baz=325,slow=7.9,SNR=12						
LPAZ				S	S	18 47 02.6	-3.0
	baz=5.4,slow=21,SNR=2.5						
SIV	**San Ignacio**	**12.44**	**126**	P	P	18 46 12.6	+0.9
	baz=315,slow=15						
CFAA	**Coronel Fontan**	**22.88**	**173**	P	P	18 47 50.6	-0.4
	0.3nm,0.5s,baz=7.3,slow=8.7,SNR=6.6						
PLCA	**Paso Flores**	**31.79**	**179**	P	P	18 49 08.9	0.0
	2.8nm,0.6s,baz=338,slow=10,SNR=15						
TORD	**Torodi Ar. Bea**	**75.89**	**74**	P	P	18 54 20.6	0.0
	0.4nm,0.6s,baz=264,slow=4.9,SNR=7.2						
YKA	**Yellowknife Ar**	**78.45**	**341**	P	P	18 54 32.8	-0.7
	0.9nm,0.6s,baz=135,slow=6.0,SNR=21						
QSPA	**South Pole Qui**	**81.30**	**180**	P	P	18 54 49.0	+0.3
	3.2nm,0.6s,baz=156,slow=2.2						
INK	**Inuvik**	**88.22**	**341**	P	P	18 55 22.0	0.0
	1.5nm,0.7s,baz=91,slow=2.5,SNR=10						
STKA	**Stephens Creek**	**128.63**	**217**	PKP	PKPdf	19 01 34.9	-0.4
	1.3nm,0.8s,baz=57,slow=6.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**131.14**	**18**	PKP	PKPdf	19 01 38.7	-0.6
	0.3nm,0.4s,baz=262,slow=3.0,SNR=3.7						
ZALV				SKPbc	SKPbc	19 04 13.3	-0.8
	0.7nm,0.4s,baz=336,slow=3.8,SNR=6.5						
ASAR	**Alice Springs**	**139.26**	**217**	PKhKP	PKPpre	19 01 46.8	
	0.3nm,0.4s,baz=147,slow=2.4,SNR=5.0						
ASAR				PKP	PKPdf	19 01 56.0	+0.6
	0.5nm,0.5s,baz=139,slow=1.8,SNR=7.7						
ASAR				SKPbc	SKPbc	19 04 38.6	-1.7
	0.4nm,0.9s,baz=135,slow=4.7,SNR=4.7						
WRA	**Warramunga Arr**	**141.73**	**221**	PKhKP	PKPpre	19 01 55.5	
	0.4nm,0.3s,baz=136,slow=2.8,SNR=20						
WRA				PKP	PKiKP	19 02 01.6	-1.3
	0.7nm,0.3s,baz=123,slow=1.9,SNR=18						
WRA				SKPbc	SKPbc	19 04 45.6	-1.2
	1.0nm,1.0s,baz=132,slow=2.8,SNR=6.2						
KSRS	**Korea Array**	**146.51**	**331**	PKPbc	PKPbc	19 02 09.9	-0.1
	1.6nm,0.6s,baz=49,slow=3.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	**148.34**	**212**	PKPbc	PKPbc	19 02 15.2	-0.2
	4.7nm,0.5s,baz=233,slow=2.4,SNR=25						

*DJA **10** 18:50:30.0±7.5S×133.50E, h10km, MLv4.3/7*

IDC 10 18:50:31.8±1.3, 0.66S×133.19E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=57.8km s-min=22.3km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**203**	P	P	18 54 53.2	-0.4
	0.2nm,0.3s,baz=41,slow=8.8,SNR=15						
WRA	**Warramunga Arr**	**19.20**	**177**	P	P	18 54 57.2	-0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**22.88**	**178**	P	P	18 55 37.6	+0.4
	0.6nm,0.4s,baz=355,slow=10.0,SNR=25						
MKAR	**Makanchi Array**	**64.85**	**324**	P	P	19 01 13.4	+0.7
	0.5nm,0.6s,baz=113,slow=7.9,SNR=7.0						
ILAR	**Eielson Array**	**86.29**	**25**	P	P	19 03 14.4	-0.9
	0.2nm,0.8s,baz=260,slow=5.4,SNR=2.7						

*DJA **10** 18:54:45, 1.07S×133.97E, h24km, mb4.6/5*

IDC 10 18:54:42.2±2.0, 1.05S×133.91E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/17, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=79.2km s-min=23.5km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.78**	**179**	P	P	18 59 02.4	-0.8
	0.3nm,0.3s,baz=358,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**18.80**	**205**	P	Pn	18 59 03.9	+0.2
	0.2nm,0.3s,baz=34,slow=15,SNR=4.6						
ASAR	**Alice Springs**	**22.48**	**180**	P	P	18 59 43.1	-0.3
	2.9nm,0.8s,baz=7.5,slow=12,SNR=27						
STKA	**Stephens Creek**	**31.51**	**167**	P	P	19 01 06.7	+0.7
	1.0nm,0.7s,baz=333,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**65.59**	**324**	P	P	19 05 27.8	-0.2
	0.2nm,0.6s,baz=113,slow=6.4,SNR=3.9						

IDC 10 19:11:58.3±2.4, 0.03N×133.20E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=94.4km s-min=26.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.49**	**202**	P	Pn	19 16 29.0	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**19.88**	**177**	P	P	19 16 31.3	-0.2
	0.1nm,0.3s,baz=354,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**23.57**	**178**	P	P	19 17 09.8	-0.9
	1.3nm,0.8s,baz=356,slow=10,SNR=15						
MKAR	**Makanchi Array**	**64.30**	**324**	P	P	19 22 35.7	0.0
	0.2nm,0.7s,baz=111,slow=7.9,SNR=4.2						

*ISCJB **10** 19:23:01.7±0.2, 44.04N±0.01×105.37W±0.02, h0km, Error ellipse: s-maj=2.4km s-min=2.0km az=173.8*

*IDC **10** 19:23:02.8±1.3, 44.27N×105.79W, h0km, mb1 3.7/3, mb1mx3.3/25, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=53.6km s-min=7.8km az=145.0*

*NEIC **10** 19:23:02.3±0.5, 44.04N×105.33W, h0km, ML3.1, Error ellipse: s-maj=7.4km s-min=5.8km az=168.0, Suspected Mining explosion.*

NEIC 30 km [20 miles] SSE of Gillette.

ISC 10 19:23:02.0±0.7, 44.05N±0.02×105.38W±0.02, h0km, n71, σ1°04/83, 29C-27D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.11**	**215**	⇓P	**Pg**	**19 23 04.9**	**+0.8**
	baz=0.1						
H23A	**Clabaugh Cattl**	**0.51**	**358**	P	**Pb**	**19 23 12.8**	**-1.2**
	baz=0.5,SNR=20						
H23A				⇓S	**Sg**	**19 23 19.7**	**+1.3**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.57**	**109**	⇓P	**Pg**	**19 23 13.5**	**+0.5**
	baz=0.5						
J23A	**Diits Ranch, B**	**0.66**	**191**	⇓P	**Pg**	**19 23 14.9**	**+0.3**
	baz=0.7,SNR=21						
I22A	**9 Mile Ranch,**	**0.82**	**259**	⇓P	**Pg**	**19 23 17.9**	**+0.3**
	baz=0.8,SNR=126						
I22A				⇑S	**Sg**	**19 23 29.1**	**+0.9**
	baz=0.8						
J24A	**Dixon Ranch, L**	**0.89**	**144**	⇓P	**Pg**	**19 23 19.3**	**+0.4**
	baz=0.9,SNR=81						
H22A	**Clearmont**	**0.89**	**308**	⇑P	**Pg**	**19 23 19.5**	**+0.5**
	baz=0.9,SNR=56						
H24A	**Dirks Ranch, A**	**0.91**	**40**	⇑P	**Pg**	**19 23 19.7**	**+0.2**
	baz=0.9						
RSSD	**Black Hills**	**0.97**	**85**	*e*Pg	**Pg**	**19 23 20.4**	**-0.1**
J22A	**Midwest**	**1.02**	**232**	⇑P	**Pg**	**19 23 21.4**	**-0.1**
	baz=1.0,SNR=182						
J22A				⇑S	**Sg**	**19 23 35.6**	**+0.8**
	baz=1.0						
G23A	**Biddle**	**1.15**	**359**	⇑P	**Pg**	**19 23 24.2**	**+0.2**
	baz=1.2						
K23A	**Bowen Ranch, D**	**1.31**	**188**	⇑Pb	**Pg**	**19 23 26.5**	**-0.5**
	baz=1.3,SNR=108						
K23A				⇓S	**Sg**	**19 23 44.5**	**+0.5**
	baz=1.3						
H21A	**Big Horn, Sher**	**1.33**	**296**	⇓Pb	**Pg**	**19 23 27.1**	**-0.4**
	baz=1.4,SNR=39						
H21A				⇓S	**Sb**	**19 23 45.5**	**0.0**
	baz=1.4						
G22A	**Birney**	**1.34**	**331**	⇑Pg	**Pb**	**19 23 27.9**	**-0.2**
	baz=1.4,SNR=9.7						
K24A	**Anderson Ranch**	**1.39**	**163**	⇑Pb	**Pn**	**19 23 28.1**	**-0.7**
	baz=1.4,SNR=7.7						
K24A				⇓S	**Sg**	**19 23 46.4**	**-0.1**
	baz=1.4						
I21A	**Big Trails, Te**	**1.41**	**261**	⇓Pb	**Pn**	**19 23 27.9**	**-1.1**
	baz=1.4,SNR=234						
I21A				⇑S	**Sg**	**19 23 47.3**	**+0.2**
	baz=1.4						
G24A	**Alzada**	**1.45**	**28**	⇑Pb	**Pn**	**19 23 29.4**	**-0.2**
	baz=1.4						
G24A				⇓S	**Sn**	**19 23 49.1**	**-0.2**
	baz=1.4						
K22A	**Casper**	**1.63**	**211**	⇓Pb	**Pn**	**19 23 32.0**	**-0.1**
	baz=1.6,SNR=24						
J21A	**Lysite**	**1.66**	**246**	⇓Pb	**Pn**	**19 23 32.1**	**-0.4**
	baz=1.7,SNR=112						
J21A				⇑S	**Sn**	**19 23 53.0**	**-1.6**
	baz=1.7						
F23A	**Volborg**	**1.67**	**359**	⇓Pb	**Pn**	**19 23 32.9**	**+0.4**
	baz=1.7,SNR=102						
F23A				⇓Sb	**Sg**	**19 23 55.4**	**-0.3**
	baz=1.7						
G21A	**Lodge Grass**	**1.76**	**313**	⇑Pb	**Pb**	**19 23 34.4**	**-0.8**
	baz=1.8,SNR=26						
G21A				⇓Sg	**Sg**	**19 24 00.2**	**+1.7**
	baz=1.8						
K25A	**Mack Ranch, Ha**	**1.81**	**142**	⇓Pb	**Pn**	**19 23 35.3**	**+0.8**
	baz=1.8,SNR=25						
F22A	**Rosebud**	**1.84**	**340**	⇓Pb	**Pb**	**19 23 35.7**	**-0.8**
	baz=1.9,SNR=56						
F22A				⇑Sb	**Sg**	**19 24 00.4**	**-0.7**
	baz=1.9						
H20A	**Greybull**	**1.94**	**284**	⇑Pb	**Pn**	**19 23 37.0**	**+0.8**
	baz=2.0,SNR=86						
H20A				⇑Sb	**Sb**	**19 24 02.4**	**-0.5**
	baz=2.0						
L23A	**Garrett**	**1.95**	**187**	⇓Pb	**Pn**	**19 23 37.3**	**+0.8**
	baz=1.9,SNR=34						
L23A				⇑Sb	**Sb**	**19 24 03.7**	**+0.3**
	baz=1.9						
K21A	**Alcova**	**1.97**	**225**	⇓Pb	**Pn**	**19 23 37.5**	**+0.7**
	baz=2.0,SNR=63						
K21A				⇑Sb	**Sb**	**19 24 03.8**	**-0.2**
	baz=2.0						
I20A	**Worland**	**1.99**	**268**	⇓Pb	**Pn**	**19 23 37.8**	**+0.8**
	baz=2.0,SNR=152						
I20A				⇑Sb	**Sb**	**19 24 04.7**	**+0.2**
	baz=2.0						
J20A	**Shoshoni**	**2.08**	**251**	⇓Sb	Sb	19 24 07.5	0.0
	baz=2.1						
K26A	**Motz Farm, Whi**	**2.09**	**129**	⇑Pb	**Pn**	**19 23 39.8**	**+1.4**
	baz=2.1,SNR=35						
K26A				⇓Sb	**Sb**	**19 24 07.6**	**+0.2**
	baz=2.1						
L25A	**Engebretsen Ra**	**2.16**	**151**	⇑Pb	**Pn**	**19 23 40.8**	**+1.5**
	baz=2.1,SNR=20						
L22A	**Ellis Ranch, M**	**2.16**	**201**	⇑Pb	**Pn**	**19 23 41.1**	**+1.6**
	baz=2.2						
L22A				⇑Sb	**Sb**	**19 24 09.6**	**0.0**
	baz=2.2						
F21A	**Absaloka Mine,**	**2.17**	**326**	⇑Pb	**Pb**	**19 23 41.2**	**-0.9**
	baz=2.2,SNR=5.7						
G20A	**Bridger**	**2.34**	**301**	⇑Sb	Sb	19 24 14.9	+0.1
	baz=2.4						
E22A	**Miles City**	**2.42**	**351**	⇓Sb	Sb	19 24 17.6	+0.5
	baz=2.4						
K20A	**Yellowstone Ra**	**2.57**	**238**	⇑Pb	**Pb**	**19 23 47.9**	**-1.2**
	baz=2.6						
K20A				⇑Sb	**Sb**	**19 24 21.5**	**+0.2**
	baz=2.6						
M23A	**Laramie**	**2.59**	**186**	⇑Sb	Sb	19 24 22.8	+0.5
	baz=2.6						
E24A	**Baker**	**2.62**	**16**	⇑Sb	Sb	19 24 24.0	+1.2
	baz=2.6						
L26A	**Underwood Farm**	**2.62**	**139**	⇓Sb	Sb	19 24 24.0	+1.1
	baz=2.6						
F20A	**Billings**	**2.64**	**313**	⇓Sb	Sb	19 24 24.3	+1.0
	baz=2.7						
PHWY	**Pilot Hill**	**2.75**	**181**	*e*Pn	**

BSO1			*e*S		**Sn**	**19 29 49.8**	**-0.2**
JOD2	**Odawara 2**	**1.96**	**349**	P	**Pn**	**19 29 26.0**	**0.0**
JOD2				*e*S	**Sn**	**19 29 53.9**	**-0.6**
SHZ3	**Shizuoka 3**	**2.05**	**328**	P	**Pn**	**19 29 27.0**	**0.0**
SHZ3				S	**Sn**	**19 29 56.5**	**+0.2**
TTO2	**TONANKAI O.B.S**	**2.14**	**281**	P	**Pn**	**19 29 27.6**	**0.0**
JYN	**Shimob**	**2.31**	**339**	P	**Pn**	**19 29 30.3**	**+0.4**
TTO1	**TONANKAI O.B.S**	**2.32**	**278**	P	**Pn**	**19 29 29.7**	**0.0**
JIE	**Ise**	**2.58**	**295**	P	**Pn**	**19 29 32.7**	**-0.3**
JIE				S	**Sn**	**19 30 05.8**	**-1.2**
JRY	**Ryogami san**	**2.72**	**349**	P	**Pn**	**19 29 35.0**	**+0.3**
JRY				*e*S	**Sn**	**19 30 08.8**	**-1.3**
JWZ	**Kozaga**	**3.21**	**274**	P	**Pn**	**19 29 40.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.38**	**341**	P	**Pn**	**19 29 42.3**	**-0.4**
	0.9nm,0.3s,baz=157,slow=11,SNR=12						
MJAR				S	**Sn**	**19 30 24.9**	**+0.5**
	0.5nm,0.3s,baz=297,slow=16,SNR=4.0						
USRK	**Ussuriysk Arra**	**12.33**	**334**	LR	LR	19 35 35.9	
	comp=Z,20nm,20.5s,baz=269,slow=33						
MKAR	**Makanchi Array**	**44.88**	**305**	P	**P**	**19 36 47.0**	**+1.0**
	0.2nm,0.5s,baz=80,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**53.21**	**186**	P	**P**	**19 37 48.8**	**-0.5**
	0.7nm,1.1s,baz=0.8,slow=7.6,SNR=5.4						

IDC ***10*** *19:37:04.9±0.9,0°.28S×132°.43E,h0km,mb4.2/6, mb1 4.3/8,mb1mx4.0/19,mbtmp4.2/8,ML4.2/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/28,Error ellipse: s-maj=47.9km s-min=13.7km az=79.0*

ISCJB ***10*** *19:37:07.5±0.5,0°.39S±0°.04×132°.4E±0°.1,h33km, mb4.1/12,MS3.4/1,Error ellipse: s-maj=21.3km s-min=5.6km az=171.2*

DJA ***10*** *19:37:07,0°.07S×132°.79E,h19km,mb4.8/11*

NEIC ***10*** *19:37:09.7±0.5,0°.33S×132°.40E,h35km,mb4.2/8,Error ellipse: s-maj=29.5km s-min=7.7km az=75.0*

ISC 10 19:37:09.2±0.7,0°.50S±0°.07×132°.3E±0°.2,h33km,n28, σ2s06/33,mb4.2/12,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.68**	**200**	P		P	**Pn**	**19 41 28.7**	**+3.4**
	0.2nm,0.3s,baz=41,slow=13,SNR=7.2								
FITZ				S		S	**Sn**	**19 44 53.3**	**-0.1**
	0.2nm,0.3s,baz=243,slow=18,SNR=3.7								
FITZ				LR		LR		19 48 21.1	
	comp=Z,45nm,19.6s,baz=9.9,slow=36								
FITZ	**Fitzroy Crossi**	**18.68**	**200**	P		P	**Pn**	**19 41 28.7**	**+3.4**
FITZ				S		S	**Sn**	**19 44 53.3**	**-0.1**
GUMO	**Guam**	**18.73**	**41**	LR		LR		19 46 22.3	
	comp=Z,71nm,19.7s,baz=213,slow=30								
WRAB	**Tennant Creek**	**19.42**	**174**	*e*Pn			**Pn**	**19 41 34.8**	**+0.7**
	16nm,0.9s								
WRAB				*e*Sn			**S**	**19 45 06.3**	**-4.4**
WRA	**Warramunga Arr**	**19.43**	**174**	P			**Pn**	**19 41 35.0**	**+0.7**
	1.4nm,0.3s,baz=354,slow=12,SNR=62								
WRA				S			**S**	**19 45 07.2**	**-3.7**
	0.3nm,0.3s,baz=7.4,slow=22,SNR=5.4								
WRA	**Warramunga Arr**	**19.43**	**174**	P			**Pn**	**19 41 35.0**	**+0.7**
WRA				S			**S**	**19 45 07.2**	**-3.7**
WB2	**Warramunga Arr**	**19.43**	**174**	*e*P			**Pn**	**19 41 35.3**	**+1.0**
WB2				*e*Sn			**S**	**19 45 06.3**	**-4.6**
AS31	**Alice Springs**	**23.08**	**176**	*e*P			**P**	**19 42 14.0**	**+1.7**
AS31				*e*S			Sn	19 46 33.1	-6.1
ASAR	**Alice Springs**	**23.08**	**176**	P			**P**	**19 42 14.3**	**+2.1**
	15nm,0.7s,baz=1.3,slow=11,SNR=100								
ASAR				S			S	19 46 30.0	+8.7
	0.7nm,0.9s,baz=343,slow=18,SNR=3.0								
ASAR	**Alice Springs**	**23.08**	**176**	P			**P**	**19 42 14.3**	**+2.1**
ASAR				S			S	19 46 30.0	+8.7
CTA	**Charters Tower**	**23.78**	**146**	P			**P**	**19 42 21.2**	**+2.2**
	4.2nm,0.8s,baz=332,slow=11,SNR=5.4								
CTA	**Charters Tower**	**23.78**	**146**	P			**P**	**19 42 21.2**	**+2.2**
STKA	**Stephens Creek**	**32.42**	**165**	P			**P**	**19 43 36.5**	**+0.2**
	2.7nm,0.5s,baz=346,slow=9.5,SNR=9.7								
STKA				LR			LR	19 58 04.3	
	comp=Z,75nm,21.1s,baz=200,slow=39								
STKA	**Stephens Creek**	**32.42**	**165**	*e*P			**P**	**19 43 35.6**	**-0.6**
	2.6nm,1.3s								
ULN	**Ulaanbaatar**	**52.95**	**339**	*e*P			**P**	**19 46 20.5**	**-2.0**
	5.8nm,1.4s								
MK31	**Makanchi Array**	**64.20**	**324**	*e*P			**P**	**19 47 41.4**	**+0.5**
MKAR	**Makanchi Array**	**64.20**	**324**	P			**P**	**19 47 41.6**	**+0.7**
	1.5nm,0.5s,baz=112,slow=8.6,SNR=32								
MKAR	**Makanchi Array**	**64.20**	**324**	P			**P**	**19 47 41.6**	**+0.7**
TKM2	**Tokmak 2**	**66.59**	**318**	*e*P			**P**	**19 47 57.0**	**+0.3**
	1.2nm,0.6s								
ZAA0	**Zalesovo Array**	**66.89**	**332**	*e*P			**P**	**19 47 57.4**	**-0.7**
ZALV	**Zalesovo Beam**	**66.89**	**332**	P			**P**	**19 47 56.8**	**-1.2**
	0.8nm,0.5s,baz=122,slow=6.7,SNR=7.4								
ZALV	**Zalesovo Beam**	**66.89**	**332**	P			**P**	**19 47 56.8**	**-1.2**
EKS2	**Erkin-Say**	**67.72**	**317**	P			**P**	**19 48 03.8**	**+0.1**
	3.0nm,1.1s								
KURK	**Kurchatov**	**68.30**	**327**	*e*P			**P**	**19 48 06.4**	**-0.6**
	2.2nm,0.9s								
KBL	**Kabul**	**68.51**	**308**	*e*P			**P**	**19 48 07.8**	**-1.1**
	1.7nm,0.6s								
ABKAR	**Akbulak array**	**78.94**	**320**	*e*P			**P**	**19 49 09.3**	**-0.2**
	1.0nm,0.8s								
ILAR	**Eielson Array**	**86.52**	**25**	P			**P**	**19 49 49.2**	**+0.6**
	0.4nm,0.7s,baz=247,slow=4.0,SNR=6.2								
ILAR	**Eielson Array**	**86.52**	**25**	P			**P**	**19 49 49.2**	**+0.6**

CASC 10 19:52:34.7±2.3,8°.29N×82°.41W,h11km±40km,MD3.5,1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBS2		**0.56**	**334**	*e*P		Pg		19 52 44.9	-0.9
TBS2				*i* S		Sb		19 52 55.4	+0.5
BRU2	**Volcan**	**0.57**	**331**	⇑*i*P		Pb		19 52 46.7	-0.3
BRU2				*i* S		Sb		19 52 54.8	-0.5
ACR	**Cerro Adams**	**0.83**	**296**	*e*P		Pg		19 52 48.6	-2.3
BUS	**Buena Vista**	**1.83**	**313**	*e*P		Pn		19 53 05.4	-1.3
URSC	**Urasca**	**2.05**	**319**	*e*P		Pn		19 53 08.7	-0.6
LAJ	**Bijagual**	**2.31**	**313**	*e*P		Pb		19 53 17.4	+0.8
PTP	**Ponta Puerca**	**19.08**	**57**	*i* P		x		19 52 44.1	
PTP				*i* S		x		19 52 51.4	

IDC ***10*** *19:54:27.6±1.9,49°.38N×88°.57E,h0km,mb1 3.6/3, mb1mx3.2/28,mbtmp3.6/3,ML3.5/3,Error ellipse: s-maj=22.3km s-min=15.6km az=137.0*

MOS ***10*** *19:54:28.5±1.5,49°.38N×88°.45E,h15km,mb4.3/1,Error ellipse: s-maj=16.7km s-min=10.3km az=99.3*

ASRS ***10*** *19:54:28.5±1.3,49°.38N×88°.45E,h15km,Ms3.0*

NNC ***10*** *19:54:34.7±3.2,49°.54N×87°.81E,h0km,mb3.9,mpv4.0, Error ellipse: s-maj=28.0km s-min=18.2km az=80.0*

ISC 10 19:54:28.5±1.4,49°.52N±0°.04×88°.41E±0°.04,h5km±10km, n29,σ2s27/42,6C-5D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.94**	**328**	*i* Pg			**Pn**	**19 54 48.3**	**-0.3**
AKAR				*i* Sg			**Sn**	**19 55 03.2**	**+0.7**
AKAR	**Aktash**	**0.94**	**328**	*i* PG			**Pn**	**19 54 48.3**	**-0.3**
AKAR				*i*				19 55 03.2	
UKR	**Ust'-Kan**	**2.73**	**303**	*e*Pn			**Pb**	**19 55 17.4**	**-0.4**
UKR				*e*Pg			**Pg**	**19 55 20.0**	**-0.7**
UKR				*e*Sg			**Sg**	**19 55 56.7**	**+0.7**
UKR	**Ust'-Kan**	**2.73**	**303**	*e*PN			**Pb**	**19 55 17.4**	**-0.4**
UKR				*e*				19 55 20.0	
UKR				*e*				19 55 56.7	
TASR	**Tashtagol**	**3.26**	**354**	*e*Pg			**Pb**	**19 55 27.9**	**+1.1**
TASR				*e*Sg			**Sg**	**19 56 15.7**	**+2.7**
TASR	**Tashtagol**	**3.26**	**354**	*e*PN			**Pb**	**19 55 27.9**	**+1.1**
TASR				*e*				19 56 15.7	
CERR	**Cheremushki**	**3.83**	**28**	*i* Pg			**Pg**	**19 55 41.0**	**-0.9**
CERR				*i* Sg			**Sg**	**19 56 31.5**	**-0.1**
CERR	**Cheremushki**	**3.83**	**28**	*i* PN			**Pg**	**19 55 41.0**	**-0.9**
CERR				*i*				19 56 31.5	
ELT	**Yel'tsovka**	**3.98**	**341**	*e*Pn			Pn	19 55 34.7	+4.6
ELT				*e*Pg			**Pg**	**19 55 42.6**	**-2.1**
ELT				*e*Sn			**Sn**	**19 56 17.8**	**+0.7**
ELT				*e*Sg			**Sg**	**19 56 38.4**	**+2.2**
ELT	**Yel'tsovka**	**3.98**	**341**	*e*PN			Pn	19 55 34.7	+4.6
ELT				*e*				19 55 42.6	
ELT				*e*				19 56 38.4	
MK31	**Makanchi Array**	**4.92**	**239**	Pn			**Pn**	**19 55 45.4**	**+2.3**
	13nm,0.3s,baz=48,slow=14,SNR=151								
MK31				⇑Lg			Lg	19 57 03.2	
	55nm,0.5s,baz=54,slow=29,SNR=6.8								
MK31	**Makanchi Array**	**4.92**	**239**	PN			**Pn**	**19 55 45.3**	**+2.3**
MK31				pmax		pmax			
	comp=Z,5.0nm,0.2s								
MK31				pmax		pmax			
	comp=Z,40nm,0.4s								
MKAR	**Makanchi Array**	**4.92**	**239**	Pn			**Pn**	**19 55 44.5**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=49,slow=14,SNR=105								
MKAR				Pg			**Pb**	**19 55 57.6**	**+2.5**
	comp=Z,12nm,0.3s,baz=60,slow=16,SNR=39								
MKAR				Sn			**Sn**	**19 56 41.3**	**+0.9**
	comp=Z,6.9nm,0.3s,baz=52,slow=22,SNR=7.7								
MKAR				Lg			Lg	19 57 02.9	
	comp=Z,19nm,0.3s,baz=60,slow=29,SNR=7.4								
MKAR	**Makanchi Array**	**4.92**	**239**	PN			**Pn**	**19 55 44.5**	**+1.4**
MKAR								19 55 57.6	
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.3s								
MKAR				pmax		pmax			
	comp=Z,12nm,0.3s								
ZALV	**Zalesovo Beam**	**4.96**	**335**	Pn			**Pn**	**19 55 46.6**	**+3.0**
	comp=Z,3.8nm,0.3s,baz=156,slow=13,SNR=58								
ZALV				Sn			**Sn**	**19 56 46.1**	**+4.9**
	comp=Z,5.3nm,0.3s,baz=155,slow=21,SNR=4.3								
ZALV				Lg			Lg	19 57 10.1	
	comp=Z,8.6nm,0.3s,baz=142,slow=26,SNR=5.9								
ZALV	**Zalesovo Beam**	**4.96**	**335**	PN			**Pn**	**19 55 46.6**	**+3.0**
ZALV								19 56 46.1	
ZALV				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ZALV				smax		smax			
	comp=N,5.0nm,0.3s								
NVS	**Novosibirsk**	**6.20**	**331**	*e*Pn			**Pn**	**19 56 02.9**	**+2.3**
NVS				*e*Pg			**Pg**	**19 56 24.5**	**-2.6**
NVS				*i* Sg			Sn	19 56 45.5	-26
NVS				*e*Sn			Sb	19 57 16.0	-15
NVS	**Novosibirsk**	**6.20**	**331**	*e*PN			**Pn**	**19 56 02.9**	**+2.3**
NVS				*e*				19 56 24.5	
NVS				*e*				19 57 16.0	
KURK	**Kurchatov**	**6.41**	**284**	⇓Pn			**Pn**	**19 56 05.7**	**+2.3**
	comp=N,6.9nm,0.6s								
KURK				⇑Lg			Lg	19 57 50.6	
	comp=N,108nm,0.7s								
KURK	**Kurchatov**	**6.41**	**284**	PN			**Pn**	**19 56 05.7**	**+2.3**
KURK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KURK				pmax		pmax			
	comp=Z,108nm,0.7s								
TKM2	**Tokmak 2**	**11.05**	**238**	⇓Pn		Pn		19 57 10.9	+3.5
	comp=Z,2.6nm,0.8s								
TKM2				⇑Sn			**Sn**	**19 59 14.6**	**+3.2**
	comp=Z,4.0nm,0.8s								
TKM2				Lg			Lg	20 00 13.5	
	comp=Z,7.1nm,0.8s								
VOSK	**Vostochnaya**	**11.41**	**293**	⇓Pn			**Pn**	**19 57 11.8**	**-0.2**
	comp=Z,1.2nm,0.6s								
VOSK				⇑Sn			**Sn**	**19 59 17.6**	**-2.1**
	comp=Z,3.1nm,0.6s								
VOSK				Lg			Lg	20 00 28.0	
	comp=Z,14nm,0.8s								
BVA0	**Borovoye Array**	**11.81**	**294**	⇑Pn			Pn	19 57 25.2	+7.7
	comp=Z,0.4nm,0.7s,baz=257,slow=44,SNR=8.5								
BVA0				Sn			**Sn**	**19 59 29.7**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=97,slow=23,SNR=9.0								
BVA0				Lg			Lg	20 00 37.2	
	comp=Z,1.6nm,0.7s								
SONM	**Songino Array**	**12.01**	**91**	Pn			**Pn**	**19 57 18.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=289,slow=16,SNR=6.9								
SONM				Lg			Lg	20 00 43.5	
	comp=Z,0.2nm,0.3s,baz=287,slow=31,SNR=9.8								
SONM	**Songino Array**	**12.01**	**91**	P			**Pn**	**19 57 18.5**	**-1.9**
ZRNK	**Zerenda**	**12.63**	**293**	⇓Pn			**Pn**	**19 57 29.9**	**+1.3**
	comp=Z,0.5nm,0.3s								
ZRNK				⇓Sn			**Sn**	**19 59 47.6**	**-1.9**
	comp=Z,5.3nm,0.9s								
ZRNK				Lg			Lg	20 01 00.1	
	comp=Z,6.2nm,0.9s								
KK31	**Karatay Array**	**13.92**	**249**	Pn			**Pn**	**19 57 43.4**	**-2.9**
	comp=Z,1.3nm,0.6s,baz=59,slow=14,SNR=25								
KK31				⇑Sn			**Sn**	**20 00 16.8**	**-4.3**
	comp=Z,1.3nm,0.6s								
KK31				Lg			Lg	20 01 48.3	
	comp=Z,2.6nm,0.6s								
KK31	**Karatay Array**	**13.92**	**249**	P			**Pn**	**19 57 43.4**	**-2.9**
KK31								20 00 15.9	
KK31				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KK31				smax		smax			
	comp=N,2.0nm,0.6s								
AB31	**Akbulak array**	**18.49**	**280**	P			**Pn**	**19 58 49.5**	**+4.2**
	comp=N,1.4nm,0.9s,baz=71,slow=12,SNR=5.5								

IDC ***10*** *20:03:57.6±2.4,32°.39N×48°.79E,h0km,mb3.7/4, mb1 3.7/4,mb1mx3.4/24,mbtmp3.7/4,Error ellipse: s-maj=71.2km s-min=29.1km az=154.0*

CSEM ***10*** *20:04:00.6±0.3,32°.42N×48°.88E,h0km,2km,ML3.5,Error ellipse: s-maj=4.0km s-min=2.9km az=119.0*

THR ***10*** *20:04:00.9±0.4,32°.34N×48°.86E,h27km,2km,ML3.5*

ISCJB ***10*** *20:04:01.6±1.2,32°.40N±0°.03×48°.91E±0°.04,h20km±13km, mb3.7/4,Error ellipse: s-maj=6.2km s-min=5.4km az=32.5*

TEH ***10*** *20:04:01.9,32°.47N×48°.85E,h3km,ML3.5*

ISC 10 20:04:01.8±1.0,32°.41N±0°.03×48°.82E±0°.04,h22km±10km, n77,σ1s31/82,mb3.6/4,2C,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.30**	**183**	*e*Pg			**Pb**	**20 04 07.3**	**-1.4**
SHGR						AML	AML	20 04 18.3	
	comp=E,11μm,0.6s								
SHGR	**Shooshtar-Gavs**	**0.30**	**183**	*e*Pg			**Pb**	**20 04 07.3**	**-1.4**
IPIR	**Pirpir**	**1.77**	**81**	⇑*e*Pg			**Pb**	**20 04 33.3**	**-0.5**
IPIR				*e*Sg			**Sb**	**20 04 56.2**	**+0.5**
IPIR				*e*				20 05 00.9	
	comp=Z,8μm,0.2s								
IPIR	**Pirpir**	**1.77**	**81**	⇑*e*Pg			**Pb**	**20 04 33.3**	**-0.5**
IPIR				*e*Sg			**Sb**	**20 04 56.2**	**+0.5**
IKOM	**Komasi**	**2.07**	**328**	*e*Pn			**Pb**	**20 04 37.6**	**-1.3**
IKOM				*e*Sg			**Sb**	**20 05 05.0**	**+0.7**
IKOM				*e*				20 05 22.3	
	comp=Z,2μm,0.3s								
IKOM	**Komasi**	**2.07**	**328**	*e*Pn			**Pb**	**20 04 37.6**	**-1.3**
IKOM				*e*Sg			**Sb**	**20 05 05.0**	**+0.7**
ASAO	**Ashtian**	**2.36**	**25**	*e*Pn			**Pn**	**20 04 10.8**	**+1.4**
ASAO				*e*Sg			**Sb**	**20 05 14.9**	**+2.4**
ASAO						AML	AML	20 05 19.8	
	comp=N,284nm,0.6s								
ASAO	**Ashtian**	**2.36**	**25**	*e*Pn			**Pn**	**20 04 10.8**	**+1.4**
ASAO				*e*Sg			**Sb**	**20 05 14.9**	**+2.4**
IKLH	**Kolahrood**	**2.49**	**68**	*e*Pn			**Pn**	**20 04 42.5**	**+1.2**
IKLH				*e*				20 05 22.1	
	comp=Z,3μm,0.2s								
IKLH	**Kolahrood**	**2.49**	**68**	*e*Pn			**Pn**	**20 04 42.5**	**+1.2**
IGAR	**Gharneh**	**2.72**	**89**	*e*Pn			**Pn**	**20 04 45.5**	**+1.1**
IGAR				*e*				20 05 27.1	
	comp=Z,2μm,0.2s								
MIB	**Mutribah**	**2.89**	**206**	*e*P			**Pn**	**20 04 48.0**	**+1.4**
MIB	**Mutribah**	**2.89**	**206**	*e*P			**Pn**	**20 04 48.0**	**+1.4**
GHVR	**GHOM**	**2.92**	**44**	*e*Pn			**Pn**	**20 04 47.9**	**+0.9**
GHVR						AML	AML	20 05 37.8	
	comp=N,106nm,0.6s								
GHVR						AML	AML	20 05 38.8	
	comp=E,105nm,0.5s								
GHVR	**GHOM**	**2.92**	**44**	*e*Pn			**Pn**	**20 04 47.9**	**+0.9**
SNGE	**Sanandaj**	**2.94**	**336**	*e*Pn			**Pn**	**20 04 49.4**	**+1.9**
SNGE	**Sanandaj**	**2.94**	**336**	*e*Pn			**Pn**	**20 04 49.4**	**+1.9**
IZEF	**Zefreh**	**3.00**	**80**	*e*Pn			**Pn**	**20 04 49.2**	**+1.0**
IZEF				*e*				20 05 40.6	
	comp=Z,1μm,0.4s								
IZEF	**Zefreh**	**3.00**	**80**	*e*Pn			**Pn**	**20 04 49.2**	**+1.0**
UMR	**Umm Al-Rimmam**	**3.00**	**199**	*e*P			**Pn**	**20 04 49.3**	**+1.2**
UMR	**Umm Al-Rimmam**	**3.00**	**199**	*e*P			**Pn**	**20 04 49.3**	**+1.2**
IDHR	**Dehrash**	**3.06**	**319**	*e*Pn			**Pn**	**20 04 50.2**	**+1.2**
IDHR				*e*				20 05 54.4	
	comp=Z,811nm,0.4s								
IDHR	**Dehrash**	**3.06**	**319**	*e*Pn			**Pn**	**20 04 50.2**	**+1.2**
KBD	**Kabd**	**3.37**	**197**	*e*P			**Pn**	**20 04 54.4**	**+1.3**
KBD						AML	AML	20 05 36.6	
	comp=Z,72nm,0.3s								
KBD	**Kabd**	**3.37**	**197**	*e*P			**Pn**	**20 04 54.4**	**+1.3**
NASN	**Na'in**	**3.39**	**82**	*e*Pn			**Pn**	**20 04 54.2**	**+0.6**
NASN	**Na'in**	**3.39**	**82**	*e*Pn			**Pn**	**20 04 54.2**	**+0.6**
NAY	**Al-Naaiem**	**3.43**	**204**	*e*P			**Pn**	**20 04 55.5**	**+1.5**
NAY	**Al-Naaiem**	**3.43**	**204**	*e*P			**Pn**	**20 04 55.5**	**+1.5**
IR3	**Iran Long-Peri**	**3.56**	**30**	*e*Pn			**Pn**	**20 04 56.8**	**+0.9**
IR3	**Iran Long-Peri**	**3.56**	**30**	*e*Pn			**Pn**	**20 04 56.8**	**+0.9**
IMHD	**Mahdasht**	**3.61**	**25**	*e*Pn			**Pn**	**20 04 58.4**	**+1.9**
IMHD				*e*				20 05 14.3	
	comp=Z,490nm,0.2s								
IMHD	**Mahdasht**	**3.61**	**25**	*e*Pn			**Pn**	**20 04 58.4**	**+1.9**
RDF	**Al-Radifah**	**3.64**	**198**	*e*P			**Pn**	**20 04 59.1**	**+2.2**
RDF						AML	AML	20 05 45.0	
	comp=Z,110nm,0.3s								
RDF	**Al-Radifah**	**3.64**	**198**	*e*P			**Pn**	**20 04 59.1**	**+2.2**
QRN	**Al-Qurain**	**3.74**	**192**	*e*P			**Pn**	**20 04 59.3**	**+1.1**
QRN						AML	AML	20 05 44.6	
	comp=Z,93nm,0.4s								
CHTH	**Charan**	**3.98**	**28**	*e*Pn			**Pn**	**20 05 03.1**	**+1.4**
CHTH	**Charan**	**3.98**	**28**	*e*Pn			**Pn**	**20 05 03.1**	**+1.4**
ISAD	**Sadrabad**	**4.15**	**96**	*e*Pn			**Pn**	**20 05 06.5**	**+2.3**
ISAD				*e*				20 06 28.2	
	comp=Z,695nm,0.5s								
ISAD	**Sadrabad**	**4.15**	**96**	*e*Pn			**Pn**	**20 05 06.5**	**+2.3**
IPAR	**Pars**	**4.44**	**124**	*e*Pn			**Pn**	**20 05 10.2**	**+2.1**
IPAR				*e*				20 06 04.0	
	comp=N,1μm,0.2s								
IPAR	**Pars**	**4.44**	**124**	*e*Pn			**Pn**	**20 05 10.2**	**+2.1**
ILAS	**Lasjerd**	**4.54**	**48**	*e*Pn			**Pn**	**20 05 10.2**	**+0.8**
ILAS				*e*				20 05 10.8	
	comp=Z,661nm,0.2s								
ILAS	**Lasjerd**	**4.54**	**48**	*e*Pn			**Pn**	**20 05 10.2**	**+0.8**
IFIR	**Firoozkooh**	**4.59**	**44**	*e*Pn			**Pn**	**20 05 11.1**	**+1.0**
IFIR				*e*				20 05 11.9	
	comp=Z,188nm,0.2s								
IFIR	**Firoozkooh**	**4.59**	**44**	*e*Pn			**Pn**	**20 05 11.1**	**+1.0**
ICHK	**Chekchek**	**4.73**	**91**	*e*Pn			**Pn**	**20 05 12.7**	**+0.7**
ICHK				*e*				20 06 44.0	
	comp=Z,459nm,0.3s								
ICHK	**Chekchek**	**4.73**	**91**	*e*Pn			**Pn**	**20 05 12.7**	**+0.7**
ISRV	**Sarvestan**	**4.77**	**128**	*e*Pn			**Pn**	**20 05 14.5**	**+1.9**
ISRV				*e*				20 06 14.6	
	comp=Z,500nm,0.1s								
ISRV	**Sarvestan**	**4.77**	**128**	*e*Pn			**Pn**	**20 05 14.5**	**+1.9**
IPRN	**Peran**	**4.80**	**36**	*e*Pn			**Pn**	**20 05 14.0**	**+1.1**
IPRN				*e*				20 06 34.7	
	comp=Z,370nm,0.2s								
IALA	**Alasht**	**4.93**	**41**	*e*Pn			**Pn**	**20 05 15.3**	**+0.5**
IALA				*e*				20 05 15.6	
	comp=Z,382nm,0.2s								
IALA	**Alasht**	**4.93**	**41**	*e*Pn			**Pn**	**20 05 15.3**	**+0.5**
ISHM	**Shahmirzad**	**5.02**	**46**	*e*Pn			**Pn**	**20 05 17.0**	**+0.9**
ISHM				*e*				20 05 18.1	
	comp=Z,986nm,0.3s								
ISHM	**Shahmirzad**	**5.02**	**46**	*e*Pn			**Pn**	**20 05 17.0**	**+0.9**
IMEH	**Mehriz**	**5.03**	**100**	*e*Pn			**Pn**	**20 05 14.7**	**-1.4**
IMEH				*e*				20 06 23.6	
	comp=Z,172nm,0.2s								
IMEH	**Mehriz**	**5.03**	**100**	*e*Pn			**Pn**	**20 05 14.7**	**-1.4**
IANJ	**Anjilo**	**5.22**	**53**	*e*Pn			**Pn**	**20 05 19.6**	**+0.9**
IANJ				*e*				20 05 41.6	
	comp=Z,244nm,0.4s								
IANJ	**Anjilo**	**5.22**	**53**	*e*Pn			**Pn**	**20 05 19.6**	**+0.9**
IKIA	**Kiasar**	**5.52**	**45**	*e*Pn			**Pn**	**20 05 22.8**	**-0.1**
IKIA				*e*				20 05 47.3	
	comp=Z,231nm,0.4s								
IKIA	**Kiasar**	**5.52**	**45**	*e*Pn			**Pn**	**20 05 22.8**	**-0.1**
IBAF	**Bafgh**	**5.79**	**96**	*e*Pn			**Pn**	**20 05 26.8**	**+0.3**
IBAF				*e*				20 05 56.2	
	comp=Z,118nm,0.2s								
IBAF	**Bafgh**	**5.79**	**96**	*e*Pn			**Pn**	**20 05 26.8**	**+0.3**
**IGL

VYHS	**Vyhne**	**1.35**	**170**	*e*Pg	**Pg**	**20 23 24.1**	**-0.2**
VYHS				*e*Sg	**Sn**	**20 23 42.7**	**-0.5**
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG	**Pn**	**20 23 26.6**	**-0.1**
DPC	comp=Z,9.7nm,0.5s			*e*SG	**Sg**	**20 23 46.1**	**-0.4**
DPC	**Dobruska-Polom** baz=109	**1.49**	**291**	*e*Pn	**Pn**	**20 23 26.5**	**-0.1**
DPC	9.7nm,0.5s			Sg	**Sg**	**20 23 46.1**	**-0.4**
KRUC	**Moravsky**	**1.57**	**242**	*e*Pn	**Pn**	**20 23 27.5**	**-0.1**
KRUC	baz=62			*e*Sg	**Sg**	**20 23 49.2**	**+0.4**
UPC	**Upice**	**1.74**	**294**	*e*PG	**Pb**	**20 23 30.8**	**-0.4**
UPC				*e*SG	**Sg**	**20 23 54.2**	**0.0**
UPC	**Upice**	**1.74**	**294**	Pg	**Pb**	**20 23 30.8**	**-0.4**
UPC				Sg	**Sg**	**20 23 54.2**	**0.0**
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pn**	**20 23 29.7**	**-0.2**
KSP				*e*Sg	**Sb**	**20 23 54.2**	**+0.5**
STHS	**Stebnicka Huta**	**1.83**	**102**	*e*PN	**Pg**	**20 23 34.1**	**+0.5**
STHS				*e*SN	**Sg**	**20 23 57.9**	**+0.5**
STHS	**Stebnicka Huta**	**1.83**	**102**	*e*Pn	**Pg**	**20 23 34.1**	**+0.5**
STHS				*e*Sn	**Sg**	**20 23 57.9**	**+0.5**
ZST	**Bratislava**	**1.87**	**210**	*e*PG	**Pn**	**20 23 31.5**	**-0.2**
ZST				*e*SG	**Sn**	**20 23 56.1**	**+0.1**
ZST	**Bratislava**	**1.87**	**210**	*e*Pg	**Pn**	**20 23 31.5**	**-0.2**
ZST				*e*Sg	**Sn**	**20 23 56.1**	**+0.1**
KECS	**Kecovo**	**1.87**	**135**	*e*PN	**Pn**	**20 23 31.3**	**-0.5**
KECS	**Kecovo**	**1.87**	**135**	*e*PN	**Pn**	**20 23 31.3**	**-0.5**
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*PN	**Pb**	**20 23 37.5**	**-0.7**
CRVS				*e*SN	**Sn**	**20 24 03.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*Pn	**Pb**	**20 23 37.5**	**-0.7**
CRVS				*e*Sn	**Sn**	**20 24 03.5**	**+0.6**
PRU	**Pruhonice**	**2.56**	**275**	*e*PG	**Pb**	**20 23 44.2**	**-1.0**
PRU				*e*SG	**Sg**	**20 24 20.2**	**-0.5**
PRU	**Pruhonice**	**2.56**	**275**	Sg	**Sg**	**20 24 20.2**	**-0.5**
PVCC	**Panska Ves**	**2.62**	**287**	*e*PG	**Pb**	**20 23 47.2**	**+0.9**
PVCC	comp=Z,14nm,0.7s			*e*SG	**Sg**	**20 24 21.7**	**-0.9**
PVCC	**Panska Ves**	**2.62**	**287**	Pg	**Pb**	**20 23 47.2**	**+0.9**
PVCC	14nm,0.7s			Sg	**Sg**	**20 24 21.7**	**-0.9**
BRG	**Berggiesshubel**	**3.10**	**292**	PG	**Pb**	**20 23 55.7**	**+1.3**
BRG	8.0nm,1.0s			SG	**Sg**	**20 24 37.5**	**-0.5**
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN	**Pn**	**20 23 51.0**	**-0.1**
KHC				*e*PG	**Pb**	**20 23 58.4**	**+0.9**
KHC				*e*SG	**Sg**	**20 24 42.3**	**-1.5**
KHC	**Kasperske Hory**	**3.28**	**260**	Pn	**Pn**	**20 23 51.0**	**-0.1**
KHC				Sg	**Sg**	**20 24 42.3**	**-1.5**
CLL	**Collm**	**3.80**	**295**	*e*Pg	**Pb**	**20 24 07.0**	**+0.6**
CLL				*e*Sg	**Sg**	**20 25 01.0**	**+0.4**

*CSEM **10** 20:24:21.8±0.3, 38°28N×22°01E, h20km, ML1.8/7, Error ellipse: s-maj=8.2km s-min=6.1km az=63.0*
*ISCJB **10** 20:24:22.7±0.5, 38°31N±0°03×22°03E±0°04, h12km±2km, Error ellipse: s-maj=5.1km s-min=4.5km az=167.2*
*ATH **10** 20:24:22.0, 38°27N×21°96E, h29km±3km, MD2.5/5*
*THE **10** 20:24:23.1, 38°30N×22°04E, h9km±1km, ML1.8/7, Error ellipse: s-maj=1.0km s-min=0.4km az=251.0*

ISC 10 20:24:23.2±1.1, 38°31N±0°02×22°05E±0°02, h9km±5km, n22, σ0°50/46, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.06**	**19**	P	**Pg**	**20 24 25.1**	**-0.2**
TRIZ				S	**Sg**	**20 24 26.6**	**-0.1**
TRIZ	**Trizonia**	**0.06**	**19**	P	**Pg**	**20 24 25.1**	**-0.2**
TRIZ				S	**Sg**	**20 24 26.6**	**-0.1**
LAKA	**Lakka**	**0.09**	**220**	P	**Pg**	**20 24 25.4**	**-0.1**
LAKA				S	**Sg**	**20 24 27.0**	**-0.2**
LAKA	**Lakka**	**0.09**	**220**	P	**Pg**	**20 24 25.4**	**-0.1**
LAKA				S	**Sg**	**20 24 27.0**	**-0.2**
KALE	**Kalithea**	**0.11**	**40**	P	**Pg**	**20 24 26.1**	**+0.1**
KALE				S	**Sg**	**20 24 28.4**	**+0.5**
KALE	**Kalithea**	**0.11**	**40**	P	**Pg**	**20 24 26.1**	**+0.1**
KALE				S	**Sg**	**20 24 28.4**	**+0.5**
EFP	**Efpalio**	**0.16**	**317**	P	**Pg**	**20 24 26.6**	**-0.2**
EFP				S	**Sg**	**20 24 29.4**	**+0.2**
EFP	**Efpalio**	**0.16**	**317**	*e*PB	**Pg**	**20 24 26.6**	**-0.2**
EFP	**Efpalio**	**0.16**	**317**	P	**Pg**	**20 24 26.6**	**-0.2**
EFP				S	**Sg**	**20 24 29.4**	**+0.2**
UPR	**University Cam**	**0.21**	**264**	*e*PB	**Pg**	**20 24 27.6**	**+0.1**
UPR				*e*SB	**Sg**	**20 24 31.5**	**+1.1**
UPR	**University Cam**	**0.21**	**264**	*e*Pb	**Pg**	**20 24 27.6**	**+0.1**
UPR				*e*Sb	**Sg**	**20 24 31.5**	**+1.1**
DSF	**Desfina**	**0.39**	**74**	P	**Pg**	**20 24 30.9**	**0.0**
DSF				S	**Sg**	**20 24 36.9**	**+0.8**
DSF	**Desfina**	**0.39**	**74**	P	**Pg**	**20 24 30.9**	**0.0**
DSF				S	**Sg**	**20 24 36.9**	**+0.8**
GUR	**Goura**	**0.44**	**148**	P	**Pg**	**20 24 31.7**	**-0.1**
GUR				S	**Sg**	**20 24 37.7**	**+0.2**
GUR	**Goura**	**0.44**	**148**	*e*PB	**Pg**	**20 24 31.7**	**-0.1**
GUR				*e*SB	**Sb**	**20 24 39.2**	**-0.6**
GUR	**Goura**	**0.44**	**148**	P	**Pg**	**20 24 31.7**	**-0.1**
GUR				S	**Sg**	**20 24 37.7**	**+0.2**
GUR				*e*Sb	**Sb**	**20 24 39.2**	**-0.6**
EVR	**Evrytania**	**0.64**	**343**	P	**Pg**	**20 24 35.2**	**-0.4**
EVR				S	**Sb**	**20 24 44.9**	**-0.8**
EVR	**Evrytania**	**0.64**	**343**	*e*PN	**Pg**	**20 24 35.4**	**-0.2**
EVR				*e*SN	**Sb**	**20 24 45.6**	**-0.1**
EVR	**Evrytania**	**0.64**	**343**	P	**Pg**	**20 24 35.2**	**-0.4**
EVR				S	**Sb**	**20 24 44.9**	**-0.8**
EVR				*e*Sn	**Sb**	**20 24 45.6**	**-0.1**
AGG	**Agios Georgios**	**0.75**	**17**	P	**Pg**	**20 24 36.9**	**-0.8**
AGG				S	**Sb**	**20 24 48.7**	**-0.1**
AGG	**Agios Georgios**	**0.75**	**17**	*e*PB	**Pg**	**20 24 37.1**	**-0.6**
AGG				*e*SN	**Sb**	**20 24 49.8**	**+1.0**
AGG	**Agios Georgios**	**0.75**	**17**	*e*Pb	**Pg**	**20 24 37.1**	**-0.6**
AGG				S	**Sb**	**20 24 48.7**	**-0.1**
AGG				*e*Sn	**Sb**	**20 24 49.8**	**+1.0**

IDC 10 20:26:13.4±2.1, 6°28S×129°80E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=81.6km s-min=28.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.43**	**199**	Pn	Pn	20 29 13.5	+1.7
	0.1nm,0.3s,baz=24,slow=12,SNR=3.1						
FITZ				Sn	Sn	20 31 18.3	-13
	0.1nm,0.3s,baz=177,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**14.28**	**162**	Pn	Pn	20 29 36.5	-0.6
	0.3nm,0.3s,baz=340,slow=13,SNR=10						
WRA				Sn	Sn	20 32 01.6	-15
	0.3nm,0.3s,baz=339,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**17.73**	**168**	P	Pn	20 30 21.1	-0.9
	0.1nm,0.3s,baz=353,slow=12,SNR=7.8						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	20 37 11.4	0.0
	0.2nm,0.5s,baz=116,slow=7.6,SNR=5.5						

*IDC **10** 20:36:59.9±0.9, 1°92S×139°23E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML4.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=36.0km s-min=12.4km az=90.0*
*DJA **10** 20:37:02, 1°67S×139°13E, h17km, mb4.4/5*
*NEIC **10** 20:37:05.6±0.5, 1°99S×139°06E, h35km, mb4.2/12, Error ellipse: s-maj=17.0km s-min=6.9km az=78.0*

ISC 10 20:37:06.2±0.8, 2°18S±0°06×138.7E±0°1, h29km, n55, σ1°57/52, mb4.1/19, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.82**	**21**	LR	LR	20 45 42.3	
	comp=Z,96nm,21.5s,baz=90,slow=32						
WRAB	**Tennant Creek**	**18.15**	**193**	*e*P	**P**	**20 41 17.1**	**+0.7**
WRAB	8.5nm,0.4s			*e*Sn	**Sn**	**20 44 32.3**	**-5.7**
WB2	**Warramunga Arr**	**18.16**	**193**	*e*P	**P**	**20 41 17.1**	**+0.7**
WRA	**Warramunga Arr**	**18.16**	**193**	P	**P**	**20 41 18.1**	**+1.6**
WRA	1.4nm,0.3s,baz=21,slow=11,SNR=43			S	**Sn**	**20 44 34.6**	**-3.8**
	0.3nm,0.3s,baz=0.6,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**18.16**	**193**	P	**P**	**20 41 18.1**	**+1.6**
WRA				S	**Sn**	**20 44 34.6**	**-3.8**
CTAO	**Charters Tower**	**19.28**	**158**	P	**Pn**	**20 41 29.7**	**-0.2**
	12nm,1.1s						

FITZ	**Fitzroy Crossi**	**20.35**	**218**	P	Pn	20 41 42.7	+0.1
	4.1nm,0.9s,baz=11,slow=16,SNR=4.2							
FITZ				S	**S**	**20 45 27.8**	**+0.6**
	6.1nm,0.8s,baz=181,slow=9.4,SNR=5.4							
FITZ				LR	LR	20 50 58.3		
	comp=Z,83nm,18.9s,baz=42,slow=40							
FITZ	**Fitzroy Crossi**	**20.35**	**218**	P	Pn	20 41 42.7	+0.1	
FITZ				S	**S**	**20 45 27.8**	**+0.6**	
AS31	**Alice Springs**	**21.86**	**192**	*e*P	**P**	**20 41 58.4**	**+1.7**	
AS31				*e*S	**S**	**20 45 59.6**	**+2.7**	
ASAR	**Alice Springs**	**21.86**	**192**	P	**P**	**20 41 58.3**	**+1.6**	
	5.0nm,0.8s,baz=22,slow=10,SNR=52							
ASAR				S	Sn	20 46 05.0	-2.5	
	2.0nm,0.9s,baz=14,slow=24,SNR=6.2							
ASAR	**Alice Springs**	**21.86**	**192**	P	**P**	**20 41 58.3**	**+1.6**	
ASAR				S	Sn	20 46 05.0	-2.5	
KKM	**Kota Kinabalu**	**23.88**	**290**	P	**P**	**20 42 18.2**	**+0.6**	
	2.6nm,0.5s							
STKA	**Stephens Creek**	**29.67**	**175**	P	**P**	**20 43 11.0**	**+1.5**	
	1.6nm,0.5s,baz=42,slow=8.4,SNR=4.9							
STKA	**Stephens Creek**	**29.67**	**175**	P	**P**	**20 43 10.5**	**+1.0**	
	1.0nm,0.9s							
YHNB	**Yeheng**	**31.54**	**329**	*e*P	**P**	**20 43 25.7**	**-0.5**	
	40nm,1.1s							
QIZ	**Qiongzhong**	**35.33**	**308**	P	P	20 43 53.3	-5.9	
	88nm,1.5s							
KULM	**Kulim**	**38.71**	**281**	P	**P**	**20 44 29.4**	**+1.3**	
	9.9nm,0.9s							
ENH	**Enshi**	**42.63**	**321**	P	**P**	**20 44 59.0**	**-1.2**	
	6.8nm,1.0s							
CM31	**Chiang Mai Arr**	**44.15**	**299**	P	**P**	**20 45 14.2**	**+1.5**	
	1.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**44.15**	**299**	P	**P**	**20 45 14.1**	**+1.4**	
	1.8nm,0.8s,baz=117,slow=6.2,SNR=11							
CMAR	**Chiang Mai Arr**	**44.15**	**299**	P	**P**	**20 45 14.1**	**+1.4**	
CHTO	**Chiang Mai**	**44.30**	**300**	*e*P	**P**	**20 45 13.8**	**0.0**	
	4.8nm,1.2s							
LSA	**Lhasa**	**55.36**	**309**	*e*P	**P**	**20 46 38.7**	**+0.3**	
ULN	**Ulaanbaatar**	**56.98**	**335**	P	**P**	**20 46 48.6**	**-0.6**	
TAPN	**Taplejung**	**57.15**	**305**	*e*P	**P**	**20 46 51.1**	**+0.1**	
	14nm,1.3s							
ODAN	**Odare**	**57.23**	**304**	*e*P	**P**	**20 46 52.1**	**+0.6**	
	12nm,1.0s							
SONM	**Songino Array**	**57.23**	**335**	P	**P**	**20 46 50.2**	**-0.8**	
	0.6nm,0.8s,baz=149,slow=7.6,SNR=3.7							
SONM	**Songino Array**	**57.23**	**335**	P	**P**	**20 46 50.2**	**-0.8**	
RAMN	**Ramite**	**57.92**	**304**	*e*P	**P**	**20 46 57.2**	**+0.8**	
JIRN	**Jiri**	**58.52**	**304**	*e*P	**P**	**20 47 01.1**	**+0.4**	
GUN	**Gumba**	**58.87**	**305**	*e*P	**P**	**20 47 03.2**	**+0.1**	
	10.0nm,0.8s							
KKN	**Kakani**	**59.32**	**304**	*e*P	**P**	**20 47 06.8**	**+0.7**	
	9.2nm,0.8s							
DMN	**Daman**	**59.40**	**304**	*e*P	**P**	**20 47 07.3**	**+0.6**	
	10nm,0.8s							
GKN	**Gorkha**	**59.92**	**304**	*e*P	**P**	**20 47 11.0**	**+0.8**	
MK31	**Makanchi Array**	**69.35**	**322**	P	**P**	**20 48 09.8**	**-1.5**	
MKAR	**Makanchi Array**	**69.35**	**322**	P	**P**	**20 48 10.7**	**-0.6**	
	1.6nm,0.9s,baz=101,slow=9.4,SNR=9.3							
MKAR	**Makanchi Array**	**69.35**	**322**	P	**P**	**20 48 10.7**	**-0.6**	
ZALV	**Zalesovo Beam**	**71.47**	**330**	P	**P**	**20 48 21.8**	**-2.1**	
	0.7nm,0.6s,baz=106,slow=5.3,SNR=4.4							
ZALV	**Zalesovo Beam**	**71.47**	**330**	P	**P**	**20 48 21.8**	**-2.1**	
AAK	**Ala-Archa**	**72.81**	**316**	P	**P**	**20 48 33.5**	**+1.1**	
	7.7nm,1.0s							
KURK	**Kurchatov**	**73.27**	**325**	P	**P**	**20 48 33.5**	**-1.3**	
	1.2nm,1.0s,baz=113,slow=5.1,SNR=6.0							
KURK	**Kurchatov**	**73.27**	**325**	P	**P**	**20 48 33.5**	**-1.3**	
KBL	**Kabul**	**74.59**	**307**	P	**P**	**20 48 42.1**	**-1.1**	
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**20 48 52.2**	**+0.3**	
	2.1nm,1.0s							
BVAR	**Borovoye Array**	**78.86**	**325**	P	**P**	**20 49 05.4**	**-1.2**	
	1.3nm,0.6s,baz=111,slow=8.1,SNR=9.4							
BVAR	**Borovoye Array**	**78.86**	**325**	P	**P**	**20 49 05.4**	**-1.2**	
BRVK	**Borovoye**	**78.93**	**325**	P	P	20 49 01.7	-5.2	
	1.7nm,0.7s							
ILAR	**Eielson Array**	**85.36**	**24**	P	P	20 49 35.0	-5.4	
	0.1nm,0.5s,baz=241,slow=4.8,SNR=4.2							
ILAR	**Eielson Array**	**85.36**	**24**	P	P	20 49 35.0	-5.4	
TORD	**Torodi Ar. Bea**	**136.08**	**287**	PKP	**PKPdf**	**20 56 25.8**	**+0.1**	
	0.8nm,1.0s,baz=65,slow=1.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**136.08**	**287**	PKP	**PKPdf**	**20 56 25.8**	**+0.1**	
DBIC	**Dimbokro**	**143.39**	**278**	PKP	PKPbc	20 56 35.9	-0.3	
	1.8nm,0.6s,baz=40,slow=5.0,SNR=6.9							
DBIC	**Dimbokro**	**143.39**	**278**	PKP	PKPbc	20 56 35.9	-0.3	
LPAZ	**La Paz**	**147.78**	**126**	PKPbc	**PKPdf**	**20 56 47.4**	**+0.2**	
	0.6nm,0.6s,baz=194,slow=4.2,SNR=1.6							
LPAZ	**La Paz**	**147.78**	**126**	PKPbc	**PKPdf**	**20 56 47.4**	**+0.2**	

*ATH **10** 20:49:30.9, 38°35N×21°91E, h5km±2km, MD3.0/5*
*ISCJB **10** 20:49:31.0±0.4, 38°35N±0°02×21°89E±0°03, h7km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=17.0*
*CSEM **10** 20:49:31.1±0.1, 38°36N×21°89E, h2km, ML1.8/6, Error ellipse: s-maj=3.2km s-min=2.4km az=124.0*
*THE **10** 20:49:31.2, 38°36N×21°89E, h7km±1km, ML1.8/6, Error ellipse: s-maj=1.9km s-min=0.5km az=91.0*

ISC 10 20:49:31.3±1.0, 38°37N±0°02×21°90E±0°02, h5km±6km, n30, σ0°73/61, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**7**	P	**Pg**	**20 49 32.4**	**-0.4**
EFP				S	**Sg**	**20 49 34.2**	**+0.4**
EFP	**Efpalio**	**0.06**	**7**	*e*PG	**Pg**	**20 49 32.4**	**-0.4**
EFP				*e*SG	**Sg**	**20 49 33.7**	**-0.1**
EFP	**Efpalio**	**0.06**	**7**	P	**Pg**	**20 49 32.4**	**-0.4**
EFP				*e*Sg	**Sg**	**20 49 33.7**	**-0.1**
EFP				S		20 49 34.2	
UPR	**University Cam**	**0.12**	**227**	*e*PG	**Pg**	**20 49 33.5**	**-0.2**
UPR				*e*SG	**Sg**	**20 49 36.2**	**+0.9**
UPR	**University Cam**	**0.12**	**227**	*e*Pg	**Pg**	**20 49 33.5**	**-0.2**
UPR				*e*Sg	**Sg**	**20 49 36.2**	**+0.9**
TRIZ	**Trizonia**	**0.14**	**90**	P	**Pg**	**20 49 34.0**	**-0.1**
TRIZ				S	**Sg**	**20 49 37.0**	**+1.0**
TRIZ	**Trizonia**	**0.14**	**90**	P	**Pg**	**20 49 34.0**	**-0.1**
TRIZ				S	**Sg**	**20 49 37.0**	**+1.0**
LAKA	**Lakka**	**0.14**	**153**	P	**Pg**	**20 49 34.0**	**-0.2**
LAKA				S	**Sg**	**20 49 36.7**	**+0.7**
LAKA	**Lakka**	**0.14**	**153**	P	**Pg**	**20 49 34.0**	**-0.2**
LAKA				S	**Sg**	**20 49 36.7**	**+0.7**
KALE	**Kalithea**	**0.19**	**82**	P	**Pg**	**20 49 35.0**	**-0.1**
KALE				S	**Sg**	**20 49 38.8**	**+1.1**
KALE	**Kalithea**	**0.19**	**82**	P	**Pg**	**20 49 35.0**	**-0.1**
KALE				S	**Sg**	**20 49 38.8**	**+1.1**
RLS	**Riolos of Patr**	**0.46**	**228**	P	**Pg**	**20 49 39.8**	**-0.3**
RLS				S	**Sg**	**20 49 47.1**	**+1.0**
RLS	**Riolos of Patr**	**0.46**	**228**	*e*PB	**Pg**	**20 49 39.9**	**-0.2**
RLS				*e*SB	**Sg**	**20 49 47.1**	**+1.0**
RLS	**Riolos of Patr**	**0.46**	**228**	*e*Pb	**Pg**	**20 49 39.9**	**-0.2**
RLS				S	**Sg**	**20 49 47.1**	**+1.0**
DSF	**Desfina**	**0.50**	**85**	P	**Pg**	**20 49 40.1**	**-0.8**
DSF				S	**Sg**	**20 49 48.5**	**+1.1**
DSF	**Desfina**	**0.50**	**85**	P	**Pg**	**20 49 40.1**	**-0.8**
DSF				S	**Sg**	**20 49 48.5**	**+1.1**
EVR	**Evrytania**	**0.56**	**353**	P	**Pg**	**20 49 41.5**	**-0.5**
EVR				S	**Sg**	**20 49 50.4**	**+1.2**
EVR	**Evrytania**	**0.56**	**353**	*e*PG	**Pg**	**20 49 41.6**	**-0.5**
EVR				*e*SB	**Sg**	**20 49 50.5**	**+1.2**
EVR	**Evrytania**	**0.56**	**353**	*e*Pg	**Pg**	**20 49 41.6**	**-0.5**
EVR				S	**Sg**	**20 49 50.4**	**+1.2**
GUR	**Goura**	**0.56**	**140**	P	**Pg**	**20 49 41.2**	**-0.8**
GUR				S	**Sg**	**20 49 49.8**	**+0.6**
GUR	**Goura**	**0.56**	**140**	*e*PG	**Pg**	**20 49 41.2**	**-0.8**
GUR				*e*SB	**Sg**	**20 49 49.5**	**+0.3**
GUR	**Goura**	**0.56**	**140**	P	**Pg**	**20 49 41.2**	**-0.8**
GUR				*e*Sb	**Sg**	**20 49 49.5**	**+0.3**
GUR				S	**Sg**	**20 49 49.8**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.67**	**16**	P	**Pg**	**20 49 43.8**	**-0.5**
MAKR				S	**Sg**	**20 49 54.1**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.67**	**16**	P	**Pg**	**20 49 43.8**	**-0.5**
MAKR				S	**Sg**	**20 49 54.1**	**+1.1**
AGG	**Agios Georgios**	**0.74**	**27**	P	**Pg**	**20 49 45.7**	**+0.2**
AGG				S	**Sb**	**20 49 56.5**	**-0.7**
AGG	**Agios Georgios**	**0.74**	**27**	P	**Pg**	**20 49 45.7**	**+0.2**
AGG				S	**Sb**	**20 49 56.5**	**-0.7**
VLS	**Valsamata**	**1.04**	**260**	*e*PG	**Pg**	**20 49 50.1**	**-1.3**
VLS				*e*SB	**Sb**	**20 50 06.3**	**+0.3**
VLS	**Valsamata**	**1.04**	**260**	*e*Pg	**Pg**	**20 49 50.1**	**-1.3**
VLS				*e*Sb	**Sb**	**20 50 06.3**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**4**	*e*PB	**Pn**	**20 49 54.8**	**0.0**
THL				*e*SB	**Sn**	**20 50 11.2**	**-0.4**
THL	**Klokotos Trika**	**1.20**	**4**	*e*Pb	**Pn**	**20 49 54.8**	**0.0**
THL				*e*Sb	**Sn**	**20 50 11.2**	**-0.4**

*JMA **10** 20:55:30.3±0.2, 39°56N×142°89E, h23km±2km, M3.6*
*IDC **10** 20:55:38.6±3.2, 40°03N×141°12E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=83.1km s-min=34.9km az=68.0*

ISC 10 20:55:30.9±2.5, 39°60N±0°07×142°8E±0°1, h19km±5km, n11, σ0°71/15, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.76**	**268**	P	**Pg**	**20 55 45.8**	**-0.1**
MIYJ				S	**Sn**	**20 55 57.0**	**-0.7**
JTH	**Tanohata**	**0.80**	**295**	S	**Sn**	**20 55 58.2**	**-0.4**
OFUJ	**Ofunato**	**1.03**	**240**	P	**Pb**	**20 55 49.4**	**-0.6**
OFUJ				S	**Sb**	**20 56 03.4**	**+0.3**
JOM	**Ohasama**	**1.18**	**264**	P	**Pb**	**20 55 52.4**	**-0.2**
JOM				S	**Sn**	**20 56 08.2**	**+0.3**
JKZ	**Kuzumaki**	**1.20**	**289**	⇓P	**Pb**	**20 55 53.1**	**0.0**
JKZ				S	**Sn**	**20 56 08.5**	**0.0**
JMK	**Ichinoseki**	**1.39**	**243**	⇓P	**Pn**	**20 55 55.1**	**-0.2**
JMK				S	**Sn**	**20 56 13.2**	**0.0**
JIO	**Ouri**	**1.61**	**225**	P	**Pn**	**20 55 57.9**	**-0.4**
JTM	**Tenmabayashi**	**1.78**	**312**	P	**Pn**	**20 56 01.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.74**	**231**	Pn	**Pn**	**20 56 43.4**	**+2.0**
	0.9nm,0.3s,baz=32,slow=15,SNR=12						
MKAR	**Makanchi Array**	**43.73**	**300**	P	**P**	**21 03 34.5**	**-0.4**
	0.2nm,0.5s,baz=80,slow=8.3,SNR=5.5						
WRA	**Warramunga Arr**	**59.76**	**189**	P	P	21 05 47.0	+12
	0.4nm,0.9s,baz=6.4,slow=7.1,SNR=3.3						

GUC 10 20:58:14.8±0.7, 34°53S×71°85W, h42km±2km, MD3.7, ML3.2, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.68**	**33**	⇑*i*P	Pn	20 58 28.6	+0.5
LNV				*i* S	Sn	20 58 38.3	+0.8
TALC	**Talca**	**0.88**	**168**	*e*P	Pn	20 58 31.3	+0.5
TALC				*i* S	Sn	20 58 43.6	+1.1
TALC				AML	AML	20 58 45.8	
	comp=E,2µm,0.1s						
CACH	**El Canelo**	**1.12**	**69**	⇑*i*P	Pn	20 58 35.4	+1.3
CACH				*i* S	Sn	20 58 51.0	+2.5
TACH	**Talagante**	**1.16**	**41**	*e*P	Pn	20 58 35.2	+0.6
CHCH	**Chadas Angostu**	**1.16**	**59**	⇑*i*P	Pn	20 58 36.0	+1.4
CHCH				*i* S	Sn	20 58 51.8	+2.4
RCDM	**Rinconada Maip**	**1.35**	**40**	*e*P	Pn	20 58 37.9	+0.6
RCDM				*e*S	Sn	20 58 55.7	+1.6
RCDM				AML	AML	20 58 59.0	
	comp=E,914nm,0.2s						
ANTU	**Antumapu**	**1.40**	**47**	*e*S	Sn	20 58 57.1	+2.0
ANTU				AML	AML	20 58 59.4	
	comp=N,469nm,0.5s						
PCH	**Pirque**	**1.44**	**51**	*e*P	Pn	20 58 39.5	+1.0
PCH				*i* S	Sn	20 58 58.4	+2.1
LMEL	**Las Melosas**	**1.53**	**64**	*e*P	Pn	20 58 40.8	+0.9
LMEL				*i* S	Sn	20 59 00.7	+2.0
LMEL				AML	AML	20 59 04.4	
	comp=N,935nm,0.1s						
CLCH	**Cerro Calan**	**1.57**	**44**	*e*P	Pn	20 58 41.5	+1.2
CLCH				*i* S	Sn	20 59 01.2	+1.6
CLCH				AML	AML	20 59 09.5	
	comp=E,315nm,0.6s						
PEL	**Peldehue**	**1.69**	**35**	*e*P	Pn	20 58 44.2	+2.3
PEL				*i* S	Sn	20 59 05.1	+2.6
PEL				AML	AML	20 59 07.7	
	comp=N,314nm,0.5s						
ROCH	**El Roble**	**1.71**	**25**	⇑*i*P	Pn	20 58 43.3	+0.9
ROCH				AML	AML	20 59 11.9	
	comp=E,239nm,0.7s						
FCH	**Farellones**	**1.77**	**48**	*e*P	Pn	20 58 44.3	+0.9
FCH				AML	AML	20 59 12.8	
	comp=N,310nm

DZM				*e*S	**Sn**	21 51 05.4	-0.5
DZM	**Mont Dzumac**	**7.57**	**188**	P	**Pn**	**21 49 43.4**	**+2.6**
DZM				S	**Sn**	**21 51 08.1**	**+2.1**
EIDS	**Eidsvold**	**18.91**	**233**	*e*P	**P**	**21 52 01.6**	**+0.7**
	33nm,0.8s						
PMG	**Port Moresby**	**20.67**	**282**	P	**P**	**21 52 21.6**	**+1.7**
	8.4nm,0.7s,baz=100,slow=12,SNR=3.4						
PMG	**Port Moresby**	**20.67**	**282**	P	**P**	**21 52 21.6**	**+1.7**
CTA	**Charters Tower**	**21.14**	**252**	P	**P**	**21 52 24.5**	**0.4**
	15nm,0.5s,baz=76,slow=11,SNR=23						
CTA	**Charters Tower**	**21.14**	**252**	P	**P**	**21 52 24.5**	**-0.4**
CTAO	**Charters Tower**	**21.14**	**252**	*e*P	**P**	**21 52 24.3**	**-0.6**
	15nm,0.5s						
ARMA	**Armidale**	**21.60**	**220**	*e*P	**P**	**21 52 29.5**	**-0.4**
	20nm,1.1s						
COEN	**Coen**	**23.72**	**268**	*e*P	**P**	**21 52 49.5**	**-0.3**
	25nm,0.6s						
URZ	**Urewera**	**25.07**	**162**	*e*P	**P**	**21 53 01.7**	**-0.1**
	17nm,0.9s						
CAN	**Canberra**	**26.62**	**216**	*e*P	**P**	**21 53 13.6**	**-2.3**
	8.1nm,1.0s						
STKA	**Stephens Creek**	**29.39**	**230**	P	**P**	**21 53 40.5**	**0.0**
	26nm,0.5s,baz=48,slow=8.3,SNR=157						
STKA	**Stephens Creek**	**29.39**	**230**	*e*P	**P**	**21 53 40.0**	**-0.5**
	5.1nm,0.5s						
WRAB	**Tennant Creek**	**32.21**	**256**	*e*P	**P**	**21 54 03.0**	**-2.5**
	5.2nm,0.4s						
WRA	**Warramunga Arr**	**32.22**	**256**	P	**P**	**21 54 03.1**	**-2.4**
	6.9nm,0.5s,baz=85,slow=8.9,SNR=164						
WRA	**Warramunga Arr**	**32.22**	**256**	P	**P**	**21 54 03.1**	**-2.4**
AS31	**Alice Springs**	**33.07**	**249**	*e*P	**P**	**21 54 10.8**	**-2.1**
AS31				*ep*P	**pP**	**21 54 53.8**	**+5.1**
ASAR	**Alice Springs**	**33.07**	**249**	P	**P**	**21 54 10.9**	**-2.1**
	11nm,0.4s,baz=78,slow=9.2,SNR=205						
ASAR	**Alice Springs**	**33.07**	**249**	P	**P**	**21 54 10.9**	**-2.1**
TAU	**Tasmania Unive**	**33.23**	**208**	*e*P	**P**	**21 54 13.1**	**-0.9**
	4.4nm,0.4s						
BBOO	**Buckleboo**	**33.98**	**232**	*e*P	**P**	**21 54 20.1**	**-0.5**
	427nm,0.8s						
FORT	**Forrest**	**39.70**	**239**	*e*P	**P**	**21 55 08.0**	**-1.0**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.40**	**259**	*e*P	**P**	**21 55 14.2**	**-0.7**
	8.1nm,0.6s						
MBWA	**Marble Bar**	**45.94**	**255**	*e*P	**P**	**21 55 57.8**	**-1.5**
	7.1nm,0.6s						
NWAO	**Narrogin (SRO)**	**49.15**	**239**	*e*P	**P**	**21 56 21.9**	**-2.0**
	7.5nm,0.6s						
MJAR	**Matsushiro Arr**	**57.91**	**332**	P	**P**	**21 57 27.3**	**-0.1**
	1.2nm,0.4s,baz=152,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**57.91**	**332**	P	**P**	**21 57 27.3**	**-0.1**
ASAJ	**Asahikawa**	**62.69**	**340**	P	**P**	**21 58 01.3**	**+1.6**
	16nm,0.9s,baz=248,slow=19,SNR=4.0						
ASAJ	**Asahikawa**	**62.69**	**340**	P	**P**	**21 58 01.3**	**+1.6**
VNDA	**Vanda**	**63.05**	**181**	*e*P	P	21 57 54.7	-7.0
SBA	**Scott Base**	**63.32**	**180**	*e*P	**P**	**21 58 02.6**	**-0.9**
KSRS	**Korea Array**	**63.79**	**325**	P	**P**	**21 58 07.6**	**+0.5**
	1.4nm,0.8s,baz=147,slow=8.2,SNR=4.0						
KSAR	**Wonju Array Be**	**63.80**	**325**	P	**P**	**21 58 07.6**	**+0.4**
USRK	**Ussuriysk Arra**	**66.88**	**333**	P	**P**	**21 58 28.0**	**+1.2**
	4.1nm,0.7s,baz=162,slow=7.7,SNR=7.8						
PETK	**Petropavlovsk-**	**67.92**	**354**	P	**P**	**21 58 34.8**	**+1.6**
	3.7nm,0.8s,baz=161,slow=6.9,SNR=4.7						
PETK	**Petropavlovsk-**	**67.92**	**354**	P	**P**	**21 58 34.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**75.20**	**294**	P	**P**	**21 59 18.4**	**+0.8**
	0.5nm,0.8s,baz=132,slow=5.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**75.20**	**294**	P	**P**	**21 59 18.4**	**+0.8**
QSPA	**South Pole Qui**	**75.48**	**180**	*e*P	**P**	**21 59 17.7**	**-0.7**
	1.5nm,0.5s						
ULN	**Ulaanbaatar**	**82.20**	**324**	*e*P	**P**	**21 59 55.8**	**+0.5**
	4.4nm,0.9s						
SONM	**Songino Array**	**82.56**	**323**	P	**P**	**21 59 57.9**	**+0.7**
	1.6nm,0.6s,baz=149,slow=6.0,SNR=14						
SONM	**Songino Array**	**82.56**	**323**	P	**P**	**21 59 57.9**	**+0.7**
ILAR	**Eielson Array**	**86.24**	**18**	P	**P**	**22 00 14.2**	**-0.9**
	1.1nm,0.8s,baz=239,slow=4.6,SNR=10						
ILAR	**Eielson Array**	**86.24**	**18**	P	**P**	**22 00 14.2**	**-0.9**
SNAA	**Sanae**	**93.75**	**183**	*e*P	**P**	**22 00 49.0**	**-1.3**
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**97.32**	**316**	P	**P**	**22 01 06.7**	**-0.2**
	1.0nm,0.6s,baz=87,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**97.32**	**316**	P	**P**	**22 01 06.7**	**-0.2**
ZALV	**Zalesovo Beam**	**97.45**	**324**	P	**P**	**22 01 06.8**	**-0.5**
	0.9nm,0.8s,baz=109,slow=5.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**97.45**	**324**	P	**P**	**22 01 06.8**	**-0.5**
ARCES	**ARCESS Array B**	**120.16**	**346**	PKP	**PKPdf**	**22 06 23.2**	**0.0**
	0.7nm,0.3s,baz=86,slow=2.4,SNR=11						
ARCES	**ARCESS Array B**	**120.16**	**346**	PKP	**PKPdf**	**22 06 23.2**	**0.0**
FINES	**FINESS Array B**	**125.68**	**338**	PKP	**PKPdf**	**22 06 34.2**	**+0.2**
	4.1nm,1.0s,baz=93,slow=5.0,SNR=6.3						
FINES	**FINESS Array B**	**125.68**	**338**	PKP	**PKPdf**	**22 06 34.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**166.28**	**266**	PKPab	**PKPab**	**22 08 39.7**	**-1.4**
	0.5nm,0.5s,baz=83,slow=4.7,SNR=15						
TORD	**Torodi Ar. Bea**	**166.28**	**266**	PKPab	**PKPab**	**22 08 39.7**	**-1.4**

IDC 10 21:57:09.9±2.4, 19°.53S×68°.77W, h153km±21km, mb3.2/3, mb1 3.5/5, mb1mx3.2/17, mbtmp3.3/5, Error ellipse: s-maj=38.9km s-min=22.6km az=94.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.28**	**11**	P	Pn	21 58 01.7	+0.1
	7.4nm,0.3s,baz=194,slow=7.6,SNR=133						
LPAZ				S	Sn	21 58 42.2	+0.7
	0.3nm,0.3s,baz=60,slow=20,SNR=2.8						
SIV	**San Ignacio**	**8.14**	**66**	P	Pn	21 59 03.9	-1.3
PLCA	**Paso Flores**	**21.19**	**184**	P	P	22 01 43.5	+0.2
	1.5nm,0.7s,baz=2.5,slow=7.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.58**	**71**	P	P	22 08 44.5	+0.5
	0.5nm,0.5s,baz=250,slow=5.7,SNR=15						
YKA	**Yellowknife Ar**	**89.38**	**341**	P	P	22 09 47.8	-0.8
	0.1nm,0.2s,baz=133,slow=4.6,SNR=4.3						
YKA				pP	pP	22 10 22.4	-4.9
	0.3nm,0.7s,baz=134,slow=4.7,SNR=4.9						

MEX 10 21:58:15.5±0.8, 16°.30N×98°.11W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**352**	*e*P	Pg	21 58 16.4	-1.1
PNIG				*e*S	Sg	21 58 19.1	+0.1
VHO	**Vista Hermosa**	**1.53**	**60**	*i* P	Pn	21 58 40.0	-3.8
VHO				*i* S	Sn	21 59 00.0	-4.2
HUIG	**Huatulco**	**2.00**	**105**	*i* P	Pn	21 58 46.6	-3.3
HUIG				*i* S	Sn	21 59 11.2	-4.2
MEIG	**Mezcala**	**2.17**	**318**	*i* P	Pn	21 58 49.7	-2.6
MEIG				*e*S	Sn	21 59 16.0	-3.7
CAIG	**El Cayaco**	**2.19**	**290**	*i* P	Pn	21 58 49.6	-3.1
CAIG				*i* S	Sn	21 59 16.5	-3.7
TPIG	**Tehuac#an**	**2.23**	**19**	*i* P	Pn	21 58 54.4	+1.1
TPIG				*i* S	Sn	21 59 18.3	-3.1
PPM	**Popocatepetl**	**2.79**	**350**	*i* P	Pn	21 58 56.3	-5.3
PPM				*i* S	Sn	21 59 31.5	-4.6
CMIG	**Matias Romero**	**3.19**	**75**	*e*P	Pn	21 59 02.9	-3.5
CMIG				*i* S	Sn	21 59 40.5	-4.3
ZIIG	**Zihuatanejo**	**3.46**	**293**	*i* P	Pn	21 59 05.2	-4.9

*TRN **10** 22:02:07.7, 19°.10N×64°.80W, h35km, MD3.2(RSPR)*
RSPR 10 22:02:09.1, 19°.08N×64°.74W, h66km±4km, MD3.2/3, 6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.52**	**132**	*e*S	Sn	22 02 30.4	-0.5
ABV	**Anegada**	**0.52**	**132**	*e*S	Sn	22 02 30.4	-0.5
STVI	**Saint Thomas**	**0.75**	**196**	*e*P	Pn	22 02 23.6	-0.6
STVI				*e*S	Sn	22 02 34.6	-0.8
STVI	**Saint Thomas**	**0.75**	**196**	*e*P	Pn	22 02 23.6	-0.6
STVI				*e*S	Sn	22 02 34.6	-0.8
MTP	**Monte Pirata**	**1.24**	**219**	*e*P	Pn	22 02 29.7	-0.8
MTP	**Monte Pirata**	**1.24**	**219**	*e*P	Pn	22 02 29.7	-0.8
MTP				*e*S	Sn	22 02 46.2	-0.3
CBYP	**Canovanas**	**1.33**	**233**	*e*P	Pn	22 02 30.8	-0.9
CBYP	**Canovanas**	**1.33**	**233**	*e*P	Pn	22 02 30.8	-0.9
CBYP				*e*S	Sn	22 02 47.8	-0.9
HUMP	**Col San Antoni**	**1.40**	**229**	*e*S	Sn	22 02 49.8	-0.5
HUMP	**Col San Antoni**	**1.40**	**229**	*e*S	Sn	22 02 49.8	-0.5

IDC 10 22:13:59.5±1.7, 4°.96N×94°.40E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=60.5km s-min=27.2km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.13**	**18**	Pn	Pn	22 17 22.9	+1.8
	0.1nm,0.3s,baz=210,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**42.97**	**348**	P	P	22 22 00.2	-0.1
	1.7nm,0.8s,baz=164,slow=8.0,SNR=19						
SONM	**Songino Array**	**43.94**	**12**	P	P	22 22 07.5	-0.8
	0.7nm,0.8s,baz=193,slow=7.8,SNR=5.8						
ASAR	**Alice Springs**	**47.89**	**128**	P	P	22 22 39.8	-0.1
	0.4nm,0.4s,baz=295,slow=8.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**49.46**	**353**	P	P	22 22 51.3	0.0
	0.5nm,0.3s,baz=178,slow=6.6,SNR=7.9						
GERES	**GERESS Array B**	**80.16**	**319**	P	P	22 26 12.0	+0.2
	0.3nm,0.5s,baz=96,slow=6.8,SNR=5.5						

*IDC **10** 22:17:50.8±0.6, 0°.40S×132°.88E, h0km, mb4.6/14, mb1 4.7/18, mb1mx4.6/24, mbtmp4.6/18, ML4.3/4, MS3.9/13, Ms1 3.9/13, ms1mx3.7/27, Error ellipse: s-maj=24.3km s-min=12.4km az=76.0*
*ISCJB **10** 22:17:53.9±0.3, 0°.44S×132°.88E±0°.05, h32km, mb4.8/57, MS4.1/17, Error ellipse: s-maj=7.2km s-min=4.3km az=163.8*
*BJI **10** 22:17:53.6, 0°.65S×132°.78E, h36km, mB5.1/23, mb4.8/42, Ms4.8/20, Ms7 4.4/20*
*DJA **10** 22:17:56, 0°.54S×132°.77E, h17km, mb5.1/25*
*NEIC **10** 22:17:56.1±0.2, 0°.45S×132°.81E, h35km, mb4.8/30, Error ellipse: s-maj=6.3km s-min=3.0km az=66.0*
ISC 10 22:17:56.1±0.3, 0°.49S±0°.04×132°.83E±0°.06, h32km, n128, σ1s34/153, mb4.8/57, MS4.0/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.48**	**194**	P	**Pn**	**22 18 35.4**	**+1.1**
BAKI	**Biak**	**3.34**	**102**	P	**Pn**	**22 18 48.2**	**+2.0**
MSAI	**Masohi**	**4.82**	**234**	P	**Pn**	**22 19 08.6**	**+2.1**
TLE	**Tual**	**5.11**	**181**	P	**Pn**	**22 19 12.6**	**+2.1**
	929nm,0.8s,11μm4.9nm						
LBMI	**Labuha**	**5.33**	**268**	P	**Pn**	**22 19 13.2**	**-0.4**
	326nm,0.8s,4μm1.7nm						
AAI	**Ambon**	**5.62**	**236**	P	**Pn**	**22 19 18.4**	**+0.9**
	1μm,0.9s,12μm3.9nm						
KMSI	**Cibinong**	**8.92**	**277**	P	Pn	22 20 06.7	+3.9
	287nm,0.9s,1.0nm						
LUWI	**Luwuk**	**10.08**	**267**	P	**Pn**	**22 20 18.1**	**-0.6**
	164nm,1.2s,2μm						
MRSI	**Marisa**	**10.94**	**275**	P	Pn	22 20 36.6	+6.1
TTSI	**Tana Toraja**	**13.25**	**259**	P	P	22 21 17.7	+6.1
BKSI	**Bulukumba**	**13.57**	**249**	P	P	22 21 11.4	-3.7
KAPI	**Kappang**	**13.81**	**251**	Pn	**Pn**	**22 21 10.8**	**+0.9**
	1.5nm,0.3s,baz=41,slow=8.0,SNR=7.4						
KAPI				LR	LR	22 26 41.4	
	comp=Z,217nm,20.4s,baz=72,slow=38						
KAPI	**Kappang**	**13.81**	**251**	*e*Pn	**Pn**	**22 21 10.5**	**+0.6**
MYLDM	**Lahad Datu**	**15.39**	**292**	P	P	22 21 46.5	+11
SMKI	**Samarinda**	**15.63**	**270**	P	P	**22 21 41.7**	**+3.7**
PMG	**Port Moresby**	**16.78**	**122**	Pn	**Pn**	**22 21 48.7**	**-0.2**
	0.4nm,0.3s,baz=283,slow=18,SNR=2.7						
PMG	**Port Moresby**	**16.78**	**122**	*e*Pn	**Pn**	**22 21 49.3**	**+0.4**
COEN	**Coen**	**16.84**	**143**	*e*Pn	**Pn**	**22 21 49.4**	**-0.2**
KBKI	**Kotabaru**	**16.89**	**260**	P	P	**22 21 53.6**	**+1.6**
	43nm,1.4s,895nm						
GUMO	**Guam**	**18.38**	**40**	LR	LR	22 28 14.3	
	comp=Z,338nm,20.0s,baz=218,slow=34						
FITZ	**Fitzroy Crossi**	**18.87**	**202**	P	**P**	**22 22 12.4**	**-1.5**
	1.1nm,0.3s,baz=62,slow=18,SNR=23						
FITZ				S	Sn	22 25 32.2	-13
	1.4nm,0.3s,baz=177,slow=9.2,SNR=5.2						
FITZ				LR	LR	22 30 03.6	
	comp=Z,83nm,21.0s,baz=29,slow=39						
FITZ	**Fitzroy Crossi**	**18.87**	**202**	P	**P**	**22 22 12.4**	**-1.5**
FITZ				*e*Pn	**Pn**	**22 22 13.4**	**-1.2**
FITZ				S	Sn	22 25 32.2	-13
WRAB	**Tennant Creek**	**19.38**	**176**	*e*P	**P**	**22 22 19.4**	**0.0**
	32nm,0.8s						
WRA	**Warramunga Arr**	**19.39**	**176**	P	**P**	**22 22 19.2**	**-0.3**
	3.3nm,0.3s,baz=351,slow=12,SNR=80						
WRA				S	S	22 25 45.1	-12
	1.4nm,0.3s,baz=357,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**19.39**	**176**	P	**P**	**22 22 19.2**	**-0.3**
WRA				S	S	22 25 45.1	-12
WB2	**Warramunga Arr**	**19.39**	**176**	*e*P	**P**	**22 22 19.4**	**-0.1**
BLJI	**Banyuglugur**	**20.49**	**249**	P	Pn	22 22 37.0	+3.2
	92nm,1.1s,3μm						
GMJI	**Gumukmas**	**20.81**	**248**	P	Pn	22 22 40.2	+2.6
	122nm,1.0s						
AS31	**Alice Springs**	**23.06**	**177**	*e*P	**P**	**22 22 59.1**	**+0.1**
ASAR	**Alice Springs**	**23.06**	**177**	P	**P**	**22 22 59.0**	**0.0**
	19nm,1.0s,baz=297,slow=8.0,SNR=5.2						
ASAR				S	**S**	**22 27 08.8**	**+0.9**
	6.5nm,1.0s,baz=4.0,slow=28,SNR=4.6						
ASAR	**Alice Springs**	**23.06**	**177**	P	**P**	**22 22 59.0**	**0.0**
ASAR				S	**S**	**22 27 08.8**	**+0.9**
CTA	**Charters Tower**	**23.49**	**147**	P	**P**	**22 23 04.8**	**+1.5**
	30nm,0.8s,baz=333,slow=11,SNR=17						
CTA				LR	LR	22 33 21.2	
	comp=Z,515nm,19.9s,baz=167,slow=40						
CTA	**Charters Tower**	**23.49**	**147**	P	**P**	**22 23 04.8**	**+1.5**
CTAO	**Charters Tower**	**23.49**	**147**	*e*P	**P**	**22 23 04.2**	**+0.9**
	34nm,0.9s						
BJII	**Banjamegara**	**24.04**	**253**	P	**P**	**22 23 10.9**	**+2.3**
	73nm,1.4s						
MBWA	**Marble Bar**	**24.20**	**211**	*e*P	**P**	**22 23 09.9**	**0.0**
	85nm,1.5s						
CISI	**Cisompet, Garu**	**25.91**	**254**	P	**P**	**22 23 25.2**	**-0.4**
	141nm,0.9s,1μm						
JOW	**Kunigami**	**27.52**	**351**	LR	LR	22 32 26.0	
	comp=Z,374nm,18.1s,baz=76,slow=32						
CBIJ	**Chichi jima**	**28.87**	**17**	LR	LR	22 34 00.5	
	comp=Z,228nm,18.2s,baz=339,slow=34						
QIZ	**Qiongzhong**	**29.76**	**312**	P	**P**	**22 23 59.3**	**-0.7**
QIZ				S	**S**	**22 28 54.9**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,25nm,1.5s						
FORT	**Forrest**	**30.46**	**188**	*e*P	**P**	**22 24 05.8**	**-0.3**
	comp=Z,34nm,0.7s						
BBOO	**Buckleboo**	**32.29**	**175**	*e*P	**P**	**22 24 22.4**	**+0.3**
	comp=Z,226nm,0.8s						
STKA	**Stephens Creek**	**32.30**	**166**	P	**P**	**22 24 21.9**	**-0.3**
	comp=Z,11nm,0.5s,baz=340,slow=7.9,SNR=42						
STKA				LR	LR	22 37 21.2	
	comp=Z,177nm,20.9s,baz=5.7,slow=36						
STKA	**Stephens Creek**	**32.30**	**166**	*e*P	**P**	**22 24 21.6**	**-0.6**
	comp=Z,4.2nm,0.9s						
ARMA	**Armidale**	**34.71**	**151**	*e*P	**P**	**22 24 43.8**	**+0.4**
	comp=Z,11nm,0.9s						
NJ2	**Nanjing**	**34.97**	**339**	*e*P	**P**	**22 24 45.7**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.45**	**203**	P	**P**	**22 24 49.9**	**+0.4**
	comp=Z,4.8nm,0.6s,baz=45,slow=9.1,SNR=5.7						
NWAO	**Narrogin (SRO)**	**35.45**	**203**	*e*P	**P**	**22 24 49.6**	**0.0**
	comp=Z,8.1nm,0.8s						
WHN	**Wuhan**	**35.52**	**332**	P	**P**	**22 24 50.8**	**+0.6**
WHN				pmax	pmax		
	comp=Z,61nm,1.2s						
GYA	**Guiyang**	**36.80**	**319**	P	**P**	**22 25 01.5**	**+0.1**
GYA				pP	**pP**	**22 25 11.8**	**+1.0**
GYA				PP	PP	22 26 27.6	+2.0
GYA				S	**S**	**22 30 44.0**	**+0.2**
GYA				sS	**sS**	**22 31 01.3**	**+2.1**
GYA				ScP	**ScP**	**22 31 08.4**	**+0.5**
GYA				SS	SS	22 33 11.7	-14
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,540nm,17.6s						
GYA				LR	LR		
	comp=E,480nm,17.9s						
GYA				LR	LR		
	comp=Z,510nm,17.3s						
MJAR	**Matsushiro Arr**	**37.18**	**7**	LR	LR	22 36 51.9	
	comp=Z,270nm,20.8s,baz=185,slow=31						
ENH	**Enshi**	**37.82**	**326**	*e*P	**P**	**22 25 08.7**	**-1.1**
	comp=Z,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**22 25 13.6**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=118,slow=6.7,SNR=16						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**22 25 13.6**	**-0.1**
CHTO	**Chiang Mai**	**38.41**	**302**	*e*P	**P**	**22 25 13.7**	**-1.3**
	comp=Z,7.6nm,1.1s						
CHTO	**Chiang Mai**	**38.41**	**302**	P	P	22 25 22.2	+7.2
KMI	**Kunming**	**38.68**	**313**	P	**P**	**22 25 16.5**	**-0.9**
KMI				pP	**pP**	**22 25 27.7**	**+0.9**
KMI				sP	**sP**	**22 25 31.6**	**+0.9**
KMI				S	**S**	**22 31 13.5**	**+1.0**
KMI				SS	SS	22 33 53.7	-10
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				pmax	pmax		
	comp=Z,160nm,5.1s						
KMI				LR	LR		
	comp=N,140nm,16.0s						
KMI				LR	LR		
	comp=E,120nm,16.3s						
KMI				LR	LR		
	comp=Z,130nm,14.9s						
XAN	**Xi'an**	**41.03**	**329**	P	**P**	**22 25 35.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,6.2s						
CD2	**Chengdu**	**41.69**	**321**	P	**P**	**22 25 42.1**	**0.0**
CD2				pP	**pP**	**22 25 52.3**	**+0.7**
CD2				sP	**sP**	**22 25 56.6**	**+1.2**
CD2				PP	PP	22 27 22.4	+3.5
CD2				S	**S**	**22 31 56.6**	**-0.4**
CD2				sS	**sS**	**22 32 13.5**	**+0.9**
CD2				SS	SS	22 34 57.7	-5.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,220nm,6.5s						
CD2				LR	LR		
	comp=N,410nm,7.1s						
CD2				LR	LR		
	comp=Z,340nm,6.5s						
BJT	**Baijiatuau**	**43.10**	**341**	*e*P	**P**	**22 25 52.7**	**-0.6**
	comp=Z,39nm,1.0s						
BJI	**Beijing**	**43.11**	**341**	P	**P**	**22 25 52.7**	**-0.7**
BJI				S	**S**	**22 32 20.5**	**+2.9**
BJI				pmax	pmax		
	comp=Z,43nm,1.0s						
BJI				LR	LR		
	comp=N,460nm,6.0s						
BJI				LR	LR		
	comp=E,270nm,5.7s						
BJI				LR	LR		
	comp=Z,120nm,17.6s						
USRK	**Ussuriysk Arra**	**44.50**	**359**	P	**P**	**22 26 04.0**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=185,slow=8.6,SNR=5.7						
USRK				LR	LR	22 44 16.5	
	comp=Z,91nm,18.6s,baz=82,slow=36						
CN2	**Changchun**	**44.59**	**352**	*e*P	**P**	**22 26 07.8**	**+2.6**
CN2				*es*P	**sP**	**22 26 22.8**	**+4.2**
CN2				*e*S	**S**	**22 32 43.3**	**+4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
MDJ	**Mudanjiang**	**45.01**	**357**	P	**P**	**22 26 10.1**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,13nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,320nm,4.8s						
ASAJ	**Asahikawa**	**45.26**	**10**	LR	LR	22 45 02.7	
	comp=Z,293nm,18.3s,baz=347,slow=36						
LZH	**Lanzhou**	**45.29**	**326**	*e*P	**P**	**22 26 11.8**	**+0.6**
LZH				pP	**pP**	**22 26 19.5**	**-1.3**
LZH				sP	**sP**	**22 26 22.3**	**-2.3**
LZH				PP	PP	22 27 56.1	-1.5
LZH				*e*S	**S**	**22 32 54.0**	**+4.1**
LZH				sS	**sS**	**22 33 10.4**	**+4.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,5.9s						
LZH				LR	LR		
	comp=N,260nm,11.8s						
LZH				LR	LR		
	comp=E,330nm,14.4s						
LZH				LR	LR		
	comp=Z,480nm,17.2s						
HHC	**Hu-ho-hao-te**	**45.47**	**337**	*e*P	**P**	**22 26 12.5**	**+0.1**
HHC				sP	**sP**	**22 26 25.7**	**-0.1**
HHC				PcP	**PcP**	**22 27 49.8**	**-1.3**
HHC				PP	PP	22 28 00.4	+1.2
HHC				ScP	**ScP**	**22 31 40.9**	**-0.9**
HHC				PcS	**PcS**	**22 31 44.2**	**-1.0**
HHC				S	**S**	**22 32 51.4**	**-0.7**
HHC				sS	**sS**	**22 33 08.3**	**+0.5**
HHC				ScS	**ScS**	**22 36 04.4**	**-2.4**
HHC				SS	SS	22 36 07.6	-8.7
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,6.3s						
HHC				LR	LR		
	comp=N,360nm,16.4s						
HHC				LR	LR		
	comp=E,410nm,16.5s						
HHC				LR	LR		
	comp=Z,320nm,15.0s						
LSA	**Lhasa**	**49.79**	**311**	*e*P	**P**	**22 26 46.6**	**0.0**
	comp=Z,9.9nm,0

PETK	**Petropavlovsk-**	**57.30**	**18**	P		**P**		**22 27 39.8**	**-1.0**
WMQ	**Urumqi**	**59.69**	**324**	P		**P**		**22 27 57.3**	**-0.4**
WMQ				pP		**pP**		**22 28 07.3**	**-0.2**
WMQ				sP		**sP**		**22 28 11.3**	**0.0**
WMQ				pmax	pmax				
	comp=Z,17nm,1.2s								
YAK	**Yakutsk**	**62.41**	**358**	*e*P		**P**		**22 28 14.8**	**-0.8**
	comp=Z,28nm,0.7s								
MK31	**Makanchi Array**	**64.51**	**324**	*e*P		**P**		**22 28 29.7**	**-0.1**
MKAR	**Makanchi Array**	**64.51**	**324**	*e*P		**P**		**22 28 29.6**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=112,slow=8.6,SNR=109								
MKAR	**Makanchi Array**	**64.51**	**324**	*e*P		**P**		**22 28 29.6**	**-0.3**
KSH	**Kashi**	**65.33**	**315**	*e*P		**P**		**22 28 36.5**	**+1.0**
KSH				*ep*P		**pP**		**22 28 46.5**	**+1.1**
KSH				*es*P		**sP**		**22 28 50.6**	**+1.4**
KSH				*e*PcP		**PcP**		**22 29 08.6**	**+1.0**
KSH				*e*PP		**PP**		**22 31 01.5**	**+2.0**
KSH				*e*ScP				22 33 07.5	
KSH				*e*PcS				22 33 11.6	
KSH				*e*S		**S**		**22 37 14.9**	**-2.7**
KSH				*es*S		**sS**		**22 37 32.5**	**-1.4**
KSH				*e*ScS		**SKSac**		**22 38 24.6**	**-4.1**
KSH				*e*SS		**SS**		**22 41 29.5**	**-1.6**
KSH				pmax	pmax				
	comp=Z,5.0nm,0.4s								
KSH				pmax	pmax				
	comp=Z,190nm,5.4s								
KSH				LR	LR				
	comp=N,380nm,6.0s								
KSH				LR	LR				
	comp=E,420nm,6.1s								
KSH				LR	LR				
	comp=Z,410nm,6.0s								
TKM2	**Tokmak 2**	**66.94**	**318**	*e*P		**P**		**22 28 45.2**	**-0.7**
	comp=Z,3.6nm,0.7s								
ZALV	**Zalesovo Beam**	**67.14**	**332**	P		**P**		**22 28 45.3**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=116,slow=6.8,SNR=11								
ZALV	**Zalesovo Beam**	**67.14**	**332**	P		**P**		**22 28 45.3**	**-1.3**
AAK	**Ala-Archa**	**67.57**	**317**	*e*P		**P**		**22 28 49.7**	**-0.2**
	comp=Z,7.0nm,0.9s								
EKS2	**Erkin-Say**	**68.07**	**317**	*e*P		**P**		**22 28 52.8**	**-0.1**
KURK	**Kurchatov**	**68.58**	**326**	P		**P**		**22 28 55.0**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=125,slow=6.0,SNR=7.1								
KURK	**Kurchatov**	**68.58**	**326**	*e*P		**P**		**22 28 55.0**	**-0.8**
	comp=Z,6.6nm,0.9s								
KBL	**Kabul**	**68.92**	**307**	*e*P		**P**		**22 28 56.9**	**-1.6**
	comp=Z,3.3nm,0.8s								
KKAR	**Karatay Array**	**70.47**	**317**	*e*P		**P**		**22 29 06.9**	**-0.8**
	comp=Z,1.4nm,0.4s								
BRVK	**Borovoye**	**74.25**	**326**	*e*P		**P**		**22 29 29.3**	**-0.7**
	comp=Z,7.3nm,0.8s								
VNDA	**Vanda**	**78.55**	**174**	*e*P		**P**		**22 29 54.3**	**+0.4**
	comp=Z,1.4nm,0.7s								
ABKAR	**Akbulak array**	**79.26**	**320**	*e*P		**P**		**22 29 56.8**	**-1.6**
AKTO	**Aktyubinsk**	**80.74**	**321**	P		**P**		**22 30 05.5**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=109,slow=11,SNR=4.9								
AKTO	**Aktyubinsk**	**80.74**	**321**	P		**P**		**22 30 05.5**	**-0.9**
ARU	**Arti**	**81.75**	**327**	*e*P		**P**		**22 30 10.3**	**-1.2**
	comp=Z,2.6nm,0.7s								
MCK	**McKinley**	**85.23**	**26**	*e*P		**P**		**22 30 28.3**	**-1.1**
	comp=Z,4.7nm,0.8s								
ILAR	**Eielson Array**	**86.29**	**25**	P		**P**		**22 30 32.9**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=254,slow=4.5,SNR=25								
ILAR	**Eielson Array**	**86.29**	**25**	P		**P**		**22 30 32.9**	**-1.7**
QSPA	**South Pole Qui**	**89.44**	**180**	*e*P		**P**		**22 30 49.9**	**+0.2**
	comp=Z,14nm,1.2s								
QSPA				*e*				22 30 59.6	
ARCES	**ARCESS Array B**	**96.47**	**340**	P		**P**		**22 31 20.5**	**-1.4**
	comp=Z,4.7nm,0.8s,baz=86,slow=6.2,SNR=4.6								
ARCES	**ARCESS Array B**	**96.47**	**340**	P		**P**		**22 31 20.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**130.00**	**287**	PKP		**PKPdf**		**22 37 03.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=66,slow=2.4,SNR=3.1								
TORD	**Torodi Ar. Bea**	**130.00**	**287**	PKP		**PKPdf**		**22 37 03.2**	**-0.5**
CMIG	**Matias Romero**	**130.23**	**68**	PKP		**PKPdf**		**22 37 03.0**	**-1.1**
	comp=Z,5.2nm,0.5s,baz=257,slow=6.0,SNR=7.9								
CMIG	**Matias Romero**	**130.23**	**68**	PKP		**PKPdf**		**22 37 03.0**	**-1.1**
OTAV	**Otavalo**	**148.71**	**90**	*e*PKPbc		**PKPbc**		**22 37 42.6**	**+0.7**
LPAZ	**La Paz**	**153.43**	**130**	PKPbc		**PKPbc**		**22 37 53.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=0.7,slow=2.4,SNR=3.5								
LPAZ	**La Paz**	**153.43**	**130**	PKPbc		**PKPbc**		**22 37 53.0**	**-0.1**

NIED ***10*** *22:21:00,30.°00N×142.°60E,h11km,Mw4.4 Best double couple: M0=4.01000×10^15 NP1:φ=143.00000°,δ=71.00000°, λ=73.00000°. NP2:φ=6.00000°,δ=25.00000°,λ=130.00000°.*

IDC ***10*** *22:21:24.1±0.5,29.°73N×142.°24E,h0km,mb4.3/22, mb1 4.4/26,mb1mx4.3/33,mbtmp4.3/26,ML4.0/3,MS3.3/3, Ms1 3.3/3,ms1mx2.9/36,Error ellipse: s-maj=18.3km s-min=14.1km az=79.0*

JMA ***10*** *22:21:26.9±0.1,29.°98N×142.°60E,h50km,M4.4*

NEIC ***10*** *22:21:26.1±2.7,29.°73N×142.°21E,h12km±16km,mb4.8/13, MW4.3(NIED),Error ellipse: s-maj=6.8km s-min=5.7km az=110.0*

MOS ***10*** *22:21:27.1±0.9,29.°75N×142.°23E,h33km,mb4.9/15,Error ellipse: s-maj=15.0km s-min=7.4km az=114.9*

ISCJB ***10*** *22:21:27.8±0.4,29.°91N±0.°03×142.°26E±0.°07, h35km, mb4.5/37,MS3.5/3,Error ellipse: s-maj=9.4km s-min=3.5km az=165.7*

ISC 10 22:21:29.6±0.5,29.°85N±0.°06×142.°30E±0.°08,h35km,n151, σ1§17/168,**mb4.5**/37,**MS3.7**/3,**2C-4D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.75**	**182**	LR	LR	22 22 41.2	
	comp=Z,551nm,19.2s,baz=335,slow=29						
JHJ2	**Mitsune**	**3.88**	**328**	P	**Pn**	**22 22 26.7**	**0.0**
JHJ2				*e*S	**Sn**	**22 23 10.3**	**-0.8**
BSO1	**Boso 1**	**4.92**	**347**	P	**Pn**	**22 22 39.0**	**-1.5**
BSO1				*e*S	**Sn**	**22 23 34.6**	**-1.3**
BSO2	**Boso 2**	**5.06**	**345**	*e*S	**Sn**	**22 23 39.5**	**-0.2**
BSO3	**Boso 3**	**5.16**	**343**	P	**Pn**	**22 22 43.2**	**-0.9**
BSO3				*e*S	**Sn**	**22 23 42.6**	**+0.3**
JIM2	**Oshima 3**	**5.42**	**334**	P	**Pn**	**22 22 48.3**	**+0.3**
JIM2				*e*S	**Sn**	**22 23 48.8**	**-0.4**
TATJ	**Tateyama 2**	**5.55**	**339**	*e*S	**Sn**	**22 23 52.0**	**-0.3**
JYO	**Yokosk**	**5.80**	**338**	P	**Pn**	**22 22 52.4**	**-0.7**
JYO				*e*S	**Sn**	**22 23 58.0**	**-0.4**
JOD2	**Odawara 2**	**6.04**	**334**	P	**Pn**	**22 22 56.8**	**+0.4**
JOD2				*e*S	**Sn**	**22 24 04.6**	**+0.3**
SHZ3	**Shizuoka 3**	**6.24**	**327**	P	**Pn**	**22 23 02.0**	**+2.7**
SHZ3				*e*S	**Sn**	**22 24 12.5**	**+3.1**
HMMJ	**Hamamatsu 2**	**6.31**	**323**	P	**Pn**	**22 23 00.4**	**+0.2**
JYN	**Shimob**	**6.46**	**332**	P	**Pn**	**22 23 04.2**	**+2.0**
JHU	**Hanno**	**6.50**	**338**	P	**Pn**	**22 23 01.9**	**-0.8**
JHU				S	**Sn**	**22 24 13.6**	**-2.0**
JIE	**Ise**	**6.55**	**315**	P	**Pn**	**22 23 03.6**	**+0.1**
JYT	**Yasato**	**6.60**	**345**	P	**Pn**	**22 23 02.8**	**-1.3**
JYT				*e*S	**Sn**	**22 24 15.9**	**-2.2**
JNY	**Yasuok**	**6.64**	**327**	P	**Pn**	**22 23 05.8**	**+1.0**
JWZ	**Kozaga**	**6.70**	**305**	P	**Pn**	**22 23 06.5**	**+1.0**
JRY	**Ryogami san**	**6.78**	**336**	P	**Pn**	**22 23 06.6**	**0.0**
JRY				S	**Sn**	**22 24 22.4**	**-0.1**
JHO	**Hitachi**	**6.89**	**348**	P	**Pn**	**22 23 06.2**	**-2.0**
JHO				*e*S	**Sn**	**22 24 19.6**	**-5.8**
JNT	**Takato**	**6.95**	**331**	P	**Pn**	**22 23 09.2**	**+0.2**
JAG	**Ashikaga**	**6.97**	**341**	P	**Pn**	**22 23 07.9**	**-1.4**
JAG				*e*S	**Sn**	**22 24 23.1**	**-4.3**
JKT	**Katashina**	**7.35**	**341**	P	**Pn**	**22 23 13.3**	**-1.2**
JKT				*e*S	**Sn**	**22 24 31.4**	**-5.4**
JGK	**Kuni**	**7.36**	**336**	P	**Pn**	**22 23 15.3**	**+0.7**
JNG	**Nsakai**	**7.42**	**333**	P	**Pn**	**22 23 16.4**	**+0.9**
JNG				*e*S	**Sn**	**22 24 38.4**	**-0.1**
MJAR	**Matsushiro Arr**	**7.50**	**334**	Pn	**Pn**	**22 23 16.5**	**0.0**
	4.7nm,0.3s,baz=154,slow=11,SNR=64						
MJAR				Sn	**Sn**	**22 24 40.3**	**0.0**
	1.1nm,0.3s,baz=152,slow=15,SNR=5.1						
MJAR	**Matsushiro Arr**	**7.50**	**334**	P	**Pn**	**22 23 16.5**	**0.0**
MJAR						22 24 40.3	
MJAR	**Matsushiro Arr**	**7.50**	**334**	Pn	**Pn**	**22 23 16.5**	**0.0**
MJAR				Sn	**Sn**	**22 24 40.2**	**0.0**
MAJO	**Matsushiro**	**7.50**	**334**	*e*P	**Pn**	**22 23 16.6**	**+0.1**
MAJO				*e*		22 24 41.2	
MAJO				pmax	pmax		
	comp=Z,24nm,0.4s						
MAJO	**Matsushiro**	**7.50**	**334**	*e*Pn	**Pn**	**22 23 16.6**	**+0.1**
	comp=Z,24nm,0.4s						
MAJO				*e*Sn	**Sn**	**22 24 41.2**	**+0.9**
MAT	**Matsushiro**	**7.50**	**334**	P	**Pn**	**22 23 15.9**	**-0.6**
MAT				*e*S	**Sn**	**22 24 38.8**	**-1.5**
MAT	**Matsushiro**	**7.50**	**334**	P	**Pn**	**22 23 16.8**	**+0.3**
MAT				S	**Sn**	**22 24 40.8**	**+0.5**
JMK	**Ichinoseki**	**9.12**	**355**	P	**Pn**	**22 23 36.0**	**-2.7**
KSRS	**Korea Array**	**14.16**	**306**	Pn	**Pn**	**22 24 47.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=111,slow=13,SNR=7.3						
KSRS	**Korea Array**	**14.16**	**306**	P	**Pn**	**22 24 47.9**	**+0.3**
KSAR	**Wonju Array Be**	**14.18**	**306**	P	**Pn**	**22 24 47.9**	**0.0**
KSAR	**Wonju Array Be**	**14.18**	**306**	Pn	**Pn**	**22 24 47.9**	**0.0**
ASAJ	**Asahikawa**	**14.24**	**1**	Pn	**Pn**	**22 24 48.0**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=77,slow=19,SNR=3.1						
ASAJ				LR	LR	22 30 17.4	
	comp=Z,207nm,19.2s,baz=353,slow=37						
ASAJ	**Asahikawa**	**14.24**	**1**	P	**Pn**	**22 24 48.0**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,207nm,19.2s						
ASAJ	**Asahikawa**	**14.24**	**1**	Pn	**Pn**	**22 24 48.0**	**-0.7**
USRK	**Ussuriysk Arra**	**16.49**	**333**	Pn	**Pn**	**22 25 17.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=11						
HABR	**Khabarovsk**	**19.41**	**345**	*e*P	**Pn**	**22 25 54.5**	**+0.6**
HABR				*e*S	**S**	**22 29 28.8**	**-1.2**
HABR				pmax	pmax		
	comp=E,110nm,1.9s						
HABR				pmax	pmax		
	comp=N,157nm,2.9s						
HABR				pmax	pmax		
	comp=Z,105nm,1.7s						
HABR				MLR	MLR		
	comp=Z,195nm,17.0s						
SONM	**Songino Array**	**32.85**	**313**	P	**P**	**22 28 00.8**	**+0.7**
	comp=Z,6.7nm,0.8s,baz=115,slow=8.3,SNR=17						
SONM	**Songino Array**	**32.85**	**313**	P	**P**	**22 28 00.8**	**+0.7**
SONM	**Songino Array**	**32.85**	**313**	P	**P**	**22 28 00.8**	**+0.7**
YAK	**Yakutsk**	**33.23**	**349**	*e*P	**pP**	**22 28 14.3**	**+1.2**
YAK				pmax	pmax		
	comp=Z,39nm,1.1s						
YAK				pmax	pmax		
	comp=N,20nm,1.5s						
SEY	**Seymchan**	**33.73**	**8**	*e*P	pP	22 28 19.9	+2.4
TLY	**Talaya**	**35.91**	**318**	*e*P	P	22 28 30.1	+3.7
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,118nm,15.0s						
BILL	**Bilibino**	**40.76**	**14**	*e*P	**pP**	**22 29 19.0**	**+1.8**
BILL				*e*S	S	22 35 25.4	+10
BILL				*e*SS	SS	22 38 51.1	+35
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
CHTO	**Chiang Mai**	**40.79**	**264**	*e*P	**P**	**22 29 06.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**40.79**	**264**	*e*P	**P**	**22 29 06.0**	**-1.7**
	comp=Z,4.5nm,0.8s						
KAPI	**Kappang**	**40.86**	**216**	LR	LR	22 46 49.0	
	comp=Z,27nm,19.5s,baz=296,slow=37						
CMAR	**Chiang Mai Arr**	**40.93**	**264**	P	**P**	**22 29 07.3**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=66,slow=5.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**40.93**	**264**	P	**P**	**22 29 07.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**40.93**	**264**	P	**P**	**22 29 07.3**	**-1.6**
ZALV	**Zalesovo Beam**	**47.50**	**317**	P	**P**	**22 30 00.4**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=94,slow=6.1,SNR=5.9						
ZALV				PcP	**PcP**	**22 31 30.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=112,slow=3.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**47.50**	**317**	P	**P**	**22 30 00.4**	**-0.7**
ZALV						22 31 30.7	
ZALV	**Zalesovo Beam**	**47.50**	**317**	P	**P**	**22 30 00.4**	**-0.7**
ZALV				PcP	**PcP**	**22 31 30.7**	**-0.1**
TAPN	**Taplejung**	**47.61**	**281**	*e*P	**P**	**22 30 02.0**	**-0.7**
TAPN	**Taplejung**	**47.61**	**281**	*e*P	**P**	**22 30 02.0**	**-0.7**
ODAN	**Odare**	**48.03**	**281**	*e*P	**P**	**22 30 05.0**	**-0.9**
ODAN	**Odare**	**48.03**	**281**	*e*P	**P**	**22 30 05.0**	**-0.9**
NVS	**Novosibirsk**	**48.52**	**319**	*j*P	P	22 30 04.5	-4.4
NVS				*e*		22 31 30.3	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,28nm,3.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
RAMN	**Ramite**	**48.68**	**281**	*e*P	**P**	**22 30 09.9**	**-1.0**
	comp=E,20nm,0.9s						
RAMN	**Ramite**	**48.68**	**281**	*e*P	**P**	**22 30 09.9**	**-1.0**
	comp=E,20nm,0.9s						
JIRN	**Jiri**	**48.82**	**282**	*e*P	**P**	**22 30 11.8**	**-0.3**
	comp=E,9.2nm,0.4s						
MK31	**Makanchi Array**	**48.83**	**308**	*e*P	**P**	**22 30 11.6**	**+0.1**
MK31	**Makanchi Array**	**48.83**	**308**	*e*P	**P**	**22 30 11.6**	**+0.1**
MKAR	**Makanchi Array**	**48.83**	**308**	P	**P**	**22 30 12.0**	**+0.5**
	comp=E,4.9nm,0.7s,baz=92,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**48.83**	**308**	P	**P**	**22 30 12.0**	**+0.5**
MKAR	**Makanchi Array**	**48.83**	**308**	P	**P**	**22 30 12.0**	**+0.5**
GUN	**Gumba**	**49.01**	**282**	*e*P	**P**	**22 30 13.0**	**-0.6**
	comp=E,9.4nm,0.6s						
GUN	**Gumba**	**49.01**	**282**	*e*P	**P**	**22 30 13.0**	**-0.6**
	comp=E,9.4nm,0.6s						
KKN	**Kakani**	**49.56**	**282**	*e*P	**P**	**22 30 16.6**	**-0.9**
	comp=E,10nm,0.9s						
KKN	**Kakani**	**49.56**	**282**	*e*P	**P**	**22 30 16.6**	**-0.9**
KKN				pmax	pmax		
	comp=Z,11nm,0.9s						
KKN	**Kakani**	**49.56**	**282**	*e*P	**P**	**22 30 16.6**	**-0.9**
	comp=Z,10nm,0.9s						
GKN	**Gorkha**	**50.04**	**283**	*e*P	**P**	**22 30 20.3**	**-0.9**
	comp=Z,6.7nm,0.7s						
GKN	**Gorkha**	**50.04**	**283**	*e*P	**P**	**22 30 20.3**	**-0.9**
	comp=Z,6.7nm,0.7s						
WRAB	**Tennant Creek**	**50.08**	**190**	*e*P	**P**	**22 30 20.2**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**50.08**	**190**	*e*P	**P**	**22 30 20.2**	**-1.0**
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**50.09**	**190**	P	**P**	**22 30 20.1**	**-1.1**
	comp=Z,4.8nm,0.6s,baz=7.7,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**50.09**	**190**	P	**P**	**22 30 20.2**	**-1.1**
WRA	**Warramunga Arr**	**50.09**	**190**	P	**P**	**22 30 20.1**	**-1.1**
KOLN	**Koldanda**	**50.98**	**283**	*e*P	**P**	**22 30 27.6**	**-0.8**
	comp=Z,14nm,0.7s						
KOLN	**Koldanda**	**50.98**	**283**	*e*P	**P**	**22 30 27.6**	**-0.8**
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**51.16**	**313**	P	**P**	**22 30 29.7**	**+0.7**
	comp=Z,11nm,0.9s,baz=92,slow=7.9,SNR=17						
KURK	**Kurchatov**	**51.16**	**313**	*j*P	**P**	**22 30 28.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,22nm,1.1s						
KURK	**Kurchatov**	**51.16**	**313**	*e*P	**P**	**22 30 28.9**	**-0.1**
ASAR	**Alice Springs**	**53.82**	**190**	P	**P**	**22 30 47.5**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=3.2,slow=5.4,SNR=6.2						
ASAR	**Alice Springs**	**53.82**	**190**	P	**P**	**22 30 47.5**	**-1.5**
ASAR	**Alice Springs**	**53.82**	**190**	P	**P**	**22 30 47.5**	**-1.5**
BRVK	**Borovoye**	**56.17**	**316**	*e*P	**P**	**22 31 06.3**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**56.17**	**316**	*e*P	**P**	**22 31 06.3**	**+0.6**
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**57.58**	**304**	*e*P	**P**	**22 31 16.0**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**57.58**	**304**	*e*P	**P**	**22 31 16.0**	**+0.1**
	comp=Z,14nm,0.8s						
INK	**Inuvik**	**60.50**	**25**	P	**P**	**22 31 36.0**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=279,slow=6.8,SNR=9.0						
INK	**Inuvik**	**60.50**	**25**	P	**P**	**22 31 36.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**60.50**	**25**	*e*P	**P**	**22 31 36.4**	**+0.8**
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**61.39**	**181**	P	**P**	**22 31 41.1**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=22,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**61.39**	**181**	P	**P**	**22 31 41.2**	**-0.9**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**61.39**	**181**	*e*P	**P**	**22 31 41.3**	**-0.8**
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**62.32**	**321**	*d*P	**P**	**22 31 47.0**	**-1.2**
ARU				S	S	22 40 05.0	-7.0
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	**Akbulak array**	**63.26**	**313**	*e*P	**P**	**22 31 54.5**	**0.0**
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**	**22 32 00.8**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=82,slow=12,SNR=6.0						
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**	**22 32 00.8**	**+0.4**
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**	**22 32 00.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**66.80**	**203**	P	**P**	**22 32 16.0**	**-1.6**
	comp=Z,7.0nm,0.8s,baz=51,slow=6.0,SNR=3.9						
NWAO	**Narrogin (SRO)**	**66.80**	**203**	P	**P**	**22 32 16.0**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**66.80**	**203**	*e*P	**P**	**22 32 16.8**	**-0.8**
	comp=Z,8.5nm,0.8s						
RES	**Resolute Bay**	**69.37**	**14**	P	**P**	**22 32 32.8**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=34,slow=6.6,SNR=3.8						
RES	**Resolute Bay**	**69.37**	**14**	P	**P**	**22 32 32.8**	**-0.4**
RES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RES	**Resolute Bay**	**69.37**	**14**	*e*P	**P**	**22 32 33.5**	**+0.3**
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**69.68**	**29**	P	**P**	**22 32 35.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=294,slow=6.5,SNR=10						
YKA	**Yellowknife Ar**	**69.68**	**29**	P	**P**	**22 32 35.9**	**+0.5**
YKA	**Yellowknife Ar**	**69.68**	**29**	P	**P**	**22 32 35.9**	**+0.5**
FINES	**FINESS Array B**	**75.53**	**334**	P	**P**	**22 33 10.5**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=97,slow=7.6,SNR=3.1						
FINES	**FINESS Array B**	**75.53**	**334**	P	**P**	**22 33 10.5**	**+0.4**
FINES	**FINESS Array B**	**75.53**	**334**	P	**P**	**22 33 10.5**	**+0.4**
KIV	**Kislovodsk**	**76.24**	**313**	*e*P	**P**	**22 33 16.2**	**+1.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVAR	**Mina Array Bea**	**78.75**	**52**	P	**P**	**22 33 30.1**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=291,slow=5.5,SNR=9.7						
NVAR	**Mina Array Bea**	**78.75**	**52**	P	**P**	**22 33 30.1**	**+1.2**
MIB	**Mutribah**	**79.65**	**298**	*e*P	**P**	**22 33 33.9**	**+0.1**
MIB				AML	AML	22 33 35.0	
	comp=Z,26nm,0.7s						
AKASG	**Malin Array Be**	**80.46**	**324**	P	**P**	**22 33 37.8**	**0.0**
	comp=Z,3.4nm,0.9s,baz=48,slow=5.7,SNR=8.0						
AKASG	**Malin Array Be**	**80.46**	**324**	P	**P**	**22 33 37.8**	**0.0**
AKASG	**Malin Array Be**	**80.46**	**324**	P	**P**	**22 33 37.8**	**0.0**
HFS	**Hagfors**	**80.94**	**337**	P	**P**	**22 33 40.5**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=98,slow=11,SNR=2.9						
HFS	**Hagfors**	**80.94**	**337**	P	**P**	**22 33 40.5**	**+0.4**
HFS	**Hagfors**	**80.94**	**337**	P	**P**	**22 33 40.5**	**+0.4**
NB2	**NORSAR Subarra**	**81.10**	**338**	P	**P**	**22 33 41.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**81.10**	**338**	P	**P**	**22 33 41.2**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=42,slow=5.2,SNR=3.9						
NOA	**NORSAR Array B**	**81.10**	**338**	P	**P**	**22 33 41.3**	**+0.3**
NOA	**NORSAR Array B**	**81.10**	**338**	P	**P**	**22 33 41.2**	**+0.3**
FRB	**Frobisher Bay**	**83.58**	**13**	P	**P**	**22 33 53.8**	**0.0**
	comp=Z,1.8nm,0.8s,baz=353,slow=5.3,SNR=3.9						
FRB	**Frobisher Bay**	**83.58**	**13**	P	**P**	**22 33 53.8**	**0.0**
FRB	**Frobisher Bay**	**83.58**	**13**	P	**P**	**22 33 53.8**	**0.0**
BR131	**Keskin Array S**	**84.21**	**313**	*e*P	**P**	**22 33 57.8**	**+0.1**
	comp=Z,4.6nm,0.8s						
BRTR	**Keskin Array B**	**84.21**	**313**	P	**P**	**22 33 58.0**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=106,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**84.21**	**313**	*e*P	**P**	**22 33 58.4**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**84.21**	**313**	P	**P**	**22 33 58.0**	**+0.2**
MMAI	**Mount Meron Ar**	**86.76**	**306**	P	**P**	**22 34 11.7**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=69,slow=13,SNR=2.4						
MMAI	**Mount Meron Ar**	**86.76**	**306**	P	**P**	**22 34 11.7**	**+1.2**
TXAR	**Lajitas Array**	**93.88**	**53**	P	**P**	**22 34 45.0**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=326,slow=2.2,SNR=12						
TXAR	**Lajitas Array**	**

VLX Vlachokerasia 0.93 134 P Pb 22 26 40.5 -0.8
VLX S Sg 22 26 54.4 +0.2
VLX Vlachokerasia 0.93 134 ePN Pb 22 26 40.8 -0.5
VLX Vlachokerasia 0.93 134 P Pb 22 26 40.5 -0.8
VLX Vlachokerasia 0.93 134 ePn Pb 22 26 40.8 -0.5
VLX S Sg 22 26 54.4 +0.2
LKD2 Lefkada island 1.03 318 P Pb 22 26 42.2 -0.9
LKD2 Lefkada island 1.03 318 P Pb 22 26 42.2 -0.9
MAKR Makrakomi, Fth 1.09 25 P Pg 22 26 45.1 +0.1
MAKR S Sg 22 27 01.3 +1.9
MAKR Makrakomi, Fth 1.09 25 P Pg 22 26 45.1 +0.1
MAKR S Sg 22 27 01.3 +1.9
LTK Loutraki 1.12 90 P Pg 22 26 44.1 -0.4
LTK S Sg 22 27 00.6 +0.2
LTK Loutraki 1.12 90 ePB Pn 22 26 44.1 -0.4
LTK eSN Sg 22 27 00.8 +0.4
LTK Loutraki 1.12 90 P Pn 22 26 44.1 -0.4
LTK eSn Sg 22 27 00.8 +0.4
PYL PYLOS 1.14 172 P Pn 22 26 44.5 -0.2
PYL PYLOS 1.14 172 ePN Pn 22 26 44.4 -0.2
PYL eSN Sg 22 27 01.2 +0.5
PYL PYLOS 1.14 172 P Pn 22 26 44.4 -0.2
PYL eSn Sg 22 27 01.2 +0.5
AGG Agios Georgios 1.17 31 P Pb 22 26 45.9 +0.5
AGG S Sg 22 27 03.7 +1.7
AGG Agios Georgios 1.17 31 ePB Pn 22 26 45.0 -0.2
AGG Agios Georgios 1.17 31 ePb Pn 22 26 45.0 -0.2
AGG Agios Georgios 1.17 31 P Pb 22 26 45.9 +0.5
AGG S Sg 22 27 03.7 +1.7
LKR Lokris 1.31 61 P Pn 22 26 47.1 +0.2
LKR S Sg 22 27 07.4 +1.3
LKR Lokris 1.31 61 ePB Pn 22 26 47.1 +0.2
LKR eSN Sg 22 27 07.0 +0.9
LKR Lokris 1.31 61 P Pn 22 26 47.1 +0.2
LKR eSn Sg 22 27 07.0 +0.9
LKR S Sg 22 27 07.4 +1.3
ATAL Atalanti 1.34 60 P Pn 22 26 47.3 -0.1
ATAL Atalanti 1.34 60 P Pn 22 26 47.3 -0.1
DIDY Didyma 1.43 112 P Pg 22 26 51.2 -0.2
DIDY Didyma 1.43 112 P Pg 22 26 51.2 -0.2
DID Didima 1.44 110 P Pb 22 26 50.4 +0.5
DID S Sg 22 27 10.2 -0.1
DID Didima 1.44 110 ePN Pb 22 26 49.7 -0.2
DID eSN Sg 22 27 11.1 +0.8
DID Didima 1.44 110 ePn Pb 22 26 49.7 -0.2
DID Didima 1.44 110 P Pb 22 26 50.4 +0.5
DID S Sg 22 27 10.2 -0.1
NAIG Nisos Aigina 1.56 99 ePN Pb 22 26 51.6 -0.4
NAIG Nisos Aigina 1.56 99 ePn Pb 22 26 51.6 -0.4
SMIA Simia 1.56 56 P Pb 22 26 51.9 -0.2
SMIA Simia 1.56 56 P Pb 22 26 51.9 -0.2
THL Klokotos Trika 1.58 13 P Pb 22 26 52.5 +0.1
THL S Sg 22 27 15.3 +0.3
THL Klokotos Trika 1.58 13 ePN Pb 22 26 52.6 +0.1
THL Klokotos Trika 1.58 13 P Pb 22 26 52.5 +0.1
THL S Sg 22 27 15.3 +0.3
RGA Parga 1.60 325 P Pb 22 26 52.0 -0.6
RGA Parga 1.60 325 P Pb 22 26 52.0 -0.6
VLI Veliai 1.71 139 P Pb 22 26 54.8 +0.2
VLI Veliai 1.71 139 ePN Pb 22 26 55.4 +0.8
VLI Veliai 1.71 139 P Pb 22 26 54.8 +0.2
ATH Athens Observa 1.72 91 P Pb 22 26 54.2 -0.5
ATH Athens Observa 1.72 91 ePN Pb 22 26 54.5 -0.2
ATH eSN Sb 22 27 16.8 +1.0
ATH Athens Observa 1.72 91 P Pb 22 26 54.2 -0.5
ATH Athens Observa 1.72 91 ePn Pb 22 26 54.5 -0.2
ATH eSn Sb 22 27 16.8 +1.0
JAN Janina 1.72 342 P Pb 22 26 55.1 +0.4
JAN Janina 1.72 342 ePN Pb 22 26 55.3 +0.6
JAN Janina 1.72 342 P Pb 22 26 55.1 +0.4
MRKA Markates 1.75 66 P Pb 22 26 54.8 -0.4
MRKA Markates 1.75 66 P Pb 22 26 54.8 -0.4
IGT Igoumenitsa 1.78 328 P Pb 22 26 55.3 -0.5
IGT Igoumenitsa 1.78 328 P Pb 22 26 55.3 -0.5
VLY Voula,Athens 1.79 95 P Pn 22 26 54.4 +0.8
VLY Voula,Athens 1.79 95 P Pn 22 26 54.4 +0.8
ERET Eretria 1.83 76 P Pn 22 26 55.0 +0.8
ERET Eretria 1.83 76 P Pn 22 26 55.0 +0.8
PTL Penteli 1.83 88 P Pb 22 26 55.7 -1.0
PTL S Sb 22 27 20.1 +0.9
PTL Penteli 1.83 88 ePB Pn 22 26 54.8 +0.6
PTL Penteli 1.83 88 ePb Pn 22 26 54.8 +0.6
PTL Penteli 1.83 88 P Pb 22 26 55.7 -1.0
PTL S Sb 22 27 20.1 +0.9
NEO Neokhori 1.84 45 P Pn 22 26 55.5 +1.2
NEO Neokhori 1.84 45 P Pn 22 26 55.5 +1.2
XOR Xorichti 1.86 43 P Pn 22 26 55.6 +1.0
XOR S Sb 22 27 21.9 +1.9
XOR Xorichti 1.86 43 P Pn 22 26 55.6 +1.0
XOR S Sb 22 27 21.9 +1.9
SKIA Skiathos 1.89 52 P Pn 22 26 55.8 +0.8
SKIA Skiathos 1.89 52 P Pn 22 26 55.8 +0.8
KYTH Kithira 2.11 145 P Pg 22 27 03.9 -0.4
AOS Alonnisos 2.16 57 P Pn 22 26 59.6 +0.9
AOS S Sb 22 27 28.3 -0.3
AOS Alonnisos 2.16 57 P Pn 22 26 59.6 +0.9
AOS S Sb 22 27 28.3 -0.3
KEK Kerkira 2.17 322 P Pn 22 27 00.5 +1.7
KEK S Sb 22 27 30.1 +1.2
KEK Kerkira 2.17 322 ePB Pn 22 27 00.3 +1.5
KEK Kerkira 2.17 322 ePb Pn 22 27 00.3 +1.5
KEK S Sb 22 27 30.1 +1.2
MRMA Marmari 2.24 88 P Pn 22 27 01.2 +1.4
MRMA Marmari 2.24 88 P Pn 22 27 01.2 +1.4
KZN Kozani 2.29 4 P Pb 22 27 03.1 -1.4
KZN S Sb 22 27 33.1 +0.7
KZN Kozani 2.29 4 ePN Pb 22 27 03.5 -1.0
KZN Kozani 2.29 4 P Pb 22 27 03.1 -1.4
KZN Kozani 2.29 4 ePn Pb 22 27 03.5 -1.0
KZN S Sb 22 27 33.1 +0.7
NEST Nestorio 2.42 351 P Pb 22 27 05.7 -1.0
NEST Nestorio 2.42 351 P Pb 22 27 05.7 -1.0
PAIG Paliouri 2.53 41 P Pn 22 27 03.7 0.0
PAIG Paliouri 2.53 41 P Pn 22 27 03.7 0.0
FNA Florina 2.76 357 P Pn 22 27 09.4 +2.4
FNA Florina 2.76 357 P Pn 22 27 09.4 +2.4
PLG Polygyros 2.77 32 P Pn 22 27 08.0 +0.9
PLG Polygyros 2.77 32 ePN Pn 22 27 08.1 +0.9
PLG Polygyros 2.77 32 ePn Pn 22 27 08.1 +0.9
THE Thessaloniki 2.83 22 P Pn 22 27 10.1 +2.2
THE S Sb 22 27 45.8 -2.0
THE Thessaloniki 2.83 22 P Pn 22 27 10.1 +2.2
THE S Sb 22 27 45.8 -2.0
HORT Hortiatis 2.84 25 P Pn 22 27 09.8 +1.7
HORT Hortiatis 2.84 25 P Pn 22 27 09.8 +1.7
OUR Ouranopolis 2.99 39 P Pn 22 27 11.3 +1.3
OUR S Sb 22 27 49.8 -2.6
OUR Ouranopolis 2.99 39 P Pn 22 27 11.3 +1.3
OUR S Sb 22 27 49.8 -2.6
BIA Bitola 3.00 357 ePn Pn 22 27 12.4 +2.1
BIA eSg Sb 22 27 52.2 -0.6
BIA Bitola 3.00 357 ePn Pn 22 27 12.3 +2.1
BIA eSg Sb 22 27 52.1 -0.6
GRG Griva 3.00 12 P Pn 22 27 12.6 +2.3
GRG Griva 3.00 12 P Pn 22 27 12.6 +2.3
SOH Sokhos 3.13 26 P Pn 22 27 14.3 +2.3
SOH S Sb 22 27 53.4 -3.1
SOH Sokhos 3.13 26 ePN Pn 22 27 14.4 +2.4
SOH Sokhos 3.13 26 P Pn 22 27 14.3 +2.3
SOH S Sb 22 27 53.4 -3.1
KNT Kendrikon 3.31 18 P Pn 22 27 17.1 +2.7
KNT S Sb 22 27 58.2 -3.4
KNT Kendrikon 3.31 18 P Pn 22 27 17.1 +2.7
KNT S Sb 22 27 58.2 -3.4
APE Apeiranthos 3.31 106 ePN Pn 22 27 14.8 +0.2
KRUS Krusevo 3.35 356 i Pn Pn 22 27 16.7 +1.5
KRUS Krusevo 3.35 356 i Pn Pn 22 27 16.6 +1.5
VAM Vamos 3.37 140 ePN Pn 22 27 18.9 +3.6
VAY Valandovo 3.39 13 ePn Pn 22 27 17.9 +2.3
VAY eSg Sb 22 27 59.8 -4.2
VAY Valandovo 3.39 13 ePn Pn 22 27 18.3 +2.7
VAY eSg Sb 22 28 00.2 -3.7
LIA Limnos Island 3.40 55 P Pn 22 27 16.1 +0.4
LIA Limnos Island 3.40 55 P Pn 22 27 16.1 +0.4
SRS Serrai 3.47 26 P Pn 22 27 18.8 +2.1
SRS Serrai 3.47 26 P Pn 22 27 18.8 +2.1
TIR Tirane 3.56 339⇓iPn Pn 22 27 19.9 +1.9
CHOS Chios island 3.57 83 P Pn 22 27 19.4 +1.2
CHOS Chios island 3.57 83 P Pn 22 27 19.4 +1.2
KAVA Kavala 3.75 37 P Pn 22 27 21.5 +0.9
KAVA Kavala 3.75 37 P Pn 22 27 21.5 +0.9
NVR Nevrokopi 3.77 28 P Pn 22 27 23.3 +2.3
NVR Nevrokopi 3.77 28 ePN Pn 22 27 23.3 +2.3
NVR Nevrokopi 3.77 28 P Pn 22 27 23.3 +2.3
IDI Anoyia 3.83 134 ePN Pn 22 27 24.4 +2.7
IDI Anoyia 3.83 134 ePn Pn 22 27 24.4 +2.7
SIVA Sivas 3.99 138 P Pn 22 27 28.2 +4.4
SIVA Sivas 3.99 138 P Pn 22 27 28.2 +4.4
EZN Ezine 4.14 63 ePN Pn 22 27 26.2 +0.3
NPS Neapolis 4.28 129 ePN Pn 22 27 31.0 +3.2
ULC Ulcinj 4.31 337⇑iPn Pn 22 27 29.2 +0.9
ULC eSn Sn 22 28 19.7 +1.6
ULC Ulcinj 4.31 337⇑iPn Pn 22 27 29.2 +0.9
ULC eSn Sn 22 28 19.7 +1.6
BLCB Balcova 4.35 84 ePN Pn 22 27 31.1 +2.4
RDO Rodhopi 4.39 43 P Pn 22 27 30.5 +1.2
RDO Rodhopi 4.39 43 P Pn 22 27 30.5 +1.2
ENEZ Enez 4.48 51 ePN Pn 22 27 29.9 -0.7
GELI Tayfur-Gelibol 4.50 57 ePN Pn 22 27 31.6 +0.7
IZM Izmir 4.52 83 eP Pn 22 27 32.9 +1.7
ERIK Erikli-Kesan 4.67 54 eP Pn 22 27 32.9 -0.3
BODT Bodrum 4.68 100 eP Pn 22 27 34.9 +1.5
LPK Lapseki 4.68 58 eP Pn 22 27 33.2 -0.1
PVY Plav 4.72 346⇓iPn Pn 22 27 35.9 +1.8
PVY eSn Sn 22 28 29.6 +1.3
PVY Plav 4.72 346⇓iPn Pn 22 27 35.9 +1.8
PVY eSn Sn 22 28 29.6 +1.3
BUM Brajici-Budva 4.73 335⇓iPn Pn 22 27 34.6 +0.5
BUM eSn Sn 22 28 30.7 +2.3
BUM Brajici-Budva 4.73 335⇓iPn Pn 22 27 34.6 +0.5
BUM eSn Sn 22 28 30.7 +2.3
TTG Podgorica 4.74 339⇑iPn Pn 22 27 35.2 +1.1
TTG eSn Sn 22 28 31.3 +2.9
PDG Podgorica 4.74 339⇑iPn Pn 22 27 35.2 +1.1
PDG eSn Sn 22 28 31.3 +2.9
VTS Vitosha 4.74 15 P Pn 22 27 37.0 +2.7
VTS Vitosha 4.74 15⇑iP Pn 22 27 37.6 +3.3
VTS Vitosha 4.74 15 P Pn 22 27 37.0 +2.7
VTS Vitosha 4.74 15 ePn Pn 22 27 37.5 +3.3
ZKR Zakros 4.75 126 ePN Pn 22 27 38.2 +3.9
BARS Barje 4.79 2 ePn Pn 22 27 36.4 +1.5
AKS Akhisar 5.00 78 eP Pn 22 27 39.6 +1.9
HCY Herceg Novi 5.00 333⇓iPn Pn 22 27 37.5 -0.2
HCY eSn Sn 22 28 36.6 +1.7
HCY Herceg Novi 5.00 333⇓iPn Pn 22 27 37.5 -0.2
HCY eSn Sn 22 28 36.6 +1.7
IVA Berane 5.00 346⇓iPn Pn 22 27 39.6 +1.8
IVA eSn Sn 22 28 36.2 +1.1
BEY Berane 5.00 346⇓iPn Pn 22 27 39.6 +1.7
BEY eSn Sn 22 28 36.2 +1.0
KRBG Karabiga-Canak 5.06 60 eP Pn 22 27 38.6 +0.1
RKY Sarkoy-Tekirda 5.11 57 eP Pn 22 27 39.6 +0.3
KARP Karpathos 5.14 117 ePN Pn 22 27 43.6 +3.9
NKY Niksic 5.17 339⇓iPn Pn 22 27 42.1 +2.0
NKY eSn Sn 22 28 41.0 +1.8
NKY Niksic 5.17 339⇓iPn Pn 22 27 42.1 +2.0
NKY eSn Sn 22 28 41.0 +1.8
GONE Gonen-Balikesi 5.19 65 eP Pn 22 27 40.6 +0.3
BALB Balikesir 5.21 70 eP Pn 22 27 41.9 +1.4
BRY Bratogost 5.38 336⇓iPn Pn 22 27 42.9 -0.2
BRY eSn Sn 22 28 45.5 +0.9
BRY Bratogost 5.38 336⇓iPn Pn 22 27 42.9 -0.2
BRY eSn Sn 22 28 45.5 +0.9
YER Yerkesik 5.43 97 eP Pn 22 27 45.3 +1.6
EDC Edincik 5.43 63 eP Pn 22 27 44.0 +0.3
BNT Bandirma 5.47 63 eP Pn 22 27 44.3 0.0
TKR Tekirdag 5.50 56 eP Pn 22 27 44.3 -0.3
EDRB Edirne 5.53 45 eP Pn 22 27 42.3 -2.7
PLE Pljevlja 5.55 344⇑iPn Pn 22 27 47.0 +1.6
PLE eSn Sn 22 28 50.2 +1.6
PLE Pljevlja 5.55 344⇑iPn Pn 22 27 47.0 +1.6
PLE eSn Sn 22 28 50.2 +1.6
UPM Unac-Piva 5.55 340⇑iPn Pn 22 27 46.3 +0.9
UPM eSn Sn 22 28 50.5 +1.7
UPM Unac-Piva 5.55 340⇑iPn Pn 22 27 46.3 +0.9
UPM eSn Sn 22 28 50.5 +1.7
KULA Kula-Manisa 5.62 83 eP Pn 22 27 48.3 +1.9
STON Ston 5.66 330 ePn Pn 22 27 46.0 -0.8
STON Sn Sn 22 28 48.4 -2.8
STON Ston 5.66 330 ePn Pn 22 27 45.9 -0.8
CRLT Corlu 5.70 55 eP Pn 22 27 46.6 -0.7
BOLS Boljevac 5.81 3 ePn Pn 22 27 51.6 +2.8
GRUS Gruza 5.89 354⇑iPn Pn 22 27 50.4 +0.4
SLVT Silivri 6.06 56 eP Pn 22 27 51.6 -0.7
MDNY Mudanya-Bursa 6.16 65 eP Pn 22 27 54.0 +0.3
FETY Fethiye 6.17 101 eP Pn 22 27 55.3 +1.5
DIVS Divibare 6.18 350 ePn Pn 22 27 54.2 +0.2
ARMT Armutlu 6.22 64 eP Pn 22 27 54.3 -0.2
CTKS Kestanelik-??a 6.26 57 eP Pn 22 27 54.3 -0.7
KHL Karahalli 6.29 85 eP Pn 22 27 57.0 +1.4
GEMT Gemlik 6.41 66 eP Pn 22 27 57.0 0.0
BGKT Bogazkoy 6.41 58 eP Pn 22 27 56.3 -0.8
ISK Istanbul-Kandi 6.55 60 eP Pn 22 27 58.6 -0.4
YLV Yalova 6.58 65 eP Pn 22 28 00.0 +0.5
TEKS Tekeris 6.70 348⇑iPn Pn 22 28 00.7 -0.3
ELL Elmali 6.78 98 eP Pn 22 28 03.3 +1.0
ALT Altintas 6.79 79 eP Pn 22 28 03.7 +1.2
ADVT Abdulvahap 6.80 67 eP Pn 22 28 02.3 -0.1
SILT Sile 6.99 61 eP Pn 22 28 04.0 -1.1
SHUT Suhut-Afyon 7.11 83 eP Pn 22 28 07.7 +0.9
BCK Bucak 7.19 92 eP Pn 22 28 08.7 +0.8
SPNC Sapanca-Adapaz 7.29 66 eP Pn 22 28 08.7 -0.5
ANTB Antalya 7.33 96 eP Pn 22 28 10.0 +0.3
GULT Gulveren 7.37 68 eP Pn 22 28 10.3 0.0
GZR Gura Zlata 7.42 7⇑iP Pn 22 28 12.8 +1.8
GZR Gura Zlata 7.42 7⇑iP Pn 22 28 12.8 +1.8
ESKT Eskisehir 7.42 76 eP Pn 22 28 11.7 +0.6
AQU L'Aquila 7.58 307⇑iP Pn 22 28 16.2 +2.9
BZS Buzias 7.59 0⇑iP Pn 22 28 13.1 -0.1
BZS Buzias 7.59 0⇑iP Pn 22 28 13.1 -0.1
VOIR 7.86 18⇓iP Pn 22 28 19.8 +2.8
VOIR 7.86 18⇓iP Pn 22 28 19.8 +2.8
MDUB Mudurnu 7.88 69 eP Pn 22 28 17.4 0.0
SVRH Sivrihisar-ESK 7.93 77 eP Pn 22 28 18.0 0.0
MLR Muntele Rosu 8.15 22 Pn Pn 22 28 25.5 +4.4
0.2nm,0.3s,baz=200,slow=10,SNR=8.9
MLR Muntele Rosu 8.15 22 Pn Pn 22 28 25.5 +4.4
MLR Muntele Rosu 8.15 22⇓iP Pn 22 28 26.6 +5.5
KIZT Kizilcal 8.16 81 eP Pn 22 28 21.7 +0.5
RHK3 Tenkes 8.23 344⇑ePn Pn 22 28 21.3 -0.8
RHK3 Tenkes 8.23 344⇑eP Pn 22 28 21.3 -0.8
NVLJ Novalja 8.24 325 ePn Pn 22 28 22.5 +0.4
NVLJ Sn Sn 22 29 51.5 -3.1
NVLJ Novalja 8.24 325 ePn Pn 22 28 22.5 +0.4
PKSM Moragy 8.46 346⇑iP Pn 22 28 24.0 -1.1
PKSM Moragy 8.46 346⇓ePn Pn 22 28 24.1 -1.1
PKSM Moragy 8.46 346⇓eP Pn 22 28 24.1 -1.1
KONT Konya--Tatoy 8.54 87 eP Pn 22 28 26.4 0.0
VRI Vrincioaia 8.74 25⇑iP Pn 22 28 33.2 +4.2
DRGR 8.81 5⇓iP Pn 22 28 33.6 +3.6
BOJS Bojanci 8.83 330 i Pn Pn 22 28 30.1 -0.2
BOJS i Sn Sn 22 30 05.8 -3.3
BOJS Bojanci 8.83 330 Pn Pn 22 28 30.0 -0.2
PKS9 Tamasi 8.89 345⇓ePn Pn 22 28 30.0 -1.1
PKS9 Tamasi 8.89 345⇓eP Pn 22 28 30.0 -1.1
GBRS Gornja Briga 9.03 328 i Pn Pn 22 28 33.0 0.0
GOLS Golise 9.11 333 i Pn Pn 22 28 33.0 -1.2
GOLS Golise 9.11 333 i Pn Pn 22 28 33.0 -1.2
AFSR Af¨ar-Bala (A 9.12 77 eP Pn 22 28 34.4 0.0
BEHE Becsehely 9.15 339⇑ePn Pn 22 28 34.4 -0.2
BEHE Becsehely 9.15 339⇑eP Pn 22 28 34.4 -0.2
KOGS Kog 9.29 337 i Pn Pn 22 28 35.5 -1.0
KOGS Kog 9.29 337 i Pn Pn 22 28 35.5 -1.0
LJU Ljubljana 9.56 329 i Pn Pn 22 28 39.5 -0.8
LJU i Sn Sn 22 30 22.9 -4.2
LJU Ljubljana 9.56 329 i Pn Pn 22 28 39.5 -0.8
LEF Lefka 9.58 104 eP Pn 22 28 39.4 -1.1
PKST T¨'s 9.59 346 ePn Pn 22 28 40.2 -0.4
PKST T¨'s 9.59 346 eP Pn 22 28 40.2 -0.4
BRTR Keskin Array B 9.59 76 Pn Pn 22 28 42.9 +2.1
1.2nm,0.3s,baz=257,slow=13,SNR=49
BRTR Keskin Array B 9.59 76 Pn Pn 22 28 42.9 +2.1
BRTR Keskin Array B 9.59 76 P Pn 22 28 42.9 +2.1
JAVS Javornik 9.63 327 i Pn Pn 22 28 40.9 -0.5
JAVS i Sn Sn 22 30 24.0 -5.0
JAVS Javornik 9.63 327 i Pn Pn 22 28 40.9 -0.5
BUD Budapest 9.63 350⇑ePn Pn 22 28 41.6 +0.3
BUD Budapest 9.63 350⇑eP Pn 22 28 41.6 +0.3
PKSG 9.65 347⇓ePn Pn 22 28 41.6 +0.2
PKSG 9.65 347⇓eP Pn 22 28 41.6 +0.2
VOY Vojsko 9.81 327 ePn Pn 22 28 44.5 +0.6
VOY eSn Sn 22 30 25.4 -8.1
VOY Vojsko 9.81 327 ePn Pn 22 28 44.5 +0.6
PERS Pernice 9.83 333 i Pn Pn 22 28 43.3 -0.7
PERS i Sn Sn 22 30 29.2 -4.6
PERS Pernice 9.83 333 i Pn Pn 22 28 43.3 -0.7
SOKA Soboth 9.90 333⇓iPn Pn 22 28 44.2 -0.8
SOKA ⇓iSn Sn 22 30 30.5 -4.9
SOKA Soboth 9.90 333 Pn Pn 22 28 44.2 -0.8
OBKA Obir 9.94 331⇓iPn Pn 22 28 44.5 -1.0
OBKA ⇓iSn Sn 22 30 31.5 -4.9
OBKA Obir 9.94 331 Pn Pn 22 28 44.5 -1.0
PSZ Piszkesteto 9.96 354⇑iP Pn 22 28 46.7 +0.8
PSZ Piszkesteto 9.96 354⇑ePn Pn 22 28 46.9 +1.0
PSZ Piszkesteto 9.96 354⇑eP Pn 22 28 46.9 +1.0
LFK Lefkose 10.02 102 eP Pn 22 28 44.8 -1.8
KEST Kesra 10.04 261 Pn Pn 22 28 49.5 +2.5
0.1nm,0.3s,baz=204,slow=5.5,SNR=6.6
KEST LR LR 22 32 44.4
comp=Z,45nm,21.5s,baz=195,slow=38
KEST Kesra 10.04 261 Pn Pn 22 28 49.5 +2.5
CADS Cadrg 10.04 327 i Pn Pn 22 28 47.1 +0.3
CADS Cadrg 10.04 327 i Pn Pn 22 28 47.1 +0.3
ARSA Arzberg 10.23 336⇑iPn Pn 22 28 48.3 -1.1
ARSA ⇑iSn Sn 22 30 40.0 -3.6
ARSA Arzberg 10.23 336 Pn Pn 22 28 48.3 -1.1
CORM Corum 10.40 74 eP 22 27 51.1
PGF Pioggiola 10.59 299 eP Pn 22 28 54.1 -0.4
KBA Koelnbreinsper 10.88 329⇓iPn Pn 22 28 57.0 -1.5
KBA ⇑iSn Sn 22 30 55.0 -4.7
KBA Koelnbreinsper 10.88 329 Pn Pn 22 28 57.0 -1.5
MOA Molln 11.17 334⇓iPn Pn 22 29 01.6 -0.7
MOA ⇓iSn Sn 22 31 02.0 -4.6
MOA Molln 11.17 334 Pn Pn 22 29 01.6 -0.7
HNAT Natroun 11.26 135 P Pn 22 29 03.2 -0.4
AWBH 11.47 145 P Pn 22 29 04.9 -1.6
WTTA Wattenberg 11.76 325⇑iPn Pn 22 29 09.9 -0.6
WTTA ⇑iSn Sn 22 31 16.2 -5.0
WTTA Wattenberg 11.76 325 Pn Pn 22 29 09.9 -0.6
VRAC Vranov 11.83 344 LR LR 22 34 08.5
comp=Z,195nm,18.5s,baz=176,slow=40
WATA Walderalm 11.84 325⇓iPn Pn 22 29 10.7 -0.9
WATA Walderalm 11.84 325 Pn Pn 22 29 10.7 -0.9
GLL Jalalah 11.93 132 P Pn 22 29 11.6 -1.2
MOTA Moosalm 12.06 324⇓iPn Pn 22 29 14.0 -0.7
MOTA ⇑iSn Sn 22 31 25.0 -3.7
MOTA Moosalm 12.06 324 Pn Pn 22 29 14.0 -0.7
SBF Sospel 12.15 303 eP Pn 22 29 15.0 -0.8
GERES GERESS Array B 12.22 335 Pn Pn 22 29 15.8 -0.9
0.5nm,0.3s,baz=159,slow=14,SNR=24
GERES Sn Sn 22 31 28.4 -3.9
0.4nm,0.3s,baz=156,slow=23,SNR=6.3
GERES GERESS Array B 12.22 335 Pn Pn 22 29 15.8 -0.9
GERES Sn Sn 22 31 28.4 -3.9
GERES GERESS Array B 12.22 335 Pn Pn 22 29 15.9 -0.9
HFRF Wahat Farafira 12.25 150 P Pn 22 29 15.2 -1.9
DAVOX Davos/Dischmat 12.27 319 Pn Pn 22 29 18.3 +0.7
0.5nm,0.3s,baz=152,slow=20,SNR=6.4
DAVOX Sn Sn 22 31 30.9 -2.9
0.3nm,0.3s,baz=313,slow=19,SNR=3.0
DAVOX LR LR 22 33 52.2
comp=Z,163nm,19.7s,baz=229,slow=37
DAVOX Davos/Dischmat 12.27 319 Pn Pn 22 29 18.3 +0.7
DAVOX Sn Sn 22 31 30.9 -2.9
DAVOX Davos/Dischmat 12.27 319 Pn Pn 22 29 18.3 +0.7
MMAI Mount Meron Ar 12.34 110 Pn Pn 22 29 19.1 +0.6
1.5nm,0.3s,baz=309,slow=11,SNR=11
MMAI LR LR 22 34 35.8
comp=Z,41nm,20.3s,baz=70,slow=40
MMAI Mount Meron Ar 12.34 110 Pn Pn 22 29 19.1 +0.6
MMAI Mount Meron Ar 12.34 110 Pn Pn 22 29 19.1 +0.6
KHC Kasperske Hory 12.51 335 ePN Pn 22 29 20.1 -0.5
KHC ex x 22 29 31.5
KHC eSN Sn 22 31 35.5 -3.8
HNKL Nakhl 13.09 124 P Pn 22 29 29.1 +0.4
LPG La Plagne 13.32 309 eP Pn 22 29 31.4 -0.5
6.8nm,0.7s
LPL La Plagne 13.34 309 eP Pn 22 29 30.9 -1.3
5.6nm,0.7s
GRB Gharib 13.53 133 P Pn 22 29 34.8 +0.2
AKASG Malin Array Be 13.80 21 Pn Pn 22 29 39.0 +0.8
0.3nm,0.3s,baz=210,slow=11,SNR=3.3
AKASG Malin Array Be 13.80 21 Pn Pn 22 29 39.0 +0.8
AKASG Malin Array Be 13.80 21 Pn Pn 22 29 39.0 +0.8
EIL Elat 13.90 123 Pn Pn 22 29 37.1 -2.6
0.6nm,0.3s,baz=54,slow=18,SNR=7.9
EIL Sn Sn 22 32 08.9 -4.6
1.2nm,0.3s,baz=71,slow=5.9,SNR=5.1
EIL Elat 13.90 123 Pn Pn 22 29 37.1 -2.6
EIL Sn Sn 22 32 08.9 -4.6
CABF La Chapelle 14.28 312 eP Pn 22 29 44.2 -0.7
HINF Hinteralfeld 14.53 317 eP Pn 22 29 44.7 -3.5
4.6nm,0.5s
CLL Collm 14.59 338 ePP P 22 29 57.0 +1.7
CLL e(PPP) 22 30 08.0
CDF Champ du Feu 14.67 320 eP Pn 22 29 50.3 +0.1
HAU Haudompre 14.91 317 eP Pn 22 29 49.9 -3.5
17nm,0.9s
GNI Garni 18.13 76 LR LR 22 37 16.6
comp=Z,94nm,18.8s,baz=68,slow=36
LDF La Druitiere 18.91 311 eP Pn 22 30 43.8 0.0
4.8nm,0.6s
ESDC Sonseca Array 19.92 283 P Pn 22 30 56.4 +0.4
0.3nm,0.3s,baz=76,slow=11,SNR=12
ESDC Sonseca Array 19.92 283 P Pn 22 30 56.4 +0.4
ESDC Sonseca Array 19.92 283 P Pn 22 30 56.4 +0.4
HFS Hagfors 22.69 350 P P 22 31 22.8 -1.0
5.6nm,0.5s,baz=154,slow=9.8,SNR=26
HFS Hagfors 22.69 350 P P 22 31 22.8 -1.0
HFS Hagfors 22.69 350 P P 22 31 22.8 -1.0
EVO Evora 23.17 280 eP P 22 31 27.5 -1.5
FINES FINESS Array B 23.62 5 P P 22 31 32.0 -1.2
2.3nm,0.5s,baz=144,slow=10,SNR=14
FINES FINESS Array B 23.62 5 P P 22 31 32.0 -1.2
FINES FINESS Array B 23.62 5 P P 22 31 32.0 -1.2
NB2 NORSAR Subarra 23.94 348 P P 22 31 35.7 -0.7
comp=Z,2.2nm,0.6s,baz=156,slow=9.3
NB2 NORSAR Subarra 23.94 348 P P 22 31 35.7 -0.7
comp=Z,2.2nm,0.6s,SNR=9.3
NOA NORSAR Array B 23.94 348 P P 22 31 35.9 -0.4
comp=Z,1.0nm,0.4s,baz=159,slow=9.5,SNR=8.7
NOA NORSAR Array B 23.94 348 P P 22 31 35.9 -0.4
NOA NORSAR Array B 23.94 348 P P 22 31 35.9 -0.4
KAF Kangasniemi 24.30 5 ep P 22 31 38.7 -0.9
KAF Kangasniemi 24.30 5 ep P 22 31 38.7 -0.9
KAF Kangasniemi 24.30 5 eP P 22 31 38.7 -0.9
JOF Joensuu 25.63 10 ep P 22 31 51.1 -0.6
JOF Joensuu 25.63 10 ep P 22 31 51.1 -0.6
JOF Joensuu 25.63 10 eP P 22 31 51.1 -0.6
AKTO Aktyubinsk 28.63 52 P P 22 32 18.8 -0.1
comp=Z,2.1nm,0.6s,baz=65,slow=8.9,SNR=6.0
AKTO Aktyubinsk 28.63 52 P P 22 32 18.8 -0.1
AKTO Aktyubinsk 28.63 52 P P 22 32 18.8 -0.1
TORD Torodi Ar. Bea 30.43 221 P P 22 32 35.7 +0.7
comp=Z,1.9nm,0.7s,baz=30,slow=8.7,SNR=17
TORD Torodi Ar. Bea 30.43 221 P P 22 32 35.7 +0.7
TORD Torodi Ar. Bea 30.43 221 P P 22 32 35.7 +0.7
ARCES ARCESS Array B 31.64 3 P P 22 32 43.9 -1.4
comp=Z,2.9nm,0.8s,baz=169,slow=7.0,SNR=5.7
ARCES ARCESS Array B 31.64 3 P P 22 32 43.9 -1.4
ARCES ARCESS Array B 31.64 3 P P 22 32 43.9 -1.4
ARCES ARCESS Array B 31.64 3 P P 22 32 43.9 -1.4
DBIC Dimbokro 39.33 224 P P 22 33 52.3 +0.5
comp=Z,4.5nm,0.9s,baz=17,slow=8.4,SNR=4.0
DBIC Dimbokro 39.33 224 P P 22 33 52.3 +0.5
DBIC Dimbokro 39.33 224 P P 22 33 52.3 +0.5
LIC Lamto 39.80 224 eP P 22 33 56.6 +0.9
comp=Z,19nm,1.0s
KURK Kurchatov 41.72 53 P P 22 34 10.4 -0.8
comp=Z,2.9nm,0.6s,baz=279,slow=8.8,SNR=14
KURK Kurchatov 41.72 53 P P 22 34 10.4 -0.8
KURK Kurchatov 41.72 53 P P 22 34 10.4 -0.8
MKAR Makanchi Array 44.70 58 P P 22 34 35.0 -0.4
comp=Z,2.0nm,0.4s,baz=274,slow=7.3,SNR=40
MKAR Makanchi Array 44.70 58 P P 22 34 35.0 -0.4
MKAR Makanchi Array 44.70 58 P P 22 34 35.0 -0.4
ZALV Zalesovo Beam 45.19 48 P P 22 34 38.6 -0.5
comp=Z,5.6nm,0.4s,baz=273,slow=7.7,SNR=47
ZALV Zalesovo Beam 45.19 48 P P 22 34 38.6 -0.5
ZALV Zalesovo Beam 45.19 48 P P 22 34 38.6 -0.5
SCHQ Schefferville 59.12 318 P P 22 36 24.3 +1.6

	comp=Z,4.1nm,0.9s,baz=74,slow=7.4,SNR=3.3						
SCHQ	**Schefferville**	**59.12**	**318**	P	**P**	**22 36 24.3**	**+1.6**
SCHQ	**Schefferville**	**59.12**	**318**	P	**P**	**22 36 24.3**	**+1.6**
SONM	**Songino Array**	**59.93**	**51**	P	**P**	**22 36 29.8**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=280,slow=6.9,SNR=11						
SONM	**Songino Array**	**59.93**	**51**	P	**P**	**22 36 29.8**	**+1.2**
SONM	**Songino Array**	**59.93**	**51**	P	**P**	**22 36 29.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**69.11**	**83**	P	**P**	**22 37 29.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=290,slow=8.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**69.11**	**83**	P	**P**	**22 37 29.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**69.11**	**83**	P	**P**	**22 37 29.4**	**+0.5**
YKA	**Yellowknife Ar**	**73.81**	**340**	P	**P**	**22 37 57.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=32,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**73.81**	**340**	P	**P**	**22 37 57.5**	**+1.0**
YKA	**Yellowknife Ar**	**73.81**	**340**	P	**P**	**22 37 57.5**	**+1.0**
ULM	**Lac du Bonnet**	**76.30**	**324**	P	**P**	**22 38 11.8**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=134,slow=0.9,SNR=2.9						
ULM	**Lac du Bonnet**	**76.30**	**324**	P	**P**	**22 38 11.8**	**+0.7**
ULM	**Lac du Bonnet**	**76.30**	**324**	P	**P**	**22 38 11.8**	**+0.7**
USRK	**Ussuriysk Arra**	**76.84**	**44**	P	**P**	**22 38 13.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=292,slow=3.1,SNR=4.7						
ILAR	**Eielson Array**	**77.14**	**355**	P	**P**	**22 38 15.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=344,slow=3.4,SNR=10						
ILAR	**Eielson Array**	**77.14**	**355**	P	**P**	**22 38 15.9**	**+0.4**
ILAR	**Eielson Array**	**77.14**	**355**	P	**P**	**22 38 15.9**	**+0.4**
PETK	**Petropavlovsk-**	**81.61**	**25**	LR	LR	23 15 54.8	
	comp=Z,47nm,18.9s,baz=88,slow=36						
ANMO	**Albuquerque**	**92.84**	**320**	LR	LR	23 19 48.0	
	comp=Z,87nm,19.0s,baz=14,slow=35						

SZGRF ***10*** *22:33:54.4, 15.71S×173.90W, h33km, Tonga Islands*
IDC ***10*** *22:34:12.0±1.3, 15.33S×174.72W, h173km±13km, mb3.9/11, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, Error ellipse: s-maj=42.1km s-min=10.8km az=149.0*
NEIC ***10*** *22:34:12.4±0.8, 15.40S×174.69W, h178km±8km, mb4.3/13, Error ellipse: s-maj=23.6km s-min=6.0km az=150.0*
ISCJB ***10*** *22:34:13.3±0.6, 15.4S±0.2×174.7W±0.2, h200km, mb4.1/24, Error ellipse: s-maj=36.0km s-min=9.7km az=149.1*

ISC 10 22:34:13.8±0.8, 15.5S±0.3×174.5W±0.2, h200km, n63, σ1§41/60, mb4.2/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.09**	**60**	P	**Pn**	**22 35 03.1**	**-1.4**
	171nm,0.3s,baz=171,slow=1.1,SNR=44						
AFI				S	**Sn**	**22 35 42.1**	**-2.1**
	184nm,0.3s,baz=66,slow=15,SNR=7.9						
AFI	**Afiamalu**	**3.09**	**60**	*e*Pn	**Pn**	**22 35 03.2**	**-1.4**
AFI				*e*S	**Sn**	**22 35 40.0**	**-4.3**
AFI				S		22 35 42.1	
DZM	**Mont Dzumac**	**19.16**	**247**	P	**Pn**	**22 38 21.9**	**-3.7**
	0.2nm,0.3s,baz=75,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**19.16**	**247**	P	**Pn**	**22 38 21.9**	**-3.7**
STKA	**Stephens Creek**	**43.05**	**240**	P	**P**	**22 41 54.1**	**+0.1**
	0.6nm,0.3s,baz=55,slow=5.5,SNR=4.3						
STKA	**Stephens Creek**	**43.05**	**240**	P	**P**	**22 41 54.1**	**+0.1**
WRA	**Warramunga Arr**	**48.76**	**257**	P	**P**	**22 42 38.2**	**-0.6**
	0.7nm,0.4s,baz=96,slow=7.7,SNR=23						
WRA				PcP	**PcP**	**22 44 01.2**	**+0.6**
	0.5nm,0.4s,baz=95,slow=3.7,SNR=6.1						
WRA	**Warramunga Arr**	**48.76**	**257**	P	**P**	**22 42 38.2**	**-0.6**
WRA				PcP	**PcP**	**22 44 01.2**	**+0.6**
AS31	**Alice Springs**	**49.04**	**252**	*e*P	P	**22 42 40.5**	**-0.4**
ASAR	**Alice Springs**	**49.05**	**252**	P	**P**	**22 42 40.4**	**-0.6**
	8.0nm,0.5s,baz=88,slow=7.9,SNR=93						
ASAR				PcP	**PcP**	**22 44 02.4**	**+0.7**
	1.1nm,0.5s,baz=99,slow=4.1,SNR=6.2						
ASAR	**Alice Springs**	**49.05**	**252**	P	**P**	**22 42 40.4**	**-0.6**
ASAR				PcP	**PcP**	**22 44 02.4**	**+0.7**
PETK	**Petropavlovsk-**	**72.37**	**343**	P	P	22 45 18.0	+0.4
	4.1nm,0.7s,baz=147,slow=9.9,SNR=6.0						
PETK	**Petropavlovsk-**	**72.37**	**343**	P	P	22 45 18.0	+0.4
CMB	**Columbia Colle**	**73.55**	**42**	*e*P	P	22 45 26.7	+1.8
	46nm,2.5s						
YBH	**Yreka Blue Hor**	**74.32**	**38**	*e*P	P	22 45 31.5	+2.0
	6.0nm,0.8s						
NVAR	**Mina Array Bea**	**75.12**	**42**	P	P	22 45 36.0	+1.8
	4.2nm,0.7s,baz=227,slow=9.4,SNR=36						
NVAR	**Mina Array Bea**	**75.12**	**42**	P	P	22 45 36.0	+1.8
MOD	**Modoc**	**75.86**	**39**	*e*P	P	22 45 39.8	+1.5
	3.9nm,0.6s						
HLID	**Hailey**	**80.38**	**40**	*e*P	P	22 46 04.8	+1.6
	6.1nm,1.1s						
TNA	**Tin City**	**80.94**	**3**	*e*P	P	22 46 07.5	+2.2
	7.9nm,0.9s						
TXAR	**Lajitas Array**	**81.56**	**57**	P	**P**	**22 46 11.2**	**+1.6**
	1.1nm,0.7s,baz=220,slow=8.1,SNR=9.4						
TXAR	**Lajitas Array**	**81.56**	**57**	P	**P**	**22 46 11.2**	**+1.6**
MCMT	**McKenzie Canyo**	**82.00**	**39**	*e*P	P	22 46 13.2	+1.4
	2.0nm,1.0s						
RRI2	**Red Ridge**	**82.20**	**41**	*e*P	P	22 46 14.7	+1.8
	4.8nm,0.8s						
BSMT	**Bassoo Peak**	**82.46**	**36**	*e*P	**P**	**22 46 14.7**	**+0.7**
	1.7nm,0.7s						
REDW	**Red Top Meadow**	**82.51**	**41**	*e*P	P	22 46 16.0	+1.7
	10nm,1.5s						
COLA	**College**	**82.64**	**11**	*e*P	**P**	**22 46 14.1**	**-0.1**
	5.5nm,0.4s						
ILAR	**Eielson Array**	**82.73**	**12**	P	**P**	**22 46 14.7**	**0.0**
	1.6nm,0.4s,baz=221,slow=5.8,SNR=42						
ILAR	**Eielson Array**	**82.73**	**12**	P	**P**	**22 46 14.7**	**0.0**
SLMT	**Seeley Lake**	**82.87**	**37**	*e*P	**P**	**22 46 17.3**	**+1.2**
PD01	**Pinedale Array**	**83.04**	**42**	*e*P	**P**	**22 46 17.5**	**+0.4**
BW06	**Boulder Array**	**83.05**	**42**	*e*P	**P**	**22 46 18.3**	**+1.1**
	3.6nm,0.7s						
PD02	**Pinedale Array**	**83.05**	**42**	*e*P	**P**	**22 46 17.5**	**+0.3**
PDAR	**Pinedale Array**	**83.05**	**42**	P	**P**	**22 46 18.1**	**+0.9**
	4.6nm,0.8s,baz=211,slow=3.4,SNR=33						
PDAR	**Pinedale Array**	**83.05**	**42**	P	**P**	**22 46 18.1**	**+0.9**
SMCO	**Snowmass**	**83.15**	**46**	*e*P	**P**	**22 46 19.1**	**+1.1**
	3.3nm,0.7s						
HRY	**Holter Researc**	**83.58**	**38**	*e*P	P	22 46 21.1	+1.5
EGAK	**Eagle**	**83.94**	**14**	*e*P	P	22 46 22.1	+1.2
	62nm,2.4s						
CMIG	**Matias Romero**	**84.94**	**71**	P	**P**	**22 46 28.6**	**+1.7**
	1.6nm,0.8s,baz=294,slow=9.0,SNR=3.9						
CMIG	**Matias Romero**	**84.94**	**71**	P	**P**	**22 46 28.6**	**+1.7**
INK	**Inuvik**	**88.60**	**14**	P	**P**	**22 46 44.0**	**+0.5**
	1.7nm,0.7s,baz=217,slow=4.1,SNR=7.3						
INK	**Inuvik**	**88.60**	**14**	P	**P**	**22 46 44.0**	**+0.5**
YKA	**Yellowknife Ar**	**90.60**	**24**	P	**P**	**22 46 53.5**	**+0.6**
	0.5nm,0.5s,baz=233,slow=4.6,SNR=10						
YKA	**Yellowknife Ar**	**90.60**	**24**	P	**P**	**22 46 53.5**	**+0.6**
TANN	**Tannenbergstha**	**144.69**	**352**	*e*PKPbc	**PKPdf**	**22 53 26.7**	**+0.1**
KECS	**Kecovo**	**144.83**	**343**	*e*PKP	**PKPdf**	**22 53 27.4**	**+0.5**
TNS	**Taunus Mts**	**145.25**	**357**	*e*PKP	**PKPab**	**22 53 28.6**	**+0.6**
VYHS	**Vyhne**	**145.28**	**344**	*e*PKP	**PKPab**	**22 53 28.8**	**+0.7**
ROTZ	**Rotzenmuhle**	**145.35**	**352**	*e*PKPbc	**PKPab**	**22 53 28.7**	**+0.3**
BRTR	**Keskin Array B**	**145.51**	**320**	PKPbc	**PKPab**	**22 53 29.6**	**+0.2**
	2.1nm,0.8s,baz=28,slow=3.4,SNR=9.0						
BRTR	**Keskin Array B**	**145.51**	**320**	PKPbc	**PKPab**	**22 53 29.6**	**+0.2**
WET	**Wettzell**	**145.87**	**351**	*e*PKPbc	**PKPab**	**22 53 31.9**	**+1.5**
GEC2	**GERESS Array S**	**146.04**	**350**	*e*PKPbc	**PKPab**	**22 53 30.4**	**-0.7**
GERES	**GERESS Array B**	**146.04**	**350**	PKPbc	**PKPab**	**22 53 30.9**	**-0.2**
	0.8nm,0.4s,baz=28,slow=3.8,SNR=21						
GERES	**GERESS Array B**	**146.04**	**350**	PKPbc	**PKPab**	**22 53 30.9**	**-0.2**
MOA	**Molln**	**146.90**	**349**	*e*PKPbc	**PKPab**	**22 53 33.1**	**-1.3**
MOA				*e*PKPbc	**PKiKP**	**22 53 33.9**	**-1.1**
BFO	**Black Forest**	**147.15**	**356**	*e*PKPbc	**PKPab**	**22 53 34.0**	**-1.4**
RJOB	**Jochberg**	**147.26**	**351**	*e*PKPbc	**PKPab**	**22 53 34.6**	**-1.3**
RJOB				*e*PKPbc	**PKiKP**	**22 53 34.9**	**-0.9**
RJOB				*e*PKPbc	**PKPbc**	**22 53 36.1**	**+2.4**
KBA	**Koelnbreinsper**	**147.81**	**350**	*e*PKPbc	**PKPab**	**22 53 36.6**	**-1.6**
WTTA	**Wattenberg**	**147.88**	**352**	*e*PKPbc	**PKPab**	**22 53 36.2**	**-2.3**
WTTA				*e*PKPbc	**PKiKP**	**22 53 37.4**	**+0.1**
WTTA				*e*PKPbc	**PKPbc**	**22 53 37.7**	**+2.2**
DAVA	**Damuels**	**148.06**	**354**	*e*PKPbc	**PKPab**	**22 53 36.9**	**-2.3**
ESDC	**Sonseca Array**	**154.51**	**17**	PKPab	**PKPab**	**22 54 06.8**	**+0.7**
	0.7nm,0.6s,baz=331,slow=3.1,SNR=8.0						
ESDC	**Sonseca Array**	**154.51**	**17**	PKPab	**PKPab**	**22 54 06.8**	**+0.7**

ISCJB ***10*** *22:42:51.0±0.9, 10.87N±0.06×62.24W±0.04, h102km±8km, Error ellipse: s-maj=9.2km s-min=6.6km az=172.5*
FUNV ***10*** *22:42:51.9, 10.95N×62.20W, h98km, MW2.8*
TRN ***10*** *22:42:57.0, 11.11N×62.03W, h28km, MD3.0*

ISC 10 22:42:50.4±1.7, 10.90N±0.07×62.25W±0.05, h110km±12km, n13, σ1§37/20, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**173**	⇑*e*P	**Pn**	**22 43 06.3**	**+0.3**
GUIV				*e*S	**Sn**	**22 43 15.9**	**-1.7**
TRN	**Trinidad (W)**	**0.87**	**106**	⇑*e*P	**Pn**	**22 43 11.8**	**+1.5**
TRN				*e*S	**Sn**	**22 43 24.0**	**-1.3**
ITEV	**Isla Los Testi**	**0.98**	**298**	⇓*e*P	**Pn**	**22 43 12.0**	**+0.7**
ITEV				*e*S	**Sn**	**22 43 26.2**	**-0.9**
CRUV	**Carupano**	**0.99**	**257**	*e*P	**Pn**	**22 43 12.7**	**+1.2**
CRUV				*e*S	**Sn**	**22 43 26.5**	**-0.9**
GUNV	**Guanoco**	**1.00**	**223**	⇑*e*P	**Pn**	**22 43 13.6**	**+2.0**
GUNV				*e*S	**Sn**	**22 43 28.8**	**+1.3**
GRW	**Mount Saint Ca**	**1.38**	**25**	*e*P	**Pn**	**22 43 17.6**	**+1.6**
TPR	**Prospect**	**1.48**	**79**	*e*P	**Pn**	**22 43 18.3**	**+1.3**
TOSP	**Speyside**	**1.73**	**77**	*e*P	**Pn**	**22 43 21.0**	**+0.9**
TOSP				*e*S	**Sn**	**22 43 40.6**	**-2.0**
ORIV	**Oritupano**	**2.14**	**212**	*e*P	**Pn**	**22 43 26.4**	**+1.1**
PCRV	**Puerto La Cruz**	**2.45**	**253**	*e*P	**Pn**	**22 43 29.6**	**+0.3**
RIOV	**Rio Grande**	**2.84**	**171**	*e*P	**Pn**	**22 43 35.9**	**+1.4**
RIOV				*e*S	**Sn**	**22 44 07.2**	**-1.0**
LUEV	**Luepa**	**5.08**	**171**	*e*P	**Pn**	**22 44 04.5**	**-0.1**
BAUV	**El Baul**	**6.02**	**252**	*e*P	**Pn**	**22 44 17.1**	**0.0**

IDC 10 22:47:12.6±1.3, 0.30S×133.86E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/27, Error ellipse: s-maj=66.2km s-min=19.4km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.45**	**204**	P	Pn	22 51 42.8	+0.9
	0.2nm,0.3s,baz=32,slow=10.0,SNR=4.8						
WRA	**Warramunga Arr**	**19.52**	**179**	P	P	22 51 41.4	-0.4
	0.2nm,0.3s,baz=357,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.23**	**180**	P	P	22 52 20.8	-0.8
	4.5nm,0.9s,baz=5.2,slow=11,SNR=27						
KSRS	**Korea Array**	**37.97**	**352**	LR	LR	23 10 16.4	
	comp=Z,72nm,18.1s,baz=262,slow=36						
SONM	**Songino Array**	**53.56**	**337**	P	P	22 56 37.0	+1.5
	0.7nm,1.1s,baz=111,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	22 57 53.8	-0.5
	0.4nm,0.7s,baz=122,slow=7.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**67.46**	**331**	P	P	22 58 09.0	-1.1
	0.4nm,0.5s,baz=109,slow=7.8,SNR=3.1						
ILAR	**Eielson Array**	**85.69**	**25**	P	P	22 59 53.8	+0.7
	0.5nm,0.9s,baz=259,slow=6.9,SNR=4.1						

IDC 10 22:48:40.8±1.9, 0.12S×132.97E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/27, Error ellipse: s-maj=79.5km s-min=23.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.27**	**202**	P	P	22 53 07.5	+0.4
	0.2nm,0.3s,baz=39,slow=14,SNR=8.2						
WRA	**Warramunga Arr**	**19.74**	**176**	P	P	22 53 11.8	-0.6
	0.6nm,0.3s,baz=356,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.42**	**178**	P	P	22 53 51.1	-0.6
	3.8nm,0.6s,baz=358,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**32.62**	**166**	P	P	22 55 15.2	+0.8
	1.9nm,1.0s,baz=338,slow=11,SNR=2.8						
AFI	**Afiamalu**	**56.36**	**107**	LR	LR	23 18 46.0	
	comp=Z,132nm,21.2s,baz=343,slow=32						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	22 59 18.2	+0.1
	0.2nm,0.6s,baz=120,slow=6.7,SNR=3.4						

IDC 10 22:50:54.9±3.0, 10.53S×162.15E, h71km±24km, mb3.5/4, mb1 3.8/6, mb1mx3.5/19, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=29.9km s-min=20.5km az=57.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**296**	P	Pn	22 51 31.4	-1.0
	36nm,0.3s,baz=176,slow=9.3,SNR=8.2						
HNR				S	Sn	22 52 02.0	+0.8
	145nm,0.3s,baz=83,slow=20,SNR=11						
DZM	**Mont Dzumac**	**12.19**	**161**	P	Pn	22 53 46.5	+0.7
	0.5nm,0.3s,baz=313,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**28.38**	**247**	P	P	22 56 42.8	0.0
	0.9nm,0.6s,baz=78,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**29.92**	**240**	P	P	22 56 56.1	-0.3
	0.6nm,0.4s,baz=65,slow=10.0,SNR=7.7						
TGY	**Tagaytay City**	**47.54**	**300**	LR	LR	23 16 36.1	
	comp=Z,46nm,20.9s,baz=131,slow=32						
SONM	**Songino Array**	**76.19**	**325**	P	P	23 02 36.0	+0.4
	0.7nm,0.7s,baz=135,slow=5.6,SNR=5.8						
ILAR	**Eielson Array**	**84.18**	**20**	P	P	23 03 17.8	-0.2
	0.2nm,0.6s,baz=231,slow=5.4,SNR=5.5						

JMA 10 22:59:02.1±0.1, 30.54N×130.52E, h73km±1km, M3.6, 2C-6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.29**	**255**	⇑P	Pn	22 59 13.5	0.0
JKC				*e*S	Sn	22 59 22.1	+0.2
JTN	**Tanegashima 3**	**0.41**	**74**	⇓P	Pn	22 59 14.5	+0.1
JTN				*e*S	Sn	22 59 23.9	+0.4
JTSR	**Tashiro 2**	**0.71**	**29**	⇓P	Pn	22 59 17.3	-0.1
JTSR				*e*S	Sn	22 59 28.5	-0.3
JNN	**Nakanoshima**	**0.89**	**219**	P	Pn	22 59 19.7	+0.2
JNN				*e*S	Sn	22 59 32.9	+0.5
JSU	**Suzuyama**	**0.96**	**357**	⇓P	Pn	22 59 20.4	0.0
JNAR	**Kushima--Naru**	**1.18**	**33**	⇓P	Pn	22 59 23.4	+0.4
JNAR				*e*S	Sn	22 59 39.2	+0.6
JSJ	**Shimokoshiki**	**1.33**	**329**	⇑P	Pn	22 59 25.0	+0.1
JSJ				S	Sn	22 59 42.2	+0.1
JTZ	**Takazaki**	**1.44**	**20**	⇓P	Pn	22 59 26.6	+0.2
JTZ				*e*S	Sn	22 59 45.3	+0.6
JZO	**Okuchi**	**1.60**	**2**	⇓P	Pn	22 59 29.0	+0.5

WEL 10 23:07:44.9±0.4, 37.08S×176.75E, h233km±3km, ML3.5/10, Error ellipse: s-maj=6.2km s-min=5.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.21**	**166**	PN	Pn	23 08 19.5	+0.1
URZ				SN	S	23 08 46.2	-0.2
MWZ	**Matawai**	**1.40**	**154**	PN	Pn	23 08 21.2	+0.4
MWZ				*e*SN	S	23 08 49.1	+0.1
PUZ	**Puketiti**	**1.56**	**130**	PN	Pn	23 08 21.9	-0.1
PUZ				SN	S	23 08 50.0	-1.0
KNZ	**Kokohu**	**2.07**	**160**	PN	Pn	23 08 26.5	0.0
BKZ	**Black Stump Fm**	**2.09**	**185**	PN	Pn	23 08 26.9	+0.1
BKZ				SN	S	23 08 59.5	-0.3
BHHZ	**Black Hill Sta**	**2.46**	**192**	PN	Pn	23 08 30.8	+0.2
KAHZ	**Kahuranaki**	**2.71**	**178**	PN	Pn	23 08 33.6	+0.4
PNHZ	**Pukenui**	**2.86**	**188**	PN	Pn	23 08 34.5	-0.3
MRZ	**Mangatainoka R**	**3.69**	**194**	PN	Pn	23 08 43.0	-1.2
OGWZ	**Otaki Gorge**	**3.93**	**198**	*e*PN	Pn	23 08 45.8	-1.2
KIW	**Kapiti Island**	**4.04**	**200**	PN	Pn	23 08 47.1	-1.3
MTW	**Mount Morrison**	**4.19**	**193**	*e*PN	Pn	23 08 48.6	-1.5
CAW	**Cannon Point**	**4.23**	**197**	PN	Pn	23 08 48.9	-1.7
TCW	**Tory Channel**	**4.55**	**204**	*e*PN	Pn	23 08 52.8	-1.8
TUWZ	**Tuamarina**	**4.86**	**206**	*e*PN	Pn	23 08 56.6	-1.7

NEIC ***10*** *23:09:13.1, 41.22S×172.60E, h209km, MG4.1(WEL), After WEL.*

WEL 10 23:09:13.1±0.2, 41.30S×172.59E, h208km±1km, ML4.1/16, 2C, Error ellipse: s-maj=1.9km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.48**	**354**	PN	Pn	23 09 40.8	-0.4
QRZ				SN	S	23 10 01.5	-1.5
QRZ	**Quartz Range**	**0.48**	**354**	Pn	Pn	23 09 40.8	-0.4
THZ	**Tophouse**	**0.52**	**153**	PN	Pn	23 09 41.4	+0.1
THZ				SN	S	23 10 02.4	-1.0
THZ	**Tophouse**	**0.52**	**153**	Pn	Pn	23 09 41.4	+0.1
NNZ	**Nelson**	**0.60**	**82**	PN	Pn	23 09 41.3	-0.2
NNZ				SN	S	23 10 03.0	-0.6
NNZ	**Nelson**	**0.60**	**82**	Pn	Pn	23 09 41.3	-0.2
NNZ				Sn	S	23 10 03.0	-0.6
TUWZ	**Tuamarina**	**1.02**	**98**	PN	Pn	23 09 44.1	+0.3
TUWZ	**Tuamarina**	**1.02**	**98**	Pn	Pn	23 09 44.1	+0.3
BSWZ	**Blackbirch Sta**	**1.05**	**114**	PN	Pn	23 09 44.3	+0.3
BSWZ	**Blackbirch Sta**	**1.05**	**114**	Pn	Pn	23 09 44.3	+0.3
DUWZ	**D'Urville Isla**	**1.12**	**64**	Pn	Pn	23 09 44.5	-0.1
DUWZ				SN	S	23 10 08.9	+0.1
DUWZ	**D'Urville Isla**	**1.12**	**64**	Pn	Pn	23 09 44.5	-0.1
TCW	**Tory Channel**	**1.27**	**87**	PN	Pn	23 09 45.8	+0.1
TCW				SN	S	23 10 10.2	-0.5
TCW	**Tory Channel**	**1.27**	**87**	Pn	Pn	23 09 45.8	+0.1
KHZ	**Kahutara**	**1.32**	**148**	⇑PN	Pn	23 09 46.1	+0.2
KHZ				SN	S	23 10 10.6	-0.9
LTZ	**Lake Taylor**	**1.50**	**189**	PN	Pn	23 09 47.4	-0.2
LTZ				SN	S	23 10 12.4	-1.9
LTZ	**Lake Taylor**	**1.50**	**189**	Pn	Pn	23 09 47.4	-0.2
LTZ				Sn	S	23 10 12.4	-1.8
SNZO	**South Karori**	**1.59**	**91**	PN	Pn	23 09 48.2	-0.1
SNZO				SN	S	23 10 15.2	-0.2
SNZO	**South Karori**	**1.59**	**91**	Pn	Pn	23 09 48.2	-0.1
SNZO				Sn	S	23 10 15.2	-0.2
WEL	**Wellington**	**1.64**	**90**	PN	Pn	23 09 48.7	0.0
WEL	**Wellington**	**1.64**	**90**	Pn	Pn	23 09 48.7	0.0
BHW	**Baring Head**	**1.72**	**94**	PN	Pn	23 09 49.4	-0.1
BHW	**Baring Head**	**1.72**	**94**	Pn	Pn	23 09 49.4	-0.1
KIW	**Kapiti Island**	**1.81**	**77**	PN	Pn	23 09 50.2	-0.2
KIW				SN	S	23 10 18.0	-0.9
KIW	**Kapiti Island**	**1.81**	**77**	Pn	Pn	23 09 50.2	-0.2
KIW				Sn	S	23 10 18.0	-0.9
CAW	**Cannon Point**	**1.88**	**85**	PN	Pn	23 09 50.8	-0.2
CAW				SN	S	23 10 19.6	-0.6
CAW	**Cannon Point**	**1.88**	**85**	Pn	Pn	23 09 50.8	-0.2
CAW				Sn	S	23 10 19.6	-0.6
MSWZ	**Moikau Station**	**2.00**	**94**	PN	Pn	23 09 52.1	-0.1
MSWZ	**Moikau Station**	**2.00**	**94**	Pn	Pn	23 09 52.1	-0.1
OGWZ	**Otaki Gorge**	**2.01**	**77**	PN	Pn	23 09 52.2	-0.1
OGWZ	**Otaki Gorge**	**2.01**	**77**	Pn	Pn	23 09 52.2	-0.1
PLWZ	**Palliser**	**2.02**	**99**	PN	Pn	23 09 52.4	-0.1
PLWZ	**Palliser**	**2.02**	**99**	Pn	Pn	23 09 52.4	-0.1
PAWZ	**Paruwai Farm**	**2.13**	**93**	PN	Pn	23 09 53.5	-0.1
PAWZ	**Paruwai Farm**	**2.13**	**93**	Pn	Pn	23 09 53.5	-0.1
MTW	**Mount Morrison**	**2.20**	**87**	⇑PN	Pn	23 09 54.1	-0.1
MTW	**Mount Morrison**	**2.20**	**87**	Pn	Pn	23 09 54.2	-0.1
HOWZ	**Holdsworth Sta**	**2.24**	**81**	PN	Pn	23 09 54.6	-0.2
HOWZ				SN	S	23 10 26.0	-0.8
HOWZ	**Holdsworth Sta**	**2.24**	**81**	Pn	Pn	23 09 54.6	-0.2
HOWZ				Sn	S	23 10 26.0	-0.8
WVZ	**Waitaha Valley**	**2.25**	**217**	PN	Pn	23 09 53.5	-1.2
WVZ	**Waitaha Valley**	**2.25**	**217**	Pn	Pn	23 09 53.5	-1.2
DFE	**Dawson Falls**	**2.29**	**31**	PN	Pn	23 09 54.2	-1.2
DFE	**Dawson Falls**	**2.29**	**31**	Pn	Pn	23 09 54.2	-1.2
TRWZ	**Traveller**	**2.33**	**93**	PN	Pn	23 09 56.0	+0.3
TRWZ	**Traveller**	**2.33**	**93**	Pn	Pn	23 09 56.0	+0.3
MRZ	**Mangatainoka R**	**2.35**	**75**	PN	Pn	23 09 55.4	-0.5
MRZ	**Mangatainoka R**	**2.35**	**75**	Pn	Pn	23 09 55.4	-0.5
PKE	**Pukeiti**	**2.36**	**27**	PN	Pn	23 09 55.0	-1.1
PKE	**Pukeiti**	**2.36**	**27**	Pn	Pn	23 09 55.0	-1.1
WAZ	**Wanganui**	**2.39**	**51**	PN	Pn	23 09 56.0	-0.3
WAZ	**Wanganui**	**2.39**	**51**	Pn	Pn	23 09 56.0	-0.3
MQZ

JGM S Sn 23 16 14.3 +1.1
MAT Matsushiro 1.78 21 P Pn 23 16 12.4 +1.2
MAT S Sn 23 16 37.0 +4.4

CASC 10 23:39:37.6±2.4, 7.95N×83.41W, h25km±12km, MD3.6, 1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.74**	**19**	*i* P	Pb	23 39 51.1	-0.8
BRU2	**Volcan**	**1.10**	**40**	⇓*i*P	Pn	23 39 57.5	-0.2
BRU2				*i* S	Sb	23 40 13.7	+1.4
TBS2		**1.12**	**42**	*e*P	Pn	23 39 57.7	-0.2
TBS2				*i* S	Sb	23 40 15.1	+2.2
BUS	**Buena Vista**	**1.63**	**348**	*i* P	Pn	23 40 05.8	+0.4
BUS				*i* S	Sn	23 40 25.8	-0.3
QCR	**Quepos**	**1.64**	**333**	*e*P	Pn	23 40 05.1	+0.2
URSC	**Urasca**	**1.91**	**349**	*e*P	Pn	23 40 09.5	+0.7
URSC				*i* S	Sn	23 40 32.1	-0.2
PTP	**Ponta Puerca**	**20.10**	**58**	*e*P	x	23 39 47.9	
PTP				*i* S	x	23 39 57.1	

IDC 10 23:58:58.9±2.5, 14.26S×70.93W, h156km±26km, mb3.2/5, mb1 3.5/6, mb1mx3.5/17, mbtmp3.2/6, Error ellipse: s-maj=66.0km s-min=24.8km az=36.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.37**	**127**	P	Pn	23 59 51.9	-0.2
	5.3nm,0.3s,baz=303,slow=9.3,SNR=14						
LPAZ				S	Sn	00 00 33.2	+0.1
	1.5nm,0.3s,baz=212,slow=24,SNR=12						
TXAR	**Lajitas Array**	**53.64**	**324**	P	P	00 08 04.0	-0.6
	0.1nm,0.3s,baz=152,slow=9.1,SNR=4.0						
PDAR	**Pinedale Array**	**66.91**	**330**	P	P	00 09 35.1	+0.4
	0.3nm,0.5s,baz=122,slow=7.8,SNR=4.3						
ULM	**Lac du Bonnet**	**67.87**	**343**	P	P	00 09 40.0	-0.3
	1.0nm,0.5s,baz=135,slow=4.7,SNR=3.8						
TORD	**Toroidi Ar. Bea**	**76.89**	**73**	P	P	00 10 34.0	-0.5
	0.2nm,0.3s,baz=252,slow=4.9,SNR=7.8						
YKA	**Yellowknife Ar**	**83.75**	**341**	P	P	00 11 09.9	-0.2
	0.2nm,0.5s,baz=135,slow=5.0,SNR=5.3						
ASAR	**Alice Springs**	**135.16**	**213**	PKP	PKPdf	00 17 58.5	-2.2
	0.3nm,0.5s,baz=120,slow=2.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**136.05**	**20**	PKP	PKPdf	00 18 01.0	-0.4
	1.1nm,0.7s,baz=282,slow=1.7,SNR=7.6						
KURK	**Kurchatov**	**136.08**	**28**	PKP	PKPdf	00 18 02.4	+0.9
	0.1nm,0.3s,baz=317,slow=2.8,SNR=4.1						
WRA	**Warramunga Arr**	**137.90**	**217**	PKP	PKPdf	00 18 05.2	-0.7
	0.4nm,0.3s,baz=137,slow=1.8,SNR=6.0						
SONM	**Songino Array**	**146.45**	**3**	PKPbc	PKPbc	00 18 22.5	+0.6
	1.4nm,0.7s,baz=330,slow=2.8,SNR=13						

IDC 11 00:22:39.8±8.3, 18.01S×174.01W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=366.1km s-min=35.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.73**	**259**	P	P	00 31 26.1	-0.5
	0.6nm,0.4s,baz=97,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**48.79**	**254**	P	P	00 31 27.3	+0.2
	4.0nm,0.5s,baz=89,slow=8.3,SNR=85						
ILAR	**Eielson Array**	**85.11**	**11**	P	P	00 35 17.1	0.0
	0.2nm,0.5s,baz=234,slow=5.8,SNR=9.2						

IDC 11 00:36:39.3±2.6, 0.48S×131.62E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/21, Error ellipse: s-maj=124.0km s-min=24.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.48**	**198**	P	Pn	00 40 57.2	+0.3
	0.1nm,0.3s,baz=12,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**19.53**	**172**	P	P	00 41 08.9	+0.3
	0.3nm,0.3s,baz=354,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**23.16**	**175**	P	P	00 41 47.0	-0.6
	2.5nm,0.8s,baz=356,slow=8.7,SNR=25						
JOW	**Kunigami**	**27.34**	**353**	LR	LR	00 50 48.4	
	comp=Z,75nm,19.3s,baz=155,slow=31						
MKAR	**Makanchi Array**	**63.78**	**324**	P	P	00 47 13.4	+0.1
	0.4nm,0.8s,baz=116,slow=8.4,SNR=3.1						

*ISCJB **11** 00:42:35.9±0.3, 67.13N±0.02×20.59E±0.07, h0km, Error ellipse: s-maj=3.7km s-min=2.5km az=176.6*
*UPP **11** 00:42:37.8, 67.18N×20.64E, h0km, ML2.8, Mining explosion.*
*HEL **11** 00:42:38.7±0.1, 67.19N×20.71E, h1km, ML2.6, ML2.8(UPP), ML2.6(BER)*
*CSEM **11** 00:42:38.0±0.1, 67.17N×20.70E, h1km, ML2.6, Error ellipse: s-maj=3.5km s-min=2.5km az=87.0, Mining explosion.*
*IDC **11** 00:42:38.8±0.9, 67.11N×20.92E, h0km, mb1 3.4/4, mb1mx3.1/26, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=14.3km s-min=7.2km az=117.0*
*NAO **11** 00:42:38.7±0.8, 67.11N×21.07E, ML2.5*
*BER **11** 00:42:39.6±4.8, 67.19N×20.70E, h0km, ML2.6, ML2.5(NAO), Suspected explosion*

ISC 11 00:42:36.5±0.6, 67.13N±0.02×20.54E±0.02, h0km, n90, σ1.9 46/145, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.66**	**59**	*i* P	**Pg**	**00 42 49.2**	**+0.2**
MASU	**Masugnsbyn**	**0.66**	**59**	P	**Pg**	**00 42 49.2**	**+0.2**
SALU	**Saltoluokta**	**0.83**	**289**	*i* P	**Pb**	**00 42 54.1**	**+0.4**
SALU	**Saltoluokta**	**0.83**	**289**	P	**Pb**	**00 42 54.1**	**+0.4**
KUA	**Kurravaara**	**0.83**	**355**	*i* P	**Pg**	**00 42 52.3**	**-0.1**
KUA	**Kurravaara**	**0.83**	**355**	P	**Pg**	**00 42 52.3**	**-0.1**
ERTU	**Ertsjaerv**	**0.87**	**131**	*i* P	**Pb**	**00 42 54.0**	**-0.5**
ERTU	**Ertsjaerv**	**0.87**	**131**	P	**Pb**	**00 42 54.0**	**-0.5**
HARU	**Harads**	**0.99**	**170**	*e*P	**Pn**	**00 42 56.9**	**-0.7**
HARU	**Harads**	**0.99**	**170**	P	**Pn**	**00 42 56.9**	**-0.7**
LANU	**Lannavaara**	**1.08**	**30**	*e*P	**Pg**	**00 42 56.5**	**-0.6**
LANU				*e*S	**Sg**	**00 43 09.4**	**-1.6**
LANU	**Lannavaara**	**1.08**	**30**	P	**Pg**	**00 42 56.5**	**-0.6**
SJUU	**Sjulsmark**	**1.69**	**165**	*e*P	**Pg**	**00 43 09.2**	**+0.4**
SJUU	**Sjulsmark**	**1.69**	**165**	P	**Pg**	**00 43 09.1**	**+0.4**
KALU	**Kalix**	**1.71**	**137**	*e*P	**Pg**	**00 43 08.8**	**-0.3**
KALU	**Kalix**	**1.71**	**137**	P	**Pg**	**00 43 08.8**	**-0.3**
HEF	**Hetta**	**1.75**	**41**	*e*P	**Pn**	**00 43 08.2**	**+0.1**
HEF				*e*S	**Sn**	**00 43 30.5**	**-0.6**
HEF				MSG		00 43 33.6	
	comp=Z,64nm,0.2s						
HEF	**Hetta**	**1.75**	**41**	P	**Pn**	**00 43 08.2**	**+0.1**
HEF				S	**Sn**	**00 43 30.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.89**	**3**	*e*P	**Pb**	**00 43 11.3**	**-0.4**
KIF				*e*S	**Sb**	**00 43 35.0**	**-0.9**
KIF				MSG		00 43 38.4	
	comp=Z,53nm,0.2s						
KIF	**Kilpisjarvi**	**1.89**	**3**	P	**Pb**	**00 43 11.3**	**-0.4**
KIF				S	**Sb**	**00 43 34.9**	**-0.9**
STEI	**Steigen**	**2.19**	**294**	*e*Sg	**Sg**	**00 43 47.6**	**+0.9**
STEI				AML	AML	00 43 48.6	
	comp=Z,51nm,0.5s						
STEI	**Steigen**	**2.19**	**294**	*e*SG	**Sg**	**00 43 47.6**	**+0.9**
STEI				AML	AML	00 43 48.6	
	comp=Z,51nm,0.5s						
STEI	**Steigen**	**2.19**	**294**	Sg	**Sg**	**00 43 47.6**	**+0.9**
	comp=Z,51nm,0.5s						
RNF	**Rovaniemi**	**2.23**	**101**	*e*P	**Pb**	**00 43 16.4**	**-1.2**
RNF				*e*S	**Sn**	**00 43 43.4**	**+0.6**
RNF	**Rovaniemi**	**2.23**	**101**	P	**Pb**	**00 43 16.3**	**-1.2**
RNF				S	**Sn**	**00 43 43.3**	**+0.6**
BURU	**Burvik**	**2.58**	**172**	*e*P	**Pb**	**00 43 22.5**	**-1.1**
BURU	**Burvik**	**2.58**	**172**	P	**Pb**	**00 43 22.5**	**-1.1**
TRO	**Tromso**	**2.58**	**347**	*e*P	**Pb**	**00 43 22.3**	**-1.3**
TRO				*e*Sg	**Sb**	**00 43 54.3**	**-1.6**
TRO				AML	AML	00 43 59.7	
	comp=Z,48nm,0.2s						
TRO	**Tromso**	**2.58**	**347**	*e*P	**Pb**	**00 43 22.3**	**-1.3**
TRO				*e*SB	**Sb**	**00 43 54.3**	**-1.6**
TRO				AML	AML	00 43 59.7	
	comp=Z,48nm,0.2s						
TRO	**Tromso**	**2.58**	**347**	P	**Pb**	**00 43 22.3**	**-1.3**
MOR8	**Moi Rana**	**2.61**	**251**	*e*Sg	**Sb**	**00 43 57.2**	**+0.5**
MOR8				AML	AML	00 43 59.8	
	comp=Z,69nm,0.4s						
MOR8	**Moi Rana**	**2.61**	**251**	*e*SG	**Sb**	**00 43 57.2**	**+0.5**
MOR8				AML	AML	00 43 59.8	
	comp=Z,69nm,0.4s						
OUL	**Oulu**	**3.00**	**131**	*e*P	**Pn**	**00 43 27.2**	**+2.0**
OUL				*e*S	**Sn**	**00 44 04.4**	**+2.7**
OUL	**Oulu**	**3.00**	**131**	P	**Pn**	**00 43 27.1**	**+2.0**
OUL				S	**Sn**	**00 44 04.4**	**+2.7**
ARA0	**ARCESS Array S**	**3.04**	**35**	Pn	**Pn**	**00 43 26.6**	**+0.9**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**00 44 02.8**	**-0.1**
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**3.04**	**35**	*e*P	**Pn**	**00 43 26.6**	**+0.9**
ARA0				*e*S	**Sn**	**00 44 02.8**	**-0.1**
ARA0	**ARCESS Array S**	**3.04**	**35**	P	**Pn**	**00 43 26.6**	**+0.9**
ARA0				S	**Sn**	**00 44 02.7**	**-0.1**
ARCES	**ARCESS Array B**	**3.04**	**35**	Pn	**Pn**	**00 43 27.1**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=210,slow=12,SNR=106						
ARCES				Sn	**Sn**	**00 44 03.0**	**+0.2**
	comp=Z,6.6nm,0.3s,baz=214,slow=23,SNR=11						
STOK	**Stokkvaagen**	**3.09**	**258**	*e*P	**Pb**	**00 43 30.2**	**-2.1**
STOK	**Stokkvaagen**	**3.09**	**258**	*e*P	**Pb**	**00 43 30.2**	**-2.1**
STOK	**Stokkvaagen**	**3.09**	**258**	P	**Pb**	**00 43 30.1**	**-2.1**
VRF	**Varrio**	**3.55**	**76**	*e*P	**Pn**	**00 43 33.6**	**+0.7**
VRF				*e*S	**Sn**	**00 44 13.8**	**-1.7**
VRF				MSG		00 44 25.5	
	comp=Z,11nm,0.2s						
VRF	**Varrio**	**3.55**	**76**	P	**Pn**	**00 43 33.5**	**+0.7**
VRF				S	**Sn**	**00 44 13.7**	**-1.7**
KEV	**Kevo**	**3.56**	**39**	*e*P	**Pn**	**00 43 33.7**	**+0.9**
KEV				*e*S	**Sn**	**00 44 13.9**	**-1.7**
KEV	**Kevo**	**3.56**	**39**	P	**Pn**	**00 43 33.7**	**+0.9**
KEV				S	**Sn**	**00 44 13.8**	**-1.7**
MSF	**Maaselka**	**3.62**	**106**	*e*P	**Pn**	**00 43 35.0**	**+1.2**
MSF				*e*S	**Sn**	**00 44 16.8**	**-0.2**
MSF				*e*SG	**Sb**	**00 44 27.1**	**+1.5**
MSF	**Maaselka**	**3.62**	**106**	P	**Pn**	**00 43 34.9**	**+1.2**
MSF				S	**Sn**	**00 44 16.8**	**-0.2**
KU6	**Riekki**	**3.90**	**102**	*e*P	**Pn**	**00 43 38.7**	**+1.2**
KU6				*e*S	**Sn**	**00 44 24.1**	**+0.1**
KU6				MSG		00 44 40.0	
	comp=Z,20nm,0.4s						
KU6	**Riekki**	**3.90**	**102**	P	**Pn**	**00 43 38.7**	**+1.2**
KU6				S	**Sn**	**00 44 24.0**	**+0.1**
VAF	**Ylistaro**	**4.20**	**167**	*e*P	Pn	00 43 44.8	+3.0
VAF				*e*S	**Sn**	**00 44 31.6**	**+0.1**
VAF				MSG		00 44 54.5	
	comp=Z,8.6nm,0.3s						
VAF	**Ylistaro**	**4.20**	**167**	P	Pn	00 43 44.7	+3.0
VAF				S	**Sn**	**00 44 31.5**	**+0.1**
NSS	**Namsos**	**4.38**	**237**	*e*Sg	**Sg**	**00 44 57.1**	**-0.1**
NSS	**Namsos**	**4.38**	**237**	*e*SG	**Sg**	**00 44 57.1**	**-0.1**
NSS	**Namsos**	**4.38**	**237**	*e*Sg	**Sg**	**00 44 57.1**	**-0.1**
	SNR=90						
APA0	**Apatity Array**	**4.84**	**79**	Pn	**Pn**	**00 43 51.0**	**+0.6**
	baz=268,slow=11						
APA0				Sn	**Sn**	**00 44 44.9**	**-2.1**
	baz=275,slow=28						
APA0				Lg	Lg	00 45 02.2	
	baz=271,slow=28						
APA0	**Apatity Array**	**4.84**	**79**	*e*P	**Pn**	**00 43 51.0**	**+0.6**
APA0				*e*S	**Sn**	**00 44 44.9**	**-2.1**
APA0				*e*SG	**Sb**	**00 45 02.2**	**+1.6**
APA0	**Apatity Array**	**4.84**	**79**	P	**Pn**	**00 43 51.0**	**+0.6**
APA0				Sn	**Sn**	**00 44 44.9**	**-2.1**
	baz=275,slow=24,SNR=50						
APA0				Lg	Lg	00 45 02.2	
	baz=271,slow=26						
SUF	**Sumiainen**	**5.03**	**149**	*e*P	**Pn**	**00 43 55.5**	**+2.4**
SUF				*e*S	**Sn**	**00 44 52.5**	**+0.7**
SUF				MSG		00 45 15.8	
	comp=Z,5.4nm,0.2s						
SUF	**Sumiainen**	**5.03**	**149**	P	**Pn**	**00 43 55.5**	**+2.4**
SUF				S	**Sn**	**00 44 52.5**	**+0.7**
KEF	**Keuruu**	**5.32**	**158**	*e*P	**Pn**	**00 43 59.6**	**+2.6**
KEF				*e*S	**Sn**	**00 44 59.5**	**+0.6**
KEF	**Keuruu**	**5.32**	**158**	P	**Pn**	**00 43 59.6**	**+2.6**
KEF				S	**Sn**	**00 44 59.5**	**+0.6**
KAF	**Kangasniemi**	**5.61**	**151**	*e*P	**Pn**	**00 44 03.6**	**+2.4**
KAF				*e*S	**Sn**	**00 45 05.2**	**-1.1**
KAF				MSG		00 45 37.6	
	comp=Z,4.9nm,0.2s						
KAF	**Kangasniemi**	**5.61**	**151**	P	**Pn**	**00 44 03.5**	**+2.4**
KAF				S	**Sn**	**00 45 05.1**	**-1.1**
RAF	**Rauma**	**6.16**	**174**	*e*P	**Pn**	**00 44 10.3**	**+1.7**
RAF				*e*S	**Sn**	**00 45 20.3**	**+0.8**
RAF	**Rauma**	**6.16**	**174**	P	**Pn**	**00 44 10.2**	**+1.7**
RAF				S	**Sn**	**00 45 20.3**	**+0.8**
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**00 44 11.6**	**+2.6**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**00 45 20.1**	**-0.4**
	baz=344,slow=28						
FIA0				Lg	Lg	00 45 49.0	
	baz=347,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	*e*P	**Pn**	**00 44 11.5**	**+2.4**
FIA0				*e*S	**Sn**	**00 45 19.9**	**-0.7**
FIA0	**FINESS Array S**	**6.20**	**155**	P	**Pn**	**00 44 11.4**	**+2.4**
FIA0				S	**Sn**	**00 45 19.8**	**-0.7**
FIA0				Sn	Sb	00 45 20.1	-20
	baz=344,slow=25,SNR=50						
FIA0				Lg	Lg	00 45 49.0	
	baz=347,slow=32						
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**00 44 11.7**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=0.9,slow=14,SNR=39						
FINES				Sn	**Sn**	**00 45 19.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=346,slow=23,SNR=8.9						
FINES				Lg	Lg	00 45 49.5	
	comp=Z,2.2nm,0.3s,baz=352,slow=28,SNR=9.0						
JOF	**Joensuu**	**6.22**	**128**	*e*P	**Pn**	**00 44 10.4**	**+1.1**
JOF				*e*S	**Sn**	**00 45 19.8**	**-1.3**
JOF	**Joensuu**	**6.22**	**128**	P	**Pn**	**00 44 10.4**	**+1.1**
JOF				S	**Sn**	**00 45 19.7**	**-1.3**
AAL	**Aland**	**6.99**	**182**	*e*P	**Pn**	**00 44 22.4**	**+2.5**
AAL	**Aland**	**6.99**	**182**	P	**Pn**	**00 44 22.4**	**+2.5**
PVF	**Pernaja**	**7.01**	**158**	*e*P	**Pn**	**00 44 22.3**	**+2.0**
PVF				*e*S	**Sn**	**00 45 38.4**	**-2.2**
PVF	**Pernaja**	**7.01**	**158**	P	**Pn**	**00 44 22.3**	**+2.0**
MEF	**Metsahovi**	**7.15**	**164**	*e*P	**Pn**	**00 44 24.8**	**+2.6**
MEF				*e*S	**Sn**	**00 45 43.9**	**-0.1**
MEF	**Metsahovi**	**7.15**	**164**	P	**Pn**	**00 44 24.7**	**+2.6**
MEF				S	**Sn**	**00 45 43.8**	**-0.1**
NB2	**NORSAR Subarra**	**7.34**	**218**	Pn	**Pn**	**00 44 26.9**	**+2.0**
	baz=27,slow=14						
NB2				Sn	**Sn**	**00 45 48.5**	**-0.4**
	baz=34,slow=28						
NB2				Lg	Lg	00 46 30.5	
	baz=24,slow=37						
NB2	**NORSAR Subarra**	**7.34**	**218**	*e*P	**Pn**	**00 44 26.9**	**+2.0**
NB2				*e*S	**Sn**	**00 45 48.5**	**-0.4**
NB2				*e*SG	**Sg**	**00 46 30.5**	**-1.6**
NB2	**NORSAR Subarra**	**7.34**	**218**	P	**Pn**	**00 44 26.9**	**+2.0**
NB2				Sn	**Sn**	**00 45 48.5**	**-0.4**
	baz=34,slow=28,SNR=50						
NB2				Lg	Lg	00 46 30.5	
	baz=24,slow=33,SNR=50						
NOA	**NORSAR Array B**	**7.34**	**218**	Pn	**Pn**	**00 44 26.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=27,slow=10,SNR=5.8						
NOA				Sn	**Sn**	**00 45 51.3**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=50,slow=22,SNR=4.2						
NOA				Lg	Lg	00 46 28.3	
	comp=Z,1.2nm,0.3s,baz=54,slow=6.1,SNR=4.3						
HFS	**Hagfors**	**7.65**	**207**	Pn	**Pn**	**00 44 30.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=22,slow=13,SNR=35						
HFS				Sn	**Sn**	**00 45 53.5**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=36,slow=12,SNR=4.7						
HFS				Lg	Lg	00 46 37.6	
	comp=Z,0.8nm,0.3s,baz=36,slow=28,SNR=3.3						
HFS	**Hagfors**	**7.65**	**207**	Pn	**Pn**	**00 44 30.5**	**+1.5**
	baz=19,slow=14						
HFS				Sn	**Sn**	**00 45 55.0**	**-1.4**
	baz=29,slow=28						
HFS				Lg	Lg	00 46 37.4	
	baz=27,slow=28						
HFS	**Hagfors**	**7.65**	**207**	*e*P	**Pn**	**00 44 30.5**	**+1.5**
HFS				*e*S	**Sn**	**00 45 55.0**	**-1.4**
HFS				*e*SG	**Sg**	**00 46 37.4**	**-4.5**
HFS	**Hagfors**	**7.65**	**207**	P	**Pn**	**00 44 30.5**	**+1.5**
HFS				Lg	Lg	00 46 37.4	
	baz=27,slow=27,SNR=35						
MTSE	**Matsula**	**8.58**	**168**	*e*P	**Pn**	**00 44 43.5**	**+1.7**
MTSE				*e*S	**Sn**	**00 46 17.2**	**-1.9**
MTSE	**Matsula**	**8.58**	**168**	P	**Pn**	**00 44 43.4**	**+1.7**
SPA0	**Spitsbergen Ar**	**11.17**	**356**	Pn	**Pn**	**00 45 18.0**	**+0.8**
	baz=175,slow=14						
SPA0	**Spitsbergen Ar**	**11.17**	**356**	*e*P	**Pn**	**00 45 18.0**	**+0.8**
SPA0				Pn	**Pn**	**00 45 18.0**	**+0.8**
	baz=175,slow=13,SNR=50						

*DDA **11** 00:52:57.5, 37.89N×29.30E, h6km, MD3.0*
*ISK **11** 00:52:57.6, 37.87N×29.28E, h8km, MD3.0*
*CSEM **11** 00:52:57.9±0.1, 37.87N×29.27E, h10km, MD3.0, Error ellipse: s-maj=3.9km s-min=2.6km az=105.0*
*ISCJB **11** 00:52:58.1±0.7, 37.87N±0.03×29.29E±0.06, h9km±5km, Error ellipse: s-maj=7.7km s-min=4.4km az=18.4*

ISC 11 00:52:58.3±0.9, 37.88N±0.03×29.27E±0.04, h13km±8km, n24, σ0.9 41/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**235**	PG	**Pg**	**00 53 02.7**	**-0.5**
DENT	**Denizli**	**0.23**	**235**	*i* Pg	**Pg**	**00 53 02.7**	**-0.5**
DNZL	**Cakiroluk**	**0.26**	**222**	*i* P	**Pg**	**00 53 03.9**	**0.0**
DNZL				*i* S	**Sg**	**00 53 08.1**	**+0.4**
DNZL	**Cakiroluk**	**0.26**	**222**	*i* P	**Pg**	**00 53 03.9**	**0.0**
DNZL				*i* S	**Sg**	**00 53 08.1**	**+0.4**
KHL	**Karahalli**	**0.48**	**25**	*e*PG	**Pg**	**00 53 07.4**	**-0.5**
KHL				*e*SG	**Sg**	**00 53 14.8**	**+0.5**
KHL	**Karahalli**	**0.48**	**25**	*e*Pg	**Pg**	**00 53 07.4**	**-0.5**
KHL				*e*Sg	**Sg**	**00 53 14.9**	**+0.5**
KULA	**Kula-Manisa**	**0.79**	**323**	*e*PG	**Pg**	**00 53 13.5**	**-0.2**
KULA				*e*SG	**Sb**	**00 53 25.5**	**+0.8**
KULA	**Kula-Manisa**	**0.79**	**323**	*e*Pg	**Pg**	**00 53 13.5**	**-0.2**
KULA				*e*Sg	**Sb**	**00 53 25.5**	**+0.8**
YER	**Yerkesik**	**1.08**	**227**	*e*PN	**Pb**	**00 53 18.2**	**-0.8**
YER				*e*SN	**Sn**	**00 53 34.0**	**-0.1**
YER	**Yerkesik**	**1.08**	**227**	*e*Pn	**Pb**	**00 53 18.2**	**-0.8**
YER				*e*Sn	**Sn**	**00 53 34.0**	**-0.1**
BCK	**Bucak**	**1.13**	**111**	*e*PN	**Pn**	**00 53 19.9**	**-0.1**
BCK	**Bucak**	**1.13**	**111**	*e*Pn	**Pn**	**00 53 19.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.21**	**56**	*e*PN	**Pb**	**00 53 21.2**	**0.0**
SHUT	**Suhut-Afyon**	**1.21**	**56**	*e*Pn	**Pb**	**00 53 21.2**	**0.0**
GDZ	**Gediz**	**1.22**	**8**	*i* P	**Pn**	**00 53 20.7**	**-0.5**
GDZ				*i* S	**Sn**	**00 53 37.5**	**-0.1**
GDZ	**Gediz**	**1.22**	**8**	*i* P	**Pn**	**00 53 20.7**	**-0.5**
GDZ				*i* S	**Sn**	**00 53 37.5**	**-0.1**
DEMI	**Demirci**	**1.24**	**340**	*i* P	**Pn**	**00 53 21.2**	**-0.2**
DEMI				*i* S	**Sg**	**00 53 38.6**	**+0.4**
DEMI	**Demirci**	**1.24**	**340**	*i* P	**Pn**	**00 53 21.2**	**-0.2**
DEMI				*i* S	**Sg**	**00 53 38.6**	**+0.4**
ELL	**Elmali**	**1.24**	**155**	*e*PN	**Pb**	**00 53 21.7**	**0.0**
ELL	**Elmali**	**1.24**	**155**	*e*Pn	**Pb**	**00 53 21.7**	**0.0**
FETY	**Fethiye**	**1.25**	**187**	*e*PN	**Pb**	**00 53 22.0**	**+0.1**
FETY	**Fethiye**	**1.25**	**187**	*e*Pn	**Pb**	**00 53 22.0**	**+0.1**
ALT	**Altintas**	**1.34**	**29**	*e*PN	**Pb**	**00 53 23.3**	**-0.2**
ALT	**Altintas**	**1.34**	**29**	*e*Pn	**Pb**	**00 53 23.3**	**-0.2**

MAN 11 00:57:39, 12.70N×125.14E, h34km, mb4.9, ML3.8, MS3.9, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.50**	**248**	*e*P	Pn	00 57 51.2	+1.4
CNP				*e*S	Sn	00 57 59.4	+2.2
PVCP	**Virac**	**1.31**	**313**	*e*P	Pb	00 58 02.1	-1.0
PVCP				*e*S	Sb	00 58 23.7	+4.1
MSLP	**Maasin**	**2.56**	**186**	*e*P	Pn	00 58 19.7	+1.6
MSLP				*e*S	Sn	00 58 41.8	-6.4
RCP	**Roxas**	**2.60**	**244**	⇓*e*P	Pn	00 58 21.7	+3.1

*DJA **11** 01:02:23.0±62S×133.26E, h66km, MLv3.9/3*
IDC 11 01:02:18.0±1.2, 0.64S×133.37E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.8/2, MS2.6/2, Ms1 2.6/2, ms1mx2.4/31, Error ellipse: s-maj=59.0km s-min=20.3km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.27**	**252**	LR	LR	01 10 52.9	
	comp=Z,15nm,18.6s,baz=298,slow=36						
FITZ	**Fitzroy Crossi**	**18.95**	**203**	P	P	01 06 38.9	-1.9
	0.2nm,0.3s,baz=35,slow=11,SNR=10						
FITZ				S	Sn	01 09 58.8	-15
	0.1nm,0.3s,baz=163,slow=20,SNR=2.6						
FITZ				LR	LR	01 13 20.1	
	comp=Z,29nm,19.7s,baz=18,slow=35						
WRA	**Warramunga Arr**	**19.21**	**177**	P	P	01 06 43.9	+0.1
	0.3nm,0.3s,baz=356,slow=12,SNR=8.2						
WRA				S	Sn	01 10 09.0	-12
	0.1nm,0.3s,baz=357,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**22.90**	**179**	P	P	01 07 24.7	+1.1
	1.6nm,0.4s

IRM	**Iron Mountain**	**1.46**	**95**	⇑Pg		**Pn**	**01 06 27.0**	**+0.4**
	baz=1.5,SNR=800								
IRM				⇑S		**Sn**	**01 06 45.8**	**-0.2**
	baz=1.5								
MONP	**Monument Peak**	**1.47**	**164**	⇑Pb		**Pn**	**01 06 26.5**	**-0.4**
	baz=1.5,SNR=47								
MONP				⇓S		**Sn**	**01 06 45.8**	**-0.5**
	baz=1.5								
CIS	**Catalina Islan**	**1.53**	**235**	⇓Pn		**Pn**	**01 06 26.7**	**-0.8**
	baz=1.5,SNR=93								
CIS				⇑S		**Sn**	**01 06 47.8**	**+0.1**
	baz=1.5								
OSI	**Osito Adit**	**1.53**	**282**	*e*Pn		**Pn**	**01 06 27.1**	**-0.5**
OSI				*e*Sn		**Sn**	**01 06 47.9**	**+0.1**
OSI	**Osito Adit**	**1.53**	**282**	⇑Pb		**Pn**	**01 06 27.5**	**-0.1**
	baz=1.5,SNR=69								
OSI				⇓S		**Sn**	**01 06 47.5**	**-0.3**
	baz=1.5								
SWSC	**Sam W. Stewart**	**1.65**	**145**	⇓Pn		**Pn**	**01 06 27.6**	**-1.5**
	baz=1.7,SNR=113								
SWSC				⇓S		**Sn**	**01 06 50.6**	**+0.2**
	baz=1.7								
LDFC	**Landfair**	**1.67**	**62**	*e*Pn		**Pn**	**01 06 29.8**	**+0.3**
LDFC				*e*Sg		**Sb**	**01 06 52.3**	**+0.1**
SHOC	**Shoshone**	**1.67**	**18**	⇓Pn		**Pn**	**01 06 28.6**	**-0.9**
	baz=1.7,SNR=128								
DVTC	**Desert V Tower**	**1.77**	**157**	⇓Pn		**Pn**	**01 06 30.2**	**-0.7**
	baz=1.8								
DVTC				⇓Sb		**Sb**	**01 06 55.6**	**+0.5**
	baz=1.8								
ARVC	**Arvin**	**1.78**	**298**	⇑Pn		**Pn**	**01 06 30.3**	**-0.7**
	baz=1.8,SNR=90								
ARVC				⇓Sb		**Sb**	**01 06 55.8**	**+0.5**
	baz=1.8								
BLG	**Laguna Peak**	**1.80**	**264**	⇓Pb		**Pn**	**01 06 31.8**	**+0.6**
	baz=1.8,SNR=21								
BLG				⇓Sb		**Sb**	**01 06 56.5**	**+0.8**
	baz=1.8								
MPMC	**Manual Prospec**	**1.82**	**345**	⇓Pb		**Pn**	**01 06 32.6**	**+1.0**
	baz=1.8,SNR=551								
MPMC				⇑Sb		**Sb**	**01 06 57.1**	**+0.6**
	baz=1.8								
ISA	**Isabella**	**1.87**	**317**	*e*Pn		**Pn**	**01 06 32.4**	**+0.2**
ISA				*e*Sg		**Sb**	**01 06 57.9**	**+0.1**
ISA	**Isabella**	**1.87**	**317**	⇑Pb		**Pb**	**01 06 33.6**	**-0.7**
	baz=1.9								
ISA				⇑Sb		**Sb**	**01 06 58.2**	**+0.3**
	baz=1.9								
NEE2	**Needles Airpor**	**1.94**	**76**	⇓Pg		**Pb**	**01 06 35.6**	**+0.1**
	baz=1.9								
NEE2				⇓Sb		**Sb**	**01 07 00.8**	**+0.8**
	baz=1.9								
Y12C	**Blythe**	**2.05**	**105**	⇓Pg		**Pb**	**01 06 37.9**	**+0.6**
	baz=2.1,SNR=20								
GLA	**Glamis**	**2.14**	**125**	*e*Pn		**Pn**	**01 06 34.7**	**-1.1**
GLA				*e*Pg		**Pb**	**01 06 39.5**	**+0.7**
GLA				*e*Sg		**Sb**	**01 07 06.7**	**+1.2**
FURC	**Furnace Creek,**	**2.16**	**1**	⇓Pg		**Pg**	**01 06 40.4**	**-0.8**
	baz=2.2								
PDMCI	**Parker Dam,Lak**	**2.29**	**89**	⇓Sb		**Sb**	**01 07 10.8**	**+0.9**
	baz=2.3								
VES	**Vestal, Richgr**	**2.35**	**311**	⇓Sb		**Sb**	**01 07 13.1**	**+1.4**
	baz=2.3								
SMMC	**Simmler**	**2.74**	**292**	⇓Sb		**Sb**	**01 07 24.8**	**+2.0**
	baz=2.7								
CCUT	**Cedar City**	**4.33**	**41**	*e*Pn		**Pn**	**01 07 07.3**	**+1.1**
CCUT				*e*Pg		**Pb**	**01 07 19.5**	**+3.2**
CCUT				*e*Sg		**Sg**	**01 08 15.4**	**-3.6**
SAO	**San Andreas Ge**	**4.44**	**305**	*e*Pb		Pb	01 07 13.6	-4.5
ARUT	**Antelope Range**	**4.47**	**38**	*e*Pn		**Pn**	**01 07 08.5**	**+0.4**
ARUT				*e*Pg		**Pb**	**01 07 21.6**	**+3.0**
ARUT				*e*Sg		**Sg**	**01 08 19.2**	**-4.1**
CMB	**Columbia Colle**	**4.67**	**324**	*e*Pn		**Pn**	**01 07 12.5**	**+1.9**
CMB				*e*Sg		**Sb**	**01 08 20.6**	**+2.2**
WUAZ	**Wupatki**	**4.71**	**74**	*e*Pg		**Pb**	**01 07 25.4**	**+2.8**
WUAZ				*e*Sg		**Sg**	**01 08 27.5**	**-3.4**
WCN	**Washoe City**	**5.49**	**336**	*e*Pn		**Pn**	**01 07 22.9**	**+0.9**
WCN				*e*Pg		**Pg**	**01 07 43.5**	**-1.4**
WCN				*e*Sg		**Sg**	**01 08 55.1**	**-0.9**
MSU	**Marysvale**	**5.67**	**41**	*e*Pn		**Pn**	**01 07 26.3**	**+1.7**
	8.1nm,0.5s								
MSU				*e*Pg		Pb	01 07 43.9	+4.7
MSU				*e*Sg		**Sg**	**01 08 56.9**	**-5.0**
ELK	**Elko**	**6.56**	**11**	*e*Pg		Pg	01 08 02.3	-3.2
ELK				*e*Sg		**Sg**	**01 09 28.6**	**-4.9**
DUG	**Dugway**	**6.72**	**28**	*e*Pg		Pg	01 08 05.4	-3.2
DUG				*e*Sg		**Sb**	**01 09 21.6**	**+3.9**
MVCO	**Mesa Verde**	**7.42**	**65**	*e*Pn		**Pn**	**01 07 50.2**	**+1.5**
MVCO				*e*Pg		Pg	01 08 18.7	-3.3
MVCO				*e*Sg		Sb	01 09 48.6	+10

*DJA **11** 01:09:28,0.˝56S×132.˚54E,h78km,MLv4.0/3*
IDC 11 01:09:19.0±13.0,0.˚40S×132.˚81E,h0km,mb3.8/2,
mb1 3.9/4,mb1mx3.5/18,mbtmpg3.7/4,ML3.7/2,Error ellipse: s-maj=193.9km s-min=81.0km az=169.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**201**	P	Pn	01 13 42.3	0.0
	0.1nm,0.3s,baz=17,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**19.48**	**176**	P	P	01 13 47.5	-0.2
	0.3nm,0.3s,baz=355,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.15**	**177**	P	P	01 14 27.4	+0.3
	1.9nm,0.7s,baz=355,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**32.39**	**166**	P	P	01 15 49.9	-0.7
	0.5nm,0.3s,baz=356,slow=13,SNR=2.8						

*THE **11** 01:31:24.7,37.˚80N×21.˚37E,h2km±1km,ML2.4/7,Error ellipse: s-maj=1.5km s-min=0.5km az=308.0*
*CSEM **11** 01:31:25.5±0.5,37.˚87N×21.˚35E,h2km,MD3.2,Error ellipse: s-maj=9.1km s-min=5.2km az=179.0*
*ATH **11** 01:31:26.6,37.˚92N×21.˚37E,h14km±11km,MD3.2/3*
ISC 11 01:31:25.7±1.2,37.˚86N±0.˚05×21.˚38E±0.˚02,h12km±7km,
n28,σ0ˢ73/52,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.21**	**19**	P	**Pg**	**01 31 30.1**	**-0.2**
RLS				S	**Sg**	**01 31 33.8**	**+0.4**
RLS	**Riolos of Patr**	**0.21**	**19**	*e*PG	**Pg**	**01 31 30.2**	**-0.1**
RLS				*e*SG	**Sg**	**01 31 34.0**	**+0.6**
RLS	**Riolos of Patr**	**0.21**	**19**	*e*Pg	**Pg**	**01 31 30.2**	**-0.1**
RLS				*e*Sg	**Sg**	**01 31 34.0**	**+0.6**
LAKA	**Lakka**	**0.61**	**51**	P	**Pg**	**01 31 37.0**	**-0.6**
LAKA				S	**Sb**	**01 31 46.8**	**-0.1**
LAKA	**Lakka**	**0.61**	**51**	P	**Pg**	**01 31 37.0**	**-0.6**
LAKA				S	**Sb**	**01 31 46.8**	**-0.1**
VLS	**Valsamata**	**0.70**	**297**	P	**Pg**	**01 31 38.4**	**-0.9**
VLS				S	**Sg**	**01 31 48.9**	**+0.4**
VLS	**Valsamata**	**0.70**	**297**	*e*PB	**Pg**	**01 31 38.8**	**-0.5**
VLS				*e*SB	**Sb**	**01 31 50.0**	**+0.4**
VLS	**Valsamata**	**0.70**	**297**	P	**Pg**	**01 31 38.4**	**-0.9**
VLS	**Valsamata**	**0.70**	**297**	*e*Pb	**Pg**	**01 31 38.8**	**-0.5**
VLS				S	**Sg**	**01 31 48.9**	**+0.4**
VLS				*e*Sb	**Sb**	**01 31 50.0**	**+0.4**
EFP	**Efpalio**	**0.70**	**36**	P	**Pg**	**01 31 38.9**	**-0.5**
EFP				S	**Sb**	**01 31 49.9**	**+0.3**
EFP	**Efpalio**	**0.70**	**36**	P	**Pg**	**01 31 38.9**	**-0.5**
EFP				S	**Sb**	**01 31 49.9**	**+0.3**
TRIZ	**Trizonia**	**0.75**	**47**	P	**Pg**	**01 31 39.0**	**-1.2**
TRIZ				S	**Sb**	**01 31 51.0**	**+0.2**
TRIZ	**Trizonia**	**0.75**	**47**	P	**Pg**	**01 31 39.0**	**-1.2**
TRIZ				S	**Sb**	**01 31 51.0**	**+0.2**
GUR	**Goura**	**0.77**	**84**	P	**Pg**	**01 31 39.7**	**-0.8**
GUR				S	**Sg**	**01 31 51.2**	**+0.6**
GUR	**Goura**	**0.77**	**84**	P	**Pg**	**01 31 39.7**	**-0.8**
GUR				S	**Sg**	**01 31 51.2**	**+0.6**
KALE	**Kalithea**	**0.80**	**48**	P	**Pg**	**01 31 40.4**	**-0.8**
KALE				S	**Sb**	**01 31 53.0**	**+0.5**
KALE	**Kalithea**	**0.80**	**48**	P	**Pg**	**01 31 40.4**	**-0.8**
DSF	**Desfina**	**1.06**	**58**	P	**Pb**	**01 31 45.0**	**-1.1**
DSF				S	**Sn**	**01 32 01.3**	**+0.1**
DSF	**Desfina**	**1.06**	**58**	P	**Pb**	**01 31 45.0**	**-1.1**
DSF				S	**Sn**	**01 32 01.3**	**+0.1**
LKD2	**Lefkada island**	**1.09**	**329**	P	**Pb**	**01 31 45.6**	**-1.0**
LKD2				S	**Sn**	**01 32 03.1**	**+1.1**
LKD2	**Lefkada island**	**1.09**	**329**	P	**Pb**	**01 31 45.6**	**-1.0**
LKD2				S	**Sn**	**01 32 03.1**	**+1.1**
EVR	**Evrytania**	**1.11**	**18**	P	**Pb**	**01 31 46.3**	**-0.7**
EVR				S	**Sn**	**01 32 03.8**	**+1.2**
EVR	**Evrytania**	**1.11**	**18**	*e*PB	**Pb**	**01 31 46.5**	**-0.5**
EVR	**Evrytania**	**1.11**	**18**	*e*Pb	**Pb**	**01 31 46.5**	**-0.5**
EVR				S	**Sn**	**01 32 03.8**	**+1.2**
AGG	**Agios Georgios**	**1.38**	**32**	P	**Pn**	**01 31 50.8**	**-0.1**
AGG				S	**Sg**	**01 32 11.3**	**+1.1**
AGG	**Agios Georgios**	**1.38**	**32**	P	**Pn**	**01 31 50.8**	**-0.1**
AGG				S	**Sg**	**01 32 11.3**	**+1.1**
VLI	**Veliai**	**1.68**	**132**	*e*PN	**Pg**	**01 31 58.7**	**+0.7**
VLI	**Veliai**	**1.68**	**132**	*e*Pn	**Pg**	**01 31 58.7**	**+0.7**

*DJA **11** 01:41:20,0.˝49S×131.˚82E,h91km,MLv3.9/4*
IDC 11 01:41:14.1±2.2,0.˚42S×132.˚04E,h0km,mb3.6/2,
mb1 3.9/4,mb1mx3.6/18,mbtmpg3.7/4,ML3.8/1,Error ellipse: s-maj=93.1km s-min=24.2km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.66**	**199**	P	P	01 45 32.0	-1.8
	0.2nm,0.3s,baz=19,slow=10.0,SNR=18						
WRA	**Warramunga Arr**	**19.53**	**174**	P	P	01 45 43.8	+0.4
	0.4nm,0.3s,baz=355,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**23.18**	**176**	P	P	01 46 22.9	+0.3
	3.2nm,0.6s,baz=355,slow=7.8,SNR=60						
MKAR	**Makanchi Array**	**63.98**	**324**	P	P	01 51 49.6	+0.2
	0.2nm,0.7s,baz=120,slow=7.3,SNR=3.2						

IDC 11 01:47:26.7±2.4,4.˚07S×129.˚52E,h0km,mb3.9/1,
mb1 3.5/3,mb1mx3.4/17,mbtmpg3.4/3,ML3.4/2,Error ellipse: s-maj=184.5km s-min=27.9km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.46**	**195**	Sn	Sn	01 53 17.7	-16
	0.1nm,0.3s,baz=292,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**16.47**	**164**	Pn	P	01 51 21.2	-0.9
	0.2nm,0.3s,baz=347,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**19.94**	**168**	P	P	01 51 59.5	-0.9
	0.1nm,0.3s,baz=350,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**65.53**	**326**	P	P	01 58 12.1	0.0
	0.7nm,0.4s,baz=117,slow=7.4,SNR=16						

IDC 11 01:49:32.0±1.6,18.˚88N×145.˚32E,h637km±20km,
mb3.1/20,mb1 3.3/21,mb1mx3.2/28,mbtmpg3.1/21,Error ellipse: s-maj=15.3km s-min=9.8km az=105.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.27**	**185**	S	S	01 52 20.7	-8.1
	3.6nm,0.3s,baz=324,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**18.68**	**342**	P	P	01 53 13.4	+1.4
	0.6nm,0.3s,baz=169,slow=10,SNR=4.6						
KSRS	**Korea Array**	**23.96**	**324**	P	P	01 53 58.3	-0.8
	2.1nm,0.6s,baz=144,slow=8.9,SNR=6.5						
PETK	**Petropavlovsk-**	**35.50**	**13**	P	P	01 55 38.0	+0.5
	1.3nm,0.6s,baz=176,slow=9.5,SNR=2.4						
WRA	**Warramunga Arr**	**40.05**	**196**	P	P	01 56 14.7	0.0
	0.7nm,0.7s,baz=21,slow=8.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**41.52**	**209**	P	P	01 56 26.5	+0.2
	1.3nm,0.7s,baz=1.4,slow=20,SNR=9.9						
SONM	**Songino Array**	**42.78**	**321**	P	P	01 56 36.5	+0.6
	0.7nm,0.4s,baz=130,slow=5.7,SNR=5.6						
ASAR	**Alice Springs**	**43.73**	**195**	P	P	01 56 43.2	-0.2
	0.5nm,0.4s,baz=13,slow=7.6,SNR=9.1						
CMAR	**Chiang Mai Arr**	**43.84**	**277**	P	P	01 56 45.0	+0.7
	5.0nm,0.7s,baz=73,slow=6.1,SNR=16						
STKA	**Stephens Creek**	**50.59**	**184**	P	P	01 57 33.8	-0.6
	0.6nm,0.3s,baz=5.7,slow=10,SNR=3.4						
TAPN	**Taplejung**	**53.26**	**290**	*e*P	P	01 57 54.0	0.0
ODAN	**Odare**	**53.58**	**290**	*e*P	P	01 57 56.5	+0.4
RAMN	**Ramite**	**54.28**	**290**	*e*P	P	01 58 01.8	+0.8
JIRN	**Jiri**	**54.59**	**291**	*e*P	P	01 58 04.0	+0.7
	22nm,0.5s						
GUN	**Gumba**	**54.84**	**291**	*e*P	P	01 58 05.7	+0.6
	9.0nm,0.4s						
PKI	**Pulchoki**	**55.29**	**291**	*e*P	P	01 58 08.1	0.0
	10nm,0.4s						
KKN	**Kakani**	**55.38**	**291**	*e*P	P	01 58 08.8	+0.2
DMN	**Daman**	**55.55**	**291**	*e*P	P	01 58 10.0	+0.2
GKN	**Gorkha**	**55.93**	**291**	*e*P	P	01 58 12.8	+0.5
DANN	**Dangsing**	**56.68**	**292**	*e*P	P	01 58 17.7	+0.1
KOLN	**Koldanda**	**56.87**	**291**	*e*P	P	01 58 18.7	-0.1
	7.0nm,0.7s						
MKAR	**Makanchi Array**	**58.08**	**314**	P	P	01 58 27.0	+0.6
	0.5nm,0.4s,baz=87,slow=8.6,SNR=9.6						
KDAK	**Kodiak Island**	**59.41**	**33**	P	P	01 58 35.2	+0.3
	16nm,1.1s,baz=299,slow=18,SNR=5.9						
ILAR	**Eielson Array**	**63.65**	**26**	P	P	01 59 01.2	-1.1
	2.1nm,0.7s,baz=249,slow=6.0,SNR=37						
BVAR	**Borovoye Array**	**66.11**	**320**	P	P	01 59 17.3	-0.6
	0.7nm,0.6s,baz=109,slow=7.5,SNR=4.4						
INK	**Inuvik**	**69.35**	**23**	P	P	01 59 37.3	+0.1
	2.1nm,0.8s,baz=261,slow=7.2,SNR=6.7						
DLBC	**Dease Lake**	**71.34**	**34**	P	P	01 59 50.7	+1.5
	3.1nm,0.7s,baz=161,slow=16,SNR=7.2						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	P	02 00 26.3	+0.2
	1.6nm,0.4s,baz=287,slow=5.1,SNR=23						
RES	**Resolute Bay**	**79.34**	**14**	P	P	02 00 32.6	-0.3
	2.1nm,0.6s,baz=310,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**82.22**	**342**	P	P	02 00 47.5	-0.4
	2.5nm,0.8s,baz=65,slow=5.7,SNR=5.6						
NVAR	**Mina Array Bea**	**83.31**	**52**	P	P	02 00 55.0	+0.8
	2.4nm,0.7s,baz=265,slow=6.0,SNR=17						
FINES	**FINESS Array B**	**86.58**	**335**	P	P	02 01 07.7	-1.4
	1.4nm,0.6s,baz=63,slow=7.3,SNR=13						
PDAR	**Pinedale Array**	**87.96**	**45**	P	P	02 01 16.3	0.0
	0.2nm,0.5s,baz=11,slow=0.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**132.06**	**309**	PKP	PKPdf	02 07 36.4	+0.7
	0.2nm,0.4s,baz=122,slow=0.4,SNR=6.8						
TORD				SKPbc	SKPbc	02 10 03.4	-0.5
	0.5nm,0.8s,baz=63,slow=4.1,SNR=4.1						
PLCA	**Paso Flores**	**142.38**	**133**	PKP	PKPdf	02 07 51.8	-2.2
	1.5nm,0.6s,baz=202,slow=7.6,SNR=5.7						
LPAZ	**La Paz**	**148.04**	**91**	PKPbc	PKPbc	02 08 09.7	+0.7
	1.1nm,0.5s,baz=243,slow=3.4,SNR=6.9						

*ISK **11** 01:51:39.8,40.˚27N×32.˚14E,h5km,ML4.0*
*IDC **11** 01:51:40.8±1.0,40.˚23N×32.˚05E,h0km,mb3.6/5,*
mb1 3.6/8,mb1mx3.5/27,mbtmpg3.5/8,ML2.7/2,MS3.2/4,
Ms1 3.2/4,ms1mx2.9/40,Error ellipse: s-maj=19.9km s-min=9.6km az=38.0
*DDA **11** 01:51:40.3,40.˚25N×32.˚09E,h18km,MD3.9*
*CSEM **11** 01:51:41.8±0.1,40.˚28N×32.˚12E,h2km,ML4.0,Error ellipse: s-maj=3.4km s-min=2.2km az=29.0*
ISC 11 01:51:41.6±1.2,40.˚29N±0.˚02×32.˚14E±0.˚02,h0km±9km,
n216,σ1ˢ02/231,mb3.8/5,13C-13D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAD	**Ankara**	**0.60**	**129**	*i* P	**Pg**	**01 51 52.4**	**-0.7**
DAD				*i* S	**Sg**	**01 52 00.6**	**-0.4**
DAD	**Ankara**	**0.60**	**129**	*i* P	**Pg**	**01 51 52.4**	**-0.7**
DAD				*i* S	**Sg**	**01 52 00.6**	**-0.4**
LOD	**Lodumlu**	**0.62**	**129**	PG	**Pg**	**01 51 52.6**	**-0.9**
LOD				*e*SG	**Sg**	**01 52 02.4**	**+0.8**
LOD	**Lodumlu**	**0.62**	**129**	*i* Pg	**Pg**	**01 51 52.6**	**-0.9**
LOD				*e*Sg	**Sg**	**01 52 02.4**	**+0.8**
MDUB	**Mudurnu**	**0.74**	**285**	*e*PG	**Pg**	**01 51 55.3**	**-0.5**
MDUB				*e*SG	**Sb**	**01 52 07.2**	**-1.0**
MDUB	**Mudurnu**	**0.74**	**285**	*e*Pg	**Pg**	**01 51 55.3**	**-0.5**
MDUB				*e*Sg	**Sb**	**01 52 07.2**	**-1.0**
SVRH	**Sivrihisar-ESK**	**0.96**	**210**	PG	**Pg**	**01 51 59.5**	**-0.5**
SVRH				*e*SG	**Sg**	**01 52 13.5**	**+1.0**
SVRH	**Sivrihisar-ESK**	**0.96**	**210**	*e*Pg	**Pg**	**01 51 59.5**	**-0.5**
SVRH				*e*Sg	**Sg**	**01 52 13.5**	**+1.0**
SAFT	**Safranbolu**	**1.04**	**23**	*e*PG	**Pg**	**01 52 00.8**	**-0.7**
SAFT	**Safranbolu**	**1.04**	**23**	*e*Pg	**Pg**	**01 52 00.8**	**-0.7**
BBAL	**Bala**	**1.06**	**134**	*i* P	**Pg**	**01 52 00.6**	**-1.3**
BBAL				*i* S	**Sg**	**01 52 15.5**	**-0.2**
BBAL	**Bala**	**1.06**	**134**	*i* P	**Pg**	**01 52 00.6**	**-1.3**
BBAL				*i* S	**Sg**	**01 52 15.5**	**-0.2**
HENT	**Hendek**	**1.08**	**300**	*i* P	**Pg**	**01 52 01.1**	**-1.3**
HENT				*i* S	**Sn**	**01 52 19.9**	**0.0**
HENT	**Hendek**	**1.08**	**300**	*i* P	**Pg**	**01 52 01.1**	**-1.3**
HENT				*i* S	**Sn**	**01 52 19.9**	**0.0**
AFSR	**Afˇar-Bala (A**	**1.10**	**139**	*e*PN	**Pg**	**01 52 01.9**	**-0.9**
KDZE	**Karadeniz Ereo**	**1.15**	**333**	*e*PN	**Pg**	**01 52 03.5**	**-0.2**
KDZE	**Karadeniz Ereo**	**1.15**	**333**	*e*Pn	**Pg**	**01 52 03.5**	**-0.2**
CANT	**Cankiri**	**1.18**	**74**	*e*PN	**Pg**	**01 52 03.4**	**-0.7**
GULT	**Gulveren**	**1.25**	**277**	*e*PN	**Pg**	**01 52 05.2**	**-0.2**
GULT	**Gulveren**	**1.25**	**277**	*e*Pn	**Pg**	**01 52 05.3**	**-0.2**
ESKT	**Eskisehir**	**1.25**	**233**	*e*PN	**Pg**	**01 52 04.4**	**-1.2**
ESKT	**Eskisehir**	**1.25**	**233**	*e*Pn	**Pg**	**01 52 04.4**	**-1.2**
SEYT	**Eskypehyr**	**1.25**	**233**	*i* P	**Pg**	**01 52 02.8**	**-2.8**
SEYT	**Eskypehyr**	**1.25**	**233**	*i* P	**Pg**	**01 52 02.8**	**-2.8**
BRTR	**Keskin Array B**	**1.28**	**115**	Pg	**Pg**	**01 52 05.7**	**-0.5**
	78nm,0.3s,baz=344,slow=22,SNR=872						
BRTR				Lg	Lg	01 52 24.2	
	269nm,0.3s,baz=289,slow=24,SNR=36						
KIZT	**Kizilcal**	**1.42**	**188**	*e*PN	**Pn**	**01 52 07.3**	**-1.4**
KIZT	**Kizilcal**	**1.42**	**188**	*e*Pn	**Pn**	**01 52 07.3**	**-1.4**
SPNC	**Sapanca-Adapaz**	**1.45**	**287**	*e*PN	**Pn**	**01 52 07.9**	**-1.2**
SPNC	**Sapanca-Adapaz**	**1.45**	**287**	*e*Pn	**Pn**	**01 52 07.9**	**-1.2**
KAMT	**Kaman**	**1.52**	**127**	*e*PN	**Pn**	**01 52 08.9**	**-1.2**
KAMT	**Kaman**	**1.52**	**127**	*e*Pn	**Pn**	**01 52 09.0**	**-1.2**
BALT	**Daday**	**1.56**	**37**	*i* P	**Pn**	**01 52 08.1**	**-2.7**
BALT				*i* S	**Sg**	**01 52 32.7**	**+0.9**
BALT	**Daday**	**1.56**	**37**	*i* P	**Pn**	**01 52 08.1**	**-2.7**
BALT				*i* S	**Sg**	**01 52 32.7**	**+0.9**
TOS	**Tosya**	**1.62**	**62**	*e*PN	**Pn**	**01 52 10.5**	**-1.0**
TOS	**Tosya**	**1.62**	**62**	*e*Pn	**Pn**	**01 52 10.5**	**-1.0**
CAVI	**Cavuskoy**	**1.76**	**268**	*e*PN	**Pn**	**01 52 13.1**	**-0.2**
CAVI	**Cavuskoy**	**1.76**	**268**	*e*Pn	**Pn**	**01 52 13.1**	**-0.2**
KDHN	**Kadinhani**	**1.76**	**181**	*i* P	**Pn**	**01 52 12.3**	**-1.2**
KDHN				*i* S	**Sg**	**01 52 40.7**	**+2.5**
KDHN	**Kadinhani**	**1.76**	**181**	*i* P	**Pn**	**01 52 12.3**	**-1.2**
KDHN				*i* S	**Sg**	**01 52 40.7**	**+2.5**
KAST	**KASTAMONU**	**1.81**	**48**	*i* P	**Pn**	**01 52 11.3**	**-2.8**
KAST				*i* S	**Sg**	**01 52 41.2**	**+1.4**
KAST	**KASTAMONU**	**1.81**	**48**	*i* P	**Pn**	**01 52 11.3**	**-2.8**
KAST				*i* S	**Sg**	**01 52 41.2**	**+1.4**
BOLV	**Bolvadin**	**1.82**	**211**	*i* P	**Pn**	**01 52 12.3**	**-1.9**
BOLV				*i* S	**Sn**	**01 52 37.8**	**-0.2**
BOLV	**Bolvadin**	**1.82**	**211**	*i* P	**Pn**	**01 52 12.3**	**-1.9**
BOLV				*i* S	**Sn**	**01 52 37.8**	**-0.2**
ADVT	**Abdulvahap**	**1.84**	**275**	*e*PN	**Pn**	**01 52 14.0**	**-0.4**
ADVT	**Abdulvahap**	**1.84**	**275**	*e*Pn	**Pn**	**01 52 14.0**	**-0.4**
CDAG	**Cicekdag**	**1.84**	**110**	*i* P	**Pn**	**01 52 12.4**	**-2.1**
CDAG				*i* S	**Sb**	**01 52 40.1**	**+0.3**
CDAG	**Cicekdag**	**1.84**	**110**	*i* P	**Pn**	**01 52 12.4**	**-2.1**
CDAG				*i* S	**Sb**	**01 52 40.1**	**+0.3**
CORM	**Corum**	**1.91**	**92**	*e*PN	**Pn**	**01 52 15.2**	**-0.3**
CORM	**Corum**	**1.91**	**92**	*e*Pn	**Pn**	**01 52 15.2**	**-0.3**
HRT	**Hereke**	**1.96**	**287**	*e*PN	**Pn**	**01 52 15.8**	**-0.3**
HRT	**Hereke**	**1.96**	**287**	*e*Pn	**Pn**	**01 52 15.8**	**-0.3**
ALT	**Altintas**	**1.99**	**232**	*e*PN	**Pn**	**01 52 15.9**	**-0.7**
ALT	**Altintas**	**1.99**	**232**	*e*Pn	**Pn**	**01 52 15.9**	**-0.7**
SILT	**Sile**	**2.08**	**295**	*e*PN	**Pn**	**01 52 17.0**	**-0.8**
SILT	**Sile**	**2.08**	**295**	*e*Pn	**Pn**	**01 52 17.0**	**-0.8**
LADK	**Ladik-KONYA**	**2.09**	**175**	*e*PN	**Pn**	**01 52 16.9**	**-1.1**
LADK	**Ladik-KONYA**	**2.09**	**175**	*e*Pn	**Pn**	**01 52 16.9**	**-1.1**
SHUT	**Suhut-Afyon**	**2.12**	**216**	*e*PN	**Pn**	**01 52 17.5**	**-0.9**
SHUT	**Suhut-Afyon**	**2.12**	**216**	*e*Pn	**Pn**	**01 52 17.5**	**-0.9**
**YLV

CVD	Cernavoda	5.05	324	ǁ	iP	Pn	01 52 59.1	+0.7
CVD	Cernavoda	5.05	324	ǁ	iP	Pn	01 52 59.1	+0.7
LFK	Lefkose	5.12	167		ePN	Pn	01 53 00.5	+0.9
LFK	Lefkose	5.12	167		ePn	Pn	01 53 00.5	+0.9
LEF	Lefka	5.19	173		ePN	Pn	01 53 01.4	+0.9
LEF	Lefka	5.19	173		ePn	Pn	01 53 01.4	+0.9
MALT	Malatya	5.26	110		ePN	Pn	01 53 02.6	+1.1
MALT	Malatya	5.26	110		ePn	Pn	01 53 02.6	+1.1
KDZ	Kurdzhali	5.27	287		eP	Pg	01 53 19.4	-3.1
CSS	Prodhromos	5.40	170		ePN	Pn	01 53 04.4	+1.0
CSS	Prodhromos	5.40	170		ePn	Pn	01 53 04.4	+1.0
TLCR		5.47	335	ǁ	iP	Pn	01 53 04.0	-0.3
TLCR		5.47	335	ǁ	iP	Pn	01 53 04.0	-0.3
CFR	Carcaliu	5.71	330	⇑	iP	Pn	01 53 08.4	+1.1
CFR	Carcaliu	5.71	330	⇑	iP	Pn	01 53 08.6	+1.1
PTK	Pertek	5.77	102		ePN	Pn	01 53 10.1	+1.4
PTK	Pertek	5.77	102		ePn	Pn	01 53 10.1	+1.4
ERZN	Erzincan	5.87	94		ePN	Pn	01 53 11.4	+1.4
SVRC	Sivrice-ELAZIG	5.88	107		ePN	Pn	01 53 11.3	+1.2
SVRC	Sivrice-ELAZIG	5.88	107		ePn	Pn	01 53 11.3	+1.2
ISR	Istrita	6.35	321	⇑	iP	Pn	01 53 17.3	+0.9
ISR	Istrita	6.35	321	⇑	iP	Pn	01 53 17.3	+0.9
BINT	Bingol	6.60	100		ePn	Pn	01 53 23.1	+3.1
BNGB	Bing¶ll	6.72	98		ePN	Pn	01 53 23.1	+1.5
VRI	Vrincioaia	6.84	326	ǁ	iP	Pn	01 53 22.8	-0.3
VRI	Vrincioaia	6.84	326	ǁ	iP	Pn	01 53 22.8	-0.3
PLOR	Plostina	6.86	326	ǁ	iP	Pn	01 53 24.8	+1.4
PLOR	Plostina	6.86	326	ǁ	iP	Pn	01 53 24.8	+1.4
MLR	Muntele Rosu	6.91	321		Pn	Pn	01 53 24.4	+0.3
	0.0nm,0.3s,baz=331,slow=19,SNR=3.6							
MLR					Sn	Sn	01 54 42.6	-0.9
	0.1nm,0.3s,baz=278,slow=19,SNR=1.8							
MLR	Muntele Rosu	6.91	321	⇑	iP	Pn	01 53 24.6	+0.4
MLR	Muntele Rosu	6.91	321	⇑	iP	Pn	01 53 24.6	+0.4
VTS	Vitosha	7.09	292	⇑	iP	Pn	01 53 27.3	+0.6
VTS	Vitosha	7.09	292		eP	Pn	01 53 24.6	-2.1
VTS	Vitosha	7.09	292		eP	Pn	01 53 24.6	-2.1
VOIR		7.32	317	⇑	iP	Pn	01 53 30.5	+0.7
VOIR		7.32	317	⇑	iP	Pn	01 53 30.5	+0.7
MMAI	Mount Meron Ar	7.72	159		Pn	Pn	01 53 33.3	-1.9
	0.4nm,0.3s,baz=344,slow=14,SNR=4.6							
GZR	Gura Zlata	8.56	310	⇑	iP	Pn	01 53 45.4	-1.4
GZR	Gura Zlata	8.56	310	⇑	iP	Pn	01 53 45.4	-1.4
DEV	Deva	8.77	3	ǁ	iP	Pn	01 53 39.4	-10
BURAR	Bucovina Array	8.86	328	⇑	iP	Pn	01 53 50.4	-0.5
ASF	Jabal al Asfar	8.96	153		LR	LR	01 57 35.4	
	comp=Z,63nm,20.3s,baz=219,slow=40							
BZS	Buzias	9.37	308	ǁ	iP	Pn	01 53 56.6	-1.2
BZS	Buzias	9.37	308	ǁ	iP	Pn	01 53 56.6	-1.2
DRGR		9.44	317	⇑	iP	Pn	01 54 07.3	+8.5
GNI	Garni	9.64	87		LR	LR	01 57 35.8	
	comp=Z,167nm,19.8s,baz=296,slow=36							
AKASG	Malin Array Be	10.61	350		Pn	Pn	01 54 11.6	-3.2
	1.6nm,0.3s,baz=164,slow=15,SNR=5.4							
EIL	Elat	10.84	167		LR	LR	01 59 18.4	
	comp=Z,87nm,19.3s,baz=257,slow=42							
AKTO	Aktyubinsk	20.72	52		P	P	01 56 22.5	-0.9
	1.6nm,0.8s,baz=262,slow=11,SNR=7.3							
FINES	FINESS Array B	21.51	352		P	P	01 56 31.6	-0.1
	3.9nm,0.9s,baz=139,slow=11,SNR=3.5							
HFS	Hagfors	22.96	336		P	P	01 56 49.5	+2.2
	5.2nm,0.8s,baz=132,slow=10,SNR=3.9							
BVAR	Borovoye Array	28.82	51		LR	LR	02 10 23.8	
	comp=Z,173nm,20.1s,baz=77,slow=39							
MKAR	Makanchi Array	36.41	63		P	P	01 58 47.4	-0.3
	0.4nm,0.6s,baz=263,slow=8.5,SNR=7.5							
ZALV	Zalesovo Beam	37.47	51		P	P	01 58 57.5	+0.9
	0.3nm,0.4s,baz=277,slow=11,SNR=3.2							
TORD	Torodi Ar. Bea	38.00	233		P	P	01 58 59.7	-1.7
	1.3nm,0.7s,baz=36,slow=8.6,SNR=10							

*BJI **11** 01:55:41.2, 52°.26N×159°.97E, h69km, mB5.0/12, mb4.5/18, Ms4.5/6, Ms7 4.2/6*
*MOS **11** 01:55:43.2± 1.1, 53°.33N×159°.73E, h57km, mb4.4/30, Error ellipse: s-maj=11.0km s-min=7.5km az=81.1*
MOS Felt (II) at Petropavlovsk-Kaamchatskiy.
*ISCJB **11** 01:55:44.7± 0.3, 53°.15N± 0°.03×159°.84E± 0°.05, h74km± 2km, mb4.2/66, Error ellipse: s-maj=6.1km s-min=3.0km az=44.9*
*IDC **11** 01:55:45.8± 0.6, 53°.35N×159°.81E, h64km± 5km, mb3.7/27, mb1 3.9/28, mb1mx3.9/32, mbtmp3.8/28, Error ellipse: s-maj=16.1km s-min=6.6km az=165.0*
*KRSC **11** 01:55:45.6± 0.2, 53°.20N×159°.90E, h52km± 32km, ML4.7*
*NEIC **11** 01:55:46.2± 0.5, 53°.22N×159°.68E, h72km± 5km, mb4.5/18, Error ellipse: s-maj=10.1km s-min=4.8km az=173.0*

ISC 11 01:55:44.6±0.5, 53°.11N±0°.04×159°.97E±0°.03, h59km, 4km, h58km:pP-P, n214, σ1$49/254, mb4.3/66, 1C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.04	102	PN	Pn	Pn	01 55 53.5	+0.1
SPN	Mys Shipunski	0.04	102	iP	Pn	Pn	01 55 53.5	+0.1
NLC	Nalytchevo	0.38	280	PN	Pn	Pn	01 55 55.6	+0.4
NLC	Nalytchevo	0.38	280	iP	Pn	Pn	01 55 55.6	+0.4
SDLR	Sedlovina	0.67	285	iP	Pn	Pn	01 55 58.9	+0.3
UGLR	Uglovaya	0.70	279	iP	Pn	Pn	01 55 59.6	+0.8
UGLR				iS	Sn	Sn	01 56 10.1	+0.9
SMAR	Somma	0.72	283	iP	Pn	Pn	01 55 59.5	+0.3
SMAR				iS	Sn	Sn	01 56 09.1	-0.8
AVH	Avacha	0.76	283	iP	Pn	Pn	01 56 00.2	+0.7
AVH				iS	Sn	Sn	01 56 11.1	+0.6
PET	Petropavlovsk	0.80	265	iPN	Pn	Pn	01 56 00.2	+0.3
PET				eS	Sn	Sn	01 56 11.0	-0.2
PET				pmax	pmax			
	comp=Z,700nm,0.4s							
PET				pmax	pmax			
	comp=Z,755nm,0.3s							
PET				smax	smax			
	comp=N,1μm,4.6s							
PET				smax	smax			
	comp=E,4μm,0.6s							
PET				smax	smax			
	comp=E,1μm,1.7s							
PET				smax	smax			
	comp=N,3μm,1.0s							
PET				smax	smax			
	comp=E,6μm,0.5s							
PET	Petropavlovsk	0.80	265	ePn	Pn	Pn	01 56 00.2	+0.3
PET				eSn	Sn	Sn	01 56 10.6	-0.6
PET	Petropavlovsk	0.80	265	iP	Pn	Pn	01 56 00.3	+0.3
PET				iS	Sn	Sn	01 56 11.3	+0.1
INSR	Institute	0.82	268	iP	Pn	Pn	01 56 00.5	+0.2
INSR				iS	Sn	Sn	01 56 11.4	-0.4
KOK	Koryaka	0.82	284	iP	Pn	Pn	01 56 00.8	+0.4
KOK				iS	Sn	Sn	01 56 11.8	-0.2
KII	Karymskiy	0.98	342	iP	Pn	Pn	01 56 02.7	+0.3
KII				iS	Sn	Sn	01 56 15.5	-0.1
RUS	Russkaya	1.11	233	PN	Pn	Pn	01 56 04.4	+0.4
RUS				S	Sn	Sn	01 56 18.4	0.0
RUS	Russkaya	1.11	233	iP	Pn	Pn	01 56 04.4	+0.4
RUS				iS	Sn	Sn	01 56 18.4	0.0
GRL	Gorelyy	1.27	245	iP	Pn	Pn	01 56 07.7	+1.4
GRL				iS	Sn	Sn	01 56 23.3	+0.7
PEA0B	Petropavlovsk-	1.37	271	ePn	Pn	Pn	01 56 08.4	+1.0
PEA0B				eSn	Sn	Sn	01 56 26.1	+1.6
PETK	Petropavlovsk-	1.37	271	P	Pn	Pn	01 56 08.4	+1.0
	comp=E,341nm,0.3s,baz=87,slow=19,SNR=2264							
PETK				S	Sn	Sn	01 56 25.5	+0.9
	comp=E,278nm,0.3s,baz=88,slow=23,SNR=22							
PETK	Petropavlovsk-	1.37	271	PN	Pn	Pn	01 56 08.5	+1.0
PETK				S	Sn	Sn	01 56 25.5	+0.9
PETK				pmax	pmax			
	comp=Z,341nm,0.3s							
PETK				smax	smax			
	comp=N,278nm,0.3s							
PETK	Petropavlovsk-	1.37	271	P	Pn	Pn	01 56 08.4	+1.0
PETK				S	Sn	Sn	01 56 25.5	+0.9
MKZ	Mys Kozlova	1.79	35	PN	Pn	Pn	01 56 12.8	-0.3
MKZ				S	Sn	Sn	01 56 32.5	-2.3
MKZ	Mys Kozlova	1.79	35	iP	Pn	Pn	01 56 12.8	-0.3
MKZ				iS	Sn	Sn	01 56 32.5	-2.3
MIPR	Malaya Ipel'ka	2.12	248	iP	Pn	Pn	01 56 19.7	+2.0
TUMR	Tumrok	2.19	3	eP	Pn	Pn	01 56 20.0	+1.4
TUMR				iS	Sn	Sn	01 56 45.1	+0.5
KMNR	Kamenistaya	2.66	3	iP	Pn	Pn	01 56 26.9	+1.8
KMNR				iS	Sn	Sn	01 56 56.6	+0.4
BZMR	Bezymyannaya	2.85	6	P	Pn	Pn	01 56 29.3	+1.6
KPT	Kopyto	2.87	3	eP	Pn	Pn	01 56 29.3	+1.4
BZWR	Bezymyannyi-We	2.88	6	P	Pn	Pn	01 56 30.1	+1.9
ESO	Esso	2.92	346	PN	Pn	Pn	01 56 29.5	+0.9
ESO	Esso	2.92	346	iP	Pn	Pn	01 56 29.5	+0.9
KOZ	Kozyrevsk	2.96	359	eP	Pn	Pn	01 56 30.7	+1.6
KOZR	Kozyr	2.97	359	PN	Pn	Pn	01 56 30.7	+1.5
KRSR	Krestovskiy	3.14	6	P	Pn	Pn	01 56 32.6	+1.0
SRDR	Sredinnyy	3.22	358	iP	Pn	Pn	01 56 33.8	+1.1
KLY	Klyuchi	3.24	7	PN	Pn	Pn	01 56 34.8	+1.9
KLY				S	Sn	Sn	01 57 10.3	+0.1
KLY	Klyuchi	3.24	7	eP	Pn	Pn	01 56 34.8	+1.9
KLY				iS	Sn	Sn	01 57 10.3	+0.1
KBTR	Krutoberegovo	3.52	27	PN	Pn	Pn	01 56 38.1	+1.3
KBTR				S	Sn	Sn	01 57 17.8	+0.7
KBTR	Krutoberegovo	3.52	27	eP	Pn	Pn	01 56 38.1	+1.3
KBTR				iS	Sn	Sn	01 57 17.8	+0.7
BDR	Baidarnaya	3.54	11	eP	Pn	Pn	01 56 38.5	+1.4
SMKR	Semkarok	3.59	13	iP	Pn	Pn	01 56 39.5	+1.7
SMKR				iS	Sn	Sn	01 57 19.8	+0.9
SRKR	Sorokina	3.62	11	iP	Pn	Pn	01 56 40.6	+2.4
SRKR				iS	Sn	Sn	01 57 21.0	+1.3
BKI	Bering	4.11	57	PN	Pn	Pn	01 56 45.2	+0.4
BKI	Bering	4.11	57	iP	Pn	Pn	01 56 45.2	+0.4
BKI				iS	Sn	Sn	01 57 27.0	-4.5
FX1	Attu Island--F	7.97	86	P	Pn	Pn	01 57 38.9	+1.2
	comp=N,11nm,0.3s,baz=320,slow=4.7,SNR=109							
FX1				S	Sn	Sn	01 59 00.9	-5.3
	comp=N,29nm,0.3s,baz=300,slow=22,SNR=12							
FX1	Attu Island--F	7.97	86	PN	Pn	Pn	01 57 38.9	+1.2
FX1				pmax	pmax			
	comp=Z,11nm,0.3s							
FX1	Attu Island--F	7.97	86	ePn	Pn	Pn	01 57 38.8	+1.2
FX1				S	Sn	Sn	01 59 00.9	-5.3
SMY	Shemya	8.55	87	ePN	Pn	Pn	01 57 47.8	+2.2
SMY	Shemya	8.55	87	ePn	Pn	Pn	01 57 47.8	+2.2
SEY	Seymchan	10.63	341	iPN	Pn	Pn	01 58 11.6	-2.3
BILL	Bilibino	15.29	9	ǁ	eP	P	01 59 18.5	-1.6
BILL				eS	Sn	Sn	02 02 05.5	+1.1
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BILL	Bilibino	15.29	9	ePn	P	P	01 59 22.1	+2.0
HABR	Khabarovsk	16.39	264	eP	pP	pP	01 59 43.5	-1.5
HABR				eS	Sn	Sn	02 02 28.0	-3.2
HABR				pmax	pmax			
	comp=N,80nm,2.1s							
HABR				pmax	pmax			
	comp=Z,132nm,2.1s							
HABR				pmax	pmax			
	comp=E,178nm,2.1s							
HABR				MLR	MLR			
	comp=Z,157nm,15.0s							
YAK	Yakutsk	18.37	311	eP	P	P	01 59 54.2	0.0
YAK				pmax	pmax			
	comp=Z,16nm,0.5s							
YAK	Yakutsk	18.37	311	eP	P	P	01 59 54.2	0.0
	comp=Z,16nm,0.5s							
TNA	Tin City	20.29	40	eP	Pn	Pn	02 00 17.8	+0.3
	comp=Z,5.6nm,0.9s							
USRK	Ussuriysk Arra	20.40	255	P	Pn	Pn	02 00 17.9	-1.1
	comp=Z,0.9nm,0.5s,baz=41,slow=10,SNR=4.6							
MDJ	Mudanjiang	21.58	259	P	P	P	02 00 23.0	-6.0
MDJ				pmax	pmax			
	comp=Z,350nm,5.7s							
MJA0	Matsu Arr-Jizo	22.48	231	eP	P	P	02 00 40.1	+1.3
MJA0				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MAJO	Matsushiro	22.49	231	eP	P	P	02 00 39.5	+0.5
MAJO				pmax	pmax			
	comp=Z,15nm,0.7s							
MAJO	Matsushiro	22.49	231	eP	P	P	02 00 39.5	+0.5
	comp=Z,15nm,0.7s							
MAT	Matsushiro	22.49	231	P	P	P	02 00 38.2	-0.8
MJAR	Matsushiro Arr	22.49	231	P	P	P	02 00 39.8	+0.8
	comp=Z,8.6nm,0.7s,baz=16,slow=11,SNR=18							
MJAR	Matsushiro Arr	22.49	231	P	P	P	02 00 39.8	+0.8
MJAR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MJAR	Matsushiro Arr	22.49	231	P	P	P	02 00 39.8	+0.8
CN2	Changchun	24.50	262	eP	P	P	02 00 54.9	-3.1
CN2				epP	pP	pP	02 01 13.0	+0.4
CN2				eS	S	S	02 05 05.0	-9.1
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HIA	Hailar	25.26	278	eP	P	P	02 01 03.3	-1.7
HIA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
HIA	Hailar	25.26	278	eP	P	P	02 01 03.2	-1.7
	comp=Z,5.0nm,0.6s							
ILAR	Eielson Array	28.86	45	P	P	P	02 01 37.0	-0.1
	comp=Z,0.9nm,0.7s,baz=262,slow=8.6,SNR=12							
ILAR	Eielson Array	28.86	45	P	P	P	02 01 37.0	-0.1
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR	Eielson Array	28.86	45	P	P	P	02 01 37.0	-0.1
SONM	Songino Array	33.82	283	P	P	P	02 02 19.2	-1.8
	comp=Z,0.4nm,0.6s,baz=67,slow=7.5,SNR=4.2							
SONM	Songino Array	33.82	283	P	P	P	02 02 19.2	-1.8
SONM	Songino Array	33.82	283	P	P	P	02 02 19.2	-1.8
INK	Inuvik	33.91	38	P	P	P	02 02 22.2	+0.9
	comp=Z,2.1nm,0.6s,baz=286,slow=7.2,SNR=6.0							
INK	Inuvik	33.91	38	P	P	P	02 02 22.2	+0.9
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	Inuvik	33.91	38	eP	P	P	02 02 21.9	+0.6
	comp=Z,2.3nm,0.6s							
HHC	Hu-ho-hao-te	34.57	269	eP	P	P	02 02 23.2	-4.3
HHC				pP	pP	pP	02 02 41.2	-1.0
HHC				sP	sP	sP	02 02 50.2	+1.0
HHC				PP	PP	PP	02 03 40.3	-6.2
HHC				S	S	S	02 07 45.1	-7.1
HHC				SS	SS	SS	02 09 59.8	-24
HHC				pmax	pmax			
	comp=Z,12nm,0.6s							
HHC				pmax	pmax			
	comp=Z,130nm,5.0s							
HHC				LR	LR			
	comp=N,350nm,13.0s							
HHC				LR	LR			
	comp=E,490nm,14.6s							
HHC				LR	LR			
	comp=Z,250nm,14.9s							
DLBC	Dease Lake	38.10	53	P	P	P	02 03 00.1	+2.8
	comp=Z,4.1nm,0.8s,baz=276,slow=9.0,SNR=5.8							
DLBC	Dease Lake	38.10	53	P	P	P	02 03 00.1	+2.8
LZH	Lanzhou	42.26	269	eP	P	P	02 03 30.7	-1.4
LZH				pmax	pmax			
	comp=Z,18nm,1.4s							
GTA	Gaotai	42.53	276	eP	P	P	02 03 35.6	+1.4
GTA				pP	pP	pP	02 03 53.1	+3.8
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ZALV	Zalesovo Beam	42.70	303	P	P	P	02 03 32.5	-2.8
	comp=Z,0.6nm,0.6s,baz=54,slow=7.3,SNR=4.2							
ZALV	Zalesovo Beam	42.70	303	eP	P	P	02 03 35.3	0.0
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	Zalesovo Beam	42.70	303	P	P	P	02 03 32.5	-2.8
NVS	Novosibirsk	43.04	304	eP	P	P	02 03 35.0	-3.0
YKA	Yellowknife Ar	43.21	43	P	P	P	02 03 40.1	+1.0
	comp=Z,1.3nm,0.4s,baz=299,slow=7.3,SNR=17							
YKA	Yellowknife Ar	43.21	43	P	P	P	02 03 40.2	+1.0
YKA	Yellowknife Ar	43.21	43	P	P	P	02 03 40.1	+1.0
RES	Resolute Bay	43.34	22	P	P	P	02 03 40.4	+0.2
	comp=Z,0.8nm,0.5s,baz=305,slow=8.4,SNR=4.3							
RES	Resolute Bay	43.34	22	eP	P	P	02 03 41.6	+1.4
RES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
RES	Resolute Bay	43.34	22	eP	P	P	02 03 41.6	+1.4
	comp=Z,1.1nm,0.4s							
CD2	Chengdu	45.89	264	P	P	P	02 04 01.9	+0.8
CD2				PP	PP	PP	02 05 49.2	-0.2
CD2				S	S	S	02 10 41.5	+0.4
CD2				SS	ScS	ScS	02 13 57.2	+5.9
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,200nm,6.5s							
CD2				LR	LR			
	comp=N,520nm,5.3s							
CD2				LR	LR			
	comp=Z,300nm,5.9s							
WMQ	Urumqi	46.89	289	eP	P	P	02 04 08.9	+0.1
SPITS	Spitsbergen Ar	47.11	350	P	P	P	02 04 08.7	-1.3
	comp=Z,2.2nm,0.5s,baz=108,slow=6.3,SNR=13							
SPITS	Spitsbergen Ar	47.11	350	P	P	P	02 04 08.7	-1.3
SPITS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SPITS	Spitsbergen Ar	47.11	350	P	P	P	02 04 08.7	-1.3
GYA	Guiyang	47.43	257	eP	P	P	02 04 11.0	-2.2
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KURK	Kurchatov	47.66	302	eP	P	P	02 04 12.5	-2.1
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KURK	Kurchatov	47.66	302	eP	P	P	02 04 12.5	-2.1
	comp=Z,4.0nm,0.9s							
MK31	Makanchi Array	48.08	296	eP	P	P	02 04 15.4	-2.5
MK31	Makanchi Array	48.08	296	eP	P	P	02 04 15.4	-2.5
MKAR	Makanchi Array	48.08	296	P	P	P	02 04 16.0	-1.9
	comp=Z,0.8nm,0.5s,baz=57,slow=6.8,SNR=18							
MKAR	Makanchi Array	48.08	296	iP	P	P	02 04 16.5	-1.4
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	Makanchi Array	48.08	296	eP	P	P	02 04 15.8	-2.1
BVAR	Borovoye Array	50.32	308	P	P	P	02 04 32.3	-2.6
	comp=Z,1.0nm,0.5s,baz=59,slow=7.8,SNR=5.9							
BVAR	Borovoye Array	50.32	308	P	P	P	02 04 32.3	-2.6
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	Borovoye Array	50.32	308	P	P	P	02 04 32.3	-2.6
KMI	Kunming	50.75	260	P	P	P	02 04 40.7	+2.0
KMI				pP	pP	pP	02 04 50.8	-3.4
KMI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BSMT	Bassoo Peak	51.44	59	eP	P	P	02 04 45.2	+1.6
FFC	Flin Flon	53.07	46	iP	P	P	02 04 56.9	+1.6
FFC	Flin Flon	53.07	46	eP	P	P	02 04 56.4	+1.0
	comp=Z,1.8nm,0.6s							
ARCES	ARCESS Array B	53.25	342	P	P	P	02 04 54.5	-2.0
	comp=Z,4.4nm,0.9s,baz=24,slow=9.2,SNR=4.1							
ARCES				PcP	PcP	PcP	02 06 04.0	+0.6
	comp=Z,7.6nm,1.1s,baz=50,slow=4.8,SNR=4.4							
ARCES	ARCESS Array B	53.25	342	P	P	P	02 04 54.5	-2.0
ARCES							02 06 04.0	
ARCES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ARCES				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ARCES	ARCESS Array B	53.25	342	P	P	P	02 04 54.5	-2.0
ARCES				PcP	PcP	PcP	02 06 04.0	+0.6
AAK	Ala-Archa	55.00	296	⇑	iP	P	02 05 08.9	-0.9
AAK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
AAK	Ala-Archa	55.00	296	eP	P	P	02 05 08.5	-1.3
	comp=Z,72nm,1.9s							
EKS2	Erkin-Say	55.37	297	eP	P	P	02 05 11.2	-1.2
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.8s							
EKS2	Erkin-Say	55.37	297	eP	P	P	02 05 11.2	-1.2
	comp=Z,2.1nm,0.8s							
NVAR	Mina Array Bea	55.81	70	P	P	P	02 05 18.1	+2.4
	comp=Z,1.2nm,0.6s,baz=301,slow=7.4,SNR=13							
NVAR				pP	pP	pP	02 05 32.3	+0.9
	comp=Z,0.8nm,0.7s,baz=305,slow=6.9,SNR=4.3							
NVAR	Mina Array Bea	55.81	70	P	P	P	02 05 18.1	+2.4
NVAR				pP	pP	pP	02 05 32.3	+0.9
ELK	Elko	55.93	66	eP	P	P	02 05 17.2	+0.6
ELK	Elko	55.93	66	eP	P	P	02 05 17.1	+0.6
KKAR	Karatay Array	56.81	299	eP	P	P	02 05 20.5	-2.1
KKAR	Karatay Array	56.81	299	eP	P	P	02 05 20.5	-2.1
HWUT	Hardware Ranch	57.33	63	eP	P	P	02 05 26.6	+0.2
	comp=Z,2.1nm,0.7s							
JOF	Joensuu	57.52	335	eP	P	P	02 05 25.3	-1.9
JOF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JOF	Joensuu	57.52	335	ep	P	P	02 05 25.3	-1.9
	comp=Z,0.9nm,0.3s							
JOF	Joensuu	57.52	335	ep	P	P	02 05 25.3	-1.9
	comp=Z,0.9nm,0.3s							
BW06	Boulder Array	57.58	61	eP	P	P	02 05 29.6	+1.3
	comp=Z,2.0nm,0.6s							
PDAR	Pinedale Array	57.58	61	P	P	P	02 05 30.1	+1.8
	comp=Z,2.0nm,0.6s,baz=303,slow=2.7,SNR=20							
PDAR				pP	pP	pP	02 05 44.0	0.0
	comp=Z,0.7nm,0.6s,baz=302,slow=3.3,SNR=4.2							
PDAR	Pinedale Array	57.58	61	P	P	P	02 05 30.1	+1.8
PDAR				pP	pP	pP	02 05 44.0	0.0
ABKAR	Akbulak array	57.73	310	eP	P	P	02 05 28.3	-0.6
	comp=Z,0.5nm,0.4s							
AKTO	Aktyubinsk	57.76	312	P	P	P	02 05 26.9	-2.2
	comp=Z,0.8nm,0.4s,baz=49,slow=11,SNR=6.0							
AKTO	Aktyubinsk	57.76	312	P	P	P	02 05 26.9	-2.2
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s					

WCI					pmax	pmax			
	comp=Z,4.0nm,0.6s								
WCI	**Wyandotte Cave**	**72.51**	**49**	*eP*	**P**	**P**	**02 07 04.8**	**-0.1**	
	comp=Z,4.4nm,0.6s								
MORC	**Moravsky Berou**	**72.68**	**336**	*eP*	**P**	**P**	**02 07 05.6**	**-0.1**	
MORC					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MORC	**Moravsky Berou**	**72.68**	**336**	*eP*	**P**	**P**	**02 07 05.6**	**-0.1**	
	comp=Z,1.7nm,0.8s								
WVT	**Waverly**	**73.51**	**51**	*eP*	**P**	**P**	**02 07 11.2**	**+0.4**	
WVT					pmax	pmax			
	comp=Z,4.0nm,0.6s								
WVT	**Waverly**	**73.51**	**51**	*eP*	**P**	**P**	**02 07 11.2**	**+0.4**	
	comp=Z,3.7nm,0.6s								
MEM	**Membach**	**74.35**	**343**	P	**P**	**P**	**02 07 15.3**	**-0.1**	
	comp=Z,23nm,2.4s								
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**P**	**02 07 15.6**	**-0.7**	
	comp=Z,0.3nm,0.4s,baz=35,slow=5.1,SNR=7.1								
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**P**	**02 07 15.6**	**-0.7**	
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**P**	**02 07 15.6**	**-0.7**	
SWET	**Sewanee**	**75.14**	**51**	*eP*	**P**	**P**	**02 07 20.7**	**+0.4**	
	comp=Z,7.4nm,0.6s								
BAIF	**Baives**	**75.19**	**344**	*eP*	**P**	**P**	**02 07 20.0**	**-0.3**	
	comp=Z,4.4nm,0.5s								
WRA	**Warramunga Arr**	**76.06**	**205**	P	**P**	**P**	**02 07 25.8**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=22,slow=6.2,SNR=3.7								
WRA	**Warramunga Arr**	**76.06**	**205**	P	**P**	**P**	**02 07 25.8**	**+0.3**	
WRA	**Warramunga Arr**	**76.06**	**205**	P	**P**	**P**	**02 07 25.8**	**+0.3**	
CDF	**Champ du Feu**	**76.23**	**342**	*eP*	**P**	**P**	**02 07 26.1**	**-0.3**	
	comp=Z,2.1nm,0.5s								
PAGF	**Fort de Pagny**	**76.38**	**343**	*eP*	**P**	**P**	**02 07 27.4**	**+0.3**	
	comp=Z,1.5nm,0.5s								
MEZF	**Maizieres J'vi**	**76.55**	**343**	*eP*	**P**	**P**	**02 07 28.2**	**+0.1**	
	comp=Z,3.7nm,0.5s								
HAU	**Haudompre**	**76.80**	**342**	*eP*	**P**	**P**	**02 07 29.2**	**-0.3**	
	comp=Z,7.9nm,0.6s								
SFTF	**Sexfontaines**	**76.84**	**343**	*eP*	**P**	**P**	**02 07 29.1**	**-0.6**	
	comp=Z,5.8nm,0.5s								
HINF	**Hinteralfeld**	**76.88**	**342**	*eP*	**P**	**P**	**02 07 29.0**	**-1.0**	
	comp=Z,2.2nm,0.6s								
LDF	**La Druitiere**	**77.28**	**347**	*eP*	**P**	**P**	**02 07 31.8**	**-0.3**	
	comp=Z,2.2nm,0.5s								
SGMF	**Saint Gilles**	**77.93**	**348**	*eP*	**P**	**P**	**02 07 35.6**	**-0.2**	
LOR	**Lormes**	**77.95**	**344**	*eP*	**P**	**P**	**02 07 35.5**	**-0.4**	
CABF	**La Chapelle**	**78.19**	**342**	*eP*	**P**	**P**	**02 07 37.7**	**+0.3**	
SSF	**Saint Saulge**	**78.21**	**344**	*eP*	**P**	**P**	**02 07 37.2**	**-0.2**	
AVF	**Avril sur Loir**	**78.50**	**344**	*eP*	**P**	**P**	**02 07 38.8**	**-0.1**	
LPL	**La Plagne**	**79.12**	**341**	*eP*	**P**	**P**	**02 07 42.9**	**+0.2**	
	comp=Z,3.5nm,0.5s								
LPG	**La Plagne**	**79.13**	**341**	*eP*	**P**	**P**	**02 07 43.2**	**+0.4**	
	comp=Z,4.7nm,0.6s								
TCF	**Toulx Ste Croi**	**79.17**	**344**	*eP*	**P**	**P**	**02 07 42.1**	**-0.6**	
MFF	**Saint Martin d**	**79.23**	**346**	*eP*	**P**	**P**	**02 07 42.6**	**-0.3**	
ASAR	**Alice Springs**	**79.74**	**204**	P	**P**	**P**	**02 07 46.7**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=9.3,slow=5.1,SNR=7.4								
ASAR	**Alice Springs**	**79.74**	**204**	*eP*	**P**	**P**	**02 07 47.1**	**+1.2**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**79.74**	**204**	P	**P**	**P**	**02 07 46.7**	**+0.8**	
ORIF	**Oris-en-Rattie**	**79.86**	**342**	*eP*	**P**	**P**	**02 07 47.3**	**+0.8**	
	comp=Z,3.2nm,0.5s								
CAF	**Calviac**	**80.52**	**344**	*eP*	**P**	**P**	**02 07 50.4**	**+0.4**	
ESDC	**Sonseca Array**	**86.55**	**348**	P	**P**	**P**	**02 08 21.2**	**+0.2**	
	comp=Z,1.5nm,0.5s,baz=2.1,slow=4.7,SNR=21								
ESDC	**Sonseca Array**	**86.55**	**348**	P	**P**	**P**	**02 08 21.2**	**+0.2**	
KEST	**Kesra**	**87.92**	**336**	P	**P**	**P**	**02 08 26.2**	**-1.5**	
	comp=Z,1.7nm,1.0s,baz=285,slow=19,SNR=6.9								
KEST	**Kesra**	**87.92**	**336**	P	**P**	**P**	**02 08 26.2**	**-1.5**	
PLCA	**Paso Flores**	**144.09**	**91**	PKP	PKPbc	PKPbc	02 15 11.7	+0.7	
	comp=Z,1.1nm,0.6s,baz=62,slow=22,SNR=6.1								
PLCA	**Paso Flores**	**144.09**	**91**	PKIKP	PKPbc	PKPbc	02 15 11.7	+0.6	
PLCA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
PLCA	**Paso Flores**	**144.09**	**91**	*e*PKPdf	PKPbc	PKPbc	02 15 11.8	+0.7	

IDC 11 01:56:02.6±2.7, 6°09S×153°05E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/13, Error ellipse: s-maj=114.6km s-min=39.4km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.70**	**240**	Pn	Pn	01 57 44.2	+1.8
	3.5nm,0.3s,baz=60,slow=7.1,SNR=9.3						
PMG				Sn	Sn	01 58 59.2	-0.2
	1.7nm,0.3s,baz=331,slow=19,SNR=3.2						
HNR	**Honiara**	**7.60**	**116**	LR	LR	02 00 17.3	
	comp=Z,79nm,19.2s,baz=308,slow=34						
WRA	**Warramunga Arr**	**22.80**	**231**	P	P	02 01 08.3	+1.1
	1.4nm,1.1s,baz=56,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**25.39**	**225**	P	P	02 01 30.6	-1.4
	0.2nm,0.5s,baz=56,slow=9.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.92**	**286**	PKPbc	PKPbc	02 15 58.0	-0.4
	0.6nm,0.8s,baz=92,slow=1.4,SNR=4.7						

DJA 11 02:10:00, 0°56S×132°72E, h10km, MLv3.9/3

IDC 11 02:09:56.0±2.9, 0°43S×132°79E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML3.5/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/22, Error ellipse: s-maj=153.3km s-min=27.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91**	**201**	S	S	02 17 34.4	-20
	0.1nm,0.3s,baz=150,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**19.45**	**176**	P	P	02 14 24.4	+0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**23.12**	**177**	P	P	02 15 03.9	0.0
	2.7nm,0.8s,baz=358,slow=11,SNR=24						
ASAJ	**Asahikawa**	**45.21**	**10**	LR	LR	02 37 31.9	
	comp=Z,189nm,18.6s,baz=124,slow=37						
MKAR	**Makanchi Array**	**64.43**	**324**	P	P	02 20 34.2	-0.1
	0.1nm,0.4s,baz=117,slow=8.4,SNR=4.8						

DJA 11 02:17:58, 0°58S×132°77E, h7km, MLv4.4/9

IDC 11 02:17:52.4±1.2, 0°42S×132°99E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=59.8km s-min=21.0km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.00**	**202**	P	P	02 22 14.1	-1.7
	0.4nm,0.3s,baz=0.1,slow=9.3,SNR=16						
FITZ				S	Sn	02 25 33.6	-16
	0.1nm,0.3s,baz=233,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**19.45**	**176**	P	Pn	02 22 21.7	-0.2
	0.3nm,0.3s,baz=356,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**23.13**	**178**	P	P	02 23 00.9	+0.5
	1.5nm,0.4s,baz=354,slow=11,SNR=39						
STKA	**Stephens Creek**	**32.33**	**166**	P	P	02 24 23.4	0.0
	0.8nm,0.4s,baz=337,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**64.53**	**324**	P	P	02 28 31.9	+0.5
	0.4nm,0.7s,baz=117,slow=8.6,SNR=6.2						
ILAR	**Eielson Array**	**86.16**	**25**	P	P	02 30 34.6	-0.7
	0.2nm,0.9s,baz=272,slow=3.3,SNR=3.3						

NSSP 11 02:31:57.1, 41°15N×43°47E, h12km, Ms2.7
TIF 11 02:31:57.2, 41°26N×43°59E, h15km±1km
ISK 11 02:31:57.4, 41°22N×43°60E, h5km, MD3.1
MOS 11 02:31:58.1±0.6, 41°40N×42°96E, h1km, mb3.9/1, Error ellipse: s-maj=37.8km s-min=9.9km az=65.3
CSEM 11 02:31:58.8±0.2, 41°16N×43°40E, h2km, ML2.7, Error ellipse: s-maj=5.5km s-min=4.4km az=74.0
ISCJB 11 02:31:58.3±0.5, 41°23N±0°01×43°50E±0°02, h1km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=176.5
AZER 11 02:32:01.6, 41°42N×44°07E, h0km

ISC 11 02:31:57.7±1.0, 41°25N±0°01×43°53E±0°02, h8km±10km, n80, σ1s14/132, 24C-29D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.17**	**350**	P	**Pg**	**02 32 01.4**	**+0.2**
AKH				S	**Sg**	**02 32 03.8**	**+0.1**
TCHZ	**Tchakhmakh**	**0.37**	**160**	⇓*i*P	**Pb**	**02 32 07.2**	**+0.6**
TCHZ				⇓*i*S	**Sb**	**02 32 13.3**	**+0.7**
TCHZ	**Tchakhmakh**	**0.37**	**160**	⇓P	**Pb**	**02 32 07.2**	**+0.6**
TCHZ				S	**Sb**	**02 32 13.3**	**+0.7**
GYMZ	**Gyumri**	**0.49**	**153**	⇑*i*P	**Pb**	**02 32 09.8**	**+1.1**
GYMZ				⇓*i*S	**Sb**	**02 32 18.0**	**+1.9**
KAMZ	**Kamo**	**0.53**	**143**	⇑*i*P	**Pb**	**02 32 10.1**	**+0.8**
KAMZ				⇓*i*S	**Sb**	**02 32 18.3**	**+1.2**
KAMZ	**Kamo**	**0.53**	**143**	⇑P	**Pb**	**02 32 10.1**	**+0.8**
KAMZ				S	**Sb**	**02 32 18.3**	**+1.2**
SPIZ	**Spitak**	**0.70**	**127**	⇓*i*P	Pn	02 32 21.8	+7.7
SPIZ				⇑*i*S	Sn	02 32 31.6	+6.5
STEZ	**Stepenevan**	**0.70**	**110**	⇑*i*P	**Pg**	**02 32 10.0**	**-1.2**
STEZ				⇑*i*S	**Sg**	**02 32 20.6**	**+0.3**
KARS	**Kars**	**0.71**	**209**	PG	**Pg**	**02 32 12.0**	**+0.7**
KARS				*e*SG	**Sb**	**02 32 23.6**	**+1.3**
KARS	**Kars**	**0.71**	**209**	*i* Pg	**Pg**	**02 32 12.0**	**+0.7**
NARZ	**Nor Artik**	**0.79**	**170**	⇑*i*P	**Pb**	**02 32 14.5**	**+0.7**
NARZ				⇓*i*S	**Sb**	**02 32 25.5**	**+0.7**
NARZ	**Nor Artik**	**0.79**	**170**	⇑P	**Pb**	**02 32 14.5**	**+0.7**
NARZ				S	**Sb**	**02 32 25.5**	**+0.7**
GOR	**Gori**	**0.85**	**30**	P	**Pg**	**02 32 13.6**	**-0.6**
GOR				S	**Sg**	**02 32 25.2**	**0.0**
CKLZ	**Chkalov**	**0.90**	**110**	⇑*i*P	Pn	02 32 24.1	+7.3
CKLZ				⇓*i*S	Sn	02 32 37.4	+7.4
AMBZ	**Amberd**	**1.02**	**147**	⇑*i*P	**Pg**	**02 32 16.5**	**-0.8**
AMBZ				⇑*i*S	**Sg**	**02 32 30.7**	**+0.2**
AMBZ	**Amberd**	**1.02**	**147**	⇑P	**Pg**	**02 32 16.5**	**-0.8**
AMBZ				S	**Sg**	**02 32 30.7**	**+0.2**
TBLG	**Delisi**	**1.03**	**62**	*e*PG	**Pg**	**02 32 16.6**	**-0.8**
TBLG	**Delisi**	**1.03**	**62**	P	**Pg**	**02 32 16.6**	**-0.8**
TBLG				S	**Sg**	**02 32 30.6**	**-0.1**
ARUZ	**Aruch**	**1.05**	**156**	⇑*i*P	**Pg**	**02 32 17.2**	**-0.7**
ARUZ				⇓*i*S	**Sg**	**02 32 31.6**	**+0.1**
ARUZ	**Aruch**	**1.05**	**156**	⇑P	**Pg**	**02 32 17.2**	**-0.7**
ARUZ				S	**Sg**	**02 32 31.6**	**+0.1**
AKSZ	**Araks**	**1.09**	**166**	⇑*i*P	**Pb**	**02 32 18.0**	**-0.8**
AKSZ				⇓*i*S	**Sg**	**02 32 32.6**	**-0.1**
AKSZ	**Araks**	**1.09**	**166**	⇑P	**Pb**	**02 32 18.0**	**-0.8**
AKSZ				S	**Sg**	**02 32 32.6**	**-0.1**
VNNZ	**Vanand**	**1.16**	**169**	⇓*i*P	**Pb**	**02 32 18.6**	**-1.5**
VNNZ				⇓*i*S	**Sb**	**02 32 33.2**	**-2.2**
VNNZ	**Vanand**	**1.16**	**169**	⇓P	**Pb**	**02 32 18.6**	**-1.5**
VNNZ				S	**Sb**	**02 32 33.2**	**-2.2**
ARTV	**Artvin**	**1.21**	**268**	*i* P	Pn	02 32 19.7	-1.4
ARTV				*i* S	**Sb**	**02 32 35.8**	**-1.1**
ARTV	**Artvin**	**1.21**	**268**	*i* P	Pn	02 32 19.7	-1.4
ARTV				*i* S	**Sb**	**02 32 35.8**	**-1.1**
DAGI	**Agillar**	**1.23**	**263**	*i* P	Pn	02 32 20.3	-1.0
DAGI				*i* S	**Sb**	**02 32 37.6**	**+0.2**
PAAR	**P'arak'ar**	**1.27**	**149**	⇓*i*P	Pn	02 32 20.5	-1.3
PAAR				⇑*i*S	**Sb**	**02 32 38.1**	**-0.3**
PAAR	**P'arak'ar**	**1.27**	**149**	⇓P	Pn	02 32 20.5	-1.3
PAAR				S	**Sb**	**02 32 38.2**	**-0.3**
KAPZ	**Kaputan**	**1.28**	**136**	⇓*i*P	Pn	02 32 20.0	-2.1
KAPZ				⇑*i*S	**Sb**	**02 32 37.9**	**-1.0**
DDEM	**Demirkent**	**1.39**	**256**	*i* P	Pn	02 32 23.1	-0.5
DDEM				*i* S	**Sb**	**02 32 41.5**	**-0.5**
DDEM	**Demirkent**	**1.39**	**256**	*i* P	Pn	02 32 23.0	-0.5
DDEM				*i* S	**Sb**	**02 32 41.5**	**-0.5**
GNI	**Garni**	**1.43**	**140**	*e*PN	**Pb**	**02 32 25.0**	**+0.3**
GNI				*e*SN	**Sg**	**02 32 44.7**	**+1.0**
GNI	**Garni**	**1.43**	**140**	⇓*i*P	Pn	02 32 24.6	+0.5
GNI				⇓*i*S	**Sg**	**02 32 44.2**	**+0.5**
GNI	**Garni**	**1.43**	**140**	⇓P	Pn	02 32 24.6	+0.5
GNI	**Garni**	**1.43**	**140**	*e*Pn	**Pb**	**02 32 25.0**	**+0.3**
GNI				S	**Sg**	**02 32 44.2**	**+0.5**
GNI				*e*Sn	**Sg**	**02 32 44.7**	**+1.0**
ZEI	**Tsey**	**1.55**	**10**	⇓*i*PG	Pn	02 32 26.2	+0.4
ZEI				*i* S	**Sb**	**02 32 47.6**	**+1.1**
ZEI	**Tsey**	**1.55**	**10**	*i* Pg	Pn	02 32 26.2	+0.4
ZEI				*i* Sg	**Sb**	**02 32 47.6**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.65**	**1**	⇑*i*PG	Pn	02 32 27.9	+0.7
DIGR				*i* S	**Sb**	**02 32 49.8**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.65**	**1**	*i* Pg	Pn	02 32 27.9	+0.7
DIGR				*i* Sg	**Sb**	**02 32 49.8**	**+0.3**
AGRB	**Hanur-Agry**	**1.72**	**194**	*e*PN	**Pb**	**02 32 29.2**	**-0.4**
AGRB	**Hanur-Agry**	**1.72**	**194**	*e*Pn	**Pb**	**02 32 29.2**	**-0.4**
HOMI	**Horasan**	**1.73**	**226**	*i* P	Pn	02 32 28.8	+0.6
HOMI				*i* S	**Sg**	**02 32 53.6**	**+0.5**
KORR	**Kora**	**1.88**	**12**	⇓*i*PN	**Pb**	**02 32 32.6**	**+0.3**
KORR				*e*S	**Sg**	**02 32 57.9**	**-0.2**
KORR	**Kora**	**1.88**	**12**	*i* Pn	**Pb**	**02 32 32.6**	**+0.3**
KORR				*e*Sg	**Sg**	**02 32 57.9**	**-0.2**
PZAR	**Pazar-Rize**	**1.99**	**269**	*e*PN	**Pb**	**02 32 34.4**	**+0.3**
PZAR				*e*SN	**Sg**	**02 33 00.9**	**-0.6**
PZAR	**Pazar-Rize**	**1.99**	**269**	*e*Pn	**Pb**	**02 32 34.4**	**+0.3**
VLKR	**Vladikavkaz**	**1.99**	**25**	*e*PN	**Pb**	**02 32 35.2**	**+1.0**
VLKR				*e*S	**Sg**	**02 33 02.7**	**+1.1**
VLKR	**Vladikavkaz**	**1.99**	**25**	*e*Pn	**Pb**	**02 32 35.2**	**+1.0**
VLKR				*e*Sb	**Sg**	**02 33 02.7**	**+1.1**
VADZ	**Vardenis**	**2.00**	**122**	*e*P	**Pg**	**02 32 36.0**	**+0.1**
VADZ				*e*S	Sg	02 33 08.0	+6.2
VADZ	**Vardenis**	**2.00**	**122**	P	**Pg**	**02 32 36.0**	**+0.1**
ARNR	**Ardon**	**2.02**	**16**	*e*PN	**Pb**	**02 32 34.8**	**+0.2**
ARNR				*i* S	**Sg**	**02 33 01.6**	**-0.9**
ARNR	**Ardon**	**2.02**	**16**	*e*Pn	**Pb**	**02 32 34.8**	**+0.2**
ARNR				*i* Sg	**Sg**	**02 33 01.6**	**-0.9**
LSNR	**Lesken**	**2.04**	**6**	*e*PN	**Pb**	**02 32 34.0**	**-0.9**
LSNR				*e*S	**Sb**	**02 33 00.2**	**-0.3**
LSNR	**Lesken**	**2.04**	**6**	*e*Pn	**Pb**	**02 32 34.0**	**-0.9**
LSNR				*e*Sg	**Sb**	**02 33 00.2**	**-0.3**
SNJR	**Sundja**	**2.05**	**27**	⇑*i*PN	**Pg**	**02 32 36.7**	**-0.3**
SNJR				*e*S	**Sg**	**02 33 04.8**	**+1.1**
SNJR	**Sundja**	**2.05**	**27**	*i* Pn	**Pg**	**02 32 36.7**	**-0.3**
SNJR				*e*Sn	**Sg**	**02 33 04.8**	**+1.1**
CLDR	**Calderan**	**2.12**	**172**	*e*PN	**Pn**	**02 32 35.2**	**+1.5**
CLDR	**Calderan**	**2.12**	**172**	*e*Pn	**Pn**	**02 32 35.2**	**+1.5**
EZM	**Erzurum**	**2.13**	**232**	*e*PN	**Pb**	**02 32 35.5**	**-1.1**
GANJ	**Ganja** SNR=26	**2.20**	**105**	⇓P	**Pn**	**02 32 36.4**	**+1.9**
GANJ				⇓S	**Sb**	**02 33 04.8**	**-0.3**
GANJ	**Ganja** SNR=26	**2.20**	**105**	P	**Pn**	**02 32 36.4**	**+1.9**
GANJ				S	**Sb**	**02 33 04.8**	**-0.3**
NAX	**Nakhchivan** SNR=5.2	**2.56**	**143**	⇑P	**Pb**	**02 32 45.0**	**+1.2**
NAX				⇑S	**Sg**	**02 33 20.0**	**+0.2**
NAX	**Nakhchivan** SNR=5.2	**2.56**	**143**	P	**Pb**	**02 32 45.0**	**+1.2**
VRTB	**Varto-Mus**	**2.62**	**218**	*e*PN	**Pn**	**02 32 42.1**	**+1.6**
VRTB	**Varto-Mus**	**2.62**	**218**	*e*Pn	**Pn**	**02 32 42.1**	**+1.6**
GRO	**Groznyy**	**2.65**	**38**	*e*PN	**Pb**	**02 32 44.5**	**-0.8**
GRO				*e*S	**Sb**	**02 33 19.2**	**+1.3**
GRO	**Groznyy**	**2.65**	**38**	*e*Pn	**Pb**	**02 32 44.5**	**-0.8**
GRO				*e*Sn	**Sb**	**02 33 19.2**	**+1.3**
SEKA	**Sheki** SNR=3.3	**2.77**	**90**	⇑P	**Pb**	**02 32 45.9**	**-1.5**
SEKA				⇓S	**Sb**	**02 33 21.3**	**-0.2**
SEKA	**Sheki** SNR=3.3	**2.77**	**90**	P	**Pb**	**02 32 45.9**	**-1.5**
SEKA				S	**Sb**	**02 33 21.3**	**-0.2**
BRDA	**Brd** SNR=5.8	**2.94**	**108**	⇓P	**Pb**	**02 32 48.7**	**-1.6**
BRDA				⇑S	**Sg**	**02 33 30.6**	**-1.5**
BRDA	**Brd** SNR=5.8	**2.94**	**108**	P	**Pb**	**02 32 48.7**	**-1.6**
GUMT	**Gumushane**	**3.17**	**257**	*e*PN	Pn	02 32 51.2	+3.2
GUMT	**Gumushane**	**3.17**	**257**	*e*Pn	Pn	02 32 51.2	+3.2
IML	**Ismayili** SNR=4.9	**3.55**	**96**	⇓P	**Pb**	**02 32 58.2**	**-2.5**
IML				⇓S	**Sb**	**02 33 40.4**	**-3.5**
IML	**Ismayili** SNR=4.9	**3.55**	**96**	P	**Pb**	**02 32 58.2**	**-2.5**
IML				S	**Sb**	**02 33 40.4**	**-3.5**
QUBA	**Quba, Azerbaij**	**3.74**	**87**	⇓P	**Pn**	**02 32 58.8**	**+3.1**
QUBA	**Quba, Azerbaij**	**3.74**	**87**	P	**Pn**	**02 32 58.8**	**+3.1**
PQL	**Pirkuli** SNR=5.4	**3.86**	**95**	⇓P	Pb	02 33 02.7	-3.3
PQL	**Pirkuli** SNR=5.4	**3.86**	**95**	P	Pb	02 33 02.7	-3.3

THE 11 02:37:45.9, 37°79N×21°37E, h10km±1km, ML2.5/6, Error ellipse: s-maj=1.7km s-min=0.6km az=190.0
ISCJB 11 02:37:46.1±0.8, 37°83N±0°03×21°33E±0°03, h7km±5km, Error ellipse: s-maj=5.4km s-min=4.5km az=162.5
CSEM 11 02:37:46.0±0.2, 37°84N×21°33E, h8km, MD3.3, Error ellipse: s-maj=4.3km s-min=3.9km az=179.0
ATH 11 02:37:47.2, 37°92N×21°41E, h21km±2km, MD3.3/4

ISC 11 02:37:46.3±1.2, 37°81N±0°03×21°38E±0°03, h8km±9km, n35, σ0s84/63, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.26**	**16**	P	**Pg**	**02 37 51.3**	**-0.2**
RLS				S	**Sg**	**02 37 55.1**	**+0.1**
RLS	**Riolos of Patr**	**0.26**	**16**	*e*PB	**Pg**	**02 37 51.5**	**0.0**
RLS				*e*SB	**Sg**	**02 37 55.2**	**+0.2**
RLS	**Riolos of Patr**	**0.26**	**16**	P	**Pg**	**02 37 51.3**	**-0.2**
RLS				S	**Sg**	**02 37 55.1**	**+0.1**
LAKA	**Lakka**	**0.64**	**47**	P	**Pg**	**02 37 58.5**	**-0.2**
LAKA				S	**Sb**	**02 38 08.4**	**-0.5**
LAKA	**Lakka**	**0.64**	**47**	P	**Pg**	**02 37 58.5**	**-0.2**
LAKA				S	**Sb**	**02 38 08.4**	**-0.5**
VLS	**Valsamata**	**0.72**	**301**	P	**Pg**	**02 37 59.7**	**-0.5**
VLS				S	**Sb**	**02 38 11.1**	**-0.1**
VLS	**Valsamata**	**0.72**	**301**	*e*PB	**Pg**	**02 38 00.2**	**0.0**
VLS				*e*SN	**Sb**	**02 38 11.7**	**+0.5**
VLS	**Valsamata**	**0.72**	**301**	P	**Pg**	**02 37 59.7**	**-0.5**
VLS	**Valsamata**	**0.72**	**301**	*e*Pb	**Pg**	**02 38 00.2**	**0.0**
VLS				S	**Sb**	**02 38 11.1**	**-0.1**
ITM	**Ithomi**	**0.76**	**145**	*e*PN	Pn	02 38 03.6	+0.2
ITM	**Ithomi**	**0.76**	**145**	*e*Pn	Pn	02 38 03.6	+0.2
GUR	**Goura**	**0.77**	**80**	P	**Pg**	**02 38 00.8**	**-0.4**
GUR				S	**Sb**	**02 38 12.5**	**-0.3**
GUR	**Goura**	**0.77**	**80**	P	**Pg**	**02 38 00.8**	**-0.4**
GUR				S	**Sb**	**02 38 12.5**	**-0.3**
TRIZ	**Trizonia**	**0.78**	**44**	P	**Pg**	**02 38 00.7**	**-0.6**
TRIZ				S	**Sb**	**02 38 12.6**	**-0.3**
TRIZ	**Trizonia**	**0.78**	**44**	P	**Pg**	**02 38 00.7**	**-0.6**
TRIZ				S	**Sb**	**02 38 12.6**	**-0.3**
KALE	**Kalithea**	**0.84**	**46**	P	**Pg**	**02 38 01.7**	**-0.7**
KALE				S	**Sb**	**02 38 14.4**	**-0.2**
KALE	**Kalithea**	**0.84**	**46**	P	**Pg**	**02 38 01.7**	**-0.7**
KALE				S	**Sb**	**02 38 14.4**	**-0.2**
PYL	**PYLOS**	**0.95**	**162**	P	Pn	02 38 20.1	+0.3
PYL				S	Sn	02 38 20.1	+0.3
PYL	**PYLOS**	**0.95**	**162**	P	Pn	02 38 05.6	-0.4
PYL				S	Sn	02 38 20.1	+0.3
DSF	**Desfina**	**1.09**	**56**	P	**Pg**	**02 38 06.2**	**-1.0**
DSF				S	Sn	02 38 23.1	-0.1
DSF	**Desfina**	**1.09**	**56**	P	**Pg**	**02 38 06.2**	**-1.0**
DSF				S	Sn	02 38 23.1	-0.1
LKD2	**Lefkada island**	**1.13**	**330**	P	**Pg**	**02 38 06.6**	**-1.4**
LKD2				S	Sn	02 38 26.4	+2.2
LKD2	**Lefkada island**	**1.13**	**330**	P	**Pg**	**02 38 06.6**	**-1.4**
LKD2				S	Sn	02 38 26.4	+2.2
EVR	**Evrytania**	**1.16**	**17**	P	**Pg**	**02 38 07.7**	**-0.8**
EVR				S	Sn	02 38 25.6	+0.6
EVR	**Evrytania**	**1.16**	**17**	*e*PN	**Pg**	**02 38 07.8**	**-0.8**
EVR	**Evrytania**	**1.16**	**17**	P	**Pg**	**02 38 07.7**	**-0.8**
EVR				S	Sn	02 38 25.6	+0.6
MAKR	**Makrakomi, Fth**	**1.34**	**26**	P	Pn	02 38 10.9	-0.4
MAKR				S	**Sg**	**02 38 31.6**	**+2.1**
MAKR	**Makrakomi, Fth**	**1.34**	**26**	P	Pn	02 38 10.9	-0.4
MAKR				S	**Sg**	**02 38 31.6**	**+2.1**
AGG	**Agios Georgios**	**1.43**	**31**	P	Pn	02 38 12.4	-0.1
AGG				S	**Sg**	**02 38 33.5**	**+1.4**
AGG	**Agios Georgios**	**1.43**	**31**	P	Pn	02 38 12.4	-0.1
AGG				S	**Sg**	**02 38 33.5**	**+1.4**
LKR	**Lokris**	**1.53**	**56

AFSR	**Afˇar-Bala (A**	**1.50**	**197**	*e*Pn		**Pn**	**03 00 27.8**	**-0.3**
KAMT	**Kaman**	**1.52**	**178**	*e*PN		**Pn**	**03 00 28.0**	**-0.4**
KAMT	**Kaman**	**1.52**	**178**	*e*Pn		**Pn**	**03 00 28.0**	**-0.4**
HAVZ	**Havza**	**1.59**	**83**	*i* P		**Pb**	**03 00 30.5**	**+0.2**
HAVZ				*i* S		**Sg**	**03 00 52.6**	**+1.0**
HAVZ	**Havza**	**1.59**	**83**	*i* P		**Pb**	**03 00 30.5**	**+0.2**
HAVZ				*i* S		**Sg**	**03 00 52.6**	**+1.0**
YOZ	**Yozgat**	**1.79**	**134**	*e*PN		**Pn**	**03 00 32.0**	**-0.2**
YOZ	**Yozgat**	**1.79**	**134**	*e*Pn		**Pn**	**03 00 32.0**	**-0.2**
KVT	**Kavak**	**1.83**	**83**	*e*PN		**Pn**	**03 00 32.2**	**-0.5**
KVT	**Kavak**	**1.83**	**83**	*e*Pn		**Pn**	**03 00 32.2**	**-0.5**
MDUB	**Mudurnu**	**1.90**	**258**	*e*PN		**Pn**	**03 00 33.8**	**+0.1**
MDUB	**Mudurnu**	**1.90**	**258**	*e*Pn		**Pn**	**03 00 33.8**	**+0.1**
SVRH	**Sivrihisar-ESK**	**2.17**	**229**	*e*PN		**Pn**	**03 00 37.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.17**	**229**	*e*Pn		**Pn**	**03 00 37.5**	**+0.2**
GULT	**Gulveren**	**2.42**	**260**	*e*PN		**Pn**	**03 00 40.7**	**0.0**
GULT	**Gulveren**	**2.42**	**260**	*e*Pn		**Pn**	**03 00 40.7**	**0.0**
BNN	**Bunyan**	**2.65**	**139**	*e*PN		**Pn**	**03 00 43.9**	**-0.1**
BNN	**Bunyan**	**2.65**	**139**	*e*Pn		**Pn**	**03 00 43.9**	**-0.1**

CASC 11 03:04:17.5±1.4, 13.˚55N×90.˚34W, h40km±24km, MD3.5, ML3.7, 3C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSG	**Pto de San Jos**	**0.59**	**312**	*e*P	Pn	03 04 30.4	**+0.9**
PSG				*e*S	Sn	03 04 38.4	+0.4
SBLS	**San Blas**	**0.75**	**68**⇓	*e*P	Pn	03 04 31.5	-0.5
SBLS				*e*S	Sn	03 04 43.1	+0.7
RTR	**El Retiro**	**0.76**	**63**⇓	*i*P	Pn	03 04 31.8	-0.2
RTR				*e*S	Sn	03 04 43.6	+1.1
SNJE	**San Jose**	**0.78**	**66**⇓	*e*P	Pn	03 04 31.9	-0.5
SNJE				*e*S	Sn	03 04 43.4	+0.3
PCG	**Pacaya**	**0.88**	**343**	*e*P	Pn	03 04 33.9	+0.2
FUG	**Fuego 3**	**1.02**	**331**⇓	*e*P	Pn	03 04 35.0	-0.6
FUG				*e*S	Sn	03 04 49.2	+0.4
NBG	**Las Nubes**	**1.03**	**360**⇑	*e*P	Pn	03 04 36.8	+0.9
NBG				*e*S	Sn	03 04 52.3	+2.9
BQOS	**Boqueron**	**1.05**	**80**	*e*P	Pn	03 04 35.8	-0.2
BQOS				*e*S	Sn	03 04 50.4	+0.7
SNET	**Serv Nac Est T**	**1.09**	**83**⇑	*e*P	Pn	03 04 36.1	-0.3
SNET				*e*S	Sn	03 04 51.3	+1.0
SNET				AML	AML	03 04 53.5	
	comp=Z,2μm,0.2s						
FG6		**1.13**	**332**	*e*P	Pn	03 04 36.8	-0.5
FG6				*e*S	Sn	03 04 52.0	0.0
LFRS	**El Faro**	**1.25**	**87**⇑	*e*P	Pn	03 04 38.6	0.0
LFRS				*e*S	Sn	03 04 55.5	+1.2
LBRS	**Las Brisas**	**1.27**	**81**	*e*P	Pn	03 04 38.9	-0.1
TP2	**Tecpan 2**	**1.39**	**332**	*e*P	Pn	03 04 36.8	-4.2
TP2				*e*S	Sn	03 04 52.0	-6.5
MRL	**Marmol**	**1.63**	**23**	*e*P	Pn	03 04 44.8	+0.8
CNCH	**Conchagua**	**2.45**	**96**	*e*P	Pn	03 04 56.0	+0.8

*DJA **11** 03:04:30, 8.˚01S×121.˚39E, h37km, MLv3.7/5*
IDC 11 03:04:30.1±2.6, 7.˚96S×121.˚49E, h43km±30km, mb3.6/4, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, ML3.8/4, Error ellipse: s-maj=137.9km s-min=16.8km az=59.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.40**	**329**	P	Pn	03 05 21.1	+0.4
	12nm,0.3s,baz=158,slow=8.4,SNR=39						
FITZ	**Fitzroy Crossi**	**10.86**	**159**	P	Pn	03 07 02.3	-0.8
	0.2nm,0.3s,baz=347,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**17.23**	**135**	P	Pn	03 08 26.4	-1.4
	0.3nm,0.3s,baz=309,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**19.64**	**144**	P	P	03 08 55.8	+0.4
	0.9nm,0.3s,baz=332,slow=16,SNR=27						
STKA	**Stephens Creek**	**30.28**	**145**	P	P	03 10 37.9	+0.6
	0.4nm,0.4s,baz=316,slow=10,SNR=4.0						
SONM	**Songino Array**	**57.13**	**348**	P	P	03 14 12.6	+0.1
	0.2nm,0.4s,baz=161,slow=8.7,SNR=5.1						
MKAR	**Makanchi Array**	**64.69**	**331**	P	P	03 15 03.6	-0.1
	0.8nm,0.6s,baz=140,slow=7.7,SNR=10.0						
ZALV	**Zalesovo Beam**	**68.98**	**338**	P	P	03 15 30.5	-0.3
	1.5nm,0.5s,baz=129,slow=4.4,SNR=9.1						

IDC 11 03:41:22.7±5.0, 6.˚24S×150.˚27E, h85km±40km, mb3.4/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.4/6, Error ellipse: s-maj=62.5km s-min=28.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.40**	**224**	P	Pn	03 42 27.7	+0.5
	2.5nm,0.3s,baz=49,slow=8.6,SNR=5.3						
PMG				S	Sn	03 43 17.4	+0.2
	9.6nm,0.3s,baz=346,slow=18,SNR=9.1						
WRA	**Warramunga Arr**	**20.61**	**227**	P	P	03 45 55.6	+0.2
	3.3nm,0.5s,baz=50,slow=10,SNR=17						
ASAR	**Alice Springs**	**23.41**	**221**	P	P	03 46 25.8	+1.3
	1.1nm,0.6s,baz=54,slow=14,SNR=14						
FITZ	**Fitzroy Crossi**	**26.76**	**242**	P	P	03 46 53.6	-1.2
	1.7nm,0.6s,baz=56,slow=12,SNR=6.3						
SONM	**Songino Array**	**66.23**	**329**	P	P	03 52 03.4	+1.6
	0.2nm,0.5s,baz=148,slow=5.7,SNR=3.7						
ILAR	**Eielson Array**	**84.44**	**23**	P	P	03 53 44.0	-1.6
	0.3nm,0.8s,baz=228,slow=6.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.30**	**285**	PKPbc	PKPbc	04 00 58.8	-1.5
	0.3nm,0.5s,baz=54,slow=2.1,SNR=8.8						

*IDC **11** 05:25:26.8±0.8, 38.˚11S×49.˚17E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, ML3.9/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/31, Error ellipse: s-maj=36.4km s-min=18.3km az=34.0*
*ISCJB **11** 05:25:27.0±0.6, 38.˚1S±0.˚1×49.˚2E±0.˚2, h10km, mb4.1/9, MS3.5/5, Error ellipse: s-maj=22.6km s-min=12.9km az=36.9*
*NEIC **11** 05:25:28.6±0.5, 38.˚14S×49.˚13E, h10km, mb4.6/2, Error ellipse: s-maj=19.3km s-min=10.8km az=215.0*
ISC 11 05:25:28.5±0.7, 38.˚1S±0.˚2×49.˚2E±0.˚2, h10km, n25, σ0s72/23, mb4.2/9, MS3.5/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.51**	**354**	P	**Pn**	**05 29 57.8**	**+0.5**
	0.4nm,0.3s,baz=158,slow=7.6,SNR=5.2						
OPO	**Ambohidratompo**	**19.51**	**354**	P	**Pn**	**05 29 57.8**	**+0.5**
BOSA	**Boshof**	**22.06**	**288**	P	**P**	**05 30 24.8**	**+1.1**
	2.7nm,0.8s,baz=119,slow=10,SNR=3.6						
BOSA				LR	LR	05 37 28.9	
	comp=Z,169nm,18.5s,baz=148,slow=33						
BOSA	**Boshof**	**22.06**	**288**	P	**P**	**05 30 24.8**	**+1.1**
SUR	**Sutherland**	**23.82**	**275**	LR	LR	05 38 05.2	
	comp=Z,98nm,22.0s,baz=221,slow=32						
LBTB	**Lobatse**	**23.88**	**296**	P	**P**	**05 30 40.8**	**-1.6**
	4.2nm,0.9s,baz=157,slow=6.9,SNR=3.9						
LBTB				LR	LR	05 37 33.2	
	comp=Z,98nm,21.1s,baz=8.7,slow=30						
LBTB	**Lobatse**	**23.88**	**296**	P	**P**	**05 30 40.8**	**-1.6**
QSPA	**South Pole Qui**	**52.12**	**180**	P	**P**	**05 34 38.8**	**+0.1**
	4.3nm,1.1s,baz=257,slow=2.1,SNR=5.4						
QSPA	**South Pole Qui**	**52.12**	**180**	P	**P**	**05 34 38.8**	**+0.1**
FORT	**Forrest**	**63.65**	**110**	*e*P	**P**	**05 36 00.7**	**+0.7**
	3.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.63**	**309**	P	**P**	**05 36 25.9**	**+0.1**
	1.2nm,1.0s,baz=133,slow=4.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**67.63**	**309**	P	**P**	**05 36 25.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**68.56**	**97**	LR	LR	06 02 02.4	
	comp=Z,37nm,18.9s,baz=159,slow=32						
ASAR	**Alice Springs**	**71.83**	**106**	P	**P**	**05 36 51.9**	**+0.1**
	1.6nm,0.7s,baz=233,slow=6.1,SNR=23						
ASAR	**Alice Springs**	**71.83**	**106**	P	**P**	**05 36 51.9**	**+0.1**
STKA	**Stephens Creek**	**72.87**	**117**	P	**P**	**05 36 57.7**	**-0.1**
	4.5nm,0.8s,baz=250,slow=5.8,SNR=11						
STKA				LR	LR	06 00 56.3	
	comp=Z,69nm,18.9s,baz=203,slow=29						
STKA	**Stephens Creek**	**72.87**	**117**	P	**P**	**05 36 57.7**	**-0.1**
WRA	**Warramunga Arr**	**74.27**	**103**	P	**P**	**05 37 06.3**	**0.0**
	2.6nm,1.0s,baz=231,slow=5.1,SNR=9.4						
WRA	**Warramunga Arr**	**74.27**	**103**	P	**P**	**05 37 06.3**	**0.0**
WRAB	**Tennant Creek**	**74.29**	**103**	*e*P	**P**	**05 37 06.8**	**+0.5**
KKAR	**Karatay Array**	**83.09**	**16**	*e*P	**P**	**05 37 54.2**	**+0.2**
	1.3nm,0.4s						
ILAR	**Eielson Array**	**151.62**	**14**	PKPbc	**PKPbc**	**05 45 21.6**	**-0.5**
	1.4nm,0.8s,baz=313,slow=3.0,SNR=12						
ILAR	**Eielson Array**	**151.62**	**14**	PKPbc	**PKPbc**	**05 45 21.6**	**-0.5**
YKA	**Yellowknife Ar**	**153.61**	**343**	PKPbc	**PKPbc**	**05 45 25.9**	**-0.6**
	0.5nm,0.8s,baz=23,slow=2.2,SNR=6.0						
YKA	**Yellowknife Ar**	**153.61**	**343**	PKPbc	**PKPbc**	**05 45 25.9**	**-0.6**

*IDC **11** 05:27:09.8±0.6, 31.˚59S×69.˚21W, h0km, mb4.5/12, mb1 4.5/15, mb1mx4.5/18, mbtmp4.4/15, ML4.6/2, MS3.5/3, Ms1 3.6/3, ms1mx3.2/18, Error ellipse: s-maj=20.6km s-min=13.5km az=28.0*
*ISCJB **11** 05:27:10.9±0.2, 31.˚56S±0.˚03×69.˚30W±0.˚03, h10km, mb4.7/36, MS3.5/3, Error ellipse: s-maj=4.2km s-min=3.3km az=36.9*
*NEIC **11** 05:27:10.7±2.5, 31.˚66S×69.˚27W, h5km±15km, mb4.9/24, Error ellipse: s-maj=9.5km s-min=5.9km az=64.0*
*GUC **11** 05:27:11.1±0.9, 31.˚54S×69.˚36W, h15km±17km, ML4.3*
*BJI **11** 05:27:13.5, 31.˚70S×69.˚40W, h10km, mB5.0/6, Ms5.3/4, Ms7 5.1/5*
ISC 11 05:27:12.0±0.8, 31.˚59S±0.˚03×69.˚33W±0.˚04, h17km±4km, n256, σ1s55/284, mb4.8/36, MS3.5/3, 81C-70D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.93**	**91**	Pn	**Pg**	**05 27 28.1**	**-2.0**
	8.2nm,0.3s,baz=268,slow=17,SNR=553						
CFAA				Sn	**Sg**	**05 27 42.0**	**-0.3**
	97nm,0.3s,baz=138,slow=14,SNR=46						
CFAA	**Coronel Fontan**	**0.93**	**91**	Pn	**Pg**	**05 27 28.1**	**-2.0**
CFAA				Sn	**Sg**	**05 27 42.0**	**-0.3**
CMCH	**Combarbala**	**1.49**	**286**⇑	*i*P	**Pn**	**05 27 36.2**	**-2.0**
CMCH				*i* S	**Sn**	**05 27 55.3**	**-2.0**
CMCH				AML	AML	05 28 11.2	
	comp=N,11μm,0.5s						
PTCH	**Petorca**	**1.52**	**243**⇑	*i*P	**Pn**	**05 27 37.1**	**-1.4**
PTCH				*i* S	**Sn**	**05 27 56.6**	**-1.3**
PTCH				AML	AML	05 28 09.0	
	comp=N,2μm,0.3s						
JACH	**Jahuel**	**1.53**	**224**	*e*P	**Pn**	**05 27 37.5**	**-1.2**
CHNG	**Los Chungos**	**1.87**	**261**⇓	*i*P	**Pn**	**05 27 42.8**	**-0.5**
CHNG				*i* S	**Sn**	**05 28 06.3**	**-0.3**
OVCH	**Ovalle**	**1.89**	**301**⇑	*i*P	**Pn**	**05 27 43.5**	**0.0**
OVCH				*i* S	**Sn**	**05 28 07.3**	**+0.5**
OVCH				AML	AML	05 28 16.3	
	comp=N,6μm,0.5s						
TLL	**Tololo Astrono**	**1.91**	**318**⇑	*i*P	**Pn**	**05 27 44.4**	**+0.4**
TLL				*i* S	**Sn**	**05 28 07.9**	**+0.1**
TLL				AML	AML	05 28 23.9	
	comp=E,3μm,0.6s						
PEL	**Peldehue**	**1.93**	**216**	*e*P	**Pn**	**05 27 44.0**	**-0.1**
PEL				*e*S	**Sn**	**05 28 08.8**	**+0.8**
PEL				AML	AML	05 28 21.0	
	comp=N,5μm,0.7s						
ROCH	**El Roble**	**1.98**	**226**⇓	*i*P	**Pn**	**05 27 45.5**	**+0.4**
ROCH				*e*S	**Sb**	**05 28 11.4**	**-0.9**
ROCH				AML	AML	05 28 20.4	
	comp=E,4μm,0.7s						
CLCH	**Cerro Calan**	**2.07**	**209**	*e*P	**Pn**	**05 27 47.5**	**+1.4**
CLCH				*e*S	**Sb**	**05 28 14.5**	**-0.1**
CLCH				AML	AML	05 28 24.2	
	comp=E,7μm,0.5s						
ANTU	**Antumapu**	**2.26**	**209**	*e*P	**Pb**	**05 27 51.3**	**-1.1**
ANTU				*e*S	**Sb**	**05 28 20.6**	**+0.5**
ANTU				AML	AML	05 28 26.5	
	comp=N,4μm,0.6s						
LMEL	**Las Melosas**	**2.37**	**198**⇑	*i*P	**Pb**	**05 27 53.4**	**-0.9**
LMEL				*e*S	**Sb**	**05 28 24.5**	**+1.2**
LMEL				AML	AML	05 28 28.0	
	comp=E,1μm,0.7s						
LCO	**Las Campanas**	**2.84**	**335**	*e*Pn	**Pb**	**05 27 59.5**	**-2.9**
LCO				*e*Sn	**Sb**	**05 28 36.8**	**-0.1**
TRQA	**Tornquist**	**8.83**	**139**	*e*Pn	**Pn**	**05 29 20.2**	**+1.3**
TRQA				*e*Sn	**Sn**	**05 30 57.6**	**-0.5**
LVC	**Limon Verde**	**8.95**	**2**	*e*Pn	**Pn**	**05 29 20.8**	**-0.1**
LVC				*e*Sn	**Sn**	**05 31 02.1**	**+0.5**
PLCA	**Paso Flores**	**9.17**	**186**	*e*Pn	**Pn**	**05 29 20.9**	**-2.7**
CPUP	**Villa Florida**	**11.74**	**66**	Pn	**Pn**	**05 29 57.8**	**-1.0**
	comp=E,2.1nm,0.3s,baz=220,slow=15,SNR=23						
CPUP	**Villa Florida**	**11.74**	**66**	Pn	**Pn**	**05 29 57.8**	**-1.0**
LPAZ	**La Paz**	**15.28**	**4**	Pn	**Pn**	**05 30 48.8**	**+1.2**
	comp=E,0.6nm,0.3s,baz=176,slow=9.1,SNR=17						
LPAZ	**La Paz**	**15.28**	**4**	*e*Pn	**Pn**	**05 30 49.3**	**+1.7**
SIV	**San Ignacio**	**17.26**	**28**	Pn	**Pn**	**05 31 12.4**	**0.0**
	baz=204,slow=11						
SIV	**San Ignacio**	**17.26**	**28**	Pn	**Pn**	**05 31 12.4**	**0.0**
SPB	**Sao Paulo**	**20.95**	**73**	P	Pn	05 31 56.2	-0.6
	comp=E,16nm,0.8s						
USHA	**Ushuaia**	**23.24**	**179**	LR	LR	05 42 08.2	
	comp=E,148nm,18.9s,baz=224,slow=39						
ATAH	**Atahualpa**	**25.77**	**339**	LR	LR	05 42 26.4	
	comp=E,34nm,19.1s,baz=174,slow=36						
ROSC	**El Rosal**	**36.56**	**352**	P	**P**	**05 34 17.9**	**+0.4**
	comp=E,2.2nm,0.5s,baz=107,slow=19,SNR=3.6						
ROSC	**El Rosal**	**36.56**	**352**	P	**P**	**05 34 17.9**	**+0.4**
SNAA	**Sanae**	**52.97**	**159**	*e*P	**P**	**05 36 27.2**	**0.0**
	comp=E,8.0nm,1.0s						
TEIG	**Tepich**	**54.64**	**338**	P	**P**	**05 36 40.2**	**+0.3**
	comp=E,13nm,0.6s,baz=192,slow=2.5,SNR=19						
TEIG	**Tepich**	**54.64**	**338**	P	**P**	**05 36 40.2**	**+0.3**
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**05 37 08.9**	**+0.7**
	comp=E,4.8nm,0.6s,baz=174,slow=2.4,SNR=21						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**05 37 08.9**	**+0.7**
SYO	**Syowa Base**	**67.25**	**158**⇑	*e*P	**P**	**05 38 04.4**	**-0.7**
JCT	**Junction City**	**68.17**	**332**	*e*P	**P**	**05 38 12.7**	**+1.2**
	comp=E,29nm,1.6s						
JCT	**Junction City**	**68.17**	**332**	⇓P	**P**	**05 38 12.9**	**+1.5**
	baz=69						
SWET	**Sewanee**	**68.27**	**345**	*e*P	**P**	**05 38 12.8**	**+0.8**
	comp=E,13nm,1.1s						
628A	**Black Gap, Mar**	**68.61**	**329**	P	**P**	**05 38 16.3**	**+2.1**
	baz=69,SNR=6.0						
TXAR	**Lajitas Array**	**68.83**	**328**	P	**P**	**05 38 16.8**	**+1.1**
	comp=E,1.5nm,0.7s,baz=152,slow=8.2,SNR=24						
TXAR	**Lajitas Array**	**68.83**	**328**	P	**P**	**05 38 16.8**	**+1.1**
528A	**Cox Ranch, San**	**69.15**	**329**	⇑P	**P**	**05 38 18.9**	**+1.2**
	baz=70,SNR=7.2						
626A	**Big Bend Ranch**	**69.23**	**328**	⇑P	**P**	**05 38 20.0**	**+1.9**
	baz=70,SNR=7.1						
527A	**Woodward Ranch**	**69.50**	**329**	⇓P	**P**	**05 38 21.5**	**+1.6**
	baz=70						
WVT	**Waverly**	**69.57**	**344**	*e*P	**P**	**05 38 20.0**	**+0.1**
	comp=E,30nm,1.4s						
428A	**Kincaid Ranch,**	**69.59**	**330**	⇑P	**P**	**05 38 22.0**	**+1.6**
	baz=70						
526A	**Mary Lane Ranc**	**69.64**	**328**	⇑P	**P**	**05 38 22.5**	**+1.7**
	baz=70,SNR=10						
427A	**Hayter Ranch,**	**70.01**	**329**	⇓P	**P**	**05 38 24.3**	**+1.4**
	baz=70						
426A	**McDonald Obser**	**70.13**	**329**	⇓P	**P**	**05 38 25.2**	**+1.4**
	baz=70						
328A	**Wristen Ranch,**	**70.21**	**330**	⇑P	**P**	**05 38 25.3**	**+1.2**
	baz=71,SNR=6.2						
425A	**Indio Mountain**	**70.66**	**328**	⇑P	**P**	**05 38 28.0**	**+1.0**
	baz=71						
326A	**Caldwell Ranch**	**70.66**	**329**	⇓P	**P**	**05 38 28.2**	**+1.3**
	baz=71,SNR=5.3						
227A	**Bennet, Jal**	**70.96**	**330**	⇑P	**P**	**05 38 30.2**	**+1.6**
	baz=71,SNR=6.4						
325A	**Bean Ranch, Si**	**71.15**	**328**	⇓P	**P**	**05 38 30.8**	**+0.8**
	baz=72,SNR=9.4						
SIUC	**Southern Illin**	**71.41**	**343**	*e*P	**P**	**05 38 30.7**	**-0.4**
	comp=E,20nm,1.3s						
324A	**Moseley Ranch,**	**71.44**	**328**	⇓P	**P**	**05 38 32.0**	**+0.3**
	baz=72,SNR=6.9						
TUL1	**Tulsa**	**71.60**	**338**	⇓P	**P**	**05 38 33.2**	**+0.8**
	baz=72						
MNTX	**Cornudas Mount**	**71.61**	**328**	*e*P	**P**	**05 38 32.5**	**0.0**
	comp=E,1.8nm,0.6s						
MNTX	**Cornudas Mount**	**71.61**	**328**	⇑P	**P**	**05 38 32.9**	**+0.3**
	baz=72,SNR=6.8						
MNTX				⇑P	**P**	**05 38 32.9**	**+0.3**
	baz=72,SNR=6.8						
126A	**Clayton Basin,**	**71.82**	**330**	⇑P	**P**	**05 38 35.2**	**+1.4**
	baz=72,SNR=6.5						
FVM	**French Village**	**71.97**	**343**	*e*P	**P**	**05 38 34.6**	**+0.1**
	comp=E,17nm,1.1s						
224A	**Cornudas Mount**	**72.00**	**328**	⇓P	**P**	**05 38 35.6**	**+0.6**
	baz=72						
DBIC	**Dimbokro**	**72.23**	**70**	P	**P**	**05 38 37.3**	**+0.6**
	comp=E,4.8nm,0.7s,baz=203,slow=7.7,SNR=13						
DBIC				LR	LR	06 07 14.0	
	comp=E,86nm,19.4s,baz=177,slow=33						
DBIC	**Dimbokro**	**72.23**	**70**	P	**P**	**05 38 37.3**	**+0.6**
CCM	**Cathedral Cave**	**72.25**	**342**	*e*P	**P**	**05 38 35.6**	**-0.5**
	comp=E,14nm,1.2s						
Z26A	**Caprock**	**72.34**	**330**	⇑P	**P**	**05 38 38.3**	**+1.3**
	baz=73,SNR=15						
MSTX	**Muleshoe**	**72.44**	**331**	⇓P	**P**	**05 38 38.5**	**+1.0**
	baz=73,SNR=9.0						
Z25A	**Roswell**	**72.66**	**329**	⇓P	**P**	**05 38 40.4**	**+1.5**
	baz=73						
320A	**Kipp Ranch, An**	**72.78**	**326**	⇑P	**P**	**05 38 41.7**	**+2.0**
	baz=73						
AMTX	**Amarillo**	**72.79**	**333**	*e*P	**P**	**05 38 40.3**	**+0.7**
	comp=E,12nm,1.3s						
Z24A	**Sheeppen Canyo**	**72.99**	**329**	⇑P	**P**	**05 38 42.5**	**+1.5**
	baz=73,SNR=11						
220A	**Playas Peak, P**	**73.25**	**326**	⇓P	**P**	**05 38 44.2**	**+1.8**
	baz=74						
Z23A	**Rita Site, Whi**	**73.31**	**328**	⇑P	**P**	**05 38 45.1**	**+2.3**
	baz=74,SNR=5.1						
X26A	**CR and CF Fran**	**73.37**	**331**	P	**P**	**05 38 44.7**	**+1.6**
	baz=74,SNR=7.8						
W27A	**Bowe Ranch, En**	**73.50**	**332**	⇑P	**P**	**05 38 45.3**	**+1.4**
	baz=74						
318A	**Bisbee**	**73.58**	**325**	⇑P	**P**	**05 38 46.5**	**+2.1**
	baz=74						
219A	**White Tail Can**	**73.68**	**325**	⇑P	**P**	**05 38 46.8**	**+1.8**
	baz=74						
W26A	**Owens Ranch, T**	**73.81**	**331**	⇑P	**P**	**05 38 47.3**	**+1.6**
	baz=74,SNR=5.7						
120A	**U Bar Ranch, L**	**73.83**	**326**	⇓P	**P**	**05 38 47.8**	**+1.9**
	baz=74						
W25A	**X Bar L Ranch,**	**74.21**	**331**	⇓P	**P**	**05 38 49.6**	**+1.6**
	baz=75						
Z20A	**Nine Sixteen R**	**74.28**	**327**	⇓P	**P**	**05 38 50.3**	**+1.8**
	baz=75						
Y21A	**Point of Rocks**	**74.59**	**328**	⇓P	**P**	**05 38 52.6**	**+2.2**
	baz=75						
W24A	**Lazy 6 Ranch,**	**74.60**	**330**	⇓P	**P**	**05 38 51.8**	**+1.4**
	baz=75						
V25A	**Rancho No Teng**	**74.81**	**331**	⇑P	**P**	**05 38 52.9**	**+1.3**
	baz=75,SNR=5.3						
W23A	**Werner Place,**	**74.88**	**329**	⇓P	**P**	**05 38 54.2**	**+2.1**
	baz=75						
T28A	**Walsh**	**74.92**	**333**	⇑P	**P**	**05 38 53.4**	**+1.3**
	baz=75						
U26A	**Atchley Ranch,**	**74.93**	**332**	⇑P	**P**	**05 38 53.9**	**+1.6**
	baz=75						
X21A	**Alamocita Cree**	**75.01**	**328**	⇑P	**P**	**05 38 54.6**	**+1.8**
	baz=75						
T27A	**Campo**	**75.10**	**333**	⇓P	**P**	**05 38 54.3**	**+1.2**
	baz=76						
U25A	**Circle Dot Ran**	**75.20**	**331**	⇓P	**P**	**05 38 55.3**	**+1.5**
	baz=76						
V23A	**Ortiz Mt. (NFS**	**75.39**	**330**	⇑P	**P**	**05 38 57.1**	**+2.1**
	baz=76						
X20A	**Quemado**	**75.41**	**327**	⇑P	**P**	**05 38 57.2**	**+2.1**
	baz=76						
LBNH	**Lisbon**	**75.51**	**358**	*e*P	**P**	**05 38 56.9**	**+1.7**
Y17A	**Roosevelt**	**75.83**	**325**	⇑P	**P**	**05 38 59.4**	**+2.1**
	baz=76						
T25A	**Trinidad**	**75.84**	**332**	⇓P	**P**	**05 38 59.6**	**+2.1**
	baz=76,SNR=6.2						
V22A	**San Miguel Ran**	**75.85**	**329**	⇓P	**P**	**05 39 00.1**	**+2.5**
	baz=76						
S26A	**Kim**	**75.89**	**333**	P	**P**	**05 38 59.5**	**+1.9**
	baz=76,SNR=5.9						
W20A	**Ramah**	**75.90**	**328**	⇓P	**P**	**05 38 60.0**	**+2.1**
	baz=76,SNR=5.0						
T24A	**Torres, Weston**	**76.05**	**331**	⇓P	**P**	**05 39 01.0**	**+2.2**
	baz=76						
U22A	**Llaves**	**76.21**	**330**	⇓P	**P**	**05 39 02.1**	**+2.5**
	baz=77						
S25A	**Robets Cordova**	**76.30**	**332**	P	**P**	**05 39 02.0**	**+2.0**
	baz=77,SNR=5.2						
T23A	**Casias Ranch,**	**76.42**	**331**	⇑P	**P**	**05 39 02.8**	**+1.9**
	baz=77						
V20A	**Brimhall**	**76.44**	**328**	⇑P	**P**	**05 39 03.0**	**+2.1**
	baz=77						
S24A	**Houchin Ranch,**	**76.60**	**331**	P	**P**	**05 39 04.1**	**+2.2**
	baz=77,SNR=8.4						
U21A	**Nageezi**	**76.61**	**329**	P

	baz=80							
CCUT	**Cedar City**	**80.14**	**326**	*e*P		**P**	**05 39 23.9**	**+2.4**
	comp=E,3.9nm,1.0s							
Q16A	**Castle Valley**	**80.23**	**328**	⇓P		**P**	**05 39 24.0**	**+2.2**
	baz=81							
MSU	**Marysvale**	**80.36**	**327**	*e*P		**P**	**05 39 24.5**	**+2.0**
O19A	**Miners Draw (B**	**80.47**	**330**	⇓P		**P**	**05 39 24.6**	**+1.6**
	baz=81							
O17A	**Robinson Place**	**81.08**	**329**	⇓P		**P**	**05 39 28.4**	**+2.0**
	baz=82							
K23A	**Bowen Ranch, D**	**81.15**	**334**	⇑P		**P**	**05 39 28.3**	**+1.8**
	baz=82							
LBTB	**Lobatse**	**81.21**	**114**	P		**P**	**05 39 28.1**	**+0.6**
	comp=E,4.4nm,0.6s,baz=252,slow=6.2,SNR=12							
LBTB	**Lobatse**	**81.21**	**114**	P		**P**	**05 39 28.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**81.23**	**69**	P		**P**	**05 39 27.9**	**+0.4**
	comp=E,2.8nm,0.5s,baz=251,slow=5.9,SNR=74							
TORD	**Torodi Ar. Bea**	**81.23**	**69**	P		**P**	**05 39 27.9**	**+0.4**
J24A	**Dixon Ranch, L**	**81.29**	**335**	⇓P		**P**	**05 39 29.4**	**+2.1**
	baz=82							
K22A	**Casper**	**81.40**	**333**	⇓P		**P**	**05 39 30.0**	**+2.0**
	baz=82							
K21A	**Alcova**	**81.67**	**333**	P		**P**	**05 39 31.1**	**+1.6**
	baz=82,SNR=6.0							
N17A	**Moffit Pass**	**81.73**	**330**	⇑P		**P**	**05 39 31.4**	**+1.5**
	baz=82							
RSSD	**Black Hills**	**81.75**	**336**	*e*P		**P**	**05 39 31.1**	**+1.3**
	comp=E,5.7nm,1.1s							
R11A	**Troy Canyon, C**	**81.85**	**325**	⇓P		**P**	**05 39 32.4**	**+1.9**
	baz=82							
J22A	**Midwest**	**82.03**	**334**	⇑P		**P**	**05 39 32.2**	**+1.0**
	baz=82							
L18A	**Fontenelle, Gr**	**82.20**	**331**	⇓P		**P**	**05 39 33.7**	**+1.4**
	baz=83							
N15A	**Stansbury Isla**	**82.43**	**328**	⇓P		**P**	**05 39 34.5**	**+1.1**
	baz=83							
H24A	**Dirks Ranch, A**	**82.47**	**336**	⇑P		**P**	**05 39 34.5**	**+1.0**
	baz=83,SNR=7.5							
BW06	**Boulder Array**	**82.70**	**331**	*e*P		**P**	**05 39 36.4**	**+1.5**
	comp=E,4.5nm,0.3s							
BW06	**Boulder Array**	**82.70**	**331**	⇓P		**P**	**05 39 36.7**	**+1.8**
	baz=83							
BW06				⇓P		**P**	**05 39 36.7**	**+1.8**
	baz=83							
PDAR	**Pinedale Array**	**82.70**	**331**	P		**P**	**05 39 35.5**	**+0.7**
	comp=E,1.2nm,0.6s,baz=139,slow=8.4,SNR=9.5							
PDAR	**Pinedale Array**	**82.70**	**331**	P		**P**	**05 39 35.5**	**+0.7**
PD02	**Pinedale Array**	**82.72**	**331**	*e*P		**P**	**05 39 35.3**	**+0.4**
K18A	**Toltan Ranch,**	**82.79**	**331**	⇑P		**P**	**05 39 36.9**	**+1.6**
	baz=83							
K17A	**Gardner Place,**	**83.25**	**331**	⇑P		**P**	**05 39 38.5**	**+0.8**
	baz=84							
J18A	**Kendall Valley**	**83.26**	**331**	⇓P		**P**	**05 39 38.4**	**+0.6**
	baz=84							
NVAR	**Mina Array Bea**	**83.27**	**323**	P		**P**	**05 39 39.1**	**+1.2**
	comp=E,0.8nm,0.7s,baz=141,slow=5.8,SNR=8.1							
NVAR	**Mina Array Bea**	**83.27**	**323**	P		**P**	**05 39 39.1**	**+1.2**
L15A	**Malad City**	**83.27**	**329**	⇑P		**P**	**05 39 38.8**	**+1.0**
	baz=84							
H21A	**Big Horn, Sher**	**83.28**	**334**	⇑P		**P**	**05 39 38.6**	**+0.9**
	baz=84							
H20A	**Greybull**	**83.52**	**333**	P		**P**	**05 39 39.9**	**+1.0**
	baz=84,SNR=5.2							
I18A	**Diamond G Ranc**	**83.58**	**332**	⇑P		**P**	**05 39 40.8**	**+1.4**
	baz=84							
K16A	**Soda Springs**	**83.60**	**330**	⇓P		**P**	**05 39 41.3**	**+1.8**
	baz=84							
F23A	**Volborg**	**83.62**	**335**	⇑P		**P**	**05 39 40.3**	**+1.0**
	baz=84							
MDND	**Maddock**	**83.62**	**340**	⇓P		**P**	**05 39 40.6**	**+1.4**
	baz=84							
H19A	**Powell**	**84.06**	**333**	⇓P		**P**	**05 39 42.8**	**+1.1**
	baz=84							
I17A	**Pilgrim Ck.**	**84.07**	**331**	⇑P		**P**	**05 39 43.4**	**+1.5**
	baz=84							
G20A	**Bridger**	**84.22**	**334**	⇓P		**P**	**05 39 43.2**	**+0.7**
	baz=85							
D24A	**Glendive**	**84.46**	**337**	⇓P		**P**	**05 39 45.1**	**+1.5**
	baz=85							
RLMT	**Red Lodge**	**84.55**	**333**	*e*P		**P**	**05 39 44.7**	**+0.5**
	comp=E,57nm,2.5s							
RLMT	**Red Lodge**	**84.55**	**333**	⇓P		**P**	**05 39 45.4**	**+1.1**
	baz=85							
RLMT				⇓P		**P**	**05 39 45.4**	**+1.1**
	baz=85							
D23A	**Lindsay**	**84.81**	**336**	⇓P		**P**	**05 39 46.9**	**+1.5**
	baz=85,SNR=5.6							
ULM	**Lac du Bonnet**	**84.82**	**343**	P		**P**	**05 39 45.2**	**+0.1**
	comp=E,1.5nm,0.6s,baz=161,slow=4.5,SNR=5.7							
ULM	**Lac du Bonnet**	**84.82**	**343**	P		**P**	**05 39 45.2**	**+0.1**
G18A	**Lazy EL Ranch,**	**84.83**	**333**	⇑P		**P**	**05 39 46.6**	**+1.0**
	baz=85							
C24A	**Savage**	**84.85**	**337**	⇑P		**P**	**05 39 47.0**	**+1.5**
	baz=85,SNR=8.9							
J13A	**Cove Ranch, Pi**	**85.18**	**329**	⇑P		**P**	**05 39 49.1**	**+1.7**
	baz=86							
E20A	**Meyer Farm, Mu**	**85.28**	**334**	⇓P		**P**	**05 39 49.0**	**+1.3**
	baz=86,SNR=6.4							
I14A	**Mackay**	**85.29**	**330**	⇑P		**P**	**05 39 49.9**	**+1.9**
	baz=86							
C23A	**Lambert**	**85.34**	**337**	⇑P		**P**	**05 39 49.1**	**+1.1**
	baz=86							
HLID	**Hailey**	**85.41**	**329**	*e*P		**P**	**05 39 50.0**	**+1.4**
	comp=E,10nm,1.4s							
HLID	**Hailey**	**85.41**	**329**	⇑P		**P**	**05 39 50.2**	**+1.6**
	baz=86							
E19A	**Rath Farm, Rou**	**85.48**	**334**	P		**P**	**05 39 49.9**	**+1.2**
	baz=86,SNR=5.1							
H15A	**Lima**	**85.50**	**331**	⇑P		**P**	**05 39 51.3**	**+2.2**
	baz=86							
I13A	**Wildhorse Cree**	**85.56**	**329**	⇑P		**P**	**05 39 51.2**	**+1.8**
	baz=86							
DGMT	**Dagmar**	**85.59**	**338**	*e*P		**P**	**05 39 50.6**	**+1.3**
	comp=E,11nm,0.7s							
DGMT	**Dagmar**	**85.59**	**338**	⇓P		**P**	**05 39 50.5**	**+1.3**
	baz=86							
D20A	**Manuel Ranch,**	**85.77**	**335**	P		**P**	**05 39 51.2**	**+1.0**
	baz=86,SNR=5.2							
H14A	**Leadore**	**85.80**	**330**	⇓P		**P**	**05 39 52.1**	**+1.6**
	baz=86							
G15A	**Dillon**	**85.88**	**331**	⇑P		**P**	**05 39 52.2**	**+1.3**
	baz=86							
I12A	**Atlanta**	**85.92**	**329**	⇓P		**P**	**05 39 52.5**	**+1.4**
	baz=86							
BOZ	**Bozeman (W)**	**85.92**	**332**	*e*P		P	05 39 44.6	-6.5
	comp=E,63nm,2.8s							
SCHQ	**Schefferville**	**86.10**	**1**	P		**P**	**05 39 51.1**	**-0.4**
	comp=E,2.8nm,0.5s,baz=189,slow=7.3,SNR=13							
SCHQ	**Schefferville**	**86.10**	**1**	P		**P**	**05 39 51.1**	**-0.4**
H13A	**Challis**	**86.14**	**330**	⇓P		**P**	**05 39 53.8**	**+1.6**
	baz=86							
F15A	**Butte**	**86.43**	**331**	⇓P		**P**	**05 39 55.0**	**+1.4**
	baz=87							
G13A	**Cobalt**	**86.55**	**330**	⇑P		**P**	**05 39 55.7**	**+1.5**
	baz=87							
D17A	**Six Diamond Ra**	**86.78**	**333**	⇑P		**P**	**05 39 56.5**	**+1.2**
	baz=87,SNR=8.0							
MOD	**Modoc**	**86.89**	**324**	*e*P		**P**	**05 39 56.7**	**+0.8**
	comp=E,115nm,2.8s							
C17A	**Wharram Farm,**	**87.21**	**333**	⇓P		**P**	**05 39 58.0**	**+0.8**
	baz=88,SNR=5.8							
A20A	**Cobblestone Ra**	**87.21**	**336**	⇑P		**P**	**05 39 57.9**	**+0.8**
	baz=88							
B19A	**Brinkman Farms**	**87.22**	**335**	P		**P**	**05 39 58.2**	**+1.1**
	baz=88,SNR=7.7							
E14A	**Clinton**	**87.30**	**331**	⇓P		**P**	**05 39 59.4**	**+1.6**
	baz=88							
D15A	**Lincoln**	**87.41**	**332**	⇑P		**P**	**05 40 00.0**	**+1.7**
	baz=88							
B18A	**Beardsley Farm**	**87.47**	**334**	P		**P**	**05 39 59.5**	**+1.1**
	baz=88,SNR=6.8							
E13A	**Victor**	**87.61**	**331**	⇑P		**P**	**05 40 00.6**	**+1.4**
	baz=88							
C15A	**Salmond Ranch,**	**88.04**	**332**	⇑P		**P**	**05 40 02.7**	**+1.4**
	baz=88							
A17A	**Triple J Farms**	**88.27**	**334**	⇓P		**P**	**05 40 03.2**	**+0.9**
	baz=89,SNR=5.6							
C14A	**Swan Lake**	**88.49**	**332**	⇑P		**P**	**05 40 04.6**	**+1.3**
	baz=89							
A16A	**West Butte Ran**	**88.61**	**334**	⇓P		**P**	**05 40 05.0**	**+1.1**
	baz=89							
WRA	**Warramunga Arr**	**123.95**	**207**	PKP		**PKPdf**	**05 46 09.0**	**-1.0**
	comp=E,0.4nm,0.7s,baz=158,slow=1.7,SNR=3.4							
WRA	**Warramunga Arr**	**123.95**	**207**	PKP		**PKPdf**	**05 46 09.0**	**-1.0**
BVAR	**Borovoye Array**	**143.97**	**42**	PKP		**PKPdf**	**05 46 47.4**	**+1.2**
	comp=E,0.6nm,0.6s,baz=338,slow=3.1,SNR=2.6							
BVAR	**Borovoye Array**	**143.97**	**42**	PKP		**PKPdf**	**05 46 47.4**	**+1.2**
KKAR	**Karatay Array**	**146.37**	**59**	*e*PKPdf		**PKPdf**	**05 46 50.3**	**-0.3**
AAK	**Ala-Archa**	**149.33**	**59**	*e*PKPbc		**PKPbc**	**05 47 01.5**	**+1.5**
KURK	**Kurchatov**	**149.57**	**42**	PKPbc		**PKPbc**	**05 47 00.5**	**+0.3**
	comp=E,3.4nm,0.9s,baz=298,slow=3.1,SNR=20							
KURK	**Kurchatov**	**149.57**	**42**	PKPbc		**PKPbc**	**05 47 00.5**	**+0.3**
KSH	**Kashi**	**150.82**	**65**	*e*PKPbc		**PKPbc**	**05 47 04.5**	**+0.8**
KSH				*e*PKS		**PKSdf**	**05 50 36.9**	**+4.0**
KSH				*e*SKS		**SKSdf**	**05 54 05.1**	**-0.1**
KSH				AMB		AMB		
	comp=Z,370nm,6.4s							
KSH				LR		LR		
	comp=Z,350nm,9.1s							
ZAA0	**Zalesovo Array**	**150.98**	**32**	*e*PKPbc		**PKPbc**	**05 47 04.2**	**+0.8**
ZALV	**Zalesovo Beam**	**150.98**	**32**	PKPbc		**PKPbc**	**05 47 04.2**	**+0.8**
	comp=Z,8.9nm,0.8s,baz=312,slow=3.1,SNR=25							
ZALV	**Zalesovo Beam**	**150.98**	**32**	PKPbc		**PKPbc**	**05 47 04.2**	**+0.8**
MK31	**Makanchi Array**	**153.46**	**47**	*e*PKPbc		**PKPbc**	**05 47 09.8**	**+0.5**
MK31				*e*PKPab		**PKPab**	**05 47 22.6**	**+0.9**
MKAR	**Makanchi Array**	**153.46**	**47**	PKPbc		**PKPbc**	**05 47 09.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=296,slow=1.6,SNR=11							
MKAR	**Makanchi Array**	**153.46**	**47**	PKPbc		**PKPbc**	**05 47 09.7**	**+0.4**
WMQ	**Urumqi**	**158.18**	**49**	*e*PKP		**PKPdf**	**05 47 08.4**	**+0.3**
CN2	**Changchun**	**163.14**	**320**	*e*PKP		**PKPdf**	**05 47 10.5**	**-2.9**
SONM	**Songino Array**	**163.45**	**10**	PKPab		**PKPab**	**05 48 05.5**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=333,slow=4.1,SNR=6.1							
SONM	**Songino Array**	**163.45**	**10**	PKPab		**PKPab**	**05 48 05.5**	**+0.6**
GTA	**Gaotai**	**168.21**	**46**	PKP		PKPdf	05 47 25.8	+7.9
KMI	**Kunming**	**170.50**	**131**	PKP		**PKPdf**	**05 47 15.8**	**-4.0**
KMI				pPKP		**pPKPdf**	**05 47 27.3**	**+1.7**
HHC	**Hu-ho-hao-te**	**170.74**	**356**	*e*PKP		**PKPdf**	**05 47 16.0**	**-3.3**
HHC				PKS		**SKSdf**	**05 50 47.8**	**-3.9**
HHC				SKS		**SKSdf**	**05 54 18.7**	**-3.4**
HHC				AMB		AMB		
	comp=Z,110nm,8.2s							
HHC				LR		LR		
	comp=N,260nm,21.2s							
HHC				LR		LR		
	comp=E,170nm,22.6s							
HHC				LR		LR		
	comp=Z,230nm,21.6s							
LZH	**Lanzhou**	**172.76**	**50**	*e*PKP		**PKPdf**	**05 47 21.8**	**+1.3**
LZH				pPKP		**pPKPdf**	**05 47 25.1**	**-1.2**
LZH				sPKP			05 47 26.5	
GYA	**Guiyang**	**173.79**	**145**	*e*PKP		**PKPdf**	**05 47 21.2**	**0.0**
GYA				PKPab		**PKPab**	**05 48 52.3**	**+1.1**
GYA				PKS		**PKSdf**	**05 50 51.8**	**-1.8**
GYA				PP		PP	05 52 46.0	+3.5
GYA				AMB		AMB		
	comp=Z,120nm,8.4s							
CD2	**Chengdu**	**174.04**	**95**	PKP		**PKPdf**	**05 47 20.7**	**-0.3**
CD2				pPKP		**pPKPdf**	**05 47 31.5**	**+4.7**
CD2				PKPab		**PKPab**	**05 48 54.3**	**+2.0**
CD2				PKS		**PKSdf**	**05 50 51.5**	**-1.8**
CD2				PP		PP	05 52 47.4	+2.4
CD2				SKS		**SKSdf**	**05 54 21.2**	**-2.4**
CD2				SKKS		**SKKSac**	**05 59 31.2**	**+0.7**
CD2				SS		SS	06 14 03.1	-0.9
CD2				AMB		AMB		
	comp=Z,120nm,5.4s							
CD2				LR		LR		
	comp=N,390nm,6.0s							
CD2				LR		LR		
	comp=Z,360nm,6.0s							

ISCJB ***11*** *05:36:03.6±1.4, 40.70°N±0.08°, 78.9°E±0.1, h20km, Error ellipse: s-maj=13.7km s-min=9.0km az=135.2*
NNC ***11*** *05:36:11.6±6.3, 41.40°N×79.10°E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=59.5km s-min=25.8km az=166.0*
ISC 11 05:36:07.1±1.8**, 40.82N**±0.07°×**78.72E**±0.08**, h20**km**, n15,** σ1§**54**/20**, 5C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.34**	**308**	P		Pn		05 36 39.6	-5.1
	SNR=59								
ULHL				P		Pn		05 36 39.6	-5.1
	SNR=59								
KSH	**Kashi**	**2.47**	**239**	Pn		**Pn**		**05 36 45.4**	**-1.0**
KSH				Sn		**Sb**		**05 37 20.7**	**-0.3**
KSH				smax		smax			
	comp=N,110nm,0.7s								
KSH				smax		smax			
	comp=E,180nm,0.7s								
KNDC	**Almaty**	**2.73**	**332**	⇓Pn		**Pn**		**05 36 49.4**	**-0.4**
	comp=E,50nm,0.6s								
KNDC				⇑Sn		**Sb**		**05 37 25.6**	**-2.6**
	comp=E,88nm,0.7s								
KZA	**Kyzart**	**2.89**	**297**	P		Pn		05 36 47.1	-5.3
	SNR=42								
KZA				P		Pn		05 36 47.1	-5.3
	SNR=42								
TKM2	**Tokmak 2**	**3.13**	**313**	P		**Pn**		**05 36 55.3**	**-0.3**
	SNR=12								
TKM2				P		**Pn**		**05 36 55.3**	**-0.3**
	SNR=12								
TKM2	**Tokmak 2**	**3.13**	**313**	⇓Pn		Pn		05 36 51.9	-3.6
	comp=E,15nm,0.3s								
TKM2				⇑Sn		**Sn**		**05 37 35.0**	**+2.5**
	comp=E,54nm,0.7s								
KBK	**Karagaybulak**	**3.36**	**304**	P		**Pn**		**05 36 58.0**	**-0.6**
	SNR=12								
KBK				P		**Pn**		**05 36 58.0**	**-0.6**
	SNR=12								
AAK	**Ala-Archa**	**3.64**	**301**	P		**Pn**		**05 37 02.2**	**-0.2**
	SNR=25								
AAK				P		**Pn**		**05 37 02.2**	**-0.2**
	SNR=25								
CHMS	**Chumysh**	**3.67**	**308**	P		**Pn**		**05 37 03.1**	**+0.3**
	SNR=23								
CHMS				P		**Pn**		**05 37 03.1**	**+0.3**
	SNR=23								
USP	**Ospenovka**	**3.98**	**309**	P		**Pn**		**05 37 08.3**	**+1.3**
	SNR=12								
USP				P		**Pn**		**05 37 08.3**	**+1.3**
	SNR=12								
EKS2	**Erkin-Say**	**4.13**	**298**	P		**Pn**		**05 37 11.6**	**+2.5**
	SNR=11								
EKS2				P		**Pn**		**05 37 11.6**	**+2.5**
	SNR=11								
MK31	**Makanchi Array**	**6.50**	**22**	Pn		**Pn**		**05 37 41.6**	**0.0**
	comp=E,0.4nm,0.6s,baz=202,slow=11,SNR=14								
MK31				⇑Sn		**Sn**		**05 38 56.6**	**+1.3**
	comp=E,1.2nm,0.5s,baz=201,slow=17,SNR=6.2								
MK31				⇓Lg		Lg		05 39 23.5	
	comp=E,3.5nm,0.6s								
KK31	**Karatay Array**	**6.53**	**293**	Pn		Pb		05 37 54.4	-5.6
	comp=E,3.7nm,0.8s,baz=136,slow=7.5,SNR=10								
KK31				⇑Sn		**Sb**		**05 39 14.8**	**-2.6**
	comp=E,3.3nm,0.6s,baz=116,slow=27,SNR=8.6								
KURBB	**Kurchatov Arra**	**9.80**	**359**	⇓Lg		Lg		05 41 08.0	
	comp=E,3.2nm,1.3s								
KURK	**Kurchatov**	**9.89**	**360**	⇑Lg		Lg		05 41 10.4	
	comp=E,11nm,1.0s								

NNC ***11*** *05:47:45.1±5.5, 37.19°N×70.92°E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=51.2km s-min=34.1km az=41.0*
ISC 11 05:47:39.8±1.4**, 36.37N**±0.08°×**70.8E**±0.1**, h188**km**, n20,** σ2§**43**/27**, 5C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.68**	**132**	*ex*			x	05 49 23.0	
THN				*e*S		**Sn**		**05 50 06.3**	**-1.8**
DLH	**Dalhousie**	**5.76**	**130**	*e*P		**Pn**		**05 49 06.0**	**+2.0**
DLH				*e*S		**Sn**		**05 50 08.0**	**-2.3**
AML	**Almayashu**	**6.19**	**21**	P		**Pn**		**05 49 11.0**	**+1.4**
	SNR=19								
AML				P		**Pn**		**05 49 11.0**	**+1.4**
	SNR=19								
KZA	**Kyzart**	**6.68**	**30**	P		**Pn**		**05 49 17.6**	**+1.5**
	SNR=7.3								
KZA				P		**Pn**		**05 49 17.6**	**+1.5**
	SNR=7.3								
EKS2	**Erkin-Say**	**6.70**	**19**	P		**Pn**		**05 49 18.0**	**+2.0**
	SNR=10								
EKS2				P		**Pn**		**05 49 18.0**	**+2.0**
	SNR=10								
KK31	**Karatay Array**	**6.72**	**359**	Pn		**Pn**		**05 49 18.6**	**+2.4**
	1.0nm,0.2s,baz=177,slow=12,SNR=99								
KK31				⇑Sn		**Sn**		**05 50 27.6**	**-4.9**
	3.5nm,0.4s,baz=188,slow=24,SNR=5.2								
AAK	**Ala-Archa**	**6.89**	**24**	P		**Pn**		**05 49 20.8**	**+2.3**
	SNR=15								
AAK				P		**Pn**		**05 49 20.8**	**+2.3**
	SNR=15								
ULHL	**Ulahol**	**7.25**	**34**	P		**Pn**		**05 49 25.9**	**+2.7**
	SNR=5.9								
ULHL				P		**Pn**		**05 49 25.9**	**+2.7**
	SNR=5.9								
CHMS	**Chumysh**	**7.30**	**24**	P		**Pn**		**05 49 25.9**	**+2.1**
	SNR=14								
CHMS				P		**Pn**		**05 49 25.9**	**+2.1**
	SNR=14								
USP	**Ospenovka**	**7.46**	**22**	P		**Pn**		**05 49 27.5**	**+1.6**
	SNR=15								
USP				P		**Pn**		**05 49 27.5**	**+1.6**
	SNR=15								
TKM2	**Tokmak 2**	**7.53**	**28**	P		Pn		05 49 30.4	+3.4
	SNR=12								
TKM2				P		Pn		05 49 30.4	+3.4
	SNR=12								
TKM2	**Tokmak 2**	**7.53**	**28**	⇓Pn		**Pn**		**05 49 28.6**	**+1.7**
	8.7nm,0.5s								
TKM2				⇑Sn		**Sn**		**05 50 49.4**	**-2.5**
	3.0nm,0.7s								
KHET	**Khetri**	**9.31**	**151**	*e*S		**Sn**		**05 51 33.8**	**-0.6**
KHET				AML		AML		05 51 35.9	
	comp=N,6.8nm,0.2s								
KHET				AML		AML		05 51 36.5	
	comp=E,8.0nm,0.2s								
KUDL	**Kundal**	**9.53**	**148**	*e*S		**Sn**		**05 51 36.5**	**-3.0**
KUDL				AML		AML		05 51 43.0	
	comp=N,6.6nm,0.2s								
KUDL				AML		AML		05 51 43.4	
	comp=E,8.4nm,0.6s								
AGRA	**Agra**	**10.97**	**144**	*e*S		**Sn**		**05 52 10.6**	**-3.4**
AGRA				AML		AML		05 52 18.1	
	comp=E,49nm,0.2s								
AGRA				AML		AML		05 52 19.7	
	comp=N,54nm,0.1s								
MK31	**Makanchi Array**	**13.51**	**36**	Pn		**P**		**05 50 47.9**	**+1.1**
	comp=N,1.2nm,0.8s,baz=218,slow=12,SNR=9.9								
AB31	**Akbulak array**	**15.10**	**332**	Pn		P		05 51 09.9	+5.7
	comp=N,0.2nm,0.3s,baz=148,slow=12,SNR=23								
AB31				⇑Sn		**S**		**05 53 48.9**	**-3.2**
	comp=N,0.5nm,0.5s,baz=151,slow=25,SNR=3.7								
KURBB	**Kurchatov Arra**	**15.31**	**19**	⇓Pn		P		05 51 15.5	+9.0
	comp=N,0.4nm,0.7s								
KURK	**Kurchatov**	**15.41**	**19**	⇑Pn		P		05 51 15.0	+7.2
	comp=N,1.7nm,0.9s								
AKTO	**Aktyubinsk**	**16.79**	**331**	⇑Pn		Pn		05 51 34.7	+11
	comp=N,0.4nm,0.8s								
AKTO				⇓Sn		**Sn**		**05 54 34.2**	**+1.7**
	comp=N,0.6nm,1.1s								

NIED ***11*** *05:57:00, 42.60N×143.50E, h71km, Mw4.6 Best double couple: M0 9.65000×10^15 NP1:φs324.00000°, δ87.00000°, λ-76.00000°. NP2:φs66.00000°, δ15.00000°, λ-168.00000°.*
BJI ***11*** *05:57:09.5, 42.58N×143.54E, h77km, mB5.2/36, mb5.0/53, Ms4.6/23, Ms7 4.3/26*
MOS ***11*** *05:57:09.5±1.0, 42.77N×143.35E, h64km, mb4.9/41, Error ellipse: s-maj=7.7km s-min=6.0km az=82.2*
ISCJB ***11*** *05:57:10.6±0.2, 42.62N±0.02×143.44E±0.02, h78km±1km, mb4.7/105, Error ellipse: s-maj=4.2km s-min=2.6km az=156.0*
JMA ***11*** *05:57:11.9±0.1, 42.59N×143.42E, h68km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs314.00000°, δ88.00000°, λ-79.00000°. NP2:φs54.00000°, δ11.00000°, λ-170.00000°. Principal axes: T Plg42.0000°, Azm33.0000°; N Plg11.0000°, Azm133.0000°; P Plg46.0000°, Azm235.0000°;*
JMA Felt III J1.
NEIC ***11*** *05:57:11.8±0.2, 42.67N×143.42E, mb4.8/48, MW4.6(NIED) Error ellipse: s-maj=5.5km s-min=3.1km az=153.0*
NEIC Recorded [3 JMA] in eastern and southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
IDC ***11*** *05:57:11.8±1.3, 42.67N×143.39E, h73km±10km, mb4.3/25, mb1 4.4/27, mb1mx4.4/31, mbtmp4.3/27, MS3.5/9, Ms1 3.6/9, ms1mx3.4/33, Error ellipse: s-maj=11.8km s-min=10.4km az=108.0*
ISC 11 05:57:12.0±0.3**, 42.62N**±0.03°×**143.45E**±0.03**, h75**km±2km**, h74**km**:pP-P, n430**, σ1§**00**/500**, mb4.8**/105**, 77C-74D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.06**	**264**	⇓P		**Pn**		**05 57 21.9**	**-0.9**
JCH				*e*S		**Sn**		**05 57 28.8**	**-1.9**
JOB	**Onbets**	**0.40**	**45**	⇓P		**Pn**		**05 57 24.2**	**-0.2**
JOB				*e*S		**Sn**		**05 57 32.6**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.61**	**237**	⇑P		**Pn**		**05 57 25.7**	**-0.7**
JNBK				*e*S		**Sn**		**05 57 35.0**	**-2.0**
JEM	**Erimo**	**0.64**	**200**	P		**Pn**		**05 57 25.7**	**-0.9**
ERM	**Erimo**	**0.64**	**199**	*e*PN		**Pn**		**05 57 26.8**	**+0.2**
ERM				*e*				05 57 36.4	
ERM	**Erimo**	**0.64**	**199**	*e*Pn		**Pn**		**05 57 26.8**	**+0.2**
ERM				*e*Sn		**Sn**		**05 57 36.4**	**-1.0**
JAR	**Ashorobuto**	**0.72**	**19**	⇓P		**Pn**		**05 57 27.2**	**-0.3**
JAR	

HABR pmax pmax
comp=N,66nm,1.5s
HABR pmax pmax
comp=Z,248nm,2.3s
HABR pmax pmax
comp=E,102nm,1.5s
HABR MLR MLR
comp=Z,114nm,16.0s
USRK Ussuriysk Arra 8.48 285 P **Pn 05 59 13.9 +2.0**
comp=Z,0.8nm,0.3s,baz=89,slow=14,SNR=20
MDJ Mudanjiang 10.24 286 P **Pn 05 59 38.5 +2.5**
MDJ S Sn 06 01 35.3 +6.3
MDJ pmax pmax
comp=Z,20nm,1.7s
MDJ pmax pmax
comp=Z,350nm,5.6s
MDJ Mudanjiang 10.24 286 *e*Pn **Pn 05 59 38.0 +2.0**
comp=Z,20nm,0.9s
KLR Kul'dur 10.48 313 ePN **Pn 05 59 40.0 +0.8**
SKR Severo-Kuril's 11.86 43 *e*PN Pn 05 59 49.0 -8.9
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s
KSRS Korea Array 12.96 252 P **Pn 06 00 13.2 +0.2**
comp=Z,0.4nm,0.3s,baz=67,slow=13,SNR=25
KSRS LR LR 06 04 53.4
comp=Z,127nm,20.7s,baz=246,slow=36
KSRS Korea Array 12.96 252 PN **Pn 06 00 13.2 +0.2**
KSRS MLR MLR
comp=Z,127nm,20.7s
KSAR Wonju Array Be 12.99 252 PN **Pn 06 00 13.2 -0.2**
KSAR Wonju Array Be 12.99 252 P **Pn 06 00 13.2 -0.2**
CN2 Changchun 13.19 281 *e*P **Pn 06 00 16.3 +0.4**
CN2 *es*P 06 00 39.3
CN2 *e*S **Sn 06 02 40.7 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
PEA0B Petropavlovsk- 14.17 37 ePn Pn 06 00 25.4 -3.4
PETK Petropavlovsk- 14.17 37 P Pn 06 00 25.5 -3.3
comp=Z,3.1nm,0.3s,baz=222,slow=11,SNR=28
PETK LR LR 06 05 49.0
comp=Z,188nm,18.2s,baz=228,slow=36
PETK Petropavlovsk- 14.17 37 P Pn 06 00 25.5 -3.3
PETK pmax pmax
comp=Z,3.0nm,0.3s
PETK MLR MLR
comp=Z,188nm,18.2s
PETK Petropavlovsk- 14.17 37 P Pn 06 00 25.5 -3.3
PET Petropavlovsk 14.55 39 *e*P **Pn 06 00 31.1 -2.6**
PET pmax pmax
comp=Z,25nm,0.5s
PET MLR MLR
comp=Z,300nm,13.0s
HIA Hailar 17.73 300 *e*P **P 06 01 12.3 -1.2**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 17.73 300 *e*P **P 06 01 12.3 -1.2**
comp=Z,12nm,1.0s
JOW Kunigami 20.04 223 LR LR 06 10 10.1
comp=Z,193nm,19.5s,baz=114,slow=39
BJI Beijing 20.61 272 P **P 06 01 43.5 -1.4**
BJI pmax pmax
comp=Z,30nm,1.0s
BJI LR LR
comp=Z,200nm,23.4s
BJT Baijiatuau 20.62 272 *e*P **P 06 01 43.5 -1.5**
BJT pmax pmax
comp=Z,66nm,0.8s
BJT Baijiatuau 20.62 272 *e*P **P 06 01 43.5 -1.5**
comp=Z,66nm,0.8s
SEY Seymchan 21.01 11 ⇓*i*P **P 06 01 46.7 -2.3**
NJ2 Nanjing 22.14 250 *e*P **P 06 02 01.8 +0.4**
NJ2 pP **pP 06 02 17.7 +0.7**
NJ2 sP **sP 06 02 28.6 +2.3**
NJ2 PP **PnPn 06 02 30.4 +3.5**
NJ2 S **S 06 05 55.0 -5.8**
NJ2 pmax pmax
comp=Z,60nm,1.1s
NJ2 pmax pmax
comp=Z,70nm,5.2s
NJ2 LR LR
comp=N,320nm,15.0s
NJ2 LR LR
comp=E,200nm,16.3s
NJ2 LR LR
comp=Z,260nm,13.9s
FX1 Attu Island--F 22.31 52 P **P 06 02 03.3 +0.3**
comp=Z,37nm,0.7s,baz=162,slow=3.2,SNR=14
FX1 LR LR 06 09 42.9
comp=Z,126nm,20.4s,baz=135,slow=34
FX1 Attu Island--F 22.31 52 P **P 06 02 03.3 +0.3**
FX1 pmax pmax
comp=Z,37nm,0.7s
FX1 MLR MLR
comp=Z,126nm,20.5s
FX1 Attu Island--F 22.31 52 P **P 06 02 03.3 +0.3**
HHC Hu-ho-hao-te 23.79 277 *e*P **P 06 02 15.7 -2.0**
HHC pP **pP 06 02 33.0 -1.6**
HHC sP **sP 06 02 42.4 -1.4**
HHC PP **PnPn 06 02 50.3 +1.0**
HHC S **S 06 06 23.6 -4.2**
HHC sS Sn 06 06 52.3 -3.7
HHC SS 06 07 18.2
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,250nm,5.9s
HHC LR LR
comp=N,760nm,12.7s
HHC LR LR
comp=E,980nm,14.3s
HHC LR LR
comp=Z,250nm,11.7s
BOD Bodaibo 23.95 320 *e*P **P 06 02 15.3 -3.5**
ULN Ulaanbaatar 25.99 294 *e*P **P 06 02 37.5 -0.2**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 25.99 294 *e*P **P 06 02 37.5 -0.2**
comp=Z,8.8nm,1.0s
WHN Wuhan 26.16 252 ⇓P **P 06 02 39.3 +0.2**
WHN pmax pmax
comp=Z,150nm,1.0s
SONM Songino Array 26.43 294 P **P 06 02 41.5 -0.1**
comp=Z,4.5nm,0.8s,baz=93,slow=7.8,SNR=32
SONM Songino Array 26.43 294 P **P 06 02 41.5 -0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 26.43 294 P **P 06 02 41.5 -0.1**
BILL Bilibino 28.23 18⇑ *e*P **P 06 02 57.0 -0.4**
BILL *e**PP **pP 06 03 16.3 +1.3**
BILL *e* 06 03 50.9
BILL *e*S **S 06 07 37.4 -0.1**
BILL pmax pmax
comp=Z,11nm,1.5s
BILL Bilibino 28.23 18 *e*P **P 06 02 54.6 -2.8**
comp=Z,3.8nm,0.7s
XAN Xi'an 28.25 264 P **P 06 02 57.9 0.0**
XAN pmax pmax
comp=Z,6.0nm,0.6s
ZAK Zakamensk 28.43 300 *e*P P 06 02 56.3 -3.1
ZAK pmax pmax
comp=Z,4.0nm,1.2s
GUMO Guam 28.95 177 LR LR 06 13 28.0
comp=Z,100nm,18.7s,baz=60,slow=34
ENH Enshi 29.77 257 *e*P **P 06 03 11.3 -0.1**
comp=Z,38nm,0.8s
MOY Mondy 29.88 302 *e*P **P 06 03 13.7 +1.4**
LZH Lanzhou 31.09 271 ⇓P **P 06 03 24.5 +1.3**
LZH pP **pP 06 03 42.6 +1.6**
LZH sP **sP 06 03 51.6 +1.8**
LZH PP PP 06 04 28.7 -5.9
LZH *e*S **S 06 08 19.2 -4.1**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.5s
LZH LR LR
comp=N,320nm,14.1s
LZH LR LR
comp=E,580nm,16.0s
LZH LR LR
comp=Z,520nm,17.0s
GTA Gaotai 32.81 279 P **P 06 03 38.7 +0.5**

GTA pP **pP 06 03 57.3 +1.3**
GTA sP **sP 06 04 06.7 +1.9**
GTA S **S 06 08 49.7 -0.2**
GTA sS **sS 06 09 18.2 -2.3**
GTA ScP **ScP 06 10 00.8 +2.1**
GTA pmax pmax
comp=Z,24nm,0.8s
GTA pmax pmax
comp=Z,310nm,6.2s
GTA LR LR
comp=N,150nm,18.1s
GTA LR LR
comp=E,250nm,15.2s
GTA LR LR
comp=Z,220nm,14.3s
CD2 Chengdu 33.59 263 P **P 06 03 45.7 +0.8**
CD2 pP **pP 06 04 04.1 +1.3**
CD2 sP **sP 06 04 13.4 +1.9**
CD2 PP PP 06 05 00.0 -2.1
CD2 S **S 06 09 00.6 -1.3**
CD2 sS **sS 06 09 32.4 -0.2**
CD2 SS **SnSn 06 11 08.6 -3.3**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,130nm,7.1s
CD2 LR LR
comp=N,400nm,5.9s
CD2 LR LR
comp=Z,340nm,6.5s
GYA Guiyang 34.01 254 P **P 06 03 48.8 +0.1**
GYA pP **pP 06 04 07.9 +1.3**
GYA sP **sP 06 04 17.6 +2.2**
GYA PP PP 06 05 05.3 -1.6
GYA S **S 06 09 07.0 -1.7**
GYA sS **sS 06 09 40.1 +0.8**
GYA ScP **ScP 06 10 03.4 +0.3**
GYA SS **SnSn 06 11 18.5 -3.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.7s
GYA LR LR
comp=N,540nm,17.8s
GYA LR LR
comp=E,480nm,18.0s
GYA LR LR
comp=Z,510nm,17.6s
TNA Tin City 35.27 33 *e*P **P 06 03 59.4 +0.5**
comp=Z,16nm,0.9s
QIZ Qiongzhong 36.85 241 P **P 06 04 11.6 -1.3**
QIZ S **S 06 09 53.3 +1.3**
QIZ pmax pmax
comp=Z,15nm,1.8s
QIZ pmax pmax
comp=Z,160nm,5.1s
KMI Kunming 37.62 256 P **P 06 04 20.3 +0.6**
KMI pP **pP 06 04 39.3 +1.5**
KMI sP **sP 06 04 47.4 +0.9**
KMI pmax pmax
comp=Z,38nm,0.9s
KMI LR LR
comp=N,160nm,17.2s
KMI LR LR
comp=E,170nm,17.6s
KMI LR LR
comp=Z,190nm,22.0s
ZAA0 Zalesovo Array 39.52 308 *e*P **P 06 04 35.0 -0.1**
ZALV Zalesovo Beam 39.52 308 P **P 06 04 34.7 -0.4**
comp=Z,10nm,0.8s,baz=89,slow=7.5,SNR=39
ZALV PcP **PcP 06 06 41.6 +0.5**
comp=Z,2.0nm,0.6s,baz=76,slow=2.8,SNR=4.4
ZALV ScP **ScP 06 10 23.2 +0.2**
comp=Z,1.4nm,0.7s,baz=70,slow=4.3,SNR=5.7
ZALV Zalesovo Beam 39.52 308 P **P 06 04 34.7 -0.4**
ZALV 06 06 41.6
ZALV 06 10 23.2
ZALV pmax pmax
comp=Z,10.0nm,0.8s
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV pmax pmax
comp=N,1.0nm,0.7s
ZALV Zalesovo Beam 39.52 308 P **P 06 04 34.7 -0.4**
ZALV PcP **PcP 06 06 41.6 +0.5**
ZALV ScP **ScP 06 10 23.2 +0.2**
WMQ Urumqi 39.99 291 P **P 06 04 39.1 0.0**
WMQ pP **pP 06 04 57.5 +0.1**
WMQ sP **sP 06 05 06.1 +0.1**
WMQ pmax pmax
comp=Z,15nm,0.8s
TTA Tatalina 40.00 38 *e*P **P 06 04 39.3 +0.2**
TTA Tatalina 40.00 38 *e*P **P 06 04 39.3 +0.2**
NVS Novosibirsk 40.32 309 *e*P **P 06 04 39.0 -2.6**
RSO Redoubt South 41.63 42 *e*P **P 06 04 53.6 +1.1**
PPLA Purkeypile 41.76 38 *e*P **P 06 04 54.0 +0.5**
comp=Z,108nm,1.7s
KDAK Kodiak Island 41.99 46 P **P 06 04 55.0 -0.3**
comp=Z,28nm,0.8s,baz=307,slow=5.1,SNR=12
KDAK Kodiak Island 41.99 46 P **P 06 04 55.0 -0.3**
KDAK pmax pmax
comp=Z,28nm,0.8s
KDAK Kodiak Island 41.99 46 P **P 06 04 55.0 -0.3**
COLD Coldfoot 42.55 32 *e*P **P 06 04 59.4 -0.3**
comp=Z,14nm,1.3s
TRF Thorofare Moun 42.59 37 *e*P **P 06 05 00.1 -0.2**
comp=Z,17nm,0.9s
MK31 Makanchi Array 42.70 297 *e*P **P 06 05 01.2 -0.1**
MK31 Makanchi Array 42.70 297 *e*P **P 06 05 01.2 -0.1**
MKAR Makanchi Array 42.70 297 P **P 06 05 01.1 -0.2**
comp=Z,14nm,0.7s,baz=79,slow=8.6,SNR=165
MKAR ScP **ScP 06 10 36.9 +1.2**
comp=Z,0.6nm,0.8s,baz=63,slow=3.7,SNR=3.6
MKAR Makanchi Array 42.70 297 *e*P **P 06 05 01.4 +0.1**
MKAR Makanchi Array 42.70 297 *e*P **P 06 05 01.4 +0.1**
MKAR ScP **ScP 06 10 36.9 +1.2**
RC01 Rabbit Creek A 43.04 41 *e*P **P 06 05 04.3 +0.5**
comp=Z,22nm,1.0s
MCK McKinley 43.18 37 *e*P **P 06 05 05.1 +0.2**
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 43.18 37 *e*P **P 06 05 05.1 +0.2**
comp=Z,19nm,0.8s
PMR Palmer 43.28 40 *e*P **P 06 05 06.4 +0.8**
PMR pmax pmax
comp=Z,226nm,2.9s
PMR Palmer 43.28 40 *e*P **P 06 05 06.4 +0.8**
comp=Z,226nm,2.9s
LSA Lhasa 43.50 270 P **P 06 05 09.1 +0.6**
LSA Lhasa 43.50 270 *e*P **P 06 05 09.4 +0.9**
LSA pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 43.50 270 *e*P **P 06 05 09.4 +0.9**
comp=Z,16nm,0.9s
COLA College 43.57 35 *e*P **P 06 05 08.3 +0.4**
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 43.57 35 *e*P **P 06 05 08.3 +0.4**
comp=Z,29nm,0.8s
SML Sawmill 43.63 40 *e*P **P 06 05 09.0 +0.4**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 43.63 40 *e*P **P 06 05 09.0 +0.4**
comp=Z,6.6nm,0.8s
KURK Kurchatov 43.91 304 ⇓*i*P **P 06 05 10.7 -0.2**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 43.91 304 *e*P **P 06 05 09.3 -1.5**
comp=Z,15nm,0.7s
ILAR Eielson Array 43.99 35 P **P 06 05 11.0 -0.3**
comp=Z,15nm,0.8s,baz=272,slow=7.2,SNR=138
ILAR Eielson Array 43.99 35 P **P 06 05 11.0 -0.3**
ILAR pmax pmax
comp=Z,15nm,0.8s
ILAR Eielson Array 43.99 35 P **P 06 05 11.0 -0.3**
CHTO Chiang Mai 44.36 252 *e*P **P 06 05 15.9 +1.0**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 44.36 252 *e*P **P 06 05 15.9 +1.0**
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 44.60 251 LR LR 06 23 55.2
comp=Z,76nm,19.0s,baz=227,slow=36
PAX Paxson 44.81 38 *e*P **P 06 05 18.3 +0.3**
PAX pmax pmax
comp=Z,4.0nm,0.7s

PAX Paxson 44.81 38 *e*P **P 06 05 18.3 +0.3**
comp=Z,4.1nm,0.7s
DIV Divide 44.94 40 *e*P **P 06 05 19.9 +0.8**
comp=Z,34nm,1.1s
SHL Shillong 45.25 265 *e*P **P 06 05 25.0 +2.9**
BMRM Bremner River 45.53 41 *e*P **P 06 05 23.4 -0.3**
comp=Z,228nm,2.4s
EGAK Eagle 46.42 35 *e*P **P 06 05 30.3 -0.3**
comp=Z,15nm,0.9s
TAPN Taplejung 47.31 270 *e*P **P 06 05 39.1 +0.7**
comp=Z,44nm,0.9s
TAPN Taplejung 47.31 270 *e*P **P 06 05 39.1 +0.7**
comp=Z,44nm,0.9s
ODAN Odare 47.83 270 *e*P **P 06 05 43.2 +0.9**
comp=Z,59nm,0.9s
ODAN Odare 47.83 270 *e*P **P 06 05 43.2 +0.9**
comp=Z,59nm,0.9s
BVA0 Borovoye Array 48.12 309 *i*P **P 06 05 43.7 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 48.17 309 ⇓*i*P **P 06 05 44.3 0.0**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 48.17 309 *e*P **P 06 05 44.5 +0.2**
comp=Z,12nm,1.2s
JIRN Jiri 48.27 271 *e*P **P 06 05 46.3 +0.5**
comp=Z,17nm,0.5s
JIRN Jiri 48.27 271 *e*P **P 06 05 46.3 +0.5**
comp=Z,17nm,0.5s
GUN Gumba 48.36 272 *e*P **P 06 05 46.8 +0.3**
comp=Z,46nm,0.3s
RAMN Ramite 48.36 270 *e*P **P 06 05 46.6 +0.2**
comp=Z,64nm,0.8s
RAMN Ramite 48.36 270 *e*P **P 06 05 46.6 +0.2**
comp=Z,64nm,0.8s
TKM2 Tokmak 2 48.53 295 P **P 06 05 48.1 +0.6**
SNR=17
TKM2 P **P 06 05 48.1 +0.6**
SNR=17
TKM2 Tokmak 2 48.53 295 *i*P **P 06 05 48.1 +0.6**
TKM2 Tokmak 2 48.53 295 *e*P **P 06 05 48.1 +0.6**
comp=Z,18nm,0.9s
INK Inuvik 48.73 29 P **P 06 05 48.3 -0.1**
comp=Z,6.6nm,0.4s,baz=289,slow=6.2,SNR=32
INK Inuvik 48.73 29 P **P 06 05 48.3 -0.1**
INK pmax pmax
comp=Z,7.0nm,0.4s
INK Inuvik 48.73 29 P **P 06 05 48.3 -0.1**
comp=Z,5.1nm,0.4s
KKN Kakani 48.87 272 *e*P **P 06 05 50.5 +0.2**
comp=Z,33nm,0.9s
KKN Kakani 48.87 272 *e*P **P 06 05 50.5 +0.2**
KKN pmax pmax
comp=Z,33nm,0.9s
KKN Kakani 48.87 272 *e*P **P 06 05 50.5 +0.2**
comp=Z,33nm,0.9s
PKI Pulchoki 48.89 272 *e*P **P 06 05 50.5 -0.1**
PKI Pulchoki 48.89 272 *e*P **P 06 05 50.5 -0.1**
PKI Pulchoki 48.89 272 *e*P **P 06 05 50.5 -0.1**
KBK Karagaybulak 49.07 295 P **P 06 05 51.6 -0.1**
SNR=6.9
KBK P **P 06 05 51.6 -0.1**
SNR=6.9
DMN Daman 49.09 272 *e*P **P 06 05 52.3 +0.2**
comp=Z,23nm,0.7s
DMN Daman 49.09 272 *e*P **P 06 05 52.3 +0.2**
comp=Z,23nm,0.7s
KZA Kyzart 49.11 294 P **P 06 05 53.3 +1.1**
SNR=5.6
KZA P **P 06 05 53.3 +1.1**
SNR=5.6
GKN Gorkha 49.22 273 *e*P **P 06 05 52.9 0.0**
comp=Z,19nm,0.4s
AAK Ala-Archa 49.39 295*c e*P **P 06 05 53.7 -0.3**
AAK pmax pmax
comp=Z,12nm,1.2s
AAK Ala-Archa 49.39 295 *e*P **P 06 05 52.9 -1.2**
comp=Z,17nm,0.6s
DANN Dangsing 49.68 274 *e*P **P 06 05 57.1 +0.5**
comp=Z,108nm,0.8s
DANN Dangsing 49.68 274 *e*P **P 06 05 57.1 +0.5**
comp=Z,108nm,0.8s
KSH Kashi 49.73 291 *e*P P 06 06 00.2 +3.6
KSH *ep*P pP 06 06 19.2 +3.8
KSH *es*P sP 06 06 27.9 +3.9
KSH *e*PcP **PcP 06 07 19.5 +2.9**
KSH *e*PP PP 06 07 57.3 +5.7
KSH *e*ScP **ScP 06 11 06.8 +1.5**
KSH *e*PcS **PcS 06 11 14.9 +1.3**
KSH *e*S **S 06 13 02.4 +2.3**
KSH sS sS 06 13 36.6 +4.5
KSH *e*ScS **ScS 06 15 41.1 +0.1**
KSH *e*SS SS 06 16 34.4 +1.4
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,310nm,6.7s
KSH LR LR
comp=N,400nm,8.2s
KSH LR LR
comp=E,460nm,7.2s
KSH LR LR
comp=Z,600nm,7.5s
EKS2 Erkin-Say 49.85 295 P **P 06 05 57.2 -0.4**
SNR=6.6
EKS2 P **P 06 05 57.2 -0.4**
SNR=6.6
EKS2 Erkin-Say 49.85 295 *e*P **P 06 05 57.5 0.0**
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 49.85 295 *e*P **P 06 05 57.5 0.0**
comp=Z,8.9nm,1.0s
KOLN Koldanda 50.12 273 *e*P **P 06 06 00.1 +0.3**
comp=Z,17nm,0.3s
AML Almayashu 50.14 295 P **P 06 06 00.1 +0.1**
SNR=5.8
AML P **P 06 06 00.1 +0.1**
SNR=5.8
KK31 Karatay Array 51.83 297 *e*P **P 06 06 11.5 -0.7**
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 51.83 297 *e*P **P 06 06 11.3 -0.9**
KKAR Karatay Array 51.83 297 *e*P **P 06 06 11.3 -0.9**
KULM Kulim 53.05 238 *e*P **P 06 06 22.5 +1.0**
comp=Z,42nm,1.0s
ARU Arti 53.30 316*c i*P **P 06 06 22.7 -0.1**
ARU 06 08 19.2
ARU S **S 06 13 50.1 +1.7**
ARU SS SS 06 17 28.7 +0.2
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 53.30 316 *e*P **P 06 06 22.6 -0.3**
comp=Z,52nm,1.9s
DLBC Dease Lake 53.32 41 P **P 06 06 24.3 +1.3**
comp=Z,4.0nm,0.6s,baz=285,slow=6.6,SNR=4.8
DLBC Dease Lake 53.32 41 P **P 06 06 24.3 +1.3**
AB31 Akbulak array 55.64 308 P **P 06 06 39.6 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 55.64 308 *e*P **P 06 06 39.9 +0.1**
AKTO Aktyubinsk 56.20 310 P **P 06 06 43.6 -0.2**
comp=Z,2.0nm,0.5s,baz=78,slow=10,SNR=5.4
AKTO Aktyubinsk 56.20 310 P **P 06 06 43.6 -0.2**
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 56.20 310 P **P 06 06 43.6 -0.2**
RES Resolute Bay 56.81 16 *e*P **P 06 06 46.8 -1.0**
RES *e**PP **pP 06 07 05.1 -1.9**
RES *e**SP **sP 06 07 14.7 -0.8**
RES pmax pmax
comp=Z,12nm,0.7s
RES Resolute Bay 56.81 16 *e*P **P 06 06 46.8 -1.0**
comp=Z,12nm,0.7s
RES *ep*P **pP 06 07 05.0 -1.9**
RES *es*P **sP 06 07 14.7 -0.8**
KBL Kabul 57.00 289 *e*P **P 06 06 49.3 -0.8**
KBL pmax pmax
comp=Z,12nm,0.7s
KBL Kabul 57.00 289 *e*P **P 06 06 49.3 -0.8**
comp=Z,12nm,0.7s
YKA Yellowknife Ar 58.22 32 P **P 06 06 57.7 -0.1**
comp=Z,4.6nm,0.7s,baz=304,slow=6.8,SNR=68
YKA LR LR 06 34 46.5
comp=Z,8.6nm,19.9s,baz=0.0,slow=39
YKA Yellowknife Ar 58.22 32 P **P 06 06 57.8 -0.1**
YKA Yellowknife Ar 58.22 32 P **P 06 06 57.8 -0.1**

KEV **Kevo** 58.80 339 *e*P P 06 07 01.5 -0.3
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV **Kevo** 58.80 339 *e*p P 06 07 01.5 -0.3
comp=Z,2.1nm,0.3s
KEV **Kevo** 58.80 339 *e*p P 06 07 01.5 -0.3
comp=Z,2.1nm,0.3s
ARCES **ARCESS Array B** 59.34 339 P P 06 07 05.3 -0.3
comp=Z,3.8nm,0.9s,baz=44,slow=8.0,SNR=12
ARCES **ARCESS Array B** 59.34 339 P P 06 07 05.3 -0.3
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES **ARCESS Array B** 59.34 339 P P 06 07 05.3 -0.3
JOF **Joensuu** 61.80 331 *e*P P 06 07 21.3 -1.0
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF **Joensuu** 61.80 331 *e*p P 06 07 21.3 -1.0
comp=Z,2.7nm,0.3s
JOF **Joensuu** 61.80 331 *e*p P 06 07 21.3 -1.0
comp=Z,2.7nm,0.3s
WRA **Warramunga Arr** 62.81 190 P P 06 07 29.1 -0.5
comp=Z,6.6nm,0.7s,baz=6.8,slow=6.9,SNR=27
WRA **Warramunga Arr** 62.81 190 P P 06 07 29.1 -0.5
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA **Warramunga Arr** 62.81 190 P P 06 07 29.1 -0.5
ETW **Entiat** 63.73 49 *e*P P 06 07 36.2 +0.5
KAF **Kangasniemi** 64.08 332 *e*P P 06 07 36.5 -1.0
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF **Kangasniemi** 64.08 332 *e*p P 06 07 36.5 -1.0
comp=Z,1.1nm,0.4s
KAF **Kangasniemi** 64.08 332 *e*p P 06 07 36.5 -1.0
comp=Z,1.1nm,0.4s
OBN **Obninsk** 64.59 323⇑ *e*P P 06 07 39.1 -1.8
OBN *e**PP pP 06 08 02.8 +2.3
OBN *e* 06 09 59.7
OBN *e*S S 06 16 17.9 +3.5
OBN pmax pmax
comp=Z,12nm,0.4s
FINES **FINESS Array B** 64.62 332 P P 06 07 40.3 -0.7
comp=Z,4.7nm,0.5s,baz=46,slow=9.9,SNR=32
FINES **FINESS Array B** 64.62 332 P P 06 07 40.3 -0.7
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES **FINESS Array B** 64.62 332 P P 06 07 40.3 -0.7
VRHR **Novokhopersk** 64.64 317 *e*P P 06 07 38.6 -2.7
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VRHR pmax pmax
comp=Z,3.0nm,0.6s
OD2 **Odessa Site #2** 64.75 48 *e*P P 06 07 42.4 +0.2
comp=Z,16nm,1.0s
OD2 *e*PP PP 06 10 05.0 +0.1
NEW **Newport** 65.09 47 *e*P P 06 07 44.8 +0.4
NEW pmax pmax
comp=Z,12nm,1.0s
NEW **Newport** 65.09 47 *e*P P 06 07 44.8 +0.4
comp=Z,12nm,1.0s
NEW **Newport** 65.09 47 ⇓P P 06 07 44.2 -0.2
baz=65
SUMG **Summit** 65.10 1 *i* P P 06 07 44.0 -0.5
SUMG *i* 06 08 02.9
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG **Summit** 65.10 1 *e*P P 06 07 44.5 +0.1
SUMG **Summit** 65.10 1 *i* P P 06 07 44.0 -0.5
comp=Z,14nm,0.9s
SUMG *i* 06 08 02.9
VSR **Storozhevoye** 65.79 318 *e*P P 06 07 47.9 -0.9
C12B **Naegeli Ranch,** 66.31 46 ⇑P P 06 07 52.3 0.0
baz=66
B13A **Whitefish** 66.44 45 ⇓P P 06 07 52.5 -0.6
baz=66,SNR=8.5
AS31 **Alice Springs** 66.54 190 *e*P P 06 07 54.7 +0.8
ASAR **Alice Springs** 66.54 190 P P 06 07 54.3 +0.5
comp=Z,3.7nm,0.7s,baz=12,slow=6.7,SNR=31
ASAR **Alice Springs** 66.54 190 P P 06 07 54.3 +0.5
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR **Alice Springs** 66.54 190 P P 06 07 54.3 +0.5
A14A **Double T Ranch** 66.61 44 ⇑P P 06 07 53.6 -0.7
baz=66
JTMT **Jette** 66.92 46 *e*P P 06 07 57.5 +1.2
A15A **Johnson Ranch,** 66.96 44 ⇓P P 06 07 55.4 -1.1
baz=67,SNR=5.0
B14A **Marquette Ranc** 67.07 45 ⇑P P 06 07 56.4 -0.8
baz=67
C14A **Swan Lake** 67.19 46 ⇑P P 06 07 57.4 -0.5
baz=67
SWMT **Swartz Lake** 67.22 46 *e*P P 06 07 58.9 +0.7
D13A **Huson** 67.23 46 ⇑P P 06 07 56.9 -1.3
baz=67,SNR=7.9
B15A **Bradely Ranch,** 67.47 45 ⇑P P 06 07 59.2 -0.5
baz=67,SNR=12
A16A **West Butte Ran** 67.56 44 ⇑P P 06 07 60.0 -0.3
baz=67
SLMT **Seeley Lake** 67.66 46 *e*P P 06 08 01.4 +0.4
MSO **Missoula** 67.68 46 ⇑P P 06 07 59.7 -1.3
baz=67,SNR=5.3
D14A **Greenough** 67.75 46 ⇑P P 06 08 00.4 -1.1
baz=68,SNR=5.8
C15A **Salmond Ranch,** 67.78 45 ⇓P P 06 08 01.5 -0.3
baz=68,SNR=11
B16A **M & M Farms, S** 67.84 44 ⇑P P 06 08 00.9 -1.1
baz=68
OHCM **Honcut** 67.95 56 *e*P P 06 08 03.4 +0.7
A17A **Triple J Farms** 68.02 43 ⇑P P 06 08 03.0 0.0
baz=68,SNR=12
F13A **Darby** 68.12 47 ⇓P P 06 08 03.1 -0.8
baz=68
E14A **Clinton** 68.18 47 ⇑P P 06 08 04.1 -0.1
baz=68
FFC **Flin Flon** 68.19 35 *e*P P 06 08 03.3 -0.7
FFC pmax pmax
comp=Z,12nm,1.1s
FFC **Flin Flon** 68.19 35 *e*P P 06 08 03.3 -0.7
comp=Z,12nm,1.1s
C16A **Fuhringer Ranc** 68.22 45 ⇓P P 06 08 03.7 -0.7
baz=68,SNR=11
D15A **Lincoln** 68.30 46 ⇑P P 06 08 04.2 -0.7
baz=68
B17A **L&G Farms, Che** 68.39 44 ⇑P P 06 08 04.7 -0.7
baz=68
KIV **Kislovodsk** 68.46 310 *i* P P 06 08 07.3 +1.4
KIV pmax pmax
comp=Z,17nm,1.0s
KIV **Kislovodsk** 68.46 310 *e*P P 06 08 06.3 +0.4
comp=Z,14nm,0.8s
A18A **Metzger Ranch,** 68.46 43 ⇑P P 06 08 05.7 -0.1
baz=68,SNR=7.4
G13A **Cobalt** 68.61 48 ⇑P P 06 08 05.2 -1.8
baz=68
H12A **Diamond D Ranc** 68.61 49 ⇑P P 06 08 06.0 -1.0
baz=68,SNR=8.2
E15A **Deer Lodge** 68.63 46 ⇓P P 06 08 06.7 -0.3
baz=68,SNR=7.6
C17A **Wharram Farm,** 68.83 44 ⇓P P 06 08 07.2 -1.0
baz=68,SNR=8.2
B18A **Beardsley Farm** 68.84 43 ⇓P P 06 08 07.1 -1.1
baz=68,SNR=15
I12A **Atlanta** 68.93 50 ⇓P P 06 08 08.8 -0.2
baz=69
H13A **Challis** 68.94 48 ⇓P P 06 08 08.7 -0.2
baz=69,SNR=6.8
A19A **Klindworth Far** 69.01 42 ⇓P P 06 08 09.1 -0.1
baz=69,SNR=8.2
WCN **Washoe City** 69.03 56 *e*P P 06 08 10.4 +0.7
WCN **Washoe City** 69.03 56 *e*P P 06 08 10.4 +0.7
WCN **Washoe City** 69.03 56 ⇓P P 06 08 09.6 -0.1
baz=69
E16A **East Helena** 69.07 46 ⇓P P 06 08 09.8 +0.1
baz=69,SNR=7.0
F15A **Butte** 69.08 47 ⇓P P 06 08 09.5 -0.4
baz=69,SNR=8.5
EGMT **Eagleton** 69.09 43 *e*P P 06 08 10.3 +0.5
comp=Z,22nm,1.3s
EGMT **Eagleton** 69.09 43 ⇑P P 06 08 09.9 +0.1
baz=69,SNR=7.2
LRM **Limekiln Ridge** 69.11 47 *e*P P 06 08 10.8 +0.6
DLMT **Dillon** 69.33 47 *e*P P 06 08 12.5 +1.1
comp=Z,15nm,1.2s
I13A **Wildhorse Cree** 69.43 49 ⇑P P 06 08 11.7 -0.4
baz=69,SNR=10

CMB **Columbia Colle** 69.43 57 *e*P P 06 08 12.7 +0.7
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB **Columbia Colle** 69.43 57 *e*P P 06 08 12.7 +0.7
comp=Z,4.0nm,0.9s
HLID **Hailey** 69.48 49 *e*P P 06 08 12.4 0.0
comp=Z,7.3nm,1.4s
G15A **Dillon** 69.52 47 ⇓P P 06 08 12.8 +0.2
baz=69,SNR=13
E17A **Martinsdale** 69.55 45 ⇑P P 06 08 13.3 +0.6
baz=69,SNR=6.6
F16A **Kennard Place,** 69.58 46 ⇓P P 06 08 12.5 -0.4
baz=69
NB2 **NORSAR Subarra** 69.64 337 P P 06 08 12.2 -0.6
comp=Z,2.5nm,0.5s,baz=35,slow=6.5
NOA **NORSAR Array B** 69.64 337 P P 06 08 12.2 -0.6
comp=Z,6.3nm,0.9s,baz=36,slow=6.3,SNR=10.0
NOA **NORSAR Array B** 69.64 337 P P 06 08 12.3 -0.6
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA **NORSAR Array B** 69.64 337 P P 06 08 12.2 -0.6
C19A **Slack Wire Ran** 69.64 43 ⇓P P 06 08 13.2 0.0
baz=69
HFS **Hagfors** 69.64 336 P P 06 08 12.4 -0.5
comp=Z,5.9nm,0.7s,baz=47,slow=6.3,SNR=23
HFS **Hagfors** 69.64 336 P P 06 08 12.4 -0.5
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS **Hagfors** 69.64 336 P P 06 08 12.4 -0.5
BOZ **Bozeman (W)** 69.67 46 ⇑P P 06 08 13.9 +0.4
baz=69,SNR=9.5
BOZ ⇑P P 06 08 13.9 +0.4
baz=69,SNR=9.5
B20A **Solberg Farm,** 69.69 42 ⇑P P 06 08 13.6 +0.2
baz=69
J13A **Cove Ranch, Pi** 69.72 49 ⇓P P 06 08 13.9 0.0
baz=70,SNR=6.6
I14A **Mackay** 69.79 49 ⇓P P 06 08 14.4 +0.1
baz=70,SNR=5.1
G16A **Moss Hill, Enn** 69.84 47 ⇓P P 06 08 14.8 +0.2
baz=70,SNR=6.7
A21A **Bergtoll Ranch** 69.86 41 ⇓P P 06 08 14.7 +0.2
baz=70
F17A **Fitzpatrick Pl** 70.01 46 ⇑P P 06 08 15.9 +0.3
baz=70
D19A **Cripps Ranch,** 70.11 44 ⇑P P 06 08 15.8 -0.2
baz=70
J14A **Carey** 70.14 49 ⇓P P 06 08 17.2 +0.8
baz=70
C20A **Veseth Ranch,** 70.18 43 ⇑P P 06 08 16.6 +0.1
baz=70
A22A **Carney Farms,** 70.35 41 ⇓P P 06 08 17.4 -0.1
baz=70
NVAR **Mina Array Bea** 70.46 56 P P 06 08 19.5 +0.9
comp=Z,3.8nm,0.8s,baz=287,slow=6.4,SNR=29
NVAR **Mina Array Bea** 70.46 56 P P 06 08 19.5 +0.9
H16A **Russell Place,** 70.49 47 ⇑P P 06 08 18.1 -0.5
baz=70
D20A **Manuel Ranch,** 70.53 43 ⇑P P 06 08 18.5 -0.1
baz=70
E19A **Rath Farm, Rou** 70.62 44 ⇑P P 06 08 19.0 -0.2
baz=70
K14A **Jones Ranch, D** 70.83 50 ⇑P P 06 08 19.7 -0.9
baz=71
AKASG **Malin Array Be** 70.84 322 P P 06 08 19.7 -0.6
comp=Z,1.1nm,0.3s,baz=42,slow=6.5,SNR=13
AKASG **Malin Array Be** 70.84 322 P P 06 08 19.7 -0.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 70.84 322 P P 06 08 19.7 -0.6
I16A **Newdale** 70.90 48 ⇓P P 06 08 22.1 +1.1
baz=71
F19A **Roth Farm, Mol** 70.95 45 ⇑P P 06 08 20.9 -0.3
baz=71
D21A **La Casta Ranch** 71.13 43 ⇓P P 06 08 22.3 +0.1
baz=71
B23A **Brockton** 71.16 41 ⇓P P 06 08 21.9 -0.4
baz=71
MOOW **Moose Ponds** 71.39 47 *e*P P 06 08 25.2 +1.2
comp=Z,13nm,1.5s
D22A **Cohagen** 71.48 42 ⇓P P 06 08 23.9 -0.4
baz=71
C23A **Lambert** 71.52 41 ⇓P P 06 08 24.5 0.0
baz=71
K16A **Soda Springs** 71.53 49 ⇑P P 06 08 24.7 -0.2
baz=71
DGMT **Dagmar** 71.54 40 *e*P P 06 08 25.0 +0.4
comp=Z,25nm,1.1s
DGMT **Dagmar** 71.54 40 ⇑P P 06 08 24.2 -0.4
baz=71
LOHW **Long Hollow** 71.55 47 *e*P P 06 08 26.5 +1.5
comp=Z,24nm,2.1s
D23A **Lindsay** 71.94 42 ⇓P P 06 08 26.9 -0.2
baz=72
M15A **Larsen Ranch,** 71.95 50 ⇓P P 06 08 27.3 0.0
baz=72
R11A **Troy Canyon, C** 72.16 54 ⇑P P 06 08 28.2 -0.5
baz=72
HWUT **Hardware Ranch** 72.35 49 *e*P P 06 08 28.9 -0.9
comp=Z,1.3nm,0.6s
E23A **Ismay** 72.36 43 ⇑P P 06 08 30.4 +0.8
baz=72
D24A **Glendive** 72.42 42 ⇑P P 06 08 29.9 -0.1
baz=72
MPMC **Manual Prospec** 72.47 57 ⇑P P 06 08 29.3 -1.3
baz=72
M16A **Huntsville** 72.51 50 ⇓P P 06 08 30.6 -0.2
baz=72
DUG **Dugway** 72.58 51 *e*P P 06 08 31.7 +0.6
DUG pmax pmax
comp=Z,7.0nm,1.4s
DUG **Dugway** 72.58 51 *e*P P 06 08 31.7 +0.6
comp=Z,6.7nm,1.4s
DUG **Dugway** 72.58 51 ⇑P P 06 08 30.9 -0.2
baz=72
PD02 **Pinedale Array** 72.68 48 *e*P P 06 08 32.0 +0.2
BW06 **Boulder Array** 72.69 48 ⇑P P 06 08 31.3 -0.5
baz=72
BW06 ⇑P P 06 08 31.3 -0.5
baz=72
PDAR **Pinedale Array** 72.69 48 P P 06 08 32.1 +0.2
comp=Z,2.4nm,0.6s,baz=276,slow=2.4,SNR=21
PDAR **Pinedale Array** 72.69 48 P P 06 08 32.1 +0.2
G22A **Birney** 72.75 44 ⇓P P 06 08 31.6 -0.4
baz=72
F23A **Volborg** 72.85 43 ⇑P P 06 08 32.1 -0.4
baz=73
EDW2 **Edwards Air Fo** 72.92 58 ⇓P P 06 08 33.4 +0.2
baz=73
J20A **Shoshoni** 73.09 46 ⇓P P 06 08 33.4 -0.7
baz=73
I21A **Big Trails, Te** 73.19 46 ⇑P P 06 08 34.1 -0.6
baz=73
N17A **Moffit Pass** 73.21 50 ⇓P P 06 08 34.6 -0.4
baz=73
J22A **Midwest** 73.90 45 ⇓P P 06 08 38.4 -0.4
baz=74
H24A **Dirks Ranch, A** 73.96 43 ⇓P P 06 08 38.3 -0.8
baz=74
ULM **Lac du Bonnet** 74.01 35 P P 06 08 38.1 -1.0
comp=Z,2.4nm,0.6s,baz=328,slow=8.3,SNR=6.0
ULM **Lac du Bonnet** 74.01 35 P P 06 08 38.2 -1.0
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM **Lac du Bonnet** 74.01 35 P P 06 08 38.1 -1.0
MDND **Maddock** 74.14 39 ⇑P P 06 08 39.5 -0.5
baz=74
STKA **Stephens Creek** 74.15 182 P P 06 08 40.5 +0.4
comp=Z,4.0nm,0.7s,baz=54,slow=8.7,SNR=12
STKA LR LR 06 41 00.1
comp=Z,61nm,19.0s,baz=24,slow=35
STKA **Stephens Creek** 74.15 182 P P 06 08 40.5 +0.4
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA MLR MLR
comp=Z,61nm,19.0s
STKA **Stephens Creek** 74.15 182 P P 06 08 40.5 +0.4
FORT **Forrest** 74.40 194 *e*P P 06 08 42.2 +0.7
comp=Z,17nm,0.6s
GMRC **Granite Mounta** 74.44 57 ⇑P P 06 08 42.4 +0.3
baz=74
KWP **Kalwaria Pacla** 74.50 325 ⇑P P 06 08 40.8 -1.2
KWP **Kalwaria Pacla** 74.50 325⇑ P P 06 08 40.8 -1.2
SRU **San Rafael** 74.61 51 *e*P P 06 08 43.5 +0.3
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU **San Rafael** 74.61 51 *e*P P 06 08 43.5 +0.3
comp=Z,5.4nm,0.9s
SRU **San Rafael** 74.61 51 ⇑P P 06 08 43.2 +0.1
baz=74
M21A **Separation Pea** 74.67 47 ⇑P P 06 08 42.9 -0.6
baz=74
N20A **Spence Gulch,** 74.71 48 ⇓P P 06 08 44.0 +0.2
baz=74
BUR08 **Bucovina Ar. S** 74.88 322 *e*P P 06 08 44.5 +0.1
BURAR **Bucovina Array** 74.89 322⇓ P 06 08 43.6 -0.9
R17A **Hanksville Air** 74.98 51 ⇓P P 06 08 44.4 -0.8
baz=75
P19A **Cripple Cowboy** 75.14 50 ⇑P P 06 08 45.0 -1.2
baz=75
IRM **Iron Mountain** 75.16 57 ⇓P P 06 08 45.6 -0.6
baz=75
N21A **Black Mountain** 75.17 48 ⇓P P 06 08 45.4 -1.0
baz=75
O20A **White River Ci** 75.20 49 ⇑P P 06 08 46.1 -0.5
baz=75
OJC **Ojcow** 75.27 326 *e*P P 06 08 45.3 -1.1
OJC **Ojcow** 75.27 326 *e*P P 06 08 45.3 -1.1
Q19A **Hogan Spring (** 75.44 50 ⇑P P 06 08 47.8 0.0
baz=75
S17A **Black Ridge (B** 75.45 52 ⇓P P 06 08 48.0 0.0
baz=75
R18A **Canyonlands Na** 75.47 51 ⇓P P 06 08 47.1 -1.0
baz=75
AGMN **Agassiz Nation** 75.48 36 *e*P P 06 08 46.8 -0.9
comp=Z,3.8nm,0.8s
MORW **Morawa** 75.67 205 *e*P P 06 08 49.5 +0.7
comp=Z,50nm,0.7s
S18A **Hurst Farm, Bl** 75.89 52 ⇑P P 06 08 50.0 -0.6
baz=76
Q20A **Ridgley Place,** 75.99 50 ⇑P P 06 08 50.4 -0.6
baz=76
P21A **Newcastle** 76.07 49 ⇓P P 06 08 50.8 -0.7
baz=76
T18A **Mexican Hat** 76.33 52 ⇓P P 06 08 52.9 -0.1
baz=76
S19A **Harvey Farm, M** 76.34 51 ⇑P P 06 08 53.0 -0.1
baz=76
PV01 **Paradox Valley** 76.40 51 *e*P P 06 08 53.9 +0.4
comp=Z,146nm,0.5s
P22A **Eagle** 76.40 48 ⇑P P 06 08 53.7 +0.3
baz=76
O23A **Lake Granby, G** 76.43 47 ⇑P P 06 08 54.1 +0.5
baz=76
R20A **Redvale** 76.47 50 ⇓P P 06 08 53.8 0.0
baz=76
Q21A **Lamborn Mesa,** 76.48 49 ⇓P P 06 08 53.3 -0.5
baz=76
SMCO **Snowmass** 76.57 49 *e*P P 06 08 54.8 +0.2
comp=Z,4.6nm,1.2s
Y14A **Wickenburg** 76.64 56 ⇑P P 06 08 55.3 +0.7
baz=76
S20A **Disappointment** 76.73 51 ⇓P P 06 08 54.5 -0.9
baz=76
R21A **Cimarron** 76.81 50 ⇑P P 06 08 55.8 0.0
baz=76
Q22A **Crested Butte,** 76.83 49 ⇑P P 06 08 56.3 +0.4
baz=77
V17A **Tonalea, Kykot** 76.83 54 ⇑P P 06 08 55.5 -0.3
baz=77
CLL **Collm** 77.02 331 *e*P P 06 09 00.0 +3.7
T19A **Beclabito** 77.04 52 ⇑P P 06 08 56.3 -0.7
baz=77
MVCO **Mesa Verde** 77.08 51 ⇓P P 06 08 57.1 -0.2
baz=77
U21A **Nageezi** 78.11 51 ⇓P P 06 09 02.5 -0.5
baz=78
T22A **Edith** 78.13 50 ⇑P P 06 09 02.1 -1.0
baz=78
Q25A **Bedland, Calha** 78.26 47 ⇓P P 06 09 03.5 -0.3
baz=78
R24A **Sanders Place,** 78.27 48 ⇓P P 06 09 03.7 -0.2
baz=78
W20A **Ramah** 78.53 53 ⇓P P 06 09 04.6 -0.7
baz=78
KHC **Kasperske Hory** 78.58 329 *e*P P 06 09 07.8 +2.6
KHC *e* 06 09 25.0
KHC **Kasperske Hory** 78.58 329 *e*P P 06 09 07.8 +2.6
KHC *e*pP pP 06 09 25.0 -0.3
ECSD **EROS Data Cent** 78.60 40 *e*P P 06 09 04.8 -0.5
comp=Z,11nm,1.4s
GERES **GERESS Array B** 78.77 329 P P 06 09 05.5 -0.7
comp=Z,0.8nm,0.8s,baz=29,slow=4.7,SNR=7.6
GERES **GERESS Array B** 78.77 329 P P 06 09 05.5 -0.7
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES **GERESS Array B** 78.77 329 P P 06 09 05.5 -0.7
R25A **Fountain Ranch** 78.79 48 ⇓P P 06 09 05.9 -0.8
baz=78
X20A **Quemado** 78.93 53 ⇓P P 06 09 08.1 +0.5
baz=79
U23A **El Rito** 79.02 50 ⇑P P 06 09 08.3 +0.3
baz=79
X21A **Alamocita Cree** 79.42 53 ⇓P P 06 09 10.6 +0.3
baz=79
T25A **Trinidad** 79.44 49 ⇑P P 06 09 09.9 -0.4
baz=79
R27A **Eads** 79.50 47 ⇓P P 06 09 09.8 -0.6
baz=79
SCHQ **Schefferville** 79.54 17 P P 06 09 09.1 -1.2
comp=Z,6.8nm,0.8s,baz=23,slow=7.7,SNR=6.2
SCHQ LR LR 06 49 41.2
comp=Z,93nm,18.0s,baz=56,slow=40
SCHQ **Schefferville** 79.54 17 P P 06 09 09.1 -1.2
S26A **Kim** 79.61 48 ⇓P P 06 09 10.0 -1.1
baz=79
MMAI **Mount Meron Ar** 79.99 306 P P 06 09 14.0 +0.8
comp=Z,2.9nm,0.6s,baz=49,slow=6.5,SNR=3.0
MMAI **Mount Meron Ar** 79.99 306 P P 06 09 14.0 +0.8
CDF **Champ du Feu** 81.47 332 *e*P P 06 09 21.3 +0.5
PAGF **Fort de Pagny** 81.87 333 *e*P P 06 09 23.3 +0.5
HAU **Haudompre** 82.14 333 *e*P P 06 09 24.4 +0.2
Z26A **Caprock** 82.47 51 ⇓P P 06 09 26.6 +0.2
baz=82
Z27A **Tatum** 82.88 51 ⇑P P 06 09 28.4 -0.1
baz=83
GDL2 **Guadalupe Moun** 83.03 52 *e*P P 06 09 29.8 +0.6
comp=Z,4.7nm,0.7s
GDL2 *e*pP pP 06 09 49.4 -0.1
LOR **Lormes** 83.61 334 *e*P P 06 09 32.6 +0.8
LDF **La Druitiere** 83.67 337 *e*P P 06 09 32.5 +0.4
425A **Indio Mountain** 83.68 54 ⇑P P 06 09 32.4 -0.2
baz=83
SSF **Saint Saulge** 83.91 334 *e*P P 06 09 33.8 +0.5
comp=Z,25nm,1.4s
LPG **La Plagne** 84.16 331 *e*P P 06 09 35.1 +0.1
comp=Z,16nm,1.2s
AVF **Avril sur Loir** 84.19 334 *e*P P 06 09 34.6 -0.2
328A **Wristen Ranch,** 84.53 52 ⇑P P 06 09 37.6 +0.8
baz=84
427A **Hayter Ranch,** 84.57 53 ⇓P P 06 09 36.5 -0.7
baz=84
526A **Mary Lane Ranc** 84.74 54 ⇓P P 06 09 37.5 -0.5
baz=84
527A **Woodward Ranch** 84.96 53 ⇑P P 06 09 38.5 -0.6
baz=85
428A **Kincaid Ranch,** 85.08 52 ⇓P P 06 09 39.0 -0.7
baz=85
MFF **Saint Martin d** 85.46 336 *e*P P 06 09 41.4 +0.2
TXAR **Lajitas Array** 85.52 54 P P 06 09 41.9 +0.1
comp=Z,2.5nm,0.6s,baz=300,slow=3.6,SNR=48
TXAR **Lajitas Array** 85.52 54 P P 06 09 41.9 +0.1
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR **Lajitas Array** 85.52 54 P P 06 09 42.0 +0.1
CAF **Calviac** 86.26 334 *e*P P 06 09 46.1 +0.9
SIUC **Southern Illin** 86.79 39 *e*P P 06 09 48.0 +0.2
comp=Z,11nm,0.6s
ETSF **Etsaut** 88.92 334 *e*P P 06 09 58.8 +0.8
TORD **Torodi Ar. Bea** 114.34 319 PKP PKPdf 06 15 41.5 -1.9
comp=Z,0.2nm,0.4s,baz=25,slow=2.6,SNR=4.7
TORD **Torodi Ar. Bea** 114.34 319 PKP PKPdf 06 15 41.5 -1.9
SNAA **Sanae** 146.54 199 *e*PKP2 **PKPbc** 06 16 43.5 +0.1
SNAA **Sanae** 146.54 199 *e*PKPbc **PKPbc** 06 16 43.5 +0.1
VNA2 **Neumayer--Watz** 148.11 198 *e* **PKPbc** 06 16 48.8 +1.1
baz=112,slow=2.1
VNA2 *e* 06 16 57.4
VNA3 **Neumayer Olymp** 148.36 196 *e* **PKPbc** 06 16 49.1 +0.7
VNA3 *e* 06 16 57.2

CSEM ***11*** *06:07:04.9, 47°.43N x 9°.22E, h9km, ML1.2/4, After ZUR*
ZUR 11 06:07:04.8, 47°.43N x 9°.21E, h11km, 2km, ML1.2/8, 3C-6D,

Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIN	**Weingarten** 182nm,0.3s	**0.18**	**305** ⇓	*i* Pg	Pg	06 07 09.2	+0.3
WEIN	182nm,0.3s			*i* Sg	Sg	06 07 12.4	+0.7
WEIN	**Weingarten** 182nm,0.3s	**0.18**	**305** ⇓	*i* Pg	Pg	06 07 09.2	+0.3
WEIN	182nm,0.3s			*i* Sg	Sg	06 07 12.4	+0.7
WILA	**Wila** 312nm,0.2s	**0.20**	**267** ⇑	*i* Pg	Pg	06 07 09.7	+0.4
WILA	312nm,0.2s			*i* Sg	Sg	06 07 13.2	+0.8
WILA	**Wila** 312nm,0.2s	**0.20**	**267** ⇑	*i* Pg	Pg	06 07 09.7	+0.4
WILA	312nm,0.2s			*i* Sg	Sg	06 07 13.2	+0.8
LIENZ	**Kamor/St.Gall** 112nm,0.2s	**0.23**	**124** ⇓	*i* Pg	Pg	06 07 10.2	+0.3
LIENZ	112nm,0.2s			*i* Sg	Sg	06 07 14.2	+0.8
LIENZ	**Kamor/St.Gall** 112nm,0.2s	**0.23**	**124** ⇓	*i* Pg	Pg	06 07 10.2	+0.3
LIENZ	112nm,0.2s			*i* Sg	Sg	06 07 14.2	+0.8
STEIN	**Stein am Rhein** 14nm,0.4s	**0.34**	**317** ⇓	*i* Pg	Pg	06 07 12.0	+0.4
STEIN	14nm,0.4s			*i* Sg	Sg	06 07 17.1	+0.9
PLONS	**Plons/SG** 13nm,0.5s	**0.39**	**163** ⇓	*i* Pg	Pg	06 07 13.0	+0.2
PLONS	13nm,0.5s			*e*Sg	Sg	06 07 18.9	+0.8
PLONS	**Plons/SG** 13nm,0.5s	**0.39**	**163**	*i* Pg	Pg	06 07 13.1	+0.3
PLONS	13nm,0.5s			*e*Sg	Sg	06 07 18.9	+0.8
TRULL	**Truellikon** 14nm,0.2s	**0.42**	**302**	*e*Pg	Pg	06 07 13.5	+0.3
TRULL	**Truellikon** 19nm,0.3s	**0.42**	**302**	*e*Sg	Sg	06 07 19.4	+0.6
ZUR	**Degenried** 65nm,0.2s	**0.43**	**263** ⇑	*i* Pg	Pg	06 07 13.8	+0.4
ZUR	65nm,0.2s			*i* Sg	Sg	06 07 20.0	+0.9
FLACH	**Flaach** 14nm,0.2s	**0.46**	**289**	*e*Pg	Pg	06 07 14.3	+0.4
FLACH	14nm,0.2s			*e*Sg	Sg	06 07 20.8	+0.8
BALST	**Balsthal**	**1.03**	**266**	*e*Pg	Pn	06 07 25.2	-0.1

*ISCJB **11** 06:07:19.3±0.3,40°.63N±0°.02×29°.01E±0°.02,h9km±3km,*
Error ellipse: s-maj=3.3km s-min=2.9km az=34.6
*CSEM **11** 06:07:19.7±0.1,40°.62N×29°.00E,h8km±1km,MD3.2,Error ellipse: s-maj=2.2km s-min=1.9km az=25.0*
*DDA **11** 06:07:19.5,40°.60N×29°.00E,h11km, MD3.0*
*ISK **11** 06:07:19.1,40°.61N×29°.01E,h11km,MD3.2*

ISC 11 06:07:19.5±0.8,40°.60N±0°.02×29°.00E±0°.02,h13km±6km, n125,σ0.89/144,8C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.11**	**250**	PG	**Pb**	**06 07 23.0**	**-0.5**
ARMT				*e*SG	**Sg**	**06 07 24.9**	**0.0**
ARMT	**Armutlu**	**0.11**	**250**	*i* Pg	**Pb**	**06 07 23.0**	**-0.5**
ARMT				*e*Sg	**Sg**	**06 07 24.9**	**0.0**
GEMT	**Gemlik**	**0.22**	**139**	PG	**Pb**	**06 07 24.4**	**-1.1**
GEMT				*e*SG	**Sg**	**06 07 27.3**	**-0.4**
GEMT	**Gemlik**	**0.22**	**139**	*i* Pg	**Pb**	**06 07 24.4**	**-1.1**
GEMT				*e*Sg	**Sg**	**06 07 27.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.25**	**200**	*e*PG	**Pb**	**06 07 25.4**	**-0.5**
MDNY				*e*SG	**Sb**	**06 07 29.0**	**-1.2**
MDNY	**Mudanya-Bursa**	**0.25**	**200**	*e*Pg	**Pb**	**06 07 25.4**	**-0.5**
MDNY				*e*Sg	**Sb**	**06 07 29.0**	**-1.2**
YLV	**Yalova**	**0.29**	**97**	*e*PG	**Pg**	**06 07 25.5**	**-0.1**
YLV	**Yalova**	**0.29**	**97**	*e*Pg	**Pg**	**06 07 25.5**	**-0.1**
ISK	**Istanbul-Kandi**	**0.46**	**6**	*e*PG	**Pb**	**06 07 28.9**	**-0.6**
ISK	**Istanbul-Kandi**	**0.46**	**6**	*e*Pg	**Pb**	**06 07 28.9**	**-0.6**
HRT	**Hereke**	**0.56**	**67**	*e*PG	**Pg**	**06 07 29.9**	**-0.6**
HRT	**Hereke**	**0.56**	**67**	*e*Pg	**Pg**	**06 07 29.9**	**-0.6**
ADVT	**Abdulvahap**	**0.59**	**107**	*e*PG	**Pb**	**06 07 31.1**	**-0.6**
ADVT	**Abdulvahap**	**0.59**	**107**	*e*Pg	**Pb**	**06 07 31.1**	**-0.6**
KCTX	**Karacabey (Bur**	**0.59**	**236**	*e*PG	**Pb**	**06 07 31.3**	**-0.5**
KCTX	**Karacabey (Bur**	**0.59**	**236**	*e*Pg	**Pb**	**06 07 31.3**	**-0.5**
BGKT	**Bogazkoy**	**0.60**	**344**	*e*PG	**Pb**	**06 07 31.1**	**-0.7**
BGKT	**Bogazkoy**	**0.60**	**344**	*e*Pg	**Pb**	**06 07 31.2**	**-0.7**
KLYT	**Kilyos**	**0.65**	**3**	*e*PG	**Pb**	**06 07 32.2**	**-0.5**
KLYT	**Kilyos**	**0.65**	**3**	*e*Pg	**Pb**	**06 07 32.2**	**-0.5**
ELBA	**Catalca**	**0.69**	**322**	*i* P	**Pb**	**06 07 33.3**	**-0.2**
ELBA				*i* S	**Sb**	**06 07 42.5**	**-0.4**
ELBA	**Catalca**	**0.69**	**322**	*i* P	**Pb**	**06 07 33.3**	**-0.2**
ELBA				*i* S	**Sb**	**06 07 42.5**	**-0.4**
CTKS	**Kestanelik-??a**	**0.73**	**330**	*e*PG	**Pb**	**06 07 33.8**	**-0.4**
CTKS	**Kestanelik-??a**	**0.73**	**330**	*e*Pg	**Pb**	**06 07 33.8**	**-0.4**
SILT	**Sile**	**0.74**	**42**	*e*PG	**Pb**	**06 07 33.5**	**-0.7**
SILT	**Sile**	**0.74**	**42**	*e*Pg	**Pb**	**06 07 33.5**	**-0.7**
CAVI	**Cavuskoy**	**0.76**	**122**	*e*PG	**Pb**	**06 07 34.1**	**-0.6**
CAVI	**Cavuskoy**	**0.76**	**122**	*e*Pg	**Pb**	**06 07 34.1**	**-0.6**
BNT	**Bandirma**	**0.86**	**254**	*e*PG	**Pb**	**06 07 36.2**	**-0.1**
BNT	**Bandirma**	**0.86**	**254**	*e*Pg	**Pb**	**06 07 36.2**	**-0.1**
SLVT	**Silivri**	**0.86**	**317**	*e*PG	**Pb**	**06 07 36.1**	**-0.3**
SLVT	**Silivri**	**0.86**	**317**	*e*Pg	**Pb**	**06 07 36.1**	**-0.3**
EDC	**Edincik**	**0.90**	**254**	*e*PG	**Pg**	**06 07 36.5**	**-0.5**
EDC	**Edincik**	**0.90**	**254**	*e*Pg	**Pg**	**06 07 36.5**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.00**	**85**	*e*PG	**Pb**	**06 07 38.3**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.00**	**85**	*e*Pg	**Pb**	**06 07 38.3**	**-0.4**
CTYL	**Yal??k??y-??at**	**1.02**	**329**	*e*PG	**Pn**	**06 07 39.0**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.02**	**329**	*e*Pg	**Pn**	**06 07 39.0**	**-0.5**
DURS	**Dursunbey**	**1.08**	**202**	*i* P	**Pn**	**06 07 40.4**	**0.0**
DURS				*i* S	**Sb**	**06 07 53.8**	**-0.3**
DURS	**Dursunbey**	**1.08**	**202**	*i* P	**Pn**	**06 07 40.4**	**0.0**
DURS				*i* S	**Sb**	**06 07 53.8**	**-0.3**
CRLT	**Corlu**	**1.09**	**299**	*e*PN	**Pg**	**06 07 40.2**	**-0.4**
CRLT	**Corlu**	**1.09**	**299**	*e*Pn	**Pg**	**06 07 40.2**	**-0.4**
GONE	**Gonen-Balikesi**	**1.15**	**241**	*e*PN	**Pg**	**06 07 41.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.15**	**241**	*e*Pn	**Pg**	**06 07 41.6**	**0.0**
GULT	**Gulveren**	**1.17**	**98**	*e*PN	**Pg**	**06 07 41.8**	**-0.3**
GULT	**Gulveren**	**1.17**	**98**	*e*Pn	**Pg**	**06 07 41.8**	**-0.3**
TKR	**Tekirdag**	**1.17**	**290**	*e*PN	**Pg**	**06 07 41.8**	**-0.4**
TKR	**Tekirdag**	**1.17**	**290**	*e*Pn	**Pg**	**06 07 41.8**	**-0.4**
BALB	**Balikesir**	**1.29**	**222**	*e*PN	**Pb**	**06 07 43.6**	**0.0**
BALB	**Balikesir**	**1.29**	**222**	*e*Pn	**Pb**	**06 07 43.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.31**	**261**	*e*PN	**Pb**	**06 07 43.9**	**-0.1**
KRBG	**Karabiga-Canak**	**1.31**	**261**	*e*Pn	**Pb**	**06 07 43.9**	**-0.1**
MFT	**Murefte**	**1.32**	**279**	*e*PN	**Pg**	**06 07 44.4**	**-0.5**
MFT	**Murefte**	**1.32**	**279**	*e*Pn	**Pg**	**06 07 44.4**	**-0.5**
BALY	**Balya**	**1.36**	**231**	*i* P	**Pn**	**06 07 44.1**	**-0.2**
BALY				*i* S	**Sb**	**06 07 59.3**	**-3.0**
BALY	**Balya**	**1.36**	**231**	*i* P	**Pn**	**06 07 44.1**	**-0.2**
BALY				*i* S	**Sb**	**06 07 59.3**	**-3.0**
SART	**Tekirdag**	**1.39**	**274**	*i* P	**Pg**	**06 07 46.4**	**+0.2**
SART				*i* S	**Sg**	**06 08 04.2**	**0.0**
SART	**Tekirdag**	**1.39**	**274**	*i* P	**Pg**	**06 07 46.4**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.39**	**274**	*e*PN	**Pb**	**06 07 45.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.39**	**274**	*e*Pn	**Pb**	**06 07 45.2**	**-0.1**
HENT	**Hendek**	**1.46**	**81**	*i* P	**Pb**	**06 07 46.4**	**-0.2**
HENT				*i* S	**Sb**	**06 08 05.0**	**-0.1**
HENT	**Hendek**	**1.46**	**81**	*i* P	**Pb**	**06 07 46.4**	**-0.2**
HENT				*i* S	**Sb**	**06 08 05.0**	**-0.1**
GDZ	**Gediz**	**1.56**	**166**	*i* P	**Pg**	**06 07 49.8**	**+0.3**
GDZ				*i* S	**Sg**	**06 08 09.0**	**-0.7**
GDZ	**Gediz**	**1.56**	**166**	*i* P	**Pg**	**06 07 49.8**	**+0.3**
GDZ				*i* S	**Sg**	**06 08 09.0**	**-0.7**
DEMI	**Demirci**	**1.57**	**188**	*i* P	**Pg**	**06 07 49.8**	**0.0**
DEMI				*i* S	**Sg**	**06 08 11.1**	**+0.9**
DEMI	**Demirci**	**1.57**	**188**	*i* P	**Pg**	**06 07 49.8**	**0.0**
DEMI				*i* S	**Sg**	**06 08 11.1**	**+0.9**
MDUB	**Mudurnu**	**1.68**	**94**	*e*PN	**Pn**	**06 07 49.0**	**+0.2**
MDUB	**Mudurnu**	**1.68**	**94**	*e*Pn	**Pn**	**06 07 49.0**	**+0.2**
LPK	**Lapseki**	**1.72**	**263**	*e*PN	**Pn**	**06 07 49.8**	**+0.6**
LPK	**Lapseki**	**1.72**	**263**	*e*Pn	**Pn**	**06 07 49.8**	**+0.6**
ALT	**Altintas**	**1.77**	**151**	*e*PN	**Pn**	**06 07 50.3**	**+0.4**
ALT	**Altintas**	**1.77**	**151**	*e*Pn	**Pn**	**06 07 50.3**	**+0.4**
ERIK	**Erikli-Kesan**	**1.89**	**273**	*e*PN	**Pn**	**06 07 52.3**	**+0.8**
ERIK	**Erikli-Kesan**	**1.89**	**273**	*e*Pn	**Pn**	**06 07 52.3**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.93**	**265**	*e*PN	**Pn**	**06 07 53.1**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.93**	**265**	*e*Pn	**Pn**	**06 07 53.1**	**+1.0**
AKS	**Akhisar**	**1.95**	**208**	*e*PN	**Pn**	**06 07 53.2**	**+0.9**
AKS	**Akhisar**	**1.95**	**208**	*e*Pn	**Pn**	**06 07 53.2**	**+0.9**
KDZE	**Karadeniz Ereo**	**1.98**	**68**	*e*PN	**Pn**	**06 07 53.7**	**+0.9**
KDZE	**Karadeniz Ereo**	**1.98**	**68**	*e*Pn	**Pn**	**06 07 53.7**	**+0.9**
KULA	**Kula-Manisa**	**2.10**	**187**	*e*PN	**Pn**	**06 07 55.3**	**+0.8**
KULA	**Kula-Manisa**	**2.10**	**187**	*e*Pn	**Pn**	**06 07 55.3**	**+0.8**
EDRB	**Edirne**	**2.10**	**307**	*e*PN	**Pn**	**06 07 55.2**	**+0.8**
EDRB	**Edirne**	**2.10**	**307**	*e*Pn	**Pn**	**06 07 55.2**	**+0.8**
ENEZ	**Enez**	**2.17**	**274**	*e*PN	**Pn**	**06 07 56.3**	**+1.0**
ENEZ	**Enez**	**2.17**	**274**	*e*Pn	**Pn**	**06 07 56.3**	**+1.0**
EZN	**Ezine**	**2.19**	**250**	*e*PN	**Pn**	**06 07 56.3**	**+0.7**
EZN	**Ezine**	**2.19**	**250**	*e*Pn	**Pn**	**06 07 56.3**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.26**	**120**	*e*PN	**Pn**	**06 07 56.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.26**	**120**	*e*Pn	**Pn**	**06 07 56.9**	**+0.2**
ALN	**Alexandroupoli**	**2.26**	**278**	*e*P	**Pb**	**06 08 01.1**	**+0.9**
KHL	**Karahalli**	**2.31**	**170**	*e*PN	**Pn**	**06 07 58.2**	**+0.8**
KHL	**Karahalli**	**2.31**	**170**	*e*Pn	**Pn**	**06 07 58.2**	**+0.8**
SHUT	**Suhut-Afyon**	**2.38**	**149**	*e*PN	**Pn**	**06 07 59.0**	**+0.7**
SHUT	**Suhut-Afyon**	**2.38**	**149**	*e*Pn	**Pn**	**06 07 59.0**	**+0.7**
IZM	**Izmir**	**2.58**	**212**	*e*PN	**Pn**	**06 08 02.0**	**+1.0**
IZM	**Izmir**	**2.58**	**212**	*e*Pn	**Pn**	**06 08 02.0**	**+1.0**
JMB	**Yambol**	**2.60**	**317**	P	**Pg**	**06 08 07.7**	**-1.6**
RDO	**Rodhopi**	**2.68**	**283**	*e*P	**Pb**	**06 08 08.3**	**+1.0**
KIZT	**Kizilcal**	**2.81**	**127**	*e*PN	**Pn**	**06 08 05.3**	**+1.0**
KIZT	**Kizilcal**	**2.81**	**127**	*e*Pn	**Pn**	**06 08 05.3**	**+1.0**
SAFT	**Safranbolu**	**2.87**	**76**	*e*PN	**Pn**	**06 08 06.1**	**+1.2**
SAFT	**Safranbolu**	**2.87**	**76**	*e*Pn	**Pn**	**06 08 06.1**	**+1.2**
KDZ	**Kurdzhali**	**2.90**	**292**	P	**Pg**	**06 08 15.7**	**+0.6**
LIA	**Limnos Island**	**3.00**	**258**	*e*P	**Pn**	**06 08 08.4**	**+1.6**
CHOS	**Chios island**	**3.17**	**227**	*e*P	**Pg**	**06 08 18.1**	**-2.3**
SMG	**Samos**	**3.34**	**211**	*e*P	**Pb**	**06 08 19.3**	**+0.6**
LADK	**Ladik-KONYA**	**3.55**	**132**	*e*PN	**Pn**	**06 08 15.9**	**+1.5**
LADK	**Ladik-KONYA**	**3.55**	**132**	*e*Pn	**Pn**	**06 08 15.9**	**+1.5**
KONT	**Konya--Tatoy**	**3.72**	**134**	*e*PN	**Pn**	**06 08 18.1**	**+1.3**
KONT	**Konya--Tatoy**	**3.72**	**134**	*e*Pn	**Pn**	**06 08 18.1**	**+1.3**
TIRR	**Tirgusor**	**3.88**	**354**	⇓ *i* P	**Pn**	**06 08 19.4**	**+0.6**
TIRR	**Tirgusor**	**3.88**	**354**	⇓ *i* P	**Pn**	**06 08 19.4**	**+0.6**
NVR	**Nevrokopi**	**3.96**	**283**	*e*P	**Pn**	**06 08 21.3**	**+1.3**
VTS	**Vitosha**	**4.77**	**296**	⇑ *i* P	**Pn**	**06 08 32.3**	**+1.0**
VTS	**Vitosha**	**4.77**	**296**	⇑ *i* P	**Pn**	**06 08 32.3**	**+1.0**
MLR	**Muntele Rosu**	**5.37**	**336**	⇓ *i* P	**Pn**	**06 08 38.4**	**-1.1**
MLR	**Muntele Rosu**	**5.37**	**336**	⇓ *i* P	**Pn**	**06 08 38.4**	**-1.1**
MLR	**Muntele Rosu**	**5.37**	**336**	⇓ *i* P	**Pn**	**06 08 38.4**	**-1.1**
VRI	**Vrincioaia**	**5.51**	**343**	⇑ P	**Pn**	**06 08 43.5**	**+2.2**
VRI	**Vrincioaia**	**5.51**	**343**	⇑ *i* P	**Pn**	**06 08 43.5**	**+2.2**
VRI	**Vrincioaia**	**5.51**	**343**	⇑ *i* P	**Pn**	**06 08 43.5**	**+2.2**
VOIR		**5.63**	**330**	⇑ P	**Pn**	**06 08 44.5**	**+1.5**
VOIR		**5.63**	**330**	⇑ *i* P	**Pn**	**06 08 44.5**	**+1.5**
VOIR		**5.63**	**330**	⇑ *i* P	**Pn**	**06 08 44.5**	**+1.5**

GUC 11 06:18:05.7±0.8,31°.75S×70°.07W,h122km±7km,ML3.5, 9C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.90**	**235**	*e*P	Pn	06 18 27.3	+0.4
PTCH				*e*S	Sn	06 18 43.1	+0.1
PTCH				AML	AML	06 18 45.9	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**0.98**	**305** ⇓	*i* P	Pn	06 18 28.0	+0.1
CMCH				*i* S	Sn	06 18 44.8	+0.2
CMCH				AML	AML	06 18 46.5	
	comp=E,4μm,0.7s						
JACH	**Jahuel**	**1.03**	**206** ⇑	*i* P	Pn	06 18 28.7	+0.4
JACH				*i* S	Sn	06 18 46.1	+0.6
CHNG	**Los Chungos**	**1.23**	**263** ⇑	*i* P	Pn	06 18 30.8	+0.6
CHNG				*i* S	Sn	06 18 49.1	+0.4
ROCH	**El Roble**	**1.46**	**213** ⇑	*i* P	Pn	06 18 33.1	+0.1
ROCH				*i* S	Sn	06 18 53.6	-0.3
ROCH				AML	AML	06 18 56.5	
	comp=N,346nm,0.3s						
PEL	**Peldehue**	**1.49**	**200** ⇓	*i* P	Pn	06 18 33.1	0.0
PEL				*i* S	Sn	06 18 54.3	+0.3
PEL				AML	AML	06 18 55.9	
	comp=E,717nm,0.3s						
OVCH	**Ovalle**	**1.50**	**319** ⇑	*i* P	Pn	06 18 33.6	+0.4
OVCH				*i* S	Sn	06 18 54.6	+0.5
OVCH				AML	AML	06 18 55.7	
	comp=N,656nm,0.5s						
FCH	**Farellones**	**1.59**	**187** ⇑	*i* P	Pn	06 18 35.6	+1.0
FCH				*i* S	Sn	06 18 58.1	+1.4
FCH				AML	AML	06 19 01.2	
	comp=N,573nm,0.3s						
CLCH	**Cerro Calan**	**1.69**	**194** ⇑	*i* P	Pn	06 18 36.0	+0.4
CLCH				*i* S	Sn	06 18 58.8	+0.5
CLCH				AML	AML	06 19 02.2	
	comp=E,368nm,0.4s						
TLL	**Tololo Astrono**	**1.70**	**338** ⇑	*i* P	Pn	06 18 36.6	+0.7
TLL				*i* S	Sn	06 18 59.7	+0.8
TLL				AML	AML	06 19 01.6	
	comp=N,232nm,0.4s						
ANTU	**Antumapu**	**1.88**	**195** ⇑	*i* P	Pn	06 18 38.0	+0.2
ANTU				*i* S	Sn	06 19 02.7	+0.4
ANTU				AML	AML	06 19 03.1	
	comp=N,920nm,0.3s						
PCH	**Pirque**	**1.91**	**191**	*e*P	Pn	06 18 38.7	+0.5
PCH				*i* S	Sn	06 19 03.5	+0.5
TACH	**Talagante**	**2.04**	**201**	*e*P	Pn	06 18 39.6	-0.1
TACH				*i* S	Sn	06 19 05.7	-0.1
LMEL	**Las Melosas**	**2.10**	**183**	*e*P	Pn	06 18 41.0	+0.3
LMEL				AML	AML	06 19 14.4	
	comp=N,286nm,0.2s						
LSCH	**La Serena**	**2.10**	**331** ⇓	*i* P	Pn	06 18 40.6	+0.2
LSCH				*e*S	Sn	06 19 07.1	+0.1
CHCH	**Chadas Angostu**	**2.23**	**193**	*e*P	Pn	06 18 42.4	+0.2
CHCH				*i* S	Sn	06 19 10.6	+0.3
CACH	**El Canelo**	**2.40**	**191** ⇓	*i* P	Pn	06 18 45.1	+0.6
LCO	**Las Campanas**	**2.78**	**348** ⇑	*i* P	Pn	06 18 49.7	+0.1
LCO				*e*S	Sn	06 19 23.4	0.0
LCO				AML	AML	06 19 24.4	
	comp=E,137nm,0.4s						
VACH	**Vallenar**	**3.22**	**349**	*e*P	Pn	06 18 55.3	+0.3

*ATH **11** 06:29:56.9,37°.93N×27°.59E,h7km,MD3.6/12*
*ISK **11** 06:29:56.7,37°.83N×27°.58E,h5km, ML3.9*
*ISCJB **11** 06:29:57.9±0.5,37°.84N±0°.01×27°.54E±0°.02,h9km±3km, mb3.5/3,Error ellipse: s-maj=2.7km s-min=2.4km az=159.5*
*DDA **11** 06:29:57.5,37°.86N×27°.57E,h7km,MD3.5*
*IDC **11** 06:29:57.1±1.2,37°.63N×27°.76E,h0km, mb3.5/3, mb1 3.7/7,mb1mx3.5/28,mbtmp3.5/7,ML3.4/4,Error ellipse: s-maj=23.0km s-min=21.4km az=171.0*
*CSEM **11** 06:29:59.5±0.1,37°.77N×27°.48E,h20km,MD3.5,Error ellipse: s-maj=3.2km s-min=2.7km az=58.0*
*THE **11** 06:30:00.1,37°.87N×27°.70E,h31km±6km,ML3.8/6,Error ellipse: s-maj=6.8km s-min=0.6km az=85.0*

ISC 11 06:29:58.1±0.9,37°.83N±0°.02×27°.54E±0°.02,h12km±7km, n190,σ1$.34/223,mb3.2/3,6C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.27**	**243**	*i* P	**Pg**	**06 30 03.4**	**-0.3**
GCAM				*i* S	**Sg**	**06 30 07.9**	**+0.4**
GCAM	**G?zelcaml?**	**0.27**	**243**	*i* P	**Pg**	**06 30 03.4**	**-0.3**
GCAM				*i* S	**Sg**	**06 30 07.9**	**+0.4**
SMG	**Samos**	**0.57**	**258**	*e*PB	**Pg**	**06 30 09.4**	**+0.2**
SMG				*e*SB	**Sb**	**06 30 18.9**	**+0.9**
SMG	**Samos**	**0.57**	**258**	*e*Pb	**Pg**	**06 30 09.4**	**+0.2**
SMG				*e*Sb	**Sb**	**06 30 18.9**	**+0.9**
IZM	**Izmir**	**0.61**	**339**	PG	**Pg**	**06 30 09.6**	**-0.5**
IZM	**Izmir**	**0.61**	**339**	*i* Pg	**Pg**	**06 30 09.6**	**-0.5**
BODT	**Bodrum**	**0.78**	**194**	*e*PG	**Pg**	**06 30 12.9**	**-0.3**
BODT				*e*SG	**Sn**	**06 30 25.9**	**-0.7**
BODT	**Bodrum**	**0.78**	**194**	*e*Pg	**Pg**	**06 30 12.9**	**-0.3**
BODT				*e*Sg	**Sn**	**06 30 25.9**	**-0.7**
YER	**Yerkesik**	**0.91**	**139**	*e*PG	**Pg**	**06 30 14.9**	**-0.7**
YER				*e*SG	**Sb**	**06 30 28.1**	**+0.3**
YER	**Yerkesik**	**0.91**	**139**	*e*Pg	**Pg**	**06 30 14.9**	**-0.7**
YER				*e*Sg	**Sb**	**06 30 28.1**	**+0.3**
URLA	**Izmir**	**0.92**	**306**	*i* P	**Pg**	**06 30 15.5**	**-0.3**
URLA				*i* S	**Sb**	**06 30 28.6**	**+0.5**
URLA	**Izmir**	**0.92**	**306**	*i* P	**Pg**	**06 30 15.5**	**-0.3**
URLA				*i* S	**Sb**	**06 30 28.6**	**+0.5**
MANT	**Manisa**	**1.04**	**50**	*i* P	**Pb**	**06 30 15.8**	**-2.3**
MANT				*i* S	**Sb**	**06 30 29.1**	**-2.7**
AKHS	**Akhisar**	**1.07**	**11**	*i* P	**Pb**	**06 30 17.8**	**-0.8**
AKHS				*i* S	**Sb**	**06 30 31.1**	**-1.5**
AKHS	**Akhisar**	**1.07**	**11**	*i* P	**Pb**	**06 30 17.8**	**-0.8**
AKS	**Akhisar**	**1.07**	**11**	*e*PN	**Pb**	**06 30 17.9**	**-0.7**
AKS	**Akhisar**	**1.07**	**11**	*e*Pn	**Pb**	**06 30 17.9**	**-0.7**
KULA	**Kula-Manisa**	**1.12**	**52**	*e*PN	**Pb**	**06 30 17.9**	**-1.5**
KULA	**Kula-Manisa**	**1.12**	**52**	*e*Pn	**Pb**	**06 30 17.9**	**-1.5**
DENT	**Denizli**	**1.18**	**93**	*e*PN	**Pn**	**06 30 19.7**	**-0.8**
DENT				*e*SN	**Sg**	**06 30 36.6**	**+0.3**
DENT	**Denizli**	**1.18**	**93**	*e*Pn	**Pn**	**06 30 19.7**	**-0.8**
DENT				*e*Sn	**Sg**	**06 30 36.6**	**+0.3**
DNZL	**Cakiroluk**	**1.20**	**96**	*i* P	**Pb**	**06 30 21.3**	**+0.5**
DNZL				*i* S	**Sn**	**06 30 37.7**	**+0.6**
DNZL	**Cakiroluk**	**1.20**	**96**	*i* P	**Pb**	**06 30 21.3**	**+0.5**
DNZL				*i* S	**Sn**	**06 30 37.7**	**+0.6**
NIS1	**Nisyros Isl.**	**1.25**	**193**	P	**Pn**	**06 30 21.5**	**+0.1**
NIS1				S	**Sn**	**06 30 38.6**	**+0.4**
NIS1	**Nisyros Isl.**	**1.25**	**193**	P	**Pn**	**06 30 21.5**	**+0.1**
NIS1				S	**Sn**	**06 30 38.6**	**+0.4**
TURN	**Turunc**	**1.27**	**138**	*i* P	**Pn**	**06 30 19.5**	**-2.1**
TURN				*i* S	**Sb**	**06 30 37.2**	**-1.1**
CHOS	**Chios island**	**1.30**	**296**	P	**Pn**	**06 30 22.1**	**0.0**
CHOS				S	**Sg**	**06 30 40.3**	**+0.3**
CHOS	**Chios island**	**1.30**	**296**	*e*PB	**Pb**	**06 30 22.6**	**+0.1**
CHOS	**Chios island**	**1.30**	**296**	P	**Pn**	**06 30 22.1**	**0.0**
CHOS	**Chios island**	**1.30**	**296**	*e*Pb	**Pb**	**06 30 22.6**	**+0.1**
CHOS				S	**Sg**	**06 30 40.3**	**+0.3**
DEMI	**Demirci**	**1.53**	**37**	*i* P	**Pn**	**06 30 25.8**	**+0.6**
DEMI				*i* S	**Sn**	**06 30 43.0**	**-2.0**
DEMI	**Demirci**	**1.53**	**37**	*i* P	**Pn**	**06 30 25.8**	**+0.6**
KHAL	**Karahalli**	**1.63**	**70**	*i* P	**Pn**	**06 30 27.1**	**+0.3**
KHAL				*i* S	**Sn**	**06 30 48.0**	**+0.3**
KHAL	**Karahalli**	**1.63**	**70**	*i* P	**Pn**	**06 30 27.0**	**+0.3**
KHAL				*i* S	**Sn**	**06 30 48.0**	**+0.3**
KHL	**Karahalli**	**1.64**	**72**	*e*PN	**Pn**	**06 30 27.6**	**+0.8**
KHL	**Karahalli**	**1.64**	**72**	*e*Pn	**Pn**	**06 30 27.6**	**+0.8**
ARG	**Arkhangelos**	**1.67**	**164**	P	**Sn**	**06 30 47.0**	**-0.4**
ARG				S	**Sn**	**06 30 47.0**	**-1.5**
ARG	**Arkhangelos**	**1.67**	**164**	*e*PB	**Pn**	**06 30 27.7**	**+0.6**
ARG				*e*SG	**Sg**	**06 30 57.3**	**+5.4**
ARG	**Arkhangelos**	**1.67**	**164**	P	**Pn**	**06 30 26.7**	**-0.4**
ARG	**Arkhangelos**	**1.67**	**164**	*e*Pb	**Pn**	**06 30 27.7**	**+0.6**
ARG				S	**Sn**	**06 30 47.0**	**-1.5**
FETY	**Fethiye**	**1.71**	**134**	*e*PN	**Pn**	**06 30 28.5**	**+0.8**
FETY	**Fethiye**	**1.71**	**134**	*e*Pn	**Pn**	**06 30 28.5**	**+0.8**
PRK	**Paraskevi**	**1.73**	**325**	P

KAVA	**Kavala**	**3.94**	**324**	P	**Pn**	**06 30 58.7 +0.4**
KAVA	**Kavala**	**3.94**	**324**	P	**Pn**	**06 30 58.7 +0.4**
EDRB	**Edirne**	**4.06**	**352**	*e*PN	**Pn**	**06 31 02.2 +2.2**
EDRB	**Edirne**	**4.06**	**352**	*e*Pn	**Pn**	**06 31 02.2 +2.2**
PLG	**Polygyros**	**4.08**	**310**	*e*PB	Pn	06 31 03.8 +3.6
KDZ	**Kurdzhali**	**4.16**	**337**	P	**Pn**	**06 31 01.6 +0.3**
KDZ	**Kurdzhali**	**4.16**	**337**	P	**Pn**	**06 31 01.6 +0.3**
RZN	**Rozhen**	**4.43**	**331**	P	**Pn**	**06 31 05.9 +0.7**
RZN	**Rozhen**	**4.43**	**331**	P	**Pn**	**06 31 05.9 +0.7**
DIM	**Dimitrovgrad**	**4.49**	**341**	P	**Pn**	**06 31 06.2 +0.3**
DIM	**Dimitrovgrad**	**4.49**	**341**	P	**Pn**	**06 31 06.2 +0.3**
NVR	**Nevrokopi**	**4.52**	**322**	*e*PN	**Pn**	**06 31 07.4 +1.0**
NVR	**Nevrokopi**	**4.52**	**322**	*e*Pn	**Pn**	**06 31 07.4 +1.0**
KDZE	**Karadeniz Ereo**	**4.61**	**40**	*e*PN	**Pn**	**06 31 09.7 +2.2**
KDZE	**Karadeniz Ereo**	**4.61**	**40**	*e*Pn	**Pn**	**06 31 09.7 +2.2**
MMB	**Musomiste**	**4.77**	**323**	P	**Pn**	**06 31 11.2 +1.4**
MMB	**Musomiste**	**4.77**	**323**	P	**Pn**	**06 31 11.2 +1.4**
KAMT	**Kaman**	**5.07**	**70**	*e*PN	**Pn**	**06 31 16.3 +2.3**
KAMT	**Kaman**	**5.07**	**70**	*e*Pn	**Pn**	**06 31 16.3 +2.3**
BRTR	**Keskin Array B**	**5.13**	**66**	Pn	**Pn**	**06 31 15.8 +1.0**
	1.2nm,0.3s,baz=248,slow=15,SNR=24					
SAFT	**Safranbolu**	**5.24**	**48**	*e*PN	Pn	06 31 19.5 +3.3
SAFT	**Safranbolu**	**5.24**	**48**	*e*Pn	Pn	06 31 19.5 +3.3
VTS	**Vitosha**	**5.80**	**326**	⇑*i*P	**Pn**	**06 31 25.3 +1.3**
VTS	**Vitosha**	**5.80**	**326**	*e*P	Pn	06 31 29.0 +5.0
VTS	**Vitosha**	**5.80**	**326**	⇑*i*P	**Pn**	**06 31 25.3 +1.3**
CORM	**Corum**	**6.00**	**65**	*e*PN	**Pn**	**06 31 29.8 +3.1**
CORM	**Corum**	**6.00**	**65**	*e*Pn	**Pn**	**06 31 29.8 +3.1**
MLR	**Muntele Rosu**	**7.75**	**352**	Pn	Pn	06 31 54.6 +3.9
	0.0nm,0.3s,baz=173,slow=17,SNR=6.4					
MLR	**Muntele Rosu**	**7.75**	**352**	⇑*i*P	Pn	06 31 54.2 +3.4
MLR	**Muntele Rosu**	**7.75**	**352**	⇑*i*P	Pn	06 31 54.2 +3.4
VOIR		**7.83**	**347**	⇓*i*P	**Pn**	**06 31 52.6 +0.8**
VOIR		**7.83**	**347**	⇓*i*P	**Pn**	**06 31 52.6 +0.8**
MMAI	**Mount Meron Ar**	**8.01**	**124**	Pn	**Pn**	**06 31 53.1 -1.2**
	3.5nm,0.3s,baz=305,slow=13,SNR=11					
PLOR	**Plostina**	**8.05**	**356**	⇓*i*P	Pn	06 32 01.1 +6.4
DOPR	**Dopca**	**8.29**	**350**	⇑*i*P	**Pn**	**06 31 58.4 +0.3**
DOPR	**Dopca**	**8.29**	**350**	⇑*i*P	**Pn**	**06 31 58.4 +0.3**
GZR	**Gura Zlata**	**8.36**	**336**	⇓*i*P	**Pn**	**06 31 58.5 -0.5**
GZR	**Gura Zlata**	**8.36**	**336**	⇓*i*P	**Pn**	**06 31 58.5 -0.5**
BZS	**Buzias**	**8.95**	**332**	⇓*i*P	**Pn**	**06 32 05.4 -1.7**
GERES	**GERESS Array B**	**14.90**	**322**	Pn	**P**	**06 33 35.8 +1.6**
	0.1nm,0.3s,baz=137,slow=12,SNR=13					
TORD	**Torodi Ar. Bea**	**33.67**	**230**	P	**P**	**06 36 39.5 +0.6**
	1.4nm,0.5s,baz=37,slow=8.9,SNR=14					
KURK	**Kurchatov**	**38.03**	**53**	P	**P**	**06 37 15.2 -0.8**
	0.3nm,0.6s,baz=277,slow=8.8,SNR=3.7					
MKAR	**Makanchi Array**	**40.73**	**59**	P	**P**	**06 37 39.1 +0.5**
	0.3nm,0.5s,baz=288,slow=6.0,SNR=2.7					

IDC 11 07:04:01.4±6.3, 0°49S×131°48E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.7/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/21, Error ellipse: s-maj=435.3km s-min=27.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.54**	**172**	P	P	07 08 30.7	0.0
	0.2nm,0.3s,baz=352,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**23.16**	**174**	P	P	07 09 09.8	0.0
	0.9nm,0.5s,baz=355,slow=11,SNR=12						
ASAJ	**Asahikawa**	**45.51**	**11**	LR	LR	07 30 22.5	
	comp=Z,439nm,18.8s,baz=341,slow=35						
MKAR	**Makanchi Array**	**63.71**	**325**	P	P	07 14 34.9	-0.1
	0.3nm,0.6s,baz=121,slow=7.8,SNR=4.6						

IDC 11 07:06:20.7±1.4, 9°06S×161°26E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/18, mbtmp4.2/8, MS3.0/1, Ms1 3.0/1, ms1mx2.8/23, Error ellipse: s-maj=44.3km s-min=18.7km az=133.0
ISCJB 11 07:06:24.8±0.8, 9°1S±0°1×161°3E±0°1, h43km, mb4.5/17, Error ellipse: s-maj=20.3km s-min=11.4km az=145.9
NEIC 11 07:06:30.2±2.5, 8°90S×160°89E, h60km±17km, mb4.2/4, Error ellipse: s-maj=36.8km s-min=16.0km az=112.0

ISC 11 07:06:27.3±1.0, 9°0S±0°2×161°2E±0°2, h43km, n34, σ1s12/36, mb4.5/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.28**	**249**	Pn	**Pn**	**07 06 48.3**	**-0.4**
	202nm,0.3s,baz=152,slow=3.3,SNR=84						
HNR				Sn	**Sn**	**07 07 06.0**	**+1.3**
	1um,0.3s,baz=59,slow=19,SNR=19						
HNR	**Honiara**	**1.28**	**249**	Pn	**Pn**	**07 06 48.4**	**-0.4**
HNR				Sn	**Sn**	**07 07 06.0**	**+1.3**
CTA	**Charters Tower**	**18.16**	**231**	P	**Pn**	**07 10 38.3**	**+1.9**
	0.5nm,0.3s,baz=50,slow=12,SNR=5.8						
CTA				LR	LR	07 16 33.0	
	comp=Z,52nm,20.4s,baz=232,slow=34						
CTA	**Charters Tower**	**18.16**	**231**	P	**Pn**	**07 10 38.3**	**+1.9**
CTAO	**Charters Tower**	**18.16**	**231**	*e*Pn	**Pn**	**07 10 38.2**	**+1.9**
	6.3nm,0.7s						
ARMA	**Armidale**	**23.13**	**201**	*e*P	**P**	**07 11 31.4**	**+1.4**
	7.0nm,1.0s						
CMSA	**Cobar Meteorol**	**26.67**	**210**	*e*P	**P**	**07 12 02.8**	**+0.4**
	17nm,0.5s						
WRAB	**Tennant Creek**	**28.11**	**244**	*e*P	**P**	**07 12 14.1**	**-1.3**
	7.2nm,0.6s						
WB2	**Warramunga Arr**	**28.11**	**244**	*e*P	**P**	**07 12 14.8**	**-0.7**
WRA	**Warramunga Arr**	**28.12**	**244**	P	**P**	**07 12 14.4**	**-1.1**
	5.7nm,0.6s,baz=70,slow=9.5,SNR=45						
WRA	**Warramunga Arr**	**28.12**	**244**	P	**P**	**07 12 14.4**	**-1.1**
STKA	**Stephens Creek**	**29.15**	**216**	P	**P**	**07 12 24.6**	**+0.1**
	1.9nm,0.6s,baz=44,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**29.15**	**216**	*e*P	**P**	**07 12 24.8**	**+0.3**
	1.8nm,0.5s						
STKA	**Stephens Creek**	**29.15**	**216**	P	**P**	**07 12 24.6**	**+0.1**
AS31	**Alice Springs**	**29.88**	**237**	*e*P	**P**	**07 12 29.5**	**-1.6**
ASAR	**Alice Springs**	**29.88**	**237**	P	**P**	**07 12 29.7**	**-1.4**
	2.2nm,0.4s,baz=62,slow=10,SNR=70						
ASAR	**Alice Springs**	**29.88**	**237**	P	**P**	**07 12 29.7**	**-1.4**
BBOO	**Buckleboo**	**33.19**	**221**	*e*P	**P**	**07 12 59.6**	**-0.5**
	35nm,0.6s						
FITZ	**Fitzroy Crossi**	**35.64**	**251**	*e*P	**P**	**07 13 19.5**	**-2.0**
	8.2nm,0.4s						
FORT	**Forrest**	**37.71**	**230**	*e*P	**P**	**07 13 38.6**	**-0.4**
	5.3nm,0.7s						
MBWA	**Marble Bar**	**41.67**	**248**	*e*P	**P**	**07 14 10.2**	**-1.8**
KMBL	**Kambalda**	**42.74**	**233**	*e*P	**P**	**07 14 20.0**	**-0.7**
	28nm,0.6s						
MEEK	**Meekatharra**	**43.90**	**241**	*e*P	**P**	**07 14 29.6**	**-0.5**
	68nm,0.3s						
MORW	**Morawa**	**46.75**	**238**	*e*P	**P**	**07 14 51.8**	**-0.9**
	17nm,0.3s						
NWAO	**Narrogin (SRO)**	**46.98**	**233**	P	**P**	**07 14 53.4**	**-1.0**
	3.4nm,0.6s,baz=57,slow=6.6,SNR=6.9						
NWAO	**Narrogin (SRO)**	**46.98**	**233**	P	**P**	**07 14 53.4**	**-1.0**
SONM	**Songino Array**	**74.35**	**325**	P	**P**	**07 18 01.5**	**+0.9**
	1.0nm,0.8s,baz=135,slow=5.2,SNR=6.8						
SONM	**Songino Array**	**74.35**	**325**	P	**P**	**07 18 01.5**	**+0.9**
ILAR	**Eielson Array**	**83.05**	**20**	P	**P**	**07 18 48.5**	**+0.6**
	0.2nm,0.5s,baz=246,slow=4.9,SNR=6.9						
ILAR	**Eielson Array**	**83.05**	**20**	P	**P**	**07 18 48.5**	**+0.6**
MKAR	**Makanchi Array**	**88.93**	**318**	P	**P**	**07 19 17.5**	**+0.1**
	0.8nm,0.6s,baz=95,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**88.93**	**318**	P	**P**	**07 19 17.5**	**+0.1**
ZALV	**Zalesovo Beam**	**89.25**	**325**	P	**P**	**07 19 18.8**	**+0.2**
	0.2nm,0.4s,baz=108,slow=4.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**89.25**	**325**	P	**P**	**07 19 18.8**	**+0.2**

IDC 11 07:42:56.6±12.0, 35°98N×88°03E, h0km, mb3.5/1, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=168.1km s-min=52.2km az=8.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.63**	**340**	Pn	Pn	07 45 43.0	-0.8
	0.3nm,0.3s,baz=150,slow=15,SNR=14						
KURK	**Kurchatov**	**16.22**	**338**	Pn	Pn	07 46 43.1	-2.6
	0.0nm,0.3s,baz=150,slow=12,SNR=7.0						
SONM	**Songino Array**	**18.04**	**43**	P	P	07 47 09.5	+0.1
	baz=232,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**18.11**	**354**	P	Pn	07 47 07.5	-1.9
	baz=172,slow=11,SNR=4.9						
BVAR	**Borovoye Array**	**21.09**	**329**	P	P	07 47 42.3	-0.2
	1.8nm,0.8s,baz=134,slow=10,SNR=11						

DJA 11 07:44:14.0°03S×123°47E, h30km, MLv3.7/3

IDC 11 07:43:57.6±1.8, 1°26N×126°18E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=197.8km s-min=21.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**160**	P	P	07 48 58.7	-0.7
	0.7nm,0.5s,baz=338,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**25.89**	**164**	P	P	07 49 31.0	-0.4
	0.2nm,0.5s,baz=342,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**59.28**	**326**	P	P	07 54 01.5	+0.3
	0.3nm,0.5s,baz=122,slow=8.8,SNR=5.4						
KURK	**Kurchatov**	**63.53**	**328**	P	P	07 54 30.0	+0.3
	0.3nm,0.6s,baz=133,slow=6.3,SNR=5.6						

IDC 11 08:08:19.6±28.0, 23°19S×173°27W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=514.6km s-min=148.4km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.67**	**267**	P	P	08 15 37.0	+0.2
	1.9nm,0.3s,baz=90,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**40.71**	**249**	P	P	08 16 02.2	0.0
	0.5nm,0.3s,baz=101,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**48.24**	**258**	P	P	08 17 02.0	-0.5
	0.2nm,0.3s,baz=97,slow=8.4,SNR=15						
WRA	**Warramunga Arr**	**48.62**	**263**	P	P	08 17 05.3	-0.2
	0.6nm,0.4s,baz=103,slow=8.2,SNR=21						

ISCJB 11 08:32:56.9±0.6, 37°88N×0°02×27°58E±0°04, h5km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=161.1
DDA 11 08:32:56.4, 37°87N×27°57E, h14km, MD2.6
ISK 11 08:32:56.7, 37°88N×27°58E, h4km, MD3.1
CSEM 11 08:32:57.1±0.2, 37°87N×27°58E, h2km, MD2.6, Error ellipse: s-maj=4.2km s-min=3.4km az=77.0

ISC 11 08:32:56.5±1.1, 37°85N±0°02×27°61E±0°02, h3km±10km, n58, σ0s89/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.33**	**243**	*i* P	**Pg**	**08 33 02.7**	**-0.3**
GCAM				*i* S	**Sg**	**08 33 07.2**	**-0.1**
GCAM	**G?zelcaml?**	**0.33**	**243**	*i* P	**Pg**	**08 33 02.7**	**-0.3**
GCAM				*i* S	**Sg**	**08 33 07.2**	**-0.1**
IZM	**Izmir**	**0.61**	**334**	PG	**Pg**	**08 33 08.5**	**+0.2**
IZM				*e*SG	**Sg**	**08 33 17.0**	**+0.8**
IZM	**Izmir**	**0.61**	**334**	*i* Pg	**Pg**	**08 33 08.5**	**+0.2**
IZM				*e*Sg	**Sg**	**08 33 17.0**	**+0.8**
BODT	**Bodrum**	**0.82**	**197**	*e*PG	**Pb**	**08 33 13.7**	**+0.2**
BODT				*e*SG	**Sb**	**08 33 25.6**	**+0.6**
BODT	**Bodrum**	**0.82**	**197**	*e*Pg	**Pb**	**08 33 13.7**	**+0.2**
BODT				*e*Sg	**Sb**	**08 33 25.6**	**+0.6**
YER	**Yerkesik**	**0.89**	**143**	*e*PG	**Pb**	**08 33 14.8**	**+0.1**
YER	**Yerkesik**	**0.89**	**143**	*e*Pg	**Pb**	**08 33 14.8**	**+0.1**
URLA	**Izmir**	**0.95**	**303**	*i* P	**Pg**	**08 33 13.2**	**-1.5**
URLA				*i* S	**Sg**	**08 33 27.1**	**+0.1**
URLA	**Izmir**	**0.95**	**303**	*i* P	**Pg**	**08 33 13.2**	**-1.5**
URLA				*i* S	**Sg**	**08 33 27.1**	**+0.1**
MANT	**Manisa**	**0.98**	**49**	*i* P	**Pg**	**08 33 15.5**	**+0.1**
MANT				*i* S	**Sg**	**08 33 28.1**	**-0.1**
MANT	**Manisa**	**0.98**	**49**	*i* P	**Pg**	**08 33 15.5**	**+0.1**
MANT				*i* S	**Sg**	**08 33 28.1**	**-0.1**
AKHS	**Akhisar**	**1.04**	**9**	*i* P	**Pg**	**08 33 16.6**	**+0.1**
AKHS				*i* S	**Sb**	**08 33 31.6**	**+0.4**
AKHS	**Akhisar**	**1.04**	**9**	*i* P	**Pg**	**08 33 16.6**	**+0.1**
AKHS				*i* S	**Sb**	**08 33 31.6**	**+0.4**
AKS	**Akhisar**	**1.04**	**9**	*e*PG	**Pg**	**08 33 16.4**	**-0.1**
AKS	**Akhisar**	**1.04**	**9**	*e*Pg	**Pg**	**08 33 16.4**	**-0.1**
KULA	**Kula-Manisa**	**1.06**	**51**	*e*PG	**Pb**	**08 33 17.7**	**+0.1**
KULA	**Kula-Manisa**	**1.06**	**51**	*e*Pg	**Pb**	**08 33 17.7**	**+0.1**
DENT	**Denizli**	**1.13**	**94**	*e*PN	**Pn**	**08 33 19.6**	**+0.2**
DENT	**Denizli**	**1.13**	**94**	*e*Pn	**Pn**	**08 33 19.6**	**+0.2**
DNZL	**Cakiroluk**	**1.15**	**98**	*i* P	**Pn**	**08 33 20.2**	**+0.5**
DNZL				*i* S	**Sn**	**08 33 37.0**	**+0.9**
DNZL	**Cakiroluk**	**1.15**	**98**	*i* P	**Pn**	**08 33 20.2**	**+0.5**
DNZL				*i* S	**Sn**	**08 33 37.0**	**+0.9**
TURN	**Turunc**	**1.26**	**141**	*i* P	**Pg**	**08 33 19.3**	**-1.3**
TURN				*i* S	**Sg**	**08 33 36.5**	**-0.4**
TURN	**Turunc**	**1.26**	**141**	*i* P	**Pg**	**08 33 19.3**	**-1.3**
TURN				*i* S	**Sg**	**08 33 36.5**	**-0.4**
DEMI	**Demirci**	**1.47**	**36**	*i* P	**Pb**	**08 33 24.5**	**-0.2**
DEMI				*i* S	**Sb**	**08 33 42.3**	**-1.5**
DEMI	**Demirci**	**1.47**	**36**	*i* P	**Pb**	**08 33 24.5**	**-0.2**
DEMI				*i* S	**Sb**	**08 33 42.3**	**-1.5**
KHL	**Karahalli**	**1.58**	**72**	*e*PN	**Pg**	**08 33 27.2**	**+0.3**
KHL	**Karahalli**	**1.58**	**72**	*e*Pn	**Pg**	**08 33 27.2**	**+0.3**
FETY	**Fethiye**	**1.69**	**135**	*e*PN	**Pb**	**08 33 28.3**	**0.0**
FETY	**Fethiye**	**1.69**	**135**	*e*Pn	**Pb**	**08 33 28.3**	**0.0**
BALB	**Balikesir**	**1.80**	**7**	*e*PN	**Pn**	**08 33 28.5**	**0.0**
BALB	**Balikesir**	**1.80**	**7**	*e*Pn	**Pn**	**08 33 28.5**	**0.0**
APE	**Apeiranthos**	**1.83**	**245**	*e*PN	**Pn**	**08 33 29.8**	**+0.9**
APE	**Apeiranthos**	**1.83**	**245**	*e*Pn	**Pn**	**08 33 29.8**	**+0.9**
DURS	**Dursunbey**	**1.87**	**21**	*i* P	**Pn**	**08 33 29.2**	**-0.4**
DURS				*i* S	**Sn**	**08 33 52.1**	**-1.7**
DURS	**Dursunbey**	**1.87**	**21**	*i* P	**Pn**	**08 33 29.2**	**-0.4**
DURS				*i* S	**Sn**	**08 33 52.1**	**-1.7**
BALY	**Balya**	**1.89**	**0**	*i* P	**Pn**	**08 33 28.9**	**-0.8**
BALY				*i* S	**Sn**	**08 33 52.4**	**-1.7**
BALY	**Balya**	**1.89**	**0**	*i* P	**Pn**	**08 33 28.9**	**-0.8**
BALY				*i* S	**Sn**	**08 33 52.4**	**-1.7**
ELL	**Elmali**	**2.14**	**120**	*e*PN	**Pb**	**08 33 35.4**	**-0.6**
ELL	**Elmali**	**2.14**	**120**	*e*Pn	**Pb**	**08 33 35.4**	**-0.6**
GONE	**Gonen-Balikesi**	**2.19**	**2**	*e*PN	**Pn**	**08 33 34.6**	**+0.7**
GONE	**Gonen-Balikesi**	**2.19**	**2**	*e*Pn	**Pn**	**08 33 34.6**	**+0.7**
EZN	**Ezine**	**2.21**	**333**	*e*PN	**Pn**	**08 33 35.4**	**+1.3**
EZN	**Ezine**	**2.21**	**333**	*e*Pn	**Pn**	**08 33 35.4**	**+1.3**
KCTX	**Karacabey (Bur**	**2.48**	**13**	*e*PN	**Pn**	**08 33 38.3**	**+0.4**
KCTX	**Karacabey (Bur**	**2.48**	**13**	*e*Pn	**Pn**	**08 33 38.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.69**	**341**	*e*PN	**Pn**	**08 33 42.3**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.69**	**341**	*e*Pn	**Pn**	**08 33 42.3**	**+1.5**
ARMT	**Armutlu**	**2.88**	**19**	*e*PN	**Pn**	**08 33 44.4**	**+1.0**
ARMT	**Armutlu**	**2.88**	**19**	*e*Pn	**Pn**	**08 33 44.4**	**+1.0**
CAVI	**Cavuskoy**	**2.92**	**36**	*e*PN	**Pn**	**08 33 45.2**	**+1.2**
CAVI	**Cavuskoy**	**2.92**	**36**	*e*Pn	**Pn**	**08 33 45.2**	**+1.2**
ERIK	**Erikli-Kesan**	**2.94**	**344**	*e*PN	**Pn**	**08 33 45.1**	**+1.0**
ERIK	**Erikli-Kesan**	**2.94**	**344**	*e*Pn	**Pn**	**08 33 45.1**	**+1.0**
YLV	**Yalova**	**3.04**	**26**	*e*PN	**Pn**	**08 33 46.8**	**+1.2**
YLV	**Yalova**	**3.04**	**26**	*e*Pn	**Pn**	**08 33 46.8**	**+1.2**
GULT	**Gulveren**	**3.43**	**40**	*e*PN	**Pn**	**08 33 52.9**	**+1.9**
GULT	**Gulveren**	**3.43**	**40**	*e*Pn	**Pn**	**08 33 52.9**	**+1.9**

CSEM 11 08:34:34.9±0.5, 43°19N×17°33E, h2km, ML2.7/9, Error ellipse: s-maj=11.2km s-min=5.3km az=59.0
PDG 11 08:34:36.0±0.2, 43°25N×17°58E, h2km, ML2.7/9, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0
BEO 11 08:34:36.2±1.0, 43°20N×17°27E, h14km±10km, ML2.7/5

ISC 11 08:34:35.2±1.2, 43°27N±0°02×17°50E±0°03, h1km±11km, n34, σ1s05/61, 15C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.43**	**160**	*e*Pg	**Pg**	**08 34 43.8**	**+0.5**
STON				Sg	**Sb**	**08 34 51.0**	**-1.5**
STON	**Ston**	**0.43**	**160**	*e*Pg	**Pg**	**08 34 43.8**	**+0.5**
STON				Sg	**Sb**	**08 34 50.9**	**-1.5**
BRY	**Bratogost**	**0.84**	**116**	⇑*i*Pg	**Pg**	**08 34 50.0**	**-1.3**
BRY				*e*Sg	**Sg**	**08 35 02.5**	**+0.2**
UPM	**Unac-Piva**	**1.03**	**93**	⇑*i*Pg	**Pg**	**08 34 53.8**	**-1.0**
UPM				*e*Sg	**Sb**	**08 35 09.4**	**-0.5**
HCY	**Herceg Novi**	**1.10**	**138**	⇓*i*Pg	**Pg**	**08 34 55.0**	**-1.2**
HCY				*e*Sg	**Sb**	**08 35 11.9**	**+0.1**
HCY	**Herceg Novi**	**1.10**	**138**	⇓*i*Pg	**Pg**	**08 34 55.0**	**-1.2**
HCY				*e*Sg	**Sb**	**08 35 11.9**	**+0.1**
NKY	**Niksic**	**1.19**	**112**	⇑*i*Pg	**Pg**	**08 34 56.8**	**-1.1**
NKY				*e*Sg	**Sn**	**08 35 15.0**	**-0.8**
BUM	**Brajici-Budva**	**1.41**	**133**	⇑*i*Pg	**Pn**	**08 35 01.4**	**-0.7**
BUM				*e*Sg	**Sg**	**08 35 22.4**	**+1.9**
BUM	**Brajici-Budva**	**1.41**	**133**	⇑*i*Pg	**Pn**	**08 35 01.4**	**-0.7**
BUM				*e*Sg	**Sg**	**08 35 22.4**	**+1.9**
BLY	**Banja Luka**	**1.49**	**351**	*e*Pn	**Pg**	**08 35 03.2**	**-0.6**
BLY				*e*Sn	**Sg**	**08 35 24.1**	**+1.0**
BLY	**Banja Luka**	**1.49**	**351**	*e*Pn	**Pg**	**08 35 03.2**	**-0.6**
BLY				*e*Sn	**Sg**	**08 35 24.1**	**+1.0**
PDG	**Podgorica**	**1.54**	**123**	*e*Pn	**Pg**	**08 35 05.1**	**+0.5**
PDG				*e*Sn	**Sg**	**08 35 26.6**	**+2.0**
PDG	**Podgorica**	**1.54**	**123**	⇓*i*Pg	**Pb**	**08 35 04.0**	**-0.5**
PDG	**Podgorica**	**1.54**	**123**	*e*Pn	**Pg**	**08 35 05.1**	**+0.5**
PDG				*e*Sn	**Sg**	**08 35 26.6**	**+2.0**
TTG	**Podgorica**	**1.54**	**122**	⇓*i*Pg	**Pb**	**08 35 04.0**	**-0.5**
TTG				*e*Sg	**Sg**	**08 35 26.7**	**+2.0**
BEY	**Berane**	**1.80**	**102**	⇑*i*Pn	**Pb**	**08 35 08.2**	**-0.7**
BEY				*e*Sn	**Sg**	**08 35 33.6**	**+0.7**
IVA	**Berane**	**1.80**	**102**	⇑*i*Pn	**Pb**	**08 35 08.2**	**-0.8**
IVA				*e*Sn	**Sg**	**08 35 33.6**	**+0.6**
ULC	**Ulcinj**	**1.83**	**135**	⇑*i*Pn	**Pb**	**08 35 08.7**	**-0.8**
ULC				*e*Sn	**Sg**	**08 35 34.6**	**+0.5**
ULC	**Ulcinj**	**1.83**	**135**	⇑*i*Pn	**Pb**	**08 35 08.7**	**-0.8**
ULC				*e*Sn	**Sg**	**08 35 34.6**	**+0.5**
PVY	**Plav**	**1.93**	**110**	⇓*i*Pn	**Pb**	**08 35 10.7**	**-0.5**
PVY				*e*Sn	**Sg**	**08 35 37.4**	**+0.4**
TEKS	**Tekeris**	**1.94**	**48**	⇑*e*Pn	**Pb**	**08 35 10.9**	**-0.5**
TEKS				*e*Sn	**Sg**	**08 35 37.8**	**+0.3**
TEKS	**Tekeris**	**1.94**	**48**	⇑*e*Pn	**Pb**	**08 35 10.9**	**-0.5**
NVLJ	**Novalja**	**2.30**	**305**	*e*Pn	**Pb**	**08 35 17.1**	**-0.3**
NVLJ				Sn	**Sg**	**08 35 49.0**	**0.0**
NVLJ	**Novalja**	**2.30**	**305**	*e*Pn	**Pb**	**08 35 17.1**	**-0.3**
TRUS	**Trudelj**	**2.31**	**65**	*e*Pn	**Pb**	**08 35 16.3**	**-1.3**
TRUS				*e*Sn	**Sb**	**08 35 46.8**	**+0.2**
TRUS	**Trudelj**	**2.31**	**65**	*e*Pn	**Pb**	**08 35 16.3**	**-1.3**
TRUS				*e*Sn	**Sb**	**08 35 46.8**	**+0.2**
GRUS	**Gruza**	**2.41**	**74**	⇑*i*Pn	**Pb**	**08 35 18.7**	**-0.7**
GRUS				*e*Sn	**Sb**	**08 35 50.3**	**+0.6**
GRUS	**Gruza**	**2.41**	**74**	⇑*i*Pn	**Pb**	**08 35 18.7**	**-0.7**
GRUS				*e*Sn	**Sb**	**08 35 50.3**	**+0.6**
SELS	**Selova**	**2.64**	**90**	*e*Pn	**Pb**	**08 35 21.0**	**-2.3**
SELS	**Selova**	**2.64**	**90**	*e*Pn	**Pb**	**08 35 21.0**	**-2.3**
BARS	**Barje**	**3.19**	**97**	*i* Pn	**Pn**	**08 35 27.3**	**+0.8**
BARS				*e*Sn	**Sn**	**08 36 06.4**	**+1.2**
ZAPS	**Zavoj**	**3.75**	**88**	*e*Pn	**Pn**	**08 35 36.0**	**+1.9**
ZAPS				*e*Sn	**Sn**	**08 36 19.7**	**+0.8**
ARSA	**Arzberg**	**4.22**	**341**	⇑*e*Pn	**Pn**	**08 35 40.9**	**+0.3**
ARSA	**Arzberg**	**4.22**	**341**	⇑*e*Pn	**Pn**	**08 35 40.9**	**+0.3**

MOS 11 08:43:53.7±1.0, 10°87N×140°40E, h30km, mb4.9/13, Error ellipse: s-maj=15.8km s-min=7.8km az=94.9
ISCJB 11 08:43:55.9±1.3, 10°81N±0°05×140°59E±0°06, h50km±12km, mb4.6/48, MS3.9/13, Error ellipse: s-maj=10.5km s-min=7.4km az=17.5
BJI 11 08:43:56.8, 10°71N×140°36E, h68km, mB5.2/20, mb4.9/26, Ms4.7/13, Ms7 4.4/14
*IDC 11 08:43:57.7±0.7, 10°78N×140°54E, h49km±5km, mb4.3/18, mb1 4.

HHC					pP	**pP**	**08 51 38.3**	**-1.0**
HHC					sP	**sP**	**08 51 47.6**	**+0.6**
HHC					PP	PP	08 52 55.7	+1.3
HHC					PcP	PcP	08 53 23.7	-6.2
HHC					S	**ScP**	**08 57 15.8**	**+2.9**
HHC					sS	**sS**	**08 57 47.7**	**-0.1**
HHC					SS	SS	09 00 05.7	-10
HHC					pmax	pmax		
	comp=Z,23nm,0.7s							
HHC					pmax	pmax		
	comp=Z,240nm,5.5s							
HHC					LR	LR		
	comp=N,1μm,14.3s							
HHC					LR	LR		
	comp=E,470nm,13.7s							
HHC					LR	LR		
	comp=Z,260nm,14.9s							
CD2	**Chengdu**	**39.59**	**306**		P	**P**	**08 51 24.6**	**+0.2**
CD2					pP	**pP**	**08 51 42.1**	**+1.2**
CD2					sP	**sP**	**08 51 50.7**	**+2.0**
CD2					PP	PP	08 53 00.7	+4.2
CD2					S	**S**	**08 57 21.7**	**-1.0**
CD2					sS	**sS**	**08 57 51.8**	**+1.0**
CD2					SS	SS	09 00 12.5	-7.5
CD2					pmax	pmax		
	comp=Z,20nm,0.5s							
CD2					pmax	pmax		
	comp=Z,170nm,5.4s							
CD2					LR	LR		
	comp=N,350nm,7.7s							
CD2					LR	LR		
	comp=Z,290nm,8.9s							
CMAR	**Chiang Mai Arr**	**40.98**	**286**		P	**P**	**08 51 37.2**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=89,slow=6.9,SNR=4.9							
CMAR					LR	LR	09 07 01.8	
	comp=Z,58nm,19.0s,baz=105,slow=34							
CMAR	**Chiang Mai Arr**	**40.98**	**286**		P	**P**	**08 51 37.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**40.98**	**286**		P	**P**	**08 51 37.2**	**+1.2**
LZH	**Lanzhou**	**41.71**	**313**	*eP*	P	**P**	**08 51 43.5**	**+1.5**
LZH					pP	**pP**	**08 52 01.6**	**+3.0**
LZH					sP	**sP**	**08 52 10.5**	**+4.2**
LZH				*eP*	PP	08 53 24.1	+4.5
LZH				*eS*	**S**	**08 57 54.5**	**+0.1**
LZH					pmax	pmax		
	comp=Z,21nm,1.2s							
LZH					pmax	pmax		
	comp=Z,97nm,5.3s							
LZH					LR	LR		
	comp=N,260nm,15.4s							
LZH					LR	LR		
	comp=E,330nm,15.1s							
LZH					LR	LR		
	comp=Z,280nm,17.5s							
HIA	**Hailar**	**42.10**	**340**	*eP*	P	**P**	**08 51 44.6**	**-0.2**
HIA					pmax	pmax		
	comp=Z,18nm,1.2s							
HIA	**Hailar**	**42.10**	**340**	*eP*	P	**P**	**08 51 44.6**	**-0.2**
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**42.44**	**179**	P	P	**P**	**08 51 46.9**	**-0.8**
	comp=Z,12nm,1.4s,baz=2.9,slow=9.5,SNR=4.6							
STKA					pP	**pP**	**08 52 00.2**	**-4.2**
	comp=Z,4.0nm,0.7s,baz=0.1,slow=7.7,SNR=6.7							
STKA					LR	LR	09 10 13.1	
	comp=Z,99nm,18.9s,baz=295,slow=37							
STKA	**Stephens Creek**	**42.44**	**179**	*eP*	P	**P**	**08 51 47.6**	**-0.2**
STKA				**PP*	pP	**pP**	**08 52 00.2**	**-4.2**
STKA	**Stephens Creek**	**42.44**	**179**	*eP*	P	**P**	**08 51 47.6**	**-0.2**
STKA					pP	**pP**	**08 52 00.2**	**-4.2**
FORT	**Forrest**	**43.07**	**196**	*eP*	P	**P**	**08 51 53.4**	**+0.6**
	comp=Z,17nm,0.7s							
PETK	**Petropavlovsk-**	**44.37**	**15**	LR	LR		09 09 07.3	
	comp=Z,53nm,18.2s,baz=280,slow=34							
GTA	**Gaotai**	**46.07**	**315**	*eP*	P	**P**	**08 52 17.4**	**+0.5**
GTA					pP	**pP**	**08 52 33.8**	**+0.1**
GTA					sP	**sP**	**08 52 43.6**	**+2.2**
GTA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
ULN	**Ulaanbaatar**	**46.46**	**329**	*eP*	P	**P**	**08 52 20.1**	**+0.2**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ULN	**Ulaanbaatar**	**46.46**	**329**	*eP*	P	**P**	**08 52 20.1**	**+0.2**
	comp=Z,4.1nm,0.8s							
SONM	**Songino Array**	**46.78**	**329**	P	P	**P**	**08 52 22.6**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=140,slow=7.3,SNR=24							
SONM					pP	**pP**	**08 52 36.3**	**-2.9**
	comp=Z,0.8nm,0.6s,baz=142,slow=4.3,SNR=3.3							
SONM					LR	LR	09 11 19.4	
	comp=Z,105nm,18.7s,baz=161,slow=35							
SONM	**Songino Array**	**46.78**	**329**	P	P	**P**	**08 52 22.6**	**+0.3**
SONM				**PP*	pP	**pP**	**08 52 36.3**	**-2.9**
SONM	**Songino Array**	**46.78**	**329**	P	P	**P**	**08 52 22.6**	**+0.3**
SONM					pP	**pP**	**08 52 36.3**	**-2.9**
FX1	**Attu Island--F**	**49.45**	**25**	P	P	**P**	**08 52 43.1**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=250,slow=15,SNR=5.1							
FX1	**Attu Island--F**	**49.45**	**25**	P	P	**P**	**08 52 43.2**	**+0.5**
FX1	**Attu Island--F**	**49.45**	**25**	P	P	**P**	**08 52 43.1**	**+0.5**
ZAK	**Zakamensk**	**49.98**	**330**	*eP*	P	**P**	**08 52 46.4**	**-0.5**
ZAK					pmax	pmax		
	comp=Z,9.0nm,1.1s							
BOD	**Bodaibo**	**51.15**	**342**	*eP*	P	**P**	**08 52 53.8**	**-1.6**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.0s							
YAK	**Yakutsk**	**51.76**	**353**	*eP*	P	**P**	**08 52 58.5**	**-1.3**
YAK					pmax	pmax		
	comp=Z,27nm,0.9s							
YAK					pmax	pmax		
	comp=N,6.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,2.0nm,0.9s							
SEY	**Seymchan**	**52.73**	**7**	*i* P	P	**P**	**08 53 07.0**	**0.0**
WMQ	**Urumqi**	**56.15**	**316**	*eP*	P	**P**	**08 53 32.8**	**+0.5**
WMQ					pP	**pP**	**08 53 52.4**	**+2.8**
WMQ					sP	**sP**	**08 54 00.8**	**+3.7**
WMQ					pmax	pmax		
	comp=Z,11nm,0.8s							
BILL	**Bilibino**	**59.62**	**11**	*eP*	P	**P**	**08 53 55.9**	**-0.2**
BILL					pmax	pmax		
	comp=Z,14nm,1.7s							
BILL	**Bilibino**	**59.62**	**11**	*eP*	P	**P**	**08 53 56.4**	**+0.3**
	comp=Z,2.5nm,0.6s							
MK31	**Makanchi Array**	**60.69**	**318**	*eP*	P	**P**	**08 54 04.3**	**+0.5**
MK31	**Makanchi Array**	**60.69**	**318**	*eP*	P	**P**	**08 54 04.3**	**+0.5**
MKAR	**Makanchi Array**	**60.69**	**318**	P	P	**P**	**08 54 04.1**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=99,slow=8.9,SNR=29							
MKAR	**Makanchi Array**	**60.69**	**318**	P	P	**P**	**08 54 04.1**	**+0.3**
MKAR	**Makanchi Array**	**60.69**	**318**	P	P	**P**	**08 54 04.1**	**+0.3**
ZALV	**Zalesovo Beam**	**61.54**	**326**	P	P	**P**	**08 54 09.0**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=109,slow=7.4,SNR=18							
ZALV	**Zalesovo Beam**	**61.54**	**326**	P	P	**P**	**08 54 09.0**	**-0.4**
ZALV	**Zalesovo Beam**	**61.54**	**326**	P	P	**P**	**08 54 09.0**	**-0.4**
KURK	**Kurchatov**	**64.10**	**321**	P	P	**P**	**08 54 26.6**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=103,slow=6.8,SNR=44							
KURK					pP	**pP**	**08 54 39.9**	**-4.3**
	comp=Z,1.9nm,0.7s,baz=102,slow=6.8,SNR=4.4							
KURK	**Kurchatov**	**64.10**	**321**	*c i* P	P	**P**	**08 54 26.2**	**-0.3**
KURK					pmax	pmax		
	comp=Z,20nm,1.2s							
KURK	**Kurchatov**	**64.10**	**321**	*eP*	P	**P**	**08 54 26.4**	**-0.1**
	comp=Z,14nm,0.9s							
KURK					*e*pP	**pP**	**08 54 39.8**	**-4.3**
KDAK	**Kodiak Island**	**68.61**	**32**	LR	LR		09 26 43.5	
	comp=Z,67nm,18.3s,baz=145,slow=37							
KDAK	**Kodiak Island**	**68.61**	**32**	*c e*P	P	**P**	**08 54 56.7**	**+1.6**
BVAR	**Borovoye Array**	**69.58**	**323**	P	P	**P**	**08 55 01.4**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=108,slow=7.7,SNR=37							
BVAR					pP	**pP**	**08 55 14.9**	**-4.2**
	comp=Z,1.4nm,0.5s,baz=95,slow=9.1,SNR=4.8							
BVAR	**Borovoye Array**	**69.58**	**323**	P	P	**P**	**08 55 01.4**	**+0.1**
BVAR				**PP*	pP	**pP**	**08 55 14.9**	**-4.2**
BVAR	**Borovoye Array**	**69.58**	**323**	P	P	**P**	**08 55 01.4**	**+0.1**
BVAR					pP	**pP**	**08 55 14.9**	**-4.2**
BRVK	**Borovoye**	**69.64**	**323**	*c e*P	P	**P**	**08 55 02.1**	**+0.4**
BRVK					pmax	pmax		
	comp=Z,25nm,2.5s							
BRVK	**Borovoye**	**69.64**	**323**	*eP*	P	**P**	**08 55 02.0**	**+0.3**
	comp=Z,9.3nm,0.9s							
TRF	**Thorofare Moun**	**71.10**	**26**	*eP*	P	**P**	**08 55 09.7**	**-0.9**
	comp=Z,27nm,1.4s							
MCK	**McKinley**	**71.75**	**26**	*eP*	P	**P**	**08 55 14.8**	**+0.5**
MCK					pmax	pmax		
	comp=Z,16nm,1.0s							
MCK	**McKinley**	**71.75**	**26**	*eP*	P	**P**	**08 55 14.8**	**+0.5**
	comp=Z,16nm,1.0s							
COLD	**Coldfoot**	**72.09**	**22**	*eP*	P	**P**	**08 55 17.6**	**+1.4**
	comp=Z,30nm,1.2s							
COLD					*e*PP	**PP**	**08 57 54.7**	**-2.2**
COLA	**College**	**72.46**	**25**	*eP*	P	**P**	**08 55 18.6**	**+0.2**
COLA					pmax	pmax		
	comp=Z,4.0nm,0.6s							
COLA	**College**	**72.46**	**25**	*eP*	P	**P**	**08 55 18.6**	**+0.2**
	comp=Z,4.1nm,0.6s							
ILAR	**Eielson Array**	**72.84**	**25**	P	P	**P**	**08 55 20.5**	**-0.3**
	comp=Z,9.8nm,0.5s,baz=247,slow=5.9,SNR=328							
ILAR					LR	LR	09 26 09.4	
	comp=Z,53nm,18.9s,baz=61,slow=35							
ILAR	**Eielson Array**	**72.84**	**25**	P	P	**P**	**08 55 20.5**	**-0.3**
ILAR	**Eielson Array**	**72.84**	**25**	P	P	**P**	**08 55 20.5**	**-0.3**
PAX	**Paxson**	**73.14**	**27**	*eP*	P	**P**	**08 55 23.1**	**+0.5**
PAX					pmax	pmax		
	comp=Z,13nm,0.6s							
PAX	**Paxson**	**73.14**	**27**	*eP*	P	**P**	**08 55 23.1**	**+0.5**
	comp=Z,13nm,0.6s							
BMRM	**Bremner River**	**73.23**	**29**	*eP*	P	**P**	**08 55 23.1**	**-0.1**
	comp=Z,12nm,0.7s							
EGAK	**Eagle**	**75.27**	**26**	*eP*	P	**P**	**08 55 36.1**	**+1.2**
	comp=Z,34nm,1.9s							
ABKAR	**Akbulak array**	**75.83**	**318**	*eP*	P	**P**	**08 55 37.1**	**-1.3**
	comp=Z,3.0nm,0.6s							
YKA	**Yellowknife Ar**	**87.21**	**27**	P	P	**P**	**08 56 39.6**	**+1.4**
	comp=Z,7.3nm,0.7s,baz=288,slow=5.1,SNR=69							
YKA					pP	**pP**	**08 56 54.2**	**-2.5**
	comp=Z,1.7nm,0.6s,baz=288,slow=5.1,SNR=6.2							
YKA	**Yellowknife Ar**	**87.21**	**27**	P	P	**P**	**08 56 39.6**	**+1.4**
YKA				**PP*	pP	**pP**	**08 56 54.2**	**-2.5**
YKA	**Yellowknife Ar**	**87.21**	**27**	P	P	**P**	**08 56 39.6**	**+1.4**
YKA					pP	**pP**	**08 56 54.2**	**-2.5**
KEV	**Kevo**	**87.85**	**341**	*eP*	P	**P**	**08 56 40.9**	**-0.2**
KEV	**Kevo**	**87.85**	**341**	*ep*	P	**P**	**08 56 40.9**	**-0.2**
KEV	**Kevo**	**87.85**	**341**	*ep*	P	**P**	**08 56 40.9**	**-0.2**
RES	**Resolute Bay**	**88.18**	**13**	P	P	**P**	**08 56 43.2**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=276,slow=5.3,SNR=4.5							
RES	**Resolute Bay**	**88.18**	**13**	P	P	**P**	**08 56 43.2**	**+0.6**
RES	**Resolute Bay**	**88.18**	**13**	P	P	**P**	**08 56 43.2**	**+0.6**
ARCES	**ARCESS Array B**	**88.42**	**341**	P	P	**P**	**08 56 43.3**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=81,slow=7.5,SNR=12							
ARCES	**ARCESS Array B**	**88.42**	**341**	P	P		**08 56 43.3**	**-0.6**
ARCES	**ARCESS Array B**	**88.42**	**341**	P	P		**08 56 43.3**	**-0.6**
JOF	**Joensuu**	**89.04**	**334**	*eP*	P		**08 56 45.8**	**-1.0**
JOF	**Joensuu**	**89.04**	**334**	*ep*	P		**08 56 45.8**	**-1.0**
JOF	**Joensuu**	**89.04**	**334**	*ep*	P		**08 56 45.8**	**-1.0**
KAF	**Kangasniemi**	**91.49**	**335**	*eP*	P		**08 56 57.6**	**-0.7**
KAF	**Kangasniemi**	**91.49**	**335**	*ep*	P		**08 56 57.6**	**-0.7**
KAF	**Kangasniemi**	**91.49**	**335**	*ep*	P		**08 56 57.6**	**-0.7**
NVAR	**Mina Array Bea**	**91.88**	**50**	P	P		**08 57 03.4**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=256,slow=5.3,SNR=7.5							
NVAR	**Mina Array Bea**	**91.88**	**50**	P	P		**08 57 03.4**	**+2.4**
FINES	**FINESS Array B**	**91.89**	**334**	P	P		**08 56 58.8**	**-1.3**
	comp=Z,5.8nm,0.8s,baz=72,slow=6.6,SNR=14							
FINES	**FINESS Array B**	**91.89**	**334**	P	P		**08 56 58.8**	**-1.3**
FINES	**FINESS Array B**	**91.89**	**334**	P	P		**08 56 58.8**	**-1.3**

*IDC **11** 08:50:13.5±3.6,38°.60N×70°.76E,h0km,mb3.4/1,*
mb1 3.5/6,mb1mx3.3/30,mbtmp3.4/6,ML3.3/5,MS3.3/1,
Ms1 3.3/1,ms1mx2.6/25,Error ellipse: s-maj=46.1km
s-min=24.1km az=14.0
*NNC **11** 08:50:18.1±2.2,39°.13N×70°.35E,h0km,mb3.9,mpv3.7,*
Error ellipse: s-maj=16.0km s-min=11.4km az=11.0
ISC 11 08:50:16.5±2.3,38°.8N±0°.2×70°.30E±0°.09,h17km,n18,
σ1§38/28,7C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.23**	**37**	P		**Pn**	**08 51 22.3**	**+1.7**
	SNR=68							
AML				P		**Pn**	**08 51 22.3**	**+1.7**
	SNR=68							
KK31	**Karatay Array**	**4.32**	**2**	Pn		**Pn**	**08 51 23.4**	**+1.9**
	4.3nm,0.3s,baz=186,slow=13,SNR=98							
KK31				⇑Sn		**Sn**	**08 52 14.3**	**+2.9**
	43nm,0.7s							
KK31				⇑Lg		Lg	08 52 25.4	
	23nm,0.6s,baz=182,slow=26,SNR=8.0							
EKS2	**Erkin-Say**	**4.69**	**33**	P		**Pn**	**08 51 28.0**	**+1.3**
	SNR=9.7							
EKS2				P		**Pn**	**08 51 28.0**	**+1.3**
	SNR=9.7							
AAK	**Ala-Archa**	**4.99**	**38**	P		**Pn**	**08 51 31.9**	**+1.0**
	SNR=19							
AAK				P		**Pn**	**08 51 31.9**	**+1.0**
	SNR=19							
KZA	**Kyzart**	**5.01**	**47**	P		**Pn**	**08 51 31.8**	**+0.5**
	SNR=35							
KZA				P		**Pn**	**08 51 31.8**	**+0.5**
	SNR=35							
KBK	**Karagaybulak**	**5.24**	**41**	P		Pn	08 51 37.7	+3.5
	SNR=11							
KBK				P		Pn	08 51 37.7	+3.5
	SNR=11							
CHMS	**Chumysh**	**5.39**	**37**	P		**Pn**	**08 51 36.8**	**+0.6**
	SNR=15							
CHMS				P		**Pn**	**08 51 36.8**	**+0.6**
	SNR=15							
USP	**Ospenovka**	**5.49**	**34**	P		**Pn**	**08 51 37.4**	**-0.2**
	SNR=16							
USP				P		**Pn**	**08 51 37.4**	**-0.2**
	SNR=16							
TKM2	**Tokmak 2**	**5.76**	**42**	P		**Pn**	**08 51 41.0**	**-0.4**
	SNR=19							
TKM2				P		**Pn**	**08 51 41.0**	**-0.4**
	SNR=19							
TKM2	**Tokmak 2**	**5.76**	**42**	⇑Pn		**Pn**	**08 51 41.4**	**0.0**
	7.4nm,0.5s							
TKM2				⇑Sn		**Sn**	**08 52 46.4**	**-0.8**
	12nm,1.0s							
TKM2				⇑Lg		Lg	08 53 07.8	
	16nm,1.0s							
MKAR	**Makanchi Array**	**11.89**	**44**	Pn		**Pn**	**08 53 04.7**	**-0.6**
	0.1nm,0.3s,baz=231,slow=15,SNR=4.3							
AB31	**Akbulak array**	**12.84**	**328**	Pn		**Pn**	**08 53 18.0**	**-0.1**
	1.0nm,0.3s,baz=131,slow=14,SNR=60							
AB31				⇑Sn		**Sn**	**08 55 37.6**	**-2.9**
	2.7nm,0.6s,baz=147,slow=24,SNR=6.5							
KURK	**Kurchatov**	**13.30**	**24**	Pn		Pn	08 53 18.8	-5.6
	0.0nm,0.3s,baz=214,slow=12,SNR=5.7							
KURK				Lg		Lg	08 57 14.7	
	0.0nm,0.3s,baz=212,slow=28,SNR=4.3							
BVAR	**Borovoye Array**	**14.24**	**0**	Pn		**Pn**	**08 53 35.9**	**-1.4**
	0.2nm,0.3s,baz=161,slow=15,SNR=5.2							
BVAR				LR		LR	08 59 38.1	
	comp=Z,135nm,20.2s,baz=132,slow=39							
AKTO	**Aktyubinsk**	**14.54**	**327**	Pn		**Pn**	**08 53 43.0**	**+1.6**
	0.2nm,0.3s,baz=144,slow=16,SNR=3.2							
AKTO				Sn		**Sn**	**08 56 20.8**	**-1.3**
	0.1nm,0.3s,baz=205,slow=17,SNR=3.8							
AKTO	**Aktyubinsk**	**14.54**	**327**	⇑Pn		**Pn**	**08 53 42.0**	**+0.6**
	0.5nm,0.8s							
AKTO				⇓Sn		**Sn**	**08 56 21.0**	**-1.1**
	1.1nm,1.0s							
ZALV	**Zalesovo Beam**	**18.12**	**28**	P		**Pn**	**08 54 25.1**	**-2.1**
	0.4nm,0.3s,baz=218,slow=13,SNR=4.4							
YKA	**Yellowknife Ar**	**78.99**		2 P		**P**	**09 02 19.1**	**+0.2**
	0.1nm,0.4s,baz=350,slow=6.1,SNR=4.8							

*DDA **11** 09:15:01.3,37°.91N×29°.25E,h7km,MD2.5*
*ISK **11** 09:15:01.8,37°.87N×29°.37E,h9km,MD2.6*
*CSEM **11** 09:15:01.4±0.3,37°.86N×29°.37E,h5km,MD2.5,Error*
ellipse: s-maj=9.3km s-min=5.9km az=119.0
*ISCJB **11** 09:15:02.1±0.6,37°.90N±0°.03×29°.28E±0°.06,h15km±5km,*
Error ellipse: s-maj=8.1km s-min=4.9km az=15.3
ISC 11 09:15:01.4±1.0,37°.87N±0°.03×29°.31E±0°.04,h13km±9km,
n18,σ0§65/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.25**	**242**	*e*PG		**Pb**	**09 15 08.5**	**+0.7**
DENT				*e*SG		**Sb**	**09 15 12.6**	**+0.5**
DENT	**Denizli**	**0.25**	**242**	*e*Pg		**Pb**	**09 15 08.5**	**+0.7**
DENT				*e*Sg		**Sb**	**09 15 12.6**	**+0.5**
DNZL	**Cakiroluk**	**0.28**	**229**	*i* P		**Pg**	**09 15 06.8**	**-0.5**
DNZL				*i* S		**Sg**	**09 15 11.6**	**+0.3**
DNZL	**Cakiroluk**	**0.28**	**229**	*i* P		**Pg**	**09 15 06.8**	**-0.5**
DNZL				*i* S		**Sg**	**09 15 11.6**	**+0.3**
KHL	**Karahalli**	**0.48**	**20**	*e*PG		**Pg**	**09 15 11.1**	**+0.1**
KHL				*e*SG		**Sb**	**09 15 18.7**	**-0.2**
KHL	**Karahalli**	**0.48**	**20**	*e*Pg		**Pg**	**09 15 11.1**	**+0.1**
KHL				*e*Sg		**Sb**	**09 15 18.7**	**-0.2**
KHAL	**Karahalli**	**0.52**	**16**	*i* P		**Pg**	**09 15 11.0**	**-0.7**
KHAL				*i* S		**Sg**	**09 15 19.1**	**+0.4**
KHAL	**Karahalli**	**0.52**	**16**	*i* P		**Pg**	**09 15 11.0**	**-0.7**
KHAL				*i* S		**Sg**	**09 15 19.1**	**+0.4**
GOLH	**Golhisar**	**0.66**	**162**	*i* P		**Pg**	**09 15 13.7**	**-0.7**
GOLH				*i* S		**Sn**	**09 15 26.3**	**-0.7**
GOLH	**Golhisar**	**0.66**	**162**	*i* P		**Pg**	**09 15 13.7**	**-0.7**
KULA	**Kula-Manisa**	**0.82**	**322**	*e*PG		**Pb**	**09 15 18.5**	**+0.9**
KULA	**Kula-Manisa**	**0.82**	**322**	*e*Pg		**Pb**	**09 15 18.5**	**+0.9**
MANT	**Manisa**	**0.86**	**316**	*i* P		**Pg**	**09 15 17.2**	**-0.9**
MANT				*i* S		**Sg**	**09 15 28.2**	**-1.2**
MANT	**Manisa**	**0.86**	**316**	*i* P		**Pg**	**09 15 17.2**	**-0.9**
SHUT	**Suhut-Afyon**	**1.19**	**55**	*e*PN		**Pb**	**09 15 24.5**	**+0.5**
SHUT	**Suhut-Afyon**	**1.19**	**55**	*e*Pn		**Pb**	**09 15 24.5**	**+0.5**
ALT	**Altintas**	**1.34**	**28**	*e*PN		**Pb**	**09 15 26.9**	**+0.4**
ALT	**Altintas**	**1.34**	**28**	*e*Pn		**Pb**	**09 15 26.9**	**+0.4**

*ISCJB **11** 09:37:08.9±0.7,36°.99N±0°.04×28°.24E±0°.04,h3km±7km,*
Error ellipse: s-maj=6.4km s-min=4.5km az=21.6
*ISK **11** 09:37:08.2,37°.00N×28°.27E,h4km,MD2.7*
*DDA **11** 09:37:09.2,36°.99N×28°.19E,h7km,MD2.9*
*CSEM **11** 09:37:09.3±0.3,37°.02N×28°.24E,h8km,MD2.7,Error*
ellipse: s-maj=6.2km s-min=4.2km az=22.0
ISC 11 09:37:09.3±1.1,37°.02N±0°.03×28°.24E±0°.03,h6km±8km,
n28,σ1§02/46,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**15**	*e*PG		**Pg**	**09 37 11.2**	**-0.6**
YER				*e*SG		**Sg**	**09 37 14.7**	**+1.1**
YER	**Yerkesik**	**0.12**	**15**	*e*Pg		**Pg**	**09 37 11.3**	**-0.6**
YER				*e*Sg		**Sg**	**09 37 14.7**	**+1.1**
BODT	**Bodrum**	**0.75**	**274**	*e*PG		**Pg**	**09 37 23.9**	**+0.2**
BODT				*e*SG		**Sb**	**09 37 34.9**	**-0.4**
BODT	**Bodrum**	**0.75**	**274**	*e*Pg		**Pg**	**09 37 23.9**	**+0.2**
BODT				*e*Sg		**Sb**	**09 37 34.9**	**-0.4**
FETY	**Fethiye**	**0.78**	**119**	*e*PG		**Pg**	**09 37 23.2**	**-1.0**
FETY				*e*SG		**Sg**	**09 37 34.0**	**-0.3**
FETY	**Fethiye**	**0.78**	**119**	*e*Pg		**Pg**	**09 37 23.2**	**-1.0**
FETY				*e*Sg		**Sg**	**09 37 34.0**	**-0.3**
DNZL	**Cakiroluk**	**0.93**	**44**	*i* P		**Pg**	**09 37 27.3**	**+0.2**
DNZL				*i* S		**Sn**	**09 37 43.2**	**+0.4**
DNZL	**Cakiroluk**	**0.93**	**44**	*i* P		**Pg**	**09 37 27.3**	**+0.2**
DNZL				*i* S		**Sn**	**09 37 43.2**	**+0.4**
DENT	**Denizli**	**0.97**	**40**	*e*PG		**Pg**	**09 37 27.1**	**-0.8**
DENT	**Denizli**	**0.97**	**40**	*e*Pg		**Pg**	**09 37 27.1**	**-0.8**
GCAM	**G?zelcaml?**	**1.05**	**310**	*i* P		**Pg**	**09 37 29.1**	**-0.4**
GCAM				*i* S		**Sb**	**09 37 44.5**	**+0.5**
GCAM	**G?zelcaml?**	**1.05**	**310**	*i* P		**Pg**	**09 37 29.1**	**-0.4**
GCAM				*i* S		**Sb**	**09 37 44.5**	**+0.5**
GOLH	**Golhisar**	**1.07**	**78**	*i* P		**Pn**	**09 37 31.3**	**+0.2**
GOLH				*i* S		**Sn**	**09 37 46.0**	**-0.4**
GOLH	**Golhisar**	**1.07**	**78**	*i* P		**Pn**	**09 37 31.3**	**+0.2**
GOLH				*i* S		**Sn**	**09 37 46.0**	**-0.4**
AKAS	**Kas**	**1.35**	**125**	*i* P		**Pg**	**09 37 34.9**	**-0.3**
AKAS				*i* S		**Sn**	**09 37 56.1**	**+3.0**
AKAS	**Kas**	**1.35**	**125**	*i* P		**Pg**	**09 37 34.9**	**-0.3**
ELL	**Elmali**	**1.36**	**101**	*e*PN		**Pn**	**09 37 34.3**	**-0.7**
ELL	**Elmali**	**1.36**	**101**	*e*Pn		**Pn**	**09 37 34.3**	**-0.7**
MANT	**Manisa**	**1.49**	**10**	*i* P		**Pn**	**09 37 35.5**	**-1.4**
MANT				*i* S		**Sn**	**09 37 56.5**	**-0.3**
MANT	**Manisa**	**1.49**	**10**	*i* P		**Pn**	**09 37 35.5**	**-1.4**
MANT				*i* S		**Sn**	**09 37 56.5**	**-0.3**
KULA	**Kula-Manisa**	**1.53**	**12**	*e*PN		**Pn**	**09 37 37.5**	**+0.2**
KULA	**Kula-Manisa**	**1.53**	**12**	*e*Pn		**Pn**	**09 37 37.5**	**+0.2**
KHL	**Karahalli**	**1.65**	**38**	*e*PN		**Pn**	**09 37 39.4**	**+0.4**
KHL	**Karahalli**	**1.65**	**38**	*e*Pn		**Pn**	**09 37 39.4**	**+0.4**
KHAL	**Karahalli**	**1.67**	**36**	*i* P		**Pn**	**09 37 38.5**	**-0.8**
KHAL				*i* S		**Sn**	**09 38 01.7**	**+0.5**
KHAL	**Karahalli**	**1.67**	**36**	*i* P		**Pn**	**09 37 38.5**	**-0.8**
KHAL				*i* S		**Sn**	**09 38 01.7**	**+0.5**
KORT	**Korkueli**	**1.69**	**90**	*i* P		**Pb**	**09 37 40.1**	**-0.8**
KORT				*i* S		**Sg**	**09 38 07.8**	**+4.2**
KORT	**Korkueli**

	12nm,0.7s								
TXAR	**Lajitas Array**	**90.34**	**58**	P	**P**		**10 13 52.7**	**+0.3**	
	0.4nm,0.7s,baz=209,slow=6.5,SNR=6.8								
BRTR	**Keskin Array B**	**147.65**	**307**	PKPbc	**PKPab**		**10 20 36.2**	**-0.6**	
	0.7nm,0.6s,baz=37,slow=4.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**169.21**	**188**	PKPab	**PKPab**		**10 22 09.6**	**-0.6**	
	0.4nm,0.7s,baz=150,slow=2.1,SNR=3.2								

ISCJB ***11*** *10:50:03.5±0.2,37°.61N±0°.01×22°.61E±0°.02,h79km±2km, mb3.9/17, Error ellipse: s-maj=2.6km s-min=2.1km az=136.7*

IDC ***11*** *10:50:04.2±1.8,37°.57N×22°.63E,h73km±17km,mb3.7/16, mb1 3.7/22,mb1mx3.6/34,mbtmp3.6/22,Error ellipse: s-maj=16.4km s-min=12.8km az=140.0*

ATH ***11*** *10:50:04.0,37°.61N×22°.65E,h67km±1km,ML4.2*

THE ***11*** *10:50:04.8,37°.61N×22°.67E,h66km±1km,ML4.1/19, Error ellipse: s-maj=1.8km s-min=0.6km az=238.0*

PDG ***11*** *10:50:04.2±0.7,37°.63N×22°.62E,h72km±3km,ML4.3/8, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*

CSEM ***11*** *10:50:05.2±0.1,37°.61N×22°.62E,h60km,ML4.0,Mw3.8, Error ellipse: s-maj=2.3km s-min=1.8km az=43.0*

HLW ***11*** *10:50:05.9,37°.33N×22°.84E,h33km±17km,Md0.0,Ml3.6*

SKO ***11*** *10:50:22.1,38°.95N×23°.01E,h14km*

ISC 11 10:50:03.8±0.5, 37°.60N±0°.02×22°.63E±0°.02, h65km±4km, n353,σ1§41/454, mb4.0/17, 21C-25D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.31**	**221**	**P**		**Pn**		**10 50 15.5**	**+0.9**
VLX				S		**Sn**		**10 50 22.9**	**+0.4**
VLX	**Vlachokerasia**	**0.31**	**221**	⇓*iP*		**Pn**		**10 50 15.6**	**+0.9**
VLX				*eS*		**Sn**		**10 50 23.0**	**+0.4**
VLX	**Vlachokerasia**	**0.31**	**221**	⇓*iP*		**Pn**		**10 50 15.6**	**+0.9**
VLX				*eS*		**Sn**		**10 50 23.0**	**+0.4**
GUR	**Goura**	**0.41**	**325**	P		**Pn**		**10 50 16.4**	**+0.9**
GUR				S		**Sn**		**10 50 24.5**	**+0.4**
GUR	**Goura**	**0.41**	**325**	⇓*iP*		**Pn**		**10 50 16.4**	**+0.9**
GUR				*eS*		**Sn**		**10 50 24.4**	**+0.4**
GUR	**Goura**	**0.41**	**325**	P		**Pn**		**10 50 16.4**	**+0.9**
GUR				S		**Sn**		**10 50 23.8**	**-0.2**
DIDY	**Didyma**	**0.48**	**105**	P		**Pn**		**10 50 17.5**	**+1.4**
DIDY	**Didyma**	**0.48**	**105**	P		**Pn**		**10 50 17.5**	**+1.4**
DID	**Didima**	**0.49**	**101**	P		**Pn**		**10 50 16.9**	**+0.7**
DID				S		**Sn**		**10 50 26.3**	**+1.1**
DID	**Didima**	**0.49**	**101**	⇓*iP*		**Pn**		**10 50 16.9**	**+0.7**
DID				*eS*		**Sn**		**10 50 26.3**	**+1.1**
DID	**Didima**	**0.49**	**101**	P		**Pn**		**10 50 16.9**	**+0.7**
DID				S		**Sn**		**10 50 26.3**	**+1.1**
LTK	**Loutraki**	**0.50**	**32**	P		**Pn**		**10 50 17.1**	**+0.8**
LTK				S		**Sn**		**10 50 26.4**	**+1.1**
LTK	**Loutraki**	**0.50**	**32**	⇓*iP*		**Pn**		**10 50 17.2**	**+0.9**
LTK				*eS*		**Sn**		**10 50 26.4**	**+1.1**
LTK	**Loutraki**	**0.50**	**32**	P		**Pn**		**10 50 17.2**	**+0.9**
LTK				S		**Sn**		**10 50 26.4**	**+1.1**
NAIG	**Nisos Aigina**	**0.70**	**77**	⇓*iP*		**Pn**		**10 50 19.5**	**+1.1**
NAIG	**Nisos Aigina**	**0.70**	**77**	⇓*iP*		**Pn**		**10 50 19.5**	**+1.1**
ITM	**Ithomi**	**0.70**	**233**	P		**Pn**		**10 50 20.1**	**+1.6**
ITM				S		**Sn**		**10 50 31.6**	**+2.4**
ITM	**Ithomi**	**0.70**	**233**	*eP*		**Pn**		**10 50 20.2**	**+1.7**
ITM				*eS*		**Sn**		**10 50 32.0**	**+2.8**
ITM	**Ithomi**	**0.70**	**233**	P		**Pn**		**10 50 20.1**	**+1.6**
ITM				S		**Sn**		**10 50 31.6**	**+2.4**
VIL1	**Vilia, Western**	**0.79**	**44**	*eP*		**Pn**		**10 50 20.5**	**+1.0**
VIL1				*eS*		**Sn**		**10 50 32.8**	**+1.8**
VIL1	**Vilia, Western**	**0.79**	**44**	*eP*		**Pn**		**10 50 20.5**	**+1.0**
VIL1				*eS*		**Sn**		**10 50 32.8**	**+1.8**
DSF	**Desfina**	**0.81**	**354**	P		**Pn**		**10 50 20.6**	**+0.8**
DSF				S		**Sn**		**10 50 32.4**	**+0.8**
DSF	**Desfina**	**0.81**	**354**	P		**Pn**		**10 50 20.6**	**+0.8**
DSF				S		**Sn**		**10 50 32.4**	**+0.8**
LAKA	**Lakka**	**0.82**	**321**	P		**Pn**		**10 50 20.8**	**+0.9**
LAKA				S		**Sn**		**10 50 32.4**	**+0.6**
LAKA	**Lakka**	**0.82**	**321**	P		**Pn**		**10 50 20.8**	**+0.9**
LAKA				S		**Sn**		**10 50 32.4**	**+0.6**
DYR	**Agios Nikonas**	**0.87**	**196**	P		**Pn**		**10 50 22.1**	**+1.6**
DYR				S		**Sn**		**10 50 33.9**	**+1.1**
KALE	**Kalithea**	**0.88**	**334**	P		**Pn**		**10 50 21.2**	**+0.5**
KALE				S		**Sn**		**10 50 34.5**	**+1.4**
KALE	**Kalithea**	**0.88**	**334**	P		**Pn**		**10 50 21.2**	**+0.5**
KALE				S		**Sn**		**10 50 34.5**	**+1.4**
TRIZ	**Trizonia**	**0.88**	**330**	P		**Pn**		**10 50 21.4**	**+0.8**
TRIZ				S		**Sn**		**10 50 34.0**	**+1.0**
TRIZ	**Trizonia**	**0.88**	**330**	P		**Pn**		**10 50 21.4**	**+0.8**
TRIZ				S		**Sn**		**10 50 34.0**	**+1.0**
VLI	**Veliai**	**0.92**	**165**	P		**Pn**		**10 50 21.3**	**+0.3**
VLI				S		**Sn**		**10 50 33.4**	**-0.4**
VLI	**Veliai**	**0.92**	**165**	*eP*		**Pn**		**10 50 21.6**	**+0.6**
VLI	**Veliai**	**0.92**	**165**	*eP*		**Pn**		**10 50 21.6**	**+0.6**
VLI				S		**Sn**		**10 50 33.4**	**-0.4**
ATH	**Athens Observa**	**0.94**	**66**	P		**Pn**		**10 50 22.4**	**+1.1**
ATH				S		**Sn**		**10 50 35.6**	**+1.4**
ATH	**Athens Observa**	**0.94**	**66**	⇓*iP*		**Pn**		**10 50 22.4**	**+1.1**
ATH				*eS*		**Sn**		**10 50 35.5**	**+1.4**
ATH	**Athens Observa**	**0.94**	**66**	P		**Pn**		**10 50 22.4**	**+1.1**
ATH				*eS*		**Sn**		**10 50 35.5**	**+1.4**
UPR	**University Cam**	**0.95**	**316**	P		**Pn**		**10 50 22.6**	**+1.1**
UPR				S		**Sn**		**10 50 36.1**	**+1.5**
UPR	**University Cam**	**0.95**	**316**	*eP*		**Pn**		**10 50 22.6**	**+1.1**
UPR	**University Cam**	**0.95**	**316**	P		**Pn**		**10 50 22.4**	**+0.9**
UPR				S		**Sn**		**10 50 36.1**	**+1.5**
VLY	**Voula,Athens**	**0.95**	**74**	P		**Pn**		**10 50 22.5**	**+1.0**
VLY				S		**Sn**		**10 50 35.5**	**+0.9**
VLY	**Voula,Athens**	**0.95**	**74**	*eP*		**Pn**		**10 50 22.6**	**+1.0**
VLY				*eS*		**Sn**		**10 50 35.7**	**+1.1**
VLY	**Voula,Athens**	**0.95**	**74**	*eP*		**Pn**		**10 50 22.6**	**+1.0**
VLY				S		**Sn**		**10 50 35.5**	**+0.9**
PYL	**PYLOS**	**1.00**	**225**	P		**Pn**		**10 50 23.0**	**+0.9**
PYL				S		**Sn**		**10 50 36.6**	**+0.9**
PYL	**PYLOS**	**1.00**	**225**	*eP*		**Pn**		**10 50 23.0**	**+0.9**
PYL				*eS*		**Sn**		**10 50 37.9**	**+2.2**
PYL	**PYLOS**	**1.00**	**225**	P		**Pn**		**10 50 23.0**	**+0.9**
PYL				S		**Sn**		**10 50 36.6**	**+0.9**
EFP	**Efpalio**	**1.00**	**325**	P		**Pn**		**10 50 23.0**	**+0.9**
EFP				S		**Sn**		**10 50 36.7**	**+1.0**
EFP	**Efpalio**	**1.00**	**325**	*eP*		**Pn**		**10 50 23.0**	**+0.9**
EFP				*eS*		**Sn**		**10 50 37.3**	**+1.6**
EFP	**Efpalio**	**1.00**	**325**	P		**Pn**		**10 50 23.0**	**+0.9**
EFP				S		**Sn**		**10 50 36.1**	**+0.4**
RLS	**Riolos of Patr**	**1.03**	**297**	P		**Pn**		**10 50 23.7**	**+1.2**
RLS				S		**Sn**		**10 50 38.2**	**+1.9**
RLS	**Riolos of Patr**	**1.03**	**297**	*eP*		**Pn**		**10 50 23.9**	**+1.4**
RLS	**Riolos of Patr**	**1.03**	**297**	P		**Pn**		**10 50 23.7**	**+1.2**
RLS				S		**Sn**		**10 50 38.2**	**+1.9**
PTL	**Penteli**	**1.07**	**65**	P		**Pn**		**10 50 24.1**	**+1.0**
PTL				S		**Sn**		**10 50 38.2**	**+0.8**
PTL	**Penteli**	**1.07**	**65**	*eP*		**Pn**		**10 50 24.3**	**+1.2**
PTL				*eS*		**Sn**		**10 50 39.1**	**+1.7**
PTL	**Penteli**	**1.07**	**65**	P		**Pn**		**10 50 24.1**	**+1.0**
PTL				S		**Sn**		**10 50 38.2**	**+0.8**
LKR	**Lokris**	**1.09**	**15**	P		**Pn**		**10 50 24.3**	**+1.1**
LKR				S		**Sn**		**10 50 38.9**	**+1.3**
LKR	**Lokris**	**1.09**	**15**	*eP*		**Pn**		**10 50 24.3**	**+1.1**
LKR				*eS*		**Sn**		**10 50 39.0**	**+1.3**
LKR	**Lokris**	**1.09**	**15**	P		**Pn**		**10 50 24.3**	**+1.1**
LKR				S		**Sn**		**10 50 38.9**	**+1.3**
ATAL	**Atalanti**	**1.13**	**16**	P		**Pn**		**10 50 24.9**	**+1.1**
ATAL				S		**Sn**		**10 50 39.9**	**+1.2**
ATAL	**Atalanti**	**1.13**	**16**	P		**Pn**		**10 50 24.9**	**+1.1**
ATAL				S		**Sn**		**10 50 39.9**	**+1.2**
ERET	**Eretria**	**1.25**	**47**	P		**Pn**		**10 50 26.8**	**+1.4**
ERET				S		**Sn**		**10 50 43.1**	**+1.5**
ERET	**Eretria**	**1.25**	**47**	P		**Pn**		**10 50 26.8**	**+1.4**
ERET				S		**Sn**		**10 50 43.1**	**+1.5**
MRKA	**Markates**	**1.33**	**34**	P		**Pn**		**10 50 27.7**	**+1.2**
MRKA				S		**Sn**		**10 50 44.8**	**+1.3**
MRKA	**Markates**	**1.33**	**34**	P		**Pn**		**10 50 27.7**	**+1.2**
MRKA				S		**Sn**		**10 50 44.8**	**+1.3**
KYTH	**Kithira**	**1.36**	**166**	P		**Pn**		**10 50 29.6**	**+2.8**
KYTH	**Kithira**	**1.36**	**166**	*eP*		**Pn**		**10 50 28.9**	**+2.1**
KYTH	**Kithira**	**1.36**	**166**	*eP*		**Pn**		**10 50 28.9**	**+2.1**
AGG	**Agios Georgios**	**1.44**	**351**	P		**Pn**		**10 50 29.0**	**+1.1**
AGG				S		**Sn**		**10 50 47.9**	**+2.0**
AGG	**Agios Georgios**	**1.44**	**351**	*eP*		**Pn**		**10 50 29.0**	**+1.1**
AGG	**Agios Georgios**	**1.44**	**351**	P		**Pn**		**10 50 29.0**	**+1.1**
AGG				S		**Sn**		**10 50 47.9**	**+2.0**
MRMA	**Marmari**	**1.46**	**71**	P		**Pn**		**10 50 29.6**	**+1.5**
MRMA				S		**Sn**		**10 50 47.4**	**+1.1**
MRMA	**Marmari**	**1.46**	**71**	P		**Pn**		**10 50 29.6**	**+1.5**
MRMA				S		**Sn**		**10 50 47.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.46**	**345**	P		**Pn**		**10 50 28.8**	**+0.6**
MAKR				S		**Sn**		**10 50 48.2**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.46**	**345**	P		**Pn**		**10 50 28.8**	**+0.6**
MAKR				S		**Sn**		**10 50 48.2**	**+1.7**
EVR	**Evrytania**	**1.46**	**334**	P		**Pn**		**10 50 28.9**	**+0.6**
EVR	**Evrytania**	**1.46**	**334**	*eP*		**Pn**		**10 50 30.3**	**+2.0**
EVR	**Evrytania**	**1.46**	**334**	P		**Pn**		**10 50 28.9**	**+0.6**
KFL	**Anninata**	**1.55**	**290**	P		**Pn**		**10 50 31.2**	**+1.9**
KFL	**Anninata**	**1.55**	**290**	P		**Pn**		**10 50 31.2**	**+1.9**
SKIA	**Skiathos**	**1.69**	**22**	P		**Pn**		**10 50 32.6**	**+1.3**
SKIA				S		**Sn**		**10 50 52.5**	**+0.5**
SKIA	**Skiathos**	**1.69**	**22**	P		**Pn**		**10 50 32.6**	**+1.3**
SKIA				S		**Sn**		**10 50 52.5**	**+0.5**
VLS	**Valsamata**	**1.71**	**290**	P		**Pn**		**10 50 32.2**	**+0.7**
VLS	**Valsamata**	**1.71**	**290**	*eP*		**Pn**		**10 50 32.3**	**+0.7**
VLS	**Valsamata**	**1.71**	**290**	*eP*		**Pn**		**10 50 32.3**	**+0.7**
NEO	**Neokhori**	**1.76**	**15**	P		**Pn**		**10 50 33.2**	**+1.0**
NEO				S		**Sn**		**10 50 53.9**	**+0.2**
NEO	**Neokhori**	**1.76**	**15**	⇓*iP*		**Pn**		**10 50 33.3**	**+1.0**
NEO	**Neokhori**	**1.76**	**15**	⇓*iP*		**Pn**		**10 50 33.3**	**+1.0**
NEO				S		**Sn**		**10 50 53.9**	**+0.2**
XOR	**Xorichti**	**1.81**	**14**	P		**Pn**		**10 50 33.9**	**+1.0**
XOR				S		**Sn**		**10 50 55.3**	**+0.3**
XOR	**Xorichti**	**1.81**	**14**	P		**Pn**		**10 50 33.9**	**+1.0**
XOR				S		**Sn**		**10 50 55.3**	**+0.3**
AOS	**Alonnisos**	**1.85**	**32**	P		**Pn**		**10 50 34.1**	**+0.8**
AOS				S		**Sn**		**10 50 55.8**	**+0.1**
AOS	**Alonnisos**	**1.85**	**32**	P		**Pn**		**10 50 34.1**	**+0.8**
AOS				S		**Sn**		**10 50 55.8**	**+0.1**
LKD2	**Lefkada island**	**1.96**	**308**	P		**Pn**		**10 50 36.7**	**+1.9**
LKD2	**Lefkada island**	**1.96**	**308**	P		**Pn**		**10 50 36.7**	**+1.9**
THL	**Klokotos Trika**	**2.02**	**346**	P		**Pn**		**10 50 36.8**	**+1.2**
THL				S		**Sn**		**10 51 02.2**	**+2.4**
THL	**Klokotos Trika**	**2.02**	**346**	*eP*		**Pn**		**10 50 36.4**	**+0.8**
THL	**Klokotos Trika**	**2.02**	**346**	P		**Pn**		**10 50 36.8**	**+1.2**
THL				S		**Sn**		**10 51 02.2**	**+2.4**
APE	**Apeiranthos**	**2.37**	**102**	*ePN*		**Pn**		**10 50 41.0**	**+0.6**
APE	**Apeiranthos**	**2.37**	**102**	P		**Pn**		**10 50 41.4**	**+1.0**
APE				S		**Sn**		**10 51 08.5**	**0.0**
APE	**Apeiranthos**	**2.37**	**102**	*eP*		**Pn**		**10 50 41.5**	**+1.0**
APE	**Apeiranthos**	**2.37**	**102**	⇓*iP*		**Pn**		**10 50 41.3**	**+0.9**
APE	**Apeiranthos**	**2.37**	**102**	*ePn*		**Pn**		**10 50 41.0**	**+0.6**
APE	**Apeiranthos**	**2.37**	**102**	*eP*		**Pn**		**10 50 41.5**	**+1.0**
APE				S		**Sn**		**10 51 08.5**	**0.0**
MEV	**Metsovon**	**2.44**	**334**	P		**Pn**		**10 50 43.0**	**+1.5**
MEV	**Metsovon**	**2.44**	**334**	P		**Pn**		**10 50 43.0**	**+1.5**
PAIG	**Paliouri**	**2.46**	**19**	P		**Pn**		**10 50 42.3**	**+0.7**
PAIG				S		**Sn**		**10 51 11.9**	**+1.3**
PAIG	**Paliouri**	**2.46**	**19**	P		**Pn**		**10 50 42.3**	**+0.7**
PAIG				S		**Sn**		**10 51 11.9**	**+1.3**
THR5	**Thira Island,**	**2.47**	**118**	P		**Pn**		**10 50 42.9**	**+1.1**
THR5	**Thira Island,**	**2.47**	**118**	P		**Pn**		**10 50 42.9**	**+1.1**
RGA	**Parga**	**2.48**	**315**	P		**Pn**		**10 50 42.9**	**+1.0**
RGA	**Parga**	**2.48**	**315**	P		**Pn**		**10 50 42.9**	**+1.0**
JAN	**Janina**	**2.48**	**326**	P		**Pn**		**10 50 43.2**	**+1.3**
JAN	**Janina**	**2.48**	**326**	*eP*		**Pn**		**10 50 44.4**	**+2.5**
JAN	**Janina**	**2.48**	**326**	P		**Pn**		**10 50 43.2**	**+1.3**
VAM	**Vamos**	**2.53**	**150**	P		**Pn**		**10 50 43.5**	**+1.0**
VAM				S		**Sn**		**10 51 13.7**	**+1.4**
VAM	**Vamos**	**2.53**	**150**	*eP*		**Pn**		**10 50 43.6**	**+1.0**
VAM	**Vamos**	**2.53**	**150**	*eP*		**Pn**		**10 50 43.6**	**+1.0**
VAM				S		**Sn**		**10 51 13.7**	**+1.4**
THR6	**Thira Island,**	**2.54**	**118**	P		**Pn**		**10 50 44.0**	**+1.3**
THR6	**Thira Island,**	**2.54**	**118**	P		**Pn**		**10 50 44.0**	**+1.3**
IGT	**Igoumenitsa**	**2.64**	**318**	P		**Pn**		**10 50 45.4**	**+1.3**
IGT				S		**Sn**		**10 51 17.1**	**+2.1**
IGT	**Igoumenitsa**	**2.64**	**318**	P		**Pn**		**10 50 45.4**	**+1.3**
IGT				S		**Sn**		**10 51 17.1**	**+2.1**
KZN	**Kozani**	**2.78**	**346**	P		**Pn**		**10 50 47.4**	**+1.3**
KZN				S		**Sn**		**10 51 21.6**	**+3.0**
KZN	**Kozani**	**2.78**	**346**	*eP*		**Pn**		**10 50 48.4**	**+2.3**
KZN	**Kozani**	**2.78**	**346**	P		**Pn**		**10 50 47.4**	**+1.3**
KZN				S		**Sn**		**10 51 21.6**	**+3.0**
CHOS	**Chios island**	**2.81**	**73**	P		**Pn**		**10 50 48.0**	**+1.5**
CHOS				S		**Sn**		**10 51 19.8**	**+0.5**
CHOS	**Chios island**	**2.81**	**73**	*eP*		**Pn**		**10 50 48.1**	**+1.5**
CHOS	**Chios island**	**2.81**	**73**	P		**Pn**		**10 50 48.0**	**+1.5**
CHOS				S		**Sn**		**10 51 19.8**	**+0.5**
PLG	**Polygyros**	**2.84**	**13**	P		**Pn**		**10 50 47.6**	**+0.8**
PLG	**Polygyros**	**2.84**	**13**	*eP*		**Pn**		**10 50 47.6**	**+0.8**
PLG				*eS*		**Sn**		**10 51 18.8**	**-1.1**
PLG	**Polygyros**	**2.84**	**13**	P		**Pn**		**10 50 47.6**	**+0.8**
PLG				*eS*		**Sn**		**10 51 18.8**	**-1.1**
OUR	**Ouranopolis**	**2.92**	**21**	P		**Pn**		**10 50 48.8**	**+0.9**
OUR	**Ouranopolis**	**2.92**	**21**	P		**Pn**		**10 50 48.8**	**+0.9**
IDI	**Anoyia**	**2.94**	**141**	P		**Pn**		**10 50 48.2**	**0.0**
IDI	**Anoyia**	**2.94**	**141**	P		**Pn**		**10 50 48.2**	**0.0**
GVD	**Gavdhos**	**3.00**	**156**	P		**Pn**		**10 50 51.0**	**+2.0**
GVD	**Gavdhos**	**3.00**	**156**	*eP*		**Pn**		**10 50 51.0**	**+2.0**
GVD	**Gavdhos**	**3.00**	**156**	P		**Pn**		**10 50 51.0**	**+2.0**
HORT	**Hortiatis**	**3.01**	**7**	P		**Pn**		**10 50 49.9**	**+0.7**
HORT	**Hortiatis**	**3.01**	**7**	P		**Pn**		**10 50 49.9**	**+0.7**
THE	**Thessaloniki**	**3.04**	**5**	P		**Pn**		**10 50 49.8**	**+0.3**
THE	**Thessaloniki**	**3.04**	**5**	P		**Pn**		**10 50 49.8**	**+0.3**
LIA	**Limnos Island**	**3.04**	**40**	P		**Pn**		**10 50 50.2**	**+0.8**
LIA				S		**Sn**		**10 51 25.1**	**+0.5**
LIA	**Limnos Island**	**3.04**	**40**	*eP*		**Pn**		**10 50 50.2**	**+0.8**
LIA				*eS*		**Sn**		**10 51 25.2**	**+0.6**
LIA	**Limnos Island**	**3.04**	**40**	*eP*		**Pn**		**10 50 50.3**	**+0.8**
LIA				*eS*		**Sn**		**10 51 25.2**	**+0.6**
KEK	**Kerkira**	**3.06**	**314**	*eP*		**Pn**		**10 50 50.2**	**+0.4**
KEK	**Kerkira**	**3.06**	**314**	*eP*		**Pn**		**10 50 50.2**	**+0.4**
NEST	**Nestorio**	**3.07**	**337**	P		**Pn**		**10 50 52.4**	**+2.4**
NEST				S		**Sn**		**10 51 27.1**	**+1.5**
NEST	**Nestorio**	**3.07**	**337**	P		**Pn**		**10 50 52.4**	**+2.4**
NEST				S		**Sn**		**10 51 27.1**	**+1.5**
SIVA	**Sivas**	**3.12**	**145**	P		**Pn**		**10 50 52.4**	**+1.8**
SIVA	**Sivas**	**3.12**	**145**	*eP*		**Pn**		**10 50 52.2**	**+1.6**
SIVA	**Sivas**	**3.12**	**145**	*eP*		**Pn**		**10 50 52.3**	**+1.6**
URLA	**Izmir**	**3.22**	**75**	*iP*		**Pn**		**10 50 53.8**	**+1.8**
URLA	**Izmir**	**3.22**	**75**	*iP*		**Pn**		**10 50 53.8**	**+1.8**
SOH	**Sokhos**	**3.26**	**10**	P		**Pn**		**10 50 54.0**	**+1.4**
SOH	**Sokhos**	**3.26**	**10**	*eP*		**Pn**		**10 50 54.1**	**+1.4**
SOH				*eS*		**Sn**		**10 51 31.0**	**+0.7**
SOH	**Sokhos**	**3.26**	**10**	P		**Pn**		**10 50 54.0**	**+1.4**
SOH				*eS*		**Sn**		**10 51 31.0**	**+0.7**
FNA	**Florina**	**3.32**	**343**	P		**Pn**		**10 50 54.6**	**+1.1**
FNA				S		**Sn**		**10 51 35.0**	**+3.2**
FNA	**Florina**	**3.32**	**343**	P		**Pn**		**10 50 54.6**	**+1.1**
FNA				S		**Sn**		**10 51 35.0**	**+3.2**
SMG	**Samos**	**3.34**	**87**	⇓*iP*		**Pn**		**10 50 55.3**	**+1.7**
SMG	**Samos**	**3.34**	**87**	⇓*iP*		**Pn**		**10 50 55.3**	**+1.7**
NPS	**Neapolis**	**3.35**	**133**	P		**Pn**		**10 50 54.6**	**+0.8**
NPS				S		**Sn**		**10 51 34.0**	**+1.6**
NPS	**Neapolis**	**3.35**	**133**	*eP*		**Pn**		**10 50 54.4**	**+0.6**
NPS	**Neapolis**	**3.35**	**133**	P		**Pn**		**10 50 54.6**	**+0.8**
NPS				S		**Sn**		**10 51 34.0**	**+1.6**
GRG	**Griva**	**3.35**	**357**	P		**Pn**		**10 50 54.9**	**+1.0**
GRG	**Griva**	**3.35**	**357**	P		**Pn**		**10 50 54.9**	**+1.0**
BOZC	**Bozcaada**	**3.49**	**49**	*iP*		**Pn**		**10 50 56.3**	**+0.7**
BIA	**Bitola**	**3.56**	**344**	*ePn*		**Pn**		**10 51 00.9**	**+4.2**
BIA				*eSn*		**Sn**		**10 51 30.9**	**-6.6**
BIA	**Bitola**	**3.56**	**344**	*ePn*		**Pn**		**10 51 00.9**	**+4.2**
KNT	**Kendrikon**	**3.56**	**3**	P		**Pn**		**10 50 58.2**	**+1.6**
KNT	**Kendrikon**	**3.56**	**3**	P		**Pn**		**10 50 58.2**	**+1.6**
SRS	**Serrai**	**3.59**	**12**	P		**Pn**		**10 50 58.0**	**+1.0**
SRS	**Serrai**	**3.59**	**12**	P		**Pn**		**10 50 58.0**	**+1.0**
EZN	**Ezine**	**3.64**	**51**	*ePN*		**Pn**		**10 50 59.0**	**+1.3**
EZN	**Ezine**	**3.64**	**51**	*ePn*		**Pn**		**10 50 59.0**	**+1.3**
GCAM	**G?zelcaml?**	**3.65**	**87**	*iP*		**Pn**		**10 50 59.4**	**+1.6**
GCAM	**G?zelcaml?**	**3.65**	**87**	*iP*		**Pn**		**10 50 59.4**	**+1.6**
KAVA	**Kavala**	**3.69**	**23**	P		**Pn**		**10 50 58.9**	**+0.5**
KAVA				S		**Sn**		**10 51 40.4**	**-0.2**
KAVA	**Kavala**	**3.69**	**23**	P		**Pn**		**10 50 58.9**	**+0.5**
KAVA				S		**Sn**		**10 51 40.4**	**-0.2**
VAY	**Valandovo**	**3.71**	**359**	*ePn*		**Pn**		**10 50 59.8**	**+1.1**
VAY				*eSg*		**Sn**		**10 51 38.5**	**-2.8**
VAY	**Valandovo**	**3.71**	**359**	*ePn*		**Pn**		**10 51 00.2**	**+1.5**
VAY				*eSg*		**Sn**		**10 51 38.9**	**-2.3**
IZM	**Izmir**	**3.74**	**76**	*ePN*		**Pn**		**10 51 00.9**	**+1.8**
IZM	**Izmir**	**3.74**	**76**	*ePn*		**Pn**		**10 51 00.9**	**+1.8**
BODT	**Bodrum**	**3.77**	**97**	*ePN*		**Pn**		**10 51 01.1**	**+1.6**
BODT	**Bodrum**	**3.77**	**97**	*ePn*		**Pn**		**10 51 01.1**	**+1.6**
NVR	**Nevrokopi**	**3.86**	**14**	P		**Pn**		**10 51 01.8**	**+1.0**
NVR				S		**Sn**		**10 51 45.4**	**+0.5**
NVR	**Nevrokopi**	**3.86**	**14**	*eP*		**Pn**		**10 51 01.8**	**+1.0**
NVR	**Nevrokopi**	**3.86**	**14**	P		**Pn**		**10 51 01.8**	**+1.0**
NVR				S		**Sn**		**10 51 45.4**	**+0.5**
KRUS	**Krusevo**	**3.91**	**345**	*ePn*		**Pn**		**10 51 07.7**	**+6.1**
GELI	**Tayfur-Gelibol**	**4.09**	**46**	*ePn*		**Pn**		**10 51 04.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**4.09**	**46**	*ePn*		**Pn**		**10 51 04.3**	**+0.4**
ENEZ	**Enez**	**4.16**	**40**	*ePN*		**Pn**		**10 51 04.3**	**-0.4**
ENEZ	**Enez**	**4.16**	**40**	*ePn*		**Pn**		**10 51 04.3**	**-0.4**
KARP	**Karpathos**	**4.18**	**118**	*eP*		**Pn**		**10 51 07.8**	**+2.6**
KARP	**Karpathos**	**4.18**	**118**	*eP*		**Pn**		**10 51 07.8**	**+2.6**
RDO	**Rodhopi**	**4.19**	**32**	P		**Pn**		**10 51 05.9**	**+0.6**
RDO				S		**Sn**		**10 51 53.8**	**+0.8**
RDO	**Rodhopi**	**4.19**	**32**	*eP*		**Pn**		**10 51 05.9**	**+0.6**
RDO	**Rodhopi**	**4.19**	**32**	P		**Pn**		**10 51 05.9**	**+0.6**
RDO				S		**Sn**		**10 51 53.8**	**+0.8**
ALN	**Alexandroupoli**	**4.22**	**38**	P		**Pn**		**10 51 06.4**	**+0.7**
ALN				S		**Sn**		**10 51 53.5**	**-0.2**
ALN	**Alexandroupoli**	**4.22**	**38**	*eP*		**Pn**		**10 51 06.3**	**+0.6**
ALN	**Alexandroupoli**	**4.22**	**38**	P		**Pn**		**10 51 06.4**	**+0.7**
ALN				S		**Sn**		**10 51 53.5**	**-0.

HSAF	**As Saff**	**10.89**	**134**	P		**Pn**	**10 52 34.6**	**-2.3**
GLL	**Jalalah**	**11.01**	**134**	P		**Pn**	**10 52 35.8**	**-2.7**
MMAI	**Mount Meron Ar**	**11.39**	**110**	P		**Pn**	**10 52 43.2**	**-0.5**
	1.6nm,0.3s,baz=307,slow=11,SNR=3.8							
MMAI				S		Sn	10 54 43.2	-6.2
	1.7nm,0.3s,baz=316,slow=25,SNR=3.4							
HFRF	**Wahat Farafira**	**11.47**	**154**	P		Pn	10 52 41.5	-3.3
SUZ		**11.48**	**129**	P		**Pn**	**10 52 42.7**	**-2.3**
ZNM		**11.84**	**131**	P		**Pn**	**10 52 47.4**	**-2.5**
HNKL	**Nakhl**	**12.15**	**126**	P		**Pn**	**10 52 52.1**	**-1.9**
HNKL				S		Sn	10 54 53.3	-14
EIL	**Elat**	**12.95**	**124**	P		**Pn**	**10 53 04.8**	**-0.2**
	0.7nm,0.3s,baz=85,slow=2.2,SNR=4.4							
EIL				S		Sn	10 55 14.0	-13
	0.5nm,0.3s,baz=322,slow=19,SNR=3.6							
GERES	**GERESS Array B**	**12.98**	**333**	P		**Pn**	**10 53 05.6**	**+0.3**
	0.2nm,0.3s,baz=169,slow=15,SNR=5.7							
AKASG	**Malin Array Be**	**13.91**	**18**	P		**Pn**	**10 53 18.1**	**+0.3**
	0.6nm,0.3s,baz=214,slow=12,SNR=3.9							
CABF	**La Chapelle**	**15.20**	**312**	*e*P		**Pn**	**10 53 32.4**	**-2.2**
CLL	**Collm**	**15.31**	**337**	*i* PP		**P**	**10 53 40.8**	**+1.5**
	comp=Z,5.0nm,0.9s							
SSF	**Saint Saulge**	**16.97**	**310**	*e*P		**Pn**	**10 53 53.9**	**-2.9**
	comp=Z,23nm,1.2s							
LDF	**La Druitiere**	**19.84**	**311**	*e*P		**P**	**10 54 28.6**	**-0.6**
	comp=Z,9.4nm,0.5s							
FLN	**La Foliniere**	**20.13**	**311**	*e*P		**P**	**10 54 31.9**	**-0.4**
	comp=Z,6.6nm,0.4s							
GRR	**Gorron**	**20.20**	**310**	*e*P		**P**	**10 54 33.1**	**0.0**
	comp=Z,6.4nm,0.4s							
ESDC	**Sonseca Array**	**20.86**	**284**	P		**P**	**10 54 40.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=76,slow=9.6,SNR=4.7							
ESDC				pP		**pP**	**10 54 55.3**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=79,slow=10,SNR=5.1							
NAY	**Al-Naaiem**	**22.12**	**105**	*e*P		**P**	**10 54 53.3**	**-0.6**
NAY				AMb		AMB	10 54 55.8	
	comp=Z,20nm,0.5s							
NAY	**Al-Naaiem**	**22.12**	**105**	*e*P		**P**	**10 54 53.3**	**-0.6**
	comp=Z,20nm,0.5s							
HFS	**Hagfors**	**23.26**	**349**	P		**P**	**10 55 04.3**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=158,slow=9.8,SNR=19							
FINES	**FINESS Array B**	**23.96**	**4**	P		**P**	**10 55 10.9**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=169,slow=9.0,SNR=9.0							
NOA	**NORSAR Array B**	**24.54**	**347**	P		**P**	**10 55 16.9**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=160,slow=10,SNR=6.7							
KAF	**Kangasniemi**	**24.64**	**4**	*e*p		**P**	**10 55 20.9**	**+3.0**
KAF	**Kangasniemi**	**24.64**	**4**	*e*p		**P**	**10 55 20.9**	**+3.0**
KAF	**Kangasniemi**	**24.64**	**4**	*e*P		**P**	**10 55 20.9**	**+3.0**
JOF	**Joensuu**	**25.90**	**9**	*e*p		**P**	**10 55 28.1**	**-1.2**
	comp=Z,1.8nm,0.3s							
JOF	**Joensuu**	**25.90**	**9**	*e*p		**P**	**10 55 28.1**	**-1.2**
	comp=Z,1.8nm,0.3s							
AKTO	**Aktyubinsk**	**28.21**	**52**	P		**P**	**10 55 50.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=246,slow=18,SNR=3.9							
TORD	**Torodi Ar. Bea**	**30.69**	**223**	P		**P**	**10 56 12.1**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=32,slow=9.3,SNR=23							
ARCES	**ARCESS Array B**	**32.03**	**2**	P		**P**	**10 56 23.2**	**-0.5**
	comp=Z,3.9nm,1.0s,baz=184,slow=12,SNR=5.9							
DBIC	**Dimbokro**	**39.65**	**226**	P		**P**	**10 57 28.8**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=3.7,slow=8.8,SNR=12							
SPITS	**Spitsbergen Ar**	**40.77**	**358**	P		**P**	**10 57 38.5**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=210,slow=9.3,SNR=5.5							
MKAR	**Makanchi Array**	**44.18**	**58**	P		**P**	**10 58 05.7**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=276,slow=8.0,SNR=26							
MKAR				ScP		**ScP**	**11 03 34.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=271,slow=3.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**44.83**	**48**	P		**P**	**10 58 10.8**	**-0.4**
	comp=Z,5.4nm,0.4s,baz=271,slow=10,SNR=20							
ZALV				pP		**pP**	**10 58 27.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=274,slow=8.8,SNR=3.6							
SONM	**Songino Array**	**59.53**	**51**	P		**P**	**10 59 59.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=283,slow=8.0,SNR=4.4							
SCHQ	**Schefferville**	**60.01**	**318**	P		**P**	**11 00 03.2**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=55,slow=12,SNR=6.4							
INK	**Inuvik**	**72.90**	**351**	P		**P**	**11 01 25.2**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=51,slow=6.5,SNR=3.6							
YKA	**Yellowknife Ar**	**74.49**	**341**	P		**P**	**11 01 34.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=34,slow=5.1,SNR=6.2							
ILAR	**Eielson Array**	**77.63**	**355**	P		**P**	**11 01 52.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=334,slow=2.9,SNR=5.8							

IDC 11 10:53:32.0±7.2, 19.92S×68.95W, h122km±49km, mb3.3/2, mb1 3.4/4, mb1mx3.2/16, mbtmp3.2/4, Error ellipse: s-maj=68.9km s-min=33.8km az=43.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**3.70**	**12**	P		Pn	10 54 28.3	-0.1
	1.7nm,0.3s,baz=190,slow=7.5,SNR=32							
LPAZ				S		Sn	10 55 12.2	+0.2
	baz=255,slow=22,SNR=1.9							
SIV	**San Ignacio**	**8.46**	**64**	P		Pn	10 55 31.5	-0.3
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P		P	11 05 11.2	0.0
	0.2nm,0.5s,baz=242,slow=6.8,SNR=2.7							
YKA	**Yellowknife Ar**	**89.69**	**341**	P		P	11 06 15.3	-0.5
	0.6nm,0.6s,baz=133,slow=5.0,SNR=13							
SONM	**Songino Array**	**151.90**	**7**	PKPbc		PKPbc	11 13 12.9	+0.2
	0.3nm,0.6s,baz=283,slow=2.5,SNR=3.0							

BJI ***11*** *10:53:51.8, 51˚40N×15˚50E, h10km, mB5.4/11, mb4.7/17, Ms5.0/9, Ms7 4.6/9*

ISCJB ***11*** *10:53:54.3±0.1, 51˚470N±0˚010×16˚04E±0˚02, h0km, mb4.6/44, MS4.6/3, Error ellipse: s-maj=1.4km s-min=1.3km az=140.9*

LDG ***11*** *10:53:54.6±0.1, 51˚56N×16˚21E, h1km, Ml4.9/35, Error ellipse: s-maj=2.7km s-min=1.7km az=164.0, Suspected Mining induced.*

MOS ***11*** *10:53:55.1±1.0, 51˚55N×16˚04E, h10km, mb4.5/19, Error ellipse: s-maj=5.6km s-min=3.6km az=89.5*

CSEM ***11*** *10:53:55.4±0.1, 51˚55N×16˚07E, h2km, ML4.6/10, Ms4.6, Error ellipse: s-maj=2.5km s-min=1.8km az=10.0*

IDC ***11*** *10:53:56.0±0.5, 51˚52N×16˚00E, h0km, mb4.2/13, mb1 4.3/22, mb1mx4.2/32, mbtmp4.1/22, ML4.1/9, MS2.9/1, Ms1 2.9/1, ms1mx2.4/47, Error ellipse: s-maj=9.2km s-min=6.3km az=99.0*

BGR ***11*** *10:53:56.4±0.3, 51˚52N×16˚12E, h1km, ML4.3/16, Error ellipse: s-maj=3.3km s-min=2.2km az=17.0*

PRU ***11*** *10:53:56.9, 51˚51N×16˚08E, h0km, M4.7, Felt In Ponikla*

NEIC ***11*** *10:53:56.4, 51˚52N×16˚12E, h1km, mb4.7/18, ML4.3(SZGRF), After SZGRF.*

IPEC ***11*** *10:53:56.5±0.2, 51˚54N×16˚13E, h9km±1km, ML3.7/3, Error ellipse: s-maj=1.3km s-min=0.6km az=41.0*

BNS ***11*** *10:53:57.4±0.5, 51˚54N×16˚08E, h5km, ML3.9*

VIE ***11*** *10:53:58.6±0.5, 51˚31N×16˚02E, h0km, mb3.8/12, ML3.9/12, Ms4.6/2, Error ellipse: s-maj=2.9km s-min=2.1km az=176.0 73 km WNW of Wroclaw Suspected Mining induced.*

WAR ***11*** *10:53:58.5, 51˚44N×16˚20E*

UPP ***11*** *10:54:01.5, 51˚91N×15˚43E, h0km, ML3.3, Suspected Mining explosion.*

ISC 11 10:53:55.1±0.3, 51˚53N±0˚02×16˚10E±0˚02, h0km, n595, σ1s49/891, mb4.6/44, MS4.7/3, 169C-152D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg		**Pb**	**10 54 09.8**	**-0.4**
KSP				*e*Sg		**Sb**	**10 54 19.2**	**-1.0**
KSP	**Ksiaz**	**0.70**	**170**	*i* Pg		**Pb**	**10 54 09.9**	**-0.2**
KSP				*e*Sg		**Sb**	**10 54 19.1**	**-1.1**
KSP				*e*L		L	10 54 23.7	
KSP	**Ksiaz**	**0.70**	**170**	⇓*i*P		**Pb**	**10 54 09.9**	**-0.2**
KSP				*i*			10 54 19.2	
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg		**Pb**	**10 54 09.7**	**-0.4**
	SNR=623							
KSP				*e*Sg		**Sb**	**10 54 19.2**	**-1.0**
KSP	**Ksiaz**	**0.70**	**170**	Pg		**Pb**	**10 54 09.7**	**-0.4**
	SNR=623							
KSP				Sg		**Sb**	**10 54 19.2**	**-1.0**
UPC	**Upice**	**1.02**	**183**	*e*P		**Pb**	**10 54 15.9**	**+0.2**
UPC	**Upice**	**1.02**	**183**	*e*PG		**Pb**	**10 54 15.9**	**+0.2**
UPC	**Upice**	**1.02**	**183**	Pg		**Pb**	**10 54 15.9**	**+0.2**
UPC				*e*Sg		**Sb**	**10 54 30.3**	**+0.6**
	baz=3,9							
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*P		**Pb**	**10 54 18.7**	**+0.2**
DPC				*e*			10 54 33.3	
DPC				MLR		MLR		
	comp=Z,7μm,2.6s							
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*Pg		**Pb**	**10 54 18.7**	**+0.2**
	SNR=828							
DPC				*e*Sg		**Sb**	**10 54 34.2**	**-0.2**
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG		**Pb**	**10 54 18.7**	**+0.2**
DPC				*e*SG		**Sg**	**10 54 33.3**	**+0.1**
DPC				AMS		AMS	10 54 50.0	
	comp=Z,7μm,2.6s							
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*P		**Pb**	**10 54 18.7**	**+0.2**
	comp=Z,7μm,2.6s							
DPC				Sg		**Sb**	**10 54 34.2**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**225**	*e*P		**Pb**	**10 54 22.3**	**+0.4**
PVCC				*e*			10 54 42.0	
PVCC				smax		smax		
	comp=N,3μm,0.3s							
PVCC				MLR		MLR		
	comp=Z,5μm,4.2s							
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG		**Pb**	**10 54 22.3**	**+0.4**
PVCC				*e*SG		**Sn**	**10 54 42.0**	**+1.2**
	comp=Z,3μm,0.3s							
PVCC				AMS		AMS	10 54 50.0	
	comp=Z,5μm,4.2s							
PVCC	**Panska Ves**	**1.39**	**225**	Pg		**Pb**	**10 54 22.3**	**+0.4**
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pn		**Pb**	**10 54 22.6**	**+0.7**
	baz=44							
PVCC				*e*Sg		**Sn**	**10 54 41.7**	**+0.9**
	baz=44							
BRG	**Berggiesshubel**	**1.51**	**245**	PN		**Pn**	**10 54 23.2**	**-0.1**
BRG				PG		**Pg**	**10 54 25.2**	**+1.3**
BRG				SG		**Sn**	**10 54 45.2**	**+1.5**
	comp=Z,3μm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**245**	P		**Pn**	**10 54 23.2**	**-0.1**
BRG							10 54 45.2	
BRG				smax		smax		
	comp=N,3μm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pn		**Pn**	**10 54 23.3**	**-0.1**
	SNR=3.8							
BRG				*e*Pg		**Pg**	**10 54 24.8**	**+0.9**
	SNR=180							
BRG				*e*Sg		**Sn**	**10 54 44.8**	**+1.1**
BRG	**Berggiesshubel**	**1.51**	**245**	Pn		**Pn**	**10 54 23.3**	**-0.1**
	SNR=3.8							
BRG	**Berggiesshubel**	**1.51**	**245**	Pg		**Pg**	**10 54 24.8**	**+0.9**
	SNR=180							
BRG				Sg		**Sn**	**10 54 44.8**	**+1.1**
BRG				S		**Sn**	**10 54 45.2**	**+1.5**
	comp=N,3μm,0.4s							
KRLC	**Kraliky**	**1.52**	**163**	*e*PG		**Pb**	**10 54 24.0**	**-0.1**
KRLC	**Kraliky**	**1.52**	**163**	Pg		**Pb**	**10 54 24.0**	**-0.1**
RUE	**Ruedersdorf**	**1.72**	**304**	*e*Pn		**Pn**	**10 54 25.9**	**-0.3**
RUE				*e*Sn		**Sg**	**10 54 52.1**	**+1.8**
RUE	**Ruedersdorf**	**1.72**	**304**	*e*Pn		**Pn**	**10 54 25.9**	**-0.3**
	baz=122							
RUE				*e*Sg		**Sb**	**10 54 51.1**	**+1.4**
	baz=122							
RUE				*e*Sn		**Sg**	**10 54 52.1**	**+1.8**
FBE	**Freiberg**	**1.83**	**252**	*e*Pn		**Pn**	**10 54 27.7**	**-0.1**
	SNR=7.5							
FBE				*e*Pg		**Pg**	**10 54 31.0**	**+0.9**
	SNR=88							
FBE				*e*Sg		**Sg**	**10 54 54.5**	**+0.7**
FBE	**Freiberg**	**1.83**	**252**	Pn		**Pn**	**10 54 27.7**	**-0.1**
	SNR=7.5							
FBE	**Freiberg**	**1.83**	**252**	Pg		**Pg**	**10 54 31.0**	**+0.9**
	SNR=88							
FBE				Sg		**Sg**	**10 54 54.5**	**+0.7**
PRU	**Pruhonice**	**1.83**	**213**	*e*P		**Pn**	**10 54 28.1**	**+0.3**
PRU				*e*			10 54 54.5	
PRU				smax		smax		
	comp=N,710nm,0.4s							
PRU				MLR		MLR		
	comp=Z,3μm,5.4s							
PRU	**Pruhonice**	**1.83**	**213**	*e*PN		**Pn**	**10 54 28.1**	**+0.3**
PRU				*e*PG		**Pg**	**10 54 30.3**	**+0.1**
PRU				*e*SG		**Sg**	**10 54 54.5**	**+0.6**
	comp=Z,710nm,0.4s							
PRU				AMS		AMS	10 55 00.0	
	comp=Z,3μm,5.4s							
PRU	**Pruhonice**	**1.83**	**213**	*e*Pn		**Pn**	**10 54 28.0**	**+0.3**
	baz=32							
PRU	**Pruhonice**	**1.83**	**213**	Pg		**Pg**	**10 54 30.3**	**+0.1**
PRU				*e*Sg		**Sb**	**10 54 53.7**	**+0.8**
	baz=32							
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*Pn		**Pb**	**10 54 29.7**	**-0.5**
GKP				*e*Pg		**Pg**	**10 54 33.0**	**+2.0**
GKP				*e*			10 54 36.1	
GKP				*e*Sg		**Sg**	**10 54 59.4**	**+4.0**
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*P		**Pb**	**10 54 29.7**	**-0.5**
GKP				*e*			10 54 59.4	
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*P		**Pb**	**10 54 29.7**	**-0.5**
CLL	**Collm**	**1.95**	**265**	*i* P		**Pn**	**10 54 29.1**	**-0.3**
CLL				*i*			10 54 59.0	
CLL				pmax		pmax		
	comp=Z,113nm,0.5s							
CLL	**Collm**	**1.95**	**265**	*e*Pn		**Pn**	**10 54 29.1**	**-0.3**
	SNR=114							
CLL				*e*Pg		**Pg**	**10 54 32.8**	**+0.4**
	SNR=3.9							
CLL				*e*Sg		**Sg**	**10 54 58.8**	**+1.1**
CLL	**Collm**	**1.95**	**265**	*i* Pn		**Pn**	**10 54 29.1**	**-0.3**
	comp=Z,113nm,0.5s							
CLL				*i*			10 54 30.8	
CLL				*i* Pg		**Pg**	**10 54 32.8**	**+0.4**
CLL				*i*			10 54 33.9	
CLL				*i*			10 54 36.7	
CLL				*i* Sg		**Sg**	**10 54 59.0**	**+1.3**
	comp=Z,1μm,0.9s							
CLL	**Collm**	**1.95**	**265**	Pn		**Pn**	**10 54 29.1**	**-0.3**
	SNR=114							
RAC	**Raciborz**	**1.96**	**137**	*e*Pn		**Pn**	**10 54 29.2**	**-0.4**
RAC				*e*Pg		**Pg**	**10 54 33.5**	**+0.8**
RAC				*e*Sg		**Sg**	**10 54 59.7**	**+1.6**
RAC	**Raciborz**	**1.96**	**137**	*e*P		**Pn**	**10 54 29.2**	**-0.4**
RAC				*e*			10 54 59.7	
RAC	**Raciborz**	**1.96**	**137**	*e*P		**Pn**	**10 54 29.2**	**-0.4**
RAC	**Raciborz**	**1.96**	**137**	*e*Pg		**Pg**	**10 54 33.5**	**+0.8**
RAC				*e*S		**Sg**	**10 54 59.7**	**+1.6**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓P		**Pn**	**10 54 30.1**	**+0.2**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn		**Pn**	**10 54 30.2**	**+0.2**
	SNR=168							
MORC				*e*Sg		**Sb**	**10 54 57.1**	**-0.1**
MORC				*e*S		**Sg**	**10 54 58.0**	**-0.6**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓*i*P		**Pn**	**10 54 30.1**	**+0.2**
MORC	**Moravsky Berou**	**1.98**	**152**	Pn		**Pn**	**10 54 30.2**	**+0.3**
	SNR=168							
MORC				Sg		**Sb**	**10 54 57.1**	**-0.1**
MORC				S		**Sg**	**10 54 58.0**	**-0.6**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*P		**Pn**	**10 54 31.6**	**-0.3**
OKC				*e*			10 55 03.5	
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn		**Pn**	**10 54 31.7**	**-0.2**
	SNR=16							
OKC				*e*Pg		**Pg**	**10 54 36.6**	**+0.6**
	SNR=11							
OKC				*e*Sg		**Sg**	**10 55 03.8**	**+0.2**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PN		**Pn**	**10 54 31.6**	**-0.3**
OKC				*e*PG		**Pg**	**10 54 36.6**	**+0.6**
OKC				*e*SG		**Sg**	**10 55 03.5**	**-0.1**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pn		**Pn**	**10 54 31.7**	**-0.2**
	SNR=16							
VRAC	**Vranov**	**2.25**	**172**	Pn		**Pn**	**10 54 34.5**	**+1.0**
	comp=Z,18nm,0.3s,baz=344,slow=16,SNR=132							
VRAC				Lg		Lg	10 55 06.8	
	comp=Z,67nm,0.3s,baz=58,slow=21,SNR=12							
VRAC				LR		LR	10 55 23.6	
	comp=Z,253nm,19.0s,baz=343,slow=39							
VRAC	**Vranov**	**2.25**	**172**	⇓P		**Pn**	**10 54 34.5**	**+1.0**
VRAC	**Vranov**	**2.25**	**172**	Pn		**Pn**	**10 54 34.5**	**+1.0**
VRAC				Lg		Lg	10 55 06.8	
VRAC	**Vranov**	**2.25**	**172**	⇓*i*P		**Pn**	**10 54 34.5**	**+1.0**
VRAC	**Vranov**	**2.25**	**172**	*e*Pn		**Pn**	**10 54 34.3**	**+0.8**
VRAC				*e*Sg		**Sg**	**10 55 06.1**	**-1.1**
VRAC				Lg		Lg	10 55 06.8	
TREC	**Trest**	**2.27**	**190**	*e*P		**Pg**	**10 54 38.4**	**-0.2**
TREC				*e*			10 55 08.2	
TREC				smax		smax		
	comp=N,859nm,0.9s							
TREC	**Trest**	**2.27**	**190**	*e*PG		**Pg**	**10 54 38.4**	**-0.2**
TREC				*e*SG		**Sg**	**10 55 08.2**	**+0.2**
	comp=N,859nm,0.9s							
TREC	**Trest**	**2.27**	**190**	*e*Pn		**Pn**	**10 54 34.7**	**+0.9**
	baz=10							
TREC	**Trest**	**2.27**	**190**	Pg		**Pg**	**10 54 38.4**	**-0.2**
TREC				Sg		**Sg**	**10 55 08.2**	**+0.2**
	comp=N,859nm,0.9s							
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn		**Pn**	**10 54 37.7**	**+1.1**
	baz=356							
KRUC	**Moravsky**	**2.48**	**176**	*e*Pg		**Pg**	**10 54 42.0**	**-0.5**
	baz=356							
KRUC				*e*Sg		**Sg**	**10 55 14.2**	**-0.4**
	comp=N,306nm,0.5s,baz=356							
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn		**Pn**	**10 54 38.1**	**+0.3**
	SNR=52							
TANN				*e*Pg		**Pg**	**10 54 44.3**	**+0.2**
	SNR=6.5							
TANN				*e*Sg		**Sg**	**10 55 17.2**	**+0.1**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn		**Pn**	**10 54 38.1**	**+0.3**
	SNR=52							
WERD	**Werda**	**2.63**	**247**	*e*Pn		**Pn**	**10 54 39.3**	**+0.5**
	SNR=47							
WERD				*e*Pg		**Pg**	**10 54 45.6**	**+0.1**
	SNR=5.3							
WERD				*e*Sg		**Sg**	**10 55 18.9**	**-0.6**
WERD	**Werda**	**2.63**	**247**	Pn		**Pn**	**10 54 39.3**	**+0.5**
	SNR=47							
NKC	**Novy Kostel**	**2.65**	**242**	*e*P		**Pn**	**10 54 40.0**	**+0.9**
NKC				*e*			10 55 19.4	
NKC				MLR		MLR		
	comp=Z,2μm,4.4s							
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN		**Pn**	**10 54 40.0**	**+0.9**
NKC				*e*PG		**Pg**	**10 54 47.2**	**+1.3**
NKC				*e*SG		**Sg**	**10 55 21.8**	**+1.6**
	comp=Z,2μm,0.4s							
NKC				AMS		AMS	10 55 40.0	
	comp=Z,2μm,4.4s							
NKC	**Novy Kostel**	**2.65**	**242**	*e*Pn		**Pn**	**10 54 39.8**	**+0.7**
	baz=59							
NKC	**Novy Kostel**	**2.65**	**242**	Pg		**Pg**	**10 54 47.2**	**+1.3**
NKC				*e*Sg		**Sg**	**10 55 19.6**	**-0.6**
	baz=59							
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**10 54 37.8**	**-1.7**
OJC				*e*Pg		**Pg**	**10 54 47.5**	**+1.0**
OJC				*e*Sg		**Sg**	**10 55 22.0**	**+0.8**
OJC	**Ojcow**	**2.69**	**118**	*e*P		**Pn**	**10 54 37.8**	**-1.7**
OJC				*e*			10 55 22.0	
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**10 54 37.9**	**-1.7**
	SNR=21							
OJC				*e*Pg		**Pg**	**10 54 45.9**	**-0.6**
	SNR=16							
OJC				*e*Sg		**Sg**	**10 55 22.0**	**+0.8**
OJC	**Ojcow**	**2.69**	**118**	Pn		**Pn**	**10 54 37.9**	**-1.6**
	SNR=21							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*P		**Pn**	**10 54 42.8**	**+0.4**
KHC				*e*			10 55 19.4	
KHC				smax		smax		
	comp=N,259nm,0.4s							
KHC				MLR		MLR		
	comp=Z,2μm,7.2s							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pn		**Pn**	**10 54 42.6**	**+0.2**
KHC				*e*Sg		**Sg**	**10 55 27.9**	**-0.1**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		**Pn**	**10 54 42.8**	**+0.4**
KHC				*e*PG		**Pg**	**10 54 49.4**	**-1.1**
KHC				*e*SN		**Sn**	**10 55 19.4**	**+1.5**
KHC				*e*SG		**Sg**	**10 55 28.6**	**+0.6**
	comp=Z,259nm,0.4s							
KHC				AMS		AMS	10 55 40.0	
	comp=Z,2μm,7.2s							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pn		**Pn**	**10 54 42.6**	**+0.2**
KHC	**Kasperske Hory**	**2.89**	**215**	Pg		**Pg**	**10 54 49.4**	**-1.1**
KHC				Sn		**Sn**	**10 55 19.4**	**+1.5**
KHC				*e*Sg		**Sg**	**10 55 27.3**	**-0.7**
	baz=33							
MGBB	**Grossbuechelbe**	**2.92**	**239**	⇓*e*Pn		**Pn**	**10 54 42.5**	**-0.2**
MGBB	**Grossbuechelbe**	**2.92**	**239**	Pn		**Pn**	**10 54 42.5**	**-0.2**
MOX	**Moxa**	**2.96**	**254**	*e*P		**Pn**	**10 54 43.6**	**+0.3**
MOX	**Moxa**	**2.96**	**254**	*e*Pn		**Pn**	**10 54 43.6**	**+0.3**
	SNR=28							
MOX				*e*Pg		**Pg**	**10 54 51.1**	**-0.7**
	SNR=5.6							
MOX				*e*Sg		**Sg**	**10 55 30.5**	**+0.3**
MOX	**Moxa**	**2.96**	**254**	*e*P		**Pn**	**10 54 43.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn		**Pn**	**10 54 45.0**	**+0.6**
	SNR=75							
ROTZ				*e*Pg		**Pg**	**10 54 53.3**	**0.0**
	SNR=1.8							
ROTZ				*e*Sg		**Sg**	**10 55 31.9**	**-0.9**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	Pn		**Pn**	**10 54 45.0**	**+0.6**
	SNR=75							
GEC2	**GERESS Array S**	**3.10**	**211**	*e*P		**Pn**	**10 54 45.6**	**+0.4**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn		**Pn**	**10 54 45.6**	**+0.4**
	SNR=59							
GEC2				*e*Pg		**Pg**	**10 54 54.7**	**+0.3**
	SNR=4.8							
GEC2				*e*Sg		**Sg**	**10 55 34.3**	**-0.2**
GEC2	**GERESS Array S**	**3.10**	**211**	Pn		**Pn**	**10 54 45.6**	**+0.4**
	SNR=59							
GERES	**GERESS Array B**	**3.10**	**211**	Pn		**Pn**	**10 54 45.7**	**+0.4**
	comp=Z,20nm,0.3s,baz=29,slow=12,SNR=491							
GERES				Pg		**Pg**	**10 54 53.9**	**-0.5**

comp=N,316nm,0.4s
GRA1 Grafenberg Arr 3.61 241 Pn **Pn 10 54 53.2 +0.9**
SNR=55
GRA1 Grafenberg Arr 3.61 241 Pg **Pg 10 55 06.2 +2.0**
SNR=2.6
GRA1 Sg **Sg 10 55 52.1 +1.1**
GRF Grafenberg Arr 3.61 241 *e*P **Pn 10 54 53.2 +0.9**
GRF Grafenberg Arr 3.61 241 *e*Pn **Pn 10 54 53.2 +0.9**
SNR=55
GRF *e*Pg **Pg 10 55 06.2 +2.0**
SNR=2.6
GRF *e*Sg **Sg 10 55 52.1 +1.1**
GRFO Grafenberg 3.61 241 *e*P **Pn 10 54 53.3 +1.1**
GRFO Grafenberg 3.61 241 *e*Pn **Pn 10 54 53.3 +1.1**
GRFO *e*Pg **Pg 10 55 06.2 +2.0**
GRFO *e*Sg **Sg 10 55 52.0 +0.9**
GRFO Grafenberg 3.61 241 *e*P **Pn 10 54 53.3 +1.1**
BSD Bornholm Skovb 3.66 349 *i*P **Pn 10 54 52.3 -0.6**
BSD *i*S **Sn 10 55 33.0 -3.7**
SOP Sopron 3.86 175⇑*e*Pn **Pn 10 54 56.8 +1.1**
MOA Molln 3.87 199⇓*i*Pn **Pn 10 54 56.7 +0.9**
MOA ⇑*i*Sg **Sg 10 55 58.9 -0.5**
comp=N,431nm,0.7s
MOA Molln 3.87 199 Pn **Pn 10 54 56.7 +0.9**
MOA Sg **Sg 10 55 58.9 -0.5**
comp=N,431nm,0.7s
HROE Hohe Rhon--Fla 3.88 257⇓*i*Pn **Pn 10 54 55.7 -0.3**
HROE Hohe Rhon--Fla 3.88 257 Pn **Pn 10 54 55.7 -0.3**
STHS Stebnicka Huta 3.91 121 *e*P **Pn 10 54 57.6 +1.3**
STHS Stebnicka Huta 3.91 121 *e*PN **Pn 10 54 57.5 +1.3**
STHS Stebnicka Huta 3.91 121 *e*P **Pn 10 54 57.6 +1.3**
KECS Kecovo 4.16 135 *e*P **Pn 10 54 59.8 +0.1**
KECS Kecovo 4.16 135 *e*PN **Pn 10 54 59.8 +0.1**
KECS *e*PG **Pg 10 55 16.7 +2.0**
KECS *e*SG **Sg 10 56 12.3 +3.7**
KECS Kecovo 4.16 135 *e*P **Pn 10 54 59.8 +0.1**
ARSA Arzberg 4.30 185⇑*i*Pn **Pn 10 55 02.8 +1.1**
SNR=16
ARSA ⇓*i*Sg **Sg 10 56 13.6 +0.5**
comp=N,337nm,1.0s
ARSA Arzberg 4.30 185 Pn **Pn 10 55 02.8 +1.1**
SNR=16
ARSA Sg **Sg 10 56 13.6 +0.5**
comp=N,337nm,1.0s
CRVS Cervenica-Dubn 4.33 125 *e*P **Pn 10 55 03.4 +1.3**
CRVS Cervenica-Dubn 4.33 125 *e*PN **Pn 10 55 03.4 +1.3**
CRVS *e*PG **Pg 10 55 20.0 +2.0**
CRVS *e*SG **Sg 10 56 16.3 +2.2**
CRVS Cervenica-Dubn 4.33 125 *e*P **Pn 10 55 03.4 +1.3**
PSZ Piszkesteto 4.37 144⇓P **Pn 10 55 04.2 +1.4**
PSZ Piszkesteto 4.37 144 *e*Pn **Pn 10 55 03.6 +0.8**
PSZ Piszkesteto 4.37 144⇓*i*P **Pn 10 55 04.2 +1.4**
PSZ Piszkesteto 4.37 144⇓*e*Pn **Pn 10 55 04.2 +1.4**
PSZ Piszkesteto 4.37 144 *e*Pn **Pn 10 55 03.6 +0.8**
PSZ Piszkesteto 4.37 144⇓*e*P **Pn 10 55 04.2 +1.4**
PKSG 4.40 159⇑*e*Pn **Pn 10 55 03.9 +0.8**
PKSG 4.40 159⇑*e*P **Pn 10 55 03.9 +0.8**
PKST T"s 4.46 163⇑*e*Pn **Pn 10 55 05.6 +1.7**
PKST T"s 4.46 163⇑*e*P **Pn 10 55 05.6 +1.7**
LLD Lille Linde 4.46 330 *i*P **Pn 10 55 02.0 -1.9**
LLD *e*S **Sn 10 55 52.8 -3.6**
LLD *i*S **Sn 10 55 53.5 -2.9**
LLD Lille Linde 4.46 330 *i*P **Pn 10 55 02.0 -1.9**
LLD *e*S **Sn 10 55 52.8 -3.6**
LLD *i*S **Sn 10 55 53.5 -2.9**
LLD Lille Linde 4.46 330 *i*P **Pn 10 55 02.0 -1.9**
LLD *e*S **Sn 10 55 52.8 -3.6**
KWP Kalwaria Pacla 4.62 112 *e*Pn **Pn 10 55 06.9 +0.8**
KWP *e* 10 55 18.3
KWP *e* 10 55 22.2
KWP Kalwaria Pacla 4.62 112 *e*P **Pn 10 55 06.9 +0.8**
KWP Kalwaria Pacla 4.62 112 *e*Pg **Pg 10 55 21.7 -1.8**
KWP Kalwaria Pacla 4.62 112 *e*P **Pn 10 55 06.9 +0.8**
KWP Kalwaria Pacla 4.62 112 *e*Pg **Pg 10 55 21.7 -1.8**
KOLS Kolonicke sedl 4.74 121 *e*SG Sg 10 56 38.7 +11
KBA Koelnbreinsper 4.81 203⇓*i*Pn **Pn 10 55 10.0 +1.2**
SNR=30
KBA ⇑*i*Sg **Sg 10 56 29.9 +0.5**
comp=N,327nm,1.0s
KBA Koelnbreinsper 4.81 203 Pn **Pn 10 55 10.0 +1.2**
SNR=30
KBA Sg **Sg 10 56 29.9 +0.5**
comp=N,327nm,1.0s
BJUU Bjuv 4.91 339 P **Pn 10 55 08.3 -1.6**
UZH Uzhgorod 4.93 124 *e*P **Pn 10 55 10.0 -0.3**
UZH *e*S **Sn 10 56 06.0 -2.0**
UZH MLR MLR
comp=Z,200nm,1.2s
UZH Uzhgorod 4.93 124 *e*P **Pn 10 55 10.0 -0.3**
comp=Z,200nm,1.2s
UZH *e*S **Sn 10 56 06.0 -2.0**
SUW Suwalki 4.97 57 *e*Pn **Pn 10 55 11.5 +0.7**
SUW *e*Pb **Pb 10 55 19.9 -2.9**
SUW *e*Pg **Pg 10 55 33.0 +2.8**
SUW *e*Sn **Sn 10 56 08.4 -0.4**
SUW *e*Sg **Sg 10 56 37.6 +3.2**
SUW Suwalki 4.97 57 *e*P **Pn 10 55 11.5 +0.7**
SUW Suwalki 4.97 57 *e*Pn **Pn 10 55 10.0 -0.8**
SUW Suwalki 4.97 57 *e*Pn **Pn 10 55 10.0 -0.8**
SUW Suwalki 4.97 57 *e*P **Pn 10 55 11.5 +0.7**
TOD Tromm 5.03 250 P **Pn 10 55 11.5 -0.3**
TOD S **Sn 10 56 11.3 +0.7**
TOD Tromm 5.03 250 P **Pn 10 55 11.5 -0.3**
TOD S **Sn 10 56 11.3 +0.7**
TOD Tromm 5.03 250 P **Pn 10 55 11.5 -0.3**
TOD S **Sn 10 56 11.3 +0.7**
BEHE Becsehely 5.08 175⇓*e*pPn **Pn 10 55 14.9 +2.5**
BEHE Becsehely 5.08 175⇓*e*P **Pn 10 55 14.9 +2.5**
DEL Delary 5.12 346 P **Pn 10 55 11.8 -1.1**
WATA Walderalm 5.13 217 *i*Pn **Pn 10 55 14.9 +1.7**
SNR=22
WATA ⇑*i*Sg **Sg 10 56 41.5 +1.7**
comp=Z,55nm,0.4s
WATA Walderalm 5.13 217 Pn **Pn 10 55 14.9 +1.7**
SNR=22
WATA Sg **Sg 10 56 41.5 +1.7**
comp=Z,55nm,0.4s
PKS9 Tamasi 5.15 163⇑*e*Pn **Pn 10 55 14.9 +1.5**
PKS9 Tamasi 5.15 163⇑*e*P **Pn 10 55 14.9 +1.5**
GID Gilleleje 5.16 335 *i*S **Sn 10 56 12.6 -1.0**
SNR=49
WTTA Wattenberg 5.17 216⇓*i*Pn **Pn 10 55 15.1 +1.3**
SNR=19
WTTA ⇑*i*Sg **Sg 10 56 42.6 +1.6**
comp=Z,223nm,1.0s
WTTA Wattenberg 5.17 216 Pn **Pn 10 55 15.1 +1.3**
SNR=19
WTTA Sg **Sg 10 56 42.6 +1.6**
comp=Z,223nm,1.0s
STU Stuttgart 5.23 241 *e*P **Pn 10 55 13.6 -0.8**
STU pmax pmax
comp=Z,136nm,0.9s
STU Stuttgart 5.23 241 *e*Pn **Pn 10 55 13.6 -0.8**
comp=Z,136nm,0.9s
STU *e*Sg **Sg 10 56 44.9 +2.0**
STU Stuttgart 5.23 241 *e*P **Pn 10 55 13.6 -0.8**
comp=Z,136nm,0.9s
STU *e*Sg **Sg 10 56 44.9 +2.0**
MOTA Moosalm 5.31 220⇑*i*Pn **Pn 10 55 16.2 +0.5**
SNR=11
MOTA ⇑*i*Sg **Sg 10 56 48.4 +3.0**
comp=Z,236nm,0.8s
MOTA Moosalm 5.31 220 Pn **Pn 10 55 16.2 +0.5**
SNR=11
MOTA Sg **Sg 10 56 48.4 +3.0**
comp=Z,236nm,0.8s
LVV L'vov 5.33 106 *e*P **Pn 10 55 17.4 +1.6**
LVV *e*S **Sn 10 56 17.6 -0.2**
LVV MLR MLR
comp=Z,1μm,7.0s
LVV L'vov 5.33 106 *e*P **Pn 10 55 17.4 +1.6**
comp=Z,1μm,7.0s
LVV *e*S **Sn 10 56 17.6 -0.2**
ABTA Abfaltersbach 5.33 208⇓*i*Pn **Pn 10 55 17.3 +1.3**
SNR=23
ABTA ⇓*i*Sg **Sg 10 56 46.3 0.0**
comp=Z,237nm,1.1s
ABTA Abfaltersbach 5.33 208 Pn **Pn 10 55 17.3 +1.3**
SNR=23
ABTA Sg **Sg 10 56 46.3 0.0**
comp=Z,237nm,1.1s
RETA Reutte 5.33 223 *i*Pn **Pn 10 55 16.6 +0.6**
SNR=19
RETA Reutte 5.33 223 Pn **Pn 10 55 16.6 +0.6**
SNR=19
TRPA Tarpa 5.38 127⇑*i*P **Pn 10 55 17.5 +1.0**
TRPA Tarpa 5.38 127⇑*e*Pn **Pn 10 55 16.9 +0.4**
TRPA Tarpa 5.38 127⇑*e*P **Pn 10 55 16.9 +0.4**
KOE Koeppel 5.40 261 *e*Pn **Pn 10 55 17.2 +0.4**
KOE Koeppel 5.40 261 Pn **Pn 10 55 17.2 +0.4**
PKS2 Kecel 5.44 157⇑*e*Pn **Pn 10 55 18.3 +1.0**
HOBG Hohbusch 5.53 268 *e*Pn **Pn 10 55 19.2 +0.6**
HOBG Hohbusch 5.53 268 Pn **Pn 10 55 19.2 +0.6**
PKSM Moragy 5.58 162⇓P **Pn 10 55 20.4 +1.2**
PKSM Moragy 5.58 162⇓*i*P **Pn 10 55 20.4 +1.2**
PKSM Moragy 5.58 162⇓*e*Pn **Pn 10 55 20.5 +1.2**
KTD Kalmit 5.58 250 P **Pn 10 55 19.0 -0.3**
KTD Kalmit 5.58 250 P **Pn 10 55 19.0 -0.3**
LJU Ljubljana 5.59 191 *e*Pn **Pn 10 55 21.0 +1.6**
BNS Bensberg 5.63 268 *e*Pn **Pn 10 55 20.1 +0.1**
BNS Bensberg 5.63 268 Pn **Pn 10 55 20.1 +0.1**
ABH Alteburg 5.68 256 P **Pn 10 55 20.8 +0.1**
VOY Vojsko 5.69 196 *e*Pn **Pn 10 55 22.7 +1.8**
VOY *e* 10 55 47.6
VOY *e*Sn **Sg 10 56 56.5 -1.3**
BGG Burgeitz 5.71 260 *e*Pn **Pn 10 55 21.0 0.0**
BGG Burgeitz 5.71 260 Pn **Pn 10 55 21.0 0.0**
LAUG Laupendahl 5.73 272 *e*Pn **Pn 10 55 21.5 +0.2**
LAUG Laupendahl 5.73 272 Pn **Pn 10 55 21.5 +0.2**
WTSB Winterswijk 5.79 278 *e*Pn **Pn 10 55 23.2 +1.0**
WTSB *e*Sn Sb 10 56 53.7 +6.9
SPAK Spaichingen-Ko 5.84 237 P **Pn 10 55 22.5 -0.5**
DAVA Damuels 5.87 226⇑*i*Pn **Pn 10 55 23.8 +0.3**
SNR=6.2
LANF Langenberg 5.90 248 P **Pn 10 55 23.3 -0.4**
LANF S **Sn 10 56 34.0 +2.0**
LANF Langenberg 5.90 248 P **Pn 10 55 23.3 -0.4**
LANF S **Sn 10 56 34.0 +2.0**
STB Steinbach 5.91 265 *e*Pn **Pn 10 55 24.6 +0.8**
STB *e*Sn **Sn 10 56 30.0 -2.3**
comp=Z,45nm,0.4s
STB Steinbach 5.91 265 Pn **Pn 10 55 24.6 +0.8**
BFO Black Forest 5.95 240 *e*P **Pn 10 55 23.2 -1.2**
BFO pmax pmax
comp=Z,88nm,1.0s
BFO Black Forest 5.95 240 *e*Pn **Pn 10 55 23.2 -1.2**
comp=Z,88nm,1.0s
BFO *e*Pg **Pg 10 55 50.0 +0.9**
RUP Ruppelstein 6.04 256 P **Pn 10 55 25.6 0.0**
RUP Ruppelstein 6.04 256 P **Pn 10 55 25.6 0.0**
HILG Hillesheim 6.09 262 *e*Pn **Pn 10 55 27.0 +0.8**
HILG Hillesheim 6.09 262 Pn **Pn 10 55 27.0 +0.8**
BMR Baia Mare 6.16 126⇓P **Pn 10 55 28.1 +0.8**
BMR Baia Mare 6.16 126⇓*i*P **Pn 10 55 28.1 +0.8**
KLL Kalltalsperre 6.23 266 *e*Pn **Pn 10 55 28.4 +0.2**
KLL Kalltalsperre 6.23 266 Pn **Pn 10 55 28.4 +0.2**
DAVOX Davos/Dischmat 6.26 223 Pn **Pn 10 55 29.7 +0.9**
comp=Z,3.1nm,0.3s,baz=348,slow=22,SNR=20
DAVOX Sn **Sn 10 56 40.9 -0.3**
comp=Z,4.0nm,0.3s,baz=253,slow=17,SNR=3.1
DAVOX Lg Lg 10 57 13.1
comp=Z,5.9nm,0.3s,baz=283,slow=20,SNR=5.5
DAVOX Davos/Dischmat 6.26 223 P **Pn 10 55 29.7 +0.9**
DAVOX 10 56 40.9
DAVOX Davos/Dischmat 6.26 223 Pn **Pn 10 55 29.7 +0.9**
DAVOX Sn **Sn 10 56 40.9 -0.3**
DAVOX Lg Lg 10 57 13.1
DREG Dreilaegerbach 6.28 266 *e*Pn **Pn 10 55 29.5 +0.7**
DREG Dreilaegerbach 6.28 266 Pn **Pn 10 55 29.5 +0.7**
FELD Feldberg im Sc 6.40 238 P **Pn 10 55 30.5 -0.1**
MUD Monsted U'grnd 6.40 323 *e*P Pn 10 55 36.0 +5.5
DRGR 6.42 135⇑P **Pn 10 55 31.3 +0.4**
DRGR 6.42 135⇑*i*P **Pn 10 55 31.3 +0.4**
MEM Membach 6.43 266 PN **Pn 10 55 31.4 +0.5**
HGN Heimansgroeve 6.45 267 *e*Pn **Pn 10 55 32.1 +1.0**
HGN *e*Pg Pb 10 55 39.5 -8.4
HGN *e*Sn Sb 10 56 59.8 -5.7
HGN *e*Sg **Sg 10 57 19.7 -2.2**
LIBD Limburg 6.45 242 P **Pn 10 55 31.7 +0.5**
LIBD Limburg 6.45 242 P **Pn 10 55 31.7 +0.5**
CDF Champ du Feu 6.49 245 *e*Pn **Pn 10 55 30.7 -1.2**
CDF *e*Sg **Sg 10 57 20.5 -2.9**
comp=Z,510nm,1.0s
CDF Champ du Feu 6.49 245 *e*Pn **Pn 10 55 30.7 -1.2**
CDF *e*Sg **Sg 10 57 20.5 -2.9**
comp=Z,255nm,1.0s
WLF Walferdange 6.60 257 PN **Pn 10 55 33.5 +0.2**
WLF Walferdange 6.60 257 *e*P **Pn 10 55 33.3 0.0**
WLF pmax pmax
comp=Z,43nm,1.1s
WLF Walferdange 6.60 257 *e*Pn **Pn 10 55 33.3 0.0**
comp=Z,43nm,1.1s
ECH Echery 6.66 244 *e*P **Pn 10 55 33.2 -0.9**
ECH *e* 10 56 59.3
ECH pmax pmax
comp=Z,29nm,0.9s
ECH Echery 6.66 244 *e*Pn **Pn 10 55 33.2 -0.9**
comp=Z,29nm,0.9s
ECH *e*Sn Sn 10 56 59.3 +8.5
MOF Molkenrain 6.88 241 P **Pn 10 55 37.7 +0.5**
MOF Molkenrain 6.88 241 P **Pn 10 55 37.7 +0.5**
BZS Buzias 6.96 146⇓P **Pn 10 55 39.4 +1.3**
BZS Buzias 6.96 146⇓*i*P **Pn 10 55 39.4 +1.3**
NVLJ Novalja 7.02 187 *e*Pn **Pn 10 55 40.3 +1.3**
NVLJ Sn **Sb 10 57 16.9 -5.1**
HINF Hinteralfeld 7.06 242 *e*Pn **Pn 10 55 38.2 -1.4**
HINF *e*Sg **Sg 10 57 37.8 -3.8**
comp=Z,447nm,1.2s
HINF Hinteralfeld 7.06 242 *e*Pn **Pn 10 55 38.2 -1.4**
HINF *e*Sg **Sg 10 57 37.8 -3.8**
comp=Z,223nm,1.2s
BURAR Bucovina Array 7.10 120⇑*i*P **Pn 10 55 41.0 +0.7**
IIGN Ignalina 7.15 54 *e*P **Pg 10 56 11.2 -0.8**
IIGN AMB AMB 10 56 14.5
comp=Z,33nm,1.5s
ISAL Salakas 7.21 52 *e*P **Pg 10 56 11.2 -1.9**
ISAL AMB AMB 10 56 15.6
comp=Z,28nm,1.3s
ISAL Salakas 7.21 52 *e*P **Pg 10 56 11.2 -1.9**
comp=Z,28nm,1.3s,SNR=46
HAU Haudompre 7.23 245 *e*Pn **Pn 10 55 41.1 -0.9**
HAU *e*Sg **Sg 10 57 43.5 -3.7**
comp=Z,346nm,1.1s
HAU Haudompre 7.23 245 *e*Pn **Pn 10 55 41.1 -0.9**
HAU *e*Sg **Sg 10 57 43.5 -3.7**
comp=Z,173nm,1.1s
NACGM Naroch 7.25 58 *e*P **Pn 10 55 39.0 -3.1**
GIVF Givet 7.29 263 *e*Pn **Pn 10 55 41.2 -1.5**
GIVF *e*Sg **Sg 10 57 44.8 -4.1**
comp=Z,692nm,1.5s
GIVF Givet 7.29 263 *e*Pn **Pn 10 55 41.2 -1.5**
PAGF Fort de Pagny 7.31 250 *e*Pn **Pn 10 55 42.3 -0.8**
baz=66
PAGF *e*Sg **Sg 10 57 46.1 -3.7**
comp=Z,221nm,1.4s
PAGF Fort de Pagny 7.31 250 *e*Pn **Pn 10 55 42.3 -0.8**
baz=66
PAGF *e*Sg **Sg 10 57 46.1 -3.7**
comp=Z,111nm,1.4s
THEF They Montfort 7.32 247 P **Pn 10 55 42.9 -0.3**
THEF They Montfort 7.32 247 P **Pn 10 55 42.9 -0.3**
IZAR Zarasai 7.36 51 *e*P Pg 10 56 12.8 -3.2
IZAR AMB AMB 10 56 19.5
comp=Z,29nm,1.4s
DOU Dourbes 7.43 263 PN **Pn 10 55 45.7 +1.1**
SNF Seneffe 7.53 267 PN **Pn 10 55 47.7 +1.8**
GZR Gura Zlata 7.57 142⇑P **Pn 10 55 48.2 +1.5**
GZR Gura Zlata 7.57 142⇑*i*P **Pn 10 55 48.2 +1.5**
BAIF Baives 7.68 264 *e*Pn **Pn 10 55 46.1 -2.0**
BAIF *e*Sg **Sg 10 57 57.5 -4.0**
comp=Z,379nm,1.4s
BAIF Baives 7.68 264 *e*Pn **Pn 10 55 46.1 -2.0**
BAIF *e*Sg **Sg 10 57 57.5 -4.0**
comp=Z,190nm,1.4s
MICGM Minsk 7.70 63 *e*P Pg 10 56 16.0 -6.5
MEZF Maizieres J'vi 7.74 251 *e*Pn **Pn 10 55 47.6 -1.2**
baz=68
MEZF *e*Sg **Sg 10 57 59.1 -4.2**
comp=Z,649nm,1.4s
MEZF Maizieres J'vi 7.74 251 *e*Pn **Pn 10 55 47.6 -1.2**
baz=68
MEZF *e*Sg **Sg 10 57 59.1 -4.2**
comp=Z,324nm,1.4s
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 10 55 49.8 -1.1**
baz=69
SFTF *e*Sg **Sg 10 58 03.8 -4.2**
comp=Z,896nm,1.4s
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 10 55 49.8 -1.1**
baz=69
CABF La Chapelle 8.21 237 *e*Pn **Pn 10 55 54.2 -1.2**
CABF *e*Sg **Sg 10 58 13.8 -4.7**
comp=Z,1μm,1.5s
CABF La Chapelle 8.21 237 *e*Pn **Pn 10 55 54.2 -1.2**
CABF *e*Sg **Sg 10 58 13.8 -4.7**
comp=Z,541nm,1.5s
KIEV Kiev 8.29 91*c i*P **Pn 10 55 55.3 -1.2**
KIEV Kiev 8.29 91 *e*Pn **Pn 10 55 55.0 -1.5**
comp=Z,25nm,0.5s
AKASG Malin Array Be 8.30 91 Pn **Pn 10 55 55.1 -1.4**
comp=Z,11nm,0.3s,baz=279,slow=12,SNR=25
AKASG Sn **Sn 10 57 25.3 -5.6**
comp=Z,5.6nm,0.3s,baz=272,slow=24,SNR=5.8
AKASG Lg Lg 10 58 18.8
comp=Z,2.6nm,0.3s,baz=275,slow=28,SNR=4.0
AKASG Malin Array Be 8.30 91 P **Pn 10 55 55.2 -1.4**
AKASG 10 57 25.3
AKASG pmax pmax
comp=Z,11nm,0.3s
AKASG smax smax
comp=N,6.0nm,0.3s
AKASG Malin Array Be 8.30 91 Pn **Pn 10 55 55.1 -1.4**
AKASG Sn **Sn 10 57 25.4 -5.6**
AKASG Lg Lg 10 58 18.8
AKBB Malin Array Si 8.30 91 *e*P **Pn 10 55 54.2 -2.4**
AKBB Malin Array Si 8.30 91 *e*Pn **Pn 10 55 54.2 -2.4**
VOIR 8.51 132⇑P **Pn 10 56 00.1 +0.5**
VOIR 8.51 132⇑*i*P **Pn 10 56 00.1 +0.5**
LPL La Plagne 8.65 230 *e*Pn **Pn 10 55 59.7 -1.9**
LPL *e*Sg **Sg 10 58 27.7 -4.9**
comp=N,225nm,1.3s
LPL La Plagne 8.65 230 *e*Pn **Pn 10 55 59.7 -1.9**
LPL *e*Sg **Sg 10 58 27.7 -4.9**
comp=N,112nm,1.3s
LPG La Plagne 8.65 229 *e*Pn **Pn 10 56 00.4 -1.3**
LPG *e*Sg **Sg 10 58 27.5 -5.2**
comp=N,295nm,1.2s
LPG La Plagne 8.65 229 *e*Pn **Pn 10 56 00.4 -1.3**
LPG *e*Sg **Sg 10 58 27.5 -5.2**
comp=N,147nm,1.2s
HFS Hagfors 8.73 352 Pn **Pn 10 56 01.7 -0.7**
comp=N,0.9nm,0.3s,baz=174,slow=14,SNR=8.5
HFS Sn **Sn 10 57 39.0 -2.5**
comp=N,1.0nm,0.3s,baz=168,slow=28,SNR=3.0
HFS Lg Lg 10 58 36.6
comp=N,2.7nm,0.3s,baz=177,slow=29,SNR=3.8
HFS Hagfors 8.73 352 P **Pn 10 56 01.7 -0.7**
HFS 10 57 39.0
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS smax smax
comp=N,1.0nm,0.3s
HFS Hagfors 8.73 352 Pn **Pn 10 56 01.7 -0.7**
HFS Sn **Sn 10 57 39.0 -2.5**
HFS Lg Lg 10 58 36.6
LOR Lormes 9.05 247 *e*Pn **Pn 10 56 05.8 -1.1**
baz=69
LOR *e*Sg Sn 10 58 40.1 +51
comp=N,168nm,1.2s
LOR Lormes 9.05 247 *e*Pn **Pn 10 56 05.8 -1.1**
baz=69
LOR *e*Sg Sn 10 58 40.1 +51
comp=N,84nm,1.2s
MBDF Montbardon 9.23 226 *e*Pn **Pn 10 56 07.2 -2.2**
MBDF *e*Sg Sn 10 58 45.2 +51
comp=N,167nm,1.4s
MBDF Montbardon 9.23 226 *e*Pn **Pn 10 56 07.2 -2.2**
MBDF *e*Sg Sn 10 58 45.2 +51
comp=N,83nm,1.4s
VSU Vasula 9.24 37*c i*P **Pn 10 56 10.8 +1.4**
SSF Saint Saulge 9.36 246 *e*Pn **Pn 10 56 09.4 -1.7**
SSF *e*Sg Sn 10 58 49.7 +53
comp=N,71nm,0.8s
SSF Saint Saulge 9.36 246 *e*Pn **Pn 10 56 09.4 -1.7**
SMF Signal de Mont 9.41 243 *e*Pn **Pn 10 56 10.6 -1.2**
SMF *e*Sg Sn 10 58 51.3 +53
comp=N,296nm,1.4s
SMF Signal de Mont 9.41 243 *e*Pn **Pn 10 56 10.6 -1.2**
SMF *e*Sg Sn 10 58 51.3 +53
comp=N,148nm,1.4s
KIS Kishinev 9.47 114 *e*P 10 57 15.0
ORIF Oris-en-Rattie 9.50 230 *e*Pn **Pn 10 56 10.9 -2.2**
ORIF *e*Sg Sn 10 58 53.6 +53
comp=N,380nm,1.6s
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 10 56 13.2 -1.2**
AVF *e*Sg Sn 10 58 57.0 +54
comp=N,168nm,1.2s
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 10 56 13.2 -1.2**
AVF *e*Sg Sn 10 58 57.0 +54
comp=N,84nm,1.2s
SBF Sospel 9.63 221 *e*Pn **Pn 10 56 12.5 -2.5**
SBF *e*Sg Sn 10 58 57.7 +54
comp=N,393nm,1.9s
SBF Sospel 9.63 221 *e*Pn **Pn 10 56 12.5 -2.5**
SBF *e*Sg Sn 10 58 57.7 +54
comp=N,197nm,1.9s
HYF Humbligny 9.75 249 *e*Pn **Pn 10 56 15.3 -1.2**
HYF Humbligny 9.75 249 *e*Pn **Pn 10 56 15.3 -1.2**
NAO01 NORSAR Array S 9.78 345 *e*Pn **Pn 10 56 14.2 -2.5**
NOA NORSAR Array B 9.91 346 Pn **Pn 10 56 16.1 -2.5**
comp=N,0.8nm,0.3s,baz=174,slow=13,SNR=6.4
NOA Sn Sn 10 58 04.7 -5.8
comp=N,1.0nm,0.3s,baz=132,slow=22,SNR=3.7
NOA NORSAR Array B 9.91 346 P **Pn 10 56 16.1 -2.5**
NOA 10 58 04.7
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA smax smax
comp=N,1.0nm,0.3s
NOA NORSAR Array B 9.91 346 Pn **Pn 10 56 16.1 -2.5**
NOA Sn Sn 10 58 04.7 -5.8
BGF Bois d'Agland 10.02 245 *e*Pn **Pn 10 56 18.9 -1.2**
BGF *e*Sg Sn 10 59 10.5 +57
comp=N,376nm,1.4s
BGF Bois d'Agland 10.02 245 *e*Pn **Pn 10 56 18.9 -1.2**
BGF *e*Sg Sn 10 59 10.5 +57
comp=N,188nm,1.4s
VIVF Saint-Julien-l 10.13 233 *e*Pn **Pn 10 56 19.7 -2.0**
VIVF *e*Sg Sn 10 59 13.8 +58
comp=N,172nm,1.4s
VIVF Saint-Julien-l 10.13 233 *e*Pn **Pn 10 56 19.7 -2.0**
VIVF *e*Sg Sn 10 59 13.8 +58
comp=N,86nm,1.4s
LMR La Mourre 10.45 222 *e*Pn **Pn 10 56 24.7 -1.4**
LMR *e*Sg Sn 10 59 23.4 +60
comp=N,167nm,1.9s
LMR La Mourre 10.45 222 *e*Pn **Pn 10 56 24.7 -1.4**
LDF La Druitiere 10.84 261 *e*Pn **Pn 10 56 29.0 -2.3**
LDF *e*Sg 10 59 35.6
comp=N,62nm,1.6s
LDF La Druitiere 10.84 261 *e*Pn **Pn 10 56 29.0 -2.3**
LDF *e*Sg 10 59 35.6
comp=N,31nm,1.6s
FLN La Foliniere 11.00 262 *e*Pn **Pn 10 56 31.3 -2.2**
FLN *e*Sg 10 59 40.6
comp=N,135nm,1.2s
FLN La Foliniere 11.00 262 *e*Pn **Pn 10 56 31.3 -2.2**
FLN *e*Sg 10 59 40.6
comp=N,67nm,1.2s
LASF Ste Croix 11.10 233 *e*Pn **Pn 10 56 32.8 -2.1**
LASF *e*Sg 10 59 43.8
comp=N,160nm,1.4s
FINES FINESS Array B 11.35 25 Pn **Pn 10 56 36.3 -1.9**
comp=N,1.7nm,0.3s,baz=206,slow=9.7,SNR=24
FINES Sn Sn 10 58 37.5 -8.1
comp=N,3.2nm,0.3s,baz=223,slow=18,SNR=8.9
FINES FINESS Array B 11.35 25 P **Pn 10 56 36.3 -1.9**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 11.35 25 Pn **Pn 10 56 36.3 -1.9**
FINES Sn Sn 10 58 37.5 -8.1
GRR Gorron 11.37 261 *e*Pn **Pn 10 56 36.2 -2.3**
GRR *e*Sg 10 59 51.8
comp=N,288nm,1.8s
GRR Gorron 11.37 261 *e*Pn **Pn 10 56 36.2 -2.3**
GRR *e*Sg 10 59 51.8
comp=N,144nm,1.8s
CAF Calviac 11.45 240 *e*Pn **Pn 10 56 37.0 -2.7**
CAF *e*Sg 10 59 54.9
CAF Calviac 11.45 240 *e*Pn **Pn 10 56 37.0 -2.7**
CAF *e*Sg 10 59 54.9
RJF Les Rejaudoux 11.51 243 *e*Pn Pn 10 56 37.8 -2.8
RJF *e*Sg 10 59 56.7

comp=Z,248nm,1.7s
RJF Les Rejaudoux 11.51 243 *e*Pn Pn 10 56 37.8 -2.8
RJF *e*Sg 10 59 56.7
comp=Z,124nm,1.7s
MFF Saint Martin d 11.73 252 *e*Pn **Pn** **10 56 41.3 -2.3**
MFF *e*Sg 11 00 03.7
comp=Z,189nm,1.7s
KAF Kangasniemi 11.97 24 *e*P **Pn** **10 56 44.5 -2.2**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 11.97 24 *e*p **Pn** **10 56 44.5 -2.2**
comp=Z,3.3nm,0.4s
KAF Kangasniemi 11.97 24 *e*p **Pn** **10 56 44.5 -2.2**
comp=Z,3.3nm,0.4s
LFF La Frestale 12.17 243 *e*Pn **Pn** **10 56 47.1 -2.4**
LFF *e*Sg 11 00 17.6
comp=Z,163nm,1.2s
LFF La Frestale 12.17 243 *e*Pn **Pn** **10 56 47.1 -2.4**
LFF *e*Sg 11 00 17.6
comp=Z,82nm,1.2s
MTLF Montolieu 12.45 234 *e*Pn **Pn** **10 56 50.9 -2.5**
MTLF *e*Sg 11 00 26.2
comp=Z,181nm,1.8s
MTLF Montolieu 12.45 234 *e*Pn **Pn** **10 56 50.9 -2.5**
MTLF *e*Sg 11 00 26.2
comp=Z,91nm,1.8s
OBN Obninsk 12.74 66⇑ *e*P Pn 10 56 53.7 -3.6
OBN *e*S **Sn** **10 59 17.2 -2.5**
OBN pmax pmax
comp=Z,44nm,1.7s
EPF Esparros 13.64 238 *e*Pn **Pn** **10 57 07.2 -2.5**
EPF *e*Sg S 11 01 02.8 +57
comp=Z,98nm,1.4s
EPF Esparros 13.64 238 *e*Pn **Pn** **10 57 07.2 -2.5**
EPF *e*Sg S 11 01 02.8 +57
comp=Z,49nm,1.4s
JOF Joensuu 14.03 30 *e*P Pn 10 57 11.0 -3.8
JOF pmax pmax
comp=Z,5.0nm,0.4s
JOF Joensuu 14.03 30 *e*p Pn 10 57 11.0 -3.8
comp=Z,4.5nm,0.4s
JOF Joensuu 14.03 30 *e*p Pn 10 57 11.0 -3.8
comp=Z,4.5nm,0.4s
ETSF Etsaut 14.21 239 *e*Pn **Pn** **10 57 14.9 -2.6**
ETSF 11 01 21.5
comp=Z,75nm,1.4s
VSR Storozhevoye 14.40 82 *e*P Pn 10 57 14.9 -5.1
SJPF Ste Jean 14.43 241 *e*Pn **Pn** **10 57 18.2 -2.2**
SJPF *e*Sg 11 01 27.5
comp=Z,86nm,1.4s
SJPF Ste Jean 14.43 241 *e*Pn **Pn** **10 57 18.2 -2.2**
SJPF *e*Sg 11 01 27.5
comp=Z,43nm,1.4s
ANN Anapa 15.71 107 *e*P **Pn** **10 57 34.4 -3.1**
ANN pmax pmax
comp=Z,34nm,0.9s
VRHR Novokhopersk 15.95 82 *e*P Pn 10 57 34.3 -6.2
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,60nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,30nm,1.0s
VRHR pmax pmax
comp=Z,40nm,1.0s
ESDC Sonseca Array 18.30 237 Pn **P** **10 58 10.9 +0.4**
comp=Z,0.5nm,0.3s,baz=44,slow=11,SNR=7.1
ESDC Sonseca Array 18.30 237 Pn **P** **10 58 10.9 +0.4**
ARCES ARCESS Array B 18.61 10 Pn **P** **10 58 10.0 -3.6**
comp=Z,1.9nm,0.3s,baz=192,slow=13,SNR=24
ARCES Sn Sn 11 01 26.6 -15
comp=Z,0.3nm,0.3s,baz=195,slow=20,SNR=5.0
ARCES ARCESS Array B 18.61 10 P **P** **10 58 10.0 -3.6**
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 18.61 10 Pn **P** **10 58 10.0 -3.6**
ARCES Sn Sn 11 01 26.6 -15
KEV Kevo 18.99 12 *e*P **P** **10 58 14.8 -3.0**
KEV pmax pmax
comp=Z,5.0nm,0.4s
KEV Kevo 18.99 12 *e*p **P** **10 58 14.8 -3.0**
comp=Z,4.5nm,0.4s
KEV Kevo 18.99 12 *e*p **P** **10 58 14.8 -3.0**
comp=Z,4.5nm,0.4s
KIV Kislovodsk 19.34 103 *e*P **P** **10 58 22.2 +0.3**
KIV pmax pmax
comp=Z,13nm,1.0s
ZEI Tsey 20.73 104 *e*P Pn 10 58 39.6 0.0
ZEI pmax pmax
comp=Z,29nm,2.1s
GNI Garni 22.82 109 *e*P **P** **10 59 01.1 +1.6**
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 22.82 109 *e*P **P** **10 59 01.2 +1.6**
comp=Z,27nm,1.3s
SOKR Solikamsk 24.04 55⇑ *i*P **P** **10 59 12.9 +1.5**
SOKR pmax pmax
comp=Z,30nm,1.6s
ARU Arti 25.14 62*c i*P **P** **10 59 21.4 0.0**
ARU 10 59 54.2
ARU S **S** **11 03 49.5 +2.6**
ARU SS **SnSn** **11 04 41.3 +5.7**
ARU pmax pmax
comp=Z,23nm,1.7s
ARU Arti 25.14 62 *e*P **P** **10 59 21.1 -0.3**
comp=Z,22nm,1.2s
EIL Elat 25.96 140 P **P** **10 59 30.7 +1.5**
comp=Z,4.3nm,1.0s,baz=345,slow=9.7,SNR=4.7
EIL Elat 25.96 140 P **P** **10 59 30.7 +1.5**
AKTO Aktyubinsk 26.16 76 P **P** **10 59 31.1 +0.4**
comp=Z,6.6nm,1.1s,baz=285,slow=10,SNR=10
AKTO Aktyubinsk 26.16 76 P **P** **10 59 31.2 +0.4**
AKTO pmax pmax
comp=Z,7.0nm,1.1s
AKTO Aktyubinsk 26.16 76 P **P** **10 59 31.1 +0.4**
SPITS Spitsbergen Ar 26.76 0 P **P** **10 59 36.5 +0.5**
comp=Z,39nm,1.3s,baz=173,slow=20,SNR=5.7
SPITS Spitsbergen Ar 26.76 0 P **P** **10 59 36.5 +0.5**
SPITS pmax pmax
comp=Z,39nm,1.3s
SPITS Spitsbergen Ar 26.76 0 P **P** **10 59 36.5 +0.5**
KBS Kingsbay 27.55 358 *e*P **P** **10 59 44.4 +1.4**
BRVK Borovoye 32.52 66*d i*P **P** **11 00 28.5 +1.3**
BRVK *e* 11 01 42.4
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 32.52 66 *e*P **P** **11 00 28.6 +1.3**
comp=Z,14nm,1.4s
KKAR Karatay Array 37.07 81 *e*P **P** **11 01 07.8 +1.2**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 37.07 81 *e*P **P** **11 01 07.8 +1.2**
comp=Z,1.7nm,0.7s
KURK Kurchatov 38.18 66⇑ *i*P **P** **11 01 16.6 +0.6**
KURK *e* 11 02 49.0
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 38.18 66 *e*P **P** **11 01 16.1 +0.1**
comp=Z,6.4nm,1.2s
NVS Novosibirsk 38.98 58 *e*P **P** **11 01 22.8 +0.2**
NVS pmax pmax
comp=Z,32nm,1.5s
NVS pmax pmax
comp=E,11nm,1.4s
AAK Ala-Archa 39.77 79⇑ *i*P **P** **11 01 31.3 +1.7**
AAK pmax pmax
comp=Z,35nm,1.2s
AAK Ala-Archa 39.77 79 *e*P **P** **11 01 31.6 +1.9**
comp=Z,61nm,1.3s
TORD Torodi Ar. Bea 40.02 202 P **P** **11 01 31.9 +0.3**
comp=Z,6.0nm,1.1s,baz=7.0,slow=6.7,SNR=21
TORD Torodi Ar. Bea 40.02 202 P **P** **11 01 31.9 +0.3**
ZAA0 Zalesovo Array 40.19 59 *e*P **P** **11 01 34.3 +1.6**
ZALV Zalesovo Beam 40.19 59 P **P** **11 01 33.5 +0.8**
comp=Z,4.9nm,1.1s,baz=299,slow=9.8,SNR=8.5
ZALV Zalesovo Beam 40.19 59 P **P** **11 01 33.5 +0.8**
ZALV pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 40.19 59 P **P** **11 01 33.5 +0.8**
MKAR Makanchi Array 42.21 69 P **P** **11 01 50.5 +1.0**
comp=Z,0.9nm,0.6s,baz=306,slow=6.6,SNR=8.9
MKAR Makanchi Array 42.21 69 P **P** **11 01 50.5 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 42.21 69 P **P** **11 01 50.5 +1.0**
KSH Kashi 42.49 82 P **P** **11 01 53.1 +1.2**
KSH pmax pmax
comp=Z,240nm,6.4s
WMQ Urumqi 47.03 70 *e*P **P** **11 02 28.6 +0.5**
WMQ pmax pmax
comp=Z,7.0nm,1.0s
ZAK Zakamensk 51.72 55 *e*P **P** **11 03 05.2 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
BOD Bodaibo 52.14 42 *e*P **P** **11 03 04.2 -2.5**
BOD pmax pmax
comp=Z,6.0nm,1.7s
SONM Songino Array 54.91 55 P **P** **11 03 28.3 +1.0**
comp=Z,3.8nm,1.1s,baz=290,slow=7.5,SNR=19
SONM Songino Array 54.91 55 P **P** **11 03 28.3 +1.0**
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 54.91 55 P **P** **11 03 28.3 +1.0**
ULN Ulaanbaatar 55.23 55 *e*P **P** **11 03 31.3 +1.7**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 55.23 55 *e*P **P** **11 03 31.3 +1.7**
comp=Z,0.7nm,0.6s
CLNS Chul'man 57.20 38 *e*P **P** **11 03 43.8 +0.4**
CLNS pmax pmax
comp=Z,10.0nm,1.6s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.2s
LSA Lhasa 58.32 81 P **P** **11 03 53.2 +0.9**
LSA Lhasa 58.32 81 *e*P **P** **11 03 54.2 +1.9**
LSA pmax pmax
comp=Z,9.0nm,1.1s
LSA Lhasa 58.32 81 *e*P **P** **11 03 54.2 +1.9**
comp=Z,9.2nm,1.1s
BILL Bilibino 58.69 13⇑ *e*P **P** **11 03 53.8 +0.1**
BILL *e*S **S** **11 11 58.9 +0.1**
BILL pmax pmax
comp=Z,5.0nm,2.3s
YKA Yellowknife Ar 59.84 336 P **P** **11 04 01.2 -0.4**
comp=Z,2.3nm,0.7s,baz=30,slow=6.7,SNR=25
YKA Yellowknife Ar 59.84 336 P **P** **11 04 01.3 -0.4**
YKA Yellowknife Ar 59.84 336 P **P** **11 04 01.2 -0.4**
LZH Lanzhou 61.45 67 *e*P **P** **11 04 14.0 +0.6**
LZH pP Px 11 04 17.1
LZH sP 11 04 18.5
LZH *e*PP **PP** **11 06 30.9 +2.7**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,62nm,6.5s
LZH LR LR
comp=N,250nm,15.2s
LZH LR LR
comp=E,200nm,16.0s
LZH LR LR
comp=Z,260nm,18.3s
FFC Flin Flon 62.26 325 *e*P **P** **11 04 19.5 +1.2**
FFC pmax pmax
comp=Z,3.0nm,0.9s
FFC Flin Flon 62.26 325 *e*P **P** **11 04 19.5 +1.2**
comp=Z,3.1nm,0.9s
HHC Hu-ho-hao-te 62.38 58 *e*P **P** **11 04 19.5 +0.1**
HHC PP **PP** **11 06 38.6 +2.5**
HHC ScP **ScP** **11 09 00.9 -1.1**
HHC S **S** **11 12 45.4 -1.6**
HHC SKS **SKSSac** **11 14 09.3 -3.5**
HHC SS **SS** **11 16 48.7 -1.0**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,350nm,5.7s
HHC LR LR
comp=N,380nm,15.2s
HHC LR LR
comp=E,390nm,15.5s
HHC LR LR
comp=Z,260nm,15.6s
ILAR Eielson Array 63.29 352 P **P** **11 04 25.9 +0.9**
comp=Z,1.0nm,1.2s,baz=26,slow=4.3,SNR=5.3
ILAR Eielson Array 63.29 352 P **P** **11 04 25.9 +0.9**
ILAR pmax pmax
comp=Z,1.0nm,1.2s
ILAR Eielson Array 63.29 352 P **P** **11 04 25.9 +0.9**
CD2 Chengdu 65.10 71 P **P** **11 04 38.7 +1.3**
CN2 Changchun 67.12 48 *e*P **P** **11 04 52.0 +1.8**
KMI Kunming 68.72 76 P **P** **11 05 00.8 0.0**
KMI pP Px 11 05 08.5
KMI pmax pmax
comp=Z,8.0nm,0.9s
D23A Lindsay 69.55 322 ⇓P **P** **11 05 07.6 +2.2**
baz=69
D23A ⇓P **P** **11 05 07.6 +2.2**
baz=69
A18A Metzger Ranch, 69.82 325 ⇑P **P** **11 05 08.1 +1.0**
baz=70,SNR=9.5
A18A ⇑P **P** **11 05 08.1 +1.0**
baz=70,SNR=9.5
GYA Guiyang 70.09 72 P **P** **11 05 10.0 +0.9**
GYA PP **PP** **11 07 46.2 +2.4**
GYA S **S** **11 14 19.8 -1.4**
GYA SKS **SKSac** **11 15 06.7 -5.0**
GYA SS **SS** **11 18 50.2 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=N,360nm,19.6s
GYA LR LR
comp=E,290nm,20.2s
GYA LR LR
comp=Z,440nm,18.9s
A17A Triple J Farms 70.10 326 ⇓P **P** **11 05 10.0 +1.2**
baz=70
A17A ⇓P **P** **11 05 10.0 +1.2**
baz=70
C20A Veseth Ranch, 70.16 324 ⇑P **P** **11 05 09.7 +0.5**
baz=70
C20A ⇑P **P** **11 05 09.7 +0.5**
baz=70
F24A Ekalaka 70.33 320 ⇑P **P** **11 05 11.2 +0.9**
baz=70
F24A ⇑P **P** **11 05 11.2 +0.9**
baz=70
C19A Slack Wire Ran 70.53 324 ⇓P **P** **11 05 11.9 +0.5**
baz=70
C19A ⇓P **P** **11 05 11.9 +0.5**
baz=70
EGMT Eagleton 70.54 325 ⇑P **P** **11 05 11.4 -0.1**
baz=70,SNR=5.9
EGMT ⇑P **P** **11 05 11.4 -0.1**
baz=70,SNR=5.9
B17A L&G Farms, Che 70.69 326 ⇑P **P** **11 05 12.3 -0.1**
baz=70
B17A ⇑P **P** **11 05 12.3 -0.1**
baz=70
D20A Manuel Ranch, 70.73 323 ⇑P **P** **11 05 13.4 +0.7**
baz=70,SNR=6.7
D20A ⇑P **P** **11 05 13.4 +0.7**
baz=70,SNR=6.7
A15A Johnson Ranch, 70.77 327 ⇑P **P** **11 05 13.4 +0.5**
baz=70,SNR=5.1
A15A ⇑P **P** **11 05 13.4 +0.5**
baz=70,SNR=5.1
F23A Volborg 70.82 321 ⇓P **P** **11 05 13.6 +0.4**
baz=70
F23A ⇓P **P** **11 05 13.6 +0.4**
baz=70
A14A Double T Ranch 71.01 327 ⇑P **P** **11 05 15.2 +0.8**
baz=71,SNR=8.3
A14A ⇑P **P** **11 05 15.2 +0.8**
baz=71,SNR=8.3
E20A Meyer Farm, Mu 71.22 323 ⇑P **P** **11 05 15.3 -0.3**
baz=71
E20A ⇑P **P** **11 05 15.3 -0.3**
baz=71
C17A Wharram Farm, 71.23 325 ⇓P **P** **11 05 16.4 +0.6**
baz=71,SNR=10
C17A ⇓P **P** **11 05 16.4 +0.6**
baz=71,SNR=10
G23A Biddle 71.24 320 ⇓P **P** **11 05 15.9 +0.1**
baz=71
G23A ⇓P **P** **11 05 15.9 +0.1**
baz=71
D18A Linhart Farms, 71.26 324 ⇓P **P** **11 05 16.7 +0.8**
baz=71
D18A ⇓P **P** **11 05 16.7 +0.8**
baz=71
B15A Bradely Ranch, 71.28 327 ⇑P **P** **11 05 15.9 -0.1**
baz=71
B15A ⇑P **P** **11 05 15.9 -0.1**
baz=71
CMAR Chiang Mai Arr 71.36 84 P **P** **11 05 17.6 +0.9**
comp=Z,2.2nm,1.0s,baz=309,slow=6.9,SNR=13
CMAR Chiang Mai Arr 71.36 84 P **P** **11 05 17.7 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 71.36 84 P **P** **11 05 17.6 +0.9**
C16A Fuhringer Ranc 71.44 326 ⇑P **P** **11 05 17.2 +0.2**
baz=71
C16A ⇑P **P** **11 05 17.2 +0.2**
baz=71
E19A Rath Farm, Rou 71.50 323 ⇑P **P** **11 05 18.1 +0.7**
baz=71
E19A ⇑P **P** **11 05 18.1 +0.7**
baz=71
G22A Birney 71.58 321 ⇓P **P** **11 05 18.8 +0.8**
baz=71
G22A ⇓P **P** **11 05 18.8 +0.8**
baz=71
D17A Six Diamond Ra 71.61 325 ⇑P **P** **11 05 18.7 +0.5**
baz=71,SNR=7.2
D17A ⇑P **P** **11 05 18.7 +0.5**
baz=71,SNR=7.2
C15A Salmond Ranch, 71.76 326 ⇑P **P** **11 05 19.3 +0.3**
baz=72
C15A ⇑P **P** **11 05 19.3 +0.3**
baz=72
E18A Harlowton 71.83 324 ⇓P **P** **11 05 19.9 +0.5**
baz=72,SNR=6.1
E18A ⇓P **P** **11 05 19.9 +0.5**
baz=72,SNR=6.1
B13A Whitefish 71.87 328 ⇓P **P** **11 05 19.9 +0.4**
baz=72
B13A ⇓P **P** **11 05 19.9 +0.4**
baz=72
F19A Roth Farm, Mol 72.07 323 ⇓P **P** **11 05 20.8 -0.1**
baz=72
F19A ⇓P **P** **11 05 20.8 -0.1**
baz=72
C14A Swan Lake 72.16 327 ⇓P **P** **11 05 21.5 +0.2**
baz=72
C14A ⇓P **P** **11 05 21.5 +0.2**
baz=72
F18A Big Timber 72.32 324 ⇑P **P** **11 05 22.9 +0.6**
baz=72
F18A ⇑P **P** **11 05 22.9 +0.6**
baz=72
G20A Bridger 72.33 322 ⇓P **P** **11 05 23.2 +0.8**
baz=72,SNR=8.3
G20A ⇓P **P** **11 05 23.2 +0.8**
baz=72,SNR=8.3
F17A Fitzpatrick Pl 72.66 324 ⇓P **P** **11 05 25.9 +1.4**
baz=72
F17A ⇓P **P** **11 05 25.9 +1.4**
baz=72
H20A Greybull 72.86 322 ⇑P **P** **11 05 25.7 +0.1**
baz=73
H20A ⇑P **P** **11 05 25.7 +0.1**
baz=73
E15A Deer Lodge 72.93 326 ⇓P **P** **11 05 26.6 +0.6**
baz=73,SNR=6.5
E15A ⇓P **P** **11 05 26.6 +0.6**
baz=73,SNR=6.5
D13A Huson 72.98 327 ⇓P **P** **11 05 27.3 +1.1**
baz=73
D13A ⇓P **P** **11 05 27.3 +1.1**
baz=73
MSO Missoula 73.03 327 ⇑P **P** **11 05 26.9 +0.3**
baz=73
MSO ⇑P **P** **11 05 26.9 +0.3**
baz=73
H19A Powell 73.09 322 ⇑P **P** **11 05 28.7 +1.7**
baz=73
H19A ⇑P **P** **11 05 28.7 +1.7**
baz=73
I21A Big Trails, Te 73.15 321 ⇑P **P** **11 05 28.1 +0.7**
baz=73
I21A ⇑P **P** **11 05 28.1 +0.7**
baz=73
J22A Midwest 73.16 320 ⇓P **P** **11 05 27.3 -0.2**
baz=73
J22A ⇓P **P** **11 05 27.3 -0.2**
baz=73
H18A Shoshone NF, C 73.34 323 ⇑P **P** **11 05 28.9 +0.3**
baz=73
H18A ⇑P **P** **11 05 28.9 +0.3**
baz=73
I20A Worland 73.36 321 ⇑P **P** **11 05 29.1 +0.5**
baz=73
I20A ⇑P **P** **11 05 29.1 +0.5**
baz=73
E13A Victor 73.45 327 ⇓P **P** **11 05 28.9 -0.2**
baz=73
E13A ⇓P **P** **11 05 28.9 -0.2**
baz=73
J21A Lysite 73.61 321 ⇑P **P** **11 05 30.1 0.0**
baz=73
J21A ⇑P **P** **11 05 30.1 0.0**
baz=73
G16A Moss Hill, Enn 73.66 324 ⇓P **P** **11 05 31.1 +0.7**
baz=73,SNR=6.0
G16A ⇓P **P** **11 05 31.1 +0.7**
baz=73,SNR=6.0
K22A Casper 73.82 320 ⇑P **P** **11 05 31.0 -0.3**
baz=74
K22A ⇑P **P** **11 05 31.0 -0.3**
baz=74
J20A Shoshoni 73.85 321 ⇓P **P** **11 05 31.6 +0.2**
baz=74
J20A ⇓P **P** **11 05 31.6 +0.2**
baz=74
G15A Dillon 73.96 325 ⇑P **P** **11 05 32.1 -0.1**
baz=74
G15A ⇑P **P** **11 05 32.1 -0.1**
baz=74
K19A Absolon Red Bu 74.59 321 ⇑P **P** **11 05 36.3 +0.4**
baz=74
K19A ⇑P **P** **11 05 36.3 +0.4**
baz=74
I16A Newdale 74.70 324 ⇓P **P** **11 05 38.4 +1.9**
baz=74,SNR=5.0
I16A ⇓P **P** **11 05 38.4 +1.9**
baz=74,SNR=5.0
J18A Kendall Valley 74.72 322 ⇑P **P** **11 05 38.0 +1.3**
baz=74,SNR=9.5
J18A ⇑P **P** **11 05 38.0 +1.3**
baz=74,SNR=9.5
H14A Leadore 74.75 325 ⇑P **P** **11 05 37.5 +0.7**
baz=74
H14A ⇑P **P** **11 05 37.5 +0.7**
baz=74
BW06 Boulder Array 74.92 322 *e*P **P** **11 05 39.4 +1.5**
comp=Z,27nm,2.2s
BW06 Boulder Array 74.92 322 ⇑P **P** **11 05 37.9 0.0**
baz=75
BW06 ⇑P **P** **11 05 37.9 0.0**
baz=75
BW06 ⇑P **P** **11 05 37.9 0.0**
baz=75
BW06 ⇑P **P** **11 05 37.9 0.0**
baz=75
PDAR Pinedale Array 74.92 322 P **P** **11 05 38.5 +0.7**
comp=Z,1.8nm,1.1s,baz=50,slow=4.6,SNR=8.7
PDAR Pinedale Array 74.92 322 P **P** **11 05 38.5 +0.7**
K18A Toltan Ranch, 75.22 322 ⇓P **P** **11 05 40.1 +0.6**
baz=75
K18A ⇓P **P** **11 05 40.1 +0.6**
baz=75
H12A Diamond D Ranc 75.33 326 ⇑P **P** **11 05 40.0 -0.1**
baz=75
H12A ⇑P **P** **11 05 40.0 -0.1**
baz=75
I13A Wildhorse Cree 75.63 325 ⇑P **P** **11 05 43.8 +1.9**
baz=75,SNR=7.2
I13A ⇑P **P** **11 05 43.8 +1.9**
baz=75,SNR=7.2
K16A Soda Springs 75.64 323 ⇑P **P** **11 05 43.0 +1.1**
baz=75,SNR=7.2

K16A			⇑P	P	11 05 43.0	+1.1
	baz=75,SNR=7.2					
Q26A	**Hugo**	**75.65 316**	⇓P	P	11 05 43.9	+1.9
	baz=75					
Q26A			⇓P	P	11 05 43.9	+1.9
	baz=75					
N21A	**Black Mountain**	**75.81 319**	P	P	11 05 45.1	+2.1
	baz=76,SNR=5.5					
N21A			P	P	11 05 45.1	+2.1
	baz=76,SNR=5.5					
L18A	**Fontenelle, Gr**	**75.82 322**	P	P	11 05 45.6	+2.5
	baz=76,SNR=5.7					
L18A			P	P	11 05 45.6	+2.5
	baz=76,SNR=5.7					
R27A	**Eads**	**75.86 315**	⇓P	P	11 05 45.5	+2.3
	baz=76					
R27A			⇓P	P	11 05 45.5	+2.3
	baz=76					
O22A	**Kremmling**	**75.91 318**	⇓P	P	11 05 44.8	+1.1
	baz=76					
O22A			⇓P	P	11 05 44.8	+1.1
	baz=76					
J14A	**Carey**	**75.93 325**	⇑P	P	11 05 45.4	+1.9
	baz=76					
J14A			⇑P	P	11 05 45.4	+1.9
	baz=76					
HLID	**Hailey**	**76.04 325**	*e*P	P	11 05 45.8	+1.6
	comp=Z,9.2nm,1.4s					
HLID	**Hailey**	**76.04 325**	⇓P	P	11 05 45.8	+1.6
	baz=76					
HLID			⇓P	P	11 05 45.8	+1.6
	baz=76					
N20A	**Spence Gulch,**	**76.05 320**	⇑P	P	11 05 46.5	+2.1
	baz=76,SNR=9.4					
N20A			⇑P	P	11 05 46.5	+2.1
	baz=76,SNR=9.4					
N19A	**John Jarvie Ra**	**76.36 320**	⇓P	P	11 05 47.2	+1.2
	baz=76,SNR=6.2					
N19A			⇓P	P	11 05 47.2	+1.2
	baz=76,SNR=6.2					
K14A	**Jones Ranch, D**	**76.48 324**	⇓P	P	11 05 48.4	+1.8
	baz=76					
K14A			⇓P	P	11 05 48.4	+1.8
	baz=76					
P22A	**Eagle**	**76.48 318**	⇑P	P	11 05 48.4	+1.6
	baz=76,SNR=7.1					
P22A			⇑P	P	11 05 48.4	+1.6
	baz=76,SNR=7.1					
T28A	**Walsh**	**76.52 314**	⇑P	P	11 05 48.5	+1.6
	baz=76					
T28A			⇑P	P	11 05 48.5	+1.6
	baz=76					
R25A	**Fountain Ranch**	**76.63 316**	⇓P	P	11 05 49.5	+1.9
	baz=76					
R25A			⇓P	P	11 05 49.5	+1.9
	baz=76					
O20A	**White River Ci**	**76.63 319**	⇓P	P	11 05 49.0	+1.4
	baz=76					
O20A			⇓P	P	11 05 49.0	+1.4
	baz=76					
MFID	**Camas Ranch**	**76.67 326**	⇓P	P	11 05 47.7	0.0
	baz=76					
MFID			⇓P	P	11 05 47.7	0.0
	baz=76					
HWUT	**Hardware Ranch**	**76.68 322**	*e*P	P	11 05 49.2	+1.3
	comp=Z,11nm,1.3s					
P21A	**Newcastle**	**76.82 319**	⇓P	P	11 05 49.9	+1.2
	baz=76					
P21A			⇓P	P	11 05 49.9	+1.2
	baz=76					
O19A	**Miners Draw (B**	**76.85 320**	⇓P	P	11 05 50.4	+1.6
	baz=77,SNR=11					
O19A			⇓P	P	11 05 50.4	+1.6
	baz=77,SNR=11					
R24A	**Sanders Place,**	**76.92 316**	⇓P	P	11 05 49.5	+0.2
	baz=77					
R24A			⇓P	P	11 05 49.5	+0.2
	baz=77					
L14A	**Malta**	**76.94 324**	⇓P	P	11 05 51.6	+2.3
	baz=77,SNR=6.1					
L14A			⇓P	P	11 05 51.6	+2.3
	baz=77,SNR=6.1					
M16A	**Huntsville**	**76.96 322**	⇑P	P	11 05 50.5	+1.0
	baz=77					
M16A			⇑P	P	11 05 50.5	+1.0
	baz=77					
N17A	**Moffit Pass**	**76.97 322**	⇑P	P	11 05 50.6	+0.9
	baz=77,SNR=5.6					
N17A			⇑P	P	11 05 50.6	+0.9
	baz=77,SNR=5.6					
S25A	**Robets Cordova**	**77.10 315**	⇑P	P	11 05 51.4	+1.1
	baz=77					
S25A			⇑P	P	11 05 51.4	+1.1
	baz=77					
M15A	**Larsen Ranch,**	**77.14 323**	⇓P	P	11 05 49.9	-0.5
	baz=77					
M15A			⇓P	P	11 05 49.9	-0.5
	baz=77					
Q22A	**Crested Butte,**	**77.16 318**	⇓P	P	11 05 51.6	+0.9
	baz=77,SNR=6.9					
Q22A			⇓P	P	11 05 51.6	+0.9
	baz=77,SNR=6.9					
O18A	**Roosevelt**	**77.23 321**	⇑P	P	11 05 52.1	+1.2
	baz=77					
O18A			⇑P	P	11 05 52.1	+1.2
	baz=77					
P20A	**De Beque**	**77.23 319**	⇑P	P	11 05 51.7	+0.7
	baz=77					
P20A			⇑P	P	11 05 51.7	+0.7
	baz=77					
R23A	**Moffat**	**77.26 317**	⇑P	P	11 05 53.4	+2.0
	baz=77					
R23A			⇑P	P	11 05 53.4	+2.0
	baz=77					
P19A	**Cripple Cowboy**	**77.36 320**	⇑P	P	11 05 53.1	+1.4
	baz=77					
P19A			⇑P	P	11 05 53.1	+1.4
	baz=77					
Q21A	**Lamborn Mesa,**	**77.46 318**	⇑P	P	11 05 53.8	+1.6
	baz=77					
Q21A			⇑P	P	11 05 53.8	+1.6
	baz=77					
SDCO	**Great Sand Dun**	**77.50 316**	*e*P	P	11 05 53.4	+0.8
	comp=Z,6.0nm,1.3s					
SDCO	**Great Sand Dun**	**77.50 316**	⇑P	P	11 05 53.3	+0.7
	baz=77,SNR=5.9					
SDCO			⇑P	P	11 05 53.3	+0.7
	baz=77,SNR=5.9					
SDCO			⇑P	P	11 05 53.3	+0.7
	baz=77,SNR=5.9					
SDCO			⇑P	P	11 05 53.3	+0.7
	baz=77,SNR=5.9					
JLU	**Jordanelle**	**77.50 322**	*e*P	P	11 05 55.0	+2.4
	comp=Z,8.3nm,1.4s					
T25A	**Trinidad**	**77.53 315**	⇓P	P	11 05 52.3	-0.4
	baz=77					
T25A			⇓P	P	11 05 52.3	-0.4
	baz=77					
O17A	**Robinson Place**	**77.58 321**	⇑P	P	11 05 53.9	+0.9
	baz=77,SNR=6.6					
O17A			⇑P	P	11 05 53.9	+0.9
	baz=77,SNR=6.6					
R22A	**Saguache, Gunn**	**77.62 317**	⇑P	P	11 05 54.3	+1.0
	baz=77,SNR=5.3					
R22A			⇑P	P	11 05 54.3	+1.0
	baz=77,SNR=5.3					
Q20A	**Ridgley Place,**	**77.66 319**	⇓P	P	11 05 52.9	-0.4
	baz=77,SNR=5.9					
Q20A			⇓P	P	11 05 52.9	-0.4
	baz=77,SNR=5.9					
R21A	**Cimarron**	**77.84 318**	⇑P	P	11 05 56.0	+1.5
	baz=78,SNR=6.8					
R21A			⇑P	P	11 05 56.0	+1.5
	baz=78,SNR=6.8					
P18A	**Preston Nutter**	**77.87 320**	⇓P	P	11 05 55.7	+1.0
	baz=78					
P18A			⇓P	P	11 05 55.7	+1.0
	baz=78					
S22A	**4UR Ranch, Cre**	**78.06 317**	⇓P	P	11 05 57.7	+1.9
	baz=78,SNR=5.8					
S22A			⇓P	P	11 05 57.7	+1.9
	baz=78,SNR=5.8					
MPU	**Maple Canyon**	**78.08 322**	*e*P	P	11 05 57.1	+1.3
	comp=Z,18nm,1.3s					
U25A	**Circle Dot Ran**	**78.14 315**	⇓P	P	11 05 58.6	+2.5
	baz=78,SNR=6.9					
U25A			⇓P	P	11 05 58.6	+2.5
	baz=78,SNR=6.9					
Q18A	**Rafter H Ranch**	**78.27 320**	⇑P	P	11 05 57.8	+1.0
	baz=78,SNR=9.2					
Q18A			⇑P	P	11 05 57.8	+1.0
	baz=78,SNR=9.2					
R20A	**Redvale**	**78.34 318**	⇑P	P	11 05 57.6	+0.4
	baz=78					
R20A			⇑P	P	11 05 57.6	+0.4
	baz=78					
DUG	**Dugway**	**78.38 323**	*e*P	P	11 05 59.2	+1.9
DUG			pmax	pmax		
	comp=Z,9.0nm,1.1s					
DUG	**Dugway**	**78.38 323**	*e*P	P	11 05 59.2	+1.9
	comp=Z,8.6nm,1.1s					
DUG	**Dugway**	**78.38 323**	P	P	11 05 59.4	+2.0
	baz=78,SNR=9.5					
DUG			P	P	11 05 59.4	+2.0
	baz=78,SNR=9.5					
PV04	**Paradox Valley**	**78.38 319**	*e*P	P	11 05 58.9	+1.5
SRU	**San Rafael**	**78.42 320**	*e*P	P	11 05 58.7	+1.0
SRU			pmax	pmax		
	comp=Z,15nm,1.4s					
SRU	**San Rafael**	**78.42 320**	*e*P	P	11 05 58.7	+1.0
	comp=Z,15nm,1.4s					
SRU	**San Rafael**	**78.42 320**	⇑P	P	11 05 59.3	+1.6
	baz=78					
SRU			⇑P	P	11 05 59.3	+1.6
	baz=78					
PV10	**Paradox Valley**	**78.45 319**	*e*P	P	11 06 00.0	+2.1
	comp=Z,191nm,1.1s					
PV01	**Paradox Valley**	**78.46 319**	*e*P	P	11 05 59.2	+1.3
	comp=Z,542nm,1.3s					
S21A	**Coal Bank Pass**	**78.54 318**	⇑P	P	11 05 59.4	+1.0
	baz=78					
S21A			⇑P	P	11 05 59.4	+1.0
	baz=78					
R19A	**Curley Farm, L**	**78.61 319**	⇑P	P	11 06 00.0	+1.3
	baz=78,SNR=9.4					
R19A			⇑P	P	11 06 00.0	+1.3
	baz=78,SNR=9.4					
V25A	**Rancho No Teng**	**78.70 315**	⇑P	P	11 06 00.7	+1.4
	baz=78					
V25A			⇑P	P	11 06 00.7	+1.4
	baz=78					
R18A	**Canyonlands Na**	**78.79 320**	⇓P	P	11 06 00.8	+1.1
	baz=78					
R18A			⇓P	P	11 06 00.8	+1.1
	baz=78					
U23A	**El Rito**	**78.98 316**	⇓P	P	11 06 02.9	+2.1
	baz=79					
U23A			⇓P	P	11 06 02.9	+2.1
	baz=79					
S19A	**Harvey Farm, M**	**79.03 319**	⇓P	P	11 06 02.2	+1.1
	baz=79,SNR=6.7					
S19A			⇓P	P	11 06 02.2	+1.1
	baz=79,SNR=6.7					
W25A	**X Bar L Ranch,**	**79.15 314**	⇑P	P	11 06 03.0	+1.4
	baz=79					
W25A			⇑P	P	11 06 03.0	+1.4
	baz=79					
V23A	**Ortiz Mt. (NFS**	**79.47 316**	⇓P	P	11 06 05.6	+2.1
	baz=79					
V23A			⇓P	P	11 06 05.6	+2.1
	baz=79					
U21A	**Nageezi**	**79.53 317**	⇑P	P	11 06 04.7	+0.9
	baz=79					
U21A			⇑P	P	11 06 04.7	+0.9
	baz=79					
W24A	**Lazy 6 Ranch,**	**79.58 315**	⇓P	P	11 06 04.1	+0.1
	baz=79					
W24A			⇓P	P	11 06 04.1	+0.1
	baz=79					
MSU	**Marysvale**	**79.59 321**	*e*P	P	11 06 06.0	+1.9
MSU			pmax	pmax		
	comp=Z,37nm,2.2s					
MSU	**Marysvale**	**79.59 321**	*e*P	P	11 06 06.0	+1.9
	comp=Z,37nm,2.2s					
V22A	**San Miguel Ran**	**79.64 316**	⇓P	P	11 06 04.9	+0.4
	baz=79					
V22A			⇓P	P	11 06 04.9	+0.4
	baz=79					
S17A	**Black Ridge (B**	**79.80 320**	⇑P	P	11 06 05.3	+0.2
	baz=80					
S17A			⇑P	P	11 06 05.3	+0.2
	baz=80					
T18A	**Mexican Hat**	**79.85 319**	⇓P	P	11 06 06.3	+0.9
	baz=80,SNR=9.1					
T18A			⇓P	P	11 06 06.3	+0.9
	baz=80,SNR=9.1					
S16A	**Weppner Ranch,**	**80.05 320**	⇑P	P	11 06 07.1	+0.6
	baz=80					
S16A			⇑P	P	11 06 07.1	+0.6
	baz=80					
T17A	**Navajo Res., N**	**80.35 320**	⇓P	P	11 06 08.7	+0.4
	baz=80					
T17A			⇓P	P	11 06 08.7	+0.4
	baz=80					
U18A	**Rough Rock, Ch**	**80.47 319**	⇑P	P	11 06 09.1	+0.3
	baz=80					
U18A			⇑P	P	11 06 09.1	+0.3
	baz=80					
Z26A	**Caprock**	**80.56 313**	⇑P	P	11 06 10.6	+1.4
	baz=80					
Z26A			⇑P	P	11 06 10.6	+1.4
	baz=80					
Y24A	**Capitan**	**80.67 314**	⇓P	P	11 06 11.5	+1.5
	baz=80					
Y24A			⇓P	P	11 06 11.5	+1.5
	baz=80					
Z25A	**Roswell**	**80.89 313**	⇓P	P	11 06 11.4	+0.3
	baz=81,SNR=6.0					
Z25A			⇓P	P	11 06 11.4	+0.3
	baz=81,SNR=6.0					
Y23A	**Lovelace Mesa,**	**80.94 315**	⇓P	P	11 06 13.3	+1.9
	baz=81					
Y23A			⇓P	P	11 06 13.3	+1.9
	baz=81					
W20A	**Ramah**	**81.00 317**	⇑P	P	11 06 12.0	+0.3
	baz=81					
W20A			⇑P	P	11 06 12.0	+0.3
	baz=81					
R11A	**Troy Canyon, C**	**81.03 324**	⇓P	P	11 06 13.2	+1.4
	baz=81					
R11A			⇓P	P	11 06 13.2	+1.4
	baz=81					
U16A	**Tuba City**	**81.22 319**	⇑P	P	11 06 13.9	+1.1
	baz=81					
U16A			⇑P	P	11 06 13.9	+1.1
	baz=81					
X21A	**Alamocita Cree**	**81.27 316**	⇓P	P	11 06 14.8	+1.6
	baz=81,SNR=7.1					
X21A			⇓P	P	11 06 14.8	+1.6
	baz=81,SNR=7.1					
Y22A	**Socorro**	**81.34 315**	⇓P	P	11 06 15.2	+1.7
	baz=81					
Y22A			⇓P	P	11 06 15.2	+1.7
	baz=81					
U15A	**North Rim**	**81.44 320**	⇓P	P	11 06 15.2	+1.0
	baz=81					
U15A			⇓P	P	11 06 15.2	+1.0
	baz=81					
V17A	**Tonalea, Kykot**	**81.53 319**	⇓P	P	11 06 15.0	+0.5
	baz=81					
V17A			⇓P	P	11 06 15.0	+0.5
	baz=81					
226A	**Malaga, Loving**	**81.62 312**	⇑P	P	11 06 16.8	+1.9
	baz=81					
226A			⇑P	P	11 06 16.8	+1.9
	baz=81					
WCN	**Washoe City**	**81.67 327**	⇓P	P	11 06 17.0	+1.8
	baz=81					
WCN			⇓P	P	11 06 17.0	+1.8
	baz=81					
NVAR	**Mina Array Bea**	**81.95 325**	P	P	11 06 18.4	+1.7
	comp=Z,0.9nm,0.8s,baz=38,slow=7.5,SNR=6.4					
NVAR	**Mina Array Bea**	**81.95 325**	P	P	11 06 18.4	+1.7
Z20A	**Nine Sixteen R**	**82.75 316**	⇑P	P	11 06 21.9	+1.0
	baz=82					
Z20A			⇑P	P	11 06 21.9	+1.0
	baz=82					
324A	**Moseley Ranch,**	**82.78 313**	⇓P	P	11 06 21.2	+0.1
	baz=82					
324A			⇓P	P	11 06 21.2	+0.1
	baz=82					
628A	**Black Gap, Mar**	**83.20 310**	⇓P	P	11 06 23.3	+0.2
	baz=83					
628A			⇓P	P	11 06 23.3	+0.2
	baz=83					
526A	**Mary Lane Ranc**	**83.29 311**	⇑P	P	11 06 24.4	+0.7
	baz=83					
526A			⇑P	P	11 06 24.4	+0.7
	baz=83					
TXAR	**Lajitas Array**	**83.70 310**	P	P	11 06 27.1	+1.3
	comp=Z,3.0nm,1.2s,baz=45,slow=2.5,SNR=9.9					
TXAR	**Lajitas Array**	**83.70 310**	P	P	11 06 27.1	+1.3
TXAR			pmax	pmax		
	comp=Z,3.0nm,1.2s					
TXAR	**Lajitas Array**	**83.70 310**	P	P	11 06 27.1	+1.3
219A	**White Tail Can**	**83.99 316**	⇑P	P	11 06 27.9	+0.5
	baz=84					
219A			⇑P	P	11 06 27.9	+0.5
	baz=84					
ISA	**Isabella**	**84.48 324**	⇓P	P	11 06 31.3	+1.6
	baz=84					
ISA			⇓P	P	11 06 31.3	+1.6
	baz=84					

ISCJB ***11*** *10:57:53.3±1.0,51°.49N±0°.05×16°.05E±0°.05,h0km, Error ellipse: s-maj=7.3km s-min=4.0km az=27.0*
PRU ***11*** *10:57:54.9,51°.50N×16°.08E,h0km*
CSEM ***11*** *10:57:54.6±0.6,51°.48N×16°.08E,h2km,ML3.6/6, Error ellipse: s-maj=8.8km s-min=4.6km az=22.0*
WAR ***11*** *10:57:56.2,51°.45N×16°.13E*
ISC 11 10:57:54.1±1.6,**51°.50N**±0°.07×**16°.09E**±0°.04,**h0km,n25,** **σ0s74/45,1D,Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiac**	**0.67 169**		*i* Pg		**Pg**		**10 58 07.7**	**+0.7**
KSP					*e*Sg	**Sb**		**10 58 17.0**	**-1.5**
KSP	**Ksiac**	**0.67 169**		⇓*i* Pg		**Pg**		**10 58 07.7**	**+0.7**
KSP					*e*Sg	**Sb**		**10 58 17.0**	**-1.5**
UPC	**Upice**	**1.00 183**		*e*PG		**Pg**		**10 58 13.7**	**+0.5**
UPC	**Upice**	**1.00 183**		Pg		**Pg**		**10 58 13.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.16 173**		*e*PG		**Pg**		**10 58 16.5**	**+0.1**
DPC					*e*SG	**Sg**		**10 58 31.5**	**+0.1**
	comp=Z,37nm,0.3s								
DPC	**Dobruska-Polom**	**1.16 173**		Pg		**Pg**		**10 58 16.5**	**+0.1**
DPC					Sg	**Sg**		**10 58 31.5**	**+0.1**
	37nm,0.3s								
PVCC	**Panska Ves**	**1.37 225**		*e*PG		**Pg**		**10 58 20.9**	**+0.6**
PVCC					*e*SG	**Sn**		**10 58 39.4**	**+0.2**
	comp=Z,184nm,0.4s								
PVCC	**Panska Ves**	**1.37 225**		Pg		**Pg**		**10 58 20.9**	**+0.6**
PVCC					Sg	**Sn**		**10 58 39.4**	**+0.2**
	184nm,0.4s								
BRG	**Berggiesshubel**	**1.49 246**		PG		**Pb**		**10 58 22.6**	**0.0**
BRG					SG	**Sn**		**10 58 43.2**	**+0.9**
	148nm,0.4s								
KRLC	**Kraliky**	**1.49 163**		*e*PG		**Pg**		**10 58 22.9**	**+0.2**
KRLC	**Kraliky**	**1.49 163**		Pg		**Pg**		**10 58 22.9**	**+0.2**
PRU	**Pruhonice**	**1.81 214**		*e*PG		**Pg**		**10 58 28.1**	**-0.6**
PRU					*e*SG	**Sg**		**10 58 52.1**	**0.0**
	comp=Z,64nm,0.6s								
PRU	**Pruhonice**	**1.81 214**		Pg		**Pg**		**10 58 28.1**	**-0.6**
PRU					Sg	**Sg**		**10 58 52.1**	**0.0**
	64nm,0.6s								
CLL	**Collm**	**1.94 265**		*i* Pn		**Pn**		**10 58 27.2**	**-1.1**
CLL				*i* Pg		**Pb**		**10 58 30.2**	**-0.2**
CLL				*e*				10 58 33.0	
CLL				*e*Sg		**Sg**		**10 58 56.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.12 141**		*e*SG		**Sg**		**10 59 02.3**	**+0.2**
OKC	**Ostrava-Krasne**	**2.12 141**		Sg		**Sg**		**10 59 02.3**	**+0.2**
TREC	**Trest**	**2.24 190**		*e*PN		**Pn**		**10 58 33.4**	**+0.9**
TREC					*e*PG	**Pg**		**10 58 36.6**	**-0.5**
TREC					*e*SG	**Sg**		**10 59 06.0**	**-0.1**
	comp=Z,24nm,0.3s								
TREC	**Trest**	**2.24 190**		Pn		**Pn**		**10 58 33.4**	**+0.9**
TREC	**Trest**	**2.24 190**		Pg		**Pg**		**10 58 36.6**	**-0.5**
TREC					Sg	**Sg**		**10 59 06.0**	**-0.1**
	24nm,0.3s								
NKC	**Novy Kostel**	**2.63 243**		*e*PN		**Pn**		**10 58 38.2**	**+0.3**
NKC					*e*PG	**Pg**		**10 58 44.5**	**0.0**
NKC					*e*SG	**Sg**		**10 59 20.7**	**+2.1**
	comp=Z,94nm,0.3s								
NKC	**Novy Kostel**	**2.63 243**		Pn		**Pn**		**10 58 38.2**	**+0.3**
NKC	**Novy Kostel**	**2.63 243**		Pg		**Pg**		**10 58 44.5**	**0.0**
NKC					Sg	**Sg**		**10 59 20.7**	**+2.1**
	94nm,0.3s								
KHC	**Kasperske Hory**	**2.87 215**		*e*PN		**Pn**		**10 58 41.6**	**+0.5**
KHC					*e*PG	**Pg**		**10 58 48.4**	**-0.6**
KHC					*e*SG	**Sg**		**10 59 25.9**	**-0.3**
	comp=Z,9.8nm,0.3s								
KHC	**Kasperske Hory**	**2.87 215**		Pn		**Pn**		**10 58 41.6**	**+0.5**
KHC	**Kasperske Hory**	**2.87 215**		Pg		**Pg**		**10 58 48.4**	**-0.6**
KHC					Sg	**Sg**		**10 59 25.9**	**-0.3**
	9.8nm,0.3s								

IDC 11 11:03:46.1±1.6,**6°.55S×129°.60E,h0km,mb3.5/2,** **mb1 4.0/5,mb1mx3.7/16,mbtmp3.8/5,ML4.0/3,Error ellipse: s-maj=79.4km s-min=24.3km az=79.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.11 198**			Pn		Pn	11 06 40.5	+0.4
	0.6nm,0.3s,baz=40,slow=12,SNR=18								
FITZ					Sn		Sn	11 08 41.5	-15
	0.5nm,0.3s,baz=180,slow=16,SNR=4.9								
WRA	**Warramunga Arr**	**14.08 161**			Pn		Pn	11 07 06.8	-0.4
	0.6nm,0.3s,baz=341,slow=12,SNR=19								
WRA					Sn		Sn	11 09 30.1	-14
	0.7nm,0.3s,baz=328,slow=22,SNR=6.2								
ASAR	**Alice Springs**	**17.51 167**		P			Pn	11 07 52.1	+0.1
	0.9nm,0.3s,baz=341,slow=9.6,SNR=124								
ASAR					S		Sn	11 10 55.2	-13
	0.2nm,0.3s,baz=359,slow=25,SNR=6.3								
SONM	**Songino Array**	**57.89 342**		P			P	11 13 41.0	+1.0
	0.1nm,0.3s,baz=165,slow=6.3,SNR=3.7								
MKAR	**Makanchi Array**	**67.64 327**		P			P	11 14 44.1	-0.8
	0.5nm,0.4s,baz=123,slow=7.1,SNR=13								

ISCJB ***11*** *11:17:22.4±0.5,51°.46N±0°.02×16°.08E±0°.03,h0km, Error ellipse: s-maj=3.6km s-min=2.3km az=21.2*
CSEM ***11*** *11:17:23.4±0.2,51°.51N×16°.09E,h2km,ML3.5/11, Error ellipse: s-maj=3.3km s-min=2.1km az=18.0*
IPEC ***11*** *11:17:24.0±0.2,51°.53N×16°.17E,h9km±1km,ML2.4/3, Error ellipse: s-maj=1.4km s-min=0.6km az=43.0*
VIE ***11*** *11:17:25.8±0.4,51°.32N×16°.15E,h0km,mb2.4/3,ML2.9/6, Error ellipse: s-maj=2.7km s-min=2.5km az=121.0 64 km WNW of Wroclaw Suspected Mining induced.*
WAR ***11*** *11:17:25.4,51°.47N×16°.15E*
PRU ***11*** *11:17:25.1,51°.46N×16°.05E,h0km*
ISC 11 11:17:23.8±0.9,**51°.51N**±0°.04×**16°.08E**±0°.02,**h0km,n57,** **σ0s75/106,6C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiac**	**0.68 169**		*e*Pg		**Pg**		**11 17 37.2**	**+0.4**
KSP					*e*Sg	**Sg**		**11 17 46.7**	**+1.0**
KSP	**Ksiac**	**0.68 169**		*i* Pg		**Pg**		**11 17 37.2**	**+0.4**
KSP					*e*Sg	**Sg**		**11 17 46.4**	**+0.7**
KSP	**Ksiac**	**0.68 169**		⇓*i* Pg		**Pg**		**11 17 37.2**	**+0.4**
KSP					*e*Sg	**Sg**		**11 17 46.4**	**+0.7**
UPC	**Upice**	**1.01 182**		*e*PG		**Pg**		**11 17 43.2**	**+0.2**
UPC	**Upice**	**1.01 182**		Pg		**Pg**		**11 17 43.2**	**+0.2**
UPC					*e*Sg	**Sb**		**11 17 56.9**	**-1.0**
	baz=5.5								
DPC	**Dobruska-Polom**	**1.17 172**		*e*PG		**Pg**		**11 17 46.0**	**-0.2**
DPC					*e*SG	**Sg**		**11 18 01.5**	**+0.1**
	comp=Z,42nm,0.3s								
DPC	**Dobruska-Polom**	**1.17 172**		Pg		**Pg**		**11 17 46.0**	**-0.2**
DPC					Sg	**Sg**		**11 18 01.5**	**+0.1**
	42nm,0.3s								
PVCC	**Panska Ves**	**1.37 225**		*e*PG		**Pg**		**11 17 49.8**	**-0.2**
PVCC					*e*SG	**Sn**		**11 18 08.9**	**-0.1**
	comp=Z,230nm,0.4s								
PVCC	**Panska Ves**	**1.37 225**		*e*Pn		**Pg**		**11 17 50.0**	**0.0**
	baz=45								
PVCC					Sg	**Sn**		**11 18 08.9**	**-0.1**
	230nm,0.4s								
BRG	**Berggiesshubel**	**1.49 245**		PN		**Pn**		**11 17 51.1**	**-0.6**
BRG					PG	**Pg**		**11 17 52.6**	**+0.3**
BRG					SG	**Sn**		**11 18 12.7**	**+0.8**
	135nm,0.4s								
BRG	**Berggiesshubel**	**1.49 245**		*e*Pn		**Pn**		**11 17 51.9**	**+0.2**
	ba

KRLC	**Kraliky**	**1.51**	**163**	*e*PG	**Pg**	**11 17 52.3**	**-0.3**
KRLC				*e*SG	**Sn**	**11 18 12.2**	**-0.2**
KRLC	**Kraliky**	**1.51**	**163**	Pg	**Pg**	**11 17 52.3**	**-0.3**
KRLC				Sg	**Sn**	**11 18 12.2**	**-0.2**
RUE	**Ruedersdorf**	**1.72**	**305**	*e*Pn	**Pn**	**11 17 53.3**	**-1.6**
	baz=122						
RUE				*e*Sg	**Sb**	**11 18 19.0**	**+0.7**
	baz=122						
PRU	**Pruhonice**	**1.81**	**213**	*e*PG	**Pg**	**11 17 57.5**	**-0.9**
PRU				*e*SG	**Sb**	**11 18 20.5**	**-0.5**
	comp=Z,69nm,0.6s						
PRU	**Pruhonice**	**1.81**	**213**	*e*Pn	**Pn**	**11 17 55.9**	**-0.3**
	baz=33						
PRU	**Pruhonice**	**1.81**	**213**	Pg	**Pg**	**11 17 57.5**	**-0.9**
PRU				*e*Sg	**Sb**	**11 18 21.0**	**0.0**
	baz=33						
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	**11 17 56.8**	**-1.1**
	comp=Z,9.0nm,0.3s						
CLL				*i* Pg	**Pb**	**11 17 59.9**	**0.0**
CLL				*e*		11 18 04.0	
CLL				*e*Sg	**Sg**	**11 18 26.0**	**+0.1**
	comp=Z,38nm,0.4s						
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**11 17 56.6**	**-1.3**
	baz=82						
CLL				*e*Sg	**Sg**	**11 18 25.6**	**-0.3**
	baz=82						
RAC	**Raciborz**	**1.96**	**136**	*e*Pg	**Pg**	**11 18 01.2**	**-0.1**
RAC				*e*Sg	**Sg**	**11 18 28.2**	**+1.5**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	**11 17 57.4**	**-1.0**
	baz=334						
MORC				*e*Sg	**Sb**	**11 18 25.5**	**-0.2**
	comp=Z,25nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PG	**Pg**	**11 18 03.6**	**-1.0**
OKC				*e*SG	**Sg**	**11 18 31.1**	**-1.1**
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pg	**Pg**	**11 18 03.6**	**-1.0**
OKC				Sg	**Sg**	**11 18 31.1**	**-1.1**
VRAC	**Vranov**	**2.23**	**171**	*e*Pn	**Pn**	**11 18 02.4**	**+0.4**
	baz=353						
VRAC				*e*Sg	**Sb**	**11 18 32.9**	**-0.2**
	comp=Z,20nm,0.5s,baz=353						
TREC	**Trest**	**2.25**	**190**	*e*PN	**Pn**	**11 18 03.0**	**+0.7**
TREC				*e*PG	**Pg**	**11 18 06.0**	**-0.9**
TREC	**Trest**	**2.25**	**190**	Pn	**Pn**	**11 18 03.0**	**+0.7**
TREC	**Trest**	**2.25**	**190**	Pg	**Pg**	**11 18 06.0**	**-0.9**
TREC				*e*Sg	**Sg**	**11 18 35.3**	**-0.8**
	baz=11						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**11 18 05.5**	**+0.4**
	baz=357						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pg	**Pb**	**11 18 09.2**	**+0.3**
	baz=357						
KRUC				*e*Sg	**Sb**	**11 18 40.5**	**+0.8**
	comp=Z,21nm,0.6s,baz=357						
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**11 18 07.7**	**+0.2**
NKC				*e*PG	**Pg**	**11 18 13.6**	**-0.6**
NKC				*e*SG	**Sg**	**11 18 49.3**	**+1.0**
	comp=Z,122nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pn	**Pn**	**11 18 07.4**	**-0.1**
	baz=60						
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pg	**Pg**	**11 18 14.6**	**+0.4**
	baz=60						
NKC				Sg	**Sg**	**11 18 49.3**	**+1.0**
	comp=Z,122nm,0.3s						
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**11 18 15.2**	**-0.1**
OJC				*e*Sg	**Sg**	**11 18 50.1**	**0.0**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**11 18 15.2**	**-0.1**
OJC				*e*SG	**Sg**	**11 18 50.1**	**0.0**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**11 18 10.5**	**-0.3**
KHC				*e*PG	**Pb**	**11 18 16.8**	**+0.9**
KHC				*e*SG	**Sg**	**11 18 54.4**	**-1.6**
	comp=Z,10nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**215**	Pn	**Pn**	**11 18 10.5**	**-0.3**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg	**Pb**	**11 18 16.8**	**+0.9**
KHC				Sg	**Sg**	**11 18 54.4**	**-1.6**
	comp=Z,10nm,0.3s						
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**11 18 19.4**	**-0.8**
	baz=71						
MOX				*e*Sg	**Sg**	**11 18 58.9**	**+0.6**
	baz=71						
SMOL	**Smolenice**	**3.13**	**163**	*e*PG	**Pg**	**11 18 23.3**	**-0.3**
SMOL				*e*SG	**Sg**	**11 19 03.1**	**-1.0**
SMOL	**Smolenice**	**3.13**	**163**	*e*Pg	**Pg**	**11 18 23.3**	**-0.3**
SMOL				*e*Sg	**Sg**	**11 19 03.1**	**-1.0**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**11 18 14.0**	**-0.4**
	baz=40						
VYHS	**Vyhne**	**3.51**	**148**	*e*PN	**Pn**	**11 18 18.8**	**-0.7**
VYHS	**Vyhne**	**3.51**	**148**	*e*Pn	**Pn**	**11 18 18.8**	**-0.7**
CONA	**Conrad Observa**	**3.59**	**182**	⇑*i* Pn	**Pn**	**11 18 19.9**	**-0.8**
CONA				⇑*i* Sg	**Sg**	**11 19 18.6**	**-0.5**
	comp=Z,21nm,0.4s						
CONA	**Conrad Observa**	**3.59**	**182**	Pn	**Pn**	**11 18 19.9**	**-0.8**
CONA				Sg	**Sg**	**11 19 18.6**	**-0.5**
	comp=Z,21nm,0.4s						
MOA	**Molln**	**3.85**	**198**	⇑*i* Pn	**Pn**	**11 18 24.4**	**+0.2**
MOA				⇓*i* Sg	**Sg**	**11 19 27.5**	**+0.1**
	comp=Z,20nm,0.5s						
MOA	**Molln**	**3.85**	**198**	Pn	**Pn**	**11 18 24.5**	**+0.2**
MOA				Sg	**Sg**	**11 19 27.5**	**+0.1**
	comp=Z,20nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PN	**Pn**	**11 18 24.0**	**-1.1**
STHS				*e*PG	**Pg**	**11 18 38.8**	**+0.2**
STHS				*e*SG	**Sg**	**11 19 32.0**	**+2.7**
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*Pn	**Pn**	**11 18 24.0**	**-1.1**
KECS	**Kecovo**	**4.16**	**135**	*e*PN	**Pn**	**11 18 27.8**	**-0.6**
KECS				*e*PG	**Pg**	**11 18 42.2**	**-1.2**
KECS	**Kecovo**	**4.16**	**135**	*e*Pn	**Pn**	**11 18 27.8**	**-0.6**
ARSA	**Arzberg**	**4.28**	**185**	⇑*i* Pn	**Pn**	**11 18 29.6**	**-0.5**
ARSA				⇑*i* Sg	**Sg**	**11 19 41.0**	**-0.2**
	comp=Z,26nm,0.7s						
ARSA	**Arzberg**	**4.28**	**185**	Pn	**Pn**	**11 18 29.6**	**-0.5**
ARSA				Sg	**Sg**	**11 19 41.0**	**-0.2**
	comp=Z,26nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PG	**Pg**	**11 18 47.6**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*Pg	**Pg**	**11 18 47.6**	**+0.9**
KBA	**Koelnbreinsper**	**4.79**	**203**	⇓*i* Pn	**Pn**	**11 18 37.6**	**+0.4**
KBA				⇑*i* Sg	**Sg**	**11 19 58.7**	**+1.3**
	comp=Z,8.0nm,0.5s						
KBA	**Koelnbreinsper**	**4.79**	**203**	Pn	**Pn**	**11 18 37.6**	**+0.4**
KBA				Sg	**Sg**	**11 19 58.7**	**+1.3**
	comp=Z,8.0nm,0.5s						

*ISCJB **11** 11:22:47.5±0.3,6.67N±0.02×151.66W±0.05,h94km±4km, mb3.9/1,Error ellipse: s-maj=5.1km s-min=3.2km az=40.4*
*IDC **11** 11:22:48.6±1.9,60.53N×150.95W,h95km±32km,mb3.5/1, mb1 3.3/5,mb1mx3.0/27,mbtmp3.2/5,Error ellipse: s-maj=48.4km s-min=22.3km az=124.0*
*NEIC **11** 11:22:50.1,60.67N×151.69W,h70km,ML3.3(AEIC),After AEIC.*

ISC 11 11:22:47.7±0.9, 60.66N±0.03×151.68W±0.03, h87km±7km, n73,σ1°36/85, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REF	**Redoubt East F**	**0.54**	**252**	P	**Pn**	**11 23 02.9**	**+0.3**
REF				S	**Sn**	**11 23 13.5**	**-0.1**
RSO	**Redoubt South**	**0.57**	**250**	P	**Pn**	**11 23 03.3**	**+0.5**
CKL	**Chakachamna La**	**0.63**	**329**	P	**Pn**	**11 23 03.6**	**+0.2**
SLKM	**Skilak Lake**	**0.73**	**101**	P	**Pn**	**11 23 05.2**	**+0.9**
SPNW	**Spurr Northwes**	**0.82**	**327**	P	**Pn**	**11 23 05.9**	**+0.6**
STLK	**Strandline Lak**	**0.84**	**355**	P	**Pn**	**11 23 06.0**	**+0.5**
ILIM	**Iliamna**	**0.86**	**228**	P	**Pn**	**11 23 06.4**	**+0.7**
FIB	**Fire Island**	**0.89**	**55**	P	**Pn**	**11 23 07.8**	**+2.0**
FIB				S	**Sn**	**11 23 21.3**	**+1.8**
INE	**Iliamna NE**	**0.92**	**230**	P	**Pn**	**11 23 06.8**	**+0.5**
SUA	**Susitna One**	**0.93**	**29**	P	**Pn**	**11 23 07.3**	**+0.9**
SUA				S	**Sn**	**11 23 21.1**	**+0.8**
ILW	**Iliamna West**	**0.94**	**231**	P	**Pn**	**11 23 07.2**	**+0.6**
ILW				S	**Sn**	**11 23 21.0**	**+0.1**
BRLK	**Bradley Lake**	**0.98**	**156**	P	**Pn**	**11 23 08.2**	**+1.3**
BRLK				S	**Sn**	**11 23 23.0**	**+1.6**
ILS	**Iliamna Low So**	**0.99**	**225**	P	**Pn**	**11 23 08.0**	**+0.9**
RC01	**Rabbit Creek A**	**1.04**	**65**	P	**Pn**	**11 23 08.7**	**+1.1**
RC01				S	**Sn**	**11 23 24.0**	**+1.5**
SEW	**Seward**	**1.24**	**116**	P	**Pn**	**11 23 10.5**	**+0.6**
OPT	**Oil Point**	**1.27**	**218**	P	**Pn**	**11 23 11.9**	**+1.5**
SKT	**Skwentna**	**1.33**	**3**	P	**Pn**	**11 23 11.8**	**+0.7**
PMR	**Palmer**	**1.55**	**52**	P	**Pn**	**11 23 14.6**	**+0.7**
PMR				S	**Sn**	**11 23 33.9**	**+0.3**
AUE	**Augustine Isla**	**1.56**	**214**	P	**Pn**	**11 23 15.3**	**+1.4**
AUNW	**Augustine NWes**	**1.57**	**216**	P	**Pn**	**11 23 15.6**	**+1.5**
AUW	**Augustine West**	**1.58**	**216**	P	**Pn**	**11 23 15.7**	**+1.5**
TRAP	**Trapper Creek**	**1.82**	**22**	P	**Pn**	**11 23 18.5**	**+1.2**
SML	**Sawmill**	**1.98**	**53**	P	**Pn**	**11 23 20.3**	**+0.8**
FOPK	**Fourpeaked Vol**	**2.12**	**206**	P	**Pn**	**11 23 22.7**	**+1.4**
PPLA	**Purkeypile**	**2.26**	**354**	P	**Pn**	**11 23 24.4**	**+1.1**
SCM	**Sheep Creek Mo**	**2.41**	**59**	P	**Pn**	**11 23 26.2**	**+1.0**
KAPH	**Katmai Pasha**	**2.48**	**214**	P	**Pn**	**11 23 27.5**	**+1.4**
VLZ	**Valdez**	**2.65**	**77**	P	**Pn**	**11 23 28.9**	**+0.5**
TRF	**Thorofare Moun**	**2.88**	**13**	P	**Pn**	**11 23 32.7**	**+1.2**
KLU	**Klutina**	**2.92**	**71**	P	**Pn**	**11 23 32.6**	**+0.6**
DIV	**Divide**	**2.92**	**78**	P	**Pn**	**11 23 32.4**	**+0.3**
KDAK	**Kodiak Island**	**2.92**	**190**	P	**Pn**	**11 23 32.4**	**+0.4**
	11nm,0.3s,baz=18,slow=13,SNR=356						
KDAK				S	**Sn**	**11 24 05.1**	**-1.0**
	8.4nm,0.3s,baz=330,slow=20,SNR=3.1						
KDAK	**Kodiak Island**	**2.92**	**190**	P	**Pn**	**11 23 32.5**	**+0.5**
KAKN	**Katmai Knife C**	**2.93**	**218**	P	**Pn**	**11 23 33.7**	**+1.5**
KCE	**Katmai Mt Cerb**	**3.01**	**218**	P	**Pn**	**11 23 35.5**	**+2.2**
KABU	**Katmai Buttres**	**3.02**	**219**	P	**Pn**	**11 23 35.3**	**+1.8**
KELA	**Mount Kelaz**	**3.04**	**225**	P	**Pn**	**11 23 35.2**	**+1.5**
TT01	**Tatalina**	**3.06**	**319**	P	**Pn**	**11 23 34.8**	**+0.9**
RND	**Reindeer**	**3.06**	**25**	P	**Pn**	**11 23 35.1**	**+1.2**
TTA	**Tatalina**	**3.07**	**320**	*e*Pn	**Pn**	**11 23 34.7**	**+0.6**
TTA				*e*Sn	**Sn**	**11 24 09.2**	**-0.6**
DHY	**Denali Highway**	**3.17**	**38**	P	**Pn**	**11 23 36.6**	**+1.2**
MCK	**McKinley**	**3.34**	**21**	P	**Pn**	**11 23 39.2**	**+1.6**
GOAT	**Goat Mountain**	**3.42**	**88**	P	**Pn**	**11 23 38.6**	**-0.2**
BMRM	**Bremner River**	**3.48**	**82**	*e*Pn	**Pn**	**11 23 40.8**	**+1.2**
BMRM				*e*Sn	**Sn**	**11 24 19.5**	**-0.2**
OHAK	**Old Harbor**	**3.55**	**194**	P	**Pn**	**11 23 40.6**	**+0.2**
PAX	**Paxson**	**3.75**	**49**	P	**Pn**	**11 23 45.1**	**+1.9**
PLK1	**Peulik 1**	**3.83**	**224**	P	**Pn**	**11 23 46.4**	**+2.2**
NEA	**Nenana**	**4.11**	**16**	P	**Pn**	**11 23 49.5**	**+1.4**
HDA	**Harding Lake**	**4.35**	**28**	P	**Pn**	**11 23 53.3**	**+2.0**
CCB	**Clear Creek Bu**	**4.38**	**22**	P	**Pn**	**11 23 53.3**	**+1.6**
MLY	**Manley**	**4.41**	**5**	P	**Pn**	**11 23 53.3**	**+1.1**
MENT	**Mentasta**	**4.41**	**55**	*e*Pn	**Pn**	**11 23 53.2**	**+1.0**
BARK	**Barkley Ridge**	**4.54**	**89**	P	**Pn**	**11 23 55.8**	**+1.7**
COLA	**College**	**4.58**	**21**	P	**Pn**	**11 23 56.0**	**+1.6**
BALM	**Baldy**	**4.58**	**81**	P	**Pn**	**11 23 54.8**	**+0.3**
MDM	**Murphy Dome**	**4.59**	**19**	P	**Pn**	**11 23 56.0**	**+1.4**
ILAR	**Eielson Array**	**4.68**	**26**	P	**Pn**	**11 23 56.9**	**+1.1**
	8.4nm,0.3s,baz=210,slow=13,SNR=219						
ILAR				S	**Sn**	**11 24 47.9**	**-0.8**
	2.2nm,0.3s,baz=217,slow=19,SNR=5.5						
ILAR	**Eielson Array**	**4.68**	**26**	P	**Pn**	**11 23 56.9**	**+1.1**
ILAR				S	**Sn**	**11 24 47.9**	**-0.8**
IL1	**Eielson Array**	**4.68**	**26**	P	**Pn**	**11 23 57.3**	**+1.5**
ANNW	**Aniakchak Nort**	**5.03**	**225**	P	**Pn**	**11 24 00.8**	**+0.2**
RKAV	**Rock Avalanche**	**5.12**	**90**	P	**Pn**	**11 24 02.3**	**+0.3**
BCA3	**Beaver Creek A**	**5.27**	**58**	P	**Pn**	**11 24 05.2**	**+1.3**
IM3	**Indian Mountai**	**5.42**	**351**	P	**Pn**	**11 24 06.8**	**+0.9**
PRP	**Porcupine Dome**	**5.62**	**27**	P	**Pn**	**11 24 09.7**	**+1.0**
EGAK	**Eagle**	**6.36**	**45**	P	**Pn**	**11 24 19.5**	**+0.9**
COLD	**Coldfoot**	**6.63**	**5**	*e*Pn	**Pn**	**11 24 24.0**	**+1.7**
	16nm,0.7s						
DAWY	**Dawson**	**6.66**	**54**	P	**Pn**	**11 24 24.1**	**+1.4**
INK	**Inuvik**	**10.91**	**38**	P	**Pn**	**11 25 19.8**	**-0.8**
	0.2nm,0.3s,baz=228,slow=16,SNR=6.7						
INK	**Inuvik**	**10.91**	**38**	P	**Pn**	**11 25 19.8**	**-0.8**
YKA	**Yellowknife Ar**	**17.58**	**68**	P	**P**	**11 26 42.7**	**-3.9**
	0.1nm,0.3s,baz=283,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**17.58**	**68**	P	**P**	**11 26 42.7**	**-3.9**
SONM	**Songino Array**	**54.93**	**306**	P	**P**	**11 32 12.0**	**+2.7**
	0.8nm,0.6s,baz=49,slow=7.7,SNR=8.3						
SONM	**Songino Array**	**54.93**	**306**	P	**P**	**11 32 12.0**	**+2.7**

*CSEM **11** 11:55:26.1±0.3,33.59N×60.52E,h0km±1km,ML3.5,Error ellipse: s-maj=5.4km s-min=2.4km az=103.0*
*TEH **11** 11:55:27.3,33.62N×60.50E,h4km,ML3.5*

ISC 11 11:55:26.6±2.1, 33.59N±0.04×60.51E±0.10, h2km±13km, n25,σ0°29/30, 6C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHRT	**Shahrakht**	**0.19**	**286**	*e*Pg	**Pg**	**11 55 30.5**	**+0.2**
SHRT				*e*Sg	**Sg**	**11 55 32.6**	**-0.2**
IMON	**Monand**	**0.81**	**241**	⇑*e*Pg	**Pg**	**11 55 41.6**	**-0.5**
IMON				*e*		11 55 56.3	
	comp=Z,45μm,0.1s						
IMON	**Monand**	**0.81**	**241**	⇑*e*Pg	**Pg**	**11 55 41.6**	**-0.5**
IDAH	**Dahanechah**	**1.01**	**212**	⇑*e*Pg	**Pg**	**11 55 45.7**	**-0.2**
IDAH				*e*Sg	**Sg**	**11 55 59.3**	**+0.4**
IDAH				*e*		11 56 02.3	
	comp=Z,21μm,0.1s						
IDAH	**Dahanechah**	**1.01**	**212**	⇑*e*Pg	**Pg**	**11 55 45.7**	**-0.2**
IDAH				*e*Sg	**Sg**	**11 55 59.3**	**+0.4**
ITEG	**Tejag**	**1.63**	**245**	*e*Pn	**Pn**	**11 55 56.4**	**0.0**
ITEG				*e*Sg	**Sn**	**11 56 18.1**	**0.0**
ITEG				*e*		11 56 24.1	
	comp=Z,5μm,0.3s						
ITEG	**Tejag**	**1.63**	**245**	*e*Pn	**Pn**	**11 55 56.4**	**0.0**
ITEG				*e*Sg	**Sn**	**11 56 18.1**	**0.0**
IKOO	**Kooshah**	**1.72**	**228**	⇑*e*Pn	**Pn**	**11 55 57.8**	**+0.1**
IKOO				*e*		11 56 06.2	
	comp=Z,7μm,0.1s						
IKOO				*e*Sg	**Sg**	**11 56 22.3**	**+0.5**
IKOO	**Kooshah**	**1.72**	**228**	⇑*e*Pn	**Pn**	**11 55 57.8**	**+0.1**
IKOO				*e*Sg	**Sg**	**11 56 22.3**	**+0.5**
IMOG	**Moghan**	**2.69**	**339**	*e*Pn	**Pn**	**11 56 11.5**	**+0.4**
IMOG				*e*		11 57 01.4	
	comp=Z,1μm,0.2s						
IMOG	**Moghan**	**2.69**	**339**	*e*Pn	**Pn**	**11 56 11.5**	**+0.4**
IMYA	**Miami**	**2.76**	**353**	*e*Pn	**Pn**	**11 56 12.2**	**+0.2**
IMYA				*e*		11 57 00.9	
	comp=Z,2μm,0.2s						
IMYA	**Miami**	**2.76**	**353**	*e*Pn	**Pn**	**11 56 12.2**	**+0.2**
TABS	**Tabas**	**2.83**	**272**	*e*Pn	**Pn**	**11 56 13.1**	**+0.2**
ISRO	**Mashad**	**2.84**	**343**	*e*Sg	Sg	11 56 54.8	-3.4
IPAY	**Payeh**	**3.11**	**337**	*e*Pn	**Pn**	**11 56 16.7**	**-0.1**
IPAY				*e*		11 56 57.6	
	comp=Z,1μm,0.2s						
IPAY	**Payeh**	**3.11**	**337**	*e*Pn	**Pn**	**11 56 16.7**	**-0.1**
IAKL	**Akhelmad**	**3.33**	**335**	*e*Pn	**Pn**	**11 56 19.7**	**-0.2**
IAKL				*e*		11 57 01.1	
	comp=Z,641nm,0.1s						
IAKL	**Akhelmad**	**3.33**	**335**	*e*Pn	**Pn**	**11 56 19.7**	**-0.2**
IKRD	**Kardeh**	**3.57**	**333**	*e*Pn	Pn	11 56 18.9	-4.3
IKRD				*e*		11 57 17.1	
	comp=Z,747nm,0.2s						
IKRD				*e*		11 57 21.0	
	comp=N,2μm,0.2s						
IEMG	**Emamgholi**	**4.10**	**339**	*e*Pn	**Pn**	**11 56 30.2**	**-0.4**
IEMG				*e*		11 57 44.7	
	comp=Z,360nm,0.2s						
IEMG	**Emamgholi**	**4.10**	**339**	*e*Pn	**Pn**	**11 56 30.2**	**-0.4**
IBAF	**Bafgh**	**4.62**	**246**	*e*Pn	**Pn**	**11 56 37.6**	**0.0**
IBAF				*e*		11 58 04.1	
	comp=Z,206nm,0.3s						
IBAF	**Bafgh**	**4.62**	**246**	*e*Pn	**Pn**	**11 56 37.6**	**0.0**
MRVT	**Maraveh tapeh**	**5.42**	**320**	*e*Pn	**Pn**	**11 56 48.6**	**+0.1**

IDC 11 12:03:53.5±1.3, 6.61N×123.62E, h626km±17km, mb3.4/13, mb1 3.5/13, mb1mx3.3/22, mbtmp3.4/13, Error ellipse: s-maj=22.2km s-min=6.9km az=72.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.63**	**175**	P	P	12 08 27.7	+0.4
	1.4nm,0.3s,baz=358,slow=14,SNR=16						
FITZ				S	S	12 12 05.2	-1.5
	2.6nm,0.8s,baz=40,slow=14,SNR=6.7						
CMAR	**Chiang Mai Arr**	**26.77**	**298**	P	P	12 08 46.5	+0.3
	4.2nm,0.7s,baz=113,slow=7.2,SNR=32						
WRA	**Warramunga Arr**	**28.41**	**158**	P	P	12 09 00.6	+0.2
	15nm,0.4s,baz=341,slow=9.3,SNR=230						
WRA				S	S	12 13 03.6	-2.0
	1.4nm,0.5s,baz=334,slow=15,SNR=12						
WRA				ScP	ScP	12 14 36.1	+1.6
	0.9nm,0.5s,baz=342,slow=3.1,SNR=6.7						
ASAR	**Alice Springs**	**31.72**	**162**	P	P	12 09 29.7	+1.0
	10nm,0.4s,baz=341,slow=6.9,SNR=617						
ASAR				PcP	PcP	12 12 01.2	+0.9
	1.0nm,0.6s,baz=352,slow=2.7,SNR=5.6						
ASAR				S	S	12 13 56.7	+0.4
	4.2nm,0.7s,baz=351,slow=20,SNR=24						
ASAR				ScP	ScP	12 14 47.3	+1.8
	0.7nm,0.6s,baz=343,slow=2.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**32.65**	**22**	P	P	12 09 34.6	-1.6
	1.3nm,0.6s,baz=202,slow=10,SNR=6.8						
FORT	**Forrest**	**37.42**	**174**	*e*P	P	12 10 15.1	-0.5
	13nm,0.5s						
TAPN	**Taplejung**	**39.83**	**305**	*e*P	P	12 10 35.5	-0.1
	10nm,0.5s						
ODAN	**Odare**	**39.89**	**305**	*e*P	P	12 10 36.0	0.0
RAMN	**Ramite**	**40.58**	**304**	*e*P	P	12 10 40.9	-0.5
	15nm,0.8s						
ASAJ	**Asahikawa**	**40.89**	**21**	P	P	12 10 43.8	+0.5
	7.8nm,0.9s,baz=300,slow=26,SNR=5.1						
BBOO	**Buckleboo**	**40.95**	**164**	*e*P	P	12 10 42.9	-1.0
	39nm,0.3s						
JIRN	**Jiri**	**41.19**	**305**	*e*P	P	12 10 46.1	-0.3
	16nm,0.7s						
GUN	**Gumba**	**41.54**	**305**	*e*P	P	12 10 48.8	-0.3
	14nm,0.4s						
PKI	**Pulchoki**	**41.79**	**305**	*e*P	P	12 10 50.2	-0.9
STKA	**Stephens Creek**	**41.94**	**157**	P	P	12 10 53.0	+1.4
	11nm,0.6s,baz=340,slow=8.8,SNR=18						
STKA	**Stephens Creek**	**41.94**	**157**	*e*P	P	12 10 53.0	+1.4
	7.6nm,0.6s						
KKN	**Kakani**	**41.98**	**305**	*e*P	P	12 10 52.0	-0.4
GKN	**Gorkha**	**42.59**	**305**	*e*P	P	12 10 56.6	-0.4
	7.5nm,0.4s						
KOLN	**Koldanda**	**43.35**	**304**	*e*P	P	12 11 03.1	+0.1
	27nm,0.6s						
CMSA	**Cobar Meteorol**	**43.40**	**152**	*e*P	P	12 11 04.9	+1.9
	37nm,0.6s						
DANN	**Dangsing**	**43.44**	**305**	*e*P	P	12 11 03.6	-0.2
	31nm,0.5s						
SONM	**Songino Array**	**43.63**	**343**	P	P	12 11 04.9	+0.2
	3.0nm,0.7s,baz=161,slow=8.7,SNR=22						
ARMA	**Armidale**	**45.57**	**145**	*e*P	P	12 11 22.2	+2.5
MKAR	**Makanchi Array**	**53.44**	**326**	P	P	12 12 17.3	+0.4
	8.4nm,0.5s,baz=121,slow=8.0,SNR=188						
ZALV	**Zalesovo Beam**	**56.64**	**334**	P	P	12 12 38.2	-0.6
	1.5nm,0.5s,baz=124,slow=6.8,SNR=8.6						
BRTR	**Keskin Array B**	**85.81**	**309**	P	P	12 15 27.1	-1.6
	0.4nm,0.4s,baz=121,slow=5.3,SNR=4.4						
ARCES	**ARCESS Array B**	**86.69**	**340**	P	P	12 15 31.0	-1.1
	2.6nm,0.9s,baz=96,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**87.84**	**332**	P	P	12 15 36.9	-0.7
	4.2nm,0.9s,baz=79,slow=7.4,SNR=5.4						
PLCA	**Paso Flores**	**143.73**	**162**	PKP	PKPdf	12 22 20.5	+1.4
	1.8nm,0.6s,baz=234,slow=10,SNR=6.0						

*ISK **11** 12:11:36.0,38.68N×40.14E,h11km,MD2.8*
*ISCJB **11** 12:11:37.3±0.4,38.74N±0.03×40.10E±0.04,h11km,Error ellipse: s-maj=4.6km s-min=3.9km az=11.4*
*DDA **11** 12:11:37.2,38.68N×40.17E,h7km,MD2.8*
*CSEM **11** 12:11:38.2±0.3,38.71N×40.03E,h20km,MD2.8,Error ellipse: s-maj=7.3km s-min=5.8km az=157.0*

ISC 11 12:11:37.1±0.8, 38.71N±0.03×40.12E±0.03, h11km, n21, σ0°89/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.34**	**60**	*e*Pg	**Pg**	**12 11 46.4**	**+2.5**
BINT				*e*Sg	Sg	12 11 54.6	+6.2
BNGB	**Bing˜¶l**	**0.52**	**57**	*e*PG	**Pg**	**12 11 46.4**	**-0.9**
BNGB				*e*SG	**Sg**	**12 11 54.6**	**+0.3**
PTK	**Pertek**	**0.59**	**288**	*e*PG	**Pg**	**12 11 48.1**	**-0.6**
PTK				*e*SG	**Sb**	**12 11 58.0**	**-0.2**
PTK	**Pertek**	**0.59**	**288**	*e*Pg	**Pg**	**12 11 48.1**	**-0.6**
PTK				*e*Sg	**Sb**	**12 11 58.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.72**	**243**	*e*PG	**Pg**	**12 11 50.7**	**-0.3**
**

s-min=23.0km az=74.0
*ISCJB **11** 12:17:15.5±1.6, 0.°4S±0.°2×133.°3E±0.°4, h28km, mb3.9/3, Error ellipse: s-maj=54.0km s-min=18.5km az=166.6*
*NEIC **11** 12:17:18.2±1.2, 0.°41S×133.°40E, h35km, mb4.6/3, Error ellipse: s-maj=43.7km s-min=13.7km az=75.0*

ISC 11 12:17:17.4±1.6, 0.°5S±0.°2×133.°3E±0.°4, h28km, n13, σ0^{s}47/13, mb4.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.10**	**203**	P		**Pn**		**12 21 38.9**	**-0.2**
	0.2nm,0.3s,baz=26,slow=11,SNR=12								
FITZ					LR	LR		12 28 40.8	
	comp=Z,29nm,19.8s,baz=158,slow=36								
FITZ	**Fitzroy Crossi**	**19.10**	**203**	*e*P		**Pn**		**12 21 39.0**	**-0.2**
	139nm,2.4s								
WRAB	**Tennant Creek**	**19.39**	**177**	*e*P		**Pn**		**12 21 41.6**	**-1.0**
	92nm,1.8s								
WB2	**Warramunga Arr**	**19.40**	**177**	*e*P		**Pn**		**12 21 42.1**	**-0.6**
WRA	**Warramunga Arr**	**19.40**	**177**	P		**P**		**12 21 41.6**	**+0.1**
	0.4nm,0.3s,baz=355,slow=11,SNR=38								
WRA	**Warramunga Arr**	**19.40**	**177**	P		**P**		**12 21 41.6**	**+0.1**
AS31	**Alice Springs**	**23.08**	**179**	*e*P		**P**		**12 22 21.7**	**+0.6**
ASAR	**Alice Springs**	**23.09**	**179**	P		**P**		**12 22 21.3**	**+0.2**
	3.3nm,0.4s,baz=357,slow=10,SNR=101								
ASAR	**Alice Springs**	**23.09**	**179**	P		**P**		**12 22 21.3**	**+0.2**
STKA	**Stephens Creek**	**32.22**	**167**	P		**P**		**12 23 43.9**	**+0.5**
	4.3nm,0.6s,baz=340,slow=8.6,SNR=12								
STKA	**Stephens Creek**	**32.22**	**167**	*e*P		**P**		**12 23 43.6**	**+0.2**
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**64.76**	**324**	P		**P**		**12 27 53.3**	**-0.1**
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.7								
MKAR	**Makanchi Array**	**64.76**	**324**	P		**P**		**12 27 53.3**	**-0.1**

*IDC **11** 12:17:37.9±0.9, 51.°88N×172.°41E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/29, mbtmp3.8/12, ML3.6/1, Error ellipse: s-maj=19.8km s-min=12.6km az=144.0*
*ISCJB **11** 12:17:39.5±0.8, 51.°9N±0.°1×172.°3E±0.°1, h26km, mb3.9/12, Error ellipse: s-maj=16.8km s-min=7.4km az=154.1*
*NEIC **11** 12:17:39.8±0.8, 52.°02N×172.°40E, h10km, mb4.5/3, Error ellipse: s-maj=21.5km s-min=6.7km az=170.0*

ISC 11 12:17:41.6±0.9, 52.°1N±0.°1×172.°16E±0.°06, h26km, n29, σ1^{s}64/34, mb3.7/12, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.03**	**36**	Pn		**Pn**		**12 17 59.9**	**-0.5**
	38nm,0.3s,baz=176,slow=3.1,SNR=352								
FX1				Sn		**Sn**		**12 18 14.4**	**+0.4**
	456nm,0.3s,baz=235,slow=22,SNR=60								
FX1	**Attu Island--F**	**1.03**	**36**	Pn		**Pn**		**12 17 59.9**	**-0.5**
FX1				Sn		**Sn**		**12 18 14.4**	**+0.4**
SMY	**Shemya**	**1.37**	**60**	*e*Pn		**Pn**		**12 18 03.2**	**-1.8**
SMY				*e*Sn		**Sn**		**12 18 21.0**	**-1.3**
PETK	**Petropavlovsk-**	**8.87**	**283**	Pn		**Pn**		**12 19 50.0**	**+2.1**
	0.7nm,0.3s,baz=99,slow=20,SNR=16								
PETK				Sn		**Sn**		**12 21 22.0**	**-4.9**
	0.3nm,0.3s,baz=73,slow=17,SNR=3.2								
PETK	**Petropavlovsk-**	**8.87**	**283**	Pn		**Pn**		**12 19 50.0**	**+2.1**
PETK				Sn		**Sn**		**12 21 22.0**	**-4.9**
KDAK	**Kodiak Island**	**20.89**	**60**	P		**P**		**12 22 20.3**	**-1.2**
	5.5nm,0.3s,baz=311,slow=9.3,SNR=12								
KDAK	**Kodiak Island**	**20.89**	**60**	P		**P**		**12 22 20.3**	**-1.2**
MCK	**McKinley**	**23.33**	**45**	*e*P		**P**		**12 22 47.1**	**-0.2**
	14nm,1.1s								
ILAR	**Eielson Array**	**24.42**	**43**	P		**P**		**12 22 56.9**	**-0.8**
	0.8nm,0.4s,baz=253,slow=8.3,SNR=40								
ILAR	**Eielson Array**	**24.42**	**43**	P		**P**		**12 22 56.9**	**-0.8**
YKA	**Yellowknife Ar**	**38.80**	**45**	P		**P**		**12 25 04.1**	**+0.5**
	1.0nm,0.6s,baz=287,slow=8.0,SNR=11								
YKA	**Yellowknife Ar**	**38.80**	**45**	P		**P**		**12 25 04.1**	**+0.5**
SONM	**Songino Array**	**41.23**	**291**	P		P		12 25 27.5	+3.3
	0.2nm,0.6s,baz=40,slow=7.7,SNR=3.1								
SONM	**Songino Array**	**41.23**	**291**	P		P		12 25 27.5	+3.3
NVAR	**Mina Array Bea**	**48.97**	**77**	P		**P**		**12 26 25.4**	**-0.5**
	0.2nm,0.4s,baz=291,slow=7.2,SNR=4.3								
NVAR				PcP		**PcP**		**12 27 49.4**	**-0.3**
	0.4nm,0.7s,baz=285,slow=3.5,SNR=3.4								
NVAR	**Mina Array Bea**	**48.97**	**77**	P		**P**		**12 26 25.4**	**-0.5**
NVAR				PcP		**PcP**		**12 27 49.4**	**-0.3**
ULM	**Lac du Bonnet**	**53.88**	**53**	P		**P**		**12 27 02.4**	**+0.2**
	1.5nm,0.5s,baz=308,slow=7.7,SNR=4.6								
ULM	**Lac du Bonnet**	**53.88**	**53**	P		**P**		**12 27 02.4**	**+0.2**
KURK	**Kurchatov**	**54.34**	**309**	P		**P**		**12 27 07.7**	**+2.2**
	1.4nm,0.7s,baz=53,slow=7.4,SNR=16								
KURK	**Kurchatov**	**54.34**	**309**	*e*P		**P**		**12 27 06.9**	**+1.4**
	1.2nm,0.5s								
MKAR	**Makanchi Array**	**55.07**	**303**	P		**P**		**12 27 11.5**	**+0.6**
	0.2nm,0.4s,baz=50,slow=7.3,SNR=4.8								
MKAR	**Makanchi Array**	**55.07**	**303**	P		**P**		**12 27 11.5**	**+0.6**
BVAR	**Borovoye Array**	**56.58**	**315**	P		**P**		**12 27 23.3**	**+1.7**
	0.3nm,0.5s,baz=75,slow=6.3,SNR=5.4								
BVAR	**Borovoye Array**	**56.58**	**315**	P		**P**		**12 27 23.3**	**+1.7**
SCHQ	**Schefferville**	**62.77**	**34**	P		**P**		**12 28 04.3**	**+0.1**
	4.8nm,0.8s,baz=324,slow=6.4,SNR=8.2								
SCHQ	**Schefferville**	**62.77**	**34**	P		**P**		**12 28 04.3**	**+0.1**
TXAR	**Lajitas Array**	**64.02**	**75**	P		**P**		**12 28 12.8**	**-0.1**
	0.4nm,0.6s,baz=312,slow=5.9,SNR=9.1								
TXAR	**Lajitas Array**	**64.02**	**75**	P		**P**		**12 28 12.8**	**-0.1**
NIL	**Nilore**	**69.26**	**298**	*e*P		**P**		**12 28 47.4**	**+1.2**
	10nm,0.6s								

IDC 11 12:24:50.8±2.7, 1.°55S×133.°31E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=132.4km s-min=26.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.31**	**177**	P		P		12 29 06.8	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=6.4								
ASAR	**Alice Springs**	**22.00**	**179**	P		P		12 29 46.6	-0.2
	0.3nm,0.4s,baz=354,slow=10,SNR=10								
MKAR	**Makanchi Array**	**65.63**	**324**	P		P		12 35 36.9	0.0
	0.1nm,0.6s,baz=113,slow=11,SNR=2.1								

IDC 11 12:31:25.1±2.1, 1.°04S×132.°88E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/28, Error ellipse: s-maj=110.7km s-min=23.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.84**	**176**	P		Pn		12 35 47.8	+0.5
	0.2nm,0.3s,baz=355,slow=11,SNR=21								
ASAR	**Alice Springs**	**22.52**	**178**	P		P		12 36 27.1	+0.6
	2.0nm,0.8s,baz=354,slow=10.0,SNR=20								
JOW	**Kunigami**	**28.06**	**351**	LR		LR		12 46 47.5	
	comp=Z,89nm,19.8s,baz=48,slow=33								
STKA	**Stephens Creek**	**31.76**	**166**	P		P		12 37 49.7	-1.4
	1.0nm,0.5s,baz=345,slow=12,SNR=4.2								
MKAR	**Makanchi Array**	**64.97**	**324**	P		P		12 42 07.0	+0.1
	0.1nm,0.4s,baz=134,slow=8.5,SNR=2.3								

*MAN **11** 12:40:10, 11.°94N×122.°29E, h103km, mb4.3, ML3.1, MS2.9*
*ISCJB **11** 12:40:11.4±0.6, 13.°98N±0.°07×120.°6E±0.°1, h120km, mb3.4/5, Error ellipse: s-maj=14.6km s-min=9.6km az=10.7*
*IDC **11** 12:40:11.9±0.9, 14.°03N×120.°63E, h104km±11km, mb3.0/5, mb1 3.2/5, mb1mx3.0/21, mbtmp3.0/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/12, Error ellipse: s-maj=42.9km s-min=17.1km az=60.0*

ISC 11 12:40:12.6±0.9, 13.°99N±0.°07×120.°6E±0.°1, h120km, n13, σ1^{s}72/13, mb3.3/5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.40**	**73**	P		**Pn**		**12 40 27.8**	**-2.3**
	575nm,0.3s,baz=255,slow=1.7,SNR=35								
TGY				S		**Sn**		**12 40 40.3**	**-2.9**
	939nm,0.3s,baz=330,slow=23,SNR=21								
TGY	**Tagaytay City**	**0.40**	**73**	⇓*i*P		**Pn**		**12 40 27.7**	**-2.3**
BOAC	**Boac**	**1.36**	**112**	*e*P		**Pn**		**12 40 39.2**	**+0.7**
BUSP	**Coron**	**2.00**	**190**	*e*P		**Pn**		**12 40 44.7**	**-1.4**
BALP	**Baler**	**2.01**	**30**	*e*P		**Pn**		**12 40 45.0**	**-1.2**
ENPP	**El Nido**	**2.97**	**202**	*e*P		**Pn**		**12 40 57.2**	**-1.4**
CAUP	**Cauayan**	**3.19**	**23**	*e*P		**Pn**		**12 41 00.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.21**	**285**	P		**P**		**12 44 50.0**	**+1.1**
	1.5nm,0.8s,baz=94,slow=8.8,SNR=11								
USRK	**Ussuriysk Arra**	**31.66**	**16**	LR		LR		12 59 33.5	
	comp=Z,53nm,18.6s,baz=192,slow=37								
SONM	**Songino Array**	**35.74**	**344**	P		**P**		**12 47 00.5**	**+0.6**
	1.0nm,0.5s,baz=164,slow=9.5,SNR=11								
WRA	**Warramunga Arr**	**36.34**	**158**	P		**P**		**12 47 05.7**	**+0.5**
	0.4nm,0.8s,baz=339,slow=9.2,SNR=3.8								
ASAR	**Alice Springs**	**39.64**	**161**	P		**P**		**12 47 34.1**	**+1.3**
	0.2nm,0.6s,baz=337,slow=6.8,SNR=4.5								
MKAR	**Makanchi Array**	**45.72**	**324**	P		**P**		**12 48 22.7**	**+1.0**
	0.2nm,0.7s,baz=116,slow=9.8,SNR=2.4								

*NIED **11** 12:53:00, 42.°90N×143.°10E, h92km, Mw4.6 Best double couple: M0 9.75000×10^{15} NP1:ϕ=320.00000°, δ=47.00000°, λ=-78.00000°. NP2:ϕ=122.00000°, δ=45.00000°, λ=-103.00000°.*
*SZGRF **11** 12:53:31.5, 43.°15N×144.°21E, h95km, mb4.6, Hokkaido, Japan, region*
*BJI **11** 12:53:34.4, 43.°06N×143.°30E, h102km, mB5.2/29, mb4.8/43*
*ISCJB **11** 12:53:35.9±0.2, 42.°92N±0.°03×143.°07E±0.°02, h101km±1km, mb4.6/181, Error ellipse: s-maj=4.5km s-min=2.5km az=171.6*
*IDC **11** 12:53:36.9±0.5, 42.°93N×143.°10E, h98km±3km, mb4.3/28, mb1 4.4/31, mb1mx4.4/32, mbtmp4.3/31, MS3.3/9, Ms1 3.4/9, ms1mx3.1/47, Error ellipse: s-maj=9.2km s-min=8.0km az=80.0*
*MOS **11** 12:53:36.3±0.9, 42.°92N×143.°03E, h106km, mb4.7/70, Error ellipse: s-maj=6.8km s-min=4.7km az=101.2*
*NEIC **11** 12:53:37.2, 42.°89N×143.°13E, h88km, mb4.7/92, MW4.6(NIED), After JMA.*
NEIC Felt at Sapporo. Recorded [2 JMA] in southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
*JMA **11** 12:53:37.2±0.1, 42.°89N×143.°13E, h88km±1km, M4.5 Broadband fault plane solution: P waves. NP1: ϕs=337.00000°, δ=47.00000°, λ=-78.00000°. NP2: ϕs=139.00000°, δ=45.00000°, λ=-103.00000°. Principal axes: T Plg1.0000°, Azm58.0000°; N Plg9.0000°, Azm148.0000°; P Plg81.0000°, Azm322.0000°;*
JMA Felt II J1.

ISC 11 12:53:36.9±0.3, 42.°93N±0.°03×143.°10E±0.°03, h98km±2km, h97km:pP-P, n718, σ0^{s}90/918, mb4.7/181, 166C-142D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.37**	**149**	⇓P		**Pn**		**12 53 50.5**	**-1.1**
JCH				*e*S		**Sn**		**12 54 00.6**	**-2.0**
JFR	**Furan**	**0.44**	**302**	⇓P		**Pn**		**12 53 51.3**	**-0.7**
JOB	**Onbets**	**0.54**	**93**	⇓P		**Pn**		**12 53 52.4**	**-0.3**
JOB				*e*S		**Sn**		**12 54 04.0**	**-0.6**
JBT2	**Biratori 2**	**0.56**	**254**	⇓P		**Pn**		**12 53 52.5**	**-0.4**
JBT2				*e*S		**Sn**		**12 54 04.1**	**-0.8**
JAR	**Ashorobuto**	**0.61**	**53**	P		**Pn**		**12 53 52.7**	**-0.6**
JAR				*e*S		**Sn**		**12 54 04.3**	**-1.3**
JNBK	**Urakawa-nobuka**	**0.70**	**201**	⇓P		**Pn**		**12 53 53.5**	**-0.6**
JAB	**Ashibetsu**	**0.86**	**312**	P		**Pn**		**12 53 56.0**	**+0.4**
JEM	**Erimo**	**0.92**	**177**	P		**Pn**		**12 53 55.4**	**-0.9**
ERM	**Erimo**	**0.92**	**177**	*e*PN		**Pn**		**12 53 56.9**	**+0.6**
ERM				*e*				12 54 14.1	
ERM	**Erimo**	**0.92**	**177**	*e*Pn		**Pn**		**12 53 56.9**	**+0.6**
ERM				*e*Sn		**Sn**		**12 54 14.1**	**+3.3**
JKK2	**Kamakawa 2**	**0.97**	**345**	⇓P		**Pn**		**12 53 57.1**	**+0.2**
JMP	**Maruseppu**	**1.09**	**10**	⇑P		**Pn**		**12 53 58.4**	**+0.2**
JAK	**Akkeshi**	**1.17**	**86**	P		**Pn**		**12 53 58.2**	**-0.9**
JAK				*e*S		**Sn**		**12 54 13.7**	**-2.1**
JTKR	**Abashiri--Toko**	**1.19**	**29**	⇑P		**Pn**		**12 53 59.2**	**-0.1**
JTKR				*e*S		**Sn**		**12 54 15.9**	**-0.3**
JEW	**Eniwo**	**1.22**	**266**	⇑P		**Pn**		**12 54 00.0**	**+0.4**
JEW				*e*S		**Sn**		**12 54 17.1**	**+0.4**
ASAJ	**Asahikawa**	**1.24**	**343**	P		**Pn**		**12 54 00.8**	**+1.0**
	358nm,0.3s,baz=196,slow=9.5,SNR=2414								
ASAJ				S		**Sn**		**12 54 17.8**	**+0.6**
	165nm,0.3s,baz=312,slow=28,SNR=9.2								
ASAJ	**Asahikawa**	**1.24**	**343**	PN		**Pn**		**12 54 00.8**	**+1.0**
ASAJ				S		**Sn**		**12 54 17.8**	**+0.6**
ASAJ				pmax	pmax				
	comp=Z,358nm,0.3s								
ASAJ				smax	smax				
	comp=N,165nm,0.3s								
ASAJ	**Asahikawa**	**1.24**	**343**	*e*Pn		**Pn**		**12 54 00.8**	**+1.0**
ASAJ				S		**Sn**		**12 54 17.8**	**+0.6**
ASAJ				*e*Sn		Sn		12 54 21.1	+3.9
JHR	**Hokuryu**	**1.29**	**309**	P		**Pn**		**12 54 01.2**	**+0.8**
JHR				*e*S		**Sn**		**12 54 19.8**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**2.29**	**60**	*i*PN		**Pn**		**12 54 14.0**	**+0.9**
YUK				*i* S		**Sn**		**12 54 43.2**	**+2.3**
YUK				pmax	pmax				
	comp=N,600nm,0.2s								
YUK				pmax	pmax				
	comp=E,586nm,0.2s								
YUK				pmax	pmax				
	comp=Z,2μm,0.2s								
YUK				smax	smax				
	comp=E,9μm,0.7s								
YUK				smax	smax				
	comp=N,5μm,0.7s								
YSS	**Yuzh-Sakhalins**	**4.03**	**357**	*i*PN		**Pn**		**12 54 38.5**	**+2.2**
YSS				*i* S		**Sn**		**12 55 25.1**	**+2.7**
YSS				pmax	pmax				
	comp=N,330nm,1.0s								
YSS				pmax	pmax				
	comp=Z,310nm,1.0s								
YSS				smax	smax				
	comp=N,430nm,1.2s								
YSS				smax	smax				
	comp=E,360nm,1.2s								
YSS	**Yuzh-Sakhalins**	**4.03**	**357**	*e*Pn		**Pn**		**12 54 37.7**	**+1.4**
MAJO	**Matsushiro**	**7.41**	**212**	*e*PN		**Pn**		**12 55 21.7**	**-0.7**
MAJO	**Matsushiro**	**7.41**	**212**	*e*Pn		**Pn**		**12 55 21.7**	**-0.7**
MAT	**Matsushiro**	**7.41**	**212**	P		**Pn**		**12 55 21.5**	**-0.8**
MAT				S		**Sn**		**12 56 42.2**	**-2.6**
MJAR	**Matsushiro Arr**	**7.41**	**212**	P		**Pn**		**12 55 21.6**	**-0.8**
	comp=E,6.4nm,0.3s,baz=38,slow=11,SNR=175								
MJAR				LR		LR		12 57 46.5	
	comp=E,98nm,20.3s,baz=20,slow=34								
MJAR	**Matsushiro Arr**	**7.41**	**212**	PN		**Pn**		**12 55 21.6**	**-0.8**
MJAR				pmax	pmax				
	comp=Z,6.0nm,0.3s								
MJAR				MLR	MLR				
	comp=Z,98nm,20.3s								
MJAR	**Matsushiro Arr**	**7.41**	**212**	P		**Pn**		**12 55 21.6**	**-0.8**
HABR	**Khabarovsk**	**7.90**	**317**	*e*PN		**Pn**		**12 55 30.9**	**+2.1**
HABR				*e*S		**Sn**		**12 56 55.7**	**-0.7**
HABR				pmax	pmax				
	comp=E,114nm,1.4s								
HABR				pmax	pmax				
	comp=Z,146nm,1.4s								
HABR				pmax	pmax				
	comp=N,58nm,1.5s								
HABR				MLR	MLR				
	comp=Z,102nm,14.0s								
USRK	**Ussuriysk Arra**	**8.16**	**283**	P		**Pn**		**12 55 33.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=92,slow=15,SNR=16								
VLA	**Vladivostok**	**8.21**	**275**	*e*PN		**Pn**		**12 55 34.8**	**+1.6**
MDJ	**Mudanjiang**	**9.92**	**284**	P		**Pn**		**12 55 55.6**	**-0.7**
MDJ				S		**Sn**		**12 57 44.4**	**-1.3**
MDJ				pmax	pmax				
	comp=Z,320nm,3.9s								
MDJ				LR	LR				
	comp=N,180nm,24.1s								
MDJ				LR	LR				
	comp=Z,140nm,34.0s								
KLR	**Kul'dur**	**10.08**	**313**	*e*PN		**Pn**		**12 55 55.8**	**-2.8**
KLR				pmax	pmax				
	comp=E,80nm,1.4s								
KLR				pmax	pmax				
	comp=Z,100nm,1.4s								
KLR				MLR	MLR				
	comp=Z,1μm,12.5s								
SKR	**Severo-Kuril's**	**11.80**	**44**	*e*PN		Pn		12 56 14.5	-7.3
SKR				pmax	pmax				
	comp=E,90nm,0.7s								
SKR				pmax	pmax				
	comp=Z,90nm,0.7s								
KSRS	**Korea Array**	**12.82**	**250**	P		**Pn**		**12 56 35.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=11								
KSRS				LR		LR		13 01 43.8	
	comp=Z,73nm,19.4s,baz=250,slow=38								
KSRS	**Korea Array**	**12.82**	**250**	PN		**Pn**		**12 56 35.8**	**+0.4**
KSRS				MLR	MLR				
	comp=Z,73nm,19.4s								
KSAR	**Wonju Array Be**	**12.86**	**250**	PN		**Pn**		**12 56 35.8**	**-0.1**
KSAR	**Wonju Array Be**	**12.86**	**250**	P		**Pn**		**12 56 35.8**	**-0.1**
CN2	**Changchun**	**12.88**	**280**	*e*P		**Pn**		**12 56 37.1**	**+1.0**
CN2				*es*P				12 57 05.0	
CN2				*e*S		**Sn**		**12 58 57.7**	**+0.1**
CN2				pmax	pmax				
	comp=Z,20nm,0.9s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
PEA0B	**Petropavlovsk-**	**14.08**	**39**	*e*Pn		**Pn**		**12 56 50.7**	**-1.0**
PETK	**Petropavlovsk-**	**14.08**	**39**	P		**Pn**		**12 56 49.5**	**-2.1**
	comp=Z,2.4nm,0.3s,baz=216,slow=11,SNR=37								
PETK				LR		LR		13 02 25.7	
	comp=Z,79nm,18.7s,baz=228,slow=38								
PETK	**Petropavlovsk-**	**14.08**	**39**	P		**Pn**		**12 56 49.6**	**-2.1**
PETK	**Petropavlovsk-**	**14.08**	**39**	P		**Pn**		**12 56 49.5**	**-2.1**
PET	**Petropavlovsk**	**14.47**	**40**	*e*P		**Pn**		**12 56 57.9**	**+1.2**
PET				pmax	pmax				
	comp=Z,42nm,1.1s								
PET				MLR	MLR				
	comp=Z,500nm,22.0s								
HIA	**Hailar**	**17.36**	**299**	*e*P		**Pn**		**12 57 32.7**	**0.0**
HIA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HIA	**Hailar**	**17.36**	**299**	*e*P		**Pn**		**12 57 32.7**	**0.0**
	comp=Z,7.8nm,0.7s								
YAK	**Yakutsk**	**20.72**	**342**	*e*P		**P**		**12 58 06.2**	**-2.8**
YAK				*e*S		**S**		**13 01 49.9**	**-4.8**
YAK				*e*				13 02 14.6	
YAK				*e**SS		**sS**		**13 02 23.5**	**-2.4**
YAK				*e*				13 09 29.5	
YAK				pmax	pmax				
	comp=Z,11nm,1.0s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.3s								
YAK				smax	smax				
	comp=N,235nm,2.5s								
YAK				smax	smax				
	comp=E,178nm,2.8s								
YAK	**Yakutsk**	**20.72**	**342**	*e*P		**P**		**12 58 06.4**	**-2.6**
	comp=E,12nm,0.6s								
SEY	**Seymchan**	**20.76**	**12**	⇑*e*P		**P**		**12 58 08.0**	**-1.5**
FX1	**Attu Island--F**	**22.32**	**53**	P		**P**		**12 58 28.0**	**+1.8**
	comp=E,11nm,0.6s,baz=354,slow=2.6,SNR=12								
FX1	**Attu Island--F**	**22.32**	**53**	P		**P**		**12 58 28.0**	**+1.8**
FX1				pmax	pmax				
	comp=Z,11nm,0.6s								
FX1	**Attu Island--F**	**22.32**	**53**	*e*P		**P**		**12 58 28.1**	**+1.9**
HHC	**Hu-ho-hao-te**	**23.50**	**276**	*e*P		**P**		**12 58 35.8**	**-2.2**
HHC				pP		**pP**		**12 58 56.9**	**-1.4**
HHC				sP		**sP**		**12 59 08.4**	**-2.0**
HHC				PP		**PnPn**		**12 59 12.6**	**+2.3**
HHC				S		**S**		**13 02 39.7**	**-4.5**
HHC				sS		Sn		13 03 13.9	+0.7
HHC				SS		**SnSn**		**13 03 32.8**	**+1.6**
HHC				pmax	pmax				
	comp=Z,13nm,0.8s								
HHC				pmax	pmax				
	comp=Z,210nm,7.4s								
HHC				LR	LR				
	comp=N,190nm,12.0s								
HHC				LR	LR				
	comp=E,490nm,12.8s								
HHC				LR	LR				
	comp=Z,210nm,11.0s								
BOD	**Bodaibo**	**23.54**	**319**	*e*P		**P**		**12 58 33.7**	**-4.3**
BOD				pmax	pmax				
	comp=Z,5.0nm,1.5s								
BTO	**Baotou**	**24.69**	**276**	*e*P		**P**		**12 58 49.1**	**+0.3**
ULN	**Ulaanbaatar**	**25.63**	**294**	*e*P		**P**		**12 58 55.9**	**-1.3**
ULN				pmax	pmax				
	comp=Z,23nm,1.3s								
ULN	**Ulaanbaatar**	**25.63**	**294**	*e*P		**P**		**12 58 55.9**	**-1.3**
	comp=Z,22nm,1.3s								
WHN	**Wuhan**	**26.01**	**251**	⇑P		**P**		**12 59 01.7**	**+1.1**
SONM	**Songino Array**	**26.07**	**294**	P		**P**		**12 59 01.2**	**0.0**
	comp=Z,8.2nm,0.8s,baz=86,slow=6.1,SNR=51								
SONM				LR		LR		13 10 34.5	
	comp=Z,94nm,19.2s,baz=158,slow=39								
SONM	**Songino Array**	**26.07**	**294**	P		**P**		**12 59 01.2**	**0.0**
SONM				pmax	pmax				
	comp=Z,8.0nm,0.8s								
SONM				MLR	MLR				
	comp=Z,95nm,19.2s								
SONM	**Songino Array**	**26.07**	**294**	P		**P**		**12 59 01.2**	**0.0**
BILL	**Bilibino**	**28.02**	**18**	*c*P		**P**		**12 59 19.8**	**+1.6**
BILL				pmax	pmax				
	comp=Z,5.0nm,1.5s								
BILL	**Bilibino**	**28.02**	**18**	*e*P		P		12 59 26.6	+8.4
	comp=Z,17nm,1.3s								
XAN	**Xi'an**	**28.03**	**263**	P		**P**		**12 59 19.1**	**+0.3**
XAN				pmax	pmax				
	comp=Z,3.0nm,0.9s								
XAN				pmax	pmax				
	comp=Z,71nm,7.1s								
ZAK	**Zakamensk**	**28.05**	**299**	*e*P		**P**		**12 59 18.2**	**-0.7**
ZAK				*e*				13 02 31.6	

comp=Z,10.0nm,0.8s
KMI Kunming 37.45 255 P **P** **13 00 42.0 +1.0**
KMI pP **pP** **13 01 03.8 +0.3**
KMI sP **sP** **13 01 16.1 +1.4**
KMI pmax pmax
comp=Z,23nm,0.7s
KMI pmax pmax
comp=Z,110nm,4.5s
ZAA0 Zalesovo Array 39.13 307 *e*P **P** **13 00 54.4 -0.1**
ZAA0 *ep*P **pP** **13 01 19.6 +2.5**
ZAA0 *e*PcP **PcP** **13 03 02.6 +0.5**
ZALV Zalesovo Beam 39.13 307 P **P** **13 00 54.5 +0.1**
comp=Z,12nm,0.8s,baz=85,slow=8.1,SNR=67
ZALV PcP **PcP** **13 03 02.3 +0.3**
comp=Z,9.1nm,0.8s,baz=85,slow=2.9,SNR=15
ZALV Zalesovo Beam 39.13 307 P **P** **13 00 54.6 +0.1**
ZALV 13 03 02.3
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 39.13 307 P **P** **13 00 54.5 +0.1**
ZALV PcP **PcP** **13 03 02.3 +0.3**
WMQ Urumqi 39.63 291 P **P** **13 00 59.6 +0.7**
WMQ pP **pP** **13 01 22.6 +1.0**
WMQ sP **sP** **13 01 33.6 +0.8**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,500nm,6.5s
NVS Novosibirsk 39.92 309 *e*P **P** **13 00 59.7 -1.3**
NVS pmax pmax
comp=Z,35nm,1.7s
NVS pmax pmax
comp=E,12nm,1.5s
KDAK Kodiak Island 41.96 46 P **P** **13 01 17.5 -0.2**
comp=E,8.1nm,0.7s,baz=135,slow=6.8,SNR=6.6
KDAK Kodiak Island 41.96 46 P **P** **13 01 17.5 -0.2**
KDAK pmax pmax
comp=Z,8.0nm,0.7s
KDAK Kodiak Island 41.96 46 P **P** **13 01 17.5 -0.2**
MK31 Makanchi Array 42.33 297 *e*P **P** **13 01 20.8 -0.1**
MK31 *e**PP **pP** **13 01 43.8 0.0**
MK31 *e* 13 03 12.9
MK31 Makanchi Array 42.33 297 *e*P **P** **13 01 20.8 -0.1**
MK31 *ep*P **pP** **13 01 43.8 0.0**
MK31 *e*PcP **PcP** **13 03 12.9 +0.2**
MKAR Makanchi Array 42.33 297 P **P** **13 01 21.1 +0.1**
comp=Z,18nm,0.8s,baz=80,slow=9.3,SNR=144
MKAR PcP **PcP** **13 03 12.8 +0.2**
comp=Z,3.2nm,0.6s,baz=47,slow=1.6,SNR=7.8
MKAR Makanchi Array 42.33 297 P **P** **13 01 21.1 +0.1**
MKAR 13 03 12.9
MKAR pmax pmax
comp=Z,18nm,0.9s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 42.33 297 *e*P **P** **13 01 21.1 +0.1**
MKAR PcP **PcP** **13 03 12.8 +0.2**
COLD Coldfoot 42.42 32 *e*P **P** **13 01 21.3 0.0**
comp=Z,54nm,2.4s
TRF Thorofare Moun 42.50 38 *e*P **P** **13 01 21.9 -0.3**
comp=Z,89nm,2.2s
TRF *ep*P **pP** **13 01 45.9 +0.8**
MCK McKinley 43.08 37 *e*P **P** **13 01 26.7 -0.1**
MCK *e**PP **pP** **13 01 50.4 +0.7**
MCK *e* 13 03 14.9
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 43.08 37 *e*P **P** **13 01 26.7 -0.1**
comp=Z,8.1nm,0.9s
MCK *ep*P **pP** **13 01 50.4 +0.7**
MCK *e*PcP **PcP** **13 03 14.9 +0.1**
PMR Palmer 43.20 40 *e*P **P** **13 01 28.2 +0.5**
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 43.20 40 *e*P **P** **13 01 28.1 +0.5**
comp=Z,10nm,0.9s
LSA Lhasa 43.25 270 *e*P **P** **13 01 30.7 +1.6**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 43.25 270 *e*P **P** **13 01 30.6 +1.6**
comp=Z,6.2nm,0.7s
COLA College 43.46 35 *e*P **P** **13 01 30.2 +0.5**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 43.46 35 *e*P **P** **13 01 30.2 +0.5**
comp=Z,16nm,0.8s
KURK Kurchatov 43.53 304 P **P** **13 01 31.1 +0.7**
comp=Z,16nm,0.7s,baz=75,slow=8.9,SNR=100
KURK PcP **PcP** **13 03 16.8 +0.3**
comp=Z,3.1nm,0.6s,baz=86,slow=3.1,SNR=6.3
KURK Kurchatov 43.53 304*ce*P **P** **13 01 30.4 -0.1**
KURK *i**PP **pP** **13 01 56.3 +2.9**
KURK *e* 13 03 17.3
KURK pmax pmax
comp=Z,24nm,1.1s
KURK Kurchatov 43.53 304 *e*P **P** **13 01 30.4 -0.1**
comp=Z,16nm,0.8s
KURK *e*PcP **PcP** **13 03 16.7 +0.2**
KURK PcP **PcP** **13 03 16.8 +0.3**
ILAR Eielson Array 43.88 36 P **P** **13 01 33.0 -0.2**
comp=Z,6.4nm,0.6s,baz=253,slow=5.2,SNR=130
ILAR pP **pP** **13 01 58.0 +1.9**
comp=Z,3.9nm,0.8s,baz=262,slow=6.1,SNR=4.1
ILAR LR LR 13 21 30.7
comp=Z,56nm,18.9s,baz=302,slow=38
ILAR Eielson Array 43.88 36 P **P** **13 01 33.0 -0.2**
ILAR *PP **pP** **13 01 58.0 +1.9**
ILAR pmax pmax
comp=Z,6.0nm,0.6s
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,56nm,18.9s
ILAR Eielson Array 43.88 36 P **P** **13 01 33.0 -0.2**
ILAR pP **pP** **13 01 58.0 +1.9**
CHTO Chiang Mai 44.22 251 *e*P **P** **13 01 37.6 +1.2**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 44.22 251 *e*P **P** **13 01 37.6 +1.2**
comp=Z,12nm,0.8s
CM31 Chiang Mai Arr 44.46 251 *e*P **P** **13 01 38.9 +0.6**
comp=Z,2.1nm,0.6s
CMAR Chiang Mai Arr 44.46 251 P **P** **13 01 39.5 +1.2**
comp=Z,3.4nm,0.8s,baz=42,slow=7.1,SNR=30
CMAR PcP **PcP** **13 03 21.3 +1.1**
comp=Z,1.6nm,0.7s,baz=26,slow=1.4,SNR=8.2
CMAR LR LR 13 21 49.0
comp=Z,42nm,19.9s,baz=171,slow=38
CMAR Chiang Mai Arr 44.46 251 P **P** **13 01 39.5 +1.2**
CMAR 13 03 21.3
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,42nm,19.9s
CMAR Chiang Mai Arr 44.46 251 P **P** **13 01 39.5 +1.2**
CMAR PcP **PcP** **13 03 21.3 +1.1**
EGAK Eagle 46.31 35 *e*P **P** **13 01 52.1 -0.2**
comp=Z,8.0nm,0.9s
EGAK *ep*P **pP** **13 02 16.5 +0.9**
TAPN Taplejung 47.06 269 *e*P **P** **13 01 59.7 +0.6**
comp=Z,20nm,0.6s
TAPN Taplejung 47.06 269 *e*P **P** **13 01 59.7 +0.6**
comp=Z,20nm,0.6s
ODAN Odare 47.57 269 *e*P **P** **13 02 04.1 +1.1**
ODAN Odare 47.57 269 *e*P **P** **13 02 04.1 +1.1**
BVA0 Borovoye Array 47.72 309 *i* P **P** **13 02 03.2 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 47.72 309 P **P** **13 02 03.5 0.0**
comp=Z,10nm,0.6s,baz=78,slow=8.9,SNR=78
BVAR PcP **PcP** **13 03 31.4 +0.3**
comp=Z,4.1nm,0.6s,baz=79,slow=2.4,SNR=7.9
BVAR Borovoye Array 47.72 309 P **P** **13 02 03.5 0.0**
BVAR 13 03 31.4
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 47.72 309 P **P** **13 02 03.5 0.0**
BVAR PcP **PcP** **13 03 31.4 +0.3**
BRVK Borovoye 47.77 309*d* *i*P **P** **13 02 04.2 +0.4**
BRVK *i**PP **pP** **13 02 27.6 +0.5**
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 47.77 309 *e*P **P** **13 02 04.2 +0.4**
comp=Z,12nm,0.9s
JIRN Jiri 48.01 271 *e*P **P** **13 02 06.6 +0.2**
JIRN Jiri 48.01 271 *e*P **P** **13 02 06.6 +0.2**
ULHL Ulahol 48.02 293 P **P** **13 02 04.9 -1.2**
SNR=5.3
ULHL P **P** **13 02 04.9 -1.2**
SNR=5.3
GUN Gumba 48.09 271 *e*P **P** **13 02 07.2 +0.1**
GUN Gumba 48.09 271 *e*P **P** **13 02 07.2 +0.1**
RAMN Ramite 48.10 270 *e*P **P** **13 02 07.2 +0.1**
comp=Z,60nm,0.9s
RAMN Ramite 48.10 270 *e*P **P** **13 02 07.2 +0.1**
comp=Z,60nm,0.9s
TKM2 Tokmak 2 48.17 294 P **P** **13 02 08.1 +0.7**
SNR=14
TKM2 P **P** **13 02 08.1 +0.7**
SNR=14
TKM2 Tokmak 2 48.17 294 *i* P **P** **13 02 08.0 +0.7**
TKM2 Tokmak 2 48.17 294 *e*P **P** **13 02 07.9 +0.6**
comp=Z,15nm,0.8s
INK Inuvik 48.58 30 P **P** **13 02 09.8 -0.1**
comp=Z,5.2nm,0.4s,baz=305,slow=7.1,SNR=33
INK Inuvik 48.58 30 *e*P **P** **13 02 09.6 -0.2**
INK *e* 13 03 34.6
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 48.58 30 *e*P **P** **13 02 09.6 -0.2**
comp=Z,3.3nm,0.5s
INK *e*PcP **PcP** **13 03 34.5 +0.6**
KKN Kakani 48.60 272 *e*P **P** **13 02 11.1 +0.3**
KKN Kakani 48.60 272 *e*P **P** **13 02 11.1 +0.3**
KKN Kakani 48.60 272 *e*P **P** **13 02 11.1 +0.3**
PKI Pulchoki 48.63 271 *e*P **P** **13 02 11.2 0.0**
PKI Pulchoki 48.63 271 *e*P **P** **13 02 11.2 0.0**
PKI Pulchoki 48.63 271 *e*P **P** **13 02 11.2 0.0**
KBK Karagaybulak 48.71 294 P **P** **13 02 11.8 +0.4**
SNR=10
KBK P **P** **13 02 11.8 +0.4**
SNR=10
KZA Kyzart 48.76 294 P **P** **13 02 13.3 +1.2**
SNR=5.3
KZA P **P** **13 02 13.3 +1.2**
SNR=5.3
USP Ospenovka 48.76 295 P **P** **13 02 11.9 +0.3**
SNR=8.8
USP P **P** **13 02 11.9 +0.3**
SNR=8.8
DMN Daman 48.83 271 *e*P **P** **13 02 13.0 +0.4**
comp=Z,28nm,0.8s
DMN Daman 48.83 271 *e*P **P** **13 02 13.0 +0.4**
comp=Z,28nm,0.8s
GKN Gorkha 48.95 272 *e*P **P** **13 02 13.6 +0.1**
comp=Z,20nm,0.6s
GKN Gorkha 48.95 272 *e*P **P** **13 02 13.6 +0.1**
comp=Z,20nm,0.6s
AAK Ala-Archa 49.02 294 P **P** **13 02 14.0 +0.1**
SNR=5.2
AAK P **P** **13 02 14.0 +0.1**
SNR=5.2
AAK Ala-Archa 49.02 294 *i* P **P** **13 02 13.9 +0.1**
AAK Ala-Archa 49.02 294 *e*P **P** **13 02 13.9 +0.1**
comp=Z,90nm,1.8s
KSH Kashi 49.39 290 *e*P P 13 02 20.8 +4.2
KSH *es*P sP 13 02 54.5 +3.5
KSH PcP **PcP** **13 03 40.8 +3.2**
KSH *e*PP PP 13 04 17.6 +6.4
KSH *e*ScP **ScP** **13 07 26.1 +2.3**
KSH *e*PcS **PcS** **13 07 36.7 +2.3**
KSH *es* S **S** **13 09 19.5 +3.5**
KSH *es*S sS 13 10 00.9 +4.6
KSH *e*ScS **ScS** **13 11 59.8 +1.1**
KSH *e*SS **SS** **13 12 49.8 +1.3**
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH pmax pmax
comp=Z,140nm,5.9s
KSH LR LR
comp=N,480nm,6.3s
KSH LR LR
comp=E,330nm,8.6s
KSH LR LR
comp=Z,340nm,6.3s
DANN Dangsing 49.41 273 *e*P **P** **13 02 17.8 +0.7**
comp=Z,126nm,0.7s
DANN Dangsing 49.41 273 *e*P **P** **13 02 17.8 +0.7**
comp=Z,126nm,0.7s
EKS2 Erkin-Say 49.49 295 P **P** **13 02 17.6 +0.3**
SNR=7.8
EKS2 P **P** **13 02 17.6 +0.3**
SNR=7.8
EKS2 Erkin-Say 49.49 295 *e*P **P** **13 02 17.3 0.0**
EKS2 pmax pmax
comp=Z,3.0nm,0.5s
EKS2 Erkin-Say 49.49 295 *e*P **P** **13 02 17.3 0.0**
comp=Z,3.1nm,0.5s
AML Almayashu 49.78 294 P **P** **13 02 20.5 +0.7**
SNR=7.0
AML P **P** **13 02 20.5 +0.7**
SNR=7.0
KOLN Koldanda 49.84 273 *e*P **P** **13 02 20.6 +0.3**
KOLN Koldanda 49.84 273 *e*P **P** **13 02 20.6 +0.3**
KK31 Karatay Array 51.46 297 *i* P **P** **13 02 31.2 -0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 51.46 297 *e*P **P** **13 02 31.8 -0.2**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 51.46 297 *e*P **P** **13 02 31.8 -0.2**
comp=Z,6.3nm,0.6s
SVE Sverdlovsk 51.69 316⇑ *i*P **P** **13 02 34.0 +0.5**
SVE pmax pmax
comp=Z,31nm,1.1s
SOKR Solikamsk 52.54 320⇑ *i*P **P** **13 02 39.5 -0.1**
SOKR pmax pmax
comp=Z,40nm,1.5s
ARU Arti 52.90 316*d* *i*P **P** **13 02 42.1 -0.3**
ARU *PP **pP** **13 03 05.4 -0.7**
ARU 13 03 50.0
ARU S **S** **13 10 03.5 -0.2**
ARU SS **SS** **13 13 42.5 -0.7**
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 52.90 316 *e*P **P** **13 02 42.1 -0.3**
comp=Z,13nm,0.8s
DLBC Dease Lake 53.25 41 *e*P **P** **13 02 46.6 +1.6**
AB31 Akbulak array 55.24 308 *i* P **P** **13 02 59.5 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 55.24 308 *e*P **P** **13 02 59.8 +0.2**
comp=Z,13nm,0.6s
ABKAR *ep*P **pP** **13 03 24.1 +0.7**
AKTO Aktyubinsk 55.80 310 P **P** **13 03 03.4 -0.2**
comp=Z,9.9nm,1.2s,baz=84,slow=15,SNR=9.2
AKTO Aktyubinsk 55.80 310 P **P** **13 03 03.4 -0.2**
AKTO pmax pmax
comp=Z,10.0nm,1.2s
AKTO Aktyubinsk 55.80 310 P **P** **13 03 03.4 -0.2**
RES Resolute Bay 56.57 16 P **P** **13 03 08.2 -0.5**
comp=Z,10nm,0.6s,baz=304,slow=7.1,SNR=58
RES Resolute Bay 56.57 16 *e*P **P** **13 03 07.8 -0.8**
RES *e**PP **pP** **13 03 32.7 +0.1**
RES pmax pmax
comp=Z,10.0nm,0.6s
RES Resolute Bay 56.57 16 *e*P **P** **13 03 07.8 -0.8**
comp=Z,10nm,0.6s
RES *ep*P **pP** **13 03 32.7 +0.1**
KBL Kabul 56.66 288 *e*P **P** **13 03 09.4 -0.7**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 56.66 288 *e*P **P** **13 03 09.4 -0.7**
comp=Z,16nm,0.8s
YKA Yellowknife Ar 58.10 32 P **P** **13 03 19.4 -0.1**
comp=Z,3.9nm,0.7s,baz=305,slow=6.3,SNR=72
YKA pP **pP** **13 03 43.4 -0.2**
comp=Z,2.0nm,0.8s,baz=303,slow=6.7,SNR=4.9
YKA LR LR 13 29 52.1
comp=Z,14nm,18.9s,baz=35,slow=37
YKA Yellowknife Ar 58.10 32 P **P** **13 03 19.4 -0.1**
YKA *PP **pP** **13 03 43.4 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA MLR MLR
comp=Z,14nm,18.9s
YKA Yellowknife Ar 58.10 32 P **P** **13 03 19.4 -0.1**
YKA pP **pP** **13 03 43.4 -0.2**
KEV Kevo 58.41 338 *e*P **P** **13 03 20.9 -0.7**
KEV Kevo 58.41 338 *ep* **P** **13 03 20.9 -0.7**
KEV Kevo 58.41 338 *ep* **P** **13 03 20.9 -0.7**
ARCES ARCESS Array B 58.96 339 P **P** **13 03 25.1 -0.3**
comp=Z,2.9nm,0.6s,baz=52,slow=8.0,SNR=13
ARCES ARCESS Array B 58.96 339 P **P** **13 03 25.1 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 58.96 339 P **P** **13 03 25.1 -0.3**
HYB Hyderabad 59.78 266 *i* P **P** **13 03 31.0 -0.9**
DAG Danmarks Havn 60.01 355 *i* P **P** **13 03 31.7 -0.8**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 60.01 355 *i* P **P** **13 03 31.7 -0.8**
comp=Z,50nm,0.9s
JOF Joensuu 61.40 331 *e*P **P** **13 03 42.2 +0.1**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 61.40 331 *ep* **P** **13 03 42.2 +0.1**
comp=Z,9.9nm,0.5s
JOF Joensuu 61.40 331 *ep* **P** **13 03 42.2 +0.1**
comp=Z,9.9nm,0.5s
WRAB Tennant Creek 63.07 189 *e*P **P** **13 03 53.5 -0.2**
WRAB pmax pmax
comp=Z,66nm,1.9s
WRAB Tennant Creek 63.07 189 *e*P **P** **13 03 53.5 -0.2**
comp=Z,66nm,1.9s
WRA Warramunga Arr 63.08 189 P **P** **13 03 53.4 -0.4**
comp=Z,3.8nm,0.8s,baz=7.7,slow=6.9,SNR=14
WRA pP **pP** **13 04 16.5 -1.7**
comp=Z,2.3nm,0.7s,baz=8.8,slow=6.8,SNR=4.8
WRA Warramunga Arr 63.08 189 P **P** **13 03 53.4 -0.4**
WRA *PP **pP** **13 04 16.5 -1.7**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 63.08 189 P **P** **13 03 53.4 -0.4**
WRA pP **pP** **13 04 16.6 -1.7**
KAF Kangasniemi 63.68 332 *e*P **P** **13 03 56.5 -0.8**
KAF pmax pmax
comp=Z,10.0nm,0.6s
KAF Kangasniemi 63.68 332 *ep* **P** **13 03 56.5 -0.8**
comp=Z,10nm,0.6s
KAF Kangasniemi 63.68 332 *ep* **P** **13 03 56.5 -0.8**
comp=Z,10nm,0.6s
OBN Obninsk 64.19 322⇓ *e*P **P** **13 03 59.9 -0.8**
OBN *e**PP **pP** **13 04 22.1 -3.1**
OBN *e* 13 06 24.7
OBN *e*S S 13 12 20.7 -9.2
OBN *e*SS **SS** **13 16 35.4 -4.6**
OBN pmax pmax
comp=Z,21nm,0.9s
FINES FINESS Array B 64.22 332 P **P** **13 04 00.3 -0.5**
comp=Z,23nm,0.6s,baz=51,slow=9.3,SNR=141
FINES FINESS Array B 64.22 332 P **P** **13 04 00.4 -0.5**
FINES pmax pmax
comp=Z,23nm,0.6s
FINES FINESS Array B 64.22 332 P **P** **13 04 00.3 -0.5**
VRHR Novokhopersk 64.24 317 *e*P **P** **13 03 59.7 -1.4**
VRHR pmax pmax
comp=N,3.0nm,0.5s
VRHR pmax pmax
comp=E,4.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
OD2 Odessa Site #2 64.73 48 *e*P **P** **13 04 04.9 +0.4**
OD2 *ep*P **pP** **13 04 29.9 +0.9**
SUMG Summit 64.79 1 *e*P **P** **13 04 04.9 0.0**
SUMG *e**PP **pP** **13 04 29.4 0.0**
SUMG pmax pmax
comp=Z,14nm,0.6s
SUMG Summit 64.79 1 *e*P **P** **13 04 04.9 0.0**
comp=Z,14nm,0.6s
SUMG *ep*P **pP** **13 04 29.4 0.0**
SUMG Summit 64.79 1 *i*P **P** **13 04 04.8 -0.1**
comp=Z,14nm,0.8s
SUMG *i* 13 04 29.4
HAWA Hanford 64.87 49 *e*P **P** **13 04 06.4 +1.0**
comp=Z,8.5nm,0.8s
NEW Newport 65.06 47 *e*P **P** **13 04 07.2 +0.5**
NEW *e**PP **pP** **13 04 32.4 +1.2**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 65.06 47 *e*P **P** **13 04 07.2 +0.5**
comp=Z,7.2nm,0.9s
NEW *ep*P **pP** **13 04 32.4 +1.2**
NEW Newport 65.06 47⇓ P **P** **13 04 06.2 -0.4**
baz=65,SNR=5.3
VSR Storozhevoye 65.39 318 *e*P **P** **13 04 08.4 -0.2**
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSU Vasula 66.05 329⇑ *i*P **P** **13 04 12.1 -0.6**
VSU pmax pmax
comp=Z,28nm,0.7s
A13A Flathead Natio 66.08 45⇑P **P** **13 04 12.8 -0.5**
baz=66
C12B Naegeli Ranch, 66.28 46⇑P **P** **13 04 14.1 -0.4**
baz=66
B13A Whitefish 66.40 45⇑P **P** **13 04 15.2 0.0**
baz=66,SNR=7.2
BSMT Bassoo Peak 66.56 46 *e*P **P** **13 04 17.3 +0.9**
comp=Z,3.9nm,0.9s
ASAR Alice Springs 66.81 189 P **P** **13 04 18.6 +0.6**
comp=Z,2.7nm,0.9s,baz=1.8,slow=4.6,SNR=17
ASAR Alice Springs 66.81 189 P **P** **13 04 18.6 +0.6**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 66.81 189 P **P** **13 04 18.6 +0.6**
JTMT Jette 66.89 46 *e*P **P** **13 04 19.3 +0.9**
A15A Johnson Ranch, 66.91 44⇑P **P** **13 04 18.1 -0.5**
baz=67
BMO Blue Mountains 67.05 50 *e*P **P** **13 04 20.3 +0.8**
BMO pmax pmax
comp=Z,5.0nm,0.8s
BMO Blue Mountains 67.05 50 *e*P **P** **13 04 20.3 +0.8**
comp=Z,4.8nm,0.8s
C14A Swan Lake 67.15 45⇑P **P** **13 04 19.8 -0.3**
baz=67
SWMT Swartz Lake 67.19 46 *e*P **P** **13 04 21.0 +0.7**
SWMT *ep*P **pP** **13 04 46.1 +1.1**
D13A Huson 67.20 46⇓P **P** **13 04 20.7 +0.3**
baz=67,SNR=9.6
B15A Bradely Ranch, 67.42 44⇓P **P** **13 04 21.5 -0.3**
baz=67,SNR=8.9
A16A West Butte Ran 67.51 43⇓P **P** **13 04 21.8 -0.6**
baz=67
SLMT Seeley Lake 67.62 46 *e*P **P** **13 04 23.8 +0.7**
SLMT *ep*P **PcP** **13 04 48.9 -0.6**
MSO Missoula 67.65 46 *e*P **P** **13 04 24.0 +0.8**
comp=Z,5.5nm,1.0s
MSO Missoula 67.65 46⇑P **P** **13 04 23.6 +0.4**
baz=67
D14A Greenough 67.72 46⇓P **P** **13 04 23.4 -0.3**
baz=68,SNR=11
C15A Salmond Ranch, 67.74 45⇓P **P** **13 04 22.6 -1.3**
baz=68
E13A Victor 67.76 47⇑P **P** **13 04 23.1 -0.9**
baz=68
B16A M & M Farms, S 67.80 44⇓P **P** **13 04 23.8 -0.3**
baz=68,SNR=6.7
A17A Triple J Farms 67.96 43⇓P **P** **13 04 24.8 -0.3**
baz=68,SNR=9.6
KIV Kislovodsk 68.06 310 *e*P **P** **13 04 27.0 +1.1**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV Kislovodsk 68.06 310 *e*P **P** **13 04 26.9 +1.0**
comp=Z,38nm,0.9s
FFC Flin Flon 68.08 35*ce*P **P** **13 04 26.4 +0.7**
FFC Flin Flon 68.08 35 *e*P **P** **13 04 25.8 +0.1**
comp=Z,6.7nm,0.8s
FFC *ep*P **pP** **13 04 50.3 0.0**
ZEI Tsey 68.12 308 *e*P **P** **13 04 24.6 -1.8**
ZEI pmax pmax
comp=Z,16nm,1.0s
IZAR Zarasai 68.15 327 *e*P **P** **13 04 26.2 +0.1**
IZAR AMB AMB 13 04 26.7

comp=Z,8.6nm,0.6s
E14A Clinton 68.15 46 ⇓P P 13 04 26.1 -0.3
baz=68
C16A Fuhringer Ranc 68.17 45 ⇑P P 13 04 26.2 -0.3
baz=68,SNR=9.2
ISAL Salakas 68.32 327 *eP* P 13 04 27.4 +0.2
A18A Metzger Ranch, 68.41 43 ⇑P P 13 04 27.7 -0.2
baz=68,SNR=7.8
IIGN Ignalina 68.44 327 *eP* P 13 04 28.1 +0.2
NACGM Naroch 68.53 326 *e* P 13 04 25.0 -3.5
E15A Deer Lodge 68.59 46 ⇑P P 13 04 29.0 -0.2
baz=68,SNR=12
G13A Cobalt 68.59 48 ⇓P P 13 04 29.1 -0.1
baz=68
H12A Diamond D Ranc 68.60 49 ⇓P P 13 04 29.3 0.0
baz=68,SNR=14
D16A Dana Ranch, Ca 68.77 45 ⇑P P 13 04 30.0 -0.3
baz=68
MFID Camas Ranch 68.78 50 ⇑P P 13 04 31.0 +0.6
baz=68
B18A Beardsley Farm 68.79 43 ⇑P P 13 04 30.5 +0.2
baz=68,SNR=6.9
C17A Wharram Farm, 68.79 44 ⇓P P 13 04 30.1 -0.2
baz=68
H13A Challis 68.92 48 ⇓P P 13 04 30.9 -0.3
baz=69,SNR=11
I12A Atlanta 68.92 49 ⇓P P 13 04 31.5 +0.1
baz=69,SNR=16
A19A Klindworth Far 68.95 42 ⇑P P 13 04 31.6 +0.3
baz=69,SNR=6.4
E16A East Helena 69.03 46 ⇑P P 13 04 32.5 +0.6
baz=69
EGMT Eagleton 69.04 43 *eP* P 13 04 32.3 +0.4
comp=Z,12nm,0.8s
EGMT *epP* **pP** 13 04 57.4 +0.8
EGMT Eagleton 69.04 43 ⇓P P 13 04 32.2 +0.4
baz=69,SNR=9.5
F15A Butte 69.05 46 ⇓P P 13 04 32.7 +0.6
baz=69,SNR=14
WCN Washoe City 69.07 56 *eP* P 13 04 33.2 +0.9
WCN pmax pmax
comp=Z,3.0nm,0.8s
WCN Washoe City 69.07 56 *eP* P 13 04 33.2 +0.9
comp=Z,2.9nm,0.8s
WCN Washoe City 69.07 56 ⇓P P 13 04 33.1 +0.8
baz=69
LRM Limekiln Ridge 69.08 46 *eP* P 13 04 33.0 +0.6
LRM *epP* **pP** 13 04 58.6 +1.5
D17A Six Diamond Ra 69.14 45 ⇓P P 13 04 33.1 +0.5
baz=69
NB2 NORSAR Subarra 69.25 337 P P 13 04 32.2 -0.7
comp=Z,6.3nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 69.25 337 P P 13 04 32.5 -0.3
comp=Z,10nm,0.8s,baz=35,slow=6.1,SNR=24
NOA *pP* **pP** 13 04 56.9 -0.8
comp=Z,4.5nm,0.7s,baz=35,slow=6.1,SNR=4.4
NOA NORSAR Array B 69.25 337 P P 13 04 32.6 -0.3
NOA **PP* **pP** 13 04 56.9 -0.8
NOA pmax pmax
comp=Z,11nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 69.25 337 P P 13 04 32.5 -0.3
NOA pP **pP** 13 04 56.9 -0.8
DLMT Dillon 69.30 47 *eP* P 13 04 34.8 +1.2
comp=Z,11nm,0.7s
DLMT *epP* **pP** 13 04 59.4 +1.0
H14A Leadore 69.37 48 ⇑P P 13 04 33.9 -0.2
baz=69
I13A Wildhorse Cree 69.41 49 ⇑P P 13 04 34.6 +0.2
baz=69,SNR=9.0
CMB Columbia Colle 69.47 57 *eP* P 13 04 35.0 +0.3
CMB *e*PP* **pP** 13 04 59.8 +0.3
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 69.47 57 *eP* P 13 04 35.0 +0.3
comp=Z,5.9nm,0.8s
CMB *epP* **pP** 13 04 59.8 +0.3
HLID Hailey 69.47 49 *eP* P 13 04 35.9 +1.2
comp=Z,3.4nm,0.8s
HLID Hailey 69.47 49 ⇓P P 13 04 34.8 0.0
baz=69,SNR=7.1
G15A Dillon 69.49 47 ⇑P P 13 04 35.2 +0.4
baz=69,SNR=24
E17A Martinsdale 69.50 45 ⇑P P 13 04 35.5 +0.6
baz=69,SNR=11
MCMT McKenzie Canyo 69.52 47 *eP* P 13 04 35.7 +0.6
comp=Z,0.9nm,0.6s
MCMT *epP* **pP** 13 05 02.0 +2.2
D18A Linhart Farms, 69.56 44 ⇓P P 13 04 35.2 +0.1
baz=69
C19A Slack Wire Ran 69.59 43 ⇑P P 13 04 36.0 +0.8
baz=69,SNR=9.9
B20A Solberg Farm, 69.63 42 ⇓P P 13 04 35.6 +0.2
baz=69
BOZ Bozeman (W) 69.63 46 *eP* P 13 04 36.6 +0.9
BOZ *e*PP* **pP** 13 05 01.9 +1.4
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 69.63 46 *eP* P 13 04 36.5 +0.9
comp=Z,6.6nm,0.7s
BOZ *epP* **pP** 13 05 01.9 +1.4
BOZ Bozeman (W) 69.63 46 ⇓P P 13 04 36.3 +0.6
baz=69,SNR=14
BOZ ⇓P P 13 04 36.3 +0.6
baz=69,SNR=14
J13A Cove Ranch, Pi 69.71 49 ⇓P P 13 04 36.8 +0.6
baz=70,SNR=9.5
I14A Mackay 69.77 48 ⇓P P 13 04 37.2 +0.6
baz=70,SNR=7.0
A21A Bergtoll Ranch 69.79 41 ⇓P P 13 04 37.1 +0.7
baz=70,SNR=8.0
G16A Moss Hill, Enn 69.81 47 ⇓P P 13 04 37.3 +0.5
baz=70,SNR=7.1
E18A Harlowton 69.92 45 ⇓P P 13 04 38.2 +0.8
baz=70
F17A Fitzpatrick Pl 69.98 46 ⇑P P 13 04 38.4 +0.7
baz=70
D19A Cripps Ranch, 70.06 44 ⇑P P 13 04 39.0 +0.8
baz=70,SNR=9.0
J14A Carey 70.13 49 ⇑P P 13 04 39.8 +1.1
baz=70
C20A Veseth Ranch, 70.13 43 ⇓P P 13 04 39.2 +0.7
baz=70,SNR=11
B21A Ellsworth Farm 70.13 42 ⇓P P 13 04 39.1 +0.6
baz=70
A22A Carney Farms, 70.28 41 ⇑P P 13 04 39.7 +0.3
baz=70,SNR=12
G17A Pierce Place, 70.32 46 ⇑P P 13 04 40.4 +0.6
baz=70,SNR=5.2
AKASG Malin Array Be 70.44 322 P P 13 04 39.8 -0.5
comp=Z,8.8nm,0.7s,baz=40,slow=5.8,SNR=32
AKASG Malin Array Be 70.44 322 P P 13 04 39.8 -0.5
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 70.44 322 P P 13 04 39.8 -0.5
KIEV Kiev 70.45 322 *eP* P 13 04 39.7 -0.6
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 70.45 322 *eP* P 13 04 39.7 -0.6
comp=Z,11nm,0.8s
H16A Russell Place, 70.46 47 ⇓P P 13 04 41.2 +0.4
baz=70,SNR=8.0
F18A Big Timber 70.47 45 ⇓P P 13 04 41.0 +0.3
baz=70
D20A Manuel Ranch, 70.48 43 ⇑P P 13 04 41.4 +0.7
baz=70,SNR=9.6
NVAR Mina Array Bea 70.50 55 P P 13 04 42.0 +0.8
comp=Z,4.6nm,0.7s,baz=288,slow=5.8,SNR=40
NVAR *pP* **pP** 13 05 05.3 -0.6
comp=Z,1.2nm,0.6s,baz=290,slow=6.4,SNR=3.8
NVAR Mina Array Bea 70.50 55 P P 13 04 42.0 +0.8
NVAR *pP* **pP** 13 05 05.3 -0.6
E19A Rath Farm, Rou 70.58 44 ⇑P P 13 04 42.2 +0.9
baz=70,SNR=6.9
YMR Madison River 70.63 47 *eP* P 13 04 43.0 +1.1
comp=Z,5.0nm,0.7s
J15A Blackfoot 70.67 48 ⇑P P 13 04 42.7 +0.7
baz=70
K14A Jones Ranch, D 70.82 49 ⇓P P 13 04 44.1 +1.2
baz=71,SNR=9.1
YFT Old Faithful 70.85 47 *eP* P 13 04 45.3 +2.1
comp=Z,13nm,0.9s
YFT *epP* **pP** 13 05 11.0 +3.0
I16A Newdale 70.88 48 ⇑P P 13 04 44.7 +1.4
baz=71,SNR=11
E20A Meyer Farm, Mu 70.88 44 ⇓P P 13 04 43.8 +0.7
baz=71
F19A Roth Farm, Mol 70.90 45 ⇓P P 13 04 44.0 +0.7
baz=71,SNR=6.4
H17A Grant Village 71.02 47 ⇑P P 13 04 46.2 +1.9
baz=71,SNR=9.2
D21A La Casta Ranch 71.07 43 ⇓P P 13 04 43.5 -0.8
baz=71,SNR=6.6
B23A Brockton 71.09 41 ⇑P P 13 04 43.9 -0.4
baz=71,SNR=11
K15A Arbon 71.09 49 ⇓P P 13 04 44.3 -0.3
baz=71
L14A Malta 71.12 50 ⇑P P 13 04 45.3 +0.6
baz=71,SNR=8.5
C22A Vida 71.15 42 ⇑P P 13 04 44.9 +0.1
baz=71
RLMT Red Lodge 71.23 45 ⇓P P 13 04 45.8 +0.3
baz=71
RLMT ⇓P P 13 04 45.8 +0.3
baz=71
DCID1 Drake Creek 71.23 48 *eP* P 13 04 47.3 +1.8
comp=Z,13nm,0.9s
H18A Shoshone NF, C 71.32 46 ⇓P P 13 04 46.2 +0.2
baz=71
RRI2 Red Ridge 71.32 48 *eP* P 13 04 47.8 +1.6
comp=Z,13nm,0.9s
RRI2 *epP* **pP** 13 05 12.1 +1.1
I17A Pilgrim Ck. 71.34 47 ⇑P P 13 04 47.0 +0.9
baz=71,SNR=12
MOOW Moose Ponds 71.36 47 *eP* P 13 04 47.6 +1.4
comp=Z,5.3nm,0.8s
D22A Cohagen 71.42 42 ⇑P P 13 04 46.3 -0.1
baz=71,SNR=5.3
C23A Lambert 71.45 41 ⇑P P 13 04 46.5 0.0
baz=71
DGMT Dagmar 71.46 40 *eP* P 13 04 46.6 +0.1
comp=Z,16nm,0.8s
DGMT Dagmar 71.46 40 ⇑P P 13 04 46.6 +0.1
baz=71
K16A Soda Springs 71.51 48 ⇓P P 13 04 47.2 +0.1
baz=71,SNR=6.9
LOHW Long Hollow 71.53 47 *eP* P 13 04 48.8 +1.5
comp=Z,2.5nm,0.8s
HVU Hansel Valley 71.55 50 *eP* P 13 04 47.9 +0.5
HVU *e*PP* **pP** 13 05 12.5 +0.2
HVU pmax pmax
comp=Z,4.0nm,0.7s
HVU Hansel Valley 71.55 50 *eP* P 13 04 47.9 +0.5
comp=Z,4.2nm,0.7s
HVU *epP* **pP** 13 05 12.5 +0.2
REDW Red Top Meadow 71.56 48 *eP* P 13 04 49.0 +1.5
comp=Z,5.1nm,0.8s
L15A Malad City 71.62 49 ⇑P P 13 04 47.9 +0.1
baz=71
J17A Brown Place, J 71.64 48 ⇓P P 13 04 48.6 +0.7
baz=71
H19A Powell 71.68 46 ⇑P P 13 04 48.4 +0.3
baz=71
G20A Bridger 71.71 45 ⇑P P 13 04 47.5 -0.7
baz=72
D23A Lindsay 71.88 42 ⇑P P 13 04 48.7 -0.4
baz=72,SNR=5.2
I18A Diamond G Ranc 71.89 47 ⇑P P 13 04 49.2 -0.4
baz=72
M15A Larsen Ranch, 71.94 50 ⇑P P 13 04 50.3 +0.6
baz=72,SNR=13
C24A Savage 72.01 41 ⇑P P 13 04 50.6 +0.7
baz=72
E22A Miles City 72.02 43 ⇑P P 13 04 49.8 -0.2
baz=72
J18A Kendall Valley 72.11 47 ⇑P P 13 04 51.0 +0.1
baz=72,SNR=5.0
ISA Isabella 72.16 58 *eP* P 13 04 51.0 0.0
ISA pmax pmax
comp=Z,3.0nm,0.9s
ISA Isabella 72.16 58 *eP* P 13 04 51.0 0.0
comp=Z,2.7nm,0.9s
ISA Isabella 72.16 58 ⇑P P 13 04 50.5 -0.6
baz=72
R11A Troy Canyon, C 72.18 54 ⇑P P 13 04 51.4 +0.2
baz=72
N15A Stansbury Isla 72.28 50 ⇑P P 13 04 52.0 +0.3
baz=72,SNR=9.4
E23A Ismay 72.30 42 ⇑P P 13 04 52.2 +0.6
baz=72,SNR=6.4
H20A Greybull 72.32 45 ⇓P P 13 04 50.9 -1.0
baz=72
HWUT Hardware Ranch 72.34 49 *eP* P 13 04 53.0 +0.8
comp=Z,6.3nm,0.9s
D24A Glendive 72.35 41 ⇑P P 13 04 52.0 +0.1
baz=72,SNR=6.1
L17A Cokeville 72.40 49 ⇑P P 13 04 52.8 +0.3
baz=72,SNR=5.3
K18A Toltan Ranch, 72.49 48 ⇑P P 13 04 53.7 +0.7
baz=72,SNR=5.7
M16A Huntsville 72.50 50 ⇑P P 13 04 53.4 +0.3
baz=72
MPMC Manual Prospec 72.52 57 ⇑P P 13 04 53.2 0.0
baz=72,SNR=5.4
DUG Dugway 72.58 51 *eP* P 13 04 54.4 +0.9
DUG *e*PP* **pP** 13 05 20.1 +1.6
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway 72.58 51 *eP* P 13 04 54.4 +0.9
comp=Z,5.7nm,0.8s
DUG *epP* **pP** 13 05 20.1 +1.6
DUG Dugway 72.58 51 ⇓P P 13 04 54.3 +0.7
baz=72,SNR=8.2
J19A Crowheart 72.60 47 ⇑P P 13 04 54.2 +0.5
baz=72,SNR=8.0
I20A Worland 72.62 46 ⇑P P 13 04 54.1 +0.4
baz=72,SNR=7.5
FURC Furnace Creek, 72.64 56 P P 13 04 54.7 +1.0
baz=72,SNR=9.1
PD01 Pinedale Array 72.64 47 *eP* P 13 04 54.3 +0.3
PD01 *epP* **pP** 13 05 19.7 +0.8
PD02 Pinedale Array 72.65 47 *eP* P 13 04 54.2 +0.2
PD02 *epP* **pP** 13 05 19.8 +0.8
BW06 Boulder Array 72.67 47 *eP* P 13 04 54.4 +0.3
comp=Z,5.5nm,0.6s
BW06 Boulder Array 72.67 47 ⇑P P 13 04 54.4 +0.3
baz=72,SNR=11
BW06 ⇑P P 13 04 54.4 +0.3
baz=72,SNR=11
PDAR Pinedale Array 72.67 47 P P 13 04 54.3 +0.2
comp=Z,5.6nm,0.6s,baz=263,slow=1.9,SNR=57
PDAR pP **pP** 13 05 19.1 +0.1
comp=Z,4.5nm,0.7s,baz=287,slow=2.6,SNR=8.9
PDAR LR LR 13 39 13.0
comp=Z,92nm,18.5s,baz=167,slow=38
PDAR Pinedale Array 72.67 47 P P 13 04 54.3 +0.2
PDAR pP **pP** 13 05 19.1 +0.1
G22A Birney 72.70 44 ⇑P P 13 04 54.6 +0.5
baz=72
H21A Big Horn, Sher 72.72 45 ⇓P P 13 04 54.5 +0.2
baz=72,SNR=6.4
E24A Baker 72.75 42 ⇓P P 13 04 54.7 +0.3
baz=72
LRMC Laurel Mountai 72.77 58 ⇑P P 13 04 54.5 -0.2
baz=73
F23A Volborg 72.80 43 ⇑P P 13 04 54.5 -0.1
baz=72,SNR=13
M17A Scullys Gap (B 72.93 49 ⇓P P 13 04 55.6 -0.1
baz=73
EDW2 Edwards Air Fo 72.97 58 ⇓P P 13 04 56.4 +0.6
baz=73
L18A Fontenelle, Gr 72.97 48 ⇓P P 13 04 55.8 -0.2
baz=73,SNR=5.3
K19A Absolon Red Bu 73.01 47 ⇑P P 13 04 56.1 0.0
baz=73
J20A Shoshoni 73.05 46 ⇓P P 13 04 56.4 +0.2
baz=73,SNR=6.5
JLU Jordanelle 73.08 50 *eP* P 13 04 57.7 +1.0
comp=Z,3.9nm,1.0s
I21A Big Trails, Te 73.16 45 ⇓P P 13 04 57.2 +0.3
baz=73,SNR=13
G23A Biddle 73.17 43 ⇑P P 13 04 56.8 0.0
baz=73
F24A Ekalaka 73.19 42 ⇓P P 13 04 57.1 +0.2
baz=73,SNR=10.0
N17A Moffit Pass 73.20 50 ⇑P P 13 04 57.2 -0.1
baz=73,SNR=9.8
R13A O'Grain Ranch, 73.25 53 ⇓P P 13 04 57.8 +0.2
baz=73
O16A Springville 73.32 50 ⇓P P 13 04 58.0 +0.1
baz=73
MPU Maple Canyon 73.37 51 *eP* P 13 04 59.4 +1.1
comp=Z,8.5nm,0.7s
MPU *epP* **pP** 13 05 24.9 +1.6
K20A Yellowstone Ra 73.39 47 ⇑P P 13 04 57.5 -0.8
baz=73
J21A Lysite 73.40 46 ⇑P P 13 04 57.6 -0.8
baz=73
GSC Goldstone 73.43 57 *eP* P 13 04 59.2 +0.6
GSC pmax pmax
comp=Z,2.0nm,0.6s
GSC Goldstone 73.43 57 *eP* P 13 04 59.2 +0.6
comp=Z,1.6nm,0.6s
GSC Goldstone 73.43 57 ⇑P P 13 04 58.9 +0.3
baz=73
I22A 9 Mile Ranch, 73.52 45 ⇑P P 13 04 58.8 -0.2
baz=73,SNR=6.4
G24A Alzada 73.57 43 ⇓P P 13 04 58.4 -0.8
baz=73
J22A Midwest 73.86 45 ⇑P P 13 05 00.5 -0.5
baz=74
ULM Lac du Bonnet 73.90 35 P P 13 05 00.2 -0.6
comp=Z,3.9nm,0.6s,baz=326,slow=6.5,SNR=10
ULM Lac du Bonnet 73.90 35 *eP* P 13 05 00.3 -0.6
ULM pmax pmax
comp=Z,9.0nm,1.3s
ULM Lac du Bonnet 73.90 35 *eP* P 13 05 00.3 -0.6
comp=Z,8.6nm,1.3s
H24A Dirks Ranch, A 73.91 43 ⇑P P 13 05 00.9 -0.3
baz=74,SNR=5.5
K21A Alcova 73.99 46 ⇑P P 13 05 01.8 0.0
baz=74
CCUT Cedar City 74.02 53 *eP* P 13 05 03.4 +1.2
MDND Maddock 74.05 38 ⇑P P 13 05 02.1 +0.2
baz=74
KWP Kalwaria Pacla 74.09 324 ⇓P P 13 05 02.6 +0.5
KWP Kalwaria Pacla 74.09 324 ⇓*i*P P 13 05 02.6 +0.5
O18A Roosevelt 74.12 50 ⇓P P 13 05 03.2 +0.7
baz=74,SNR=6.6
UMR Umm Al-Rimmam 74.16 296 *eP* P 13 05 02.1 -0.6
UMR AMb AMB 13 05 02.9
comp=Z,38nm,0.6s
MIB Mutribah 74.24 296 *eP* P 13 05 02.6 -0.6
MIB AMb AMB 13 05 03.7
comp=Z,50nm,0.9s
M20A Sweetwater, Wa 74.28 48 ⇑P P 13 05 03.3 -0.3
baz=74
K22A Casper 74.36 46 ⇓P P 13 05 03.9 -0.1
baz=74
Q16A Castle Valley 74.38 51 ⇓P P 13 05 03.1 -1.0
baz=74
L21A Rawlins 74.39 47 ⇓P P 13 05 03.4 -0.8
baz=74
STKA Stephens Creek 74.46 181 P P 13 05 05.2 +1.0
comp=Z,2.5nm,0.7s,baz=342,slow=7.6,SNR=6.3
STKA Stephens Creek 74.46 181 *eP* P 13 05 05.1 +1.0
STKA *e*PP* **pP** 13 05 28.7 -0.6
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 74.46 181 *eP* P 13 05 05.1 +1.0
comp=Z,0.9nm,0.9s
STKA *epP* **pP** 13 05 28.7 -0.6
BUR08 Bucovina Ar. S 74.48 322 *eP* P 13 05 04.7 +0.2
GMRC Granite Mounta 74.48 57 ⇑P P 13 05 05.3 +0.6
baz=74
BURAR Bucovina Array 74.49 322 ⇓*i*P P 13 05 04.9 +0.4
QRN Al-Qurain 74.55 295 *eP* P 13 05 04.7 -0.4
QRN AMb AMB 13 05 05.4
comp=Z,61nm,0.3s
TLCR 74.56 318 ⇑P P 13 05 04.9 +0.1
TLCR 74.56 318 ⇑*i*P P 13 05 04.9 +0.1
O19A Miners Draw (B 74.59 49 ⇑P P 13 05 05.0 -0.3
baz=74
RSSD Black Hills 74.61 43 *eP* P 13 05 05.6 +0.1
RSSD *e*PP* **pP** 13 05 31.3 +0.8
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 74.61 43 *eP* P 13 05 05.5 +0.1
comp=Z,5.3nm,0.8s
RSSD *epP* **pP** 13 05 31.3 +0.8
SRU San Rafael 74.61 51 *eP* P 13 05 06.0 +0.5
SRU *e*PP* **pP** 13 05 30.2 -0.4
SRU pmax pmax
comp=Z,14nm,0.8s
SRU San Rafael 74.61 51 *eP* P 13 05 06.0 +0.5
comp=Z,14nm,0.8s
SRU *epP* **pP** 13 05 30.2 -0.4
SRU San Rafael 74.61 51 ⇑P P 13 05 05.1 -0.4
baz=74
R16A Teasdale 74.63 52 ⇑P P 13 05 06.4 +0.7
baz=74,SNR=7.8
TESR 74.64 320 ⇑*i*P P 13 05 06.2 +0.9
M21A Separation Pea 74.65 47 ⇑P P 13 05 05.0 -0.7
baz=74
NAY Al-Naaiem 74.67 296 *eP* P 13 05 04.9 -0.9
NAY AMb AMB 13 05 05.8
comp=Z,22nm,0.7s
N20A Spence Gulch, 74.69 48 ⇓P P 13 05 06.2 +0.2
baz=74,SNR=5.4
Q18A Rafter H Ranch 74.84 51 ⇑P P 13 05 06.3 -0.5
baz=75
OJC Ojcow 74.86 326 *eP* P 13 05 06.4 -0.1
OJC Ojcow 74.86 326 *eP* P 13 05 06.6 +0.1
OJC *e*PP* **pP** 13 05 30.9 -0.7
OJC pmax pmax
comp=Z,16nm,0.8s
OJC Ojcow 74.86 326 *eP* P 13 05 06.6 +0.1
comp=Z,16nm,0.8s
OJC *epP* **pP** 13 05 30.9 -0.7
STHS Stebnicka Huta 74.88 325 *eP* P 13 05 07.6 +1.0
STHS Stebnicka Huta 74.88 325 *eP* P 13 05 07.6 +1.0
S16A Weppner Ranch, 74.94 52 ⇓P P 13 05 07.9 +0.5
baz=75,SNR=9.8
R17A Hanksville Air 74.98 51 ⇑P P 13 05 07.8 +0.2
baz=75,SNR=11
VRI Vrincioaia 75.07 320 ⇓P P 13 05 07.4 -0.4
VRI Vrincioaia 75.07 320 ⇓*i*P P 13 05 07.4 -0.4
P19A Cripple Cowboy 75.13 49 ⇓P P 13 05 08.6 +0.1
baz=75,SNR=9.8
N21A Black Mountain 75.15 48 ⇓P P 13 05 08.4 -0.3
baz=75
L23A Garrett 75.18 46 ⇓P P 13 05 08.3 -0.4
baz=75
CRVS Cervenica-Dubn 75.18 324 *eP* P 13 05 08.3 -0.1
CRVS Cervenica-Dubn 75.18 324 *eP* P 13 05 08.3 -0.1
O20A White River Ci 75.19 49 ⇓P P 13 05 09.2 +0.4
baz=75
M22A Cedar Creek Ra 75.20 47 ⇑P P 13 05 09.1 +0.2
baz=75
IRM Iron Mountain 75.21 57 ⇓P P 13 05 09.4 +0.6
baz=75
NIE Niedzica 75.27 325 *eP* P 13 05 09.5 +0.6
NIE Niedzica 75.27 325 *eP* P 13 05 09.5 +0.6
TRPA Tarpa 75.30 323 ⇓*i*P P 13 05 09.8 +0.8
W13A Hualapai Mount 75.35 56 ⇑P P 13 05 09.6 -0.2
baz=75
U15A North Rim 75.41 54 ⇑P P 13 05 10.8 +0.5
baz=75,SNR=5.5
Q19A Hogan Spring (75.44 50 ⇑P P 13 05 10.5 +0.4
baz=75,SNR=11
S17A Black Ridge (B 75.46 52 ⇓P P 13 05 10.2 -0.2
baz=75
R18A Canyonlands Na 75.47 51 ⇑P P 13 05 10.2 -0.3
baz=75,SNR=6.6
M23A Laramie 75.62 46 ⇑P P 13 05 10.3 -1.0
baz=75
ISR Istrita 75.71 319 ⇑*i*P P 13 05 14.0 +2.5
MLR Muntele Rosu 75.72 320 ⇑P P 13 05 12.1 +0.4
MLR Muntele Rosu 75.72 320 ⇑*i*P P 13 05 12.1 +0.4
KSP Ksiaz 75.77 328 *eP* P 13 05 11.9 +0.3
KSP *e*PP* **pP** 13 05 36.0 -0.8
OKC Ostrava-Krasne 75.83 327 *i* P P 13 05 12.3 +0.3
OKC *e*PP* **pP** 13 05 37.7 +0.5
OKC Ostrava-Krasne 75.83 327 *i* P P 13 05 12.3 +0.3
OKC *epP* **pP** 13 05 37.7 +0.5
Y12C Blythe 75.87 57 ⇓P P 13 05 12.0 -0.6
baz=76
S18A Hurst Farm, Bl 75.89 52 ⇑P P 13 05 12.8 -0.1
baz=76
R19A Curley Farm, L 75.89 51 ⇑P P 13 05 12.7 -0.2
baz=76,SNR=7.3
T17A Navajo Res., N 75.90 52 ⇑P P 13 05 12.1 -0.8
baz=76
BRTR Keskin Array B 75.92 311 P P 13 05 12.8 -0.1
comp=Z,2.0nm,0.8s,baz=95,slow=3.2,SNR=7.6
BRTR Keskin Array B 75.92 311 P P 13 05 12.8 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 75.92 311 P P 13 05 12.8 -0.1
PV10 Paradox Valley 75.96 50 *eP* P 13 05 14.4 +1.1

comp=Z,581nm,0.8s
PV10 *ep*P **pP**
Q20A Ridgley Place, 75.98 50 ⇓P **P** 13 05 12.6 -0.7
baz=76,SNR=5.4
PV04 Paradox Valley 76.03 50 *eP* **P** 13 05 14.7 +1.1
P21A Newcastle 76.05 49 ⇑P **P** 13 05 13.9 +0.2
baz=76,SNR=5.5
M24A Cheyenne 76.10 46 ⇑P **P** 13 05 14.2 +0.3
baz=76
O22A Kremmling 76.10 48 ⇑P **P** 13 05 13.7 -0.4
baz=76
MORC Moravsky Berou 76.12 327 ⇓P **P** 13 05 14.3 +0.5
MORC Moravsky Berou 76.12 327 *eP* **P** 13 05 14.2 +0.5
comp=Z,7.7nm,0.7s
MORC *ep*P **pP** 13 05 38.6 -0.3
MORC Moravsky Berou 76.12 327 ⇓*i*P **P** 13 05 14.3 +0.5
UPC Upice 76.14 328 *i* P **P** 13 05 14.1 +0.3
UPC *e**PP **pP** 13 05 38.5 -0.5
UPC Upice 76.14 328 *i* P **P** 13 05 14.1 +0.3
UPC *ep*P **pP** 13 05 38.5 -0.5
DPC Dobruska-Polom 76.15 328 *i* P **P** 13 05 14.6 +0.7
DPC *e**PP **pP** 13 05 39.0 0.0
DPC Dobruska-Polom 76.15 328 *eP* **P** 13 05 14.5 +0.6
comp=Z,51nm,1.7s
DPC *ep*P **pP** 13 05 39.1 0.0
DPC Dobruska-Polom 76.15 328 *i* P **P** 13 05 14.6 +0.7
DPC *ep*P **pP** 13 05 39.0 0.0
VOIR 76.18 320 ⇓P **P** 13 05 15.0 +0.8
VOIR 76.18 320 ⇓*i*P **P** 13 05 15.0 +0.8
DRGR 76.24 322 ⇑P **P** 13 05 14.7 +0.2
DRGR 76.24 322 ⇑*i*P **P** 13 05 14.7 +0.2
U16A Tuba City 76.29 53 ⇑P **P** 13 05 15.0 -0.1
baz=76,SNR=10
T18A Mexican Hat 76.34 52 ⇓P **P** 13 05 15.2 -0.1
baz=76,SNR=7.4
S19A Harvey Farm, M 76.34 51 ⇑P **P** 13 05 15.0 -0.4
baz=76,SNR=13
P22A Eagle 76.38 48 ⇓P **P** 13 05 15.6 0.0
baz=76,SNR=5.9
PV01 Paradox Valley 76.40 50 *eP* **P** 13 05 16.4 +0.6
comp=Z,276nm,0.6s
O23A Lake Granby, G 76.41 47 ⇑P **P** 13 05 15.6 -0.3
baz=76,SNR=6.6
Q21A Lamborn Mesa, 76.47 49 ⇑P **P** 13 05 16.2 +0.1
baz=76,SNR=5.9
R20A Redvale 76.47 50 ⇑P **P** 13 05 16.2 0.0
baz=76,SNR=7.0
SMCO Snowmass 76.56 49 *eP* **P** 13 05 17.4 +0.5
comp=Z,6.2nm,0.8s
SMCO *ep*P **pP** 13 05 43.0 +1.0
VYHS Vyhne 76.60 326 *eP* **P** 13 05 16.8 +0.4
VYHS Vyhne 76.60 326 *eP* **P** 13 05 16.8 +0.4
PSZ Piszkesteto 76.61 325 ⇑P **P** 13 05 16.9 +0.3
PSZ Piszkesteto 76.61 325 *eP* **P** 13 05 16.9 +0.3
comp=Z,18nm,1.4s
PSZ *ep*P **pP** 13 05 42.9 +1.2
PSZ Piszkesteto 76.61 325 ⇑*i*P **P** 13 05 16.9 +0.3
CLL Collm 76.62 330 *eP* **P** 13 05 16.5 +0.1
comp=Z,9.0nm,0.9s
CLL *ep*P **pP** 13 05 41.0 -0.6
CLL Collm 76.62 330 *i* P **P** 13 05 16.0 -0.4
CLL *e**PP **pP** 13 05 41.0 -0.6
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 76.62 330 ⇓*i*P **P** 13 05 16.2 -0.2
comp=Z,18nm,1.0s
CLL *i* pP **pP** 13 05 40.6 -1.0
BRG Berggiesshubel 76.63 330 *eP* **P** 13 05 16.4 -0.1
comp=Z,3.0nm,1.0s
Y14A Wickenburg 76.67 56 ⇑P **P** 13 05 17.6 +0.4
baz=76
PVCC Panska Ves 76.67 329 *i* P **P** 13 05 17.4 +0.6
PVCC *e**PP **pP** 13 05 41.7 -0.3
PVCC Panska Ves 76.67 329 *i* P **P** 13 05 17.4 +0.6
PVCC *ep*P **pP** 13 05 41.7 -0.3
S20A Disappointment 76.73 50 ⇑P **P** 13 05 18.0 +0.3
baz=76
Z13A Yuma Proving G 76.77 57 ⇓P **P** 13 05 18.4 +0.7
baz=77
R21A Cimarron 76.81 50 ⇓P **P** 13 05 18.0 -0.1
baz=77,SNR=12
Q22A Crested Butte, 76.81 49 ⇓P **P** 13 05 18.8 +0.6
baz=77,SNR=9.9
U18A Rough Rock, Ch 76.84 52 ⇓P **P** 13 05 18.3 0.0
baz=77
V17A Tonalea, Kykot 76.85 53 ⇓P **P** 13 05 18.6 +0.3
baz=77
ISCO Idaho Springs 76.86 47 *eP* **P** 13 05 19.4 +0.9
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 76.86 47 *eP* **P** 13 05 19.4 +0.9
comp=Z,2.8nm,0.8s
ISCO Idaho Springs 76.86 47 ⇓P **P** 13 05 17.7 -0.7
baz=77
VRAC Vranov 76.87 327 ⇓P **P** 13 05 18.7 +0.8
VRAC Vranov 76.87 327 ⇓*i*P **P** 13 05 18.7 +0.8
BRSD Miller 76.88 41 ⇑P **P** 13 05 18.1 +0.1
baz=77
T19A Beclabito 77.04 52 ⇑P **P** 13 05 19.6 +0.2
baz=77,SNR=6.3
MVCO Mesa Verde 77.08 51 *eP* **P** 13 05 20.6 +0.9
comp=Z,5.5nm,0.8s
MVCO Mesa Verde 77.08 51 ⇑P **P** 13 05 19.3 -0.3
baz=77,SNR=5.3
CLZ Clausthal 77.11 332 *eP* **P** 13 05 19.9 +0.7
comp=Z,6.0nm,0.8s
CLZ *ep*P **pP** 13 05 44.7 +0.2
CLZ Clausthal 77.11 332 *eP* **P** 13 05 19.9 +0.7
CLZ *e**PP **pP** 13 05 44.7 +0.2
CLZ pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 77.12 329 *i* P **P** 13 05 19.8 +0.5
PRU *e**PP **pP** 13 05 43.0 -1.5
PRU Pruhonice 77.12 329 *i* P **P** 13 05 19.8 +0.5
PRU *ep*P **pP** 13 05 43.0 -1.5
NEUB Neuenburg 77.14 331 *eP* **P** 13 05 19.7 +0.3
comp=Z,11nm,0.9s
NEUB *ep*P **pP** 13 05 45.0 +0.4
S21A Coal Bank Pass 77.17 50 ⇓P **P** 13 05 20.8 +0.6
baz=77,SNR=10
GZR Gura Zlata 77.27 321 ⇓P **P** 13 05 20.5 +0.2
GZR Gura Zlata 77.27 321 ⇓*i*P **P** 13 05 20.5 +0.2
V18A Ganado 77.29 53 ⇑P **P** 13 05 21.5 +0.7
baz=77,SNR=7.1
U19A Dine' College, 77.31 52 ⇓P **P** 13 05 21.6 +0.7
baz=77,SNR=6.4
TREC Trest 77.31 328 *i* P **P** 13 05 20.9 +0.5
TREC Trest 77.31 328 *i* P **P** 13 05 20.9 +0.5
R22A Saguache, Gunn 77.35 49 ⇑P **P** 13 05 21.5 +0.3
baz=77,SNR=6.8
EYMN Ely 77.50 34 *eP* **P** 13 05 21.0 -0.5
comp=Z,8.8nm,0.6s
TANN Tannenbergstha 77.55 330 *eP* **P** 13 05 22.3 +0.5
comp=Z,1.0nm,0.7s
IBBN Ibbenburen 77.59 334 *eP* **P** 13 05 22.0 +0.2
comp=Z,7.0nm,0.7s
BZS Buzias 77.63 322 ⇓P **P** 13 05 22.2 0.0
BZS Buzias 77.63 322 ⇓*i*P **P** 13 05 22.2 0.0
S22A 4UR Ranch, Cre 77.65 50 ⇑P **P** 13 05 23.4 +0.5
baz=77,SNR=7.2
MOX Moxa 77.66 331 *eP* **P** 13 05 22.7 +0.4
comp=Z,3.0nm,0.7s
MOX Moxa 77.66 331 *eP* **P** 13 05 22.7 +0.4
MOX pmax pmax
comp=Z,3.0nm,0.7s
NKC Novy Kostel 77.70 330 *i* P **P** 13 05 24.2 +1.6
NKC Novy Kostel 77.70 330 *i* P **P** 13 05 24.2 +1.6
N27A Anderson Farm, 77.77 45 ⇑P **P** 13 05 23.2 -0.1
baz=78
R23A Moffat 77.89 49 ⇑P **P** 13 05 24.9 +0.7
baz=78,SNR=8.6
V20A Brimhall 78.09 52 ⇑P **P** 13 05 25.6 +0.4
baz=78
U21A Nageezi 78.11 51 ⇑P **P** 13 05 26.2 +0.8
baz=78
T22A Edith 78.12 50 ⇓P **P** 13 05 25.6 +0.2
baz=78
ROTZ Rotzenmuhle 78.17 330 *eP* **P** 13 05 26.1 +0.9
comp=Z,3.0nm,0.8s
ROTZ *ep*P **pP** 13 05 50.9 +0.4
KHC Kasperske Hory 78.18 329 *eP* **P** 13 05 25.7 +0.4
KHC *e**PP **pP** 13 05 50.2 -0.3
KHC pmax pmax
comp=Z,9.0nm,0.6s
KHC Kasperske Hory 78.18 329 *eP* **P** 13 05 25.7 +0.4
comp=Z,8.6nm,0.6s
KHC *ep*P **pP** 13 05 50.2 -0.3
KHC Kasperske Hory 78.18 329 *i* P **P** 13 05 25.5 +0.2
KHC *ep*P **pP** 13 05 50.1 -0.5
Q25A Bedland, Calha 78.23 47 ⇑P **P** 13 05 25.5 -0.5
baz=78,SNR=7.6
P26A Davis Ranch, A 78.25 46 ⇓P **P** 13 05 25.9 -0.1
baz=78
R24A Sanders Place, 78.26 48 ⇑P **P** 13 05 26.7 +0.6
baz=78,SNR=10.0
GEC2 GERESS Array S 78.37 329 *eP* **P** 13 05 26.6 +0.2
comp=Z,2.0nm,0.7s
GEC2 GERESS Array S 78.37 329 *eP* **P** 13 05 26.6 +0.2
GEC2 pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.37 329 P **P** 13 05 26.2 -0.2
comp=Z,2.2nm,0.6s,baz=36,slow=6.2,SNR=20
GERES pP **pP** 13 05 50.6 -1.1
comp=Z,1.6nm,0.7s,baz=38,slow=6.8,SNR=5.6
GERES LR LR 13 44 52.0
comp=Z,242nm,18.2s,baz=318,slow=39
GERES GERESS Array B 78.37 329 P **P** 13 05 26.2 -0.2
GERES *PP **pP** 13 05 50.6 -1.1
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,243nm,18.2s
GERES GERESS Array B 78.37 329 P **P** 13 05 26.2 -0.2
GERES pP **pP** 13 05 50.6 -1.1
SDCO Great Sand Dun 78.39 49 *eP* **P** 13 05 27.5 +0.6
comp=Z,5.4nm,1.3s
SDCO Great Sand Dun 78.39 49 ⇑P **P** 13 05 26.7 -0.2
baz=78,SNR=5.1
SDCO ⇑P **P** 13 05 26.7 -0.2
baz=78,SNR=5.1
WET Wettzell 78.44 329 *eP* **P** 13 05 27.4 +0.7
comp=Z,6.0nm,0.9s
WET *ep*P **pP** 13 05 51.5 -0.4
WET Wettzell 78.44 329 *eP* **P** 13 05 27.4 +0.7
WET *e**PP **pP** 13 05 51.6 -0.4
WET pmax pmax
comp=Z,6.0nm,0.9s
ECSD EROS Data Cent 78.52 40 *eP* **P** 13 05 27.3 +0.1
comp=Z,11nm,0.9s
ECSD *ep*P **pP** 13 05 51.1 -1.3
W20A Ramah 78.54 53 ⇓P **P** 13 05 27.9 +0.1
baz=78
X19A St. Johns 78.56 53 ⇑P **P** 13 05 28.7 +0.8
baz=78,SNR=12
Y18A Canyon Day Jun 78.57 54 ⇓P **P** 13 05 27.7 -0.2
baz=78,SNR=5.3
T23A Casias Ranch, 78.59 50 ⇓P **P** 13 05 28.7 +0.6
baz=78,SNR=7.2
GRF Grafenberg Arr 78.60 330 *eP* **P** 13 05 28.4 +0.9
comp=Z,8.0nm,0.8s
GRF *ep*P **pP** 13 05 52.4 -0.4
GRF Grafenberg Arr 78.60 330 *eP* **P** 13 05 28.4 +0.9
GRF *e**PP **pP** 13 05 52.4 -0.4
GRF pmax pmax
comp=Z,8.0nm,0.8s
GRFO Grafenberg 78.60 330 *eP* **P** 13 05 28.2 +0.7
GRFO pmax pmax
comp=Z,10.0nm,0.7s
GRFO Grafenberg 78.60 330 *eP* **P** 13 05 28.2 +0.7
comp=Z,9.6nm,0.7s
U22A Llaves 78.60 51 ⇑P **P** 13 05 29.2 +1.1
baz=78
Q26A Hugo 78.62 47 ⇑P **P** 13 05 27.9 -0.1
baz=78,SNR=6.0
S24A Houchin Ranch, 78.62 49 ⇓P **P** 13 05 29.3 +1.1
baz=78
X20A Quemado 78.95 53 ⇓P **P** 13 05 31.0 +1.0
baz=79,SNR=6.3
U23A El Rito 79.01 50 ⇓P **P** 13 05 31.5 +1.2
baz=79,SNR=18
S25A Robets Cordova 79.04 48 ⇑P **P** 13 05 29.7 -0.6
baz=79,SNR=5.5
R26A Arlington 79.11 47 ⇓P **P** 13 05 30.8 +0.1
baz=79,SNR=18
T24A Torres, Weston 79.12 49 ⇑P **P** 13 05 31.1 +0.1
baz=79,SNR=7.3
NWAO Narrogin (SRO) 79.13 202 *eP* **P** 13 05 31.3 +0.9
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 79.13 202 *eP* **P** 13 05 31.2 +0.9
comp=Z,19nm,1.0s
TNS Taunus Mts 79.13 332 *ep*P pP 13 05 55.7 -0.1
VTS Vitsha 79.20 319 ⇓P **P** 13 05 31.6 +0.5
VTS Vitosha 79.20 319 ⇓*i*P **P** 13 05 31.6 +0.5
SCHQ Schefferville 79.32 17 P **P** 13 05 31.4 0.0
comp=Z,7.6nm,0.8s,baz=358,slow=7.6,SNR=9.7
SCHQ Schefferville 79.32 17 *eP* **P** 13 05 31.1 -0.2
comp=Z,7.3nm,0.7s
T25A Trinidad 79.43 49 ⇑P **P** 13 05 32.3 -0.2
baz=79,SNR=9.3
V23A Ortiz Mt. (NFS 79.43 51 ⇓P **P** 13 05 33.1 +0.5
baz=79
X21A Alamocita Cree 79.43 53 ⇑P **P** 13 05 32.6 0.0
baz=79,SNR=5.7
Y20A Horse Springs, 79.47 53 ⇓P **P** 13 05 33.9 +1.0
baz=79,SNR=6.0
U24A Moreno Valley 79.47 50 ⇓P **P** 13 05 33.2 +0.3
baz=79
R27A Eads 79.47 47 ⇓P **P** 13 05 32.2 -0.4
baz=79,SNR=5.3
S26A Kim 79.59 48 ⇓P **P** 13 05 32.3 -1.0
baz=79
RJOB Jochberg 79.62 328 *eP* **P** 13 05 34.0 +0.8
comp=Z,6.0nm,0.8s
RJOB *ep*P **pP** 13 05 59.0 +0.4
Y21A Point of Rocks 79.81 53 ⇑P **P** 13 05 34.9 +0.2
baz=80
218A Dragoon 79.82 56 ⇑P **P** 13 05 35.9 +1.2
baz=80
FUR Furstenfeldbru 79.84 330 *eP* **P** 13 05 34.9 +0.5
comp=Z,14nm,1.0s
FUR Furstenfeldbru 79.84 330 *eP* **P** 13 05 34.9 +0.5
FUR pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 79.85 51 *eP* **P** 13 05 35.8 +1.0
ANMO *e**PP **pP** 13 06 00.8 +0.6
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 79.85 51 *eP* **P** 13 05 35.8 +1.0
comp=Z,4.8nm,1.2s
ANMO *ep*P **pP** 13 06 00.8 +0.6
W23A Werner Place, 79.87 51 ⇑P **P** 13 05 35.3 +0.3
baz=80
Z20A Nine Sixteen R 79.90 54 ⇓P **P** 13 05 34.9 -0.2
baz=80,SNR=5.6
U25A Circle Dot Ran 79.96 49 ⇑P **P** 13 05 35.4 0.0
baz=80
V24A Rampart Ranch, 79.96 50 ⇑P **P** 13 05 35.9 +0.4
baz=80,SNR=6.6
STU Stuttgart 80.09 331 *eP* **P** 13 05 36.0 +0.3
comp=Z,6.0nm,0.6s
STU *ep*P **pP** 13 06 01.0 0.0
V25A Rancho No Teng 80.25 50 ⇑P **P** 13 05 37.0 0.0
baz=80
W24A Lazy 6 Ranch, 80.26 51 ⇓P **P** 13 05 37.3 +0.2
baz=80,SNR=7.8
Y22A Socorro 80.27 52 ⇑P **P** 13 05 37.2 +0.1
baz=80
120A U Bar Ranch, L 80.27 54 ⇓P **P** 13 05 37.4 +0.3
baz=80
219A White Tail Can 80.28 55 ⇑P **P** 13 05 37.8 +0.6
baz=80
Z21A St. Cloud Mine 80.31 53 ⇑P **P** 13 05 36.2 -1.1
baz=80,SNR=5.5
U26A Atchley Ranch, 80.33 49 ⇑P **P** 13 05 36.6 -0.8
baz=80
BAIF Baives 80.66 335 *eP* **P** 13 05 37.4 -1.2
X24A Lazy VL Ranch, 80.71 51 ⇓P **P** 13 05 39.7 +0.2
baz=80
Z22A Elephant Butte 80.76 53 ⇓P **P** 13 05 39.7 0.0
baz=80
BFO Black Forest 80.78 331 *eP* **P** 13 05 39.5 +0.2
comp=Z,2.0nm,0.8s
BFO Black Forest 80.78 331 *eP* **P** 13 05 39.5 +0.2
BFO pmax pmax
comp=Z,2.0nm,0.8s
W25A X Bar L Ranch, 80.79 50 ⇓P **P** 13 05 40.2 +0.4
baz=80,SNR=9.4
121A Cookes Peak, D 80.79 54 ⇓P **P** 13 05 40.4 +0.5
baz=81
Y23A Lovelace Mesa, 80.80 52 ⇑P **P** 13 05 40.7 +0.7
baz=81,SNR=5.8
CDF Champ du Feu 81.07 332 *eP* **P** 13 05 40.1 -0.9
comp=Z,13nm,0.9s
PAGF Fort de Pagny 81.48 333 *eP* **P** 13 05 42.3 -0.7
comp=Z,4.8nm,0.7s
PAGF *ep*P **pP** 13 06 07.2 -1.3
SCIA State Center 81.51 39 *eP* **P** 13 05 43.9 +0.5
comp=Z,9.7nm,0.7s
FUORN Ofenpass-Fuorn 81.52 329 *eP* **P** 13 05 43.9 +0.3
comp=Z,16nm,1.0s
Y25A Mesa, Roswell 81.59 51 ⇑P **P** 13 05 43.8 -0.3
baz=81
X26A CR and CF Fran 81.64 50 ⇓P **P** 13 05 44.0 -0.3
baz=81,SNR=5.5
W27A Bowe Ranch, En 81.68 49 ⇓P **P** 13 05 44.6 +0.1
baz=81
HINF Hinteralfeld 81.73 332 *eP* **P** 13 05 43.6 -0.8
comp=Z,5.4nm,0.8s
MEZF Maizieres J'vi 81.75 333 *eP* **P** 13 05 43.9 -0.5
comp=Z,14nm,0.9s
MEZF *ep*P **pP** 13 06 08.4 -1.5
TUE Stuetta 81.98 330 *eP* **P** 13 05 46.1 +0.2
comp=Z,4.7nm,0.8s
SFTF Sexfontaines 82.01 333 *eP* **P** 13 05 44.8 -1.0
comp=Z,17nm,1.0s
Z25A Roswell 82.05 52 ⇑P **P** 13 05 46.1 -0.4
baz=82
KSU1 Kansas State U 82.06 43 *eP* **P** 13 05 45.8 -0.5
comp=Z,11nm,0.8s
224A Cornudas Mount 82.45 53 ⇓P **P** 13 05 49.1 +0.5
baz=82,SNR=5.2
Z26A Caprock 82.47 51 P **P** 13 05 49.4 +0.7
baz=82,SNR=14
Y27A Causey 82.49 50 ⇓P **P** 13 05 49.0 +0.3
baz=82
AMTX Amarillo 82.58 49 *eP* **P** 13 05 49.6 +0.4
AMTX Amarillo 82.58 49 ⇓P **P** 13 05 49.1 -0.1
baz=82,SNR=5.0
AMTX ⇓P **P** 13 05 49.1 -0.1
baz=82,SNR=5.0
MSTX Muleshoe 82.65 50 ⇑P **P** 13 05 49.6 +0.1
baz=82
MNTX Cornudas Mount 82.80 53 ⇑P **P** 13 05 50.1 -0.2
baz=83
MNTX ⇑P **P** 13 05 50.1 -0.2
baz=83
Z27A Tatum 82.88 51 ⇓P **P** 13 05 50.6 -0.2
baz=83,SNR=11
GDL2 Guadalupe Moun 83.03 52 *eP* **P** 13 05 52.6 +1.0
GDL2 *ep*P **pP** 13 06 18.7 +1.6
LOR Lormes 83.22 333 *eP* **P** 13 05 51.0 -1.1
comp=Z,36nm,1.2s
LOR *ep*P **pP** 13 06 15.8 -1.9
FLN La Foliniere 83.23 337 *eP* **P** 13 05 51.3 -0.8
LDF La Druitiere 83.28 336 *eP* **P** 13 05 51.4 -1.0
226A Malaga, Loving 83.29 52 ⇑P **P** 13 05 53.6 +0.7
baz=83
SSF Saint Saulge 83.51 334 *eP* **P** 13 05 52.6 -1.0
comp=Z,9.0nm,0.9s
GRR Gorron 83.68 337 *eP* **P** 13 05 53.4 -1.0
comp=Z,30nm,0.9s
425A Indio Mountain 83.70 53 ⇑P **P** 13 05 54.7 -0.3
baz=84,SNR=5.4
LPL La Plagne 83.75 331 *eP* **P** 13 05 54.6 -0.5
LPL *ep*P **pP** 13 06 19.4 -1.3
LPG La Plagne 83.76 331 *eP* **P** 13 05 54.6 -0.7
comp=Z,16nm,0.8s
AVF Avril sur Loir 83.80 333 *eP* **P** 13 05 54.3 -0.8
comp=Z,20nm,0.8s
AVF *ep*P **pP** 13 06 19.1 -1.5
326A Caldwell Ranch 83.90 52 ⇑P **P** 13 05 55.4 -0.6
baz=84,SNR=5.6
BGF Bois d'Agland 84.17 334 *eP* **P** 13 05 56.3 -0.7
WMOK Wichita Mounta 84.27 47 *eP* **P** 13 05 58.1 +0.4
WMOK pmax pmax
comp=Z,5.0nm,1.1s
WMOK Wichita Mounta 84.27 47 *eP* **P** 13 05 58.0 +0.4
comp=Z,4.6nm,1.1s
426A McDonald Obser 84.35 53 ⇓P **P** 13 05 58.0 -0.4
baz=84
ROSF Rostrenen 84.41 338 *eP* **P** 13 05 57.5 -0.6
MBDF Montbardon 84.41 330 *eP* **P** 13 05 57.5 -0.9
comp=Z,10.0nm,0.7s
328A Wristen Ranch, 84.53 52 ⇑P **P** 13 05 59.6 +0.4
baz=84,SNR=11
ORIF Oris-en-Rattie 84.57 331 *eP* **P** 13 05 58.6 -0.6
comp=Z,20nm,1.1s
ORIF *ep*P **pP** 13 06 24.4 -0.4
427A Hayter Ranch, 84.58 52 ⇓P **P** 13 05 59.4 -0.1
baz=84,SNR=6.9
TCF Toulx Ste Croi 84.62 334 *eP* **P** 13 05 58.5 -0.8
comp=Z,5.7nm,0.7s
526A Mary Lane Ranc 84.75 53 ⇓P **P** 13 06 00.8 +0.4
baz=84,SNR=7.6
SBF Sospel 84.91 330 *eP* **P** 13 05 59.4 -1.5
comp=Z,27nm,0.7s
TUL1 Tulsa 84.94 44 ⇑P **P** 13 06 01.3 +0.3
baz=85,SNR=5.2
527A Woodward Ranch 84.97 53 ⇑P **P** 13 06 01.7 +0.2
baz=85
VIVF Saint-Julien-l 85.05 332 *eP* **P** 13 06 00.9 -0.6
comp=Z,15nm,0.9s
MFF Saint Martin d 85.07 336 *eP* **P** 13 06 01.0 -0.5
comp=Z,12nm,0.6s
428A Kincaid Ranch, 85.09 52 ⇓P **P** 13 06 02.3 +0.3
baz=85,SNR=6.9
528A Cox Ranch, San 85.44 52 ⇓P **P** 13 06 03.6 -0.2
baz=85,SNR=8.2
CCM Cathedral Cave 85.49 40 *eP* **P** 13 06 03.8 +0.1
CCM *e**PP **pP** 13 06 29.8 +0.4
CCM pmax pmax
comp=Z,13nm,0.8s
CCM Cathedral Cave 85.49 40 *eP* **P** 13 06 03.8 +0.1
comp=Z,13nm,0.8s
CCM *ep*P **pP** 13 06 29.8 +0.4
TXAR Lajitas Array 85.54 54 P **P** 13 06 04.9 +0.7
comp=Z,5.5nm,0.6s,baz=294,slow=3.5,SNR=86
TXAR pP **pP** 13 06 30.0 +0.1
comp=Z,2.7nm,0.6s,baz=291,slow=2.8,SNR=7.8
TXAR Lajitas Array 85.54 54 P **P** 13 06 04.9 +0.7
TXAR *PP **pP** 13 06 30.0 +0.1
TXAR pmax pmax
comp=Z,6.0nm,0.6s
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 85.54 54 P **P** 13 06 04.9 +0.7
TXAR pP **pP** 13 06 30.0 +0.1
RJF Les Rejaudoux 85.71 334 *eP* **P** 13 06 03.6 -1.1
CAF Calviac 85.87 333 *eP* **P** 13 06 05.4 -0.2
comp=Z,13nm,0.8s
CAF *ep*P **pP** 13 06 29.6 -1.6
FVM French Village 85.93 40 *eP* **P** 13 06 05.6 -0.4
FVM pmax pmax
comp=Z,5.0nm,0.6s
FVM French Village 85.93 40 *eP* **P** 13 06 05.5 -0.4
comp=Z,5.4nm,0.6s
LASF Ste Croix 86.01 332 *eP* **P** 13 06 05.8 -0.5
SIUC Southern Illin 86.71 39 *eP* **P** 13 06 10.2 +0.5
comp=Z,32nm,0.8s
SIUC *ep*P **pP** 13 06 36.2 +0.7
MIAR Mount Ida 87.13 44 *eP* **P** 13 06 12.0 +0.1
MIAR pmax pmax
comp=Z,11nm,0.9s
MIAR Mount Ida 87.13 44 *eP* **P** 13 06 12.0 +0.1
comp=Z,11nm,0.9s
MTLF Montolieu 87.22 333 *eP* **P** 13 06 12.0 -0.1
comp=Z,28nm,1.2s
ACSO Alum Creek Sta 87.33 34 *eP* **P** 13 06 13.0 +0.3
comp=Z,12nm,0.6s
ACSO *ep*P **pP** 13 06 38.3 -0.1
WCI Wyandotte Cave 87.61 37 *eP* **P** 13 06 14.1 0.0
WCI pmax pmax
comp=Z,8.0nm,0.7s
WCI Wyandotte Cave 87.61 37 *eP* **P** 13 06 14.1 0.0
comp=Z,8.3nm,0.7s
EPF Esparros 88.12 334 *eP* **P** 13 06 16.6 +0.1
comp=Z,4.8nm,0.6s
ETSF Etsaut 88.53 334 *eP* **P** 13 06 18.4 -0.1
comp=Z,12nm,0.6s
WVT Waverly 88.64 39 *eP* **P** 13 06 18.9 -0.1
WVT pmax pmax
comp=Z,4.0nm,0.7s
WVT Waverly 88.64 39 *eP* **P** 13 06 18.9 -0.1
comp=Z,4.4nm,0.7s
ESDC Sonseca Array 92.53 335 P **P** 13 06 36.6 -0.5
comp=Z,0.9nm,0.6s,baz=15,slow=4.2,SNR=6.9

ESDC	**Sonseca Array**	**92.53**	**335**	P	**P**		**13 06 36.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**113.94**	**318**	PKiKP	**PKiKP**		**13 12 03.3**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=18,slow=1.7,SNR=5.6							
TORD	**Torodi Ar. Bea**	**113.94**	**318**	PKiKP	**PKiKP**		**13 12 03.3**	**-1.4**
DBIC	**Dimbokro**	**122.69**	**321**	PKP	**PKPdf**		**13 12 20.3**	**-1.2**
	comp=Z,4.4nm,0.9s,baz=207,slow=6.4,SNR=4.3							
DBIC	**Dimbokro**	**122.69**	**321**	PKiKP	**PKPdf**		**13 12 20.3**	**-1.2**
DBIC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DBIC	**Dimbokro**	**122.69**	**321**	PKP	**PKPdf**		**13 12 20.3**	**-1.2**
QSPA	**South Pole Qui**	**132.67**	**180**	*e*PKPdf	**PKPdf**		**13 12 40.3**	**+1.3**
SNAA	**Sanae**	**146.75**	**199**	*e*PKP2	**PKPab**		**13 13 06.9**	**-0.8**
SNAA	**Sanae**	**146.75**	**199**	*e*PKPbc	**PKPab**		**13 13 06.9**	**-0.8**
VNA2	**Neumayer--Watz**	**148.33**	**198**	*e*	**PKPbc**		**13 13 11.9**	**+1.5**
	baz=120,slow=1.5							
VNA2				*e*			13 13 15.2	
VNA3	**Neumayer Olymp**	**148.59**	**197**	*e*	**PKPbc**		**13 13 12.1**	**+1.0**
VNA1	**Neumayer--Stat**	**148.73**	**198**	*e*	**PKPbc**		**13 13 13.0**	**+1.6**
VNA1				*e*			13 13 16.6	

*ISCJB **11** 13:05:53.1±0.4, 22°.88N±0°.02×121°.45E±0°.03, h17km±6km, Error ellipse: s-maj=4.2km s-min=3.1km az=166.3*
*TAP **11** 13:05:54.3, 22°.91N×121°.31E, h25km, ML3.2, B*
*JMA **11** 13:05:54.9±0.2, 22°.80N×121°.52E, h86km, M2.8*
ISC 11 13:05:53.2±1.0, 22°.89N±0°.02×121°.41E±0°.03, h18km±5km, n51, σ0s89/87, 5C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.28**	**242**	*e*P			**Pg**	**13 06 00.9**	**+1.6**
	baz=222								
TTN				*e*S			**Sg**	**13 06 06.1**	**+2.5**
	baz=222								
TWG	**Pinlang**	**0.32**	**258**	⇓*i*P			**Pb**	**13 06 00.5**	**+0.1**
	baz=259								
TWG				S			**Sg**	**13 06 04.9**	**+0.1**
	baz=259								
ELDTW	**Lidau**	**0.47**	**310**	⇑*i*P			**Pg**	**13 06 02.3**	**-0.5**
	baz=315								
ELDTW				*i* S			**Sg**	**13 06 07.9**	**-1.4**
	baz=315								
ECL	**Taimali**	**0.51**	**236**	⇓*i*P			**Pb**	**13 06 02.9**	**-0.7**
	baz=235								
EHY	**Hungye**	**0.62**	**352**	P			**Pg**	**13 06 04.9**	**-0.6**
	baz=349								
EHY				*e*S			**Sg**	**13 06 13.1**	**-0.8**
	baz=349								
STYT	**Tauyuan**	**0.67**	**295**	⇑*i*P			**Pg**	**13 06 05.7**	**-0.7**
	baz=288								
STYT				S			**Sg**	**13 06 13.7**	**-1.5**
	baz=288								
TAW	**Tawu**	**0.71**	**222**	*e*P			**Pg**	**13 06 06.2**	**-0.9**
	baz=215								
EAST	**Anshuo**	**0.72**	**226**	P			**Pg**	**13 06 06.3**	**-1.1**
	baz=226								
SSD	**Sandimen**	**0.73**	**259**	⇓*i*P			**Pg**	**13 06 06.5**	**-1.0**
	baz=255								
SSD				*e*S			**Sg**	**13 06 14.0**	**-3.4**
	baz=255								
YUS	**Yu-Shan**	**0.74**	**325**	*e*P			**Pg**	**13 06 07.5**	**-0.3**
	baz=329								
YUS				*e*S			**Sg**	**13 06 16.5**	**-1.1**
	baz=329								
SGST	**Jiashian**	**0.79**	**285**	P			**Pb**	**13 06 08.4**	**0.0**
	baz=284								
SGST				S			**Sb**	**13 06 18.8**	**0.0**
	baz=284								
WTP	**Ta-pu**	**0.82**	**296**	⇑*i*P			**Pb**	**13 06 08.8**	**0.0**
	baz=297								
WTP				S			**Sb**	**13 06 19.8**	**+0.2**
	baz=297								
LAY	**Lan-yu**	**0.85**	**171**	P			**Pb**	**13 06 09.5**	**+0.1**
	baz=168								
LAY				*e*S			**Sb**	**13 06 20.9**	**+0.4**
	baz=168								
CHN1	**Nanshi**	**0.87**	**290**	⇑*i*P			**Pb**	**13 06 09.9**	**+0.2**
	baz=290								
CHN1				S			**Sb**	**13 06 21.6**	**+0.6**
	baz=290								
CHN4	**Tsaushan**	**0.89**	**302**	P			**Pb**	**13 06 10.0**	**0.0**
	baz=303								
CHN4				S			**Sb**	**13 06 21.8**	**+0.2**
	baz=303								
SCZT	**Fangliau**	**0.89**	**235**	*e*P			**Pg**	**13 06 09.3**	**-1.3**
	baz=229								
TWM1	**Shoushan**	**0.92**	**266**	*e*P			**Pn**	**13 06 11.4**	**+0.2**
	baz=264								
ESL	**Shilin**	**0.92**	**1**	*e*P			**Pb**	**13 06 10.3**	**-0.4**
	baz=355								
ESL				*e*S			**Sb**	**13 06 22.0**	**-0.6**
	baz=355								
TWK	**Hsinying**	**0.93**	**294**	⇑P			**Pb**	**13 06 10.8**	**0.0**
	baz=294								
TWK				*e*S			**Sg**	**13 06 23.1**	**-0.5**
	baz=294								
CHN5	**Tsauling**	**0.98**	**316**	*i* P			**Pb**	**13 06 11.7**	**+0.1**
	baz=318								
CHN5				*e*S			**Sb**	**13 06 24.6**	**+0.3**
	baz=318								
CHN3	**Shinhua**	**0.98**	**281**	*e*P			**Pn**	**13 06 12.9**	**+0.8**
	baz=280								
CHN3				*e*S			**Sn**	**13 06 27.5**	**+2.0**
	baz=280								
HEN	**Hengchun**	**1.08**	**216**	*e*P			**Pb**	**13 06 12.9**	**-0.3**
	baz=198								
TWK1	**Hengchun**	**1.09**	**211**	*e*P			**Pb**	**13 06 12.5**	**-1.1**
	baz=201								
TWK1				*e*S			**Sb**	**13 06 26.4**	**-1.1**
	baz=201								
CHY	**Chiayi**	**1.09**	**304**	*e*P			**Pb**	**13 06 13.6**	**0.0**
	baz=304								
CHY				*e*S			**Sb**	**13 06 27.1**	**-0.4**
	baz=304								
SMLT	**Sun Moon Lake**	**1.10**	**335**	P			**Pb**	**13 06 13.6**	**-0.1**
	baz=341								
SMLT				S			**Sb**	**13 06 27.6**	**-0.2**
	baz=341								
HWA	**Hwalien**	**1.10**	**9**	*e*P			**Pb**	**13 06 13.8**	**+0.1**
	baz=11								
TWP	**Hsiaoliuchiu**	**1.11**	**241**	*e*P			**Pg**	**13 06 15.1**	**+0.5**
	baz=238								
WGK	**Gukeng**	**1.12**	**316**	*e*P			**Pg**	**13 06 14.7**	**-0.2**
	baz=316								
WGK				*e*S			**Sn**	**13 06 29.7**	**+0.8**
	baz=316								
TYC	**Yuchr**	**1.14**	**333**	*e*P			**Pb**	**13 06 14.4**	**+0.2**
	baz=335								
TYC				*e*S			**Sb**	**13 06 28.9**	**+0.2**
	baz=335								
SCLT	**Jiali**	**1.16**	**285**	*e*P			**Pb**	**13 06 13.0**	**-1.7**
	baz=284								
WNT	**Mingjian**	**1.19**	**326**	P			**Pb**	**13 06 15.8**	**+0.5**
	baz=327								
WNT				*e*S			**Sn**	**13 06 31.4**	**+0.7**
	baz=327								
CHN8	**Yiju**	**1.20**	**293**	*e*P			**Pg**	**13 06 16.6**	**+0.3**
	baz=292								
CHN8				*e*S			**Sg**	**13 06 31.7**	**-0.3**
	baz=292								
TWD	**Chiawan**	**1.20**	**8**	*e*P			**Pn**	**13 06 15.1**	**0.0**
	baz=10.0								
TWD				*e*S			**Sb**	**13 06 29.9**	**-0.7**
	baz=10.0								
WHF	**Hehuan Shan**	**1.26**	**354**	*e*P			**Pn**	**13 06 15.3**	**-0.9**
	baz=4.0								
TWT	**Tachien**	**1.38**	**351**	*e*P			**Pn**	**13 06 18.1**	**+0.4**
NNS	**Nan Shan**	**1.55**	**359**	*e*P			**Pn**	**13 06 20.4**	**+0.4**
	baz=11								
ENA	**Nanau**	**1.56**	**11**	*e*P			**Pn**	**13 06 20.1**	**+0.1**
	baz=360								
ENA				*e*S			**Sn**	**13 06 39.5**	**-0.5**
	baz=360								
TWQ1	**Liyutan**	**1.57**	**338**	*e*P			**Pb**	**13 06 21.8**	**+0.1**
	baz=338								
TWQ1				*e*S			**Sn**	**13 06 41.4**	**+1.3**
	baz=338								
NSY	**Sanyi**	**1.64**	**339**	*e*P			**Pb**	**13 06 23.0**	**+0.2**
	baz=342								
ENTT	**Nioudou**	**1.75**	**5**	P			**Pn**	**13 06 22.9**	**+0.3**
	baz=15								
ENTT				*e*S			**Sn**	**13 06 44.5**	**-0.1**
	baz=15								
TWC	**Suao**	**1.76**	**13**	*e*P			**Pn**	**13 06 23.2**	**+0.4**
	baz=2.0								
TWC				*e*S			**Sn**	**13 06 45.0**	**+0.3**
	baz=2.0								
NSTT	**Nanjuang**	**1.78**	**348**	*e*P			**Pn**	**13 06 24.8**	**+1.7**
	baz=348								
NSTT				*e*S			**Sn**	**13 06 46.4**	**+1.2**
	baz=348								
NSK	**Sanguang**	**1.78**	**358**	*e*P			**Pn**	**13 06 23.5**	**+0.4**
	baz=13								
NSK				*e*S			**Sn**	**13 06 45.6**	**+0.2**
	baz=13								
TWE	**Neicheng**	**1.84**	**7**	*e*P			**Pn**	**13 06 24.4**	**+0.5**
	baz=5.0								
YOJ	**Yonaguni jima**	**2.15**	**43**	P			**Pn**	**13 06 29.3**	**+1.2**
YOJ				S			**Sn**	**13 06 56.0**	**+1.8**
HATJ	**Hateruma jima**	**2.49**	**62**	P			**Pn**	**13 06 33.5**	**+0.8**
HATJ				S			**Sn**	**13 07 02.5**	**-0.1**
IRIF	**Iriomote-Funau**	**2.57**	**55**	P			**Pn**	**13 06 34.9**	**+1.0**
IRIF				S			**Sn**	**13 07 04.7**	**0.0**
JKRS	**Kuro-shima**	**2.74**	**60**	P			**Pn**	**13 06 37.0**	**+0.8**
JKRS				S			**Sn**	**13 07 08.8**	**0.0**
JIJ	**Ishigaki jima**	**2.90**	**59**	P			**Pn**	**13 06 39.1**	**+0.6**
JIJ				S			**Sn**	**13 07 12.0**	**-1.0**
JTJ	**Tarama**	**3.48**	**59**	P			**Pn**	**13 06 47.2**	**+0.8**
JTJ				S			**Sn**	**13 07 27.4**	**+0.2**
JOGS	**Gusukube**	**4.11**	**62**	*e*S			**Sn**	**13 07 44.1**	**+1.5**

*CSEM **11** 13:12:42.4±0.3, 38°.20N×38°.00E, h2km, MD2.6, Error ellipse: s-maj=6.3km s-min=4.5km az=132.0*
*ISK **11** 13:12:44.0, 38°.19N×38°.13E, h10km, MD2.6*
*ISCJB **11** 13:12:46.0±0.8, 38°.32N±0°.04×38°.16E±0°.04, h3km±8km, Error ellipse: s-maj=7.0km s-min=5.0km az=168.4*
*DDA **11** 13:12:45.9, 38°.26N×38°.29E, h7km, MD2.7*
ISC 11 13:12:44.8±1.4, 38°.33N±0°.04×38°.07E±0°.04, h2km±11km, n15, σ0s49/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.28**	**91**	*e*Pg			**Pg**	**13 12 50.3**	**+0.1**
MYA				*e*SG			**Sg**	**13 12 54.3**	**+0.5**
MYA	**Malataya**	**0.28**	**91**	*e*Pg			**Pg**	**13 12 50.3**	**+0.1**
MYA				*e*Sg			**Sg**	**13 12 54.3**	**+0.5**
MALT	**Malatya**	**0.28**	**94**	*e*PG			**Pg**	**13 12 49.6**	**-0.5**
MALT	**Malatya**	**0.28**	**94**	*e*Pg			**Pg**	**13 12 49.7**	**-0.5**
DARE	**Darende-Malaty**	**0.65**	**341**	*e*PG			**Pg**	**13 12 56.8**	**-0.5**
DARE				*e*SG			**Sg**	**13 13 06.1**	**+0.2**
DARE	**Darende-Malaty**	**0.65**	**341**	*e*Pg			**Pg**	**13 12 56.8**	**-0.5**
DARE				*e*Sg			**Sg**	**13 13 06.1**	**+0.2**
ELZG	**Elazig**	**0.74**	**77**	*i* P			**Pg**	**13 12 57.7**	**-1.2**
ELZG				*i* S			**Sg**	**13 13 08.4**	**-0.1**
ELZG	**Elazig**	**0.74**	**77**	*i* P			**Pg**	**13 12 57.7**	**-1.2**
ELZG				*i* S			**Sg**	**13 13 08.4**	**-0.1**
KEMA	**Kemaliye**	**0.99**	**19**	*i* P			**Pb**	**13 13 05.0**	**+0.2**
KEMA				*i* S			**Sn**	**13 13 20.2**	**-0.2**
KEMA	**Kemaliye**	**0.99**	**19**	*i* P			**Pb**	**13 13 05.0**	**+0.2**
KEMA				*i* S			**Sn**	**13 13 20.2**	**-0.2**
GZT	**Gaziantep**	**1.05**	**203**	*i* P			**Pn**	**13 13 06.9**	**+0.2**
GZT				*i* S			**Sn**	**13 13 21.9**	**-0.1**
PTK	**Pertek**	**1.18**	**61**	*e*PN			**Pg**	**13 13 07.4**	**+0.1**
PTK				*e*SN			**Sn**	**13 13 24.8**	**-0.3**
PTK	**Pertek**	**1.18**	**61**	*e*Pn			**Pg**	**13 13 07.4**	**+0.1**
PTK				*e*Sn			**Sn**	**13 13 24.8**	**-0.3**
ILIC	**ilic-Erzincan**	**1.18**	**19**	*e*PN			**Pn**	**13 13 08.8**	**+0.3**
ILIC	**ilic-Erzincan**	**1.18**	**19**	*e*Pn			**Pn**	**13 13 08.8**	**+0.3**

*DJA **11** 13:14:29.0°.55S×132°.60E, h10km, MLv4.0/5*
IDC 11 13:14:22.6±1.9, 0°.26S×133°.10E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=93.4km s-min=19.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.19**	**202**	P			Pn	13 18 48.7	-0.2
	0.2nm,0.3s,baz=46,slow=13,SNR=3.9								
FITZ				LR			LR	13 26 02.5	
	comp=Z,27nm,20.2s,baz=234,slow=36								
WRA	**Warramunga Arr**	**19.60**	**177**	P			P	13 18 52.5	-0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=12								
ASAR	**Alice Springs**	**23.28**	**178**	P			P	13 19 31.9	-0.2
	2.0nm,0.5s,baz=354,slow=11,SNR=53								
ASAJ	**Asahikawa**	**44.99**	**10**	LR			LR	13 41 31.6	
	comp=Z,126nm,20.3s,baz=16,slow=36								
MKAR	**Makanchi Array**	**64.48**	**324**	P			P	13 25 01.4	+0.2
	0.9nm,0.5s,baz=112,slow=8.3,SNR=13								
KURK	**Kurchatov**	**68.54**	**326**	P			P	13 25 26.9	-0.1
	1.2nm,0.8s,baz=123,slow=5.5,SNR=8.3								
BVAR	**Borovoye Array**	**74.14**	**326**	P			P	13 26 00.6	-0.3
	0.7nm,0.8s,baz=120,slow=8.9,SNR=5.1								

IDC 11 13:28:43.6±11.0, 17°.58S×178°.65W, h528km±141km, mb2.9/7, mb1 3.2/7, mb1mx3.0/17, mbtmp2.9/7, Error ellipse: s-maj=103.2km s-min=35.7km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.59**	**241**	P			P	13 35 20.6	-0.7
	1.9nm,0.9s,baz=293,slow=16,SNR=3.1								
WRA	**Warramunga Arr**	**44.47**	**259**	P			P	13 36 08.0	0.0
	0.7nm,0.9s,baz=97,slow=7.3,SNR=9.8								
ASAR	**Alice Springs**	**44.66**	**254**	P			P	13 36 09.5	0.0
	1.6nm,0.5s,baz=87,slow=9.3,SNR=46								
NVAR	**Mina Array Bea**	**79.34**	**44**	P			P	13 39 54.6	-0.3
	0.2nm,0.5s,baz=227,slow=10.0,SNR=3.6								
ILAR	**Eielson Array**	**85.62**	**13**	P			P	13 40 25.6	-0.1
	0.2nm,0.6s,baz=227,slow=4.6,SNR=6.3								
TXAR	**Lajitas Array**	**86.01**	**58**	P			P	13 40 29.0	+0.5
	0.7nm,0.7s,baz=216,slow=6.2,SNR=7.5								
PDAR	**Pinedale Array**	**87.27**	**44**	P			P	13 40 33.9	-0.4
	0.4nm,0.6s,baz=243,slow=2.9,SNR=3.6								
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc		PKPbc	PKPbc	13 47 26.9	-0.8
	0.3nm,0.5s,baz=53,slow=5.0,SNR=4.0								

*DJA **11** 13:47:06.0°.67N×125°.99E, h10km, MLv3.5/4*
IDC 11 13:47:01.4±1.8, 0°.54N×125°.59E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=162.2km s-min=24.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**158**	P			P	13 51 57.8	-0.6
	2.6nm,0.7s,baz=336,slow=11,SNR=16								
ASAR	**Alice Springs**	**25.38**	**162**	P			P	13 52 30.9	+0.4
	0.6nm,0.3s,baz=340,slow=7.9,SNR=28								
MKAR	**Makanchi Array**	**59.55**	**327**	P			P	13 57 06.7	-0.1
	0.2nm,0.6s,baz=101,slow=7.5,SNR=3.5								

IDC 11 13:52:34.0±17.0, 23°.23S×174°.34W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=326.9km s-min=142.0km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.69**	**267**	P			P	13 59 43.6	+0.7
	4.0nm,0.3s,baz=86,slow=9.1,SNR=7.4								
STKA	**Stephens Creek**	**39.79**	**248**	P			P	14 00 07.8	-1.1
	0.6nm,0.3s,baz=83,slow=11,SNR=6.0								
ASAR	**Alice Springs**	**47.27**	**259**	P			P	14 01 08.6	-0.9
	0.5nm,0.3s,baz=95,slow=7.0,SNR=34								
WRA	**Warramunga Arr**	**47.64**	**264**	P			P	14 01 11.7	-0.7
	1.7nm,0.3s,baz=99,slow=6.8,SNR=104								
FITZ	**Fitzroy Crossi**	**56.07**	**263**	P			P	14 02 16.7	+1.5
	2.6nm,0.8s,baz=117,slow=9.0,SNR=6.8								

*IDC **11** 14:02:02.0±0.8, 0°.44S×132°.84E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML4.4/2, Error ellipse: s-maj=35.8km s-min=14.7km az=80.0*
*ISCJB **11** 14:02:04.5±0.6, 0°.44S±0°.06×133°.04E±0°.09, h32km, mb4.1/11, Error ellipse: s-maj=13.7km s-min=8.8km az=13.5*
*DJA **11** 14:02:09, 0°.51S×132°.64E, h66km, MLv4.5/6*
ISC 11 14:02:06.5±0.8, 0°.47S±0°.08×133°.0E±0°.1, h32km, n19, σ1s13/18, mb4.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.56**	**198**	P			**Pn**	**14 02 46.2**	**+0.5**

MSAI	**Masohi**	**5.00**	**235**	P		**Pn**	**14 03 20.0**	**+0.6**
	100nm,0.5s,1μm0.3nm							
TLE	**Tual**	**5.14**	**183**	P		Pb	14 03 30.2	-5.5
LBMI	**Labuha**	**5.54**	**268**	P		**Pn**	**14 03 28.4**	**+1.6**
	74nm,0.9s,0.2nm							
AAI	**Ambon**	**5.80**	**237**	P		**Pn**	**14 03 29.1**	**-1.3**
	273nm,0.9s,3μm0.8nm							
NLAI	**Namlea**	**6.54**	**245**	P		**Pn**	**14 03 43.0**	**+2.4**
	57nm,0.8s,0.2nm							
FITZ	**Fitzroy Crossi**	**18.97**	**202**	P		**P**	**14 06 24.1**	**-1.2**
	0.7nm,0.3s,baz=59,slow=9.0,SNR=18							
WRA	**Warramunga Arr**	**19.39**	**176**	P		**P**	**14 06 30.3**	**+0.4**
	1.4nm,0.3s,baz=354,slow=11,SNR=68							
ASAR	**Alice Springs**	**23.07**	**178**	P		**P**	**14 07 10.4**	**+0.9**
	7.2nm,0.4s,baz=356,slow=12,SNR=166							
STKA	**Stephens Creek**	**32.27**	**166**	P		**P**	**14 08 32.9**	**+0.6**
	2.7nm,0.5s,baz=7.1,slow=6.3,SNR=15							
CMAR	**Chiang Mai Arr**	**38.43**	**301**	P		**P**	**14 09 23.6**	**-2.0**
	0.9nm,0.8s,baz=129,slow=6.9,SNR=7.4							
USRK	**Ussuriysk Arra**	**44.49**	**359**	P		**P**	**14 10 15.7**	**+0.9**
	0.7nm,0.7s,baz=202,slow=9.1,SNR=4.1							
SONM	**Songino Array**	**53.41**	**338**	P		**P**	**14 11 22.5**	**-0.8**
	0.2nm,0.4s,baz=139,slow=5.0,SNR=2.2							
PETK	**Petropavlovsk-**	**57.22**	**17**	P		**P**	**14 11 50.9**	**+0.4**
	7.3nm,1.1s,baz=224,slow=6.2,SNR=3.6							
MKAR	**Makanchi Array**	**64.61**	**324**	P		**P**	**14 12 40.8**	**-0.2**
	1.8nm,0.6s,baz=114,slow=8.2,SNR=26							
ZALV	**Zalesovo Beam**	**67.22**	**331**	P		**P**	**14 12 57.1**	**-0.4**
	1.2nm,0.4s,baz=93,slow=5.8,SNR=2.1							
KURK	**Kurchatov**	**68.68**	**326**	P		**P**	**14 13 06.5**	**-0.3**
	2.1nm,0.8s,baz=125,slow=6.0,SNR=12							
BVAR	**Borovoye Array**	**74.28**	**326**	P		**P**	**14 13 40.4**	**-0.2**
	1.3nm,0.6s,baz=132,slow=7.7,SNR=10							
ILAR	**Eielson Array**	**86.19**	**25**	P		**P**	**14 14 44.6**	**+0.2**
	0.7nm,0.7s,baz=259,slow=5.0,SNR=10							

*ISCJB **11** 14:03:47.1±0.3, 6°.42S±0°.03×147°.50E±0°.06, h63km, mb4.7/42, Error ellipse: s-maj=8.3km s-min=4.3km az=174.2*
*BJI **11** 14:03:47.2, 6°.73S×147°.68E, h75km, mB5.3/16, mb4.7/22, Ms4.8/15, Ms7 4.5/15*
*IDC **11** 14:03:48.4±1.9, 6°.35S×147°.38E, h57km±18km, mb4.2/16, mb1 4.4/20, mb1mx4.4/22, mbtmp4.3/20, ML4.5/4, MS4.1/12, Ms1 4.1/12, ms1mx3.9/32, Error ellipse: s-maj=19.3km s-min=12.0km az=88.0*
*NEIC **11** 14:03:49.6±1.1, 6°.39S×147°.42E, h73km±10km, mb4.6/12, Error ellipse: s-maj=8.0km s-min=7.2km az=84.0*
NEIC Felt at Lae.
*DJA **11** 14:03:49, 6°.33S×147°.80E, h68km, mb5.3/11*
ISC 11 14:03:49.6±0.4, 6°.51S±0°.04×147°.49E±0°.07, h63km, n126, σ1s98/146, mb4.7/41, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.90**	**186**	P			**Pn**	**14 04 33.9**	**+0.5**
	71nm,0.3s,baz=9.3,slow=11,SNR=198								
PMG				S			**Sn**	**14 05 10.1**	**+3.0**
	448nm,0.3s,baz=36,slow=23,SNR=16								
PMG				LR			LR	14 05 55.1	
	comp=Z,3μm,20.3s,baz=12,slow=42								
PMG	**Port Moresby**	**2.90**	**186**	*e*Pn			**Pn**	**14 04 33.8**	**+0.3**
PMG				S			**Sn**	**14 05 10.1**	**+3.0**
JAY	**Jayapura**	**7.84**	**300**	P			Pn	14 05 49.6	+8.5
	117nm,0.7s,3μm0.5nm								
COEN	**Coen**	**8.53**	**209**	*e*Pn			**Pn**	**14 05 51.3**	**+0.7**
	203nm,0.3s								
SMPI	**Sarmi**	**9.84**	**297**	P			Pn	14 06 11.2	+2.8
	120nm,0.5s,2μm								
HNR	**Honiara**	**12.67**	**104**	P			**Pn**	**14 06 48.1**	**+1.0**
	12nm,0.3s,baz=200,slow=6.2,SNR=10								
HNR				LR			LR	14 11 16.3	
	comp=Z,352nm,18.4s,baz=43,slow=35								
HNR	**Honiara**	**12.67**	**104**	*e*P			**Pn**	**14 06 48.2**	**+1.0**
	544nm,1.5s								
CTA	**Charters Tower**	**13.55**	**185**	P			**Pn**	**14 07 01.0**	**+1.9**
	1.7nm,0.3s,baz=1.8,slow=14,SNR=12								
CTA				LR			LR	14 11 37.5	
	comp=Z,724nm,20.6s,baz=6.9,slow=34								
CTA	**Charters Tower**	**13.55**	**185**	*e*P			**Pn**	**14 07 01.4**	**+2.3**
	22nm,1.4s								
CTA				*e*S			**Sn**	**14 09 27.5**	**-0.6**
CTA	**Charters Tower**	**13.55**	**185**	P			**Pn**	**14 07 01.0**	**+1.9**
CTAO	**Charters Tower**	**13.55**	**185**	*e*P			**Pn**	**14 07 01.0**	**+1.9**
	111nm,1.5s								
WRAB	**Tennant Creek**	**18.46**	**222**	*e*P			**P**	**14 08 00.2**	**-0.3**
	51nm,1.0s								
WB2	**Warramunga Arr**	**18.47**	**222**	*e*P			**P**	**14 08 00.2**	**-0.3**
WRA	**Warramunga Arr**	**18.48**	**222**	P			**P**	**14 08 00.5**	**-0.2**
	2.9nm,0.3s,baz=45,slow=12,SNR=21								
WRA				S			Sn	14 11 17.5	-10
	0.2nm,0.3s,baz=45,slow=26,SNR=2.7								
WRA				LR			LR	14 15 55.6	
	comp=Z,996nm,18.9s,baz=50,slow=39								
WRA	**Warramunga Arr**	**18.48**	**222**	P			**P**	**14 08 00.5**	**-0.2**
WRA				S			Sn	14 11 17.5	-10
EIDS	**Eidsvold**	**19.07**	**170**	*e*P			**Pn**	**14 08 08.4**	**0.0

RPZ Rata Peaks 42.45 155 P **P** **14 11 38.9 +0.5**
9.7nm,0.7s,baz=83,slow=9.3,SNR=5.5
RPZ Rata Peaks 42.45 155 P **P** **14 11 38.9 +0.5**
MJAR Matsushiro Arr 43.70 349 P **P** **14 11 46.7 -1.8**
1.3nm,0.6s,baz=243,slow=16,SNR=7.6
MJAR Matsushiro Arr 43.70 349 P **P** **14 11 46.7 -1.8**
MAT Matsushiro 43.70 349 P **P** **14 11 47.5 -1.0**
MAT *eS* **S** **14 18 09.6 -4.5**
KSRS Korea Array 47.40 339 P **P** **14 12 16.8 -0.9**
2.4nm,0.8s,baz=157,slow=8.4,SNR=5.5
KSAR Wonju Array Be 47.40 339 P **P** **14 12 16.8 -0.9**
IPM Ipoh 47.65 282 *eP* **P** **14 12 19.7 -0.4**
18nm,0.8s
KULM Kulim 48.20 283 *eP* **P** **14 12 23.5 -0.9**
11nm,0.4s
PSI Prapat 49.36 279 P **P** **14 12 33.1 -0.3**
GYA Guiyang 51.38 311 *eP* **P** **14 12 48.8 +0.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Arra 52.38 346 P **P** **14 12 54.0 -1.3**
comp=Z,1.1nm,0.6s,baz=159,slow=7.3,SNR=5.2
RAR Rarotonga 53.00 112 LR LR 14 31 29.7
comp=Z,183nm,18.1s,baz=290,slow=31
MDJ Mudanjiang 53.38 344 P **P** **14 13 03.5 +0.7**
MDJ pP **pP** **14 13 20.3 +1.1**
MDJ sP **sP** **14 13 28.8 +2.4**
MDJ PcP **PcP** **14 14 08.1 -1.3**
MDJ S **S** **14 20 30.6 +0.4**
MDJ SS SS 14 24 10.0 -1.2
MDJ pmax pmax
comp=Z,14nm,3.7s
MDJ pmax pmax
comp=Z,210nm,5.1s
MDJ LR LR
comp=N,230nm,29.8s
MDJ LR LR
comp=E,310nm,26.0s
MDJ LR LR
comp=Z,140nm,29.3s
KMI Kunming 53.69 308 P **P** **14 13 04.4 -1.3**
KMI pP **pP** **14 13 24.1 +2.0**
KMI sP **sP** **14 13 34.1 +4.8**
KMI S **S** **14 20 35.5 0.0**
KMI sS **sS** **14 21 06.6 +3.3**
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,130nm,5.7s
KMI LR LR
comp=N,340nm,17.7s
KMI LR LR
comp=E,130nm,24.1s
KMI LR LR
comp=Z,360nm,25.9s
CN2 Changchun 53.90 340 *eP* **P** **14 13 09.1 +2.5**
CMAR Chiang Mai Arr 53.92 298 P **P** **14 13 06.4 -0.8**
comp=Z,2.6nm,0.6s,baz=123,slow=5.9,SNR=13
CMAR Chiang Mai Arr 53.92 298 P **P** **14 13 06.4 -0.8**
CD2 Chengdu 55.98 314 P **P** **14 13 23.5 +1.6**
CD2 pP **pP** **14 13 42.5 +4.1**
CD2 sP sP 14 13 51.1 +5.5
CD2 PP PP 14 15 30.8 +3.4
CD2 S **S** **14 21 04.5 -1.1**
CD2 sS **sS** **14 21 37.1 +3.5**
CD2 SS SS 14 24 51.5 -1.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,4.9s
CD2 LR LR
comp=N,410nm,8.3s
CD2 LR LR
comp=Z,340nm,9.5s
HHC Hu-ho-hao-te 57.52 328 *eP* **P** **14 13 32.5 -0.2**
HHC pP **pP** **14 13 51.9 +2.6**
HHC sP **sP** **14 14 00.5 +4.1**
HHC PP **PP** **14 15 43.1 +2.1**
HHC S **S** **14 21 23.3 -2.5**
HHC sS **sS** **14 21 55.9 +2.0**
HHC SS **SS** **14 25 15.2 -1.6**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,220nm,8.0s
HHC LR LR
comp=N,330nm,15.9s
HHC LR LR
comp=E,370nm,15.1s
HHC LR LR
comp=Z,310nm,15.3s
LZH Lanzhou 58.91 319 *eP* **P** **14 13 40.0 -2.6**
LZH pP **pP** **14 13 59.5 +0.2**
LZH sP **sP** **14 14 08.1 +1.7**
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,53nm,6.9s
LZH LR LR
comp=N,200nm,15.5s
LZH LR LR
comp=E,190nm,16.2s
LZH LR LR
comp=Z,210nm,18.5s
PETK Petropavlovsk- 60.02 7 P **P** **14 13 48.3 -1.3**
comp=Z,1.4nm,0.4s,baz=172,slow=8.4,SNR=7.4
PETK Petropavlovsk- 60.02 7 P **P** **14 13 48.3 -1.3**
PPT2 Papeete2 62.29 106 *eS* S 14 22 34.5 +6.7
comp=Z,280nm,25.0s
PPT2 *eLQ* LQ 14 29 50.1
comp=Z,370nm,27.8s
PPT2 *eLR* LR 14 32 22.0
comp=Z,193nm,25.5s
TBI Tubuai 62.73 113 *eLR* LR 14 32 41.2
comp=Z,155nm,30.8s
GTA Gaotai 63.44 320 *eP* **P** **14 14 12.2 -1.0**
GTA pP **pP** **14 14 32.0 +2.0**
GTA sP **sP** **14 14 42.0 +4.9**
GTA S **S** **14 22 38.7 -2.9**
GTA sS **sS** **14 23 12.9 +2.8**
GTA SS **SS** **14 26 49.0 -0.8**
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA pmax pmax
comp=Z,250nm,6.2s
GTA LR LR
comp=N,210nm,13.8s
GTA LR LR
comp=E,190nm,15.2s
GTA LR LR
comp=Z,270nm,15.7s
ULN Ulaanbaatar 64.78 331 *eP* **P** **14 14 20.4 -1.5**
comp=Z,1.8nm,0.6s
CASY Casey 64.90 196 *eP* **P** **14 14 21.5 -0.6**
comp=Z,4.0nm,0.7s
SONM Songino Array 65.08 331 P **P** **14 14 21.7 -2.1**
comp=Z,1.2nm,0.6s,baz=144,slow=7.5,SNR=8.0
SONM Songino Array 65.08 331 P **P** **14 14 21.7 -2.1**
TAPN Taplejung 66.83 303 *eP* **P** **14 14 33.6 -2.0**
TAPN Taplejung 66.83 303 *eP* **P** **14 14 33.6 -2.0**
ODAN Odare 66.93 303 *eP* **P** **14 14 34.3 -1.8**
ODAN Odare 66.93 303 *eP* **P** **14 14 34.3 -1.8**
RAMN Ramite 67.62 302 *eP* **P** **14 14 38.3 -2.2**
RAMN Ramite 67.62 302 *eP* **P** **14 14 38.3 -2.2**
JIRN Jiri 68.21 303 *eP* **P** **14 14 41.9 -2.5**
JIRN Jiri 68.21 303 *eP* **P** **14 14 41.9 -2.5**
GUN Gumba 68.55 303 *eP* **P** **14 14 44.3 -2.2**
GUN Gumba 68.55 303 *eP* **P** **14 14 44.3 -2.2**
PKI Pulchoki 68.83 303 *eP* **P** **14 14 46.1 -2.1**
PKI Pulchoki 68.83 303 *eP* **P** **14 14 46.1 -2.1**
KKN Kakani 69.01 303 *eP* **P** **14 14 46.9 -2.3**
KKN Kakani 69.01 303 *eP* **P** **14 14 46.9 -2.3**
DMN Daman 69.09 303 *eP* **P** **14 14 47.8 -2.0**
DMN Daman 69.09 303 *eP* **P** **14 14 47.8 -2.0**
GKN Gorkha 69.62 303 *eP* **P** **14 14 50.8 -2.1**
GKN Gorkha 69.62 303 *eP* **P** **14 14 50.8 -2.1**
KOLN Koldanda 70.41 302 *eP* **P** **14 14 54.8 -3.0**
comp=Z,6.6nm,0.5s
KOLN Koldanda 70.41 302 *eP* **P** **14 14 54.8 -3.0**
comp=Z,6.6nm,0.5s
DANN Dangsing 70.46 303 *eP* **P** **14 14 55.7 -2.5**
DANN Dangsing 70.46 303 *eP* **P** **14 14 55.7 -2.5**
VNDA Vanda 71.38 177 *eP* **P** **14 15 03.0 +0.4**
comp=Z,5.1nm,0.9s
HYB Hyderabad 72.09 291 *i* P **P** **14 15 08.0 +0.1**
WMQ Urumqi 73.49 319 *eP* **P** **14 15 15.7 0.0**
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ LR LR
comp=N,240nm,21.5s
WMQ LR LR
comp=Z,140nm,17.5s
MK31 Makanchi Array 78.20 320 *eP* **P** **14 15 40.2 -2.3**
MKAR Makanchi Array 78.20 320 P **P** **14 15 40.5 -1.9**
comp=Z,1.4nm,0.5s,baz=98,slow=8.1,SNR=24
MKAR Makanchi Array 78.20 320 P **P** **14 15 40.5 -1.9**
ZALV Zalesovo Beam 79.70 328 P P 14 15 47.2 -3.3
comp=Z,3.5nm,0.5s,baz=114,slow=6.6,SNR=13
ZALV LR LR 14 49 48.8
comp=Z,122nm,20.0s,baz=248,slow=35
ZALV Zalesovo Beam 79.70 328 P P 14 15 47.2 -3.3
KSH Kashi 80.08 312 *eP* **P** **14 15 52.1 -0.9**
KSH *ePcP* **PcP** **14 15 59.9 -0.3**
KSH *epP* **pP** **14 16 12.2 +1.8**
KSH *esP* **sP** **14 16 20.2 +2.8**
KSH *ePP* **PP** **14 18 55.8 -0.1**
KSH *eS* S 14 25 45.6 -7.2
KSH *eSKS* SKSac 14 25 57.2 -8.2
KSH *eScS* **SKKSac** **14 26 06.4 -0.9**
KSH *eSS* **SS** **14 31 06.5 +2.0**
KSH pmax pmax
comp=Z,2.0nm,0.9s
KSH pmax pmax
comp=Z,210nm,5.7s
KSH LR LR
comp=N,400nm,6.4s
KSH LR LR
comp=E,390nm,5.8s
KSH LR LR
comp=Z,480nm,7.1s
KURK Kurchatov 81.91 323 P **P** **14 15 59.5 -2.8**
comp=Z,1.3nm,0.6s,baz=104,slow=4.4,SNR=5.1
KURK Kurchatov 81.91 323 P **P** **14 16 02.2 -0.1**
comp=Z,1.5nm,0.6s
QSPA South Pole Qui 83.46 180 *eP* **P** **14 16 08.5 -1.8**
comp=Z,7.9nm,0.7s
ILAR Eielson Array 85.75 23 P P 14 16 17.9 -3.8
comp=Z,0.9nm,0.5s,baz=252,slow=4.9,SNR=16
ILAR Eielson Array 85.75 23 P P 14 16 17.9 -3.8
BVAR Borovoye Array 87.46 324 P **P** **14 16 27.3 -3.0**
comp=Z,1.7nm,0.5s,baz=107,slow=5.5,SNR=14
BVAR Borovoye Array 87.46 324 P **P** **14 16 27.3 -3.0**
INK Inuvik 91.95 21 LR LR 14 58 50.2
comp=Z,71nm,19.5s,baz=296,slow=36
NVAR Mina Array Bea 97.29 52 P Pdif 14 17 17.5 +1.0
comp=Z,0.4nm,0.8s,baz=242,slow=7.1,SNR=2.9
NVAR Mina Array Bea 97.29 52 P Pdif 14 17 17.5 +1.0
GERES GERESS Array B 122.60 326 PKP **PKPdf** **14 22 35.8 -2.5**
comp=Z,0.4nm,0.6s,baz=62,slow=3.2,SNR=5.4
GERES GERESS Array B 122.60 326 PKP **PKPdf** **14 22 35.8 -2.5**
LPAZ La Paz 138.10 123 PKP **PKPdf** **14 23 08.3 -0.9**
comp=Z,0.9nm,0.5s,baz=339,slow=3.7,SNR=3.7
LPAZ La Paz 138.10 123 PKP **PKPdf** **14 23 08.3 -0.9**
TORD Torodi Ar. Bea 145.69 284 PKPbc **PKPdf** **14 23 22.0 -0.1**
comp=Z,4.5nm,0.5s,baz=72,slow=3.7,SNR=90
TORD Torodi Ar. Bea 145.69 284 PKPbc **PKPdf** **14 23 22.0 -0.1**
DBIC Dimbokro 152.53 272 PKPbc **PKPbc** **14 23 39.7 -0.3**
comp=Z,1.2nm,0.5s,baz=224,slow=3.7,SNR=5.7
DBIC Dimbokro 152.53 272 PKPbc **PKPbc** **14 23 39.7 -0.3**

GUC 11 14:07:39.2±0.5, 24.03S×67.65W, h206km±8km, ML4.1, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.83**	**320**	⇑*i*	*i*P	14 08 18.0	+1.1
LVC				*i*	S	14 08 47.8	+2.2
LVC					AML	AML	14 08 50.6
comp=E,214nm,0.4s							
CEN1	**Los Morros**	**2.42**	**285**	⇑*i*	*i*P	Pn	14 08 25.2 +2.5
CEN1				*i*	S	S	14 08 59.7 +3.5
CEN1					AML	AML	14 09 03.5
comp=E,367nm,0.6s							
PB04	**Plate Boundary**	**2.44**	**316**	⇑*i*	*i*P	Pn	14 08 29.6 +6.8
PB04				*i*	S	S	14 09 07.8 +11
PB04					AML	AML	14 09 09.9
comp=N,367nm,0.6s							
ANCH	**Antofagasta**	**2.55**	**277**	⇑*i*	*i*P	Pn	14 08 25.7 +1.7
ANCH				*i*	S	S	14 09 00.4 +2.0
ANCH					AML	AML	14 09 03.3
comp=E,729nm,0.1s							
PB09	**Plate Boundary**	**2.67**	**326**	*eP*		Pn	14 08 27.3 +1.7
PB09				*i*	S	S	14 09 04.0 +2.7
PB09					AML	AML	14 09 06.3
comp=N,640nm,0.4s							
PB07	**Plate Boundary**	**3.08**	**318**	⇑*i*	*i*P	Pn	14 08 32.0 +1.6
PB07				*i*	S	S	14 09 12.5 +2.6
PB07					AML	AML	14 09 13.9
comp=N,362nm,0.3s							
PB01	**Plate Boundary**	**3.42**	**330**	⇑*i*	*i*P	Pn	14 08 35.4 +1.0
PB01				*i*	S	S	14 09 19.1 +2.0
PB01					AML	AML	14 09 19.6
comp=E,87nm,0.2s							
HMBC	**Humberstone**	**4.27**	**331**	⇑*i*	*i*P	Pn	14 08 44.8 0.0
HMBC				*i*	S	S	14 09 37.0 +1.0
PSGC	**Pisagua**	**4.97**	**332**	*eP*		Pn	14 08 52.8 -0.9
PSGC				*i*	S	S	14 09 52.0 0.0
MNMC	**Minimini**	**5.20**	**339**	*eP*		Pn	14 08 57.6 +0.8
MNMC				*i*	S	S	14 09 58.5 +0.9

*IDC **11** 14:15:50.5±0.5, 0.76S×133.43E, h0km, mb4.5/16, mb1 4.8/19, mb1mx4.7/24, mbtmp4.6/19, ML5.1/2, MS4.1/11, Ms1 4.1/11, ms1mx3.8/39, Error ellipse: s-maj=25.1km s-min=11.6km az=77.0*
*BJI **11** 14:15:51.6, 1.23S×133.38E, h28km, mB5.2/24, mb4.6/34, Ms4.8/22, Ms7 4.4/22*
*MOS **11** 14:15:53.7±1.1, 0.79S×133.39E, h33km, mb5.0/21, Error ellipse: s-maj=17.0km s-min=6.8km az=115.4*
*ISCJB **11** 14:15:53.0±0.2, 0.74S±0.03×133.64E±0.04, h29km, mb4.8/65, MS4.2/16, Error ellipse: s-maj=5.9km s-min=4.3km az=162.0*
*DJA **11** 14:15:54, 0.92S×133.57E, h10km, mb5.4/16*
*NEIC **11** 14:15:54.6±2.9, 0.77S×133.51E, h27km±20km, mb4.9/22, Error ellipse: s-maj=9.9km s-min=5.4km az=58.0*
NEIC Felt [III] at Manokwari.

ISC 11 14:15:55.2±0.3, 0.92S±0.04×133.51E±0.06, h29km, n212, σ1972/211, mb4.8/65, MS4.2/18, 4C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.35**	**212**	P	**Pb**	**14 16 34.7**	**-2.2**
BAKI	**Biak**	**2.61**	**96**	P	**Pn**	**14 16 34.1**	**-1.3**
TLE	**Tual**	**4.75**	**189**	P	Pn	14 17 09.2	+4.4
MSAI	**Masohi**	**5.17**	**242**	P	Pn	14 17 15.0	+4.3
232nm,0.6s,4μm1.4nm							
SMPI	**Sarmi**	**5.30**	**102**	P	**Pn**	**14 17 13.1**	**+0.6**
331nm,1.0s,5μm1.4nm							
AAI	**Ambon**	**5.98**	**243**	P	**Pn**	**14 17 24.6**	**+2.8**
932nm,1.1s,10μm4.4nm							
LBMI	**Labuha**	**6.02**	**273**	P	**Pn**	**14 17 23.7**	**+1.4**
480nm,1.0s,4μm1.9nm							
TNTI	**Ternate**	**6.37**	**285**	P	Pn	14 17 32.9	+5.7
161nm,0.9s,3μm0.9nm							
NLAI	**Namlea**	**6.81**	**250**	P	**Pn**	**14 17 35.7**	**+2.5**
383nm,0.5s,7μm2.3nm							
MNI	**Manado**	**8.98**	**285**	P	Pn	14 18 17.2	+14
KMSI	**Cibinong**	**9.65**	**279**	P	Pn	14 18 23.3	+11
LUWI	**Luwuk**	**10.74**	**269**	P	**Pn**	**14 18 29.0**	**+1.9**
246nm,1.2s,3μm							
DAV	**Davao City (W)**	**11.21**	**315**	LR	LR	14 22 42.7	
comp=Z,295nm,20.4s,baz=128,slow=37							
MRSI	**Marisa**	**11.65**	**277**	P	Pn	14 18 46.7	+7.0
45nm,1.3s,754nm							
MMRI	**Maumere**	**13.59**	**235**	P	**P**	**14 19 17.2**	**+2.4**
TTSI	**Tana Toraja**	**13.85**	**261**	P	P	14 19 22.2	+4.6
BKSI	**Bulukumba**	**14.06**	**252**	P	**P**	**14 19 17.2**	**-2.8**
90nm,1.3s,1μm							
KAPI	**Kappang**	**14.33**	**253**	Pn	P	14 19 19.6	-3.4
4.7nm,0.3s,baz=82,slow=4.2,SNR=16							
KAPI	**Kappang**	**14.33**	**253**	*eP*	Pn	14 19 19.4	+3.1
124nm,1.1s							
KAPI	**Kappang**	**14.33**	**253**	P	**P**	**14 19 20.9**	**-2.1**
114nm,1.1s							
PMG	**Port Moresby**	**15.98**	**122**	Pn	**Pn**	**14 19 39.5**	**+1.5**
0.8nm,0.3s,baz=291,slow=8.3,SNR=16							
PMG	**Port Moresby**	**15.98**	**122**	*eP*	**Pn**	**14 19 39.4**	**+1.3**
PMG				pmax	pmax		
comp=Z,103nm,1.0s							
PMG	**Port Moresby**	**15.98**	**122**	*eP*	**Pn**	**14 19 39.4**	**+1.3**
comp=Z,103nm,1.0s							
COEN	**Coen**	**16.10**	**144**	*eP*	**Pn**	**14 19 39.5**	**-0.1**
comp=Z,134nm,0.6s							
MYLDM	**Lahad Datu**	**16.18**	**292**	P	P	14 19 50.7	+7.2
MYLDM	**Lahad Datu**	**16.18**	**292**	P	P	14 19 58.2	+15
SMKI	**Samarinda**	**16.31**	**272**	P	P	14 19 55.9	+11
TSM	**Tawau**	**16.46**	**288**	P	P	14 19 53.9	+7.2
SDKM	**Sandakan**	**17.55**	**292**	P	P	14 20 08.2	+9.3
GUMO	**Guam**	**18.29**	**38**	LR	LR	14 26 06.3	
comp=Z,352nm,18.4s,baz=223,slow=34							
KDM	**Kudat**	**18.38**	**295**	P	Pn	14 20 18.4	+10
FITZ	**Fitzroy Crossi**	**18.74**	**204**	P	**Pn**	**14 20 12.1**	**-0.3**
comp=Z,7.7nm,0.3s,baz=42,slow=11,SNR=45							
FITZ				S	Sn	14 23 31.4	-10
comp=Z,6.0nm,0.3s,baz=210,slow=9.7,SNR=6.9							
FITZ	**Fitzroy Crossi**	**18.74**	**204**	*eP*	**P**	**14 20 10.8**	**-1.0**
comp=Z,103nm,0.7s							
FITZ				eS	Sn	14 23 27.4	-14
FITZ	**Fitzroy Crossi**	**18.74**	**204**	*eP*	**P**	**14 20 10.1**	**-1.8**
comp=Z,55nm,0.7s							
FITZ				S	Sn	14 23 31.4	-10
MTNI	**Mataram**	**18.89**	**246**	P	**Pn**	**14 20 18.4**	**+4.1**
comp=Z,135nm,1.1s,comp=Z,6μm							
WRAB	**Tennant Creek**	**18.91**	**178**	*eP*	**Pn**	**14 20 14.1**	**-0.4**
WRAB				pmax	pmax		
comp=Z,70nm,0.7s							
WRAB	**Tennant Creek**	**18.91**	**178**	*eP*	**Pn**	**14 20 14.1**	**-0.4**
comp=Z,70nm,0.7s							
WB2	**Warramunga Arr**	**18.92**	**178**	*eP*	**Pn**	**14 20 14.9**	**+0.3**
WRA	**Warramunga Arr**	**18.92**	**178**	P	**P**	**14 20 13.8**	**0.0**
comp=Z,4.2nm,0.3s,baz=356,slow=11,SNR=78							
WRA				S	**Sn**	**14 23 38.6**	**-7.1**
comp=Z,2.7nm,0.3s,baz=355,slow=24,SNR=6.9							
WRA	**Warramunga Arr**	**18.92**	**178**	P	**P**	**14 20 13.8**	**0.0**
WRA				S	**Sn**	**14 23 38.7**	**-7.1**
WRA	**Warramunga Arr**	**18.92**	**178**	P	**P**	**14 20 13.8**	**0.0**
WRA				S	**Sn**	**14 23 38.6**	**-7.1**
KHKI	**Kahang-Kahang**	**19.30**	**247**	P	**Pn**	**14 20 22.0**	**+2.8**
comp=Z,85nm,1.8s							
BYJI	**Banyuwangi**	**20.41**	**249**	P	Pn	14 20 40.1	+7.7
JAGI	**Jajag, Banyuwa**	**20.69**	**248**	P	Pn	14 20 40.5	+4.9
comp=Z,130nm,1.2s							
BTM	**Bintulu**	**20.83**	**281**	P	Pn	14 20 42.9	+5.6
GMJI	**Gumukmas**	**21.28**	**249**	P	P	14 20 55.6	+16
SBUM	**Sibu**	**21.55**	**279**	P	P	14 20 50.5	+8.0
SBUM	**Sibu**	**21.55**	**279**	P	P	14 20 51.0	+8.6
AS31	**Alice Springs**	**22.61**	**179**	*eP*	**P**	**14 20 54.5**	**+0.7**
ASAR	**Alice Springs**	**22.61**	**179**	P	**P**	**14 20 54.8**	**+1.0**
comp=Z,80nm,0.6s,baz=5.0,slow=12,SNR=878							
ASAR				S	**S**	**14 25 00.8**	**+0.9**
comp=Z,20nm,0.8s,baz=3.1,slow=26,SNR=7.5							
ASAR	**Alice Springs**	**22.61**	**179**	P	**P**	**14 20 54.8**	**+1.0**
ASAR				S	**S**	**14 25 00.8**	**+0.9**
ASAR	**Alice Springs**	**22.61**	**179**	P	**P**	**14 20 54.8**	**+1.0**
ASAR				S	**S**	**14 25 00.8**	**+0.9**
SJI	**Sawahan**	**22.70**	**252**	P	P	14 21 05.2	+10
PWJI	**Pagerwojo**	**22.75**	**251**	P	P	14 21 04.5	+9.2
CTA	**Charters Tower**	**22.76**	**148**	P	**P**	**14 20 57.2**	**+1.9**
comp=Z,32nm,0.8s,baz=333,slow=11,SNR=27							
CTA	**Charters Tower**	**22.76**	**148**	*eP*	**P**	**14 20 57.0**	**+1.6**
comp=Z,34nm,0.6s							
CTA	**Charters Tower**	**22.76**	**148**	P	**P**	**14 20 57.3**	**+1.9**
CTA	**Charters Tower**	**22.76**	**148**	P	**P**	**14 20 57.2**	**+1.9**
CTAO	**Charters Tower**	**22.76**	**148**	*eP*	**P**	**14 20 57.7**	**+2.3**
CTAO				pmax	pmax		
comp=Z,52nm,0.8s							
CTAO	**Charters Tower**	**22.76**	**148**	*eP*	**P**	**14 20 57.7**	**+2.3**
comp=Z,52nm,0.8s							
KSM	**Kuching**	**23.32**	**276**	P	P	14 21 09.1	+7.9
PCJI	**Pacitan**	**23.39**	**251**	P	P	14 21 12.9	+11
MBWA	**Marble Bar**	**24.20**	**213**	*eP*	**P**	**14 21 10.9**	**+1.5**
comp=Z,212nm,1.1s							
CBJI	**Citeko**	**27.15**	**258**	P	P	14 21 52.8	+17
JOW	**Kunigami**	**28.05**	**350**	LR	LR	14 31 30.7	
comp=Z,549nm,18.1s,baz=112,slow=34							
MYKOM	**Kota Tinggi**	**29.78**	**275**	P	P	14 22 07.2	+7.5
FORT	**Forrest**	**30.14**	**189**	*eP*	**P**	**14 22 04.2**	**+1.6**
comp=Z,63nm,0.5s							
FORT	**Forrest**	**30.14**	**189**	*eP*	**P**	**14 22 04.4**	**+1.7**
comp=Z,76nm,0.6s							
KGM	**Kluang**	**30.33**	**276**	P	P	14 22 12.2	+7.6
QIZ	**Qiongzhong**	**30.55**	**312**	P	**P**	**14 22 03.6**	**-2.9**
QIZ				S	**S**	**14 27 08.4**	**+1.7**
QIZ				pmax	pmax		
comp=Z,32nm,1.8s							
QIZ				pmax	pmax		
comp=Z,160nm,6.1s							
QIZ				LR	LR		
comp=Z,480nm,26.1s							
STKA	**Stephens Creek**	**31.72**	**167**	P	**P**	**14 22 16.4**	**-0.2**
comp=Z,8.6nm,0.4s,baz=340,slow=8.6,SNR=42							
STKA				LR	LR	14 36 29.2	
comp=Z,737nm,21.0s,baz=343,slow=39							
STKA	**Stephens Creek**	**31.72**	**167**	⇑*i*	*i*P	**P**	**14 22 16.6**	**0.0**
comp=Z,7.4nm,0.5s							
STKA	**Stephens Creek**	**31.72**	**167**	P	**P**	**14 22 16.4**	**-0.2**
STKA				pmax	pmax		
comp=Z,9.0nm,0.4s							
STKA				MLR	MLR		
comp=Z,737nm,21.0s							
STKA	**Stephens Creek**	**31.72**	**167**	*eP*	**P**	**14 22 16.6**	**0.0**
comp=Z,3.1nm,0.8s							
IPM	**Ipoh**	**32.90**	**280**	P	P	14 22 35.1	+7.9
KLBR	**Kellerberrin**	**33.95**	**205**	*eP*	**P**	**14 22 37.6**	**+1.5**
comp=Z,32nm,0.7s							
ARMA	**Armidale**	**34.01**	**151**	*eP*	**P**	**14 22 37.5**	**+0.7**
ARMA	**Armidale**	**34.01**	**151**	*eP*	**P**	**14 22 38.0**	**+1.2**
comp=Z,14nm,0.8s							
PSI	**Prapat**	**34.77**	**276**	P	P	14 22 49.5	+5.9
comp=Z,12nm,1.3s							
NWAO	**Narrogin (SRO)**	**35.33**	**204**	P	**P**	**14 22 49.7**	**+1.7**
comp=Z,21nm,0.8s,baz=28,slow=8.3,SNR=9.2							
NWAO				LR	LR	14 37 23.2	
comp=Z,217nm,19.9s,baz=286,slow=36							
NWAO	**Narrogin (SRO)**	**35.33**	**204**	P	**P**	**14 22 49.7**	**+1.7**
NWAO				pmax	pmax		
comp=Z,21nm,0.8s							
NWAO				MLR	MLR		
comp=Z,217nm,19.9s							
NWAO	**Narrogin (SRO)**	**35.33**	**204**	*eP*	**P**	**14 22 49.8**	**+1.8**
comp=Z,7.7nm,0.8s							
CAN	**Canberra**	**37.14**	**159**	P	**P**	**14 23 05.0**	**+1.5**
CAN	**Canberra**	**37.14**	**159**	P	**P**	**14 23 05.0**	**+1.5**
MJAR	**Matsushiro Arr**	**37.53**	**6**	P	**P**	**14 23 06.5**	**-0.3**
comp=Z,1.8nm,0.9s,baz=198,slow=7.3,SNR=4.4							
MJAR				LR	LR	14 35 56.1	
comp=Z,353nm,19.4s,baz=195,slow=32							
MJAR	**Matsushiro Arr**	**37.53**	**6**	P	**P**	**14 23 06.5**	**-0.3**
MJAR	**Matsushiro Arr**	**37.53**	**6**	P	**P**	**14 23 06.5**	**-0.3**
GYA	**Guiyang**	**37.57**	**318**	P	**P**	**14 23 07.6**	**+0.2**
GYA				pP	**pP**	**14 23 15.9**	**-0.1**
GYA				PP	PP	14 24 37.0	+3.5
GYA				S	**S**	**14 28 55.4**	**+0.2**
GYA				sS	**ScP**	**14 29 10.2**	**-0.4**
GYA				ScP	ScP	14 29 11.9	+1.3
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,120nm,4.9s							
GYA				LR	LR		
comp=N,560nm,17.4s							
GYA				LR	LR		
comp=E,490nm,18.3s							
GYA				LR	LR		
comp=Z,540nm,17.8s							
TOO	**Toolangi**	**38.10**	**165**	*eP*	**P**	**14 23 12.9**	**+1.3**
comp=Z,46nm,0.8s							
DZM	**Mont Dzumac**	**38.33**	**126**	*e*LR	LR	14 33 48.1	
comp=Z,516nm,23.4s							
KSRS	**Korea Array**	**38.53**	**353**	LR	LR	14 37 41.9	
comp=Z,195nm,19.0s,baz=176,slow=34							
CMAR	**Chiang Mai Arr**	**39.06**	**301**	P	**P**	**14 23 19.3**	**-0.6**
comp=Z,1.2nm,0.8s,baz=119,slow=7.2,SNR=9.6							
CMAR	**Chiang Mai Arr**	**39.06**	**301**	P	**P**	**14 23 19.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**39.06**	**301**	P	**P**	**14 23 19.3**	**-0.6**
KMI	**Kunming**	**39.47**	**313**	P	**P**	**14 23 24.7**	**+1.2**
KMI				pP	**pP**	**14 23 33.0**	**+0.9**
KMI				sP	**sP**	**14 23 36.2**	**+0.6**
KMI				PP	PP	14 25 01.6	+7.2
KMI				S	**S**	**14 29 25.1**	**+1.0**
KMI				sS	**sS**	**14 29 36.9**	**-1.4**
KMI				pmax	pmax		
comp=Z,10.0nm,0.7s							

KMI			pmax	pmax		
	comp=Z,76nm,5.1s					
KMI			LR	LR		
	comp=N,210nm,18.7s					
KMI			LR	LR		
	comp=E,230nm,25.8s					
KMI			LR	LR		
	comp=Z,360nm,26.6s					
CD2	**Chengdu**	**42.45 321**	P	**P**	**14 23 48.2**	**+0.5**
CD2			pP	**pP**	**14 23 56.5**	**+0.1**
CD2			sP	**sP**	**14 24 00.1**	**+0.2**
CD2			PP	PP	14 25 29.8	+3.3
CD2			S	**S**	**14 30 08.1**	**+0.1**
CD2			sS	**sS**	**14 30 21.9**	**-0.4**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			pmax	pmax		
	comp=Z,200nm,5.4s					
CD2			LR	LR		
	comp=E,410nm,6.0s					
CD2			LR	LR		
	comp=Z,210nm,6.5s					
BJT	**Baijiatuau**	**43.72 341**	P	**P**	**14 23 55.6**	**-2.2**
BJT			pmax	pmax		
	comp=Z,21nm,0.6s					
BJT	**Baijiatuau**	**43.72 341**	P	**P**	**14 23 55.6**	**-2.2**
	comp=Z,21nm,0.6s					
BJI	**Beijing**	**43.74 341**	P	**P**	**14 23 56.5**	**-1.4**
BJI			PP	PP	14 25 40.4	+0.3
BJI			S	**S**	**14 30 28.8**	**+2.3**
BJI			pmax	pmax		
	comp=Z,16nm,1.0s					
BJI			LR	LR		
	comp=N,370nm,19.2s					
BJI			LR	LR		
	comp=E,560nm,18.1s					
BJI			LR	LR		
	comp=Z,130nm,19.8s					
USRK	**Ussuriysk Arra**	**44.94 358**	P	**P**	**14 24 05.8**	**-1.7**
	comp=Z,3.8nm,0.8s,baz=169,slow=7.7,SNR=5.0					
CN2	**Changchun**	**45.11 352**	*e*P	**P**	**14 24 10.7**	**+1.9**
CN2			*es*P	**sP**	**14 24 22.8**	**+1.7**
CN2			*e*S	**S**	**14 30 47.8**	**+1.5**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,200nm,16.0s					
CN2			LR	LR		
	comp=E,200nm,16.0s					
CN2			LR	LR		
	comp=Z,300nm,17.0s					
MDJ	**Mudanjiang**	**45.48 356**	P	**P**	**14 24 12.6**	**+0.9**
MDJ			pmax	pmax		
	comp=Z,12nm,2.2s					
MDJ			pmax	pmax		
	comp=Z,220nm,6.1s					
MDJ			LR	LR		
	comp=E,130nm,25.2s					
MDJ			LR	LR		
	comp=Z,110nm,30.4s					
LZH	**Lanzhou**	**46.02 326**	*e*P	P	14 24 20.0	+3.5
LZH			pP	pP	14 24 29.1	+3.9
LZH			sP	sP	14 24 32.5	+3.8
LZH			*e*PP	PP	14 26 08.3	+3.5
LZH			*e*S	**S**	**14 31 03.0**	**+2.9**
LZH			pmax	pmax		
	comp=Z,20nm,1.3s					
LZH			pmax	pmax		
	comp=Z,130nm,6.0s					
LZH			LR	LR		
	comp=N,460nm,15.6s					
LZH			LR	LR		
	comp=E,400nm,14.6s					
LZH			LR	LR		
	comp=Z,410nm,16.0s					
HHC	**Hu-ho-hao-te**	**46.12 337**	*e*P	**P**	**14 24 16.7**	**-0.4**
HHC			pP	**pP**	**14 24 26.6**	**+0.8**
HHC			sP	**sP**	**14 24 30.6**	**+1.3**
HHC			PP	PP	14 26 05.4	-0.3
HHC			S	**S**	**14 31 00.4**	**-0.9**
HHC			sS	**sS**	**14 31 15.7**	**0.0**
HHC			SS	**ScS**	**14 34 16.8**	**+5.9**
HHC			pmax	pmax		
	comp=Z,19nm,0.9s					
HHC			pmax	pmax		
	comp=Z,380nm,5.0s					
HHC			LR	LR		
	comp=N,350nm,14.8s					
HHC			LR	LR		
	comp=E,360nm,13.2s					
HHC			LR	LR		
	comp=Z,320nm,15.1s					
SHL	**Shillong**	**48.08 306**	*e*P	**P**	**14 24 34.0**	**+1.3**
LSA	**Lhasa**	**50.59 311**	P	**P**	**14 24 50.4**	**-1.7**
LSA	**Lhasa**	**50.59 311**	*e*P	**P**	**14 24 51.8**	**-0.3**
LSA			pmax	pmax		
	comp=Z,20nm,0.9s					
LSA	**Lhasa**	**50.59 311**	*e*P	**P**	**14 24 51.8**	**-0.3**
	comp=Z,20nm,0.9s					
GTA	**Gaotai**	**50.63 326**	*e*P	**P**	**14 24 54.5**	**+2.6**
GTA			pP	**pP**	**14 25 02.7**	**+2.0**
GTA			sP	**sP**	**14 25 06.7**	**+2.5**
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
TAPN	**Taplejung**	**52.22 306**	*e*P	**P**	**14 25 03.2**	**-1.0**
	comp=Z,27nm,0.9s					
TAPN	**Taplejung**	**52.22 306**	*e*P	**P**	**14 25 03.2**	**-1.0**
	comp=Z,27nm,0.9s					
ODAN	**Odare**	**52.27 305**	*e*P	**P**	**14 25 03.5**	**-1.0**
	comp=Z,52nm,0.7s					
ODAN	**Odare**	**52.27 305**	*e*P	**P**	**14 25 03.5**	**-1.0**
	comp=Z,52nm,0.7s					
RAMN	**Ramite**	**52.95 305**	*e*P	**P**	**14 25 08.7**	**-0.9**
	comp=Z,86nm,1.0s					
RAMN	**Ramite**	**52.95 305**	*e*P	**P**	**14 25 08.7**	**-0.9**
	comp=Z,86nm,1.0s					
JIRN	**Jiri**	**53.57 306**	*e*P	**P**	**14 25 13.2**	**-1.1**
	comp=Z,20nm,0.7s					
JIRN	**Jiri**	**53.57 306**	*e*P	**P**	**14 25 13.2**	**-1.1**
	comp=Z,20nm,0.7s					
ULN	**Ulaanbaatar**	**53.78 338**	*e*P	**P**	**14 25 13.2**	**-2.0**
ULN			pmax	pmax		
	comp=Z,25nm,1.4s					
ULN	**Ulaanbaatar**	**53.78 338**	*e*P	**P**	**14 25 13.2**	**-2.0**
	comp=Z,25nm,1.4s					
ULN	**Ulaanbaatar**	**53.78 338**	P	**P**	**14 25 15.7**	**+0.5**
	comp=Z,13nm,1.7s					
GUN	**Gumba**	**53.93 306**	*e*P	**P**	**14 25 15.8**	**-1.1**
	comp=Z,39nm,0.7s					
GUN	**Gumba**	**53.93 306**	*e*P	**P**	**14 25 15.8**	**-1.1**
	comp=Z,39nm,0.7s					
SONM	**Songino Array**	**54.00 338**	P	**P**	**14 25 16.0**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=154,slow=7.7,SNR=5.8					
SONM	**Songino Array**	**54.00 338**	P	**P**	**14 25 16.0**	**-0.7**
SONM	**Songino Array**	**54.00 338**	P	**P**	**14 25 16.0**	**-0.7**
RPZ	**Rata Peaks**	**54.13 147**	LR	LR	14 50 37.1	
	comp=Z,423nm,18.5s,baz=56,slow=38					
PKI	**Pulchoki**	**54.17 305**	*e*P	**P**	**14 25 17.5**	**-1.1**
	comp=Z,46nm,1.1s					
PKI	**Pulchoki**	**54.17 305**	*e*P	**P**	**14 25 17.5**	**-1.1**
PKI			pmax	pmax		
	comp=Z,46nm,1.1s					
PKI	**Pulchoki**	**54.17 305**	*e*P	**P**	**14 25 17.5**	**-1.1**
	comp=Z,46nm,1.1s					
KKN	**Kakani**	**54.36 306**	*e*P	**P**	**14 25 18.4**	**-1.5**
	comp=Z,39nm,1.0s					
KKN	**Kakani**	**54.36 306**	*e*P	**P**	**14 25 18.4**	**-1.5**
KKN			pmax	pmax		
	comp=Z,39nm,1.0s					
KKN	**Kakani**	**54.36 306**	*e*P	**P**	**14 25 18.4**	**-1.5**
	comp=Z,39nm,1.0s					
DMN	**Daman**	**54.43 305**	*e*P	**P**	**14 25 19.1**	**-1.4**
	comp=Z,57nm,1.0s					
DMN	**Daman**	**54.43 305**	*e*P	**P**	**14 25 19.1**	**-1.4**
	comp=Z,57nm,1.0s					
GKN	**Gorkha**	**54.97 306**	*e*P	**P**	**14 25 22.8**	**-1.4**
	comp=Z,36nm,1.0s					
GKN	**Gorkha**	**54.97 306**	*e*P	**P**	**14 25 22.8**	**-1.4**
	comp=Z,36nm,1.0s					
KOLN	**Koldanda**	**55.73 305**	*e*P	**P**	**14 25 28.6**	**-1.1**
	comp=Z,41nm,0.8s					
KOLN	**Koldanda**	**55.73 305**	*e*P	**P**	**14 25 28.6**	**-1.1**
	comp=Z,41nm,0.8s					
DANN	**Dangsing**	**55.82 306**	*e*P	**P**	**14 25 29.5**	**-1.0**
	comp=Z,55nm,0.8s					
DANN	**Dangsing**	**55.82 306**	*e*P	**P**	**14 25 29.5**	**-1.0**
	comp=Z,55nm,0.8s					
HYB	**Hyderabad**	**57.09 291**	*i* P	**P**	**14 25 37.0**	**-2.4**
ZAK	**Zakamensk**	**57.26 337**	*e*P	P	14 25 47.5	+7.4
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.2s					
PETK	**Petropavlovsk-**	**57.51 17**	P	**P**	**14 25 41.0**	**-0.7**
	comp=Z,4.0nm,1.0s,baz=205,slow=6.4,SNR=2.4					
PETK	**Petropavlovsk-**	**57.51 17**	P	**P**	**14 25 41.0**	**-0.7**
PETK	**Petropavlovsk-**	**57.51 17**	P	**P**	**14 25 41.0**	**-0.7**
MOY	**Mondy**	**59.16 337**	*e*P	**P**	**14 25 53.7**	**+0.3**
WMQ	**Urumqi**	**60.44 323**	P	**P**	**14 26 02.6**	**+0.3**
WMQ			pP	**pP**	**14 26 10.6**	**-0.7**
WMQ			sP	**sP**	**14 26 13.6**	**-1.1**
WMQ			PcP	**PcP**	**14 26 47.6**	**+0.6**
WMQ			pmax	pmax		
	comp=Z,17nm,1.0s					
WMQ			LR	LR		
	comp=N,240nm,20.0s					
WMQ			LR	LR		
	comp=Z,140nm,16.5s					
BOD	**Bodaibo**	**60.60 348**	*e*P	P	14 25 54.7	-8.3
BOD			pmax	pmax		
	comp=Z,7.0nm,1.8s					
DDI	**Dehra Dun**	**61.17 306**	*ex*	**P**	**14 26 07.3**	**-0.2**
YAK	**Yakutsk**	**62.85 358**	*e*P	**P**	**14 26 18.0**	**-0.1**
YAK			*e*		14 26 33.6	
YAK			pmax	pmax		
	comp=Z,12nm,1.1s					
YAK			pmax	pmax		
	comp=N,4.0nm,1.2s					
MK31	**Makanchi Array**	**65.25 324**	*e*P	**P**	**14 26 33.0**	**-1.2**
MK31			pmax	pmax		
	comp=Z,7.0nm,0.7s					
MK31	**Makanchi Array**	**65.25 324**	*e*P	**P**	**14 26 33.5**	**-0.7**
MKAR	**Makanchi Array**	**65.25 324**	P	**P**	**14 26 33.6**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=109,slow=8.6,SNR=46					
MKAR	**Makanchi Array**	**65.25 324**	*ce*P	**P**	**14 26 33.5**	**-0.7**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MKAR	**Makanchi Array**	**65.25 324**	P	**P**	**14 26 33.6**	**-0.7**
SEY	**Seymchan**	**65.25 9**	*e*P	**P**	**14 26 32.7**	**-1.1**
KSH	**Kashi**	**66.11 314**	*e*P	**P**	**14 26 40.7**	**+0.7**
KSH			*ep*P	**pP**	**14 26 48.3**	**-0.8**
KSH			*es*P	**sP**	**14 26 51.6**	**-0.9**
KSH			*e*ScS	**SKSac**	**14 36 28.5**	**-6.0**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,350nm,5.1s					
KSH			LR	LR		
	comp=N,410nm,5.9s					
KSH			LR	LR		
	comp=E,350nm,7.0s					
KSH			LR	LR		
	comp=Z,510nm,6.6s					
CASY	**Casey**	**67.23 190**	*e*P	**P**	**14 26 47.6**	**+1.1**
	comp=Z,13nm,1.2s					
TKM2	**Tokmak 2**	**67.71 318**	*e*P	**P**	**14 26 48.5**	**-1.8**
TKM2			pmax	pmax		
	comp=Z,6.0nm,0.9s					
TKM2	**Tokmak 2**	**67.71 318**	*e*P	**P**	**14 26 48.5**	**-1.8**
	comp=Z,6.4nm,0.9s					
ZAA0	**Zalesovo Array**	**67.84 331**	*e*P	**P**	**14 26 49.2**	**-1.4**
ZALV	**Zalesovo Beam**	**67.84 331**	P	**P**	**14 26 48.1**	**-2.4**
	comp=Z,1.6nm,0.7s,baz=109,slow=8.0,SNR=7.0					
ZALV	**Zalesovo Beam**	**67.84 331**	P	**P**	**14 26 48.1**	**-2.4**
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.7s					
ZALV	**Zalesovo Beam**	**67.84 331**	P	**P**	**14 26 48.1**	**-2.4**
AAK	**Ala-Archa**	**68.34 317**	*i* P	**P**	**14 26 53.5**	**-0.7**
AAK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
NVS	**Novosibirsk**	**69.11 332**	*e*P	**P**	**14 26 55.7**	**-2.8**
KURK	**Kurchatov**	**69.32 326**	P	**P**	**14 26 57.5**	**-2.3**
	comp=Z,4.8nm,0.7s,baz=120,slow=5.6,SNR=27					
KURK	**Kurchatov**	**69.32 326**	P	**P**	**14 26 57.5**	**-2.3**
KURK			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KURK	**Kurchatov**	**69.32 326**	*e*P	**P**	**14 26 58.7**	**-1.1**
	comp=Z,12nm,0.8s					
KBL	**Kabul**	**69.71 307**	*e*P	**P**	**14 27 01.8**	**-1.1**
KBL			pmax	pmax		
	comp=Z,7.0nm,0.6s					
KBL	**Kabul**	**69.71 307**	*e*P	**P**	**14 27 01.8**	**-1.1**
	comp=Z,6.6nm,0.6s					
KK31	**Karatay Array**	**71.24 316**	*i* P	**P**	**14 27 10.7**	**-1.2**
KK31			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KKAR	**Karatay Array**	**71.24 316**	*e*P	**P**	**14 27 10.9**	**-0.9**
KKAR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KKAR	**Karatay Array**	**71.24 316**	*e*P	**P**	**14 27 10.9**	**-0.9**
	comp=Z,3.7nm,0.6s					
BVA0	**Borovoye Array**	**74.91 326**	*i* P	**P**	**14 27 32.3**	**-1.0**
BVA0			pmax	pmax		
	comp=Z,3.0nm,1.4s					
BVAR	**Borovoye Array**	**74.91 326**	P	**P**	**14 27 32.0**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=110,slow=6.5,SNR=24					
BVAR	**Borovoye Array**	**74.91 326**	P	**P**	**14 27 32.0**	**-1.3**
BVAR	**Borovoye Array**	**74.91 326**	P	**P**	**14 27 32.0**	**-1.3**
BRVK	**Borovoye**	**74.98 326**	*e*P	**P**	**14 27 32.5**	**-1.2**
BRVK			pmax	pmax		
	comp=Z,7.0nm,0.7s					
BRVK	**Borovoye**	**74.98 326**	*e*P	**P**	**14 27 32.5**	**-1.2**
	comp=Z,7.0nm,0.7s					
PPT2	**Papeete2**	**77.25 108**	*e*LR	LR	14 51 47.6	
	comp=Z,156nm,25.0s					
TBI	**Tubuai**	**77.72 114**	*e*LR	LR	14 52 03.1	
	comp=Z,152nm,31.2s					
VNDA	**Vanda**	**78.05 174**	*e*P	**P**	**14 27 51.7**	**+1.1**
VNDA			pmax	pmax		
	comp=Z,10.0nm,1.2s					
VNDA	**Vanda**	**78.05 174**	*e*P	**P**	**14 27 51.7**	**+1.1**
	comp=Z,10.0nm,1.2s					
AB31	**Akbulak array**	**80.03 320**	*i* P	**P**	**14 28 00.5**	**-1.5**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.9s					
ABKAR	**Akbulak array**	**80.03 320**	*e*P	**P**	**14 28 00.4**	**-1.6**
	comp=Z,4.7nm,0.8s					
SVE	**Sverdlovsk**	**81.46 328**	*e*P	**P**	**14 28 07.7**	**-1.8**
AKTO	**Aktyubinsk**	**81.50 321**	P	**P**	**14 28 08.1**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=64,slow=8.8,SNR=5.6					
AKTO	**Aktyubinsk**	**81.50 321**	P	**P**	**14 28 08.1**	**-1.8**
AKTO	**Aktyubinsk**	**81.50 321**	P	**P**	**14 28 08.1**	**-1.8**
KDAK	**Kodiak Island**	**82.24 31**	LR	LR	14 58 09.6	
	comp=Z,183nm,21.2s,baz=259,slow=31					
ARU	**Arti**	**82.48 327**	*c* *i*P	**P**	**14 28 13.7**	**-1.1**
ARU					14 31 20.0	
ARU			S	**S**	**14 38 28.8**	**-0.7**
ARU			SS	**SS**	**14 43 52.9**	**+2.0**
ARU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ILAR	**Eielson Array**	**86.39 25**	P	**P**	**14 28 32.2**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=252,slow=4.6,SNR=17					
ILAR			LR	LR	15 04 00.9	
	comp=Z,81nm,19.1s,baz=276,slow=34					
ILAR	**Eielson Array**	**86.39 25**	P	**P**	**14 28 32.2**	**-2.3**
ILAR	**Eielson Array**	**86.39 25**	P	**P**	**14 28 32.2**	**-2.3**
QSPA	**South Pole Qui**	**89.01 180**	*e*P	**P**	**14 28 47.8**	**+0.6**
	comp=Z,13nm,1.0s					
ARCES	**ARCESS Array B**	**97.10 340**	P	**P**	**14 29 23.8**	**-0.5**
	comp=Z,8.3nm,1.1s,baz=76,slow=10,SNR=3.6					
ARCES	**ARCESS Array B**	**97.10 340**	P	**P**	**14 29 23.8**	**-0.5**
ARCES	**ARCESS Array B**	**97.10 340**	P	**P**	**14 29 23.8**	**-0.5**
EIL	**Elat**	**97.90 300**	LR	LR	15 17 14.0	
	comp=Z,62nm,20.7s,baz=268,slow=38					
TORD	**Torodi Ar. Bea**	**130.77 287**	PKP	**PKPdf**	**14 35 03.7**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=56,slow=2.2,SNR=9.3					
TORD	**Torodi Ar. Bea**	**130.77 287**	PKP	**PKPdf**	**14 35 03.7**	**-1.0**
PLCA	**Paso Flores**	**133.11 155**	PKP	**PKPdf**	**14 35 09.5**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=72,slow=23,SNR=5.6					
PLCA	**Paso Flores**	**133.11 155**	PKIKP	**PKPdf**	**14 35 09.5**	**+0.9**
PLCA	**Paso Flores**	**133.11 155**	PKP	**PKPdf**	**14 35 09.5**	**+0.9**
LVC	**Limon Verde**	**147.99 138**	*e*PKPbc	**PKPab**	**14 35 40.9**	**-0.8**
CPUP	**Villa Florida**	**150.96 160**	PKP	**PKPdf**	**14 35 40.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=69,slow=4.6,SNR=2.8					
CPUP			PKPbc	**PKiKP**	**14 35 46.7**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=188,slow=1.3,SNR=25					
CPUP	**Villa Florida**	**150.96 160**	PKIKP	**PKPdf**	**14 35 40.9**	**+0.7**
CPUP					14 35 46.7	
CPUP	**Villa Florida**	**150.96 160**	PKP	**PKPdf**	**14 35 40.9**	**+0.7**
CPUP			PKPbc	**PKiKP**	**14 35 46.7**	**+0.1**
LPAZ	**La Paz**	**152.63 130**	PKP	**PKPdf**	**14 35 45.4**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=77,slow=2.5,SNR=3.8					
LPAZ			PKPbc	**PKiKP**	**14 35 52.0**	**+0.9**
	comp=Z,7.0nm,0.7s,baz=262,slow=0.9,SNR=25					
LPAZ	**La Paz**	**152.63 130**	PKIKP	**PKPdf**	**14 35 45.4**	**+1.5**
LPAZ					14 35 52.0	
LPAZ	**La Paz**	**152.63 130**	PKP	**PKPdf**	**14 35 45.4**	**+1.5**
LPAZ			*e*PKPbc	**PKiKP**	**14 35 51.8**	**+0.7**
LPAZ			PKPbc	**PKiKP**	**14 35 52.0**	**+0.9**

IDC 11 14:22:44.6±1.1,20°.43N×120°.08E,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.6/23,mbtmp3.8/5,MS3.8/2,Ms1 3.8/2, ms1mx3.0/44,Error ellipse: s-maj=76.3km s-min=21.5km az=65.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**30.14**	**33**	LR	LR	14 41 04.1	
	comp=Z,156nm,19.4s,baz=168,slow=36						
WRA	**Warramunga Arr**	**42.48**	**160**	P	P	14 30 41.5	-0.2
	2.8nm,0.7s,baz=341,slow=8.9,SNR=5.5						
KURK	**Kurchatov**	**44.38**	**323**	P	P	14 30 56.3	-0.5
	0.9nm,0.7s,baz=121,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**45.85**	**162**	P	P	14 31 08.7	-0.1
	1.4nm,0.9s,baz=344,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**49.98**	**323**	P	P	14 31 40.7	+0.2
	0.6nm,0.8s,baz=115,slow=6.8,SNR=3.2						
FX1	**Attu Island--F**	**51.87**	**38**	LR	LR	14 52 25.3	
	comp=Z,97nm,19.9s,baz=132,slow=34						
YKA	**Yellowknife Ar**	**86.81**	**22**	P	P	14 35 30.7	0.0
	0.5nm,0.9s,baz=311,slow=4.9,SNR=5.4						

*ISCJB **11** 14:30:43.6±0.7,37°.46S±0°.07×176°.78E±0°.09,h247km±5km, mb3.0/2,Error ellipse: s-maj=13.0km s-min=9.7km az=136.6*
*WEL **11** 14:30:46.0±0.3,37°.22S×176°.80E,h208km±3km,ML4.3/20, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0*
*IDC **11** 14:30:50.8±9.6,37°.94S×176°.23E,h279km±94km,mb2.7/2, mb1 3.0/3,mb1mx3.0/14,mbtmp2.8/3,Error ellipse: s-maj=96.9km s-min=51.2km az=23.0*
ISC 11 14:30:43.7±1.0,37°.42S±0°.09×176°.79E±0°.08,h239km±7km, n76,σ1°.915/80,4C,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.46**	**204**	PN	**Pn**	**14 31 14.4**	**-0.7**
URZ	**Urewera**	**0.88**	**163**	⇑PN	**Pn**	**14 31 16.7**	**-0.1**
URZ				SN	**S**	**14 31 41.1**	**-1.8**
RRRZ	**Republican Roa**	**0.94**	**193**	⇑PN	**Pn**	**14 31 17.8**	**+0.6**
MWZ	**Matawai**	**1.08**	**148**	⇑PN	**Pn**	**14 31 18.2**	**+0.2**
MWZ				SN	**S**	**14 31 43.7**	**-1.4**
PRRZ	**Plateau Road**	**1.12**	**196**	PN	**Pn**	**14 31 18.8**	**+0.5**
MXZ	**Matakaoa Point**	**1.22**	**97**	PN	**Pn**	**14 31 18.3**	**-0.6**
MKAZ	**Moumakai**	**1.33**	**283**	⇑PN	**Pn**	**14 31 18.8**	**-0.9**
PUZ	**Puketiti**	**1.33**	**120**	PN	**Pn**	**14 31 19.8**	**+0.1**
PUZ				SN	**S**	**14 31 46.1**	**-1.8**
RAHZ	**Arahi**	**1.51**	**171**	PN	**Pn**	**14 31 22.5**	**+1.5**
CNGZ	**Carnagh Statio**	**1.54**	**134**	PN	**Pn**	**14 31 22.6**	**+1.4**
NMHZ	**Naumai**	**1.67**	**180**	PN	**Pn**	**14 31 24.1**	**+1.7**
PRGZ	**Paritu Road**	**1.73**	**150**	PN	**Pn**	**14 31 24.1**	**+1.2**
KNZ	**Kokohu**	**1.74**	**157**	PN	**Pn**	**14 31 24.1**	**+1.3**
BKZ	**Black Stump Fm**	**1.76**	**188**	PN	**Pn**	**14 31 23.9**	**+0.8**
BKZ				SN	**S**	**14 31 53.5**	**-0.7**
WTVZ	**West Tongariro**	**1.94**	**209**	PN	**Pn**	**14 31 26.1**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.94**	**153**	PN	**Pn**	**14 31 26.3**	**+1.7**
OTVZ	**Oturere**	**1.95**	**207**	PN	**Pn**	**14 31 26.4**	**+1.5**
TWVZ	**Taurewa**	**1.96**	**212**	PN	**Pn**	**14 31 26.2**	**+1.3**
NGZ	**Ngauruhoe**	**1.98**	**208**	PN	**Pn**	**14 31 26.5**	**+1.3**
MCHZ	**McNeill Hill**	**2.02**	**182**	PN	**Pn**	**14 31 27.1**	**+1.8**
WPVZ	**Whakapapa**	**2.03**	**208**	PN	**Pn**	**14 31 26.9**	**+1.3**
TUVZ	**Tukino**	**2.05**	**205**	PN	**Pn**	**14 31 27.1**	**+1.3**
FWVZ	**Far West T-bar**	**2.07**	**208**	PN	**Pn**	**14 31 27.2**	**+1.1**
TRVZ	**Turoa**	**2.11**	**207**	PN	**Pn**	**14 31 27.8**	**+1.3**
WNVZ	**Wahianoa**	**2.12**	**206**	PN	**Pn**	**14 31 27.7**	**+1.2**
BHHZ	**Black Hill Sta**	**2.14**	**195**	PN	**Pn**	**14 31 27.6**	**+1.0**
BHHZ				SN	**S**	**14 32 00.1**	**-0.3**
MOVZ	**Moawhango**	**2.14**	**202**	PN	**Pn**	**14 31 27.5**	**+0.9**
PKVZ	**Pokaka**	**2.18**	**211**	PN	**Pn**	**14 31 28.5**	**+1.5**
MTVZ	**Mangateitei**	**2.22**	**207**	PN	**Pn**	**14 31 28.8**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.25**	**174**	PN	**Pn**	**14 31 29.4**	**+1.9**
KAHZ	**Kahuranaki**	**2.37**	**178**	PN	**Pn**	**14 31 30.5**	**+1.7**
PNHZ	**Pukenui**	**2.53**	**190**	PN	**Pn**	**14 31 31.6**	**+1.1**
PXZ	**Pawanui**	**2.61**	**179**	PN	**Pn**	**14 31 32.5**	**+1.4**
WPHZ	**Waipukurau**	**2.65**	**186**	PN	**Pn**	**14 31 32.8**	**+1.1**
TSZ	**Takapari Road**	**2.71**	**194**	PN	**Pn**	**14 31 33.0**	**+0.9**
WAZ	**Wanganui**	**2.73**	**211**	PN	**Pn**	**14 31 33.7**	**+1.2**
NEZ	**North Egmont**	**2.81**	**228**	PN	**Pn**	**14 31 36.1**	**+2.7**
PKE	**Pukeiti**	**2.83**	**230**	PN	**Pn**	**14 31 36.3**	**+2.7**
PRHZ	**Porangahau**	**2.84**	**182**	PN	**Pn**	**14 31 34.7**	**+1.0**
DVHZ	**Dannevirke**	**2.92**	**189**	PN	**Pn**	**14 31 35.2**	**+0.7**
POWZ	**Post Office Ro**	**3.07**	**195**	PN	**Pn**	**14 31 37.3**	**+1.0**
BFZ	**Birch Farm**	**3.28**	**187**	PN	**Pn**	**14 31 39.5**	**+1.0**
MRZ	**Mangatainoka R**	**3.37**	**196**	PN	**Pn**	**14 31 39.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**3.61**	**196**	PN	**Pn**	**14 31 42.4**	**0.0**
OGWZ	**Otaki Gorge**	**3.62**	**200**	PN	**Pn**	**14 31 42.5**	**+0.2**
KIW	**Kapiti Island**	**3.73**	**202**	PN	**Pn**	**14 31 43.8**	**0.0**
TMWZ	**Te Maipa**	**3.75**	**190**	PN	**Pn**	**14 31 45.0**	**+1.1**
MTW	**Mount Morrison**	**3.86**	**195**	PN	**Pn**	**14 31 45.2**	**-0.1**
CAW	**Cannon Point**	**3.92**	**199**	PN	**Pn**	**14 31 45.8**	**-0.2**
DUWZ	**D'Urville Isla**	**4.05**	**213**	PN	**Pn**	**14 31 47.3**	**-0.2**
TRWZ	**Traveller**	**4.06**	**192**	PN	**Pn**	**14 31 48.0**	**+0.4**
PAWZ	**Paruwai Farm**	**4.09**	**195**	PN	**Pn**	**14 31 47.9**	**-0.1**
MSWZ	**Moikau Station**	**4.16**	**196**	PN	**Pn**	**14 31 48.2**	**-0.2**
WEL	**Wellington**	**4.16**	**201**	PN	**Pn**	**14 31 49.2**	**+0.4**
SNZO	**South Karori**	**4.21**	**202**	P

DBC	**Dubki**	**0.53**	**116**	*i* Pg		**Pg**	**14 53 25.6**	**-0.4**
DBC				*i* Sg		**Sg**	**14 53 33.5**	**+0.4**
BTLR	**Botlikh**	**0.59**	**177**	*e*PG		**Pg**	**14 53 26.5**	**-0.7**
BTLR				*e*S		**Sg**	**14 53 35.0**	**-0.1**
BTLR				pmax	pmax			
	comp=Z,37nm,0.2s							
BTLR	**Botlikh**	**0.59**	**177**	*e*Pg		**Pg**	**14 53 26.5**	**-0.7**
	comp=Z,37nm,0.2s							
BTLR				*e*Sg		**Sg**	**14 53 35.0**	**-0.1**
KRNR	**Karanay**	**0.68**	**129**	⇓*i*PG		**Pb**	**14 53 29.8**	**+0.2**
KRNR				*i* S		**Sg**	**14 53 38.0**	**+0.1**
KRNR				pmax	pmax			
	comp=Z,57nm,0.2s							
KRNR	**Karanay**	**0.68**	**129**	*i* Pg		**Pb**	**14 53 29.8**	**+0.2**
	comp=Z,57nm,0.2s							
KRNR				*i* Sg		**Sg**	**14 53 38.0**	**+0.1**
UNCR	**Uncukul**	**0.70**	**140**	⇓*e*PG		**Pg**	**14 53 29.0**	**-0.3**
UNCR				*i* S		**Sg**	**14 53 38.5**	**0.0**
UNCR				pmax	pmax			
	comp=Z,67nm,0.2s							
UNCR	**Uncukul**	**0.70**	**140**	*e*Pg		**Pg**	**14 53 29.0**	**-0.3**
	comp=Z,67nm,0.2s							
UNCR				*i* Sg		**Sg**	**14 53 38.5**	**0.0**
BUJR	**Buynaksk**	**0.80**	**122**	*e*PG		**Pb**	**14 53 31.8**	**+0.2**
BUJR				*i* S		**Sb**	**14 53 43.0**	**+0.6**
BUJR	**Buynaksk**	**0.80**	**122**	*e*Pg		**Pb**	**14 53 31.8**	**+0.2**
BUJR				*i* Sg		**Sb**	**14 53 43.0**	**+0.6**
ARKR	**Arakani**	**0.89**	**137**	*e*PG		**Pb**	**14 53 32.4**	**-0.6**
ARKR				*e*S		**Sg**	**14 53 44.8**	**+0.5**
ARKR				pmax	pmax			
	comp=Z,38nm,0.2s							
ARKR	**Arakani**	**0.89**	**137**	*e*Pg		**Pb**	**14 53 32.4**	**-0.6**
	comp=Z,38nm,0.2s							
ARKR				*e*Sg		**Sg**	**14 53 44.8**	**+0.5**
MAK	**Makhachkala**	**1.01**	**107**	*e*PG		Pb	14 53 30.4	-4.7
MAK				*e*			14 53 53.5	
MAK				smax	smax			
	comp=N,825nm,0.5s							
MAK				smax	smax			
	comp=E,762nm,0.6s							
SNJR	**Sundja**	**1.02**	**260**	*e*PG		**Pb**	**14 53 35.3**	**0.0**
SNJR				*e*S		**Sn**	**14 53 49.8**	**-0.4**
SNJR	**Sundja**	**1.02**	**260**	*e*Pg		**Pb**	**14 53 35.3**	**0.0**
SNJR				*e*Sg		**Sn**	**14 53 49.8**	**-0.4**
VLKR	**Vladikavkaz**	**1.12**	**260**	*e*PG		**Pn**	**14 53 37.4**	**+0.1**
VLKR				*e*S		**Sn**	**14 53 53.0**	**+0.3**
VLKR	**Vladikavkaz**	**1.12**	**260**	*e*Pg		**Pn**	**14 53 37.4**	**+0.1**
VLKR				*e*Sg		**Sn**	**14 53 53.0**	**+0.3**
TRKR	**Terskaya**	**1.15**	**294**	⇑*i*PG		**Pn**	**14 53 37.8**	**+0.1**
TRKR				*i* S		**Sn**	**14 53 54.3**	**+0.9**
TRKR	**Terskaya**	**1.15**	**294**	*i* Pg		**Pn**	**14 53 37.8**	**+0.1**
TRKR				*i* Sg		**Sn**	**14 53 54.3**	**+0.9**
MNSR	**Manas**	**1.26**	**116**	*e*PG		**Pg**	**14 53 39.8**	**0.0**
MNSR				*i* S		**Sg**	**14 53 58.5**	**+2.4**
MNSR				pmax	pmax			
	comp=Z,82nm,0.3s							
MNSR	**Manas**	**1.26**	**116**	*e*Pg		**Pg**	**14 53 39.8**	**0.0**
	comp=Z,82nm,0.3s							
KMSR	**Komsomolskaya**	**1.39**	**275**	*e*PG		**Pb**	**14 53 41.5**	**0.0**
KMSR				*e*S		**Sg**	**14 54 00.7**	**+0.5**
KMSR	**Komsomolskaya**	**1.39**	**275**	*e*Pg		**Pb**	**14 53 41.5**	**0.0**
KMSR				*e*Sg		**Sg**	**14 54 00.7**	**+0.5**
ARNR	**Ardon**	**1.39**	**268**	*e*PG		**Pb**	**14 53 41.5**	**-0.1**
ARNR				*i* S		**Sg**	**14 54 00.7**	**+0.2**
ARNR	**Ardon**	**1.39**	**268**	*e*Pg		**Pb**	**14 53 41.5**	**-0.1**
ARNR				*i* Sg		**Sg**	**14 54 00.7**	**+0.2**
PRTR	**Priterechnaya**	**1.47**	**290**	⇓*i*PG		**Pb**	**14 53 43.0**	**+0.1**
PRTR				*i* S		**Sg**	**14 54 03.3**	**+0.4**
PRTR	**Priterechnaya**	**1.47**	**290**	*i* Pg		**Pb**	**14 53 43.0**	**+0.1**
PRTR				*i* Sg		**Sg**	**14 54 03.3**	**+0.4**
KORR	**Kora**	**1.56**	**264**	⇑*i*PG		**Pb**	**14 53 44.1**	**-0.4**
KORR				*i* S		**Sb**	**14 54 05.2**	**+1.1**
KORR	**Kora**	**1.56**	**264**	*i* Pg		**Pb**	**14 53 44.1**	**-0.4**
KORR				*i* Sg		**Sb**	**14 54 05.2**	**+1.1**
LSNR	**Lesken**	**1.73**	**271**	⇓*i*PN		**Pb**	**14 53 46.9**	**-0.5**
LSNR				*i* S		**Sb**	**14 54 09.9**	**+0.8**
LSNR	**Lesken**	**1.73**	**271**	*i* Pn		**Pb**	**14 53 46.9**	**-0.5**
LSNR				*i* Sg		**Sb**	**14 54 09.9**	**+0.8**
ZEI	**Tsey**	**1.75**	**255**	⇓*i*PN		**Pn**	**14 53 45.4**	**-0.6**
ZEI	**Tsey**	**1.75**	**255**	*i* Pn		**Pn**	**14 53 45.4**	**-0.6**
TBLG	**Delisi**	**1.86**	**216**	PN		**Pb**	**14 53 48.9**	**-0.7**
TBLG				S		**Sb**	**14 54 14.0**	**+1.2**
TBLG	**Delisi**	**1.86**	**216**	P		**Pb**	**14 53 49.0**	**-0.7**
TBLG				S		**Sb**	**14 54 14.1**	**+1.2**
TBLG	**Delisi**	**1.86**	**216**	Pn		**Pb**	**14 53 48.9**	**-0.7**
TBLG				S		**Sb**	**14 54 14.1**	**+1.2**
DGRG	**David-gareji**	**1.90**	**199**	P		**Pb**	**14 53 50.3**	**-0.1**
DGRG				S		**Sg**	**14 54 17.8**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.94**	**260**	*e*PN		**Pn**	**14 53 49.4**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.94**	**260**	*e*Pn		**Pn**	**14 53 49.4**	**+0.7**
ONI	**Oni**	**2.11**	**253**	P		**Pn**	**14 53 50.9**	**0.0**
ONI				S		**Sb**	**14 54 20.1**	**-0.1**
KIV	**Kislovodsk**	**2.63**	**287**	⇑Pn		**Pb**	**14 54 03.1**	**+0.2**
	comp=Z,12nm,0.6s							
KIV				⇑Sn		**Sb**	**14 54 34.9**	**-0.3**
	comp=Z,43nm,0.5s							
KIV	**Kislovodsk**	**2.63**	**287**	Pn		**Pb**	**14 54 03.1**	**+0.2**
	comp=Z,12nm,0.6s							
KIV				Sn		**Sb**	**14 54 34.9**	**-0.3**
	comp=Z,43nm,0.5s							
AKH	**Akhalkalaki**	**2.72**	**228**	P		**Pn**	**14 54 01.4**	**+2.0**
AKH				S		**Sb**	**14 54 38.0**	**+0.3**
AKTO	**Aktyubinsk**	**10.82**	**44**	⇓Pn		**Pn**	**14 55 48.2**	**-2.1**
	comp=Z,0.1nm,0.6s							
AKTO				⇓Sn		Sn	14 57 42.0	-9.2
	comp=Z,0.6nm,1.4s							
AKTO	**Aktyubinsk**	**10.82**	**44**	Pn		**Pn**	**14 55 48.2**	**-2.1**
	comp=Z,0.1nm,0.6s							
AB31	**Akbulak array**	**11.25**	**53**	Pn		**Pn**	**14 55 55.6**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=240,slow=11,SNR=11							
AB31				⇑Sn		Sn	14 57 53.0	-8.8
	comp=Z,0.7nm,0.5s,baz=239,slow=22,SNR=4.6							
AB31	**Akbulak array**	**11.25**	**53**	Pn		**Pn**	**14 55 55.7**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=240,SNR=11							

DDA **11** *15:08:25.5,40°.79N,25°.05E,h27km,MD3.7*
SOF **11** *15:08:25.8,40°.69N,25°.29E,h1km,MD3.7*
SKO **11** *15:08:26.6,40°.64N,25°.25E,h0km*
ATH **11** *15:08:27.1,40°.73N,25°.24E,h25km±2km,MD3.7/21, ML3.8*
CSEM **11** *15:08:27.5±0.1,40°.67N,25°.14E,h2km,MD3.7, Error ellipse: s-maj=2.1km s-min=1.7km az=21.0*
BEO **11** *15:08:27.6±0.6,40°.72N,25°.21E,h0km,ML4.2/1*
IDC **11** *15:08:27.5±0.8,40°.70N,25°.18E,h0km,mb3.7/9, mb1 3.8/14,mb1mx3.7/29,mbtmp3.6/14,ML3.2/5,MS3.3/1, Ms1 3.3/1,ms1mx2.5/46,Error ellipse: s-maj=14.6km s-min=13.5km az=105.0*
THE **11** *15:08:28.0,40°.72N,25°.22E,h12km±1km,ML4.0/12,Error ellipse: s-maj=1.2km s-min=0.5km az=74.0*
ISK **11** *15:08:28.2,40°.49N,25°.30E,h3km,ML3.9*
MOS **11** *15:08:31.1±1.1,40°.83N,25°.12E,h33km,mb4.2/1,Error ellipse: s-maj=15.4km s-min=5.3km az=90.7*

ISC 11 15:08:27.7±1.1,**40°.70N**±0°.02,**25°.19E**±0°.01,**h3**km±8km,
n377,σ1s05/437,mb3.8/10,**25C-32D,Aegean Sea**

Code	Station Name	Δ°	AZ°	S Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDO	**Rodhopi**	**0.52**	**30**	P	**Pg**	**15 08 36.9**	**-0.8**
RDO				S	**Sg**	**15 08 44.6**	**+0.1**
RDO	**Rodhopi**	**0.52**	**30**	*e*PB	**Pg**	**15 08 36.9**	**-0.8**
RDO	**Rodhopi**	**0.52**	**30**	P	**Pg**	**15 08 36.9**	**-0.8**
RDO				S	**Sg**	**15 08 44.6**	**+0.1**
KAVA	**Kavala**	**0.59**	**301**	P	**Pg**	**15 08 39.5**	**+0.4**
KAVA				S	**Sg**	**15 08 48.0**	**+1.3**
KAVA	**Kavala**	**0.59**	**301**	P	**Pg**	**15 08 39.5**	**+0.4**
KAVA				S	**Sg**	**15 08 48.0**	**+1.3**
ALN	**Alexandroupoli**	**0.68**	**73**	P	**Pg**	**15 08 40.1**	**-0.7**
ALN				S	**Sg**	**15 08 49.7**	**+0.1**
ALN	**Alexandroupoli**	**0.68**	**73**	*e*PN	**Pg**	**15 08 40.2**	**-0.6**
ALN	**Alexandroupoli**	**0.68**	**73**	P	**Pg**	**15 08 40.1**	**-0.7**
ALN				S	**Sg**	**15 08 49.7**	**+0.1**
ENEZ	**Enez**	**0.73**	**87**	*e*PG	**Pg**	**15 08 42.0**	**+0.2**
ENEZ				*e*SG	**Sg**	**15 08 52.4**	**+1.1**
ENEZ	**Enez**	**0.73**	**87**	*e*Pg	**Pg**	**15 08 42.0**	**+0.2**
ENEZ				*e*Sg	**Sg**	**15 08 52.4**	**+1.1**
LIA	**Limnos Island**	**0.80**	**180**	P	**Pg**	**15 08 43.6**	**+0.6**
LIA				S	**Sb**	**15 08 55.7**	**+0.3**
LIA	**Limnos Island**	**0.80**	**180**	*e*PN	**Pg**	**15 08 43.7**	**+0.7**
LIA				*e*SN	**Sb**	**15 08 55.5**	**+0.1**
LIA	**Limnos Island**	**0.80**	**180**	*e*Pn	**Pg**	**15 08 43.7**	**+0.7**
LIA				S	**Sb**	**15 08 55.7**	**+0.3**
KDZ	**Kurdzhali**	**0.97**	**10**	Pg	**Pg**	**15 08 44.8**	**-1.5**
KDZ	**Kurdzhali**	**0.97**	**10**	P	**Pg**	**15 08 44.6**	**-1.7**
KDZ	**Kurdzhali**	**0.97**	**10**	Pg	**Pg**	**15 08 44.8**	**-1.5**
OUR	**Ouranopolis**	**0.99**	**249**	P	**Pg**	**15 08 47.1**	**+0.5**
OUR				S	**Sn**	**15 09 01.9**	**-1.0**
OUR	**Ouranopolis**	**0.99**	**249**	P	**Pg**	**15 08 47.1**	**+0.5**
OUR				S	**Sn**	**15 09 01.9**	**-1.0**
ERIK	**Erikli-Kesan**	**1.01**	**91**	*e*PG	**Pg**	**15 08 46.9**	**-0.1**
ERIK				*e*SG	**Sb**	**15 09 00.9**	**-0.6**
ERIK	**Erikli-Kesan**	**1.01**	**91**	*e*Pg	**Pg**	**15 08 46.9**	**-0.1**
ERIK				*e*Sg	**Sb**	**15 09 00.9**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.02**	**107**	*e*PG	**Pg**	**15 08 46.5**	**-0.8**
GELI				*e*SG	**Sg**	**15 08 59.5**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.02**	**107**	*e*Pg	**Pg**	**15 08 46.6**	**-0.8**
GELI				*e*Sg	**Sg**	**15 08 59.5**	**-1.1**
RZN	**Rozhen**	**1.05**	**340**	P	**Pg**	**15 08 47.2**	**-0.7**
RZN				Pg	**Pb**	**15 08 49.1**	**+0.4**
RZN	**Rozhen**	**1.05**	**340**	P	**Pg**	**15 08 47.1**	**-0.8**
RZN	**Rozhen**	**1.05**	**340**	P	**Pg**	**15 08 47.2**	**-0.7**
BOZC	**Bozcaada**	**1.08**	**142**	*i* P	**Pb**	**15 08 48.6**	**-0.5**
BOZC				*i* S	**Sb**	**15 09 03.7**	**+0.2**
NVR	**Nevrokopi**	**1.20**	**303**	P	**Pb**	**15 08 50.1**	**-1.0**
NVR				S	**Sb**	**15 09 06.5**	**-0.5**
NVR	**Nevrokopi**	**1.20**	**303**	*e*PN	**Pb**	**15 08 50.3**	**-0.8**
NVR				*e*SN	**Sn**	**15 09 07.5**	**-0.7**
NVR	**Nevrokopi**	**1.20**	**303**	P	**Pb**	**15 08 50.1**	**-1.0**
NVR				S	**Sb**	**15 09 06.5**	**-0.5**
NVR				*e*Sn	**Sn**	**15 09 07.5**	**-0.7**
EZN	**Ezine**	**1.23**	**135**	*e*PG	**Pn**	**15 08 48.7**	**-3.1**
EZN	**Ezine**	**1.23**	**135**	*e*Pg	**Pn**	**15 08 48.7**	**-3.1**
LPK	**Lapseki**	**1.24**	**105**	*e*PN	**Pn**	**15 08 50.2**	**-1.8**
LPK	**Lapseki**	**1.24**	**105**	*e*Pn	**Pn**	**15 08 50.2**	**-1.8**
SRS	**Serrai**	**1.28**	**290**	P	**Pn**	**15 08 51.5**	**-1.0**
SRS	**Serrai**	**1.28**	**290**	P	**Pn**	**15 08 51.5**	**-1.0**
PLG	**Polygyros**	**1.37**	**257**	P	**Pn**	**15 08 52.7**	**-1.0**
PLG				S	**Sb**	**15 09 11.2**	**-0.6**
PLG	**Polygyros**	**1.37**	**257**	*e*PN	**Pn**	**15 08 52.8**	**-1.0**
PLG	**Polygyros**	**1.37**	**257**	*e*Pn	**Pn**	**15 08 52.8**	**-1.0**
PLG				S	**Sb**	**15 09 11.2**	**-0.6**
DIM	**Dimitrovgrad**	**1.38**	**11**	P	**Pn**	**15 08 52.8**	**-1.1**
DIM	**Dimitrovgrad**	**1.38**	**11**	P	**Pn**	**15 08 52.7**	**-1.1**
DIM	**Dimitrovgrad**	**1.38**	**11**	P	**Pn**	**15 08 52.8**	**-1.1**
PAIG	**Paliouri**	**1.39**	**237**	P	**Pn**	**15 08 52.8**	**-1.1**
PAIG	**Paliouri**	**1.39**	**237**	P	**Pn**	**15 08 52.8**	**-1.1**
SOH	**Sokhos**	**1.40**	**276**	P	**Pn**	**15 08 53.3**	**-0.9**
SOH				S	**Sn**	**15 09 12.3**	**-0.9**
SOH	**Sokhos**	**1.40**	**276**	*e*PN	**Pn**	**15 08 53.3**	**-0.9**
SOH				*e*SN	**Sg**	**15 09 13.5**	**+0.9**
SOH	**Sokhos**	**1.40**	**276**	P	**Pn**	**15 08 53.3**	**-0.9**
SOH				S	**Sn**	**15 09 12.3**	**-0.9**
SOH				*e*Sn	**Sg**	**15 09 13.5**	**+0.9**
MMB	**Musomiste**	**1.42**	**309**	P	**Pn**	**15 08 54.1**	**-0.3**
MMB				Pg	**Pb**	**15 08 55.1**	**+0.3**
MMB	**Musomiste**	**1.42**	**309**	P	**Pn**	**15 08 53.6**	**-0.8**
MMB	**Musomiste**	**1.42**	**309**	P	**Pn**	**15 08 54.1**	**-0.3**
PLD	**Plovdiv**	**1.45**	**346**	P	**Pn**	**15 08 55.0**	**0.0**
PLD	**Plovdiv**	**1.45**	**346**	*i* P	**Pb**	**15 08 55.2**	**-0.2**
PLD	**Plovdiv**	**1.45**	**346**	P	**Pn**	**15 08 54.9**	**0.0**
PLD	**Plovdiv**	**1.45**	**346**	P	**Pn**	**15 08 54.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.51**	**90**	*e*PN	**Pn**	**15 08 55.4**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.51**	**90**	*e*Pn	**Pn**	**15 08 55.4**	**-0.4**
SART	**Tekirdag**	**1.52**	**90**	*i* P	**Pn**	**15 08 55.8**	**0.0**
SART				*i* S	**Sg**	**15 09 17.3**	**+0.9**
SART	**Tekirdag**	**1.52**	**90**	*i* P	**Pn**	**15 08 55.8**	**0.0**
SART				*i* S	**Sg**	**15 09 17.3**	**+0.9**
HORT	**Hortiatis**	**1.59**	**267**	P	**Pn**	**15 08 55.9**	**-1.0**
HORT				S	**Sn**	**15 09 17.1**	**-0.9**
HORT	**Hortiatis**	**1.59**	**267**	P	**Pn**	**15 08 55.9**	**-1.0**
HORT				S	**Sn**	**15 09 17.1**	**-0.9**
MFT	**Murefte**	**1.59**	**86**	*e*PN	**Pb**	**15 08 57.4**	**-0.4**
MFT	**Murefte**	**1.59**	**86**	*e*Pn	**Pb**	**15 08 57.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.64**	**100**	*e*PN	**Pn**	**15 08 56.9**	**-0.5**
KRBG	**Karabiga-Canak**	**1.64**	**100**	*e*Pn	**Pn**	**15 08 56.9**	**-0.5**
THE	**Thessaloniki**	**1.69**	**269**	P	**Pn**	**15 08 57.5**	**-0.6**
THE	**Thessaloniki**	**1.69**	**269**	P	**Pn**	**15 08 57.5**	**-0.6**
KNT	**Kendrikon**	**1.80**	**286**	P	**Pn**	**15 08 59.0**	**-0.6**
KNT				S	**Sn**	**15 09 21.8**	**-1.1**
KNT	**Kendrikon**	**1.80**	**286**	P	**Pn**	**15 08 59.0**	**-0.6**
KNT				S	**Sn**	**15 09 21.8**	**-1.1**
AYVA	**Ayvalik**	**1.81**	**140**	*i* P	**Pn**	**15 08 59.7**	**0.0**
AYVA				*i* S	**Sg**	**15 09 25.5**	**-0.1**
AYVA	**Ayvalik**	**1.81**	**140**	*i* P	**Pn**	**15 08 59.7**	**0.0**
AYVA				*i* S	**Sg**	**15 09 25.5**	**-0.1**
TKR	**Tekirdag**	**1.81**	**80**	*e*PN	**Pb**	**15 09 00.9**	**-0.5**
TKR	**Tekirdag**	**1.81**	**80**	*e*Pn	**Pb**	**15 09 00.9**	**-0.5**
AOS	**Alonnisos**	**1.83**	**214**	P	**Pn**	**15 08 59.0**	**-1.0**
AOS				S	**Sn**	**15 09 22.9**	**-0.8**
AOS	**Alonnisos**	**1.83**	**214**	P	**Pn**	**15 08 59.0**	**-1.0**
AOS				S	**Sn**	**15 09 22.9**	**-0.8**
KKB	**Krupnik**	**1.97**	**307**	P	**Pn**	**15 09 02.9**	**+0.9**
KKB				Pg	**Pg**	**15 09 05.5**	**+0.1**
KKB	**Krupnik**	**1.97**	**307**	P	**Pn**	**15 09 02.0**	**0.0**
KKB	**Krupnik**	**1.97**	**307**	P	**Pn**	**15 09 02.0**	**0.0**
CRLT	**Corlu**	**1.98**	**77**	*e*PN	**Pb**	**15 09 03.1**	**-1.3**
CRLT	**Corlu**	**1.98**	**77**	*e*Pn	**Pb**	**15 09 03.1**	**-1.3**
PGB	**Panagyurishte**	**2.00**	**338**	P	**Pn**	**15 09 01.9**	**-0.6**
PGB				Pg	**Pb**	**15 09 04.4**	**-0.4**
PGB	**Panagyurishte**	**2.00**	**338**	P	**Pn**	**15 09 01.9**	**-0.6**
GONE	**Gonen-Balikesi**	**2.02**	**108**	*e*PN	**Pn**	**15 09 02.1**	**-0.5**
GONE	**Gonen-Balikesi**	**2.02**	**108**	*e*Pn	**Pn**	**15 09 02.1**	**-0.5**
SKIA	**Skiathos**	**2.02**	**221**	P	**Pn**	**15 09 01.3**	**-1.4**
SKIA	**Skiathos**	**2.02**	**221**	P	**Pn**	**15 09 01.3**	**-1.4**
XOR	**Xorichti**	**2.03**	**230**	P	**Pn**	**15 09 01.6**	**-1.2**
XOR				S	**Sn**	**15 09 27.4**	**-1.3**
XOR	**Xorichti**	**2.03**	**230**	P	**Pn**	**15 09 01.6**	**-1.2**
XOR				S	**Sn**	**15 09 27.4**	**-1.3**
NEO	**Neokhori**	**2.05**	**228**	P	**Pn**	**15 09 02.6**	**-0.5**
NEO	**Neokhori**	**2.05**	**228**	*e*PN	**Pn**	**15 09 01.9**	**-1.2**
NEO	**Neokhori**	**2.05**	**228**	*e*Pn	**Pn**	**15 09 01.9**	**-1.2**
NEO	**Neokhori**	**2.05**	**228**	P	**Pn**	**15 09 02.6**	**-0.5**
JMB	**Yambol**	**2.06**	**30**	P	**Pn**	**15 09 02.7**	**-0.5**
JMB	**Yambol**	**2.06**	**30**	P	**Pb**	**15 09 05.7**	**0.0**
JMB	**Yambol**	**2.06**	**30**	P	**Pn**	**15 09 02.7**	**-0.5**
EDC	**Edincik**	**2.07**	**99**	*e*PN	**Pn**	**15 09 03.4**	**0.0**
EDC	**Edincik**	**2.07**	**99**	*e*Pn	**Pn**	**15 09 03.4**	**0.0**
VAY	**Valandovo**	**2.08**	**288**	*e*Pn	**Pn**	**15 09 02.9**	**-0.6**
VAY				*e*Sg	**Sg**	**15 09 34.9**	**+0.5**
VAY	**Valandovo**	**2.08**	**288**	*e*Pn	**Pn**	**15 09 03.1**	**-2.2**
VAY				*e*Sg	**Sg**	**15 09 35.4**	**+1.0**
BALY	**Balya**	**2.09**	**116**	*i* P	**Pn**	**15 09 03.7**	**-0.1**
BALY				*i* S	**Sb**	**15 09 33.2**	**+0.4**
BALY	**Balya**	**2.09**	**116**	*i* P	**Pn**	**15 09 03.7**	**-0.1**
BALY				*i* S	**Sb**	**15 09 33.2**	**+0.4**
BNT	**Bandirma**	**2.11**	**98**	*e*PN	**Pn**	**15 09 04.0**	**0.0**
BNT	**Bandirma**	**2.11**	**98**	*e*Pn	**Pn**	**15 09 04.0**	**0.0**
GRG	**Griva**	**2.13**	**278**	P	**Pn**	**15 09 03.6**	**-0.6**
GRG				S	**Sn**	**15 09 30.8**	**-0.4**
GRG	**Griva**	**2.13**	**278**	P	**Pn**	**15 09 03.6**	**-0.6**
GRG				S	**Sn**	**15 09 30.8**	**-0.4**
BALB	**Balikesir**	**2.32**	**116**	*e*PN	**Pn**	**15 09 05.8**	**-1.0**
BALB	**Balikesir**	**2.32**	**116**	*e*Pn	**Pn**	**15 09 05.8**	**-1.0**
MRKA	**Markates**	**2.34**	**212**	P	**Pn**	**15 09 06.2**	**-0.9**
MRKA	**Markates**	**2.34**	**212**	P	**Pn**	**15 09 06.2**	**-0.9**
SLVT	**Silivri**	**2.35**	**76**	*e*PN	**Pn**	**15 09 07.8**	**+0.6**
SLVT	**Silivri**	**2.35**	**76**	*e*Pn	**Pn**	**15 09 07.8**	**+0.6**
CHOS	**Chios island**	**2.40**	**164**	P	**Pn**	**15 09 07.0**	**-1.0**
CHOS	**Chios island**	**2.40**	**164**	*e*PN	**Pn**	**15 09 07.5**	**-0.5**
CHOS	**Chios island**	**2.40**	**164**	P	**Pn**	**15 09 07.0**	**-1.0**
CHOS	**Chios island**	**2.40**	**164**	*e*Pn	**Pn**	**15 09 07.5**	**-0.5**
VTS	**Vitosha**	**2.41**	**323**	⇑P	**Pn**	**15 09 08.6**	**+0.5**
VTS	**Vitosha**	**2.41**	**323**	⇑*i*P	**Pn**	**15 09 08.6**	**+0.5**
VTS	**Vitosha**	**2.41**	**323**	P	**Pb**	**15 09 12.2**	**+0.5**
VTS				Pg	**Pg**	**15 09 14.9**	**+1.1**
VTS	**Vitosha**	**2.41**	**323**	*e*Pn	**Pn**	**15 09 08.9**	**+0.8**
VTS				*e*Sg	**Sg**	**15 09 44.4**	**-0.6**
VTS	**Vitosha**	**2.41**	**323**	P	**Pn**	**15 09 08.6**	**+0.5**
VTS	**Vitosha**	**2.41**	**323**	*e*Pn	**Pn**	**15 09 08.9**	**+0.8**
VTS	**Vitosha**	**2.41**	**323**	Pg	**Pg**	**15 09 14.9**	**+1.1**
VTS				*e*Sg	**Sg**	**15 09 44.4**	**-0.6**
KCTX	**Karacabey (Bur**	**2.46**	**99**	*e*PN	**Pn**	**15 09 08.8**	**+0.1**
KCTX	**Karacabey (Bur**	**2.46**	**99**	*e*Pn	**Pn**	**15 09 08.8**	**+0.1**
CTYL	**Yal??k??y-??at**	**2.47**	**71**	*e*PN	**Pn**	**15 09 10.5**	**+1.6**
CTYL	**Yal??k??y-??at**	**2.47**	**71**	*e*Pn	**Pn**	**15 09 10.5**	**+1.6**
ELBA	**Catalca**	**2.50**	**79**	*i* P	**Pn**	**15 09 09.1**	**-0.2**
ELBA				*i* S	**Sb**	**15 09 43.6**	**-0.8**
ELBA	**Catalca**	**2.50**	**79**	*i* P	**Pn**	**15 09 09.1**	**-0.2**
ELBA				*i* S	**Sb**	**15 09 43.6**	**-0.8**
PVL	**Pavlikeni**	**2.52**	**2**	P	**Pb**	**15 09 13.7**	**+0.1**
PVL	**Pavlikeni**	**2.52**	**2**	P	**Pb**	**15 09 13.7**	**+0.1**
CTKS	**Kestanelik-??a**	**2.57**	**77**	*e*PN	**Pn**	**15 09 11.7**	**+1.5**
CTKS	**Kestanelik-??a**	**2.57**	**77**	*e*Pn	**Pn**	**15 09 11.7**	**+1.5**
SZH	**Strazhica**	**2.63**	**12**	*e*P	**Pn**	**15 09 11.5**	**+0.5**
SZH	**Strazhica**	**2.63**	**12**	*e*P	**Pn**	**15 09 11.5**	**+0.5**
KZN	**Kozani**	**2.63**	**263**	P	**Pn**	**15 09 11.2**	**0.0**
KZN	**Kozani**	**2.63**	**263**	*e*PN	**Pn**	**15 09 11.2**	**0.0**
KZN	**Kozani**	**2.63**	**263**	P	**Pn**	**15 09 11.2**	**0.0**
LKR	**Lokris**	**2.65**	**220**	*e*PN	**Pn**	**15 09 10.3**	**-1.1**
LKR	**Lokris**	**2.65**	**220**	*e*Pn	**Pn**	**15 09 10.3**	**-1.1**
THL	**Klokotos Trika**	**2.68**	**246**	P	**Pn**	**15 09 11.1**	**-0.7**
THL	**Klokotos Trika**	**2.68**	**246**	*e*PN	**Pn**	**15 09 11.2**	**-0.6**
THL	**Klokotos Trika**	**2.68**	**246**	P	**Pn**	**15 09 11.1**	**-0.7**
AKS	**Akhisar**	**2.72**	**131**	*e*PN	**Pn**	**15 09 11.6**	**-0.7**
AKS	**Akhisar**	**2.72**	**131**	*e*Pn	**Pn**	**15 09 11.6**	**-0.7**
BLCB	**Balcova**	**2.72**	**148**	*e*PN	**Pn**	**15 09 10.7**	**-1.6**
BLCB	**Balcova**	**2.72**	**148**	*e*Pn	**Pn**	**15 09 10.7**	**-1.6**
BGKT	**Bogazkoy**	**2.76**	**79**	*e*PN	**Pn**	**15 09 14.7**	**+1.9**
BGKT	**Bogazkoy**	**2.76**	**79**	*e*Pn	**Pn**	**15 09 14.7**	**+1.9**
AGG	**Agios Georgios**	**2.76**	**234**	*e*PN	**Pn**	**15 09 12.2**	**-0.7**
AGG	**Agios Georgios**	**2.76**	**234**	*e*Pn	**Pn**	**15 09 12.2**	**-0.7**
ARMT	**Armutlu**	**2.80**	**91**	*e*PN	**Pn**	**15 09 14.6**	**+1.2**
ARMT	**Armutlu**	**2.80**	**91**	*e*Pn	**Pn**	**15 09 14.6**	**+1.2**
IZM	**Izmir**	**2.80**	**144**	*e*PN	**Pn**	**15 09 12.2**	**-1.3**
IZM	**Izmir**	**2.80**	**144**	*e*Pn	**Pn**	**15 09 12.

GRER		4.86	15	⇓*i*P	Pn	15 09 45.1	+3.4
CFR	Carcaliu	4.97	25	⇓P	Pn	15 09 43.4	+0.1
CFR	Carcaliu	4.97	25	⇓*i*P	Pn	15 09 43.4	+0.1
CFR	Carcaliu	4.97	25	P	Pn	15 09 43.4	+0.1
TRUS	Trudelj	4.99	316	*e*Pn	Pn	15 09 42.9	-0.6
TRUS	Trudelj	4.99	316	*e*Pn	Pn	15 09 42.9	-0.6
GZR	Gura Zlata	5.01	340	P	Pn	15 09 43.9	0.0
GZR	Gura Zlata	5.01	340	⇑*i*P	Pn	15 09 43.2	-0.7
GZR	Gura Zlata	5.01	340	P	Pn	15 09 43.9	0.0
SVRH	Sivrihisar-ESK	5.02	102	*e*PN	Pn	15 09 44.3	+0.3
SVRH	Sivrihisar-ESK	5.02	102	*e*PN	Pn	15 09 44.3	+0.3
FETY	Fethiye	5.07	142	*e*Pn	Pn	15 09 44.3	-0.4
FETY	Fethiye	5.07	142	*e*Pn	Pn	15 09 44.3	-0.4
DIVS	Divibare	5.13	313	*e*Pn	Pn	15 09 45.0	-0.6
DIVS				*e*Sg	Sg	15 11 11.1	-1.4
DIVS	Divibare	5.13	313	*e*Pn	Pn	15 09 45.0	-0.6
DIVS				*e*Sg	Sg	15 11 11.1	-1.4
TLCR		5.22	29	⇑P	Pn	15 09 48.9	+2.3
TLCR		5.22	29	⇑*i*P	Pn	15 09 48.9	+2.3
TLCR		5.22	29	P	Pn	15 09 48.9	+2.3
PETR		5.24	16	⇑*i*P	Pn	15 09 47.3	+0.4
PETR		5.24	16	⇑*i*P	Pn	15 09 47.3	+0.4
PLOR	Plostina	5.26	11	⇓P	Pn	15 09 48.6	+1.3
PLOR	Plostina	5.26	11	⇓*i*P	Pn	15 09 48.6	+1.3
PLOR	Plostina	5.26	11	P	Pn	15 09 48.6	+1.3
DOPR	Dopca	5.27	2	⇑*i*P	Pn	15 09 48.4	+1.0
DOPR	Dopca	5.27	2	⇑*i*P	Pn	15 09 48.4	+1.0
VRI	Vrincioaia	5.29	12	⇑P	Pn	15 09 48.9	+1.3
VRI	Vrincioaia	5.29	12	⇑*i*P	Pn	15 09 48.9	+1.3
VRI	Vrincioaia	5.29	12	P	Pn	15 09 48.9	+1.3
ELL	Elmali	5.40	135	*e*PN	Pn	15 09 49.1	-0.2
ELL	Elmali	5.40	135	*e*Pn	Pn	15 09 49.1	-0.2
DEV	Deva	5.45	343	⇑P	Pn	15 09 51.0	+1.3
DEV	Deva	5.45	343	⇑*i*P	Pn	15 09 51.0	+1.3
DEV	Deva	5.45	343	P	Pn	15 09 51.0	+1.3
KIZT	Kizilcal	5.46	107	*e*PN	Pn	15 09 51.0	+0.8
KIZT	Kizilcal	5.46	107	*e*Pn	Pn	15 09 51.0	+0.8
MDB	Medias	5.47	354	⇓P	Pn	15 09 51.6	+1.4
MDB	Medias	5.47	354	⇓*i*P	Pn	15 09 51.6	+1.4
MDB	Medias	5.47	354	P	Pn	15 09 51.6	+1.4
BZS	Buzias	5.57	333	⇑P	Pn	15 09 51.2	-0.2
BZS	Buzias	5.57	333	⇑*i*P	Pn	15 09 51.2	-0.2
BZS	Buzias	5.57	333	*e*Pn	Pn	15 09 50.4	-1.0
BZS				*e*Sg	Sg	15 11 24.0	-2.4
BZS	Buzias	5.57	333	*e*Pn	Pn	15 09 50.4	-1.0
BZS	Buzias	5.57	333	P	Pn	15 09 51.2	-0.2
SAFT	Safranbolu	5.70	82	*e*PN	Pn	15 09 55.2	+2.0
SAFT	Safranbolu	5.70	82	*e*Pn	Pn	15 09 55.3	+2.0
TESR		5.91	10	⇓*i*P	Pn	15 09 57.5	+1.4
TESR		5.91	10	⇓P	Pn	15 09 57.5	+1.4
FGSL	Fruska Gora	5.95	320	*e*Pn	Pn	15 09 57.1	+0.4
FRGS	Fruska Gora	5.95	320	*e*Pn	Pn	15 09 57.1	+0.3
LADK	Ladik-KONYA	6.09	112	*e*PN	Pn	15 09 59.8	+1.1
LADK	Ladik-KONYA	6.09	112	*e*Pn	Pn	15 09 59.8	+1.1
KONT	Konya--Tatoy	6.20	114	*e*PN	Pn	15 10 01.4	+1.2
KONT	Konya--Tatoy	6.20	114	*e*Pn	Pn	15 10 01.4	+1.2
DRGR		6.35	344	⇓P	Pn	15 10 03.4	+1.1
DRGR		6.35	344	⇓*i*P	Pn	15 10 03.4	+1.1
DRGR		6.35	344	*e*Pn	Pn	15 10 00.6	-1.7
DRGR		6.35	344	*e*Pn	Pn	15 10 00.6	-1.7
DRGR		6.35	344	P	Pn	15 10 03.4	+1.1
BRTR	Keskin Array B	6.54	96	Pn	Pn	15 10 04.9	0.0
	0.4nm,0.3s,baz=148,slow=17,SNR=12						
BRTR				Lg	Lg	15 11 56.0	
	baz=269,slow=27,SNR=2.1						
BRTR	Keskin Array B	6.54	96	*i* P	Pn	15 10 06.6	+1.6
BRTR	Keskin Array B	6.54	96	*i* P	Pn	15 10 06.6	+1.6
KAMT	Kaman	6.68	99	*e*PN	Pn	15 10 08.8	+2.0
KAMT	Kaman	6.68	99	*e*Pn	Pn	15 10 08.8	+2.0
BURAR	Bucovina Array	6.92	0	⇓*i*P	Pn	15 10 10.5	+0.5
BMR	Baia Mare	7.08	351	⇑P	Pn	15 10 13.1	+0.9
BMR	Baia Mare	7.08	351	⇑*i*P	Pn	15 10 13.1	+0.9
BMR	Baia Mare	7.08	351	P	Pn	15 10 13.1	+0.9
PKSM	Moragy	7.28	321	⇑P	Pn	15 10 14.1	-0.9
PKSM	Moragy	7.28	321	⇑*i*P	Pn	15 10 14.1	-0.9
PKSM	Moragy	7.28	321	*e*Pn	Pn	15 10 13.5	-1.5
PKSM	Moragy	7.28	321	*e*Pn	Pn	15 10 13.5	-1.5
PKSM	Moragy	7.28	321	P	Pn	15 10 14.1	-0.9
TRPA	Tarpa	7.67	347	⇓*i*P	Pn	15 10 20.0	-0.3
TRPA	Tarpa	7.67	347	⇓*i*P	Pn	15 10 20.0	-0.3
PSZ	Piszkesteto	8.15	234	⇓*i*P	Pn	15 10 24.1	-2.9
CRVS	Cervenica-Dubn	8.62	343	*e*P	Pn	15 10 31.9	-1.4
CRVS	Cervenica-Dubn	8.62	343	*e*PN	Pn	15 10 31.9	-1.4
CRVS	Cervenica-Dubn	8.62	343	*e*P	Pn	15 10 31.9	-1.4
VYHS	Vyhne	9.01	332	*e*P	Pn	15 10 38.7	0.0
VYHS	Vyhne	9.01	332	*e*PN	Pn	15 10 38.7	0.0
VYHS	Vyhne	9.01	332	*e*P	Pn	15 10 38.7	0.0
KIEV	Kiev	10.38	14	*e*P	Pn	15 10 57.0	-0.4
AKASG	Malin Array Be	10.39	14	Pn	Pn	15 10 56.5	-1.1
	0.8nm,0.3s,baz=247,slow=23,SNR=4.7						
VRAC	Vranov	10.54	328	LR	LR	15 14 55.8	
	comp=Z,166nm,21.7s,baz=209,slow=37						
GERES	GERESS Array B	11.52	319	Pn	Pn	15 11 15.3	+2.2
	0.0nm,0.3s,baz=134,slow=13,SNR=4.7						
DAVOX	Davos/Dischmat	12.62	304	Pn	Pn	15 11 28.9	+0.6
	0.1nm,0.3s,baz=163,slow=19,SNR=5.0						
LPG	La Plagne	14.29	296	*e*P	Pn	15 11 53.8	+2.6
	29nm,1.3s						
CDF	Champ du Feu	14.89	307	*e*P	P	15 12 05.0	-0.1
	15nm,1.1s						
OBN	Obninsk	16.29	24	⇓*e*P	Pn	15 12 16.5	-0.7
OBN				pmax	pmax		
	comp=Z,33nm,1.7s						
SSF	Saint Saulge	16.85	299	*e*P	P	15 12 26.1	-0.6
AVF	Avril sur Loir	16.89	298	*e*P	P	15 12 28.6	+1.5
VSU	Vasula	17.81	3	*i* P	P	15 12 38.3	+1.1
VSU				pmax	pmax		
	comp=Z,79nm,1.5s						
NB2	NORSAR Subarra	22.10	342	P	P	15 13 22.7	-1.2
	comp=Z,3.5nm,0.9s,baz=145,slow=10						
NB2	NORSAR Subarra	22.10	342	P	P	15 13 22.7	-1.2
	comp=Z,3.5nm,0.9s,SNR=5.2						
NOA	NORSAR Array B	22.10	342	P	P	15 13 23.1	-0.9
	comp=Z,3.7nm,0.9s,baz=156,slow=10,SNR=4.7						
TORD	Torodi Ar. Bea	34.32	224	P	P	15 15 15.7	+0.2
	comp=Z,1.0nm,0.7s,baz=29,slow=8.8,SNR=7.9						
KURK	Kurchatov	37.87	56	P	P	15 15 45.1	-0.5
	comp=Z,0.5nm,0.9s,baz=279,slow=8.6,SNR=5.4						
MKAR	Makanchi Array	40.91	62	P	P	15 16 11.8	+0.6
	comp=Z,0.7nm,0.8s,baz=280,slow=5.0,SNR=6.0						
ZALV	Zalesovo Beam	41.31	51	P	P	15 16 14.6	+0.3
	comp=Z,1.4nm,0.6s,baz=273,slow=8.2,SNR=7.9						
ZALV	Zalesovo Beam	41.31	51	*e*P	P	15 16 14.6	+0.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC	Dimbokro	43.22	227	P	P	15 16 29.5	-0.7
	comp=Z,2.1nm,0.5s,baz=8.1,slow=9.6,SNR=7.8						
LIC	Lamto	43.68	226	*e*P	P	15 16 33.3	-0.7
	comp=Z,8.5nm,0.6s						
SONM	Songino Array	56.06	53	P	P	15 18 08.7	+0.7
	comp=Z,0.5nm,0.8s,baz=126,slow=30,SNR=5.2						
CMAR	Chiang Mai Arr	66.03	86	P	P	15 19 16.7	+0.8
	comp=Z,0.3nm,0.6s,baz=304,slow=7.0,SNR=4.3						
YKA	Yellowknife Ar	72.20	345	P	P	15 19 53.6	0.0
	comp=Z,0.9nm,0.7s,baz=42,slow=5.7,SNR=16						

*IDC **11** 15:45:25.3±3.9, 43.83N×129.52W, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/25, mbtmp3.1/4, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/10, Error ellipse: s-maj=75.1km s-min=23.3km az=45.0*
*NEIC **11** 15:45:27.6±1.8, 44.00N×129.05W, h10km, ML2.7, Error ellipse: s-maj=22.6km s-min=11.2km az=51.0*
*ISCJB **11** 15:45:28.1±1.7, 44.15N±0.10×128.9W±0.2, h13km, mb3.2/1, Error ellipse: s-maj=20.2km s-min=11.0km az=148.7*

ISC 11 15:45:29.2±2.2, 44.1N±0.1×129.0W±0.2, h13km, n23, σ0.985/19, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KEBM	Edson Butte	3.65	109	*e*P	Pn		15 46 21.5	-3.9
HEBO	Mount Hebo	3.92	72	*e*P	Pn		15 46 27.6	-1.5
COR	Corvallis	4.14	82	*e*P	Pn		15 46 32.0	0.0
HSO	Harness Mounta	4.35	96	P	Pn		15 46 34.0	-1.0
HUMO	Hull Mountain	4.69	107	*e*P	Pn		15 46 38.5	-1.1
NLWA	Neilton Lookou	4.86	46	*e*P	Pn		15 46 40.8	-1.2
IRO	Indian Ridge	4.89	89	P	Pn		15 46 43.1	+0.6
TDL	Tradedollar La	5.30	63	P	Pn		15 46 48.1	0.0
HDW	Hoodsport	5.45	48	P	Pn		15 46 50.0	-0.1
GNW	Green Mountain	5.53	50	*e*P	Pn		15 46 50.8	-0.2
LON	Longmire	5.72	60	*e*P	Pn		15 46 54.0	+0.3
	3.9nm,0.4s							
BLN	Blyn Mountain	5.72	45	P	Pn		15 46 54.1	+0.4
FMW	Mount Fremont	5.88	59	P	Pn		15 46 56.5	+0.4
VDB	Vedder Mountai	6.83	42	P	Pn		15 47 08.9	-0.1
BBB	Bella Bella	8.07	4	LR	LR		15 50 16.9	
	comp=Z,95nm,19.6s,baz=126,slow=35							
NVAR	Mina Array Bea	9.89	122	Pn	Pn		15 47 52.7	+1.5
	0.1nm,0.3s,baz=284,slow=15,SNR=2.9							
NVAR	Mina Array Bea	9.89	122	Pn	Pn		15 47 52.7	+1.5
PDAR	Pinedale Array	14.22	89	Pn	P		15 48 57.8	0.0
	0.1nm,0.3s,baz=295,slow=8.6,SNR=4.5							
PDAR	Pinedale Array	14.22	89	Pn	P		15 48 57.8	0.0
YKA	Yellowknife Ar	20.21	20	P	Pn		15 50 05.3	0.0
	1.3nm,1.0s,baz=208,slow=11,SNR=6.2							
YKA	Yellowknife Ar	20.21	20	P	Pn		15 50 05.3	0.0
ILAR	Eielson Array	22.96	340	P	P		15 50 32.9	0.0
	1.2nm,1.2s,baz=152,slow=7.2,SNR=5.7							
ILAR	Eielson Array	22.96	340	P	P		15 50 32.9	0.0

*ISCJB **11** 15:50:49.1±0.3, 41.68S±0.03×173.28E±0.05, h114km±4km, mb3.7/2, Error ellipse: s-maj=7.4km s-min=3.4km az=41.2*
*NEIC **11** 15:50:51.0, 41.60S×173.23E, h102km, MG4.6(WEL), After WEL.*
NEIC Felt [IV] at Motueka and Nelson. Felt in the Wellington area and in the northern part of the South Island.
*WEL **11** 15:50:51.1±0.2, 41.58S×173.24E, h100km±1km, ML4.6/21, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, reported intensity MM 5.*
WEL Felt from Taranaki to Canterbury, and from West Coast to Manawatu, maximum.
*IDC **11** 15:50:51.9±6.5, 41.70S×172.95E, h98km±49km, mb3.3/2, mb1 3.6/3, mb1mx3.4/12, mbtmp3.4/3, Error ellipse: s-maj=61.4km s-min=28.1km az=56.0*

ISC 11 15:50:51.1±0.7, 41.64S±0.04×173.24E±0.04, h107km±5km, n166, σ1.941/178, 8C-13D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THZ	Tophouse	0.28	244	⇑P	N	Pn	15 51 05.7	-0.8
THZ				SN		Sn	15 51 15.5	-2.4
THZ	Tophouse	0.28	244	Pn	N	Pn	15 51 05.8	-0.8
THZ				Sn		Sn	15 51 15.6	-2.4
NNZ	Nelson	0.44	14	⇓P	N	Pn	15 51 06.0	-1.3
NNZ				SN		Sn	15 51 16.2	-3.0
NNZ	Nelson	0.44	14	Pn	N	Pn	15 51 05.9	-1.3
NNZ				Sn		Sn	15 51 16.2	-3.0
BSWZ	Blackbirch Sta	0.48	99	⇑P	N	Pn	15 51 07.2	-0.4
BSWZ				SN		Sn	15 51 18.7	-1.2
BSWZ	Blackbirch Sta	0.48	99	Pn	N	Pn	15 51 07.2	-0.4
BSWZ				Sn		Sn	15 51 18.7	-1.2
TUWZ	Tuamarina	0.57	69	⇑P	N	Pn	15 51 07.5	-0.6
TUWZ				SN		Sn	15 51 18.3	-2.5
TUWZ	Tuamarina	0.57	69	Pn	N	Pn	15 51 07.5	-0.6
TUWZ				Sn		Sn	15 51 18.3	-2.5
CMWZ	Cape Campbell	0.74	99	⇑P	N	Pn	15 51 09.6	+0.1
CMWZ				SN		Sn	15 51 23.2	-0.2
CMWZ	Cape Campbell	0.74	99	Pn	N	Pn	15 51 09.6	+0.1
CMWZ				Sn		Sn	15 51 23.2	-0.2
KHZ	Kahutara	0.81	164	⇑P	N	Pn	15 51 10.5	+0.3
KHZ				SN		Sn	15 51 23.5	-1.0
KHZ	Kahutara	0.81	164	*e*Pn	N	Pn	15 51 10.4	+0.3
KHZ				Sn		Sn	15 51 23.5	-1.0
KHZ				*e*Sn		Sn	15 51 23.7	-0.8
TCW	Tory Channel	0.89	62	⇓P	N	Pn	15 51 10.6	-0.4
TCW	Tory Channel	0.89	62	Pn	N	Pn	15 51 10.6	-0.4
QRZ	Quartz Range	0.97	327	⇓P	N	Pn	15 51 10.5	-1.3
QRZ	Quartz Range	0.97	327	Pn	N	Pn	15 51 10.5	-1.3
DUWZ	D'Urville Isla	0.98	32	⇓P	N	Pn	15 51 11.5	-0.4
DUWZ	D'Urville Isla	0.98	32	Pn	N	Pn	15 51 11.5	-0.4
DSZ	Denniston Nort	1.08	264	⇑P	N	Pn	15 51 12.2	-0.8
DSZ	Denniston Nort	1.08	264	Pn	N	Pn	15 51 12.2	-0.8
SNZO	South Karori	1.15	74	PN	N	Pn	15 51 12.9	-0.8
SNZO	South Karori	1.15	74	Pn	N	Pn	15 51 12.6	-1.0
WEL	Wellington	1.21	73	PN	N	Pn	15 51 13.6	-0.7
WEL	Wellington	1.21	73	Pn	N	Pn	15 51 13.6	-0.7
BHW	Baring Head	1.25	80	⇓PN	N	Pn	15 51 14.0	-0.7
BHW	Baring Head	1.25	80	Pn	N	Pn	15 51 14.0	-0.7
LTZ	Lake Taylor	1.35	212	PN	N	Pn	15 51 16.0	+0.1
LTZ	Lake Taylor	1.35	212	Pn	N	Pn	15 51 15.8	-0.2
CAW	Cannon Point	1.48	69	⇓PN	N	Pn	15 51 16.6	-0.9
CAW	Cannon Point	1.48	69	Pn	N	Pn	15 51 16.6	-0.9
KIW	Kapiti Island	1.48	59	⇓PN	N	Pn	15 51 17.0	-0.6
KIW	Kapiti Island	1.48	59	Pn	N	Pn	15 51 17.0	-0.6
PLWZ	Palliser	1.52	88	PN	N	Pn	15 51 17.1	-0.9
PLWZ	Palliser	1.52	88	Pn	N	Pn	15 51 17.1	-0.9
MSWZ	Moikau Station	1.53	82	⇓PN	N	Pn	15 51 17.2	-0.9
MSWZ	Moikau Station	1.53	82	Pn	N	Pn	15 51 17.2	-0.9
PAWZ	Paruwai Farm	1.67	82	PN	N	Pn	15 51 18.6	-1.1
PAWZ	Paruwai Farm	1.67	82	Pn	N	Pn	15 51 18.6	-1.1
OGWZ	Otaki Gorge	1.68	61	⇓PN	N	Pn	15 51 19.0	-0.8
OGWZ	Otaki Gorge	1.68	61	Pn	N	Pn	15 51 19.1	-0.8
MTW	Mount Morrison	1.77	75	⇓PN	N	Pn	15 51 19.8	-1.3
MTW	Mount Morrison	1.77	75	Pn	N	Pn	15 51 19.8	-1.3
TRWZ	Traveller	1.86	83	PN	N	Pn	15 51 21.1	-1.0
TRWZ	Traveller	1.86	83	Pn	N	Pn	15 51 21.2	-0.9
HOWZ	Holdsworth Sta	1.87	67	⇓PN	N	Pn	15 51 21.0	-1.3
HOWZ	Holdsworth Sta	1.87	67	Pn	N	Pn	15 51 21.0	-1.3
CRLZ	Canterbury Las	1.99	193	⇑PN	N	Pn	15 51 23.1	-0.6
CRLZ	Canterbury Las	1.99	193	Pn	N	Pn	15 51 23.2	-0.6
MRZ	Mangatainoka R	2.02	62	⇓PN	N	Pn	15 51 22.9	-1.3
MRZ	Mangatainoka R	2.02	62	Pn	N	Pn	15 51 22.9	-1.3
TMWZ	Te Maipa	2.07	76	⇓PN	N	Pn	15 51 23.4	-1.4
TMWZ	Te Maipa	2.07	76	Pn	N	Pn	15 51 23.4	-1.4
MQZ	McQueen's Vall	2.11	192	PN	N	Pn	15 51 24.5	-0.8
MQZ	McQueen's Vall	2.11	192	Pn	N	Pn	15 51 24.5	-0.8
TIWZ	Tintock	2.18	67	PN	N	Pn	15 51 24.7	-1.5
TIWZ	Tintock	2.18	67	Pn	N	Pn	15 51 24.8	-1.5
POWZ	Post Office Ro	2.29	58	PN	N	Pn	15 51 26.0	-1.6
POWZ	Post Office Ro	2.29	58	Pn	N	Pn	15 51 26.1	-1.6
WAZ	Wanganui	2.31	36	PN	N	Pn	15 51 28.0	+0.1
WAZ	Wanganui	2.31	36	Pn	N	Pn	15 51 28.1	+0.2
WVZ	Waitaha Valley	2.34	231	PN	N	Pn	15 51 27.6	-0.7
NRZ	Ngariki Road	2.36	13	PN	N	Pn	15 51 28.9	+0.3
NRZ	Ngariki Road	2.36	13	Pn	N	Pn	15 51 28.9	+0.3
DFE	Dawson Falls	2.41	16	⇑PN	N	Pn	15 51 29.6	+0.3
DFE	Dawson Falls	2.41	16	Pn	N	Pn	15 51 29.6	+0.3
NEZ	North Egmont	2.46	16	PN	N	Pn	15 51 30.0	0.0
BFZ	Birch Farm	2.47	68	PN	N	Pn	15 51 28.0	-2.0
BFZ	Birch Farm	2.47	68	Pn	N	Pn	15 51 28.1	-2.0
RAEZ	Rainy Point	2.51	21	PN	N	Pn	15 51 31.1	+0.5
DREZ	Durham Road	2.56	17	PN	N	Pn	15 51 31.3	+0.1
DVHZ	Dannevirke	2.59	60	PN	N	Pn	15 51 29.7	-2.0
DVHZ	Dannevirke	2.59	60	Pn	N	Pn	15 51 29.7	-2.0
TSZ	Takapari Road	2.60	53	PN	N	Pn	15 51 30.9	-1.9
TSZ	Takapari Road	2.60	53	Pn	N	Pn	15 51 30.1	-1.7
RPZ	Rata Peaks	2.62	217	PN	N	Pn	15 51 31.1	-1.0
RPZ	Rata Peaks	2.62	217	P	N	Pn	15 51 31.2	-0.8
	12nm,0.3s,baz=85,slow=1.4,SNR=82							
RPZ				S		Sn	15 52 00.2	-3.3
	180nm,0.3s,baz=39,slow=21,SNR=103							
RPZ	Rata Peaks	2.62	217	*e*P	N	Pn	15 51 31.2	-0.8
RPZ				S		Sn	15 52 00.2	-3.3
RPZ				*e*S			15 52 01.6	
MHEZ	Mangahewa	2.69	18	PN	N	Pn	15 51 33.0	0.0
VRZ	Vera Road	2.77	25	PN	N	Pn	15 51 34.0	0.0
MTVZ	Mangateitei	2.83	38	PN	N	Pn	15 51 34.3	-0.5
MTVZ	Mangateitei	2.83	38	Pn	N	Pn	15 51 34.3	-0.5
PNHZ	Pukenui	2.84	53	PN	N	Pn	15 51 33.0	-1.9
PNHZ	Pukenui	2.84	53	Pn	N	Pn	15 51 33.0	-1.9
PKVZ	Pokaka	2.85	35	PN	N	Pn	15 51 34.3	-0.8
PKVZ	Pokaka	2.85	35	Pn	N	Pn	15 51 34.3	-0.8
WPHZ	Waipukurau	2.90	58	PN	N	Pn	15 51 33.7	-2.0
WPHZ	Waipukurau	2.90	58	Pn	N	Pn	15 51 33.7	-2.0
PRHZ	Porangahau	2.92	63	PN	N	Pn	15 51 33.8	-2.2
PRHZ	Porangahau	2.92	63	Pn	N	Pn	15 51 33.8	-2.2
WNVZ	Wahianoa	2.93	39	PN	N	Pn	15 51 35.5	-0.8
WNVZ	Wahianoa	2.93	39	Pn	N	Pn	15 51 35.5	-0.8
MOVZ	Moawhango	2.94	41	PN	N	Pn	15 51 35.0	-1.3
MOVZ	Moawhango	2.94	41	Pn	N	Pn	15 51 35.0	-1.3
FWVZ	Far West T-bar	2.97	37	PN	N	Pn	15 51 35.9	-0.9
FWVZ	Far West T-bar	2.97	37	Pn	N	Pn	15 51 35.9	-0.9
TUVZ	Tukino	3.00	39	PN	N	Pn	15 51 36.6	-0.6
TUVZ	Tukino	3.00	39	Pn	N	Pn	15 51 36.6	-0.6
WPVZ	Whakapapa	3.00	37	PN	N	Pn	15 51 36.5	-0.7
WPVZ	Whakapapa	3.00	37	Pn	N	Pn	15 51 36.5	-0.7
BHHZ	Black Hill Sta	3.04	46	PN	N	Pn	15 51 36.2	-1.5
BHHZ	Black Hill Sta	3.04	46	Pn	N	Pn	15 51 36.2	-1.5
NGZ	Ngauruhoe	3.05	37	PN	N	Pn	15 51 37.1	-0.8
NGZ	Ngauruhoe	3.05	37	Pn	N	Pn	15 51 37.1	-0.8
TWVZ	Taurewa	3.07	34	PN	N	Pn	15 51 37.2	-0.9
TWVZ	Taurewa	3.07	34	Pn	N	Pn	15 51 37.2	-0.9
OTVZ	Oturere	3.09	38	PN	N	Pn	15 51 37.7	-0.7
OTVZ	Oturere	3.09	38	Pn	N	Pn	15 51 37.7	-0.7
WTVZ	West Tongariro	3.10	36	PN	N	Pn	15 51 37.5	-0.9
WTVZ	West Tongariro	3.10	36	Pn	N	Pn	15 51 37.5	-0.9
KRVZ	Karewarewa	3.14	37	PN	N	Pn	15 51 38.2	-0.8
KRVZ	Karewarewa	3.14	37	Pn	N	Pn	15 51 38.2	-0.8
PXZ	Pawanui	3.19	61	PN	N	Pn	15 51 36.9	-2.6
PXZ	Pawanui	3.19	61	Pn	N	Pn	15 51 36.9	-2.6
KATZ	Kakaramea	3.26	36	PN	N	Pn	15 51 39.0	-0.8
KATZ	Kakaramea	3.26	36	Pn	N	Pn	15 51 39.0	-0.8
KAHZ	Kahuranaki	3.33	58	PN	N	Pn	15 51 39.2	-2.2
KAHZ	Kahuranaki	3.33	58	Pn	N	Pn	15 51 39.2	-2.2
RITZ	Rihia Road	3.33	38	PN	N	Pn	15 51 40.6	-0.9
RITZ	Rihia Road	3.33	38	Pn	N	Pn	15 51 40.6	-0.9
HIZ	Hauiti	3.36	22	PN	N	Pn	15 51 41.1	-0.8
HIZ	Hauiti	3.36	22	Pn	N	Pn	15 51 41.1	-0.8
WATZ	Wairara	3.50	34	Pn	N	Pn	15 51 42.8	-0.9
BKZ	Black Stump Fm	3.51	46	PN	N	Pn	15 51 41.6	-2.2
BKZ	Black Stump Fm	3.51	46	Pn	N	Pn	15 51 41.6	-2.2
LBZ	Lake Benmore	3.54	218	PN	N	Pn	15 51 42.9	-1.3
LBZ	Lake Benmore	3.54	218	Pn	N	Pn	15 51 42.9	-1.3
NMHZ	Naumai	3.73	48	PN	N	Pn	15 51 44.8	-2.0
NMHZ	Naumai	3.73	48	Pn	N	Pn	15 51 44.8	-2.0
ODZ	Otahua Downs	3.89	208	PN	N	Pn	15 51 48.4	-0.5
ODZ				SN		Sn	15 52 31.0	-2.7
ODZ	Otahua Downs	3.89	208	*e*P	N	Pn	15 51 48.6	-0.3
RAHZ	Arahi	4.01	49	PN	N	Pn	15 51 47.8	-2.8
RAHZ	Arahi	4.01	49	Pn	N	Pn	15 51 47.8	-2.8
JCZ	Jackson Bay	4.09	232	PN	N	Pn	15 51 50.3	-1.4
JCZ	Jackson Bay	4.09	232	Pn	N	Pn	15 51 50.3	-1.4
TOZ	Tahuroa Road	4.28	25	PN	N	Pn	15 51 53.5	-0.7
TOZ

KKM **Kota Kinabalu** **10.63 268** P Pn 15 55 37.2 +6.0
FAKI **Fak Fak** **10.77 150** P **Pn** **15 55 34.0 +0.9**
56nm,1.2s
TTSI **Tana Toraja** **11.83 217** P **Pn** **15 55 46.5 -0.7**
373nm,0.9s,3µm
BAKI **Biak** **11.95 129** P **Pn** **15 55 50.7 +1.9**
271nm,1.1s,3µm
KAPI **Kappang** **13.48 212** P Pn 15 56 05.0 -3.8
1.9nm,0.3s,baz=32,slow=9.8,SNR=28
KAPI LR LR 16 01 59.7
comp=Z,621nm,19.1s,baz=342,slow=40
KAPI **Kappang** **13.48 212** *eP* Pn 15 56 05.0 -3.8
86nm,0.9s
KAPI **Kappang** **13.48 212** P Pn 15 56 05.5 -3.3
98nm,0.9s
BTM **Bintulu** **14.15 257** P **Pn** **15 56 18.1 +0.6**
KBKI **Kotabaru** **14.48 228** P **P** **15 56 26.1 +0.9**
146nm,0.9s,1µm
SMPI **Sarmi** **14.50 125** P **Pn** **15 56 22.7 +0.8**
181nm,1.3s,2µm
SBUM **Sibu** **15.18 255** P **P** **15 56 32.2 -0.8**
SBUM **Sibu** **15.18 255** P **P** **15 56 32.4 -0.6**
1µm,0.9s,8µm
BBKI **Banjar Baru** **15.59 231** P P 15 56 44.3 +6.7
MMRI **Maumere** **15.74 197** P **P** **15 56 43.4 +4.2**
110nm,1.4s
STKI **Sintang** **16.67 248** P **P** **15 56 50.8 +1.3**
115nm,1.0s
KSM **Kuching** **17.29 254** *eP* **Pn** **15 56 56.9 +0.4**
139nm,0.9s
KSM **Kuching** **17.29 254** P **Pn** **15 56 57.4 +0.8**
KSM **Kuching** **17.29 254** P **Pn** **15 56 57.4 +0.8**
177nm,1.1s,3µm
PBKI **Pangkalan Bun** **17.75 239** P **P** **15 57 01.5 +0.1**
488nm,1.0s,3µm
MTNI **Mataram** **18.45 216** P **Pn** **15 57 10.4 -0.2**
150nm,0.9s,8µm
KHKI **Kahang-Kahang** **18.57 217** P **Pn** **15 57 14.8 +2.9**
110nm,1.1s
KMMI **Kalianget** **18.65 224** P **Pn** **15 57 14.1 +1.2**
261nm,0.8s
GUMO **Guam** **19.03 67** P **P** **15 57 15.6 +0.1**
3.5nm,0.3s,baz=141,slow=3.0,SNR=3.9
GUMO LR LR 16 03 49.1
comp=Z,381nm,18.9s,baz=243,slow=34
GUMO **Guam** **19.03 67** P **P** **15 57 15.6 +0.1**
GUMO **Guam** **19.03 67** P **P** **15 57 15.6 +0.1**
BYJI **Banyuwangi** **19.24 221** P Pn 15 57 26.9 +7.1
JAGI **Jajag, Banyuwa** **19.57 221** P **Pn** **15 57 23.8 +0.2**
118nm,1.0s
GMJI **Gumukmas** **19.89 223** P **Pn** **15 57 31.2 +3.8**
84nm,1.5s
JOW **Kunigami** **20.26 4** P Pn 15 57 30.3 -1.4
24nm,0.3s,baz=165,slow=9.1,SNR=38
JOW LR LR 16 05 28.9
comp=Z,103nm,19.2s,baz=172,slow=37
JOW **Kunigami** **20.26 4** P Pn 15 57 30.3 -1.4
KRKI **Karangkates** **20.49 225** P Pn 15 57 36.6 +2.2
215nm,0.9s,12µm
SJI **Sawahan** **20.68 227** P **P** **15 57 34.0 +0.6**
129nm,1.2s,3µm
QIZ **Qiongzhong** **20.75 308** P **P** **15 57 34.8 +0.8**
QIZ S **S** **16 01 21.2 +1.4**
QIZ pmax pmax
comp=Z,46nm,1.1s
QIZ pmax pmax
comp=Z,310nm,9.0s
QIZ LR LR
comp=Z,790nm,17.0s
PWJI **Pagerwojo** **20.85 226** P Pn 15 57 37.4 -1.3
comp=Z,65nm,1.6s
PCJI **Pacitan** **21.42 227** P **P** **15 57 43.5 +2.2**
comp=Z,135nm,1.0s
BJII **Banjamegara** **21.98 232** P **P** **15 57 47.4 +0.2**
comp=Z,137nm,1.4s
PPBI **Pangkal Pinang** **22.45 248** P **P** **15 57 51.1 -0.9**
comp=Z,100nm,1.0s,comp=Z,1µm
LEM **Lembang** **23.36 236** P **P** **15 58 01.2 +0.2**
comp=Z,257nm,1.2s,comp=Z,4µm
MYKOM **Kota Tinggi** **23.46 259** P **P** **15 58 01.5 -0.3**
MYKOM **Kota Tinggi** **23.46 259** P **P** **15 58 03.6 +1.9**
comp=Z,59nm,1.5s
CISI **Cisompet, Garu** **23.61 234** P **P** **15 58 05.3 +2.1**
comp=Z,112nm,1.1s
CBJI **Citeko** **23.77 238** P **P** **15 58 05.4 +0.8**
comp=Z,334nm,1.2s,comp=Z,6µm
KGM **Kluang** **23.93 260** P **P** **15 58 05.8 -0.2**
FITZ **Fitzroy Crossi** **24.48 183** P **P** **15 58 10.2 -0.7**
comp=Z,22nm,0.8s,baz=11,slow=8.8,SNR=31
FITZ ScP **ScP** **16 05 17.0 +1.1**
comp=Z,5.4nm,0.7s,baz=149,slow=9.3,SNR=7.3
FITZ **Fitzroy Crossi** **24.48 183** *eP* **P** **15 58 10.0 -0.9**
comp=Z,44nm,0.9s
FITZ **Fitzroy Crossi** **24.48 183** *eP* **P** **15 58 10.0 -0.9**
comp=Z,100nm,1.5s
FITZ ScP **ScP** **16 05 17.0 +1.1**
KLI **Kotabumi** **24.73 243** P **P** **15 58 14.9 +1.6**
comp=Z,160nm,1.0s,comp=Z,9µm
CGJI **Cibinong** **24.85 239** P **P** **15 58 13.8 -0.6**
comp=Z,106nm,1.0s,comp=Z,1µm
CBIJ **Chichi jima** **25.11 34** P **P** **15 58 16.2 -0.4**
comp=Z,241nm,0.5s,baz=236,slow=6.5,SNR=8.8
CBIJ LR LR 16 07 02.2
comp=Z,376nm,19.1s,baz=160,slow=33
CBIJ **Chichi jima** **25.11 34** P **P** **15 58 16.2 -0.4**
LWLI **Liwa** **25.51 244** P **P** **15 58 22.8 +2.3**
comp=Z,152nm,0.9s,comp=Z,2µm
IPM **Ipoh** **25.83 267** *eP* **P** **15 58 21.8 -1.5**
comp=Z,29nm,0.8s
IPM **Ipoh** **25.83 267** P **P** **15 58 23.0 -0.4**
IPM **Ipoh** **25.83 267** P **P** **15 58 23.3 0.0**
comp=Z,41nm,1.2s
KULM **Kulim** **26.14 269** P **P** **15 58 25.8 -0.3**
KSI **Kapahiang** **26.28 248** P **P** **15 58 28.5 +1.1**
comp=Z,103nm,1.1s,comp=Z,2µm
NJ2 **Nanjing** **26.51 345** *eP* **P** **15 58 30.9 +1.8**
NJ2 pP **pP** **15 58 55.0 +1.9**
NJ2 sP **sP** **15 59 08.6 +2.7**
NJ2 PP PP 15 59 19.6 -12
NJ2 S **S** **16 02 53.0 -2.3**
NJ2 sS **sS** **16 03 33.0 -4.4**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,130nm,5.4s
NJ2 LR LR
comp=N,290nm,20.4s
NJ2 LR LR
comp=E,150nm,20.0s
NJ2 LR LR
comp=Z,90nm,24.1s
WRAB **Tennant Creek** **27.27 165** *eP* **P** **15 58 35.0 -1.1**
WRAB pmax pmax
comp=Z,21nm,0.8s
WRAB **Tennant Creek** **27.27 165** *eP* **P** **15 58 35.0 -1.1**
comp=Z,21nm,0.8s
WRAB **Tennant Creek** **27.27 165** P **P** **15 58 35.0 -1.1**
comp=Z,66nm,0.6s,SNR=10
WRA **Warramunga Arr** **27.28 165** P **P** **15 58 34.7 -1.5**
comp=Z,4.6nm,0.5s,baz=347,slow=10.0,SNR=34
WRA S **S** **16 03 03.1 -4.6**
comp=Z,3.7nm,0.9s,baz=341,slow=15,SNR=3.8
WRA ScP **ScP** **16 05 25.1 +1.1**
comp=Z,12nm,0.9s,baz=342,slow=3.4,SNR=21
WRA **Warramunga Arr** **27.28 165** P **P** **15 58 34.7 -1.5**
WRA S **S** **16 03 03.1 -4.6**
WRA **Warramunga Arr** **27.28 165** P **P** **15 58 34.7 -1.5**
WRA S **S** **16 03 03.1 -4.6**
WRA ScP **ScP** **16 05 25.1 +1.1**
WB2 **Warramunga Arr** **27.28 165** *eP* **P** **15 58 34.8 -1.4**
PPI **Padang Panjang** **27.34 256** P **P** **15 58 35.5 -1.3**
comp=Z,40nm,1.2s,comp=Z,689nm
GYA **Guiyang** **27.67 318** ⇓*iP* **P** **15 58 41.0 +1.2**
GYA pP **pP** **15 59 04.8 +0.9**
GYA sP **sP** **15 59 18.4 +1.7**
GYA PP PP 15 59 35.2 -9.2
GYA PcP **PcP** **16 01 54.5 +0.1**
GYA S **S** **16 03 13.4 -0.7**
GYA sS **sS** **16 03 55.8 -0.4**
GYA ScP **ScP** **16 05 24.2 -1.1**
GYA PcS **PcS** **16 05 35.6 -1.1**
GYA ScS **ScS** **16 09 15.0 -2.6**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,150nm,4.6s

PSI **Prapat** **28.12 264** P **P** **15 58 43.3 -0.6**
comp=Z,20nm,1.1s
MBWA **Marble Bar** **28.38 194** *eP* **P** **15 58 44.9 -1.0**
comp=Z,29nm,0.8s
ENH **Enshi** **28.76 327** *eP* **P** **15 58 49.1 -0.2**
comp=Z,72nm,1.2s
SISI **Saibi** **28.83 255** P **P** **15 58 48.6 -1.5**
comp=Z,120nm,0.7s,comp=Z,6µm
KMI **Kunming** **29.62 311** P **P** **15 58 58.0 +0.8**
KMI pP **pP** **15 59 21.4 -0.1**
KMI sP **sP** **15 59 33.5 -0.7**
KMI PP PP 15 59 59.6 -6.6
KMI S **S** **16 03 45.6 +0.7**
KMI sS **sS** **16 04 27.9 +0.7**
KMI pmax pmax
comp=Z,25nm,0.9s
KMI pmax pmax
comp=Z,92nm,3.6s
KMI LR LR
comp=N,240nm,18.4s
KMI LR LR
comp=E,260nm,19.1s
KMI LR LR
comp=Z,310nm,27.6s
CM31 **Chiang Mai Arr** **29.72 296** *eP* **P** **15 58 57.3 -0.6**
comp=Z,14nm,1.0s
CMAR **Chiang Mai Arr** **29.72 296** P **P** **15 58 58.5 +0.7**
comp=Z,5.2nm,0.7s,baz=117,slow=7.1,SNR=41
CMAR PcP **PcP** **16 02 00.5 +0.9**
comp=Z,2.5nm,0.7s,baz=135,slow=1.0,SNR=8.1
CMAR ScP **ScP** **16 05 33.7 +2.0**
comp=Z,6.2nm,1.0s,baz=112,slow=1.5,SNR=22
CMAR LR LR 16 12 18.4
comp=Z,260nm,18.2s,baz=112,slow=39
CMAR **Chiang Mai Arr** **29.72 296** P **P** **15 58 58.6 +0.7**
CMAR 16 02 00.5
CMAR 16 05 33.7
CMAR **Chiang Mai Arr** **29.72 296** P **P** **15 58 58.5 +0.7**
CMAR PcP **PcP** **16 02 00.5 +0.9**
CMAR ScP **ScP** **16 05 33.7 +2.0**
CHTO **Chiang Mai** **29.84 297** *eP* **P** **15 58 58.9 -0.1**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO **Chiang Mai** **29.84 297** *eP* **P** **15 58 58.9 -0.1**
comp=Z,12nm,0.9s
CHTO **Chiang Mai** **29.84 297** P **P** **15 58 59.8 +0.8**
comp=Z,18nm,1.3s
AS31 **Alice Springs** **30.75 167** *eP* **P** **15 59 05.3 -1.6**
ASAR **Alice Springs** **30.75 167** P **P** **15 59 05.8 -1.2**
comp=Z,3.4nm,0.4s,baz=345,slow=7.3,SNR=80
ASAR PcP **PcP** **16 02 02.2 0.0**
comp=Z,3.2nm,0.6s,baz=353,slow=2.4,SNR=5.2
ASAR S **S** **16 03 59.3 -3.0**
comp=Z,2.5nm,0.8s,baz=353,slow=20,SNR=5.7
ASAR ScP **ScP** **16 05 36.0 +1.0**
comp=Z,7.2nm,0.8s,baz=349,slow=2.9,SNR=18
ASAR **Alice Springs** **30.75 167** P **P** **15 59 05.8 -1.2**
ASAR 16 02 02.2
ASAR S **S** **16 03 59.3 -3.0**
ASAR **Alice Springs** **30.75 167** P **P** **15 59 05.8 -1.2**
ASAR PcP **PcP** **16 02 02.2 0.0**
ASAR S **S** **16 03 59.3 -3.0**
ASAR ScP **ScP** **16 05 36.0 +1.0**
KSAR **Wonju Array Be** **30.81 2** P **P** **15 59 07.2 -0.1**
KSAR **Wonju Array Be** **30.81 2** P **P** **15 59 07.2 -0.1**
KSAR ScP **ScP** **16 05 37.2 +2.4**
KSRS **Korea Array** **30.82 2** P **P** **15 59 07.2 -0.2**
comp=Z,2.6nm,0.6s,baz=183,slow=9.8,SNR=11
KSRS ScP **ScP** **16 05 37.2 +2.4**
comp=Z,7.7nm,1.0s,baz=182,slow=3.4,SNR=9.6
KSRS LR LR 16 12 11.0
comp=Z,121nm,18.3s,baz=80,slow=37
MAT **Matsushiro** **31.64 18** P **P** **15 59 15.4 +0.8**
MJAR **Matsushiro Arr** **31.64 18** P **P** **15 59 13.7 -0.9**
comp=Z,1.8nm,0.7s,baz=284,slow=30,SNR=11
MJAR ScP **ScP** **16 05 39.8 +2.1**
comp=Z,4.8nm,0.8s,baz=195,slow=4.9,SNR=10
MJAR LR LR 16 10 03.9
comp=Z,97nm,19.4s,baz=200,slow=32
MJAR **Matsushiro Arr** **31.64 18** P **P** **15 59 13.7 -0.9**
MJAR **Matsushiro Arr** **31.64 18** P **P** **15 59 13.7 -0.9**
MJAR ScP **ScP** **16 05 39.8 +2.1**
XAN **Xi'an** **32.06 331** P **P** **15 59 17.8 -0.6**
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,40nm,6.0s
CD2 **Chengdu** **32.56 321** P **P** **15 59 23.0 +0.2**
CD2 pP **pP** **15 59 46.7 -0.5**
CD2 sP **sP** **15 59 59.3 -0.6**
CD2 PP PP 16 00 36.0 -2.6
CD2 S **S** **16 04 30.4 0.0**
CD2 sS **sS** **16 05 11.8 -1.1**
CD2 SS **SnSn** **16 06 35.1 -1.7**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,190nm,5.4s
CD2 LR LR
comp=N,500nm,5.4s
CD2 LR LR
comp=Z,380nm,10.1s
CTA **Charters Tower** **32.57 145** P **P** **15 59 22.3 -0.6**
comp=Z,9.4nm,0.9s
CTA LR LR 16 13 44.4
comp=Z,177nm,19.0s,baz=41,slow=38
CTA **Charters Tower** **32.57 145** *eP* **P** **15 59 22.6 -0.3**
comp=Z,8.5nm,0.9s
CTA **Charters Tower** **32.57 145** P **P** **15 59 22.3 -0.6**
CTA **Charters Tower** **32.57 145** P **P** **15 59 22.3 -0.6**
BJI **Beijing** **34.76 345** P **P** **15 59 41.0 -0.6**
BJI pP **pP** **16 00 05.2 -1.0**
BJI sP **sP** **16 00 16.4 -2.4**
BJI PP PP 16 01 04.3 +1.7
BJI S **S** **16 05 06.9 +3.0**
BJI sS **ScP** **16 05 47.8 -0.6**
BJI pmax pmax
comp=Z,20nm,1.0s
LZH **Lanzhou** **36.24 328** ⇑P **P** **15 59 55.2 +0.6**
LZH pP **pP** **16 00 15.3 -4.0**
LZH sP **sP** **16 00 33.2 +1.3**
LZH PP PP 16 01 22.5 +3.2
LZH PcP **PcP** **16 02 17.5 -0.2**
LZH S **S** **16 05 27.0 -0.2**
LZH ScP **ScP** **16 05 52.0 -2.2**
LZH sS **sS** **16 06 11.3 +1.3**
LZH pmax pmax
comp=Z,64nm,1.2s
LZH pmax pmax
comp=Z,310nm,6.4s
LZH LR LR
comp=N,420nm,14.3s
LZH LR LR
comp=E,370nm,12.5s
LZH LR LR
comp=Z,370nm,17.0s
HNR **Honiara** **36.53 115** LR LR 16 14 03.6
comp=Z,196nm,19.0s,baz=24,slow=35
VLA **Vladivostok** **36.73 6** *eP* **P** **15 59 58.1 -0.4**
HHC **Hu-ho-hao-te** **36.85 340** *eP* **P** **16 00 00.0 +0.4**
HHC pP **pP** **16 00 25.2 +0.8**
HHC sP **sP** **16 00 38.5 +1.5**
HHC PP PP 16 01 30.1 +4.3
HHC S **S** **16 05 37.8 +1.7**
HHC sS **sS** **16 06 21.9 +2.8**
HHC SS SS 16 08 15.2 -6.4
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.0s
FORT **Forrest** **37.09 178** *eP* **P** **16 00 00.9 -0.7**
comp=Z,29nm,0.6s
CN2 **Changchun** **37.17 358** *eP* **P** **16 00 04.7 +2.5**
CN2 *ep*P **pP** **16 00 28.0 +1.0**
CN2 *eS* **S** **16 05 44.1 +3.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
USRK **Ussuriysk Arra** **37.81 6** P **P** **16 00 08.0 +0.4**
comp=Z,5.0nm,0.6s,baz=176,slow=8.6,SNR=19
USRK LR LR 16 16 35.3
comp=Z,62nm,18.5s,baz=344,slow=37
MDJ **Mudanjiang** **38.04 3** P **P** **16 00 09.3 -0.2**
MDJ pP **pP** **16 00 33.9 -0.4**
MDJ PP PP 16 01 39.7 +1.1
MDJ PcP **PcP** **16 02 24.1 +1.4**

MDJ S **S** **16 05 56.0 +2.2**
MDJ pmax pmax
comp=Z,280nm,4.2s
MDJ LR LR
comp=N,170nm,33.4s
MDJ LR LR
comp=Z,220nm,32.0s
SHL **Shillong** **38.44 304** ⇑*iP* **P** **16 00 16.0 +2.6**
SHL *e*PcP **PcP** **16 02 29.0 +4.4**
SHL *i* S **S** **16 06 05.0 +4.2**
KLBR **Kellerberrin** **38.87 192** ⇑*iP* **P** **16 00 16.1 -0.5**
comp=Z,75nm,1.0s
ASAJ **Asahikawa** **39.91 18** LR LR 16 16 51.8
comp=Z,178nm,18.3s,baz=189,slow=36
BBOO **Buckleboo** **40.05 168** *eP* **P** **16 00 25.7 -0.7**
comp=Z,347nm,0.8s
NWAO **Narrogin (SRO)** **40.27 193** P **P** **16 00 28.2 0.0**
comp=Z,90nm,0.9s,baz=19,slow=11
NWAO **Narrogin (SRO)** **40.27 193** *eP* **P** **16 00 28.1 -0.1**
NWAO pmax pmax
comp=Z,71nm,0.9s
NWAO **Narrogin (SRO)** **40.27 193** *eP* **P** **16 00 28.1 -0.1**
comp=Z,70nm,0.9s
STKA **Stephens Creek** **40.66 161** P **P** **16 00 30.4 -1.0**
comp=Z,11nm,0.6s,baz=336,slow=7.5,SNR=64
STKA LR LR 16 17 53.3
comp=Z,167nm,21.6s,baz=236,slow=37
STKA **Stephens Creek** **40.66 161** *eP* **P** **16 00 30.6 -0.8**
comp=Z,6.0nm,0.3s
STKA **Stephens Creek** **40.66 161** *eP* **P** **16 00 30.4 -1.0**
STKA pmax pmax
comp=Z,6.0nm,0.7s
STKA **Stephens Creek** **40.66 161** *eP* **P** **16 00 30.4 -1.0**
comp=Z,6.4nm,0.7s
LSA **Lhasa** **40.79 309** P **P** **16 00 33.0 -0.2**
LSA pmax pmax
comp=Z,30nm,1.2s
LSA **Lhasa** **40.79 309** *eP* **P** **16 00 32.7 -0.5**
LSA pmax pmax
comp=Z,69nm,1.4s
LSA **Lhasa** **40.79 309** *eP* **P** **16 00 32.7 -0.5**
comp=Z,69nm,1.4s
GTA **Gaotai** **40.84 327** ⇑P **P** **16 00 33.5 +0.4**
GTA pP **pP** **16 00 58.3 +0.1**
GTA sP **sP** **16 01 12.1 +1.4**
GTA PcP **PcP** **16 02 35.4 +3.5**
GTA S **S** **16 06 35.2 -1.1**
GTA sS **sS** **16 07 18.7 -1.0**
GTA ScS **ScS** **16 10 27.8 +0.8**
GTA pmax pmax
comp=Z,29nm,0.8s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=N,280nm,15.7s
GTA LR LR
comp=E,220nm,17.1s
GTA LR LR
comp=Z,230nm,18.0s
KLR **Kul'dur** **42.78 5** *eP* P 16 00 43.2 -5.3
ARMA **Armidale** **43.70 148** *eP* **P** **16 00 55.8 -0.4**
ARMA **Armidale** **43.70 148** *eP* **P** **16 00 55.9 -0.4**
comp=Z,11nm,0.7s
ULN **Ulaanbaatar** **44.56 341** *eP* **P** **16 01 02.9 -0.1**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN **Ulaanbaatar** **44.56 341** *eP* **P** **16 01 02.9 -0.1**
comp=Z,15nm,1.0s
ULN **Ulaanbaatar** **44.56 341** P **P** **16 01 03.0 -0.1**
comp=Z,14nm,1.2s
SONM **Songino Array** **44.75 340** P **P** **16 01 04.5 0.0**
comp=Z,2.9nm,0.8s,baz=157,slow=11,SNR=24
SONM ScP **ScP** **16 06 29.0 +1.7**
comp=Z,0.7nm,0.7s,baz=148,slow=5.3,SNR=5.3
SONM **Songino Array** **44.75 340** P **P** **16 01 04.5 0.0**
SONM **Songino Array** **44.75 340** P **P** **16 01 04.5 0.0**
SONM ScP **ScP** **16 06 29.0 +1.7**
CNB **Canberra Magne** **46.67 155** *eP* **P** **16 01 20.1 +0.5**
comp=Z,59nm,1.0s
TOO **Toolangi** **47.15 160** *eP* **P** **16 01 23.7 +0.4**
comp=Z,20nm,0.5s
ZAK **Zakamensk** **47.99 340** *eP* **P** **16 01 30.7 +1.0**
ZAK *e* 16 02 55.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s
DZM **Mont Dzumac** **48.03 127** *e*LR LR 16 15 11.1
comp=Z,582nm,35.0s
DZM **Mont Dzumac** **48.03 127** LR LR 16 17 38.2
comp=Z,272nm,21.1s,baz=306,slow=31
HYB **Hyderabad** **48.40 287** *i* P **P** **16 01 31.0 -2.3**
HYB *e*PcP **PcP** **16 02 59.0 +0.8**
HYB *e*S **S** **16 08 24.0 -2.0**
MOY **Mondy** **49.86 339** *eP* **P** **16 01 44.2 +0.2**
WMQ **Urumqi** **50.59 324** P **P** **16 01 50.5 +1.0**
WMQ pP **pP** **16 02 16.5 +0.9**
WMQ sP **sP** **16 02 29.5 +1.7**
WMQ pmax pmax
comp=Z,19nm,0.8s
WMQ pmax pmax
comp=Z,610nm,6.3s
WMQ LR LR
comp=N,380nm,29.4s
WMQ LR LR
comp=E,190nm,22.8s
WMQ LR LR
comp=Z,160nm,24.5s
DDI **Dehra Dun** **51.54 304** *ex* **P** **16 01 56.8 -0.1**
BOD **Bodaibo** **52.17 351** *eP* **P** **16 01 59.6 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.8s
PEA0B **Petropavlovsk-** **52.82 23** *eP* **P** **16 02 07.0 +1.1**
PETK **Petropavlovsk-** **52.82 23** P **P** **16 02 07.2 +1.3**
comp=Z,9.2nm,0.7s,baz=186,slow=2.5,SNR=22
PETK ScP **ScP** **16 07 02.9 +1.6**
comp=Z,3.7nm,0.7s,baz=197,slow=4.6,SNR=3.6
PETK LR LR 16 21 57.6
comp=Z,59nm,19.5s,baz=56,slow=33
PETK **Petropavlovsk-** **52.82 23** P **P** **16 02 07.2 +1.3**
PETK **Petropavlovsk-** **52.82 23** P **P** **16 02 07.2 +1.3**
PETK ScP **ScP** **16 07 02.9 +1.6**
POO **Poona** **52.97 288** ⇓*iP* **P** **16 02 06.0 -1.6**
comp=Z,50nm,1.0s
MK31 **Makanchi Array** **55.41 324** *eP* **P** **16 02 24.7 -0.2**
MK31 **Makanchi Array** **55.41 324** *eP* **P** **16 02 24.6 -0.2**
MKAR **Makanchi Array** **55.41 324** P **P** **16 02 24.9 +0.1**
comp=Z,13nm,0.6s,baz=124,slow=8.1,SNR=172
MKAR PcP **PcP** **16 03 24.3 +0.4**
comp=Z,6.2nm,0.7s,baz=117,slow=4.9,SNR=5.4
MKAR ScP **ScP** **16 07 13.7 +0.9**
comp=Z,2.1nm,0.6s,baz=105,slow=6.8,SNR=7.5
MKAR LR LR 16 30 00.4
comp=Z,128nm,19.2s,baz=353,slow=40
MKAR **Makanchi Array** **55.41 324** *ce*P **P** **16 02 25.0 +0.1**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR **Makanchi Array** **55.41 324** P **P** **16 02 24.9 +0.1**
MKAR PcP **PcP** **16 03 24.3 +0.4**
MKAR ScP **ScP** **16 07 13.7 +0.9**
YAK **Yakutsk** **55.45 2** *eP* **P** **16 02 23.7 -1.1**
YAK *e**PP **pP** **16 02 50.4 -0.8**
YAK *e* 16 03 25.6
YAK *eS* **S** **16 10 00.9 -0.1**
YAK *e*SSS 16 16 03.5
YAK pmax pmax
comp=Z,21nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,98nm,2.8s
YAK pmax pmax
comp=N,45nm,2.5s
YAK smax smax
comp=E,33nm,1.6s
YAK smax smax
comp=N,83nm,2.7s
YAK **Yakutsk** **55.45 2** *eP* **P** **16 02 24.3 -0.5**
comp=N,24nm,0.8s
KSH **Kashi** **56.24 314** ⇑*iP* **P** **16 02 32.4 +1.4**
KSH *eS* **S** **16 10 10.3 -2.3**
KSH pmax pmax
comp=Z,30nm,1.3s
KSH pmax pmax
comp=Z,390nm,6.5s
KSH LR LR
comp=N,510nm,6.1s
KSH LR LR

comp=E,450nm,6.4s
KSH LR LR
comp=Z,650nm,6.5s
KZA Kyzart 57.72 316 P **P** **16 02 42.2 +0.4**
SNR=14
KZA P **P** **16 02 42.2 +0.4**
SNR=14
TKM2 Tokmak 2 57.81 317 P **P** **16 02 42.8 +0.6**
SNR=12
TKM2 P **P** **16 02 42.8 +0.6**
SNR=12
TKM2 Tokmak 2 57.81 317 *i* P **P** **16 02 42.8 +0.6**
KBK Karagaybulak 58.15 317 P **P** **16 02 45.4 +0.9**
SNR=9.5
KBK P **P** **16 02 45.4 +0.9**
SNR=9.5
ZAA0 Zalesovo Array 58.22 332 *eP* **P** **16 02 43.0 -1.5**
ZALV Zalesovo Beam 58.22 332 P **P** **16 02 43.9 -0.6**
comp=Z,7.6nm,0.3s,baz=116,slow=6.8,SNR=45
ZALV Zalesovo Beam 58.22 332 P **P** **16 02 43.9 -0.6**
ZALV Zalesovo Beam 58.22 332 P **P** **16 02 43.9 -0.6**
CHMS Chumysh 58.42 317 P **P** **16 02 46.5 +0.4**
SNR=7.2
CHMS P **P** **16 02 46.5 +0.4**
SNR=7.2
AAK Ala-Archa 58.45 317 P **P** **16 02 47.2 +0.6**
SNR=6.0
AAK P **P** **16 02 47.2 +0.6**
SNR=6.0
AAK Ala-Archa 58.45 317⇑ *iP* **P** **16 02 47.0 +0.4**
AAK pmax pmax
comp=Z,37nm,1.7s
AAK Ala-Archa 58.45 317 P **P** **16 02 47.0 +0.4**
comp=Z,37nm,1.0s,SNR=6.1
USP Ospenovka 58.69 317 P **P** **16 02 48.1 0.0**
SNR=20
USP P **P** **16 02 48.1 0.0**
SNR=20
AML Almayashu 58.81 316 P **P** **16 02 49.9 +0.6**
SNR=21
AML P **P** **16 02 49.9 +0.6**
SNR=21
EKS2 Erkin-Say 58.95 316 P **P** **16 02 51.0 +0.9**
SNR=12
EKS2 P **P** **16 02 51.0 +0.9**
SNR=12
EKS2 Erkin-Say 58.95 316 *eP* **P** **16 02 50.5 +0.5**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 58.95 316 *eP* **P** **16 02 50.5 +0.5**
comp=Z,8.7nm,0.7s
SEY Seymchan 59.31 13⇑ *iP* **P** **16 02 53.0 +1.1**
NVS Novosibirsk 59.50 332 *eP* **P** **16 02 50.8 -2.5**
NVS *e* 16 03 24.1
NVS *eS* **S** **16 10 52.6 -1.7**
NVS pmax pmax
comp=Z,43nm,1.3s
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,21nm,1.2s
NVS smax smax
comp=N,24nm,1.8s
NVS smax smax
comp=E,30nm,1.8s
KURK Kurchatov 59.52 327 P **P** **16 02 53.2 -0.4**
KURK pmax pmax
comp=Z,64nm,1.3s
KURK Kurchatov 59.52 327 *eP* **P** **16 02 53.3 -0.4**
comp=Z,51nm,0.9s
KURK Kurchatov 59.52 327 P **P** **16 02 53.5 -0.1**
comp=Z,305nm,0.6s,SNR=34
KBL Kabul 60.01 306 *eP* **P** **16 02 56.7 -0.8**
KBL pmax pmax
comp=Z,29nm,0.7s
KBL Kabul 60.01 306 *eP* **P** **16 02 56.7 -0.8**
comp=Z,29nm,0.7s
KK31 Karatay Array 61.35 316 *i* P **P** **16 03 05.5 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 61.35 316 *eP* **P** **16 03 05.5 -0.7**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 61.35 316 *eP* **P** **16 03 05.5 -0.7**
comp=Z,8.5nm,0.6s
AFI Afiamalu 64.14 109 LR LR 16 27 01.9
comp=Z,186nm,19.8s,baz=328,slow=32
BVA0 Borovoye Array 65.11 326 *i* P **P** **16 03 30.6 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 65.19 326*c iP* **P** **16 03 31.2 -0.1**
BRVK pmax pmax
comp=Z,53nm,1.2s
BRVK Borovoye 65.19 326 *eP* **P** **16 03 30.9 -0.3**
comp=Z,34nm,0.9s
BRVK Borovoye 65.19 326 P **P** **16 03 31.0 -0.3**
comp=Z,239nm,0.9s,SNR=22
BILL Bilibino 66.85 15⇓ *iP* **P** **16 03 41.5 -0.2**
BILL *e**PP **PcP** **16 04 09.5 -0.1**
BILL *e* 16 06 06.5
BILL *eS* **S** **16 12 23.2 -2.2**
BILL pmax pmax
comp=Z,9.0nm,1.5s
BILL Bilibino 66.85 15 *eP* **P** **16 03 40.5 -1.2**
comp=Z,4.2nm,0.8s
IDAH Dahanechah 67.21 303 *eP* **P** **16 03 44.0 -1.0**
IMYA Miami 67.52 307 *eP* **P** **16 03 45.8 -1.0**
IKOO Kooshah 67.90 302 *eP* **P** **16 03 47.5 -1.8**
ISRO Mashad 68.02 306 *eP* **P** **16 03 50.2 +0.4**
ITEG Tejag 68.17 303 *eP* **P** **16 03 48.5 -2.4**
IPAY Payeh 68.41 307 *eP* **P** **16 03 52.3 -0.1**
IAKL Akhelmad 68.63 307 *eP* **P** **16 03 53.4 -0.4**
IEMG Emamgholi 68.82 308 *eP* **P** **16 03 55.4 +0.4**
IKRD Kardeh 68.84 307 *eP* P 16 03 48.9 -6.2
ABKT Ailbek 69.31 308 P **P** **16 03 58.6 +0.8**
comp=Z,240nm,0.9s,SNR=16
AB31 Akbulak array 70.14 320 P **P** **16 04 02.1 -0.4**
AB31 pmax pmax
comp=Z,21nm,0.8s
ABKAR Akbulak array 70.14 320 *eP* **P** **16 04 01.9 -0.6**
comp=Z,16nm,0.7s
SVE Sverdlovsk 71.71 328⇑ *iP* **P** **16 04 12.1 +0.3**
SVE pmax pmax
comp=Z,43nm,1.2s
GAMB Gambell 71.81 24 *eP* **P** **16 04 12.5 +0.2**
comp=Z,6.0nm,0.9s
IANJ Anjilo 72.40 305 *eP* **P** **16 04 15.7 -1.1**
ARU Arti 72.70 327*c iP* **P** **16 04 17.2 -0.6**
ARU 16 06 58.7
ARU S **S** **16 13 34.7 +0.4**
ARU SS **SS** **16 18 15.0 -0.8**
ARU pmax pmax
comp=Z,55nm,1.7s
ARU Arti 72.70 327 *eP* **P** **16 04 16.5 -1.3**
comp=Z,19nm,0.5s
ARU Arti 72.70 327 P **P** **16 04 17.5 -0.3**
comp=Z,265nm,0.5s,SNR=12
ISRV Sarvestan 72.72 299 *eP* **P** **16 04 16.6 -2.2**
IPAR Pars 72.80 299 *eP* **P** **16 04 18.5 -0.8**
ILAS Lasjerd 73.18 305 *eP* **P** **16 04 19.8 -1.5**
IFIR Firoozkooh 73.36 305 *eP* **P** **16 04 22.2 -0.2**
IZEF Zefreh 73.55 302 *eP* **P** **16 04 20.8 -2.8**
CASY Casey 73.57 187 *eP* **P** **16 04 22.8 +0.2**
CASY Casey 73.57 187 *eP* **P** **16 04 22.8 +0.2**
comp=Z,21nm,0.8s
IGAR Gharneh 73.77 302 *eP* **P** **16 04 23.5 -1.3**
IDMV Damavand 73.94 305 *eP* **P** **16 04 23.7 -2.2**
IKLH Kolahrood 74.20 303 *eP* **P** **16 04 26.3 -1.1**
SOKR Solikamsk 74.40 330⇓ *iP* **P** **16 04 27.7 +0.1**
SOKR pmax pmax
comp=Z,20nm,1.1s
IPIR Pirpir 74.75 302 *eP* **P** **16 04 28.6 -2.0**
IR3 Iran Long-Peri 74.76 305 *eP* **P** **16 04 29.7 -0.7**
IMHD Mahdasht 75.06 305 *eP* **P** **16 04 31.4 -0.7**
UMR Umm Al-Rimmam 77.43 299 *eP* **P** **16 04 44.3 -1.1**
UMR AMb AMb 16 04 45.8
comp=Z,90nm,1.1s
KBD Kabd 77.45 298 *eP* **P** **16 04 44.8 -0.8**
KBD AMb AMb 16 04 46.7
comp=Z,44nm,1.2s
MIB Mutribah 77.75 299 *eP* **P** **16 04 46.1 -1.2**
MIB AMb AMb 16 04 47.6
comp=Z,134nm,0.9s
NAY Al-Naaiem 77.84 298 *eP* **P** **16 04 46.1 -1.7**
NAY AMb AMb 16 04 48.0

comp=Z,50nm,1.0s
DGRG David-gareji 79.38 311 P **P** **16 04 58.0 +2.0**
KDAK Kodiak Island 79.47 33 P **P** **16 04 56.6 +0.5**
comp=Z,3.5nm,0.4s,baz=231,slow=5.8,SNR=10.0
KDAK LR LR 16 34 24.5
comp=Z,132nm,21.3s,baz=246,slow=31
KDAK Kodiak Island 79.47 33*ceP* **P** **16 04 56.9 +0.8**
KDAK Kodiak Island 79.47 33 P **P** **16 04 56.6 +0.5**
RAYN Ar Rayn 79.57 293 P **P** **16 04 56.0 -1.4**
comp=Z,287nm,0.8s,SNR=21
GNI Garni 79.86 310*c iP* **P** **16 04 59.7 +0.9**
GNI pmax pmax
comp=Z,70nm,1.6s
GNI Garni 79.86 310 *eP* **P** **16 04 59.3 +0.5**
comp=Z,18nm,0.8s
TBLG Delisi 79.86 311 P **P** **16 04 59.5 +0.9**
TBLG Delisi 79.86 311 P **P** **16 04 59.5 +0.9**
ZEI Tsey 80.49 312 *eP* **P** **16 05 01.7 -0.5**
ZEI pmax pmax
comp=Z,27nm,0.9s
HAKT HAKKARI 80.69 307 *i* P **P** **16 05 04.0 +0.6**
AKH Akhalkalaki 80.80 311 P **P** **16 05 05.2 +1.4**
ONI Oni 80.82 312 P **P** **16 05 04.6 +0.8**
SLKM Skilak Lake 80.87 30 *eP* **P** **16 05 03.9 +0.3**
SLKM Skilak Lake 80.87 30 *eP* **P** **16 05 03.9 +0.3**
TRF Thorofare Moun 81.00 27 *eP* **P** **16 05 04.0 -0.4**
comp=Z,53nm,1.7s
RC01 Rabbit Creek A 81.13 29 *eP* **P** **16 05 05.2 +0.2**
COLD Coldfoot 81.29 23 *eP* **P** **16 05 06.7 +1.0**
comp=Z,11nm,1.0s
KIV Kislovodsk 81.36 313 *eP* **P** **16 05 07.3 +0.6**
KIV pmax pmax
comp=Z,25nm,0.8s
KIV Kislovodsk 81.36 313 *eP* **P** **16 05 07.8 +1.1**
comp=Z,18nm,0.6s
MCK McKinley 81.62 27 *eP* **P** **16 05 07.1 -0.5**
MCK pmax pmax
comp=Z,14nm,0.7s
MCK McKinley 81.62 27 *eP* **P** **16 05 07.1 -0.5**
comp=Z,14nm,0.7s
DAGI Agillar 81.99 310 *i* P **P** **16 05 10.8 +0.7**
DDEM Demirkent 82.12 310 *i* P **P** **16 05 11.7 +0.9**
ABPO Ambohimpanom 82.41 250 *eP* **P** **16 05 12.5 -0.2**
ABPO pmax pmax
comp=Z,13nm,0.9s
ABPO Ambohimpanom 82.41 250 *eP* **P** **16 05 12.5 -0.2**
comp=Z,13nm,0.9s
ILAR Eielson Array 82.54 26 P **P** **16 05 11.9 -0.3**
comp=Z,2.3nm,0.7s,baz=241,slow=4.9,SNR=47
ILAR Eielson Array 82.54 26 P **P** **16 05 12.0 -0.3**
ILAR Eielson Array 82.54 26 P **P** **16 05 11.9 -0.3**
BNGL BINGOL 82.66 308 *i* P **P** **16 05 15.3 +1.6**
VSR Storozhevoye 83.56 321 *eP* **P** **16 05 17.4 -0.4**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.7s
BMRM Bremner River 83.63 29 P **P** **16 05 19.2 +1.1**
KELT Kelkit 84.06 310 *i* P **P** **16 05 21.9 +1.0**
MOS Moscow 84.27 325 *eP* **P** **16 05 19.5 -1.8**
MOS *eS* **S** **16 15 32.7 -4.9**
MOS pmax pmax
comp=Z,61nm,1.0s
KEMA Kemaliye 84.70 309 *i* P **P** **16 05 25.2 +1.2**
SUSE Susehri 84.86 310 *i* P **P** **16 05 24.6 -0.3**
OBN Obninsk 84.91 325⇑ *eP* **P** **16 05 24.0 -0.5**
OBN *e**PP **pP** **16 05 51.3 -1.6**
OBN *eS* S 16 15 37.7 -6.3
OBN pmax pmax
comp=Z,93nm,1.6s
OBN Obninsk 84.91 325 *eP* **P** **16 05 23.8 -0.7**
comp=Z,77nm,1.3s
EGAK Eagle 85.00 25 *eP* **P** **16 05 25.5 +0.7**
comp=Z,4.8nm,0.4s
ANN Anapa 85.09 314 *eP* **P** **16 05 24.1 -1.5**
ANN *e**PP **pP** **16 05 51.8 -2.2**
ANN pmax pmax
comp=Z,111nm,0.7s
APA Apatity 85.38 337⇑ *eP* P 16 05 30.2 +3.6
APA MLR MLR
comp=Z,3μm,18.0s
SCER sogukcermik 85.71 309 *i* P **P** **16 05 28.8 -0.2**
PPT2 Papeete2 85.81 108 *eS* S 16 15 46.0 -8.4
comp=Z,94nm,27.5s
PPT2 *e*LR LR 16 32 35.1
comp=Z,210nm,27.0s
VNDA Vanda 86.14 173 *eP* **P** **16 05 29.7 -0.4**
VNDA pmax pmax
comp=Z,10.0nm,1.1s
VNDA Vanda 86.14 173 *eP* **P** **16 05 29.7 -0.4**
comp=Z,9.7nm,1.1s
ANDN Andirin 86.52 307 *i* P P 16 05 27.1 -6.0
ASF Jabal al Asfar 86.59 302 P **P** **16 05 34.5 +1.0**
comp=Z,36nm,0.9s,baz=329,slow=3.2,SNR=36
ASF Jabal al Asfar 86.59 302 P **P** **16 05 34.5 +1.0**
ASF Jabal al Asfar 86.59 302 P **P** **16 05 34.5 +1.0**
TBI Tubuai 86.74 114 *eS* S 16 15 55.7 -7.4
comp=Z,86nm,32.0s
TBI *e*LR LR 16 33 04.9
comp=Z,203nm,33.2s
JOF Joensuu 86.81 333 *eP* **P** **16 05 33.4 -0.3**
JOF pmax pmax
comp=Z,16nm,0.6s
JOF Joensuu 86.81 333 *ep* **P** **16 05 33.4 -0.3**
comp=Z,16nm,0.6s
JOF Joensuu 86.81 333 *ep* **P** **16 05 33.4 -0.3**
comp=Z,16nm,0.6s
INK Inuvik 87.54 22 P **P** **16 05 37.0 -0.1**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 87.54 22 P **P** **16 05 37.0 -0.1**
comp=Z,5.3nm,0.9s
AVNT Avonos 87.57 309 *i* P **P** **16 05 38.1 0.0**
MMAI Mount Meron Ar 87.75 303 P **P** **16 05 40.1 +1.0**
comp=Z,4.8nm,0.4s,baz=74,slow=6.2,SNR=14
MMAI Mount Meron Ar 87.75 303 P **P** **16 05 40.1 +1.0**
CDAG Cicekdag 87.85 309 *i* P **P** **16 05 38.3 -1.1**
ARCES ARCESS Array B 87.92 340 P **P** **16 05 38.1 -0.8**
comp=Z,6.3nm,0.8s,baz=77,slow=5.0,SNR=9.6
ARCES ARCESS Array B 87.92 340 P **P** **16 05 38.2 -0.8**
ARCES ARCESS Array B 87.92 340 P **P** **16 05 38.1 -0.8**
BR131 Keskin Array S 88.40 310 *eP* **P** **16 05 40.4 -1.6**
comp=Z,7.6nm,0.8s
BRTR Keskin Array B 88.40 310 P **P** **16 05 41.4 -0.7**
comp=Z,7.4nm,0.8s,baz=109,slow=4.6,SNR=31
BRTR LR LR 16 49 44.1
comp=Z,82nm,18.4s,baz=219,slow=38
BRTR Keskin Array B 88.40 310*ceP* **P** **16 05 41.4 -0.7**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 88.40 310 P **P** **16 05 41.4 -0.7**
EIL Elat 88.51 300 P **P** **16 05 42.3 -0.3**
comp=Z,20nm,1.0s,baz=322,slow=0.7,SNR=13
EIL Elat 88.51 300 P **P** **16 05 42.3 -0.3**
KAF Kangasniemi 89.23 332 *eP* **P** **16 05 44.7 -0.6**
KAF Kangasniemi 89.23 332 *ep* **P** **16 05 44.7 -0.6**
KAF Kangasniemi 89.23 332 *ep* **P** **16 05 44.7 -0.6**
CSS Prodhromos 89.23 305 *eP* **P** **16 05 45.2 -0.7**
comp=Z,26nm,0.9s
FINES FINESS Array B 89.48 332 P **P** **16 05 45.9 -0.5**
comp=Z,7.8nm,0.7s,baz=62,slow=6.5,SNR=17
FINES FINESS Array B 89.48 332 P **P** **16 05 45.9 -0.5**
FINES FINESS Array B 89.48 332 P **P** **16 05 45.9 -0.5**
KMBO Kilima Mbogo 89.78 269 *eP* **P** **16 05 48.8 -0.3**
KMBO pmax pmax
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 89.78 269 *eP* **P** **16 05 48.8 -0.3**
comp=Z,11nm,1.2s
AKASG Malin Array Be 89.86 321 P **P** **16 05 47.6 -0.8**
comp=Z,8.1nm,0.8s,baz=71,slow=4.6,SNR=24
AKASG Malin Array Be 89.86 321 P **P** **16 05 47.7 -0.8**
AKASG Malin Array Be 89.86 321 P **P** **16 05 47.6 -0.8**
KIEV Kiev 89.87 321⇑ *iP* **P** **16 05 47.3 -1.2**
KIEV Kiev 89.87 321 *eP* **P** **16 05 47.0 -1.5**
comp=Z,18nm,1.2s
TLCR 91.11 316⇑ *iP* **P** **16 05 54.1 -0.2**
TLCR 91.11 316⇑ *iP* **P** **16 05 54.1 -0.2**
TIRR Tirgusor 91.52 315⇓ *eP* **P** **16 05 55.9 -0.4**
TIRR Tirgusor 91.52 315⇓ *iP* **P** **16 05 55.8 -0.5**
TESR 92.34 317⇓ *iP* **P** **16 06 00.6 +0.5**
VRI Vrincioaia 92.42 316⇓ **P** **P** **16 06 01.0 +0.5**
VRI Vrincioaia 92.42 316⇓ *iP* **P** **16 06 01.0 +0.5**
PLOR Plostina 92.47 316⇓ *iP* **P** **16 06 01.0 +0.2**

PLOR Plostina 92.47 316⇓ *iP* **P** **16 06 01.0 +0.2**
MLR Muntele Rosu 93.03 316 P **P** **16 06 02.7 -0.8**
comp=Z,2.5nm,1.0s,baz=69,slow=4,3,SNR=10
MLR Muntele Rosu 93.03 316⇑ P **P** **16 06 03.7 +0.2**
MLR Muntele Rosu 93.03 316 P **P** **16 06 02.7 -0.8**
MLR Muntele Rosu 93.03 316⇑ *iP* **P** **16 06 03.7 +0.2**
BURAR Bucovina Array 93.06 318⇑ *iP* **P** **16 06 03.6 +0.1**
HUMR Humele 93.91 315⇓ *iP* **P** **16 06 07.0 -0.3**
KWP Kalwaria Pacla 94.18 321⇑ P **P** **16 06 09.0 +0.5**
KWP Kalwaria Pacla 94.18 321⇑ *iP* **P** **16 06 09.0 +0.5**
TRPA Tarpa 94.68 319⇑ *iP* **P** **16 06 10.5 -0.3**
DRGR 94.91 318⇓ P **P** **16 06 11.8 -0.2**
DRGR 94.91 318⇓ *iP* **P** **16 06 11.8 -0.2**
SYO Syowa Base 95.06 201⇑ *eX* pP 16 06 34.6 -6.0
STHS Stebnicka Huta 95.16 321 *eP* **P** **16 06 13.7 +0.7**
STHS pmax pmax
comp=Z,5.0nm,1.3s
STHS Stebnicka Huta 95.16 321 *eP* **P** **16 06 13.7 +0.7**
CRVS Cervenica-Dubn 95.17 320 *eP* **P** **16 06 13.2 +0.2**
CRVS pmax pmax
comp=Z,48nm,1.9s
CRVS Cervenica-Dubn 95.17 320 *eP* **P** **16 06 13.2 +0.2**
GZR Gura Zlata 95.22 317⇓ P **P** **16 06 13.4 0.0**
GZR Gura Zlata 95.22 317⇓ *iP* **P** **16 06 13.4 0.0**
VTS Vitosha 95.61 314⇓ P **P** **16 06 15.0 -0.4**
VTS Vitosha 95.61 314⇓ *iP* **P** **16 06 15.0 -0.4**
KECS Kecovo 95.90 320 *eP* **P** **16 06 16.2 -0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 95.90 320 *eP* **P** **16 06 16.2 -0.2**
BZS Buzias 95.95 317⇑ P **P** **16 06 15.5 -1.1**
BZS Buzias 95.95 317⇑ *iP* **P** **16 06 15.5 -1.1**
QSPA South Pole Qui 96.39 180 *eP* **P** **16 06 17.9 -0.3**
comp=Z,9.1nm,1.0s
NB2 NORSAR Subarra 96.39 334 P **P** **16 06 17.1 -1.3**
comp=Z,9.2nm,1.2s,baz=68,slow=4.6
NOA NORSAR Array B 96.39 334 P **P** **16 06 17.0 -1.4**
comp=Z,2.9nm,0.9s,baz=65,slow=4.5,SNR=3.9
NOA NORSAR Array B 96.39 334 P **P** **16 06 17.0 -1.4**
NOA NORSAR Array B 96.39 334 P **P** **16 06 17.0 -1.4**
YKA Yellowknife Ar 96.92 24 P **P** **16 06 20.1 -0.5**
comp=Z,0.7nm,0.6s,baz=300,slow=4.6,SNR=9.8
YKA Yellowknife Ar 96.92 24 P **P** **16 06 20.1 -0.5**
YKA Yellowknife Ar 96.92 24 P **P** **16 06 20.1 -0.5**
MORC Moravsky Berou 97.35 322⇓ P Pdif 16 06 23.2 +0.2
MORC Moravsky Berou 97.35 322⇓ *iP* Pdif 16 06 23.2 +0.2
KSP Ksiaz 97.74 323 *eP* Pdif 16 06 24.8 +0.1
BRG Berggiesshubel 99.12 324 *eP* **Pdif** **16 06 31.2 +0.4**
comp=Z,27nm,1.6s
BRG Berggiesshubel 99.12 324 *eP* **Pdif** **16 06 31.2 +0.4**
BRG pmax pmax
comp=Z,27nm,1.6s
GERES GERESS Array B 100.03 322 P **Pdif** **16 06 34.2 -0.8**
comp=Z,1.3nm,0.9s,baz=59,slow=5.1,SNR=9.2
GERES GERESS Array B 100.03 322 P **Pdif** **16 06 34.2 -0.8**
GERES GERESS Array B 100.03 322 P **Pdif** **16 06 34.2 -0.8**
TXAR Lajitas Array 119.75 51 PKP **PKPdf** **16 11 39.6 -0.3**
comp=Z,0.3nm,0.7s,baz=203,slow=1.5,SNR=4.5
TXAR Lajitas Array 119.75 51 PKIKP **PKPdf** **16 11 39.7 -0.3**
TXAR Lajitas Array 119.75 51 PKP **PKPdf** **16 11 39.6 -0.3**
JCT Junction City 122.11 48 *e*PKIKP **PKPdf** **16 11 43.8 -0.6**
JCT Junction City 122.11 48 *e*PKPdf **PKPdf** **16 11 43.8 -0.6**
TORD Torodi Ar. Bea 122.18 290 PKP **PKPdf** **16 11 44.5 -0.3**
comp=Z,4.6nm,0.8s,baz=50,slow=1.8,SNR=20
TORD SKP 16 15 11.0
comp=Z,1.8nm,0.9s,baz=68,slow=1.9,SNR=4.3
TORD Torodi Ar. Bea 122.18 290 PKP **PKPdf** **16 11 44.5 -0.3**
TORD SKP 16 15 11.0
DBIC Dimbokro 130.12 284 PKP **PKPdf** **16 12 00.6 +0.6**
comp=Z,2.2nm,0.6s,baz=170,slow=3.1,SNR=6.5
DBIC SKPbc **SKPbc** **16 15 14.1 +0.8**
comp=Z,22nm,0.9s,baz=68,slow=5.4,SNR=19
DBIC Dimbokro 130.12 284 PKIKP **PKPdf** **16 12 00.6 +0.6**
DBIC Dimbokro 130.12 284 PKP **PKPdf** **16 12 00.6 +0.6**
DBIC SKPbc **SKPbc** **16 15 14.1 +0.8**
PLCA Paso Flores 142.51 158 PKhKP PKPpre 16 12 16.4
comp=Z,1.2nm,0.7s,baz=260,slow=6.1,SNR=4.3
PLCA Paso Flores 142.51 158 PKHKP PKPpre 16 12 16.4
PLCA Paso Flores 142.51 158 PKPpre PKPpre 16 12 16.4
TRQA Tornquist 147.57 167 *e*PKPbc **PKPbc** **16 12 33.7 -0.1**
LPAZ La Paz 162.36 125 PKP **PKPdf** **16 12 52.6 +0.2**
comp=Z,1.0nm,0.7s,baz=249,slow=5.3,SNR=3.4
LPAZ PKPab **PKPab** **16 13 41.4 +1.1**
comp=Z,3.1nm,0.9s,baz=189,slow=3.0,SNR=6.0
LPAZ La Paz 162.36 125 PKIKP **PKPdf** **16 12 52.6 +0.2**
LPAZ La Paz 162.36 125 PKP **PKPdf** **16 12 52.6 +0.2**
LPAZ PKPab **PKPab** **16 13 41.4 +1.1**

IDC ***11*** *15:54:02.9ₛ4.8,30.02N×68.37E,h0ᵏᵐ,mb3.8/2, mb1 3.6/3,mb1mx3.3/27,mbtmp3.6/3,Error ellipse: s-maj=139.2km s-min=31.0km az=137.0*
ISC 11 15:54:08.0±1.5,**30.3N**±0.2×**68.2E**±0.2,**h24**ᵏᵐ,**n15**, σ1§**67**/14,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda** 13nm,0.6s	**13.74**	**97**	*eP*	**P**		**15 57 28.9**	**-1.0**
DANN	**Dangsing** 33nm,0.7s	**13.75**	**94**	*eP*	**P**		**15 57 27.8**	**-2.3**
GKN	**Gorkha** 13nm,0.5s	**14.58**	**95**	*eP*	**P**		**15 57 38.0**	**-1.2**
DMN	**Daman** 11nm,0.8s	**15.07**	**96**	*eP*	**P**		**15 57 44.9**	**+0.1**
KKN	**Kakani** 14nm,0.5s	**15.18**	**95**	*eP*	**P**		**15 57 45.6**	**-0.3**
PKI	**Pulchoki**	**15.34**	**96**	*eP*	**P**		**15 57 48.1**	**+0.2**
GUN	**Gumba** 56nm,0.7s	**15.67**	**94**	*eP*	**P**		**15 57 51.9**	**+0.4**
JIRN	**Jiri** 18nm,0.5s	**15.99**	**95**	*eP*	**P**		**15 57 57.1**	**+1.9**
RAMN	**Ramite** 13nm,0.6s	**16.53**	**97**	*eP*	**P**		**15 58 03.6**	**+2.7**
ODAN	**Odare** 13nm,0.8s	**17.23**	**97**	*eP*	P		15 58 12.7	+4.0
TAPN	**Taplejung** 8.4nm,0.6s	**17.38**	**95**	*eP*	**P**		**15 58 13.8**	**+3.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=210,slow=9.5,SNR=7.1	**19.82**	**30**	P	**P**		**15 58 36.5**	**-0.3**
BVAR	**Borovoye Array** baz=177,slow=10	**22.82**	**3**	P	**P**		**15 59 09.4**	**+0.5**
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=224,slow=10.0,SNR=6.4	**26.58**	**22**	P	**P**		**15 59 43.8**	**-0.3**
TORD	**Torodi Ar. Bea** 0.7nm,0.8s,baz=68,slow=4.7,SNR=4.3	**63.26**	**270**	P	**P**		**16 04 34.9**	**-0.1**

NEIC ***11*** *15:56:25.7, 19.50N×66.14W, h97ᵏᵐ, MD3.5(RSPR), After RSPR.*
RSPR 11 15:56:25.7, 19.50N×66.14W, h97ᵏᵐ±10ᵏᵐ**, MD3.5/6, 8C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.25**	**168**⇑	*eP*		Pn	15 56 48.2	-0.6
CBYP	**Canovanas**	**1.25**	**168**	*eS*		Sn	15 57 05.9	-0.4
CBYP	**Canovanas**	**1.25**	**168**⇑	*eP*		Pn	15 56 48.2	-0.6
CBYP				*eS*		Sn	15 57 05.9	-0.4
AOPR	**Arecibo Observ**	**1.28**	**207**⇑	*eP*		Pn	15 56 48.5	-0.7
AOPR	**Arecibo Observ**	**1.28**	**207**⇑	*eP*		Pn	15 56 48.5	-0.7
HUMP	**Col San Antoni**	**1.37**	**168**⇓	*eP*		Pn	15 56 49.4	-0.9
HUMP	**Col San Antoni**	**1.37**	**168**	*eS*		Sn	15 57 08.3	-0.6
HUMP	**Col San Antoni**	**1.37**	**168**⇓	*eP*		Pn	15 56 49.4	-0.9
HUMP				*eS*		Sn	15 57 08.3	-0.6
SJG	**San Juan**	**1.38**	**180**⇑	*eP*		Pn	15 56 50.1	-0.2
SJG	**San Juan**	**1.38**	**180**⇑	*eP*		Pn	15 56 50.1	-0.2
CELP	**Cerrillos**	**1.47**	**196**⇓	*eP*		Pn	15 56 51.3	-0.2
CELP	**Cerrillos**	**1.47**	**196**⇓	*eP*		Pn	15 56 51.3	-0.2
MTP	**Monte Pirata**	**1.50**	**158**⇑	*eP*		Pn	15 56 51.1	-0.7
MTP	**Monte Pirata**	**1.50**	**158**	*eS*		Sn	15 57 11.5	-0.1
MTP	**Monte Pirata**	**1.50**	**158**⇑	*eP*		Pn	15 56 51.1	-0.7
MTP				*eS*		Sn	15 57 11.5	-0.1
OBIP	**Obispado Ponce**	**1.51**	**197**	*e*Pn		Pn	15 56 51.8	-0.1
LSP	**Las Mesas**	**1.59**	**214**	*e*Pn		Pn	15 56 52.8	-0.2
STVI	**Saint Thomas**	**1.60**	**135**	*eS*		Sn	15 57 13.7	-0.1

RSPR 11 16:04:16.2, 19.23N×65.99W, h108ᵏᵐ±9ᵏᵐ**, 6C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**1.13**	**188**⇑	*eP*		Pn	16 04 38.6	-0.1

SJG	San Juan	1.13 188	⇑eP	Pn	16 04 38.6	-0.1
AOPR	Arecibo Observ	1.14 219	eS	Sn	16 04 55.6	-0.3
AOPR	Arecibo Observ	1.14 219	eS	Sn	16 04 55.6	-0.3
MTP	Monte Pirata	1.20 160	⇑eP	Pn	16 04 38.9	-0.6
MTP	Monte Pirata	1.20 160	⇑eP	Pn	16 04 38.9	-0.6
MTP			eS	Sn	16 04 57.0	-0.2
CELP	Cerrillos	1.28 206	⇑eP	Pn	16 04 39.8	-0.6
CELP	Cerrillos	1.28 206	⇑eP	Pn	16 04 39.8	-0.6

IDC 11 16:42:26.7±1.4, 20°47N×120°24E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, Error ellipse: s-maj=146.4km s-min=21.4km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	29.51	341	P	P	16 48 34.1	+1.2
	0.3nm,0.7s,baz=146,slow=7.6,SNR=2.7						
MKAR	Makanchi Array	40.48	319	P	P	16 50 06.8	-0.5
	0.3nm,0.7s,baz=120,slow=8.3,SNR=3.9						
WRA	Warramunga Arr	42.47	160	P	P	16 50 24.0	+0.3
	0.6nm,0.8s,baz=344,slow=9.1,SNR=3.3						
ZALV	Zalesovo Beam	42.94	330	P	P	16 50 26.0	-1.2
	0.9nm,0.8s,baz=123,slow=8.2,SNR=4.2						
ASAR	Alice Springs	45.84	162	P	P	16 50 50.4	-0.4
	0.4nm,1.0s,baz=345,slow=6.9,SNR=3.7						

*IDC **11** 16:50:20.5±1.6, 36°.48N×3°.20E, h0km, mb3.2/3, mb1 3.4/6, mb1mx3.3/28, mbtmp3.3/6, ML3.7/3, Error ellipse: s-maj=28.1km s-min=24.3km az=10.0*
*CRAAG **11** 16:50:22.4, 36°.55N×3°.12E, Ml4.2*
*MDD **11** 16:50:25.7±0.7, 36°.67N×3°.20E, h12km±4km, mb4.3/20, Error ellipse: s-maj=6.6km s-min=4.7km az=152.0, PRXIMO*
*CSEM **11** 16:50:25.7±0.3, 36°.75N×3°.20E, h20km, ML4.2, Error ellipse: s-maj=6.1km s-min=3.9km az=145.0*
*LDG **11** 16:50:28.7±0.2, 36°.89N×2°.78E, h20km, Ml3.4/32, Error ellipse: s-maj=4.5km s-min=2.3km az=145.0*

ISC 11 16:50:24.7±0.7, 36°.66N±0°.05×3°.12E±0°.03, h18km±2km, n184, σ1°52/230, mb3.3/3, 2C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.16	335	P	Pg	16 50 29.4	+0.3
ABA	Alger-Bouzarea	0.16	335	P	Pg	16 50 29.4	+0.3
ABA	Alger-Bouzarea	0.16	335	P	Pg	16 50 29.4	+0.3
AKF	Akfadou	1.17	91	P	Pg	16 50 47.5	+0.2
AKF	Akfadou	1.17	91	P	Pg	16 50 47.5	+0.2
AKF	Akfadou	1.17	91	P	Pg	16 50 47.5	+0.2
EBNR	Beni Rached	1.33	254	P	Pg	16 50 49.8	-0.6
EBNR	Beni Rached	1.33	254	P	Pg	16 50 49.8	-0.6
ECHA	Ech Chlef	1.50	251	P	Pb	16 50 51.6	-0.3
ECHA	Ech Chlef	1.50	251	P	Pb	16 50 51.6	-0.3
ECHF	Ech Chlef	1.52	251	P	Pb	16 50 51.6	-0.7
ECHF	Ech Chlef	1.52	251	P	Pb	16 50 51.6	-0.7
EANR	'Ain N'Sour	1.78	247	P	Pn	16 50 54.0	-0.5
EANR	'Ain N'Sour	1.78	247	P	Pn	16 50 54.0	-0.5
EANR	'Ain N'Sour	1.78	247	P	Pn	16 50 54.0	-0.5
SET	Setif	1.90	103	P	Pg	16 51 01.0	-0.1
SET	Setif	1.90	103	P	Pg	16 51 01.0	-0.1
SET	Setif	1.90	103	P	Pg	16 51 01.0	-0.1
ETRT	Tiaret	1.94	230	P	Pn	16 50 55.9	-0.9
ETRT	Tiaret	1.94	230	P	Pn	16 50 55.9	-0.9
ETRT	Tiaret	1.94	230	P	Pn	16 50 55.9	-0.9
OKGL	Djebel Kef Gue	2.09	254	P	Pg	16 51 05.0	+0.2
OKGL	Djebel Kef Gue	2.09	254	P	Pg	16 51 05.0	+0.2
OKGL	Djebel Kef Gue	2.09	254	P	Pg	16 51 05.0	+0.2
OJGS	Djebel Guires	2.24	240	P	Pb	16 51 03.0	-1.6
OJGS	Djebel Guires	2.24	240	P	Pb	16 51 03.0	-1.6
OJGS	Djebel Guires	2.24	240	P	Pb	16 51 03.0	-1.6
OJBR	Djebel Berber	2.49	245	P	Pn	16 51 06.0	+1.7
OJBR	Djebel Berber	2.49	245	P	Pn	16 51 06.0	+1.7
OJBR	Djebel Berber	2.49	245	P	Pn	16 51 06.0	+1.7
CASM	Ain Smara	2.75	97	P	Pb	16 51 13.5	+0.2
CASM	Ain Smara	2.75	97	P	Pb	16 51 13.5	+0.2
CASM	Ain Smara	2.75	97	P	Pb	16 51 13.5	+0.2
EIBI	Ibiza	2.75	330	P	Pn	16 51 09.3	+1.5
	13nm,0.2s,SNR=11						
EIBI				S	Sn	16 51 41.1	+0.5
	15nm,0.2s,SNR=6.5						
EIBI	Ibiza	2.75	330	P	Pn	16 51 09.3	+1.5
	13nm,0.2s,SNR=11						
EIBI				S	Sn	16 51 41.1	+0.5
	15nm,0.2s,SNR=6.5						
CKFL	Kef-Lekhel	2.91	94	P	Pb	16 51 18.0	+1.9
CKFL	Kef-Lekhel	2.91	94	P	Pb	16 51 18.0	+1.9
CKFL	Kef-Lekhel	2.91	94	P	Pb	16 51 18.0	+1.9
CAEH	'Ain El Ouahch	3.00	87	P	Pb	16 51 18.8	+1.2
CAEH	'Ain El Ouahch	3.00	87	P	Pb	16 51 18.8	+1.2
CAEH	'Ain El Ouahch	3.00	87	P	Pb	16 51 18.8	+1.2
ETOS	Mallorca	3.11	356	P	Pn	16 51 13.9	+1.0
	5.6nm,0.1s,SNR=38						
ETOS				S	Sn	16 51 49.1	-0.5
	8.2nm,0.2s						
ETOS	Mallorca	3.11	356	P	Pn	16 51 13.9	+1.0
	5.6nm,0.1s,SNR=38						
ETOS				S	Sn	16 51 49.1	-0.5
	8.2nm,0.2s						
EBEN	Beniarda	3.35	309	P	Pn	16 51 17.2	+1.1
	1.3nm,0.1s,SNR=31						
EBEN				S	Sn	16 51 55.4	0.0
	2.9nm,0.2s						
EBEN	Beniarda	3.35	309	P	Pn	16 51 17.2	+1.1
	1.3nm,0.1s,SNR=31						
EBEN				S	Sn	16 51 55.4	0.0
	2.9nm,0.2s						
CMAH	Djebel Manchou	3.46	89	P	Pn	16 51 16.3	-1.4
CMAH	Djebel Manchou	3.46	89	P	Pn	16 51 16.3	-1.4
CMAH	Djebel Manchou	3.46	89	P	Pn	16 51 16.3	-1.4
EMUR	La Murta	3.67	290	P	Pn	16 51 21.1	+0.6
	1.8nm,0.2s,SNR=9.4						
EMUR				S	Sn	16 52 03.3	-0.1
	6.8nm,0.3s						
EMUR	La Murta	3.67	290	P	Pn	16 51 21.1	+0.6
	1.8nm,0.2s,SNR=9.4						
EMUR				S	Sn	16 52 03.3	-0.1
	6.8nm,0.3s						
ETOB	Tobarra	4.20	300	P	Pn	16 51 29.3	+1.5
	4.2nm,0.2s,SNR=71						
ETOB				S	Sn	16 52 16.2	-0.2
	1.0nm,0.2s,SNR=8.7						
ETOB	Tobarra	4.20	300	P	Pn	16 51 29.3	+1.5
	4.2nm,0.2s,SNR=71						
ETOB				S	Sn	16 52 16.2	-0.2
	1.0nm,0.2s,SNR=8.7						
ENIJ	Nijar	4.28	276	P	Pn	16 51 30.5	+1.6
	2.8nm,0.2s,SNR=7.9						
ENIJ				S	Sn	16 52 17.6	-0.9
	1.6nm,0.2s,SNR=7.9						
ENIJ	Nijar	4.28	276	P	Pn	16 51 30.5	+1.6
	2.8nm,0.2s,SNR=7.9						
ENIJ				S	Sn	16 52 17.6	-0.9
	1.6nm,0.2s,SNR=7.9						
ECHE	Chera	4.35	314	P	Pn	16 51 32.3	+2.4
	7.5nm,0.2s,SNR=18						
ECHE				S	Sn	16 52 17.9	-2.3
	1.8nm,0.1s						
ECHE	Chera	4.35	314	P	Pn	16 51 32.3	+2.4
	7.5nm,0.2s,SNR=18						
ECHE				S	Sn	16 52 17.9	-2.3
	1.8nm,0.1s						
EMOS	Mosqueruela	4.65	324	P	Pn	16 51 35.7	+1.6
	9.7nm,0.2s,SNR=101						
EMOS				S	Sn	16 52 26.7	-1.0
	15nm,0.4s,SNR=5.6						
EMOS	Mosqueruela	4.65	324	P	Pn	16 51 35.7	+1.6
	9.7nm,0.2s,SNR=101						
EMOS				S	Sn	16 52 26.7	-1.0
	15nm,0.4s,SNR=5.6						
EHUE	Huescar	4.70	286	P	Pn	16 51 36.9	+2.2
	2.3nm,0.3s,SNR=7.9						
EHUE				S	Sn	16 52 29.0	+0.2
	1.1nm,0.3s,SNR=7.9						
EHUE	Huescar	4.70	286	P	Pn	16 51 36.9	+2.2
	2.3nm,0.3s,SNR=7.9						
EHUE				S	Sn	16 52 29.0	+0.2
	1.1nm,0.3s,SNR=7.9						
ERTA	Horta de San J	4.81	334	P	Pn	16 51 38.0	+1.8
	1.1nm,0.1s,SNR=6.7						
ERTA				S	Sn	16 52 30.2	-1.3
	1.6nm,0.2s,SNR=5.5						
ERTA	Horta de San J	4.81	334	P	Pn	16 51 38.0	+1.8
	1.1nm,0.1s,SNR=6.7						
ERTA				S	Sn	16 52 30.2	-1.3
	1.6nm,0.2s,SNR=5.5						
EBER	Berja	4.83	275	P	Pn	16 51 37.8	+1.2
	1.0nm,0.2s,SNR=6.5						
EBER				S	Sn	16 52 29.9	-2.2
	0.8nm,0.3s,SNR=5.7						
EBER	Berja	4.83	275	P	Pn	16 51 37.8	+1.2
	1.0nm,0.2s,SNR=6.5						
EBER				S	Sn	16 52 29.9	-2.2
	0.8nm,0.3s,SNR=5.7						
EVIA	Vianos	4.88	296	P	Pn	16 51 38.6	+1.4
	2.7nm,0.2s,SNR=6.1						
EVIA				S	Sn	16 52 31.6	-1.6
	1.9nm,0.3s						
EVIA	Vianos	4.88	296	P	Pn	16 51 38.6	+1.4
	2.7nm,0.2s,SNR=6.1						
EVIA				S	Sn	16 52 31.6	-1.6
	1.9nm,0.3s						
EPOB	Poblet	4.95	342	P	Pn	16 51 39.4	+1.3
	0.3nm,0.1s,SNR=7.2						
EPOB				S	Sn	16 52 32.9	-2.0
	1.1nm,0.2s,SNR=6.8						
EPOB	Poblet	4.95	342	P	Pn	16 51 39.4	+1.3
	0.3nm,0.1s,SNR=7.2						
EPOB				S	Sn	16 52 32.9	-2.0
	1.1nm,0.2s,SNR=6.8						
EQES	Quesada	5.07	285	P	Pn	16 51 42.0	+2.2
	1.3nm,0.1s,SNR=42						
EQES				S	Sn	16 52 38.8	+0.9
	1.0nm,0.3s,SNR=5.8						
EQES	Quesada	5.07	285	P	Pn	16 51 42.0	+2.2
	1.3nm,0.1s,SNR=42						
EQES				S	Sn	16 52 38.8	+0.9
	1.0nm,0.3s,SNR=5.8						
KEST	Kesra	5.12	99	Pn	Pn	16 51 38.2	-2.3
	0.8nm,0.3s,baz=275,slow=14,SNR=20						
KEST				Sn	Sn	16 52 37.8	-1.5
	0.5nm,0.3s,baz=299,slow=19,SNR=2.6						
CFON	Fontmartina	5.12	354	P	Pn	16 51 41.4	+0.9
	5.0nm,0.2s,SNR=10						
CFON				S	Sn	16 52 36.7	-2.6
	4.9nm,0.2s,SNR=6.8						
CFON	Fontmartina	5.12	354	P	Pn	16 51 41.4	+0.9
	5.0nm,0.2s,SNR=10						
CFON				S	Sn	16 52 36.7	-2.6
	4.9nm,0.2s,SNR=6.8						
EQUE	Quentar	5.28	278	P	Pn	16 51 44.5	+1.8
	0.4nm,0.3s,SNR=7.7						
EQUE				S	Sn	16 52 41.4	-1.8
	0.9nm,0.3s,SNR=4.0						
EQUE	Quentar	5.28	278	P	Pn	16 51 44.5	+1.8
	0.4nm,0.3s,SNR=7.7						
EQUE				S	Sn	16 52 41.4	-1.8
	0.9nm,0.3s,SNR=4.0						
EGUA	Guajares	5.37	274	P	Pn	16 51 47.0	+3.1
	0.5nm,0.1s,SNR=7.9						
EGUA	Guajares	5.37	274	P	Pn	16 51 47.0	+3.1
	0.5nm,0.1s,SNR=7.9						
EMIR	Miracle	5.39	347	P	Pn	16 51 46.9	+2.7
	13nm,0.1s,SNR=39						
EMIR				S	Sn	16 52 45.2	-0.6
	3.0nm,0.2s,SNR=18						
EMIR	Miracle	5.39	347	P	Pn	16 51 46.9	+2.7
	13nm,0.1s,SNR=39						
EMIR				S	Sn	16 52 45.2	-0.6
	3.0nm,0.2s,SNR=18						
ERON	Agron	5.56	276	P	Pn	16 51 48.3	+1.7
	0.8nm,0.2s,SNR=7.9						
ERON				S	Sn	16 52 47.4	-2.8
	0.2nm,0.1s,SNR=7.9						
ERON	Agron	5.56	276	P	Pn	16 51 48.3	+1.7
	0.8nm,0.2s,SNR=7.9						
ESAC	San Caprasio	5.77	332	P	Pn	16 51 51.5	+2.1
	1.1nm,0.1s,SNR=5.6						
ESAC				S	Sn	16 52 52.4	-2.8
	5.0nm,0.2s,SNR=7.9						
ESAC	San Caprasio	5.77	332	P	Pn	16 51 51.5	+2.1
	1.1nm,0.1s,SNR=5.6						
ESAC				S	Sn	16 52 52.4	-2.8
	5.0nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.79	358	P	Pn	16 51 51.2	+1.6
	1.1nm,0.1s,SNR=14						
EJON				S	Sn	16 52 52.4	-3.1
	1.3nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.79	358	P	Pn	16 51 51.2	+1.6
	1.1nm,0.1s,SNR=14						
EJON				S	Sn	16 52 52.4	-3.1
	1.3nm,0.2s,SNR=7.9						
ETOR	Torete	5.80	317	P	Pn	16 51 53.0	+3.2
	1.4nm,0.2s,SNR=11						
ETOR				S	Sn	16 52 54.6	-1.2
	1.1nm,0.2s,SNR=10						
CLLI	Llivia	5.88	352	P	Pn	16 51 53.6	+2.7
	0.5nm,0.1s,SNR=5.9						
CLLI				S	Sn	16 52 56.4	-1.6
	0.6nm,0.2s,SNR=5.8						
CSOR	Sort	5.91	346	P	Pn	16 51 53.1	+1.7
	1.3nm,0.3s,SNR=9.4						
CSOR				S	Sn	16 52 57.1	-1.6
	0.5nm,0.2s,SNR=7.1						
CSOR	Sort	5.91	346	P	Pn	16 51 53.1	+1.7
	1.3nm,0.3s,SNR=9.4						
CSOR				S	Sn	16 52 57.1	-1.6
	0.5nm,0.2s,SNR=7.1						
EADA	Adamuz	6.31	286	P	Pn	16 51 57.0	+0.3
	0.9nm,0.2s,SNR=7.9						
EADA				S	Sn	16 53 07.0	-1.3
	0.2nm,0.2s,SNR=7.9						
EADA	Adamuz	6.31	286	P	Pn	16 51 57.0	+0.3
	0.9nm,0.2s,SNR=7.9						
EADA				S	Sn	16 53 07.0	-1.3
	0.2nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	6.34	300	Pn	Pn	16 51 58.3	+1.1
	1.8nm,0.3s,baz=114,slow=13,SNR=18						
ESDC				Sn	Sn	16 53 12.0	+2.8
	1.2nm,0.3s,baz=114,slow=24,SNR=4.3						
ESDC	Sonseca Array	6.34	300	P	Pn	16 51 58.3	+1.1
	0.9nm,0.3s,baz=114,slow=14,SNR=17						
ESDC				S	Sn	16 53 05.4	-3.8
	0.8nm,0.3s,baz=120,slow=17,SNR=6.1						
ESDC	Sonseca Array	6.34	300	P	Pn	16 51 58.3	+1.1
	0.9nm,0.3s,baz=114,slow=14,SNR=17						
EBIE	Bielsa	6.44	340	P	Pn	16 52 00.9	+2.1
	0.4nm,0.2s,SNR=7.3						
EBIE				S	Sn	16 53 08.5	-3.4
	0.5nm,0.3s,SNR=7.9						
EBIE	Bielsa	6.44	340	P	Pn	16 52 00.9	+2.1
	0.4nm,0.2s,SNR=7.3						
EBIE				S	Sn	16 53 08.5	-3.4
	0.5nm,0.3s,SNR=7.9						
MTLF	Montolieu	6.71	354	ePn	Pn	16 52 00.8	-1.5
MTLF				eSn	Sn	16 53 09.0	-9.2
	1.7nm,0.3s						
MTLF	Montolieu	6.71	354	P	Pn	16 52 00.8	-1.5
EPF	Esparros	6.71	342	ePn	Pn	16 52 00.3	-2.0
EPF				eSn	Sn	16 53 08.1	-10
	6.4nm,0.5s						
EPF	Esparros	6.71	342	ePn	Pn	16 52 00.3	-2.0
ETSF	Etsaut	6.84	337	ePn	Pn	16 52 01.6	-2.6
ETSF				eSn	Sn	16 53 10.6	-11
	3.2nm,0.4s						
ETSF	Etsaut	6.84	337	P	Pn	16 52 01.6	-2.6
GUD	Guadarrama	6.94	307	⇑P	Pn	16 52 07.6	+2.0
	3.6nm,0.2s,SNR=18						
GUD				S	Sn	16 53 22.9	-1.2
	1.4nm,0.3s						
GUD	Guadarrama	6.94	307	P	Pn	16 52 07.6	+2.0
	3.6nm,0.2s,SNR=18						
GUD				S	Sn	16 53 22.9	-1.2
	1.4nm,0.3s						
IEPA	Eparoz	6.98	332	P	Pn	16 52 08.6	+2.6
	0.5nm,0.2s,SNR=7.9						
IEPA				S	Sn	16 53 23.1	-1.9
	1.5nm,0.5s,SNR=7.9						
IELO	Elcoad	7.03	333	P	Pn	16 52 08.4	+1.7
	0.3nm,0.2s,SNR=7.9						
IELO				S	Sn	16 53 24.2	-1.9
	0.3nm,0.2s,SNR=7.9						
IELO	Elcoad	7.03	333	P	Pn	16 52 08.4	+1.7
	0.3nm,0.2s,SNR=7.9						
IELO				S	Sn	16 53 24.2	-1.9
	0.3nm,0.2s,SNR=7.9						
EORO	Oroz-Betelu	7.10	333	P	Pn	16 52 09.3	+1.7
	0.5nm,0.3s,SNR=6.9						
EORO	Oroz-Betelu	7.10	333	P	Pn	16 52 09.3	+1.7
	0.5nm,0.3s,SNR=6.9						
LMR	La Mourre	7.16	20	ePn	Pn	16 52 08.0	-0.4
LMR				eSn	Sn	16 53 23.3	-5.9
	9.3nm,0.2s						
LMR	La Mourre	7.16	20	P	Pn	16 52 08.0	-0.4
SJPF	Ste Jean	7.26	334	ePn	Pn	16 52 07.2	-2.6
SJPF				eSn	Sn	16 53 20.4	-11
	6.5nm,0.6s						
SJPF	Ste Jean	7.26	334	P	Pn	16 52 07.2	-2.6
PGF	Pioggiola	7.43	36	ePn	Pn	16 52 11.5	-0.7
PGF				eSn	Sn	16 53 30.4	-5.7
	14nm,0.3s						
PGF	Pioggiola	7.43	36	P	Pn	16 52 11.5	-0.7
LASF	Ste Croix	7.43	4	ePn	Pn	16 52 11.3	-0.9
LASF				eSn	Sn	16 53 27.9	-8.1
	7.7nm,0.3s						
LASF	Ste Croix	7.43	4	P	Pn	16 52 11.3	-0.9
EALK	Alkurruntz	7.45	333	P	Pn	16 52 15.0	+2.6
	SNR=7.9						
EALK				S	Sn	16 53 34.2	-2.2
	1.0nm,0.3s,SNR=7.9						
SMRF	Simiane la Rot	7.55	14	ePn	Pn	16 52 13.7	-0.1
SMRF				eSn	Sn	16 53 31.7	-7.1
	3.3nm,0.4s						
SMRF	Simiane la Rot	7.55	14	P	Pn	16 52 13.7	-0.1
EMIN	Mina Concepcio	7.89	281	P	Pn	16 52 19.0	+0.6
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	16 53 45.7	-1.5
	0.3nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	7.89	281	P	Pn	16 52 19.0	+0.6
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	16 53 45.7	-1.5
	0.3nm,0.3s,SNR=7.9						
SBF	Sospel	7.92	23	ePn	Pn	16 52 18.1	-0.8
SBF				eSn	Sn	16 53 41.7	-6.3
	14nm,0.5s						
SBF	Sospel	7.92	23	P	Pn	16 52 18.1	-0.8
EPLA	Plasencia	7.98	298	P	Pn	16 52 20.6	+0.8
	0.5nm,0.3s,SNR=7.9						
EPLA				S	Sn	16 53 47.5	-2.1
	SNR=7.9						
EPLA	Plasencia	7.98	298	P	Pn	16 52 20.6	+0.8
	0.5nm,0.3s,SNR=7.9						
EPLA				S	Sn	16 53 47.5	-2.1
	SNR=7.9						
ELAN	Lanestosa	8.27	325	P	Pn	16 52 26.2	+2.6
	0.5nm,0.3s,SNR=11						
VIVF	Saint-Julien-l	8.27	8	ePn	Pn	16 52 23.0	-0.7
VIVF				eSn	Sn	16 53 48.0	-8.7
	9.1nm,0.4s						
VIVF	Saint-Julien-l	8.27	8	P	Pn	16 52 23.0	-0.7
CAF	Calviac	8.30	355	ePn	Pn	16 52 22.3	-1.8
CAF				eSn	Sn	16 53 47.0	-10
	2.0nm,0.3s						
CAF	Calviac	8.30	355	ePn	Pn	16 52 22.3	-1.8
LFF	La Frestale	8.47	348	ePn	Pn	16 52 24.2	-2.1
LFF				eSn	Sn	16 53 50.5	-11
	24nm,0.9s						
LFF	La Frestale	8.47	348	P	Pn	16 52 24.2	-2.1
ORIF	Oris-en-Rattie	8.51	13	ePn	Pn	16 52 26.8	-0.3
ORIF				eSn	Sn	16 53 54.7	-8.0
	3.0nm,0.7s						
ORIF	Oris-en-Rattie	8.51	13	P	Pn	16 52 26.8	-0.3
MBDF	Montbardon	8.52	18	ePn	Pn	16 52 27.4	+0.1
MBDF				eSn	Sn	16 53 55.4	-7.6
	2.6nm,0.5s						
MBDF	Montbardon	8.52	18	P	Pn	16 52 27.4	+0.1
RJF	Les Rejaudoux	8.72	353	ePn	Pn	16 52 27.9	-1.9
RJF				eSn	Sn	16 53 57.0	-11
	0.5nm,0.2s						
RJF	Les Rejaudoux	8.72	353	P	Pn	16 52 27.9	-1.9
MVO	Moncorvo	9.10	303	P	Pn	16 52 37.4	+2.4
	2.7nm,0.2s,SNR=9.5						
MVO				S	Sn	16 54 14.2	-2.8
	0.2nm,0.2s,SNR=7.9						
MVO	Moncorvo	9.10	303	P	Pn	16 52 37.4	+2.4
	2.7nm,0.2s,SNR=9.5						
MVO				S	Sn	16 54 14.2	-2.8
	0.2nm,0.2s,SNR=7.9						
EARI	Arriondas	9.21	319	P	Pn	16 52 40.1	+3.6
	4.1nm,0.3s,SNR=25						
EARI				S	Sn	16 54 15.3	-4.4
	0.1nm,0.2s,SNR=7.9						
LPG	La Plagne	9.25	16	ePn	Pn	16 52 37.1	-0.2
LPG				eSn	Sn	16 54 12.8	-8.1
LPG	La Plagne	9.25	16	P	Pn	16 52 37.1	-0.2
LPL	La Plagne	9.26	16	ePn	Pn	16 52 37.5	+0.1
LPL				eSn	Sn	16 54 13.0	-8.2
	5.5nm,0.8s						
LPL	La Plagne	9.26	16	P	Pn	16 52 37.5	+0.1
ECAL	Calabor	9.28	308	⇑P	Pn	16 52 39.1	+1.6
	6.0nm,0.3s,SNR=18						
ECAL	Calabor	9.28	308	P	Pn	16 52 39.1	+1.6
	6.0nm,0.3s,SNR=18						
TCF	Toulx Ste Croi	9.65	356	ePn	Pn	16 52 40.7	-1.8
TCF				eSn	Sn	16 54 19.6	-11
	0.8nm,0.3s						
TCF	Toulx Ste Croi	9.65	356	P	Pn	16 52 40.7	-1.8
BGF	Bois d'Agland	9.89	359	ePn	Pn	16 52 44.4	-1.5
BGF				eSn	Sn	16 54 25.8	-11
	3.6nm,0.4s						
BGF	Bois d'Agland	9.89	359	P	Pn	16 52 44.4	-1.5
SMF	Signal de Mont	9.99	3	ePn	Pn	16 52 45.9	-1.4
SMF				eSn	Sn	16 54 28.6	-10
	1.3nm,0.3s						
SMF	Signal de Mont	9.99	3	P	Pn	16 52 45.9	-1.4
ELOB	Lobios	10.11	304	P	Pn	16 52 50.9	+2.0
	1.0nm,0.1s,SNR=6.0						
ELOB	Lobios	10.11	304	P	Pn	16 52 50.9	+2.0
	1.0nm,0.1s,SNR=6.0						
AVF	Avril sur Loir	10.13	1	ePn	Pn	16 52 47.7	-1.4
AVF				eSn	Sn	16 54 31.5	-11
	1.1nm,0.3s						
AVF	Avril sur Loir	10.13	1	P	Pn	16 52 47.7	-1.4
CABF	La Chapelle	10.19	12	ePn	Pn	16 52 49.4	-0.6
CABF				eSn	Sn	16 54 34.7	-9.1
	0.6nm,0.4s						
CABF

GUC 11 16:57:30.6±0.7, 32°46S×71°68W, h31km±2km, MD3.5, ML2.6, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
IHA	**Instituto Hidr**	**0.57**	**177**	↓*i*P		Pb	16 57 41.6	-0.6
IHA				*i* S		Sb	16 57 50.3	+0.1
CHNG	**Los Chungos**	**0.59**	**15**	↑*i*P		Pb	16 57 42.3	-0.3
CHNG				*i* S		Sb	16 57 50.8	+0.1
CHNG				AML		AML	16 57 51.5	
	comp=E,339nm,0.3s							
PTCH	**Petorca**	**0.66**	**73**	↓*i*P		Pn	16 57 43.9	0.0
PTCH				*i* S		Sb	16 57 53.0	+0.1
PTCH				AML		AML	16 57 57.5	
	comp=E,459nm,0.2s							
ROCH	**El Roble**	**0.76**	**133**	↓*i*P		Pn	16 57 44.9	-0.7
ROCH				*i* S		Sb	16 57 55.8	-0.3
ROCH				AML		AML	16 57 56.6	
	comp=E,323nm,0.6s							
PEL	**Peldehue**	**1.08**	**130**	↑*i*P		Pn	16 57 50.0	+0.3
PEL				*i* S		Sb	16 58 04.6	-0.2
PEL				AML		AML	16 58 05.7	
	comp=N,521nm,0.6s							
RCDM	**Rinconada Maip**	**1.27**	**145**	↑*i*P		Pn	16 57 51.9	-0.3
RCDM				*i* S		Sn	16 58 08.7	+0.5
RCDM				AML		AML	16 58 10.3	
	comp=E,332nm,0.1s							
CLCH	**Cerro Calan**	**1.34**	**135**	↑*i*P		Pn	16 57 54.1	+0.8
CLCH				*i* S		Sb	16 58 11.9	-0.3
CLCH				AML		AML	16 58 15.2	
	comp=E,195nm,0.3s							
CMCH	**Combarbala**	**1.40**	**24**	↑*i*P		Pn	16 57 54.7	+0.5
CMCH				*i* S		Sb	16 58 13.4	-0.5
CMCH				AML		AML	16 58 18.3	
	comp=N,416nm,0.9s							
ANTU	**Antumapu**	**1.42**	**142**	*e*S		Sb	16 58 13.9	-0.4
ANTU				AML		AML	16 58 17.7	
	comp=N,130nm,0.7s							
FCH	**Farellones**	**1.46**	**127**	↑*i*P		Pn	16 57 54.6	-0.6
FCH				*i* S		Sn	16 58 13.9	+0.4
FCH				AML		AML	16 58 17.7	
	comp=E,76nm,0.0s							
LNV	**Longovilo**	**1.51**	**171**	*e*P		Pn	16 57 56.4	+0.8
LNV				*i* S		Sb	16 58 15.9	-1.0
CHCH	**Chadas Angostu**	**1.71**	**150**	*e*P		Pb	16 57 59.9	-1.6
CHCH				*i* S		Sb	16 58 21.7	-0.9
LMEL	**Las Melosas**	**1.86**	**139**	↑*i*P		Pn	16 58 02.1	+1.6
LMEL				*i* S		Sb	16 58 25.9	-1.3
LMEL				AML		AML	16 58 30.4	
	comp=N,155nm,0.1s							
CACH	**El Canelo**	**1.89**	**152**	↑*i*P		Pb	16 58 03.1	-1.5

*IDC **11** 17:09:49.2±0.9, 58°47S×25°81W, h80km±6km, mb4.1/5, mb1 4.1/5, mb1mx3.9/12, mbtmp4.1/5, Error ellipse: s-maj=39.9km s-min=20.7km az=102.0*
*ISCJB **11** 17:09:50.9±1.3, 58°6S±0°1×25°5W±0°6, h107km, mb4.2/5, Error ellipse: s-maj=43.7km s-min=14.7km az=179.5*

ISC 11 17:09:50.4±0.8, 58°4S±0°1×25°6W±0°2, h107km, n16, σ2s97/15, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
VNA1	**Neumayer--Stat**	**14.29**	**156**	*e*P		**Pn**	**17 13 06.3**	**-1.0**
VNA2	**Neumayer--Watz**	**14.69**	**156**	*e*P		**Pn**	**17 13 11.3**	**-1.1**
	baz=312,slow=15							
QSPA	**South Pole Qui**	**31.84**	**180**	P		**P**	**17 16 05.8**	**+1.1**
	1.2nm,0.6s,baz=195,slow=3.2,SNR=14							
BOSA	**Boshof**	**45.81**	**72**	P		**P**	**17 18 03.5**	**+2.1**
	4.6nm,1.1s,baz=159,slow=18,SNR=3.6							
DBIC	**Dimbokro**	**67.00**	**23**	P		**P**	**17 20 33.4**	**+1.9**
	3.0nm,0.4s,baz=150,slow=6.0,SNR=7.4							
DBIC				pP		**pP**	**17 20 54.2**	**-3.9**
	2.2nm,0.6s,baz=148,slow=15,SNR=2.4							
TORD	**Torodi Ar. Bea**	**74.73**	**28**	P		P	17 21 21.6	+3.4
	3.8nm,0.6s,baz=199,slow=6.6,SNR=36							
TORD				pP		pP	17 21 41.5	-3.8
	1.9nm,0.4s,baz=199,slow=6.2,SNR=8.7							
ASAR	**Alice Springs**	**96.48**	**161**	P		**P**	**17 23 08.8**	**+1.2**
	0.5nm,0.7s,baz=185,slow=4.3,SNR=8.8							
CMAR	**Chiang Mai Arr**	**123.44**	**111**	PKP		**PKPdf**	**17 28 36.5**	**+1.8**
	1.0nm,0.8s,baz=227,slow=3.8,SNR=7.3							
FINES	**FINESS Array B**	**126.08**	**28**	PKP		**PKPdf**	**17 28 40.3**	**+1.9**
	2.8nm,0.9s,baz=29,slow=4.4,SNR=4.0							
MKAR	**Makanchi Array**	**136.81**	**73**	PKhKP		PKPpre	17 28 52.8	
	0.1nm,0.4s,baz=252,slow=1.4,SNR=3.2							
KURK	**Kurchatov**	**137.62**	**66**	PKhKP		PKPpre	17 28 53.9	
	0.1nm,0.5s,baz=238,slow=8.7,SNR=3.1							
YKA	**Yellowknife Ar**	**138.47**	**316**	PKP		**PKPdf**	**17 29 03.9**	**+2.3**
	1.3nm,0.6s,baz=128,slow=2.4,SNR=24							
YKA				pPKP		**pPKPdf**	**17 29 26.0**	**-4.8**
	0.7nm,0.7s,baz=138,slow=2.2,SNR=5.7							
ZALV	**Zalesovo Beam**	**142.61**	**66**	PKhKP		PKPpre	17 29 07.8	
	0.6nm,0.3s,baz=240,slow=3.5,SNR=5.9							
INK	**Inuvik**	**148.14**	**318**	PKPbc		**PKPab**	**17 29 22.9**	**-2.3**
	1.6nm,0.7s,baz=93,slow=1.7,SNR=4.2							
SONM	**Songino Array**	**149.97**	**89**	PKPbc		**PKPab**	**17 29 29.6**	**-3.8**
	2.7nm,0.6s,baz=221,slow=3.6,SNR=22							
SONM				pPKPbc		**pPKPbc**	**17 29 51.9**	**-4.3**
	0.5nm,0.6s,baz=209,slow=3.7,SNR=2.6							
ILAR	**Eielson Array**	**152.28**	**308**	PKPbc		**PKPbc**	**17 29 34.0**	**+2.1**
	0.5nm,0.3s,baz=141,slow=4.2,SNR=27							

IDC 11 17:10:55.8±1.2, 20°86N×144°74E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=50.0km s-min=20.2km az=85.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SONM	**Songino Array**	**40.90**	**320**	P		P	17 18 41.5	+1.5
	0.1nm,0.3s,baz=131,slow=7.5,SNR=4.1							
WRA	**Warramunga Arr**	**41.81**	**195**	P		P	17 18 47.3	-0.1
	0.7nm,0.3s,baz=14,slow=8.5,SNR=40							
ASAR	**Alice Springs**	**45.50**	**194**	P		P	17 19 17.3	+0.1
	0.3nm,0.3s,baz=14,slow=6.5,SNR=22							
ZALV	**Zalesovo Beam**	**55.76**	**322**	P		P	17 20 34.8	+0.5
	0.9nm,0.5s,baz=115,slow=7.8,SNR=6.6							
MKAR	**Makanchi Array**	**56.33**	**313**	P		P	17 20 38.0	-0.6
	0.5nm,0.5s,baz=85,slow=10,SNR=8.2							
YKA	**Yellowknife Ar**	**76.51**	**28**	P		P	17 22 48.2	+0.8
	0.3nm,0.5s,baz=287,slow=5.2,SNR=4.7							
FINES	**FINESS Array B**	**84.55**	**335**	P		P	17 23 28.9	-1.7
	1.5nm,0.4s,baz=61,slow=7.0,SNR=19							

*ISK **11** 17:16:58.8, 37°48N×34°79E, h14km, MD2.6*
*DDA **11** 17:16:59.5, 37°49N×34°88E, h7km, MD2.8*
*ISCJB **11** 17:17:00.7±0.6, 37°43N±0°04×34°89E±0°05, h13km, Error ellipse: s-maj=7.0km s-min=4.2km az=38.2*
*CSEM **11** 17:17:00.2±0.3, 37°47N×34°86E, h10km, MD2.8, Error ellipse: s-maj=9.3km s-min=6.5km az=127.0*

ISC 11 17:17:00.2±0.9, 37°49N±0°03×34°85E±0°04, h13km, n18, σ0s85/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GULE	**Gulek**	**0.21**	**197**	*i*P		**Pg**	**17 17 05.3**	**+0.4**
GULE				*i* S		**Sg**	**17 17 09.9**	**+1.7**
GULE	**Gulek**	**0.21**	**197**	*i*P		**Pg**	**17 17 05.3**	**+0.4**
GULE				*i* S		**Sg**	**17 17 09.9**	**+1.7**
MERS	**Mersin**	**0.67**	**203**	*e*PG		**Pg**	**17 17 11.8**	**-1.5**
MERS				*e*SG		**Sg**	**17 17 21.3**	**-0.8**
MERS	**Mersin**	**0.67**	**203**	*e*Pg		**Pg**	**17 17 11.8**	**-1.5**
MERS				*e*Sg		**Sg**	**17 17 21.3**	**-0.8**
KOZT	**Kozan**	**0.77**	**90**	*e*PG		**Pg**	**17 17 15.1**	**-0.1**
KOZT				*e*SG		**Sb**	**17 17 27.0**	**+1.1**
KOZT	**Kozan**	**0.77**	**90**	*e*Pg		**Pg**	**17 17 15.1**	**-0.1**
KOZT				*e*Sg		**Sb**	**17 17 27.0**	**+1.1**
CEYT	**Ceyhan**	**0.86**	**123**	*e*PG		**Pg**	**17 17 16.5**	**-0.3**
CEYT	**Ceyhan**	**0.86**	**123**	*e*Pg		**Pg**	**17 17 16.5**	**-0.3**
AVNT	**Avonos**	**1.29**	**0**	*i* P		**Pn**	**17 17 24.0**	**-0.1**
AVNT				*i* S		**Sg**	**17 17 42.8**	**+0.9**
AVNT	**Avonos**	**1.29**	**0**	*i* P		**Pn**	**17 17 24.0**	**-0.1**
AVNT				*i* S		**Sg**	**17 17 42.8**	**+0.9**
BNN	**Bunyan**	**1.57**	**30**	*e*PN		**Pn**	**17 17 27.5**	**-0.5**
BNN	**Bunyan**	**1.57**	**30**	*e*Pn		**Pn**	**17 17 27.5**	**-0.5**
KMRS	**Kahramanmaras**	**1.63**	**89**	*e*PN		**Pn**	**17 17 28.4**	**-0.2**
KMRS	**Kahramanmaras**	**1.63**	**89**	*e*Pn		**Pn**	**17 17 28.4**	**-0.2**
PINB	**Pinarbasi**	**1.71**	**45**	*i* P		**Pn**	**17 17 30.8**	**-0.8**
PINB				*i* S		**Sg**	**17 17 55.1**	**0.0**
PINB	**Pinarbasi**	**1.71**	**45**	*i* P		**Pb**	**17 17 30.8**	**-0.8**
PINB				*i* S		**Sg**	**17 17 55.1**	**0.0**
ERMK	**Ermenek**	**1.77**	**242**	*i* P		**Pb**	**17 17 32.6**	**0.0**
ERMK				*i* S		**Sg**	**17 17 58.1**	**+1.1**
ERMK	**Ermenek**	**1.77**	**242**	*i* P		**Pb**	**17 17 32.6**	**0.0**

IDC 11 17:38:09.2±1.6, 7°13S×130°21E, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=80.8km s-min=23.7km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
FITZ	**Fitzroy Crossi**	**11.78**	**202**	Pn		Pn	17 40 58.9	+0.2
	0.4nm,0.3s,baz=20,SNR=13							
FITZ				Sn		Sn	17 43 01.0	-10
	0.4nm,0.3s,baz=325,slow=16,SNR=6.7							
WRA	**Warramunga Arr**	**13.36**	**163**	Pn		Pn	17 41 19.8	-0.4
	0.2nm,0.3s,baz=338,slow=15,SNR=15							
WRA				Sn		Sn	17 43 39.1	-10
	0.6nm,0.3s,baz=347,slow=22,SNR=9.4							
ASAR	**Alice Springs**	**16.82**	**168**	Pn		Pn	17 42 06.4	0.0
	0.1nm,0.3s,baz=354,slow=14,SNR=14							
ASAR				Sn		Sn	17 45 03.1	-11
	0.2nm,0.3s,baz=349,slow=27,SNR=7.3							
STKA	**Stephens Creek**	**26.82**	**158**	P		P	17 43 51.4	0.0
	0.8nm,0.6s,baz=342,slow=9.6,SNR=3.1							
MKAR	**Makanchi Array**	**68.45**	**327**	P		P	17 49 13.2	0.0
	0.8nm,0.5s,baz=138,slow=5.4,SNR=19							

IDC 11 17:46:35.1±2.8, 0°06S×133°47E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=144.0km s-min=26.0km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**19.78**	**178**	P		P	17 51 07.2	+0.1
	0.1nm,0.3s,baz=357,slow=10,SNR=7.6							
ASAR	**Alice Springs**	**23.47**	**179**	P		P	17 51 46.5	0.0
	0.6nm,0.4s,baz=359,slow=11,SNR=20							
MKAR	**Makanchi Array**	**64.53**	**324**	P		P	17 57 14.0	0.0
	0.3nm,0.6s,baz=114,slow=7.0,SNR=3.8							

IDC 11 17:52:27.6±3.2, 0°13S×132°73E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=172.6km s-min=28.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**19.76**	**176**	P		P	17 56 59.1	-0.2
	0.0nm,0.3s,baz=356,slow=12,SNR=2.6							
ASAR	**Alice Springs**	**23.43**	**177**	P		P	17 57 38.9	+0.3
	0.3nm,0.7s,baz=357,slow=9.9,SNR=6.3							
MKAR	**Makanchi Array**	**64.15**	**324**	P		P	18 03 04.0	-0.1
	0.3nm,0.5s,baz=118,slow=8.1,SNR=4.1							

*IDC **11** 17:57:25.4±1.9, 18°03S×167°46E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=54.7km s-min=31.7km az=131.0*
*NOU **11** 17:57:32.0±0.6, 18°28S×167°46E, h30km, MD2.6, ML3.1*

ISC 11 17:57:33.4±4.4, 18°5S±0°2×167°0E±0°5, h23km, n9, σ0s72/11, mb3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
DZM	**Mont Dzumac**	**3.63**	**189**	Pn		**Pn**	**17 58 29.2**	**+1.0**
	16nm,0.3s,baz=41,slow=16,SNR=227							
DZM				Sn		**Sn**	**17 59 10.3**	**-0.1**
	11nm,0.3s,baz=328,slow=19,SNR=12							
BAYA	**Yate Dam**	**3.67**	**182**	*e*S		**Sn**	**17 59 10.5**	**-0.8**
NOUC	**Port Laguerre**	**3.68**	**191**	*e*P		**Pn**	**17 58 29.3**	**+0.4**
NOUC				*e*S		**Sn**	**17 59 12.0**	**+0.4**
NOUC				AMP			17 59 15.4	
	comp=Z,41nm,0.0s							
NORM	**Noumea**	**3.78**	**188**	*e*P		**Pn**	**17 58 30.3**	**+0.1**
NORM				*e*S		**Sn**	**17 59 13.2**	**-0.8**
NORM				AMP			17 59 17.4	
	comp=Z,160nm,1.7s							
PLUM	**Mont Dore**	**3.80**	**185**	*e*P		**Pn**	**17 58 30.7**	**+0.2**
PLUM				*e*S		**Sn**	**17 59 14.3**	**-0.3**
PLUM				AMP			17 59 15.9	
	comp=Z,115nm,4.3s							
CTA	**Charters Tower**	**19.68**	**262**	LR		LR	18 08 06.1	
	comp=Z,53nm,21.7s,baz=229,slow=32							
WRA	**Warramunga Arr**	**30.88**	**262**	P		**P**	**18 03 47.4**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=85,slow=9.9,SNR=4.1							
ASAR	**Alice Springs**	**31.30**	**255**	P		**P**	**18 03 52.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=85,slow=8.3,SNR=27							
ILAR	**Eielson Array**	**90.13**	**18**	P		P	18 10 24.5	-6.7
	comp=Z,0.6nm,0.7s,baz=239,slow=5.3,SNR=10							

MAN 11 17:58:38, 5°91N×124°16E, h82km, mb4.8, ML3.7, MS3.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
DMPH	**Davao City--Mi**	**1.78**	**49**	↑*e*P		Pn	17 59 07.7	+0.6
DMPH				*e*S		Sn	17 59 39.0	+10
PAGZ	**Pagadian**	**2.07**	**338**	*e*P		Pn	17 59 12.9	+1.9
BUKP	**Musuan**	**2.15**	**25**	*e*P		Pn	17 59 13.0	+0.9
IPIL	**Ipil**	**2.44**	**320**	*e*P		Pn	17 59 17.0	+1.1
IPIL				*e*S		Sn	17 59 46.2	+1.3

IDC 11 18:13:04.8±1.2, 10°27S×74°59W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=32.5km s-min=16.8km az=139.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
NNA	**Nana**	**2.79**	**232**	Pg		Pb	18 13 56.0	+0.3
	32nm,0.3s,baz=54,slow=9.7,SNR=71							
NNA				Lg		Lg	18 14 33.2	
	118nm,0.3s,baz=5.5,slow=5.7,SNR=20							
ATAH	**Atahualpa**	**4.88**	**309**	Pn		Pn	18 14 25.1	+5.0
	10nm,0.3s,baz=158,slow=7.7,SNR=42							
ATAH				Lg		Lg	18 15 36.8	
	4.4nm,0.3s,baz=46,slow=19,SNR=4.0							
LPAZ	**La Paz**	**8.68**	**134**	Pn		Pn	18 15 20.5	+7.9
	0.2nm,0.3s,baz=328,slow=10,SNR=3.5							
LPAZ				Lg		Lg	18 17 37.9	
	0.6nm,0.3s,baz=230,slow=19,SNR=3.0							
SIV	**San Ignacio**	**14.34**	**115**	Pn		Pn	18 16 29.6	+0.2
	baz=295,slow=14							
SIV				Lg		Lg	18 20 31.6	
	baz=232,slow=19							
RPN	**Rapa Nui**	**36.76**	**238**	LR		LR	18 33 22.9	
	comp=Z,35nm,18.2s,baz=9.5,slow=33							
TXAR	**Lajitas Array**	**48.34**	**325**	P		P	18 21 48.6	+0.1
	0.4nm,0.5s,baz=153,slow=8.9,SNR=8.2							
ULM	**Lac du Bonnet**	**63.07**	**345**	P		P	18 23 33.5	-0.3
	1.2nm,0.6s,baz=173,slow=7.1,SNR=4.5							
YKA	**Yellowknife Ar**	**78.87**	**342**	P		P	18 25 09.7	+0.1
	0.1nm,0.3s,baz=137,slow=7.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**79.21**	**74**	P		P	18 25 12.3	-0.2
	1.5nm,0.8s,baz=273,slow=5.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**133.43**	**17**	PKP		PKPdf	18 32 23.1	+0.1
	0.7nm,0.6s,baz=354,slow=1.4,SNR=4.3							
WRA	**Warramunga Arr**	**138.61**	**224**	PKP		PKPdf	18 32 33.6	-0.2
	1.0nm,1.1s,baz=128,slow=1.8,SNR=3.1							
MKAR	**Makanchi Array**	**138.64**	**24**	PKP		PKPdf	18 32 32.4	-0.7
	0.2nm,0.6s,baz=333,slow=4.7,SNR=2.5							
SONM	**Songino Array**	**142.55**	**359**	PKhKP		PKPpre	18 32 37.0	
	0.3nm,0.8s,baz=357,slow=3.6,SNR=2.6							

*IDC **11** 18:12:56.1±0.5, 0°51S×132°88E, h0km, mb4.8/17, mb1 4.9/22, mb1mx4.8/27, mbtmp4.8/22, ML4.5/5, MS4.0/15, Ms1 4.0/15, ms1mx3.8/34, Error ellipse: s-maj=23.1km s-min=11.0km az=74.0*
*MOS **11** 18:12:59.2±0.8, 0°53S×132°86E, h33km, mb5.2/20, Error ellipse: s-maj=15.5km s-min=6.1km az=115.7*
*NEIC **11** 18:13:01.2±0.2, 0°55S×132°88E, h35km, mb5.2/35, Error ellipse: s-maj=6.9km s-min=3.2km az=66.0*
*BJI **11** 18:13:03.2, 0°61S×133°08E, h84km, mB5.2/34, mb4.9/49, Ms4.8/21, Ms7 4.5/25*
*ISCJB **11** 18:13:04.2±0.2, 0°64S±0°03×132°88E±0°05, h82km, mb4.9/77, Error ellipse: s-maj=8.0km s-min=3.6km az=165.9*
*DJA **11** 18:13:05.0°70S×132°70E, h23km, MLv5.1/9*

ISC 11 18:13:06.0±0.4, 0°69S±0°04×132°86E±0°07, h84km±2km, n201, σ1s56/244, mb4.9/77, 3C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
FAKI	**Fak Fak**	**2.30**	**195**	P		**Pn**	**18 13 40.0**	**-2.1**
MSAI	**Masohi**	**4.73**	**236**	P		**Pn**	**18 14 15.3**	**+0.3**
TLE	**Tual**	**4.92**	**181**	P		**Pn**	**18 14 17.7**	**+0.1**
AAI	**Ambon**	**5.53**	**237**	P		**Pn**	**18 14 23.8**	**-2.1**
SMPI	**Sarmi**	**5.99**	**103**	P		Pn	18 14 46.8	+15
	58nm,0.8s,0.3nm							
KMSI	**Cibinong**	**8.96**	**278**	P		Pn	18 15 25.7	+13
DAV	**Davao City (W)**	**10.59**	**317**	LR		LR	18 19 51.4	
	comp=Z,707nm,19.7s,baz=166,slow=40							
MMRI	**Maumere**	**13.20**	**233**	P		P	18 16 20.8	+3.8
TTSI	**Tana Toraja**	**13.24**	**260**	P		**P**	**18 16 17.4**	**-0.1**
BKSI	**Bulukumba**	**13.52**	**250**	P		P	18 16 24.4	+3.8
KAPI	**Kappang**	**13.78**	**252**	Pn		**Pn**	**18 16 15.2**	**-2.5**
	0.9nm,0.3s,baz=128,slow=18,SNR=2.4							
KAPI				LR		LR	18 21 47.7	
	comp=Z,154nm,20.6s,baz=271,slow=38							
KAPI	**Kappang**	**13.78**	**252**	Pn		**Pn**	**18 16 15.2**	**-2.5**
PMG	**Port Moresby**	**16.66**	**122**	Pn		**Pn**	**18 16 53.4**	**-1.0**
	0.7nm,0.3s,baz=294,slow=7.0,SNR=6.5							
PMG	**Port Moresby**	**16.66**	**122**	P		**Pn**	**18 16 53.4**	**-1.0**
PMG	**Port Moresby**	**16.66**	**122**	Pn		**Pn**	**18 16 53.4**	**-1.0**
COEN	**Coen**	**16.68**	**143**	*e*Pn		**Pn**	**18 16 52.5**	**-2.1**
GUMO	**Guam**	**18.52**	**40**	LR		LR	18 23 21.9	
	comp=Z,341nm,19.6s,baz=234,slow=34							
FITZ	**Fitzroy Crossi**	**18.70**	**202**	P		**P**	**18 17 16.4**	**-1.5**
	1.4nm,0.3s,baz=51,slow=11,SNR=45							
FITZ				S		S	18 20 35.5	-11
	1.1nm,0.3s,baz=78,slow=19,SNR=4.7							
FITZ				LR		LR	18 24 59.8	
	comp=Z,198nm,20.1s,baz=27,slow=38							
FITZ	**Fitzroy Crossi**	**18.70**	**202**	*e*P		**P**	**18 17 16.4**	**-1.5**
	22nm,0.4s							
FITZ				*e*S		S	18 20 33.3	-13
FITZ	**Fitzroy Crossi**	**18.70**	**202**	*e*P		**P**	**18 17 16.3**	**-1.5**
	40nm,1.1s							
FITZ				*e*S		S	18 20 34.6	-12
FITZ				S		Sn	18 20 35.5	-13
TGY	**Tagaytay City**	**18.85**	**322**	P		**P**	**18 17 17.1**	**-2.5**
	13nm,0.3s,baz=127,slow=20,SNR=2.1							
TGY	**Tagaytay City**	**18.85**	**322**	P		**P**	**18 17 17.1**	**-2.5**
TGY	**Tagaytay City**	**18.85**	**322**	P		**P**	**18 17 17.1**	**-2.5**
WRAB	**Tennant Creek**	**19.18**	**176**	*e*P		**P**	**18 17 23.8**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,205nm,1.7s							
WRAB	**Tennant Creek**	**19.18**	**176**	*e*P		**P**	**18 17 23.8**	**+0.6**
	comp=Z,205nm,1.7s							
WRA	**Warramunga Arr**	**19.19**	**176**	P		**P**	**18 17 23.3**	**0.0**
	comp=Z,3.0nm,0.3s,baz=356,slow=12,SNR=132							
WRA				S		**S**	**18 20 50.0**	**-6.5**
	comp=Z,1.1nm,0.3s,baz=354,slow=23,SNR=6.7							
WRA	**Warramunga Arr**	**19.19**	**176**	P		**P**	**18 17 23.3**	**0.0**
WRA				S		**S**	**18 20 50.0**	**-6.5**
WRA	**Warramunga Arr**	**19.19**	**176**	P		**P**	**18 17 23.3**	**0.0**
WRA				S		**S**	**18 20 50.0**	**-6.5**
WB2	**Warramunga Arr**	**19.19**	**176**	*e*P		**P**	**18 17 22.4**	**-0.8**
WB2				*e*S		**S**	**18 20 51.9**	**-4.6**
SBUM	**Sibu**	**20.87**	**279**	P		pP	18 18 01.2	+2.9
AS31	**Alice Springs**	**22.86**	**178**	*e*P		**P**	**18 18 03.4**	**+0.8**
AS31				*e*S		S	18 22 16.8	+11
ASAR	**Alice Springs**	**22.87**	**178**	P		**P**	**18 18 03.5**	**+0.8**
	comp=Z,85nm,0.9s,baz=3.1,slow=11,SNR=321							
ASAR				S		**S**	**18 22 07.4**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=0.4,slow=28,SNR=2.5							
ASAR	**Alice Springs**	**22.87**	**178**	P		**P**	**18 18 03.5**	**+0.8**
ASAR				S		**S**	**18 22 07.4**	**+1.5**
ASAR	**Alice Springs**	**22.87**	**178**	P		**P**	**18 18 03.5**	**+0.8**
ASAR				S		**S**	**18 22 07.3**	**+1.5**
CTA	**Charters Tower**	**23.32**	**147**	P		**P**	**18 18 07.9**	**+0.9**
	comp=Z,53nm,0.7s,baz=325,slow=11,SNR=32							
CTA				LR		LR	18 28 24.4	
	comp=Z,1µm,19.7s,baz=308,slow=40							
CTA	**Charters Tower**	**23.32**	**147**	*e*P		**P**	**18 18 08.7**	**+1.7**
	comp=Z,40nm,0.8s							
CTA	**Charters Tower**	**23.32**	**147**	P		**P**	**18 18 07.9**	**+0.9**
CTA	**Charters Tower**	**23.32**	**147**	P		**P**	**18 18 07.9**	**+0.9**
CTAO	**Charters Tower**	**23.32**	**147**	*e*P		**P**	**18 18 06.4**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,59nm,0.9s							
CTAO	**Charters Tower**	**23.32**	**147**	*e*P		**P**	**18 18 06.4**	**-0.6**
	comp=Z,59nm,0.9s							
BJII	**Banjamgara**	**24.00**	**253**	P		P	18 18 26.6	+13
MBWA	**Marble Bar**	**24.05**	**211**	*e*P		**P**	**18 18 15.3**	**+1.8**

comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 38.38 301 P **P** **18 20 19.6 +0.2**
comp=Z,5.2nm,0.8s,baz=116,slow=6.5,SNR=43
CMAR Chiang Mai Arr 38.38 301 P **P** **18 20 19.7 +0.2**
CMAR Chiang Mai Arr 38.38 301 P **P** **18 20 19.6 +0.2**
TOO Toolangi 38.51 164 *e*P **P** **18 20 22.6 +2.3**
comp=Z,134nm,0.7s
CHTO Chiang Mai 38.54 302 *e*P **P** **18 20 20.8 +0.1**
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 38.54 302 *e*P **P** **18 20 20.8 +0.1**
comp=Z,14nm,1.0s
KMI Kunming 38.83 313 P **P** **18 20 24.2 +0.9**
KMI pP **pP** **18 20 43.8 +0.5**
KMI sP **sP** **18 20 53.3 +0.3**
KMI PP PP 18 22 02.0 +8.1
KMI S **S** **18 26 15.3 0.0**
KMI sS **sS** **18 26 52.0 +2.4**
KMI SS SS 18 29 03.9 -6.0
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,200nm,5.8s
KMI LR LR
comp=N,100nm,20.0s
KMI LR LR
comp=E,220nm,18.8s
KMI LR LR
comp=Z,230nm,22.2s
XAN Xi'an 41.21 329 P **P** **18 20 41.8 -0.9**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,60nm,5.3s
CD2 Chengdu 41.85 321 P **P** **18 20 48.0 0.0**
CD2 pP **pP** **18 21 08.1 -0.1**
CD2 sP **sP** **18 21 18.0 +0.1**
CD2 PP PP 18 22 29.6 +3.2
CD2 S **S** **18 27 00.0 +0.1**
CD2 sS **sS** **18 27 35.0 +0.5**
CD2 SS SS 18 30 03.7 -5.7
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,160nm,6.0s
CD2 LR LR
comp=N,380nm,5.9s
CD2 LR LR
comp=Z,360nm,6.6s
BJT Baijiatuau 43.29 341 *e*P **P** **18 20 58.5 -0.9**
BJT pmax pmax
comp=Z,70nm,1.1s
BJT Baijiatuau 43.29 341 *e*P **P** **18 20 58.5 -0.9**
comp=Z,70nm,1.1s
BJI Beijing 43.30 341 P **P** **18 20 59.2 -0.3**
BJI pP **pP** **18 21 20.0 +0.2**
BJI sP **sP** **18 21 29.4 0.0**
BJI PP PP 18 22 42.5 +0.7
BJI S **S** **18 27 23.3 +2.5**
BJI pmax pmax
comp=Z,50nm,0.9s
BJI pmax pmax
comp=Z,230nm,5.6s
BJI LR LR
comp=Z,110nm,30.3s
USRK Ussuriysk Arra 44.70 359 P **P** **18 21 10.4 -0.2**
comp=Z,6.0nm,0.9s,baz=179,slow=8.2,SNR=9.9
USRK LR LR 18 38 12.8
comp=Z,101nm,18.4s,baz=281,slow=34
CN2 Changchun 44.78 352 *e*P **P** **18 21 12.1 +0.8**
CN2 *e*S **S** **18 27 41.9 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
MDJ Mudanjiang 45.20 357 P **P** **18 21 14.4 -0.2**
MDJ sP **sP** **18 21 43.3 -1.3**
MDJ PcP **PcP** **18 22 51.1 -2.4**
MDJ S **S** **18 27 44.8 -3.4**
MDJ pmax pmax
comp=Z,24nm,2.3s
MDJ pmax pmax
comp=Z,320nm,5.1s
MDJ LR LR
comp=Z,110nm,33.3s
ASAJ Asahikawa 45.45 10 LR LR 18 37 29.1
comp=Z,183nm,20.6s,baz=49,slow=32
LZH Lanzhou 45.47 327 *e*P **P** **18 21 17.2 +0.1**
LZH pP **pP** **18 21 36.5 -1.0**
LZH sP **sP** **18 21 47.0 -0.1**
LZH *e*PP PP 18 23 06.5 +1.4
LZH *e*S **S** **18 27 55.0 +2.3**
LZH sS **sS** **18 28 27.2 -0.4**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,160nm,7.4s
LZH LR LR
comp=N,460nm,12.7s
LZH LR LR
comp=E,400nm,16.5s
LZH LR LR
comp=Z,410nm,17.6s
HHC Hu-ho-hao-te 45.65 337 *e*P **P** **18 21 19.0 +0.6**
HHC pP **pP** **18 21 42.1 +3.3**
HHC sP **sP** **18 21 53.4 +5.0**
HHC PP PP 18 23 08.7 +1.7
HHC S **S** **18 27 55.8 +0.7**
HHC SS SS 18 31 14.8 -5.9
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.6s
HHC LR LR
comp=N,260nm,14.2s
HHC LR LR
comp=E,320nm,13.4s
HHC LR LR
comp=Z,240nm,15.7s
SHL Shillong 47.41 306 *e*P **P** **18 21 35.0 +2.5**
YSS Yuzh-Sakhalins 48.23 9‖ *e*P **P** **18 21 37.8 -0.4**
YSS pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 49.94 311 P **P** **18 21 52.8 +0.6**
LSA Lhasa 49.94 311 *e*P **P** **18 21 51.8 -0.3**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 49.94 311 *e*P **P** **18 21 51.8 -0.3**
comp=Z,12nm,0.6s
GTA Gaotai 50.07 327 *e*P **P** **18 21 53.2 +0.6**
GTA pP **pP** **18 22 13.0 -0.3**
GTA sP **sP** **18 22 24.0 +1.1**
GTA PcP **PcP** **18 23 13.5 +2.3**
GTA S **S** **18 28 58.7 +1.0**
GTA sS **sS** **18 29 32.9 -0.3**
GTA ScS **ScS** **18 31 30.1 -6.0**
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,250nm,8.6s
GTA LR LR
comp=N,240nm,17.1s
GTA LR LR
comp=E,200nm,17.1s
GTA LR LR
comp=Z,240nm,16.6s
HIA Hailar 51.03 349 *e*P **P** **18 21 58.4 -1.1**
HIA pmax pmax
comp=Z,3.0nm,0.4s
HIA Hailar 51.03 349 *e*P **P** **18 21 58.4 -1.1**
comp=Z,2.7nm,0.4s
TAPN Taplejung 51.55 306 *e*P **P** **18 22 03.9 -0.2**
comp=Z,46nm,1.1s
TAPN Taplejung 51.55 306 *e*P **P** **18 22 03.9 -0.2**
comp=Z,46nm,1.1s
ODAN Odare 51.60 306 *e*P **P** **18 22 04.2 -0.3**
comp=Z,40nm,1.0s
ODAN Odare 51.60 306 *e*P **P** **18 22 04.2 -0.3**
comp=Z,40nm,1.0s
RAMN Ramite 52.28 305 *e*P **P** **18 22 09.6 +0.1**
comp=Z,81nm,1.2s
RAMN Ramite 52.28 305 *e*P **P** **18 22 09.6 +0.1**
comp=Z,81nm,1.2s
JIRN Jiri 52.91 306 *e*P **P** **18 22 14.0 -0.2**
comp=Z,52nm,1.2s
JIRN Jiri 52.91 306 *e*P **P** **18 22 14.0 -0.2**
comp=Z,52nm,1.2s
GUN Gumba 53.26 306 *e*P **P** **18 22 16.7 -0.1**
comp=Z,58nm,1.0s
GUN Gumba 53.26 306 *e*P **P** **18 22 16.7 -0.1**
comp=Z,58nm,1.0s
ULN Ulaanbaatar 53.32 339 *e*P **P** **18 22 17.0 +0.3**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 53.32 339 *e*P **P** **18 22 17.0 +0.3**
comp=Z,9.8nm,1.0s
PKI Pulchoki 53.50 306 *e*P **P** **18 22 18.0 -0.6**
comp=Z,39nm,1.2s
PKI Pulchoki 53.50 306 *e*P **P** **18 22 18.0 -0.6**
PKI pmax pmax
comp=Z,39nm,1.2s
PKI Pulchoki 53.50 306 *e*P **P** **18 22 18.0 -0.6**
comp=Z,39nm,1.2s
SONM Songino Array 53.54 338 P **P** **18 22 18.1 -0.1**
comp=Z,3.3nm,0.9s,baz=150,slow=8.0,SNR=21
SONM PcP **PcP** **18 23 24.8 +0.8**
comp=Z,1.7nm,0.7s,baz=163,slow=3.9,SNR=5.6
SONM LR LR 18 44 45.8
comp=Z,143nm,20.0s,baz=72,slow=36
SONM Songino Array 53.54 338 P **P** **18 22 18.1 -0.1**
SONM 18 23 24.8
SONM Songino Array 53.54 338 P **P** **18 22 18.1 -0.1**
SONM PcP **PcP** **18 23 24.8 +0.8**
KKN Kakani 53.70 306 *e*P **P** **18 22 19.6 -0.3**
comp=Z,32nm,1.1s
KKN Kakani 53.70 306 *e*P **P** **18 22 19.6 -0.3**
KKN pmax pmax
comp=Z,32nm,1.1s
KKN Kakani 53.70 306 *e*P **P** **18 22 19.6 -0.3**
comp=Z,32nm,1.1s
DMN Daman 53.76 305 *e*P **P** **18 22 20.3 -0.1**
comp=Z,46nm,1.1s
DMN Daman 53.76 305 *e*P **P** **18 22 20.3 -0.1**
comp=Z,46nm,1.1s
GKN Gorkha 54.30 306 *e*P **P** **18 22 23.8 -0.4**
comp=Z,45nm,1.1s
GKN Gorkha 54.30 306 *e*P **P** **18 22 23.8 -0.4**
comp=Z,45nm,1.1s
RPZ Rata Peaks 54.69 147 P **P** **18 22 28.6 +2.0**
comp=Z,7.4nm,0.7s,baz=17,slow=8.3,SNR=5.6
RPZ Rata Peaks 54.69 147 P **P** **18 22 28.6 +2.0**
CIT Chita 54.98 346 *e*P **P** **18 22 29.8 +1.2**
KOLN Koldanda 55.06 305 *e*P **P** **18 22 30.0 +0.3**
comp=Z,25nm,0.7s
KOLN Koldanda 55.06 305 *e*P **P** **18 22 30.0 +0.3**
comp=Z,25nm,0.7s
DANN Dangsing 55.15 306 *e*P **P** **18 22 30.5 0.0**
comp=Z,115nm,1.3s
DANN Dangsing 55.15 306 *e*P **P** **18 22 30.5 0.0**
comp=Z,115nm,1.3s
HYB Hyderabad 56.39 291 *i* P **P** **18 22 40.0 +0.8**
ZAK Zakamensk 56.80 338 *e*P **P** **18 22 41.8 +0.2**
ZAK *e* 18 22 50.3
ZAK *e* 18 23 36.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
PETK Petropavlovsk- 57.48 17 P **P** **18 22 45.6 -0.7**
comp=Z,11nm,0.9s,baz=180,slow=5.9,SNR=9.8
PETK LR LR 18 41 59.5
comp=Z,141nm,21.9s,baz=308,slow=30
PETK Petropavlovsk- 57.48 17 P **P** **18 22 45.6 -0.7**
PETK Petropavlovsk- 57.48 17 P **P** **18 22 45.6 -0.7**
CLNS Chul'man 57.70 355 *e*P **P** **18 22 45.9 -1.9**
CLNS pmax pmax
comp=Z,19nm,1.4s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.1s
MOY Mondy 58.70 337 *e*P **P** **18 22 55.7 +0.8**
MOY pmax pmax
comp=Z,43nm,2.6s
WMQ Urumqi 59.86 324 P **P** **18 23 04.0 +1.0**
WMQ pP **pP** **18 23 23.4 -1.0**
WMQ sP **sP** **18 23 32.3 -1.4**
WMQ PcP **PcP** **18 23 49.0 +0.3**
WMQ pmax pmax
comp=Z,22nm,1.1s
BOD Bodaibo 60.24 349⇑ *i*P **P** **18 23 05.0 -0.2**
BOD pmax pmax
comp=Z,33nm,1.1s
DDI Dehra Dun 60.50 306 *ex* **P** **18 23 08.8 +1.1**
YAK Yakutsk 62.60 358 *d i*P **P** **18 23 20.9 -0.1**
YAK *e* 18 24 02.5
YAK *e* 18 25 34.6
YAK *e*S **S** **18 31 41.4 -0.9**
YAK *e*SSS SSS 18 38 37.2
YAK pmax pmax
comp=Z,36nm,0.8s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,333nm,4.7s
YAK pmax pmax
comp=N,165nm,5.0s
YAK pmax pmax
comp=E,192nm,5.3s
YAK smax smax
comp=E,368nm,6.3s
YAK smax smax
comp=N,111nm,3.5s
YAK Yakutsk 62.60 358 *e*P **P** **18 23 20.8 -0.2**
comp=N,48nm,0.8s
MK31 Makanchi Array 64.68 324 *e*P **P** **18 23 34.9 -0.2**
MK31 *e* 18 24 08.4
MK31 Makanchi Array 64.68 324 *e*P **P** **18 23 34.9 -0.2**
MK31 *e*PcP **PcP** **18 24 08.4 +0.2**
MKAR Makanchi Array 64.68 324 P **P** **18 23 35.8 +0.8**
comp=N,5.2nm,0.6s,baz=114,slow=7.9,SNR=59
MKAR Makanchi Array 64.68 324 P **P** **18 23 35.9 +0.8**
MKAR Makanchi Array 64.68 324 P **P** **18 23 35.9 +0.8**
SEY Seymchan 65.13 10‖ *e*P **P** **18 23 37.7 0.0**
KSH Kashi 65.48 315 *e*P **P** **18 23 42.4 +1.8**
KSH *e*pP **pP** **18 24 02.2 0.0**
KSH *e*sP **sP** **18 24 10.8 -0.7**
KSH *e*PcP **PcP** **18 24 13.7 +1.9**
KSH *e*PP **PP** **18 26 09.3 +3.6**
KSH *e*ScP 18 28 08.5
KSH *e*PcS 18 28 16.6
KSH *e*S **S** **18 32 16.9 -2.2**
KSH *e*sS **sS** **18 32 53.1 -2.9**
KSH *e*ScS **SKSac** **18 33 27.2 -1.4**
KSH *e*SS **SS** **18 36 35.3 +1.1**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH pmax pmax
comp=Z,430nm,7.8s
KSH LR LR
comp=N,410nm,6.6s
KSH LR LR
comp=E,510nm,6.8s
KSH LR LR
comp=Z,530nm,8.0s
DRV Dumont d'Urvil 66.04 177 PP PP 18 26 24.0 +14
DRV S **PnS** **18 32 54.0 -2.9**
DRV L L 18 42 00.0
TKM2 Tokmak 2 67.10 318 *e*P **P** **18 23 51.7 +0.7**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 67.10 318 *e*P **P** **18 23 51.7 +0.7**
comp=Z,4.1nm,0.8s
ZAA0 Zalesovo Array 67.32 332 *e*P **P** **18 23 50.3 -1.5**
ZALV Zalesovo Beam 67.32 332 P **P** **18 23 51.1 -0.7**
comp=Z,5.0nm,0.7s,baz=115,slow=5.6,SNR=24
ZALV Zalesovo Beam 67.32 332 P **P** **18 23 51.1 -0.7**
ZALV Zalesovo Beam 67.32 332 P **P** **18 23 51.1 -0.7**
AAK Ala-Archa 67.73 317 *e*P **P** **18 23 54.2 -0.7**
AAK pmax pmax
comp=Z,7.0nm,1.6s
EKS2 Erkin-Say 68.22 317 *e*P **P** **18 23 59.3 +1.3**
EKS2 pmax pmax
comp=Z,29nm,1.8s
EKS2 Erkin-Say 68.22 317 *e*P **P** **18 23 59.3 +1.3**
comp=Z,28nm,1.8s
NVS Novosibirsk 68.59 332 *e*P **P** **18 23 58.4 -1.4**
KURK Kurchatov 68.76 326 P **P** **18 24 01.1 +0.2**
comp=Z,10nm,0.9s,baz=119,slow=5.9,SNR=43
KURK Kurchatov 68.76 326 P **P** **18 24 00.4 -0.5**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 68.76 326 P **P** **18 24 01.1 +0.2**
KBL Kabul 69.05 308 *e*P **P** **18 24 03.9 +0.5**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 69.05 308 *e*P **P** **18 24 03.9 +0.5**
comp=Z,7.5nm,1.0s
KK31 Karatay Array 70.62 317 *i* P **P** **18 24 12.9 +0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 70.62 317 *e*P **P** **18 24 12.9 +0.3**
KKAR Karatay Array 70.62 317 *e*P **P** **18 24 12.8 +0.3**
BVA0 Borovoye Array 74.35 326 P **P** **18 24 33.8 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 74.35 326 P **P** **18 24 34.9 +0.4**
comp=Z,15nm,0.8s,baz=116,slow=6.9,SNR=96
BVAR Borovoye Array 74.35 326 P **P** **18 24 34.9 +0.4**
BVAR Borovoye Array 74.35 326 P **P** **18 24 34.9 +0.4**
BRVK Borovoye 74.42 326 *e*P **P** **18 24 35.7 +0.8**
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 74.42 326 *e*P **P** **18 24 35.7 +0.8**
comp=Z,20nm,0.8s
VNDA Vanda 78.35 174 *e*P **P** **18 24 58.2 +1.5**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 78.35 174 *e*P **P** **18 24 58.2 +1.5**
comp=Z,4.5nm,0.8s
AB31 Akbulak array 79.43 320 P **P** **18 25 03.3 +0.2**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 79.43 320 *e*P **P** **18 25 03.5 +0.4**
AKTO Aktyubinsk 80.91 321 P **P** **18 25 11.2 +0.2**
comp=Z,4.4nm,1.0s,baz=78,slow=6.2,SNR=12
AKTO Aktyubinsk 80.91 321 P **P** **18 25 11.2 +0.2**
AKTO Aktyubinsk 80.91 321 P **P** **18 25 11.2 +0.2**
SVE Sverdlovsk 80.91 328⇑ *e*P **P** **18 25 11.7 +0.8**
SVE pmax pmax
comp=Z,25nm,1.4s
ARU Arti 81.92 327 *d i*P **P** **18 25 16.4 +0.1**
ARU 18 28 22.1
ARU S **S** **18 35 23.9 +0.7**
ARU SS **SS** **18 40 40.1 -3.4**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 81.92 327 *e*P **P** **18 25 16.3 0.0**
comp=Z,14nm,0.8s
KDAK Kodiak Island 82.38 31 LR LR 18 55 08.8
comp=Z,146nm,22.0s,baz=210,slow=31
MCK McKinley 85.40 26 *e*P **P** **18 25 34.6 +0.7**
MCK pmax pmax
comp=Z,13nm,1.1s
MCK McKinley 85.40 26 *e*P **P** **18 25 34.6 +0.7**
comp=Z,13nm,1.1s
ILAR Eielson Array 86.46 25 P **P** **18 25 38.6 -0.5**
comp=Z,2.4nm,0.8s,baz=253,slow=4.8,SNR=27
ILAR Eielson Array 86.46 25 P **P** **18 25 38.6 -0.5**
ILAR Eielson Array 86.46 25 P **P** **18 25 38.6 -0.5**
QSPA South Pole Qui 89.25 180 *e*P **P** **18 25 54.2 +1.7**
comp=Z,6.7nm,0.9s
MALT Malatya 93.91 308 *e*P P 18 26 22.7 +7.9
MALT Malatya 93.91 308 *e*P P 18 26 22.6 +7.9
ARCES ARCESS Array B 96.66 340 P **P** **18 26 26.0 -0.5**
comp=Z,5.1nm,0.8s,baz=86,slow=5.0,SNR=5.9
ARCES ARCESS Array B 96.66 340 P **P** **18 26 26.0 -0.5**
ARCES ARCESS Array B 96.66 340 P **P** **18 26 26.0 -0.5**
HRY Holter Researc 107.63 41 *e*PKiKP **PKiKP** **18 31 20.6 -3.1**
DCID1 Drake Creek 109.04 44 *e*PKiKP **PKiKP** **18 31 22.9 -3.6**
GRFO Grafenberg 110.47 324 *e*P **Pdif** **18 27 27.2 -1.2**
GRFO Grafenberg 110.47 324 *e*Pdif **Pdif** **18 27 27.2 -1.2**
GRFO *e*PKiKP PKiKP 18 31 34.4 +5.7
TORD Torodi Ar. Bea 130.08 287 PKP **PKPdf** **18 32 07.6 +0.4**
comp=Z,1.3nm,0.8s,baz=56,slow=2.4,SNR=8.3
TORD Torodi Ar. Bea 130.08 287 PKP **PKPdf** **18 32 07.6 +0.4**
LPAZ La Paz 153.29 130 PKPbc **PKPbc** **18 32 59.3 +3.1**
comp=Z,1.7nm,0.7s,baz=254,slow=3.6,SNR=8.1
LPAZ La Paz 153.29 130 *e*PKPbc **PKPbc** **18 32 58.3 +2.1**

IDC 11 18:15:49.6±5.2, 30.33N×67.58E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/29, mbtmpg3.8/5, Error ellipse: s-maj=127.4km s-min=73.5km az=129.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.01**	**31**	P	P	18 20 22.9	-0.9
	0.4nm,0.3s,baz=211,slow=10.0,SNR=11						
KURK	**Kurchatov**	**21.98**	**19**	P	P	18 20 44.7	-0.2
	0.5nm,0.5s,baz=210,slow=9.6,SNR=6.3						
BVAR	**Borovoye Array**	**22.77**	**4**	P	P	18 20 52.8	-0.6
	0.8nm,0.7s,baz=183,slow=10,SNR=6.6						
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	P	18 21 30.7	+0.4
	1.2nm,0.4s,baz=220,slow=10,SNR=8.1						
YKA	**Yellowknife Ar**	**87.49**	**1**	P	P	18 28 38.7	-0.1
	0.1nm,0.4s,baz=348,slow=4.7,SNR=3.6						

IDC 11 18:26:56.6±1.3, 4.15S×143.98E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/18, mbtmpg3.5/8, ML2.8/2, Error ellipse: s-maj=43.3km s-min=22.6km az=98.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.10**	**149**	Pn	Pn	18 28 27.8	-0.2
	0.5nm,0.3s,baz=336,slow=19,SNR=2.9						
PMG				Sn	Sn	18 29 29.4	-9.3
	0.6nm,0.3s,baz=312,slow=22,SNR=5.5						
WRA	**Warramunga Arr**	**18.29**	**210**	P	Pn	18 31 10.2	-1.9
	0.1nm,0.3s,baz=32,slow=13,SNR=36						
ASAR	**Alice Springs**	**21.70**	**206**	P	P	18 31 51.1	+1.7
	1.0nm,0.8s,baz=33,slow=10.0,SNR=10.0						
FITZ	**Fitzroy Crossi**	**22.68**	**231**	P	P	18 31 58.9	-1.0
	3.3nm,1.1s,baz=51,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**74.17**	**321**	P	P	18 38 36.3	+1.1
	0.1nm,0.4s,baz=119,slow=6.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**75.86**	**328**	P	P	18 38 43.0	-1.8
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.5						
BVAR	**Borovoye Array**	**83.52**	**324**	P	P	18 39 27.8	+1.4
	0.3nm,0.4s,baz=125,slow=9.8,SNR=5.5						
ILAR	**Eielson Array**	**84.99**	**24**	P	P	18 39 32.8	-0.8
	0.4nm,0.9s,baz=255,slow=4.4,SNR=2.9						

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*IDC **11** 18:29:03.7±0.4, 26.73S×176.01W, h0km, mb4.9/22, mb1 5.0/23, mb1mx5.0/24, mbtmp4.9/23, ML4.6/1, MS4.6/21, Ms1 4.6/21, ms1mx4.5/28, Error ellipse: s-maj=16.3km s-min=14.0km az=171.0*

*NEIC **11** 18:29:04.3±0.3, 26.73S×175.97W, h6km±2km, mb5.4/36, Error ellipse: s-maj=6.2km s-min=4.7km az=136.0*

*BJI **11** 18:29:04.8, 26.42S×175.72W, h8km, mB5.9/30, mb5.3/44, Ms5.3/26, Ms7 4.9/26*

*ISCJB **11** 18:29:05.2±0.1, 26.80S±0.05×176.14W±0.04, h15km, mb5.3/76, MS4.7/31, Error ellipse: s-maj=7.1km s-min=4.2km az=150.5*

*MOS **11** 18:29:08.9±1.3, 26.50S×176.14W, h33km, mb5.4/22, MS4.7/4, Error ellipse: s-maj=13.4km s-min=11.5km az=129.9*

ISC 11 18:29:06.5±0.4, 26.79S±0.05×175.89W±0.06, h17km±1km, h16km:pP-P, n520, σ1§46/580, mb5.3/75, MS4.7/33, 110C-83D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.04**	**216**	*e*P	**Pn**	**18 29 52.9**	**-1.0**
RAO	**Raoul Island**	**3.04**	**216**	*e*Pn	**Pn**	**18 29 52.9**	**-1.0**
MSVF	**Nonsavu**	**10.61**	**327**	*e*P	**Pn**	**18 31 36.6**	**-1.3**
MSVF	**Nonsavu**	**10.61**	**327**	*e*Pn	**Pn**	**18 31 36.6**	**-1.3**
MSVF	**Nonsavu**	**10.61**	**327**	Pn	**Pn**	**18 31 38.3**	**+0.4**
	915nm,1.0s,SNR=6.3						
AFI	**Afiamalu**	**13.38**	**17**	Pn	Pn	18 32 08.0	-7.7
	7.0nm,0.3s,baz=208,slow=13,SNR=8.9						
AFI				Sn	Sn	18 34 25.0	-19
	3.6nm,0.3s,baz=264,slow=19,SNR=3.0						
AFI	**Afiamalu**	**13.38**	**17**	*e*P	Pn	18 32 09.8	-5.9

AFI Afiamalu 13.38 17 ePn Pn 18 32 09.8 -5.9
RAR Rarotonga 15.73 73 Pn Pn 18 32 38.6 -8.7
6.9nm,0.3s,baz=231,slow=5.2,SNR=17
RAR Sn Sn 18 35 18.9 -22
2.0nm,0.3s,baz=240,slow=20,SNR=2.3
RAR LR LR 18 37 31.4
comp=Z,1μm,21.6s,baz=250,slow=32
RAR Rarotonga 15.73 73 eP Pn 18 32 40.1 -7.3
RAR pmax pmax
comp=Z,175nm,0.9s
RAR Rarotonga 15.73 73 ePn Pn 18 32 40.1 -7.3
comp=Z,175nm,0.9s
DZM Mont Dzumac 16.76 282 eP P 18 33 04.9 +2.1
comp=Z,400nm,1.4s
DZM eLR LR 18 36 48.1
comp=Z,5μm,25.6s
DZM Mont Dzumac 16.76 282 Pn Pn 18 33 04.2 +3.5
comp=Z,0.9nm,0.3s,baz=86,slow=16,SNR=12
DZM LR LR 18 38 12.6
comp=Z,3μm,18.8s,baz=100,slow=33
DZM Mont Dzumac 16.76 282 eP P 18 33 02.0 -0.8
DZM Mont Dzumac 16.76 282 Pn Pn 18 33 04.2 +3.5
KHZ Kahutara 17.84 206 ePn Pn 18 33 13.2 -0.6
comp=Z,81nm,0.8s
FUNA Funafuti 18.75 345 ePn P 18 33 21.9 -2.8
comp=Z,187nm,0.9s
RPZ Rata Peaks 19.93 209 P P 18 33 36.3 -1.2
comp=Z,1.7nm,0.3s,baz=14,slow=4.4,SNR=9.2
RPZ S S 18 37 03.5 -18
comp=Z,0.4nm,0.3s,baz=356,slow=18,SNR=5.5
RPZ LR LR 18 40 37.4
comp=Z,2μm,20.9s,baz=20,slow=35
RPZ Rata Peaks 19.93 209 P P 18 33 36.3 -1.2
RPZ S S 18 37 03.5 -18
TBI Tubuai 24.16 88 eP P 18 34 20.7 -1.3
comp=Z,172nm,0.8s
TBI eLR LR 18 40 04.0
comp=Z,4μm,28.5s,baz=258
PPT2 Papeete2 25.98 75 eP P 18 34 37.7 -0.9
comp=Z,43nm,1.1s
PPT2 eLR LR 18 40 49.5
comp=Z,5μm,27.0s,baz=252
TIAR Tiarei 26.19 75 eP P 18 34 39.4 -1.0
comp=Z,100nm,0.8s
HNR Honiara 28.64 303 LR LR 18 44 20.2
comp=Z,697nm,22.0s,baz=138,slow=32
ARMA Armidale 28.70 255 eP P 18 35 06.8 +3.8
ARMA Armidale 28.70 255 eP P 18 35 02.5 -0.5
EIDS Eidsvold 29.66 265 eP P 18 35 12.3 +0.9
comp=Z,44nm,0.9s
CNB Canberra Magne 30.84 245 eP P 18 35 24.0 +2.2
comp=Z,97nm,1.5s
MOO Moorlands 33.87 233 eP P 18 35 49.2 +1.0
comp=Z,168nm,1.0s
TOO Toolangi 34.20 242 eP P 18 35 51.3 +0.1
comp=Z,121nm,2.0s
CTA Charters Tower 35.28 273 P P 18 36 00.8 +0.1
comp=Z,20nm,0.9s,baz=96,slow=9.1,SNR=8.7
CTA LR LR 18 48 23.0
comp=Z,1μm,18.4s,baz=94,slow=33
CTA Charters Tower 35.28 273 eP P 18 36 01.2 +0.5
comp=Z,15nm,0.8s
CTA Charters Tower 35.28 273 P P 18 36 00.8 +0.1
CTA Charters Tower 35.28 273 P P 18 36 00.8 +0.1
CTAO Charters Tower 35.28 273 eP P 18 36 01.0 +0.3
CTAO pmax pmax
comp=Z,143nm,1.8s
CTAO Charters Tower 35.28 273 eP P 18 36 01.0 +0.3
comp=Z,143nm,1.8s
STKA Stephens Creek 37.24 252 P P 18 36 16.4 -0.9
comp=Z,2.0nm,0.5s,baz=96,slow=10,SNR=12
STKA LR LR 18 49 05.5
comp=Z,1μm,20.9s,baz=75,slow=32
STKA Stephens Creek 37.24 252 eP P 18 36 16.4 -0.9
comp=Z,4.9nm,0.6s
STKA Stephens Creek 37.24 252 P P 18 36 16.4 -0.9
STKA Stephens Creek 37.24 252 P P 18 36 16.4 -0.9
PMG Port Moresby 38.96 289 eP P 18 36 30.7 -1.2
PMG pmax pmax
comp=Z,22nm,0.9s
BBOO Buckleboo 41.85 250 eP P 18 36 55.5 -0.2
AS31 Alice Springs 45.30 262 eP P 18 37 21.9 -1.8
ASAR Alice Springs 45.30 262 P P 18 37 21.9 -1.8
comp=Z,4.5nm,0.4s,baz=95,slow=6.7,SNR=117
ASAR PcP PcP 18 39 04.2 +0.8
comp=Z,3.1nm,0.8s,baz=108,slow=3.9,SNR=4.3
ASAR S S 18 43 49.9 -14
comp=Z,0.5nm,0.9s,baz=96,slow=15,SNR=2.9
ASAR Alice Springs 45.30 262 P P 18 37 21.9 -1.8
ASAR 18 39 04.2
ASAR Alice Springs 45.30 262 P P 18 37 21.9 -1.8
ASAR PcP PcP 18 39 04.2 +0.8
ASAR S S 18 43 49.9 -14
WB2 Warramunga Arr 45.96 268 eP P 18 37 26.5 -2.4
WB2 ePcP PcP 18 39 02.2 -3.5
WRAB Tennant Creek 45.96 268 eP P 18 37 27.4 -1.6
WRAB e 18 39 03.6
WRAB pmax pmax
comp=Z,30nm,0.9s
WRAB Tennant Creek 45.96 268 eP P 18 37 27.4 -1.6
comp=Z,30nm,0.9s
WRAB ePcP PcP 18 39 03.6 -2.2
WRAB Tennant Creek 45.96 268 P P 18 37 27.2 -1.8
comp=Z,163nm,0.7s,SNR=7.7
WRA Warramunga Arr 45.97 268 P P 18 37 26.8 -2.3
comp=Z,27nm,0.8s,baz=105,slow=8.4,SNR=75
WRA S S 18 44 04.2 -9.3
comp=Z,1.0nm,1.0s,baz=107,slow=13,SNR=2.5
WRA LR LR 18 53 22.7
comp=Z,852nm,21.2s,baz=115,slow=32
WRA Warramunga Arr 45.97 268 P P 18 37 26.8 -2.3
WRA S S 18 44 04.2 -9.3
WRA Warramunga Arr 45.97 268 P P 18 37 26.8 -2.3
WRA S S 18 44 04.2 -9.3
DRV Dumont d'Urvil 48.18 202 P P 18 37 45.0 -0.5
DRV Dumont d'Urvil 48.18 202 PP PP 18 39 39.0 +1.3
DRV SS ScS 18 47 32.0 -5.5
DRV L L 18 49 00.0
DRV R 18 53 00.0
WAKE Wake Island 48.83 338 eP P 18 37 49.2 -1.9
comp=Z,167nm,1.1s
FORT Forrest 48.87 251 eP P 18 37 50.2 -1.2
comp=Z,43nm,0.8s
FORT Forrest 48.87 251 eP P 18 37 47.8 -3.6
comp=Z,44nm,0.8s
SBA Scott Base 51.77 185 eP P 18 38 11.4 -1.3
SBA Scott Base 51.77 185 eP P 18 38 11.4 -1.3
VNDA Vanda 51.87 186 eP P 18 38 12.7 -0.8
VNDA pmax pmax
comp=Z,42nm,1.5s
VNDA Vanda 51.87 186 eP P 18 38 12.7 -0.8
comp=Z,42nm,1.5s
FITZ Fitzroy Crossi 54.34 266 P P 18 38 31.4 -1.1
comp=Z,8.2nm,0.6s,baz=130,slow=9.1,SNR=28
FITZ LR LR 19 02 25.1
comp=Z,697nm,18.2s,baz=106,slow=37
FITZ Fitzroy Crossi 54.34 266 eP P 18 38 31.6 -0.9
comp=Z,33nm,1.0s
FITZ Fitzroy Crossi 54.34 266 P P 18 38 31.4 -1.1
GUMO Guam 55.36 312 LR LR 18 58 28.4
comp=Z,417nm,19.9s,baz=130,slow=32
KLBR Kellerberrin 57.35 248 eP P 18 38 52.3 -1.7
comp=Z,81nm,1.5s
MBWA Marble Bar 58.56 261 eP P 18 39 01.2 -1.4
CASY Casey 59.19 207 eP P 18 39 05.7 -0.5
comp=Z,91nm,1.0s
CASY ePP PP 18 41 15.2 -1.6
QSPA South Pole Qui 63.31 180 P P 18 39 35.2 +0.8
comp=Z,29nm,1.0s,baz=54,slow=2.1,SNR=49
QSPA South Pole Qui 63.31 180 P P 18 39 35.2 +0.8
DAV Davao City (W) 65.90 292 LR LR 19 03 31.5
comp=Z,290nm,20.6s,baz=57,slow=31
JOW Kunigami 75.69 310 P P 18 40 51.3 +0.2
comp=Z,41nm,1.0s,baz=132,slow=6.6,SNR=4.8
JOW LR LR 19 12 24.0
comp=Z,334nm,18.8s,baz=284,slow=34
JOW Kunigami 75.69 310 P P 18 40 51.3 +0.2
JOW epP PcP 18 41 02.0 -1.8
MAW Mawson 76.33 200 LR LR 19 14 44.7
comp=Z,764nm,19.1s,baz=113,slow=36
MJAR Matsushiro Arr 76.40 323 P P 18 40 54.4 -0.6
comp=Z,18nm,0.8s,baz=167,slow=5.9,SNR=38
MJAR LR LR 19 09 12.6
comp=Z,317nm,20.6s,baz=135,slow=32
MJAR Matsushiro Arr 76.40 323 P P 18 40 54.4 -0.6
MJAR Matsushiro Arr 76.40 323 P P 18 40 54.4 -0.6
MAJO Matsushiro 76.40 323 eP P 18 40 55.8 +0.8
MAJO pmax pmax
comp=Z,175nm,1.9s
MAJO Matsushiro 76.40 323 eP P 18 40 55.8 +0.8
comp=Z,175nm,1.9s
MAT Matsushiro 76.40 323 P P 18 40 55.2 +0.2
MAT eS S 18 50 37.0 -2.6
NACB Ninganchiao 78.80 304 eP P 18 41 07.6 -1.1
NACB ePcP pP 18 41 15.5 +1.2
SSLB Suanglung 79.05 304 eP P 18 41 08.5 -1.6
SSLB ePcP PcP 18 41 18.5 0.0
YHNB Yeheng 79.25 305 eP P 18 41 10.4 -0.8
comp=Z,98nm,1.3s
TATO Taipei 79.35 305 eP P 18 41 11.4 -0.2
ASAJ Asahikawa 80.15 331 P P 18 41 16.1 +0.6
comp=Z,38nm,0.8s,baz=211,slow=7.7,SNR=12
ASAJ Asahikawa 80.15 331 eP P 18 41 14.7 -0.9
comp=Z,208nm,2.0s
SYO Syowa Base 81.03 192 ⇓eP P 18 41 19.4 -0.7
SYO Syowa Base 81.03 192 ⇓epP P 18 41 22.4 +2.3
SAO San Andreas Ge 81.35 41 eP P 18 41 23.1 +0.9
SAO San Andreas Ge 81.35 41 epP P 18 41 23.1 +0.9
QZH Quanzhou 81.48 303 ⇑iP P 18 41 23.7 +0.6
QZH S S 18 51 34.2 +0.1
QZH pmax pmax
comp=Z,1μm,5.1s
SNAA Sanae 81.69 178 eP P 18 41 23.8 +0.2
SNAA Sanae 81.69 178 eP P 18 41 23.8 +0.2
MWC Mount Wilson 81.75 45 eP P 18 41 27.6 +3.0
MWC Mount Wilson 81.75 45 epP P 18 41 27.6 +3.0
VNA3 Neumayer Olymp 81.76 176 e P 18 41 24.9 +0.9
ARVC Arvin 81.85 44 ⇑P P 18 41 26.0 +1.1
baz=82
MURC Murrieta 81.90 46 ⇓P P 18 41 26.2 +1.0
baz=82
HOPS Holand 81.94 39 eP P 18 41 24.0 -1.3
VES Vestal, Richgr 82.16 43 ⇓P P 18 41 27.5 +1.1
baz=82,SNR=5.7
EDW2 Edwards Air Fo 82.22 45 ⇓P P 18 41 28.4 +1.6
baz=82,SNR=6.2
VNA2 Neumayer--Watz 82.22 176 e P 18 41 27.7 +1.4
baz=160,slow=3.0
YSS Yuzh-Sakhalins 82.35 333 ⇑iP P 18 41 30.1 +2.9
YSS e 18 41 41.0
YSS pmax pmax
comp=Z,50nm,1.0s
ISA Isabella 82.42 44 eP P 18 41 27.4 -0.6
ISA Isabella 82.42 44 eP P 18 41 27.4 -0.6
ISA Isabella 82.42 44 ⇓P P 18 41 29.1 +1.2
baz=83,SNR=15
VNA1 Neumayer--Stat 82.44 176 e P 18 41 29.8 +2.4
PET Petropavlovsk 82.51 345 eP P 18 41 37.3 +9.5
PET MLR MLR
comp=Z,300nm,20.0s
NVL N'lazarevskaya 82.57 183 eP P 18 41 39.3 +11
NVL eS S 18 51 47.2 +3.1
NVL pmax pmax
comp=Z,6.0nm,0.4s
NVL MLR MLR
comp=Z,678nm,19.0s
LRMC Laurel Mountai 82.79 44 ⇑P P 18 41 31.4 +1.5
baz=83,SNR=7.9
PETK Petropavlovsk- 82.82 344 P P 18 41 29.5 0.0
comp=Z,16nm,0.8s,baz=137,slow=7.1,SNR=12
PETK LR LR 19 14 41.3
comp=Z,260nm,21.3s,baz=342,slow=33
PETK Petropavlovsk- 82.82 344 P P 18 41 29.5 0.0
PETK Petropavlovsk- 82.82 344 P P 18 41 29.5 0.0
KSRS Korea Array 82.86 318 P P 18 41 29.2 -0.8
comp=Z,7.6nm,0.7s,baz=134,slow=6.0,SNR=18
KSRS LR LR 19 17 40.9
comp=Z,133nm,19.0s,baz=254,slow=35
KSAR Wonju Array Be 82.87 318 P P 18 41 29.2 -0.9
KSAR Wonju Array Be 82.87 318 P P 18 41 29.2 -0.9
OHCM Honcut 83.08 39 epP P 18 41 32.4 +1.3
GLA Glamis 83.11 48 ⇑P P 18 41 33.1 +1.5
baz=83
CWC Cottonwood Cre 83.17 43 ⇓P P 18 41 33.3 +1.4
baz=83
GSC Goldstone 83.23 45 eP P 18 41 33.4 +1.2
GSC Goldstone 83.23 45 eP P 18 41 33.4 +1.2
GSC Goldstone 83.23 45 P P 18 41 33.6 +1.5
baz=84,SNR=9.9
HEC Hector,Ludlow 83.24 46 ⇑P P 18 41 33.7 +1.5
baz=84
MPMC Manual Prospec 83.29 44 ⇑P P 18 41 34.0 +1.4
baz=84,SNR=12
WDC Whiskeytown Da 83.34 38 eP P 18 41 31.1 -1.4
WDC Whiskeytown Da 83.34 38 eP P 18 41 31.1 -1.4
MTUM Tungsten Hills 83.47 42 epP P 18 41 35.0 +1.5
IRM Iron Mountain 83.58 47 ⇑P P 18 41 35.3 +1.3
baz=84,SNR=9.3
PLCA Paso Flores 83.58 132 P P 18 41 35.0 +0.9
comp=Z,7.8nm,0.9s,baz=219,slow=4.4,SNR=12
PLCA LR LR 19 13 23.5
comp=Z,203nm,19.6s,baz=242,slow=32
PLCA Paso Flores 83.58 132 P P 18 41 35.0 +0.9
PLCA Paso Flores 83.58 132 P P 18 41 35.0 +0.9
GMRC Granite Mounta 83.64 46 ⇓P P 18 41 35.6 +1.3
baz=84
TUQ Turquoise Moun 83.88 45 ⇑P P 18 41 36.9 +1.4
baz=84
SHOC Shoshone 83.94 45 ⇓P P 18 41 37.5 +1.8
baz=84
GRAC Grapevine Rang 83.96 43 ⇑P P 18 41 37.6 +1.8
baz=84,SNR=7.2
Z13A Yuma Proving G 83.98 48 ⇑P P 18 41 37.4 +1.4
baz=84
WCN Washoe City 84.04 40 ⇓P P 18 41 38.3 +2.0
baz=84
YBH Yreka Blue Hor 84.04 37 eP P 18 41 36.2 0.0
YBH pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 84.04 37 ePn P 18 41 36.2 0.0
comp=Z,18nm,1.3s
NVAR Mina Array Bea 84.32 42 P P 18 41 37.8 -0.1
comp=Z,5.7nm,0.8s,baz=223,slow=9.1,SNR=31
NVAR LR LR 19 15 04.1
comp=Z,618nm,18.2s,baz=116,slow=33
NVAR Mina Array Bea 84.32 42 P P 18 41 37.8 -0.1
PDMCI Parker Dam,Lak 84.33 47 ⇓P P 18 41 38.8 +1.1
baz=85
HUMO Hull Mountain 84.52 36 epP P 18 41 40.3 +1.8
Y14A Wickenburg 84.86 48 ⇑P P 18 41 41.8 +1.4
baz=85
W13A Hualapai Mount 84.98 47 ⇓P P 18 41 42.9 +1.6
baz=85
QIZ Qiongzhong 85.18 294 P P 18 41 41.5 -0.8
QIZ S S 18 52 12.3 +0.3
QIZ pmax pmax
comp=Z,47nm,2.3s
USRK Ussuriysk Arra 85.22 325 P P 18 41 41.8 -0.1
comp=Z,21nm,1.1s,baz=116,slow=4.4,SNR=13
USRK LR LR 19 18 52.4
comp=Z,281nm,18.1s,baz=54,slow=35
NJ2 Nanjing 85.36 309 eP P 18 41 44.8 +1.9
NJ2 pP pP 18 41 54.8 +6.3
NJ2 sP sP 18 41 58.8 +8.3
NJ2 PP PP 18 45 05.0 +3.6
NJ2 S S 18 52 11.0 -2.1
NJ2 sS ScS 18 52 29.5 +6.3
NJ2 pmax pmax
comp=Z,60nm,1.2s
NJ2 pmax pmax
comp=Z,630nm,6.5s
NJ2 LR LR
comp=N,810nm,27.4s
NJ2 LR LR
comp=E,510nm,22.2s
NJ2 LR LR
comp=Z,110nm,19.5s
318A Bisbee 85.45 52 ⇓P P 18 41 45.1 +1.5
baz=86,SNR=6.7
218A Dragoon 85.71 51 ⇑P P 18 41 46.7 +1.8
baz=86,SNR=7.6
319A Douglas 85.91 52 ⇑P P 18 41 47.0 +1.1
baz=86,SNR=5.2
R11A Troy Canyon, C 85.91 43 ⇑P P 18 41 47.2 +1.4
baz=86
Y17A Roosevelt 86.16 49 ⇓P P 18 41 48.4 +1.4
baz=86
X16A Lo Mia Camp, P 86.18 48 ⇓P P 18 41 49.2 +2.0
baz=86,SNR=11
Z17A San Carlos Hig 86.18 50 ⇓P P 18 41 48.3 +1.2
baz=86
219A White Tail Can 86.28 51 ⇑P P 18 41 48.8 +1.1
baz=86
320A Kipp Ranch, An 86.42 52 ⇓P P 18 41 49.7 +1.3
baz=87,SNR=6.7
119A Ashpeak Ranch, 86.68 51 ⇓P P 18 41 50.8 +1.2
baz=87
220A Playas Peak, P 86.74 52 ⇑P P 18 41 52.0 +2.0
baz=87,SNR=6.9
MDJ Mudanjiang 86.75 324 P P 18 41 50.5 +1.0
MDJ pP PcP 18 41 53.3 +1.5
MDJ PP PP 18 45 11.2 -1.2
MDJ S S 18 52 24.6 -1.6
MDJ pmax pmax
comp=Z,32nm,2.0s
MDJ pmax pmax
comp=Z,320nm,7.1s
MDJ LR LR
comp=N,130nm,24.8s
MDJ LR LR
comp=E,100nm,26.0s
MDJ LR LR
comp=Z,220nm,21.3s
Y18A Canyon Day Jun 86.76 50 ⇑P P 18 41 51.2 +1.1
baz=87,SNR=9.9
R13A O'Grain Ranch, 86.81 44 ⇑P P 18 41 52.0 +1.7
baz=87
U15A North Rim 86.81 46 ⇑P P 18 41 51.5 +1.1
baz=87,SNR=12
HABR Khabarovsk 86.84 330 eP P 18 41 49.8 0.0
HABR e*SP sP 18 42 01.7 +4.3
HABR e 18 45 09.5
HABR S SKSac 18 52 10.9 -4.8
HABR e 18 52 29.5
HABR eSS SS 18 58 04.0 -5.8
HABR eSSS SSS 19 01 36.7
HABR pmax pmax
comp=N,96nm,2.8s
HABR pmax pmax
comp=E,177nm,2.8s
HABR pmax pmax
comp=Z,124nm,1.9s
HABR MLR MLR
comp=Z,103nm,20.0s
WUAZ Wupatki 86.87 48 eP P 18 41 50.1 -0.4
WUAZ Wupatki 86.87 48 ⇓P P 18 41 51.9 +1.3
baz=87,SNR=6.7
120A U Bar Ranch, L 87.02 51 ⇓P P 18 41 52.5 +1.2
baz=87
X18A Snowflake 87.25 49 ⇓P P 18 41 53.8 +1.3
baz=88,SNR=5.8
V17A Tonalea, Kykot 87.32 48 ⇑P P 18 41 54.5 +1.8
baz=88,SNR=8.5
Z20A Nine Sixteen R 87.37 51 ⇓P P 18 41 54.3 +1.3
baz=88
U16A Tuba City 87.40 47 ⇑P P 18 41 54.5 +1.4
baz=88,SNR=5.8
121A Cookes Peak, D 87.61 52 ⇑P P 18 41 56.0 +1.8
baz=88
WHN Wuhan 87.70 306 ⇑P P 18 41 56.5 +2.1
V18A Ganado 87.94 48 ⇑P P 18 41 57.1 +1.3
baz=88
Y20A Horse Springs, 87.97 50 ⇑P P 18 41 57.5 +1.5
baz=88,SNR=7.5
S16A Weppner Ranch, 88.03 46 ⇓P P 18 41 57.3 +1.2
baz=88
T17A Navajo Res., N 88.11 47 ⇑P P 18 41 58.1 +1.6
baz=88,SNR=7.2
X20A Quemado 88.24 50 ⇑P P 18 41 59.3 +2.1
baz=88,SNR=9.0
U18A Rough Rock, Ch 88.39 47 ⇓P P 18 41 59.0 +1.1
baz=89
CN2 Changchun 88.43 322 ⇑P P 18 41 59.3 +1.7
CN2 esP sP 18 42 07.0 +1.8
CN2 eS S 18 52 43.2 +0.8
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,500nm,20.0s
R16A Teasdale 88.43 45 ⇑P P 18 41 59.3 +1.2
baz=89
S17A Black Ridge (B 88.49 46 ⇑P P 18 41 59.2 +1.0
baz=89,SNR=6.3
Y21A Point of Rocks 88.51 50 ⇑P P 18 42 00.2 +1.6
baz=89,SNR=6.8
W20A Ramah 88.57 49 ⇑P P 18 41 59.9 +1.1
baz=89,SNR=17
626A Big Bend Ranch 88.63 56 ⇑P P 18 41 59.4 +0.4
baz=89,SNR=6.6
324A Moseley Ranch, 88.65 54 P P 18 42 00.4 +1.3
baz=89,SNR=5.9
425A Indio Mountain 88.66 54 ⇑P P 18 42 00.6 +1.4
baz=89,SNR=8.6
X21A Alamocita Cree 88.67 50 ⇑P P 18 42 01.3 +2.0
baz=89,SNR=8.5
U19A Dine' College, 88.75 48 ⇑P P 18 42 01.2 +1.6
baz=89
T18A Mexican Hat 88.80 47 ⇑P P 18 42 00.8 +1.1
baz=89,SNR=10.0
MNTX Cornudas Mount 88.86 53 ⇑P P 18 42 01.1 +1.2
baz=89,SNR=10
MNTX ⇑P P 18 42 01.1 +1.2
baz=89,SNR=10
TXAR Lajitas Array 88.86 56 P P 18 42 00.4 +0.3
comp=Z,5.2nm,0.8s,baz=212,slow=7.9,SNR=47
TXAR LR LR 19 16 32.4
comp=Z,282nm,18.1s,baz=180,slow=32
TXAR Lajitas Array 88.86 56 P P 18 42 00.4 +0.3
TXAR Lajitas Array 88.86 56 P P 18 42 00.4 +0.3
KLR Kul'dur 88.89 329 eP P 18 41 50.0 -10
526A Mary Lane Ranc 88.93 55 ⇓P P 18 42 01.2 +0.8
baz=89,SNR=6.4
Y22A Socorro 88.96 51 ⇑P P 18 42 01.6 +1.0
baz=89,SNR=5.7
224A Cornudas Mount 88.96 53 ⇑P P 18 42 01.4 +0.8
baz=89
MFID Camas Ranch 88.96 39 ⇓P P 18 42 01.6 +1.4
baz=89
V20A Brimhall 88.97 49 ⇓P P 18 42 02.0 +1.4
baz=89
RSO Redoubt South 88.97 11 eP P 18 41 59.9 -0.1
comp=Z,12nm,0.8s
325A Bean Ranch, Si 88.98 54 ⇑P P 18 42 01.6 +0.8
baz=89
R17A Hanksville Air 89.00 45 ⇓P P 18 42 02.1 +1.5
baz=89
627A Terlingua Ranc 89.13 56 ⇓P P 18 42 02.3 +0.9
baz=89,SNR=10
T19A Beclabito 89.18 48 ⇓P P 18 42 03.3 +1.8
baz=89
426A McDonald Obser 89.29 55 ⇑P P 18 42 03.4 +1.1
baz=90,SNR=5.5
BNM Barren Site 89.31 51 eP P 18 42 03.2 +0.9
comp=Z,52nm,2.0s
527A Woodward Ranch 89.33 56 ⇓P P 18 42 02.7 +0.4
baz=90
R18A Canyonlands Na 89.50 46 P P 18 42 04.3 +1.3
baz=90,SNR=6.3
628A Black Gap, Mar 89.52 56 ⇓P P 18 42 04.1 +1.0
baz=90,SNR=10
SRU San Rafael 89.52 45 eP P 18 42 00.5 -2.6
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 89.52 45 ePn P 18 42 00.5 -2.6
comp=Z,9.1nm,0.9s
SRU San Rafael 89.52 45 ⇑P P 18 42 04.3 +1.2
baz=90
Y23A Lovelace Mesa, 89.59 51 ⇓P P 18 42 04.3 +0.8
baz=90
I12A Atlanta 89.59 39 ⇓P P 18 42 04.7 +1.4
baz=90
S19A Harvey Farm, M 89.63 47 ⇓P P 18 42 04.2 +0.6
baz=90
M15A Larsen Ranch, 89.73 42 ⇑P P 18 42 05.0 +1.1
baz=90,SNR=11
MVCO Mesa Verde 89.74 47 ePn P 18 42 04.2 0.0
comp=Z,5.0nm,1.0s
MVCO Mesa Verde 89.74 47 ⇓P P 18 42 05.6 +1.4
baz=90
CMIG Matias Romero 89.84 71 P P 18 42 05.4 +0.6
comp=Z,7.0nm,0.8s,baz=288,slow=5.8,SNR=9.8
CMIG Matias Romero 89.84 71 P P 18 42 05.4 +0.6

427A	**Hayter Ranch,**	**89.85**	**55**	⇓P		**P**		**18 42 05.9**	**+1.2**
	baz=90,SNR=10									
CFAA	**Coronel Fontan**	**89.85**	**126**	P		**P**		**18 42 05.7**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=212,slow=15,SNR=3.2									
CFAA	**Coronel Fontan**	**89.85**	**126**	P		**P**		**18 42 05.7**	**+0.8**
HLID	**Hailey**	**89.86**	**40**	⇑P		**P**		**18 42 05.7**	**+1.1**
	baz=90									
ANMO	**Albuquerque**	**89.86**	**50**	P		**P**		**18 42 05.5**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=200,slow=5.7,SNR=25									
ANMO	**Albuquerque**	**89.86**	**50**	P		**P**		**18 42 05.5**	**+0.7**
ANMO	**Albuquerque**	**89.86**	**50**	P		**P**		**18 42 05.5**	**+0.7**
U21A	**Nageezi**	**89.86**	**49**	P		**P**		**18 42 05.6**	**+0.8**
	baz=90,SNR=22									
125A	**Gardner Draw,**	**89.89**	**53**	⇑P		**P**		**18 42 05.6**	**+0.7**
	baz=90									
J13A	**Cove Ranch, Pi**	**89.89**	**40**	⇑P		**P**		**18 42 06.0**	**+1.3**
	baz=90									
528A	**Cox Ranch, San**	**89.94**	**56**	⇑P		**P**		**18 42 06.8**	**+1.6**
	baz=90									
K14A	**Jones Ranch, D**	**89.95**	**41**	⇓P		**P**		**18 42 05.6**	**+0.7**
	baz=90									
Y24A	**Capitan**	**90.02**	**52**	⇑P		**P**		**18 42 06.2**	**+0.6**
	baz=90,SNR=10.0									
O17A	**Robinson Place**	**90.02**	**44**	⇑P		**P**		**18 42 07.0**	**+1.6**
	baz=90,SNR=8.0									
V22A	**San Miguel Ran**	**90.08**	**49**	⇑P		**P**		**18 42 07.3**	**+1.5**
	baz=90									
L15A	**Malad City**	**90.09**	**42**	⇓P		**P**		**18 42 06.5**	**+0.8**
	baz=90									
Z25A	**Roswell**	**90.18**	**52**	⇓P		**P**		**18 42 07.4**	**+1.1**
	baz=90									
S20A	**Disappointment**	**90.18**	**47**	⇓P		**P**		**18 42 07.5**	**+1.2**
	baz=90									
PV01	**Paradox Valley**	**90.22**	**47**	*e*P		**P**		**18 42 06.4**	**-0.1**
	comp=Z,760nm,1.1s									
H12A	**Diamond D Ranc**	**90.22**	**39**	P		**P**		**18 42 07.2**	**+1.0**
	baz=90,SNR=8.8									
J14A	**Carey**	**90.22**	**40**	⇑P		**P**		**18 42 07.6**	**+1.3**
	baz=90									
T21A	**Navajo Lake**	**90.26**	**48**	⇑P		**P**		**18 42 08.4**	**+1.8**
	baz=90									
428A	**Kincaid Ranch,**	**90.31**	**56**	⇓P		**P**		**18 42 07.9**	**+1.1**
	baz=90									
GAMB	**Gambell**	**90.32**	**2**	*e*P		**P**		**18 42 04.9**	**-1.0**
GAMB	comp=Z,27nm,1.6s			*e*PP		**PP**		**18 45 39.2**	**-1.2**
N17A	**Moffit Pass**	**90.40**	**43**	⇑P		**P**		**18 42 08.5**	**+1.3**
	baz=91									
S21A	**Coal Bank Pass**	**90.46**	**47**	⇓P		**P**		**18 42 08.6**	**+0.9**
	baz=91,SNR=5.7									
V23A	**Ortiz Mt. (NFS**	**90.48**	**50**	⇓P		**P**		**18 42 09.2**	**+1.5**
	baz=91,SNR=7.5									
Y25A	**Mesa, Roswell**	**90.54**	**52**	⇓P		**P**		**18 42 08.2**	**+0.2**
	baz=91									
H13A	**Challis**	**90.56**	**39**	P		**P**		**18 42 08.9**	**+1.2**
	baz=91,SNR=7.2									
PMR	**Palmer**	**90.69**	**12**	*e*P		**P**		**18 42 06.7**	**-1.0**
PMR	comp=Z,89nm,1.6s			pmax		pmax				
PMR	**Palmer**	**90.69**	**12**	*e*P		**P**		**18 42 06.7**	**-1.0**
	comp=Z,89nm,1.6s									
Z26A	**Caprock**	**90.70**	**53**	⇑P		**P**		**18 42 09.4**	**+0.8**
	baz=91									
W24A	**Lazy 6 Ranch,**	**90.73**	**51**	⇑P		**P**		**18 42 09.9**	**+1.0**
	baz=91									
TTA	**Tatalina**	**90.80**	**9**	*e*P		**P**		**18 42 07.9**	**-0.4**
TTA	comp=Z,29nm,1.5s			pmax		pmax				
TTA	**Tatalina**	**90.80**	**9**	*e*P		**P**		**18 42 07.9**	**-0.4**
	comp=Z,29nm,1.5s									
M17A	**Scullys Gap (B**	**90.81**	**43**	⇑P		**P**		**18 42 09.8**	**+0.7**
	baz=91									
127A	**Arkansas Junct**	**90.83**	**54**	⇓P		**P**		**18 42 10.3**	**+1.0**
	baz=91									
Q20A	**Ridgley Place,**	**90.86**	**46**	⇓P		**P**		**18 42 10.5**	**+1.2**
	baz=91									
X25A	**Clemmons Ranch**	**90.88**	**51**	⇓P		**P**		**18 42 10.9**	**+1.4**
	baz=91									
J15A	**Blackfoot**	**90.90**	**41**	⇓P		**P**		**18 42 10.9**	**+1.5**
	baz=91									
G13A	**Cobalt**	**90.90**	**39**	⇑P		**P**		**18 42 10.6**	**+1.2**
	baz=91,SNR=9.1									
R21A	**Cimarron**	**91.01**	**47**	⇓P		**P**		**18 42 11.1**	**+0.9**
	baz=91,SNR=10									
BMRM	**Bremner River**	**91.07**	**15**	*e*P		**P**		**18 42 08.7**	**-0.9**
	comp=Z,30nm,1.0s									
H14A	**Leadore**	**91.10**	**39**	⇓P		**P**		**18 42 11.7**	**+1.4**
	baz=91									
S22A	**4UR Ranch, Cre**	**91.14**	**48**	⇑P		**P**		**18 42 11.8**	**+1.0**
	baz=91,SNR=8.2									
Z27A	**Tatum**	**91.27**	**53**	⇓P		**P**		**18 42 12.0**	**+0.7**
	baz=92									
F13A	**Darby**	**91.28**	**38**	⇑P		**P**		**18 42 12.1**	**+1.0**
	baz=92,SNR=10									
AHID	**Auburn Hatcher**	**91.31**	**42**	*e*P		**P**		**18 42 09.8**	**-1.5**
	comp=Z,44nm,1.5s									
NEW	**Newport**	**91.36**	**35**	⇓P		**P**		**18 42 12.2**	**+0.9**
	baz=92									
W25A	**X Bar L Ranch,**	**91.39**	**51**	⇓P		**P**		**18 42 13.0**	**+1.1**
	baz=92									
GYA	**Guiyang**	**91.41**	**299**	P		**P**		**18 42 13.0**	**+0.9**
GYA				PP		**PP**		**18 45 52.3**	**+2.1**
GYA				SKS		**SKSac**		**18 52 44.2**	**0.0**
GYA				S		**S**		**18 53 10.8**	**-0.2**
GYA				SS		**SS**		**18 59 20.0**	**+2.7**
GYA	comp=Z,30nm,1.0s			pmax		pmax				
GYA	comp=Z,130nm,5.8s			pmax		pmax				
GYA	comp=N,680nm,20.6s			LR		LR				
GYA	comp=E,570nm,21.1s			LR		LR				
GYA	comp=Z,710nm,20.9s			LR		LR				
K17A	**Gardner Place,**	**91.41**	**42**	⇓P		**P**		**18 42 13.3**	**+1.5**
	baz=92									
R22A	**Saguache, Gunn**	**91.46**	**47**	⇑P		**P**		**18 42 14.2**	**+1.9**
	baz=92									
X26A	**CR and CF Fran**	**91.49**	**52**	⇑P		**P**		**18 42 13.4**	**+1.1**
	baz=92									
RRI2	**Red Ridge**	**91.52**	**41**	*e*P		**P**		**18 42 11.4**	**-1.0**
	comp=Z,30nm,1.3s									
Y27A	**Causey**	**91.60**	**53**	⇑P		**P**		**18 42 13.9**	**+1.1**
	baz=92									
V25A	**Rancho No Teng**	**91.61**	**50**	⇓P		**P**		**18 42 14.2**	**+1.3**
	baz=92									
BJI	**Beijing**	**91.69**	**315**	P		**P**		**18 42 14.1**	**+1.2**
BJI				PP		**PP**		**18 45 52.3**	**+0.3**
BJI				S		**S**		**18 53 15.1**	**+2.4**
BJI	comp=Z,16nm,1.4s			pmax		pmax				
BJI	comp=Z,310nm,8.8s			pmax		pmax				
BJI	comp=N,190nm,11.7s			LR		LR				
BJI	comp=E,390nm,13.3s			LR		LR				
BJI	comp=Z,170nm,23.4s			LR		LR				
Q22A	**Crested Butte,**	**91.70**	**47**	⇑P		**P**		**18 42 14.5**	**+1.1**
	baz=92									
I16A	**Newdale**	**91.73**	**41**	⇑P		**P**		**18 42 14.7**	**+1.4**
	baz=92,SNR=6.0									
REDW	**Red Top Meadow**	**91.81**	**41**	*e*P		**P**		**18 42 13.3**	**-0.4**
	comp=Z,39nm,1.4s									
REDW				*e*PP		**PP**		**18 45 50.2**	**-2.9**
SMCO	**Snowmass**	**91.83**	**47**	*e*P		**P**		**18 42 13.4**	**-0.7**
	comp=Z,14nm,1.1s									
C12B	**Naegeli Ranch,**	**91.86**	**36**	⇓P		**P**		**18 42 14.2**	**+0.6**
	baz=92,SNR=9.6									
K18A	**Toltan Ranch,**	**91.87**	**42**	⇑P		**P**		**18 42 15.2**	**+1.2**
	baz=92									
J17A	**Brown Place, J**	**91.89**	**41**	⇓P		**P**		**18 42 15.6**	**+1.5**
	baz=92									
MSTX	**Muleshoe**	**91.92**	**53**	⇑P		**P**		**18 42 15.1**	**+0.8**
	baz=92									
G15A	**Dillon**	**91.93**	**39**	⇑P		**P**		**18 42 15.2**	**+1.0**
	baz=92,SNR=8.1									
N20A	**Spence Gulch,**	**91.93**	**45**	⇑P		**P**		**18 42 14.9**	**+0.5**
	baz=92									
DLMT	**Dillon**	**91.98**	**39**	*e*P		**P**		**18 42 13.8**	**-0.5**
	comp=Z,25nm,1.3s									
DLMT				*e*PP		**PP**		**18 45 54.4**	**0.0**
SDCO	**Great Sand Dun**	**92.03**	**48**	⇓P		**P**		**18 42 15.8**	**+0.9**
	baz=92									
SDCO	baz=92			⇓P		**P**		**18 42 15.8**	**+0.9**
U25A	**Circle Dot Ran**	**92.05**	**50**	⇑P		**P**		**18 42 16.0**	**+1.1**
	baz=92									
R23A	**Moffat**	**92.05**	**48**	⇓P		**P**		**18 42 15.8**	**+0.8**
	baz=92									
MSO	**Missoula**	**92.13**	**37**	⇑P		**P**		**18 42 15.3**	**+0.3**
	baz=92									
S24A	**Houchin Ranch,**	**92.16**	**49**	⇑P		**P**		**18 42 16.6**	**+1.1**
	baz=92									
TRF	**Thorofare Moun**	**92.19**	**11**	*e*P		**P**		**18 42 13.5**	**-1.4**
	comp=Z,9.9nm,0.8s									
P22A	**Eagle**	**92.20**	**46**	⇓P		**P**		**18 42 16.5**	**+0.9**
	baz=92									
J18A	**Kendall Valley**	**92.21**	**42**	⇓P		**P**		**18 42 16.2**	**+0.6**
	baz=92,SNR=15									
PD01	**Pinedale Array**	**92.22**	**42**	*e*P		**P**		**18 42 15.4**	**-0.2**
PD01				*e*PP		**PP**		**18 45 54.3**	**-2.1**
BW06	**Boulder Array**	**92.23**	**42**	⇑P		**P**		**18 42 16.3**	**+0.6**
	baz=92									
BW06	baz=92			⇑P		**P**		**18 42 16.3**	**+0.6**
PDAR	**Pinedale Array**	**92.23**	**42**	P		**P**		**18 42 15.5**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=222,slow=2.5,SNR=18									
PDAR	comp=Z,292nm,18.7s,baz=250,slow=32			LR		LR		19 18 46.8		
PDAR	**Pinedale Array**	**92.23**	**42**	P		**P**		**18 42 15.5**	**-0.2**
PD02	**Pinedale Array**	**92.23**	**42**	*e*P		**P**		**18 42 15.7**	**0.0**
PD02				*e*PP		**PP**		**18 45 56.1**	**-0.5**
TNA	**Tin City**	**92.25**	**3**	*e*P		**P**		**18 42 13.9**	**-1.0**
	comp=Z,14nm,1.2s									
F15A	**Butte**	**92.33**	**39**	⇓P		**P**		**18 42 16.8**	**+0.8**
	baz=93									
G16A	**Moss Hill, Enn**	**92.35**	**40**	⇑P		**P**		**18 42 17.3**	**+1.2**
	baz=93,SNR=5.4									
H16A	**Russell Place,**	**92.36**	**40**	⇑P		**P**		**18 42 17.8**	**+1.6**
	baz=93,SNR=6.5									
T25A	**Trinidad**	**92.44**	**49**	⇓P		**P**		**18 42 17.6**	**+0.8**
	baz=93									
U26A	**Atchley Ranch,**	**92.50**	**50**	⇑P		**P**		**18 42 17.2**	**+0.2**
	baz=93									
D14A	**Greenough**	**92.52**	**37**	⇑P		**P**		**18 42 17.4**	**+0.6**
	baz=93									
L20A	**Wamsutter**	**92.55**	**44**	⇑P		**P**		**18 42 18.3**	**+1.1**
	baz=93									
E15A	**Deer Lodge**	**92.60**	**38**	⇑P		**P**		**18 42 18.1**	**+0.9**
	baz=93									
I18A	**Diamond G Ranc**	**92.61**	**42**	⇑P		**P**		**18 42 18.8**	**+1.3**
	baz=93									
O22A	**Kremmling**	**92.65**	**46**	⇓P		**P**		**18 42 18.5**	**+0.8**
	baz=93									
MCK	**McKinley**	**92.69**	**12**	*e*P		**P**		**18 42 16.8**	**-0.2**
MCK	comp=Z,19nm,1.2s			pmax		pmax				
MCK	**McKinley**	**92.69**	**12**	*e*P		**P**		**18 42 16.8**	**-0.2**
	comp=Z,19nm,1.2s									
S25A	**Robets Cordova**	**92.69**	**49**	⇓P		**P**		**18 42 18.8**	**+0.9**
	baz=93									
F16A	**Kennard Place,**	**92.78**	**39**	⇓P		**P**		**18 42 19.4**	**+1.4**
	baz=93									
Q24A	**Divide**	**92.91**	**47**	⇑P		**P**		**18 42 20.5**	**+1.5**
	baz=93									
SEY	**Seymchan**	**92.91**	**346**	⇑*e*P		**P**		**18 42 17.9**	**-0.1**
D15A	**Lincoln**	**93.03**	**38**	⇓P		**P**		**18 42 20.4**	**+1.2**
	baz=93									
E16A	**East Helena**	**93.20**	**39**	⇑P		**P**		**18 42 21.1**	**+1.2**
	baz=93									
H18A	**Shoshone NF, C**	**93.26**	**41**	⇑P		**P**		**18 42 21.6**	**+1.2**
	baz=93									
I19A	**Meeteetse**	**93.29**	**42**	⇑P		**P**		**18 42 21.4**	**+0.9**
	baz=94									
S26A	**Kim**	**93.33**	**49**	⇑P		**P**		**18 42 21.7**	**+0.9**
	baz=94									
F17A	**Fitzpatrick Pl**	**93.40**	**39**	⇑P		**P**		**18 42 22.4**	**+1.5**
	baz=94									
B14A	**Marquette Ranc**	**93.43**	**36**	⇓P		**P**		**18 42 21.9**	**+0.9**
	baz=94									
XAN	**Xi'an**	**93.44**	**306**	P		**P**		**18 42 23.0**	**+1.8**
XAN	comp=Z,3.0nm,0.9s			pmax		pmax				
XAN	comp=Z,70nm,8.6s			pmax		pmax				
XAN	comp=N,140nm,11.8s			LR		LR				
XAN	comp=E,73nm,9.9s			LR		LR				
XAN	comp=Z,73nm,9.2s			LR		LR				
G18A	**Lazy EL Ranch,**	**93.69**	**40**	⇓P		**P**		**18 42 23.5**	**+1.3**
	baz=94									
A14A	**Double T Ranch**	**93.72**	**36**	⇑P		**P**		**18 42 23.1**	**+0.8**
	baz=94									
RLMT	**Red Lodge**	**93.75**	**41**	⇑P		**P**		**18 42 23.7**	**+1.1**
	baz=94									
RLMT	baz=94			⇑P		**P**		**18 42 23.7**	**+1.1**
I20A	**Worland**	**93.76**	**42**	⇑P		**P**		**18 42 23.5**	**+0.9**
	baz=94									
J21A	**Lysite**	**93.84**	**43**	⇑P		**P**		**18 42 24.2**	**+1.2**
	baz=94									
KMI	**Kunming**	**93.89**	**296**	P		**P**		**18 42 25.1**	**+1.4**
KMI				pP		**pP**		**18 42 30.8**	**+1.4**
KMI				sP		**sP**		**18 42 34.2**	**+2.8**
KMI				PP		**PP**		**18 46 12.7**	**+2.9**
KMI				SKS		**SKSac**		**18 52 59.1**	**+0.9**
KMI				S		**S**		**18 53 32.2**	**-1.2**
KMI				sS		**sS**		**18 53 44.4**	**+1.6**
KMI				SS		**SS**		**18 59 54.3**	**+1.1**
KMI	comp=Z,16nm,1.3s			pmax		pmax				
KMI	comp=Z,280nm,5.1s			pmax		pmax				
KMI	comp=N,200nm,17.0s			LR		LR				
KMI	comp=E,220nm,17.9s			LR		LR				
KMI	comp=Z,270nm,17.9s			LR		LR				
C16A	**Fuhringer Ranc**	**93.91**	**37**	⇓P		**P**		**18 42 24.8**	**+1.7**
	baz=94,SNR=5.1									
COLA	**College**	**93.93**	**12**	*e*P		**P**		**18 42 22.2**	**-0.4**
COLA	comp=Z,5.0nm,0.8s			pmax		pmax				
COLA	**College**	**93.93**	**12**	*e*P		**P**		**18 42 22.2**	**-0.4**
	comp=Z,5.0nm,0.8s									
CM31	**Chiang Mai Arr**	**93.99**	**289**	*e*P		**P**		**18 42 22.4**	**-1.7**
	comp=Z,9.4nm,0.9s									
CMAR	**Chiang Mai Arr**	**93.99**	**289**	P		**P**		**18 42 25.0**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=140,slow=3.7,SNR=32									
CMAR	**Chiang Mai Arr**	**93.99**	**289**	P		**P**		**18 42 25.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.99**	**289**	P		**P**		**18 42 25.0**	**+0.9**
LVC	**Limon Verde**	**94.00**	**118**	*e*P		**P**		**18 42 25.0**	**+0.5**
	comp=Z,21nm,1.3s									
ILAR	**Eielson Array**	**94.01**	**12**	P		**P**		**18 42 21.9**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=220,slow=4.5,SNR=38									
ILAR	**Eielson Array**	**94.01**	**12**	P		**P**		**18 42 21.9**	**-1.2**
ILAR	**Eielson Array**	**94.01**	**12**	P		**P**		**18 42 21.9**	**-1.2**
K22A	**Casper**	**94.02**	**44**	⇑P		**P**		**18 42 25.1**	**+1.2**
	baz=94									
D17A	**Six Diamond Ra**	**94.11**	**38**	⇓P		**P**		**18 42 25.5**	**+1.4**
	baz=94									
CHTO	**Chiang Mai**	**94.15**	**289**	*e*P		**P**		**18 42 22.6**	**-2.2**
CHTO	comp=Z,17nm,1.0s			pmax		pmax				
CHTO	**Chiang Mai**	**94.15**	**289**	*e*P		**P**		**18 42 22.6**	**-2.2**
	comp=Z,17nm,1.0s									
I21A	**Big Trails, Te**	**94.19**	**43**	⇓P		**P**		**18 42 25.5**	**+0.9**
	baz=94									
M24A	**Cheyenne**	**94.45**	**45**	⇓P		**P**		**18 42 26.6**	**+0.8**
	baz=95									
J22A	**Midwest**	**94.46**	**43**	⇑P		**P**		**18 42 26.8**	**+1.0**
	baz=95									
I22A	**9 Mile Ranch,**	**94.72**	**43**	⇑P		**P**		**18 42 28.1**	**+1.1**
	baz=95									
HHC	**Hu-ho-hao-te**	**95.09**	**313**	*e*P		**P**		**18 42 28.4**	**-0.3**
HHC				pP		**pP**		**18 42 33.2**	**-1.2**
HHC				sP		**sP**		**18 42 35.5**	**-0.9**
HHC				PP		**PP**		**18 46 21.0**	**+2.2**
HHC				SKS		**SKSac**		**18 53 03.0**	**-0.8**
HHC				S		**S**		**18 53 41.3**	**-1.7**
HHC				sS		**sS**		**18 53 49.3**	**-3.1**
HHC				SS		**SS**		**19 00 12.3**	**+2.7**
HHC	comp=Z,13nm,0.7s			pmax		pmax				
HHC	comp=Z,210nm,5.1s			pmax		pmax				
HHC	comp=N,330nm,15.9s			LR		LR				
HHC				LR		LR				
HHC	comp=E,410nm,16.4s			LR		LR				
HHC	comp=Z,340nm,15.7s			LR		LR				
C19A	**Slack Wire Ran**	**95.36**	**39**	⇑P		**P**		**18 42 30.6**	**+0.9**
	baz=96									
BILL	**Bilibino**	**95.47**	**353**	⇑*e*P		**P**		**18 42 30.4**	**+0.8**
BILL				*e*				18 46 25.5		
BILL				*e*S		SKSac		18 52 56.6	-7.7	
BILL	comp=Z,8.0nm,1.3s			pmax		pmax				
BILL	comp=Z,400nm,19.0s			MLR		MLR				
BILL	**Bilibino**	**95.47**	**353**	*e*P		**P**		**18 42 29.2**	**-0.4**
	comp=Z,7.3nm,1.0s									
CD2	**Chengdu**	**95.76**	**302**	P		**P**		**18 42 33.7**	**+1.7**
CD2				pP		**pP**		**18 42 38.5**	**+0.9**
CD2				sP		**sP**		**18 42 40.7**	**+1.1**
CD2				PP		**PP**		**18 46 28.0**	**+3.9**
CD2				SKS		**SKSac**		**18 53 08.5**	**+0.8**
CD2				S		**S**		**18 53 48.3**	**-0.9**
CD2				sS		**sS**		**18 53 55.9**	**-2.6**
CD2				SS		**SS**		**19 00 21.9**	**+2.5**
CD2	comp=Z,10.0nm,0.6s			pmax		pmax				
CD2	comp=Z,480nm,6.5s			pmax		pmax				
CD2	comp=E,450nm,6.0s			LR		LR				
CD2	comp=Z,290nm,6.9s			LR		LR				
RSSD	**Black Hills**	**96.34**	**44**	*e*P		P		18 42 30.7	-3.8	
RSSD	comp=Z,11nm,0.9s			pmax		pmax				
RSSD	**Black Hills**	**96.34**	**44**	*e*P		P		18 42 30.7	-3.8	
	comp=Z,11nm,0.9s									
H24A	**Dirks Ranch, A**	**96.35**	**43**	⇓P		**P**		**18 42 35.2**	**+0.9**
	baz=97									
LPAZ	**La Paz**	**97.86**	**113**	P		Pdif		18 42 43.1	+0.4	
	comp=Z,1.2nm,0.8s,baz=184,slow=3.0,SNR=5.5									
LPAZ	comp=Z,204nm,21.7s,baz=300,slow=29			LR		LR		19 16 13.5		
LPAZ	**La Paz**	**97.86**	**113**	P		Pdif		18 42 43.1	+0.4	
LPAZ	**La Paz**	**97.86**	**113**	P		Pdif		18 42 43.1	+0.4	
LZH	**Lanzhou**	**98.08**	**306**	*e*P		P		18 42 46.8	+4.3	
LZH				pP		pP		18 42 50.1	+2.0	
LZH				sP		sP		18 42 51.5	+1.4	
LZH				*e*PP		PP		18 46 49.0	+7.0	
LZH				SKS		**SKSac**		**18 53 23.0**	**+3.3**	
LZH				*e*S		**ScS**		**18 54 10.0**	**+0.8**	
LZH	comp=Z,23nm,1.5s			pmax		pmax				
LZH	comp=Z,170nm,5.7s			pmax		pmax				
LZH	comp=N,620nm,18.9s			LR		LR				
LZH	comp=E,420nm,14.5s			LR		LR				
LZH	comp=Z,380nm,20.0s			LR		LR				
YAK	**Yakutsk**	**98.64**	**337**	*e*P		P		18 42 49.8	+5.7	
YAK	comp=Z,12nm,1.1s			pmax		pmax				
YKA	**Yellowknife Ar**	**101.39**	**25**	P		**Pdif**		**18 42 55.7**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=237,slow=4.2,SNR=10									
YKA	**Yellowknife Ar**	**101.39**	**25**	P		**Pdif**		**18 42 55.8**	**-0.6**
YKA	**Yellowknife Ar**	**101.39**	**25**	P		**Pdif**		**18 42 55.8**	**-0.6**
SONM	**Songino Array**	**101.72**	**318**	P		**Pdif**		**18 42 57.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=129,slow=4.5,SNR=2.7									
SONM	**Songino Array**	**101.72**	**318**	P		**Pdif**		**18 42 57.8**	**-0.6**
SONM	**Songino Array**	**101.72**	**318**	P		**Pdif**		**18 42 57.8**	**-0.6**
GTA	**Gaotai**	**102.40**	**308**	*e*P		**Pdif**		**18 43 04.7**	**+3.1**
GTA				pP				18 43 09.1		
GTA				PP		**PKiKP**		**18 47 21.7**	**-1.5**
GTA				SKS				18 53 42.7		
GTA				S		**Sdif**		**18 54 45.1**	**+0.1**
GTA				sS		sS		18 54 53.0	-1.8	
GTA	comp=Z,3.0nm,1.2s			pmax		pmax				
GTA	comp=N,260nm,15.2s			LR		LR				
GTA	comp=E,360nm,15.7s			LR		LR				
GTA	comp=Z,250nm,15.2s			LR		LR				
WMQ	**Urumqi**	**112.44**	**309**	*e*PKP		**PKiKP**		**18 47 41.0**	**-0.7**
WMQ	comp=N,120nm,19.2s			LR		LR				
WMQ	comp=Z,120nm,23.6s			LR		LR				
ZALV	**Zalesovo Beam**	**116.55**	**319**	PKP		**PKPdf**		**18 47 46.9**	**-2.2**
	comp=Z,2.7nm,0.7s,baz=107,slow=1.5,SNR=15									
ZALV	**Zalesovo Beam**	**116.55**	**319**	PKIKP		**PKPdf**		**18 47 46.9**	**-2.2**
ZALV	**Zalesovo Beam**	**116.55**	**319**	PKP		**PKPdf**		**18 47 46.9**	**-2.2**
MKAR	**Makanchi Array**	**116.84**	**311**	PKP		**PKPdf**		**18 47 48.9**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=94,slow=0.8,SNR=21									
MKAR	**Makanchi Array**	**116.84**	**311**	PKIKP		**PKPdf**		**18 47 48.9**	**-1.1**
MKAR	**Makanchi Array**	**116.84**	**311**	PKP		**PKPdf**		**18 47 48.9**	**-1.1**
NVS	**Novosibirsk**	**117.60**	**320**	*e*PKIKP		**PKPdf**		**18 47 48.6**	**-2.5**
NVS				*e*				18 49 05.9		
KURK	**Kurchatov**	**119.86**	**315**	PKP		**PKPdf**		**18 47 53.5**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=107,slow=1.9,SNR=13									
KURK	**Kurchatov**	**119.86**	**315**	PKIKP		**PKPdf**		**18 47 53.5**	**-2.1**
KURK	**Kurchatov**	**119.86**	**315**	PKP		**PKPdf**		**18 47 53.5**	**-2.1**
KSH	**Kashi**	**119.96**	**302**	*e*PKPbc		**PKPdf**		**18 47 57.5**	**+1.1**
KSH				*es*PKP				18 48 11.7		
KSH				*e*PP		**PP**		**18 49 22.0**	**+1.0**
KSH				*e*PKS		**PKSdf**		**18 51 32.6**	**-0.5**
KSH				*e*SKS		**SKSdf**		**18 55 04.1**	**-3.7**
KSH				*e*SKKS		**SKKSac**		**18 56 24.3**	**+4.2**
KSH				*e*SS		SS		19 06 09.2	+22	
KSH	comp=Z,150nm,6.5s

comp=E,10.0nm,1.1s
ZEI Tsey 144.01 307 *e*PKIKP **PKPdf** 18 48 45.5 +4.1
ZEI pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 144.57 309 *e*PKIKP **PKPdf** 18 48 43.1 +0.9
KIV pmax pmax
comp=Z,10.0nm,1.0s
CLDR Caldiran 144.67 301 *e*P **PKPab** 18 48 41.4 -0.1
BHD Baghdad 144.71 290 *e*PKP **PKPab** 18 48 38.0 -3.4
BHD *i* PKP PP 18 52 22.0 +22
BHD *i* SKS **SKSdf** 18 55 53.0 +1.7
KARS Kars 145.06 303 *e*P **PKPbc** 18 48 41.5 -1.1
CUKT Cukurca 145.15 297 *e*P **PKPbc** 18 48 41.9 -1.1
AGRB Hanur-Agry 145.31 302 *e*P **PKPbc** 18 48 41.5 -2.0
NB2 NORSAR Subarra1 45.42 354 PKP **PKPbc** 18 48 42.2 -0.7
comp=Z,42nm,1.1s,baz=10,slow=3.2
NB2 NORSAR Subarra1 45.42 354 PKP **PKPbc** 18 48 42.2 -0.7
baz=10,slow=3.2
NOA NORSAR Array B 145.42 354 PKPbc **PKPbc** 18 48 42.3 -0.7
comp=Z,29nm,0.8s,baz=11,slow=2.4,SNR=54
NOA NORSAR Array B 145.42 354 PKP2 **PKPbc** 18 48 42.3 -0.7
NOA NORSAR Array B 145.42 354 PKPbc **PKPbc** 18 48 42.3 -0.7
HFS Hagfors 146.02 351 PKPbc **PKPdf** 18 48 44.0 0.0
comp=Z,13nm,0.7s,baz=11,slow=1.5,SNR=26
HFS Hagfors 146.02 351 PKP2 **PKPdf** 18 48 44.0 0.0
HFS Hagfors 146.02 351 PKPbc **PKPdf** 18 48 44.0 0.0
EZM Erzurum 146.49 303 *e*P **PKPdf** 18 48 46.4 +0.5
VRTB Varto-Mus 146.56 301 *e*P **PKPab** 18 48 48.4 +0.1
IZAR Zarasai 146.92 337 *e*P **PKPbc** 18 48 47.1 -0.4
IZAR AMB AMB 18 48 58.2
comp=Z,33nm,1.2s
ISAL Salakas 147.10 337 *e*P **PKPbc** 18 48 48.1 0.0
ISAL AMB AMB 18 49 00.0
comp=Z,30nm,1.2s
BNGB Bing'ǁl 147.19 301 *e*P **PKPbc** 18 48 48.6 -0.5
IIGN Ignalina 147.24 337 *e*P **PKPbc** 18 48 48.8 +0.3
IIGN AMB AMB 18 49 00.4
comp=Z,40nm,1.0s
MICGM Minsk 147.28 334 *e*P **PKPdf** 18 48 47.0 +0.7
MNK Minsk 147.29 334 *e*PKIKP **PKPdf** 18 48 47.0 +0.7
NACGM Naroch 147.39 336 *e* **PKPdf** 18 48 47.0 +0.5
GUMT Gumushane 147.77 304 *e*P **PKPbc** 18 48 50.5 -0.1
ANN Anapa 147.84 313 *i* PKP2 **PKPab** 18 48 55.0 +2.0
ANN pmax pmax
comp=Z,83nm,1.2s
EZC Erzincan 148.03 303 *e*P **PKPbc** 18 48 52.6 +1.2
PTK Pertek 148.19 301 *e*P **PKPbc** 18 48 50.9 -1.0
ILIC ilic-Erzincan 148.69 303 *e*P **PKPbc** 18 48 53.3 +0.2
SUW Suwalki 149.37 338 *e*PKPbc **PKPbc** 18 48 53.8 -0.3
SUW *e*PKPab **PKPab** 18 48 59.2 +0.4
SUW Suwalki 149.37 338 *e*PKP2 **PKPbc** 18 48 53.8 -0.3
SUW Suwalki 149.37 338 *e*PKPdf **PKPdf** 18 48 48.8 -1.0
SUW *e*PKPab **PKPab** 18 48 59.2 +0.4
AKASG Malin Array Be 149.39 328 PKP **PKPdf** 18 48 47.2 -2.7
comp=Z,0.9nm,0.6s,baz=23,slow=1.2,SNR=3.7
AKASG PKPbc **PKPbc** 18 48 53.4 -0.9
comp=Z,17nm,0.8s,baz=40,slow=3.4,SNR=39
AKASG Malin Array Be 149.39 328 PKHKP **PKPdf** 18 48 47.2 -2.7
AKASG Malin Array Be 149.39 328 PKP **PKPdf** 18 48 47.2 -2.7
AKASG PKPbc **PKPbc** 18 48 53.4 -0.9
AKBB Malin Array Si 149.39 328 *e*PKIKP **PKPdf** 18 48 49.7 -0.2
AKBB *e* 18 48 54.0
AKBB Malin Array Si 149.39 328 *e*PKPdf **PKPdf** 18 48 49.7 -0.2
AKBB *e*PKPbc **PKPbc** 18 48 54.0 -0.3
KIEV Kiev 149.40 328 *e*PKIKP **PKPdf** 18 48 49.9 0.0
KIEV *e* 18 48 54.5
KIEV Kiev 149.40 328 *e*PKPdf **PKPdf** 18 48 49.9 0.0
KIEV *e*PKPbc **PKPbc** 18 48 54.5 +0.2
KMRS Kahramanmaras 150.39 299 *e*P **PKPbc** 18 48 57.5 +0.3
ASF Jabal al Asfar 151.03 289 PKPbc **PKPbc** 18 48 58.5 -0.5
comp=Z,7.1nm,0.9s,baz=89,slow=1.5,SNR=8.2
ASF Jabal al Asfar 151.03 289 PKIKP **PKPbc** 18 48 58.5 -0.5
ASF Jabal al Asfar 151.03 289 PKPbc **PKPbc** 18 48 58.5 -0.5
GKP Gorka Klasztor 151.80 343 *e*PKPdf **PKPdf** 18 48 55.5 +1.9
GKP *e*PKPbc **PKiKP** 18 49 01.4 +1.1
GKP *e*PKPab **PKPab** 18 49 09.3 +0.4
GKP Gorka Klasztor 151.80 343 *e*PKIKP **PKPdf** 18 48 55.4 +1.9
MMAI Mount Meron Ar 152.24 290 PKPbc **PKPbc** 18 49 02.4 +0.7
comp=Z,9.9nm,0.7s,baz=89,slow=6.5,SNR=18
MMAI Mount Meron Ar 152.24 290 PKPbc **PKPbc** 18 49 02.4 +0.7
BR131 Keskin Array S 152.28 305 *e*PKPdf **PKPdf** 18 48 54.3 -0.6
BR131 *e*PKPab **PKPab** 18 49 11.9 +0.3
BRTR Keskin Array B 152.28 305 PKP **PKPdf** 18 48 54.7 -0.2
comp=Z,2.0nm,1.0s,baz=60,slow=3.0,SNR=4.7
BRTR PKPbc **PKPbc** 18 49 01.4 -0.3
comp=Z,6.1nm,0.8s,baz=125,slow=2.5,SNR=20
BRTR PKPab **PKPab** 18 49 08.8 -2.8
comp=Z,9.5nm,0.9s,baz=150,slow=2.7,SNR=8.0
BRTR Keskin Array B 152.28 305 PKIKP **PKPdf** 18 48 54.7 -0.2
BRTR 18 49 01.4
BRTR 18 49 08.8
BRTR Keskin Array B 152.28 305 PKP **PKPdf** 18 48 54.7 -0.2
BRTR PKPbc **PKPbc** 18 49 01.4 -0.3
BRTR PKPab **PKPab** 18 49 08.8 -2.8
LVV L'vov 152.36 332 *e*PKIKP **PKPbc** 18 49 01.3 0.0
EIL Elat 152.72 283 PKPbc **PKPbc** 18 49 03.5 +0.7
comp=Z,9.5nm,1.1s,baz=28,slow=5.6,SNR=6.7
EIL Elat 152.72 283 PKPbc **PKPbc** 18 49 03.5 +0.7
TLCR 153.03 319 ǁ *i*P **PKPbc** 18 49 04.4 +1.5
KWP Kalwaria Pacla 153.06 333 *e*PKPbc **PKPbc** 18 49 03.5 +0.6
KWP Kalwaria Pacla 153.06 333 *e*PKIKP **PKPdf** 18 48 55.5 -0.1
KWP Kalwaria Pacla 153.06 333 *e*PKPdf **PKPdf** 18 48 55.5 -0.1
KWP Kalwaria Pacla 153.06 333 ǁ *i*P **PKPbc** 18 49 04.4 +1.5
BUR08 Bucovina Ar. S 153.41 327 *e*PKPdf **PKPdf** 18 48 55.5 -0.8
BUR08 *e*PKPab **PKPab** 18 49 15.2 -0.8
BURAR Bucovina Array 153.42 327 ǁ *i*P **PKPbc** 18 49 06.5 +2.6
TESR 153.43 324 ǁ *i*P **PKPbc** 18 49 05.8 +2.0
OJC Ojcow 153.69 337 *e*PKiKP **PKiKP** 18 49 05.3 +1.0
KOLS Kolonicke sedl 153.78 332 *e*PKIKP **PKPdf** 18 48 59.4 +2.8
KOLS Kolonicke sedl 153.78 332 *e*PKP **PKPdf** 18 48 59.4 +2.8
STHS Stebnicka Huta 153.81 334 *e*PKIKP **PKPdf** 18 48 57.1 +0.4
STHS Stebnicka Huta 153.81 334 *e*PKP **PKPdf** 18 48 57.1 +0.4
CRVS Cervenica-Dubn 154.14 333 *e*PKIKP **PKPdf** 18 48 57.4 +0.3
CRVS Cervenica-Dubn 154.14 333 *e*PKP **PKPdf** 18 48 57.4 +0.3
NIE Niedzica 154.17 335 *e*PKiKP **PKiKP** 18 49 05.9 +0.5
KSP Ksiaz 154.24 342 *e*PKPbc **PKPbc** 18 49 06.7 +1.2
MLR Muntele Rosu 154.46 323 PKPbc **PKPbc** 18 49 06.1 -0.1
comp=Z,0.9nm,0.9s,baz=42,slow=2.6,SNR=3.8
MLR Muntele Rosu 154.46 323 PKPbc **PKPbc** 18 49 06.1 -0.1
MLR Muntele Rosu 154.46 323 ǁ *i*P **PKPbc** 18 49 08.4 +2.2
OKC Ostrava-Krasne 154.57 339 *e*PKPAB **PKPab** 18 49 16.0 -4.7
OKC *ep*PKP **pPKPab** 18 49 25.7 -0.7
CLL Collm 154.60 347 *e*PKPbc **PKPbc** 18 49 06.0 -0.1
comp=Z,21nm,1.5s
CLL *i* PKiKP **PKPab** 18 49 16.3 -4.4
comp=Z,26nm,1.1s
CLL *i* PKPab **PKPab** 18 49 21.3 +0.6
CLL *e* 18 49 27.0
comp=Z,17nm,0.9s
UPC Upice 154.62 342 *e*PKPAB **PKPab** 18 49 16.4 -4.5
DPC Dobruska-Polom 154.68 342 *e*PKIKP **PKPdf** 18 48 59.5 +1.6
DPC *e* 18 49 16.2
DPC Dobruska-Polom 154.68 342 *e*PKPDF **PKPdf** 18 48 59.5 +1.6
DPC *ex* x 18 49 16.2
BRG Berggiesshubel 154.80 345 *e*PKP **PKPbc** 18 49 08.5 +1.9
comp=Z,14nm,1.4s
BRG *i* 18 49 17.0
comp=Z,35nm,1.3s
BRG *e* 18 49 28.3
comp=Z,11nm,1.1s
KECS Kecovo 154.86 334 *e*PKIKP **PKPdf** 18 49 01.2 +3.1
KECS Kecovo 154.86 334 *e*PKP **PKPdf** 18 49 01.2 +3.1
PVCC Panska Ves 154.98 344 ǁ *e*PKP **PKPbc** 18 49 05.8 -1.2
PVCC *ex* x 18 49 14.4
VOIR 154.98 324 ǁ *i*P **PKPbc** 18 49 09.9 +2.6
DRGR 155.21 329 ǁ *i*P PKPdf 18 49 08.0 +9.2
VYHS Vyhne 155.48 336 *e*PKIKP **PKPdf** 18 49 00.0 +1.0
VYHS Vyhne 155.48 336 *e*PKP **PKPdf** 18 49 00.0 +1.0
PRU Pruhonice 155.48 344 ǁ *e*PKP PKPdf 18 49 09.2 +10
PRU *ex* x 18 49 18.9
VRAC Vranov 155.53 340 PKP **PKPdf** 18 48 58.8 -0.3
comp=Z,1.3nm,0.5s,baz=73,slow=9.7,SNR=3.7
VRAC Vranov 155.53 340 PKIKP **PKPdf** 18 48 58.8 -0.3
VRAC Vranov 155.53 340 PKP **PKPdf** 18 48 58.8 -0.3
NKC Novy Kostel 155.73 347 ǁ *e*PKP PKPdf 18 49 10.4 +11
GZR Gura Zlata 156.18 326 ǁ *i*P PKPdf 18 49 09.9 +10
PVL Pavlikeni 156.21 319 *e*P PKPab 18 49 35.0 +7.1
KHC Kasperske Hory 156.51 344 *e*PKIKP **PKPdf** 18 49 01.6 +1.2
KHC *e* 18 49 17.0
KHC *e* 18 49 29.0
KHC Kasperske Hory 156.51 344 *e*PKPDF **PKPdf** 18 49 01.6 +1.2
KHC *ex* x 18 49 17.0
KHC *e*PKPAB **PKPab** 18 49 29.0 -0.1
BZS Buzias 156.59 328 ǁ PKIKP **PKPdf** 18 49 01.1 +0.5
BZS Buzias 156.59 328 ǁ *i*P **PKPdf** 18 49 01.0 +0.5
GERES GERESS Array B 156.75 344 PKP **PKPdf** 18 49 00.8 +0.1
comp=Z,0.3nm,0.7s,baz=20,slow=3.1,SNR=3.6
GERES PKPbc PKPab 18 49 10.2 -20
comp=Z,0.6nm,0.7s,baz=13,slow=2.6,SNR=4.9
GERES GERESS Array B 156.75 344 PKIKP **PKPdf** 18 49 00.9 +0.1
GERES 18 49 10.2
GERES GERESS Array B 156.75 344 PKP **PKPdf** 18 49 00.8 +0.1
GERES PKPbc PKPab 18 49 10.2 -20
CONA Conrad Observa 156.97 340 ǁ *ip*PKPab **PKPab** 18 49 31.7 +0.5
comp=Z,23nm,1.5s
VTS Vitosha 157.83 320 *e*P **PKPab** 18 49 37.0 +1.8
MMB Musomiste 158.14 317 *e*P **PKPab** 18 49 38.0 +1.6
DBIC Dimbokro 158.25 155 PKPab **PKPab** 18 49 36.9 -0.5
comp=Z,3.3nm,0.7s,baz=245,slow=4.0,SNR=4.6
DBIC Dimbokro 158.25 155 PKPab **PKPab** 18 49 36.9 -0.5
WTTA Wattenberg 158.72 346 ǁ *i*sPKPab sPKPab 18 49 45.0 -1.5
comp=Z,20nm,1.5s
ESDC Sonseca Array 165.49 26 PKP **PKPdf** 18 49 10.8 +0.4
comp=Z,0.6nm,0.8s,baz=317,slow=8.8,SNR=4.1
ESDC PKPab **PKPab** 18 50 08.0 -0.5
comp=Z,2.5nm,0.8s,baz=328,slow=3.8,SNR=10
ESDC Sonseca Array 165.49 26 PKP **PKPdf** 18 49 10.8 +0.4
ESDC PKPab **PKPab** 18 50 08.0 -0.5
TORD Torodi Ar. Bea 166.24 170 PKP **PKPdf** 18 49 11.1 -0.4
comp=Z,0.3nm,0.2s,baz=188,slow=3.6,SNR=16
TORD PKPab **PKPab** 18 50 12.2 0.0
comp=Z,5.7nm,0.7s,baz=187,slow=4.5,SNR=15
TORD Torodi Ar. Bea 166.24 170 PKP **PKPdf** 18 49 11.1 -0.4
TORD PKPab **PKPab** 18 50 12.2 0.0

IDC 11 18:36:29.5±1.4, 2.07N×127.67E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.7/18, mbtmpg3.6/7, Error ellipse: s-maj=194.8km s-min=16.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.84**	**164**	P	P	18 41 35.2	+0.8
	1.1nm,0.7s,baz=342,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**26.29**	**167**	P	P	18 42 06.2	-0.8
	0.4nm,0.6s,baz=348,slow=8.5,SNR=4.5						
STKA	**Stephens Creek**	**36.26**	**160**	P	P	18 43 34.8	+0.1
	1.9nm,0.7s,baz=344,slow=12,SNR=5.1						
SONM	**Songino Array**	**49.16**	**341**	P	P	18 45 19.2	-0.2
	0.3nm,0.7s,baz=143,slow=7.1,SNR=2.5						
MKAR	**Makanchi Array**	**59.44**	**325**	P	P	18 46 34.4	+0.2
	0.4nm,0.5s,baz=119,slow=7.8,SNR=10						
ZALV	**Zalesovo Beam**	**62.48**	**333**	P	P	18 46 54.4	-0.3
	0.2nm,0.4s,baz=146,slow=8.7,SNR=2.7						
KURK	**Kurchatov**	**63.63**	**328**	P	P	18 47 02.4	+0.1
	0.8nm,0.2s,baz=127,slow=5.9,SNR=2.9						

*ISCJB **11** 18:46:42.9±0.3, 27.79N×0.03×139.74E±0.06, h478km, mb3.8/24, Error ellipse: s-maj=6.7km s-min=4.3km az=10.7*
*IDC **11** 18:46:43.1±0.5, 27.76N×139.74E, h474km±6km, mb3.3/15, mb1 3.4/20, mb1mx3.3/28, mbtmpg3.3/20, Error ellipse: s-maj=12.2km s-min=10.2km az=80.0*
*NEIC **11** 18:46:43.8±0.5, 27.79N×139.75E, h481km±6km, mb4.1/9, Error ellipse: s-maj=9.1km s-min=8.1km az=66.0*
*JMA **11** 18:46:44.1±0.2, 27.97N×140.41E, h502km±4km, M4.0*

ISC 11 18:46:43.6±0.5, 27.82N±0.07×139.76E±0.07, h478km, n79, σ1s36/99, mb3.7/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.27**	**108**	P	**P**	**18 47 49.0**	**+0.9**
	89nm,0.3s,baz=281,slow=18,SNR=16						
CBIJ				S	**S**	**18 48 39.2**	**-1.3**
	250nm,0.3s,baz=269,slow=22,SNR=23						
CBIJ	**Chichi jima**	**2.27**	**108**	P	**P**	**18 47 49.0**	**+0.9**
CBIJ				S	**S**	**18 48 39.2**	**-1.3**
CBIJ	**Chichi jima**	**2.27**	**108**	P	**P**	**18 47 48.8**	**+0.7**
CBIJ				*e*S	**S**	**18 48 39.8**	**-0.7**
JHHJ	**Haha-jima-NKT**	**2.45**	**118**	P	**P**	**18 47 50.3**	**+1.1**
JHHJ				*e*S	**S**	**18 48 42.5**	**0.0**
BSO1	**Boso 1**	**6.89**	**8**	P	**P**	**18 48 29.3**	**+2.1**
BSO1				S	**S**	**18 49 53.8**	**+1.5**
BSO3	**Boso 3**	**6.99**	**5**	P	**P**	**18 48 30.0**	**+1.5**
BSO3				S	**S**	**18 49 55.1**	**+0.5**
JIE	**Ise**	**7.06**	**339**	P	P	18 48 33.0	+3.5
JIE				S	**S**	**18 49 59.4**	**+3.0**
JKN2	**Miekihoku**	**7.07**	**336**	P	P	18 48 33.3	+3.8
JKN2				S	**S**	**18 50 00.3**	**+3.8**
JOD2	**Odawara 2**	**7.45**	**356**	P	**P**	**18 48 34.8**	**+1.3**
JOD2				S	**S**	**18 50 03.3**	**-0.5**
JNY	**Yasuok**	**7.69**	**348**	P	**P**	**18 48 38.0**	**+1.9**
JTO	**Tosashimizu**	**7.84**	**312**	P	P	18 48 41.2	+3.6
JHU	**Hanno**	**8.02**	**357**	P	**P**	**18 48 39.5**	**0.0**
JHU				*e*S	**S**	**18 50 12.7**	**-2.1**
JRY	**Ryogami san**	**8.21**	**355**	P	**P**	**18 48 42.4**	**+0.9**
JRY				*e*S	**S**	**18 50 17.4**	**-1.0**
JYT	**Yasato**	**8.39**	**2**	P	**P**	**18 48 44.2**	**+0.8**
JYT				S	**S**	**18 50 18.8**	**-3.1**
JAG	**Ashikaga**	**8.59**	**358**	P	**P**	**18 48 45.5**	**0.0**
JAG				*e*S	**S**	**18 50 20.4**	**-5.3**
JHO	**Hitachi**	**8.79**	**4**	P	**P**	**18 48 48.9**	**+1.2**
JHO				S	**S**	**18 50 27.1**	**-2.7**
MJAR	**Matsushiro Arr**	**8.80**	**352**	P	**P**	**18 48 47.8**	**0.0**
	1.4nm,0.3s,baz=170,slow=10,SNR=26						
MJAR				S	**S**	**18 50 27.6**	**-2.2**
	0.3nm,0.3s,baz=170,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**8.80**	**352**	P	**P**	**18 48 47.8**	**0.0**
MJAR				S	**S**	**18 50 27.6**	**-2.2**
MAJO	**Matsushiro**	**8.80**	**352**	*e*P	**P**	**18 48 48.3**	**+0.6**
	6.0nm,0.4s						
MAT	**Matsushiro**	**8.80**	**352**	P	**P**	**18 48 49.0**	**+1.2**
MAT				*e*S	**S**	**18 50 31.1**	**+1.2**
JFK	**Kawauchi**	**9.57**	**5**	P	**P**	**18 48 58.0**	**+2.0**
JFK				*e*S	**S**	**18 50 43.1**	**-1.9**
JOW	**Kunigami**	**10.26**	**267**	P	**P**	**18 49 04.2**	**+0.6**
	2.0nm,0.3s,baz=97,slow=17,SNR=4.9						
JOW	**Kunigami**	**10.26**	**267**	P	**P**	**18 49 04.2**	**+0.6**
JMK	**Ichinoseki**	**11.17**	**6**	P	**P**	**18 49 14.8**	**+1.7**
JMK				*e*S	**S**	**18 51 18.4**	**+2.0**
KSRS	**Korea Array**	**13.84**	**317**	P	**P**	**18 49 42.0**	**+0.4**
	0.1nm,0.3s,baz=142,slow=11,SNR=4.3						
KSAR	**Wonju Array Be**	**13.86**	**317**	P	**P**	**18 49 42.0**	**+0.2**
USRK	**Ussuriysk Arra**	**17.50**	**341**	P	**P**	**18 50 20.6**	**+0.7**
	0.4nm,0.3s,baz=154,slow=11,SNR=7.3						
ENH	**Enshi**	**26.55**	**283**	*e*P	**P**	**18 51 42.3**	**+0.2**
	18nm,0.9s						
PETK	**Petropavlovsk-**	**28.55**	**23**	P	**P**	**18 51 60.0**	**+0.7**
	0.7nm,0.4s,baz=180,slow=2.0,SNR=7.5						
PETK	**Petropavlovsk-**	**28.55**	**23**	P	**P**	**18 51 60.0**	**+0.7**
ULN	**Ulaanbaatar**	**32.33**	**317**	*e*P	**P**	**18 52 33.0**	**+0.8**
	0.7nm,0.4s						
SONM	**Songino Array**	**32.71**	**317**	P	**P**	**18 52 35.9**	**+0.4**
	1.5nm,0.7s,baz=133,slow=9.2,SNR=13						
SONM				ScP	**ScP**	**18 58 03.7**	**-1.8**
	0.3nm,0.9s,baz=130,slow=4.0,SNR=3.8						
SONM	**Songino Array**	**32.71**	**317**	P	**P**	**18 52 35.9**	**+0.4**
SONM				ScP	**ScP**	**18 58 03.7**	**-1.8**
FX1	**Attu Island--F**	**35.18**	**35**	P	**P**	**18 52 56.7**	**+0.7**
	4.3nm,0.4s,baz=203,slow=7.7,SNR=11						
FX1	**Attu Island--F**	**35.18**	**35**	P	**P**	**18 52 56.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.53**	**265**	P	**P**	**18 53 22.7**	**-1.5**
	1.3nm,0.9s,baz=55,slow=7.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	**38.53**	**265**	P	**P**	**18 53 22.7**	**-1.5**
BILL	**Bilibino**	**43.26**	**14**	*e*P	**P**	**18 53 59.1**	**-2.2**
	9.0nm,0.8s						
TAPN	**Taplejung**	**45.84**	**282**	*e*P	**P**	**18 54 23.2**	**+0.9**
	3.2nm,0.4s						
ODAN	**Odare**	**46.24**	**282**	*e*P	**P**	**18 54 25.6**	**+0.3**
	21nm,0.9s						
RAMN	**Ramite**	**46.90**	**282**	*e*P	**P**	**18 54 31.1**	**+0.8**
	18nm,0.8s						
JIRN	**Jiri**	**47.09**	**283**	*e*P	**P**	**18 54 33.2**	**+1.3**
	21nm,0.6s						
GUN	**Gumba**	**47.30**	**283**	*e*P	**P**	**18 54 34.7**	**+1.3**
	20nm,0.5s						
ZALV	**Zalesovo Beam**	**47.53**	**319**	P	**P**	**18 54 34.1**	**-0.3**
	1.8nm,0.4s,baz=102,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**47.53**	**319**	P	**P**	**18 54 34.1**	**-0.3**
WRA	**Warramunga Arr**	**47.77**	**187**	P	**P**	**18 54 36.0**	**-0.6**
	0.9nm,0.3s,baz=5.0,slow=7.7,SNR=36						
WRA	**Warramunga Arr**	**47.77**	**187**	P	**P**	**18 54 36.0**	**-0.6**
PKI	**Pulchoki**	**47.78**	**283**	*e*P	**P**	**18 54 37.5**	**+0.4**
	3.1nm,0.3s						
KKN	**Kakani**	**47.84**	**283**	*e*P	**P**	**18 54 38.1**	**+0.7**
	6.9nm,0.5s						
DMN	**Daman**	**48.04**	**283**	*e*P	**P**	**18 54 39.5**	**+0.6**
	10nm,0.5s						
GKN	**Gorkha**	**48.35**	**284**	*e*P	**P**	**18 54 41.7**	**+0.6**
MK31	**Makanchi Array**	**48.35**	**309**	*e*P	**P**	**18 54 41.3**	**+0.6**
MKAR	**Makanchi Array**	**48.35**	**309**	P	**P**	**18 54 41.2**	**+0.5**
	1.7nm,0.5s,baz=88,slow=10.0,SNR=27						
MKAR				ScP	**ScP**	**18 59 04.1**	**-2.9**
	0.2nm,0.6s,baz=77,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**48.35**	**309**	P	**P**	**18 54 41.2**	**+0.5**
MKAR				ScP	**ScP**	**18 59 04.1**	**-2.9**
DANN	**Dangsing**	**49.02**	**285**	*e*P	**P**	**18 54 47.4**	**+1.1**
	15nm,0.5s						
KOLN	**Koldanda**	**49.29**	**284**	*e*P	**P**	**18 54 49.0**	**+0.8**
	3.9nm,0.3s						
KURK	**Kurchatov**	**50.94**	**314**	P	**P**	**18 55 00.4**	**+0.7**
	10nm,0.6s,baz=93,slow=7.9,SNR=63						
KURK	**Kurchatov**	**50.94**	**314**	P	**P**	**18 55 00.4**	**+0.7**
	0.9nm,0.7s						
AS31	**Alice Springs**	**51.49**	**187**	*e*P	**P**	**18 55 03.8**	**-0.3**
ASAR	**Alice Springs**	**51.49**	**187**	P	**P**	**18 55 03.5**	**-0.5**
	0.4nm,0.4s,baz=0.9,slow=5.4,SNR=27						
ASAR	**Alice Springs**	**51.49**	**187**	P	**P**	**18 55 03.5**	**-0.5**
TKM2	**Tokmak 2**	**53.24**	**304**	*e*P	**P**	**18 55 16.9**	**+0.2**
	4.1nm,1.0s						
BRVK	**Borovoye**	**56.12**	**317**	*e*P	**P**	**18 55 37.1**	**+0.6**
	3.5nm,0.7s						
KKAR	**Karatay Array**	**56.91**	**305**	*e*P	**P**	**18 55 42.6**	**+0.4**
	6.2nm,0.6s						
KBL	**Kabul**	**59.77**	**296**	*e*P	**P**	**18 56 02.6**	**+0.5**
	5.7nm,0.9s						
YKA	**Yellowknife Ar**	**72.52**	**28**	P	**P**	**18 57 20.6**	**-0.2**
	1.0nm,0.4s,baz=295,slow=5.7,SNR=18						
YKA	**Yellowknife Ar**	**72.52**	**28**	P	**P**	**18 57 20.6**	**-0.2**
FINES	**FINESS Array B**	**76.34**	**333**	P	**P**	**18 57 42.1**	**-0.3**
	7.2nm,1.0s,baz=63,slow=7.0,SNR=24						
FINES	**FINESS Array B**	**76.34**	**333**	P	**P**	**18 57 42.1**	**-0.3**
MIB	**Mutribah**	**78.64**	**298**	*e*P	**P**	**18 57 55.2**	**-0.3**
MIB				AMb	AMB	18 57 56.1	
	comp=Z,13nm,1.0s						
NAY	**Al-Naaiem**	**78.95**	**297**	*e*P	**P**	**18 57 56.8**	**-0.5**
NAY				AMb	AMB	18 57 59.1	
	comp=Z,7.8nm,1.2s						
NVAR	**Mina Array Bea**	**81.75**	**51**	P	**P**	**18 58 12.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=305,slow=5.6,SNR=7.7						
NVAR	**Mina Array Bea**	**81.75**	**51**	P	**P**	**18 58 12.5**	**+0.5**
BRTR	**Keskin Array B**	**83.93**	**312**	P	**P**	**18 58 22.2**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=80,slow=9.2,SNR=3.5						
BRTR	**Keskin Array B**	**83.93**	**312**	P	**P**	**18 58 22.2**	**-0.6**
PDAR	**Pinedale Array**	**85.20**	**44**	P	**P**	**18 58 29.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=294,slow=1.5,SNR=3.6						
PDAR	**Pinedale Array**	**85.20**	**44**	P	**P**	**18 58 29.5**	**+0.3**
TXAR	**Lajitas Array**	**96.87**	**52**	P	**P**	**18 59 23.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=298,slow=1.9,SNR=3.1						
TXAR	**Lajitas Array**	**96.87**	**52**	P	**P**	**18 59 23.9**	**+0.7**

IDC 11 18:56:58.7±9.3, 5.46S×149.39E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/16, mbtmpg3.5/4, Error ellipse: s-maj=144.7km s-min=69.6km az=37.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.53**	**224**	P	P	19 01 39.5	+0.6
	0.4nm,0.7s,baz=50,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**23.45**	**218**	P	P	19 02 08.5	-1.5
	0.2nm,0.3s,baz=52,slow=8.5,SNR=8.2						
FITZ	**Fitzroy Crossi**	**26.38**	**240**	P	P	19 02 37.3	+0.4
	1.4nm,0.7s,baz=75,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**27.27**	**195**	P	P	19 02 45.5	+0.7
	0.8nm,0.8s,baz=28,slow=8.9,SNR=3.1						

IDC 11 18:58:19.8±1.0, 10.65S×161.44E, h0km, mb3.9/10, mb1 4.1/10, mb1mx4.0/18, mbtmpg3.8/10, Error ellipse: s-maj=27.4km s-min=20.2km az=141.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.91**	**309**	Pn	Pn	18 58 54.3	+0.7
	62nm,0.3s,baz=159,slow=7.5,SNR=57						
HNR				Sn	Sn	18 59 18.8	+0.4
	329nm,0.3s,baz=199,slow=18,SNR=8.5						
DZM	**Mont Dzumac**	**12.33**	**158**	Pn	Pn	19 01 21.5	+4.7
	0.5nm,0.3s,baz=276,slow=23,SNR=6.1						
DZM				Sn	Sn	19 03 30.1	-5.0
	0.2nm,0.3s,baz=319,slow=20,SNR=2.2						
CTA	**Charters Tower**	**17.38**	**236**	P	P	19 02 27.4	+2.0
	0.4nm,0.3s,baz=58,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**27.69**	**247**	P	P	19 04 10.4	+0.4
	1.8nm,0.6s,baz=77,slow=9.6,SNR=9.2						
STKA	**Stephens Creek**	**27.98**	**218**	P	P	19 04 12.2	-0.2
	1.3nm,0.7s,baz=292,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**29.25**

17nm,2.0s
WRA Warramunga Arr 27.05 164 P **P** 19 23 48.0 -0.4
1.1nm,0.5s,baz=343,slow=10,SNR=30
ASAR Alice Springs 30.50 167 P **P** 19 24 19.1 0.0
0.8nm,0.4s,baz=340,slow=7.2,SNR=44
KLBR Kellerberrin 38.46 192 *eP* **P** 19 25 27.4 -0.2
STKA Stephens Creek 40.46 160 *eP* **P** 19 25 44.9 +0.6
1.8nm,0.6s,baz=358,slow=7.7,SNR=9.5
STKA Stephens Creek 40.46 160 *eP* **P** 19 25 44.6 +0.3
1.3nm,0.4s
SONM Songino Array 44.95 341 P **P** 19 26 20.9 +0.3
0.2nm,0.6s,baz=152,slow=9.5,SNR=2.6
MKAR Makanchi Array 55.47 324 P **P** 19 27 38.0 -2.1
0.4nm,0.5s,baz=114,slow=7.7,SNR=6.6
MKAR PcP **PcP** 19 28 37.8 -1.6
0.4nm,0.6s,baz=123,slow=5.5,SNR=2.5
KURK Kurchatov 59.60 327 P **P** 19 28 07.5 -1.5
0.6nm,0.6s,baz=124,slow=7.4,SNR=14
BVAR Borovoye Array 65.19 326 P **P** 19 28 44.7 -1.5
0.3nm,0.5s,baz=116,slow=6.9,SNR=3.9
ILAR Eielson Array 83.02 26 P P 19 30 39.6 +10
0.3nm,0.8s,baz=237,slow=5.1,SNR=4.8
ARCES ARCESS Array B 88.12 340 P **P** 19 30 57.7 +2.6
11nm,1.1s,baz=98,slow=6.7,SNR=4.1
TORD Torodi Ar. Bea 121.95 290 PKP **PKPdf** 19 36 58.7 -1.1
0.1nm,0.4s,baz=74,slow=1.6,SNR=4.2

*IDC **11** 19:32:43.7±0.9, 26.66S×176.07W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.3/16, mbtmp4.0/10, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=42.7km s-min=19.8km az=157.0*
*ISCJB **11** 19:32:46.6±0.6, 26.68S±0.2×176.00W±0.1, h32km, mb4.1/12, MS3.7/3, Error ellipse: s-maj=22.4km s-min=14.5km az=166.1*
*NEIC **11** 19:32:52.0±4.3, 26.78S×176.05W, h64km±36km, mb4.5/2, Error ellipse: s-maj=19.7km s-min=17.1km az=123.0*
ISC 11 19:32:48.4±0.6, 26.7S±0.2×176.0W±0.1, h32km, n46, σ0 90/43, mb4.1/12, MS3.8/3, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAR	**Rarotonga**	**15.81**	**73**	LR		LR	19 40 14.8	
	comp=Z,308nm,21.2s,baz=244,slow=28							
DZM	**Mont Dzumac**	**16.65**	**282**	*e*LR		LR	19 40 18.6	
	395nm,25.6s							
DZM	**Mont Dzumac**	**16.65**	**282**	Pn		**P**	**19 36 41.7**	**+0.1**
	0.2nm,0.3s,baz=120,slow=20,SNR=3.8							
DZM				LR		LR	19 40 30.5	
	comp=Z,171nm,19.9s,baz=202,slow=28							
DZM	**Mont Dzumac**	**16.65**	**282**	Pn		**P**	**19 36 41.7**	**+0.1**
TBI	**Tubuai**	**24.26**	**88**	*e*LR		LR	19 43 43.8	
	290nm,28.0s							
PPT2	**Papeete2**	**26.07**	**75**	*e*LR		LR	19 44 28.3	
	370nm,27.0s							
HNR	**Honiara**	**28.53**	**303**	LR		LR	19 47 34.0	
	comp=Z,115nm,21.4s,baz=247,slow=31							
STKA	**Stephens Creek**	**37.16**	**252**	P		**P**	**19 39 57.2**	**+0.8**
	1.3nm,0.9s,baz=98,slow=13,SNR=3.0							
STKA				LR		LR	19 52 56.5	
	comp=Z,157nm,19.0s,baz=295,slow=33							
STKA	**Stephens Creek**	**37.16**	**252**	P		**P**	**19 39 57.2**	**+0.8**
AS31	**Alice Springs**	**45.20**	**262**	*e*P		**P**	**19 41 02.3**	**-0.4**
ASAR	**Alice Springs**	**45.20**	**262**	P		**P**	**19 41 01.1**	**-1.6**
	0.4nm,0.4s,baz=98,slow=7.3,SNR=18							
ASAR	**Alice Springs**	**45.20**	**262**	P		**P**	**19 41 01.1**	**-1.6**
WRA	**Warramunga Arr**	**45.87**	**268**	P		**P**	**19 41 05.8**	**-2.1**
	3.6nm,0.6s,baz=104,slow=8.2,SNR=27							
WRA	**Warramunga Arr**	**45.87**	**268**	P		**P**	**19 41 05.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**54.24**	**266**	P		**P**	**19 42 10.9**	**-0.7**
	3.1nm,0.7s,baz=137,slow=7.6,SNR=7.8							
FITZ	**Fitzroy Crossi**	**54.24**	**266**	P		**P**	**19 42 10.9**	**-0.7**
RPN	**Rapa Nui**	**58.76**	**107**	LR		LR	20 00 56.7	
	comp=Z,83nm,19.2s,baz=350,slow=29							
QSPA	**South Pole Qui**	**63.36**	**180**	*e*P		**P**	**19 43 14.1**	**-0.3**
	11nm,1.1s							
MJAR	**Matsushiro Arr**	**76.30**	**324**	P		**P**	**19 44 34.3**	**+0.2**
	2.6nm,0.8s,baz=153,slow=6.1,SNR=7.8							
MJAR	**Matsushiro Arr**	**76.30**	**324**	P		**P**	**19 44 34.3**	**+0.2**
SNAA	**Sanae**	**81.74**	**178**	*e*P		**P**	**19 45 02.9**	**-0.6**
	2.2nm,0.8s							
SNAA				*e*PcP		**PcP**	**19 45 09.8**	**+0.6**
NVAR	**Mina Array Bea**	**84.36**	**42**	P		**P**	**19 45 17.9**	**+0.3**
	1.1nm,0.8s,baz=231,slow=9.3,SNR=4.5							
NVAR	**Mina Array Bea**	**84.36**	**42**	P		**P**	**19 45 17.9**	**+0.3**
TXAR	**Lajitas Array**	**88.92**	**56**	P		**P**	**19 45 40.3**	**+0.3**
	0.9nm,0.9s,baz=218,slow=7.5,SNR=7.6							
TXAR	**Lajitas Array**	**88.92**	**56**	P		**P**	**19 45 40.3**	**+0.3**
PDAR	**Pinedale Array**	**92.27**	**42**	P		**P**	**19 45 54.7**	**-0.7**
	0.8nm,1.0s,baz=241,slow=3.1,SNR=3.7							
PDAR	**Pinedale Array**	**92.27**	**42**	P		**P**	**19 45 54.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**93.88**	**289**	P		**P**	**19 46 04.3**	**+1.2**
	0.6nm,0.8s,baz=144,slow=4.4,SNR=4.9							
CMAR	**Chiang Mai Arr**	**93.88**	**289**	P		**P**	**19 46 04.3**	**+1.2**
ILAR	**Eielson Array**	**93.99**	**12**	P		**P**	**19 46 01.8**	**-0.8**
	0.5nm,0.8s,baz=217,slow=4.9,SNR=6.5							
ILAR	**Eielson Array**	**93.99**	**12**	P		**P**	**19 46 01.8**	**-0.8**
MKAR	**Makanchi Array**	**116.74**	**311**	PKP		**PKPdf**	**19 51 29.0**	**-0.3**
	0.3nm,0.6s,baz=191,slow=0.9,SNR=3.4							
MKAR	**Makanchi Array**	**116.74**	**311**	PKP		**PKPdf**	**19 51 29.0**	**-0.3**
NB2	**NORSAR Subarra**	**145.36**	**354**	PKP		**PKPab**	**19 52 22.5**	**0.0**
	comp=Z,6.3nm,1.1s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**145.36**	**354**	PKPbc		**PKPbc**	**19 52 21.8**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=11,slow=2.4,SNR=6.8							
NOA	**NORSAR Array B**	**145.36**	**354**	PKPbc		**PKPbc**	**19 52 21.8**	**-0.5**
HFS	**Hagfors**	**145.96**	**351**	PKPbc		**PKPdf**	**19 52 23.0**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=57,slow=5.3,SNR=4.1							
HFS	**Hagfors**	**145.96**	**351**	PKPbc		**PKPdf**	**19 52 23.0**	**-0.4**
AKASG	**Malin Array Be**	**149.30**	**328**	PKPbc		**PKPbc**	**19 52 33.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=38,slow=3.3,SNR=5.1							
AKASG	**Malin Array Be**	**149.30**	**328**	PKPbc		**PKPbc**	**19 52 33.6**	**0.0**
ASF	**Jabal al Asfar**	**150.92**	**289**	PKPab		**PKPab**	**19 52 47.1**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=3.6,slow=1.7,SNR=4.1							
ASF	**Jabal al Asfar**	**150.92**	**289**	PKPab		**PKPab**	**19 52 47.1**	**+1.4**
BRTR	**Keskin Array B**	**152.17**	**305**	PKPbc		**PKPbc**	**19 52 41.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=149,slow=2.9,SNR=4.1							
BRTR				PKPab		**PKPab**	**19 52 52.0**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=81,slow=4.3,SNR=6.0							
BRTR	**Keskin Array B**	**152.17**	**305**	PKPbc		**PKPbc**	**19 52 41.3**	**+0.3**
BRTR				PKPab		**PKPab**	**19 52 52.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**166.31**	**170**	PKPab		**PKPab**	**19 53 52.9**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=194,slow=4.3,SNR=8.1							
TORD	**Torodi Ar. Bea**	**166.31**	**170**	PKPab		**PKPab**	**19 53 52.9**	**+0.8**

MAN 11 19:36:27, 9.72N×124.76E, h5km, mb4.7, ML3.6, MS3.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**0.42**	**13**	*e*P		Pg	19 36 36.3	+1.1
MSLP				*e*S		Sg	19 36 45.9	+5.0
TBP	**Tagbilaran**	**0.89**	**268**	*e*P		Pb	19 36 44.7	-0.2
TBP				*e*S		Sb	19 36 57.2	+0.1
CGP	**Cagayan de Oro**	**1.26**	**183**	↑*i*P		Pg	19 36 49.7	-1.4
CGP				*i* S		Sg	19 37 07.4	0.0
OCLP	**Ormoc**	**1.33**	**354**	*e*P		Pn	19 36 52.0	-0.4
SNPH	**Sibulan**	**1.55**	**256**	↑*i*P		Pn	19 36 55.6	+0.2
SNPH				*i* S		Sg	19 37 17.6	+0.5
BUKP	**Musuan**	**1.85**	**171**	*e*P		Pb	19 37 00.8	-0.6
BUKP				*e*S		Sb	19 37 25.2	+0.3
PAGZ	**Pagadian**	**2.30**	**216**	*e*P		Pn	19 37 05.2	-0.5

IDC 11 19:45:11.1±1.6, 24.20S×67.17W, h152km±14km, mb3.9/5, mb1 4.0/6, mb1mx3.7/16, mbtmp3.9/6, Error ellipse: s-maj=33.8km s-min=13.2km az=96.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.44**	**187**	P		Pn	19 46 57.8	+0.8
	0.3nm,0.3s,baz=356,slow=12,SNR=50							
CFAA				S		Sn	19 48 17.2	-3.1
	0.5nm,0.3s,baz=212,slow=14,SNR=7.2							
LPAZ	**La Paz**	**7.92**	**353**	P		Pn	19 47 05.2	+0.9
	9.1nm,0.3s,baz=162,slow=7.0,SNR=104							
LPAZ				S		Sn	19 48 30.1	-3.1
	0.8nm,0.3s,baz=305,slow=8.3,SNR=4.5							
USHA	**Ushuaia**	**30.61**	**181**	P		P	19 51 11.5	+1.0
	9.3nm,0.9s,baz=27,slow=6.8,SNR=2.7							
VNA3	**Neumayer Olymp**	**57.02**	**161**	*e*		P	19 54 41.9	+1.3
VNA2	**Neumayer--Watz**	**57.59**	**160**	*e*		P	19 54 45.9	+1.3
	baz=287,slow=6.9							
TORD	**Torodi Ar. Bea**	**76.79**	**69**	P		P	19 56 46.1	-0.3
	2.3nm,0.4s,baz=266,slow=6.6,SNR=48							
BOSA	**Boshof**	**80.78**	**117**	P		P	19 57 08.2	-0.1
	3.9nm,1.1s,baz=240,slow=3.9,SNR=4.0							
LBTB	**Lobatse**	**82.45**	**114**	P		P	19 57 16.9	-0.2
	1.1nm,0.5s,baz=250,slow=6.4,SNR=5.3							
ESDC	**Sonseca Array**	**86.65**	**44**	P		P	19 57 37.4	-0.2
	0.1nm,0.4s,baz=248,slow=4.1,SNR=3.5							
ASAR	**Alice Springs**	**128.21**	**205**	PKP		PKPdf	20 04 00.0	-0.1
	0.7nm,0.8s,baz=124,slow=1.7,SNR=7.1							
WRA	**Warramunga Arr**	**131.38**	**207**	PKP		PKPdf	20 04 06.4	+0.2
	0.4nm,0.6s,baz=152,slow=1.7,SNR=7.1							
WRA				SKPbc		SKPbc	20 07 14.8	-2.4
	0.4nm,0.6s,baz=150,slow=3.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**143.64**	**28**	PKP		PKPbc	20 04 25.6	+0.2
	1.7nm,0.5s,baz=311,slow=4.2,SNR=6.9							
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc		PKPbc	20 04 35.5	+0.3
	1.6nm,0.5s,baz=301,slow=3.4,SNR=17							

*IDC **11** 19:50:41.1±0.8, 1.65S×99.64E, h0km, mb4.5/15, mb1 4.5/16, mb1mx4.3/24, mbtmp4.5/16, ML4.5/1, MS3.6/2, Ms1 3.7/2, ms1mx2.9/38, Error ellipse: s-maj=29.7km s-min=13.0km az=62.0*
*BJI **11** 19:50:42.3, 1.67S×99.87E, h19km, mB5.2/4, mb4.6/11, Ms4.8/3, Ms7 4.7/3*
*MOS **11** 19:50:44.6±1.0, 1.56S×99.73E, h33km, mb4.9/5, Error ellipse: s-maj=20.4km s-min=9.7km az=109.4*
*DJA **11** 19:50:44, 1.81S×99.48E, h10km, MLv4.9/15*
*ISCJB **11** 19:50:45.3±0.8, 1.70S±0.05×99.56E±0.07, h47km±6km, mb4.6/24, MS3.5/2, Error ellipse: s-maj=13.3km s-min=5.3km az=145.4*
*NEIC **11** 19:50:46.4±0.5, 1.59S×99.73E, h35km, mb5.0/2, Error ellipse: s-maj=17.2km s-min=7.9km az=58.0*
ISC 11 19:50:45.4±0.7, 1.62S±0.06×99.60E±0.06, h30km±4km, n132, σ1 9/18/134, mb4.7/24, 4C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SISI	**Saibi**	**0.59**	**300**	P		**Pb**	**19 50 55.9**	**-1.3**
PPI	**Padang Panjang**	**1.41**	**35**	P		**Pb**	**19 51 10.5**	**-0.6**
KRJI	**Kerinci**	**1.92**	**104**	P		**Pb**	**19 51 18.7**	**-1.1**
MNSI	**Mandailing Nat**	**2.40**	**360**	P		**Pn**	**19 51 24.6**	**+1.9**
BKNI	**Bangkinang**	**2.42**	**37**	P		**Pb**	**19 51 26.4**	**-1.8**
RGRI	**Rengat**	**3.02**	**65**	P		**Pb**	**19 51 37.0**	**-1.4**
SBSI	**Sibolga**	**3.23**	**347**	P		**Pn**	**19 51 32.5**	**-1.6**
KSI	**Kapahiang**	**3.61**	**124**	P		**Pn**	**19 51 40.3**	**+0.9**
MNAI	**Manna**	**4.32**	**129**	P		**Pn**	**19 51 51.2**	**+2.1**
PSI	**Prapat**	**4.45**	**351**	P		**Pn**	**19 51 50.9**	**-0.1**
KGM	**Kluang**	**5.19**	**46**	P		Pn	19 52 05.0	+3.9
TSI	**Tuntungan**	**5.19**	**349**	P		Pb	19 52 10.4	-5.1
	340nm,0.9s,1.0nm							
TPTI		**5.42**	**334**	P		**Pn**	**19 52 03.2**	**-1.0**
	182nm,1.7s,38μm1.4nm							
MYKOM	**Kota Tinggi**	**5.44**	**51**	P		**Pn**	**19 52 07.0**	**+2.5**
LWLI	**Liwa**	**5.59**	**127**	P		**Pn**	**19 52 07.4**	**+0.8**
	509nm,0.7s,6μm1.7nm							
KLI	**Kotabumi**	**6.16**	**122**	P		**Pn**	**19 52 16.5**	**+2.1**
	170nm,0.9s,2μm0.5nm							
IPM	**Ipoh**	**6.23**	**13**	*e*Pn		**Pn**	**19 52 18.3**	**+2.9**
IPM	**Ipoh**	**6.23**	**13**	P		Pn	19 52 19.3	+3.9
IPM	**Ipoh**	**6.23**	**13**	P		Pn	19 52 20.7	+5.3
	104nm,0.8s,0.4nm							
KULM	**Kulim**	**6.95**	**9**	*e*Pn		**Pn**	**19 52 27.9**	**+2.7**
KULM	**Kulim**	**6.95**	**9**	P		**Pn**	**19 52 27.0**	**+1.7**
KULM	**Kulim**	**6.95**	**9**	P		Pn	19 52 30.6	+5.4
	69nm,0.9s,1μm0.3nm							
CGJI	**Cibinong**	**7.84**	**129**	P		**Pn**	**19 52 36.6**	**-0.9**
	76nm,0.6s,2μm0.4nm							
LEM	**Lembang**	**9.52**	**123**	P		Pn	19 53 09.0	+8.3
	97nm,0.9s							
CISI	**Cisompet, Garu**	**10.09**	**126**	P		**Pn**	**19 53 09.0**	**+0.6**
CM31	**Chiang Mai Arr**	**19.96**	**358**	*e*P		**Pn**	**19 55 16.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P		**P**	**19 55 13.9**	**-1.4**
	0.5nm,0.3s,baz=188,slow=10,SNR=35							
CMAR				LR		LR	20 03 48.4	
	comp=Z,159nm,18.2s,baz=175,slow=39							
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P		**P**	**19 55 14.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P		**P**	**19 55 13.9**	**-1.4**
CHTO	**Chiang Mai**	**20.32**	**358**	*e*P		**P**	**19 55 19.3**	**+0.1**
CHTO	**Chiang Mai**	**20.32**	**358**	*e*P		**P**	**19 55 19.3**	**+0.1**
KAPI	**Kappang**	**20.40**	**100**	P		**P**	**19 55 19.1**	**-1.0**
	14nm,0.6s,baz=291,slow=12,SNR=10							
KAPI	**Kappang**	**20.40**	**100**	P		**P**	**19 55 19.1**	**-1.0**
KAPI				*e*P		Pn	19 55 20.5	-1.9
SHL	**Shillong**	**28.04**	**345**	*e*P		P	19 56 39.0	+4.6
ODAN	**Odare**	**30.67**	**338**	*e*P		**P**	**19 56 59.3**	**+1.5**
	16nm,0.8s							
ODAN	**Odare**	**30.67**	**338**	*e*P		**P**	**19 56 59.3**	**+1.5**
TAPN	**Taplejung**	**31.00**	**339**	*e*P		**P**	**19 57 02.2**	**+1.5**
TAPN	**Taplejung**	**31.00**	**339**	*e*P		**P**	**19 57 02.2**	**+1.5**
RAMN	**Ramite**	**31.05**	**337**	*e*P		**P**	**19 57 02.7**	**+1.6**
	15nm,0.7s							
RAMN	**Ramite**	**31.05**	**337**	*e*P		**P**	**19 57 02.7**	**+1.6**
JIRN	**Jiri**	**31.84**	**337**	*e*P		**P**	**19 57 09.6**	**+1.3**
	24nm,0.8s							
JIRN	**Jiri**	**31.84**	**337**	*e*P		**P**	**19 57 09.6**	**+1.3**
LSA	**Lhasa**	**32.18**	**346**	P		**P**	**19 57 12.3**	**+0.9**
LSA	**Lhasa**	**32.18**	**346**	*e*P		**P**	**19 57 12.2**	**+0.9**
LSA	**Lhasa**	**32.18**	**346**	*e*P		**P**	**19 57 12.2**	**+0.9**
GUN	**Gumba**	**32.19**	**337**	*e*P		**P**	**19 57 12.5**	**+1.2**
	27nm,0.7s							
GUN	**Gumba**	**32.19**	**337**	*e*P		**P**	**19 57 12.5**	**+1.2**
DMN	**Daman**	**32.24**	**335**	*e*P		**P**	**19 57 12.5**	**+0.9**
DMN	**Daman**	**32.24**	**335**	*e*P		**P**	**19 57 12.5**	**+0.9**
KKN	**Kakani**	**32.32**	**336**	*e*P		**P**	**19 57 13.2**	**+0.9**
	12nm,0.8s							
KKN	**Kakani**	**32.32**	**336**	*e*P		**P**	**19 57 13.2**	**+0.9**
KKN	**Kakani**	**32.32**	**336**	*e*P		**P**	**19 57 13.2**	**+0.9**
GKN	**Gorkha**	**32.78**	**335**	*e*P		**P**	**19 57 16.8**	**+0.6**
	6.2nm,0.4s							
KOLN	**Koldanda**	**33.03**	**333**	*e*P		**P**	**19 57 19.6**	**+1.1**
	16nm,0.6s							
KOLN	**Koldanda**	**33.03**	**333**	*e*P		**P**	**19 57 19.6**	**+1.1**
ENH	**Enshi**	**33.09**	**16**	*e*P		**P**	**19 57 17.5**	**-1.3**
NWAO	**Narrogin (SRO)**	**35.27**	**154**	P		**P**	**19 57 37.8**	**+0.1**
	3.9nm,0.5s,baz=353,slow=8.1,SNR=3.9							
NWAO	**Narrogin (SRO)**	**35.27**	**154**	P		**P**	**19 57 37.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.27**	**154**	P		**P**	**19 57 37.8**	**+0.1**
XAN	**Xi'an**	**36.54**	**13**	P		**P**	**19 57 47.7**	**-0.9**
XAN				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**38.53**	**121**	P		**P**	**19 58 04.6**	**-1.0**
	comp=Z,11nm,0.7s,baz=302,slow=9.3,SNR=66							
WRA				PcP		**PcP**	**20 00 18.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=318,slow=2.4,SNR=4.8							
WRA	**Warramunga Arr**	**38.53**	**121**	P		**P**	**19 58 04.6**	**-1.0**
WRA							20 00 18.7	
WRA	**Warramunga Arr**	**38.53**	**121**	P		**P**	**19 58 04.6**	**-1.0**
WRA				PcP		**PcP**	**20 00 18.7**	**+0.5**
WRAB	**Tennant Creek**	**38.54**	**121**	*e*P		**P**	**19 58 05.1**	**-0.5**
WRAB	**Tennant Creek**	**38.54**	**121**	*e*P		**P**	**19 58 05.1**	**-0.5**
WB2	**Warramunga Arr**	**38.54**	**121**	*e*P		**P**	**19 58 04.7**	**-0.9**
ASAR	**Alice Springs**	**39.80**	**126**	P		**P**	**19 58 15.7**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=299,slow=7.6,SNR=82							
ASAR				PcP		**PcP**	**20 00 22.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=279,slow=2.0,SNR=6.3							
ASAR	**Alice Springs**	**39.80**	**126**	P		**P**	**19 58 15.7**	**-0.5**
ASAR							20 00 22.4	
ASAR	**Alice Springs**	**39.80**	**126**	P		**P**	**19 58 15.7**	**-0.5**
ASAR				PcP		**PcP**	**20 00 22.4**	**+0.3**
AS31	**Alice Springs**	**39.80**	**126**	*e*P		**P**	**19 58 15.6**	**-0.6**
GTA	**Gaotai**	**40.84**	**0**	*e*P		**P**	**19 58 25.6**	**+1.0**
GTA				pP		**pP**	**19 58 31.7**	**-1.7**
GTA				sP		**sP**	**19 58 34.9**	**-2.1**
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
COEN	**Coen**	**44.78**	**108**	*e*P		**P**	**19 58 56.3**	**-0.6**
	comp=Z,1μm,1.9s							
WMQ	**Urumqi**	**46.48**	**348**	P		**P**	**19 59 11.8**	**+1.9**
WMQ				pP		**pP**	**19 59 18.8**	**-0.1**
WMQ				sP		**sP**	**19 59 25.8**	**+3.4**
WMQ				pmax		pmax		
	comp=Z,21nm,1.0s							
KSAR	**Wonju Array Be**	**46.88**	**31**	P		**P**	**19 59 12.4**	**-0.6**
KSAR	**Wonju Array Be**	**46.88**	**31**	P		**P**	**19 59 12.4**	**-0.6**
KSRS	**Korea Array**	**46.91**	**31**	P		**P**	**19 59 12.4**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=256,slow=10,SNR=4.9							
CTAO	**Charters Tower**	**49.12**	**115**	*e*P		**P**	**19 59 29.8**	**-0.9**
CTAO				pmax		pmax		
	comp=Z,35nm,1.6s							
CTAO	**Charters Tower**	**49.12**	**115**	*e*P		**P**	**19 59 29.8**	**-0.9**
	comp=Z,34nm,1.6s							
TKM2	**Tokmak 2**	**49.33**	**337**	*e*P		**P**	**19 59 32.6**	**+0.4**
TKM2	**Tokmak 2**	**49.33**	**337**	*e*P		**P**	**19 59 32.6**	**+0.4**
AAK	**Ala-Archa**	**49.53**	**336**	*e*P		**P**	**19 59 35.1**	**+1.4**
AAK				pmax		pmax		
	comp=Z,17nm,2.5s							
SONM	**Songino Array**	**49.61**	**6**	P		**P**	**19 59 35.4**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=186,slow=8.8,SNR=28							
SONM				PcP		**PcP**	**20 00 56.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=199,slow=4.3,SNR=2.6							
SONM	**Songino Array**	**49.61**	**6**	P		**P**	**19 59 35.4**	**+1.2**
SONM							20 00 56.2	
SONM	**Songino Array**	**49.61**	**6**	P		**P**	**19 59 35.4**	**+1.2**
SONM				PcP		**PcP**	**20 00 56.2**	**+0.8**
STKA	**Stephens Creek**	**49.70**	**132**	*e*P		**P**	**19 59 35.2**	**+0.2**
	comp=Z,8.3nm,0.7s,baz=312,slow=7.9,SNR=30							
STKA				LR		LR	20 19 48.9	
	comp=Z,75nm,19.3s,baz=217,slow=35							
STKA	**Stephens Creek**	**49.70**	**132**	P		**P**	**19 59 35.2**	**+0.2**
STKA	**Stephens Creek**	**49.70**	**132**	P		**P**	**19 59 35.2**	**+0.2**
MK31	**Makanchi Array**	**50.56**	**345**	*e*P		**P**	**19 59 42.1**	**+0.9**
MK31	**Makanchi Array**	**50.56**	**345**	*e*P		**P**	**19 59 42.1**	**+0.9**
MKAR	**Makanchi Array**	**50.56**	**345**	P		**P**	**19 59 42.3**	**+1.0**
	comp=Z,6.7nm,0.8s,baz=150,slow=7.9,SNR=45							
MKAR	**Makanchi Array**	**50.56**	**345**	P		**P**	**19 59 42.3**	**+1.0**
MKAR	**Makanchi Array**	**50.56**	**345**	P		**P**	**19 59 42.3**	**+1.0**
MJAR	**Matsushiro Arr**	**52.24**	**39**	P		**P**	**19 59 54.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=236,slow=8.1,SNR=3.9							
MJAR	**Matsushiro Arr**	**52.24**	**39**	P		**P**	**19 59 54.0**	**0.0**
MJAR	**Matsushiro Arr**	**52.24**	**39**	P		**P**	**19 59 54.0**	**0.0**
USRK	**Ussuriysk Arra**	**54.02**	**28**	P		**P**	**20 00 07.6**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=225,slow=5.8,SNR=11							
KURK	**Kurchatov**	**55.14**	**344**	↑*i*P		**P**	**20 00 15.6**	**+0.7**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**55.14**	**344**	*e*P		**P**	**20 00 15.1**	**+0.3**
ZAA0	**Zalesovo Array**	**56.73**	**350**	*e*P		**P**	**20 00 26.6**	**+0.4**
ZALV	**Zalesovo Beam**	**56.73**	**350**	P		**P**	**20 00 26.8**	**+0.6**
	comp=Z,7.4nm,0.6s,baz=176,slow=7.0,SNR=49							
ZALV	**Zalesovo Beam**	**56.73**	**350**	P		**P**	**20 00 26.8**	**+0.6**
ZALV	**Zalesovo Beam**	**56.73**	**350**	P		**P**	**20 00 26.8**	**+0.6**
NVS	**Novosibirsk**	**57.87**	**349**	*e*P		**P**	**20 00 33.4**	**-0.9**
BRVK	**Borovoye**	**59.76**	**340**	↑*i*P		**P**	**20 00 47.2**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BOD	**Bodaibo**	**60.37**	**9**	*e*P		**P**	**20 00 50.2**	**-1.4**
SVE	**Sverdlovsk**	**66.18**	**338**	*e*P		**P**	**20 01 30.3**	**+0.2**
YAK	**Yakutsk**	**67.48**	**15**	*e*P		**P**	**20 01 37.0**	**-1.2**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
YAK	**Yakutsk**	**67.48**	**15**	*e*Pn		**P**	**20 01 37.0**	**-1.2**
	comp=Z,6.1nm,0.6s							
BRTR	**Keskin Array B**	**72.77**	**

ms1mx3.3/16, **Error ellipse: s-maj=698.9km s-min=71.6km az=107.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.78**	**50**	LR	LR	20 44 55.1	
	comp=Z,90nm,19.1s,baz=206,slow=32						
ASAR	**Alice Springs**	**26.92**	**26**	P	P	20 38 37.5	+0.4
	1.7nm,0.9s,baz=195,slow=9.4,SNR=10						
WRA	**Warramunga Arr**	**30.57**	**25**	P	P	20 39 09.2	-0.4
	1.0nm,0.9s,baz=198,slow=11,SNR=4.1						
RAR	**Rarotonga**	**67.24**	**97**	LR	LR	21 09 23.0	
	comp=Z,124nm,18.7s,baz=276,slow=33						
YKA	**Yellowknife Ar**	**146.75**	**44**	PKPbc	PKPbc	20 52 36.0	-0.8
	0.4nm,0.7s,baz=269,slow=2.9,SNR=6.4						

NNC ***11*** *20:40:59.6±2.7, 39.˚78N×73.˚79E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=24.5km s-min=11.4km az=8.0*

ISC 11 20:40:54.2±4.3, **39.˚1N**±0.˚3×**73.˚7E**±0.˚1, **h10**km, **n16, σ0**˚**67**/22, **5C-5D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.08**	**1**	P	**Pn**	**20 41 42.1**	**-1.2**
	SNR=72						
AML				P	**Pn**	**20 41 42.1**	**-1.2**
	SNR=72						
UCH	**Uchtor**	**3.25**	**11**	P	**Pn**	**20 41 46.3**	**+0.6**
	SNR=7.9						
UCH				P	**Pn**	**20 41 46.3**	**+0.6**
	SNR=7.9						
KZA	**Kyzart**	**3.27**	**21**	P	**Pn**	**20 41 46.2**	**+0.3**
	SNR=32						
KZA				P	**Pn**	**20 41 46.2**	**+0.3**
	SNR=32						
EKS2	**Erkin-Say**	**3.61**	**1**	P	**Pn**	**20 41 50.7**	**+0.3**
	SNR=14						
EKS2				P	**Pn**	**20 41 50.7**	**+0.3**
	SNR=14						
AAK	**Ala-Archa**	**3.64**	**10**	P	**Pn**	**20 41 50.4**	**-0.4**
	SNR=10						
AAK				P	**Pn**	**20 41 50.4**	**-0.4**
	SNR=10						
KBK	**Karagaybulak**	**3.74**	**15**	P	**Pn**	**20 41 52.9**	**+0.8**
	SNR=9.3						
KBK				P	**Pn**	**20 41 52.9**	**+0.8**
	SNR=9.3						
ULHL	**Ulahol**	**3.75**	**31**	P	**Pn**	**20 41 52.0**	**-0.4**
	SNR=10						
ULHL				P	**Pn**	**20 41 52.0**	**-0.4**
	SNR=10						
CHMS	**Chumysh**	**4.04**	**12**	P	Pn	20 42 00.1	+4.0
	SNR=8.3						
CHMS				P	Pn	20 42 00.1	+4.0
	SNR=8.3						
TKM2	**Tokmak 2**	**4.14**	**20**	P	**Pn**	**20 41 58.6**	**+0.8**
	SNR=9.2						
TKM2				P	**Pn**	**20 41 58.6**	**+0.8**
	SNR=9.2						
TKM2	**Tokmak 2**	**4.14**	**20**	⇓Pn	Pn	20 41 56.1	-1.6
	6.5nm,0.7s						
TKM2				⇑Lg	Lg	20 42 47.1	
	18nm,0.7s						
USP	**Ospenovka**	**4.27**	**8**	P	**Pn**	**20 41 59.7**	**+0.4**
	SNR=6.1						
USP				P	**Pn**	**20 41 59.7**	**+0.4**
	SNR=6.1						
KK31	**Karatay Array**	**4.70**	**331**	Pn	**Pn**	**20 42 06.0**	**+0.8**
	0.5nm,0.2s,baz=316,slow=43,SNR=39						
KK31				Pg	**Pb**	**20 42 16.7**	**0.0**
	2.0nm,0.3s,baz=141,slow=16,SNR=15						
KK31				⇑Sn	**Sn**	**20 42 59.8**	**+0.1**
	6.0nm,0.4s,baz=137,slow=23,SNR=3.6						
KK31				⇑Lg	Lg	20 43 13.7	
	12nm,0.6s						
KNDC	**Almaty**	**4.86**	**30**	⇓Pn	Pn	20 42 04.5	-3.0
	6.1nm,0.6s						
KNDC				⇓Pg	Pb	20 42 14.8	-4.7
	14nm,0.5s						
KNDC				⇓Lg	Lg	20 43 11.5	
	86nm,0.8s						
KURBB	**Kurchatov Arra**	**12.08**	**15**	Lg	Lg	20 47 01.0	
	1.6nm,1.4s						
KURK	**Kurchatov**	**12.19**	**15**	⇑Lg	Lg	20 47 03.6	
	4.3nm,1.0s						
AB31	**Akbulak array**	**14.15**	**321**	⇓Pn	**Pn**	**20 44 14.3**	**-0.4**
	1.5nm,0.9s,baz=126,slow=14,SNR=5.3						
AB31				⇑Sn	Sn	20 46 43.5	-8.2
	0.4nm,0.5s						

IDC ***11*** *20:56:49.6±1.2, 38.˚25S×74.˚00W, h0km, mb4.0/7, mb1 4.0/9, mb1mx4.0/15, mbtmp3.9/9, ML3.5/2, MS3.6/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=34.6km s-min=19.0km az=82.0*

ISCJB ***11*** *20:56:50.8±0.7, 38.˚08S±0.˚04×74.˚20W±0.˚08, h18km, mb4.0/7, MS3.7/1, Error ellipse: s-maj=9.4km s-min=4.9km az=9.5*

ISC 11 20:56:52.1±1.0, **38.˚15S**±0.˚06×**74.˚17W**±0.˚10, **h18**km, **n31, σ0**˚**91**/37, **mb4.3/7, 9C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**1.36**	**116**	⇑*i*P	**Pn**	**20 57 16.6**	**+0.4**
TMU				*i* S	**Sb**	**20 57 34.2**	**+0.1**
COCH	**Cobquecura**	**2.29**	**29**	⇑*i*P	**Pn**	**20 57 29.3**	**+0.2**
COCH				*i* S	**Sn**	**20 57 56.4**	**-0.4**
PLCA	**Paso Flores**	**3.81**	**134**	Pn	**Pn**	**20 57 49.1**	**-0.8**
	1.4nm,0.3s,baz=306,slow=14,SNR=26						
PLCA				Pg	Pb	20 57 54.2	-4.6
	6.1nm,0.3s,baz=307,slow=15,SNR=37						
PLCA				Lg	Lg	20 58 39.0	
	8.7nm,0.3s,baz=30,slow=22,SNR=6.4						
PLCA				LR	LR	20 59 22.9	
	comp=Z,443nm,19.6s,baz=307,slow=42						
LNV	**Longovilo**	**4.74**	**29**	⇓*i*P	**Pn**	**20 58 03.1**	**+0.4**
LNV				*i* S	**Sn**	**20 58 56.3**	**-1.0**
CACH	**El Canelo**	**4.95**	**37**	⇑*i*P	**Pn**	**20 58 06.1**	**+0.4**
CACH				*i* S	**Sn**	**20 59 03.9**	**+1.3**
CHCH	**Chadas Angostu**	**5.08**	**35**	⇓*i*P	**Pn**	**20 58 07.8**	**+0.3**
CHCH				*i* S	**Sn**	**20 59 07.2**	**+1.5**
TACH	**Talagante**	**5.20**	**31**	⇑*i*P	**Pn**	**20 58 09.4**	**+0.4**
LMEL	**Las Melosas**	**5.36**	**38**	⇑*i*P	**Pn**	**20 58 12.4**	**+1.1**
LMEL				*i* S	**Sn**	**20 59 13.8**	**+1.0**
PCH	**Pirque**	**5.40**	**34**	⇓*i*P	**Pn**	**20 58 12.1**	**+0.2**
PCH				*i* S	**Sn**	**20 59 13.8**	**+0.1**
CLCH	**Cerro Calan**	**5.58**	**33**	*i* P	**Pn**	**20 58 14.1**	**-0.3**
CLCH				*i* S	**Sn**	**20 59 17.7**	**-0.4**
PEL	**Peldehue**	**5.74**	**31**	*i* P	**Pn**	**20 58 16.5**	**-0.1**
PEL				*i* S	**Sn**	**20 59 21.1**	**-0.9**
FCH	**Farellones**	**5.75**	**34**	⇑*i*P	**Pn**	**20 58 17.9**	**+1.0**
FCH				*i* S	**Sn**	**20 59 22.4**	**-0.2**
ROCH	**El Roble**	**5.77**	**27**	⇑*i*P	**Pn**	**20 58 16.9**	**-0.1**
ROCH				*i* P	P	20 58 17.4	
ROCH				*i* S	**Sn**	**20 59 22.9**	**-0.1**
ROCH				*i* S	S	20 59 24.6	
JACH	**Jahuel**	**6.18**	**29**	⇑*i*P	**Pn**	**20 58 22.9**	**+0.2**
JACH				*i* S	**Sn**	**20 59 32.4**	**-0.6**
CFAA	**Coronel Fontan**	**8.14**	**38**	Pn	**Pn**	**20 58 48.6**	**-0.9**
	0.3nm,0.3s,baz=211,slow=11,SNR=35						
CFAA				Sn	**Sn**	**21 00 18.9**	**-2.2**
	0.4nm,0.3s,baz=303,slow=23,SNR=6.0						
TLL	**Tololo Astrono**	**8.43**	**20**	⇑*i*P	**Pn**	**20 58 53.5**	**-0.2**
TLL				*i* S	**Sn**	**21 00 26.1**	**-2.4**
USHA	**Ushuaia**	**17.14**	**169**	LR	LR	21 08 15.1	
	comp=Z,184nm,19.4s,baz=217,slow=40						
LPAZ	**La Paz**	**22.42**	**15**	P	**P**	**21 01 51.6**	**+1.1**
	2.1nm,0.8s,baz=175,slow=8.5,SNR=5.6						
SIV	**San Ignacio**	**24.91**	**31**	P	**P**	**21 02 15.7**	**+1.5**
	0.5nm,0.4s,baz=230,slow=7.9						
RPN	**Rapa Nui**	**31.42**	**280**	LR	LR	21 12 06.7	
	comp=Z,168nm,21.7s,baz=40,slow=29						
VNA3	**Neumayer Olymp**	**46.22**	**156**	*e*	P	21 05 23.2	+7.5
VNA2	**Neumayer--Watz**	**46.91**	**156**	*e*	P	21 05 29.0	+8.0
QSPA	**South Pole Qui**	**52.09**	**180**	P	**P**	**21 06 00.8**	**0.0**
	5.0nm,1.0s,baz=166,slow=2.8,SNR=10						
RKT	**Rikitea**	**53.55**	**268**	eLR	LR	21 21 51.4	
	195nm,27.0s						
TBI	**Tubuai**	**64.76**	**259**	eLR	LR	21 26 50.4	
	125nm,27.5s						
PPT2	**Papeete2**	**68.03**	**264**	eLR	LR	21 28 22.0	
	81nm,25.5s						
TXAR	**Lajitas Array**	**72.58**	**333**	P	**P**	**21 08 19.0**	**+0.7**
	0.2nm,0.6s,baz=158,slow=6.6,SNR=3.9						
DBIC	**Dimbokro**	**78.13**	**72**	P	**P**	**21 08 50.5**	**+0.1**
	7.4nm,1.0s,baz=220,slow=8.4,SNR=5.7						
BOSA	**Boshof**	**79.65**	**118**	P	**P**	**21 08 58.1**	**-0.8**
	5.1nm,1.2s,baz=59,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**87.22**	**71**	P	**P**	**21 09 36.5**	**-1.1**
	1.7nm,0.9s,baz=231,slow=3.9,SNR=7.8						
DZM	**Mont Dzumac**	**97.42**	**235**	eLR	LR	21 42 10.6	
	93nm,23.7s						

IDC ***11*** *21:00:06.8±0.6, 15.˚35S×173.˚10W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.4/24, mbtmp4.4/13, ML4.8/1, MS3.9/16, Ms1 3.9/16, ms1mx3.8/23, Error ellipse: s-maj=26.6km s-min=14.9km az=144.0*

ISCJB ***11*** *21:00:14.3±0.3, 14.˚63S±0.˚07×172.˚97W±0.˚05, h33km, mb4.8/58, MS4.1/23, Error ellipse: s-maj=11.2km s-min=5.4km az=158.8*

BJI ***11*** *21:00:14.2, 14.˚05S×172.˚11W, h37km, mB5.3/16, mb5.0/16, Ms5.3/12, Ms7 4.8/15*

NEIC ***11*** *21:00:19.1±0.6, 14.˚57S×172.˚89W, h60km±5km, mb4.8/38, Error ellipse: s-maj=6.8km s-min=4.3km az=141.0*

ISC 11 21:00:15.9±0.5, **14.˚66S**±0.˚09×**172.˚95W**±0.˚06, **h35**km, **n277, σ0**˚**98**/277, **mb4.8**/58, **MS4.0**/23, **69C-71D, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.36**	**57**	Pn	**Pn**	**21 00 39.8**	**+1.2**
	412nm,0.3s,baz=74,slow=0.9,SNR=357						
AFI				Sn	**Sn**	**21 00 58.4**	**+3.0**
	1µm,0.3s,baz=66,slow=21,SNR=25						
AFI				LR	LR	21 01 20.2	
	comp=Z,3µm,20.7s,baz=101,slow=38						
AFI	**Afiamalu**	**1.36**	**57**	*e*Pn	**Pn**	**21 00 39.7**	**+1.2**
AFI				*e*Sn	**Sn**	**21 00 57.0**	**+1.5**
MSVF	**Nonsavu**	**9.17**	**249**	*e*Pn	Pn	21 02 30.9	+5.1
MSVF				*e*Sn	**Sn**	**21 04 09.0**	**+1.1**
FUNA	**Funafuti**	**9.81**	**308**	*e*Pn	**Pn**	**21 02 37.2**	**+2.5**
RAR	**Rarotonga**	**14.13**	**119**	Pn	Pn	21 03 24.3	-9.4
	5.0nm,0.3s,baz=258,slow=9.8,SNR=5.6						
RAR				T	T	21 17 50.7	
	12nm,0.3s,baz=79,slow=16,SNR=3.9						
RAR	**Rarotonga**	**14.13**	**119**	*e*Pn	Pn	21 03 23.7	-10
RAR				TT		21 17 50.7	
RAO	**Raoul Island**	**15.23**	**197**	P	**P**	**21 03 52.3**	**-0.7**
DZM	**Mont Dzumac**	**20.88**	**246**	eLR	LR	21 09 55.4	
	726nm,26.6s						
DZM	**Mont Dzumac**	**20.88**	**246**	LR	LR	21 10 48.4	
	comp=Z,158nm,19.2s,baz=37,slow=31						
PPT2	**Papeete2**	**22.64**	**101**	eLR	LR	21 10 24.3	
	173nm,27.8s						
URZ	**Urewera**	**25.10**	**199**	*e*P	P	21 05 27.8	-10
SNZO	**South Karori**	**28.64**	**200**	P	P	21 06 11.2	+2.0
CTA	**Charters Tower**	**39.23**	**256**	LR	LR	21 19 58.8	
	comp=Z,65nm,21.0s,baz=231,slow=31						
TAU	**Tasmania Unive**	**44.15**	**222**	*e*P	P	21 08 23.1	+1.9
STKA	**Stephens Creek**	**44.78**	**239**	P	P	21 08 18.1	-8.4
	2.2nm,0.7s,baz=71,slow=9.3,SNR=3.6						
STKA				LR	LR	21 23 26.1	
	comp=Z,126nm,20.8s,baz=28,slow=32						
STKA	**Stephens Creek**	**44.78**	**239**	*e*P	**P**	**21 08 27.6**	**+1.2**
	1.1nm,0.9s						
MCQ	**Macquarie Isla**	**45.38**	**203**	*e*P	**P**	**21 08 30.9**	**+0.1**
WB2	**Warramunga Arr**	**50.42**	**256**	*e*P	P	21 09 02.1	-8.4
WRA	**Warramunga Arr**	**50.44**	**256**	P	P	21 09 02.9	-7.7
	0.9nm,0.5s,baz=96,slow=6.6,SNR=15						
WRA	**Warramunga Arr**	**50.44**	**256**	P	P	21 09 02.9	-7.7
AS31	**Alice Springs**	**50.75**	**251**	*e*P	P	21 09 06.2	-6.7
ASAR	**Alice Springs**	**50.75**	**251**	P	P	21 09 05.0	-7.9
	2.4nm,0.3s,baz=90,slow=7.7,SNR=38						
ASAR	**Alice Springs**	**50.75**	**251**	P	P	21 09 05.0	-7.9
FITZ	**Fitzroy Crossi**	**58.79**	**258**	P	P	21 10 06.8	-4.4
	1.7nm,0.8s,baz=180,slow=3.0,SNR=2.2						
FITZ				LR	LR	21 33 18.3	
	comp=Z,81nm,20.6s,baz=90,slow=34						
FITZ	**Fitzroy Crossi**	**58.79**	**258**	*e*P	**P**	**21 10 12.2**	**+1.0**
	4.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**65.36**	**240**	LR	LR	21 34 54.0	
	comp=Z,101nm,20.3s,baz=63,slow=32						
NIKO	**Nikolski**	**67.45**	**3**	*e*P	**P**	**21 11 07.3**	**-0.5**
MJAR	**Matsushiro Arr**	**68.66**	**319**	LR	LR	21 34 33.5	
	comp=Z,142nm,21.2s,baz=145,slow=30						
MAJO	**Matsushiro**	**68.66**	**319**	P	**P**	**21 11 16.1**	**+0.2**
VES	**Vestal, Richgr**	**71.52**	**44**	⇑P	**P**	**21 11 33.6**	**+0.2**
	baz=72						
KHMM	**Horse Mountain**	**71.62**	**37**	*e*P	**P**	**21 11 34.0**	**-0.1**
	33nm,1.5s						
EDW2	**Edwards Air Fo**	**71.72**	**45**	⇓P	**P**	**21 11 35.3**	**+0.5**
	baz=72						
ISA	**Isabella**	**71.83**	**44**	*e*P	**P**	**21 11 35.1**	**-0.2**
	8.7nm,1.4s						
ISA	**Isabella**	**71.83**	**44**	⇓P	**P**	**21 11 35.7**	**+0.3**
	baz=72						
CMB	**Columbia Colle**	**71.93**	**41**	*e*P	**P**	**21 11 35.5**	**-0.4**
	2.1nm,0.8s						
PETK	**Petropavlovsk-**	**72.06**	**342**	P	**P**	**21 11 36.7**	**+0.4**
	6.1nm,0.9s,baz=154,slow=7.4,SNR=4.5						
PETK				LR	LR	21 41 03.7	
	comp=Z,63nm,19.5s,baz=304,slow=34						
PETK	**Petropavlovsk-**	**72.06**	**342**	P	**P**	**21 11 36.7**	**+0.4**
LRMC	**Laurel Mountai**	**72.25**	**45**	⇑P	**P**	**21 11 38.2**	**+0.2**
	baz=72						
MPMC	**Manual Prospec**	**72.71**	**44**	⇑P	**P**	**21 11 41.1**	**+0.3**
	baz=73						
GSC	**Goldstone**	**72.77**	**45**	*e*P	**P**	**21 11 40.7**	**-0.3**
	3.2nm,0.8s						
GSC	**Goldstone**	**72.77**	**45**	⇓P	**P**	**21 11 41.2**	**+0.2**
	baz=73						
GMRC	**Granite Mounta**	**73.28**	**46**	⇑P	**P**	**21 11 43.9**	**-0.3**
	baz=73						
GRAC	**Grapevine Rang**	**73.31**	**44**	⇑P	**P**	**21 11 44.5**	**+0.3**
	baz=73						
IRM	**Iron Mountain**	**73.32**	**47**	⇑P	**P**	**21 11 44.6**	**+0.3**
	baz=73						
NVAR	**Mina Array Bea**	**73.49**	**42**	P	**P**	**21 11 45.7**	**+0.3**
	1.7nm,0.8s,baz=226,slow=9.9,SNR=7.8						
NVAR				LR	LR	21 36 13.2	
	comp=Z,212nm,21.4s,baz=187,slow=29						
NVAR	**Mina Array Bea**	**73.49**	**42**	P	**P**	**21 11 45.7**	**+0.3**
Y12C	**Blythe**	**73.55**	**48**	⇑P	**P**	**21 11 45.7**	**+0.1**
	baz=74						
113A	**Mohawk Valley,**	**73.61**	**49**	⇑P	**P**	**21 11 45.4**	**-0.5**
	baz=74						
Z13A	**Yuma Proving G**	**73.90**	**49**	⇑P	**P**	**21 11 47.7**	**0.0**
	baz=74						
PDMCI	**Parker Dam,Lak**	**74.11**	**47**	⇓P	**P**	**21 11 49.5**	**+0.6**
	baz=74						
KDAK	**Kodiak Island**	**74.12**	**11**	*e*P	**P**	**21 11 48.3**	**0.0**
	11nm,0.6s						
TWG	**Pinlang**	**74.54**	**299**	*e*P	**P**	**21 11 51.6**	**0.0**
YULB	**Yu-li**	**74.58**	**300**	P	**P**	**21 11 52.0**	**+0.2**
W13A	**Hualapai Mount**	**74.69**	**47**	⇑P	**P**	**21 11 52.5**	**0.0**
	baz=75						
Y14A	**Wickenburg**	**74.74**	**48**	⇓P	**P**	**21 11 52.4**	**-0.2**
	baz=75						
SSLB	**Suanglung**	**75.03**	**300**	P	**P**	**21 11 54.5**	**+0.1**
TPUB	**Ta-pu**	**75.10**	**299**	P	**P**	**21 11 55.2**	**+0.3**
R11A	**Troy Canyon, C**	**75.23**	**43**	⇓P	**P**	**21 11 55.5**	**0.0**
	baz=75						
QSPA	**South Pole Qui**	**75.38**	**180**	P	P	21 11 49.2	-6.7
	16nm,0.9s,baz=33,slow=2.4,SNR=28						
QSPA	**South Pole Qui**	**75.38**	**180**	*e*P	P	21 11 49.3	-6.6
TUC	**Tucson**	**75.59**	**51**	*e*P	**P**	**21 11 57.7**	**+0.1**
	6.9nm,1.0s						
KSRS	**Korea Array**	**75.94**	**315**	LR	LR	21 39 48.0	
	comp=Z,75nm,19.7s,baz=273,slow=31						
218A	**Dragoon**	**75.99**	**51**	⇑P	**P**	**21 11 59.6**	**-0.4**
	baz=76						
X16A	**Lo Mia Camp, P**	**76.11**	**48**	⇑P	**P**	**21 12 01.0**	**+0.4**
	baz=76						
Y17A	**Roosevelt**	**76.20**	**49**	⇑P	**P**	**21 12 01.0**	**0.0**
	baz=76						
CCUT	**Cedar City**	**76.31**	**45**	*e*P	**P**	**21 12 02.2**	**+0.5**
	6.0nm,1.1s						
ARUT	**Antelope Range**	**76.38**	**45**	*e*P	**P**	**21 12 02.1**	**0.0**
	8.2nm,1.1s						
LON	**Longmire**	**76.41**	**33**	*e*P	**P**	**21 12 01.6**	**-0.3**
U15A	**North Rim**	**76.48**	**46**	⇓P	**P**	**21 12 03.3**	**+0.4**
	baz=76						
219A	**White Tail Can**	**76.60**	**52**	⇑P	**P**	**21 12 03.2**	**-0.2**
	baz=77						
WUAZ	**Wupatki**	**76.68**	**48**	*e*P	**P**	**21 12 03.8**	**-0.1**
	9.9nm,1.3s						
WUAZ	**Wupatki**	**76.68**	**48**	⇓P	**P**	**21 12 04.0**	**+0.2**
	baz=77						
ELK	**Elko**	**76.75**	**41**	*e*P	**P**	**21 12 03.8**	**-0.3**
320A	**Kipp Ranch, An**	**76.86**	**52**	⇓P	**P**	**21 12 05.4**	**+0.5**
	baz=77						
119A	**Ashpeak Ranch,**	**76.91**	**51**	⇓P	**P**	**21 12 05.5**	**+0.3**
	baz=77						
USRK	**Ussuriysk Arra**	**77.05**	**323**	LR	LR	21 38 45.2	
	comp=Z,127nm,21.7s,baz=251,slow=30						
SLKM	**Skilak Lake**	**77.11**	**11**	*e*P	**P**	**21 12 05.6**	**+0.1**
220A	**Playas Peak, P**	**77.11**	**52**	⇓P	**P**	**21 12 06.6**	**+0.3**
	baz=77						
V17A	**Tonalea, Kykot**	**77.15**	**48**	⇓P	**P**	**21 12 06.6**	**+0.1**
	baz=77						
U16A	**Tuba City**	**77.16**	**47**	⇓P	**P**	**21 12 06.9**	**+0.5**
	baz=77						
X18A	**Snowflake**	**77.24**	**49**	⇓P	**P**	**21 12 06.9**	**-0.1**
	baz=77						
120A	**U Bar Ranch, L**	**77.32**	**51**	⇑P	**P**	**21 12 07.3**	**-0.1**
	baz=77						
HAWA	**Hanford**	**77.43**	**35**	*e*P	**P**	**21 12 07.6**	**+0.1**
	19nm,1.2s						
MSU	**Marysvale**	**77.60**	**45**	*e*P	**P**	**21 12 09.6**	**+0.6**
Z20A	**Nine Sixteen R**	**77.60**	**51**	⇓P	**P**	**21 12 09.4**	**+0.4**
	baz=78						
S16A	**Weppner Ranch,**	**77.61**	**45**	⇓P	**P**	**21 12 09.5**	**+0.5**
	baz=78						
X19A	**St. Johns**	**77.68**	**49**	⇑P	**P**	**21 12 09.5**	**0.0**
	baz=78						
U17A	**Shonto**	**77.71**	**47**	⇓P	**P**	**21 12 10.0**	**+0.4**
	baz=78						
RC01	**Rabbit Creek A**	**77.74**	**11**	*e*P	**P**	**21 12 09.0**	**+0.1**
BMO	**Blue Mountains**	**77.78**	**37**	*e*P	**P**	**21 12 09.4**	**-0.3**
	14nm,1.4s						
T17A	**Navajo Res., N**	**77.80**	**46**	⇑P	**P**	**21 12 10.5**	**+0.4**
	baz=78						
V18A	**Ganado**	**77.81**	**48**	⇑P	**P**	**21 12 10.4**	**+0.2**
	baz=78						
MFID	**Camas Ranch**	**77.84**	**39**	⇑P	**P**	**21 12 10.2**	**+0.1**
	baz=78,SNR=6.1						
121A	**Cookes Peak, D**	**77.95**	**52**	⇑P	**P**	**21 12 11.3**	**+0.3**
	baz=78						
R16A	**Teasdale**	**77.96**	**45**	⇓P	**P**	**21 12 11.4**	**+0.4**
	baz=78						
DUG	**Dugway**	**78.03**	**43**	*e*P	**P**	**21 12 11.2**	**-0.1**
	7.2nm,0.9s						
DUG	**Dugway**	**78.03**	**43**	⇑P	**P**	**21 12 11.3**	**0.0**
	baz=78,SNR=8.2						
S17A	**Black Ridge (B**	**78.11**	**46**	⇓P	**P**	**21 12 11.7**	**-0.1**
	baz=78						
Y20A	**Horse Springs,**	**78.12**	**50**	⇑P	**P**	**21 12 12.4**	**+0.4**
	baz=78						
U18A	**Rough Rock, Ch**	**78.19**	**47**	⇓P	**P**	**21 12 12.6**	**+0.3**
	baz=78						
GAMB	**Gambell**	**78.20**	**1**	*e*P	**P**	**21 12 11.5**	**+0.1**
	14nm,1.4s						
X20A	**Quemado**	**78.31**	**50**	⇓P	**P**	**21 12 13.6**	**+0.6**
	baz=78						
PMR	**Palmer**	**78.32**	**11**	*e*P	**P**	**21 12 12.0**	**-0.1**
Z21A	**St. Cloud Mine**	**78.38**	**51**	⇓P	**P**	**21 12 14.0**	**+0.5**
	baz=78						
V19A	**Window Rock**	**78.45**	**48**	⇓P	**P**	**21 12 14.4**	**+0.7**
	baz=78						
TTA	**Tatalina**	**78.47**	**8**	*e*P	**P**	**21 12 13.5**	**+0.5**
I12A	**Atlanta**	**78.47**	**39**	⇑P	**P**	**21 12 14.1**	**+0.4**
	baz=78,SNR=19						
Q16A	**Castle Valley**	**78.48**	**45**	⇑P	**P**	**21 12 14.4**	**+0.6**
	baz=78						
T18A	**Mexican Hat**	**78.52**	**47**	⇓P	**P**	**21 12 14.5**	**+0.5**
	baz=79						
R17A	**Hanksville Air**	**78.56**	**45**	P	**P**	**21 12 14.2**	**0.0**
	baz=79,SNR=10.0						
W20A	**Ramah**	**78.58**	**49**	⇓P	**P**	**21 12 15.1**	**+0.6**
	baz=79						
DIV	**Divide**	**78.58**	**13**	*e*P	**P**	**21 12 13.8**	**+0.1**
	27nm,1.2s						
U19A	**Dine` College,**	**78.60**	**48**	⇑P	**P**	**21 12 15.0**	**+0.4**
	baz=79						
TMUT	**Trail Mountain**	**78.65**	**44**	*e*P	**P**	**21 12 15.6**	**+0.7**
	15nm,0.9s						
Y21A	**Point of Rocks**	**78.69**	**50**	⇓P	**P**	**21 12 15.9**	**+0.8**
	baz=79						
BMRM	**Bremner River**	**78.70**	**14**	*e*P	**P**	**21 12 14.5**	**+0.2**
	18nm,1.0s						
L14A	**Malta**	**78.71**	**41**	⇓P	**P**	**21 12 15.1**	**+0.2**
	baz=79,SNR=5.1						
MDJ	**Mudanjiang**	**78.71**	**322**	P	**P**	**21 12 15.5**	**+0.8**
MDJ				pP	**PcP**	**21 12 24.2**	**+0.7**
MDJ				S	**S**	**21 22 05.0**	**-4.6**
MDJ				sS	**SKSac**	**21 22 25.9**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,320nm,5.2s						
MDJ				LR	LR		
	comp=Z,130nm,33.5s						
HLID	**Hailey**	**78.79**	**39**	*e*P	**P**	**21 12 15.7**	**+0.3**
	comp=Z,13nm,1.0s						
HLID	**Hailey**	**78.79**	**39**	P	**P**	**21 12 15.8**	**+0.4**
	baz=79,SNR=17						
X21A	**Alamocita Cree**	**78.80**	**50**	⇑P	**P**	**21 12 15.9**	**+0.2**
	baz=79						
J13A	**Cove Ranch, Pi**	**78.84**	**39**	⇓P	**P**	**21 12 16.

Q19A	**Hogan Spring (**	**79.81**	**45**	⇑P		**P**	**21 12 21.1**	**+0.1**
	baz=80,SNR=6.7								
TRF	**Thorofare Moun**	**79.83**	**10**	*e*P		**P**	**21 12 18.9**	**-1.6**
	comp=Z,22nm,1.2s								
TXAR	**Lajitas Array**	**79.84**	**56**	P		**P**	**21 12 20.9**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=224,slow=5.2,SNR=25								
TXAR				LR		LR	21 39 05.2		
	comp=Z,71nm,19.9s,baz=195,slow=29								
TXAR	**Lajitas Array**	**79.84**	**56**	P		**P**	**21 12 20.9**	**-0.5**
NEW	**Newport**	**79.86**	**34**	*e*P		**P**	**21 12 20.3**	**-0.6**
	comp=Z,5.6nm,1.0s								
NEW	**Newport**	**79.86**	**34**	⇓P		**P**	**21 12 20.6**	**-0.3**
	baz=80								
Y23A	**Lovelace Mesa,**	**79.86**	**51**	⇓P		**P**	**21 12 21.1**	**-0.4**
	baz=80,SNR=5.3								
PV01	**Paradox Valley**	**79.90**	**46**	*e*P		**P**	**21 12 21.7**	**0.0**
	comp=Z,1µm,0.9s								
S20A	**Disappointment**	**79.91**	**47**	⇑P		**P**	**21 12 21.6**	**-0.2**
	baz=80,SNR=9.2								
J15A	**Blackfoot**	**79.92**	**40**	P		**P**	**21 12 22.6**	**+1.0**
	baz=80,SNR=8.1								
H14A	**Leadore**	**79.99**	**39**	⇓P		**P**	**21 12 22.3**	**+0.4**
	baz=80,SNR=10								
ANMO	**Albuquerque**	**80.00**	**50**	P		**P**	**21 12 21.9**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=216,slow=6.3,SNR=13								
ANMO	**Albuquerque**	**80.00**	**50**	*e*P		**P**	**21 12 21.8**	**-0.4**
	comp=Z,8.5nm,1.2s								
F13A	**Darby**	**80.04**	**37**	⇑P		**P**	**21 12 21.8**	**-0.3**
	baz=80,SNR=11								
R20A	**Redvale**	**80.06**	**46**	⇓P		**P**	**21 12 22.6**	**+0.1**
	baz=80								
426A	**McDonald Obser**	**80.08**	**55**	⇑P		**P**	**21 12 22.5**	**-0.3**
	baz=80,SNR=13								
V22A	**San Miguel Ran**	**80.09**	**49**	⇑P		**P**	**21 12 22.8**	**0.0**
	baz=80								
627A	**Terlingua Ranc**	**80.11**	**56**	⇓P		**P**	**21 12 22.6**	**-0.2**
	baz=80,SNR=8.1								
T21A	**Navajo Lake**	**80.11**	**48**	⇑P		**P**	**21 12 23.2**	**+0.4**
	baz=80								
Z24A	**Sheeppen Canyo**	**80.13**	**52**	⇓P		**P**	**21 12 22.9**	**-0.1**
	baz=80								
K16A	**Soda Springs**	**80.16**	**41**	P		**P**	**21 12 23.5**	**+0.6**
	baz=80,SNR=7.3								
S21A	**Coal Bank Pass**	**80.23**	**47**	P		**P**	**21 12 23.7**	**+0.1**
	baz=80,SNR=15								
P19A	**Cripple Cowboy**	**80.32**	**45**	⇑P		**P**	**21 12 23.8**	**0.0**
	baz=80								
W23A	**Werner Place,**	**80.32**	**50**	⇑P		**P**	**21 12 23.7**	**-0.3**
	baz=80,SNR=6.0								
MCK	**McKinley**	**80.32**	**11**	*e*P		**P**	**21 12 23.0**	**0.0**
	comp=Z,20nm,1.0s								
Y24A	**Capitan**	**80.33**	**51**	⇑P		**P**	**21 12 23.8**	**-0.2**
	baz=80,SNR=13								
MCMT	**McKenzie Canyo**	**80.41**	**39**	*e*P		**P**	**21 12 24.1**	**-0.2**
	comp=Z,5.1nm,0.8s								
H15A	**Lima**	**80.43**	**39**	⇓P		**P**	**21 12 24.7**	**+0.4**
	baz=80								
GDL2	**Guadalupe Moun**	**80.44**	**53**	*e*P		**P**	**21 12 24.4**	**-0.1**
AHID	**Auburn Hatcher**	**80.44**	**41**	*e*P		**P**	**21 12 24.9**	**+0.5**
	comp=Z,14nm,0.6s								
C12B	**Naegeli Ranch,**	**80.45**	**35**	⇑P		**P**	**21 12 24.2**	**+0.1**
	baz=80								
Q20A	**Ridgley Place,**	**80.47**	**46**	⇓P		**P**	**21 12 24.7**	**+0.1**
	baz=80,SNR=7.9								
628A	**Black Gap, Mar**	**80.53**	**56**	⇑P		**P**	**21 12 24.7**	**-0.3**
	baz=80								
V23A	**Ortiz Mt. (NFS**	**80.55**	**49**	⇑P		**P**	**21 12 25.7**	**+0.6**
	baz=81,SNR=7.0								
K17A	**Gardner Place,**	**80.55**	**41**	⇑P		**P**	**21 12 24.4**	**-0.6**
	baz=81,SNR=11								
226A	**Malaga, Loving**	**80.58**	**53**	⇓P		**P**	**21 12 25.0**	**-0.3**
	baz=81,SNR=7.5								
X24A	**Lazy VL Ranch,**	**80.60**	**51**	⇓P		**P**	**21 12 25.4**	**-0.1**
	baz=81,SNR=5.7								
Z25A	**Roswell**	**80.60**	**52**	⇓P		**P**	**21 12 25.5**	**+0.1**
	baz=81								
427A	**Hayter Ranch,**	**80.65**	**55**	⇓P		**P**	**21 12 25.6**	**-0.1**
	baz=81,SNR=5.8								
R21A	**Cimarron**	**80.72**	**46**	⇓P		**P**	**21 12 26.6**	**+0.5**
	baz=81,SNR=9.1								
I16A	**Newdale**	**80.76**	**40**	⇑P		**P**	**21 12 26.7**	**+0.6**
	baz=81,SNR=15								
U23A	**El Rito**	**80.79**	**49**	⇓P		**P**	**21 12 26.7**	**+0.2**
	baz=81,SNR=8.2								
CN2	**Changchun**	**80.80**	**320**	*e*P		**P**	**21 12 27.6**	**+1.5**
CN2				*es*P		**sP**	**21 12 43.0**	**+1.9**
CN2				*e*S		**S**	**21 22 30.3**	**-1.5**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,600nm,18.0s								
CN2				LR	LR				
	comp=E,400nm,18.0s								
CN2				LR	LR				
	comp=Z,700nm,19.0s								
DCID1	**Drake Creek**	**80.80**	**40**	*e*P		**P**	**21 12 25.4**	**-0.9**
	comp=Z,24nm,0.5s								
G15A	**Dillon**	**80.81**	**39**	⇓P		**P**	**21 12 26.6**	**+0.2**
	baz=81								
MSO	**Missoula**	**80.83**	**37**	*e*P		**P**	**21 12 25.6**	**-0.7**
	comp=Z,12nm,1.2s								
DLMT	**Dillon**	**80.84**	**38**	*e*P		**P**	**21 12 26.9**	**+0.4**
	comp=Z,9.8nm,0.8s								
DLBC	**Dease Lake**	**80.86**	**21**	P		**P**	**21 12 25.3**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=182,slow=8.8,SNR=3.6								
DLBC	**Dease Lake**	**80.86**	**21**	P		**P**	**21 12 25.3**	**-0.8**
528A	**Cox Ranch, San**	**80.87**	**56**	⇑P		**P**	**21 12 26.3**	**-0.6**
	baz=81,SNR=6.5								
E14A	**Clinton**	**80.87**	**37**	⇑P		**P**	**21 12 26.5**	**-0.1**
	baz=81								
Y25A	**Mesa, Roswell**	**80.89**	**51**	P		**P**	**21 12 26.7**	**-0.2**
	baz=81,SNR=5.6								
W24A	**Lazy 6 Ranch,**	**80.89**	**50**	⇑P		**P**	**21 12 26.6**	**-0.4**
	baz=81,SNR=6.6								
BSMT	**Bassoo Peak**	**80.91**	**35**	*e*P		**P**	**21 12 26.6**	**-0.2**
Q21A	**Lamborn Mesa,**	**80.92**	**46**	P		**P**	**21 12 27.3**	**+0.3**
	baz=81,SNR=8.0								
S22A	**4UR Ranch, Cre**	**80.95**	**47**	⇓P		**P**	**21 12 27.9**	**+0.5**
	baz=81,SNR=7.6								
X25A	**Clemmons Ranch**	**81.16**	**51**	⇑P		**P**	**21 12 27.8**	**-0.6**
	baz=81,SNR=5.6								
Z26A	**Caprock**	**81.17**	**52**	⇑P		**P**	**21 12 28.0**	**-0.4**
	baz=81,SNR=15								
428A	**Kincaid Ranch,**	**81.17**	**55**	⇓P		**P**	**21 12 28.4**	**-0.1**
	baz=81								
SWMT	**Swartz Lake**	**81.17**	**36**	*e*P		**P**	**21 12 27.3**	**-0.8**
V24A	**Rampart Ranch,**	**81.21**	**50**	⇓P		**P**	**21 12 28.5**	**-0.2**
	baz=81,SNR=6.1								
R22A	**Saguache, Gunn**	**81.22**	**47**	⇑P		**P**	**21 12 29.5**	**+0.7**
	baz=81,SNR=7.1								
SMCO	**Snowmass**	**81.49**	**46**	*e*P		**P**	**21 12 29.7**	**-0.6**
	comp=Z,8.4nm,0.8s								
COLA	**College**	**81.56**	**11**	*e*P		**P**	**21 12 28.9**	**-0.7**
	comp=Z,22nm,1.0s								
BOZ	**Bozeman (W)**	**81.57**	**38**	⇓P		**P**	**21 12 30.9**	**+0.6**
	baz=82								
BOZ				⇓P		**P**	**21 12 30.9**	**+0.6**
	baz=82								
ILAR	**Eielson Array**	**81.64**	**11**	P		**P**	**21 12 29.4**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=227,slow=5.4,SNR=19								
ILAR				LR		LR	21 47 36.1		
	comp=Z,48nm,18.1s,baz=219,slow=35								
ILAR	**Eielson Array**	**81.64**	**11**	P		**P**	**21 12 29.4**	**-0.7**
V25A	**Rancho No Teng**	**81.74**	**50**	P		**P**	**21 12 31.4**	**-0.1**
	baz=82,SNR=14								
D15A	**Lincoln**	**81.77**	**37**	⇑P		**P**	**21 12 31.2**	**-0.2**
	baz=82								
R23A	**Moffat**	**81.86**	**47**	⇓P		**P**	**21 12 32.5**	**+0.3**
	baz=82,SNR=7.3								
SDCO	**Great Sand Dun**	**81.90**	**48**	*e*P		**P**	**21 12 31.6**	**-0.8**
	comp=Z,5.7nm,0.9s								
SDCO	**Great Sand Dun**	**81.90**	**48**	⇑P		**P**	**21 12 32.4**	**0.0**
	baz=82,SNR=8.4								
SDCO				⇑P		**P**	**21 12 32.4**	**0.0**
	baz=82,SNR=8.4								
T24A	**Torres, Weston**	**81.94**	**48**	⇑P		**P**	**21 12 32.8**	**+0.2**
	baz=82,SNR=10								
E16A	**East Helena**	**82.00**	**38**	⇑P		**P**	**21 12 32.3**	**-0.2**
	baz=82								
Y27A	**Causey**	**82.03**	**52**	⇑P		**P**	**21 12 32.2**	**-0.8**
	baz=82								
B14A	**Marquette Ranc**	**82.04**	**36**	⇑P		**P**	**21 12 32.0**	**-0.7**
	baz=82								
S24A	**Houchin Ranch,**	**82.06**	**48**	⇓P		**P**	**21 12 33.5**	**+0.2**
	baz=82,SNR=9.7								
WALA	**Waterton Lakes**	**82.06**	**35**	*e*P		**P**	**21 12 32.5**	**-0.3**
	comp=Z,0.5nm,1.4s								
C15A	**Salmond Ranch,**	**82.11**	**36**	⇓P		**P**	**21 12 32.6**	**-0.5**
	baz=82								
U25A	**Circle Dot Ran**	**82.12**	**49**	P		**P**	**21 12 33.3**	**-0.2**
	baz=82,SNR=15								
MSTX	**Muleshoe**	**82.37**	**52**	⇓P		**P**	**21 12 34.1**	**-0.6**
	baz=82,SNR=6.3								
R24A	**Sanders Place,**	**82.39**	**47**	⇓P		**P**	**21 12 34.8**	**0.0**
	baz=82								
T25A	**Trinidad**	**82.43**	**49**	⇓P		**P**	**21 12 34.6**	**-0.5**
	baz=82,SNR=5.0								
W27A	**Bowe Ranch, En**	**82.58**	**51**	⇓P		**P**	**21 12 35.0**	**-0.8**
	baz=83,SNR=11								
DAWY	**Dawson**	**82.60**	**14**	*e*P		**P**	**21 12 35.4**	**+0.2**
U26A	**Atchley Ranch,**	**82.61**	**50**	⇓P		**P**	**21 12 35.5**	**-0.6**
	baz=83,SNR=18								
S25A	**Robets Cordova**	**82.63**	**48**	P		**P**	**21 12 36.0**	**-0.1**
	baz=83,SNR=17								
Q24A	**Divide**	**82.67**	**47**	⇑P		**P**	**21 12 36.5**	**+0.1**
	baz=83,SNR=9.3								
COLD	**Coldfoot**	**83.35**	**9**	*e*P		**P**	**21 12 39.6**	**+0.7**
	comp=Z,35nm,1.9s								
AMTX	**Amarillo**	**83.55**	**52**	*e*P		**P**	**21 12 39.4**	**-1.5**
	comp=Z,24nm,0.9s								
PMSA	**Palmer Station**	**84.67**	**156**	*e*P		**P**	**21 12 46.1**	**+0.3**
BJI	**Beijing**	**85.28**	**313**	P		**P**	**21 12 49.4**	**+0.1**
BJI				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BJI				LR	LR				
	comp=Z,61nm,25.2s								
GYA	**Guiyang**	**88.08**	**298**	P		**P**	**21 13 03.9**	**+0.4**
GYA				pP		**pP**	**21 13 16.0**	**+1.4**
GYA				sP		**sP**	**21 13 20.4**	**+1.8**
GYA				PP		**PP**	**21 16 32.7**	**+2.0**
GYA				SKS		**SKSac**	**21 23 27.2**	**-2.7**
GYA				S		**S**	**21 23 42.8**	**-2.6**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.4s								
GYA				LR	LR				
	comp=N,560nm,21.0s								
GYA				LR	LR				
	comp=E,470nm,22.3s								
GYA				LR	LR				
	comp=Z,510nm,21.4s								
MAW	**Mawson**	**88.62**	**198**	LR		LR	21 53 30.3		
	comp=Z,138nm,18.8s,baz=26,slow=36								
HHC	**Hu-ho-hao-te**	**88.85**	**313**	*e*P		**P**	**21 13 06.3**	**-0.4**
HHC				pP		**pP**	**21 13 16.9**	**-1.0**
HHC				sP		**sP**	**21 13 20.6**	**-1.3**
HHC				PP		**PP**	**21 16 38.0**	**+1.5**
HHC				SKS		**SKSac**	**21 23 31.1**	**-2.7**
HHC				S		**S**	**21 23 49.3**	**-2.7**
HHC				SS		**SS**	**21 29 43.9**	**-1.3**
HHC				pmax	pmax				
	comp=Z,13nm,0.6s								
HHC				pmax	pmax				
	comp=Z,220nm,7.4s								
HHC				LR	LR				
	comp=N,320nm,16.9s								
HHC				LR	LR				
	comp=E,400nm,17.8s								
HHC				LR	LR				
	comp=Z,220nm,16.1s								
YKA	**Yellowknife Ar**	**89.25**	**23**	P		**P**	**21 13 07.3**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=236,slow=4.5,SNR=22								
YKA	**Yellowknife Ar**	**89.25**	**23**	P		**P**	**21 13 07.3**	**-0.6**
PLCA	**Paso Flores**	**89.68**	**132**	LR		LR	21 44 06.2		
	comp=Z,70nm,19.8s,baz=225,slow=30								
KMI	**Kunming**	**91.10**	**296**	P		**P**	**21 13 19.2**	**+1.4**
KMI				pP		**pP**	**21 13 30.3**	**+1.4**
KMI				sP		**sP**	**21 13 34.5**	**+1.6**
KMI				PP		**PP**	**21 16 57.5**	**+2.6**
KMI				S		**S**	**21 24 10.9**	**-2.9**
KMI				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,150nm,5.3s								
KMI				LR	LR				
	comp=Z,57nm,32.1s								
CD2	**Chengdu**	**91.80**	**301**	P		**P**	**21 13 22.2**	**+1.5**
CD2				pP		**pP**	**21 13 33.3**	**+1.5**
CD2				sP		**sP**	**21 13 37.4**	**+1.6**
CD2				PP		**PP**	**21 17 02.9**	**+2.8**
CD2				SKS		**SKSac**	**21 23 50.1**	**-1.1**
CD2				S		**S**	**21 24 16.7**	**-2.8**
CD2				sS		**sS**	**21 24 35.2**	**-2.9**
CD2				SS		**SS**	**21 30 26.8**	**-1.4**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,150nm,8.2s								
CD2				LR	LR				
	comp=N,410nm,5.4s								
CD2				LR	LR				
	comp=Z,330nm,5.9s								
AGMN	**Agassiz Nation**	**92.46**	**41**	*e*P		**P**	**21 13 21.3**	**-1.9**
	comp=Z,8.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**92.80**	**288**	LR		LR	21 53 54.8		
	comp=Z,46nm,18.2s,baz=261,slow=35								
LZH	**Lanzhou**	**93.14**	**306**	*e*P		P	21 13 30.0	+3.1	
LZH						pP	21 13 40.5	+2.5	
LZH						sP	21 13 45.6	+3.6	
LZH						*e*PP	**21 17 15.0**	**+4.3**	
LZH				pmax	pmax				
	comp=Z,16nm,1.5s								
LZH				pmax	pmax				
	comp=Z,68nm,8.7s								
LZH				LR	LR				
	comp=N,310nm,18.9s								
LZH				LR	LR				
	comp=E,270nm,17.6s								
LZH				LR	LR				
	comp=Z,330nm,20.0s								
SONM	**Songino Array**	**94.59**	**318**	LR		LR	21 51 42.3		
	comp=Z,85nm,18.8s,baz=170,slow=33								
CRVS	**Cervenica-Dubn**	**143.86**	**344**	*e*PKP	PKPbc		21 19 45.4	+0.1	
TRPA	**Tarpa**	**144.25**	**342**	⇓*i*P	PKPdf		21 19 53.9	+5.7	
KECS	**Kecovo**	**144.50**	**345**	*e*PKP	**PKPab**		**21 19 45.9**	**-1.1**	
PLOR	**Plostina**	**144.80**	**336**	⇓*i*P	PKPbc		21 19 45.2	-3.2	
VYHS	**Vyhne**	**144.89**	**346**	*e*PKP	**PKPbc**		**21 19 46.1**	**-2.5**	
KHC	**Kasperske Hory**	**145.21**	**352**	*e*PKP	**PKPbc**		**21 19 46.5**	**-3.1**	
KHC				*ex*	x		21 19 55.5		
KHC				*ep*PKP	pPKPdf		21 20 11.0	+10	
MLR	**Muntele Rosu**	**145.38**	**336**	⇓*i*P	**PKPdf**		**21 19 48.2**	**-2.3**	
DRGR		**145.39**	**341**	⇑*i*P	**PKPdf**		**21 19 47.9**	**-2.5**	
GERES	**GERESS Array B**	**145.48**	**352**	PKPbc	**PKPdf**		**21 19 48.9**	**-1.6**	
	comp=Z,17nm,0.9s,baz=44,slow=4.1,SNR=9.2								
GERES	**GERESS Array B**	**145.48**	**352**	PKPbc	**PKPdf**		**21 19 48.9**	**-1.6**	
VOIR		**145.76**	**337**	⇓*i*P	**PKPdf**		**21 19 50.0**	**-1.1**	
BRTR	**Keskin Array B**	**145.85**	**322**	PKPbc	**PKPdf**		**21 19 50.4**	**-1.1**	
	comp=Z,5.9nm,0.9s,baz=98,slow=2.6,SNR=19								
BRTR	**Keskin Array B**	**145.85**	**322**	PKPbc	**PKPdf**		**21 19 50.4**	**-1.1**	
GZR	**Gura Zlata**	**146.61**	**340**	⇓*i*P	**PKPdf**		**21 19 49.9**	**-2.6**	
BZS	**Buzias**	**146.78**	**341**	⇑*i*P	**PKPdf**		**21 19 52.2**	**-0.5**	
TORD	**Torodi Ar. Bea**	**174.59**	**106**	PKPab	PKPab		21 21 50.6	-6.0	
	comp=Z,0.6nm,1.0s,baz=258,slow=3.0,SNR=2.7								
TORD	**Torodi Ar. Bea**	**174.59**	**106**	PKPab	PKPab		21 21 50.6	-6.0	

NEIC **11** *21:10:53.9±7.3, 44.°12N×105.°21W, h0km, ML3.0, Error ellipse: s-maj=84.8km s-min=15.0km az=76.0, Suspected Mining explosion.*
NEIC 30 km [20 miles] SE of Gillette.
IDC **11** *21:11:03.0±1.8, 44.°02N×105.°66W, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.3/25, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=57.2km s-min=10.5km az=145.0*

ISC 11 21:10:56.9±2.2, 44.°10N±0.°07×105.°4W±0.°1, h0km, n21, σ1§41/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RLMT	**Red Lodge**	**2.92**	**292**	*e*Pn		**Pn**	**21 11 43.4**	**-1.3**
RLMT				*e*Pg		**Pg**	**21 11 53.5**	**+0.7**
RLMT				*e*Sn		**Sn**	**21 12 20.2**	**-0.5**
PDAR	**Pinedale Array**	**3.29**	**247**	Pn		**Pb**	**21 11 57.8**	**+1.6**
	1.8nm,0.3s,baz=75,slow=18,SNR=28							
PDAR				Pg		**Pg**	**21 12 01.2**	**+1.4**
	1.8nm,0.3s,baz=68,slow=18,SNR=27							
PDAR				Lg		Lg	21 12 48.2	
	9.2nm,0.3s,baz=65,slow=33,SNR=13							
PDAR	**Pinedale Array**	**3.29**	**247**	Pn		**Pb**	**21 11 57.8**	**+1.6**
PDAR				Pg		**Pg**	**21 12 01.2**	**+1.4**
PDAR				Lg		Lg	21 12 48.2	
PD01	**Pinedale Array**	**3.30**	**248**	Pn		**Pn**	**21 11 50.4**	**+0.4**
PD01				*e*Pg		**Pg**	**21 12 01.7**	**+1.6**
PD01				*e*Sg		**Sb**	**21 12 36.7**	**-0.5**
YNR	**Norris Junctio**	**3.81**	**281**	*e*Pn		**Pn**	**21 11 55.9**	**-1.1**
YNR				*e*Pg		**Pg**	**21 12 11.5**	**+1.7**
MOOW	**Moose Ponds**	**3.85**	**267**	*e*Pn		**Pn**	**21 11 56.3**	**-1.3**
MOOW				*e*Pg		**Pg**	**21 12 12.2**	**+1.6**
MOOW				*e*Sg		**Sg**	**21 12 59.2**	**-1.3**
REDW	**Red Top Meadow**	**3.99**	**261**	*e*Pn		**Pn**	**21 11 58.7**	**-0.8**
REDW				Pg		**Pg**	**21 12 11.9**	**-1.5**
ISCO	**Idaho Springs**	**4.30**	**182**	Pn		**Pn**	**21 12 03.4**	**-0.4**
ISCO				*e*Pg		Pg	21 12 24.4	+5.1
ISCO				*e*Sg		Sg	21 13 22.5	+7.5
RRI2	**Red Ridge**	**4.33**	**262**	*e*Pn		**Pn**	**21 12 03.5**	**-0.7**
RRI2				Pg		**Pb**	**21 12 16.0**	**+2.0**
QLMT	**Earthquake Lak**	**4.35**	**282**	*e*Pn		**Pn**	**21 12 03.3**	**-1.2**
QLMT				*e*Pg		**Pg**	**21 12 20.9**	**+0.6**
DAU	**Daniels Canyon**	**5.68**	**232**	Pn		**Pn**	**21 12 20.2**	**-2.5**
	7.3nm,0.5s							
DAU				*e*Pg		**Pb**	**21 12 35.3**	**-1.7**
DAU				*e*Sn		**Sn**	**21 13 29.9**	**+1.1**
SRU	**San Rafael**	**6.28**	**219**	Pn		**Pn**	**21 12 30.1**	**-0.8**
	8.2nm,0.5s							
SRU				*e*Pg		Pb	21 12 43.0	-4.1
DUG	**Dugway**	**6.73**	**237**	Pn		**Pn**	**21 12 35.4**	**-1.6**
	4.6nm,0.7s							
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn		Pn	21 13 12.9	+5.6
	1.1nm,0.3s,baz=219,slow=15,SNR=9.4							
ULM				Lg		Lg	21 15 37.2	
	0.1nm,0.3s,baz=338,slow=19,SNR=2.1							
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn		Pn	21 13 12.9	+5.6
ULM				Lg		Lg	21 15 37.2	
TXAR	**Lajitas Array**	**14.81**	**174**	Pn		P	21 14 42.2	+8.5
	0.0nm,0.3s,baz=356,slow=13,SNR=4.2							
TXAR	**Lajitas Array**	**14.81**	**174**	Pn		P	21 14 42.2	+8.5
YKA	**Yellowknife Ar**	**19.19**	**347**	P		Pn	21 15 28.4	+5.8
	0.1nm,0.3s,baz=164,slow=12,SNR=4.2							
YKA	**Yellowknife Ar**	**19.19**	**347**	P		Pn	21 15 28.4	+5.8
MKAR	**Makanchi Array**	**89.23**	**355**	P		P	21 24 02.2	+7.7
	0.2nm,0.4s,baz=2.8,slow=4.6,SNR=4.4							
MKAR	**Makanchi Array**	**89.23**	**355**	P		P	21 24 02.2	+7.7

IDC **11** *21:31:29.6±5.0, 5.°72S×106.°06E, h157km±44km, mb3.9/13, mb1 4.0/13, mb1mx3.8/21, mbtmp3.9/13, Error ellipse: s-maj=33.1km s-min=10.8km az=58.0*
DJA **11** *21:31:31, 6.°22S×105.°94E, h166km, MLv4.1/7*
NEIC **11** *21:31:32.1±2.2, 5.°76S×106.°05E, h186km±20km, mb4.1/6, Error ellipse: s-maj=21.1km s-min=5.3km az=49.0*

ISC 11 21:31:30.6±0.9, 5.°90S±0.°08×106.°05E±0.°08, h172km±8km, n80, σ1§09/87, mb4.3/27, 4C-5D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SBJI	**Serang**	**0.23**	**160**	P		**Pn**	**21 31 54.0**	**+0.3**
TNG	**Tangerang**	**0.65**	**114**	P		**Pn**	**21 31 56.0**	**+0.8**
TNG	**Tangerang**	**0.65**	**114**	P		**Pn**	**21 31 56.0**	**+0.8**
CGJI	**Cibinong**	**0.79**	**207**	P		**Pn**	**21 31 55.7**	**-0.4**
SKJI	**Sukabumi**	**1.21**	**155**	P		**Pn**	**21 31 58.4**	**-0.8**
KLI	**Kotabumi**	**1.57**	**311**	P		**Pn**	**21 32 04.4**	**+1.7**
LEM	**Lembang**	**1.81**	**121**	P		**Pn**	**21 32 07.1**	**+1.9**
LWLI	**Liwa**	**2.17**	**294**	P		**Pn**	**21 32 10.8**	**+1.6**
CISI	**Cisompet, Garu**	**2.40**	**133**	P		Pn	21 32 18.2	+6.4
PPBI	**Pangkal Pinang**	**3.72**	**1**	P		**Pn**	**21 32 30.2**	**+2.3**
KSI	**Kapahiang**	**4.11**	**303**	P		**Pn**	**21 32 35.6**	**+2.7**
FITZ	**Fitzroy Crossi**	**22.64**	**124**	*e*P		**P**	**21 36 17.9**	**+0.7**
	6.1nm,0.8s,baz=267,slow=6.0,SNR=15							
FITZ	**Fitzroy Crossi**	**22.64**	**124**	*e*P		**P**	**21 36 18.0**	**+0.7**
	3.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**25.20**	**344**	P		**P**	**21 36 40.2**	**-0.3**
	1.3nm,0.6s,baz=179,slow=8.6,SNR=13							
CMAR				PcP		**PcP**	**21 40 11.2**	**+1.6**
	1.1nm,0.6s,baz=205,slow=2.9,SNR=8.5							
CMAR	**Chiang Mai Arr**	**25.20**	**344**	P		**P**	**21 36 40.2**	**-0.3**
CMAR				PcP		**PcP**	**21 40 11.2**	**+1.6**
WRA	**Warramunga Arr**	**30.83**	**120**	P		**P**	**21 37 31.2**	**+0.7**
	0.9nm,0.3s,baz=312,slow=9.3,SNR=32							
WRA				PcP		**PcP**	**21 40 24.6**	**+1.0**
	1.6nm,0.4s,baz=315,slow=2.0,SNR=22							
WRA	**Warramunga Arr**	**30.83**	**120**	P		**P**	**21 37 31.2**	**+0.7**
WRA				PcP		**PcP**	**21 40 24.6**	**+1.0**
WRAB	**Tennant Creek**	**30.83**	**120**	*e*P		**P**	**21 37 31.5**	**+0.9**
	3.0nm,0.5s							
ASAR	**Alice Springs**	**32.09**	**126**	P		**P**	**21 37 42.9**	**+1.2**
	2.1nm,0.4s,baz=297,slow=

BRTR	Keskin Array B	80.40	312	P		P		21 43 23.2	-0.1
	comp=Z,4.0nm,0.6s,baz=136,slow=7.1,SNR=24								
BRTR	Keskin Array B	80.40	312	P		P		21 43 23.2	-0.1
LEOM	Leova	85.91	317	⇓iP		P		21 43 52.2	+1.1
VRI	Vrincioaia	86.81	317	⇓iP		P		21 43 57.0	+1.4
PLOR	Plostina	86.86	317	⇓iP		P		21 43 57.1	+1.2
SULR		86.90	315	⇓iP		P		21 43 55.6	-0.4
TESR		86.99	317	⇓iP		P		21 43 58.1	+1.6
MLR	Muntele Rosu	87.27	316	⇑iP		P		21 43 59.2	+1.2
VOIR		87.88	316	⇑iP		P		21 44 01.2	+0.4
BURAR	Bucovina Array	88.17	318	⇑iP		P		21 44 03.0	+0.9
GZR	Gura Zlata	89.45	316	⇑iP		P		21 44 10.2	+2.0
ARCES	ARCESS Array B	92.19	340	P		P		21 44 18.9	-1.4
	comp=Z,3.4nm,0.9s,baz=90,slow=6.3,SNR=2.8								
ARCES	ARCESS Array B	92.19	340	P		P		21 44 18.9	-1.4
YKA	Yellowknife Ar	116.16	20	PKP		PKPdf		21 49 52.6	-0.3
	comp=Z,0.2nm,0.6s,baz=338,slow=2.0,SNR=5.8								
YKA	Yellowknife Ar	116.16	20	PKP		PKPdf		21 49 52.6	-0.3
SCHQ	Schefferville	130.88	355	PKP		PKPdf		21 50 22.1	+0.7
	comp=Z,1.4nm,0.5s,baz=304,slow=3.6,SNR=8.6								
SCHQ	Schefferville	130.88	355	PKP		PKPdf		21 50 22.1	+0.7
PDAR	Pinedale Array	131.66	35	PKP		PKPdf		21 50 23.9	+0.3
	comp=Z,0.5nm,0.6s,baz=5.7,slow=0.9,SNR=3.8								
PDAR	Pinedale Array	131.66	35	PKP		PKPdf		21 50 23.9	+0.3
ULM	Lac du Bonnet	132.12	19	PKP		PKPdf		21 50 23.6	-0.3
	comp=Z,0.9nm,0.4s,baz=323,slow=5.1,SNR=3.9								
ULM	Lac du Bonnet	132.12	19	PKP		PKPdf		21 50 23.6	-0.3
TXAR	Lajitas Array	143.53	47	PKP		PKPbc		21 50 44.3	+0.9
	comp=Z,0.3nm,0.5s,baz=202,slow=2.2,SNR=5.9								
TXAR	Lajitas Array	143.53	47	PKP		PKPbc		21 50 44.3	+0.9

IDC 11 21:59:46.6±2.8, 0.91S×133.14E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=140.9km s-min=26.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	18.95	177	P		P	22 04 09.7	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=6.0							
ASAR	Alice Springs	22.63	178	P		P	22 04 49.5	0.0
	0.5nm,0.9s,baz=1.3,slow=12,SNR=3.2							
MKAR	Makanchi Array	65.02	324	P		P	22 10 28.7	-0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=3.1							

DJA 11 22:01:57.0±68.5×133.67E, h20km, MLv3.9/3
IDC 11 22:01:54.3±2.5, 0.75S×133.53E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.5/18, mbtmp3.6/4, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/17, Error ellipse: s-maj=95.6km s-min=25.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.91	204	P		Pn	22 06 17.6	+0.4
	0.2nm,0.3s,baz=34,slow=10,SNR=4.7							
FITZ				LR		LR	22 13 26.5	
	comp=Z,33nm,18.8s,baz=213,slow=37							
WRA	Warramunga Arr	19.09	178	P		P	22 06 18.2	-0.6
	0.2nm,0.3s,baz=356,slow=12,SNR=11							
ASAR	Alice Springs	22.78	179	P		P	22 06 58.7	0.0
	1.4nm,0.6s,baz=359,slow=12,SNR=17							
MJAR	Matsushiro Arr	37.36	6	LR		LR	22 22 46.0	
	comp=Z,103nm,19.9s,baz=10.0,slow=34							
USRK	Ussuriysk Arra	44.77	358	LR		LR	22 25 27.9	
	comp=Z,58nm,19.7s,baz=229,slow=32							
MKAR	Makanchi Array	65.12	324	P		P	22 12 37.0	-0.1
	0.2nm,0.4s,baz=105,slow=8.1,SNR=5.0							

IDC 11 22:06:27.3±3.2, 43.04N×105.09W, h0km, mb2.7/1, mb1 3.8/3, mb1mx3.4/25, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=64.5km s-min=9.7km az=159.0
ISCJB 11 22:06:30.6±0.3, 43.68N±0.02×105.31W±0.02, h0km, Error ellipse: s-maj=3.0km s-min=2.5km az=9.6
NEIC 11 22:06:31.5±0.4, 43.73N×105.24W, h0km, ML3.0, Error ellipse: s-maj=5.7km s-min=4.3km az=174.0, Suspected Mining explosion.
NEIC 65 km [40 miles] SSE of Gillette.
ISC 11 22:06:31.4±0.6, 43.71N±0.02×105.24W±0.02, h0km, n51, σ1º41/81, 10C-12D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I23A	Meade Ranch, G	0.29	327	⇑P		Pg	22 06 37.5	+0.5
	baz=0.3,SNR=92							
I23A				⇑S		Sg	22 06 41.5	+0.6
	baz=0.3							
J23A	Dilts Ranch, B	0.38	216	⇓P		Pg	22 06 37.8	-0.9
	baz=0.4,SNR=658							
I24A	Kuemmerle Ranc	0.47	72	⇓P		Pb	22 06 41.7	-1.0
	baz=0.5,SNR=383							
I24A				⇓S		Sb	22 06 49.4	-0.8
	baz=0.5							
J24A	Dixon Ranch, L	0.57	132	⇑P		Pg	22 06 42.6	+0.3
	baz=0.6							
J24A				⇓S		Sg	22 06 51.1	+1.4
	baz=0.6							
H23A	Clabaugh Cattl	0.86	352	P		Pg	22 06 48.1	+0.3
	baz=0.8,SNR=35							
I22A	9 Mile Ranch,	0.92	282	⇓P		Pg	22 06 47.9	-1.0
	baz=0.9,SNR=257							
J22A	Midwest	0.95	252	⇑P		Pg	22 06 47.8	-1.7
	baz=1.0							
J22A				⇓S		Sg	22 07 00.3	-1.5
	baz=1.0							
RSSD	Black Hills	0.96	64	eP		Pg	22 06 50.2	+0.3
RSSD				eSg		Sg	22 07 01.8	-0.6
K24A	Anderson Ranch	1.04	162	⇑P		Pg	22 06 50.6	-0.7
	baz=1.1,SNR=50							
H24A	Dirks Ranch, A	1.15	25	⇑P		Pg	22 06 53.5	+0.1
	baz=1.1,SNR=426							
H22A	Clearmont	1.19	318	⇑P		Pg	22 06 53.8	-0.5
	baz=1.2							
K22A	Casper	1.42	222	⇓P		Pn	22 06 56.2	-2.3
	baz=1.4							
I21A	Big Trails, Te	1.49	275	⇓P		Pn	22 06 57.5	-2.1
	baz=1.5							
K25A	Mack Ranch, Ha	1.49	137	⇑P		Pn	22 06 59.6	+0.1
	baz=1.5,SNR=35							
G23A	Biddle	1.49	356	⇓P		Pn	22 06 59.4	-0.1
	baz=1.5,SNR=73							
H21A	Big Horn, Sher	1.59	306	⇓P		Pn	22 07 00.5	-0.3
	baz=1.6,SNR=56							
L23A	Garrett	1.63	192	⇓P		Pn	22 07 00.1	-1.5
	baz=1.7							
J21A	Lysite	1.64	258	⇑P		Pn	22 06 59.9	-1.8
	baz=1.6,SNR=96							
L24A	Wheatland	1.68	172	⇑P		Pn	22 07 01.5	-0.7
	baz=1.7,SNR=13							
G22A	Birney	1.68	334	⇓P		Pn	22 07 02.6	+0.4
	baz=1.7,SNR=31							
PHWY	Pilot Hill	2.41	184	ePn		Pn	22 07 12.0	-0.4
PHWY				eSn		Sn	22 07 43.6	+0.8
RLMT	Red Lodge	3.21	297	ePn		Pn	22 07 23.1	-0.2
RLMT				eSn		Sn	22 07 59.2	-3.1
BW06	Boulder Array	3.29	255	ePn		Pn	22 07 24.3	-0.1
BW06				eSn		Sn	22 08 04.1	-0.3
PDAR	Pinedale Array	3.29	255	Pn		Pn	22 07 24.0	-0.4
	5.4nm,0.3s,baz=72,slow=17,SNR=88							
PDAR				Lg		Lg	22 08 09.1	
	29nm,0.3s,baz=74,slow=30,SNR=18							
PDAR	Pinedale Array	3.29	255	Pn		Pn	22 07 24.0	-0.4
PDAR				Lg		Lg	22 08 09.1	
PD02	Pinedale Array	3.29	255	ePn		Pn	22 07 23.9	-0.6
PD02				eS		Sn	22 08 07.8	+3.3
PD01	Pinedale Array	3.31	255	ePn		Pn	22 07 24.3	-0.3
PD01				eSn		Sn	22 08 05.1	+0.3
OGNE	Ogallala	3.65	138	ePn		Pn	22 07 29.7	+0.5
OGNE				ePg		Pg	22 07 41.0	-0.2
OGNE				eSn		Sn	22 08 13.3	+0.3
LOHW	Long Hollow	3.89	270	ePn		Pn	22 07 34.3	+1.6
LOHW				ePg		Pb	22 07 42.2	+1.2
LOHW				eSn		Sn	22 08 18.6	-0.6
ISCO	Idaho Springs	3.92	184	ePn		Pn	22 07 34.1	+1.0
ISCO				ePg		Pg	22 07 45.9	-0.7
ISCO				eSn		Sn	22 08 13.9	-6.1
MOOW	Moose Ponds	3.99	272	ePn		Pn	22 07 35.0	+1.0
MOOW				eSn		Sn	22 08 21.3	-0.2
REDW	Red Top Meadow	4.09	267	ePn		Pn	22 07 36.8	+1.4
REDW				eSn		Sn	22 08 23.3	-0.9
AHID	Auburn Hatcher	4.38	260	ePn		Pn	22 07 38.8	-0.6
AHID				ePg		Pb	22 07 52.4	+3.0
AHID				eSn		Sn	22 08 32.5	+1.2
RRI2	Red Ridge	4.43	267	ePn		Pn	22 07 40.9	+0.7
RRI2				eSn		Sn	22 08 30.1	-2.5
QLMT	Earthquake Lak	4.58	286	ePn		Pn	22 07 41.7	-0.4
SMCO	Snowmass	4.71	197	ePn		Pn	22 07 44.8	+0.6
SMCO				ePg		Pb	22 07 58.3	+3.2
SMCO				eSn		Sn	22 08 40.4	+0.7
BOZ	Bozeman (W)	4.95	295	ePn		Pn	22 07 45.7	-1.4
BOZ				eSn		Sn	22 08 44.3	-0.8
HWUT	Hardware Ranch	5.11	248	ePn		Pn	22 07 50.2	+0.8
	8.2nm,0.3s							
HWUT				eSn		Sn	22 08 48.2	-1.0
DAU	Daniels Canyon	5.56	236	ePn		Pn	22 07 55.4	-0.3
	6.4nm,0.4s							
JLU	Jordanelle	5.56	238	ePn		Pn	22 07 55.0	-0.6
	3.1nm,0.4s							
SDCO	Great Sand Dun	5.96	182	ePn		Pn	22 08 01.4	+0.2
PV04	Paradox Valley	5.99	209	ePn		Pn	22 08 01.9	+0.4
SRU	San Rafael	6.07	223	ePn		Pn	22 08 01.9	-0.6
	12nm,0.3s							
SRU				Sg		Sg	22 09 43.2	-3.2
ECSD	EROS Data Cent	6.25	87	ePn		Pn	22 08 05.0	+0.1
	3.8nm,0.4s							
ECSD				eSg		Sg	22 09 48.8	-3.4
TMUT	Trail Mountain	6.29	227	ePn		Pn	22 08 05.7	+0.1
TMUT				eSn		Sn	22 09 18.3	+0.1
TMUT				eSg		Sg	22 09 53.8	+0.6
DUG	Dugway	6.65	241	Pn		Pn	22 08 10.3	-0.1
	2.5nm,0.3s							
DUG				S		Sb	22 09 49.3	+1.3
SWMT	Swartz Lake	7.22	305	ePn		Pn	22 08 17.9	-0.4
	2.3nm,0.3s							
SWMT				eSn		Sn	22 09 39.3	-1.6
ULM	Lac du Bonnet	9.15	41	Pn		Pn	22 08 43.3	-1.2
	3.2nm,0.3s,baz=232,slow=13,SNR=24							
ULM				Lg		Lg	22 11 12.6	
	0.3nm,0.3s,baz=171,slow=18,SNR=1.8							
ULM	Lac du Bonnet	9.15	41	Pn		Pn	22 08 43.3	-1.2
ULM				Lg		Lg	22 11 12.6	
YKA	Yellowknife Ar	19.60	347	P		Pn	22 11 05.9	+3.8
	0.2nm,0.4s,baz=155,slow=9.0,SNR=5.9							
YKA	Yellowknife Ar	19.60	347	P		Pn	22 11 06.0	+3.8

IDC 11 22:15:58.3±1.7, 56.88S×27.43W, h0km, mb4.2/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.2/3, Error ellipse: s-maj=72.5km s-min=38.9km az=1.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	La Paz	50.75	306	P		P	22 25 00.8	+0.2
	0.5nm,0.4s,baz=166,slow=4.2,SNR=3.1							
TORD	Torodi Ar. Bea	73.84	30	P		P	22 27 34.6	+0.1
	1.1nm,0.5s,baz=201,slow=6.4,SNR=24							
CMIG	Matias Romero	92.45	298	P		P	22 29 11.0	+0.2
	2.3nm,0.7s,baz=135,slow=11,SNR=2.4							
INK	Inuvik	146.35	320	PKPbc		PKPdf	22 35 37.5	-0.5
	3.6nm,1.2s,baz=116,slow=4.1,SNR=3.9							
ILAR	Eielson Array	150.56	311	PKPbc		PKPbc	22 35 49.8	-0.6
	0.9nm,0.8s,baz=146,slow=2.5,SNR=9.0							
SONM	Songino Array	150.90	88	PKPbc		PKPbc	22 35 52.0	+0.1
	0.4nm,0.4s,baz=224,slow=1.5,SNR=3.6							

IDC 11 22:36:10.5±2.5, 0.76S×133.54E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.1/23, Error ellipse: s-maj=99.2km s-min=24.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.91	204	P		Pn	22 40 33.6	+0.2
	0.1nm,0.3s,baz=41,slow=11,SNR=2.4							
FITZ				S		Sn	22 43 53.0	-13
	0.1nm,0.3s,baz=140,slow=17,SNR=2.8							
WRA	Warramunga Arr	19.09	178	P		P	22 40 34.3	-0.6
	0.2nm,0.3s,baz=356,slow=11,SNR=11							
WRA				S		Sn	22 44 02.9	-7.3
	0.0nm,0.3s,baz=358,slow=24,SNR=2.9							
WRA				LR		LR	22 46 27.2	
	comp=Z,36nm,20.5s,baz=210,slow=32							
ASAR	Alice Springs	22.78	179	P		P	22 41 14.9	+0.1
	1.1nm,0.5s,baz=2.0,slow=12,SNR=16							
MKAR	Makanchi Array	65.13	324	P		P	22 46 53.3	-0.1
	0.3nm,0.6s,baz=109,slow=7.8,SNR=2.8							

SZGRF 11 22:54:04.8, 18.50S×177.00W, h33km, Fiji Islands region
IDC 11 22:55:04.9±1.4, 17.76S×178.62W, h543km±17km, mb3.6/13, mb1 3.8/15, mb1mx3.8/20, mbtmp3.6/15, Error ellipse: s-maj=24.7km s-min=10.9km az=146.0
ISCJB 11 22:55:05.6±0.5, 18.05S±0.1×178.46W±0.09, h579km, mb4.4/20, Error ellipse: s-maj=17.2km s-min=7.2km az=143.7
NEIC 11 22:55:05.7±0.7, 18.03S×178.42W, h566km±7km, mb4.2/4, Error ellipse: s-maj=18.4km s-min=9.6km az=141.0
ISC 11 22:55:06.2±0.6, 18.08S±0.1×178.4W±0.1, h579km, n88, σ1º09/88, mb4.1/20, 6C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	3.42	273	eP		P	22 56 26.1	-0.2
AFI	Afiamalu	7.52	58	P		P	22 56 58.5	-1.9
	10nm,0.3s,baz=34,slow=23,SNR=12							
AFI				S		S	22 58 32.7	-1.1
	2.0nm,0.3s,baz=127,slow=15,SNR=2.3							
AFI	Afiamalu	7.52	58	P		P	22 56 58.5	-1.9
AFI				S		S	22 58 32.7	-1.1
DZM	Mont Dzumac	14.84	252	P		P	22 58 12.8	-0.9
	1.7nm,0.3s,baz=96,slow=21,SNR=13							
DZM	Mont Dzumac	14.84	252	P		P	22 58 12.8	-0.9
URZ	Urewera	20.60	190	eP		P	22 59 04.9	-1.2
	9.6nm,0.5s							
RPZ	Rata Peaks	27.18	197	P		P	23 00 04.9	+0.5
	4.8nm,0.6s,baz=124,slow=15,SNR=5.0							
RPZ	Rata Peaks	27.18	197	eP		P	23 00 04.5	+0.1
	4.1nm,0.4s							
EIDS	Eidsvold	29.28	250	eP		P	23 00 22.2	-0.8
	39nm,0.8s							
ARMA	Armidale	29.94	240	eP		P	23 00 29.3	+0.6
RMQ	Roma	31.52	249	eP		P	23 00 42.3	+0.2
	8.6nm,0.6s							
CNB	Canberra Magne	33.42	232	eP		P	23 00 59.3	+1.1
	118nm,0.6s							
CMSA	Cobar Meteorol	35.15	241	eP		P	23 01 12.8	+0.2
	52nm,0.6s							
TOO	Toolangi	37.16	231	eP		P	23 01 30.2	+1.1
	79nm,0.6s							
STKA	Stephens Creek	38.63	241	P		P	23 01 41.9	+0.8
	10nm,0.5s,baz=91,slow=9.7,SNR=52							
STKA	Stephens Creek	38.63	241	eP		P	23 01 41.8	+0.8
	8.3nm,0.6s							
STKA	Stephens Creek	38.63	241	eP		P	23 01 41.6	+0.5
	4.0nm,0.8s							
BBOO	Buckleboo	43.41	241	eP		P	23 02 19.0	+0.2
	60nm,0.3s							
WRAB	Tennant Creek	44.65	260	eP		P	23 02 27.1	-1.4
	2.3nm,0.5s							
WRA	Warramunga Arr	44.66	260	P		P	23 02 27.4	-1.3
	2.4nm,0.5s,baz=92,slow=7.5,SNR=79							
WRA	Warramunga Arr	44.66	260	P		P	23 02 27.4	-1.3
AS31	Alice Springs	44.81	254	eP		P	23 02 29.3	-0.5
ASAR	Alice Springs	44.81	254	P		P	23 02 29.5	-0.3
	25nm,0.5s,baz=88,slow=8.3,SNR=346							
ASAR	Alice Springs	44.81	254	P		P	23 02 29.5	-0.3
MJAR	Matsushiro Arr	67.98	323	P		P	23 05 07.3	-1.1
	1.3nm,0.6s,baz=141,slow=6.7,SNR=5.7							
MJAR	Matsushiro Arr	67.98	323	P		P	23 05 07.3	-1.1
PETK	Petropavlovsk-	73.75	345	P		P	23 05 41.9	0.0
	3.1nm,0.6s,baz=135,slow=9.4,SNR=4.2							
PETK	Petropavlovsk-	73.75	345	P		P	23 05 41.9	0.0
USRK	Ussuriysk Arra	76.68	326	P		P	23 05 58.9	+0.6
	1.1nm,0.7s,baz=161,slow=5.7,SNR=4.1							
NVAR	Mina Array Bea	79.44	44	P		P	23 06 15.8	+2.2
	2.5nm,0.7s,baz=225,slow=9.1,SNR=17							
NVAR	Mina Array Bea	79.44	44	P		P	23 06 15.8	+2.2
ILAR	Eielson Array	85.94	13	P		P	23 06 45.1	-0.1
	1.2nm,0.4s,baz=221,slow=5.2,SNR=54							
ILAR	Eielson Array	85.94	13	P		P	23 06 45.1	-0.1
TXAR	Lajitas Array	86.00	58	P		P	23 06 49.9	+3.5
	2.8nm,0.7s,baz=216,slow=6.1,SNR=31							
TXAR	Lajitas Array	86.00	58	P		P	23 06 49.9	+3.5
PDAR	Pinedale Array	87.37	43	P		P	23 06 54.6	+1.8
	2.1nm,0.6s,baz=222,slow=3.3,SNR=21							
PDAR	Pinedale Array	87.37	43	P		P	23 06 54.6	+1.8
SONM	Songino Array	93.62	319	P		P	23 06 55.2	+1.1
	0.8nm,1.1s,baz=99,slow=2.5,SNR=2.9							
SONM	Songino Array	93.62	319	P		P	23 07 22.5	+1.1
YKA	Yellowknife Ar	94.37	25	P		P	23 07 24.9	+0.7
	0.3nm,0.4s,baz=243,slow=4.5,SNR=7.0							
YKA	Yellowknife Ar	94.37	25	P		P	23 07 24.9	+0.7
MKAR	Makanchi Array	109.20	314	PKiKP		PKiKP	23 12 30.9	-0.2
	0.4nm,0.5s,baz=186,slow=0.4,SNR=9.1							
MKAR	Makanchi Array	109.20	314	PKiKP		PKiKP	23 12 30.9	-0.2
ARCES	ARCESS Array B	126.38	350	PKP		PKPdf	23 13 05.0	+1.7
	3.2nm,0.9s,baz=9.2,slow=3.8,SNR=6.5							
ARCES	ARCESS Array B	126.38	350	PKP		PKPdf	23 13 05.0	+1.7
FINES	FINESS Array B	133.26	344	PKP		PKPdf	23 13 17.4	+1.0
	5.9nm,1.0s,baz=262,slow=3.9,SNR=3.4							
FINES	FINESS Array B	133.26	344	PKP		PKPdf	23 13 17.4	+1.0
LEOM	Leova	144.07	328	⇓iP		PKPdf	23 13 37.3	+0.8
KWP	Kalwaria Pacla	144.14	336	⇓iP		PKPdf	23 13 37.4	+0.8
RUE	Ruedersdorf	144.26	347	ePKPbc		PKPab	23 13 37.7	+0.8
BURAR	Bucovina Array	144.69	332	⇑iP		PKPdf	23 13 33.7	-4.1
TESR		144.83	330	⇓iP		PKPab	23 13 40.4	+1.0
BRTR	Keskin Array B	144.85	315	PKP		PKPab	23 13 39.6	-0.3
	2.0nm,0.7s,baz=104,slow=2.7,SNR=15							
BRTR	Keskin Array B	144.85	315	PKP		PKPab	23 13 39.6	-0.3
STHS	Stebnicka Huta	144.86	338	ePKP		PKPab	23 13 40.2	+0.8
NIE	Niedzica	145.19	339	ePX		PKPab	23 13 41.0	+0.3
CLL	Collm	145.53	347	ePKPbc		PKPab	23 13 41.6	-0.3
CLL	Collm	145.53	347	*i* PKPbc		PKPab	23 13 41.1	-0.8
	comp=Z,13nm,1.1s							
BRG	Berggiesshubel	145.73	346	eP		PKPab	23 13 42.1	-0.7
	comp=Z,14nm,1.3s							
BRG				*e*			23 15 13.9	
	comp=Z,16nm,1.7s							
BRG	Berggiesshubel	145.73	346	ePKPbc		PKPab	23 13 42.3	-0.4
NEUB	Neuenburg	145.87	349	ePKPbc		PKPbc	23 13 42.1	+0.8
MLR	Muntele Rosu	145.90	329	PKPbc		PKPbc	23 13 42.2	+0.4
	comp=Z,0.6nm,0.9s,baz=220,slow=7.9,SNR=6.3							
MLR	Muntele Rosu	145.90	329	PKPbc		PKPbc	23 13 42.2	+0.4
MLR	Muntele Rosu	145.90	329	⇓iP		PKPab	23 13 43.8	0.0
KECS	Kecovo	145.92	337	ePKP		PKPbc	23 13 42.3	+0.7
MMAI	Mount Meron Ar	146.21	303	PKPbc		PKPab	23 13 44.2	-1.1
	comp=Z,2.2nm,0.5s,baz=68,slow=6.6,SNR=6.7							
MMAI	Mount Meron Ar	146.21	303	PKPbc		PKPab	23 13 44.2	-1.1
DRGR		146.41	333	⇓iP		PKPab	23 13 44.2	+1.1
VRAC	Vranov	146.48	342	PKPbc		PKPab	23 13 44.7	-1.1
	comp=Z,9.0nm,1.3s,baz=340,slow=5.4,SNR=5.0							
VRAC	Vranov	146.48	342	PKPbc		PKPbc	23 13 44.7	-1.1
TANN	Tannenbergstha	146.49	347	ePKPbc		PKPab	23 13 44.6	-1.3
VYHS	Vyhne	146.49	339	ePKP		PKPbc	23 13 44.1	+0.9
KOLL	Kolacno	146.56	340	ePKP		PKPbc	23 13 44.4	+1.1
ROTZ	Rotzenmuhle	147.16	347	ePKPbc		PKPbc	23 13 46.7	-1.8
TNS	Taunus Mts	147.36	352	ePKPbc		PKPbc	23 13 46.9	+1.4
KHC	Kasperske Hory	147.44	345	ePKP		PKPbc	23 13 46.5	+0.8
GZR	Gura Zlata	147.47	332	⇓iP		PKPbc	23 13 46.7	+0.8
GEC2	GERESS Array S	147.68	345	ePKPbc		PKPbc	23 13 47.7	+1.3
GERES	GERESS Array B	147.68	345	PKPbc		PKPbc	23 13 47.3	+0.9
	comp=Z,3.3nm,0.6s,baz=25,slow=2.9,SNR=37							
GERES	GERESS Array B	147.68	345	PKPbc		PKPbc	23 13 47.3	+0.9
BZS	Buzias	147.80	333	⇑iP		PKPbc	23 13 47.2	+0.5
CSNA	Conrad Observa	147.93	342	⇑iPKiKP		PKiKP	23 13 48.1	-0.3
	comp=Z,3.2nm,0.6s							
BFO	Black Forest	149.23	351	ePKPbc		PKPbc	23 13 51.4	+1.2
VTS	Vitosha	149.36	328	⇑iP		PKPbc	23 13 51.8	+1.0
KBA	Koelnbreinsper	149.41	344	⇑iPKPbc		PKPbc	23 13 51.0	+0.2
	comp=Z,2.8nm,0.5s							
WTTA	Wattenberg	149.65	346	⇑iPKiKP		PKiKP	23 13 52.3	+0.2
	comp=Z,9.2nm,0.7s							
DAVOX	Davos/Dischmat	150.47	348	PKPbc		PKPbc	23 13 54.2	+0.9
	comp=Z,6.5nm,0.6s,baz=235,slow=2.1,SNR=24							
DAVOX	Davos/Dischmat	150.47	348	PKPbc		PKPbc	23 13 54.2	+0.9

IDC 11 23:08:22.4±2.3, 0.34S×132.79E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=96.5km s-min=24.6km az=78.0, Irian Jaya region

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |
|---|---|---|---|---|---

3.0nm,0.4s
MORF Marmelete 4.33 89 P **Pn** **23 14 29.9 +0.2**
MORF S **Sn** **23 15 20.2 -0.1**
3.0nm,0.4s
PNCL Nicolau / Gran 4.47 79 *e*Pn **Pn** **23 14 31.9 +0.5**
PNCL *e*Sn **Sn** **23 15 23.6 +0.1**
PNCL A A 23 15 26.7
2.6nm,0.8s
PNCL Nicolau / Gran 4.47 79 *e*Pn **Pn** **23 14 31.9 +0.5**
PNCL *e*Sn **Sn** **23 15 23.6 +0.1**
2.6nm,0.8s
PMPST Porto Santo, M 4.67 204 *e*Sn Sn 23 15 06.3 -22
MOE Montemor 4.68 74 *e*Sn **Sn** **23 15 29.0 +0.3**
MOE Montemor 4.68 74 S **Sn** **23 15 29.0 +0.3**
MOE Montemor 4.68 74 S **Sn** **23 15 29.0 +0.3**
PMPS Porto Santo 4.69 204 *e*Sn Sn 23 15 07.9 -21
PMPS A A 23 15 10.8
13nm,0.8s
PMPS Porto Santo 4.69 204 S Sn 23 15 07.9 -21
6.3nm,0.8s
PCVE Castro Verde 4.82 85 *e*Pn **Pn** **23 14 37.9 +1.6**
PCVE *e*Sn **Sn** **23 15 30.8 -1.3**
PCVE A A 23 15 38.1
1.8nm,0.4s
PCVE Castro Verde 4.82 85 P **Pn** **23 14 37.9 +1.6**
PCVE S **Sn** **23 15 30.8 -1.3**
1.8nm,0.4s
PCVE Castro Verde 4.82 85 P **Pn** **23 14 37.9 +1.6**
PCVE S **Sn** **23 15 30.8 -1.3**
1.8nm,0.4s
PBDV Barranco-do-Ve 4.91 90 *e*Pn **Pn** **23 14 38.1 +0.5**
PBDV A A 23 15 47.6
2.6nm,0.7s
PBDV Barranco-do-Ve 4.91 90 P **Pn** **23 14 38.1 +0.5**
PBDV Barranco-do-Ve 4.91 90 P **Pn** **23 14 38.1 +0.5**
PBEJ Beja 4.98 81 *e*Pn **Pn** **23 14 39.6 +1.1**
PBEJ *e*Sn **Sn** **23 15 35.7 -0.4**
PBEJ A A 23 15 41.9
1.4nm,0.3s
PBEJ Beja 4.98 81 P **Pn** **23 14 39.6 +1.1**
PBEJ S **Sn** **23 15 35.7 -0.4**
0.7nm,0.3s
PBEJ Beja 4.98 81 P **Pn** **23 14 39.6 +1.1**
PBEJ S **Sn** **23 15 35.7 -0.4**
0.7nm,0.3s
PTOM Tomar 4.98 62 *e*Pn **Pn** **23 14 39.8 +1.3**
PTOM *e*Sn **Sn** **23 15 37.7 +1.5**
PTOM A A 23 15 45.9
3.8nm,0.3s
PTOM Tomar 4.98 62 P **Pn** **23 14 39.8 +1.3**
PTOM S **Sn** **23 15 37.7 +1.5**
1.9nm,0.3s
PTOM Tomar 4.98 62 P **Pn** **23 14 39.8 +1.3**
PTOM S **Sn** **23 15 37.7 +1.5**
1.9nm,0.3s
PVAQ Vaqueiros 5.07 88 *e*Pn **Pn** **23 14 40.3 +0.5**
PVAQ *e*Sn **Sn** **23 15 38.1 -0.4**
PVAQ A A 23 15 44.2
2.3nm,0.2s
PVAQ Vaqueiros 5.07 88 P **Pn** **23 14 40.3 +0.5**
PVAQ S **Sn** **23 15 38.1 -0.4**
2.3nm,0.2s
PVAQ Vaqueiros 5.07 88 P **Pn** **23 14 40.3 +0.5**
PVAQ S **Sn** **23 15 38.1 -0.4**
2.3nm,0.2s
EGRO El Granado 5.26 86 P **Pn** **23 14 43.3 +1.0**
0.6nm,0.1s,SNR=14
EGRO S **Sn** **23 15 42.4 -0.6**
1.0nm,0.2s,SNR=5.1
EGRO El Granado 5.26 86 P **Pn** **23 14 43.3 +1.0**
0.6nm,0.1s,SNR=14
EGRO S **Sn** **23 15 42.4 -0.6**
1.0nm,0.2s,SNR=5.1
PESTR Estremoz 5.33 72 *e*Pn **Pn** **23 14 44.3 +0.9**
PESTR *e*Sn **Sn** **23 15 44.9 0.0**
PESTR A A 23 15 51.1
0.7nm,0.4s
PESTR Estremoz 5.33 72 P **Pn** **23 14 44.3 +0.9**
PESTR S **Sn** **23 15 44.9 0.0**
0.7nm,0.4s
PESTR Estremoz 5.33 72 P **Pn** **23 14 44.3 +0.9**
PESTR S **Sn** **23 15 44.9 0.0**
0.7nm,0.4s
PBAR Barrancos 5.64 80 *e*Pn **Pn** **23 14 48.6 +1.0**
PBAR *e*Sn **Sn** **23 15 51.8 -0.6**
PBAR A A 23 16 03.1
1.5nm,0.7s
PBAR Barrancos 5.64 80 P **Pn** **23 14 48.6 +1.0**
PBAR S **Sn** **23 15 51.8 -0.6**
1.5nm,0.7s
PBAR Barrancos 5.64 80 P **Pn** **23 14 48.6 +1.0**
PBAR S **Sn** **23 15 51.8 -0.6**
1.5nm,0.7s
PMRV Marv??o 5.64 67 *e*Pn **Pn** **23 14 48.7 +1.1**
PMRV *e*Sn **Sn** **23 15 52.2 -0.3**
PMRV A A 23 15 58.0
1.9nm,0.3s
PMRV Marv??o 5.64 67 P **Pn** **23 14 48.7 +1.1**
PMRV S **Sn** **23 15 52.2 -0.3**
1.9nm,0.3s
PMRV Marv??o 5.64 67 P **Pn** **23 14 48.7 +1.1**
PMRV S **Sn** **23 15 52.2 -0.3**
1.9nm,0.3s
PCBR Castelo Branco 5.73 63 *e*Pn **Pn** **23 14 50.0 +1.2**
PCBR *e*Sn **Sn** **23 15 55.2 +0.6**
PCBR A A 23 15 58.4
1.2nm,0.5s
PCBR Castelo Branco 5.73 63 P **Pn** **23 14 50.0 +1.2**
PCBR S **Sn** **23 15 55.2 +0.6**
0.6nm,0.5s
PCBR Castelo Branco 5.73 63 P **Pn** **23 14 50.0 +1.2**
PCBR S **Sn** **23 15 55.2 +0.6**
0.6nm,0.5s
EBAD Badajoz 5.75 74 P **Pn** **23 14 50.0 +0.9**
1.1nm,0.1s,SNR=12
EBAD S **Sn** **23 15 53.8 -1.3**
0.4nm,0.2s,SNR=6.3
EBAD Badajoz 5.75 74 P **Pn** **23 14 50.0 +0.9**
1.1nm,0.1s,SNR=12
EBAD S **Sn** **23 15 53.8 -1.3**
0.4nm,0.2s,SNR=6.3
PVIS Viseu 5.86 53 *e*Sn **Sn** **23 15 57.8 -0.1**
PVIS A A 23 16 01.2
2.5nm,0.2s
PVIS Viseu 5.86 53 S **Sn** **23 15 57.8 -0.1**
1.2nm,0.2s
PVIS Viseu 5.86 53 S **Sn** **23 15 57.8 -0.1**
1.2nm,0.2s
EMIN Mina Concepcio 5.90 84 P **Pn** **23 14 52.0 +0.8**
0.4nm,0.1s,SNR=6.9
EMIN S **Sn** **23 15 57.4 -1.5**
0.5nm,0.1s,SNR=7.9
EMIN Mina Concepcio 5.90 84 P **Pn** **23 14 52.0 +0.8**
0.4nm,0.1s,SNR=6.9
EMIN S **Sn** **23 15 57.4 -1.5**
0.5nm,0.1s,SNR=7.9
POLO Lamas de Olo 6.30 49 *e*Pn **Pn** **23 14 57.7 +1.0**
POLO *e*Sn **Sn** **23 16 08.1 -0.6**
POLO Lamas de Olo 6.30 49 *e*Pn **Pn** **23 14 57.7 +1.0**
POLO *e*Sn **Sn** **23 16 08.1 -0.6**
PGAV Gavieira, Arco 6.41 43 *e*Pn **Pn** **23 14 59.1 +0.9**
PGAV *e*Sn **Sn** **23 16 09.7 -1.8**
PGAV A A 23 16 19.9
2.6nm,0.6s
PGAV Gavieira, Arco 6.41 43 *e*Pn **Pn** **23 14 59.1 +0.9**
PGAV *e*Sn **Sn** **23 16 09.7 -1.8**
2.6nm,0.6s
ELOB Lobios 6.46 44 P **Pn** **23 14 59.1 +0.2**
0.0nm,0.1s,SNR=7.9
ELOB S **Sn** **23 16 09.4 -3.3**
0.3nm,0.1s,SNR=7.9
ELOB Lobios 6.46 44 P **Pn** **23 14 59.1 +0.2**
SNR=7.9
MVO Moncorvo 6.65 53 *e*Pn **Pn** **23 15 02.5 +1.0**
MVO *e*Sn **Sn** **23 16 16.0 -1.4**
MVO A A 23 16 26.9
2.1nm,0.8s
MVO Moncorvo 6.65 53 P **Pn** **23 15 01.7 +0.1**
0.4nm,0.1s,SNR=7.9
MVO S **Sn** **23 16 15.3 -2.2**
0.2nm,0.1s,SNR=7.9
MVO Moncorvo 6.65 53 P **Pn** **23 15 01.7 +0.1**
0.4nm,0.1s,SNR=7.9
MVO Moncorvo 6.65 53 *e*Pn **Pn** **23 15 02.5 +1.0**
MVO S **Sn** **23 16 15.3 -2.2**
0.2nm,0.1s,SNR=7.9
MVO *e*Sn Sb 23 16 16.0 -23
2.1nm,0.8s
EPLA Plasencia 6.81 64 P **Pn** **23 15 04.2 +0.5**
0.1nm,0.1s,SNR=7.9
EPLA S **Sn** **23 16 20.4 -0.9**
0.3nm,0.1s,SNR=7.9
EPLA Plasencia 6.81 64 P **Pn** **23 15 04.2 +0.5**
0.1nm,0.1s,SNR=7.9
EPLA S **Sn** **23 16 20.4 -0.9**
0.3nm,0.1s,SNR=7.9
ECAL Calabor 7.27 49 P **Pn** **23 15 11.0 +0.9**
0.2nm,0.1s,SNR=5.9
ECAL S **Sn** **23 16 30.8 -1.9**
0.3nm,0.2s,SNR=7.9
ECAL Calabor 7.27 49 P **Pn** **23 15 11.0 +0.9**
0.2nm,0.1s,SNR=5.9
ECAL S **Sn** **23 16 30.8 -1.9**
0.3nm,0.2s,SNR=7.9
EADA Adamuz 7.58 81 P **Pn** **23 15 15.0 +0.8**
0.6nm,0.1s,SNR=7.9
EADA S **Sn** **23 16 39.2 -0.9**
0.3nm,0.1s,SNR=7.9
EADA Adamuz 7.58 81 P **Pn** **23 15 15.0 +0.8**
0.6nm,0.1s,SNR=7.9
EADA S **Sn** **23 16 39.2 -0.9**
0.3nm,0.1s,SNR=7.9
ESDC Sonseca Array 8.26 71 P **Pn** **23 15 24.4 +0.8**
1.1nm,0.1s,baz=256,slow=13,SNR=7.6
ESDC S **Sn** **23 16 52.1 -4.9**
0.8nm,0.1s,baz=256,slow=24,SNR=4.0
ESDC Sonseca Array 8.26 71 P **Pn** **23 15 24.4 +0.8**
1.1nm,0.1s,baz=256,slow=13,SNR=7.6

IDC ***12*** *00:14:55.2±15.0, 36°.50N×69°.94E, h83km±142km, mb3.2/2, mb1 3.1/5, mb1mx3.0/28, mbtmp3.1/5, ML3.3/3, Error ellipse: s-maj=134.1km s-min=65.1km az=150.0*
NNC ***12*** *00:15:00.3±8.3, 37°.14N×69°.31E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=77.3km s-min=62.8km az=104.0*
ISC 12 00:14:51.4±1.5, 36°.21N±0°.09×69°.4E±0°.1, h112km, n23, σ1ᵗ73/32, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AML	**Almayashu** SNR=73	**6.78**	**28**	P		**Pn**	**00 16 30.6**	**+2.0**
AML	SNR=73			P		**Pn**	**00 16 30.6**	**+2.0**
KK31	**Karatay Array** 8.5nm,0.6s,baz=198,slow=18,SNR=63	**6.94**	**7**	⇑Pn		Pn	00 16 34.0	+3.6
KK31	9.9nm,0.7s,baz=193,slow=22,SNR=10.0			Sn		**Sn**	**00 17 46.7**	**-1.1**
EKS2	**Erkin-Say** SNR=6.7	**7.27**	**26**	P		**Pn**	**00 16 37.4**	**+2.4**
EKS2	SNR=6.7			P		**Pn**	**00 16 37.4**	**+2.4**
KZA	**Kyzart** SNR=12	**7.40**	**36**	P		**Pn**	**00 16 38.1**	**+1.0**
KZA	SNR=12			P		**Pn**	**00 16 38.1**	**+1.0**
AAK	**Ala-Archa** SNR=17	**7.52**	**30**	P		**Pn**	**00 16 40.5**	**+2.1**
AAK	SNR=17			P		**Pn**	**00 16 40.5**	**+2.1**
KBK	**Karagaybulak** SNR=10	**7.72**	**32**	P		**Pn**	**00 16 43.4**	**+2.2**
KBK	SNR=10			P		**Pn**	**00 16 43.4**	**+2.2**
CHMS	**Chumysh** SNR=40	**7.93**	**30**	P		**Pn**	**00 16 45.4**	**+1.6**
CHMS	SNR=40			P		**Pn**	**00 16 45.4**	**+1.6**
USP	**Ospenovka** SNR=46	**8.06**	**27**	P		**Pn**	**00 16 47.0**	**+1.3**
USP	SNR=46			P		**Pn**	**00 16 47.0**	**+1.3**
TKM2	**Tokmak 2** SNR=23	**8.22**	**33**	P		**Pn**	**00 16 49.2**	**+1.2**
TKM2	SNR=23			P		**Pn**	**00 16 49.2**	**+1.2**
TKM2	**Tokmak 2** 14nm,0.6s	**8.22**	**33**	⇑Pn		**Pn**	**00 16 49.8**	**+1.8**
TKM2	3.4nm,0.7s			⇓Sn		**Sn**	**00 18 17.9**	**-1.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=225,slow=17,SNR=6.7	**14.29**	**38**	P		**Pn**	**00 18 07.6**	**-0.8**
KOLN	**Koldanda**	**14.66**	**121**	*e*P		**Pn**	**00 18 13.1**	**-0.4**
AB31	**Akbulak array** 0.2nm,0.3s,baz=163,slow=11,SNR=15	**14.77**	**335**	Pn		**P**	**00 18 18.9**	**+1.4**
AB31	0.8nm,0.6s,baz=155,slow=22,SNR=5.3			⇑Sn		**Sn**	**00 20 54.4**	**-3.1**
GKN	**Gorkha** 6.5nm,0.4s	**15.25**	**118**	*e*P		**Pn**	**00 18 19.6**	**-1.3**
DMN	**Daman** 7.1nm,0.3s	**15.81**	**118**	*e*P		**P**	**00 18 27.7**	**-1.9**
KKN	**Kakani** 19nm,0.6s	**15.83**	**118**	*e*P		**Pn**	**00 18 27.6**	**-0.6**
KURK	**Kurchatov** 0.1nm,0.3s,baz=210,slow=10,SNR=5.6	**15.94**	**22**	P		**Pn**	**00 18 26.8**	**-2.4**
PKI	**Pulchoki** 4.8nm,0.3s	**16.05**	**118**	*e*P		**P**	**00 18 31.4**	**-0.9**
GUN	**Gumba** 27nm,0.9s	**16.19**	**116**	*e*P		**P**	**00 18 34.3**	**+0.4**
JIRN	**Jiri** 16nm,0.4s	**16.56**	**116**	*e*P		**P**	**00 18 39.0**	**+1.0**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=163,slow=10,SNR=7.0	**16.83**	**2**	P		**P**	**00 18 41.9**	**+1.5**
ZALV	**Zalesovo Beam** 2.2nm,0.6s,baz=212,slow=11,SNR=13	**20.72**	**26**	P		**P**	**00 19 24.0**	**+1.3**
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=52,slow=6.8,SNR=3.0	**64.45**	**268**	P		P	00 25 25.8	+10

DJA ***12*** *00:21:35, 1°.43N×99°.03E, h61km, MLv3.5/5*
IDC 12 00:21:20.7±1.5, 0°.96N×98°.55E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.8/25, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=45.4km s-min=23.4km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=194,slow=10,SNR=6.2	**17.40**	**1**	P		P	00 25 26.6	+0.2
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=307,slow=8.7,SNR=11	**40.76**	**123**	P		P	00 29 04.0	+0.1
KSRS	**Korea Array** 2.8nm,0.9s,baz=225,slow=8.6,SNR=5.5	**45.29**	**33**	P		P	00 29 39.5	-0.9
SONM	**Songino Array** 0.5nm,0.5s,baz=192,slow=8.9,SNR=8.2	**47.19**	**7**	P		P	00 29 55.4	+0.1
SONM	0.9nm,1.1s,baz=189,slow=1.8,SNR=3.4			PcP		PcP	00 31 26.6	-0.2
MKAR	**Makanchi Array** 1.3nm,0.3s,baz=161,slow=8.3,SNR=52	**47.81**	**345**	P		P	00 30 00.3	+0.2
USRK	**Ussuriysk Arra** 1.3nm,0.8s,baz=193,slow=7.8,SNR=3.0	**52.30**	**30**	P		P	00 30 33.7	-0.4
KURK	**Kurchatov** 1.0nm,0.4s,baz=160,slow=7.0,SNR=9.3	**52.38**	**344**	P		P	00 30 34.0	-0.6
ZALV	**Zalesovo Beam** 2.8nm,0.4s,baz=166,slow=6.8,SNR=25	**54.02**	**350**	P		P	00 30 46.4	-0.3
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=141,slow=9.7,SNR=8.7	**56.93**	**340**	P		P	00 31 07.3	-0.3
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=122,slow=6.3,SNR=3.7	**70.28**	**312**	P		P	00 32 36.3	-0.1

JMA ***12*** *00:49:25.1±0.1, 24°.85N×122°.31E, h0km, M3.1*
ISCJB ***12*** *00:49:28.4±0.5, 24°.81N±0°.04×122°.43E±0°.02, h3km±4km, Error ellipse: s-maj=6.0km s-min=2.8km az=8.2*
TAP ***12*** *00:49:29.7, 24°.81N×122°.36E, h16km, ML3.3, C*
ISC 12 00:49:28.5±1.0, 24°.77N±0°.04×122°.41E±0°.02, h15km±9km, n29, σ0ᵗ65/54, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=300	**0.45**	**302**	*i* P		**Pb**	**00 49 38.1**	**-0.1**
TWB1	baz=300			*i* S		**Sg**	**00 49 43.6**	**0.0**
TWC	**Suao** baz=251	**0.53**	**253**	⇑*i*P		**Pb**	**00 49 39.4**	**-0.2**
TWC	baz=251			*e*S		**Sb**	**00 49 46.6**	**-0.5**
ILA	**Ilan** baz=265	**0.60**	**270**	*e*P		**Pb**	**00 49 41.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.63**	**119**	P		**Pg**	**00 49 39.8**	**-1.0**
YOJ				S		**Sg**	**00 49 50.1**	**+0.9**
NWF	**Wu-fen Shan** baz=296	**0.64**	**298**	P		**Pb**	**00 49 42.3**	**+0.7**
NWF	baz=296			S		**Sb**	**00 49 50.5**	**+0.1**
TWE	**Neicheng** baz=261	**0.68**	**266**	P		**Pb**	**00 49 42.0**	**0.0**
TWE	baz=261			*e*S		**Sb**	**00 49 51.8**	**+0.5**
ENA	**Nanau** baz=242	**0.70**	**241**	*e*P		**Pb**	**00 49 42.4**	**0.0**
ENA	baz=242			*e*S		**Sb**	**00 49 53.0**	**+1.2**
ENTT	**Nioudou** baz=256	**0.78**	**261**	*e*P		**Pb**	**00 49 44.2**	**+0.4**
ENTT	baz=256			*e*S		**Sn**	**00 49 55.4**	**-1.1**
TWA	**Mucha** baz=293	**0.78**	**286**	*e*P		**Pb**	**00 49 44.4**	**+0.6**
TWA	baz=293			*e*S		**Sb**	**00 49 54.0**	**-0.2**
TWY	**Chenhua** baz=303	**0.89**	**305**	*e*P		**Pg**	**00 49 45.5**	**-0.4**
TWY	baz=303			*e*S		**Sb**	**00 49 57.9**	**+0.5**
TWS1	**Kuangyinshan** baz=288	**0.96**	**290**	*e*P		**Pn**	**00 49 47.9**	**+0.4**
TWS1	baz=288			*e*S		**Sn**	**00 50 00.1**	**-0.8**
NSK	**Sanguang** baz=269	**0.96**	**265**	*e*P		**Pb**	**00 49 47.1**	**+0.1**
NSK	baz=269			*e*S		**Sg**	**00 49 58.9**	**-0.8**
NNS	**Nan Shan** baz=236	**1.00**	**251**	*e*P		**Pn**	**00 49 48.2**	**0.0**
NNS	baz=236			*e*S		**Sg**	**00 50 01.1**	**+0.1**
TWD	**Chiawan** baz=230	**1.01**	**227**	*e*P		**Pn**	**00 49 48.9**	**+0.6**
TWD	baz=230			*e*S		**Sn**	**00 50 02.3**	**+0.1**
WHF	**Hehuan Shan** baz=236	**1.21**	**239**	*e*P		**Pg**	**00 49 52.1**	**0.0**
WHF	baz=236			*e*S		**Sg**	**00 50 08.5**	**+0.6**
TWT	**Tachien** baz=234	**1.24**	**246**	*e*P		**Pg**	**00 49 52.8**	**+0.4**
TWT	baz=234			*e*S		**Sg**	**00 50 09.8**	**+1.2**
IRIF	**Iriomote-Funau**	**1.28**	**110**	P		**Pn**	**00 49 51.1**	**-0.8**
IRIF				*e*S		**Sg**	**00 50 10.2**	**+0.4**
NSTT	**Nanjuang** baz=253	**1.29**	**264**	*e*P		**Pg**	**00 49 53.9**	**+0.6**
NSTT	baz=253			*e*S		**Sg**	**00 50 10.4**	**+0.3**
ESL	**Shilin** baz=203	**1.30**	**223**	*e*P		**Pg**	**00 49 54.0**	**+0.3**
HATJ	**Hateruma jima**	**1.46**	**119**	P		**Pn**	**00 49 54.4**	**0.0**
HATJ				*e*S		**Sb**	**00 50 15.2**	**+1.5**
NSY	**Sanyi** baz=254	**1.54**	**257**	*e*P		**Pg**	**00 49 58.0**	**-0.1**
NSY	baz=254			*e*S		**Sg**	**00 50 18.8**	**+0.6**
TWQ1	**Liyutan** baz=252	**1.55**	**255**	*e*P		**Pg**	**00 49 57.9**	**-0.4**
TWQ1	baz=252			*e*S		**Sg**	**00 50 18.1**	**-0.3**
EHY	**Hungye** baz=215	**1.60**	**219**	*e*P		**Pb**	**00 49 58.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.63**	**104**	P		**Pn**	**00 49 56.8**	**+0.1**
JIJ				*e*S		**Sb**	**00 50 19.2**	**+0.5**
SMLT	**Sun Moon Lake** baz=241	**1.64**	**238**	*e*P		**Pg**	**00 49 59.4**	**-0.6**
SMLT	baz=241			*e*S		**Sg**	**00 50 21.0**	**-0.3**
TYC	**Yuchr** baz=248	**1.66**	**239**	*e*P		**Pg**	**00 49 59.4**	**-1.0**
TYC	baz=248			*e*S		**Sg**	**00 50 21.8**	**-0.1**
YUS	**Yu-Shan** baz=209	**1.84**	**227**	*e*P		**Pg**	**00 50 03.0**	**-1.0**
YUS	baz=209			*e*S		**Sb**	**00 50 26.1**	**+0.7**
CHN5	**Tsauling** baz=215	**1.96**	**234**	*e*P		**Pb**	**00 50 03.7**	**-0.4**
CHN5	baz=215			*e*S		**Sg**	**00 50 30.1**	**-1.7**
CHN1	**Nanshi** baz=225	**2.33**	**228**	*e*P		**Pb**	**00 50 10.8**	**+0.4**

IGQ 12 00:56:37.0, 0°.43S×78°.55W, h10km±178km, Mb4.0, Ms3.8, 6C-14D, Error ellipse: s-maj=1.6km s-min=0.7km az=2.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PITA	**Cotopaxi Volc**	**0.18**	**138**	⇓P		Pg	00 56 41.2	-0.3
NAS2	**Nasa**	**0.23**	**159**	⇓P		Pg	00 56 42.5	0.0
GGP	**Refugio Guagua**	**0.25**	**350**	⇑P		Pg	00 56 43.6	+0.6
TERV	**Terraza Guagua**	**0.25**	**348**	⇓P		Pg	00 56 43.4	+0.4
VC1	**Cotopaxi 1**	**0.26**	**146**	⇓P		Pg	00 56 42.9	-0.2
BREF	**Cotopaxi Volca**	**0.27**	**156**	⇓P		Pg	00 56 43.2	-0.1
BVC2	**Cotopaxi Volca**	**0.27**	**149**	⇓S		Sb	00 56 49.8	-0.1
BVC2	**Cotopaxi Volca**	**0.27**	**149**	⇓P		Pg	00 56 43.3	0.0
PINO	**Pino**	**0.27**	**348**	⇑P		Pg	00 56 43.2	-0.1
YANA	**Yana**	**0.30**	**356**	P		Pg	00 56 44.1	+0.2
MOV1	**Cotopaxi Vol s**	**0.31**	**159**	⇓P		Pg	00 56 43.9	-0.2
COV1	**Cotopaxi Volc**	**0.31**	**139**	⇓P		Pg	00 56 43.4	-0.8
BMOR	**Cotopaxi Volca**	**0.32**	**163**	⇓P		Pg	00 56 44.0	-0.2
TAMB	**Tambo**	**0.32**	**146**	⇓P		Pg	00 56 44.1	-0.2
ANTI	**Antisana**	**0.39**	**94**	⇓P		Pg	00 56 45.0	-0.6
PISA	**Pisayambo**	**0.65**	**165**	P		Pg	00 56 50.3	0.0
PISA	**Pisayambo**	**0.65**	**165**	S		Sb	00 57 00.6	-0.2
OTAV	**Otavalo**	**0.67**	**9**	⇑S		Sg	00 56 59.9	+0.2
OTAV	**Otavalo**	**0.67**	**9**	⇑P		Pg	00 56 50.0	-0.5
CAYR	**Refugio Cayamb**	**0.70**	**51**	P		Pg	00 56 51.5	0.0
CAYA	**Cayambe**	**0.75**	**49**	⇓S		Sg	00 57 02.2	-0.2
CAYA	**Cayambe**	**0.75**	**49**	⇓P		Pg	00 56 52.1	-0.1
COTA	**Cotacachi**	**0.78**	**16**	P		Pg	00 56 52.4	-0.5
CHAR	**Charly**	**0.94**	**69**	P		Pb	00 56 55.9	-0.1
CONE	**Cono NE Rev Vo**	**0.97**	**69**	P		Pb	00 56 56.7	+0.2
LAV4	**Lava4-Reventad**	**0.98**	**70**	P		Pg	00 56 56.4	+0.1
JUI6	**Juive**	**1.00**	**175**	P		Pg	00 56 56.4	-0.3
BRUN	**Tungurahua Vol**	**1.00**	**172**	P		Pn	00 56 57.9	+0.3
BULB	**Ulba Tungurahu**	**1.02**	**172**	P		Pb	00 56 57.3	+0.1
IGUA	**Igualata**	**1.06**	**185**	P		Pg	00 56 58.1	-0.2
BMAS	**Trigal station**	**1.07**	**176**	P		Pb	00 56 57.5	-0.7
ARRY	**Arrayan**	**1.08**	**175**	⇑S		Sg	00 57 11.5	-1.2
ARRY	**Arrayan**	**1.08**	**175**	⇑P		Pb	00 56 57.8	-0.5
PAT1	**Patacocha**	**1.08**	**174**	P		Pb	00 56 58.0	-0.5
PAT1	**Patacocha**	**1.08**	**174**	S		Sg	00 57 12.4	-0.6

IDC 12 01:26:16.7±13.0, 6°.29S×128°.69E, h373km±180km, mb2.4/1, mb1 2.6/4, mb1mx2.5/16, mbtmp2.5/4, Error ellipse: s-maj=75.5km s-min=73.4km az=100.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=16,slow=15,SNR=4.3	**12.11**	**194**	P		P	01 28 58.2	-0.4
FITZ	0.1nm,0.3s,baz=203,slow=17,SNR=2.9			S		S	01 31 12.9	+0.3
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=334,slow=13,SNR=10	**14.64**	**158**	P		P	01 29 26.5	0.0
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=11,SNR=5.5	**17.99**	**164**	P		P	01 30 02.4	-0.1
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=116,slow=6.6,SNR=2.3	**66.93**	**327**	P		P	01 36 30.2	0.0

CASC 12 01:38:49.2±1.0, 13°.26N×89°.69W, h33km±2km, MD3.5, ML3.4, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SBLS	**San Blas**	**0.58**	**7**	*e*P		Pb	01 39 01.3	-0.1
SBLS				*e*S		Sn	01 39 10.4	+0.4
SNET	**Serv Nac Est T**	**0.62**	**47**	*e*P		Pb	01 39 01.5	-0.3
SNET				*e*S		Sn	01 39 10.8	+0.1
SNET				AML		AML	01 39 14.5	
	comp=Z,1μm,0.2s							
BOQS	**Boqueron**	**0.62**	**40**	⇑*e*P		Pn	01 39 01.9	-0.1
BOQS				*e*S		Sn	01 39 11.3	+0.2
RTR	**El Retiro**	**0.63**	**4**	*e*P		Pn	01 39 02.0	-0.2

RTR				eS	Sn	01 39 12.3	+1.1
LFRS	**El Faro**	**0.71**	**60**	⇓iP	Pn	01 39 02.9	-0.2
LFRS				eS	Sn	01 39 13.8	+0.8
LBRS	**Las Brisas**	**0.79**	**53**	eP	Pn	01 39 04.4	+0.2
LBRS				eS	Sb	01 39 15.4	+0.2
RBDL	**Robledal**	**0.85**	**0**	eP	Pn	01 39 05.0	0.0
SNVI	**San Vicente**	**0.90**	**67**	eP	Pn	01 39 05.5	-0.3
MTO2	**Montecristo 2**	**1.18**	**16**	eP	Pn	01 39 09.1	-0.6
MTO2				eS	Sn	01 39 25.4	+0.6
VSM	**San Miguel**	**1.39**	**83**	eP	Pn	01 39 12.6	-0.1
VSM				eS	Sn	01 39 31.2	+1.0
BLLM	**Bellamira**	**1.43**	**83**	eP	Pn	01 39 13.4	+0.5
BLLM				eS	Sn	01 39 31.4	+0.7
NBG	**Las Nubes**	**1.46**	**334**	eP	Pn	01 39 14.8	+1.0
NBG				eS	Sb	01 39 35.8	+1.1
CAHU	**Cacacuatique**	**1.53**	**70**	eP	Pn	01 39 14.3	-0.2
FUG	**Fuego 3**	**1.62**	**317**	eP	Pn	01 39 16.0	+0.2
FUG				eS	Sn	01 39 36.9	+1.1
FG6		**1.73**	**318**	eP	Pn	01 39 17.7	+0.3
FG6				eS	Sn	01 39 39.1	+0.4
CNCH	**Conchagua**	**1.81**	**89**	eP	Pn	01 39 18.2	-0.1
CNCH				eS	Sn	01 39 41.1	+0.9
TP2	**Tecpan 2**	**1.99**	**320**	eP	Pn	01 39 17.6	-3.4
TP2				eS	Sn	01 39 39.1	-6.1

ISCJB ***12*** *01:46:00.9±1.0, 41°.12N±0°.06×19°.80E±0°.05, h19km±5km, Error ellipse: s-maj=10.6km s-min=4.2km az=27.1*
CSEM ***12*** *01:46:01.1±0.4, 41°.12N×19°.81E, h20km, ML2.6, Error ellipse: s-maj=8.9km s-min=3.8km az=21.0*
PDG ***12*** *01:46:02.8±0.3, 41°.37N×19°.96E, h15km±1km, ML2.6/7, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0*
BEO ***12*** *01:46:02.8±1.1, 41°.27N×19°.89E, h18km±3km, ML2.6/2*
SKO ***12*** *01:46:03.2, 41°.24N×19°.91E, h8km, M2.0, ML2.5*

ISC 12 01:46:01.2±1.3, 41°.17N±0°.06×19°.79E±0°.03, h22km±7km, n46, σ1§04/81, 7C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.18**	**17**	*eP*g	**Pb**	**01 46 06.4**	**-0.1**
TIR				eSg	**Sb**	**01 46 09.8**	**-0.2**
TIR	**Tirane**	**0.18**	**17**	*eP*g	**Pb**	**01 46 06.4**	**-0.1**
TIR				eSg	**Sb**	**01 46 09.8**	**-0.2**
KRUS	**Krusevo**	**1.11**	**79**	*eP*g	**Pn**	**01 46 20.9**	**-0.8**
KRUS				eSg	**Sb**	**01 46 35.3**	**-0.8**
KRUS	**Krusevo**	**1.11**	**79**	*eP*g	**Pn**	**01 46 20.8**	**-0.8**
KRUS				eSg	**Sb**	**01 46 35.2**	**-0.8**
BIA	**Bitola**	**1.17**	**97**	*eP*g	**Pb**	**01 46 22.5**	**-0.3**
BIA				eSg	**Sn**	**01 46 38.6**	**+1.1**
BIA	**Bitola**	**1.17**	**97**	*eP*g	**Pb**	**01 46 22.4**	**-0.3**
BIA				eSg	**Sn**	**01 46 38.6**	**+1.1**
BUM	**Brajici-Budva**	**1.31**	**330**	⇓*i*Pg	**Pb**	**01 46 25.5**	**+0.2**
BUM				eSg	**Sb**	**01 46 44.5**	**+2.8**
BUM	**Brajici-Budva**	**1.31**	**330**	⇓*i*Pg	**Pb**	**01 46 25.5**	**+0.2**
BUM				eSg	**Sb**	**01 46 44.5**	**+2.8**
TTG	**Podgorica**	**1.32**	**343**	⇑*i*Pg	**Pb**	**01 46 25.1**	**-0.2**
TTG				eSg	**Sb**	**01 46 43.4**	**+1.6**
PDG	**Podgorica**	**1.32**	**342**	*eP*g	**Pb**	**01 46 25.1**	**-0.2**
PDG				eSg	**Sb**	**01 46 43.1**	**+1.3**
PDG	**Podgorica**	**1.32**	**342**	*eP*g	**Pb**	**01 46 25.1**	**-0.2**
PDG				eSg	**Sb**	**01 46 43.1**	**+1.3**
PVY	**Plav**	**1.43**	**5**	⇑*i*Pg	**Pn**	**01 46 26.3**	**+0.4**
PVY				eSg	**Sb**	**01 46 45.5**	**+0.4**
PVY	**Plav**	**1.43**	**5**	⇑*i*Pg	**Pn**	**01 46 26.3**	**+0.4**
PVY				eSg	**Sb**	**01 46 45.5**	**+0.4**
SKO	**Skopje**	**1.47**	**57**	*eP*n	**Pb**	**01 46 27.7**	**-0.3**
SKO				eSg	**Sb**	**01 46 47.2**	**+1.0**
SKO				eLg	Lg	01 46 47.9	
	comp=E,34nm,0.2s						
SKO				eLg	Lg	01 46 47.9	
	comp=N,80nm,0.5s						
SKO	**Skopje**	**1.47**	**57**	*eP*n	**Pb**	**01 46 28.1**	**+0.2**
SKO				eSg	**Sb**	**01 46 47.7**	**+1.5**
SKO				eLg	Lg	01 46 48.3	
	comp=N,80nm,0.5s						
HCY	**Herceg Novi**	**1.60**	**323**	⇓*i*Pg	**Pb**	**01 46 29.8**	**-0.4**
HCY				eSg	**Sb**	**01 46 52.0**	**+2.0**
HCY	**Herceg Novi**	**1.60**	**323**	⇓*i*Pg	**Pb**	**01 46 29.8**	**-0.4**
HCY				eSg	**Sb**	**01 46 52.0**	**+2.0**
BEY	**Berane**	**1.70**	**2**	⇑*i*Pg	**Pb**	**01 46 31.2**	**-0.7**
BEY				eSg	**Sb**	**01 46 52.7**	**-0.2**
IVA	**Berane**	**1.70**	**3**	⇑*i*Pg	**Pb**	**01 46 31.2**	**-0.7**
IVA				eSg	**Sb**	**01 46 52.7**	**-0.2**
NKY	**Niksic**	**1.75**	**340**	⇓*i*Pn	**Pb**	**01 46 31.5**	**-1.2**
NKY				eSn	**Sb**	**01 46 54.3**	**+0.1**
NKY	**Niksic**	**1.75**	**340**	⇓*i*Pn	**Pb**	**01 46 31.5**	**-1.2**
NKY				eSn	**Sb**	**01 46 54.3**	**+0.1**
BRY	**Bratogost**	**1.97**	**332**	*eP*n	**Pb**	**01 46 35.3**	**-1.1**
BRY				eSn	**Sb**	**01 47 00.8**	**+0.3**
BRY	**Bratogost**	**1.97**	**332**	*eP*n	**Pb**	**01 46 35.3**	**-1.1**
BRY				eSn	**Sb**	**01 47 00.8**	**+0.3**
VAY	**Valandovo**	**2.10**	**85**	*eP*n	**Pb**	**01 46 38.1**	**-0.5**
VAY				eSn	**Sb**	**01 47 02.9**	**-1.3**
VAY				eLg	Lg	01 47 07.5	
	comp=N,33nm,1.1s						
VAY				eLg	Lg	01 47 09.0	
	comp=E,13nm,0.8s						
VAY	**Valandovo**	**2.10**	**85**	*eP*n	**Pb**	**01 46 38.6**	**0.0**
VAY				eSn	**Sn**	**01 47 01.4**	**+1.0**
VAY				eLg	Lg	01 47 01.9	
	comp=E,33nm,1.1s						
UPM	**Unac-Piva**	**2.14**	**342**	⇓*i*Pn	**Pn**	**01 46 37.4**	**+1.7**
UPM				eSn	**Sb**	**01 47 03.9**	**-1.6**
UPM	**Unac-Piva**	**2.14**	**342**	⇓*i*Pn	**Pn**	**01 46 37.4**	**+1.7**
UPM				eSn	**Sb**	**01 47 03.9**	**-1.6**
BARS	**Barje**	**2.23**	**42**	*eP*n	**Pn**	**01 46 38.2**	**+1.3**
STON	**Ston**	**2.31**	**318**	*eP*n	**Pn**	**01 46 38.3**	**+0.5**
STON				Sn	**Sn**	**01 47 04.7**	**-0.8**
STON	**Ston**	**2.31**	**318**	*eP*n	**Pn**	**01 46 38.3**	**+0.5**
STON				Sn	**Sn**	**01 47 04.7**	**-0.8**
GRUS	**Gruza**	**2.80**	**14**	*eP*n	**Pn**	**01 46 45.1**	**+0.4**
GRUS	**Gruza**	**2.80**	**14**	*eP*n	**Pn**	**01 46 45.1**	**+0.4**
VTS	**Vitosha**	**2.92**	**60**	⇑*i*P	**Pn**	**01 46 47.3**	**+0.9**
VTS	**Vitosha**	**2.92**	**60**	*eP*n	**Pn**	**01 46 46.7**	**+0.3**
VTS	**Vitosha**	**2.92**	**60**	*eP*n	**Pn**	**01 46 46.7**	**+0.3**
VTS	**Vitosha**	**2.92**	**60**	⇑*i*P	**Pn**	**01 46 47.3**	**+0.9**
VTS				S	**Sn**	**01 47 22.8**	**+1.9**
DIVS	**Divibare**	**2.93**	**3**	*eP*n	**Pn**	**01 46 46.9**	**+0.4**
DIVS				eSn	**Sn**	**01 47 20.1**	**-1.0**
DIVS	**Divibare**	**2.93**	**3**	*eP*n	**Pn**	**01 46 46.9**	**+0.4**
ZAPS	**Zavoj**	**2.98**	**44**	*eP*n	**Pn**	**01 46 47.8**	**+0.7**
TRUS	**Trudelj**	**3.08**	**8**	*eP*n	**Pn**	**01 46 49.9**	**+1.3**
BZS	**Buzias**	**4.64**	**16**	⇓*i*P	**Pn**	**01 47 10.3**	**+0.4**
BZS	**Buzias**	**4.64**	**16**	⇓*i*P	**Pn**	**01 47 10.3**	**+0.4**
BZS				S	**Sn**	**01 48 00.9**	**-2.1**
GZR	**Gura Zlata**	**4.75**	**26**	⇓*i*P	**Pn**	**01 47 11.9**	**+0.4**
GZR	**Gura Zlata**	**4.75**	**26**	⇓*i*P	**Pn**	**01 47 11.9**	**+0.4**
GZR				S	**Sn**	**01 48 05.3**	**-0.6**
NVLJ	**Novalja**	**4.96**	**315**	*eP*n	**Pn**	**01 47 14.1**	**-0.2**
NVLJ				Sn	**Sn**	**01 48 09.2**	**-1.7**
NVLJ	**Novalja**	**4.96**	**315**	*eP*n	**Pn**	**01 47 14.1**	**-0.2**
NVLJ				Sn	**Sn**	**01 48 09.1**	**-1.7**

IDC 12 01:49:57.5±1.1, 12°.08N×92°.40E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.6/24, mbtmp3.5/8, ML4.0/1, Error ellipse: s-maj=36.7km s-min=22.2km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.95**	**44**	Pn	Pn	01 52 08.6	+0.5
	0.5nm,0.3s,baz=239,slow=16,SNR=3.5						
MKAR	**Makanchi Array**	**35.64**	**348**	P	P	01 56 56.2	-0.9
	0.3nm,0.6s,baz=170,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**37.52**	**16**	P	P	01 57 13.7	+0.3
	0.3nm,0.8s,baz=182,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**52.12**	**127**	P	P	01 59 09.5	-0.4
	0.5nm,0.6s,baz=306,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**53.94**	**131**	P	P	01 59 23.2	-0.1
	0.3nm,0.4s,baz=306,slow=6.5,SNR=5.9						
BRTR	**Keskin Array B**	**58.43**	**309**	P	P	01 59 54.8	-0.7
	0.5nm,1.0s,baz=79,slow=9.0,SNR=2.6						
GERES	**GERESS Array B**	**73.58**	**318**	P	P	02 01 33.1	+0.4
	0.7nm,0.8s,baz=98,slow=6.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**87.98**	**283**	P	P	02 02 50.9	+0.7
	0.3nm,0.8s,baz=84,slow=4.5,SNR=3.2						

WEL 12 01:50:58.4±0.5, 37°.48S×176°.79E, h188km±3km, ML3.5/5, 1C, Error ellipse: s-maj=7.6km s-min=4.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.82**	**162**	⇑PN	Pn	01 51 25.7	0.0
URZ				SN	Sn	01 51 46.8	-0.1
MWZ	**Matawai**	**1.03**	**146**	PN	Pn	01 51 27.2	0.0
MWZ				SN	Sn	01 51 49.3	-0.3
KNZ	**Kokohu**	**1.69**	**156**	PN	Pn	01 51 32.8	0.0
KNZ				SN	Sn	01 51 58.5	-1.1
MCHZ	**McNeill Hill**	**1.96**	**182**	PN	Pn	01 51 36.2	+0.7
BHHZ	**Black Hill Sta**	**2.08**	**196**	PN	Pn	01 51 36.8	-0.2
BHHZ				SN	Sn	01 52 06.7	-0.4
KAHZ	**Kahuranaki**	**2.31**	**178**	PN	Pn	01 51 39.4	0.0
PNHZ	**Pukenui**	**2.47**	**191**	PN	Pn	01 51 40.6	-0.7
BFZ	**Birch Farm**	**3.22**	**187**	PN	Pn	01 51 48.8	-1.3
MRZ	**Mangatainoka R**	**3.31**	**196**	PN	Pn	01 51 49.5	-1.7
HOWZ	**Holdsworth Sta**	**3.55**	**196**	PN	Pn	01 51 52.0	-2.2
OGWZ	**Otaki Gorge**	**3.56**	**200**	PN	Pn	01 51 52.4	-1.8
KIW	**Kapiti Island**	**3.68**	**203**	PN	Pn	01 51 53.5	-2.2
CAW	**Cannon Point**	**3.86**	**200**	PN	Pn	01 51 55.5	-2.4

ISCJB ***12*** *02:00:47.2±0.4, 13°.38N±0°.04×120°.58E±0°.06, h33km, mb4.8/21, MS3.4/2, Error ellipse: s-maj=8.4km s-min=5.5km az=176.6*
NEIC ***12*** *02:00:48.4±1.3, 13°.50N×120°.82E, h38km±13km, mb5.2/14, Error ellipse: s-maj=13.7km s-min=7.4km az=53.0*
NEIC Felt [IV PIVS] at Paluan and [II PIVS] at Mamburao and Puerto Galera.
MAN ***12*** *02:00:48, 13°.25N×120°.60E, h35km, mb4.4, ML3.2, MS3.0*
MAN Intensity IV - Paluan Occidental Mindoro Intensity II - Mamburao Occidental MIndoro; Puerto Galera.
IDC ***12*** *02:00:48.1±2.3, 13°.52N×120°.90E, h33km±20km, mb3.8/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, MS3.5/3, Ms1 3.5/3, ms1mx3.0/37, Error ellipse: s-maj=47.0km s-min=15.2km az=64.0*

ISC 12 02:00:48.4±0.8, 13°.42N±0°.05×120°.70E±0°.09, h35km, n56, σ0§85/50, mb4.9/21, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.72**	**18**	Pg	**Pn**	**02 01 00.4**	**-1.7**
	29nm,0.3s,baz=13,slow=23,SNR=12						
TGY				Lg	Lg	02 01 08.5	
	38nm,0.3s,baz=180,slow=20,SNR=18						
TGY	**Tagaytay City**	**0.72**	**18**	Pg	**Pn**	**02 01 00.4**	**-1.7**
TGY				Lg	Lg	02 01 08.5	
TGY	**Tagaytay City**	**0.72**	**18**	⇓*i*P	**Pn**	**02 01 00.7**	**-1.4**
LQP	**Lukban**	**1.07**	**50**	*eP*	**Pn**	02 01 08.7	+1.7
BUSP	**Coron**	**1.49**	**199**	*eP*	**Pn**	**02 01 11.2**	**-1.5**
BUSP				eS	**Sn**	**02 01 29.8**	**-1.1**
OTRP	**Odiongan**	**1.66**	**129**	*eP*	**Pn**	**02 01 16.7**	**+1.7**
GQP	**Guinayangan**	**1.76**	**74**	⇓*e*P	Pn	02 01 22.3	+5.8
BALP	**Baler**	**2.46**	**20**	*eP*	Pn	02 01 27.6	+1.5
SCZP	**Santa Cruz**	**2.47**	**342**	*eP*	**Pn**	**02 01 27.8**	**+1.7**
ENPP	**El Nido**	**2.53**	**210**	*eP*	Pn	02 01 25.3	-1.7
CUYO	**Cuyo Island**	**2.57**	**173**	*eP*	**Pn**	**02 01 26.8**	**-0.8**
CAUP	**Cauayan**	**3.67**	**17**	*eP*	Pn	02 01 47.0	+4.3
DAV	**Davao City (W)**	**7.92**	**142**	LR	LR	02 06 18.8	
	comp=Z,462nm,18.8s,baz=294,slow=42						
CM31	**Chiang Mai Arr**	**21.51**	**286**	*eP*	**P**	**02 05 36.4**	**+1.9**
	17nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.51**	**286**	P	**P**	**02 05 36.2**	**+1.7**
	5.2nm,0.9s,baz=99,slow=9.4,SNR=20						
CMAR	**Chiang Mai Arr**	**21.51**	**286**	P	**P**	**02 05 36.2**	**+1.7**
KSRS	**Korea Array**	**24.79**	**14**	LR	LR	02 16 54.2	
	comp=Z,50nm,19.5s,baz=330,slow=39						
TAPN	**Taplejung**	**33.77**	**299**	*eP*	**P**	**02 07 27.8**	**+0.4**
	39nm,1.3s						
TAPN	**Taplejung**	**33.77**	**299**	*eP*	**P**	**02 07 27.8**	**+0.4**
	39nm,1.3s						
ODAN	**Odare**	**33.90**	**298**	*eP*	**P**	**02 07 28.5**	**+0.1**
	25nm,0.8s						
ODAN	**Odare**	**33.90**	**298**	*eP*	**P**	**02 07 28.5**	**+0.1**
	25nm,0.8s						
RAMN	**Ramite**	**34.60**	**298**	*eP*	**P**	**02 07 35.2**	**+0.6**
	42nm,1.0s						
RAMN	**Ramite**	**34.60**	**298**	*eP*	**P**	**02 07 35.2**	**+0.6**
	42nm,1.0s						
JIRN	**Jiri**	**35.15**	**299**	*eP*	**P**	**02 07 39.5**	**+0.1**
	53nm,1.0s						
JIRN	**Jiri**	**35.15**	**299**	*eP*	**P**	**02 07 39.5**	**+0.1**
	53nm,1.0s						
GUN	**Gumba**	**35.48**	**299**	*eP*	**P**	**02 07 42.2**	**-0.1**
	68nm,1.0s						
GUN	**Gumba**	**35.48**	**299**	*eP*	**P**	**02 07 42.2**	**-0.1**
	68nm,1.0s						
WRA	**Warramunga Arr**	**35.76**	**158**	P	**P**	**02 07 43.9**	**-0.3**
	3.3nm,0.8s,baz=339,slow=9.2,SNR=20						
WRA	**Warramunga Arr**	**35.76**	**158**	P	**P**	**02 07 43.9**	**-0.3**
PKI	**Pulchoki**	**35.79**	**299**	*eP*	**P**	**02 07 44.4**	**-0.5**
	52nm,1.0s						
PKI	**Pulchoki**	**35.79**	**299**	*eP*	**P**	**02 07 44.4**	**-0.5**
	52nm,1.0s						
KKN	**Kakani**	**35.96**	**299**	*eP*	**P**	**02 07 45.9**	**-0.3**
	28nm,0.9s						
KKN	**Kakani**	**35.96**	**299**	*eP*	**P**	**02 07 45.9**	**-0.3**
	28nm,0.9s						
DMN	**Daman**	**36.06**	**299**	*eP*	**P**	**02 07 46.9**	**-0.2**
	58nm,1.1s						
DMN	**Daman**	**36.06**	**299**	*eP*	**P**	**02 07 46.9**	**-0.2**
	58nm,1.1s						
SONM	**Songino Array**	**36.33**	**344**	P	**P**	**02 07 48.5**	**-0.5**
	1.9nm,0.7s,baz=161,slow=8.9,SNR=12						
SONM	**Songino Array**	**36.33**	**344**	P	**P**	**02 07 48.5**	**-0.5**
GKN	**Gorkha**	**36.56**	**299**	*eP*	**P**	**02 07 50.6**	**-0.7**
	33nm,1.0s						
GKN	**Gorkha**	**36.56**	**299**	*eP*	**P**	**02 07 50.6**	**-0.7**
	33nm,1.0s						
KOLN	**Koldanda**	**37.39**	**298**	*eP*	**P**	**02 07 58.1**	**-0.3**
	13nm,0.8s						
KOLN	**Koldanda**	**37.39**	**298**	*eP*	**P**	**02 07 58.1**	**-0.3**
	13nm,0.8s						
DANN	**Dangsing**	**37.40**	**299**	*eP*	**P**	**02 07 58.1**	**-0.5**
	50nm,0.9s						
DANN	**Dangsing**	**37.40**	**299**	*eP*	**P**	**02 07 58.1**	**-0.5**
	50nm,0.9s						
AS31	**Alice Springs**	**39.05**	**161**	*eP*	**P**	**02 08 12.1**	**0.0**
ASAR	**Alice Springs**	**39.05**	**161**	P	**P**	**02 08 12.6**	**+0.4**
	2.7nm,0.8s,baz=336,slow=7.0,SNR=34						
ASAR	**Alice Springs**	**39.05**	**161**	P	**P**	**02 08 12.6**	**+0.4**
MK31	**Makanchi Array**	**46.26**	**324**	*eP*	**P**	**02 09 11.3**	**+0.9**
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**02 09 10.8**	**+0.4**
	0.8nm,0.7s,baz=132,slow=9.1,SNR=11						
MKAR				LR	LR	02 29 33.0	
	comp=Z,84nm,18.5s,baz=174,slow=37						
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**02 09 10.8**	**+0.4**
ZALV	**Zalesovo Beam**	**49.31**	**333**	P	**P**	**02 09 33.7**	**-0.2**
	0.6nm,0.3s,baz=122,slow=5.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**49.31**	**333**	P	**P**	**02 09 33.7**	**-0.2**
KURK	**Kurchatov**	**50.43**	**326**	P	**P**	**02 09 41.6**	**-0.8**
	5.0nm,0.9s,baz=123,slow=8.0,SNR=32						
KURK	**Kurchatov**	**50.43**	**326**	*eP*	**P**	**02 09 42.3**	**-0.1**
	11nm,0.9s						
BVAR	**Borovoye Array**	**56.01**	**326**	P	**P**	**02 10 23.6**	**+0.1**
	1.4nm,0.6s,baz=114,slow=8.6,SNR=7.9						
BVAR	**Borovoye Array**	**56.01**	**326**	P	**P**	**02 10 23.6**	**+0.1**
BRVK	**Borovoye**	**56.08**	**326**	*eP*	**P**	**02 10 23.4**	**-0.6**
	5.0nm,0.9s						

IDC ***12*** *02:04:20.1±0.5, 3°.44N×96°.22E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/30, mbtmp4.3/22, MS3.5/3, Ms1 3.5/3, ms1mx3.0/38, Error ellipse: s-maj=20.4km s-min=12.2km az=52.0*
ISCJB ***12*** *02:04:24.1±0.4, 3°.36N±0°.07×96°.02E±0°.06, h38km, mb4.3/29, MS3.4/3, Error ellipse: s-maj=11.8km s-min=5.9km az=34.5*
DJA ***12*** *02:04:25, 3°.39N×96°.06E, h12km, MLv4.5/9*
NEIC ***12*** *02:04:31.5±1.8, 3°.44N×96°.30E, h91km±16km, mb4.3/5, Error ellipse: s-maj=17.5km s-min=6.8km az=55.0*

ISC 12 02:04:25.9±0.5, 3°.39N±0°.07×96°.11E±0°.08, h38km, n72, σ1§11/68, mb4.3/29, MS3.4/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.07**	**97**	P	**Pn**	**02 04 44.4**	**0.0**
LHMI	**Lhok Sumawe**	**2.01**	**25**	P	**Pn**	**02 05 01.4**	**+4.1**
BSI	**Banda Aceh**	**2.24**	**339**	P	**Pn**	**02 05 01.6**	**+1.1**
TSI	**Tuntungan**	**2.45**	**87**	P	Pn	02 05 07.0	+3.6
PSI	**Prapat**	**2.87**	**102**	P	**Pn**	**02 05 11.7**	**+2.5**

MNSI	**Mandailing Nat**	**4.32**	**127**	P	**Pn**	**02 05 30.5**	**+1.4**
KULM	**Kulim**	**4.90**	**67**	Pn	Pn	02 05 40.8	+3.7
IPM	**Ipoh**	**5.02**	**77**	*eP*n	**Pn**	**02 05 40.6**	**+1.9**
IPM	**Ipoh**	**5.02**	**77**	P	**Pn**	**02 05 41.2**	**+2.5**
	107nm,0.9s,0.4nm						
PPI	**Padang Panjang**	**5.74**	**132**	P	**Pn**	**02 05 51.3**	**+2.7**
CMAR	**Chiang Mai Arr**	**15.23**	**10**	Pn	**P**	**02 08 02.8**	**0.0**
	1.0nm,0.3s,baz=202,slow=12,SNR=5.4						
CMAR	**Chiang Mai Arr**	**15.23**	**10**	Pn	**P**	**02 08 02.8**	**0.0**
KAPI	**Kappang**	**25.05**	**109**	P	**P**	**02 09 46.3**	**-0.6**
	17nm,0.5s,baz=286,slow=7.2,SNR=9.8						
KAPI				LR	LR	02 20 10.9	
	comp=Z,100nm,18.1s,baz=181,slow=38						
KAPI	**Kappang**	**25.05**	**109**	P	**P**	**02 09 46.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**36.10**	**127**	P	**P**	**02 11 22.6**	**-1.8**
	1.3nm,0.4s,baz=288,slow=21,SNR=8.6						
FITZ	**Fitzroy Crossi**	**36.10**	**127**	P	**P**	**02 11 22.6**	**-1.8**
WRA	**Warramunga Arr**	**44.12**	**123**	P	**P**	**02 12 30.0**	**-1.0**
	6.1nm,0.5s,baz=301,slow=9.1,SNR=50						
WRA				LR	LR	02 31 22.0	
	comp=Z,31nm,19.5s,baz=220,slow=37						
WRA	**Warramunga Arr**	**44.12**	**123**	P	**P**	**02 12 30.0**	**-1.0**
WRAB	**Tennant Creek**	**44.13**	**123**	*eP*	**P**	**02 12 30.7**	**-0.3**
	6.3nm,0.4s						
WB2	**Warramunga Arr**	**44.13**	**123**	*eP*	**P**	**02 12 30.3**	**-0.8**
KSRS	**Korea Array**	**44.71**	**37**	LR	LR	02 33 40.0	
	comp=Z,71nm,18.2s,baz=154,slow=40						
MKAR	**Makanchi Array**	**44.87**	**347**	P	**P**	**02 12 36.2**	**-0.4**
	4.5nm,0.6s,baz=157,slow=9.0,SNR=20						
MKAR	**Makanchi Array**	**44.87**	**347**	P	**P**	**02 12 36.2**	**-0.4**
SONM	**Songino Array**	**45.16**	**10**	P	**P**	**02 12 38.6**	**-0.3**
	1.8nm,0.6s,baz=189,slow=9.5,SNR=22						
SONM				PcP	**PcP**	**02 14 18.4**	**-0.5**
	0.6nm,0.4s,baz=195,slow=4.0,SNR=4.5						
SONM	**Songino Array**	**45.16**	**10**	P	**P**	**02 12 38.6**	**-0.3**
SONM				PcP	**PcP**	**02 14 18.4**	**-0.5**
ASAR	**Alice Springs**	**45.59**	**128**	P	**P**	**02 12 42.2**	**-0.4**
	2.0nm,0.6s,baz=300,slow=8.0,SNR=24						
ASAR	**Alice Springs**	**45.59**	**128**	P	**P**	**02 12 42.2**	**-0.4**
KKAR	**Karatay Array**	**45.62**	**334**	*eP*	**P**	**02 12 42.2**	**-0.4**
	0.8nm,0.5s						
KURK	**Kurchatov**	**49.41**	**345**	P	**P**	**02 13 11.2**	**-0.6**
	4.5nm,0.5s,baz=162,slow=7.0,SNR=52						
KURK	**Kurchatov**	**49.41**	**345**	*eP*	**P**	**02 13 11.8**	**-0.1**
	2.6nm,0.4s						
ZAA0	**Zalesovo Array**	**51.24**	**351**	*eP*	**P**	**02 13 25.1**	**-0.5**
ZALV	**Zalesovo Beam**	**51.24**	**351**	P	**P**	**02 13 25.8**	**+0.1**
	3.2nm,0.5s,baz=178,slow=7.1,SNR=22						
ZALV	**Zalesovo Beam**	**51.24**	**351**	P	**P**	**02 13 25.8**	**+0.1**
USRK	**Ussuriysk Arra**	**51.50**	**33**	P	**P**	**02 13 26.8**	**-1.0**
	2.1nm,0.8s,baz=248,slow=5.9,SNR=6.4						
RDF	**Al-Radifah**	**52.60**	**304**	*eP*	**P**	**02 13 37.7**	**+1.4**
RDF				AMb	AMB	02 13 38.8	
	comp=Z,8.7nm,0.7s						
NAY	**Al-Naaiem**	**52.96**	**304**	*eP*	**P**	**02 13 39.4**	**+0.5**
NAY				AMb	AMB	02 13 40.2	
	comp=Z,7.0nm,0.5s						
MIB	**Mutribah**	**53.07**	**305**	*eP*	**P**	**02 13 40.4**	**+0.7**
MIB				AMb	AMB	02 13 41.5	
	comp=Z,25nm,0.9s						
BVAR	**Borovoye Array**	**53.84**	**341**	P	**P**	**02 13 44.4**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=142,slow=8.9,SNR=16						
BVAR	**Borovoye Array**	**53.84**	**341**	P	**P**	**02 13 44.4**	**-0.5**
BRVK	**Borovoye**	**53.90**	**341**	*eP*	**P**	**02 13 45.0**	**-0.4**
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**55.08**	**332**	*eP*	**P**	**02 13 53.7**	**-0.3**
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**55.63**	**

PPCY S Sn 02 05 10.1 +1.8
PPCY Paphos 0.98 317⇑ iP Pn 02 04 54.5 -0.7
43nm,0.2s
PPCY S Sn 02 05 10.1 +1.8
MAMC Mammari 1.01 3⇑⇑P Pn 02 04 55.1 -0.5
MAMC Mammari 1.01 3⇑ iP Pn 02 04 55.1 -0.5
ALFC Alevga 1.09 336 P Pn 02 04 55.7 -1.1
ALFC S Sb 02 05 12.3 +1.2
ALFC Alevga 1.09 336 P Pn 02 04 55.7 -1.1
ALFC S Sb 02 05 12.3 +1.2
PHNC Paralimni 1.11 41 P Pn 02 04 57.0 0.0
59nm,0.6s
PHNC S Sb 02 05 12.6 +1.0
PHNC Paralimni 1.11 41 P Pn 02 04 57.0 0.0
59nm,0.6s
PHNC S Sb 02 05 12.6 +1.0
LFK Lefkose 1.16 16 ePN Pn 02 04 57.5 -0.2
LFK eSN Sb 02 05 15.4 +2.4
LFK Lefkose 1.16 16 ePn Pn 02 04 57.5 -0.2
LFK eSn Sb 02 05 15.4 +2.4
EREN Erenkoy 1.60 31 ePN Pn 02 05 03.4 -0.3
EREN eSN Sb 02 05 26.6 +0.9
EREN Erenkoy 1.60 31 ePn Pn 02 05 03.4 -0.3
EREN eSn Sb 02 05 26.6 +0.9
MATL Matarih 1.94 110 eP Pn 02 05 07.2 -1.1
MATL Matarih 1.94 110 eP Pn 02 05 07.2 -1.1
NAQL Naqoura 1.96 122 eP Pn 02 05 07.8 -0.9
BEYL Beirut 1.97 98 eP Pn 02 05 07.2 -1.5
BEYL Beirut 1.97 98 eP Pn 02 05 07.2 -1.5
HNTI Hanita 2.00 122 Pn Pn 02 05 08.6 -0.7
HNTI Sn Sn 02 05 32.6 -0.9
BHL Bhannes 2.10 96 eP Pn 02 05 08.7 -1.9
BHL Bhannes 2.10 96 eP Pn 02 05 08.7 -1.9
OFRI 'Ofer 2.17 135 Pn Pn 02 05 10.6 -1.0
MMC7 Mount Meron ar 2.19 121 Pn Pn 02 05 11.1 -0.8
MMA0 Mount Meron ar 2.20 121 Pn Pn 02 05 11.4 -0.7
MMA0 Sn Sn 02 05 36.8 -1.7
MMAI Mount Meron Ar 2.20 121 Pn Pn 02 05 11.3 -0.7
67nm,0.3s,baz=307,slow=12,SNR=379
MMAI Sn Sn 02 05 38.5 0.0
263nm,0.3s,baz=299,slow=30,SNR=16
MMAI Mount Meron Ar 2.20 121 Pn Pn 02 05 11.3 -0.7
MMAI Sn Sn 02 05 38.5 0.0
MMAI Mount Meron Ar 2.20 121 Pn Pn 02 05 11.4 -0.7
MMAI Sn Sn 02 05 38.5 0.0
KSDI Kefar Szold 2.31 114 Pn Pn 02 05 12.9 -0.5
KSDI Sn Sn 02 05 40.1 -0.9
HWQ Hawqa 2.32 86 eP Pn 02 05 13.2 -0.5
HWQ Hawqa 2.32 86 eP Pn 02 05 13.2 -0.5
RCY Rachaya 2.33 106 eP Pn 02 05 13.2 -0.7
BRBR Barbar 2.45 107 eP Pn 02 05 15.1 -0.5
BRBR eS Sn 02 05 42.5 -2.3
BRBR AML AML 02 05 46.1
comp=N,2µm,0.7s
BRBR AML AML 02 05 46.9
comp=E,1µm,0.3s
BRBR Barbar 2.45 107 eP Pn 02 05 14.5 -1.1
BRBR eS Sn 02 05 42.1 -2.8
BRBR AML AML 02 05 46.0
comp=N,2µm,0.7s
BRBR AML AML 02 05 46.9
comp=E,1µm,0.3s
ERMK Ermenek 2.48 356 iP Pn 02 05 17.9 +1.9
ERMK iS Sn 02 05 47.8 +2.2
ERMK Ermenek 2.48 356 iP Pn 02 05 17.9 +1.9
ERMK iS Sn 02 05 47.8 +2.2
SLTI Sal'it 2.49 140 Pn Pn 02 05 15.0 -0.9
SLTI Sn Sn 02 05 44.0 -1.5
MMLI Mount Malkishu 2.56 132 Pn Pn 02 05 16.5 -0.5
MMLI Sn Sn 02 05 46.5 -0.9
QASN Qassioun 2.68 103 eP Pn 02 05 18.9 +0.3
QASN eS Sn 02 05 48.1 -2.2
QASN AML AML 02 05 54.2
comp=E,2µm,0.8s
QASN AML AML 02 05 56.9
comp=N,2µm,0.7s
QASN Qassioun 2.68 103 eP Pn 02 05 16.4 -2.2
QASN eS Sn 02 05 46.1 -4.1
QASN AML AML 02 05 51.6
comp=E,2µm,0.8s
QASN AML AML 02 05 54.3
comp=N,2µm,0.6s
QASN Qassioun 2.68 103⇓ eP Pn 02 05 18.9 +0.3
SNR=57
QASN eS Sn 02 05 48.1 -2.2
comp=N,2µm,0.7s,SNR=58
FKH Fakeheh 2.70 87 eP Pn 02 05 18.6 -0.4
FKH Fakeheh 2.70 87 eP Pn 02 05 18.6 -0.4
HAWK Haweek 2.72 82 eP Pn 02 05 18.8 -0.3
HAWK eS Sn 02 05 47.8 -3.5
HAWK AML AML 02 05 53.1
comp=N,797nm,0.4s
HAWK AML AML 02 05 53.3
comp=E,420nm,0.5s
HAWK Haweek 2.72 82 eP Pn 02 05 18.7 -0.5
HAWK eS Sn 02 05 46.0 -5.3
HAWK AML AML 02 05 53.1
comp=N,798nm,0.5s
HAWK AML AML 02 05 53.4
comp=E,425nm,0.4s
HAWK Haweek 2.72 82⇓ eP Pn 02 05 18.9 -0.3
SNR=57
HAWK eS Sn 02 05 47.8 -3.5
comp=E,420nm,0.5s,SNR=58
BIDA Albida 2.75 71 eP Pn 02 05 18.7 -0.9
BIDA eS Sn 02 05 47.9 -4.3
BIDA AML AML 02 05 53.4
comp=N,700nm,0.4s
BIDA AML AML 02 05 56.8
comp=E,1µm,0.3s
BIDA Albida 2.75 71 eP Pn 02 05 16.7 -2.9
BIDA eS Sn 02 05 45.2 -6.9
BIDA AML AML 02 05 50.9
comp=N,685nm,0.4s
BIDA AML AML 02 05 54.3
comp=E,1µm,0.5s
BIDA Albida 2.75 71⇓ eP Pn 02 05 19.2 -0.4
SNR=57
BIDA eS Sn 02 05 47.8 -4.3
comp=E,1µm,0.3s,SNR=58
HMDT Nahal Hemdat 2.76 133 Pn Pn 02 05 19.5 -0.1
HMDT Sn Sn 02 05 51.7 -0.4
TCHB Talchebab 2.79 122 eP Pn 02 05 20.8 +0.2
TCHB eS Sn 02 05 52.5 -0.4
TCHB AML AML 02 05 58.6
comp=E,2µm,0.8s
TCHB AML AML 02 06 05.4
comp=N,1µm,0.5s
TCHB Talchebab 2.79 122 eP Pn 02 05 20.2 +0.2
TCHB eS Sn 02 05 52.5 -0.4
TCHB AML AML 02 05 58.6
comp=E,2µm,0.7s
TCHB AML AML 02 06 05.5
comp=N,1µm,0.6s
TCHB Talchebab 2.79 122⇓ eP Pn 02 05 20.3 +0.2
SNR=57
TCHB eS Sn 02 05 52.5 -0.4
comp=N,1µm,0.5s,SNR=58
MERS Mersin 2.92 22 ePN Pn 02 05 22.4 +0.4
MERS Mersin 2.92 22 ePn Pn 02 05 22.4 +0.4
KRTS Karatas 3.01 36 ePN Pn 02 05 23.3 +0.2
KRTS Karatas 3.01 36 ePn Pn 02 05 23.3 +0.2
YAYL Yayladag 3.06 52 iP Pn 02 05 23.5 -0.4
YAYL iS Sn 02 05 56.4 -3.4
YAYL Yayladag 3.06 52 iP Pn 02 05 23.5 -0.4
YAYL iS Sn 02 05 56.4 -3.4
HTY Hatay 3.13 51 ePN Pn 02 05 24.7 0.0
HTY Hatay 3.13 51 ePn Pn 02 05 24.7 0.0
KFRA Kufra 3.18 70 eP Pn 02 05 25.0 -0.6
KFRA eS Sn 02 06 00.0 -2.7
KFRA AML AML 02 06 10.1
comp=E,1µm,0.8s
KFRA AML AML 02 06 10.6
comp=N,1µm,0.5s
KFRA Kufra 3.18 70 eP Pn 02 05 23.9 -1.6
KFRA eS Sn 02 05 58.0 -4.8
KFRA AML AML 02 06 09.4
comp=E,1µm,0.6s
KFRA AML AML 02 06 10.6
comp=N,1µm,0.5s
DSI Dead Sea 3.19 143 Pn Pn 02 05 25.7 0.0
DSI Sn Sn 02 06 02.7 -0.2
YTIR Yattir 3.25 149 Pn Pn 02 05 27.1 +0.7

SALA Sala 3.33 115 eP Pn 02 05 28.1 +0.4
SALA eS Sn 02 06 05.2 -1.3
SALA AML AML 02 06 16.1
comp=N,716nm,0.7s
SALA AML AML 02 06 16.7
comp=E,56nm,0.6s
SALA Sala 3.33 115 eP Pn 02 05 28.0 +0.4
SALA eS Sn 02 06 04.0 -2.5
SALA AML AML 02 06 16.1
comp=N,711nm,0.7s
SALA AML AML 02 06 16.7
comp=E,56nm,0.8s
SALA Sala 3.33 115⇑ eP Pn 02 05 28.8 +1.2
SNR=57
SALA eS Sn 02 06 05.2 -1.3
comp=E,56nm,0.6s,SNR=58
RTMI Retamim 3.36 157 Pn Pn 02 05 28.3 +0.3
RTMI Sn Sn 02 06 07.3 +0.2
GULE Gulek 3.38 23 iP Pn 02 05 30.2 +1.8
GULE iS Sn 02 06 08.7 +0.9
GULE Gulek 3.38 23 iP Pn 02 05 30.2 +1.8
GULE iS Sn 02 06 08.7 +0.9
MZDA Masada 3.40 146 Pn Pn 02 05 29.0 +0.6
MZDA Sn Sn 02 06 08.2 +0.2
ANTB Antalya 3.41 324 ePN Pn 02 05 27.5 -1.0
ANTB Antalya 3.41 324 ePn Pn 02 05 27.5 -1.0
KZIT Kziot 3.41 162 Pn Pn 02 05 29.3 +0.6
KZIT Sn Sn 02 06 08.5 +0.1
ROOS tl_alroos 3.43 89 eP Pn 02 05 28.9 -0.1
ROOS eS Sn 02 06 06.7 -2.2
ROOS AML AML 02 06 17.6
comp=N,3.3nm,0.7s
ROOS AML AML 02 06 19.4
comp=E,2.7nm,0.5s
ROOS tl_alroos 3.43 89⇑ eP Pn 02 05 30.7 +1.7
SNR=57
ROOS eS Sn 02 06 06.7 -2.2
comp=E,2.7nm,0.5s,SNR=58
COBT Iskenderun 3.46 46 iP Pn 02 05 27.3 -2.2
COBT iS Sn 02 06 00.6 -9.2
COBT Iskenderun 3.46 46 iP Pn 02 05 27.3 -2.2
KSL Kastellorizon 3.53 305 eP Pn 02 05 29.9 -0.4
CEYT Ceyhan 3.54 36 ePN Pn 02 05 30.9 +0.6
CEYT Ceyhan 3.54 36 ePn Pn 02 05 31.0 +0.6
AKAS Kas 3.56 306 iP Pn 02 05 30.0 -0.8
AKAS iS Sn 02 06 08.0 -4.2
AKAS Kas 3.56 306 iP Pn 02 05 30.0 -0.8
AKAS iS Sn 02 06 08.0 -4.2
KORT Korkueli 3.64 322 iP Pn 02 05 34.2 +2.4
KORT eS Sn 02 06 16.9 +2.9
KORT Korkueli 3.64 322 iP Pn 02 05 34.2 +2.4
KORT eS Sn 02 06 16.9 +2.9
ELL Elmali 3.69 315 ePN Pn 02 05 32.0 -0.7
ELL Elmali 3.69 315 ePn Pn 02 05 32.0 -0.7
ZALF Zalf 3.71 108 eP Pn 02 05 33.6 +0.9
ZALF eS Sn 02 06 14.4 -1.2
ZALF AML AML 02 06 30.5
comp=E,189nm,0.7s
ZALF AML AML 02 06 34.5
comp=N,218nm,0.6s
ZALF Zalf 3.71 108 eP Pn 02 05 32.9 +0.2
ZALF eS Sn 02 06 13.7 -1.9
ZALF AML AML 02 06 30.4
comp=E,193nm,0.6s
ZALF AML AML 02 06 34.5
comp=N,213nm,0.6s
ZALF Zalf 3.71 108⇓ eP Pn 02 05 33.6 +0.9
SNR=57
ZALF eS Sn 02 06 14.4 -1.2
comp=N,218nm,0.6s,SNR=58
ASF Jabal al Asfar 3.72 121 Pn Pn 02 05 34.3 +1.4
comp=N,6.2nm,0.3s,baz=177,slow=7.9,SNR=42
ASF Sn Sn 02 06 17.9 +2.0
comp=N,11nm,0.3s,baz=190,slow=19,SNR=5.9
ASF LR LR 02 07 03.2
comp=N,132nm,18.0s,baz=168,slow=39
ASF Jabal al Asfar 3.72 121 P Pn 02 05 34.3 +1.4
ASF 02 06 17.9
ASF pmax pmax
comp=Z,6.0nm,0.3s
ASF smax smax
comp=N,11nm,0.3s
ASF MLR MLR
comp=Z,132nm,18.0s
ASF Jabal al Asfar 3.72 121 Pn Pn 02 05 34.3 +1.4
ASF Sn Sn 02 06 17.9 +2.0
RMNI Mount Ramon 3.81 159 Pn Pn 02 05 34.6 +0.4
KONT Konya--Tatoy 3.83 351 ePN Pn 02 05 34.4 0.0
KONT Konya--Tatoy 3.83 351 ePn Pn 02 05 34.4 0.0
BCK Bucak 3.89 328 ePN Pn 02 05 35.1 -0.2
BCK Bucak 3.89 328 ePn Pn 02 05 35.1 -0.2
KOZT Kozan 3.96 33 ePN Pn 02 05 36.4 +0.2
KOZT Kozan 3.96 33 ePn Pn 02 05 36.4 +0.2
ZFRI Zfri 3.99 154 Pn Pn 02 05 37.3 +0.8
ZFRI Sn Sn 02 06 22.8 +0.4
LADK Ladik-KONYA 4.08 351 ePN Pn 02 05 38.3 +0.4
LADK Ladik-KONYA 4.08 351 ePn Pn 02 05 38.3 +0.4
PRNI Paran 4.11 157 Pn Pn 02 05 38.4 +0.1
PRNI Sn Sn 02 06 26.2 +0.6
KUZU Kuzuini 4.13 50 iP Pn 02 05 38.4 -0.1
KUZU iS Sn 02 06 22.7 -3.4
KUZU Kuzuini 4.13 50 iP Pn 02 05 38.4 -0.1
KUZU iS Sn 02 06 22.7 -3.4
FETY Fethiye 4.14 308 ePN Pn 02 05 37.4 -1.2
FETY Fethiye 4.14 308 ePn Pn 02 05 37.4 -1.2
GOLH Golhisar 4.24 317 iP Pn 02 05 41.8 +1.8
GOLH iS Sn 02 06 28.9 +0.2
GOLH Golhisar 4.24 317 iP Pn 02 05 41.8 +1.8
GOLH iS Sn 02 06 28.9 +0.2
KRMI Paran Flat 4.25 161 Pn Pn 02 05 40.5 +0.3
KRMI Sn Sn 02 06 29.5 +0.5
HNKL Nakhl 4.28 170 P Pn 02 05 40.5 -0.1
HNKL S Sn 02 06 28.1 -1.7
ANDN Andirin 4.28 36 iP Pn 02 05 34.6 -6.2
ANDN iS Sn 02 06 22.7 -7.2
HHAG Hagoal 4.29 192 P Pn 02 05 41.3 +0.5
HHAG S Sn 02 06 28.9 -1.2
SUZ 4.32 184 P Pn 02 05 41.8 +0.7
KOT Kottamia 4.37 195 P Pn 02 05 42.5 +0.7
KOT S Sn 02 06 31.0 -1.0
HRFI Mount Harif 4.42 158 Pn Pn 02 05 42.8 +0.3
HRFI Sn Sn 02 06 33.3 +0.2
GAZ Gaziantep 4.47 47 ePN Pn 02 05 43.7 +0.5
GAZ Gaziantep 4.47 47 ePn Pn 02 05 43.7 +0.5
KMRS Kahramanmaras 4.52 41 ePN Pn 02 05 44.0 +0.1
KMRS Kahramanmaras 4.52 41 ePn Pn 02 05 44.0 +0.1
HBRG Burj al 'Arab 4.54 219 P Pn 02 05 45.2 +1.0
SQR 4.58 202 P Pn 02 05 45.5 +0.8
ARG Arkhangelos 4.60 298 eP Pn 02 05 43.8 -1.1
JHLN Al Jahlan 4.60 69 eP Pn 02 05 43.9 -1.1
JHLN eS Sn 02 06 33.5 -4.2
JHLN AML AML 02 06 54.8
comp=Z,118nm,0.5s
JHLN Al Jahlan 4.60 69⇑ eP Pn 02 05 43.9 -1.1
SNR=57
JHLN eS Sn 02 06 33.5 -4.2
comp=Z,118nm,0.5s,SNR=58
MBRI Mt Berech 4.61 161 Pn Pn 02 05 45.9 +0.8
MBRI Sn Sn 02 06 38.8 +0.9
EIL Elat 4.73 161 Pn Pn 02 05 47.5 +0.6
comp=Z,44nm,0.3s,baz=334,slow=4.9,SNR=200
EIL Sn Sn 02 06 41.1 +0.2
comp=Z,83nm,0.3s,baz=359,slow=14,SNR=15
EIL Elat 4.73 161 Pn Pn 02 05 47.5 +0.6
EIL Sn Sn 02 06 41.1 +0.2
EIL Elat 4.73 161 Pn Pn 02 05 47.5 +0.6
EIL Sn Sn 02 06 41.1 +0.2
GLL Jalalah 4.73 195 P Pn 02 05 47.1 +0.2
AYT Al 'Ayyat 4.76 201 P Pn 02 05 47.7 +0.5
ZNM 4.78 183 P Pn 02 05 48.3 +0.9
HMYD Mayadein 4.79 205 P Pn 02 05 48.1 +0.5
FYM Al Fayyum 4.80 202 P Pn 02 05 48.5 +0.7
AVNT Avonos 4.81 16 iP Pn 02 05 47.9 -0.1
AVNT iS Sn 02 06 41.2 -1.8
AVNT Avonos 4.81 16 iP Pn 02 05 47.9 -0.1
AVNT iS Sn 02 06 41.2 -1.8
KIZT Kizilcal 4.82 348 ePN Pn 02 05 48.5 +0.5
KIZT Kizilcal 4.82 348 ePn Pn 02 05 48.5 +0.5
DNZL Cakiroluk 4.84 318 iP Pn 02 05 49.8 +1.3
DNZL iS Sn 02 06 38.7 -5.2
DNZL Cakiroluk 4.84 318 iP Pn 02 05 49.8 +1.3
DNZL iS Sn 02 06 38.7 -5.2

SHUT Suhut-Afyon 4.86 335 ePN Pn 02 05 48.3 -0.3
SHUT Suhut-Afyon 4.86 335 ePn Pn 02 05 48.3 -0.3
DENT Denizli 4.90 318 ePN Pn 02 05 48.5 -0.6
DENT Denizli 4.90 318 ePn Pn 02 05 48.5 -0.6
YER Yerkesik 4.95 308 ePN Pn 02 05 48.4 -1.4
YER Yerkesik 4.95 308 ePn Pn 02 05 48.4 -1.4
HNAT Natroun 5.00 206 P Pn 02 05 51.1 +0.6
KHL Karahalli 5.08 326 ePN Pn 02 05 51.9 +0.2
KHL Karahalli 5.08 326 ePn Pn 02 05 51.9 +0.2
HBST Basata 5.11 164 P Pn 02 05 52.4 +0.4
KARP Karpathos 5.12 287 eP Pn 02 05 51.8 -0.3
KHAL Karahalli 5.13 326 iP Pn 02 05 52.7 +0.3
KHAL iS Sn 02 06 46.1 -4.8
KHAL Karahalli 5.13 326 iP Pn 02 05 52.7 +0.3
KHAL iS Sn 02 06 46.1 -4.8
BNN Bunyan 5.16 24 ePN Pn 02 05 53.9 +1.1
BNN Bunyan 5.16 24 ePn Pn 02 05 53.9 +1.1
KAMT Kaman 5.22 5 ePN Pn 02 05 54.2 +0.7
KAMT Kaman 5.22 5 ePn Pn 02 05 54.2 +0.7
AFSR Af'ar-Bala (A 5.27 359 ePN Pn 02 05 55.3 +1.0
AFSR Af'ar-Bala (A 5.27 359 ePn Pn 02 05 55.3 +1.0
ATAB Bozova 5.33 50 iP Pn 02 05 55.2 +0.2
ATAB iS Sn 02 06 51.9 -3.6
ATAB Bozova 5.33 50 iP Pn 02 05 55.2 +0.2
ATAB iS Sn 02 06 51.9 -3.6
BBAL Bala 5.37 360 iP Pn 02 05 56.9 +1.3
BBAL Bala 5.37 360 iP Pn 02 05 56.9 +1.3
SVRH Sivrihisar-ESK 5.43 347 ePN Pn 02 05 57.4 +0.9
HBNS Bani Suwayf 5.45 198 P Pn 02 05 57.7 +1.0
ALT Altintas 5.46 334 ePN Pn 02 05 56.9 +0.1
CDAG Cicekdag 5.54 10 iP Pn 02 05 60.0 +2.0
CDAG Cicekdag 5.54 10 iP Pn 02 06 00.0 +2.0
BRTR Keskin Array B 5.56 4 Pn Pn 02 06 00.5 +2.1
comp=Z,1.3nm,0.3s,baz=183,slow=15,SNR=86
BRTR Keskin Array B 5.56 4 P Pn 02 06 00.5 +2.1
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 5.56 4 Pn Pn 02 06 00.5 +2.1
BRTR Keskin Array B 5.56 4 Pn Pn 02 06 00.4 +2.1
BR131 Keskin Array S 5.57 4 ePn Pn 02 06 00.7 +2.3
BR131 eS Sn 02 07 06.3 +4.7
BR131 Keskin Array S 5.57 4 ePn Pn 02 06 00.7 +2.3
BODT Bodrum 5.57 303 ePN Pn 02 05 57.4 -0.8
HDHB Dhahab 5.57 167 P Pn 02 05 58.8 +0.5
AKCD Akcadag 5.65 42 iP Pn 02 05 60.0 +0.5
AKCD iS Sn 02 06 56.5 -7.1
AKCD Akcadag 5.65 42 iP Pn 02 06 00.0 +0.5
KULA Kula-Manisa 5.66 321 ePN Pn 02 05 59.1 -0.5
ESKT Eskisehir 5.66 342 ePN Pn 02 05 59.7 +0.1
HKAT Jabal Katrina 5.67 172 P Pn 02 06 00.0 +0.1
LOD Lodumlu 5.72 357 ePN Pn 02 06 01.6 +1.2
GDZ Gediz 5.73 330 iP Pn 02 06 00.7 +0.1
GDZ iS Sn 02 07 00.6 -5.1
GDZ Gediz 5.73 330 iP Pn 02 06 00.7 +0.1
YOZ Yozgat 5.74 17 ePN Pn 02 06 01.8 +1.1
TR2 5.78 175 P Pn 02 06 01.2 0.0
MALT Malatya 5.94 44 ePN Pn 02 06 04.1 +0.6
MYA Malataya 5.95 44 ePN Pn 02 06 04.2 +0.6
GCAM G?zelcaml? 5.96 308 iP Pn 02 06 02.4 -1.2
GCAM iS Sn 02 07 01.6 -9.4
GCAM G?zelcaml? 5.96 308 iP Pn 02 06 02.4 -1.2
DEMI Demirci 6.04 325 iP Pn 02 06 03.9 -0.8
DEMI iS Sn 02 07 07.4 -5.7
DEMI Demirci 6.04 325 iP Pn 02 06 03.9 -0.8
CORM Corum 6.12 11 ePN Pn 02 06 06.9 +0.9
TR1 6.17 173 P Pn 02 06 06.6 0.0
SMG Samos 6.22 306 eP Pn 02 06 06.2 -1.1
NPS Neapolis 6.30 282 eP Pn 02 07 06 -0.8
SHRM 6.31 172 P Pn 02 06 08.6 +0.1
IZM Izmir 6.36 313 ePN Pn 02 06 08.3 -0.9
AKHS Akhisar 6.37 319 iP Pn 02 06 07.5 -1.8
AKHS iS Sn 02 07 15.7 -5.6
AKHS Akhisar 6.37 319 iP Pn 02 06 07.5 -1.8
AKS Akhisar 6.37 319 ePN Pn 02 06 08.9 -0.4
CANT Cankiri 6.44 3 ePN Pn 02 06 12.0 +1.7
MDUB Mudurnu 6.49 347 ePN Pn 02 06 12.0 +1.1
BLCB Balcova 6.49 312 ePN Pn 02 06 10.5 -0.3
GULT Gulveren 6.60 342 ePN Pn 02 06 13.4 +0.9
ILIC ilic-Erzincan 6.84 38 ePN Pn 02 06 17.2 +1.4
APE Apeiranthos 6.85 297 ePN Pn 02 06 15.2 -0.7
APE Apeiranthos 6.85 297 eP Pn 02 06 14.6 -1.3
APE Apeiranthos 6.85 297⇑ iP Pn 02 07 28.5 -4.6
PTK Pertek 6.89 45 ePN Pn 02 06 18.2 +1.6
IDI Anoyia 6.89 282 ePn Pn 02 06 15.8 -0.8
comp=Z,30nm,0.6s
IDI eS Sn 02 07 31.0 -3.2
IDI Anoyia 6.89 282 ePn Pn 02 06 15.8 -0.8
comp=Z,30nm,0.6s
TOS Tosya 6.90 6 ePN Pn 02 06 17.5 +0.9
HHRG Al Ghardaqah 6.93 177 P Pn 02 06 17.7 +0.7
RSDY Resadiye-TOKAT 7.06 27 ePN Pn 02 06 20.2 +1.5
CHOS Chios island 7.11 308 eP Pn 02 06 18.5 -1.0
KCTX Karacabey (Bur 7.19 329 ePN Pn 02 06 21.3 +0.7
GONE Gonen-Balikesi 7.32 325 ePN Pn 02 06 22.5 +0.3
HSFG 7.60 175 P Pn 02 06 25.2 -0.0
BNGB Bing˜¶l 7.74 49 ePN Pn 02 06 29.1 +1.0
EZN Ezine 7.86 318 ePN Pn 02 06 29.8 +0.2
HFRF Wahat Farafira 8.14 212 P Pn 02 06 34.6 +1.0
EDRB Edirne 9.18 329 ePN Pn 02 06 47.5 -0.3
BHD Baghdad 9.40 92 eP Pn 02 06 44.0 -6.8
BHD eS Sn 02 08 28.0 -7.7
TIRR Tirgusor 10.91 342 eP Pn 02 07 12.4 +0.9
TIRR pmax pmax
comp=Z,10.0nm,0.9s
TIRR Tirgusor 10.91 342 ePn Pn 02 07 12.4 +0.9
comp=Z,9.9nm,0.9s
TIRR Tirgusor 10.91 342 eP Pn 02 07 12.4 +0.9
comp=Z,10.0nm,0.9s
MLR Muntele Rosu 12.59 336 Pn Pn 02 07 36.7 +2.1
comp=Z,0.0nm,0.3s,baz=294,slow=20,SNR=2.5
MLR Muntele Rosu 12.59 336 P Pn 02 07 36.7 +2.1
MLR Muntele Rosu 12.59 336 Pn Pn 02 07 36.7 +2.1
MLR Muntele Rosu 12.59 336 P Pn 02 07 36.7 +2.1
VRI Vrincioaia 12.68 339⇓ P Pn 02 07 36.5 +0.8
VRI Vrincioaia 12.68 339⇓⇑ P Pn 02 07 36.5 +0.8
VRI Vrincioaia 12.68 339 P Pn 02 07 36.5 +0.8
GZR Gura Zlata 13.75 328⇓ P P 02 07 59.3 +0.6
GZR Gura Zlata 13.75 328⇓⇑ P P 02 07 59.3 +0.6
TIP Timpagrande 14.07 296 ePn Pn 02 07 50.2 -4.6
PRAR RASCĂ 14.18 340⇓⇑ P P 02 08 03.9 +0.5
BZS Buzias 14.45 326⇓ P P 02 08 05.9 -0.5
BZS Buzias 14.45 326⇓⇑ P P 02 08 05.9 -0.5
BZS Buzias 14.45 326 P P 02 08 05.9 -0.5
CEL Celeste 14.52 291 ePn Pn 02 07 57.8 -3.1
BURAR Bucovina Array 14.70 338⇓⇑ P P 02 08 10.3 +1.0
BUR08 Bucovina Ar. S 14.73 338 ePn P 02 08 09.6 0.0
DRGR 14.89 331⇑ P P 02 08 12.5 +1.1
DRGR 14.89 331⇑⇑ P P 02 08 12.5 +1.1
DRGR 14.89 331 P P 02 08 12.5 +1.1
CUC Castrococco 15.00 298 ePn Pn 02 08 02.9 -4.5
comp=Z,8.8nm,0.6s
BMR Baia Mare 15.32 335⇑ P P 02 08 16.5 +0.4
BMR Baia Mare 15.32 335⇑⇑ P P 02 08 16.5 +0.4
BMR Baia Mare 15.32 335 P P 02 08 16.5 +0.4
TRPA Tarpa 16.06 334⇓⇑ P P 02 08 24.3 +0.1
PKSM Moragy 16.33 322⇓ P P 02 08 26.9 -0.4
PKSM Moragy 16.33 322⇓⇑ P P 02 08 26.9 -0.4
PKSM Moragy 16.33 322 P P 02 08 26.9 -0.4
KIEV Kiev 16.77 351 eP Pn 02 08 31.0 +0.9
KIEV pmax pmax
comp=Z,50nm,1.7s
KIEV Kiev 16.77 351 eP Pn 02 08 31.0 +0.9
comp=Z,50nm,1.7s
KIEV Kiev 16.77 351 eP Pn 02 08 31.0 +0.9
comp=Z,50nm,1.7s
AKASG Malin Array Be 16.78 351 Pn Pn 02 08 29.1 -1.0
comp=Z,2.2nm,0.3s,baz=175,slow=9.4,SNR=17
AKASG Malin Array Be 16.78 351 P Pn 02 08 29.1 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.78 351 Pn Pn 02 08 29.1 -1.0
AKASG Malin Array Be 16.78 351 P Pn 02 08 29.1 -1.0
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 16.78 351 eP Pn 02 08 30.4 +0.3
AKBB Malin Array Si 16.78 351 ePn Pn 02 08 30.4 +0.3
AKBB Malin Array Si 16.78 351 eP Pn 02 08 30.4 +0.3
KOLS Kolonicke sedl 16.83 335 eP P 02 08 32.1 -0.7
KOLS Kolonicke sedl 16.83 335 eP P 02 08 32.1 -0.7
KOLS Kolonicke sedl 16.83 335 eP P 02 08 32.1 -0.7
PSZ Piszkesteto 16.96 328 eP Pn 02 08 32.5 -0.1
PSZ Piszkesteto 16.96 328 ePn Pn 02 08 32.5 -0.1

PSZ	Piszkesteto	16.96	328	⇓*i*P		P	02 08 34.3	0.0
PSZ	Piszkesteto	16.96	328	*e*P		Pn	02 08 32.5	-0.1
LVV	L'vov	17.03	339	*e*P		P	02 08 35.1	+0.1
LVV	L'vov	17.03	339	*e*P		P	02 08 35.1	+0.1
CRVS	Cervenica-Dubn	17.10	333	*e*P		P	02 08 35.0	-0.8
CRVS					pmax	pmax		
	comp=Z,8.0nm,1.4s							
CRVS	Cervenica-Dubn	17.10	333	*e*P		P	02 08 34.9	-0.8
CRVS	Cervenica-Dubn	17.10	333	*e*P		P	02 08 35.0	-0.8
	comp=Z,8.0nm,1.4s							
KECS	Kecovo	17.15	330	*e*P		P	02 08 37.6	+1.3
KECS	Kecovo	17.15	330	*e*P		P	02 08 37.6	+1.3
KECS	Kecovo	17.15	330	*e*P		P	02 08 37.6	+1.3
KWP	Kalwaria Pacla	17.27	337	*e*P		P	02 08 37.6	-0.1
KWP	Kalwaria Pacla	17.27	337	*e*P		P	02 08 37.6	-0.1
KWP	Kalwaria Pacla	17.27	337	*e*Pn		P	02 08 37.6	-0.1
	comp=Z,40nm,1.0s							
KWP	Kalwaria Pacla	17.27	337	*e*P		P	02 08 37.6	-0.1
VSR	Storozhevoye	17.60	13	*e*P		P	02 08 41.7	+0.5
VSR					pmax	pmax		
	comp=N,5.0nm,0.6s							
VSR					pmax	pmax		
	comp=E,7.0nm,0.6s							
VSR					pmax	pmax		
	comp=Z,5.0nm,0.6s							
VSR	Storozhevoye	17.60	13	*e*P		P	02 08 41.7	+0.5
VYHS	Vyhne	17.86	328	*e*P		P	02 08 44.3	+0.1
VYHS					pmax	pmax		
	comp=Z,3.0nm,0.8s							
VYHS	Vyhne	17.86	328	*e*P		P	02 08 44.3	+0.1
VYHS	Vyhne	17.86	328	*e*P		P	02 08 44.3	+0.1
	comp=Z,3.0nm,0.8s							
VRHR	Novokhopersk	18.01	17	*e*P		P	02 08 48.1	+2.3
VRHR					pmax	pmax		
	comp=N,10.0nm,0.8s							
VRHR					pmax	pmax		
	comp=E,5.0nm,0.8s							
VRHR					pmax	pmax		
	comp=Z,30nm,0.8s							
KOLL	Kolacno	18.12	327	*e*P		P	02 08 47.5	+0.5
KOLL	Kolacno	18.12	327	*e*P		P	02 08 47.5	+0.5
KOLL	Kolacno	18.12	327	*e*P		P	02 08 47.5	+0.5
ZST	Bratislava	18.45	324	*e*P		Pn	02 08 50.9	0.0
ZST	Bratislava	18.45	324	*e*P		Pn	02 08 50.9	0.0
ZST	Bratislava	18.45	324	*e*P		Pn	02 08 50.9	0.0
OKC	Ostrava-Krasne	19.17	329	*e*P		P	02 08 58.3	-0.2
OKC	Ostrava-Krasne	19.17	329	*e*P		P	02 08 58.3	-0.2
OKC	Ostrava-Krasne	19.17	329	*e*P		P	02 08 58.3	-0.2
MYKA	Terra Mystica	19.32	316	⇑*i*Pn		Pn	02 09 01.0	-0.5
	comp=Z,6.8nm,0.6s							
MYKA	Terra Mystica	19.32	316	P		Pn	02 09 01.0	-0.5
	comp=Z,6.8nm,0.6s							
VRAC	Vranov	19.47	326	P		P	02 09 02.1	+0.2
	comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=4.6							
VRAC	Vranov	19.47	326	P		P	02 09 02.1	+0.2
VRAC	Vranov	19.47	326	P		P	02 09 02.1	+0.2
VRAC	Vranov	19.47	326	P		P	02 09 02.1	+0.2
KEST	Kesra	19.57	281	P		Pn	02 09 04.7	+0.1
	comp=Z,0.1nm,0.3s,baz=34,slow=3.6,SNR=3.4							
KEST	Kesra	19.57	281	P		Pn	02 09 04.7	+0.1
KEST	Kesra	19.57	281	P		Pn	02 09 04.7	+0.1
KBA	Koelnbreinsper	19.74	317	⇑*i*Pn		P	02 09 05.5	+0.5
KBA	Koelnbreinsper	19.74	317	P		P	02 09 05.5	+0.5
ABTA	Abfaltersbach	20.04	315	⇑*i*P		P	02 09 08.2	0.0
	comp=Z,1.5nm,0.5s							
ABTA	Abfaltersbach	20.04	315	P		P	02 09 08.2	0.0
	comp=Z,1.5nm,0.5s							
DPC	Dobruska-Polom	20.34	328	*e*P		P	02 09 10.9	-0.4
DPC	Dobruska-Polom	20.34	328	*e*Pn		P	02 09 11.2	-0.2
	comp=Z,13nm,1.0s							
DPC	Dobruska-Polom	20.34	328	*e*P		P	02 09 10.9	-0.4
DPC	Dobruska-Polom	20.34	328	*e*P		P	02 09 10.9	-0.4
DPC	Dobruska-Polom	20.34	328	*e*Pn		P	02 09 11.2	-0.2
	comp=Z,13nm,1.0s							
GEC2	GERESS Array S	20.59	321	*e*P		P	02 09 13.8	-0.3
	comp=Z,5.0nm,0.6s							
GEC2	GERESS Array S	20.59	321	*e*P		P	02 09 13.8	-0.3
GEC2					pmax	pmax		
	comp=Z,5.0nm,0.6s							
GEC2	GERESS Array S	20.59	321	*e*P		P	02 09 13.8	-0.3
	comp=Z,5.0nm,0.6s							
GERES	GERESS Array B	20.59	321	P		P	02 09 14.1	0.0
	comp=Z,5.6nm,0.7s,baz=125,slow=12,SNR=46							
GERES	GERESS Array B	20.59	321	P		P	02 09 14.1	0.0
GERES					pmax	pmax		
	comp=Z,6.0nm,0.7s							
GERES	GERESS Array B	20.59	321	P		P	02 09 14.1	0.0
GERES	GERESS Array B	20.59	321	P		P	02 09 14.1	0.0
	comp=Z,6.0nm,0.7s							
UPC	Upice	20.59	328	*e*P		P	02 09 13.8	-0.2
UPC	Upice	20.59	328	*e*P		P	02 09 13.8	-0.2
UPC	Upice	20.59	328	*e*P		P	02 09 13.8	-0.2
PGF	Piogqiola	20.66	301	*e*P		P	02 09 15.3	+0.4
	comp=Z,53nm,1.2s							
KSP	Ksiaz	20.71	329	*e*P		P	02 09 15.1	-0.2
KSP	Ksiaz	20.71	329	*e*P		P	02 09 15.0	-0.3
KSP	Ksiaz	20.71	329	*e*P		P	02 09 15.0	-0.3
WTTA	Wattenberg	20.82	315	⇓*i*P		P	02 09 16.4	-0.4
	comp=Z,5.9nm,0.6s							
WTTA	Wattenberg	20.82	315	P		P	02 09 16.4	-0.4
	comp=Z,5.9nm,0.6s							
KHC	Kasperske Hory	20.83	322	*e*P		P	02 09 15.6	-1.1
KHC					pmax	pmax		
	comp=Z,13nm,0.7s							
KHC	Kasperske Hory	20.83	322	*e*P		P	02 09 15.6	-1.1
	comp=Z,13nm,0.7s							
KHC	Kasperske Hory	20.83	322	*e*P		P	02 09 16.6	-0.1
KHC				*ep*P		pP	02 09 23.0	-0.5
KHC	Kasperske Hory	20.83	322	*e*P		P	02 09 15.6	-1.1
	comp=Z,13nm,0.7s							
WATA	Walderalm	20.90	315	⇓*i*P		P	02 09 16.8	-0.7
	comp=Z,3.8nm,0.5s							
WATA	Walderalm	20.90	315	P		P	02 09 16.8	-0.7
	comp=Z,3.8nm,0.5s							
PRU	Pruhonice	20.91	325	*e*P		P	02 09 16.7	-0.7
PRU	Pruhonice	20.91	325	*e*P		P	02 09 16.7	-0.7
PRU	Pruhonice	20.91	325	*e*P		P	02 09 16.7	-0.7
SUW	Suwalki	21.06	343	*e*P		P	02 09 19.9	+0.9
SUW					pmax	pmax		
	comp=Z,48nm,0.9s							
SUW	Suwalki	21.06	343	*e*Pn		P	02 09 19.9	+0.9
	comp=Z,48nm,0.9s							
SUW	Suwalki	21.06	343	*e*P		P	02 09 19.9	+0.9
	comp=Z,48nm,0.9s							
OBN	Obninsk	21.08	5	*e*P		P	02 09 19.1	-0.2
OBN				*i*			02 09 35.7	
OBN					pmax	pmax		
	comp=Z,12nm,0.8s							
OBN	Obninsk	21.08	5	*e*P		P	02 09 18.4	-0.8
	comp=Z,9.4nm,0.4s							
OBN	Obninsk	21.08	5	*e*P		P	02 09 18.5	-0.8
	comp=Z,9.4nm,0.4s							
MOTA	Moosalm	21.18	315	⇓*i*P		P	02 09 19.3	-1.3
	comp=Z,2.8nm,0.6s							
MOTA	Moosalm	21.18	315	P		P	02 09 19.3	-1.3
	comp=Z,2.8nm,0.6s							
WET	Wettzell	21.20	321	*e*P		P	02 09 19.5	-1.1
	comp=Z,7.0nm,0.5s							
WET	Wettzell	21.20	321	*e*P		P	02 09 19.5	-1.1
WET					pmax	pmax		
	comp=Z,7.0nm,0.5s							
WET	Wettzell	21.20	321	*e*P		P	02 09 19.5	-1.1
	comp=Z,7.0nm,0.5s							
FETA	Feichten	21.24	314	⇓*i*P		P	02 09 20.4	-0.8
	comp=Z,4.2nm,1.0s							
FETA	Feichten	21.24	314	P		P	02 09 20.4	-0.8
	comp=Z,4.2nm,1.0s							
PVCC	Panska Ves	21.26	326	*e*P		P	02 09 20.5	-0.7
PVCC	Panska Ves	21.26	326	*e*P		P	02 09 20.5	-0.7
PVCC	Panska Ves	21.26	326	*e*P		P	02 09 20.5	-0.7
FUORN	Ofenpass-Fuorn	21.33	313	*e*Pn		P	02 09 26.8	+4.5
	comp=Z,9.5nm,1.1s							
RETA	Reutte	21.45	315	⇑*i*P		P	02 09 21.9	-1.5
	comp=Z,7.0nm,0.4s							
RETA	Reutte	21.45	315	P		P	02 09 21.9	-1.5
	comp=Z,7.0nm,0.4s							
DAVOX	Davos/Dischmat	21.64	313	P		P	02 09 24.8	-0.7
	comp=Z,1.6nm,0.4s,baz=173,slow=6.5,SNR=8.2							
DAVOX	Davos/Dischmat	21.64	313	P		P	02 09 24.8	-0.7
DAVOX	Davos/Dischmat	21.64	313	P		P	02 09 24.8	-0.7
DAVOX	Davos/Dischmat	21.64	313	P		P	02 09 24.8	-0.7
BRG	Berggiesshubel	21.79	326	*e*P		P	02 09 26.8	-0.1
	comp=Z,6.5nm,0.9s							
BRG				*e*			02 09 49.2	
	comp=Z,20nm,1.6s							

BRG	Berggiesshubel	21.79	326	*e*P		P	02 09 26.8	-0.1
BRG				*e*			02 09 49.2	
BRG					pmax	pmax		
	comp=Z,7.0nm,0.9s							
BRG					pmax	pmax		
	comp=Z,20nm,1.6s							
BRG	Berggiesshubel	21.79	326	*e*P		P	02 09 26.8	-0.1
	comp=Z,7.0nm,0.9s							
TUE	Stuetta	21.83	311	*e*P		P	02 09 30.8	+3.2
	comp=Z,4.2nm,0.8s							
DAVA	Damuels	21.87	314	⇓*i*P		P	02 09 26.7	-1.3
	comp=Z,5.7nm,0.5s							
DAVA	Damuels	21.87	314	P		P	02 09 26.7	-1.3
	comp=Z,5.7nm,0.5s							
SBF	Sospel	22.13	304	*e*P		P	02 09 29.5	-1.2
	comp=Z,67nm,1.1s							
WERN	Wernitzgruen	22.16	323	*e*P		P	02 09 30.2	-0.8
TANN	Tannenbergstha	22.20	323	*e*P		P	02 09 30.5	-0.9
	comp=Z,5.0nm,0.8s							
GUNZ	Gunzen	22.23	323	*e*P		P	02 09 30.8	-0.9
WERD	Werda	22.30	323	*e*P		P	02 09 32.1	-0.3
GRFO	Grafenberg	22.39	320	*e*P		P	02 09 31.1	-2.3
GRFO					pmax	pmax		
	comp=Z,91nm,2.2s							
GRFO	Grafenberg	22.39	320	*e*P		P	02 09 31.1	-2.3
	comp=Z,91nm,2.2s							
GRFO	Grafenberg	22.39	320	*e*P		P	02 09 31.1	-2.3
	comp=Z,91nm,2.2s							
CLL	Collm	22.52	326	*e*P		P	02 09 34.0	-0.7
CLL	Collm	22.52	326	*e*P		P	02 09 34.0	-0.7
CLL	Collm	22.52	326	*e*P		P	02 09 34.0	-0.7
MOX	Moxa	22.76	323	*e*P		P	02 09 37.3	-0.1
	comp=Z,8.0nm,0.8s							
MOX	Moxa	22.76	323	*e*P		P	02 09 37.3	-0.1
MOX					pmax	pmax		
	comp=Z,8.0nm,0.8s							
BNI	Bardonecchia	23.01	306	P		P	02 09 41.1	+1.0
BNI					pmax	pmax		
	comp=Z,11nm,1.1s							
BNI	Bardonecchia	23.01	306	P		P	02 09 41.1	+1.0
	comp=Z,11nm,1.1s							
LPG	La Plagne	23.11	307	*e*P		P	02 09 41.8	+0.5
	comp=Z,8.4nm,0.6s							
LPL	La Plagne	23.13	307	*e*P		P	02 09 42.0	+0.5
	comp=Z,11nm,0.7s							
BFO	Black Forest	23.29	315	*e*P		P	02 09 41.2	-1.6
	comp=Z,5.0nm,0.6s							
BFO	Black Forest	23.29	315	*e*P		P	02 09 41.2	-1.6
BFO					pmax	pmax		
	comp=Z,5.0nm,0.6s							
BFO	Black Forest	23.29	315	*e*P		P	02 09 41.4	-1.3
	comp=Z,10nm,0.9s							
ORIF	Oris-en-Rattie	23.51	305	*e*P		P	02 09 44.1	-1.0
	comp=Z,22nm,1.0s							
ECH	Echery	23.93	314	*e*P		P	02 09 48.2	-0.8
ECH					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ECH	Echery	23.93	314	*e*P		P	02 09 48.2	-0.8
	comp=Z,5.9nm,0.8s							
HINF	Hinterafeld	23.94	313	*e*P		P	02 09 47.3	-1.8
	comp=Z,5.7nm,0.6s							
CDF	Champ du Feu	23.95	314	*e*P		P	02 09 46.7	-2.5
CLZ	Clausthal	24.12	324	*e*P		P	02 09 49.6	-1.1
	comp=Z,5.0nm,0.7s							
CLZ	Clausthal	24.12	324	*e*P		P	02 09 49.6	-1.1
CLZ					pmax	pmax		
	comp=Z,5.0nm,0.7s							
HAU	Haudompre	24.33	313	*e*P		P	02 09 51.2	-1.5
AKTO	Aktyubinsk	24.38	41	P		P	02 09 53.5	+0.4
	comp=Z,2.2nm,0.5s,baz=238,slow=9.1,SNR=9.1							
AKTO	Aktyubinsk	24.38	41	P		P	02 09 53.5	+0.4
AKTO					pmax	pmax		
	comp=Z,2.0nm,0.5s							
AKTO	Aktyubinsk	24.38	41	P		P	02 09 53.5	+0.4
ABKAR	Akbulak array	24.87	45	*e*P		P	02 09 59.0	+1.5
MEZF	Maizieres J'vi	25.32	313	*e*P		P	02 10 01.2	-0.4
SSF	Saint Saulge	25.76	309	*e*P		P	02 10 03.6	-2.0
	comp=Z,20nm,1.2s							
AVF	Avril sur Loir	25.77	308	*e*P		P	02 10 05.5	-0.2
BAIF	Baives	26.48	316	*e*P		P	02 10 11.3	-0.8
RJF	Les Rejaudoux	26.59	304	*e*P		P	02 10 13.5	+0.4
	comp=Z,7.3nm,0.6s							
FINES	FINESS Array B	27.67	353	P		P	02 10 22.1	-0.6
	comp=Z,7.0nm,0.7s,baz=146,slow=10,SNR=29							
FINES	FINESS Array B	27.67	353	P		P	02 10 22.1	-0.6
FINES					pmax	pmax		
	comp=Z,7.0nm,0.7s							
FINES	FINESS Array B	27.67	353	P		P	02 10 22.1	-0.6
KAF	Kangasniemi	28.31	353	*e*P		P	02 10 29.6	+1.3
KAF					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KAF	Kangasniemi	28.31	353	*ep*		P	02 10 29.6	+1.3
	comp=Z,3.8nm,0.6s							
KAF	Kangasniemi	28.31	353	*ep*		P	02 10 29.6	+1.3
	comp=Z,3.8nm,0.6s							
LDF	La Druitiere	28.57	310	*e*P		P	02 10 29.0	-1.8
JOF	Joensuu	28.80	358	*e*P		P	02 10 31.1	-1.6
JOF					pmax	pmax		
	comp=Z,2.0nm,0.6s							
JOF	Joensuu	28.80	358	*ep*		P	02 10 31.1	-1.6
	comp=Z,2.1nm,0.6s							
JOF	Joensuu	28.80	358	*ep*		P	02 10 31.1	-1.6
	comp=Z,2.1nm,0.6s							
JOF	Joensuu	28.80	358	*e*P		P	02 10 31.1	-1.6
	comp=Z,2.1nm,0.6s							
FLN	La Foliniere	28.85	311	*e*P		P	02 10 33.1	-0.2
HFS	Hagfors	28.93	340	P		P	02 10 32.5	-1.4
	comp=Z,6.2nm,1.0s,baz=196,slow=26,SNR=2.5							
HFS	Hagfors	28.93	340	P		P	02 10 32.5	-1.4
HFS					pmax	pmax		
	comp=Z,6.0nm,1.0s							
HFS	Hagfors	28.93	340	P		P	02 10 32.5	-1.4
ESDC	Sonseca Array	30.03	291	P		P	02 10 44.7	+0.7
	comp=Z,0.5nm,0.7s,baz=73,slow=8.0,SNR=5.3							
ESDC	Sonseca Array	30.03	291	P		P	02 10 44.7	+0.7
TORD	Torodi Ar. Bea	35.38	241	P		P	02 11 30.7	-0.1
	comp=Z,0.9nm,0.8s,baz=38,slow=9.0,SNR=7.0							
TORD	Torodi Ar. Bea	35.38	241	P		P	02 11 30.7	-0.1
ARCES	ARCESS Array B	35.68	355	P		P	02 11 31.7	-1.2
	comp=Z,3.0nm,0.7s,baz=165,slow=9.7,SNR=15							
ARCES	ARCESS Array B	35.68	355	P		P	02 11 31.7	-1.2
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ARCES	ARCESS Array B	35.68	355	P		P	02 11 31.7	-1.2
KEV	Kevo	35.81	356	*e*P		P	02 11 27.0	-6.9
KEV					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KEV	Kevo	35.81	356	*ep*		P	02 11 27.0	-6.9
	comp=Z,6.8nm,0.8s							
KEV	Kevo	35.81	356	*ep*		P	02 11 27.0	-6.9
	comp=Z,6.8nm,0.8s							
KURK	Kurchatov	36.76	49	P		P	02 11 43.5	+1.2
	comp=Z,0.7nm,0.5s,baz=263,slow=8.5,SNR=8.5							
KURK	Kurchatov	36.76	49	P		P	02 11 43.5	+1.2
KURK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KURK	Kurchatov	36.76	49	P		P	02 11 43.5	+1.2
MKAR	Makanchi Array	38.84	56	P		P	02 12 01.1	+1.0
	comp=Z,1.2nm,0.7s,baz=264,slow=7.1,SNR=10							
MKAR	Makanchi Array	38.84	56	P		P	02 12 01.1	+1.0
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MKAR	Makanchi Array	38.84	56	P		P	02 12 01.1	+1.0
ZALV	Zalesovo Beam	40.99	45	P		P	02 12 17.6	-0.1
	comp=Z,0.7nm,0.6s,baz=259,slow=8.8,SNR=3.8							
ZALV	Zalesovo Beam	40.99	45	P		P	02 12 17.6	-0.1
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ZALV	Zalesovo Beam	40.99	45	P		P	02 12 17.6	-0.1
TLY	Talaya	52.42	48	*e*P		P	02 13 51.6	+4.3
TLY					pmax	pmax		
	comp=Z,9.0nm,1.1s							
SONM	Songino Array	54.96	52	P		P	02 14 07.8	+1.7
	comp=Z,0.4nm,0.6s,baz=274,slow=7.4,SNR=2.1							
SONM	Songino Array	54.96	52	P		P	02 14 07.8	+1.7
SONM	Songino Array	54.96	52	P		P	02 14 07.8	+1.7
SCHQ	Schefferville	68.11	322	P		P	02 15 33.1	-1.5
	comp=Z,0.7nm,0.4s,baz=55,slow=12,SNR=3.8							
SCHQ	Schefferville	68.11	322	P		P	02 15 33.1	-1.5
YKA	Yellowknife Ar	80.24	345	P		P	02 16 45.4	+0.3
	comp=Z,0.3nm,0.6s,baz=25,slow=5.5,SNR=7.7							
YKA	Yellowknife Ar	80.24	345	P		P	02 16 45.4	+0.3
YKA	Yellowknife Ar	80.24	345	P		P	02 16 45.5	+0.3
ILAR	Eielson Array	81.39	0	P		P	02 16 52.0	+0.7
	comp=Z,0.3nm,0.6s,baz=331,slow=3.7,SNR=4.4							
ILAR	Eielson Array	81.39	0	P		P	02 16 52.0	+0.7

ILAR	Eielson Array	81.39	0	P		P	02 16 52.0	+0.7

IDC **12** *02:39:13.5±0.8, 7.61S×128.26E, h0km, mb4.0/9, mb1 4.3/12, mb1mx4.3/17, mbtmp4.2/12, ML4.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=41.0km s-min=15.3km az=73.0*

ISCJB **12** *02:39:17.0±0.5, 7.76S±0.05×128.4E±0.1, h44km, mb4.0/11, MS3.1/1, Error ellipse: s-maj=19.3km s-min=6.7km az=167.8*

NEIC **12** *02:39:18.3±0.4, 7.70S×128.29E, h35km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=7.1km az=76.0*

ISC 12 02:39:18.8±0.6, 7.84S±0.06×128.5E±0.1, h44km, n35, σ2s31/47, mb4.1/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.57	195	Pn		Pn	02 41 49.0	+1.3
	8.5nm,0.3s,baz=31,slow=11,SNR=122							
FITZ				Sn		Sn	02 43 41.7	-3.0
	6.3nm,0.3s,baz=148,slow=23,SNR=7.3							
FITZ				LR		LR	02 45 51.6	
	comp=Z,55nm,21.7s,baz=199,slow=37							
FITZ	Fitzroy Crossi	10.57	195	*e*P		Pn	02 41 49.2	+1.5
	37nm,0.3s							
FITZ				*e*S		Sn	02 43 40.9	-3.9
FITZ	Fitzroy Crossi	10.57	195	*e*Pn		Pn	02 41 49.2	+1.5
FITZ				*e*S		Sn	02 43 39.9	-4.9
WRAB	Tennant Creek	13.30	155	*e*Pn		Pn	02 42 26.9	+1.7
	28nm,0.8s							
WRAB				*e*S		Sn	02 44 48.7	-3.1
WRA	Warramunga Arr	13.31	155	Pn		Pn	02 42 26.1	+0.9
	4.4nm,0.3s,baz=325,slow=13,SNR=92							
WRA				Sn		Sn	02 44 48.0	-3.9
	5.3nm,0.3s,baz=328,slow=22,SNR=13							
WRA	Warramunga Arr	13.31	155	Pn		Pn	02 42 26.1	+0.9
WRA				Sn		Sn	02 44 48.0	-3.9
WB2	Warramunga Arr	13.31	155	*e*Pn		Pn	02 42 26.8	+1.5
MBWA	Marble Bar	15.70	212	*e*Pn		Pn	02 42 57.1	0.0
AS31	Alice Springs	16.58	162	*e*Pn		P	02 43 10.4	+0.1
ASAR	Alice Springs	16.58	162	Pn		P	02 43 10.4	+0.2
	2.5nm,0.3s,baz=329,slow=9.9,SNR=76							
ASAR				Sn		Sn	02 46 10.8	-0.6
	1.8nm,0.3s,baz=346,slow=23,SNR=7.8							
ASAR				ScP		ScP	02 51 25.6	-2.9
	baz=344,slow=2.9,SNR=4.4							
ASAR	Alice Springs	16.58	162	Pn		P	02 43 10.4	+0.2
ASAR				Sn		Sn	02 46 10.8	-0.6
ASAR				ScP		ScP	02 51 25.6	-2.9
CTA	Charters Tower	21.09	127	P		P	02 44 04.8	+5.1
	2.0nm,0.6s,baz=286,slow=16,SNR=2.9							
CTA	Charters Tower	21.09	127	P		P	02 44 04.8	+5.1
KLBR	Kellerberrin	25.66	201	*e*P		P	02 44 48.9	+4.3
	28nm,1.1s							
STKA	Stephens Creek	26.86	155	P		P	02 44 58.5	+3.1
	3.7nm,0.5s,baz=323,slow=6.8,SNR=21							
STKA				ScP		ScP	02 51 50.0	-4.0
	1.6nm,0.6s,baz=354,slow=6.2,SNR=3.6							
STKA				LR		LR	02 56 14.1	
	comp=Z,54nm,19.2s,baz=24,slow=38							
STKA	Stephens Creek	26.86	155	*e*P		P	02 44 58.9	+3.5
	6.9nm,0.9s							
STKA	Stephens Creek	26.86	155	*e*P		P	02 44 58.5	+3.1
	1.3nm,0.8s							
STKA				ScP		ScP	02 51 50.0	-4.0
MJAR	Matsushiro Arr	45.08	11	P		P	02 47 29.6	-1.0
	2.5nm,1.1s,baz=317,slow=13,SNR=4.1							
MJAR	Matsushiro Arr	45.08	11	P		P	02 47 29.6	-1.0
USRK	Ussuriysk Arra	51.89	3	P		P	02 48 22.8	-0.1
	0.9nm,0.4s,baz=156,slow=5.0,SNR=8.8							
SONM	Songino Array	58.77	343	P		P	02 49 12.6	+0.1
	1.7nm,0.7s,baz=164,slow=7.4,SNR=16							
SONM	Songino Array	58.77	343	P		P	02 49 12.6	+0.1
PETK	Petropavlovsk-	65.60	19	P		P	02 49 56.8	-1.2
	2.1nm,0.7s,baz=180,slow=9.8,SNR=2.6							
PETK	Petropavlovsk-	65.60	19	P		P	02 49 56.8	-1.2
MKAR	Makanchi Array	68.11	328	P		P	02 50 13.5	-0.7
	0.4nm,0.4s,baz=119,slow=8.1,SNR=8.0							
MKAR	Makanchi Array	68.11	328	P		P	02 50 13.5	-0.7
ZALV	Zalesovo Beam	71.67	335	P		P	02 50 34.7	-1.1
	1.2nm,0.6s,baz=117,slow=5.0,SNR=6.5							
ZALV	Zalesovo Beam	71.67	335	P		P	02 50 34.7	-1.1
KUR

JNK **Nakash** 0.95 227 P Pn 03 05 54.7 -0.6
JTKR **Abashiri--Toko** 1.30 259 P Pn 03 05 58.0 -0.5
JTKR eS Sn 03 06 18.7 -0.7
JAK **Akkeshi** 1.43 210 P Pn 03 05 58.8 -0.9
JAK eS Sn 03 06 19.9 -1.7
JAR **Ashorobuto** 1.67 237 P Pn 03 06 02.6 +0.2
JMP **Maruseppu** 1.69 263 P Pn 03 06 02.4 -0.1
KUR **Kuril'sk** 1.85 56 i/ iPN Pn 03 06 05.2 +0.9
KUR eS Sn 03 06 30.0 +0.1
KUR pmax pmax
comp=Z,780nm,0.5s
KUR pmax pmax
comp=N,110nm,0.4s
KUR pmax pmax
comp=E,240nm,0.7s
KUR smax smax
comp=N,3µm,1.2s
KUR smax smax
comp=E,980nm,1.0s
JOB **Onbets** 1.89 226 P Pn 03 06 04.7 -0.1
JOB eS Sn 03 06 30.2 -0.4
JKK2 **Kamakawa 2** 2.15 261 P Pn 03 06 08.0 +0.2
JKK2 eS Sn 03 06 36.8 +0.8
ASAJ **Asahikawa** 2.22 268 P Pn 03 06 09.3 +0.6
comp=E,49nm,0.3s,baz=87,slow=13,SNR=224
ASAJ S Sn 03 06 37.7 +0.1
comp=E,9.9nm,0.3s,baz=25,slow=16,SNR=8.2
ASAJ **Asahikawa** 2.22 268 PN Pn 03 06 09.3 +0.6
ASAJ S Sn 03 06 37.7 +0.1
ASAJ pmax pmax
comp=Z,49nm,0.3s
ASAJ smax smax
comp=N,10.0nm,0.3s
ASAJ **Asahikawa** 2.22 268 ePn Pn 03 06 09.3 +0.6
ASAJ S Sn 03 06 37.7 +0.1
ASAJ eS 03 06 39.0
ASAJ **Asahikawa** 2.22 268 P Pn 03 06 09.3 +0.6
ASAJ eS Sn 03 06 38.1 +0.5
JSE **Soyaes** 2.33 289 P Pn 03 06 09.8 -0.1
JCH **Churui** 2.34 227 P Pn 03 06 09.7 -0.4
JCH eS Sn 03 06 38.3 -1.8
JFR **Furan** 2.48 246 P Pn 03 06 12.3 +0.4
JFR eS Sn 03 06 43.7 +0.4
JAB **Ashibetsu** 2.60 255 P Pn 03 06 14.7 +1.3
ERM **Erimo** 2.88 221 ePN Pn 03 06 17.4 +0.5
ERM eS Sn 03 06 54.2 +2.0
ERM **Erimo** 2.88 221 ePn Pn 03 06 17.4 +0.5
ERM eS Sn 03 06 54.2 +2.0
YSS **Yuzh-Sakhalins** 3.41 324 ePN Pn 03 06 24.4 +0.9
YSS eS Sn 03 07 03.0 -1.2
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS smax smax
comp=N,70nm,1.0s
YSS **Yuzh-Sakhalins** 3.41 324 ePn Pn 03 06 23.3 -0.2
HABR **Khabarovsk** 8.49 304 ePN Pn 03 07 30.4 -0.4
HABR eS Sn 03 09 06.4 +1.3
HABR pmax pmax
comp=N,48nm,2.4s
HABR pmax pmax
comp=E,95nm,2.4s
HABR pmax pmax
comp=Z,98nm,1.8s
MJAR **Matsushiro Arr** 9.56 219 P Pn 03 07 44.2 -1.1
comp=Z,0.5nm,0.3s,baz=32,slow=13,SNR=7.2
MJAR **Matsushiro Arr** 9.56 219 PN Pn 03 07 44.2 -1.1
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR **Matsushiro Arr** 9.56 219 P Pn 03 07 44.2 -1.1
USRK **Ussuriysk Arra** 9.83 275 P Pn 03 07 49.0 +0.3
comp=Z,0.8nm,0.3s,baz=82,slow=13,SNR=15
KLR **Kul'dur** 10.79 303 ePN Pn 03 07 58.2 -3.1
PETK **Petropavlovsk-** 11.90 37 P Pn 03 08 16.7 +0.8
comp=Z,0.5nm,0.3s,baz=210,slow=8.6,SNR=4.3
PETK **Petropavlovsk-** 11.90 37 PN Pn 03 08 16.7 +0.8
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK **Petropavlovsk-** 11.90 37 P Pn 03 08 16.7 +0.8
KSRS **Korea Array** 15.04 249 P Pn 03 08 54.8 -1.1
baz=60,slow=13,SNR=5.1
KSRS **Korea Array** 15.04 249 P Pn 03 08 54.8 -1.1
KSAR **Wonju Array Be** 15.07 249 P Pn 03 08 54.8 -1.5
KSAR **Wonju Array Be** 15.07 249 P Pn 03 08 54.8 -1.5
SEY **Seymchan** 19.13 9 i/ iP P 03 09 40.5 -1.9
NJ2 **Nanjing** 24.24 249 eP P 03 10 35.6 +1.5
NJ2 pmax pmax
comp=Z,20nm,0.7s
HHC **Hu-ho-hao-te** 25.26 274 eP P 03 10 41.6 -1.8
HHC pP pP 03 11 10.0 -4.4
HHC PP pwP 03 11 26.7 +12
HHC sP sP 03 11 29.0 -2.6
HHC S S 03 14 56.0 -2.0
HHC sS sS 03 15 43.5 -9.2
HHC SS 03 16 10.9
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.1s
HHC LR LR
comp=N,250nm,11.0s
HHC LR LR
comp=E,280nm,13.5s
HHC LR LR
comp=Z,190nm,10.5s
ULN **Ulaanbaatar** 26.86 292 eP P 03 10 58.0 +0.1
ULN pmax pmax
comp=Z,2.0nm,0.5s
ULN **Ulaanbaatar** 26.86 292 eP P 03 10 58.0 +0.1
comp=Z,2.2nm,0.5s
SONM **Songino Array** 27.31 292 P P 03 11 01.8 +0.1
comp=Z,4.1nm,0.6s,baz=87,slow=7.9,SNR=42
SONM PcP PcP 03 14 17.9 +0.7
comp=Z,0.7nm,0.6s,baz=124,slow=1.7,SNR=5.4
SONM **Songino Array** 27.31 292 P P 03 11 01.9 +0.1
SONM 03 14 17.9
SONM **Songino Array** 27.31 292 P P 03 11 01.9 +0.1
SONM PcP PcP 03 14 17.9 +0.7
LZH **Lanzhou** 32.70 270 eP P 03 11 50.3 +0.8
LZH pP pP 03 12 23.5 +2.4
LZH sP sP 03 12 41.6 +3.4
LZH ePP PP 03 13 05.3 -0.9
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,70nm,4.3s
LZH LR LR
comp=N,230nm,12.9s
LZH LR LR
comp=E,210nm,12.6s
LZH LR LR
comp=Z,240nm,16.7s
CD2 **Chengdu** 35.41 262 P P 03 12 13.1 +0.4
CD2 pP pP 03 12 46.1 +1.4
CD2 sP sP 03 13 03.7 +2.1
CD2 PP PP 03 13 38.0 +2.0
CD2 S S 03 17 35.1 -1.3
CD2 sS sS 03 18 32.6 +0.2
CD2 SS SS 03 20 02.9 -11
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,170nm,4.5s
GYA **Guiyang** 36.03 254 eP P 03 12 13.9 -4.2
GYA pP pP 03 12 51.7 +1.6
GYA sP sP 03 13 10.4 +3.3
GYA PP PP 03 13 46.0 +3.0
GYA S S 03 17 45.6 -0.5
GYA ScP ScP 03 18 13.4 0.0
GYA PcS PcS 03 18 29.0 -0.1
GYA pmax pmax
comp=Z,10.0nm,0.8s
KMI **Kunming** 39.60 256 P P 03 12 48.7 +0.5
KMI pmax pmax
comp=Z,9.0nm,0.6s
KDAK **Kodiak Island** 39.70 48 P P 03 12 48.4 0.0
comp=Z,7.1nm,0.8s,baz=288,slow=9.6,SNR=4.3
KDAK **Kodiak Island** 39.70 48 P P 03 12 48.4 0.0
KDAK pmax pmax
comp=Z,7.0nm,0.8s
KDAK **Kodiak Island** 39.70 48 P P 03 12 48.4 0.0

ZALV **Zalesovo Beam** 39.86 306 P P 03 12 48.1 -1.7
comp=Z,2.7nm,0.4s,baz=89,slow=8.2,SNR=15
ZALV PcP PcP 03 14 52.7 +0.3
comp=Z,3.4nm,0.4s,baz=91,slow=3.3,SNR=18
ZALV **Zalesovo Beam** 39.86 306 P P 03 12 48.1 -1.7
ZALV 03 14 52.7
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV **Zalesovo Beam** 39.86 306 P P 03 12 48.1 -1.7
ZALV PcP PcP 03 14 52.7 +0.3
WMQ **Urumqi** 40.93 290 eP P 03 12 59.8 +1.0
WMQ pP pP 03 13 32.8 +1.3
WMQ sP sP 03 13 49.8 +1.5
WMQ pmax pmax
comp=Z,9.0nm,0.7s
COLA **College** 41.31 36 eP P 03 13 02.5 +1.0
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA **College** 41.31 36 eP P 03 13 02.5 +1.0
comp=Z,7.8nm,0.8s
SML **Sawmill** 41.35 41 eP P 03 13 02.7 +0.8
SML pmax pmax
comp=Z,4.0nm,0.8s
SML **Sawmill** 41.35 41 eP P 03 13 02.7 +0.8
comp=Z,4.3nm,0.8s
ILAR **Eielson Array** 41.73 36 P P 03 13 04.8 -0.1
comp=Z,4.6nm,0.5s,baz=254,slow=5.4,SNR=126
ILAR pP pP 03 13 39.6 +1.9
comp=Z,1.2nm,0.9s,baz=273,slow=7.5,SNR=2.8
ILAR **Eielson Array** 41.73 36 P P 03 13 04.8 -0.1
ILAR *PP pP 03 13 39.6 +1.9
ILAR pmax pmax
comp=Z,5.0nm,0.5s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR **Eielson Array** 41.73 36 P P 03 13 04.8 -0.1
ILAR pP pP 03 13 39.6 +1.9
MK31 **Makanchi Array** 43.42 297 eP P 03 13 18.6 -0.3
MK31 e 03 15 05.0
MK31 **Makanchi Array** 43.42 297 eP P 03 13 18.6 -0.3
MK31 ePcP PcP 03 15 05.0 +0.5
MKAR **Makanchi Array** 43.42 297 P P 03 13 18.5 -0.4
comp=Z,5.1nm,0.5s,baz=80,slow=9.3,SNR=94
MKAR PcP PcP 03 15 04.9 +0.5
comp=Z,1.5nm,0.6s,baz=58,slow=1.7,SNR=6.5
MKAR ScP ScP 03 18 42.2 +0.5
comp=Z,0.2nm,0.7s,baz=91,slow=1.8,SNR=2.4
MKAR **Makanchi Array** 43.42 297 ceP P 03 13 18.6 -0.3
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR **Makanchi Array** 43.42 297 P P 03 13 18.5 -0.4
MKAR PcP PcP 03 15 04.9 +0.5
MKAR ScP ScP 03 18 42.2 +0.5
EGAK **Eagle** 44.17 36 eP P 03 13 24.9 +0.5
comp=Z,9.7nm,0.8s
KURK **Kurchatov** 44.38 303 d iP P 03 13 25.7 -0.7
KURK pmax pmax
comp=Z,22nm,2.5s
KURK **Kurchatov** 44.38 303 eP P 03 13 25.3 -1.1
comp=Z,9.2nm,0.8s
DAWY **Dawson** 45.05 37 eP P 03 13 31.9 +0.3
CHTO **Chiang Mai** 46.41 252 eP P 03 13 43.9 +1.2
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO **Chiang Mai** 46.41 252 eP P 03 13 43.9 +1.2
comp=Z,4.5nm,0.8s
INK **Inuvik** 46.52 30 P P 03 13 42.7 -0.2
comp=Z,3.1nm,0.4s,baz=304,slow=6.6,SNR=20
INK pP pP 03 14 17.2 +0.9
comp=Z,0.9nm,0.4s,baz=289,slow=7.4,SNR=2.2
INK **Inuvik** 46.52 30 P P 03 13 42.7 -0.2
INK *PP pP 03 14 17.3 +0.9
INK pmax pmax
comp=Z,3.0nm,0.4s
INK pmax pmax
comp=Z,1.0nm,0.4s
INK **Inuvik** 46.52 30 eP P 03 13 42.5 -0.4
comp=Z,3.2nm,0.4s
INK pP pP 03 14 17.2 +0.9
CMAR **Chiang Mai Arr** 46.66 252 P P 03 13 45.7 +1.0
comp=Z,1.8nm,0.6s,baz=40,slow=7.2,SNR=6.4
CMAR **Chiang Mai Arr** 46.66 252 P P 03 13 45.7 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR **Chiang Mai Arr** 46.66 252 P P 03 13 45.7 +1.0
VOSK **Vostochnaya** 48.15 308 P P 03 13 53.4 -2.4
BVA0 **Borovoye Array** 48.38 309 i P P 03 13 56.3 -1.2
BVA0 pmax pmax
comp=Z,1.0nm,1.5s
BRVK **Borovoye** 48.42 309 ceP P 03 13 57.0 -0.9
BRVK pmax pmax
comp=Z,18nm,4.8s
TAPN **Taplejung** 48.95 270 eP P 03 14 02.7 +0.1
comp=Z,5.6nm,0.4s
ZRNK **Zerenda** 49.18 309 P P 03 14 01.9 -1.7
TKM2 **Tokmak 2** 49.34 294 P P 03 14 05.9 +0.6
SNR=12
TKM2 P P 03 14 05.9 +0.6
SNR=12
TKM2 **Tokmak 2** 49.34 294 i P P 03 14 05.9 +0.6
TKM2 **Tokmak 2** 49.34 294 eP P 03 14 05.4 +0.1
comp=Z,8.1nm,0.7s
ODAN **Odare** 49.46 270 eP P 03 14 05.9 -0.5
comp=Z,5.8nm,0.5s
ODAN **Odare** 49.46 270 eP P 03 14 05.9 -0.5
comp=Z,5.8nm,0.5s
JIRN **Jiri** 49.86 271 eP P 03 14 09.7 +0.1
comp=Z,13nm,0.5s
JIRN **Jiri** 49.86 271 eP P 03 14 09.7 +0.1
comp=Z,13nm,0.5s
KBK **Karagaybulak** 49.89 294 P P 03 14 09.9 +0.5
SNR=12
KBK P P 03 14 09.9 +0.5
SNR=12
USP **Ospenovka** 49.90 295 P P 03 14 09.7 +0.4
SNR=10
USP P P 03 14 09.7 +0.4
SNR=10
GUN **Gumba** 49.93 272 eP P 03 14 10.3 +0.2
comp=Z,18nm,0.4s
KZA **Kyzart** 49.96 294 P P 03 14 11.5 +1.3
SNR=11
KZA P P 03 14 11.5 +1.3
SNR=11
RAMN **Ramite** 49.98 270 eP P 03 14 09.5 -0.8
comp=Z,8.8nm,0.3s
AAK **Ala-Archa** 50.19 295 P P 03 14 11.8 +0.1
SNR=6.2
AAK P P 03 14 11.8 +0.1
SNR=6.2
AAK **Ala-Archa** 50.19 295 ceP P 03 14 11.8 +0.1
AAK pmax pmax
comp=Z,11nm,0.6s
PKI **Pulchoki** 50.47 272 eP P 03 14 13.8 -0.3
PKI **Pulchoki** 50.47 272 eP P 03 14 13.8 -0.3
PKI **Pulchoki** 50.47 272 eP P 03 14 13.8 -0.3
EKS2 **Erkin-Say** 50.65 295 P P 03 14 15.4 +0.3
SNR=6.4
EKS2 P P 03 14 15.4 +0.3
SNR=6.4
EKS2 **Erkin-Say** 50.65 295 eP P 03 14 15.2 +0.1
EKS2 e 03 15 31.1
EKS2 pmax pmax
comp=Z,9.0nm,0.6s
EKS2 **Erkin-Say** 50.65 295 eP P 03 14 15.2 +0.1
comp=Z,8.8nm,0.6s
EKS2 ePcP PcP 03 15 31.1 +0.8
DMN **Daman** 50.66 272 eP P 03 14 15.5 0.0
comp=Z,8.4nm,0.5s
DMN **Daman** 50.66 272 eP P 03 14 15.5 0.0
comp=Z,8.4nm,0.5s
KSH **Kashi** 50.70 290 eP P 03 14 19.3 +3.8
KSH epP pP 03 14 55.7 +6.3
KSH sP sP 03 15 13.7 +7.8
KSH ePcP PcP 03 15 33.2 +2.7
KSH PP PP 03 16 18.8 +6.1
KSH eS S 03 21 21.2 +2.0
KSH eSS sS 03 22 26.2 +8.2
KSH eScS ScS 03 23 49.9 -1.1
KSH eSS SS 03 24 57.7 +2.6
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,320nm,5.3s

KSH LR LR
comp=N,280nm,6.0s
KSH LR LR
comp=E,360nm,5.8s
KSH LR LR
comp=Z,410nm,5.9s
GKN **Gorkha** 50.77 273 eP P 03 14 16.3 +0.1
comp=Z,12nm,0.5s
GKN **Gorkha** 50.77 273 eP P 03 14 16.3 +0.1
comp=Z,12nm,0.5s
AML **Almayashu** 50.95 294 P P 03 14 18.4 +0.8
SNR=5.2
AML P P 03 14 18.4 +0.8
SNR=5.2
DANN **Dangsing** 51.20 274 eP P 03 14 20.2 +0.7
comp=Z,48nm,0.8s
DANN **Dangsing** 51.20 274 eP P 03 14 20.2 +0.7
comp=Z,48nm,0.8s
KOLN **Koldanda** 51.65 273 eP P 03 14 23.2 +0.4
comp=Z,5.5nm,0.3s
KK31 **Karatay Array** 52.55 297 i P P 03 14 28.4 -0.6
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR **Karatay Array** 52.55 297 eP P 03 14 28.9 -0.1
KKAR pmax pmax
comp=Z,8.0nm,0.6s
KKAR **Karatay Array** 52.55 297 eP P 03 14 28.9 -0.1
comp=Z,8.5nm,0.6s
RES **Resolute Bay** 54.81 16 P P 03 14 43.4 -1.5
comp=Z,5.0nm,0.3s,baz=306,slow=8.4,SNR=8.6
RES pP pP 03 15 19.0 -0.3
comp=Z,1.5nm,0.6s,baz=224,slow=4.8,SNR=1.6
RES **Resolute Bay** 54.81 16 P P 03 14 43.4 -1.5
RES *PP pP 03 15 19.0 -0.3
RES pmax pmax
comp=Z,5.0nm,0.3s
RES pmax pmax
comp=Z,2.0nm,0.6s
RES **Resolute Bay** 54.81 16 eP P 03 14 43.0 -1.9
comp=Z,3.7nm,0.6s
RES pP pP 03 15 19.0 -0.3
AB31 **Akbulak array** 55.93 308 eP P 03 14 52.6 -0.7
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR **Akbulak array** 55.93 308 eP P 03 14 52.9 -0.4
comp=Z,4.1nm,0.3s
YKA **Yellowknife Ar** 55.99 34 P P 03 14 53.6 +0.1
comp=Z,2.9nm,0.7s,baz=302,slow=6.9,SNR=23
YKA pP pP 03 15 27.7 -0.3
comp=Z,1.4nm,0.8s,baz=301,slow=7.0,SNR=6.6
YKA **Yellowknife Ar** 55.99 34 P P 03 14 53.6 +0.1
YKA *PP pP 03 15 27.7 -0.3
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 55.99 34 P P 03 14 53.6 +0.1
YKA pP pP 03 15 27.7 -0.3
AKTO **Aktyubinsk** 56.42 310 P P 03 14 56.2 -0.6
comp=Z,1.0nm,0.4s,baz=100,slow=12,SNR=7.9
AKTO PcP PcP 03 15 52.2 +0.2
comp=Z,1.8nm,0.7s,baz=67,slow=5.3,SNR=4.8
AKTO **Aktyubinsk** 56.42 310 P P 03 14 56.2 -0.6
AKTO 03 15 52.2
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO **Aktyubinsk** 56.42 310 P P 03 14 56.2 -0.6
AKTO PcP PcP 03 15 52.2 +0.2
KBL **Kabul** 58.03 289 eP P 03 15 07.8 -0.8
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL **Kabul** 58.03 289 eP P 03 15 07.8 -0.8
comp=Z,4.7nm,0.7s
ARCES **ARCESS Array B** 58.42 339 P P 03 15 09.5 -1.0
comp=Z,2.0nm,0.7s,baz=357,slow=4.9,SNR=4.9
ARCES PcP PcP 03 15 59.5 0.0
comp=Z,2.7nm,0.9s,baz=38,slow=6.1,SNR=3.5
ARCES **ARCESS Array B** 58.42 339 P P 03 15 09.5 -1.0
ARCES 03 15 59.5
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES **ARCESS Array B** 58.42 339 P P 03 15 09.5 -1.0
ARCES PcP PcP 03 15 59.5 0.0
FINES **FINESS Array B** 63.96 332 P P 03 15 46.9 -0.9
comp=Z,2.3nm,0.7s,baz=54,slow=9.7,SNR=10
FINES pP PcP 03 16 21.3 -0.7
comp=Z,1.0nm,0.4s,baz=72,slow=6.3,SNR=1.1
FINES **FINESS Array B** 63.96 332 P P 03 15 46.9 -0.9
FINES *PP PcP 03 16 21.3 -0.7
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES **FINESS Array B** 63.96 332 P P 03 15 46.9 -0.9
FINES pP PcP 03 16 21.3 -0.7
WRA **Warramunga Arr** 64.70 192 P P 03 15 53.2 +0.1
comp=Z,0.7nm,0.6s,baz=8.7,slow=6.7,SNR=5.9
WRA pP PcP 03 16 27.0 +1.5
comp=Z,0.6nm,0.9s,baz=8.8,slow=6.7,SNR=2.0
WRA **Warramunga Arr** 64.70 192 P P 03 15 53.2 +0.1
WRA *PP PcP 03 16 27.0 +1.5
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA **Warramunga Arr** 64.70 192 P P 03 15 53.2 +0.1
WRA pP PcP 03 16 27.0 +1.5
FFC **Flin Flon** 65.94 36 ceP P 03 16 02.2 +1.5
NVAR **Mina Array Bea** 68.22 57 P P 03 16 17.0 +1.3
comp=Z,0.8nm,0.7s,baz=297,slow=6.8,SNR=7.0
NVAR pP pP 03 16 51.0 -0.5
comp=Z,0.3nm,0.6s,baz=286,slow=6.4,SNR=3.4
NVAR **Mina Array Bea** 68.22 57 P P 03 16 17.0 +1.3
NVAR pP pP 03 16 51.0 -0.5
ASAR **Alice Springs** 68.42 192 P P 03 16 18.3 +1.6
comp=Z,0.3nm,0.5s,baz=8.4,slow=5.9,SNR=4.8
ASAR pP pP 03 16 52.0 -0.5
comp=Z,0.8nm,0.7s,baz=10,slow=5.5,SNR=4.1
ASAR **Alice Springs** 68.42 192 P P 03 16 18.3 +1.6
ASAR *PP pP 03 16 52.1 -0.5
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR **Alice Springs** 68.42 192 P P 03 16 18.3 +1.6
ASAR pP pP 03 16 52.0 -0.5
KIV **Kislovodsk** 68.65 311 eP P 03 16 19.3 +1.2
KIV pmax pmax
comp=Z,18nm,1.1s
NB2 **NORSAR Subarra** 68.77 338 P P 03 16 17.3 -1.2
comp=Z,0.9nm,0.5s,baz=32,slow=6.5
NOA **NORSAR Array B** 68.77 338 P P 03 16 17.6 -0.9
comp=Z,1.4nm,0.6s,baz=33,slow=6.3,SNR=7.5
NOA **NORSAR Array B** 68.77 338 P P 03 16 17.6 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA **NORSAR Array B** 68.77 338 P P 03 16 17.6 -0.9
FRB **Frobisher Bay** 69.00 16 P P 03 16 18.8 -1.0
comp=Z,4.1nm,0.6s,baz=0.7,slow=8.0,SNR=15
FRB **Frobisher Bay** 69.00 16 P P 03 16 18.8 -1.0
FRB pmax pmax
comp=Z,4.0nm,0.6s
FRB **Frobisher Bay** 69.00 16 P P 03 16 18.8 -1.0
GNI **Garni** 70.01 307 P P 03 16 28.1 +1.5
comp=Z,2.9nm,0.6s,baz=70,slow=5.7,SNR=4.2
GNI **Garni** 70.01 307 eP P 03 16 26.4 -0.2
GNI pmax pmax
comp=Z,5.0nm,1.2s
GNI **Garni** 70.01 307 P P 03 16 28.1 +1.5
AKASG **Malin Array Be** 70.56 323 P P 03 16 29.0 -0.6
comp=Z,0.4nm,0.3s,baz=40,slow=6.4,SNR=5.2
AKASG **Malin Array Be** 70.56 323 ceP P 03 16 29.3 -0.3
AKASG **Malin Array Be** 70.56 323 P P 03 16 29.0 -0.6
ULM **Lac du Bonnet** 71.75 36 P P 03 16 36.5 -0.3
comp=Z,0.7nm,0.5s,baz=327,slow=7.6,SNR=3.0
ULM **Lac du Bonnet** 71.75 36 P P 03 16 36.5 -0.3
BUR08 **Bucovina Ar. S** 74.60 323 eP P 03 16 53.6 -0.1
MIB **Mutribah** 75.34 297 eP P 03 16 57.7 -0.3
QRN **Al-Qurain** 75.68 296 eP P 03 17 00.1 0.0
NAY **Al-Naaiem** 75.78 297 eP P 03 17 00.2 -0.3
RDF **Al-Radifah** 75.80 296 eP P 03 17 01.2 +0.5
CLL **Collm** 76.39 332 eP P 03 17 04.0 +0.4
comp=Z,7.0nm,1.1s
BRTR **Keskin Array B** 76.44 313 P P 03 17 04.4 +0.1

comp=Z,1.7nm,0.6s,baz=81,slow=3.7,SNR=10.0
BRTR Keskin Array B 76.44 313 P **P** 03 17 04.4 +0.1
VYHS Vyhne 76.57 327 *eP* **P** 03 17 06.0 +1.3
SCHQ Schefferville 77.51 19 P **P** 03 17 09.8 0.0
comp=Z,2.1nm,0.4s,baz=296,slow=5.8,SNR=21
SCHQ Schefferville 77.51 19 P **P** 03 17 09.8 0.0
GERES GERESS Array B 78.22 330 P **P** 03 17 13.6 -0.4
comp=Z,0.5nm,0.5s,baz=54,slow=6.8,SNR=6.4
GERES GERESS Array B 78.22 330 P **P** 03 17 13.6 -0.4
CDF Champ du Feu 80.78 333 *eP* **P** 03 17 27.6 -0.3
PAGF Fort de Pagny 81.15 334 *eP* **P** 03 17 29.1 -0.6
HAU Haudompre 81.44 334 *eP* **P** 03 17 31.5 +0.3
SFTF Sexfontaines 81.67 335 *eP* **P** 03 17 32.0 -0.4
comp=Z,6.0nm,0.6s
FLN La Foliniere 82.75 338 *eP* **P** 03 17 37.9 -0.1
LDF La Druitiere 82.81 338 *eP* **P** 03 17 38.5 +0.1
LOR Lormes 82.87 335 *eP* **P** 03 17 38.1 -0.6
SSF Saint Saulge 83.16 335 *eP* **P** 03 17 40.7 +0.5
GRR Gorron 83.20 338 *eP* **P** 03 17 40.4 +0.1
TXAR Lajitas Array 83.26 55 P **P** 03 17 42.0 +0.9
comp=Z,1.1nm,0.6s,baz=287,slow=3.5,SNR=20
TXAR pP **pP** 03 18 17.7 -0.5
comp=Z,1.2nm,0.6s,baz=299,slow=4.2,SNR=9.3
TXAR Lajitas Array 83.26 55 P **P** 03 17 42.0 +0.9
TXAR pP **pP** 03 18 17.7 -0.5
AVF Avril sur Loir 83.45 335 *eP* **P** 03 17 41.7 +0.1
comp=Z,18nm,0.9s
LPL La Plagne 83.50 332 *eP* **P** 03 17 41.8 -0.5
comp=Z,4.1nm,0.7s
LPG La Plagne 83.51 332 *eP* **P** 03 17 42.0 -0.4
comp=Z,8.3nm,0.9s
BGF Bois d'Agland 83.81 335 *eP* **P** 03 17 43.3 -0.2
comp=Z,8.7nm,0.8s
TCF Toulx Ste Croi 84.25 335 *eP* **P** 03 17 45.8 0.0
comp=Z,8.3nm,0.8s
ORIF Oris-en-Rattie 84.31 333 *eP* **P** 03 17 46.3 +0.1
comp=Z,4.6nm,0.7s
MFF Saint Martin d 84.64 337 *eP* **P** 03 17 47.4 -0.3
SBF Sospel 84.72 331 *eP* **P** 03 17 47.7 -0.5
VIVF Saint-Julien-l 84.76 333 *eP* **P** 03 17 47.9 -0.5
comp=Z,3.0nm,0.6s
CAF Calviac 85.52 335 *eP* **P** 03 17 53.1 +0.9
comp=Z,13nm,1.0s
MTLF Montolieu 86.90 334 *eP* **P** 03 17 58.3 -0.6
ETSF Etsaut 88.15 336 *eP* **P** 03 18 04.9 -0.1
comp=Z,6.7nm,0.6s
ESDC Sonseca Array 92.11 337 P **P** 03 18 23.0 -0.4
comp=Z,0.6nm,0.6s,baz=14,slow=4.3,SNR=8.6
ESDC Sonseca Array 92.11 337 P **P** 03 18 23.0 -0.4
TORD Torodi Ar. Bea 114.16 321 PKP **PKiKP** 03 23 52.2 -0.9
comp=Z,0.3nm,0.4s,baz=16,slow=2.2,SNR=13
TORD Torodi Ar. Bea 114.16 321 PKP **PKiKP** 03 23 52.2 -0.9
SNAA Sanae 148.58 198 *e* **PKPbc** 03 24 58.4 -0.7
VNA2 Neumayer--Watz 150.14 197 *e* **PKPbc** 03 25 03.9 +1.0
CFAA Coronel Fontan 150.63 76 PKPbc **PKPbc** 03 25 05.4 +0.1
comp=Z,0.1nm,0.5s,baz=225,slow=4.3,SNR=3.9
CFAA Coronel Fontan 150.63 76 PKPbc **PKPbc** 03 25 05.4 +0.1

IDC 12 03:07:49.6±1.8,1°.49N×126°.30E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=112.5km s-min=23.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.48**	**182**	P	P	03 12 17.0	-1.3
	0.1nm,0.3s,baz=17,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**22.71**	**160**	P	P	03 12 52.0	-1.3
	1.6nm,0.5s,baz=340,slow=10,SNR=28						
ASAR	**Alice Springs**	**26.07**	**164**	P	P	03 13 26.6	+1.4
	1.3nm,0.4s,baz=351,slow=15,SNR=22						
MKAR	**Makanchi Array**	**59.15**	**326**	P	P	03 17 52.3	0.0
	0.1nm,0.4s,baz=120,slow=7.4,SNR=3.5						

*SZGRF **12** 03:15:12.9, 23°.09S×170°.78W, h33km, Tonga Islands region*
*ISCJB **12** 03:16:21.7±1.1, 20°.4S±0°.2×178°.4W±0°.1, h561km±11km, mb3.9/14, Error ellipse: s-maj=28.7km s-min=12.3km az=149.9*
*IDC **12** 03:16:22.5±1.8, 20°.45S×178°.37W, h558km±20km, mb3.5/12, mb1 3.7/14, mb1mx3.6/19, mbtmp3.5/14, Error ellipse: s-maj=21.6km s-min=11.7km az=147.0*
*NEIC **12** 03:16:22.3±0.8, 20°.42S×178°.39W, h558km±7km, mb4.3/2, Error ellipse: s-maj=20.6km s-min=9.1km az=148.0*
ISC 12 03:16:22.3±1.1, 20°.4S±0°.2×178°.4W±0°.1, h556km±10km, n80, σ0 s58/95, mb4.0/14, 14C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.31**	**308**	*e*Pn	**P**	03 17 46.4	-0.8
AFI	**Afiamalu**	**9.05**	**45**	P	**P**	03 18 31.5	+0.6
	1.7nm,0.3s,baz=241,slow=19,SNR=4.8						
AFI				S	S	03 20 05.4	-11
	3.4nm,0.3s,baz=116,slow=20,SNR=1.4						
AFI	**Afiamalu**	**9.05**	**45**	P	**P**	03 18 31.5	+0.6
AFI				S	S	03 20 05.4	-11
DZM	**Mont Dzumac**	**14.24**	**261**	P	**P**	03 19 24.7	+0.6
	0.8nm,0.3s,baz=75,slow=20,SNR=8.1						
DZM	**Mont Dzumac**	**14.24**	**261**	P	**P**	03 19 24.7	+0.6
STKA	**Stephens Creek**	**37.49**	**244**	P	**P**	03 22 49.5	+0.1
	2.9nm,0.7s,baz=102,slow=11,SNR=9.2						
STKA				PcP	**PcP**	03 24 53.2	+0.4
	1.0nm,0.6s,baz=169,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**37.49**	**244**	P	**P**	03 22 49.5	+0.1
STKA				PcP	**PcP**	03 24 53.2	+0.4
AS31	**Alice Springs**	**44.18**	**257**	*e*P	**P**	03 23 42.3	-0.3
AS31				*e*PcP	**PcP**	03 25 14.9	-0.3
ASAR	**Alice Springs**	**44.18**	**257**	P	**P**	03 23 42.2	-0.4
	17nm,0.7s,baz=98,slow=7.6,SNR=198						
ASAR				PcP	**PcP**	03 25 15.2	-0.1
	2.4nm,0.7s,baz=103,slow=3.9,SNR=9.1						
ASAR				S	**S**	03 29 36.0	+0.1
	1.1nm,0.8s,baz=93,slow=14,SNR=7.3						
ASAR	**Alice Springs**	**44.18**	**257**	P	**P**	03 23 42.2	-0.4
ASAR				PcP	**PcP**	03 25 15.2	-0.1
ASAR				S	**S**	03 29 36.0	+0.1
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	03 23 42.6	-0.6
	7.2nm,0.6s,baz=97,slow=7.5,SNR=128						
WRA				PcP	**PcP**	03 25 15.7	+0.2
	1.0nm,0.7s,baz=104,slow=3.0,SNR=4.1						
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	03 23 42.6	-0.6
WRA				PcP	**PcP**	03 25 15.7	+0.2
FITZ	**Fitzroy Crossi**	**52.68**	**262**	P	**P**	03 24 45.9	+0.2
	2.7nm,0.6s,baz=87,slow=7.5,SNR=14						
FITZ	**Fitzroy Crossi**	**52.68**	**262**	P	**P**	03 24 45.9	+0.2
MBWA	**Marble Bar**	**57.52**	**257**	*e*P	**P**	03 25 18.9	-0.4
	11nm,0.8s						
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	03 26 35.6	-0.4
	0.9nm,0.3s,baz=75,slow=2.8,SNR=9.4						
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	03 26 35.6	-0.4
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	03 26 38.3	+0.1
	1.6nm,0.6s,baz=164,slow=6.4,SNR=5.3						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	03 26 38.3	+0.1
PETK	**Petropavlovsk-**	**76.12**	**345**	P	**P**	03 27 12.8	-0.2
	5.0nm,0.7s,baz=141,slow=9.6,SNR=5.6						
PETK	**Petropavlovsk-**	**76.12**	**345**	P	**P**	03 27 12.8	-0.2
NVAR	**Mina Array Bea**	**81.23**	**44**	P	**P**	03 27 41.3	+0.4
	0.5nm,0.6s,baz=218,slow=7.0,SNR=3.6						
NVAR	**Mina Array Bea**	**81.23**	**44**	P	**P**	03 27 41.3	+0.4
TXAR	**Lajitas Array**	**87.33**	**57**	P	**P**	03 28 11.4	+0.5
	0.7nm,0.7s,baz=215,slow=7.6,SNR=7.6						
TXAR	**Lajitas Array**	**87.33**	**57**	P	**P**	03 28 11.4	+0.5
COLA	**College**	**88.22**	**13**	*e*P	**P**	03 28 12.9	-1.1
	4.4nm,0.8s						
ILAR	**Eielson Array**	**88.33**	**13**	P	**P**	03 28 13.2	-1.4
	2.2nm,0.8s,baz=221,slow=5.7,SNR=23						
ILAR	**Eielson Array**	**88.33**	**13**	P	**P**	03 28 13.2	-1.4
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	03 28 23.8	+1.5
	1.2nm,0.2s,baz=114,slow=3.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	03 28 23.8	+1.5
SONM	**Songino Array**	**95.47**	**319**	P	**P**	03 28 48.2	+0.3
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.4						
SONM	**Songino Array**	**95.47**	**319**	P	**P**	03 28 48.2	+0.3
MKAR	**Makanchi Array**	**110.89**	**313**	PKiKP	**PKiKP**	03 33 51.3	-1.3
	0.5nm,0.7s,baz=75,slow=1.4,SNR=7.5						
MKAR	**Makanchi Array**	**110.89**	**313**	PKiKP	**PKiKP**	03 33 51.3	-1.3
FINES	**FINESS Array B**	**135.61**	**343**	PKP	**PKPdf**	03 34 39.8	+0.6
	4.9nm,0.9s,baz=90,slow=5.7,SNR=4.6						
FINES	**FINESS Array B**	**135.61**	**343**	PKP	**PKPdf**	03 34 39.8	+0.6
AKASG	**Malin Array Be**	**142.78**	**331**	PKhKP	PKPpre	03 34 48.6	
	8.7nm,0.5s,baz=43,slow=4.2,SNR=50						
AKASG	**Malin Array Be**	**142.78**	**331**	PKPpre	PKPpre	03 34 48.6	

KWP Kalwaria Pacla 146.37 335 ⇑*i*P **PKPbc 03 35 01.1 0.0**
BRTR Keskin Array B 146.53 312 PKPbc **PKPbc 03 35 01.2 -0.8**
3.1nm,0.7s,baz=139,slow=4.9,SNR=22
BRTR Keskin Array B 146.53 312 PKPbc **PKPbc 03 35 01.2 -0.8**
TLCR 146.65 324 ⇓*i*P **PKPbc 03 35 02.0 0.0**
BURAR Bucovina Array 146.83 330 ⇑*i*P **PKPbc 03 35 03.5 +1.0**
TESR 146.92 328 ⇓*i*P **PKPbc 03 35 03.3 +0.6**
STHS Stebnicka Huta 147.11 336 *e*PKP **PKPab 03 35 07.8 +1.2**
VRI Vrincioaia 147.32 327 ⇑*i*P **PKPbc 03 35 03.8 0.0**
TIRR Tirgusor 147.32 323 ⇓*i*P **PKPbc 03 35 03.5 -0.3**
NRDL Niedersach Rie 147.33 350 *e*PKPbc **PKPbc 03 35 01.8 -1.6**
CRVS Cervenica-Dubn 147.45 335 *e*PKP **PKPab 03 35 07.9 0.0**
TRPA Tarpa 147.62 333 ⇑*i*P **PKPbc 03 35 04.6 +0.2**
UPC Upice 147.90 343 ⇑*e*PKP **PKPbc 03 35 05.3 +0.2**
UPC *e*PKPAB **PKPab 03 35 10.0 +0.3**
CLZ Clausthal 147.92 350 *e*PKPbc **PKPbc 03 35 04.8 -0.3**
CLL Collm 147.92 347 *e*PKPbc **PKPbc 03 35 05.0 -0.1**
CLL Collm 147.92 347 *i* PKPbc **PKPbc 03 35 04.8 -0.3**
comp=Z,17nm,0.9s
CLL *i* PKPab **PKPab 03 35 09.3 -0.4**
DOPR Dopca 147.93 328 ⇓*i*P **PKPbc 03 35 05.9 +0.6**
DPC Dobruska-Polom 147.96 342 ⇓*e*PKP **PKPbc 03 35 05.4 +0.1**
DPC *e*PKPAB **PKPab 03 35 10.5 +0.5**
MLR Muntele Rosu 147.97 327 ⇑*i*P **PKPbc 03 35 05.0 -0.6**
BRG Berggiesshubel 148.11 345 *eP* **PKPbc 03 35 05.7 +0.1**
comp=Z,13nm,1.1s
BRG *e* 03 35 10.2
comp=Z,8.1nm,0.9s
KECS Kecovo 148.16 336 *e*PKP **PKPbc 03 35 05.9 +0.1**
KECS *e* 03 35 11.3
FBE Freiberg 148.20 346 *e*PKPbc **PKPbc 03 35 06.3 +0.5**
PVCC Panska Ves 148.27 344 ⇑*e*PKP **PKPbc 03 35 06.1 +0.1**
VOIR 148.47 328 ⇓*i*P **PKPbc 03 35 06.7 -0.1**
DRGR 148.58 332 ⇓*i*P **PKPbc 03 35 06.7 -0.3**
VYHS Vyhne 148.76 338 *e*PKP **PKPbc 03 35 07.7 +0.4**
VYHS *e* 03 35 13.9
PRU Pruhonice 148.77 344 ⇑*e*PKP **PKPbc 03 35 07.2 -0.1**
PRU *e*PKPAB **PKPab 03 35 13.1 -0.2**
TANN Tannenbergstha 148.88 347 *e*PKPbc **PKPbc 03 35 07.4 -0.2**
WERD Werda 148.88 347 *e*PKPbc **PKPbc 03 35 07.3 -0.3**
GUNZ Gunzen 148.95 347 *e*PKPbc **PKPbc 03 35 07.5 -0.2**
WERN Wernitzgruen 149.01 347 *e*PKPbc **PKPbc 03 35 07.7 -0.2**
NKC Novy Kostel 149.05 346 ⇑*e*PKP **PKPbc 03 35 07.6 -0.4**
NKC *e*PKPAB **PKPab 03 35 14.5 0.0**
GZR Gura Zlata 149.60 330 ⇓*i*P **PKPbc 03 35 08.9 -0.6**
KHC Kasperske Hory 149.81 344 ⇑*e*PKP **PKPbc 03 35 09.8 0.0**
KHC *e*PKPAB **PKPab 03 35 17.8 +0.1**
BZS Buzias 149.97 331 ⇑*i*P **PKPbc 03 35 09.9 -0.4**
GEC2 GERESS Array S 150.04 344 *e*PKPbc **PKPbc 03 35 10.2 -0.3**
GERES GERESS Array B 150.04 344 PKPbc **PKPbc 03 35 10.0 -0.5**
comp=Z,2.3nm,0.8s,baz=42,slow=2.2,SNR=17
GERES PKPab **PKPab 03 35 18.5 -0.3**
comp=Z,0.6nm,0.6s,baz=6.9,slow=4.4,SNR=5.8
GERES GERESS Array B 150.04 344 PKPbc **PKPbc 03 35 10.0 -0.5**
GERES PKPab **PKPab 03 35 18.5 -0.3**
CONA Conrad Observa 150.25 341 ⇑*i*PKiKP **PKPbc 03 35 11.0 0.0**
comp=Z,5.2nm,1.0s
PKSM Moragy 150.75 335 ⇑*i*P **PKPbc 03 35 11.6 -0.4**
VTS Vitosha 151.40 325 ⇓*i*P **PKPbc 03 35 13.7 -0.2**
WTTA Wattenberg 152.02 345 ⇓*i*PKPbc **PKPbc 03 35 14.3 -0.8**
comp=Z,6.5nm,0.9s

IDC 12 03:24:12.9±2.1,1°.56N×126°.47E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/15, Error ellipse: s-maj=191.5km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**5.55**	**351**	LR	LR	03 27 23.5	
	comp=Z,100nm,20.2s,baz=114,slow=34						
WRA	**Warramunga Arr**	**22.72**	**161**	P	P	03 29 15.1	-1.5
	0.4nm,0.5s,baz=339,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**26.09**	**164**	P	P	03 29 49.6	+1.1
	0.5nm,0.4s,baz=343,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	03 34 15.9	0.0
	0.1nm,0.5s,baz=121,slow=8.9,SNR=2.6						

*ISCJB **12** 03:54:26.7±0.5, 37°.18N±0°.03×71°.96E±0°.08, h130km, mb3.7/5, Error ellipse: s-maj=8.9km s-min=4.1km az=164.1*
*IDC **12** 03:54:26.5±7.4, 37°.14N×71°.91E, h110km±57km, mb3.6/5, mb1 3.5/10, mb1mx3.2/30, mbtmp3.4/10, MS3.0/1, Ms1 3.0/1, ms1mx2.5/44, Error ellipse: s-maj=58.3km s-min=34.5km az=161.0*
*NNC **12** 03:54:33.6±2.3, 38°.11N×71°.31E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=18.1km s-min=15.3km az=10.0*
ISC 12 03:54:27.8±0.7, 37°.25N±0°.05×71°.98E±0°.08, h130km, n36, σ1 s73/45, mb4.1/5, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.42**	**181**	⇑P	Pn	03 55 23.0	+2.9
CEP				S	**Sn**	03 55 58.0	-2.5
CHCP	**Chirah Chowk**	**3.74**	**163**	P	Pn	03 55 28.7	+4.6
THW	**Thamme Wali**	**4.45**	**183**	P	**Pn**	03 55 35.6	+2.0
AML	**Almayashu**	**5.05**	**15**	P	**Pn**	03 55 43.0	+1.2
	SNR=137						
AML				P	**Pn**	03 55 43.0	+1.2
	SNR=137						
UCH	**Uchtor**	**5.34**	**21**	P	**Sn**	03 56 44.9	-1.5
	SNR=11						
UCH				P	**Sn**	03 56 44.9	-1.5
	SNR=11						
KZA	**Kyzart**	**5.44**	**27**	P	**Pn**	03 55 48.4	+1.3
	SNR=13						
KZA				P	**Pn**	03 55 48.4	+1.3
	SNR=13						
EKS2	**Erkin-Say**	**5.57**	**14**	P	**Pn**	03 55 50.2	+1.6
	SNR=9.5						
EKS2				P	**Pn**	03 55 50.2	+1.6
	SNR=9.5						
AAK	**Ala-Archa**	**5.71**	**19**	P	**Pn**	03 55 52.3	+1.9
	SNR=23						
AAK				P	**Pn**	03 55 52.3	+1.9
	SNR=23						
DLH	**Dalhousie**	**5.73**	**144**	*e*P	**Pn**	03 55 52.0	+1.1
DLH				*e*S	**Sn**	03 56 53.0	-2.6
KK31	**Karatay Array**	**5.95**	**350**	Pn	**Pn**	03 55 53.6	0.0
	8.9nm,0.3s,baz=174,slow=12,SNR=360						
KK31				⇓Sn	**Sn**	03 56 55.8	-4.8
	9.6nm,0.3s,baz=177,slow=24,SNR=3.9						
CHMS	**Chumysh**	**6.12**	**19**	P	**Pn**	03 55 57.7	+1.9
	SNR=18						
CHMS				P	**Pn**	03 55 57.7	+1.9
	SNR=18						
TKM2	**Tokmak 2**	**6.30**	**25**	P	**Pn**	03 56 00.4	+1.9
	SNR=7.3						
TKM2				P	**Pn**	03 56 00.4	+1.9
	SNR=7.3						
TKM2	**Tokmak 2**	**6.30**	**25**	⇑Pn	**Pn**	03 56 00.5	+2.0
	3.3nm,0.4s						
TKM2				⇓Sn	**Sn**	03 57 09.4	+0.1
	8.0nm,0.8s						
USP	**Ospenovka**	**6.31**	**17**	P	**Pn**	03 55 59.5	+1.2
	SNR=17						
USP				P	**Pn**	03 55 59.5	+1.2
	SNR=17						
MKAR	**Makanchi Array**	**12.22**	**36**	P	**Pn**	03 57 20.2	+2.7
	0.1nm,0.3s,baz=226,slow=16,SNR=3.5						
DANN	**Dangsing**	**13.29**	**129**	*e*P	**Pn**	03 57 29.6	-2.1
KOLN	**Koldanda**	**13.61**	**131**	*e*P	**Pn**	03 57 33.6	-2.1
	5.3nm,0.2s						
KOLN				*e*S	Sn	03 59 57.4	-8.7
	8.0nm,0.3s						
GKN	**Gorkha**	**14.09**	**127**	*e*P	**Pn**	03 57 40.3	-1.5
	4.4nm,0.4s						
KURK	**Kurchatov**	**14.27**	**17**	P	**Pn**	03 57 41.6	-2.2
	0.0nm,0.3s,baz=207,slow=12,SNR=3.6						
KKN	**Kakani**	**14.64**	**126**	*e*P	**Pn**	03 57 48.3	-0.6
DMN	**Daman**	**14.66**	**127**	*e*P	**Pn**	03 57 47.2	-1.9
AB31	**Akbulak array**	**14.84**	**328**	⇓Pn	**Pn**	03 57 49.4	-1.5
	0.3nm,0.3s,baz=134,slow=15,SNR=32						
AB31				Sn	Sn	04 00 23.8	-11
	1.1nm,0.4s,baz=0.0,slow=0.1,SNR=5.2						
PKI	**Pulchoki**	**14.88**	**127**	*e*P	**Pn**	03 57 51.4	-0.5
GUN	**Gumba**	**14.95**	**125**	*e*P	**Pn**	03 57 52.4	-0.5
	5.4nm,0.4s						
JIRN	**Jiri**	**15.32**	**125**	*e*P	**Pn**	03 57 57.1	-0.5
	12nm,0.3s						
BVAR	**Borovoye Array**	**15.81**	**356**	P	**P**	03 58 02.6	-1.5
	0.3nm,0.3s,baz=165,slow=11,SNR=7.3						
TAPN	**Taplejung**	**16.54**	**122**	*e*P	**Pn**	03 58 13.0	+0.5
	3.8nm,0.3s						
AKTO	**Aktyubinsk**	**16.55**	**327**	P	**P**	03 58 12.7	+0.4
	0.4nm,0.3s,baz=126,slow=9.5,SNR=13						
AKTO				S	Sn	04 01 04.8	-11
	0.2nm,0.3s,baz=150,slow=20,SNR=5.5						
AKTO	**Aktyubinsk**	**16.55**	**327**	⇑Pn	**P**	03 58 12.8	+0.5
	0.7nm,0.8s						
AKTO				Sn	Sn	04 01 07.3	-8.8
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**18.91**	**24**	P	**Pn**	03 58 39.5	-0.6
	0.6nm,0.3s,baz=226,slow=11,SNR=13						
FINES	**FINESS Array B**	**37.30**	**325**	P	**P**	04 01 28.0	+1.1
	3.7nm,0.9s,baz=122,slow=12,SNR=5.5						
ARCES	**ARCESS Array B**	**40.75**	**337**	P	**P**	04 01 57.1	+1.6
	4.2nm,0.8s,baz=118,slow=10,SNR=7.0						
HFS	**Hagfors**	**42.97**	**321**	P	**P**	04 02 14.8	+1.2
	2.3nm,0.6s,baz=98,slow=11,SNR=8.7						
TGY	**Tagaytay City**	**49.13**	**105**	LR	LR	04 24 37.6	
	comp=Z,15nm,18.8s,baz=128,slow=37						
TORD	**Torodi Ar. Bea**	**66.52**	**269**	P	**P**	04 05 04.2	+0.3
	0.6nm,1.2s,baz=44,slow=6.0,SNR=4.2						
YKA	**Yellowknife Ar**	**80.45**	**3**	P	**P**	04 06 26.0	+1.4
	0.3nm,0.5s,baz=349,slow=5.5,SNR=5.7						

*DJA **12** 04:11:32, 0°.63S×132°.80E, h10km, MLv3.6/3*
IDC 12 04:11:27.9±2.1, 0°.56S×133°.02E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=86.1km s-min=26.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.89**	**202**	P	Pn	04 15 50.6	0.0
	0.1nm,0.3s,baz=0.0,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**19.31**	**176**	P	P	04 15 55.0	+0.2
	0.2nm,0.3s,baz=356,slow=11,SNR=11						
WRA				S	Sn	04 19 23.6	-9.4
	0.0nm,0.3s,baz=355,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**22.99**	**178**	P	P	04 16 34.7	+0.2
	0.8nm,0.3s,baz=356,slow=9.8,SNR=18						
STKA	**Stephens Creek**	**32.19**	**166**	P	P	04 17 57.0	-0.8
	2.5nm,0.8s,baz=334,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**64.67**	**324**	P	P	04 22 07.7	0.0
	0.2nm,0.6s,baz=111,slow=8.5,SNR=2.4						

WEL 12 04:12:06.3±0.2, 38°.96S×175°.45E, h161km±1km, ML3.6/11, Error ellipse: s-maj=2.5km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WNVZ	**Wahianoa**	**0.38**	**162**	PN	Pn	04 12 28.2	-0.4
WNVZ				SN	Sn	04 12 45.1	-0.7
WAZ	**Wanganui**	**0.87**	**204**	PN	Pn	04 12 31.5	+0.4
PNHZ	**Pukenui**	**1.12**	**149**	PN	Pn	04 12 33.1	-0.1
PNHZ				SN	Sn	04 12 53.3	-0.6
TSZ	**Takapari Road**	**1.17**	**160**	PN	Pn	04 12 33.7	+0.1
WPHZ	**Waipukurau**	**1.34**	**145**	PN	Pn	04 12 35.2	0.0
WPHZ				SN	Sn	04 12 56.7	-0.7
KAHZ	**Kahuranaki**	**1.39**	**127**	PN	Pn	04 12 35.5	-0.1
DVHZ	**Dannevirke**	**1.45**	**158**	PN	Pn	04 12 35.9	-0.2
PRHZ	**Porangahau**	**1.59**	**145**	PN	Pn	04 12 37.5	-0.2
MRZ	**Mangatainoka R**	**1.70**	**177**	PN	Pn	04 12 38.6	-0.2
BFZ	**Birch Farm**	**1.82**	**161**	PN	Pn	04 12 39.9	-0.2
OGWZ	**Otaki Gorge**	**1.87**	**186**	PN	Pn	04 12 40.5	0.0
HOWZ	**Holdsworth Sta**	**1.94**	**178**	PN	Pn	04 12 40.9	-0.4
KIW	**Kapiti Island**	**1.94**	**192**	PN	Pn	04 12 41.1	-0.3
CAW	**Cannon Point**	**2.16**	**188**	PN	Pn	04 12 43.6	-0.3
DUWZ	**D'Urville Isla**	**2.18**	**212**	PN	Pn	04 12 43.6	-0.6
MTW	**Mount Morrison**	**2.19**	**179**	PN	Pn	04 12 43.6	-0.7
SNZO	**South Karori**	**2.41**	**193**	PN	Pn	04 12 46.2	-0.6
TCW	**Tory Channel**	**2.42**	**201**	PN	Pn	04 12 46.5	-0.5
MSWZ	**Moikau Station**	**2.46**	**183**	PN	Pn	04 12 46.6	-0.8
BHW	**Baring Head**	**2.48**	**190**	PN	Pn	04 12 46.9	-0.8
PLWZ	**Palliser**	**2.61**	**183**	PN	Pn	04 12 48.3	-1.0
TUWZ	**Tuamarina**	**2.72**	**205**	PN	Pn	04 12 49.6	-0.9
NNZ	**Nelson**	**2.76**	**214**	PN	Pn	04 12 50.0	-1.0
NNZ				SN	Sn	04 13 25.5	-0.3
QRZ	**Quartz Range**	**2.92**	**229**	PN	Pn	04 12 51.0	-2.0
THZ	**Tophouse**	**3.41**	**214**	PN	Pn	04 12 58.7	-0.5
KHZ	**Kahutara**	**3.74**	**202**	PN	Pn	04 13 02.4	-1.0
LTZ	**Lake Taylor**	**4.51**	**211**	PN	Pn	04 13 11.5	-2.0

IDC 12 04:13:28.5±7.6, 20°.53S×69°.08W, h105km±52km, mb3.2/1, mb1 3.2/3, mb1mx3.0/16, mbtmp3.2/3, Error ellipse: s-maj=73.0km s-min=40.3km az=53.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.31**	**12**	P	Pn	04 14 34.4	+1.6
	1.0nm,0.3s,baz=196,slow=7.4,SNR=12			

ellipse: s-maj=8.5km s-min=5.8km az=40.5
TIF 12 05:04:53.4, 43°.15N×46°.18E, h8km±5km
ISC 12 05:04:52.3±0.9, 43°.33N±0°.03×46°.23E±0°.02, h16km±6km, n81, σ1.39/125, mb3.9/7, 10C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.35**	**268**	⇓*i*	PG	**Pg**	**05 04 58.8**	**-0.8**
GRO				*i*	S	**Sg**	**05 05 04.3**	**-0.2**
GRO	**Groznyy**	**0.35**	**268**	*i*	Pg	**Pg**	**05 04 58.8**	**-0.8**
GRO				*i*	Sg	**Sg**	**05 05 04.3**	**-0.2**
DLMR	**Dylym**	**0.39**	**132**	*e*	PG	**Pg**	**05 05 00.0**	**-0.3**
DLMR				*e*	S	**Sg**	**05 05 05.8**	**+0.1**
DLMR					pmax	pmax		
	comp=Z,185nm,0.1s							
DLMR	**Dylym**	**0.39**	**132**	*e*	Pg	**Pg**	**05 05 00.0**	**-0.3**
	comp=Z,185nm,0.1s							
DLMR				*e*	Sg	**Sg**	**05 05 05.8**	**+0.1**
DBC	**Dubki**	**0.54**	**125**	*i*	PG	**Pg**	**05 05 03.0**	**0.0**
DBC				*i*	S	**Sb**	**05 05 10.9**	**0.0**
DBC	**Dubki**	**0.54**	**125**	*i*	Pg	**Pg**	**05 05 03.0**	**0.0**
DBC				*i*	Sg	**Sb**	**05 05 10.9**	**0.0**
BTLR	**Botlikh**	**0.67**	**181**	⇑*i*	PG	**Pg**	**05 05 03.0**	**-2.4**
BTLR					pmax	pmax		
	comp=Z,343nm,0.3s							
BTLR	**Botlikh**	**0.67**	**181**	*i*	Pg	**Pg**	**05 05 03.0**	**-2.4**
	comp=Z,343nm,0.3s							
KRNR	**Karanay**	**0.71**	**135**	⇓*i*	PG	**Pg**	**05 05 06.2**	**0.0**
KRNR				*e*	S	**Sg**	**05 05 15.2**	**-0.3**
KRNR					pmax	pmax		
	comp=Z,132nm,0.2s							
KRNR	**Karanay**	**0.71**	**135**	*i*	Pg	**Pg**	**05 05 06.2**	**0.0**
	comp=Z,132nm,0.2s							
KRNR				*e*	Sg	**Sg**	**05 05 15.2**	**-0.3**
BUJR	**Buynaksk**	**0.82**	**128**	⇓*i*	PG	**Pn**	**05 05 09.8**	**+0.6**
BUJR				*i*	S	**Sn**	**05 05 20.5**	**-0.4**
BUJR					pmax	pmax		
	comp=Z,120nm,0.2s							
BUJR	**Buynaksk**	**0.82**	**128**	*i*	Pg	**Pn**	**05 05 09.8**	**+0.6**
	comp=Z,120nm,0.2s							
BUJR				*i*	Sg	**Sn**	**05 05 20.5**	**-0.4**
SNJR	**Sundja**	**1.07**	**256**	⇑*i*	PG	**Pb**	**05 05 12.7**	**+0.3**
SNJR				*i*	S	**Sn**	**05 05 28.0**	**+0.8**
SNJR	**Sundja**	**1.07**	**256**	*i*	Pg	**Pg**	**05 05 12.7**	**+0.3**
SNJR				*i*	Sg	**Sn**	**05 05 28.0**	**+0.8**
TRKR	**Terskaya**	**1.16**	**290**	⇓*i*	PG	**Pg**	**05 05 15.2**	**+0.5**
TRKR				*i*	S	**Sn**	**05 05 32.3**	**+3.0**
TRKR	**Terskaya**	**1.16**	**290**	*i*	Pg	**Pg**	**05 05 15.2**	**+0.5**
TRKR				*i*	Sg	**Sn**	**05 05 32.3**	**+3.0**
VLKR	**Vladikavkaz**	**1.17**	**256**	⇑*i*	PG	**Pn**	**05 05 14.3**	**+0.3**
VLKR				*i*	S	**Sg**	**05 05 30.9**	**+0.7**
VLKR	**Vladikavkaz**	**1.17**	**256**	*i*	Pg	**Pn**	**05 05 14.3**	**+0.3**
VLKR				*i*	Sg	**Sg**	**05 05 30.9**	**+0.7**
MNSR	**Manas**	**1.26**	**119**	*e*	PG	**Pg**	**05 05 17.2**	**+0.6**
MNSR				*i*	S	**Sg**	**05 05 35.5**	**+2.5**
MNSR					pmax	pmax		
	comp=Z,206nm,0.3s							
MNSR	**Manas**	**1.26**	**119**	*e*	Pg	**Pg**	**05 05 17.2**	**+0.6**
	comp=Z,206nm,0.3s							
MNSR				*i*	Sg	**Sg**	**05 05 35.5**	**+2.5**
KMKR	**Kumukh**	**1.36**	**152**	⇓*i*	PG	**Pn**	**05 05 17.5**	**+0.7**
KMKR				*i*	S	**Sb**	**05 05 36.0**	**+1.3**
KMKR					pmax	pmax		
	comp=Z,193nm,0.3s							
KMKR	**Kumukh**	**1.36**	**152**	*i*	Pg	**Pn**	**05 05 17.5**	**+0.7**
	comp=Z,193nm,0.3s							
KMKR				*i*	Sg	**Sb**	**05 05 36.0**	**+1.3**
KMSR	**Komsomolskaya**	**1.41**	**272**	⇑*i*	PG	**Pb**	**05 05 18.6**	**+0.3**
KMSR				*i*	S	**Sg**	**05 05 38.7**	**+0.8**
KMSR	**Komsomolskaya**	**1.41**	**272**	*i*	Pg	**Pb**	**05 05 18.6**	**+0.3**
KMSR				*i*	Sg	**Sg**	**05 05 38.7**	**+0.8**
ARNR	**Ardon**	**1.43**	**265**	⇑*i*	PG	**Pb**	**05 05 18.8**	**+0.2**
ARNR				*i*	S	**Sg**	**05 05 38.7**	**+0.2**
ARNR	**Ardon**	**1.43**	**265**	*i*	Pg	**Pb**	**05 05 18.8**	**+0.2**
ARNR				*i*	Sg	**Sg**	**05 05 38.7**	**+0.2**
PRTR	**Priterechnaya**	**1.48**	**287**	⇑*i*	PG	**Pg**	**05 05 20.1**	**-0.6**
PRTR				*i*	S	**Sg**	**05 05 41.0**	**+1.0**
PRTR	**Priterechnaya**	**1.48**	**287**	*i*	Pg	**Pg**	**05 05 20.1**	**-0.6**
PRTR				*i*	Sg	**Sg**	**05 05 41.0**	**+1.0**
URKR	**Urkarakh**	**1.56**	**138**	*e*	PG	**Pb**	**05 05 21.1**	**+0.3**
URKR				*e*	S	**Sg**	**05 05 42.7**	**+0.2**
URKR					pmax	pmax		
	comp=Z,100nm,0.2s							
URKR	**Urkarakh**	**1.56**	**138**	*e*	Pg	**Pb**	**05 05 21.1**	**+0.3**
	comp=Z,100nm,0.2s							
URKR				*e*	Sg	**Sg**	**05 05 42.7**	**+0.2**
KORR	**Kora**	**1.60**	**262**	⇓*i*	PG	**Pb**	**05 05 21.0**	**-0.5**
KORR				*i*	S	**Sb**	**05 05 42.7**	**+1.2**
KORR	**Kora**	**1.60**	**262**	*i*	Pg	**Pb**	**05 05 21.0**	**-0.5**
KORR				*i*	Sg	**Sb**	**05 05 42.7**	**+1.2**
LSNR	**Lesken**	**1.76**	**269**	*e*	PN	**Pn**	**05 05 23.3**	**+1.1**
LSNR				*i*	S	**Sb**	**05 05 47.1**	**+0.9**
LSNR	**Lesken**	**1.76**	**269**	*e*	Pn	**Pn**	**05 05 23.3**	**+1.1**
LSNR				*i*	Sg	**Sb**	**05 05 47.1**	**+0.9**
ZEI	**Tsey**	**1.80**	**253**	*e*	PN	**Pn**	**05 05 22.2**	**-0.6**
ZEI	**Tsey**	**1.80**	**253**	*e*	Pn	**Pn**	**05 05 22.2**	**-0.6**
TBLG	**Delisi**	**1.94**	**215**	*e*	PN	**Pn**	**05 05 25.8**	**+1.2**
TBLG	**Delisi**	**1.94**	**215**	P		**Pn**	**05 05 25.8**	**+1.2**
TBLG				S		**Sn**	**05 05 50.5**	**+1.8**
TBLG	**Delisi**	**1.94**	**215**	P		**Pn**	**05 05 25.8**	**+1.2**
TBLG				S		**Sn**	**05 05 50.5**	**+1.8**
DGRG	**David-gareji**	**1.98**	**199**	P		**Pb**	**05 05 27.2**	**-0.5**
DGRG				S		**Sb**	**05 05 54.3**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.99**	**258**	⇓*i*	PN	**Pn**	**05 05 25.8**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.99**	**258**	*i*	Pn	**Pn**	**05 05 25.8**	**+0.4**
DRN	**Derbent**	**2.02**	**129**	*e*	PN	**Pg**	**05 05 30.2**	**-0.9**
DRN					pmax	pmax		
	comp=Z,87nm,0.2s							
DRN	**Derbent**	**2.02**	**129**	*e*	Pn	**Pg**	**05 05 30.2**	**-0.9**
	comp=Z,87nm,0.2s							
GOR	**Gori**	**2.06**	**230**	P		**Pn**	**05 05 28.2**	**+1.9**
GOR				S		**Sn**	**05 05 53.7**	**+2.0**
AKT	**Akhty**	**2.16**	**149**	⇓*i*	PN	**Pb**	**05 05 31.0**	**0.0**
AKT				*e*	S	**Sb**	**05 05 59.0**	**+1.4**
AKT					pmax	pmax		
	comp=Z,87nm,0.4s							
AKT	**Akhty**	**2.16**	**149**	*i*	Pn	**Pb**	**05 05 31.0**	**0.0**
	comp=Z,87nm,0.4s							
AKT				*e*	Sn	**Sb**	**05 05 59.0**	**+1.4**
KSMR	**Kasumkent**	**2.23**	**140**	*e*	PN	**Pb**	**05 05 32.0**	**-0.2**
KSMR				*i*	S	**Sb**	**05 06 02.0**	**+2.5**
KSMR					pmax	pmax		
	comp=Z,100nm,0.3s							
KSMR	**Kasumkent**	**2.23**	**140**	*e*	Pn	**Pb**	**05 05 32.0**	**-0.2**
	comp=Z,100nm,0.3s							
KSMR				*i*	Sn	**Sb**	**05 06 02.0**	**+2.5**
KIV	**Kislovodsk**	**2.65**	**285**	⇓	Pn	**Pn**	**05 05 35.5**	**+1.1**
	comp=Z,9.4nm,0.5s							
KIV				⇑	Sn	**Sb**	**05 06 10.5**	**-1.1**
	comp=Z,176nm,0.7s							
KIV	**Kislovodsk**	**2.65**	**285**		Pn	**Pn**	**05 05 35.5**	**+1.1**
	comp=Z,9.4nm,0.5s							
KIV					Sn	**Sb**	**05 06 10.5**	**-1.1**
	comp=Z,176nm,0.7s							
AKH	**Akhalkalaki**	**2.79**	**228**	P		**Pn**	**05 05 39.1**	**+2.7**
AKH				S		**Sb**	**05 06 14.1**	**-1.8**
DOMR	**Dombai**	**3.36**	**271**	*i*	PN	**Pn**	**05 05 43.5**	**-0.8**
DOMR	**Dombai**	**3.36**	**271**	*i*	Pn	**Pn**	**05 05 43.5**	**-0.8**
ANN	**Anapa**	**6.51**	**286**	*e*	P	**Pn**	**05 06 28.8**	**+1.5**
ANN					pmax	pmax		
	comp=Z,29nm,0.8s							
ANN	**Anapa**	**6.51**	**286**	*e*	P	**Pn**	**05 06 28.8**	**+1.5**
	comp=Z,29nm,0.8s							
AKTO	**Aktyubinsk**	**10.74**	**44**	⇑	Pn	**Pn**	**05 07 23.3**	**-2.0**
	comp=Z,1.4nm,1.4s							
AKTO				⇑	Sn	**Sn**	**05 09 21.9**	**-3.2**
	comp=Z,0.3nm,0.4s							
AKTO	**Aktyubinsk**	**10.74**	**44**		Pn	**Pn**	**05 07 23.3**	**-2.0**
	comp=Z,1.4nm,1.4s							
AKTO					Sn	**Sn**	**05 09 21.9**	**-3.2**
	comp=Z,0.3nm,0.4s							
AB31	**Akbulak array**	**11.18**	**53**		Pn	**Pn**	**05 07 31.7**	**+0.4**
	comp=Z,0.1nm,0.2s,baz=234,slow=12,SNR=19							
AB31				⇑	Sn	**Sn**	**05 09 32.7**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=240,slow=26,SNR=5.3							
AB31	**Akbulak array**	**11.18**	**53**		Pn	**Pn**	**05 07 31.7**	**+0.4**
	comp=Z,0.1nm,0.2s,baz=234,SNR=19							
AB31					Sn	**Sn**	**05 09 32.7**	**-3.1**
	comp=Z,0.7nm,0.3s,SNR=5.3							
AKASG	**Malin Array Be**	**13.73**	**308**	*i*	P	Pn	05 08 01.2	-4.9
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**13.73**	**308**	*i*	P	Pn	05 08 01.2	-4.9
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**21.46**	**341**	*e*	P	**P**	**05 09 41.9**	**+2.3**
JOF					pmax	pmax		
	comp=Z,5.0nm,0.7s							
JOF	**Joensuu**	**21.46**	**341**	*ep*		**P**	**05 09 41.9**	**+2.3**
	comp=Z,5.2nm,0.7s							
JOF	**Joensuu**	**21.46**	**341**	*ep*		**P**	**05 09 41.9**	**+2.3**
	comp=Z,5.2nm,0.7s							
JOF	**Joensuu**	**21.46**	**341**	*e*	P	**P**	**05 09 41.9**	**+2.3**
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**21.75**	**333**	P		**P**	**05 09 44.9**	**+2.2**
	comp=Z,4.9nm,0.7s,baz=130,slow=12,SNR=12							
FINES	**FINESS Array B**	**21.75**	**333**	P		**P**	**05 09 44.9**	**+2.2**
FINES					pmax	pmax		
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**21.75**	**333**	P		**P**	**05 09 44.9**	**+2.2**
	comp=Z,5.0nm,0.7s							
KAF	**Kangasniemi**	**22.18**	**335**	*e*	P	**P**	**05 09 49.0**	**+1.7**
KAF					pmax	pmax		
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	**22.18**	**335**	*ep*		**P**	**05 09 49.0**	**+1.7**
	comp=Z,1.9nm,0.5s							
KAF	**Kangasniemi**	**22.18**	**335**	*ep*		**P**	**05 09 49.0**	**+1.7**
	comp=Z,1.9nm,0.5s							
KAF	**Kangasniemi**	**22.18**	**335**	*e*	P	**P**	**05 09 49.0**	**+1.7**
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**23.14**	**60**	*i*	P	P	05 09 48.8	-8.8
KURK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
HFS	**Hagfors**	**25.86**	**322**	P		**P**	**05 10 22.7**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=120,slow=11,SNR=4.5							
HFS	**Hagfors**	**25.86**	**322**	P		**P**	**05 10 22.7**	**-0.1**
HFS					pmax	pmax		
	comp=Z,2.0nm,0.7s							
HFS	**Hagfors**	**25.86**	**322**	P		**P**	**05 10 22.7**	**-0.1**
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**28.34**	**345**	P		**P**	**05 10 45.6**	**+0.6**
	comp=Z,5.0nm,1.0s,baz=139,slow=8.4,SNR=4.0							
ARCES	**ARCESS Array B**	**28.34**	**345**	P		**P**	**05 10 45.6**	**+0.6**
ARCES					pmax	pmax		
	comp=Z,5.0nm,1.0s							
ARCES	**ARCESS Array B**	**28.34**	**345**	P		**P**	**05 10 45.6**	**+0.6**
	comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**48.61**	**246**	P		**P**	**05 13 32.3**	**-2.9**
	comp=Z,0.2nm,0.6s,baz=32,slow=8.3,SNR=4.7							

IDC 12 05:31:40.1±0.9, 0°.40S×133°.20E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML3.9/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/35, Error ellipse: s-maj=43.1km s-min=11.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.08**	**39**		LR	LR	05 41 33.3	
	comp=Z,36nm,18.2s,baz=109,slow=33							
FITZ	**Fitzroy Crossi**	**19.10**	**203**	P		Pn	05 36 05.2	-0.1
	0.3nm,0.3s,baz=149,slow=16,SNR=7.7							
FITZ				S		Sn	05 39 26.3	-14
	0.2nm,0.3s,baz=67,slow=17,SNR=3.3							
WRA	**Warramunga Arr**	**19.45**	**177**	P		Pn	05 36 10.5	+0.9
	0.5nm,0.3s,baz=354,slow=13,SNR=25							
WRA				S		Sn	05 39 39.0	-10
	0.4nm,0.3s,baz=356,slow=24,SNR=5.9							
ASAR	**Alice Springs**	**23.14**	**178**	P		P	05 36 49.4	+1.2
	11nm,0.9s,baz=360,slow=9.0,SNR=29							
ASAR				S		S	05 41 00.1	-0.8
	0.5nm,0.8s,baz=54,slow=29,SNR=2.8							
CTA	**Charters Tower**	**23.37**	**148**	LR		LR	05 47 09.6	
	comp=Z,72nm,18.4s,baz=232,slow=40							
STKA	**Stephens Creek**	**32.30**	**167**	P		P	05 38 11.8	+1.0
	4.1nm,0.9s,baz=344,slow=7.0,SNR=9.8							
CMAR	**Chiang Mai Arr**	**38.53**	**301**	P		P	05 39 04.7	0.0
	0.5nm,0.3s,baz=129,slow=7.1,SNR=3.4							
SONM	**Songino Array**	**53.40**	**338**	P		P	05 41 02.8	+1.0
	0.5nm,0.8s,baz=150,slow=6.5,SNR=3.4							
MKAR	**Makanchi Array**	**64.65**	**324**	P		P	05 42 19.9	+0.1
	1.0nm,0.6s,baz=108,slow=8.6,SNR=12							
ZALV	**Zalesovo Beam**	**67.24**	**331**	P		P	05 42 35.3	-1.0
	0.6nm,0.4s,baz=140,slow=9.1,SNR=3.3							
KURK	**Kurchatov**	**68.71**	**326**	P		P	05 42 45.5	-0.1
	1.3nm,0.9s,baz=119,slow=5.5,SNR=9.6							
BVAR	**Borovoye Array**	**74.31**	**326**	P		P	05 43 19.2	-0.2
	1.8nm,0.7s,baz=121,slow=7.6,SNR=12							
ILAR	**Eielson Array**	**86.06**	**25**	P		P	05 44 21.9	-0.6
	0.6nm,0.6s,baz=257,slow=4.6,SNR=10							
GNI	**Garni**			**89.08**	**310**	LR	LR	06 26 56.8	
	comp=Z,81nm,18.5s,baz=54,slow=37							

IDC 12 05:36:50.3±2.5, 2°.87N×122°.47E, h539km±30km, mb2.8/6, mb1 2.9/6, mb1mx2.7/20, mbtmp2.8/6, Error ellipse: s-maj=54.6km s-min=14.7km az=76.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.07**	**172**	P		P	05 40 56.7	-0.1
	2.2nm,0.7s,baz=346,slow=4.2,SNR=5.3							
WRA	**Warramunga Arr**	**25.49**	**153**	P		P	05 41 35.5	-0.7
	1.1nm,0.5s,baz=334,slow=9.7,SNR=6.6							
ASAR	**Alice Springs**	**28.63**	**158**	P		P	05 42 03.6	-0.1
	0.7nm,0.6s,baz=331,slow=7.6,SNR=4.1							
ASAR				ScP		ScP	05 47 47.2	-0.6
	0.2nm,0.4s,baz=343,slow=3.4,SNR=5.4							
STKA	**Stephens Creek**	**39.04**	**154**	P		P	05 43 31.8	+0.8
	0.9nm,0.4s,baz=325,slow=12,SNR=2.8							
USRK	**Ussuriysk Arra**	**42.01**	**10**	P		P	05 43 54.3	-0.1
	1.0nm,0.4s,baz=188,slow=6.0,SNR=8.0							
MKAR	**Makanchi Array**	**55.91**	**328**	P		P	05 45 37.4	+0.1
	0.1nm,0.3s,baz=121,slow=8.7,SNR=3.7							
MKAR				PcP		PcP	05 46 27.2	-0.8
	0.5nm,0.8s,baz=157,slow=4.5,SNR=4.1							

WEL 12 05:38:02.6±0.7, 37°.15S×176°.76E, h218km±5km, ML3.5/10, Error ellipse: s-maj=8.0km s-min=7.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.14**	**166**	PN		Pn	05 38 35.2	+0.1
URZ				SN		S	05 39 00.6	+0.1
MWZ	**Matawai**	**1.33**	**153**	PN		Pn	05 38 36.4	-0.1
MWZ				SN		S	05 39 03.1	+0.1
PUZ	**Puketiti**	**1.50**	**128**	PN		Pn	05 38 37.7	-0.3
PUZ				SN		S	05 39 03.4	-1.9
CNGZ	**Carnagh Statio**	**1.75**	**140**	PN		Pn	05 38 40.9	+0.8
NMHZ	**Naumai**	**1.94**	**179**	PN		Pn	05 38 42.7	+0.7
KNZ	**Kokohu**	**2.00**	**159**	PN		Pn	05 38 42.4	0.0
BKZ	**Black Stump Fm**	**2.02**	**186**	PN		Pn	05 38 42.7	0.0
TUVZ	**Tukino**	**2.29**	**202**	PN		Pn	05 38 46.0	+0.5
MCHZ	**McNeill Hill**	**2.29**	**181**	PN		Pn	05 38 46.1	+0.8
WNVZ	**Wahianoa**	**2.36**	**203**	PN		Pn	05 38 46.5	+0.2
BHHZ	**Black Hill Sta**	**2.40**	**193**	PN		Pn	05 38 46.5	-0.1
KAHZ	**Kahuranaki**	**2.64**	**178**	PN		Pn	05 38 49.3	+0.1
PNHZ	**Pukenui**	**2.79**	**189**	PN		Pn	05 38 50.2	-0.7
PXZ	**Pawanui**	**2.88**	**178**	PN		Pn	05 38 51.4	-0.3
PRHZ	**Porangahau**	**3.11**	**182**	PN		Pn	05 38 54.4	0.0
DVHZ	**Dannevirke**	**3.18**	**188**	PN		Pn	05 38 54.2	-1.1
MRZ	**Mangatainoka R**	**3.63**	**194**	PN		Pn	05 38 59.1	-1.4
OGWZ	**Otaki Gorge**	**3.87**	**198**	PN		Pn	05 39 01.8	-1.6
HOWZ	**Holdsworth Sta**	**3.87**	**194**	PN		Pn	05 39 01.6	-1.8
KIW	**Kapiti Island**	**3.98**	**201**	PN		Pn	05 39 03.1	-1.6
CAW	**Cannon Point**	**4.17**	**198**	PN		Pn	05 39 05.2	-1.8
TCW	**Tory Channel**	**4.49**	**205**	PN		Pn	05 39 09.2	-1.8
PLWZ	**Palliser**	**4.57**	**194**	PN		Pn	05 39 09.7	-2.3
TUWZ	**Tuamarina**	**4.80**	**206**	PN		Pn	05 39 13.1	-1.7
QRZ	**Quartz Range**	**4.94**	**221**	PN		Pn	05 39 14.1	-2.5
THZ	**Tophouse**	**5.49**	**212**	PN		Pn	05 39 20.9	-2.8
DSZ	**Denniston Nort**	**5.98**	**218**	PN		Pn	05 39 26.8	-3.1
LTZ	**Lake Taylor**	**6.60**	**210**	PN		Pn	05 39 35.0	-2.8

ATH 12 05:38:24.3, 38°.92N×21°.60E, h22km±1km, MD2.7/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.16**	**91**	*e*	P	Pb	05 38 30.4	+0.6
EVR	**Evrytania**	**0.16**	**91**	*e*	PB	Pb	05 38 29.4	-0.4
EVR				*e*	SB	Sb	05 38 32.7	-0.9
AGG	**Agios Georgios**	**0.58**	**80**	*e*	P	Pb	05 38 36.1	+0.2
AGG				*e*	S	Sn	05 38 45.1	-1.0
AGG	**Agios Georgios**	**0.58**	**80**	*e*	PN	Pb	05 38 35.9	0.0
AGG				*e*	SN	Sb	05 38 44.2	+0.5
THL	**Klokotos Trika**	**0.72**	**26**	*e*	P	Pb	05 38 38.4	+0.2
THL				*e*	S	Sn	05 38 50.2	+0.7
THL	**Klokotos Trika**	**0.72**	**26**	*e*	PN	Pb	05 38 38.2	0.0
THL				*e*	SN	Sn	05 38 48.7	-0.8

IGQ 12 05:52:50.7, 2°.19S×77°.13W, h180km±22km, Mb4.2, Ms4.0, 9C-15D, Error ellipse: s-maj=6.5km s-min=2.2km az=6.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAT1	**Patacocha**	**1.47**	**297**	⇓	P	Pn	05 53 23.1	0.0
BULB	**Ulba Tungurahu**	**1.48**	**300**	⇓	S	Sn	05 53 45.8	-2.0
BULB	**Ulba Tungurahu**	**1.48**	**300**	⇓	P	Pn	05 53 23.7	+0.8
ARRY	**Arrayan**	**1.49**	**297**	⇓	P	Pn	05 53 23.0	0.0
BRUN	**Tungurahua Vol**	**1.49**	**301**	⇓	P	Pn	05 53 23.1	+0.1
RUN5	**Runtun**	**1.50**	**301**		P	Pn	05 53 23.2	+0.1
BMAS	**Trigal station**	**1.51**	**297**	⇓	P	Pn	05 53 23.3	+0.1
JUI6	**Juive**	**1.54**	**299**	⇑	P	Pn	05 53 23.6	+0.2
IGUA	**Igualata**	**1.66**	**295**		P	Pn	05 53 25.5	+0.6
PISA	**Pisayambo**	**1.68**	**312**	⇑	P	Pn	05 53 25.5	+0.4
TAMB	**Tambo**	**1.93**	**320**	⇓	P	Pn	05 53 28.9	+1.1
COV1	**Cotopaxi Volc**	**1.94**	**321**	⇓	P	Pn	05 53 29.6	+1.7
BMOR	**Cotopaxi Volca**	**1.96**	**317**	⇓	P	Pn	05 53 28.6	+0.6
MOV1	**Cotopaxi Vol s**	**1.96**	**318**		P	Pn	05 53 28.7	+0.6
VC1	**Cotopaxi 1**	**1.99**	**320**		P	Pn	05 53 28.7	+0.3
BREF	**Cotopaxi Volca**	**2.00**	**319**	⇓	P	Pn	05 53 29.2	+0.7
ANTI	**Antisana**	**2.01**	**329**	⇓	S	Sn	05 53 58.1	0.0
ANTI	**Antisana**	**2.01**	**329**	⇓	P	Pn	05 53 29.3	+0.6
NAS2	**Nasa**	**2.03**	**319**		P	Pn	05 53 30.1	+1.3
PITA	**Cotopaxi Volc**	**2.08**	**321**	⇓	P	Pn	05 53 30.7	+1.5
LAV4	**Lava4-Reventad**	**2.14**	**346**	⇑	P	Pn	05 53 30.3	+0.6
CHAR	**Charly**	**2.15**	**345**	⇑	P	Pn	05 53 30.9	+0.8
CONE	**Cono NE Rev Vo**	**2.16**	**346**	⇑	P	Pn	05 53 30.9	+0.9
CAYR	**Refugio Cayamb**	**2.35**	**338**		P	Pn	05 53 33.6	+1.0
CAYA	**Cayambe**	**2.40**	**339**	⇑	P	Pn	05 53 34.1	+1.1
GGP	**Refugio Guagua**	**2.48**	**324**	⇑	P	Pn	05 53 34.5	+0.6
TERV	**Terraza Guagua**	**2.48**	**324**		P	Pn	05 53 34.4	+0.4
PINO	**Pino**	**2.50**	**324**	⇑	P	Pn	05 53 34.2	0.0
YANA	**Yana**	**2.51**	**325**		P	Pn	05 53 34.3	+0.2
OTAV	**Otavalo**	**2.75**	**331**	⇓	P	Pn	05 53 36.9	0.0
COTA	**Cotacachi**	**2.78**	**334**		P	Pn	05 53 38.5	+1.1
CATE	**Catamayo**	**2.85**	**232**	⇑	P	Pn	05 53 39.2	+1.4
ARNL	**Arenillas**	**3.23**	**245**		P	Pn	05 53 41.2	-1.0
CHIS	**Cerro-Chispas-**	**3.77**	**287**	⇑	P	Pn	05 53 50.5	+1.5

DJA 12 05:55:24, 5°.39S×103°.22E, h10km, MLv2.9/3
IDC 12 05:55:14.2±5.6, 5°.23S×103°.06E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=213.6km s-min=67.3km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**52.92**	**3**	P		P	06 04 32.3	0.0
	0.2nm,0.4s,baz=180,slow=8.7,SNR=2.6							
MKAR	**Makanchi Array**	**54.97**	**343**	P		P	06 04 47.4	+0.2
	0.7nm,0.6s,baz=146,slow=7.7,

0.0nm,0.3s,baz=165,slow=23,SNR=1.4
FITZ Fitzroy Crossi 18.61 203 P Pn 07 47 16.1 +2.4
FITZ S Sn 07 50 37.1 -3.8
WRAB Tennant Creek 18.92 177 *eP* **Pn 07 47 18.6 +1.2**
44nm,1.8s
WB2 Warramunga Arr 18.93 177 *eP* **Pn 07 47 19.8 +2.3**
WRA Warramunga Arr 18.93 177 P **Pn 07 47 19.7 +2.2**
0.2nm,0.3s,baz=354,slow=12,SNR=1.1
WRA S **Sn 07 50 47.6 -0.9**
0.1nm,0.3s,baz=357,slow=25,SNR=2.5
WRA Warramunga Arr 18.93 177 P **Pn 07 47 19.7 +2.2**
WRA S **Sn 07 50 47.6 -0.9**
AS31 Alice Springs 22.61 178 *eP* **P 07 47 59.8 +3.3**
ASAR Alice Springs 22.61 178 P **P 07 47 59.5 +3.0**
3.5nm,0.8s,baz=6.7,slow=9.8,SNR=24
ASAR Alice Springs 22.61 178 P **P 07 47 59.5 +3.0**
STKA Stephens Creek 31.79 166 P **P 07 49 18.6 -1.3**
0.7nm,0.6s,baz=333,slow=16,SNR=3.6
STKA Stephens Creek 31.79 166 P **P 07 49 18.6 -1.3**
TARA Tarawa 39.78 87 *eP* P 07 50 23.6 -5.0
3.9nm,0.6s
MK31 Makanchi Array 65.07 324 *eP* **P 07 53 35.6 -0.1**
MKAR Makanchi Array 65.07 324 P **P 07 53 35.6 -0.1**
1.1nm,0.7s,baz=115,slow=8.0,SNR=13
MKAR Makanchi Array 65.07 324 P **P 07 53 35.6 -0.1**
BVAR Borovoye Array 74.75 326 P **P 07 54 34.5 -0.4**
0.4nm,0.6s,baz=108,slow=3.2,SNR=2.1
BVAR Borovoye Array 74.75 326 P **P 07 54 34.5 -0.4**
ABKAR Akbulak array 79.83 320 *eP* **P 07 55 02.7 -0.8**
0.6nm,0.7s

GUC 12 08:10:51.0±0.8, 31°30S×69°58W, h154km±13km, ML3.6, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.22**	**276**	⇓*iP*	Pn	08 11 18.6	+0.4
CMCH				*eS*	Sn	08 11 39.6	+0.5
CMCH				AML	AML	08 11 45.2	
	comp=N,3μm,0.8s						
TLL	**Tololo Astrono**	**1.54**	**317**	*eP*	Pn	08 11 22.3	+0.6
TLL				*i* S	Sn	08 11 45.8	+0.6
TLL				AML	AML	08 11 48.5	
	comp=N,306nm,0.8s						
JACH	**Jahuel**	**1.62**	**212**	*eP*	Pn	08 11 22.8	+0.5
JACH				*eS*	Sn	08 11 46.9	+0.5
CHNG	**Los Chungos**	**1.73**	**250**	⇓*iP*	Pn	08 11 24.8	+1.5
CHNG				*i* S	Sn	08 11 48.9	+0.8
CHNG				AML	AML	08 11 57.9	
	comp=E,253nm,0.4s						
LSCH	**La Serena**	**2.00**	**314**	⇑*iP*	Pn	08 11 27.0	+0.7
LSCH				*i* S	Sn	08 11 53.5	+0.1
ROCH	**El Roble**	**2.06**	**216**	⇑*iP*	Pn	08 11 27.7	+0.4
ROCH				*eS*	Sn	08 11 56.1	+0.7
ROCH				AML	AML	08 11 58.1	
	comp=N,180nm,1.0s						
PEL	**Peldehue**	**2.06**	**207**	⇓*iP*	Pn	08 11 27.7	+0.6
PEL				*i* S	Sn	08 11 55.2	+0.2
CLCH	**Cerro Calan**	**2.24**	**201**	*eP*	Pn	08 11 29.8	+0.6
CLCH				*eS*	Sn	08 11 59.1	+0.3
CLCH				AML	AML	08 12 04.3	
	comp=E,178nm,0.3s						
ANTU	**Antumapu**	**2.43**	**201**	*eP*	Pn	08 11 32.1	+0.7
ANTU				*i* S	Sn	08 12 03.2	+0.4
ANTU				AML	AML	08 12 09.0	
	comp=N,168nm,0.5s						
PCH	**Pirque**	**2.44**	**199**	*eP*	Pn	08 11 32.5	+0.8
LCO	**Las Campanas**	**2.48**	**337**	⇑*iP*	Pn	08 11 32.2	-0.3
LCO				*i* S	Sn	08 12 04.1	-0.3
LCO				AML	AML	08 12 06.6	
	comp=E,192nm,0.3s						
TACH	**Talagante**	**2.61**	**206**	*eP*	Pn	08 11 34.0	+0.4
VACH	**Vallenar**	**2.90**	**339**	⇑*iP*	Pn	08 11 37.5	+0.1
VACH				*i* S	Sn	08 12 12.1	-1.1
VACH				AML	AML	08 12 15.2	
	comp=E,533nm,0.2s						
CACH	**El Canelo**	**2.93**	**197**	*eP*	Pn	08 11 38.8	+1.0

NEIC ***12*** *08:14:17.8, 19°.03N×68°.90W, h143km, MD3.5(RSPR), After RSPR.*

RSPR 12 08:14:17.8, 19°.03N×68°.90W, h143km±1km, MD3.5/5, 9C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.39**	**294**	⇑*eP*	Pn	08 14 37.4	-0.4
SMN1				*eS*	Sn	08 14 52.9	-0.2
AGPR	**Aguadilla, PR**	**1.79**	**108**	*eP*	Pn	08 14 50.0	0.0
AGPR	**Aguadilla, PR**	**1.79**	**108**	*eS*	Sn	08 15 14.9	+0.2
AGPR	**Aguadilla, PR**	**1.79**	**108**	⇑*eP*	Pn	08 14 50.0	0.0
AGPR				*eS*	Sn	08 15 14.9	+0.2
LSP	**Las Mesas**	**1.92**	**116**	⇓*eP*	Pn	08 14 50.9	-0.7
LSP				*eS*	Sn	08 15 17.7	+0.2
LSP	**Las Mesas**	**1.92**	**116**	⇓*eP*	Pn	08 14 50.9	-0.7
LSP				*eS*	Sn	08 15 17.7	+0.2
LRS	**Lares**	**2.08**	**110**	⇑*eP*	Pn	08 14 53.7	+0.2
LRS	**Lares**	**2.08**	**110**	⇑*eP*	Pn	08 14 53.7	+0.2
CELP	**Cerrillos**	**2.40**	**113**	⇓*eP*	Pn	08 14 57.8	+0.5
CELP				*eS*	Sn	08 15 29.0	+1.2
CELP	**Cerrillos**	**2.40**	**113**	⇓*eP*	Pn	08 14 57.8	+0.5
CELP				*eS*	Sn	08 15 29.0	+1.2
CBYP	**Canovanas**	**2.98**	**104**	⇑*eP*	Pn	08 15 04.3	-0.4
CBYP	**Canovanas**	**2.98**	**104**	⇑*eP*	Pn	08 15 04.3	-0.4
HUMP	**Col San Antoni**	**3.03**	**106**	*eS*	Sn	08 15 43.4	+1.5
HUMP	**Col San Antoni**	**3.03**	**106**	⇑*eP*	Pn	08 15 05.1	-0.1
HUMP	**Col San Antoni**	**3.03**	**106**	⇑*eP*	Pn	08 15 05.1	-0.1
HUMP				*eS*	Sn	08 15 43.4	+1.5
MTP	**Monte Pirata**	**3.31**	**106**	*eS*	Sn	08 15 48.6	+0.2
MTP	**Monte Pirata**	**3.31**	**106**	⇓*eP*	Pn	08 15 09.3	+0.4
MTP	**Monte Pirata**	**3.31**	**106**	⇓*eP*	Pn	08 15 09.3	+0.4
MTP				*eS*	Sn	08 15 48.6	+0.2

PGC ***12*** *08:37:51.7±17.0, 59°.67N×139°.33W, h5km, ML3.1/3, 43km Nne of Yakutat, Ak Southeastern Alaska*

NEIC 12 08:37:52.1, 59°.71N×139°.50W, h10km, ML3.1(PGC), **ML2.8**(AEIC), **7D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.07**	**130**	P	Pg	08 37 54.4	0.0
PNL				S	Sg	08 37 56.7	+0.8
YKU2	**Yakutat**	**0.22**	**203**	*ePg*	Pg	08 37 56.7	+0.1
SAMH	**Samovar Hills**	**0.77**	**304**	P	Pg	08 38 06.2	-0.9
SAMH				S	Sg	08 38 17.5	+0.3
CHX	**Chaix Hills**	**0.89**	**294**	P	Pg	08 38 08.2	-1.0
CHX				S	Sg	08 38 20.4	-0.5
RKAV	**Rock Avalanche**	**1.10**	**303**	P	Pb	08 38 11.4	-2.0
RKAV				S	Sg	08 38 27.8	-0.1
TABL	**Table Mountain**	**1.10**	**312**	P	Pb	08 38 11.0	-2.5
TABL				S	Sg	08 38 26.7	-1.4
MESA	**MESA**	**1.32**	**292**	P	Pn	08 38 14.8	-2.0
WRG	**White River Gl**	**1.32**	**285**	P	Pn	08 38 14.9	-1.6
BAGL	**Bagley Icefiel**	**1.51**	**302**	P	Pn	08 38 17.9	-1.3
BAGL				S	Sn	08 38 37.5	-1.4
BARK	**Barkley Ridge**	**1.65**	**296**	P	Pn	08 38 19.2	-2.0
BARK				S	Sn	08 38 42.4	-0.2
ISLE	**Juniper Island**	**1.68**	**303**	P	Pn	08 38 20.1	-1.5
ISLE				S	Sn	08 38 41.7	-1.6
KULT	**Kultieth River**	**1.71**	**290**	P	Pn	08 38 20.0	-1.9
KULT				S	Sn	08 38 42.8	-1.1
BALM	**Baldy**	**1.94**	**314**	P	Pn	08 38 24.0	-1.2
GRIN	**Grindle Hills**	**2.00**	**288**	P	Pn	08 38 24.2	-1.8
KHIT	**Khitrov Hills**	**2.02**	**293**	P	Pn	08 38 24.6	-1.6
SKAG	**Skagway**	**2.14**	**95**	P	Pn	08 38 25.3	-2.5
WHY	**Whitehorse**	**2.50**	**66**	P	Pn	08 38 31.7	-1.2
WHY	**Whitehorse**	**2.50**	**66**	⇓Pn	Pn	08 38 31.8	-1.1
WHY				⇑Pg	Pb	08 38 35.8	-1.4
WHY				⇓Sn	Sn	08 39 01.6	-1.9
BMRM	**Bremner River**	**2.83**	**299**	P	Pn	08 38 36.9	-0.5
BMRM				*ePn*	Pb	08 38 37.9	-4.8
BMRM				*eSn*	Sn	08 39 10.8	-0.7
KLU	**Klutina**	**3.63**	**302**	P	Pn	08 38 48.1	-0.4
PAX	**Paxson**	**4.35**	**321**	*ePn*	Pn	08 38 59.7	+1.4
DAWY	**Dawson**	**4.37**	**1**	P	Pn	08 38 58.3	-0.2
DAWY	**Dawson**	**4.37**	**1**	⇓Pn	Pn	08 38 58.5	0.0
DAWY				⇓Sn	Sn	08 39 48.1	-1.3
SEW	**Seward**	**5.02**	**279**	P	Pn	08 39 04.8	-2.5
DLBC	**Dease Lake**	**5.05**	**101**	⇓Pn	Pn	08 39 06.5	-1.5
DLBC				⇓Sn	Sn	08 40 00.9	-5.5
DLBC				⇓Sg	Sb	08 40 24.7	+3.3
TRF	**Thorofare Moun**	**6.37**	**311**	*ePn*	Pn	08 39 26.6	+0.6
	6.6nm,0.5s						

NIED ***12*** *08:48:00, 27°.40N×141°.90E, h62km, Mw4.7 Best double couple: M₀1.07000×10¹⁶ NP1:φ₉338.00000°, δ87.00000°, λ93.00000°. NP2:φ₉114.00000°, δ5.00000°, λ46.00000°.*
IDC ***12*** *08:48:17.8±0.6, 27°.46N×141°.36E, h26km±3km, mb3.9/16, mb1 4.1/18, mb1mx4.0/24, mbtmp3.9/18, ML4.1/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/49, Error ellipse: s-maj=17.6km s-min=12.6km az=63.0*
ISCJB ***12*** *08:48:18.0±0.7, 27°.44N±0°.05×141°.49E±0°.09, h44km±7km, mb4.0/25, MS4.1/5, Error ellipse: s-maj=15.5km s-min=5.1km az=151.3*
NEIC ***12*** *08:48:18.8±0.4, 27°.41N×141°.39E, h35km, mb4.2/3, Error ellipse: s-maj=13.1km s-min=8.6km az=63.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.
JMA ***12*** *08:48:21.2±0.1, 27°.40N×141°.87E, h61km±3km, M4.6*
JMA Felt I J1.

ISC 12 08:48:17.6±0.6, 27°.43N±0°.06×141°.49E±0°.08, h26km±4km, h26km:pP-P, n80, σ1°.47/95, mb4.0/24, MS4.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.70**	**118**	Pn	Pn	08 48 32.5	+0.6
	1μm,0.3s,baz=318,slow=5.5,SNR=1						
CBIJ				Sn	Sb	08 48 40.7	+0.1
	4μm,0.3s,baz=292,slow=19,SNR=1						
CBIJ	**Chichi jima**	**0.70**	**118**	Pn	Pn	08 48 32.5	+0.6
CBIJ				Sn	Sb	08 48 40.7	+0.1
CBIJ	**Chichi jima**	**0.70**	**118**	P	Pn	08 48 32.4	+0.6
CBIJ				S	Sb	08 48 40.4	-0.2
JHHJ	**Haha-jima-NKT**	**1.01**	**142**	P	Pb	08 48 36.9	+0.5
JHHJ				*eS*	Sb	08 48 48.8	-0.4
JHJ2	**Mitsune**	**5.84**	**346**	P	Pn	08 49 46.5	+3.9
JHJ2				*eS*	Sn	08 50 44.1	-4.6
BSO1	**Boso 1**	**7.21**	**357**	P	Pn	08 50 03.1	+2.2
TTO1	**TONANKAI O.B.S**	**7.39**	**328**	P	Pn	08 50 07.9	+4.5
TTO1				*eS*	Sn	08 51 31.2	+5.0
BSO3	**Boso 3**	**7.40**	**354**	P	Pn	08 50 04.5	+0.9
JWZ	**Kozaga**	**7.86**	**322**	P	Pn	08 50 15.5	+5.3
JOD2	**Odawara 2**	**8.07**	**346**	P	Pn	08 50 16.5	+3.3
JOD2				*eS*	Sn	08 51 41.4	-2.2
JRY	**Ryogami san**	**8.84**	**346**	P	Pn	08 50 25.4	+1.7
JRY				*eS*	Sn	08 52 02.2	-0.3
MJAR	**Matsushiro Arr**	**9.50**	**344**	Pn	Pn	08 50 35.2	+2.4
	3.2nm,0.3s,baz=157,slow=11,SNR=37						
MJAR				LR	LR	08 54 13.9	
	comp=Z,327nm,18.5s,baz=110,slow=38						
MJAR	**Matsushiro Arr**	**9.50**	**344**	Pn	Pn	08 50 35.2	+2.4
MAJO	**Matsushiro**	**9.50**	**344**	*ePn*	Pn	08 50 33.5	+0.7
	13nm,0.6s						
MAT	**Matsushiro**	**9.50**	**344**	P	Pn	08 50 35.3	+2.5
MAT				*eS*	Sn	08 52 24.0	+5.3
MAT	**Matsushiro**	**9.50**	**344**	P	Pn	08 50 35.5	+2.7
JMK	**Ichinoseki**	**11.49**	**359**	P	Pn	08 50 59.8	-0.2
JMK				*eS*	Sn	08 52 59.4	-8.1
JOW	**Kunigami**	**11.79**	**270**	LR	LR	08 55 20.6	
	comp=Z,111nm,19.2s,baz=272,slow=36						
GUMO	**Guam**	**14.13**	**166**	LR	LR	08 56 03.5	
	comp=Z,185nm,19.1s,baz=273,slow=33						
KSRS	**Korea Array**	**15.19**	**315**	LR	LR	08 56 48.6	
	comp=Z,154nm,19.5s,baz=172,slow=34						
ASAJ	**Asahikawa**	**16.68**	**3**	Pn	Pn	08 52 09.1	-0.4
	1.2nm,0.3s,baz=199,slow=12,SNR=10						
ASAJ				LR	LR	08 59 05.9	
	comp=Z,96nm,20.9s,baz=169,slow=39						
ASAJ	**Asahikawa**	**16.68**	**3**	Pn	Pn	08 52 09.1	-0.4
USRK	**Ussuriysk Arra**	**18.40**	**338**	P	P	08 52 30.3	-0.2
	0.2nm,0.3s,baz=129,slow=15,SNR=3.1						
USRK				LR	LR	08 58 50.5	
	comp=Z,91nm,19.6s,baz=20,slow=34						
PETK	**Petropavlovsk-**	**28.34**	**21**	LR	LR	09 03 44.8	
	comp=Z,73nm,20.8s,baz=7.0,slow=33						
SONM	**Songino Array**	**34.05**	**316**	P	P	08 54 59.7	+0.1
	0.1nm,0.4s,baz=91,slow=8.9,SNR=2.1						
SONM				PP	PP	08 56 14.0	-2.9
	0.7nm,0.7s,baz=111,slow=7.7,SNR=4.5						
SONM				ScP	ScP	09 01 16.5	-3.6
	1.1nm,0.8s,baz=157,slow=3.1,SNR=7.2						
SONM	**Songino Array**	**34.05**	**316**	P	P	08 54 59.7	+0.1
SONM				PP	PP	08 56 14.0	-2.9
SONM				ScP	ScP	09 01 16.5	-3.6
WRA	**Warramunga Arr**	**47.60**	**189**	P	P	08 56 51.7	+0.4
	5.4nm,0.8s,baz=12,slow=8.5,SNR=32						
WRA	**Warramunga Arr**	**47.60**	**189**	P	P	08 56 51.7	+0.4
MKAR	**Makanchi Array**	**49.78**	**309**	P	P	08 57 06.4	-1.6
	0.1nm,0.4s,baz=85,slow=6.8,SNR=2.8						
MKAR				PcP	PcP	08 58 28.4	-0.2
	0.6nm,0.8s,baz=73,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**49.78**	**309**	P	P	08 57 06.4	-1.6
MKAR				PcP	PcP	08 58 28.4	-0.2
ASAR	**Alice Springs**	**51.32**	**189**	P	P	08 57 19.9	+0.2
	1.0nm,0.7s,baz=18,slow=9.9,SNR=8.0						
ASAR				PcP	PcP	08 58 35.0	+0.5
	1.4nm,0.8s,baz=18,slow=4.4,SNR=7.6						
ASAR	**Alice Springs**	**51.32**	**189**	P	P	08 57 19.9	+0.2
ASAR				PcP	PcP	08 58 35.0	+0.5
KURK	**Kurchatov**	**52.31**	**314**	P	P	08 57 25.8	-1.0
	0.5nm,0.6s,baz=90,slow=7.7,SNR=4.5						
KURK	**Kurchatov**	**52.31**	**314**	P	P	08 57 25.8	-1.0
TRF	**Thorofare Moun**	**56.12**	**30**	*eP*	P	08 57 54.9	+0.3
	4.9nm,1.3s						
BVAR	**Borovoye Array**	**57.38**	**317**	P	P	08 58 01.6	-1.9
	0.5nm,0.5s,baz=98,slow=8.9,SNR=3.7						
BVAR				pP	pP	08 58 11.3	-0.5
	1.0nm,0.5s,baz=97,slow=7.2,SNR=6.0						
BVAR	**Borovoye Array**	**57.38**	**317**	P	P	08 58 01.6	-1.9
BVAR				pP	pP	08 58 11.3	-0.5
ILAR	**Eielson Array**	**57.72**	**29**	P	P	08 58 05.9	+0.2
	1.3nm,0.8s,baz=257,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**57.72**	**29**	P	P	08 58 05.9	+0.2
KKAR	**Karatay Array**	**58.39**	**306**	*eP*	P	08 58 08.6	-2.2
	1.4nm,0.6s						
STKA	**Stephens Creek**	**58.98**	**180**	P	P	08 58 15.1	+0.2
	1.9nm,0.7s,baz=337,slow=7.7,SNR=6.3						
STKA				LR	LR	09 26 15.3	
	comp=Z,65nm,18.1s,baz=23,slow=39						
STKA	**Stephens Creek**	**58.98**	**180**	P	P	08 58 15.1	+0.2
INK	**Inuvik**	**62.98**	**25**	P	P	08 58 41.9	+0.2
	1.1nm,0.5s,baz=307,slow=6.4,SNR=8.4						
INK	**Inuvik**	**62.98**	**25**	P	P	08 58 41.9	+0.2
ABKAR	**Akbulak array**	**64.42**	**314**	*eP*	P	08 58 50.9	-0.6
	0.2nm,0.5s						
AKTO	**Aktyubinsk**	**65.36**	**316**	P	P	08 58 59.9	+2.3
	0.6nm,0.5s,baz=90,slow=10,SNR=2.4						
AKTO	**Aktyubinsk**	**65.36**	**316**	P	P	08 58 59.9	+2.3
YKA	**Yellowknife Ar**	**72.14**	**28**	P	P	08 59 39.9	+0.3
	0.7nm,0.5s,baz=293,slow=6.2,SNR=9.6						
YKA	**Yellowknife Ar**	**72.14**	**28**	P	P	08 59 39.9	+0.3
KEV	**Kevo**	**72.46**	**341**	*ep*	pP	08 59 51.6	+1.9
	4.2nm,0.6s						
KEV	**Kevo**	**72.46**	**341**	*ep*	pP	08 59 51.6	+1.9
	4.2nm,0.6s						
ARCES	**ARCESS Array B**	**73.02**	**341**	P	P	08 59 44.9	+0.2
	5.3nm,0.9s,baz=76,slow=8.5,SNR=4.8						
ARCES				pP	pP	08 59 53.2	+0.1
	2.8nm,0.6s,baz=64,slow=8.2,SNR=1.7						
ARCES				LR	LR	09 37 45.4	
	comp=Z,406nm,18.1s,baz=36,slow=41						
ARCES	**ARCESS Array B**	**73.02**	**341**	P	P	08 59 44.9	+0.2
ARCES				pP	pP	08 59 53.2	+0.1
JOF	**Joensuu**	**74.51**	**334**	*ep*	P	08 59 54.0	+0.5
	3.5nm,0.7s						
JOF	**Joensuu**	**74.51**	**334**	*ep*	P	08 59 54.0	+0.5
	3.5nm,0.7s						
KAF	**Kangasniemi**	**76.90**	**334**	*ep*	P	09 00 06.9	-0.3
	2.7nm,0.5s						
KAF	**Kangasniemi**	**76.90**	**334**	*ep*	P	09 00 06.9	-0.3
	2.7nm,0.5s						
FINES	**FINESS Array B**	**77.37**	**334**	P	P	09 00 09.2	-0.6
	3.3nm,0.8s,baz=57,slow=5.1,SNR=6.2						
FINES				pP	pP	09 00 18.4	+0.1
	1.9nm,0.5s,baz=71,slow=6.2,SNR=1.7						
FINES	**FINESS Array B**	**77.37**	**334**	P	P	09 00 09.2	-0.6
FINES				pP	pP	09 00 18.4	+0.1
NVAR	**Mina Array Bea**	**80.80**	**52**	P	P	09 00 30.6	+1.2
	1.3nm,0.7s,baz=283,slow=5.5,SNR=12						
NVAR	**Mina Array Bea**	**80.80**	**52**	P	P	09 00 30.6	+1.2
AKASG	**Malin Array Be**	**81.98**	**324**	P	P	09 00 36.7	+1.6
	0.2nm,0.3s,baz=52,slow=7.6,SNR=4.0						
AKASG	**Malin Array Be**	**81.98**	**324**	P	P	09 00 36.7	+1.6
HFS	**Hagfors**	**82.87**	**337**	LR	LR	09 43 21.9	
	comp=Z,292nm,18.6s,baz=147,slow=40						
NB2	**NORSAR Subarra**	**83.07**	**338**	P	P	09 00 40.2	-0.5
	comp=Z,13nm,1.4s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**83.07**	**338**	P	P	09 00 39.8	-0.9
	comp=Z,0.8nm,0.6s,baz=48,slow=4.7,SNR=2.8						
NOA				pP	pP	09 00 48.9	-0.3
	comp=Z,1.4nm,0.7s,baz=46,slow=5.0,SNR=2.0						
NOA	**NORSAR Array B**	**83.07**	**338**	P	P	09 00 39.8	-0.9
NOA				pP	pP	09 00 48.9	-0.3
PDAR	**Pinedale Array**	**84.41**	**44**	P	P	09 00 48.1	0.0
	comp=Z,1.3nm,1.0s,baz=318,slow=1.8,SNR=7.3						
PDAR	**Pinedale Array**	**84.41**	**44**	P	P	09 00 48.1	0.0
BRTR	**Keskin Array B**	**85.32**	**313**	LR	LR	09 45 59.7	
	comp=Z,98nm,18.1s,baz=295,slow=41						
GERES	**GERESS Array B**	**90.90**	**329**	P	P	09 01 17.9	-1.2
	comp=Z,0.3nm,0.7s,baz=35,slow=2.4,SNR=2.3						
GERES				pP	pP	09 01 26.7	-1.1
	comp=Z,0.3nm,0.4s,baz=44,slow=7.2,SNR=1.9						
GERES	**GERESS Array B**	**90.90**	**329**	P	P	09 01 17.9	-1.2
GERES				pP	pP	09 01 26.7	-1.1
TXAR	**Lajitas Array**	**95.90**	**53**	P	P	09 01 43.5	+1.0
	comp=Z,0.5nm,0.8s,baz=310,slow=2.1,SNR=6.8						
TXAR	**Lajitas Array**	**95.90**	**53**	P	P	09 01 43.5	+1.0
TORD	**Torodi Ar. Bea**	**123.90**	**311**	PKP	PKPdf	09 07 13.4	-0.7
	comp=Z,0.5nm,0.5s,baz=20,slow=3.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**123.90**	**311**	PKP	PKPdf	09 07 13.4	-0.7
LPAZ	**La Paz**	**150.44**	**74**	PKPbc	PKPbc	09 08 08.7	+0.4
	comp=Z,2.5nm,0.8s,baz=304,slow=4.7,SNR=9.6						
LPAZ	**La Paz**	**150.44**	**74**	*e*PKPdf	PKPdf	09 08 02.8	-0.1
LPAZ				PKPbc	PKPbc	09 08 08.7	+0.4
LPAZ				*e*PKPbc	PKPbc	09 08 09.3	+1.1
PLCA	**Paso Flores**	**150.51**	**125**	PKPbc	PKPbc	09 08 07.6	+0.6
	comp=Z,3.8nm,0.9s,baz=208,slow=3.9,SNR=6.7						
PLCA	**Paso Flores**	**150.51**	**125**	PKPbc	PKPbc	09 08 07.6	+0.6

IDC ***12*** *08:48:44.8±5.6, 37°.96S×146°.37E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.5/12, mbtmp3.4/3, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/9, Error ellipse: s-maj=332.1km s-min=51.5km az=56.0*

ISC 12 08:48:42.4±0.9, 38°.25S±0°.05×146°.24E±0°.04, h10km, n13, σ2°.01/20, 1D, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**0.90**	**319**	*eP*	Pg	08 49 00.3	+0.6
TOO				*eS*	Sg	08 49 12.1	+0.7
	2μm,0.2s						
MILA	**Mila**	**2.61**	**64**	*eP*	Pg	08 49 31.0	-1.4
MILA				*eS*	Sg	08 50 06.3	+0.2
CAN	**Canberra**	**3.67**	**38**	*eP*	Pb	08 49 45.3	-2.1
CAN				*eS*	Sb	08 50 33.2	+1.2
	11nm,0.3s						
ARPS	**Mount Arapiles**	**3.80**	**292**	*eP*	Pn	08 49 39.3	-1.7
ARPS				*eS*	Sn	08 50 22.2	-3.5
	95nm,0.3s						
CNB	**Canberra Magne**	**3.86**	**42**	*eP*	Pb	08 49 48.2	-2.4
MOO	**Moorlands**	**4.25**	**170**	⇓*iP*	Pn	08 49 47.5	+0.3
MOO				*eS*	Sn	08 50 35.0	-1.8
	120nm,0.9s						
YNG	**Young**	**4.31**	**25**	*eP*	Pb	08 49 53.7	-4.6
YNG				*eS*	Sb	08 50 47.1	-3.4
	8.4nm,0.4s						
CMSA	**Cobar Meteorol**	**6.71**	**356**	*eP*	Pn	08 50 22.7	+1.7
CMSA				*eS*	Sn	08 51 40.6	+3.0
	29nm,0.4s						
STKA	**Stephens Creek**	**7.41**	**328**	Pn	Pn	08 50 31.7	+1.1
	1.2nm,0.3s,baz=157,slow=12,SNR=26						
STKA				Sn	Sn	08 51 53.8	-0.9
	2.0nm,0.3s,baz=66,slow=18,SNR=4.9						
STKA				Lg	Lg	08 52 35.1	
	1.5nm,0.3s,baz=227,slow=19,SNR=2.2						
STKA	**Stephens Creek**	**7.41**	**328**	*eP*	Pn	08 50 32.4	+1.8
STKA				*eS*	Sn	08 51 53.2	-1.5
	3.3nm,0.2s						
ASAR	**Alice Springs**	**17.95**	**321**	P	P	08 52 54.1	+1.4
	0.0nm,0.3s,baz=144,slow=12,SNR=5.0						
ASAR				S	Sn	08 56 06.0	-6.4
	0.0nm,0.3s,baz=162,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**20.96**	**327**	P	P	08 53 27.6	+1.9
	0.7nm,0.6s,baz=154,slow=9.1,SNR=5.9						
FITZ	**Fitzroy Crossi**	**26.95**	**312**	LR	LR	09 05 17.7	
	comp=Z,58nm,18.9s,baz=271,slow=37						

**NNC 12 09:05:53.4±2.3, 37°.28N×70°.46E, h0km, mb3.7, mpv3.4, 1C-4D, Error ellipse: s-maj

Ms1 3.6/1,ms1mx2.6/34,Error ellipse: s-maj=51.3km s-min=14.2km az=73.0
BJI ***12*** *09:31:17.1,25°.02N×97°.74E,h32km,ML3.6/8*
DMN ***12*** *09:33:26.6±0.3,27°.25N×87°.52E,h10km,Error ellipse: s-maj=8.9km s-min=6.7km az=0.0*

ISC 12 09:31:16.5±0.8,25°.2N±0°.1×98°.06E±0°.05,h10km,n21, σ1§46/22,mb3.9/6,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.24**	**90**	Pg	**Pg**	**09 32 37.5**	**-0.4**
KMI				Sg	**Sg**	**09 33 34.5**	**+1.6**
KMI				smax	smax		
	comp=N,130nm,1.2s						
KMI				smax	smax		
	comp=E,90nm,1.2s						
SHL	**Shillong**	**5.60**	**275**	*e*P	**Pn**	**09 32 40.0**	**-0.1**
SHL				*e*S	**Sg**	**09 34 19.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**6.74**	**173**	Pn	**Pn**	**09 32 56.4**	**+0.8**
	comp=E,0.8nm,0.3s,baz=352,slow=12,SNR=3.5						
CMAR				Pg	Pb	09 33 18.9	+5.2
	comp=E,1.4nm,0.3s,baz=349,slow=19,SNR=28						
CMAR				Lg	Lg	09 34 47.9	
	comp=E,3.5nm,0.3s,baz=353,slow=25,SNR=6.5						
LSA	**Lhasa**	**7.62**	**308**	Pn	**Pn**	**09 33 07.4**	**-0.6**
TAPN	**Taplejung**	**9.54**	**285**	*e*P	**Pn**	**09 33 32.6**	**-1.7**
	comp=E,14nm,0.7s						
ODAN	**Odare**	**9.74**	**282**	*e*P	**Pn**	**09 33 36.8**	**-0.2**
	comp=E,24nm,0.6s						
RAMN	**Ramite**	**10.45**	**282**	*e*P	**Pn**	**09 33 44.2**	**-2.6**
	comp=E,16nm,0.8s						
JIRN	**Jiri**	**10.92**	**286**	*e*P	**Pn**	**09 33 50.7**	**-2.6**
	comp=E,3.3nm,0.6s						
GUN	**Gumba**	**11.24**	**287**	*e*P	**Pn**	**09 33 56.4**	**-1.2**
	comp=E,12nm,0.5s						
PKI	**Pulchoki**	**11.59**	**285**	*e*P	**Pn**	**09 34 00.8**	**-1.6**
	comp=E,7.7nm,0.5s						
KKN	**Kakani**	**11.74**	**286**	*e*P	**Pn**	**09 34 02.6**	**-1.8**
	comp=E,11nm,0.6s						
GKN	**Gorkha**	**12.34**	**286**	*e*P	**Pn**	**09 34 11.4**	**-1.1**
	comp=E,12nm,0.6s						
DANN	**Dangsing**	**13.16**	**287**	*e*P	**Pn**	**09 34 22.6**	**-1.3**
KOLN	**Koldanda**	**13.21**	**284**	*e*P	**Pn**	**09 34 23.5**	**-0.9**
	comp=E,7.6nm,0.7s						
SONM	**Songino Array**	**23.56**	**14**	P	**P**	**09 36 27.9**	**+0.7**
	comp=E,1.0nm,0.7s,baz=194,slow=11,SNR=9.6						
MKAR	**Makanchi Array**	**24.97**	**334**	P	**P**	**09 36 40.7**	**+0.4**
	comp=E,2.3nm,0.8s,baz=145,slow=9.4,SNR=22						
KURK	**Kurchatov**	**29.57**	**335**	P	**P**	**09 37 21.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=144,slow=9.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**30.39**	**344**	P	**P**	**09 37 28.8**	**+0.2**
	comp=E,1.5nm,0.5s,baz=162,slow=10.0,SNR=9.8						
DAV	**Davao City (W)**	**31.87**	**120**	LR	LR	09 52 39.3	
	comp=E,110nm,19.8s,baz=159,slow=40						
WRA	**Warramunga Arr**	**57.06**	**138**	P	**P**	**09 41 01.8**	**-1.3**
	comp=E,1.2nm,0.6s,baz=328,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**59.70**	**142**	P	**P**	**09 41 20.7**	**-0.8**
	comp=E,0.6nm,0.6s,baz=321,slow=6.6,SNR=7.2						

ISCJB ***12*** *09:42:39.5±0.4,0°.24N±0°.05×122°.18E±0°.06,h192km±4km, mb4.4/20,Error ellipse: s-maj=11.0km s-min=7.3km az=156.0*
IDC ***12*** *09:42:39.8±0.8,0°.26N×122°.11E,h184km±8km,mb3.9/7, mb1 4.0/9,mb1mx3.7/22,mbtmp3.9/9,MS2.7/1,Ms1 2.7/1, ms1mx2.0/32,Error ellipse: s-maj=39.3km s-min=9.7km az=69.0*
NEIC ***12*** *09:42:40.1±2.3,0°.25N×122°.23E,h186km±21km,mb4.7/11, Error ellipse: s-maj=30.1km s-min=5.7km az=54.0*
DJA ***12*** *09:42:42,0°.28N×122°.14E,h149km,MLv4.6/11*

ISC 12 09:42:39.7±0.6,0°.30N±0°.06×122°.13E±0°.09,h184km±5km, h184km:pP-P,n65,σ1§09/81,mb4.6/20,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.26**	**313**	P	**Pn**	**09 43 03.3**	**-0.9**
LUWI	**Luwuk**	**1.47**	**154**	P	**Pn**	**09 43 11.9**	**+0.1**
LUWI				S	**Sn**	**09 43 35.5**	**-1.2**
KMSI	**Cibinong**	**1.87**	**81**	P	**Pn**	**09 43 17.1**	**+1.4**
KMSI				S	**Sn**	**09 43 45.1**	**+1.6**
TTSI	**Tana Toraja**	**4.04**	**215**	P	**Pn**	**09 43 42.4**	**+0.9**
SPSI	**Sidrap Palu**	**4.84**	**209**	P	**Pn**	**09 43 52.5**	**+0.7**
KAPI	**Kappang**	**5.79**	**204**	P	**Pn**	**09 44 04.1**	**+0.1**
	12nm,0.3s,baz=357,slow=3.5,SNR=40						
KAPI				LR	LR	09 46 31.1	
	comp=Z,60nm,18.5s,baz=21,slow=40						
KAPI	**Kappang**	**5.79**	**204**	*e*Pn	**Pn**	**09 44 03.8**	**-0.2**
	47nm,0.5s						
KAPI	**Kappang**	**5.79**	**204**	P	**Pn**	**09 44 05.3**	**+1.3**
BKSI	**Bulukumba**	**5.93**	**200**	P	**Pn**	**09 44 07.8**	**+1.9**
FITZ	**Fitzroy Crossi**	**18.60**	**169**	P	**P**	**09 46 43.3**	**0.0**
	2.2nm,0.3s,baz=356,slow=7.8,SNR=53						
FITZ	**Fitzroy Crossi**	**18.60**	**169**	*e*P	**P**	**09 46 43.1**	**-0.2**
	8.0nm,0.5s						
WRAB	**Tennant Creek**	**23.40**	**150**	*e*P	**P**	**09 47 31.7**	**-0.5**
WRA	**Warramunga Arr**	**23.40**	**150**	P	**P**	**09 47 31.7**	**-0.5**
	19nm,0.7s,baz=325,slow=11,SNR=141						
WRA				PcP	**PcP**	**09 51 12.7**	**-0.8**
	0.6nm,0.4s,baz=322,slow=2.3,SNR=50						
WRA	**Warramunga Arr**	**23.40**	**150**	P	**P**	**09 47 31.7**	**-0.5**
WRA				PcP	**PcP**	**09 51 12.7**	**-0.8**
WB2	**Warramunga Arr**	**23.41**	**150**	*e*P	**P**	**09 47 31.8**	**-0.4**
AS31	**Alice Springs**	**26.42**	**155**	*e*P	**P**	**09 47 59.1**	**-0.4**
ASAR	**Alice Springs**	**26.42**	**155**	P	**P**	**09 47 59.3**	**-0.2**
	3.8nm,0.5s,baz=337,slow=9.1,SNR=104						
ASAR				PcP	**PcP**	**09 51 19.6**	**-0.6**
	1.9nm,0.3s,baz=346,slow=2.1,SNR=34						
ASAR				ScP	**ScP**	**09 54 40.9**	**-2.0**
	0.3nm,0.5s,baz=329,slow=2.4,SNR=4.1						
ASAR	**Alice Springs**	**26.42**	**155**	P	**P**	**09 47 59.3**	**-0.2**
ASAR				PcP	**PcP**	**09 51 19.6**	**-0.6**
ASAR				ScP	**ScP**	**09 54 40.9**	**-2.0**
MEEK	**Meekatharra**	**26.99**	**187**	*e*P	**P**	**09 48 03.6**	**-1.0**
	34nm,0.6s						
BBOO	**Buckleboo**	**35.45**	**160**	*e*P	**P**	**09 49 18.0**	**-0.5**
	20nm,0.8s						
STKA	**Stephens Creek**	**36.92**	**152**	P	**P**	**09 49 31.3**	**+0.3**
	12nm,0.8s,baz=327,slow=9.6,SNR=27						
STKA	**Stephens Creek**	**36.92**	**152**	*e*P	**P**	**09 49 31.2**	**+0.3**
	7.5nm,0.8s						
STKA	**Stephens Creek**	**36.92**	**152**	*e*P	**P**	**09 49 31.0**	**0.0**
	2.2nm,0.8s						
CMSA	**Cobar Meteorol**	**38.74**	**147**	*e*P	**P**	**09 49 47.0**	**+0.8**
	23nm,0.8s						
ARPS	**Mount Arapiles**	**41.16**	**156**	*e*P	**P**	**09 50 06.6**	**+0.6**
	17nm,0.8s						
ODAN	**Odare**	**42.58**	**311**	*e*P	**P**	**09 50 19.6**	**+1.6**
ODAN	**Odare**	**42.58**	**311**	*e*P	**P**	**09 50 19.6**	**+1.6**
TAPN	**Taplejung**	**42.60**	**312**	*e*P	**P**	**09 50 19.6**	**+1.3**
	7.6nm,0.5s						
TAPN	**Taplejung**	**42.60**	**312**	*e*P	**P**	**09 50 19.6**	**+1.3**
	7.6nm,0.5s						
RAMN	**Ramite**	**43.22**	**311**	*e*P	**P**	**09 50 25.0**	**+1.8**
	14nm,0.7s						
RAMN	**Ramite**	**43.22**	**311**	*e*P	**P**	**09 50 25.0**	**+1.8**
	14nm,0.7s						
CAN	**Canberra**	**43.40**	**147**	*e*P	**P**	**09 50 25.6**	**+1.3**
	4.6nm,0.4s						
JIRN	**Jiri**	**43.91**	**311**	*e*P	**P**	**09 50 30.4**	**+1.6**
	2.5nm,0.4s						
JIRN	**Jiri**	**43.91**	**311**	*e*P	**P**	**09 50 30.4**	**+1.6**
	2.5nm,0.4s						
GUN	**Gumba**	**44.27**	**311**	*e*P	**P**	**09 50 33.1**	**+1.4**
	19nm,0.5s						
GUN	**Gumba**	**44.27**	**311**	*e*P	**P**	**09 50 33.1**	**+1.4**
	19nm,0.5s						
PKI	**Pulchoki**	**44.45**	**311**	*e*P	**P**	**09 50 34.0**	**+0.9**
PKI	**Pulchoki**	**44.45**	**311**	*e*P	**P**	**09 50 34.0**	**+0.9**
KKN	**Kakani**	**44.66**	**311**	*e*P	**P**	**09 50 36.1**	**+1.5**
KKN	**Kakani**	**44.66**	**311**	*e*P	**P**	**09 50 36.1**	**+1.5**
DMN	**Daman**	**44.70**	**311**	*e*P	**P**	**09 50 36.2**	**+1.3**
	16nm,0.8s						
DMN	**Daman**	**44.70**	**311**	*e*P	**P**	**09 50 36.2**	**+1.3**
	16nm,0.8s						
GKN	**Gorkha**	**45.26**	**311**	*e*P	**P**	**09 50 40.5**	**+1.3**
	26nm,0.7s						
GKN	**Gorkha**	**45.26**	**311**	*e*P	**P**	**09 50 40.5**	**+1.3**
	26nm,0.7s						
KOLN	**Koldanda**	**45.93**	**310**	*e*P	**P**	**09 50 46.1**	**+1.5**
	28nm,0.7s						
KOLN	**Koldanda**	**45.93**	**310**	*e*P	**P**	**09 50 46.1**	**+1.5**
	28nm,0.7s						
DANN	**Dangsing**	**46.10**	**311**	*e*P	**P**	**09 50 47.1**	**+1.1**
	48nm,0.7s						
DANN	**Dangsing**	**46.10**	**311**	*e*P	**P**	**09 50 47.1**	**+1.1**
	48nm,0.7s						
SONM	**Songino Array**	**49.29**	**346**	P	**P**	**09 51 11.0**	**+1.0**
	1.1nm,0.8s,baz=166,slow=8.4,SNR=43						
SONM				pP	**pP**	**09 51 50.8**	**-0.1**
	0.7nm,0.7s,baz=155,slow=6.8,SNR=3.1						
SONM				PcP	**PcP**	**09 52 28.7**	**-1.2**
	0.6nm,0.7s,baz=156,slow=3.7,SNR=3.5						
SONM	**Songino Array**	**49.29**	**346**	P	**P**	**09 51 11.0**	**+1.0**
SONM				pP	**pP**	**09 51 50.8**	**-0.1**
SONM				PcP	**PcP**	**09 52 28.7**	**-1.2**
MK31	**Makanchi Array**	**57.91**	**329**	*e*P	**P**	**09 52 13.2**	**+0.6**
MKAR	**Makanchi Array**	**57.91**	**329**	P	**P**	**09 52 13.4**	**+0.9**
	1.6nm,0.3s,baz=128,slow=8.5,SNR=43						
MKAR				pP	**pP**	**09 52 54.4**	**-0.4**
	0.5nm,0.7s,baz=149,slow=6.7,SNR=2.1						
MKAR	**Makanchi Array**	**57.91**	**329**	P	**P**	**09 52 13.4**	**+0.9**
MKAR				pP	**pP**	**09 52 54.4**	**-0.4**
ZALV	**Zalesovo Beam**	**61.69**	**336**	P	**P**	**09 52 37.2**	**-0.9**
	1.1nm,0.7s,baz=139,slow=5.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**61.69**	**336**	P	**P**	**09 52 37.2**	**-0.9**
KURK	**Kurchatov**	**62.29**	**330**	P	**P**	**09 52 42.1**	**0.0**
	0.8nm,0.4s,baz=115,slow=6.0,SNR=16						
KURK				pP	**pP**	**09 53 24.6**	**-0.4**
	0.5nm,0.6s,baz=116,slow=9.0,SNR=2.6						
KURK	**Kurchatov**	**62.29**	**330**	P	**P**	**09 52 42.1**	**0.0**
KURK				pP	**pP**	**09 53 24.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**119.49**	**285**	PKP	**PKPdf**	**10 01 06.8**	**-1.6**
	0.4nm,0.8s,baz=97,slow=0.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**119.49**	**285**	PKP	**PKPdf**	**10 01 06.8**	**-1.6**
TXAR	**Lajitas Array**	**127.32**	**52**	PKP	**PKPdf**	**10 01 23.3**	**0.0**
	0.6nm,1.0s,baz=225,slow=2.4,SNR=3.4						
TXAR	**Lajitas Array**	**127.32**	**52**	PKP	**PKPdf**	**10 01 23.3**	**0.0**
CPUP	**Villa Florida**	**154.11**	**181**	PKPab	**PKPab**	**10 02 32.1**	**-0.4**
	0.5nm,0.4s,baz=153,slow=2.3,SNR=3.2						
CPUP	**Villa Florida**	**154.11**	**181**	PKPab	**PKPab**	**10 02 32.1**	**-0.4**
LPAZ	**La Paz**	**161.16**	**148**	PKPab	**PKPab**	**10 03 05.2**	**+1.2**
	1.0nm,0.7s,baz=274,slow=3.3,SNR=4.2						
LPAZ	**La Paz**	**161.16**	**148**	PKPab	**PKPab**	**10 03 05.2**	**+1.2**

IDC 12 09:49:14.6±2.6,14°.70S×175°.80W,h290km±38km, mb3.1/5,mb1 3.4/6,mb1mx3.2/18,mbtmp3.1/6,Error ellipse: s-maj=103.4km s-min=15.9km az=146.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.97**	**79**	P	Pn	**09 50 20.2**	**0.0**
	5.9nm,0.3s,baz=270,slow=7.1,SNR=9.5						
STKA	**Stephens Creek**	**42.40**	**239**	P	P	09 56 41.1	-0.3
	1.1nm,0.5s,baz=75,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**47.76**	**256**	P	P	09 57 23.4	0.0
	0.4nm,0.8s,baz=94,slow=6.6,SNR=5.4						
ASAR	**Alice Springs**	**48.13**	**251**	P	P	09 57 26.2	-0.1
	2.6nm,0.4s,baz=88,slow=7.8,SNR=89						
NVAR	**Mina Array Bea**	**75.38**	**43**	P	P	10 00 27.1	0.0
	0.3nm,0.7s,baz=228,slow=9.5,SNR=2.6						
ILAR	**Eielson Array**	**82.23**	**12**	P	P	10 01 03.1	-0.1
	0.3nm,0.6s,baz=214,slow=5.1,SNR=10						
BRTR	**Keskin Array B**	**144.14**	**320**	PKP	PKPdf	10 08 16.1	-0.4
	1.6nm,1.0s,baz=51,slow=2.4,SNR=4.5						

ISCJB ***12*** *09:49:19.4±0.4,10°.80N±0°.03×61°.86W±0°.03,h77km±6km, Error ellipse: s-maj=5.6km s-min=3.4km az=41.2*
FUNV ***12*** *09:49:21.6,10°.74N×61°.75W,h44km,MW3.2*
TRN ***12*** *09:49:22.1,10°.89N×61°.80W,h31km,MD3.7*
TRN Felt II and III west of Port of Spain.

ISC 12 09:49:19.3±1.1,10°.76N±0°.03×61°.83W±0°.04,h77km±9km, n38,σ1§69/58,1C-2D,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.40**	**254**	*i*P	**Pn**	**09 49 32.0**	**0.0**
GUIV				*e*S	**Sn**	**09 49 39.7**	**-1.5**
TRN	**Trinidad (W)**	**0.44**	**105**	*e*P	**Pn**	**09 49 32.5**	**+0.2**
TRN				*e*S	**Sn**	**09 49 39.0**	**-2.7**
TPP	**Pointe-a-Pierr**	**0.58**	**140**	*e*P	**Pn**	**09 49 36.5**	**+2.9**
BUAY	**Buenos Aires**	**0.67**	**167**	*e*P	Pn	09 49 37.5	+3.1
SIPA	**Siparia**	**0.69**	**152**	*e*P	**Pn**	**09 49 37.5**	**+2.8**
TBH	**Brigand Hill**	**0.80**	**110**	*i*P	**Pn**	**09 49 37.2**	**+1.3**
TBH				*e*S	**Sn**	**09 49 48.8**	**+0.6**
TPR	**Prospect**	**1.12**	**68**	*e*P	**Pn**	**09 49 41.0**	**+1.3**
TPR				*e*S	**Sn**	**09 49 54.4**	**-0.5**
BOT	**Bacolet**	**1.17**	**70**	*e*P	**Pn**	**09 49 41.6**	**+1.4**
BOT				*e*S	**Sn**	**09 49 55.9**	**0.0**
GUNV	**Guanoco**	**1.24**	**241**	*e*P	**Pn**	**09 49 43.2**	**+2.0**
GUNV				*e*S	**Sn**	**09 49 59.0**	**+1.4**
CRUV	**Carupano**	**1.38**	**267**	*i*P	**Pn**	**09 49 44.1**	**+1.1**
CRUV				*e*S	**Sn**	**09 50 01.5**	**+0.7**
TOSP	**Speyside**	**1.38**	**67**	*e*P	**Pn**	**09 49 43.2**	**+0.2**
TOSP				*e*S	**Sn**	**09 50 01.1**	**+0.2**
GRW	**Mount Saint Ca**	**1.40**	**7**	*e*P	**Pn**	**09 49 43.9**	**+0.6**
GRW				*e*S	**Sn**	**09 49 58.9**	**-2.5**
GRHS	**Sauteurs**	**1.47**	**7**	*e*P	**Pn**	**09 49 45.0**	**+0.9**
GRHS				*e*S	**Sn**	**09 50 01.8**	**-1.0**
GRIC	**Isle de Caille**	**1.53**	**9**	*e*P	**Pn**	**09 49 46.4**	**+1.4**
GRIC				*e*S	**Sn**	**09 50 03.8**	**-0.5**
GRSS	**Sisters**	**1.54**	**8**	*e*P	**Pn**	**09 49 46.7**	**+1.6**
GRSS				*e*S	**Sn**	**09 50 03.9**	**-0.7**
SVB	**Belmont**	**2.56**	**13**	*e*P	**Pn**	**09 49 59.5**	**+0.8**
SVB				*e*S	**Sn**	**09 50 28.6**	**-0.3**
SVV	**Soufriere Volc**	**2.61**	**13**	*e*P	**Pn**	**09 50 00.6**	**+1.2**
RIOV	**Rio Grande**	**2.67**	**180**	*e*P	**Pn**	**09 50 02.1**	**+1.8**
RIOV				*e*S	**Sn**	**09 50 31.0**	**-0.7**
PCRV	**Puerto La Cruz**	**2.82**	**258**	*e*P	**Pn**	**09 50 04.2**	**+2.0**
MCLT	**Moule a Chique**	**3.06**	**16**	*e*P	**Pn**	**09 50 06.9**	**+1.5**
MCLT				*e*S	**Sn**	**09 50 40.0**	**-1.0**
SLB	**Belfond**	**3.14**	**14**	*e*P	**Pn**	**09 50 07.5**	**+0.8**
GURV	**El Guri**	**3.23**	**203**	*e*P	**Pn**	**09 50 09.6**	**+1.9**
BIRV	**Birongo**	**4.37**	**267**	*e*P	**Pn**	**09 50 25.2**	**+1.8**
BIRV				*e*S	**Sn**	**09 51 13.0**	**-0.9**
MERV	**Las Mercedes**	**4.64**	**252**	*e*P	**Pn**	**09 50 28.8**	**+1.7**
MERV				*e*S	**Sn**	**09 51 18.8**	**-1.0**
LUEV	**Luepa**	**4.90**	**176**	*e*P	**Pn**	**09 50 30.3**	**-0.4**
LUEV				*e*S	**Sn**	**09 51 21.8**	**-4.5**
HMG	**Houelmont**	**5.19**	**1**	*e*P	**Pn**	**09 50 35.9**	**+1.4**
DOG	**Dongo Capester**	**5.24**	**2**	*e*P	**Pn**	**09 50 36.4**	**+1.1**
BCG	**Bois Riant Cap**	**5.30**	**2**	*e*P	**Pn**	**09 50 38.0**	**+2.1**
LZG	**Guadaloupe-1**	**5.35**	**1**	*e*P	**Pn**	**09 50 37.4**	**+0.7**
TURV	**Turiamo**	**5.91**	**268**	*e*P	**Pn**	**09 50 46.4**	**+2.0**
TURV				*e*S	**Sn**	**09 51 48.5**	**-2.3**
BAUV	**El Baul**	**6.38**	**254**	*e*P	**Pn**	**09 50 51.8**	**+1.1**
BAUV				*e*S	**Sn**	**09 51 59.1**	**-3.1**
MAPV	**Macapo**	**6.58**	**263**	*e*P	**Pn**	**09 50 54.8**	**+1.2**
MAPV				*e*S	**Sn**	**09 52 03.3**	**-4.0**
SKI	**Saint Kitts**	**6.59**	**352**	*e*P	**Pn**	**09 50 55.8**	**+2.1**
TEPV	**Terepaima**	**7.28**	**264**	*e*P	**Pn**	**09 51 03.8**	**+0.6**
SANV	**Sanarito**	**7.69**	**261**	*e*P	**Pn**	**09 51 09.9**	**+1.2**
CURV	**Curarigua**	**8.03**	**265**	*e*P	**Pn**	**09 51 14.8**	**+1.4**
MONV	**Montecano**	**8.07**	**279**	*e*P	**Pn**	**09 51 15.2**	**+1.4**
SOCV	**Socops**	**9.23**	**255**	*e*P	**Pn**	**09 51 29.9**	**+0.1**

IDC ***12*** *10:39:56.8±1.2,25°.08N×97°.95E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/26,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=59.6km s-min=17.9km az=69.0*

ISC 12 10:39:58.1±1.2,24°.95N±0°.10×97°.84E±0°.10,h10km,n6, σ1§27/8,mb3.5/4,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.45**	**87**	Pg	**Pb**	**10 41 16.2**	**-0.3**
KMI				Sg	**Sb**	**10 42 10.4**	**+0.2**
KMI				smax	smax		
	comp=N,39nm,1.2s						
KMI				smax	smax		
	comp=E,37nm,1.0s						
CMAR	**Chiang Mai Arr**	**6.54**	**171**	Pn	**Pn**	**10 41 36.4**	**+2.0**
	comp=E,0.2nm,0.3s,baz=350,slow=13,SNR=2.8						
CMAR				Pg	**Pg**	**10 42 01.6**	**-1.7**
	comp=E,0.3nm,0.3s,baz=351,slow=18,SNR=19						
CMAR				Lg	Lg	10 43 29.0	
	comp=E,1.0nm,0.3s,baz=344,slow=29,SNR=9.5						
MKAR	**Makanchi Array**	**25.09**	**334**	P	**P**	**10 45 22.3**	**-0.6**
	comp=E,0.8nm,0.7s,baz=144,slow=9.0,SNR=9.6						
ZALV	**Zalesovo Beam**	**30.56**	**345**	P	**P**	**10 46 11.5**	**-0.2**
	comp=E,0.5nm,0.5s,baz=147,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**57.02**	**138**	P	**P**	**10 49 44.2**	**-0.2**
	comp=E,0.5nm,0.8s,baz=327,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**59.64**	**141**	P	**P**	**10 50 03.4**	**+0.7**
	comp=E,0.3nm,0.8s,baz=326,slow=6.2,SNR=3.9						

ISCJB ***12*** *11:02:05.3±0.8,33°.52N±0°.04×140°.46E±0°.06,h62km±8km, mb3.6/2,Error ellipse: s-maj=8.4km s-min=6.5km az=19.7*
JMA ***12*** *11:02:06.2±0.1,33°.56N×140°.44E,h49km±3km,M3.6*
IDC ***12*** *11:02:08.5±8.6,33°.32N×139°.91E,h59km±114km,mb3.2/2, mb1 3.6/3,mb1mx3.0/23,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=178.3km s-min=59.5km az=66.0*

ISC 12 11:02:06.2±1.3,33°.51N±0°.05×140°.46E±0°.06,h51km±15km, n15,σ1§02/26,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.67**	**234**	P	**Pn**	**11 02 19.9**	**+0.3**
JHJ2				S	**Sn**	**11 02 29.4**	**+0.1**
BSO1	**Boso 1**	**1.22**	**21**	P	**Pn**	**11 02 26.3**	**-0.1**
BSO1				S	**Sn**	**11 02 41.3**	**-0.2**
BSO2	**Boso 2**	**1.26**	**11**	S	**Sn**	**11 02 43.9**	**+1.0**
BSO3	**Boso 3**	**1.29**	**2**	P	**Pn**	**11 02 27.9**	**+0.3**
BSO3				*e*S	**Sn**	**11 02 43.2**	**-0.4**
JKO	**Kozu shima**	**1.29**	**302**	P	**Pn**	**11 02 27.8**	**-0.1**
JKO				S	**Sn**	**11 02 43.7**	**-0.4**
JIM2	**Oshima 3**	**1.47**	**325**	P	**Pn**	**11 02 30.1**	**-0.3**
JIM2				S	**Sn**	**11 02 47.3**	**-1.3**
BSO4	**Boso 4**	**1.48**	**356**	P	**Pn**	**11 02 30.8**	**+0.5**
JIZS	**Izushimoda**	**1.78**	**313**	P	**Pn**	**11 02 34.7**	**+0.2**
JIZS				*e*S	**Sn**	**11 02 55.4**	**-0.6**
KTJJ	**Kamata 2**	**1.82**	**321**	P	**Pn**	**11 02 35.1**	**0.0**
KTJJ				S	**Sn**	**11 02 55.4**	**-1.7**
JOD2	**Odawara 2**	**2.08**	**327**	P	**Pn**	**11 02 38.6**	**-0.1**
JOD2				S	**Sn**	**11 03 01.2**	**-2.3**
TK04	**Tokai 4**	**2.32**	**293**	P	**Pn**	**11 02 42.7**	**+0.9**
TK04				*e*S	**Sn**	**11 03 10.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.54**	**329**	P	**Pn**	**11 03 00.3**	**+1.6**
	4.2nm,0.3s,baz=157,slow=11,SNR=55						
MJAR				S	**Sn**	**11 03 40.7**	**+1.4**
	1.6nm,0.3s,baz=22,slow=28,SNR=3.9						
MAT	**Matsushiro**	**3.54**	**329**	P	**Pn**	**11 03 00.4**	**+1.7**
MAT				S	**Sn**	**11 03 40.4**	**+1.0**
WRA	**Warramunga Arr**	**53.48**	**187**	P	**P**	**11 11 20.7**	**-0.7**
	0.4nm,0.5s,baz=5.5,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**57.20**	**187**	P	**P**	**11 11 48.0**	**-0.2**
	0.3nm,0.5s,baz=360,slow=4.9,SNR=7.0						

IDC 12 11:08:05.7±47.0,16°.15S×177°.32W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/17,mbtmp3.8/3,Error ellipse: s-maj=864.7km s-min=168.0km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.40**	**240**	P	P	11 15 46.0	+0.2
	1.4nm,0.9s,baz=100,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	11 16 30.5	-0.7
	0.3nm,0.9s,baz=93,slow=7.8,SNR=6.6						
ASAR	**Alice Springs**	**46.29**	**253**	P	P	11 16 33.7	+0.2
	3.1nm,0.5s,baz=89,slow=8.1,SNR=61						

DDA ***12*** *11:11:20.7,36°.22N×36°.70E,h7km,MD3.1*
ISCJB ***12*** *11:11:21.2±1.1,36°.24N±0°.05×36°.69E±0°.05,h4km±6km, Error ellipse: s-maj=10.2km s-min=4.8km az=149.5*
CSEM ***12*** *11:11:21.0±0.6,36°.20N×36°.73E,h10km,MD3.1,Error ellipse: s-maj=11.6km s-min=5.1km az=147.0*
ISK ***12*** *11:11:24.4,36°.42N×36°.64E,h16km,MD2.6*

ISC 12 11:11:22.1±1.2,36°.30N±0°.05×36°.69E±0°.04,h13km±9km, n22,σ1§46/35,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COBT	**Iskenderun**	**0.41**	**303**	*i*P	**

IDC 12 13:28:40.1±8.0, 2.61N×127.50E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=128.8km s-min=123.7km az=92.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**164**	P	P	13 33 50.8	-0.1
	2.0nm,0.6s,baz=344,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.86**	**167**	P	P	13 34 22.1	-0.5
	0.2nm,0.5s,baz=344,slow=7.6,SNR=8.2						
STKA	**Stephens Creek**	**36.82**	**160**	P	P	13 35 50.6	+0.6
	1.2nm,0.7s,baz=333,slow=9.0,SNR=3.5						

IDC 12 13:31:15.7±2.5, 4.12S×135.96E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.6/14, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=98.5km s-min=25.1km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.81**	**186**	Pn	Pn	13 34 59.2	-0.6
	0.1nm,0.3s,baz=4.3,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**17.18**	**215**	P	P	13 35 18.7	-0.4
	0.1nm,0.3s,baz=39,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**19.54**	**186**	P	P	13 35 44.9	-0.1
	0.2nm,0.3s,baz=8.4,slow=11,SNR=22						
SONM	**Songino Array**	**57.87**	**337**	P	P	13 41 10.4	+0.9
	0.5nm,0.7s,baz=144,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**69.26**	**324**	P	P	13 42 23.9	-0.8
	0.3nm,0.8s,baz=115,slow=6.5,SNR=2.7						

*JMA **12** 13:35:31.1±0.3, 24.02N×122.18E, h22km, M2.9*
*ISCJB **12** 13:35:32.1±0.5, 24.01N±0.03×122.26E±0.02, h17km±5km, Error ellipse: s-maj=4.8km s-min=2.7km az=162.3*
*TAP **12** 13:35:33.0, 24.10N×122.19E, h23km, ML3.2, D*
ISC 12 13:35:31.4±1.1, 24.02N±0.03×122.23E±0.02, h15km±9km, n37, σ0.59/67, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.57**	**266**	*e*P	**Pn**	**13 35 44.7**	**-0.3**
	baz=243						
TWD	**Chiawan**	**0.58**	**276**	*e*P	**Pb**	**13 35 44.1**	**+0.8**
	baz=252						
TWD				*e*S	**Sb**	**13 35 52.5**	**+1.0**
	baz=252						
ENA	**Nanau**	**0.61**	**313**	P	**Pg**	**13 35 43.6**	**+0.2**
	baz=317						
ENA				*e*S	**Sb**	**13 35 52.3**	**+0.2**
	baz=317						
TWC	**Suao**	**0.69**	**330**	*i* P	**Pg**	**13 35 44.5**	**-0.4**
	baz=336						
TWC				*i* S	**Sg**	**13 35 52.5**	**-1.4**
	baz=336						
ESL	**Shilin**	**0.76**	**255**	*e*P	**Pb**	**13 35 46.0**	**-0.3**
	baz=236						
ESL				*e*S	**Sg**	**13 35 57.2**	**+1.0**
	baz=236						
YOJ	**Yonaguni jima**	**0.84**	**58**	P	**Pb**	**13 35 47.4**	**-0.3**
YOJ				*e*S	**Sb**	**13 35 59.3**	**+0.5**
ILA	**Ilan**	**0.87**	**330**	*e*P	**Pn**	**13 35 49.7**	**+0.6**
	baz=329						
ENTT	**Nioudou**	**0.87**	**316**	P	**Pg**	**13 35 48.4**	**+0.1**
	baz=326						
ENTT				*e*S	**Sg**	**13 35 59.8**	**+0.1**
	baz=326						
TWE	**Neicheng**	**0.87**	**324**	P	**Pb**	**13 35 48.2**	**-0.1**
	baz=329						
TWE				S	**Sg**	**13 35 59.7**	**-0.1**
	baz=329						
NNS	**Nan Shan**	**0.89**	**299**	⇑P	**Pg**	**13 35 49.3**	**+0.5**
	baz=294						
NNS				*e*S	**Sn**	**13 36 01.4**	**-0.8**
	baz=294						
WHF	**Hehuan Shan**	**0.89**	**278**	P	**Pb**	**13 35 49.2**	**+0.3**
	baz=261						
WHF				S	**Sg**	**13 36 01.5**	**+0.8**
	baz=261						
EHY	**Hungye**	**0.97**	**239**	*e*P	**Pb**	**13 35 49.7**	**-0.4**
	baz=224						
EHY				*e*S	**Sb**	**13 36 03.1**	**+0.4**
	baz=224						
TWT	**Tachien**	**0.99**	**284**	*e*P	**Pn**	**13 35 51.4**	**+0.4**
	baz=267						
TWT				*e*S	**Sn**	**13 36 04.9**	**+0.1**
	baz=267						
TWB1	**Santiao Chiao**	**1.01**	**347**	*e*P	**Pg**	**13 35 51.6**	**+0.6**
	baz=349						
TWB1				S	**Sb**	**13 36 03.1**	**-0.7**
	baz=349						
NSK	**Sanguang**	**1.03**	**310**	*e*P	**Pb**	**13 35 51.2**	**+0.1**
	baz=308						
NSK				*e*S	**Sg**	**13 36 04.9**	**0.0**
	baz=308						
NWF	**Wu-fen Shan**	**1.13**	**339**	*e*P	**Pn**	**13 35 52.8**	**+0.1**
	baz=340						
NWF				*e*S	**Sn**	**13 36 07.5**	**-0.6**
	baz=340						
TWA	**Mucha**	**1.13**	**329**	*e*P	**Pg**	**13 35 53.4**	**+0.2**
	baz=329						
TWA				*e*S	**Sg**	**13 36 07.7**	**-0.3**
	baz=329						
SMLT	**Sun Moon Lake**	**1.23**	**264**	*i* P	**Pn**	**13 35 54.4**	**+0.3**
	baz=259						
SMLT				*e*S	**Sb**	**13 36 09.1**	**-0.9**
	baz=259						
TYC	**Yuchr**	**1.26**	**265**	P	**Pn**	**13 35 54.7**	**+0.2**
	baz=260						
TYC				*e*S	**Sn**	**13 36 11.1**	**-0.1**
	baz=260						
NSTT	**Nanjuang**	**1.28**	**299**	*e*P	**Pg**	**13 35 55.8**	**-0.4**
	baz=296						
NSTT				*e*S	**Sg**	**13 36 12.2**	**-0.6**
	baz=296						
YUS	**Yu-Shan**	**1.28**	**246**	*e*P	**Pb**	**13 35 55.8**	**+0.2**
	baz=226						
YUS				*e*S	**Sb**	**13 36 12.2**	**+0.1**
	baz=226						
TWS1	**Kuangyinshan**	**1.31**	**326**	*e*P	**Pb**	**13 35 55.7**	**-0.1**
	baz=325						
TWQ1	**Liyutan**	**1.37**	**284**	*e*P	**Pb**	**13 35 56.9**	**+0.1**
	baz=267						
TWQ1				*e*S	**Sg**	**13 36 14.8**	**-1.0**
	baz=267						
ELDTW	**Lidau**	**1.39**	**234**	*e*P	**Pn**	**13 35 55.4**	**-0.9**
	baz=216						
IRIF	**Iriomote-Funau**	**1.41**	**77**	P	**Pn**	**13 35 56.3**	**-0.2**
IRIF				*e*S	**Sn**	**13 36 14.7**	**0.0**
HATJ	**Hateruma jima**	**1.44**	**88**	*e*S	**Sn**	**13 36 15.5**	**-0.1**
CHN5	**Tsauling**	**1.48**	**254**	P	**Pb**	**13 35 58.7**	**0.0**
	baz=237						
CHN5				S	**Sg**	**13 36 18.7**	**-0.6**
	baz=237						
TWG	**Pinlang**	**1.60**	**222**	*e*P	**Pn**	**13 35 57.7**	**-1.4**
	baz=219						
STYT	**Tauyuan**	**1.60**	**238**	*e*P	**Pn**	**13 35 59.8**	**+0.6**
	baz=232						
STYT				*e*S	**Sn**	**13 36 19.4**	**-0.2**
	baz=232						
JKRS	**Kuro-shima**	**1.64**	**82**	P	**Pn**	**13 36 00.7**	**+1.0**
JKRS				*e*S	**Sn**	**13 36 20.7**	**+0.2**
WTP	**Ta-pu**	**1.67**	**243**	*e*P	**Pb**	**13 36 01.6**	**-0.3**
	baz=237						
WTP				*e*S	**Sb**	**13 36 23.4**	**+0.7**
	baz=237						
TWK	**Hsinying**	**1.76**	**245**	*e*P	**Pb**	**13 36 03.0**	**-0.5**
	baz=239						
TWK				*e*S	**Sb**	**13 36 25.1**	**-0.4**
	baz=239						
CHN1	**Nanshi**	**1.77**	**242**	*e*P	**Pn**	**13 36 02.9**	**+1.4**
	baz=237						
CHN1				*e*S	**Sb**	**13 36 25.7**	**+0.1**
	baz=237						
SGST	**Jiashian**	**1.77**	**239**	*e*P	**Pb**	**13 36 03.5**	**-0.2**
	baz=233						
SGST				*e*S	**Sb**	**13 36 25.6**	**-0.2**
	baz=233						
JIJ	**Ishigaki jima**	**1.78**	**78**	P	**Pn**	**13 36 01.7**	**+0.1**
JIJ				*e*S	**Sn**	**13 36 23.8**	**-0.2**
SSD	**Sandimen**	**1.94**	**230**	*e*P	**Pn**	**13 36 05.0**	**+1.2**
	baz=218						
SSD				*e*S	**Sb**	**13 36 29.6**	**-0.8**
	baz=218						
EAST	**Anshuo**	**2.06**	**218**	*e*P	**Pn**	**13 36 06.1**	**+0.5**
	baz=216						

CASC 12 13:49:17.2±2.3, 9.99N×83.17W, h9km±27km, MD3.5, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**0.62**	**256**	*e*P	Pg	13 49 29.5	0.0
URSC				*e*S	Sg	13 49 38.0	+0.1
BUS	**Buena Vista**	**0.73**	**234**	*e*P	Pg	13 49 31.8	0.0
BUS				*e*S	Sb	13 49 42.7	-0.4
LAJ	**Bijagual**	**0.95**	**262**	*e*P	Pn	13 49 43.2	+6.1
LAJ				*e*S	Sn	13 50 02.4	+12
BRU2	**Volcan**	**1.28**	**158**	*i* P	Pn	13 49 40.8	-0.7
BRU2				*i* S	Sg	13 49 58.7	0.0
TBS2		**1.29**	**157**	*e*P	Pn	13 49 40.6	-1.1
TBS2				*i* S	Sb	13 49 57.8	-0.9
ACR	**Cerro Adams**	**1.33**	**180**	*e*P	Pn	13 49 41.7	-0.3
ACR				*e*S	Sg	13 50 00.1	0.0
JCR	**Jicaral**	**1.92**	**266**	*e*P	Pn	13 49 51.1	+0.8
PTP	**Ponta Puerca**	**18.88**	**62**	*e*P	x	13 50 10.7	

IDC 12 13:50:46.2±13.0, 0.80S×133.35E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=191.2km s-min=82.1km az=169.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.79**	**203**	P	P	13 55 06.3	-1.0
	0.1nm,0.3s,baz=35,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**19.05**	**177**	P	Pn	13 55 10.9	0.0
	0.2nm,0.3s,baz=357,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.74**	**179**	P	P	13 55 50.9	+0.8
	1.1nm,0.6s,baz=356,slow=12,SNR=28						
STKA	**Stephens Creek**	**31.88**	**167**	P	P	13 57 12.4	-0.9
	0.4nm,0.3s,baz=5.7,slow=10,SNR=3.3						

*DJA **12** 13:57:15, 1.68S×139.10E, h19km, MLv3.7/4*
IDC 12 13:57:20.5±3.2, 2.28S×136.38E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=135.4km s-min=29.1km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.67**	**186**	P	P	14 01 28.9	-0.4
	0.1nm,0.3s,baz=7.9,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**21.40**	**186**	P	P	14 02 09.5	-0.5
	0.7nm,0.9s,baz=6.7,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**68.04**	**323**	P	P	14 08 22.0	+0.1
	0.2nm,0.7s,baz=114,slow=7.8,SNR=2.5						

IDC 12 14:15:47.3±2.4, 0.74S×132.94E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.3/18, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=102.5km s-min=24.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.69**	**202**	P	P	14 20 07.2	0.0
	0.1nm,0.3s,baz=27,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**19.14**	**176**	P	P	14 20 11.5	-0.7
	0.1nm,0.3s,baz=355,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**22.81**	**178**	P	P	14 20 52.4	+0.4
	0.5nm,0.6s,baz=358,slow=11,SNR=14						
MKAR	**Makanchi Array**	**64.77**	**324**	P	P	14 26 27.7	-0.1
	0.1nm,0.4s,baz=108,slow=9.5,SNR=3.6						

IDC 12 14:26:02.7±10.0, 8.40S×127.77E, h146km±78km, mb3.5/1, mb1 3.6/4, mb1mx3.2/16, mbtmp3.4/4, Error ellipse: s-maj=83.1km s-min=59.7km az=178.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.86**	**192**	P	Pn	14 28 20.4	-0.6
	0.6nm,0.3s,baz=23,slow=12,SNR=28						
FITZ				S	Sn	14 30 11.1	+0.9
	1.0nm,0.3s,baz=116,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**13.12**	**152**	P	Pn	14 29 03.8	+0.2
	0.4nm,0.3s,baz=325,slow=13,SNR=19						
WRA				S	Sn	14 31 27.9	-0.9
	1.1nm,0.3s,baz=331,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.28**	**160**	P	P	14 29 44.5	+1.1
	0.9nm,0.3s,baz=341,slow=11,SNR=135						
STKA	**Stephens Creek**	**26.66**	**153**	P	P	14 31 27.8	-0.2
	0.7nm,0.4s,baz=333,slow=11,SNR=6.9						

IDC 12 14:31:35.7±31.0, 15.18S×174.28W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, Error ellipse: s-maj=611.2km s-min=147.8km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.41**	**240**	P	P	14 39 40.5	+0.2
	2.9nm,0.6s,baz=76,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**49.07**	**257**	P	P	14 40 24.8	-0.3
	0.3nm,0.3s,baz=95,slow=7.4,SNR=20						
ASAR	**Alice Springs**	**49.37**	**252**	P	P	14 40 27.5	+0.1
	5.4nm,0.5s,baz=89,slow=8.0,SNR=244						
FITZ	**Fitzroy Crossi**	**57.42**	**258**	P	P	14 41 26.3	-0.3
	1.8nm,0.9s,baz=90,slow=9.1,SNR=3.9						

*IDC **12** 14:34:30.9±4.3, 22.37S×171.34E, h52km±35km, mb4.2/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML5.1/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/20, Error ellipse: s-maj=24.9km s-min=18.3km az=68.0*
*ISCJB **12** 14:34:32.0±1.2, 22.38S±0.08×171.17E±0.06, h70km±10km, mb4.5/26, Error ellipse: s-maj=13.0km s-min=9.0km az=169.4*
*NOU **12** 14:34:31.3±0.7, 20.40S×170.97E, h10km, MD2.8, ML4.0*
*NEIC **12** 14:34:34.6±1.4, 22.42S×171.25E, h84km±13km, mb4.5/8, Error ellipse: s-maj=14.5km s-min=11.4km az=152.0*
ISC 12 14:34:34.1±1.4, 22.38S±0.09×171.16E±0.07, h79km±12km, n74, σ1.34/75, mb4.5/26, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.97**	**272**	*e*P	**Pn**	**14 35 32.3**	**-0.3**
BAYA				*e*S	**Sn**	**14 36 17.1**	**-0.8**
BAYA				AMP		14 36 21.6	
	comp=Z,87nm,2.8s						
LASL	**Noumea**	**4.28**	**271**	*e*P	**Pn**	**14 35 36.4**	**-0.4**
LASL				*e*S	**Sn**	**14 36 24.1**	**-1.5**
LASL				AMP		14 36 32.3	
	comp=Z,1μm,9.6s						
DZM	**Mont Dzumac**	**4.38**	**273**	*e*Pn	**Pn**	**14 35 37.8**	**-0.5**
	comp=Z,400nm,0.2s						
DZM				*e*Sn	**Sn**	**14 36 27.3**	**-0.9**
	comp=Z,931nm,0.2s						
DZM	**Mont Dzumac**	**4.38**	**273**	P	**Pn**	**14 35 39.0**	**+0.7**
	comp=Z,82nm,0.3s,baz=86,slow=18,SNR=3394						
DZM				S	**Sn**	**14 36 28.2**	**+0.1**
	comp=Z,141nm,0.3s,baz=118,slow=16,SNR=19						
DZM	**Mont Dzumac**	**4.38**	**273**	*e*P	**Pn**	**14 35 37.0**	**-1.3**
DZM				*e*S	**Sn**	**14 36 25.4**	**-2.8**
DZM				AMP		14 36 33.4	
	comp=Z,7μm,0.9s						
DZM	**Mont Dzumac**	**4.38**	**273**	*e*Pn	**Pn**	**14 35 37.7**	**-0.5**
DZM				*e*Sn	**Sn**	**14 36 22.9**	**-5.2**
NOUC	**Port Laguerre**	**4.51**	**273**	*e*P	**Pn**	**14 35 39.3**	**-0.6**
NOUC				*e*S	**Sn**	**14 36 30.9**	**-0.3**
NOUC				AMP		14 36 35.3	
	comp=Z,303nm,1.9s						
MSVF	**Nonsavu**	**7.95**	**56**	P	**Pn**	**14 36 28.4**	**+1.3**
	comp=Z,36nm,0.9s						
HNR	**Honiara**	**16.78**	**318**	LR	LR	14 43 52.2	
	comp=Z,218nm,22.0s,baz=163,slow=33						
ARMA	**Armidale**	**19.22**	**241**	*e*P	**Pn**	**14 38 55.2**	**+1.4**
	comp=Z,22nm,1.1s						
RMQ	**Roma**	**20.80**	**254**	*e*P	Pn	14 39 13.2	+1.0
	comp=Z,48nm,0.9s						
RPZ	**Rata Peaks**	**21.28**	**180**	P	**P**	**14 39 13.8**	**-0.3**
	comp=Z,25nm,0.9s,baz=18,slow=2.5,SNR=9.0						
RPZ				LR	LR	14 45 55.9	
	comp=Z,413nm,21.8s,baz=145,slow=32						
RPZ	**Rata Peaks**	**21.28**	**180**	P	**P**	**14 39 13.8**	**-0.3**
CNB	**Canberra Magne**	**22.98**	**231**	*e*P	**P**	**14 39 34.2**	**+2.0**
	comp=Z,127nm,0.8s						
YNG	**Young**	**23.23**	**234**	*e*P	**P**	**14 39 36.2**	**+1.5**
	comp=Z,20nm,0.9s						
CTA	**Charters Tower**	**23.32**	**271**	LR	LR	14 47 59.8	
	comp=Z,136nm,18.4s,baz=51,slow=34						
CTAO	**Charters Tower**	**23.32**	**271**	P	**P**	**14 39 37.4**	**+1.8**
CMSA	**Cobar Meteorol**	**24.42**	**243**	*e*P	**P**	**14 39 46.6**	**+1.2**
	comp=Z,165nm,0.6s						
QLP	**Quilpie**	**24.84**	**255**	*e*P	**P**	**14 39 50.7**	**+1.4**
PMG	**Port Moresby**	**26.39**	**295**	P	**P**	**14 40 04.3**	**+1.0**
	comp=Z,28nm,0.8s,baz=102,slow=4.5,SNR=9.7						
PMG	**Port Moresby**	**26.39**	**295**	*e*P	**P**	**14 40 03.8**	**+0.5**
	comp=Z,22nm,0.8s						
TOO	**Toolangi**	**26.79**	**230**	*e*P	**P**	**14 40 07.9**	**+1.1**
	comp=Z,31nm,0.6s						
STKA	**Stephens Creek**	**27.89**	**244**	P	**P**	**14 40 18.0**	**+1.4**
	comp=Z,5.8nm,0.8s,baz=87,slow=10.0,SNR=11						
STKA				LR	LR	14 49 17.9	
	comp=Z,138nm,21.4s,baz=208,slow=32						
STKA	**Stephens Creek**	**27.89**	**244**	*e*P	**P**	**14 40 17.8**	**+1.1**
	comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**27.89**	**244**	*e*P	**P**	**14 40 17.9**	**+1.2**
	comp=Z,1.5nm,0.8s						
ARPS	**Mount Arapiles**	**29.12**	**234**	*e*P	**P**	**14 40 28.4**	**+0.9**
	comp=Z,26nm,0.8s						
BBOO	**Buckleboo**	**32.66**	**244**	*e*P	**P**	**14 40 59.6**	**+0.8**
	comp=Z,75nm,0.8s						
AS31	**Alice Springs**	**34.25**	**260**	*e*P	**P**	**14 41 13.3**	**+0.5**
ASAR	**Alice Springs**	**34.25**	**260**	P	**P**	**14 41 13.3**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=83,slow=9.5,SNR=22						
ASAR	**Alice Springs**	**34.25**	**260**	P	**P**	**14 41 13.3**	**+0.6**
WB2	**Warramunga Arr**	**34.36**	**267**	*e*P	**P**	**14 41 13.9**	**+0.2**
WRAB	**Tennant Creek**	**34.36**	**267**	*e*P	**P**	**14 41 13.7**	**-0.1**
WRA	**Warramunga Arr**	**34.37**	**267**	P	**P**	**14 41 13.6**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=101,slow=8.1,SNR=89						
WRA	**Warramunga Arr**	**34.37**	**267**	P	**P**	**14 41 13.6**	**-0.2**
PPT2	**Papeete2**	**37.13**	**90**	*e*LR	LR	14 52 05.3	
	comp=Z,110nm,24.2s						
FORT	**Forrest**	**39.25**	**248**	*e*P	**P**	**14 41 55.9**	**+0.8**
	comp=Z,19nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.80**	**267**	P	**P**	**14 42 26.0**	**+1.6**
	comp=Z,4.9nm,0.7s,baz=124,slow=7.2,SNR=11						
FITZ	**Fitzroy Crossi**	**42.80**	**267**	P	**P**	**14 42 26.0**	**+1.6**
SBA	**Scott Base**	**55.57**	**181**	*e*P	**P**	**14 44 01.3**	**+0.4**
	comp=Z,13nm,0.8s						
CASY	**Casey**	**58.01**	**205**	*e*P	**P**	**14 44 17.3**	**-1.0**
	comp=Z,49nm,0.5s						
MJAR	**Matsushiro Arr**	**66.35**	**331**	P	**P**	**14 45 13.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=164,slow=7.3,SNR=5.5						
MJAR	**Matsushiro Arr**	**66.35**	**331**	P	**P**	**14 45 13.7**	**-0.8**
QSPA	**South Pole Qui**	**67.69**	**180**	P	**P**	**14 45 21.8**	**-1.0**
	comp=Z,9.9nm,0.9s,baz=9.4,slow=3.5,SNR=15						
QSPA	**South Pole Qui**	**67.69**	**180**	*e*P	**P**	**14 45 22.2**	**-0.7**
	comp=Z,14nm,1.1s						
QSPA				*e*		14 45 36.0	
PETK	**Petropavlovsk-**	**76.07**	**352**	P	**P**	**14 46 12.2**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=132,slow=8.4,SNR=4.1						
PETK				LR	LR	15 19 52.4	
	comp=Z,59nm,18.4s,baz=46,slow=36						
PETK	**Petropavlovsk-**	**76.07**	**352**	P	**P**	**14 46 12.2**	**-0.5**
MAW	**Mawson**	**76.21**	**202**	LR	LR	15 16 27.8	
	comp=Z,56nm,20.6s,baz=138,slow=33						
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P	**P**	**14 46 44.9**	**+2.0**
	comp=Z,3.7nm,0.8s,baz=138,slow=4.0,SNR=25						
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P	**P**	**14 46 44.9**	**+2.0**
CM31	**Chiang Mai Arr**	**81.42**	**294**	*e*P	**P**	**14 46 45.4**	**+2.5**
	comp=Z,1.8nm,0.7s						
CHTO	**Chiang Mai**	**81.58**	**294**	*e*P	**P**	**14 46 45.4**	**+1.6**
	comp=Z,5.3nm,1.0s						
SNAA	**Sanae**	**86.11**	**182**	*e*	**P**	**14 47 03.3**	**-2.8**
SNAA	**Sanae**	**86.11**	**182**	*e*P	**P**	**14 47 02.9**	**-3.1**
	comp=Z,1.9nm,0.7s						
VNA3	**Neumayer Olymp**	**86.63**	**180**	*e*	**P**	**14 47 07.2**	**-1.4**
VNA2	**Neumayer--Watz**	**86.95**	**180**	*e*	**P**	**14 47 09.1**	**-1.0**
	baz=184,slow=4.5						
VNA1	**Neumayer--Stat**	**87.23**	**180**	*e*	**P**	**14 47 11.7**	**+0.3**
NVAR	**Mina Array Bea**	**89.55**	**48**	P	**P**	**14 47 23.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=226,slow=9.0,SNR=7.3						
NVAR	**Mina Array Bea**	**89.55**	**48**	P	**P**	**14 47 23.4**	**+0.3**
ULN	**Ulaanbaatar**	**90.44**	**323**	*e*P	**P**	**14 47 27.4**	**+0.4**
	comp=Z,3.3nm,1.1s						
SONM	**Songino Array**	**90.79**	**322**	P	**P**	**14 47 28.4**	**-0.2**
	comp=Z,1.8nm,1.1s,baz=140,slow=5.0,SNR=8.1						
SONM	**Songino Array**	**90.79**	**322**	P	**P**	**14 47 28.4**	**-0.2**
ILAR	**Eielson Array**	**92.69**	**17**	P	**P**	**14 47 34.5**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=210,slow=4.5,SNR=4.0						
ILAR				LR	LR	15 26 15.4	
	comp=Z,65nm,19.9s,baz=281,slow=34						
ILAR	**Eielson Array**	**92.69**	**17**	P	**P**	**14 47 34.5**	**-2.3**
PLCA	**Paso Flores**	**95.01**	**138**	LR	LR	15 20 16.7	
	comp=Z,41nm,20.8s,baz=63,slow=29						
KECS	**Kecovo**	**145.03**	**325**	*e*PKP	**PKPdf**	**14 54 02.3**	**+0.1**
VYHS	**Vyhne**	**145.88**	**327**	*e*PKP	**PKPab**	**14 54 05.2**	**+0.2**
BRG	**Berggiesshubel**	**146.46**	**334**	*e*(P)	**PKPbc**	**14 54 06.0**	**0.0**
	comp=Z,14nm,1.3s						
CLL	**Collm**	**146.50**	**335**	*e*PKPbc	**PKPbc**	**14 54 06.0**	**-0.1**
CSNA	**Conrad Observa**	**147.74**	**328**	⇑*i*PKPbc	**PKPbc**	**14 54 10.0**	**+0.2**
	comp=Z,2.2nm,0.6s						
GERES	**GERESS Array B**	**148.09**	**331**	PKPbc	**PKPbc**	**14 54 10.7**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=28,slow=2.3,SNR=18						
GERES	**GERESS Array B**	**148.09**	**331**	PKPbc	**PKPbc**	**14 54 10.7**	**-0.1**
FETA	**Feichten**	**150.78**	**332**	⇑*i*PKiKP	**PKPbc**	**14 54 17.4**	**-0.2**
	comp=Z,5.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**166.41**	**229**	PKPab	**PKPab**	**14 55 32.1**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=126,slow=3.7,SNR=14						
TORD	**Torodi Ar. Bea**	**166.41**	**229**	PKPab	**PKPab**	**14 55 32.1**	**-0.9**

*DJA **12** 14:55:50, 5.92N×95.49E, h10km, MLv3.5/4*
IDC 12 14:55:13.7±1.1, 7.21N×93.53E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/24, mbtmp3.8/9, ML4.4/1, Error ellipse: s-maj=44.4km s-min=17.8km az=58.0, Nicobar Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | Time

JZO	**Okuchi**	**0.66**	**129**	P	Pg	15 23 04.3	-0.5
JZO				*e*S	Sg	15 23 13.3	-0.3
JIU2	**Izumi 2**	**0.70**	**91**	P	Pg	15 23 04.6	-0.7
JIU2				*e*S	Sg	15 23 14.2	-0.4

IDC ***12*** *15:23:08.2±4.9, 6°.92N×72°.96W, h148km±34km, mb3.1/2, mb1 3.6/3, mb1mx3.1/21, mbtmp3.3/3, Error ellipse: s-maj=82.3km s-min=29.0km az=88.0*
ISCJB ***12*** *15:23:09.6±0.6, 6°.87N±0°.08×73°.07W±0°.08, h166km, mb3.4/2, Error ellipse: s-maj=14.0km s-min=6.3km az=43.1*
FUNV ***12*** *15:23:11.5, 6°.84N×73°.14W, h156km, MW3.5*

ISC 12 15:23:10.0±1.0, 6°.88N±0°.07×73°.07W±0°.08, h166km, n19, σ1°19/23, 9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**	**15 23 51.2**	**+0.3**
	29nm,0.3s,baz=332,slow=2.2,SNR=37						
ROSC				S	**Sn**	**15 24 20.7**	**-1.7**
	51nm,0.3s,baz=71,slow=19,SNR=13						
VIGV	**El Vigia**	**2.57**	**41**	*i*P	**Pn**	**15 23 54.2**	**+1.4**
VIGV				*e*S	**Sn**	**15 24 25.8**	**-0.3**
SOCV	**Socops**	**2.59**	**57**	*i*P	**Pn**	**15 23 54.5**	**+1.4**
SOCV				*e*S	**Sn**	**15 24 25.3**	**-1.2**
ELOV	**Elorza**	**3.56**	**88**	*e*P	**Pn**	**15 24 05.3**	**+0.2**
VIRV	**Villa del Rosa**	**3.66**	**10**	*i*P	**Pn**	**15 24 06.6**	**+0.3**
VIRV				*e*S	**Sn**	**15 24 47.0**	**-3.3**
QARV	**Quebrada Arrib**	**4.15**	**37**	*i*P	**Pn**	**15 24 14.1**	**+1.3**
SANV	**Sanarito**	**4.36**	**53**	*e*P	**Pn**	**15 24 16.1**	**+0.7**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**15 24 16.4**	**+0.8**
DABV	**Dabajuro**	**4.68**	**31**	*e*P	**Pn**	**15 24 20.7**	**+1.2**
TEPV	**Terepaima**	**4.91**	**51**	*e*P	**Pn**	**15 24 23.3**	**+0.8**
BAUV	**El Baul**	**5.38**	**67**	*e*P	**Pn**	**15 24 28.5**	**-0.3**
MAPV	**Macapo**	**5.42**	**57**	*e*P	**Pn**	**15 24 29.9**	**+0.6**
MONV	**Montecano**	**5.89**	**31**	*e*P	**Pn**	**15 24 35.9**	**+0.4**
TURV	**Turiamo**	**6.26**	**55**	*e*P	**Pn**	**15 24 41.2**	**+0.8**
CUPV	**Cœpira**	**7.86**	**66**	*e*P	**Pn**	**15 25 01.5**	**-0.1**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**15 30 00.7**	**+1.4**
	0.2nm,0.4s,baz=133,slow=9.4,SNR=3.8						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**15 33 19.5**	**-0.8**
	0.7nm,0.6s,baz=131,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	**PKPbc**	**15 42 39.8**	**0.0**
	0.2nm,0.9s,baz=128,slow=3.0,SNR=5.0						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	**PKPbc**	**15 42 43.5**	**+0.6**
	0.2nm,0.4s,baz=105,slow=3.1,SNR=8.3						

ISK ***12*** *15:34:11.3, 38°.83N×39°.10E, h18km, MD2.6*
CSEM ***12*** *15:34:12.3±0.2, 38°.83N×39°.10E, h8km, MD2.5, Error ellipse: s-maj=4.2km s-min=3.1km az=103.0*
DDA ***12*** *15:34:12.5, 38°.83N×39°.12E, h7km, MD3.0*

ISC 12 15:34:12.6±1.0, 38°.83N±0°.02×39°.11E±0°.03, h10km±9km, n26, σ0°68/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.23**	**75**	*e*PG	**Pg**	**15 34 17.2**	**-0.3**
PTK				*e*PG		15 34 17.5	
PTK				*e*SG	**Sg**	**15 34 20.9**	**+0.1**
PTK				*e*SG		15 34 21.4	
PTK	**Pertek**	**0.23**	**75**	*e*Pg	**Pg**	**15 34 17.2**	**-0.3**
PTK				*e*Sg	**Sg**	**15 34 21.4**	**+0.6**
ELZG	**Elazig**	**0.35**	**196**	*i*P	**Pg**	**15 34 19.8**	**+0.2**
ELZG				*i*S	**Sg**	**15 34 25.3**	**+1.0**
ELZG	**Elazig**	**0.35**	**196**	*i*P	**Pg**	**15 34 19.8**	**+0.2**
ELZG				*i*S	**Sg**	**15 34 25.3**	**+1.0**
SVRC	**Sivrice-ELAZID**	**0.48**	**161**	*e*PG	**Pg**	**15 34 21.7**	**-0.3**
SVRC				*e*PG	**Pb**	**15 34 22.5**	**-0.8**
SVRC				*e*SG	**Sg**	**15 34 28.9**	**+0.5**
SVRC				*e*SG	**Sb**	**15 34 29.3**	**-1.1**
SVRC	**Sivrice-ELAZID**	**0.48**	**161**	*e*Pg	**Pg**	**15 34 21.7**	**-0.3**
SVRC				*e*Sg	**Sg**	**15 34 28.9**	**+0.5**
KEMA	**Kemaliye**	**0.65**	**312**	*i*P	**Pg**	**15 34 25.0**	**-0.2**
KEMA				*i*S	**Sb**	**15 34 35.4**	**+0.2**
KEMA	**Kemaliye**	**0.65**	**312**	*i*P	**Pg**	**15 34 25.0**	**-0.2**
KEMA				*i*S	**Sb**	**15 34 35.4**	**+0.2**
MYA	**Malataya**	**0.74**	**227**	*e*PG	**Pg**	**15 34 25.9**	**-1.0**
MYA	**Malataya**	**0.74**	**227**	*e*PG	**Pg**	**15 34 27.0**	**+0.1**
MYA	**Malataya**	**0.74**	**227**	*e*Pg	**Pg**	**15 34 25.9**	**-1.0**
MALT	**Malatya**	**0.74**	**226**	*e*PG	**Pg**	**15 34 26.2**	**-0.8**
MALT				*e*SG	**Sg**	**15 34 36.7**	**-0.1**
MALT	**Malatya**	**0.74**	**226**	*e*PG	**Pg**	**15 34 26.5**	**-0.5**
MALT	**Malatya**	**0.74**	**226**	*e*Pg	**Pg**	**15 34 26.2**	**-0.8**
MALT				*e*Sg	**Sg**	**15 34 36.7**	**-0.1**
ILIC	**ilic-Erzincan**	**0.75**	**326**	*e*PG	**Pg**	**15 34 26.5**	**-0.6**
ILIC	**ilic-Erzincan**	**0.75**	**326**	*e*PG	**Pg**	**15 34 26.5**	**-0.6**
ILIC				*e*SG	**Sg**	**15 34 37.1**	**+0.2**
ILIC	**ilic-Erzincan**	**0.75**	**326**	*e*Pg	**Pg**	**15 34 26.5**	**-0.6**
ILIC				*e*Sg	**Sg**	**15 34 37.1**	**+0.2**
ERZN	**Erzincan**	**0.89**	**32**	*e*PG	**Pg**	**15 34 28.9**	**-0.9**
ERZN	**Erzincan**	**0.89**	**32**	*e*PG	**Pg**	**15 34 29.2**	**-0.2**
EZC	**Erzincan**	**0.94**	**12**	*e*PG	**Pg**	**15 34 29.6**	**-1.1**
EZC	**Erzincan**	**0.94**	**12**	*e*PG	**Pg**	**15 34 30.4**	**-0.3**
EZC	**Erzincan**	**0.94**	**12**	*e*Pg	**Pg**	**15 34 29.6**	**-1.1**
AKCD	**Akcadag**	**1.07**	**240**	*i*P	**Pg**	**15 34 32.4**	**-0.9**
AKCD				*i*S	**Sb**	**15 34 48.2**	**+0.8**
AKCD	**Akcadag**	**1.07**	**240**	*i*P	**Pg**	**15 34 32.4**	**-0.9**
AKCD				*i*S	**Sb**	**15 34 48.2**	**+0.8**
KELT	**Kelkit**	**1.32**	**5**	*e*P	**Pg**	**15 34 37.8**	**-0.1**
KELT				*i*S	**Sn**	**15 34 56.0**	**+1.1**
KELT	**Kelkit**	**1.32**	**5**	*e*P	**Pg**	**15 34 37.8**	**-0.1**
KELT				*i*S	**Sn**	**15 34 56.0**	**+1.1**

IDC 12 15:49:31.3±4.6, 22°.12S×176°.29W, h75km±35km, mb3.7/8, mb1 4.0/9, mb1mx3.8/18, mbtmp3.8/9, ML2.9/1, Error ellipse: s-maj=57.0km s-min=19.0km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.22**	**28**	P	Pn	15 51 41.5	-0.2
	7.0nm,0.3s,baz=13,slow=23,SNR=9.5						
AFI				S	Sn	15 53 16.9	-7.0
	8.8nm,0.3s,baz=94,slow=21,SNR=6.2						
STKA	**Stephens Creek**	**38.56**	**246**	P	P	15 56 47.3	+0.4
	0.7nm,0.5s,baz=147,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**45.72**	**258**	P	P	15 57 45.1	-0.2
	0.5nm,0.3s,baz=91,slow=8.5,SNR=46						
ASAR				PcP	PcP	15 59 21.9	-0.2
	0.4nm,0.8s,baz=72,slow=3.0,SNR=3.3						
WRA	**Warramunga Arr**	**45.98**	**263**	P	P	15 57 46.7	-0.6
	0.4nm,0.3s,baz=96,slow=7.9,SNR=44						
MJAR	**Matsushiro Arr**	**72.45**	**323**	P	P	16 00 49.8	+0.1
	0.5nm,0.5s,baz=154,slow=5.7,SNR=5.0						
PETK	**Petropavlovsk-**	**78.24**	**344**	P	P	16 01 22.2	-0.3
	2.6nm,0.8s,baz=132,slow=8.7,SNR=3.8						
TXAR	**Lajitas Array**	**86.59**	**57**	P	P	16 02 06.8	0.0
	0.7nm,0.8s,baz=226,slow=6.8,SNR=6.9						
ILAR	**Eielson Array**	**89.54**	**12**	P	P	16 02 20.2	+0.4
	1.0nm,0.9s,baz=224,slow=4.8,SNR=11						
CMAR	**Chiang Mai Arr**	**92.15**	**289**	P	P	16 02 33.9	+0.8
	0.8nm,0.8s,baz=118,slow=2.4,SNR=6.4						
ARCES	**ARCESS Array B**	**130.78**	**350**	PKP	PKPdf	16 08 32.4	-0.8
	2.0nm,0.6s,baz=22,slow=1.3,SNR=9.2						
FINES	**FINESS Array B**	**137.76**	**344**	PKP	PKPdf	16 08 47.7	+1.3
	4.1nm,0.9s,baz=132,slow=2.8,SNR=3.5						
AKASG	**Malin Array Be**	**145.19**	**331**	PKPbc	PKPbc	16 08 59.3	-0.5
	2.3nm,0.5s,baz=42,slow=4.2,SNR=16						
BRTR	**Keskin Array B**	**149.10**	**311**	PKPbc	PKPbc	16 09 09.4	-2.0
	0.8nm,0.8s,baz=90,slow=2.9,SNR=4.1						
GERES	**GERESS Array B**	**152.17**	**346**	PKPbc	PKPbc	16 09 17.7	-0.5
	1.1nm,0.8s,baz=345,slow=2.1,SNR=6.6						

DDA ***12*** *16:14:47.6, 36°.86N×25°.09E, h27km, MD3.5*
ATH ***12*** *16:14:50.1, 36°.69N×25°.79E, h19km±2km, MD3.5/6*
ISK ***12*** *16:14:51.4, 36°.73N×25°.66E, h5km, MD3.2*
CSEM ***12*** *16:14:51.7±0.2, 36°.69N×25°.62E, h10km, ML3.4/4, Error ellipse: s-maj=5.7km s-min=4.8km az=132.0*
ISCJB ***12*** *16:14:52.0±0.5, 36°.70N±0°.02×25°.57E±0°.03, h14km±4km, mb3.5/3, Error ellipse: s-maj=4.0km s-min=3.5km az=17.4*
THE ***12*** *16:14:52.3, 36°.70N×25°.58E, h6km±1km, ML3.4/4, Error ellipse: s-maj=1.7km s-min=0.7km az=249.0*
IDC ***12*** *16:14:57.2±3.6, 36°.39N×25°.87E, h52km±37km, mb3.4/3, mb1 3.4/6, mb1mx3.2/26, mbtmp3.3/6, ML3.5/3, Error ellipse: s-maj=42.3km s-min=22.9km az=145.0*

ISC 12 16:14:52.0±0.9, 36°.68N±0°.02×25°.67E±0°.02, h11km±7km, n83, σ1°14/107, mb3.6/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.30**	**219**	P	**Pg**	**16 14 58.1**	**0.0**
THR2				S	**Sg**	**16 15 02.0**	**-0.1**
THR2	**Thira island,**	**0.30**	**219**	P	**Pg**	**16 14 58.1**	**0.0**
THR2				S	**Sg**	**16 15 02.0**	**-0.1**
THR1	**Thera Island**	**0.35**	**209**	P	**Pg**	**16 14 58.9**	**-0.2**
THR1				S	**Sg**	**16 15 04.5**	**+0.7**
THR1	**Thera Island**	**0.35**	**209**	P	**Pg**	**16 14 58.9**	**-0.2**
THR1				S	**Sg**	**16 15 04.5**	**+0.7**
THR5	**Thira Island,**	**0.37**	**225**	P	**Pg**	**16 14 59.2**	**-0.2**
THR5	**Thira Island,**	**0.37**	**225**	P	**Pg**	**16 14 59.2**	**-0.2**
APE	**Apeiranthos**	**0.40**	**344**	*e*PG	**Pg**	**16 14 59.3**	**-0.7**
APE				*e*SG	**Sg**	**16 15 05.6**	**+0.2**
APE	**Apeiranthos**	**0.40**	**344**	P	**Pg**	**16 14 59.7**	**-0.3**
APE				S	**Sg**	**16 15 05.8**	**+0.4**
APE	**Apeiranthos**	**0.40**	**344**	*e*PB	**Pg**	**16 14 59.7**	**-0.3**
APE				*e*SB	**Sg**	**16 15 05.5**	**+0.2**
APE	**Apeiranthos**	**0.40**	**344**	*e*Pg	**Pg**	**16 14 59.3**	**-0.7**
APE	**Apeiranthos**	**0.40**	**344**	P	**Pg**	**16 14 59.7**	**-0.3**
APE				S	**Sg**	**16 15 05.8**	**+0.4**
NIS1	**Nisyros Isl.**	**1.21**	**93**	P	**Pg**	**16 15 16.7**	**+1.4**
NIS1				S	**Sg**	**16 15 33.4**	**+2.3**
NIS1	**Nisyros Isl.**	**1.21**	**93**	P	**Pg**	**16 15 16.7**	**+1.4**
BODT	**Bodrum**	**1.37**	**73**	*e*PN	**Pg**	**16 15 18.4**	**+0.2**
BODT				*e*SN	**Sg**	**16 15 38.4**	**+2.3**
BODT	**Bodrum**	**1.37**	**73**	*e*Pn	**Pg**	**16 15 18.5**	**+0.2**
BODT				*e*Sn	**Sg**	**16 15 38.4**	**+2.3**
NPS	**Neapolis**	**1.42**	**182**	P	**Pn**	**16 15 17.0**	**-0.8**
NPS	**Neapolis**	**1.42**	**182**	*e*PN	**Pn**	**16 15 16.9**	**-0.8**
NPS				*e*SN	**Sb**	**16 15 36.7**	**+0.1**
NPS	**Neapolis**	**1.42**	**182**	P	**Pn**	**16 15 17.0**	**-0.8**
NPS				*e*Sn	**Sb**	**16 15 36.7**	**+0.1**
IDI	**Anoyia**	**1.53**	**205**	P	**Pn**	**16 15 18.2**	**-1.1**
IDI	**Anoyia**	**1.53**	**205**	P	**Pn**	**16 15 18.2**	**-1.1**
GCAM	**G?zelcaml?**	**1.61**	**50**	*i*P	**Pn**	**16 15 19.4**	**-1.0**
GCAM				*i*S	**Sn**	**16 15 40.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.61**	**50**	*i*P	**Pn**	**16 15 19.4**	**-1.0**
GCAM				*i*S	**Sn**	**16 15 40.9**	**-0.3**
KARP	**Karpathos**	**1.65**	**133**	P	**Pn**	**16 15 20.9**	**-0.1**
KARP				S	**Sg**	**16 15 45.1**	**-0.1**
KARP	**Karpathos**	**1.65**	**133**	P	**Pn**	**16 15 20.9**	**-0.1**
CHOS	**Chios island**	**1.73**	**10**	P	**Pn**	**16 15 21.4**	**-0.7**
CHOS				S	**Sb**	**16 15 44.5**	**-1.2**
CHOS	**Chios island**	**1.73**	**10**	*e*PN	**Pn**	**16 15 21.4**	**-0.7**
CHOS				*e*SN	**Sn**	**16 15 43.7**	**-0.6**
CHOS	**Chios island**	**1.73**	**10**	P	**Pn**	**16 15 21.4**	**-0.7**
CHOS				*e*Sn	**Sn**	**16 15 43.7**	**-0.6**
CHOS				S	**Sb**	**16 15 44.5**	**-1.2**
VAM	**Vamos**	**1.74**	**224**	*e*PN	**Pn**	**16 15 23.0**	**+0.8**
VAM				*e*SN	**Sb**	**16 15 47.2**	**+1.2**
VAM	**Vamos**	**1.74**	**224**	*e*Pn	**Pn**	**16 15 23.0**	**+0.8**
VAM				*e*Sn	**Sb**	**16 15 47.2**	**+1.2**
URLA	**Izmir**	**1.83**	**23**	*i*P	**Pn**	**16 15 21.9**	**-1.6**
URLA	**Izmir**	**1.83**	**23**	*i*P	**Pn**	**16 15 21.9**	**-1.6**
VLY	**Voula,Athens**	**1.90**	**309**	P	**Pn**	**16 15 23.1**	**-1.3**
VLY	**Voula,Athens**	**1.90**	**309**	P	**Pn**	**16 15 23.1**	**-1.3**
BLCB	**Balcova**	**2.02**	**32**	*e*PN	**Pb**	**16 15 27.8**	**-1.0**
BLCB	**Balcova**	**2.02**	**32**	*e*Pn	**Pb**	**16 15 27.8**	**-1.0**
ARG	**Arkhangelos**	**2.03**	**102**	*e*PB	**Pn**	**16 15 23.6**	**-2.6**
ARG				*e*SN	**Sn**	**16 15 49.8**	**-1.8**
ARG	**Arkhangelos**	**2.03**	**102**	*e*Pb	**Pn**	**16 15 23.6**	**-2.6**
ARG				*e*Sn	**Sn**	**16 15 49.8**	**-1.8**
DID	**Didima**	**2.11**	**294**	P	**Pn**	**16 15 26.2**	**-1.2**
DID				S	**Sn**	**16 15 52.7**	**-1.0**
DID	**Didima**	**2.11**	**294**	*e*PB	**Pn**	**16 15 26.8**	**-0.6**
DID	**Didima**	**2.11**	**294**	P	**Pn**	**16 15 26.2**	**-1.2**
DID	**Didima**	**2.11**	**294**	*e*Pb	**Pn**	**16 15 26.8**	**-0.6**
DID				S	**Sn**	**16 15 52.7**	**-1.0**
IZM	**Izmir**	**2.13**	**36**	*e*PN	**Pb**	**16 15 29.1**	**-1.6**
IZM	**Izmir**	**2.13**	**36**	*e*Pn	**Pb**	**16 15 29.1**	**-1.6**
YER	**Yerkesik**	**2.14**	**77**	*e*PN	**Pb**	**16 15 29.9**	**-1.0**
YER	**Yerkesik**	**2.14**	**77**	*e*Pn	**Pb**	**16 15 29.9**	**-1.0**
KYTH	**Kithira**	**2.16**	**260**	*e*PB	**Pn**	**16 15 28.0**	**0.0**
KYTH	**Kithira**	**2.16**	**260**	*e*Pb	**Pn**	**16 15 28.0**	**0.0**
VLI	**Veliai**	**2.20**	**272**	P	**Pn**	**16 15 27.9**	**-0.6**
VLI	**Veliai**	**2.20**	**272**	*e*PB	**Pn**	**16 15 28.0**	**-0.6**
VLI	**Veliai**	**2.20**	**272**	P	**Pn**	**16 15 27.9**	**-0.6**
ERET	**Eretria**	**2.30**	**320**	P	**Pn**	**16 15 28.6**	**-1.4**
ERET	**Eretria**	**2.30**	**320**	P	**Pn**	**16 15 28.6**	**-1.4**
TURN	**Turunc**	**2.36**	**84**	*i*P	**Pn**	**16 15 30.5**	**-0.2**
TURN	**Turunc**	**2.36**	**84**	*i*P	**Pn**	**16 15 30.5**	**-0.2**
LTK	**Loutraki**	**2.54**	**303**	*e*PN	**Pn**	**16 15 33.9**	**+0.7**
LTK	**Loutraki**	**2.54**	**303**	*e*Pn	**Pn**	**16 15 33.9**	**+0.7**
AYVA	**Ayvalik**	**2.74**	**17**	*i*P	**Pb**	**16 15 42.2**	**+1.1**
FETY	**Fethiye**	**2.74**	**90**	*e*PN	**Pb**	**16 15 38.4**	**-2.7**
FETY	**Fethiye**	**2.74**	**90**	*e*Pn	**Pb**	**16 15 38.4**	**-2.7**
AKHS	**Akhisar**	**2.77**	**37**	*i*P	**Pn**	**16 15 38.5**	**+2.1**
AKHS	**Akhisar**	**2.77**	**37**	*i*P	**Pn**	**16 15 38.5**	**+2.1**
MANT	**Manisa**	**2.92**	**51**	*i*P	**Pn**	**16 15 39.2**	**+0.6**
MANT	**Manisa**	**2.92**	**51**	*i*P	**Pn**	**16 15 39.2**	**+0.6**
GUR	**Goura**	**2.94**	**296**	*e*PN	**Pn**	**16 15 38.7**	**0.0**
GUR	**Goura**	**2.94**	**296**	*e*Pn	**Pn**	**16 15 38.7**	**0.0**
KULA	**Kula-Manisa**	**3.00**	**51**	*e*PN	**Pn**	**16 15 41.1**	**+1.5**
KULA	**Kula-Manisa**	**3.00**	**51**	*e*Pn	**Pn**	**16 15 41.1**	**+1.5**
ITM	**Ithomi**	**3.04**	**281**	*e*PN	**Pn**	**16 15 41.4**	**+1.3**
ITM	**Ithomi**	**3.04**	**281**	*e*Pn	**Pn**	**16 15 41.4**	**+1.3**
DEMI	**Demirci**	**3.37**	**45**	*i*P	**Pb**	16 15 48.0	-3.9
DEMI	**Demirci**	**3.37**	**45**	*i*P	**Pb**	16 15 48.0	-3.9
BALY	**Balya**	**3.42**	**26**	*i*P	**Pn**	**16 15 44.6**	**-0.7**
BALY	**Balya**	**3.42**	**26**	*i*P	**Pn**	**16 15 44.6**	**-0.7**
KHAL	**Karahalli**	**3.47**	**60**	*i*P	**Pn**	**16 15 44.4**	**-1.8**
KHAL	**Karahalli**	**3.47**	**60**	*i*P	**Pn**	**16 15 44.4**	**-1.8**
AGG	**Agios Georgios**	**3.53**	**312**	*e*PN	**Pn**	**16 15 47.2**	**+0.4**
AGG	**Agios Georgios**	**3.53**	**312**	*e*Pn	**Pn**	**16 15 47.2**	**+0.4**
BRTR	**Keskin Array B**	**6.97**	**62**	P	**Pn**	**16 16 36.2**	**+2.0**
	0.2nm,0.3s,baz=240,slow=15,SNR=6.8						
MMAI	**Mount Meron Ar**	**8.79**	**112**	P	**Pn**	**16 16 58.9**	**-0.3**
	0.9nm,0.3s,baz=291,slow=12,SNR=4.3						
MMAI				S	Sn	16 18 30.1	-8.3
	0.6nm,0.3s,baz=317,slow=22,SNR=2.3						
GERES	**GERESS Array B**	**14.98**	**328**	P	**P**	**16 18 30.6**	**+1.3**
	0.1nm,0.3s,baz=142,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**31.80**	**229**	P	**P**	**16 21 16.2**	**-0.5**
	0.4nm,0.7s,baz=31,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**42.60**	**58**	P	**P**	**16 22 48.7**	**+0.5**
	0.7nm,0.5s,baz=274,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**43.66**	**47**	P	**P**	**16 22 56.5**	**-0.1**
	0.6nm,0.5s,baz=282,slow=9.8,SNR=3.8						

MEX 12 16:36:42.6±0.9, 18°.69N×100°.96W, h66km±15km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.00**	**348**	*e*P	Pn	16 36 59.3	-2.0
MOIG				*i*S	Sn	16 37 13.3	-1.9
ZIIG	**Zihuatanejo**	**1.18**	**204**	*e*P	Pn	16 37 01.5	-1.7
ZIIG				*i*S	Sn	16 37 17.5	-1.2
PLIG	**Platanillo**	**1.42**	**102**	*e*P	Pn	16 37 05.8	-0.7
PLIG				*i*S	Sn	16 37 22.3	-2.1
CAIG	**El Cayaco**	**1.76**	**158**	*e*P	Pn	16 37 09.1	-1.9
CAIG				*i*S	Sn	16 37 30.4	-2.1
ACX	**Acapulco**	**2.10**	**150**	*i*P	Pn	16 37 13.2	-2.4
PPM	**Popocatepetl**	**2.24**	**80**	*i*S	Sn	16 37 43.8	-1.5
MMIG	**Aquila**	**2.30**	**260**	*e*P	Pn	16 37 17.3	-0.9
MMIG				*i*S	Sn	16 37 43.1	-2.3
SFJM	**Santa Fe**	**2.65**	**313**	*i*P	Pn	16 37 18.9	-4.4
UTMO	**Huajuapan**	**3.12**	**105**	*e*P	Pn	16 37 30.0	+0.3
UTMO				*i*S	Sn	16 38 02.4	-3.7
TPIG	**Tehuac#an**	**3.43**	**94**	*e*P	Pn	16 37 33.8	-0.1
TPIG				*i*S	Sn	16 38 11.0	-2.5
PNIG	**Pinotepa**	**3.54**	**130**	*e*P	Pn	16 37 34.8	-0.5
PNIG				*i*S	Sn	16 38 13.7	-2.2
PNIG				*i*S	Sn	16 38 13.7	-2.2
VHO	**Vista Hermosa**	**4.34**	**111**	*i*P	Pn	16 37 44.7	-1.6
VHO				*i*S	Sn	16 38 34.4	-1.5
HUIG	**Huatulco**	**5.47**	**121**	*i*P	Pn	16 38 01.7	+0.1
HUIG				*i*S	Sn	16 39 01.8	-1.5
CMIG	**Matias Romero**	**6.00**	**104**	*e*P	Pn	16 38 09.3	+0.4
CMIG				*i*S	Sn	16 39 15.6	-0.7
PCIG		**7.97**	**111**	*i*P	Pn	16 38 34.9	-1.0
PCIG				*i*S	Sn	16 40 04.3	-0.2

ISCJB ***12*** *16:42:23.7±0.7, 37°.91N±0°.03×29°.24E±0°.05, h9km±5km, Error ellipse: s-maj=6.7km s-min=4.5km az=172.1*
ISK ***12*** *16:42:23.6, 37°.93N×29°.25E, h14km, MD2.6*
DDA ***12*** *16:42:23.2, 37°.91N×29°.25E, h7km, MD2.8*
CSEM ***12*** *16:42:23.6±0.1, 37°.91N×29°.27E, h10km, MD2.6, Error ellipse: s-maj=4.0km s-min=2.8km az=90.0*

ISC 12 16:42:23.9±1.0, 37°.91N±0°.02×29°.26E±0°.03, h14km±9km, n28, σ0°70/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.24**	**230**	*e*PG	**Pg**	**16 42 29.3**	**+0.2**
DENT	**Denizli**	**0.24**	**230**	*e*Pg	**Pg**	**16 42 29.3**	**+0.2**
KHL	**Karahalli**	**0.47**	**26**	*e*PG	**Pg**	**16 42 32.6**	**-0.5**
KHL				*e*SG	**Sg**	**16 42 40.5**	**+1.0**
KHL	**Karahalli**	**0.47**	**26**	*e*Pg	**Pg**	**16 42 32.7**	**-0.5**
KHL				*e*Sg	**Sg**	**16 42 40.5**	**+1.0**
KHAL	**Karahalli**	**0.50**	**21**	*i*P	**Pg**	**16 42 33.4**	**-0.4**
KHAL				*i*S	**Sg**	**16 42 40.2**	**-0.3**
KHAL	**Karahalli**	**0.50**	**21**	*i*P	**Pg**	**16 42 33.4**	**-0.4**
KHAL				*i*S	**Sg**	**16 42 40.2**	**-0.3**
GOLH	**Golhisar**	**0.71**	**160**	*i*P	**Pg**	**16 42 36.2**	**-1.5**
GOLH				*i*S	**Sb**	**16 42 48.5**	**+0.8**
GOLH	**Golhisar**	**0.71**	**160**	*i*P	**Pg**	**16 42 36.2**	**-1.5**
KULA	**Kula-Manisa**	**0.77**	**322**	*e*PG	**Pg**	**16 42 38.4**	**-0.5**
KULA				*e*SG	**Sb**	**16 42 49.4**	**0.0**
KULA	**Kula-Manisa**	**0.77**	**322**	*e*Pg	**Pg**	**16 42 38.4**	**-0.5**
KULA				*e*Sg	**Sb**	**16 42 49.4**	**0.0**
MANT	**Manisa**	**0.81**	**317**	*i*P	**Pg**	**16 42 38.8**	**-0.8**
MANT				*i*S	**Sg**	**16 42 49.1**	**-1.1**
MANT	**Manisa**	**0.81**	**317**	*i*P	**Pg**	**16 42 38.8**	**-0.8**
MANT				*i*S	**Sg**	**16 42 49.1**	**-1.1**
YER	**Yerkesik**	**1.09**	**226**	*e*PN	**Pn**	**16 42 45.6**	**+0.8**
YER	**Yerkesik**	**1.09**	**226**	*e*Pn	**Pn**	**16 42 45.6**	**+0.8**
BCK	**Bucak**	**1.14**	**112**	*e*PN	**Pn**	**16 42 46.2**	**+0.8**
BCK	**Bucak**	**1.14**	**112**	*e*Pn	**Pn**	**16 42 46.3**	**+0.8**
GDZ	**Gediz**	**1.19**	**8**	*i*P	**Pb**	**16 42 46.3**	**0.0**
GDZ				*i*S	**Sb**	**16 43 02.3**	**+0.6**
GDZ	**Gediz**	**1.19**	**8**	*i*P	**Pb**	**16 42 46.3**	**0.0**
GDZ				*i*S	**Sb**	**16 43 02.3**	**+0.6**
SHUT	**Suhut-Afyon**	**1.20**	**57**	*e*PN	**Pn**	**16 42 46.6**	**+0.2**
SHUT	**Suhut-Afyon**	**1.20**	**57**	*e*Pn	**Pn**	**16 42 46.6**	**+0.2**
DEMI	**Demirci**	**1.21**	**340**	*i*P	**Pg**	**16 42 46.8**	**-0.5**
DEMI				*i*S	**Sb**	**16 43 01.8**	**-0.4**
DEMI	**Demirci**	**1.21**	**340**	*i*P	**Pg**	**16 42 46.8**	**-0.5**
DEMI				*i*S	**Sb**	**16 43 01.8**	**-0.4**

comp=E,4.0nm,0.6s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
MAT Matsushiro 19.80 230 P **P 17 06 21.0 +0.2**
MJAR Matsushiro Arr 19.80 230 P **P 17 06 21.8 +1.0**
comp=N,0.5nm,0.3s,baz=14,slow=9.7,SNR=14
MJAR Matsushiro Arr 19.80 230 P **P 17 06 21.8 +1.0**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 31.59 43 P **P 17 08 10.5 +0.3**
comp=Z,0.5nm,0.6s,baz=264,slow=6.1,SNR=8.4
ILAR Eielson Array 31.59 43 P **P 17 08 10.5 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 32.56 285 P **P 17 08 18.7 -0.4**
comp=Z,0.2nm,0.4s,baz=76,slow=8.1,SNR=3.8
SONM Songino Array 32.56 285 P **P 17 08 18.7 -0.4**
ZALV Zalesovo Beam 42.31 303 P **P 17 09 38.9 -1.9**
comp=Z,1.4nm,0.8s,baz=46,slow=6.4,SNR=6.3
ZALV Zalesovo Beam 42.31 303 P **P 17 09 38.9 -1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 45.93 40 P **P 17 10 10.7 +1.2**
comp=Z,0.3nm,0.6s,baz=297,slow=7.9,SNR=3.8
YKA Yellowknife Ar 45.93 40 P **P 17 10 10.7 +1.2**
KURK Kurchatov 47.22 302 P **P 17 10 19.2 -0.4**
baz=64,slow=7.7
KURK Kurchatov 47.22 302 P **P 17 10 19.2 -0.4**
MKAR Makanchi Array 47.34 296 P **P 17 10 19.1 -1.7**
comp=Z,0.4nm,0.4s,baz=59,slow=7.0,SNR=15
MKAR Makanchi Array 47.34 296 P **P 17 10 19.1 -1.7**
ARCES ARCESS Array B 54.62 341 P **P 17 11 13.4 -1.3**
comp=Z,4.8nm,0.9s,baz=29,slow=8.2,SNR=3.0
ARCES ARCESS Array B 54.62 341 P **P 17 11 13.4 -1.3**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 55.90 257 P **P 17 11 26.1 +1.5**
comp=Z,0.5nm,0.6s,baz=32,slow=6.9,SNR=4.6
CMAR Chiang Mai Arr 55.90 257 P **P 17 11 26.1 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 60.18 58 P **P 17 11 56.0 +1.7**
comp=Z,1.2nm,0.7s,baz=333,slow=2.0,SNR=10.0
FINES FINESS Array B 61.22 336 P **P 17 11 58.8 -2.0**
comp=Z,5.4nm,1.1s,baz=36,slow=7.8,SNR=4.4
FINES FINESS Array B 61.22 336 P **P 17 11 58.8 -2.0**
FINES pmax pmax
comp=Z,5.0nm,1.1s
KAPI Kappang 64.36 222 LR LR 17 37 50.7
comp=Z,22nm,19.0s,baz=180,slow=33
NOA NORSAR Array B 64.94 342 P **P 17 12 24.7 -0.7**
comp=Z,1.7nm,0.8s,baz=26,slow=6.8,SNR=2.9
NOA NORSAR Array B 64.94 342 P **P 17 12 24.7 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 73.19 64 P **P 17 13 18.4 +1.5**
comp=Z,0.4nm,0.3s,baz=298,slow=5.3,SNR=9.6
TXAR Lajitas Array 73.19 64 P **P 17 13 18.4 +1.5**
WRA Warramunga Arr 73.46 202 P **P 17 13 18.5 +0.3**
comp=Z,0.5nm,0.9s,baz=16,slow=6.5,SNR=3.6
WRA Warramunga Arr 73.46 202 P **P 17 13 18.5 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 75.65 336 P **P 17 13 29.7 -1.0**
comp=Z,0.4nm,0.4s,baz=28,slow=6.0,SNR=5.4
GERES GERESS Array B 75.65 336 P **P 17 13 29.7 -1.0**
BRTR Keskin Array B 76.95 319 P **P 17 13 37.6 -0.7**
comp=Z,0.7nm,0.8s,baz=67,slow=3.9,SNR=3.7
BRTR Keskin Array B 76.95 319 P **P 17 13 37.6 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 77.15 202 P **P 17 13 40.5 +1.3**
comp=Z,0.3nm,0.9s,baz=12,slow=5.0,SNR=4.4
ASAR Alice Springs 77.15 202 P **P 17 13 40.6 +1.3**

SKHL 12 17:04:58.5±0.2, 55.98N×125.45E, h21km±1km, mb3.8/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**0.91**	**340**	*e*Pg			Pn	17 05 16.8	+0.6
CLNS				AMB		AMB	AMB	17 05 18.7	
	59nm,0.1s								
CLNS				*e*Sg			Sb	17 05 28.1	+0.6
CLNS				A		A	A	17 05 31.2	
	121nm,0.2s								
CLNS				A		A	A	17 05 31.2	
	175nm,0.2s								
KROS	**Kirovskiy**	**1.78**	**150**	*e*Pn			Pn	17 05 28.5	+0.5
KROS				*e*Pg			Pb	17 05 31.0	+0.6
KROS				AMB		AMB	AMB	17 05 32.0	
	15nm,0.5s								
KROS				AMB		AMB	AMB	17 05 32.0	
	13nm,0.5s								
KROS				AMB		AMB	AMB	17 05 32.0	
	19nm,0.5s								
KROS				pPg				17 05 36.5	
KROS				*e*Sn			Sb	17 05 51.6	-0.7
KROS				*e*Sg			Sn	17 05 54.5	+4.5
KROS				A		A	A	17 05 56.1	
	75nm,0.5s								
KROS				A		A	A	17 05 56.1	
	170nm,0.5s								
KROS				A		A	A	17 05 56.1	
	90nm,0.5s								
BMKR	**Bomnak**	**2.32**	**122**	*e*Pn			Pn	17 05 35.8	+0.4
BMKR				*e*Pg			Pb	17 05 40.7	+1.1
BMKR				AMB		AMB	AMB	17 05 41.9	
	15nm,0.4s								
BMKR				pPg				17 05 46.5	
BMKR				*e*Sg			Sb	17 06 12.0	+4.3
BMKR				A		A	A	17 06 14.0	
	174nm,0.5s								
ZEA	**Zeya**	**2.48**	**154**	*e*Pn			Pb	17 05 40.2	-2.0
ZEA				*e*Pg			Pn	17 05 43.3	+5.7
ZEA				AMB		AMB	AMB	17 05 45.3	
	22nm,0.3s								
ZEA				pPg				17 05 49.5	
ZEA				*e*Sg			Sb	17 06 16.1	+3.8
ZEA				A		A	A	17 06 20.8	
	75nm,0.4s								
ZEA				A		A	A	17 06 20.8	
	50nm,0.4s								
ZEA				A		A	A	17 06 20.8	
	34nm,0.4s								
TUP	**Tupik**	**3.51**	**246**	*e*Pn			Pn	17 05 53.6	+1.7
TUP				*e*Pg			Pb	17 06 02.4	+2.4
TUP				AMB		AMB	AMB	17 06 04.2	
	6.0nm,0.4s								
TUP				*e*Sn			Sn	17 06 33.7	+0.9
TUP				*e*Sg			Sb	17 06 44.2	+2.0
TUP				A		A	A	17 06 49.7	
	20nm,0.5s								
CRS	**Chara**	**4.09**	**286**	*e*Pg			Pb	17 06 13.8	+4.0
CRS				*e*rx			rx	17 07 02.4	
EKMR	**Ekimchan**	**5.25**	**121**	*e*Pg			Pb	17 06 33.2	+3.6
EKMR				*e*Sg			Sb	17 07 42.5	+10
EKMR				A		A	A	17 07 52.5	
	8.0nm,0.5s								
EKMR				A		A	A	17 07 52.5	
	4.0nm,0.5s								

IDC 12 17:07:33.3±1.6, 4.72N×94.50E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.5/26, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=63.8km s-min=25.1km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.33**	**17**	Pn			Pn	17 10 59.2	+1.6
	0.1nm,0.3s,baz=212,slow=11,SNR=4.7								
MKAR	**Makanchi Array**	**43.23**	**348**	P			P	17 15 35.8	-0.5
	1.4nm,0.8s,baz=167,slow=7.7,SNR=15								
SONM	**Songino Array**	**44.16**	**12**	P			P	17 15 43.0	-0.8
	0.3nm,0.6s,baz=200,slow=7.0,SNR=3.5								
ASAR	**Alice Springs**	**47.67**	**128**	P			P	17 16 11.8	-0.1
	0.3nm,0.7s,baz=300,slow=7.7,SNR=8.7								
KURK	**Kurchatov**	**47.74**	**346**	P			P	17 16 11.6	-0.3
	0.6nm,0.6s,baz=170,slow=7.0,SNR=7.8								
ZALV	**Zalesovo Beam**	**49.71**	**353**	P			P	17 16 26.8	-0.2
	1.2nm,0.7s,baz=166,slow=5.6,SNR=7.3								
BVAR	**Borovoye Array**	**52.07**	**342**	P			P	17 16 45.1	+0.2
	0.3nm,0.6s,baz=132,slow=9.9,SNR=3.8								
GERES	**GERESS Array B**	**80.41**	**319**	P			P	17 19 47.0	+0.1
	0.1nm,0.3s,baz=96,slow=7.1,SNR=3.9								

IDC 12 17:11:25.0±2.1, 0.65S×132.95E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=81.6km s-min=26.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**202**	P			P	17 15 46.0	+0.1
	0.1nm,0.3s,baz=34,slow=13,SNR=5.7								
WRA	**Warramunga Arr**	**19.22**	**176**	P			Pn	17 15 51.6	-0.2
	0.4nm,0.3s,baz=354,slow=11,SNR=24								
ASAR	**Alice Springs**	**22.90**	**178**	P			P	17 16 31.0	+0.4
	3.7nm,0.8s,baz=356,slow=12,SNR=42								
STKA	**Stephens Creek**	**32.12**	**166**	P			P	17 17 53.5	-0.7
	1.2nm,0.6s,baz=353,slow=11,SNR=7.8								
MKAR	**Makanchi Array**	**64.70**	**324**	P			P	17 22 05.0	-0.1
	0.1nm,0.5s,baz=118,slow=5.5,SNR=3.0								

IDC 12 17:13:18.8±4.3, 6.00S×129.98E, h250km±42km, mb3.1/2, mb1 3.4/5, mb1mx3.1/17, mbtmp3.2/5, Error ellipse: s-maj=71.2km s-min=15.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.75**	**199**	P			Pn	17 16 10.0	-1.7
	0.5nm,0.3s,baz=26,slow=9.7,SNR=7.5								
FITZ				S			S	17 18 23.5	-10
	0.3nm,0.3s,baz=130,slow=16,SNR=4.1								
WRA	**Warramunga Arr**	**14.49**	**163**	P			Pn	17 16 32.3	-0.7
	0.8nm,0.3s,baz=344,slow=11,SNR=12								
WRA				S			S	17 19 05.2	-8.2
	0.8nm,0.3s,baz=343,slow=22,SNR=11								
ASAR	**Alice Springs**	**17.96**	**168**	P			P	17 17 11.8	+0.6
	1.7nm,0.3s,baz=348,slow=10.0,SNR=24								
ASAR				S			S	17 20 24.3	+0.1
	0.1nm,0.3s,baz=352,slow=24,SNR=3.9								
MKAR	**Makanchi Array**	**67.39**	**327**	P			P	17 23 47.5	+0.2
	0.6nm,0.6s,baz=122,slow=7.5,SNR=5.1								
KURK	**Kurchatov**	**71.66**	**328**	P			P	17 24 13.3	0.0
	0.4nm,0.5s,baz=126,slow=4.7,SNR=3.3								

IDC 12 17:15:33.6±1.1, 22.14N×143.51E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/26, mbtmp3.7/8, Error ellipse: s-maj=45.6km s-min=20.7km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.08**	**347**	Sn			Sn	17 17 58.1	+7.6
	8.8nm,0.3s,baz=270,slow=20,SNR=4.7								
WRA	**Warramunga Arr**	**42.77**	**193**	P			P	17 23 33.1	0.0
	0.3nm,0.4s,baz=16,slow=9.5,SNR=9.3								
FITZ	**Fitzroy Crossi**	**43.65**	**205**	P			P	17 23 40.6	+0.4
	2.0nm,0.8s,baz=15,slow=6.4,SNR=4.9								
ASAR	**Alice Springs**	**46.48**	**192**	P			P	17 24 01.9	-0.8
	0.2nm,0.5s,baz=14,slow=7.0,SNR=4.2								
MKAR	**Makanchi Array**	**54.63**	**312**	P			P	17 25 05.0	+0.9
	0.2nm,0.5s,baz=88,slow=7.5,SNR=2.6								
KURK	**Kurchatov**	**57.36**	**317**	P			P	17 25 23.9	+0.3
	0.4nm,0.4s,baz=92,slow=7.8,SNR=5.5								
BVAR	**Borovoye Array**	**62.54**	**319**	P			P	17 25 59.5	+0.4
	0.4nm,0.4s,baz=84,slow=7.7,SNR=4.5								
FINES	**FINESS Array B**	**82.92**	**335**	P			P	17 27 58.2	-1.9
	5.2nm,0.9s,baz=62,slow=3.3,SNR=6.3								
PDAR	**Pinedale Array**	**86.87**	**45**	P			P	17 28 21.6	+0.8
	0.3nm,0.6s,baz=303,slow=5.0,SNR=3.0								

*IDC **12** 17:32:37.3±1.2, 7.06N×126.72E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=75.2km s-min=25.3km az=76.0*
*ISCJB **12** 17:32:46.1±1.0, 7.0N±0.2×126.8E±0.2, h86km, mb3.2/4, Error ellipse: s-maj=27.7km s-min=14.8km az=44.4*
*MAN **12** 17:32:49, 7.09N×126.52E, h7km, mb4.3, ML3.1, MS2.9*
ISC 12 17:32:46.8±1.2, 7.2N±0.2×126.9E±0.2, h86km, n7, σ2°04/7, mb3.1/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**252**	*e*P			Pn	17 32 56.3	-6.3
MATI				*e*S			Sn	17 33 02.6	-12
DMPH	**Davao City--Mi**	**1.38**	**267**	*e*P			**Pn**	**17 33 10.0**	**-0.9**
BUKP	**Musuan**	**1.96**	**292**	*e*P			**Pn**	**17 33 18.2**	**-0.2**
BUKP				*e*S			Sn	17 33 49.5	+7.0
WRA	**Warramunga Arr**	**27.90**	**165**	P			**P**	**17 38 28.9**	**0.0**
	0.3nm,0.7s,baz=344,slow=10,SNR=4.8								
ASAR	**Alice Springs**	**31.39**	**168**	P			**P**	**17 38 59.6**	**-0.1**
	0.2nm,0.5s,baz=341,slow=7.4,SNR=9.2								
ASAR				PcP			**PcP**	**17 41 53.8**	**+2.1**
	0.3nm,0.6s,baz=352,slow=2.7,SNR=4.1								
MKAR	**Makanchi Array**	**54.88**	**324**	P			**P**	**17 42 09.9**	**+1.4**
	0.4nm,0.7s,baz=123,slow=7.6,SNR=3.8								
ILAR	**Eielson Array**	**81.96**	**26**	P			**PcP**	**17 44 59.2**	**-3.1**
	0.3nm,0.8s,baz=255,slow=5.2,SNR=4.6								

IDC 12 17:33:06.8±15.0, 17.45S×178.89W, h558km±147km, mb3.1/4, mb1 3.3/4, mb1mx2.9/18, mbtmp3.1/4, Error ellipse: s-maj=119.9km s-min=73.4km az=113.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**241**	P			P	17 39 41.7	+0.2
	1.5nm,0.7s,baz=80,slow=10.0,SNR=7.2								
WRA	**Warramunga Arr**	**44.26**	**259**	P			P	17 40 26.9	-0.8
	0.4nm,0.2s,baz=96,slow=7.4,SNR=17								
WRA				PcP			PcP	17 41 59.6	-0.3
	0.6nm,1.0s,baz=97,slow=3.4,SNR=3.2								
ASAR	**Alice Springs**	**44.47**	**254**	P			P	17 40 29.1	-0.1
	5.0nm,0.5s,baz=89,slow=7.8,SNR=172								
ASAR				PcP			PcP	17 42 00.1	-0.5
	0.3nm,0.9s,baz=103,slow=4.2,SNR=4.1								
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P			P	17 41 30.5	+0.6
	2.5nm,1.1s,baz=94,slow=15,SNR=4.4								
GERES	**GERESS Array B**	**147.05**	**345**	PKPbc			PKPbc	17 51 46.8	-0.7
	0.3nm,0.5s,baz=21,slow=4.2,SNR=3.4								

*NIED **12** 18:01:00.46.80N×141.60E, h5km, Mw3.8 Best double couple: M0 6.28000×10^14 NP1:φ1 64.00000°, δ1 64.00000°, λ1 82.00000°. NP2:φ2 0.00000°, δ2 7.00000°, λ2 107.00000°.*
*JMA **12** 18:01:08.5±0.5, 46.79N×141.65E, h0km, M3.6*
*ISCJB **12** 18:01:09.9±0.4, 46.75N±0.02×141.78E±0.05, h10km, Error ellipse: s-maj=5.1km s-min=3.3km az=175.8*
*SKHL **12** 18:01:09.1±0.6, 46.71N×141.77E, h10km, mb3.8/5*
ISC 12 18:01:10.0±0.8, 46.66N±0.03×141.80E±0.05, h10km, n16, σ1°59/21, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**66**	*e*Pg			**Pb**	**18 01 23.6**	**-1.0**
YSS				AMB		AMB	AMB	18 01 24.1	
	50nm,0.6s								
YSS				*e*Sg			**Sb**	**18 01 33.1**	**-1.4**
YSS				A		A	A	18 01 36.1	
	1μm,0.5s								
YSS				A		A	A	18 01 36.1	
	1μm,0.5s								
YSS				AMS		AMS	AMS	18 01 51.0	
	1μm,9.0s								
JWK2	**Keihoku**	**1.35**	**177**	P			**Pg**	**18 01 35.8**	**0.0**
JWK2				*e*S			**Sg**	**18 01 55.0**	**+1.7**
JRR	**Rishiri**	**1.56**	**193**	P			**Pg**	**18 01 39.5**	**-0.4**
JRR				*e*S			**Sg**	**18 02 02.4**	**+2.2**
JSE	**Soyaes**	**1.79**	**162**	P			**Pb**	**18 01 43.0**	**+0.2**
JSS	**Shosan**	**2.26**	**179**	P			**Pb**	**18 01 49.3**	**-1.6**
UGL	**Uglegorsk**	**2.42**	**4**	*e*Pg			**Pg**	**18 01 57.0**	**+0.6**
UGL				AMB		AMB	AMB	18 01 58.5	
	96nm,0.8s								
UGL				*e*Sg			**Sg**	**18 02 28.5**	**+0.7**
UGL				A		A	A	18 02 29.0	
	87nm,0.6s								
UGL				A		A	A	18 02 29.0	
	120nm,0.6s								
ASAJ	**Asahikawa**	**2.61**	**167**	P			**Pn**	**18 01 53.8**	**+1.6**
JKK2	**Kamakawa 2**	**2.87**	**166**	P			**Pn**	**18 01 57.4**	**+1.6**
JHR	**Hokuryu**	**2.92**	**181**	P			**Pb**	**18 02 00.2**	**-1.9**
JTKR	**Abashiri--Toko**	**3.08**	**150**	P			**Pn**	**18 01 59.3**	**+0.7**
TEY	**Ternei**	**3.98**	**248**	*e*Pg			**Pg**	**18 02 27.0**	**+0.9**
TYV	**Tymovskoe**	**4.24**	**7**	*e*P			**Pn**	**18 02 15.0**	**+0.4**
TYV				*e*Pg			Pg	18 02 32.7	+1.5
TYV				AMB		AMB	AMB	18 02 33.5	
	9.0nm,0.8s								
TYV				*e*Sg			**Sg**	**18 03 29.7**	**+3.6**
TYV				A		A	A	18 03 32.7	
	4.0nm,0.6s								
TYV				A		A	A	18 03 32.7	
	7.0nm,0.6s								
GRNR	**Gornyy**	**5.43**	**321**	*e*P			**Pn**	**18 02 30.0**	**-1.0**
GRNR				AMB		AMB	AMB	18 02 38.0	
	6.0nm,0.5s								
GRNR				*e*Sg			**Sg**	**18 04 05.0**	**+0.7**
GRNR				A		A	A	18 04 06.0	
	20nm,0.9s								
GRNR				A		A	A	18 04 06.0	
	19nm,0.9s								
NKL	**Nikolayevsk**	**6.53**	**354**	*e*P			**Pn**	**18 02 46.5**	**+0.5**
NKL				*e*S			**Sn**	**18 03 58.0**	**-2.5**
NKL				A		A	A	18 03 58.3	
	13nm,0.8s								
KLR	**Kul'dur**	**7.22**	**294**	*e*Sg			Sg	18 05 08.8	+7.2
KLR				A		A	A	18 05 09.8	
	45nm,1.0s								
KLR				A		A	A	18 05 09.8	
	54nm,1.0s								
EKMR	**Ekimchan**	**8.59**	**322**	*e*Pg			Sx	18 04 38.9	
EKMR				AMB		AMB	AMB	18 04 39.8	
	2.0nm,0.4s								
EKMR				*e*Sg			Sg	18 05 56.0	+11
EKMR				A		A	A	18 06 03.5	
	15nm,1.0s								
EKMR				A		A	A	18 06 03.5	
	5.0nm,1.0s								
EKMR				A		A	A	18 06 03.5	
	11nm,1.0s								

MAN 12 18:01:40, 7.40N×124.87E, h33km, mb4.3, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.52**	**22**	*e*P			Pn	18 01 52.1	+1.0
BUKP				*e*S			Sn	18 01 59.1	+0.2
CTBH	**Cotabato--PC H**	**0.64**	**254**	*i*P			Pb	18 01 54.5	+1.6
CTBH				*i*S			Sn	18 02 03.3	+1.5
CGP	**Cagayan de Oro**	**1.06**	**351**	*e*P			Pb	18 01 59.9	-0.1
CGP				*i*S			Sn	18 02 12.9	+0.6
PAGZ	**Pagadian**	**1.54**	**287**	*e*P			Pb	18 02 08.4	+0.5
PAGZ				*e*S			Sn	18 02 23.9	-0.2

KRSC 12 18:03:59.3±1.0, 50.08N×157.27E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.22**	**352**	*e*P			Pn	18 04 36.9	+0.1
MIPR				*e*S			Sn	18 05 04.0	-0.7
ASAK	**Asacha**	**2.34**	**10**	*e*P			Pn	18 04 39.4	+0.9
ASAK				*e*S			Sn	18 05 08.2	+0.5
MTVR	**Mutnovka**	**2.47**	**13**	*e*P			Pn	18 04 40.9	+0.5
MTVR				*i*S			Sn	18 05 10.9	-0.3
RUS	**Russkaya**	**2.48**	**18**	*e*P			Pn	18 04 41.3	+1.0
RUS				*i*S			Sn	18 05 11.5	+0.5
GRL	**Gorelyy**	**2.53**	**11**	P			Pn	18 04 42.5	+1.4
PET	**Petropavlovsk**	**3.07**	**16**	*e*P			Pn	18 04 50.3	+1.9
PET				*i*S			Sn	18 05 27.4	+1.9
UGLR	**Uglovaya**	**3.28**	**17**	*e*P			Pn	18 04 54.2	+2.7
AVH	**Avacha**	**3.32**	**15**	*e*P			Pn	18 04 54.8	+2.8
KOK	**Koryaka**	**3.33**	**14**	*e*P			Pn	18 04 54.9	+2.8
SMAR	**Somma**	**3.33**	**16**	P			Pn	18 04 54.7	+2.4
SDLR	**Sedlovina**	**3.36**	**17**	*e*P			Pn	18 04 53.9	+1.4
SDLR				*e*S			Sn	18 05 33.5	+0.6
SPN	**Mys Shipunskiy**	**3.48**	**29**	P			Pn	18 04 55.4	+1.4
SPN				*i*S			Sn	18 05 37.3	+1.8
MKZ	**Mys Kozlova**	**5.25**	**30**	*e*P			Pn	18 05 19.3	+1.0
MKZ				*e*S			Sn	18 06 17.8	-1.4
KBTR	**Krutoberegovo**	**6.99**	**26**	P			Pn	18 05 43.4	+1.2

*IDC **12** 18:11:39.5±1.0, 35.09N×59.90E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/27, mbtmp4.0/12, ML4.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/37, Error ellipse: s-maj=26.7km s-min=17.5km az=172.0*
*CSEM **12** 18:11:40.8±0.1, 35.25N×60.04E, h2km, mb4.2/10, Error ellipse: s-maj=4.0km s-min=3.1km az=100.0*
*TEH **12** 18:11:41.8, 35.26N×60.06E, h6km, ML4.0*
*BJI **12** 18:11:45.1, 35.53N×60.26E, h12km, mb4.0/4*
*MOS **12** 18:11:47.2±1.4, 35.62N×60.35E, h33km, mb4.2/10, Error ellipse: s-maj=14.7km s-min=7.2km az=71.7*
*NNC **12** 18:11:48.2±1.0, 35.92N×60.29E, h0km, mb3.9, Error ellipse: s-maj=12.5km s-min=6.1km az=96.0*
*THR **12** 18:11:48.0±1.0, 34.82N×60.00E, h46km±6km, ML3.8*
ISC 12 18:11:41.7±1.1, 35.28N±0.02×60.07E±0.04, h12km±7km, n130, σ1°82/137, mb4.2/13, 17C-14D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**1.02**	**324**	*e*Pg			**Pg**	**18 12 00.3**	**-1.0**
IMOG				*e*				18 12 05.3	
	comp=Z,28μm,0.1s								
IMOG				*e*Sg			**Sg**	**18 12 14.6**	**-0.1**
IMOG	**Moghan**	**1.02**	**324**	*e*Pg			**Pg**	**18 12 00.3**	**-1.0**
IMOG				*e*Sg			**Sg**	**18 12 14.6**	**-0.1**
IMYA	**Miami**	**1.06**	**1**	*e*Pg			**Pg**	**18 12 01.2**	**-0.9**
IMYA				*e*Sg			**Sg**	**18 12 16.1**	**+0.1**
IMYA				*e*				18 12 21.3	
	comp=Z,34μm,0.2s								
IMYA	**Miami**	**1.06**	**1**	*e*Pg			**Pg**	**18 12 01.2**	**-0.9**
IMYA				*e*Sg			**Sg**	**18 12 16.1**	**+0.1**
ISRO	**Mashad**	**1.14**	**335**	*e*Pg			**Pg**	**18 12 01.8**	**-1.8**
ISRO				*e*Sg			**Sg**	**18 12 17.1**	**-1.3**
ISRO	**Mashad**	**1.14**	**335**	*e*Pg			**Pg**	**18 12 01.8**	**-1.8**
ISRO				*e*Sg			**Sg**	**18 12 17.1**	**-1.3**
MHI	**Mashad**	**1.14**	**335**	*e*Pg			**Pg**	**18 12 02.2**	**-1.4**
MHI				*e*				18 12 20.4	
	comp=Z,57μm,0.1s								
IPAY	**Payeh**	**1.46**	**324**	*e*			**Sg**	**18 12 32.0**	**+3.3**
	comp=Z,20μm,0.1s								
IPAY				*e*Pn			**Pn**	**18 12 07.4**	**-0.7**
SHRT	**Shahrakht**	**1.64**	**174**	*e*Pg			**Pn**	**18 12 10.7**	**+0.3**
SHRT				AML		AML	AML	18 12 38.9	
	comp=N,2μm,0.4s								
SHRT				AML		AML	AML	18 12 42.7	
	comp=E,1μm,0.4s								
IAKL	**Akhelmad**	**1.69**	**321**	*e*Pn			**Pn**	**18 12 12.2**	**+0.8**
IAKL				*e*Sg			**Sb**	**18 12 35.8**	**+1.4**
IAKL				*e*				18 12 41.6

ITEG	**Tejag**	**2.62**	**205**	⇑	*e*Pn		**Pn**	**18 12 23.8**	**-0.2**
ITEG					*e*			18 12 35.6	
	comp=Z,5μm,0.2s								
ITEG	**Tejag**	**2.62**	**205**	⇑	*e*Pn		**Pn**	**18 12 23.8**	**-0.2**
TABS	**Tabas**	**2.93**	**237**		*e*Pn		**Pn**	**18 12 28.4**	**+0.2**
TABS					*e*Sg		**Sb**	**18 13 09.7**	**-0.1**
TABS					AML		AML	18 13 25.3	
	comp=N,454nm,0.5s								
ISHV	**Shirvan**	**2.95**	**320**		*e*Pn		**Pn**	**18 12 29.5**	**+0.9**
ISHV					*e*			18 13 40.4	
	comp=Z,6μm,0.4s								
ISHV	**Shirvan**	**2.95**	**320**		*e*Pn		**Pn**	**18 12 29.5**	**+0.9**
IKOO	**Kooshah**	**2.98**	**198**		*e*Pn		**Pn**	**18 12 28.7**	**-0.4**
IKOO					*e*			18 12 40.0	
	comp=Z,3μm,0.2s								
IKOO	**Kooshah**	**2.98**	**198**		*e*Pn		**Pn**	**18 12 28.7**	**-0.4**
BJRD	**Bojnurd**	**3.23**	**319**		*e*Pn		**Pg**	**18 12 41.8**	**-1.8**
BJRD					*e*Sg		Sg	18 13 35.9	+10
IGLO	**Ghaloghah**	**5.21**	**285**		*e*Pn		**Pn**	**18 12 59.6**	**0.0**
IGLO					*e*			18 13 32.9	
	comp=Z,659nm,0.3s								
IBAF	**Bafgh**	**5.26**	**227**		*e*Pn		**Pn**	**18 13 00.4**	**+0.1**
IBAF					*e*			18 14 43.6	
	comp=Z,1μm,0.4s								
IBAF	**Bafgh**	**5.26**	**227**		*e*Pn		**Pn**	**18 13 00.4**	**+0.1**
ICHK	**Chekchek**	**5.60**	**239**		*e*Pn		**Pn**	**18 13 04.8**	**-0.3**
ICHK					*e*			18 14 50.2	
	comp=Z,1μm,0.4s								
ICHK	**Chekchek**	**5.60**	**239**		*e*Pn		**Pn**	**18 13 04.8**	**-0.3**
ILAS	**Lasjerd**	**5.81**	**273**		*e*			18 13 12.4	
	comp=N,533nm,0.1s								
ILAS					*e*Pn		**Pn**	**18 13 07.8**	**-0.2**
IALA	**Alasht**	**5.96**	**280**		*e*Pn		**Pn**	**18 13 10.3**	**+0.2**
IALA					*e*			18 13 50.4	
	comp=Z,256nm,0.3s								
IALA	**Alasht**	**5.96**	**280**		*e*Pn		**Pn**	**18 13 10.3**	**+0.2**
KRBR	**Kerman**	**5.97**	**209**		*e*Pn		**Pn**	**18 13 09.6**	**-0.6**
KRBR					AML		AML	18 15 07.4	
	comp=E,32nm,0.8s								
KRBR					AML		AML	18 15 15.0	
	comp=N,34nm,0.8s								
IMEH	**Mehriz**	**5.99**	**231**		*e*Pn		**Pn**	**18 13 10.3**	**-0.1**
IMEH					*e*			18 15 03.4	
	comp=Z,877nm,0.4s								
IMEH	**Mehriz**	**5.99**	**231**		*e*Pn		**Pn**	**18 13 10.3**	**-0.1**
IZEF	**Zefreh**	**6.85**	**252**		*e*Pn		**Pn**	**18 13 21.5**	**-0.7**
IZEF					*e*			18 13 26.3	
	comp=Z,187nm,0.1s								
IZEF	**Zefreh**	**6.85**	**252**		*e*Pn		**Pn**	**18 13 21.5**	**-0.7**
KK31	**Karatay Array**	**11.25**	**43**	⇓	P		**Pn**	**18 14 22.9**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=227,slow=14,SNR=39								
KK31				⇑	S		**Sn**	**18 16 24.1**	**-3.7**
	comp=Z,3.0nm,0.6s,baz=227,slow=21,SNR=3.7								
KK31	**Karatay Array**	**11.25**	**43**		P		**Pn**	**18 14 22.8**	**+0.6**
KK31					S		**Sn**	**18 16 25.1**	**-2.8**
KK31					pmax		pmax		
	comp=Z,2.0nm,0.4s								
KK31					smax		smax		
	comp=N,15nm,1.1s								
KK31	**Karatay Array**	**11.25**	**43**		P		**Pn**	**18 14 22.9**	**+0.6**
	comp=N,1.2nm,0.5s,baz=227,SNR=39								
GNI	**Garni**	**13.07**	**296**		Pn		**Pn**	**18 14 49.1**	**+1.8**
	comp=N,0.2nm,0.3s,baz=127,slow=20,SNR=2.7								
GNI					Sn		Sn	18 17 03.6	-9.1
	comp=N,1.0nm,0.3s,baz=352,slow=17,SNR=10								
GNI	**Garni**	**13.07**	**296**	⇓	*e*P		P	18 14 54.5	-3.2
GNI					pmax		pmax		
	comp=Z,9.0nm,1.2s								
BHD	**Baghdad**	**13.13**	**266**		*e*P		Pn	18 14 43.0	-5.0
BHD					*e*S		Sn	18 17 08.0	-6.0
KSH	**Kashi**	**13.33**	**67**		P		Pn	18 14 47.2	-3.6
KSH					S		Sn	18 17 07.1	-12
AAK	**Ala-Archa**	**13.40**	**52**	⇓	*e*P		**Pn**	**18 14 51.2**	**-0.6**
AAK					pmax		pmax		
	comp=Z,23nm,0.8s								
AAK	**Ala-Archa**	**13.40**	**52**		*e*P		**Pn**	**18 14 51.2**	**-0.6**
	comp=Z,23nm,0.8s								
FRU	**Bishkek**	**13.58**	**52**		*e*P		**Pn**	**18 14 54.0**	**-0.1**
FRU	**Bishkek**	**13.58**	**52**		*e*P		**Pn**	**18 14 54.0**	**-0.1**
AB31	**Akbulak array**	**13.97**	**360**	⇑	P		**Pn**	**18 14 59.2**	**-0.1**
	comp=Z,3.7nm,0.7s								
AB31				⇓	S		Sn	18 17 28.2	-6.1
	comp=Z,7.8nm,0.8s								
AB31	**Akbulak array**	**13.97**	**360**		P		**Pn**	**18 14 57.3**	**-2.0**
AB31					S		Sn	18 17 28.1	-6.1
AB31					pmax		pmax		
	comp=Z,4.0nm,0.7s								
AB31					smax		smax		
	comp=N,8.0nm,0.8s								
AB31	**Akbulak array**	**13.97**	**360**		P		**Pn**	**18 14 59.2**	**-0.1**
	comp=N,3.7nm,0.7s								
TKM2	**Tokmak 2**	**14.25**	**53**	⇓	P		**Pn**	**18 15 03.4**	**-0.1**
	comp=N,4.3nm,0.5s								
TKM2				⇓	S		**Sn**	**18 17 39.2**	**-2.4**
	comp=N,6.0nm,1.1s								
AKTO	**Aktyubinsk**	**15.22**	**355**		Pn		**Pn**	**18 15 14.7**	**-1.6**
	comp=N,0.2nm,0.3s,baz=172,slow=16,SNR=7.5								
AKTO					Sn		**Sn**	**18 17 58.5**	**-6.3**
	comp=N,0.1nm,0.3s,baz=86,slow=19,SNR=2.9								
AKTO	**Aktyubinsk**	**15.22**	**355**	⇓	P		**Pn**	**18 15 15.1**	**-1.2**
	comp=N,1.6nm,0.7s								
AKTO				⇓	S		**Sn**	**18 17 59.7**	**-5.1**
	comp=N,1.4nm,1.2s								
AKTO	**Aktyubinsk**	**15.22**	**355**		P		**Pn**	**18 15 15.1**	**-1.2**
AKTO					S		**Sn**	**18 17 59.6**	**-5.1**
AKTO					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ZRNK	**Zerenda**	**18.77**	**17**	⇓	P		**P**	**18 16 00.3**	**-0.2**
	comp=Z,6.5nm,1.1s								
ZRNK				⇑	S		**Sn**	**18 19 24.7**	**-6.0**
	comp=Z,5.2nm,1.4s								
ZRNK	**Zerenda**	**18.77**	**17**		P		**Pn**	**18 16 01.6**	**+0.6**
ZRNK					pmax		pmax		
	comp=Z,24nm,2.6s								
ZRNK	**Zerenda**	**18.77**	**17**		P		**Pn**	**18 16 01.6**	**+0.6**
	comp=Z,24nm,2.6s								
VOSK	**Vostochnaya**	**19.08**	**21**	⇓	P		**Pn**	**18 16 05.3**	**+0.5**
	comp=Z,9.2nm,1.1s								
VOSK				⇑	S		**Sn**	**18 19 32.8**	**-5.6**
	comp=Z,3.0nm,0.7s								
BVA0	**Borovoye Array**	**19.19**	**19**	⇑	P		**Pn**	**18 16 06.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=197,slow=10,SNR=57								
BVA0					S		**Sn**	**18 19 34.7**	**-6.1**
	comp=Z,1.6nm,1.2s,baz=194,slow=25,SNR=7.2								
BVA0	**Borovoye Array**	**19.19**	**19**	*i*	P		**Pn**	**18 16 06.5**	**+0.5**
BVA0	**Borovoye Array**	**19.19**	**19**		P		**Pn**	**18 16 06.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=197,SNR=57								
BVAR	**Borovoye Array**	**19.19**	**19**		P		**Pn**	**18 16 06.9**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=196,slow=11,SNR=68								
BVAR					S		Sn	18 19 34.5	-6.3
	comp=Z,0.2nm,0.3s,baz=229,slow=22,SNR=6.6								
BVAR	**Borovoye Array**	**19.19**	**19**		P		**Pn**	**18 16 06.9**	**+0.9**
BVAR					S		Sn	18 19 34.5	-6.3
BVAR					pmax		pmax		
	comp=Z,2.0nm,0.3s								
BVAR	**Borovoye Array**	**19.19**	**19**		P		**Pn**	**18 16 06.9**	**+0.9**
	comp=Z,2.0nm,0.3s								
BRVK	**Borovoye**	**19.19**	**19**	⇑	P		**Pn**	**18 16 06.6**	**+0.5**
	comp=Z,8.1nm,0.7s								
BRVK				⇑	S		**Sn**	**18 19 35.1**	**-5.8**
	comp=Z,9.6nm,1.1s								
BRVK	**Borovoye**	**19.19**	**19**		P		**Pn**	**18 16 06.5**	**+0.5**
BRVK					pmax		pmax		
	comp=Z,33nm,1.9s								
BRVK	**Borovoye**	**19.19**	**19**		P		**Pn**	**18 16 06.6**	**+0.5**
	comp=Z,8.1nm,0.7s								
MK31	**Makanchi Array**	**20.25**	**49**	⇓	P		Pn	18 16 18.6	-0.3
	comp=Z,4.1nm,0.8s,baz=236,slow=10,SNR=29								
MK31	**Makanchi Array**	**20.25**	**49**	*i*	P		Pn	18 16 18.5	-0.3
MK31					pmax		pmax		
	comp=Z,7.0nm,0.8s								
MK31	**Makanchi Array**	**20.25**	**49**	*i*	P		Pn	18 16 18.5	-0.3
	comp=Z,7.0nm,0.8s								
MKAR	**Makanchi Array**	**20.25**	**49**		P		Pn	18 16 18.8	-0.1
	comp=Z,2.8nm,0.7s,baz=238,slow=11,SNR=12								
MKAR	**Makanchi Array**	**20.25**	**49**		P		Pn	18 16 18.8	0.0
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**20.25**	**49**		P		Pn	18 16 18.8	0.0
	comp=Z,3.0nm,0.7s								
KURBB	**Kurchatov Arra**	**20.35**	**35**	⇑	P		Pn	18 16 19.4	-0.5
	comp=Z,1.1nm,1.3s								
KURBB	**Kurchatov Arra**	**20.35**	**35**		P		Pn	18 16 19.4	-0.5
	comp=Z,1.1nm,1.3s								
KURK	**Kurchatov**	**20.45**	**35**		P		**P**	**18 16 19.7**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=231,slow=12,SNR=35								
KURK	**Kurchatov**	**20.45**	**35**	⇑	P		**P**	**18 16 20.3**	**+1.3**
	comp=Z,6.2nm,1.3s								
KURK	**Kurchatov**	**20.45**	**35**		P		**P**	**18 16 19.7**	**+0.8**
KURK					pmax		pmax		
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**20.45**	**35**		P		**P**	**18 16 20.3**	**+1.3**
	comp=Z,6.2nm,1.3s								
ARU	**Arti**	**21.18**	**358**	*d*	*i*P		**P**	**18 16 28.2**	**+1.5**
ARU								18 16 46.1	
ARU					S		**S**	**18 20 18.6**	**-3.3**
ARU					SS		Sn	18 20 39.0	+10
ARU					pmax		pmax		
	comp=Z,22nm,1.7s								
ARU	**Arti**	**21.18**	**358**	*i*	P		**P**	**18 16 28.2**	**+1.5**
	comp=Z,22nm,1.7s								
DANN	**Dangsing**	**21.26**	**102**	*e*	P		**P**	**18 16 28.9**	**+0.8**
KOLN	**Koldanda**	**21.38**	**104**	*e*	P		**P**	**18 16 30.0**	**+0.7**
	comp=Z,6.0nm,0.5s								
BRTR	**Keskin Array B**	**21.40**	**290**		P		**P**	**18 16 29.9**	**+0.5**
	comp=Z,18nm,0.3s,baz=106,slow=9.4,SNR=1.9								
BRTR	**Keskin Array B**	**21.40**	**290**		P		**P**	**18 16 29.9**	**+0.5**
BRTR					pmax		pmax		
	comp=Z,18nm,0.3s								
BRTR	**Keskin Array B**	**21.40**	**290**		P		**P**	**18 16 29.9**	**+0.5**
	comp=Z,18nm,0.3s								
SVE	**Sverdlovsk**	**21.55**	**1**	*e*	P		**P**	**18 16 32.5**	**+1.8**
SVE					pmax		pmax		
	comp=Z,14nm,1.3s								
SVE	**Sverdlovsk**	**21.55**	**1**	*e*	P		**P**	**18 16 32.5**	**+1.8**
	comp=Z,14nm,1.3s								
EIL	**Elat**	**21.89**	**262**		LR		LR	18 26 44.9	
	comp=Z,30nm,20.0s,baz=76,slow=42								
GKN	**Gorkha**	**22.10**	**102**	*e*	P		**P**	**18 16 37.7**	**+0.6**
	comp=Z,15nm,0.6s								
DMN	**Daman**	**22.65**	**103**	*e*	P		**P**	**18 16 44.6**	**+1.6**
	comp=Z,18nm,1.0s								
KKN	**Kakani**	**22.71**	**102**	*e*	P		**P**	**18 16 46.0**	**+2.4**
	comp=Z,9.3nm,0.7s								
PKI	**Pulchoki**	**22.91**	**103**	*e*	P		**P**	**18 16 46.7**	**+0.9**
	comp=Z,14nm,0.6s								
GUN	**Gumba**	**23.14**	**101**	*e*	P		**P**	**18 16 50.9**	**+2.7**
	comp=Z,15nm,0.5s								
JIRN	**Jiri**	**23.49**	**102**	*e*	P		**P**	**18 16 54.4**	**+2.6**
ODAN	**Odare**	**24.80**	**102**	*e*	P		**P**	**18 17 07.9**	**+4.0**
	comp=Z,13nm,0.8s								
ZALV	**Zalesovo Beam**	**25.45**	**35**		P		**P**	**18 17 10.6**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=236,slow=8.6,SNR=12								
ZALV					LR		LR	18 27 37.9	
	comp=Z,70nm,18.2s,baz=254,slow=37								
ZALV	**Zalesovo Beam**	**25.45**	**35**		P		**P**	**18 17 10.6**	**+1.4**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.5s								
ZALV					MLR		MLR		
	comp=Z,70nm,18.2s								
ZALV	**Zalesovo Beam**	**25.45**	**35**		P		**P**	**18 17 10.6**	**+1.4**
	comp=Z,70nm,18.2s								
OBN	**Obninsk**	**25.62**	**328**	*e*	P		**P**	**18 17 13.2**	**+2.5**
OBN				*e*				18 17 51.2	
OBN					pmax		pmax		
	comp=Z,6.0nm,1.0s								
OBN	**Obninsk**	**25.62**	**328**	*e*	P		**P**	**18 17 13.2**	**+2.5**
	comp=Z,6.0nm,1.0s								
GTA	**Gaotai**	**31.69**	**71**	*e*	P			18 18 09.1	+3.9
GTA					pP		pP	18 18 15.6	+6.7
GTA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
VSU	**Vasula**	**31.96**	**327**	⇑	*e*P		P	18 18 11.3	+4.2
SONM	**Songino Array**	**36.34**	**55**		P		**P**	**18 18 47.3**	**+1.8**
	comp=Z,1.9nm,1.1s,baz=272,slow=8.2,SNR=7.9								
SONM	**Songino Array**	**36.34**	**55**		P		**P**	**18 18 47.3**	**+1.8**
SONM					pmax		pmax		
	comp=Z,2.0nm,1.1s								
SONM	**Songino Array**	**36.34**	**55**		P		**P**	**18 18 47.3**	**+1.8**
	comp=Z,2.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**38.23**	**106**		P		**P**	**18 19 02.9**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=299,slow=8.3,SNR=22								
CMAR	**Chiang Mai Arr**	**38.23**	**106**		P		**P**	**18 19 02.9**	**+1.2**
CMAR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**38.23**	**106**		P		**P**	**18 19 02.9**	**+1.2**
	comp=Z,3.0nm,0.6s								
KSRS	**Korea Array**	**53.59**	**66**		P		**P**	**18 21 03.0**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=274,slow=6.1,SNR=6.2								
KSRS	**Korea Array**	**53.59**	**66**		P		**P**	**18 21 03.1**	**+0.5**
KSRS					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KSRS	**Korea Array**	**53.59**	**66**		P		**P**	**18 21 03.1**	**+0.5**
	comp=Z,3.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**56.78**	**263**		P		**P**	**18 21 24.1**	**-1.9**
	comp=Z,2.2nm,0.9s,baz=53,slow=6.7,SNR=13								
SEY	**Seymchan**	**60.25**	**32**	⇑	*e*P		P	18 21 54.1	+4.6
ILAR	**Eielson Array**	**78.06**	**11**		P		**P**	**18 23 41.0**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=320,slow=4.5,SNR=4.6								
ILAR	**Eielson Array**	**78.06**	**11**		P		**P**	**18 23 41.1**	**+1.2**
ILAR					pmax		pmax		
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**78.06**	**11**		P		**P**	**18 23 41.1**	**+1.2**
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**82.47**	**358**		P		**P**	**18 24 04.7**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=358,slow=5.7,SNR=2.8								
YKA	**Yellowknife Ar**	**82.47**	**358**		P		**P**	**18 24 04.7**	**+1.0**
YKA	**Yellowknife Ar**	**82.47**	**358**		P		**P**	**18 24 04.7**	**+1.0**
WRA	**Warramunga Arr**	**89.21**	**115**		P		**P**	**18 24 36.6**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=320,slow=4.1,SNR=7.2								
WRA	**Warramunga Arr**	**89.21**	**115**		P		**P**	**18 24 36.7**	**-1.0**
WRA					pmax		pmax		
	comp=Z,2.0nm,1.0s								
WRA	**Warramunga Arr**	**89.21**	**115**		P		**P**	**18 24 36.7**	**-1.0**
	comp=Z,2.0nm,1.0s								

IDC 12 18:19:52.1±2.4, 0.69S×133.47E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=93.2km s-min=24.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**18.94**	**204**	P	Pn		18 24 15.1	-0.2
	0.1nm,0.3s,baz=34,slow=12,SNR=2.6							
FITZ				S	Sn		18 27 31.5	-17
	0.1nm,0.3s,baz=112,slow=19,SNR=2.5							
WRA	**Warramunga Arr**	**19.15**	**178**	P	Pn		18 24 17.6	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=5.9							
WRA				S	Sn		18 27 43.3	-10
	0.0nm,0.3s,baz=354,slow=24,SNR=3.8							
ASAR	**Alice Springs**	**22.84**	**179**	P	P		18 24 56.6	-0.5
	0.5nm,0.5s,baz=359,slow=11,SNR=8.2							
MKAR	**Makanchi Array**	**65.05**	**324**	P	P		18 30 34.3	0.0
	0.2nm,0.6s,baz=116,slow=7.4,SNR=3.4							

IDC 12 18:27:59.6±3.0, 5.31N×124.08E, h474km±33km, mb2.7/4, mb1 2.9/4, mb1mx2.6/20, mbtmp2.7/4, Error ellipse: s-maj=43.5km s-min=20.9km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**27.05**	**158**	P	P		18 33 03.0	+0.1
	0.3nm,0.8s,baz=332,slow=10,SNR=3.0							
WRA				ScP	ScP		18 39 04.0	-0.4
	0.4nm,1.0s,baz=333,slow=3.0,SNR=2.9							
MJAR	**Matsushiro Arr**	**33.67**	**21**	P	P		18 33 59.4	-0.6
	1.3nm,0.6s,baz=198,slow=9.6,SNR=5.4							
SONM	**Songino Array**	**45.00**	**343**	P	P		18 35 32.0	+0.3
	0.2nm,0.4s,baz=154,slow=9.3,SNR=2.4							
MKAR	**Makanchi Array**	**54.77**	**326**	P	P		18 36 43.7	0.0
	0.9nm,0.6s,baz=123,slow=8.0,SNR=19							
MKAR				PcP	PcP		18 37 38.5	-0.7
	0.5nm,0.4s,baz=126,slow=3.4,SNR=11							

MAN 12 18:34:46, 15.28N×119.62E, h24km, mb4.7, ML3.6, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SCZP	**Santa Cruz**	**0.57**	**30**	*e*P	Pn		18 34 58.4	-0.3
SCZP				*e*S	Sb		18 35 05.9	+0.7
BOLP	**Bolinao**	**1.13**	**15**	*e*P	Pb		18 35 10.6	+3.6
BCPH	**Baguio City Da**	**1.44**	**40**	⇑*i*P	Pb		18 35 12.8	+0.5
BCPH				*i*S	Sb		18 35 32.8	+2.4
BALP	**Baler**	**1.94**	**76**	*e*P	Pn		18 35 18.4	+0.8
CAUP	**Cauayan**	**2.69**	**52**	*e*P	Pb		18 35 32.1	-1.4
BUSP	**Coron**	**3.30**	**170**	*e*P	Pn		18 35 34.7	-1.6

ISCJB ***12*** *19:05:40.9±0.8, 16.3S±0.2×176.0W±0.2, h364km, mb4.5/13, Error ellipse: s-maj=39.5km s-min=13.0km az=146.3*

IDC ***12*** *19:05:42.3±1.8, 16.26S×176.01W, h364km±20km, mb3.9/6, mb1 4.0/8, mb1mx3.5/20, mbtmp3.9/8, Error ellipse: s-maj=60.7km s-min=15.3km az=146.0*

ISC 12 19:05:41.9±1.0, 16.3S±0.3×176.0W±0.2, h364km, n20, σ0s51/22, mb4.8/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**4.70**	**60**	P	**Pn**		**19 06 59.6**	**+0.5**
	35nm,0.3s,baz=67,slow=2.0,SNR=19							
DZM	**Mont Dzumac**	**17.57**	**248**	P	**P**		**19 09 24.5**	**+0.8**
	0.7nm,0.3s,baz=68,slow=19,SNR=7.3							
CNB	**Canberra Magne**	**36.25**	**232**	*e*P	**P**		**19 12 12.4**	**+0.4**
	40nm,0.6s							
PMG	**Port Moresby**	**36.55**	**276**	P	**P**		**19 12 15.4**	**+0.7**
	14nm,0.9s,baz=105,slow=20,SNR=2.4							
CMSA	**Cobar Meteorol**	**37.97**	**239**	*e*P	**P**		**19 12 25.9**	**-0.4**
	27nm,0.6s							
TOO	**Toolangi**	**39.98**	**230**	*e*P	**P**		**19 12 43.3**	**+0.5**
	55nm,0.7s							
STKA	**Stephens Creek**	**41.44**	**240**	P	**P**		**19 12 54.9**	**+0.3**
	2.9nm,0.4s,baz=87,slow=9.6,SNR=25							
STKA	**Stephens Creek**	**41.44**	**240**	*e*P	**P**		**19 12 54.8**	**+0.2**
	3.0nm,0.6s							
BBOO	**Buckleboo**	**46.22**	**240**	*e*P	**P**		**19 13 32.0**	**-0.2**
	38nm,0.3s							
WRA	**Warramunga Arr**	**47.23**	**258**	P	**P**		**19 13 39.4**	**-0.8**
	11nm,0.6s,baz=91,slow=7.6,SNR=217							
WRA				PcP	**PcP**		**19 15 05.3**	**+0.4**
	1.2nm,0.5s,baz=93,slow=3.5,SNR=4.6							
ASAR	**Alice Springs**	**47.48**	**253**	P	**P**		**19 13 41.8**	**-0.2**
	28nm,0.3s,baz=88,slow=7.6,SNR=1341							
ASAR				PcP	**PcP**		**19 15 06.2**	**+0.4**
	1.1nm,0.5s,baz=100,slow=4.0,SNR=3.9							
FORT	**Forrest**	**52.80**	**244**	*e*P	**P**		**19 14 20.8**	**-0.6**
	23nm,0.6s							
MEEK	**Meekatharra**	**61.18**	**248**	*e*P	**P**		**19 15 19.2**	**-0.5**
	49nm,0.4s							
KLBR	**Kellerberrin**	**61.63**	**243**	*e*P	**P**		**19 15 22.0**	**-0.5**
	21nm,0.7s							
ILAR	**Eielson Array**	**83.82**	**12**	P	**P**		**19 17 30.5**	**-0.4**
	0.4nm,0.4s,baz=215,slow=5.2,SNR=18							
CMAR	**Chiang Mai Arr**	**90.55**	**289**	P	**P**		**19 18 04.3**	**+0.2**
	1.0nm,0.8s,baz=77,slow=2.7,SNR=5.6							
MKAR	**Makanchi Array**	**109.69**	**314**	PKiKP	**PKiKP**		**19 23 29.1**	**-0.9**
	0.2nm,0.7s,baz=152,slow=0.9,SNR=3.0							
ARCES	**ARCESS Array B**	**125.13**	**351**	PKP	**PKPdf**		**19 23 59.1**	**+0.1**
	5.6nm,1.0s,baz=26,slow=3.1,SNR=5.7							
BRTR	**Keskin Array B**	**146.59**	**318**	PKPbc	**PKPbc**		**19 24 37.5**	**-0.2**
	2.3nm,0.7s,baz=116,slow=3.1,SNR=17							
GERES	**GERESS Array B**	**146.59**	**348**	PKPbc	**PKPbc**		**19 24 41.1**	**-0.2**
	0.4nm,0.5s,baz=347,slow=5.5,SNR=4.3							

NIED ***12*** *19:06:00, 28.70N×129.60E, h29km, Mw3.9 Best double couple: M0 6.79000×10^14 NP1:φs273.00000°, δ68.00000°, λ-134.00000°. NP2:φs161.00000°, δ48.00000°, λ-31.00000°.*

JMA 12 19:06:33.6±0.1, 28.69N×129.56E, h20km±3km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAM	**Amami Oshima**	**0.28**	**172**	P	Pb		19 06 39.8	-0.2
JAM				S	Sb		19 06 43.7	-0.6
JZK	**Kikaishima**	**0.52**	**136**	P	Pb		19 06 43.7	-0.4
JZK				S	Sb		19 06 51.3	+0.1
JTK	**Tokunoshima**	**1.05**	**211**	P	Pb		19 06 52.7	-0.4
JTK				S	Sb		19 07 06.7	+0.3
JNN	**Nakanoshima**	**1.18**	**13**	P	Pn		19 06 54.3	-0.7
JNN				S	Sb		19 07 09.8	-0.4
JKC	**K

LCO	**Las Campanas**	**0.53**	**195**	*e*P		**Pn**	**19 14 03.6**	**0.0**
LCO				*e*S		**Sn**	**19 14 14.4**	**-0.3**
CFAA	**Coronel Fontan**	**3.69**	**148**	P		**Pn**	**19 14 44.6**	**+1.2**
	2.8nm,0.3s,baz=333,slow=10,SNR=81							
CFAA				S		**Sn**	**19 15 27.1**	**+1.3**
	8.4nm,0.3s,baz=208,slow=20,SNR=30							
CFAA	**Coronel Fontan**	**3.69**	**148**	P		**Pn**	**19 14 44.6**	**+1.2**
CFAA				S		**Sn**	**19 15 27.1**	**+1.3**
LVC	**Limon Verde**	**6.04**	**15**	*e*P		**Pn**	**19 15 12.7**	**-2.9**
	38nm,0.5s							
TRQA	**Tornquist**	**11.92**	**145**	*e*P		**Pn**	**19 16 34.1**	**-1.3**
CPUP	**Villa Florida**	**11.94**	**83**	P		**Pn**	**19 16 35.3**	**-0.4**
	baz=256,slow=4.2,SNR=1.8							
CPUP	**Villa Florida**	**11.94**	**83**	P		**Pn**	**19 16 35.3**	**-0.4**
LPAZ	**La Paz**	**12.35**	**11**	P		**Pn**	**19 16 44.5**	**+2.6**
	0.1nm,0.3s,baz=199,slow=6.4,SNR=3.1							
LPAZ				LR		LR	19 20 46.2	
	comp=Z,31nm,19.6s,baz=151,slow=34							
LPAZ	**La Paz**	**12.35**	**11**	P		**Pn**	**19 16 44.5**	**+2.6**
SIV	**San Ignacio**	**15.21**	**37**	P		**P**	**19 17 23.2**	**+1.5**
	0.2nm,0.3s,baz=216,slow=16,SNR=2.7							
SIV	**San Ignacio**	**15.21**	**37**	P		**P**	**19 17 23.2**	**+1.5**
VNA2	**Neumayer--Watz**	**54.63**	**159**	*e*		**P**	**19 23 08.4**	**+0.5**
SNAA	**Sanae**	**56.23**	**159**	*e*		**P**	**19 23 18.2**	**-1.2**
QSPA	**South Pole Qui**	**61.73**	**180**	P		**P**	**19 23 58.1**	**+0.5**
	2.1nm,0.5s,baz=161,slow=3.9,SNR=8.4							
QSPA	**South Pole Qui**	**61.73**	**180**	*e*P		**P**	**19 23 57.7**	**+0.1**
	4.5nm,0.7s							
TXAR	**Lajitas Array**	**65.65**	**328**	P		**P**	**19 24 24.2**	**+0.5**
	0.1nm,0.6s,baz=135,slow=9.0,SNR=4.5							
TXAR				pP		**pP**	**19 24 46.1**	**+0.2**
	0.1nm,0.5s,baz=113,slow=32,SNR=2.6							
TXAR	**Lajitas Array**	**65.65**	**328**	P		**P**	**19 24 24.2**	**+0.5**
TXAR				pP		**pP**	**19 24 46.1**	**+0.2**
DBIC	**Dimbokro**	**72.23**	**72**	P		**P**	**19 25 04.2**	**-0.5**
	2.3nm,0.5s,baz=212,slow=7.3,SNR=7.3							
DBIC	**Dimbokro**	**72.23**	**72**	*e*P		**P**	**19 25 04.0**	**-0.7**
	2.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**81.13**	**70**	P		**P**	**19 25 54.3**	**-0.6**
	1.9nm,0.6s,baz=266,slow=5.4,SNR=25							
TORD				pP		**pP**	**19 26 17.5**	**-0.2**
	0.7nm,0.7s,baz=268,slow=5.7,SNR=3.1							
TORD				sP		**sP**	**19 26 27.4**	**+0.3**
	1.0nm,0.8s,baz=262,slow=4.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**81.13**	**70**	P		**P**	**19 25 54.3**	**-0.6**
TORD				pP		**pP**	**19 26 17.5**	**-0.2**
TORD				sP		**sP**	**19 26 27.4**	**+0.3**
BOSA	**Boshof**	**81.50**	**118**	P		**P**	**19 25 56.2**	**-0.7**
	1.7nm,0.9s,baz=229,slow=7.8,SNR=4.2							
BOSA	**Boshof**	**81.50**	**118**	P		**P**	**19 25 56.2**	**-0.7**
ASAR	**Alice Springs**	**123.04**	**207**	PKP		**PKPdf**	**19 32 34.7**	**-0.9**
	0.3nm,0.8s,baz=141,slow=3.1,SNR=3.7							
ASAR	**Alice Springs**	**123.04**	**207**	PKP		**PKPdf**	**19 32 34.7**	**-0.9**
WRA	**Warramunga Arr**	**126.17**	**209**	PKP		**PKPdf**	**19 32 41.0**	**-0.6**
	0.2nm,0.3s,baz=153,slow=1.8,SNR=7.8							
WRA				pPKP		**pPKPdf**	**19 33 04.3**	**-1.5**
	0.2nm,0.4s,baz=157,slow=1.8,SNR=1.9							
WRA	**Warramunga Arr**	**126.17**	**209**	PKP		**PKPdf**	**19 32 41.0**	**-0.6**
WRA				pPKP		**pPKPdf**	**19 33 04.3**	**-1.5**
ZALV	**Zalesovo Beam**	**148.84**	**28**	PKPbc		**PKPbc**	**19 33 25.6**	**-0.1**
	1.7nm,0.6s,baz=308,slow=3.2,SNR=11							
ZALV				pPKPbc		**pPKPbc**	**19 33 49.1**	**-0.7**
	1.6nm,0.6s,baz=306,slow=3.1,SNR=5.4							
ZALV	**Zalesovo Beam**	**148.84**	**28**	PKPbc		**PKPbc**	**19 33 25.6**	**-0.1**
ZALV				pPKPbc		**pPKPbc**	**19 33 49.1**	**-0.7**
MKAR	**Makanchi Array**	**152.00**	**42**	PKPbc		**PKPbc**	**19 33 33.4**	**-0.2**
	0.9nm,0.6s,baz=329,slow=2.0,SNR=14							
MKAR				PKPab		**PKPab**	**19 33 43.6**	**+0.4**
	0.2nm,0.5s,baz=334,slow=2.7,SNR=4.5							
MKAR				pPKPbc		**pPKPbc**	**19 33 56.5**	**-1.1**
	1.0nm,0.7s,baz=298,slow=2.2,SNR=6.4							
MKAR				pPKPab		**pPKPab**	**19 34 05.3**	**-1.3**
	0.7nm,0.7s,baz=350,slow=2.2,SNR=3.7							
MKAR	**Makanchi Array**	**152.00**	**42**	PKPbc		**PKPbc**	**19 33 33.4**	**-0.2**
MKAR				PKPab		**PKPab**	**19 33 43.6**	**+0.4**
MKAR				pPKPbc		**pPKPbc**	**19 33 56.5**	**-1.1**
MKAR				pPKPab		**pPKPab**	**19 34 05.3**	**-1.3**

MAN 12 19:23:42,6.05N×126.21E,h131km,mb4.8,ML3.7,MS3.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.89**	**3**	*e*P	Pn	19 24 05.2	+1.2
MATI				*e*S	Sn	19 24 13.2	-7.6
DMPH	**Davao City--Mi**	**1.24**	**326**	*i* P	Pn	19 24 08.8	+1.4
DMPH				*i* S	Sn	19 24 30.3	+3.6
BUKP	**Musuan**	**2.14**	**328**	*e*P	Pn	19 24 17.9	+0.1
BUKP				*e*S	Sn	19 24 38.1	-7.3

IDC ***12*** *19:36:31.6±1.3,31.05N×103.61E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.6/25,mbtmp3.7/8,Error ellipse: s-maj=34.0km s-min=21.4km az=43.0*
ISCJB ***12*** *19:36:33.4±0.5,31.20N±0.04×103.80E±0.10,h16km, mb3.5/6,Error ellipse: s-maj=12.6km s-min=4.9km az=12.5*
BJI ***12*** *19:36:33.4,31.11N×103.82E,h11km,mb4.1/3,ML3.7/18, Ms3.8/4,MsZ 3.7/3*

ISC 12 19:36:34.6±0.7,31.09N±0.04×103.76E±0.07,h16km,n17, σ2852/21,mb3.6/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.17**	**181**	Pg	**Pb**	**19 36 38.9**	**-0.6**
CD2				Sg	**Sb**	**19 36 44.4**	**+1.7**
CD2				smax	smax		
	comp=N,22μm,0.7s						
CD2				smax	smax		
	comp=E,12μm,0.9s						
LZH	**Lanzhou**	**4.99**	**1**	Pg	Pg	19 38 05.1	-5.0
LZH				Sg	**Sg**	**19 39 11.9**	**-2.9**
LZH				smax	smax		
	comp=N,140nm,1.1s						
LZH				smax	smax		
	comp=E,85nm,1.2s						
LZH				LR	LR		
	comp=N,770nm,7.1s						
LZH				LR	LR		
	comp=E,820nm,6.0s						
LZH				LR	LR		
	comp=Z,590nm,7.6s						
XAN	**Xi'an**	**5.26**	**55**	Pn	**Pn**	**19 37 52.1**	**-0.5**
XAN				Pg	**Pb**	**19 38 08.3**	**+2.1**
XAN				Sn	**Sn**	**19 38 47.4**	**-5.5**
XAN				Sg	**Sb**	**19 39 13.3**	**+4.2**
XAN				smax	smax		
	comp=N,210nm,0.8s						
XAN				smax	smax		
	comp=E,100nm,0.8s						
XAN				LR	LR		
	comp=N,270nm,6.1s						
XAN				LR	LR		
	comp=E,43nm,4.4s						
GYA	**Guiyang**	**5.27**	**150**	*e*Pg	Pb	19 38 02.1	-4.3
GYA				Sn	**Sn**	**19 38 49.4**	**-3.8**
GYA				smax	smax		
	comp=N,110nm,1.2s						
GYA				smax	smax		
	comp=E,110nm,1.0s						
KMI	**Kunming**	**6.01**	**189**	Pg	Pb	19 38 12.4	-6.7
KMI				Sg	**Sn**	**19 39 16.0**	**+4.4**
KMI				smax	smax		
	comp=N,29nm,1.9s						
KMI				smax	smax		
	comp=E,20nm,1.1s						
KMI				LR	LR		
	comp=N,290nm,7.5s						
KMI				LR	LR		
	comp=E,410nm,6.1s						
KMI				LR	LR		
	comp=Z,190nm,6.3s						
GTA	**Gaotai**	**8.91**	**340**	*e*P	**Pn**	**19 38 44.7**	**+1.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WHN	**Wuhan**	**9.12**	**91**	*e*P	Pn	19 38 50.7	+5.1
WHN				S	**Sn**	**19 40 25.2**	**-2.7**
HHC	**Hu-ho-hao-te**	**11.61**	**31**	*e*P	**Pn**	**19 39 18.8**	**-0.9**
HHC				PP		19 39 27.9	
HHC				S	**Sn**	**19 41 29.5**	**+0.5**
HHC				SS		19 41 43.6	
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				LR	LR		
	comp=N,220nm,6.8s						
HHC				LR	LR		
	comp=E,320nm,7.0s						
HHC				LR	LR		
	comp=Z,180nm,6.1s						
CMAR	**Chiang Mai Arr**	**13.31**	**200**	Pn	P	19 39 48.7	-3.9
	comp=Z,0.0nm,0.3s,baz=1.2,slow=8.7,SNR=2.5						
SONM	**Songino Array**	**16.85**	**6**	Pn	**Pn**	**19 40 29.2**	**-0.6**
	baz=180,slow=10.0,SNR=7.3						
KSRS	**Korea Array**	**20.93**	**66**	P	**P**	**19 41 17.3**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=266,slow=11,SNR=23						
MKAR	**Makanchi Array**	**22.80**	**320**	P	**P**	**19 41 35.5**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=122,slow=11,SNR=5.9						
USRK	**Ussuriysk Arra**	**25.77**	**52**	P	**P**	**19 42 05.2**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=231,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**26.61**	**335**	P	**P**	**19 42 11.1**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=140,slow=12,SNR=4.2						
KURK	**Kurchatov**	**27.09**	**324**	P	**P**	**19 42 15.7**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=127,slow=9.3,SNR=7.0						
WRA	**Warramunga Arr**	**58.62**	**146**	P	**P**	**19 46 30.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=338,slow=7.9,SNR=9.4						
YKA	**Yellowknife Ar**	**81.80**	**17**	P	**P**	**19 48 51.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=324,slow=5.3,SNR=2.6						

IDC 12 19:41:40.9±2.6,0.52S×131.74E,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=126.5km s-min=24.6km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.47**	**199**	P	P	19 45 58.3	-0.2
	0.2nm,0.3s,baz=16,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**19.47**	**173**	P	P	19 46 09.1	-0.4
	0.1nm,0.3s,baz=353,slow=11,SNR=4.9						
WRA				S	Sn	19 49 37.6	-12
	0.1nm,0.3s,baz=346,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**23.11**	**175**	P	P	19 46 48.8	+0.1
	1.0nm,0.7s,baz=350,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	**63.89**	**324**	P	P	19 52 15.6	0.0
	0.1nm,0.5s,baz=114,slow=8.4,SNR=2.5						

DJA ***12*** *19:53:23,0.04S×132.75E,h10km,MLv4.4/7*
IDC 12 19:53:21.2±1.0,0.13S×132.87E,h0km,mb4.1/9, mb1 4.2/11,mb1mx4.1/20,mbtmp4.1/11,ML3.9/2, MS3.5/7,Ms1 3.5/7,ms1mx3.2/35,Error ellipse: s-maj=47.3km s-min=15.6km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.97**	**249**	LR	LR	20 01 40.3	
	comp=Z,66nm,19.8s,baz=302,slow=36						
GUMO	**Guam**	**18.09**	**41**	LR	LR	20 03 45.0	
	comp=Z,131nm,18.8s,baz=120,slow=34						
FITZ	**Fitzroy Crossi**	**19.22**	**201**	P	Pn	19 57 47.9	-0.1
	0.4nm,0.3s,baz=26,slow=14,SNR=6.6						
FITZ				S	Sn	20 01 14.1	-10
	0.1nm,0.3s,baz=180,slow=19,SNR=2.4						
FITZ				LR	LR	20 06 03.0	
	comp=Z,52nm,19.0s,baz=17,slow=40						
WRA	**Warramunga Arr**	**19.74**	**176**	P	P	19 57 52.4	-0.4
	0.3nm,0.3s,baz=352,slow=11,SNR=21						
WRA				S	S	20 01 28.1	-8.4
	0.1nm,0.3s,baz=354,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**23.42**	**178**	P	P	19 58 32.1	0.0
	7.4nm,0.8s,baz=359,slow=9.8,SNR=62						
STKA	**Stephens Creek**	**32.64**	**166**	P	P	19 59 54.5	-0.4
	2.8nm,0.8s,baz=338,slow=8.8,SNR=4.6						
STKA				LR	LR	20 14 45.9	
	comp=Z,154nm,19.6s,baz=24,slow=39						
MJAR	**Matsushiro Arr**	**36.82**	**7**	LR	LR	20 12 19.4	
	comp=Z,100nm,20.7s,baz=205,slow=31						
KSRS	**Korea Array**	**37.68**	**354**	LR	LR	20 13 44.2	
	comp=Z,91nm,19.4s,baz=188,slow=32						
CMAR	**Chiang Mai Arr**	**38.10**	**301**	P	P	20 00 42.1	-0.1
	1.2nm,1.0s,baz=129,slow=7.1,SNR=4.6						
SONM	**Songino Array**	**53.03**	**338**	P	P	20 02 39.0	-1.2
	1.6nm,1.1s,baz=152,slow=6.5,SNR=2.1						
MKAR	**Makanchi Array**	**64.24**	**324**	P	P	20 03 58.5	+0.3
	2.1nm,0.8s,baz=114,slow=8.0,SNR=20						
ZALV	**Zalesovo Beam**	**66.84**	**331**	P	P	20 04 14.7	-0.2
	2.2nm,0.9s,baz=104,slow=6.3,SNR=7.9						
KURK	**Kurchatov**	**68.30**	**326**	P	P	20 04 24.2	0.0
	2.9nm,0.9s,baz=121,slow=5.7,SNR=18						
BVAR	**Borovoye Array**	**73.90**	**326**	P	P	20 04 58.6	+0.4
	3.9nm,1.0s,baz=120,slow=6.0,SNR=12						
KDAK	**Kodiak Island**	**81.90**	**31**	LR	LR	20 35 58.5	
	comp=Z,97nm,21.7s,baz=99,slow=31						
ILAR	**Eielson Array**	**85.95**	**25**	P	P	20 06 03.8	+0.7
	1.2nm,1.0s,baz=245,slow=6.2,SNR=5.6						

IDC 12 20:03:53.2±1.6,28.83S×70.51W,h0km,mb4.1/2, mb1 4.0/2,mb1mx3.7/13,mbtmp4.1/2,Error ellipse: s-maj=155.5km s-min=58.1km az=157.0,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**72.30**	**72**	P	P	20 15 21.3	+0.3
	0.6nm,0.4s,baz=203,slow=7.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.21**	**70**	P	P	20 16 11.3	-0.1
	0.5nm,0.4s,baz=254,slow=4.2,SNR=9.6						
WRA	**Warramunga Arr**	**125.90**	**209**	PKP	PKPdf	20 22 57.7	-0.2
	1.5nm,1.2s,baz=159,slow=2.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**149.12**	**29**	PKPbc	PKPbc	20 23 43.2	+0.2
	0.8nm,0.5s,baz=300,slow=3.9,SNR=4.8						
MKAR	**Makanchi Array**	**152.22**	**42**	PKPbc	PKPbc	20 23 49.7	-1.0
	0.8nm,0.9s,baz=319,slow=1.4,SNR=5.4						

IDC ***12*** *20:10:45.4±1.1,10.06S×160.62E,h0km,mb4.3/13, mb1 4.4/13,mb1mx4.3/19,mbtmp4.3/13,MS3.6/5, Ms1 3.5/5,ms1mx3.1/34,Error ellipse: s-maj=28.8km s-min=17.4km az=115.0*
ISCJB ***12*** *20:10:49.5±0.6,9.99S±0.06×160.58E±0.09,h37km, mb4.3/16,MS3.5/3,Error ellipse: s-maj=13.3km s-min=8.6km az=176.8*
NEIC ***12*** *20:10:54.0±2.6,9.86S×160.39E,h54km±16km,mb4.5/4, Error ellipse: s-maj=38.0km s-min=11.3km az=116.0*
ISC 12 20:10:51.6±0.8,9.97S±0.08×160.5E±0.1,h37km,n41, σ092/40,mb4.3/16,MS3.5/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.79**	**312**	Pn	**Pn**	**20 11 06.0**	**-0.1**
	710nm,0.3s,baz=152,slow=7.6,SNR=176						
HNR				Sn	**Sn**	**20 11 17.2**	**+0.5**
	6μm,0.3s,baz=42,slow=22,SNR=58						
HNR	**Honiara**	**0.79**	**312**	Pn	**Pn**	**20 11 06.0**	**-0.1**
HNR				Sn	**Sn**	**20 11 17.2**	**+0.5**
DZM	**Mont Dzumac**	**13.30**	**155**	LR	LR	20 17 52.1	
	comp=Z,179nm,18.3s,baz=226,slow=32						
CTA	**Charters Tower**	**17.06**	**232**	P	**P**	**20 14 49.2**	**+0.4**
	0.7nm,0.3s,baz=60,slow=13,SNR=11						
CTA				LR	LR	20 20 15.7	
	comp=Z,176nm,21.1s,baz=54,slow=33						
CTA	**Charters Tower**	**17.06**	**232**	*e*P	**P**	**20 14 51.3**	**+2.4**
	15nm,0.7s						
CTA	**Charters Tower**	**17.06**	**232**	P	**P**	**20 14 49.2**	**+0.4**
CTAO	**Charters Tower**	**17.06**	**232**	*e*P	**P**	**20 14 51.1**	**+2.3**
	32nm,0.9s						
RMQ	**Roma**	**19.85**	**213**	*e*P	**Pn**	**20 15 21.8**	**+0.5**
	48nm,1.1s						
ARMA	**Armidale**	**21.98**	**201**	*e*P	**P**	**20 15 43.7**	**+1.2**
CMSA	**Cobar Meteorol**	**25.50**	**211**	*e*P	**P**	**20 16 16.6**	**0.0**
	28nm,0.6s						
WRAB	**Tennant Creek**	**27.13**	**246**	*e*P	**P**	**20 16 30.6**	**-0.9**
	16nm,1.2s						
WB2	**Warramunga Arr**	**27.13**	**246**	*e*P	**P**	**20 16 30.7**	**-0.8**
WRA	**Warramunga Arr**	**27.14**	**246**	P	**P**	**20 16 31.0**	**-0.6**
	5.7nm,0.9s,baz=74,slow=9.6,SNR=25						
WRA	**Warramunga Arr**	**27.14**	**246**	P	**P**	**20 16 31.0**	**-0.6**
STKA	**Stephens Creek**	**27.98**	**216**	P	**P**	**20 16 38.6**	**-0.3**
	3.0nm,0.5s,baz=61,slow=15,SNR=15						
STKA				LR	LR	20 26 31.5	
	comp=Z,82nm,18.4s,baz=294,slow=34						
STKA	**Stephens Creek**	**27.98**	**216**	*e*P	**P**	**20 16 39.1**	**+0.2**
	2.7nm,0.5s						
STKA	**Stephens Creek**	**27.98**	**216**	*e*P	**P**	**20 16 39.1**	**+0.2**
	0.9nm,0.7s						
GUMO	**Guam**	**28.10**	**326**	LR	LR	20 26 45.4	
	comp=Z,127nm,21.2s,baz=271,slow=34						
ASAR	**Alice Springs**	**28.83**	**238**	P	**P**	**20 16 45.6**	**-1.1**
	0.9nm,0.6s,baz=61,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.83**	**238**	P	**P**	**20 16 45.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**34.76**	**253**	P	**P**	**20 17 37.2**	**-1.5**
	2.5nm,0.7s,baz=85,slow=6.9,SNR=7.3						
FITZ	**Fitzroy Crossi**	**34.76**	**253**	P	**P**	**20 17 37.2**	**-1.5**
NWAO	**Narrogin (SRO)**	**45.90**	**233**	LR	LR	20 37 29.1	
	comp=Z,115nm,20.6s,baz=56,slow=35						
MJAR	**Matsushiro Arr**	**50.81**	**337**	P	**P**	**20 19 47.5**	**-1.0**
	1.1nm,0.5s,baz=170,slow=7.6,SNR=4.4						
MJAR	**Matsushiro Arr**	**50.81**	**337**	P	**P**	**20 19 47.5**	**-1.0**
KSRS	**Korea Array**	**56.20**	**329**	P	**P**	**20 20 27.7**	**-0.3**
	2.8nm,0.8s,baz=143,slow=7.6,SNR=5.8						
KSAR	**Wonju Array Be**	**56.22**	**329**	P	**P**	**20 20 27.7**	**-0.4**
ASAJ	**Asahikawa**	**56.24**	**345**	P	**P**	**20 20 29.0**	**+0.9**
	9.1nm,0.9s,baz=155,slow=17,SNR=4.1						
ASAJ	**Asahikawa**	**56.24**	**345**	P	**P**	**20 20 29.0**	**+0.9**
USRK	**Ussuriysk Arra**	**59.80**	**337**	P	**P**	**20 20 52.4**	**-0.7**
	3.4nm,0.9s,baz=159,slow=16,SNR=4.0						
CMAR	**Chiang Mai Arr**	**67.00**	**295**	P	**P**	**20 21 42.0**	**+0.8**
	1.8nm,0.7s,baz=128,slow=5.6,SNR=12						
CMAR	**Chiang Mai Arr**	**67.00**	**295**	P	**P**	**20 21 42.0**	**+0.8**
SONM	**Songino Array**	**74.83**	**326**	P	**P**	**20 22 29.2**	**+0.9**
	1.9nm,0.6s,baz=141,slow=5.6,SNR=16						
SONM	**Songino Array**	**74.83**	**326**	P	**P**	**20 22 29.2**	**+0.9**
BILL	**Bilibino**	**77.92**	**2**	*e*P	**P**	**20 22 45.8**	**+0.6**
	11nm,1.0s						
ILAR	**Eielson Array**	**84.19**	**20**	P	**P**	**20 23 18.5**	**-0.2**
	1.7nm,0.7s,baz=249,slow=4.9,SNR=29						
ILAR	**Eielson Array**	**84.19**	**20**	P	**P**	**20 23 18.5**	**-0.2**
MKAR	**Makanchi Array**	**89.26**	**318**	P	**P**	**20 23 43.1**	**-0.8**
	0.4nm,0.7s,baz=110,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**89.26**	**318**	P	**P**	**20 23 43.1**	**-0.8**
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**20 24 16.3**	**-0.1**
	1.2nm,0.6s,baz=258,slow=4.7,SNR=13						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**20 24 16.3**	**-0.1**

SKO ***12*** *20:12:05.9,38.03N×22.97E,h0km*
IDC ***12*** *20:12:06.4±0.9,38.18N±22.62E,h0km,mb4.0/12, mb1 4.1/16,mb1mx4.0/29,mbtmp3.9/16,ML3.7/4,MS2.6/1, Ms1 2.6/1,ms1mx2.2/53,Error ellipse: s-maj=18.6km s-min=16.2km az=16.0*
ATH ***12*** *20:12:08.2,38.15N×22.64E,h23km,ML3.8*
THE ***12*** *20:12:08.5,38.16N×22.65E,h0km±2km,ML4.0/12,Error ellipse: s-maj=2.1km s-min=0.5km az=128.0*
CSEM ***12*** *20:12:08.6±0.1,38.16N×22.66E,h8km,ML4.0/12,Error ellipse: s-maj=2.5km s-min=2.0km az=40.0*
ISCJB ***12*** *20:12:08.7±0.2,38.16N±0.01×22.65E±0.02,h22km±2km, mb4.0/14,Error ellipse: s-maj=2.4km s-min=2.0km az=136.0*

ISC 12 20:12:08.6±0.8,38.16N±0.01×22.64E±0.01,h13km±5km, n278,σ109/350,mb4.1/14,12C-12D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.26**	**341**	P	**Pg**	**20 12 14.1**	**-0.1**
DSF				S	**Sg**	**20 12 18.2**	**+0.2**
DSF	**Desfina**	**0.26**	**341**	P	**Pg**	**20 12 14.1**	**-0.1**
DSF				S	**Sg**	**20 12 18.2**	**+0.2**
DESF	**Desfina**	**0.27**	**342**	P	**Pg**	**20 12 13.2**	**-1.0**
DESF	**Desfina**	**0.27**	**342**	P	**Pg**	**20 12 13.2**	**-1.0**
LTK	**Loutraki**	**0.29**	**118**	P	**Pg**	**20 12 14.6**	**-0.1**
LTK				S	**Sg**	**20 12 18.5**	**-0.3**
LTK	**Loutraki**	**0.29**	**118**	*e*PB	**Pg**	**20 12 14.7**	**0.0**
LTK				*e*SB	**Sb**	**20 12 19.9**	**-0.6**
LTK	**Loutraki**	**0.29**	**118**	P	**Pg**	**20 12 14.6**	**-0.1**
LTK				S	**Sg**	**20 12 18.5**	**-0.3**
LTK				*e*Sb	**Sb**	**20 12 19.9**	**-0.6**
GUR	**Goura**	**0.32**	**226**	P	**Pg**	**20 12 14.9**	**-0.3**
GUR				S	**Sg**	**20 12 19.1**	**-0.6**
GUR	**Goura**	**0.32**	**226**	*e*PB	**Pg**	**20 12 15.0**	**-0.3**
GUR				*e*SB	**Sg**	**20 12 19.0**	**-0.6**
GUR	**Goura**	**0.32**	**226**	P	**Pg**	**20 12 14.9**	**-0.3**
GUR				S	**Sg**	**20 12 19.1**	**-0.6**
KALE	**Kalithea**	**0.45**	**301**	P	**Pg**	**20 12 17.4**	**-0.2**
KALE				S	**Sg**	**20 12 24.1**	**+0.4**
KALE	**Kalithea**	**0.45**	**301**	P	**Pg**	**20 12 17.4**	**-0.2**
KALE				S	**Sg**	**20 12 24.1**	**+0.4**
TRIZ	**Trizonia**	**0.49**	**295**	P	**Pg**	**20 12 18.0**	**-0.2**
TRIZ	**Trizonia**	**0.49**	**295**	P	**Pg**	**20 12 18.0**	**-0.2**
LAKA	**Lakka**	**0.53**	**279**	P	**Pg**	**20 12 18.7**	**-0.2**
LAKA				S	**Sg**	**20 12 26.4**	**+0.5**
LAKA	**Lakka**	**0.53**	**279**	P	**Pg**	**20 12 18.7**	**-0.2**
LAKA				S	**Sg**	**20 12 26.4**	**+0.5**
VIL1	**Vilia, Western**	**0.54**	**89**	*e*PN	**Pg**	**20 12 19.3**	**+0.1**
VIL1				*e*SN	**Sg**	**20 12 26.9**	**+0.4**
VIL1	**Vilia, Western**	**0.54**	**89**	*e*Pn	**Pg**	**20 12 19.3**	**+0.1**
VIL1				*e*Sn	**Sg**	**20 12 26.9**	**+0.4**
LKR	**Lokris**	**0.57**	**30**	P	**Pg**	**20 12 19.1**	**-0.6**
LKR				S	**

VLY				*e*SN	**Sg**	20 12 40.3	+0.5
VLY	**Voula,Athens**	**0.96**	**108**	P	**Pb**	20 12 26.8	-0.3
VLY	**Voula,Athens**	**0.96**	**108**	*e*Pn	**Pn**	20 12 27.8	0.0
VLY				*e*Sn	**Sg**	20 12 40.3	+0.5
PTL	**Penteli**	**0.97**	**96**	P	**Pb**	20 12 27.1	-0.2
PTL	**Penteli**	**0.97**	**96**	*e*PN	**Pg**	20 12 27.5	+0.1
PTL				*e*SN	**Sb**	20 12 40.0	-0.1
PTL	**Penteli**	**0.97**	**96**	P	**Pb**	20 12 27.1	-0.2
PTL	**Penteli**	**0.97**	**96**	*e*Pn	**Pg**	20 12 27.5	+0.1
PTL				*e*Sn	**Sb**	20 12 40.0	-0.1
EVR	**Evrytania**	**1.00**	**320**	P	**Pb**	20 12 27.5	-0.2
EVR				S	**Sn**	20 12 42.4	+0.1
EVR	**Evrytania**	**1.00**	**320**	*e*PN	**Pb**	20 12 28.0	+0.3
EVR				*e*SN	**Sb**	20 12 41.0	+0.2
EVR	**Evrytania**	**1.00**	**320**	P	**Pb**	20 12 27.5	-0.2
EVR	**Evrytania**	**1.00**	**320**	*e*Pn	**Pb**	20 12 28.0	+0.3
EVR				*e*Sn	**Sb**	20 12 41.0	+0.2
EVR				S	**Sn**	20 12 42.4	+0.1
ITM	**Ithomi**	**1.13**	**210**	P	**Pb**	20 12 29.2	-0.7
ITM				S	**Sn**	20 12 46.7	+1.3
ITM	**Ithomi**	**1.13**	**210**	*e*PN	**Pb**	20 12 29.3	-0.7
ITM	**Ithomi**	**1.13**	**210**	P	**Pb**	20 12 29.2	-0.7
ITM				S	**Sn**	20 12 46.7	+1.3
SKIA	**Skiathos**	**1.20**	**33**	P	**Pn**	20 12 30.7	-0.3
SKIA	**Skiathos**	**1.20**	**33**	P	**Pn**	20 12 30.7	-0.3
NEO	**Neokhori**	**1.23**	**22**	P	**Pn**	20 12 31.5	0.0
NEO	**Neokhori**	**1.23**	**22**	*e*PN	**Pn**	20 12 31.5	0.0
NEO				*e*SN	**Sg**	20 12 48.8	+0.5
NEO	**Neokhori**	**1.23**	**22**	P	**Pn**	20 12 31.5	0.0
NEO				*e*Sn	**Sg**	20 12 48.8	+0.5
XOR	**Xorichti**	**1.28**	**20**	P	**Pn**	20 12 32.1	0.0
XOR				S	**Sg**	20 12 50.6	+0.8
XOR	**Xorichti**	**1.28**	**20**	P	**Pn**	20 12 32.1	0.0
XOR				S	**Sg**	20 12 50.6	+0.8
MRMA	**Marmari**	**1.38**	**94**	P	**Pn**	20 12 33.6	+0.1
MRMA	**Marmari**	**1.38**	**94**	P	**Pn**	20 12 33.6	+0.1
DYR	**Agios Nikonas**	**1.42**	**190**	P	**Pn**	20 12 34.1	+0.1
PYL	**PYLOS**	**1.45**	**210**	P	**Pb**	20 12 35.1	-0.3
PYL	**PYLOS**	**1.45**	**210**	*e*PN	**Pb**	20 12 35.2	-0.2
PYL	**PYLOS**	**1.45**	**210**	P	**Pb**	20 12 35.1	-0.3
VLI	**Veliai**	**1.46**	**171**	P	**Pn**	20 12 34.8	+0.2
VLI	**Veliai**	**1.46**	**171**	*e*PN	**Pn**	20 12 34.9	+0.3
VLI				*e*SN	**Sb**	20 12 54.2	+0.2
VLI	**Veliai**	**1.46**	**171**	*e*Pn	**Pn**	20 12 34.9	+0.3
VLI				*e*Sn	**Sb**	20 12 54.3	+0.2
THL	**Klokotos Trika**	**1.48**	**341**	P	**Pb**	20 12 35.6	-0.4
THL	**Klokotos Trika**	**1.48**	**341**	*e*PN	**Pb**	20 12 35.8	-0.2
THL				*e*SN	**Sb**	20 12 55.0	+0.3
THL	**Klokotos Trika**	**1.48**	**341**	*e*Pn	**Pb**	20 12 35.8	-0.2
THL				*e*Sn	**Sb**	20 12 55.0	+0.3
VLS	**Valsamata**	**1.61**	**271**	P	**Pb**	20 12 37.9	-0.3
VLS	**Valsamata**	**1.61**	**271**	*e*PN	**Pb**	20 12 38.5	+0.3
VLS	**Valsamata**	**1.61**	**271**	P	**Pb**	20 12 37.9	-0.3
VLS	**Valsamata**	**1.61**	**271**	*e*Pn	**Pb**	20 12 38.5	+0.3
LKD2	**Lefkada island**	**1.68**	**293**	P	**Pb**	20 12 39.3	0.0
LKD2	**Lefkada island**	**1.68**	**293**	P	**Pb**	20 12 39.3	0.0
KYTH	**Kithira**	**1.90**	**170**	P	**Pb**	20 12 42.2	-0.9
KYTH	**Kithira**	**1.90**	**170**	*e*PN	**Pb**	20 12 42.1	-1.0
KYTH	**Kithira**	**1.90**	**170**	*e*Pn	**Pb**	20 12 42.1	-1.0
LIT	**Litokhoron**	**1.94**	**357**	P	**Pn**	20 12 41.7	+0.5
LIT	**Litokhoron**	**1.94**	**357**	P	**Pn**	20 12 41.7	+0.5
PAIG	**Paliouri**	**1.94**	**24**	P	**Pn**	20 12 41.1	-0.1
PAIG	**Paliouri**	**1.94**	**24**	P	**Pn**	20 12 41.1	-0.1
MEV	**Metsovon**	**1.96**	**326**	P	**Pn**	20 12 42.9	+1.3
MEV	**Metsovon**	**1.96**	**326**	P	**Pn**	20 12 42.9	+1.3
RGA	**Parga**	**2.13**	**304**	P	**Pb**	20 12 46.8	-0.2
RGA	**Parga**	**2.13**	**304**	P	**Pb**	20 12 46.8	-0.2
KZN	**Kozani**	**2.25**	**343**	P	**Pn**	20 12 46.7	+1.2
KZN	**Kozani**	**2.25**	**343**	*e*PB	**Pn**	20 12 46.7	+1.2
KZN	**Kozani**	**2.25**	**343**	*e*Pb	**Pn**	20 12 46.7	+1.2
IGT	**Igoumenitsa**	**2.26**	**308**	P	**Pb**	20 12 48.2	-1.0
IGT	**Igoumenitsa**	**2.26**	**308**	P	**Pb**	20 12 48.2	-1.0
OUR	**Ouranopolis**	**2.41**	**25**	P	**Pn**	20 12 47.7	+0.1
OUR	**Ouranopolis**	**2.41**	**25**	P	**Pn**	20 12 47.7	+0.1
HORT	**Hortiatis**	**2.46**	**8**	P	**Pn**	20 12 48.4	0.0
HORT	**Hortiatis**	**2.46**	**8**	P	**Pn**	20 12 48.4	0.0
APE	**Apeiranthos**	**2.54**	**114**	*e*PN	**Pn**	20 12 49.8	+0.3
APE	**Apeiranthos**	**2.54**	**114**	*e*Pn	**Pn**	20 12 49.8	+0.3
NEST	**Nestorio**	**2.57**	**332**	P	**Pn**	20 12 52.1	+2.2
NEST	**Nestorio**	**2.57**	**332**	P	**Pn**	20 12 52.1	+2.2
LIA	**Limnos Island**	**2.63**	**48**	*e*PN	**Pn**	20 12 50.6	-0.1
LIA	**Limnos Island**	**2.63**	**48**	*e*Pn	**Pn**	20 12 50.6	-0.1
CHOS	**Chios island**	**2.70**	**84**	*e*PN	**Pn**	20 12 52.6	+0.9
CHOS	**Chios island**	**2.70**	**84**	*e*Pn	**Pn**	20 12 52.6	+0.9
KEK	**Kerkira**	**2.70**	**306**	P	**Pn**	20 12 54.1	+2.4
KEK	**Kerkira**	**2.70**	**306**	*e*PB	**Pn**	20 12 53.7	+2.0
KEK	**Kerkira**	**2.70**	**306**	*e*Pb	**Pn**	20 12 53.7	+2.0
KEK	**Kerkira**	**2.70**	**306**	P	**Pn**	20 12 54.1	+2.4
SOH	**Sokhos**	**2.71**	**12**	P	**Pn**	20 12 52.7	+0.8
SOH	**Sokhos**	**2.71**	**12**	*e*PN	**Pn**	20 12 52.7	+0.8
SOH	**Sokhos**	**2.71**	**12**	P	**Pn**	20 12 52.7	+0.8
FNA	**Florina**	**2.79**	**340**	P	**Pn**	20 12 54.4	+1.4
FNA	**Florina**	**2.79**	**340**	P	**Pn**	20 12 54.4	+1.4
KNT	**Kendrikon**	**3.00**	**4**	P	**Pn**	20 12 56.9	+1.1
KNT	**Kendrikon**	**3.00**	**4**	P	**Pn**	20 12 56.9	+1.1
VAM	**Vamos**	**3.02**	**155**	*e*PN	**Pn**	20 12 56.3	+0.2
VAM	**Vamos**	**3.02**	**155**	*e*Pn	**Pn**	20 12 56.3	+0.2
BIA	**Bitola**	**3.03**	**341**	*e*Pn	**Pn**	20 12 58.0	+1.7
BIA				*e*Sn	**Sb**	20 13 37.4	-1.9
BIA	**Bitola**	**3.03**	**341**	*e*Pn	**Pn**	20 12 57.9	+1.7
BIA				*e*Sn	**Sb**	20 13 37.4	-1.9
PRK	**Paraskevi**	**3.04**	**68**	*e*PN	**Pn**	20 12 57.2	+0.9
PRK	**Paraskevi**	**3.04**	**68**	*e*Pn	**Pn**	20 12 57.2	+0.9
SRS	**Serrai**	**3.04**	**14**	P	**Pn**	20 12 56.8	+0.4
SRS	**Serrai**	**3.04**	**14**	P	**Pn**	20 12 56.8	+0.4
VAY	**Valandovo**	**3.16**	**359**	*e*Pn	**Pn**	20 12 58.6	+0.7
VAY				*e*Sn	**Sn**	20 13 37.7	+2.3
VAY	**Valandovo**	**3.16**	**359**	*e*Pn	**Pn**	20 12 59.1	+1.2
VAY				*e*Sn	**Sn**	20 13 38.1	+2.7
NVR	**Nevrokopi**	**3.32**	**16**	P	**Pn**	20 13 00.4	+0.2
NVR	**Nevrokopi**	**3.32**	**16**	*e*PN	**Pn**	20 13 00.5	+0.2
NVR	**Nevrokopi**	**3.32**	**16**	*e*Pn	**Pn**	20 13 00.5	+0.2
SMG	**Samos**	**3.35**	**96**	*e*PN	**Pn**	20 13 01.5	+0.9
SMG	**Samos**	**3.35**	**96**	*e*Pn	**Pn**	20 13 01.5	+0.9
KRUS	**Krusevo**	**3.38**	**342**	*e*Pn	**Pn**	20 13 02.9	+1.8
KRUS	**Krusevo**	**3.38**	**342**	*e*Pn	**Pn**	20 13 02.8	+1.8
IDI	**Anoyia**	**3.39**	**147**	*e*PN	**Pn**	20 13 01.5	+0.3
IDI	**Anoyia**	**3.39**	**147**	*e*Pn	**Pn**	20 13 01.5	+0.3
SIVA	**Sivas**	**3.59**	**150**	*e*PN	**Pn**	20 13 06.4	+2.5
SIVA	**Sivas**	**3.59**	**150**	*e*Pn	**Pn**	20 13 06.4	+2.5
NPS	**Neapolis**	**3.75**	**140**	*e*PN	**Pn**	20 13 07.8	+1.7
NPS	**Neapolis**	**3.75**	**140**	*e*Pn	**Pn**	20 13 07.8	+1.7
ALN	**Alexandroupoli**	**3.80**	**43**	*e*PN	**Pn**	20 13 06.2	-0.5
ALN	**Alexandroupoli**	**3.80**	**43**	*e*Pn	**Pn**	20 13 06.2	-0.5
SKO	**Skopje**	**3.92**	**347**	*e*Pn	**Pn**	20 13 09.0	+0.6
SKO				*e*Sn	**Sn**	20 13 57.3	+3.2
ZKR	**Zakros**	**4.19**	**135**	*e*PN	**Pn**	20 13 14.9	+2.8
ZKR	**Zakros**	**4.19**	**135**	*e*Pn	**Pn**	20 13 14.9	+2.8
VTS	**Vitosha**	**4.45**	**5**	⇑*i*P	**Pn**	20 13 17.4	+1.6
VTS	**Vitosha**	**4.45**	**5**	⇑*i*Pn	**Pn**	20 13 17.2	+1.4
VTS				S	**Sn**	20 14 08.5	+1.0
KARP	**Karpathos**	**4.47**	**124**	*e*PN	**Pn**	20 13 18.5	+2.5
KARP	**Karpathos**	**4.47**	**124**	*e*Pn	**Pn**	20 13 18.5	+2.5
BARS	**Barje**	**4.69**	**353**	*e*Pn	**Pn**	20 13 20.3	+1.3
TAR1	**Taranto**	**4.77**	**301**	*e*Pn	**Pn**	20 13 21.2	+1.1
PE1	**Pezze di Greco**	**4.82**	**305**	*e*Pn	**Pn**	20 13 21.7	+0.9
BAI	**Bari**	**5.33**	**305**	*e*Pn	**Pn**	20 13 28.9	+1.1
CDT	**Castel del Mon**	**5.71**	**305**	*e*Pn	**Pn**	20 13 34.0	+0.9
GRUS	**Gruza**	**5.90**	**346**	⇑*i*Pn	**Pn**	20 13 37.4	+1.7
STON	**Ston**	**6.02**	**323**	*i* Pn	**Pn**	20 13 37.2	0.0
STON				S	**Sn**	20 14 44.1	-2.0
STON	**Ston**	**6.02**	**323**	*i* Pn	**Pn**	20 13 37.2	0.0
MS1	**Monte Sant'Ang**	**6.25**	**307**	*e*Pn	**Pn**	20 13 41.9	+1.5
DIVS	**Divibare**	**6.26**	**342**	*e*Pn	**Pn**	20 13 41.9	+1.3
TRUS	**Trudelj**	**6.29**	**345**	⇑*i*Pn	**Pn**	20 13 41.5	+0.6
TEKS	**Tekeris**	**6.80**	**341**	⇑*i*Pn	**Pn**	20 13 48.6	+0.7
GZR	**Gura Zlata**	**7.23**	**1**	⇓*i*P	**Pn**	20 13 55.5	+1.6
GZR	**Gura Zlata**	**7.23**	**1**	⇓*i*P	**Pn**	20 13 55.5	+1.6
FGSL	**Fruska Gora**	**7.30**	**344**	*e*Pn	**Pn**	20 13 56.1	+1.2
BZS	**Buzias**	**7.49**	**354**	⇓*i*P	**Pn**	20 13 58.5	+1.1
BZS	**Buzias**	**7.49**	**354**	⇓*i*P	**Pn**	20 13 58.5	+1.1
VOIR		**7.49**	**13**	⇓*i*P	**Pn**	20 13 58.8	+1.3
VOIR		**7.49**	**13**	⇓*i*P	**Pn**	20 13 58.8	+1.3
TIRR	**Tirgusor**	**7.64**	**33**	⇓*i*P	**Pn**	20 14 00.4	+0.9
TIRR	**Tirgusor**	**7.64**	**33**	⇓*i*P	**Pn**	20 14 00.4	+0.9
MLR	**Muntele Rosu**	**7.73**	**18**	Pn	**Pn**	20 14 02.2	+1.4
	0.8nm,0.3s,baz=242,slow=7.8,SNR=27						
MLR				LR	LR	20 16 23.3	
	comp=Z,44nm,18.6s,baz=30,slow=33						

MLR	**Muntele Rosu**	**7.73**	**18**	⇑*i*P	**Pn**	20 14 02.2	+1.4
MLR	**Muntele Rosu**	**7.73**	**18**	⇑*i*P	**Pn**	20 14 02.2	+1.4
DOPR	**Dopca**	**8.06**	**14**	⇓*i*P	**Pn**	20 14 07.2	+1.9
DOPR	**Dopca**	**8.06**	**14**	⇓*i*P	**Pn**	20 14 07.2	+1.9
AQU	**L'Aquila**	**8.21**	**304**	⇓*i*P	Pn	20 14 11.2	+3.9
PLOR	**Plostina**	**8.24**	**20**	⇑*i*P	**Pn**	20 14 10.6	+2.8
PLOR	**Plostina**	**8.24**	**20**	⇑*i*P	**Pn**	20 14 10.6	+2.8
VRI	**Vrincioaia**	**8.28**	**20**	⇑*i*P	**Pn**	20 14 10.6	+2.3
VRI	**Vrincioaia**	**8.28**	**20**	⇑*i*P	**Pn**	20 14 10.6	+2.3
NVLJ	**Novalja**	**8.66**	**320**	*e*Pn	**Pn**	20 14 13.3	-0.1
NVLJ				Sn	**Sn**	20 15 48.3	-2.5
NVLJ	**Novalja**	**8.66**	**320**	*e*Pn	**Pn**	20 14 13.3	-0.1
BRTR	**Keskin Array B**	**8.71**	**76**	Pn	**Pn**	20 14 15.9	+1.5
	0.2nm,0.3s,baz=256,slow=13,SNR=7.5						
BOJS	**Bojanci**	**9.17**	**325**	*i* Pn	**Pn**	20 14 19.9	-0.6
BOJS				*i* Sn	**Sn**	20 16 02.0	-1.5
BOJS	**Bojanci**	**9.17**	**325**	*i* Pn	**Pn**	20 14 19.9	-0.6
VISS	**Visnje**	**9.59**	**325**	*i* Pn	**Pn**	20 14 25.7	-0.5
VISS				*i* Sn	**Sn**	20 16 12.4	-1.4
VISS	**Visnje**	**9.59**	**325**	*i* Pn	**Pn**	20 14 25.7	-0.5
JAVS	**Javornik**	**10.01**	**323**	*i* Pn	**Pn**	20 14 31.8	-0.3
JAVS				*i* Sn	**Sn**	20 16 19.6	-4.7
JAVS	**Javornik**	**10.01**	**323**	*i* Pn	**Pn**	20 14 31.8	-0.3
PERS	**Pernice**	**10.13**	**329**	*i* Pn	**Pn**	20 14 33.0	-0.6
PERS				*i* Sn	**Sn**	20 16 27.2	+0.2
PERS	**Pernice**	**10.13**	**329**	*i* Pn	**Pn**	20 14 33.0	-0.6
PERS				*i* Sn	**Sn**	20 16 27.2	+0.2
SOKA	**Soboth**	**10.20**	**329**	⇑*i*Pn	**Pn**	20 14 34.3	-0.3
SOKA	**Soboth**	**10.20**	**329**	Pn	**Pn**	20 14 34.3	-0.3
PGF	**Pioggiola**	**11.29**	**297**	*e*P	**Pn**	20 14 53.1	+3.5
MOA	**Molln**	**11.45**	**330**	⇓*i*Pn	**Pn**	20 14 52.3	+0.6
MOA	**Molln**	**11.45**	**330**	Pn	**Pn**	20 14 52.3	+0.6
MMAI	**Mount Meron Ar**	**11.59**	**112**	Pn	**Pn**	20 14 54.7	+1.0
	0.6nm,0.3s,baz=306,slow=10,SNR=5.9						
GERES	**GERESS Array B**	**12.48**	**332**	Pn	**Pn**	20 15 04.9	-1.0
	0.2nm,0.3s,baz=150,slow=14,SNR=8.7						
KHC	**Kasperske Hory**	**12.77**	**332**	*e*P	**Pn**	20 15 10.0	+0.3
SBF	**Sospel**	**12.81**	**301**	*e*P	**Pn**	20 15 12.3	+1.9
SBF	**Sospel**	**12.81**	**301**	*e*P	**Pn**	20 15 12.3	+1.9
LPG	**La Plagne**	**13.92**	**307**	*e*P	**Pn**	20 15 28.7	+3.1
	12nm,0.8s						
LPG	**La Plagne**	**13.92**	**307**	*e*P	**Pn**	20 15 28.7	+3.1
	5.9nm,0.8s						
LPL	**La Plagne**	**13.94**	**307**	*e*P	**Pn**	20 15 28.6	+2.8
LPL	**La Plagne**	**13.94**	**307**	*e*P	**Pn**	20 15 28.6	+2.8
ORIF	**Oris-en-Rattie**	**14.24**	**304**	*e*P	**P**	20 15 37.5	+0.3
ORIF	**Oris-en-Rattie**	**14.24**	**304**	*e*P	**P**	20 15 37.5	+0.3
HAU	**Haudompre**	**15.41**	**315**	*e*P	**P**	20 15 51.8	+1.6
	11nm,0.8s						
HAU	**Haudompre**	**15.41**	**315**	*e*P	**P**	20 15 51.8	+1.6
	5.7nm,0.8s						
LOR	**Lormes**	**16.50**	**309**	*e*P	**P**	20 16 01.8	-0.4
	21nm,1.0s						
LOR	**Lormes**	**16.50**	**309**	*e*P	**P**	20 16 01.8	-0.4
	10nm,1.0s						
SSF	**Saint Saulge**	**16.62**	**308**	*e*P	**P**	20 16 05.0	+1.4
	12nm,0.7s						
SSF	**Saint Saulge**	**16.62**	**308**	*e*P	**P**	20 16 05.0	+1.4
	6.0nm,0.7s						
CAF	**Calviac**	**16.80**	**300**	*e*P	**P**	20 16 06.0	+0.4
CAF	**Calviac**	**16.80**	**300**	*e*P	**P**	20 16 06.0	+0.4
BGF	**Bois d'Agland**	**16.83**	**306**	*e*P	**P**	20 16 07.3	+1.4
BGF	**Bois d'Agland**	**16.83**	**306**	*e*P	**P**	20 16 07.3	+1.4
RJF	**Les Rejaudoux**	**17.28**	**301**	*e*P	**P**	20 16 10.6	-0.2
RJF	**Les Rejaudoux**	**17.28**	**301**	*e*P	**P**	20 16 10.6	-0.2
ETSF	**Etsaut**	**18.24**	**292**	*e*P	**P**	20 16 23.3	+1.8
ETSF	**Etsaut**	**18.24**	**292**	*e*P	**P**	20 16 23.3	+1.8
SJPF	**Ste Jean**	**18.75**	**293**	*e*P	**P**	20 16 29.5	+2.4
	46nm,1.4s						
SJPF	**Ste Jean**	**18.75**	**293**	*e*P	**P**	20 16 29.5	+2.4
	23nm,1.4s						
MFF	**Saint Martin d**	**18.78**	**304**	*e*P	**P**	20 16 29.8	+2.5
MFF	**Saint Martin d**	**18.78**	**304**	*e*P	**P**	20 16 29.8	+2.5
LDF	**La Druitiere**	**19.48**	**310**	*e*P	**Pn**	20 16 36.7	+0.4
	5.1nm,0.3s						
LDF	**La Druitiere**	**19.48**	**310**	*e*P	**Pn**	20 16 36.7	+0.4
	2.5nm,0.3s						
FLN	**La Foliniere**	**19.77**	**310**	*e*P	**Pn**	20 16 39.4	-0.3
FLN	**La Foliniere**	**19.77**	**310**	*e*P	**Pn**	20 16 39.4	-0.3
GRR	**Gorron**	**19.85**	**309**	*e*P	**Pn**	20 16 40.3	-0.4
GRR	**Gorron**	**19.85**	**309**	*e*P	**Pn**	20 16 40.3	-0.4
ESDC	**Sonseca Array**	**20.73**	**283**	P	**P**	20 16 49.5	+0.8
	1.4nm,0.6s,baz=74,slow=11,SNR=6.8						
SGMF	**Saint Gilles**	**20.86**	**307**	*e*P	Pn	20 16 51.6	-1.0
SGMF	**Saint Gilles**	**20.86**	**307**	*e*P	Pn	20 16 51.6	-1.0
QUIF	**Quistinic**	**21.14**	**306**	*e*P	**P**	20 16 54.2	+1.1
QUIF	**Quistinic**	**21.14**	**306**	*e*P	**P**	20 16 54.2	+1.1
ROSF	**Rostrenen**	**21.34**	**307**	*e*P	**P**	20 16 56.2	+1.0
ROSF	**Rostrenen**	**21.34**	**307**	*e*P	**P**	20 16 56.2	+1.0
HFS	**Hagfors**	**22.71**	**348**	P	**P**	20 17 09.0	-0.8
	13nm,1.1s,baz=164,slow=11,SNR=12						
FINES	**FINESS Array B**	**23.41**	**4**	P	**P**	20 17 15.6	-1.3
	13nm,1.2s,baz=153,slow=17,SNR=6.0						
NB2	**NORSAR Subarra**	**24.00**	**346**	P	**P**	20 17 21.1	-1.6
	comp=Z,9.4nm,1.2s,baz=160,slow=10						
NB2	**NORSAR Subarra**	**24.00**	**346**	P	**P**	20 17 21.1	-1.6
	comp=Z,9.4nm,1.2s,SNR=3.9						
NOA	**NORSAR Array B**	**24.00**	**346**	P	**P**	20 17 21.7	-1.0
	comp=Z,1.2nm,0.8s,baz=144,slow=10,SNR=5.0						
KAF	**Kasniemi**	**24.09**	**4**	*ep*	**P**	20 17 21.7	-1.7
	comp=Z,3.5nm,0.9s						
KAF	**Kangasniemi**	**24.09**	**4**	*ep*	**P**	20 17 21.7	-1.7
	comp=Z,3.5nm,0.9s						
JOF	**Joensuu**	**25.35**	**9**	*ep*	**P**	20 17 34.1	-0.7
	comp=Z,1.7nm,0.7s						
JOF	**Joensuu**	**25.35**	**9**	*ep*	**P**	20 17 34.1	-0.7
	comp=Z,1.7nm,0.7s						
JOF	**Joensuu**	**25.35**	**9**	*eP*	**P**	20 17 34.1	-0.7
	comp=Z,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.10**	**222**	P	**P**	20 18 27.0	+0.3
	comp=Z,0.9nm,0.7s,baz=33,slow=8.9,SNR=9.3						
LIC	**Lamto**	**40.50**	**225**	*eP*	**P**	20 19 45.8	-1.5
	comp=Z,3.6nm,0.4s						
LIC	**Lamto**	**40.50**	**225**	*eP*	**P**	20 19 45.8	-1.5
	comp=Z,1.8nm,0.4s						
MKAR	**Makanchi Array**	**43.89**	**59**	P	**P**	20 20 14.7	+0.1
	comp=Z,2.9nm,0.4s,baz=274,slow=7.7,SNR=46						
ZALV	**Zalesovo Beam**	**44.46**	**48**	P	**P**	20 20 18.9	-0.2
	comp=Z,5.9nm,0.5s,baz=273,slow=8.6,SNR=38						
SONM	**Songino Array**	**59.17**	**51**	P	**P**	20 22 08.8	-0.4
	comp=Z,0.7nm,0.5s,baz=281,slow=7.2,SNR=12						
SCHQ	**Schefferville**	**59.60**	**318**	P	**P**	20 22 11.7	-0.1
	comp=Z,3.5nm,0.7s,baz=52,slow=7.8,SNR=8.8						
CMAR	**Chiang Mai Arr**	**68.24**	**83**	P	**P**	20 23 08.1	-1.1
	comp=Z,0.9nm,0.8s,baz=300,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**73.96**	**341**	P	**P**	20 23 43.4	+0.3
	comp=Z,0.4nm,0.5s,baz=36,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**77.07**	**355**	P	**P**	20 24 01.5	+0.5
	comp=Z,0.5nm,0.5s,baz=337,slow=3.4,SNR=10						
ASAR	**Alice Springs**	**120.52**	**97**	PKP	**PKPdf**	20 30 59.1	-1.0
	comp=Z,0.1nm,0.4s,baz=321,slow=1.3,SNR=2.6						

ISK ***12*** *20:14:24.8,38.45N×39.08E,h8km,MD2.7*
ISCJB ***12*** *20:14:25.1±0.6,38.45N±0.05×39.10E±0.04,h11km±4km, Error ellipse: s-maj=8.0km s-min=5.5km az=172.1*
DDA ***12*** *20:14:25.9,38.56N×38.90E,h10km,ML3.2*
CSEM ***12*** *20:14:25.0±0.1,38.47N×39.10E,h10km,MD2.7, Error ellipse: s-maj=3.9km s-min=3.1km az=148.0*

ISC 12 20:14:25.2±0.9**,38.45N**±0.03×**39.10E**±0.03**,h13**km±6km**,**
n22,σ0**52/30,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.10**	**296**	*i* P	**Pg**	20 14 28.5	+0.1
ELZG				*i* S	**Sg**	20 14 30.7	0.0
ELZG	**Elazig**	**0.10**	**296**	*i* P	**Pg**	20 14 28.5	+0.1
ELZG				*i* S	**Sg**	20 14 30.7	0.0
SVRC	**Sivrice-ELAZID**	**0.18**	**115**	*e*PG	**Pg**	20 14 28.8	-0.7
SVRC				*e*SG	**Sg**	20 14 32.6	+0.2
SVRC	**Sivrice-ELAZID**	**0.18**	**115**	*e*Pg	**Pg**	20 14 28.8	-0.7
SVRC				*e*Sg	**Sg**	20 14 32.6	+0.2
PTK	**Pertek**	**0.49**	**27**	*e*PG	**Pg**	20 14 35.2	+0.1
PTK	**Pertek**	**0.49**	**27**	*e*Pg	**Pg**	20 14 35.2	+0.1
MYA	**Malataya**	**0.55**	**257**	*e*PG	**Pg**	20 14 35.5	-0.5
MYA				*e*SG	**Sg**	20 14 43.3	0.0
MYA	**Malataya**	**0.55**	**257**	*e*Pg	**Pg**	20 14 35.5	-0.5
MYA				*e*Sg	**Sg**	20 14 43.3	0.0
MALT	**Malatya**	**0.55**	**256**	*e*PG	**Pg**	20 14 35.7	-0.3
MALT	**Malatya**	**0.55**	**256**	*e*Pg	**Pg**	20 14 35.7	-0.3
AKCD	**Akcadag**	**0.94**	**261**	*i* P	**Pg**	20 14 42.4	-1.0
AKCD				*i* S	**Sb**	20 14 56.0	+0.1
AKCD	**Akcadag**	**0.94**	**261**	*i* P	**Pg**	20 14 42.4	-1.0
AKCD				*i* S	**Sb**	20 14 56.0	+0.1
URFA	**Urfa**	**1.03**	**192**	*e*PG	**Pb**	20 14 45.0	0.0
URFA	**Urfa**	**1.03**	**192**	*e*Pg	**Pb**	20 14 45.0	0.0
ILIC	**ilic-Erzincan**	**1.08**	**338**	*e*PG	**Pb**	20 14 45.6	-0.3
ILIC	**ilic-Erzincan**	**1.08**	**338**	*e*Pg	**Pb**	20 14 45.6	-0.3
ERZN	**Erzincan**	**1.23**	**23**	*e*PN	**Pg**	20 14 48.9	-0.1
EZC	**Erzincan**	**1.31**	**9**	*e*Pn	**Pn**	20 14 48.9	-0.5
GAZ	**Gaziantep**	**1.97**	**230**	*e*PN	**Pn**	20 14 59.2	+0.8
GAZ	**Gaziantep**	**1.97**	**230**	*e*Pn	**Pn**	20 14 59.2	+0.8
KMRS

VIPM	Ingram Point	88.29	38	P		P	20 38 58.0	+1.3
FL2	Flat Top 2	88.42	36	P		P	20 38 58.9	+1.7
TDL	Tradedollar La	88.59	36	P		P	20 38 59.5	+1.5
CCUT	Cedar City	88.60	47	*e*P		P	20 38 59.7	+1.3
	2.6nm,0.5s							
MSU	Marysvale	89.91	47	*e*	P	P	20 39 06.3	+1.8
	3.7nm,1.0s							
CMAR	Chiang Mai Arr	90.00	290	P		P	20 39 06.4	+1.3
	2.4nm,0.9s,baz=143,slow=3.6,SNR=10							
CMAR	Chiang Mai Arr	90.00	290	P		P	20 39 06.4	+1.3
MFID	Camas Ranch	90.39	41	*e*P		P	20 39 07.3	+0.9
	6.0nm,0.8s							
TNA	Tin City	91.22	5	*e*P		P	20 39 09.4	-0.2
	6.8nm,1.0s							
TXAR	Lajitas Array	91.32	58	P		P	20 39 12.5	+1.5
	2.9nm,0.8s,baz=214,slow=6.2,SNR=23							
TXAR	Lajitas Array	91.32	58	P		P	20 39 12.5	+1.5
ANMO	Albuquerque	91.98	52	P		P	20 39 15.0	+0.9
	0.6nm,0.4s,baz=217,slow=7.8,SNR=3.7							
ANMO	Albuquerque	91.98	52	P		P	20 39 15.0	+0.9
ILAR	Eielson Array	93.57	14	P		P	20 39 19.3	-1.1
	0.9nm,0.7s,baz=220,slow=5.4,SNR=16							
ILAR	Eielson Array	93.57	14	P		P	20 39 19.3	-1.1
PDAR	Pinedale Array	93.86	44	P		P	20 39 22.9	+0.3
	0.6nm,0.6s,baz=270,slow=1.1,SNR=6.0							
PDAR	Pinedale Array	93.86	44	P		P	20 39 22.9	+0.3
MKAR	Makanchi Array	113.16	312	PKiKP		PKiKP	20 44 37.5	-1.6
	0.1nm,0.4s,baz=76,slow=1.8,SNR=3.4							
MKAR	Makanchi Array	113.16	312	PKiKP		PKiKP	20 44 37.5	-1.6
KURK	Kurchatov	116.28	316	PKP		PKPdf	20 44 43.6	-1.3
	0.5nm,0.6s,baz=102,slow=1.5,SNR=4.3							
KURK	Kurchatov	116.28	316	PKP		PKPdf	20 44 43.6	-1.3
BVAR	Borovoye Array	121.56	318	PKP		PKPdf	20 44 54.1	-0.9
	0.9nm,0.4s,baz=123,slow=2.0,SNR=18							
BVAR	Borovoye Array	121.56	318	PKP		PKPdf	20 44 54.1	-0.9
FRB	Frobisher Bay	122.05	29	PKP		PKPdf	20 44 54.1	-1.4
	0.9nm,0.3s,baz=313,slow=5.5,SNR=5.7							
FRB	Frobisher Bay	122.05	29	PKP		PKPdf	20 44 54.1	-1.4
AKTO	Aktyubinsk	129.37	315	PKP		PKPdf	20 45 09.7	-0.3
	0.6nm,0.6s,baz=241,slow=21,SNR=4.4							
AKTO	Aktyubinsk	129.37	315	PKP		PKPdf	20 45 09.7	-0.3
ARCES	ARCESS Array B	133.40	348	PKP		PKPdf	20 45 17.2	+0.1
	2.1nm,0.6s,baz=72,slow=1.8,SNR=12							
ARCES				SKPbc		SKPbc	20 47 57.7	-1.3
	7.4nm,1.0s,baz=356,slow=5.1,SNR=4.5							
ARCES	ARCESS Array B	133.40	348	PKP		PKPdf	20 45 17.2	+0.1
ARCES				SKPbc		SKPbc	20 47 57.7	-1.3
JOF	Joensuu	137.18	339	*ep*		PKPdf	20 45 24.6	+0.4
	3.2nm,0.8s							
JOF	Joensuu	137.18	339	*ep*		PKPdf	20 45 24.6	+0.4
	3.2nm,0.8s							
FINES	FINESS Array B	139.90	341	PKhKP		PKPpre	20 45 21.2	
	3.1nm,0.8s,baz=50,slow=5.8,SNR=8.8							
FINES				PKP		PKPdf	20 45 30.4	+1.1
	2.4nm,0.8s,baz=48,slow=2.8,SNR=3.9							
FINES				SKPbc		SKPbc	20 48 17.3	-1.0
	3.4nm,0.7s,baz=48,slow=5.6,SNR=10.0							
FINES	FINESS Array B	139.90	341	PKPpre		PKPpre	20 45 21.2	
FINES				PKP		PKPdf	20 45 30.4	+1.1
FINES				SKPbc		SKPbc	20 48 17.3	-1.0
NB2	NORSAR Subarra	143.62	351	PKP		PKPab	20 45 33.5	-1.0
	comp=Z,4.5nm,0.5s,baz=16,slow=3.3							
NOA	NORSAR Array B	143.62	351	PKP		PKPab	20 45 33.8	-0.7
	comp=Z,8.3nm,0.7s,baz=15,slow=5.0,SNR=22							
NOA	NORSAR Array B	143.62	351	PKP		PKPab	20 45 33.8	-0.7
AKASG	Malin Array Be	146.24	326	PKPbc		PKPbc	20 45 41.7	-1.1
	comp=Z,1.6nm,0.4s,baz=45,slow=3.9,SNR=13							
AKASG	Malin Array Be	146.24	326	PKPbc		PKPbc	20 45 41.7	-1.1
ASF	Jabal al Asfar	147.04	290	PKPbc		PKPbc	20 45 46.3	+0.6
	comp=Z,4.4nm,0.7s,baz=160,slow=18,SNR=3.0							
ASF				PKPab		PKPab	20 45 49.9	+1.1
	comp=Z,4.4nm,0.7s,baz=341,slow=4.3,SNR=6.2							
ASF	Jabal al Asfar	147.04	290	PKPbc		PKPbc	20 45 46.3	+0.6
ASF				PKPab		PKPab	20 45 49.9	+1.1
MMAI	Mount Meron Ar	148.25	292	PKPbc		PKPbc	20 45 49.3	+0.5
	comp=Z,2.8nm,0.4s,baz=80,slow=6.9,SNR=19							
MMAI	Mount Meron Ar	148.25	292	PKPbc		PKPbc	20 45 49.3	+0.5
BR131	Keskin Array S	148.44	305	*e*PKPbc		PKPbc	20 45 48.3	-0.8
BRTR	Keskin Array B	148.44	305	PKPbc		PKPbc	20 45 48.5	-0.7
	comp=Z,0.9nm,0.5s,baz=138,slow=3.0,SNR=11							
BRTR				PKPab		PKPab	20 45 54.0	-0.4
	comp=Z,2.4nm,0.7s,baz=98,slow=3.8,SNR=16							
BRTR	Keskin Array B	148.44	305	PKPbc		PKPbc	20 45 48.5	-0.7
BRTR				PKPab		PKPab	20 45 54.0	-0.4
KWP	Kalwaria Pacla	150.09	330	↑*i*P		PKPbc	20 45 52.9	+0.3
PLOR	Plostina	150.48	320	↓*i*P		PKPbc	20 45 54.7	+1.0
MLR	Muntele Rosu	151.09	320	PKPbc		PKPbc	20 45 54.1	-1.1
	comp=Z,0.4nm,0.6s,baz=123,slow=15,SNR=7.1							
MLR	Muntele Rosu	151.09	320	PKPbc		PKPbc	20 45 54.1	-1.1
MLR	Muntele Rosu	151.09	320	↓*i*P		PKPbc	20 45 53.8	-1.4
VOIR		151.63	321	↓*i*P		PKPbc	20 45 55.7	-0.7
CLL	Collm	152.33	342	*i* PKPbc		PKPbc	20 45 57.4	-0.2
CLL				*e*PKPab		PKPab	20 46 10.0	+0.1
BZS	Buzias	153.40	325	↓*i*P		PKPbc	20 45 59.0	-1.1
GERES	GERESS Array B	154.30	339	PKPab		PKPab	20 46 18.1	-0.5
	comp=Z,0.3nm,0.5s,baz=18,slow=0.3,SNR=3.4							
GERES	GERESS Array B	154.30	339	PKPab		PKPab	20 46 18.1	-0.5
ESDC	Sonseca Array	165.47	12	PKPab		PKPab	20 47 06.6	-0.9
	comp=Z,0.6nm,0.5s,baz=345,slow=5.1,SNR=5.3							
ESDC	Sonseca Array	165.47	12	PKPab		PKPab	20 47 06.6	-0.9
TORD	Torodi Ar. Bea	167.63	188	PKP		PKPdf	20 46 07.2	-0.9
	comp=Z,0.7nm,1.0s,baz=198,slow=0.5,SNR=2.6							
TORD				PKPab		PKPab	20 47 17.1	-0.3
	comp=Z,0.3nm,0.6s,baz=163,slow=4.5,SNR=4.1							
TORD	Torodi Ar. Bea	167.63	188	PKP		PKPdf	20 46 07.2	-0.9
TORD				PKPab		PKPab	20 47 17.1	-0.3

*BJI **12** 20:29:32.2,0.°84S×133.°75E,h24km,mB5.4/3,mb4.7/10*
*IDC **12** 20:29:34.2±0.6,0.°54S×133.°25E,h0km,mb4.5/13,*
mb1 4.7/15,mb1mx4.5/23,mbtmp4.5/15,ML4.4/2,MS3.7/11,
Ms1 3.7/11,ms1mx3.4/41,Error ellipse: s-maj=30.7km
s-min=12.8km az=74.0
*ISCJB **12** 20:29:36.6±0.3,0.°52S±0.°04×133.°30E±0.°06,h28km,*
mb4.8/36,MS3.9/7,Error ellipse: s-maj=8.7km
s-min=5.4km az=169.6
*MOS **12** 20:29:37.4±0.9,0.°56S×133.°20E,h33km,mb5.0/5,Error*
ellipse: s-maj=19.1km s-min=7.1km az=113.6
*NEIC **12** 20:29:39.5±0.3,0.°58S×133.°18E,h35km,mb4.9/15,Error*
ellipse: s-maj=11.2km s-min=4.8km az=68.0
*DJA **12** 20:29:39,0.°46S×133.°24E,h72km,MLv5.1/8*

ISC 12 20:29:38.5±0.4,0.°51S±0.°06×133.°31E±0.°06,h28km,n138,
σ0.°92/136,mb4.8/36,MS3.9/7,2C-4D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FAKI	Fak Fak	2.62	204	P		Pn	20 30 19.1	+0.1
BAKI	Biak	2.88	104	P		Pn	20 30 22.7	+0.1
TLE	Tual	5.13	186	P		Pn	20 30 55.9	+2.4
	464nm,0.9s,7μm3.0nm							
MSAI	Masohi	5.21	237	P		Pn	20 30 56.8	+2.2
	128nm,0.8s,1μm0.5nm							
LBMI	Labuha	5.81	269	P		Pn	20 31 03.9	+1.0
	136nm,0.9s,2μm0.5nm							
AAI	Ambon	6.01	238	P		Pn	20 31 06.3	+0.7
LUWI	Luwuk	10.55	267	P		Pn	20 32 18.4	+10
DAV	Davao City (W)	10.78	314	LR		LR	20 35 57.5	
	comp=Z,58nm,19.9s,baz=175,slow=36							
KAPI	Kappang	14.26	251	LR		LR	20 38 44.5	
	comp=Z,114nm,19.3s,baz=316,slow=39							
GUMO	Guam	18.09	39	LR		LR	20 39 40.9	
	comp=Z,173nm,19.4s,baz=88,slow=33							
FITZ	Fitzroy Crossi	19.04	203	P		P	20 33 56.4	-2.2
	1.3nm,0.3s,baz=44,slow=11,SNR=22							
FITZ				S		Sn	20 37 17.5	-15
	0.4nm,0.3s,baz=116,slow=12,SNR=3.9							
FITZ				LR		LR	20 41 19.1	
	comp=Z,126nm,21.0s,baz=23,slow=37							
FITZ	Fitzroy Crossi	19.04	203	P		P	20 33 56.4	-2.2
WRAB	Tennant Creek	19.33	177	*e*P		P	20 34 01.0	-0.8
WRAB	Tennant Creek	19.33	177	*e*P		P	20 34 00.9	-1.0
	36nm,0.9s							
WRA	Warramunga Arr	19.34	177	P		P	20 34 00.8	-1.1
	0.9nm,0.3s,baz=355,slow=11,SNR=50							
WRA				S		S	20 37 24.0	-15
	0.2nm,0.3s,baz=1.8,slow=23,SNR=3.1							
WRA	Warramunga Arr	19.34	177	P		P	20 34 00.8	-1.1
WRA	Warramunga Arr	19.34	177	P		P	20 34 00.8	-1.1
WB2	Warramunga Arr	19.34	177	*e*P		P	20 34 01.0	-1.0
ASAR	Alice Springs	23.03	179	P		P	20 34 41.2	-0.4
	13nm,0.4s,baz=356,slow=12,SNR=48							
ASAR				S		S	20 38 49.7	-1.0
	2.0nm,0.9s,baz=3.6,slow=16,SNR=3.3							
ASAR	Alice Springs	23.03	179	P		P	20 34 41.2	-0.4
ASAR	Alice Springs	23.03	179	P		P	20 34 41.2	-0.4
CTA	Charters Tower	23.22	148	P		P	20 34 44.6	+1.1
	21nm,1.1s,baz=334,slow=4.5,SNR=3.9							
CTA				LR		LR	20 44 12.7	
	comp=Z,170nm,19.6s,baz=238,slow=38							
CTA	Charters Tower	23.22	148	P		P	20 34 44.7	+1.1
CTA	Charters Tower	23.22	148	P		P	20 34 44.6	+1.1
CTAO	Charters Tower	23.22	148	*e*P		P	20 34 44.4	+0.8
CTAO	Charters Tower	23.22	148	*e*P		P	20 34 44.4	+0.8
MBWA	Marble Bar	24.44	212	*e*P		P	20 34 55.7	+0.7
	54nm,1.1s							
STKA	Stephens Creek	32.17	167	P		P	20 36 03.1	-1.0
	7.4nm,0.7s,baz=341,slow=8.4,SNR=10							
STKA				LR		LR	20 49 47.7	
	comp=Z,214nm,19.8s,baz=21,slow=38							
STKA	Stephens Creek	32.17	167	*e*P		P	20 36 02.8	-1.2
STKA	Stephens Creek	32.17	167	*e*P		P	20 36 02.8	-1.2
	2.0nm,0.8s							
BBOO	Buckleboo	32.24	176	*e*P		P	20 36 03.6	-1.0
	263nm,0.9s							
WHN	Wuhan	35.76	331	↓P		P	20 36 35.6	+0.4
ARPS	Mount Arapiles	36.94	169	*e*P		P	20 36 45.5	+0.3
	68nm,0.8s							
MJAR	Matsushiro Arr	37.14	7	LR		LR	20 49 34.6	
	comp=Z,136nm,19.2s,baz=190,slow=32							
KSRS	Korea Array	38.10	353	LR		LR	20 52 01.0	
	comp=Z,162nm,19.4s,baz=301,slow=35							
CMAR	Chiang Mai Arr	38.67	301	P		P	20 37 00.1	0.0
	1.0nm,0.9s,baz=130,slow=8.0,SNR=5.5							
CMAR	Chiang Mai Arr	38.67	301	P		P	20 37 00.2	0.0
CMAR	Chiang Mai Arr	38.67	301	P		P	20 37 00.1	0.0
BJT	Baijiatuan	43.27	341	*e*P		P	20 37 38.3	+0.7
BJT	Baijiatuan	43.27	341	*e*P		P	20 37 38.3	+0.7
	11nm,0.9s							
BJI	Beijing	43.28	341	P		P	20 37 37.8	0.0
BJI				pmax		pmax		
	comp=Z,24nm,0.9s							
YSS	Yuzh-Sakhalins	47.99	9	*e*P		P	20 38 15.9	+1.1
LSA	Lhasa	50.16	310	*e*P		P	20 38 33.0	+0.5
LSA	Lhasa	50.16	310	*e*P		P	20 38 33.0	+0.5
	comp=Z,6.8nm,0.9s							
GTA	Gaotai	50.17	326	*e*P		P	20 38 32.7	+0.7
GTA				pP		pP	20 38 37.2	-3.3
GTA				sP		sP	20 38 40.5	-3.4
GTA				pmax		pmax		
	comp=Z,7.0nm,1.2s							
TAPN	Taplejung	51.81	306	*e*P		P	20 38 43.8	-0.9
	comp=Z,26nm,1.2s							
TAPN	Taplejung	51.81	306	*e*P		P	20 38 43.8	-0.9
	comp=Z,26nm,1.2s							
ODAN	Odare	51.87	305	*e*P		P	20 38 44.3	-0.7
	comp=Z,24nm,0.9s							
ODAN	Odare	51.87	305	*e*P		P	20 38 44.3	-0.7
	comp=Z,24nm,0.9s							
RAMN	Ramite	52.55	305	*e*P		P	20 38 49.7	-0.4
RAMN	Ramite	52.55	305	*e*P		P	20 38 49.7	-0.4
JIRN	Jiri	53.17	306	*e*P		P	20 38 54.2	-0.6
	comp=Z,6.5nm,1.0s							
JIRN	Jiri	53.17	306	*e*P		P	20 38 54.2	-0.6
	comp=Z,6.5nm,1.0s							
ULN	Ulaanbaatar	53.32	338	*e*P		P	20 38 56.2	+0.9
ULN	Ulaanbaatar	53.32	338	*e*P		P	20 38 56.2	+0.9
	comp=Z,16nm,1.4s							
GUN	Gumba	53.52	306	*e*P		P	20 38 56.6	-0.8
	comp=Z,21nm,0.7s							
GUN	Gumba	53.52	306	*e*P		P	20 38 56.6	-0.8
	comp=Z,21nm,0.7s							
SONM	Songino Array	53.54	338	P		P	20 38 57.7	+0.8
	comp=Z,3.5nm,1.1s,baz=156,slow=8.8,SNR=14							
SONM	Songino Array	53.54	338	P		P	20 38 57.7	+0.8
SONM	Songino Array	53.54	338	P		P	20 38 57.7	+0.8
PKI	Pulchoki	53.77	305	*e*P		P	20 38 58.1	-1.1
PKI	Pulchoki	53.77	305	*e*P		P	20 38 58.1	-1.1
PKI	Pulchoki	53.77	305	*e*P		P	20 38 58.1	-1.1
KKN	Kakani	53.96	305	*e*P		P	20 38 59.4	-1.1
KKN	Kakani	53.96	305	*e*P		P	20 38 59.4	-1.1
KKN	Kakani	53.96	305	*e*P		P	20 38 59.4	-1.1
DMN	Daman	54.03	305	*e*P		P	20 39 00.1	-0.9
	comp=Z,17nm,0.8s							
DMN	Daman	54.03	305	*e*P		P	20 39 00.1	-0.9
	comp=Z,17nm,0.8s							
GKN	Gorkha	54.56	305	*e*P		P	20 39 04.0	-0.8
	comp=Z,16nm,1.0s							
GKN	Gorkha	54.56	305	*e*P		P	20 39 04.0	-0.8
	comp=Z,16nm,1.0s							
RPZ	Rata Peaks	54.59	147	LR		LR	21 01 53.1	
	comp=Z,265nm,19.5s,baz=334,slow=36							
KOLN	Koldanda	55.33	305	*e*P		P	20 39 10.0	-0.4
	comp=Z,18nm,0.7s							
KOLN	Koldanda	55.33	305	*e*P		P	20 39 10.0	-0.4
	comp=Z,18nm,0.7s							
DANN	Dangsing	55.41	305	*e*P		P	20 39 10.3	-0.8
DANN	Dangsing	55.41	305	*e*P		P	20 39 10.3	-0.8
ZAK	Zakamensk	56.80	337	*e*P		P	20 39 20.0	-0.4
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
PETK	Petropavlovsk-	57.18	17	P		P	20 39 23.7	+0.8
	comp=Z,14nm,0.9s,baz=190,slow=6.8,SNR=11							
PETK	Petropavlovsk-	57.18	17	P		P	20 39 23.7	+0.8
PETK	Petropavlovsk-	57.18	17	P		P	20 39 23.7	+0.8
MOY	Mondy	58.71	337	*e*P		P	20 39 34.5	+0.8
BOD	Bodaibo	60.16	348	*e*P		P	20 39 43.2	-0.3
BOD				pmax		pmax		
	comp=Z,8.0nm,1.1s							
YAK	Yakutsk	62.44	358	*i* P		P	20 39 58.9	+0.1
MK31	Makanchi Array	64.80	324	*e*P		P	20 40 15.1	+0.3
MK31	Makanchi Array	64.80	324	*e*P		P	20 40 15.1	+0.3
MKAR	Makanchi Array	64.80	324	P		P	20 40 15.2	+0.5
	comp=Z,6.6nm,0.8s,baz=116,slow=8.0,SNR=62							
MKAR	Makanchi Array	64.80	324	*ce*P		P	20 40 15.3	+0.5
MKAR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MKAR	Makanchi Array	64.80	324	P		P	20 40 15.2	+0.5
SEY	Seymchan	64.88	10	*ce*P		P	20 40 16.3	+1.4
KZA	Kyzart	67.17	317	P		P	20 40 31.4	+0.8
	SNR=8.2							
KZA				P		P	20 40 31.4	+0.8
	SNR=8.2							
KZA	Kyzart	67.17	317	*i* P		P	20 40 31.4	+0.8
TKM2	Tokmak 2	67.27	318	P		P	20 40 31.5	+0.5
	SNR=5.3							
TKM2				P		P	20 40 31.5	+0.5
	SNR=5.3							
TKM2	Tokmak 2	67.27	318	*i* P		P	20 40 31.5	+0.5
ZALV	Zalesovo Beam	67.38	331	P		P	20 40 30.6	-0.5
	comp=Z,1.9nm,0.7s,baz=111,slow=6.5,SNR=14							
ZALV	Zalesovo Beam	67.38	331	P		P	20 40 30.6	-0.5
ZALV	Zalesovo Beam	67.38	331	P		P	20 40 30.6	-0.5
AAK	Ala-Archa	67.90	317	↓*e*P		P	20 40 35.1	+0.1
AAK				pmax		pmax		
	comp=Z,24nm,2.5s							
USP	Ospenovka	68.14	318	P		P	20 40 36.4	+0.1
	SNR=7.9							
USP				P		P	20 40 36.4	+0.1
	SNR=7.9							
USP	Ospenovka	68.14	318	*i* P		P	20 40 36.4	+0.1
AML	Almayashu	68.26	316	P		P	20 40 38.3	+0.8
	SNR=8.6							
AML				P		P	20 40 38.3	+0.8
	SNR=8.6							
AML	Almayashu	68.26	316	*i* P		P	20 40 38.3	+0.8
EKS2	Erkin-Say	68.40	317	P		P	20 40 38.9	+0.8
	SNR=6.6							
EKS2				P		P	20 40 38.9	+0.8
	SNR=6.6							
EKS2	Erkin-Say	68.40	317	*i* P		P	20 40 38.9	+0.8
NVS	Novosibirsk	68.65	332	*e*P		P	20 40 37.9	-1.2
KURK	Kurchatov	68.86	326	P		P	20 40 40.8	+0.3
	comp=Z,11nm,0.9s,baz=119,slow=5.8,SNR=62							
KURK	Kurchatov	68.86	326	↓*e*P		P	20 40 40.8	+0.3
KURK				pmax		pmax		
	comp=Z,41nm,2.5s							
KURK	Kurchatov	68.86	326	*e*P		P	20 40 40.1	-0.4
KKAR	Karatay Array	70.80	316	*e*P		P	20 40 52.7	0.0
KKAR	Karatay Array	70.80	316	*e*P		P	20 40 52.7	0.0
	comp=Z,14nm,1.0s							
BILL	Bilibino	72.09	12	*e*P		P	20 41 00.9	+0.9
BILL				pmax		pmax		
	comp=Z,10.0nm,2.5s							
BVAR	Borovoye Array	74.46	326	P		P	20 41 14.3	+0.1
	comp=Z,9.7nm,1.0s,baz=112,slow=6.6,SNR=43							
BVAR	Borovoye Array	74.46	326	P		P	20 41 14.3	+0.1
BVAR	Borovoye Array	74.46	326	P		P	20 41 14.3	+0.1
BRVK	Borovoye	74.53	326	*de*P		P	20 41 14.7	+0.1
BRVK				pmax		pmax		
	comp=Z,36nm,2.5s							
BRVK	Borovoye	74.53	326	*e*P		P	20 41 14.6	0.0
	comp=Z,14nm,1.0s							
ABKAR	Akbulak array	79.58	320	*e*P		P	20 41 42.5	-0.6
	comp=Z,6.0nm,1.0s							
SVE	Sverdlovsk	81.00	328	*e*P		P	20 41 51.1	+0.5
AKTO	Aktyubinsk	81.05	321	P		P	20 41 51.0	0.0
	comp=Z,2.5nm,0.9s,baz=88,slow=5.9,SNR=7.2							
AKTO	Aktyubinsk	81.05	321	P		P	20 41 51.0	0.0
AKTO	Aktyubinsk	81.05	321	P		P	20 41 51.0	0.0
KDAK	Kodiak Island	82.00	31	LR		LR	21 12 53.1	
	comp=Z,83nm,20.2s,baz=49,slow=32							
MAW	Mawson	82.16	201	LR		LR	21 17 31.2	
	comp=Z,94nm,20.4s,baz=138,slow=35							
ILAR	Eielson Array	86.11	25	P		P	20 42 15.8	-0.8
	comp=Z,2.8nm,0.9s,baz=256,slow=5.1,SNR=20							
ILAR	Eielson Array	86.11	25	P		P	20 42 15.9	-0.8
ILAR	Eielson Array	86.11	25	P		P	20 42 15.8	-0.8
QSPA	South Pole Qui	89.42	180	P		P	20 42 32.8	+0.1
	comp=Z,3.9nm,0.8s,baz=331,slow=2.2,SNR=7.5							
QSPA	South Pole Qui	89.42	180	P		P	20 42 32.8	+0.1
ANN	Anapa	94.53	315	*e*P		P	20 42 51.1	-5.5
ANN				pmax		pmax		
	comp=Z,73nm,1.1s							
YKA	Yellowknife Ar	100.51	26	P		Pdif	20 43 22.2	-1.0
	comp=Z,0.3nm,0.7s,baz=294,slow=4.4,SNR=3.9							
YKA	Yellowknife Ar	100.51	26	P		Pdif	20 43 22.2	-1.0
YKA	Yellowknife Ar	100.51	26	P		Pdif	20 43 22.2	-1.0
TORD	Torodi Ar. Bea	130.46	287	PKP		PKPdf	20 48 47.0	-0.7
	comp=Z,0.5nm,0.8s,baz=45,slow=3.7,SNR=3.4							
TORD	Torodi Ar. Bea	130.46	287	PKP		PKPdf	20 48 47.0	-0.7
CPUP	Villa Florida	151.41	160	PKPbc		PKPbc	20 49 30.9	+0.4
	comp=Z,3.6nm,0.7s,baz=260,slow=0.7,SNR=11							
CPUP	Villa Florida	151.41	160	PKIKP		PKPbc	20 49 30.9	+0.4
CPUP	Villa Florida	151.41	160	PKPbc		PKPbc	20 49 30.9	+0.4
LPAZ	La Paz	153.05	129	PKPbc		PKPbc	20 49 36.6	+1.3
	comp=Z,2.2nm,1.0s,baz=238,slow=2.8,SNR=5.0							
LPAZ	La Paz	153.05	129	PKIKP		PKPbc	20 49 36.6	+1.3
LPAZ	La Paz	153.05	129	PKPbc		PKPbc	20 49 36.6	+1.3

IDC 12 20:41:54.3±7.5,17.°18S×176.°50W,h0km,mb3.8/2,
mb1 4.1/2,mb1mx3.7/17,mbtmp3.8/2,MS3.0/1,Ms1 3.0/1,
ms1mx2.5/35,Error ellipse: s-maj=308.9km
s-min=65.6km az=141.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	Afiamalu	5.59	55	LR		LR	20 44 20.8	
	comp=Z,150nm,21.7s,baz=72,slow=26							
WRA	Warramunga Arr	46.56	259	P		P	20 50 23.5	-0.8
	0.3nm,0.3s,baz=91,slow=7.8,SNR=12							
ASAR	Alice Springs	46.75	253	P		P	20 50 25.4	-0.3
	1.8nm,0.5s,baz=84,slow=8.4,SNR=23							
BRTR	Keskin Array B	145.53	317	PKPbc		PKPab	21 01 35.3	0.0
	0.5nm,0.8s,baz=73,slow=4.1,SNR=4.0							

DJA 12 20:46:12,8.°35S×108.°49E,h24km,MLv4.1/7,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CLJI	Cilicap	0.81	40	P		Pn	20 46 34.3	+6.3
BJII	Banjamegara	1.57	50	P		Pn	20 46 39.5	+0.9
SKJI	Sukabumi	2.34	305	P		Sn	20 47 16.6	-0.3
PCJI	Pacitan

n36,σ1$31/48,mb3.2/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.37**	**17**	P	**Pn**	**21 10 18.2**	**+1.9**
JHJ2				*eS*	**S**	**21 11 05.3**	**+2.2**
JIE	**Ise**	**4.03**	**332**	P	**Pn**	**21 10 31.6**	**+1.2**
HMMJ	**Hamamatsu 2**	**4.14**	**345**	P	**Pn**	**21 10 33.1**	**+1.6**
BSO3	**Boso 3**	**4.16**	**18**	S	**S**	**21 11 28.2**	**-2.2**
BSO1	**Boso 1**	**4.16**	**23**	P	**Pn**	**21 10 32.1**	**+1.1**
BSO1				S	**S**	**21 11 30.2**	**+0.2**
BSO4	**Boso 4**	**4.29**	**15**	P	**Pn**	**21 10 33.3**	**+0.5**
BSO4				*eS*	**S**	**21 11 32.7**	**-0.5**
JOD2	**Odawara 2**	**4.41**	**1**	P	**Pn**	**21 10 35.7**	**+1.5**
JOD2				S	**S**	**21 11 34.7**	**-0.9**
JNY	**Yasuok**	**4.61**	**348**	P	**Pn**	**21 10 37.5**	**+1.4**
JAO	**Obara**	**4.65**	**342**	P	**Pn**	**21 10 37.8**	**+1.2**
CBIJ	**Chichi jima**	**4.66**	**142**	P	**Pn**	**21 10 37.0**	**+0.1**
	3.1nm,0.3s,baz=229,slow=18,SNR=2.8						
CBIJ				S	**S**	**21 11 39.0**	**-1.4**
	50nm,0.3s,baz=276,slow=23,SNR=11						
CBIJ	**Chichi jima**	**4.66**	**142**	P	**Pn**	**21 10 37.8**	**+0.9**
CBIJ				*eS*	**S**	**21 11 39.2**	**-1.2**
JHU	**Hanno**	**5.01**	**3**	P	**Pn**	**21 10 40.0**	**-0.2**
JHU				*eS*	**S**	**21 11 42.3**	**-4.3**
JRY	**Ryogami san**	**5.17**	**359**	P	**Pn**	**21 10 42.6**	**+0.7**
JRY				S	**S**	**21 11 47.5**	**-2.2**
JGM	**Miyama**	**5.21**	**339**	P	**Pn**	**21 10 43.6**	**+1.3**
JGN	**Niukaw**	**5.55**	**346**	P	**Pn**	**21 10 47.9**	**+1.9**
MJAR	**Matsushiro Arr**	**5.72**	**354**	P	**Pn**	**21 10 47.8**	**0.0**
	2.6nm,0.3s,baz=161,slow=5.0,SNR=23						
MAT	**Matsushiro**	**5.73**	**354**	P	**Pn**	**21 10 47.9**	**+0.1**
MAT				*eS*	**S**	**21 12 00.4**	**-0.2**
MAT	**Matsushiro**	**5.73**	**354**	P	**Pn**	**21 10 48.3**	**+0.5**
JHO	**Hitachi**	**5.91**	**12**	P	**Pn**	**21 10 49.7**	**-0.1**
ASAJ	**Asahikawa**	**13.56**	**11**	P	**Pn**	**21 12 18.8**	**+1.4**
	0.8nm,0.3s,baz=181,slow=19,SNR=6.3						
SONM	**Songino Array**	**30.10**	**314**	P	**P**	**21 14 52.6**	**-0.9**
	0.2nm,0.3s,baz=129,slow=9.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**38.23**	**261**	P	**P**	**21 16 00.8**	**-2.0**
	0.4nm,0.7s,baz=71,slow=4.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**44.84**	**317**	P	**P**	**21 16 54.5**	**-0.7**
	0.2nm,0.4s,baz=27,slow=30,SNR=3.4						
ZALV				PcP	**PcP**	**21 18 29.9**	**+0.8**
	0.9nm,0.6s,baz=104,slow=2.9,SNR=5.6						
MKAR	**Makanchi Array**	**45.96**	**307**	P	**P**	**21 17 03.1**	**-0.9**
	0.3nm,0.4s,baz=84,slow=9.8,SNR=8.5						
MKAR				PcP	**PcP**	**21 18 34.0**	**+0.8**
	0.2nm,0.3s,baz=78,slow=4.4,SNR=8.2						
KURK	**Kurchatov**	**48.39**	**312**	P	**P**	**21 17 21.8**	**-0.5**
	1.1nm,0.5s,baz=92,slow=9.5,SNR=32						
WRA	**Warramunga Arr**	**50.69**	**186**	P	**P**	**21 17 40.4**	**+0.6**
	0.2nm,0.3s,baz=0.5,slow=7.8,SNR=14						
BVAR	**Borovoye Array**	**53.41**	**316**	P	**P**	**21 17 59.2**	**-0.1**
	1.8nm,0.5s,baz=94,slow=7.5,SNR=22						
BVAR				PcP	**PcP**	**21 19 01.7**	**+1.1**
	1.2nm,0.6s,baz=87,slow=3.7,SNR=8.8						
ASAR	**Alice Springs**	**54.41**	**186**	P	**P**	**21 18 06.3**	**-0.4**
	0.2nm,0.3s,baz=353,slow=4.1,SNR=4.7						
AKTO	**Aktyubinsk**	**61.41**	**314**	P	**P**	**21 18 54.3**	**-0.2**
	0.4nm,0.5s,baz=84,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**69.09**	**340**	P	**P**	**21 19 44.5**	**+1.6**
	6.9nm,1.0s,baz=62,slow=7.7,SNR=5.3						
JOF	**Joensuu**	**70.49**	**332**	*ep*	**P**	**21 19 51.3**	**0.0**
	1.4nm,0.5s						
JOF	**Joensuu**	**70.49**	**332**	*ep*	**P**	**21 19 51.3**	**0.0**
	1.4nm,0.5s						
FINES	**FINESS Array B**	**73.35**	**332**	P	**P**	**21 20 08.7**	**+0.5**
	13nm,1.1s,baz=96,slow=6.7,SNR=14						
AKASG	**Malin Array Be**	**77.95**	**322**	P	**P**	**21 20 34.5**	**+0.4**
	1.9nm,0.4s,baz=52,slow=5.4,SNR=8.6						
BRTR	**Keskin Array B**	**81.42**	**311**	P	**P**	**21 20 53.5**	**+0.5**
	0.8nm,0.6s,baz=94,slow=3.4,SNR=6.0						
MLR	**Muntele Rosu**	**82.78**	**319**	P	**P**	**21 21 00.8**	**+1.0**
	0.2nm,0.5s,baz=255,slow=17,SNR=5.4						

*IDC **12** 21:09:44.9±2.1,43.˚36N×105.˚17W,h0km,mb3.7/5, mb1 3.7/8,mb1mx3.5/28,mbtmp3.6/8,ML3.5/3,MS3.0/1, Ms1 2.9/1,ms1mx2.5/44,Error ellipse: s-maj=49.6km s-min=8.2km az=154.0*

*ISCJB **12** 21:09:46.8±0.2,43.˚73N±0.˚01×105.˚30W±0.˚02,h0km, mb3.6/5,Error ellipse: s-maj=2.2km s-min=1.8km az=165.9*

*NEIC **12** 21:09:47.6±0.4,43.˚73N×105.˚24W,h0km,ML3.2,Error ellipse: s-maj=6.1km s-min=5.0km az=146.0,Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 12 21:09:47.5±0.6,43.72N±0.˚02×105.˚26W±0.˚02,h0km,n109, σ1$04/158,mb3.7/5,43C-50D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.28**	**329**	⇓P	**Pg**	**21 09 53.4**	**+0.5**
	baz=0.3,SNR=267						
I23A				⇓S	**Sg**	**21 09 56.7**	**0.0**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.38**	**214**	⇑P	**Pg**	**21 09 54.4**	**-0.4**
	baz=0.5,SNR=207						
I24A	**Kuemmerle Ranc**	**0.48**	**73**	⇓P	**Pg**	**21 09 57.4**	**+0.7**
	baz=0.5,SNR=151						
J24A	**Dixon Ranch, L**	**0.58**	**131**	⇑P	**Pg**	**21 09 58.7**	**0.0**
	baz=0.6,SNR=28						
H23A	**Clabaugh Cattl**	**0.85**	**353**	⇑P	**Pg**	**21 10 03.4**	**-0.5**
	baz=0.8,SNR=68						
I22A	**9 Mile Ranch,**	**0.90**	**282**	⇓P	**Pg**	**21 10 03.7**	**-1.1**
	baz=0.9,SNR=338						
I22A				⇓S	**Sg**	**21 10 15.7**	**-0.8**
	baz=0.9						
J22A	**Midwest**	**0.94**	**251**	⇑P	**Pg**	**21 10 03.9**	**-1.5**
	baz=0.9,SNR=108						
RSSD	**Black Hills**	**0.97**	**65**	*eP*	**Pg**	**21 10 06.0**	**-0.2**
RSSD				S	**Sb**	**21 10 22.0**	**+1.2**
K23A	**Bowen Ranch, D**	**1.00**	**196**	⇓P	**Pg**	**21 10 05.9**	**-0.7**
	baz=1.0						
K24A	**Anderson Ranch**	**1.05**	**162**	⇓P	**Pg**	**21 10 07.1**	**-0.5**
	baz=1.1,SNR=83						
H24A	**Dirks Ranch, A**	**1.15**	**26**	⇓P	**Pg**	**21 10 08.8**	**-0.7**
	baz=1.1,SNR=275						
H24A				⇑S	**Sb**	**21 10 25.5**	**-0.3**
	baz=1.1						
H22A	**Clearmont**	**1.18**	**318**	⇑P	**Pg**	**21 10 09.2**	**-0.9**
	baz=1.2,SNR=108						
K22A	**Casper**	**1.41**	**221**	⇑P	**Pn**	**21 10 12.4**	**-2.2**
	baz=1.4,SNR=88						
I21A	**Big Trails, Te**	**1.48**	**274**	⇑P	**Pn**	**21 10 13.1**	**-2.4**
	baz=1.5						
G23A	**Biddle**	**1.49**	**356**	⇑P	**Pn**	**21 10 14.6**	**-1.0**
	baz=1.5,SNR=102						
K25A	**Mack Ranch, Ha**	**1.50**	**137**	⇓P	**Pn**	**21 10 15.6**	**-0.2**
	baz=1.5,SNR=31						
H21A	**Big Horn, Sher**	**1.57**	**306**	⇓P	**Pn**	**21 10 16.0**	**-0.8**
	baz=1.6,SNR=103						
H21A				⇓S	**Sn**	**21 10 37.8**	**-0.1**
	baz=1.6						
J21A	**Lysite**	**1.63**	**258**	⇑P	**Pn**	**21 10 15.8**	**-1.9**
	baz=1.6,SNR=44						
L23A	**Garrett**	**1.64**	**192**	⇓P	**Pn**	**21 10 16.5**	**-1.2**
	baz=1.6,SNR=243						
L23A				⇑S	**Sn**	**21 10 39.2**	**-0.4**
	baz=1.6						
G22A	**Birney**	**1.67**	**334**	⇓P	**Pn**	**21 10 17.8**	**-0.4**
	baz=1.7,SNR=158						
L24A	**Wheatland**	**1.69**	**172**	⇓P	**Pn**	**21 10 17.9**	**-0.6**
	baz=1.7,SNR=13						
G24A	**Alzada**	**1.72**	**20**	⇑P	**Pn**	**21 10 19.0**	**+0.2**
	baz=1.7,SNR=55						
G24A				⇓Sb	**Sg**	**21 10 43.6**	**+0.9**
	baz=1.7						
K21A	**Alcova**	**1.82**	**234**	⇑P	**Pn**	**21 10 19.5**	**-0.7**
	baz=1.8,SNR=577						
K21A				⇑S	**Sn**	**21 10 43.2**	**-0.8**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.83**	**148**	⇓Pb	**Pn**	**21 10 21.2**	**+0.9**
	baz=1.8						
L25A				⇓Sg	**Sg**	**21 10 47.4**	**+1.2**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.83**	**123**	⇑Pb	**Pb**	**21 10 21.4**	**-0.5**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.89**	**208**	⇑P	**Pn**	**21 10 20.8**	**-0.5**
	baz=1.9,SNR=107						
L22A				⇓Sb	**Sn**	**21 10 47.4**	**+1.5**
	baz=1.9						
G21A	**Lodge Grass**	**2.05**	**318**	⇓P	**Pn**	**21 10 23.0**	**-0.4**
	baz=2.0,SNR=65						
G21A				⇑Sb	**Sb**	**21 10 52.2**	**+0.4**
	baz=2.0						
J20A	**Shoshoni**	**2.09**	**261**	⇓Pb	**Pn**	**21 10 24.9**	**+1.0**
	baz=2.1						
J20A				⇑Sb	**Sb**	**21 10 52.9**	**+0.1**
	baz=2.1						
I20A	**Worland**	**2.09**	**277**	⇑P	**Pn**	**21 10 23.7**	**-0.2**
	baz=2.1,SNR=253						
I20A				⇓S	**Sn**	**21 10 50.6**	**-0.1**
	baz=2.1						
H20A	**Greybull**	**2.12**	**292**	⇓P	**Pn**	**21 10 23.4**	**-0.8**
	baz=2.1,SNR=38						
H20A				⇑S	**Sn**	**21 10 51.5**	**+0.1**
	baz=2.1						
F22A	**Rosebud**	**2.18**	**341**	⇓P	**Pn**	**21 10 24.9**	**-0.2**
	baz=2.2,SNR=125						
F22A				⇓Sb	**Sb**	**21 10 56.3**	**+0.8**
	baz=2.2						
M24A	**Cheyenne**	**2.27**	**172**	⇑P	**Pn**	**21 10 26.5**	**+0.1**
	baz=2.3,SNR=104						
M23A	**Laramie**	**2.27**	**189**	⇑P	**Pn**	**21 10 27.5**	**+1.0**
	baz=2.3						
L21A	**Rawlins**	**2.34**	**222**	⇓P	**Pn**	**21 10 27.5**	**0.0**
	baz=2.4,SNR=72						
PHWY	**Pilot Hill**	**2.42**	**184**	*e*Pn	**Pn**	**21 10 28.5**	**0.0**
PHWY				*e*Sn	**Sn**	**21 10 59.7**	**+0.7**
K27A	**Flueckinger Fa**	**2.43**	**114**	⇑P	**Pn**	**21 10 29.8**	**+1.2**
	baz=2.4						
M25A	**Palm-Egli Farm**	**2.45**	**158**	⇑P	**Pn**	**21 10 29.8**	**+0.9**
	baz=2.5						
RWWY	**Rawlins**	**2.49**	**216**	*e*Pn	**Pn**	**21 10 29.9**	**+0.4**
RWWY				*e*Sn	**Sn**	**21 11 01.7**	**+1.1**
K20A	**Yellowstone Ra**	**2.49**	**246**	⇓P	**Pn**	**21 10 29.5**	**0.0**
	baz=2.5,SNR=49						
M22A	**Cedar Creek Ra**	**2.52**	**204**	⇑P	**Pn**	**21 10 30.6**	**+0.7**
	baz=2.5						
G20A	**Bridger**	**2.59**	**306**	P	**Pn**	**21 10 29.8**	**-1.1**
	baz=2.6,SNR=209						
G20A				⇓Sb	**Sb**	**21 11 08.2**	**+0.7**
	baz=2.6						
M21A	**Separation Pea**	**2.62**	**217**	⇓P	**Pn**	**21 10 32.0**	**+0.7**
	baz=2.6						
I19A	**Meeteetse**	**2.72**	**278**	⇓P	**Pn**	**21 10 32.5**	**-0.1**
	baz=2.7,SNR=37						
K19A	**Absolon Red Bu**	**2.77**	**252**	⇓P	**Pn**	**21 10 33.2**	**-0.1**
	baz=2.8						
K19A				⇓Sb	**Sb**	**21 11 11.4**	**-1.1**
	baz=2.8						
E23A	**Ismay**	**2.78**	**359**	⇑P	**Pn**	**21 10 33.1**	**-0.3**
	baz=2.8,SNR=8.4						
J19A	**Crowheart**	**2.80**	**262**	⇓P	**Pn**	**21 10 34.3**	**+0.7**
	baz=2.8						
H19A	**Powell**	**2.84**	**291**	⇓P	**Pn**	**21 10 34.1**	**-0.2**
	baz=2.8,SNR=30						
N23A	**Red Feather La**	**2.87**	**190**	⇓P	**Pn**	**21 10 34.9**	**+0.2**
	baz=2.9,SNR=49						
N23A				⇑Sb	**Sb**	**21 11 16.0**	**+0.6**
	baz=2.9						
E24A	**Baker**	**2.92**	**13**	⇑P	**Pn**	**21 10 35.9**	**+0.6**
	baz=2.9						
F20A	**Billings**	**2.93**	**316**	P	**Pn**	**21 10 34.5**	**-0.9**
	baz=2.9,SNR=38						
N22A	**Wattenberg Ran**	**3.04**	**197**	⇑Pb	**Pb**	**21 10 41.1**	**-1.6**
	baz=3.1						
N22A				⇑Sb	**Sb**	**21 11 21.6**	**+1.0**
	baz=3.1						
M20A	**Sweetwater, Wa**	**3.10**	**225**	⇓Pb	**Pb**	**21 10 42.3**	**-1.4**
	baz=3.1						
E21A	**Keefer Ranch,**	**3.10**	**336**	⇑P	**Pn**	**21 10 36.7**	**-1.1**
	baz=3.1,SNR=8.3						
RLMT	**Red Lodge**	**3.20**	**297**	*e*Pn	**Pn**	**21 10 38.6**	**-0.6**
RLMT				*e*Pg	**Pg**	**21 10 49.3**	**+0.5**
RLMT				*e*Sn	**Sn**	**21 11 19.9**	**+1.7**
RLMT				*e*Sg	**Sg**	**21 11 30.5**	**+0.3**
RLMT	**Red Lodge**	**3.20**	**297**	⇑P	**Pn**	**21 10 38.8**	**-0.4**
	baz=3.2,SNR=17						
RLMT				⇑P	**Pn**	**21 10 38.8**	**-0.4**
	baz=3.2,SNR=17						
BW06	**Boulder Array**	**3.28**	**255**	*e*Pn	**Pn**	**21 10 40.2**	**-0.2**
BW06				*e*Sn	**Sn**	**21 11 24.1**	**+3.9**
PDAR	**Pinedale Array**	**3.28**	**255**	Pn	**Pn**	**21 10 40.1**	**-0.2**
	2.3nm,0.3s,baz=75,slow=16,SNR=40						
PDAR				Pg	**Pb**	**21 10 48.4**	**+1.6**
	9.2nm,0.3s,baz=65,slow=19,SNR=48						
PDAR				Lg	Lg	21 11 26.4	
	9.0nm,0.3s,baz=66,slow=19,SNR=8.2						
PDAR	**Pinedale Array**	**3.28**	**255**	Pn	**Pn**	**21 10 40.1**	**-0.2**
PDAR				Pg	**Pb**	**21 10 48.4**	**+1.6**
PDAR				Lg	Lg	21 11 26.4	
PD02	**Pinedale Array**	**3.28**	**255**	*e*Pn	**Pn**	**21 10 40.4**	**0.0**
PD02				*e*Pg	**Pg**	**21 10 49.8**	**-0.6**
PD02				*e*Sn	**Sn**	**21 11 21.8**	**+1.5**
PD01	**Pinedale Array**	**3.30**	**255**	*e*Pn	**Pn**	**21 10 40.7**	**+0.1**
PD01				*e*Pg	**Pg**	**21 10 50.0**	**-0.6**
PD01				*e*Sn	**Sn**	**21 11 21.9**	**+1.3**
PD01				*e*Sg	**Sg**	**21 11 33.6**	**+0.2**
H18A	**Shoshone NF, C**	**3.31**	**288**	⇑P	**Pn**	**21 10 39.9**	**-0.9**
	baz=3.3						
F19A	**Roth Farm, Mol**	**3.38**	**310**	⇑P	**Pn**	**21 10 41.4**	**-0.3**
	baz=3.4,SNR=104						
N21A	**Black Mountain**	**3.40**	**210**	⇓P	**Pn**	**21 10 42.6**	**+0.6**
	baz=3.4						
L19A	**Farson**	**3.42**	**243**	⇑P	**Pn**	**21 10 42.8**	**+0.6**
	baz=3.4						
E20A	**Meyer Farm, Mu**	**3.45**	**325**	⇓P	**Pn**	**21 10 41.9**	**-0.7**
	baz=3.4,SNR=12						
D23A	**Lindsay**	**3.46**	**1**	⇑P	**Pn**	**21 10 42.3**	**-0.4**
	baz=3.4,SNR=42						
D24A	**Glendive**	**3.46**	**11**	⇓P	**Pn**	**21 10 43.6**	**+0.9**
	baz=3.4						
G18A	**Lazy EL Ranch,**	**3.47**	**299**	⇓P	**Pn**	**21 10 42.4**	**-0.5**
	baz=3.5,SNR=34						
D22A	**Cohagen**	**3.49**	**350**	⇑P	**Pn**	**21 10 42.6**	**-0.6**
	baz=3.5,SNR=14						
J18A	**Kendall Valley**	**3.50**	**263**	⇓P	**Pn**	**21 10 43.8**	**+0.4**
	baz=3.5						
O23A	**Lake Granby, G**	**3.54**	**188**	⇑P	**Pn**	**21 10 44.9**	**+1.0**
	baz=3.6						
D21A	**La Casta Ranch**	**3.56**	**341**	⇓P	**Pn**	**21 10 43.6**	**-0.5**
	baz=3.6,SNR=5.7						
OGNE	**Ogallala**	**3.66**	**138**	*e*Pn	**Pn**	**21 10 46.4**	**+1.0**
OGNE				*e*Pg	**Pg**	**21 10 57.4**	**-0.2**
OGNE				*e*Sn	**Sn**	**21 11 29.7**	**+0.4**
LKWY	**Lake**	**3.80**	**285**	*e*Pn	**Pn**	**21 10 48.4**	**+0.9**
LKWY				*e*Pg	**Pg**	**21 10 59.0**	**-1.3**
LKWY				*e*S	**Sb**	**21 11 44.6**	**+2.4**
F18A	**Big Timber**	**3.85**	**306**	⇓P	**Pn**	**21 10 48.0**	**-0.1**
	baz=3.8,SNR=30						
ISCO	**Idaho Springs**	**3.92**	**184**	*e*Pn	**Pn**	**21 10 49.9**	**+0.6**
ISCO				*e*Sn	**Sn**	**21 11 36.9**	**+0.8**
D20A	**Manuel Ranch,**	**3.94**	**330**	⇓P	**Pn**	**21 10 48.5**	**-0.7**
	baz=3.9,SNR=36						
MOOW	**Moose Ponds**	**3.98**	**272**	*e*Pn	**Pn**	**21 10 51.5**	**+1.6**
MOOW				*e*Pg	**Pg**	**21 11 02.7**	**-1.0**
MOOW				S	**Sb**	**21 11 47.6**	**+0.3**
C22A	**Vida**	**4.05**	**354**	⇑P	**Pn**	**21 10 51.1**	**+0.3**
	baz=4.0,SNR=14						
G17A	**Pierce Place,**	**4.24**	**294**	⇓P	**Pn**	**21 10 53.0**	**-0.4**
	baz=4.2,SNR=8.4						
E18A	**Harlowton**	**4.35**	**312**	⇓P	**Pn**	**21 10 54.8**	**-0.2**
	baz=4.3,SNR=10						
RRI2	**Red Ridge**	**4.42**	**267**	*e*Pn	**Pn**	**21 10 56.1**	**0.0**
RRI2				*e*Pg	**Pb**	**21 11 09.4**	**+3.2**
RRI2				*e*Sg	**Sg**	**21 12 10.8**	**+1.3**
DGMT	**Dagmar**	**4.81**	**8**	*e*Pn	**Pn**	**21 11 02.2**	**+1.0**
DGMT				Pg	**Pg**	**21 11 17.6**	**-2.0**
DGMT				*e*S	**Sg**	**21 12 18.2**	**-3.8**
C19A	**Slack Wire Ran**	**4.81**	**328**	⇑P	**Pn**	**21 11 01.0**	**-0.3**
	baz=4.8,SNR=8.1						
BOZ	**Bozeman (W)**	**4.94**	**295**	*e*Pn	**Pn**	**21 11 04.0**	**+1.0**
BOZ				*e*Pg	Pb	21 11 18.8	+3.9
BOZ				S	**Sb**	**21 12 17.8**	**+3.0**
B20A	**Solberg Farm,**	**5.10**	**339**	⇓P	**Pn**	**21 11 05.0**	**-0.2**
	baz=5.1,SNR=5.9						
HWUT	**Hardware Ranch**	**5.11**	**248**	*e*Pn	**Pn**	**21 11 04.9**	**-0.5**
	5.0nm,0.4s						
HWUT				*e*Sg	**Sg**	**21 12 29.3**	**-2.2**
D17A	**Six Diamond Ra**	**5.14**	**314**	⇑P	**Pn**	**21 11 05.2**	**-0.5**
	baz=5.1,SNR=56						
EGMT	**Eagleton**	**5.33**	**325**	*e*Pn	**Pn**	**21 11 07.7**	**-0.6**
	11nm,0.4s						
EGMT				*e*Sn	**Sn**	**21 12 10.6**	**+0.1**
HRY	**Holter Researc**	**5.52**	**305**	*e*Pn	**Pn**	**21 11 10.4**	**-0.7**
	74nm,0.4s						
HRY				*e*Pg	**Pg**	**21 11 34.1**	**+0.8**
HRY				S	**Sb**	**21 12 33.8**	**+2.1**
R18A	**Canyonlands Na**	**6.37**	**215**	⇓P	**Pn**	**21 11 22.2**	**-0.6**
	baz=6.4,SNR=23						
DUG	**Dugway**	**6.64**	**241**	⇓P	**Pn**	**21 11 26.0**	**-0.5**
	baz=6.6,SNR=7.5						
D14A	**Greenough**	**6.71**	**303**	⇓P	**Pn**	**21 11 26.6**	**-0.7**
	baz=6.7,SNR=8.0						
C14A	**Swan Lake**	**7.19**	**307**	⇑P	**Pn**	**21 11 33.7**	**-0.2**
	baz=7.2,SNR=8.5						
D13A	**Huson**	**7.30**	**301**	⇓P	**Pn**	**21 11 34.9**	**-0.5**
	baz=7.3,SNR=5.8						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**21 11 59.2**	**-1.5**
	1.1nm,0.3s,baz=224,slow=12,SNR=8.4						
ULM				Lg	Lg	21 14 32.2	
	0.5nm,0.3s,baz=306,slow=22,SNR=3.7						
ULM				LR	LR	21 15 52.4	
	comp=Z,89nm,20.2s,baz=268,slow=39						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**21 11 59.2**	**-1.5**
ULM				Lg	Lg	21 14 32.2	
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**21 14 18.6**	**+0.5**
	0.3nm,0.3s,baz=157,slow=12,SNR=15						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**21 14 18.6**	**+0.5**
INK	**Inuvik**	**28.75**	**339**	P	**P**	**21 15 46.8**	**+0.5**
	0.6nm,0.5s,baz=167,slow=11,SNR=5.6						
INK	**Inuvik**	**28.75**	**339**	P	**P**	**21 15 46.8**	**+0.5**
ZALV	**Zalesovo Beam**	**82.33**	**354**	P	**P**	**21 22 09.1**	**-1.7**
	0.4nm,0.4s,baz=358,slow=7.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**82.33**	**354**	P	**P**	**21 22 09.1**	**-1.7**
SONM	**Songino Array**	**84.66**	**339**	P	**P**	**21 22 22.6**	**-0.5**
	0.1nm,0.3s,baz=4.4,slow=4.1,SNR=4.1						
SONM	**Songino Array**	**84.66**	**339**	P	**P**	**21 22 22.6**	**-0.5**
KURK	**Kurchatov**	**85.89**	**358**	P	**P**	**21 22 28.3**	**-0.7**
	0.1nm,0.4s,baz=2.1,slow=4.7,SNR=3.9						
KURK	**Kurchatov**	**85.89**	**358**	P	**P**	**21 22 28.3**	**-0.7**
MKAR	**Makanchi Array**	**89.63**	**355**	P	**P**	**21 22 47.0**	**0.0**
	0.4nm,0.8s,baz=0.0,slow=4.9,SNR=4.0						
MKAR	**Makanchi Array**	**89.63**	**355**	P	**P**	**21 22 47.0**	**0.0**

*ISCJB **12** 21:30:29.9±0.4,25.˚46S±0.˚08×179.˚72E±0.˚08,h493km, mb4.3/24,Error ellipse: s-maj=11.0km s-min=8.7km az=152.3*

*IDC **12** 21:30:31.6±1.6,25.˚45S×179.˚77E,h504km±16km, mb3.8/16,mb1 4.0/17,mb1mx4.0/19,mbtmp3.8/17,Error ellipse: s-maj=15.0km s-min=12.2km az=154.0*

*NEIC **12** 21:30:32.2±0.7,25.˚44S×179.˚78E,h516km±8km,mb4.4/11, Error ellipse: s-maj=12.3km s-min=10.0km az=162.0*

ISC 12 21:30:30.1±0.4,25.˚47S±0.˚09×179.˚85E±0.˚09,h493km, n114,σ1$13/123,mb4.2/24,17C-6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.26**	**153**	*eP*	**P**	**21 31 54.0**	**+3.9**
MSVF	**Nonsavu**	**7.87**	**347**	*eP*	**P**	**21 32 26.4**	**+1.1**
	38nm,0.6s						
DZM	**Mont Dzumac**	**12.73**	**283**	*eP*	**P**	**21 33 17.7**	**+1.1**
DZM	**Mont Dzumac**	**12.73**	**283**	*eP*	**P**	**21 33 19.2**	**+2.5**
	63nm,1.0s						
RPZ	**Rata Peaks**	**19.57**	**199**	P	**P**	**21 34 24.8**	**-0.2**
	1.2nm,0.3s,baz=35,slow=3.8,SNR=6.5						
RPZ	**Rata Peaks**	**19.57**	**199**	P	**P**	**21 34 24.8**	**-0.2**
ARMA	**Armidale**	**25.38**	**252**	*eP*	**P**	**21 35 19.6**	**+2.1**
EIDS	**Eidsvold**	**25.96**	**264**	*eP*	**P**	**21 35 23.5**	**+0.9**
	9.4nm,0.8s						
CTA	**Charters Tower**	**31.38**	**273**	P	**P**	**21 36 10.9**	**+0.9**
	28nm,0.6s,baz=103,slow=10,SNR=31						
CTA	**Charters Tower**	**31.38**	**273**	⇓*i*P	**P**	**21 36 10.7**	**+0.7**
	20nm,0.5s						
CTA	**Charters Tower**	**31.38**	**273**	P	**P**	**21 36 10.9**	**+0.9**
TOO	**Toolangi**	**31.51**	**239**	*eP*	**P**	**21 36 12.0**	**+1.2**
	33nm,0.6s						
STKA	**Stephens Creek**	**34.04**	**250**	P	**P**	**21 36 33.2**	**+0.8**
	4.8nm,0.5s,baz=97,slow=9.6,SNR=26						
STKA				PcP	**PcP**	**21 38 56.9**	**+0.6**
	1.2nm,0.5s,baz=83,slow=5.8,SNR=5.1						
STKA	**Stephens Creek**	**34.04**	**250**

KAF	Kangasniemi	139.28	341	*e*p		PKPpre	21 48 50.5	
FINES	FINESS Array B	139.88	341		PKhKP	PKPpre	21 48 51.2	
	4.2nm,0.9s,baz=224,slow=5.3,SNR=9.9							
FINES					PKP	**PKiKP**	**21 49 02.5**	**-1.1**
	1.2nm,0.6s,baz=77,slow=3.0,SNR=7.3							
FINES					SKPbc	**SKPbc**	**21 51 49.6**	**-0.5**
	5.0nm,0.8s,baz=46,slow=5.5,SNR=7.6							
FINES	FINESS Array B	139.88	341		PKPpre	PKPpre	21 48 51.2	
FINES					PKP	**PKiKP**	**21 49 02.5**	**-1.1**
FINES					SKPbc	**SKPbc**	**21 51 49.6**	**-0.5**
NB2	NORSAR Subarra	143.60	351		PKP	PKPab	21 49 05.4	-0.9
	comp=Z,4.7nm,0.6s,baz=16,slow=3.3							
NOA	NORSAR Array B	143.60	351		PKP	PKPab	21 49 05.2	-1.1
	comp=Z,12nm,0.8s,baz=16,slow=4.9,SNR=20							
NOA	NORSAR Array B	143.60	351		PKP	PKPab	21 49 05.2	-1.1
HFS	Hagfors	144.05	348		PKP	PKPbc	21 49 06.8	-1.0
	comp=Z,9.4nm,0.4s,baz=62,slow=3.5,SNR=70							
HFS	Hagfors	144.05	348		PKP	PKPbc	21 49 06.8	-1.0
IZAR	Zarasai	144.15	335	*e*P		**PKPab**	**21 49 08.4**	**0.0**
IZAR					AMB	AMB	21 49 08.9	
	comp=Z,15nm,0.6s							
ISAL	Salakas	144.32	334	*e*P		**PKPab**	**21 49 08.9**	**-0.1**
ISAL					AMB	AMB	21 49 09.5	
	comp=Z,4.7nm,0.5s							
IIGN	Ignalina	144.45	334	*e*P		**PKPdf**	**21 49 09.3**	**0.0**
IIGN					AMB	AMB	21 49 09.9	
	comp=Z,9.2nm,0.6s							
AKASG	Malin Array Be	146.20	326		PKPbc	**PKPdf**	**21 49 13.3**	**+0.8**
	comp=Z,3.9nm,0.4s,baz=46,slow=4.2,SNR=18							
AKASG					PKPab	**PKPab**	**21 49 16.0**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=47,slow=4.2,SNR=18							
AKASG	Malin Array Be	146.20	326		PKPbc	**PKPdf**	**21 49 13.3**	**+0.8**
AKASG					PKPab	**PKPab**	**21 49 16.0**	**-0.5**
ASF	Jabal al Asfar	146.98	290		PKPbc	**PKPbc**	**21 49 18.2**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=319,slow=4.6,SNR=6.2							
ASF	Jabal al Asfar	146.98	290		PKPbc	**PKPbc**	**21 49 18.2**	**+0.9**
MMAI	Mount Meron Ar	148.19	292		PKPbc	**PKPbc**	**21 49 21.4**	**+0.9**
	comp=Z,8.2nm,0.4s,baz=70,slow=7.4,SNR=28							
MMAI	Mount Meron Ar	148.19	292		PKPbc	**PKPbc**	**21 49 21.4**	**+0.9**
BRTR	Keskin Array B	148.39	305		PKPbc	**PKPbc**	**21 49 20.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=140,slow=3.4,SNR=22							
BRTR					PKPab	**PKPab**	**21 49 25.7**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=104,slow=3.9,SNR=20							
BRTR	Keskin Array B	148.39	305		PKPbc	**PKPbc**	**21 49 20.2**	**-0.6**
BRTR					PKPab	**PKPab**	**21 49 25.7**	**-0.3**
TLCR		149.50	318	⇑*i*P		**PKPbc**	**21 49 23.2**	**+0.1**
CFR	Carcaliu	149.92	318	⇑*i*P		**PKPbc**	**21 49 24.1**	**0.0**
KWP	Kalwaria Pacla	150.05	330	⇑*i*P		**PKPbc**	**21 49 24.7**	**+0.3**
TESR		150.06	321	⇑*i*P		**PKPab**	**21 49 33.6**	**+1.2**
TIRR	Tirgusor	150.11	317	⇑*i*P		**PKPbc**	**21 49 24.8**	**+0.2**
EFOR	EFORIE	150.16	316	⇑*i*P		**PKPab**	**21 49 31.4**	**-1.5**
BURAR	Bucovina Array	150.17	324	⇑*i*P		**PKPbc**	**21 49 25.5**	**+0.7**
ODBI	Odobesti	150.25	320	⇑*i*P		**PKPab**	**21 49 29.9**	**-3.3**
MANR	Mangalia	150.32	315	⇓*i*P		**PKPbc**	**21 49 25.8**	**+0.7**
VRI	Vrincioaia	150.38	320	⇑*i*P		**PKPbc**	**21 49 25.1**	**-0.1**
MLR	Muntele Rosu	151.04	320		PKPbc	**PKPbc**	**21 49 26.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=347,slow=19,SNR=6.8							
MLR	Muntele Rosu	151.04	320		PKPbc	**PKPbc**	**21 49 26.0**	**-0.9**
MLR	Muntele Rosu	151.04	320	⇓*i*P		**PKPbc**	**21 49 26.9**	**0.0**
DOPR	Dopca	151.08	322	⇓*i*P		**PKPbc**	**21 49 27.6**	**+0.7**
TRPA	Tarpa	151.19	328	⇑*i*P		**PKPbc**	**21 49 25.3**	**-1.7**
PLAR	PLOIESTI	151.32	319	⇑*i*P		**PKPab**	**21 49 33.1**	**-4.7**
VOIR		151.59	321	⇑*i*P		**PKPbc**	**21 49 28.3**	**+0.2**
DRGR		152.01	325	⇑*i*P		**PKPbc**	**21 49 28.8**	**-0.2**
MORC	Moravsky Berou	152.12	335	⇑*i*P		**PKPbc**	**21 49 29.2**	**+0.1**
HUMR	Humele	152.15	319	⇓*i*P		**PKPbc**	**21 49 29.0**	**-0.3**
CLL	Collm	152.30	342	*i* PKPbc		**PKPbc**	**21 49 29.2**	**-0.2**
	comp=Z,12nm,1.1s							
CLL					*e*PKPab	**PKPab**	**21 49 41.0**	**-0.7**
VRAC	Vranov	152.86	336	⇑*i*P		**PKPdf**	**21 49 22.6**	**-0.4**
GZR	Gura Zlata	152.88	333	⇑*i*P		**PKPbc**	**21 49 30.3**	**-0.6**
GERES	GERESS Array B	154.27	339		PKPbc	**PKPbc**	**21 49 32.3**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=33,slow=3.2,SNR=3.7							
GERES					PKPab	**PKPab**	**21 49 49.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=25,slow=3.5,SNR=3.7							
GERES	GERESS Array B	154.27	339		PKPbc	**PKPbc**	**21 49 32.3**	**-1.5**
GERES					PKPab	**PKPab**	**21 49 49.6**	**-0.6**
VTS	Vitosha	154.31	318	⇑*i*P		**PKPdf**	**21 49 24.5**	**-1.0**
DAVOX	Davos/Dischmat	157.28	342		PKPab	**PKPab**	**21 50 03.6**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=49,slow=1.2,SNR=10							
DAVOX	Davos/Dischmat	157.28	342		PKPab	**PKPab**	**21 50 03.6**	**+0.2**
ESDC	Sonseca Array	165.47	12		PKPab	**PKPab**	**21 50 39.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=323,slow=3.7,SNR=5.2							
ESDC	Sonseca Array	165.47	12		PKPab	**PKPab**	**21 50 39.2**	**-0.1**
TORD	Torodi Ar. Bea	167.62	188		PKP	**PKPdf**	**21 49 39.0**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=94,slow=2.2,SNR=3.6							
TORD					PKPab	**PKPab**	**21 50 48.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=167,slow=4.9,SNR=6.8							
TORD	Torodi Ar. Bea	167.62	188		PKP	**PKPdf**	**21 49 39.0**	**-1.0**
TORD					PKPab	**PKPab**	**21 50 48.3**	**-0.9**

IDC ***12*** *21:35:23.2±1.1,36°.05N×22°.22E, h0km, mb3.9/10, mb1 3.8/13,mb1mx3.7/30,mbtmp3.7/13,ML3.6/3, Error ellipse: s-maj=24.2km s-min=18.4km az=137.0*
ATH ***12*** *21:35:25.5,35°.84N×21°.93E,h24km±1km, ML3.8*
CSEM ***12*** *21:35:27.0±0.2,35°.89N×22°.03E,h15km, ML3.9/6, Error ellipse: s-maj=6.4km s-min=3.8km az=47.0*
HLW ***12*** *21:35:27.5,36°.13N×22°.62E,h24km±13km,Md0.0,Ml3.5*
THE ***12*** *21:35:29.7,35°.96N×22°.13E,h57km±7km, ML3.9/6, Error ellipse: s-maj=7.9km s-min=1.4km az=53.0*
VIE ***12*** *21:35:38.0±0.6,36°.95N×21°.77E,h10km,mb3.3/1,Ms4.4/1, Error ellipse: s-maj=9.5km s-min=4.4km az=74.0 143 km S of Patras*

ISC 12 21:35:28.4±1.1,35°.93N±0°.05×22°.10E±0°.05,h42km±14km, n140,σ1s78/163,mb3.9/9,3C,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
KYTH	Kithira	0.83	65	P		Pn	21 35 44.8	+1.1
KYTH	Kithira	0.83	65	*e*PN		Pn	21 35 44.6	+0.9
KYTH	Kithira	0.83	65	P		Pn	21 35 44.8	+1.1
PYL	PYLOS	1.01	343	P		Pn	21 35 46.8	+0.7
PYL	PYLOS	1.01	343	P		Pn	21 35 46.8	+0.7
VLI	Veliai	1.03	40	P		Pn	21 35 47.8	+1.4
VLI				S		Sn	21 36 01.1	+1.4
VLI	Veliai	1.03	40	*e*PN		Pn	21 35 48.5	+2.1
VLI	Veliai	1.03	40	P		Pn	21 35 47.8	+1.4
VLI	Veliai	1.03	40	*e*Pn		Pn	21 35 48.5	+2.1
VLI				S		Sn	21 36 01.1	+1.4
ITM	Ithomi	1.25	354	P		Pn	21 35 50.5	+1.1
ITM	Ithomi	1.25	354	*e*PN		Pn	21 35 50.6	+1.1
ITM				*e*SN		Sn	21 36 08.4	+3.2
ITM	Ithomi	1.25	354	*e*Pn		Pn	21 35 50.6	+1.1
ITM				*e*Sn		Sn	21 36 08.4	+3.2
VLX	Vlachokerasia	1.45	9	P		Pn	21 35 53.9	+1.6
VLX				S		Sn	21 36 11.0	+0.8
VLX	Vlachokerasia	1.45	9	P		Pn	21 35 53.9	+1.6
VLX				S		Sn	21 36 11.0	+0.8
DIDY	Didyma	1.78	30	P		Pn	21 35 57.8	+1.0
DIDY	Didyma	1.78	30	P		Pn	21 35 57.8	+1.0
VAM	Vamos	1.78	106	P		Pn	21 35 58.5	+1.8
VAM	Vamos	1.78	106	*e*PN		Pn	21 35 58.7	+2.0
VAM	Vamos	1.78	106	P		Pn	21 35 58.5	+1.8
DID	Didima	1.82	30	P		Pn	21 35 58.1	+0.9
DID				S		Sn	21 36 19.8	+0.8
DID	Didima	1.82	30	P		Pn	21 35 58.1	+0.9
DID				S		Sn	21 36 19.8	+0.8
GUR	Goura	2.01	5	P		Pn	21 36 01.8	+1.9
GUR				S		Sn	21 36 25.3	+1.4
GUR	Goura	2.01	5	P		Pn	21 36 01.8	+1.9
GUR				S		Sn	21 36 25.3	+1.4
NAIG	Nisos Aigina	2.14	31	*e*PB		Pn	21 36 04.3	+2.8
NAIG	Nisos Aigina	2.14	31	*e*Pb		Pn	21 36 04.3	+2.8
RLS	Riolos of Patr	2.18	347	*e*PB		Pn	21 36 04.6	+2.4
RLS	Riolos of Patr	2.18	347	*e*Pb		Pn	21 36 04.6	+2.4
LTK	Loutraki	2.20	18	P		Pn	21 36 03.5	+1.1
LTK	Loutraki	2.20	18	P		Pn	21 36 03.5	+1.1
LAKA	Lakka	2.31	358	P		Pn	21 36 06.5	+2.6
LAKA				S		Sn	21 36 38.1	+7.0
LAKA	Lakka	2.31	358	P		Pn	21 36 06.5	+2.6
VLY	Voula,Athens	2.35	35	P		Pn	21 36 04.8	+0.3
VLY	Voula,Athens	2.35	35	*e*PN		Pn	21 36 07.3	+2.8
VLY	Voula,Athens	2.35	35	P		Pn	21 36 04.8	+0.3
VLY	Voula,Athens	2.35	35	*e*Pn		Pn	21 36 07.3	+2.8
IDI	Anoyia	2.36	105	P		Pn	21 36 05.5	+0.8
IDI	Anoyia	2.36	105	P		Pn	21 36 05.5	+0.8
ATH	Athens Observa	2.41	32	*e*PN		Pn	21 36 07.6	+2.3
ATH				*e*SN		Sn	21 36 39.2	+5.6
ATH	Athens Observa	2.41	32	*e*Pn		Pn	21 36 07.6	+2.3
ATH				*e*Sn		Sn	21 36 39.2	+5.6
VIL1	Vilia, Western	2.44	23	*e*PN		Pn	21 36 07.4	+1.7
VIL1	Vilia, Western	2.44	23	*e*Pn		Pn	21 36 07.4	+1.7
KALE	Kalithea	2.46	1	P		Pn	21 36 07.5	+1.5
KALE				S		Sn	21 36 35.9	+1.1
KALE	Kalithea	2.46	1	P		Pn	21 36 07.5	+1.5
KALE				S		Sn	21 36 35.9	+1.1
PTL	Penteli	2.54	33	P		Pn	21 36 07.5	+0.4
PTL	Penteli	2.54	33	*e*PN		Pn	21 36 09.4	+2.3
PTL	Penteli	2.54	33	P		Pn	21 36 07.5	+0.4
PTL	Penteli	2.54	33	*e*Pn		Pn	21 36 09.4	+2.3
VLS	Valsamata	2.55	332	P		Pn	21 36 08.1	+0.9
VLS				S		Sn	21 36 38.6	+1.6
VLS	Valsamata	2.55	332	*e*PB		Pn	21 36 08.7	+1.5
VLS				*e*SN		Sn	21 36 38.8	+1.8
VLS	Valsamata	2.55	332	P		Pn	21 36 08.1	+0.9
VLS	Valsamata	2.55	332	*e*Pb		Pn	21 36 08.7	+1.5
VLS				*e*Sn		Sn	21 36 38.8	+1.8
THR1	Thera Island	2.75	80	P		Pn	21 36 10.8	+0.8
THR1	Thera Island	2.75	80	P		Pn	21 36 10.8	+0.8
LKR	Lokris	2.81	14	P		Pn	21 36 11.4	+0.6
LKR				S		Sn	21 36 44.6	+1.2
LKR	Lokris	2.81	14	*e*PN		Pn	21 36 11.6	+0.8
LKR	Lokris	2.81	14	*e*Pn		Pn	21 36 11.6	+0.8
LKR				S		Sn	21 36 44.6	+1.2
NPS	Neapolis	2.94	102	*e*PN		Pn	21 36 14.9	+2.4
NPS	Neapolis	2.94	102	*e*Pn		Pn	21 36 14.9	+2.4
APE	Apeiranthos	2.98	67	*e*PN		Pn	21 36 16.3	+3.0
APE	Apeiranthos	2.98	67	*e*Pn		Pn	21 36 16.3	+3.0
EVR	Evrytania	2.99	356	*e*PN		Pn	21 36 15.2	+1.8
EVR	Evrytania	2.99	356	*e*Pn		Pn	21 36 15.2	+1.8
AGG	Agios Georgios	3.09	3	P		Pn	21 36 16.2	+1.5
AGG	Agios Georgios	3.09	3	P		Pn	21 36 16.2	+1.5
SKIA	Skiathos	3.41	18	P		Pn	21 36 20.9	+1.9
SKIA	Skiathos	3.41	18	P		Pn	21 36 20.9	+1.9
NEO	Neokhori	3.49	14	*e*PN		Pn	21 36 21.9	+1.8
NEO	Neokhori	3.49	14	*e*Pn		Pn	21 36 21.9	+1.8
THL	Klokotos Trika	3.63	359	P		Pn	21 36 23.6	+1.6
THL	Klokotos Trika	3.63	359	*e*PN		Pn	21 36 23.8	+1.8
THL	Klokotos Trika	3.63	359	P		Pn	21 36 23.6	+1.6
RGA	Parga	3.66	338	P		Pn	21 36 23.4	+0.9
RGA	Parga	3.66	338	P		Pn	21 36 23.4	+0.9
JAN	Janina	3.85	345	*e*PN		Pn	21 36 26.9	+1.8
JAN				*e*SN		Sn	21 37 11.4	+2.3
JAN	Janina	3.85	345	*e*Pn		Pn	21 36 26.9	+1.8
JAN				*e*Sn		Sn	21 37 11.4	+2.3
IGT	Igoumenitsa	3.86	339	P		Pn	21 36 26.2	+1.0
IGT	Igoumenitsa	3.86	339	P		Pn	21 36 26.2	+1.0
KARP	Karpathos	4.13	94	*e*PN		Pn	21 36 30.5	+1.5
KARP	Karpathos	4.13	94	*e*Pn		Pn	21 36 30.5	+1.5
KEK	Kerkira	4.19	335	P		Pn	21 36 30.5	+0.8
KEK	Kerkira	4.19	335	*e*PN		Pn	21 36 30.6	+0.8
KEK	Kerkira	4.19	335	*e*Pn		Pn	21 36 30.6	+0.8
KZN	Kozani	4.38	357	P		Pn	21 36 34.2	+1.8
KZN	Kozani	4.38	357	*e*PN		Pn	21 36 34.8	+2.4
KZN				*e*SN		Sn	21 37 25.4	+3.2
KZN	Kozani	4.38	357	P		Pn	21 36 34.2	+1.8
KZN	Kozani	4.38	357	*e*Pn		Pn	21 36 34.8	+2.4
KZN				*e*Sn		Sn	21 37 25.4	+3.2
NEST	Nestorio	4.55	350	P		Pn	21 36 36.9	+2.1
NEST	Nestorio	4.55	350	P		Pn	21 36 36.9	+2.1
PRK	Paraskevi	4.68	44	*e*PN		Pn	21 36 41.4	+4.9
PRK	Paraskevi	4.68	44	*e*Pn		Pn	21 36 41.4	+4.9
FNA	Florina	4.88	353	P		Pn	21 36 40.2	+0.9
FNA	Florina	4.88	353	P		Pn	21 36 40.2	+0.9
BIA	Bitola	5.12	353	*e*Pn		Pn	21 36 43.2	+0.7
BIA				*e*Sg		Sn	21 37 37.7	-2.7
BIA	Bitola	5.12	353	*e*Pn		Pn	21 36 43.2	+0.7
BIA				*e*Sg		Sn	21 37 37.7	-2.7
KNT	Kendrikon	5.26	7	P		Pn	21 36 45.9	+1.4
KNT	Kendrikon	5.26	7	P		Pn	21 36 45.9	+1.4
VAY	Valandovo	5.39	4	*e*Pn		Pn	21 36 47.4	+1.1
VAY	Valandovo	5.39	4	*e*Pn		Pn	21 36 47.8	+1.5
KRUS	Krusevo	5.47	353	*e*PN		Pn	21 36 47.7	+0.3
KRUS	Krusevo	5.47	353	*e*Pn		Pn	21 36 47.7	+0.3
NVR	Nevrokopi	5.58	14	*e*PN		Pn	21 36 50.6	+1.7
NVR	Nevrokopi	5.58	14	*e*Pn		Pn	21 36 50.6	+1.7
TAR1	Taranto	5.95	322	*e*Pn		Pn	21 36 55.0	+1.1
SKO	Skopje	6.06	355	*e*Pn		Pn	21 36 56.6	+1.2
SKO	Skopje	6.06	355	*e*Pn		Pn	21 36 57.0	+1.6
PE1	Pezze di Greco	6.10	324	*e*Pn		Pn	21 36 56.4	+0.5
HMAT	Matruh	6.37	138	P		Pn	21 36 58.7	-1.1
BAI	Bari	6.59	323	*e*Pn		Pn	21 37 03.7	+1.0
CDT	Castel del Mon	6.88	320	*e*Pn		Pn	21 37 07.2	+0.5
BARS	Barje	6.88	358	⇑*i*Pn		Pn	21 37 07.2	+0.5
SWA2		7.24	156	P		Pn	21 37 58.2	+1.1
SWA2				S		Sn	21 38 29.2	-3.4
STON	Ston	7.72	335	*i* Pn		Pn	21 37 16.2	-1.9
STON				Sn		Sn	21 38 36.2	-8.1
GRUS	Gruza	8.02	353	⇑*i*Pn		Pn	21 37 21.1	-1.2
AWBH		9.53	141	P		Pn	21 37 42.7	-0.3
BRTR	Keskin Array B	9.88	64	Pn		Pn	21 37 51.8	+3.9
	0.1nm,0.3s,baz=153,slow=38,SNR=3.1							
MLR	Muntele Rosu	9.98	16	Pn		Pn	21 37 52.3	+3.0
	0.0nm,0.3s,baz=148,slow=19,SNR=2.1							
NVLJ	Novalja	10.24	330	*e*Pn		Pn	21 37 52.4	-0.2
NVLJ				Sn		Sn	21 39 36.9	-9.1
NVLJ	Novalja	10.24	330	*e*Pn		Pn	21 37 52.4	-0.2
SUZ		10.87	121	P		Pn	21 37 59.7	-1.7
BOJS	Bojanci	10.88	334	*i* Pn		Pn	21 38 00.2	-1.2
BOJS				*i* Sn		Sn	21 39 54.5	-7.2
BOJS	Bojanci	10.88	334	Pn		Pn	21 38 00.2	-1.2
VISS	Visnje	11.29	333	*i* Pn		Pn	21 38 06.9	-0.1
VISS				*i* Sn		Sn	21 40 04.2	-7.6
VISS	Visnje	11.29	333	*i* Pn		Pn	21 38 06.9	-0.1
MMAI	Mount Meron Ar	11.36	101	Pn		Pn	21 38 05.6	-2.4
	0.4nm,0.3s,baz=283,slow=19,SNR=1.7							
MMAI						Sn	21 40 06.1	-7.5
	1.2nm,0.3s,baz=264,slow=39,SNR=2.4							
JAVS	Javornik	11.66	331	*i* Pn		Pn	21 38 11.8	-0.3
JAVS				*i* Sn		Sn	21 40 11.5	-9.4
JAVS	Javornik	11.66	331	*i* Pn		Pn	21 38 11.8	-0.3
PERS	Pernice	11.91	336	*i* Pn		Pn	21 38 13.4	-2.2
PERS				*i* Sn		Sn	21 40 18.1	-8.9
OBKA	Obir	11.99	334	⇑*i*Pn		Pn	21 38 11.6	-1.6
GERES	GERESS Array B	14.31	337	Pn		Pn	21 38 45.7	-2.5
	0.1nm,0.3s,baz=150,slow=15,SNR=1.9							
AKASG	Malin Array Be	15.63	17	Pn		Pn	21 39 02.6	-3.0
	0.4nm,0.3s,baz=212,slow=10,SNR=1.8							
ESDC	Sonseca Array	20.91	288	P		P	21 40 06.8	-0.4
	1.2nm,0.8s,baz=92,slow=12,SNR=4.4							
HFS	Hagfors	24.82	350	P		P	21 40 45.9	-0.5
	1.5nm,0.4s,baz=160,slow=9.1,SNR=2.0							
FINES	FINESS Array B	25.66	4	P		P	21 40 53.8	-0.2
	3.6nm,0.9s,baz=198,slow=12,SNR=1.6							
NOA	NORSAR Array B	26.07	348	P		P	21 40 57.6	-0.2
	1.5nm,0.8s,baz=156,slow=8.5,SNR=3.1							
TORD	Torodi Ar. Bea	29.19	224	P		P	21 41 27.7	+1.7
	0.4nm,0.6s,baz=36,slow=9.4,SNR=3.4							
AKTO	Aktyubinsk	29.60	49	P		P	21 41 28.6	-0.7
	0.3nm,0.3s,baz=210,slow=8.1,SNR=2.2							
ARCES	ARCESS Array B	33.71	2	P		P	21 42 05.2	-0.1
	2.6nm,0.9s,baz=188,slow=10,SNR=1.6							
DBIC	Dimbokro	38.19	227	P		P	21 42 46.5	+2.5
	0.7nm,0.4s,baz=59,slow=7.1,SNR=1.5							
MKAR	Makanchi Array	45.43	57	P		P	21 43 42.4	-0.6
	2.0nm,0.4s,baz=269,slow=7.6,SNR=30							
ZALV	Zalesovo Beam	46.28	47	P		P	21 43 48.0	-1.5
	1.0nm,0.4s,baz=261,slow=10,SNR=5.7							

DJA ***12*** *21:41:09,0°.02S×124°.86E,h15km, MLv4.0/6*
IDC 12 21:41:13.1±6.9,0°.01N×124°.75E,h100km±67km,mb3.3/6, mb1 3.5/7,mb1mx3.3/20,mbtmp3.4/7,ML3.7/1,Error ellipse: s-maj=51.9km s-min=16.7km az=55.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
KAPI	Kappang	7.06	225	P		Pn	21 42 54.1	+0.3
	1.2nm,0.3s,baz=72,slow=9.6,SNR=4.0							
KAPI				S		Sn	21 44 13.1	+0.6
	1.1nm,0.3s,baz=213,slow=9.8,SNR=3.0							
WRA	Warramunga Arr	21.94	155	P		P	21 45 57.2	-1.5
	0.7nm,0.7s,baz=332,slow=10,SNR=4.9							
ASAR	Alice Springs	25.16	160	P		P	21 46 29.1	-0.1
	1.3nm,0.9s,baz=341,slow=11,SNR=8.0							
STKA	Stephens Creek	35.49	155	P		P	21 48 01.1	+0.9
	2.1nm,0.6s,baz=330,slow=8.8,SNR=8.5							
SONM	Songino Array	50.24	344	P		P	21 49 58.9	-0.3
	0.2nm,0.4s,baz=157,slow=8.8,SNR=3.1							
MKAR	Makanchi Array	59.54	327	P		P	21 51 05.7	-0.3
	0.3nm,0.3s,baz=128,slow=8.1,SNR=10							
AKTO	Aktyubinsk	75.36	323	P		P	21 52 46.1	+0.5
	0.8nm,0.5s,baz=80,slow=6.6,SNR=4.7							

ISCJB ***12*** *21:44:32.1±0.6,5°.74S±0°.07×128°.8E±0°.1,h264km, mb3.9/9,Error ellipse: s-maj=21.5km s-min=7.3km az=160.5*
DJA ***12*** *21:44:34,5°.61S×129°.13E,h277km,MLv4.5/10*
IDC ***12*** *21:44:36.3±2.5,5°.83S×128°.79E,h293km±26km,mb3.2/6, mb1 3.7/10,mb1mx3.6/17,mbtmp3.6/10,Error ellipse: s-maj=25.7km s-min=9.1km az=70.0*

ISC 12 21:44:33.6±0.6,5°.75S±0°.07×128°.9E±0°.1,h264km,n20, σ1s52/24,mb3.7/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
FITZ	Fitzroy Crossi	12.68	194	P		Pn	21 47 24.5	-0.7
	1.7nm,0.3s,baz=26,slow=11,SNR=36							
FITZ				S		S	21 49 48.6	+2.4
	0.5nm,0.3s,baz=322,slow=18,SNR=3.5							
WRA	Warramunga Arr	15.08	160	P		P	21 47 53.7	+0.1
	5.0nm,0.3s,baz=340,slow=12,SNR=138							
WRA				S		S	21 50 35.8	-4.0
	2.4nm,0.3s,baz=334,slow=22,SNR=16							
ASAR	Alice Springs	18.46	165	P		P	21 48 31.8	+1.3
	3.7nm,0.3s,baz=347,slow=11,SNR=143							
ASAR				S		S	21 51 44.8	-2.3
	1.7nm,0.3s,baz=345,slow=21,SNR=32							
PMG	Port Moresby	18.49	102	P		P	21 48 32.3	+1.6
	2.1nm,0.3s,baz=277,slow=13,SNR=7.3							
BBOO	Buckleboo	27.75	167	*e*P		P	21 49 58.0	-0.2
	20nm,0.4s							
STKA	Stephens Creek	28.59	157	P		P	21 50 06.2	+0.5
	6.3nm,0.7s,baz=331,slow=9.7,SNR=13							
STKA	Stephens Creek	28.59	157	*e*P		P	21 50 05.4	-0.2
	5.0nm,0.9s							
CMSA	Cobar Meteorol	30.11	150	*e*P		P	21 50 19.8	+0.8
	32nm,0.5s							
YNG	Young	33.67	150	*e*P		P	21 50 51.5	+1.5
	9.8nm,0.7s							
CMAR	Chiang Mai Arr	38.07	310	P		P	21 51 27.2	-0.2
	0.5nm,0.5s,baz=135,slow=7.1,SNR=6.8							
KSRS	Korea Array	42.99

QSPA	South Pole Qui	68.76	180	*e*P		P		22 08 28.9	-0.4
	comp=Z,116nm,0.8s									
CMAR	Chiang Mai Arr	79.71	294	P		P		22 09 35.0	+1.3
	comp=Z,1.6nm,0.6s,baz=131,slow=4.2,SNR=11									
CMAR	Chiang Mai Arr	79.71	294	P		P		22 09 35.0	+1.3
SNAA	Sanae	87.12	182	*e*		P		22 10 09.2	-1.9
VNA3	Neumayer Olymp	87.70	180	*e*		P		22 10 13.4	-0.4
VNA2	Neumayer--Watz	88.00	181	*e*		P		22 10 15.2	0.0
	baz=180,slow=4.2									
SONM	Songino Array	89.10	323	P		P		22 10 21.8	+1.0
	comp=Z,0.7nm,0.8s,baz=149,slow=5.1,SNR=5.1									
SONM	Songino Array	89.10	323	P		P		22 10 21.8	+1.0
NVAR	Mina Array Bea	89.87	48	P		P		22 10 25.1	+0.4
	comp=Z,1.2nm,0.6s,baz=232,slow=8.4,SNR=7.3									
NVAR	Mina Array Bea	89.87	48	P		P		22 10 25.1	+0.4
ILAR	Eielson Array	92.08	17	P		P		22 10 34.4	+0.2
	comp=Z,0.2nm,0.6s,baz=241,slow=5.2,SNR=6.8									
ILAR	Eielson Array	92.08	17	P		P		22 10 34.4	+0.2
ANMO	Albuquerque	97.14	55	LR		LR		22 47 26.5		
	comp=Z,70nm,19.8s,baz=203,slow=31									
TXAR	Lajitas Array	97.40	62	LR		LR		22 45 45.8		
	comp=Z,94nm,21.8s,baz=0.0,slow=30									
ARCES	ARCESS Array B	127.16	345	PKP		PKPdf		22 16 27.3	-1.8
	comp=Z,3.5nm,0.9s,baz=327,slow=6.2,SNR=3.6									
ARCES	ARCESS Array B	127.16	345	PKP		PKPdf		22 16 27.3	-1.8
BRG	Berggiesshubel	144.88	333	*e*(P)		PKPab		22 17 00.8	-0.7
	comp=Z,6.4nm,1.0s									
BRG				*e*				22 17 16.8		
	comp=Z,18nm,1.5s									
GERES	GERESS Array B	146.48	331	PKPbc		PKPbc		22 17 05.9	-0.8
	comp=Z,2.0nm,0.6s,baz=37,slow=3.0,SNR=23									
GERES	GERESS Array B	146.48	331	PKPbc		PKPbc		22 17 05.9	-0.8
ABTA	Abfaltersbach	148.56	329⇑	*i*PKPbc		PKPbc		22 17 10.7	-1.8
	comp=Z,2.2nm,0.7s									
FETA	Feichten	149.18	331⇑	*i*PKPbc		PKPbc		22 17 13.3	-0.8
	comp=Z,2.9nm,0.7s									

IDC **12** *22:14:02.3±0.5,2.75N×95.67E,h0km,mb4.7/25, mb1 4.8/26,mb1mx4.7/30,mbtmp4.7/26,ML5.0/1,MS4.4/27, Ms1 4.4/27,ms1mx4.2/39,Error ellipse: s-maj=15.4km s-min=11.9km az=50.0*

DJA **12** *22:14:03,2.83N×95.50E,h10km,MLv5.0/7*

MOS **12** *22:14:05.7±0.9,2.80N×95.75E,h33km,mb5.2/42, MS4.4/15,Error ellipse: s-maj=9.5km s-min=5.4km az=104.3*

ISCJB **12** *22:14:07.8±0.6,2.81N±0.03×95.75E±0.03,h48km±5km, mb5.1/106,MS4.5/47,Error ellipse: s-maj=6.1km s-min=5.0km az=38.7*

BJI **12** *22:14:10.4,3.01N×95.73E,h63km,mB5.4/43,mb5.2/61, Ms5.0/57,Ms7 4.8/56*

NEIC **12** *22:14:10.2±1.1,2.82N×95.78E,h58km±10km,mb5.1/25, Error ellipse: s-maj=7.9km s-min=4.7km az=51.0*

ISC 12 22:14:10.7±0.4,2.83N±0.04×95.74E±0.04,h60km±2km, h60km:pP-P,n338,σ1♀32/392,mb5.1/106,**29C-18D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LHMI	Lhok Sumawe	2.67	27	P		Pn	22 14 51.0	-0.3
BSI	Banda Aceh	2.69	351	P		Pn	22 14 47.4	-4.1
TSI	Tuntungan	2.90	77	P		Pn	22 14 54.4	0.0
PSI	Prapat	3.18	90	P		Pn	22 14 57.0	-1.4
MNSI	Mandailing Nat	4.34	118	P		Pn	22 15 11.8	-2.3
KULM	Kulim	5.47	63	*e*Pn		Pn	22 15 30.4	+0.7
KULM	Kulim	5.47	63	P		Pn	22 15 30.9	+1.1
KULM	Kulim	5.47	63	P		Pn	22 15 30.3	+0.6
	565nm,0.9s,5μm1.5nm							
IPM	Ipoh	5.53	73	*e*Pn		Pn	22 15 29.5	-1.0
IPM				*e*S		Sn	22 16 29.5	-3.2
IPM	Ipoh	5.53	73	P		Pn	22 15 30.0	-0.4
IPM	Ipoh	5.53	73	P		Pn	22 15 30.0	-0.4
	230nm,0.8s,3μm0.8nm							
PPI	Padang Panjang	5.69	125	P		Pn	22 15 30.5	-2.1
	197nm,1.6s,2μm0.7nm							
BKNI	Bangkinang	5.85	115	P		Pn	22 15 33.1	-1.8
	199nm,0.9s,3μm1.1nm							
FRIM	Kepong	5.89	86	P		Pn	22 15 34.3	-1.1
KGM	Kluang	7.62	96	P		Pn	22 15 57.7	-1.3
KTGM	Kuala Trenggan	7.78	71	P		Pn	22 16 00.9	-0.5
MYKOM	Kota Tinggi	8.17	97	P		Pn	22 16 05.0	-1.6
MYKOM	Kota Tinggi	8.17	97	P		Pn	22 16 14.8	+8.1
KSI	Kapahiang	9.40	133	P		Pn	22 16 25.0	+1.4
	234nm,0.8s,3μm							
LWLI	Liwa	11.40	133	P		Pn	22 16 50.5	-0.4
	257nm,0.8s,3μm							
KSM	Kuching	14.62	95	*e*Pn		Pn	22 17 33.0	-1.4
KSM	Kuching	14.62	95	P		Pn	22 17 33.5	-0.8
CM31	Chiang Mai Arr	15.85	11	*e*Pn		Pn	22 17 49.8	-0.3
CMAR	Chiang Mai Arr	15.85	11	Pn		Pn	22 17 49.5	-0.6
	1.9nm,0.3s,baz=200,slow=11,SNR=168							
CMAR				LR		LR	22 23 38.7	
	comp=Z,1μm,21.4s,baz=199,slow=36							
CMAR	Chiang Mai Arr	15.85	11	P		Pn	22 17 49.5	-0.6
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CMAR				MLR		MLR		
	comp=Z,1μm,21.4s							
CMAR	Chiang Mai Arr	15.85	11	Pn		Pn	22 17 49.5	-0.6
STKI	Sintang	15.97	100	P		P	22 17 55.9	+1.7
CHTO	Chiang Mai	16.19	11	*e*P		Pn	22 17 52.5	-2.0
CHTO				pmax		pmax		
	comp=Z,35nm,0.9s							
CHTO	Chiang Mai	16.19	11	*e*Pn		Pn	22 17 52.5	-2.0
	comp=Z,35nm,0.9s							
CHTO	Chiang Mai	16.19	11	P		Pn	22 17 53.3	-1.2
	comp=Z,52nm,1.4s							
SBUM	Sibu	16.47	91	P		P	22 18 00.2	+0.5
SBUM	Sibu	16.47	91	P		P	22 18 01.3	+1.6
BTM	Bintulu	17.32	88	P		Pn	22 18 08.5	-0.1
BBKI	Banjar Baru	20.09	108	P		Pn	22 18 49.1	+7.3
KKM	Kota Kinabalu	20.66	80	*e*Pn		P	22 18 45.3	-0.6
	comp=Z,104nm,0.8s							
KKM	Kota Kinabalu	20.66	80	P		P	22 18 45.3	-0.6
KKM	Kota Kinabalu	20.66	80	P		Pn	22 18 48.9	+0.2
	comp=Z,156nm,0.9s							
QIZ	Qiongzhong	21.20	40	P		P	22 18 50.5	-1.0
QIZ				pP		pP	22 19 01.6	-3.1
QIZ				sP		sP	22 19 12.0	-0.3
QIZ				S		S	22 22 43.6	-0.5
QIZ				sS		sS	22 23 04.3	-1.3
QIZ				pmax		pmax		
	comp=Z,40nm,1.7s							
QIZ				LR		LR		
	comp=N,2μm,17.2s							
QIZ				LR		LR		
	comp=E,550nm,16.3s							
QIZ				LR		LR		
	comp=Z,2μm,12.2s							
QIZ	Qiongzhong	21.20	40	*e*P		P	22 18 50.7	-0.8
	comp=Z,26nm,0.8s							
KDM	Kudat	21.40	78	P		P	22 18 55.7	+2.0
SDKM	Sandakan	21.58	82	P		P	22 18 57.1	+1.5
SMKI	Samarinda	21.71	98	P		P	22 19 03.1	+6.1
TSM	Tawau	22.14	86	P		P	22 19 02.3	+0.7
HYB	Hyderabad	22.24	312	*i* P		P	22 19 04.0	+1.3
HYB				*es*P		sP	22 19 25.0	+1.5
HYB				*e*S		S	22 23 05.0	+1.0
MYLDM	Lahad Datu	22.82	83	P		P	22 19 08.2	-0.7
MYLDM	Lahad Datu	22.82	83	P		P	22 19 11.6	+2.7
	comp=Z,132nm,1.4s							
SHL	Shillong	22.91	351	*e*P		P	22 19 07.0	-2.8
KMI	Kunming	23.17	16	P		P	22 19 13.6	+1.1
KMI				pP		pP	22 19 28.3	+2.3
KMI				sP		sP	22 19 36.4	+2.9
KMI				S		S	22 23 21.5	+1.8
KMI				pmax		pmax		
	comp=Z,76nm,1.0s							
KMI				pmax		pmax		
	comp=Z,540nm,5.5s							
KMI				LR		LR		
	comp=N,2μm,13.6s							
KMI				LR		LR		
	comp=E,890nm,14.4s							
KMI				LR		LR		
	comp=Z,3μm,13.8s							
ODAN	Odare	25.20	342	*e*P		P	22 19 31.2	+0.1
	comp=Z,226nm,0.8s							
ODAN	Odare	25.20	342	*e*P		P	22 19 31.2	+0.1
	comp=Z,226nm,0.8s							
KAPI	Kappang	25.22	108	P		P	22 19 30.3	-0.9
	comp=Z,18nm,0.7s,baz=289,slow=12,SNR=8.6							
KAPI	Kappang	25.22	108	*e*P		P	22 19 30.4	-0.8

RAMN	Ramite	25.53	341	*e*P		P		22 19 35.0	+0.9
	comp=Z,263nm,0.8s									
RAMN	Ramite	25.53	341	*e*P		P		22 19 35.0	+0.9
	comp=Z,263nm,0.8s									
TAPN	Taplejung	25.56	343	*e*P		P		22 19 35.0	+0.6
	comp=Z,222nm,0.8s									
TAPN	Taplejung	25.56	343	*e*P		P		22 19 35.0	+0.6
	comp=Z,222nm,0.8s									
GYA	Guiyang	25.73	23⇓	*i*P		P		22 19 36.3	+0.6
GYA				pP		pP		22 19 50.7	+0.2
GYA				sP		sP		22 19 58.1	+0.5
GYA				PP		PnPn		22 20 17.9	+2.7
GYA				PcP		PcP		22 23 06.6	+1.9
GYA				sS		sS		22 24 22.4	-3.4
GYA				SS		SnSn		22 25 04.7	+3.7
GYA				pmax		pmax				
	comp=Z,30nm,0.8s									
GYA				pmax		pmax				
	comp=Z,220nm,5.5s									
GYA				LR		LR				
	comp=N,1μm,15.8s									
GYA				LR		LR				
	comp=E,890nm,15.2s									
GYA				LR		LR				
	comp=Z,2μm,18.0s									
JIRN	Jiri	26.32	341	*e*P		P		22 19 41.9	+0.5
	comp=Z,68nm,0.8s									
JIRN	Jiri	26.32	341	*e*P		P		22 19 41.9	+0.5
	comp=Z,68nm,0.8s									
PKI	Pulchoki	26.51	339	*e*P		P		22 19 43.6	+0.6
PKI	Pulchoki	26.51	339	*e*P		P		22 19 43.6	+0.6
PKI	Pulchoki	26.51	339	*e*P		P		22 19 43.6	+0.6
POO	Poona	26.51	308	*e*P		P		22 19 48.0	+5.1
DMN	Daman	26.66	339	*e*P		P		22 19 44.9	+0.6
	comp=Z,66nm,0.8s									
DMN	Daman	26.66	339	*e*P		P		22 19 44.9	+0.6
	comp=Z,66nm,0.8s									
GUN	Gumba	26.66	340	*e*P		P		22 19 44.7	+0.3
	comp=Z,186nm,0.6s									
GUN	Gumba	26.66	340	*e*P		P		22 19 44.7	+0.3
	comp=Z,186nm,0.6s									
KKN	Kakani	26.76	339	*e*P		P		22 19 45.3	+0.2
	comp=Z,115nm,0.9s									
KKN	Kakani	26.76	339	*e*P		P		22 19 45.3	+0.2
KKN				pmax		pmax				
	comp=Z,115nm,0.9s									
KKN	Kakani	26.76	339	*e*P		P		22 19 45.3	+0.2
	comp=Z,115nm,0.9s									
LSA	Lhasa	27.08	351	P		P		22 19 48.0	-0.2
LSA				LR		LR				
	comp=N,510nm,25.6s									
LSA				LR		LR				
	comp=E,800nm,33.2s									
LSA				LR		LR				
	comp=Z,850nm,24.9s									
LSA	Lhasa	27.08	351	*e*P		P		22 19 48.1	-0.2
LSA				pmax		pmax				
	comp=Z,59nm,0.8s									
LSA	Lhasa	27.08	351	*e*P		P		22 19 48.1	-0.2
	comp=Z,59nm,0.8s									
GKN	Gorkha	27.18	338	*e*P		P		22 19 49.0	+0.1
	comp=Z,145nm,0.7s									
GKN	Gorkha	27.18	338	*e*P		P		22 19 49.0	+0.1
	comp=Z,145nm,0.7s									
KOLN	Koldanda	27.38	336	*e*P		P		22 19 51.5	+0.8
	comp=Z,113nm,0.7s									
KOLN	Koldanda	27.38	336	*e*P		P		22 19 51.5	+0.8
	comp=Z,113nm,0.7s									
DANN	Dangsing	27.83	337	*e*P		P		22 19 55.5	+0.7
	comp=Z,190nm,0.9s									
DANN	Dangsing	27.83	337	*e*P		P		22 19 55.5	+0.7
	comp=Z,190nm,0.9s									
CD2	Chengdu	28.94	14	P		P		22 20 03.7	-0.7
CD2				pP		pP		22 20 18.5	-0.8
CD2				sP		sP		22 20 26.0	-0.4
CD2				PP		PnPn		22 20 59.3	+0.5
CD2				S		S		22 24 49.0	-2.0
CD2				sS		sS		22 25 14.4	-1.9
CD2				SS		SS		22 26 21.3	-35
CD2				pmax		pmax				
	comp=Z,100nm,0.9s									
CD2				pmax		pmax				
	comp=Z,310nm,4.3s									
CD2				LR		LR				
	comp=E,1μm,14.3s									
CD2				LR		LR				
	comp=Z,2μm,15.5s									
ENH	Enshi	30.24	24	*e*P		P		22 20 14.6	-1.4
	comp=Z,28nm,0.8s									
QZH	Quanzhou	31.12	43	*e*P		P		22 20 27.0	+3.3
QZH				S		S		22 25 30.6	+5.4
QZH				LR		LR				
	comp=N,3μm,16.4s									
QZH				LR		LR				
	comp=E,3μm,14.6s									
QZH				LR		LR				
	comp=Z,2μm,12.8s									
WHN	Wuhan	32.71	31	⇓P		P		22 20 38.1	+0.5
WHN				pmax		pmax				
	comp=Z,74nm,0.8s									
WHN				LR		LR				
	comp=N,2μm,5.6s									
WHN				LR		LR				
	comp=E,2μm,12.3s									
WHN				LR		LR				
	comp=Z,4μm,14.6s									
XAN	Xi'an	33.40	20	P		P		22 20 42.6	-1.0
XAN				S		S		22 26 05.3	+4.7
XAN				pmax		pmax				
	comp=Z,34nm,0.8s									
XAN				pmax		pmax				
	comp=Z,52nm,5.4s									
XAN				LR		LR				
	comp=N,640nm,12.4s									
XAN				LR		LR				
	comp=E,290nm,14.0s									
XAN				LR		LR				
	comp=Z,400nm,13.5s									
LZH	Lanzhou	33.93	12	⇑P		P		22 20 47.5	-0.9
LZH				pP		pP		22 21 02.6	-0.7
LZH				sP		sP		22 21 09.7	-0.7
LZH				PP		PnPn		22 22 03.0	-0.1
LZH				*e*S		S		22 26 07.4	-1.6
LZH				sS		sS		22 26 33.1	-1.4
LZH				SS		SnSn		22 28 18.2	-2.1
LZH				pmax		pmax				
	comp=Z,31nm,1.2s									
LZH				pmax		pmax				
	comp=Z,160nm,5.3s									
LZH				LR		LR				
	comp=N,660nm,13.5s									
LZH				LR		LR				
	comp=E,1μm,14.2s									
LZH				LR		LR				
	comp=Z,980nm,17.5s									
FITZ	Fitzroy Crossi	36.06	126	P		P		22 21 05.2	-1.6
	comp=Z,6.4nm,0.7s,baz=202,slow=4.3,SNR=14									
FITZ				LR		LR		22 38 36.6		
	comp=Z,457nm,18.3s,baz=192,slow=41									
FITZ	Fitzroy Crossi	36.06	126	*e*P		P		22 21 04.9	-1.8
	comp=Z,13nm,0.8s									
FITZ	Fitzroy Crossi	36.06	126	*e*P		P		22 21 05.1	-1.6
	comp=Z,6.3nm,0.8s									
NJ2	Nanjing	36.30	34	*e*P		P		22 21 09.6	+1.0
NJ2				pP		pP		22 21 24.1	+0.4
NJ2				sP		sP		22 21 32.5	+1.8
NJ2				S		S		22 26 48.5	+3.3
NJ2				sS		sS		22 27 12.0	+1.2
NJ2				pmax		pmax				
	comp=Z,40nm,0.7s									
NJ2				pmax		pmax				
	comp=Z,540nm,5.0s									
NJ2				LR		LR				
	comp=N,790nm,15.8s									
NJ2				LR		LR				
	comp=E,930nm,13.7s									
NJ2				LR		LR				
	comp=Z,860nm,14.7s									
GTA	Gaotai	36.60	5	*e*P		P		22 21 10.9	-0.3
GTA				pP		pP		22 21 27.4	+1.1
GTA				sP		sP		22 21 34.2	+0.8
GTA				PP		PnPn		22 22 35.8	-0.1
GTA				PcP		PcP		22 23 35.4	+2.0
GTA				S		S		22 26 48.1	-1.8
GTA				sS		ScP		22 27 10.4	-4.7
GTA				pmax		pmax				
	comp=Z,40nm,0.9s									
GTA				pmax		pmax				
	comp=Z,280nm,8.1s									
GTA				LR		LR				
	comp=N,580nm,14.3s									
GTA				LR		LR				
	comp=E,490nm,12.8s									
GTA				LR		LR				
	comp=Z,830nm,14.3s									
BTO	Baotou	39.76	17	*e*P		P		22 21 36.7	-1.0
BTO				pmax		pmax				
	comp=Z,19nm,1.4s									
KBL	Kabul	40.16	325	*e*P		P		22 21 40.5	-0.7
KBL				pmax		pmax				
	comp=Z,5.0nm,0.7s									
KBL	Kabul	40.16	325	*e*P		P		22 21 40.5	-0.7
	comp=Z,5.2nm,0.7s									
HHC	Hu-ho-hao-te	40.45	19	*e*P		P		22 21 44.3	+0.8
HHC				pP		pP		22 22 00.1	+1.3
HHC				sP		sP		22 22 07.2	+1.4
HHC				PP		PnPn		22 23 22.2	+0.2
HHC				PcP		PcP		22 23 46.0	+0.6
HHC				ScP		ScP		22 27 28.4	-1.4
HHC				S		S		22 27 49.8	+1.9
HHC				sS		sS		22 28 14.7	+0.9
HHC				ScS		ScS		22 31 41.7	-2.3
HHC				pmax		pmax				
	comp=Z,65nm,0.8s									
HHC				pmax		pmax				
	comp=Z,220nm,7.1s									
HHC				LR		LR				
	comp=N,1μm,16.7s									
HHC				LR		LR				
	comp=E,1μm,16.4s									
HHC				LR		LR				
	comp=Z,1μm,16.6s									
KSH	Kashi	40.70	336⇓	*i*P		P		22 21 44.3	-1.3
KSH				*ep*P		pP		22 21 59.8	-1.0
KSH				*es*P		sP		22 22 07.2	-0.6
KSH				*e*PP		PP		22 23 21.5	+1.1
KSH				*e*PcP		PcP		22 23 47.1	+0.9
KSH				*e*ScP		ScP		22 27 30.1	-0.7
KSH				*e*PcS		PcS		22 27 36.7	-0.4
KSH				*e*S		S		22 27 46.7	-4.9
KSH				*es*S		sS		22 28 14.4	-3.1
KSH				*e*SS		SS		22 30 43.7	-11
KSH				*e*ScS		ScS		22 31 42.5	-3.1
KSH				pmax		pmax				
	comp=Z,9.0nm,0.7s									
KSH				LR		LR				
	comp=N,370nm,6.8s									
KSH				LR		LR				
	comp=E,480nm,6.8s									
KSH				LR		LR				
	comp=Z,490nm,7.5s									
MSEY	Mahe Island	40.91	260	*e*P		P		22 21 48.2	+0.6
MSEY	Mahe Island	40.91	260	*e*P		P		22 21 48.2	+0.6
NWAO	Narrogin (SRO)	40.97	152	LR		LR		22 38 37.3		
	comp=Z,314nm,18.1s,baz=326,slow=36									
BJT	Baijiatuan	41.39	24	*e*P		P		22 21 52.0	+0.9
BJT				pmax		pmax				
	comp=Z,51nm,0.8s									
BJT	Baijiatuan	41.39	24	*e*P		P		22 21 52.0	+0.9
	comp=Z,51nm,0.8s									
BJI	Beijing	41.41	24	P		P		22 21 51.9	+0.7
BJI				pP		pP		22 22 06.0	-0.6
BJI				sP		sP		22 22 13.2	-0.4
BJI				PP		PP		22 23 28.4	+0.5
BJI				S		S		22 28 03.1	+1.2
BJI				pmax		pmax				
	comp=Z,79nm,1.3s									
BJI				pmax		pmax				
	comp=Z,530nm,5.9s									
BJI				LR		LR				
	comp=N,370nm,17.2s									
BJI				LR		LR				
	comp=E,1μm,15.1s									
BJI				LR		LR				
	comp=Z,290nm,25.0s									
WMQ	Urumqi	41.44	351	P		P		22 21 52.4	+0.9
WMQ				pP		pP		22 22 07.4	+0.6
WMQ				sP		sP		22 22 14.4	+0.6
WMQ				pmax		pmax				
	comp=Z,54nm,1.3s									
WMQ				pmax		pmax				
	comp=Z,290nm,5.5s									
WMQ				LR		LR				
	comp=N,370nm,22.5s									
WMQ				LR		LR				
	comp=E,580nm,23.6s									
WMQ				LR		LR				
	comp=Z,350nm,22.0s									
KZA	Kyzart	43.17	338	P		P		22 22 07.0	+1.0
	SNR=9.0									
KZA				P		P		22 22 07.0	+1.0
	SNR=9.0									
TKM2	Tokmak 2	43.77	339	P		P		22 22 11.3	+0.7
	SNR=12									
TKM2				P		P		22 22 11.3	+0.7
	SNR=12									
TKM2	Tokmak 2	43.77	339	*e*P		P		22 22 10.9	+0.3
TKM2				pmax		pmax				
	comp=Z,48nm,1.5s									
TKM2	Tokmak 2	43.77	339	*e*P		P		22 22 10.9	+0.3
	comp=Z,48nm,1.5s									
KBK	Karagaybulak	43.78	338	P		P		22 22 11.7	+1.0
	SNR=24									
KBK				P		P		22 22 11.7	+1.0
	SNR=24									
AML	Almayashu	43.83	336	P		P		22 22 12.2	+0.9
	SNR=25									
AML				P		P		22 22 12.2	+0.9
	SNR=25									
AAK	Ala-Archa	43.94	337	P		P		22 22 14.5	+2.6
	SNR=11									
AAK				P		P		22 22 14.5	+2.6
	SNR=11									
AAK	Ala-Archa	43.94	337⇑	*i*P		P		22 22 12.6	+0.7
AAK				pmax		pmax				
	comp=Z,58nm,1.5s									
AAK	Ala-Archa	43.94	337	*e*P		P		22 22 12.7	+0.8
	comp=Z,71nm,1.0s									
AAK	Ala-Archa	43.94	337	P		P		22 22 14.5	+2.6
	comp=Z,91nm,0.7s,SNR=9.4									
FRU	Bishkek	44.06	338	*i* P		P		22 22 14.0	+1.3
FRU				*i*				22 22 28.0		
FRU				pmax		pmax				
	comp=Z,60nm,2.0s									
WRA	Warramunga Arr	44.13	123	P		P		22 22 12.7	-0.9
	comp=Z,11nm,0.7s,baz=299,slow=9.2,SNR=58									
WRA				LR		LR		22 41 30.6		
	comp=Z,620nm,19.4s,baz=300,slow=37									
WRA	Warramunga Arr	44.13	123	P		P		22 22 12.7	-0.9
WRA				pmax		pmax				
	comp=Z,11nm,0.7s									
WRA				MLR		MLR				
	comp=Z,620nm,19.4s									
WRA	Warramunga Arr	44.13	123	P		P		22 22 12.7	-0.9
WRAB	Tennant Creek	44.14	123	*e*P		P		22 22 13.5	-0.2
WRAB				pmax		pmax				
	comp=Z,421nm,2.9s									
WRAB	Tennant Creek	44.14	123	*e*P		P		22 22 13.5	-0.2
	comp=Z,421nm,2.9s									
WB2	Warramunga Arr	44.15	123	*e*P		P		22 22 13.1	-0.6
CHMS	Chumysh	44.15	338

comp=Z,57nm,0.8s,baz=162,slow=7.8,SNR=415
MKAR LR LR 22 44 10.9
comp=Z,364nm,20.8s,baz=162,slow=40
MKAR Makanchi Array 45.33 347 *ce*P **P 22 22 22.8 +0.1**
MKAR pmax pmax
comp=Z,57nm,0.8s
MKAR Makanchi Array 45.33 347 P **P 22 22 22.9 +0.2**
KSAR Wonju Array Be 45.35 37 P **P 22 22 23.6 +0.6**
KSAR Wonju Array Be 45.35 37 P **P 22 22 23.6 +0.6**
KSRS Korea Array 45.38 37 P **P 22 22 23.6 +0.4**
comp=Z,10nm,0.7s,baz=228,slow=9.1,SNR=30
KSRS LR LR 22 44 03.9
comp=Z,787nm,18.5s,baz=238,slow=40
KSRS Korea Array 45.38 37 P **P 22 22 23.6 +0.4**
KSRS pmax pmax
comp=Z,10.0nm,0.7s
KSRS MLR MLR
comp=Z,787nm,18.5s
FORT Forrest 45.46 140 *e*P **P 22 22 25.1 +1.1**
comp=Z,601nm,2.7s
ASAR Alice Springs 45.54 127 P **P 22 22 24.4 -0.4**
comp=Z,4.0nm,0.7s,baz=299,slow=7.9,SNR=49
ASAR Alice Springs 45.54 127 P **P 22 22 24.4 -0.4**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 45.54 127 P **P 22 22 24.4 -0.4**
SONM Songino Array 45.77 10 P **P 22 22 26.4 +0.1**
comp=Z,13nm,0.6s,baz=190,slow=8.4,SNR=120
SONM PcP **PcP 22 24 04.2 +1.1**
comp=Z,8.4nm,0.7s,baz=190,slow=3.3,SNR=9.8
SONM LR LR 22 43 01.4
comp=Z,700nm,21.3s,baz=6.6,slow=38
SONM PKKP **PKKPdf 22 45 36.6 +0.7**
comp=Z,0.6nm,1.1s,baz=219,slow=0.9,SNR=3.8
SONM Songino Array 45.77 10 P **P 22 22 26.4 +0.1**
SONM 22 24 04.2
SONM pmax pmax
comp=Z,13nm,0.6s
SONM pmax pmax
comp=Z,8.0nm,0.7s
SONM MLR MLR
comp=Z,700nm,21.3s
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 45.77 10 P **P 22 22 26.4 +0.1**
SONM PcP **PcP 22 24 04.2 +1.1**
SONM PKKP **PKKPdf 22 45 36.6 +0.7**
ULN Ulaanbaatar 45.91 11 *e*P **P 22 22 27.2 -0.3**
ULN *e* 22 24 04.7
ULN pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 45.91 11 *e*P **P 22 22 27.2 -0.3**
comp=Z,22nm,1.0s
ULN *e*PcP **PcP 22 24 04.7 +1.1**
KK31 Karatay Array 45.96 334 *ce*P **P 22 22 28.5 +0.7**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 45.96 334 *e*P **P 22 22 28.0 +0.2**
KKAR pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 45.96 334 *e*P **P 22 22 27.9 +0.2**
comp=Z,26nm,0.9s
SNY Shenyang 46.16 29 ⇑P **P 22 22 29.6 +0.3**
SNY S **S 22 29 16.2 +5.1**
SNY pmax pmax
comp=Z,38nm,0.8s
SNY pmax pmax
comp=Z,430nm,5.9s
SNY LR LR
comp=N,1μm,16.2s
SNY LR LR
comp=E,1μm,16.7s
SNY LR LR
comp=Z,1μm,15.5s
ZAK Zakamensk 47.81 7 *e*P **P 22 22 42.4 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
HVS Khovu-Aksy 48.17 358 *d i*P **P 22 22 45.8 +0.9**
HVS pmax pmax
comp=Z,111nm,1.2s
CN2 Changchun 48.55 29 *e*P **P 22 22 48.1 +0.2**
CN2 *e*pP **pP 22 23 03.6 +0.1**
CN2 PcP **PcP 22 24 13.4 +0.5**
CN2 *e*S **S 22 29 44.6 -0.5**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,12.0s
CN2 LR LR
comp=E,700nm,12.0s
CN2 LR LR
comp=Z,700nm,15.0s
MOY Mondy 48.87 4 *e*P **P 22 22 51.6 +1.3**
ABKT Ailbek 49.03 320 P **P 22 22 52.6 +0.8**
comp=Z,142nm,0.7s,SNR=9.0
GUMO Guam 49.69 75 LR LR 22 43 17.4
comp=Z,264nm,19.7s,baz=281,slow=35
KURK Kurchatov 49.86 346 P **P 22 22 57.6 -0.1**
comp=Z,18nm,0.8s,baz=167,slow=7.1,SNR=106
KURK LR LR 22 46 36.3
comp=Z,473nm,21.6s,baz=165,slow=39
KURK Kurchatov 49.86 346 P **P 22 22 57.7 -0.1**
KURK pmax pmax
comp=Z,18nm,0.8s
KURK MLR MLR
comp=Z,473nm,21.6s
KURK Kurchatov 49.86 346 *e*P **P 22 22 58.1 +0.4**
KURK Kurchatov 49.86 346 P **P 22 22 58.6 +0.9**
comp=Z,233nm,0.8s,SNR=17
HIA Hailar 50.60 20 *e*P **P 22 23 03.3 -0.1**
HIA pmax pmax
comp=Z,25nm,1.1s
HIA Hailar 50.60 20 *e*P **P 22 23 03.3 -0.1**
comp=Z,25nm,1.1s
MDJ Mudanjiang 51.19 31 P **P 22 23 10.6 +2.7**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,290nm,4.2s
MDJ LR LR
comp=N,520nm,7.4s
MDJ LR LR
comp=Z,680nm,8.0s
VLA Vladivostok 51.40 34⇓ *e*P **P 22 23 09.1 -0.4**
VLA *e* 22 24 23.3
VLA *e* 22 25 07.2
VLA S **S 22 30 24.4 -0.4**
VLA pmax pmax
comp=Z,40nm,1.2s
MJAR Matsushiro Arr 51.51 44 P **P 22 23 11.4 +0.9**
comp=Z,2.4nm,0.8s,baz=236,slow=9.1,SNR=4.3
MJAR PcP **PcP 22 24 24.9 +0.9**
comp=Z,7.2nm,1.1s,baz=245,slow=6.8,SNR=5.8
MJAR LR LR 22 47 52.2
comp=Z,260nm,18.1s,baz=250,slow=39
MJAR Matsushiro Arr 51.51 44 P **P 22 23 11.4 +0.9**
MJAR 22 24 24.9
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR pmax pmax
comp=Z,7.0nm,1.1s
MJAR MLR MLR
comp=Z,260nm,18.1s
MJAR Matsushiro Arr 51.51 44 P **P 22 23 11.4 +0.9**
MJAR PcP **PcP 22 24 24.9 +0.9**
ZAA0 Zalesovo Array 51.74 352 *e*P **P 22 23 12.0 +0.2**
ZAA0 *e* 22 23 19.1
ZALV Zalesovo Beam 51.74 352 P **P 22 23 11.9 +0.2**
comp=Z,48nm,0.7s,baz=181,slow=6.7,SNR=167
ZALV Zalesovo Beam 51.74 352 P **P 22 23 12.0 +0.2**
ZALV pmax pmax
comp=Z,48nm,0.7s
ZALV Zalesovo Beam 51.74 352 P **P 22 23 11.9 +0.2**
BBOO Buckleboo 52.06 136 *e*P **P 22 23 12.2 -2.4**
comp=Z,30nm,0.8s
USRK Ussuriysk Arra 52.17 33 P **P 22 23 15.7 +0.6**
comp=Z,8.4nm,0.8s,baz=245,slow=6.6,SNR=22
USRK LR LR 22 46 35.2
comp=Z,295nm,18.1s,baz=190,slow=37
OPO Ambohidratompo 52.29 244 P **P 22 23 15.9 -0.8**
comp=Z,6.0nm,1.1s,baz=63,slow=4.6,SNR=4.6
OPO LR LR 22 40 22.0
comp=Z,174nm,19.5s,baz=358,slow=30
OPO Ambohidratompo 52.29 244 P **P 22 23 15.9 -0.8**

ABPO Ambohimpanom 52.40 243 *e*P **P 22 23 17.9 +0.3**
ABPO *e* 22 23 24.8
ABPO pmax pmax
comp=Z,7.0nm,1.2s
ABPO Ambohimpanom 52.40 243 *e*P **P 22 23 17.9 +0.3**
comp=Z,7.4nm,1.2s
ABPO *e* 22 23 24.8
PMG Port Moresby 52.66 104 P **P 22 23 18.7 -0.6**
comp=Z,24nm,0.7s,baz=281,slow=3.2,SNR=5.7
PMG Port Moresby 52.66 104 P **P 22 23 18.7 -0.6**
PMG pmax pmax
comp=Z,24nm,0.7s
PMG Port Moresby 52.66 104 *e*P **P 22 23 19.0 -0.3**
UMR Umm Al-Rimmam 52.69 305 *e*P **P 22 23 19.4 +0.1**
UMR AMb AMB 22 23 22.4
comp=Z,62nm,0.8s
NVS Novosibirsk 52.84 351⇑ *i*P **P 22 23 17.9 -2.1**
NVS pmax pmax
comp=N,17nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS pmax pmax
comp=Z,25nm,0.8s
NAY Al-Naaiem 52.97 305 *e*P **P 22 23 21.6 +0.2**
NAY AMb AMB 22 23 31.5
comp=Z,17nm,0.8s
MIB Mutribah 53.09 306 *e*P **P 22 23 22.6 +0.4**
MIB AMb AMB 22 23 25.2
comp=Z,96nm,0.7s
ATD Arta Tunnel 53.11 282 LR LR 22 41 53.6
comp=Z,185nm,20.7s,baz=190,slow=32
BVAR Borovoye Array 54.25 341 P **P 22 23 30.0 -0.3**
comp=Z,24nm,0.7s,baz=143,slow=8.7,SNR=152
BVAR LR LR 22 49 12.2
comp=Z,331nm,19.7s,baz=159,slow=39
BVAR Borovoye Array 54.25 341 P **P 22 23 30.0 -0.3**
BVAR pmax pmax
comp=Z,24nm,0.7s
BVAR MLR MLR
comp=Z,331nm,19.7s
BVAR Borovoye Array 54.25 341 P **P 22 23 30.0 -0.3**
BRVK Borovoye 54.31 341 *e*P **P 22 23 30.5 -0.2**
BRVK pmax pmax
comp=Z,27nm,0.9s
BRVK Borovoye 54.31 341 *e*P **P 22 23 30.5 -0.2**
comp=Z,27nm,0.9s
BRVK Borovoye 54.31 341 P **P 22 23 30.6 -0.2**
comp=Z,201nm,0.7s,SNR=19
CTA Charters Tower 54.54 117 LR LR 22 48 05.2
comp=Z,353nm,20.0s,baz=56,slow=37
CTAO Charters Tower 54.54 117 *e*P **P 22 23 34.1 +1.1**
CTAO Charters Tower 54.54 117 *e*P **P 22 23 34.1 +1.1**
ZRNK Zerenda 54.63 341 *i*P **P 22 23 32.5 -0.6**
ZRNK pmax pmax
comp=Z,51nm,1.0s
AB31 Akbulak array 55.40 332 *ce*P **P 22 23 38.3 -0.4**
AB31 pmax pmax
comp=Z,43nm,1.0s
ABKAR Akbulak array 55.40 332 *e*P **P 22 23 38.6 -0.1**
ABKAR *e*PP **PP 22 25 42.7 -0.4**
STKA Stephens Creek 55.53 132 P **P 22 23 39.4 -0.6**
comp=Z,3.1nm,0.8s,baz=301,slow=7.6,SNR=4.2
STKA LR LR 22 49 25.4
comp=Z,209nm,19.0s,baz=265,slow=38
STKA Stephens Creek 55.53 132 *e*P **P 22 23 40.2 +0.2**
comp=Z,4.7nm,0.6s
STKA Stephens Creek 55.53 132 P **P 22 23 39.4 -0.6**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA MLR MLR
comp=Z,209nm,19.0s
STKA Stephens Creek 55.53 132 *e*P **P 22 23 41.0 +1.1**
HABR Khabarovsk 56.57 30 *e*P **P 22 23 46.3 -0.8**
HABR *e* 22 25 52.0
HABR pmax pmax
comp=Z,149nm,2.4s
HABR pmax pmax
comp=E,131nm,3.3s
HABR pmax pmax
comp=N,120nm,3.3s
BHD Baghdad 56.68 308 *e*P P 22 23 39.0 -9.2
BOD Bodaibo 56.70 12 *e*P **P 22 23 47.9 +0.1**
BOD pmax pmax
comp=Z,23nm,0.9s
KMBO Kilima Mbogo 58.60 267 *e*P **P 22 24 02.7 +0.4**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 58.60 267 *e*P **P 22 24 02.7 +0.4**
comp=Z,9.0nm,1.0s
CLNS Chul'man 58.64 18 *e*P **P 22 24 01.3 -0.3**
CLNS pmax pmax
comp=Z,11nm,0.7s
CLNS pmax pmax
comp=N,5.0nm,0.6s
GNI Garni 59.12 316 LR LR 22 51 22.3
comp=N,146nm,19.2s,baz=212,slow=38
YSS Yuzh-Sakhalins 59.85 35 *e*P P 22 24 16.9 +6.9
SVE Sverdlovsk 60.65 339⇓ *e*P **P 22 24 15.4 +0.1**
SVE *e*S **S 22 32 29.8 +2.7**
SVE pmax pmax
comp=Z,53nm,0.9s
ZEI Tsey 60.82 318 *e*P **P 22 24 16.5 -0.5**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 61.13 337 *c i*P **P 22 24 18.6 +0.1**
ARU 22 26 32.0
ARU S **S 22 32 34.0 +0.8**
ARU SS **SS 22 36 32.6 -1.4**
ARU pmax pmax
comp=Z,27nm,1.2s
ARU Arti 61.13 337 *e*P **P 22 24 17.9 -0.7**
comp=Z,23nm,0.9s
ARU *e* 22 24 25.8
ARU Arti 61.13 337 P **P 22 24 18.2 -0.3**
comp=Z,126nm,0.8s,SNR=6.3
KIV Kislovodsk 62.13 319 *e*P **P 22 24 25.4 -0.3**
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,113nm,18.0s
SOKR Solikamsk 64.05 339⇑ *i*P **P 22 24 38.8 +0.9**
SOKR pmax pmax
comp=Z,60nm,1.1s
SOKR MLR MLR
comp=Z,380nm,21.0s
YAK Yakutsk 64.28 17 *e*P **P 22 24 37.6 -1.8**
YAK *e* 22 24 46.0
YAK pmax pmax
comp=Z,85nm,1.1s
YAK pmax pmax
comp=N,23nm,1.5s
YAK pmax pmax
comp=E,23nm,1.5s
YAK MLR MLR
comp=Z,1.0nm,19.0s
YAK MLR MLR
comp=Z,982nm,18.0s
YAK MLR MLR
comp=E,591nm,22.0s
YAK Yakutsk 64.28 17 *e*P **P 22 24 39.3 -0.1**
comp=E,84nm,0.9s
HNR Honiara 65.12 102 LR LR 22 53 05.3
comp=E,189nm,19.9s,baz=310,slow=36
VRHR Novokhopersk 65.97 326 *e*P **P 22 24 49.0 -1.6**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
BR131 Keskin Array S 66.94 312 *e*P **P 22 24 56.6 -0.6**
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 66.94 312 P **P 22 24 56.2 -1.1**
comp=Z,1.5nm,0.8s,baz=126,slow=7.0,SNR=12
BRTR Keskin Array B 66.94 312 P **P 22 24 56.2 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 66.94 312 P **P 22 24 56.2 -1.1**
VSR Storozhevoye 67.41 325 *e*P **P 22 24 57.3 -2.5**
VSR pmax pmax
comp=Z,30nm,1.8s
VSR pmax pmax
comp=N,10.0nm,1.7s
VSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' **68.18 318** *e*P P 22 25 11.7 +6.9

SIM pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 70.47 328 *e*P **P 22 25 19.0 +0.3**
OBN *i* 22 25 39.8
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
PETK Petropavlovsk- 71.20 34 P **P 22 25 23.6 +0.3**
comp=Z,3.1nm,0.8s,baz=182,slow=4.5,SNR=3.8
PETK LR LR 22 58 57.0
comp=Z,221nm,20.6s,baz=264,slow=38
PETK Petropavlovsk- 71.20 34 P **P 22 25 23.6 +0.3**
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK MLR MLR
comp=Z,221nm,20.6s
PETK Petropavlovsk- 71.20 34 P **P 22 25 23.6 +0.3**
TIRR Tirgusor 71.94 316 *e*P **P 22 25 27.7 -0.1**
TIRR Tirgusor 71.94 316 *e*P **P 22 25 27.7 -0.1**
APE Apeiranthos 72.55 308⇑ P **P 22 25 32.8 +1.1**
APE Apeiranthos 72.55 308⇑ *i*P **P 22 25 32.8 +1.1**
SEY Seymchan 72.85 24⇓ *e*P **P 22 25 33.9 +1.0**
SEY *i* *PP **PcP 22 25 50.2 +0.5**
AKASG Malin Array Be 73.08 322 P **P 22 25 33.6 -0.9**
comp=Z,3.4nm,0.7s,baz=92,slow=5.0,SNR=7.0
AKASG Malin Array Be 73.08 322 P **P 22 25 33.6 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 73.08 322 P **P 22 25 33.6 -0.9**
DZM Mont Dzumac 73.27 114 *e*LR LR 22 48 01.9
comp=Z,430nm,25.7s
LBTB Lobatse 73.31 243 P **P 22 25 36.1 -0.4**
comp=Z,6.0nm,0.8s,baz=111,slow=6.0,SNR=11
LBTB Lobatse 73.31 243 P **P 22 25 36.1 -0.4**
LBTB pmax pmax
comp=Z,6.0nm,0.8s
LBTB Lobatse 73.31 243 P **P 22 25 36.1 -0.4**
VRI Vrincioaia 73.44 317⇓ *i*P **P 22 25 38.1 +1.3**
VRI Vrincioaia 73.44 317⇓ *i*P **P 22 25 38.0 +1.3**
PLOR Plostina 73.49 317⇑ P **P 22 25 37.9 +0.9**
PLOR Plostina 73.49 317⇑ *i*P **P 22 25 37.9 +0.9**
TESR 73.64 316⇑ *i*P **P 22 25 39.2 +1.3**
MLR Muntele Rosu 73.89 317⇑ P **P 22 25 40.1 +0.6**
MLR Muntele Rosu 73.89 317⇑ *i*P **P 22 25 40.1 +0.6**
ZIMR 73.91 315⇑ *i*P **P 22 25 40.5 +1.1**
ZIMR 73.91 315⇑ *i*P **P 22 25 40.5 +1.1**
MAW Mawson 73.97 192 LR LR 22 55 09.4
comp=Z,207nm,18.4s,baz=133,slow=33
BOSA Boshof 74.33 239 P **P 22 25 42.3 -0.1**
comp=Z,2.1nm,0.8s,baz=74,slow=6.0,SNR=3.9
BOSA LR LR 22 56 02.4
comp=Z,376nm,18.3s,baz=346,slow=34
BOSA Boshof 74.33 239 P **P 22 25 42.3 -0.1**
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA MLR MLR
comp=Z,376nm,18.3s
BOSA Boshof 74.33 239 P **P 22 25 42.3 -0.1**
VOIR 74.49 316⇓ *i*P **P 22 25 42.9 -0.1**
VOIR 74.49 316⇓ *i*P **P 22 25 42.9 -0.1**
BURAR Bucovina Array 74.84 319⇑ *i*P **P 22 25 45.9 +0.9**
BUR08 Bucovina Ar. S 74.86 319 *e*P **P 22 25 45.3 +0.2**
VTS Vitosha 75.26 313⇑ P P 22 25 44.2 -3.3
VTS Vitosha 75.26 313⇑ *i*P P 22 25 44.2 -3.3
JOF Joensuu 76.06 335 *e*P **P 22 25 50.3 -1.2**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 76.06 335 *ep* **P 22 25 50.3 -1.2**
comp=Z,4.0nm,0.7s
JOF Joensuu 76.06 335 *ep* **P 22 25 50.3 -1.2**
comp=Z,4.0nm,0.7s
DRGR 76.35 317⇓ P **P 22 25 51.0 -2.6**
DRGR 76.35 317⇓ *i*P **P 22 25 51.0 -2.6**
TRPA Tarpa 76.71 319⇓ *i*P P 22 25 46.7 -8.8
BZS Buzias 76.89 316⇑ P P 22 25 53.3 -3.3
BZS Buzias 76.89 316⇑ *i*P P 22 25 53.3 -3.3
UZH Uzhgorod 76.97 319 *e*P **P 22 25 59.1 +2.2**
UZH *e* 22 26 04.1
UZH *e* 22 26 14.5
APA Apatity 77.10 340⇑ *e*P P 22 26 05.0 +7.7
APA MLR MLR
comp=Z,3μm,26.0s
FINES FINESS Array B 77.89 333 P **P 22 26 01.9 +0.1**
comp=Z,8.3nm,0.7s,baz=84,slow=6.9,SNR=12
FINES FINESS Array B 77.89 333 P **P 22 26 01.9 +0.1**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES FINESS Array B 77.89 333 P **P 22 26 01.9 +0.1**
KAF Kangasniemi 77.98 333 *e*P **P 22 26 01.7 -0.6**
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 77.98 333 *ep* **P 22 26 01.7 -0.6**
comp=Z,8.4nm,0.8s
KAF Kangasniemi 77.98 333 *ep* **P 22 26 01.7 -0.6**
comp=Z,8.4nm,0.8s
PSZ Piszkesteto 78.43 318⇓ P P 22 26 00.5 -4.7
PSZ Piszkesteto 78.43 318⇓ *i*P P 22 26 00.5 -4.7
PKSM Moragy 79.04 316⇑ P **P 22 26 08.7 +0.3**
PKSM Moragy 79.04 316⇑ *i*P **P 22 26 08.6 +0.2**
BILL Bilibino 80.17 21 *e*P **P 22 26 15.7 +1.5**
BILL pmax pmax
comp=Z,15nm,1.6s
BILL Bilibino 80.17 21 *e*P **P 22 26 14.1 -0.1**
comp=Z,7.1nm,1.6s
ARCES ARCESS Array B 80.52 340 P **P 22 26 16.6 +0.6**
comp=Z,3.7nm,0.6s,baz=105,slow=4.8,SNR=14
ARCES LR LR 23 07 40.3
comp=Z,419nm,18.6s,baz=277,slow=40
ARCES ARCESS Array B 80.52 340 P **P 22 26 16.7 +0.6**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES MLR MLR
comp=Z,419nm,18.6s
ARCES ARCESS Array B 80.52 340 P **P 22 26 16.6 +0.6**
SYO Syowa Base 81.10 198⇓ *eX* **PcP 22 26 30.0 +4.8**
BOJS Bojanci 81.32 315 *i*P **P 22 26 20.9 +0.1**
SOKA Soboth 81.57 317⇑ *i*P **P 22 26 22.9 +0.7**
comp=Z,8.4nm,1.2s
VISS Visnje 81.63 316 *i*P **P 22 26 24.5 +2.1**
MYKA Terra Mystica 82.52 316⇓ *i*P **P 22 26 27.9 +0.8**
comp=Z,4.6nm,0.8s
GERES GERESS Array B 82.63 319 P **P 22 26 27.6 -0.1**
comp=Z,1.9nm,0.8s,baz=91,slow=5.6,SNR=16
GERES LR LR 23 05 04.6
comp=Z,254nm,19.1s,baz=299,slow=37
GERES GERESS Array B 82.63 319 P **P 22 26 27.6 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,254nm,19.1s
GERES GERESS Array B 82.63 319 P **P 22 26 27.6 -0.1**
KHC Kasperske Hory 82.73 319 *eP* **P 22 26 29.5 +1.3**
WTTA Wattenberg 83.93 317⇑ *i*P **P 22 26 34.3 -0.2**
comp=Z,3.9nm,1.0s
NB2 NORSAR Subarra 84.88 331 P **P 22 26 38.8 -0.1**
comp=Z,5.5nm,1.0s,baz=91,slow=5.1
NOA NORSAR Array B 84.88 331 LR LR 23 10 29.1
comp=Z,227nm,18.7s,baz=265,slow=40
SPITS Spitsbergen Ar 85.07 348 P **P 22 26 39.2 -0.3**
comp=Z,17nm,0.9s,baz=135,slow=19,SNR=4.4
SPITS Spitsbergen Ar 85.07 348 P **P 22 26 39.2 -0.3**
SPITS pmax pmax
comp=Z,17nm,1.0s
SPITS Spitsbergen Ar 85.07 348 P **P 22 26 39.2 -0.3**
KEST Kesra 85.43 305 LR LR 23 09 14.5
comp=Z,75nm,19.5s,baz=190,slow=39
LPG La Plagne 87.29 315 *eP* **P 22 26 51.6 +0.2**
comp=Z,12nm,0.9s
LPL La Plagne 87.30 315 *eP* **P 22 26 51.6 +0.2**
comp=Z,14nm,1.0s
ORIF Oris-en-Rattie 87.92 315 *eP* **P 22 26 54.7 +0.5**
MEZF Maizieres J'vi 88.36 318 *eP* **P 22 26 56.3 +0.3**
SFTF Sexfontaines 88.38 318 *eP* **P 22 26 56.7 +0.5**
GAMB Gambell 88.62 26 *eP* **P 22 26 57.5 +0.6**
comp=Z,6.2nm,0.8s
BAIF Baives 88.84 320 *eP* **P 22 26 58.3 +0.1**
TAM Tamanrasset 89.12 293 *eP* **P 22 27 00.2 -0.2**
TAM Tamanrasset 89.12 293 *eP* **P 22 27 00.2 -0.2**
LOR Lormes 89.22 317 *eP* **P 22 27 00.6 +0.4**
SSF Saint Saulge 89.47 317 *eP* **P 22 27 01.9 +0.6**
comp=Z,23nm,1.3s
LDF La Druitiere 91.78 319 *eP* **P 22 27 12.6 +0.6**
TORD Torodi Ar. Bea 93.30 283 P **P 22 27 19.3 -0.4**
comp=Z,0.8nm,0.9s,baz=94,slow=4.2,SNR=3.5

TORD LR LR 23 09 38.2
comp=Z,187nm,18.0s,baz=85,slow=36
TORD Torodi Ar. Bea 93.30 283 P **P** 22 27 19.3 **-0.4**
ILAR Eielson Array 98.77 23 PP PP 22 31 42.0 -3.1
comp=Z,0.8nm,0.8s,baz=294,slow=6.4,SNR=5.8
ILAR LR LR 23 18 05.9
comp=Z,182nm,19.6s,baz=308,slow=39
ILAR Eielson Array 98.77 23 PP PP 22 31 42.0 -3.1
YKA Yellowknife Ar 110.98 15 PP **PP** 22 33 11.0 **-3.6**
comp=Z,0.8nm,0.8s,baz=333,slow=7.6,SNR=4.9
YKA PKKPbc **PKKPab 22 43 41.8 -4.4**
comp=Z,0.3nm,0.7s,baz=144,slow=3.4,SNR=4.2
YKA Yellowknife Ar 110.90 15 PP **PP** 22 33 11.1 **-3.6**
YKA PKKPbc **PKKPab 22 43 41.8 -4.4**
TBI Tubuai 113.85 114 *e*LR LR 23 06 56.8
comp=Z,205nm,28.2s
PPT2 Papeete2 114.37 108 *e*LR LR 23 07 05.3
comp=Z,164nm,26.5s
ULM Lac du Bonnet 126.19 9 PKP **PKPdf 22 33 06.2 -0.3**
comp=Z,1.9nm,0.7s,baz=343,slow=5.3,SNR=4.6
ULM Lac du Bonnet 126.19 9 PKIKP **PKPdf 22 33 06.2 -0.3**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 126.19 9 PKP **PKPdf 22 33 06.2 -0.3**
NVAR Mina Array Bea 128.29 34 PKP **PKPdf 22 33 13.0 +1.8**
comp=Z,0.9nm,0.8s,baz=270,slow=1.5,SNR=3.7
NVAR Mina Array Bea 128.29 34 PKP **PKPdf 22 33 13.0 +1.8**
PDAR Pinedale Array 129.18 24 PKP **PKPdf 22 33 12.6 -0.2**
comp=Z,0.5nm,0.7s,baz=134,slow=4.3,SNR=4.4
PDAR Pinedale Array 129.18 24 PKP **PKPdf 22 33 12.6 -0.2**
TXAR Lajitas Array 143.00 29 PKP PKiKP 22 33 36.2 -5.6
comp=Z,1.2nm,0.8s,baz=275,slow=1.4,SNR=12
TXAR Lajitas Array 143.00 29 PKIKP PKiKP 22 33 36.2 -5.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 143.00 29 PKP PKiKP 22 33 36.2 -5.6
JCT Junction City 143.71 23 *e*PKIKP PKPbc 22 33 38.3 +1.0
JCT Junction City 143.71 23 *e*PKPdf PKPbc 22 33 38.3 +1.1
CPUP Villa Florida 145.16 225 PKPbc **PKPbc 22 33 39.8 -2.1**
comp=Z,0.9nm,0.3s,baz=55,slow=2.7,SNR=3.7
CPUP Villa Florida 145.16 225 PKP2 **PKPbc 22 33 39.8 -2.1**
CPUP pmax pmax
comp=Z,1.0nm,0.3s
CPUP Villa Florida 145.16 225 PKPbc **PKPbc 22 33 39.8 -2.1**
HKT Hockley 145.58 18 *e*PKP2 **PKPdf 22 33 41.7 -1.1**
HKT Hockley 145.58 18 *e*PKPdf **PKPdf 22 33 41.7 -1.1**
LPAZ La Paz 159.25 229 PKP **PKPdf 22 34 05.0 +1.0**
comp=Z,0.3nm,0.3s,baz=153,slow=2.2,SNR=3.6
LPAZ PKPab **PKPab 22 34 43.1 +1.8**
comp=Z,1.3nm,0.7s,baz=188,slow=6.2,SNR=4.3
LPAZ La Paz 159.25 229 PKIKP **PKPdf 22 34 05.0 +1.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 159.25 229 PKP **PKPdf 22 34 05.0 +1.0**
LPAZ PKPab **PKPab 22 34 43.1 +1.8**

IDC 12 22:16:18.8±20.0, 24°22S×179°05W, h462km±196km, mb3.8/5, mb1 3.8/5, mb1mx3.4/17, mbtmp3.8/5, Error ellipse: s-maj=124.3km s-min=39.5km az=78.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.35**	**270**	P	P	22 22 09.4	+0.5
	16nm,0.5s,baz=95,slow=10,SNR=25						
STKA	**Stephens Creek**	**35.41**	**249**	P	P	22 22 34.5	-0.1
	1.6nm,0.5s,baz=200,slow=9.0,SNR=7.5						
PMG	**Port Moresby**	**35.42**	**289**	P	P	22 22 34.4	-0.5
	16nm,0.6s,baz=92,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**42.84**	**261**	P	P	22 23 35.0	-0.1
	2.9nm,0.8s,baz=95,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**43.25**	**266**	P	P	22 23 37.6	-0.7
	5.1nm,0.6s,baz=96,slow=8.4,SNR=19						
VNA3	**Neumayer Olymp**	**84.51**	**177**	*e*	P	22 28 01.1	-0.5
VNA2	**Neumayer--Watz**	**84.93**	**177**	*e*	P	22 28 05.8	+2.2
BVAR	**Borovoye Array**	**121.25**	**319**	PKP	PKPdf	22 34 18.0	-0.1
	0.7nm,0.6s,baz=116,slow=3.4,SNR=4.7						
ARCES	**ARCESS Array B**	**132.38**	**349**	PKP	PKPdf	22 34 38.1	-0.7
	5.7nm,1.1s,baz=40,slow=4.0,SNR=7.1						
FINES	**FINESS Array B**	**139.02**	**342**	PKP	PKPdf	22 34 49.8	-1.5
	5.6nm,1.1s,baz=72,slow=6.0,SNR=3.1						
NB2	**NORSAR Subarra1**	**142.53**	**352**	PKP	PKPdf	22 34 54.3	-3.4
	comp=Z,1.4nm,0.6s,baz=5.8,slow=3.0						
NOA	**NORSAR Array B**	**142.53**	**352**	PKP	PKPdf	22 34 54.8	-2.9
	comp=Z,2.1nm,0.8s,baz=1.5,slow=2.2,SNR=4.1						
AKASG	**Malin Array Be**	**145.71**	**328**	PKPbc	PKPbc	22 35 05.1	+0.2
	comp=Z,0.8nm,0.4s,baz=46,slow=3.5,SNR=6.4						
BRTR	**Keskin Array B**	**148.47**	**307**	PKPbc	PKPbc	22 35 12.2	-0.6
	comp=Z,0.6nm,0.6s,baz=140,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**168.96**	**184**	PKP	PKPdf	22 35 32.7	-0.1
	comp=Z,0.6nm,0.8s,baz=257,slow=2.4,SNR=3.2						
TORD				PKPab	PKPab	22 36 46.4	-0.3
	comp=Z,0.3nm,0.7s,baz=215,slow=4.3,SNR=4.4						

IDC 12 22:25:55.4±2.8, 6°38S×147°50E, h52km±30km, mb3.6/7, mb1 3.8/9, mb1mx3.7/17, mbtmp3.6/9, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/20, Error ellipse: s-maj=42.6km s-min=13.3km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**186**	P	Pn	22 26 41.9	+1.0
	9.2nm,0.3s,baz=15,slow=9.3,SNR=17						
PMG				S	Sn	22 27 16.1	+0.2
	26nm,0.3s,baz=202,slow=23,SNR=3.5						
PMG				LR	LR	22 28 00.4	
	comp=Z,701nm,18.1s,baz=204,slow=41						
WRA	**Warramunga Arr**	**18.58**	**222**	P	P	22 30 08.3	0.0
	0.4nm,0.3s,baz=52,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.59**	**216**	P	P	22 30 41.1	+0.1
	5.0nm,0.7s,baz=56,slow=8.9,SNR=39						
ASAR				S	S	22 34 38.3	+0.7
	3.6nm,1.0s,baz=35,slow=18,SNR=8.8						
FITZ	**Fitzroy Crossi**	**24.29**	**239**	P	P	22 31 08.9	+0.8
	4.2nm,0.6s,baz=49,slow=9.1,SNR=17						
STKA	**Stephens Creek**	**25.96**	**192**	P	P	22 31 22.5	-0.6
	5.6nm,0.8s,baz=359,slow=10,SNR=8.9						
SONM	**Songino Array**	**64.97**	**331**	P	P	22 36 30.1	+0.2
	0.4nm,0.7s,baz=126,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**78.10**	**320**	P	P	22 37 48.3	-0.5
	0.4nm,0.5s,baz=100,slow=7.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**79.59**	**328**	P	P	22 37 55.0	-1.8
	0.8nm,0.6s,baz=120,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**85.63**	**23**	P	P	22 38 28.7	+0.7
	0.2nm,0.6s,baz=249,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.66**	**284**	PKPbc	PKPab	22 45 29.6	-0.2
	2.6nm,0.5s,baz=69,slow=3.7,SNR=50						

*IDC **12** 22:30:10.5±3.2, 35°16N×71°39E, h0km, mb3.4/2, mb1 3.4/5, mb1mx3.2/28, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=76.0km s-min=27.1km az=135.0*
*NNC **12** 22:30:33.3±3.9, 37°11N×70°45E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=28.7km s-min=28.3km az=6.0*
ISC 12 22:30:22.4±3.2, 36°2N±0°2×70°7E±0°1, h102km, n9, σ3s19/8, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.88**	**359**	Pn	Pn	22 32 04.9	+4.3
	2.0nm,0.4s,baz=183,slow=13,SNR=16						
KK31				⇑Sn	**Sn**	**22 33 19.2**	**+1.9**
	2.5nm,0.4s,baz=178,slow=21,SNR=6.7						
TKM2	**Tokmak 2**	**7.67**	**28**	⇑Pn	Pn	22 32 20.3	+8.8
	6.0nm,0.5s						
TKM2				⇑Sn	**Sn**	**22 33 38.1**	**+1.3**
	2.8nm,0.6s						
MKAR	**Makanchi Array**	**13.64**	**36**	Pn	**P**	**22 33 33.8**	**-3.0**
	0.0nm,0.3s,baz=228,slow=15,SNR=2.5						
AB31	**Akbulak array**	**15.23**	**332**	⇓Pn	**P**	**22 33 57.5**	**+3.2**
	0.3nm,0.3s						
AB31				⇓Sn	**Sn**	**22 36 37.6**	**-2.2**
	0.6nm,0.4s						
KURK	**Kurchatov**	**15.56**	**19**	Pn	**P**	**22 34 00.1**	**+2.1**
	0.0nm,0.3s,baz=209,slow=10,SNR=7.1						
AKTO	**Aktyubinsk**	**16.92**	**331**	Pn	P	22 34 21.8	+8.7
	0.2nm,0.3s,baz=164,slow=8.8,SNR=8.6						
AKTO				Sn	**Sn**	**22 37 16.8**	**-3.8**
	0.1nm,0.3s,baz=12,slow=14,SNR=2.8						
AKTO	**Aktyubinsk**	**16.92**	**331**	⇑Pn	P	22 34 21.1	+8.0
	1.3nm,1.3s						
AKTO				⇑Sn	**Sn**	**22 37 19.0**	**-1.6**
	0.9nm,1.1s						
ZALV	**Zalesovo Beam**	**20.25**	**25**	P	Pn	22 34 54.2	+2.0
	0.9nm,0.4s,baz=214,slow=9.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**65.50**	**269**	P	P	22 40 59.4	+4.3
	0.1nm,0.5s,baz=44,slow=6.5,SNR=3.7						

IDC 12 22:42:37.0±2.6, 0°57S×133°80E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=96.5km s-min=27.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.18**	**204**	P	P	22 47 01.0	-1.3
	0.1nm,0.3s,baz=23,slow=9.3,SNR=2.0						
WRA	**Warramunga Arr**	**19.27**	**178**	P	Pn	22 47 04.3	+0.1
	0.1nm,0.3s,baz=359,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**22.96**	**180**	P	P	22 47 43.7	+0.4
	0.4nm,0.6s,baz=6.3,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**65.13**	**324**	P	P	22 53 19.7	-0.1
	0.2nm,0.5s,baz=109,slow=8.2,SNR=4.2						

*ISCJB **12** 23:07:06.4±0.4, 10°29S±0°07×66°35E±0°07, h10km, mb4.4/35, MS4.2/3, Error ellipse: s-maj=10.9km s-min=9.2km az=36.1*
*IDC **12** 23:07:06.4±0.6, 10°28S×66°31E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.2/25, mbtmp4.1/17, MS4.2/3, Ms1 4.3/3, ms1mx3.9/12, Error ellipse: s-maj=19.8km s-min=15.9km az=7.0*
*MOS **12** 23:07:06.4±0.8, 10°27S×66°34E, h10km, mb4.9/16, Error ellipse: s-maj=13.4km s-min=9.7km az=86.1*
*NEIC **12** 23:07:08.4±0.4, 10°23S×66°31E, h10km, mb4.7/13, Error ellipse: s-maj=10.8km s-min=9.0km az=151.0*
ISC 12 23:07:08.2±0.5, 10°3S±0°1×66°3E±0°1, h10km, n115, σ0s85/103, mb4.5/35, MS4.1/3, 14C-8D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**20.26**	**244**	LR	LR	23 17 34.9	
	comp=Z,926nm,20.5s,baz=47,slow=31						
ABPO	**Ambohimpanom**	**20.39**	**243**	*e*P	**P**	**23 11 46.9**	**+1.3**
ABPO				pmax	pmax		
	comp=Z,52nm,1.4s						
ABPO	**Ambohimpanom**	**20.39**	**243**	*e*P	**P**	**23 11 46.9**	**+1.3**
	comp=Z,52nm,1.4s						
LBTB	**Lobatse**	**41.30**	**244**	P	**P**	**23 14 53.9**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=64,slow=9.9,SNR=4.9						
BOSA	**Boshof**	**42.53**	**239**	P	**P**	**23 15 04.3**	**0.0**
	comp=Z,6.3nm,1.2s,baz=142,slow=6.2,SNR=3.4						
BOSA				LR	LR	23 31 42.3	
	comp=Z,335nm,18.2s,baz=73,slow=35						
BOSA	**Boshof**	**42.53**	**239**	*e*P	**P**	**23 15 04.3**	**0.0**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BOSA	**Boshof**	**42.53**	**239**	*e*P	**P**	**23 15 04.3**	**0.0**
	comp=Z,1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.04**	**49**	P	**P**	**23 15 07.7**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=240,slow=10.0,SNR=4.1						
CMAR				LR	LR	23 32 31.4	
	comp=Z,197nm,18.1s,baz=221,slow=35						
CMAR	**Chiang Mai Arr**	**43.04**	**49**	P	**P**	**23 15 07.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.04**	**49**	P	**P**	**23 15 07.7**	**-0.7**
CHTO	**Chiang Mai**	**43.27**	**48**	*e*P	**P**	**23 15 11.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**43.27**	**48**	*e*P	**P**	**23 15 11.2**	**+1.0**
	comp=Z,6.2nm,0.9s						
KBL	**Kabul**	**44.68**	**3**	*e*P	**P**	**23 15 21.5**	**-0.1**
KBL				pmax	pmax		
	comp=Z,24nm,1.6s						
KBL	**Kabul**	**44.68**	**3**	*e*P	**P**	**23 15 21.5**	**-0.1**
	comp=Z,24nm,1.6s						
LSA	**Lhasa**	**46.41**	**30**	*e*P	**P**	**23 15 37.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	**Lhasa**	**46.41**	**30**	*e*P	**P**	**23 15 37.0**	**+1.3**
	comp=Z,7.7nm,0.9s						
AAK	**Ala-Archa**	**53.22**	**8**	*e*P	**P**	**23 16 26.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,17nm,1.7s						
TKM2	**Tokmak 2**	**53.65**	**8**	*e*P	**P**	**23 16 30.1**	**0.0**
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TKM2	**Tokmak 2**	**53.65**	**8**	*e*P	**P**	**23 16 30.1**	**0.0**
	comp=Z,4.0nm,1.0s						
GNI	**Garni**	**54.05**	**340**	P	**P**	**23 16 34.4**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=202,slow=23,SNR=3.4						
GNI	**Garni**	**54.05**	**340**	*ce*P	**P**	**23 16 31.5**	**-1.6**
GNI				pmax	pmax		
	comp=Z,30nm,2.5s						
GNI	**Garni**	**54.05**	**340**	P	**P**	**23 16 32.5**	**-0.5**
	comp=Z,62nm,1.5s						
BRTR	**Keskin Array B**	**58.30**	**331**	P	**P**	**23 17 03.0**	**-0.5**
	comp=Z,1.8nm,1.1s,baz=157,slow=6.7,SNR=6.0						
BRTR	**Keskin Array B**	**58.30**	**331**	P	**P**	**23 17 03.0**	**-0.5**
BRTR	**Keskin Array B**	**58.30**	**331**	P	**P**	**23 17 03.0**	**-0.5**
MK31	**Makanchi Array**	**58.61**	**13**	*e*P	**P**	**23 17 04.5**	**-0.8**
MK31	**Makanchi Array**	**58.61**	**13**	*e*P	**P**	**23 17 04.5**	**-0.8**
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**23 17 04.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=198,slow=7.8,SNR=9.5						
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**23 17 04.6**	**-0.8**
MKAR	**Makanchi Array**	**58.61**	**13**	P	**P**	**23 17 04.6**	**-0.8**
ABKAR	**Akbulak array**	**59.58**	**355**	*e*P	**P**	**23 17 11.9**	**0.0**
	comp=Z,21nm,1.5s						
KURK	**Kurchatov**	**61.71**	**9**	*e*P	**P**	**23 17 26.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**61.71**	**9**	*e*P	**P**	**23 17 25.9**	**-0.5**
	comp=Z,6.8nm,0.9s						
BRVK	**Borovoye**	**63.21**	**3**	⇑*e*P	**P**	**23 17 36.9**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ASAR	**Alice Springs**	**65.46**	**111**	P	**P**	**23 17 51.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=274,slow=6.3,SNR=16						
ASAR	**Alice Springs**	**65.46**	**111**	P	**P**	**23 17 51.9**	**-0.1**
ASAR	**Alice Springs**	**65.46**	**111**	P	**P**	**23 17 51.9**	**-0.1**
HVS	**Khovu-Aksy**	**65.64**	**19**	⇑*e*P	**P**	**23 17 53.1**	**+0.6**
HVS				pmax	pmax		
	comp=Z,29nm,1.7s						
VTS	**Vitosha**	**65.77**	**326**	⇑P	**P**	**23 17 54.2**	**+0.6**
VTS	**Vitosha**	**65.77**	**326**	⇑*i*P	**P**	**23 17 54.2**	**+0.6**
ZAA0	**Zalesovo Array**	**65.91**	**12**	*e*P	**P**	**23 17 53.2**	**-0.9**
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**23 17 53.0**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=212,slow=5.3,SNR=10						
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**23 17 53.1**	**-1.0**
ZALV	**Zalesovo Beam**	**65.91**	**12**	P	**P**	**23 17 53.0**	**-1.0**
WRA	**Warramunga Arr**	**65.98**	**107**	P	**P**	**23 17 56.1**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=277,slow=5.8,SNR=17						
WRA	**Warramunga Arr**	**65.98**	**107**	P	**P**	**23 17 56.1**	**+0.8**
WRA	**Warramunga Arr**	**65.98**	**107**	P	**P**	**23 17 56.1**	**+0.8**
WRAB	**Tennant Creek**	**65.99**	**107**	*e*P	**P**	**23 17 56.0**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**65.99**	**107**	*e*P	**P**	**23 17 56.0**	**+0.6**
	comp=Z,16nm,1.0s						
VRI	**Vrincioaia**	**66.27**	**331**	⇑P	**P**	**23 17 58.0**	**+1.4**
VRI	**Vrincioaia**	**66.27**	**331**	⇑*i*P	**P**	**23 17 58.0**	**+1.4**
PLOR	**Plostina**	**66.29**	**331**	⇑P	**P**	**23 17 58.1**	**+1.3**
PLOR	**Plostina**	**66.29**	**331**	⇑*i*P	**P**	**23 17 58.1**	**+1.3**
NVS	**Novosibirsk**	**66.45**	**11**	*e*P	**P**	**23 18 06.3**	**+0.8**
VOIR		**66.78**	**330**	⇓P	**P**	**23 18 00.5**	**+0.5**
VOIR		**66.78**	**330**	⇓*i*P	**P**	**23 18 00.5**	**+0.5**
GZR	**Gura Zlata**	**67.90**	**328**	⇓P	**P**	**23 18 08.3**	**+1.3**
GZR	**Gura Zlata**	**67.90**	**328**	⇓*i*P	**P**	**23 18 08.3**	**+1.3**
SONM	**Songino Array**	**67.92**	**28**	P	**P**	**23 18 08.3**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=218,slow=6.1,SNR=18						
SONM	**Songino Array**	**67.92**	**28**	P	**P**	**23 18 08.3**	**+1.1**
SONM	**Songino Array**	**67.92**	**28**	P	**P**	**23 18 08.3**	**+1.1**
ULN	**Ulaanbaatar**	**68.24**	**28**	*e*P	**P**	**23 18 09.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**68.24**	**28**	*e*P	**P**	**23 18 09.2**	**-0.1**
	comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.26**	**289**	P	**P**	**23 18 09.6**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=109,slow=4.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**68.26**	**289**	P	**P**	**23 18 09.6**	**-0.3**
BZS	**Buzias**	**68.65**	**328**	⇓P	**P**	**23 18 12.5**	**+0.8**
BZS	**Buzias**	**68.65**	**328**	⇓*i*P	**P**	**23 18 12.5**	**+0.8**
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**23 18 11.6**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=128,slow=5.4,SNR=5.8						
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**23 18 11.6**	**-0.8**
AKASG	**Malin Array Be**	**68.79**	**336**	P	**P**	**23 18 11.6**	**-0.8**
DRGR		**68.89**	**329**	⇑P	**P**	**23 18 14.0**	**+0.8**
DRGR		**68.89**	**329**	⇑*i*P	**P**	**23 18 14.0**	**+0.8**
OBN	**Obninsk**	**69.81**	**342**	*e*P	P	23 18 14.8	-3.8
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOS	**Moscow**	**70.04**	**343**	*e*P	P	23 18 26.7	+6.7
PKSM	**Moragy**	**70.61**	**327**	⇓P	**P**	**23 18 24.8**	**+1.0**
PKSM	**Moragy**	**70.61**	**327**	⇓*i*P	**P**	**23 18 24.8**	**+1.0**
VYHS	**Vyhne**	**71.98**	**329**	*e*P	P	23 18 40.3	+8.3
VYHS	**Vyhne**	**71.98**	**329**	*e*		23 18 40.3	
STKA	**Stephens Creek**	**72.15**	**120**	P	**P**	**23 18 32.3**	**-1.2**
	comp=Z,2.4nm,1.0s,baz=269,slow=5.5,SNR=3.2						
STKA	**Stephens Creek**	**72.15**	**120**	*e*P	**P**	**23 18 33.0**	**-0.5**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**72.15**	**120**	*e*P	**P**	**23 18 33.0**	**-0.5**
	comp=Z,0.6nm,0.8s						
DBIC	**Dimbokro**	**72.87**	**280**	P	**P**	**23 18 36.8**	**-1.3**
	comp=Z,5.6nm,1.1s,baz=105,slow=12,SNR=3.0						
DBIC	**Dimbokro**	**72.87**	**280**	*e*P	**P**	**23 18 37.5**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,12nm,1.2s						
DBIC	**Dimbokro**	**72.87**	**280**	*e*P	**P**	**23 18 37.5**	**-0.5**
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**73.77**	**198**	*e*	**P**	**23 18 41.0**	**-1.4**
ABTA	**Abfaltersbach**	**74.32**	**325**	⇑P	**P**	**23 18 46.9**	**+0.9**
	comp=Z,9.4nm,1.1s						
GERES	**GERESS Array B**	**74.87**	**327**	P	**P**	**23 18 47.9**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=125,slow=2.1,SNR=5.3						
GERES	**GERESS Array B**	**74.87**	**327**	P	**P**	**23 18 47.9**	**-1.3**
GERES	**GERESS Array B**	**74.87**	**327**	P	**P**	**23 18 47.9**	**-1.3**
VNA2	**Neumayer--Watz**	**75.01**	**199**	*e*	**P**	**23 18 50.5**	**+1.0**
MOTA	**Moosalm**	**75.45**	**325**	⇑*i*P	P	23 18 49.2	-3.4
	comp=Z,5.5nm,0.9s						
FETA	**Feichten**	**75.49**	**324**	⇑*i*P	**P**	**23 18 53.4**	**+0.5**
	comp=Z,4.6nm,1.0s						
VNA3	**Neumayer Olymp**	**75.80**	**199**	*e*	**P**	**23 18 54.8**	**+0.7**
BRG	**Berggiesshubel**	**75.95**	**329**	*e*P	P	23 19 02.8	+7.6
	comp=Z,16nm,1.4s						
BRG	**Berggiesshubel**	**75.95**	**329**	*e*P	P	23 19 02.8	+7.6
BRG				pmax	pmax		
	comp=Z,16nm,1.4s						
MTLF	**Montolieu**	**78.95**	**318**	*e*P	**P**	**23 19 12.3**	**+0.1**
	comp=Z,56nm,1.7s						
SSF	**Saint Saulge**	**79.78**	**322**	*e*P	**P**	**23 19 16.3**	**-0.3**
	comp=Z,39nm,1.3s						
ESDC	**Sonseca Array**	**81.78**	**313**	P	**P**	**23 19 27.3**	**-0.3**
	comp=Z,4.8nm,1.1s,baz=90,slow=4.1,SNR=9.6						
ESDC	**Sonseca Array**	**81.78**	**313**	P	**P**	**23 19 27.3**	**-0.3**
MJAR	**Matsushiro Arr**	**81.89**	**51**	P	**P**	**23 19 27.5**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=245,slow=8.2,SNR=3.5						
MJAR	**Matsushiro Arr**	**81.89**	**51**	P	**P**		
MJAR	**Matsushiro Arr**	**81.89**	**51**	P	**P**	**23 19 27.5**	**-0.7**
CPUP	**Villa Florida**	**114.27**	**235**	PKP	PKPdf	23 25 50.9	+2.1
	comp=Z,0.9nm,0.4s,baz=184,slow=1.8,SNR=3.4						
CPUP	**Villa Florida**	**114.27**	**235**	PKIKP	PKPdf	23 25 50.9	+2.1
CPUP	**Villa Florida**	**114.27**	**235**	PKP	PKPdf	23 25 50.9	+2.1
YKA	**Yellowknife Ar**	**127.91**	**1**	PKP	**PKPdf**	**23 26 13.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=1.7,slow=2.4,SNR=5.7						
YKA	**Yellowknife Ar**	**127.91**	**1**	PKIKP	**PKPdf**	**23 26 13.0**	**-0.9**
YKA	**Yellowknife Ar**	**127.91**	**1**	PKP	**PKPdf**	**23 26 13.0**	**-0.9**
PDAR	**Pinedale Array**	**147.47**	**354**	PKPbc	**PKPdf**	**23 26 50.9**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=63,slow=0.8,SNR=9.5						
PDAR	**Pinedale Array**	**147.47**	**354**	PKPbc	**PKPdf**	**23 26 50.9**	**+0.3**
NVAR	**Mina Array Bea**	**151.70**	**8**	PKPbc	**PKPbc**	**23 27 05.4**	**+1.7**
	comp=Z,4.7nm,0.9s,baz=291,slow=1.7,SNR=11						
NVAR	**Mina Array Bea**	**151.70**	**8**	PKPbc	**PKPbc**	**23 27 05.4**	**+1.7**
TXAR	**Lajitas Array**	**158.89**	**335**	PKPab	**PKPab**	**23 27 43.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=72,slow=4.1,SNR=7.5						
TXAR	**Lajitas Array**	**158.89**	**335**	PKP2	**PKPab**	**23 27 43.1**	**0.0**
TXAR	**Lajitas Array**	**158.89**	**335**	PKPab	**PKPab**	**23 27 43.1**	**0.0**

**IDC 12 23:08:24.7±1.9, 10°29S×66°18E, h0km, mb4.0/7, mb1 4.2/7, m

0.3nm,0.3s,baz=352,slow=12,SNR=16
CFAA S Sn 23 43 35.1 -7.5
0.2nm,0.3s,baz=230,slow=16,SNR=3.9
CFAA Coronel Fontan 13.97 177 P **Pn 23 41 06.6 -1.1**
CFAA S Sn 23 43 35.1 -7.5
CPUP Villa Florida 14.00 130 P **Pn 23 41 08.3 +0.2**
1.0nm,0.3s,baz=291,slow=13,SNR=9.3
CPUP Villa Florida 14.00 130 P **Pn 23 41 08.3 +0.2**
OTAV Otavalo 19.94 332 *eP* **P 23 42 17.8 +0.8**
5.3nm,0.8s
SPB Sao Paulo 21.20 110 *eP* **P 23 42 28.9 -1.1**
29nm,0.6s
PLCA Paso Flores 23.08 183 P **P 23 42 50.7 +2.2**
3.2nm,0.6s,baz=1.8,slow=11,SNR=6.9
PLCA Paso Flores 23.08 183 *eP* **P 23 42 50.9 +2.3**
9.3nm,1.1s
CMIG Matias Romero 42.77 322 P **P 23 45 39.5 +0.6**
1.3nm,0.4s,baz=174,slow=4.0,SNR=4.4
CMIG Matias Romero 42.77 322 P **P 23 45 39.5 +0.6**
TXAR Lajitas Array 57.32 324 P **P 23 47 29.2 +0.7**
0.7nm,0.5s,baz=144,slow=7.6,SNR=11
TXAR Lajitas Array 57.32 324 P **P 23 47 29.2 +0.7**
DBIC Dimbokro 67.93 75 P **P 23 48 38.0 -1.0**
3.4nm,0.4s,baz=224,slow=4.9,SNR=19
DBIC Dimbokro 67.93 75 *eP* **P 23 48 38.3 -0.8**
8.3nm,1.0s
PDAR Pinedale Array 70.63 330 P **P 23 48 56.4 +1.0**
0.5nm,0.4s,baz=119,slow=9.4,SNR=8.2
PDAR Pinedale Array 70.63 330 P **P 23 48 56.4 +1.0**
ULM Lac du Bonnet 71.54 342 P **P 23 48 59.8 -0.6**
7.4nm,0.3s,baz=154,slow=6.4,SNR=29
ULM Lac du Bonnet 71.54 342 P **P 23 48 59.8 -0.6**
TORD Torodi Ar. Bea 76.32 71 P **P 23 49 28.5 -0.5**
11nm,0.5s,baz=263,slow=5.1,SNR=202
TORD Torodi Ar. Bea 76.32 71 P **P 23 49 28.5 -0.5**
BOSA Boshof 85.51 118 P **P 23 50 18.5 +0.9**
1.5nm,0.9s,baz=53,slow=4.8,SNR=6.0
BOSA Boshof 85.51 118 P **P 23 50 18.5 +0.9**
WRA Warramunga Arr 136.12 213 PKP **PKPdf 23 57 01.4 +1.2**
0.4nm,0.7s,baz=151,slow=2.0,SNR=4.8
WRA Warramunga Arr 136.12 213 PKP **PKPdf 23 57 01.4 +1.2**
ZALV Zalesovo Beam 138.52 23 PKP **PKPdf 23 57 04.6 +1.1**
0.3nm,0.4s,baz=90,slow=1.4,SNR=3.4
ZALV SKPbc **SKPbc 00 00 24.6 +0.7**
0.7nm,0.6s,baz=320,slow=4.4,SNR=3.6
ZALV Zalesovo Beam 138.52 23 PKP **PKPdf 23 57 04.6 +1.1**
ZALV SKPbc **SKPbc 00 00 24.6 +0.7**
MKAR Makanchi Array 142.57 33 PKhKP PKPpre 23 57 07.3
0.2nm,0.8s,baz=359,slow=7.2,SNR=3.4
MKAR SKPbc **SKPbc 00 00 33.2 -1.7**
0.4nm,0.8s,baz=349,slow=3.7,SNR=3.8
MKAR Makanchi Array 142.57 33 PKPpre PKPpre 23 57 07.3
MKAR SKPbc **SKPbc 00 00 33.2 -1.7**
SONM Songino Array 149.63 6 PKPbc **PKPbc 23 57 29.1 +1.1**
0.5nm,0.4s,baz=304,slow=1.6,SNR=17
SONM Songino Array 149.63 6 PKPbc **PKPbc 23 57 29.1 +1.1**

NSSC ***12*** *23:40:24.8±2.3, 38.20N×38.43E, h0km±504km, MD3.2, ML3.5*
ISK ***12*** *23:40:31.2, 37.91N×37.96E, h5km, MD3.7*
DDA ***12*** *23:40:31.4, 37.93N×37.93E, h22km, MD3.5*
CSEM ***12*** *23:40:31.9±0.1, 37.88N×37.98E, h2km, MD3.5, Error ellipse: s-maj=3.7km s-min=2.3km az=122.0*
ISC 12 23:40:31.4±1.1, 37.90N±0.02×37.96E±0.02, h0km±10km, n98, σ1930/117, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.40**	**356**	*i* P		**Pb**	**23 40 39.8**	**-1.6**
AKCD				*i* S		**Sb**	**23 40 45.7**	**-2.4**
AKCD	**Akcadag**	**0.40**	**356**	*i* P		**Pb**	**23 40 39.8**	**-1.6**
AKCD				*i* S		**Sb**	**23 40 45.7**	**-2.4**
MALT	**Malatya**	**0.56**	**42**	*e*PG		**Pb**	**23 40 42.6**	**-1.5**
MALT				*e*SG		**Sg**	**23 40 50.3**	**+1.0**
MALT	**Malatya**	**0.56**	**42**	*e*Pg		**Pb**	**23 40 42.6**	**-1.5**
MALT				*e*Sg		**Sg**	**23 40 50.3**	**+1.0**
MYA	**Malataya**	**0.56**	**41**	PG		**Pg**	**23 40 42.7**	**+0.5**
MYA	**Malataya**	**0.56**	**41**	*i* Pg		**Pg**	**23 40 42.7**	**+0.5**
URFA	**Urfa**	**0.83**	**123**	*e*PG		**Pg**	**23 40 47.3**	**+0.1**
URFA	**Urfa**	**0.83**	**123**	*e*Pg		**Pg**	**23 40 47.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.93**	**245**	*e*PG		**Pg**	**23 40 49.2**	**+0.1**
KMRS	**Kahramanmaras**	**0.93**	**245**	*e*Pg		**Pg**	**23 40 49.2**	**+0.1**
GAZ	**Gaziantep**	**0.94**	**219**	*e*PG		**Pg**	**23 40 49.7**	**-0.8**
GAZ	**Gaziantep**	**0.94**	**219**	*e*Pg		**Pb**	**23 40 49.7**	**-0.8**
ELZG	**Elazig**	**1.01**	**53**	*i* P		**Pg**	**23 40 50.6**	**-0.1**
ELZG				*i* S		**Sn**	**23 41 08.3**	**+0.4**
ELZG	**Elazig**	**1.01**	**53**	*i* P		**Pg**	**23 40 50.6**	**-0.1**
DARE	**Darende-Malaty**	**1.06**	**354**	*e*PG		Pg	23 40 46.0	-5.6
DARE				*e*SG		Sg	23 40 57.2	-8.2
SVRC	**Sivrice-ELAZID**	**1.17**	**65**	*e*PN		**Pb**	**23 40 53.8**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.17**	**65**	*e*Pn		**Pb**	**23 40 53.8**	**-0.7**
ANDN	**Andirin**	**1.32**	**256**	*i* P		Pn	23 40 49.5	-7.6
ANDN				*e*S		**Sg**	**23 41 08.9**	**-4.7**
KUZU	**Kuzuini**	**1.33**	**212**	*e*P		**Pg**	**23 40 56.7**	**-0.1**
KUZU				*e*S		**Sn**	**23 41 15.9**	**+0.3**
KUZU	**Kuzuini**	**1.33**	**212**	*e*P		**Pg**	**23 40 56.7**	**-0.1**
KUZU				*e*S		**Sn**	**23 41 15.9**	**+0.3**
KEMA	**Kemaliye**	**1.43**	**17**	*i* P		**Pn**	**23 40 57.8**	**-0.9**
KEMA				*i* S		**Sg**	**23 41 18.1**	**+0.7**
KEMA	**Kemaliye**	**1.43**	**17**	*i* P		**Pn**	**23 40 57.8**	**-0.9**
KEMA				*i* S		**Sg**	**23 41 18.1**	**+0.7**
PINB	**Pinarbasi**	**1.45**	**303**	*e*P		**Pn**	**23 40 58.2**	**-0.9**
PINB				*i* S		**Sg**	**23 41 21.0**	**+3.1**
PINB	**Pinarbasi**	**1.45**	**303**	*e*P		**Pn**	**23 40 58.2**	**-0.9**
PINB				*i* S		**Sg**	**23 41 21.0**	**+3.1**
PTK	**Pertek**	**1.50**	**48**	*e*PN		**Pn**	**23 40 59.0**	**-0.8**
ILIC	**ilic-Erzincan**	**1.62**	**17**	*e*PN		**Pb**	**23 41 01.3**	**-1.0**
ILIC	**ilic-Erzincan**	**1.62**	**17**	*e*Pn		**Pb**	**23 41 01.3**	**-1.0**
DIYA	**Diyarbakir**	**1.71**	**89**	*i* P		**Pb**	**23 41 02.4**	**-1.4**
DIYA				*i* S		**Sg**	**23 41 29.0**	**+2.6**
DIYA	**Diyarbakir**	**1.71**	**89**	*i* P		**Pb**	**23 41 02.4**	**-1.4**
KOZT	**Kozan**	**1.74**	**257**	*e*PN		**Pb**	**23 41 03.2**	**-1.0**
KOZT	**Kozan**	**1.74**	**257**	*e*Pn		**Pb**	**23 41 03.2**	**-1.0**
BNN	**Bunyan**	**1.91**	**300**	*e*PN		**Pb**	**23 41 06.1**	**-1.1**
BNN	**Bunyan**	**1.91**	**300**	*e*Pn		**Pb**	**23 41 06.1**	**-1.1**
CEYT	**Ceyhan**	**1.97**	**244**	*e*PN		**Pb**	**23 41 06.3**	**-1.8**
CEYT	**Ceyhan**	**1.97**	**244**	*e*Pn		**Pb**	**23 41 06.3**	**-1.8**
EZC	**Erzincan**	**2.15**	**30**	*e*PN		**Pn**	**23 41 08.9**	**+0.3**
EZC	**Erzincan**	**2.15**	**30**	*e*Pn		**Pn**	**23 41 08.9**	**-1.9**
ERZN	**Erzincan**	**2.18**	**39**	*e*PN		**Pn**	**23 41 09.3**	**+0.3**
HTY	**Hatay**	**2.30**	**220**	*e*PN		**Pn**	**23 41 10.6**	**+0.2**
HTY	**Hatay**	**2.30**	**220**	*e*Pn		**Pn**	**23 41 10.6**	**+0.2**
SUSE	**Susehri**	**2.31**	**5**	*i* P		**Pb**	**23 41 12.1**	**-2.0**
SUSE	**Susehri**	**2.31**	**5**	*i* P		**Pb**	**23 41 12.1**	**-2.0**
YAYL	**Yayladag**	**2.38**	**219**	*e*P		**Pn**	**23 41 11.3**	**-0.5**
YAYL				*i* S		**Sg**	**23 41 49.6**	**+1.7**
YAYL	**Yayladag**	**2.38**	**219**	*e*P		**Pn**	**23 41 11.3**	**-0.5**
KRTS	**Karatas**	**2.45**	**238**	*e*PN		**Pn**	**23 41 13.1**	**+0.5**
KRTS	**Karatas**	**2.45**	**238**	*e*Pn		**Pn**	**23 41 13.1**	**+0.5**
KELT	**Kelkit**	**2.46**	**24**	*i* P		**Pn**	**23 41 13.8**	**+0.8**
KELT				*i* S		**Sn**	**23 41 44.6**	**+0.7**
KELT	**Kelkit**	**2.46**	**24**	*i* P		**Pn**	**23 41 13.8**	**+0.8**
KELT				*i* S		**Sn**	**23 41 44.6**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.54**	**349**	*e*PN		**Pn**	**23 41 14.5**	**+0.6**
RSDY	**Resadiye-TOKAT**	**2.54**	**349**	*e*Pn		**Pn**	**23 41 14.5**	**+0.6**
GULE	**Gulek**	**2.60**	**257**	*e*PN		**Pn**	**23 41 15.4**	**+0.6**
GULE	**Gulek**	**2.60**	**257**	*e*Pn		**Pn**	**23 41 15.4**	**+0.6**
BEST	**Besiri**	**2.62**	**89**	*i* P		**Pn**	**23 41 15.0**	**-0.1**
BEST				*e*S		**Sg**	**23 41 54.7**	**-0.9**
NIG	**Nigde**	**2.65**	**276**	*e*PN		**Pn**	**23 41 16.0**	**+0.4**
NIG	**Nigde**	**2.65**	**276**	*e*Pn		**Pn**	**23 41 16.0**	**+0.4**
WRDH	**Warideh**	**2.69**	**208**	*e*P		**Pn**	**23 41 15.0**	**-0.9**
WRDH				*e*S		**Sb**	**23 41 55.0**	**+1.0**
WRDH				AML	AML		23 42 02.7	
	comp=E,503nm,0.8s							
WRDH				AML	AML		23 42 04.4	
	comp=N,590nm,0.4s							
WRDH	**Warideh**	**2.69**	**208**	*e*P		**Pn**	**23 41 15.8**	**-0.2**
	SNR=45							
YOZ	**Yozgat**	**2.69**	**311**	*e*PN		**Pn**	**23 41 17.0**	**+0.9**
YOZ	**Yozgat**	**2.69**	**311**	*e*Pn		**Pn**	**23 41 17.0**	**+0.9**
GUMT	**Gumushane**	**2.82**	**24**	*e*PN		**Pn**	**23 41 18.3**	**+0.5**
GUMT	**Gumushane**	**2.82**	**24**	*e*Pn		**Pn**	**23 41 18.3**	**+0.5**
KFRA	**Kufra**	**2.84**	**199**	*e*P		**Pn**	**23 41 18.0**	**0.0**
KFRA				*e*S		**Sb**	**23 41 59.0**	**+0.7**
KFRA				AML	AML		23 42 15.6	
	comp=E,805nm,0.7s							
KFRA				AML	AML		23 42 21.6	
	comp=N,2μm,0.6s							
MERS	**Mersin**	**2.92**	**250**	*e*PN		**Pn**	**23 41 20.1**	**+0.9**
MERS	**Mersin**	**2.92**	**250**	*e*Pn		**Pn**	**23 41 20.1**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**3.01**	**34**	*e*PN		**Pn**	**23 41 21.2**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**3.01**	**34**	*e*Pn		**Pn**	**23 41 21.2**	**+0.7**
VRTB	**Varto-Mus**	**3.02**	**64**	*e*PN		**Pn**	**23 41 21.5**	**+0.9**
BIDA	**Albida**	**3.17**	**205**	*e*P		**Pn**	**23 41 22.3**	**-0.2**
BIDA				*e*S		**Sb**	**23 42 08.1**	**+0.3**
BIDA				AML	AML		23 42 18.4	
	comp=N,906nm,0.5s							
BIDA				AML	AML		23 42 19.7	
	comp=E,739nm,0.3s							
BIDA	**Albida**	**3.17**	**205⇑**	*e*P		**Pn**	**23 41 22.5**	**-0.1**
	SNR=45							
CDAG	**Cicekdag**	**3.29**	**303**	*e*P		**Pn**	**23 41 25.1**	**+0.9**
CDAG				*i* S		**Sb**	**23 42 11.1**	**-0.1**
CDAG	**Cicekdag**	**3.29**	**303**	*e*P		**Pn**	**23 41 25.1**	**+0.9**
EZM	**Erzurum**	**3.33**	**52**	*e*PN		**Pn**	**23 41 25.6**	**+0.7**
KVT	**Kavak**	**3.50**	**336**	*e*PN		**Pn**	**23 41 28.4**	**+1.3**
KVT	**Kavak**	**3.50**	**336**	*e*Pn		**Pn**	**23 41 28.4**	**+1.3**
SULT	**Sultanhani-AKS**	**3.52**	**276**	*e*PN		**Pn**	**23 41 28.5**	**+1.1**
SULT	**Sultanhani-AKS**	**3.52**	**276**	*e*Pn		**Pn**	**23 41 28.5**	**+1.1**
HAWK	**Haweek**	**3.60**	**201**	*e*P		**Pn**	**23 41 28.4**	**-0.1**
HAWK				*e*S		**Sb**	**23 42 16.1**	**-4.0**
HAWK				AML	AML		23 42 37.5	
	comp=N,264nm,0.7s							
HAWK				AML	AML		23 42 44.4	
	comp=E,136nm,0.6s							
HAWK	**Haweek**	**3.60**	**201⇓**	*e*P		**Pn**	**23 41 28.4**	**-0.1**
	SNR=45							
KAMT	**Kaman**	**3.63**	**295**	*e*PN		**Pn**	**23 41 30.2**	**+1.3**
KAMT	**Kaman**	**3.63**	**295**	*e*Pn		**Pn**	**23 41 30.2**	**+1.3**
CTKT	**Corum**	**3.67**	**319**	*i* P		Pn	23 41 31.8	+2.3
CTKT	**Corum**	**3.67**	**319**	*i* P		Pn	23 41 31.8	+2.3
FKH	**Fakeheh**	**3.86**	**199**	*e*P		**Pn**	**23 41 32.0**	**0.0**
HWQ	**Hawqa**	**3.96**	**205**	*e*P		**Pn**	**23 41 33.9**	**+0.4**
HWQ	**Hawqa**	**3.96**	**205**	*e*P		**Pn**	**23 41 33.9**	**+0.4**
VANT	**Van**	**4.22**	**81**	*e*PN		**Pn**	**23 41 38.1**	**+1.0**
VANT	**Van**	**4.22**	**81**	*e*Pn		**Pn**	**23 41 38.1**	**+1.0**
AGRB	**Hanur-Agry**	**4.28**	**65**	*e*PN		**Pn**	**23 41 39.1**	**+1.2**
AGRB	**Hanur-Agry**	**4.28**	**65**	*e*Pn		**Pn**	**23 41 39.2**	**+1.2**
BHL	**Bhannes**	**4.40**	**206**	*e*P		**Pn**	**23 41 40.5**	**+0.9**
BHL	**Bhannes**	**4.40**	**206**	*e*P		**Pn**	**23 41 40.5**	**+0.9**
BCA	**Borcka**	**4.53**	**37**	*e*PN		**Pn**	**23 41 42.8**	**+1.5**
BCA	**Borcka**	**4.53**	**37**	*e*Pn		**Pn**	**23 41 42.8**	**+1.5**
BRBR	**Barbar**	**4.77**	**201**	*e*P		**Pn**	**23 41 44.9**	**+0.2**
BRBR				*e*S		Sn	23 42 45.7	+5.0
BRBR				AML	AML		23 43 10.8	
	comp=N,62nm,0.5s							
BRBR				AML	AML		23 43 11.7	
	comp=E,72nm,0.4s							
ZALF	**Zalf**	**4.99**	**186**	*e*P		**Pn**	**23 41 47.0**	**-0.6**
ZALF				*e*S		Sn	23 42 51.7	+5.7
ZALF				AML	AML		23 43 16.7	
	comp=E,61nm,0.4s							
ZALF				AML	AML		23 43 29.7	
	comp=N,51nm,0.5s							
ZALF	**Zalf**	**4.99**	**186⇑**	*e*P		**Pn**	**23 41 47.1**	**-0.6**
	SNR=45							
SALA	**Sala**	**5.27**	**191**	*e*P		**Pn**	**23 41 49.6**	**-2.0**
SALA				*e*S		**Sn**	**23 42 57.5**	**+4.4**
SALA				AML	AML		23 43 22.9	
	comp=E,7.7nm,0.6s							
SALA				AML	AML		23 43 37.9	
	comp=N,87nm,0.7s							
SALA	**Sala**	**5.27**	**191**	*e*P		**Pn**	**23 41 49.6**	**-2.0**
	SNR=45							

ISK ***13*** *00:11:45.6, 37.21N×28.58E, h9km, MD2.7*
DDA ***13*** *00:11:46.2, 37.26N×28.52E, h7km, MD3.1*
CSEM ***13*** *00:11:46.5±0.2, 37.24N×28.58E, h10km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.8km az=165.0*
ISC 13 00:11:46.4±0.9, 37.25N±0.02×28.56E±0.02, h14km±8km, n28, σ0994/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.25**	**242**	*e*PG		**Pg**	**00 11 51.0**	**-0.9**
YER				*e*SG		**Sg**	**00 11 54.8**	**-0.7**
YER	**Yerkesik**	**0.25**	**242**	*e*Pg		**Pg**	**00 11 51.0**	**-0.9**
YER				*e*Sg		**Sg**	**00 11 54.8**	**-0.7**
TURN	**Turunc**	**0.38**	**175**	*i* P		**Pb**	**00 11 55.1**	**+0.1**
TURN				*i* S		**Sg**	**00 12 03.1**	**+3.8**
TURN	**Turunc**	**0.38**	**175**	*i* P		**Pb**	**00 11 55.1**	**+0.1**
DNZL	**Cakiroluk**	**0.58**	**41**	*i* P		**Pb**	**00 11 58.5**	**0.0**
DNZL				*i* S		**Sg**	**00 12 05.8**	**+0.1**
DNZL	**Cakiroluk**	**0.58**	**41**	*i* P		**Pb**	**00 11 58.5**	**0.0**
DNZL				*i* S		**Sg**	**00 12 05.8**	**+0.1**
FETY	**Fethiye**	**0.74**	**146**	*e*PG		**Pg**	**00 11 59.6**	**-1.3**
FETY				*e*SG		**Sg**	**00 12 09.8**	**-0.9**
FETY	**Fethiye**	**0.74**	**146**	*e*Pg		**Pg**	**00 11 59.6**	**-1.3**
FETY				*e*Sg		**Sg**	**00 12 09.8**	**-0.9**
GOLH	**Golhisar**	**0.80**	**91**	*i* P		**Pb**	**00 12 01.8**	**-0.4**
GOLH				*i* S		**Sn**	**00 12 05.1**	**-0.2**
GOLH	**Golhisar**	**0.80**	**91**	*i* P		**Pb**	**00 12 01.8**	**-0.4**
GOLH				*i* S		**Sn**	**00 12 15.0**	**-0.2**
BODT	**Bodrum**	**1.02**	**260**	*e*PG		**Pb**	**00 12 05.8**	**-0.1**
BODT	**Bodrum**	**1.02**	**260**	*e*Pg		**Pb**	**00 12 05.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.15**	**293**	*i* P		**Pg**	**00 12 09.1**	**+0.5**
GCAM				*e*S		**Sg**	**00 12 23.7**	**+0.2**
GCAM	**G?zelcaml?**	**1.15**	**293**	*i* P		**Pg**	**00 12 09.1**	**+0.5**
GCAM				*e*S		**Sg**	**00 12 23.7**	**+0.2**
ELL	**Elmali**	**1.19**	**115**	*e*PN		**Pn**	**00 12 08.2**	**-0.6**
ELL	**Elmali**	**1.19**	**115**	*e*Pn		**Pn**	**00 12 08.2**	**-0.6**
MANT	**Manisa**	**1.24**	**360**	*i* P		**Pn**	**00 12 09.7**	**+0.1**
MANT				*i* S		**Sg**	**00 12 26.8**	**+0.4**
MANT	**Manisa**	**1.24**	**360**	*i* P		**Pn**	**00 12 09.7**	**+0.1**
MANT				*i* S		**Sg**	**00 12 26.8**	**+0.4**
KULA	**Kula-Manisa**	**1.26**	**3**	*e*PN		**Pb**	**00 12 10.5**	**+0.4**
KULA	**Kula-Manisa**	**1.26**	**3**	*e*Pn		**Pb**	**00 12 10.5**	**+0.4**
KHL	**Karahalli**	**1.31**	**35**	*e*PN		**Pb**	**00 12 11.1**	**+0.1**
KHL	**Karahalli**	**1.31**	**35**	*e*Pn		**Pb**	**00 12 11.1**	**+0.1**
AKAS	**Kas**	**1.32**	**140**	*i* P		**Pg**	**00 12 11.8**	**0.0**
AKAS				*i* S		**Sg**	**00 12 31.3**	**+2.3**
AKAS	**Kas**	**1.32**	**140**	*i* P		**Pg**	**00 12 11.8**	**0.0**
AKAS				*i* S		**Sg**	**00 12 31.3**	**+2.3**
KHAL	**Karahalli**	**1.34**	**33**	*e*P		**Pn**	**00 12 11.0**	**+0.1**
KHAL				*i* S		**Sg**	**00 12 29.9**	**+0.3**
KHAL	**Karahalli**	**1.34**	**33**	*e*P		**Pn**	**00 12 11.0**	**+0.1**
KHAL				*i* S		**Sg**	**00 12 29.9**	**+0.3**
BLCB	**Balcova**	**1.65**	**314**	*e*PN		**Pb**	**00 12 16.6**	**-0.1**
BLCB	**Balcova**	**1.65**	**314**	*e*Pn		**Pb**	**00 12 16.6**	**-0.1**

DJA ***13*** *00:17:32, 2.61N×125.59E, h107km, MLv4.2/3*
IDC 13 00:17:21.2±1.3, 2.39N×125.78E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=102.5km s-min=18.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.36**	**180**	P		Pn	00 22 00.7	-0.8
	1.4nm,0.5s,baz=5.7,slow=10,SNR=7.8							
WRA	**Warramunga Arr**	**23.73**	**160**	P		P	00 22 34.6	-0.7
	5.0nm,0.5s,baz=337,slow=10,SNR=90							
ASAR	**Alice Springs**	**27.08**	**163**	P		P	00 23 06.0	+0.2
	2.6nm,0.5s,baz=342,slow=7.6,SNR=58							
STKA	**Stephens Creek**	**37.24**	**157**	P		P	00 24 34.5	-0.3
	1.3nm,0.5s,baz=330,slow=7.1,SNR=6.1							
MKAR	**Makanchi Array**	**58.12**	**326**	P		P	00 27 16.9	+0.2
	0.2nm,0.5s,baz=124,slow=7.5,SNR=9.0							
KURK	**Kurchatov**	**62.36**	**328**	P		P	00 27 45.3	-0.4
	0.2nm,0.4s,baz=133,slow=6.5,SNR=4.4							

IDC ***13*** *00:19:43.1±4.0, 39.27N×73.70E, h0km, mb3.8/2, mb1 3.6/5, mb1mx3.3/28, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=84.4km s-min=26.3km az=123.0*
NNC ***13*** *00:19:50.7±2.4, 39.77N×73.74E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=20.7km s-min=10.3km az=0.0*
ISC 13 00:19:46.4±1.2, 39.42N±0.08×74.06E±0.06, h28km, n18, σ1926/25, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.48**	**85**	Pg		**Pn**	**00 20 12.2**	**+0.9**
KSH				Sg		**Sb**	**00 20 32.4**	**+0.6**
KSH				smax	smax			
	comp=N,210nm,0.9s							
KSH				smax	smax			
	comp=E,76nm,0.8s							
AML	**Almayashu**	**2.73**	**354**	P		**Pn**	**00 20 30.8**	**+2.1**
	SNR=32							
AML				P		**Pn**	**00 20 30.8**	**+2.1**
	SNR=32							
KZA	**Kyzart**	**2.81**	**18**	P		**Pb**	**00 20 34.8**	**-1.3**
	SNR=27							
KZA				P		**Pb**	**00 20 34.8**	**-1.3**
	SNR=27							
UCH	**Uchtor**	**2.83**	**7**	P		**Sb**	**00 21 11.4**	**+0.6**
	SNR=6.7							
UCH				P		**Sb**	**00 21 11.4**	**+0.6**
	SNR=6.7							
AAK	**Ala-Archa**	**3.23**	**6**	P		**Pb**	**00 20 41.0**	**-2.1**
	SNR=5.6							
AAK				P		**Pb**	**00 20 41.0**	**-2.1**
	SNR=5.6							
EKS2	**Erkin-Say**	**3.25**	**356**	P		**Pb**	**00 20 41.3**	**-2.1**
	SNR=5.5							
EKS2				P		**Pb**	**00 20 41.3**	**-2.1**
	SNR=5.5							
ULHL	**Ulahol**	**3.27**	**30**	P		**Pb**	**00 20 43.8**	**-0.1**
	SNR=6.4							
ULHL				P		**Pb**	**00 20 43.8**	**-0.1**
	SNR=6.4							
KBK	**Karagaybulak**	**3.31**	**11**	P		**Pb**	**00 20 44.1**	**-0.3**
	SNR=20							
KBK				P		**Pb**	**00 20 44.1**	**-0.3**
	SNR=20							
TKM2	**Tokmak 2**	**3.69**	**18**	⇑Pn		Pn	00 20 46.1	+4.4
	comp=E,5.5nm,0.6s							
TKM2				⇑Lg		Lg	00 21 39.1	
	comp=E,14nm,0.6s							
KNDC	**Almaty**	**4.38**	**29**	⇑Pg		Pb	00 21 08.8	+6.1
	comp=E,11nm,0.5s							
KNDC				⇓Lg		Lg	00 22 04.1	
	comp=E,20nm,0.4s							
KK31	**Karatay Array**	**4.55**	**325**	⇑Pn		**Pn**	**00 20 53.8**	**+0.4**
	comp=E,1.3nm,0.3s,baz=126,slow=13,SNR=49							
KK31				⇑Pg		**Pb**	**00 21 06.1**	**+0.6**
	comp=E,5.1nm,0.5s,baz=144,slow=15,SNR=14							
KK31				⇑Sn		**Sn**	**00 21 45.7**	**+0.3**
	comp=E,2.8nm,0.3s,baz=136,slow=25,SNR=4.6							
KK31				⇓Lg		Lg	00 22 00.7	
	comp=E,13nm,0.5s,baz=136,slow=30,SNR=4.3							
MKAR	**Makanchi Array**	**9.51**	**37**	Pn		Pn	00 22 10.6	+9.1
	comp=E,0.0nm,0.3s,baz=235,slow=14,SNR=2.1							
MKAR				Lg		Lg	00 24 45.5	
	comp=E,0.1nm,0.3s,baz=227,slow=27,SNR=4.6							
KURK	**Kurchatov**	**11.75**	**14**	Pn		**Pn**	**00 22 32.3**	**+0.3**
	comp=E,0.0nm,0.3s,baz=203,slow=12,SNR=2.9							
KURK				Lg		Lg	00 25 50.0	
	comp=E,0.0nm,0.3s,baz=204,slow=29,SNR=5.3							
BVAR	**Borovoye Array**	**13.85**	**351**	Pn		**Pn**	**00 22 59.5**	**-1.1**
	comp=E,0.1nm,0.3s,baz=161,slow=11,SNR=6.9							
AB31	**Akbulak array**	**14.08**	**319**	⇓P		**Pn**	**00 23 04.6**	**+0.8**
	comp=E,0.9nm,0.8s,baz=128,slow=15,SNR=13							
ZALV	**Zalesovo Beam**	**16.27**	**23**	Pn		**P**	**00 23 34.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=6.2							
FINES	**FINESS Array B**	**36.51**	**323**	P		**P**	**00 26 48.8**	**-0.1**
	baz=112,slow=11,SNR=3.3							
TORD	**Torodi Ar. Bea**	**68.19**	**269**	P		**P**	**00 30 44.0**	**-0.5**
	comp=E,0.2nm,0.5s,baz=51,slow=5.8,SNR=5.5							

ISCJB ***13*** *00:33:58.0±0.7, 46.39N±0.04×15.08E±0.06, h0km, Error ellipse: s-maj=7.1km s-min=4.1km az=142.7*
VIE ***13*** *00:33:57.8±0.3, 46.37N×15.09E, h0km, mb0.5/1, ML1.2/3, Error ellipse: s-maj=2.4km s-min=1.5km az=179.0 20 km NW of Celje Suspected Mining induced.*
LJU ***13*** *00

26nm,0.3s,baz=32,slow=9.5,SNR=30
PMG S Sn 01 02 41.4 +0.5
20nm,0.3s,baz=135,slow=20,SNR=11
WRA Warramunga Arr 19.87 224 P P 01 05 25.0 0.0
0.7nm,0.3s,baz=50,slow=11,SNR=40
ASAR Alice Springs 22.80 218 P P 01 05 56.0 -0.3
2.1nm,0.6s,baz=52,slow=9.6,SNR=18
FITZ Fitzroy Crossi 25.75 240 P P 01 06 23.9 +0.5
1.4nm,0.6s,baz=63,slow=9.0,SNR=7.5
TORD Torodi Ar. Bea 146.94 285 PKPbc PKPdf 01 20 33.1 +0.5
0.5nm,0.8s,baz=86,slow=2.8,SNR=4.7

IDC ***13*** *01:04:36.2±0.4, 13˚.74S×66˚.16E, h0km, mb4.6/25, mb1 4.7/26,mb1mx4.7/28,mbtmp4.6/26,ML4.6/1,MS5.4/32, Ms1 5.4/32,ms1mx5.3/39,Error ellipse: s-maj=15.5km s-min=12.0km az=2.0*

ISCJB ***13*** *01:04:39.8±0.2, 13˚.66S±0˚.04×66˚.03E±0˚.03, h14km, mb5.3/191,MS5.6/220,Error ellipse: s-maj=5.5km s-min=4.1km az=177.8*

DJA ***13*** *01:04:41, 13˚.66S×66˚.10E, h10km, mb5.6/36*

MOS ***13*** *01:04:41.2±2.3, 13˚.12S×66˚.93E, h10km, mb5.5/61, MS5.5/41,Error ellipse: s-maj=10.3km s-min=4.9km az=105.8*

NEIC ***13*** *01:04:42.6±0.3, 13˚.15S×66˚.08E, h10km, mb5.5/56, MS5.6/162,MW6.0,MW5.9,Error ellipse: s-maj=10.7km s-min=8.9km az=177.0,Moment Tensor Solution. s67 Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$-7.88; $M_{\phi\phi}$6.57; $M_{r\theta}$-0.64; $M_{\theta\phi}$3.02; $M_{\theta r}$-0.65; Best double couple: $M_0$8.00000×10^{17} NP1:ϕ_s237.00000°,δ87.00000°, λ7.00000°. NP2:ϕ_s146.00000°,δ83.00000°,λ177.00000°. Principal axes: T 7.2700, Plg7.0000°, Azm101.0000°; N 1.2400, Plg82.0000°, Azm259.0000°; P -8.5100, Plg2.0000°, Azm11.0000°;*

BJI ***13*** *01:04:44.0, 12˚.26S×65˚.65E, h10km, mB5.5/39, mb5.2/59, Ms5.8/63,Ms7 5.5/58*

NEIC ***13*** *01:04:56.7±0.0, 13˚.63S×66˚.25E, h10km, Moment Tensor Solution. s183 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$1.15; $M_{r\theta}$0.12; $M_{\theta\phi}$0.42; $M_{\theta r}$-0.21; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s236.00000°, δ78.00000°,λ0.00000°. NP2:ϕ_s326.00000°,δ89.00000°, λ-167.00000°. Principal axes: T 1.2500, Plg7.0000°, Azm100.0000°; N -0.1300, Plg78.0000°, Azm330.0000°; P -1.1200, Plg9.0000°, Azm191.0000°;*

ISC 13 01:04:41.7±0.3, 13˚.50S±0˚.04×66˚.03E±0˚.03, h16km±1km, h15km:pP-P,n949,σ1ŝ75/1121,mb5.4/191,MS5.6/223, 287C-287D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**8.74**	**47**	***de***P		**Pn**	**01 06 45.7**	**-1.9**
DGAR	**Diego Garcia**	**8.74**	**47**	***e***Pn		**Pn**	**01 06 45.9**	**-1.7**
	260nm,0.8s							
DGAR				*e*S		**Sn**	**01 08 20.6**	**-5.2**
DGAR	**Diego Garcia**	**8.74**	**47**	Pn		**Pn**	**01 06 45.0**	**-2.6**
	2µm,0.6s,SNR=11							
MSEY	**Mahe Island**	**13.61**	**309**	***e***P		**Pn**	**01 07 53.6**	**-0.7**
MSEY				pmax	pmax			
	comp=Z,48nm,0.8s							
MSEY	**Mahe Island**	**13.61**	**309**	***e***Pn		**Pn**	**01 07 53.6**	**-0.7**
	comp=Z,48nm,0.8s							
KAAM	**Kaadhehdhoo**	**15.52**	**27**	P		**PnPn**	**01 08 27.6**	**-1.0**
OPO	**Ambohidratompo**	**18.80**	**252**	P		**P**	**01 08 58.7**	**-2.2**
	comp=Z,1.9nm,0.3s,baz=78,slow=16,SNR=12							
OPO				LR		LR	01 14 28.6	
	comp=Z,25µm,21.5s,baz=75,slow=31							
OPO	**Ambohidratompo**	**18.80**	**252**	P		**P**	**01 08 58.7**	**-2.2**
ABPO	**Ambohimpanom**	**18.86**	**251**	***e***P		**P**	**01 09 00.4**	**-1.2**
ABPO				pmax	pmax			
	comp=Z,59nm,1.1s							
ABPO	**Ambohimpanom**	**18.86**	**251**	***e***Pn		**P**	**01 09 00.4**	**-1.2**
	comp=Z,59nm,1.1s							
MNCY	**Minicoy**	**22.71**	**18**	***e***P		**P**	**01 09 42.0**	**-1.0**
MNCY				*ex*		x	01 10 53.0	
COCO	**West Island**	**30.05**	**91**	PFAKE			01 11 00.0	+10
COCO				LR		LR		
	comp=Z,13µm,20.0s							
KMBO	**Kilima Mbogo**	**31.02**	**291**	***e***P		**P**	**01 10 58.2**	**-1.1**
KMBO	**Kilima Mbogo**	**31.02**	**291**	***e***P		**P**	**01 10 58.6**	**-0.7**
KMBO				pmax	pmax			
	comp=Z,64nm,1.5s							
KMBO				MLR	MLR			
	comp=Z,7µm,20.0s							
KMBO	**Kilima Mbogo**	**31.02**	**291**	***e***P		**P**	**01 10 58.6**	**-0.7**
	comp=Z,64nm,1.5s							
KMBO				LR	LR			
	comp=Z,7µm,20.0s							
POO	**Poona**	**32.74**	**14⇑**	*i*P		**P**	**01 11 12.0**	**-2.1**
	comp=Z,68nm,1.2s							
POO				*i* x		x	01 16 32.0	
HYB	**Hyderabad**	**33.11**	**22**	*i* P		P	01 11 12.0	-5.3
HYB				*e*PP		**PnPn**	**01 12 24.0**	**-3.2**
HYB				*e*S		**S**	**01 16 40.0**	**+3.9**
HYB				LR	LR		01 25 00.0	
	comp=Z,12nm,14.0s							
ATD	**Arta Tunnel**	**33.87**	**316**	P		P	01 11 28.8	+4.8
	comp=Z,34nm,0.8s,baz=156,slow=5.9,SNR=13							
ATD	**Arta Tunnel**	**33.87**	**316**	P		P	01 11 28.8	+4.8
BSI	**Banda Aceh**	**34.65**	**59**	P		**P**	**01 11 32.9**	**+2.2**
	comp=Z,162nm,1.7s,comp=Z,2µm							
POGA	**Pongola**	**34.95**	**241**	***e***P		**P**	**01 11 31.1**	**-2.1**
POGA				AMB		AMB	01 11 46.9	
	comp=Z,30nm,1.9s							
TPTI		**35.11**	**64**	P		**P**	**01 11 37.3**	**+2.6**
	comp=Z,2µm,1.1s							
PAF	**Port-aux-Franc**	**35.92**	**175**	PFAKE			01 12 00.0	+19
PAF				LR		LR		
	comp=Z,6µm,21.0s							
MNSI	**Mandailing Nat**	**36.16**	**69**	P		**P**	**01 11 45.2**	**+1.5**
	comp=Z,79nm,1.1s,comp=Z,4µm							
PPI	**Padang Panjang**	**36.41**	**72**	P		**P**	**01 11 47.2**	**+1.3**
	comp=Z,76nm,1.2s,comp=Z,2µm							
PSI	**Prapat**	**36.43**	**66**	P		**P**	**01 11 47.5**	**+1.3**
	comp=Z,39nm,1.5s,comp=Z,1µm							
NGP	**Nagpur**	**36.73**	**21**	***e***P		**P**	**01 11 46.4**	**-2.1**
NGP				*ex*		x	01 12 09.4	
	comp=Z,125nm,1.5s							
NGP				*e*S		**S**	**01 17 30.3**	**-1.4**
BKNI	**Bangkinang**	**37.30**	**71**	P		P	01 11 57.1	+3.6
	comp=Z,85nm,1.2s,comp=Z,1µm							
SLR	**Silverton**	**37.45**	**245**	***e***P		**P**	**01 11 55.5**	**+0.7**
SLR				AMB		AMB	01 12 11.1	
	comp=Z,62nm,1.3s							
PRYS	**Parys**	**38.51**	**244**	***e***P		**P**	**01 12 01.1**	**-2.7**
PRYS				AMB		AMB	01 12 15.3	
	comp=Z,38nm,3.2s							
SEK	**Senekal**	**38.60**	**241**	***e***P		**P**	**01 12 02.9**	**-1.7**
SEK				AMB		AMB	01 12 15.7	
	comp=Z,49nm,3.3s							
IPM	**Ipoh**	**39.06**	**65**	***e***P		**P**	**01 12 09.4**	**+1.1**
	comp=Z,201nm,1.4s							
IPM	**Ipoh**	**39.06**	**65**	P		**P**	**01 12 10.4**	**+2.0**
	comp=Z,57nm,1.4s,comp=Z,1µm							
KULM	**Kulim**	**39.11**	**64**	***e***P		**P**	**01 12 11.5**	**+2.7**
	comp=Z,229nm,1.3s							
KULM				LR		LR		
	comp=Z,7µm,19.0s							
KULM	**Kulim**	**39.11**	**64**	P		**P**	**01 12 11.8**	**+3.0**
	comp=Z,83nm,1.2s,comp=Z,2µm							
LBTB	**Lobatse**	**39.71**	**247**	P		**P**	**01 12 11.3**	**-2.4**
	comp=Z,6.2nm,0.9s,baz=106,slow=8.2,SNR=9.3							
LBTB	**Lobatse**	**39.71**	**247**	P		**P**	**01 12 11.4**	**-2.4**
LBTB	**Lobatse**	**39.71**	**247**	P		**P**	**01 12 11.3**	**-2.4**
MYKOM	**Kota Tinggi**	**40.46**	**71**	P		**P**	**01 12 21.2**	**+1.2**
	comp=Z,98nm,0.9s							
BOSA	**Boshof**	**40.70**	**242**	P		P	01 12 17.6	-4.3
	comp=Z,6.3nm,0.9s,baz=66,slow=11,SNR=7.4							
BOSA				LR		LR	01 26 41.8	
	comp=Z,4µm,18.1s,baz=82,slow=33							
BOSA	**Boshof**	**40.70**	**242**	***e***P		**P**	**01 12 19.6**	**-2.4**
BOSA				AMB		AMB	01 12 29.1	
	comp=Z,56nm,3.1s							
BOSA	**Boshof**	**40.70**	**242**	***e***P		P	01 12 17.7	-4.3
BOSA				pmax	pmax			
	comp=Z,74nm,1.3s							
BOSA	**Boshof**	**40.70**	**242**	***e***P		P	01 12 17.7	-4.3
	comp=Z,74nm,1.3s							
CBJI	**Citeko**	**40.77**	**84**	P		P	01 12 28.1	+5.5
LEM	**Lembang**	**41.42**	**85**	P		**P**	**01 12 30.6**	**+2.5**
CISI	**Cisompet, Garu**	**41.46**	**86**	P		P	01 12 38.8	+10
SOE	**Somerset East**	**41.53**	**236**	***e***P		**P**	**01 12 27.2**	**-1.5**
SOE					AMB	AMB	01 12 48.5	
	comp=Z,34nm,1.5s							
RAYN	**Ar Rayn**	**41.91**	**331**	P		**P**	**01 12 31.4**	**-0.4**
	comp=Z,97nm,0.9s,SNR=10							
CAL	**Calcutta**	**41.95**	**32**	***e***P		**P**	**01 12 31.3**	**-0.7**
CAL				*ex*		x	01 18 51.7	
BJII	**Banjamegara**	**43.34**	**86**	P		**P**	**01 12 45.5**	**+1.8**
YOGI	**Yogyakarta**	**43.82**	**87**	P		**P**	**01 12 49.5**	**+2.1**
KOLN	**Koldanda**	**44.42**	**22**	***e***P		**P**	**01 12 50.9**	**-1.3**
	comp=Z,57nm,0.8s							
KOLN	**Koldanda**	**44.42**	**22**	***e***P		**P**	**01 12 50.9**	**-1.3**
PCJI	**Pacitan**	**44.60**	**88**	P		**P**	**01 12 54.2**	**+0.5**
DMN	**Daman**	**44.85**	**24**	***e***P		**P**	**01 12 54.4**	**-1.4**
	comp=Z,300nm,1.3s							
DMN	**Daman**	**44.85**	**24**	***e***P		**P**	**01 12 54.4**	**-1.4**
RAMN	**Ramite**	**44.90**	**26**	***e***P		**P**	**01 12 55.0**	**-1.1**
	comp=Z,394nm,1.1s							
RAMN	**Ramite**	**44.90**	**26**	***e***P		**P**	**01 12 55.0**	**-1.1**
PKI	**Pulchoki**	**44.94**	**25**	***e***P		**P**	**01 12 54.8**	**-1.7**
	comp=Z,177nm,1.2s							
PKI	**Pulchoki**	**44.94**	**25**	***e***P		**P**	**01 12 54.8**	**-1.7**
PKI	**Pulchoki**	**44.94**	**25**	***e***P		**P**	**01 12 54.8**	**-1.7**
DANN	**Dangsing**	**45.00**	**22**	***e***P		**P**	**01 12 55.5**	**-1.5**
	comp=Z,140nm,1.0s							
DANN	**Dangsing**	**45.00**	**22**	***e***P		**P**	**01 12 55.5**	**-1.5**
GKN	**Gorkha**	**45.02**	**24**	***e***P		**P**	**01 12 55.7**	**-1.3**
	comp=Z,146nm,0.9s							
GKN	**Gorkha**	**45.02**	**24**	***e***P		**P**	**01 12 55.7**	**-1.3**
KKN	**Kakani**	**45.08**	**24**	***e***P		**P**	**01 12 55.9**	**-1.6**
	comp=Z,132nm,0.9s							
KKN	**Kakani**	**45.08**	**24**	***e***P		**P**	**01 12 55.9**	**-1.6**
KKN	**Kakani**	**45.08**	**24**	***e***P		**P**	**01 12 55.9**	**-1.6**
ODAN	**Odare**	**45.16**	**27**	***e***P		**P**	**01 12 56.8**	**-1.4**
	comp=Z,74nm,0.6s							
ODAN	**Odare**	**45.16**	**27**	***e***P		**P**	**01 12 56.8**	**-1.4**
PWJI	**Pagerwojo**	**45.24**	**88**	P		**P**	**01 12 59.1**	**+0.3**
SJI	**Sawahan**	**45.26**	**88**	P		**P**	**01 12 59.9**	**+0.8**
SUR	**Sutherland**	**45.30**	**238**	***e***P		**P**	**01 12 56.9**	**-2.4**
	comp=Z,6.0nm,1.0s,baz=61,slow=10,SNR=2.8							
SUR	**Sutherland**	**45.30**	**238**	***e***P		**P**	**01 13 00.0**	**+0.7**
SUR					AMB	AMB	01 13 12.7	
	comp=Z,27nm,1.5s							
SUR	**Sutherland**	**45.30**	**238**	***e***P		P	01 13 03.2	+3.9
	comp=Z,50nm,1.2s							
SUR					LR	LR		
	comp=Z,6µm,20.0s							
JIRN	**Jiri**	**45.34**	**25**	***e***P		**P**	**01 12 58.0**	**-1.8**
	comp=Z,61nm,1.2s							
JIRN	**Jiri**	**45.34**	**25**	***e***P		**P**	**01 12 58.0**	**-1.8**
CM31	**Chiang Mai Arr**	**45.40**	**46**	***e***P		**P**	**01 12 59.4**	**-0.6**
CM31					LR	LR		
	comp=Z,3µm,19.0s							
CMAR	**Chiang Mai Arr**	**45.40**	**46**	P		**P**	**01 12 58.0**	**-2.0**
	comp=Z,13nm,0.8s,baz=238,slow=9.7,SNR=26							
CMAR					LR	LR	01 29 15.1	
	comp=Z,3µm,19.3s,baz=227,slow=32							
CMAR	**Chiang Mai Arr**	**45.40**	**46**	P		**P**	**01 12 58.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**45.40**	**46**	P		**P**	**01 12 58.0**	**-2.0**
GUN	**Gumba**	**45.43**	**25**	***e***P		**P**	**01 12 59.0**	**-1.5**
	comp=Z,400nm,1.2s							
GUN	**Gumba**	**45.43**	**25**	***e***P		**P**	**01 12 59.0**	**-1.5**
CHTO	**Chiang Mai**	**45.64**	**46**	***e***P		**P**	**01 13 02.3**	**+0.5**
CHTO				*e*			01 14 45.2	
CHTO					pmax	pmax		
	comp=Z,69nm,1.4s							
CHTO					MLR	MLR		
	comp=Z,3µm,19.0s							
CHTO	**Chiang Mai**	**45.64**	**46**	***e***P		**P**	**01 13 02.3**	**+0.5**
	comp=Z,69nm,1.4s							
CHTO				*e*			01 14 45.2	
CHTO					LR	LR		
	comp=Z,3µm,19.0s							
CHTO	**Chiang Mai**	**45.64**	**46**	P		**P**	**01 13 04.3**	**+2.5**
	comp=Z,36nm,1.1s,comp=Z,851nm							
TAPN	**Taplejung**	**45.73**	**27**	***e***P		**P**	**01 13 01.2**	**-1.6**
	comp=Z,200nm,1.3s							
TAPN	**Taplejung**	**45.73**	**27**	***e***P		**P**	**01 13 01.2**	**-1.6**
CVNA	**Calvinia**	**45.97**	**239**	***e***P		**P**	**01 13 02.8**	**-1.7**
CVNA					AMB	AMB	01 13 17.7	
	comp=Z,45nm,1.6s							
NAY	**Al-Naaiem**	**46.21**	**337**	***e***P		**P**	**01 13 07.4**	**+1.3**
NAY					AMb	AMB	01 13 19.6	
	comp=Z,66nm,1.5s							
UMR	**Umm Al-Rimmam**	**46.30**	**338**	***e***P		**P**	**01 13 08.6**	**+1.7**
UMR					AMb	AMB	01 13 20.3	
	comp=Z,242nm,1.4s							
KSM	**Kuching**	**46.35**	**75**	P		**P**	**01 13 08.4**	**+0.8**
	comp=Z,99nm,1.0s							
KSM					LR	LR		
	comp=Z,10µm,22.0s							
KSM	**Kuching**	**46.35**	**75**	P		**P**	**01 13 08.3**	**+0.8**
	comp=Z,98nm,1.1s,comp=Z,2µm							
MIB	**Mutribah**	**46.67**	**337**	***e***P		**P**	**01 13 10.7**	**+1.0**
MIB					AMb	AMB	01 13 23.2	
	comp=Z,189nm,1.4s							
TSUM	**Tsumeb**	**46.72**	**256**	***e***P		**P**	**01 13 09.2**	**-1.4**
CER	**Ceres**	**46.78**	**237**	***e***P		**P**	**01 13 08.5**	**-2.2**
CER					AMB	AMB	01 13 26.9	
	comp=Z,13nm,3.1s							
GMJI	**Gumukmas**	**46.79**	**89**	P		P	01 13 16.8	+5.8
STKI	**Sintang**	**46.98**	**77**	P		**P**	**01 13 13.6**	**+1.0**
	comp=Z,138nm,1.2s,comp=Z,0.6nm							
BLJI	**Banyuglugur**	**47.04**	**88**	P		**P**	**01 13 14.6**	**+1.6**
	comp=Z,91nm,1.2s,comp=Z,2µmcomp=Z,0.3nm							
KBL	**Kabul**	**47.85**	**3**	***e***P		**P**	**01 13 18.3**	**-0.9**
KBL					pmax	pmax		
	comp=Z,100nm,1.3s							
KBL	**Kabul**	**47.85**	**3**	***e***P		**P**	**01 13 18.3**	**-0.9**
	comp=Z,100nm,1.3s							
SBUM	**Sibu**	**48.47**	**74**	P		**P**	**01 13 24.8**	**+0.7**
	comp=Z,105nm,1.1s,comp=Z,1µm							
LSA	**Lhasa**	**49.31**	**29**	P		**P**	**01 13 28.5**	**-2.3**
LSA					S	**S**	**01 20 31.6**	**-5.5**
LSA					LR	LR		
	comp=Z,7µm,33.2s							
LSA	**Lhasa**	**49.31**	**29**	***e***P		**P**	**01 13 29.8**	**-1.0**
LSA					pmax	pmax		
	comp=Z,71nm,1.1s							
LSA					MLR	MLR		
	comp=Z,6µm,20.0s							
LSA	**Lhasa**	**49.31**	**29**	***e***P		**P**	**01 13 29.8**	**-1.0**
	comp=Z,71nm,1.1s							
LSA				*e*			01 15 00.5	
LSA					LR	LR		
	comp=Z,6µm,20.0s							
NWAO	**Narrogin (SRO)**	**50.35**	**122**	P		**P**	**01 13 36.6**	**-1.7**
	comp=Z,26nm,1.0s,baz=279,slow=10,SNR=8.0							
NWAO	**Narrogin (SRO)**	**50.35**	**122**	P		**P**	**01 13 36.6**	**-1.7**
NWAO					MLR	MLR		
	comp=Z,6µm,21.0s							
NWAO	**Narrogin (SRO)**	**50.35**	**122**	P		**P**	**01 13 36.6**	**-1.7**
NWAO					LR	LR		
	comp=Z,6µm,21.0s							
KLBR	**Kellerberrin**	**50.57**	**120**	***e***P		**P**	**01 13 37.8**	**-2.1**
	comp=Z,61nm,1.1s							
BHD	**Baghdad**	**50.89**	**337**	*i* P		P	01 13 46.0	+3.9
BHD				*i* PcS		x	01 19 19.0	
BHD				*i* S		**S**	**01 21 00.0**	**+2.0**
BHD				*i* PS		x	01 21 20.0	
BHD				*i* SS		x	01 24 44.0	
BHD				*i* SSS		x	01 26 08.0	
MBWA	**Marble Bar**	**51.63**	**106**	PFAKE			01 14 00.0	+12
MBWA				LR		LR		
	comp=Z,6µm,22.0s							
KMI	**Kunming**	**52.48**	**43**	P		P	01 13 58.2	+3.7
KMI				sP		sP	01 14 02.5	+1.1
KMI				S		**S**	**01 21 21.8**	**+1.0**
KMI					pmax	pmax		
	comp=Z,23nm,1.4s							
KMI					pmax	pmax		
	comp=Z,330nm,7.6s							
KMI					LR	LR		
	comp=N,2µm,18.1s							
KMI					LR	LR		
	comp=E,3µm,17.4s							
KMI					LR	LR		
	comp=Z,3µm,23.0s							
KKM	**Kota Kinabalu**	**53.47**	**72**	***e***P		**P**	**01 14 02.6**	**+0.7**
	comp=Z,84nm,1.2s							
KKM					LR	LR		
	comp=Z,5µm,22.0s							
KSH	**Kashi**	**53.55**	**10**	P		P	01 13 56.8	-5.1
KSH				*e*pP		pP	01 14 01.3	-5.7
KSH				*e*sP		sP	01 14 03.8	-5.1
KSH				*e*PcP		**PcP**	**01 15 06.8**	**-1.8**
KSH				*e*PP		PP	01 15 56.4	-6.4
KSH				*e*ScP		**ScP**	**01 19 02.8**	**-3.2**
KSH				*e*PcS		**PcS**	**01 19 03.9**	**-3.8**
KSH				*e*S		S	01 21 21.3	-13
KSH				*e*sS		sS	01 21 28.2	-15
KSH				*e*ScS		ScS	01 23 42.4	-8.7
KSH				*e*SS		SS	01 24 57.1	-18
KSH					pmax	pmax		
	comp=Z,6.0nm,0.4s							
KSH					LR	LR		
	comp=N,8µm,16.9s							
KSH					LR	LR		
	comp=E,7µm,13.6s							
KSH					LR	LR		
	comp=Z,14µm,22.8s							
KAPI	**Kappang**	**53.59**	**86**	P		P	01 13 58.1	-4.5
	comp=Z,98nm,1.1s,baz=251,slow=8.3,SNR=9.8							
KAPI					LR	LR	01 32 57.7	
	comp=Z,9µm,21.9s,baz=240,slow=32							
KAPI	**Kappang**	**53.59**	**86**	P		P	01 13 58.1	-4.5
KAPI	**Kappang**	**53.59**	**86**	P		**P**	**01 14 00.9**	**-1.7**
	comp=Z,123nm,1.2s							
QIZ	**Qiongzhong**	**53.92**	**54**	P		**P**	**01 14 04.8**	**-0.1**
QIZ				pP		**pP**	**01 14 09.3**	**-0.6**
QIZ				sP		**sP**	**01 14 11.2**	**-0.7**
QIZ				S		**S**	**01 21 41.2**	**+1.1**
QIZ				sS		**sS**	**01 21 48.6**	**+0.3**
QIZ				ScS		**ScS**	**01 23 55.5**	**+1.2**
QIZ				LR	LR			
	comp=N,3µm,18.2s							
QIZ				LR	LR			
	comp=E,2µm,15.8s							
QIZ				LR	LR			
	comp=Z,4µm,15.4s							
QIZ	**Qiongzhong**	**53.92**	**54**	PFAKE			01 14 20.0	+15
QIZ				LR	LR			
	comp=Z,3µm,21.0s							
MAW	**Mawson**	**54.10**	**181**	LR	LR		01 31 29.6	
	comp=Z,4µm,19.0s,baz=333,slow=30							
GYA	**Guiyang**	**56.01**	**45⇑**	*i*P		**P**	**01 14 20.9**	**+0.8**
GYA				PcP		**PcP**	**01 15 21.2**	**+2.8**
GYA				PP		**PP**	**01 16 26.2**	**+1.0**
GYA				PcS		**PcS**	**01 19 20.5**	**+1.5**
GYA				S		**S**	**01 22 03.3**	**-4.9**
GYA				SS		**SS**	**01 25 49.0**	**-5.7**
GYA				pmax	pmax			
	comp=Z,40nm,1.1s							
GYA				pmax	pmax			
	comp=Z,420nm,5.5s							
GYA				LR	LR			
	comp=N,2µm,17.4s							
GYA				LR	LR			
	comp=E,2µm,14.0s							
GYA				LR	LR			
	comp=Z,2µm,18.3s							
AAK	**Ala-Archa**	**56.39**	**7⇑**	***e***P		**P**	**01 14 20.9**	**-1.6**
AAK				pmax	pmax			
	comp=Z,24nm,1.7s							
AAK	**Ala-Archa**	**56.39**	**7**	***e***P		**P**	**01 14 20.9**	**-1.6**
	comp=Z,337nm,1.6s							
AAK				LR	LR			
	comp=Z,5µm,20.0s							
KKAR	**Karatay Array**	**56.47**	**4**	***e***P		**P**	**01 14 21.5**	**-1.4**
KKAR				pmax	pmax			
	comp=Z,46nm,1.3s							
KKAR	**Karatay Array**	**56.47**	**4**	***e***P		**P**	**01 14 21.5**	**-1.4**
	comp=Z,46nm,1.3s							
FRU	**Bishkek**	**56.60**	**8**	*i* P		P	01 14 29.0	+5.1
FRU				*e*			01 16 32.0	
FRU				pmax	pmax			
	comp=Z,110nm,2.2s							
TKM2	**Tokmak 2**	**56.82**	**8**	***e***P		**P**	**01 14 23.4**	**-2.2**
TKM2				pmax	pmax			
	comp=Z,26nm,0.9s							
TKM2				MLR	MLR			
	comp=Z,6µm,21.0s							
TKM2	**Tokmak 2**	**56.82**	**8**	***e***P		**P**	**01 14 23.4**	**-2.2**
	comp=Z,26nm,0.9s							
TKM2				LR	LR			
	comp=Z,6µm,21.0s							
GNI	**Garni**	**56.92**	**341⇑**	***e***P		**P**	**01 14 25.9**	**-0.4**
GNI				pmax	pmax			
	comp=Z,18nm,1.2s							
GNI	**Garni**	**56.92**	**341**	***e***P		**P**	**01 14 27.0**	**+0.6**
	comp=Z,168nm,1.3s							
GNI				LR	LR			
	comp=Z,2µm,20.0s							
CD2	**Chengdu**	**57.13**	**39**	P		P	01 14 31.3	+3.4
CD2				pP		pP	01 14 35.9	+3.0
CD2				sP		sP	01 14 38.3	+3.5
CD2				PP		**PP**	**01 16 39.8**	**+4.8**
CD2				S		**S**	**01 22 24.8**	**+2.1**
CD2				sS		sS	01 22 32.2	+1.2
CD2				pmax	pmax			
	comp=Z,70nm,1.0s							
CD2				pmax	pmax			
	comp=Z,520nm,4.7s							
CD2				LR	LR			
	comp=N,4µm,17.8s							
CD2				LR	LR			
	comp=Z,4µm,25.0s							
CSS	**Prodhromos**	**57.31**	**328**	PFAKE			01 14 40.0	+11
CSS				LR		LR		
	comp=Z,2µm,19.0s							
FITZ	**Fitzroy Crossi**	**57.34**	**103**	P		P	01 14 25.8	-3.8
	comp=Z,24nm,0.8s,baz=245,slow=6.2,SNR=40							
FITZ				LR		LR	01 35 01.7	
	comp=Z,13µm,21.4s,baz=283,slow=32							
FITZ	**Fitzroy Crossi**	**57.34**	**103**	***e***P		**P**	**01 14 27.5**	**-2.1**
	comp=Z,48nm,0.8s							
FITZ	**Fitzroy Crossi**	**57.34**	**103**	***e***P		**P**	**01 14 28.0**	**-1.6**
	comp=Z,33nm,0.9s							
SYO	**Syowa Base**	**57.98**	**191⇑**	***e***P		**P**	**01 14 36.2**	**+3.0**
TBLG	**Delisi**	**58.36**	**341**	***e***P		P	01 14 42.2	+5.9
TBLG	**Delisi**	**58.36**	**341**	P		P	01 14 42.2	+5.9
AKH	**Akhalkalaki**	**58.47**	**340**	P		P	01 14 46.6

LZH LR LR
comp=Z,4μm,18.1s
TGY Tagaytay City 60.89 65 LR LR 01 35 43.0
comp=Z,10nm,20.2s,baz=114,slow=31
BRTR Keskin Array B 60.93 332 P **P** **01 14 52.8 -1.4**
comp=Z,2.4nm,0.9s,baz=134,slow=6.2,SNR=4.4
BRTR Keskin Array B 60.93 332 P **P** **01 14 52.8 -1.4**
BRTR Keskin Array B 60.93 332 P **P** **01 14 52.8 -1.4**
KIV Kislovodsk 61.01 341 *e*P **P** **01 14 53.8 -0.8**
KIV *e* 01 15 33.1
KIV *e*S **S** **01 23 14.2 +1.5**
KIV *e*SS **SS** **01 27 12.9 +0.2**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 61.01 341 *e*P **P** **01 14 56.8 +2.2**
comp=Z,77nm,1.4s
KIV LR LR
comp=Z,3μm,20.0s
GTA Gaotai 61.33 29 *e*P **P** **01 14 54.7 -2.2**
GTA pP **pP** **01 14 58.8 -3.2**
GTA sP **sP** **01 15 01.8 -2.1**
GTA PP **PP** **01 17 13.7 +1.4**
GTA S **S** **01 23 16.2 -0.8**
GTA sS **sS** **01 23 22.4 -3.0**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,350nm,8.5s
GTA LR LR
comp=N,3μm,20.0s
GTA LR LR
comp=E,4μm,22.8s
GTA LR LR
comp=Z,5μm,27.1s
SOC Sochi 61.69 339 *e*P P 01 14 55.8 -3.2
SOC *e* 01 15 41.9
SOC *e* 01 17 20.4
SOC *e*S **S** **01 23 19.0 -2.0**
SOC *e* 01 24 46.3
SOC *e*SS **SS** **01 27 22.7 -0.4**
SOC *e*SSS SSS 01 30 11.0
MK31 Makanchi Array 61.76 13 *i* P P 01 14 55.9 -3.6
MK31 pmax pmax
comp=Z,138nm,1.5s
MK31 Makanchi Array 61.76 13 *e*P **P** **01 14 56.8 -2.7**
MKAR Makanchi Array 61.76 13 P **P** **01 14 56.5 -3.0**
comp=Z,3.6nm,0.6s,baz=198,slow=7.5,SNR=21
MKAR LR LR 01 40 25.7
comp=Z,4μm,18.0s,baz=189,slow=35
MKAR Makanchi Array 61.76 13*ce*P **P** **01 14 56.5 -3.0**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 61.76 13 *e*P **P** **01 14 56.9 -2.7**
IDI Anoyia 62.23 323 *e*P P 01 15 07.0 +4.0
comp=Z,65nm,1.2s
XAN Xi'an 62.45 40 P **P** **01 15 04.9 +0.5**
XAN pP **pP** **01 15 12.7 +3.2**
XAN sP **sP** **01 15 15.7 +4.3**
XAN S S 01 23 21.8 -9.3
XAN ScS **SKSac** **01 24 50.0 -6.4**
XAN SS SS 01 27 25.6 -10
XAN pmax pmax
comp=Z,19nm,1.4s
XAN pmax pmax
comp=Z,60nm,3.9s
XAN LR LR
comp=N,2μm,33.7s
XAN LR LR
comp=E,1μm,36.3s
XAN LR LR
comp=Z,740nm,19.5s
DAV Davao City (W) 62.55 75 LR LR 01 39 18.3
comp=Z,5μm,22.0s,baz=242,slow=33
AB31 Akbulak array 62.71 356 *i* P **P** **01 15 06.7 +1.0**
AB31 pmax pmax
comp=Z,57nm,1.0s
MTN Manton Dam 63.22 98 *e*P **P** **01 15 08.3 -1.6**
ANN Anapa 63.56 338 *e*P P 01 15 19.5 +8.0
ANN *e* 01 15 49.8
ANN *e*S **PnS** **01 24 04.5 +2.6**
ANN pmax pmax
comp=Z,74nm,1.2s
ANN MLR MLR
comp=N,1μm,15.0s
ANN MLR MLR
comp=Z,1μm,15.0s
WHN Wuhan 63.84 46 P **P** **01 15 15.6 +1.9**
WHN pP pP 01 15 25.9 +7.1
WHN S **S** **01 23 49.7 +1.1**
WHN LR LR
comp=N,4μm,16.2s
WHN LR LR
comp=E,4μm,14.0s
WHN LR LR
comp=Z,8μm,20.4s
QZH Quanzhou 63.92 53 P P 01 15 20.5 +6.2
QZH S **S** **01 23 53.1 +3.3**
QZH SS **SS** **01 28 00.4 +1.7**
QZH LR LR
comp=N,4μm,14.7s
QZH LR LR
comp=E,3μm,13.4s
QZH LR LR
comp=Z,6μm,15.0s
AKTO Aktyubinsk 64.04 354 P **P** **01 15 17.7 +3.1**
AKTO pmax pmax
comp=Z,12nm,1.2s
ASAR Alice Springs 64.63 110 P P 01 15 13.4 -5.7
comp=Z,18nm,0.8s,baz=271,slow=6.1,SNR=46
ASAR Alice Springs 64.63 110 P P 01 15 13.5 -5.7
ASAR Alice Springs 64.63 110 P P 01 15 13.4 -5.7
AS31 Alice Springs 64.63 110 *e*P **P** **01 15 17.1 -2.1**
TPUB Ta-pu 64.73 56 *e*P **P** **01 15 22.5 +2.8**
comp=Z,312nm,1.6s
KURK Kurchatov 64.88 9 P P 01 15 16.9 -3.1
KURK pmax pmax
comp=Z,90nm,1.7s
KURK Kurchatov 64.88 9 *e*P **P** **01 15 17.5 -2.6**
comp=Z,61nm,1.2s
KURK LR LR
comp=Z,6μm,22.0s
KURK Kurchatov 64.88 9 P **P** **01 15 17.9 -2.1**
comp=Z,163nm,0.8s,SNR=7.0
SIM Simferopol' 64.97 336 *e*P P 01 15 28.0 +7.2
SIM *e*S **S** **01 24 07.0 +5.0**
SIM pmax pmax
comp=Z,34nm,1.1s
SIM MLR MLR
comp=Z,630nm,14.4s
SSLB Suanglung 65.22 56 *e*P **P** **01 15 25.9 +3.0**
comp=Z,201nm,1.6s
YULB Yu-li 65.31 56 *e*P **P** **01 15 24.5 +1.0**
comp=Z,42nm,0.8s
WRA Warramunga Arr 65.36 106 P P 01 15 18.8 -5.1
comp=Z,50nm,0.9s,baz=272,slow=5.8,SNR=59
WRA LR LR 01 42 04.6
comp=Z,6μm,18.3s,baz=295,slow=34
WRA Warramunga Arr 65.36 106 P P 01 15 18.8 -5.1
WRA Warramunga Arr 65.36 106 P P 01 15 18.8 -5.1
WB2 Warramunga Arr 65.37 106 *e*P **P** **01 15 22.9 -1.2**
WRAB Tennant Creek 65.37 106 *e*P P 01 15 20.5 -3.5
WRAB pmax pmax
comp=Z,65nm,0.8s
WRAB MLR MLR
comp=Z,6μm,20.0s
WRAB Tennant Creek 65.37 106 *e*P P 01 15 20.5 -3.5
comp=Z,65nm,0.8s
WRAB LR LR
comp=Z,6μm,20.0s
WRAB Tennant Creek 65.37 106 P P 01 15 20.5 -3.5
comp=Z,469nm,0.9s,SNR=7.4
NVL N'lazarevskaya 65.96 197⇑ *i*P P 01 15 35.3 +8.5
NVL *i* S PnS 01 24 44.5 +11
NVL pmax pmax
comp=Z,26nm,0.9s
YHNB Yeheng 65.98 55 PFAKE 01 15 40.0 +12
YHNB LR LR
comp=Z,2μm,19.0s
MAIT Maitri 65.99 197 *e*P **P** **01 15 29.6 +2.6**
MAIT *e* 01 15 43.4
VOSK Vostochnaya 66.08 3 P **P** **01 15 25.4 -2.4**
VOSK pmax pmax
comp=Z,52nm,1.8s
BBOO Buckleboo 66.12 120 *e*P **P** **01 15 26.7 -1.9**
comp=Z,938nm,1.0s

TATO Taipei 66.22 55 PFAKE 01 15 40.0 +11
TATO LR LR
comp=Z,3μm,19.0s
ZRNK Zerenda 66.22 2 P P 01 15 25.6 -3.1
ZRNK pmax pmax
comp=Z,39nm,1.0s
BVA0 Borovoye Array 66.35 3 *i* P **P** **01 15 27.2 -2.3**
BVA0 pmax pmax
comp=Z,100nm,4.0s
BRVK Borovoye 66.38 3 *e*P **P** **01 15 27.4 -2.3**
BRVK pmax pmax
comp=Z,35nm,1.1s
BRVK MLR MLR
comp=Z,4μm,21.0s
BRVK Borovoye 66.38 3 *e*P **P** **01 15 27.4 -2.3**
comp=Z,35nm,1.1s
BRVK LR LR
comp=Z,4μm,21.0s
BRVK Borovoye 66.38 3 P **P** **01 15 27.9 -1.8**
comp=Z,164nm,0.8s,SNR=6.5
RZN Rozhen 66.82 327 *e*P P 01 15 37.0 +4.0
TIY Taiyuan 67.00 39 *e*P **P** **01 15 35.7 +1.6**
TIY LR LR
comp=N,640nm,9.2s
TIY LR LR
comp=E,2μm,13.3s
TIY LR LR
comp=Z,2μm,16.4s
TIRR Tirgusor 67.05 332 *e*P P 01 15 30.5 -3.7
TIRR pmax pmax
comp=Z,117nm,1.9s
TIRR Tirgusor 67.05 332 *e*P P 01 15 30.5 -3.7
comp=Z,117nm,1.9s
TIRR Tirgusor 67.05 332⇑ *i*P **P** **01 15 36.9 +2.8**
PLD Plovdiv 67.13 328 *e*P P 01 15 41.0 +6.3
CFR Carcaliu 67.73 332 P P 01 15 44.3 +5.9
CFR Carcaliu 67.73 332⇑ *i*P P 01 15 45.1 +6.7
VRHR Novokhopersk 67.75 344 *e*P **P** **01 15 40.9 +2.5**
VRHR *e* 01 18 05.8
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,30nm,1.1s
VRHR pmax pmax
comp=Z,40nm,1.1s
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=Z,20nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
KKB Krupnik 67.81 327 *e*P P 01 15 43.4 +4.3
NJ2 Nanjing 67.87 47 *e*P **P** **01 15 40.8 +1.2**
NJ2 pP **pP** **01 15 43.8 -0.9**
NJ2 PP **PP** **01 18 09.6 0.0**
NJ2 S **S** **01 24 37.0 -0.7**
NJ2 sS **sS** **01 24 46.0 -0.2**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,820nm,4.4s
NJ2 LR LR
comp=N,3μm,20.3s
NJ2 LR LR
comp=E,3μm,14.9s
NJ2 LR LR
comp=Z,3μm,18.4s
PGOR Pogoanele 68.06 331⇑ *i*P **P** **01 15 39.4 -1.1**
VTS Vitosha 68.25 327 ⇓P P 01 15 45.6 +3.6
VTS Vitosha 68.25 327 ⇓ *i*P P 01 15 45.6 +3.6
VTS Vitosha 68.25 327 *e*P **P** **01 15 44.7 +2.7**
GRER 68.42 331⇑ *i*P P 01 15 48.3 +5.5
ISR Istrita 68.42 331 ⇓P P 01 15 47.6 +4.7
ISR Istrita 68.42 331 ⇓ *i*P P 01 15 47.6 +4.7
MPEP Malo Peshtene 68.52 328 *e*P P 01 15 50.0 +6.5
HHC Hu-ho-hao-te 68.54 36 *e*P **P** **01 15 43.9 +0.1**
HHC pP **pP** **01 15 52.1 +3.2**
HHC sP **sP** **01 15 54.2 +3.4**
HHC PP **PP** **01 18 20.2 +4.8**
HHC S **S** **01 24 45.5 -0.2**
HHC sS **sS** **01 24 57.4 +3.3**
HHC pmax pmax
comp=Z,38nm,1.4s
HHC pmax pmax
comp=Z,340nm,5.4s
HHC LR LR
comp=N,2μm,16.3s
HHC LR LR
comp=E,2μm,14.1s
HHC LR LR
comp=Z,3μm,19.6s
VSR Storozhevoye 68.56 342 *e*P P 01 15 48.4 +4.9
VSR pmax pmax
comp=Z,50nm,1.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.1s
KIS Kishinev 68.83 334 *e*P P 01 15 53.0 +7.7
KIS *e* 01 25 32.0
KIS MLR MLR
comp=Z,900nm,16.0s
KIS Kishinev 68.83 334 *e*P P 01 15 53.0 +7.7
KIS LRM MLR 01 48 08.0
comp=Z,900nm,16.0s
VRI Vrincioaia 68.90 332 ⇓P P 01 15 53.2 +7.4
VRI Vrincioaia 68.90 332 ⇓ *i*P P 01 15 53.2 +7.4
PLOR Plostina 68.92 332 ⇓P **P** **01 15 45.9 -0.1**
PLOR Plostina 68.92 332 ⇓ *i*P **P** **01 15 45.9 -0.1**
MLR Muntele Rosu 68.98 331 LR LR 01 45 13.0
comp=Z,395nm,21.2s,baz=323,slow=35
MLR Muntele Rosu 68.98 331⇑P P 01 15 50.8 +4.3
MLR Muntele Rosu 68.98 331⇑ *i*P P 01 15 50.8 +4.3
TORD Torodi Ar. Bea 69.02 290 P P 01 15 43.9 -3.3
comp=Z,2.7nm,1.0s,baz=96,slow=2.8,SNR=15
TORD LR LR 01 47 35.6
comp=Z,2μm,19.1s,baz=100,slow=37
TORD Torodi Ar. Bea 69.02 290 P P 01 15 43.9 -3.3
TIA Tai'an 69.04 42 P P 01 15 53.1 +6.2
TIA S **S** **01 24 56.1 +4.5**
TIA LR LR
comp=N,3μm,18.6s
TIA LR LR
comp=E,2μm,18.6s
TIA LR LR
comp=Z,3μm,18.6s
SSE Sheshan 69.05 49 P **P** **01 15 49.4 +2.4**
SSE pP **pP** **01 15 53.0 +0.9**
SSE S **S** **01 24 50.6 -1.2**
SSE sS **sS** **01 24 55.9 -4.3**
SSE pmax pmax
comp=Z,29nm,1.1s
SSE pmax pmax
comp=Z,240nm,4.2s
SSE LR LR
comp=N,2μm,22.3s
SSE LR LR
comp=E,2μm,22.2s
SSE LR LR
comp=Z,2μm,16.7s
ZAA0 Zalesovo Array 69.06 12 *e*P **P** **01 15 43.5 -3.1**
ZALV Zalesovo Beam 69.06 12 P P 01 15 43.4 -3.2
comp=Z,10nm,0.9s,baz=207,slow=6.7,SNR=24
ZALV LR LR 01 44 52.2
comp=Z,3μm,18.7s,baz=203,slow=35
ZALV Zalesovo Beam 69.06 12 P P 01 15 43.4 -3.2
ZALV Zalesovo Beam 69.06 12 P P 01 15 43.4 -3.2
WDD Wield Dalam 69.11 317 PFAKE 01 16 00.0 +13
WDD LR LR
comp=Z,4μm,19.0s
SHEL Horse Pasture 69.15 258 PFAKE 01 16 00.0 +12
SHEL LR LR
comp=Z,3μm,22.0s
TIR Tirane 69.23 324 PFAKE 01 16 00.0 +12
TIR LR LR
comp=Z,1μm,21.0s
TAM Tamanrasset 69.35 301 *e*P **P** **01 15 48.5 -0.8**
TAM pmax pmax
comp=Z,78nm,2.1s
TAM MLR MLR
comp=Z,3μm,21.0s
TAM Tamanrasset 69.35 301 *e*P **P** **01 15 48.5 -0.8**
comp=Z,78nm,2.1s
TAM LR LR
comp=Z,3μm,21.0s

VOIR 69.37 330⇑ P P 01 15 52.2 +3.4
VOIR 69.37 330⇑ *i*P P 01 15 52.2 +3.4
TESR 69.42 332 ⇓ *i*P P 01 15 53.0 +4.0
IAS Iasi 69.53 333 ⇓P P 01 15 55.6 +6.0
IAS Iasi 69.53 333 ⇓ *i*P P 01 15 55.6 +6.0
NVS Novosibirsk 69.61 11 ⇓ *i*P P 01 15 46.5 -3.5
NVS pmax pmax
comp=Z,253nm,2.0s
NVS pmax pmax
comp=N,98nm,1.5s
NVS pmax pmax
comp=E,18nm,1.5s
CEL Celeste 69.65 320 PFAKE 01 16 00.0 +9.3
CEL LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 69.67 321 PFAKE 01 16 00.0 +9.2
TIP LR LR
comp=Z,2μm,20.0s
ARU Arti 69.94 356*c* *i*P **P** **01 15 50.4 -1.6**
ARU 01 18 22.0
ARU S **S** **01 24 58.9 -2.4**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 69.94 356 *e*P **P** **01 15 52.4 +0.4**
comp=Z,81nm,1.4s
ARU LR LR
comp=Z,3μm,20.0s
ARU Arti 69.94 356 P P 01 15 56.8 +4.8
comp=Z,209nm,1.3s,SNR=5.2
SVE Sverdlovsk 70.20 357⇑ *e*P **P** **01 15 51.8 -1.8**
SVE *e* 01 16 15.9
SVE *e*PPP PPP 01 20 11.6
SVE *e*S **S** **01 25 03.5 -0.9**
SVE *e*SS **SS** **01 29 32.6 -2.4**
SVE pmax pmax
comp=Z,65nm,1.2s
PRAR RASCA 70.25 332⇑ *i*P P 01 15 58.2 +4.1
GZR Gura Zlata 70.45 329⇑ P P 01 15 59.4 +4.0
GZR Gura Zlata 70.45 329⇑ *i*P P 01 15 59.4 +4.0
SNAA Sanae 70.67 198 *e* **P** **01 15 54.3 -2.2**
SNAA *e* 01 15 58.7
SNAA *e* 01 16 11.9
SNAA Sanae 70.67 198 *e*P **P** **01 15 54.4 -2.0**
SNAA Sanae 70.67 198 *e*P **P** **01 15 54.6 -1.9**
SNAA pmax pmax
comp=Z,16nm,1.0s
SNAA Sanae 70.67 198 *e*P **P** **01 15 54.6 -1.9**
comp=Z,16nm,1.0s
BJT Baijiatuau 70.71 39 *e*P **P** **01 15 55.0 -2.1**
BJT pmax pmax
comp=Z,28nm,1.0s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 70.71 39 *e*P **P** **01 15 55.0 -2.1**
comp=Z,28nm,1.0s
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 70.73 39 P **P** **01 15 58.5 +1.3**
BJI PP **PP** **01 18 35.5 +1.3**
BJI S **S** **01 25 13.0 +1.8**
BJI pmax pmax
comp=Z,21nm,1.4s
BJI pmax pmax
comp=Z,390nm,6.8s
BJI LR LR
comp=N,2μm,24.3s
BJI LR LR
comp=E,3μm,21.8s
BJI LR LR
comp=Z,1μm,40.9s
CUC Castrocucco 70.75 321 PFAKE 01 16 10.0 +13
CUC LR LR
comp=Z,995nm,20.0s
STKA Stephens Creek 70.84 119 P **P** **01 15 55.4 -2.8**
comp=Z,6.0nm,0.9s,baz=313,slow=7.5,SNR=5.2
STKA LR LR 01 42 16.4
comp=Z,10μm,21.0s,baz=254,slow=32
STKA Stephens Creek 70.84 119 *e*P **P** **01 15 55.7 -2.5**
comp=Z,8.5nm,0.8s
STKA Stephens Creek 70.84 119 P **P** **01 15 55.4 -2.8**
STKA Stephens Creek 70.84 119 P **P** **01 15 55.4 -2.8**
SONM Songino Array 70.85 28 P **P** **01 15 56.0 -1.9**
comp=Z,7.1nm,0.8s,baz=213,slow=6.5,SNR=25
SONM PKPPKP **P'P'df** **01 43 54.2 +1.7**
comp=Z,3.8nm,1.1s,baz=116,slow=1.6,SNR=12
SONM LR LR 01 46 14.1
comp=Z,4μm,19.4s,baz=89,slow=35
SONM Songino Array 70.85 28 P **P** **01 15 56.0 -1.9**
SONM Songino Array 70.85 28 P **P** **01 15 56.0 -1.9**
SONM P'P' 01 43 54.2
BURAR Bucovina Array 70.89 332 ⇓ *i*P P 01 16 03.0 +4.9
BUR08 Bucovina Ar. S 70.92 332 *e*P **P** **01 15 59.9 +1.6**
ULN Ulaanbaatar 71.17 28 *e*P **P** **01 16 00.2 +0.3**
ULN pmax pmax
comp=Z,58nm,1.4s
ULN MLR MLR
comp=Z,4μm,22.0s
ULN Ulaanbaatar 71.17 28 *e*P **P** **01 16 00.2 +0.3**
comp=Z,58nm,1.4s
ULN LR LR
comp=Z,4μm,22.0s
BZS Buzias 71.19 329⇑ P P 01 16 03.7 +3.9
BZS Buzias 71.19 329⇑ *i*P P 01 16 03.7 +3.9
DRGR 71.47 330⇑ P P 01 16 08.6 +7.0
DRGR 71.47 330⇑ *i*P P 01 16 08.6 +7.0
ZAK Zakamensk 71.48 24 *e*P **P** **01 15 59.1 -2.6**
ZAK pmax pmax
comp=Z,14nm,1.5s
AKASG Malin Array Be 71.56 336 P **P** **01 16 00.4 -1.5**
comp=Z,2.9nm,0.6s,baz=140,slow=5.4,SNR=5.1
AKASG LR LR 01 46 27.0
comp=Z,2μm,21.3s,baz=120,slow=35
AKASG Malin Array Be 71.56 336 P **P** **01 16 00.4 -1.5**
AKASG Malin Array Be 71.56 336 P **P** **01 16 00.4 -1.5**
AKBB Malin Array Si 71.56 336 *e*P **P** **01 16 02.9 +1.0**
AKBB Malin Array Si 71.56 336 *e*P **P** **01 16 02.9 +1.0**
KIEV Kiev 71.56 336⇓ *e*P **P** **01 16 03.3 +1.4**
KIEV Kiev 71.56 336 *e*P **P** **01 16 03.5 +1.5**
comp=Z,487nm,2.9s
KIEV LR LR
comp=Z,2μm,22.0s
MOY Mondy 71.64 22 *e*P P 01 16 07.4 +4.8
MOY pmax pmax
comp=Z,46nm,2.8s
BMR Baia Mare 71.73 331 ⇓P P 01 16 07.8 +4.7
BMR Baia Mare 71.73 331 ⇓ *i*P P 01 16 07.8 +4.7
VNA2 Neumayer--Watz 71.93 199 *e* **P** **01 16 03.8 -0.2**
baz=73,slow=6.5
VNA2 *e* 01 16 08.0
VNA2 *e* 01 16 22.3
TRPA Tarpa 72.51 331⇑ *i*P P 01 16 15.2 +7.5
TRPA Tarpa 72.51 331 *e*P P 01 16 11.0 +3.3
KEST Kesra 72.55 315 LR LR 01 47 54.5
comp=Z,2μm,20.4s,baz=232,slow=36
TLY Talaya 72.64 23 *e*P P 01 16 13.1 +4.6
TLY *e* 01 18 51.0
TLY *e*PPP PPP 01 20 32.8
TLY *e*S **S** **01 25 36.6 +3.7**
TLY *e* 01 26 01.2
TLY pmax pmax
comp=Z,39nm,1.2s
TLY Talaya 72.64 23 PFAKE 01 16 20.0 +12
TLY LR LR
comp=Z,5μm,21.0s
VNA3 Neumayer Olymp 72.71 199 *e* **P** **01 16 08.1 -0.6**
VNA3 *e* 01 16 12.5
VNA3 *e* 01 16 24.1
OBN Obninsk 72.73 343⇑ *i*P **P** **01 16 10.2 +1.4**
OBN *i*S **SKiKP** **01 25 40.4 -2.1**
OBN pmax pmax
comp=Z,59nm,1.9s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 72.73 343 *e*P **P** **01 16 09.5 +0.6**
comp=Z,84nm,1.4s
OBN LR LR
comp=Z,3μm,20.0s
UZH Uzhgorod 72.98 331 *e*P P 01 16 14.0 +3.5
UZH *i* 01 16 16.7
UZH *i* 01 16 37.0
UZH *i*S **S** **01 25 40.0 +3.3**
MOS Moscow 72.98 344 *e*P **P** **01 16 10.4 +0.1**
MOS *e* 01 16 27.1
MOS *e*S **S** **01 25 34.2 -2.2**

MOS pmax pmax
comp=Z,65nm,2.0s
LVV L'vov 73.05 333 *e*P P 01 16 18.1 +7.2
PKSM Moragy 73.11 328 ⇑P **P** **01 16 12.5 +1.2**
PKSM Moragy 73.11 328 ⇑*i*P **P** **01 16 12.5 +1.2**
PKSM Moragy 73.11 328 ⇓*e*P **P** **01 16 12.3 +1.0**
DBIC Dimbokro 73.17 281 P P 01 16 08.6 -3.7
comp=Z,8.5nm,0.8s,baz=96,slow=7.3,SNR=8.6
DBIC LR LR 01 47 38.4
comp=Z,2µm,20.1s,baz=93,slow=35
DBIC Dimbokro 73.17 281 *e*P P 01 16 08.5 -3.9
DBIC Dimbokro 73.17 281 *e*P P 01 16 08.7 -3.7
DBIC pmax pmax
comp=Z,36nm,1.0s
DBIC Dimbokro 73.17 281 *e*P P 01 16 08.7 -3.6
comp=Z,36nm,1.0s
SOKR Solikamsk 73.19 355 ⇑*i*P **P** **01 16 13.1 +1.6**
SOKR S **SKiKP** **01 25 47.7 +4.7**
SOKR pmax pmax
comp=Z,70nm,1.2s
SOKR MLR MLR
comp=Z,2µm,18.0s
KOLS Kolonicke sedl 73.20 332 *e*P **P** **01 16 15.0 +3.2**
KOLS Kolonicke sedl 73.20 332 *e*P **P** **01 16 15.0 +3.2**
LIC Lamto 73.21 281 *e*P P 01 16 09.1 -3.5
comp=Z,109nm,1.1s,baz=109
LIC *e*R
comp=Z,6µm,21.0s
IRK Irkutsk 73.33 23 *e*P **P** **01 16 12.5 0.0**
IRK pmax pmax
comp=Z,104nm,1.8s
KWP Kalwaria Pacla 73.50 332 *e*P P 01 16 18.1 +4.5
KWP Kalwaria Pacla 73.50 332 ⇓P **P** **01 16 15.3 +1.7**
KWP Kalwaria Pacla 73.50 332 ⇓*i*P **P** **01 16 15.3 +1.7**
CRVS Cervenica-Dubn 73.56 331 *e*P **P** **01 16 15.9 +1.9**
CRVS pmax pmax
comp=Z,6.0nm,1.3s
CRVS Cervenica-Dubn 73.56 331 *e*P **P** **01 16 15.9 +1.9**
CRVS *e*pP **pP** **01 16 20.3 +1.2**
TOO Toolangi 73.61 125 *e*P P 01 16 11.5 -3.2
comp=Z,79nm,1.4s
AQU L'Aquila 73.62 322 *e*P **P** **01 16 15.9 +1.4**
AQU pmax pmax
comp=Z,51nm,1.1s
AQU MLR MLR
comp=Z,1µm,22.0s
AQU L'Aquila 73.62 322 *e*P **P** **01 16 15.8 +1.4**
comp=Z,51nm,1.1s
AQU LR LR
comp=Z,1µm,22.0s
AQU L'Aquila 73.62 322 ⇑*i*P P 01 16 23.1 +8.6
PSZ Piszkesteto 73.63 330 ⇑P P 01 16 10.9 -3.6
PSZ Piszkesteto 73.63 330 *e*P **P** **01 16 12.9 -1.6**
comp=Z,35nm,1.4s
PSZ LR LR
comp=Z,1µm,22.0s
PSZ Piszkesteto 73.63 330 ⇑*i*P P 01 16 10.9 -3.6
PSZ Piszkesteto 73.63 330 ⇓*e*P **P** **01 16 17.0 +2.5**
KECS Kecovo 73.73 330 *e*P **P** **01 16 16.9 +1.9**
KECS pmax pmax
comp=Z,85nm,5.5s
KECS Kecovo 73.73 330 *e*P **P** **01 16 16.9 +1.9**
KECS *e*pP **pP** **01 16 22.1 +2.0**
BUD Budapest 73.77 329 ⇓*e*P P 01 16 22.1 +6.9
STHS Stebnicka Huta 74.02 331 *e*P P 01 16 20.6 +3.9
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 74.02 331 *e*P P 01 16 20.6 +3.9
STHS *e*pP pP 01 16 23.4 +1.6
BEHE Becsehely 74.26 327 *e*PKPPKPbP **01 16 16.7 -1.4**
NIE Niedzica 74.46 331 *e*P P 01 16 23.0 +3.8
NIE *e*sP sP 01 16 26.4 +0.1
NIE Niedzica 74.46 331 *e*P P 01 16 23.0 +3.8
NIE *e**PP sP 01 16 26.4 +0.1
VSL Villasalto 74.52 318 PFAKE 01 16 30.0 +10
VSL LR LR
comp=Z,2µm,20.0s
VYHS Vyhne 74.54 330 *e*P **P** **01 16 22.0 +2.3**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.54 330 *e*P **P** **01 16 22.0 +2.3**
VYHS *e*pP **pP** **01 16 26.1 +1.2**
TAU Tasmania Unive 74.60 131 PFAKE 01 16 30.0 +10
TAU LR LR
comp=Z,5µm,20.0s
KOLL Kolacno 74.81 329 *e*P P 01 16 24.9 +3.7
KOLL *e* 01 16 28.4
KOLL Kolacno 74.81 329 *e*P P 01 16 24.9 +3.7
KOLL *e*pP pP 01 16 28.4 +2.0
PDKS Podkum 74.96 326 *e*P **P** **01 16 22.4 +0.2**
MICGM Minsk 75.06 338 *e* **P** **01 16 24.0 +1.5**
MNK Minsk 75.08 338 *e*P **P** **01 16 24.0 +1.4**
VNDS Vrh nad Dolski 75.15 326 *i*P **P** **01 16 21.6 -1.7**
SOP Sopron 75.16 328 ⇓*e*PKPPKPdP 01 16 30.2 +6.9
LJU Ljubljana 75.21 326 *e*P **P** **01 16 22.0 -1.6**
OJC Ojcow 75.25 331 *e*P **P** **01 16 25.3 +1.5**
OJC *e*PcP **PcP** **01 16 37.7 +0.6**
OJC *e*S **S** **01 26 04.2 +1.9**
OJC L L 01 49 26.8
comp=Z,1.0nm,20.0s
OJC Ojcow 75.25 331 *e*P **P** **01 16 25.3 +1.5**
OJC *e* 01 16 37.7
OJC *e*S **S** **01 26 04.2 +1.9**
OJC MLR MLR
comp=Z,1µm,20.0s
ARSA Arzberg 75.42 327 P P 01 16 20.5 -4.3
comp=Z,35nm,1.1s
TRI Trieste 75.42 325 PFAKE 01 16 40.0 +15
TRI LR LR
comp=Z,1µm,19.0s
OBKA Obir 75.48 326 ⇑*i*P **P** **01 16 25.1 -0.1**
comp=Z,60nm,1.4s
VOY Vojsko 75.55 325 *e* 01 16 32.3
VOY *e* 01 16 35.7
CONA Conrad Observa 75.67 328 ⇑*i*P **P** **01 16 24.0 -2.4**
comp=Z,60nm,1.6s
NACGM Naroch 75.77 338 *e* **P** **01 16 27.0 +0.4**
OKC Ostrava-Krasne 75.78 330 *e*P **P** **01 16 29.8 +3.0**
OKC Ostrava-Krasne 75.78 330 *e*P **P** **01 16 29.8 +3.0**
MORC Moravsky Berou 76.03 330 *e*P **P** **01 16 30.5 +2.2**
MORC pmax pmax
comp=Z,72nm,1.7s
MORC Moravsky Berou 76.03 330 *e*P **P** **01 16 30.5 +2.2**
comp=Z,72nm,1.7s
MORC Moravsky Berou 76.03 330 ⇑*i*P P 01 16 32.2 +3.9
INCN Inchon 76.15 46 PFAKE 01 16 40.0 +11
INCN LR LR
comp=Z,3µm,19.0s
IIGN Ignalina 76.32 338 *e*P **P** **01 16 32.8 +3.1**
SNY Shenyang 76.35 40 ⇓P P 01 16 33.5 +3.3
SNY S **S** **01 26 14.8 +0.2**
SNY pmax pmax
comp=Z,34nm,1.3s
SNY LR LR
comp=N,2µm,18.9s
SNY LR LR
comp=E,2µm,15.2s
SNY LR LR
comp=Z,3µm,19.1s
CTA Charters Tower 76.44 108 P P 01 16 27.9 -3.4
comp=Z,15nm,0.9s,baz=252,slow=3.2,SNR=2.4
CTA LR LR 01 48 10.0
comp=Z,10µm,18.9s,baz=241,slow=34
CTA Charters Tower 76.44 108 *e*P **P** **01 16 30.5 -0.8**
comp=Z,43nm,1.2s
CTA Charters Tower 76.44 108 P P 01 16 27.9 -3.4
CTA Charters Tower 76.44 108 P P 01 16 27.9 -3.4
CTAO Charters Tower 76.44 108 PFAKE 01 16 50.0 +19
CTAO LR LR
comp=Z,10µm,20.0s
MOA Molln 76.46 327 ⇓*i*P **P** **01 16 28.5 -2.3**
comp=Z,76nm,1.5s
SUW Suwalki 76.48 336 *e*P P 01 16 35.3 +4.7
SUW Suwalki 76.48 336 *e*P **P** **01 16 29.2 -1.5**
SUW pmax pmax
comp=Z,78nm,1.1s
SUW Suwalki 76.48 336 *e*P **P** **01 16 29.2 -1.5**
comp=Z,78nm,1.1s
ISAL Salakas 76.53 338 *e*P **P** **01 16 33.9 +3.1**
QSPA South Pole Qui 76.58 180 P P 01 16 26.5 -4.9
comp=Z,9.8nm,1.0s,baz=265,slow=4.1,SNR=5.2
QSPA South Pole Qui 76.58 180 P P 01 16 26.5 -4.9
IZAR Zarasai 76.62 338 *e*P **P** **01 16 34.5 +3.1**
CAN Canberra 76.65 123 *e*P **P** **01 16 35.0 +2.7**

CAN pmax pmax
comp=Z,52nm,1.4s
CAN MLR MLR
comp=Z,3µm,20.0s
CAN Canberra 76.65 123 *e*P **P** **01 16 35.0 +2.7**
comp=Z,52nm,1.4s
CAN LR LR
comp=Z,3µm,20.0s
TREC Trest 76.74 329 *e*P **P** **01 16 32.0 -0.3**
TREC Trest 76.74 329 *e*P **P** **01 16 32.0 -0.3**
ABTA Abfaltersbach 76.74 325 ⇑*i*P **P** **01 16 31.1 -1.4**
comp=Z,46nm,1.0s
CNB Canberra Magne 76.95 124 *e*P P 01 16 39.8 +5.8
comp=Z,62nm,1.0s
DPC Dobruska-Polom 77.00 330 *e*P P 01 16 38.0 +4.2
DPC *e*S **S** **01 26 26.5 +4.9**
DPC Dobruska-Polom 77.00 330 *e*P P 01 16 38.0 +4.2
DPC *e*S **S** **01 26 26.5 +4.9**
KSAR Wonju Array Be 77.01 46 P **P** **01 16 33.4 -0.6**
KSAR Wonju Array Be 77.01 46 P **P** **01 16 33.4 -0.6**
KSRS Korea Array 77.04 46 P **P** **01 16 33.4 -0.8**
comp=Z,11nm,0.9s,baz=250,slow=6.0,SNR=16
KSRS LR LR 01 50 04.9
comp=Z,3µm,20.2s,baz=239,slow=35
JNU Nakatsue 77.24 51 *e*P **P** **01 16 38.2 +2.7**
comp=Z,41nm,1.2s
UPC Upice 77.25 330 *e*P **P** **01 16 36.8 +1.7**
UPC *e* 01 16 41.8
UPC Upice 77.25 330 *e*P **P** **01 16 36.8 +1.7**
UPC *e*pP **pP** **01 16 41.8 +1.5**
KSP Ksiaz 77.33 330 *e*P P 01 16 43.5 +7.9
KSP *e*PP PP 01 19 41.4 +11
KSP Ksiaz 77.33 330 *e*P **P** **01 16 37.1 +1.5**
KSP *e**PP **pP** **01 16 40.8 0.0**
KSP *e* 01 19 31.0
KSP *e*S **S** **01 26 28.0 +2.9**
GERES GERESS Array B 77.37 328 P **P** **01 16 35.6 -0.4**
comp=Z,1.8nm,0.9s,baz=123,slow=4.9,SNR=10
GERES LR LR 01 47 56.7
comp=Z,876nm,20.8s,baz=133,slow=34
GERES GERESS Array B 77.37 328 P **P** **01 16 35.6 -0.4**
GERES GERESS Array B 77.37 328 P **P** **01 16 35.6 -0.4**
WTTA Wattenberg 77.53 325 ⇑*i*P **P** **01 16 37.0 0.0**
comp=Z,68nm,1.2s
KHC Kasperske Hory 77.61 328 *e*P **P** **01 16 37.6 +0.4**
KHC pmax pmax
comp=Z,94nm,2.0s
KHC Kasperske Hory 77.61 328 *e*P **P** **01 16 37.6 +0.4**
comp=Z,94nm,2.0s
KHC Kasperske Hory 77.61 328 *e*P **P** **01 16 39.7 +2.5**
KHC *e*pP **pP** **01 16 43.4 +1.0**
KHC *e*S S 01 26 34.5 +6.2
KHC AMS AMS 01 49 20.0
comp=Z,2µm,24.9s
PRU Pruhonice 77.65 329 *e*P **P** **01 16 40.1 +2.7**
PRU *e*S **S** **01 26 30.3 +1.7**
PRU MLR MLR
comp=Z,2µm,27.2s
PRU Pruhonice 77.65 329 *e*P **P** **01 16 40.1 +2.7**
PRU *e*S **S** **01 26 30.3 +1.7**
PRU AMS AMS 01 50 00.0
comp=Z,2µm,27.2s
MOTA Moosalm 77.87 325 ⇑*i*P P 01 16 35.2 -3.6
comp=Z,25nm,0.9s
FETA Feichten 77.89 325 ⇑*i*P **P** **01 16 39.8 +0.8**
comp=Z,27nm,1.0s
FUORN Ofenpass-Fuorn 77.93 324 *e*P **P** **01 16 40.2 +0.9**
comp=Z,118nm,1.8s
PVCC Panska Ves 77.98 329 *e*P **P** **01 16 41.8 +2.6**
PVCC Panska Ves 77.98 329 *e*P **P** **01 16 41.8 +2.6**
SAOF Saorge 78.07 321 *e*P P 01 16 51.0 +11
SAOF Saorge 78.07 321 *e*P P 01 16 51.0 +11
SAOF Saorge 78.07 321 *e*P P 01 16 51.0 +11
SBF Sospel 78.08 321 *e*P **P** **01 16 40.0 0.0**
comp=Z,215nm,1.3s
VNDA Vanda 78.18 167 *e*P **P** **01 16 41.3 +1.4**
VNDA pmax pmax
comp=Z,77nm,1.9s
VNDA MLR MLR
comp=Z,3µm,21.0s
VNDA Vanda 78.18 167 *e*P **P** **01 16 41.3 +1.4**
comp=Z,77nm,1.9s
VNDA LR LR
comp=Z,3µm,21.0s
DAVOX Davos/Dischmat 78.23 324 LR LR 01 50 39.2
comp=Z,1µm,21.5s,baz=211,slow=35
MVIF Mont Vial 78.27 321 *e*P P 01 16 48.3 +7.1
MVIF Mont Vial 78.27 321 *e*P P 01 16 48.3 +7.1
MVIF Mont Vial 78.27 321 *e*P P 01 16 48.3 +7.1
TOUF Mont Tournerai 78.28 321 *e*P P 01 16 49.0 +7.8
TOUF Mont Tournerai 78.28 321 *e*P P 01 16 49.0 +7.8
TOUF Mont Tournerai 78.28 321 *e*P P 01 16 49.0 +7.8
HIA Hailar 78.35 33 *e*P **P** **01 16 43.3 +2.0**
HIA pmax pmax
comp=Z,16nm,1.0s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 78.35 33 *e*P **P** **01 16 43.3 +2.0**
comp=Z,16nm,1.0s
HIA LR LR
comp=Z,2µm,20.0s
TUE Stuetta 78.36 324 *e*P **P** **01 16 42.4 +0.7**
comp=Z,43nm,1.4s
TUE LR LR
comp=Z,1µm,20.0s
GKP Gorka Klasztor 78.49 333 *e*P P 01 16 46.9 +5.0
GKP Gorka Klasztor 78.49 333 *e*P P 01 16 46.9 +5.0
BRG Berggiesshubel 78.50 329 *e*P P 01 16 48.6 +6.5
comp=Z,42nm,1.8s
BRG *e* 01 16 57.0
comp=Z,64nm,1.7s
BRG S S 01 26 45.0 +7.3
BRG SS **SS** **01 31 48.0 +6.4**
BRG
comp=N,2µm,26.2s
BRG
comp=E,874nm,25.8s
BRG
comp=Z,1µm,23.7s
BRG Berggiesshubel 78.50 329 *e*P P 01 16 48.6 +6.5
BRG *e* 01 16 57.0
BRG S S 01 26 45.0 +7.3
BRG SS **SS** **01 31 48.0 +6.4**
BRG pmax pmax
comp=Z,43nm,1.8s
BRG pmax pmax
comp=Z,64nm,1.7s
BRG MLR MLR
comp=N,2µm,26.2s
BRG MLR MLR
comp=E,874nm,25.8s
BRG MLR MLR
comp=Z,1µm,23.7s
CN2 Changchun 78.56 39 *e*P **P** **01 16 44.8 +2.3**
CN2 *e*sP **sP** **01 16 51.8 +2.2**
CN2 *e*S **S** **01 26 39.8 +1.2**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1µm,25.0s
CN2 LR LR
comp=E,2µm,25.0s
CN2 LR LR
comp=Z,1µm,24.0s
VSU Vasula 78.56 340 ⇑*i*P **P** **01 16 43.0 +0.9**
VSU pmax pmax
comp=Z,28nm,1.0s
NKC Novy Kostel 78.87 328 *e*P P 01 16 47.9 +3.8
NKC Novy Kostel 78.87 328 *e*P P 01 16 47.9 +3.8
SBA Scott Base 79.15 168 PFAKE 01 17 00.0 +15
SBA LR LR
comp=Z,2µm,20.0s
BNI Bardonecchia 79.17 322 PFAKE 01 17 00.0 +14
BNI LR LR
comp=Z,2µm,19.0s
GRFO Grafenberg 79.18 327 *e*P **P** **01 16 48.6 +2.8**
GRFO pmax pmax
comp=Z,90nm,1.4s
GRFO Grafenberg 79.18 327 *e*P **P** **01 16 48.6 +2.8**
comp=Z,90nm,1.4s
TREF Trevaresse 79.23 320 *e*P P 01 16 58.9 +13
TREF Trevaresse 79.23 320 *e*P P 01 16 58.9 +13
CLL Collm 79.24 329 *e*P P 01 16 53.0 +6.9

CLL *i* 01 17 03.8
CLL *e*S **S** **01 26 48.0 +2.5**
CLL pmax pmax
comp=Z,128nm,2.2s
CLL Collm 79.24 329 *e*P **P** **01 16 48.0 +1.9**
CLL *e*P(2) 01 16 53.0
comp=Z,128nm,2.2s
CLL *i* 01 17 03.8
comp=Z,164nm,2.1s
CLL *e*PP PP 01 19 41.0 -5.1
CLL *e*S **S** **01 26 48.0 +2.5**
comp=N,1µm,26.5s
CLL *e*S **S** **01 26 48.0 +2.5**
comp=E,1µm,24.4s
CLL *e*PPS PPS 01 27 39.0
CLL *e* 01 30 30.0
CLL *e*SS SS 01 31 42.0 -11
CLL *e*SSS SSS 01 35 36.0
CLL *e*SSSS 01 37 43.0
SMRF Simiane la Rot 79.29 320 *e*P **P** **01 16 47.7 +1.1**
comp=E,208nm,1.6s
PMG Port Moresby 79.30 97 LR LR 01 48 05.0
comp=E,3µm,20.7s,baz=331,slow=33
PMG Port Moresby 79.30 97 *e*P **P** **01 16 48.5 +1.2**
PMG pmax pmax
comp=Z,42nm,0.8s
PMG Port Moresby 79.30 97 *e*P **P** **01 16 48.5 +1.2**
comp=Z,42nm,0.8s
LPG La Plagne 79.36 322 *e*P **P** **01 16 47.9 +0.6**
comp=Z,88nm,1.5s
LPL La Plagne 79.38 322 *e*P **P** **01 16 47.9 +0.6**
comp=Z,203nm,1.7s
ARMA Armidale 79.55 119 *e*P **P** **01 16 48.4 -0.2**
ARMA Armidale 79.55 119 *e*P **P** **01 16 51.3 +2.8**
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 79.58 321 *e*P **P** **01 16 48.5 +0.2**
comp=Z,141nm,1.5s
ORIF *e*R
comp=Z,1µm,22.5s
STU Stuttgart 79.74 326 *e*P P 01 16 52.2 +3.3
STU pmax pmax
comp=Z,17nm,0.9s
STU Stuttgart 79.74 326 *e*P P 01 16 52.2 +3.3
comp=Z,17nm,0.9s
FELD Feldberg im Sc 79.91 325 *e*P P 01 16 56.9 +6.9
BBS Basel-Blauen 79.96 324 *e*P P 01 16 56.9 +6.7
BBS Basel-Blauen 79.96 324 *e*P P 01 16 56.9 +6.7
BFO Black Forest 79.97 325 *e*P **P** **01 16 52.8 +2.6**
BFO pmax pmax
comp=Z,34nm,1.4s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 79.97 325 *e*P **P** **01 16 52.8 +2.6**
comp=Z,34nm,1.4s
BFO LR LR
comp=Z,1µm,19.0s
VIVF Saint-Julien-l 80.29 321 *e*P **P** **01 16 52.3 +0.3**
comp=Z,120nm,1.6s
LOMF Lomont 80.29 324 *e*P P 01 17 02.2 +10
LOMF Lomont 80.29 324 *e*P P 01 17 02.2 +10
LOMF Lomont 80.29 324 *e*P P 01 17 02.2 +10
CABF La Chapelle 80.33 323 *e*P **P** **01 16 52.5 +0.2**
comp=Z,126nm,1.4s
LASF Ste Croix 80.42 320 *e*P **P** **01 16 53.1 +0.4**
comp=Z,94nm,1.5s
TOD Tromm 80.42 326 *e*P P 01 16 58.3 +5.7
TOD Tromm 80.42 326 *e*P P 01 16 58.3 +5.7
HINF Hinteralfeld 80.53 324 *e*P **P** **01 16 52.6 -0.6**
comp=Z,81nm,1.5s
ECH Echery 80.57 325 PFAKE 01 17 10.0 +17
ECH LR LR
comp=Z,756nm,20.0s
SSB Saint Sauveur 80.58 321 *e*P **P** **01 16 55.3 +1.7**
SSB pmax pmax
comp=Z,104nm,1.7s
SSB Saint Sauveur 80.58 321 *e*P **P** **01 16 55.3 +1.7**
comp=Z,104nm,1.7s
CDF Champ du Feu 80.61 325 *e*P **P** **01 16 53.3 -0.4**
comp=Z,99nm,1.5s
JOF Joensuu 80.81 345 *e*P **P** **01 16 55.9 +1.6**
JOF pmax pmax
comp=Z,18nm,0.7s
JOF Joensuu 80.81 345 *ep* **P** **01 16 55.9 +1.6**
comp=Z,18nm,0.7s
JOF Joensuu 80.81 345 *ep* **P** **01 16 55.9 +1.6**
comp=Z,18nm,0.7s
HAU Haudompre 80.91 324 *e*P **P** **01 16 54.9 -0.4**
comp=Z,112nm,1.7s
HAU *e*R
comp=Z,1µm,21.0s
FINES FINESS Array B 81.09 342 P **P** **01 16 54.5 -1.3**
comp=Z,3.3nm,0.9s,baz=134,slow=7.9,SNR=2.3
FINES LR LR 01 53 47.4
comp=Z,2µm,21.0s,baz=136,slow=36
FINES FINESS Array B 81.09 342 P **P** **01 16 54.5 -1.3**
FINES FINESS Array B 81.09 342 P **P** **01 16 54.5 -1.3**
MTLF Montolieu 81.11 318 *e*P **P** **01 16 56.8 +0.4**
comp=Z,86nm,1.3s
BOD Bodaibo 81.22 24 *e*P **P** **01 16 54.9 -1.7**
BOD pmax pmax
comp=Z,22nm,1.6s
THEF They Montfort 81.24 324 *e*P P 01 17 02.7 +5.7
THEF They Montfort 81.24 324 *e*P P 01 17 02.7 +5.7
THEF They Montfort 81.24 324 *e*P P 01 17 02.7 +5.7
LBL Lubilhac 81.36 321 *e*P P 01 17 07.7 +10
LBL Lubilhac 81.36 321 *e*P P 01 17 07.7 +10
LBL Lubilhac 81.36 321 *e*P P 01 17 07.7 +10
PLDF La Plantade 81.49 321 *e*P P 01 17 04.8 +6.4
PLDF La Plantade 81.49 321 *e*P P 01 17 04.8 +6.4
PLDF La Plantade 81.49 321 *e*P P 01 17 04.8 +6.4
KAF Kangasniemi 81.54 342 *e*P **P** **01 17 00.5 +2.3**
KAF pmax pmax
comp=Z,23nm,0.8s
KAF Kangasniemi 81.54 342 *ep* **P** **01 17 00.5 +2.3**
comp=Z,23nm,0.8s
KAF Kangasniemi 81.54 342 *ep* **P** **01 17 00.5 +2.3**
comp=Z,23nm,0.8s
MDJ Mudanjiang 81.55 40 P **P** **01 16 59.1 +0.4**
MDJ pP **pP** **01 17 02.4 -1.5**
MDJ S **S** **01 27 09.8 -0.3**
MDJ sS **SKSac** **01 27 15.5 -2.3**
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ pmax pmax
comp=Z,170nm,3.7s
MDJ LR LR
comp=N,1µm,23.0s
MDJ LR LR
comp=E,960nm,23.0s
MDJ LR LR
comp=Z,2µm,22.6s
MDJ Mudanjiang 81.55 40 *e*P **P** **01 16 59.7 +1.1**
comp=Z,49nm,1.0s
MDJ LR LR
comp=Z,2µm,21.0s
PAGF Fort de Pagny 81.56 324 *e*P **P** **01 16 58.6 0.0**
comp=Z,13nm,0.9s
PYM Petit Puy Mans 81.75 321 *e*P P 01 17 09.6 +10
PYM Petit Puy Mans 81.75 321 *e*P P 01 17 09.6 +10
PYM Petit Puy Mans 81.75 321 *e*P P 01 17 09.6 +10
SFTF Sexfontaines 81.77 324 *e*P **P** **01 16 59.8 0.0**
comp=Z,225nm,1.6s
AGO Saint Agoulin 81.83 321 *e*P P 01 17 09.8 +10
AGO Saint Agoulin 81.83 321 *e*P P 01 17 09.8 +10
WLF Walferdange 81.90 325 PFAKE 01 17 10.0 +10
WLF LR LR
comp=Z,1µm,19.0s
MEZF Maizieres J'vi 81.91 324 *e*P **P** **01 17 01.0 +0.5**
comp=Z,188nm,1.5s
CAF Calviac 81.95 320 *e*P **P** **01 17 01.4 +0.6**
comp=Z,113nm,1.8s
LOR Lormes 81.98 323 *e*P **P** **01 17 00.9 -0.1**
comp=Z,194nm,1.9s
LOR *e*R
comp=Z,1µm,20.8s
AVF Avril sur Loir 82.05 322 *e*P **P** **01 17 01.0 -0.3**
comp=Z,44nm,1.3s
SSF Saint Saulge 82.09 322 *e*P **P** **01 17 01.5 0.0**
comp=Z,44nm,1.0s
EPF Esparros 82.19 318 *e*P **P** **01 17 02.5 +0.3**
BGF Bois d'Agland 82.24 322 *e*P **P** **01 17 03.3 +1.0**
comp=Z,174nm,1.4s
VLA Vladivostok 82.34 42 ⇓*i*P **P** **01 16 59.7 -3.1**
VLA *e* 01 17 04.7
VLA *e* 01 20 07.4

VLA eS S 01 27 14.9 -3.3
VLA pmax pmax
comp=Z,33nm,1.3s
RJF Les Rejaudoux 82.47 320 eP P 01 17 04.1 +0.6
comp=Z,134nm,1.4s
RJF eR
comp=Z,2μm,21.2s
TCF Toulx Ste Croi 82.50 321 eP P 01 17 03.6 -0.1
comp=Z,115nm,1.7s
GUMO Guam 82.59 74 LR LR 01 49 44.5
comp=Z,1μm,21.4s,baz=119,slow=33
ETSF Etsaut 82.72 317 eP P 01 17 05.7 +0.7
comp=Z,146nm,1.6s
USRK Ussuriysk Arra 82.89 41 P P 01 17 02.0 -3.6
comp=Z,4.0nm,0.9s,baz=275,slow=3.7,SNR=3.4
USRK LR LR 01 56 48.0
comp=Z,925nm,18.2s,baz=49,slow=38
BAIF Baives 83.18 325 eP P 01 17 07.6 +0.5
comp=Z,145nm,1.5s
SJPF Ste Jean 83.25 317 eP P 01 17 08.4 +0.7
comp=Z,226nm,1.6s
ESDC Sonseca Array 83.72 313 P P 01 17 10.2 0.0
comp=Z,3.8nm,0.8s,baz=84,slow=3.8,SNR=12
ESDC LR LR 01 54 27.1
comp=Z,2μm,21.4s,baz=120,slow=36
ESDC Sonseca Array 83.72 313 P P 01 17 10.2 0.0
ESLA Sonseca Array 83.72 313 eP P 01 17 12.3 +2.1
comp=Z,26nm,1.4s
ESLA LR LR
comp=Z,16μm,20.0s
PAB San Pablo 83.94 313 eP P 01 17 13.3 +1.9
PAB pmax pmax
comp=Z,63nm,1.4s
PAB MLR MLR
comp=Z,3μm,20.0s
PAB San Pablo 83.94 313 eP P 01 17 13.3 +1.9
comp=Z,63nm,1.4s
PAB LR LR
comp=Z,3μm,20.0s
MFF Saint Martin d 84.09 321 eP P 01 17 12.1 +0.3
comp=Z,206nm,1.7s
MAJO Matsushiro 84.13 50 eP P 01 17 08.9 -3.4
MAJO pmax pmax
comp=Z,22nm,1.1s
MAJO MLR MLR
comp=Z,2μm,19.0s
MAJO Matsushiro 84.13 50 eP P 01 17 08.9 -3.4
comp=Z,22nm,1.1s
MAJO LR LR
comp=Z,2μm,19.0s
MAT Matsushiro 84.13 50 P P 01 17 13.7 +1.4
MAT S S 01 27 35.0 -1.8
MJAR Matsushiro Arr 84.13 50 P P 01 17 09.8 -2.5
comp=Z,12nm,0.9s,baz=242,slow=6.7,SNR=12
MJAR LR LR 01 55 12.2
comp=Z,1μm,20.4s,baz=240,slow=36
MJAR Matsushiro Arr 84.13 50 P P 01 17 09.8 -2.5
MJAR Matsushiro Arr 84.13 50 P P 01 17 09.8 -2.5
SFS San Fernando 84.14 309 PFAKE 01 17 20.0 +7.7
SFS LR LR
comp=Z,15μm,20.0s
APA Apatity 84.25 348⇑ eP P 01 17 07.0 -5.1
APA MLR MLR
comp=Z,4μm,24.0s
LVZ Lovozero 84.28 349 PFAKE 01 17 20.0 +7.6
LVZ LR LR
comp=Z,2μm,20.0s
CLNS Chul'man 85.25 28 eP P 01 17 19.8 +2.3
CLNS e 01 17 24.7
CLNS eS S 01 27 40.0 -7.2
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS pmax pmax
comp=N,6.0nm,1.3s
CLNS pmax pmax
comp=Z,2.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,1.2s
CLNS smax smax
comp=E,591nm,13.1s
CLNS smax smax
comp=N,387nm,12.6s
CLNS MLR MLR
comp=N,2μm,16.0s
CLNS MLR MLR
comp=E,2μm,15.0s
CLNS MLR MLR
comp=Z,2μm,14.0s
PVAQ Vaqueiros 85.61 310 eLQ LQ 01 40 20.0
PVAQ eLR LR 01 46 47.2
comp=Z,3μm,22.0s
NB2 NORSAR Subarra 85.97 336 P P 01 17 26.8 +5.8
comp=Z,17nm,1.4s,baz=105,slow=9.3
NOA NORSAR Array B 85.97 336 P P 01 17 20.7 -0.3
comp=Z,4.2nm,0.9s,baz=116,slow=4.6,SNR=3.0
NOA NORSAR Array B 85.97 336 P P 01 17 20.7 -0.3
NOA NORSAR Array B 85.97 336 P P 01 17 20.7 -0.3
PESTR Estremoz 86.03 311 eP P 01 17 25.6 +3.8
comp=Z,85nm,1.9s
PMRV Marv??o 86.09 312 eLQ LQ 01 43 19.6
PMRV eLR LR 01 46 55.9
comp=Z,3μm,20.0s
EVO Evora 86.22 311 eP P 01 17 29.9 +7.2
comp=Z,50nm,2.0s
EVO Evora 86.22 311 eP P 01 17 23.3 +0.6
comp=Z,150nm,1.5s
EVO eR
comp=Z,6μm,22.5s
MORF Marmelete 86.28 310 eP P 01 17 26.6 +3.5
comp=Z,103nm,1.6s
BBTS Babate 86.36 286 LR LR 01 54 39.0
comp=Z,4μm,20.7s,baz=292,slow=35
MVO Moncorvo 86.45 314 eLQ LQ 01 42 24.4
MVO eLR LR 01 48 25.8
comp=Z,2μm,22.0s
PNCL Nicolau / Gran 86.46 310 eP P 01 17 28.6 +4.7
comp=Z,64nm,1.5s
MTE Manteigas 86.54 313 eLR LR 01 51 35.0
comp=Z,3μm,20.0s
MTE Manteigas 86.54 313 PFAKE 01 17 40.0 +16
MTE LR LR
comp=Z,3μm,20.0s
PMTG Montargil 86.57 311 eP P 01 17 32.7 +8.3
comp=Z,97nm,1.6s
HABR Khabarovsk 86.64 38 eP P 01 17 23.8 -0.7
HABR e*SP sP 01 17 26.2 -5.4
HABR e 01 20 42.5
HABR S **SKSac** 01 27 47.1 -3.5
HABR SS **SS** 01 33 39.1 -3.4
HABR pmax pmax
comp=Z,139nm,2.2s
HABR pmax pmax
comp=E,84nm,1.8s
HABR pmax pmax
comp=N,122nm,3.0s
HABR MLR MLR
comp=Z,2μm,19.0s
KEV Kevo 87.38 347 PFAKE 01 17 40.0 +12
KEV LR LR
comp=Z,2μm,21.0s
ARCES ARCESS Array B 87.54 347 P P 01 17 28.3 -0.2
comp=Z,9.0nm,0.7s,baz=145,slow=3.5,SNR=12
ARCES LR LR 01 58 00.7
comp=Z,912nm,18.2s,baz=140,slow=36
ARCES ARCESS Array B 87.54 347 P P 01 17 28.3 -0.2
ARCES ARCESS Array B 87.54 347 P P 01 17 28.2 -0.2
PGAV Gavieira, Arco 87.60 314 eLQ LQ 01 41 27.1
PGAV eLR LR 01 48 31.2
comp=Z,2μm,18.0s
ERM Erimo 89.61 47 PFAKE 01 17 50.0 +11
ERM LR LR
comp=Z,2μm,21.0s
YAK Yakutsk 90.05 25 eP P 01 17 51.0 +11
YAK e 01 17 55.7
YAK eS SKSac 01 28 18.6 +8.1
YAK eSS **SS** **01 34 30.0 -1.6**
YAK eSSS SSS 01 38 04.3
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK smax smax
comp=E,850nm,12.9s
YAK smax smax
comp=N,294nm,8.8s
YAK MLR MLR
comp=E,3μm,19.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=Z,4μm,20.0s
YAK Yakutsk 90.05 25 PFAKE 01 17 50.0 +10
YAK LR LR
comp=Z,3μm,20.0s
YSS Yuzh-Sakhalins 90.91 42 eP P **01 17 45.3 +0.5**
YSS eS S **01 28 39.0 -2.3**
YSS MLR MLR
comp=Z,1μm,18.0s
YSS MLR MLR
comp=E,1μm,20.0s
YSS Yuzh-Sakhalins 90.91 42 eP P **01 17 45.0 +0.2**
YSS LR LR
comp=Z,511nm,21.0s
HNR Honiara 91.59 100 LR LR 01 51 35.2
comp=Z,1μm,19.4s,baz=352,slow=31
SACV Santiago Islan 93.07 285 PFAKE 01 18 10.0 +14
SACV LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 93.38 199 PFAKE 01 18 10.0 +14
PMSA LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 94.39 114 ePP PP 01 21 38.7 -10
comp=Z,167nm,25.5s
DZM eSP SP 01 30 26.5 -1.8
comp=Z,4μm,29.7s
DZM eSS **SS** **01 35 39.6 +4.2**
comp=Z,3μm,31.1s
DZM eLQ LQ 01 44 34.7
comp=Z,7μm,35.1s
DZM eLR LR 01 48 37.7
comp=Z,8μm,26.1s
SNZO South Karori 94.71 134 PFAKE 01 18 20.0 +17
SNZO LR LR
comp=Z,2μm,19.0s
SPITS Spitsbergen Ar 95.57 351 LR LR 02 01 23.3
comp=Z,1μm,21.8s,baz=105,slow=36
KBS Kingsbay 96.73 351 PFAKE 01 18 20.0 +9.1
KBS LR LR
comp=Z,2μm,21.0s
JMIC Jan Mayen 97.70 341 LR LR 01 56 50.3
comp=Z,895nm,21.9s,baz=97,slow=32
EFI East Falkland 99.10 211 PFAKE 01 18 40.0 +18
EFI LR LR
comp=Z,1μm,20.0s
CMLA Cha da Macela 99.34 307 PFAKE 01 18 40.0 +16
CMLA LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 100.18 261 PFAKE 01 18 40.0 +12
RCBR LR LR
comp=Z,3μm,21.0s
SEY Seymchan 100.25 28⇑ eP **Pdif** **01 18 27.8 +0.9**
PET Petropavlovsk 102.22 38 PFAKE 01 18 50.0 +14
PET LR LR
comp=Z,3μm,19.0s
SPB Sao Paulo 105.25 241 PFAKE 01 23 20.0
SPB LR LR
comp=Z,1μm,19.0s
MSVF Nonsavu 106.10 113 PFAKE 01 23 20.0
MSVF LR LR
comp=Z,4μm,20.0s
BILL Bilibino 106.25 23 PFAKE 01 23 20.0
BILL LR LR
comp=Z,3μm,22.0s
TRQA Tornquist 109.30 221 PFAKE 01 23 30.0
TRQA LR LR
comp=Z,949nm,20.0s
FUNA Funafuti 110.14 104 PFAKE 01 23 30.0
FUNA LR LR
comp=Z,5μm,20.0s
CPUP Villa Florida 112.19 234 PFAKE 01 23 30.0
CPUP LR LR
comp=Z,146nm,20.0s
SFJD Kangerlussuaq 112.63 338 PFAKE 01 23 30.0
SFJD LR LR
comp=Z,2μm,22.0s
PLCA Paso Flores 112.72 214 PFAKE 01 23 30.0
PLCA LR LR
comp=Z,609nm,19.0s
AFI Afiamalu 116.61 113 PFAKE 01 23 40.0 +14
AFI LR LR
comp=Z,3μm,21.0s
RES Resolute Bay 117.90 354 PKP **PKPdf** **01 23 26.3 -0.6**
comp=Z,2.8nm,0.7s,baz=56,slow=4.3,SNR=15
RES Resolute Bay 117.90 354 PKIKP **PKPdf** **01 23 26.3 -0.6**
RES Resolute Bay 117.90 354 PKP **PKPdf** **01 23 26.3 -0.6**
LCO Las Campanas 120.57 224 PFAKE 01 23 50.0 +16
LCO LR LR
comp=Z,738nm,19.0s
FRB Frobisher Bay 120.75 338 PKP **PKPdf** **01 23 31.7 -0.9**
comp=Z,3.6nm,0.8s,baz=51,slow=5.8,SNR=6.4
FRB Frobisher Bay 120.75 338 PKIKP **PKPdf** **01 23 31.7 -0.9**
FRB Frobisher Bay 120.75 338 PKP **PKPdf** **01 23 31.7 -0.9**
LVC Limon Verde 123.11 231 PFAKE 01 23 50.0 +11
LVC LR LR
comp=Z,700nm,22.0s
COLA College 123.67 17 PFAKE 01 23 50.0 +12
COLA LR LR
comp=Z,3μm,21.0s
INK Inuvik 123.78 9 PKP **PKPdf** **01 23 36.0 -2.3**
comp=Z,6.4nm,0.9s,baz=275,slow=1.5,SNR=8.5
INK Inuvik 123.78 9 PKIKP **PKPdf** **01 23 36.0 -2.3**
INK e 01 23 39.3
INK Inuvik 123.78 9 PKP **PKPdf** **01 23 36.0 -2.3**
INK ePKPdf **PKiKP** **01 23 39.3 +0.7**
ILAR Eielson Array 124.02 16 PKP **PKPdf** **01 23 35.4 -3.6**
comp=Z,2.5nm,0.9s,baz=299,slow=3.0,SNR=16
ILAR Eielson Array 124.02 16 PKIKP **PKPdf** **01 23 35.4 -3.6**
ILAR Eielson Array 124.02 16 PKP **PKPdf** **01 23 35.4 -3.6**
SCHQ Schefferville 124.89 329 PKP **PKPdf** **01 23 39.3 -1.6**
comp=Z,3.2nm,1.0s,baz=74,slow=4.8,SNR=2.6
SCHQ Schefferville 124.89 329 PKP **PKPdf** **01 23 39.3 -1.6**
SCHQ LR LR
comp=Z,2μm,21.0s
EGAK Eagle 125.47 14 ePKPdf **PKPdf** **01 23 44.7 +3.0**
EGAK LR LR
comp=Z,2μm,22.0s
LPAZ La Paz 125.89 238 PKP **PKPdf** **01 23 42.7 -2.0**
comp=Z,2.0nm,1.0s,baz=45,slow=5.4,SNR=2.4
LPAZ La Paz 125.89 238 PKIKP **PKPdf** **01 23 42.7 -2.0**
LPAZ e 01 23 47.6
LPAZ MLR MLR
comp=Z,1μm,20.0s
LPAZ La Paz 125.89 238 PKP **PKPdf** **01 23 42.7 -2.0**
LPAZ ePKPdf **PKiKP** **01 23 47.6 +2.5**
LPAZ LR LR
comp=Z,1μm,20.0s
DAWY Dawson 126.48 14 ePKPdf **PKPdf** **01 23 45.1 +1.4**
KDAK Kodiak Island 127.08 25 PFAKE 01 24 00.0 +15
KDAK LR LR
comp=Z,3μm,20.0s
BBGH Gun Hill 127.15 276 PFAKE 01 24 00.0 +14
BBGH LR LR
comp=Z,2μm,21.0s
FDF Fort de France 128.86 278 PFAKE 01 24 00.0 +10
FDF LR LR
comp=Z,738nm,20.0s
GRGR Grenville 129.05 275 PFAKE 01 24 00.0 +10
GRGR LR LR
comp=Z,889nm,21.0s
TBI Tubuai 129.53 136 eSS SS 01 43 26.8 +5.2
comp=Z,1μm,30.0s
TBI eLQ LQ 01 58 19.2
comp=Z,2μm,38.2s
TBI eLR LR 02 04 55.8
comp=Z,1μm,24.8s
ANWB Willy Bob 129.69 282 PFAKE 01 24 00.0 +8.9
ANWB LR LR
comp=Z,1μm,20.0s
PKME Peaks-Kenny Pk 130.74 319 PFAKE 01 24 10.0 +18
PKME LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 131.07 0 PKP **PKPdf** **01 23 49.5 -2.9**
comp=Z,2.4nm,0.8s,baz=348,slow=2.2,SNR=9.8
YKA PP **PP** **01 26 10.6 +1.8**
comp=Z,1.6nm,0.9s,baz=2.8,slow=6.5,SNR=6.2
YKA Yellowknife Ar 131.07 0 PKIKP **PKPdf** **01 23 49.5 -2.9**
YKA 01 26 10.7
YKA Yellowknife Ar 131.07 0 PKP **PKPdf** **01 23 49.5 -2.9**
YKA PP **PP** **01 26 10.7 +1.8**
BBSR BB Station 131.35 301 PFAKE 01 24 10.0 +16
BBSR LR LR
comp=Z,1μm,20.0s
PPT2 Papeete2 133.21 130 eSS SS 01 44 04.5 -2.8
comp=Z,700nm,29.5s
PPT2 eLQ LQ 01 59 39.9
comp=Z,4μm,39.8s
PPT2 eLR LR 02 06 28.1
comp=Z,2μm,24.8s
SJG San Juan 133.86 282 PFAKE 01 24 10.0 +11
SJG LR LR
comp=Z,1μm,21.0s
WRAK Wrangell Islan 134.89 14 PFAKE 01 24 10.0 +10
WRAK LR LR
comp=Z,1μm,20.0s
NNA Nana 135.32 237 PFAKE 01 24 20.0 +18
NNA LR LR
comp=Z,1μm,19.0s
XMAS Kiritimati 135.53 101 PFAKE 01 24 20.0 +18
XMAS LR LR
comp=Z,2μm,19.0s
BINY Binghamton 136.46 318 PFAKE 01 24 20.0 +17
BINY LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 137.28 269 PFAKE 01 24 20.0 +14
SDV LR LR
comp=Z,338nm,20.0s
FFC Flin Flon 137.80 350c iPKIKP **PKPdf** **01 24 09.2 +3.9**
FFC Flin Flon 137.80 350 PFAKE 01 24 20.0 +15
FFC LR LR
comp=Z,1μm,21.0s
RKT Rikitea 138.20 150 eSS SS 01 45 02.2 -3.2
comp=Z,837nm,42.8s
RKT eLQ LQ 02 02 55.0
comp=Z,2μm,44.0s
RKT eLR LR 02 08 48.9
comp=Z,4μm,31.5s
RKT Rikitea 138.20 150 eT T 03 57 03.8
SDDR Presa de Saban 138.74 283 PFAKE 01 24 20.0 +12
SDDR LR LR
comp=Z,1μm,20.0s
ERPA Erie 139.03 321 PFAKE 01 24 20.0 +12
ERPA LR LR
comp=Z,1μm,20.0s
CBN Corbin 139.30 314 PFAKE 01 24 20.0 +11
CBN LR LR
comp=Z,1μm,22.0s
ROSC El Rosal 139.99 261 ePKPdf **PKPdf** **01 24 15.7 +4.7**
GLMI Grayling 140.02 327 PFAKE 01 24 20.0 +10
GLMI LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 140.48 342 PKP **PKPdf** **01 24 07.6 -2.7**
comp=Z,5.2nm,0.9s,baz=324,slow=1.9,SNR=4.5
ULM Lac du Bonnet 140.48 342 PKIKP **PKPdf** **01 24 07.6 -2.7**
ULM e 01 24 12.3
ULM MLR MLR
comp=Z,2μm,22.0s
ULM Lac du Bonnet 140.48 342 PKP **PKPdf** **01 24 07.6 -2.7**
ULM ePKPdf **PKiKP** **01 24 12.3 -0.5**
ULM LR LR
comp=Z,2μm,22.0s
EYMN Ely 140.89 336 PFAKE 01 24 20.0 +8.8
EYMN LR LR
comp=Z,2μm,22.0s
CNNC Cliffs of the 140.96 310 PFAKE 01 24 20.0 +8.4
CNNC LR LR
comp=Z,2μm,20.0s
BLA Blacksburg 141.89 314 ePKIKP **PKPdf** **01 24 16.6 +3.3**
BLA MLR MLR
comp=Z,1μm,21.0s
BLA Blacksburg 141.89 314 ePKPdf **PKPdf** **01 24 16.6 +3.3**
BLA LR LR
comp=Z,1μm,21.0s
ACSO Alum Creek Sta 141.96 320 PFAKE 01 24 30.0 +17
ACSO LR LR
comp=Z,1μm,22.0s
AGMN Agassiz Nation 142.19 340 PFAKE 01 24 30.0 +17
AGMN LR LR
comp=Z,1μm,21.0s
GTBY Guantanamo Bay 142.30 285 PFAKE 01 24 30.0 +16
GTBY LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 142.44 252 ePKPdf **PKPdf** **01 24 15.9 +0.4**
OTAV LR LR
comp=Z,2μm,20.0s
NHSC New Hope 143.57 308 PFAKE 01 24 30.0 +14
NHSC LR LR
comp=Z,2μm,20.0s
JSC Jenkinsville 143.88 311 ePKIKP **PKPdf** **01 24 19.8 +3.0**
JSC Jenkinsville 143.88 311 ePKPdf **PKPdf** **01 24 19.8 +3.0**
A22A Carney Farms, 143.99 351⇑P **PKPdf** **01 24 16.2 -0.5**
baz=144
A22A ⇑P **PKPdf** **01 24 16.2 -0.5**
baz=144
A22A ⇑P **PKPdf** **01 24 16.2 -0.5**
baz=144
PGC Sidney 144.08 11 ePKPdf **PKPdf** **01 24 18.4 +1.7**
A21A Bergtoll Ranch 144.13 352⇑P **PKPdf** **01 24 16.3 -0.7**
baz=144
A21A ⇑P **PKPdf** **01 24 16.3 -0.7**
baz=144
A21A ⇑P **PKPdf** **01 24 16.3 -0.7**
baz=144
DGMT Dagmar 144.20 349 ePKPdf **PKPdf** **01 24 16.3 -0.8**
DGMT LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 144.20 349⇑P **PKPdf** **01 24 16.4 -0.6**
baz=144
DGMT ⇑P **PKPdf** **01 24 16.4 -0.6**
baz=144
DGMT ⇑P **PKPdf** **01 24 16.4 -0.6**
baz=144
JFWS Jewell Farm 144.25 330 ePKIKP **PKPdf** **01 24 17.1 -0.1**
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS Jewell Farm 144.25 330 ePKPdf **PKPdf** **01 24 17.1 -0.1**
JFWS LR LR
comp=Z,2μm,20.0s
SFIN Scholer Farm 144.34 324⇑P **PKPdf** **01 24 17.4 -0.1**
baz=144
SFIN ⇑P **PKPdf** **01 24 17.4 -0.1**
baz=144
SFIN ⇑P **PKPdf** **01 24 17.4 -0.1**
baz=144
B23A Brockton 144.35 350⇑P PKPbc 01 24 16.3 +0.7
baz=144
B23A ⇑P PKPbc 01 24 16.3 +0.7
baz=144
B23A ⇑P PKPbc 01 24 16.3 +0.7
baz=144
A20A Cobblestone Ra 144.37 353⇑P PKPbc 01 24 16.6 +0.9
baz=144
A20A ⇑P PKPbc 01 24 16.6 +0.9
baz=144
A20A ⇑P PKPbc 01 24 16.6 +0.9
baz=144
TZTN Tazewell 144.39 316 ePKPdf **PKPdf** **01 24 18.8 +1.1**
A19A Klindworth Far 144.41 354⇓P **PKPdf** **01 24 17.1 -0.3**
baz=144
A19A ⇓P **PKPdf** **01 24 17.1 -0.3**
baz=144
A19A ⇓P **PKPdf** **01 24 17.1 -0.3**
baz=144
A18A Metzger Ranch, 144.51 355⇓P PKPbc 01 24 16.7 +0.5
baz=144
A18A ⇓P PKPbc 01 24 16.7 +0.5
baz=144
A18A ⇓P PKPbc 01 24 16.7 +0.5
baz=144
A17A Triple J Farms 144.55 356⇓P PKPbc 01 24 16.6 +0.3
baz=144
A17A ⇓P PKPbc 01 24 16.6 +0.3
baz=144
A17A ⇓P PKPbc 01 24 16.6 +0.3
baz=144
A16A West Butte Ran 144.60 357⇑P **PKPdf** **01 24 17.6 -0.2**
baz=144
A16A ⇑P **PKPdf** **01 24 17.6 -0.2**
baz=144
A16A ⇑P **PKPdf** **01 24 17.6 -0.2**
baz=144
A12A Yaak River Ran 144.64 2⇑P **PKPdf** **01 24 19.5 +1.7**
baz=144
A12A ⇑P **PKPdf** **01 24 19.5 +1.7**
baz=144

A12A				⇑P		PKPdf	01 24 19.5	+1.7	
	baz=144								
B22A	**Reddig Ranch S**	**144.67**	**351**	⇓P		**PKPdf**	**01 24 18.9**	**+0.9**	
B22A	baz=144			⇓P		PKPdf	01 24 18.9	+0.9	
B22A	baz=144			⇓P		PKPdf	01 24 18.9	+0.9	
B21A	**Ellsworth Farm**	**144.70**	**352**	⇓P		**PKPdf**	**01 24 18.6**	**+0.7**	
B21A	baz=144			⇓P		PKPdf	01 24 18.6	+0.7	
B21A	baz=144			⇓P		PKPdf	01 24 18.6	+0.7	
BLO	**Bloomington**	**144.78**	**322**	*e*PKIKP		**PKPdf**	**01 24 19.4**	**+1.1**	
BLO	**Bloomington**	**144.78**	**322**	*e*PKPdf		**PKPdf**	**01 24 19.4**	**+1.1**	
JCW	**Jim Creek**	**144.78**	**9**	*e*PKPdf		**PKPdf**	**01 24 18.6**	**+0.5**	
B20A	**Solberg Farm,**	**144.81**	**353**	⇓P		**PKPdf**	**01 24 18.7**	**+0.6**	
B20A	baz=144			⇓P		PKPdf	01 24 18.7	+0.6	
B20A	baz=144			⇓P		PKPdf	01 24 18.7	+0.6	
B19A	**Brinkman Farms**	**144.90**	**354**	⇑P		**PKPdf**	**01 24 18.2**	**-0.1**	
B19A	baz=144			⇑P		PKPdf	01 24 18.2	-0.1	
B19A	baz=144			⇑P		PKPdf	01 24 18.2	-0.1	
TKL	**Tuckaleechee C**	**145.01**	**314**	PKPbc		**PKPdf**	**01 24 15.6**	**-3.2**	
	comp=Z,3.8nm,0.8s,baz=67,slow=7.7,SNR=2.7								
TKL	**Tuckaleechee C**	**145.01**	**314**	PKHKP		**PKPdf**	**01 24 15.6**	**-3.2**	
TKL				*e*			01 24 20.4		
TKL	**Tuckaleechee C**	**145.01**	**314**	PKPbc		**PKPdf**	**01 24 15.6**	**-3.2**	
TKL				*e*PKPdf		**PKPab**	**01 24 20.4**	**+2.3**	
C23A	**Lambert**	**145.02**	**350**	⇓P		**PKPdf**	**01 24 19.1**	**+0.6**	
C23A	baz=145			⇓P		PKPdf	01 24 19.1	+0.6	
C23A	baz=145			⇓P		PKPdf	01 24 19.1	+0.6	
B12A	**Libby**	**145.10**	**2**	⇓P		**PKPdf**	**01 24 19.3**	**+0.6**	
B12A	baz=145			⇓P		PKPdf	01 24 19.3	+0.6	
B12A	baz=145			⇓P		PKPdf	01 24 19.3	+0.6	
B16A	**M & M Farms, S**	**145.14**	**357**	⇑P		**PKPdf**	**01 24 19.3**	**+0.6**	
B16A	baz=145			⇑P		PKPdf	01 24 19.3	+0.6	
B16A	baz=145			⇑P		PKPdf	01 24 19.3	+0.6	
C24A	**Savage**	**145.14**	**349**	⇓P		**PKPbc**	**01 24 16.3**	**-1.9**	
C24A	baz=145			⇓P		PKPbc	01 24 16.3	-1.9	
C24A	baz=145			⇓P		PKPbc	01 24 16.3	-1.9	
C22A	**Vida**	**145.19**	**350**	⇓P		**PKPbc**	**01 24 16.5**	**-1.9**	
C22A	baz=145			⇓P		PKPbc	01 24 16.5	-1.9	
C22A	baz=145			⇓P		PKPbc	01 24 16.5	-1.9	
B17A	**L&G Farms, Che**	**145.21**	**356**	⇑P		**PKPab**	**01 24 18.8**	**+0.2**	
B17A	baz=145			⇑P		PKPab	01 24 18.8	+0.2	
B17A	baz=145			⇑P		PKPab	01 24 18.8	+0.2	
NLWA	**Neilton Lookou**	**145.21**	**12**	*e*PKPdf		**PKPdf**	**01 24 20.8**	**+2.0**	
NLWA				LR		LR			
	comp=Z,2μm,20.0s								
WCI	**Wyandotte Cave**	**145.22**	**320**	*e*PKIKP		**PKPdf**	**01 24 20.3**	**+1.2**	
WCI	**Wyandotte Cave**	**145.22**	**320**	*e*PKPdf		**PKPdf**	**01 24 20.3**	**+1.2**	
B13A	**Whitefish**	**145.22**	**1**	⇓P		**PKPdf**	**01 24 19.2**	**+0.3**	
B13A	baz=145			⇓P		PKPdf	01 24 19.2	+0.3	
B13A	baz=145			⇓P		PKPdf	01 24 19.2	+0.3	
B14A	**Marquette Ranc**	**145.23**	**359**	⇓P		**PKPdf**	**01 24 19.1**	**+0.1**	
B14A	baz=145			⇓P		PKPdf	01 24 19.1	+0.1	
B14A	baz=145			⇓P		PKPdf	01 24 19.1	+0.1	
NEW	**Newport**	**145.24**	**4**	*e*PKIKP		**PKPbc**	**01 24 17.5**	**-1.0**	
NEW				MLR		MLR			
	comp=Z,1μm,22.0s								
NEW	**Newport**	**145.24**	**4**	*e*PKPdf		**PKPbc**	**01 24 17.5**	**-1.0**	
NEW				LR		LR			
	comp=Z,1μm,22.0s								
NEW	**Newport**	**145.24**	**4**	⇓P		**PKPdf**	**01 24 19.3**	**+0.5**	
NEW	baz=145			⇓P		PKPdf	01 24 19.3	+0.5	
NEW	baz=145			⇓P		PKPdf	01 24 19.3	+0.5	
GNW	**Green Mountain**	**145.24**	**11**	*e*PKPdf		**PKPdf**	**01 24 22.0**	**+3.2**	
B15A	**Bradely Ranch,**	**145.27**	**358**	⇓P		**PKPbc**	**01 24 18.7**	**0.0**	
B15A	baz=145			⇓P		PKPbc	01 24 18.7	0.0	
B15A	baz=145			⇓P		PKPbc	01 24 18.7	0.0	
EGMT	**Eagleton**	**145.40**	**355**	*e*PKPdf		**PKPab**	**01 24 20.8**	**+1.6**	
EGMT				LR		LR			
	comp=Z,1μm,20.0s								
EGMT	**Eagleton**	**145.40**	**355**	⇑P		**PKPab**	**01 24 19.6**	**+0.4**	
EGMT	baz=145			⇑P		PKPab	01 24 19.6	+0.4	
EGMT	baz=145			⇑P		PKPab	01 24 19.6	+0.4	
D24A	**Glendive**	**145.52**	**348**	⇑P		**PKPab**	**01 24 20.2**	**+0.5**	
D24A	baz=145			⇑P		PKPab	01 24 20.2	+0.5	
D24A	baz=145			⇑P		PKPab	01 24 20.2	+0.5	
C20A	**Veseth Ranch,**	**145.53**	**353**	⇓P		**PKPab**	**01 24 20.3**	**+0.6**	
C20A	baz=145			⇓P		PKPab	01 24 20.3	+0.6	
C20A	baz=145			⇓P		PKPab	01 24 20.3	+0.6	
WTV	**Waterville**	**145.54**	**7**	P		**PKPab**	**01 24 21.5**	**+1.8**	
ETW	**Entiat**	**145.58**	**8**	*e*PKPdf		**PKPbc**	**01 24 20.0**	**+0.2**	
C19A	**Slack Wire Ran**	**145.62**	**354**	⇓P		**PKPab**	**01 24 20.1**	**+0.1**	
C19A	baz=145			⇓P		PKPab	01 24 20.1	+0.1	
C19A	baz=145			⇓P		PKPab	01 24 20.1	+0.1	
CPCT	**Cooper Cave**	**145.64**	**315**	*e*PKPdf		**PKPab**	**01 24 21.3**	**+0.8**	
YBMT	**Yellow Bay**	**145.74**	**0**	*e*PKPdf		**PKPab**	**01 24 22.1**	**+1.6**	
BSMT	**Bassoo Peak**	**145.74**	**1**	*e*PKPdf		**PKPab**	**01 24 20.8**	**+0.2**	
C16A	**Fuhringer Ranc**	**145.75**	**357**	⇓P		**PKPab**	**01 24 21.3**	**+0.8**	
C16A	baz=145			⇓P		PKPab	01 24 21.3	+0.8	
C16A	baz=145			⇓P		PKPab	01 24 21.3	+0.8	
C15A	**Salmond Ranch,**	**145.81**	**358**	⇓P		**PKPab**	**01 24 21.3**	**+0.5**	
C15A	baz=145			⇓P		PKPab	01 24 21.3	+0.5	
C15A	baz=145			⇓P		PKPab	01 24 21.3	+0.5	
D22A	**Cohagen**	**145.82**	**351**	⇓P		**PKPab**	**01 24 21.9**	**+1.1**	
D22A	baz=145			⇓P		PKPab	01 24 21.9	+1.1	
D22A	baz=145			⇓P		PKPab	01 24 21.9	+1.1	
C14A	**Swan Lake**	**145.83**	**360**	⇑P		**PKPab**	**01 24 21.7**	**+0.8**	
C14A	baz=145			⇑P		PKPab	01 24 21.7	+0.8	
C14A	baz=145			⇑P		PKPab	01 24 21.7	+0.8	
JTMT	**Jette**	**145.85**	**0**	*e*PKPdf		**PKPab**	**01 24 21.4**	**+0.4**	
C17A	**Wharram Farm,**	**145.86**	**356**	⇑P		**PKPab**	**01 24 21.4**	**+0.4**	
C17A	baz=145			⇑P		PKPab	01 24 21.4	+0.4	
	baz=145								
C17A				⇑P		PKPab	01 24 21.4	+0.4	
	baz=145								
C12B	**Naegeli Ranch,**	**145.87**	**2**	⇑P		**PKPab**	**01 24 20.9**	**-0.1**	
C12B	baz=145			⇑P		PKPab	01 24 20.9	-0.1	
C12B	baz=145			⇑P		PKPab	01 24 20.9	-0.1	
OD2	**Odessa Site #2**	**145.98**	**6**	*e*PKPdf		**PKPbc**	**01 24 20.7**	**-0.2**	
OLIL	**Olney**	**146.00**	**322**	*e*PKPdf		**PKPab**	**01 24 22.7**	**+1.0**	
D21A	**La Casta Ranch**	**146.03**	**351**	⇓P		**PKPab**	**01 24 22.7**	**+1.1**	
D21A	baz=146			⇓P		PKPab	01 24 22.7	+1.1	
D21A	baz=146			⇓P		PKPab	01 24 22.7	+1.1	
E24A	**Baker**	**146.05**	**348**	⇓P		**PKPab**	**01 24 23.4**	**+1.7**	
E24A	baz=146			⇓P		PKPab	01 24 23.4	+1.7	
E24A	baz=146			⇓P		PKPab	01 24 23.4	+1.7	
SWMT	**Swartz Lake**	**146.09**	**0**	*e*PKPdf		**PKPbc**	**01 24 21.4**	**+0.1**	
D20A	**Manuel Ranch,**	**146.15**	**353**	⇓P		**PKPab**	**01 24 22.9**	**+0.9**	
D20A	baz=146			⇓P		PKPab	01 24 22.9	+0.9	
D20A	baz=146			⇓P		PKPab	01 24 22.9	+0.9	
D19A	**Cripps Ranch,**	**146.17**	**354**	⇓P		**PKPab**	**01 24 22.9**	**+0.8**	
D19A	baz=146			⇓P		PKPab	01 24 22.9	+0.8	
D19A	baz=146			⇓P		PKPab	01 24 22.9	+0.8	
LON	**Longmire**	**146.20**	**10**	*e*PKP2		**PKPab**	**01 24 23.4**	**+1.2**	
LON	**Longmire**	**146.20**	**10**	*e*PKPdf		**PKPab**	**01 24 23.4**	**+1.2**	
D18A	**Linhart Farms,**	**146.22**	**355**	⇑P		**PKPab**	**01 24 22.7**	**+0.4**	
D18A	baz=146			⇑P		PKPab	01 24 22.7	+0.4	
D18A	baz=146			⇑P		PKPab	01 24 22.7	+0.4	
USIN	**University of**	**146.23**	**321**	*e*PKPdf		**PKPab**	**01 24 23.7**	**+1.1**	
BCIP	**Isla Barro Col**	**146.28**	**266**	PFAKE			01 24 40.0	+17	
BCIP				LR		LR			
	comp=Z,1μm,22.0s								
E23A	**Ismay**	**146.30**	**349**	⇓P		**PKPab**	**01 24 24.2**	**+1.5**	
E23A	baz=146			⇓P		PKPab	01 24 24.2	+1.5	
E23A	baz=146			⇓P		PKPab	01 24 24.2	+1.5	
D17A	**Six Diamond Ra**	**146.34**	**356**	⇑P		**PKPab**	**01 24 23.9**	**+1.1**	
D17A	baz=146			⇑P		PKPab	01 24 23.9	+1.1	
D17A	baz=146			⇑P		PKPab	01 24 23.9	+1.1	
SLMT	**Seeley Lake**	**146.36**	**359**	*e*PKPdf		**PKPdf**	**01 24 21.5**	**+0.6**	
ECSD	**EROS Data Cent**	**146.38**	**337**	*e*PKPdf		**PKPdf**	**01 24 19.2**	**-1.7**	
ECSD				LR		LR			
	comp=Z,2μm,21.0s								
SCIA	**State Center**	**146.44**	**331**	PFAKE			01 24 30.0	+6.8	
SCIA				LR		LR			
	comp=Z,2μm,22.0s								
E22A	**Miles City**	**146.47**	**350**	⇓P		**PKPab**	**01 24 24.1**	**+0.8**	
E22A	baz=146			⇓P		PKPab	01 24 24.1	+0.8	
E22A	baz=146			⇓P		PKPab	01 24 24.1	+0.8	
D13A	**Huson**	**146.50**	**1**	⇑P		**PKPab**	**01 24 24.5**	**+1.1**	
D13A	baz=146			⇑P		PKPab	01 24 24.5	+1.1	
D13A	baz=146			⇑P		PKPab	01 24 24.5	+1.1	
D16A	**Dana Ranch, Ca**	**146.51**	**357**	⇓P		**PKPab**	**01 24 23.5**	**0.0**	
D16A	baz=146			⇓P		PKPab	01 24 23.5	0.0	
D16A	baz=146			⇓P		PKPab	01 24 23.5	0.0	
D14A	**Greenough**	**146.52**	**359**	⇓P		**PKPab**	**01 24 23.8**	**+0.3**	
D14A	baz=146			⇓P		PKPab	01 24 23.8	+0.3	
D14A	baz=146			⇓P		PKPab	01 24 23.8	+0.3	
TDL	**Tradedollar La**	**146.52**	**10**	P		**PKPab**	**01 24 25.5**	**+2.0**	
D15A	**Lincoln**	**146.54**	**358**	⇑P		**PKPab**	**01 24 25.2**	**+1.6**	
D15A	baz=146			⇑P		PKPab	01 24 25.2	+1.6	
D15A	baz=146			⇑P		PKPab	01 24 25.2	+1.6	
BRSD	**Miller**	**146.59**	**340**	⇑P		**PKPbc**	**01 24 23.2**	**+0.4**	
BRSD	baz=146			⇑P		PKPbc	01 24 23.2	+0.4	
BRSD	baz=146			⇑P		PKPbc	01 24 23.2	+0.4	
CHMT	**Chamberlain Mo**	**146.68**	**359**	PKPdf		**PKPbc**	**01 24 23.7**	**+0.5**	
E20A	**Meyer Farm, Mu**	**146.73**	**353**	⇑P		**PKPab**	**01 24 25.2**	**+0.9**	
E20A	baz=146			⇑P		PKPab	01 24 25.2	+0.9	
E20A	baz=146			⇑P		PKPab	01 24 25.2	+0.9	
SWET	**Sewanee**	**146.73**	**315**	*e*PKPab		**PKPab**	**01 24 26.1**	**+1.4**	
MSO	**Missoula**	**146.77**	**360**	*e*PKPdf		**PKPbc**	**01 24 22.8**	**-0.5**	
MSO				*e*PKPbc		**PKPab**	**01 24 23.9**	**-0.6**	
MSO				LR		LR			
	comp=Z,1μm,21.0s								
MSO	**Missoula**	**146.77**	**360**	⇓P		**PKPbc**	**01 24 23.5**	**+0.2**	
MSO	baz=146			⇓P		PKPbc	01 24 23.5	+0.2	
MSO	baz=146			⇓P		PKPbc	01 24 23.5	+0.2	
HRY	**Holter Researc**	**146.84**	**357**	*e*PKPdf		**PKPbc**	**01 24 23.2**	**-0.3**	
HRY				*e*PKPbc		**PKPab**	**01 24 24.3**	**-0.5**	
E19A	**Rath Farm, Rou**	**146.85**	**353**	⇓P		**PKPab**	**01 24 26.1**	**+1.3**	
E19A	baz=146			⇓P		PKPab	01 24 26.1	+1.3	
E19A	baz=146			⇓P		PKPab	01 24 26.1	+1.3	
E18A	**Harlowton**	**146.86**	**355**	⇓P		**PKPab**	**01 24 25.1**	**+0.2**	
E18A	baz=146			⇓P		PKPab	01 24 25.1	+0.2	
E18A	baz=146			⇓P		PKPab	01 24 25.1	+0.2	
RSW	**Rattlesnake Hi**	**146.87**	**7**	*e*PKPbc		**PKPbc**	**01 24 24.3**	**+0.7**	
HAWA	**Hanford**	**146.87**	**7**	*e*PKPdf		**PKPbc**	**01 24 23.0**	**-0.4**	
HAWA				*e*PKPbc		**PKPab**	**01 24 24.5**	**-0.2**	
HAWA				LR		LR			
	comp=Z,1μm,21.0s								
E16A	**East Helena**	**147.01**	**357**	⇑P		**PKPbc**	**01 24 24.0**	**0.0**	
E16A	baz=147			⇑P		PKPbc	01 24 24.0	0.0	
E16A	baz=147			⇑P		PKPbc	01 24 24.0	0.0	
E17A	**Martinsdale**	**147.03**	**356**	⇑P		**PKPbc**	**01 24 25.0**	**+0.9**	
E17A	baz=147			⇑P		PKPbc	01 24 25.0	+0.9	
E17A	baz=147			⇑P		PKPbc	01 24 25.0	+0.9	
F23A	**Volborg**	**147.07**	**349**	⇑P		**PKPdf**	**01 24 22.6**	**+0.5**	
F23A	baz=147			⇑P		PKPdf	01 24 22.6	+0.5	
F23A	baz=147			⇑P		PKPdf	01 24 22.6	+0.5	
E15A	**Deer Lodge**	**147.16**	**358**	⇑P		**PKPbc**	**01 24 24.9**	**+0.4**	
E15A	baz=147			⇑P		PKPbc	01 24 24.9	+0.4	
E15A	baz=147			⇑P		PKPbc	01 24 24.9	+0.4	
E13A	**Victor**	**147.16**	**0**	⇓P		**PKPbc**	**01 24 24.6**	**+0.2**	
E13A	baz=147			⇓P		PKPbc	01 24 24.6	+0.2	
E13A	baz=147			⇓P		PKPbc	01 24 24.6	+0.2	
F22A	**Rosebud**	**147.16**	**350**	⇓P		**PKPdf**	**01 24 22.4**	**+0.2**	
F22A	baz=147			⇓P		PKPdf	01 24 22.4	+0.2	
F22A	baz=147			⇓P		PKPdf	01 24 22.4	+0.2	
E14A	**Clinton**	**147.18**	**359**	⇓P		**PKPab**	**01 24 26.3**	**+0.2**	
E14A	baz=147			⇓P		PKPab	01 24 26.3	+0.2	
E14A	baz=147			⇓P		PKPab	01 24 26.3	+0.2	
G24A	**Alzada**	**147.25**	**348**	⇑P		**PKPbc**	**01 24 25.2**	**+0.5**	
G24A	baz=147			⇑P		PKPbc	01 24 25.2	+0.5	
G24A	baz=147			⇑P		PKPbc	01 24 25.2	+0.5	
SLM	**Saint Louis**	**147.31**	**324**	*e*PKP2		**PKPab**	**01 24 26.3**	**-0.4**	
SLM	**Saint Louis**	**147.31**	**324**	*e*PKPbc		**PKPab**	**01 24 26.3**	**-0.4**	
SIUC	**Southern Illin**	**147.33**	**322**	*e*PKPdf		**PKPdf**	**01 24 23.4**	**+0.7**	
SIUC				*e*PKPab		**PKiKP**	**01 24 28.3**	**+0.9**	
F20A	**Billings**	**147.43**	**352**	⇓P		**PKPab**	**01 24 27.0**	**-0.1**	
F20A	baz=147			⇓P		PKPab	01 24 27.0	-0.1	
F20A	baz=147			⇓P		PKPab	01 24 27.0	-0.1	
F19A	**Roth Farm, Mol**	**147.47**	**353**	⇓P		**PKPdf**	**01 24 23.6**	**+0.8**	
F19A	baz=147			⇓P		PKPdf	01 24 23.6	+0.8	
F19A	baz=147			⇓P		PKPdf	01 24 23.6	+0.8	
WVT	**Waverly**	**147.47**	**318**	*e*PKIKP		**PKPdf**	**01 24 24.3**	**+1.3**	
WVT				*e*			01 24 27.1		
WVT	**Waverly**	**147.47**	**318**	*e*PKPdf		**PKPdf**	**01 24 24.3**	**+1.3**	
WVT				*e*PKPbc		**PKPab**	**01 24 27.1**	**-0.3**	
F18A	**Big Timber**	**147.50**	**354**	⇓P		**PKPbc**	**01 24 25.9**	**+0.5**	
F18A	baz=147			⇓P		PKPbc	01 24 25.9	+0.5	
F18A	baz=147			⇓P		PKPbc	01 24 25.9	+0.5	
LNOR	**Lincton Mounta**	**147.52**	**6**	*e*PKP2		**PKPab**	**01 24 27.0**	**-0.4**	
LNOR	**Lincton Mounta**	**147.52**	**6**	*e*PKPbc		**PKPab**	**01 24 27.0**	**-0.4**	
G23A	**Biddle**	**147.57**	**349**	⇓P		**PKPbc**	**01 24 24.9**	**-0.7**	
G23A	baz=147			⇓P		PKPbc	01 24 24.9	-0.7	
G23A	baz=147			⇓P		PKPbc	01 24 24.9	-0.7	
F17A	**Fitzpatrick Pl**	**147.57**	**356**	⇑P		**PKPbc**	**01 24 26.1**	**+0.4**	
F17A	baz=147			⇑P		PKPbc	01 24 26.1	+0.4	
F17A	baz=147			⇑P		PKPbc	01 24 26.1	+0.4	
G22A	**Birney**	**147.72**	**350**	⇓P		**PKPbc**	**01 24 25.4**	**-0.6**	
G22A	baz=147			⇓P		PKPbc	01 24 25.4	-0.6	
G22A	baz=147			⇓P		PKPbc	01 24 25.4	-0.6	
F15A	**Butte**	**147.74**	**358**	⇓P		**PKPbc**	**01 24 26.8**	**+0.6**	
F15A	baz=147			⇓P		PKPbc	01 24 26.8	+0.6	
F15A	baz=147			⇓P		PKPbc	01 24 26.8	+0.6	
LRM	**Limekiln Ridge**	**147.75**	**358**	PKPbc		**PKPbc**	**01 24 26.0**	**-0.3**	
LRM				*e*PKPab		**PKiKP**	**01 24 28.3**	**0.0**	
F13A	**Darby**	**147.81**	**0**	⇑P		**PKPdf**	**01 24 23.6**	**+0.2**	
F13A	baz=147			⇑P		PKPdf	01 24 23.6	+0.2	
F13A	baz=147			⇑P		PKPdf	01 24 23.6	+0.2	
H24A	**Dirks Ranch, A**	**147.83**	**347**	⇓P		**PKPbc**	**01 24 25.6**	**-0.7**	
H24A	baz=147			⇓P		PKPbc	01 24 25.6	-0.7	
H24A	baz=147			⇓P		PKPbc	01 24 25.6	-0.7	
G21A	**Lodge Grass**	**147.86**	**351**	⇓P		**PKPbc**	**01 24 26.5**	**+0.1**	
G21A	baz=147			⇓P		PKPbc	01 24 26.5	+0.1	
G21A	baz=147			⇓P		PKPbc	01 24 26.5	+0.1	
FVM	**French Village**	**147.86**	**324**	*e*PKIKP		**PKPbc**	**01 24 25.4**	**-1.1**	
FVM	**French Village**	**147.86**	**324**	*e*PKPdf		**PKPbc**	**01 24 25.4**	**-1.1**	
BOZ	**Bozeman (W)**	**147.89**	**357**	*e*PKIKP		**PKPdf**	**01 24 24.5**	**+0.9**	
BOZ				*e*			01 24 28.3		
BOZ				MLR		MLR			
	comp=Z,1μm,22.0s								
BOZ	**Bozeman (W)**	**147.89**	**357**	*e*PKPdf		**PKPdf**	**01 24 24.5**	**+0.9**	
BOZ				*e*PKPbc		**PKiKP**	**01 24 28.2**	**-0.2**	
BOZ				LR		LR			
	comp=Z,1μm,22.0s								
BOZ	**Bozeman (W)**	**147.89**	**357**	⇓P		**PKPbc**	**01 24 26.0**	**-0.6**	
BOZ	baz=147			⇓P		PKPbc	01 24 26.0	-0.6	
BOZ	baz=147			⇓P		PKPbc	01 24 26.0	-0.6	
BOZ	baz=147			⇓P		PKPbc	01 24 26.0	-0.6	
BOZ	baz=147			⇓P		PKPbc	01 24 26.0	-0.6	
BOZ	baz=147			⇓P		PKPbc	01 24 26.0	-0.6	
UTMT	**University of**	**148.00**	**320**	*e*PKPbc		**PKPab**	**01 24 29.5**	**0.0**	
DLMT	**Dillon**	**148.22**	**358**	*e*PKPbc		**PKPbc**	**01 24 27.9**	**+0.5**	
RLMT	**Red Lodge**	**148.23**	**354**	*e*PKPdf		**PKPdf**	**01 24 25.0**	**+0.8**	
RLMT				*e*PKPbc		**PKPbc**	**01 24 27.6**	**+0.1**	
RLMT				*e*PKPab		**PKPab**	**01 24 30.2**	**-0.2**	
RLMT				LR		LR			
	comp=Z,2μm,21.0s								
RLMT	**Red Lodge**	**148.23**	**354**	⇑P		**PKPdf**	**01 24 25.5**	**+1.3**	
RLMT	baz=148			⇑P		PKPdf	01 24 25.5	+1.3	
RLMT	baz=148			⇑P		PKPdf	01 24 25.5	+1.3	
RLMT	baz=148			⇑P		PKPdf	01 24 25.5	+1.3	
RLMT	baz=148			⇑P		PKPdf	01 24 25.5	+1.3	
RLMT	baz=148			⇑P		PKPdf	01 24 25.5	+1.3	
CCM	**Cathedral Cave**	**148.28**	**325**	*e*PKIKP		**PKPbc**	**01 24 26.5**	**-1.1**	
CCM				*e*			01 24 28.0		
CCM	**Cathedral Cave**	**148.28**	**325**	*e*PKPdf		**PKPbc**	**01 24 26.5**	**-1.1**	
CCM				*e*PKPbc		**PKiKP**	**01 24 28.0**	**-1.3**	
PLAL	**Pickwick Lake**	**148.31**	**317**	*e*PKPbc		**PKPab**	**01 24 29.9**	**-0.9**	
PLAL				LR		LR			
	comp=Z,1μm,19.0s								
PARMO	**Parma**	**148.34**	**321**	*e*PKPbc		**PKPbc**	**01 24 29.4**	**+1.7**	
G14A	**Jackson**	**148.35**	**359**	⇑P		**PKPbc**	**01 24 27.3**	**-0.5**	
G14A	baz=148			⇑P		PKPbc	01 24 27.3	-0.5	
G14A	baz=148			⇑P		PKPbc	01 24 27.3	-0.5	
G15A	**Dillon**	**148.41**	**358**	⇓P		**PKPdf**	**01 24 26.3**	**+1.8**	
G15A	baz=148			⇓P		PKPdf	01 24 26.3	+1.8	
G15A	baz=148			⇓P		PKPdf	01 24 26.3	+1.8	
H21A	**Big Horn, Sher**	**148.41**	**351**	⇓P		**PKPdf**	**01 24 25.8**	**+1.3**	
H21A	baz=148			⇓P		PKPdf	01 24 25.8	+1.3	
H21A	baz=148			⇓P		PKPdf	01 24 25.8	+1.3	
VIPM	**Ingram Point**	**148.57**	**9**	PKP2		**PKPab**	**01 24 30.7**	**-1.1**	
VIPM	**Ingram Point**	**148.57**	**9**	P		**PKPab**	**01 24 30.7**	**-1.1**	
BMO	**Blue Mountains**	**148.62**	**5**	*e*PKIKP		**PKPbc**	**01 24 30.2**	**+1.8**	
BMO				MLR		MLR			
	comp=Z,1μm,21.0s								
BMO	**Blue Mountains**	**148.62**	**5**	*e*PKPbc		**PKPbc**	**01 24 30.1**	**+1.8**	

BMO LR LR
comp=Z,1µm,21.0s
LRAL Lakeview Retre 148.66 313 *e*PKPbc **PKPbc 01 24 30.2 +1.5**
LRAL LR LR
comp=Z,2µm,22.0s
QLMT Earthquake Lak 148.69 357 *e*PKPbc **PKPbc 01 24 29.6 +0.9**
MCMT McKenzie Canyo 148.76 358 *e*PKPbc **PKPbc 01 24 30.4 +1.4**
YNR Norris Junctio 148.76 355 *e*PKPbc **PKPab 01 24 31.3 -1.4**
YMR Madison River 148.83 356 *e*PKPbc **PKPab 01 24 31.4 -1.4**
LKWY Lake 148.89 355 *e*PKPab **PKPab 01 24 35.0 +1.8**
LKWY LR LR
comp=Z,2µm,20.0s
H14A Leadore 148.98 359 ⇑P **PKPdf 01 24 26.6 +1.1**
baz=148
H14A ⇑P **PKPdf 01 24 26.6 +1.1**
baz=148
H14A ⇑P **PKPdf 01 24 26.6 +1.1**
baz=148
YFT Old Faithful 149.03 356 *e*PKPab **PKPab 01 24 33.8 0.0**
H13A Challis 149.04 0 ⇑P **PKPdf 01 24 27.1 +1.6**
baz=149
H13A ⇑P **PKPdf 01 24 27.1 +1.6**
baz=149
H13A ⇑P **PKPdf 01 24 27.1 +1.6**
baz=149
H12A Diamond D Ranc 149.04 1 ⇓P **PKPdf 01 24 26.2 +0.7**
baz=149
H12A ⇓P **PKPdf 01 24 26.2 +0.7**
baz=149
H12A ⇓P **PKPdf 01 24 26.2 +0.7**
baz=149
J24A Dixon Ranch, L 149.21 347 ⇑P **PKPdf 01 24 27.9 +2.1**
baz=149
J24A ⇑P **PKPdf 01 24 27.9 +2.1**
baz=149
J24A ⇑P **PKPdf 01 24 27.9 +2.1**
baz=149
I21A Big Trails, Te 149.25 351 ⇓P **PKPdf 01 24 26.6 +0.7**
baz=149
I21A ⇓P **PKPdf 01 24 26.6 +0.7**
baz=149
I21A ⇓P **PKPdf 01 24 26.6 +0.7**
baz=149
KEBM Edson Butte 149.39 15 *e*PKPab **PKPab 01 24 37.7 +2.8**
MET Memphis--Engin 149.44 319 *e*PKPdf **PKPdf 01 24 27.8 +1.6**
MET *e*PKPab **PKiKP 01 24 31.7 -0.1**
MET *e*PKPab **PKPab 01 24 35.0 -0.4**
K26A Motz Farm, Whi 149.44 344 ⇓P **PKPbc 01 24 32.7 +2.1**
baz=149
K26A ⇓P **PKPbc 01 24 32.7 +2.1**
baz=149
K26A ⇓P **PKPbc 01 24 32.7 +2.1**
baz=149
OXF Oxford 149.47 317 *e*PKP2 **PKPbc 01 24 32.3 +1.6**
OXF MLR MLR
comp=Z,1µm,20.0s
OXF Oxford 149.47 317 *e*PKPbc **PKPbc 01 24 32.3 +1.6**
OXF LR LR
comp=Z,1µm,20.0s
J22A Midwest 149.50 349 ⇓P **PKPdf 01 24 27.8 +1.5**
baz=149
J22A ⇓P **PKPdf 01 24 27.8 +1.5**
baz=149
J22A ⇓P **PKPdf 01 24 27.8 +1.5**
baz=149
I15A Monteview 149.57 358 ⇓P **PKPbc 01 24 32.6 +1.7**
baz=149
I15A ⇓P **PKPbc 01 24 32.6 +1.7**
baz=149
I15A ⇓P **PKPbc 01 24 32.6 +1.7**
baz=149
HBAR Harrisburg 149.62 320 *e*PKPab **PKPab 01 24 34.4 -1.7**
I14A Mackay 149.67 359 ⇓P **PKPdf 01 24 28.3 +1.7**
baz=149
I14A ⇓P **PKPdf 01 24 28.3 +1.7**
baz=149
I14A ⇓P **PKPdf 01 24 28.3 +1.7**
baz=149
I13A Wildhorse Cree 149.69 0 ⇑P **PKPdf 01 24 28.5 +1.9**
baz=149
I13A ⇑P **PKPdf 01 24 28.5 +1.9**
baz=149
I13A ⇑P **PKPdf 01 24 28.5 +1.9**
baz=149
BRAL Brewton 149.72 310 *e*PKPdf **PKPdf 01 24 26.8 0.0**
BRAL *e*PKPab **PKPab 01 24 35.1 -1.5**
BRAL LR LR
comp=Z,2µm,20.0s
MOOW Moose Ponds 149.72 355 *e*PKPdf **PKPdf 01 24 29.0 +2.3**
MOOW *e*PKPbc **PKiKP 01 24 33.5 +1.1**
J21A Lysite 149.73 351 ⇓P **PKPdf 01 24 28.9 +2.2**
baz=149
J21A ⇓P **PKPdf 01 24 28.9 +2.2**
baz=149
J21A ⇓P **PKPdf 01 24 28.9 +2.2**
baz=149
I12A Atlanta 149.79 2 ⇑P **PKPdf 01 24 28.4 +1.6**
baz=149
I12A ⇑P **PKPdf 01 24 28.4 +1.6**
baz=149
I12A ⇑P **PKPdf 01 24 28.4 +1.6**
baz=149
J20A Shoshoni 149.82 351 ⇓P **PKPdf 01 24 28.6 +1.9**
baz=149
J20A ⇓P **PKPdf 01 24 28.6 +1.9**
baz=149
J20A ⇓P **PKPdf 01 24 28.6 +1.9**
baz=149
LOHW Long Hollow 149.85 355 *e*PKPdf **PKPdf 01 24 29.2 +2.3**
LOHW *e*PKPbc **PKiKP 01 24 34.2 +1.5**
DCID1 Drake Creek 149.91 356 *e*P **PKPab 01 24 35.0 -2.3**
K23A Bowen Ranch, D 149.97 348 ⇓P **PKPdf 01 24 29.2 +2.2**
baz=150
K23A ⇓P **PKPdf 01 24 29.2 +2.2**
baz=150
K23A ⇓P **PKPdf 01 24 29.2 +2.2**
baz=150
HUMO Hull Mountain 149.97 13 *e*PKPbc **PKPbc 01 24 33.9 +2.1**
SNOW Snow King Moun 150.01 355 *e*PKPab **PKPbc 01 24 35.0 +2.9**
J19A Crowheart 150.03 353 ⇑P **PKPdf 01 24 29.4 +2.2**
baz=150
J19A ⇑P **PKPdf 01 24 29.4 +2.2**
baz=150
J19A ⇑P **PKPdf 01 24 29.4 +2.2**
baz=150
HLID Hailey 150.04 1 *e*PKPdf **PKPdf 01 24 29.3 +2.2**
HLID *e*PKPbc **PKiKP 01 24 34.3 +1.3**
HLID LR LR
comp=Z,2µm,21.0s
HLID Hailey 150.04 1 ⇑P **PKPdf 01 24 29.7 +2.6**
baz=150
HLID ⇑P **PKPdf 01 24 29.7 +2.6**
baz=150
HLID ⇑P **PKPdf 01 24 29.7 +2.6**
baz=150
J17A Brown Place, J 150.11 355 ⇑P **PKPbc 01 24 30.3 -2.0**
baz=150
J17A ⇑P **PKPbc 01 24 30.3 -2.0**
baz=150
J17A ⇑P **PKPbc 01 24 30.3 -2.0**
baz=150
REDW Red Top Meadow 150.12 355 *e*PKPbc **PKPbc 01 24 34.7 +2.4**
MFID Camas Ranch 150.14 3 *e*PKPdf **PKPdf 01 24 29.3 +2.1**
MFID *e*PKPbc **PKiKP 01 24 34.2 +1.1**
MFID Camas Ranch 150.14 3 ⇓P **PKPdf 01 24 29.6 +2.4**
baz=150
MFID ⇓P **PKPdf 01 24 29.6 +2.4**
baz=150
MFID ⇓P **PKPdf 01 24 29.6 +2.4**
baz=150
RRI2 Red Ridge 150.17 356 *e*PKPbc **PKPbc 01 24 35.0 +2.4**
J18A Kendall Valley 150.19 354 ⇑P **PKPdf 01 24 30.0 +2.5**
baz=150
J18A ⇑P **PKPdf 01 24 30.0 +2.5**
baz=150
J18A ⇑P **PKPdf 01 24 30.0 +2.5**
baz=150
J13A Cove Ranch, Pi 150.20 0 ⇓P **PKPbc 01 24 30.5 -1.9**
baz=150
J13A ⇓P **PKPbc 01 24 30.5 -1.9**
baz=150
J13A ⇓P **PKPbc 01 24 30.5 -1.9**
baz=150
KSU1 Kansas State U 150.24 332 *e*PKPdf **PKPbc 01 24 31.2 -1.3**
KSU1 LR LR
comp=Z,2µm,21.0s
K22A Casper 150.24 349 ⇑P **PKPdf 01 24 29.9 +2.5**
baz=150
K22A ⇑P **PKPdf 01 24 29.9 +2.5**
baz=150
K22A ⇑P **PKPdf 01 24 29.9 +2.5**
baz=150
K21A Alcova 150.39 350 ⇓P **PKPdf 01 24 30.0 +2.2**
baz=150
K21A ⇓P **PKPdf 01 24 30.0 +2.2**
baz=150
K21A ⇓P **PKPdf 01 24 30.0 +2.2**
baz=150
K19A Absolon Red Bu 150.44 352 ⇓P **PKPdf 01 24 29.4 +1.5**
baz=150
K19A ⇓P **PKPdf 01 24 29.4 +1.5**
baz=150
K19A ⇓P **PKPdf 01 24 29.4 +1.5**
baz=150
K20A Yellowstone Ra 150.54 352 ⇑P **PKPdf 01 24 29.9 +1.9**
baz=150
K20A ⇑P **PKPdf 01 24 29.9 +1.9**
baz=150
K20A ⇑P **PKPdf 01 24 29.9 +1.9**
baz=150
PD02 Pinedale Array 150.57 353 *e*PKPbc **PKPbc 01 24 34.8 +1.4**
PD01 Pinedale Array 150.58 353 *e*PKPbc **PKPbc 01 24 35.0 +1.5**
BW06 Boulder Array 150.59 353 *e*PKPdf **PKPdf 01 24 30.3 +2.2**
BW06 *e*PKPbc **PKiKP 01 24 34.8 +0.6**
BW06 LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 150.59 353 P **PKPdf 01 24 29.7 +1.6**
baz=150
BW06 P **PKPdf 01 24 29.7 +1.6**
baz=150
BW06 P **PKPdf 01 24 29.7 +1.6**
baz=150
BW06 P **PKPdf 01 24 29.7 +1.6**
baz=150
BW06 P **PKPdf 01 24 29.7 +1.6**
baz=150
BW06 P **PKPdf 01 24 29.7 +1.6**
baz=150
PDAR Pinedale Array 150.59 353 PKPbc **PKPdf 01 24 29.8 +1.7**
comp=Z,8.3nm,0.9s,baz=64,slow=1.5,SNR=27
PDAR PKPab **PKiKP 01 24 36.3 +2.1**
comp=Z,27nm,0.8s,baz=74,slow=4.2,SNR=56
PDAR Pinedale Array 150.59 353 PKPbc **PKPdf 01 24 29.8 +1.7**
PDAR PKPab **PKiKP 01 24 36.3 +2.1**
L23A Garrett 150.59 347 ⇑P **PKPdf 01 24 30.3 +2.2**
baz=150
L23A ⇑P **PKPdf 01 24 30.3 +2.2**
baz=150
L23A ⇑P **PKPdf 01 24 30.3 +2.2**
baz=150
K16A Soda Springs 150.70 356 ⇑P **PKPbc 01 24 35.7 +2.0**
baz=150
K16A ⇑P **PKPbc 01 24 35.7 +2.0**
baz=150
K16A ⇑P **PKPbc 01 24 35.7 +2.0**
baz=150
AHID Auburn Hatcher 150.73 356 *e*PKPbc **PKPbc 01 24 35.6 +1.8**
AHID LR LR
comp=Z,2µm,21.0s
OGNE Ogallala 150.73 341 *e*PKPbc **PKPbc 01 24 35.3 +1.6**
OGNE LR LR
comp=Z,2µm,22.0s
OGNE Ogallala 150.73 341 ⇓P **PKPbc 01 24 35.6 +1.9**
baz=150
OGNE ⇓P **PKPbc 01 24 35.6 +1.9**
baz=150
OGNE ⇓P **PKPbc 01 24 35.6 +1.9**
baz=150
K18A Toltan Ranch, 150.76 354 ⇑P **PKPbc 01 24 36.5 +2.5**
baz=150
K18A ⇑P **PKPbc 01 24 36.5 +2.5**
baz=150
K18A ⇑P **PKPbc 01 24 36.5 +2.5**
baz=150
L22A Ellis Ranch, M 150.82 348 ⇓P **PKPbc 01 24 36.5 +2.5**
baz=150
L22A ⇓P **PKPbc 01 24 36.5 +2.5**
baz=150
L22A ⇓P **PKPbc 01 24 36.5 +2.5**
baz=150
M25A Palm-Egli Farm 150.85 345 ⇑P **PKPbc 01 24 36.6 +2.5**
baz=150
M25A ⇑P **PKPbc 01 24 36.6 +2.5**
baz=150
M25A ⇑P **PKPbc 01 24 36.6 +2.5**
baz=150
YBH Yreka Blue Hor 150.86 14 *e*PKPbc **PKPbc 01 24 35.9 +1.9**
WVOR Wild Horse Val 150.88 7 *e*PKPbc **PKPbc 01 24 36.5 +2.4**
WVOR LR LR
comp=Z,1µm,19.0s
K15A Arbon 150.89 358 ⇓P **PKPbc 01 24 36.9 +2.8**
baz=150
K15A ⇓P **PKPbc 01 24 36.9 +2.8**
baz=150
K15A ⇓P **PKPbc 01 24 36.9 +2.8**
baz=150
N27A Anderson Farm, 151.01 342 ⇑P **PKPbc 01 24 36.7 +2.3**
baz=151
N27A ⇑P **PKPbc 01 24 36.7 +2.3**
baz=151
N27A ⇑P **PKPbc 01 24 36.7 +2.3**
baz=151
M24A Cheyenne 151.01 346 ⇑P **PKPbc 01 24 36.9 +2.4**
baz=151
M24A ⇑P **PKPbc 01 24 36.9 +2.4**
baz=151
M24A ⇑P **PKPbc 01 24 36.9 +2.4**
baz=151
K14A Jones Ranch, D 151.05 359 ⇑P **PKPbc 01 24 36.7 +2.2**
baz=151
K14A ⇑P **PKPbc 01 24 36.7 +2.2**
baz=151
K14A ⇑P **PKPbc 01 24 36.7 +2.2**
baz=151
L21A Rawlins 151.06 350 ⇓P **PKPbc 01 24 36.2 +1.6**
baz=151
L21A ⇓P **PKPbc 01 24 36.2 +1.6**
baz=151
L21A ⇓P **PKPbc 01 24 36.2 +1.6**
baz=151
UALR University of 151.17 321 *e*PKPbc **PKPbc 01 24 36.6 +1.8**
L20A Wamsutter 151.17 351 ⇑P **PKPbc 01 24 36.8 +1.9**
baz=151
L20A ⇑P **PKPbc 01 24 36.8 +1.9**
baz=151
L20A ⇑P **PKPbc 01 24 36.8 +1.9**
baz=151
L19A Farson 151.22 353 ⇑P **PKPbc 01 24 36.7 +1.7**
baz=151
L19A ⇑P **PKPbc 01 24 36.7 +1.7**
baz=151
L19A ⇑P **PKPbc 01 24 36.7 +1.7**
baz=151
M23A Laramie 151.22 347 ⇓P **PKPbc 01 24 36.9 +1.9**
baz=151
M23A ⇓P **PKPbc 01 24 36.9 +1.9**
baz=151
M23A ⇓P **PKPbc 01 24 36.9 +1.9**
baz=151
RWWY Rawlins 151.30 349 *e*PKPbc **PKPbc 01 24 36.2 +1.0**
PHWY Pilot Hill 151.32 347 *e*PKPbc **PKPbc 01 24 37.0 +1.6**
M21A Separation Pea 151.41 350 ⇑P **PKPbc 01 24 36.8 +1.3**
baz=151
M21A ⇑P **PKPbc 01 24 36.8 +1.3**
baz=151
M21A ⇑P **PKPbc 01 24 36.8 +1.3**
baz=151
JTS JuntasAbangare 151.44 267 *e*PKPdf **PKPbc 01 24 33.3 -2.7**
JTS LR LR
comp=Z,1µm,20.0s
M22A Cedar Creek Ra 151.46 348 ⇑P **PKPbc 01 24 37.2 +1.6**
baz=151
M22A ⇑P **PKPbc 01 24 37.2 +1.6**
baz=151
M22A ⇑P **PKPbc 01 24 37.2 +1.6**
baz=151
L18A Fontenelle, Gr 151.47 354 ⇓P **PKPbc 01 24 37.2 +1.7**
baz=151
L18A ⇓P **PKPbc 01 24 37.2 +1.7**
baz=151
L18A ⇓P **PKPbc 01 24 37.2 +1.7**
baz=151
L16A Fish Haven 151.50 356 ⇓P **PKPbc 01 24 37.2 +1.5**
baz=151
L16A ⇓P **PKPbc 01 24 37.2 +1.5**
baz=151
O27A Beecher Island 151.56 341 ⇓P **PKPbc 01 24 36.7 +1.0**
baz=151
O27A ⇓P **PKPbc 01 24 36.7 +1.0**
baz=151
O27A ⇓P **PKPbc 01 24 36.7 +1.0**
baz=151
L14A Malta 151.56 359 ⇓P **PKPbc 01 24 37.6 +1.9**
baz=151
L14A ⇓P **PKPbc 01 24 37.6 +1.9**
baz=151
L14A ⇓P **PKPbc 01 24 37.6 +1.9**
baz=151
L15A Malad City 151.56 358 ⇓P **PKPbc 01 24 36.1 +0.4**
baz=151
L15A ⇓P **PKPbc 01 24 36.1 +0.4**
baz=151
L15A ⇓P **PKPbc 01 24 36.1 +0.4**
baz=151
VBMS Vicksburg 151.58 315 PFAKE 01 24 40.0 +4.2
VBMS LR LR
comp=Z,1µm,22.0s
M20A Sweetwater, Wa 151.66 351 ⇓P **PKPbc 01 24 37.0 +1.0**
baz=151
M20A ⇓P **PKPbc 01 24 37.0 +1.0**
baz=151
M20A ⇓P **PKPbc 01 24 37.0 +1.0**
baz=151
M19A Rock Springs 151.78 352 ⇑P **PKPbc 01 24 37.4 +1.1**
baz=151
M19A ⇑P **PKPbc 01 24 37.4 +1.1**
baz=151
M19A ⇑P **PKPbc 01 24 37.4 +1.1**
baz=151
HVU Hansel Valley 151.80 358 *e*PKPbc **PKPbc 01 24 36.9 +0.6**
CBKS Cedar Bluff 151.81 336 *e*PKPbc **PKPbc 01 24 37.9 +1.7**
CBKS LR LR
comp=Z,2µm,20.0s
CBKS Cedar Bluff 151.81 336 ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
CBKS ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
CBKS ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
CBKS ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
CBKS ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
CBKS ⇑P **PKPbc 01 24 37.8 +1.6**
baz=151
N23A Red Feather La 151.81 347 ⇓P **PKPbc 01 24 37.4 +0.9**
baz=151
N23A ⇓P **PKPbc 01 24 37.4 +0.9**
baz=151
N23A ⇓P **PKPbc 01 24 37.4 +0.9**
baz=151
HWUT Hardware Ranch 151.91 356 *e*PKPdf **PKPbc 01 24 37.7 +1.2**
HWUT LR LR
comp=Z,2µm,22.0s
M17A Scullys Gap (B 151.98 355 ⇑P **PKPbc 01 24 38.0 +1.2**
baz=152
M17A ⇑P **PKPbc 01 24 38.0 +1.2**
baz=152
M17A ⇑P **PKPbc 01 24 38.0 +1.2**
baz=152
WDC Whiskeytown Da 151.99 14 *e*PKPbc **PKPbc 01 24 36.9 +0.4**
N22A Wattenberg Ran 152.01 348 ⇑P **PKPbc 01 24 38.0 +1.0**
baz=152
N22A ⇑P **PKPbc 01 24 38.0 +1.0**
baz=152
N22A ⇑P **PKPbc 01 24 38.0 +1.0**
baz=152
MIAR Mount Ida 152.07 322 *e*PKPbc **PKPbc 01 24 37.7 +0.8**
MIAR LR LR
comp=Z,1µm,22.0s
M15A Larsen Ranch, 152.10 358 ⇓P **PKPbc 01 24 38.5 +1.6**
baz=152
M15A ⇓P **PKPbc 01 24 38.5 +1.6**
baz=152
M15A ⇓P **PKPbc 01 24 38.5 +1.6**
baz=152
M16A Huntsville 152.21 356 ⇓P **PKPbc 01 24 38.5 +1.2**
baz=152
M16A ⇓P **PKPbc 01 24 38.5 +1.2**
baz=152
M16A ⇓P **PKPbc 01 24 38.5 +1.2**
baz=152
N21A Black Mountain 152.26 349 ⇑P **PKPbc 01 24 39.5 +2.0**
baz=152
N21A ⇑P **PKPbc 01 24 39.5 +2.0**
baz=152
N21A ⇑P **PKPbc 01 24 39.5 +2.0**
baz=152
N20A Spence Gulch, 152.31 351 ⇑P **PKPbc 01 24 39.0 +1.4**
baz=152
N20A ⇑P **PKPbc 01 24 39.0 +1.4**
baz=152
N20A ⇑P **PKPbc 01 24 39.0 +1.4**
baz=152
TUL1 Tulsa 152.34 327 ⇑P **PKPbc 01 24 38.8 +1.3**
baz=152
TUL1 ⇑P **PKPbc 01 24 38.8 +1.3**
baz=152
TUL1 ⇑P **PKPbc 01 24 38.8 +1.3**
baz=152
O24A Longmont 152.35 345 ⇓P **PKPbc 01 24 39.0 +1.4**
baz=152
O24A ⇓P **PKPbc 01 24 39.0 +1.4**
baz=152
O24A ⇓P **PKPbc 01 24 39.0 +1.4**
baz=152
N18A Larsen Ranch, 152.37 353 ⇑P **PKPbc 01 24 38.6 +1.0**
baz=152
N18A ⇑P **PKPbc 01 24 38.6 +1.0**
baz=152
N18A ⇑P **PKPbc 01 24 38.6 +1.0**
baz=152
N19A John Jarvie Ra 152.38 352 ⇓P **PKPbc 01 24 39.1 +1.5**
baz=152
N19A ⇓P **PKPbc 01 24 39.1 +1.5**
baz=152
N19A ⇓P **PKPbc 01 24 39.1 +1.5**
baz=152
P26A Davis Ranch, A 152.40 342 ⇓P **PKPbc 01 24 39.0 +1.3**
baz=152
P26A ⇓P **PKPbc 01 24 39.0 +1.3**
baz=152
P26A ⇓P **PKPbc 01 24 39.0 +1.3**
baz=152
O23A Lake Granby, G 152.46 347 ⇑P **PKPbc 01 24 39.5 +1.5**
baz=152
O23A ⇑P **PKPbc 01 24 39.5 +1.5**
baz=152
O23A ⇑P **PKPbc 01 24 39.5 +1.5**
baz=152
N17A Moffit Pass 152.52 355 ⇓P **PKPbc 01 24 39.8 +1.7**
baz=152
N17A ⇓P **PKPbc 01 24 39.8 +1.7**
baz=152
N17A ⇓P **PKPbc 01 24 39.8 +1.7**
baz=152
N16A Rees Ranch, Co 152.62 356 ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
N16A ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
N16A ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
PAYG Puerto Ayora 152.63 241 *e*PKPbc **PKPbc 01 24 39.5 +0.7**
PAYG LR LR
comp=Z,1µm,22.0s
O22A Kremmling 152.65 348 ⇑P **PKPbc 01 24 39.8 +1.4**
baz=152
O22A ⇑P **PKPbc 01 24 39.8 +1.4**
baz=152
O22A ⇑P **PKPbc 01 24 39.8 +1.4**
baz=152
KSCO Kaye Shedlock' 152.68 341 ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
KSCO ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
KSCO ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
N15A Stansbury Isla 152.68 358 ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152
N15A ⇑P **PKPbc 01 24 39.9 +1.7**
baz=152

N15A				⇑P		**PKPbc**	**01 24 39.9**	**+1.7**
	baz=152							
P25A	**Willow Gulch B**	**152.68**	**343**	⇑P		**PKPbc**	**01 24 39.9**	**+1.5**
P25A	baz=152			⇑P		**PKPbc**	**01 24 39.9**	**+1.5**
P25A	baz=152			⇑P		**PKPbc**	**01 24 39.9**	**+1.5**
ISCO	**Idaho Springs**	**152.78**	**346**	PKPbc		**PKPbc**	**01 24 39.6**	**+0.9**
ISCO	comp=Z,1μm,21.0s			LR		LR		
ELK	**Elko**	**152.83**	**2**	*e*PKPbc		**PKPbc**	**01 24 38.9**	**+0.2**
JLU	**Jordanelle**	**152.91**	**356**	*e*PKPbc		**PKPbc**	**01 24 38.2**	**-0.7**
O19A	**Miners Draw (B**	**152.96**	**352**	⇑P		**PKPbc**	**01 24 40.7**	**+1.8**
O19A	baz=152			⇑P		**PKPbc**	**01 24 40.7**	**+1.8**
O19A	baz=152			⇑P		**PKPbc**	**01 24 40.7**	**+1.8**
O20A	**White River Ci**	**152.99**	**350**	⇓P		**PKPbc**	**01 24 41.0**	**+2.0**
O20A	baz=153			⇓P		**PKPbc**	**01 24 41.0**	**+2.0**
O20A	baz=153			⇓P		**PKPbc**	**01 24 41.0**	**+2.0**
BMN	**Battle Mountai**	**153.01**	**5**	PKPbc		**PKPbc**	**01 24 40.4**	**+1.4**
BMN	comp=Z,1μm,21.0s			LR		LR		
Q26A	**Hugo**	**153.04**	**342**	⇑P		**PKPbc**	**01 24 40.5**	**+1.4**
Q26A	baz=153			⇑P		**PKPbc**	**01 24 40.5**	**+1.4**
Q26A	baz=153			⇑P		**PKPbc**	**01 24 40.5**	**+1.4**
P22A	**Eagle**	**153.24**	**348**	⇓P		**PKPbc**	**01 24 40.3**	**+0.7**
P22A	baz=153			⇓P		**PKPbc**	**01 24 40.3**	**+0.7**
P22A	baz=153			⇓P		**PKPbc**	**01 24 40.3**	**+0.7**
O17A	**Robinson Place**	**153.25**	**354**	⇑P		**PKPbc**	**01 24 40.4**	**+0.7**
O17A	baz=153			⇑P		**PKPbc**	**01 24 40.4**	**+0.7**
O17A	baz=153			⇑P		**PKPbc**	**01 24 40.4**	**+0.7**
O16A	**Springville**	**153.30**	**356**	⇓P		**PKPbc**	**01 24 40.8**	**+1.1**
O16A	baz=153			⇓P		**PKPbc**	**01 24 40.8**	**+1.1**
O16A	baz=153			⇓P		**PKPbc**	**01 24 40.8**	**+1.1**
DUG	**Dugway**	**153.38**	**358**	*e*PKPbc		**PKPbc**	**01 24 41.6**	**+1.8**
DUG				*e*PKPab		**PKPab**	**01 24 52.4**	**+0.6**
DUG	comp=Z,2μm,22.0s			LR		LR		
DUG	**Dugway**	**153.38**	**358**	⇓P		**PKPbc**	**01 24 40.5**	**+0.7**
DUG	baz=153			⇓P		**PKPbc**	**01 24 40.5**	**+0.7**
DUG	baz=153			⇓P		**PKPbc**	**01 24 40.5**	**+0.7**
R27A	**Eads**	**153.39**	**340**	⇑P		**PKPbc**	**01 24 40.9**	**+1.1**
R27A	baz=153			⇑P		**PKPbc**	**01 24 40.9**	**+1.1**
R27A	baz=153			⇑P		**PKPbc**	**01 24 40.9**	**+1.1**
P21A	**Newcastle**	**153.44**	**349**	⇑P		**PKPbc**	**01 24 40.9**	**+0.8**
P21A	baz=153			⇑P		**PKPbc**	**01 24 40.9**	**+0.8**
P21A	baz=153			⇑P		**PKPbc**	**01 24 40.9**	**+0.8**
Q24A	**Divide**	**153.46**	**344**	⇑P		**PKPbc**	**01 24 41.0**	**+0.8**
Q24A	baz=153			⇑P		**PKPbc**	**01 24 41.0**	**+0.8**
Q24A	baz=153			⇑P		**PKPbc**	**01 24 41.0**	**+0.8**
MPU	**Maple Canyon**	**153.50**	**356**	*e*PKPab		**PKPbc**	**01 24 42.6**	**+2.4**
R26A	**Arlington**	**153.59**	**341**	⇑P		**PKPbc**	**01 24 41.2**	**+0.9**
R26A	baz=153			⇑P		**PKPbc**	**01 24 41.2**	**+0.9**
R26A	baz=153			⇑P		**PKPbc**	**01 24 41.2**	**+0.9**
P19A	**Cripple Cowboy**	**153.59**	**351**	⇑P		**PKPbc**	**01 24 41.5**	**+1.1**
P19A	baz=153			⇑P		**PKPbc**	**01 24 41.5**	**+1.1**
P19A	baz=153			⇑P		**PKPbc**	**01 24 41.5**	**+1.1**
TGUH	**Tegucigalpa,Un**	**154.07**	**274**	PFAKE			01 24 50.0	-5.3
TGUH	comp=Z,1μm,21.0s			LR		LR		
Q20A	**Ridgley Place,**	**154.15**	**350**	⇓P		**PKPbc**	**01 24 42.5**	**+1.0**
Q20A	baz=154			⇓P		**PKPbc**	**01 24 42.5**	**+1.0**
Q20A	baz=154			⇓P		**PKPbc**	**01 24 42.5**	**+1.0**
S26A	**Kim**	**154.21**	**341**	⇑P		**PKPbc**	**01 24 42.4**	**+0.7**
S26A	baz=154			⇑P		**PKPbc**	**01 24 42.4**	**+0.7**
S26A	baz=154			⇑P		**PKPbc**	**01 24 42.4**	**+0.7**
Q18A	**Rafter H Ranch**	**154.27**	**353**	⇓P		**PKPbc**	**01 24 42.3**	**+0.5**
Q18A	baz=154			⇓P		**PKPbc**	**01 24 42.3**	**+0.5**
Q18A	baz=154			⇓P		**PKPbc**	**01 24 42.3**	**+0.5**
Q19A	**Hogan Spring (**	**154.30**	**352**	⇓P		**PKPbc**	**01 24 42.6**	**+0.8**
Q19A	baz=154			⇓P		**PKPbc**	**01 24 42.6**	**+0.8**
Q19A	baz=154			⇓P		**PKPbc**	**01 24 42.6**	**+0.8**
SRU	**San Rafael**	**154.31**	**354**	*e*PKPdf		**PKPbc**	**01 24 38.2**	**-3.7**
TEIG	**Tepich**	**154.54**	**289**	PFAKE			01 24 50.0	-7.2
TEIG	comp=Z,2μm,22.0s			LR		LR		
NATX	**Nacogdoches**	**154.62**	**319**	PKPbc		**PKPbc**	**01 24 41.8**	**-0.7**
NATX	comp=Z,2μm,20.0s			LR		LR		
SDCO	**Great Sand Dun**	**154.70**	**344**	*e*PKPdf		**PKPdf**	**01 24 38.7**	**+4.4**
SDCO	comp=Z,2μm,20.0s			LR		LR		
S24A	**Houchin Ranch,**	**154.72**	**344**	⇑P		**PKPbc**	**01 24 42.2**	**-0.7**
S24A	baz=154			⇑P		**PKPbc**	**01 24 42.2**	**-0.7**
S24A	baz=154			⇑P		**PKPbc**	**01 24 42.2**	**-0.7**
WMOK	**Wichita Mounta**	**154.78**	**330**	*e*PKIKP		**PKPdf**	**01 24 34.6**	**+0.4**
WMOK	baz=154			MLR		MLR		
WMOK	**Wichita Mounta**	**154.78**	**330**	*e*PKPdf		**PKPdf**	**01 24 34.6**	**+0.4**
WMOK	comp=Z,1μm,19.0s			LR		LR		
PV04	**Paradox Valley**	**154.80**	**351**	*e*PKPbc		**PKPbc**	**01 24 45.5**	**+2.6**
NVAR	**Mina Array Bea**	**154.87**	**8**	PKP		**PKPdf**	**01 24 31.6**	**-3.0**
NVAR	comp=Z,1.0nm,0.5s,baz=11,slow=0.9,SNR=8.0			PKPab		**PKPab**	**01 24 55.2**	**-2.9**
NVAR	**Mina Array Bea**	**154.87**	**8**	PKP		**PKPdf**	**01 24 31.6**	**-3.0**
NVAR	comp=Z,7.4nm,1.0s,baz=253,slow=1.3,SNR=8.6			PKPab		**PKPab**	**01 24 55.2**	**-2.9**
CMB	**Columbia Colle**	**154.90**	**12**	*e*PKPab		**PKPab**	**01 25 03.3**	**+5.1**
PV01	**Paradox Valley**	**155.00**	**350**	*e*PKPbc		PKPdf	01 24 43.2	+8.5
MSU	**Marysvale**	**155.03**	**357**	*e*PKPdf		**PKPdf**	**01 24 39.4**	**+4.6**
MSU				*e*PKPbc		PKPab	01 24 48.4	-10
MVU	**Marysvale**	**155.04**	**357**	PFAKE			01 24 50.0	-9.0
MVU	comp=Z,1μm,22.0s			LR		LR		
S20A	**Disappointment**	**155.25**	**349**	⇑P		PKPbc	01 24 40.5	
S20A	baz=155			⇑P			01 24 40.5	
S20A	baz=155			⇑P			01 24 40.5	
S16A	**Weppner Ranch,**	**155.78**	**355**	⇓P		PKPdf	01 24 43.4	+7.7
S16A	baz=155			⇓P		PKPdf	01 24 43.4	+7.7
S16A	baz=155			⇓P		PKPdf	01 24 43.4	+7.7
S17A	**Black Ridge (B**	**155.79**	**354**	⇓P		PKPdf	01 24 43.2	+7.5
S17A	baz=155			⇓P		PKPdf	01 24 43.2	+7.5
S17A	baz=155			⇓P		PKPdf	01 24 43.2	+7.5
MVCO	**Mesa Verde**	**155.88**	**349**	PFAKE			01 24 50.0	-13
MVCO	comp=Z,2μm,21.0s			LR		LR		
AMTX	**Amarillo**	**155.98**	**335**	*e*PKPdf		**PKPdf**	**01 24 41.0**	**+5.1**
AMTX	comp=Z,1μm,22.0s			LR		LR		
V25A	**Rancho No Teng**	**156.21**	**341**	⇓P		**PKPdf**	**01 24 39.0**	**+2.7**
V25A	baz=156			⇓P		**PKPdf**	**01 24 39.0**	**+2.7**
V25A	baz=156			⇓P		**PKPdf**	**01 24 39.0**	**+2.7**
U18A	**Rough Rock, Ch**	**156.88**	**352**	⇓P		**PKPdf**	**01 24 38.0**	**+0.8**
U18A	baz=156			⇓P		**PKPdf**	**01 24 38.0**	**+0.8**
U18A	baz=156			⇓P		**PKPdf**	**01 24 38.0**	**+0.8**
W24A	**Lazy 6 Ranch,**	**157.04**	**342**	⇑P		**PKPdf**	**01 24 39.1**	**+1.7**
W24A	baz=157			⇑P		**PKPdf**	**01 24 39.1**	**+1.7**
W24A	baz=157			⇑P		**PKPdf**	**01 24 39.1**	**+1.7**
DAC	**Darwin (Calif)**	**157.08**	**8**	PFAKE			01 24 50.0	+13
DAC	comp=Z,1μm,20.0s			LR		LR		
ANMO	**Albuquerque**	**157.59**	**344**	PKPab		**PKPab**	**01 25 08.6**	**-1.4**
	comp=Z,5.8nm,1.0s,baz=343,slow=4.3,SNR=3.8							
ANMO	**Albuquerque**	**157.59**	**344**	*e*PKIKP		**PKPdf**	**01 24 40.3**	**+2.2**
ANMO							01 25 08.6	
ANMO	comp=Z,1μm,20.0s			MLR		MLR		
ANMO	**Albuquerque**	**157.59**	**344**	*e*PKPdf		**PKPdf**	**01 24 40.3**	**+2.2**
ANMO				PKPab		**PKPab**	**01 25 08.6**	**-1.4**
ANMO	comp=Z,1μm,20.0s			LR		LR		
WUAZ	**Wupatki**	**157.95**	**354**	*e*PKPab		**PKPab**	**01 25 10.4**	**-1.0**
WUAZ	comp=Z,1μm,20.0s			LR		LR		
GSC	**Goldstone**	**158.14**	**6**	*e*PKPdf		**PKPdf**	**01 24 41.8**	**+3.1**
JCT	**Junction City**	**158.63**	**325**	PFAKE			01 24 50.0	+11
JCT	comp=Z,1μm,21.0s			LR		LR		
KVTX	**Kingsville**	**159.49**	**315**	PFAKE			01 24 50.0	+10
KVTX	comp=Z,1μm,21.0s			LR		LR		
PFO	**Pinyon Flat Ob**	**159.85**	**6**	PFAKE			01 24 50.0	+9.2
PFO	comp=Z,2μm,21.0s			LR		LR		
MNTX	**Cornudas Mount**	**160.24**	**338**	*e*PKPdf		**PKPdf**	**01 24 43.2**	**+2.1**
MNTX	comp=Z,2μm,21.0s			LR		LR		
TUC	**Tucson**	**161.05**	**352**	*e*PKPdf		PKPdf	01 24 47.9	+5.8
TUC	comp=Z,1μm,19.0s			LR		LR		
TXAR	**Lajitas Array**	**161.57**	**330**	PKP		**PKPdf**	**01 24 40.8**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=106,slow=1.3,SNR=2.9							
TXAR				PKPab		**PKPab**	**01 25 27.1**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=9.9,slow=2.1,SNR=3.1							
TXAR	**Lajitas Array**	**161.57**	**330**	PKIKP		**PKPdf**	**01 24 40.8**	**-2.0**
TXAR							01 25 27.1	
TXAR	**Lajitas Array**	**161.57**	**330**	PKP		**PKPdf**	**01 24 40.8**	**-2.0**
TXAR				PKPab		**PKPab**	**01 25 27.1**	**-0.2**

MEX 13 01:20:00.4±0.7, 18°31N×102°47W, h5km±9km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.83**	**269**	*e*P		Pg	01 20 14.3	-2.1
MMIG				*i* S		Sg	01 20 25.6	-1.5
ZIIG	**Zihuatanejo**	**1.19**	**126**	*i* P		Pg	01 20 20.2	-3.0
ZIIG				*i* S		Sg	01 20 34.8	-3.8
EZ5V		**1.58**	**318**	*e*P		Pn	01 20 26.1	-3.4
EZ5V				*i* S		Sn	01 20 46.1	-4.5
R15V		**1.67**	**301**	*e*P		Pn	01 20 26.8	-3.6
R15V				*e*S		Sn	01 20 47.1	-5.2
MOIG	**Morelia**	**1.83**	**41**	*e*P		Pn	01 20 28.6	-4.3
MOIG				*i* S		Sn	01 20 51.1	-5.5
SFJM	**Santa Fe**	**2.23**	**346**	*e*P		Pn	01 20 34.3	-4.0
SFJM				*e*S		Sn	01 21 03.6	-2.9
CAIG	**El Cayaco**	**2.45**	**120**	*i* P		Pn	01 20 38.2	-2.8
CAIG				*i* S		Sn	01 21 07.1	-4.2

MEX 13 01:20:01.4±0.6, 15°37N×94°72W, h16km±42km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.40**	**287**	*e*P		Pn	01 20 22.9	-3.4
HUIG				*e*S		Sn	01 20 38.7	-5.8
PCIG		**1.48**	**77**	*e*P		Pn	01 20 23.2	-4.1
PCIG				*i* S		Sn	01 20 40.9	-5.6
CMIG	**Matias Romero**	**1.72**	**355**	*e*P		Pn	01 20 27.2	-3.5
CMIG				*i* S		Sn	01 20 47.2	-5.2
TGIG		**2.08**	**47**	*e*P		Pn	01 20 33.3	-2.4
TGIG				*i* S		Sn	01 20 57.0	-4.3
VHO	**Vista Hermosa**	**2.58**	**311**	*e*P		Pn	01 20 39.8	-2.9
VHO				*e*S		Sn	01 21 09.5	-4.5
CCIG	**Comitan**	**2.64**	**70**	*e*P		Pn	01 20 41.4	-2.3
CCIG				*e*S		Sn	01 21 11.3	-4.3
PNIG	**Pinotepa**	**3.44**	**288**	*e*P		Pn	01 20 52.2	-2.2
PNIG				*i* S		Sn	01 21 30.1	-4.7
UTMO	**Huajuapan**	**3.84**	**310**	*i* P		Pn	01 20 58.0	-2.2
UTMO				*e*S		Sn	01 21 42.1	-3.1

IDC 13 01:27:46.0±1.1, 8°98N×150°70E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.6/6, ML5.2/1, Error ellipse: s-maj=34.8km s-min=28.9km az=115.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.33**	**309**		Pn	Pn	01 29 34.4	0.0
	38nm,0.3s,baz=140,slow=16,SNR=6.3							
GUMO						Sn	01 30 53.4	-5.0
	30nm,0.3s,baz=163,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**32.95**	**209**	P		P	01 34 22.4	-0.2
	2.3nm,0.9s,baz=32,slow=9.8,SNR=6.9							
SONM	**Songino Array**	**53.78**	**324**	P		P	01 37 11.1	+0.5
	1.1nm,0.9s,baz=113,slow=9.0,SNR=8.9							
MKAR	**Makanchi Array**	**68.75**	**317**	P		P	01 38 51.5	-0.4
	0.4nm,0.7s,baz=106,slow=6.8,SNR=4.1							
ILAR	**Eielson Array**	**70.36**	**24**	P		P	01 39 00.3	-1.2
	0.2nm,0.5s,baz=243,slow=6.0,SNR=4.6							
YKA	**Yellowknife Ar**	**84.27**	**28**	P		P	01 40 19.9	+0.4
	0.2nm,0.7s,baz=275,slow=5.8,SNR=3.4							
NVAR	**Mina Array Bea**	**85.27**	**52**	P		P	01 40 26.2	+0.8
	0.3nm,0.5s,baz=268,slow=6.3,SNR=3.6							
DBIC	**Dimbokro**	**151.10**	**302**	PKPbc		PKPbc	01 47 42.0	-0.3
	2.6nm,0.7s,baz=45,slow=1.4,SNR=3.0							

CSEM 13 01:29:32.9, 40°51N×34°58E, h4km, MD2.5, After ISK
ISK 13 01:29:32.9, 40°51N×34°58E, h4km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.33**	**174**	*e*PG		Pg	01 29 40.1	+0.6
CORM				*e*SG		Sg	01 29 45.2	+1.3
CORM	**Corum**	**0.33**	**174**	*e*Pg		Pg	01 29 40.1	+0.6
CORM				*e*Sg		Sg	01 29 45.2	+1.3
YOZ	**Yozgat**	**1.03**	**147**	*e*PG		Pg	01 29 53.2	+0.3
YOZ				*e*SG		Sb	01 30 08.4	+0.7
YOZ	**Yozgat**	**1.03**	**147**	*e*Pg		Pg	01 29 53.2	+0.2
YOZ				*e*Sg		Sb	01 30 08.4	+0.8
KAMT	**Kaman**	**1.32**	**211**	*e*PN		Pb	01 29 58.8	+0.4
KAMT				*e*SN		Sn	01 30 17.6	+1.2
KAMT	**Kaman**	**1.32**	**211**	*e*Pn		Pb	01 29 58.8	+0.4
KAMT				*e*Sn		Sn	01 30 17.6	+1.2
AFSR	**Afar-Bala (A**	**1.57**	**228**	*e*PN		Pb	01 30 02.2	-0.5
AFSR	**Afar-Bala (A**	**1.57**	**228**	*e*Pn		Pb	01 30 02.3	-0.4

IDC 13 01:31:00.1±3.2, 0°27S×132°84E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=175.3km s-min=28.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.61**	**176**	P		P	01 35 32.1	+0.6
	0.2nm,0.3s,baz=355,slow=12,SNR=3.5							
WRA				S		Sn	01 38 55.1	-17
	0.1nm,0.3s,baz=347,slow=24,SNR=2.8							
ASAR	**Alice Springs**	**23.29**	**178**	P		P	01 36 08.5	-1.2
	1.0nm,0.7s,baz=360,slow=11,SNR=7.5							
MKAR	**Makanchi Array**	**64.33**	**324**	P		P	01 41 37.6	-0.1
	0.5nm,0.7s,baz=109,slow=7.5,SNR=4.2							

IDC 13 01:31:41.9±2.5, 5°98N×74°10W, h52km±25km, mb3.6/10, mb1 3.8/10, mb1mx3.6/22, mbtmp3.6/10, Error ellipse: s-maj=26.2km s-min=19.3km az=75.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.14**	**192**	P		Pn	01 32 01.3	-0.7
	751nm,0.3s,baz=63,slow=14,SNR=1613							
ROSC				S		Sn	01 32 17.1	+0.2
	854nm,0.3s,baz=252,slow=19,SNR=22							
LPAZ	**La Paz**	**22.89**	**165**	P		P	01 36 42.9	+0.6
	0.8nm,0.4s,baz=360,slow=7.1,SNR=5.9							
SIV	**San Ignacio**	**25.35**	**150**	P		P	01 37 03.9	-0.4
	0.6nm,0.5s,baz=325,slow=11,SNR=2.7							
SCHQ	**Schefferville**	**49.07**	**6**	P		P	01 40 25.0	+1.2
	1.1nm,0.5s,baz=207,slow=11,SNR=5.7							
YKA	**Yellowknife Ar**	**63.72**	**340**	P		P	01 42 07.3	-0.6
	0.9nm,0.6s,baz=132,slow=6.8,SNR=19							
DBIC	**Dimbokro**	**68.77**	**85**	P		P	01 42 40.7	-0.5
	1.5nm,0.8s,baz=264,slow=9.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**74.86**	**78**	P		P	01 43 17.0	-0.8
	0.3nm,0.5s,baz=284,slow=6.6,SNR=9.9							
ILAR	**Eielson Array**	**77.32**	**335**	P		P	01 43 29.7	-1.1
	0.3nm,0.8s,baz=122,slow=4.4,SNR=4.3							
DAVOX	**Davos/Dischmat**	**81.56**	**44**	P		P	01 43 55.1	+0.7
	2.4nm,0.6s,baz=304,slow=11,SNR=6.0							
GERES	**GERESS Array B**	**84.10**	**42**	P		P	01 44 08.5	+1.0
	0.6nm,0.6s,baz=262,slow=2.7,SNR=6.4							
ARCES	**ARCESS Array B**	**87.80**	**20**	P		P	01 44 26.0	+0.8
	7.8nm,1.1s,baz=282,slow=5.6,SNR=3.6							
MKAR	**Makanchi Array**	**123.44**	**19**	PKP		PKPdf	01 50 33.6	-0.1
	0.2nm,0.4s,baz=314,slow=2.1,SNR=8.2							
ASAR	**Alice Springs**	**147.83**	**234**	PKPbc		PKPbc	01 51 20.9	-1.2
	0.4nm,0.5s,baz=117,slow=4.1,SNR=6.1							
WRA	**Warramunga Arr**	**149.08**	**241**	PKPbc		PKPbc	01 51 25.5	+0.1
	0.5nm,0.4s,baz=108,slow=2.8,SNR=12							

IDC 13 01:48:35.3±0.5, 35°88N×72°15E, h0km, mb4.4/24, mb1 4.5/27, mb1mx4.4/33, mbtmp4.4/27, ML4.2/3, Error ellipse: s-maj=14.9km s-min=11.8km az=14.0
MOS 13 01:48:39.2±1.2, 35°95N×72°27E, h34km, mb4.7/35, Error ellipse: s-maj=7.6km s-min=4.4km az=105.1
NEIC 13 01:48:41.0±0.7, 35°87N×72°34E, h42km±7km, mb4.8/24, Error ellipse: s-maj=8.2km s-min=5.3km az=50.0
NEIC Felt at Asadabad, Afghanistan.
ISCJB 13 01:48:42.9±0.4, 36°06N±0°02×72°29E±0°03, h66km±4km, mb4.4/73, Error ellipse: s-maj=4.5km s-min=3.5km az=4.0
BJI 13 01:48:42.8, 36°14N×72°41E, h49km, mB5.0/8, mb4.5/23, ML4.3/4, Ms4.4/8, Ms7 4.2/7
NNC 13 01:48:47.1±3.6, 36°31N×72°03E, h75km±41km, mb4.3, mpv4.6, Error ellipse: s-maj=26.8km s-min=18.8km az=29.0

ISC 13 01:48:43.1±0.4, 36°06N±0°03×72°29E±0°03, h56km±4km, h55km:pP-P, n292, σ1°60/293, mb4.5/73, MS4.2/3, 29C-17D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.25**	**188**	P		**Pn**	**01 49 18.7**	**+0.6**
CEP				S		Sn	01 49 51.0	+6.2
CHCP	**Chirah Chowk**	**2.52**	**161**	⇑P		Pn	01 49 24.7	+2.9
KBL	**Kabul**	**3.05**	**241**	*e*PN		**Pn**	**01 49 30.1**	**+1.0**
KBL				*e*S		**Sn**	**01 50 07.1**	**+2.5**
KBL	**Kabul**	**3.05**	**241**	*e*Pn		**Pn**	**01 49 30.1**	**+1.0**
KBL				*e*S		**Sn**	**01 50 07.1**	**+2.5**
THW	**Thamme Wali**	**3.29**	**188**	⇓P		**Pn**	**01 49 33.5**	**+1.3**
SARP	**Sargodha**	**4.14**	**175**	P		**Pn**	**01 49 45.0**	**+1.2**
SARP				S		**Sn**	**01 50 35.0**	**+4.1**
KSH	**Kashi**	**4.52**	**39**	P		**Pn**	**01 49 47.3**	**-1.9**
KSH				S		Sn	01 50 32.2	-8.3
KSH	comp=N,880nm,1.0s			smax		smax		
KSH	comp=E,550nm,1.0s			smax		smax		
DLH	**Dalhousie**	**4.64**	**138**	*e*P		**Pn**	**01 49 52.0**	**+1.0**
DLH				*e*x		**Sn**	**01 50 46.0**	**+2.3**
AML	**Almayashu**	**6.16**	**10**	P		**Pn**	**01 50 14.1**	**+2.2**
AML	SNR=50			P		**Pn**	**01 50 14.1**	**+2.2**
	SNR=50							
KZA	**Kyzart**	**6.44**	**20**	P		**Pn**	**01 50 17.8**	**+2.1**
KZA	SNR=14			P		**Pn**	**01 50 17.8**	**+2.1**
	SNR=14							
EKS2	**Erkin-Say**	**6.70**	**9**	P		**Pn**	**01 50 21.4**	**+2.4**
EKS2	SNR=25			P		**Pn**	**01 50 21.4**	**+2.4**
	SNR=25							
EKS2	**Erkin-Say**	**6.70**	**9**	*e*PN		**Pn**	**01 50 21.3**	**+2.4**
EKS2	**Erkin-Say**	**6.70**	**9**	*e*Pn		**Pn**	**01 50 21.3**	**+2.4**
AAK	**Ala-Archa**	**6.79**	**14**	P		**Pn**	**01 50 22.8**	**+2.5**
AAK	SNR=30			P		**Pn**	**01 50 22.8**	**+2.5**
	SNR=30							
AAK	**Ala-Archa**	**6.79**	**14**	*e*PN		**Pn**	**01 50 22.8**	**+2.5**
AAK				*e*S		**Sn**	**01 51 39.7**	**+3.6**
AAK	**Ala-Archa**	**6.79**	**14**	*e*Pn		**Pn**	**01 50 22.8**	**+2.5**
AAK				*e*S		**Sn**	**01 51 39.7**	**+3.6**
ULHL	**Ulahol**	**6.90**	**25**	P		Pn	01 50 25.4	+3.5
ULHL	SNR=10			P		Pn	01 50 25.4	+3.5
	SNR=10							
KBK	**Karagaybulak**	**6.90**	**17**	P		Pn	01 50 24.8	+2.9
KBK	SNR=18			P		Pn	01 50 24.8	+2.9
	SNR=18							
FRU	**Bishkek**	**7.00**	**14**	*e*PN		Pn	01 50 28.0	+4.9
FRU				*e*S		**Sn**	**01 51 45.0**	**+3.7**
FRU	comp=Z,57nm,1.8s			pmax		pmax		
FRU	comp=N,256nm,2.2s			smax		smax		
KK31	**Karatay Array**	**7.17**	**350**	⇑P		**Pn**	**01 50 26.0**	**+0.7**
KK31	comp=N,28nm,0.5s,baz=176,slow=13,SNR=679			⇓S		**Sn**	**01 51 43.6**	**-1.8**
	comp=N,100nm,0.9s,baz=171,slow=22,SNR=3.5							
KK31	**Karatay Array**	**7.17**	**350**	*e*P		**Pn**	**01 50 26.4**	**+1.1**
KK31				S		**Sn**	**01 51 43.5**	**-1.8**
KK31	comp=Z,44nm,0.5s			pmax		pmax		
KK31	comp=N,31nm,0.5s			smax		smax		
KKAR	**Karatay Array**	**7.17**	**350**	*e*P		**Pn**	**01 50 26.4**	**+1.1**
KKAR				*e*S		**Sn**	**01 51 49.0**	**+3.6**
KKAR	**Karatay Array**	**7.17**	**350**	*e*Pn		**Pn**	**01 50 26.4**	**+1.1**
KKAR				*e*S		**Sn**	**01 51 49.0**	**+3.6**
KKR	**Kurukshetra**	**7.17**	**147**	*e*P		**Pn**	**01 50 26.9**	**+1.5**
KKR				*e*S		**Sn**	**01 51 40.6**	**-4.9**
CHMS	**Chumysh**	**7.19**	**15**	P		**Pn**	**01 50 28.0**	**+2.4**
CHMS	SNR=17			P		**Pn**	**01 50 28.0**	**+2.4**
	SNR=17							
TKM2	**Tokmak 2**	**7.32**	**19**	P		**Pn**	**01 50 29.9**	**+2.4**
TKM2	SNR=9.2			P		**Pn**	**01 50 29.9**	**+2.4**
	SNR=9.2							
TKM2	**Tokmak 2**	**7.32**	**19**	⇑P		**Pn**	**01 50 29.5**	**+2.0**
TKM2	comp=N,

USP P **Pn** **01 50 30.2 +1.7**
SNR=20
NDI New Delhi 8.45 149 *eP* **Pn** **01 50 44.0 +1.0**
NDI *eS* Sn 01 52 10.6 -6.3
AYAN Aya Nagar 8.59 150 *eP* **Pn** **01 50 44.7 -0.1**
AYAN *eS* Sn 01 52 12.6 -7.7
KUDL Kundal 8.66 155 *ex* **Pn** **01 50 44.0 -1.8**
KUDL *eS* **Sn** **01 52 16.0 -5.9**
DANN Dangsing 12.38 125 *eP* Pn 01 51 33.5 -3.4
comp=N,118nm,0.6s
DANN Dangsing 12.38 125 *eP* Pn 01 51 33.5 -3.4
comp=N,118nm,0.6s
KOLN Koldanda 12.67 128 *eP* Pn 01 51 37.0 -3.7
comp=N,113nm,0.5s
KOLN Koldanda 12.67 128 *eP* Pn 01 51 37.0 -3.7
comp=N,113nm,0.5s
MK31 Makanchi Array 13.08 32 ⇓P **Pn** **01 51 45.9 -0.2**
comp=N,6.1nm,0.6s,baz=202,slow=11,SNR=102
MK31 Makanchi Array 13.08 32 *i* P **Pn** **01 51 45.8 -0.2**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 13.08 32 *eP* **Pn** **01 51 45.9 -0.2**
MKAR Makanchi Array 13.08 32 Pn **Pn** **01 51 46.4 +0.3**
comp=Z,0.3nm,0.3s,baz=219,slow=16,SNR=24
MKAR Makanchi Array 13.08 32 P **Pn** **01 51 46.4 +0.3**
MKAR Makanchi Array 13.08 32 Pn **Pn** **01 51 46.4 +0.3**
GKN Gorkha 13.19 124 *eP* Pn 01 51 43.6 -4.2
comp=Z,138nm,0.5s
GKN Gorkha 13.19 124 *eP* Pn 01 51 43.6 -4.2
comp=Z,138nm,0.5s
DMN Daman 13.76 124 *eP* Pn 01 51 51.2 -4.5
comp=Z,107nm,0.6s
DMN Daman 13.76 124 *eP* Pn 01 51 51.2 -4.5
comp=Z,107nm,0.6s
KKN Kakani 13.76 123 *eP* Pn 01 51 51.0 -4.7
comp=Z,86nm,0.5s
KKN Kakani 13.76 123 *eP* Pn 01 51 51.0 -4.7
KKN pmax pmax
comp=Z,86nm,0.5s
KKN Kakani 13.76 123 *eP* Pn 01 51 51.0 -4.7
comp=Z,86nm,0.5s
PKI Pulchoki 13.99 124 *eP* Pn 01 51 54.2 -4.6
comp=Z,128nm,0.7s
PKI Pulchoki 13.99 124 *eP* Pn 01 51 54.2 -4.6
PKI pmax pmax
comp=Z,128nm,0.7s
PKI Pulchoki 13.99 124 *eP* Pn 01 51 54.2 -4.6
comp=Z,128nm,0.7s
GUN Gumba 14.10 121 *eP* Pn 01 51 54.9 -5.4
comp=Z,100nm,0.6s
GUN Gumba 14.10 121 *eP* Pn 01 51 54.9 -5.4
comp=Z,100nm,0.6s
WMQ Urumqi 14.12 52 P **Pn** **01 51 58.3 -1.9**
WMQ pP **P** **01 52 05.3 -1.0**
WMQ S **Sn** **01 54 31.8 -3.6**
WMQ pmax pmax
comp=Z,31nm,0.6s
JIRN Jiri 14.47 121 *eP* Pn 01 52 00.0 -5.2
comp=Z,53nm,0.5s
JIRN Jiri 14.47 121 *eP* Pn 01 52 00.0 -5.2
comp=Z,53nm,0.5s
RAMN Ramite 15.20 123 *eP* Pn 01 52 09.0 -5.6
comp=Z,97nm,0.6s
RAMN Ramite 15.20 123 *eP* Pn 01 52 09.0 -5.6
comp=Z,97nm,0.6s
KURK Kurchatov 15.35 15 Pn **P** **01 52 17.9 -1.9**
comp=Z,0.4nm,0.3s,baz=203,slow=11,SNR=6.6
KURK Kurchatov 15.35 15 ⇑P **P** **01 52 19.6 -0.2**
comp=Z,28nm,1.0s
KURK Kurchatov 15.35 15⇑ *eP* **Pn** **01 52 15.6 -0.4**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 15.35 15 *ePn* **Pn** **01 52 16.7 +0.7**
comp=Z,29nm,1.0s
TAPN Taplejung 15.72 119 *eP* Pn 01 52 15.8 -5.5
comp=Z,88nm,0.6s
TAPN Taplejung 15.72 119 *eP* Pn 01 52 15.8 -5.5
comp=Z,88nm,0.6s
ODAN Odare 15.80 121 *eP* Pn 01 52 16.8 -5.5
comp=Z,77nm,0.5s
ODAN Odare 15.80 121 *eP* Pn 01 52 16.8 -5.5
comp=Z,77nm,0.5s
AB31 Akbulak array 15.98 329 ⇓P **Pn** **01 52 20.8 -3.4**
comp=Z,13nm,0.7s,baz=141,slow=13,SNR=223
AB31 ⇑S Sn 01 55 09.8 -11
comp=Z,9.4nm,0.7s,baz=148,slow=23,SNR=6.0
AB31 Akbulak array 15.98 329 *eP* **Pn** **01 52 21.3 -2.9**
AB31 pmax pmax
comp=Z,12nm,0.5s
ABKAR Akbulak array 15.98 329 *ePn* **Pn** **01 52 20.9 -3.3**
ABKAR *eS* Sn 01 55 10.3 -10
VOSK Vostochnaya 16.69 357 ⇑P **Pn** **01 52 30.8 -2.2**
comp=Z,8.2nm,0.8s
VOSK Vostochnaya 16.69 357 P **Pn** **01 52 30.8 -2.2**
VOSK pmax pmax
comp=Z,56nm,1.6s
BVA0 Borovoye Array 17.02 356 ⇑P **P** **01 52 37.6 -0.6**
comp=Z,1.7nm,0.7s,baz=168,slow=10,SNR=14
BVA0 Borovoye Array 17.02 356 *i* P **P** **01 52 37.8 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 17.02 356 P **Pn** **01 52 36.2 -0.9**
comp=Z,1.2nm,0.3s,baz=165,slow=13,SNR=34
BVAR Borovoye Array 17.02 356 P **Pn** **01 52 36.2 -0.9**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 17.02 356 P **Pn** **01 52 36.2 -0.9**
ZRNK Zerenda 17.05 353 ⇓P **Pn** **01 52 37.5 0.0**
comp=Z,23nm,1.3s
ZRNK Zerenda 17.05 353 P **Pn** **01 52 37.5 0.0**
ZRNK pmax pmax
comp=Z,83nm,2.4s
LSA Lhasa 17.06 106 P **Pn** **01 52 35.9 -2.3**
LSA Lhasa 17.06 106 *eP* **Pn** **01 52 36.2 -2.0**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 17.06 106 *ePn* **Pn** **01 52 36.2 -2.0**
comp=Z,111nm,0.7s
BRVK Borovoye 17.06 356 *eP* **Pn** **01 52 35.8 -1.8**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 17.06 356 *ePn* **Pn** **01 52 35.8 -1.8**
comp=Z,15nm,0.8s
AKTO Aktyubinsk 17.69 329 P **Pn** **01 52 44.2 -1.2**
comp=Z,2.1nm,0.3s,baz=140,slow=12,SNR=92
AKTO Aktyubinsk 17.69 329 ⇓P **Pn** **01 52 43.6 -1.8**
comp=Z,4.7nm,0.7s
AKTO ⇓S **Sn** **01 55 56.9 -4.7**
comp=Z,4.1nm,1.0s
AKTO Aktyubinsk 17.69 329 P **Pn** **01 52 44.1 -1.3**
AKTO S **Sn** **01 55 56.9 -4.7**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO smax smax
comp=N,4.0nm,1.0s
AKTO Aktyubinsk 17.69 329 P **Pn** **01 52 44.2 -1.2**
HYB Hyderabad 19.38 162 *i* P **Pn** **01 53 09.0 +2.9**
HYB *eS* **S** **01 56 36.0 -4.8**
ZAA0 Zalesovo Array 19.91 22 *eP* **P** **01 53 09.8 -0.1**
ZALV Zalesovo Beam 19.91 22 P **P** **01 53 09.9 0.0**
comp=N,5.5nm,0.4s,baz=217,slow=9.4,SNR=33
ZALV Zalesovo Beam 19.91 22 P **P** **01 53 09.9 0.0**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 19.91 22 P **P** **01 53 09.9 0.0**
NVS Novosibirsk 20.25 19 *eP* **P** **01 53 12.0 -1.6**
NVS *eS* **S** **01 56 56.4 -1.0**
NVS pmax pmax
comp=N,14nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s
NVS smax smax
comp=N,21nm,1.7s
NVS smax smax
comp=E,9.0nm,1.7s
UMR Umm Al-Rimmam 21.62 260 *eP* **P** **01 53 27.8 -0.7**
UMR AMb AMB 01 53 32.5
comp=Z,31nm,0.8s
DGRG David-gareji 21.62 293 P **P** **01 53 32.9 +4.3**
MIB Mutribah 21.82 261 *eP* **P** **01 53 30.3 -0.4**
MIB AMb AMB 01 53 33.6
comp=Z,58nm,0.9s
GTA Gaotai 21.99 73 P **P** **01 53 34.3 +1.6**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,380nm,5.9s
GTA LR LR
comp=N,370nm,15.0s
GTA LR LR
comp=E,440nm,14.5s
GTA LR LR
comp=Z,400nm,14.0s
RDF Al-Radifah 22.01 258 *eP* **P** **01 53 32.8 0.0**
RDF AMb AMB 01 53 38.2
comp=Z,172nm,2.0s
GNI Garni 22.02 289 P **P** **01 53 34.6 +1.7**
comp=Z,16nm,0.5s,baz=117,slow=2.3,SNR=28
GNI Garni 22.02 289⇓ *eP* **P** **01 53 34.4 +1.4**
GNI pmax pmax
comp=Z,47nm,1.2s
GNI Garni 22.02 289 *eP* **P** **01 53 34.4 +1.4**
comp=Z,55nm,1.0s
NAY Al-Naaiem 22.12 259 *eP* **P** **01 53 33.2 -0.8**
NAY AMb AMB 01 53 37.2
comp=Z,40nm,0.7s
TBLG Delisi 22.13 293 *eP* **P** **01 53 35.2 +1.3**
TBLG Delisi 22.13 293 P **P** **01 53 35.3 +1.3**
SVE Sverdlovsk 22.21 343⇑ *iP* **P** **01 53 34.4 -0.2**
SVE pmax pmax
comp=Z,35nm,1.4s
ARU Arti 22.40 340 *c iP* **P** **01 53 36.8 +0.1**
ARU 01 54 08.8
ARU S S 01 57 31.5 -7.4
ARU SS Sn 01 58 14.5 +20
ARU pmax pmax
comp=Z,39nm,1.2s
ARU Arti 22.40 340 *eP* **P** **01 53 36.8 +0.1**
comp=Z,46nm,1.3s
ZEI Tsey 22.87 296 *eP* **P** **01 53 43.6 +1.6**
ZEI pmax pmax
comp=Z,14nm,1.2s
AKH Akhalkalaki 23.03 292 P **P** **01 53 46.4 +2.7**
ONI Oni 23.17 295 P **P** **01 53 46.6 +1.7**
KIV Kislovodsk 23.91 298 ⇑P **P** **01 53 51.9 +0.1**
comp=Z,20nm,0.8s
KIV Kislovodsk 23.91 298 *eP* **P** **01 53 52.5 +0.7**
KIV pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 23.91 298 *eP* **P** **01 53 52.0 +0.1**
comp=Z,21nm,0.8s
LZH Lanzhou 25.45 81 *eP* **P** **01 54 08.7 +2.7**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,56nm,6.8s
LZH LR LR
comp=E,550nm,15.0s
LZH LR LR
comp=Z,510nm,16.0s
SOKR Solikamsk 25.59 342⇑ *iP* **P** **01 54 08.2 +1.5**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
MOY Mondy 25.70 44 *eP* P 01 54 17.7 +10
ZAK Zakamensk 26.51 48 *eP* **P** **01 54 17.3 +2.0**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
VRHR Novokhopersk 26.58 314 *eP* **P** **01 54 15.6 -0.2**
SONM Songino Array 27.74 54 P **P** **01 54 28.0 +1.6**
comp=Z,0.9nm,0.4s,baz=256,slow=9.5,SNR=14
SONM Songino Array 27.74 54 P **P** **01 54 28.0 +1.6**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 27.74 54 P **P** **01 54 28.0 +1.6**
VSR Storozhevoye 28.06 313 *eP* **P** **01 54 27.9 -1.2**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.0s
KMI Kunming 28.28 104 P P 01 54 35.9 +4.3
KMI pP pP 01 54 46.5 +0.9
KMI sP sP 01 54 54.0 +1.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 29.33 120 P **P** **01 54 41.2 +0.5**
comp=Z,0.6nm,0.3s,baz=310,slow=9.4,SNR=3.0
CMAR Chiang Mai Arr 29.33 120 P **P** **01 54 41.2 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 29.33 120 P **P** **01 54 41.2 +0.5**
XAN Xi'an 29.95 83 P **P** **01 54 45.9 -0.2**
XAN pmax pmax
comp=Z,1.0nm,1.2s
MMAI Mount Meron Ar 30.42 275 P **P** **01 54 50.2 -0.1**
comp=Z,5.4nm,1.1s,baz=66,slow=10,SNR=4.5
MMAI Mount Meron Ar 30.42 275 P **P** **01 54 50.2 -0.1**
BR131 Keskin Array S 30.56 289 *eP* **P** **01 54 51.9 +0.4**
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 30.56 289 *eP* **P** **01 54 51.6 +0.1**
comp=Z,2.4nm,0.7s,baz=101,slow=9.1,SNR=19
BRTR Keskin Array B 30.56 289 P **P** **01 54 51.7 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 30.56 289 P **P** **01 54 51.6 +0.1**
HHC Hu-ho-hao-te 30.95 69 *eP* **P** **01 54 54.3 -0.6**
HHC pP **pP** **01 55 10.8 +1.8**
HHC sP **sP** **01 55 18.0 +2.4**
HHC PP PP 01 55 59.3 -6.2
HHC S **S** **01 59 54.3 -1.1**
HHC sS **sS** **02 00 19.1 -0.2**
HHC SS ScP 02 01 40.7 +13
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,360nm,8.0s
HHC LR LR
comp=N,660nm,13.5s
HHC LR LR
comp=E,350nm,13.1s
HHC LR LR
comp=Z,430nm,14.7s
OBN Obninsk 30.95 319⇓ *iP* **P** **01 54 55.1 +0.6**
OBN pmax pmax
comp=Z,25nm,0.7s
OBN Obninsk 30.95 319 *eP* **P** **01 54 55.2 +0.6**
comp=Z,27nm,0.6s
AKASG Malin Array Be 34.03 309 P **P** **01 55 21.2 -0.3**
comp=Z,4.7nm,0.6s,baz=82,slow=8.0,SNR=16
AKASG Malin Array Be 34.03 309 P **P** **01 55 21.3 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 34.03 309 P **P** **01 55 21.2 -0.3**
KIEV Kiev 34.04 309⇓ *eP* **P** **01 55 20.9 -0.8**
KIEV Kiev 34.04 309 *eP* **P** **01 55 21.1 -0.6**
comp=Z,207nm,2.8s
BOD Bodaibo 35.04 38 *eP* **P** **01 55 31.0 +0.7**
BOD pmax pmax
comp=Z,3.0nm,1.8s
VRI Vrincioaia 35.35 300⇑ *iP* **P** **01 55 34.3 +1.2**
VRI Vrincioaia 35.35 300⇑ *iP* **P** **01 55 34.3 +1.2**
PLOR Plostina 35.40 300⇑ *iP* **P** **01 55 34.8 +1.2**
PLOR Plostina 35.40 300⇑ *iP* **P** **01 55 34.8 +1.2**
TESR 35.40 302⇓ *iP* **P** **01 55 33.3 -0.2**
MLR Muntele Rosu 35.90 300 P **P** **01 55 39.0 +1.1**
comp=Z,2.0nm,0.8s,baz=121,slow=1.1,SNR=18
MLR Muntele Rosu 35.90 300 P **P** **01 55 39.0 +1.1**
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 35.90 300 P **P** **01 55 39.0 +1.1**
MLR Muntele Rosu 35.90 300⇑ *iP* **P** **01 55 39.5 +1.5**
BURAR Bucovina Array 36.40 303⇓ *iP* **P** **01 55 42.7 +0.6**
BUR08 Bucovina Ar. S 36.41 303 *eP* **P** **01 55 42.4 +0.2**
VOIR 36.53 300⇓ P **P** **01 55 43.9 +0.6**
VOIR 36.53 300⇓ *iP* **P** **01 55 43.9 +0.6**
JOF Joensuu 36.77 330 *eP* **P** **01 55 45.5 +0.6**
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 36.77 330 *ep* **P** **01 55 45.5 +0.6**
comp=Z,9.0nm,0.6s
JOF Joensuu 36.77 330 *ep* **P** **01 55 45.5 +0.6**
comp=Z,9.0nm,0.6s
VTS Vitosha 38.09 295⇑ P **P** **01 55 57.7 +1.2**
VTS Vitosha 38.09 295⇑ *iP* **P** **01 55 57.7 +1.2**
DRGR 38.11 302⇓ P **P** **01 55 57.9 +1.3**
DRGR 38.11 302⇓ *iP* **P** **01 55 57.9 +1.3**
TRPA Tarpa 38.20 304⇑ *iP* **P** **01 55 58.7 +1.5**
FINES FINESS Array B 38.43 326 P **P** **01 55 59.6 +0.6**
comp=Z,8.8nm,0.6s,baz=110,slow=10.0,SNR=37
FINES FINESS Array B 38.43 326 P **P** **01 55 59.6 +0.6**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 38.43 326 P **P** **01 55 59.6 +0.6**
KAF Kangasniemi 38.56 327 *eP* **P** **01 55 59.7 -0.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 38.56 327 *ep* **P** **01 55 59.7 -0.4**
comp=Z,3.7nm,0.7s
KAF Kangasniemi 38.56 327 *ep* **P** **01 55 59.7 -0.4**
comp=Z,3.7nm,0.7s
BZS Buzias 38.93 300⇑ P **P** **01 56 03.3 -0.1**
BZS Buzias 38.93 300⇑ *iP* **P** **01 56 03.3 -0.1**
STHS Stebnicka Huta 39.06 306 *eP* **P** **01 56 04.4 -0.1**
STHS Stebnicka Huta 39.06 306 *eP* **P** **01 56 04.4 -0.1**
KECS Kecovo 39.57 305 *eP* **P** **01 56 08.3 -0.4**
KECS Kecovo 39.57 305 *eP* **P** **01 56 08.3 -0.4**
VYHS Vyhne 40.66 305 *ePP* PP 01 58 10.1 +18
MORC Moravsky Berou 41.46 307 *eP* **P** **01 56 24.0 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 41.46 307 *eP* **P** **01 56 24.0 -0.3**
comp=Z,3.7nm,0.8s
MORC Moravsky Berou 41.46 307⇑ *iP* **P** **01 56 25.2 +0.8**
KEV Kevo 41.60 338 *eP* P 01 56 17.2 -7.9
KEV pmax pmax
comp=Z,7.0nm,0.8s
KEV Kevo 41.60 338 *ep* P 01 56 17.2 -7.9
comp=Z,6.8nm,0.8s
KEV Kevo 41.60 338 *ep* P 01 56 17.2 -7.9
comp=Z,6.8nm,0.8s
ARCES ARCESS Array B 41.95 337 P **P** **01 56 28.7 +0.6**
comp=Z,6.2nm,0.6s,baz=114,slow=9.4,SNR=33
ARCES ARCESS Array B 41.95 337 P **P** **01 56 28.7 +0.6**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 41.95 337 P **P** **01 56 28.7 +0.6**
ARE0 ARCESS Array S 41.95 337 *eP* **P** **01 56 29.1 +1.0**
ARE0 ARCESS Array S 41.95 337 *eP* **P** **01 56 28.8 +0.7**
VRAC Vranov 42.10 306 P **P** **01 56 29.2 -0.3**
comp=Z,4.7nm,0.8s,baz=90,slow=6.6,SNR=7.9
VRAC Vranov 42.10 306 P **P** **01 56 29.2 -0.3**
VRAC pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 42.10 306 P **P** **01 56 29.2 -0.3**
VRAC Vranov 42.10 306⇑ *iP* **P** **01 56 30.5 +1.0**
DPC Dobruska-Polom 42.23 308 *eP* **P** **01 56 31.5 +0.9**
DPC pmax pmax
comp=Z,216nm,2.9s
DPC Dobruska-Polom 42.23 308 *eP* **P** **01 56 31.5 +0.9**
comp=Z,216nm,2.9s
CONA Conrad Observa 42.69 304⇑ *iP* **P** **01 56 35.1 +0.6**
comp=Z,3.0nm,0.7s
SOKA Soboth 43.38 303⇑ *iP* **P** **01 56 40.2 +0.2**
comp=Z,4.6nm,0.8s
BRG Berggiesshubel 43.71 309 *eP* **P** **01 56 39.5 -3.0**
comp=Z,5.1nm,1.1s
BRG *e* 01 56 43.8
comp=Z,3.6nm,0.6s
BRG Berggiesshubel 43.71 309 *eP* **P** **01 56 39.5 -3.0**
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.6s
YAK Yakutsk 43.73 35 *eP* **P** **01 56 42.5 +0.1**
YAK pmax pmax
comp=Z,16nm,0.5s
YAK Yakutsk 43.73 35 *eP* **P** **01 56 42.5 +0.1**
comp=Z,16nm,0.5s
KSAR Wonju Array Be 44.02 71 P **P** **01 56 47.2 +2.0**
KSAR Wonju Array Be 44.02 71 P **P** **01 56 47.1 +2.0**
GERES GERESS Array B 44.03 306 P **P** **01 56 45.0 -0.2**
comp=Z,0.7nm,0.8s,baz=77,slow=6.0,SNR=6.9
GERES GERESS Array B 44.03 306 P **P** **01 56 45.1 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 44.03 306 P **P** **01 56 45.0 -0.2**
KSRS Korea Array 44.04 71 P **P** **01 56 47.1 +1.9**
comp=Z,1.8nm,0.4s,baz=285,slow=7.3,SNR=4.8
KSRS Korea Array 44.04 71 P **P** **01 56 47.2 +1.9**
KSRS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 44.05 322 P **P** **01 56 45.4 +0.3**
comp=Z,37nm,0.6s,baz=98,slow=11,SNR=119
HFS Hagfors 44.05 322 P **P** **01 56 45.4 +0.3**
HFS pmax pmax
comp=Z,37nm,0.6s
HFS Hagfors 44.05 322 P **P** **01 56 45.4 +0.3**
TRO Tromso 44.09 336 *eP* **P** **01 56 47.4 +2.2**
TRO *ep*P **pP** **01 56 58.1 -1.7**
CLL Collm 44.28 309 *eP* **P** **01 56 48.0 +1.0**
CLL *e* 01 57 04.0
CLL Collm 44.28 309 *eP* **P** **01 56 48.0 +1.0**
CLL *es*P **sP** **01 57 04.0 -4.1**
MOR8 Moi Rana 44.71 331⇑ *iP* **P** **01 56 50.3 0.0**
MOR8 AMB AMB 01 57 02.0
comp=Z,188nm,4.7s
NC602 NORSAR Array S 45.17 323 *eP* **P** **01 56 54.1 0.0**
NB2 NORSAR Subarra 45.36 323 P **P** **01 56 55.4 -0.2**
comp=Z,16nm,0.6s,baz=94,slow=7.9
NOA NORSAR Array B 45.36 323 P **P** **01 56 55.3 -0.2**
comp=Z,24nm,0.7s,baz=96,slow=7.7,SNR=60
NOA NORSAR Array B 45.36 323 P **P** **01 56 55.3 -0.2**
NOA pmax pmax
comp=Z,24nm,0.7s
NOA NORSAR Array B 45.36 323 P **P** **01 56 55.3 -0.2**
NAO01 NORSAR Array S 45.50 323 *eP* **P** **01 56 56.5 -0.2**
comp=Z,15nm,0.8s
KONO Kongsberg 46.08 321 *eP* **P** **01 57 01.3 +0.1**
SPA0 Spitsbergen Ar 48.16 347 *eP* **P** **01 57 18.7 +1.5**
SPITS Spitsbergen Ar 48.16 347 P **P** **01 57 18.3 +1.1**
comp=Z,4.6nm,0.7s,baz=179,slow=9.7,SNR=9.3
SPITS Spitsbergen Ar 48.16 347 P **P** **01 57 18.3 +1.1**
SPITS pmax pmax
comp=Z,5.0nm,0.7s
SPITS Spitsbergen Ar 48.16 347 P **P** **01 57 18.4 +1.1**
CDF Champ du Feu 48.31 306 *eP* **P** **01 57 18.9 0.0**
comp=Z,4.6nm,0.8s
HINF Hinteralfeld 48.70 305 *eP* **P** **01 57 22.1 +0.3**
comp=Z,4.2nm,0.6s
HAU Haudompre 49.00 306 *eP* **P** **01 57 24.6 +0.5**
LPG La Plagne 49.26 302 *eP* **P** **01 57 27.0 +0.6**
comp=Z,17nm,1.0s
LPL La Plagne 49.27 302 *eP* **P** **01 57 27.2 +0.8**
PAGF Fort de Pagny 49.30 306 *eP* **P** **01 57 27.6 +1.3**
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 49.31 229 *eP* **P** **01 57 28.6 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 49.31 229 *eP* **P** **01 57 28.6 +1.5**
comp=Z,3.3nm,0.7s
SFTF Sexfontaines 49.82 306 *eP* **P** **01 57 31.5 +1.2**
BAIF Baives 49.98 309 *eP* **P** **01 57 32.8 +1.3**
comp=Z,17nm,1.0s
ORIF Oris-en-Rattie 50.00 302 *eP* **P** **01 57 32.8 +1.0**
comp=Z,8.9nm,0.9s
VIVF Saint-Julien-l 50.84 302 *eP* **P** **01 57 39.1 +1.0**
comp=Z,9.1nm,0.9s
AVF Avril sur Loir 51.25 305 *eP* **P** **01 57 42.0 +0.9**
comp=Z,6.1nm,0.6s
BGF Bois d'Agland 51.65 305 *eP* **P** **01 57 44.2 +0.1**
comp=Z,8.5nm,0.7s
MJAR Matsushiro Arr 52.15 69 P **P** **01 57 49.3 +1.4**
comp=Z,4.1nm,1.1s,baz=283,slow=8.8,SNR=4.0
MJAR Matsushiro Arr 52.15 69 P **P** **01 57 49.3 +1.4**
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 52.15 69 P **P** **01 57 49.3 +1.4**
LDF La Druitiere 53.07 308 *eP* **P** **01 57 55.2 +0.6**
comp=Z,6.9nm,0.6s
SEY Seymchan 54.21 34⇑ *eP* **P** **01 58 05.3 +2.7**
BILL Bilibino 58.55 26⇓ *eP* **P** **01 58 35.5 +2.1**
BILL pmax pmax
comp=Z,8.0nm,2.4s
ESDC Sonseca Array 58.58 299 P **P** **01 58 32.8 -1.5**
comp=Z,0.7nm,0.5s,baz=52,slow=7.8,SNR=10
ESDC Sonseca Array 58.58 299 P **P** **01 58 32.8 -1.5**
SUMG Summit 61.81 341 *i* P **P** **01 58 57.2 +1.0**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 61.81 341 *i* P **P** **01 58 57.2 +1.0**
comp=Z,6.8nm,1.0s
MSKU Masuku 66.15 249 P **P** **01 59 23.2 -1.9**
comp=Z,12nm,0.6s,baz=63,slow=11,SNR=5.4
MSKU Masuku 66.15 249 P **P** **01 59 23.2 -1.9**
TORD Torodi Ar. Bea 66.75 270 P **P** **01 59 26.7 -2.2**

comp=Z,3.3nm,0.4s,baz=49,slow=5.9,SNR=223

TORD	**Torodi Ar. Bea**	**66.75**	**270**	P		**P**		**01 59 26.7**	**-2.2**
COLD	**Coldfoot**	**72.11**	**16**	*e*P		**P**		**02 00 02.2**	**+1.0**
	comp=Z,8.1nm,1.0s								
INK	**Inuvik**	**74.17**	**10**	*e*P		**P**		**02 00 13.6**	**+0.4**
INK					pmax	pmax			
	comp=Z,13nm,1.0s								
INK	**Inuvik**	**74.17**	**10**	*e*P		**P**		**02 00 13.6**	**+0.4**
	comp=Z,13nm,1.0s								
COLA	**College**	**74.61**	**17**	*e*P		**P**		**02 00 15.8**	**0.0**
COLA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
COLA	**College**	**74.61**	**17**	*e*P		**P**		**02 00 15.8**	**0.0**
	comp=Z,8.5nm,0.9s								
ILAR	**Eielson Array**	**74.92**	**16**	P		**P**		**02 00 17.6**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=315,slow=4.7,SNR=32								
ILAR	**Eielson Array**	**74.92**	**16**	P		**P**		**02 00 17.6**	**-0.1**
ILAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
ILAR	**Eielson Array**	**74.92**	**16**	P		**P**		**02 00 17.6**	**-0.1**
MCK	**McKinley**	**75.31**	**18**	*e*P		**P**		**02 00 20.4**	**+0.4**
MCK					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MCK	**McKinley**	**75.31**	**18**	*e*P		**P**		**02 00 20.4**	**+0.4**
	comp=Z,2.9nm,0.5s								
DBIC	**Dimbokro**	**75.72**	**268**	P		**P**		**02 00 21.2**	**-1.9**
	comp=Z,2.7nm,1.0s,baz=21,slow=7.8,SNR=4.4								
DBIC	**Dimbokro**	**75.72**	**268**	P		**P**		**02 00 21.2**	**-1.9**
DBIC					pmax	pmax			
	comp=Z,3.0nm,1.0s								
DBIC	**Dimbokro**	**75.72**	**268**	P		**P**		**02 00 21.2**	**-1.9**
DAWY	**Dawson**	**77.11**	**14**	*e*P		**P**		**02 00 30.6**	**+0.3**
BOSA	**Boshof**	**78.09**	**221**	P		**P**		**02 00 36.2**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=46,slow=5.0,SNR=14								
BOSA	**Boshof**	**78.09**	**221**	P		**P**		**02 00 36.3**	**+0.1**
BOSA					pmax	pmax			
	comp=Z,5.0nm,0.7s								
BOSA	**Boshof**	**78.09**	**221**	*e*P		**P**		**02 00 36.3**	**+0.1**
	comp=Z,4.5nm,0.6s								
KDAK	**Kodiak Island**	**79.21**	**23**	*i* P		**P**		**02 00 43.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**80.49**	**143**	*e*P		**P**		**02 00 48.3**	**-0.7**
NWAO					pmax	pmax			
	comp=Z,24nm,1.3s								
NWAO	**Narrogin (SRO)**	**80.49**	**143**	*e*P		**P**		**02 00 48.3**	**-0.7**
	comp=Z,24nm,1.3s								
WRA	**Warramunga Arr**	**80.88**	**123**	P		**P**		**02 00 51.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=323,slow=4.8,SNR=19								
WRA	**Warramunga Arr**	**80.88**	**123**	P		**P**		**02 00 51.3**	**-0.1**
WRA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**80.88**	**123**	P		**P**		**02 00 51.3**	**-0.1**
WRAB	**Tennant Creek**	**80.88**	**123**	*e*P		**P**		**02 00 52.3**	**+0.9**
WRAB					pmax	pmax			
	comp=Z,4.0nm,0.9s								
WRAB	**Tennant Creek**	**80.88**	**123**	*e*P		**P**		**02 00 52.3**	**+0.9**
	comp=Z,4.2nm,0.9s								
WB2	**Warramunga Arr**	**80.88**	**123**	*e*P		**P**		**02 00 51.8**	**+0.4**
YKA	**Yellowknife Ar**	**81.63**	**3**	P		**P**		**02 00 55.1**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=348,slow=5.4,SNR=80								
YKA	**Yellowknife Ar**	**81.63**	**3**	P		**P**		**02 00 55.1**	**+0.4**
YKA					pmax	pmax			
	comp=Z,5.0nm,0.7s								
YKA	**Yellowknife Ar**	**81.63**	**3**	P		**P**		**02 00 55.1**	**+0.4**
ASAR	**Alice Springs**	**83.15**	**126**	P		**P**		**02 01 03.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=319,slow=5.4,SNR=10								
ASAR	**Alice Springs**	**83.15**	**126**	P		**P**		**02 01 03.1**	**-0.2**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**83.15**	**126**	P		**P**		**02 01 03.0**	**-0.2**
FFC	**Flin Flon**	**89.45**	**357**	*i* P		**P**		**02 01 34.9**	**+1.2**
CFAA	**Coronel Fontan**	**147.06**	**266**	PKPbc		**PKPdf**		**02 08 17.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=297,slow=2.3,SNR=3.8								
CFAA	**Coronel Fontan**	**147.06**	**266**	PKPbc		**PKPdf**		**02 08 17.9**	**+0.2**
PLCA	**Paso Flores**	**150.65**	**249**	PKPbc		**PKPbc**		**02 08 28.0**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=130,slow=0.9,SNR=12								
PLCA	**Paso Flores**	**150.65**	**249**	PKIKP		**PKPbc**		**02 08 28.0**	**-0.8**
PLCA					pmax	pmax			
	comp=Z,4.0nm,0.6s								
PLCA	**Paso Flores**	**150.65**	**249**	PKPbc		**PKPbc**		**02 08 28.0**	**-0.8**

*ISCJB **13** 01:54:02.0±0.5, 17°.46N×0°.07×62°.54W±0°.07, h112km±4km, mb3.5/5, Error ellipse: s-maj=16.3km s-min=4.7km az=42.8*
*TRN **13** 01:54:02.3, 17°.44N×62°.53W, h102km, MD3.5, M3.7(FDF), M4.2(FDF)*
*IDC **13** 01:54:02.3±1.0, 17°.44N×62°.51W, h102km±15km, mb3.1/5, mb1 3.4/6, mb1mx3.2/22, mbtmp3.2/6, Error ellipse: s-maj=27.4km s-min=7.7km az=27.0*

ISC 13 01:54:02.8±0.8, 17°.46N±0°.10×62°.53W±0°.08, h107km±6km, n25, σ0s57/33, mb3.5/5, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKI	**Saint Kitts**	**0.24**	**238**	*e*P		**Pn**	**01 54 18.3**	**+0.3**
SKI				*e*S		**Sn**	**01 54 29.0**	**-0.4**
SEUS	**St. Eustatius**	**0.43**	**274**	*e*Pg		**Pn**	**01 54 19.1**	**+0.1**
SEUS				*e*Sg		**Sn**	**01 54 30.6**	**-0.4**
SABA	**Saba**	**0.70**	**283**	*e*Pg		**Pn**	**01 54 21.1**	**+0.2**
SABA				*e*Sg		**Sn**	**01 54 34.6**	**+0.1**
BPA	**Boggy Peak**	**0.76**	**123**	*e*P		**Pn**	**01 54 22.2**	**+0.7**
BPA				*e*S		**Sn**	**01 54 35.4**	**-0.1**
SEG	**Port Louis**	**1.44**	**137**	*i* P		**Pn**	**01 54 28.9**	**+0.2**
LZG	**Guadaloupe-1**	**1.50**	**151**	*i* P		**Pn**	**01 54 29.8**	**+0.3**
BCG	**Bois Riant Cap**	**1.62**	**147**	*e*P		**Pn**	**01 54 31.5**	**+0.5**
SCG	**Saint Claude**	**1.64**	**150**	*i* P		**Pn**	**01 54 31.6**	**+0.4**
DOG	**Dongo Capester**	**1.67**	**148**	*i* P		**Pn**	**01 54 32.0**	**+0.4**
PHG	**Guadaloupe-2**	**1.67**	**149**	*e*P		**Pn**	**01 54 32.2**	**+0.5**
HMG	**Houelmont**	**1.67**	**152**	*i* P		**Pn**	**01 54 31.9**	**+0.3**
TBG	**Guadaloupe-3**	**1.81**	**152**	*i* P		**Pn**	**01 54 33.5**	**+0.2**
DEG	**La Desirade**	**1.81**	**129**	*e*P		**Pn**	**01 54 32.9**	**-0.5**
DVCT	**Vielle Casse P**	**2.13**	**149**	*e*S		**Sn**	**01 55 03.1**	**-0.7**
DWS	**Wesley**	**2.21**	**148**	*e*S		**Sn**	**01 55 05.8**	**0.0**
DLPL	**La Plaine**	**2.45**	**150**	*e*P		Pn	01 54 44.0	+2.5
DLPL				*e*S		**Sn**	**01 55 11.0**	**-0.3**
FDF	**Fort de France**	**3.02**	**154**	*e*P		**Pn**	**01 54 48.8**	**-0.4**
FDF				*e*S		**Sn**	**01 55 23.8**	**-1.0**
BIM	**Bigot**	**3.25**	**154**	*e*P		**Pn**	**01 54 52.4**	**+0.3**
BIM				*e*S		**Sn**	**01 55 31.7**	**+1.5**
MVM	**Montagne Vaucl**	**3.29**	**151**	*e*P		**Pn**	**01 54 52.7**	**0.0**
MVM				*e*S		**Sn**	**01 55 31.3**	**+0.1**
SJG	**San Juan**	**3.51**	**281**	P		**Pn**	**01 54 56.0**	**+0.4**
	13nm,0.3s,baz=90,slow=11,SNR=25							
SJG				S		**Sn**	**01 55 37.0**	**+0.7**
	15nm,0.3s,baz=90,slow=23,SNR=11							
TXAR	**Lajitas Array**	**39.37**	**295**	P		P	**02 01 21.6**	**-0.6**
	0.1nm,0.4s,baz=117,slow=9.5,SNR=5.5							
ULM	**Lac du Bonnet**	**42.22**	**328**	P		P	**02 01 44.8**	**-0.5**
	1.1nm,0.5s,baz=116,slow=9.5,SNR=4.1							
PDAR	**Pinedale Array**	**47.09**	**313**	P		P	**02 02 23.6**	**-0.7**
	0.5nm,0.6s,baz=116,slow=8.3,SNR=4.2							
YKA	**Yellowknife Ar**	**57.55**	**334**	P		P	**02 03 41.1**	**+0.2**
	0.3nm,0.4s,baz=103,slow=7.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**61.85**	**84**	P		P	**02 04 12.5**	**+1.2**
	0.2nm,0.6s,baz=273,slow=5.1,SNR=3.8							

IDC 13 01:55:49.8±2.5, 0°.66S×133°.27E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=96.1km s-min=26.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**203**	P		Pn	02 00 12.5	0.0
	0.1nm,0.3s,baz=25,slow=14,SNR=2.7							
WRA	**Warramunga Arr**	**19.19**	**177**	P		P	02 00 15.2	-0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**22.88**	**179**	P		P	02 00 55.0	-0.2
	0.7nm,0.5s,baz=356,slow=9.8,SNR=9.6							
MKAR	**Makanchi Array**	**64.90**	**324**	P		P	02 06 31.1	-0.1
	0.4nm,0.7s,baz=110,slow=6.9,SNR=4.4							

*ISCJB **13** 02:21:45.6±1.2, 51°.42N±0°.05×16°.01E±0°.05, h0km, Error ellipse: s-maj=8.3km s-min=3.7km az=24.0*
*CSEM **13** 02:21:46.8±0.8, 51°.45N×16°.00E, h2km, ML3.0/4, Error ellipse: s-maj=12.9km s-min=6.1km az=22.0*
*PRU **13** 02:21:47.1, 51°.45N×16°.05E, h0km*
*WAR **13** 02:21:48.1, 51°.44N×16°.20E*

ISC 13 02:21:45.9±1.7, 51°.45N±0°.08×16°.06E±0°.04, h0km, n24, σ1s04/42, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**166**	*e*Pg		**Pb**	**02 21 59.3**	**-0.4**
KSP				*e*Sg		**Sb**	**02 22 08.8**	**-0.2**
KSP	**Ksiaz**	**0.62**	**166**	*e*Pg		**Pb**	02 21 59.3	-0.4
KSP				*e*Sg		**Sb**	**02 22 08.8**	**-0.2**
UPC	**Upice**	**0.94**	**182**	*e*PG		**Pg**	**02 22 05.3**	**+1.3**
UPC	**Upice**	**0.94**	**182**	Pg		**Pg**	**02 22 05.3**	**+1.3**
DPC	**Dobruska-Polom**	**1.11**	**171**	*e*PG		**Pn**	**02 22 08.1**	**-0.7**
DPC				*e*SG		**Sb**	**02 22 22.6**	**-0.5**
	comp=Z,12nm,0.6s							
DPC	**Dobruska-Polom**	**1.11**	**171**	Pg		**Pn**	**02 22 08.1**	**-0.7**
DPC				Sg		**Sb**	**02 22 22.6**	**-0.5**
	12nm,0.6s							
PVCC	**Panska Ves**	**1.32**	**226**	*e*PG		**Pg**	**02 22 12.0**	**+0.8**
PVCC				*e*SG		**Sn**	**02 22 30.2**	**+0.4**
	comp=Z,38nm,0.2s							
PVCC	**Panska Ves**	**1.32**	**226**	Pg		**Pg**	**02 22 12.0**	**+0.8**
PVCC				Sg		**Sn**	**02 22 30.2**	**+0.4**
	38nm,0.2s							
BRG	**Berggiesshubel**	**1.45**	**247**	PG		**Pb**	**02 22 13.7**	**-0.1**
BRG				SG		**Sn**	**02 22 34.1**	**+1.0**
	20nm,0.4s							
PRU	**Pruhonice**	**1.75**	**214**	*e*PG		**Pg**	**02 22 20.1**	**+0.6**
PRU				*e*SG		**Sg**	**02 22 42.7**	**+0.5**
	comp=Z,8.6nm,0.3s							
PRU	**Pruhonice**	**1.75**	**214**	Pg		**Pg**	**02 22 20.1**	**+0.6**
PRU				Sg		**Sg**	**02 22 42.7**	**+0.5**
	8.6nm,0.3s							
CLL	**Collm**	**1.92**	**267**	*e*Pg		**Pb**	**02 22 21.0**	**-0.8**
CLL				*e*Sg		**Sg**	**02 22 48.0**	**+0.4**
MORC	**Moravsky Berou**	**1.92**	**150**	*i* P		**Sg**	**02 22 48.6**	**+1.0**
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Sg		**Sg**	**02 22 47.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*SG		**Sg**	**02 22 53.9**	**+0.9**
OKC	**Ostrava-Krasne**	**2.09**	**140**	Sg		**Sg**	**02 22 53.9**	**+0.9**
VRAC	**Vranov**	**2.17**	**171**	*i* P		**Sg**	**02 22 57.6**	**+2.0**
VRAC	**Vranov**	**2.17**	**171**	*e*Pn		**Pb**	**02 22 24.6**	**-1.4**
VRAC				*e*Sg		**Sg**	**02 22 55.8**	**+0.2**
NKC	**Novy Kostel**	**2.59**	**243**	*e*PN		**Pn**	**02 22 29.4**	**+0.3**
NKC				*e*PG		**Pg**	**02 22 34.8**	**-0.8**
NKC				*e*SG		**Sg**	**02 23 10.9**	**+1.7**
	comp=Z,11nm,0.3s							
NKC	**Novy Kostel**	**2.59**	**243**	Pn		**Pn**	**02 22 29.4**	**+0.3**
NKC	**Novy Kostel**	**2.59**	**243**	Pg		**Pg**	**02 22 34.8**	**-0.8**
NKC				Sg		**Sg**	**02 23 10.9**	**+1.7**
	11nm,0.3s							
KHC	**Kasperske Hory**	**2.81**	**215**	*e*PN		**Pn**	**02 22 33.6**	**+1.4**
KHC				*e*PG		**Pg**	**02 22 38.5**	**-1.3**
KHC				*e*SN		**Sn**	**02 23 04.0**	**-2.8**
KHC				*e*SG		**Sg**	**02 23 15.8**	**-0.5**
KHC	**Kasperske Hory**	**2.81**	**215**	Pn		**Pn**	**02 22 33.6**	**+1.4**
KHC	**Kasperske Hory**	**2.81**	**215**	Pg		**Pg**	**02 22 38.5**	**-1.3**
KHC				Sg		**Sg**	**02 23 15.8**	**-0.5**

*NEIC **13** 02:23:28.5, 10°.22N×84°.23W, h5km, MD4.1(HDC), ML4.2(UCR), After UCR.*
NEIC Felt [IV] at Vara Blanca. Also felt at Alajuela, Heredia, Miramar, San Jose and Rio Cuarto.

CASC 13 02:23:28.9±2.0, 10°.21N×84°.23W, h6km±4km, MD4.2, 4C-15D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.32**	**147**	*e*P		Pg	02 23 36.1	+0.7
SJS				*e*S		Sg	02 23 40.9	+1.2
SJS	**Escuela Geolog**	**0.32**	**147**	*e*P		Pg	02 23 36.1	+0.7
SJS				*e*S		Sg	02 23 40.9	+1.2
LAJ	**Bijagual**	**0.36**	**163**	*e*P		Pn	02 23 41.2	+0.3
LAJ	**Bijagual**	**0.36**	**163**	*e*P		Pn	02 23 41.2	+0.3
CASO	**Castillo**	**0.55**	**294**	*i* P		Pg	02 23 39.7	+0.2
CASO				*i* S		Sb	02 23 48.7	-0.5
URSC	**Urasca**	**0.58**	**130**	*i* P		Pg	02 23 40.7	+0.4
URSC	**Urasca**	**0.58**	**130**	*i* P		Pg	02 23 40.7	+0.4
TRTC	**Tortuguero**	**0.62**	**54**	*i* P		Pg	02 23 41.0	0.0
JTS	**JuntasAbangare**	**0.72**	**277**	*e*Pg		Pg	02 23 42.3	-0.4
QCR	**Quepos**	**0.78**	**175**	*i* P		Pg	02 23 44.0	0.0
BUS	**Buena Vista**	**0.80**	**144**	*e*P		Pg	02 23 44.4	-0.5
BUS	**Buena Vista**	**0.80**	**144**	*e*P		Pg	02 23 44.4	-0.5
AMAS	**Alto Masis**	**0.85**	**298**	*i* P		Pg	02 23 44.9	-0.5
JCR	**Jicaral**	**0.94**	**248**	*i* P		Pg	02 23 46.5	-0.5
JCR				*e*S		Sg	02 23 59.8	+0.5
JCR	**Jicaral**	**0.94**	**248**	*i* P		Pg	02 23 46.5	-0.5
JCR				*e*S		Sg	02 23 59.8	+0.5
CUI	**Cuipilapa**	**1.02**	**296**	*i* P		Pg	02 23 47.5	-1.1
COLC	**Colonia**	**1.06**	**295**	*i* P		Pg	02 23 48.2	-1.1
MESS	**Mesas**	**1.09**	**299**	*i* P		Pg	02 23 48.4	-1.5
GUAB	**Guayabo de Bag**	**1.10**	**297**	*e*P		Pg	02 23 48.8	-1.4
GUAB				*i* P		Pb	02 23 48.9	-1.6
LIM1	**Limonal**	**1.12**	**296**	*i* P		Pg	02 23 49.1	-1.4
GPS2	**Hotel Rinc˜‡n**	**1.23**	**296**	*i* P		Pg	02 23 51.0	-1.6
GPS1	**Guardaparques**	**1.24**	**297**	*i* P		Pg	02 23 51.0	-1.8
GPS3	**Bodega del ICE**	**1.24**	**296**	*i* P		Pg	02 23 52.1	-0.7
GPS3				*i* P		Pb	02 23 52.6	-0.3
GPS3				*e*S		Sg	02 24 08.3	-0.8
GPS3				*i* S		Sn	02 24 11.3	+1.2
GB1A	**Borinquen Arri**	**1.30**	**298**	*i* P		Pn	02 23 52.3	-1.5
LAPC	**Finca la Perla**	**1.31**	**295**	*i* P		Pn	02 23 52.2	-1.6
GBS3	**Finca Las Im˜¡**	**1.33**	**295**	*i* P		Pn	02 23 52.5	-1.6
GBS3				*i* S		Sn	02 24 14.0	+1.7
GBS2	**Las Lilas**	**1.36**	**298**	*i* P		Pn	02 23 53.1	-1.4
NY14	**Universidad de**	**1.36**	**289**	*i* P		Pn	02 23 53.5	-0.9
ACR	**Cerro Adams**	**1.87**	**146**	*e*P		Pn	02 24 02.0	+0.5
ACR				*e*S		Sb	02 24 26.9	-0.2
ACR	**Cerro Adams**	**1.87**	**146**	*e*P		Pn	02 24 01.1	-0.5
ACR				*e*S		Sn	02 24 25.2	-0.3
BRU2	**Volcan**	**2.07**	**133**	*i* P		Pb	02 24 06.0	-1.1
BRU2				*i* S		Sg	02 24 34.8	-0.9
TBS2		**2.09**	**132**	*e*P		Pb	02 24 06.4	-1.2
TBS2				*i* S		Sb	02 24 35.1	+1.1
BCIP	**Isla Barro Col**	**4.45**	**103**	*e*Pn		Pn	02 24 36.4	-0.7
BCIP				*e*S		Sn	02 25 26.8	-2.4
BCIP	**Isla Barro Col**	**4.45**	**103**	*e*P		Pn	02 24 34.1	-2.9
BCIP				*i* S		Sn	02 25 20.3	-8.9
TGUH	**Tegucigalpa,Un**	**4.85**	**322**	*e*Pn		Pn	02 24 40.6	-1.8
TGUH				*e*S		Sb	02 25 53.9	+1.0
PTP	**Ponta Puerca**	**19.71**	**64**	*e*P		x	02 24 10.6	

IDC 13 02:33:47.1±417.0, 61°.59N×58°.08E, h0km, Error ellipse: s-maj=73.5km s-min=45.6km az=168.0, Ural Mountains region

IDC 13 02:40:31.5±1.1, 0°.26S×132°.42E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/19, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=59.0km s-min=19.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.94**	**200**	P		P	02 44 54.3	+0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=3.2							
FITZ				S		Sn	02 48 12.6	-15
	0.1nm,0.3s,baz=239,slow=12,SNR=2.7							
WRA	**Warramunga Arr**	**19.65**	**175**	P		P	02 45 02.0	-0.1
	0.2nm,0.3s,baz=353,slow=11,SNR=9.9							
WRA				S		S	02 48 33.3	-11
	0.1nm,0.3s,baz=354,slow=22,SNR=4.8							
ASAR	**Alice Springs**	**23.31**	**177**	P		P	02 45 41.1	-0.2
	1.4nm,0.7s,baz=356,slow=8.7,SNR=13							
MKAR	**Makanchi Array**	**64.08**	**324**	P		P	02 51 07.7	+0.3
	0.5nm,0.6s,baz=118,slow=8.1,SNR=6.3							
ZALV	**Zalesovo Beam**	**66.74**	**332**	P		P	02 51 24.3	-0.1
	0.3nm,0.5s,baz=112,slow=7.0,SNR=2.9							
KURK	**Kurchatov**	**68.17**	**326**	P		P	02 51 33.8	+0.2
	0.2nm,0.5s,baz=127,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**86.26**	**25**	P		P	02 53 14.6	-0.3
	0.2nm,0.6s,baz=247,slow=4.6,SNR=3.3							

IDC 13 02:53:05.5±6.7, 6°.41N×96°.31E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=373.8km s-min=24.4km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.00**	**346**	P		P	03 00 58.2	-0.3
	0.1nm,0.4s,baz=153,slow=8.1,SNR=4.4							
WRA	**Warramunga Arr**	**45.67**	**126**	P		P	03 01 28.4	0.0
	0.5nm,0.5s,baz=306,slow=8.6,SNR=8.7							
KURK	**Kurchatov**	**46.56**	**345**	P		P	03 01 34.6	-0.3
	0.3nm,0.3s,baz=165,slow=7.7,SNR=3.8							
ASAR	**Alice Springs**	**47.34**	**130**	P		P	03 01 41.2	-0.3
	0.3nm,0.5s,baz=299,slow=8.0,SNR=3.5							

*ISCJB **13** 03:32:31.3±0.5, 37°.92N±0°.02×37°.96E±0°.05, h1km±7km, Error ellipse: s-maj=6.6km s-min=3.5km az=23.6*
*DDA **13** 03:32:31.3, 37°.90N×37°.95E, h7km, MD2.8*
*CSEM **13** 03:32:31.8±0.2, 37°.93N×37°.98E, h5km, MD2.8, Error ellipse: s-maj=4.8km s-min=3.0km az=119.0*
*ISK **13** 03:32:31.2, 37°.96N×37°.93E, h6km, MD2.7*

ISC 13 03:32:31.7±1.0, 37°.92N±0°.02×37°.96E±0°.03, h10km±10km, n28, σ0s41/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.38**	**356**	*i* P		**Pg**	**03 32 39.3**	**+0.1**
AKCD				*i* S		**Sg**	**03 32 44.8**	**+0.5**
AKCD	**Akcadag**	**0.38**	**356**	*i* P		**Pg**	03 32 39.3	+0.1
AKCD				*i* S		**Sg**	**03 32 44.8**	**+0.5**
ATAB	**Bozova**	**0.52**	**149**	*i* P		**Pg**	**03 32 41.5**	**-0.3**
ATAB				*i* S		**Sg**	**03 32 48.7**	**+0.1**
ATAB	**Bozova**	**0.52**	**149**	*i* P		**Pg**	03 32 41.5	-0.3
ATAB				*i* S		**Sg**	**03 32 48.7**	**+0.1**
MALT	**Malatya**	**0.54**	**43**	*e*PG		**Pg**	**03 32 41.4**	**-0.8**
MALT				*e*SG		**Sg**	**03 32 49.6**	**+0.2**
MALT	**Malatya**	**0.54**	**43**	*e*Pg		**Pg**	03 32 41.4	-0.8
MALT				*e*Sg		**Sg**	**03 32 49.6**	**+0.2**
MYA	**Malataya**	**0.55**	**42**	*e*PG		**Pg**	**03 32 41.9**	**-0.5**
MYA				*e*SG		**Sg**	**03 32 50.2**	**+0.6**
MYA	**Malataya**	**0.55**	**42**	*e*Pg		**Pg**	03 32 41.9	-0.5
MYA				*e*Sg		**Sg**	**03 32 50.3**	**+0.6**
GZT	**Gaziantep**	**0.64**	**209**	*i* P		**Pg**	**03 32 43.9**	**-0.3**
GZT				*i* S		**Sg**	**03 32 52.1**	**-0.5**
URFA	**Urfa**	**0.83**	**124**	*e*PG		**Pb**	**03 32 48.6**	**+0.4**
URFA	**Urfa**	**0.83**	**124**	*e*Pg		**Pb**	03 32 48.7	+0.4
KMRS	**Kahramanmaras**	**0.94**	**244**	*e*PG		**Pg**	**03 32 49.2**	**-0.5**
KMRS	**Kahramanmaras**	**0.94**	**244**	*e*Pg		**Pg**	03 32 49.2	-0.5
GAZ	**Gaziantep**	**0.95**	**219**	*e*PG		**Pb**	**03 32 50.4**	**+0.1**
GAZ	**Gaziantep**	**0.95**	**219**	*e*Pg		**Pb**	03 32 50.4	+0.1
DARE	**Darende-Malaty**	**1.04**	**353**	*e*PG		Pg	03 32 45.4	-6.3
SVRC	**Sivrice-ELAZID**	**1.16**	**66**	*e*PN		**Pb**	**03 32 53.6**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.16**	**66**	*e*Pn		**Pb**	**03 32 53.6**	**-0.3**
KUZU	**Kuzuini**	**1.34**	**212**	*i* P		**Pg**	**03 32 58.0**	**+0.6**
KUZU				*i* S		**Sg**	**03 33 14.6**	**-0.2**
KUZU	**Kuzuini**	**1.34**	**212**	*i* P		**Pg**	03 32 58.0	+0.6
KUZU				*i* S		**Sg**	**03 33 14.6**	**-0.2**
KEMA	**Kemaliye**	**1.41**	**17**	*i* P		**Pg**	**03 32 58.7**	**-0.1**
KEMA				*i* S		**Sn**	**03 33 16.1**	**-0.3**
KEMA	**Kemaliye**	**1.41**	**17**	*i* P		**Pg**	03 32 58.7	-0.1
KEMA				*i* S		**Sn**	**03 33 16.1**	**-0.3**
PTK	**Pertek**	**1.49**	**49**	*e*PN		**Pn**	**03 32 59.0**	**+0.3**
PTK	**Pertek**	**1.49**	**49**	*e*Pn		**Pn**	03 32 59.0	+0.3
ILIC	**ilic-Erzincan**	**1.61**	**17**	*e*PN		**Pn**	**03 33 00.5**	**+0.2**
ILIC	**ilic-Erzincan**	**1.61**	**17**	*e*Pn		**Pn**	03 33 00.5	+0.2
KOZT	**Kozan**	**1.75**	**256**	*e*PN		**Pb**	**03 33 03.6**	**-0.3**
KOZT	**Kozan**	**1.75**	**256**	*e*Pn		**Pb**	**03 33 03.6**	**-0.3**

*ISCJB **13** 03:37:39.6±

*ISCJB **13** 03:44:58.5±0.3,37.32N±0.05×56.80E±0.04,h10km, mb3.5/5,Error ellipse: s-maj=7.4km s-min=4.2km az=3.0*
*CSEM **13** 03:44:58.4±0.3,37.24N×56.82E,h2km,ML3.8,Error ellipse: s-maj=13.7km s-min=2.8km az=1.0*
*TEH **13** 03:44:58.9,37.32N×56.83E,h5km,ML3.8*

ISC 13 03:44:59.9±0.7,37.30N±0.06×56.84E±0.03,h10km,n44, σ0=99/50,mb3.5/5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJRD	**Bojnurd**	**0.60**	**48**	*e*Pg	**Pn**	**03 45 18.7**	**+4.1**
ISFR	**Sfrayin**	**0.96**	**105**	*e*Pg	**Pg**	**03 45 16.7**	**-1.7**
ISFR				*e*		03 45 39.1	
	comp=Z,21μm,0.3s						
ISFR	**Sfrayin**	**0.96**	**105**	*e*Pg	**Pg**	**03 45 16.7**	**-1.7**
IQHU	**Qucahn**	**1.37**	**99**	*e*Pn	**Pg**	**03 45 25.3**	**-1.0**
IQHU	**Qucahn**	**1.37**	**99**	*e*Pn	**Pg**	**03 45 25.3**	**-1.0**
IKRD	**Kardeh**	**1.44**	**111**	*e*Pn	Pg	03 45 36.8	+9.3
IKRD				*e*Sg	Sg	03 46 07.9	+21
IKRD				*e*		03 46 13.6	
	comp=Z,7μm,0.5s						
IEMG	**Emamgholi**	**1.45**	**85**	*e*Pn	**Pn**	**03 45 25.5**	**-0.9**
IEMG				*e*		03 45 50.8	
	comp=Z,6μm,0.2s						
IEMG	**Emamgholi**	**1.45**	**85**	*e*Pn	**Pn**	**03 45 25.5**	**-0.9**
IPAY	**Payeh**	**1.92**	**116**	*e*Pn	**Pn**	**03 45 32.5**	**-0.4**
IPAY				*e*Sg	**Sb**	**03 45 59.2**	**-0.2**
IPAY				*e*		03 46 08.9	
	comp=Z,4μm,0.1s						
IPAY	**Payeh**	**1.92**	**116**	*e*Pn	**Pn**	**03 45 32.5**	**-0.4**
IPAY				*e*Sg	**Sb**	**03 45 59.2**	**-0.2**
ISRO	**Mashad**	**2.33**	**114**	*e*Pn	**Pn**	**03 45 37.8**	**-0.6**
ISRO				*e*Sg	**Sb**	**03 46 11.7**	**+0.7**
ISRO	**Mashad**	**2.33**	**114**	*e*Pn	**Pn**	**03 45 37.8**	**-0.6**
ISRO				*e*Sg	**Sb**	**03 46 11.7**	**+0.7**
MHI	**Mashad**	**2.33**	**114**	*e*Pn	**Pn**	**03 45 38.3**	**-0.1**
IMOG	**Moghan**	**2.33**	**120**	*e*Pn	**Pn**	**03 45 37.8**	**-0.8**
IMOG				*e*Sg	**Sb**	**03 46 11.9**	**+0.7**
IMOG				*e*		03 46 14.0	
	comp=Z,2μm,0.2s						
IMOG	**Moghan**	**2.33**	**120**	*e*Pn	**Pn**	**03 45 37.8**	**-0.8**
IMOG				*e*Sg	**Sb**	**03 46 11.9**	**+0.7**
IGLO	**Ghaloghah**	**2.54**	**253**	*e*Pn	**Pn**	**03 45 40.9**	**-0.6**
IGLO				*e*		03 46 29.7	
	comp=Z,10μm,0.4s						
IKIA	**Kiasar**	**2.76**	**248**	*e*Pn	**Pn**	**03 45 43.7**	**-0.8**
IKIA				*e*		03 46 36.6	
	comp=Z,4μm,0.4s						
IKIA	**Kiasar**	**2.76**	**248**	*e*Pn	**Pn**	**03 45 43.7**	**-0.8**
IMYA	**Miami**	**2.79**	**109**	*e*Pn	**Pn**	**03 45 45.2**	**+0.5**
IMYA				*e*		03 46 44.2	
	comp=Z,5μm,0.6s						
IMYA	**Miami**	**2.79**	**109**	*e*Pn	**Pn**	**03 45 45.2**	**+0.5**
IANJ	**Anjilo**	**2.99**	**233**	*e*Pn	**Pn**	**03 45 46.3**	**-1.3**
IANJ				*e*		03 46 38.6	
	comp=Z,2μm,0.2s						
IANJ	**Anjilo**	**2.99**	**233**	*e*Pn	**Pn**	**03 45 46.3**	**-1.3**
ISHM	**Shahmirzad**	**3.23**	**243**	*e*Pn	**Pn**	**03 45 50.3**	**-0.6**
ISHM				*e*		03 46 41.4	
	comp=Z,3μm,0.2s						
ISHM	**Shahmirzad**	**3.23**	**243**	*e*Pn	**Pn**	**03 45 50.3**	**-0.6**
IALA	**Alasht**	**3.46**	**251**	*e*Pn	**Pn**	**03 45 53.3**	**-0.9**
IALA				*e*		03 46 51.9	
	comp=Z,2μm,0.2s						
IALA	**Alasht**	**3.46**	**251**	*e*Pn	**Pn**	**03 45 53.3**	**-0.9**
TABS	**Tabas**	**3.65**	**176**	*e*Pn	**Pn**	**03 45 57.1**	**+0.5**
ILAS	**Lasjerd**	**3.68**	**240**	*e*Pn	**Pn**	**03 45 55.5**	**-1.5**
ILAS				*e*		03 47 01.2	
	comp=Z,1μm,0.3s						
ILAS	**Lasjerd**	**3.68**	**240**	*e*Pn	**Pn**	**03 45 55.5**	**-1.5**
IFIR	**Firoozkooh**	**3.69**	**245**	*e*Pn	**Pn**	**03 45 57.0**	**-0.3**
IFIR				*e*		03 46 12.6	
	comp=Z,800nm,0.1s						
IFIR	**Firoozkooh**	**3.69**	**245**	*e*Pn	**Pn**	**03 45 57.0**	**-0.3**
IPRN	**Peran**	**3.77**	**255**	*e*Pn	**Pn**	**03 45 57.1**	**-1.1**
IPRN				*e*		03 47 06.5	
	comp=Z,3μm,0.3s						
DAMV	**Damavand**	**4.27**	**248**	*e*Pn	**Pn**	**03 46 04.1**	**-1.1**
DAMV				*e*Sg	**Sb**	**03 47 05.5**	**-1.4**
ZNJK	**Zanjan**	**6.56**	**267**	*e*Pn	**Pn**	**03 46 35.7**	**-1.0**
GNI	**Garni**	**9.88**	**290**	Pn	**Pn**	**03 47 22.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=90,slow=7.1,SNR=3.4						
GNI				Sn	**Sn**	**03 49 13.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=139,slow=19,SNR=2.2						
AKTO	**Aktyubinsk**	**13.15**	**3**	Pn	**Pn**	**03 48 07.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=8.0						
AKTO				Sn	**Sn**	**03 50 30.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=218,slow=17,SNR=2.9						
BRTR	**Keskin Array B**	**18.31**	**285**	P	**P**	**03 49 14.2**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=104,slow=10,SNR=8.3						
BVAR	**Borovoye Array**	**18.34**	**27**	P	**P**	**03 49 14.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.2,SNR=7.4						
KURK	**Kurchatov**	**20.52**	**42**	P	Pn	03 49 38.4	-1.9
	comp=Z,0.5nm,0.9s,baz=249,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**21.06**	**55**	P	**P**	**03 49 45.0**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=245,slow=11,SNR=7.0						
AKASG	**Malin Array Be**	**23.79**	**313**	P	**P**	**03 50 12.3**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=111,slow=8.0,SNR=6.9						
MLR	**Muntele Rosu**	**24.46**	**299**	P	**P**	**03 50 19.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=125,slow=0.5,SNR=11						
GERES	**GERESS Array B**	**33.13**	**304**	P	**P**	**03 51 37.8**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=98,slow=9.6,SNR=4.5						
NOA	**NORSAR Array B**	**37.01**	**325**	P	**P**	**03 52 11.1**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=138,slow=7.2,SNR=3.5						

*ISCJB **13** 03:50:33.9±0.7,77.46N±0.04×18.0E±0.3,h4km±8km, Error ellipse: s-maj=12.2km s-min=4.6km az=148.7*
*CSEM **13** 03:50:33.8±0.3,77.35N×17.25E,h2km,ML3.2,Error ellipse: s-maj=11.4km s-min=3.8km az=54.0*
*NAO **13** 03:50:34.8±2.7,77.77N×19.60E,h20km±24km,ML2.6*
*BER **13** 03:50:38.7,77.70N×18.70E,h15km,MD2.5,ML3.2, ML2.6(NAO)*

ISC 13 03:50:36.0±1.1,77.53N±0.04×18.15E±0.05,h12km±11km, n16,σ0=53/28,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**0.76**	**331**	Pg	**Pg**	**03 50 50.2**	**-0.4**
	baz=142,slow=22						
SPA0				Lg	Lg	03 50 59.4	
	baz=118,slow=37						
SPA0	**Spitsbergen Ar**	**0.76**	**331**	Pg	**Pg**	**03 50 50.2**	**-0.4**
	baz=142,slow=22						
SPA0				*e*P	**Pg**	**03 50 50.5**	**-0.1**
SPA0				Lg	Lg	03 50 59.4	
	baz=118,slow=37						
SPA0				*e*S	**Sg**	**03 51 00.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**0.76**	**331**	Pg	**Pg**	**03 50 50.2**	**-0.4**
	baz=142,slow=22,SNR=94						
SPA0	**Spitsbergen Ar**	**0.76**	**331**	*e*P	**Pg**	**03 50 50.5**	**-0.1**
	SNR=94						
SPA0				Lg	Lg	03 50 59.4	
	baz=118,slow=33,SNR=145						
SPA0				*e*S	**Sg**	**03 51 00.4**	**-0.1**
	SNR=94						
HSP	**Hornsund**	**0.78**	**229**	*e*P	**Pn**	**03 50 53.4**	**+0.8**
HSP				*e*S	**Sn**	**03 51 04.3**	**+0.2**
HOPEN	**Hopen**	**1.86**	**120**	*e*P	**Pn**	**03 51 07.8**	**+0.4**
HOPEN				*e*Pg	**Pg**	**03 51 11.9**	**+0.4**
HOPEN				*e*Sg	**Sg**	**03 51 35.3**	**-0.2**
HOPEN				AML	AML	03 51 40.7	
	comp=Z,424nm,0.3s						
HOPEN	**Hopen**	**1.86**	**120**	*e*P	**Pn**	**03 51 07.8**	**+0.4**
	SNR=55						
KBS	**Kingsbay**	**1.90**	**321**	Pn	**Pn**	**03 51 07.8**	**-0.2**
KBS				Pg	**Pb**	**03 51 11.2**	**+0.8**
KBS				Lg	Lg	03 51 34.2	
KBS	**Kingsbay**	**1.90**	**321**	*e*P	**Pn**	**03 51 07.8**	**-0.2**
KBS				*e*Pg	**Pb**	**03 51 11.2**	**+0.8**
KBS				*e*Sg	**Sb**	**03 51 34.2**	**+0.2**
KBS				AML	AML	03 51 37.3	
	comp=Z,572nm,0.4s						
KBS	**Kingsbay**	**1.90**	**321**	Pn	**Pn**	**03 51 07.8**	**-0.2**
KBS	**Kingsbay**	**1.90**	**321**	*e*Pg	**Pb**	**03 51 11.2**	**+0.8**
	SNR=91						
KBS				*i* S	**Sb**	**03 51 33.6**	**-0.4**
KBS				*e*Sg	**Sb**	**03 51 34.2**	**+0.2**
	comp=Z,572nm,0.4s,SNR=91						
KBS				Lg	Lg	03 51 34.2	
BJO	**Bjornoya**	**3.05**	**175**	*e*Pg	**Pg**	**03 51 33.8**	**-0.5**
BJO				*e*Sg	**Sg**	**03 52 14.2**	**+0.5**
BJO				AML	AML	03 52 23.8	
	comp=Z,91nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARA0	**ARCESS Array S**	**8.29**	**162**	Pn	**Pn**	**03 52 35.0**	**-0.7**
	baz=355,slow=14						
ARA0				Sn	Sn	03 54 02.0	-7.1
	slow=22						
ARA0	**ARCESS Array S**	**8.29**	**162**	Pn	**Pn**	**03 52 35.0**	**-0.7**
	baz=355,slow=12,SNR=8.1						
FIA0	**FINESS Array S**	**16.37**	**166**	P	**Pn**	**03 54 24.3**	**-0.8**
	baz=2.8,slow=12						
FIA0	**FINESS Array S**	**16.37**	**166**	P	**Pn**	**03 54 24.3**	**-0.8**
	baz=2.8,slow=12,SNR=4.5						

*DJA **13** 03:59:48,10.03S×117.70E,h56km,MLv4.3/8*
*IDC **13** 04:00:01.4±4.6,8.92S×119.01E,h184km±45km,mb3.4/5, mb1 3.3/6,mb1mx3.2/19,mbtmp3.3/6,Error ellipse: s-maj=43.7km s-min=11.5km az=57.0*

ISC 13 03:59:41.4±1.2,9.38S±0.3×118.3E±0.2,h37km,n10, σ1=06/7,mb4.1/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**2.41**	**299**	P	Pn	04 00 21.2	+2.8
KHKI	**Kahang-Kahang**	**3.03**	**298**	P	Pn	04 00 21.5	-5.4
IGBI	**Denpasar**	**3.27**	**288**	P	**Pn**	**04 00 31.3**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.31**	**288**	P	**Pn**	**04 00 43.6**	**-0.9**
WRA	**Warramunga Arr**	**18.46**	**125**	P	Pn	04 04 04.5	+10
	0.2nm,0.3s,baz=297,slow=13,SNR=4.5						
WRA				S	**Sn**	**04 07 20.1**	**+0.2**
	0.2nm,0.3s,baz=301,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**20.28**	**135**	P	Pn	04 04 23.1	+6.8
	0.3nm,0.6s,baz=311,slow=9.0,SNR=7.7						
ASAR				S	Sn	04 08 04.3	+0.4
	1.3nm,0.7s,baz=306,slow=22,SNR=5.5						
NWAO	**Narrogin (SRO)**	**23.01**	**182**	P	P	04 05 00.2	+17
	6.5nm,0.7s,baz=0.3,slow=12,SNR=4.6						
SONM	**Songino Array**	**58.37**	**351**	P	**P**	**04 09 33.9**	**+0.8**
	0.5nm,0.5s,baz=169,slow=7.4,SNR=6.9						
SONM				PcP	**PcP**	**04 10 22.6**	**-1.1**
	0.4nm,0.6s,baz=163,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**64.88**	**334**	P	**P**	**04 10 17.0**	**+0.1**
	0.4nm,0.3s,baz=148,slow=6.4,SNR=19						
ZALV	**Solsesco Beam**	**69.57**	**320**	P	**P**	**04 10 45.7**	**-0.7**
	3.4nm,0.6s,baz=145,slow=5.1,SNR=16						

IDC 13 04:02:11.7±1.0,4.79S×35.76E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.9/24,mbtmp3.9/11,ML4.6/2,Error ellipse: s-maj=23.8km s-min=20.0km az=133.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.67**	**142**	P	P	04 06 20.6	-0.1
	0.2nm,0.3s,baz=319,slow=13,SNR=3.2						
ATD	**Arta Tunnel**	**17.68**	**23**	P	P	04 06 20.6	-0.1
	16nm,0.3s,baz=225,slow=18,SNR=18						
MSKU	**Masuku**	**22.33**	**277**	P	P	04 07 10.6	-0.8
	14nm,0.7s,baz=94,slow=13,SNR=4.0						
BOSA	**Boshof**	**25.71**	**202**	P	P	04 07 44.4	+0.4
	2.8nm,0.7s,baz=18,slow=13,SNR=3.0						
TORD	**Torodi Ar. Bea**	**38.24**	**298**	P	P	04 09 33.9	0.0
	0.3nm,0.8s,baz=109,slow=7.1,SNR=3.9						
DBIC	**Dimbokro**	**42.11**	**285**	P	P	04 10 05.9	-0.2
	2.6nm,0.7s,baz=92,slow=11,SNR=5.7						
BRTR	**Keskin Array B**	**44.33**	**358**	P	P	04 10 25.0	+1.1
	0.8nm,0.8s,baz=183,slow=9.9,SNR=6.2						
AKASG	**Malin Array Be**	**55.55**	**355**	P	P	04 11 48.9	+0.1
	2.4nm,0.7s,baz=178,slow=6.6,SNR=9.5						
GERES	**GERESS Array B**	**56.78**	**343**	P	P	04 11 57.9	+0.1
	0.6nm,0.8s,baz=148,slow=7.8,SNR=4.5						
ESDC	**Sonseca Beam**	**57.40**	**320**	P	P	04 12 02.2	-0.1
	0.7nm,0.7s,baz=134,slow=5.5,SNR=4.0						
MKAR	**Makanchi Array**	**65.74**	**33**	P	P	04 12 57.7	-0.8
	1.7nm,0.8s,baz=235,slow=6.5,SNR=15						
SONM	**Songino Array**	**80.71**	**40**	P	P	04 14 26.7	-0.4
	0.7nm,1.0s,baz=243,slow=2.9,SNR=3.1						

GUC 13 04:10:08.1±0.4,24.01S×67.32W,h200km,ML3.9,2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**2.71**	**283**	‖*i*P	Pn	04 10 57.2	+2.6
CEN1				*i* S	Sn	04 11 34.1	+3.3
CEN1				AML	AML	04 11 37.3	
	comp=N,193nm,0.6s						
ANCH	**Antofagasta**	**2.85**	**276**	⇑*i*P	Pn	04 10 57.1	+1.1
ANCH				*i* S	Sn	04 11 35.0	+1.7
MACH	**Maria Elena**	**2.88**	**308**	*e*P	Pn	04 10 58.5	+1.8
MACH				*i* S	Sn	04 11 36.8	+2.1
MECH	**Mejillones**	**3.01**	**287**	⇑*i*P	Pn	04 10 59.5	+1.6
MECH				AML	AML	04 11 47.4	
	comp=E,186nm,1.4s						

PRU 13 04:12:07.4,51.62N×16.41E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**185**	*e*Pg	Pg	04 12 22.6	+0.2
UPC	**Upice**	**1.14**	**193**	*e*PG	Pg	04 12 28.8	-0.5
DPC	**Dobruska-Polom**	**1.27**	**183**	*e*PG	Pg	04 12 31.6	-0.3
DPC	**Dobruska-Polom**	**1.27**	**183**	*e*P	Pg	04 12 31.6	-0.3
PVCC	**Panska Ves**	**1.59**	**227**	*e*PG	Pn	04 12 36.9	0.0
PVCC	**Panska Ves**	**1.59**	**227**	*e*P	Pn	04 12 36.9	0.0
BRG	**Berggiesshubel**	**1.72**	**245**	PN	Pb	04 12 39.7	-0.2
BRG				PG	Pg	04 12 43.1	+2.7
BRG	**Berggiesshubel**	**1.72**	**245**	P	Pb	04 12 39.7	-0.2
BRG	**Berggiesshubel**	**1.72**	**245**	P	Pb	04 12 39.7	-0.2
PRU	**Pruhonice**	**2.02**	**217**	*e*PG	Pb	04 12 43.9	-1.1
PRU	**Pruhonice**	**2.02**	**217**	*e*P	Pb	04 12 43.9	-1.1
KHC	**Kasperske Hory**	**3.08**	**217**	*e*PN	Pn	04 12 57.5	+0.1
KHC	**Kasperske Hory**	**3.08**	**217**	Pn	Pn	04 12 57.5	+0.1
KHC	**Kasperske Hory**	**3.08**	**217**	*e*P	Pn	04 12 57.5	+0.1
VOY	**Vojsko**	**5.83**	**198**	*e*Pn	Pn	04 13 39.2	+3.9
VOY				*e*Sn	Sg	04 15 10.0	-5.0

*WAR **13** 04:12:10.8,51.47N×16.15E*
*ISCJB **13** 04:12:11.4±0.2,51.45N±0.01×16.15E±0.02,h0km, mb3.8/13,Error ellipse: s-maj=1.8km s-min=1.7km az=163.9*
*LDG **13** 04:12:12.6±0.1,51.48N×16.19E,h1km,Ml3.8/26,Error ellipse: s-maj=3.0km s-min=1.7km az=175.0,Suspected Mining induced.*
*MOS **13** 04:12:12.3±1.4,51.56N×16.18E,h10km,mb4.1/4,Error ellipse: s-maj=7.9km s-min=4.4km az=95.4*
*CSEM **13** 04:12:13.2±0.1,51.48N×16.20E,h0km,mb4.0/4,ML4.1/11, Error ellipse: s-maj=2.1km s-min=1.9km az=106.0*
*IPEC **13** 04:12:14.0±0.4,51.46N×16.44E,h0km,ML3.2/3,Error ellipse: s-maj=3.4km s-min=2.2km az=90.0*
*BGR **13** 04:12:15.0±0.4,51.41N×16.18E,h1km,ML3.6/16,Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
*IDC **13** 04:12:14.2±0.5,51.42N×16.06E,h0km,mb3.6/10, mb1 3.8/18,mb1mx3.8/30,mbtmp3.7/18,ML3.4/7,Error ellipse: s-maj=9.2km s-min=5.8km az=109.0*
*PRU **13** 04:12:15.2,51.40N×16.17E,h0km,Felt In Harrachov*
*VIE **13** 04:12:16.0±0.3,51.27N×16.20E,h0km,mb3.1/11, ML3.6/12,Error ellipse: s-maj=2.1km s-min=1.6km az=10.0 60 km WNW of Wroclaw Suspected Mining induced.*
*UPP **13** 04:12:30.5,52.65N×15.55E,h0km,ML2.3,Suspected Mining explosion.*

ISC 13 04:12:13.5±0.3,51.45N±0.02×16.18E±0.01,h0km,n258, σ1=45/321,mb3.7/13,19C-24D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pb**	**04 12 26.2**	**-0.8**
KSP				*e*Sg	**Sb**	**04 12 34.5**	**-1.7**
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pb**	**04 12 26.2**	**-0.8**
KSP				*i* Sg	**Sg**	**04 12 34.1**	**+1.1**
KSP	**Ksiaz**	**0.61**	**173**	*e*P	**Pb**	**04 12 26.2**	**-0.8**
KSP				*i*		04 12 34.1	
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pb**	**04 12 26.1**	**-0.9**
	SNR=18						
KSP				*e*Sg	**Sb**	**04 12 34.4**	**-1.7**
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pb**	**04 12 26.0**	**-0.9**
	baz=8.5						
KSP				*e*Sg	**Sg**	**04 12 34.1**	**+1.1**
	baz=8.5						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.95**	**186**	*e*P	**Pb**	**04 12 32.6**	**-0.1**
UPC	**Upice**	**0.95**	**186**	*e*PG	**Pb**	**04 12 32.6**	**-0.1**
UPC	**Upice**	**0.95**	**186**	Pg	**Pb**	**04 12 32.6**	**-0.1**
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*	**Sg**	**04 12 49.0**	**+0.2**
DPC				smax	smax		
	comp=N,450nm,0.5s						
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*Pg	**Pn**	**04 12 35.2**	**-1.0**
	SNR=25						
DPC				*e*Sg	**Sg**	**04 12 48.7**	**-0.1**
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pn**	**04 12 35.1**	**-1.1**
DPC				*e*SG	**Sg**	**04 12 49.0**	**+0.2**
	comp=N,450nm,0.5s						
DPC	**Dobruska-Polom**	**1.10**	**175**	Pg	**Pn**	**04 12 35.2**	**-1.0**
	SNR=25						
DPC				Sg	**Sg**	**04 12 49.0**	**+0.2**
	comp=N,450nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*	**Sg**	**04 12 58.4**	**+1.0**
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	**Pg**	**04 12 40.5**	**+0.8**
PVCC				*e*SG	**Sg**	**04 12 58.4**	**+1.0**
PVCC	**Panska Ves**	**1.37**	**228**	Pg	**Pg**	**04 12 40.5**	**+0.8**
PVCC				Sg	**Sg**	**04 12 58.4**	**+1.0**
BRG	**Berggiesshubel**	**1.52**	**249**		**Sg**	**04 13 03.9**	**+1.7**
BRG				smax	smax		
	comp=N,294nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**249**	*e*Pn	**Pg**	**04 12 42.1**	**-0.4**
	SNR=42						
BRG				*e*Sg	**Sg**	**04 13 03.8**	**+1.7**
BRG	**Berggiesshubel**	**1.52**	**249**	Pn	**Pg**	**04 12 42.1**	**-0.4**
	SNR=42						
BRG				Sg	**Sg**	**04 13 03.8**	**+1.6**
BRG	**Berggiesshubel**	**1.52**	**249**	SG	**Sg**	**04 13 03.9**	**+1.6**
	comp=N,294nm,0.4s						
PRU	**Pruhonice**	**1.79**	**216**	*e*	**Sn**	**04 13 11.4**	**+2.3**
PRU				smax	smax		
	comp=N,310nm,0.5s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**04 12 47.5**	**-0.3**
PRU				*e*SG	**Sn**	**04 13 11.4**	**+2.3**
	comp=N,310nm,0.5s						
PRU	**Pruhonice**	**1.79**	**216**	Pg	**Pg**	**04 12 47.5**	**-0.3**
PRU				Sg	**Sn**	**04 13 11.4**	**+2.3**
	comp=N,310nm,0.5s						
FBE	**Freiberg**	**1.85**	**255**	*e*Pn	**Pn**	**04 12 46.2**	**-0.3**
	SNR=27						
FBE				*e*Sg	**Sg**	**04 13 13.3**	**+0.4**
FBE	**Freiberg**	**1.85**	**255**	Pn	**Pn**	**04 12 46.2**	**-0.3**
	SNR=27						
FBE				Sg	**Sg**	**04 13 13.3**	**+0.4**
RAC	**Raciborz**	**1.87**	**136**	*e*Pn	**Pn**	**04 12 45.5**	**-1.2**
RAC				*e*Pg	**Pg**	**04 12 49.9**	**+0.6**
RAC				*e*Sg	**Sg**	**04 13 14.8**	**+1.2**
RAC	**Raciborz**	**1.87**	**136**	*e*P	**Pg**	**04 12 49.9**	**+0.6**
RAC				*e*		04 13 14.8	
RAC	**Raciborz**	**1.87**	**136**	*e*P	**Pg**	**04 12 49.9**	**+0.6**
RAC				*e*S	**Sg**	**04 13 14.8**	**+1.2**
MORC	**Moravsky Berou**	**1.89**	**152**	‖P	**Pn**	**04 12 47.0**	**+0.1**
MORC				S	**Sn**	**04 13 11.5**	**+0.1**
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	**Pn**	**04 12 47.1**	**+0.1**
	SNR=24						
MORC				*e*Sg	**Sb**	**04 13 12.5**	**-0.4**
MORC	**Moravsky Berou**	**1.89**	**152**	‖*i*P	**Pn**	**04 12 47.0**	**+0.1**
MORC	**Moravsky Berou**	**1.89**	**152**	S	**Sn**	**04 13 11.5**	**+0.1**
MORC	**Moravsky Berou**	**1.89**	**152**	Pn	**Pn**	**04 12 47.1**	**+0.1**
	SNR=24						
MORC				S	**Sn**	**04 13 11.5**	**+0.1**
MORC				Sg	**Sb**	**04 13 12.5**	**-0.4**
GKP	**Gorka Klasztor**	**1.94**	**19**	*e*Pg	Pg	04 12 56.2	+5.6
GKP	**Gorka Klasztor**	**1.94**	**19**	*e*P	Pg	04 12 56.2	+5.6
CLL	**Collm**	**1.99**	**267**	*e*P	**Pn**	**04 12 48.0**	**-0.4**
CLL				*e*		04 13 19.0	
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**04 12 48.2**	**-0.2**
	SNR=72						
CLL				*e*Sg	**Sg**	**04 13 17.4**	**0.0**
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**04 12 48.0**	**-0.4**
CLL				*i* Pg	**Pg**	**04 12 51.9**	**+0.3**
CLL				*e*		04 12 54.0	
CLL				*e*Sg	**Sg**	**04 13 19.0**	**+1.5**
	comp=Z,139nm,0.6s						
CLL	**Collm**	**1.99**	**267**	Pn	**Pn**	**04 12 48.2**	**-0.2**
	SNR=72						
CLL				Sg	**Sg**	**04 13 17.4**	**0.0**
CLL				*e*S	**Sg**	**04 13 19.0**	**+1.5**
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*P	**Pg**	**04 12 52.1**	**-0.5**
OKC				*e*		04 13 17.7	
OKC				smax	smax		
	comp=N,269nm,0.4s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*Pn	**Pn**	**04 12 48.5**	**-0.6**
	SNR=25						
OKC				*e*Sg	**Sg**	**04 13 17.8**	**-1.2**
OKC	**Ostrava-Krasne**	**2.04**	**141

SNR=8.6
MOX Sg **Sg** **04 13 49.8 +0.4**
ROTZ **Rotzenmuhle** **3.04 238** *e*Pn **Pn** **04 13 03.4 +0.7**
SNR=24
ROTZ *e*Sg **Sg** **04 13 50.2 -0.7**
ROTZ **Rotzenmuhle** **3.04 238** Pn **Pn** **04 13 03.4 +0.7**
SNR=24
ROTZ Sg **Sg** **04 13 50.2 -0.7**
SMOL **Smolenice** **3.04 164** *e*P **Pb** **04 13 06.0 -2.5**
SMOL **Smolenice** **3.04 164** *e*PN **Pb** **04 13 05.9 -2.5**
SMOL *e*SG **Sg** **04 13 52.2 +1.0**
SMOL **Smolenice** **3.04 164** *e*P **Pb** **04 13 06.0 -2.5**
LIKS **Likavka** **3.05 141** *e*P **Pg** **04 13 13.7 +1.9**
LIKS **Likavka** **3.05 141** *e*PN **Pg** **04 13 13.7 +1.9**
GEC2 **GERESS Array S** **3.05 212** *e*P **Pn** **04 13 03.9 +0.9**
GEC2 *e* 04 13 49.3
GEC2 **GERESS Array S** **3.05 212** *e*Pn **Pn** **04 13 03.9 +0.9**
SNR=64
GEC2 *e*Sg **Sg** **04 13 49.3 -2.2**
GEC2 **GERESS Array S** **3.05 212** Pn **Pn** **04 13 03.9 +0.9**
SNR=64
GERES **GERESS Array B** **3.05 212** Pn **Pn** **04 13 01.1 -2.0**
comp=N,2.1nm,0.3s,baz=32,slow=12,SNR=106
GERES Pg **Pg** **04 13 10.3 -1.6**
comp=N,20nm,0.3s,baz=33,slow=16,SNR=71
GERES Lg Lg 04 13 48.5
comp=N,23nm,0.3s,baz=34,slow=26,SNR=8.0
WET **Wettzell** **3.13 224** *e*P **Pn** **04 13 04.4 +0.4**
WET **Wettzell** **3.13 224** *e*Pn **Pn** **04 13 04.4 +0.4**
SNR=12
WET *e*Sg **Sg** **04 13 52.8 -1.1**
WET **Wettzell** **3.13 224** Pn **Pn** **04 13 04.4 +0.4**
SNR=12
WET Sg **Sg** **04 13 52.8 -1.1**
KOLL **Kolacno** **3.21 153** *e*P **Pn** **04 13 05.5 +0.4**
KOLL *e* 04 13 54.7
KOLL **Kolacno** **3.21 153** *e*PN **Pn** **04 13 05.5 +0.4**
KOLL *e*SG **Sg** **04 13 54.7 -1.8**
KOLL **Kolacno** **3.21 153** *e*P **Pn** **04 13 05.5 +0.4**
ZST **Bratislava** **3.31 169** *e*P **Pn** **04 13 08.0 +1.5**
ZST pmax pmax
comp=N,95nm,0.7s
ZST **Bratislava** **3.31 169** *e*PN **Pn** **04 13 08.0 +1.5**
ZST *e*SG **Sg** **04 13 59.4 -0.3**
ZST **Bratislava** **3.31 169** *e*P **Pn** **04 13 08.0 +1.5**
comp=N,95nm,0.7s
NIE **Niedzica** **3.33 126** *e*Pn **Pn** **04 13 07.3 +0.4**
NIE *e*Pg **Pg** **04 13 17.0 -0.3**
NIE *e*Sg **Sg** **04 14 00.8 +0.3**
NIE **Niedzica** **3.33 126** *e*P **Pn** **04 13 07.3 +0.4**
NIE **Niedzica** **3.33 126** *e*P **Pn** **04 13 07.3 +0.4**
VYHS **Vyhne** **3.42 149** *e*P **Pn** **04 13 08.1 +0.1**
VYHS pmax pmax
comp=N,18nm,0.6s
VYHS **Vyhne** **3.42 149** *e*PN **Pn** **04 13 08.1 +0.1**
VYHS **Vyhne** **3.42 149** *e*P **Pn** **04 13 08.1 +0.1**
comp=N,18nm,0.6s
CONA **Conrad Observa** **3.53 183** ⇓*i*Pn **Pn** **04 13 09.9 +0.3**
SNR=12
CONA ⇑*i*Sg **Sg** **04 14 06.8 +0.1**
comp=N,204nm,0.8s
CONA **Conrad Observa** **3.53 183** Pn **Pn** **04 13 09.9 +0.3**
SNR=12
CONA Sg **Sg** **04 14 06.8 +0.1**
comp=N,204nm,0.8s
GRA1 **Grafenberg Arr** **3.61 243** Pn **Pn** **04 13 11.8 +1.1**
SNR=9.8
GRA1 Sg **Sg** **04 14 08.1 -1.4**
GRF **Grafenberg Arr** **3.61 243** *e*P **Pn** **04 13 11.8 +1.1**
GRF **Grafenberg Arr** **3.61 243** *e*Pn **Pn** **04 13 11.8 +1.1**
SNR=9.8
GRF *e*Sg **Sg** **04 14 08.1 -1.4**
CLZ **Clausthal** **3.64 279** *e*P **Pn** **04 13 11.8 +0.8**
CLZ **Clausthal** **3.64 279** *e*Pn **Pn** **04 13 11.8 +0.8**
SNR=4.5
CLZ *e*Sg **Sg** **04 14 11.1 +0.9**
CLZ **Clausthal** **3.64 279** Pn **Pn** **04 13 11.8 +0.8**
SNR=4.5
CLZ Sg **Sg** **04 14 11.1 +0.9**
SOP **Sopron** **3.77 176** *e* **Pn** **04 13 14.4 +1.5**
SOP **Sopron** **3.77 176** *e*P **Pn** **04 13 14.4 +1.5**
MOA **Molln** **3.81 200** ⇑*i*Pn **Pn** **04 13 14.1 +0.7**
SNR=32
MOA ⇑*i*Sg **Sg** **04 14 16.9 +1.2**
comp=N,136nm,0.7s
MOA **Molln** **3.81 200** Pn **Pn** **04 13 14.1 +0.7**
SNR=32
MOA Sg **Sg** **04 14 16.9 +1.2**
comp=N,136nm,0.7s
STHS **Stebnicka Huta** **3.82 120** *e*P **Pn** **04 13 14.0 +0.4**
STHS **Stebnicka Huta** **3.82 120** *e*PN **Pn** **04 13 14.0 +0.4**
STHS *e*SG **Sg** 04 14 24.2 +8.0
STHS **Stebnicka Huta** **3.82 120** *e*P **Pn** **04 13 14.0 +0.4**
HROE **Hohe Rhon--Fla** **3.91 259** ⇓*i*Pn **Pn** **04 13 15.1 +0.3**
HROE **Hohe Rhon--Fla** **3.91 259** Pn **Pn** **04 13 15.1 +0.3**
KECS **Kecovo** **4.07 135** *e*P **Pn** **04 13 16.4 -0.5**
KECS pmax pmax
comp=N,25nm,0.8s
KECS **Kecovo** **4.07 135** *e*PN **Pn** **04 13 16.4 -0.5**
KECS **Kecovo** **4.07 135** *e*P **Pn** **04 13 16.4 -0.5**
comp=N,25nm,0.8s
ARSA **Arzberg** **4.22 186** ⇓*i*Pn **Pn** **04 13 19.8 +0.7**
ARSA ⇓*i*Sg **Sg** **04 14 29.8 +0.8**
comp=N,61nm,0.6s
ARSA **Arzberg** **4.22 186** Pn **Pn** **04 13 19.8 +0.7**
ARSA Sg **Sg** **04 14 29.8 +0.8**
comp=N,61nm,0.6s
CRVS **Cervenica-Dubn** **4.25 125** *e*P **Pn** **04 13 19.8 +0.4**
CRVS **Cervenica-Dubn** **4.25 125** *e*PN **Pn** **04 13 19.8 +0.4**
CRVS *e*SG **Sg** **04 14 29.3 -0.5**
CRVS **Cervenica-Dubn** **4.25 125** *e*P **Pn** **04 13 19.8 +0.4**
PSZ **Piszkesteto** **4.28 144** ⇓*i*P **Pn** **04 13 20.9 +1.0**
PSZ **Piszkesteto** **4.28 144** ⇓*i*P **Pn** **04 13 20.9 +1.0**
PSZ **Piszkesteto** **4.28 144** ⇓*e* **Pn** **04 13 20.9 +1.0**
PSZ **Piszkesteto** **4.28 144** ⇓*e*P **Pn** **04 13 20.9 +1.0**
PKST **T¯s** **4.36 163** *e* **Pn** **04 13 21.1 +0.1**
PKST **T¯s** **4.36 163** *e*P **Pn** **04 13 21.1 +0.1**
KWP **Kalwaria Pacla** **4.54 111** ⇓P **Pn** **04 13 23.2 -0.3**
KWP **Kalwaria Pacla** **4.54 111** ⇓*i*P **Pn** **04 13 23.2 -0.3**
KWP **Kalwaria Pacla** **4.54 111** P **Pn** **04 13 23.2 -0.3**
KOLS **Kolonicke sedl** **4.66 120** *e*P **Pn** **04 13 23.9 -1.1**
KOLS **Kolonicke sedl** **4.66 120** *e*PN **Pn** **04 13 23.9 -1.1**
KOLS **Kolonicke sedl** **4.66 120** *e*P **Pn** **04 13 23.9 -1.1**
KBA **Koelnbreinsper** **4.75 204** ⇑*i*Pn **Pn** **04 13 27.4 +1.0**
SNR=7.1
KBA ⇑*i*Sg **Sg** **04 14 47.8 +1.8**
comp=N,54nm,0.5s
KBA **Koelnbreinsper** **4.75 204** Pn **Pn** **04 13 27.4 +1.0**
SNR=7.1
KBA Sg **Sg** **04 14 47.8 +1.8**
comp=N,54nm,0.5s
UZH **Uzhgorod** **4.84 123** *e*P **Pn** **04 13 28.0 +0.4**
UZH *e*S **Sn** **04 14 24.0 -0.3**
UZH smax smax
comp=N,34nm,0.8s
UZH smax smax
comp=E,50nm,0.8s
UZH **Uzhgorod** **4.84 123** *e*P **Pn** **04 13 28.0 +0.4**
UZH *e*S **Sn** **04 14 24.0 -0.3**
PERS **Pernice** **4.87 189** *e*Pn **Pn** **04 13 29.8 +1.9**
PERS **Pernice** **4.87 189** *e*Pn **Pn** **04 13 29.8 +1.9**
BJUU **Bjuv** **5.00 339** P **Pn** **04 13 28.0 -1.7**
TOD **Tromm** **5.05 251** P **Pn** **04 13 30.2 -0.2**
TOD S Sn 04 14 34.9 +5.4
WATA **Walderalm** **5.09 218** ⇑*i*Pn **Pn** **04 13 31.9 +0.8**
SNR=15
WATA ⇑*i*Sg **Sg** **04 14 59.9 +2.9**
comp=E,36nm,0.6s
WATA **Walderalm** **5.09 218** Pn **Pn** **04 13 31.9 +0.8**
SNR=15
WATA Sg **Sg** **04 14 59.9 +2.9**
comp=E,36nm,0.6s
WTTA **Wattenberg** **5.13 217** ⇑*i*Pn **Pn** **04 13 32.5 +0.8**
SNR=13
WTTA ⇑*i*Sg **Sg** **04 15 01.4 +3.2**
comp=E,42nm,0.5s
WTTA **Wattenberg** **5.13 217** Pn **Pn** **04 13 32.5 +0.8**
SNR=13
WTTA Sg **Sg** **04 15 01.4 +3.2**
comp=E,42nm,0.5s
DEL **Delary** **5.21 346** P **Pn** **04 13 31.4 -1.2**
LVV **L'vov** **5.26 105** *e*P **Pb** 04 13 40.3 -5.9
LVV *e*S **Sn** **04 14 34.1 -0.4**
MOTA **Moosalm** **5.27 221** ⇑*i*Pn **Pn** **04 13 34.3 +0.7**
SNR=8.1
MOTA **Moosalm** **5.27 221** Pn **Pn** **04 13 34.3 +0.7**
SNR=8.1
ABTA **Abfaltersbach** **5.28 209** ⇑*i*Pn **Pn** **04 13 34.9 +1.2**
SNR=9.4
ABTA **Abfaltersbach** **5.28 209** Pn **Pn** **04 13 34.9 +1.2**
SNR=9.4
TRPA **Tarpa** **5.29 126** ⇓*i*P **Pn** **04 13 33.1 -0.6**
TRPA **Tarpa** **5.29 126** ⇓*i*P **Pn** **04 13 33.1 -0.6**
RETA **Reutte** **5.31 224** *i* Pn **Pn** **04 13 34.5 +0.5**
SNR=15
RETA **Reutte** **5.31 224** Pn **Pn** **04 13 34.5 +0.5**
SNR=15
PKSM **Moragy** **5.49 162** ⇓⇓P **Pn** **04 13 38.0 +1.6**
PKSM **Moragy** **5.49 162** ⇓⇓*i*P **Pn** **04 13 38.0 +1.6**
PKSM **Moragy** **5.49 162** ⇓⇓*e* **Pn** **04 13 37.9 +1.6**
PKSM **Moragy** **5.49 162** ⇓⇓*e*P **Pn** **04 13 37.9 +1.6**
VXJU **Vaexsjoe** **5.53 353** P **Pn** **04 13 36.4 -0.6**
FETA **Feichten** **5.69 221** ⇑*i*Pn **Pn** **04 13 40.4 +1.1**
SNR=7.0
FETA **Feichten** **5.69 221** Pn **Pn** **04 13 40.4 +1.1**
SNR=7.0
ABH **Alteburg** **5.71 257** P **Pn** **04 13 40.0 +0.6**
OSKU **Oskarshamn** **5.76 360** P **Pn** **04 13 39.8 -0.3**
SPAK **Spaichingen-Ko** **5.84 238** P **Pn** **04 13 42.3 +1.0**
BYXU **Byxelkrok** **5.88 4** P **Pn** **04 13 41.5 -0.2**
LANF **Langenberg** **5.91 249** P **Pn** **04 13 42.5 +0.2**
FABU **Falkenberg** **5.92 341** P **Pn** **04 13 41.3 -1.0**
ASPU **Aespoe** **5.99 2** P **Pn** **04 13 43.2 0.0**
GNOU **Gnosjoe** **6.02 347** P **Pn** **04 13 42.8 -0.9**
RUP **Ruppelstein** **6.07 257** P **Pn** **04 13 45.0 +0.6**
SKDS **Skadanscina** **6.08 195** *e*Pn Pn 04 13 47.8 +3.3
EKSU **Eksjoe** **6.16 356** P **Pn** **04 13 45.0 -0.6**
VSTU **Vaestervik** **6.23 2** P **Pn** **04 13 46.2 -0.3**
DAVOX **Davos/Dischmat** **6.24 224** Pn **Pn** **04 13 47.5 +0.6**
comp=E,0.6nm,0.3s,baz=45,slow=11,SNR=12
DAVOX Lg Lg 04 15 30.6
comp=E,2.0nm,0.3s,baz=334,slow=17,SNR=6.0
DRGR **6.33 135** ⇑P **Pn** **04 13 48.2 +0.1**
DRGR **6.33 135** ⇑*i*P **Pn** **04 13 48.2 +0.1**
DRGR **6.33 135** P **Pn** **04 13 48.2 +0.1**
GOTU **Gotland** **6.41 12** P **Pn** **04 13 50.3 +1.4**
CDF **Champ du Feu** **6.50 246** *e*Pn **Pn** **04 13 47.4 -3.0**
CDF *e*Sg **Sg** **04 15 37.1 -5.0**
comp=E,55nm,0.8s
BORU **Boraas** **6.51 344** P **Pn** **04 13 49.8 -0.6**
FKPU **Falk** **6.88 349** P **Pn** **04 13 55.6 +0.2**
BURAR **Bucovina Array** **7.02 120** ⇓*i*P **Pn** **04 13 58.3 +0.7**
HINF **Hinteralfeld** **7.06 243** *e*Pn **Pn** **04 13 54.9 -3.1**
HINF *e*Sg **Sg** **04 15 54.5 -5.6**
comp=E,34nm,0.8s
VIKU **Vikbolandet** **7.08 2** P **Pn** **04 13 58.1 -0.1**
IIGN **Ignalina** **7.17 53** *e*P Sg 04 16 07.9 +4.5
ISAL **Salakas** **7.23 51** *e*P **Sg** **04 16 07.5 +2.1**
HAU **Haudompre** **7.24 245** *e*Pn **Pn** **04 13 57.6 -2.9**
HAU *e*Sg **Sg** **04 16 00.1 -5.7**
comp=E,34nm,0.8s
GIVF **Givet** **7.33 264** *e*Pn Pn 04 13 57.8 -3.8
GIVF *e*Sg Sg 04 16 01.4 -7.1
comp=E,34nm,0.9s
PAGF **Fort de Pagny** **7.33 251** *e*Pn **Pn** **04 13 59.0 -2.7**
PAGF *e*Sg Sg 04 16 02.8 -5.9
comp=E,15nm,1.0s
GZR **Gura Zlata** **7.48 142** ⇑P **Pn** **04 14 04.1 +0.3**
GZR **Gura Zlata** **7.48 142** ⇑*i*P **Pn** **04 14 04.1 +0.3**
GZR **Gura Zlata** **7.48 142** P **Pn** **04 14 04.1 +0.3**
NYNU **Nynaeshamn** **7.65 7** P **Pn** **04 14 05.3 -0.7**
MICGM **Minsk** **7.70 62** *e* Pb 04 14 31.0 +3.3
BAIF **Baives** **7.72 264** *e*Pn Pn 04 14 02.9 -4.1
BAIF *e*Sg Sg 04 16 14.2 -7.0
comp=E,51nm,1.1s
MEZF **Maizieres J'vi** **7.75 252** *e*Pn Pn 04 14 04.3 -3.2
baz=65
MEZF *e*Sg Sg 04 16 15.9 -6.4
comp=E,30nm,0.9s
ESKU **Eskilstuna** **7.80 1** P **Pn** **04 14 07.4 -0.7**
SFTF **Sexfontaines** **7.90 250** *e*Pn **Pn** **04 14 06.5 -3.0**
SFTF *e*Sg Sg 04 16 20.5 -6.5
comp=E,25nm,0.7s
CABF **La Chapelle** **8.21 238** *e*Pn **Pn** **04 14 10.8 -3.0**
CABF *e*Sg Sg 04 16 30.6 -6.2
comp=E,20nm,0.8s
KIEV **Kiev** **8.25 90** ⇑*e*P **Pn** **04 14 13.5 -0.7**
KIEV **Kiev** **8.25 90** *e*P **Pn** **04 14 13.5 -0.7**
FINU **Finntorp** **8.25 347** P **Pn** **04 14 13.1 -1.1**
AKASG **Malin Array Be** **8.25 90** Pn **Pn** **04 14 12.9 -1.4**
comp=E,2.9nm,0.3s,baz=280,slow=12,SNR=14
AKASG Sn **Sn** **04 15 43.9 -4.4**
comp=E,3.2nm,0.3s,baz=265,slow=25,SNR=6.2
AKASG Lg Lg 04 16 40.5
baz=291,slow=29,SNR=3.4
AKASG **Malin Array Be** **8.25 90** *i* P **Pn** **04 14 12.8 -1.5**
AKASG pmax pmax
comp=E,7.0nm,0.6s
AKASG **Malin Array Be** **8.25 90** *i* P **Pn** **04 14 12.8 -1.5**
comp=E,7.0nm,0.6s
LPL **La Plagne** **8.63 230** *e*Pn Pn 04 14 16.4 -3.3
LPL *e*Sg Sg 04 16 44.3 -6.1
comp=E,1.5nm,0.5s
LPG **La Plagne** **8.63 230** *e*Pn **Pn** **04 14 17.1 -2.8**
LPG *e*Sg Sg 04 16 44.1 -6.5
comp=E,5.6nm,0.8s
HFS **Hagfors** **8.82 352** Pn **Pn** **04 14 21.0 -1.0**
comp=E,0.4nm,0.3s,baz=169,slow=15,SNR=17
HFS Sn Sn 04 15 55.5 -6.6
comp=E,0.3nm,0.3s,baz=159,slow=24,SNR=2.6
LOR **Lormes** **9.06 247** *e*Pn **Pn** **04 14 22.4 -3.0**
baz=70
LOR *e*Sg Sn 04 16 56.8 +49
comp=E,8.2nm,0.6s
MBDF **Montbardon** **9.20 227** *e*Pn Pn 04 14 23.9 -3.6
MBDF *e*Sg Sn 04 17 01.8 +50
comp=E,6.2nm,0.6s
VSU **Vasula** **9.28 37** ⇑*e*P **Pn** **04 14 28.4 0.0**
VSU **Vasula** **9.28 37** *e*P **Pn** **04 14 28.4 0.0**
SSF **Saint Saulge** **9.37 247** *e*Pn Pn 04 14 26.1 -3.6
SSF *e*Sg Sn 04 17 06.6 +51
comp=E,14nm,0.9s
SMF **Signal de Mont** **9.41 244** *e*Pn **Pn** **04 14 27.3 -3.0**
SMF *e*Sg Sn 04 17 07.9 +51
comp=E,55nm,1.2s
ORIF **Oris-en-Rattie** **9.48 230** *e*Pn Pn 04 14 27.4 -3.8
ORIF *e*Sg Sn 04 17 10.4 +52
comp=E,6.3nm,0.8s
SBF **Sospel** **9.60 221** *e*Pn Pn 04 14 29.5 -3.4
SBF *e*Sg Sn 04 17 14.4 +53
comp=E,2.6nm,0.3s
AVF **Avril sur Loir** **9.61 246** *e*Pn **Pn** **04 14 29.8 -3.1**
AVF *e*Sg Sn 04 17 13.9 +52
comp=E,8.8nm,0.8s
HYF **Humbligny** **9.77 250** *e*Pn **Pn** **04 14 32.0 -3.1**
HYF *e*Sg Sn 04 17 19.1 +54
NOA **NORSAR Array B** **10.00 346** Pn **Pn** **04 14 36.0 -2.3**
comp=E,0.4nm,0.3s,baz=174,slow=13,SNR=7.8
BGF **Bois d'Agland** **10.03 246** *e*Pn **Pn** **04 14 35.6 -3.1**
BGF *e*Sg Sn 04 17 27.2 +55
comp=E,12nm,0.6s
VIVF **Saint-Julien-l** **10.12 234** *e*Pn Pn 04 14 36.5 -3.5
VIVF *e*Sg Sn 04 17 30.4 +56
comp=E,0.9nm,0.4s
LMR **La Mourre** **10.42 223** *e*Pn **Pn** **04 14 41.6 -2.5**
LMR *e*Sg Sn 04 17 40.1 +59
comp=E,0.9nm,0.3s
LASF **Ste Croix** **11.09 233** *e*Pn Pn 04 14 49.6 -3.6
LASF *e*Sg 04 18 00.5
comp=E,0.4nm,0.3s
FINES **FINESS Array B** **11.40 25** Pn **Pn** **04 14 54.5 -2.9**
comp=E,1.0nm,0.3s,baz=203,slow=10,SNR=23
FINES Sn Sn 04 16 56.5 -8.9
comp=E,0.8nm,0.3s,baz=213,slow=20,SNR=4.6
KAF **Kangasniemi** **12.03 23** *e*P **Pn** **04 15 03.6 -2.3**
KAF pmax pmax
comp=E,3.0nm,0.5s
KAF **Kangasniemi** **12.03 23** *e*p **Pn** **04 15 03.6 -2.3**
comp=E,2.7nm,0.5s
KAF **Kangasniemi** **12.03 23** *e*p **Pn** **04 15 03.6 -2.3**
comp=E,2.7nm,0.5s
KAF **Kangasniemi** **12.03 23** *e*P **Pn** **04 15 03.6 -2.3**
comp=E,3.0nm,0.5s
JOF **Joensuu** **14.07 29** *e*P Pn 04 15 29.9 -4.0
JOF pmax pmax
comp=E,3.0nm,0.6s
JOF **Joensuu** **14.07 29** *e*p Pn 04 15 29.9 -4.0
comp=E,2.9nm,0.6s
JOF **Joensuu** **14.07 29** *e*p Pn 04 15 29.9 -4.0
comp=Z,2.9nm,0.6s
ARCES **ARCESS Array B** **18.68 10** Pn **P** **04 16 29.0 -3.8**
comp=Z,0.4nm,0.3s,baz=197,slow=13,SNR=18
KEV **Kevo** **19.06 12** *e*P P 04 16 27.5 -9.5
KEV pmax pmax
comp=E,3.0nm,0.5s
KEV **Kevo** **19.06 12** *e*p P 04 16 27.5 -9.5
comp=E,3.1nm,0.5s
KEV **Kevo** **19.06 12** *e*p P 04 16 27.5 -9.5
comp=E,3.1nm,0.5s
ARU **Arti** **25.13 62** *d*iP **P** **04 17 41.0 +1.2**
ARU 04 18 15.4
ARU S **S** **04 22 09.3 +4.0**
ARU SS **SnSn** **04 23 01.0 +7.0**
ARU pmax pmax
comp=E,7.0nm,1.0s
ARU **Arti** **25.13 62** *i* P **P** **04 17 41.0 +1.2**
comp=Z,7.0nm,1.0s
AKTO **Aktyubinsk** **26.13 76** P **P** **04 17 49.1 +0.2**
comp=Z,1.4nm,0.6s,baz=283,slow=9.6,SNR=8.1
BRVK **Borovoye** **32.51 65** ⇓*e*P **P** **04 18 46.4 +0.9**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK **Borovoye** **32.51 65** *e*P **P** **04 18 46.4 +0.9**
comp=Z,2.0nm,0.7s
BVAR **Borovoye Array** **32.58 66** P **P** **04 18 47.5 +1.4**
comp=Z,0.9nm,0.6s,baz=290,slow=6.1,SNR=4.3
KURK **Kurchatov** **38.17 66** ⇓*e*P **P** **04 19 33.7 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK **Kurchatov** **38.17 66** *e*P **P** **04 19 33.7 -0.6**
comp=Z,2.0nm,0.9s
TORD **Torodi Ar. Bea** **39.96 202** P **P** **04 19 50.1 +0.6**
comp=Z,0.8nm,0.6s,baz=8.9,slow=8.2,SNR=10
ZALV **Zalesovo Beam** **40.20 59** P **P** **04 19 51.8 +0.6**
comp=Z,0.4nm,0.4s,baz=302,slow=8.2,SNR=2.5
MKAR **Makanchi Array** **42.20 69** P **P** **04 20 08.6 +0.8**
comp=Z,0.6nm,0.9s,baz=299,slow=7.6,SNR=4.3
MKAR **Makanchi Array** **42.20 69** *i* P **P** **04 20 07.5 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** **42.20 69** *i* P **P** **04 20 07.5 -0.3**
comp=Z,1.0nm,0.9s
SONM **Songino Array** **54.92 55** P **P** **04 21 47.1 +1.3**
comp=Z,0.7nm,1.0s,baz=297,slow=9.5,SNR=4.1
YKA **Yellowknife Ar** **59.93 336** P **P** **04 22 21.6 +0.9**
comp=Z,0.7nm,0.6s,baz=26,slow=7.1,SNR=9.7
PDAR **Pinedale Array** **75.02 322** P **P** **04 23 57.7 +0.9**
comp=Z,0.3nm,0.6s,baz=61,slow=6.2,SNR=3.8
NVAR **Mina Array Bea** **82.04 326** P **P** **04 24 37.4 +1.8**
comp=Z,0.3nm,0.6s,baz=44,slow=4.3,SNR=2.6
TXAR **Lajitas Array** **83.79 310** P **P** **04 24 46.0 +1.4**
comp=Z,0.3nm,0.6s,baz=65,slow=4.1,SNR=4.5

*ISK **13** 04:12:16.5,39.87N×40.40E,h2km,MD2.9*
*CSEM **13** 04:12:17.3±0.2,39.84N×40.41E,h1km±1km,MD3.0,Error ellipse: s-maj=3.5km s-min=2.7km az=175.0*
*DDA **13** 04:12:17.3,39.87N×40.38E,h15km,MD3.0*
ISC 13 04:12:17.9±1.0,**39.87N**±0.03×**40.40E**±0.02,**h11**km±7km,
n31,σ**0.85**/47,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.17**	**27**	*i* P		**Pg**	**04 12 21.6**	**-0.3**
KOPT				*i* S		**Sg**	**04 12 24.8**	**+0.1**
KOPT	**Kop Dagi**	**0.17**	**27**	*i* P		**Pg**	**04 12 21.6**	**-0.3**
KOPT				*i* S		**Sg**	**04 12 24.8**	**+0.1**
ERZN	**Erzincan**	**0.59**	**242**	*e*PG		**Pg**	**04 12 28.5**	**-1.0**
EZC	**Erzincan**	**0.81**	**262**	*e*PG		**Pg**	**04 12 33.3**	**-0.4**
EZC				*e*SG		**Sb**	**04 12 45.4**	**+0.2**
EZC	**Erzincan**	**0.81**	**262**	*e*Pg		**Pg**	**04 12 33.3**	**-0.4**
EZC				*e*Sg		**Sb**	**04 12 45.4**	**+0.2**
GUMT	**Gumushane**	**0.92**	**310**	*e*PG		**Pg**	**04 12 35.4**	**-0.3**
GUMT				*e*SG		**Sb**	**04 12 48.8**	**+0.6**
GUMT	**Gumushane**	**0.92**	**310**	*e*Pg		**Pg**	**04 12 35.4**	**-0.3**
GUMT				*e*Sg		**Sb**	**04 12 48.8**	**+0.6**
KELT	**Kelkit**	**0.92**	**288**	*i* P		**Pg**	**04 12 35.4**	**-0.3**
KELT				*i* S		**Sg**	**04 12 47.3**	**-0.5**
KELT	**Kelkit**	**0.92**	**288**	*i* P		**Pg**	**04 12 35.4**	**-0.3**
KELT				*i* S		**Sg**	**04 12 47.3**	**-0.5**
VRTB	**Varto-Mus**	**1.08**	**131**	*e*PG		**Pg**	**04 12 37.9**	**-0.9**
VRTB	**Varto-Mus**	**1.08**	**131**	*e*Pg		**Pg**	**04 12 37.9**	**-0.9**
BNGL	**BINGOL**	**1.08**	**147**	*i* P		**Pg**	**04 12 38.1**	**-0.7**
BNGL				*i* S		**Sn**	**04 12 55.7**	**+1.3**
MACK	**Trabzon**	**1.18**	**336**	*i* P		**Pg**	**04 12 39.6**	**-1.0**
MACK				*i* S		**Sb**	**04 12 56.5**	**+1.0**
MACK	**Trabzon**	**1.18**	**336**	*i* P		**Pg**	**04 12 39.6**	**-1.0**
MACK				*i* S		**Sb**	**04 12 56.5**	**+1.0**
PTK	**Pertek**	**1.25**	**219**	*e*PN		**Pg**	**04 12 41.2**	**-0.8**
PTK	**Pertek**	**1.25**	**219**	*e*Pn		**Pg**	**04 12 41.2**	**-0.8**
DDEM	**Demirkent**	**1.45**	**45**	*i* P		**Pn**	**04 12 44.5**	**+0.3**
DDEM				*i* S		**Sn**	**04 12 50.0**	**-3.3**
DDEM	**Demirkent**	**1.45**	**45**	*i* P		**Pn**	**04 12 44.5**	**+0.3**
ILIC	**ilic-Erzincan**	**1.47**	**254**	*e*PN		**Pn**	**04 12 45.2**	**+0.7**
ILIC	**ilic-Erzincan**	**1.47**	**254**	*e*Pn		**Pn**	**04 12 45.2**	**+0.7**
KEMA	**Kemaliye**	**1.59**	**248**	*i* P		**Pn**	**04 12 46.5**	**+0.4**
KEMA				*i* S		**Sb**	**04 13 08.4**	**+0.9**
KEMA	**Kemaliye**	**1.59**	**248**	*i* P		**Pn**	**04 12 46.5**	**+0.4**
KEMA				*i* S		**Sb**	**04 13 08.4**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.71**	**210**	*e*PN		**Pn**	**04 12 48.5**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.71**	**210**	*e*Pn		**Pn**	**04 12 48.5**	**+0.6**
SUSE	**Susehri**	**1.72**	**282**	*i* P		**Pn**	**04 12 48.4**	**+0.4**
SUSE				*i* S		**Sg**	**04 13 13.3**	**0.0**
SUSE	**Susehri**	**1.72**	**282**	*i* P		**Pn**	**04 12 48.4**	**+0.4**
SUSE				*i* S		**Sg**	**04 13 13.3**	**0.0**
DBOC	**Borcka**	**1.76**	**33**	*i* P		Pn	04 12 42.3	-6.1
DBOC				*i* S		**Sb**	**04 13 13.5**	**+1.1**
BCA	**Borcka**	**1.83**	**30**	*e*PN		**Pn**	**04 12 50.2**	**+0.9**
BCA	**Borcka**	**1.83**	**30**	*e*Pn		**Pn**	**04 12 50.2**	**+0.9**
AGRB	**Hanur-Agry**	**2.02**	**98**	*e*PN		**Pn**	**04 12 52.9**	**+0.8**
AGRB	**Hanur-Agry**	**2.02**	**98**	*e*Pn		**Pn**	**04 12 52.9**	**+0.8**

TAP 13 04:15:11.3,24.14N×121.71E,h8km,ML3.8,9C-1D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=250	**0.12**	**242**	⇑*i*P		Pg	04 15 14.3	+0.3
TWD				*i* S		Sg	04 15 16.4	+0.5
EHP	**Heping Village** baz=9.0	**0.17**	**8**	P		Pg	04 15 15.3	+0.3
EHP				S		Sg	04 15 18.5	+1.0
HWA	**Hwalien** baz=224	**0.19**	**212**	P		Pg	04 15 16.1	+0.9
HWA				*e*S		Sg	04 15 20.3	+2.5
ENA	**Nanau** baz=5.0	**0.29**	**5**	⇑*i*P		Pg	04 15 17.4	+0.3
ENA				S		Sg	04 15 21.7	+0.7
ESF	**Shoufeng Towns** baz=227	**0.33**	**216**	*e*P		Pg	04 15 17.6	-0.1
ESF				*e*S		Sg	04 15 24.7	+2.7
WHF	**Hehuan Shan** baz=272	**0.41**	**271**	⇑*i*P		Pg	04 15 19.7	-0.2
WHF				S		Sg	04 15 25.4	-0.4
ESL	**Shilin** baz=231	**0.41**	**219**	P		Pg	04 15 19.4	0.0
ESL				*e*S		Sg	04 15 25.9	+1.0
NNS	**Nan Shan** baz=314	**0.43**	**314**	⇑*i*P		Pg	04 15 20.3	+0.3
NNS				*i* S		Sg	04 15 26.3	+0.5
TEGC	**Jichi Village** baz=189	**0.46**	**201**	*e*P		Pg	04 15 21.6	+1.4
TEGC				*e*S		Sg	04 15 29.9	+3.7
TWC	**Suao** baz=14	**0.49**	**15**	⇑*i*P		Pg	04 15 21.0	+0.3
TWC				*e*S		Sg	04 15 26.1	-1.0
TWT	**Tachien** baz=283	**0.51**	**283**	⇑*i*P		Pb	04 15 22.1	-0.6
TWT				S		Sg	04 15 29.2	+1.0
ENTT	**Nioudou** baz=344	**0.52**	**345**	⇑*i*P		P

ENTT				S	Sb	04 15 29.4	-1.0	
	baz=344							
TWE	**Neicheng**	**0.58**	**356**	*i* P	Pg	04 15 23.1	+0.5	
	baz=356							
TWE				*i* S	Sg	04 15 31.2	+0.9	
	baz=356							
ILA	**Ilan**	**0.63**	**3**	*eP*	Pg	04 15 23.7	+0.2	
	baz=2.0							
ILA				*eS*	Sb	04 15 32.6	-0.9	
	baz=2.0							
NSK	**Sanguang**	**0.63**	**329**	⇑*iP*	Pb	04 15 24.2	-0.5	
	baz=328							
NSK				S	Sg	04 15 32.3	+0.5	
	baz=328							
EHY	**Hungye**	**0.72**	**210**	*eP*	Pg	04 15 25.1	-0.3	
	baz=221							
EHY				*eS*	Sb	04 15 36.4	+0.1	
	baz=221							
SMLT	**Sun Moon Lake**	**0.79**	**251**	P	Pg	04 15 26.7	+0.1	
	baz=253							
SMLT				S	Sg	04 15 37.1	+0.2	
	baz=253							
NSTT	**Nanjuang**	**0.81**	**307**	P	Pb	04 15 28.0	+0.2	
	baz=307							
NSTT				S	Sg	04 15 38.3	+0.6	
	baz=307							
TYC	**Yuchr**	**0.82**	**254**	*eP*	Pg	04 15 26.8	-0.2	
	baz=255							
TYC				*eS*	Sg	04 15 38.0	+0.3	
	baz=255							
TWA	**Mucha**	**0.85**	**352**	⇑P	Pb	04 15 28.5	+0.2	
	baz=350							
TWA				S	Sb	04 15 39.8	-0.2	
	baz=350							
TWF1	**Yuli**	**0.87**	**206**	*eP*	Pg	04 15 27.2	-0.9	
	baz=222							
TWQ1	**Liyutan**	**0.88**	**284**	*eP*	Pn	04 15 30.1	0.0	
	baz=296							
TWQ1				*eS*	Sn	04 15 42.3	-0.9	
	baz=296							
TWB1	**Santiao Chiao**	**0.90**	**16**	*eP*	Pb	04 15 29.4	+0.2	
	baz=4.0							
NSY	**Sanyi**	**0.91**	**288**	*eP*	Pn	04 15 30.7	+0.2	
	baz=288							
TAP1	**Taipei**	**0.92**	**349**	*eP*	Pb	04 15 29.9	+0.4	
	baz=346							
TAP1				S	Sb	04 15 41.5	-0.2	
	baz=346							
NWF	**Wu-fen Shan**	**0.93**	**4**	*eP*	Pb	04 15 29.8	-0.1	
	baz=353							
NWF				*eS*	Sg	04 15 41.8	+0.2	
	baz=353							
HSN	**Hsinchu**	**0.95**	**314**	*eP*	Pn	04 15 31.1	+0.1	
	baz=322							
TCU	**Taichung**	**0.95**	**271**	*eP*	Pn	04 15 31.2	+0.3	
	baz=264							
TCU				*eS*	Sn	04 15 45.1	+0.4	
	baz=264							
YUS	**Yu-Shan**	**0.95**	**227**	⇓P	Pb	04 15 30.7	0.0	
	baz=230							
YUS				*eS*	Sb	04 15 44.5	+0.6	
	baz=230							
NCU	**National Centr**	**0.96**	**330**	*eP*	Pn	04 15 32.0	+0.9	
	baz=328							
WNT	**Mingjian**	**0.98**	**255**	*eP*	Pn	04 15 31.0	-0.3	
	baz=252							
WNT				*eS*	Sn	04 15 46.2	+0.8	
	baz=252							
TWS1	**Kuangyinshan**	**1.00**	**344**	*eP*	Pn	04 15 31.7	+0.1	
	baz=343							
TWS1				*eS*	Sn	04 15 46.1	+0.2	
	baz=343							
CHN5	**Tsauling**	**1.09**	**241**	*i* P	Pn	04 15 33.3	+0.3	
	baz=243							
CHN5				S	Sn	04 15 49.6	+1.2	
	baz=243							
TWY	**Chenhua**	**1.14**	**355**	*eP*	Pn	04 15 34.5	+1.0	
	baz=3.0							
ELDTW	**Lidau**	**1.14**	**214**	*eP*	Pg	04 15 31.4	-2.0	
	baz=221							
WGK	**Gukeng**	**1.15**	**247**	*eP*	Pn	04 15 35.1	+1.4	
	baz=252							
YOJ	**Yonaguni jima**	**1.23**	**74**	*eP*	Pb	04 15 34.1	-0.7	
	baz=55							
CHN2	**Minshiung**	**1.28**	**242**	*eP*	Pg	04 15 37.0	+1.1	
	baz=248							
CHN4	**Tsaushan**	**1.29**	**233**	*eP*	Pg	04 15 36.3	+0.1	
	baz=229							
CHN4				*eS*	Sn	04 15 56.4	+3.3	
	baz=229							
STYT	**Tauyuan**	**1.31**	**222**	*eP*	Pn	04 15 35.4	-0.6	
	baz=227							
STYT				*eS*	Sg	04 15 53.6	0.0	
	baz=227							
WTCT	**Ta-ch'eng**	**1.34**	**259**	*eP*	Pg	04 15 37.8	+0.7	
	baz=260							
WTCT				*eS*	Sg	04 15 57.4	+3.0	
	baz=260							
CHY	**Chiayi**	**1.34**	**242**	*eP*	Pg	04 15 37.5	+0.4	
	baz=245							
CHY				*eS*	Sg	04 15 55.9	+1.3	
	baz=245							
WTP	**Ta-pu**	**1.34**	**229**	P	Pg	04 15 37.1	-0.1	
	baz=233							
WTP				S	Sg	04 15 56.4	+1.7	
	baz=233							
TWK	**Hsinying**	**1.42**	**233**	*eP*	Pb	04 15 38.2	+0.1	
	baz=229							
TWK				*eS*	Sg	04 15 58.8	+1.6	
	baz=229							
TWG	**Pinlang**	**1.44**	**204**	*eP*	Pn	04 15 35.0	-2.6	
	baz=212							
CHN1	**Nanshi**	**1.44**	**229**	P	Pb	04 15 38.8	+0.3	
	baz=233							
CHN1				*eS*	Sg	04 15 59.9	+2.0	
	baz=233							
WSF	**Szhu**	**1.45**	**250**	*eP*	Pg	04 15 39.4	+0.1	
	baz=253							
WSF				*eS*	Sg	04 16 00.3	+2.2	
	baz=253							
SGST	**Jiashian**	**1.48**	**225**	*eP*	Pg	04 15 39.7	0.0	
	baz=229							
SGST				*eS*	Sg	04 16 00.3	+1.4	
	baz=229							
CHN8	**Yiju**	**1.59**	**241**	*eP*	Pb	04 15 40.4	-0.5	
	baz=244							
CHN8				*eS*	Sg	04 16 03.5	+1.1	
	baz=244							
ECL	**Taimali**	**1.68**	**205**	*eP*	Pb	04 15 42.0	-0.6	
	baz=214							
SCLT	**Jiali**	**1.69**	**236**	*eP*	Pb	04 15 42.4	-0.3	
	baz=243							
TWM1	**Shoushan**	**1.77**	**222**	*eP*	Pb	04 15 44.4	+0.4	
	baz=231							
EAST	**Anshuo**	**1.92**	**205**	*eP*	Pb	04 15 45.5	-1.1	
	baz=201							
SCZT	**Fangliau**	**2.02**	**210**	*eP*	Pn	04 15 46.4	+0.7	
	baz=207							
KNM	**Kinmen**	**3.01**	**276**	*eP*	Pn	04 16 00.2	+1.0	
	baz=277							

TAP 13 04:17:29.0, 24.13N×121.71E, h9km, ML3.8, 4C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.12**	**243**	⇓*iP*	Pg	04 17 32.0	+0.3
	baz=251						
TWD				*i* S	Sg	04 17 34.1	+0.4
	baz=251						
EHP	**Heping Village**	**0.18**	**9**	*i* P	Pg	04 17 32.9	+0.2
	baz=9.0						
EHP				*i* S	Sg	04 17 36.2	+0.9
	baz=9.0						
HWA	**Hwalien**	**0.18**	**212**	*eP*	Pg	04 17 33.7	+0.9
	baz=224						
HWA				*eS*	Sg	04 17 37.1	+1.7
	baz=224						
ENA	**Nanau**	**0.29**	**5**	⇑*iP*	Pg	04 17 35.2	+0.3
	baz=5.0						
ENA				S	Sg	04 17 39.5	+0.7
	baz=5.0						
ESF	**Shoufeng Towns**	**0.32**	**216**	*eP*	Pg	04 17 35.6	+0.2
	baz=226						
ESF				*eS*	Sg	04 17 42.4	+2.8
	baz=226						
ESL	**Shilin**	**0.41**	**219**	⇓*iP*	Pg	04 17 37.0	+0.1
	baz=227						
ESL				*eS*	Sg	04 17 43.0	+0.5
	baz=227						
WHF	**Hehuan Shan**	**0.41**	**272**	⇓*iP*	Pg	04 17 37.5	-0.1
	baz=272						
WHF				*i* S	Sg	04 17 43.2	-0.1
	baz=272						
NNS	**Nan Shan**	**0.43**	**315**	⇑*iP*	Pg	04 17 38.1	+0.4
	baz=315						
NNS				*i* S	Sg	04 17 44.0	+0.5
	baz=315						
TEGC	**Jichi Village**	**0.45**	**200**	*eP*	Pg	04 17 37.9	+0.1
	baz=191						
TEGC				*eS*	Sg	04 17 47.8	+4.1
	baz=191						
TWC	**Suao**	**0.49**	**15**	⇑*iP*	Pg	04 17 38.8	+0.3
	baz=8.0						
TWC				*eS*	Sg	04 17 44.7	-0.2
	baz=8.0						
TWT	**Tachien**	**0.50**	**284**	*i* P	Pb	04 17 39.8	-0.5
	baz=283						
TWT				S	Sb	04 17 47.1	-0.8
	baz=283						
ENTT	**Nioudou**	**0.52**	**345**	P	Pg	04 17 39.8	+0.6
	baz=344						
ENTT				S	Sb	04 17 47.3	-0.7
	baz=344						
TWE	**Neicheng**	**0.59**	**356**	*i* P	Pg	04 17 40.9	+0.5
	baz=356						
TWE				S	Sb	04 17 49.4	-0.4
	baz=356						
NSK	**Sanguang**	**0.63**	**329**	*i* P	Pb	04 17 41.9	-0.4
	baz=329						
NSK				*i* S	Sg	04 17 50.2	+0.6
	baz=329						
ILA	**Ilan**	**0.63**	**3**	*eP*	Pb	04 17 42.6	+0.5
	baz=1.0						
EHY	**Hungye**	**0.72**	**210**	*eP*	Pg	04 17 42.4	-0.5
	baz=213						
SMLT	**Sun Moon Lake**	**0.78**	**252**	P	Pg	04 17 44.4	+0.2
	baz=253						
SMLT				S	Sg	04 17 54.9	+0.3
	baz=253						
TYC	**Yuchr**	**0.81**	**254**	⇓*iP*	Pg	04 17 44.9	+0.3
	baz=257						
NSTT	**Nanjuang**	**0.82**	**307**	P	Pb	04 17 45.7	+0.3
	baz=307						
NSTT				S	Sb	04 17 56.0	-0.5
	baz=307						
TWA	**Mucha**	**0.85**	**352**	*eP*	Pb	04 17 45.8	-0.2
	baz=351						
TWA				S	Sb	04 17 57.1	-0.4
	baz=351						
TWF1	**Yuli**	**0.87**	**206**	*eP*	Pg	04 17 45.0	-0.7
	baz=219						
TWF1				*eS*	Sg	04 17 57.3	+0.3
	baz=219						
TWQ1	**Liyutan**	**0.88**	**284**	*eP*	Pn	04 17 47.2	-0.4
	baz=285						
TWB1	**Santiao Chiao**	**0.91**	**16**	*eP*	Pg	04 17 46.2	-0.2
	baz=6.0						
TWB1				S	Sb	04 17 58.9	-0.2
	baz=6.0						
NSY	**Sanyi**	**0.91**	**288**	*eP*	Pn	04 17 48.0	0.0
	baz=289						
TAP1	**Taipei**	**0.92**	**349**	*eP*	Pb	04 17 46.9	-0.2
	baz=337						
TAP1				*eS*	Sb	04 17 59.3	-0.1
	baz=337						
NWF	**Wu-fen Shan**	**0.94**	**4**	⇑P	Pb	04 17 47.7	+0.2
	baz=353						
NWF				S	Sg	04 17 59.4	0.0
	baz=353						
TCU	**Taichung**	**0.95**	**271**	*eP*	Pn	04 17 48.9	+0.4
	baz=263						
TCU				*eS*	Sn	04 18 03.4	+1.2
	baz=263						
YUS	**Yu-Shan**	**0.95**	**227**	*eP*	Pb	04 17 48.3	0.0
	baz=230						
YUS				*eS*	Sb	04 18 01.6	+0.3
	baz=230						
HSN	**Hsinchu**	**0.95**	**315**	*eP*	Pn	04 17 48.8	+0.3
	baz=322						
NCU	**National Centr**	**0.96**	**330**	*eP*	Pb	04 17 48.2	+0.4
	baz=328						
WNT	**Mingjian**	**0.97**	**255**	*eP*	Pb	04 17 48.3	+0.3
	baz=251						
WNT				*eS*	Sn	04 18 03.1	+0.3
	baz=251						
TWS1	**Kuangyinshan**	**1.00**	**345**	*i* P	Pn	04 17 49.8	+0.6
	baz=343						
TWS1				S	Sn	04 18 03.3	-0.1
	baz=343						
CHN5	**Tsauling**	**1.09**	**241**	P	Pn	04 17 50.7	+0.2
	baz=243						
CHN5				S	Sn	04 18 07.1	+1.3
	baz=243						
ELDTW	**Lidau**	**1.14**	**214**	*eP*	Pb	04 17 49.6	-1.4
	baz=220						
TWY	**Chenhua**	**1.14**	**355**	*eP*	Pn	04 17 52.0	+0.8
	baz=351						
WGK	**Gukeng**	**1.14**	**247**	*eP*	Pn	04 17 51.9	+0.8
	baz=251						
YOJ	**Yonaguni jima**	**1.23**	**74**	*eP*	Pn	04 17 52.1	-0.3
	baz=57						
CHN2	**Minshiung**	**1.28**	**242**	*eP*	Pg	04 17 53.8	+0.2
	baz=247						
CHN4	**Tsaushan**	**1.29**	**233**	*eP*	Pg	04 17 54.4	+0.6
	baz=229						
CHN4				*eS*	Sn	04 18 12.2	+1.6
	baz=229						
STYT	**Tauyuan**	**1.30**	**222**	*eP*	Pn	04 17 53.5	0.0
	baz=226						
STYT				*eS*	Sg	04 18 11.5	+0.3
	baz=226						
CHY	**Chiayi**	**1.34**	**242**	*eP*	Pg	04 17 55.1	+0.4
	baz=244						
CHY				*eS*	Sg	04 18 13.9	+1.9
	baz=244						
WTP	**Ta-pu**	**1.34**	**229**	*eP*	Pg	04 17 54.9	+0.1
	baz=232						
WTP				*eS*	Sg	04 18 13.4	+1.2
	baz=232						
TWK	**Hsinying**	**1.42**	**233**	*eP*	Pg	04 17 56.1	-0.1
	baz=237						
TWK				*eS*	Sg	04 18 16.4	+1.7
	baz=237						
TWG	**Pinlang**	**1.43**	**204**	*eP*	Pn	04 17 52.7	-2.5
	baz=211						
CHN1	**Nanshi**	**1.44**	**229**	P	Pg	04 17 56.6	0.0
	baz=233						
CHN1				*eS*	Sg	04 18 17.0	+1.6
	baz=233						
SGST	**Jiashian**	**1.47**	**225**	*eP*	Pg	04 17 57.6	+0.3
	baz=229						
SGST				*eS*	Sg	04 18 17.7	+1.3
	baz=229						
CHN8	**Yiju**	**1.58**	**241**	*eP*	Pn	04 17 57.3	+0.1
	baz=246						
ECL	**Taimali**	**1.68**	**205**	*eP*	Pn	04 17 57.7	-0.8
	baz=198						
TWM1	**Shoushan**	**1.76**	**222**	*eP*	Pg	04 18 02.2	-0.6
	baz=229						
EAST	**Anshuo**	**1.92**	**205**	*eP*	Pn	04 18 02.9	+1.0
	baz=199						
SCZT	**Fangliau**	**2.02**	**210**	*eP*	Pn	04 18 04.3	+1.0
	baz=206						
PNG	**Penghu**	**2.05**	**254**	*eP*	Pb	04 18 05.9	-0.6
	baz=258						
KNM	**Kinmen**	**3.00**	**276**	*eP*	Pn	04 18 18.7	+1.9
	baz=278						

*ISCJB **13** 04:21:16.6±0.7, 51.39N±0.03×16.20E±0.04, h0km, Error ellipse: s-maj=5.1km s-min=3.1km az=15.0*
*CSEM **13** 04:21:17.5±0.3, 51.45N×16.15E, h2km, ML3.3/7, Error ellipse: s-maj=6.1km s-min=4.5km az=2.0*
*WAR **13** 04:21:18.2, 51.47N×16.15E*
*PRU **13** 04:21:19.9, 51.34N×16.17E, h0km, Felt In Harrachov*
*VIE **13** 04:21:20.0±0.3, 51.24N×16.21E, h0km, mb2.0/2, ML2.7/4, Error ellipse: s-maj=2.4km s-min=1.8km az=63.0 58 km WNW of Wroclaw Suspected Mining induced.*

ISC 13 04:21:16.4±0.9, 51.49N±0.03×16.18E±0.02, h0km, n36, σ1.17/66, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**173**	*e*Pg	**Pb**	**04 21 30.0**	**-0.7**
KSP				*e*Sg	**Sg**	**04 21 38.2**	**+1.0**
KSP	**Ksiaz**	**0.65**	**173**	*i* Pg	**Pb**	**04 21 29.9**	**-0.7**
KSP				*e*Sg	**Sg**	**04 21 38.0**	**+0.8**
KSP	**Ksiaz**	**0.65**	**173**	⇓*i*Pg	**Pb**	**04 21 29.9**	**-0.7**
KSP				*e*Sg	**Sg**	**04 21 38.0**	**+0.8**
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pg**	**04 21 36.2**	**+0.9**
UPC	**Upice**	**0.99**	**186**	Pg	**Pg**	**04 21 36.2**	**+0.9**
DPC	**Dobruska-Polom**	**1.14**	**175**	*e*PG	**Pb**	**04 21 38.9**	**-0.2**
DPC				*e*SG	**Sg**	**04 21 52.9**	**-0.2**
	comp=Z,33nm,0.5s						
DPC	**Dobruska-Polom**	**1.14**	**175**	Pg	**Pb**	**04 21 38.9**	**-0.2**
DPC				Sg	**Sg**	**04 21 52.9**	**-0.2**
	33nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pg**	**04 21 44.4**	**+1.2**
PVCC				*e*SG	**Sn**	**04 22 02.5**	**+0.2**
	comp=Z,138nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**227**	Pg	**Pg**	**04 21 44.4**	**+1.2**
PVCC				Sg	**Sn**	**04 22 02.5**	**+0.2**
	138nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**247**	PG	**Pg**	**04 21 47.2**	**+1.4**
BRG				SG	**Sg**	**04 22 07.7**	**+2.0**
	37nm,0.5s						
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**04 21 49.6**	**+0.6**
PRU				*e*PG	**Pg**	**04 21 51.4**	**0.0**
PRU				*e*SG	**Sb**	**04 22 14.4**	**+0.4**
	comp=Z,24nm,0.6s						
PRU	**Pruhonice**	**1.82**	**215**	Pn	**Pn**	**04 21 49.6**	**+0.6**
PRU	**Pruhonice**	**1.82**	**215**	Pg	**Pg**	**04 21 51.4**	**0.0**
PRU				Sg	**Sb**	**04 22 14.4**	**+0.4**
	24nm,0.6s						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**04 21 50.7**	**+0.3**
MORC				*e*Sg	**Sn**	**04 22 15.1**	**-0.2**
CLL	**Collm**	**2.00**	**266**	*i* Pg	**Pg**	**04 21 55.9**	**+1.2**
CLL				*e*Sg	**Sg**	**04 22 22.0**	**+1.5**
	comp=Z,22nm,0.4s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*PG	**Pg**	**04 21 56.9**	**+0.8**
OKC				*e*SG	**Sb**	**04 22 21.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.07**	**142**	Pg	**Pg**	**04 21 56.9**	**+0.8**
OKC				Sg	**Sb**	**04 22 21.1**	**-0.1**
VRAC	**Vranov**	**2.20**	**173**	*e*Pn	**Pb**	**04 21 55.8**	**-1.2**
VRAC				*e*Sg	**Sb**	**04 22 24.0**	**-0.8**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 22 07.2**	**+0.5**
OJC				*e*Sg	**Sg**	**04 22 41.3**	**+0.7**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 22 07.2**	**+0.5**
OJC				*e*Sg	**Sg**	**04 22 41.3**	**+0.7**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**04 22 02.5**	**+1.7**
NKC				*e*PG	**Pg**	**04 22 07.6**	**-0.1**
NKC				*e*SG	**Sg**	**04 22 43.3**	**+1.0**
	comp=Z,26nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**243**	Pn	**Pn**	**04 22 02.5**	**+1.7**
NKC	**Novy Kostel**	**2.67**	**243**	Pg	**Pg**	**04 22 07.6**	**-0.1**
NKC				Sg	**Sg**	**04 22 43.3**	**+1.0**
	comp=Z,26nm,0.3s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**04 22 04.7**	**+1.0**
KHC				*e*PG	**Pg**	**04 22 10.2**	**-1.5**
KHC				*e*SG	**Sg**	**04 22 47.4**	**-1.7**
	comp=Z,8.8nm,0.4s						
KHC	**Kasperske Hory**	**2.89**	**216**	Pn	**Pn**	**04 22 04.7**	**+1.0**
KHC	**Kasperske Hory**	**2.89**	**216**	Pg	**Pg**	**04 22 10.2**	**-1.5**
KHC				Sg	**Sg**	**04 22 47.4**	**-1.7**
	comp=Z,8.8nm,0.4s						
KOLL	**Kolacno**	**3.25**	**153**	*e*SG	**Sg**	**04 23 00.1**	**-0.5**
KOLL	**Kolacno**	**3.25**	**153**	*e*Sg	**Sg**	**04 23 00.1**	**-0.5**
CONA	**Conrad Observa**	**3.57**	**183**	⇑*i*Pn	**Pn**	**04 22 13.2**	**+0.1**
CONA				⇓*i*Sg	**Sg**	**04 23 09.6**	**-1.4**
	comp=Z,12nm,0.4s						
CONA	**Conrad Observa**	**3.57**	**183**	Pn	**Pn**	**04 22 13.2**	**+0.1**
CONA				Sg	**Sg**	**04 23 09.6**	**-1.4**
	comp=Z,12nm,0.4s						
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**04 22 15.2**	**+0.2**
BSD				*i* S	**Sn**	**04 22 56.1**	**-3.3**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**04 22 15.2**	**+0.2**
BSD				*i* S	**Sn**	**04 22 56.1**	**-3.3**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PG	**Pg**	**04 22 32.8**	**+2.7**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*Pg	**Pg**	**04 22 32.8**	**+2.7**
MOA	**Molln**	**3.85**	**200**	⇑*i*Pn	**Pn**	**04 22 17.4**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**04 23 19.8**	**-0.1**
	comp=Z,9.3nm,0.5s						
MOA	**Molln**	**3.85**	**200**	Pn	**Pn**	**04 22 17.4**	**+0.5**
MOA				Sg	**Sg**	**04 23 19.8**	**-0.1**
	comp=Z,9.3nm,0.5s						

*TRN **13** 04:25:13.3, 18.58N×64.58W, h55km, MD3.5(RSPR)*
*ISCJB **13** 04:25:14.1±0.8, 18.64N±0.07×64.57W±0.03, h57km±9km, Error ellipse: s-maj=12.4km s-min=4.5km az=6.7*
*RSPR **13** 04:25:15.4, 18.63N×64.55W, h50km±1km, MD3.5/15*
*NEIC **13** 04:25:15.4, 18.63N×64.55W, h50km, MD3.5(RSPR), After RSPR.*
NEIC Felt on Saint John.

ISC 13 04:25:14.6±1.4, 18.65N±0.07×64.56W±0.03, h52km±8km, n62, σ0.75/101, 17C-22D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.23**	**71**	⇓*eP*	**Pn**	**04 25 23.9**	**+0.6**
ABV	**Anegada**	**0.23**	**71**	⇓*eP*	**Pn**	**04 25 23.9**	**+0.6**
TBVI	**Tortola**	**0.24**	**193**	⇑*iP*	**Pn**	**04 25 23.2**	**-0.2**
TBVI	**Tortola**	**0.24**	**193**	*i* Pu	**Pn**	**04 25 23.2**	**-0.2**
TBVI	**Tortola**	**0.24**	**193**	⇑*eP*	**Pn**	**04 25 23.2**	**-0.2**
STVI	**Saint Thomas**	**0.48**	**231**	⇑*eP*	**Pn**	**04 25 25.4**	**-0.3**
STVI				*eS*	**Sn**	**04 25 33.8**	**+0.1**
STVI	**Saint Thomas**	**0.48**	**231**	⇑*eP*	**Pn**	**04 25 25.4**	**-0.3**
STVI				*eS*	**Sn**	**04 25 33.8**	**+0.1**
STVI	**Saint Thomas**	**0.48**	**231**	⇑*eP*	**Pn**	**04 25 25.4**	**-0.3**
STVI				*eS*	**Sn**	**04 25 33.8**	**+0.1**
CDVI	**St. Croix**	**0.92**	**192**	⇓*eP*	**Pn**	**04 25 30.9**	**-0.4**
CDVI	**St. Croix**	**0.92**	**192**	*eS*	**Sn**	**04 25 43.1**	**-0.4**
CDVI	**St. Croix**	**0.92**	**192**	*e*Pg	**Pn**	**04 25 30.9**	**-0.4**
CDVI				*eS*	**Sn**	**04 25 43.7**	**+0.2**
CDVI	**St. Croix**	**0.92**	**192**	⇓*eP*	**Pn**	**04 25 30.9**	**-0.4**
CDVI				*eS*	**Sn**	**04 25 43.1**	**-0.4**
MTP	**Monte Pirata**	**1.09**	**240**	⇓*eP*	**Pn**	**04 25 33.5**	**-0.2**
MTP	**Monte Pirata**	**1.09**	**240**	*eS*	**Sn**	**04 25 47.9**	**+0.2**
MTP	**Monte Pirata**	**1.09**	**240**	⇓*eP*	**Pn**	**04 25 33.5**	**-0.2**
MTP				*eS*	**Sn**	**04 25 47.9**	**+0.2**
MTP	**Monte Pirata**	**1.09**	**240**	⇓*eP*	**Pn**	**04 25 33.5**	**-0.2**
MTP				*eS*	**Sn**	**04 25 47.9**	**+0.2**
CBYP	**Canovanas**	**1.29**	**253**	⇓*eP*	**Pn**	**04 25 36.2**	**-0.1**
CBYP	**Canovanas**	**1.29**	**253**	*eS*	**Sn**	**04 25 52.2**	**-0.3**
CBYP	**Canovanas**	**1.29**	**253**	⇓*eP*	**Pn**	**04 25 36.2**	**-0.1**
CBYP				*eS*	**Sn**	**04 25 52.2**	**-0.3**
CBYP	**Canovanas**	**1.29**	**253**	⇓*eP*	**Pn**	**04 25 36.2**	**-0.1**
CBYP				*eS*	**Sn**	**04 25 52.2**	**-0.3**
HUMP	**Col San Antoni**	**1.32**	**248**	⇓*eP*	**Pn**	**04 25 36.6**	**-0.2**
HUMP	**Col San Antoni**	**1.32**	**248**	*eS*	**Sn**	**04 25 53.0**	**-0.4**
HUMP	**Col San Antoni**	**1.32**	**248**	⇓*eP*	**Pn**	**04 25 36.6**	**-0.2**
HUMP				*eS*	**Sn**	**04 25 53.0**	**-0.4**
HUMP	**Col San Antoni**	**1.32**	**248**	⇓*eP*	**Pn**	**04 25 36.6**	**-0.2**
HUMP				*eS*	**Sn**	**04 25 53.0**	**-0.4**
CPD	**Cerro la Pandu**	**1.43**	**245**	⇓*eP*	**Pn**	**04 25 38.6**	**+0.4**
CPD	**Cerro la Pandu**	**1.43**	**245**	*eS*	**Sn**	**04 25 56.0**	**+0.2

ICM				*e*S	**Sn**	**04 26 12.0**	**+1.9**	
ICM	**Isla Caja Muer**	**2.01**	**248**	*e*S	**Sn**	**04 26 12.0**	**+1.9**	
OBIP	**Obispado Ponce**	**2.04**	**253**⇓	*e*P	**Pn**	**04 25 46.6**	**+0.2**	
OBIP	**Obispado Ponce**	**2.04**	**253**	*e*S	**Sn**	**04 26 11.1**	**+0.4**	
OBIP	**Obispado Ponce**	**2.04**	**253**⇓	*e*P	**Pn**	**04 25 46.6**	**+0.2**	
OBIP				*e*S	**Sn**	**04 26 11.1**	**+0.4**	
OBIP	**Obispado Ponce**	**2.04**	**253**⇓	*e*P	**Pn**	**04 25 46.6**	**+0.2**	
OBIP				*e*S	**Sn**	**04 26 11.1**	**+0.4**	
LRS	**Lares**	**2.20**	**261**⇑	*e*P	**Pn**	**04 25 48.7**	**0.0**	
LRS				*e*S	**Sn**	**04 26 13.5**	**-1.2**	
LRS	**Lares**	**2.20**	**261**	*e*Pn	**Pn**	**04 25 48.6**	**-0.1**	
LRS				*e*S	**Sn**	**04 26 11.0**	**-3.8**	
LRS	**Lares**	**2.20**	**261**	*e*P	**Pn**	**04 25 48.7**	**0.0**	
LRS				*e*S	**Sn**	**04 26 13.5**	**-1.2**	
GBPR	**Guanica, Bosqu**	**2.30**	**253**⇑	*e*P	**Pn**	**04 25 52.1**	**+2.0**	
GBPR				*e*S	**Sn**	**04 26 17.2**	**-0.1**	
GBPR	**Guanica, Bosqu**	**2.30**	**253**⇑	*e*P	**Pn**	**04 25 52.1**	**+2.0**	
GBPR				*e*S	**Sn**	**04 26 17.2**	**-0.1**	
GBPR	**Guanica, Bosqu**	**2.30**	**253**	*e*P	**Pn**	**04 25 52.1**	**+2.0**	
GBPR				*e*S	**Sn**	**04 26 17.2**	**-0.1**	
AGPR	**Aguadilla, PR**	**2.43**	**266**⇓	*e*P	**Pn**	**04 25 51.5**	**-0.3**	
AGPR	**Aguadilla, PR**	**2.43**	**266**	*e*S	**Sn**	**04 26 19.3**	**-1.1**	
AGPR	**Aguadilla, PR**	**2.43**	**266**	*e*Pn	**Pn**	**04 25 51.9**	**+0.1**	
AGPR				*e*S	**Sn**	**04 26 19.6**	**-0.7**	
AGPR	**Aguadilla, PR**	**2.43**	**266**	*e*P	**Pn**	**04 25 51.5**	**-0.3**	
AGPR				*e*S	**Sn**	**04 26 19.3**	**-1.1**	
LSP	**Las Mesas**	**2.44**	**259**⇑	*e*P	**Pn**	**04 25 52.4**	**+0.3**	
LSP				*e*S	**Sn**	**04 26 20.1**	**-0.7**	
LSP	**Las Mesas**	**2.44**	**259**	*e*Pn	**Pn**	**04 25 52.3**	**+0.3**	
LSP				*e*S	**Sn**	**04 26 20.6**	**-0.2**	
LSP	**Las Mesas**	**2.44**	**259**	*e*P	**Pn**	**04 25 52.4**	**+0.3**	
LSP				*e*S	**Sn**	**04 26 20.1**	**-0.7**	
AGP	**Aguadilla**	**2.46**	**265**	*e*Pn	**Pn**	**04 25 52.2**	**-0.1**	
MPR	**Mayaguez**	**2.49**	**260**	*e*Pn	**Pn**	**04 25 53.1**	**+0.4**	
MPR				*e*Sn	**Sn**	**04 26 21.6**	**-0.2**	

IDC 13 04:52:02.3±0.7,7°13N×34°60W, h0km, mb4.0/13, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, MS4.0/22, Ms1 4.0/22, ms1mx4.0/30, Error ellipse: s-maj=23.3km s-min=15.9km az=154.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.94**	**186**	Pn	Pn	04 55 06.4	-1.2
	2.1nm,0.3s,baz=6.1,slow=16,SNR=31						
RCBR				Sn	Sn	04 57 23.8	-8.8
	1.0nm,0.3s,baz=260,slow=18,SNR=7.1						
RCBR				LR	LR	04 58 57.5	
	comp=Z,576nm,18.3s,baz=318,slow=32						
BBTS	**Babate**	**19.24**	**66**	P	P	04 56 28.1	-0.2
	0.6nm,0.3s,baz=243,slow=2.3,SNR=2.1						
BBTS				LR	LR	05 01 54.7	
	comp=Z,420nm,19.5s,baz=82,slow=31						
DBIC	**Dimbokro**	**29.53**	**89**	P	P	04 58 06.9	-1.9
	1.4nm,0.7s,baz=259,slow=12,SNR=4.7						
DBIC				LR	LR	05 07 31.3	
	comp=Z,146nm,18.0s,baz=244,slow=32						
SJG	**San Juan**	**32.61**	**293**	LR	LR	05 08 39.8	
	comp=Z,144nm,19.8s,baz=270,slow=31						
TORD	**Torodi Ar. Bea**	**36.19**	**78**	P	P	04 59 05.8	-1.3
	2.9nm,0.8s,baz=270,slow=8.5,SNR=26						
TORD				LR	LR	05 11 41.7	
	comp=Z,254nm,20.7s,baz=250,slow=33						
ROSC	**El Rosal**	**39.57**	**269**	LR	LR	05 16 51.9	
	comp=Z,87nm,18.9s,baz=24,slow=38						
CPUP	**Villa Florida**	**39.92**	**213**	P	P	04 59 39.2	+0.9
	2.0nm,0.8s,baz=20,slow=7.3,SNR=4.8						
LPAZ	**La Paz**	**40.53**	**235**	P	P	04 59 44.8	+0.4
	5.4nm,0.9s,baz=48,slow=8.0,SNR=16						
LPAZ				LR	LR	05 16 04.9	
	comp=Z,151nm,19.1s,baz=234,slow=36						
ESDC	**Sonseca Array**	**42.49**	**36**	LR	LR	05 15 00.3	
	comp=Z,147nm,20.7s,baz=305,slow=32						
KEST	**Kesra**	**49.23**	**48**	LR	LR	05 20 07.1	
	comp=Z,122nm,19.2s,baz=197,slow=34						
SCHQ	**Schefferville**	**54.11**	**338**	P	P	05 01 28.8	-0.1
	1.3nm,0.6s,baz=135,slow=5.7,SNR=6.5						
SCHQ				LR	LR	05 18 25.5	
	comp=Z,128nm,20.0s,baz=104,slow=29						
DAVOX	**Davos/Dischmat**	**54.81**	**36**	P	P	05 01 34.6	+0.2
	2.0nm,0.7s,baz=243,slow=9.0						
PLCA	**Paso Flores**	**57.98**	**212**	LR	LR	05 27 16.7	
	comp=Z,500nm,19.6s,baz=238,slow=36						
GERES	**GERESS Array B**	**58.08**	**36**	P	P	05 01 59.0	+1.5
	0.3nm,0.8s,baz=266,slow=6.4,SNR=3.6						
GERES				LR	LR	05 23 18.0	
	comp=Z,203nm,18.6s,baz=101,slow=32						
NOA	**NORSAR Array B**	**63.62**	**23**	LR	LR	05 28 04.4	
	comp=Z,203nm,19.2s,baz=330,slow=34						
ULM	**Lac du Bonnet**	**66.38**	**322**	LR	LR	05 27 05.3	
	comp=Z,124nm,20.5s,baz=331,slow=32						
BOSA	**Boshof**	**67.70**	**125**	LR	LR	05 26 19.7	
	comp=Z,99nm,18.6s,baz=96,slow=30						
AKASG	**Malin Array Be**	**68.06**	**38**	P	P	05 03 05.0	+1.3
	1.0nm,0.6s,baz=258,slow=5.9,SNR=3.5						
TXAR	**Lajitas Array**	**68.31**	**299**	P	P	05 03 04.7	-1.2
	0.5nm,0.6s,baz=99,slow=5.6,SNR=3.0						
TXAR				LR	LR	05 35 37.0	
	comp=Z,68nm,19.0s,baz=75,slow=38						
BRTR	**Keskin Array B**	**68.76**	**50**	P	P	05 03 10.1	+1.6
	1.0nm,0.7s,baz=231,slow=6.2,SNR=7.6						
BRTR				LR	LR	05 32 19.6	
	comp=Z,72nm,19.9s,baz=308,slow=35						
FINES	**FINESS Array B**	**70.02**	**26**	LR	LR	05 31 26.8	
	comp=Z,320nm,19.2s,baz=331,slow=34						
ANMO	**Albuquerque**	**71.09**	**304**	LR	LR	05 30 04.0	
	comp=Z,114nm,18.3s,baz=263,slow=32						
ARCES	**ARCESS Array B**	**73.18**	**19**	LR	LR	05 35 22.1	
	comp=Z,201nm,18.7s,baz=239,slow=36						
PDAR	**Pinedale Array**	**74.15**	**312**	P	P	05 03 40.7	-0.5
	0.8nm,0.7s,baz=95,slow=7.5,SNR=5.5						
PDAR				LR	LR	05 33 31.0	
	comp=Z,93nm,19.9s,baz=81,slow=34						
YKA	**Yellowknife Ar**	**79.09**	**332**	P	P	05 04 07.2	-1.2
	1.0nm,0.8s,baz=95,slow=5.4,SNR=11						
RPN	**Rapa Nui**	**79.81**	**241**	LR	LR	05 33 57.5	
	comp=Z,102nm,20.2s,baz=32,slow=32						
NVAR	**Mina Array Bea**	**80.69**	**308**	P	P	05 04 18.0	+0.1
	0.6nm,0.7s,baz=129,slow=5.9,SNR=4.1						

ISK 13 04:59:12.9, 37°55N×26°97E, h2km, MD2.9
ISCJB 13 04:59:13.9±0.6, 37°54N±0°03×26°95E±0°05, h7km±5km, Error ellipse: s-maj=6.8km s-min=4.3km az=149.2
DDA 13 04:59:13.2, 37°56N×26°92E, h7km, MD3.0
ATH 13 04:59:14.3, 37°53N×26°88E, h5km±3km, MD3.1/3
CSEM 13 04:59:14.0±0.1, 37°54N×26°92E, h8km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.8km az=61.0

ISC 13 04:59:14.1±0.9, 37°54N±0°03×26°93E±0°03, h12km±7km, n33, σ0s51/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.18**	**335**	*e*PG	**Pg**	**04 59 18.0**	**-0.2**
SMG				*e*SG	**Sg**	**04 59 20.8**	**-0.2**
SMG	**Samos**	**0.18**	**335**	*e*Pg	**Pg**	**04 59 18.0**	**-0.2**
SMG				*e*Sg	**Sg**	**04 59 20.8**	**-0.2**
GCAM	**G?zelcaml?**	**0.28**	**57**	*i* P	**Pg**	**04 59 20.1**	**+0.1**
GCAM				*i* S	**Sg**	**04 59 24.0**	**+0.1**
GCAM	**G?zelcaml?**	**0.28**	**57**	*i* P	**Pg**	**04 59 20.1**	**+0.1**
GCAM				*i* S	**Sg**	**04 59 24.0**	**+0.1**
BODT	**Bodrum**	**0.57**	**148**	*e*PG	**Pg**	**04 59 24.7**	**-0.5**
BODT				*e*SG	**Sb**	**04 59 33.4**	**-0.6**
BODT	**Bodrum**	**0.57**	**148**	*e*Pg	**Pg**	**04 59 24.7**	**-0.5**
BODT				*e*Sg	**Sb**	**04 59 33.4**	**-0.6**
BLCB	**Balcova**	**0.84**	**6**	*e*PG	**Pg**	**04 59 29.8**	**-0.6**
BLCB				*e*SG	**Sb**	**04 59 42.2**	**+0.2**
BLCB	**Balcova**	**0.84**	**6**	*e*Pg	**Pg**	**04 59 29.8**	**-0.6**
BLCB				*e*Sg	**Sb**	**04 59 42.2**	**+0.2**
URLA	**Izmir**	**0.86**	**342**	*i* P	**Pg**	**04 59 29.8**	**-0.9**
URLA				*i* S	**Sg**	**04 59 42.1**	**+0.2**
URLA	**Izmir**	**0.86**	**342**	*i* P	**Pg**	**04 59 29.8**	**-0.9**
URLA				*i* S	**Sg**	**04 59 42.1**	**+0.2**
IZM	**Izmir**	**0.89**	**17**	*e*PG	**Pg**	**04 59 30.7**	**-0.6**
IZM	**Izmir**	**0.89**	**17**	*e*Pg	**Pg**	**04 59 30.7**	**-0.6**
CHOS	**Chios island**	**1.09**	**321**	*e*PB	**Pb**	**04 59 35.1**	**+0.2**
CHOS				*e*SB	**Sn**	**04 59 50.0**	**-0.3**
CHOS	**Chios island**	**1.09**	**321**	*e*Pb	**Pb**	**04 59 35.1**	**+0.2**
CHOS				*e*Sb	**Sn**	**04 59 50.0**	**-0.3**
YER	**Yerkesik**	**1.15**	**110**	*e*PN	**Pb**	**04 59 35.4**	**-0.6**
YER	**Yerkesik**	**1.15**	**110**	*e*Pn	**Pb**	**04 59 35.4**	**-0.6**
APE	**Apeiranthos**	**1.22**	**247**	*e*PN	**Pg**	**04 59 37.6**	**+0.2**
APE	**Apeiranthos**	**1.22**	**247**	*e*PB	**Pb**	**04 59 36.9**	**-0.1**
APE	**Apeiranthos**	**1.22**	**247**	*e*Pb	**Pb**	**04 59 36.9**	**-0.1**
APE	**Apeiranthos**	**1.22**	**247**	*e*Pn	**Pg**	**04 59 37.6**	**+0.2**
TURN	**Turunc**	**1.49**	**116**	*i* P	Pn	04 59 37.7	-3.0
AKS	**Akhisar**	**1.50**	**27**	*e*PN	**Pn**	**04 59 41.4**	**+0.5**
AKS	**Akhisar**	**1.50**	**27**	*e*Pn	**Pn**	**04 59 41.4**	**+0.5**
AKHS	**Akhisar**	**1.50**	**27**	*i* P	**Pn**	**04 59 41.0**	**+0.1**
AKHS	**Akhisar**	**1.50**	**27**	*i* P	**Pn**	**04 59 41.0**	**+0.1**
MANT	**Manisa**	**1.59**	**53**	*i* P	**Pb**	**04 59 43.9**	**+0.3**
MANT	**Manisa**	**1.59**	**53**	*i* P	**Pb**	**04 59 43.9**	**+0.3**
KULA	**Kula-Manisa**	**1.67**	**54**	*e*PN	**Pn**	**04 59 43.8**	**+0.5**
KULA	**Kula-Manisa**	**1.67**	**54**	*e*Pn	**Pn**	**04 59 43.8**	**+0.5**
FETY	**Fethiye**	**1.94**	**117**	*e*PN	**Pn**	**04 59 47.8**	**+0.8**
FETY	**Fethiye**	**1.94**	**117**	*e*Pn	**Pn**	**04 59 47.8**	**+0.8**
ELL	**Elmali**	**2.51**	**108**	*e*PN	**Pn**	**04 59 55.8**	**+1.0**
ELL	**Elmali**	**2.51**	**108**	*e*Pn	**Pn**	**04 59 55.8**	**+1.0**

ISCJB 13 05:06:29.6±0.7, 52°4N±0°1×179°91E±0°07, h200km, mb3.6/14, Error ellipse: s-maj=20.1km s-min=5.7km az=173.4
IDC 13 05:06:30.1±2.0, 52°44N×179°91E, h191km±21km, mb3.3/8, mb1 3.6/10, mb1mx3.3/28, mbtmp3.3/10, Error ellipse: s-maj=32.7km s-min=14.3km az=162.0
NEIC 13 05:06:31.2±1.3, 52°34N×179°84E, h207km±13km, mb4.1/11, Error ellipse: s-maj=24.6km s-min=10.3km az=156.0

ISC 13 05:06:30.9±0.9, 52°5N±0°2×179°88E±0°07, h200km, n38, σ0s80/41, mb3.6/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.54**	**277**	*e*Pn	**Pn**	**05 07 27.2**	**+0.3**
SMY				*e*Sn	**Sn**	**05 08 11.0**	**+0.2**
FX1	**Attu Island--F**	**4.11**	**279**	P	**Pn**	**05 07 34.1**	**+0.1**
	14nm,0.3s,baz=115,slow=17,SNR=45						
FX1				S	**Sn**	**05 08 22.4**	**-1.2**
	57nm,0.3s,baz=244,slow=23,SNR=36						
FX1	**Attu Island--F**	**4.11**	**279**	P	**Pn**	**05 07 34.1**	**+0.1**
FX1				S	**Sn**	**05 08 22.4**	**-1.2**
KDAK	**Kodiak Island**	**16.56**	**60**	P	**P**	**05 10 09.6**	**-1.0**
	0.9nm,0.3s,baz=269,slow=8.0,SNR=17						
KDAK	**Kodiak Island**	**16.56**	**60**	P	**P**	**05 10 09.6**	**-1.0**
PPLA	**Purkeypile**	**18.07**	**44**	*e*P	**Pn**	**05 10 30.3**	**+0.8**
	6.5nm,0.7s						
SLKM	**Skilak Lake**	**18.23**	**52**	*e*P	**Pn**	**05 10 30.2**	**-1.1**
SEW	**Seward**	**18.53**	**54**	*e*P	**P**	**05 10 33.1**	**+1.0**
	11nm,0.5s						
RC01	**Rabbit Creek A**	**18.60**	**50**	*e*P	**P**	**05 10 34.2**	**+1.3**
	6.5nm,0.6s						
PMR	**Palmer**	**19.01**	**49**	*e*P	**P**	**05 10 38.7**	**+1.5**
	5.0nm,1.0s						
MCK	**McKinley**	**19.74**	**43**	*e*P	**Pn**	**05 10 48.5**	**-0.7**
	5.7nm,0.8s						
ILAR	**Eielson Array**	**20.94**	**41**	P	**P**	**05 10 56.9**	**-1.0**
	0.6nm,0.5s,baz=229,slow=8.5,SNR=17						
ILAR	**Eielson Array**	**20.94**	**41**	P	**P**	**05 10 56.9**	**-1.0**
DOT	**Dot Lake**	**21.79**	**45**	*e*P	**P**	**05 11 06.5**	**-0.1**
	2.2nm,0.7s						
EGAK	**Eagle**	**23.29**	**43**	*e*P	**P**	**05 11 21.4**	**+1.0**
	8.3nm,0.8s						
DAWY	**Dawson**	**23.90**	**45**	*e*P	**P**	**05 11 27.1**	**+1.0**
INK	**Inuvik**	**27.06**	**36**	P	**P**	**05 11 54.0**	**-0.3**
	0.6nm,0.4s,baz=251,slow=8.2,SNR=4.4						
INK	**Inuvik**	**27.06**	**36**	P	**P**	**05 11 54.0**	**-0.3**
YKA	**Yellowknife Ar**	**35.09**	**47**	P	**P**	**05 13 05.4**	**+0.9**
	0.8nm,0.5s,baz=279,slow=7.9,SNR=13						
YKA				PcP	**PcP**	**05 15 31.0**	**-0.2**
	0.1nm,0.4s,baz=292,slow=3.3,SNR=2.8						
YKA	**Yellowknife Ar**	**35.09**	**47**	P	**P**	**05 13 05.4**	**+0.9**
YKA				PcP	**PcP**	**05 15 31.0**	**-0.2**
RES	**Resolute Bay**	**39.10**	**25**	*e*P	**P**	**05 13 37.2**	**-1.0**
	1.6nm,0.4s						
NEW	**Newport**	**39.28**	**70**	*e*P	**P**	**05 13 39.8**	**-0.2**
	2.5nm,0.8s						
HLID	**Hailey**	**43.44**	**75**	*e*P	**P**	**05 14 14.4**	**+0.5**
	1.2nm,0.9s						
NVAR	**Mina Array Bea**	**44.23**	**83**	P	**P**	**05 14 20.9**	**+0.6**
	1.7nm,0.7s,baz=290,slow=7.9,SNR=12						
NVAR	**Mina Array Bea**	**44.23**	**83**	P	**P**	**05 14 20.9**	**+0.6**
PDAR	**Pinedale Array**	**46.76**	**72**	P	**P**	**05 14 39.9**	**-0.3**
	1.1nm,0.7s,baz=322,slow=3.4,SNR=10						
PDAR	**Pinedale Array**	**46.76**	**72**	P	**P**	**05 14 39.9**	**-0.3**
ULM	**Lac du Bonnet**	**49.77**	**57**	P	**P**	**05 15 02.3**	**-0.5**
	0.9nm,0.6s,baz=315,slow=8.6,SNR=2.8						
ULM	**Lac du Bonnet**	**49.77**	**57**	P	**P**	**05 15 02.3**	**-0.5**
PV10	**Paradox Valley**	**49.84**	**77**	*e*P	**P**	**05 15 03.9**	**+0.1**
	27nm,0.5s						
MKAR	**Makanchi Array**	**58.73**	**307**	P	**P**	**05 16 08.7**	**+1.3**
	0.1nm,0.4s,baz=48,slow=6.4,SNR=2.1						
MKAR	**Makanchi Array**	**58.73**	**307**	P	**P**	**05 16 08.7**	**+1.3**
TXAR	**Lajitas Array**	**59.29**	**81**	P	**P**	**05 16 11.2**	**-0.4**
	0.6nm,0.5s,baz=300,slow=5.0,SNR=4.4						
TXAR	**Lajitas Array**	**59.29**	**81**	P	**P**	**05 16 11.2**	**-0.4**
WRA	**Warramunga Arr**	**82.24**	**223**	P	**P**	**05 18 29.5**	**-0.2**
	1.1nm,0.9s,baz=32,slow=5.9,SNR=4.5						
WRA	**Warramunga Arr**	**82.24**	**223**	P	**P**	**05 18 29.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**114.65**	**358**	PKP	PKPdf	05 24 46.4	-1.1
	0.1nm,0.4s,baz=0.9,slow=2.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**114.65**	**358**	PKP	PKPdf	05 24 46.4	-1.1

IDC 13 05:25:58.4±2.0, 44°97N×153°30E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/24, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=64.2km s-min=32.4km az=92.0
JMA 13 05:26:03.7±0.3, 45°41N×152°70E, h30km, M4.6

ISC 13 05:26:03.6±1.5, 44°5N±0°1×152°7E±0°1, h22km, n21, σ2s01/27, mb3.9/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.18**	**260**	P	**Pn**	**05 27 21.2**	**+1.5**
NEM2				*e*S	**Sn**	**05 28 18.6**	**-0.1**
JNK	**Nakash**	**5.85**	**264**	P	**Pn**	**05 27 30.9**	**+1.9**
JAK	**Akkeshi**	**6.02**	**258**	P	**Pn**	**05 27 33.0**	**+1.8**
JAK				*e*S	**Sn**	**05 28 39.2**	**-0.2**
JAR	**Ashorobuto**	**6.59**	**262**	P	**Pn**	**05 27 41.8**	**+2.7**
JAR				*e*S	**Sn**	**05 28 54.5**	**+1.0**
JOB	**Onbets**	**6.65**	**259**	P	**Pn**	**05 27 41.9**	**+2.0**
JOB				*e*S	**Sn**	**05 28 55.2**	**+0.2**
JMP	**Maruseppu**	**6.75**	**269**	P	**Pn**	**05 27 44.2**	**+2.8**
JCH	**Churui**	**7.07**	**258**	P	**Pn**	**05 27 47.8**	**+2.1**
JCH				*e*S	**Sn**	**05 29 04.6**	**-0.7**
JEM	**Erimo**	**7.42**	**254**	*e*S	**Sn**	**05 29 14.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**7.61**	**256**	P	**Pn**	**05 27 54.7**	**+1.7**
JNBK				*e*S	**Sn**	**05 29 16.1**	**-2.4**
JBT2	**Biratori 2**	**7.72**	**261**	*e*S	**Sn**	**05 29 18.1**	**-3.2**
JNB	**Noboribetsu**	**8.75**	**261**	*e*S	**Sn**	**05 29 46.3**	**-0.3**
JKB	**Kayabe**	**8.94**	**257**	*e*S	**Sn**	**05 29 49.4**	**-1.9**
PETK	**Petropavlovsk-**	**9.20**	**19**	Pn	Pn	05 28 04.8	-10
	0.4nm,0.3s,baz=182,slow=14,SNR=3.7						
JANG	**Nango**	**9.27**	**247**	P	**Pn**	**05 28 18.0**	**+2.1**
JANG				*e*S	**Sn**	**05 29 57.3**	**-2.1**
OFUJ	**Ofunato**	**9.88**	**240**	*e*S	**Sn**	**05 30 13.1**	**-1.4**
JRG	**Rokugo**	**10.36**	**245**	*e*S	**Sn**	**05 30 24.8**	**-1.4**
JIO	**Ouri**	**10.47**	**239**	*e*S	**Sn**	**05 30 25.7**	**-3.1**
JFK	**Kawauchi**	**11.46**	**236**	*e*S	**Sn**	**05 30 51.1**	**-2.1**
MKAR	**Makanchi Array**	**47.76**	**299**	P	**P**	**05 34 38.2**	**-0.6**
	0.6nm,0.6s,baz=73,slow=7.0,SNR=8.5						
WRA	**Warramunga Arr**	**66.31**	**199**	P	**P**	**05 36 52.2**	**+1.9**
	0.8nm,0.9s,baz=17,slow=6.9,SNR=4.9						
AKASG	**Malin Array Be**	**73.26**	**326**	P	**P**	**05 37 29.9**	**-2.9**
	0.6nm,0.5s,baz=39,slow=7.3,SNR=3.4						

ISCJB 13 05:43:29.5±0.7, 14°82S±0°06×167°3E±0°1, h129km, mb4.1/12, Error ellipse: s-maj=17.4km s-min=8.3km az=178.9
NEIC 13 05:43:29.9±2.5, 14°82S×167°38E, h120km±22km, mb4.6/6, Error ellipse: s-maj=17.9km s-min=16.4km az=202.0
IDC 13 05:43:30.4±4.3, 14°90S×167°40E, h124km±40km, mb3.9/10, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, Error ellipse: s-maj=28.5km s-min=23.8km az=149.0

ISC 13 05:43:31.0±0.7, 14°88S±0°07×167°4E±0°1, h129km, n33, σ1s25/36, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.21**	**187**	P	**Pn**	**05 45 14.1**	**+0.2**
	3.2nm,0.3s,baz=346,slow=17,SNR=24						
DZM				S	**Sn**	**05 46 32.1**	**-2.3**
	1.3nm,0.3s,baz=150,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**7.21**	**187**	*e*P	**Pn**	**05 45 12.4**	**-1.4**
DZM				*e*S	**Sn**	**05 46 36.8**	**+2.4**
DZM	**Mont Dzumac**	**7.21**	**187**	*e*Pn	**Pn**	**05 45 12.9**	**-0.9**
	21nm,0.6s						
DZM				*e*Sn	**Sn**	**05 46 31.0**	**-3.4**
NORM	**Noumea**	**7.36**	**187**	*e*S	**Sn**	**05 46 40.4**	**+2.5**
EIDS	**Eidsvold**	**18.51**	**233**	*e*P	**Pn**	**05 47 39.5**	**+0.4**
	15nm,0.6s						
CTA	**Charters Tower**	**20.81**	**253**	P	**P**	**05 48 02.9**	**+0.6**
	11nm,0.8s,baz=72,slow=13,SNR=4.5						
CTA	**Charters Tower**	**20.81**	**253**	P	**P**	**05 48 02.9**	**+0.6**
RPZ	**Rata Peaks**	**28.91**	**175**	P	**P**	**05 49 17.9**	**+0.1**
	7.3nm,0.8s,baz=18,slow=5.1,SNR=3.7						
RPZ	**Rata Peaks**	**28.91**	**175**	*e*P	**P**	**05 49 18.4**	**+0.7**
	11nm,0.9s						
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**05 49 19.6**	**+1.0**
	1.9nm,0.3s,baz=47,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**28.99**	**230**	*e*P	**P**	**05 49 19.1**	**+0.5**
	0.9nm,0.7s						
WB2	**Warramunga Arr**	**31.89**	**256**	*e*P	**P**	**05 49 43.3**	**-1.1**
WRAB	**Tennant Creek**	**31.89**	**256**	*e*P	**P**	**05 49 43.3**	**-1.1**
	23nm,1.6s						
WRA	**Warramunga Arr**	**31.90**	**256**	P	**P**	**05 49 43.3**	**-1.2**
	0.5nm,0.4s,baz=84,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**31.90**	**256**	P	**P**	**05 49 43.3**	**-1.2**
ASAR	**Alice Springs**	**32.73**	**249**	P	**P**	**05 49 51.0**	**-0.7**
	2.9nm,0.6s,baz=78,slow=9.1,SNR=24						
ASAR	**Alice Springs**	**32.73**	**249**	P	**P**	**05 49 51.0**	**-0.7**
SBA	**Scott Base**	**62.99**	**180**	*e*P	**P**	**05 53 45.0**	**+1.5**
	9.9nm,0.9s						
PETK	**Petropavlovsk-**	**68.22**	**354**	P	**P**	**05 54 18.5**	**+1.1**
	2.4nm,0.6s,baz=163,slow=5.6,SNR=3.0						
PETK	**Petropavlovsk-**	**68.22**	**354**	P	**P**	**05 54 18.5**	**+1.1**
QSPA	**South Pole Qui**	**75.15**	**180**	*e*P	**P**	**05 54 58.6**	**-0.4**
	5.9nm,0.8s						
SONM	**Songino Array**	**82.69**	**324**	P	**P**	**05 55 41.2**	**+0.9**
	0.6nm,0.7s,baz=136,slow=5.9,SNR=5.7						
SONM	**Songino Array**	**82.69**	**324**	P	**P**	**05 55 41.2**	**+0.9**
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**05 55 58.6**	**-1.0**
	0.7nm,0.7s,baz=239,slow=5.8,SNR=9.8						
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**05 55 58.6**	**-1.0**
MKAR	**Makanchi Array**	**97.39**	**316**	P	Pdif	05 56 49.7	-0.2
	0.7nm,0.7s,baz=86,slow=5.8,SNR=7.8						
MKAR	**Makanchi Array**	**97.39**	**316**	P	Pdif	05 56 49.7	-0.2
ZALV	**Zalesovo Beam**	**97.58**	**324**	P	**P**	**05 56 49.4**	**-1.1**
	0.6nm,0.7s,baz=130,slow=5.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**97.58**	**324**	P	**P**	**05 56 49.4**	**-1.1**
ARCES	**ARCESS Array B**	**120.43**	**345**	PKP	**PKiKP**	**06 02 06.1**	**-0.6**
	3.8nm,0.9s,baz=49,slow=2.7,SNR=5.0						
ARCES	**ARCESS Array B**	**120.43**	**345**	PKP	**PKiKP**	**06 02 06.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.01**	**265**	PKP	**PKPdf**	**06 03 21.6**	**0.0**
	0.2nm,0.8s,baz=101,slow=1.5,SNR=2.8						
TORD				PKPab	**PKPab**	**06 04 22.4**	**-0.2**
	0.3nm,0.6s,baz=90,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**166.01**	**265**	PKP	**PK

WRA	**Warramunga Arr**	**65.62**	**107**	P		P	06 19 49.0	+0.2
	0.7nm,0.7s,baz=278,slow=5.4,SNR=5.8							
SONM	**Songino Array**	**67.17**	**28**	P		P	06 20 01.6	+3.4
	1.2nm,0.9s,baz=208,slow=6.3,SNR=5.4							
PDAR	**Pinedale Array**	**146.97**	**355**	PKPbc		PKPdf	06 28 46.3	+0.6
	0.4nm,0.7s,baz=56,slow=4.8,SNR=2.8							
NVAR	**Mina Array Bea**	**151.07**	**8**	PKPbc		PKPbc	06 28 58.4	+0.3
	0.9nm,0.7s,baz=294,slow=2.1,SNR=6.4							

IDC ***13*** *06:12:35.9±5.1, 37.°32N×72.°28E, h163km±44km, mb3.6/4, mb1 3.7/9, mb1mx3.4/29, mbtmp3.5/9, Error ellipse: s-maj=32.3km s-min=25.9km az=177.0*

ISCJB ***13*** *06:12:39.0±0.4, 37.°52N±0.°03×72.°37E±0.°08, h176km, mb3.7/4, Error ellipse: s-maj=9.2km s-min=3.5km az=168.6*

BJI ***13*** *06:12:41.0, 37.°90N×72.°60E, h10km, ML3.7/4*

NNC ***13*** *06:12:47.7±2.8, 38.°14N×72.°44E, h207km±27km, mb3.1, mpv4.5, Error ellipse: s-maj=28.6km s-min=13.3km az=9.0*

ISC 13 06:12:38.8±0.6, 37.°52N±0.°04×72.°48E±0.°08, h176km, n48, σ2s 02/58, mb3.8/4, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.39**	**53**	⇓*i* Pg	**Pn**	**06 13 31.1**	**-1.1**
KSH				Sn	Sn	06 14 06.8	-7.1
KSH				smax	smax		
	comp=N,640nm,0.6s						
KSH				smax	smax		
	comp=E,370nm,0.6s						
CEP	**Cherat**	**3.71**	**187**	⇓P	**Pn**	**06 13 38.6**	**+2.2**
CEP				S	**Sn**	**06 14 23.0**	**+1.8**
CHCP	**Chirah Chowk**	**3.90**	**170**	⇓P	Pn	06 13 42.0	+3.4
AML	**Almayashu**	**4.70**	**11**	P	**Pn**	**06 13 51.5**	**+2.4**
	SNR=814						
AML				P	**Pn**	**06 13 51.5**	**+2.4**
	SNR=814						
THW	**Thamme Wali**	**4.75**	**187**	⇓P	**Pn**	**06 13 51.1**	**+1.6**
UCH	**Uchtor**	**4.96**	**18**	P	**Pn**	**06 13 55.3**	**+2.8**
	SNR=7.5						
UCH				P	**Pn**	**06 13 55.3**	**+2.8**
	SNR=7.5						
KZA	**Kyzart**	**5.03**	**24**	P	**Pn**	**06 13 55.6**	**+2.2**
	SNR=16						
KZA				P	**Pn**	**06 13 55.6**	**+2.2**
	SNR=16						
EKS2	**Erkin-Say**	**5.23**	**11**	P	**Pn**	**06 13 58.3**	**+2.5**
	SNR=83						
EKS2				P	**Pn**	**06 13 58.3**	**+2.5**
	SNR=83						
AAK	**Ala-Archa**	**5.34**	**16**	P	**Pn**	**06 14 00.1**	**+2.9**
	SNR=76						
AAK				P	**Pn**	**06 14 00.1**	**+2.9**
	SNR=76						
KBK	**Karagaybulak**	**5.47**	**19**	P	Pn	06 14 02.4	+3.5
	SNR=11						
KBK				P	Pn	06 14 02.4	+3.5
	SNR=11						
ULHL	**Ulahol**	**5.54**	**30**	P	**Pn**	**06 14 02.3**	**+2.5**
	SNR=47						
ULHL				P	**Pn**	**06 14 02.3**	**+2.5**
	SNR=47						
THN	**Thein Dam**	**5.73**	**151**	*e*P	**Pn**	**06 14 03.6**	**+1.4**
THN				*e*S	**Sn**	**06 15 07.7**	**0.0**
DLH	**Dalhousie**	**5.73**	**149**	*e*P	**Pn**	**06 14 04.0**	**+1.5**
DLH				*e*S	**Sn**	**06 15 08.0**	**-0.2**
CHMS	**Chumysh**	**5.74**	**17**	P	**Pn**	**06 14 04.9**	**+2.5**
	SNR=37						
CHMS				P	**Pn**	**06 14 04.9**	**+2.5**
	SNR=37						
KK31	**Karatay Array**	**5.78**	**346**	P	**Pn**	**06 14 04.0**	**+1.2**
	comp=E,7.6nm,0.5s,baz=162,slow=12,SNR=80						
KK31				⇑S	**Sn**	**06 15 05.8**	**-3.1**
	comp=E,20nm,0.3s,baz=138,slow=25,SNR=6.3						
TKM2	**Tokmak 2**	**5.90**	**23**	P	**Pn**	**06 14 07.2**	**+2.6**
	SNR=46						
TKM2				P	**Pn**	**06 14 07.2**	**+2.6**
	SNR=46						
TKM2	**Tokmak 2**	**5.90**	**23**	⇑P	**Pn**	**06 14 06.9**	**+2.3**
	comp=E,50nm,0.6s						
TKM2				⇑S	**Sn**	**06 15 09.3**	**-2.8**
	comp=E,13nm,0.7s						
USP	**Ospenovka**	**5.95**	**14**	P	**Pn**	**06 14 06.5**	**+1.5**
	SNR=41						
USP				P	**Pn**	**06 14 06.5**	**+1.5**
	SNR=41						
KNDC	**Almaty**	**6.64**	**30**	⇑P	**Pn**	**06 14 17.3**	**+3.1**
	comp=E,69nm,0.6s						
AYAN	**Aya Nagar**	**9.82**	**155**	*e*S	**Sn**	**06 16 39.6**	**-5.7**
AYAN				AML	AML	06 16 41.9	
	comp=Z,7.1nm,0.1s						
KHET	**Khetri**	**9.82**	**162**	*e*P	**Pn**	**06 14 54.7**	**-1.4**
KHET				*e*S	Sn	06 16 36.1	-9.4
KHET				AML	AML	06 16 42.2	
	comp=E,13nm,0.3s						
KHET				AML	AML	06 16 42.7	
	comp=N,7.4nm,0.0s						
KUDL	**Kundal**	**9.94**	**159**	*e*S	Sn	06 16 38.8	-9.3
KUDL				AML	AML	06 16 44.8	
	comp=E,15nm,0.6s						
KUDL				AML	AML	06 16 44.9	
	comp=N,9.0nm,0.5s						
MK31	**Makanchi Array**	**11.78**	**35**	⇑P	**Pn**	**06 15 22.1**	**+0.7**
	comp=N,1.5nm,0.4s						
MKAR	**Makanchi Array**	**11.78**	**35**	P	**Pn**	**06 15 21.9**	**+0.5**
	comp=N,0.3nm,0.3s,baz=221,slow=14,SNR=17						
DANN	**Dangsing**	**13.16**	**131**	*e*P	**Pn**	**06 15 40.8**	**+1.4**
	comp=N,10nm,0.4s						
KOLN	**Koldanda**	**13.49**	**133**	*e*P	**Pn**	**06 15 44.6**	**+1.1**
	comp=N,4.9nm,0.3s						
KURBB	**Kurchatov Arra**	**13.80**	**16**	P	**Pn**	**06 15 46.4**	**-0.6**
	comp=N,2.7nm,0.8s						
KURK	**Kurchatov**	**13.90**	**16**	P	Pn	06 15 45.9	-2.3
	comp=N,0.5nm,0.3s,baz=204,slow=10,SNR=52						
KURK	**Kurchatov**	**13.90**	**16**	⇑P	**P**	**06 15 51.4**	**+0.5**
	comp=N,16nm,1.1s						
GKN	**Gorkha**	**13.94**	**129**	*e*P	**P**	**06 15 52.1**	**+0.4**
	comp=N,40nm,0.6s						
KKN	**Kakani**	**14.49**	**128**	*e*P	**P**	**06 15 57.9**	**0.0**
DMN	**Daman**	**14.51**	**129**	*e*P	**P**	**06 15 57.7**	**-0.4**
	comp=N,17nm,0.6s						
GUN	**Gumba**	**14.79**	**127**	*e*P	**P**	**06 16 01.2**	**-0.1**
	comp=N,16nm,0.5s						
AB31	**Akbulak array**	**14.83**	**326**	⇓P	**Pn**	**06 15 59.2**	**-0.5**
	comp=N,0.3nm,0.4s						
JIRN	**Jiri**	**15.16**	**126**	*e*P	**P**	**06 16 06.9**	**+1.5**
	comp=N,6.9nm,0.5s						
VOSK	**Vostochnaya**	**15.24**	**357**	⇑P	**Pn**	**06 16 04.4**	**-0.4**
	comp=N,5.7nm,1.2s						
BVAR	**Borovoye Array**	**15.58**	**355**	P	**Pn**	**06 16 08.5**	**-0.4**
	comp=N,0.7nm,0.3s,baz=166,slow=13,SNR=16						
ZRNK	**Zerenda**	**15.62**	**352**	⇑P	**Pn**	**06 16 10.2**	**+0.7**
	comp=N,4.4nm,0.9s						
RAMN	**Ramite**	**15.91**	**127**	*e*P	**P**	**06 16 15.9**	**+2.3**
	comp=N,32nm,0.7s						
TAPN	**Taplejung**	**16.36**	**124**	*e*P	**Pn**	**06 16 19.9**	**+1.0**
ODAN	**Odare**	**16.48**	**126**	*e*P	**Pn**	**06 16 22.5**	**+2.2**
AKTO	**Aktyubinsk**	**16.54**	**326**	P	**P**	**06 16 20.9**	**+0.8**
	comp=N,0.5nm,0.3s,baz=120,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**16.54**	**326**	⇓P	**Pn**	**06 16 21.0**	**+0.4**
	comp=N,1.3nm,1.5s						
ZALV	**Zalesovo Beam**	**18.51**	**23**	P	**P**	**06 16 43.0**	**+1.5**
	comp=N,2.3nm,0.3s,baz=222,slow=10,SNR=104						
TORD	**Torodi Ar. Bea**	**66.92**	**269**	P	**P**	**06 23 09.8**	**-2.7**
	comp=N,1.8nm,0.5s,baz=50,slow=6.2,SNR=6.0						
ILAR	**Eielson Array**	**73.47**	**16**	P	**P**	**06 23 51.2**	**-0.3**
	comp=N,0.6nm,0.9s,baz=329,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**80.17**	**3**	P	**P**	**06 24 28.8**	**-0.2**
	comp=N,2.2nm,0.7s,baz=350,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**81.54**	**123**	P	**P**	**06 24 35.8**	**-1.0**
	comp=N,0.5nm,0.5s,baz=326,slow=5.1,SNR=8.5						

HLW ***13*** *06:12:39.6, 36.°10N×26.°47E, h31km±27km, Md0.0, Ml5.0*

MOS ***13*** *06:12:41.9±1.2, 35.°57N×26.°38E, h33km, mb5.3/54, MS4.2/30, Error ellipse: s-maj=4.5km s-min=2.4km az=101.5*

BJI ***13*** *06:12:41.3, 35.°48N×25.°72E, h56km, mB5.2/34, mb5.4/50, Ms5.1/37, Ms7 4.8/36*

PDG ***13*** *06:12:42.8±0.6, 35.°64N×26.°43E, h30km±2km, ML5.0/8, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0*

ISCJB ***13*** *06:12:42.7±0.2, 35.°60N±0.°01×26.°37E±0.°01, h43km±1km, mb5.1/170, MS4.5/35, Error ellipse: s-maj=2.1km s-min=1.4km az=18.8*

ATH ***13*** *06:12:42.9, 35.°66N×26.°39E, h42km±1km, ML5.2*

NEIC ***13*** *06:12:42.9, 35.°66N×26.°39E, h42km, mb5.1/87, After ATH.*

NEIC Felt [IV] on Karpathos and at Siteia; [III] at Irakleion. Also felt at Ágios Nikolaos, Athens, Epano Arkhanai, Ierapetra, Khersonisos, Kritsa, Malia, Neapolis, Palaikastron and Rodos.

ISK ***13*** *06:12:43.6, 35.°76N×26.°25E, h66km, ML5.1*

CSEM ***13*** *06:12:44.3±0.1, 35.°56N×26.°41E, h54km, mb5.1/52, Ms4.6, Mw4.7, Error ellipse: s-maj=2.3km s-min=1.5km az=31.0*

DJA ***13*** *06:12:44, 35.°70N×26.°51E, h20km, mb5.3/9*

TEH ***13*** *06:12:45.0, 35.°64N×26.°35E, h46km, ML5.2*

IDC ***13*** *06:12:45.3±1.1, 35.°83N×26.°24E, h48km±10km, mb4.7/28, mb1 4.7/34, mb1mx4.6/37, mbtmp4.6/34, ML4.5/4, MS4.4/27, Ms1 4.4/27, ms1mx4.3/35, Error ellipse: s-maj=11.5km s-min=7.8km az=135.0*

THE ***13*** *06:12:46.2, 35.°70N×26.°33E, h30km±13km, ML5.2/2, Error ellipse: s-maj=13.1km s-min=1.5km az=135.0*

NIC ***13*** *06:12:46.6±0.1, 35.°64N×26.°75E, h50km, mb5.3, ML5.1, MW4.2, CRETE, GREECE 36km. N Palaikastron*

DDA ***13*** *06:12:48.9, 36.°14N×26.°75E, h21km, ML4.6*

NSSC ***13*** *06:12:48.6±4.2, 36.°84N×27.°63E, h94km±999km, ML4.2*

SZGRF ***13*** *06:12:51.6, 36.°14N×24.°74E, h33km, mb4.4, Southern Greece*

BGS ***13*** *06:13:02.6±2.1, 37.°92N×25.°44E, h40km, mb5.0*

ISC 13 06:12:45.3±0.3, 35.°66N±0.°03×26.°35E±0.°02, h52km±2km, h52km:pP-P, n1555, σ1s 34/1729, mb5.1/168, MS4.5/36, 69C-59D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.56**	**191**	P	**Pn**	**06 12 55.6**	**-1.7**
ZKR	**Zakros**	**0.56**	**191**	P	**Pn**	**06 12 55.6**	**-1.7**
ZKR				S	**Sn**	**06 13 03.7**	**-2.3**
ZKR	**Zakros**	**0.56**	**191**	*e*P	**Pn**	**06 12 55.6**	**-1.7**
ZKR				*e*S	**Sn**	**06 13 03.9**	**-2.1**
ZKR	**Zakros**	**0.56**	**191**	*e*P	**Pn**	**06 12 55.6**	**-1.7**
ZKR				S	**Sn**	**06 13 03.7**	**-2.3**
KARP	**Karpathos**	**0.68**	**100**	P	**Pn**	**06 12 57.2**	**-1.6**
KARP	**Karpathos**	**0.68**	**100**	P	**Pn**	**06 12 57.2**	**-1.6**
KARP				S	**Sn**	**06 13 06.1**	**-2.6**
KARP	**Karpathos**	**0.68**	**100**	*e*P	**Pn**	**06 12 56.9**	**-1.9**
KARP				*e*S	**Sn**	**06 13 06.0**	**-2.6**
KARP	**Karpathos**	**0.68**	**100**	*e*P	**Pn**	**06 12 56.9**	**-1.9**
KARP				S	**Sn**	**06 13 06.1**	**-2.6**
NPS	**Neapolis**	**0.72**	**236**	P	**Pn**	**06 12 58.1**	**-1.3**
NPS	**Neapolis**	**0.72**	**236**	P	**Pn**	**06 12 58.1**	**-1.3**
NPS	**Neapolis**	**0.72**	**236**	P	**Pn**	**06 12 58.1**	**-1.3**
NPS				S	**Sn**	**06 13 07.4**	**-2.2**
NPS	**Neapolis**	**0.72**	**236**	*e*P	**Pn**	**06 12 58.1**	**-1.3**
NPS				*e*S	**Sn**	**06 13 08.2**	**-1.4**
NPS	**Neapolis**	**0.72**	**236**	*e*P	**Pn**	**06 12 58.1**	**-1.3**
NPS				*e*S	**Sn**	**06 13 08.2**	**-1.4**
THR1	**Thera Island**	**1.01**	**315**	P	**Pn**	**06 13 01.9**	**-1.3**
THR1	**Thera Island**	**1.01**	**315**	P	**Pn**	**06 13 01.9**	**-1.3**
THR2	**Thira island,**	**1.07**	**317**	P	**Pn**	**06 13 03.2**	**-0.8**
THR2	**Thira island,**	**1.07**	**317**	P	**Pn**	**06 13 03.2**	**-0.8**
THR2	**Thira island,**	**1.07**	**317**	P	**Pn**	**06 13 03.2**	**-0.8**
NIS1	**Nisyros Isl.**	**1.16**	**35**	P	**Pn**	**06 13 04.5**	**-0.6**
NIS1	**Nisyros Isl.**	**1.16**	**35**	P	**Pn**	**06 13 04.5**	**-0.6**
NIS1	**Nisyros Isl.**	**1.16**	**35**	P	**Pn**	**06 13 04.5**	**-0.6**
SIVA	**Sivas**	**1.41**	**243**	P	**Pn**	**06 13 08.3**	**-0.3**
SIVA	**Sivas**	**1.41**	**243**	P	**Pn**	**06 13 08.3**	**-0.3**
SIVA	**Sivas**	**1.41**	**243**	*e*P	**Pn**	**06 13 08.4**	**-0.2**
SIVA	**Sivas**	**1.41**	**243**	P	**Pn**	**06 13 08.3**	**-0.3**
ARG	**Arkhangelos**	**1.55**	**69**	P	**Pn**	**06 13 10.0**	**-0.4**
ARG				S	**Sn**	**06 13 28.3**	**-1.1**
ARG	**Arkhangelos**	**1.55**	**69**	P	**Pn**	**06 13 10.0**	**-0.4**
ARG				S	**Sn**	**06 13 28.3**	**-1.1**
ARG	**Arkhangelos**	**1.55**	**69**	P	**Pn**	**06 13 10.0**	**-0.4**
ARG				S	**Sn**	**06 13 28.3**	**-1.1**
ARG	**Arkhangelos**	**1.55**	**69**	*e*P	**Pn**	**06 13 09.6**	**-0.8**
ARG				*e*S	**Sn**	**06 13 27.9**	**-1.5**
ARG	**Arkhangelos**	**1.55**	**69**	*e*P	**Pn**	**06 13 09.6**	**-0.8**
ARG				*e*S	**Sn**	**06 13 27.9**	**-1.5**
APE	**Apeiranthos**	**1.55**	**335**	*e*PN	**Pn**	**06 13 09.3**	**-1.2**
APE	**Apeiranthos**	**1.55**	**335**	P	**Pn**	**06 13 09.6**	**-0.9**
APE				S	**Sn**	**06 13 28.6**	**-0.9**
APE	**Apeiranthos**	**1.55**	**335**	P	**Pn**	**06 13 09.6**	**-0.9**
APE				S	**Sn**	**06 13 28.6**	**-0.9**
APE	**Apeiranthos**	**1.55**	**335**	P	**Pn**	**06 13 09.6**	**-0.9**
APE				S	**Sn**	**06 13 28.6**	**-0.9**
APE	**Apeiranthos**	**1.55**	**335**	*e*P	**Pn**	**06 13 09.7**	**-0.8**
APE				*e*S	**Sn**	**06 13 29.2**	**-0.3**
APE	**Apeiranthos**	**1.55**	**335**	*e*Pn	**Pn**	**06 13 09.7**	**-1.2**
APE	**Apeiranthos**	**1.55**	**335**	*e*P	**Pn**	**06 13 09.7**	**-0.8**
APE				*e*S	**Sn**	**06 13 29.3**	**-0.3**
BODT	**Bodrum**	**1.60**	**29**	*e*PN	**Pn**	**06 13 10.2**	**-1.0**
BODT	**Bodrum**	**1.60**	**29**	*e*Pn	**Pn**	**06 13 10.2**	**-1.0**
VAM	**Vamos**	**1.77**	**262**	P	**Pn**	**06 13 11.5**	**-1.9**
VAM				S	**Sn**	**06 13 32.7**	**-2.1**
VAM	**Vamos**	**1.77**	**262**	P	**Pn**	**06 13 11.5**	**-1.9**
VAM				S	**Sn**	**06 13 32.7**	**-2.1**
VAM	**Vamos**	**1.77**	**262**	P	**Pn**	**06 13 11.5**	**-1.9**
VAM				S	**Sn**	**06 13 32.7**	**-2.1**
VAM	**Vamos**	**1.77**	**262**	*e*P	**Pn**	**06 13 12.9**	**-0.5**
VAM	**Vamos**	**1.77**	**262**	*e*P	**Pn**	**06 13 12.9**	**-0.5**
VAM				S	**Sn**	**06 13 32.7**	**-2.1**
GVD	**Gavdhos**	**2.02**	**247**	*e*Pn	**Pn**	**06 13 18.0**	**+1.1**
GVD				P		06 13 19.8	
GVD	**Gavdhos**	**2.02**	**247**	*e*P	**Pn**	**06 13 17.0**	**+0.1**
GVD	**Gavdhos**	**2.02**	**247**	*e*P	**Pn**	**06 13 17.0**	**+0.1**
GVD	**Gavdhos**	**2.02**	**247**	*e*Pn	**Pn**	**06 13 18.0**	**+1.1**
SMG	**Samos**	**2.08**	**11**	*e*P	**Pn**	**06 13 16.8**	**-0.9**
SMG				*e*S	**Sn**	**06 13 41.4**	**-1.0**
SMG	**Samos**	**2.08**	**11**	*e*P	**Pn**	**06 13 16.8**	**-0.9**
SMG				*e*S	**Sn**	**06 13 41.4**	**-1.0**
YER	**Yerkesik**	**2.15**	**46**	*e*PN	**Pn**	**06 13 19.1**	**+0.5**
YER				*e*SN	**Sn**	**06 13 43.5**	**-0.6**
YER	**Yerkesik**	**2.15**	**46**	*e*Pn	**Pn**	**06 13 19.1**	**+0.5**
YER				*e*Sn	**Sn**	**06 13 43.5**	**-0.6**
GCAM	**G?zelcaml?**	**2.15**	**19**	*i* P	**Pn**	**06 13 18.0**	**-0.7**
GCAM				*i* S	Sn	06 13 55.4	+11
GCAM	**G?zelcaml?**	**2.15**	**19**	*i* P	**Pn**	**06 13 18.0**	**-0.7**
TURN	**Turunc**	**2.19**	**56**	*i* P	Pn	06 13 14.6	-4.5
TURN				*i* S	Sn	06 13 35.5	-10
TURN	**Turunc**	**2.19**	**56**	*i* P	Pn	06 13 14.6	-4.5
FETY	**Fethiye**	**2.42**	**66**	*e*PN	**Pn**	**06 13 22.6**	**+0.3**
FETY	**Fethiye**	**2.42**	**66**	*e*Pn	**Pn**	**06 13 22.7**	**+0.3**
KSL	**Kastellorizon**	**2.67**	**79**	*e*P	**Pn**	**06 13 25.1**	**-0.7**
KSL	**Kastellorizon**	**2.67**	**79**	*e*P	**Pn**	**06 13 25.1**	**-0.7**
URLA	**Izmir**	**2.70**	**4**	*i* P	**Pn**	**06 13 25.3**	**-0.9**
URLA				*i* S	Sn	06 14 06.0	+8.3
URLA	**Izmir**	**2.70**	**4**	*i* P	**Pn**	**06 13 25.3**	**-0.9**
AKAS	**Kas**	**2.71**	**77**	*i* P	**Pn**	**06 13 26.7**	**+0.3**
AKAS				*i* S	**Sn**	**06 13 56.9**	**-1.1**
AKAS	**Kas**	**2.71**	**77**	*i* P	**Pn**	**06 13 26.7**	**+0.3**
AKAS				*i* S	**Sn**	**06 13 56.9**	**-1.1**
CHOS	**Chios island**	**2.73**	**355**	P	**Pn**	**06 13 25.2**	**-1.5**
CHOS	**Chios island**	**2.73**	**355**	*e*P	**Pn**	**06 13 25.8**	**-0.9**
CHOS	**Chios island**	**2.73**	**355**	*e*P	**Pn**	**06 13 25.8**	**-0.9**
KYTH	**Kithira**	**2.75**	**284**	P	**Pn**	**06 13 26.3**	**-0.7**
KYTH	**Kithira**	**2.75**	**284**	P	**Pn**	**06 13 26.3**	**-0.7**
KYTH	**Kithira**	**2.75**	**284**	*e*P	**Pn**	**06 13 26.5**	**-0.5**
KYTH	**Kithira**	**2.75**	**284**	*e*P	**Pn**	**06 13 26.5**	**-0.5**
BLCB	**Balcova**	**2.77**	**11**	*e*PN	**Pn**	**06 13 25.9**	**-1.3**
BLCB	**Balcova**	**2.77**	**11**	*e*Pn	**Pn**	**06 13 25.9**	**-1.3**
IZM	**Izmir**	**2.83**	**15**	*e*PN	**Pn**	**06 13 26.6**	**-1.4**
IZM	**Izmir**	**2.83**	**15**	*e*Pn	**Pn**	**06 13 26.6**	**-1.4**
VLI	**Veliai**	**2.95**	**292**	P	**Pn**	**06 13 29.4**	**-0.2**
VLI	**Veliai**	**2.95**	**292**	P	**Pn**	**06 13 29.4**	**-0.2**
VLI				S	**Sn**	**06 14 01.9**	**-1.9**
VLI	**Veliai**	**2.95**	**292**	*e*P	**Pn**	**06 13 29.6**	**0.0**
VLI				*e*S	**Sn**	**06 14 03.3**	**-0.5**
VLI	**Veliai**	**2.95**	**292**	*e*P	**Pn**	**06 13 29.6**	**0.0**
VLI				*e*S	**Sn**	**06 14 03.3**	**-0.5**
DNZL	**Cakiroluk**	**2.97**	**46**	*i* P	**Pn**	**06 13 32.2**	**+2.2**
DNZL				*i* S	**Sn**	**06 14 05.7**	**+1.2**
DNZL	**Cakiroluk**	**2.97**	**46**	*i* P	**Pn**	**06 13 32.2**	**+2.2**
DNZL				*i* S	**Sn**	**06 14 05.7**	**+1.2**
VLY	**Voula,Athens**	**3.00**	**318**	P	**Pn**	**06 13 30.5**	**+0.3**
VLY	**Voula,Athens**	**3.00**	**318**	P	**Pn**	**06 13 30.5**	**+0.3**
VLY	**Voula,Athens**	**3.00**	**318**	*e*P	**Pn**	**06 13 30.5**	**+0.3**
VLY	**Voula,Athens**	**3.00**	**318**	*e*P	**Pn**	**06 13 30.5**	**+0.3**
GOLH	**Golhisar**	**3.03**	**58**	*i* P	**Pn**	**06 13 32.4**	**+1.6**
GOLH				*i* S	**Sn**	**06 14 07.1**	**+1.2**
GOLH	**Golhisar**	**3.03**	**58**	*i* P	**Pn**	**06 13 32.4**	**+1.6**
GOLH				*i* S	**Sn**	**06 14 07.1**	**+1.2**
ELL	**Elmali**	**3.08**	**68**	*e*PN	**Pn**	**06 13 32.3**	**+0.8**
ELL	**Elmali**	**3.08**	**68**	*e*Pn	**Pn**	**06 13 32.3**	**+0.8**
ATHU	**Athens Univers**	**3.08**	**319**	P	Pn	06 13 37.1	+5.6
ATHU	**Athens Univers**	**3.08**	**319**	P	Pn	06 13 37.1	+5.6
PTL	**Penteli**	**3.10**	**321**	P	**Pn**	**06 13 32.3**	**+0.6**
PTL	**Penteli**	**3.10**	**321**	P	**Pn**	**06 13 32.3**	**+0.6**
PTL	**Penteli**	**3.10**	**321**	*e*P	**Pn**	**06 13 31.6**	**-0.1**
PTL				*e*S	**Sn**	**06 14 06.2**	**-1.4**
PTL	**Penteli**	**3.10**	**321**	P	**Pn**	**06 13 32.3**	**+0.6**
DID	**Didima**	**3.10**	**307**	P	**Pn**	**06 13 31.9**	**+0.1**
DID	**Didima**	**3.10**	**307**	*e*P	**Pn**	**06 13 31.9**	**+0.1**
DID	**Didima**	**3.10**	**307**	*e*P	**Pn**	**06 13 31.9**	**+0.1**
DIDY	**Didyma**	**3.10**	**307**	P	**Pn**	**06 13 32.4**	**+0.6**
DIDY	**Didyma**	**3.10**	**307**	P	**Pn**	**06 13 32.4**	**+0.6**
NAIG	**Nisos Aigina**	**3.10**	**313**	*e*P	**Pn**	**06 13 31.7**	**0.0**
NAIG	**Nisos Aigina**	**3.10**	**313**	*e*P	**Pn**	**06 13 31.7**	**0.0**
ATH	**Athens Observa**	**3.12**	**318**	P	**Pn**	**06 13 32.6**	**+0.6**
ATH	**Athens Observa**	**3.12**	**318**	P	**Pn**	**06 13 32.6**	**+0.6**
ATH	**Athens Observa**	**3.12**	**318**	P	**Pn**	**06 13 32.6**	**+0.6**
ATH				S	**Sn**	**06 14 05.9**	**-2.1**
ATH	**Athens Observa**	**3.12**	**318**	*e*P	**Pn**	**06 13 32.2**	**+0.2**
ATH				*e*S	**Sn**	**06 14 07.5**	**-0.5**
ATH	**Athens Observa**	**3.12**	**318**	P	**Pn**	**06 13 32.6**	**+0.6**
ATH				S	**Sn**	**06 14 05.9**	**-2.1**
MANT	**Manisa**	**3.33**	**31**	*i* P	**Pn**	**06 13 35.2**	**+0.2**
MANT				*i* S	**Sn**	**06 14 10.2**	**-3.3**
MANT	**Manisa**	**3.33**	**31**	*i* P	**Pn**	**06 13 35.2**	**+0.2**
MANT				*i* S	**Sn**	**06 14 10.2**	**-3.3**
KULA	**Kula-Manisa**	**3.40**	**32**	*e*PN	**Pn**	**06 13 35.9**	**+0.1**
KULA	**Kula-Manisa**	**3.40**	**32**	*e*Pn	**Pn**	**06 13 35.9**	**+0.1**
AKS	**Akhisar**	**3.42**	**20**	*e*PN	**Pn**	**06 13 35.9**	**-0.1**
AKS	**Akhisar**	**3.42**	**20**	*e*Pn	**Pn**	**06 13 35.9**	**-0.1**
ERET	**Eretria**	**3.44**	**325**	P	**Pn**	**06 13 37.0**	**+0.6**
ERET	**Eretria**	**3.44**	**325**	P	**Pn**	**06 13 37.0**	**+0.6**
VIL1	**Vilia, Western**	**3.48**	**317**	*e*P	**Pn**	**06 13 37.3**	**+0.4**
VIL1	**Vilia, Western**	**3.48**	**317**	*e*P	**Pn**	**06 13 37.3**	**+0.4**
KORT	**Korkueli**	**3.50**	**66**	*i* P	**Pn**	**06 13 38.6**	**+1.3**
KORT				*i* S	**Sn**	**06 14 16.2**	**-1.3**
KORT	**Korkueli**	**3.50**	**66**	*i* P	**Pn**	**06 13 38.6**	**+1.3**
KORT				*i* S	**Sn**	**06 14 16.2**	**-1.3**
PRK	**Paraskevi**	**3.58**	**359**	*e*P	**Pn**	**06 13 37.6**	**-0.6**
PRK	**Paraskevi**	**3.58**	**359**	*e*P	**Pn**	**06 13 37.6**	**-0.6**
LTK	**Loutraki**	**3.59**	**312**	P	**Pn**	**06 13 39.2**	**+0.8**
LTK	**Loutraki**	**3.59**	**312**	P	**Pn**	**06 13 39.2**	**+0.8**
LTK	**Loutraki**	**3.59**	**312**	*e*P	**Pn**	**06 13 39.0**	**+0.6**
LTK	**Loutraki**	**3.59**	**312**	*e*P	**Pn**	**06 13 39.0**	**+0.6**
VLX	**Vlachokerasia**	**3.62**	**299**	P	**Pn**	**06 13 39.5**	**+0.6**
VLX	**Vlachokerasia**	**3.62**	**299**	*e*P	**Pn**	**06 13 39.5**	**+0.6**
VLX	**Vlachokerasia**	**3.62**	**299**	*e*P	**Pn**	**06 13 39.5**	**+0.6**
KHL	**Karahalli**	**3.68**	**43**	*e*PN	**Pn**	**06 13 40.4**	**+0.7**
KHL	**Karahalli**	**3.68**	**43**	*e*Pn	**Pn**	**06 13 40.4**	**+0.7**
ANTB	**Antalya**	**3.69**	**69**	*e*PN	**Pn**	**06 13 40.9**	**+1.1**
ANTB	**Antalya**	**3.69**	**69**	*e*Pn	**Pn**	**06 13 40.9**	**+1.1**
KHAL	**Karahalli**	**3.69**	**42**	*i* P	**Pn**	**06 13 40.8**	**+0.9**
KHAL				*i* S	**Sn**	**06 14 19.5**	**-2.7**

BOLV				iS	Sn	06 14 47.8	-1.1
BOLV	Bolvadin	4.78	49	iP	Pn	06 13 56.0	+1.2
BOLV				iS	Sn	06 14 47.8	-1.1
KRBG	Karabiga-Canak	4.78	9	ePN	Pn	06 13 54.1	-0.6
KRBG	Karabiga-Canak	4.78	9	ePn	Pn	06 13 54.1	-0.6
EDC	Edincik	4.83	14	ePN	Pn	06 13 54.6	-0.7
EDC	Edincik	4.83	14	ePn	Pn	06 13 54.6	-0.7
BNT	Bandirma	4.85	14	ePN	Pn	06 13 54.9	-0.7
BNT	Bandirma	4.85	14	ePn	Pn	06 13 54.9	-0.7
EVR	Evrytania	4.86	313	P	Pn	06 13 59.0	+3.1
EVR	Evrytania	4.86	313	P	Pn	06 13 59.0	+3.1
EVR	Evrytania	4.86	313	eP	Pn	06 13 56.6	+0.7
EVR	Evrytania	4.86	313	eP	Pn	06 13 56.6	+0.7
KCTX	Karacabey (Bur	4.86	18	ePN	Pn	06 13 55.1	-0.8
KCTX	Karacabey (Bur	4.86	18	ePn	Pn	06 13 55.1	-0.8
PPCY	Paphos	4.97	97	P	Pn	06 13 55.1	-2.2
PPCY	Paphos	4.97	97	P	Pn	06 13 55.1	-2.2
OUR	Ouranopolis	5.02	339	P	Pn	06 13 58.0	0.0
OUR	Ouranopolis	5.02	339	P	Pn	06 13 58.0	0.0
OUR	Ouranopolis	5.02	339	P	Pn	06 13 58.0	0.0
OUR	Ouranopolis	5.02	339	P	Pn	06 13 58.0	0.0
RKY	Sarkoy-Tekirda	5.06	7	ePN	Pn	06 13 57.8	-0.8
RKY	Sarkoy-Tekirda	5.06	7	ePn	Pn	06 13 57.8	-0.8
ENEZ	Enez	5.07	358	ePN	Pn	06 13 57.4	-1.2
ENEZ	Enez	5.07	358	ePn	Pn	06 13 57.4	-1.2
KFL	Anninata	5.08	300	P	Pn	06 14 00.1	+1.3
KFL				S	Sn	06 14 57.7	+1.5
KFL	Anninata	5.08	300	P	Pn	06 14 00.1	+1.3
KFL				S	Sn	06 14 57.7	+1.5
MDNY	Mudanya-Bursa	5.11	22	ePN	Pn	06 13 59.0	-0.2
MDNY	Mudanya-Bursa	5.11	22	ePn	Pn	06 13 59.0	-0.2
ALFC	Alevga	5.13	94	P	Pn	06 13 57.4	-2.2
	54nm,0.2s						
ALFC				S	Sn	06 14 52.3	-5.2
ALFC	Alevga	5.13	94	P	Pn	06 13 57.4	-2.2
	54nm,0.2s						
ALFC				S	Sn	06 14 52.3	-5.2
MFT	Murefte	5.17	8	ePN	Pn	06 13 59.9	-0.2
MFT	Murefte	5.17	8	ePn	Pn	06 13 59.9	-0.2
THL	Klokotos Trika	5.20	320	P	Pn	06 14 01.9	+1.5
THL	Klokotos Trika	5.20	320	eP	Pn	06 14 01.6	+1.2
THL	Klokotos Trika	5.20	320	eP	Pn	06 14 01.6	+1.2
ALN	Alexandroupoli	5.23	358	P	Pn	06 14 00.3	-0.6
ALN	Alexandroupoli	5.23	358	P	Pn	06 14 00.3	-0.6
ALN	Alexandroupoli	5.23	358	P	Pn	06 14 00.3	-0.6
ALN	Alexandroupoli	5.23	358	P	Pn	06 14 00.3	-0.6
VLS	Valsamata	5.25	300	P	Pn	06 14 01.1	-0.1
VLS	Valsamata	5.25	300	P	Pn	06 14 01.1	-0.1
VLS	Valsamata	5.25	300	P	Pn	06 14 01.1	-0.1
VLS	Valsamata	5.25	300	P	Pn	06 14 01.1	-0.1
ESKT	Eskisehir	5.25	42	ePN	Pn	06 14 01.3	0.0
ESKT	Eskisehir	5.25	42	ePn	Pn	06 14 01.3	0.0
GEMT	Gemlik	5.27	24	ePN	Pn	06 14 00.8	-0.6
GEMT	Gemlik	5.27	24	ePn	Pn	06 14 00.8	-0.6
ARMT	Armutlu	5.28	21	ePN	Pn	06 14 01.0	-0.6
ARMT	Armutlu	5.28	21	ePn	Pn	06 14 01.0	-0.6
CAVI	Cavuskoy	5.31	30	ePN	Pn	06 14 01.5	-0.5
CAVI	Cavuskoy	5.31	30	ePn	Pn	06 14 01.5	-0.5
KONT	Konya--Tatoy	5.34	63	ePN	Pn	06 14 02.8	+0.4
KONT	Konya--Tatoy	5.34	63	ePn	Pn	06 14 02.8	+0.4
LIT	Litokhoron	5.38	327	P	Pn	06 14 04.0	+1.1
LIT	Litokhoron	5.38	327	P	Pn	06 14 04.0	+1.1
LIT	Litokhoron	5.38	327	P	Pn	06 14 04.0	+1.1
LIT	Litokhoron	5.38	327	eP	Pn	06 14 04.0	+1.1
LIT	Litokhoron	5.38	327	eP	Pn	06 14 04.0	+1.1
TKR	Tekirdag	5.40	10	ePN	Pn	06 14 02.7	-0.5
TKR	Tekirdag	5.40	10	ePn	Pn	06 14 02.7	-0.5
SZAC	Souni-Zanaja	5.43	98	P	Pn	06 14 01.6	-2.0
SZAC				S	Sn	06 15 00.5	-4.3
SZAC	Souni-Zanaja	5.43	98	P	Pn	06 14 01.6	-2.0
SZAC				S	Sn	06 15 00.5	-4.3
LADK	Ladik-KONYA	5.45	61	ePN	Pn	06 14 03.5	-0.4
LADK	Ladik-KONYA	5.45	61	ePn	Pn	06 14 03.5	-0.4
YLV	Yalova	5.45	25	ePN	Pn	06 14 03.2	-0.7
YLV	Yalova	5.45	25	ePn	Pn	06 14 03.2	-0.7
KIZT	Kizilcal	5.46	52	ePN	Pn	06 14 03.8	-0.3
KIZT	Kizilcal	5.46	52	ePn	Pn	06 14 03.8	-0.3
ADVT	Abdulvahap	5.46	28	ePN	Pn	06 14 03.3	-0.8
ADVT	Abdulvahap	5.46	28	ePn	Pn	06 14 03.3	-0.8
LKD2	Lefkada island	5.51	306	P	Pn	06 14 06.6	+1.9
LKD2	Lefkada island	5.51	306	P	Pn	06 14 06.6	+1.9
LKD2	Lefkada island	5.51	306	P	Pn	06 14 06.6	+1.9
RDO	Rodhopi	5.51	354	P	Pn	06 14 04.4	-0.3
RDO	Rodhopi	5.51	354	P	Pn	06 14 04.4	-0.3
RDO	Rodhopi	5.51	354	P	Pn	06 14 04.4	-0.3
KAVA	Kavala	5.52	345	P	Pn	06 14 04.3	-0.5
KAVA	Kavala	5.52	345	P	Pn	06 14 04.3	-0.5
KAVA	Kavala	5.52	345	P	Pn	06 14 04.3	-0.5
HORT	Hortiatis	5.55	334	P	Pn	06 14 06.0	+0.7
HORT	Hortiatis	5.55	334	P	Pn	06 14 06.0	+0.7
HORT	Hortiatis	5.55	334	P	Pn	06 14 06.0	+0.7
CRLT	Corlu	5.57	11	ePN	Pn	06 14 05.0	-0.5
CRLT	Corlu	5.57	11	ePn	Pn	06 14 05.0	-0.5
GPA	Golpazari	5.58	33	ePN	Pn	06 14 05.2	-0.5
GPA	Golpazari	5.58	33	ePn	Pn	06 14 05.2	-0.5
SVRH	Sivrihisar-ESK	5.58	46	ePN	Pn	06 14 05.9	+0.1
SVRH	Sivrihisar-ESK	5.58	46	ePn	Pn	06 14 05.9	+0.1
THE	Thessaloniki	5.63	333	P	Pn	06 14 07.2	+0.9
THE	Thessaloniki	5.63	333	P	Pn	06 14 07.2	+0.9
THE	Thessaloniki	5.63	333	P	Pn	06 14 07.2	+0.9
THE	Thessaloniki	5.63	333	P	Pn	06 14 07.2	+0.9
MAMC	Mammari	5.63	93	P	Pn	06 14 04.7	-1.7
MAMC				S	Sn	06 15 05.6	-4.2
MAMC	Mammari	5.63	93	P	Pn	06 14 04.7	-1.7
MAMC				S	Sn	06 15 05.6	-4.2
SOH	Sokhos	5.66	336	P	Pn	06 14 07.8	+1.0
SOH	Sokhos	5.66	336	P	Pn	06 14 07.8	+1.0
SOH	Sokhos	5.66	336	P	Pn	06 14 07.8	+1.0
SOH	Sokhos	5.66	336	eP	Pn	06 14 07.8	+1.0
SOH	Sokhos	5.66	336	eP	Pn	06 14 07.8	+1.0
SLVT	Silivri	5.75	14	ePN	Pn	06 14 07.6	-0.4
SLVT	Silivri	5.75	14	ePn	Pn	06 14 07.6	-0.4
CSS	Prodhromos	5.75	95	P	Pn	06 14 06.2	-1.9
CSS				S	Sn	06 15 11.0	-1.8
CSS	Prodhromos	5.75	95	ePn	Pn	06 14 05.1	-3.0
CSS				P		06 14 05.5	
CSS				eSn	Sn	06 15 01.7	-11
CSS	Prodhromos	5.75	95	P	Pn	06 14 05.5	-2.6
CSS	Prodhromos	5.75	95	P	Pn	06 14 06.2	-1.9
CSS	Prodhromos	5.75	95	Pn	Pn	06 14 06.6	-1.5
CSS				S	Sn	06 15 11.0	-1.8
HRT	Hereke	5.78	26	ePN	Pn	06 14 08.2	-0.2
HRT	Hereke	5.78	26	ePn	Pn	06 14 08.2	-0.2
MEV	Metsovon	5.78	317	P	Pn	06 14 10.6	+2.1
MEV	Metsovon	5.78	317	P	Pn	06 14 10.6	+2.1
MEV	Metsovon	5.78	317	P	Pn	06 14 10.6	+2.1
GULT	Gulveren	5.79	33	ePN	Pn	06 14 08.9	+0.3
GULT	Gulveren	5.79	33	ePn	Pn	06 14 08.9	+0.3
ISK	Istanbul-Kandi	5.80	21	ePN	Pn	06 14 08.6	0.0
ISK	Istanbul-Kandi	5.80	21	ePn	Pn	06 14 08.6	0.0
CTKS	Kestanelik-??a	5.82	16	ePN	Pn	06 14 09.2	+0.3
CTKS	Kestanelik-??a	5.82	16	ePn	Pn	06 14 09.2	+0.3
BGKT	Bogazkoy	5.83	18	ePN	Pn	06 14 09.3	+0.3
BGKT	Bogazkoy	5.83	18	ePn	Pn	06 14 09.3	+0.3
SRS	Serrai	5.86	339	P	Pn	06 14 09.8	+0.3
SRS	Serrai	5.86	339	P	Pn	06 14 09.8	+0.3
SRS	Serrai	5.86	339	P	Pn	06 14 09.8	+0.3
SRS	Serrai	5.86	339	P	Pn	06 14 09.8	+0.3
KZN	Kozani	5.88	323	P	Pn	06 14 11.9	+2.1
KZN	Kozani	5.88	323	P	Pn	06 14 11.9	+2.1
KZN	Kozani	5.88	323	P	Pn	06 14 11.9	+2.1
KZN	Kozani	5.88	323	P	Pn	06 14 11.9	+2.1
JAN	Janina	5.91	314	P	Pn	06 14 13.3	+3.1
JAN	Janina	5.91	314	P	Pn	06 14 13.3	+3.1
JAN	Janina	5.91	314	P	Pn	06 14 13.3	+3.1
JAN	Janina	5.91	314	P	Pn	06 14 13.3	+3.1
SPNC	Sapanca-Adapaz	5.91	31	ePN	Pn	06 14 10.0	-0.1
SPNC	Sapanca-Adapaz	5.91	31	ePn	Pn	06 14 10.0	-0.1
KLYT	Kilyos	5.97	20	ePN	Pn	06 14 10.3	-0.7
KLYT	Kilyos	5.97	20	ePn	Pn	06 14 10.3	-0.7
CTYL	Yal??k??y-??at	6.00	14	ePN	Pn	06 14 11.3	-0.1
CTYL	Yal??k??y-??at	6.00	14	ePn	Pn	06 14 11.3	-0.1
RGA	Parga	6.00	309	P	Pn	06 14 12.3	+0.8
RGA	Parga	6.00	309	P	Pn	06 14 12.3	+0.8
NVR	Nevrokopi	6.00	342	P	Pn	06 14 11.8	+0.3
NVR	Nevrokopi	6.00	342	P	Pn	06 14 11.8	+0.3
NVR	Nevrokopi	6.00	342	eP	Pn	06 14 11.5	0.0
NVR	Nevrokopi	6.00	342	P	Pn	06 14 11.8	+0.3
SILT	Sile	6.06	24	ePN	Pn	06 14 12.2	0.0
SILT	Sile	6.06	24	ePn	Pn	06 14 12.3	0.0
KNT	Kendrikon	6.12	335	P	Pn	06 14 14.2	+1.1
KNT	Kendrikon	6.12	335	P	Pn	06 14 14.2	+1.1
KNT	Kendrikon	6.12	335	P	Pn	06 14 14.2	+1.1
KNT	Kendrikon	6.12	335	P	Pn	06 14 14.2	+1.1
MDUB	Mudurnu	6.14	37	ePN	Pn	06 14 13.2	-0.2
MDUB	Mudurnu	6.14	37	ePn	Pn	06 14 13.2	-0.2
EDRB	Edirne	6.18	3	ePN	Pn	06 14 13.2	-0.7
EDRB	Edirne	6.18	3	ePn	Pn	06 14 13.2	-0.7
SULT	Sultanhani-AKS	6.28	64	ePN	Pn	06 14 15.5	+0.2
SULT	Sultanhani-AKS	6.28	64	ePn	Pn	06 14 15.5	+0.2
PHNC	Paralimni	6.32	94	P	Pn	06 14 15.7	-0.1
	44nm,0.6s						
PHNC				S	Sn	06 15 25.0	-1.6
PHNC	Paralimni	6.32	94	P	Pn	06 14 15.7	-0.1
	44nm,0.6s						
PHNC				S	Sn	06 15 25.0	-1.6
NEST	Nestorio	6.32	320	P	Pn	06 14 18.1	+2.2
NEST	Nestorio	6.32	320	P	Pn	06 14 18.1	+2.2
VAY	Valandovo	6.38	333	ePn	Pn	06 14 18.5	+2.0
VAY	Valandovo	6.38	333	ePn	Pn	06 14 19.0	+2.4
FNA	Florina	6.44	324	P	Pn	06 14 19.8	+2.3
FNA	Florina	6.44	324	P	Pn	06 14 19.8	+2.3
FNA	Florina	6.44	324	P	Pn	06 14 19.8	+2.3
FNA	Florina	6.44	324	P	Pn	06 14 19.8	+2.3
SWA2		6.45	187	P	Pn	06 14 16.7	-0.9
AFSR	Af¯ar-Bala (A	6.54	53	ePN	Pn	06 14 18.4	-0.5
AFSR	Af¯ar-Bala (A	6.54	53	ePn	Pn	06 14 18.4	-0.5
PLD	Plovdiv	6.56	349	P	Pn	06 14 19.6	+0.5
PLD	Plovdiv	6.56	349	P	Pn	06 14 19.6	+0.5
PLD	Plovdiv	6.56	349	P	Pn	06 14 19.6	+0.5
PLD	Plovdiv	6.56	349	P	Pn	06 14 19.6	+0.5
KEK	Kerkira	6.58	310	P	Pn	06 14 19.8	+0.4
KEK				S	Sn	06 15 30.4	-2.6
KEK	Kerkira	6.58	310	P	Pn	06 14 19.8	+0.4
KEK				S	Sn	06 15 30.4	-2.6
KEK	Kerkira	6.58	310	P	Pn	06 14 19.8	+0.4
LOD	Lodumlu	6.61	48	ePN	Pn	06 14 19.7	-0.1
LOD	Lodumlu	6.61	48	ePn	Pn	06 14 19.7	-0.1
BIA	Bitola	6.64	325	ePn	Pn	06 14 23.0	+2.6
BIA				eSg	Sn	06 15 37.1	+2.4
BIA	Bitola	6.64	325	ePn	Pn	06 14 22.9	+2.6
BIA				eSg	Sn	06 15 37.0	+2.4
MERS	Mersin	6.71	77	ePN	Pn	06 14 21.2	0.0
MERS	Mersin	6.71	77	ePn	Pn	06 14 21.3	0.0
JMB	Yambol	6.80	1	P	Pn	06 14 22.4	+0.1
JMB	Yambol	6.80	1	P	Pn	06 14 22.4	+0.1
JMB	Yambol	6.80	1	P	Pn	06 14 22.4	+0.1
JMB	Yambol	6.80	1	P	Pn	06 14 22.4	+0.1
KDZE	Karadeniz Ereo	6.91	34	ePN	Pn	06 14 23.6	-0.3
KDZE	Karadeniz Ereo	6.91	34	ePn	Pn	06 14 23.6	-0.3
KAMT	Kaman	6.92	56	ePN	Pn	06 14 23.6	-0.6
KAMT	Kaman	6.92	56	ePn	Pn	06 14 23.6	-0.6
HMYD	Mayadein	6.95	146	P	Pn	06 14 22.4	-2.1
KRUS	Krusevo	6.96	326	ePn	Pn	06 14 26.8	+2.1
KRUS	Krusevo	6.96	326	ePn	Pn	06 14 26.7	+2.1
LJBD	Adjabya	6.99	229	eP	Pn	06 14 24.5	-0.6
	366nm,0.4s,SNR=46						
HNAT	Natroun	7.01	148	P	Pn	06 14 23.0	-2.3
BRTR	Keskin Array B	7.06	53	P	Pn	06 14 26.6	+0.5
	18nm,0.3s,baz=221,slow=14,SNR=736						
BRTR				S	Sn	06 15 44.8	-0.3
	7.9nm,0.3s,baz=221,slow=24,SNR=5.4						
BRTR				LR	LR	06 17 49.1	
	comp=Z,4μm,18.3s,baz=231,slow=43						
BRTR	Keskin Array B	7.06	53	P	Pn	06 14 26.6	+0.5
BRTR				S	Sn	06 15 44.8	-0.3
BRTR				pmax	pmax		
	comp=Z,18nm,0.3s						
BRTR				smax	smax		
	comp=N,8.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,4μm,18.3s						
BRTR	Keskin Array B	7.06	53	P	Pn	06 14 26.6	+0.5
BRTR				S	Sn	06 15 44.8	-0.3
BRTR	Keskin Array B	7.06	53	P	Pn	06 14 26.5	+0.5
BRTR				S	Sn	06 15 44.8	-0.3
	comp=Z,4μm,18.3s						
BR131	Keskin Array S	7.06	53	ePn	Pn	06 14 26.6	+0.5
	comp=Z,136nm,0.7s						
BR131				eSn	Sn	06 15 44.2	-0.9
BR131	Keskin Array S	7.06	53	ePn	Pn	06 14 26.6	+0.5
	comp=Z,136nm,0.7s						
BR131				eSn	Sn	06 15 44.2	-0.9
SQR		7.06	143	P	Pn	06 14 23.7	-2.3
FYM	Al Fayyum	7.15	145	P	Pn	06 14 24.6	-2.6
AYT	Al 'Ayyat	7.19	144	P	Pn	06 14 25.5	-2.3
VTS	Vitosha	7.33	342	⇓P	Pn	06 14 31.7	+1.8
VTS				S	Sn	06 15 54.1	+2.3
VTS	Vitosha	7.33	342	P	Pn	06 14 31.6	+1.7
VTS	Vitosha	7.33	342	P	Pn	06 14 31.6	+1.7
VTS	Vitosha	7.33	342	⇓iP	Pn	06 14 31.6	+1.7
VTS	Vitosha	7.33	342	S	Sn	06 15 54.1	+2.3
VTS	Vitosha	7.33	342	P	Pn	06 14 31.6	+1.7
VTS				S	Sn	06 15 54.1	+2.3
KOT	Kottamia	7.35	140	P	Pn	06 14 27.1	-2.9
SKO	Skopje	7.37	330	ePn	Pn	06 14 33.2	+3.0
HSAF	As Saff	7.46	142	P	Pn	06 14 29.1	-2.4
GLL	Jalalah	7.57	142	P	Pn	06 14 30.1	-2.9
TIR	Tirane	7.62	320	eP	Pn	06 14 35.0	+1.4
TIR	Tirane	7.62	320	ePn	Pn	06 14 35.0	+1.4
TIR	Tirane	7.62	320	eP	Pn	06 14 35.0	+1.4
AWBH		7.63	163	P	Pn	06 14 32.2	-1.7
HNTI	Hanita	7.74	107	Pn	Pn	06 14 32.8	-2.5
LUJL	Ujela	7.79	215	iP	Pn	06 14 34.2	-1.8
	comp=Z,186nm,0.5s,SNR=46						
BHL	Bhannes	7.86	100	eP	Pn	06 14 33.8	-3.2
BHL	Bhannes	7.86	100	eP	Pn	06 14 33.8	-3.2
MMA0	Mount Meron ar	7.94	107	Pn	Pn	06 14 35.0	-3.1
MMAI	Mount Meron Ar	7.94	107	P	Pn	06 14 34.6	-3.6
	comp=Z,68nm,0.3s,baz=298,slow=12,SNR=37						
MMAI				S	Sn	06 15 59.8	-6.9
	comp=Z,134nm,0.3s,baz=288,slow=24,SNR=9.0						
MMAI	Mount Meron Ar	7.94	107	P	Pn	06 14 34.6	-3.6
MMAI				S	Sn	06 15 59.8	-6.9
MMAI	Mount Meron Ar	7.94	107	P	Pn	06 14 34.6	-3.6
SUZ		7.97	135	P	Pn	06 14 35.1	-3.4
SLTI	Sal'it	7.99	113	Pn	Pn	06 14 35.9	-2.8
HWQ	Hawqa	8.00	97	eP	Pn	06 14 35.5	-3.5
HWQ	Hawqa	8.00	97	eP	Pn	06 14 35.5	-3.5
KSDI	Kefar Szold	8.08	105	Pn	Pn	06 14 36.8	-3.1
RCY	Rachaya	8.12	103	eP	Pn	06 14 37.4	-3.2
RCY	Rachaya	8.12	103	eP	Pn	06 14 37.4	-3.2
MMLI	Mount Malkishu	8.19	111	Pn	Pn	06 14 38.6	-2.9
BRBR	Barbar	8.24	103	eP	Pn	06 14 39.4	-2.9
BRBR				eS	Sn	06 16 06.2	-7.9
BRBR				AML	AML	06 16 12.3	
	comp=E,677nm,0.5s						
BRBR				AML	AML	06 16 17.1	
	comp=N,333nm,0.7s						
KZIT	Kziot	8.24	123	Pn	Pn	06 14 39.0	-3.2
ZAF		8.24	139	P	Pn	06 14 39.0	-3.2
KSHT	Keshet	8.27	106	Pn	Pn	06 14 40.5	-2.2
MANR	Mangalia	8.32	11	⇓iP	Pn	06 14 44.5	+1.3
MANR	Mangalia	8.32	11	⇓iP	Pn	06 14 44.5	+1.3
ZNM		8.35	137	P	Pn	06 14 40.6	-3.0
ZNM				S	Sn	06 16 10.0	-6.5
HMDT	Nahal Hemdat	8.35	111	Pn	Pn	06 14 40.6	-3.0
RTMI	Retamim	8.36	121	Pn	Pn	06 14 40.5	-3.3
ULC	Ulcinj	8.38	321	⇑iPn	Pn	06 14 44.2	+0.1
ULC				eSn	Sn	06 16 15.8	-1.5
ULC	Ulcinj	8.38	321	⇑iPn	Pn	06 14 44.2	+0.1
FKH	Fakeheh	8.38	97	eP	Pn	06 14 42.0	-2.2
FKH	Fakeheh	8.38	97	eP	Pn	06 14 42.0	-2.2
TIP	Timpagrande	8.39	298	ePn	Pn	06 14 42.2	-2.1
TIP				eSn	Sn	06 16 14.6	-3.1
TIP	Timpagrande	8.39	298	ePn	Pn	06 14 42.2	-2.1
YTIR	Yattir	8.48	118	Pn	Pn	06 14 43.1	-2.5
PVY	Plav	8.51	326	⇑iPn	Pn	06 14 47.1	+1.1
PVY				eSn	Sn	06 16 19.7	-1.0
PVY	Plav	8.51	326	⇑iPn	Pn	06 14 47.1	+1.1
DSI	Dead Sea	8.57	116	Pn	Pn	06 14 43.8	-2.8
HNKL	Nakhl	8.60	130	P	Pn	06 14 43.3	-3.8
TOTH	TOTAH	8.63	103	iP	Pn	06 14 41.3	-6.3
TOTH				eS	Sn	06 16 13.3	-10
TOTH				AML	AML	06 16 18.8	
	comp=N,525nm,0.7s						
TOTH				AML	AML	06 16 21.6	
	comp=E,495nm,0.7s						
TAR1	Taranto	8.63	307	ePn	Pn	06 14 46.2	-1.3
HFRF	Wahat Farafira	8.65	168	P	Pn	06 14 46.3	-1.5
MZDA	Masada	8.69	117	Pn	Pn	06 14 45.5	-2.8
PE1	Pezze di Greco	8.70	309	ePn	Pn	06 14 47.0	-1.3
PDG	Podgorica	8.72	323	⇑iPn	Pn	06 14 49.2	+0.6
TTG	Podgorica	8.72	323	⇑iPn	Pn	06 14 49.2	+0.6
TTG				eSn	Sn	06 16 25.0	-0.5
CEL	Celeste	8.76	290	ePn	Pn	06 14 47.2	-2.0
CEL				eSn	Sn	06 16 17.7	-8.9
CEL	Celeste	8.76	290	ePn	Pn	06 14 47.2	-2.0
BEY	Berane	8.76	327	ePn	Pn	06 14 50.3	+0.9
IVA	Berane	8.76	327	ePn	Pn	06 14 50.3	+0.9
IVA				eSn	Sn	06 16 25.2	-1.5
BUM	Brajici-Budva	8.81	321	⇑iPn	Pn	06 14 50.8	+0.9
BUM				eSn	Sn	06 16 26.3	-1.4
BUM	Brajici-Budva	8.81	321	⇑iPn	Pn	06 14 50.8	+0.9
TIRR	Tirgusor	8.93	10	⇓P	Pn	06 14 51.4	-0.1
TIRR	Tirgusor	8.93	10	ePn	Pn	06 14 51.4	-0.1
TIRR	Tirgusor	8.93	10	⇓iP	Pn	06 14 51.4	-0.1
TIRR	Tirgusor	8.93	10	P	Pn	06 14 51.4	-0.1
KRMI	Paran Flat	8.95	126	Pn	Pn	06 14 48.9	-3.1
AMRR	Amara	8.97	5	P	Pn	06 14 54.2	+2.2
AMRR	Amara	8.97	5	P	Pn	06 14 54.2	+2.2
ZFRI	Zfri	8.99	122	Pn	Pn	06 14 48.6	-3.8
PRNI	Paran	8.99	124	Pn	Pn	06 14 49.2	-3.3
SALA	Sala	9.10	106	eP	Pn	06 14 51.8	-2.2
SALA				eS	Sn	06 16 26.8	-8.3
SALA				AML	AML	06 16 34.4	
	comp=N,342nm,0.5s						
SALA				AML	AML	06 16 35.9	
	comp=E,36nm,0.5s						
SALA	Sala	9.10	106	eP	Pn	06 14 51.8	-2.2
	SNR=57						
HCY	Herceg Novi	9.12	320	⇑iPn	Pn	06 14 54.6	+0.5
HCY				eSn	Sn	06 16 33.4	-1.9
HCY	Herceg Novi	9.12	320	⇑iPn	Pn	06 14 54.6	+0.5
NKY	Niksic	9.13	324	⇑iPn	Pn	06 14 54.6	+0.2
NKY				eSn	Sn	06 16 34.4	-1.4
NKY	Niksic	9.13	324	⇑iPn	Pn	06 14 54.6	+0.2
GRB	Gharib	9.18	142	P	Pn	06 14 51.8	-3.2
BAI	Bari	9.21	309	ePn	Pn	06 14 54.6	-0.7
HRFI	Mount Harif	9.21	125	Pn	Pn	06 14 52.2	-3.3
MBRI	Mt Berech	9.29	127	Pn	Pn	06 14 53.7	-2.9
PLE	Pljevlja	9.35	327	⇑iPn	Pn	06 14 58.2	+0.8
PLE				eSn	Sn	06 16 39.8	-1.4
PLE	Pljevlja	9.35	327	⇑iPn	Pn	06 14 58.2	+0.8
CUC	Castrocucco	9.38	301	ePn	Pn	06 14 56.7	-1.1
CUC				eSn	Sn	06 16 43.4	+1.5
CUC	Castrocucco	9.38	301	ePn	Pn	06 14 56.7	-1.1
CUC				eSn	Sn	06 16 43.4	+1.5
EIL	Elat	9.39	127	P	Pn	06 14 54.5	-3.5
	comp=E,25nm,0.3s,baz=339,slow=11,SNR=130						
EIL				S	Sn	06 16 31.8	-10
	comp=E,85nm,0.3s,baz=32,slow=18,SNR=9.7						
EIL	Elat	9.39	127	P	Pn	06 14 54.5	-3.5
EIL				S	Sn	06 16 31.8	-10
EIL	Elat	9.39	127	P	Pn	06 14 54.5	-3.5
EIL	Elat	9.39	127	Pn	Pn	06 14 55.0	-3.0
BRY	Bratogost	9.42	322	⇓iPn	Pn	06 14 58.7	+0.3
BRY				eSn	Sn	06 16 41.4	-1.6
BRY	Bratogost	9.42	322	⇓iPn	Pn	06 14 58.7	+0.3
ASF	Jabal al Asfar	9.43	109	P	Pn	06 14 56.0	-2.6
	comp=E,6.0nm,0.3s,baz=142,slow=7.8,SNR=36						
ASF				S	Sn	06 16 37.2	-6.0
	comp=E,8.0nm,0.3s,baz=276,slow=24,SNR=3.4						
ASF	Jabal al Asfar	9.43	109	P	Pn	06 14 56.0	-2.6
ASF				S	Sn	06 16 37.2	-6.0
ASF				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASF				smax	smax		
	comp=N,8.0nm,0.3s						
ASF	Jabal al Asfar	9.43	109	P	Pn	06 14 56.0	-2.6
ASF				S	Sn	06 16 37.2	-6.0
UPM	Unac-Piva	9.47	325	⇓iPn	Pn	06 14 59.8	+0.6
UPM				eSn	Sn	06 16 42.5	-1.8
UPM	Unac-Piva	9.47	325	⇓iPn	Pn	06 14 59.8	+0.6
ZALF	Zalf	9.49	104	eP	Pn	06 14 58.4	-1.0
ZALF				eS	Sn	06 16 36.4	-8.2
ZALF				AML	AML	06 16 46.5	
	comp=N,135nm,0.6s						
ZALF				AML	AML	06 17 05.1	
	comp=E,179nm,0.8s						
ZALF	Zalf	9.49	104	eP	Pn	06 14 58.3	-1.0
	SNR=57						
CDT	Castel del Mon	9.58	307	ePn	Pn	06 14 58.5	-1.9
TR2		9.58	137	P	Pn	06 14 57.0	-3.5
WDD	Wield Dalam	9.61	275	ePn	Pn	06 14 58.8	-2.1
WDD				eSn	Sn	06 16 41.8	-5.6
WDD	Wield Dalam	9.61	275	ePn	Pn	06 14 58.8	-2.1
HKAT	Jabal Katrina	9.63	136	P	Pn	06 14 57.6	-3.7
TLCR		9.70	10	⇑P	Pn	06 15 03.3	+1.3
TLCR		9.70	10	⇑iP	Pn	06 15 03.3	+1.3
TLCR		9.70	10	P	Pn	06 15 03.3	+1.3
DIVS	Divibare	9.73	332	ePn	Pn	06 15 04.3	+1.7
DIVS				eSg	Sn	06 16 51.4	+0.9
VOIR		9.81	355	P	Pn	06 15 04.3	+0.6
VOIR		9.81	355	⇑iP	Pn	06 15 03.7	0.0
VOIR		9.81	355	P	Pn	06 15 04.3	+0.6
MLR	Muntele Rosu	9.82	358	P	Pn	06 15 04.4	+0.6
	comp=E,0.6nm,0.3s,baz=197,slow=5.5,SNR=49						
MLR				LR	LR	06 19 14.5	
	comp=E,742nm,19.9s,baz=179,slow=40						
MLR	Muntele Rosu	9.82	358	P	Pn	06 15 04.4	+0.6
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,742nm,19.9s						
MLR	Muntele Rosu	9.82	358	P	Pn	06 15 04.4	+0.6
MLR	Muntele Rosu	9.82	358	⇓iP	Pn	06 15 04.9	+1.0
MLR	Muntele Rosu	9.82	358	P	Pn	06 15 04.4	+0.6
	comp=Z,742nm,19.9s						
STON	Ston	9.83	320	iPn	Pn	06 15 01.9	-1.9
STON				Sn	Sn	06 16 47.0	-5.7
HDHB	Dhahab	9.85	132	P	Pn	06 15 01.3	-2.8
TR1		10.00	138	P	Pn	06 15 02.0	-4.3
MALT	Malatya	10.02	71	⇓P	Pn	06 15 06.9	+0.3
MALT	Malatya	10.02	71	⇓iP	Pn	06 15 06.9	+0.3
MALT	Malatya	10.02	71	P	Pn	06 15 06.9	+0.3
GZR	Gura Zlata	10.09	346	P	Pn	06 15 11.8	+4.3
GZR	Gura Zlata	10.09	346	⇓iP	Pn	06 15 07.1	-0.4
GZR	Gura Zlata	10.09	346	⇓iP	Pn	06 15 07.1	-0.4
PLOR	Plostina	10.18	1	P	Pn	06 15 09.7	+1.0
PLOR	Plostina	10.18	1	⇓iP	Pn	06 15 09.9	+1.2
PLOR	Plostina	10.18	1	P	Pn	06 15 09.7	+1.0
VRI	Vrincioaia	10.20	2	P	Pn	06 15 10.1	+1.2
VRI	Vrincioaia	10.20	2	⇓iP	Pn	06 15 09.4	+0.5
VRI	Vrincioaia	10.20	2	P	Pn	06 15 10.1	+1.2
LZLA	Zalla	10.28	229	eP	Pn	06 15 07.4	-2.7
	comp=Z,64nm,1.1s,SNR=46						
TEKS	Tekeris	10.29	332	iPn	Pn	06 15 12.6	+2.4
DOPR	Dopca	10.32	356	⇑iP	Pn	06 15 12.5	+1.9
DOPR	Dopca	10.32	356	⇑iP	Pn	06 15 12.5	+1.9
BZS	Buzias	10.57	342	⇓P	Pn	06 15 14.2	+0.3
BZS	Buzias	10.57	342	⇓iP	Pn	06 15 14.2	+0.3
BZS	Buzias	10.57	342	P	Pn	06 15 14.2	+0.3
FGSL	Fruska Gora	10.71	334	iPn	Pn	06 15 18.2	+2.3
TESR		10.84	1	⇓iP	Pn	06 15 19.5	+1.8
TESR		10.84	1	⇓iP	Pn	06 15 19.5	+1.8
LEOM	Leova	10.89	7	⇓P	Pn	06 15 19.4	+1.0
LEOM	Leova	10.89	7	⇓iP	Pn	06 15 19.4	+1.0
LEOM	Leova	10.89	7	P	Pn	06 15 19.4	+1.0
SIM	Simferopol'	11.00	30c	iP	Pn	06 15 21.5	+1.6
SIM				eS	Sn	06 17 17.0	-4.4
SIM				pmax	pmax		
	comp=Z,72nm,0.6s						
SIM				MLR	MLR		
	comp=Z,2μm,14.4s						
SIM	Simferopol'	11.00	30	iP	Pn	06 15 21.5	+1.6
	comp=Z,72nm,0.6s						
LJFR	Jufra	11.04	237	eP	Pn	06 15 17.2	-3.3
	comp=Z,53nm,0.9s,SNR=46						
DRGR		11.45	347	P	Pn	06 15 29.5	+3.5
KIS	Kishinev	11.48	9	eP	Pn	06 15 29.0	+2.7
KIS				MLR	MLR		
	comp=Z,2μm,17.0s						
KIS				MLR	MLR		
	comp=Z,3μm,20.0s						
KIS	Kishinev	11.48	9	eP	Pn	06 15 29.0	+2.7
KIS				LRM	MLR	06 20 00.0	
	comp=Z,2μm,17.0s						
KIS	Kishinev	11.48	9	eP	Pn	06 15 29.0	+2.7
	comp=Z,3μm,20.0s						
RHK3	Tenkes	11.91	332	⇑ePn	Pn	06 15 33.8	+1.6
RHK3	Tenkes	11.91	332	⇑eP	Pn	06 15 33.8	+1.6

BURAR Bucovina Array 11.97 356⇑ iP Pn 06 15 33.6 +0.4
BURAR Bucovina Array 11.97 356⇑ iP Pn 06 15 33.6 +0.4
BUR08 Bucovina Ar. S 12.00 356 eP Pn 06 15 34.9 +1.2
BUR08 Bucovina Ar. S 12.00 356 eP Pn 06 15 34.8 +1.2
PKSM Moragy 12.03 333⇑ iP Pn 06 15 36.0 +2.1
PKSM Moragy 12.03 333⇑ iP Pn 06 15 36.0 +2.1
PKSM Moragy 12.03 333 eP Pn 06 15 35.6 +1.7
PKSM Moragy 12.03 333 eP Pn 06 15 35.6 +1.7
AQU L'Aquila 12.08 307 eP Pn 06 15 35.6 +1.0
AQU e 06 17 46.0
AQU L'Aquila 12.08 307 eP Pn 06 15 35.6 +1.0
AQU eSn **Sn 06 17 46.0 -1.7**
AQU L'Aquila 12.08 307⇑ iP Pn 06 15 37.1 +2.5
AQU L'Aquila 12.08 307 eP Pn 06 15 35.6 +1.0
BMR Baia Mare 12.19 351 P Pn 06 15 38.8 +2.8
BMR Baia Mare 12.19 351 P Pn 06 15 38.8 +2.8
ANN Anapa 12.44 39 eP Pn 06 15 41.2 +1.7
ANN eS **Sn 06 17 58.9 +2.4**
ANN pmax pmax
comp=Z,63nm,1.1s
ANN Anapa 12.44 39 eP Pn 06 15 41.2 +1.7
comp=Z,63nm,1.1s
NVLJ Novalja 12.48 319 i Pn Pn 06 15 37.5 -2.6
NVLJ Sn Sn 06 17 49.7 -7.9
TRPA Tarpa 12.77 348⇓ iP Pn 06 15 45.1 +1.1
TRPA Tarpa 12.77 348⇓ iP Pn 06 15 45.1 +1.1
SOC Sochi 12.98 48 eP Pn 06 15 48.1 +1.2
SOC e 06 18 13.8
SOC pmax pmax
comp=Z,33nm,0.9s
SOC MLR MLR
comp=Z,1μm,15.0s
SOC Sochi 12.98 48 eP Pn 06 15 48.1 +1.2
comp=Z,1μm,15.0s
PKSG 13.14 336 ePn Pn 06 15 51.5 +2.5
PKSG 13.14 336 eP Pn 06 15 51.5 +2.5
PKST T"s 13.14 334⇑ ePn Pn 06 15 51.3 +2.2
PKST T"s 13.14 334⇑ eP Pn 06 15 51.3 +2.2
PSZ Piszkesteto 13.15 341 ⇑P Pn 06 15 50.6 +1.4
PSZ Piszkesteto 13.15 341 ePn Pn 06 15 50.7 +1.4
PSZ Piszkesteto 13.15 341⇑ iP Pn 06 15 50.6 +1.4
PSZ Piszkesteto 13.15 341⇑ ePn Pn 06 15 50.5 +1.4
PSZ Piszkesteto 13.15 341 P Pn 06 15 50.6 +1.4
UZH Uzhgorod 13.30 348 eP Pn 06 15 52.8 +1.6
UZH eS **Sn 06 18 21.8 +4.4**
UZH Uzhgorod 13.30 348 eP Pn 06 15 52.8 +1.6
VISS Visnje 13.35 323 i Pn Pn 06 15 50.0 -2.0
VISS i Sn Sn 06 18 10.0 -8.8
KECS Kecovo 13.52 343 eP Pn 06 15 56.5 +2.2
KECS Kecovo 13.52 343 ePN Pn 06 15 56.5 +2.2
KECS Kecovo 13.52 343 ePn Pn 06 15 56.5 +2.2
KOLS Kolonicke sedl 13.60 349 eP Pn 06 15 59.0 +3.7
KOLS Kolonicke sedl 13.60 349 ePN Pn 06 15 59.0 +3.7
KOLS Kolonicke sedl 13.60 349 eP Pn 06 15 59.0 +3.7
LJU Ljubljana 13.68 323 ePn Pn 06 15 55.2 -1.2
CRVS Cervenica-Dubn 13.71 346 eP Pn 06 15 59.2 +2.4
CRVS Cervenica-Dubn 13.71 346 ePN Pn 06 15 59.2 +2.4
CRVS Cervenica-Dubn 13.71 346 ePn Pn 06 15 59.2 +2.4
KEST Kesra 13.82 275 P Pn 06 15 58.3 -0.1
comp=Z,0.7nm,0.3s,baz=17,slow=1.3,SNR=18
KEST Kesra 13.82 275 ePn Pn 06 15 59.2 +0.7
KEST Kesra 13.82 275 ePn Pn 06 15 59.2 +0.7
TRI Trieste 13.83 320 eP Pn 06 15 58.2 -0.3
TRI Trieste 13.83 320 ePn Pn 06 15 58.2 -0.3
TRI Trieste 13.83 320 ePn Pn 06 15 58.2 -0.3
VYHS Vyhne 13.97 339 eP Pn 06 16 01.8 +1.5
VYHS Vyhne 13.97 339 ePN Pn 06 16 01.8 +1.5
VYHS Vyhne 13.97 339 ePn Pn 06 16 01.8 +1.5
VOY Vojsko 13.99 322 ePn Pn 06 15 59.0 -1.6
VOY e 06 16 00.4
VOY eSn Sn 06 18 26.6 -7.7
VSL Villasalto 13.99 291 ePn Pn 06 16 00.4 -0.2
VSL Villasalto 13.99 291 ePn Pn 06 16 00.4 -0.2
KWP Kalwaria Pacla 14.21 350 eP P 06 16 10.8 +1.2
KWP Kalwaria Pacla 14.21 350 eP P 06 16 07.2 -2.3
KWP pmax pmax
comp=Z,82nm,1.0s
KWP Kalwaria Pacla 14.21 350 ePn P 06 16 07.2 -2.3
comp=Z,82nm,1.0s
KWP Kalwaria Pacla 14.21 350 eP P 06 16 10.8 +1.2
STHS Stebnicka Huta 14.24 346 eP P 06 16 11.1 +1.2
STHS Stebnicka Huta 14.24 346 ePN P 06 16 11.1 +1.2
STHS Stebnicka Huta 14.24 346 eP P 06 16 11.1 +1.2
LVV L'vov 14.25 354 eP P 06 16 07.1 -2.8
LVV eS **Sn 06 18 42.1 +1.6**
LVV MLR MLR
comp=N,2μm,13.0s
LVV MLR MLR
comp=E,600nm,13.0s
LVV MLR MLR
comp=Z,2μm,13.0s
SMOL Smolenice 14.43 336 eP P 06 16 10.3 -1.7
SMOL Smolenice 14.43 336 ePN P 06 16 10.3 -1.7
SMOL Smolenice 14.43 336 eP P 06 16 10.3 -1.7
NIE Niedzica 14.44 344 eP Pn 06 16 08.5 +1.9
NIE e 06 16 13.4
NIE Niedzica 14.44 344 eP Pn 06 16 08.5 +1.9
AKH Akhalkalaki 14.59 62 P Pn 06 16 08.9 +0.2
AKH S **S 06 19 05.7 -0.3**
ONI Oni 14.96 57 P Pn 06 16 13.2 -0.3
ONI S Sn 06 19 04.7 +6.8
KIV Kislovodsk 15.03 52 eP P 06 16 18.5 -0.2
KIV eS **Sn 06 19 06.2 +6.6**
KIV pmax pmax
comp=Z,138nm,0.8s
KIV MLR MLR
comp=Z,536nm,13.0s
KIV Kislovodsk 15.03 52 eP P 06 16 20.1 +1.4
comp=Z,143nm,0.9s
KIV Kislovodsk 15.03 52 P P 06 16 20.6 +1.9
comp=Z,939nm,1.0s,SNR=20
KIV Kislovodsk 15.03 52 eP P 06 16 18.5 -0.2
comp=Z,138nm,0.8s
BHD Baghdad 15.07 94 i P Pn 06 16 15.0 +0.2
BHD i S **Sn 06 19 01.0 +0.4**
BHD i SS **SnSn 06 19 14.0 +0.5**
BHD i SSS SSS 06 19 31.0
BHD i LQ LQ 06 21 27.0
BHD i RM 06 23 50.0
BHD Baghdad 15.07 94 i P Pn 06 16 15.0 +0.2
PGF Pioggiola 15.11 302 eP Pn 06 16 15.7 +0.3
comp=Z,99nm,0.9s
MOA Molln 15.13 327⇑ iPn Pn 06 16 15.5 0.0
comp=Z,15nm,0.8s
MOA Molln 15.13 327 Pn Pn 06 16 15.5 0.0
comp=Z,15nm,0.8s
KIEV Kiev 15.17 7 eP Pn 06 16 15.6 -0.4
KIEV pmax pmax
comp=Z,106nm,0.8s
KIEV Kiev 15.17 7 ePn Pn 06 16 15.6 -0.4
comp=Z,106nm,0.8s
KIEV Kiev 15.17 7 ePn Pn 06 16 15.6 -0.4
comp=Z,106nm,0.8s
ABTA Abfaltersbach 15.17 321⇑ iPn Pn 06 16 12.0 -4.3
comp=Z,8.5nm,0.5s,SNR=6.7
AKASG Malin Array Be 15.18 7 P Pn 06 16 15.1 -1.0
comp=Z,35nm,0.3s,baz=191,slow=9.8,SNR=52
AKASG S **S 06 19 15.3 -2.2**
baz=188,slow=20,SNR=13
AKASG LR LR 06 22 26.5
comp=Z,1μm,18.7s,baz=185,slow=39
AKASG ScP **ScP 06 24 51.3 +2.0**
comp=Z,0.6nm,0.3s,baz=171,slow=0.8,SNR=5.1
AKASG Malin Array Be 15.18 7 P Pn 06 16 15.1 -1.0
AKASG pmax pmax
comp=Z,35nm,0.3s
AKASG MLR MLR
comp=Z,1μm,18.7s
AKASG pmax pmax
comp=N,1.0nm,0.3s
AKASG Malin Array Be 15.18 7 P Pn 06 16 15.1 -1.0
AKASG S **S 06 19 15.3 -2.2**
AKASG ScP **ScP 06 24 51.3 +2.0**
AKBB Malin Array Si 15.18 7 eP Pn 06 16 15.6 -0.5
AKBB Malin Array Si 15.18 7 ePn Pn 06 16 15.6 -0.5
AKBB Malin Array Si 15.18 7 ePn Pn 06 16 15.6 -0.5
GNI Garni 15.19 67 P Pn 06 16 17.3 +0.8
comp=N,1.3nm,0.3s,baz=303,slow=3.2,SNR=14
GNI LR LR 06 23 20.9
comp=N,2μm,18.1s,baz=268,slow=42
GNI Garni 15.19 67⇓ eP Pn 06 16 18.4 +1.9
GNI pmax pmax
comp=Z,185nm,2.5s
GNI Garni 15.19 67 eP Pn 06 16 18.5 +1.9
comp=Z,52nm,0.7s
GNI Garni 15.19 67 P P 06 16 19.1 -1.6
SNR=15
GOR Gori 15.21 60 P P 06 16 19.0 -1.7
OJC Ojcow 15.31 344 eP P 06 16 20.1 -1.6
OJC epP **pP 06 16 28.3 -5.0**
OJC esP sP 06 16 33.4 -6.6
OJC eS **S 06 19 19.1 -1.2**
OJC L L 06 22 22.7
comp=Z,1.6nm,22.6s
OJC Ojcow 15.31 344 eP P 06 16 20.1 -1.6
OJC MLR MLR
comp=Z,2μm,22.6s
OJC Ojcow 15.31 344 ePn Pn 06 16 18.6 +0.8
comp=Z,88nm,1.3s
OJC Ojcow 15.31 344 ePn Pn 06 16 18.6 +0.8
comp=Z,88nm,1.3s
OJC Ojcow 15.31 344 eP P 06 16 20.1 -1.6
comp=Z,2μm,22.6s
ZEI Tsey 15.33 57 eP P 06 16 21.1 -1.2
ZEI pmax pmax
comp=Z,107nm,1.0s
ZEI Tsey 15.33 57 eP P 06 16 21.1 -1.2
comp=Z,107nm,1.0s
OKC Ostrava-Krasne 15.38 340 eP P 06 16 20.7 -1.8
OKC Ostrava-Krasne 15.38 340 eP P 06 16 20.7 -1.8
OKC epP **pP 06 16 32.5 -1.6**
OKC Ostrava-Krasne 15.38 340 eP P 06 16 20.7 -1.8
VRAC Vranov 15.40 335 P Pn 06 16 20.7 +1.7
comp=Z,4.3nm,0.3s,baz=161,slow=11,SNR=14
VRAC Vranov 15.40 335 P Pn 06 16 20.7 +1.7
VRAC pmax pmax
comp=Z,4.0nm,0.3s
VRAC Vranov 15.40 335 P Pn 06 16 20.7 +1.7
VRAC Vranov 15.40 335⇑ iP P 06 16 22.1 -0.6
VRAC Vranov 15.40 335 P Pn 06 16 20.7 +1.7
comp=Z,4.0nm,0.3s
VRAC Vranov 15.40 335 ePn P 06 16 21.7 -1.0
MORC Moravsky Berou 15.50 338 eP Pn 06 16 21.3 +0.9
MORC pmax pmax
comp=Z,39nm,1.1s
MORC Moravsky Berou 15.50 338 eP Pn 06 16 21.3 +0.9
comp=Z,39nm,1.1s
MORC Moravsky Berou 15.50 338⇓ iP P 06 16 22.3 -1.6
MORC Moravsky Berou 15.50 338⇓ iP P 06 16 22.3 -1.6
MORC Moravsky Berou 15.50 338 ePn P 06 16 22.8 -1.1
TBLG Delisi 15.58 62 P Pn 06 16 21.5 +0.1
TBLG Delisi 15.58 62 P Pn 06 16 21.5 +0.1
TBLG S **S 06 19 27.9 +2.0**
TBLG Delisi 15.58 62 P Pn 06 16 21.5 +0.1
IMRD Marand 15.72 73 eP Pn 06 16 23.8 +0.3
IMRD Marand 15.72 73 eP Pn 06 16 23.8 +0.3
CAEH 'Ain El Ouahch 15.78 280 P P 06 16 31.5 +4.5
TREC Trest 15.78 333 eP P 06 16 26.4 -0.6
TREC MLR MLR
comp=Z,2μm,17.3s
TREC Trest 15.78 333 eP P 06 16 26.4 -0.6
TREC AMS AMS 06 23 40.0
comp=Z,2μm,17.3s
TREC Trest 15.78 333 eP P 06 16 26.4 -0.6
comp=Z,2μm,17.3s
CKFL Kef-Lekhel 15.90 278 P P 06 16 33.4 +4.9
DGRG David-gareji 15.96 63 P Pn 06 16 27.4 +1.1
DGRG S **S 06 19 31.0 -2.8**
WTTA Wattenberg 15.96 321⇑ iPn Pn 06 16 25.1 -1.4
comp=Z,21nm,0.5s,SNR=13
WTTA Wattenberg 15.96 321 Pn Pn 06 16 25.1 -1.4
comp=Z,21nm,0.5s,SNR=13
CASM Ain Smara 16.09 278 P P 06 16 34.0 +3.4
GEC2 GERESS Array S 16.13 329 eP P 06 16 30.7 -0.2
comp=Z,41nm,0.8s
GEC2 GERESS Array S 16.13 329 eP P 06 16 30.7 -0.2
GEC2 pmax pmax
comp=Z,41nm,0.8s
GEC2 GERESS Array S 16.13 329 eP P 06 16 30.7 -0.2
comp=Z,41nm,0.8s
GERES GERESS Array B 16.13 329 P Pn 06 16 28.3 -0.2
comp=Z,1.9nm,0.3s,baz=146,slow=13,SNR=36
GERES ScP **ScP 06 24 51.9 +0.5**
comp=Z,0.2nm,0.3s,baz=158,slow=1.2,SNR=5.4
GERES GERESS Array B 16.13 329 P Pn 06 16 28.3 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.3s
GERES GERESS Array B 16.13 329 P Pn 06 16 28.3 -0.2
GERES ScP **ScP 06 24 51.9 +0.5**
FETA Feichten 16.28 319⇑ iP P 06 16 32.2 -0.5
comp=Z,28nm,0.9s,SNR=20
FETA Feichten 16.28 319 P P 06 16 32.2 -0.5
comp=Z,28nm,0.9s,SNR=20
FUORN Ofenpass-Fuorn 16.29 317 eP P 06 16 33.3 +0.4
comp=Z,52nm,1.0s
FUORN Ofenpass-Fuorn 16.29 317 eP P 06 16 33.3 +0.4
comp=Z,52nm,1.0s
DPC Dobruska-Polom 16.38 337 eP P 06 16 33.1 -0.6
DPC pmax pmax
comp=Z,47nm,0.6s
DPC Dobruska-Polom 16.38 337 ePn P 06 16 33.1 -0.6
comp=Z,47nm,0.6s
DPC Dobruska-Polom 16.38 337 eP P 06 16 33.4 -0.3
DPC AMS AMS 06 25 20.0
comp=Z,2μm,16.8s
DPC Dobruska-Polom 16.38 337 eP P 06 16 33.1 -0.6
comp=Z,47nm,0.6s
KHC Kasperske Hory 16.40 329 eP P 06 16 34.1 +0.2
KHC MLR MLR
comp=Z,2μm,15.0s
KHC Kasperske Hory 16.40 329 eP P 06 16 34.3 +0.4
comp=Z,143nm,1.5s
KHC Kasperske Hory 16.40 329 eP P 06 16 34.1 +0.2
KHC epP **pP 06 16 44.8 -0.7**
KHC AMS AMS 06 24 00.0
comp=Z,2μm,15.0s
KHC Kasperske Hory 16.40 329 eP P 06 16 34.3 +0.4
comp=Z,143nm,1.5s
IDHR Dehrash 16.42 88 eP Pn 06 16 33.1 +0.8
IDHR Dehrash 16.42 88 eP Pn 06 16 33.1 +0.8
DFRA Djebel Bou Aff 16.57 279 P P 06 16 40.0 +4.1
DAVOX Davos/Dischmat 16.60 317 P Pn 06 16 34.4 -0.1
comp=Z,0.3nm,0.3s,baz=158,slow=14,SNR=8.3
DAVOX Davos/Dischmat 16.60 317 P Pn 06 16 34.4 -0.1
DAVOX Davos/Dischmat 16.60 317 P Pn 06 16 34.4 -0.1
DAVOX Davos/Dischmat 16.60 317 P Pn 06 16 34.4 -0.1
IBST Bostanabad 16.61 77 eP Pn 06 16 33.8 -0.9
IBST Bostanabad 16.61 77 eP Pn 06 16 33.8 -0.9
UPC Upice 16.62 336 eP P 06 16 36.1 -0.2
UPC Upice 16.62 336 eP P 06 16 36.1 -0.2
UPC epP **pP 06 16 45.5 -2.4**
UPC esP **sP 06 16 53.4 -1.1**
UPC Upice 16.62 336 eP P 06 16 36.1 -0.2
IGHG Ghaleghazi 16.63 89 eP Pn 06 16 35.5 +0.5
IGHG Ghaleghazi 16.63 89 eP Pn 06 16 35.5 +0.5
SBF Sospel 16.66 305 eP P 06 16 36.1 -0.7
comp=Z,139nm,0.5s
SBF Sospel 16.66 305 eP P 06 16 36.1 -0.7
comp=Z,70nm,0.5s
PRU Pruhonice 16.70 333 eP P 06 16 37.4 +0.3
PRU MLR MLR
comp=Z,2μm,17.6s
PRU Pruhonice 16.70 333 eP P 06 16 37.4 +0.3
PRU epP pP 06 16 42.4 -6.4
PRU esP sP 06 16 49.2 -6.2
PRU AMS AMS 06 25 10.0
comp=Z,2μm,17.6s
PRU Pruhonice 16.70 333 eP P 06 16 37.4 +0.3
comp=Z,2μm,17.6s
WET Wettzell 16.71 328 eP P 06 16 36.8 -0.5
comp=Z,27nm,0.9s
WET Wettzell 16.71 328 eP P 06 16 36.8 -0.5
WET pmax pmax
comp=Z,27nm,0.9s
WET Wettzell 16.71 328 eP P 06 16 36.8 -0.5
comp=Z,27nm,0.9s
TUE Stuetta 16.72 315 eP P 06 16 37.5 -0.2
comp=Z,42nm,0.7s
TUE Stuetta 16.72 315 eP P 06 16 37.5 -0.2
comp=Z,42nm,0.7s
KSP Ksiaz 16.82 338 eP P 06 16 38.3 -0.2
KSP Ksiaz 16.82 338 eP Pn 06 16 37.7 +0.7
KSP eS **S 06 19 48.0 -3.2**
KSP Ksiaz 16.82 338 eP Pn 06 16 37.7 +0.7
IVIS Veis 16.82 88 eP Pn 06 16 37.3 0.0
IVIS Veis 16.82 88 eP Pn 06 16 37.3 0.0
TOUF Mont Tournerai 16.85 305 eP P 06 16 39.3 +0.3
TOUF Mont Tournerai 16.85 305 eP P 06 16 39.3 +0.3
TOUF Mont Tournerai 16.85 305 eP P 06 16 39.3 +0.3
DAVA Damuels 16.90 318⇑ iPn P 06 16 40.2 +0.6
comp=Z,16nm,0.3s,SNR=8.7
DAVA Damuels 16.90 318 P P 06 16 40.2 +0.6
comp=Z,16nm,0.3s,SNR=8.7
CALN Calern 16.99 304 eP Pn 06 16 39.8 +0.5
CALN Calern 16.99 304 eP Pn 06 16 39.8 +0.5
CALN Calern 16.99 304 eP Pn 06 16 39.8 +0.5
CALN Calern 16.99 304 eP Pn 06 16 39.8 +0.5
PVCC Panska Ves 17.13 334 eP P 06 16 42.5 +0.6
PVCC MLR MLR
comp=Z,2μm,21.9s
PVCC Panska Ves 17.13 334 eP P 06 16 42.5 +0.6
PVCC epP Pn 06 16 47.0 +6.1
PVCC AMS AMS 06 24 50.0
comp=Z,2μm,21.9s
PVCC Panska Ves 17.13 334 eP P 06 16 42.5 +0.6
comp=Z,2μm,21.9s
ISRB Sarab 17.22 77 eP Pn 06 16 42.0 -0.3
ISRB Sarab 17.22 77 eP Pn 06 16 42.0 -0.3
IKOM Komasi 17.42 89 eP Pn 06 16 44.2 -0.6
IKOM Komasi 17.42 89 eP Pn 06 16 44.2 -0.6
DBC Dubki 17.44 59 i P P 06 16 46.1 +0.6
DBC Dubki 17.44 59 i P P 06 16 46.1 +0.6
ROTZ Rotzenmuhle 17.47 328 eP P 06 16 46.6 +1.0
comp=Z,14nm,0.8s
BNI Bardonecchia 17.64 308 eP P 06 16 47.6 -0.2
BNI pmax pmax
comp=Z,76nm,1.4s
BNI Bardonecchia 17.64 308 eP P 06 16 47.6 -0.2
comp=Z,76nm,1.4s
BNI Bardonecchia 17.64 308 eP P 06 16 47.6 -0.2
comp=Z,76nm,1.4s
BRG Berggiesshubel 17.64 333 i P P 06 16 48.8 +1.2
comp=Z,12nm,0.8s
BRG PP **PnPn 06 16 55.5 -3.2**
BRG comp=Z,65nm,1.3s
BRG comp=N,2μm,25.9s
BRG comp=E,2μm,12.3s
BRG comp=Z,2μm,17.6s
BRG Berggiesshubel 17.64 333 eP P 06 16 48.6 +1.1
comp=Z,28nm,1.0s
BRG Berggiesshubel 17.64 333 i P P 06 16 48.8 +1.2
BRG pmax pmax
BRG comp=Z,12nm,0.8s
BRG pmax pmax
BRG comp=Z,65nm,1.3s
BRG MLR MLR
BRG comp=N,2μm,25.9s
BRG MLR MLR
BRG comp=E,2μm,12.3s
BRG MLR MLR
BRG comp=Z,2μm,17.6s
BRG Berggiesshubel 17.64 333 i P P 06 16 48.8 +1.2
comp=Z,2μm,17.6s
NKC Novy Kostel 17.72 330 eP P 06 16 49.1 +0.7
comp=Z,32nm,0.8s
NKC Novy Kostel 17.72 330 eP P 06 16 48.9 +0.5
NKC MLR MLR
comp=Z,2μm,18.6s
NKC Novy Kostel 17.72 330 eP P 06 16 48.9 +0.5
NKC epP **pP 06 16 59.6 -0.5**
NKC AMS AMS 06 25 30.0
comp=Z,2μm,18.6s
NKC Novy Kostel 17.72 330 eP P 06 16 48.9 +0.5
comp=Z,2μm,18.6s
ROHR Rohrbach 17.77 329 eP P 06 16 49.5 +0.5
WERN Wernitzgruen 17.79 330 eP P 06 16 49.4 +0.2
LPG La Plagne 17.79 309 eP Pn 06 16 49.5 +0.2
comp=Z,112nm,0.8s
LPG La Plagne 17.79 309 eP Pn 06 16 49.5 +0.2
comp=Z,56nm,0.8s
LPL La Plagne 17.81 310 eP P 06 16 49.8 +0.1
comp=Z,71nm,0.6s
LPL La Plagne 17.81 310 eP P 06 16 49.8 +0.1
comp=Z,36nm,0.6s
GRA1 Grafenberg Arr 17.84 326 eP P 06 16 50.2 +0.4
comp=Z,65nm,0.9s
GRF Grafenberg Arr 17.84 326 eP P 06 16 50.2 +0.4
comp=Z,65nm,0.9s
GRF Grafenberg Arr 17.84 326 eP P 06 16 50.2 +0.4
GRF pmax pmax
comp=Z,65nm,0.9s
GRFO Grafenberg 17.84 326 eP P 06 16 50.5 +0.7
GRFO pmax pmax
comp=Z,146nm,1.3s
GRFO Grafenberg 17.84 326 eP P 06 16 50.5 +0.7
comp=Z,146nm,1.3s
GRFO Grafenberg 17.84 326 eP P 06 16 50.5 +0.7
comp=Z,146nm,1.3s
TANN Tannenbergstha 17.85 330 eP P 06 16 50.1 +0.2
comp=Z,26nm,0.9s
GUNZ Gunzen 17.87 330 eP P 06 16 50.5 +0.4
SENIN Lac Senin/Sane 17.87 313 eP P 06 16 50.7 +0.4
comp=Z,79nm,0.9s
SENIN Lac Senin/Sane 17.87 313 eP P 06 16 50.7 +0.4
comp=Z,79nm,0.9s
MAK Makhachkala 17.90 60c iP P 06 16 51.0 +0.6
MAK i S **Sn 06 20 10.6 +1.7**
MAK pmax pmax
MAK MLR MLR
comp=Z,973nm,13.0s
MAK Makhachkala 17.90 60 i P P 06 16 51.0 +0.6
comp=Z,182nm,0.6s
MAK i S **Sn 06 20 10.6 +1.7**
comp=Z,973nm,13.0s
FBE Freiberg 17.90 332 eP P 06 16 51.8 +1.4
WERD Werda 17.94 330 eP P 06 16 50.9 0.0
SMRF Simiane la Rot 17.95 304 eP P 06 16 51.3 +0.2
comp=Z,76nm,1.1s
SMRF Simiane la Rot 17.95 304 eP P 06 16 51.3 +0.2
comp=Z,38nm,1.1s
SPAK Spaichingen-Ko 17.99 319 eP Pn 06 16 52.1 +0.6
SPAK Spaichingen-Ko 17.99 319 eP Pn 06 16 52.1 +0.6
PLN Plauen 18.03 330 eP Pn 06 16 52.7 +0.8
VSR Storozhevoye 18.08 27 eP P 06 16 52.3 0.0
VSR pmax pmax
comp=Z,70nm,1.0s
VSR pmax pmax
comp=N,100nm,0.9s
VSR pmax pmax
comp=E,110nm,1.6s
VSR Storozhevoye 18.08 27 eP P 06 16 52.3 0.0
comp=E,100nm,0.9s
ORIF Oris-en-Rattie 18.10 307 eP Pn 06 16 54.0 +1.0
comp=E,54nm,0.7s
ORIF eR
comp=E,3μm,22.8s
ORIF Oris-en-Rattie 18.10 307 eP Pn 06 16 54.0 +1.0
comp=E,27nm,0.7s
FELD Feldberg im Sc 18.28 318 eP Pn 06 16 56.7 +1.6
FELD Feldberg im Sc 18.28 318 eP Pn 06 16 56.7 +1.6
BBS Basel-Blauen 18.32 316 eP Pn 06 16 56.9 +1.4
BBS Basel-Blauen 18.32 316 eP Pn 06 16 56.9 +1.4
BBS Basel-Blauen 18.32 316 eP Pn 06 16 56.9 +1.4
CLL Collm 18.34 333 eP Pn 06 16 56.5 +0.8
comp=Z,23nm,0.8s
CLL Collm 18.34 333 eP Pn 06 16 57.0 +1.3
CLL eS **Sn 06 20 18.0 -1.6**
CLL Collm 18.34 333 e(P) Pn 06 16 57.0 +1.3
CLL ePP **pP 06 17 06.0 -0.9**
CLL epPP 06 17 12.0
CLL i 06 17 32.6
CLL eS **Sn 06 20 18.0 -1.6**
CLL Collm 18.34 333 eP Pn 06 16 57.0 +1.3
BFO Black Forest 18.37 319 eP Pn 06 16 56.0 -0.1
BFO pmax pmax
comp=Z,63nm,1.4s
BFO Black Forest 18.37 319 eP Pn 06 16 56.0 -0.1
comp=Z,63nm,1.4s
BFO Black Forest 18.37 319 eP Pn 06 16 56.0 -0.1
comp=Z,63nm,1.4s
MOX Moxa 18.38 329 eP Pn 06 16 56.8 +0.7
comp=Z,20nm,0.7s
MOX Moxa 18.38 329 eP Pn 06 16 56.8 +0.7
MOX pmax pmax
comp=Z,20nm,0.7s
MOX Moxa 18.38 329 eP Pn 06 16 56.8 +0.7
comp=Z,20nm,0.7s
SUW Suwalki 18.48 354 eP P 06 16 56.5 -0.2

SUW	**Suwalki**	18.48	354	*e*P		P	06 16 56.5	-0.2
SUW	**Suwalki**	18.48	354	*e*P		P	06 16 55.2	-1.5
	comp=Z,313nm,1.0s							
SUW	**Suwalki**	18.48	354	*e*P		P	06 16 56.5	-0.2
VOR	**Voronezh**	18.51	26	P		Pn	06 16 58.0	+0.3
VOR				pmax	pmax			
	comp=Z,500nm,1.2s							
VOR	**Voronezh**	18.51	26	P		Pn	06 16 58.0	+0.3
	comp=Z,500nm,1.2s							
MIB	**Mutribah**	18.59	102	*e*P		P	06 16 58.0	-0.1
MIB				AMb	AMB		06 17 04.8	
	comp=Z,93nm,0.8s							
MIB	**Mutribah**	18.59	102	*e*P		P	06 16 58.0	-0.1
	comp=Z,93nm,0.8s							
LOMF	**Lomont**	18.65	315	*e*P		Pn	06 16 59.3	-0.2
LOMF	**Lomont**	18.65	315	*e*P		Pn	06 16 59.3	-0.2
LOMF	**Lomont**	18.65	315	*e*P		Pn	06 16 59.3	-0.2
LOMF	**Lomont**	18.65	315	*e*P		Pn	06 16 59.3	-0.2
CABF	**La Chapelle**	18.72	312	*e*P		P	06 16 58.6	-0.9
	comp=Z,170nm,0.9s							
CABF	**La Chapelle**	18.72	312	*e*P		P	06 16 58.6	-0.9
	comp=Z,85nm,0.9s							
GKP	**Gorka Klasztor**	18.74	343	*e*P		P	06 16 59.2	-0.3
GKP	**Gorka Klasztor**	18.74	343	*e*P		P	06 16 59.2	-0.3
GKP	**Gorka Klasztor**	18.74	343	*e*P		P	06 16 59.2	-0.3
NAY	**Al-Naaiem**	18.74	104	*e*P		Pn	06 17 00.5	-0.2
NAY				AMb	AMB		06 17 08.2	
	comp=Z,73nm,1.1s							
MOF	**Molkenrain**	18.75	316	*e*P		Pn	06 17 00.6	-0.1
MOF	**Molkenrain**	18.75	316	*e*P		Pn	06 17 00.6	-0.1
MOF	**Molkenrain**	18.75	316	*e*P		Pn	06 17 00.6	-0.1
MOF	**Molkenrain**	18.75	316	*e*P		Pn	06 17 00.6	-0.1
MNK	**Minsk**	18.87	3	*e*P		P	06 16 57.0	-3.9
MNK				pmax	pmax			
	comp=Z,390nm,1.0s							
MICGM	**Minsk**	18.87	3	*e*P		P	06 16 57.0	-3.9
VIVF	**Saint-Julien-l**	18.87	306	*e*P		P	06 16 59.9	-1.3
	comp=Z,28nm,0.5s							
VIVF	**Saint-Julien-l**	18.87	306	*e*P		P	06 16 59.9	-1.3
	comp=Z,14nm,0.5s							
HINF	**Hinteralfeld**	18.89	316	*e*P		P	06 17 01.2	-0.1
	comp=Z,32nm,0.4s							
HINF	**Hinteralfeld**	18.89	316	*e*P		P	06 17 01.2	-0.1
	comp=Z,16nm,0.4s							
ECH	**Echery**	18.94	317	*e*P		Pn	06 17 02.8	-0.1
ECH				pmax	pmax			
	comp=Z,60nm,1.3s							
ECH	**Echery**	18.94	317	*e*P		Pn	06 17 02.8	-0.1
	comp=Z,60nm,1.3s							
ECH	**Echery**	18.94	317	*e*P		Pn	06 17 04.6	+1.7
ECH	**Echery**	18.94	317	*e*P		Pn	06 17 02.8	-0.1
	comp=Z,60nm,1.3s							
VRHR	**Novokhopersk**	18.95	31	*e*P		Pn	06 17 03.7	+0.8
VRHR				*e*S		S	06 20 34.6	+0.4
VRHR				pmax	pmax			
	comp=N,50nm,0.6s							
VRHR				pmax	pmax			
	comp=E,30nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,260nm,0.6s							
VRHR				smax	smax			
	comp=N,80nm,0.9s							
VRHR				smax	smax			
	comp=E,110nm,0.9s							
VRHR				smax	smax			
	comp=Z,40nm,0.9s							
VRHR	**Novokhopersk**	18.95	31	*e*P		Pn	06 17 03.7	+0.8
VRHR				*e*S		S	06 20 34.6	+0.4
CDF	**Champ du Feu**	18.98	318	*e*P		P	06 17 02.9	+0.5
	comp=Z,45nm,0.6s							
CDF	**Champ du Feu**	18.98	318	*e*P		P	06 17 02.9	+0.5
	comp=Z,23nm,0.6s							
UMR	**Umm Al-Rimmam**	18.99	103	*e*P		P	06 17 03.0	+0.5
UMR				AMb	AMB		06 17 04.9	
	comp=Z,152nm,1.1s							
LANF	**Langenberg**	19.04	320	*e*P		Pn	06 17 04.8	+0.7
LANF	**Langenberg**	19.04	320	*e*P		Pn	06 17 04.8	+0.7
LANF	**Langenberg**	19.04	320	*e*P		Pn	06 17 04.8	+0.7
LANF	**Langenberg**	19.04	320	*e*P		Pn	06 17 04.8	+0.7
KTD	**Kalmit**	19.11	321	*e*P		Pn	06 17 06.3	+1.4
KTD	**Kalmit**	19.11	321	*e*P		Pn	06 17 06.3	+1.4
KTD	**Kalmit**	19.11	321	*e*P		Pn	06 17 06.3	+1.4
SSB	**Saint Sauveur**	19.12	307	*e*P		P	06 17 03.0	-0.9
SSB				pmax	pmax			
	comp=Z,19nm,0.7s							
SSB	**Saint Sauveur**	19.12	307	*e*P		P	06 17 03.0	-0.9
	comp=Z,19nm,0.7s							
SSB	**Saint Sauveur**	19.12	307	*e*P		P	06 17 03.4	-0.4
SSB	**Saint Sauveur**	19.12	307	*e*P		P	06 17 03.4	-0.4
KBD	**Kabd**	19.13	104	*e*P		P	06 17 04.4	+0.3
KBD				AMb	AMB		06 17 07.1	
	comp=Z,95nm,1.1s							
LASF	**Ste Croix**	19.16	303	*e*P		P	06 17 03.7	-0.5
	comp=Z,97nm,1.1s							
LASF	**Ste Croix**	19.16	303	*e*P		P	06 17 03.7	-0.5
	comp=Z,48nm,1.1s							
NACGM	**Naroch**	19.24	1	*e*		P	06 17 01.0	-4.0
HAU	**Haudompre**	19.27	316	*e*P		Pn	06 17 06.7	-0.2
	comp=Z,54nm,0.7s							
HAU				*e*R				
	comp=Z,1µm,19.5s							
HAU	**Haudompre**	19.27	316	*e*P		Pn	06 17 06.7	-0.2
	comp=Z,27nm,0.7s							
THEF	**They Montfort**	19.60	316	*e*P		P	06 17 09.5	+0.5
THEF	**They Montfort**	19.60	316	*e*P		P	06 17 09.5	+0.5
THEF	**They Montfort**	19.60	316	*e*P		P	06 17 09.5	+0.5
THEF	**They Montfort**	19.60	316	*e*P		P	06 17 09.5	+0.5
FILF	**Fillols**	19.66	298	*e*P		P	06 17 10.7	+0.8
FILF	**Fillols**	19.66	298	*e*P		P	06 17 10.7	+0.8
FILF	**Fillols**	19.66	298	*e*P		P	06 17 10.7	+0.8
IIGN	**Ignalina**	19.69	360	*e*P		P	06 17 09.2	-0.7
IIGN				AMB	AMB		06 17 11.2	
	comp=Z,78nm,0.8s							
IIGN	**Ignalina**	19.69	360	*e*P		P	06 17 09.2	-0.7
	comp=Z,78nm,0.8s,SNR=40							
LRDF	**Laroque-de-Fa**	19.77	299	*e*P		P	06 17 09.7	-1.2
LRDF	**Laroque-de-Fa**	19.77	299	*e*P		P	06 17 09.7	-1.2
LRDF	**Laroque-de-Fa**	19.77	299	*e*P		P	06 17 09.7	-1.2
ISAL	**Salakas**	19.91	360	*e*P		P	06 17 11.7	-0.6
ISAL				AMB	AMB		06 17 14.2	
	comp=Z,52nm,0.7s							
ISAL	**Salakas**	19.91	360	*e*P		P	06 17 11.7	-0.6
	comp=Z,52nm,0.7s,SNR=35							
PAGF	**Fort de Pagny**	19.92	317	*e*P		P	06 17 12.7	+0.2
	comp=Z,14nm,0.6s							
PAGF	**Fort de Pagny**	19.92	317	*e*P		P	06 17 12.7	+0.2
	comp=Z,7.2nm,0.6s							
LBL	**Lubilhac**	19.95	306	*e*P		Pn	06 17 14.4	-0.6
LBL	**Lubilhac**	19.95	306	*e*P		Pn	06 17 14.4	-0.6
LBL	**Lubilhac**	19.95	306	*e*P		Pn	06 17 14.4	-0.6
LBL	**Lubilhac**	19.95	306	*e*P		Pn	06 17 14.4	-0.6
PLDF	**La Plantade**	19.98	308	*e*P		P	06 17 12.8	-0.5
PLDF	**La Plantade**	19.98	308	*e*P		P	06 17 12.8	-0.5
PLDF	**La Plantade**	19.98	308	*e*P		P	06 17 12.8	-0.5
PLDF	**La Plantade**	19.98	308	*e*P		P	06 17 12.8	-0.5
VALF	**Valcebollere**	20.02	297	*e*P		P	06 17 14.4	+0.5
VALF	**Valcebollere**	20.02	297	*e*P		P	06 17 14.4	+0.5
VALF	**Valcebollere**	20.02	297	*e*P		P	06 17 14.4	+0.5
IR3	**Iran Long-Peri**	20.07	83	*e*P		P	06 17 14.7	+0.4
IR3	**Iran Long-Peri**	20.07	83	*e*P		P	06 17 14.7	+0.4
EBNR	**Beni Rached**	20.08	279	P		Pn	06 17 16.6	0.0
EBNR	**Beni Rached**	20.08	279	P		Pn	06 17 16.6	0.0
IZAR	**Zarasai**	20.09	360	*e*P		P	06 17 13.5	-0.8
IZAR				AMB	AMB		06 17 16.9	
	comp=Z,44nm,1.1s							
IZAR	**Zarasai**	20.09	360	*e*P		P	06 17 13.5	-0.8
	comp=Z,44nm,1.1s,SNR=35							
MTLF	**Montolieu**	20.09	300	*e*P		P	06 17 13.8	-0.6
	comp=Z,43nm,0.8s							
MTLF	**Montolieu**	20.09	300	*e*P		P	06 17 13.8	-0.6
	comp=Z,22nm,0.8s							
SFTF	**Sexfontaines**	20.13	315	*e*P		P	06 17 15.4	+0.6
	comp=Z,126nm,0.9s,baz=127							
SFTF	**Sexfontaines**	20.13	315	*e*P		P	06 17 15.4	+0.6
	comp=Z,63nm,0.9s,baz=127							
ECHA	**Ech Chlef**	20.23	279	P		Pn	06 17 17.8	-0.5
ECHA	**Ech Chlef**	20.23	279	P		Pn	06 17 17.8	-0.5
MEZF	**Maizieres J'vi**	20.27	316	*e*P		P	06 17 17.3	+1.0
	comp=Z,199nm,1.0s							
MEZF	**Maizieres J'vi**	20.27	316	*e*P		P	06 17 17.3	+1.0
	comp=Z,100nm,1.0s							
PYM	**Petit Puy Mans**	20.29	307	*e*P		P	06 17 17.0	+0.3
PYM	**Petit Puy Mans**	20.29	307	*e*P		P	06 17 17.0	+0.3
PYM	**Petit Puy Mans**	20.29	307	*e*P		P	06 17 17.0	+0.3
PYM	**Petit Puy Mans**	20.29	307	*e*P		P	06 17 17.0	+0.3
WLF	**Walferdange**	20.32	320	P		P	06 17 16.9	+0.1
	comp=Z,61nm,1.7s							
WLF	**Walferdange**	20.32	320	*e*P		P	06 17 16.9	+0.1
WLF				pmax	pmax			
	comp=Z,95nm,1.2s							
WLF	**Walferdange**	20.32	320	*e*P		P	06 17 16.9	+0.1
	comp=Z,95nm,1.2s							
WLF	**Walferdange**	20.32	320	*e*P		P	06 17 16.9	+0.1
	comp=Z,55nm,1.2s							
AGO	**Saint Agoulin**	20.33	308	*e*P		P	06 17 17.1	+0.1
AGO	**Saint Agoulin**	20.33	308	*e*P		P	06 17 17.1	+0.1
AGO	**Saint Agoulin**	20.33	308	*e*P		P	06 17 17.1	+0.1
LOR	**Lormes**	20.38	312	*e*P		P	06 17 17.0	-0.5
	comp=Z,39nm,0.5s,baz=126							
LOR				*e*R				
	comp=Z,2µm,23.0s							
LOR	**Lormes**	20.38	312	*e*P		P	06 17 17.0	-0.5
	comp=Z,20nm,0.5s,baz=126							
FRNF	**Fournols**	20.46	306	*e*P		P	06 17 19.1	+0.7
FRNF	**Fournols**	20.46	306	*e*P		P	06 17 19.1	+0.7
FRNF	**Fournols**	20.46	306	*e*P		P	06 17 19.1	+0.7
EANR	**'Ain N'Sour**	20.47	278	P		P	06 17 19.3	+0.7
EANR	**'Ain N'Sour**	20.47	278	P		P	06 17 19.3	+0.7
AVF	**Avril sur Loir**	20.48	310	*e*P		P	06 17 18.7	+0.1
	comp=Z,70nm,0.7s							
AVF	**Avril sur Loir**	20.48	310	*e*P		P	06 17 18.7	+0.1
	comp=Z,35nm,0.7s							
SSF	**Saint Saulge**	20.50	311	*e*P		P	06 17 18.4	-0.4
	comp=Z,153nm,0.8s							
SSF	**Saint Saulge**	20.50	311	*e*P		P	06 17 18.4	-0.4
	comp=Z,77nm,0.8s							
IPIR	**Pirpir**	20.51	91	*e*P		Pn	06 17 20.9	-1.2
RAYN	**Ar Rayn**	20.55	121	Pn		Pn	06 17 21.0	-1.2
	comp=Z,280nm,0.9s,SNR=16							
CAF	**Calviac**	20.64	304	*e*P		P	06 17 20.5	+0.1
	comp=Z,78nm,0.9s							
CAF	**Calviac**	20.64	304	*e*P		P	06 17 20.5	+0.1
	comp=Z,39nm,0.9s							
OBN	**Obninsk**	20.69	17	Ĩ*i*P		P	06 17 19.8	-0.9
OBN				*i*			06 17 31.9	
OBN				*e*			06 17 42.0	
OBN				*i*	S	S	06 21 07.0	-1.8
OBN				pmax	pmax			
	comp=Z,190µm,1.0s							
OBN				MLR	MLR			
	comp=Z,1µm,19.0s							
OBN	**Obninsk**	20.69	17	*e*P		P	06 17 20.0	-0.7
	comp=Z,311nm,1.3s							
OBN	**Obninsk**	20.69	17	*e*P		P	06 17 20.0	-0.7
	comp=Z,311nm,1.3s							
BGF	**Bois d'Agland**	20.71	309	*e*P		P	06 17 21.0	0.0
	comp=Z,62nm,0.4s							
BGF	**Bois d'Agland**	20.71	309	*e*P		P	06 17 21.0	0.0
	comp=Z,31nm,0.4s							
IDMV	**Damavand**	20.87	83	*e*P		P	06 17 23.7	+0.5
IDMV	**Damavand**	20.87	83	*e*P		P	06 17 23.7	+0.5
IKLH	**Kolahrood**	20.92	89	*e*P		P	06 17 24.3	+0.6
MEM	**Membach**	20.96	322	P		P	06 17 23.9	+0.2
	comp=Z,57nm,1.1s							
MEM	**Membach**	20.96	322	P		P	06 17 23.9	+0.2
	comp=Z,57nm,1.1s							
BSD	**Bornholm Skovb**	20.99	341	*i*P		P	06 17 22.1	-1.9
BSD				*e*			06 17 34.9	
TCF	**Toulx Ste Croi**	21.01	308	*e*P		P	06 17 23.8	-0.5
	comp=Z,139nm,1.2s							
TCF	**Toulx Ste Croi**	21.01	308	*e*P		P	06 17 23.8	-0.5
	comp=Z,70nm,1.2s							
MELF	**Melles**	21.03	298	*e*P		P	06 17 25.1	+0.5
MELF	**Melles**	21.03	298	*e*P		P	06 17 25.1	+0.5
MELF	**Melles**	21.03	298	*e*P		P	06 17 25.1	+0.5
IPRN	**Peran**	21.04	81	*e*P		P	06 17 28.6	+3.8
HGN	**Heimansgroeve**	21.09	322	*e*P		P	06 17 27.6	+2.5
HGN				*e*L		L	06 25 50.8	
	comp=Z,1µm,21.6s							
HGN	**Heimansgroeve**	21.09	322	*e*P		P	06 17 27.6	+2.5
RJF	**Les Rejaudoux**	21.13	305	*e*P		P	06 17 25.7	+0.1
	comp=Z,87nm,0.5s							
RJF				*e*R				
	comp=Z,1µm,18.8s							
RJF	**Les Rejaudoux**	21.13	305	*e*P		P	06 17 25.7	+0.1
	comp=Z,43nm,0.5s							
EPF	**Esparros**	21.36	298	*e*P		P	06 17 26.8	-1.4
	comp=Z,60nm,0.9s							
EPF	**Esparros**	21.36	298	*e*P		P	06 17 26.8	-1.4
	comp=Z,30nm,0.9s							
DOU	**Dourbes**	21.39	319	P		P	06 17 27.9	-0.5
DOU	**Dourbes**	21.39	319	P		P	06 17 27.8	-0.5
IALA	**Alasht**	21.43	81	*e*P		P	06 17 30.8	+1.5
IFIR	**Firoozkooh**	21.44	82	*e*P		P	06 17 30.5	+1.2
WTSB	**Winterswijk**	21.44	326	*e*P		P	06 17 28.4	-0.4
WTSB	**Winterswijk**	21.44	326	*e*P		P	06 17 28.4	-0.4
MOS	**Moscow**	21.51	18	*e*P		P	06 17 27.7	-1.9
MOS				*e*			06 17 42.4	
MOS				*e*			06 17 49.1	
MOS				*e*			06 21 36.9	
MOS				pmax	pmax			
	comp=Z,118nm,1.5s							
MOS	**Moscow**	21.51	18	*e*P		P	06 17 27.7	-1.9
	comp=Z,118nm,1.5s							
IGAR	**Gharneh**	21.52	91	*e*P		P	06 17 30.5	+0.3
BAIF	**Baives**	21.57	319	*e*P		P	06 17 29.5	-0.8
	comp=Z,142nm,0.7s							
BAIF	**Baives**	21.57	319	*e*P		P	06 17 29.5	-0.8
	comp=Z,71nm,0.7s							
IZEF	**Zefreh**	21.63	90	*e*P		P	06 17 31.2	-0.2
IZEF	**Zefreh**	21.63	90	*e*P		P	06 17 31.2	-0.2
ILAS	**Lasjerd**	21.64	83	*e*P		P	06 17 31.0	-0.5
ILAS	**Lasjerd**	21.64	83	*e*P		P	06 17 31.0	-0.5
SNF	**Seneffe**	21.79	320	P		P	06 17 33.9	+1.3
ISHM	**Shahmirzad**	21.86	82	*e*P		P	06 17 34.1	+0.3
ETSF	**Etsaut**	21.98	297	*e*P		P	06 17 34.0	-0.9
	comp=Z,62nm,0.7s							
CART	**Cartagena**	22.01	283	*e*P		P	06 17 34.5	-0.5
	comp=Z,39nm,0.6s							
TAM	**Tamanrasset**	22.18	240	*e*P		P	06 17 38.4	+1.2
TAM				pmax	pmax			
	comp=Z,50nm,0.9s							
TAM	**Tamanrasset**	22.18	240	*e*P		P	06 17 38.4	+1.2
	comp=Z,50nm,0.9s							
IGLO	**Ghaloghah**	22.20	80	*e*P		P	06 17 37.9	+0.4
IANJ	**Anjilo**	22.40	82	*e*P		P	06 17 38.3	-1.3
SJPF	**Ste Jean**	22.50	298	*e*P		P	06 17 40.6	+0.2
	comp=Z,77nm,0.8s							
MFF	**Saint Martin d**	22.64	307	*e*P		P	06 17 41.3	-0.5
	comp=Z,67nm,0.5s							
IPAR	**Pars**	23.16	97	*e*P		P	06 17 48.9	+1.3
LDF	**La Druitiere**	23.36	312	*e*P		P	06 17 47.8	-1.2
	comp=Z,63nm,0.4s							
ISRV	**Sarvestan**	23.38	98	*e*P		P	06 17 50.2	+0.5
ICHK	**Chekchek**	23.49	90	*e*P		P	06 17 50.5	-0.2
FLN	**La Foliniere**	23.65	312	*e*P		P	06 17 50.5	-1.2
	comp=Z,111nm,0.4s							
FLN				*e*R				
	comp=Z,1µm,21.0s							
GRR	**Gorron**	23.73	311	*e*P		P	06 17 51.1	-1.4
	comp=Z,130nm,0.7s							
IMEH	**Mehriz**	23.91	92	*e*P		P	06 17 54.1	-0.4
PUL	**Pulkovo**	24.26	5‖	*e*P		P	06 17 57.8	+0.7
PUL				pmax	pmax			
	comp=Z,121nm,0.4s							
ESDC	**Sonseca Array**	24.26	289	P		P	06 17 57.2	-0.3
	comp=E,89nm,0.5s,baz=80,slow=10.0,SNR=48							
ESDC	**Sonseca Array**	24.26	289	P		P	06 17 57.2	-0.3
ESLA	**Sonseca Array**	24.26	289	*e*P		P	06 17 56.9	-0.6
	comp=Z,10nm,0.9s							
PAB	**San Pablo**	24.56	288	*e*P		P	06 18 00.7	+0.5
PAB				pmax	pmax			
	comp=Z,59nm,1.3s							
PAB	**San Pablo**	24.56	288	*e*P		P	06 18 00.7	+0.5
	comp=Z,59nm,1.3s							
SGMF	**Saint Gilles**	24.74	309	*e*P		P	06 18 01.2	-0.5
	comp=Z,94nm,0.7s							
JSA	**Saint Aubin**	24.84	312	*e*P		P	06 18 02.0	-0.5
JSA				AMB	AMB		06 18 06.5	
	comp=Z,166nm,3.6s							
JSA	**Saint Aubin**	24.84	312	P		P	06 18 02.0	-0.5
JSA				AMB	AMB		06 18 06.5	
	comp=Z,166nm,3.6s							
JSA	**Saint Aubin**	24.84	312	*e*P		P	06 18 02.0	-0.5
QUIF	**Quistinic**	25.02	308	*e*P		P	06 18 03.1	-1.1
	comp=Z,60nm,0.4s							
WOL	**Wolverton**	25.19	317	*e*P		P	06 18 04.1	-1.5
WOL	**Wolverton**	25.19	317	P		P	06 18 04.1	-1.5
WOL	**Wolverton**	25.19	317	*e*P		P	06 18 04.1	-1.5
ISHV	**Shirvan**	25.19	76	*e*P		P	06 18 06.8	+0.7
ROSF	**Rostrenen**	25.22	309	*e*P		P	06 18 04.6	-1.4
	comp=Z,68nm,0.4s							
ISFR	**Sfrayin**	25.47	77	*e*P		P	06 18 09.4	+0.6
ABKT	**Ailbek**	25.48	75	P		P	06 18 09.8	+1.2
	comp=Z,1µm,0.5s,SNR=25							
FINES	**FINESS Array B**	25.80	360	P		P	06 18 09.8	-1.3
	comp=Z,9.8nm,0.4s,baz=165,slow=11,SNR=58							
FINES				ScP		ScP	06 25 14.5	+0.1
	comp=Z,1.9nm,0.5s,baz=127,slow=2.9,SNR=4.0							
FINES				LR		LR	06 27 52.8	
	comp=Z,508nm,20.1s,baz=358,slow=35							
FINES	**FINESS Array B**	25.80	360	P		P	06 18 09.8	-1.3
FINES				pmax	pmax			
	comp=Z,10.0nm,0.4s							
FINES				pmax	pmax			
	comp=N,2.0nm,0.5s							
FINES				MLR	MLR			
	comp=Z,508nm,20.1s							
FINES	**FINESS Array B**	25.80	360	P		P	06 18 09.8	-1.3
FINES				ScP		ScP	06 25 14.5	+0.1
HFS	**Hagfors**	25.82	345	P		P	06 18 09.3	-2.0
	comp=Z,5.5nm,0.3s,baz=153,slow=11,SNR=38							
HFS				LR		LR	06 28 53.2	
	comp=Z,1µm,20.8s,baz=158,slow=38							
HFS	**Hagfors**	25.82	345	P		P	06 18 09.3	-2.0
HFS				pmax	pmax			
	comp=Z,6.0nm,0.3s							
HFS				MLR	MLR			
	comp=Z,1µm,20.8s							
HFS	**Hagfors**	25.82	345	P		P	06 18 09.3	-2.0
IKRD	**Kardeh**	25.92	78	*e*P		P	06 18 21.3	+8.5
IEMG	**Emamgholi**	25.95	77	*e*P		P	06 18 13.2	+0.1
IAKL	**Akhelmad**	26.13	78	*e*P		P	06 18 15.4	+0.7
HGH	**Gray Hill**	26.22	317	*e*P		P	06 18 13.7	-1.3
HGH	**Gray Hill**	26.22	317	P		P	06 18 13.7	-1.3
HGH	**Gray Hill**	26.22	317	*e*P		P	06 18 13.7	-1.3
KBI1	**Birley Grange**	26.30	321	*e*P		P	06 18 14.9	-0.8
KBI1	**Birley Grange**	26.30	321	P		P	06 18 14.9	-0.8
KBI1	**Birley Grange**	26.30	321	*e*P		P	06 18 14.9	-0.8
IPAY	**Payeh**	26.34	79	*e*P		P	06 18 17.3	+0.7
KWE	**Weaver Farm**	26.34	320	*e*P		P	06 18 14.9	-1.2
KWE	**Weaver Farm**	26.34	320	P		P	06 18 14.9	-1.2
KWE	**Weaver Farm**	26.34	320	*e*P		P	06 18 14.9	-1.2
KONO	**Kongsberg**	26.36	341	*e*P		P	06 18 18.9	+2.7
PBRG	**Braganca**	26.42	293	*e*P		P	06 18 17.9	+0.9
	comp=Z,81nm,2.0s							
PBRG	**Braganca**	26.42	293	*e*P		P	06 18 17.9	+0.9
	comp=Z,81nm,2.0s							
KAF	**Kangasniemi**	26.47	360	*e*P		P	06 18 18.9	+1.7
KAF				pmax	pmax			
	comp=Z,17nm,0.4s							
KAF	**Kangasniemi**	26.47	360	*e*p		P	06 18 18.9	+1.7
	comp=Z,17nm,0.4s							
KAF	**Kangasniemi**	26.47	360	*e*p		P	06 18 18.9	+1.7
	comp=Z,17nm,0.4s							
MCH1	**Michaelchurch**	26.48	317	*e*P		P	06 18 16.1	-1.3
MCH1				AMB	AMB		06 18 23.4	
	comp=Z,124nm,4.7s							
MCH1	**Michaelchurch**	26.48	317	P		P	06 18 16.1	-1.3
MCH1				AMB	AMB		06 18 23.4	
	comp=Z,124nm,4.7s							
MCH1	**Michaelchurch**	26.48	317	*e*P		P	06 18 16.1	-1.3
HEX	**Exmoor**	26.54	315	*e*P		P	06 18 17.7	-0.3
HEX	**Exmoor**	26.54	315	P		P	06 18 17.7	-0.3
HEX	**Exmoor**	26.54	315	*e*P		P	06 18 17.7	-0.3
STNC	**Stoke**	26.57	320	*e*P		P	06 18 17.4	-0.8
STNC	**Stoke**	26.57	320	P		P	06 18 17.4	-0.8
STNC	**Stoke**	26.57	320	*e*P		P	06 18 17.4	-0.8
HLM1	**Long Mynd**	26.66	318	*e*P		P	06 18 17.4	-1.6
HLM1				AMB	AMB		06 18 22.4	
	comp=Z,161nm,4.6s							
HLM1	**Long Mynd**	26.66	318	P		P	06 18 17.4	-1.6
HLM1				AMB	AMB		06 18 22.4	
	comp=Z,161nm,4.6s							
HLM1	**Long Mynd**	26.66	318	*e*P		P	06 18 17.4	-1.6
IMOG	**Moghan**	26.67	79	*e*P		P	06 18 20.4	+0.8
PBAR	**Barrancos**	26.73	285	*

EVO Evora 27.46 286 *e*P **P 06 18 28.0 +1.7**
comp=Z,15nm,0.6s
EVO *e*R
comp=Z,740nm,20.5s
EVO Evora 27.46 286 *e*P **P 06 18 27.4 +1.1**
comp=Z,53nm,1.3s
XAL Allendale 27.49 323 *e*P **P 06 18 25.1 -1.4**
XAL Allendale 27.49 323 P **P 06 18 25.1 -1.4**
XAL Allendale 27.49 323 *e*P **P 06 18 25.0 -1.4**
PBDV Barranco-do-Ve 27.53 284 *e*P **P 06 18 27.7 +0.7**
comp=Z,109nm,2.1s
PBDV Barranco-do-Ve 27.53 284 *e*P **P 06 18 27.7 +0.7**
comp=Z,109nm,2.1s
PGAV Gavieira, Arco 27.57 294 *e*P **P 06 18 28.6 +1.2**
comp=Z,91nm,1.8s
PGAV Gavieira, Arco 27.57 294 *e*P **P 06 18 28.6 +1.2**
comp=Z,91nm,1.8s
PCVE Castro Verde 27.57 284 *e*P **P 06 18 28.3 +1.0**
comp=Z,84nm,2.0s
PCVE Castro Verde 27.57 284 *e*P **P 06 18 28.3 +1.0**
comp=Z,84nm,2.0s
PMTG Montargil 27.59 287 *e*P **P 06 18 28.4 +0.9**
comp=Z,61nm,1.8s
PMTG Montargil 27.59 287 *e*P **P 06 18 28.4 +0.9**
comp=Z,61nm,1.8s
PTOM Tomar 27.70 289 *e*P **P 06 18 29.2 +0.8**
comp=Z,77nm,2.3s
PTOM Tomar 27.70 289 *e*P **P 06 18 29.2 +0.8**
comp=Z,77nm,2.3s
KESW Keswick, Cumbr 27.79 322 *e*P **P 06 18 29.0 -0.1**
KESW AMB AMB 06 18 38.3
comp=Z,156nm,4.8s
KESW Keswick, Cumbr 27.79 322 P **P 06 18 29.0 -0.1**
KESW AMB AMB 06 18 38.3
comp=Z,156nm,4.8s
KESW Keswick, Cumbr 27.79 322 *e*P **P 06 18 29.0 -0.1**
ASHO Ashiyiah 27.82 105 P **P 06 18 30.5 +0.7**
SNR=11
PNCL Nicolau / Gran 27.90 285 *e*P **P 06 18 33.1 +2.8**
comp=Z,87nm,1.4s
PNCL Nicolau / Gran 27.90 285 *e*P **P 06 18 33.1 +2.8**
comp=Z,87nm,1.4s
AB31 Akbulak array 28.01 51 P **P 06 18 31.0 -0.1**
AB31 pmax pmax
comp=Z,30nm,0.5s
ABKAR Akbulak array 28.01 51 *e*P **P 06 18 31.5 +0.4**
PTEO Sao Teotonio 28.12 284 *e*P **P 06 18 35.1 +2.9**
comp=Z,137nm,2.4s
PTEO Sao Teotonio 28.12 284 *e*P **P 06 18 35.1 +2.9**
comp=Z,137nm,2.4s
ESK Eskdalemuir 28.21 323 *e*P **P 06 18 31.8 -1.1**
ESK AMB AMB 06 18 43.8
comp=Z,366nm,6.4s
ESK Eskdalemuir 28.21 323 P **P 06 18 31.8 -1.1**
ESK AMB AMB 06 18 43.8
comp=Z,366nm,6.4s
ESK Eskdalemuir 28.21 323 *e*P **P 06 18 31.7 -1.1**
ESK pmax pmax
comp=Z,954nm,2.7s
ESK Eskdalemuir 28.21 323 *e*P **P 06 18 31.7 -1.1**
comp=Z,954nm,2.7s
ESK Eskdalemuir 28.21 323 P **P 06 18 32.7 -0.2**
comp=Z,270nm,0.4s,SNR=33
ESK Eskdalemuir 28.21 323 *e*P **P 06 18 31.8 -1.1**
ESY Stoneypath 28.26 325 *e*P **P 06 18 32.9 -0.4**
ESY Stoneypath 28.26 325 P **P 06 18 32.9 -0.4**
ESY Stoneypath 28.26 325 *e*P **P 06 18 32.9 -0.4**
ATD Arta Tunnel 28.30 144 LR LR 06 31 12.6
comp=Z,572nm,20.4s,baz=140,slow=39
EBL Broad Law 28.38 324 *e*P **P 06 18 32.9 -1.5**
EBL Broad Law 28.38 324 P **P 06 18 32.9 -1.5**
EBL Broad Law 28.38 324 *e*P **P 06 18 32.9 -1.5**
EDI Edinburgh 28.53 324 *e*P **P 06 18 32.6 -3.0**
EDI AMB AMB 06 18 35.9
comp=Z,208nm,3.3s
EDI Edinburgh 28.53 324 P **P 06 18 32.6 -3.0**
EDI AMB AMB 06 18 35.9
comp=Z,208nm,3.3s
EDI Edinburgh 28.53 324 *e*P **P 06 18 32.6 -3.0**
GAL1 Galloway 28.73 322 *e*P **P 06 18 36.0 -1.5**
GAL1 AMB AMB 06 18 48.2
comp=Z,184nm,4.3s
GAL1 Galloway 28.73 322 P **P 06 18 36.0 -1.5**
GAL1 AMB AMB 06 18 48.2
comp=Z,184nm,4.3s
GAL1 Galloway 28.73 322 *e*P **P 06 18 36.0 -1.5**
ARQ Araqi 28.88 107 P **P 06 18 40.6 +1.5**
SNR=14
DLF Lyons Farm 28.98 318 *e*P **P 06 18 38.0 -1.7**
EAB Aberfoyle 29.22 324 *e*P **P 06 18 40.2 -1.6**
EAB Aberfoyle 29.22 324 P **P 06 18 40.2 -1.6**
EAB Aberfoyle 29.22 324 *e*P **P 06 18 40.2 -1.6**
HOQ Hoqain 29.36 106 P **P 06 18 43.9 +0.4**
SNR=10
HOQ Hoqain 29.36 106 P **P 06 18 44.1 +0.7**
SNR=17
MCD Coleburn Disti 29.49 327 *e*P **P 06 18 41.0 -3.2**
MCD Coleburn Disti 29.49 327 P **P 06 18 41.0 -3.2**
MCD Coleburn Disti 29.49 327 *e*P **P 06 18 41.0 -3.2**
BSY Bisya 29.72 107 P **P 06 18 47.6 +1.0**
SNR=13
ARU Arti 30.08 36*d i*P **P 06 18 49.0 -0.4**
ARU 06 19 44.1
ARU S **S 06 23 46.3 +2.3**
ARU SS **SnSn 06 25 21.1 +0.7**
ARU pmax pmax
comp=Z,49nm,1.7s
ARU Arti 30.08 36 *e*P **P 06 18 48.8 -0.5**
comp=Z,20nm,0.6s
ABTO Aybut 30.08 120 P **P 06 18 51.3 +1.4**
SNR=18
SMDO Samad 30.21 106 P **P 06 18 51.8 +0.8**
SNR=8.0
KPL Plockton 30.44 325 *e*P **P 06 18 50.8 -1.8**
KPL AMB AMB 06 18 57.7
comp=Z,208nm,7.4s
KPL Plockton 30.44 325 P **P 06 18 50.8 -1.8**
KPL AMB AMB 06 18 57.7
comp=Z,208nm,7.4s
KPL Plockton 30.44 325 *e*P **P 06 18 50.8 -1.8**
JMDO Jabal Madar 30.62 107 P **P 06 18 55.1 +0.5**
SNR=8.9
JMDO Jabal Madar 30.62 107 P **P 06 18 55.0 +0.4**
SNR=18
RBK Rabkut 30.62 119 P **P 06 18 55.9 +1.3**
SNR=7.7
SOKR Solikamsk 31.02 30⇑*i*P **P 06 18 57.4 -0.2**
SOKR pmax pmax
comp=Z,40nm,0.9s
SOKR MLR MLR
comp=Z,660nm,19.0s
SOKR Solikamsk 31.02 30 *i* P **P 06 18 57.4 -0.2**
comp=Z,660nm,19.0s
WBK Wadi Bani Khal 31.17 106 P **P 06 19 01.1 +1.7**
SNR=8.4
SVE Sverdlovsk 31.27 37⇓*i*P **P 06 19 00.7 +0.8**
SVE pmax pmax
comp=Z,32nm,0.5s
SVE Sverdlovsk 31.27 37 *i* P **P 06 19 00.7 +0.8**
comp=Z,32nm,0.5s
MOR8 Moi Rana 31.34 351 *e*P **P 06 18 59.9 -0.5**
MOR8 AMB AMB 06 19 04.1
comp=Z,39nm,1.8s
MOR8 *ep*P **pP 06 19 13.8 +0.1**
MOR8 Moi Rana 31.34 351 *e*P **P 06 18 59.9 -0.5**
comp=Z,39nm,1.8s,SNR=40
MOR8 *ep*P **pP 06 19 13.8 +0.1**
SNR=140
TORD Torodi Ar. Bea 31.55 231 P **P 06 19 03.0 +0.2**
comp=Z,15nm,0.4s,baz=33,slow=8.6,SNR=208
TORD LR LR 06 34 33.3
comp=Z,773nm,18.5s,baz=40,slow=41
TORD Torodi Ar. Bea 31.55 231 P **P 06 19 03.0 +0.2**
TORD Torodi Ar. Bea 31.55 231 P **P 06 19 03.0 +0.2**
STOK Stokkvaagen 31.69 350 *e*P **P 06 19 02.8 -0.7**
APA Apatity 32.21 5⇑*i*P P 06 19 17.0 +9.0
APA *e*SS **SS 06 26 34.0 -2.7**
APA MLR MLR
comp=Z,2µm,12.0s
ARCES ARCESS Array B 33.93 359 P **P 06 19 21.3 -1.7**
comp=Z,4.0nm,0.5s,baz=193,slow=9.4,SNR=43
ARCES LR LR 06 33 58.5
comp=Z,764nm,18.4s,baz=176,slow=38
ARCES ARCESS Array B 33.93 359 P **P 06 19 21.3 -1.7**
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES MLR MLR
comp=Z,764nm,18.4s
ARCES ARCESS Array B 33.93 359 P **P 06 19 21.3 -1.7**
ARE0 ARCESS Array S 33.93 359 *e*P **P 06 19 22.0 -1.0**
ARE0 ARCESS Array S 33.93 359 *e*P **P 06 19 22.0 -1.0**
SNR=39
KEV Kevo 34.15 0 *e*P **P 06 19 25.4 +0.5**
KEV pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 34.15 0 *ep* **P 06 19 25.4 +0.5**
comp=Z,6.0nm,0.6s
KEV Kevo 34.15 0 *ep* **P 06 19 25.4 +0.5**
comp=Z,6.0nm,0.6s
KEV Kevo 34.15 0 *e*P **P 06 19 25.4 +0.5**
comp=Z,6.0nm,0.6s
TRO Tromso 34.27 355 *e*P **P 06 19 25.1 -0.8**
TRO Tromso 34.27 355 *e*P **P 06 19 25.1 -0.8**
SNR=39
KK31 Karatay Array 34.61 64 *i* P **P 06 19 30.3 +1.0**
KK31 pmax pmax
comp=Z,38nm,0.5s
KK31 Karatay Array 34.61 64 *i* P **P 06 19 30.3 +1.0**
comp=Z,38nm,0.5s
KKAR Karatay Array 34.61 64 *e*P **P 06 19 30.2 +0.9**
KKAR Karatay Array 34.61 64 *e*P **P 06 19 30.2 +0.9**
KKAR Karatay Array 34.61 64 *e*P **P 06 19 30.2 +0.9**
KBL Kabul 34.75 79 *e*P **P 06 19 31.8 +1.0**
KBL pmax pmax
comp=Z,28nm,1.0s
KBL Kabul 34.75 79 *e*P **P 06 19 31.8 +1.0**
comp=Z,28nm,1.0s
BRVK Borovoye 35.24 47*de*P **P 06 19 35.2 +0.7**
BRVK pmax pmax
comp=Z,57nm,1.7s
BRVK Borovoye 35.24 47 *e*P **P 06 19 34.4 -0.1**
comp=Z,31nm,1.1s
BRVK Borovoye 35.24 47 P **P 06 19 35.7 +1.2**
comp=Z,151nm,0.5s,SNR=11
BRVK Borovoye 35.24 47 *e*P **P 06 19 34.4 -0.1**
comp=Z,31nm,1.1s
BVA0 Borovoye Array 35.30 47 *i* P **P 06 19 35.3 +0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 35.30 47 *i* P **P 06 19 35.3 +0.3**
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 35.30 47 P **P 06 19 35.4 +0.4**
comp=Z,17nm,0.5s,baz=230,slow=6.8,SNR=68
BVAR LR LR 06 37 31.7
comp=Z,336nm,18.7s,baz=2.7,slow=42
BVAR Borovoye Array 35.30 47 P **P 06 19 35.4 +0.4**
BVAR pmax pmax
comp=Z,17nm,0.5s
BVAR MLR MLR
comp=Z,336nm,18.7s
BVAR Borovoye Array 35.30 47 P **P 06 19 35.4 +0.4**
BVAR Borovoye Array 35.30 47 P **P 06 19 35.4 +0.4**
comp=Z,336nm,18.7s
PMAR Madeira 35.69 278 *e*P **P 06 19 41.0 +2.2**
comp=Z,138nm,1.6s
PMAR Madeira 35.69 278 *e*P **P 06 19 41.0 +2.2**
comp=Z,138nm,1.6s
AML Almayashu 37.03 65 P **P 06 19 53.1 +2.7**
SNR=17
AML P **P 06 19 53.1 +2.7**
SNR=17
AML Almayashu 37.03 65 P **P 06 19 51.5 +1.1**
EKS2 Erkin-Say 37.04 64 P **P 06 19 52.2 +2.1**
SNR=16
EKS2 P **P 06 19 52.2 +2.1**
SNR=16
EKS2 Erkin-Say 37.04 64 *e*P **P 06 19 51.7 +1.5**
EKS2 pmax pmax
comp=Z,87nm,0.8s
EKS2 Erkin-Say 37.04 64 *e*P **P 06 19 51.7 +1.5**
comp=Z,87nm,0.8s
USP Ospenovka 37.51 63 P **P 06 19 54.9 +0.8**
SNR=11
USP P **P 06 19 54.9 +0.8**
SNR=11
AAK Ala-Archa 37.57 64 P **P 06 19 56.8 +2.1**
SNR=28
AAK P **P 06 19 56.8 +2.1**
SNR=28
AAK Ala-Archa 37.57 64*c i*P **P 06 19 56.1 +1.4**
AAK Ala-Archa 37.57 64 *e*P **P 06 19 56.1 +1.4**
comp=Z,472nm,0.7s
AAK Ala-Archa 37.57 64 P **P 06 19 56.0 +1.4**
comp=Z,1µm,0.6s,SNR=80
UCH Uchtor 37.62 65 P **P 06 19 57.7 +2.2**
SNR=8.0
UCH P **P 06 19 57.7 +2.2**
SNR=8.0
FRU Bishkek 37.64 64 *e*P **P 06 19 57.0 +1.9**
FRU pmax pmax
comp=Z,340nm,1.8s
CHMS Chumysh 37.72 64 P **P 06 19 57.1 +1.3**
SNR=62
CHMS P **P 06 19 57.1 +1.3**
SNR=62
KBK Karagaybulak 37.90 64 P **P 06 19 59.3 +1.8**
SNR=25
KBK P **P 06 19 59.3 +1.8**
SNR=25
KZA Kyzart 38.19 65 P **P 06 20 02.3 +2.1**
SNR=98
KZA P **P 06 20 02.3 +2.1**
SNR=98
TKM2 Tokmak 2 38.34 64 P **P 06 20 02.3 +1.1**
SNR=70
TKM2 P **P 06 20 02.3 +1.1**
SNR=70
TKM2 Tokmak 2 38.34 64 *e*P **P 06 20 02.4 +1.1**
TKM2 pmax pmax
comp=Z,70nm,0.6s
TKM2 Tokmak 2 38.34 64 *e*P **P 06 20 02.4 +1.1**
comp=Z,70nm,0.6s
TKM2 Tokmak 2 38.34 64 *e*P **P 06 20 02.4 +1.1**
comp=Z,70nm,0.6s
ULHL Ulahol 38.90 65 P **P 06 20 07.8 +1.9**
SNR=49
ULHL P **P 06 20 07.8 +1.9**
SNR=49
MSKU Masuku 38.99 200 P **P 06 20 06.7 0.0**
comp=Z,18nm,0.3s,baz=255,slow=5.5,SNR=18
MSKU Masuku 38.99 200 P **P 06 20 06.7 0.0**
MSKU Masuku 38.99 200 P **P 06 20 07.3 -0.4**
KSH Kashi 39.12 69⇑*i*P **P 06 19 26 -1.7**
KSH *ep*P **pP 06 20 19.6 -1.7**
KSH *es*P **sP 06 20 24.9 -2.5**
KSH *eP*P **PnPn 06 21 41.1 +0.2**
KSH *eP*cP **PcP 06 22 17.0 +0.5**
KSH *e*S **ScP 06 26 00.8 +0.3**
KSH *e*ScP **S 06 26 01.8 -2.0**
KSH *eP*cS **PcS 06 26 06.8 +0.5**
KSH *e*ScS **ScS 06 30 11.1 -1.1**
KSH pmax pmax
comp=Z,28nm,0.6s
KSH LR LR
comp=N,390nm,6.3s
KSH LR LR
comp=E,280nm,6.0s
KSH LR LR
comp=Z,230nm,5.5s
KURK Kurchatov 40.11 51 P **P 06 20 15.5 -0.1**
comp=Z,193nm,0.5s,baz=276,slow=8.4,SNR=971
KURK ScP **ScP 06 26 05.3 +1.4**
comp=Z,1.6nm,0.8s,baz=270,slow=4.9,SNR=4.5
KURK S **S 06 26 18.1 0.0**
comp=Z,6.5nm,0.9s,baz=291,slow=18,SNR=8.8
KURK LR LR 06 39 00.0
comp=Z,245nm,18.2s,baz=265,slow=39
KURK Kurchatov 40.11 51 *e*P **P 06 20 16.5 +0.9**
KURK S **S 06 26 18.1 0.0**
KURK pmax pmax
comp=Z,129nm,0.7s
KURK Kurchatov 40.11 51 *e*P **P 06 20 16.5 +0.9**
comp=Z,129nm,0.7s
KURK ScP **ScP 06 26 05.3 +1.4**
KURK S **S 06 26 18.1 0.0**
KURK Kurchatov 40.11 51 P **P 06 20 16.1 +0.5**
comp=Z,1µm,0.6s,SNR=83
KURK Kurchatov 40.11 51 *e*P **P 06 20 16.5 +0.9**
comp=Z,129nm,0.7s
DBIC Dimbokro 40.64 232 P **P 06 20 20.4 0.0**
comp=Z,13nm,0.4s
DBIC MLR MLR
comp=Z,464nm,18.0s,baz=211,slow=42
DBIC Dimbokro 40.64 232 P **P 06 20 20.4 0.0**
DBIC pmax pmax
comp=Z,13nm,0.4s
DBIC MLR MLR
comp=Z,464nm,18.0s
DBIC Dimbokro 40.64 232 *e*P **P 06 20 19.9 -0.5**
comp=Z,32nm,0.9s
DBIC Dimbokro 40.64 232 *e*P **P 06 20 19.9 -0.5**
comp=Z,32nm,0.9s
HOPEN Hopen 40.95 360 *e*P **P 06 20 20.6 -1.6**
LIC Lamto 41.09 232 *e*P **P 06 20 24.1 0.0**
comp=Z,40nm,0.5s
LIC *e*R
comp=Z,726nm,22.2s
LIC Lamto 41.09 232 *e*P **P 06 20 24.1 0.0**
comp=Z,20nm,0.5s
MK31 Makanchi Array 42.69 57 *e*P **P 06 20 37.9 +1.0**
MK31 pmax pmax
comp=Z,258nm,0.6s
MK31 Makanchi Array 42.69 57 *e*P **P 06 20 37.9 +1.0**
MK31 Makanchi Array 42.69 57 *e*P **P 06 20 37.8 +0.9**
MKAR Makanchi Array 42.69 57 P **P 06 20 37.9 +1.0**
comp=Z,186nm,0.5s,baz=272,slow=8.3,SNR=1401
MKAR ScP **ScP 06 26 14.8 +0.5**
comp=Z,2.8nm,0.6s,baz=280,slow=3.8,SNR=5.3
MKAR S **S 06 26 56.9 +0.4**
comp=Z,3.1nm,0.9s,baz=259,slow=12,SNR=5.3
MKAR LR LR 06 41 10.4
comp=Z,314nm,20.2s,baz=102,slow=40
MKAR Makanchi Array 42.69 57 P **P 06 20 37.9 +1.0**
MKAR S **S 06 26 56.9 +0.4**
MKAR pmax pmax
comp=Z,186nm,0.5s
MKAR pmax pmax
comp=N,3.0nm,0.6s
MKAR smax smax
comp=N,3.0nm,0.9s
MKAR MLR MLR
comp=Z,314nm,20.3s
MKAR Makanchi Array 42.69 57 *e*P **P 06 20 37.9 +1.0**
MKAR ScP **ScP 06 26 14.8 +0.5**
MKAR S **S 06 26 56.9 +0.4**
MKAR Makanchi Array 42.69 57 *e*P **P 06 20 37.8 +1.0**
SPA0 Spitsbergen Ar 42.83 357 *e*P **P 06 20 36.9 -0.8**
SPA0 Spitsbergen Ar 42.83 357 *e*P **P 06 20 36.8 -0.8**
SNR=37
SPITS Spitsbergen Ar 42.83 357 P **P 06 20 36.4 -1.2**
comp=Z,2.4nm,0.3s,baz=146,slow=14,SNR=19
SPITS Spitsbergen Ar 42.83 357 P **P 06 20 36.4 -1.2**
SPITS pmax pmax
comp=Z,2.0nm,0.3s
SPITS Spitsbergen Ar 42.83 357 P **P 06 20 36.4 -1.2**
SPITS Spitsbergen Ar 42.83 357 P **P 06 20 36.4 -1.2**
comp=Z,2.0nm,0.3s
SPB4 Spitsbergen Ar 42.84 357 *e*P **P 06 20 36.4 -1.3**
SPB4 Spitsbergen Ar 42.84 357 *e*P **P 06 20 36.3 -1.3**
NVS Novosibirsk 43.05 45⇑*i*P **P 06 20 40.8 +1.2**
NVS *i* 06 22 34.3
NVS *i* S **S 06 27 00.8 -0.7**
NVS pmax pmax
comp=Z,180nm,0.5s
NVS pmax pmax
comp=N,49nm,0.6s
NVS pmax pmax
comp=E,83nm,0.7s
NVS pmax pmax
comp=Z,39nm,1.6s
NVS pmax pmax
comp=N,6.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.4s
NVS smax smax
comp=N,29nm,1.0s
NVS smax smax
comp=E,28nm,1.3s
NVS Novosibirsk 43.05 45 *i* P **P 06 20 40.8 +1.2**
comp=E,49nm,0.6s
SCO Scoresbysund 43.22 339 *e*P **P 06 20 40.6 -0.2**
SCO pmax pmax
comp=Z,3.0nm,0.8s
SCO Scoresbysund 43.22 339 *i* P **P 06 20 40.6 -0.2**
comp=Z,3.0nm,0.8s
SCO Scoresbysund 43.22 339 *e*P **P 06 20 40.6 -0.2**
comp=Z,3.0nm,0.8s
NDI New Delhi 43.23 84 *e*P **P 06 20 41.0 -0.4**
BBTS Babate 43.65 253 P **P 06 20 44.6 -0.3**
comp=Z,21nm,0.6s,baz=122,slow=2.7,SNR=4.3
BBTS Babate 43.65 253 P **P 06 20 44.6 -0.3**
BBTS Babate 43.65 253 P **P 06 20 44.6 -0.3**
ZAA0 Zalesovo Array 43.96 47 *e*P **P 06 20 46.7 -0.2**
ZAA0 Zalesovo Array 43.96 47 *e*P **P 06 20 46.7 -0.2**
ZALV Zalesovo Beam 43.96 47 P **P 06 20 46.9 0.0**
comp=Z,138nm,0.5s,baz=270,slow=8.4,SNR=507
ZALV S **S 06 27 12.9 -1.9**
comp=Z,5.8nm,0.9s,baz=238,slow=16,SNR=7.3
ZALV LR LR 06 44 43.6
comp=Z,171nm,19.2s,baz=82,slow=44
ZALV Zalesovo Beam 43.96 47 P **P 06 20 46.9 0.0**
ZALV S **S 06 27 12.9 -1.9**
ZALV pmax pmax
comp=Z,139nm,0.5s
ZALV smax smax
comp=N,6.0nm,0.9s
ZALV Zalesovo Beam 43.96 47 P **P 06 20 46.9 0.0**
ZALV S **S 06 27 12.9 -1.9**
ZALV Zalesovo Beam 43.96 47 P **P 06 20 46.9 0.0**
comp=N,139nm,0.5s
WMQ Urumqi 46.91 60 P **P 06 21 12.6 +2.0**
WMQ pP **pP 06 21 25.0 +0.5**
WMQ sP **sP 06 21 30.6 +0.1**
WMQ PcP **PcP 06 22 43.6 +1.1**
WMQ S **S 06 27 59.3 +1.5**
WMQ SS **SS 06 31 19.3 -5.4**
WMQ pmax pmax
comp=Z,68nm,1.2s
WMQ pmax pmax
comp=Z,380nm,5.6s
WMQ LR LR
comp=N,460nm,22.3s
WMQ LR LR
comp=E,500nm,21.3s
WMQ LR LR
comp=Z,610nm,21.9s
DANN Dangsing 48.65 82 *e*P **P 06 21 25.8 +1.3**
comp=Z,356nm,0.5s
DANN Dangsing 48.65 82 *e*P **P 06 21 25.8 +1.3**
KOLN Koldanda 48.75 82 *e*P **P 06 21 25.9 +0.7**
comp=Z,89nm,0.6s
KOLN Koldanda 48.75 82 *e*P **P 06 21 25.9 +0.7**
SUMG Summit 48.86 339 *e*P **P 06 21 24.8 -0.8**
SUMG pmax pmax
comp=Z,335nm,3.0s
SUMG Summit 48.86 339 *e*P **P 06 21 24.8 -0.8**
comp=Z,335nm,3.0s
SUMG Summit 48.86 339 *i* P **P 06 21 24.5 -1.1**
comp=Z,10nm,0.9s
SUMG Summit 48.86 339 *e*P **P 06 21 24.8 -0.8**
comp=Z,335nm,3.0s
GKN Gorkha 49.49 82 *e*P **P 06 21 31.4 +0.6**
comp=Z,118nm,0.6s
GKN Gorkha 49.49 82 *e*P **P 06 21 31.4 +0.6**
GKN Gorkha 49.49 82 *e*P **P 06 21 31.4 +0.6**
HYB Hyderabad 49.53 97 *i* P **P 06 21 30.5 -0.5**
DMN Daman 50.03 82 *e*P **P 06 21 35.9 +0.9**
comp=Z,245nm,0.9s
DMN Daman 50.03 82 *e*P **P 06 21 35.9 +0.9**
KKN Kakani 50.10 82 *e*P **P 06 21 36.1 +0.6**
comp=Z,104nm,0.5s
KKN Kakani 50.10 82 *e*P **P 06 21 36.1 +0.6**
KKN Kakani 50.10 82 *e*P **P 06 21 36.1 +0.6**
KKN Kakani 50.10 82 *e*P **P 06 21 36.1 +0.6**
PKI Pulchoki 50.29 82 *e*P **P 06 21 37.5 +0.4**
comp=Z,197nm,1.0s
PKI Pulchoki 50.29 82 *e*P **P 06 21 37.5 +0.4**
PKI Pulchoki 50.29 82 *e*P **P 06 21 37.5 +0.4**
PKI Pulchoki 50.29 82 *e*P **P 06 21 37.5 +0.4**
GUN Gumba 50.53 81 *e*P **P 06 21 39.5 +0.6**
comp=Z,115nm,0.7s
GUN Gumba 50.53 81 *e*P **P 06 21 39.5 +0.6**
GUN Gumba 50.53 81 *e*P **P 06 21 39.5 +0.6**
JIRN Jiri 50.89 81 *e*P **P 06 21 42.2 +0.6**
comp=Z,40nm,0.8s
JIRN Jiri 50.89 81 *e*P **P 06 21 42.2 +0.6**
JIRN Jiri 50.89 81 *e*P **P 06 21 42.2 +0.6**
RAMN Ramite 51.52 82 *e*P **P 06 21 46.2 0.0**

comp=Z,140nm,0.9s
RAMN Ramite 51.52 82 *e*P **P 06 21 46.2 0.0**
RAMN Ramite 51.52 82 *e*P **P 06 21 46.2 0.0**
ODAN Odare 52.19 82 *e*P **P 06 21 51.2 0.0**
comp=Z,57nm,0.7s
ODAN Odare 52.19 82 *e*P **P 06 21 51.2 0.0**
ODAN Odare 52.19 82 *e*P **P 06 21 51.2 0.0**
TAPN Taplejung 52.24 81 *e*P **P 06 21 51.9 +0.3**
comp=Z,172nm,1.0s
TAPN Taplejung 52.24 81 *e*P **P 06 21 51.9 +0.3**
TAPN Taplejung 52.24 81 *e*P **P 06 21 51.9 +0.3**
SFJD Kangerlussuaq 52.71 331 *e*P **P 06 21 53.0 -1.1**
SFJD pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 52.71 331 *i* P **P 06 21 53.0 -1.1**
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 52.71 331 *e*P **P 06 21 53.0 -1.1**
comp=Z,8.0nm,0.8s
MOY Mondy 53.96 48 *e*P **P 06 22 05.5 +1.8**
MOY pmax pmax
comp=Z,33nm,2.0s
LSA Lhasa 54.00 77 P **P 06 22 05.4 +0.6**
LSA S **S 06 29 34.4 -3.0**
LSA pmax pmax
comp=Z,50nm,1.1s
LSA Lhasa 54.00 77 *e*P **P 06 22 05.9 +1.1**
LSA pmax pmax
comp=Z,31nm,0.7s
LSA Lhasa 54.00 77 *e*P **P 06 22 05.9 +1.1**
comp=Z,31nm,0.7s
TLY Talaya 55.55 47 *e*P **P 06 22 17.5 +2.4**
TLY pmax pmax
comp=Z,21nm,0.9s
TLY Talaya 55.55 47 *e*P **P 06 22 16.8 +1.7**
comp=Z,18nm,0.8s
ZAK Zakamensk 55.69 49⇑ *i*P **P 06 22 17.5 +1.3**
ZAK pmax pmax
comp=Z,17nm,1.0s
ZAK Zakamensk 55.69 49 *i* P **P 06 22 17.5 +1.3**
comp=Z,17nm,1.0s
SHL Shillong 56.38 81 *e*P **P 06 22 23.5 +1.9**
GTA Gaotai 56.87 62 ⇑P **P 06 22 26.0 +1.1**
GTA pP **pP 06 22 41.9 +2.8**
GTA sP **sP 06 22 48.9 +3.9**
GTA S **S 06 30 15.4 +0.6**
GTA sS **sS 06 30 42.5 +3.8**
GTA SS **SS 06 34 06.0 +2.8**
GTA pmax pmax
comp=Z,45nm,0.7s
GTA pmax pmax
comp=Z,180nm,6.2s
GTA LR LR
comp=N,340nm,20.9s
GTA LR LR
comp=E,340nm,19.5s
GTA LR LR
comp=Z,440nm,19.7s
OPO Ambohidratompo 57.44 156 P **P 06 22 30.9 +2.0**
comp=Z,5.7nm,0.7s,baz=330,slow=5.2,SNR=15
OPO Ambohidratompo 57.44 156 P **P 06 22 30.9 +2.0**
SONM Songino Array 58.42 51 P **P 06 22 36.5 +0.9**
comp=Z,20nm,0.5s,baz=290,slow=7.5,SNR=191
SONM ScP **ScP 06 27 22.4 +0.6**
comp=Z,1.2nm,0.7s,baz=287,slow=4.6,SNR=3.7
SONM LR LR 06 52 56.6
comp=Z,471nm,19.1s,baz=167,slow=41
SONM Songino Array 58.42 51 P **P 06 22 36.5 +0.9**
SONM pmax pmax
comp=Z,20nm,0.5s
SONM pmax pmax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,471nm,19.1s
SONM Songino Array 58.42 51 P **P 06 22 36.5 +0.9**
SONM ScP **ScP 06 27 22.4 +0.6**
SONM Songino Array 58.42 51 P **P 06 22 36.5 +0.9**
comp=Z,471nm,19.1s
ULN Ulaanbaatar 58.82 51 *e*P **P 06 22 39.4 +1.0**
ULN pmax pmax
comp=Z,25nm,0.7s
ULN Ulaanbaatar 58.82 51 *e*P **P 06 22 39.4 +1.0**
comp=Z,25nm,0.7s
ULN Ulaanbaatar 58.82 51 P **P 06 22 39.2 +0.8**
comp=Z,39nm,0.9s
ULN Ulaanbaatar 58.82 51 *e*P **P 06 22 39.4 +1.0**
comp=Z,25nm,0.7s
BOD Bodaibo 59.46 38 *e*P **P 06 22 41.7 -0.7**
BOD pmax pmax
comp=Z,29nm,0.9s
BOD Bodaibo 59.46 38 *e*P **P 06 22 41.7 -0.7**
comp=Z,29nm,0.9s
LBTB Lobatse 60.35 181 P **P 06 22 51.2 +2.2**
comp=Z,12nm,1.0s,baz=351,slow=6.7,SNR=13
LBTB Lobatse 60.35 181 P **P 06 22 51.2 +2.2**
LBTB pmax pmax
comp=Z,12nm,1.0s
LBTB Lobatse 60.35 181 P **P 06 22 51.2 +2.2**
LZH Lanzhou 61.11 65 ⇑P **P 06 22 55.8 +1.5**
LZH pP **pP 06 23 11.6 +2.9**
LZH sP **sP 06 23 18.5 +3.9**
LZH PP **PP 06 25 12.5 +3.4**
LZH *e*S **S 06 31 08.3 -1.5**
LZH sS **sS 06 31 34.5 +0.6**
LZH pmax pmax
comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,180nm,5.5s
LZH LR LR
comp=N,330nm,12.8s
LZH LR LR
comp=E,380nm,13.1s
LZH LR LR
comp=Z,650nm,18.0s
CD2 Chengdu 63.31 70 P **P 06 23 09.9 +1.0**
CD2 pP **pP 06 23 25.3 +1.9**
CD2 sP **sP 06 23 32.0 +2.7**
CD2 PP **PP 06 25 30.8 +2.4**
CD2 S **S 06 31 35.4 -2.0**
CD2 sS **sS 06 32 01.6 0.0**
CD2 SS **SS 06 35 44.1 -0.1**
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,140nm,5.9s
CD2 LR LR
comp=N,470nm,6.5s
CD2 LR LR
comp=Z,270nm,7.7s
RES Resolute Bay 63.43 345 *e*P **P 06 23 08.1 -0.9**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 63.43 345 *e*P **P 06 23 08.1 -0.9**
comp=Z,5.0nm,0.8s
RES Resolute Bay 63.43 345 *e*P **P 06 23 08.1 -0.9**
comp=Z,5.0nm,0.8s
SCHQ Schefferville 63.43 320 P **P 06 23 09.2 -0.1**
comp=Z,14nm,0.4s,baz=71,slow=5.8,SNR=87
SCHQ LR LR 06 48 52.5
comp=Z,372nm,20.9s,baz=105,slow=34
SCHQ Schefferville 63.43 320 *e*P **P 06 23 08.8 -0.5**
comp=Z,35nm,0.6s
SCHQ Schefferville 63.43 320 *e*P **P 06 23 08.8 -0.5**
comp=Z,35nm,0.6s
BOSA Boshof 63.94 181 P **P 06 23 14.1 +1.2**
comp=Z,4.5nm,0.4s,baz=24,slow=7.9,SNR=12
BOSA LR LR 06 55 53.3
comp=Z,374nm,19.0s,baz=7.4,slow=40
BOSA Boshof 63.94 181 *e*P **P 06 23 14.7 +1.7**
BOSA pmax pmax
comp=Z,28nm,1.4s
BOSA Boshof 63.94 181 *e*P **P 06 23 14.7 +1.7**
comp=Z,28nm,1.4s
HHC Hu-ho-hao-te 64.55 57 *e*P **P 06 23 18.1 +1.0**
HHC pP **pP 06 23 31.4 -0.1**
HHC sP **sP 06 23 36.6 -0.8**
HHC PP **PP 06 25 42.3 +3.1**
HHC S **S 06 31 52.1 -0.6**
HHC ScS **SKSac 06 33 04.6 -2.5**
HHC pmax pmax
comp=Z,47nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.9s
HHC LR LR
comp=N,280nm,13.7s
HHC LR LR
comp=E,320nm,11.8s
HHC LR LR
comp=Z,420nm,15.5s
YAK Yakutsk 64.95 30 *e*P **P 06 23 18.0 -1.1**
YAK *e* 06 23 28.3
YAK pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 64.95 30 *e*P **P 06 23 18.9 -0.2**
comp=Z,38nm,0.6s
YAK Yakutsk 64.95 30 *e*P **P 06 23 18.9 -0.2**
comp=Z,38nm,0.6s
KMI Kunming 65.25 76 P **P 06 23 22.6 +0.7**
KMI pP **pP 06 23 35.5 -0.9**
KMI PP **PP 06 25 49.5 +3.7**
KMI S **S 06 32 00.5 -1.4**
KMI SKS **SKSac 06 33 09.8 -3.3**
KMI pmax pmax
comp=Z,23nm,0.8s
KMI LR LR
comp=N,210nm,23.6s
KMI LR LR
comp=E,360nm,21.1s
KMI LR LR
comp=Z,340nm,24.4s
CLNS Chul'man 65.27 37 *e*P **P 06 23 20.6 -0.7**
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.8s
CLNS Chul'man 65.27 37 *e*P **P 06 23 20.6 -0.7**
comp=Z,14nm,0.8s
CHTO Chiang Mai 65.37 84 *e*P **P 06 23 22.7 +0.2**
CHTO pmax pmax
comp=Z,19nm,0.7s
CHTO Chiang Mai 65.37 84 *e*P **P 06 23 22.7 +0.2**
comp=Z,19nm,0.7s
CHTO Chiang Mai 65.37 84 P **P 06 23 23.0 +0.5**
comp=Z,31nm,0.8s
CHTO Chiang Mai 65.37 84 *e*P **P 06 23 22.7 +0.2**
comp=Z,19nm,0.7s
CM31 Chiang Mai Arr 65.55 84 *e*P **P 06 23 24.2 +0.5**
comp=Z,15nm,0.6s
CM31 Chiang Mai Arr 65.55 84 *e*P **P 06 23 24.2 +0.5**
comp=Z,15nm,0.6s
CMAR Chiang Mai Arr 65.55 84 P **P 06 23 23.9 +0.2**
comp=Z,23nm,0.7s,baz=300,slow=8.2,SNR=54
CMAR Chiang Mai Arr 65.55 84 P **P 06 23 23.9 +0.2**
CMAR pmax pmax
comp=Z,23nm,0.7s
CMAR Chiang Mai Arr 65.55 84 P **P 06 23 23.9 +0.2**
CMAR Chiang Mai Arr 65.55 84 P **P 06 23 23.9 +0.2**
comp=Z,23nm,0.7s
XAN Xi'an 65.75 65 P **P 06 23 25.5 +0.7**
XAN pP **pP 06 23 36.8 -2.5**
XAN S **S 06 32 07.5 +0.1**
XAN pmax pmax
comp=Z,12nm,0.6s
XAN pmax pmax
comp=Z,40nm,4.2s
XAN LR LR
comp=N,210nm,14.1s
XAN LR LR
comp=Z,77nm,9.4s
HIA Hailar 65.99 46 *e*P **P 06 23 28.5 +2.4**
HIA pmax pmax
comp=Z,9.0nm,0.5s
HIA Hailar 65.99 46 *e*P **P 06 23 28.5 +2.4**
comp=Z,9.4nm,0.5s
GYA Guiyang 67.67 73⇑ *i*P **P 06 23 37.6 +0.3**
GYA pP **pP 06 23 53.6 +1.8**
GYA sP **sP 06 24 00.9 +3.2**
GYA PcP **PcP 06 24 04.9 +0.9**
GYA PP **PP 06 26 08.3 +1.6**
GYA S **S 06 32 30.3 -0.7**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=N,560nm,18.4s
GYA LR LR
comp=E,420nm,19.5s
GYA LR LR
comp=Z,520nm,18.7s
SUR Sutherland 67.89 185 *e*P **P 06 23 40.4 +2.0**
comp=Z,172nm,2.3s
SUR Sutherland 67.89 185 P **P 06 23 40.7 +2.4**
comp=Z,117nm,0.7s,SNR=8.0
ENH Enshi 67.96 68 *e*P **P 06 23 39.6 +0.7**
comp=Z,20nm,0.6s
BJI Beijing 68.05 56 P **P 06 23 40.1 +0.8**
BJI S **S 06 32 36.3 +1.5**
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,230nm,4.2s
BJI LR LR
comp=N,340nm,21.4s
BJI LR LR
comp=E,440nm,20.1s
BJI LR LR
comp=Z,250nm,31.2s
BJT Baijiatuau 68.06 56 *e*P **P 06 23 40.2 +0.9**
BJT pmax pmax
comp=Z,27nm,0.8s
BJT Baijiatuau 68.06 56 *e*P **P 06 23 40.2 +0.9**
comp=Z,27nm,0.8s
WHN Wuhan 71.46 65 P **P 06 24 01.6 +1.2**
FRNY Flat Rock 72.07 313 *e*P **P 06 24 04.7 +0.9**
comp=Z,20nm,1.0s
FRNY *e* 06 24 17.3
CN2 Changchun 72.12 49 *e*P **P 06 24 06.0 +1.9**
CN2 *es*P **sP 06 24 24.4 -0.3**
CN2 *e*S **S 06 33 22.9 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,300nm,19.0s
MDV Middlebury 72.27 312 *e*P **P 06 24 06.5 +1.4**
comp=Z,2µm,0.6s
BILL Bilibino 72.34 15⇓ *e*P **P 06 24 04.9 -0.1**
BILL *e* 06 24 21.4
BILL pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 72.72 23⇓ *e*P **P 06 24 07.2 -0.2**
ACCN Adirondack Com 72.90 311 *e*P **P 06 24 10.9 +2.1**
comp=Z,33nm,1.2s
NJ2 Nanjing 73.96 62 *e*P **P 06 24 16.0 +0.8**
NJ2 pmax pmax
comp=Z,20nm,0.6s
QIZ Qiongzhong 74.02 78 P **P 06 24 13.3 -2.5**
QIZ S **S 06 33 44.5 -0.1**
QIZ pmax pmax
comp=Z,40nm,2.5s
QIZ pmax pmax
comp=Z,330nm,5.2s
QIZ Qiongzhong 74.02 78 *e*P **P 06 24 17.2 +1.4**
comp=Z,24nm,0.7s
MDJ Mudanjiang 74.16 46 P **P 06 24 15.8 -0.4**
MDJ pP **pP 06 24 29.9 -1.0**
MDJ sP **sP 06 24 36.0 -0.8**
MDJ S **S 06 33 44.4 -1.0**
MDJ sS **sS 06 34 09.0 -1.2**
MDJ ScS **ScS 06 34 21.1 -1.1**
MDJ pmax pmax
comp=Z,280nm,5.3s
MDJ LR LR
comp=N,120nm,32.7s
MDJ LR LR
comp=E,110nm,32.7s
MDJ LR LR
comp=Z,110nm,25.4s
KULM Kulim 74.19 95 *e*P **P 06 24 18.8 +2.0**
comp=Z,28nm,0.7s
PSI Prapat 74.23 98 P **P 06 24 17.6 +0.4**
BINY Binghamton 74.98 311 *e*P **P 06 24 22.2 +1.2**
comp=Z,359nm,2.5s
INK Inuvik 75.25 352 *e*P **P 06 24 20.4 -1.6**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 75.25 352 *e*P **P 06 24 20.4 -1.6**
comp=Z,3.8nm,0.6s
USRK Ussuriysk Arra 75.81 46 P **P 06 24 25.6 -0.1**
comp=Z,13nm,0.5s,baz=294,slow=4.7,SNR=51
VLA Vladivostok 76.38 47⇓ *i*P **P 06 24 28.8 -0.1**
VLA *e* 06 24 39.8
VLA *e* 06 27 20.4
VLA *eS* **S 06 34 10.8 +0.7**
VLA pmax pmax
comp=Z,35nm,1.2s
MVL Millersville 76.46 310 *e*P **P 06 24 30.8 +1.3**
comp=Z,44nm,1.3s
SSPA Standing Stone 77.05 311 *e*P **P 06 24 33.9 +1.2**
comp=Z,56nm,1.4s
SDMD Soldier's Deli 77.11 309 *e*P **P 06 24 33.1 0.0**
comp=Z,24nm,0.9s
KSAR Wonju Array Be 77.19 53 P **P 06 24 34.4 +0.8**
KSAR Wonju Array Be 77.19 53 P **P 06 24 34.4 +0.8**
KSRS Korea Array 77.21 53 P **P 06 24 34.4 +0.7**
comp=Z,18nm,0.5s,baz=307,slow=4.5,SNR=66
KSRS LR LR 07 02 47.2
comp=Z,192nm,18.4s,baz=310,slow=39
KSRS Korea Array 77.21 53 P **P 06 24 34.4 +0.7**
KSRS pmax pmax
comp=Z,18nm,0.5s
KSRS MLR MLR
comp=Z,192nm,18.4s
YKA Yellowknife Ar 77.26 343 P **P 06 24 32.5 -1.1**
comp=Z,3.4nm,0.5s,baz=28,slow=4.9,SNR=13
YKA Yellowknife Ar 77.26 343 P **P 06 24 32.5 -1.1**
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 77.26 343 P **P 06 24 32.5 -1.1**
COLD Coldfoot 77.40 359 *e*P **P 06 24 34.3 0.0**
comp=Z,18nm,1.2s
GLMI Grayling 78.44 317 *e*P **P 06 24 40.7 +0.3**
comp=Z,30nm,0.5s
TNA Tin City 78.49 6 *e*P **P 06 24 40.6 +0.3**
comp=Z,13nm,0.8s
EGAK Eagle 79.41 355 *e*P **P 06 24 46.8 +1.4**
comp=Z,104nm,2.0s
FFC Flin Flon 79.64 332 *e*P **P 06 24 46.5 -0.3**
FFC pmax pmax
comp=Z,23nm,0.8s
FFC Flin Flon 79.64 332 *e*P **P 06 24 46.5 -0.3**
comp=Z,23nm,0.8s
FFC Flin Flon 79.64 332 P **P 06 24 47.0 +0.2**
comp=Z,116nm,0.6s,SNR=9.2
COLA College 79.69 357 *e*P **P 06 24 47.2 +0.3**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 79.69 357 *e*P **P 06 24 47.2 +0.3**
comp=Z,6.4nm,0.9s
ILAR Eielson Array 79.75 357 P **P 06 24 46.9 -0.4**
comp=Z,2.1nm,0.4s,baz=337,slow=3.9,SNR=63
ILAR PKKPbc **PKKPbc 06 43 33.8 0.0**
comp=Z,0.3nm,0.6s,baz=207,slow=1.9,SNR=6.5
ILAR LR LR 07 00 33.5
comp=Z,166nm,18.1s,baz=19,slow=36
ILAR Eielson Array 79.75 357 P **P 06 24 46.9 -0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.4s
ILAR MLR MLR
comp=Z,166nm,18.1s
ILAR Eielson Array 79.75 357 P **P 06 24 46.9 -0.4**
ILAR PKKPbc **PKKPbc 06 43 33.8 0.0**
GAMB Gambell 79.86 8 *e*P **P 06 24 47.0 -0.8**
comp=Z,3.1nm,0.5s
YSS Yuzh-Sakhalins 79.94 39 *e*P **P 06 24 51.0 +2.4**
DAWY Dawson 79.96 354 *e*P **P 06 24 48.1 -0.4**
ACSO Alum Creek Sta 80.38 313 *e*P **P 06 24 52.0 +0.9**
comp=Z,38nm,1.3s
ULM Lac du Bonnet 80.43 327 P **P 06 24 50.6 -0.6**
comp=Z,5.3nm,0.4s,baz=46,slow=5.2,SNR=21
ULM LR LR 07 01 19.9
comp=Z,372nm,19.0s,baz=40,slow=36
ULM Lac du Bonnet 80.43 327 P **P 06 24 50.6 -0.6**
ULM pmax pmax
comp=Z,5.0nm,0.4s
ULM MLR MLR
comp=Z,372nm,19.0s
ULM Lac du Bonnet 80.43 327 *e*P **P 06 24 50.1 -1.0**
comp=Z,14nm,0.8s
MCK McKinley 80.87 358 *e*P **P 06 24 53.1 -0.2**
MCK pmax pmax
comp=Z,16nm,0.9s
MCK McKinley 80.87 358 *e*P **P 06 24 53.1 -0.2**
comp=Z,16nm,0.9s
TRF Troforare Moun 81.19 358 *e*P **P 06 24 55.3 +0.1**
MENT Mentasta 81.41 355 *e*P **P 06 24 56.4 +0.1**
TTA Tatalina 81.73 1 *e*P **P 06 24 58.0 +0.1**
TTA Tatalina 81.73 1 *e*P **P 06 24 58.0 +0.1**
ASAJ Asahikawa 81.77 41 P **P 06 24 58.9 +0.5**
comp=Z,6.6nm,0.6s,baz=307,slow=22,SNR=4.9
ASAJ Asahikawa 81.77 41 P **P 06 24 58.9 +0.5**
ASAJ pmax pmax
comp=Z,7.0nm,0.6s
ASAJ Asahikawa 81.77 41 P **P 06 24 58.9 +0.5**
PPLA Purkeypile 81.77 359 *e*P **P 06 24 58.3 +0.1**
comp=Z,34nm,0.6s
AGMN Agassiz Nation 81.82 325 *e*P **P 06 24 58.3 -0.3**
comp=Z,12nm,1.1s
PETK Petropavlovsk- 82.03 27 LR LR 07 06 12.8
comp=Z,200nm,20.3s,baz=313,slow=39
SML Sawmill 82.78 357 *e*P **P 06 25 03.6 +0.2**
SML pmax pmax
comp=Z,6.0nm,0.8s
SML Sawmill 82.78 357 *e*P **P 06 25 03.6 +0.2**
comp=Z,6.1nm,0.8s
PMR Palmer 83.02 358 *e*P **P 06 25 04.4 -0.2**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 83.02 358 *e*P **P 06 25 04.3 -0.2**
comp=Z,17nm,0.8s
BLO Bloomington 83.16 314 *e*P **P 06 25 05.5 -0.2**
BLO pmax pmax
comp=Z,21nm,0.7s
BLO Bloomington 83.16 314 *e*P **P 06 25 05.5 -0.2**
comp=Z,20nm,0.7s
RC01 Rabbit Creek A 83.54 358 *e*P **P 06 25 06.9 -0.3**
comp=Z,42nm,0.8s
WCI Wyandotte Cave 83.64 313 *e*P **P 06 25 08.6 +0.3**
WCI pmax pmax
comp=Z,12nm,0.7s
WCI Wyandotte Cave 83.64 313 *e*P **P 06 25 08.6 +0.3**
comp=Z,12nm,0.7s
TKL Tuckaleechee C 83.76 310 *e*P **P 06 25 09.2 +0.3**
TKL Tuckaleechee C 83.76 310 *e*P **P 06 25 09.2 +0.3**
MAJO Matsushiro 84.27 49 *e*P **P 06 25 13.4 +1.9**
MAJO pmax pmax
comp=Z,558nm,2.9s
MAJO Matsushiro 84.27 49 *e*P **P 06 25 13.4 +1.9**
comp=Z,558nm,2.9s
MAT Matsushiro 84.27 49 P **P 06 25 12.2 +0.7**
MJAR Matsushiro Arr 84.27 49 P **P 06 25 12.8 +1.3**
comp=Z,20nm,0.9s,baz=299,slow=4.9,SNR=23
MJAR LR LR 07 06 50.3
comp=Z,178nm,19.6s,baz=310,slow=38
MJAR Matsushiro Arr 84.27 49 P **P 06 25 12.8 +1.3**
MJAR pmax pmax
comp=Z,20nm,0.9s
MJAR MLR MLR
comp=Z,178nm,19.6s
MJAR Matsushiro Arr 84.27 49 P **P 06 25 12.8 +1.3**
CPCT Cooper Cave 84.36 310 *e*P **P 06 25 13.7 +1.7**
ECSD EROS Data Cent 85.49 322 *e*P **P 06 25 17.6 +0.2**
comp=Z,79nm,1.8s
A22A Carney Farms, 85.64 331 ⇑P **P 06 25 18.0 -0.2**
baz=85
B23A Brockton 85.69 330 ⇑P **P 06 25 17.8 -0.6**
baz=85
WVT Waverly 85.94 312 *e*P **P 06 25 19.2 -0.7**
WVT pmax pmax
comp=Z,5.0nm,0.6s
WVT Waverly 85.94 312 *e*P **P 06 25 19.2 -0.7**
comp=Z,5.5nm,0.6s
BRSD Miller 86.10 324 ⇓P **P 06 25 20.1 -0.4**
baz=86
D24A Glendive 86.47 329 ⇑P **P 06 25 22.4 +0.1**
baz=86
A20A Cobblestone Ra 86.52 332 ⇓P **P 06 25 22.2 -0.3**
baz=86
C22A Vida 86.62 330 ⇓P **P 06 25 22.7 -0.3**
baz=86
CCM Cathedral Cave 86.64 316 *e*P **P 06 25 23.3 0.0**

CCM				pmax	pmax				
	comp=Z,14nm,0.4s								
CCM	**Cathedral Cave**	**86.64**	**316**	*e*P	**P**	**06 25 23.3**	**0.0**		
	comp=Z,14nm,0.4s								
KDAK	**Kodiak Island**	**86.91**	**359**	P	**P**	**06 25 24.8**	**+0.7**		
	comp=Z,7.4nm,0.7s,baz=0.1,slow=3.6,SNR=9.9								
KDAK	**Kodiak Island**	**86.91**	**359**	P	**P**	**06 25 24.8**	**+0.7**		
KDAK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KDAK	**Kodiak Island**	**86.91**	**359**	P	**P**	**06 25 24.8**	**+0.7**		
A18A	**Metzger Ranch,**	**87.21**	**333**	⇓P	**P**	**06 25 25.9**	**0.0**		
	baz=87								
B19A	**Brinkman Farms**	**87.26**	**332**	⇓P	**P**	**06 25 26.2**	**0.0**		
	baz=87								
E23A	**Ismay**	**87.37**	**329**	⇓P	**P**	**06 25 26.8**	**+0.1**		
	baz=87								
LRAL	**Lakeview Retre**	**87.48**	**309**	*e*P	**P**	**06 25 27.9**	**+0.5**		
	comp=Z,15nm,0.8s								
F24A	**Ekalaka**	**87.52**	**328**	⇓P	**P**	**06 25 27.5**	**-0.1**		
	baz=87								
B18A	**Beardsley Farm**	**87.62**	**332**	⇓P	**P**	**06 25 27.7**	**-0.2**		
	baz=87								
E22A	**Miles City**	**87.69**	**329**	↑P	**P**	**06 25 27.6**	**-0.7**		
	baz=87								
A16A	**West Butte Ran**	**87.83**	**334**	⇓P	**P**	**06 25 28.3**	**-0.7**		
	baz=88								
EGMT	**Eagleton**	**87.92**	**332**	*e*P	**P**	**06 25 30.3**	**+1.0**		
	comp=Z,104nm,1.6s								
EGMT	**Eagleton**	**87.92**	**332**	⇓P	**P**	**06 25 29.4**	**+0.1**		
	baz=88								
BGNE	**Belgrade**	**87.96**	**322**	↑P	**P**	**06 25 29.3**	**-0.4**		
	baz=88								
F23A	**Volborg**	**88.03**	**328**	⇓P	**P**	**06 25 29.7**	**-0.3**		
	baz=88								
B16A	**M & M Farms, S**	**88.32**	**334**	⇓P	**P**	**06 25 30.5**	**-0.8**		
	baz=88								
H24A	**Dirks Ranch, A**	**88.43**	**327**	⇓P	**P**	**06 25 31.2**	**-0.7**		
	baz=88								
E20A	**Meyer Farm, Mu**	**88.53**	**330**	↑P	**P**	**06 25 30.7**	**-1.5**		
	baz=88								
WALA	**Waterton Lakes**	**88.55**	**335**	*e*P	**P**	**06 25 31.9**	**-0.5**		
	comp=Z,0.3nm,0.8s								
RSSD	**Black Hills**	**88.70**	**327**	*e*P	**P**	**06 25 33.7**	**+0.4**		
RSSD	**Black Hills**	**88.70**	**327**	*e*P	**P**	**06 25 33.7**	**+0.4**		
B15A	**Bradely Ranch,**	**88.71**	**334**	⇓P	**P**	**06 25 32.6**	**-0.5**		
	baz=88								
B13A	**Whitefish**	**89.33**	**335**	⇓P	**P**	**06 25 35.4**	**-0.6**		
	baz=89								
C14A	**Swan Lake**	**89.59**	**334**	⇓P	**P**	**06 25 36.5**	**-0.7**		
	baz=89								
JTMT	**Jette**	**89.80**	**335**	*e*P	**P**	**06 25 38.8**	**+0.5**		
BSMT	**Bassoo Peak**	**89.89**	**335**	*e*P	**P**	**06 25 39.5**	**+0.7**		
SWMT	**Swartz Lake**	**89.91**	**334**	*e*P	**P**	**06 25 39.2**	**+0.5**		
SLMT	**Seeley Lake**	**89.95**	**334**	*e*P	**P**	**06 25 40.6**	**+1.5**		
D14A	**Greenough**	**90.09**	**334**	↑P	**P**	**06 25 38.9**	**-0.7**		
	baz=90								
C12B	**Naegeli Ranch,**	**90.24**	**335**	↑P	**P**	**06 25 39.9**	**-0.3**		
	baz=90								
NEW	**Newport**	**90.31**	**337**	*e*P	**P**	**06 25 41.0**	**+0.5**		
NEW				pmax	pmax				
	comp=Z,62nm,1.9s								
NEW	**Newport**	**90.31**	**337**	*e*P	**P**	**06 25 41.0**	**+0.5**		
	comp=Z,62nm,1.9s								
NEW	**Newport**	**90.31**	**337**	⇓P	**P**	**06 25 40.6**	**0.0**		
	baz=90								
I21A	**Big Trails, Te**	**90.37**	**328**	⇓P	**P**	**06 25 40.6**	**-0.4**		
	baz=90								
D13A	**Huson**	**90.42**	**334**	↑P	**P**	**06 25 39.8**	**-1.3**		
	baz=90								
SDV	**Santo Domingo**	**90.50**	**281**	*e*P	**P**	**06 25 43.0**	**+0.8**		
	comp=Z,10nm,0.8s								
I20A	**Worland**	**90.61**	**329**	⇓P	**P**	**06 25 41.4**	**-0.7**		
	baz=90								
TUL1	**Tulsa**	**90.73**	**317**	↑P	**P**	**06 25 42.3**	**-0.4**		
	baz=90								
M25A	**Palm-Egli Farm**	**90.81**	**325**	↑P	**P**	**06 25 42.6**	**-0.5**		
	baz=90								
E13A	**Victor**	**90.88**	**334**	↑P	**P**	**06 25 42.5**	**-0.9**		
	baz=91								
G16A	**Moss Hill, Enn**	**91.03**	**332**	↑P	**P**	**06 25 43.6**	**-0.5**		
	baz=91								
M24A	**Cheyenne**	**91.14**	**326**	⇓P	**P**	**06 25 44.8**	**+0.1**		
	baz=91								
K21A	**Alcova**	**91.30**	**328**	↑P	**P**	**06 25 45.0**	**-0.5**		
	baz=91								
F13A	**Darby**	**91.50**	**334**	↑P	**P**	**06 25 45.7**	**-0.5**		
	baz=91								
PHWY	**Pilot Hill**	**91.57**	**326**	*e*P	**P**	**06 25 46.2**	**-0.7**		
	comp=Z,16nm,0.8s								
OD2	**Odessa Site #2**	**91.58**	**337**	*e*P	**P**	**06 25 48.0**	**+1.6**		
K19A	**Absolon Red Bu**	**91.83**	**329**	⇓P	**P**	**06 25 47.2**	**-0.7**		
	baz=92								
JCW	**Jim Creek**	**91.84**	**339**	*e*P	**P**	**06 25 47.3**	**-0.3**		
J18A	**Kendall Valley**	**92.00**	**330**	↑P	**P**	**06 25 48.5**	**-0.2**		
	baz=92								
G13A	**Cobalt**	**92.06**	**333**	↑P	**P**	**06 25 47.8**	**-1.1**		
	baz=92								
N23A	**Red Feather La**	**92.11**	**326**	⇓P	**P**	**06 25 48.0**	**-1.4**		
	baz=92								
PDAR	**Pinedale Array**	**92.17**	**329**	P	**P**	**06 25 48.6**	**-0.9**		
	comp=Z,1.0nm,0.9s,baz=64,slow=3.4,SNR=5.7								
PDAR				LR	LR	07 09 30.2			
	comp=Z,335nm,18.1s,baz=41,slow=37								
PDAR	**Pinedale Array**	**92.17**	**329**	P	**P**	**06 25 48.6**	**-0.9**		
O24A	**Longmont**	**92.32**	**325**	⇓P	**P**	**06 25 49.3**	**-0.8**		
	baz=92								
RRI2	**Red Ridge**	**92.42**	**331**	*e*P	**P**	**06 25 52.9**	**+2.2**		
	comp=Z,6.9nm,0.9s								
K18A	**Toltan Ranch,**	**92.48**	**329**	⇓P	**P**	**06 25 50.2**	**-0.7**		
	baz=92								
HAWA	**Hanford**	**92.73**	**337**	*e*P	**P**	**06 25 51.9**	**+0.2**		
	comp=Z,4.1nm,0.6s								
R26A	**Arlington**	**92.97**	**323**	↑P	**P**	**06 25 52.8**	**-0.3**		
	baz=93								
LON	**Longmire**	**93.11**	**339**	*e*P	**P**	**06 25 51.9**	**-1.6**		
LON				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LON	**Longmire**	**93.11**	**339**	*e*P	**P**	**06 25 51.9**	**-1.6**		
	comp=Z,4.3nm,0.9s								
BMO	**Blue Mountains**	**93.36**	**335**	*e*P	**P**	**06 25 53.5**	**-1.3**		
BMO				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BMO	**Blue Mountains**	**93.36**	**335**	*e*P	**P**	**06 25 53.5**	**-1.3**		
	comp=Z,2.0nm,0.6s								
I12A	**Atlanta**	**93.50**	**333**	↑P	**P**	**06 25 54.7**	**-0.8**		
	baz=93								
HWUT	**Hardware Ranch**	**93.97**	**330**	*e*P	**P**	**06 25 57.0**	**-0.7**		
	comp=Z,9.5nm,1.0s								
MFID	**Camas Ranch**	**94.08**	**333**	*e*P	**P**	**06 25 58.0**	**-0.2**		
	comp=Z,5.9nm,0.8s								
Q22A	**Crested Butte,**	**94.18**	**325**	↑P	**P**	**06 25 57.5**	**-1.4**		
	baz=94								
SDCO	**Great Sand Dun**	**94.41**	**324**	*e*P	**P**	**06 26 00.4**	**+0.4**		
	comp=Z,6.1nm,1.3s								
PV01	**Paradox Valley**	**95.54**	**326**	*e*P	**P**	**06 26 04.7**	**-0.4**		
	comp=Z,138nm,0.9s								
PV10	**Paradox Valley**	**95.55**	**326**	*e*P	**P**	**06 27.2**	**+2.1**		
	comp=Z,94nm,0.8s								
SRU	**San Rafael**	**95.61**	**328**	*e*P	**P**	**06 26 04.7**	**-0.6**		
SRU				pmax	pmax				
	comp=Z,4.0nm,0.7s								
SRU	**San Rafael**	**95.61**	**328**	*e*P	**P**	**06 26 04.7**	**-0.6**		
	comp=Z,3.8nm,0.7s								
NVAR	**Mina Array Bea**	**99.34**	**333**	P	**Pdif**	**06 26 23.1**	**+0.9**		
	comp=Z,0.2nm,0.4s,baz=70,slow=1.1,SNR=2.4								
NVAR				LR	LR	07 11 39.1			
	comp=Z,445nm,21.3s,baz=328,slow=36								
NVAR	**Mina Array Bea**	**99.34**	**333**	P	**Pdif**	**06 26 23.1**	**+0.9**		
TXAR	**Lajitas Array**	**100.04**	**317**	LR	LR	07 15 44.5			
	comp=Z,191nm,18.4s,baz=335,slow=38								
WRA	**Warramunga Arr**	**115.69**	**97**	PKP	**PKPdf**	**06 31 22.8**	**+0.7**		
	comp=Z,1.6nm,0.6s,baz=315,slow=1.7,SNR=18								
WRA				PP	PP	06 32 15.8	-10		
	comp=Z,0.6nm,0.5s,baz=322,slow=6.0,SNR=5.0								
WRA	**Warramunga Arr**	**115.69**	**97**	PKIKP	**PKPdf**	**06 31 22.8**	**+0.7**		
WRA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
WRA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**115.69**	**97**	PKP	**PKPdf**	**06 31 22.8**	**+0.7**		
WRA				PP	PP	06 32 15.8	-10		
AS31	**Alice Springs**	**117.19**	**101**	*e*PKPdf	**PKPdf**	**06 31 24.6**	**-0.3**		
ASAR	**Alice Springs**	**117.19**	**101**	PKP	**PKPdf**	**06 31 25.2**	**+0.3**		
	comp=Z,3.6nm,0.6s,baz=302,slow=1.5,SNR=66								
ASAR				PP	PP	06 32 28.9	-7.3		
	comp=Z,0.8nm,0.8s,baz=303,slow=6.0,SNR=4.6								
ASAR	**Alice Springs**	**117.19**	**101**	PKIKP	**PKPdf**	**06 31 25.2**	**+0.3**		
ASAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**117.19**	**101**	PKP	**PKPdf**	**06 31 25.2**	**+0.3**		
ASAR				PP	PP	06 32 28.9	-7.3		
CASY	**Casey**	**119.83**	**152**	*e*PKPdf	**PKPdf**	**06 31 27.5**	**-1.1**		
STKA	**Stephens Creek**	**126.91**	**106**	PKP	**PKPdf**	**06 31 44.3**	**+1.0**		
	comp=Z,4.4nm,0.7s,baz=332,slow=5.5,SNR=9.4								
STKA	**Stephens Creek**	**126.91**	**106**	*e*PKIKP	**PKPdf**	**06 31 44.2**	**+1.0**		
STKA	**Stephens Creek**	**126.91**	**106**	*e*PKPdf	**PKPdf**	**06 31 44.2**	**+0.9**		
STKA				PKP	**PKPdf**	**06 31 44.3**	**+0.9**		
DRV	**Dumont d'Urvil**	**131.50**	**151**	PP	**SKPbc**	**06 35 06.0**	**-5.7**		

IDC 13 06:42:32.4±2.3, 7°26S×128°15E, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=279.7km s-min=30.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.96**	**155**	Pn	Pn	06 45 51.3	-0.4
	1.2nm,0.3s,baz=332,slow=14,SNR=29						
WRA				Sn	Sn	06 48 13.4	-14
	0.8nm,0.3s,baz=329,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**17.23**	**162**	P	Pn	06 46 34.9	+0.3
	0.5nm,0.3s,baz=343,slow=11,SNR=22						
ASAR				S	Sn	06 49 32.5	-15
	0.2nm,0.3s,baz=349,slow=24,SNR=4.4						
MKAR	**Makanchi Array**	**67.45**	**328**	P	P	06 53 30.1	0.0
	0.5nm,0.5s,baz=120,slow=8.1,SNR=14						

*SOF **13** 06:57:11.2, 41.66N×24.04E, h15km, MD2.6*
*THE **13** 06:57:12.3, 41.62N×24.03E, h13km, ML2.2/4, Error ellipse: s-maj=1.1km s-min=0.6km az=193.0*
*CSEM **13** 06:57:12.0±0.2, 41.62N×24.06E, h2km, MD2.6, Error ellipse: s-maj=4.1km s-min=3.9km az=126.0*
*BEO **13** 06:57:13.4±1.1, 41.61N×24.03E, h0km, ML2.1/4*

ISC 13 06:57:11.9±0.9, 41.64N±0.02×24.05E±0.02, h13km±8km, n42, σ0°59/72, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMB	**Musomiste**	**0.24**	**258**	*i* Pg	**Pg**	**06 57 17.0**	**-0.1**
MMB	**Musomiste**	**0.24**	**258**	*i* Pg	**Pg**	**06 57 17.0**	**-0.1**
NVR	**Nevrokopi**	**0.32**	**206**	P	**Pg**	**06 57 18.4**	**-0.1**
NVR				S	**Sg**	**06 57 23.1**	**+0.2**
NVR	**Nevrokopi**	**0.32**	**206**	P	**Pg**	**06 57 18.4**	**-0.1**
NVR				S	**Sg**	**06 57 23.1**	**+0.2**
NVR	**Nevrokopi**	**0.32**	**206**	P	**Pg**	**06 57 18.4**	**-0.1**
NVR				S	**Sg**	**06 57 23.1**	**+0.2**
RZN	**Rozhen**	**0.50**	**84**	*i* Pg	**Pg**	**06 57 22.1**	**+0.3**
RZN	**Rozhen**	**0.50**	**84**	*i* Pg	**Pg**	**06 57 22.1**	**+0.3**
SRS	**Serrai**	**0.62**	**213**	P	**Pg**	**06 57 24.0**	**-0.1**
SRS				S	**Sb**	**06 57 33.0**	**-0.3**
SRS	**Serrai**	**0.62**	**213**	P	**Pg**	**06 57 24.0**	**-0.1**
SRS				S	**Sb**	**06 57 33.0**	**-0.3**
SRS	**Serrai**	**0.62**	**213**	P	**Pg**	**06 57 24.0**	**-0.1**
SRS				S	**Sb**	**06 57 33.0**	**-0.3**
PLD	**Plovdiv**	**0.67**	**46**	*i* Pg	**Pb**	**06 57 25.6**	**+0.1**
PLD	**Plovdiv**	**0.67**	**46**	*e*Pg	**Pb**	**06 57 25.4**	**-0.1**
PLD				*e*Sg	**Sb**	**06 57 36.1**	**+1.3**
PLD	**Plovdiv**	**0.67**	**46**	*e*Pg	**Pb**	**06 57 25.4**	**-0.1**
PLD				*e*Sg	**Sb**	**06 57 36.1**	**+1.3**
KAVA	**Kavala**	**0.73**	**151**	P	**Pg**	**06 57 25.5**	**-0.6**
KAVA				S	**Sb**	**06 57 36.8**	**+0.4**
KAVA	**Kavala**	**0.73**	**151**	P	**Pg**	**06 57 25.5**	**-0.6**
KAVA				S	**Sb**	**06 57 36.8**	**+0.4**
KAVA	**Kavala**	**0.73**	**151**	P	**Pg**	**06 57 25.5**	**-0.6**
KAVA				S	**Sb**	**06 57 36.8**	**+0.4**
KKB	**Krupnik**	**0.76**	**288**	*i* Pg	**Pg**	**06 57 25.5**	**-1.1**
KKB	**Krupnik**	**0.76**	**288**	*i* Pg	**Pg**	**06 57 25.5**	**-1.1**
PGB	**Panagyurishte**	**0.91**	**6**	*i* Pg	**Pg**	**06 57 28.5**	**-1.1**
PGB	**Panagyurishte**	**0.91**	**6**	*i* Pg	**Pg**	**06 57 28.5**	**-1.1**
SOH	**Sokhos**	**0.97**	**213**	P	**Pg**	**06 57 29.9**	**-0.7**
SOH				S	**Sb**	**06 57 43.5**	**+0.2**
SOH	**Sokhos**	**0.97**	**213**	P	**Pg**	**06 57 29.9**	**-0.7**
SOH				S	**Sb**	**06 57 43.5**	**+0.2**
SOH	**Sokhos**	**0.97**	**213**	P	**Pg**	**06 57 29.9**	**-0.7**
SOH				S	**Sb**	**06 57 43.5**	**+0.2**
KNT	**Kendrikon**	**0.99**	**241**	P	**Pg**	**06 57 30.8**	**-0.2**
KNT				S	**Sb**	**06 57 44.3**	**+0.5**
KNT	**Kendrikon**	**0.99**	**241**	P	**Pg**	**06 57 30.8**	**-0.2**
KNT				S	**Sb**	**06 57 44.3**	**+0.5**
KNT	**Kendrikon**	**0.99**	**241**	P	**Pg**	**06 57 30.8**	**-0.2**
KNT				S	**Sb**	**06 57 44.3**	**+0.5**
KDZ	**Kurdzhali**	**1.03**	**89**	*i* Pg	**Pg**	**06 57 30.8**	**-0.9**
KDZ	**Kurdzhali**	**1.03**	**89**	*i* Pg	**Pg**	**06 57 30.8**	**-0.9**
VTS	**Vitosha**	**1.14**	**327**	P	**Pg**	**06 57 32.5**	**-1.3**
VTS				S	**Sn**	**06 57 49.8**	**+0.6**
VTS	**Vitosha**	**1.14**	**327**	P	**Pg**	**06 57 32.5**	**-1.3**
VTS				S	**Sn**	**06 57 49.8**	**+0.6**
VTS	**Vitosha**	**1.14**	**327**	*i* P	**Pg**	**06 57 32.9**	**-0.8**
VTS	**Vitosha**	**1.14**	**327**	*e*Pg	**Pg**	**06 57 33.0**	**-0.8**
VTS				*e*Sg	**Sn**	**06 57 49.9**	**+0.7**
VTS	**Vitosha**	**1.14**	**327**	*e*Pg	**Pg**	**06 57 33.0**	**-0.8**
VTS				*e*Sg	**Sn**	**06 57 49.9**	**+0.7**
RDO	**Rodhopi**	**1.23**	**113**	P	**Pb**	**06 57 34.4**	**-0.5**
RDO				S	**Sn**	**06 57 51.4**	**+0.3**
RDO	**Rodhopi**	**1.23**	**113**	P	**Pb**	**06 57 34.4**	**-0.5**
RDO				S	**Sn**	**06 57 51.4**	**+0.3**
RDO	**Rodhopi**	**1.23**	**113**	P	**Pb**	**06 57 34.4**	**-0.5**
RDO				S	**Sn**	**06 57 51.4**	**+0.3**
OUR	**Ouranopolis**	**1.31**	**182**	P	**Pn**	**06 57 35.6**	**-0.2**
OUR				S	**Sb**	**06 57 52.9**	**0.0**
OUR	**Ouranopolis**	**1.31**	**182**	P	**Pn**	**06 57 35.6**	**-0.2**
OUR				S	**Sb**	**06 57 52.9**	**0.0**
OUR	**Ouranopolis**	**1.31**	**182**	P	**Pn**	**06 57 35.6**	**-0.2**
OUR				S	**Sb**	**06 57 52.9**	**0.0**
ZAPS	**Zavoj**	**1.94**	**328**	*e*Pn	**Pg**	**06 57 48.5**	**-0.6**
ZAPS				*e*Sn	**Sg**	**06 58 13.9**	**-0.3**
BARS	**Barje**	**2.03**	**306**	*e*Pn	**Pb**	**06 57 49.0**	**+0.3**
BARS				*e*Sg	**Sg**	**06 58 17.7**	**+0.5**
BARS	**Barje**	**2.03**	**306**	*e*Pn	**Pb**	**06 57 49.0**	**+0.3**
BARS				*e*Sg	**Sg**	**06 58 17.7**	**+0.5**

*ISCJB **13** 07:30:43.6±0.8, 8.9S±0.1×109.3W±0.2, h10km, mb4.2/22, MS4.3/9, Error ellipse: s-maj=25.6km s-min=10.7km az=151.3*
*IDC **13** 07:30:43.5±1.4, 8.73S×109.11W, h0km, mb3.8/8, mb1 4.1/8, mb1mx4.0/11, mbtmp3.8/8, MS4.4/10, Ms1 4.4/10, ms1mx4.3/20, Error ellipse: s-maj=55.3km s-min=17.8km az=54.0*
*NEIC **13** 07:30:45.1±0.6, 8.95S×109.34W, h10km, mb4.5/14, Error ellipse: s-maj=19.6km s-min=9.2km az=62.0*

ISC 13 07:30:45.0±0.9, 8.9S±0.1×109.3W±0.2, h10km, n50, σ1°24/37, mb4.3/22, MS4.3/9, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**18.13**	**180**	LR	LR	07 39 51.3	
	comp=Z,2μm,20.4s,baz=359,slow=30						
PAYG	**Puerto Ayora**	**20.60**	**68**	*e*P	Pn	07 35 25.2	-1.7
	20nm,1.0s						
RKT	**Rikitea**	**28.39**	**237**	*e*LR	LR	07 43 53.5	
	3μm,27.5s,baz=60						
RKT				*e*T	T	08 06 05.0	
	2.0nm,0.3s						
CMIG	**Matias Romero**	**29.49**	**29**	LR	LR	07 45 23.0	
	comp=Z,321nm,19.9s,baz=206,slow=30						
ATAH	**Atahualpa**	**30.63**	**89**	LR	LR	07 46 30.6	
	comp=Z,724nm,19.1s,baz=267,slow=31						
ROSC	**El Rosal**	**37.43**	**70**	LR	LR	07 50 26.6	
	comp=Z,427nm,19.9s,baz=206,slow=32						
TXAR	**Lajitas Array**	**38.40**	**8**	P	**P**	**07 38 08.8**	**+2.0**
	0.9nm,0.9s,baz=178,slow=4.5,SNR=2.8						
TXAR				LR	LR	07 51 03.7	
	comp=Z,488nm,19.5s,baz=310,slow=32						
TXAR	**Lajitas Array**	**38.40**	**8**	P	**P**	**07 38 08.8**	**+2.0**
PPT2	**Papeete2**	**40.09**	**253**	*e*LQ	LQ	07 47 32.4	
	2μm,28.5s						
PPT2				*e*LR	LR	07 49 13.6	
	2μm,26.0s,baz=79						
LPAZ	**La Paz**	**40.77**	**105**	P	**P**	**07 38 26.6**	**-0.9**
	0.7nm,0.7s,baz=230,slow=7.5,SNR=3.1						
LPAZ				LR	LR	07 51 19.3	
	comp=Z,715nm,21.3s,baz=254,slow=30						
LPAZ	**La Paz**	**40.77**	**105**	*e*P	**P**	**07 38 29.1**	**+1.7**
	2.6nm,0.8s						
TBI	**Tubuai**	**41.02**	**245**	*e*LQ	LQ	07 47 59.5	
	2μm,29.8s						
TBI				*e*LR	LR	07 49 39.7	
	2μm,27.8s,baz=74						
TBI				*e*T	T	08 21 55.0	
	8.4nm,0.3s						
LAZ	**Ladron**	**43.11**	**3**	*e*P	**P**	**07 38 48.0**	**+2.1**
	9.9nm,1.4s						
CFAA	**Coronel Fontan**	**44.27**	**127**	P	**P**	**07 38 55.4**	**+0.2**
	0.2nm,0.8s,baz=283,slow=14,SNR=2.9						
CFAA	**Coronel Fontan**	**44.27**	**127**	P	**P**	**07 38 55.4**	**+0.2**
MIAR	**Mount Ida**	**45.70**	**18**	*e*P	**P**	**07 39 06.2**	**-0.1**
	16nm,1.4s						
CCUT	**Cedar City**	**46.37**	**356**	*e*P	**P**	**07 39 13.8**	**+2.0**
	3.7nm,1.1s						
SDCO	**Great Sand Dun**	**46.54**	**4**	*e*P	**P**	**07 39 14.8**	**+1.6**
	9.2nm,1.4s						
PLCA	**Paso Flores**	**46.71**	**139**	P	**P**	**07 39 14.0**	**-0.3**
	3.9nm,1.2s,baz=276,slow=3.7,SNR=2.9						
PLCA	**Paso Flores**	**46.71**	**139**	*e*P	**P**	**07 39 14.5**	**+0.1**
	4.6nm,1.1s						
PV01	**Paradox Valley**	**46.80**	**1**	*e*P	**P**	**07 39 16.6**	**+1.5**
	959nm,1.5s						
SIV	**San Ignacio**	**47.51**	**103**	P	**P**	**07 39 20.2**	**-0.7**
	0.7nm,0.9s,baz=306,slow=11,SNR=2.9						
SIV	**San Ignacio**	**47.51**	**103**	P	**P**	**07 39 20.2**	**-0.7**
NVAR	**Mina Array Bea**	**47.83**	**350**	P	**P**	**07 39 23.4**	**+0.2**
	1.2nm,0.8s,baz=171,slow=9.4,SNR=8.3						
NVAR	**Mina Array Bea**	**47.83**	**350**	P	**P**	**07 39 23.4**	**+0.2**
RAR	**Rarotonga**	**50.07**	**250**	LR	LR	07 57 12.3	
	comp=Z,355nm,18.5s,baz=258,slow=32						
HWUT	**Hardware Ranch**	**50.30**	**358**	*e*P	**P**	**07 39 43.0**	**+0.9**
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**51.42**	**360**	P	**P**	**07 39 50.7**	**+0.2**
	0.9nm,0.8s,baz=178,slow=8.9,SNR=5.7						
PDAR	**Pinedale Array**	**51.42**	**360**	P	**P**	**07 39 50.7**	**+0.2**
PD01	**Pinedale Array**	**51.43**	**360**	*e*P	**P**	**07 39 50.8**	**+0.2**
PD02	**Pinedale Array**	**51.43**	**360**	*e*P	**P**	**07 39 50.3**	**-0.2**
MFID	**Camas Ranch**	**52.41**	**354**	*e*P	**P**	**07 39 58.6**	**+0.9**
	14nm,1.3s						
HLID	**Hailey**	**52.42**	**355**	*e*P	**P**	**07 39 57.3**	**-0.6**
	3.5nm,1.0s						
RSSD	**Black Hills**	**52.98**	**5**	*e*P	**P**	**07 40 01.8**	**-0.3**
	9.0nm,1.4s						
SWMT	**Swartz Lake**	**56.32**	**356**	*e*P	**P**	**07 40 25.5**	**-0.6**
BSMT	**Bassoo Peak**	**56.71**	**356**	*e*P	**P**	**07 40 29.4**	**+0.3**
	4.8nm,1.1s						
AGMN	**Agassiz Nation**	**58.17**	**11**	*e*P	**P**	**07 40 39.7**	**+0.7**
	10nm,1.3s						
ULM	**Lac du Bonnet**	**60.05**	**10**	P	**P**	**07 40 49.0**	**-3.0**
	1.1nm,0.6s,baz=225,slow=5.7,SNR=4.4						
ULM				LR	LR	08 04 49.6	
	comp=Z,283nm,19.0s,baz=160,slow=34						
ULM	**Lac du Bonnet**	**60.05**	**10**	P	**P**	**07 40 49.0**	**-3.0**
AFI	**Afiamalu**	**61.33**	**259**	LR	LR	07 59 18.4	
	comp=Z,215nm,21.0s,baz=353,slow=28						
YKA	**Yellowknife Ar**	**71.30**	**357**	P	**P**	**07 42 03.1**	**-1.3**
	1.0nm,0.9s,baz=169,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**71.30**	**357**	P	**P**	**07 42 03.1**	**-1.3**
ILAR	**Eielson Array**	**78.66**	**345**	P	**P**	**07 42 46.4**	**-0.5**
	1.1nm,1.0s,baz=159,slow=4.9,SNR=8.3						
ILAR				LR	LR	08 10 18.8	
	comp=Z,280nm,19.0s,baz=322,slow=30						
ILAR	**Eielson Array**	**78.66**	**345**	P	**P**	**07 42 46.4**	**-0.5**
QSPA	**South Pole Qui**	**81.18**	**180**	*e*P	**P**	**07 43 01.4**	**+0.6**
	13nm,1.1s						
DZM	**Mont Dzumac**	**81.44**	**249**	*e*LR	LR	08 08 16.5	
	306nm,27.1s						
MKAR	**Makanchi Array**	**140.97**	**347**	PKhKP	PKPpre	07 50 11.4	
	0.3nm,0.7s,baz=27,slow=1.9,SNR=3.2						
MKAR	**Makanchi Array**	**140.97**	**347**	PKPpre

WRA S **S** 08 04 54.2 -1.1
1.3nm,0.9s,baz=96,slow=15,SNR=5.5
WRA Warramunga Arr 47.68 260 P **P** 07 58 18.0 -1.0
WRA PcP **PcP** 07 59 44.4 +0.2
WRA S **S** 08 04 54.2 -1.1
AS31 Alice Springs 47.72 255 *e*P **P** 07 58 18.5 -0.8
ASAR Alice Springs 47.72 255 P **P** 07 58 18.7 -0.6
53nm,0.8s,baz=86,slow=8.6,SNR=286
ASAR PcP **PcP** 07 59 44.5 +0.2
3.5nm,0.6s,baz=100,slow=4.7,SNR=5.8
ASAR S **S** 08 04 53.7 -2.2
1.7nm,0.8s,baz=90,slow=16,SNR=9.0
ASAR Alice Springs 47.72 255 P **P** 07 58 18.7 -0.6
ASAR PcP **PcP** 07 59 44.5 +0.2
ASAR S **S** 08 04 53.7 -2.2
FORT Forrest 52.66 245 *e*P **P** 07 58 54.5 -1.6
16nm,0.6s
FORT Forrest 52.66 245 *e*P **P** 07 58 55.7 -0.4
15nm,0.5s
FITZ Fitzroy Crossi 56.09 260 *e*P **P** 07 59 20.1 -0.8
4.2nm,0.6s
SBA Scott Base 60.06 184 *e*P **P** 07 59 50.4 +3.0
9.7nm,0.7s
VNDA Vanda 60.16 186 *e*P **P** 07 59 50.5 +2.5
9.8nm,1.0s
MJAR Matsushiro Arr 70.33 321 P **P** 08 00 53.1 -0.6
3.4nm,0.6s,baz=152,slow=5.9,SNR=8.5
MJAR Matsushiro Arr 70.33 321 P **P** 08 00 53.1 -0.6
PETK Petropavlovsk- 75.11 343 P **P** 08 01 20.9 -0.5
2.8nm,0.6s,baz=111,slow=8.5,SNR=6.6
PETK Petropavlovsk- 75.11 343 P **P** 08 01 20.9 -0.5
MONP Monument Peak 75.80 48 ⇓P **P** 08 01 26.2 +0.2
baz=76
EDW2 Edwards Air Fo 75.83 45 ⇓P **P** 08 01 26.1 +0.1
baz=76
ISA Isabella 75.95 44 *e*P **P** 08 01 26.4 -0.2
15nm,1.4s
ISA Isabella 75.95 44 ⇑P **P** 08 01 26.8 +0.1
baz=76
CMB Columbia Colle 76.11 42 *e*P **P** 08 01 26.8 -0.6
1.2nm,0.6s
LRMC Laurel Mountai 76.37 45 ⇑P **P** 08 01 29.4 +0.4
baz=76
MPMC Manual Prospec 76.83 45 ⇓P **P** 08 01 32.2 +0.5
baz=77
WCN Washoe City 77.26 41 ⇑P **P** 08 01 34.1 +0.1
baz=77
KSRS Korea Array 77.30 317 P **P** 08 01 35.3 +1.3
0.8nm,0.4s,baz=116,slow=5.5,SNR=3.9
KSAR Wonju Array Be 77.31 317 P **P** 08 01 35.3 +1.2
IRM Iron Mountain 77.38 47 ⇑P **P** 08 01 35.6 +1.0
baz=78
NVAR Mina Array Bea 77.66 42 P **P** 08 01 36.5 +0.2
2.0nm,0.8s,baz=224,slow=8.0,SNR=15
NVAR pP **pP** 08 02 36.5 +0.2
1.6nm,1.0s,baz=234,slow=9.4,SNR=2.8
NVAR Mina Array Bea 77.66 42 P **P** 08 01 36.5 +0.2
NVAR pP **pP** 08 02 36.5 +0.2
214A Organ Pipe Nat 77.89 50 ⇑P **P** 08 01 37.7 +0.2
baz=78
Z13A Yuma Proving G 77.92 49 ⇓P **P** 08 01 38.0 +0.4
baz=78
Z14A Wintersburg 78.51 49 ⇑P **P** 08 01 41.2 +0.4
baz=79
W13A Hualapai Mount 78.76 47 ⇑P **P** 08 01 42.9 +0.5
baz=79
Y14A Wickenburg 78.77 48 ⇓P **P** 08 01 42.8 +0.6
baz=79
USRK Ussuriysk Arra 78.93 324 P **P** 08 01 44.0 +1.2
1.2nm,0.7s,baz=95,slow=7.0,SNR=3.2
R11A Troy Canyon, C 79.37 44 ⇓P **P** 08 01 46.2 +0.6
baz=80
TUC Tucson 79.55 51 *e*P **P** 08 01 46.5 0.0
54nm,2.6s
318A Bisbee 79.72 52 ⇓P **P** 08 01 48.3 +0.8
baz=80
218A Dragoon 79.93 51 ⇑P **P** 08 01 49.6 +0.9
baz=80
X16A Lo Mia Camp, P 80.13 49 ⇓P **P** 08 01 50.8 +1.0
baz=80
Y17A Roosevelt 80.19 50 ⇓P **P** 08 01 50.5 +0.5
baz=80
319A Douglas 80.22 52 ⇓P **P** 08 01 50.9 +0.7
baz=80
219A White Tail Can 80.53 52 ⇓P **P** 08 01 52.6 +0.7
baz=81
MDJ Mudanjiang 80.54 323 P **P** 08 01 51.8 +0.4
MDJ pP pP 08 02 40.0 -12
MDJ sP sP 08 03 01.5 -17
MDJ S **SKSac** 08 11 40.8 -3.9
MDJ ScS **ScS** 08 11 58.5 +4.6
MDJ pmax pmax
comp=Z,5.0nm,1.3s
MDJ pmax pmax
comp=Z,170nm,4.4s
X17A Forest Lakes 80.54 49 ⇓P **P** 08 01 52.9 +0.8
baz=81
U15A North Rim 80.56 47 ⇓P **P** 08 01 52.8 +0.7
baz=81
WUAZ Wupatki 80.73 48 ⇓P **P** 08 01 53.2 +0.3
baz=81
320A Kipp Ranch, An 80.76 53 ⇓P **P** 08 01 53.8 +0.7
baz=81
NJ2 Nanjing 80.80 308 *e*P **P** 08 01 54.3 +1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
Y18A Canyon Day Jun 80.82 50 ⇑P **P** 08 01 54.2 +0.8
baz=81
119A Ashpeak Ranch, 80.87 51 ⇑P **P** 08 01 54.1 +0.4
baz=81
220A Playas Peak, P 81.03 52 ⇓P **P** 08 01 55.5 +0.9
baz=81
V17A Tonalea, Kykot 81.19 48 ⇓P **P** 08 01 56.1 +0.8
baz=81
U16A Tuba City 81.22 47 ⇑P **P** 08 01 56.3 +0.8
baz=81
120A U Bar Ranch, L 81.26 52 ⇓P **P** 08 01 56.8 +1.0
baz=81
Y19A Nutrioso 81.47 50 ⇓P **P** 08 01 58.1 +1.1
baz=82
R15A Junction 81.49 45 ⇑P **P** 08 01 57.9 +1.0
baz=82
Z20A Nine Sixteen R 81.56 51 ⇑P **P** 08 01 58.3 +1.0
baz=82
X19A St. Johns 81.68 50 ⇓P **P** 08 01 59.0 +1.1
baz=82
S16A Weppner Ranch, 81.70 46 ⇑P **P** 08 01 58.6 +0.7
baz=82
U17A Shonto 81.77 47 ⇑P **P** 08 01 59.5 +1.1
baz=82
V18A Ganado 81.84 48 ⇑P **P** 08 01 59.5 +0.8
baz=82
T17A Navajo Res., N 81.88 47 ⇓P **P** 08 01 59.8 +0.9
baz=82
121A Cookes Peak, D 81.88 52 ⇓P **P** 08 02 00.0 +1.0
baz=82
BMO Blue Mountains 82.03 37 *e*P **P** 08 02 00.4 +1.1
comp=Z,36nm,2.7s
MFID Camas Ranch 82.06 39 ⇑P **P** 08 02 00.3 +0.7
baz=82
Y20A Horse Springs, 82.09 50 ⇓P **P** 08 02 01.2 +1.1
baz=82
DUG Dugway 82.18 43 ⇓P **P** 08 02 00.7 +0.4
baz=82
S17A Black Ridge (B 82.20 46 ⇑P **P** 08 02 01.0 +0.5
baz=82
U18A Rough Rock, Ch 82.24 48 ⇓P **P** 08 02 01.6 +0.8
baz=82
X20A Quemado 82.31 50 ⇑P **P** 08 02 02.3 +1.1
baz=82
V19A Window Rock 82.47 49 ⇑P **P** 08 02 02.3 +0.2
baz=83
W20A Ramah 82.58 49 ⇓P **P** 08 02 03.5 +0.9
baz=83,SNR=12
T18A Mexican Hat 82.59 47 ⇑P **P** 08 02 03.4 +0.9
baz=83,SNR=20
U19A Dine' College, 82.64 48 ⇑P **P** 08 02 03.3 +0.4
baz=83,SNR=5.0
Y21A Point of Rocks 82.65 51 ⇓P **P** 08 02 04.4 +1.3
baz=83
R17A Hanksville Air 82.66 46 ⇓P **P** 08 02 02.5 -0.3
baz=83,SNR=6.0
I12A Atlanta 82.70 39 ⇑P **P** 08 02 03.0 +0.1
baz=83,SNR=6.7
N15A Stansbury Isla 82.74 43 ⇑P **P** 08 02 03.8 +0.7
baz=83
TMUT Trail Mountain 82.77 45 *e*P **P** 08 02 05.3 +1.7
comp=Z,20nm,1.0s
X21A Alamocita Cree 82.78 50 ⇑P **P** 08 02 04.2 +0.6
baz=83
S18A Hurst Farm, Bl 82.78 46 ⇑P **P** 08 02 04.1 +0.5
baz=83
Z22A Elephant Butte 82.83 52 ⇓P **P** 08 02 03.8 -0.1
baz=83
L14A Malta 82.89 41 ⇓P **P** 08 02 04.3 +0.3
baz=83
V20A Brimhall 82.93 49 ⇓P **P** 08 02 04.7 +0.4
baz=83
HLID Hailey 83.00 40 *e*P **P** 08 02 05.0 +0.5
comp=Z,3.4nm,0.8s
HLID Hailey 83.00 40 ⇓P **P** 08 02 04.7 +0.2
baz=83,SNR=8.4
T19A Beclabito 83.03 48 ⇑P **P** 08 02 05.9 +1.1
baz=83
HVU Hansel Valley 83.05 42 *e*P **P** 08 02 05.2 +0.5
comp=Z,6.7nm,0.8s
J13A Cove Ranch, Pi 83.06 40 ⇑P **P** 08 02 04.9 +0.2
baz=83
M15A Larsen Ranch, 83.09 42 ⇑P **P** 08 02 04.8 -0.2
baz=83,SNR=9.0
324A Moseley Ranch, 83.13 54 ⇓P **P** 08 02 06.0 +0.6
baz=83,SNR=8.2
SRU San Rafael 83.13 45 *e*P **P** 08 02 06.0 +0.7
comp=Z,8.0nm,0.7s
SRU San Rafael 83.13 45 ⇓P **P** 08 02 05.8 +0.5
baz=83,SNR=14
Y22A Socorro 83.14 51 ⇓P **P** 08 02 05.7 +0.3
baz=83,SNR=6.8
P17A Butcher Ranch, 83.17 45 ⇑P **P** 08 02 06.3 +0.8
baz=83
R18A Canyonlands Na 83.19 46 ⇓P **P** 08 02 06.2 +0.6
baz=83
K14A Jones Ranch, D 83.20 41 ⇓P **P** 08 02 06.1 +0.5
baz=83
425A Indio Mountain 83.22 55 ⇑P **P** 08 02 06.8 +0.9
baz=83,SNR=12
LAZ Ladron 83.23 50 *e*P **P** 08 02 07.0 +1.1
comp=Z,2.3nm,1.1s
JLU Jordanelle 83.28 43 *e*P **P** 08 02 06.5 +0.4
comp=Z,4.3nm,0.9s
H12A Diamond D Ranc 83.28 39 ⇓P **P** 08 02 05.9 -0.1
baz=83,SNR=7.0
MNTX Cornudas Mount 83.32 54 *e*P **P** 08 02 07.0 +0.7
comp=Z,4.6nm,0.8s
MNTX Cornudas Mount 83.32 54 ⇑P **P** 08 02 06.9 +0.7
baz=83,SNR=12
MNTX ⇑P **P** 08 02 06.9 +0.7
baz=83,SNR=12
626A Big Bend Ranch 83.35 56 ⇑P **P** 08 02 07.5 +1.0
baz=84,SNR=7.5
I13A Wildhorse Cree 83.37 39 ⇓P **P** 08 02 07.0 +0.6
baz=84
Z23A Rita Site, Whi 83.38 52 ⇓P **P** 08 02 07.2 +0.6
baz=84
224A Cornudas Mount 83.38 53 ⇑P **P** 08 02 07.3 +0.6
baz=84,SNR=11
Q18A Rafter H Ranch 83.39 45 ⇑P **P** 08 02 06.9 +0.4
baz=84,SNR=9.0
S19A Harvey Farm, M 83.40 47 ⇓P **P** 08 02 06.5 -0.2
baz=84
L15A Malad City 83.41 42 ⇓P **P** 08 02 06.9 +0.2
baz=84
J14A Carey 83.42 40 ⇓P **P** 08 02 07.3 +0.7
baz=84,SNR=10
N16A Rees Ranch, Co 83.44 43 ⇓P **P** 08 02 07.4 +0.5
baz=84
325A Bean Ranch, Si 83.49 54 ⇓P **P** 08 02 07.8 +0.5
baz=84,SNR=6.2
BNM Barren Site 83.49 51 *e*P **P** 08 02 08.0 +0.7
comp=Z,1.5nm,0.6s
M16A Huntsville 83.53 43 ⇓P **P** 08 02 07.0 -0.3
baz=84,SNR=5.9
O17A Robinson Place 83.54 44 ⇓P **P** 08 02 08.0 +0.6
baz=84,SNR=15
LPM Los Pinos Moun 83.56 51 *e*P **P** 08 02 08.8 +1.2
P18A Preston Nutter 83.58 45 ⇑P **P** 08 02 08.1 +0.4
baz=84
R19A Curley Farm, L 83.58 46 ⇑P **P** 08 02 07.7 +0.1
baz=84,SNR=6.2
MVCO Mesa Verde 83.58 47 ⇓P **P** 08 02 07.9 +0.2
baz=84
526A Mary Lane Ranc 83.60 56 ⇑P **P** 08 02 08.4 +0.6
baz=84,SNR=8.3
TXAR Lajitas Array 83.63 56 P **P** 08 02 08.7 +0.8
comp=Z,2.6nm,0.7s,baz=217,slow=6.1,SNR=16
TXAR Lajitas Array 83.63 56 P **P** 08 02 08.7 +0.8
H13A Challis 83.65 39 ⇓P **P** 08 02 08.0 +0.3
baz=84
K15A Arbon 83.68 41 ⇑P **P** 08 02 08.1 +0.2
baz=84
HWUT Hardware Ranch 83.73 42 *e*P **P** 08 02 08.2 -0.1
comp=Z,3.1nm,0.7s
PV10 Paradox Valley 83.77 46 *e*P **P** 08 02 08.8 +0.1
comp=Z,154nm,0.8s
I14A Mackay 83.78 40 ⇓P **P** 08 02 09.3 +0.8
baz=84
U21A Nageezi 83.80 48 ⇑P **P** 08 02 09.3 +0.5
baz=84,SNR=11
Y23A Lovelace Mesa, 83.81 51 ⇑P **P** 08 02 09.1 +0.3
baz=84
N17A Moffit Pass 83.86 43 ⇑P **P** 08 02 09.3 +0.2
baz=84
PV04 Paradox Valley 83.87 46 *e*P **P** 08 02 09.2 +0.2
627A Terlingua Ranc 83.90 56 ⇑P **P** 08 02 10.5 +1.2
baz=84,SNR=16
Q19A Hogan Spring (83.91 46 ⇓P **P** 08 02 09.6 +0.5
baz=84,SNR=9.6
426A Mcdonald Obser 83.91 55 ⇓P **P** 08 02 09.9 +0.4
baz=84,SNR=16
G13A Cobalt 83.95 38 ⇓P **P** 08 02 09.1 -0.2
baz=84
S20A Disappointment 83.98 47 ⇑P **P** 08 02 10.2 +0.5
baz=84
ANMO Albuquerque 83.98 50 *e*P **P** 08 02 10.2 +0.5
comp=Z,2.4nm,0.7s
PV01 Paradox Valley 83.98 47 *e*P **P** 08 02 09.6 0.0
comp=Z,504nm,1.1s
527A Woodward Ranch 84.01 56 ⇑P **P** 08 02 10.4 +0.4
baz=84,SNR=10
L16A Fish Haven 84.02 42 ⇓P **P** 08 02 09.7 -0.1
baz=84
O18A Roosevelt 84.06 44 ⇓P **P** 08 02 10.0 +0.1
baz=84
Z24A Sheeppen Canyo 84.06 52 ⇑P **P** 08 02 10.5 +0.4
baz=84
J15A Blackfoot 84.12 41 ⇓P **P** 08 02 10.9 +0.8
baz=84,SNR=11
NEW Newport 84.13 35 ⇑P **P** 08 02 10.0 +0.1
baz=84
T21A Navajo Lake 84.16 48 ⇑P **P** 08 02 10.8 +0.3
baz=84
H14A Leadore 84.21 39 ⇓P **P** 08 02 11.0 +0.3
baz=84
326A Caldwell Ranch 84.23 54 ⇑P **P** 08 02 11.5 +0.6
baz=84
M17A Scullys Gap (B 84.24 43 ⇑P **P** 08 02 10.7 -0.2
baz=84
Y24A Capitan 84.27 52 ⇓P **P** 08 02 11.9 +0.7
baz=84,SNR=12
F13A Darby 84.28 38 ⇑P **P** 08 02 11.0 +0.1
baz=84
S21A Coal Bank Pass 84.29 47 ⇓P **P** 08 02 12.0 +0.6
baz=84
W23A Werner Place, 84.30 50 ⇓P **P** 08 02 11.7 +0.4
baz=84
628A Black Gap, Mar 84.31 57 ⇓P **P** 08 02 11.8 +0.6
baz=84,SNR=9.4
GDL2 Guadalupe Moun 84.31 54 *e*P **P** 08 02 12.9 +1.5
K16A Soda Springs 84.35 41 ⇑P **P** 08 02 11.8 +0.5
baz=84
MAW Mawson 84.37 199 P **P** 08 02 10.9 0.0
comp=Z,13nm,0.8s,baz=148,slow=9.5,SNR=4.0
MAW Mawson 84.37 199 P **P** 08 02 10.9 0.0
L17A Cokeville 84.42 42 ⇓P **P** 08 02 11.2 -0.6
baz=84
P19A Cripple Cowboy 84.43 45 ⇑P **P** 08 02 12.0 +0.1
baz=84,SNR=6.0
MCK McKinley 84.44 11 *e*P **P** 08 02 10.4 -0.7
comp=Z,7.5nm,1.0s
226A Malaga, Loving 84.46 54 ⇑P **P** 08 02 12.7 +0.7
baz=85,SNR=9.4
427A Hayter Ranch, 84.48 55 ⇑P **P** 08 02 13.1 +0.9
baz=85,SNR=20
Z25A Roswell 84.52 52 ⇑P **P** 08 02 13.1 +0.7
baz=85,SNR=6.4
V23A Ortiz Mt. (NFS 84.54 50 ⇓P **P** 08 02 13.5 +1.0
baz=85
Q20A Ridgley Place, 84.56 46 ⇓P **P** 08 02 12.9 +0.4
baz=85
M18A Lyman 84.60 43 ⇓P **P** 08 02 13.5 +0.8
baz=85
T22A Edith 84.61 48 ⇓P **P** 08 02 13.6 +0.7
baz=85
H15A Lima 84.64 39 ⇑P **P** 08 02 13.1 +0.3
baz=85
O19A Miners Draw (B 84.66 45 ⇑P **P** 08 02 12.5 -0.4
baz=85
528A Cox Ranch, San 84.67 56 ⇑P **P** 08 02 14.1 +1.0
baz=85,SNR=14
CLNB Carlsbad 84.71 54 *e*P **P** 08 02 14.1 +0.7
comp=Z,1.6nm,0.6s
E13A Victor 84.73 37 ⇓P **P** 08 02 13.0 0.0
baz=85
K17A Gardner Place, 84.73 42 ⇑P **P** 08 02 13.2 0.0
baz=85
P20A De Beque 84.76 46 ⇓P **P** 08 02 13.7 +0.3
baz=85
126A Clayton Basin, 84.77 53 ⇓P **P** 08 02 14.1 +0.5
baz=85,SNR=6.3
RRI2 Red Ridge 84.79 41 *e*P **P** 08 02 14.1 +0.4
comp=Z,10nm,1.3s
R21A Cimarron 84.80 47 ⇓P **P** 08 02 14.4 +0.6
baz=85,SNR=7.5
U23A El Rito 84.80 49 ⇓P **P** 08 02 14.3 +0.5
baz=85
Y25A Mesa, Roswell 84.82 52 ⇑P **P** 08 02 14.2 +0.3
baz=85,SNR=6.4
W24A Lazy 6 Ranch, 84.86 50 ⇑P **P** 08 02 14.5 +0.4
baz=85
D13A Huson 84.94 37 ⇑P **P** 08 02 14.3 +0.3
baz=85
I16A Newdale 84.96 41 ⇓P **P** 08 02 14.7 +0.4
baz=85
428A Kincaid Ranch, 84.98 55 ⇑P **P** 08 02 15.7 +1.0
baz=85,SNR=9.7
Q21A Lamborn Mesa, 85.00 46 ⇑P **P** 08 02 15.1 +0.4
baz=85
S22A 4UR Ranch, Cre 85.00 48 ⇓P **P** 08 02 15.3 +0.4
baz=85
CPRX Cap Rock 85.05 53 *e*P **P** 08 02 15.5 +0.5
comp=Z,9.0nm,0.8s
227A Bennet, Jal 85.06 54 ⇑P **P** 08 02 16.0 +1.0
baz=85
Z26A Caprock 85.07 53 ⇓P **P** 08 02 15.7 +0.6
baz=85,SNR=13
MSO Missoula 85.08 37 ⇓P **P** 08 02 15.3 +0.5
baz=85
X25A Clemmons Ranch 85.11 51 ⇑P **P** 08 02 15.7 +0.4
baz=85
328A Wristen Ranch, 85.16 55 ⇑P **P** 08 02 16.0 +0.5
baz=85,SNR=9.7
O20A White River Ci 85.17 45 ⇑P **P** 08 02 15.7 +0.2
baz=85
J17A Brown Place, J 85.17 41 ⇑P **P** 08 02 15.9 +0.5
baz=85
V24A Rampart Ranch, 85.19 50 ⇑P **P** 08 02 16.3 +0.5
baz=85
K18A Toltan Ranch, 85.23 42 ⇑P **P** 08 02 16.6 +0.8
baz=85
127A Arkansas Junct 85.29 53 ⇓P **P** 08 02 16.6 +0.4
baz=85,SNR=5.3
F15A Butte 85.39 38 ⇑P **P** 08 02 16.7 +0.2
baz=86
L19A Farson 85.40 43 ⇓P **P** 08 02 17.2 +0.6
baz=86
Q22A Crested Butte, 85.47 47 ⇓P **P** 08 02 17.6 +0.4
baz=86
D14A Greenough 85.47 37 ⇓P **P** 08 02 16.8 +0.1
baz=86
N20A Spence Gulch, 85.49 44 ⇓P **P** 08 02 17.5 +0.4
baz=86
J18A Kendall Valley 85.53 42 ⇑P **P** 08 02 17.1 -0.2
baz=86,SNR=6.2
H16A Russell Place, 85.54 40 ⇓P **P** 08 02 17.7 +0.4
baz=86
W25A X Bar L Ranch, 85.56 51 ⇓P **P** 08 02 18.0 +0.5
baz=86
SMCO Snowmass 85.57 46 *e*P **P** 08 02 17.9 +0.1
comp=Z,2.6nm,0.6s
PDAR Pinedale Array 85.60 42 P **P** 08 02 17.1 -0.5
comp=Z,1.3nm,0.6s,baz=206,slow=3.2,SNR=12
PDAR pP **pP** 08 03 19.4 +0.6
comp=Z,1.0nm,1.0s,baz=259,slow=1.5,SNR=3.0
PDAR Pinedale Array 85.60 42 P **P** 08 02 17.1 -0.5
PDAR pP **pP** 08 03 19.4 +0.6
PD02 Pinedale Array 85.60 42 *e*P **P** 08 02 15.3 -2.4
Z27A Tatum 85.67 53 ⇓P **P** 08 02 18.5 +0.5
baz=86
COLA College 85.68 11 *e*P **P** 08 02 16.1 -1.1
comp=Z,4.7nm,0.7s
ILAR Eielson Array 85.77 12 P **P** 08 02 16.6 -1.0
comp=Z,1.3nm,0.7s,baz=240,slow=5.5,SNR=28
ILAR pP **pP** 08 03 18.7 -0.1
comp=Z,1.1nm,1.0s,baz=235,slow=6.4,SNR=2.3
ILAR Eielson Array 85.77 12 P **P** 08 02 16.6 -1.0
ILAR pP **pP** 08 03 18.7 -0.1
F16A Kennard Place, 85.87 39 ⇑P **P** 08 02 19.2 +0.5
baz=86
R23A Moffat 85.91 48 ⇓P **P** 08 02 19.1 -0.2
baz=86
P22A Eagle 85.92 46 ⇑P **P** 08 02 19.3 0.0
baz=86
SDCO Great Sand Dun 85.94 48 *e*P **P** 08 02 21.8 +2.4
comp=Z,1.7nm,0.8s
SDCO Great Sand Dun 85.94 48 ⇓P **P** 08 02 19.5 0.0
baz=86
SDCO ⇓P **P** 08 02 19.5 0.0
baz=86
Y27A Causey 85.95 52 ⇑P **P** 08 02 20.0 +0.6
baz=86
N21A Black Mountain 85.95 45 ⇑P **P** 08 02 19.7 +0.3
baz=86
U25A Circle Dot Ran 86.12 50 ⇑P **P** 08 02 20.7 +0.4
baz=86
MSTX Muleshoe 86.28 52 ⇑P **P** 08 02 21.6 +0.6
baz=86
O22A Kremmling 86.33 46 ⇑P **P** 08 02 21.1 -0.2
baz=86
R24A Sanders Place, 86.44 48 ⇑P **P** 08 02 22.4 +0.6
baz=86
BJI Beijing 86.47 314 P P 08 02 17.1 -4.5
BJI pmax pmax
comp=Z,6.0nm,1.2s
BJI pmax pmax
comp=Z,160nm,5.3s
BJI LR LR
comp=Z,160nm,29.6s
S25A Robets Cordova 86.66 49 ⇑P **P** 08 02 23.3 +0.4
baz=87
N22A Wattenberg Ran 86.69 45 ⇑P **P** 08 02 23.3 +0.3
baz=87
R25A Fountain Ranch 86.98 48 ⇑P **P** 08 02 25.3 +1.0
baz=87
D17A Six Diamond Ra 87.14 38 ⇓P **P** 08 02 25.5 +0.7
baz=87
JCT Junction City 87.15 57 *e*P **P** 08 02 25.7 +0.4
comp=Z,5.6nm,0.8s
JCT Junction City 87.15 57 ⇑P **P** 08 02 25.6 +0.4
baz=87
A16A West Butte Ran 87.56 36 ⇑P **P** 08 02 27.0 +0.2
baz=88
R26A Arlington 87.64 48 ⇓P **P** 08 02 27.5 +0.1
baz=88
GYA Guiyang 88.12 299 *e*P **P** 08 02 30.0 0.0
GYA pP pP 08 03 20.5 -11
GYA sP sP 08 03 42.8 -15
GYA PP **PP** 08 06 02.4 +1.4
GYA SKS **SKSac** 08 12 37.6 +3.3
GYA S **S** 08 12 53.0 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
C19A Slack Wire Ran 88.39 38 ⇑P **P** 08 02 31.2 +0.5
baz=88
PLCA Paso Flores 88.59 133 P **P** 08 02 33.1 +1.1
comp=Z,3.6nm,0.7s,baz=261,slow=6.1,SNR=10.0
PLCA Paso Flores 88.59 133 *e*P **P** 08 02 33.4 +1.5
comp=Z,11nm,1.3s
SYO Syowa Base 89.27 192 ‖*e*P **P** 08 02 33.3 -1.1
D21A La Casta Ranch 89.29 39 ⇓P **P** 08 02 35.6 +0.8
baz=89
H24A Dirks Ranch, A 89.73 42 ⇓P **P** 08 02 37.5 +0.4
baz=90
SNAA Sanae 89.91 178 *e*P **P** 08 02 36.6 -0.8

comp=Z,5.2nm,0.7s
VNA3 Neumayer Olymp 89.92 175 *e* **P** **08 02 38.2 +0.7**
HHC Hu-ho-hao-te 89.99 313 *eP* **P** **08 02 38.3 0.0**
HHC PP **PP** **08 06 12.6 -2.9**
HHC S **S** **08 13 10.3 +1.3**
HHC SS **SS** **08 19 18.1 +3.8**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,150nm,6.5s
HHC LR LR
comp=N,210nm,18.2s
HHC LR LR
comp=E,360nm,18.9s
HHC LR LR
comp=Z,390nm,18.4s
VNA2 Neumayer--Watz 90.40 176 *e* **P** **08 02 40.8 +1.2**
baz=206,slow=3.8
VNA1 Neumayer--Stat 90.61 176 *e* **P** **08 02 41.9 +1.3**
KMI Kunming 90.96 296 P **P** **08 02 43.8 +0.4**
KMI pP pP 08 03 35.1 -10
KMI sP sP 08 03 55.4 -16
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=N,200nm,25.4s
KMI LR LR
comp=E,240nm,23.9s
KMI LR LR
comp=Z,260nm,27.7s
CD2 Chengdu 92.09 302 P **P** **08 02 48.4 +0.2**
CMAR Chiang Mai Arr 92.10 289 P **P** **08 02 49.0 +0.5**
comp=Z,0.9nm,0.3s,baz=104,slow=3.8,SNR=4.2
CMAR Chiang Mai Arr 92.10 289 P **P** **08 02 49.0 +0.5**
YKA Yellowknife Ar 93.55 24 P **P** **08 02 53.4 -0.7**
comp=Z,0.5nm,0.8s,baz=240,slow=4.2,SNR=8.5
YKA PKKP **PKKPdf** **08 19 58.1 -1.8**
comp=Z,0.3nm,0.5s,baz=40,slow=2.3,SNR=9.9
YKA Yellowknife Ar 93.55 24 P **P** **08 02 53.4 -0.7**
YKA PKKP **PKKPdf** **08 19 58.1 -1.8**
LZH Lanzhou 93.80 307 *eP* **P** **08 02 57.0 +0.9**
LZH pP pP 08 03 47.5 -10
LZH sP sP 08 04 09.3 -15
LZH PP **PP** **08 06 47.1 +1.5**
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,45nm,4.3s
ZALV Zalesovo Beam 110.68 322 PKiKP **PKiKP** **08 08 08.6 -1.1**
comp=Z,1.3nm,0.6s,baz=136,slow=2.2,SNR=5.7
ZALV Zalesovo Beam 110.68 322 PKiKP **PKiKP** **08 08 08.6 -1.1**
MKAR Makanchi Array 111.85 314 PKiKP **PKiKP** **08 08 11.1 -1.1**
comp=Z,1.1nm,0.5s,baz=126,slow=0.7,SNR=27
MKAR PKKPbc **PKKPbc** **08 19 05.9 -1.0**
comp=Z,1.0nm,0.7s,baz=274,slow=3.9,SNR=9.0
MKAR Makanchi Array 111.85 314 PKiKP **PKiKP** **08 08 11.1 -1.1**
MKAR PKKPbc **PKKPbc** **08 19 05.9 -1.0**
BVAR Borovoye Array 119.32 321 PKP **PKPdf** **08 08 25.5 -0.8**
comp=Z,3.2nm,0.4s,baz=129,slow=1.6,SNR=31
BVAR Borovoye Array 119.32 321 PKP **PKPdf** **08 08 25.5 -0.8**
ARCES ARCESS Array B 127.42 351 PKP **PKPdf** **08 08 40.8 -0.5**
comp=Z,3.6nm,0.5s,baz=357,slow=1.2,SNR=20
ARCES ARCESS Array B 127.42 351 PKP **PKPdf** **08 08 40.8 -0.5**
BOSA Boshof 129.22 203 PKP **PKPdf** **08 08 47.0 +0.8**
comp=Z,2.2nm,0.7s,baz=180,slow=5.5,SNR=5.0
BOSA Boshof 129.22 203 PKP **PKPdf** **08 08 47.0 +0.8**
FINES FINESS Array B 134.58 346 PKP **PKPdf** **08 08 55.6 +0.6**
comp=Z,3.1nm,0.7s,baz=36,slow=5.3,SNR=12
FINES FINESS Array B 134.58 346 PKP **PKPdf** **08 08 55.6 +0.6**
AKASG Malin Array Be 142.52 335 PKhKP PKPpre 08 09 04.7
comp=Z,1.1nm,0.5s,baz=43,slow=4.7,SNR=6.0
AKASG Malin Array Be 142.52 335 PKPpre PKPpre 08 09 04.7
NRDL Niedersach Rie 145.83 354 *ep*PKPbc **PKPbc** **08 09 16.5 0.0**
CLZ Clausthal 146.45 354 *ep*PKPbc **PKPbc** **08 09 18.8 +0.3**
STHS Stebnicka Huta 146.48 341 *e*PKP **PKPbc** **08 09 19.0 +0.3**
BUR08 Bucovina Ar. S 146.55 335 *e*PKPbc **PKPbc** **08 09 19.5 +0.5**
BURAR Bucovina Array 146.57 335 *j* **PKPab** **08 09 20.1 -0.6**
CLL Collm 146.65 351 *ep*PKPbc **PKPbc** **08 09 19.1 +0.1**
CLL Collm 146.65 351 *jj*PKPbc **PKPbc** **08 09 18.9 -0.1**
comp=Z,25nm,1.0s
NIE Niedzica 146.76 342 *e*PKP **PKPbc** **08 09 20.0 +0.5**
UPC Upice 146.87 347 *e*PKP **PKPbc** **08 09 20.2 +0.5**
BRG Berggiesshubel 146.91 350 *i* PKP **PKPbc** **08 09 19.6 -0.2**
comp=Z,13nm,0.9s
BRG Berggiesshubel 146.91 350 *ep*PKPbc **PKPbc** **08 09 19.9 +0.1**
DPC Dobruska-Polom 146.95 347 *e*PKP **PKPbc** **08 09 20.3 +0.3**
DPC *ex* x 08 09 28.5
DPC *ex* x 08 10 23.2
PVCC Panska Ves 147.13 349 *e*PKP **PKPbc** **08 09 20.8 +0.4**
TRPA Tarpa 147.16 338 *j*/P **PKPbc** **08 09 20.7 +0.2**
MORC Moravsky Berou 147.20 345 *j*/P **PKPbc** **08 09 20.8 +0.1**
VRI Vrincioaia 147.29 331 ⇑*j*/P **PKPbc** **08 09 21.0 0.0**
PLOR Plostina 147.34 331 *jj*/P **PKPbc** **08 09 21.0 -0.2**
BR131 Keskin Array S 147.44 317 *e*PKPbc **PKPbc** **08 09 21.6 -0.3**
BRTR Keskin Array B 147.44 317 PKP **PKPdf** **08 09 17.8 -1.2**
comp=Z,5.4nm,0.8s,baz=70,slow=1.7,SNR=11
BRTR PKPbc **PKPbc** **08 09 21.5 -0.3**
comp=Z,4.5nm,0.7s,baz=140,slow=4.9,SNR=26
BRTR pPKPbc **pPKPbc** **08 10 26.6 +0.6**
comp=Z,3.5nm,0.9s,baz=116,slow=2.9,SNR=5.5
BRTR Keskin Array B 147.44 317 PKP **PKPdf** **08 09 17.8 -1.2**
BRTR PKPbc **PKPbc** **08 09 21.5 -0.3**
BRTR pPKPbc **pPKPbc** **08 10 26.6 +0.6**
TIRR Tirgusor 147.52 328 *jj*/P **PKPbc** **08 09 21.5 -0.1**
TANN Tannenbergstha 147.59 351 *ep*PKPbc **PKPbc** **08 09 21.8 +0.1**
PRU Pruhonice 147.66 348 *e*PKP **PKPbc** **08 09 21.9 +0.1**
NKC Novy Kostel 147.77 351 *e*PKP **PKPbc** **08 09 22.5 +0.3**
MLR Muntele Rosu 147.93 332 PKPbc **PKPbc** **08 09 21.5 -1.4**
baz=153,slow=2.3
MLR Muntele Rosu 147.93 332 PKPbc **PKPbc** **08 09 21.5 -1.4**
MLR Muntele Rosu 147.93 332 ⇑*i*/P **PKPbc** **08 09 24.0 +1.1**
VYHS Vyhne 148.03 342 *e*PKP **PKPbc** **08 09 23.3 +0.4**
KOLL Kolacno 148.07 343 *e*PKP **PKPbc** **08 09 23.5 +0.5**
DRGR 148.22 337 ⇑*i*/P **PKPbc** **08 09 23.9 +0.4**
PSZ Piszkesteto 148.22 341 ⇑*i*/P **PKPbc** **08 09 23.3 -0.2**
TNS Taunus Mts 148.22 356 *ep*PKPbc **PKPbc** **08 09 23.6 +0.2**
ROTZ Rotzenmuhle 148.26 351 *ep*PKPbc **PKPbc** **08 09 24.0 +0.6**
VOIR 148.37 333 ⇑*j*/P **PKPbc** **08 09 24.7 +0.8**
KHC Kasperske Hory 148.66 349 *e*PKP **PKPbc** **08 09 24.8 +0.3**
KHC *ex* x 08 10 30.2
GEC2 GERESS Array S 148.91 349 *ep*PKPbc **PKPbc** **08 09 25.2 0.0**
GERES GERESS Array B 148.91 349 PKP **PKPdf** **08 09 21.0 0.0**
comp=Z,5.0nm,0.7s,baz=2.9,slow=2.7,SNR=4.1
GERES PKPbc **PKPbc** **08 09 25.1 -0.2**
comp=Z,5.0nm,0.7s,baz=20,slow=3.1,SNR=35
GERES GERESS Array B 148.91 349 PKP **PKPdf** **08 09 21.0 0.0**
GERES PKPbc **PKPbc** **08 09 25.1 -0.2**
CONA Conrad Observa 149.32 346 ⇑*i*/PKiKP **PKiKP** **08 09 26.8 -0.5**
comp=Z,13nm,1.2s
GZR Gura Zlata 149.36 335 ⇑*i*/P **PKPbc** **08 09 26.0 -0.4**
BZS Buzias 149.62 337 ⇑*i*/P **PKPdf** **08 09 22.6 +0.5**
BFO Black Forest 150.12 355 *ep*PKPbc **PKPbc** **08 09 28.1 0.0**
PKSM Moragy 150.13 341 *jj*/P **PKPbc** **08 09 27.4 -0.7**
RJOB Jochberg 150.14 349 *ep*PKPbc **PKPbc** **08 09 29.0 +0.8**
KBA Koelnbreinsper 150.67 348 *j*/PKPbc **PKPbc** **08 09 29.0 -0.7**
comp=Z,9.3nm,0.5s
MOTA Moosalm 150.79 351 ⇑*i*/PKPbc **PKPbc** **08 09 29.7 -0.2**
comp=Z,9.3nm,0.7s
WTTA Wattenberg 150.79 351 ⇑*i*/PKPbc **PKPbc** **08 09 29.6 -0.3**
comp=Z,24nm,0.5s
DAVA Damuels 151.00 353 ⇑*i*/PKiKP **PKiKP** **08 09 30.8 0.0**
comp=Z,24nm,1.1s
MYKA Terra Mystica 151.04 348 *jj*/PKPbc **PKPbc** **08 09 29.2 -1.2**
comp=Z,9.7nm,0.5s
ABTA Abfaltersbach 151.15 349 *jj*/PKPbc **PKPbc** **08 09 29.9 -0.7**
comp=Z,16nm,0.5s
FETA Feichten 151.16 352 ⇑*i*/PKiKP **PKPbc** **08 09 30.9 +0.2**
comp=Z,15nm,0.9s
LJU Ljubljana 151.41 346 *i* PKPbc **PKPbc** **08 09 30.6 -0.5**
CRNS Crni Vrh 151.43 346 *i* PKPbc **PKPbc** **08 09 30.6 -0.6**
DAVOX Davos/Dischmat 151.50 353 PKPbc **PKPbc** **08 09 31.6 +0.1**
comp=Z,14nm,0.4s,baz=243,slow=4.5,SNR=9.8
DAVOX Davos/Dischmat 151.50 353 PKPbc **PKPbc** **08 09 31.6 +0.1**
VOY Vojsko 151.56 347 *e*PKPdf **PKPdf** **08 09 25.3 +0.1**
VOY *e*PKPbc **PKPbc** **08 09 30.9 -0.7**
BOJS Bojanci 151.74 345 *e*PKPbc **PKPbc** **08 09 32.4 +0.5**
DBIC Dimbokro 164.84 140 PKP **PKPdf** **08 09 40.8 -1.1**
DBIC PKPab **PKPab** **08 10 38.7 -0.5**
comp=Z,3.4nm,0.7s,baz=191,slow=7.6,SNR=5.8
DBIC Dimbokro 164.84 140 PKP **PKPdf** **08 09 40.8 -1.1**
DBIC PKPab **PKPab** **08 10 38.7 -0.5**
TORD Torodi Ar. Bea 173.82 149 PKP **PKPdf** **08 09 46.0 -1.3**
comp=Z,2.0nm,0.7s,baz=351,slow=1.3,SNR=10
TORD PKPab **PKPab** **08 11 19.4 +0.5**
comp=Z,4.4nm,0.9s,baz=227,slow=3.3,SNR=13
TORD PP PP 08 15 09.1 -1.0
comp=Z,1.1nm,1.0s,baz=207,slow=6.2,SNR=3.9
TORD Torodi Ar. Bea 173.82 149 PKP **PKPdf** **08 09 46.0 -1.3**
TORD PKPab **PKPab** **08 11 19.4 +0.5**
TORD PP PP 08 15 09.1 -1.0

CASC 13 08:18:19.2±2.1, 12°.02N×87°.97W, h7km±10km, MD3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.26**	**6**	*i* P	Pn	08 18 41.1	-2.4
BLLM	**Bellamira**	**1.44**	**350**	*i* P	Pn	08 18 44.1	-1.7
CAHU	**Cacacuatique**	**1.76**	**352**	*eP*	Pn	08 18 46.5	-3.9
SNVI	**San Vicente**	**1.80**	**332**	*eP*	Pn	08 18 50.2	-0.7
SNVI				*eS*	Sb	08 19 14.9	-0.7
BOQS	**Boqueron**	**2.13**	**323**	*eP*	Pn	08 18 55.1	-0.5
BOQS				*eS*	Sb	08 19 24.2	-1.2
SBLS	**San Blas**	**2.42**	**319**	*eP*	Pn	08 18 59.2	-0.4
SBLS				*eS*	Sn	08 19 29.5	-0.2
JCR	**Jicaral**	**3.54**	**127**	*eP*	Pn	08 19 17.6	+2.8
JCR				*eS*	Sn	08 19 56.9	-0.1
URSC	**Urasca**	**4.65**	**117**	*eP*	Pn	08 19 32.0	+1.8
BUS	**Buena Vista**	**4.81**	**120**	*eP*	Pn	08 19 33.6	+0.9
BUS				*eS*	Sn	08 20 25.9	-3.2

NNC 13 08:21:12.3±2.0, 54°.14N×85°.84E, h34km±21km, mb3.7, mpv3.4,9C-1D,Error ellipse: s-maj=14.1km s-min=8.1km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.59**	**235**	⇑Pn	Pn	08 22 33.2	+0.3
	6.3nm,1.0s						
KURK				⇑Lg	Lg	08 24 09.9	
	17nm,1.4s						
KURBB	**Kurchatov Arra**	**5.70**	**235**	⇑Pn	Pn	08 22 34.3	-0.1
	1.1nm,0.7s						
KURBB				Lg	Lg	08 24 13.4	
	5.8nm,1.1s						
MK31	**Makanchi Array**	**7.69**	**199**	Pn	Pn	08 23 00.9	-1.0
	2.1nm,1.0s,baz=20,slow=9.2,SNR=13						
MK31				⇑Sn	Sn	08 24 29.0	+1.1
	1.0nm,0.6s,baz=21,slow=21,SNR=11						
MK31				⇑Lg	Lg	08 25 17.0	
	11nm,0.9s,baz=25,slow=30,SNR=6.1						
VOSK	**Vostochnaya**	**8.99**	**267**	⇑Pn	Pn	08 23 19.8	+0.2
	3.3nm,1.2s						
VOSK				⇓Sn	Sn	08 25 01.3	+1.7
	11nm,1.2s						
BVA0	**Borovoye Array**	**9.26**	**269**	⇑Pn	Pn	08 23 24.6	+1.3
	1.1nm,1.5s,baz=70,slow=15,SNR=5.0						
BVA0				Sn	Sn	08 25 06.3	0.0
	0.6nm,0.9s,baz=78,slow=20,SNR=8.8						
ZRNK	**Zerenda**	**10.09**	**270**	⇑Pn	Pn	08 23 33.8	-0.9
	1.0nm,0.7s						
ZRNK				⇑Sn	Sn	08 25 26.1	-0.5
	3.7nm,1.1s						

*NEIC **13** 08:22:13.9, 17°.93N×102°.68W, h12km, mb4.2/16, MD4.1(MEX), After MEX.*
*MEX **13** 08:22:13.9±0.5, 17°.93N×102°.68W, h12km±7km, MD4.1*
*IDC **13** 08:22:13.6±1.0, 18°.25N×102°.37W, h29km±3km, mb4.0/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.0/8, MS3.4/5, Ms1 3.4/5, ms1mx3.2/27, Error ellipse: s-maj=34.2km s-min=21.7km az=78.0*

ISC 13 08:22:12.9±0.6, 17°.91N±0°.04×102°.69W±0°.03, h32km±3km, h32km:pP-P,n210, σ1°75/327, mb4.2/17, 132C-160D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.73**	**301**	*eP*	**Pn**	**08 22 25.9**	**-1.0**
MMIG				*i* S	**Sn**	**08 22 35.6**	**-1.4**
MMIG	**Aquila**	**0.73**	**301**	*eP*	**Pn**	**08 22 25.9**	**-1.0**
MMIG				*i* S	**Sn**	**08 22 35.6**	**-1.4**
ZIIG	**Zihuatanejo**	**1.20**	**104**	*eP*	**Pn**	**08 22 33.0**	**-0.5**
ZIIG				*eS*	**Sn**	**08 22 47.6**	**-1.2**
ZIIG	**Zihuatanejo**	**1.20**	**104**	*eP*	**Pn**	**08 22 33.0**	**-0.5**
ZIIG				*eS*	**Sn**	**08 22 47.6**	**-1.2**
R15V		**1.75**	**316**	*eP*	**Pn**	**08 22 40.2**	**-1.0**
R15V				*eS*	**Sn**	**08 23 01.9**	**-0.5**
EZ5V		**1.78**	**331**	*eP*	**Pn**	**08 22 41.6**	**-0.1**
EZ5V				*eS*	**Sn**	**08 23 03.1**	**-0.4**
MOIG	**Morelia**	**2.26**	**39**	*eP*	**Pn**	**08 22 46.0**	**-2.2**
MOIG				*eS*	**Sn**	**08 23 13.6**	**-1.6**
MOIG	**Morelia**	**2.26**	**39**	*eP*	**Pn**	**08 22 46.0**	**-2.2**
MOIG				*eS*	**Sn**	**08 23 13.6**	**-1.6**
CAIG	**El Cayaco**	**2.46**	**110**	*eP*	**Pn**	**08 22 51.3**	**+0.4**
CAIG				*eS*	**Sn**	**08 23 20.1**	**+0.2**
CAIG	**El Cayaco**	**2.46**	**110**	*eP*	**Pn**	**08 22 51.3**	**+0.4**
CAIG				*eS*	**Sn**	**08 23 20.1**	**+0.2**
SFJM	**Santa Fe**	**2.58**	**353**	*eP*	**Pn**	**08 22 53.5**	**+0.8**
SFJM	**Santa Fe**	**2.58**	**353**	*eP*	**Pn**	**08 22 53.5**	**+0.8**
ACX	**Acapulco**	**2.89**	**111**	*eP*	**Pn**	**08 22 57.0**	**+0.2**
ACX				*eS*	**Sn**	**08 23 28.1**	**-2.4**
ACX	**Acapulco**	**2.89**	**111**	*eP*	**Pn**	**08 22 57.0**	**+0.2**
ACX				*eS*	**Sn**	**08 23 28.1**	**-2.4**
PLIG	**Platanillo**	**3.07**	**81**	*eP*	**Pn**	**08 22 59.8**	**+0.5**
PLIG				*eS*	**Sn**	**08 23 34.9**	**0.0**
PLIG	**Platanillo**	**3.07**	**81**	*eP*	**Pn**	**08 22 59.8**	**+0.5**
PLIG				*eS*	**Sn**	**08 23 34.9**	**0.0**
CMIG	**Matias Romero**	**7.49**	**95**	Pn	**Pn**	**08 24 01.5**	**+1.5**
	0.8nm,0.3s,baz=250,slow=13,SNR=33						
CMIG				LR	LR	08 27 23.1	
	comp=Z,199nm,20.4s,baz=249,slow=43						
CMIG	**Matias Romero**	**7.49**	**95**	Pn	**Pn**	**08 24 01.5**	**+1.5**
TXAR	**Lajitas Array**	**11.41**	**356**	Pn	Pn	08 24 58.2	+4.5
	0.1nm,0.3s,baz=166,slow=11,SNR=5.2						
TXAR				Lg	Lg	08 28 06.2	
	0.1nm,0.3s,baz=170,slow=22,SNR=3.6						
TXAR				LR	LR	08 29 40.4	
	comp=Z,296nm,18.1s,baz=10.0,slow=40						
TXAR	**Lajitas Array**	**11.41**	**356**	Pn	Pn	08 24 58.2	+4.5
TXAR				Lg	Lg	08 28 06.2	
627A	**Terlingua Ranc**	**11.51**	**357**	⇓P	Pn	08 25 00.7	+5.6
	baz=12,SNR=9.0						
627A				⇓P	Pn	08 25 00.7	+5.6
	baz=12,SNR=9.0						
628A	**Black Gap, Mar**	**11.52**	**359**	⇑P	Pn	08 25 00.5	+5.2
	baz=12						
628A				⇑P	Pn	08 25 00.5	+5.2
	baz=12						
626A	**Big Bend Ranch**	**11.66**	**354**	⇓P	Pn	08 25 01.6	+4.3
	baz=12						
626A				⇓P	Pn	08 25 01.6	+4.3
	baz=12						
526A	**Mary Lane Ranc**	**12.16**	**354**	⇑P	Pn	08 25 08.5	+4.4
	baz=12						
526A				⇑P	Pn	08 25 08.5	+4.4
	baz=12						
528A	**Cox Ranch, San**	**12.20**	**360**	⇑P	Pn	08 25 07.8	+3.3
	baz=12						
528A				⇑P	Pn	08 25 07.8	+3.3
	baz=12						
527A	**Woodward Ranch**	**12.21**	**356**	⇑P	Pn	08 25 08.5	+3.8
	baz=12						
527A				⇑P	Pn	08 25 08.5	+3.8
	baz=12						
428A	**Kincaid Ranch,**	**12.76**	**0**	⇓P	Pn	08 25 16.7	+4.5
	baz=13,SNR=9.5						
428A				⇓P	Pn	08 25 16.7	+4.5
	baz=13,SNR=9.5						
426A	**McDonald Obser**	**12.76**	**355**	⇑P	Pn	08 25 16.2	+3.8
	baz=13						
426A				⇑P	Pn	08 25 16.2	+3.8
	baz=13						
JCT	**Junction City**	**12.79**	**11**	Pn	Pn	08 25 20.6	+8.1
	26nm,1.4s						
JCT	**Junction City**	**12.79**	**11**	⇓P	Pn	08 25 17.6	+5.1
	baz=13						
JCT				⇓P	Pn	08 25 17.6	+5.1
	baz=13						
427A	**Hayter Ranch,**	**12.90**	**357**	⇓P	Pn	08 25 17.8	+3.7
	baz=13						
427A				⇓P	Pn	08 25 17.8	+3.7
	baz=13						
425A	**Indio Mountain**	**12.99**	**351**	⇓P	Pn	08 25 20.1	+4.7
	baz=13						
425A				⇓P	Pn	08 25 20.1	+4.7
	baz=13						
326A	**Caldwell Ranch**	**13.40**	**355**	⇓P	Pn	08 25 25.8	+4.9
	baz=13						
326A				⇓P	Pn	08 25 25.8	+4.9
	baz=13						
325A	**Bean Ranch, Si**	**13.56**	**352**	⇑P	**Pn**	**08 25 26.0**	**+2.7**
	baz=14						
325A				⇑P	**Pn**	**08 25 26.0**	**+2.7**
	baz=14						
324A	**Moseley Ranch,**	**13.71**	**350**	⇓P	**Pn**	**08 25 25.8**	**+0.5**
	baz=14						
324A				⇓P	**Pn**	**08 25 25.8**	**+0.5**
	baz=14						
TEIG	**Tepich**	**13.82**	**78**	LR	LR	08 32 04.1	
	comp=Z,66nm,18.7s,baz=345,slow=44						
MNTX	**Cornudas Mount**	**13.94**	**350**	*ePn*	**P**	**08 25 36.0**	**0.0**
	2.7nm,0.8s						
MNTX	**Cornudas Mount**	**13.94**	**350**	⇓P	**Pn**	**08 25 30.7**	**+2.4**
	baz=14						
MNTX				⇓P	**Pn**	**08 25 30.7**	**+2.4**
	baz=14						
MNTX				⇓P	**Pn**	**08 25 30.7**	**+2.4**
	baz=14						
MNTX				⇓P	**Pn**	**08 25 30.7**	**+2.4**
	baz=14						
GDL2	**Guadalupe Moun**	**14.31**	**354**	*ePn*	**Pn**	**08 25 36.2**	**+2.9**
	18nm,1.2s						
CLNB	**Carlsbad**	**14.33**	**356**	*ePn*	**P**	**08 25 40.2**	**-0.1**
	3.1nm,0.7s						
224A	**Cornudas Mount**	**14.34**	**350**	⇑P	**Pn**	**08 25 35.2**	**+1.4**
	baz=14						
224A				⇑P	**Pn**	**08 25 35.2**	**+1.4**
	baz=14						
320A	**Kipp Ranch, An**	**14.38**	**339**	⇓P	**Pn**	**08 25 37.2**	**+2.9**
	baz=14						
320A				⇓P	**Pn**	**08 25 37.2**	**+2.9**
	baz=14						
127A	**Arkansas Junct**	**14.71**	**358**	⇑P	**Pn**	**08 25 39.8**	**+0.8**
	baz=15						
127A				⇑P	**Pn**	**08 25 39.8**	**+0.8**
	baz=15						
126A	**Clayton Basin,**	**14.72**	**356**	⇑P	Pn	08 25 43.4	+4.4
	baz=15						
126A				⇑P	Pn	08 25 43.4	+4.4
	baz=15						
220A	**Playas Peak, P**	**14.90**	**340**	⇑P	**P**	**08 25 48.1**	**+1.3**
	baz=15						
220A				⇑P	**P**	**08 25 48.1**	**+1.3**
	baz=15						
318A	**Bisbee**	**15.01**	**335**	⇑P	**Pn**	**08 25 46.0**	**+3.1**
	baz=15						
318A				⇑P	**Pn**	**08 25 46.0**	**+3.1**
	baz=15						
CPRX	**Cap Rock**	**15.09**	**356**	*eP*	**Pn**	**08 25 47.6**	**+3.6**
121A	**Cookes Peak, D**	**15.27**	**343**	⇑P	**Pn**	**08 25 48.8**	**+2.5**
	baz=15						
121A				⇑P	**Pn**	**08 25 48.8**	**+2.5**
	baz=15						
Z26A	**Caprock**	**15.34**	**356**	⇓P	**Pn**	**08 25 47.2**	**0.0**
	baz=15						
Z26A				⇓P	**Pn**	**08 25 47.2**	**0.0**
	baz=15						
Z27A	**Tatum**	**15.35**	**358**	⇓P	**Pn**	**08 25 50.4**	**+3.1**
	baz=15,SNR=6.7						
Z27A				⇓P	**Pn**	**08 25 50.4**	**+3.1**
	baz=15,SNR=6.7						
Z25A	**Roswell**	**15.41**	**354**	⇑P	**Pn**	**08 25 50.9**	**+2.8**
	baz=16						
Z25A				⇑P	**Pn**	**08 25 50.9**	**+2.8**
	baz=16						
218A	**Dragoon**	**15.50**	**336**	⇑P	**P**	**08 25 55.1**	**+1.6**
	baz=16						
218A				⇑P	**P**	**08 25 55.1**	**+1.6**
	baz=16						
120A	**U Bar Ranch, L**	**15.53**	**341**	⇓P	**P**	**08 25 57.8**	**+4.0**
	baz=16						
120A				⇓P	**P**	**08 25 57.8**	**+4.0**
	baz=16						
Z24A	**Sheeppen Canyo**	**15.54**	**352**	⇑P	**P**	**08 25 54.8**	**+0.9**
	baz=16						
Z24A				⇑P	**P**	**08 25 54.8**	**+0.9**
	baz=16						
Z23A	**Rita Site, Whi**	**15.62**	**349**	⇓P	**Pn**	**08 25 54.4**	**+3.6**
	baz=16						
Z23A				⇓P	**Pn**	**08 25 54.4**	**+3.6**
	baz=16						
Z22A	**Elephant Butte**	**15.76**	**347**	⇑P	**P**	**08 25 56.7**	**+0.4**
	baz=16						
Z22A				⇑P	**P**	**08 25 56.7**	**+0.4**
	baz=16						
Y27A	**Causey**	**15.91**	**359**	⇑P	**Pn**	**08 25 57.0**	**+2.4**
	baz=16,SNR=6.8						
Y27A				⇑P	**Pn**	**08 25 57.0**	**+2.4**
	baz=16,SNR=6.8						
119A	**Ashpeak Ranch,**	**15.95**	**339**	⇑P	**Pn**	**08 25 58.4**	**+3.3**
	baz=16						
119A				⇑P	**Pn**	**08 25 58.4**	**+3.3**
	baz=16						
Z21A	**St. Cloud Mine**	**15.97**	**345**	⇓P	**P**	**08 26 00.3**	**+1.5**
	baz=16						
Z21A				⇓P	**P**	**08 26 00.3**	**+1.5**
	baz=16						
MSTX	**Muleshoe**	**15.99**	**360**	⇓P	**Pn**	**08 25 57.7**	**+2.1**
	baz=16						
MSTX				⇓P	**Pn**	**08 25 57.7**	**+2.1**
	baz=16						
Z20A	**Nine Sixteen R**	**16.04**	**342**	⇓P	**P**	**08 26 00.9**	**+1.5**
	baz=16						
Z20A				⇓P	**P**	**08 26 00.9**	**+1.5**
	baz=16						
Y25A	**Mesa, Roswell**	**16.05**	**354**	⇑P	**P**	**08 26 00.3**	**+0.8**
	baz=16						
Y25A				⇑P	**P**	**08 26 00.3**	**+0.8**
	baz=16						
TUC	**Tucson**	**16.09**	**335**	*eP*	**Pn**	**08 25 58.2**	**+1.3**
	8.3nm,1.1s						
Y24A	**Capitan**	**16.14**	**352**	⇓P	**Pn**	**08 25 60.0**	**+2.4**
	baz=16						
Y24A				⇓P	**Pn**	**08 25 60.0**	**+2.4**
	baz=16						
Y23A	**Lovelace Mesa,**	**16.24**	**350**	⇑P	**Pn**	**08 26 01.2**	**+2.4**
	baz=16						
Y23A				⇑P	**Pn**	**08 26 01.2**	**+2.4**
	baz=16						
Y22A	**Socorro**	**16.41**	**347**	⇓P	**P**	**08 26 04.8**	**+1.2**
	baz=16						
Y22A				⇓P	**P**	**08 26 04.8**	**+1.2**
	baz=16						
X26A	**CR and CF Fran**	**16.60**	**357**	⇑P	**Pn**	**08 26 04.4**	**+1.0**
	baz=17						
X26A				⇑P	**Pn**	**08 26 04.4**	**+1.0**
	baz=17						
X27A	**F and S Farms,**	**16.67**	**359**	⇑P	**Pn**	**08 26 06.6**	**+2.3**
	baz=17						
X27A				⇑P	**Pn**	**08 26 06.6**	**+2.3**
	baz=17						
Y20A	**Horse Springs,**	**16.73**	**343**	⇓P	**Pn**	**08 26 07.3**	**+2.2**
	baz=17						
Y20A				⇓P	**Pn**	**08 26 07.3**	**+2.2**
	baz=17						
LAZ	**Ladron**

Y17A				⇑P	Pn	08 26 14.6	+2.0		
	baz=17								
X20A	**Quemado**	**17.36**	**344**	⇓P	**P**	**08 26 15.6**	**+1.5**		
X20A	baz=17			⇓P	**P**	**08 26 15.6**	**+1.5**		
	baz=17								
W24A	**Lazy 6 Ranch,**	**17.40**	**353**	⇓P	**P**	**08 26 15.6**	**+1.1**		
W24A	baz=17,SNR=6.4			⇓P	**P**	**08 26 15.6**	**+1.1**		
	baz=17,SNR=6.4								
W23A	**Werner Place,**	**17.45**	**351**	⇓P	**P**	**08 26 17.4**	**+2.2**		
W23A	baz=18			⇓P	**P**	**08 26 17.4**	**+2.2**		
	baz=18								
X19A	**St. Johns**	**17.47**	**342**	⇓P	**P**	**08 26 17.6**	**+2.3**		
X19A	baz=18			⇓P	**P**	**08 26 17.6**	**+2.3**		
	baz=18								
V24A	**Rampart Ranch,**	**17.89**	**353**	⇓P	**Pn**	**08 26 20.6**	**+1.0**		
V24A	baz=18			⇓P	**Pn**	**08 26 20.6**	**+1.0**		
	baz=18								
W20A	**Ramah**	**17.91**	**344**	⇑P	**P**	**08 26 24.4**	**+4.2**		
W20A	baz=18			⇑P	**P**	**08 26 24.4**	**+4.2**		
	baz=18								
V25A	**Rancho No Teng**	**17.94**	**355**	⇑P	**P**	**08 26 22.4**	**+2.0**		
V25A	baz=18			⇑P	**P**	**08 26 22.4**	**+2.0**		
	baz=18								
V23A	**Ortiz Mt. (NFS**	**18.03**	**351**	⇑P	**P**	**08 26 23.2**	**+1.7**		
V23A	baz=18			⇑P	**P**	**08 26 23.2**	**+1.7**		
	baz=18								
X16A	**Lo Mia Camp, P**	**18.20**	**336**	⇓P	**Pn**	**08 26 26.0**	**+2.6**		
X16A	baz=18			⇓P	**Pn**	**08 26 26.0**	**+2.6**		
	baz=18								
U26A	**Atchley Ranch,**	**18.43**	**357**	⇓P	**P**	**08 26 25.4**	**-0.5**		
U26A	baz=18			⇓P	**P**	**08 26 25.4**	**-0.5**		
	baz=18								
U25A	**Circle Dot Ran**	**18.48**	**356**	⇓P	**P**	**08 26 26.4**	**0.0**		
U25A	baz=18			⇓P	**P**	**08 26 26.4**	**0.0**		
	baz=18								
U24A	**Moreno Valley**	**18.57**	**353**	⇓P	**Pn**	**08 26 29.3**	**+1.5**		
U24A	baz=19			⇓P	**Pn**	**08 26 29.3**	**+1.5**		
	baz=19								
U22A	**Llaves**	**18.76**	**349**	⇑P	**P**	**08 26 29.8**	**+0.3**		
U22A	baz=19			⇑P	**P**	**08 26 29.8**	**+0.3**		
	baz=19								
V18A	**Ganado**	**18.86**	**341**	⇓P	**P**	**08 26 31.9**	**+1.3**		
V18A	baz=19			⇓P	**P**	**08 26 31.9**	**+1.3**		
	baz=19								
TUL1	**Tulsa**	**18.94**	**17**	⇑P	**P**	**08 26 28.8**	**-2.5**		
TUL1	baz=19			⇑P	**P**	**08 26 28.8**	**-2.5**		
	baz=19								
U21A	**Nageezi**	**18.96**	**348**	⇓P	**P**	**08 26 33.2**	**+1.5**		
U21A	baz=19,SNR=7.3			⇓P	**P**	**08 26 33.2**	**+1.5**		
	baz=19,SNR=7.3								
V17A	**Tonalea, Kykot**	**19.05**	**339**	⇓P	**P**	**08 26 29.6**	**-3.0**		
V17A	baz=19			⇓P	**P**	**08 26 29.6**	**-3.0**		
	baz=19								
WUAZ	**Wupatki**	**19.16**	**338**	*e*P	**P**	**08 26 35.7**	**+1.9**		
	8.4nm,0.9s								
WUAZ	**Wupatki**	**19.16**	**338**	⇑P	**P**	**08 26 35.8**	**+1.9**		
WUAZ	baz=19,SNR=5.6			⇑P	**P**	**08 26 35.8**	**+1.9**		
	baz=19,SNR=5.6								
MONP	**Monument Peak**	**19.37**	**323**	⇓P	**Pn**	**08 26 42.2**	**+4.8**		
MONP	baz=19			⇓P	**Pn**	**08 26 42.2**	**+4.8**		
	baz=19								
T22A	**Edith**	**19.39**	**350**	⇓P	**P**	**08 26 37.6**	**+1.1**		
T22A	baz=19			⇓P	**P**	**08 26 37.6**	**+1.1**		
	baz=19								
T21A	**Navajo Lake**	**19.48**	**348**	⇑P	**P**	**08 26 38.3**	**+0.9**		
T21A	baz=20			⇑P	**P**	**08 26 38.3**	**+0.9**		
	baz=20								
U16A	**Tuba City**	**19.64**	**339**	⇑P	**P**	**08 26 40.1**	**+1.0**		
U16A	baz=20			⇑P	**P**	**08 26 40.1**	**+1.0**		
	baz=20								
IRM	**Iron Mountain**	**19.65**	**328**	⇓P	**Pn**	**08 26 43.8**	**+3.2**		
IRM	baz=20			⇓P	**Pn**	**08 26 43.8**	**+3.2**		
	baz=20								
S26A	**Kim**	**19.65**	**358**	⇑P	**P**	**08 26 39.8**	**+0.7**		
S26A	baz=20,SNR=5.3			⇑P	**P**	**08 26 39.8**	**+0.7**		
	baz=20,SNR=5.3								
T19A	**Beclabito**	**19.66**	**345**	⇓P	**P**	**08 26 41.3**	**+2.0**		
T19A	baz=20			⇓P	**P**	**08 26 41.3**	**+2.0**		
	baz=20								
S25A	**Robets Cordova**	**19.73**	**356**	⇑P	**P**	**08 26 41.0**	**+0.8**		
S25A	baz=20			⇑P	**P**	**08 26 41.0**	**+0.8**		
	baz=20								
S24A	**Houchin Ranch,**	**19.78**	**354**	⇓P	**P**	**08 26 42.6**	**+1.8**		
S24A	baz=20			⇓P	**P**	**08 26 42.6**	**+1.8**		
	baz=20								
W13A	**Hualapai Mount**	**19.81**	**332**	⇑P	**P**	**08 26 42.9**	**+1.9**		
W13A	baz=20			⇑P	**P**	**08 26 42.9**	**+1.9**		
	baz=20								
MVCO	**Mesa Verde**	**19.89**	**346**	*e*P	**P**	**08 26 43.4**	**+1.4**		
	12nm,1.1s								
MVCO	**Mesa Verde**	**19.89**	**346**	⇑P	**P**	**08 26 43.0**	**+1.0**		
MVCO	baz=20			⇑P	**P**	**08 26 43.0**	**+1.0**		
	baz=20								
SDCO	**Great Sand Dun**	**19.91**	**353**	*e*P	**P**	**08 26 44.7**	**+2.5**		
	12nm,1.2s								
SDCO	**Great Sand Dun**	**19.91**	**353**	⇓P	**P**	**08 26 43.7**	**+1.5**		
SDCO	baz=20			⇓P	**P**	**08 26 43.7**	**+1.5**		
SDCO	baz=20			⇓P	**P**	**08 26 43.7**	**+1.5**		
SDCO	baz=20			⇓P	**P**	**08 26 43.7**	**+1.5**		
	baz=20								
S22A	**4UR Ranch, Cre**	**20.09**	**350**	⇑P	**P**	**08 26 43.7**	**-0.5**		
S22A	baz=20			⇑P	**P**	**08 26 43.7**	**-0.5**		
	baz=20								
T18A	**Mexican Hat**	**20.17**	**343**	⇓P	**P**	**08 26 44.9**	**+0.1**		
T18A	baz=20			⇓P	**P**	**08 26 44.9**	**+0.1**		
	baz=20								
S21A	**Coal Bank Pass**	**20.18**	**348**	⇓P	**P**	**08 26 45.9**	**+0.7**		
	baz=20,SNR=5.3								
S21A				⇓P	**P**	**08 26 45.9**	**+0.7**		
	baz=20,SNR=5.3								
R25A	**Fountain Ranch**	**20.21**	**356**	⇓P	**P**	**08 26 44.7**	**-0.6**		
R25A	baz=20			⇓P	**P**	**08 26 44.7**	**-0.6**		
	baz=20								
R27A	**Eads**	**20.30**	**360**	⇓P	**P**	**08 26 45.3**	**-0.9**		
R27A	baz=20,SNR=12			⇓P	**P**	**08 26 45.3**	**-0.9**		
	baz=20,SNR=12								
U15A	**North Rim**	**20.30**	**337**	⇓P	Pn	08 26 49.6	+1.0		
U15A	baz=20			⇓P	Pn	08 26 49.6	+1.0		
	baz=20								
T17A	**Navajo Res., N**	**20.31**	**341**	⇑P	**P**	**08 26 47.7**	**+1.3**		
T17A	baz=20			⇑P	**P**	**08 26 47.7**	**+1.3**		
	baz=20								
R26A	**Arlington**	**20.32**	**358**	⇑P	**P**	**08 26 45.6**	**-0.9**		
R26A	baz=20			⇑P	**P**	**08 26 45.6**	**-0.9**		
	baz=20								
R24A	**Sanders Place,**	**20.36**	**355**	⇑P	**P**	**08 26 46.6**	**-0.3**		
R24A	baz=20			⇑P	**P**	**08 26 46.6**	**-0.3**		
	baz=20								
R23A	**Moffat**	**20.39**	**353**	⇓P	**P**	**08 26 48.1**	**+0.7**		
R23A	baz=20			⇓P	**P**	**08 26 48.1**	**+0.7**		
	baz=20								
GMRC	**Granite Mounta**	**20.39**	**328**	⇑P	Pn	08 26 50.5	+0.9		
GMRC	baz=20			⇑P	Pn	08 26 50.5	+0.9		
	baz=20								
S20A	**Disappointment**	**20.46**	**347**	⇓P	**P**	**08 26 47.9**	**-0.2**		
S20A	baz=20			⇓P	**P**	**08 26 47.9**	**-0.2**		
	baz=20								
S19A	**Harvey Farm, M**	**20.55**	**345**	⇑P	**P**	**08 26 50.1**	**+1.0**		
S19A	baz=21			⇑P	**P**	**08 26 50.1**	**+1.0**		
	baz=21								
S18A	**Hurst Farm, Bl**	**20.72**	**343**	⇑P	**P**	**08 26 51.8**	**+0.8**		
S18A	baz=21			⇑P	**P**	**08 26 51.8**	**+0.8**		
	baz=21								
HEC	**Hector,Ludlow**	**20.78**	**327**	⇑P	Pn	08 26 55.6	+1.7		
HEC	baz=21,SNR=5.5			⇑P	Pn	08 26 55.6	+1.7		
	baz=21,SNR=5.5								
PV01	**Paradox Valley**	**20.80**	**347**	*e*P	Pn	08 26 56.2	+1.9		
R20A	**Redvale**	**20.81**	**347**	⇓P	**P**	**08 26 50.9**	**-1.0**		
R20A	baz=21			⇓P	**P**	**08 26 50.9**	**-1.0**		
	baz=21								
R21A	**Cimarron**	**20.82**	**349**	⇓P	**P**	**08 26 53.9**	**+1.9**		
R21A	baz=21			⇓P	**P**	**08 26 53.9**	**+1.9**		
	baz=21								
S17A	**Black Ridge (B**	**20.90**	**342**	⇓P	**P**	**08 26 52.2**	**-0.6**		
S17A	baz=21			⇓P	**P**	**08 26 52.2**	**-0.6**		
	baz=21								
Q25A	**Bedland, Calha**	**20.97**	**357**	⇓P	**P**	**08 26 52.4**	**-1.1**		
Q25A	baz=21			⇓P	**P**	**08 26 52.4**	**-1.1**		
	baz=21								
CBKS	**Cedar Bluff**	**20.98**	**6**	*e*P	**P**	**08 26 51.0**	**-2.6**		
	9.6nm,0.8s								
CBKS	**Cedar Bluff**	**20.98**	**6**	⇑P	**P**	**08 26 51.1**	**-2.4**		
	baz=21								
CBKS	baz=21			⇑P	**P**	**08 26 51.1**	**-2.4**		
CBKS	baz=21			⇑P	**P**	**08 26 51.1**	**-2.4**		
CBKS	baz=21			⇑P	**P**	**08 26 51.1**	**-2.4**		
	baz=21								
KSCO	**Kaye Shedlock'**	**21.02**	**0**	⇓P	**P**	**08 26 53.7**	**-0.4**		
KSCO	baz=21			⇓P	**P**	**08 26 53.7**	**-0.4**		
	baz=21								
TUQ	**Turquoise Moun**	**21.05**	**329**	⇑P	**P**	**08 26 57.8**	**+3.5**		
TUQ	baz=21			⇑P	**P**	**08 26 57.8**	**+3.5**		
	baz=21								
R19A	**Curley Farm, L**	**21.10**	**346**	⇑P	**P**	**08 26 54.5**	**-0.5**		
R19A	baz=21			⇑P	**P**	**08 26 54.5**	**-0.5**		
	baz=21								
PV10	**Paradox Valley**	**21.13**	**346**	*e*P	**P**	**08 26 57.8**	**+2.4**		
	74nm,0.8s								
Q22A	**Crested Butte,**	**21.20**	**351**	⇓P	**P**	**08 26 57.5**	**+1.4**		
Q22A	baz=21			⇓P	**P**	**08 26 57.5**	**+1.4**		
	baz=21								
S16A	**Weppner Ranch,**	**21.23**	**340**	⇑P	**P**	**08 26 57.5**	**+1.2**		
S16A	baz=21			⇑P	**P**	**08 26 57.5**	**+1.2**		
	baz=21								
R18A	**Canyonlands Na**	**21.35**	**344**	⇓P	**P**	**08 26 57.6**	**0.0**		
R18A	baz=21			⇓P	**P**	**08 26 57.6**	**0.0**		
	baz=21								
SMCO	**Snowmass**	**21.52**	**351**	*e*P	**P**	**08 26 59.4**	**-0.3**		
	6.5nm,0.8s								
R17A	**Hanksville Air**	**21.60**	**343**	⇑P	**P**	**08 27 00.8**	**+0.5**		
R17A	baz=22			⇑P	**P**	**08 27 00.8**	**+0.5**		
	baz=22								
KSU1	**Kansas State U**	**21.77**	**13**	*e*P	**P**	**08 27 01.2**	**-0.6**		
	7.7nm,0.7s								
P22A	**Eagle**	**21.89**	**352**	⇓P	**P**	**08 27 03.4**	**-0.1**		
P22A	baz=22			⇓P	**P**	**08 27 03.4**	**-0.1**		
	baz=22								
R15A	**Junction**	**21.90**	**339**	⇓P	**P**	**08 27 05.0**	**+1.5**		
R15A	baz=22			⇓P	**P**	**08 27 05.0**	**+1.5**		
	baz=22								
P21A	**Newcastle**	**21.93**	**350**	⇑P	**P**	**08 27 05.2**	**+1.4**		
P21A	baz=22			⇑P	**P**	**08 27 05.2**	**+1.4**		
	baz=22								
ARUT	**Antelope Range**	**21.93**	**337**	*e*P	**P**	**08 27 06.4**	**+2.5**		
	10nm,0.8s								
ISCO	**Idaho Springs**	**21.96**	**354**	⇓P	**P**	**08 27 04.6**	**+0.4**		
ISCO	baz=22			⇓P	**P**	**08 27 04.6**	**+0.4**		
	baz=22								
Q18A	**Rafter H Ranch**	**22.09**	**344**	⇑P	**P**	**08 27 05.7**	**+0.2**		
Q18A	baz=22			⇑P	**P**	**08 27 05.7**	**+0.2**		
	baz=22								
SRU	**San Rafael**	**22.20**	**344**	⇓P	**P**	**08 27 07.6**	**+0.9**		
SRU	baz=22			⇓P	**P**	**08 27 07.6**	**+0.9**		
	baz=22								
P19A	**Cripple Cowboy**	**22.32**	**347**	⇑P	**P**	**08 27 07.9**	**-0.3**		
P19A	baz=22			⇑P	**P**	**08 27 07.9**	**-0.3**		
	baz=22								
MPMC	**Manual Prospec**	**22.33**	**327**	⇑P	**P**	**08 27 09.9**	**+1.7**		
MPMC	baz=22			⇑P	**P**	**08 27 09.9**	**+1.7**		
	baz=22								
O23A	**Lake Granby, G**	**22.40**	**353**	⇓P	**P**	**08 27 08.2**	**-0.8**		
O23A	baz=22			⇓P	**P**	**08 27 08.2**	**-0.8**		
	baz=22								
O22A	**Kremmling**	**22.42**	**352**	⇑P	**P**	**08 27 07.5**	**-1.8**		
O22A	baz=22			⇑P	**P**	**08 27 07.5**	**-1.8**		
	baz=22								
R13A	**O'Grain Ranch,**	**22.48**	**336**	⇓P	**P**	**08 27 11.7**	**+1.9**		
R13A	baz=22			⇓P	**P**	**08 27 11.7**	**+1.9**		
	baz=22								
ISA	**Isabella**	**22.55**	**325**	*e*P	**P**	**08 27 12.8**	**+2.2**		
	2.1nm,0.8s								
ISA	**Isabella**	**22.55**	**325**	⇑P	**P**	**08 27 12.7**	**+2.2**		
	baz=23,SNR=6.2								
ISA	baz=23,SNR=6.2			⇑P	**P**	**08 27 12.7**	**+2.2**		
VES	**Vestal, Richgr**	**23.02**	**324**	⇑P	**P**	**08 27 17.2**	**+2.0**		
VES	baz=23			⇑P	**P**	**08 27 17.2**	**+2.0**		
	baz=23								
R11A	**Troy Canyon, C**	**23.27**	**334**	⇓P	**P**	**08 27 18.3**	**+0.3**		
R11A	baz=23,SNR=6.0			⇓P	**P**	**08 27 18.3**	**+0.3**		
	baz=23,SNR=6.0								
M24A	**Cheyenne**	**23.55**	**356**	⇓P	**P**	**08 27 19.4**	**-1.2**		
M24A	baz=24			⇓P	**P**	**08 27 19.4**	**-1.2**		
	baz=24								
DUG	**Dugway**	**23.87**	**341**	⇓P	**P**	**08 27 22.8**	**-0.9**		
DUG	baz=24			⇓P	**P**	**08 27 22.8**	**-0.9**		
	baz=24								
TKL	**Tuckaleechee C**	**24.37**	**40**	P	**P**	**08 27 24.9**	**-3.2**		
	3.8nm,0.7s,baz=212,slow=9.4,SNR=5.1								
TKL	**Tuckaleechee C**	**24.37**	**40**	P	**P**	**08 27 24.9**	**-3.2**		
NVAR	**Mina Array Bea**	**24.57**	**329**	P	**P**	**08 27 31.4**	**+1.2**		
	5.7nm,0.8s,baz=151,slow=9.7,SNR=36								
NVAR	**Mina Array Bea**	**24.57**	**329**	P	**P**	**08 27 31.4**	**+1.2**		
K27A	**Flueckinger Fa**	**24.72**	**1**	⇑P	**P**	**08 27 30.0**	**-1.3**		
	baz=25,SNR=5.9								
K27A	baz=25,SNR=5.9			⇑P	**P**	**08 27 30.0**	**-1.3**		
K22A	**Casper**	**24.88**	**353**	⇓P	**P**	**08 27 31.2**	**-1.6**		
K22A	baz=25			⇓P	**P**	**08 27 31.2**	**-1.6**		
	baz=25								
K21A	**Alcova**	**24.95**	**352**	⇑P	**P**	**08 27 31.6**	**-1.9**		
K21A	baz=25			⇑P	**P**	**08 27 31.6**	**-1.9**		
	baz=25								
L15A	**Malad City**	**25.40**	**343**	⇑P	**P**	**08 27 36.4**	**-1.2**		
L15A	baz=26			⇑P	**P**	**08 27 36.4**	**-1.2**		
	baz=26								
BW06	**Boulder Array**	**25.45**	**348**	⇓P	**P**	**08 27 36.8**	**-1.4**		
BW06	baz=26			⇓P	**P**	**08 27 36.8**	**-1.4**		
BW06	baz=26			⇓P	**P**	**08 27 36.8**	**-1.4**		
BW06	baz=26			⇓P	**P**	**08 27 36.8**	**-1.4**		
	baz=26								
PDAR	**Pinedale Array**	**25.45**	**348**	P	**P**	**08 27 36.9**	**-1.3**		
	2.0nm,1.0s,baz=147,slow=8.3,SNR=12								
PDAR	**Pinedale Array**	**25.45**	**348**	P	**P**	**08 27 36.9**	**-1.3**		
WCN	**Washoe City**	**25.96**	**329**	⇑P	**P**	**08 27 43.3**	**+0.5**		
WCN	baz=26			⇑P	**P**	**08 27 43.3**	**+0.5**		
	baz=26								
J18A	**Kendall Valley**	**25.98**	**348**	⇑P	**P**	**08 27 40.5**	**-2.5**		
J18A	baz=26			⇑P	**P**	**08 27 40.5**	**-2.5**		
	baz=26								
K14A	**Jones Ranch, D**	**26.13**	**342**	⇑P	**P**	**08 27 42.7**	**-1.5**		
K14A	baz=26			⇑P	**P**	**08 27 42.7**	**-1.5**		
	baz=26								
J17A	**Brown Place, J**	**26.27**	**347**	⇓P	**P**	**08 27 43.5**	**-2.0**		
J17A	baz=26			⇓P	**P**	**08 27 43.5**	**-2.0**		
	baz=26								
I20A	**Worland**	**26.36**	**351**	⇓P	**P**	**08 27 45.3**	**-1.0**		
I20A	baz=26,SNR=5.1			⇓P	**P**	**08 27 45.3**	**-1.0**		
	baz=26,SNR=5.1								
J15A	**Blackfoot**	**26.71**	**344**	⇓P	**P**	**08 27 47.8**	**-1.7**		
J15A	baz=27			⇓P	**P**	**08 27 47.8**	**-1.7**		
	baz=27								
J14A	**Carey**	**26.94**	**342**	⇑P	**P**	**08 27 49.6**	**-1.9**		
J14A	baz=27			⇑P	**P**	**08 27 49.6**	**-1.9**		
	baz=27								
I13A	**Wildhorse Cree**	**27.66**	**342**	⇓P	**P**	**08 27 58.1**	**+0.1**		
I13A	baz=28			⇓P	**P**	**08 27 58.1**	**+0.1**		
	baz=28								
H16A	**Russell Place,**	**27.66**	**347**	⇓P	**P**	**08 27 57.4**	**-0.7**		
H16A	baz=28			⇓P	**P**	**08 27 57.4**	**-0.7**		
	baz=28								
H14A	**Leadore**	**28.09**	**344**	⇑P	P	08 27 59.1	-2.8		
H14A	baz=28			⇑P	P	08 27 59.1	-2.8		
	baz=28								
MCMT	**McKenzie Canyo**	**28.16**	**345**	*e*P	**P**	**08 28 04.4**	**+1.9**		
	13nm,0.9s								
G13A	**Cobalt**	**28.77**	**343**	⇓P	**P**	**08 28 06.9**	**-0.9**		
G13A	baz=29			⇓P	**P**	**08 28 06.9**	**-0.9**		
	baz=29								
F13A	**Darby**	**29.44**	**343**	⇓P	**P**	**08 28 12.1**	**-1.7**		
F13A	baz=30			⇓P	**P**	**08 28 12.1**	**-1.7**		
	baz=30								
D20A	**Manuel Ranch,**	**29.44**	**352**	⇓P	P	08 28 10.5	-3.2		
D20A	baz=30			⇓P	P	08 28 10.5	-3.2		
	baz=30								
E15A	**Deer Lodge**	**29.60**	**346**	⇓P	P	08 28 12.3	-2.9		
E15A	baz=30			⇓P	P	08 28 12.3	-2.9		
	baz=30								
D19A	**Cripps Ranch,**	**29.62**	**351**	⇓P	P	08 28 13.4	-1.8		
D19A	baz=30			⇓P	P	08 28 13.4	-1.8		
	baz=30								
E13A	**Victor**	**30.00**	**344**	⇑P	P	08 28 17.0	-1.7		
E13A	baz=30			⇑P	P	08 28 17.0	-1.7		
	baz=30								
D13A	**Huson**	**30.68**	**344**	⇓P	**P**	**08 28 23.3**	**-1.4**		
D13A	baz=31			⇓P	**P**	**08 28 23.3**	**-1.4**		
	baz=31								
ULM	**Lac du Bonnet**	**32.72**	**8**	P	P	08 28 39.6	-2.8		
	3.9nm,1.0s,baz=188,slow=9.8,SNR=5.2								
ULM				pP	pP	08 28 48.5	-3.4		
	1.3nm,0.4s,baz=180,slow=9.9,SNR=2.9								
ULM	**Lac du Bonnet**	**32.72**	**8**	P	P	08 28 39.6	-2.8		
ULM				pP	pP	08 28 48.5	-3.4		
FFC	**Flin Flon**	**36.75**	**1**	*e*P	P	08 29 15.0	-2.2		
	6.7nm,1.2s								
YKA	**Yellowknife Ar**	**45.31**	**352**	P	P	08 30 25.2	-2.3		
	1.4nm,0.8s,baz=162,slow=7.6,SNR=28								
YKA				pP	pP	08 30 34.6	-2.5		
	1.2nm,0.7s,baz=164,slow=7.9,SNR=11								
YKA				sP	sP	08 30 38.0	-3.0		
	1.2nm,0.7s,baz=161,slow=7.4,SNR=11								
YKA				PcP	**PcP**	**08 32 06.3**	**-0.4**		
	0.6nm,0.9s,baz=159,slow=3.1,SNR=5.7								
YKA				pPcP		08 32 16.6			
	0.6nm,0.8s,baz=159,slow=3.6,SNR=6.5								
YKA	**Yellowknife Ar**	**45.31**	**352**	P	P	08 30 25.2	-2.3		
YKA				pP	pP	08 30 34.6	-2.5		
YKA				sP	sP	08 30 38.0	-3.0		
YKA				PcP	**PcP**	**08 32 06.3**	**-0.4**		
YKA				pPcP		08 32 16.6			
INK	**Inuvik**	**54.00**	**346**	*e*P	pP	08 31 40.3	-3.1		
	6.8nm,1.0s								
ILAR	**Eielson Array**	**55.34**	**339**	P	**P**	**08 31 43.0**	**-0.3**		
	2.2nm,0.9s,baz=145,slow=5.6,SNR=24								
ILAR				pP	**pP**	**08 31 52.5**	**-0.6**		
	2.6nm,0.7s,baz=134,slow=6.3,SNR=13								
ILAR				sP	**sP**	**08 31 55.9**	**-1.2**		
	2.6nm,0.7s,baz=154,slow=5.6,SNR=14								
ILAR	**Eielson Array**	**55.34**	**339**	P	**P**	**08 31 43.0**	**-0.3**		
ILAR				pP	**pP**	**08 31 52.5**	**-0.6**		
ILAR				sP	**sP**	**08 31 55.9**	**-1.2**		
TRF	**Thorofare Moun**	**55.83**	**336**	*e*P	**P**	**08 31 45.9**	**-1.2**		
	11nm,0.7s								
CFAA	**Coronel Fontan**	**59.30**	**146**	P	**P**	**08 32 14.0**	**+2.2**		
	0.2nm,0.7s,baz=270,slow=6.7,SNR=4.0								
CFAA	**Coronel Fontan**	**59.30**	**146**	P	**P**	**08 32 14.0**	**+2.2**		
PLCA	**Paso Flores**	**65.54**	**154**	LR	LR	08 55 11.5			
	comp=Z,51nm,18.3s,baz=91,slow=30								
PETK	**Petropavlovsk-**	**81.49**	**323**	P	**P**	**08 34 27.2**	**+0.2**		
	2.2nm,0.7s,baz=94,slow=9.1,SNR=3.9								
PETK				pP	**pP**	**08 34 37.0**	**-0.3**		
	2.1nm,0.6s,baz=92,slow=8.4,SNR=2.8								
PETK	**Petropavlovsk-**	**81.49**	**323**	P	**P**	**08 34 27.2**	**+0.2**		
PETK				pP	**pP**	**08 34 37.0**	**-0.3**		
ARCES	**ARCESS Array B**	**85.46**	**16**	P	**P**	**08 34 47.9**	**+0.7**		
	5.0nm,1.0s,baz=302,slow=7.2,SNR=3.0								
ARCES	**ARCESS Array B**	**85.46**	**16**	P	**P**	**08 34 47.9**	**+0.7**		
WRA	**Warramunga Arr**	**126.24**	**258**	PKP	**PKiKP**	**08 41 14.1**	**+0.7**		
	0.4nm,0.7s,baz=56,slow=1.2,SNR=177								
WRA	**Warramunga Arr**	**126.24**	**258**	PKP	**PKiKP**	**08 41 14.1**	**+0.7**		
ASAR	**Alice Springs**	**127.06**	**254**	PKP	**PKPdf**	**08 41 15.4**	**+0.8**		
	0.4nm,0.8s,baz=83,slow=2.9,SNR=3.9								
ASAR	**Alice Springs**	**127.06**	**254**	PKP	**PKPdf**	**08 41 15.4**	**+0.8**		

IDC 13 08:40:29.9±45.0, 15.47S×168.98E, h559km±158km, mb2.6/3, mb1 2.8/4, mb1mx2.7/18, mbtmp2.7/4, Error ellipse: s-maj=856.9km s-min=101.3km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.99**	**200**	P		P	P	08 42 18.1	-0.1
	0.7nm,0.3s,baz=7.1,slow=8.1,SNR=6.2								
STKA	**Stephens Creek**	**29.81**	**232**	P		P	P	08 45 51.8	-0.4
	1.1nm,0.8s,baz=67,slow=7.7,SNR=3.4								
WRA	**Warramunga Arr**	**33.26**	**257**	P		P	P	08 46 21.7	-0.2
	0.3nm,0.4s,baz=88,slow=8.5,SNR=7.7								
ASAR	**Alice Springs**	**33.97**	**251**	P		P	P	08 46 27.7	-0.1
	0.6nm,0.5s,baz=81,slow=9.0,SNR=14								

*NEIC **13** 08:44:

Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.08**	**355**	*e*P	Pb	08 44 37.6	-3.5
ZIIG				*i* S	Sb	08 44 50.6	-4.3
ZIIG	**Zihuatanejo**	**1.08**	**355**	*e*P	Pb	08 44 37.6	-3.5
ZIIG				*i* S	Sb	08 44 50.6	-4.3
CAIG	**El Cayaco**	**1.17**	**64**	*e*P	Pn	08 44 38.5	-4.1
CAIG				*i* S	Sb	08 44 53.4	-4.3
CAIG	**El Cayaco**	**1.17**	**64**	*e*P	Pn	08 44 38.5	-4.1
CAIG				*i* S	Sb	08 44 53.4	-4.3
MMIG	**Aquila**	**2.57**	**313**	*i* P	Pn	08 44 59.6	-2.2
MMIG				*i* S	Sn	08 45 28.0	-4.9
MMIG	**Aquila**	**2.57**	**313**	*i* P	Pn	08 44 59.6	-2.2
MMIG				*i* S	Sn	08 45 28.0	-4.9
PNIG	**Pinotepa**	**3.11**	**92**	*e*P	Pn	08 45 06.0	-2.4
PNIG				*i* S	Sn	08 45 42.8	-3.5
PNIG	**Pinotepa**	**3.11**	**92**	*e*P	Pn	08 45 06.9	-2.4
PNIG				*i* S	Sn	08 45 42.8	-3.5
PPM	**Popocatepetl**	**3.63**	**46**	*i* P	Pn	08 45 14.9	-2.2
PPM				*i* S	Sn	08 45 55.7	-4.5
PPM	**Popocatepetl**	**3.63**	**46**	*i* P	Pn	08 45 14.9	-2.2
PPM				*i* S	Sn	08 45 55.7	-4.5
UTMO	**Huajuapan**	**3.65**	**69**	*i* P	Pn	08 45 14.8	-2.1
UTMO				*i* S	Sn	08 45 53.6	-6.2
UTMO	**Huajuapan**	**3.65**	**69**	*i* P	Pn	08 45 14.8	-2.1
UTMO				*i* S	Sn	08 45 53.6	-6.2
VHO	**Vista Hermosa**	**4.47**	**82**	*i* P	Pn	08 45 27.0	-1.3
VHO	**Vista Hermosa**	**4.47**	**82**	*i* P	Pn	08 45 27.0	-1.3

ATH ***13*** *08:47:01.2, 36.92N×26.89E, h35km±1km, MD2.7/4*
ISK ***13*** *08:47:12.1, 37.56N×26.96E, h4km, MD2.8*
DDA ***13*** *08:47:13.0, 37.56N×26.92E, h11km, MD2.9*

CSEM 13 08:47:07.7±0.8, 37.36N×26.45E, h22km±7km, MD2.9, Error ellipse: s-maj=15.8km s-min=13.4km az=42.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.47**	**42**	*e*PN	Pb	08 47 16.8	-0.5
SMG	**Samos**	**0.47**	**42**	*e*Pn	Pb	08 47 16.8	-0.5
GCAM	**G?zelcaml?**	**0.71**	**61**	*i* P	Pb	08 47 19.0	-2.4
GCAM				*i* S	Sb	08 47 23.3	-7.5
GCAM	**G?zelcaml?**	**0.71**	**61**	*i* P	Pb	08 47 19.0	-2.5
BODT	**Bodrum**	**0.75**	**113**	*e*PG	Pn	08 47 23.7	+0.7
BODT				*e*SG	Sb	08 47 32.2	+0.2
BODT	**Bodrum**	**0.75**	**113**	*e*Pg	Pn	08 47 23.7	+0.7
BODT				*e*Sg	Sb	08 47 32.2	+0.2
APE	**Apeiranthos**	**0.79**	**249**	*e*PN	Pb	08 47 22.0	-0.7
APE	**Apeiranthos**	**0.79**	**249**	*e*Pn	Pb	08 47 22.0	-0.7
URLA	**Izmir**	**1.01**	**7**	*i* P	Pn	08 47 29.6	+3.0
URLA				*i* S	Sn	08 47 41.4	+1.3
CHOS	**Chios island**	**1.07**	**343**	*e*PB	Pb	08 47 29.3	+1.6
CHOS				*e*SN	Sn	08 47 49.3	+7.4
CHOS	**Chios island**	**1.07**	**343**	*e*Pb	Pb	08 47 29.3	+1.6
BLCB	**Balcova**	**1.13**	**25**	*e*PG	Pb	08 47 28.6	0.0
BLCB				*e*SG	Sb	08 47 40.5	-2.3
BLCB	**Balcova**	**1.13**	**25**	*e*Pg	Pb	08 47 28.6	+0.1
BLCB				*e*Sg	Sb	08 47 40.5	-2.3
IZM	**Izmir**	**1.22**	**32**	*e*PG	Pn	08 47 29.4	-0.1
IZM	**Izmir**	**1.22**	**32**	*e*Pg	Pn	08 47 29.5	-0.1
YER	**Yerkesik**	**1.48**	**98**	*e*PN	Pb	08 47 34.3	-0.3
YER				*e*SN	Sn	08 47 50.8	-1.2
YER	**Yerkesik**	**1.48**	**98**	*e*Pn	Pb	08 47 34.3	-0.4
YER				*e*Sn	Sn	08 47 50.8	-1.1
KARP	**Karpathos**	**1.90**	**162**	*e*PN	Pn	08 47 26.0	-1.3
MANT	**Manisa**	**2.02**	**55**	*i* P	Pb	08 47 43.7	-0.3
MANT				*i* S	Sn	08 48 04.8	-0.7

ISCJB ***13*** *09:41:37.9±0.6, 31.71N±0.06×104.52E±0.07, h9km, mb3.2/5, Error ellipse: s-maj=11.3km s-min=4.8km az=135.4*
IDC ***13*** *09:41:39.3±1.1, 31.72N×104.44E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.3/27, mbtmp3.3/6, ML2.6/1, Error ellipse: s-maj=63.9km s-min=20.6km az=61.0*

ISC 13 09:41:40.5±0.8, 31.68N±0.05×104.42E±0.06, h9km, n9, σ1§70/14, mb3.2/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.95**	**217**	Pg	**Pg**	**09 41 58.1**	**-0.7**
CD2				Sg	**Sg**	**09 42 10.8**	**-0.3**
CD2				smax	smax		
	comp=N,770nm,0.4s						
LZH	**Lanzhou**	**4.43**	**354**	*e*Pg	**Pg**	**09 43 04.6**	**-0.7**
LZH				Sg	**Sb**	**09 43 54.0**	**+1.9**
LZH				smax	smax		
	comp=N,38nm,1.0s						
LZH				smax	smax		
	comp=E,45nm,1.0s						
XAN	**Xi'an**	**4.46**	**57**	Pn	**Pn**	**09 42 50.9**	**+2.5**
XAN				Pg	**Pg**	**09 43 06.6**	**+0.6**
XAN				Sn	**Sn**	**09 43 37.1**	**-3.4**
XAN				Sg	**Sg**	**09 44 02.3**	**-1.6**
XAN				smax	smax		
	comp=N,60nm,0.7s						
XAN				smax	smax		
	comp=E,44nm,0.7s						
XAN				LR	LR		
	comp=N,180nm,6.8s						
XAN				LR	LR		
	comp=E,26nm,5.1s						
XAN				LR	LR		
	comp=Z,53nm,6.8s						
SONM	**Songino Array**	**16.21**	**5**	Pn	**Pn**	**09 45 26.8**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=175,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array**	**22.73**	**318**	P	**P**	**09 46 43.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=106,slow=9.2,SNR=4.8						
KURK	**Kurchatov**	**26.95**	**322**	P	**P**	**09 47 20.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=128,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**58.80**	**147**	P	**P**	**09 51 40.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=339,slow=7.8,SNR=8.1						
ASAR	**Alice Springs**	**61.84**	**149**	P	**P**	**09 52 00.0**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=333,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**81.07**	**17**	P	**P**	**09 53 56.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=327,slow=5.4,SNR=5.4						

ISCJB ***13*** *09:42:42.6±1.0, 36.43N±0.07×71.3E±0.1, h114km, mb3.3/2, Error ellipse: s-maj=16.2km s-min=7.4km az=156.2*
IDC ***13*** *09:42:45.6±22.0, 36.69N×71.51E, h84km±129km, mb3.2/2, mb1 3.3/6, mb1mx3.0/28, mbtmp3.2/6, ML3.1/3, Error ellipse: s-maj=205.2km s-min=43.9km az=179.0*
NNC ***13*** *09:42:45.8±7.3, 36.65N×71.07E, h45km±166km, mb3.5, mpv3.5, Error ellipse: s-maj=63.0km s-min=59.0km az=150.0*

ISC 13 09:42:45.5±1.1, 36.50N±0.08×71.5E±0.1, h114km, n12, σ2§06/15, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.40**	**136**	*e*P	**Pn**	**09 44 03.0**	**-1.0**
DLH				*e*S	**Sn**	**09 45 04.0**	**-1.1**
KK31	**Karatay Array**	**6.64**	**354**	P	**Pn**	**09 44 18.9**	**-1.6**
	1.0nm,0.3s,baz=182,slow=12,SNR=25						
KK31				⇑S	**Sn**	**09 45 31.2**	**-3.5**
	2.9nm,0.5s,baz=249,slow=77,SNR=4.7						
TKM2	**Tokmak 2**	**7.15**	**25**	⇓P	**Pn**	**09 44 27.7**	**+0.1**
	3.4nm,0.8s						
TKM2				⇓S	**Sn**	**09 45 49.1**	**+1.7**
	2.9nm,0.7s						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**09 45 46.1**	**-0.5**
	0.0nm,0.3s,baz=218,slow=13,SNR=3.2						
KURK	**Kurchatov**	**15.11**	**18**	P	**Pn**	**09 46 13.4**	**+0.7**
	0.1nm,0.3s,baz=204,slow=11,SNR=5.2						
AB31	**Akbulak array**	**15.28**	**330**	P	**Pn**	**09 46 11.4**	**-3.6**
	0.6nm,0.7s,baz=12,slow=26,SNR=11						
BVAR	**Borovoye Array**	**16.54**	**358**	P	**Pn**	**09 46 29.6**	**-1.0**
	0.1nm,0.3s,baz=158,slow=13,SNR=2.7						
AKTO	**Aktyubinsk**	**16.98**	**329**	P	**Pn**	**09 46 34.2**	**-1.8**
	0.1nm,0.3s,baz=125,slow=12,SNR=3.0						
AKTO	**Aktyubinsk**	**16.98**	**329**	⇑P	**P**	**09 46 38.1**	**+2.1**
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**09 47 06.6**	**+0.4**
	0.8nm,0.3s,baz=223,slow=11,SNR=14						
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**09 50 48.5**	**+2.2**
	0.4nm,0.5s,baz=96,slow=7.7,SNR=3.1						
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**09 54 50.3**	**+1.9**
	0.2nm,0.5s,baz=347,slow=5.2,SNR=4.3						

ISCJB ***13*** *10:02:55.8±0.5, 24.77N±0.03×121.78E±0.03, h86km±4km, Error ellipse: s-maj=5.9km s-min=3.5km az=159.7*
TAP ***13*** *10:02:56.3, 24.75N×121.76E, h81km, ML4.0, B*
JMA ***13*** *10:02:56.0±0.3, 24.90N×121.84E, h81km, M2.8*

ISC 13 10:02:55.5±1.4, 24.79N±0.04×121.76E±0.03, h90km±7km, n50, σ0§90/83, 9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.03**	**204**	P	**Pn**	**10 03 08.5**	**+0.4**
	baz=341						
ILA				S	**Sn**	**10 03 18.1**	**+0.8**
	baz=341						
TWE	**Neicheng**	**0.11**	**231**	⇓*i*P	**Pn**	**10 03 08.5**	**+0.3**
	baz=264						
TWE				S	**Sn**	**10 03 18.3**	**+0.7**
	baz=264						
TWC	**Suao**	**0.20**	**155**	⇓*i*P	**Pn**	**10 03 09.0**	**+0.5**
	baz=147						
TWC				S	**Sn**	**10 03 18.5**	**+0.5**
	baz=147						
ENTT	**Nioudou**	**0.23**	**230**	⇓*i*P	**Pn**	**10 03 08.8**	**+0.1**
	baz=247						
ENTT				*e*S	**Sn**	**10 03 17.1**	**-1.2**
	baz=247						
TWA	**Mucha**	**0.25**	**320**	⇓*i*P	**Pn**	**10 03 09.0**	**+0.3**
	baz=320						
TWA				S	**Sn**	**10 03 17.9**	**-0.6**
	baz=320						
NWF	**Wu-fen Shan**	**0.28**	**4**	⇓*i*P	**Pn**	**10 03 09.3**	**+0.3**
	baz=355						
NWF				*i* S	**Sn**	**10 03 18.7**	**-0.2**
	baz=355						
TWB1	**Santiao Chiao**	**0.30**	**44**	⇓*i*P	**Pn**	**10 03 09.2**	**+0.3**
	baz=47						
TWB1				S	**Sn**	**10 03 18.4**	**-0.4**
	baz=47						
TAP1	**Taipei**	**0.33**	**319**	P	**Pn**	**10 03 09.2**	**+0.1**
	baz=314						
TAP1				S	**Sn**	**10 03 18.5**	**-0.5**
	baz=314						
ENA	**Nanau**	**0.36**	**183**	*e*P	**Pn**	**10 03 08.9**	**-0.3**
	baz=192						
ENA				*e*S	**Sn**	**10 03 20.2**	**+0.8**
	baz=192						
NSK	**Sanguang**	**0.38**	**253**	⇓*i*P	**Pn**	**10 03 09.2**	**-0.2**
	baz=258						
NSK				*i* S	**Sn**	**10 03 18.0**	**-1.8**
	baz=258						
TWS1	**Kuangyinshan**	**0.44**	**315**	*i* P	**Pn**	**10 03 10.4**	**+0.7**
	baz=307						
TWS1				S	**Sn**	**10 03 20.7**	**+0.3**
	baz=307						
NNS	**Nan Shan**	**0.49**	**225**	⇓*i*P	**Pn**	**10 03 10.5**	**+0.1**
	baz=227						
NNS				*e*S	**Sn**	**10 03 20.6**	**-0.8**
	baz=227						
TWY	**Chenhua**	**0.51**	**343**	*i* P	**Pn**	**10 03 11.0**	**+0.7**
	baz=336						
TWY				S	**Sn**	**10 03 21.9**	**+0.7**
	baz=336						
NCU	**National Centr**	**0.55**	**289**	P	**Pn**	**10 03 11.0**	**+0.4**
	baz=286						
NCU				*e*S	**Sn**	**10 03 21.7**	**-0.2**
	baz=286						
NSTT	**Nanjuang**	**0.71**	**257**	⇓*i*P	**Pn**	**10 03 12.3**	**+0.3**
	baz=261						
NSTT				S	**Sn**	**10 03 23.7**	**-0.7**
	baz=261						
HSN	**Hsinchu**	**0.72**	**271**	*e*P	**Pn**	**10 03 12.2**	**+0.1**
	baz=276						
HSN				*e*S	**Sn**	**10 03 23.6**	**-1.0**
	baz=276						
TWD	**Chiawan**	**0.72**	**192**	*e*P	**Pn**	**10 03 11.6**	**-0.6**
	baz=203						
TWD				*e*S	**Sn**	**10 03 23.3**	**-1.3**
	baz=203						
TWT	**Tachien**	**0.75**	**225**	P	**Pn**	**10 03 13.5**	**+0.7**
	baz=225						
TWT				*e*S	**Sn**	**10 03 25.5**	**-0.1**
	baz=225						
WHF	**Hehuan Shan**	**0.78**	**215**	*e*P	**Pn**	**10 03 13.2**	**-0.1**
	baz=214						
WHF				*e*S	**Sn**	**10 03 26.1**	**-0.5**
	baz=214						
HWA	**Hwalien**	**0.82**	**190**	*e*P	**Pn**	**10 03 14.2**	**+1.0**
	baz=198						
NSY	**Sanyi**	**0.98**	**248**	P	**Pn**	**10 03 15.8**	**+0.8**
	baz=251						
NSY				*e*S	**Sn**	**10 03 29.4**	**-0.2**
	baz=251						
TWQ1	**Liyutan**	**1.00**	**244**	*e*P	**Pn**	**10 03 15.6**	**+0.4**
	baz=247						
TWQ1				*e*S	**Sn**	**10 03 29.5**	**-0.5**
	baz=247						
ESL	**Shilin**	**1.01**	**197**	*e*P	**Pn**	**10 03 13.7**	**-1.7**
	baz=201						
ESL				*e*S	**Sn**	**10 03 28.9**	**-1.3**
	baz=201						
TCU	**Taichung**	**1.18**	**237**	*e*P	**Pn**	**10 03 17.9**	**+0.7**
	baz=241						
TCU				*e*S	**Sn**	**10 03 34.0**	**+0.5**
	baz=241						
YOJ	**Yonaguni jima**	**1.19**	**106**	*e*P	**Pn**	**10 03 16.8**	**-0.5**
	baz=104						
YOJ	**Yonaguni jima**	**1.19**	**106**	P	**Pn**	**10 03 17.2**	**-0.1**
YOJ				*e*S	**Sn**	**10 03 33.1**	**-0.7**
SMLT	**Sun Moon Lake**	**1.20**	**221**	*e*P	**Pn**	**10 03 17.9**	**+0.3**
	baz=223						
TYC	**Yuchr**	**1.21**	**223**	*e*P	**Pn**	**10 03 18.2**	**+0.6**
	baz=227						
TYC				*e*S	**Sn**	**10 03 33.2**	**-1.0**
	baz=227						
WNT	**Mingjian**	**1.34**	**227**	*e*P	**Pn**	**10 03 20.0**	**+0.8**
	baz=240						
WNT				*e*S	**Sn**	**10 03 37.6**	**+0.5**
	baz=240						
EHY	**Hungye**	**1.34**	**197**	*e*P	**Pn**	**10 03 18.8**	**-0.5**
	baz=191						
TWF1	**Yuli**	**1.49**	**197**	*e*P	**Pn**	**10 03 20.3**	**-0.9**
	baz=198						
CHN5	**Tsauling**	**1.54**	**220**	*e*P	**Pn**	**10 03 22.7**	**+0.7**
	baz=225						
CHN5				*e*S	**Sn**	**10 03 43.0**	**+1.2**
	baz=225						
WGK	**Gukeng**	**1.55**	**225**	*e*P	**Pn**	**10 03 22.3**	**+0.4**
	baz=238						
WGK				*e*S	**Sn**	**10 03 42.6**	**+0.7**
	baz=238						
ELDTW	**Lidau**	**1.73**	**203**	*e*P	**Pn**	**10 03 24.3**	**0.0**
	baz=200						
CHY	**Chiayi**	**1.77**	**224**	*e*P	**Pn**	**10 03 24.5**	**-0.3**
	baz=236						
CHY				*e*S	**Sn**	**10 03 48.0**	**+1.1**
	baz=236						
CHN4	**Tsaushan**	**1.79**	**217**	*e*P	**Pn**	**10 03 25.5**	**+0.6**
	baz=220						
IRIF	**Iriomote-Funau**	**1.85**	**104**	P	**Pn**	**10 03 25.7**	**0.0**
IRIF				*e*S	**Sn**	**10 03 48.0**	**-0.7**
WTP	**Ta-pu**	**1.86**	**215**	*e*P	**Pn**	**10 03 26.4**	**+0.4**
	baz=225						
STYT	**Tauyuan**	**1.86**	**210**	*e*P	**Pn**	**10 03 26.7**	**+0.7**
	baz=212						
TWK	**Hsinying**	**1.91**	**218**	*e*P	**Pn**	**10 03 27.0**	**+0.4**
	baz=220						
CHN1	**Nanshi**	**1.95**	**215**	*e*P	**Pn**	**10 03 27.7**	**+0.6**
	baz=221						
CHN1				*e*S	**Sn**	**10 03 51.8**	**+0.5**
	baz=221						
HATJ	**Hateruma jima**	**2.00**	**111**	P	**Pn**	**10 03 28.4**	**+0.7**
TWG	**Pinlang**	**2.06**	**198**	*e*P	**Pn**	**10 03 28.4**	**-0.1**
	baz=191						
JKRS	**Kuro-shima**	**2.12**	**105**	P	**Pn**	**10 03 29.6**	**+0.3**
JKRS				*e*S	**Sn**	**10 03 55.0**	**-0.1**
JIJ	**Ishigaki jima**	**2.21**	**101**	P	**Pn**	**10 03 30.3**	**-0.2**
JIJ				*e*S	**Sn**	**10 03 56.5**	**-0.7**
SSD	**Sandimen**	**2.28**	**207**	*e*P	**Pn**	**10 03 33.5**	**+2.1**
	baz=219						
EAST	**Anshuo**	**2.54**	**199**	*e*P	Pn	10 03 37.4	+2.5
	baz=193						
SCZT	**Fangliau**	**2.62**	**204**	*e*P	**Pn**	**10 03 37.1**	**+1.1**
	baz=207						
JTJ	**Tarama**	**2.68**	**93**	P	**Pn**	**10 03 38.0**	**+1.3**
QZH	**Quanzhou**	**2.88**	**274**	Pn	**Pn**	**10 03 39.8**	**+0.4**
QZH				Sn	**Sn**	**10 04 08.6**	**-4.6**
QZH				smax	smax		
	comp=N,140nm,0.9s						
QZH				smax	smax		
	comp=E,140nm,1.0s						

CSEM ***13*** *10:13:03.4, 37.29N×28.21E, h5km, MD2.7, After ISK*

ISK 13 10:13:03.4, 37.29N×28.21E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**160**	*e*Pg	Pg	10 13 07.1	+0.3
YER				*e*Sg	Sg	10 13 10.2	+1.2
YER	**Yerkesik**	**0.16**	**160**	*e*PG	Pg	10 13 07.1	+0.3
YER				*e*SG	Sg	10 13 10.2	+1.2
BODT	**Bodrum**	**0.76**	**253**	*e*PG	Pb	10 13 18.8	-0.3
BODT				*e*SG	Sb	10 13 30.9	+1.2
BODT	**Bodrum**	**0.76**	**253**	*e*Pg	Pb	10 13 18.8	-0.3
BODT				*e*Sg	Sb	10 13 30.9	+1.2
FETY	**Fethiye**	**0.95**	**133**	*e*PG	Pn	10 13 23.1	-0.4
FETY	**Fethiye**	**0.95**	**133**	*e*Pg	Pn	10 13 23.1	-0.4
KULA	**Kula-Manisa**	**1.27**	**16**	*e*PN	Pb	10 13 29.0	+1.0
KULA				*e*SN	Sn	10 13 47.4	+1.9
KULA	**Kula-Manisa**	**1.27**	**16**	*e*Pn	Pb	10 13 29.0	+1.0
KULA				*e*Sn	Sn	10 13 47.4	+1.8
ELL	**Elmali**	**1.46**	**111**	*e*PN	Pg	10 13 32.0	+0.4
ELL	**Elmali**	**1.46**	**111**	*e*Pn	Pg	10 13 32.0	+0.4
KHL	**Karahalli**	**1.46**	**45**	*e*PN	Pg	10 13 32.2	+0.6
KHL	**Karahalli**	**1.46**	**45**	*e*Pn	Pg	10 13 32.2	+0.6
AKS	**Akhisar**	**1.62**	**349**	*e*PN	Pb	10 13 34.1	+0.3
AKS	**Akhisar**	**1.62**	**349**	*e*Pn	Pb	10 13 34.1	+0.3

TAP 13 10:28:19.9, 21.33N×121.98E, h165km±1km, ML3.7, 1C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.81**	**331**	P	Pn	10 28 44.2	-0.4
	baz=331						
LAY				S	Sn	10 29 03.0	-0.8
	baz=331						
TWK1	**Hengchun**	**1.25**	**300**	*e*P	Pn	10 28 48.6	+0.4
	baz=299						
TWK1				S	Sn	10 29 08.7	-1.3
	baz=299						
HEN	**Hengchun**	**1.34**	**301**	*e*P	Pn	10 28 49.6	+0.7
	baz=300						
TAW	**Tawu**	**1.44**	**316**	*e*P	Pn	10 28 49.6	-0.3
	baz=315						
TAW				*e*S	Sn	10 29 12.3	-0.8
	baz=315						
EAST	**Anshuo**	**1.48**	**315**	*i* P	Pn	10 28 50.5	+0.1
	baz=315						
EAST				*e*S	Sn	10 29 12.4	-1.6
	baz=315						
SCZT	**Fangliau**	**1.64**	**310**	⇑*i*P	Pn	10 28 52.2	+0.3
	baz=309						
SCZT				*e*S	Sn	10 29 15.1	-1.5
	baz=309						
TWG	**Pinlang**	**1.71**	**331**	P	Pn	10 28 52.5	-0.2
	baz=330						
TWG				*e*S	Sn	10 29 16.5	-1.6
	baz=330						
TWP	**Hsiaoliuchiu**	**1.81**	**304**	*e*P	Pn	10 28 55.4	+1.6
	baz=304						
TWP				*e*S	Sn	10 29 20.2	+0.2
	baz=304						
SSD	**Sandimen**	**1.89**	**319**	P	Pn	10 28 54.8	+0.2
	baz=318						
SSD				*e*S	Sn	10 29 20.4	-1.1
	baz=318						
ELDTW	**Lidau**	**2.06**	**335**	*e*P	Pn	10 28 56.8	+0.2
	baz=334						
ELDTW				*e*S	Sn	10 29 23.8	-1.4
	baz=334						
TWM1	**Shoushan**	**2.07**	**316**	*e*P	Pn	10 28 57.6	+0.9
	baz=316						
TWM1				*e*S	Sn	10 29 24.9	-0.4
	baz=316						
TWF1	**Yuli**	**2.11**	**343**	*e*P	Pn	10 28 57.3	+0.1
	baz=342						
TWF1				*e*S	Sn	10 29 25.1	-1.0
	baz=342						
STYT	**Tauyuan**	**2.15**	**328**	*e*P	Pn	10 28 58.2	+0.5
	baz=328						
STYT				*e*S	Sn	10 29 25.9	-1.1
	baz=328						
SGST	**Jiashian**	**2.17**	**324**	*e*P	Pn	10 28 58.1	+0.2
	baz=323						
SGST				*e*S	Sn	10 29 26.2	-1.2
	baz=323						
CHN1	**Nanshi**	**2.29**	**324**	P	Pn	10 28 59.6	+0.4
	baz=324						
CHN1				S	Sn	10 29 28.4	-1.4
	baz=324						
WTP	**Ta-pu**	**2.29**	**327**	P	Pn	10 28 59.5	+0.2
	baz=326						
WTP				*e*S	Sn	10 29 28.5	-1.3
	baz=326						
TWK	**Hsinying**	**2.37**	**325**	*e*P	Pn	10 29 00.5	+0.2
	baz=324						
TWK				*e*S	Sn	10 29 30.0	-1.6
	baz=324						
CHN4	**Tsaushan**	**2.39**	**328**	*e*P	Pn	10 29 00.5	+0.1
	baz=327						
CHN4				*e*S	Sn	10 29 30.8	-1.1
	baz=327						
ESL	**Shilin**	**2.53**	**349**	*e*P	Pn	10 29 01.2	-0.8
	baz=348						
CHN5	**Tsauling**	**2.56**	**332**	*e*P	Pn	10 29 02.6	+0.1
	baz=331						
CHN5				*e*S	Sn	10 29 34.2	-1.5
	baz=331						
SMLT	**Sun Moon Lake**	**2.73**	**339**	*e*P	Pn	10 29 05.0	+0.4
	baz=338						
TYC	**Yuchr**	**2.77**	**338**	*e*P	Pn	10 29 04.6	-0.3
	baz=338						
TYC				*e*S	Sn	10 29 37.4	-2.5
	baz=338						

IDC 13 10:28:27.9±0.9, 45.91N×154.17E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.5/25, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=40.3km s-min=21.3km az=123.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.56**	**16**	Pn	Pn	10 30 18.9	-0.4
	0.5nm,0.3s,baz=202,slow=15,SNR=24						
PETK				Sn	Sn	10 31 52.9	+7.1
	0.1nm,0.3s,baz=148,slow=17,SNR=2.6						
ILAR	**Eielson Array**	**36.76**	**38**	P	P	10 35 35.8	-0.9
	0.4nm,1.1s,baz=262,slow=7.4,SNR=3.4						
KURK	**Kurchatov**	**48.44**	**305**	P	P	10 37 12.5	+0.8
	0.7nm,0.7s,baz=69,slow=8.5,SNR=3.6						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	P	10 37 32.4	+0.1
	0.2nm,0.5s,baz=295,slow=7.2,SNR=3.2						
PDAR	**Pinedale Array**	**64.65**	**54**	P	P	10 39 09.4	+1.8
	0.4nm,0.5s,baz=335,slow=4

50C-42D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MSVF	**Nonsavu**	**8.09**	**307**	*e*P	**Pn**	**10 40 15.3**	**+2.5**
MSVF	**Nonsavu**	**8.09**	**307**	*e*Pn	**Pn**	**10 40 15.3**	**+2.5**
MSVF	**Nonsavu**	**8.09**	**307**	Pn	Pn	10 40 18.6	+5.8
	2μm,0.9s,SNR=5.6						
AFI	**Afiamalu**	**9.40**	**21**	Pn	Pn	10 40 21.9	-9.0
	6.6nm,0.3s,baz=82,slow=24,SNR=5.4						
AFI				Sn	Sn	10 41 57.4	-18
	8.7nm,0.3s,baz=145,slow=21,SNR=4.1						
AFI				LR	LR	10 42 41.6	
	comp=Z,172nm,20.1s,baz=298,slow=28						
AFI	**Afiamalu**	**9.40**	**21**	P	Pn	10 40 21.9	-9.0
AFI	**Afiamalu**	**9.40**	**21**	Pn	Pn	10 40 21.9	-9.0
AFI				*e*Pn	Pn	10 40 22.2	-8.7
AFI				Sn	Sn	10 41 57.4	-18
AFI				*e*Sn	Sn	10 42 00.0	-16
RAR	**Rarotonga**	**14.39**	**87**	Pn	Pn	10 41 28.1	-11
	5.7nm,0.3s,baz=253,slow=9.4,SNR=16						
RAR				Sn	Sn	10 43 51.7	-26
	2.3nm,0.3s,baz=114,slow=14,SNR=3.8						
DZM	**Mont Dzumac**	**16.99**	**269**	*e*P	**P**	**10 42 17.5**	**+2.9**
	128nm,1.0s						
DZM				*e*LR	LR	10 46 13.6	
	991nm,21.3s						
DZM	**Mont Dzumac**	**16.99**	**269**	Pn	**P**	**10 42 18.8**	**+4.2**
	0.9nm,0.3s,baz=88,slow=15,SNR=12						
DZM				LR	LR	10 47 13.1	
	comp=Z,424nm,21.7s,baz=184,slow=32						
DZM	**Mont Dzumac**	**16.99**	**269**	*e*P	**P**	**10 42 16.0**	**+1.5**
DZM	**Mont Dzumac**	**16.99**	**269**	Pn	**P**	**10 42 18.8**	**+4.2**
TBI	**Tubuai**	**23.68**	**96**	*e*LQ	LQ	10 47 45.7	
	403nm,26.2s						
TBI				*e*LR	LR	10 48 59.3	
	699nm,29.0s,baz=269						
RPZ	**Rata Peaks**	**23.77**	**205**	P	**P**	**10 43 25.4**	**-1.8**
	11nm,0.7s,baz=61,slow=1.9,SNR=11						
RPZ	**Rata Peaks**	**23.77**	**205**	P	**P**	**10 43 25.4**	**-1.8**
RPZ				*e*P	**P**	**10 43 27.6**	**+0.4**
PPT2	**Papeete2**	**24.58**	**83**	*e*LQ	LQ	10 48 18.3	
	503nm,23.8s						
PPT2				*e*LR	LR	10 49 33.6	
	594nm,24.5s,baz=253						
ARMA	**Armidale**	**30.54**	**248**	*e*P	**P**	**10 44 29.0**	**+0.7**
ARMA	**Armidale**	**30.54**	**248**	*e*P	**P**	**10 44 28.2**	**-0.1**
	16nm,0.8s						
CTA	**Charters Tower**	**35.91**	**267**	P	**P**	**10 45 14.8**	**-0.4**
	8.7nm,0.6s,baz=86,slow=12,SNR=8.2						
CTA	**Charters Tower**	**35.91**	**267**	*e*P	**P**	**10 45 14.6**	**-0.6**
	10nm,0.8s						
CTA	**Charters Tower**	**35.91**	**267**	P	**P**	**10 45 14.8**	**-0.4**
CTA	**Charters Tower**	**35.91**	**267**	P	**P**	**10 45 14.8**	**-0.4**
TOO	**Toolangi**	**36.76**	**237**	*e*P	**P**	**10 45 22.2**	**0.0**
	38nm,0.8s						
RKT	**Rikitea**	**36.96**	**99**	*e*LR	LR	10 55 15.7	
	377nm,25.5s						
PMG	**Port Moresby**	**38.41**	**284**	P	**P**	**10 45 35.5**	**-0.8**
	23nm,0.8s,baz=70,slow=4.5,SNR=5.3						
PMG	**Port Moresby**	**38.41**	**284**	*e*P	**P**	**10 45 36.4**	**+0.1**
PMG				pmax	pmax		
	comp=Z,31nm,1.7s						
PMG	**Port Moresby**	**38.41**	**284**	*e*P	**P**	**10 45 36.2**	**-0.1**
	comp=Z,30nm,0.9s						
STKA	**Stephens Creek**	**39.23**	**247**	P	**P**	**10 45 42.0**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=83,slow=8.1,SNR=21						
STKA				LR	LR	11 01 11.1	
	comp=Z,452nm,18.4s,baz=35,slow=35						
STKA	**Stephens Creek**	**39.23**	**247**	*e*P	**P**	**10 45 42.1**	**-1.0**
	comp=Z,3.8nm,0.6s						
STKA	**Stephens Creek**	**39.23**	**247**	P	**P**	**10 45 42.0**	**-1.0**
STKA	**Stephens Creek**	**39.23**	**247**	P	**P**	**10 45 42.0**	**-1.0**
STKA				*e*P	**P**	**10 45 42.2**	**-0.9**
AS31	**Alice Springs**	**46.58**	**258**	*e*P	**P**	**10 46 41.5**	**-1.3**
ASAR	**Alice Springs**	**46.58**	**258**	P	**P**	**10 46 41.4**	**-1.4**
	comp=Z,26nm,0.7s,baz=102,slow=6.9,SNR=219						
ASAR				S	**S**	**10 53 26.8**	**-3.2**
	comp=Z,0.6nm,0.8s,baz=95,slow=15,SNR=4.3						
ASAR	**Alice Springs**	**46.58**	**258**	P	**P**	**10 46 41.4**	**-1.4**
ASAR				S	**S**	**10 53 26.8**	**-3.2**
ASAR	**Alice Springs**	**46.58**	**258**	P	**P**	**10 46 41.4**	**-1.4**
ASAR				S	**S**	**10 53 26.8**	**-3.2**
WB2	**Warramunga Arr**	**46.89**	**264**	*e*P	**P**	**10 46 43.6**	**-1.6**
WRAB	**Tennant Creek**	**46.89**	**264**	*e*P	**P**	**10 46 43.5**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,105nm,2.0s						
WRAB	**Tennant Creek**	**46.89**	**264**	*e*P	**P**	**10 46 43.5**	**-1.7**
	comp=Z,105nm,2.0s						
WRAB	**Tennant Creek**	**46.89**	**264**	P	**P**	**10 46 43.0**	**-2.3**
	comp=Z,100nm,0.7s,SNR=13						
WRA	**Warramunga Arr**	**46.90**	**264**	P	**P**	**10 46 43.8**	**-1.5**
	comp=Z,9.7nm,0.6s,baz=103,slow=7.8,SNR=85						
WRA				PcP	**PcP**	**10 48 18.4**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=90,slow=3.6,SNR=6.0						
WRA				LR	LR	11 05 40.0	
	comp=Z,344nm,19.9s,baz=100,slow=35						
WRA	**Warramunga Arr**	**46.90**	**264**	P	**P**	**10 46 43.8**	**-1.5**
WRA						10 48 18.4	
WRA	**Warramunga Arr**	**46.90**	**264**	P	**P**	**10 46 43.8**	**-1.5**
WRA				PcP	**PcP**	**10 48 18.4**	**+0.5**
FORT	**Forrest**	**50.83**	**248**	*e*P	**P**	**10 47 13.7**	**-1.6**
	comp=Z,43nm,0.6s						
FORT	**Forrest**	**50.83**	**248**	*e*P	**P**	**10 47 13.9**	**-1.4**
	comp=Z,43nm,0.6s						
GUMO	**Guam**	**53.26**	**309**	LR	LR	11 07 02.3	
	comp=Z,124nm,19.2s,baz=90,slow=32						
FITZ	**Fitzroy Crossi**	**55.33**	**263**	P	**P**	**10 47 48.0**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=100,slow=4.6,SNR=8.8						
FITZ	**Fitzroy Crossi**	**55.33**	**263**	*e*P	**P**	**10 47 47.2**	**-1.4**
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.33**	**263**	P	**P**	**10 47 48.0**	**-0.6**
VNDA	**Vanda**	**55.90**	**186**	*e*P	**P**	**10 47 54.1**	**+2.3**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**55.90**	**186**	*e*P	**P**	**10 47 54.1**	**+2.3**
	comp=Z,6.2nm,1.1s						
KLBR	**Kellerberrin**	**59.48**	**246**	*e*P	**P**	**10 48 16.8**	**-1.0**
	comp=Z,18nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.70**	**244**	P	**P**	**10 48 18.8**	**-0.5**
	comp=Z,18nm,1.1s,baz=233,slow=2.4,SNR=5.0						
NWAO	**Narrogin (SRO)**	**59.70**	**244**	P	**P**	**10 48 18.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**59.70**	**244**	P	**P**	**10 48 18.8**	**-0.5**
MBWA	**Marble Bar**	**59.92**	**258**	*e*P	**P**	**10 48 19.6**	**-1.3**
	comp=Z,64nm,1.6s						
CASY	**Casey**	**63.04**	**206**	*e*P	**P**	**10 48 42.5**	**+1.3**
CASY	**Casey**	**63.04**	**206**	*e*P	**P**	**10 48 42.8**	**+1.6**
	comp=Z,13nm,0.9s						
QSPA	**South Pole Qui**	**67.30**	**180**	P	**P**	**10 49 10.2**	**+1.2**
	comp=Z,7.5nm,0.7s,baz=30,slow=3.2,SNR=16						
QSPA	**South Pole Qui**	**67.30**	**180**	P	**P**	**10 49 10.2**	**+1.2**
QSPA				*e*P	**P**	**10 49 10.3**	**+1.3**
MJAR	**Matsushiro Arr**	**73.59**	**322**	P	**P**	**10 49 46.5**	**-1.2**
	comp=Z,8.7nm,0.8s,baz=163,slow=6.5,SNR=20						
MJAR				LR	LR	11 15 04.4	
	comp=Z,100nm,20.8s,baz=130,slow=30						
MJAR	**Matsushiro Arr**	**73.59**	**322**	P	**P**	**10 49 46.5**	**-1.2**
MJAR	**Matsushiro Arr**	**73.59**	**322**	P	**P**	**10 49 46.5**	**-1.2**
MAT	**Matsushiro**	**73.59**	**322**	P	**P**	**10 49 46.4**	**-1.3**
ERM	**Erimo**	**75.10**	**329**	*e*P	**P**	**10 49 56.1**	**-0.1**
ERM				pmax	pmax		
	comp=Z,25nm,1.2s						
ASAJ	**Asahikawa**	**76.98**	**330**	*e*P	**P**	**10 50 08.0**	**+1.1**
	comp=Z,19nm,0.9s						
MONP	**Monument Peak**	**78.79**	**47**	⇓P	**P**	**10 50 16.2**	**-1.4**
	baz=79						
EDW2	**Edwards Air Fo**	**78.94**	**45**	⇑P	**P**	**10 50 17.2**	**-1.0**
	baz=79						
YSS	**Yuzh-Sakhalins**	**79.11**	**332**	⇑*i*P	**P**	**10 50 20.0**	**+1.3**
YSS				*e*		10 50 36.4	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.11**	**332**	*e*P	**P**	**10 50 19.1**	**+0.4**
	comp=Z,48nm,1.0s						
PETK	**Petropavlovsk-**	**79.16**	**344**	P	**P**	**10 50 18.2**	**-0.7**
	comp=Z,15nm,0.8s,baz=136,slow=8.1,SNR=16						
PETK				LR	LR	11 26 10.9	
	comp=Z,54nm,18.3s,baz=267,slow=36						
PETK	**Petropavlovsk-**	**79.16**	**344**	P	**P**	**10 50 18.2**	**-0.7**
PETK	**Petropavlovsk-**	**79.16**	**344**	P	**P**	**10 50 18.2**	**-0.7**
CMB	**Columbia Colle**	**79.41**	**41**	*e*P	**P**	**10 50 20.0**	**-0.7**
CMB				*e*PP	**pP**	**10 50 32.2**	**+2.0**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMB	**Columbia Colle**	**79.41**	**41**	*e*P	**P**	**10 50 20.0**	**-0.7**
	comp=Z,5.7nm,0.9s						
CMB				*e*pP	**pP**	**10 50 32.2**	**+2.0**
LRMC	**Laurel Mountai**	**79.50**	**44**	⇓P	**P**	**10 50 20.2**	**-1.1**
	baz=80						
WDC	**Whiskeytown Da**	**79.81**	**38**	*e*P	**P**	**10 50 22.6**	**-0.1**
WDC				*e*PP	**pP**	**10 50 34.9**	**+2.6**
WDC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WDC	**Whiskeytown Da**	**79.81**	**38**	*e*P	**P**	**10 50 22.6**	**-0.1**
	comp=Z,8.8nm,1.0s						
WDC				*e*pP	**pP**	**10 50 34.9**	**+2.6**
GSC	**Goldstone**	**79.97**	**45**	⇓P	**P**	**10 50 22.8**	**-1.1**
	baz=80						
MPMC	**Manual Prospec**	**79.99**	**44**	⇑P	**P**	**10 50 22.8**	**-1.3**
	baz=80						
HEC	**Hector,Ludlow**	**80.00**	**46**	⇑P	**P**	**10 50 22.7**	**-1.3**
	baz=80						
MTUM	**Tungsten Hills**	**80.10**	**42**	*e*P	**P**	**10 50 24.6**	**0.0**
MAW	**Mawson**	**80.29**	**199**	LR	LR	11 25 00.6	
	comp=Z,149nm,18.5s,baz=317,slow=35						
KSRS	**Korea Array**	**80.32**	**317**	P	**P**	**10 50 24.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=127,slow=6.3,SNR=5.7						
KSRS				LR	LR	11 21 32.5	
	comp=Z,125nm,19.3s,baz=300,slow=32						
KSAR	**Wonju Array Be**	**80.33**	**317**	P	**P**	**10 50 25.0**	**-0.6**
KSAR	**Wonju Array Be**	**80.33**	**317**	P	**P**	**10 50 24.9**	**-0.6**
YBH	**Yreka Blue Hor**	**80.48**	**37**	*e*P	**P**	**10 50 26.3**	**-0.1**
YBH				pmax	pmax		
	comp=Z,61nm,2.5s						
YBH	**Yreka Blue Hor**	**80.48**	**37**	*e*P	**P**	**10 50 26.3**	**-0.1**
	comp=Z,61nm,2.5s						
113A	**Mohawk Valley,**	**80.54**	**49**	⇑P	**P**	**10 50 25.4**	**-1.4**
	baz=81						
WCN	**Washoe City**	**80.60**	**40**	⇓P	**P**	**10 50 26.2**	**-1.0**
	baz=81						
NVAR	**Mina Array Bea**	**80.93**	**42**	P	**P**	**10 50 28.4**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=224,slow=8.7,SNR=18						
NVAR				pP	**pP**	**10 50 40.8**	**+2.2**
	comp=Z,4.2nm,0.8s,baz=220,slow=7.8,SNR=13						
NVAR	**Mina Array Bea**	**80.93**	**42**	P	**P**	**10 50 28.4**	**-0.7**
NVAR				pP	**pP**	**10 50 40.8**	**+2.2**
VLA	**Vladivostok**	**81.64**	**324**	⇑*i*P	**P**	**10 50 31.0**	**-1.4**
VLA				*e*		10 53 38.3	
VLA				S	**S**	**11 00 42.1**	**-0.7**
VLA				pmax	pmax		
	comp=Z,22nm,0.9s						
USRK	**Ussuriysk Arra**	**82.31**	**325**	P	**P**	**10 50 36.8**	**+0.9**
	comp=Z,16nm,0.8s,baz=120,slow=3.1,SNR=31						
KDAK	**Kodiak Island**	**82.46**	**12**	P	**P**	**10 50 35.1**	**-1.1**
	comp=Z,7.3nm,0.9s,baz=28,slow=10,SNR=4.1						
KDAK	**Kodiak Island**	**82.46**	**12**	P	**P**	**10 50 35.2**	**-1.1**
KDAK	**Kodiak Island**	**82.46**	**12**	P	**P**	**10 50 35.1**	**-1.1**
X16A	**Lo Mia Camp, P**	**83.07**	**48**	⇑P	**P**	**10 50 39.5**	**-0.8**
	baz=83						
NJ2	**Nanjing**	**83.33**	**309**	*e*P	**P**	**10 50 42.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
CCUT	**Cedar City**	**83.54**	**45**	*e*P	**P**	**10 50 42.8**	**+0.1**
	comp=Z,5.1nm,1.0s						
U15A	**North Rim**	**83.61**	**46**	⇓P	**P**	**10 50 42.7**	**-0.5**
	baz=84						
Y18A	**Canyon Day Jun**	**83.70**	**50**	⇓P	**P**	**10 50 43.0**	**-0.5**
	baz=84						
HABR	**Khabarovsk**	**83.72**	**329**	*e*P	**P**	**10 50 42.4**	**-0.7**
HABR				*e*PP	**pP**	**10 50 52.1**	**-0.6**
HABR				PPP	PPP	10 55 47.8	
HABR				S	**S**	**11 01 02.1**	**-1.6**
HABR				*e*SS	**SS**	**11 06 33.1**	**+1.4**
HABR				pmax	pmax		
	comp=E,113nm,2.7s						
HABR				pmax	pmax		
	comp=N,78nm,3.3s						
HABR				pmax	pmax		
	comp=Z,80nm,2.2s						
HABR				MLR	MLR		
	comp=Z,119nm,20.0s						
WUAZ	**Wupatki**	**83.72**	**47**	*e*P	**P**	**10 50 44.0**	**+0.3**
	comp=Z,12nm,1.3s						
220A	**Playas Peak, P**	**83.78**	**52**	⇑P	**P**	**10 50 43.0**	**-1.0**
	baz=84						
MDJ	**Mudanjiang**	**83.88**	**324**	P	**P**	**10 50 44.4**	**+0.4**
MDJ				pP	**pP**	**10 50 54.1**	**+0.5**
MDJ				sP	**sP**	**10 50 57.6**	**+0.5**
MDJ				S	**S**	**11 01 06.1**	**+0.6**
MDJ				sS	**sS**	**11 01 22.3**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,31nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,230nm,4.8s						
MDJ				LR	LR		
	comp=Z,110nm,20.4s						
MDJ	**Mudanjiang**	**83.88**	**324**	*e*P	**P**	**10 50 44.8**	**+0.8**
	comp=Z,16nm,1.0s						
QIZ	**Qiongzhong**	**84.16**	**293**	P	**P**	**10 50 46.6**	**+0.6**
QIZ				S	**S**	**11 01 10.9**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,28nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,340nm,7.1s						
V17A	**Tonalea, Kykot**	**84.17**	**48**	⇑P	**P**	**10 50 45.3**	**-0.6**
	baz=84						
U16A	**Tuba City**	**84.23**	**47**	⇓P	**P**	**10 50 45.7**	**-0.5**
	baz=84						
Y19A	**Nutrioso**	**84.34**	**50**	⇓P	**P**	**10 50 46.1**	**-0.9**
	baz=84						
S16A	**Weppner Ranch,**	**84.79**	**45**	⇓P	**P**	**10 50 48.1**	**-1.0**
	baz=85						
V18A	**Ganado**	**84.81**	**48**	⇑P	**P**	**10 50 48.6**	**-0.6**
	baz=85						
MSU	**Marysvale**	**84.85**	**45**	*e*P	**P**	**10 50 49.2**	**-0.3**
MSU				*e*PP	**pP**	**10 51 02.0**	**+3.0**
MSU				pmax	pmax		
	comp=Z,24nm,1.8s						
MSU	**Marysvale**	**84.85**	**45**	*e*P	**P**	**10 50 49.2**	**-0.3**
	comp=Z,24nm,1.8s						
MSU				*e*pP	**pP**	**10 51 02.0**	**+3.0**
T17A	**Navajo Res., N**	**84.92**	**46**	⇓P	**P**	**10 50 49.3**	**-0.4**
	baz=85						
Y20A	**Horse Springs,**	**84.93**	**50**	⇑P	**P**	**10 50 49.5**	**-0.5**
	baz=85						
RSO	**Redoubt South**	**84.94**	**11**	*e*P	**P**	**10 50 48.0**	**-1.3**
RSO				*e*pP	**pP**	**10 51 00.1**	**+1.3**
SYO	**Syowa Base**	**85.06**	**192**	⇑*e*P	**P**	**10 50 48.0**	**-1.7**
SYO	**Syowa Base**	**85.06**	**192**	⇓*e*PcP	**P**	**10 50 50.6**	**+0.9**
SYO	**Syowa Base**	**85.06**	**192**	⇓*e*pP	pP	10 51 00.5	+1.2
X20A	**Quemado**	**85.18**	**50**	⇑P	**P**	**10 50 50.3**	**-0.8**
	baz=85						
U18A	**Rough Rock, Ch**	**85.23**	**47**	⇓P	**P**	**10 50 50.6**	**-0.7**
	baz=85						
S17A	**Black Ridge (B**	**85.27**	**46**	⇓P	**P**	**10 50 50.3**	**-1.1**
	baz=86						
MFID	**Camas Ranch**	**85.47**	**39**	⇑P	**P**	**10 50 51.5**	**-0.8**
	baz=86						
W20A	**Ramah**	**85.49**	**49**	⇑P	**P**	**10 50 52.0**	**-0.7**
	baz=86						
BMO	**Blue Mountains**	**85.51**	**37**	*e*P	**P**	**10 50 51.3**	**-1.1**
BMO				pmax	pmax		
	comp=Z,14nm,1.8s						
BMO	**Blue Mountains**	**85.51**	**37**	*e*P	**P**	**10 50 51.3**	**-1.1**
	comp=Z,14nm,1.8s						
T18A	**Mexican Hat**	**85.61**	**47**	⇑P	**P**	**10 50 52.2**	**-0.9**
	baz=86						
X21A	**Alamocita Cree**	**85.63**	**50**	⇓P	**P**	**10 50 52.8**	**-0.6**
	baz=86						
SNAA	**Sanae**	**85.65**	**178**	*e*P	**P**	**10 50 51.7**	**-1.1**
SNAA				*e*PP	**pP**	**10 51 04.0**	**+1.6**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNAA	**Sanae**	**85.65**	**178**	*e*P	**P**	**10 50 51.7**	**-1.1**
	comp=Z,7.5nm,1.0s						
SNAA				*e*pP	**pP**	**10 51 04.0**	**+1.6**
VNA3	**Neumayer Olymp**	**85.69**	**175**	*e*	**P**	**10 50 53.1**	**+0.2**
VNA3				*e*		10 51 05.1	
CN2	**Changchun**	**85.69**	**321**	⇑P	**P**	**10 50 53.6**	**+0.4**
CN2				*es*P	**sP**	**10 51 08.0**	**+1.7**
CN2				*e*S	**S**	**11 01 23.6**	**0.0**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,900nm,22.0s						
CN2				LR	LR		
	comp=E,500nm,22.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
425A	**Indio Mountain**	**85.83**	**54**	⇑P	**P**	**10 50 53.2**	**-1.1**
	baz=86						
626A	**Big Bend Ranch**	**85.87**	**56**	⇓P	**P**	**10 50 53.9**	**-0.7**
	baz=86						
TMUT	**Trail Mountain**	**85.92**	**44**	*e*P	**P**	**10 50 54.5**	**-0.4**
	comp=Z,8.3nm,0.9s						
TMUT				*e*pP	**pP**	**10 51 07.3**	**+2.9**
Y22A	**Socorro**	**85.95**	**51**	⇓P	**P**	**10 50 54.6**	**-0.4**
	baz=86						
MNTX	**Cornudas Mount**	**85.98**	**53**	⇑P	**P**	**10 50 54.1**	**-0.9**
	baz=86						
MNTX				⇑P	**P**	**10 50 54.1**	**-0.9**
	baz=86						
LAZ	**Ladron**	**86.07**	**50**	*e*P	**P**	**10 50 55.4**	**-0.1**
	comp=Z,10nm,1.8s						
LAZ				*e*pP	**pP**	**10 51 07.7**	**+2.5**
I12A	**Atlanta**	**86.10**	**39**	⇑P	**P**	**10 50 55.5**	**0.0**
	baz=86						
TXAR	**Lajitas Array**	**86.12**	**56**	P	**P**	**10 50 55.4**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=213,slow=6.0,SNR=11						
TXAR	**Lajitas Array**	**86.12**	**56**	P	**P**	**10 50 55.4**	**-0.4**
TXAR	**Lajitas Array**	**86.12**	**56**	P	**P**	**10 50 55.4**	**-0.4**
325A	**Bean Ranch, Si**	**86.12**	**54**	⇑P	**P**	**10 50 54.5**	**-1.4**
	baz=86						
526A	**Mary Lane Ranc**	**86.15**	**55**	⇑P	**P**	**10 50 54.6**	**-1.4**
	baz=86						
VNA2	**Neumayer--Watz**	**86.16**	**176**	*e*	**P**	**10 50 55.8**	**+0.6**
	baz=188,slow=3.3						
VNA2				*e*		10 51 07.9	
O16A	**Springville**	**86.24**	**43**	⇓P	**P**	**10 50 55.5**	**-0.7**
	baz=86						
SRU	**San Rafael**	**86.26**	**45**	*e*P	**P**	**10 50 56.2**	**-0.2**
SRU				pmax	pmax		
	comp=Z,11nm,1.2s						
SRU	**San Rafael**	**86.26**	**45**	*e*P	**P**	**10 50 56.2**	**-0.2**
	comp=Z,10nm,1.2s						
SRU	**San Rafael**	**86.26**	**45**	⇓P	**P**	**10 50 55.6**	**-0.8**
	baz=86						
BNM	**Barren Site**	**86.30**	**51**	*e*P	**P**	**10 50 56.8**	**+0.1**
	comp=Z,8.6nm,1.5s						
BNM				*e*pP	**pP**	**10 51 08.6**	**+2.2**
GAMB	**Gambell**	**86.31**	**2**	*e*P	**P**	**10 50 55.8**	**+0.1**
	comp=Z,11nm,0.9s						
GAMB				*e*pP	**pP**	**10 51 07.6**	**+2.2**
VNA1	**Neumayer--Stat**	**86.37**	**176**	*e*	**P**	**10 50 56.9**	**+0.7**
VNA1				*e*		10 51 09.3	
627A	**Terlingua Ranc**	**86.39**	**56**	⇑P	**P**	**10 50 56.1**	**-1.0**
	baz=87						
J13A	**Cove Ranch, Pi**	**86.43**	**40**	⇑P	**P**	**10 50 56.1**	**-0.9**
	baz=87						
Q18A	**Rafter H Ranch**	**86.51**	**45**	⇑P	**P**	**10 50 56.2**	**-1.3**
	baz=87						
H12A	**Diamond D Ranc**	**86.71**	**38**	⇑P	**P**	**10 50 57.4**	**-1.0**
	baz=87						
U21A	**Nageezi**	**86.75**	**48**	⇑P	**P**	**10 50 58.0**	**-0.9**
	baz=87						
TTA	**Tatalina**	**86.77**	**9**	*e*P	**P**	**10 50 57.6**	**-0.5**
TTA				*e*PP	**pP**	**10 51 09.7**	**+2.0**
TTA	**Tatalina**	**86.77**	**9**	*e*P	**P**	**10 50 57.6**	**-0.5**
TTA				*e*pP	**pP**	**10 51 09.7**	**+2.0**
628A	**Black Gap, Mar**	**86.79**	**56**	⇓P	**P**	**10 50 57.7**	**-1.3**
	baz=87						
ANMO	**Albuquerque**	**86.83**	**50**	P	**P**	**10 50 58.3**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=224,slow=5.7,SNR=12						
ANMO				pP	**pP**	**10 51 10.6**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=198,slow=5.1,SNR=6.6						
ANMO	**Albuquerque**	**86.83**	**50**	P	**P**	**10 50 58.3**	**-1.0**
ANMO				*PP	**pP**	**10 51 10.6**	**+1.7**
ANMO	**Albuquerque**	**86.83**	**50**	P	**P**	**10 50 58.3**	**-1.0**
ANMO				pP	**pP**	**10 51 10.6**	**+1.7**
GDL2	**Guadalupe Moun**	**86.98**	**53**	*e*P	**P**	**10 50 59.1**	**-0.9**
GDL2				*e*pP	**pP**	**10 51 11.3**	**+1.8**
Y24A	**Capitan**	**87.05**	**51**	⇑P	**P**	**10 50 59.1**	**-1.2**
	baz=87						
427A	**Hayter Ranch,**	**87.05**	**55**	⇓P	**P**	**10 50 59.3**	**-1.0**
	baz=87						
226A	**Malaga, Loving**	**87.11**	**54**	⇓P	**P**	**10 50 59.1**	**-1.4**
	baz=87						
528A	**Cox Ranch, San**	**87.19**	**56**	⇓P	**P**	**10 50 59.6**	**-1.4**
	baz=87						
Z25A	**Roswell**	**87.25**	**52**	⇓P	**P**	**10 51 00.8**	**-0.4**
	baz=87						
Y25A	**Mesa, Roswell**	**87.58**	**52**	⇑P	**P**	**10 51 01.9**	**-0.9**
	baz=88						
Z26A	**Caprock**	**87.78**	**53**	⇓P	**P**	**10 51 02.5**	**-1.4**
	baz=88						
R21A	**Cimarron**	**87.83**	**47**	⇑P	**P**	**10 51 03.6**	**-0.5**
	baz=88						
TRF	**Thorofare Moun**	**88.16**	**11**	*e*P	**P**	**10 51 02.9**	**-2.1**
	comp=Z,9.8nm,0.6s						
MCK	**McKinley**	**88.66**	**11**	*e*P	**P**	**10 51 06.3**	**-0.8**
MCK				pmax	pmax		
	comp=Z,19nm,1.2s						
MCK	**McKinley**	**88.66**	**11**	*e*P	**P**	**10 51 06.3**	**-0.8**
	comp=Z,

HHC				SS	**SS**	**11 08 41.5**	**-3.3**
HHC				pmax	pmax			
	comp=Z,12nm,0.8s							
HHC				pmax	pmax			
	comp=Z,140nm,5.2s							
HHC				LR	LR			
	comp=N,200nm,17.7s							
HHC				LR	LR			
	comp=E,360nm,17.1s							
HHC				LR	LR			
	comp=Z,180nm,17.1s							
CMAR	**Chiang Mai Arr**	**93.32 289**		P	**P**	**10 51 30.6**	**+0.8**
	comp=Z,11nm,0.9s,baz=124,slow=3.0,SNR=42							
CMAR				LR	LR	11 30 31.7		
	comp=Z,94nm,18.2s,baz=105,slow=34							
CMAR	**Chiang Mai Arr**	**93.32 289**		P	**P**	**10 51 30.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.32 289**		P	**P**	**10 51 30.6**	**+0.8**
CHTO	**Chiang Mai**	**93.45 289**	*eP*	P	**P**	**10 51 31.0**	**+0.6**
CHTO				pmax	pmax			
	comp=Z,14nm,1.0s							
CHTO	**Chiang Mai**	**93.45 289**	*eP*	P	**P**	**10 51 31.0**	**+0.6**
	comp=Z,14nm,1.0s							
CD2	**Chengdu**	**94.20 302**		P	**P**	**10 51 34.1**	**+0.4**
CD2				pP	**pP**	**10 51 45.3**	**+1.9**
CD2				sP	**sP**	**10 51 49.3**	**+2.5**
CD2				PP	**PP**	**10 55 24.3**	**+3.3**
CD2				S	**S**	**11 02 40.3**	**-2.9**
CD2				sS	**sS**	**11 02 58.9**	**-0.4**
CD2				SS	**SS**	**11 09 06.5**	**+1.5**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,160nm,6.5s							
CD2				LR	LR			
	comp=E,480nm,5.3s							
CD2				LR	LR			
	comp=Z,330nm,6.5s							
LZH	**Lanzhou**	**96.22 306**	*eP*	P	**P**	**10 51 43.5**	**+0.6**
LZH				pP	**pP**	**10 51 54.3**	**+1.7**
LZH				sP	**sP**	**10 51 58.0**	**+2.0**
LZH			*eP*	PP	**PP**	**10 55 40.1**	**+3.4**
LZH				SKS	**SKSac**	**11 02 16.5**	**-1.1**
LZH			*eS*	S	**S**	**11 02 58.6**	**-2.1**
LZH				sS	**sS**	**11 03 15.0**	**-1.8**
LZH				pmax	pmax			
	comp=Z,17nm,1.5s							
LZH				pmax	pmax			
	comp=Z,93nm,6.5s							
YKA	**Yellowknife Ar**	**97.50 24**	P	P	**P**	**10 51 46.3**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=235,slow=4.2,SNR=14							
YKA	**Yellowknife Ar**	**97.50 24**	P	P	**P**	**10 51 46.3**	**-1.6**
YKA	**Yellowknife Ar**	**97.50 24**	P	P	**P**	**10 51 46.3**	**-1.6**
SONM	**Songino Array**	**99.18 318**	P	P	**Pdif**	**10 51 55.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=150,slow=7.2,SNR=4.4							
SONM	**Songino Array**	**99.18 318**	P	P	**Pdif**	**10 51 55.4**	**-0.6**
SONM	**Songino Array**	**99.18 318**	P	P	**Pdif**	**10 51 55.4**	**-0.6**
GTA	**Gaotai**	**100.43 308**	*eP*	P	**Pdif**	**10 52 01.5**	**-0.2**
GTA				pP	pP	10 52 12.3	+0.9
GTA				sP	sP	10 52 16.0	+1.1
GTA				pmax	pmax			
	comp=Z,3.0nm,1.3s							
ZALV	**Zalesovo Beam**	**113.90 320**		PKiKP	**PKiKP**	**10 56 51.1**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=208,slow=0.6,SNR=5.8							
ZALV	**Zalesovo Beam**	**113.90 320**		PKIKP	**PKiKP**	**10 56 51.2**	**-1.7**
ZALV	**Zalesovo Beam**	**113.90 320**		PKiKP	**PKiKP**	**10 56 51.1**	**-1.7**
MK31	**Makanchi Array**	**114.65 312**		*e*PKIKP	PKPdf	10 56 53.0	-1.6
MK31	**Makanchi Array**	**114.65 312**		*e*PKPdf	PKPdf	10 56 53.0	-1.6
MKAR	**Makanchi Array**	**114.65 312**		PKP	PKPdf	10 56 53.2	-1.4
	comp=Z,1.1nm,0.6s,baz=181,slow=0.3,SNR=14							
MKAR	**Makanchi Array**	**114.65 312**		PKIKP	PKPdf	10 56 53.2	-1.4
MKAR	**Makanchi Array**	**114.65 312**		PKP	PKPdf	10 56 53.2	-1.4
KURK	**Kurchatov**	**117.43 317**	*i*	PKIKP	**PKPdf**	**10 56 58.0**	**-1.7**
KURK				pmax	pmax			
	comp=Z,5.0nm,2.5s							
BRVK	**Borovoye**	**122.56 319**	*i*	PKIKP	**PKPdf**	**10 57 08.4**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KKAR	**Karatay Array**	**122.70 308**		*e*PKIKP	**PKPdf**	**10 57 09.2**	**-1.0**
KKAR	**Karatay Array**	**122.70 308**		*e*PKPdf	**PKPdf**	**10 57 09.2**	**-1.0**
SUR	**Sutherland**	**123.05 196**		PKP	**PKPdf**	**10 57 10.8**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=145,slow=16,SNR=3.1							
SUR	**Sutherland**	**123.05 196**		PKP	**PKPdf**	**10 57 10.8**	**-0.7**
KBL	**Kabul**	**123.26 297**		*e*PKIKP	**PKPdf**	**10 57 11.5**	**-0.3**
KBL	**Kabul**	**123.26 297**		*e*PKPdf	**PKPdf**	**10 57 11.5**	**-0.3**
ARCES	**ARCESS Array B**	**131.61 350**		PKP	**PKPdf**	**10 57 25.2**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=52,slow=2.0,SNR=7.6							
ARCES	**ARCESS Array B**	**131.61 350**		PKIKP	**PKPdf**	**10 57 25.3**	**-1.1**
ARCES	**ARCESS Array B**	**131.61 350**		PKP	**PKPdf**	**10 57 25.2**	**-1.1**
FINES	**FINESS Array B**	**138.67 345**		PKP	**PKPdf**	**10 57 40.6**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=77,slow=6.1,SNR=1.2							
FINES	**FINESS Array B**	**138.67 345**		PKIKP	**PKPdf**	**10 57 40.6**	**+0.9**
FINES	**FINESS Array B**	**138.67 345**		PKP	**PKPdf**	**10 57 40.6**	**+0.9**
NOA	**NORSAR Array B**	**141.51 355**		PKP	**PKPdf**	**10 57 42.7**	**-2.3**
	comp=Z,1.5nm,0.9s,baz=22,slow=2.2,SNR=2.7							
NOA	**NORSAR Array B**	**141.51 355**		PKHKP	**PKPdf**	**10 57 42.7**	**-2.3**
NOA	**NORSAR Array B**	**141.51 355**		PKP	**PKPdf**	**10 57 42.7**	**-2.3**
ANN	**Anapa**	**145.46 317**	*i*	PKHKP	**PKPdf**	**10 57 50.8**	**-1.5**
ANN				pmax	pmax			
	comp=Z,126nm,1.2s							
SUW	**Suwalki**	**145.87 341**		*e*PKP	**PKPbc**	**10 57 53.2**	**-0.2**
SUW	**Suwalki**	**145.87 341**		*e*PKP2	**PKPbc**	**10 57 53.2**	**-0.2**
SUW	**Suwalki**	**145.87 341**		*e*PKPdf	**PKPdf**	**10 57 52.5**	**-0.2**
AKASG	**Malin Array Be**	**146.25 332**		PKPbc	**PKPdf**	**10 57 53.3**	**-0.2**
	comp=Z,13nm,0.7s,baz=41,slow=4.0,SNR=46							
AKASG	**Malin Array Be**	**146.25 332**		PKIKP	**PKPdf**	**10 57 53.3**	**-0.2**
AKASG	**Malin Array Be**	**146.25 332**		PKPbc	**PKPdf**	**10 57 53.3**	**-0.2**
AKBB	**Malin Array Si**	**146.25 332**		*e*PKIKP	**PKPdf**	**10 57 53.0**	**-0.5**
AKBB	**Malin Array Si**	**146.25 332**		*e*PKPbc	**PKPdf**	**10 57 53.0**	**-0.5**
KIEV	**Kiev**	**146.27 332**		*e*PKIKP	**PKPdf**	**10 57 53.3**	**-0.2**
KIEV	**Kiev**	**146.27 332**		*e*PKPbc	**PKPdf**	**10 57 53.3**	**-0.2**
LVV	**L'vov**	**149.07 335**		*e*PKIKP	**PKPbc**	**10 58 01.5**	**-0.9**
LEOM	**Leova**	**149.71 327**	⇓	PKIKP	**PKPbc**	**10 58 04.1**	**+0.1**
LEOM	**Leova**	**149.71 327**	⇓	*i*P	**PKPbc**	**10 58 04.1**	**+0.1**
KWP	**Kalwaria Pacla**	**149.72 337**		*e*PKP	**PKPbc**	**10 58 04.4**	**+0.4**
KWP	**Kalwaria Pacla**	**149.72 337**		*e*PKIKP	**PKPbc**	**10 58 04.4**	**+0.4**
BR131	**Keskin Array S**	**150.29 311**		*e*PKPbc	**PKPbc**	**10 58 05.1**	**-0.8**
BUR08	**Bucovina Ar. S**	**150.29 332**		*e*PKPdf	**PKPdf**	**10 57 59.7**	**-0.7**
BUR08				*e*PKPbc	**PKiKP**	**10 58 05.9**	**-0.5**
BRTR	**Keskin Array B**	**150.30 311**		PKPbc	**PKPbc**	**10 58 05.2**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=133,slow=3.7,SNR=47							
BRTR	**Keskin Array B**	**150.30 311**		PKHKP	**PKPbc**	**10 58 05.2**	**-0.8**
BRTR	**Keskin Array B**	**150.30 311**		PKPbc	**PKPbc**	**10 58 05.2**	**-0.8**
BURAR	**Bucovina Array**	**150.31 332**	⇓	*i*P	**PKPbc**	**10 58 06.3**	**+0.7**
STHS	**Stebnicka Huta**	**150.42 338**		*e*PKHKP	**PKPbc**	**10 58 06.3**	**+0.6**
STHS	**Stebnicka Huta**	**150.42 338**		*e*PKP	**PKPbc**	**10 58 06.3**	**+0.6**
KOLS	**Kolonicke sedl**	**150.46 336**		*e*PKHKP	**PKPbc**	**10 58 06.2**	**+0.4**
KOLS	**Kolonicke sedl**	**150.46 336**		*e*PKP	**PKPbc**	**10 58 06.2**	**+0.4**
TESR		**150.47 329**	⇓	*i*P	**PKPbc**	**10 58 06.5**	**+0.6**
KSP	**Ksiaz**	**150.59 345**		*e*PKP	**PKPbc**	**10 58 05.9**	**-0.2**
KSP	**Ksiaz**	**150.59 345**		*e*PKIKP	**PKPbc**	**10 58 06.0**	**0.0**
CFR	**Carcaliu**	**150.64 325**	⇓	PKIKP	**PKPbc**	**10 58 06.1**	**-0.2**
CFR	**Carcaliu**	**150.64 325**	⇓	*i*P	**PKPbc**	**10 58 06.1**	**-0.2**
UZH	**Uzhgorod**	**150.70 336**	⇑	*i*PKIKP	**PKPbc**	**10 58 06.3**	**0.0**
UZH				*i*		10 58 16.1		
NIE	**Niedzica**	**150.73 339**		*e*PKP	**PKPbc**	**10 58 07.0**	**+0.5**
NIE	**Niedzica**	**150.73 339**		*e*PKIKP	**PKPbc**	**10 58 07.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**150.78 337**		*e*PKIKP	**PKPbc**	**10 58 06.6**	**0.0**
CRVS	**Cervenica-Dubn**	**150.78 337**		*e*PKP	**PKPbc**	**10 58 06.6**	**0.0**
CLL	**Collm**	**150.82 349**	⇓	*i*PKIKP	**PKPbc**	**10 58 06.3**	**-0.2**
CLL				*e*		10 58 12.0		
CLL				*i*		10 58 18.5		
CLL				pmax	pmax			
	comp=Z,14nm,1.0s							
CLL				pmax	pmax			
	comp=Z,14nm,1.2s							
CLL	**Collm**	**150.82 349**	⇓	*i*PKPbc	**PKPbc**	**10 58 06.3**	**-0.2**
	comp=Z,14nm,1.0s							
CLL				*e*PKPab	**PKPab**	**10 58 12.0**	**-1.7**
	comp=Z,14nm,1.2s							
CLL				*i*	pPKPbc	**pPKPbc**	**10 58 18.5**	**+2.0**
VRI	**Vrincioaia**	**150.89 328**	⇓	PKIKP	**PKPbc**	**10 58 06.0**	**-0.9**
VRI	**Vrincioaia**	**150.89 328**	⇓	*i*P	**PKPbc**	**10 58 06.0**	**-0.9**
PLOR	**Plostina**	**150.94 328**	⇓	PKIKP	**PKPbc**	**10 58 06.5**	**-0.6**
PLOR	**Plostina**	**150.94 328**	⇓	*i*P	**PKPbc**	**10 58 06.5**	**-0.6**
UPC	**Upice**	**150.97 345**		*e*PKIKP	**PKPbc**	**10 58 06.9**	**-0.1**
UPC				*e*		10 58 13.8		
UPC				*e*		10 58 19.3		
UPC	**Upice**	**150.97 345**	⇑	*e*PKP	**PKPbc**	**10 58 06.9**	**-0.1**
UPC				*e*PKPAB	**PKPab**	**10 58 13.8**	**-0.6**
UPC				*e*pPKP	pPKPdf	10 58 19.3	+8.1
TRPA	**Tarpa**	**151.01 335**	⇑	*i*P	**PKPbc**	**10 58 06.4**	**-0.7**
OKC	**Ostrava-Krasne**	**151.03 342**		*e*PKIKP	**PKPbc**	**10 58 06.6**	**-0.5**
OKC				*e*		10 58 14.5		
OKC	**Ostrava-Krasne**	**151.03 342**	⇑	*e*PKP	**PKPbc**	**10 58 06.6**	**-0.5**
OKC				*e*PKPAB	**PKPab**	**10 58 14.5**	**-0.1**
DPC	**Dobruska-Polom**	**151.04 345**		*e*PKIKP	**PKPbc**	**10 58 06.9**	**-0.3**
DPC				*e*		10 58 14.9		
DPC	**Dobruska-Polom**	**151.04 345**	⇑	*e*PKP	**PKPbc**	**10 58 06.9**	**-0.3**
DPC				*e*PKPAB	**PKPab**	**10 58 14.9**	**+0.2**
BRG	**Berggiesshubel**	**151.07 348**		*i* PKP	**PKPbc**	**10 58 05.9**	**-1.3**
	comp=Z,17nm,0.9s							
BRG				*i*		10 58 19.5		
	comp=Z,20nm,1.1s							
BRG	**Berggiesshubel**	**151.07 348**		*i* PKIKP	**PKPbc**	**10 58 05.9**	**-1.3**
BRG				*i*		10 58 19.5		
BRG				pmax	pmax			
	comp=Z,17nm,1.0s							
BRG				pmax	pmax			
	comp=Z,20nm,1.1s							
MORC	**Moravsky Berou**	**151.25 343**		*e*PKIKP	**PKPdf**	**10 58 01.6**	**-0.1**
MORC				*e*		10 58 06.8		
MORC	**Moravsky Berou**	**151.25 343**		*e*PKPdf	**PKPdf**	**10 58 01.6**	**-0.1**
MORC				*e*PKPbc	**PKPbc**	**10 58 06.8**	**-0.9**
MORC	**Moravsky Berou**	**151.25 343**	⇑	*i*P	**PKPbc**	**10 58 07.2**	**-0.5**
PVCC	**Panska Ves**	**151.27 347**		*e*PKIKP	**PKPbc**	**10 58 07.9**	**+0.3**
PVCC				*e*		10 58 15.1		
PVCC				*e*		10 58 20.1		
PVCC	**Panska Ves**	**151.27 347**	⇑	*e*PKP	**PKPbc**	**10 58 07.9**	**+0.3**
PVCC				*e*PKPAB	**PKPab**	**10 58 15.1**	**-0.5**
PVCC				*e*pPKP	pPKPdf	10 58 20.1	+8.5
KECS	**Kecovo**	**151.48 338**		*e*PKIKP	**PKPbc**	**10 58 08.1**	**-0.1**
KECS	**Kecovo**	**151.48 338**		*e*PKP	**PKPbc**	**10 58 08.1**	**-0.1**
MLR	**Muntele Rosu**	**151.54 328**	⇑	PKIKP	**PKPbc**	**10 58 07.8**	**-0.8**
MLR	**Muntele Rosu**	**151.54 328**	⇑	*i*P	**PKPbc**	**10 58 07.8**	**-0.8**
PRU	**Pruhonice**	**151.79 347**		*e*PKIKP	**PKPbc**	**10 58 08.7**	**-0.1**
PRU				*e*		10 58 20.9		
PRU	**Pruhonice**	**151.79 347**	⇑	*e*PKP	**PKPbc**	**10 58 08.7**	**-0.1**
PRU				*e*pPKP	**PKPab**	**10 58 20.9**	**+3.1**
NKC	**Novy Kostel**	**151.95 350**		*e*PKIKP	**PKPbc**	**10 58 07.8**	**-1.5**
NKC	**Novy Kostel**	**151.95 350**	⇑	*e*PKP	**PKPbc**	**10 58 07.8**	**-1.5**
VYHS	**Vyhne**	**152.01 340**		*e*PKIKP	**PKPbc**	**10 58 09.1**	**-0.3**
VYHS	**Vyhne**	**152.01 340**		*e*PKP	**PKPbc**	**10 58 09.1**	**-0.3**
DRGR		**152.02 333**	⇑	PKIKP	**PKPbc**	**10 58 09.6**	**0.0**
DRGR		**152.02 333**	⇑	*i*P	**PKPbc**	**10 58 09.6**	**0.0**
KHC	**Kasperske Hory**	**152.80 347**		*e*PKIKP	**PKPdf**	**10 58 03.5**	**-0.6**
KHC				*e*		10 58 10.9		
KHC				*e*		10 58 22.2		
KHC	**Kasperske Hory**	**152.80 347**		*e*PKPdf	**PKPdf**	**10 58 03.5**	**-0.6**
KHC				*e*PKPbc	**PKPbc**	**10 58 10.9**	**-0.3**
KHC				*e*PKPab	**PKPab**	**10 58 22.2**	**+0.1**
KHC	**Kasperske Hory**	**152.80 347**	⇑	*e*PKP	**PKPbc**	**10 58 10.6**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**10 58 21.9**	**-0.2**
KHC				*e*pPKP	pPKPdf	10 58 33.5	+19
GERES	**GERESS Array B**	**153.05 347**		PKPbc	**PKPbc**	**10 58 11.1**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=42,slow=2.2,SNR=8.5							
GERES	**GERESS Array B**	**153.05 347**		PKIKP	**PKPbc**	**10 58 11.1**	**-0.8**
GERES	**GERESS Array B**	**153.05 347**		PKPbc	**PKPbc**	**10 58 11.1**	**-0.8**
GZR	**Gura Zlata**	**153.10 331**	⇓	PKIKP	**PKPbc**	**10 58 11.2**	**-0.8**
GZR	**Gura Zlata**	**153.10 331**	⇓	*i*P	**PKPbc**	**10 58 11.1**	**-0.9**
CONA	**Conrad Observa**	**153.39 343**	⇓	*i*PKIKP	**PKiKP**	**10 58 12.4**	**-0.3**
	comp=Z,7.3nm,1.5s							
CONA			⇑	*i*pPKiKP	**PKPab**	**10 58 24.9**	**+0.2**
	comp=Z,17nm,1.4s							
BZS	**Buzias**	**153.42 333**	⇓	PKIKP	**PKPbc**	**10 58 12.2**	**-0.4**
BZS	**Buzias**	**153.42 333**	⇓	*i*P	**PKPbc**	**10 58 12.2**	**-0.4**
MOTA	**Moosalm**	**154.97 350**	⇓	*i*PKPab	**PKPab**	**10 58 30.7**	**-0.8**
	comp=Z,8.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**169.97 162**		PKP	**PKPdf**	**10 58 21.4**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=204,slow=3.2,SNR=2.4							
TORD				PKPab	**PKPab**	**10 59 39.4**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=186,slow=3.4,SNR=9.2							
TORD	**Torodi Ar. Bea**	**169.97 162**		PKP	**PKPdf**	**10 58 21.4**	**-1.5**
TORD				PKPab	**PKPab**	**10 59 39.4**	**+1.8**

*CSEM **13** 10:54:01.6, 36°.55N×40°.22E, h14km*, *MD3.8, After DDA*
DDA 13 10:54:01.6, 36°.55N×40°.22E, h14km, MD3.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**0.88**	**30**	*e*P	Pg	10 54 19.1	+0.1
MARD				*e*S	Sn	10 54 32.3	-0.3
DIYA	**Diyarbakir**	**1.37**	**357**	*e*P	Pn	10 54 01.4	-25
DIYA				*e*S	Sg	10 54 47.1	+0.9
DIYA	**Diyarbakir**	**1.37**	**357**	*e*P	Pn	10 54 01.4	-25
DIYA				*e*S	Sg	10 54 47.1	+1.0
BEST	**Besiri**	**1.58**	**32**	*e*P	Pb	10 54 30.4	-0.4
BEST				*e*S	Sg	10 54 52.3	-0.5
ATAB	**Bozova**	**1.79**	**301**	*e*P	Pg	10 54 36.5	+0.3
ATAB				*e*S	Sg	10 54 59.1	-0.5
ATAB	**Bozova**	**1.79**	**301**	*e*P	Pg	10 54 36.5	+0.3
ATAB				*e*S	Sg	10 54 59.1	-0.4
GZT	**Gaziantep**	**2.27**	**291**	*e*P	Pn	10 54 38.4	-0.6
GZT				*e*S	Sb	10 55 08.9	-1.9
AKCD	**Akcadag**	**2.53**	**314**	*e*P	Pb	10 54 47.6	+0.6
AKCD				*e*S	Sb	10 55 19.3	+1.3
AKCD	**Akcadag**	**2.53**	**314**	*e*P	Pb	10 54 47.6	+0.6
AKCD				*e*S	Sb	10 55 19.3	+1.3
BHD	**Baghdad**	**4.73**	**133**	*e*Pn	Pn	10 55 11.0	-1.5
BHD				*e*Sn	Sn	10 56 05.0	-2.2

*CSEM **13** 11:15:55.3, 11°.96N×44°.14E, h5km, ML3.9, After DHMR*
DHMR 13 11:15:55.3±1.5, 11°.96N×44°.14E, h6km±10km, ML3.9, 2C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.16**	**45**	*i* P	Pg	11 16 16.8	-0.7
ADEN				*i* S	Sn	11 16 34.2	-0.1
ADEN				AML	AML	11 16 47.8	
	comp=E,3μm,0.3s						
ADEN	**Aden**	**1.16**	**45**	*i* P	Pg	11 16 16.8	-0.8
ADEN				*i* S	Sn	11 16 34.2	-0.1
	comp=E,2μm,0.3s						
TRBA	**At Turbah**	**1.27**	**359**	*i* P	Pn	11 16 18.7	-1.2
TRBA				*i* S	Sb	11 16 36.8	0.0
TRBA				AML	AML	11 16 36.9	
	comp=N,3μm,0.2s						
UDYN	**Al 'Udayn**	**2.01**	**355**	⇑ *i*P	Pn	11 16 30.8	+0.8
UDYN				*i* S	Sg	11 16 59.5	-0.8
UDYN				AML	AML	11 17 06.4	
	comp=Z,2μm,0.6s						
UDYN	**Al 'Udayn**	**2.01**	**355**	⇑ *i*P	Pn	11 16 30.8	+0.8
UDYN				*i* S	Sg	11 16 59.5	-0.7
	comp=Z,817nm,0.6s						
LBOS		**2.19**	**30**	*i* P	Pb	11 16 34.7	-1.1
LBOS				*i* S	Sb	11 17 04.0	+0.6
BDHA	**Al Bayda'**	**2.44**	**35**	*i* P	Pn	11 16 37.9	+1.8
BDHA				*i* S	Sb	11 17 10.6	-0.1
BDHA				AML	AML	11 17 24.4	
	comp=N,988nm,0.6s						
BDHA	**Al Bayda'**	**2.44**	**35**	*i* P	Pn	11 16 37.9	+1.8
BDHA				*i* S	Sb	11 17 10.6	-0.1
	comp=N,494nm,0.6s						
DHBB	**Dhamar BB**	**2.61**	**5**	*i* P	Pb	11 16 40.8	-2.2
DHBB				*i* S	Sb	11 17 17.1	+1.5
HAJJ	**Hajjah**	**3.76**	**352**	*i* S	Sb	11 17 44.2	-4.2
HAJJ				AML	AML	11 17 60.0	
	comp=Z,470nm,0.9s						
HAJJ	**Hajjah**	**3.76**	**352**	*i* S	Sb	11 17 44.2	-4.2
	comp=Z,235nm,0.9s						

MEX 13 11:22:15.4±0.6, 15°.42N×95°.74W, h26km±9km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.50**	**315**	*e*P	Pb	11 22 24.0	-1.6
HUIG				*i* S	Sb	11 22 30.8	-1.7
CMIG	**Matias Romero**	**1.86**	**26**	*e*P	Pn	11 22 42.8	-2.8
CMIG				*i* S	Sn	11 23 05.4	-3.0
VHO	**Vista Hermosa**	**1.90**	**330**	*i* P	Pn	11 22 43.9	-2.6
VHO				*i* S	Sn	11 23 05.8	-4.0
PCIG		**2.45**	**83**	*i* P	Pn	11 22 52.1	-1.6
PCIG				*i* S	Sn	11 23 19.8	-3.0
PNIG	**Pinotepa**	**2.49**	**293**	*i* P	Pn	11 22 52.7	-1.6
PNIG				*i* S	Sn	11 23 21.1	-2.9
TGIG		**2.86**	**61**	*i* P	Pn	11 22 56.9	-2.6
TGIG				*i* S	Sn	11 23 30.8	-2.4
UTMO	**Huajuapan**	**3.11**	**321**	*i* P	Pn	11 23 01.1	-2.0
UTMO				*i* S	Sn	11 23 36.3	-3.4
TPIG	**Tehuac#an**	**3.36**	**333**	*i* S	Sn	11 23 43.7	-2.1
CCIG	**Comitan**	**3.58**	**76**	*e*P	Pn	11 23 07.8	-1.7
CCIG				*i* S	Sn	11 23 46.2	-4.9

*ISCJB **13** 11:34:35.0±0.7, 21°.57S±0°.06×66°.51W±0°.07, h181km, mb3.7/6, Error ellipse: s-maj=10.3km s-min=7.1km az=32.2*
*IDC **13** 11:34:37.9±1.8, 21°.32S×66°.46W, h224km±16km, mb3.3/5, mb1 3.5/9, mb1mx3.4/18, mbtmp3.4/9, Error ellipse: s-maj=18.1km s-min=16.5km az=149.0*
*GUC **13** 11:34:43.5, 21°.39S×68°.45W, h296km*
ISC 13 11:34:34.3±0.7, 21°.54S±0°.07×66°.45W±0°.09, h181km, n23, σ1§73/21, mb3.7/6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**2.61**	**264**	*e*P	Pn	11 35 23.8	+5.3
PB01	**Plate Boundary**	**2.87**	**279**	*e*P	Pn	**11 35 22.1**	**+0.6**
PB04	**Plate Boundary**	**2.91**	**255**	*e*P	Pn	11 35 29.7	+7.8
PB06	**Plate Boundary**	**3.12**	**247**	*e*P	Pn	**11 35 26.4**	**+1.8**
PB07	**Plate Boundary**	**3.20**	**266**	*e*P	Pn	**11 35 25.0**	**-0.6**
HMBC	**Humberstone**	**3.45**	**291**	*e*P	Pn	**11 35 29.0**	**+0.4**
MNMC	**Minimini**	**3.80**	**308**	*e*P	Pn	**11 35 33.9**	**+0.7**
LPAZ	**La Paz**	**5.46**	**343**	P	Pn	**11 35 56.2**	**+1.3**
	4.1nm,0.3s,baz=153,slow=9.1,SNR=65						
LPAZ				S	**Sn**	**11 36 59.1**	**+1.1**
	0.7nm,0.3s,baz=269,slow=25,SNR=8.0						
SIV	**San Ignacio**	**7.51**	**44**	P	Pn	**11 36 23.8**	**+2.6**
	8.4nm,0.3s,baz=256,slow=12,SNR=79						
SIV				S	**Sn**	**11 37 47.8**	**+2.0**
ROCH	**El Roble**	**12.09**	**199**	*e*P	Pn	**11 37 22.3**	**+1.3**
NNA	**Nana**	**13.74**	**312**	P	Pn	**11 37 42.9**	**+0.9**
	0.7nm,0.3s,baz=148,slow=14,SNR=4.5						
PLCA	**Paso Flores**	**19.45**	**189**	P	**P**	**11 38 48.9**	**+1.8**
	0.2nm,0.3s,baz=12,slow=12,SNR=3.1						
RPN	**Rapa Nui**	**39.33**	**253**	P	**P**	**11 41 47.7**	**+1.6**
	17nm,0.4s,baz=88,slow=4.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.22**	**69**	P	**P**	**11 45 56.2**	**-1.4**
	1.3nm,0.5s,baz=255,slow=5.6,SNR=20						
TORD				pP	pP	11 46 50.5	+9.4
	0.5nm,0.9s,baz=256,slow=6.3,SNR=1.9						
PDAR	**Pinedale Array**	**75.31**	**329**	P	**P**	**11 45 55.8**	**-2.0**
	0.4nm,0.7s,baz=119,slow=5.6,SNR=3.1						
ULM	**Lac du Bonnet**	**76.07**	**341**	P	P	11 45 57.6	-4.0
	1.1nm,0.6s,baz=194,slow=8.3,SNR=3.0						
NVAR	**Mina Array Bea**	**76.95**	**321**	P	**P**	**11 46 05.2**	**-1.9**
	0.4nm,0.7s,baz=147,slow=5.4,SNR=3.3						
YKA	**Yellowknife Ar**	**92.00**	**340**	P	P	11 47 19.3	-2.6
	0.4nm,0.6s,baz=129,slow=4.7,SNR=8.8						
ASAR	**Alice Springs**	**130.89**

ERET	Eretria	1.51	179	P	Pn	11 58 01.3	-1.4
ERET	Eretria	1.51	179	P	Pn	11 58 01.3	-1.4
KZN	Kozani	1.57	284	P	Pn	11 58 02.8	-0.8
KZN	Kozani	1.57	284	*e*PN	Pn	11 58 02.5	-1.1
KZN				*e*SN	Sn	11 58 22.2	-1.8
KZN	Kozani	1.57	284	*e*Pn	Pn	11 58 02.5	-1.1
KZN	Kozani	1.57	284	P	Pn	11 58 02.8	-0.8
KZN				*e*Sn	Sn	11 58 22.2	-1.8
MAKR	Makrakomi, Fth	1.58	234	P	Pn	11 58 02.7	-0.9
MAKR	Makrakomi, Fth	1.58	234	P	Pn	11 58 02.7	-0.9
MMB	Musomiste	1.63	359	P	Pn	11 58 02.9	-1.5
MMB	Musomiste	1.63	359	P	Pn	11 58 02.9	-1.5
MMB	Musomiste	1.63	359	P	Pn	11 58 02.9	-1.5
VAY	Valandovo	1.64	327	*e*PN	Pn	11 58 03.3	-1.1
VAY				*e*Sn	Sn	11 58 24.1	-1.4
VAY	comp=N,1μm,0.7s			*e*Lg	Lg	11 58 28.9	
VAY	comp=E,2μm,0.6s			*e*Lg	Lg	11 58 31.8	
VAY	Valandovo	1.64	327	*e*Pn	Pn	11 58 01.8	-2.6
VAY				*e*Sn	Sn	11 58 24.6	-1.0
VAY	comp=E,2μm,0.6s			*e*Lg	Lg	11 58 32.2	
BOZC	Bozcaada	1.76	93	*i* P	Pn	11 58 04.6	-1.4
BOZC				*e*S	Sb	11 58 29.5	-0.5
RDO	Rodhopi	1.80	48	P	Pn	11 58 04.8	-1.8
RDO	Rodhopi	1.80	48	*e*PB	Pn	11 58 04.9	-1.7
RDO	Rodhopi	1.80	48	P	Pn	11 58 04.8	-1.8
DESF	Desfina	1.81	212	P	Pn	11 58 04.3	-2.6
DESF	Desfina	1.81	212	P	Pn	11 58 04.3	-2.6
DSF	Desfina	1.82	212	P	Pn	11 58 05.0	-1.9
DSF	Desfina	1.82	212	P	Pn	11 58 05.0	-1.9
VIL1	Vilia, Western	1.82	191	*e*PB	Pn	11 58 05.5	-1.4
VIL1	Vilia, Western	1.82	191	*e*Pb	Pn	11 58 05.5	-1.4
EVR	Evrytania	1.84	236	P	Pn	11 58 06.6	-0.6
EVR	Evrytania	1.84	236	*e*PN	Pn	11 58 06.2	-1.0
EVR	Evrytania	1.84	236	*e*Pn	Pn	11 58 06.2	-1.0
EVR	Evrytania	1.84	236	P	Pn	11 58 06.6	-0.6
RZN	Rozhen	1.88	22	*i* P	Pn	11 58 07.3	-0.5
RZN	Rozhen	1.88	22	*i* P	Pn	11 58 07.3	-0.5
RZN	Rozhen	1.88	22	*i* P	Pn	11 58 07.3	-0.5
PTL	Penteli	1.90	178	P	Pn	11 58 06.7	-1.4
PTL	Penteli	1.90	178	*e*PB	Pn	11 58 06.9	-1.2
PTL	Penteli	1.90	178	P	Pn	11 58 06.7	-1.4
MRMA	Marmari	1.95	166	P	Pn	11 58 07.7	-1.0
MRMA	Marmari	1.95	166	P	Pn	11 58 07.7	-1.0
MEV	Metsovon	1.96	266	P	Pn	11 58 08.7	-0.3
MEV	Metsovon	1.96	266	P	Pn	11 58 08.7	-0.3
EZN	Ezine	1.97	93	*e*PN	Pn	11 58 07.6	-1.4
EZN				*e*SN	Sn	11 58 31.0	-2.6
EZN	Ezine	1.97	93	*e*Pn	Pn	11 58 07.6	-1.4
EZN				*e*Sn	Sn	11 58 31.0	-2.6
ALN	Alexandroupoli	1.98	61	P	Pn	11 58 07.4	-1.6
ALN	Alexandroupoli	1.98	61	P	Pn	11 58 07.4	-1.6
ATH	Athens Observa	1.98	181	P	Pn	11 58 08.0	-1.1
ATH	Athens Observa	1.98	181	*e*PN	Pn	11 58 08.0	-1.1
ATH	Athens Observa	1.98	181	P	Pn	11 58 08.0	-1.1
KKB	Krupnik	1.98	345	*i* P	Pn	11 58 08.1	-1.0
ENEZ	Enez	1.98	66	*e*PN	Pn	11 58 08.9	-0.2
ENEZ	Enez	1.98	66	*e*Pn	Pn	11 58 08.9	-0.2
FNA	Florina	2.01	295	*e*PN	Pn	11 58 09.5	-0.1
FNA				*i* SN	Sn	11 58 34.2	-0.5
FNA	Florina	2.01	295	P	Pn	11 58 09.4	-0.1
FNA	Florina	2.01	295	P	Pn	11 58 09.4	-0.1
KALE	Kalithea	2.01	220	P	Pn	11 58 08.4	-1.2
KALE	Kalithea	2.01	220	P	Pn	11 58 08.4	-1.2
LTK	Loutraki	2.03	198	P	Pn	11 58 08.5	-1.3
LTK	Loutraki	2.03	198	P	Pn	11 58 08.5	-1.3
PRK	Paraskevi	2.06	109	*e*PB	Pn	11 58 09.2	-1.0
PRK	Paraskevi	2.06	109	*e*Pb	Pn	11 58 09.2	-1.0
TRIZ	Trizonia	2.06	220	P	Pn	11 58 09.3	-0.9
TRIZ	Trizonia	2.06	220	P	Pn	11 58 09.3	-0.9
VLY	Voula,Athens	2.10	179	P	Pn	11 58 09.5	-1.3
VLY	Voula,Athens	2.10	179	*e*PN	Pn	11 58 09.4	-1.3
VLY	Voula,Athens	2.10	179	*e*Pn	Pn	11 58 09.4	-1.3
EFP	Efpalio	2.10	224	P	Pn	11 58 09.9	-0.9
EFP	Efpalio	2.10	224	P	Pn	11 58 09.9	-0.9
KDZ	Kurdzhali	2.10	36	*i* P	Pn	11 58 08.8	-2.0
KDZ	Kurdzhali	2.10	36	*i* P	Pn	11 58 08.8	-2.0
KDZ	Kurdzhali	2.10	36	*i* P	Pn	11 58 08.8	-2.0
GELI	Tayfur-Gelibol	2.12	77	*e*PN	Pn	11 58 09.9	-1.1
GELI	Tayfur-Gelibol	2.12	77	*e*Pn	Pn	11 58 09.9	-1.1
NEST	Nestorio	2.13	283	P	Pn	11 58 11.3	0.0
NEST	Nestorio	2.13	283	P	Pn	11 58 11.3	0.0
BIA	Bitola	2.15	300	*e*Pn	Pn	11 58 10.7	-0.7
BIA				*e*Sn	Sn	11 58 36.3	-1.8
BIA	Bitola	2.15	300	*e*Pn	Pn	11 58 10.7	-0.7
BIA				*e*Sn	Sn	11 58 36.3	-1.8
NAIG	Nisos Aigina	2.20	186	*e*PN	Pn	11 58 10.9	-1.3
NAIG	Nisos Aigina	2.20	186	*e*Pn	Pn	11 58 10.9	-1.3
LAKA	Lakka	2.21	220	P	Pn	11 58 11.3	-0.9
LAKA	Lakka	2.21	220	P	Pn	11 58 11.3	-0.9
ERIK	Erikli-Kesan	2.22	70	*e*PN	Pn	11 58 12.0	-0.3
ERIK	Erikli-Kesan	2.22	70	*e*Pn	Pn	11 58 12.0	-0.3
PLD	Plovdiv	2.26	18	P	Pn	11 58 12.7	-0.3
PLD	Plovdiv	2.26	18	*e*Pn	Pn	11 58 12.9	-0.1
PLD				*e*Sg	Sg	11 58 49.7	+1.5
PLD	Plovdiv	2.26	18	*e*Pn	Pn	11 58 12.9	-0.1
PLD				*e*Sg	Sg	11 58 49.7	+1.5
JAN	Janina	2.27	263	P	Pn	11 58 13.8	+0.7
JAN	Janina	2.27	263	*e*PN	Pn	11 58 12.2	-0.9
JAN	Janina	2.27	263	*e*Pn	Pn	11 58 12.2	-0.9
JAN	Janina	2.27	263	P	Pn	11 58 13.8	+0.7
GUR	Goura	2.30	209	P	Pn	11 58 12.6	-1.0
GUR	Goura	2.30	209	P	Pn	11 58 12.6	-1.0
LPK	Lapseki	2.33	79	*e*PN	Pn	11 58 13.5	-0.4
LPK	Lapseki	2.33	79	*e*Pn	Pn	11 58 13.5	-0.4
AYVA	Ayvalik	2.35	105	*i* P	Pn	11 58 13.5	-0.6
AYVA				*e*S	Sg	11 58 49.6	-1.4
AYVA	Ayvalik	2.35	105	*i* P	Pn	11 58 13.5	-0.6
DID	Didima	2.48	190	P	Pn	11 58 14.7	-1.3
DID	Didima	2.48	190	P	Pn	11 58 14.7	-1.3
DIM	Dimitrovgrad	2.48	32	*i* P	Pn	11 58 15.3	-0.7
DIM	Dimitrovgrad	2.48	32	*i* P	Pn	11 58 15.3	-0.7
DIM	Dimitrovgrad	2.48	32	*i* P	Pn	11 58 15.3	-0.7
PGB	Panagyurishte	2.61	6	*i* P	Pn	11 58 17.0	-0.8
PGB	Panagyurishte	2.61	6	*i* P	Pn	11 58 17.0	-0.8
PGB	Panagyurishte	2.61	6	*i* P	Pn	11 58 17.0	-0.8
VTS	Vitosha	2.67	351	P	Pn	11 58 18.5	-0.2
VTS	Vitosha	2.67	351	⇑*i*P	Pn	11 58 18.6	-0.2
VTS	Vitosha	2.67	351	S	Sb	11 58 54.9	-1.4
VTS	Vitosha	2.67	351	*i* P	Pn	11 58 18.7	0.0
VTS	Vitosha	2.67	351	*i* P	Pn	11 58 18.7	0.0
VTS	Vitosha	2.67	351	⇑*i*Pn	Pn	11 58 18.5	-0.2
VTS	Vitosha	2.67	351	*i* P	Pn	11 58 18.7	0.0
VTS				S	Sb	11 58 54.9	-1.4
SKO	Skopje	2.68	320	*e*Pn	Pn	11 58 19.3	+0.6
SKO				*e*Sn	Sn	11 58 50.9	-0.3
SKO	Skopje	2.68	320	*e*Pn	Pn	11 58 19.8	+1.1
SKO				*e*Sn	Sn	11 58 51.3	+0.1
IGT	Igoumenitsa	2.68	262	P	Pn	11 58 20.5	+1.7
IGT	Igoumenitsa	2.68	262	P	Pn	11 58 20.5	+1.7
RKY	Sarkoy-Tekirda	2.71	73	*e*PN	Pn	11 58 19.4	+0.3
RKY	Sarkoy-Tekirda	2.71	73	*e*Pn	Pn	11 58 19.4	+0.3
SART	Tekirdag	2.71	73	*e*P	Pn	11 58 17.7	-1.5
SART	Tekirdag	2.71	73	*e*P	Pn	11 58 17.7	-1.5
KRBG	Karabiga-Canak	2.74	80	*e*PN	Pn	11 58 19.3	-0.2
KRBG	Karabiga-Canak	2.74	80	*e*Pn	Pn	11 58 19.3	-0.2
VLX	Vlachokerasia	2.80	203	P	Pn	11 58 19.8	-0.7
VLX	Vlachokerasia	2.80	203	P	Pn	11 58 19.8	-0.7
SRN	Sarande	2.90	270	*e*PN	Pn	11 58 21.6	-0.1
SRN				*i* SN	Sn	11 58 57.6	+1.0
EDRB	Edirne	2.94	49	*e*PN	Pn	11 58 23.7	+1.4
EDRB	Edirne	2.94	49	*e*Pn	Pn	11 58 23.7	+1.4
BALY	Balya	2.97	93	*e*P	Pn	11 58 22.4	-0.4
BALY				*e*S	Sb	11 59 07.0	+2.1
BALY	Balya	2.97	93	*e*P	Pn	11 58 22.4	-0.4
BLCB	Balcova	2.99	121	*e*PN	Pn	11 58 21.0	-1.9
BLCB	Balcova	2.99	121	*e*Pn	Pn	11 58 21.0	-1.9
GONE	Gonen-Balikesi	3.01	87	*e*PN	Pn	11 58 22.6	-0.6
GONE	Gonen-Balikesi	3.01	87	*e*Pn	Pn	11 58 22.6	-0.6
TKR	Tekirdag	3.05	69	*e*PN	Pn	11 58 24.6	+0.8
TKR	Tekirdag	3.05	69	*e*Pn	Pn	11 58 24.6	+0.8
PHP	Peshkopia	3.06	305	*e*PN	Pn	11 58 24.3	+0.3
PHP				*i* SN	Sn	11 59 02.4	+1.7
ITM	Ithomi	3.12	208	P	Pn	11 58 25.3	+0.5
ITM	Ithomi	3.12	208	P	Pn	11 58 25.3	+0.5
IZM	Izmir	3.13	119	*e*PN	Pn	11 58 23.5	-1.4
IZM	Izmir	3.13	119	*e*Pn	Pn	11 58 23.5	-1.4
EDC	Edincik	3.16	82	*e*PN	Pn	11 58 25.2	-0.1
EDC	Edincik	3.16	82	*e*Pn	Pn	11 58 25.2	-0.1
BALB	Balikesir	3.18	94	*e*PN	Pn	11 58 24.9	-0.7
BALB	Balikesir	3.18	94	*e*Pn	Pn	11 58 24.9	-0.7
APE	Apeiranthos	3.19	154	*e*PN	Pn	11 58 25.1	-0.7
APE	Apeiranthos	3.19	154	⇓*i*P	Pn	11 58 24.7	-1.1
APE	Apeiranthos	3.19	154	⇓*i*P	Pn	11 58 24.7	-1.1
APE	Apeiranthos	3.19	154	*e*Pn	Pn	11 58 25.1	-0.7
APE				S	Sn	11 59 01.2	-2.8
BNT	Bandirma	3.21	81	*e*PN	Pn	11 58 25.5	-0.4
BNT	Bandirma	3.21	81	*e*Pn	Pn	11 58 25.5	-0.4
BARS	Barje	3.21	333	⇑*i*Pn	Pn	11 58 25.7	-0.4
BARS	Barje	3.21	333	⇑*i*Pn	Pn	11 58 25.7	-0.4
TIR	Tirane	3.28	296	*e*PN	Pn	11 58 22.4	-4.6
SMG	Samos	3.28	132	*e*PN	Pn	11 58 26.5	-0.5
SMG	Samos	3.28	132	*e*Pn	Pn	11 58 26.5	-0.5
JMB	Yambol	3.29	39	P	Pn	11 58 25.7	-1.4
JMB	Yambol	3.29	39	P	Pn	11 58 26.2	-0.9
JMB	Yambol	3.29	39	P	Pn	11 58 26.2	-0.9
JMB	Yambol	3.29	39	*e*Pn	Pn	11 58 26.1	-1.0
JMB	Yambol	3.29	39	P	Pn	11 58 26.2	-0.9
AKS	Akhisar	3.31	108	*e*PN	Pn	11 58 25.9	-1.4
AKS	Akhisar	3.31	108	*e*Pn	Pn	11 58 26.0	-1.4
ZAPS	Zavoj	3.42	346	⇑*i*Pn	Pn	11 58 29.3	+0.3
PVL	Pavlikeni	3.46	19	*i* P	Pn	11 58 27.8	-1.7
PVL	Pavlikeni	3.46	19	*i* P	Pn	11 58 27.8	-1.7
PVL	Pavlikeni	3.46	19	*i* P	Pn	11 58 27.8	-1.7
KCTX	Karacabey (Bur	3.53	83	*e*PN	Pn	11 58 30.0	-0.4
KCTX	Karacabey (Bur	3.53	83	*e*Pn	Pn	11 58 30.0	-0.4
PUK	Puka	3.60	307	*e*PN	Pn	11 58 28.4	-3.0
PUK				*i* SN	Sn	11 59 13.0	-0.9
SLVT	Silivri	3.61	68	*e*PN	Pn	11 58 32.0	+0.5
SLVT	Silivri	3.61	68	*e*Pn	Pn	11 58 32.0	+0.5
BCI	Bajram Curri	3.69	312	*e*PN	Pn	11 58 32.5	-0.1
BCI				*i* SN	Sn	11 59 17.2	+1.1
CTYL	Yal??k??y-??at	3.76	65	*e*PN	Pn	11 58 34.4	+0.9
CTYL	Yal??k??y-??at	3.76	65	*e*Pn	Pn	11 58 34.4	+0.9
SELS	Selova	3.82	330	⇓*i*Pn	Pn	11 58 33.5	-0.9
CTKS	Kestanelik-??a	3.83	69	*e*PN	Pn	11 58 35.6	+1.1
CTKS	Kestanelik-??a	3.83	69	*e*Pn	Pn	11 58 35.6	+1.1
PVY	Plav	3.90	314	⇑*i*Pn	Pn	11 58 36.2	+0.6
PVY				*e*Sn	Sn	11 59 21.9	+0.5
ARMT	Armutlu	3.94	79	*e*PN	Pn	11 58 36.5	+0.4
ARMT	Armutlu	3.94	79	*e*Pn	Pn	11 58 36.5	+0.4
ULC	Ulcinj	3.97	302	⇑*i*Pn	Pn	11 58 36.9	+0.4
ULC				*e*Sn	Sn	11 59 24.4	+1.3
ULC	Ulcinj	3.97	302	⇑*i*Pn	Pn	11 58 36.9	+0.4
ULC				*e*Sn	Sn	11 59 24.4	+1.3
BGKT	Bogazkoy	4.00	71	*e*PN	Pn	11 58 37.6	+0.7
BGKT	Bogazkoy	4.00	71	*e*Pn	Pn	11 58 37.6	+0.7
BODT	Bodrum	4.01	135	*e*PN	Pn	11 58 35.6	-1.4
BODT	Bodrum	4.01	135	*e*Pn	Pn	11 58 35.6	-1.4
KULA	Kula-Manisa	4.06	109	*e*PN	Pn	11 58 36.8	-1.0
KULA	Kula-Manisa	4.06	109	*e*Pn	Pn	11 58 36.8	-1.0
BOLS	Boljevac	4.10	341	⇓*i*Pn	Pn	11 58 36.3	-1.9
BOLS	Boljevac	4.10	341	⇓*i*Pn	Pn	11 58 36.3	-1.9
IVA	Berane	4.12	316	⇑*i*Pn	Pn	11 58 39.3	+0.7
IVA				*e*Sn	Sn	11 59 28.3	+1.5
BEY	Berane	4.12	316	⇑*i*Pn	Pn	11 58 39.3	+0.7
BEY				*e*Sn	Sn	11 59 28.3	+1.4
GEMT	Gemlik	4.18	82	*e*PN	Pn	11 58 39.4	+0.1
GEMT	Gemlik	4.18	82	*e*Pn	Pn	11 58 39.4	+0.1
ISK	Istanbul-Kandi	4.18	73	*e*PN	Pn	11 58 40.1	+0.8
ISK	Istanbul-Kandi	4.18	73	*e*Pn	Pn	11 58 40.1	+0.8
TTG	Podgorica	4.21	307	⇑*i*Pn	Pn	11 58 40.6	+1.0
TTG				*e*Sn	Sn	11 59 30.5	+1.7
PDG	Podgorica	4.21	307	*e*Pn	Pn	11 58 39.8	+0.1
PDG				*e*Sn	Sn	11 59 29.8	+0.9
PDG	Podgorica	4.21	307	*e*Pn	Pn	11 58 39.8	+0.1
PDG				*e*Sn	Sn	11 59 29.8	+0.9
KLYT	Kilyos	4.22	70	*e*PN	Pn	11 58 40.6	+0.8
KLYT	Kilyos	4.22	70	*e*Pn	Pn	11 58 40.6	+0.8
BUM	Brajici-Budva	4.37	304	⇑*i*Pn	Pn	11 58 42.5	+0.6
BUM				*e*Sn	Sn	11 59 34.4	+1.6
BUM	Brajici-Budva	4.37	304	⇑*i*Pn	Pn	11 58 42.5	+0.6
BUM				*e*Sn	Sn	11 59 34.4	+1.6
GRUS	Gruza	4.54	331	⇑*i*Pn	Pn	11 58 43.7	-0.6
GRUS	Gruza	4.54	331	⇑*i*Pn	Pn	11 58 43.7	-0.6
HRT	Hereke	4.59	77	*e*PN	Pn	11 58 45.8	+0.8
HRT	Hereke	4.59	77	*e*Pn	Pn	11 58 45.8	+0.8
NKY	Niksic	4.59	310	⇑*i*Pn	Pn	11 58 45.6	+0.5
NKY				*e*Sn	Sn	11 59 39.3	+0.9
NKY	Niksic	4.59	310	⇑*i*Pn	Pn	11 58 45.6	+0.5
NKY				*e*Sn	Sn	11 59 39.3	+0.9
SILT	Sile	4.63	73	*e*PN	Pn	11 58 46.6	+1.1
SILT	Sile	4.63	73	*e*Pn	Pn	11 58 46.6	+1.1
HUMR	Humele	4.66	11	⇑*i*P	Pn	11 58 45.8	-0.1
HUMR	Humele	4.66	11	⇑*i*P	Pn	11 58 45.8	-0.1
HCY	Herceg Novi	4.69	304	⇓*i*Pn	Pn	11 58 46.8	+0.4
HCY				*e*Sn	Sn	11 59 41.9	+1.0
HCY	Herceg Novi	4.69	304	⇓*i*Pn	Pn	11 58 46.8	+0.4
HCY				*e*Sn	Sn	11 59 41.9	+1.0
PLE	Pljevlja	4.71	317	⇑*i*Pn	Pn	11 58 46.6	-0.1
PLE				*e*Sn	Sn	11 59 41.9	+0.6
PLE	Pljevlja	4.71	317	⇑*i*Pn	Pn	11 58 46.6	-0.1
PLE				*e*Sn	Sn	11 59 41.9	+0.6
UPM	Unac-Piva	4.88	313	*e*Pn	Pn	11 58 50.1	+0.9
UPM				*e*Sn	Sn	11 59 46.0	+0.2
UPM	Unac-Piva	4.88	313	*e*Pn	Pn	11 58 50.1	+0.9
UPM				*e*Sn	Sn	11 59 46.0	+0.2
BRY	Bratogost	4.91	309	⇑*i*Pn	Pn	11 58 49.9	+0.4
BRY				*e*Sn	Sn	11 59 47.5	+1.1
BRY	Bratogost	4.91	309	⇑*i*Pn	Pn	11 58 49.9	+0.4
BRY				*e*Sn	Sn	11 59 47.5	+1.1
PSN	Preselentsi	4.97	40	P	Pn	11 58 48.8	-1.4
MANR	Mangalia	5.27	41	⇑*i*P	Pn	11 58 53.7	-0.6
MANR	Mangalia	5.27	41	⇑*i*P	Pn	11 58 53.7	-0.6
GZR	Gura Zlata	5.49	353	⇑*i*P	Pn	11 58 56.2	-1.1
GZR	Gura Zlata	5.49	353	⇑*i*P	Pn	11 58 56.2	-1.1
ISR	Istrita	5.55	21	⇑*i*P	Pn	11 58 58.5	+0.3
ISR	Istrita	5.55	21	⇑*i*P	Pn	11 58 58.5	+0.3
VOIR		5.56	9	⇑*i*P	Pn	11 58 58.2	-0.2
VOIR		5.56	9	⇑*i*P	Pn	11 58 58.2	-0.2
TIRR	Tirgusor	5.67	36	⇑*i*P	Pn	11 58 58.8	-0.9
TIRR	Tirgusor	5.67	36	⇑*i*P	Pn	11 58 58.8	-0.9
MLR	Muntele Rosu	5.76	15	Pn	Pn	11 59 01.6	+0.5
MLR	comp=E,0.5nm,0.3s,baz=204,slow=5.8,SNR=26			Sn	Sn	12 00 08.7	+1.4
MLR	comp=E,0.3nm,0.3s,baz=188,slow=12,SNR=3.5			Lg	Lg	12 00 42.8	
MLR	Muntele Rosu	5.76	15	⇓*i*P	Pn	11 59 01.4	+0.2
MLR	Muntele Rosu	5.76	15	⇓*i*P	Pn	11 59 01.4	+0.2
BZS	Buzias	5.88	345	⇑*i*P	Pn	11 59 01.5	-1.1
BZS	Buzias	5.88	345	⇑*i*P	Pn	11 59 01.5	-1.1
DOPR	Dopca	6.13	11	⇓*i*P	Pn	11 59 06.7	+0.6
DOPR	Dopca	6.13	11	⇓*i*P	Pn	11 59 06.7	+0.6
CFR	Carcaliu	6.13	30	⇓*i*P	Pn	11 59 05.7	-0.4
CFR	Carcaliu	6.13	30	⇓*i*P	Pn	11 59 05.7	-0.4
PLOR	Plostina	6.26	19	⇓*i*P	Pn	11 59 09.5	+1.6
PLOR	Plostina	6.26	19	⇓*i*P	Pn	11 59 09.5	+1.6
VRI	Vrincioaia	6.29	19	⇓*i*P	Pn	11 59 09.8	+1.4
VRI	Vrincioaia	6.29	19	⇓*i*P	Pn	11 59 09.8	+1.4
KIZT	Kizilcal	6.37	97	*e*PN	Pn	11 59 09.7	+0.1
KIZT	Kizilcal	6.37	97	*e*Pn	Pn	11 59 09.7	+0.1
TLCR		6.42	34	⇑*i*P	Pn	11 59 09.8	-0.2
TLCR		6.42	34	⇑*i*P	Pn	11 59 09.8	-0.2
DRGR		6.88	354	⇓*i*P	Pb	11 59 28.5	-6.6
TESR		6.88	17	⇑*i*P	Pn	11 59 18.8	+2.4
TESR		6.88	17	⇑*i*P	Pn	11 59 18.8	+2.4
RHK3	Tenkes	7.18	327	*e*	Pn	11 59 20.5	0.0
RHK3	Tenkes	7.18	327	*e*P	Pn	11 59 20.5	0.0
PKSM	Moragy	7.29	331	⇓*i*P	Pn	11 59 21.7	-0.3
PKSM	Moragy	7.29	331	⇓*i*P	Pn	11 59 21.7	-0.3
PKSM	Moragy	7.29	331	⇓*e*P	Pn	11 59 21.7	-0.3
BRTR	Keskin Array B	7.60	89	Pn	Pn	11 59 26.4	-0.1
BRTR	comp=E,0.8nm,0.3s,baz=261,slow=10,SNR=22			Sn	Sn	12 00 50.7	-1.9
BURAR	Bucovina Array	7.73	7	⇑*i*P	Pn	11 59 28.0	-0.1
BURAR	Bucovina Array	7.73	7	⇑*i*P	Pn	11 59 28.0	-0.1
PKSG		8.39	334	*e*	Pn	11 59 37.0	-0.1
PKSG		8.39	334	*e*P	Pn	11 59 37.0	-0.1
PKST	T"'s	8.40	332	*e*	Pn	11 59 37.5	+0.2
PKST	T"'s	8.40	332	*e*P	Pn	11 59 37.5	+0.2
VISS	Visnje	8.78	315	*i* P	Pn	11 59 44.5	+2.0
VISS	Visnje	8.78	315	P	Pn	11 59 44.5	+2.0
KECS	Kecovo	8.85	346	*e*PN	Pn	11 59 49.5	+6.1
KECS				*e*		12 02 25.3	
VYHS	Vyhne	9.24	339	*e*PN	PnPn	12 00 00.1	+3.7
SOKA	Soboth	9.25	319	⇑*i*Pn	Pn	11 59 49.7	+0.7
SOKA				⇑*i*Sn	Sn	12 01 34.8	+1.6
SOKA	Soboth	9.25	319	Pn	Pn	11 59 49.7	+0.7
SOKA				Sn	Sn	12 01 34.8	+1.6
ARSA	Arzberg	9.43	323	⇑*i*Pn	Pn	11 59 52.2	+0.8
ARSA				⇓*i*Sn	Sn	12 01 37.3	0.0
ARSA	Arzberg	9.43	323	Pn	Pn	11 59 52.2	+0.8
ARSA				Sn	Sn	12 01 37.3	0.0
KOLL	Kolacno	9.44	338	*e*PN	Pn	12 00 03.1	+12
VOY	Vojsko	9.44	313	*e*P	Pn	11 59 51.7	+0.1
VOY				*e*		11 59 54.7	
VOY				*e*		11 59 57.7	
VOY				*e*		12 01 36.4	
VOY	Vojsko	9.44	313	*e*P	Pn	11 59 51.7	+0.1
STHS	Stebnicka Huta	9.63	350	*e*PN	PnPn	12 00 05.8	+4.0
STHS				*e*		12 02 46.2	
CSNA	Conrad Observa	9.80	327	⇓*i*Pn	Pn	11 59 57.1	+0.6
CSNA	Conrad Observa	9.80	327	Pn	Pn	11 59 57.1	+0.6
VRAC	Vranov	10.65	334	Pn	Pn	12 00 06.3	-1.8
MORC	comp=E,0.7nm,0.3s,baz=82,slow=5.8,SNR=2.7 Moravsky Berou	10.76	338	⇑*i*P	PnPn	12 00 23.3	+5.9
AKASG	Malin Array Be	11.41	18	Pn	Pn	12 00 16.9	-1.5
GERES	comp=E,0.8nm,0.3s,baz=203,slow=13,SNR=5.3 GERESS Array B	11.43	324	Pn	Pn	12 00 20.8	+2.0
FETA	comp=E,0.3nm,0.3s,baz=152,slow=14,SNR=7.5 Feichten	11.80	311	⇑*i*Pn	Pn	12 00 24.2	+0.1
FETA	Feichten	11.80	311	Pn	Pn	12 00 24.2	+0.1
KEST	Kesra	12.15	254	Pn	Pn	12 00 31.3	+2.5
DAVOX	comp=E,0.1nm,0.3s,baz=49,slow=11,SNR=3.2 Davos/Dischmat	12.19	309	Pn	Pn	12 00 31.1	+1.8
ORIF	comp=E,0.3nm,0.3s,baz=142,slow=17,SNR=3.2 Oris-en-Rattie	14.11	296

comp=Z,0.1nm,0.3s,baz=171,slow=23,SNR=2.8
ARCES Lg Lg 12 10 42.4
comp=Z,0.3nm,0.3s,baz=163,slow=28,SNR=4.7

IDC 13 12:34:53.7±49.0, 30.19S×178.91E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=869.3km s-min=160.9km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.92**	**257**	P	P	12 41 21.1	0.0
	2.1nm,0.8s,baz=104,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**40.45**	**268**	P	P	12 42 33.9	-0.3
	0.3nm,0.7s,baz=109,slow=7.6,SNR=5.7						
WRA	**Warramunga Arr**	**41.42**	**274**	P	P	12 42 42.3	+0.1
	0.6nm,0.4s,baz=112,slow=7.9,SNR=5.3						

*ISCJB **13** 12:53:09.8±0.5, 6.90N±0.07×73.01W±0.07, h166km, mb3.3/7, Error ellipse: s-maj=12.3km s-min=6.0km az=44.6*
*IDC **13** 12:53:11.3±3.2, 6.76N×73.08W, h168km±27km, mb3.1/7, mb1 3.5/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=52.9km s-min=19.1km az=73.0*
*FUNV **13** 12:53:13.3, 7.06N×73.02W, h174km, MW3.5*
ISC 13 12:53:10.6±0.7, 6.85N±0.08×72.95W±0.08, h166km, n20, σ1§27/24, mb3.3/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.41**	**215**	P	**Pn**	**12 53 51.4**	**-0.5**
	36nm,0.3s,baz=261,slow=23,SNR=98						
ROSC				S	**Sn**	**12 54 22.0**	**-1.8**
	88nm,0.3s,baz=97,slow=19,SNR=16						
SOCV	**Socops**	**2.52**	**55**	*e*P	**Pn**	**12 53 54.3**	**+1.5**
SOCV				*e*S	**Sn**	**12 54 24.6**	**-0.8**
VIGV	**El Vigia**	**2.53**	**38**	*e*P	**Pn**	**12 53 53.6**	**+0.6**
VIGV				*e*S	**Sn**	**12 54 23.8**	**-1.9**
VIRV	**Villa del Rosa**	**3.67**	**8**	*e*P	**Pn**	**12 54 06.2**	**-1.0**
VIRV				*e*S	Sn	12 54 45.2	-6.0
CURV	**Curarigua**	**4.32**	**43**	*e*P	**Pn**	**12 54 15.6**	**+0.1**
TEPV	**Terepaima**	**4.84**	**50**	*e*P	**Pn**	**12 54 23.2**	**+1.0**
BAUV	**El Baul**	**5.29**	**66**	*e*P	**Pn**	**12 54 28.2**	**+0.1**
BAUV				*e*S	**Sn**	**12 55 24.7**	**-4.1**
MAPV	**Macapo**	**5.34**	**56**	*e*P	**Pn**	**12 54 29.7**	**+0.9**
MONV	**Montecano**	**5.86**	**30**	*e*P	**Pn**	**12 54 35.0**	**-0.7**
LPAZ	**La Paz**	**23.47**	**168**	P	**P**	**12 58 06.7**	**+0.6**
	0.6nm,0.5s,baz=331,slow=10,SNR=3.0						
TXAR	**Lajitas Array**	**36.58**	**312**	P	**P**	**13 00 01.4**	**+0.5**
	0.4nm,0.6s,baz=130,slow=8.8,SNR=7.3						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**13 01 27.4**	**0.0**
	1.7nm,0.6s,baz=145,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**48.16**	**324**	P	**P**	**13 01 34.9**	**+0.5**
	0.4nm,0.5s,baz=125,slow=8.9,SNR=3.5						
NVAR	**Mina Array Bea**	**51.59**	**315**	P	**P**	**13 02 01.0**	**+0.7**
	0.3nm,0.6s,baz=101,slow=9.3,SNR=3.2						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**13 03 22.1**	**+0.7**
	0.9nm,0.6s,baz=132,slow=6.5,SNR=22						
ILAR	**Eielson Array**	**77.02**	**335**	P	**P**	**13 04 45.1**	**+0.2**
	0.1nm,0.5s,baz=98,slow=4.3,SNR=4.2						
MKAR	**Makanchi Array**	**122.24**	**20**	PKP	**PKPdf**	**13 11 46.3**	**+0.2**
	0.1nm,0.3s,baz=283,slow=1.6,SNR=2.5						
SONM	**Songino Array**	**125.56**	**1**	PKP	**PKiKP**	**13 11 53.7**	**+0.8**
	0.1nm,0.5s,baz=299,slow=1.9,SNR=2.7						
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	**PKPbc**	**13 12 39.6**	**-1.0**
	0.2nm,0.3s,baz=120,slow=3.3,SNR=2.8						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	**PKPbc**	**13 12 43.0**	**-0.7**
	0.3nm,0.3s,baz=105,slow=2.7,SNR=6.6						

IDC 13 13:05:19.6±4.2, 18.03S×177.10W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=186.4km s-min=32.9km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.67**	**242**	P	P	13 12 53.9	+0.3
	1.5nm,0.7s,baz=98,slow=13,SNR=7.7						
WRA	**Warramunga Arr**	**45.84**	**259**	P	P	13 13 43.7	-0.1
	0.9nm,0.4s,baz=97,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**45.96**	**254**	P	P	13 13 44.2	-0.5
	1.6nm,0.4s,baz=87,slow=8.4,SNR=36						
ILAR	**Eielson Array**	**85.73**	**12**	P	P	13 18 00.1	0.0
	0.1nm,0.4s,baz=234,slow=5.3,SNR=7.6						

IDC 13 13:12:40.8±0.9, 2.85N×83.79W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/20, mbtmp3.8/9, ML3.5/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/24, Error ellipse: s-maj=84.4km s-min=15.9km az=57.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**7.49**	**351**	Pn	Pn	13 14 38.6	+7.2
	6.2nm,0.3s,baz=92,slow=24,SNR=20						
JTS				Sn	Sn	13 16 03.3	+6.2
	1.0nm,0.3s,baz=315,slow=20,SNR=3.1						
ATAH	**Atahualpa**	**11.29**	**151**	Pn	Pn	13 15 22.1	-1.9
	0.5nm,0.3s,baz=292,slow=5.4,SNR=3.5						
ATAH				LR	LR	13 19 13.1	
	comp=Z,274nm,18.9s,baz=134,slow=35						
TEIG	**Tepich**	**17.82**	**346**	LR	LR	13 23 37.0	
	comp=Z,69nm,19.9s,baz=116,slow=37						
CMIG	**Matias Romero**	**17.86**	**323**	P	Pn	13 16 50.8	-0.2
	0.1nm,0.3s,baz=149,slow=12,SNR=2.6						
CMIG				LR	LR	13 22 24.3	
	comp=Z,121nm,21.7s,baz=165,slow=33						
LPAZ	**La Paz**	**24.52**	**141**	P	P	13 18 02.4	-0.6
	6.0nm,0.8s,baz=333,slow=10.0,SNR=16						
LPAZ				LR	LR	13 28 32.5	
	comp=Z,150nm,18.8s,baz=120,slow=39						
SIV	**San Ignacio**	**29.24**	**130**	P	P	13 18 45.2	+0.4
	0.7nm,0.7s,baz=313,slow=15						
SIV				LR	LR	13 31 04.9	
	comp=Z,253nm,18.7s,slow=38						
TXAR	**Lajitas Array**	**32.41**	**326**	P	P	13 19 12.8	+0.1
	0.6nm,0.9s,baz=155,slow=9.2,SNR=4.0						
TXAR				LR	LR	13 31 23.9	
	comp=Z,52nm,20.4s,baz=0.0,slow=35						
PLCA	**Paso Flores**	**45.03**	**166**	P	P	13 20 59.0	+0.7
	1.5nm,1.1s,baz=14,slow=8.3,SNR=2.6						
PDAR	**Pinedale Array**	**45.91**	**334**	LR	LR	13 41 27.5	
	comp=Z,67nm,18.4s,baz=5.0,slow=38						
NVAR	**Mina Array Bea**	**47.40**	**323**	P	P	13 21 16.8	-0.5
	1.0nm,1.0s,baz=132,slow=8.3,SNR=5.7						
YKA	**Yellowknife Ar**	**63.77**	**345**	P	P	13 23 14.4	+0.1
	0.6nm,0.8s,baz=139,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**76.22**	**337**	P	P	13 24 30.8	0.0
	1.1nm,1.1s,baz=144,slow=3.9,SNR=5.0						
ILAR				LR	LR	13 59 16.3	
	comp=Z,92nm,20.1s,baz=96,slow=37						

*DJA **13** 13:21:44, 0.36S×132.44E, h104km, MLv3.7/4*
IDC 13 13:21:46.3±13.0, 1.25S×131.42E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=275.8km s-min=154.0km az=107.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.80**	**171**	P	P	13 26 07.5	0.0
	0.2nm,0.3s,baz=353,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**22.41**	**174**	P	P	13 26 46.5	-0.3
	1.1nm,0.5s,baz=355,slow=12,SNR=16						
STKA	**Stephens Creek**	**31.94**	**162**	P	P	13 28 14.2	+0.2
	1.5nm,0.8s,baz=344,slow=7.4,SNR=3.1						

MAN 13 13:31:16, 6.26N×125.93E, h8km, mb4.7, ML3.6, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.75**	**25**	*e*P	Pg	13 31 30.8	+0.3
MATI				*e*S	Sn	13 31 44.5	0.0
GSPH	**General Santos**	**0.99**	**260**	*e*P	Pg	13 31 30.1	-5.2
GSPH				*e*S	Sg	13 31 48.1	-0.3
BUKP	**Musuan**	**1.83**	**332**	*e*P	Pn	13 31 47.9	+0.1
BUKP				*e*S	Sn	13 32 04.5	-6.7

*DJA **13** 13:31:23, 0.32S×133.27E, h13km, MLv4.0/6*
IDC 13 13:31:22.8±2.5, 0.68S×133.33E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=141.3km s-min=24.2km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.17**	**177**	P	P	13 35 47.5	-0.5
	0.1nm,0.3s,baz=356,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**22.85**	**179**	P	P	13 36 28.6	+0.7
	1.0nm,0.4s,baz=358,slow=12,SNR=18						
STKA	**Stephens Creek**	**32.00**	**167**	P	P	13 37 50.6	-0.3
	3.0nm,1.0s,baz=335,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	13 42 04.4	-0.1
	0.2nm,0.5s,baz=120,slow=6.7,SNR=4.7						

*NEIC **13** 13:33:45.6, 38.62S×177.98E, h43km, ML3.8(WEL), After WEL.*
NEIC Felt at Gisborne.
WEL 13 13:33:46.3±0.1, 38.60S×177.85E, h25km±1km, ML3.5/9, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.30**	**69**	P*	Pb	13 33 53.4	+0.1
CNGZ	**Carnagh Statio**	**0.30**	**69**	Pn	Pb	13 33 53.4	+0.1
CNGZ				Sn	Sb	13 34 02.9	+4.7
PRGZ	**Paritu Road**	**0.33**	**175**	P*	Pb	13 33 53.7	-0.1
PRGZ	**Paritu Road**	**0.33**	**175**	Pn	Pb	13 33 53.7	-0.1
PRGZ				Sn	Sb	13 34 01.6	+2.6
MWZ	**Matawai**	**0.36**	**316**	P*	Pb	13 33 53.4	-0.9
MWZ				S*	Sb	13 33 58.9	-0.9
MWZ	**Matawai**	**0.36**	**316**	Pn	Pb	13 33 53.4	-0.9
MWZ				Sn	Sb	13 33 60.0	+0.2
KNZ	**Kokohu**	**0.45**	**198**	P*	Pb	13 33 55.5	-0.1
KNZ				*e*S*	Sb	13 34 02.9	+0.9
KNZ	**Kokohu**	**0.45**	**198**	Pn	Pb	13 33 55.5	-0.1
MHGZ	**Mahia Peninsul**	**0.56**	**175**	P*	Pb	13 33 57.4	-0.1
MHGZ	**Mahia Peninsul**	**0.56**	**175**	Pn	Pb	13 33 57.4	-0.1
PUZ	**Puketiti**	**0.61**	**32**	P*	Pb	13 33 57.6	-0.8
PUZ				*e*S*	Sb	13 34 07.2	+0.4
PUZ	**Puketiti**	**0.61**	**32**	Pn	Pb	13 33 57.6	-0.8
URZ	**Urewera**	**0.67**	**300**	P*	Pb	13 33 58.4	-0.9
URZ				*e*S*	Sb	13 34 08.3	+0.1
URZ	**Urewera**	**0.67**	**300**	Pn	Pb	13 33 58.4	-0.9
RAHZ	**Arahi**	**0.68**	**241**	P*	Pb	13 33 59.5	-0.1
RAHZ	**Arahi**	**0.68**	**241**	Pn	Pb	13 33 59.5	-0.1
RAHZ				Sn	Sn	13 34 11.7	+1.6
NMHZ	**Naumai**	**0.96**	**238**	PN	Pn	13 34 03.5	-0.7
NMHZ	**Naumai**	**0.96**	**238**	Pn	Pn	13 34 03.5	-0.7
NMHZ				Sn	Sn	13 34 18.6	+1.5
EDRZ	**Edgecumbe**	**1.00**	**299**	PN	Pn	13 34 04.5	-0.3
EDRZ	**Edgecumbe**	**1.00**	**299**	Pn	Pn	13 34 04.5	-0.3
RRRZ	**Republican Roa**	**1.08**	**283**	PN	Pn	13 34 05.5	-0.3
RRRZ	**Republican Roa**	**1.08**	**283**	Pn	Pn	13 34 05.5	-0.3
MXZ	**Matakaoa Point**	**1.09**	**20**	PN	Pn	13 34 05.1	-0.9
MXZ				*e*SN	Sn	13 34 19.8	-0.4
MXZ	**Matakaoa Point**	**1.09**	**20**	Pn	Pn	13 34 05.1	-0.9
MARZ	**Manawahe**	**1.10**	**303**	*e*PN	Pn	13 34 05.6	-0.6
MARZ	**Manawahe**	**1.10**	**303**	Pn	Pn	13 34 05.8	-0.3
TARZ	**Mount Tarawera**	**1.11**	**288**	PN	Pn	13 34 06.4	0.0
TARZ	**Mount Tarawera**	**1.11**	**288**	Pn	Pn	13 34 06.4	0.0
PRRZ	**Plateau Road**	**1.14**	**274**	PN	Pn	13 34 06.1	-0.6
PRRZ	**Plateau Road**	**1.14**	**274**	Pn	Pn	13 34 06.1	-0.6
PRRZ				Sn	Sb	13 34 24.0	+2.1
MKRZ	**Makatiti**	**1.18**	**292**	PN	Pn	13 34 07.3	+0.2
MKRZ	**Makatiti**	**1.18**	**292**	Pn	Pn	13 34 07.3	+0.2
ALRZ	**Allen Road**	**1.18**	**271**	PN	Pn	13 34 06.6	-0.6
ALRZ	**Allen Road**	**1.18**	**271**	Pn	Pn	13 34 06.6	-0.6
BKZ	**Black Stump Fm**	**1.20**	**241**	PN	Pn	13 34 06.8	-0.8
BKZ	**Black Stump Fm**	**1.20**	**241**	Pn	Pn	13 34 06.8	-0.8
MCHZ	**McNeill Hill**	**1.23**	**226**	PN	Pn	13 34 07.2	-0.7
MCHZ	**McNeill Hill**	**1.23**	**226**	Pn	Pn	13 34 07.2	-0.7
HRRZ	**Handcock Road**	**1.24**	**279**	Pn	Pn	13 34 08.0	-0.1
OPRZ	**Ohinepanea**	**1.26**	**306**	PN	Pn	13 34 07.3	-1.0
OPRZ	**Ohinepanea**	**1.26**	**306**	Pn	Pn	13 34 07.3	-1.0
KAHZ	**Kahuranaki**	**1.42**	**212**	PN	Pn	13 34 08.9	-1.6
KAHZ	**Kahuranaki**	**1.42**	**212**	Pn	Pn	13 34 08.9	-1.6
TGRZ	**Tauranga**	**1.52**	**304**	PN	Pn	13 34 11.0	-0.8
TGRZ	**Tauranga**	**1.52**	**304**	Pn	Pn	13 34 11.0	-0.8
BHHZ	**Black Hill Sta**	**1.65**	**237**	PN	Pn	13 34 12.7	-1.0
BHHZ	**Black Hill Sta**	**1.65**	**237**	Pn	Pn	13 34 12.8	-1.0
KRVZ	**Karewarewa**	**1.79**	**253**	Pn	Pn	13 34 14.8	-1.9
MOVZ	**Moawhango**	**1.82**	**243**	Pn	Pn	13 34 17.4	-1.9
WPHZ	**Waipukurau**	**1.83**	**216**	PN	Pn	13 34 14.3	-1.8
WPHZ	**Waipukurau**	**1.83**	**216**	Pn	Pn	13 34 14.3	-1.8
PNHZ	**Pukenui**	**1.84**	**224**	PN	Pn	13 34 14.3	-2.0
PNHZ	**Pukenui**	**1.84**	**224**	Pn	Pn	13 34 14.3	-2.0
WNVZ	**Wahianoa**	**1.90**	**247**	PN	Pn	13 34 16.8	-0.6
WNVZ	**Wahianoa**	**1.90**	**247**	Pn	Pn	13 34 16.8	-0.6
TRVZ	**Turoa**	**1.93**	**248**	Pn	Pb	13 34 21.1	+0.1
TOZ	**Tahuroa Road**	**2.04**	**294**	PN	Pn	13 34 18.2	-0.8
TOZ	**Tahuroa Road**	**2.04**	**294**	Pn	Pn	13 34 18.2	-0.8
TSZ	**Takapari Road**	**2.07**	**224**	*e*PN	Pn	13 34 16.7	-2.8
TSZ	**Takapari Road**	**2.07**	**224**	Pn	Pn	13 34 16.9	-2.6
HIZ	**Hauiti**	**2.35**	**271**	Pn	Pn	13 34 23.1	-0.1
POWZ	**Post Office Ro**	**2.41**	**221**	Pn	Pn	13 34 21.8	-2.4
WAZ	**Wanganui**	**2.51**	**242**	*e*PN	Pn	13 34 25.2	-0.3
WAZ	**Wanganui**	**2.51**	**242**	Pn	Pn	13 34 26.0	+0.5
MRZ	**Mangatainoka R**	**2.71**	**220**	PN	Pn	13 34 25.1	-3.1
MRZ	**Mangatainoka R**	**2.71**	**220**	Pn	Pn	13 34 25.1	-3.1
OGWZ	**Otaki Gorge**	**3.03**	**222**	PN	Pn	13 34 29.2	-3.4
OGWZ	**Otaki Gorge**	**3.03**	**222**	Pn	Pn	13 34 29.2	-3.4
CAW	**Cannon Point**	**3.30**	**220**	PN	Pn	13 34 32.5	-3.8
CAW	**Cannon Point**	**3.30**	**220**	Pn	Pn	13 34 32.5	-3.8
NNZ	**Nelson**	**4.32**	**231**	Pn	Pn	13 34 46.6	-3.8
QRZ	**Quartz Range**	**4.67**	**240**	Pn	Pn	13 34 52.7	-2.4
THZ	**Tophouse**	**4.93**	**229**	Pn	Pn	13 34 55.3	-3.5

*DJA **13** 13:40:08, 0.88S×131.39E, h112km, MLv3.5/4*
IDC 13 13:39:55.6±2.8, 0.18S×132.66E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=123.4km s-min=27.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.10**	**201**	P	P	13 44 20.0	-0.1
	0.2nm,0.3s,baz=24,slow=6.3,SNR=5.7						
FITZ				S	Sn	13 47 44.9	-11
	0.2nm,0.3s,baz=157,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**19.70**	**175**	P	P	13 44 26.8	-0.1
	0.6nm,0.3s,baz=353,slow=12,SNR=8.0						
WRA				S	S	13 47 58.3	-12
	0.2nm,0.3s,baz=360,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**23.37**	**177**	P	P	13 45 06.2	+0.1
	2.0nm,0.5s,baz=2.2,slow=7.7,SNR=58						
MKAR	**Makanchi Array**	**64.16**	**324**	P	P	13 50 32.1	0.0
	0.4nm,0.8s,baz=119,slow=8.7,SNR=3.6						

*BJI **13** 13:50:15.8, 2.30S×99.30E, h14km, mB5.0/2, mb4.7/7*
*IDC **13** 13:50:16.0±0.9, 2.25S×99.35E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.2/24, mbtmp4.3/14, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=35.5km s-min=13.6km az=54.0*
*DJA **13** 13:50:21, 2.08S×99.46E, h26km, MLv4.4/9*
ISC 13 13:50:20.5±0.8, 2.15S±0.10×99.46E±0.08, h30km, n22, σ1§47/27, mb4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.93**	**29**	P	**Pn**	**13 50 52.2**	**+0.9**
KRJI	**Kerinci**	**2.00**	**88**	P	**Pb**	**13 50 54.8**	**-1.6**
KRJI				S	**Sb**	**13 51 20.9**	**0.0**
BKNI	**Bangkinang**	**2.92**	**33**	P	**Pn**	**13 51 06.9**	**+1.9**
MNSI	**Mandailing Nat**	**2.93**	**2**	P	**Pn**	**13 51 05.6**	**+0.5**
KSI	**Kapahiang**	**3.47**	**116**	P	Pb	13 51 25.5	+4.2
LWLI	**Liwa**	**5.40**	**122**	P	**Pb**	**13 51 53.2**	**-1.1**
KAPI	**Kappang**	**20.45**	**99**	P	**P**	**13 54 56.6**	**+0.7**
	19nm,1.0s,baz=253,slow=9.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**20.48**	**359**	P	**P**	**13 54 56.2**	**+0.1**
	1.7nm,0.7s,baz=188,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**30.18**	**123**	P	**P**	**13 56 28.3**	**-0.1**
	3.4nm,0.9s,baz=302,slow=4.4,SNR=3.7						
WRA	**Warramunga Arr**	**38.38**	**120**	P	**P**	**13 57 38.9**	**-0.6**
	2.9nm,0.5s,baz=303,slow=9.1,SNR=24						
WRA				PcP	**PcP**	**13 59 53.1**	**+0.3**
	0.3nm,0.5s,baz=311,slow=2.6,SNR=3.5						
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**13 57 49.7**	**0.0**
	1.6nm,0.5s,baz=300,slow=7.5,SNR=38						
ASAR				PcP	**PcP**	**13 59 57.5**	**+0.9**
	0.5nm,0.8s,baz=315,slow=2.8,SNR=4.3						
GTA	**Gaotai**	**41.36**	**0**	*e*P	**P**	**13 58 04.9**	**+0.9**
GTA				pP	**pP**	**13 58 09.3**	**-3.7**
GTA				sP	**sP**	**13 58 11.9**	**-4.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KSRS	**Korea Array**	**47.42**	**31**	P	**P**	**13 58 52.7**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=230,slow=8.3,SNR=6.3						
KSRS				LR	LR	14 20 54.8	
	comp=Z,23nm,18.3s,baz=345,slow=39						
STKA	**Stephens Creek**	**49.45**	**131**	P	**P**	**13 59 09.0**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=337,slow=9.5,SNR=7.9						
SONM	**Songino Array**	**50.15**	**6**	P	**P**	**13 59 14.4**	**+1.1**
	comp=Z,6.1nm,0.7s,baz=188,slow=9.1,SNR=53						
SONM				PcP	**PcP**	**14 00 33.3**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=182,slow=3.6,SNR=3.2						
MKAR	**Makanchi Array**	**51.03**	**345**	P	**P**	**13 59 20.8**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=150,slow=8.2,SNR=58						
USRK	**Ussuriysk Arra**	**54.55**	**28**	P	**P**	**13 59 46.6**	**+0.7**
	comp=Z,9.2nm,0.8s,baz=220,slow=6.7,SNR=15						
KURK	**Kurchatov**	**55.60**	**344**	P	**P**	**13 59 53.3**	**0.0**
	comp=Z,2.2nm,0.8s,baz=163,slow=6.8,SNR=24						
ZALV	**Zalesovo Beam**	**57.22**	**350**	P	**P**	**14 00 05.3**	**+0.5**
	comp=Z,4.8nm,0.4s,baz=178,slow=5.3,SNR=33						
BRTR	**Keskin Array B**	**73.03**	**313**	P	**P**	**14 01 47.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=108,slow=6.8,SNR=3.0						
FINES	**FINESS Array B**	**83.99**	**332**	P	**P**	**14 02 48.1**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=107,slow=6.6,SNR=4.5						
TXAR	**Lajitas Array**	**145.15**	**37**	PKPbc	**PKPdf**	**14 09 56.7**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=297,slow=1.1,SNR=50						

*DJA **13** 13:54:03, 0.82S×100.65E, h58km, MLv3.0/4*
IDC 13 13:53:45.0±1.5, 2.10S×99.51E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, Error ellipse: s-maj=51.0km s-min=15.1km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.44**	**358**	P	P	13 58 24.5	+0.4
	2.3nm,1.0s,baz=190,slow=8.4,SNR=6.8						
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	P	13 59 58.5	+1.4
	2.8nm,1.0s,baz=323,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**38.37**	**120**	P	P	14 01 07.3	-0.9
	1.2nm,0.5s,baz=304,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**39.59**	**126**	P	P	14 01 17.7	-0.8
	0.8nm,0.5s,baz=302,slow=8.1,SNR=12						
KSRS	**Korea Array**	**47.36**	**31**	P	P	14 02 20.3	-0.6
	2.5nm,1.0s,baz=224,slow=7.8,SNR=4.1						
STKA	**Stephens Creek**	**49.45**	**131**	P	P	14 02 37.0	-0.2
	2.3nm,0.7s,baz=284,slow=5.3						
SONM	**Songino Array**	**50.10**	**6**	P	P	14 02 42.4	+0.4
	3.1nm,0.7s,baz=188,slow=9.0,SNR=21						
SONM				PcP	PcP	14 04 01.1	-0.5
	0.3nm,0.6s,baz=198,slow=4.2,SNR=2.6						
MKAR	**Makanchi Array**	**51.00**	**345**	P	P	14 02 48.6	0.0
	1.9nm,0.6s,baz=146,slow=7.9,SNR=16						
MJAR	**Matsushiro Arr**	**52.67**	**39**	P	P	14 03 00.8	-0.4
	2.0nm,0.9s,baz=231,slow=8.7,SNR=3.0						
USRK	**Ussuriysk Arra**	**54.48**	**28**	P	P	14 03 14.4	0.0
	3.1nm,0.7s,baz=222,slow=5.9,SNR=6.8						
KURK	**Kurchatov**	**55.57**	**344**	P	P	14 03 21.3	-0.9
	1.1nm,0.9s,baz=163,slow=6.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**57.18**	**350**	P	P	14 03 33.1	-0.5
	2.4nm,0.4s,baz=175,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**145.08**	**37**	PKPbc	PKPbc	14 13 24.6	0.0
	2.0nm,0.7s,baz=252,slow=1.0,SNR=21						

*ISCJB **13** 13:54:06.5±0.8, 71.48N±0.06×9.4W±0.2, h10km, Error ellipse: s-maj=11.7km s-min=6.1km az=136.8*
*CSEM **13** 13:54:07.2±0.8, 71.55N×8.23W, h2km, ML3.6, Error ellipse: s-maj=33.0km s-min=8.8km az=76.0*
ISC 13 13:54:08.3±1.2, 71.42N±0.08×9.28W±0.09, h10km, n11, σ0§36/10, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

ACR	**Cerro Adams**	**8.11**	**126**	*eP*		Pn	14 11 09.6	+1.5

*ISCJB **13** 14:11:47.2±1.2, 36°.00N±0°.06 × 141°.0E±0°.1, h31km, mb3.3/4, Error ellipse: s-maj=13.8km s-min=6.4km az=148.0*

*JMA **13** 14:11:49.3±0.1, 35°.89N × 140°.81E, h39km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs=47.00000°, δ76.00000°, λ95.00000°. NP2: φs=209.00000°, δ15.00000°, λ72.00000°. Principal axes: T Plg59.0000°, Azm323.0000°; N Plg4.0000°, Azm226.0000°; P Plg31.0000°, Azm133.0000°;*

*IDC **13** 14:11:51.5±1.7, 34°.62N × 138°.41E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4 Error ellipse: s-maj=59.3km s-min=19.1km az=79.0*

ISC 13 14:11:47.5±1.4, 35°.93N±0°.06 × 141°.0E±0°.1, h31km, n13, σ0§97/16, mb3.5/4, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.26**	**205**	⇑P	**Pn**	**14 11 56.2**	**+1.1**
CHOJ				S	**Sn**	**14 12 00.7**	**+0.7**
JYT	**Yasato**	**0.71**	**295**	⇓P	**Pb**	**14 12 01.1**	**-0.3**
JYT				S	**Sb**	**14 12 09.7**	**-1.2**
JHO	**Hitachi**	**0.76**	**333**	⇓P	**Pn**	**14 12 03.2**	**+1.1**
BSO4	**Boso 4**	**1.08**	**210**	P	**Pb**	**14 12 07.7**	**+0.1**
BSO3	**Boso 3**	**1.20**	**199**	P	**Pn**	**14 12 08.5**	**+0.7**
BSO1	**Boso 1**	**1.28**	**181**	P	**Pn**	**14 12 08.7**	**0.0**
JAG	**Ashikaga**	**1.34**	**292**	⇓P	**Pn**	**14 12 09.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.33**	**286**	Pn	**Pn**	**14 12 24.6**	**+0.9**
	8.1nm,0.3s,baz=215,slow=3.2,SNR=59						
MJAR				Sn	**Sn**	**14 12 52.6**	**+1.3**
	3.8nm,0.3s,baz=316,slow=26,SNR=5.4						
MAT	**Matsushiro**	**2.33**	**286**	P	**Pn**	**14 12 24.7**	**+1.0**
MAT				S	**Sn**	**14 12 50.5**	**-0.8**
SONM	**Songino Array**	**28.13**	**306**	P	**P**	**14 17 37.6**	**+0.8**
	0.2nm,0.5s,baz=97,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**14 19 55.3**	**0.0**
	0.9nm,0.8s,baz=91,slow=9.4,SNR=8.2						
WRA	**Warramunga Arr**	**55.93**	**188**	P	**P**	**14 21 21.0**	**-1.6**
	0.2nm,0.3s,baz=2.6,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**59.66**	**188**	P	P	14 21 46.1	-2.7
	0.2nm,0.7s,baz=7.8,slow=7.5,SNR=4.5						

IDC 13 14:12:04.9±2.5, 0.73S × 133.36E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=99.6km s-min=24.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**203**	P	Pn	14 16 27.5	+0.3
	0.1nm,0.3s,baz=16,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**19.12**	**177**	P	P	14 16 29.5	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.81**	**179**	P	P	14 17 09.2	-0.4
	0.4nm,0.4s,baz=360,slow=11,SNR=11						
MKAR	**Makanchi Array**	**65.00**	**324**	P	P	14 22 46.8	0.0
	0.2nm,0.6s,baz=106,slow=9.2,SNR=3.5						

*IDC **13** 14:46:28.1±0.6, 0°.77S × 133°.52E, h0km, mb4.3/10, mb1 4.5/12, mb1mx4.4/19, mbtmp4.4/12, ML4.4/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/22, Error ellipse: s-maj=31.9km s-min=13.6km az=76.0*

*BJI **13** 14:46:28.0, 0°.78S × 133°.99E, h26km, mB5.1/4, mb4.8/11, Ms7 4.7/1*

*ISCJB **13** 14:46:30.8±0.3, 0°.76S±0°.03 × 133°.48E±0°.05, h29km, mb4.7/33, MS3.9/4, Error ellipse: s-maj=6.8km s-min=4.6km az=156.6*

*DJA **13** 14:46:32, 0°.75S × 133°.44E, h10km, mb4.9/13*

*NEIC **13** 14:46:33.5±0.2, 0°.83S × 133°.42E, h35km, mb4.5/10, Error ellipse: s-maj=9.6km s-min=3.8km az=63.0*

ISC 13 14:46:32.4±0.4, 0°.85S±0°.05 × 133°.47E±0°.06, h29km, n86, σ1§14/91, mb4.8/33, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.40**	**211**	P	**Pb**	**14 47 12.8**	**-2.0**
BAKI	**Biak**	**2.66**	**97**	P	**Pn**	**14 47 12.8**	**-0.5**
BAKI				S	**Sn**	**14 47 45.8**	**+1.2**
TLE	**Tual**	**4.82**	**189**	P	Pn	14 47 47.0	+4.0
	373nm,1.1s,1.1nm						
MSAI	**Masohi**	**5.17**	**241**	P	Pn	14 47 53.7	+5.8
AAI	**Ambon**	**5.98**	**242**	P	Pn	14 48 02.7	+3.7
	194nm,0.9s,2µm0.7nm						
NLAI	**Namlea**	**6.79**	**249**	P	**Pn**	**14 48 13.2**	**+3.0**
	113nm,0.6s,1µm0.5nm						
JAY	**Jayapura**	**7.42**	**103**	P	Pn	14 48 11.5	-7.3
MTN	**Manton Dam**	**12.14**	**191**	*eP*	**Pn**	**14 49 23.4**	**-0.1**
MTN				*eS*	**Sn**	**14 51 33.2**	**-4.9**
PMG	**Port Moresby**	**16.06**	**122**	P	**P**	**14 50 18.2**	**-1.2**
COEN	**Coen**	**16.19**	**144**	*eP*	**Pn**	**14 50 19.1**	**+1.3**
GUMO	**Guam**	**18.26**	**38**	LR	LR	14 56 00.5	
	comp=Z,166nm,18.1s,baz=182,slow=32						
FITZ	**Fitzroy Crossi**	**18.80**	**204**	P	**P**	**14 50 49.9**	**+0.3**
	1.1nm,0.3s,baz=43,slow=11,SNR=22						
FITZ				S	Sn	14 54 12.2	-7.7
	0.2nm,0.3s,baz=139,slow=8.4,SNR=4.3						
FITZ				LR	LR	14 58 25.2	
	comp=Z,134nm,18.4s,baz=16,slow=38						
FITZ	**Fitzroy Crossi**	**18.80**	**204**	*eP*	**Pn**	**14 50 50.3**	**+0.1**
	25nm,0.6s						
FITZ				*eS*	Sn	14 54 08.7	-11
FITZ	**Fitzroy Crossi**	**18.80**	**204**	*eP*	**P**	**14 50 50.1**	**+0.5**
	17nm,0.8s						
FITZ				S	Sn	14 54 12.2	-7.7
WRAB	**Tennant Creek**	**18.99**	**177**	*eP*	**P**	**14 50 52.1**	**+0.3**
	12nm,0.6s						
WB2	**Warramunga Arr**	**19.00**	**177**	*eP*	**P**	**14 50 52.1**	**+0.3**
WRA	**Warramunga Arr**	**19.00**	**177**	P	**P**	**14 50 51.4**	**-0.5**
	1.1nm,0.3s,baz=356,slow=11,SNR=32						
WRA				S	**Sn**	**14 54 21.8**	**-3.0**
	0.2nm,0.3s,baz=356,slow=21,SNR=4.3						
WRA	**Warramunga Arr**	**19.00**	**177**	P	**P**	**14 50 51.4**	**-0.5**
WRA				S	**Sn**	**14 54 21.8**	**-3.0**
AS31	**Alice Springs**	**22.69**	**179**	*eP*	**P**	**14 51 32.3**	**+0.5**
ASAR	**Alice Springs**	**22.69**	**179**	P	**P**	**14 51 32.5**	**+0.7**
	20nm,0.7s,baz=5.2,slow=12,SNR=206						
ASAR				S	**S**	**14 55 40.5**	**+2.0**
	1.6nm,0.9s,baz=8.3,slow=26,SNR=3.6						
ASAR	**Alice Springs**	**22.69**	**179**	P	**P**	**14 51 32.5**	**+0.7**
ASAR				S	**S**	**14 55 40.5**	**+2.0**
CTA	**Charters Tower**	**22.85**	**148**	P	**P**	**14 51 34.9**	**+1.4**
	6.3nm,0.7s,baz=321,slow=13,SNR=4.2						
CTA	**Charters Tower**	**22.85**	**148**	P	**P**	**14 51 34.9**	**+1.4**
CTAO	**Charters Tower**	**22.85**	**148**	*eP*	**P**	**14 51 34.8**	**+1.4**
MBWA	**Marble Bar**	**24.24**	**213**	*eP*	**P**	**14 51 48.2**	**+1.3**
FORT	**Forrest**	**30.21**	**189**	*eP*	**P**	**14 52 42.6**	**+2.2**
	16nm,0.6s						
STKA	**Stephens Creek**	**31.81**	**167**	P	**P**	**14 52 54.0**	**-0.5**
	4.9nm,0.9s,baz=342,slow=11,SNR=8.8						
STKA				LR	LR	15 07 19.1	
	comp=Z,496nm,18.1s,baz=130,slow=39						
STKA	**Stephens Creek**	**31.81**	**167**	*eP*	**P**	**14 52 54.2**	**-0.3**
	3.3nm,0.9s						
STKA	**Stephens Creek**	**31.81**	**167**	P	**P**	**14 52 54.0**	**-0.5**
KMBL	**Kambalda**	**32.28**	**199**	*eP*	**P**	**14 53 00.4**	**+1.7**
	83nm,0.7s						
BLDU	**Ballidu**	**33.61**	**207**	*eP*	**P**	**14 53 11.4**	**+1.1**
KLBR	**Kellerberrin**	**34.00**	**204**	*eP*	**P**	**14 53 15.4**	**+1.7**
	16nm,0.9s						
WHN	**Wuhan**	**36.13**	**331**	P	**P**	**14 53 30.9**	**-1.2**
KSRS	**Korea Array**	**38.45**	**353**	LR	LR	15 09 10.8	
	comp=Z,109nm,18.7s,baz=49,slow=36						
CMAR	**Chiang Mai Arr**	**38.98**	**301**	P	**P**	**14 53 56.3**	**-0.1**
	0.4nm,0.5s,baz=113,slow=6.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**38.98**	**301**	P	**P**	**14 53 56.3**	**-0.1**
BJT	**Baijiatuau**	**43.63**	**341**	*eP*	**P**	**14 54 34.5**	**+0.2**
	25nm,0.5s						
BJI	**Beijing**	**43.65**	**341**	P	**P**	**14 54 33.9**	**-0.5**
BJI				pmax	pmax		
	comp=Z,36nm,0.7s						
BJI				pmax	pmax		
	comp=Z,150nm,3.7s						
USRK	**Ussuriysk Arra**	**44.87**	**359**	P	**P**	**14 54 43.4**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=163,slow=5.2,SNR=6.1						
ASAJ	**Asahikawa**	**45.50**	**9**	LR	LR	15 11 40.8	
	comp=Z,79nm,18.3s,baz=330,slow=33						
LSA	**Lhasa**	**50.50**	**311**	P	**P**	**14 55 29.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**50.50**	**311**	*eP*	**P**	**14 55 29.4**	**+0.7**
	comp=Z,9.7nm,0.8s						
GTA	**Gaotai**	**50.54**	**326**	*eP*	**P**	**14 55 28.8**	**+0.4**
GTA				pP	**pP**	**14 55 35.8**	**-1.5**
GTA				sP	**sP**	**14 55 39.8**	**-1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
TAPN	**Taplejung**	**52.13**	**306**	*eP*	**P**	**14 55 41.0**	**+0.2**
	comp=Z,36nm,1.0s						
TAPN	**Taplejung**	**52.13**	**306**	*eP*	**P**	**14 55 41.0**	**+0.2**
	comp=Z,36nm,1.0s						
ODAN	**Odare**	**52.19**	**305**	*eP*	**P**	**14 55 41.2**	**+0.1**
	comp=Z,43nm,0.9s						
ODAN	**Odare**	**52.19**	**305**	*eP*	**P**	**14 55 41.2**	**+0.1**
	comp=Z,43nm,0.9s						
RAMN	**Ramite**	**52.87**	**305**	*eP*	**P**	**14 55 46.6**	**+0.4**
	comp=Z,22nm,0.7s						
RAMN	**Ramite**	**52.87**	**305**	*eP*	**P**	**14 55 46.6**	**+0.4**
	comp=Z,22nm,0.7s						
JIRN	**Jiri**	**53.49**	**306**	*eP*	**P**	**14 55 51.0**	**+0.1**
	comp=Z,6.9nm,0.8s						
JIRN	**Jiri**	**53.49**	**306**	*eP*	**P**	**14 55 51.0**	**+0.1**
	comp=Z,6.9nm,0.8s						
ULN	**Ulaanbaatar**	**53.69**	**338**	*eP*	**P**	**14 55 51.9**	**+0.1**
	comp=Z,4.1nm,0.8s						
ULN	**Ulaanbaatar**	**53.69**	**338**	P	**P**	**14 55 52.6**	**+0.9**
GUN	**Gumba**	**53.84**	**306**	*eP*	**P**	**14 55 53.5**	**+0.1**
	comp=Z,27nm,0.8s						
GUN	**Gumba**	**53.84**	**306**	*eP*	**P**	**14 55 53.5**	**+0.1**
	comp=Z,27nm,0.8s						
SONM	**Songino Array**	**53.91**	**338**	P	**P**	**14 55 53.9**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=152,slow=8.0,SNR=23						
SONM				PcP	**PcP**	**14 56 58.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=146,slow=5.7,SNR=2.7						
SONM				LR	LR	15 20 36.3	
	comp=Z,92nm,19.2s,baz=295,slow=38						
SONM	**Songino Array**	**53.91**	**338**	P	**P**	**14 55 53.9**	**+0.6**
SONM				PcP	**PcP**	**14 56 58.4**	**-0.1**
PKI	**Pulchoki**	**54.09**	**305**	*eP*	**P**	**14 55 55.0**	**-0.2**
PKI	**Pulchoki**	**54.09**	**305**	*eP*	**P**	**14 55 55.0**	**-0.2**
KKN	**Kakani**	**54.28**	**306**	*eP*	**P**	**14 55 56.3**	**-0.2**
	comp=Z,27nm,1.0s						
KKN	**Kakani**	**54.28**	**306**	*eP*	**P**	**14 55 56.3**	**-0.2**
	comp=Z,27nm,1.0s						
DMN	**Daman**	**54.35**	**305**	*eP*	**P**	**14 55 57.0**	**-0.1**
	comp=Z,31nm,1.0s						
DMN	**Daman**	**54.35**	**305**	*eP*	**P**	**14 55 57.0**	**-0.1**
	comp=Z,31nm,1.0s						
GKN	**Gorkha**	**54.89**	**306**	*eP*	**P**	**14 56 00.6**	**-0.2**
	comp=Z,46nm,1.2s						
GKN	**Gorkha**	**54.89**	**306**	*eP*	**P**	**14 56 00.6**	**-0.2**
	comp=Z,46nm,1.2s						
KOLN	**Koldanda**	**55.65**	**305**	*eP*	**P**	**14 56 06.8**	**+0.4**
	comp=Z,29nm,0.9s						
KOLN	**Koldanda**	**55.65**	**305**	*eP*	**P**	**14 56 06.8**	**+0.4**
	comp=Z,29nm,0.9s						
DANN	**Dangsing**	**55.74**	**306**	*eP*	**P**	**14 56 07.1**	**0.0**
	comp=Z,37nm,0.9s						
DANN	**Dangsing**	**55.74**	**306**	*eP*	**P**	**14 56 07.1**	**0.0**
	comp=Z,37nm,0.9s						
PETK	**Petropavlovsk-**	**57.45**	**17**	P	**P**	**14 56 18.0**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=177,slow=2.5,SNR=4.5						
PETK	**Petropavlovsk-**	**57.45**	**17**	P	**P**	**14 56 18.0**	**-0.4**
MK31	**Makanchi Array**	**65.16**	**324**	*eP*	**P**	**14 57 11.1**	**+0.3**
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**14 57 11.3**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=110,slow=8.4,SNR=66						
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**14 57 11.3**	**+0.4**
ZAA0	**Zalesovo Array**	**67.75**	**331**	*eP*	**P**	**14 57 26.5**	**-0.7**
ZALV	**Zalesovo Beam**	**67.75**	**331**	P	**P**	**14 57 26.6**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=113,slow=6.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**67.75**	**331**	P	**P**	**14 57 26.6**	**-0.6**
KURK	**Kurchatov**	**69.23**	**326**	*eP*	**P**	**14 57 36.4**	**0.0**
	comp=Z,8.8nm,1.1s						
KBL	**Kabul**	**69.63**	**307**	*eP*	**P**	**14 57 38.9**	**-0.7**
	comp=Z,1.9nm,0.6s						
KBL				*e*		14 57 50.1	
KKAR	**Karatay Array**	**71.16**	**316**	*eP*	**P**	**14 57 48.6**	**+0.1**
	comp=Z,1.8nm,0.5s						
BRVK	**Borovoye**	**74.90**	**326**	*eP*	**P**	**14 58 10.2**	**-0.2**
	comp=Z,5.7nm,1.0s						
ABKAR	**Akbulak array**	**79.94**	**320**	*eP*	**P**	**14 58 38.0**	**-0.7**
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**86.34**	**25**	P	**P**	**14 59 10.0**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=254,slow=4.7,SNR=44						
ILAR	**Eielson Array**	**86.34**	**25**	P	**P**	**14 59 10.0**	**-1.5**
LPAZ	**La Paz**	**152.72**	**130**	PKPbc	**PKPbc**	**15 06 30.3**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=33,slow=1.6,SNR=4.6						
LPAZ				PKPab	**PKPab**	**15 06 38.9**	**0.0**
	comp=Z,1.3nm,0.9s,baz=332,slow=6.1,SNR=3.9						
LPAZ	**La Paz**	**152.72**	**130**	PKPbc	**PKPbc**	**15 06 30.3**	**+2.1**
LPAZ				PKPab	**PKPab**	**15 06 38.9**	**0.0**

IDC 13 14:59:42.5±1.3, 0.74S × 133.63E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.8/2, MS3.9/2, Ms1 3.9/2, ms1mx2.9/26, Error ellipse: s-maj=60.1km s-min=22.3km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**204**	P	P	15 04 04.7	-0.8
	0.2nm,0.3s,baz=35,slow=12,SNR=5.1						
FITZ				LR	LR	15 10 54.4	
	comp=Z,47nm,18.1s,baz=270,slow=35						
WRA	**Warramunga Arr**	**19.10**	**178**	P	P	15 04 06.9	-0.2
	0.3nm,0.3s,baz=356,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.80**	**179**	P	P	15 04 47.7	+0.7
	2.7nm,0.6s,baz=359,slow=12,SNR=44						
AFI	**Afiamalu**	**55.56**	**106**	LR	LR	15 28 49.2	
	comp=Z,648nm,21.0s,baz=305,slow=31						
MKAR	**Makanchi Array**	**65.17**	**324**	P	P	15 10 25.9	+0.2
	0.5nm,0.6s,baz=113,slow=7.9,SNR=8.7						
ILAR	**Eielson Array**	**86.18**	**25**	P	P	15 12 25.1	-0.4
	0.3nm,0.8s,baz=262,slow=5.3,SNR=4.9						

*IDC **13** 15:08:10.6±0.7, 5°.73N × 127°.58E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, Error ellipse: s-maj=57.2km s-min=14.8km az=73.0*

*ISCJB **13** 15:08:16.2±0.6, 5°.76N±0°.08 × 127°.62E±0°.08, h52km, mb3.9/10, Error ellipse: s-maj=14.9km s-min=7.0km az=42.2*

*MAN **13** 15:08:29, 5°.64N × 126°.99E, h3km, mb4.9, ML3.8, MS3.8*

*DJA **13** 15:08:49, 3°.68N × 126°.66E, h94km, ML4.5/8*

ISC 13 15:08:17.7±0.7, 5.8N±0°.1 × 127°.6E±0°.1, h52km, n15, σ1§02/16, mb3.9/10, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.79**	**312**	*eP*	Pn	15 08 56.6	+10
MATI				*eS*	**Sn**	**15 09 06.5**	**-1.3**
DMPH	**Davao City--Mi**	**2.47**	**303**	⇑*iP*	Pn	15 09 09.8	+14
DMPH				*eS*	Sn	15 09 37.1	+13
GSPH	**General Santos**	**2.66**	**277**	*eP*	Pn	15 09 02.4	+4.2
GSPH				*eS*	**Sn**	**15 09 30.3**	**+0.9**
BUKP	**Musuan**	**3.29**	**310**	*eP*	Pn	15 09 18.0	+11
BUKP				*eS*	**Sn**	**15 09 44.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.77**	**185**	P	**P**	**15 13 25.3**	**-0.3**
	1.9nm,0.8s,baz=142,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**26.37**	**196**	P	**P**	**15 13 49.0**	**-0.3**
	1.8nm,0.4s,baz=343,slow=10,SNR=21						
WRA				PcP	**PcP**	**15 17 13.3**	**-0.9**
	0.2nm,0.4s,baz=341,slow=2.5,SNR=2.4						
ASAR	**Alice Springs**	**29.87**	**168**	P	**P**	**15 14 20.7**	**+0.2**
	0.5nm,0.3s,baz=342,slow=7.2,SNR=38						
ASAR				PcP	**PcP**	**15 17 21.8**	**-1.0**
	0.6nm,0.6s,baz=346,slow=2.1,SNR=6.0						
STKA	**Stephens Creek**	**39.72**	**161**	P	**P**	**15 15 45.8**	**+0.5**
	1.7nm,0.3s,baz=329,slow=11,SNR=15						
SONM	**Songino Array**	**45.69**	**340**	P	**P**	**15 16 35.2**	**+1.5**
	0.6nm,1.1s,baz=156,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**56.42**	**324**	P	**P**	**15 17 55.1**	**+1.0**
	0.9nm,0.4s,baz=121,slow=8.4,SNR=27						
ZALV	**Zalesovo Beam**	**59.21**	**332**	P	**P**	**15 18 14.3**	**+0.9**
	0.7nm,0.4s,baz=100,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**82.92**	**26**	P	**P**	**15 20 37.5**	**+0.7**
	0.8nm,0.9s,baz=241,slow=5.0,SNR=6.7						
ARCES	**ARCESS Array B**	**88.87**	**340**	P	**P**	**15 21 05.2**	**-0.9**
	5.0nm,1.1s,baz=81,slow=5.7,SNR=5.4						
BRTR	**Keskin Array B**	**89.41**	**310**	P	**P**	**15 21 08.6**	**-0.8**
	0.3nm,0.6s,baz=72,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**123.09**	**290**	PKP	**PKPdf**	**15 27 08.0**	**-1.6**
	0.7nm,0.6s,baz=82,slow=1.2,SNR=5.3						

IDC 13 15:51:45.3±7.7, 18.58S × 177.06W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/17, mbtmp3.3/2, Error ellipse: s-maj=333.0km s-min=120.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.77**	**260**	P	P	16 00 09.2	+0.2
	0.2nm,0.3s,baz=96,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**45.85**	**255**	P	P	16 00 09.2	-0.5
	0.1nm,0.5s,baz=88,slow=7.7,SNR=4.8						
AKASG	**Malin Array Be**	**141.74**	**333**	PKP	PKPdf	16 11 18.1	-0.6
	0.6nm,0.4s,baz=42,slow=3.9,SNR=4.8						

*DJA **13** 16:05:08, 0°.15N × 133°.51E, h10km, MLv4.6/5*

IDC 13 16:05:12.2±1.2, 0.68S × 133.84E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=57.9km s-min=18.2km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.10**	**204**	P	Pn	16 09 37.3	0.0
	0.3nm,0.3s,baz=35,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**19.15**	**179**	P	P	16 09 37.3	0.0
	0.3nm,0.3s,baz=355,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.85**	**180**	P	P	16 10 16.9	-0.3
	1.7nm,0.6s,baz=359,slow=12,SNR=40						
SONM	**Songino Array**	**53.90**	**337**	P	P	16 14 38.1	+0.6
	0.4nm,0.8s,baz=157,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**65.25**	**324**	P	P	16 15 55.9	+0.1
	1.1nm,0.7s,baz=113,slow=8.2,SNR=13						
ZALV	**Zalesovo Beam**	**67.78**	**331**	P	P	16 16 11.6	-0.1
	0.3nm,0.4s,baz=120,slow=8.5,SNR=3.5						
KURK	**Kurchatov**	**69.29**	**326**	P	P	16 16 20.9	-0.3
	1.8nm,0.9s,baz=120,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**74.89**	**326**	P	P	16 16 54.5	-0.3
	0.7nm,0.7s,baz=110,slow=8.5,SNR=4.6						
ILAR	**Eielson Array**	**86.04**	**25**	P	P	16 17 54.6	+0.1
	0.3nm,0.6s,baz=259,slow=4.6,SNR=7.9						

*NSSC **13** 16:16:28.9±2.1, 33°.45N × 35°.88E, h56km±13km, MD1.5, ML1.6*

*CSEM **13** 16:16:29.2±0.3, 33°.33N × 35°.39E, h10km, ML2.9, Error ellipse: s-maj=7.3km s-min=3.9km az=80.0*

*GRAL **13** 16:16:29.9±0.4, 33°.30N × 35°.42E, h8km±2km, MD2.9*

ISC 13 16:16:28.1±1.4, 33°.24N±0°.04 × 35°.72E±0°.04, h3km±12km, n16, σ1§89/28, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRBR	**Barbar**	**0.26**	**49**	*eP*	**Pn**	**16 16 38.2**	**-0.8**
BRBR				*eS*	**Sb**	**16 16 44.1**	**+3.6**
BRBR				AML	AML	16 16 46.2	
	comp=E,128nm,0.4s						
BRBR				AML	AML	16 16 46.6	
	comp=N,87nm,0.6s						
RCY	**Rachaya**	**0.27**	**21**	*eP*	**Pb**	**16 16 37.3**	**+1.5**
RCY				*eS*	**Sb**	**16 16 42.7**	**+1.8**
MATL	**Matarih**	**0.41**	**307**	*eP*	**Pg**	**16 16 34.0**	**-1.9**
MATL	**Matarih**	**0.41**	**307**	*eP*	**Pg**	**16 16 34.0**	**-1.9**
TOTH	**TOTAH**	**0.61**	**79**	*eP*	**Pg**	**16 16 39.1**	**-0.6**
TOTH				*eS*	**Sb**	**16 16 50.0**	**0.0**
TOTH				AML	AML	16 16 57.4	
	comp=N,15nm,0.4s						
TOTH				AML	AML	16 17 00.7	
	comp=E,15nm,0.7s						
TOTH	**TOTAH**	**0.61**	**79**	*eP*	**Pg**	**16 16 39.1**	**-0.6**
	SNR=91						
TOTH				*eS*	**Sb**	**16 16 50.4**	**0.0**
	comp=E,15nm,0.7s,SNR=59						
TCHB	**Talchebab**	**0.61**	**160**	*eP*	**Pn**	**16 16 44.8**	**+1.1**
TCHB				*eS*	**Sn**	**16 16 55.8**	**+1.7**
TCHB				AML	AML	16 16 56.4	
	comp=N,55nm,0.6s						
TCHB				AML	AML	16 16 59.1	
	comp=E,47nm,0.3s						
TCHB	**Talchebab**	**0.61**	**160**	*eP*	**Pn**	**16 16 44.8**	**+1.1**
	SNR=90						
TCHB				*eS*	**Sn**	**16 16 55.8**	**+1.7**
	comp=E,47nm,0.3s,SNR=59						
BHL	**Bhannes**	**0.66**	**355**	*eP*	**Pg**	**16 16 41.1**	**+0.4**
BHL	**Bhannes**	**0.66**	**355**	*eP*	**Pg**	**16 16 41.2**	**+0.4**
SALA	**Sala**	**1.00**	**122**	*eP*	**Pb**	**16 16 46.4**	**-1.8**
SALA				*eS*	**Sg**	**16 17 02.2**	**+1.9**
SALA	**Sala**	**1.00**	**122**	*eP*	**Pb**	**16 16 46.4**	**-1.8**
	SNR=75						

DSI	**Dead Sea**	**1.75**	**182**	Pn	**Pb**	**16 30 12.6**	**-0.7**

*IDC **13** 16:31:44.2±0.6, 19°.99N×147°.30E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.1/17, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/36, Error ellipse: s-maj=20.8km s-min=14.2km az=92.0*

*ISCJB **13** 16:31:48.1±0.4, 19°.93N±0°.04×147°.24E±0°.07, h40km, mb4.4/36, MS4.1/4, Error ellipse: s-maj=8.9km s-min=5.8km az=180.0*

*NEIC **13** 16:31:49.4±0.3, 19°.95N×147°.24E, h35km, mb4.7/10, Error ellipse: s-maj=9.3km s-min=6.1km az=94.0*

*BJI **13** 16:31:52.5, 20°.20N×146°.56E, h35km, mB5.1/23, mb4.6/29, Ms4.6/15, Ms7 4.4/15*

ISC 13 16:31:50.0±0.5, 19°.99N±0°.05×147°.19E±0°.07, h40km, n69, σ1§16/96, mb4.5/36, MS4.2/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.74**	**200**	Pn	**Pn**	**16 33 27.1**	**+0.6**
	9.9nm,0.3s,baz=293,slow=21,SNR=7.4						
GUMO				Sn	**Sn**	**16 34 42.6**	**+0.5**
	5.7nm,0.3s,baz=28,slow=20,SNR=2.0						
GUMO				LR	LR	16 35 57.8	
	comp=Z,179nm,18.7s,baz=13,slow=37						
GUMO	**Guam**	**6.74**	**200**	Pn	**Pn**	**16 33 27.1**	**+0.6**
GUMO				Sn	**Sn**	**16 34 42.6**	**+0.5**
MJAR	**Matsushiro Arr**	**18.27**	**336**	P	**Pn**	**16 36 01.1**	**+0.6**
	0.1nm,0.3s,baz=172,slow=11,SNR=6.3						
MJAR	**Matsushiro Arr**	**18.27**	**336**	P	**Pn**	**16 36 01.1**	**+0.6**
MAT	**Matsushiro**	**18.27**	**336**	P	**P**	**16 35 59.9**	**-0.5**
KSRS	**Korea Array**	**24.17**	**320**	P	**P**	**16 37 03.9**	**+1.3**
	4.0nm,0.7s,baz=142,slow=7.3,SNR=14						
KSAR	**Wonju Array Be**	**24.19**	**320**	P	**P**	**16 37 03.9**	**+1.2**
USRK	**Ussuriysk Arra**	**27.26**	**336**	P	**P**	**16 37 29.3**	**-1.2**
	1.7nm,0.6s,baz=139,slow=41,SNR=3.4						
NJ2	**Nanjing**	**28.06**	**301**	*e*P	**P**	**16 37 37.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**28.58**	**333**	P	**P**	**16 37 43.3**	**+1.0**
MDJ				pP	**pP**	**16 37 51.9**	**-1.4**
MDJ				sP	**sP**	**16 37 55.8**	**-2.3**
MDJ				S	**S**	**16 42 31.1**	**+3.3**
MDJ				sS	**sS**	**16 42 46.1**	**0.0**
MDJ				ScP	**ScP**	**16 44 32.0**	**+1.0**
MDJ				PcS	**PcS**	**16 44 35.6**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,14nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,260nm,3.7s						
CN2	**Changchun**	**29.89**	**327**	*e*P	**P**	**16 37 56.8**	**+2.9**
QIZ	**Qiongzhong**	**35.17**	**275**	P	**P**	**16 38 38.5**	**-1.9**
QIZ				S	**S**	**16 44 11.0**	**0.0**
QIZ				pmax	pmax		
	comp=Z,23nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,190nm,5.3s						
HHC	**Hu-ho-hao-te**	**36.74**	**312**	*e*P	**P**	**16 38 53.5**	**-0.2**
HHC				pP	**pP**	**16 39 03.5**	**-1.4**
HHC				sP	**sP**	**16 39 09.0**	**-0.7**
HHC				PP	PP	16 40 20.0	+2.2
HHC				S	**S**	**16 44 35.3**	**+0.4**
HHC				sS	**sS**	**16 44 49.4**	**-4.0**
HHC				ScS	**ScS**	**16 49 05.6**	**-0.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,270nm,5.3s						
HHC				LR	LR		
	comp=N,230nm,12.0s						
HHC				LR	LR		
	comp=E,400nm,14.3s						
HHC				LR	LR		
	comp=Z,160nm,14.9s						
GYA	**Guiyang**	**37.68**	**288**	P	**P**	**16 39 02.0**	**+0.1**
GYA				pP	**pP**	**16 39 11.6**	**-1.4**
GYA				PP	PP	16 40 30.8	+2.4
GYA				S	**S**	**16 44 50.8**	**+1.3**
GYA				sS	**sS**	**16 45 06.3**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,440nm,16.2s						
GYA				LR	LR		
	comp=E,410nm,17.4s						
GYA				LR	LR		
	comp=Z,420nm,16.6s						
CTA	**Charters Tower**	**39.84**	**181**	LR	LR	16 53 03.1	
	comp=Z,47nm,19.1s,baz=51,slow=32						
CD2	**Chengdu**	**40.47**	**294**	P	**P**	**16 39 26.0**	**+0.9**
CD2				pP	**pP**	**16 39 36.3**	**0.0**
CD2				sP	**sP**	**16 39 40.5**	**-0.6**
CD2				PP	PP	16 41 03.5	+4.8
CD2				S	**S**	**16 45 32.3**	**+1.0**
CD2				sS	**sS**	**16 45 49.3**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,5.8s						
CD2				LR	LR		
	comp=E,350nm,6.5s						
CD2				LR	LR		
	comp=Z,260nm,6.5s						
LZH	**Lanzhou**	**41.12**	**302**	*e*P	**P**	**16 39 30.3**	**-0.2**
LZH				pP	**pP**	**16 39 40.8**	**-1.0**
LZH				sP	**sP**	**16 39 44.8**	**-1.8**
LZH				PP	PP	16 41 08.5	+2.6
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,73nm,5.2s						
LZH				LR	LR		
	comp=N,280nm,13.5s						
LZH				LR	LR		
	comp=E,220nm,12.9s						
LZH				LR	LR		
	comp=Z,310nm,17.0s						
KMI	**Kunming**	**41.23**	**286**	P	**P**	**16 39 32.4**	**+0.8**
KMI				pP	**pP**	**16 39 42.0**	**-0.9**
KMI				sP	**sP**	**16 39 47.1**	**-0.5**
KMI				S	**S**	**16 45 44.1**	**+1.1**
KMI				sS	**sS**	**16 46 00.3**	**-1.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,120nm,5.3s						
KMI				LR	LR		
	comp=N,230nm,5.5s						
KMI				LR	LR		
	comp=E,91nm,6.4s						
KMI				LR	LR		
	comp=Z,170nm,7.9s						
WRAB	**Tennant Creek**	**41.62**	**198**	P	**P**	**16 39 33.6**	**-0.9**
WB2	**Warramunga Arr**	**41.63**	**198**	P	**P**	**16 39 33.4**	**-1.2**
WRA	**Warramunga Arr**	**41.64**	**198**	P	**P**	**16 39 34.1**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=20,slow=8.8,SNR=7.9						
WRA	**Warramunga Arr**	**41.64**	**198**	P	**P**	**16 39 34.1**	**-0.5**
ULN	**Ulaanbaatar**	**42.66**	**320**	*e*P	**P**	**16 39 43.6**	**+0.7**
SONM	**Songino Array**	**43.04**	**320**	P	**P**	**16 39 46.6**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=129,slow=7.2,SNR=13						
SONM	**Songino Array**	**43.04**	**320**	P	**P**	**16 39 46.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**43.36**	**211**	*e*P	**P**	**16 39 46.8**	**-1.8**
GTA	**Gaotai**	**44.90**	**306**	*e*P	P	16 40 04.8	+3.8
GTA				pP	pP	16 40 14.6	+2.2
GTA				sP	sP	16 40 18.5	+1.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
AS31	**Alice Springs**	**45.28**	**197**	*e*P	**P**	**16 40 04.6**	**+0.6**
ASAR	**Alice Springs**	**45.28**	**197**	P	**P**	**16 40 03.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=22,slow=8.3,SNR=15						
ASAR	**Alice Springs**	**45.28**	**197**	P	**P**	**16 40 03.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**45.46**	**277**	P	**P**	**16 40 04.8**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=63,slow=8.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**45.46**	**277**	P	**P**	**16 40 04.8**	**-0.8**
LSA	**Lhasa**	**51.34**	**292**	P	**P**	**16 40 51.1**	**-0.2**
LSA	**Lhasa**	**51.34**	**292**	P	**P**	**16 40 51.4**	**+0.1**
	comp=Z,25nm,1.1s						
STKA	**Stephens Creek**	**51.85**	**186**	P	**P**	**16 40 54.2**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=338,slow=8.6,SNR=4.5						
STKA	**Stephens Creek**	**51.85**	**186**	P	**P**	**16 40 54.2**	**-0.2**
WMQ	**Urumqi**	**54.54**	**310**	*e*P	**P**	**16 41 16.5**	**+2.2**
WMQ				pP	**pP**	**16 41 26.5**	**+0.6**
WMQ				sP	**sP**	**16 41 30.5**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,12nm,1.5s						
ZAA0	**Zalesovo Array**	**57.86**	**322**	*e*P	**P**	**16 41 38.6**	**+1.0**
ZAA0				*e*		16 41 46.9	
ZALV	**Zalesovo Beam**	**57.86**	**322**	P	**P**	**16 41 38.4**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=105,slow=7.8,SNR=16						
ZALV	**Zalesovo Beam**	**57.86**	**322**	P	**P**	**16 41 38.4**	**+0.8**
MK31	**Makanchi Array**	**58.59**	**313**	*e*P	**P**	**16 41 43.4**	**+0.4**
MKAR	**Makanchi Array**	**58.59**	**313**	P	**P**	**16 41 43.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=90,slow=8.7,SNR=19						
MKAR	**Makanchi Array**	**58.59**	**313**	P	**P**	**16 41 43.5**	**+0.5**
KURK	**Kurchatov**	**61.26**	**318**	*e*P	**P**	**16 42 00.7**	**-0.5**
	comp=Z,4.7nm,0.8s						
ILAR	**Eielson Array**	**61.87**	**26**	P	**P**	**16 42 03.5**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=252,slow=4.9,SNR=9.7						
ILAR	**Eielson Array**	**61.87**	**26**	P	**P**	**16 42 03.5**	**-1.5**
KSH	**Kashi**	**63.28**	**305**	*e*P	P	16 42 21.9	+6.9
KSH				*e*sP	sP	16 42 35.3	+3.8
KSH				*e*ScP		16 46 55.6	
KSH				*e*S	S	16 50 53.4	+9.0
KSH				*e*ScS	**ScS**	**16 52 09.3**	**+4.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,89nm,4.9s						
KSH				LR	LR		
	comp=N,210nm,5.1s						
KSH				LR	LR		
	comp=E,310nm,5.9s						
KSH				LR	LR		
	comp=Z,220nm,5.4s						
BRVK	**Borovoye**	**66.45**	**320**	*e*P	**P**	**16 42 35.7**	**+0.5**
	comp=Z,4.7nm,0.8s						
KKAR	**Karatay Array**	**67.04**	**309**	*e*P	**P**	**16 42 39.9**	**+0.7**
	comp=Z,2.3nm,0.6s						
INK	**Inuvik**	**67.64**	**23**	P	**P**	**16 42 41.7**	**-0.8**
	comp=Z,9.5nm,1.3s						
INK				*e*		16 42 52.9	
KBL	**Kabul**	**69.43**	**300**	*e*P	**P**	**16 42 53.9**	**-0.7**
	comp=Z,11nm,0.9s						
ABKAR	**Akbulak array**	**73.36**	**317**	*e*P	**P**	**16 43 16.8**	**-0.9**
	comp=Z,2.1nm,0.6s						
JCW	**Jim Creek**	**75.94**	**44**	*e*P	**P**	**16 43 32.8**	**0.0**
	comp=Z,9.4nm,0.8s						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**16 43 33.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=287,slow=5.5,SNR=19						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**16 43 33.6**	**-0.3**
BSMT	**Bassoo Peak**	**80.63**	**43**	*e*P	**P**	**16 43 59.0**	**0.0**
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**81.24**	**52**	P	**P**	**16 44 02.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=264,slow=6.4,SNR=16						
NVAR	**Mina Array Bea**	**81.24**	**52**	P	**P**	**16 44 02.7**	**+0.2**
ELK	**Elko**	**82.72**	**49**	*e*P	**P**	**16 44 10.3**	**+0.2**
FFC	**Flin Flon**	**85.25**	**33**	*e*P	**P**	**16 44 22.5**	**0.0**
	comp=Z,4.8nm,0.9s						
PDAR	**Pinedale Array**	**85.92**	**46**	P	**P**	**16 44 26.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=236,slow=1.6,SNR=4.8						
PDAR	**Pinedale Array**	**85.92**	**46**	P	**P**	**16 44 26.4**	**0.0**
FINES	**FINESS Array B**	**86.30**	**336**	P	**P**	**16 44 27.1**	**-0.4**
	comp=Z,6.0nm,1.0s,baz=91,slow=7.6,SNR=5.6						
FINES	**FINESS Array B**	**86.30**	**336**	P	**P**	**16 44 27.1**	**-0.4**
BRTR	**Keskin Array B**	**94.21**	**315**	P	**P**	**16 45 07.2**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=33,slow=3.4,SNR=3.0						
BRTR	**Keskin Array B**	**94.21**	**315**	P	**P**	**16 45 07.2**	**+1.9**
LPAZ	**La Paz**	**146.28**	**90**	PKPbc	**PKPab**	**16 51 28.7**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=0.0,slow=3.0,SNR=3.7						
LPAZ	**La Paz**	**146.28**	**90**	PKPbc	**PKPab**	**16 51 28.7**	**-0.1**
SAML	**Samuel**	**148.67**	**74**	*e*PKPbc	**PKPbc**	**16 51 33.6**	**-0.3**

*IDC **13** 16:39:07.4±0.6, 19°.98N×147°.15E, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.4/26, mbtmp4.3/19, ML4.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/33, Error ellipse: s-maj=19.9km s-min=12.2km az=94.0*

*ISCJB **13** 16:39:11.9±0.3, 19°.94N±0°.04×147°.12E±0°.06, h40km, mb4.5/41, MS4.0/6, Error ellipse: s-maj=7.9km s-min=5.5km az=176.1*

*NEIC **13** 16:39:13.3±0.2, 20°.00N×147°.09E, mb4.7/12, Error ellipse: s-maj=8.2km s-min=5.5km az=92.0*

*BJI **13** 16:39:14.5, 20°.15N×146°.69E, h35km, mB5.0/21, mb4.7/33, Ms4.6/15, Ms7 4.4/13*

ISC 13 16:39:13.4±0.5, 19°.99N±0°.05×147°.16E±0°.07, h40km, n78, σ1§41/111, mb4.5/41, MS4.3/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.73**	**199**	Pn	**Pn**	**16 40 49.2**	**-0.6**
	23nm,0.3s,baz=138,slow=9.2,SNR=10						
GUMO				Sn	**Sn**	**16 42 05.4**	**+0.1**
	28nm,0.3s,baz=344,slow=23,SNR=6.3						
GUMO	**Guam**	**6.73**	**199**	*e*Pn	**Pn**	**16 40 51.2**	**+1.4**
GUMO				*e*Sn	**Sn**	**16 42 07.4**	**+2.1**
MJAR	**Matsushiro Arr**	**18.26**	**336**	P	**P**	**16 43 23.5**	**-0.1**
	0.2nm,0.3s,baz=171,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**18.26**	**336**	P	**P**	**16 43 23.5**	**-0.1**
MAJO	**Matsushiro**	**18.26**	**336**	P	**Pn**	**16 43 25.2**	**+1.4**
MAT	**Matsushiro**	**18.26**	**336**	P	**Pn**	**16 43 25.7**	**+1.9**
KSRS	**Korea Array**	**24.17**	**320**	P	**P**	**16 44 24.9**	**-0.9**
	8.3nm,0.8s,baz=145,slow=9.0,SNR=17						
KSRS				LR	LR	16 53 57.1	
	comp=Z,97nm,19.1s,baz=159,slow=37						
KSAR	**Wonju Array Be**	**24.17**	**320**	P	**P**	**16 44 24.9**	**-1.1**
USRK	**Ussuriysk Arra**	**27.25**	**336**	P	**P**	**16 44 55.1**	**+1.4**
	1.8nm,0.8s,baz=144,slow=41,SNR=3.7						
NJ2	**Nanjing**	**28.04**	**301**	*e*P	**P**	**16 45 00.9**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**28.57**	**333**	P	**P**	**16 45 06.0**	**+0.4**
MDJ				pP	**pP**	**16 45 14.6**	**-2.0**
MDJ				sP	**sP**	**16 45 18.6**	**-2.8**
MDJ				S	**S**	**16 49 52.9**	**+1.8**
MDJ				sS	**sS**	**16 50 07.8**	**-1.6**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,35nm,4.1s						
PMG	**Port Moresby**	**29.21**	**180**	P	**P**	**16 45 11.1**	**-0.4**
	comp=Z,8.1nm,0.5s,baz=30,slow=7.7,SNR=6.7						
PMG	**Port Moresby**	**29.21**	**180**	*e*P	**P**	**16 45 12.2**	**+0.7**
CN2	**Changchun**	**29.88**	**327**	*e*P	**P**	**16 45 18.9**	**+1.7**
PETK	**Petropavlovsk-**	**34.05**	**11**	LR	LR	16 58 06.8	
	comp=Z,61nm,21.8s,baz=343,slow=34						
QIZ	**Qiongzhong**	**35.14**	**275**	P	**P**	**16 46 05.1**	**+1.6**
QIZ				S	**S**	**16 51 34.3**	**+0.3**
QIZ				pmax	pmax		
	comp=Z,33nm,1.9s						
HHC	**Hu-ho-hao-te**	**36.72**	**312**	*e*P	**P**	**16 46 18.4**	**+1.4**
HHC				pP	**pP**	**16 46 28.0**	**-0.1**
HHC				sP	**sP**	**16 46 31.6**	**-1.3**
HHC				PP	PP	16 47 35.1	-5.9
HHC				S	**S**	**16 51 58.5**	**+0.5**
HHC				sS	**sS**	**16 52 14.5**	**-2.0**
HHC				ScS	**ScS**	**16 56 29.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
HHC				LR	LR		
	comp=N,230nm,12.4s						
HHC				LR	LR		
	comp=E,400nm,13.5s						
HHC				LR	LR		
	comp=Z,160nm,12.8s						
GYA	**Guiyang**	**37.65**	**288**	P	**P**	**16 46 24.5**	**-0.6**
GYA				pP	**pP**	**16 46 36.0**	**-0.2**
GYA				sP	**sP**	**16 46 41.3**	**+0.3**
GYA				PP	PP	16 47 53.9	+2.4
GYA				S	**S**	**16 52 11.0**	**-1.5**
GYA				sS	**ScP**	**16 52 25.4**	**-1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,16.6s						
GYA				LR	LR		
	comp=E,470nm,17.8s						
GYA				LR	LR		
	comp=Z,490nm,16.9s						
CD2	**Chengdu**	**40.45**	**294**	P	**P**	**16 46 48.6**	**+0.3**
CD2				pP	**pP**	**16 46 59.4**	**-0.1**
CD2				sP	**sP**	**16 47 04.0**	**-0.3**
CD2				PP	PP	16 48 26.0	+4.1
CD2				S	**S**	**16 52 53.8**	**-0.5**
CD2				sS	**sS**	**16 53 11.8**	**-1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,270nm,6.0s						
CD2				LR	LR		
	comp=N,450nm,6.5s						
CD2				LR	LR		
	comp=Z,270nm,6.5s						
LZH	**Lanzhou**	**41.10**	**302**	*e*P	**P**	**16 46 53.5**	**-0.3**
LZH				pP	**pP**	**16 47 04.1**	**-0.9**
LZH				sP	**sP**	**16 47 08.3**	**-1.5**
LZH				PP	PP	16 48 32.5	+3.5
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,75nm,5.2s						
LZH				LR	LR		
	comp=N,260nm,13.5s						
LZH				LR	LR		
	comp=E,230nm,12.9s						
LZH				LR	LR		
	comp=Z,320nm,17.0s						
KMI	**Kunming**	**41.20**	**286**	P	**P**	**16 46 54.4**	**-0.4**
KMI				pP	**pP**	**16 47 04.9**	**-1.2**
KMI				sP	**sP**	**16 47 09.6**	**-1.2**
KMI				PP	PP	16 48 32.9	+2.5
KMI				S	**S**	**16 53 03.9**	**-2.1**
KMI				sS	**sS**	**16 53 22.3**	**-2.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,120nm,5.5s						
KMI				LR	LR		
	comp=N,210nm,10.3s						
KMI				LR	LR		
	comp=E,140nm,13.3s						
KMI				LR	LR		
	comp=Z,170nm,7.0s						
WRAB	**Tennant Creek**	**41.61**	**198**	*e*P	**P**	**16 46 57.5**	**-0.3**
WB2	**Warramunga Arr**	**41.62**	**198**	*e*P	**P**	**16 46 57.7**	**-0.2**
WRA	**Warramunga Arr**	**41.62**	**198**	P	**P**	**16 46 57.1**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=18,slow=8.7,SNR=8.0						
WRA	**Warramunga Arr**	**41.62**	**198**	P	**P**	**16 46 57.1**	**-0.8**
ULN	**Ulaanbaatar**	**42.64**	**320**	*e*P	**P**	**16 47 05.4**	**-0.8**
	comp=Z,3.3nm,0.9s						
SONM	**Songino Array**	**43.03**	**320**	P	**P**	**16 47 08.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=124,slow=4.9,SNR=20						
SONM	**Songino Array**	**43.03**	**320**	P	**P**	**16 47 08.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**43.35**	**211**	P	**P**	**16 47 11.1**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=46,slow=10,SNR=25						
FITZ	**Fitzroy Crossi**	**43.35**	**211**	*e*P	**P**	**16 47 11.3**	**-0.6**
GTA	**Gaotai**	**44.88**	**306**	*e*P	**P**	**16 47 25.3**	**+1.0**
GTA				pP	**pP**	**16 47 35.0**	**-0.6**
GTA				sP	**sP**	**16 47 39.0**	**-1.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AS31	**Alice Springs**	**45.27**	**197**	*e*P	**P**	**16 47 27.3**	**0.0**
ASAR	**Alice Springs**	**45.27**	**197**	P	**P**	**16 47 26.8**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=20,slow=7.2,SNR=26						
ASAR	**Alice Springs**	**45.27**	**197**	P	**P**	**16 47 26.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**45.43**	**277**	P	**P**	**16 47 27.9**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=67,slow=5.8,SNR=14						
CMAR	**Chiang Mai Arr**	**45.43**	**277**	P	**P**	**16 47 27.9**	**-0.8**
SHL	**Shillong**	**50.97**	**287**	*e*P	**P**	**16 48 14.5**	**+2.8**
LSA	**Lhasa**	**51.32**	**292**	P	**P**	**16 48 14.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**51.32**	**292**	*e*P	**P**	**16 48 15.4**	**+0.9**
	comp=Z,24nm,0.9s						
STKA	**Stephens Creek**	**51.84**	**186**	P	**P**	**16 48 16.8**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=324,slow=18,SNR=4.2						
STKA	**Stephens Creek**	**51.84**	**186**	P	**P**	**16 48 16.8**	**-0.9**
WMQ	**Urumqi**	**54.52**	**310**	*e*P	**P**	**16 48 38.6**	**+1.1**
WMQ				pP	**pP**	**16 48 48.6**	**-0.5**
WMQ				sP	**sP**	**16 48 52.6**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
ZAA0	**Zalesovo Array**	**57.85**	**322**	*e*P	**P**	**16 49 00.5**	**-0.5**
ZALV	**Zalesovo Beam**	**57.85**	**322**	P	**P**	**16 49 00.3**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=103,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**57.85**	**322**	P	**P**	**16 49 00.3**	**-0.6**
MK31	**Makanchi Array**	**58.58**	**313**	*e*P	**P**	**16 49 05.7**	**-0.6**
MKAR	**Makanchi Array**	**58.58**	**313**	P	**P**	**16 49 05.7**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=89,slow=8.3,SNR=15						
MKAR	**Makanchi Array**	**58.58**	**313**	P	**P**	**16 49 05.7**	**-0.6**
KURK	**Kurchatov**	**61.24**	**318**	*e*P	**P**	**16 49 24.3**	**-0.2**
	comp=Z,8.3nm,1.0s						
ILAR	**Eielson Array**	**61.88**	**26**	P	**P**	**16 49 27.4**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=261,slow=5.7,SNR=17						
ILAR	**Eielson Array**	**61.88**	**26**	P	**P**	**16 49 27.4**	**-1.1**
KSH	**Kashi**	**63.26**	**305**	*e*P	P	16 49 42.3	+4.0
KSH				*e*pP	pP	16 49 52.3	+2.2
KSH				*e*sP	sP	16 49 56.1	+1.4
KSH				*e*PcP	**PcP**	**16 50 18.1**	**+2.8**
KSH				*e*PP	**PP**	**16 52 03.6**	**+6.0**
KSH				*e*ScP		16 54 16.6	
KSH				*e*PcS		16 54 20.5	
KSH				*e*S	**S**	**16 58 10.5**	**+2.9**
KSH				*e*sS	sS	16 58 28.8	+1.6
KSH				*e*ScS	**ScS**	**16 59 29.1**	**+0.6**
KSH				*e*SS	**SS**	**17 02 21.3**	**+7.1**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,150nm,5.0s						
KSH				LR	LR		
	comp=N,260nm,5.3s						
KSH				LR	LR		
	comp=E,250nm,5.8s						
KSH				LR	LR		
	comp=Z,240nm,5.8s						
BRVK	**Borovoye**	**66.43**	**320**	*e*P	**P**	**16 49 58.6**	**+0.1**
	comp=Z,5.4nm,0.8s						
KBL	**Kabul**	**69.41**	**300**	*e*P	**P**	**16 50 16.9**	**-1.0**
	comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**73.34**	**317**	*e*P	**P**	**16 50 40.0**	**-1.0**
	comp=Z,1.7nm,0.6s						
JCW	**Jim Creek**	**75.96**	**44**	*e*P	**P**	**16 50 57.0**	**+0.7**
	comp=Z,16nm,0.8s						
JCW				*e*		16 51 08.7	
YKA	**Yellowknife Ar**	**76.21**	**28**	P	**P**	**16 50 57.0**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=287,slow=5.5,SNR=37						
YKA	**Yellowknife Ar**	**76.21**	**28**	P	**P**	**16 50 57.0**

s-maj=50.9km s-min=13.8km az=70.0
ISCJB ***13*** *16:46:37.0±0.7,4°.0N±0°.1×125°.8E±0°.3,h107km,mb4.0/10, Error ellipse: s-maj=39.1km s-min=11.4km az=161.2*
DJA ***13*** *16:46:47.3°.66N×126°.00E,h105km,MLv4.3/4*
ISC 13 16:46:39.0±0.8,3°.9N±0°.1×125°.9E±0°.3,h107km,n13, σ1§87/13,mb4.1/10,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.42**	**337**	⇓*eP*	**Pn**	16 47 21.8	**+4.4**
GSPH				*i* S	**Sn**	**16 47 51.5**	**+4.7**
MATI	**Mati**	**3.09**	**6**	*eP*	Pn	16 47 30.9	+4.6
MATI				*eS*	sPn	16 47 45.2	-5.9
BUKP	**Musuan**	**4.09**	**348**	*eP*	Pn	16 47 43.9	+4.3
BUKP				*eS*	sPn	16 48 02.2	-2.6
FITZ	**Fitzroy Crossi**	**21.82**	**181**	P	**P**	**16 51 23.4**	**+0.7**
	6.0nm,0.6s,baz=3.9,slow=7.1,SNR=19						
WRA	**Warramunga Arr**	**25.05**	**161**	P	**P**	**16 51 54.2**	**+0.7**
	9.4nm,0.6s,baz=340,slow=10,SNR=25						
ASAR	**Alice Springs**	**28.44**	**164**	P	**P**	**16 52 24.9**	**+1.0**
	1.3nm,0.5s,baz=344,slow=7.2,SNR=71						
CMAR	**Chiang Mai Arr**	**30.11**	**301**	P	**P**	**16 52 37.8**	**-1.0**
	0.7nm,0.6s,baz=118,slow=8.4,SNR=6.8						
KSRS	**Korea Array**	**33.49**	**3**	P	**P**	**16 53 07.6**	**-0.5**
	1.5nm,0.7s,baz=184,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**38.54**	**158**	P	**P**	**16 53 52.5**	**+1.2**
	4.6nm,0.6s,baz=319,slow=9.6,SNR=13						
SONM	**Songino Array**	**46.93**	**342**	P	**P**	**16 54 58.2**	**-0.7**
	1.1nm,0.9s,baz=157,slow=7.9,SNR=7.7						
SONM				PcP	**PcP**	**16 56 29.9**	**-0.1**
	0.2nm,0.5s,baz=152,slow=4.6,SNR=2.6						
MKAR	**Makanchi Array**	**56.99**	**326**	P	**P**	**16 56 12.7**	**-0.9**
	1.1nm,0.5s,baz=121,slow=7.7,SNR=22						
MKAR				PcP	**PcP**	**16 57 07.1**	**-0.5**
	1.7nm,0.6s,baz=110,slow=4.7,SNR=12						
ZALV	**Zalesovo Beam**	**60.11**	**333**	P	**P**	**16 56 32.8**	**-2.2**
	0.9nm,0.6s,baz=129,slow=6.3,SNR=5.7						
FINES	**FINESS Array B**	**91.34**	**332**	P	**P**	**16 59 31.0**	**-1.5**
	2.3nm,1.0s,baz=29,slow=9.7,SNR=4.1						

WEL 13 17:14:14.4±0.3,35°.83S×178°.60E,h33km,ML3.6/4,Error ellipse: s-maj=4.3km s-min=2.5km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.25**	**187**	PN	Pn	17 14 48.7	-0.7
PUZ				SN	Sn	17 15 14.3	-1.8
MWZ	**Matawai**	**2.64**	**199**	P*	Pn	17 14 54.9	+0.1
MWZ				S*	Sn	17 15 25.5	-0.2
CNGZ	**Carnagh Statio**	**2.67**	**187**	*e*PN	Pn	17 14 54.9	-0.1
URZ	**Urewera**	**2.70**	**206**	P*	Pn	17 14 55.6	+0.1
URZ				*eS**	Sn	17 15 27.4	+0.4
BKZ	**Black Stump Fm**	**3.73**	**206**	*eP**	Pn	17 15 10.2	+0.5

DJA ***13*** *17:14:33.0°.72S×133°.27E,h35km,MLv3.9/5*
IDC 13 17:14:28.4±2.5,0°.62S×133°.17E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.4/2,Error ellipse: s-maj=96.3km s-min=26.2km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.88**	**203**	P	Pn	17 18 51.1	+0.1
	0.1nm,0.3s,baz=28,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**19.24**	**177**	P	P	17 18 54.0	-0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.92**	**178**	P	P	17 19 34.2	0.0
	0.7nm,0.6s,baz=360,slow=12,SNR=23						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	17 25 09.0	-0.1
	0.2nm,0.5s,baz=108,slow=8.5,SNR=4.7						

MOS ***13*** *17:17:09.8±1.1,29°.33S×71°.18W,h33km,mb5.3/28,Error ellipse: s-maj=25.8km s-min=7.1km az=105.6*
ISCJB ***13*** *17:17:13.6±0.3,29°.61S±0°.02×71°.18W±0°.06,h72km±3km, mb4.9/100,Error ellipse: s-maj=8.4km s-min=3.3km az=177.3*
IDC ***13*** *17:17:13.8±0.4,29°.60S×71°.36W,h61km±3km,mb4.7/18, mb1 4.8/23,mb1mx4.7/26,mbtmp4.7/23,MS3.8/15, Ms1 3.8/15,ms1mx3.7/25,Error ellipse: s-maj=17.7km s-min=8.2km az=50.0*
GUC ***13*** *17:17:13.9±0.6,29°.60S×71°.29W,h63km±3km,ML5.1*
NEIC ***13*** *17:17:13.6±0.1,29°.55S×71°.22W,mb5.1/84,Error ellipse: s-maj=6.3km s-min=2.8km az=77.0*
NEIC Felt [III] at Andacollo, Coquimbo, La Serena, Ovalle, Punitaqui and Rio Hurtado; [II] at Vallenar. Also felt at Copiapo, Santiago and Vicuna.
ISC 13 17:17:13.4±0.3,29°.59S±0°.03×71°.35W±0°.05,h62km±2km, h61km:pP-P,n653,σ1§17/765,mb5.1/100,183C-188D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.33**	**163**	⇓*iP*	**Pn**	**17 17 24.6**	**+0.6**
LSCH				*i* S	**Sn**	**17 17 32.7**	**+1.2**
LSCH	**La Serena**	**0.33**	**163**	⇓*iP*	**Pn**	**17 17 24.6**	**+0.6**
LSCH				*i* S	**Sn**	**17 17 32.7**	**+1.2**
TLL	**Tololo Astrono**	**0.75**	**140**	*eP*	**Pn**	**17 17 29.7**	**+1.1**
TLL				*i* S	**Sn**	**17 17 41.1**	**+1.4**
TLL	**Tololo Astrono**	**0.75**	**140**	*eP*	**Pn**	**17 17 29.6**	**+1.1**
TLL				*i* S	**Sn**	**17 17 41.0**	**+1.4**
TLL	**Tololo Astrono**	**0.75**	**140**	*eP*	**Pn**	**17 17 29.6**	**+1.1**
TLL				*i* S	**Sn**	**17 17 41.0**	**+1.4**
TLL				AML	AML	17 17 43.3	
	comp=E,106μm,0.6s						
LCO	**Las Campanas**	**0.81**	**45**	*e*Pn	**Pn**	**17 17 29.1**	**-0.3**
LCO				*e*Sn	**Sn**	**17 17 41.3**	**+0.1**
LCO	**Las Campanas**	**0.81**	**45**	⇓*iP*	**Pn**	**17 17 30.0**	**+0.6**
LCO				*i* S	**Sn**	**17 17 42.1**	**+1.0**
LCO				AML	AML	17 17 43.5	
	comp=E,65μm,0.6s						
OVCH	**Ovalle**	**1.02**	**173**	⇓*iP*	**Pn**	**17 17 32.1**	**+0.3**
OVCH				*i* S	**Sn**	**17 17 46.0**	**+0.6**
OVCH	**Ovalle**	**1.02**	**173**	⇓*iP*	**Pn**	**17 17 32.1**	**+0.3**
OVCH				*i* S	**Sn**	**17 17 46.0**	**+0.6**
OVCH				AML	AML	17 17 48.2	
	comp=N,86μm,0.6s						
VACH	**Vallenar**	**1.14**	**27**	⇓*iP*	**Pn**	**17 17 34.0**	**+0.7**
VACH				*i* S	**Sn**	**17 17 49.2**	**+1.0**
VACH	**Vallenar**	**1.14**	**27**	⇓*iP*	**Pn**	**17 17 34.0**	**+0.7**
VACH				*i* S	**Sn**	**17 17 49.2**	**+1.0**
CMCH	**Combarbala**	**1.60**	**169**	⇑*iP*	**Pn**	**17 17 39.9**	**+0.3**
CMCH				*i* S	**Sn**	**17 17 59.9**	**+0.4**
CMCH	**Combarbala**	**1.60**	**169**	⇑*iP*	**Pn**	**17 17 39.9**	**+0.3**
CMCH				*i* S	**Sn**	**17 17 59.9**	**+0.4**
CHNG	**Los Chungos**	**2.29**	**183**	⇓*iP*	**Pn**	**17 17 48.8**	**0.0**
CHNG				*i* S	**Sn**	**17 18 16.2**	**+0.4**
CHNG	**Los Chungos**	**2.29**	**183**	⇓*iP*	**Pn**	**17 17 48.8**	**0.0**
CHNG				*i* S	**Sn**	**17 18 16.2**	**+0.4**
PTCH	**Petorca**	**2.69**	**172**	⇑*iP*	**Pn**	**17 17 55.2**	**+0.9**
PTCH				*i* S	**Sn**	**17 18 26.0**	**+0.3**
PTCH	**Petorca**	**2.69**	**172**	⇑*iP*	**Pn**	**17 17 55.2**	**+0.9**
PTCH				*i* S	**Sn**	**17 18 26.0**	**+0.3**
PTCH				AML	AML	17 18 28.6	
	comp=N,15μm,0.4s						
JACH	**Jahuel**	**3.15**	**168**	*eP*	**Pn**	**17 18 02.0**	**+1.4**
JACH	**Jahuel**	**3.15**	**168**	*eP*	**Pn**	**17 18 02.0**	**+1.4**
CFAA	**Coronel Fontan**	**3.35**	**128**	P	**Pn**	**17 18 05.6**	**+2.2**
	comp=N,25nm,0.3s,baz=312,slow=12,SNR=809						
CFAA				S	**Sn**	**17 18 45.0**	**+3.0**
	comp=N,38nm,0.3s,baz=79,slow=20,SNR=9.7						
CFAA				LR	LR	17 19 32.0	
	comp=N,358nm,20.8s,baz=269,slow=41						
CFAA	**Coronel Fontan**	**3.35**	**128**	P	**Pn**	**17 18 05.6**	**+2.2**
CFAA				S	**Sn**	**17 18 45.0**	**+3.0**
PEL	**Peldehue**	**3.59**	**171**	⇓*iP*	**Pn**	**17 18 07.5**	**+0.9**
PEL				*i* S	**Sn**	**17 18 48.2**	**+0.5**
CLCH	**Cerro Calan**	**3.86**	**170**	⇑*iP*	**Pn**	**17 18 11.4**	**+1.2**
CLCH				*i* S	**Sn**	**17 18 54.8**	**+0.4**
SAN	**Santiago**	**3.89**	**171**	*eP*	**Pn**	**17 18 11.7**	**+0.9**
SAN	**Santiago**	**3.89**	**171**	*eP*	**Pn**	**17 18 11.7**	**+0.9**
SAN	**Santiago**	**3.89**	**171**	*eP*	**Pn**	**17 18 11.7**	**+0.9**
RCDM	**Rinconada Maip**	**3.91**	**173**	*eP*	**Pn**	**17 18 12.3**	**+1.2**
RCDM				*i* S	**Sn**	**17 18 56.5**	**+0.8**
RCDM	**Rinconada Maip**	**3.91**	**173**	*eP*	**Pn**	**17 18 12.3**	**+1.2**
RCDM				*i* S	**Sn**	**17 18 56.5**	**+0.8**
ANTU	**Antumapu**	**4.01**	**171**	*eP*	**Pn**	**17 18 13.5**	**+1.1**
ANTU				*i* S	**Sn**	**17 18 58.6**	**+0.4**
ANTU	**Antumapu**	**4.01**	**171**	*eP*	**Pn**	**17 18 13.5**	**+1.1**
ANTU				*i* S	**Sn**	**17 18 58.6**	**+0.4**
TACH	**Talagante**	**4.06**	**175**	*eP*	**Pn**	**17 18 13.7**	**+0.6**
TACH	**Talagante**	**4.06**	**175**	*eP*	**Pn**	**17 18 13.7**	**+0.6**
PCH	**Pirque**	**4.08**	**170**	⇑*iP*	**Pn**	**17 18 14.4**	**+1.0**
PCH	**Pirque**	**4.08**	**170**	⇑*iP*	**Pn**	**17 18 14.4**	**+1.0**
LMEL	**Las Melosas**	**4.35**	**167**	*eP*	**Pn**	**17 18 18.8**	**+1.6**
LMEL				*i* S	**Sn**	**17 19 07.4**	**+0.7**
LMEL	**Las Melosas**	**4.35**	**167**	*eP*	**Pn**	**17 18 18.8**	**+1.6**
LMEL				*i* S	**Sn**	**17 19 07.4**	**+0.7**
LVC	**Limon Verde**	**7.29**	**18**	*e*Pn	**Pn**	**17 18 54.5**	**-3.0**
	comp=N,90nm,0.6s						
PLCA	**Paso Flores**	**11.13**	**177**	P	**Pn**	**17 19 48.8**	**-1.1**
	comp=N,0.5nm,0.3s,baz=351,slow=14,SNR=13						
PLCA	**Paso Flores**	**11.13**	**177**	*e*P	**Pn**	**17 19 48.4**	**-1.4**
PLCA				pmax	pmax		
	comp=Z,14nm,0.9s						
PLCA	**Paso Flores**	**11.13**	**177**	*e*Pn	**Pn**	**17 19 48.4**	**-1.4**
	comp=Z,14nm,0.9s						
PLCA				P		17 19 48.8	
TRQA	**Tornquist**	**11.48**	**140**	*e*Pn	**Pn**	**17 19 53.6**	**-1.0**
	comp=Z,171nm,0.8s						
LPAZ	**La Paz**	**13.57**	**13**	P	**Pn**	**17 20 25.0**	**+1.4**
	comp=Z,5.4nm,0.3s,baz=188,slow=6.9,SNR=20						
LPAZ				LR	LR	17 25 48.1	
	comp=Z,418nm,21.4s,baz=187,slow=38						
LPAZ	**La Paz**	**13.57**	**13**	*e*P	Pn	17 20 19.6	-4.0
LPAZ				pmax	pmax		
	comp=Z,36nm,0.7s						
LPAZ	**La Paz**	**13.57**	**13**	*e*Pn	Pn	17 20 19.6	-4.0
	comp=Z,36nm,0.7s						
LPAZ				P	**Pn**	**17 20 25.0**	**+1.4**
SIV	**San Ignacio**	**16.51**	**37**	P	**Pn**	**17 20 59.9**	**-1.2**
SIV				LR	LR	17 27 51.8	
	comp=Z,144nm,18.9s,slow=39						
SIV	**San Ignacio**	**16.51**	**37**	P	**Pn**	**17 20 59.9**	**-1.2**
NNA	**Nana**	**18.25**	**343**	P	**P**	**17 21 21.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=174,slow=12,SNR=7.1						
NNA				LR	LR	17 26 58.7	
	comp=Z,208nm,22.0s,baz=140,slow=32						
NNA	**Nana**	**18.25**	**343**	P	**P**	**17 21 21.8**	**-0.1**
NNA	**Nana**	**18.25**	**343**	P	**P**	**17 21 21.8**	**-0.1**
NNA				*e*P	**Pn**	**17 21 22.2**	**-0.3**
SAML	**Samuel**	**21.92**	**22**	*e*P	**P**	**17 22 01.0**	**-0.7**
	comp=Z,31nm,0.9s						
SPB	**Sao Paulo**	**22.19**	**80**	*e*P	**P**	**17 22 02.5**	**-2.1**
	comp=Z,135nm,1.0s						
ATAH	**Atahualpa**	**23.30**	**342**	P	**P**	**17 22 18.5**	**+2.0**
	comp=Z,15nm,0.8s,baz=164,slow=4.7,SNR=10.0						
ATAH				LR	LR	17 28 52.2	
	comp=Z,194nm,21.8s,baz=178,slow=30						
ATAH	**Atahualpa**	**23.30**	**342**	P	**P**	**17 22 18.5**	**+2.0**
EFI	**East Falkland**	**24.18**	**160**	*e*P	**P**	**17 22 23.4**	**-0.3**
EFI				pmax	pmax		
	comp=Z,45nm,0.9s						
EFI	**East Falkland**	**24.18**	**160**	*e*P	**P**	**17 22 23.4**	**-0.3**
	comp=Z,45nm,0.9s						
USHA	**Ushuaia**	**25.31**	**176**	P	**P**	**17 22 34.7**	**+0.7**
	comp=Z,28nm,0.7s,baz=334,slow=7.4,SNR=14						
USHA				LR	LR	17 32 56.0	
	comp=Z,314nm,19.0s,baz=218,slow=37						
USHA	**Ushuaia**	**25.31**	**176**	P	**P**	**17 22 34.7**	**+0.7**
CAM4	**Nova Friburgo**	**26.82**	**81**	⇓*iP*	P	17 22 56.1	+7.8
CAM4				*i*		17 23 05.0	
CAM4				*i*		17 23 10.4	
CAM4				*i*		17 23 22.1	
CAM4				*i*		17 23 35.0	
OTAV	**Otavalo**	**30.43**	**346**	⇓*eP*	**P**	**17 23 21.9**	**+1.3**
	comp=Z,11nm,0.9s						
PAYG	**Puerto Ayora**	**33.95**	**324**	*eP*	**P**	**17 23 52.4**	**+1.4**
	comp=Z,35nm,0.8s						
ROSC	**El Rosal**	**34.37**	**355**	P	**P**	**17 23 55.6**	**+0.5**
	comp=Z,11nm,0.5s,baz=118,slow=9.8,SNR=6.0						
ROSC				LR	LR	17 37 37.1	
	comp=Z,73nm,18.1s,baz=204,slow=36						
ROSC	**El Rosal**	**34.37**	**355**	*eP*	**P**	**17 23 55.3**	**+0.3**
ROSC				P	**P**	**17 23 55.6**	**+0.5**
SDV	**Santo Domingo**	**38.26**	**1**	*eP*	**P**	**17 24 26.5**	**-1.4**
	comp=Z,18nm,0.8s						
BCIP	**Isla Barro Col**	**39.39**	**347**	*eP*	**P**	**17 24 37.9**	**+0.7**
	comp=Z,51nm,0.8s						
RCBR	**Riachuelo**	**40.94**	**62**	*eP*	**P**	**17 24 49.7**	**-0.4**
	comp=Z,10nm,0.9s						
JTS	**JuntasAbangare**	**41.76**	**340**	P	**P**	**17 24 58.6**	**+1.8**
	comp=Z,14nm,0.8s,baz=277,slow=1.6,SNR=9.1						
JTS	**JuntasAbangare**	**41.76**	**340**	*eP*	**P**	**17 24 57.8**	**+1.0**
JTS				pmax	pmax		
	comp=Z,20nm,0.9s						
JTS	**JuntasAbangare**	**41.76**	**340**	*eP*	**P**	**17 24 57.8**	**+1.0**
	comp=Z,20nm,0.9s						
JTS				P	**P**	**17 24 58.6**	**+1.8**
TGUH	**Tegucigalpa,Un**	**46.03**	**338**	*eP*	**P**	**17 25 30.8**	**-0.1**
	comp=Z,86nm,1.4s						
CELP	**Cerrillos**	**47.61**	**6**	*eP*	**P**	**17 25 41.7**	**-1.5**
SJG	**San Juan**	**47.69**	**7**	LR	LR	17 44 45.2	
	comp=Z,90nm,21.6s,baz=0.0,slow=35						
SJG	**San Juan**	**47.69**	**7**	*e*P	**P**	**17 25 41.6**	**-2.3**
SJG				pmax	pmax		
	comp=Z,28nm,0.8s						
SJG	**San Juan**	**47.69**	**7**	*e*P	**P**	**17 25 41.5**	**-2.3**
	comp=Z,28nm,0.8s						
MTP	**Monte Pirata**	**47.74**	**7**	*e*P	**P**	**17 25 43.9**	**-0.4**
	comp=Z,28nm,0.9s						
SDDR	**Presa de Saban**	**48.29**	**0**	P	**P**	**17 25 49.2**	**+0.6**
	comp=Z,30nm,1.2s						
GTBY	**Guantanamo Bay**	**49.36**	**355**	*eP*	**P**	**17 25 56.5**	**-0.2**
	comp=Z,67nm,1.0s						
TEIG	**Tepich**	**52.15**	**340**	P	**P**	**17 26 18.2**	**+0.5**
	comp=Z,61nm,0.6s,baz=148,slow=5.1						
TEIG	**Tepich**	**52.15**	**340**	P	**P**	**17 26 18.2**	**+0.5**
VNA3	**Neumayer Olymp**	**53.23**	**159**	*e*	**P**	**17 26 26.1**	**+0.9**
VNA3				*e*		17 26 29.4	
VNA1	**Neumayer--Stat**	**53.52**	**158**	*e*	**P**	**17 26 28.5**	**+1.3**
VNA1				*e*		17 26 32.9	
VNA2	**Neumayer--Watz**	**53.86**	**159**	*e*	**P**	**17 26 30.7**	**+0.9**
	baz=291,slow=8.9						
VNA2				*e*		17 26 35.0	
SNAA	**Sanae**	**55.46**	**159**	*e*	**P**	**17 26 40.6**	**-0.8**
SNAA	**Sanae**	**55.46**	**159**	⇑*iP*	**P**	**17 26 39.8**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,33nm,0.9s						
SNAA	**Sanae**	**55.46**	**159**	⇑*iP*	**P**	**17 26 39.8**	**-1.6**
	comp=Z,33nm,0.9s						
RKT	**Rikitea**	**56.76**	**260**	*e*T	T	18 28 01.1	
	comp=Z,2.6nm,0.2s						
MAIT	**Maitri**	**60.11**	**158**	*e*P	**P**	**17 27 15.6**	**+1.7**
NVL	**N'lazarevskaya**	**60.15**	**158**	*e*P	P	17 27 18.6	+4.5
NVL				pmax	pmax		
	comp=Z,18nm,0.9s						
QSPA	**South Pole Qui**	**60.63**	**180**	LR	LR	17 53 21.5	
	comp=Z,71nm,19.0s,baz=198,slow=36						
QSPA	**South Pole Qui**	**60.63**	**180**	*e*P	**P**	**17 27 18.1**	**+0.4**
	comp=Z,14nm,0.9s						
QSPA				*e*pP	**pP**	**17 27 33.7**	**-0.5**
BBSR	**BB Station**	**61.95**	**6**	*e*P	**P**	**17 27 26.8**	**+0.2**
	comp=Z,31nm,0.9s						
VBMS	**Vicksburg**	**64.11**	**342**	*e*P	**P**	**17 27 41.9**	**+0.9**
	comp=Z,162nm,1.1s						
JCT	**Junction City**	**65.60**	**333**	*e*P	**P**	**17 27 51.5**	**+0.7**
JCT				pmax	pmax		
	comp=Z,43nm,0.7s						
JCT	**Junction City**	**65.60**	**333**	*e*P	**P**	**17 27 51.5**	**+0.7**
	comp=Z,43nm,0.7s						
JCT	**Junction City**	**65.60**	**333**	⇓P	**P**	**17 27 51.9**	**+1.0**
	baz=66,SNR=21						
TKL	**Tuckaleechee C**	**65.95**	**349**	P	**P**	**17 27 52.6**	**-0.3**
	comp=Z,16nm,0.8s,baz=162,slow=7.4,SNR=12						
TKL	**Tuckaleechee C**	**65.95**	**349**	*eP*	**P**	**17 27 52.0**	**-0.9**
TKL				*e*PP	**pP**	**17 28 08.6**	**-1.0**
TKL	**Tuckaleechee C**	**65.95**	**349**	*eP*	**P**	**17 27 52.0**	**-0.9**
TKL				P	**P**	**17 27 52.6**	**-0.3**
TKL				*e*pP	**pP**	**17 28 08.6**	**-1.0**
OXF	**Oxford**	**66.00**	**344**	*eP*	**P**	**17 27 52.3**	**-0.9**
OXF				pmax	pmax		
	comp=Z,82nm,1.1s						
OXF	**Oxford**	**66.00**	**344**	*eP*	**P**	**17 27 52.3**	**-0.9**
	comp=Z,82nm,1.1s						
628A	**Black Gap, Mar**	**66.00**	**330**	⇑P	**P**	**17 27 54.7**	**+1.2**
	baz=66,SNR=19						
627A	**Terlingua Ranc**	**66.19**	**330**	⇑P	**P**	**17 27 55.7**	**+0.9**
	baz=66,SNR=9.8						
TXAR	**Lajitas Array**	**66.22**	**329**	P	**P**	**17 27 55.9**	**+1.0**
	comp=Z,10.0nm,0.8s,baz=152,slow=8.4,SNR=86						
TXAR				pP	**pP**	**17 28 12.7**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=163,slow=7.7,SNR=3.8						
TXAR				LR	LR	17 51 48.5	
	comp=Z,76nm,21.7s,baz=10.0,slow=31						
TXAR	**Lajitas Array**	**66.22**	**329**	P	**P**	**17 27 55.9**	**+1.0**
TXAR				*PP	**pP**	**17 28 12.7**	**+1.1**
TXAR	**Lajitas Array**	**66.22**	**329**	P	**P**	**17 27 55.9**	**+1.0**
TXAR				pP	**pP**	**17 28 12.7**	**+1.1**
528A	**Cox Ranch, San**	**66.55**	**331**	⇑P	**P**	**17 27 57.9**	**+0.9**
	baz=67,SNR=19						
626A	**Big Bend Ranch**	**66.61**	**329**	⇓P	**P**	**17 27 59.0**	**+1.6**
	baz=67,SNR=34						
527A	**Woodward Ranch**	**66.89**	**330**	⇑P	**P**	**17 28 00.2**	**+0.9**
	baz=67,SNR=13						
428A	**Kincaid Ranch,**	**66.99**	**331**	⇑P	**P**	**17 28 00.8**	**+0.9**
	baz=67,SNR=8.5						
526A	**Mary Lane Ranc**	**67.03**	**329**	⇑P	**P**	**17 28 01.4**	**+1.3**
	baz=67,SNR=27						
MIAR	**Mount Ida**	**67.16**	**340**	*eP*	**P**	**17 28 01.0**	**+0.4**
MIAR				pmax	pmax		
	comp=Z,21nm,1.3s						
MIAR	**Mount Ida**	**67.16**	**340**	*eP*	**P**	**17 28 01.0**	**+0.4**
	comp=Z,22nm,1.3s						
WVT	**Waverly**	**67.19**	**346**	*eP*	**P**	**17 28 00.0**	**-0.8**
WVT				*e*PP	**pP**	**17 28 16.8**	**-0.7**
WVT	**Waverly**	**67.19**	**346**	*eP*	**P**	**17 28 00.0**	**-0.8**
WVT				*e*pP	**pP**	**17 28 16.8**	**-0.7**
427A	**Hayter Ranch,**	**67.41**	**330**	⇓P	**P**	**17 28 03.4**	**+1.0**
	baz=68,SNR=13						
426A	**McDonald Obser**	**67.52**	**330**	⇓P	**P**	**17 28 04.4**	**+1.1**
	baz=68,SNR=21						
GNAR	**Gosnell**	**67.53**	**344**	P	**P**	**17 28 02.4**	**-0.6**
	comp=Z,1μm,1.1s						
328A	**Wristen Ranch,**	**67.61**	**331**	⇓P	**P**	**17 28 04.5**	**+0.8**
	baz=68,SNR=19						
425A	**Indio Mountain**	**68.05**	**329**	⇑P	**P**	**17 28 07.2**	**+0.7**
	baz=68,SNR=9.9						
326A	**Caldwell Ranch**	**68.06**	**330**	⇑P	**P**	**17 28 07.5**	**+1.0**
	baz=68,SNR=14						
PARMO	**Parma**	**68.13**	**344**	*eP*	**P**	**17 28 06.6**	**-0.1**
227A	**Bennet, Jal**	**68.36**	**331**	⇓P	**P**	**17 28 09.1**	**+0.7**
	baz=69						
325A	**Bean Ranch, Si**	**68.54**	**329**	⇑P	**P**	**17 28 10.1**	**+0.4**
	baz=69,SNR=32						
226A	**Malaga, Loving**	**68.75**	**330**	⇓P	**P**	**17 28 12.1**	**+1.3**
	baz=69,SNR=9.3						
BBTS	**Babate**	**68.77**	**58**	P	**P**	**17 28 12.3**	**+1.1**
	comp=Z,6.8nm,0.3s,baz=182,slow=4.6,SNR=3.7						
BBTS	**Babate**	**68.77**	**58**	P	**P**	**17 28 12.3**	**+1.1**
324A	**Moseley Ranch,**	**68.83**	**329**	⇑P	**P**	**17 28 11.2**	**-0.2**
	baz=69,SNR=18						
127A	**Arkansas Junct**	**68.97**	**331**	⇑P	**P**	**17 28 12.6**	**+0.4**
	baz=69						
GDL2	**Guadalupe Moun**	**68.98**	**330**	*eP*	**P**	**17 28 12.7**	**+0.3**
	comp=Z,11nm,0.6s						
TBI	**Tubuai**	**68.99**	**254**	*e*LR	LR	17 49 06.2	
	comp=Z,194nm,32.2s						
TBI				*e*T	T	18 43 18.9	
	comp=Z,9.7nm,0.2s						
MNTX	**Cornudas Mount**	**69.00**	**329**	*eP*	**P**	**17 28 12.1**	**-0.2**
	comp=Z,11nm,0.8s						
MNTX	**Cornudas Mount**	**69.00**	**329**	⇑P	**P**	**17 28 12.2**	**-0.1**
	baz=69,SNR=28						
MNTX				⇑P	**P**	**17 28 12.2**	**-0.1**
	baz=69,SNR=28						
WMOK	**Wichita Mounta**	**69.02**	**336**	*eP*	**P**	**17 28 11.5**	**-0.9**
WMOK				*e*		17 28 36.2	
WMOK				pmax	pmax		
	comp=Z,20nm,1.3s						
WMOK	**Wichita Mounta**	**69.02**	**336**	*eP*	**P**	**17 28 11.5**	**-0.9**
	comp=Z,20nm,1.3s						
WMOK				*e*PcP	**PcP**	**17 28 36.2**	**+0.1**
TUL1	**Tulsa**	**69.09**	**339**	⇑P	**P**	**17 28 12.8**	**0.0**
	baz=69						
126A	**Clayton Basin,**	**69.22**	**331**	⇑P	**P**	**17 28 14.5**	**+0.8**
	baz=70,SNR=6.5						
224A	**Cornudas Mount**	**69.38**	**329**	⇓P	**P**	**17 28 15.2**	**+0.3**
	baz=70,SNR=21						
Z27A	**Tatum**	**69.46**	**332**	⇑P	**P**	**17 28 15.5**	**+0.3**
	baz=70,SNR=8.7						
CPRX	**Cap Rock**	**69.49**	**331**	*eP*	**P**	**17 28 15.2**	**-0.3**
	comp=Z,23nm,1.1s						
FVM	**French Village**	**69.55**	**344**	*eP*	**P**	**17 28 15.5**	**0.0**
FVM				*e*PP	**pP**	**17 28 31.6**	**-

BNM	Barren Site	71.63	330	eP		P	17 28 30.0	+1.4
	comp=Z,4.7nm,1.0s							
Z20A	Nine Sixteen R	71.65	328	⇑P		P	17 28 30.5	+1.8
	baz=72,SNR=20							
119A	Ashpeak Ranch,	71.70	327	⇓P		P	17 28 30.7	+1.7
	baz=72,SNR=12							
LPM	Los Pinos Moun	71.77	330	eP		P	17 28 30.9	+1.5
	comp=Z,13nm,1.3s							
X23A	Hourglass Bar	71.80	330	⇓P		P	17 28 31.4	+1.8
	baz=72,SNR=9.7							
Y21A	Point of Rocks	71.98	329	⇑P		P	17 28 32.5	+1.8
	baz=72,SNR=13							
TRY	Troy	72.00	358	eP		P	17 28 31.2	+1.0
	comp=Z,45nm,1.0s							
TRY				epP		PcP	17 28 48.6	+0.1
W24A	Lazy 6 Ranch,	72.01	331	⇑P		P	17 28 31.8	+1.0
	baz=72,SNR=6.3							
TUC	Tucson	72.04	326	eP		P	17 28 32.4	+1.5
TUC				pmax		pmax		
	comp=Z,12nm,1.2s							
TUC	Tucson	72.04	326	eP		P	17 28 32.4	+1.5
	comp=Z,12nm,1.2s							
Z19A	T-Link Ranch,	72.11	327	⇓P		P	17 28 33.1	+1.7
	baz=72,SNR=6.7							
Y20A	Horse Springs,	72.21	328	⇑P		P	17 28 33.8	+1.7
	baz=72,SNR=14							
ANMO	Albuquerque	72.23	330	P		P	17 28 33.5	+1.4
	comp=Z,4.4nm,0.8s,baz=148,slow=7.8,SNR=11							
ANMO	Albuquerque	72.23	330	eP		P	17 28 33.1	+1.0
ANMO				e*PP		pP	17 28 49.2	+0.2
ANMO				pmax		pmax		
	comp=Z,21nm,1.4s							
ANMO	Albuquerque	72.23	330	eP		P	17 28 33.1	+1.0
	comp=Z,21nm,1.4s							
ANMO				P		P	17 28 33.5	+1.4
ANMO				epP		pP	17 28 49.2	+0.2
W23A	Werner Place,	72.28	331	⇓P		P	17 28 33.9	+1.5
	baz=73,SNR=7.2							
Z18A	Geronimo	72.31	327	⇑P		P	17 28 33.8	+1.3
	baz=73							
U26A	Atchley Ranch,	72.35	333	⇓P		P	17 28 33.6	+0.8
	baz=73,SNR=12							
T28A	Walsh	72.36	335	⇓P		P	17 28 33.4	+0.6
	baz=73							
X21A	Alamocita Cree	72.39	329	⇓P		P	17 28 35.1	+1.9
	baz=73,SNR=16							
V24A	Rampart Ranch,	72.39	332	⇑P		P	17 28 33.9	+0.8
	baz=73,SNR=5.8							
W22A	Albuquerque	72.51	330	⇑P		P	17 28 35.6	+1.8
	baz=73							
T27A	Campo	72.54	334	⇑P		P	17 28 34.7	+0.9
	baz=73,SNR=17							
U25A	Circle Dot Ran	72.62	333	⇑P		P	17 28 35.5	+1.1
	baz=73,SNR=9.9							
Y19A	Nutrioso	72.66	328	⇓P		P	17 28 36.7	+1.9
	baz=73,SNR=20							
214A	Organ Pipe Nat	72.78	324	⇓P		P	17 28 37.1	+1.8
	baz=73,SNR=12							
V23A	Ortiz Mt. (NFS	72.79	331	⇓P		P	17 28 36.9	+1.4
	baz=73							
X20A	Quemado	72.79	329	⇓P		P	17 28 37.2	+1.7
	baz=73,SNR=9.7							
Y18A	Canyon Day Jun	72.88	327	⇓P		P	17 28 37.4	+1.5
	baz=73							
W21A	San Fidel	72.89	329	⇑P		P	17 28 37.8	+1.7
	baz=73,SNR=9.6							
HNH	Hanover	72.94	359	eP		P	17 28 37.7	+1.9
	comp=Z,66nm,1.3s							
HNH				epP		PcP	17 28 51.1	-1.4
U24A	Moreno Valley	72.98	332	⇓P		P	17 28 38.3	+1.6
	baz=73							
CBKS	Cedar Bluff	73.03	337	eP		P	17 28 36.9	+0.3
CBKS				pmax		pmax		
	comp=Z,18nm,0.7s							
CBKS	Cedar Bluff	73.03	337	eP		P	17 28 36.9	+0.3
	comp=Z,18nm,0.7s							
CBKS	Cedar Bluff	73.03	337	⇑P		P	17 28 37.4	+0.9
	baz=73,SNR=5.4							
CBKS				⇑P		P	17 28 37.4	+0.9
	baz=73,SNR=5.4							
Y17A	Roosevelt	73.20	326	⇑P		P	17 28 39.3	+1.6
	baz=74,SNR=34							
DBIC	Dimbokro	73.24	72	P		P	17 28 38.4	0.0
	comp=Z,21nm,0.7s,baz=210,slow=6.3,SNR=31							
DBIC				pP		pP	17 28 55.3	0.0
	comp=Z,7.3nm,0.7s,baz=207,slow=7.8,SNR=11							
DBIC				LR		LR	17 59 22.2	
	comp=Z,97nm,19.9s,baz=216,slow=34							
DBIC	Dimbokro	73.24	72	eP		P	17 28 38.2	-0.2
DBIC				e*PP		PcP	17 28 54.8	+0.2
DBIC				*PP		pP	17 28 55.3	0.0
DBIC				pmax		pmax		
	comp=Z,23nm,0.8s							
DBIC	Dimbokro	73.24	72	eP		P	17 28 38.2	-0.2
	comp=Z,23nm,0.8s							
DBIC				P		P	17 28 38.4	0.0
DBIC				epP		PcP	17 28 54.8	+0.2
DBIC				pP		pP	17 28 55.3	0.0
T25A	Trinidad	73.26	333	⇑P		P	17 28 39.8	+1.6
	baz=74,SNR=16							
W20A	Ramah	73.28	329	⇑P		P	17 28 40.0	+1.5
	baz=74,SNR=19							
U23A	El Rito	73.29	331	⇑P		P	17 28 40.2	+1.7
	baz=74,SNR=6.2							
S26A	Kim	73.32	334	⇑P		P	17 28 39.9	+1.4
	baz=74							
114A	Black Gap (USA	73.45	324	⇓P		P	17 28 40.7	+1.6
	baz=74,SNR=7.8							
T24A	Torres, Weston	73.46	332	⇓P		P	17 28 41.2	+1.7
	baz=74,SNR=10							
V21A	Milan	73.47	330	⇓P		P	17 28 41.3	+1.8
	baz=74							
U22A	Llaves	73.61	331	⇑P		P	17 28 42.5	+2.2
	baz=74,SNR=14							
R27A	Eads	73.64	335	⇑P		P	17 28 41.2	+0.9
	baz=74,SNR=10							
W19A	Sanders	73.67	328	⇑P		P	17 28 42.0	+1.3
	baz=74							
S25A	Robets Cordova	73.72	333	⇑P		P	17 28 42.4	+1.5
	baz=74,SNR=23							
V20A	Brimhall	73.83	329	⇑P		P	17 28 42.9	+1.3
	baz=74,SNR=7.8							
T23A	Casias Ranch,	73.83	332	⇑P		P	17 28 43.0	+1.4
	baz=74,SNR=5.8							
W18A	Petrified Fore	73.84	328	⇓P		P	17 28 42.8	+1.2
	baz=74							
R26A	Arlington	73.90	334	⇑P		P	17 28 42.8	+1.0
	baz=74,SNR=11							
113A	Mohawk Valley,	73.91	324	⇑P		P	17 28 43.5	+1.6
	baz=74							
U21A	Nageezi	74.00	330	⇓P		P	17 28 44.2	+1.6
	baz=74,SNR=20							
S24A	Houchin Ranch,	74.02	333	⇓P		P	17 28 44.6	+1.9
	baz=74,SNR=27							
V19A	Window Rock	74.02	329	⇑P		P	17 28 44.3	+1.6
	baz=74,SNR=13							
X16A	Lo Mia Camp, P	74.07	326	⇑P		P	17 28 44.7	+1.7
	baz=74,SNR=27							
R25A	Fountain Ranch	74.09	334	⇓P		P	17 28 44.1	+1.2
	baz=74							
T22A	Edith	74.17	331	⇓P		P	17 28 45.5	+1.9
	baz=74,SNR=18							
Z13A	Yuma Proving G	74.20	324	⇓P		P	17 28 45.1	+1.6
	baz=74,SNR=10							
KSCO	Kaye Shedlock'	74.22	335	⇓P		P	17 28 45.0	+1.3
	baz=74							
SDCO	Great Sand Dun	74.22	332	eP		P	17 28 45.1	+1.2
	comp=Z,9.6nm,0.7s							
SDCO				epP		pP	17 29 01.9	+1.1
SDCO	Great Sand Dun	74.22	332	⇑P		P	17 28 45.4	+1.5
	baz=74,SNR=15							
SDCO				⇑P		P	17 28 45.4	+1.5
	baz=74,SNR=15							
W17A	Winslow	74.26	327	⇑P		P	17 28 45.6	+1.6
	baz=75							
U20A	Newcomb	74.33	330	⇑P		P	17 28 45.8	+1.3
	baz=75,SNR=9.9							
SADO	Sadowa	74.34	354	P		P	17 28 44.4	+0.3
	comp=Z,24nm,1.0s,baz=164,slow=5.2,SNR=8.0							
SADO	Sadowa	74.34	354	P		P	17 28 44.4	+0.3
S23A	Nye Farm, Mont	74.39	332	⇓P		P	17 28 46.1	+1.3
	baz=75							
V18A	Ganado	74.42	328	⇓P		P	17 28 46.3	+1.3
	baz=75							
T21A	Navajo Lake	74.42	331	⇓P		P	17 28 46.7	+1.7
	baz=75,SNR=7.7							
Y14A	Wickenburg	74.45	325	⇓P		P	17 28 46.6	+1.5
	baz=75							
Q26A	Hugo	74.47	334	⇓P		P	17 28 47.0	+1.8
	baz=75							
R24A	Sanders Place,	74.48	333	⇑P		P	17 28 47.0	+1.7
	baz=75,SNR=13							
U19A	Dine' College,	74.57	329	⇑P		P	17 28 46.9	+1.0
	baz=75,SNR=5.7							
GLA	Glamis	74.68	323	⇑P		P	17 28 47.9	+1.5
	baz=75							
R23A	Moffat	74.73	332	⇓P		P	17 28 48.4	+1.5
	baz=75							
Q25A	Bedland, Calha	74.74	334	⇓P		P	17 28 47.4	+0.6
	baz=75							
V17A	Tonalea, Kykot	74.74	328	⇓P		P	17 28 48.5	+1.6
	baz=75,SNR=26							
S22A	4UR Ranch, Cre	74.77	332	⇑P		P	17 28 48.5	+1.4
	baz=75,SNR=8.0							
BGNE	Belgrade	74.87	339	⇓P		P	17 28 48.4	+1.1
	baz=75							
WUAZ	Wupatki	74.93	327	eP		P	17 28 49.2	+1.3
	comp=Z,36nm,1.1s							
WUAZ	Wupatki	74.93	327	⇑P		P	17 28 49.6	+1.7
	baz=75,SNR=20							
T19A	Beclabito	74.94	329	⇑P		P	17 28 49.2	+1.2
	baz=75,SNR=23							
P26A	Davis Ranch, A	74.97	335	⇓P		P	17 28 49.2	+1.2
	baz=75							
U18A	Rough Rock, Ch	74.97	329	⇑P		P	17 28 49.9	+1.7
	baz=75,SNR=19							
MVCO	Mesa Verde	75.02	330	eP		P	17 28 49.8	+1.3
	comp=Z,31nm,1.0s							
MVCO	Mesa Verde	75.02	330	⇓P		P	17 28 50.1	+1.6
	baz=75,SNR=19							
DVTC	Desert V Tower	75.05	322	⇓P		P	17 28 50.4	+1.8
	baz=75							
Y12C	Blythe	75.07	324	⇑P		P	17 28 50.2	+1.6
	baz=75							
S21A	Coal Bank Pass	75.10	331	⇓P		P	17 28 50.6	+1.6
	baz=75,SNR=20							
SWSC	Sam W. Stewart	75.11	322	⇑P		P	17 28 50.2	+1.5
	baz=75							
Q24A	Divide	75.13	333	⇓P		P	17 28 50.5	+1.3
	baz=76,SNR=17							
R22A	Saguache, Gunn	75.15	332	⇑P		P	17 28 50.9	+1.6
	baz=76,SNR=6.4							
O27A	Beecher Island	75.21	336	⇓P		P	17 28 50.6	+1.2
	baz=76							
P25A	Willow Gulch B	75.23	334	⇓P		P	17 28 51.3	+1.7
	baz=76,SNR=7.2							
PDMCI	Parker Dam,Lak	75.31	324	⇑P		P	17 28 51.4	+1.5
	baz=76							
U16A	Tuba City	75.33	328	⇓P		P	17 28 51.9	+1.7
	baz=76							
Q23A	Hartsel	75.35	333	⇓P		P	17 28 51.8	+1.3
	baz=76							
BAR	Barrett	75.38	322	eP		P	17 28 50.5	+0.1
	comp=Z,16nm,1.1s							
MONP	Monument Peak	75.40	322	⇓P		P	17 28 52.4	+1.7
	baz=76							
S20A	Disappointment	75.48	331	⇓P		P	17 28 53.0	+1.9
	baz=76,SNR=26							
U17A	Shonto	75.48	328	⇑P		P	17 28 52.8	+1.7
	baz=76,SNR=12							
O26A	Horse Wrangler	75.55	335	⇑P		P	17 28 52.6	+1.2
	baz=76							
T18A	Mexican Hat	75.57	329	⇓P		P	17 28 52.9	+1.4
	baz=76,SNR=16							
R21A	Cimarron	75.59	331	⇑P		P	17 28 53.3	+1.6
	baz=76,SNR=15							
IRM	Iron Mountain	75.72	324	⇑P		P	17 28 53.9	+1.6
	baz=76,SNR=8.0							
OGNE	Ogallala	75.72	336	⇑P		P	17 28 53.4	+1.2
	baz=76							
O25A	Wiggins	75.74	335	⇑P		P	17 28 54.4	+1.9
	baz=76							
S19A	Harvey Farm, M	75.75	330	⇑P		P	17 28 54.2	+1.5
	baz=76,SNR=29							
Q22A	Crested Butte,	75.75	332	⇓P		P	17 28 54.5	+1.8
	baz=76,SNR=7.3							
R20A	Redvale	75.79	331	⇑P		P	17 28 54.8	+2.0
	baz=76,SNR=17							
W13A	Hualapai Mount	75.81	325	⇓P		P	17 28 54.9	+1.8
	baz=76,SNR=12							
PV01	Paradox Valley	75.83	331	eP		P	17 28 54.6	+1.5
	comp=Z,2µm,1.2s							
T17A	Navajo Res., N	75.87	328	⇓P		P	17 28 55.4	+2.1
	baz=76,SNR=21							
PFO	Pinyon Flat Ob	75.97	322	⇑P		P	17 28 55.8	+1.9
	baz=76							
Q21A	Lamborn Mesa,	76.00	332	⇓P		P	17 28 55.7	+1.7
	baz=76,SNR=6.7							
ISCO	Idaho Springs	76.03	333	eP		P	17 28 55.3	+1.0
ISCO				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ISCO	Idaho Springs	76.03	333	eP		P	17 28 55.3	+1.0
	comp=Z,6.2nm,0.7s							
ISCO	Idaho Springs	76.03	333	⇑P		P	17 28 55.6	+1.3
	baz=76,SNR=9.1							
SMCO	Snowmass	76.04	332	eP		P	17 28 56.1	+1.6
	comp=Z,37nm,0.8s							
S18A	Hurst Farm, Bl	76.08	329	⇓P		P	17 28 56.6	+2.1
	baz=76,SNR=59							
U15A	North Rim	76.10	327	⇓P		P	17 28 56.9	+2.1
	baz=76,SNR=24							
PV04	Paradox Valley	76.19	330	eP		P	17 28 56.4	+1.3
R19A	Curley Farm, L	76.26	330	⇑P		P	17 28 56.8	+1.2
	baz=77,SNR=7.0							
P22A	Eagle	76.31	333	⇑P		P	17 28 57.5	+1.6
	baz=77,SNR=7.0							
M27A	Reverse DX Ran	76.36	337	⇓P		P	17 28 57.1	+1.3
	baz=77							
MURC	Murrieta	76.36	322	⇑P		P	17 28 57.6	+1.6
	baz=77							
S17A	Black Ridge (B	76.40	329	⇓P		P	17 28 57.9	+1.7
	baz=77,SNR=13							
GMRC	Granite Mounta	76.46	324	⇑P		P	17 28 58.4	+1.8
	baz=77,SNR=9.0							
SUR	Sutherland	76.47	120	eP		P	17 28 58.1	+1.1
	comp=Z,13nm,0.6s							
SUR				epP		pP	17 29 14.5	+0.4
SUR	Sutherland	76.47	120	P		P	17 28 58.6	+1.5
	comp=Z,138nm,0.6s,SNR=8.8							
O23A	Lake Granby, G	76.51	333	⇓P		P	17 28 58.7	+1.7
	baz=77,SNR=12							
P21A	Newcastle	76.53	332	⇓P		P	17 28 58.8	+1.8
	baz=77,SNR=19							
ECSD	EROS Data Cent	76.55	341	eP		P	17 28 57.0	+0.1
	comp=Z,31nm,0.8s							
ECSD				epP		pP	17 29 14.0	+0.2
R18A	Canyonlands Na	76.61	330	⇑P		P	17 28 58.6	+1.1
	baz=77,SNR=9.9							
O22A	Kremmling	76.71	333	⇑P		P	17 28 59.3	+1.1
	baz=77,SNR=11							
Q19A	Hogan Spring (	76.81	331	⇓P		P	17 28 59.9	+1.4
	baz=77							
L27A	T5 Ranch, Ells	76.83	337	⇑P		P	17 28 59.8	+1.3
	baz=77							
S16A	Weppner Ranch,	76.83	328	⇓P		P	17 28 60.0	+1.3
	baz=77,SNR=8.4							
HEC	Heor,Ludlow	76.85	323	⇓P		P	17 29 00.7	+2.0
	baz=77							
M25A	Palm-Egli Farm	76.87	335	⇑P		P	17 29 00.6	+1.8
	baz=77							
CIS	Catalina Islan	76.87	321	⇑P		P	17 29 00.7	+1.9
	baz=77							
P20A	De Beque	76.90	331	⇑P		P	17 29 00.6	+1.6
	baz=77,SNR=10							
SPMN	St. Paul	76.98	345	⇓P		P	17 28 59.4	+0.3
	baz=77							
R17A	Hanksville Air	77.00	329	⇑P		P	17 29 00.9	+1.3
	baz=77,SNR=14							
BFSC	Mount Baldy Ra	77.10	322	⇓P		P	17 29 01.9	+1.6
	baz=77							
N23A	Red Feather La	77.11	334	⇑P		P	17 29 01.8	+1.5
	baz=77,SNR=5.9							
TUQ	Turquoise Moun	77.11	324	⇓P		P	17 29 02.0	+1.7
	baz=77,SNR=10							
O21A	Pagoda	77.13	332	⇑P		P	17 29 02.2	+1.8
	baz=77,SNR=7.3							
M24A	Cheyenne	77.18	335	⇑P		P	17 29 01.9	+1.3
	baz=78							
N22A	Wattenberg Ran	77.22	333	⇓P		P	17 29 02.7	+1.8
	baz=78,SNR=9.4							
MAW	Mawson	77.23	164	LR		LR	18 01 53.4	
	comp=Z,122nm,18.1s,baz=31,slow=35							
R16A	Teasdale	77.24	329	⇓P		P	17 29 02.2	+1.1
	baz=78							
RRX	Edison Barstow	77.24	323	⇑P		P	17 29 02.8	+1.9
	baz=78							
P19A	Cripple Cowboy	77.26	331	⇓P		P	17 29 02.7	+1.5
	baz=78,SNR=37							
MWC	Mount Wilson	77.30	322	eP		P	17 29 02.9	+1.5
MWC				pmax		pmax		
	comp=Z,13nm,1.1s							
MWC	Mount Wilson	77.30	322	eP		P	17 29 02.9	+1.5
	comp=Z,13nm,1.1s							
Q18A	Rafter H Ranch	77.31	330	⇓P		P	17 29 02.7	+1.4
	baz=78,SNR=14							
K27A	Flueckinger Fa	77.35	337	⇓P		P	17 29 02.5	+1.1
	baz=78							
O20A	White River Ci	77.37	332	⇓P		P	17 29 03.3	+1.6
	baz=78,SNR=7.4							
GSC	Goldstone	77.46	323	eP		P	17 29 03.8	+1.6
GSC				e*PP		pP	17 29 19.0	-0.2
GSC				pmax		pmax		
	comp=Z,26nm,1.4s							
GSC	Goldstone	77.46	323	eP		P	17 29 03.8	+1.6
	comp=Z,26nm,1.4s							
GSC				epP		pP	17 29 19.0	-0.2
GSC	Goldstone	77.46	323	⇑P		P	17 29 03.8	+1.6
	baz=78							
L25A	Engebretsen Ra	77.47	336	⇑P		P	17 29 03.6	+1.5
	baz=78							
SRU	San Rafael	77.49	330	eP		P	17 29 03.3	+0.9
SRU				pmax		pmax		
	comp=Z,35nm,1.1s							
SRU	San Rafael	77.49	330	eP		P	17 29 03.3	+0.9
	comp=Z,35nm,1.1s							
SRU	San Rafael	77.49	330	⇓P		P	17 29 03.6	+1.2
	baz=78,SNR=20							
CCUT	Cedar City	77.51	327	eP		P	17 29 04.8	+2.2
	comp=Z,29nm,1.1s							
CCUT				epP		pP	17 29 21.6	+1.9
M23A	Laramie	77.52	334	⇓P		P	17 29 03.8	+1.3
	baz=78,SNR=6.9							
R15A	Junction	77.54	328	⇓P		P	17 29 04.4	+1.7
	baz=78							
N21A	Black Mountain	77.61	333	⇓P		P	17 29 04.5	+1.5
	baz=78,SNR=13							
Q16A	Castle Valley	77.61	329	⇑P		P	17 29 04.7	+1.6
	baz=78,SNR=7.5							
MSU	Marysvale	77.74	328	eP		P	17 29 05.3	+1.5
MSU				pmax		pmax		
	comp=Z,18nm,0.8s							
MSU	Marysvale	77.74	328	eP		P	17 29 05.3	+1.5
	comp=Z,18nm,0.8s							
ARUT	Antelope Range	77.74	327	eP		P	17 29 06.0	+2.2
ARUT				pmax		pmax		
	comp=Z,39nm,1.4s							
ARUT	Antelope Range	77.74	327	eP		P	17 29 06.0	+2.2
	comp=Z,40nm,1.4s							
EDW2	Edwards Air Fo	77.76	322	⇓P		P	17 29 05.1	+1.2
	baz=78							
P18A	Preston Nutter	77.79	330	⇑P		P	17 29 05.7	+1.5
	baz=78,SNR=22							
M22A	Cedar Creek Ra	77.79	334	⇑P		P	17 29 05.6	+1.5
	baz=78,SNR=5.6							
O19A	Miners Draw (B	77.87	331	⇑P		P	17 29 05.8	+1.3
	baz=78,SNR=9.1							
P17A	Butcher Ranch,	77.88	330	⇑P		P	17 29 05.7	+1.2
	baz=78,SNR=8.5							
TMUT	Trail Mountain	77.94	329	eP		P	17 29 06.3	+1.3
	comp=Z,20nm,1.0s							
OSI	Osito Adit	77.95	322	eP		P	17 29 05.9	+1.0
	comp=Z,7.4nm,0.3s							
OSI	Osito Adit	77.95	322	⇓P		P	17 29 06.5	+1.6
	baz=78							
BSC	Santa Cruz Isl	77.99	321	⇓P		P	17 29 06.7	+1.6
	baz=78							
LRMC	Laurel Mountai	78.06	323	⇑P		P	17 29 06.7	+1.1
	baz=78							
L23A	Garrett	78.07	335	⇓P		P	17 29 06.4	+0.8
	baz=78,SNR=6.1							
O18A	Roosevelt	78.22	331	⇓P		P	17 29 07.9	+1.5
	baz=78,SNR=5.0							
M21A	Separation Pea	78.27	333	⇓P		P	17 29 08.0	+1.2
	baz=79,SNR=12							
K24A	Anderson Ranch	78.27	335	⇑P		P	17 29 08.1	+1.5
	baz=79,SNR=6.3							
L22A	Ellis Ranch, M	78.27	334	⇓P		P	17 29 08.1	+1.5
	baz=79							
R13A	O'Grain Ranch,	78.31	327	⇓P		P	17 29 09.0	+2.1
	baz=79,SNR=7.2							
FURC	Furnace Creek,	78.39	324	⇑P		P	17 29 08.9	+1.8
	baz=79							
N19A	John Jarvie Ra	78.39	332	⇑P		P	17 29 08.5	+1.1
	baz=79,SNR=18							
MPMC	Manual Prospec	78.40	323	⇓P		P	17 29 08.3	+0.8
	baz=79							
O17A	Robinson Place	78.47	330	⇑P		P	17 29 09.4	+1.5
	baz=79,SNR=27							
M20A	Sweetwater, Wa	78.49	333	⇓P		P	17 29 09.0	+1.1
	baz=79,SNR=5.9							
L21A	Rawlins	78.57	333	⇓P		P	17 29 09.5	+1.1
	baz=79,SNR=27							
K23A	Bowen Ranch, D	78.59	335	⇓P		P	17 29 09.6	+1.2
	baz=79,SNR=10							
ISA	Isabella	78.61	323	eP		P	17 29 10.1	+1.5
ISA				pmax		pmax		
	comp=Z,19nm,0.9s							
ISA	Isabella	78.61	323	eP		P	17 29 10.1	+1.5
	comp=Z,19nm,0.9s							
ISA	Isabella	78.61	323	⇑P		P	17 29 10.0	+1.5
	baz=79							
P15A	Leamington	78.64	329	⇓P		P	17 29 10.2	+1.5
	baz=79							
N18A	Larsen Ranch,	78.67	331	⇓P		P	17 29 09.8	+0.9
	baz=79,SNR=7.2							
MPU	Maple Canyon	78.72	330	eP		P	17 29 10.3	+1.1
	comp=Z,26nm,1.0s							
J24A	Dixon Ranch, L	78.74	336	⇓P		P	17 29 10.8	+1.7
	baz=79,SNR=11							
PKM	Peak Mountain	78.76	321	⇓P		P	17 29 11.0	+1.5
	baz=79							
K22A	Casper	78.84	334	⇑P		P	17 29 11.0	+1.3
	baz=79,SNR=13							
M19A	Rock Springs	78.90	332	⇓P		P	17 29 11.5	+1.3
	baz=79							
L20A	Wamsutter	78.99	333	⇑P		P	17 29 11.8	+1.1
	baz=79,SNR=5.9							
CWC	Cottonwood Cre	79.00	323	⇑P		P	17 29 12.2	+1.5
	baz=79							
VES	Vestal, Richgr	79.07	322	⇓P		P	17 29 12.4

HWUT **Hardware Ranch** 79.99 331 *e*P P 17 29 16.6 +0.5
comp=Z,320nm,0.8s
J20A **Shoshoni** 80.03 334 ⇓P P 17 29 17.5 +1.3
baz=80,SNR=9.6
L17A **Cokeville** 80.10 331 ⇑P P 17 29 16.9 +0.2
baz=80,SNR=5.0
BW06 **Boulder Array** 80.12 332 ⇑P P 17 29 17.4 +0.7
baz=80,SNR=13
BW06 ⇑P P 17 29 17.4 +0.7
baz=80,SNR=13
PDAR **Pinedale Array** 80.12 332 P P 17 29 17.2 +0.5
comp=Z,4.6nm,0.6s,baz=136,slow=7.0,SNR=32
PDAR pP pP 17 29 35.1 +1.2
comp=Z,2.7nm,0.9s,baz=107,slow=1.5,SNR=3.8
PDAR **Pinedale Array** 80.12 332 P P 17 29 17.2 +0.5
PDAR pP pP 17 29 35.1 +1.2
I21A **Big Trails, Te** 80.12 334 ⇓P P 17 29 17.2 +0.6
baz=80,SNR=14
PD02 **Pinedale Array** 80.13 332 *e*P P 17 29 16.9 0.0
PD02 *e*pP pP 17 29 32.6 -1.4
PD01 **Pinedale Array** 80.14 332 *e*P P 17 29 17.0 +0.1
K18A **Toltan Ranch,** 80.21 332 ⇓P P 17 29 18.5 +1.3
baz=80,SNR=20
M15A **Larsen Ranch,** 80.26 330 ⇓P P 17 29 18.1 +0.7
baz=81,SNR=19
L16A **Fish Haven** 80.27 331 ⇑P P 17 29 18.1 +0.6
baz=81,SNR=11
J19A **Crowheart** 80.33 333 ⇑P P 17 29 18.7 +0.8
baz=81
G24A **Alzada** 80.40 337 ⇑P P 17 29 18.9 +0.8
baz=81
H22A **Clearmont** 80.45 335 ⇓P P 17 29 18.9 +0.6
baz=81
I20A **Worland** 80.56 334 ⇓P P 17 29 19.7 +0.8
baz=81,SNR=11
AGMN **Agassiz Nation** 80.59 344 *e*P P 17 29 18.8 -0.1
comp=Z,15nm,0.8s
NVAR **Mina Array Bea** 80.63 324 P P 17 29 20.9 +1.2
comp=Z,4.4nm,0.8s,baz=155,slow=6.0,SNR=30
NVAR **Mina Array Bea** 80.63 324 P P 17 29 20.9 +1.2
G23A **Biddle** 80.63 336 ⇓P P 17 29 19.7 +0.4
baz=81,SNR=5.3
HVU **Hansel Valley** 80.66 330 *e*P P 17 29 19.7 +0.1
HVU pmax pmax
comp=Z,22nm,0.8s
HVU **Hansel Valley** 80.66 330 *e*P P 17 29 19.7 +0.1
comp=Z,22nm,0.8s
K17A **Gardner Place,** 80.66 332 ⇓P P 17 29 20.3 +0.6
baz=81,SNR=5.6
L15A **Malad City** 80.67 330 ⇑P P 17 29 20.2 +0.5
baz=81,SNR=13
J18A **Kendall Valley** 80.68 332 ⇓P P 17 29 20.4 +0.6
baz=81,SNR=20
H21A **Big Horn, Sher** 80.73 335 ⇓P P 17 29 20.4 +0.5
baz=81
F24A **Ekalaka** 80.87 337 ⇑P P 17 29 21.3 +0.7
baz=81
ELK **Elko** 80.94 328 *e*P P 17 29 22.0 +0.7
ELK **Elko** 80.94 328 *e*P P 17 29 22.0 +0.7
H20A **Greybull** 80.96 334 ⇑P P 17 29 21.6 +0.5
baz=81,SNR=14
I19A **Meeteetse** 80.96 334 ⇑P P 17 29 22.1 +0.9
baz=81,SNR=7.6
G22A **Birney** 80.96 336 ⇓P P 17 29 21.7 +0.6
baz=81
I18A **Diamond G Ranc** 81.00 333 ⇓P P 17 29 22.6 +1.1
baz=81,SNR=11
L14A **Malta** 81.06 330 ⇑P P 17 29 22.4 +0.7
baz=81,SNR=11
J17A **Brown Place, J** 81.08 332 ⇓P P 17 29 22.7 +0.8
baz=81
F23A **Volborg** 81.09 337 ⇑P P 17 29 22.6 +0.9
baz=81
REDW **Red Top Meadow** 81.14 332 *e*P P 17 29 22.5 +0.2
comp=Z,13nm,1.2s
MDND **Maddock** 81.16 341 ⇑P P 17 29 22.5 +0.6
baz=82,SNR=6.8
LOHW **Long Hollow** 81.25 332 *e*P P 17 29 23.2 +0.4
comp=Z,11nm,1.1s
K15A **Arbon** 81.29 331 ⇓P P 17 29 23.6 +0.7
baz=82,SNR=5.8
G21A **Lodge Grass** 81.30 335 ⇑P P 17 29 23.5 +0.6
baz=82,SNR=7.3
RRI2 **Red Ridge** 81.32 332 *e*P P 17 29 23.7 +0.4
comp=Z,16nm,1.3s
CMB **Columbia Colle** 81.40 323 *e*P P 17 29 23.8 +0.3
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB **Columbia Colle** 81.40 323 *e*P P 17 29 23.8 +0.3
comp=Z,7.9nm,1.1s
MOOW **Moose Ponds** 81.42 332 *e*P P 17 29 23.8 +0.1
comp=Z,3.3nm,0.8s
F22A **Rosebud** 81.43 336 ⇓P P 17 29 24.0 +0.5
baz=82,SNR=7.2
E24A **Baker** 81.45 338 ⇓P P 17 29 24.5 +1.0
baz=82,SNR=11
K14A **Jones Ranch, D** 81.45 330 ⇑P P 17 29 24.5 +0.7
baz=82
I17A **Pilgrim Ck.** 81.49 332 ⇓P P 17 29 25.1 +1.0
baz=82
H19A **Powell** 81.49 334 ⇑P P 17 29 24.8 +0.9
baz=82
BOSA **Boshof** 81.61 118 P P 17 29 25.1 0.0
comp=Z,23nm,0.7s,baz=247,slow=4.4,SNR=54
BOSA pP pP 17 29 42.1 -0.2
comp=Z,28nm,0.7s,baz=248,slow=3.9,SNR=14
BOSA LR LR 18 00 03.8
comp=Z,109nm,20.5s,baz=333,slow=32
BOSA **Boshof** 81.61 118 *e*P P 17 29 25.0 -0.2
BOSA *e**PP pP 17 29 41.5 -0.8
BOSA pmax pmax
comp=Z,27nm,0.7s
BOSA **Boshof** 81.61 118 *e*P P 17 29 25.0 -0.2
comp=Z,27nm,0.7s
BOSA P P 17 29 25.1 0.0
BOSA *ep*P pP 17 29 41.5 -0.8
BOSA pP pP 17 29 42.1 -0.2
G20A **Bridger** 81.67 335 ⇑P P 17 29 25.0 +0.2
baz=82,SNR=19
I16A **Newdale** 81.82 332 ⇑P P 17 29 26.6 +0.8
baz=82
J15A **Blackfoot** 81.83 331 ⇓P P 17 29 26.5 +0.8
baz=82,SNR=5.2
E22A **Miles City** 81.90 337 ⇑P P 17 29 26.8 +0.9
baz=82
D24A **Glendive** 81.94 338 ⇑P P 17 29 27.2 +1.1
baz=82,SNR=7.5
RLMT **Red Lodge** 81.98 334 ⇓P P 17 29 27.4 +0.8
baz=82,SNR=8.3
RLMT ⇓P P 17 29 27.4 +0.8
baz=82,SNR=8.3
TORD **Torodi Ar. Bea** 82.17 70 P P 17 29 27.9 -0.1
comp=Z,9.6nm,0.8s,baz=255,slow=5.0,SNR=49
TORD pP pP 17 29 45.2 0.0
comp=Z,14nm,0.8s,baz=257,slow=5.1,SNR=14
TORD LR LR 18 02 54.5
comp=Z,112nm,20.9s,baz=200,slow=33
TORD **Torodi Ar. Bea** 82.17 70 P P 17 29 27.9 -0.1
TORD pP pP 17 29 45.2 0.0
G18A **Lazy EL Ranch,** 82.26 334 ⇓P P 17 29 28.4 +0.4
baz=83,SNR=8.2
YMR **Madison River** 82.27 333 *e*P P 17 29 29.8 +1.6
comp=Z,18nm,0.9s
YMR *e* 17 29 47.2
D23A **Lindsay** 82.28 337 ⇓P P 17 29 29.0 +1.1
baz=83,SNR=7.0
C24A **Savage** 82.34 338 ⇓P P 17 29 29.3 +1.1
baz=83,SNR=6.3
H16A **Russell Place,** 82.41 333 ⇑P P 17 29 30.1 +1.2
baz=83
ULM **Lac du Bonnet** 82.41 344 P P 17 29 28.6 +0.2
comp=Z,21nm,0.8s,baz=154,slow=4.7,SNR=35
ULM pP pP 17 29 45.5 -0.1
comp=Z,9.4nm,0.9s,baz=169,slow=2.7,SNR=4.9
ULM **Lac du Bonnet** 82.41 344 *e*P P 17 29 27.8 -0.6
ULM *e**PP pP 17 29 45.4 -0.2
ULM pmax pmax
comp=Z,23nm,0.9s
ULM **Lac du Bonnet** 82.41 344 *e*P P 17 29 27.8 -0.6
comp=Z,23nm,0.9s
ULM P P 17 29 28.6 +0.2
ULM *ep*P pP 17 29 45.4 -0.2
ULM pP pP 17 29 45.5 -0.1
J13A **Cove Ranch, Pi** 82.57 330 ⇑P P 17 29 30.7 +1.1
baz=83,SNR=14
D22A **Cohagen** 82.59 337 ⇓P P 17 29 30.5 +0.9
baz=83,SNR=12

I14A **Mackay** 82.69 331 ⇑P P 17 29 31.7 +1.4
baz=83,SNR=9.3
E20A **Meyer Farm, Mu** 82.73 335 ⇑P P 17 29 31.1 +0.8
baz=83,SNR=13
D21A **La Casta Ranch** 82.80 336 ⇓P P 17 29 31.5 +0.8
baz=83
HLID **Hailey** 82.81 330 *e*P P 17 29 32.1 +1.2
comp=Z,13nm,0.9s
HLID **Hailey** 82.81 330 ⇓P P 17 29 32.3 +1.4
baz=83,SNR=21
F18A **Big Timber** 82.81 334 ⇓P P 17 29 31.3 +0.5
baz=83,SNR=12
C23A **Lambert** 82.83 338 ⇓P P 17 29 31.4 +0.7
baz=83,SNR=12
H15A **Lima** 82.91 332 ⇑P P 17 29 32.4 +1.0
baz=83
E19A **Rath Farm, Rou** 82.93 335 ⇓P P 17 29 32.0 +0.6
baz=83,SNR=14
I13A **Wildhorse Cree** 82.96 330 ⇓P P 17 29 32.9 +1.1
baz=83,SNR=30
G16A **Moss Hill, Enn** 83.06 332 ⇑P P 17 29 33.2 +1.0
baz=83
DGMT **Dagmar** 83.09 339 *e*P P 17 29 32.9 +0.8
comp=Z,70nm,1.1s
DGMT *ep*P pP 17 29 49.8 +0.6
DGMT **Dagmar** 83.09 339 ⇓P P 17 29 33.2 +1.1
baz=83,SNR=8.4
MCMT **McKenzie Canyo** 83.16 332 *e*P P 17 29 34.2 +1.4
comp=Z,1.8nm,0.6s
F17A **Fitzpatrick Pl** 83.17 334 ⇑P P 17 29 34.0 +1.3
baz=84
H14A **Leadore** 83.21 331 ⇓P P 17 29 34.1 +1.1
baz=84,SNR=7.1
D20A **Manuel Ranch,** 83.23 336 ⇑P P 17 29 33.5 +0.6
baz=84,SNR=10
I12A **Atlanta** 83.31 330 ⇓P P 17 29 34.4 +0.9
baz=84,SNR=12
MFID **Camas Ranch** 83.31 329 *e*P P 17 29 31.8 -1.6
comp=Z,4.6nm,0.8s
MFID **Camas Ranch** 83.31 329 ⇓P P 17 29 34.5 +1.0
baz=84,SNR=5.7
BOZ **Bozeman (W)** 83.34 333 ⇓P P 17 29 34.5 +0.9
baz=84
BOZ ⇓P P 17 29 34.5 +0.9
baz=84
B23A **Brockton** 83.34 338 ⇑P P 17 29 34.5 +1.1
baz=84
A24A **Westby** 83.43 339 ⇑P P 17 29 34.9 +1.1
baz=84
E18A **Harlowton** 83.44 334 ⇑P P 17 29 34.6 +0.6
baz=84
B22A **Reddig Ranch S** 83.53 338 ⇑P P 17 29 35.0 +0.6
baz=84,SNR=7.9
HOPS **Hopland** 83.53 322 *e*P P 17 29 35.3 +0.8
comp=Z,36nm,1.3s
H13A **Challis** 83.54 331 ⇓P P 17 29 35.6 +1.0
baz=84,SNR=23
H12A **Diamond D Ranc** 83.79 330 ⇑P P 17 29 36.7 +0.7
baz=84,SNR=6.2
F15A **Butte** 83.84 332 ⇓P P 17 29 36.9 +0.7
baz=84
G13A **Cobalt** 83.96 331 ⇓P P 17 29 37.4 +0.7
baz=84,SNR=23
B21A **Ellsworth Farm** 83.98 337 ⇓P P 17 29 37.1 +0.4
baz=84,SNR=6.2
E16A **East Helena** 84.09 333 ⇑P P 17 29 38.2 +0.8
baz=84
A22A **Carney Farms,** 84.10 338 ⇑P P 17 29 38.0 +0.7
baz=84,SNR=8.2
C19A **Slack Wire Ran** 84.10 335 ⇑P P 17 29 37.6 +0.3
baz=84,SNR=5.1
SCHQ **Schefferville** 84.17 3 P P 17 29 37.3 -0.1
comp=Z,5.1nm,0.7s,baz=149,slow=4.7,SNR=14
SCHQ **Schefferville** 84.17 3 P P 17 29 37.3 -0.1
F14A **Wisdom** 84.18 332 ⇓P P 17 29 39.2 +1.3
baz=84
D17A **Six Diamond Ra** 84.22 334 ⇓P P 17 29 38.6 +0.6
baz=84,SNR=12
MOD **Modoc** 84.25 326 *e*P P 17 29 39.2 +0.9
comp=Z,18nm,1.2s
HRY **Holter Researc** 84.30 333 *e*P P 17 29 38.2 -0.2
E15A **Deer Lodge** 84.38 333 ⇑P P 17 29 40.0 +1.2
baz=85
WDC **Whiskeytown Da** 84.41 323 *e*P P 17 29 37.9 -1.0
WDC pmax pmax
comp=Z,12nm,1.2s
WDC **Whiskeytown Da** 84.41 323 *e*P P 17 29 37.9 -1.0
comp=Z,12nm,1.2s
CASY **Casey** 84.42 181 *e*P P 17 29 39.1 +0.4
D16A **Dana Ranch, Ca** 84.45 334 ⇑P P 17 29 40.5 +1.3
baz=85
F13A **Darby** 84.56 331 ⇓P P 17 29 40.5 +0.7
baz=85,SNR=16
C17A **Wharram Farm,** 84.65 334 ⇓P P 17 29 40.4 +0.3
baz=85,SNR=6.8
B19A **Brinkman Farms** 84.67 336 ⇑P P 17 29 40.6 +0.4
baz=85,SNR=8.4
B18A **Beardsley Farm** 84.92 335 ⇑P P 17 29 41.8 +0.4
baz=85,SNR=11
A19A **Klindworth Far** 85.00 336 ⇑P P 17 29 42.4 +0.5
baz=85
E13A **Victor** 85.02 332 ⇑P P 17 29 42.8 +0.8
baz=85,SNR=6.1
BMO **Blue Mountains** 85.10 329 *e*P P 17 29 42.7 +0.2
BMO pmax pmax
comp=Z,2.0nm,0.7s
BMO **Blue Mountains** 85.10 329 *e*P P 17 29 42.7 +0.2
comp=Z,1.7nm,0.7s
C16A **Fuhringer Ranc** 85.16 334 ⇓P P 17 29 43.2 +0.5
baz=86
B17A **L&G Farms, Che** 85.21 335 ⇑P P 17 29 43.0 +0.1
baz=86
MSO **Missoula** 85.23 332 ⇓P P 17 29 44.1 +1.1
baz=86
D14A **Greenough** 85.26 333 ⇓P P 17 29 44.2 +0.9
baz=86
A18A **Metzger Ranch,** 85.39 336 ⇑P P 17 29 43.7 -0.1
baz=86,SNR=8.0
C15A **Salmond Ranch,** 85.47 334 ⇑P P 17 29 44.9 +0.6
baz=86,SNR=7.7
B16A **M & M Farms, S** 85.65 334 ⇑P P 17 29 45.5 +0.4
baz=86
D13A **Huson** 85.66 332 ⇑P P 17 29 45.7 +0.6
baz=86,SNR=15
A17A **Triple J Farms** 85.72 335 ⇓P P 17 29 45.7 +0.3
baz=86,SNR=10
SWMT **Swartz Lake** 85.81 333 *e*P P 17 29 46.6 +0.7
comp=Z,6.5nm,0.8s
KTRM **Thompson Ridge** 85.81 324 P P 17 29 47.9 +1.8
B15A **Bradely Ranch,** 85.89 334 ⇑P P 17 29 46.3 0.0
baz=86,SNR=10
A16A **West Butte Ran** 86.05 335 ⇓P P 17 29 47.4 +0.3
baz=86,SNR=30
JTMT **Jette** 86.11 333 *e*P P 17 29 48.0 +0.6
comp=Z,8.4nm,0.6s
B14A **Marquette Ranc** 86.21 333 ⇑P P 17 29 48.0 +0.1
baz=86,SNR=6.4
VIPM **Ingram Point** 86.36 327 P P 17 29 50.2 +1.4
VIPM **Ingram Point** 86.36 327 P P 17 29 50.2 +1.4
BSMT **Bassoo Peak** 86.40 332 *e*P P 17 29 49.3 +0.4
comp=Z,12nm,0.9s
A15A **Johnson Ranch,** 86.50 334 ⇑P P 17 29 49.4 +0.1
baz=87
C12B **Naegeli Ranch,** 86.56 332 ⇑P P 17 29 50.3 +0.7
baz=87,SNR=8.4
HUOR **Husband** 86.66 326 P P 17 29 51.9 +1.5
B13A **Whitefish** 86.69 333 ⇓P P 17 29 50.7 +0.5
baz=87,SNR=5.6
FRIS **Frissel Point** 86.85 326 P P 17 29 52.2 +1.0
B12A **Libby** 87.21 332 ⇓P P 17 29 53.3 +0.6
baz=88
HAWA **Hanford** 87.28 329 *e*P P 17 29 53.8 +0.8
comp=Z,7.7nm,0.8s
A12A **Yaak River Ran** 87.61 333 ⇓P P 17 29 55.3 +0.7
baz=88
NEW **Newport** 87.68 331 ⇑P P 17 29 54.9 -0.1
baz=88
OD2 **Odessa Site #2** 87.68 330 *e*P P 17 29 55.3 +0.4
comp=Z,22nm,0.8s
FFC **Flin Flon** 88.02 343 *e*P P 17 29 55.8 -0.5
FFC pmax pmax
comp=Z,4.0nm,1.1s
FFC **Flin Flon** 88.02 343 *e*P P 17 29 55.8 -0.5
comp=Z,4.3nm,1.1s
ETW **Entiat** 88.56 329 *e*P P 17 30 00.1 +0.8
comp=Z,26nm,1.0s
JCW **Jim Creek** 89.72 329 P P 17 30 04.4 -0.1
CMW **Cultus Mountai** 89.97 329 P P 17 30 06.2 +0.3

YKA **Yellowknife Ar** 98.08 341 P P 17 30 42.3 -0.1
comp=Z,1.5nm,0.8s,baz=140,slow=4.3,SNR=24
YKA pP pP 17 31 00.0 +0.1
comp=Z,0.6nm,0.7s,baz=140,slow=4.5,SNR=3.4
YKA **Yellowknife Ar** 98.08 341 P P 17 30 42.4 -0.1
YKA *PP pP 17 31 00.1 +0.1
YKA **Yellowknife Ar** 98.08 341 P P 17 30 42.4 -0.1
YKA pP pP 17 31 00.1 +0.1
KEST **Kesra** 99.85 55 LR LR 18 17 04.5
comp=Z,68nm,18.8s,baz=284,slow=36
DZM **Mont Dzumac** 104.30 234 *e*LR LR 18 05 35.7
comp=Z,96nm,25.1s
AKASG **Malin Array Be** 118.74 45 PKP PKPdf 17 35 53.4 -0.7
comp=Z,0.2nm,0.3s,baz=259,slow=3.4,SNR=4.3
AKASG pPKP pPKPdf 17 36 10.9 -1.2
comp=Z,1.5nm,0.6s,baz=268,slow=3.1,SNR=5.4
AKASG **Malin Array Be** 118.74 45 PKIKP PKPdf 17 35 53.4 -0.7
AKASG **Malin Array Be** 118.74 45 PKP PKPdf 17 35 53.4 -0.7
AKASG pPKP pPKPdf 17 36 10.9 -1.2
BRTR **Keskin Array B** 119.11 59 PKP PKPdf 17 35 55.1 -0.3
comp=Z,0.7nm,0.8s,baz=48,slow=5.5,SNR=4.1
BRTR pPKP pPKPdf 17 36 13.7 +0.2
comp=Z,1.8nm,0.8s,baz=178,slow=3.0,SNR=8.7
BRTR **Keskin Array B** 119.11 59 PKIKP PKPdf 17 35 55.1 -0.3
BRTR **Keskin Array B** 119.11 59 PKP PKPdf 17 35 55.1 -0.3
BRTR pPKP pPKPdf 17 36 13.7 +0.2
ASAR **Alice Springs** 121.74 207 PKP PKPdf 17 35 59.8 -1.2
comp=Z,0.4nm,0.8s,baz=124,slow=1.7,SNR=4.8
ASAR pPKP pPKPdf 17 36 17.9 -1.2
comp=Z,0.7nm,0.7s,baz=136,slow=2.0,SNR=5.1
ASAR **Alice Springs** 121.74 207 PKIKP PKPdf 17 35 59.8 -1.2
ASAR **Alice Springs** 121.74 207 PKP PKPdf 17 35 59.8 -1.2
ASAR pPKP pPKPdf 17 36 17.9 -1.2
WRA **Warramunga Arr** 124.88 210 PKP PKPdf 17 36 06.4 -0.6
comp=Z,0.2nm,0.3s,baz=148,slow=1.7,SNR=8.8
WRA pPKP pPKPdf 17 36 24.2 -0.8
comp=Z,2.2nm,0.7s,baz=160,slow=1.6,SNR=7.6
WRA **Warramunga Arr** 124.88 210 PKIKP PKPdf 17 36 06.4 -0.6
WRA **Warramunga Arr** 124.88 210 PKP PKPdf 17 36 06.4 -0.6
WRA pPKP pPKPdf 17 36 24.2 -0.8
BILL **Bilibino** 129.10 336 *e*PKIKP PKPdf 17 36 14.2 +0.7
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL **Bilibino** 129.10 336 *e*PKPdf PKPdf 17 36 13.7 +0.2
AKTO **Aktyubinsk** 136.97 46 pPKP pPKPdf 17 36 47.7 +0.8
comp=Z,2.5nm,0.9s,baz=27,slow=2.3,SNR=7.1
AKTO **Aktyubinsk** 136.97 46 pPKP pPKPdf 17 36 47.7 +0.8
PETK **Petropavlovsk-** 137.40 318 PKP PKPdf 17 36 29.3 -0.2
comp=Z,6.5nm,0.9s,baz=90,slow=3.0,SNR=5.8
PETK pPKP pPKPdf 17 36 48.9 +1.3
comp=Z,5.5nm,0.9s,baz=56,slow=3.7,SNR=3.8
PETK **Petropavlovsk-** 137.40 318 PKIKP PKPdf 17 36 29.3 -0.2
PETK **Petropavlovsk-** 137.40 318 PKP PKPdf 17 36 29.3 -0.2
PETK pPKP pPKPdf 17 36 48.9 +1.3
AB31 **Akbulak array** 138.40 48 *i* PKIKP PKPdf 17 36 32.2 +0.7
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR **Akbulak array** 138.40 48 *e*PKPdf PKPdf 17 36 31.6 +0.1
ABKAR *ep*PKPdf pPKPdf 17 36 50.0 +0.4
BVAR **Borovoye Array** 143.58 39 PKP PKPbc 17 36 39.2 +0.9
comp=Z,1.4nm,0.7s,baz=291,slow=3.1,SNR=9.3
BVAR pPKP pPKPdf 17 36 58.2 -0.6
comp=Z,2.0nm,0.6s,baz=254,slow=3.1,SNR=6.2
BVAR **Borovoye Array** 143.58 39 PKIKP PKPbc 17 36 39.2 +0.9
BVAR **Borovoye Array** 143.58 39 PKP PKPbc 17 36 39.2 +0.9
BVAR pPKP pPKPdf 17 36 58.2 -0.6
YAK **Yakutsk** 144.74 343 *d* PKIKP PKPbc 17 36 41.7 +0.2
YAK *e* 17 36 47.4
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,153nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=N,66nm,3.3s
YAK pmax pmax
comp=Z,113nm,4.6s
YAK **Yakutsk** 144.74 343 *e*PKPdf PKPbc 17 36 41.6 +0.1
YAK *ep*PKPdf pPKPdf 17 36 59.6 -0.9
KBL **Kabul** 146.23 71 *e*PKP2 **PKPab** 17 36 49.3 +1.1
KBL **Kabul** 146.23 71 *e*PKPbc **PKPab** 17 36 49.3 +1.1
KK31 **Karatay Array** 146.75 56 *i* PKP2 **PKPbc** 17 36 48.5 +0.2
KK31 pmax pmax
comp=Z,3.0nm,0.4s
YSS **Yuzh-Sakhalins** 148.42 313 ⇑ *e*PKP2 **PKPbc** 17 36 53.6 +0.9
YSS pmax pmax
comp=Z,20nm,0.7s
YSS **Yuzh-Sakhalins** 148.42 313 *e*PKPbc **PKPbc** 17 36 52.9 +0.2
YSS *ep*PKPbc **pPKPbc** 17 37 10.9 +0.3
NVS **Novosibirsk** 148.85 29 *e*PKIKP **PKPdf** 17 36 48.9 -0.6
NVS pmax pmax
comp=Z,33nm,1.4s
KURK **Kurchatov** 149.16 38 *e*PKP2 **PKPbc** 17 36 54.7 +0.3
KURK **Kurchatov** 149.16 38 *e*PKPbc **PKPbc** 17 36 54.7 +0.3
KURK *ep*PKPbc **pPKPbc** 17 37 12.6 +0.2
EKS2 **Erkin-Say** 149.19 55 *e*PKP2 **PKPbc** 17 36 56.1 +1.1
EKS2 **Erkin-Say** 149.19 55 *e*PKPbc **PKPbc** 17 36 56.1 +1.1
EKS2 *ep*PKPbc **pPKPbc** 17 37 13.6 +0.7
ASAJ **Asahikawa** 149.45 308 PKPbc **PKPbc** 17 36 55.6 +0.3
comp=Z,24nm,1.1s,baz=195,slow=15,SNR=7.7
ASAJ **Asahikawa** 149.45 308 PKPbc **PKPbc** 17 36 55.6 +0.3
AAK **Ala-Archa** 149.71 55 *e*PKP2 **PKPbc** 17 36 57.3 +1.0
AAK **Ala-Archa** 149.71 55 *e*PKPbc **PKPbc** 17 36 57.3 +1.0
AAK *ep*PKPbc **pPKPbc** 17 37 15.2 +0.9
HYB **Hyderabad** 149.96 107 *i* PKPab **PKPab** 17 37 02.0 -1.3
ZAA0 **Zalesovo Array** 150.14 29 PKPdf **PKPdf** 17 36 51.9 +0.3
ZAA0 *e*PKPbc **PKiKP** 17 36 57.2 -0.4
ZAA0 *ep*PKPbc **pPKPbc** 17 37 14.9 +0.2
ZALV **Zalesovo Beam** 150.14 29 PKP **PKPdf** 17 36 52.4 +0.8
comp=Z,38nm,0.6s,baz=303,slow=3.5,SNR=123
ZALV PKPbc **PKiKP** 17 36 57.3 -0.2
comp=Z,37nm,0.6s,baz=308,slow=3.5,SNR=157
ZALV pPKPbc **pPKPbc** 17 37 15.2 +0.4
comp=Z,21nm,0.7s,baz=300,slow=3.4,SNR=9.5
ZALV **Zalesovo Beam** 150.14 29 PKHKP **PKPdf** 17 36 52.4 +0.8
ZALV **Zalesovo Beam** 150.14 29 PKP **PKPdf** 17 36 52.4 +0.8
ZALV PKPbc **PKiKP** 17 36 57.3 -0.2
ZALV pPKPbc **pPKPbc** 17 37 15.2 +0.4
TKM2 **Tokmak 2** 150.42 54 *e*PKIKP **PKPbc** 17 36 58.9 +0.8
TKM2 **Tokmak 2** 150.42 54 *e*PKPbc **PKPbc** 17 36 58.9 +0.8
TKM2 *ep*PKPbc **pPKPbc** 17 37 16.7 +0.6
CLNS **Chul'man** 150.46 342 *e*PKIKP **PKPbc** 17 36 57.4 -0.1
CLNS pmax pmax
comp=Z,30nm,0.8s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
KSH **Kashi** 151.46 61 *e*PKPbc **PKPbc** 17 37 01.1 +0.6
KSH *ep*PKP **pPKPdf** 17 37 11.8 -0.6
KSH *es*PKP 17 37 15.5
KSH *e*PKS **PKSdf** 17 40 34.0 +5.0
KSH *e*PP PP 17 40 45.3 +4.7
KSH *e*SKS **SKSdf** 17 44 02.6 +5.9
KSH *e*SKKS SKKSac 17 47 45.3 +20
KSH *e*SS SS 18 00 35.0 +34
KSH AMB AMB
comp=Z,170nm,4.3s
KSH LR LR
comp=N,240nm,5.8s
KSH LR LR
comp=E,220nm,5.1s
KSH LR LR
comp=Z,300nm,4.4s
BOD **Bodaibo** 151.54 354 *e*PKIKP **PKPbc** 17 36 59.1 -0.8
BOD pmax pmax
comp=Z,15nm,1.2s
MK31 **Makanchi Array** 153.28 43 *e*PKIKP **PKPdf** 17 36 56.5 -0.1
MK31 *e* 17 37 04.3
MK31 **Makanchi Array** 153.28 43 *e*PKPdf **PKPdf** 17 36 56.5 -0.1
MK31 *e*PKPbc **PKPbc** 17 37 04.3 +0.1
MK31 *ep*PKPbc **pPKPbc** 17 37 22.1 -0.1
MKAR **Makanchi Array** 153.28 43 PKP **PKPdf** 17 36 56.8 +0.1
comp=Z,0.7nm,0.8s,baz=323,slow=3.0,SNR=5.3
MKAR PKPbc **PKiKP** 17 37 04.3 0.0
comp=Z,2.0nm,0.7s,baz=312,slow=2.0,SNR=18
MKAR pPKPbc **pPKPbc** 17 37 22.4 +0.2
comp=Z,8.9nm,0.8s,baz=316,slow=2.1,SNR=23
MKAR **Makanchi Array** 153.28 43 PKIKP **PKPdf** 17 36 56.8 +0.1
MKAR 17 37 04.4
MKAR **Makanchi Array** 153.28 43 PKP **PKPdf** 17 36 56.8 +0.1
MKAR PKPbc **PKiKP** 17 37 04.3 0.0
MKAR pPKPbc **pPKPbc** 17 37 22.4 +0.2

MJAR	**Matsushiro Arr**	**154.34**	**293**	PKPab	**PKPab**	**17 37 22.1**	**+0.9**
	comp=Z,7.5nm,0.7s,baz=112,slow=2.5,SNR=18						
MJAR	**Matsushiro Arr**	**154.34**	**293**	PKP2	**PKPab**	**17 37 22.1**	**+0.9**
MJAR	**Matsushiro Arr**	**154.34**	**293**	PKPab	**PKPab**	**17 37 22.1**	**+0.9**
MAT	**Matsushiro**	**154.34**	**293**	PKP2	**PKPab**	**17 37 22.0**	**+0.8**
USRK	**Ussuriysk Arra**	**156.41**	**315**	PKPab	**PKPab**	**17 37 30.1**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=62,slow=7.0,SNR=5.4						
MDJ	**Mudanjiang**	**157.64**	**318**	PKP	**PKPdf**	**17 37 01.8**	**-0.8**
WMQ	**Urumqi**	**158.09**	**44**	*e*PKP	**PKPdf**	**17 37 03.0**	**-0.2**
WMQ				LR	LR		
	comp=N,92nm,19.3s						
WMQ				LR	LR		
	comp=Z,140nm,17.0s						
ZAK	**Zakamensk**	**158.84**	**10**	*e*PKP2	**PKPab**	**17 37 38.6**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CN2	**Changchun**	**160.49**	**321**	*e*PKP	**PKPdf**	**17 37 00.9**	**-5.0**
SONM	**Songino Array**	**161.70**	**5**	PKP	**PKPdf**	**17 37 07.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=321,slow=0.4,SNR=4.9						
SONM				PKPab	**PKPab**	**17 37 52.8**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=329,slow=4.0,SNR=12						
SONM				pPKPab	**pPKPab**	**17 38 09.6**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=352,slow=4.5,SNR=2.9						
SONM	**Songino Array**	**161.70**	**5**	PKIKP	**PKPdf**	**17 37 07.4**	**+0.2**
SONM						17 37 52.8	
SONM	**Songino Array**	**161.70**	**5**	PKP	**PKPdf**	**17 37 07.4**	**+0.2**
SONM				PKPab	**PKPab**	**17 37 52.8**	**+0.2**
SONM				pPKPab	**pPKPab**	**17 38 09.6**	**-0.5**
KSRS	**Korea Array**	**162.14**	**301**	PKPab	**PKPab**	**17 37 55.4**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=74,slow=5.2,SNR=5.7						
KSAR	**Wonju Array Be**	**162.17**	**301**	PKP2	**PKPab**	**17 37 55.4**	**+0.4**
KSAR	**Wonju Array Be**	**162.17**	**301**	PKPab	**PKPab**	**17 37 55.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**165.82**	**139**	PKPab	**PKPab**	**17 38 11.1**	**-0.3**
	comp=Z,1.9nm,1.1s,baz=246,slow=4.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**165.82**	**139**	PKP2	**PKPab**	**17 38 11.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**165.82**	**139**	PKPab	**PKPab**	**17 38 11.1**	**-0.3**
GTA	**Gaotai**	**167.80**	**34**	*e*PKPbc	**pPKPdf**	**17 37 31.6**	**+0.6**
GTA				pPKP	PKPdf	17 37 42.4	+30
GTA				sP		17 37 46.4	
GTA				PKPab	PKPab	17 38 39.8	+20
HHC	**Hu-ho-hao-te**	**168.52**	**349**	*e*PKP	PKPdf	17 37 06.5	-6.7
HHC				PKS	PKSdf	17 40 38.3	-7.5
HHC				SKS	**SKSdf**	**17 44 05.8**	**-5.9**
HHC				AMB	AMB		
	comp=Z,100nm,8.6s						
HHC				LR	LR		
	comp=N,160nm,22.3s						
HHC				LR	LR		
	comp=E,320nm,21.0s						
HHC				LR	LR		
	comp=Z,220nm,21.2s						
LZH	**Lanzhou**	**172.37**	**31**	*e*PKP	**PKPdf**	**17 37 14.6**	**-1.0**
LZH				pPKP	**pPKPdf**	**17 37 32.5**	**-1.3**
LZH				sPKP		17 37 39.0	
LZH				PKPab	**PKPab**	**17 38 40.5**	**+0.4**
LZH				*e*PP	PP	17 42 33.0	+2.0
LZH				*e*SS	SS	18 03 35.0	-1.7
LZH				AMB	AMB		
	comp=Z,110nm,8.7s						
LZH				LR	LR		
	comp=N,140nm,18.5s						
LZH				LR	LR		
	comp=E,130nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.1s						
CD2	**Chengdu**	**175.57**	**72**	PKP	**PKPdf**	**17 37 15.8**	**-0.9**
CD2				pPKP	**pPKPdf**	**17 37 33.4**	**-1.5**
CD2				sPKP		17 37 40.0	
CD2				PKPab	**PKPab**	**17 38 54.5**	**-0.1**
CD2				PKS	**PKSdf**	**17 40 46.5**	**-2.5**
CD2				PP	PP	17 42 48.4	+0.7
CD2				SKS	**SKSdf**	**17 44 10.8**	**-3.8**
CD2				SKKS	**SKKSac**	**17 49 26.8**	**-1.7**
CD2				SS	SS	18 04 04.8	-5.0
CD2				AMB	AMB		
	comp=Z,200nm,5.9s						
CD2				LR	LR		
	comp=E,390nm,7.1s						
CD2				LR	LR		
	comp=Z,320nm,5.9s						
GYA	**Guiyang**	**176.42**	**150**	PKP	**PKPdf**	**17 37 16.3**	**-0.8**
GYA				pPKP	**pPKPdf**	**17 37 33.0**	**-2.3**
GYA				sPKP		17 37 40.8	
GYA				PKPab	**PKPab**	**17 38 58.4**	**+0.1**
GYA				PKS	**PKSdf**	**17 40 46.5**	**-3.0**
GYA				PP	PP	17 42 51.8	+1.3
GYA				SKKS		17 49 31.3	
GYA				SS	SS	18 04 13.8	-1.7
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,180nm,21.6s						
GYA				LR	LR		
	comp=E,170nm,22.8s						
GYA				LR	LR		
	comp=Z,190nm,23.9s						

TRN 13 17:24:47.9, 17°.33N×61°.39W, h26km, MD3.3, M3.3(FDF),
Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.53**	**238**	*e*P	Pn	17 25 01.0	+1.2
BPA				*e*S	Sn	17 25 09.4	+1.4
MBRV		**0.93**	**236**	*i* P	Pb	17 25 07.8	+2.4
SEG	**Port Louis**	**0.93**	**187**	*e*P	Pb	17 25 06.1	+0.7
MBWH		**0.96**	**233**	*i* P	Pb	17 25 07.1	+1.1
MBWH				*e*S	Sn	17 25 21.1	+2.4
MLYT	**Lee's Yard**	**0.97**	**232**	*i* P	Pb	17 25 07.5	+1.3
MLYT	**Lee's Yard**	**0.97**	**232**	*i* P	Pb	17 25 07.6	+1.4
MLYT				*e*S	Sn	17 25 21.5	+2.5
MLYT				*e*S	Sb	17 25 22.2	+3.5
DEG	**La Desirade**	**1.06**	**162**	*e*P	Pn	17 25 07.1	-0.1
LZG	**Guadaloupe-1**	**1.24**	**197**	*e*P	Pb	17 25 10.9	+0.2
BCG	**Bois Riant Cap**	**1.26**	**190**	*e*P	Pb	17 25 11.3	+0.3
SKI	**Saint Kitts**	**1.29**	**270**	*e*P	Pb	17 25 11.7	+0.2
SKI				*e*S	Sb	17 25 29.3	+1.6
DOG	**Dongo Capester**	**1.31**	**190**	*e*P	Pb	17 25 12.1	+0.2
SCG	**Saint Claude**	**1.32**	**192**	*e*P	Pb	17 25 12.4	+0.2
PHG	**Guadaloupe-2**	**1.33**	**190**	*e*P	Pb	17 25 12.5	+0.1
HMG	**Houelmont**	**1.37**	**192**	*e*P	Pb	17 25 12.9	-0.1
MGG	**Marie-Galante**	**1.41**	**177**	*e*P	Pb	17 25 13.1	-0.4
TBG	**Guadaloupe-3**	**1.49**	**189**	*e*P	Pb	17 25 14.6	-0.3
TBG				*e*S	Sb	17 25 34.5	+1.0
DWS	**Wesley**	**1.75**	**177**	*e*S	Sb	17 25 41.1	+0.1

*NOU **13** 17:38:21.7±0.8, 19°.75S×169°.67E, h10km, MD2.8, ML3.9*
*ISCJB **13** 17:38:23.3±1.1, 20°.56S±0°.08×169°.85E±0°.07, h136km±8km, mb4.5/26, Error ellipse: s-maj=13.0km s-min=10.1km az=179.1*
*NEIC **13** 17:38:23.2±0.4, 20°.50S×169°.89E, mb4.7/18, Error ellipse: s-maj=11.1km s-min=8.7km az=174.0*
*IDC **13** 17:38:24.3±0.8, 20°.63S×169°.85E, h129km±5km, mb4.2/13, mb1 4.4/15, mb1mx4.2/23, mbtmp4.2/15, MS3.3/3, Ms1 3.3/3, ms1mx2.9/26, Error ellipse: s-maj=18.5km s-min=11.2km az=153.0*

ISC 13 17:38:23.8±0.7, 20°.58S±0°.09×169°.90E±0°.07, h128km±5km, h128km:pP-P, n77, σ0s86/93, mb4.6/26, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.22**	**240**	*e*P	**Pn**	**17 39 13.6**	**+0.4**
BAYA				*e*S	**Sn**	**17 39 50.9**	**-0.4**
BAYA				AMP		17 39 53.8	
	comp=Z,91nm,2.1s						
PLUM	**Mont Dore**	**3.47**	**240**	*e*P	**Pn**	**17 39 16.5**	**0.0**
PLUM				*e*S	**Sn**	**17 39 58.3**	**+0.9**
PLUM				AMP		17 40 10.8	
	comp=Z,622nm,1.3s						
LASL	**Noumea**	**3.54**	**242**	*e*P	**Pn**	**17 39 17.7**	**+0.3**
LASL				*e*S	**Sn**	**17 39 58.5**	**-0.3**
LASL				AMP		17 40 00.5	
	comp=Z,1μm,4.4s						
DZM	**Mont Dzumac**	**3.55**	**245**	P	**Pn**	**17 39 19.0**	**+1.4**
	comp=Z,44nm,0.3s,baz=66,slow=18,SNR=1348						
DZM				S	**Sn**	**17 39 58.2**	**-1.0**
	comp=Z,43nm,0.3s,baz=92,slow=22,SNR=5.0						
DZM	**Mont Dzumac**	**3.55**	**245**	*e*P	**Pn**	**17 39 17.2**	**-0.4**
DZM				*e*S	**Sn**	**17 39 58.6**	**-0.7**
DZM				AMP		17 40 02.4	
	comp=Z,6μm,0.9s						
DZM	**Mont Dzumac**	**3.55**	**245**	*e*Pn	**Pn**	**17 39 17.5**	**-0.1**
DZM				*e*Sn	Sn	17 39 50.9	-8.4
DZM				S		17 39 58.2	
NORM	**Noumea**	**3.58**	**242**	*e*P	**Pn**	**17 39 18.0**	**+0.1**
NORM				*e*S	**Sn**	**17 39 59.5**	**-0.3**
NORM				AMP		17 40 01.7	
	comp=Z,724nm,0.7s						
NOUC	**Port Laguerre**	**3.68**	**245**	*e*P	**Pn**	**17 39 19.4**	**+0.1**
NOUC				*e*S	**Sn**	**17 40 02.4**	**+0.1**
NOUC				AMP		17 40 04.8	
	comp=Z,419nm,1.5s						
EIDS	**Eidsvold**	**17.97**	**251**	*e*P	**Pn**	**17 42 26.6**	**+1.1**
	comp=Z,121nm,0.8s						
EIDS	**Eidsvold**	**17.97**	**251**	*e*P	**Pn**	**17 42 26.5**	**+1.1**
	comp=Z,19nm,0.8s						
URZ	**Urewera**	**18.69**	**162**	*e*P	**Pn**	**17 42 34.1**	**+0.2**
	comp=Z,37nm,0.6s						
AFI	**Afiamalu**	**18.71**	**72**	P	**Pn**	**17 42 34.2**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=235,slow=18,SNR=4.3						
AFI	**Afiamalu**	**18.71**	**72**	*e*P	**P**	**17 42 32.9**	**+0.4**
	comp=Z,67nm,1.0s						
ARMA	**Armidale**	**19.16**	**236**	*e*P	**Pn**	**17 42 40.0**	**+0.4**
ARMA	**Armidale**	**19.16**	**236**	*e*P	**Pn**	**17 42 39.8**	**+0.2**
	comp=Z,180nm,1.4s						
SNZO	**South Karori**	**21.07**	**170**	*e*P	**P**	**17 42 59.7**	**+2.1**
	comp=Z,93nm,1.1s						
CTA	**Charters Tower**	**22.18**	**267**	P	**P**	**17 43 10.1**	**+0.5**
	comp=Z,14nm,0.5s,baz=96,slow=13,SNR=20						
CTA				LR	LR	17 49 53.1	
	comp=Z,114nm,21.4s,baz=229,slow=31						
CTA	**Charters Tower**	**22.18**	**267**	*e*P	**P**	**17 43 09.9**	**+0.3**
	comp=Z,15nm,0.6s						
CTA	**Charters Tower**	**22.18**	**267**	P	**P**	**17 43 10.1**	**+0.5**
CTAO	**Charters Tower**	**22.18**	**267**	*e*P	**P**	**17 43 10.0**	**+0.3**
	comp=Z,30nm,0.9s						
RPZ	**Rata Peaks**	**23.09**	**178**	P	**P**	**17 43 18.6**	**+0.3**
	comp=Z,8.6nm,0.8s,baz=93,slow=3.5,SNR=5.0						
RPZ	**Rata Peaks**	**23.09**	**178**	P	**P**	**17 43 18.6**	**+0.3**
CNB	**Canberra Magne**	**23.27**	**227**	*e*P	**P**	**17 43 21.0**	**+0.9**
	comp=Z,203nm,1.0s						
YNG	**Young**	**23.41**	**230**	*e*P	**P**	**17 43 22.8**	**+1.5**
	comp=Z,23nm,0.7s						
QLP	**Quilpie**	**24.25**	**251**	*e*P	**P**	**17 43 29.4**	**+0.5**
PMG	**Port Moresby**	**24.58**	**293**	P	**P**	**17 43 32.6**	**+0.5**
	comp=Z,15nm,0.9s,baz=125,slow=5.5,SNR=8.3						
PMG	**Port Moresby**	**24.58**	**293**	*e*P	**P**	**17 43 32.5**	**+0.4**
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**27.69**	**240**	P	**P**	**17 44 00.9**	**+1.0**
	comp=Z,12nm,0.7s,baz=80,slow=9.3,SNR=25						
STKA				LR	LR	17 54 02.3	
	comp=Z,60nm,20.9s,baz=25,slow=34						
STKA	**Stephens Creek**	**27.69**	**240**	*e*P	**P**	**17 44 00.3**	**+0.4**
	comp=Z,9.0nm,0.6s						
STKA	**Stephens Creek**	**27.69**	**240**	*e*P	**P**	**17 44 00.1**	**+0.2**
	comp=Z,2.5nm,0.7s						
WB2	**Warramunga Arr**	**33.32**	**265**	*e*P	**P**	**17 44 48.2**	**-1.4**
WRAB	**Tennant Creek**	**33.32**	**265**	*e*P	**P**	**17 44 48.0**	**-1.6**
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**33.33**	**265**	P	**P**	**17 44 48.5**	**-1.2**
	comp=Z,8.7nm,0.9s,baz=96,slow=8.4,SNR=22						
WRA	**Warramunga Arr**	**33.33**	**265**	P	**P**	**17 44 48.5**	**-1.2**
AS31	**Alice Springs**	**33.43**	**258**	*e*P	**P**	**17 44 49.9**	**-0.7**
AS31				*e*pP	**pP**	**17 45 20.3**	**+1.7**
ASAR	**Alice Springs**	**33.43**	**258**	P	**P**	**17 44 50.0**	**-0.6**
	comp=Z,19nm,0.7s,baz=95,slow=8.8,SNR=455						
ASAR				pP	**pP**	**17 45 17.9**	**-0.8**
	comp=Z,6.5nm,0.6s,baz=84,slow=9.7,SNR=3.1						
ASAR	**Alice Springs**	**33.43**	**258**	P	**P**	**17 44 50.0**	**-0.6**
ASAR				pP	**pP**	**17 45 17.9**	**-0.8**
FORT	**Forrest**	**38.86**	**246**	*e*P	**P**	**17 45 36.2**	**-0.4**
	comp=Z,19nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.74**	**266**	P	**P**	**17 46 00.8**	**+0.2**
	comp=Z,25nm,0.8s,baz=116,slow=8.1,SNR=38						
FITZ				pP	**pP**	**17 46 28.6**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=107,slow=11,SNR=2.2						
FITZ				LR	LR	18 00 58.2	
	comp=Z,40nm,20.9s,baz=295,slow=32						
FITZ	**Fitzroy Crossi**	**41.74**	**266**	*e*P	**P**	**17 46 00.6**	**0.0**
	comp=Z,33nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.74**	**266**	*e*P	**P**	**17 46 00.5**	**0.0**
	comp=Z,24nm,0.9s						
FITZ				*e*pP	**pP**	**17 46 26.6**	**-2.8**
KMBL	**Kambalda**	**44.19**	**246**	*e*P	**P**	**17 46 19.1**	**-1.0**
	comp=Z,78nm,0.7s						
MBWA	**Marble Bar**	**46.72**	**260**	*e*P	**P**	**17 46 40.1**	**-0.1**
MBWA	**Marble Bar**	**46.72**	**260**	*e*P	**P**	**17 46 39.7**	**-0.5**
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.17**	**244**	P	**P**	**17 46 50.4**	**-0.8**
	comp=Z,11nm,0.7s,baz=87,slow=7.9,SNR=8.7						
NWAO	**Narrogin (SRO)**	**48.17**	**244**	*e*P	**P**	**17 46 50.5**	**-0.8**
	comp=Z,7.7nm,0.6s						
VNDA	**Vanda**	**57.12**	**182**	*e*P	**P**	**17 47 56.1**	**-0.2**
	comp=Z,2.0nm,0.6s						
SBA	**Scott Base**	**57.34**	**181**	*e*P	**P**	**17 47 58.0**	**+0.1**
	comp=Z,17nm,0.7s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**17 49 18.4**	**+0.3**
	comp=Z,19nm,0.7s,baz=27,slow=1.6,SNR=95						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**17 49 18.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.62**	**294**	P	**P**	**17 50 18.9**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=133,slow=4.3,SNR=6.0						
CMAR				pP	**pP**	**17 50 50.3**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=133,slow=4.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**79.62**	**294**	P	**P**	**17 50 18.9**	**+1.6**
CMAR				pP	**pP**	**17 50 50.3**	**+0.7**
CHTO	**Chiang Mai**	**79.77**	**295**	*e*P	**P**	**17 50 18.8**	**+0.7**
	comp=Z,3.8nm,0.9s						
SYO	**Syowa Base**	**83.83**	**196**	*e*P	**P**	**17 50 37.3**	**-1.2**
CMB	**Columbia Colle**	**87.58**	**48**	P	**P**	**17 50 57.1**	**-0.5**
	comp=Z,3.9nm,0.7s						
ISA	**Isabella**	**87.84**	**51**	*e*P	**P**	**17 50 58.5**	**-0.4**
	comp=Z,5.6nm,0.9s						
SNAA	**Sanae**	**87.86**	**182**	*e*P	**P**	**17 50 56.4**	**-2.0**
	comp=Z,3.5nm,0.6s						
VNA3	**Neumayer Olymp**	**88.42**	**180**	*e*	**P**	**17 51 00.6**	**-0.4**
SONM	**Songino Array**	**88.66**	**323**	P	**P**	**17 51 03.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=130,slow=4.6,SNR=4.0						
SONM				pP	**pP**	**17 51 36.1**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=148,slow=6.8,SNR=4.3						
SONM	**Songino Array**	**88.66**	**323**	P	**P**	**17 51 03.5**	**+0.9**
SONM				pP	**pP**	**17 51 36.1**	**+0.6**
VNA2	**Neumayer--Watz**	**88.72**	**181**	*e*	**P**	**17 51 02.4**	**0.0**
	baz=187,slow=4.0						
VNA1	**Neumayer--Stat**	**89.01**	**181**	*e*	**P**	**17 51 04.0**	**+0.3**
NVAR	**Mina Array Bea**	**89.22**	**48**	P	**P**	**17 51 06.4**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=227,slow=8.6,SNR=19						
NVAR	**Mina Array Bea**	**89.22**	**48**	P	**P**	**17 51 06.4**	**+0.9**
ILAR	**Eielson Array**	**91.32**	**17**	P	**P**	**17 51 13.2**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=238,slow=4.9,SNR=4.3						
ILAR	**Eielson Array**	**91.32**	**17**	P	**P**	**17 51 13.2**	**-1.2**
ARCES	**ARCESS Array B**	**126.51**	**345**	PKP	**PKPdf**	**17 57 11.3**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=59,slow=7.7,SNR=3.8						
ARCES	**ARCESS Array B**	**126.51**	**345**	PKP	**PKPdf**	**17 57 11.3**	**+0.3**
BRG	**Berggiesshubel**	**144.34**	**334**	*e*P	PKPbc	17 57 43.2	0.0
	comp=Z,5.4nm,0.7s						
CLL	**Collm**	**144.39**	**335**	*e*PKPdf	**PKPab**	**17 57 43.0**	**0.0**
CONA	**Conrad Observa**	**145.60**	**329**	*i* PKPab	**PKPab**	**17 57 47.8**	**0.0**
	comp=Z,4.3nm,1.0s						
KHC	**Kasperske Hory**	**145.80**	**332**	*e*PKP	**PKPdf**	**17 57 47.0**	**-0.1**
KHC				*ep*PKP	**pPKPdf**	**17 58 21.0**	**-0.7**
KHC				*es*PKP		17 58 33.5	
GERES	**GERESS Array B**	**145.96**	**332**	PKPbc	**PKPbc**	**17 57 48.1**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=33,slow=3.2,SNR=25						
GERES				pPKPbc	pPKPbc	17 58 22.3	-0.2
	comp=Z,1.9nm,0.8s,baz=44,slow=4.1,SNR=4.8						
GERES	**GERESS Array B**	**145.96**	**332**	PKPbc	**PKPbc**	**17 57 48.1**	**-0.3**
GERES				pPKPbc	pPKPbc	17 58 22.3	-0.2
MOTA	**Moosalm**	**148.24**	**332**	*i* PKPbc	**PKPbc**	**17 57 53.6**	**-1.3**
	comp=Z,2.5nm,0.7s						
DBIC	**Dimbokro**	**165.27**	**201**	PKPab	**PKPab**	**17 59 11.1**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=148,slow=6.0,SNR=6.7						
DBIC	**Dimbokro**	**165.27**	**201**	PKPab	**PKPab**	**17 59 11.1**	**-0.6**

*ISCJB **13** 17:52:22.6±1.3, 15°.3S±0°.5×173°.9W±0°.3, h73km, mb4.0/10, Error ellipse: s-maj=83.1km s-min=8.5km az=151.6*
*NEIC **13** 17:52:24.8±1.2, 15°.36S×173°.82W, h81km±10km, mb4.4/2, Error ellipse: s-maj=54.3km s-min=8.2km az=150.0*
*IDC **13** 17:52:25.1±2.9, 15°.35S×173°.81W, h82km±25km, mb3.8/8, mb1 4.2/9, mb1mx3.9/19, mbtmp3.8/9, Error ellipse: s-maj=89.9km s-min=17.5km az=150.0*

ISC 13 17:52:24.8±1.5, 15°.1S±0°.6×173°.9W±0°.3, h73km, n26, σ0s70/25, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**60**	P	**Pn**	**17 53 03.2**	**+1.5**
	148nm,0.3s,baz=123,slow=1.2,SNR=100						
AFI				S	**Sn**	**17 53 29.4**	**-0.6**
	168nm,0.3s,baz=38,slow=17,SNR=10						
AFI	**Afiamalu**	**2.38**	**60**	*e*Pn	**Pn**	**17 53 02.7**	**+1.0**
AFI				P		17 53 03.2	
AFI				*e*Sn	**Sn**	**17 53 28.2**	**-1.8**
AFI				S		17 53 29.4	
WRAB	**Tennant Creek**	**49.42**	**257**	*e*P	**P**	**18 01 07.2**	**-0.6**
	6.0nm,1.0s						
WRA	**Warramunga Arr**	**49.44**	**257**	P	P	18 01 07.1	-0.7
	0.8nm,0.4s,baz=93,slow=6.5,SNR=10.0						
WRA	**Warramunga Arr**	**49.44**	**257**	P	P	18 01 07.1	-0.7
AS31	**Alice Springs**	**49.73**	**252**	*e*P	P	18 01 09.2	-1.0
ASAR	**Alice Springs**	**49.74**	**252**	P	**P**	**18 01 09.6**	**-0.6**
	1.6nm,0.3s,baz=88,slow=7.7,SNR=62						
ASAR	**Alice Springs**	**49.74**	**252**	P	**P**	**18 01 09.6**	**-0.6**
ISA	**Isabella**	**72.79**	**45**	P	**P**	**18 03 44.9**	**-0.8**
	5.6nm,1.2s						
CMB	**Columbia Colle**	**72.87**	**42**	*e*P	**P**	**18 03 46.2**	**+0.1**
NVAR	**Mina Array Bea**	**74.44**	**42**	P	**P**	**18 03 55.8**	**+0.3**
	3.5nm,0.8s,baz=227,slow=10,SNR=26						
NVAR	**Mina Array Bea**	**74.44**	**42**	P	**P**	**18 03 55.8**	**+0.3**
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**18 04 30.9**	**-0.3**
	1.6nm,1.1s,baz=240,slow=4.2,SNR=8.6						
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**18 04 30.9**	**-0.3**
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**18 04 37.8**	**+0.1**
	0.5nm,0.5s,baz=230,slow=6.7,SNR=13						
ILAR	**Eielson Array**	**82.25**	**11**	P	P	**18 04 37.8**	**+0.1**
PDAR	**Pinedale Array**	**82.38**	**42**	P	**P**	**18 04 38.5**	**-0.6**
	1.3nm,0.8s,baz=205,slow=3.5,SNR=10.0						
PDAR	**Pinedale Array**	**82.38**	**42**	P	**P**	**18 04 38.5**	**-0.6**
INK	**Inuvik**	**88.10**	**14**	P	**P**	**18 05 07.0**	**+0.2**
	1.1nm,0.8s,baz=151,slow=3.4,SNR=3.2						
INK	**Inuvik**	**88.10**	**14**	P	**P**	**18 05 07.0**	**+0.2**
YKA	**Yellowknife Ar**	**90.03**	**24**	P	**P**	**18 05 15.8**	**-0.1**
	0.9nm,0.9s,baz=240,slow=4.5,SNR=8.7						
YKA	**Yellowknife Ar**	**90.03**	**24**	P	**P**	**18 05 15.8**	**-0.1**
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc	**PKPdf**	**18 11 55.8**	**+0.5**
	0.6nm,0.6s,baz=67,slow=4.2,SNR=4.8						
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc	**PKPdf**	**18 11 55.8**	**+0.5**
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc	**PKPdf**	**18 11 55.7**	**+0.5**
	0.3nm,0.6s,baz=151,slow=3.0,SNR=3.9						
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc	**PKPdf**	**18 11 55.7**	**+0.5**

*ISCJB **13** 17:53:10.7±0.4, 37°.42S±0°.03×71°.39W±0°.09, h113km±7km, mb4.0/6, Error ellipse: s-maj=12.5km s-min=4.5km az=5.9*
*IDC **13** 17:53:12.5±2.1, 37°.44S×71°.05W, h108km±15km, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=54.4km s-min=10.7km az=98.0*
*NEIC **13** 17:53:12.1±0.4, 37°.41S×71°.43W, h115km±6km, mb4.2/7, Error ellipse: s-maj=12.1km s-min=6.3km az=91.0*
*GUC **13** 17:53:13.5±0.9, 37°.33S×71°.66W, h117km±14km, ML4.1*

ISC 13 17:53:11.9±0.8, 37°.41S±0°.04×71°.48W±0°.08, h115km±9km, n37, σ1s90/54, mb4.0/6, 8C-7D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.94**	**329**	*i* P	**Pn**	**17 53 33.8**	**+0.9**
CCHI	**Chillan**	**0.94**	**329**	*i* P	**Pn**	**17 53 33.8**	**+0.9**
CCHI				AML	AML	17 53 57.1	
	comp=E,2μm,0.2s						
TMU	**Temuco**	**1.59**	**214**	*i* P	**Pn**	**17 53 39.4**	**-0.7**
TMU				*i* S	**Sn**	**17 54 00.9**	**-0.7**
TMU	**Temuco**	**1.59**	**214**	*i* P	**Pn**	**17 53 39.4**	**-0.7**
TMU				*i* S	**Sn**	**17 54 00.9**	**-0.7**
COCH	**Cobquecura**	**1.66**	**320**	*i* P	**Pn**	**17 53 41.1**	**+0.2**
COCH				*i* S	**Sn**	**17 54 01.5**	**-1.3**
COCH	**Cobquecura**	**1.66**	**320**	*i* P	**Pn**	**17 53 41.1**	**+0.2**
COCH				*i* S	**Sn**	**17 54 01.5**	**-1.3**
CNCO	**

EDB					⇑Sn	**Sg**	**18 20 34.0**	**-0.7**		
ETB	**Estevan Point**	**1.59**	**76**	⇑Pn	**Pn**	**18 20 16.1**	**0.0**			
HOLB	**Holberg**	**1.69**	**17**	⇓Pn	**Pn**	**18 20 17.1**	**-0.5**			
HOLB				⇑Sn	**Sn**	**18 20 39.4**	**+0.4**			
MAYB	**Maynard**	**1.77**	**39**	⇑Pn	**Pn**	**18 20 18.9**	**0.0**			
WOSB	**Woss**	**1.89**	**52**	⇑Pn	**Pn**	**18 20 21.1**	**+0.7**			
PHC	**Port Hardy**	**1.93**	**29**	⇑Pn	**Pn**	**18 20 21.2**	**+0.4**			
PHC				⇑Sn	**Sn**	**18 20 45.1**	**+0.2**			
GDR	**Gold River**	**2.02**	**67**	⇑Pn	**Pn**	**18 20 22.0**	**0.0**			
OZB	**Mount Ozzard**	**2.24**	**90**	⇑Pn	**Pn**	**18 20 24.1**	**-1.0**			
OZB				⇑Sn	**Sn**	**18 20 51.8**	**-0.9**			
BTB	**Buttle Lake**	**2.26**	**77**	⇑Pn	**Pn**	**18 20 25.6**	**+0.2**			
NCRB	**Newcastle Ridg**	**2.30**	**52**	⇑Pn	**Pn**	**18 20 27.4**	**+1.3**			
BMSB	**Bamfield Mari**	**2.49**	**93**	⇑Pn	**Pn**	**18 20 27.5**	**-1.0**			
CBB	**Campbell River**	**2.51**	**65**	⇑Pn	**Pn**	**18 20 29.8**	**+0.9**			
ALB	**Alberni**	**2.68**	**83**	⇑Pn	**Pn**	**18 20 30.9**	**-0.2**			
MGB	**Mount Grey**	**2.77**	**89**	⇑Pn	**Pn**	**18 20 31.5**	**-1.0**			
MGB				⇑Sn	**Sn**	**18 21 05.7**	**-0.1**			
PFB	**Port Renfrew**	**2.98**	**97**	⇑Pn	**Pn**	**18 20 34.4**	**-1.0**			
PFB				⇓Sn	**Sn**	**18 21 06.9**	**-4.0**			
BBB	**Bella Bella**	**3.20**	**9**	Pn	**Pn**	**18 20 38.5**	**+0.3**			
	142nm,0.3s,baz=210,slow=7.5,SNR=997									
BBB				Sn	**Sn**	**18 21 16.9**	**+0.8**			
	78nm,0.3s,baz=124,slow=18,SNR=7.5									
BBB				LR	LR	18 21 55.9				
	comp=Z,557nm,21.3s,baz=265,slow=39									
BBB	**Bella Bella**	**3.20**	**9**	Pn	**Pn**	**18 20 38.5**	**+0.3**			
BBB				Sn	**Sn**	**18 21 16.9**	**+0.8**			
BBB	**Bella Bella**	**3.20**	**9**	⇓Pn	**Pn**	**18 20 38.6**	**+0.3**			
BBB				⇑Sn	**Sn**	**18 21 15.9**	**-0.2**			
PGC	**Sidney**	**3.62**	**94**	*e*Pn	**Pn**	**18 20 42.6**	**-1.4**			
PGC				*e*Sn	**Sn**	**18 21 29.7**	**+3.3**			
NLWA	**Neilton Lookou**	**3.74**	**114**	*e*Pn	**Pn**	**18 20 45.2**	**-0.6**			
NLWA				*e*Sn	**Sn**	**18 21 26.4**	**-3.2**			
MCW	**Mount Constitu**	**4.02**	**93**	P	**Pn**	**18 20 50.2**	**+0.6**			
HDW	**Hoodsport**	**4.14**	**107**	P	**Pn**	**18 20 52.1**	**+0.9**			
VDB	**Vedder Mountai**	**4.47**	**87**	P	**Pn**	**18 20 56.3**	**+0.5**			
JCW	**Jim Creek**	**4.70**	**98**	*e*Pn	**Pn**	**18 20 58.4**	**-0.5**			
RPW	**Rockport**	**4.92**	**94**	*e*Pn	**Pn**	**18 21 02.4**	**+0.5**			
LON	**Longmire**	**5.29**	**113**	*e*Pn	**Pn**	**18 21 07.8**	**+0.8**			
	19nm,0.8s									
LON				*e*Sn	**Sn**	**18 22 07.1**	**-0.6**			
COR	**Corvallis**	**5.87**	**137**	*e*Pn	**Pn**	**18 21 14.9**	**-0.1**			
	22nm,0.8s									
ETW	**Entiat**	**5.89**	**101**	*e*Pn	**Pn**	**18 21 16.7**	**+1.3**			
	25nm,0.8s									
ETW				*e*Sn	**Sn**	**18 22 23.3**	**+0.6**			
HAWA	**Hanford**	**6.85**	**109**	*e*Pn	**Pn**	**18 21 25.9**	**-2.5**			
	4.8nm,0.5s									
HAWA				*e*Sn	Sn	18 22 35.4	-11			
KEBM	**Edson Butte**	**6.93**	**151**	*e*Pn	**Pn**	**18 21 28.7**	**-0.9**			
	42nm,1.1s									
OD2	**Odessa Site #2**	**7.00**	**100**	*e*Pn	**Pn**	**18 21 30.3**	**-0.2**			
	10.0nm,0.8s									
KBO	**Bosley Butte**	**7.56**	**153**	Pn	**Pn**	**18 21 37.9**	**-0.3**			
HUMO	**Hull Mountain**	**7.64**	**145**	*e*Pn	**Pn**	**18 21 39.2**	**-0.2**			
	9.6nm,0.8s									
HUMO				*e*Sg	Sg	18 23 58.9	+5.3			
WRAK	**Wrangell Islan**	**7.69**	**346**	Pn	**Pn**	**18 21 38.6**	**-1.3**			
NEW	**Newport**	**7.84**	**91**	*e*Pn	**Pn**	**18 21 43.4**	**+1.4**			
	8.6nm,0.9s									
LNOR	**Lincton Mounta**	**7.86**	**110**	*e*Pn	**Pn**	**18 21 43.7**	**+1.4**			
	18nm,0.6s									
YBH	**Yreka Blue Hor**	**8.49**	**147**	*e*Pn	Pn	18 21 54.6	+3.6			
	24nm,0.9s									
KHMM	**Horse Mountain**	**8.94**	**154**	*e*Pn	**Pn**	**18 21 59.2**	**+2.0**			
	55nm,1.2s									
BMO	**Blue Mountains**	**8.96**	**113**	*e*Pn	**Pn**	**18 21 58.6**	**+1.2**			
	3.0nm,0.7s									
BMO				*e*Sn	**Sn**	**18 23 36.4**	**-1.9**			
MOD	**Modoc**	**9.34**	**137**	*e*Pn	**Pn**	**18 22 04.0**	**+1.3**			
	14nm,1.0s									
DLBC	**Dease Lake**	**9.45**	**356**	Pn	**Pn**	**18 22 04.3**	**+0.2**			
	0.4nm,0.3s,baz=167,slow=17,SNR=2.8									
DLBC				LR	LR	18 25 39.9				
	comp=Z,451nm,21.1s,baz=33,slow=37									
DLBC	**Dease Lake**	**9.45**	**356**	Pn	**Pn**	**18 22 04.3**	**+0.2**			
BSMT	**Bassoo Peak**	**9.46**	**92**	*e*Pn	**Pn**	**18 22 04.5**	**+0.2**			
	3.5nm,0.9s									
WDC	**Whiskeytown Da**	**9.57**	**150**	*e*Pn	**Pn**	**18 22 08.6**	**+2.8**			
	58nm,1.5s									
WVOR	**Wild Horse Val**	**9.74**	**129**	*e*Pn	Pn	18 22 11.3	+3.2			
	18nm,1.0s									
JTMT	**Jette**	**9.81**	**92**	*e*Pn	**Pn**	**18 22 09.7**	**+0.5**			
	3.8nm,0.8s									
WALA	**Waterton Lakes**	**9.85**	**84**	*e*Pn	**Pn**	**18 22 10.9**	**+1.3**			
	0.4nm,1.0s									
KIPM	**Iron Peak**	**9.99**	**155**	*e*Pn	**Pn**	**18 22 13.6**	**+1.9**			
	119nm,1.8s									
SWMT	**Swartz Lake**	**10.05**	**93**	*e*Pn	**Pn**	**18 22 13.7**	**+1.2**			
	8.3nm,1.2s									
MSO	**Missoula**	**10.28**	**97**	*e*Pn	**Pn**	**18 22 15.2**	**-0.3**			
SLMT	**Seeley Lake**	**10.45**	**94**	*e*Pn	**Pn**	**18 22 17.2**	**-0.8**			
	11nm,1.1s									
MFID	**Camas Ranch**	**10.65**	**117**	*e*Pn	**Pn**	**18 22 23.5**	**+2.9**			
	3.8nm,0.8s									
CHMT	**Chamberlain Mo**	**10.71**	**95**	*e*Pn	Pn	18 22 17.7	-3.8			
	4.3nm,1.0s									
HOPS	**Hopland**	**10.87**	**155**	*e*Pn	**Pn**	**18 22 23.9**	**+0.4**			
	56nm,1.4s									
SKAG	**Skagway**	**11.10**	**343**	*e*Pn	**Pn**	**18 22 28.8**	**+2.2**			
	15nm,1.0s									
HLID	**Hailey**	**11.41**	**113**	*e*Pn	**Pn**	**18 22 31.6**	**+0.6**			
	4.8nm,1.0s									
WCN	**Washoe City**	**11.72**	**143**	Pn	**Pn**	**18 22 33.3**	**-2.0**			
	9.8nm,0.9s									
MCMT	**McKenzie Canyo**	**11.75**	**105**	Pn	**Pn**	**18 22 35.7**	**-0.1**			
CMB	**Columbia Colle**	**12.59**	**148**	Pn	**Pn**	**18 22 47.4**	**+0.2**			
QLMT	**Earthquake Lak**	**12.65**	**103**	*e*Pn	**Pn**	**18 22 47.9**	**-0.2**			
	2.7nm,1.3s									
ELK	**Elko**	**12.73**	**125**	Pn	**Pn**	**18 22 51.3**	**+2.1**			
YMR	**Madison River**	**13.02**	**103**	Pn	**Pn**	**18 22 55.1**	**+2.0**			
	33nm,1.1s									
YMR				*e*		18 23 07.5				
NVAR	**Mina Array Bea**	**13.06**	**140**	Pn	**Pn**	**18 22 56.4**	**+2.8**			
	baz=315,slow=12,SNR=13									
NVAR	**Mina Array Bea**	**13.06**	**140**	Pn	**Pn**	**18 22 56.4**	**+2.8**			
YNR	**Norris Junctio**	**13.19**	**102**	*e*Pn	Pn	18 22 59.8	+4.4			
	20nm,1.0s									
YFT	**Old Faithful**	**13.20**	**103**	Pn	**Pn**	**18 22 56.5**	**+1.0**			
	13nm,0.9s									
DCID1	**Drake Creek**	**13.39**	**107**	Pn	Pn	18 23 02.4	+4.3			
	24nm,0.8s									
LKWY	**Lake**	**13.43**	**102**	*e*Pn	**Pn**	**18 23 00.6**	**+1.9**			
	23nm,1.1s									
MOOW	**Moose Ponds**	**13.59**	**106**	Pn	**Pn**	**18 23 01.9**	**+1.1**			
	24nm,1.0s									
MOOW				*e*		18 23 14.6				
REDW	**Red Top Meadow**	**13.71**	**108**	Pn	**P**	**18 23 08.2**	**-3.1**			
	14nm,0.9s									
SNOW	**Snow King Moun**	**13.72**	**107**	Pn	**P**	**18 23 12.2**	**+0.8**			
	14nm,0.7s									
LOHW	**Long Hollow**	**13.74**	**106**	Pn	**P**	**18 23 09.9**	**-1.6**			
	10nm,0.8s									
RLMT	**Red Lodge**	**13.93**	**99**	Pn	P	18 23 09.7	-3.9			
	40nm,1.0s									
RLMT				*e*		18 23 18.6				
DUG	**Dugway**	**14.44**	**122**	*e*Pn	**Pn**	**18 23 15.2**	**+2.7**			
	15nm,1.1s									
PD02	**Pinedale Array**	**14.82**	**108**	*e*Pn	**Pn**	**18 23 19.7**	**+2.0**			
PDAR	**Pinedale Array**	**14.83**	**108**	Pn	**P**	**18 23 20.9**	**-2.8**			
	0.1nm,0.3s,baz=306,slow=13,SNR=11									
PDAR				LR	LR	18 29 18.9				
	comp=Z,331nm,19.4s,baz=54,slow=38									
PDAR	**Pinedale Array**	**14.83**	**108**	Pn	**P**	**18 23 20.9**	**-2.8**			
DAU	**Daniels Canyon**	**15.19**	**118**	*e*Pn	**P**	**18 23 25.8**	**-1.9**			
	28nm,1.1s									
DAU				*e*		18 23 36.8				
ISA	**Isabella**	**15.40**	**146**	*e*Pn	**Pn**	**18 23 25.3**	**+0.1**			
	16nm,1.3s									
YKA	**Yellowknife Ar**	**15.65**	**25**	Pn	**Pn**	**18 23 27.7**	**-0.6**			
	0.3nm,0.3s,baz=219,slow=12,SNR=16									
YKA	**Yellowknife Ar**	**15.65**	**25**	Pn	**Pn**	**18 23 27.7**	**-0.6**			
ARUT	**Antelope Range**	**15.85**	**129**	Pn	**P**	**18 23 33.9**	**-1.1**			
	13nm,0.9s									
MSU	**Marysvale**	**15.97**	**125**	*e*Pn	**P**	**18 23 39.4**	**+3.0**			
	20nm,1.3s									
CCUT	**Cedar City**	**16.07**	**130**	*e*Pn	**Pn**	**18 23 34.4**	**+0.2**			
	15nm,1.4s									
DAWY	**Dawson**	**16.11**	**343**	*e*Pn	**P**	**18 23 36.1**	**-1.4**			
DGMT	**Dagmar**	**16.29**	**83**	*e*Pn	**Pn**	**18 23 35.5**	**-1.1**			
	35nm,1.2s									
GSC	**Goldstone**	**16.36**	**143**	*e*Pn	**Pn**	**18 23 38.9**	**+1.2**			
	46nm,1.8s									
SRU	**San Rafael**	**16.47**	**120**	*e*Pn	**P**	**18 23 43.0**	**+1.1**			
	16nm,0.8s									
EGAK	**Eagle**	**17.09**	**342**	*e*Pn	**P**	**18 23 47.9**	**-0.4**			
	50nm,1.8s									
FFC	**Flin Flon**	**17.51**	**61**	*e*Pn	**Pn**	**18 23 52.0**	**0.0**			
	75nm,0.8s									
FFC				*e*		18 23 57.0				
RSSD	**Black Hills**	**17.75**	**97**	*e*Pn	**P**	**18 23 58.3**	**+2.3**			
	11nm,0.9s									
PV01	**Paradox Valley**	**18.26**	**119**	*e*Pn	**P**	**18 24 03.0**	**+1.4**			
	1um,0.9s									
MCK	**McKinley**	**18.31**	**331**	*e*Pn	**P**	**18 24 02.2**	**+0.3**			
	6.7nm,1.0s									
ILAR	**Eielson Array**	**18.47**	**335**	P	**P**	**18 24 01.5**	**-2.0**			
	0.1nm,0.3s,baz=148,slow=11,SNR=19									
ILAR	**Eielson Array**	**18.47**	**335**	P	**P**	**18 24 01.5**	**-2.0**			
WUAZ	**Wupatki**	**18.66**	**130**	*e*Pn	**Pn**	**18 24 08.3**	**+2.0**			
	16nm,1.3s									
COLA	**College**	**18.82**	**335**	*e*P	**Pn**	**18 24 07.8**	**0.0**			
	20nm,1.4s									
MVCO	**Mesa Verde**	**18.94**	**121**	*e*P	**P**	**18 24 08.7**	**-0.5**			
	12nm,0.8s									
ISCO	**Idaho Springs**	**18.96**	**110**	*e*P	**Pn**	**18 24 10.4**	**+0.3**			
	10nm,1.2s									
INK	**Inuvik**	**19.48**	**355**	P	**P**	**18 24 13.9**	**-0.6**			
	0.1nm,0.3s,baz=170,slow=18,SNR=2.3									
INK				LR	LR	18 32 03.1				
	comp=Z,336nm,18.2s,baz=345,slow=38									
INK	**Inuvik**	**19.48**	**355**	P	**P**	**18 24 13.9**	**-0.6**			
SDCO	**Great Sand Dun**	**20.32**	**115**	*e*P	Pn	18 24 26.1	-0.2			
	10nm,1.1s									
OGNE	**Ogallala**	**20.57**	**103**	*e*P	Pn	18 24 29.1	+0.1			
	15nm,0.8s									
OGNE				*e*		18 24 35.8				
ULM	**Lac du Bonnet**	**21.33**	**74**	P	**P**	**18 24 36.0**	**+1.2**			
	6.8nm,0.7s,baz=293,slow=9.9,SNR=11									
ULM				LR	LR	18 33 07.9				
	comp=Z,349nm,20.4s,baz=297,slow=37									
ULM	**Lac du Bonnet**	**21.33**	**74**	*e*P	**P**	**18 24 35.8**	**+1.0**			
	28nm,1.1s									
TUC	**Tucson**	**21.54**	**134**	*e*P	**P**	**18 24 36.6**	**-0.6**			
	5.6nm,1.0s									
ANMO	**Albuquerque**	**21.71**	**122**	P	**P**	**18 24 41.4**	**+2.2**			
	1.3nm,0.8s,baz=342,slow=14,SNR=2.5									
ANMO				LR	LR	18 33 07.2				
	comp=Z,26nm,19.9s,baz=136,slow=37									
ANMO	**Albuquerque**	**21.71**	**122**	*e*P	**P**	**18 24 40.5**	**+1.3**			
	11nm,1.1s									
AGMN	**Agassiz Nation**	**21.74**	**79**	*e*P	**P**	**18 24 41.1**	**+1.8**			
	45nm,1.1s									
LPM	**Los Pinos Moun**	**22.09**	**123**	*e*P	**P**	**18 24 46.6**	**+3.3**			
	9.2nm,0.9s									
BNM	**Barren Site**	**22.21**	**124**	*e*P	**P**	**18 24 45.6**	**+1.0**			
	14nm,1.2s									
ECSD	**EROS Data Cent**	**22.78**	**91**	*e*P	**P**	**18 24 50.8**	**+0.4**			
	8.5nm,0.9s									
EYMN	**Ely**	**24.66**	**78**	*e*P	**P**	**18 25 10.3**	**+1.8**			
	28nm,1.3s									
KSU1	**Kansas State U**	**25.06**	**101**	*e*P	**P**	**18 25 15.8**	**+3.6**			
	17nm,0.8s									
WMOK	**Wichita Mounta**	**26.37**	**112**	*e*P	**P**	**18 25 25.5**	**+1.4**			
	6.8nm,1.0s									
TXAR	**Lajitas Array**	**27.52**	**126**	P	**P**	**18 25 36.4**	**+1.8**			
	0.5nm,0.8s,baz=333,slow=9.8,SNR=4.2									
TXAR				LR	LR	18 36 26.1				
	comp=Z,68nm,20.3s,baz=185,slow=36									
TXAR	**Lajitas Array**	**27.52**	**126**	P	**P**	**18 25 36.4**	**+1.8**			
FRB	**Frobisher Bay**	**35.01**	**42**	LR	LR	18 41 41.1				
	comp=Z,110nm,18.9s,baz=234,slow=37									
SCHQ	**Schefferville**	**37.59**	**57**	LR	LR	18 42 53.3				
	comp=Z,406nm,18.8s,baz=6.2,slow=37									
ARCES	**ARCESS Array B**	**60.27**	**10**	P	**P**	**18 29 54.2**	**-1.5**			
	4.5nm,0.9s,baz=336,slow=8.5,SNR=3.6									
ARCES	**ARCESS Array B**	**60.27**	**10**	P	**P**	**18 29 54.2**	**-1.5**			
BVAR	**Borovoye Array**	**77.02**	**348**	LR	LR	19 07 29.4				
	comp=Z,85nm,20.0s,baz=296,slow=37									
GERES	**GERESS Array B**	**77.31**	**24**	LR	LR	19 04 52.3				
	comp=Z,116nm,18.9s,baz=85,slow=35									
MKAR	**Makanchi Array**	**80.78**	**339**	P	**P**	**18 32 00.3**	**-1.0**			
	0.5nm,0.7s,baz=18,slow=4.2,SNR=6.4									
MKAR	**Makanchi Array**	**80.78**	**339**	P	**P**	**18 32 00.3**	**-1.0**			

CASC 13 18:30:30.6±2.5, 8.36N×82.87W, h18km±12km, MD3.6, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.41**	**315**			*e*P	Pg	18 30 38.6	-0.6
ACR						*e*S	Sg	18 30 45.0	0.0
BRU2	**Volcan**	**0.47**	**23**	*i*	P		Pg	18 30 39.8	-0.5
BRU2				*i*	S		Sb	18 30 48.9	+1.6
TBS2		**0.48**	**26**			*e*P	Pb	18 30 41.0	+0.1
BUS	**Buena Vista**	**1.48**	**324**			*e*P	Pn	18 30 56.5	-0.4
BUS						*e*S	Sg	18 31 18.6	-0.7
URSC	**Urasca**		**1.72**	**329**		*e*P	Pn	18 31 00.0	+0.1
LAJ	**Bijagual**	**1.94**	**321**			*e*P	Pn	18 31 03.0	+0.1
PTP	**Ponta Puerca**	**19.43**	**58**			*e*P	x	18 30 35.4	
PTP						*e*S	x	18 30 39.1	

*ISCJB **13** 18:35:00.4±1.4, 33°33N±0°06×35°47E±0°07, h12km±6km, Error ellipse: s-maj=12.2km s-min=7.6km az=136.1*
*GRAL **13** 18:35:01.2±0.3, 33°31N×35°48E, h5km±3km, MD2.6*
*NSSC **13** 18:35:01.1±0.7, 33°72N×36°25E, h0km±6km, ML0.9*
*CSEM **13** 18:35:01.2, 33°31N×35°48E, h5km, ML2.6, After GRAL*

ISC 13 18:35:00.3±1.5, 33°33N±0°07×35°48E±0°06, h17km±10km, n10, σ0°916/14, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATL	**Matarih**	**0.20**	**323**			*e*P	**Pg**	**18 35 05.2**	**0.0**
MATL	**Matarih**	**0.20**	**323**			*e*P	**Pg**	**18 35 05.2**	**0.0**
RCY	**Rachaya**	**0.35**	**61**			*e*P	**Pg**	**18 35 07.5**	**-0.2**
RCY						*e*S	**Sg**	**18 35 12.4**	**-0.2**
BRBR	**Barbar**	**0.41**	**78**			*e*P	**Pg**	**18 35 08.8**	**0.0**
BRBR						*e*S	**Sg**	**18 35 14.8**	**+0.3**
BRBR					AML		AML	18 35 16.8	
	comp=N,21nm,0.3s								
BRBR					AML		AML	18 35 17.0	
	comp=E,26nm,0.3s								
BHL	**Bhannes**	**0.59**	**14**			*e*P	**Pg**	**18 35 12.2**	**0.0**
BHL						*e*S	**Sg**	**18 35 20.2**	**+0.1**
BHL	**Bhannes**	**0.59**	**14**			*e*P	**Pg**	**18 35 12.2**	**0.0**
BHL						*e*S	**Sg**	**18 35 20.2**	**+0.1**
TOTH	**TOTAH**	**0.80**	**87**			*e*P	Pb	18 35 08.9	-7.0
TOTH						*e*S	Sb	18 35 15.8	-11
TOTH					AML		AML	18 35 24.5	
	comp=N,12nm,0.4s								
TOTH					AML		AML	18 35 29.2	
	comp=E,9.8nm,0.5s								
HWQ	**Hawqa**	**1.03**	**22**			*e*P	**Pb**	**18 35 19.8**	**0.0**
HWQ	**Hawqa**	**1.03**	**22**			*e*P	**Pb**	**18 35 19.8**	**0.0**
SALA	**Sala**	**1.22**	**120**			*e*P	**Pn**	**18 35 22.7**	**-0.1**
SALA						*e*S	**Sb**	**18 35 38.8**	**+0.1**
SALA					AML		AML	18 35 41.8	
	comp=N,4.7nm,0.5s								
SALA					AML		AML	18 35 41.9	
	comp=E,0.4nm,0.4s								

*ISCJB **13** 18:39:37.4±0.4, 12°39S±0°07×166°93E±0°09, h220km, mb4.1/34, Error ellipse: s-maj=12.9km s-min=8.5km az=25.8*
*IDC **13** 18:39:38.8±5.0, 12°42S×167°04E, h218km±46km, mb3.9/18, mb1 4.0/18, mb1mx4.0/21, mbtmp3.9/18, Error ellipse: s-maj=19.7km s-min=15.9km az=90.0*
*NEIC **13** 18:39:39.1±2.8, 12°35S×166°94E, h222km±26km, mb4.4/19, Error ellipse: s-maj=12.8km s-min=8.9km az=88.0*

ISC 13 18:39:38.8±0.4, 12°38S±0°08×167°0E±0°1, h220km, n87, σ1°903/95, mb4.3/34, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**19.70**	**277**			P	**P**	**18 43 48.4**	**-3.4**
	19nm,1.0s								
EIDS	**Eidsvold**	**19.82**	**227**			*e*P	**P**	**18 43 54.7**	**+1.8**
	33nm,1.0s								
CTA	**Charters Tower**	**21.33**	**246**	P		P	**P**	**18 44 09.8**	**+0.9**
	20nm,0.9s,baz=69,slow=11,SNR=11								
CTA	**Charters Tower**	**21.33**	**246**	P		P	**P**	**18 44 09.8**	**+0.9**
CTAO	**Charters Tower**	**21.33**	**246**			*e*P	**P**	**18 44 09.6**	**+0.7**
	21nm,0.9s								
STKA	**Stephens Creek**	**30.37**	**226**	P		P	**P**	**18 45 30.0**	**-0.3**
	0.7nm,0.4s,baz=38,slow=12,SNR=5.2								
STKA	**Stephens Creek**	**30.37**	**226**	P		P	**P**	**18 45 30.0**	**-0.3**
RPZ	**Rata Peaks**	**31.43**	**174**	P		P	**P**	**18 45 39.4**	**0.0**
	12nm,0.5s,baz=262,slow=1.8,SNR=16								
RPZ	**Rata Peaks**	**31.43**	**174**	P		P	**P**	**18 45 39.4**	**0.0**
WRAB	**Tennant Creek**	**32.20**	**252**	P		P	**P**	**18 45 45.8**	**-0.7**
	12nm,1.4s								
WRA	**Warramunga Arr**	**32.22**	**252**	P		P	**P**	**18 45 46.3**	**-0.3**
	2.3nm,0.7s,baz=83,slow=8.9,SNR=11								
WRA	**Warramunga Arr**	**32.22**	**252**	P		P	**P**	**18 45 46.3**	**-0.3**
AS31	**Alice Springs**	**33.33**	**246**	*e*P		P	**P**	**18 45 55.4**	**-0.9**
ASAR	**Alice Springs**	**33.33**	**246**	P		P	**P**	**18 45 55.9**	**-0.4**
	3.2nm,0.7s,baz=71,slow=9.7,SNR=50								
ASAR						pP	**pP**	**18 46 42.9**	**+1.8**
	2.6nm,0.7s,baz=72,slow=9.5,SNR=11								
ASAR	**Alice Springs**	**33.33**	**246**	P		P	**P**	**18 45 55.9**	**-0.4**
ASAR						pP	**pP**	**18 46 42.9**	**+1.8**
MJAR	**Matsushiro Arr**	**55.71**	**332**	P		P	**P**	**18 48 52.5**	**-0.1**
	2.9nm,0.9s,baz=169,slow=8.7,SNR=6.3								
MJAR	**Matsushiro Arr**	**55.71**	**332**	P		P	**P**	**18 48 52.5**	**-0.1**
ASAJ	**Asahikawa**	**60.45**	**340**	P		P	**P**	**18 49 25.8**	**+0.6**
	7.9nm,0.9s,baz=221,slow=4.7,SNR=11								
ASAJ	**Asahikawa**	**60.45**	**340**	P		P	**P**	**18 49 25.8**	**+0.6**
USRK	**Ussuriysk Arra**	**64.68**	**333**	P		P	**P**	**18 49 54.9**	**+1.8**
	4.8nm,1.1s,baz=157,slow=6.4,SNR=4.4								
VNDA	**Vanda**	**65.19**	**181**	*e*P		P	**P**	**18 49 55.8**	**-0.3**
	5.0nm,1.2s								
SBA	**Scott Base**	**65.48**	**180**	P		P	**P**	**18 49 57.9**	**+0.1**
	4.8nm,0.7s								
CASY	**Casey**	**65.60**	**202**	P		P	**P**	**18 49 59.6**	**+0.9**
PETK	**Petropavlovsk-**	**65.71**	**354**	P		P	**P**	**18 49 59.4**	**-0.2**
	2.5nm,0.7s,baz=157,slow=7.8,SNR=6.0								
PETK	**Petropavlovsk-**	**65.71**	**354**	P		P	**P**	**18 49 59.4**	**-0.2**
MDJ	**Mudanjiang**	**66.09**	**332**	*e*P		P	**P**	**18 50 01.2**	**-1.0**
	24nm,1.4s								
ENH	**Enshi**	**69.68**	**309**	P		P	**P**	**18 50 25.2**	**+0.3**
	8.4nm,1.0s								
CMAR	**Chiang Mai Arr**	**73.77**	**294**	P		P	**P**	**18 50 51.4**	**+1.9**
	2.2nm,1.0s,baz=121,slow=4.9,SNR=7.6								
CMAR	**Chiang Mai Arr**	**73.77**	**294**	P		P	**P**	**18 50 51.4**	**+1.9**
CHTO	**Chiang Mai**	**73.88**	**294**	P		P	**P**	**18 50 48.1**	**-2.0**
KDAK	**Kodiak Island**	**77.37**	**21**	P		P	**P**	**18 51 09.4**	**+0.4**
	8.3nm,0.8s,baz=180,slow=3.0,SNR=3.0								
KDAK	**Kodiak Island**	**77.37**	**21**	P		P	**P**	**18 51 09.4**	**+0.4**
QSPA	**South Pole Qui**	**77.64**	**180**	*e*P		P	**P**	**18 51 11.4**	**+0.8**
	9.1nm,1.2s								
ULN	**Ulaanbaatar**	**80.09**	**324**	*e*P		P	**P**	**18 51 24.4**	**+0.2**
	2.4nm,1.0s						

KLYT	**Kilyos**	**0.63**	**2**	*e*Pg	**Pg**	**18 45 33.9**	**+0.1**
CTKS	**Kestanelik-??a**	**0.72**	**328**	*e*PG	**Pg**	**18 45 35.7**	**+0.2**
CTKS	**Kestanelik-??a**	**0.72**	**328**	*e*Pg	**Pg**	**18 45 35.7**	**+0.2**
EDC	**Edincik**	**0.92**	**253**	*e*PG	**Pb**	**18 45 38.5**	**-0.4**
EDC	**Edincik**	**0.92**	**253**	*e*Pg	**Pb**	**18 45 38.5**	**-0.4**
DURS	**Dursunbey**	**1.10**	**202**	*i* P	**Pg**	**18 45 43.0**	**+0.5**
DURS				*i* S	**Sn**	**18 45 57.5**	**+0.4**
DURS	**Dursunbey**	**1.10**	**202**	*i* P	**Pg**	**18 45 43.0**	**+0.5**
DURS				*i* S	**Sn**	**18 45 57.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.16**	**241**	*e*PN	**Pn**	**18 45 42.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.16**	**241**	*e*Pn	**Pn**	**18 45 42.4**	**-0.6**
GULT	**Gulveren**	**1.16**	**99**	*e*PN	**Pn**	**18 45 42.8**	**-0.3**
GULT	**Gulveren**	**1.16**	**99**	*e*Pn	**Pn**	**18 45 42.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.32**	**261**	*e*PN	**Pn**	**18 45 44.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.32**	**261**	*e*Pn	**Pn**	**18 45 44.8**	**-0.4**
BALY	**Balya**	**1.38**	**231**	*i* P	**Pn**	**18 45 45.7**	**-0.4**
BALY				*i* S	**Sg**	**18 46 06.9**	**+1.0**
BALY	**Balya**	**1.38**	**231**	*i* P	**Pn**	**18 45 45.7**	**-0.4**
BALY				*i* S	**Sg**	**18 46 06.9**	**+1.0**
DEMI	**Demirci**	**1.59**	**188**	*i* P	**Pg**	**18 45 52.2**	**+0.3**
DEMI				*i* S	**Sg**	**18 46 12.3**	**-0.3**
DEMI	**Demirci**	**1.59**	**188**	*i* P	**Pg**	**18 45 52.2**	**+0.3**
DEMI				*i* S	**Sg**	**18 46 12.3**	**-0.3**

BJI ***13*** *18:45:40.8, 19°.83N×147°.31E, h27km, mB5.3/33, mb4.9/43, Ms4.7/36, Ms7 4.4/36*
ISCJB ***13*** *18:45:43.0±0.1, 19°.97N±0°.03×146°.99E±0°.02, h26km, mb4.9/135, MS4.2/34, Error ellipse: s-maj=4.2km s-min=3.3km az=7.6*
NEIC ***13*** *18:45:43.1±2.9, 20°.00N×147°.09E, h19km±17km, mb5.0/72, Error ellipse: s-maj=5.0km s-min=4.4km az=127.0*
MOS ***13*** *18:45:43.6±0.9, 20°.00N×147°.02E, h33km, mb5.1/41, Error ellipse: s-maj=10.1km s-min=5.9km az=107.2*
IDC ***13*** *18:45:45.6±3.4, 20°.00N×147°.14E, h38km±30km, mb4.3/26, mb1 4.5/29, mb1mx4.5/32, mbtmp4.4/29, ML4.7/3, MS4.1/17, Ms1 4.1/17, ms1mx3.9/33, Error ellipse: s-maj=17.0km s-min=11.1km az=88.0*

ISC 13 18:45:44.5±0.4, 20°.01N±0°.04×147°.08E±0°.06, h28km±2km, h28km:pP-P, n520, σ0s99/556, mb4.9/135, MS4.2/34, 118C-121D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.73**	**199**	Pn		**Pn**	**18 47 21.6**	**+0.1**
	46nm,0.3s,baz=38,slow=19,SNR=22							
GUMO				Sn		**Sn**	**18 48 38.9**	**+1.7**
	72nm,0.3s,baz=315,slow=20,SNR=4.9							
GUMO				LR		LR	18 49 52.6	
	comp=Z,2μm,20.4s,baz=26,slow=37							
GUMO	**Guam**	**6.73**	**199**	P		**Pn**	**18 47 21.6**	**+0.1**
GUMO							18 48 38.9	
GUMO	**Guam**	**6.73**	**199**	Pn		**Pn**	**18 47 21.6**	**+0.1**
GUMO				*e*Sn		**Sn**	**18 48 32.6**	**-4.6**
GUMO				Sn		**Sn**	**18 48 38.9**	**+1.7**
CBIJ	**Chichi jima**	**8.36**	**328**	Pn		**Pn**	**18 47 43.9**	**0.0**
	11nm,0.3s,baz=180,slow=20,SNR=2.9							
CBIJ				Sn		**Sn**	**18 49 12.6**	**-4.8**
	10nm,0.3s,baz=162,slow=20,SNR=4.5							
CBIJ	**Chichi jima**	**8.36**	**328**	Pn		**Pn**	**18 47 43.9**	**0.0**
CBIJ				Sn		**Sn**	**18 49 12.6**	**-4.8**
MJAR	**Matsushiro Arr**	**18.21**	**337**	P		**Pn**	**18 49 54.1**	**-1.2**
	0.5nm,0.3s,baz=168,slow=11,SNR=10							
MJAR	**Matsushiro Arr**	**18.21**	**337**	P		**Pn**	**18 49 54.1**	**-1.2**
MJAR	**Matsushiro Arr**	**18.21**	**337**	P		**Pn**	**18 49 54.1**	**-1.2**
MAJO	**Matsushiro**	**18.21**	**337**	*e*P		**Pn**	**18 49 54.3**	**-1.0**
MAJO					pmax	pmax		
	comp=Z,93nm,1.4s							
MAJO	**Matsushiro**	**18.21**	**337**	*e*P		**Pn**	**18 49 54.3**	**-1.0**
	comp=Z,93nm,1.4s							
MAT	**Matsushiro**	**18.21**	**337**	P		**Pn**	**18 49 55.1**	**-0.2**
MAT				S		**Sn**	**18 53 17.0**	**-0.8**
KSRS	**Korea Array**	**24.09**	**320**	P		**P**	**18 50 58.2**	**+0.5**
	comp=Z,14nm,0.8s,baz=144,slow=9.6,SNR=30							
KSAR	**Wonju Array Be**	**24.11**	**320**	P		**P**	**18 50 58.2**	**+0.4**
KSAR	**Wonju Array Be**	**24.11**	**320**	P		**P**	**18 50 58.2**	**+0.4**
ASAJ	**Asahikawa**	**24.33**	**352**	P		**P**	**18 51 00.5**	**+0.7**
	comp=Z,16nm,0.9s,baz=219,slow=9.9,SNR=7.9							
ASAJ				LR		LR	19 00 44.5	
	comp=Z,326nm,19.0s,baz=192,slow=37							
ASAJ	**Asahikawa**	**24.33**	**352**	P		**P**	**18 51 00.5**	**+0.7**
DAV	**Davao City (W)**	**24.50**	**241**	LR		LR	18 59 55.6	
	comp=Z,386nm,19.0s,baz=0.1,slow=35							
SSLB	**Suanglung**	**24.52**	**284**	*e*P		**P**	**18 51 01.2**	**-0.6**
	comp=Z,30nm,0.9s							
INCN	**Inchon**	**24.90**	**319**	P		**P**	**18 51 03.9**	**-1.2**
VLA	**Vladivostok**	**26.34**	**334**	⇓*i* P		**P**	**18 51 16.9**	**-1.1**
VLA				*e*			18 51 56.6	
VLA				*e*			18 54 42.1	
VLA				S		**S**	**18 55 48.3**	**-1.0**
VLA					pmax	pmax		
	comp=Z,25nm,1.3s							
YSS	**Yuzh-Sakhalins**	**27.11**	**353**	*e*P		**P**	**18 51 26.0**	**+1.1**
YSS				*e*			18 52 10.0	
YSS					MLR	MLR		
	comp=Z,500nm,14.0s							
YSS					MLR	MLR		
	comp=E,1μm,15.0s							
YSS	**Yuzh-Sakhalins**	**27.11**	**353**	P		**P**	**18 51 24.9**	**0.0**
USRK	**Ussuriysk Arra**	**27.20**	**336**	P		**P**	**18 51 26.2**	**+0.4**
	comp=E,4.6nm,0.9s,baz=164,slow=9.9,SNR=4.5							
USRK				LR		LR	19 02 42.1	
	comp=E,188nm,18.1s,baz=142,slow=37							
NJ2	**Nanjing**	**27.96**	**301**	*e*P		**P**	**18 51 34.3**	**+1.5**
NJ2				pP		**pP**	**18 51 39.5**	**-1.5**
NJ2				sP		**sP**	**18 51 41.4**	**-3.0**
NJ2				S		**S**	**18 56 17.0**	**+1.8**
NJ2				sS		**sS**	**18 56 28.0**	**-0.7**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
NJ2					pmax	pmax		
	comp=Z,820nm,4.4s							
NJ2				LR		LR		
	comp=N,380nm,23.7s							
NJ2				LR		LR		
	comp=E,610nm,14.1s							
NJ2				LR		LR		
	comp=Z,600nm,19.2s							
MDJ	**Mudanjiang**	**28.52**	**333**	P		**P**	**18 51 37.3**	**-0.3**
MDJ				pP		**pP**	**18 51 43.4**	**-2.4**
MDJ				sP		**sP**	**18 51 45.8**	**-3.4**
MDJ				S		**S**	**18 56 23.8**	**+0.1**
MDJ				ScP		**ScP**	**18 58 29.4**	**+1.2**
MDJ				PcS		**PcS**	**18 58 32.0**	**+0.9**
MDJ					pmax	pmax		
	comp=Z,250nm,4.1s							
MDJ				LR		LR		
	comp=N,180nm,19.5s							
MDJ				LR		LR		
	comp=E,190nm,20.9s							
MDJ				LR		LR		
	comp=Z,260nm,24.5s							
PMG	**Port Moresby**	**29.23**	**180**	P		**P**	**18 51 45.2**	**+1.0**
	comp=Z,35nm,0.9s,baz=338,slow=3.4,SNR=7.5							
PMG	**Port Moresby**	**29.23**	**180**	*e*P		**P**	**18 51 44.3**	**+0.2**
PMG					pmax	pmax		
	comp=Z,62nm,1.2s							
PMG	**Port Moresby**	**29.23**	**180**	P		**P**	**18 51 45.2**	**+1.0**
CN2	**Changchun**	**29.82**	**328**	*e*P		**P**	**18 51 52.1**	**+2.9**
CN2				*e*pP		**pP**	**18 51 59.4**	**+2.0**
CN2				*e*S		**S**	**18 56 46.0**	**+1.8**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
CN2					pmax	pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,400nm,18.0s							
CN2				LR		LR		
	comp=E,600nm,18.0s							
CN2				LR		LR		
	comp=Z,700nm,19.0s							
HABR	**Khabarovsk**	**30.01**	**344**	*e*P		**P**	**18 51 51.0**	**+0.3**
HABR				*e**PP		**pP**	**18 51 58.9**	**0.0**
HABR				*SP		**sP**	**18 52 03.4**	**+1.1**
HABR							18 52 46.7	
HABR				*e*			18 54 50.7	
HABR				*e*S		**S**	**18 56 47.3**	**+0.4**
HABR				*e**SS		**sS**	**18 57 02.3**	**+1.8**
HABR				*e*SS		**SnSn**	**18 58 20.3**	**+0.3**
HABR				*e*			19 02 25.7	
HABR					pmax	pmax		
	comp=N,14nm,1.9s							
HABR					pmax	pmax		
	comp=E,33nm,1.9s							
HABR					pmax	pmax		
	comp=Z,22nm,1.9s							
HABR					MLR	MLR		
	comp=Z,160nm,13.0s							
KKM	**Kota Kinabalu**	**33.03**	**249**	P		**P**	**18 52 18.0**	**+0.1**
BJI	**Beijing**	**33.13**	**314**	P		**P**	**18 52 21.1**	**+2.8**
BJI					pmax	pmax		
	comp=Z,9.0nm,1.2s							
BJI					LR	LR		
	comp=N,540nm,16.3s							
BJI					LR	LR		
	comp=E,200nm,15.6s							
BJI					LR	LR		
	comp=Z,160nm,18.8s							
COEN	**Coen**	**33.97**	**187**	*e*P		**P**	**18 52 25.9**	**+0.1**
	comp=Z,60nm,0.9s							
PETK	**Petropavlovsk-**	**34.04**	**11**	P		**P**	**18 52 26.6**	**+0.5**
	comp=Z,7.4nm,1.0s,baz=211,slow=8.4,SNR=5.5							
PETK					LR	LR	19 03 29.2	
	comp=Z,236nm,20.9s,baz=190,slow=31							
PETK	**Petropavlovsk-**	**34.04**	**11**	P		**P**	**18 52 26.6**	**+0.5**
PETK	**Petropavlovsk-**	**34.04**	**11**	P		**P**	**18 52 26.6**	**+0.5**
QIZ	**Qiongzhong**	**35.06**	**275**	P		**P**	**18 52 35.3**	**-0.1**
QIZ				S		**S**	**18 58 07.3**	**+1.0**
QIZ					pmax	pmax		
	comp=Z,33nm,1.6s							
QIZ					pmax	pmax		
	comp=Z,360nm,5.8s							
QIZ					LR	LR		
	comp=N,520nm,12.8s							
QIZ					LR	LR		
	comp=Z,590nm,16.3s							
ENH	**Enshi**	**35.39**	**294**	*e*P		**P**	**18 52 37.0**	**-1.1**
	comp=Z,4.2nm,0.5s							
HIA	**Hailar**	**36.47**	**330**	*e*P		**P**	**18 52 47.5**	**+0.5**
HIA					pmax	pmax		
	comp=Z,26nm,1.0s							
HIA	**Hailar**	**36.47**	**330**	*e*P		**P**	**18 52 47.5**	**+0.5**
	comp=Z,26nm,1.0s							
XAN	**Xi'an**	**36.53**	**300**	P		**P**	**18 52 48.0**	**+0.2**
XAN				pP		**pP**	**18 52 59.1**	**+3.0**
XAN				S		**S**	**18 58 24.3**	**-4.3**
XAN					pmax	pmax		
	comp=Z,3.0nm,1.4s							
XAN					pmax	pmax		
	comp=Z,37nm,6.8s							
XAN					LR	LR		
	comp=N,250nm,14.6s							
XAN					LR	LR		
	comp=Z,100nm,14.0s							
KAPI	**Kappang**	**36.61**	**230**	LR		LR	19 06 03.3	
	comp=Z,146nm,20.0s,baz=81,slow=33							
HHC	**Hu-ho-hao-te**	**36.65**	**312**	*e*P		**P**	**18 52 48.8**	**0.0**
HHC					pP	pP	18 53 03.0	+5.9
HHC					PP	PP	18 54 15.9	+3.4
HHC					S	**S**	**18 58 29.6**	**-0.8**
HHC					sS	**ScP**	**18 58 51.5**	**-4.9**
HHC					SS	SS	19 00 58.1	-13
HHC					ScS	**ScS**	**19 03 01.3**	**-1.8**
HHC					pmax	pmax		
	comp=Z,18nm,0.7s							
HHC					pmax	pmax		
	comp=Z,160nm,6.0s							
HHC					LR	LR		
	comp=N,380nm,13.6s							
HHC					LR	LR		
	comp=E,360nm,14.5s							
HHC					LR	LR		
	comp=Z,380nm,14.7s							
GYA	**Guiyang**	**37.57**	**288**	P		**P**	**18 52 57.8**	**+0.9**
GYA				pP		**pP**	**18 53 06.0**	**+0.8**
GYA				PP		PP	18 54 25.4	+2.5
GYA				S		**S**	**18 58 43.9**	**-0.9**
GYA				sS		**sS**	**18 58 57.8**	**-0.7**
GYA				SS		SS	19 01 18.0	-12
GYA					pmax	pmax		
	comp=Z,20nm,0.8s							
GYA					pmax	pmax		
	comp=Z,130nm,4.8s							
GYA					LR	LR		
	comp=N,580nm,16.6s							
GYA					LR	LR		
	comp=E,530nm,17.8s							
GYA					LR	LR		
	comp=Z,560nm,16.9s							
CD2	**Chengdu**	**40.37**	**294**	P		**P**	**18 53 20.3**	**+0.1**
CD2				pP		**pP**	**18 53 28.4**	**-0.1**
CD2				sP		**sP**	**18 53 32.0**	**+0.1**
CD2				PP		PP	18 54 57.4	+4.1
CD2				S		**S**	**18 59 25.8**	**-0.9**
CD2				sS		**sS**	**18 59 39.3**	**-1.2**
CD2				SS		SS	19 02 18.9	-7.2
CD2					pmax	pmax		
	comp=Z,20nm,0.5s							
CD2					pmax	pmax		
	comp=Z,210nm,5.1s							
CD2					LR	LR		
	comp=E,400nm,6.5s							
CD2					LR	LR		
	comp=Z,460nm,14.3s							
KSM	**Kuching**	**40.38**	**247**	*e*P		P	18 53 16.9	-3.5
	comp=Z,44nm,1.2s							
LZH	**Lanzhou**	**41.02**	**302**	⇓P		**P**	**18 53 26.8**	**+1.2**
LZH				pP		**pP**	**18 53 34.3**	**+0.3**
LZH				sP		**sP**	**18 53 37.8**	**+0.4**
LZH				*e*S		**S**	**18 59 37.0**	**+0.4**
LZH					pmax	pmax		
	comp=Z,39nm,1.2s							
LZH					pmax	pmax		
	comp=Z,170nm,5.8s							
LZH					LR	LR		
	comp=N,240nm,13.0s							
LZH					LR	LR		
	comp=E,380nm,14.3s							
LZH					LR	LR		
	comp=Z,440nm,16.4s							
KMI	**Kunming**	**41.12**	**286**	P		**P**	**18 53 27.5**	**+0.8**
KMI				pP		**pP**	**18 53 37.1**	**+2.1**
KMI				S		**S**	**18 59 39.3**	**+0.9**
KMI					pmax	pmax		
	comp=Z,16nm,1.0s							
KMI					LR	LR		
	comp=N,240nm,15.0s							
KMI					LR	LR		
	comp=E,260nm,10.2s							
KMI					LR	LR		
	comp=Z,230nm,13.2s							
CIT	**Chita**	**41.25**	**329**	*e*P		**P**	**18 53 27.6**	**+0.5**
CIT				*e*			18 53 38.6	
WB2	**Warramunga Arr**	**41.62**	**198**	*e*P		**P**	**18 53 30.3**	**-0.1**
WRA	**Warramunga Arr**	**41.62**	**198**	P		**P**	**18 53 29.6**	**-0.7**
	comp=Z,12nm,0.9s,baz=20,slow=8.8,SNR=15							
WRA	**Warramunga Arr**	**41.62**	**198**	P		**P**	**18 53 29.7**	**-0.7**
WRA	**Warramunga Arr**	**41.62**	**198**	P		**P**	**18 53 29.6**	**-0.7**
ULN	**Ulaanbaatar**	**42.58**	**320**	*e*P		**P**	**18 53 38.2**	**0.0**
ULN					pmax	pmax		
	comp=Z,12nm,1.1s							
ULN	**Ulaanbaatar**	**42.58**	**320**	*e*P		**P**	**18 53 38.1**	**0.0**
	comp=Z,12nm,1.1s							
SONM	**Songino Array**	**42.96**	**320**	P		**P**	**18 53 41.8**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=137,slow=7.8,SNR=26							
SONM	**Songino Array**	**42.96**	**320**	P		**P**	**18 53 41.8**	**+0.6**
SONM	**Songino Array**	**42.96**	**320**	P		**P**	**18 53 41.8**	**+0.6**
SEY	**Seymchan**	**43.04**	**4**	⇑*i* P		**P**	**18 53 42.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**43.33**	**210**	*e*P		**P**	**18 53 43.7**	**-0.6**
	comp=Z,17nm,0.6s							
FITZ	**Fitzroy Crossi**	**43.33**	**210**	*e*P		**P**	**18 53 42.7**	**-1.6**
	comp=Z,10nm,0.7s							
YAK	**Yakutsk**	**43.69**	**348**	*e*P		**P**	**18 53 45.3**	**-1.4**
YAK					pmax	pmax		
	comp=Z,12nm,0.9s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.3s							
YAK	**Yakutsk**	**43.69**	**348**	*e*P		**P**	**18 53 44.9**	**-1.8**
	comp=N,18nm,0.9s							
GTA	**Gaotai**	**44.81**	**306**	⇑P		**P**	**18 53 57.0**	**+0.8**
GTA				pP		**pP**	**18 54 04.6**	**0.0**
GTA				sP		**sP**	**18 54 07.8**	**-0.2**
GTA				S		**S**	**19 00 31.8**	**-0.2**
GTA				sS		sS	19 00 53.4	+7.5
GTA					pmax	pmax		
	comp=Z,10.0nm,2.0s							
GTA					pmax	pmax		
	comp=Z,230nm,5.7s							
GTA					LR	LR		
	comp=N,310nm,15.2s							
GTA					LR	LR		
	comp=E,310nm,15.0s							
GTA					LR	LR		
	comp=Z,210nm,16.4s							
BOD	**Bodaibo**	**44.84**	**336**	*e*P		**P**	**18 53 55.4**	**-0.6**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.9s							
AS31	**Alice Springs**	**45.27**	**197**	*e*P		**P**	**18 53 58.7**	**-1.2**
ASAR	**Alice Springs**	**45.27**	**197**	P		**P**	**18 53 59.4**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=24,slow=8.9,SNR=28							
ASAR	**Alice Springs**	**45.27**	**197**	P		**P**	**18 53 59.4**	**-0.5**
ASAR	**Alice Springs**	**45.27**	**197**	P		**P**	**18 53 59.4**	**-0.5**
CM31	**Chiang Mai Arr**	**45.35**	**276**	*e*P		**P**	**18 54 01.0**	**+0.3**
	comp=Z,3.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**45.35**	**276**	P		**P**	**18 54 00.6**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=64,slow=8.2,SNR=16							
CMAR					LR	LR	19 13 20.7	
	comp=Z,82nm,18.5s,baz=294,slow=36							
CMAR	**Chiang Mai Arr**	**45.35**	**276**	P		**P**	**18 54 00.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.35**	**276**	P		**P**	**18 54 00.6**	**-0.1**
ZAK	**Zakamensk**	**45.91**	**322**	*e*P		**P**	**18 54 04.8**	**+0.1**
ZAK					pmax	pmax		
	comp=Z,8.0nm,1.1s							
DZM	**Mont Dzumac**	**45.91**	**155**	*e*LR		LR	19 07 03.7	
	comp=Z,505nm,23.9s							
RMQ	**Roma**	**46.25**	**178**	*e*P		**P**	**18 54 07.6**	**+0.1**
	comp=Z,23nm,1.2s							
TLY	**Talaya**	**46.26**	**324**	*e*P		P	18 54 11.6	+4.2
TLY				*e*			18 54 18.9	
TLY				*e*			19 04 14.8	
TLY					pmax	pmax		
	comp=Z,11nm,0.9s							
TLY					MLR	MLR		
	comp=Z,194nm,18.0s							
TLY	**Talaya**	**46.26**	**324**	*e*P		**P**	**18 54 05.7**	**-1.7**
	comp=Z,41nm,1.4s							
QLP	**Quilpie**	**46.40**	**184**	*e*P		**P**	**18 54 07.7**	**-0.9**
KULM	**Kulin**	**47.42**	**258**	P		**P**	**18 54 15.7**	**-1.2**
	comp=Z,44nm,1.3s							
MOY	**Mondy**	**47.75**	**323**	*e*P		**P**	**18 54 22.1**	**+3.0**
MBWA	**Marble Bar**	**48.89**	**215**	*e*P		**P**	**18 54 27.2**	**-0.8**
MBWA	**Marble Bar**	**48.89**	**215**	*e*P		**P**	**18 54 27.1**	**-1.0**
	comp=Z,31nm,1.3s							
BILL	**Bilibino**	**49.52**	**9**	*e*P		**P**	**18 54 32.0**	**-0.3**
BILL					pmax	pmax		
	comp=Z,20nm,1.2s							
BILL	**Bilibino**	**49.52**	**9**	*e*P		**P**	**18 54 31.6**	**-0.7**
	comp=Z,12nm,0.7s							
SHL	**Shillong**	**50.89**	**287**	*e*P		P	18 54 47.0	+3.4
LSA	**Lhasa**	**51.24**	**292**	P		**P**	**18 54 47.8**	**+1.3**
LSA	**Lhasa**	**51.24**	**292**	*e*P		**P**	**18 54 48.0**	**+1.4**
LSA				*e*			18 56 43.5	
LSA					pmax	pmax		
	comp=Z,80nm,1.2s							
LSA	**Lhasa**	**51.24**	**292**	*e*P		**P**	**18 54 48.0**	**+1.4**
	comp=Z,80nm,1.2s							
LSA				*e*PP		PP	18 56 43.5	0.0
CMSA	**Cobar Meteorol**	**51.27**	**182**	*e*P		**P**	**18 54 46.3**	**+0.3**
	comp=Z,29nm,0.9s							
STKA	**Stephens Creek**	**51.86**	**186**	P		**P**	**18 54 49.3**	**-1.1**
	comp=Z,4.9nm,0.6s,baz=357,slow=9.4,SNR=11							
STKA	**Stephens Creek**	**51.86**	**186**	*e*P		**P**	**18 54 50.4**	**0.0**
	comp=Z,8.5nm,1.3s							
STKA	**Stephens Creek**	**51.86**	**186**	P		**P**	**18 54 49.3**	**-1.1**
STKA	**Stephens Creek**	**51.86**	**186**	P		**P**	**18 54 49.3**	**-1.1**
AFI	**Afiamalu**	**52.67**	**127**	LR		LR	19 14 35.7	
	comp=Z,153nm,19.5s,baz=6.7,slow=33							
YNG	**Young**	**54.02**	**179**	*e*P		**P**	**18 55 06.8**	**+0.5**
	comp=Z,8.1nm,1.0s							
TAPN	**Taplejung**	**54.44**	**290**	*e*P		**P**	**18 55 11.0**	**+1.0**
	comp=Z,56nm,1.0s							
TAPN	**Taplejung**	**54.44**	**290**	*e*P		**P**	**18 55 11.0**	**+1.0**
	comp=Z,56nm,1.0s							
WMQ	**Urumqi**	**54.45**	**310**	P		**P**	**18 55 11.0**	**+1.4**
WMQ				pP		**pP**	**18 55 18.6**	**+0.4**
WMQ				sP		**sP**	**18 55 21.8**	**+0.3**
WMQ					pmax	pmax		
	comp=Z,44nm,1.2s							
WMQ					pmax	pmax		
	comp=Z,410nm,4.8s							
WMQ					LR	LR		
	comp=N,92nm,17.8s							
WMQ					LR	LR		
	comp=E,110nm,19.7s							
WMQ					LR	LR		
	comp=Z,140nm,16.9s							
ODAN	**Odare**	**54.77**	**289**	*e*P		**P**	**18 55 13.1**	**+0.8**
	comp=Z,99nm,1.3s							
ODAN	**Odare**	**54.77**	**289**	*e*P		**P**	**18 55 13.1**	**+0.8**
	comp=Z,99nm,1.3s							
RAMN	**Ramite**	**55.46**	**289**	*e*P		**P**	**18 55 18.6**	**+1.3**
RAMN	**Ramite**	**55.46**	**289**	*e*P		**P**	**18 55 18.6**	**+1.3**
JIRN	**Jiri**	**55.74**	**290**	*e*P		**P**	**18 55 20.7**	**+1.2**
JIRN	**Jiri**	**55.74**	**290**	*e*P		**P**	**18 55 20.7**	**+1.2**
GUN	**Gumba**	**55.99**	**291**	*e*P		**P**	**18 55 22.3**	**+1.0**
GUN	**Gumba**	**55.99**	**291**	*e*P		**P**	**18 55 22.3**	**+1.0**
PKI	**Pulchoki**	**56.44**	**290**	*e*P		**P**	**18 55 24.9**	**+0.4**
PKI	**Pulchoki**	**56.44**	**290**	*e*P		**P**	**18 55 24.9**	**+0.4**
PKI	**Pulchoki**	**56.44**	**290**	*e*P		**P**	**18 55 24.9**	**+0.4**
KKN	**Kakani**	**56.53**	**291**	*e*P		**P**	**18 55 25.7**	**+0.7**
	comp=Z,18nm,0.8s							
KKN	**Kakani**	**56.53**	**291**	*e*P		**P**	**18 55 25.7**	**+0.7**
KKN					pmax	pmax		
	comp=Z,18nm,0.8s							
KKN	**Kakani**	**56.53**	**291**	*e*P		**P**	**18 55 25.7**	**+0.7**
	comp=Z,18nm,0.8s							
DMN	**Daman**	**56.71**	**290**	*e*P		**P**	**18 55 26.9**	**+0.7**
DMN	**Daman**	**56.71**	**290**	*e*P		**P**	**18 55 26.9**	**+0.7**
GKN	**Gorkha**	**57.07**	**291**	*e*P		**P**	**18 55 29.5**	**+0.8**
	comp=Z,120nm,1.3s							
GKN	**Gorkha**	**57.07**	**291**	*e*P		**P**	**18 55 29.5**	**+0.8**
	comp=Z,120nm,1.3s							
ZAA0	**Zalesovo Array**	**57.78**	**322**	*e*P		**P**	**18 55 33.0**	**-0.1**
ZALV	**Zalesovo Beam**	**57.78**	**322**	P		**P**	**18 55 32.7**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=102,slow=6.2,SNR=21							
ZALV	**Zalesovo Beam**	**57.78**	**322**	P		**P**	**18 55 32.7**	**-0.4**
ZALV	**Zalesovo Beam**	**57.78**	**322**	P		**P**	**18 55 32.7**	**-0.4**
DANN	**Dangsing**	**57.80**	**291**	*e*P		**P**	**18 55 35.1**	**+1.1**
	comp=Z,82

comp=Z,9.0nm,1.0s
COLA College 61.52 26 *e*P P 18 55 58.9 +0.3
comp=Z,8.6nm,1.0s
ILAR Eielson Array 61.90 26 P P 18 55 59.8 -1.4
comp=Z,5.4nm,1.0s,baz=260,slow=5.3,SNR=29
ILAR Eielson Array 61.90 26 P P 18 55 59.8 -1.4
ILAR Eielson Array 61.90 26 P P 18 55 59.8 -1.4
KSH Kashi 63.18 305 P P 18 56 14.6 +4.2
KSH epP pP 18 56 22.3 +3.2
KSH *e*sP sP 18 56 25.6 +3.2
KSH *e*PcP **PcP** **18 56 51.1 +3.4**
KSH *e*PP **PP** **18 58 35.6 +6.2**
KSH *e*ScP 19 00 50.1
KSH *e*PcS 19 00 53.1
KSH *e*S **S** **19 04 43.0 +2.7**
KSH *e*sS sS 19 04 56.9 +2.2
KSH *e*ScS **ScS** **19 06 02.1 +0.3**
KSH *e*SS **SS** **19 08 52.6 +6.1**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,180nm,5.3s
KSH LR LR
comp=N,270nm,5.5s
KSH LR LR
comp=E,270nm,5.4s
KSH LR LR
comp=Z,220nm,6.3s
TKM2 Tokmak 2 63.24 309 P P 18 56 11.6 +0.8
TKM2 pmax pmax
comp=Z,16nm,1.3s
TKM2 Tokmak 2 63.24 309 *e*P P 18 56 11.7 +0.8
comp=Z,12nm,1.0s
AAK Ala-Archa 64.07 308 *e*P P 18 56 16.9 +0.7
AAK pmax pmax
comp=Z,25nm,2.5s
AAK Ala-Archa 64.07 308 *e*P P 18 56 17.0 +0.7
comp=Z,33nm,1.1s
EKS2 Erkin-Say 64.60 309 *e*P P 18 56 20.2 +0.6
EKS2 pmax pmax
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 64.60 309 *e*P P 18 56 20.2 +0.6
comp=Z,8.3nm,1.1s
DAWY Dawson 64.99 28 *e*P P 18 56 22.3 +0.6
BVA0 Borovoye Array 66.31 320 P P 18 56 30.6 +0.3
BVA0 pmax pmax
comp=Z,8.0nm,1.5s
BVAR Borovoye Array 66.31 320 P P 18 56 30.7 +0.4
comp=Z,7.9nm,0.6s,baz=89,slow=7.2,SNR=65
BVAR Borovoye Array 66.31 320 P P 18 56 30.7 +0.4
BVAR Borovoye Array 66.31 320 P P 18 56 30.7 +0.4
BRVK Borovoye 66.37 320 *e*P P 18 56 31.4 +0.6
BRVK pmax pmax
comp=Z,33nm,1.1s
BRVK Borovoye 66.37 320 *e*P P 18 56 31.4 +0.6
comp=Z,33nm,1.1s
BRVK Borovoye 66.37 320 P P 18 56 31.0 +0.3
comp=Z,121nm,1.0s,SNR=8.8
INK Inuvik 67.66 23 P P 18 56 37.9 -0.8
comp=Z,6.1nm,1.0s,baz=264,slow=6.8,SNR=9.4
INK Inuvik 67.66 23 *e*P P 18 56 37.5 -1.1
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 67.66 23 *e*P P 18 56 37.5 -1.1
comp=Z,13nm,1.2s
KBL Kabul 69.33 300 *e*P P 18 56 50.6 +0.6
KBL pmax pmax
comp=Z,33nm,1.0s
KBL Kabul 69.33 300 *e*P P 18 56 50.6 +0.6
comp=Z,33nm,1.0s
DLBC Dease Lake 69.48 34 P P 18 56 50.4 +0.1
comp=Z,10nm,0.9s,baz=280,slow=8.4,SNR=9.6
DLBC LR LR 19 21 57.1
comp=Z,122nm,21.0s,baz=255,slow=31
DLBC Dease Lake 69.48 34 P P 18 56 50.4 +0.1
BBB Bella Bella 71.31 40 LR LR 19 22 22.8
comp=Z,119nm,19.4s,baz=261,slow=31
SVE Sverdlovsk 71.56 325⇓ *e*P P 18 57 03.6 +0.7
SVE pmax pmax
comp=Z,26nm,1.6s
PPT2 Papeete2 72.53 117 *e*LR LR 19 19 03.5
comp=Z,110nm,22.0s
ARU Arti 72.76 324 *c i*P P 18 57 09.3 -0.8
ARU 18 59 48.0
ARU S S 19 06 33.4 -0.5
ARU SS SS 19 11 13.4 0.0
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 72.76 324 *e*P P 18 57 09.1 -1.0
comp=Z,22nm,1.1s
ARU *e* 18 57 21.0
AB31 Akbulak array 73.28 317 P P 18 57 13.1 -0.2
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 73.28 317 *e*P P 18 57 12.9 -0.4
comp=Z,5.8nm,0.7s
AKTO Aktyubinsk 74.25 318 P P 18 57 18.6 -0.4
AKTO pmax pmax
comp=Z,2.0nm,1.5s
PGC Sidney 74.91 43 *e*P P 18 57 22.4 -0.4
comp=Z,0.7nm,1.0s
NLWA Neilton Lookou 74.92 45 *e*P P 18 57 22.8 -0.2
comp=Z,11nm,1.0s
TBI Tubuai 75.40 122 *e*LR LR 19 20 45.3
comp=Z,156nm,40.2s
JCW Jim Creek 76.00 44 *e*P P 18 57 30.0 +0.8
comp=Z,43nm,1.1s
YKA Yellowknife Ar 76.22 28 P P 18 57 29.6 -0.5
comp=Z,4.5nm,0.7s,baz=290,slow=5.7,SNR=50
YKA Yellowknife Ar 76.22 28 P P 18 57 29.6 -0.5
YKA Yellowknife Ar 76.22 28 P P 18 57 29.6 -0.5
HUMO Hull Mountain 76.71 49 *e*P P 18 57 32.8 -0.6
comp=Z,9.4nm,1.1s
KIPM Iron Peak 77.06 52 *e*P P 18 57 36.5 +1.0
comp=Z,28nm,1.1s
YBH Yreka Blue Hor 77.11 50 *e*P P 18 57 36.4 +0.7
YBH pmax pmax
comp=Z,13nm,1.2s
YBH Yreka Blue Hor 77.11 50 *e*P P 18 57 36.4 +0.7
comp=Z,13nm,1.2s
ETW Entiat 77.19 44 *e*P P 18 57 36.5 +0.4
comp=Z,32nm,0.9s
RES Resolute Bay 77.85 14 *e*P P 18 57 39.4 +0.4
RES Resolute Bay 77.85 14 *e*P P 18 57 39.4 +0.4
RSW Rattlesnake Hi 78.01 45 *e*P P 18 57 40.8 +0.1
comp=Z,11nm,0.7s
OD2 Odessa Site #2 78.31 44 *e*P P 18 57 42.3 +0.2
comp=Z,9.7nm,0.9s
MOD Modoc 78.80 49 *e*P P 18 57 45.4 +0.3
comp=Z,14nm,1.2s
NEW Newport 79.07 43 *e*P P 18 57 46.2 -0.2
NEW *e* 18 57 58.0
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 79.07 43 *e*P P 18 57 46.2 -0.2
comp=Z,9.4nm,1.0s
NEW *e* 18 57 58.0
NEW Newport 79.07 43 ⇑P P 18 57 46.8 +0.5
baz=79,SNR=7.7
C11A Tepee Creek (N 79.75 43 ⇑P P 18 57 50.5 +0.4
baz=80,SNR=10
A12A Yaak River Ran 79.79 42 ⇓P P 18 57 51.1 +0.8
baz=80,SNR=5.9
WVOR Wild Horse Val 79.82 49 *e*P P 18 57 51.1 +0.4
WVOR pmax pmax
comp=Z,17nm,1.2s
WVOR Wild Horse Val 79.82 49 *e*P P 18 57 51.1 +0.4
comp=Z,17nm,1.2s
CMB Columbia Colle 79.87 53 *e*P P 18 57 51.5 +0.6
CMB pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 79.87 53 *e*P P 18 57 51.5 +0.6
comp=Z,12nm,1.0s
BMO Blue Mountains 80.00 46 *e*P P 18 57 52.1 +0.5
BMO pmax pmax
comp=Z,13nm,1.1s
BMO Blue Mountains 80.00 46 *e*P P 18 57 52.1 +0.5
comp=Z,13nm,1.1s
APA Apatity 80.26 339⇓ *i*P P 18 57 53.8 +1.5
APA pmax pmax
comp=Z,57nm,1.2s
APA MLR MLR
comp=Z,2µm,14.0s
BSMT Bassoo Peak 80.69 43 *e*P P 18 57 55.6 +0.3
comp=Z,14nm,1.2s
B13A Whitefish 80.72 42 ⇓P P 18 57 56.0 +0.7
baz=81,SNR=6.9
WALA Waterton Lakes 80.83 41 *e*P P 18 57 56.4 +0.4
comp=Z,0.4nm,1.1s
JTMT Jette 81.04 42 *e*P P 18 57 57.4 +0.2
comp=Z,10nm,1.2s
D13A Huson 81.15 43 ⇑P P 18 57 57.5 -0.2
baz=81,SNR=5.9
PKM Peak Mountain 81.26 56 ⇓P P 18 57 59.2 +0.5
baz=81
SWMT Swartz Lake 81.30 43 *e*P P 18 57 58.6 0.0
comp=Z,4.9nm,0.9s
NVAR Mina Array Bea 81.31 52 P P 18 57 59.1 +0.3
comp=Z,13nm,1.0s,baz=268,slow=5.6,SNR=42
NVAR LR LR 19 27 44.0
comp=Z,153nm,21.0s,baz=90,slow=31
NVAR Mina Array Bea 81.31 52 P P 18 57 59.1 +0.3
C14A Swan Lake 81.38 42 ⇑P P 18 57 59.0 +0.2
baz=81
B14A Marquette Ranc 81.47 42 ⇓P P 18 57 59.6 +0.2
baz=81,SNR=8.0
MFID Camas Ranch 81.47 47 *e*P P 18 57 59.4 -0.1
comp=Z,12nm,1.0s
MFID *e* 18 58 11.5
MFID Camas Ranch 81.47 47 ⇓P P 18 58 00.0 +0.5
baz=81,SNR=9.2
E13A Victor 81.55 44 ⇑P P 18 57 60.0 +0.2
baz=81
MSO Missoula 81.57 43 ⇓P P 18 58 00.1 +0.2
baz=81
A15A Johnson Ranch, 81.59 41 ⇑P P 18 58 00.1 +0.2
baz=81,SNR=6.5
ARE0 ARCESS Array S 81.65 342 *e*P P 18 57 58.6 -1.1
F13A Darby 81.68 44 ⇓P P 18 58 00.1 -0.5
baz=82,SNR=21
BSC Santa Cruz Isl 81.69 57 ⇓P P 18 58 01.1 +0.4
baz=82
H12A Diamond D Ranc 81.75 46 ⇓P P 18 58 01.0 -0.1
baz=82,SNR=6.2
I12A Atlanta 81.82 46 ⇓P P 18 58 01.5 +0.1
baz=82
B15A Bradely Ranch, 81.93 42 ⇑P P 18 58 01.7 -0.1
baz=82,SNR=9.4
G13A Cobalt 81.98 45 ⇑P P 18 58 02.4 +0.2
baz=82,SNR=30
ISA Isabella 82.06 55 ⇑P P 18 58 02.9 +0.2
baz=82
C15A Salmond Ranch, 82.09 42 ⇓P P 18 58 02.7 0.0
baz=82
CWC Cottonwood Cre 82.11 54 ⇑P P 18 58 03.2 +0.1
baz=82
H13A Challis 82.15 46 ⇑P P 18 58 03.2 +0.1
baz=82,SNR=6.7
HLID Hailey 82.39 46 ⇓P P 18 58 04.4 +0.1
baz=82,SNR=7.1
B16A M & M Farms, S 82.42 41 ⇑P P 18 58 04.6 +0.3
baz=82
I13A Wildhorse Cree 82.47 46 ⇑P P 18 58 05.1 +0.2
baz=82,SNR=5.5
E15A Deer Lodge 82.56 43 ⇑P P 18 58 05.7 +0.6
baz=82,SNR=7.6
J13A Cove Ranch, Pi 82.61 47 ⇑P P 18 58 05.6 +0.1
baz=82
C16A Fuhringer Ranc 82.62 42 ⇑P P 18 58 05.6 +0.1
baz=82
MPMC Manual Prospec 82.69 54 ⇑P P 18 58 06.6 +0.4
baz=83
EDW2 Edwards Air Fo 82.69 56 ⇓P P 18 58 06.6 +0.6
baz=83
H14A Leadore 82.72 45 ⇑P P 18 58 06.5 +0.4
baz=83,SNR=11
LRMC Laurel Mountai 82.73 55 ⇓P P 18 58 06.7 +0.4
baz=83
ELK Elko 82.78 49 *e*P P 18 58 06.9 +0.3
ELK *e* 18 58 17.5
ELK Elko 82.78 49 *e*P P 18 58 06.8 +0.3
ELK *e* 18 58 17.5
A17A Triple J Farms 82.85 40 ⇓P P 18 58 06.6 0.0
baz=83
CIS Catalina Islan 82.85 57 ⇑P P 18 58 06.9 +0.1
baz=83
F15A Butte 82.86 44 ⇓P P 18 58 07.1 +0.2
baz=83,SNR=9.5
LRM Limekiln Ridge 82.90 44 *e*P P 18 58 07.3 +0.2
comp=Z,71nm,0.9s
LRM *e* 18 58 18.6
I14A Mackay 82.91 46 ⇑P P 18 58 07.5 +0.4
baz=83,SNR=5.8
HRY Holter Researc 82.97 43 *e*P P 18 58 07.5 +0.3
comp=Z,240nm,0.7s
B17A L&G Farms, Che 83.03 41 ⇓P P 18 58 07.8 +0.3
baz=83,SNR=9.4
D16A Dana Ranch, Ca 83.03 43 ⇑P P 18 58 07.8 +0.2
baz=83,SNR=6.6
FURC Furnace Creek, 83.03 54 ⇑P P 18 58 08.1 +0.5
baz=83
G15A Dillon 83.11 44 ⇓P P 18 58 08.5 +0.4
baz=83
E16A East Helena 83.14 43 ⇑P P 18 58 08.5 +0.3
baz=83
H15A Lima 83.21 45 ⇑P P 18 58 09.0 +0.4
baz=83
C17A Wharram Farm, 83.30 42 ⇓P P 18 58 09.2 +0.3
baz=83
MAK Makhachkala 83.33 313 *e*P PcP 18 58 21.6 +8.2
MAK MLR MLR
comp=Z,218nm,7.0s
R11A Troy Canyon, C 83.35 52 ⇓P P 18 58 09.4 -0.1
baz=83,SNR=17
JOF Joensuu 83.38 335 *e*P P 18 58 03.4 -5.4
JOF pmax pmax
comp=Z,13nm,0.8s
JOF Joensuu 83.38 335 *ep* P 18 58 03.4 -5.4
comp=Z,13nm,0.8s
JOF Joensuu 83.38 335 *ep* P 18 58 03.4 -5.4
comp=Z,13nm,0.8s
A18A Metzger Ranch, 83.38 40 ⇑P P 18 58 09.4 +0.2
baz=83,SNR=6.5
GSC Goldstone 83.47 55 ⇑P P 18 58 10.3 +0.3
baz=83
BOZ Bozeman (W) 83.50 44 *e*P P 18 58 10.0 -0.1
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 83.50 44 *e*P P 18 58 10.0 -0.1
comp=Z,5.2nm,1.0s
BOZ Bozeman (W) 83.50 44 ⇓P P 18 58 10.5 +0.4
baz=83
BOZ ⇓P P 18 58 10.5 +0.4
baz=83
D17A Six Diamond Ra 83.53 42 ⇓P P 18 58 10.5 +0.3
baz=83,SNR=13
G16A Moss Hill, Enn 83.54 44 ⇓P P 18 58 10.6 +0.3
baz=83,SNR=8.2
K14A Jones Ranch, D 83.60 47 ⇑P P 18 58 10.9 +0.3
baz=83
B18A Beardsley Farm 83.62 41 ⇑P P 18 58 10.9 +0.4
baz=84
E17A Martinsdale 83.69 43 ⇓P P 18 58 11.3 +0.2
baz=84
L14A Malta 83.74 48 ⇓P P 18 58 11.7 +0.3
baz=84,SNR=5.4
J15A Blackfoot 83.79 46 ⇑P P 18 58 12.3 +0.7
baz=84,SNR=6.2
VRHR Novokhopersk 83.92 322 *e*P P 18 58 10.5 -1.3
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.7s
VRHR pmax pmax
comp=Z,4.0nm,0.7s
QLMT Earthquake Lak 83.93 45 *e*P P 18 58 13.0 +0.6
comp=Z,1.7nm,1.0s
F17A Fitzpatrick Pl 84.03 43 ⇓P P 18 58 13.3 +0.5
baz=84
MOS Moscow 84.06 328 *e*P P 18 58 21.2 +8.7
H16A Russell Place, 84.10 45 ⇓P P 18 58 13.8 +0.6
baz=84
TUQ Turquoise Moun 84.10 55 ⇓P P 18 58 13.8 +0.5
baz=84
B19A Brinkman Farms 84.11 40 ⇑P P 18 58 13.8 +0.8
baz=84
HVU Hansel Valley 84.15 48 *e*P P 18 58 13.3 -0.2
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 84.15 48 *e*P P 18 58 13.3 -0.2
comp=Z,14nm,1.1s
G17A Pierce Place, 84.20 44 ⇑P P 18 58 14.2 +0.5
baz=84
E18A Harlowton 84.25 43 ⇓P P 18 58 14.5 +0.7
baz=84,SNR=6.9
I16A Newdale 84.25 45 ⇑P P 18 58 14.6 +0.6
baz=84
PFO Pinyon Flat Ob 84.32 56 ⇑P P 18 58 14.5 +0.1
baz=84
C19A Slack Wire Ran 84.33 41 ⇓P P 18 58 14.7 +0.5
baz=84
L15A Malad City 84.34 47 ⇑P P 18 58 15.0 +0.5
baz=84
YFT Old Faithful 84.47 45 *e*P P 18 58 16.8 +1.6
comp=Z,23nm,1.2s
YNR Norris Junctio 84.47 44 *e*P P 18 58 17.3 +2.1
comp=Z,27nm,1.2s
M15A Larsen Ranch, 84.50 48 ⇑P P 18 58 15.3 +0.1
baz=84,SNR=8.8
MONP Monument Peak 84.59 57 ⇑P P 18 58 15.9 0.0
baz=84
R13A O'Grain Ranch, 84.60 51 ⇑P P 18 58 16.7 +0.8
baz=84,SNR=5.5
F18A Big Timber 84.64 43 ⇓P P 18 58 15.5 -0.3
baz=84
H17A Grant Village 84.66 45 ⇓P P 18 58 17.8 +1.6
baz=84,SNR=5.1
D19A Cripps Ranch, 84.66 42 ⇑P P 18 58 16.3 +0.5
baz=84
B20A Solberg Farm, 84.68 40 ⇓P P 18 58 16.2 +0.4
baz=84
FLWY Flagg Ranch 84.70 45 *e*P P 18 58 16.9 +0.6
comp=Z,9.6nm,0.8s
DUG Dugway 84.71 49 *e*P P 18 58 15.9 -0.4
DUG pmax pmax
comp=Z,13nm,1.2s
DUG Dugway 84.71 49 *e*P P 18 58 15.9 -0.4
comp=Z,13nm,1.2s
DUG Dugway 84.71 49 ⇑P P 18 58 16.6 +0.3
baz=85,SNR=10
LKWY Lake 84.71 44 *e*P P 18 58 18.1 +1.7
LKWY pmax pmax
comp=Z,8.0nm,0.9s
LKWY Lake 84.71 44 *e*P P 18 58 18.1 +1.7
comp=Z,7.9nm,0.9s
OBN Obninsk 84.89 327⇓ *i*P P 18 58 16.2 -0.5
OBN *i* 18 58 27.8
OBN pmax pmax
comp=Z,37nm,1.6s
OBN Obninsk 84.89 327 P P 18 58 15.0 -1.6
L16A Fish Haven 84.99 47 ⇓P P 18 58 17.7 -0.1
baz=85
E19A Rath Farm, Rou 85.01 42 ⇓P P 18 58 18.2 +0.6
baz=85
HWUT Hardware Ranch 85.06 48 *e*P P 18 58 17.9 -0.2
comp=Z,12nm,1.0s
ARUT Antelope Range 85.13 52 *e*P P 18 58 18.6 0.0
ARUT pmax pmax
comp=Z,10.0nm,1.0s
ARUT Antelope Range 85.13 52 *e*P P 18 58 18.6 0.0
comp=Z,9.8nm,1.0s
IRM Iron Mountain 85.14 56 ⇓P P 18 58 18.9 +0.5
baz=85
D20A Manuel Ranch, 85.16 42 ⇑P P 18 58 18.8 +0.5
baz=85,SNR=11
VSR Storozhevoye 85.26 323 *e*P P 18 58 17.1 -1.6
VSR pmax pmax
comp=N,8.0nm,1.2s
VSR pmax pmax
comp=E,7.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
B21A Ellsworth Farm 85.29 40 ⇓P P 18 58 19.4 +0.5
baz=85
FFC Flin Flon 85.29 33 *e*P P 18 58 18.5 -0.2
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 85.29 33 *e*P P 18 58 18.5 -0.2
comp=Z,16nm,1.0s
FFC Flin Flon 85.29 33 P P 18 58 19.2 +0.5
comp=Z,78nm,1.0s,SNR=9.8
P15A Leamington 85.32 50 ⇓P P 18 58 19.7 +0.2
baz=85
J18A Kendall Valley 85.49 46 ⇑P P 18 58 20.7 +0.3
baz=85,SNR=9.2
JLU Jordanelle 85.52 48 *e*P P 18 58 20.9 +0.4
comp=Z,17nm,1.2s
K18A Toltan Ranch, 85.70 46 ⇑P P 18 58 21.7 +0.4
baz=86
DAU Daniels Canyon 85.73 49 *e*P P 18 58 22.1 +0.4
DAU pmax pmax
comp=Z,16nm,1.2s
DAU Daniels Canyon 85.73 49 *e*P P 18 58 22.1 +0.4
comp=Z,16nm,1.2s
M17A Scullys Gap (B 85.73 47 ⇓P P 18 58 21.2 -0.4
baz=86,SNR=6.2
W13A Hualapai Mount 85.78 54 ⇑P P 18 58 22.2 +0.3
baz=86
GLA Glamis 85.79 56 ⇓P P 18 58 21.8 0.0
baz=86
MSU Marysvale 85.79 51 *e*P P 18 58 22.0 +0.1
MSU pmax pmax
comp=Z,16nm,1.7s
MSU Marysvale 85.79 51 *e*P P 18 58 22.0 +0.1
comp=Z,16nm,1.7s
N17A Moffit Pass 85.82 48 ⇓P P 18 58 22.4 +0.3
baz=86
I19A Meeteetse 85.85 45 ⇓P P 18 58 22.2 +0.1
baz=86
PDMCI Parker Dam,Lak 85.87 55 ⇓P P 18 58 22.9 +0.8
baz=86
G20A Bridger 85.88 43 ⇓P P 18 58 22.3 +0.2
baz=86
D21A La Casta Ranch 85.88 41 ⇑P P 18 58 22.1 +0.2
baz=86
BW06 Boulder Array 85.98 46 ⇑P P 18 58 22.9 +0.1
baz=86
BW06 ⇑P P 18 58 22.9 +0.1
baz=86
PDAR Pinedale Array 85.98 46 P P 18 58 22.4 -0.3
comp=Z,1.6nm,0.8s,baz=241,slow=2.4,SNR=9.7
PDAR LR LR 19 30 02.2
comp=Z,94nm,20.6s,baz=131,slow=31
PDAR Pinedale Array 85.98 46 P P 18 58 22.4 -0.3
L18A Fontenelle, Gr 85.99 47 ⇑P P 18 58 23.2 +0.4
baz=86
J19A Crowheart 86.12 45 ⇓P P 18 58 23.5 +0.2
baz=86
M18A Lyman 86.16 47 ⇑P P 18 58 23.9 +0.2
baz=86
O17A Robinson Place 86.18 49 ⇑P P 18 58 24.0 +0.2
baz=86
KIV Kislovodsk 86.19 315 *e*P P 18 58 25.0 +1.4
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,205nm,19.0s
KIV Kislovodsk 86.19 315 *e*P P 18 58 24.3 +0.8
FINES FINESS Array B 86.24 336 P P 18 58 22.4 -0.9
comp=Z,6.1nm,0.9s,baz=60,slow=8.2,SNR=9.5
FINES LR LR 19 38 21.3
comp=Z,184nm,20.3s,baz=337,slow=37
FINES FINESS Array B 86.24 336 P P 18 58 22.4 -0.9
FINES FINESS Array B 86.24 336 P P 18 58 22.4 -0.9
GNI Garni 86.30 311 *e*P P 18 58 24.2 -0.1
GNI pmax pmax
comp=Z,14nm,1.7s
GNI Garni 86.30 311 *e*P P 18 58 24.2 -0.1
comp=Z,29nm,1.6s
D22A Cohagen 86.35 41 ⇓P P 18 58 24.5 +0.3
baz=86
Q16A Castle Valley 86.36 50 ⇓P P 18 58 25.2 +0.5
baz=86
R16A Teasdale 86.38 51 ⇑P P 18 58 25.7 +0.8
baz=86,SNR=5.6
L19A Farson 86.38 46 ⇑P P 18 58 25.0 +0.2
baz=86
K19A Absolon Red Bu 86.44 46 ⇑P P 18 58 24.6 -0.4
baz=86,SNR=7.5
I20A Worland 86.45 44 ⇑P P 18 58 25.3 +0.4
baz=86,SNR=5.7
P17A Butcher Ranch, 86.46 49 ⇓P P 18 58 25.6 +0.6
baz=86
U15A North Rim 86.49 53 ⇓P P 18 58 25.8 +0.3
baz=86,SNR=8.5
B23A Brockton 86.49 39 ⇑P P 18 58 25.3 +0.4
baz=86
S16A Weppner Ranch, 86.51 51 ⇓P P 18 58 25.8 +0.4
baz=86
G21A Lodge Grass 86.52 43 ⇓P P 18 58 25.8 +0.6
baz=86
N18A Larsen Ranch, 86.61 48 ⇑P P 18 58 25.9 0.0

baz=86
Z13A Yuma Proving G 86.65 56 ⇓P P 18 58 26.7 +0.8
baz=86
C23A Lambert 86.67 40 ⇓P P 18 58 26.2 +0.4
baz=86
J20A Shoshoni 86.73 45 ⇓P P 18 58 26.9 +0.6
baz=87
P18A Preston Nutter 86.75 49 ⇓P P 18 58 26.8 +0.1
baz=87
SRU San Rafael 86.75 50 *e*P P 18 58 26.4 -0.2
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 86.75 50 *e*P P 18 58 26.4 -0.2
comp=Z,9.3nm,0.9s
SRU San Rafael 86.75 50 ⇓P P 18 58 27.0 +0.4
baz=87,SNR=6.0
E22A Miles City 86.80 41 ⇓P P 18 58 27.0 +0.6
baz=87
K20A Yellowstone Ra 86.84 46 ⇓P P 18 58 26.9 0.0
baz=87,SNR=8.1
A24A Westby 86.87 39 ⇑P P 18 58 27.2 +0.4
baz=87
Y14A Wickenburg 86.88 55 ⇑P P 18 58 27.7 +0.6
baz=87
R17A Hanksville Air 86.89 50 ⇑P P 18 58 27.3 +0.1
baz=87
D23A Lindsay 86.93 41 ⇑P P 18 58 27.5 +0.4
baz=87
Q18A Rafter H Ranch 87.03 49 ⇑P P 18 58 27.8 0.0
baz=87
I21A Big Trails, Te 87.06 44 ⇑P P 18 58 28.2 +0.3
baz=87
S17A Black Ridge (B 87.13 51 ⇑P P 18 58 28.3 0.0
baz=87,SNR=6.3
J21A Lysite 87.16 45 ⇑P P 18 58 28.7 +0.2
baz=87
H22A Clearmont 87.34 43 ⇓P P 18 58 29.4 +0.2
baz=87
T17A Navajo Res., N 87.38 52 ⇓P P 18 58 29.9 +0.3
baz=87,SNR=7.9
114A Black Gap (USA 87.42 56 ⇓P P 18 58 30.6 +0.9
baz=87
M20A Sweetwater, Wa 87.43 47 ⇑P P 18 58 30.2 +0.3
baz=87
F23A Volborg 87.45 42 ⇑P P 18 58 30.0 +0.4
baz=87
U16A Tuba City 87.47 52 ⇑P P 18 58 30.2 +0.2
baz=87
R18A Canyonlands Na 87.49 50 ⇑P P 18 58 30.0 -0.1
baz=87,SNR=17
WUAZ Wupatki 87.53 53 *e*P P 18 58 30.8 +0.5
comp=Z,15nm,1.0s
WUAZ Wupatki 87.53 53 ⇓P P 18 58 30.6 +0.3
baz=87,SNR=7.3
I22A 9 Mile Ranch, 87.56 44 ⇑P P 18 58 30.6 +0.3
baz=87
K21A Alcova 87.59 45 ⇑P P 18 58 30.8 +0.2
baz=87,SNR=6.3
U17A Shonto 87.64 52 ⇓P P 18 58 31.3 +0.3
baz=88
P19A Cripple Cowboy 87.64 49 ⇓P P 18 58 31.1 +0.2
baz=88,SNR=16
G23A Biddle 87.69 42 ⇓P P 18 58 31.4 +0.6
baz=88
S18A Hurst Farm, Bl 87.69 51 ⇑P P 18 58 31.1 -0.1
baz=88,SNR=5.6
Q19A Hogan Spring (87.72 49 ⇑P P 18 58 31.5 +0.3
baz=88
E24A Baker 87.76 41 ⇓P P 18 58 30.3 -0.8
baz=88
J22A Midwest 87.77 44 ⇑P P 18 58 32.0 +0.6
baz=88
214A Organ Pipe Nat 87.77 57 ⇓P P 18 58 31.8 +0.4
baz=88
L21A Rawlins 87.79 46 ⇓P P 18 58 31.7 +0.2
baz=88,SNR=6.8
X16A Lo Mia Camp, P 87.90 54 ⇓P P 18 58 32.4 +0.3
baz=88
V17A Tonalea, Kykot 87.92 53 ⇓P P 18 58 32.8 +0.5
baz=88,SNR=12
M21A Separation Pea 87.94 46 ⇓P P 18 58 32.5 +0.1
baz=88
O20A White River Ci 87.95 48 ⇓P P 18 58 32.7 +0.3
baz=88
T18A Mexican Hat 88.00 51 ⇓P P 18 58 32.6 +0.1
baz=88
P20A De Beque 88.11 49 ⇑P P 18 58 33.4 +0.4
baz=88
N21A Black Mountain 88.19 47 ⇑P P 18 58 33.7 +0.1
baz=88,SNR=6.1
PV04 Paradox Valley 88.20 50 *e*P P 18 58 33.8 +0.3
MIB Mutribah 88.28 301 *e*P P 18 58 32.7 -1.1
MIB AMb AMB 18 58 40.4
comp=Z,34nm,1.3s
U18A Rough Rock, Ch 88.29 52 ⇑P P 18 58 34.1 +0.1
baz=88
S19A Harvey Farm, M 88.30 50 ⇓P P 18 58 34.5 +0.4
baz=88,SNR=5.1
Q20A Ridgley Place, 88.40 49 ⇑P P 18 58 34.7 +0.2
baz=88,SNR=12
X17A Forest Lakes 88.41 54 P P 18 58 35.2 +0.5
baz=88
RDF Al-Radifah 88.44 300 *e*P P 18 58 33.6 -1.0
RDF AMb AMB 18 58 41.3
comp=Z,40nm,1.5s
V18A Ganado 88.53 52 ⇑P P 18 58 35.5 +0.3
baz=88
PV01 Paradox Valley 88.55 50 *e*P P 18 58 35.1 -0.1
comp=Z,737nm,1.0s
NAY Al-Naaiem 88.57 301 *e*P P 18 58 34.1 -1.1
NAY AMb AMB 18 58 40.4
comp=Z,19nm,1.0s
K23A Bowen Ranch, D 88.61 45 ⇑P P 18 58 35.6 +0.2
baz=88
Y17A Roosevelt 88.64 55 ⇓P P 18 58 36.4 +0.9
baz=88
R20A Redvale 88.66 50 ⇑P P 18 58 35.9 +0.2
baz=88,SNR=7.3
T19A Beclabito 88.75 51 ⇑P P 18 58 36.6 +0.5
baz=89,SNR=8.7
I24A Kuemmerle Ranc 88.78 43 ⇓P P 18 58 36.5 +0.4
baz=89
S20A Disappointment 88.82 50 ⇓P P 18 58 36.8 +0.2
baz=89
U19A Dine' College, 88.83 52 ⇓P P 18 58 37.0 +0.4
baz=89
L23A Garrett 88.85 45 ⇓P P 18 58 36.7 +0.1
baz=89
N22A Wattenberg Ran 88.91 47 ⇓P P 18 58 37.5 +0.6
baz=89
W18A Petrified Fore 88.91 53 ⇓P P 18 58 37.8 +0.8
baz=89
MVCO Mesa Verde 88.98 51 *e*P P 18 58 37.4 +0.1
comp=Z,11nm,1.2s
MVCO Mesa Verde 88.98 51 ⇑P P 18 58 37.8 +0.5
baz=89
M23A Laramie 89.11 46 ⇑P P 18 58 38.3 +0.5
baz=89
O22A Kremmling 89.12 47 ⇑P P 18 58 38.5 +0.5
baz=89
R21A Cimarron 89.18 49 ⇑P P 18 58 39.2 +1.0
baz=89,SNR=16
V19A Window Rock 89.19 52 ⇑P P 18 58 39.0 +0.7
baz=89
P22A Eagle 89.22 48 ⇑P P 18 58 39.0 +0.6
baz=89
N23A Red Feather La 89.22 46 ⇑P P 18 58 39.1 +0.7
baz=89,SNR=9.2
SMCO Snowmass 89.24 48 *e*P P 18 58 39.1 +0.4
comp=Z,14nm,1.2s
S21A Coal Bank Pass 89.30 50 ⇓P P 18 58 39.3 +0.4
baz=89
U20A Newcomb 89.31 51 ⇑P P 18 58 39.2 +0.5
baz=89
Q22A Crested Butte, 89.42 49 ⇑P P 18 58 40.1 +0.7
baz=89
Y19A Nutrioso 89.75 54 ⇓P P 18 58 41.8 +0.8
baz=90
R22A Saguache, Gunn 89.80 49 ⇓P P 18 58 41.8 +0.5
baz=90
U21A Nageezi 89.92 51 ⇓P P 18 58 42.6 +0.9
baz=90
ISCO Idaho Springs 89.92 47 ⇓P P 18 58 42.3 +0.5
baz=90
218A Dragoon 89.93 56 ⇓P P 18 58 42.8 +1.0
baz=90
P23A Jefferson 89.95 48 ⇑P P 18 58 42.9 +1.0
baz=90
S22A 4UR Ranch, Cre 89.96 50 ⇓P P 18 58 42.9 +0.9
baz=90
N24A Carr 89.97 46 ⇑P P 18 58 42.3 +0.5
baz=90
X20A Quemado 90.08 53 ⇓P P 18 58 43.9 +1.4
baz=90,SNR=5.8
318A Bisbee 90.19 56 ⇓P P 18 58 44.0 +1.0
baz=90
119A Ashpeak Ranch, 90.19 55 ⇑P P 18 58 43.9 +1.0
baz=90,SNR=6.5
T22A Edith 90.22 50 ⇑P P 18 58 43.7 +0.6
baz=90
K26A Motz Farm, Whi 90.25 44 ⇑P P 18 58 43.8 +0.9
baz=90
Y20A Horse Springs, 90.43 54 ⇑P P 18 58 45.4 +1.2
baz=90
R23A Moffat 90.48 49 ⇓P P 18 58 45.3 +0.9
baz=90
U22A Llaves 90.52 51 ⇓P P 18 58 45.6 +1.1
baz=90
219A White Tail Can 90.53 56 ⇓P P 18 58 45.2 +0.6
baz=90
Z20A Nine Sixteen R 90.59 54 ⇑P P 18 58 45.8 +1.0
baz=90,SNR=10
Q24A Divide 90.61 48 ⇑P P 18 58 45.2 +0.2
baz=90
X21A Alamocita Cree 90.65 53 ⇓P P 18 58 46.5 +1.4
baz=90
319A Douglas 90.77 56 ⇓P P 18 58 46.7 +1.0
baz=91
ULM Lac du Bonnet 90.78 35 P P 18 58 44.1 -1.0
comp=Z,2.2nm,0.8s,baz=296,slow=8.1,SNR=3.7
ULM LR LR 19 33 17.1
comp=Z,114nm,21.0s,baz=94,slow=31
ULM Lac du Bonnet 90.78 35 P P 18 58 44.1 -1.0
ULM Lac du Bonnet 90.78 35 P P 18 58 44.1 -1.0
120A U Bar Ranch, L 90.80 55 ⇑P P 18 58 46.8 +1.0
baz=91,SNR=5.9
O25A Wiggins 90.81 47 ⇓P P 18 58 46.6 +0.9
baz=91
SDCO Great Sand Dun 90.91 49 ⇑P P 18 58 46.5 +0.1
baz=91
SDCO ⇑P P 18 58 46.5 +0.1
baz=91
Y21A Point of Rocks 90.92 53 ⇓P P 18 58 47.4 +1.0
baz=91
AKASG Malin Array Be 90.97 326 P P 18 58 45.3 -0.7
comp=Z,0.2nm,0.3s,baz=53,slow=4.5,SNR=3.7
AKASG LR LR 19 41 30.7
comp=Z,187nm,19.2s,baz=335,slow=37
AKASG Malin Array Be 90.97 326 P P 18 58 45.3 -0.7
AKASG Malin Array Be 90.97 326 P P 18 58 45.3 -0.7
KIEV Kiev 90.98 326 *e*P P 18 58 45.2 -0.8
220A Playas Peak, P 91.14 55 ⇓P P 18 58 48.6 +1.2
baz=91
S24A Houchin Ranch, 91.16 49 ⇓P P 18 58 48.4 +0.9
baz=91
ANMO Albuquerque 91.43 52 P P 18 58 48.2 -0.5
comp=Z,2.0nm,0.9s,baz=304,slow=1.9,SNR=3.4
ANMO Albuquerque 91.43 52 P P 18 58 48.2 -0.5
ANMO Albuquerque 91.43 52 P P 18 58 48.2 -0.5
121A Cookes Peak, D 91.45 55 ⇓P P 18 58 49.7 +0.8
baz=91
P26A Davis Ranch, A 91.59 47 ⇑P P 18 58 50.0 +0.7
baz=91
S25A Robles Cordova 91.70 49 ⇓P P 18 58 50.5 +0.6
baz=92
Z22A Elephant Butte 91.77 54 ⇓P P 18 58 51.0 +0.7
baz=92,SNR=6.2
T25A Trinidad 91.95 49 ⇓P P 18 58 51.5 +0.3
baz=92
V24A Rampart Ranch, 91.96 51 ⇑P P 18 58 51.9 +0.7
baz=92
SUW Suwalki 92.00 331 P P 18 58 50.6 -0.1
SUW pmax pmax
comp=Z,23nm,1.0s
SUW Suwalki 92.00 331 P P 18 58 50.6 -0.1
comp=Z,23nm,1.0s
W24A Lazy 6 Ranch, 92.09 51 ⇓P P 18 58 52.4 +0.6
baz=92
R26A Arlington 92.10 48 ⇓P P 18 58 51.8 +0.1
baz=92
Y23A Lovelace Mesa, 92.17 53 ⇓P P 18 58 52.7 +0.5
baz=92
U25A Circle Dot Ran 92.29 50 ⇓P P 18 58 53.0 +0.4
baz=92
S26A Kim 92.40 49 ⇓P P 18 58 53.3 +0.2
baz=92
U26A Atchley Ranch, 92.77 50 ⇓P P 18 58 55.0 +0.1
baz=93
X25A Clemmons Ranch 92.94 52 ⇑P P 18 58 55.8 +0.2
baz=93
Z24A Sheeppen Canyo 92.95 53 ⇓P P 18 58 55.8 0.0
baz=93
Y25A Mea, Roswell 93.19 52 ⇓P P 18 58 56.8 0.0
baz=93
224A Cornudas Mount 93.38 54 ⇑P P 18 58 57.6 -0.1
baz=93
X26A CR and CF Fran 93.56 51 ⇑P P 18 58 58.8 +0.3
baz=93
MNTX Cornudas Mount 93.65 55 *e*P P 18 58 59.4 +0.6
comp=Z,4.0nm,1.1s
MNTX Cornudas Mount 93.65 55 ⇑P P 18 58 59.1 +0.3
baz=94,SNR=6.3
MNTX ⇑P P 18 58 59.1 +0.3
baz=94,SNR=6.3
324A Moseley Ranch, 93.69 55 ⇑P P 18 58 59.3 +0.2
baz=94
Z26A Caprock 94.01 53 ⇑P P 18 59 00.9 +0.3
baz=94
325A Bean Ranch, Si 94.11 55 ⇓P P 18 59 01.9 +0.7
baz=94
BRTR Keskin Array B 94.13 315 P P 18 59 00.8 -0.1
comp=Z,0.7nm,0.8s,baz=40,slow=2.1,SNR=3.6
BRTR LR LR 19 46 19.0
comp=Z,81nm,19.8s,baz=236,slow=39
BRTR Keskin Array B 94.13 315 *ce*P P 18 59 00.9 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 94.13 315 P P 18 59 00.8 -0.1
Y27A Causey 94.34 52 ⇓P P 18 59 02.3 +0.3
baz=94
425A Indio Mountain 94.36 55 ⇓P P 18 59 02.5 +0.3
baz=94
326A Caldwell Ranch 94.89 54 ⇓P P 18 59 04.9 +0.3
baz=95
426A McDonald Obser 95.15 55 ⇑P P 18 59 06.2 +0.3
baz=95
328A Wristen Ranch, 95.75 54 ⇑P P 18 59 09.0 +0.5
baz=96
TXAR Lajitas Array 96.03 56 P P 18 59 08.5 -1.4
comp=Z,0.5nm,0.7s,baz=256,slow=4.7,SNR=5.1
TXAR LR LR 19 42 38.5
comp=Z,72nm,18.2s,baz=30,slow=36
TXAR Lajitas Array 96.03 56 P P 18 59 08.5 -1.4
TXAR Lajitas Array 96.03 56 P P 18 59 08.5 -1.4
627A Terlingua Ranc 96.19 56 ⇑P P 18 59 11.2 +0.6
baz=96
TORD Torodi Ar. Bea 132.61 311 PKP PKPdf 19 04 55.4 -2.1
comp=Z,0.8nm,0.8s,baz=19,slow=0.9,SNR=4.7
TORD Torodi Ar. Bea 132.61 311 PKP PKPdf 19 04 55.4 -2.1
DBIC Dimbokro 141.72 311 PKhKP PKPpre 19 05 07.5
comp=Z,2.6nm,0.9s,baz=114,slow=20,SNR=3.2
DBIC Dimbokro 141.72 311 PKHKP PKPpre 19 05 07.5
DBIC Dimbokro 141.72 311 PKPbc PKPpre 19 05 07.5
LPAZ La Paz 146.38 90 PKPbc PKPdf 19 05 23.4 +0.3
comp=Z,3.9nm,0.6s,baz=337,slow=4.2,SNR=12
LPAZ La Paz 146.38 90 PKP2 PKPdf 19 05 23.4 +0.3
LPAZ La Paz 146.38 90 PKPbc PKPdf 19 05 23.4 +0.3
LVC Limon Verde 146.42 101 *e*PKPdf PKPdf 19 05 22.1 -0.5
SAML Samuel 148.76 74 *e*PKPbc PKPbc 19 05 30.2 0.0

IDC ***13*** *18:47:35.1±1.1, 19°.95N×147°.14E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/24, mbtmp4.2/10, MS4.2/1, Ms1 4.2/1, ms1mx3.1/29, Error ellipse: s-maj=43.2km s-min=17.7km az=83.0*
ISCJB ***13*** *18:47:39.3±0.9, 19°.94N±0°.1×147°.0E±0°.3, h40km, mb4.2/15, MS4.3/1, Error ellipse: s-maj=36.5km s-min=12.3km az=168.0*
NEIC ***13*** *18:47:40.6±0.8, 19°.97N×147°.00E, h35km, mb4.5/5, Error ellipse: s-maj=34.8km s-min=11.7km az=78.0*
ISC 13 18:47:41.1±1.0, 20°.0N±0°.1×147°.0E±0°.3, h40km, n26, σ0s90/25, mb4.3/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**29.17**	**180**	P	P	**18 53 39.6**	**+0.8**
	15nm,0.9s						
WRA	**Warramunga Arr**	**41.55**	**198**	P	P	**18 55 25.3**	**+0.3**
	3.4nm,0.8s,baz=21,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**41.55**	**198**	P	P	**18 55 25.3**	**+0.3**
ULN	**Ulaanbaatar**	**42.59**	**320**	P	P	**18 55 33.6**	**+0.2**
	6.1nm,1.1s						
SONM	**Songino Array**	**42.98**	**320**	P	P	**18 55 36.2**	**-0.3**
	1.9nm,0.8s,baz=111,slow=7.9,SNR=3.6						
SONM	**Songino Array**	**42.98**	**320**	P	P	**18 55 36.2**	**-0.3**
ASAR	**Alice Springs**	**45.20**	**197**	P	P	**18 55 54.5**	**+0.1**
	1.8nm,0.8s,baz=17,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	**45.20**	**197**	P	P	**18 55 54.5**	**+0.1**
STKA	**Stephens Creek**	**51.80**	**186**	P	P	**18 56 44.0**	**-1.0**
	2.0nm,0.6s,baz=2.9,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**51.80**	**186**	P	P	**18 56 44.0**	**-1.0**
ZALV	**Zalesovo Beam**	**57.80**	**322**	P	P	**18 57 28.5**	**+0.2**
	1.7nm,0.7s,baz=107,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**57.80**	**322**	P	P	**18 57 28.4**	**+0.2**
MKAR	**Makanchi Array**	**58.51**	**313**	P	P	**18 57 34.4**	**+1.0**
	1.3nm,0.7s,baz=98,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**58.51**	**313**	P	P	**18 57 34.4**	**+1.0**
KURK	**Kurchatov**	**61.19**	**318**	P	P	**18 57 52.9**	**+1.2**
	1.4nm,0.5s,baz=91,slow=7.7,SNR=4.4						
KURK	**Kurchatov**	**61.19**	**318**	P	P	**18 57 52.9**	**+1.2**
TKM2	**Tokmak 2**	**63.24**	**309**	P	P	**18 58 03.8**	**-2.1**
	2.3nm,0.9s						
BVAR	**Borovoye Array**	**66.32**	**320**	P	P	**18 58 25.5**	**0.0**
	2.5nm,0.5s,baz=89,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**66.32**	**320**	P	P	**18 58 25.5**	**0.0**
BRVK	**Borovoye**	**66.38**	**320**	P	P	**18 58 23.6**	**-2.3**
	2.3nm,0.7s						
KBL	**Kabul**	**69.32**	**300**	P	P	**18 58 45.3**	**+0.3**
	6.6nm,0.9s						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	P	**18 59 25.8**	**+0.2**
	0.7nm,0.7s,baz=288,slow=5.7,SNR=3.6						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	P	**18 59 25.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**78.14**	**351**	LR	LR	19 33 34.6	
	comp=Z,124nm,18.2s,baz=45,slow=35						
FINES	**FINESS Array B**	**86.27**	**336**	P	P	**19 00 18.0**	**-0.4**
	3.1nm,0.8s,baz=53,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**86.27**	**336**	P	P	**19 00 18.0**	**-0.4**

IDC 13 18:59:49.6±0.9, 6°.48S×147°.11E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.7/15, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=32.8km s-min=12.6km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.91**	**179**	Pn	Pn	19 00 38.7	+1.5
	12nm,0.3s,baz=46,slow=3.8,SNR=63						
PMG				Pg	Pg	19 00 44.5	-0.9
	38nm,0.3s,baz=1.7,slow=14,SNR=56						
PMG				Lg	Lg	19 01 20.3	
	26nm,0.3s,baz=24,slow=20,SNR=3.6						
WRA	**Warramunga Ar**	**18.25**	**222**	P	Pn	19 04 04.3	-0.2
	0.2nm,0.3s,baz=47,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**21.29**	**215**	P	P	19 04 39.2	+1.2
	1.1nm,0.5s,baz=48,slow=8.9,SNR=22						
FITZ	**Fitzroy Crossi**	**23.92**	**239**	P	P	19 05 04.2	-1.2
	2.2nm,0.9s,baz=52,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**25.79**	**191**	P	P	19 05 21.3	-1.1
	1.5nm,0.8s,baz=348,slow=9.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**53.58**	**298**	P	P	19 09 12.9	0.0
	0.7nm,0.8s,baz=120,slow=5.6,SNR=4.3						
PETK	**Petropavlovsk-**	**60.04**	**7**	P	P	19 09 58.5	+0.4
	1.9nm,0.5s,baz=166,slow=8.3,SNR=19						
SONM	**Songino Array**	**64.88**	**331**	P	P	19 10 30.7	-0.1
	0.1nm,0.5s,baz=125,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array**	**77.94**	**321**	P	P	19 11 49.8	+0.1
	0.1nm,0.5s,baz=104,slow=5.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**79.48**	**328**	P	P	19 11 54.9	-3.0
	0.2nm,0.3s,baz=116,slow=3.4,SNR=2.4						
ILAR	**Eielson Array**	**85.88**	**23**	P	P	19 12 30.0	-1.0
	0.5nm,0.7s,baz=251,slow=4.4,SNR=8.8						
TORD	**Torodi Ar. Bea**	**145.32**	**284**	PKPbc	PKPbc	19 19 30.1	-0.2
	1.6nm,0.6s,baz=91,slow=3.3,SNR=15						

JMA 13 19:09:36.2, 35°.44N×139°.01E, h20km±1km, M2.6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.19**	**160**	P	Pb	19 09 40.8	-0.4
JOD2				S	Sb	19 09 44.4	-0.2
JYN	**Shimob**	**0.38**	**279**	P	Pb	19 09 43.9	-0.5
JYN				S	Sb	19 09 50.0	0.0
JRY	**Ryogami san**	**0.58**	**351**	P	Pb	19 09 47.2	-0.6
JRY				S	Sb	19 09 55.0	-0.7
JIZS	**Izushimoda**	**0.73**	**189**	P	Pb	19 09 49.3	-0.9
JIZS				S	Sb	19 09 59.1	-0.7
SHZ3	**Shizuoka 3**	**0.75**	**241**	P	Pb	19 09 50.4	-0.3
SHZ3				S	Sb	19 10 01.0	+0.4
JIM2	**Oshima 3**	**0.80**	**154**	P	Pb	19 09 50.6	-0.9
JIM2				S	Sb	19 10 01.4	-0.5
MAT	**Matsushiro**	**1.28**	**330**	P	Pn	19 09 59.1	+0.1
MAT				S	Sn	19 10 15.6	0.0

WEL 13 19:12:58.6±0.1, 37°.89S×177°.52E, h55km±1km, ML3.5/5, 3C, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.44**	**324**	P*	Pn	19 13 09.3	-0.2
WIZ				S*	Sn	19 13 16.9	-0.5
MWZ	**Matawai**	**0.45**	**179**	⇑P*	Pn	19 13 09.5	-0.3
MWZ				S*	Sn	19 13 17.7	0.0
URZ	**Urewera**	**0.49**	**221**	⇑P*	Pn	19 13 09.9	-0.2
URZ				S*	Sn	19 13 18.5	+0.1
PUZ	**Puketiti**	**0.61**	**108**	⇑PN	Pn	19 13 11.7	+0.1
EDRZ	**Edgecumbe**	**0.65**	**250**	P*	Pn	19 13 12.0	-0.1
MXZ	**Matakaoa Point**	**0.70**	**63**	P*	Pn	19 13 13.4	+0.8
OPRZ	**Ohinepanea**	**0.76**	**273**	P*	Pn	19 13 13.1	-0.3
CNGZ	**Carnagh Statio**	**0.81**	**138**	PN	Pn	19 13 14.3	+0.3
TARZ	**Mount Tarawera**	**0.87**	**246**	P*	Pn	19 13 15.2	+0.3
RRRZ	**Republican Roa**	**0.91**	**240**	P*	Pn	19 13 15.1	-0.2
TGRZ	**Tauranga**	**1.01**	**279**	P*	Pn	19 13 16.4	-0.2
PRGZ	**Paritu Road**	**1.07**	**165**	PN	Pn	19 13 16.8	-0.7
PRRZ	**Plateau Road**	**1.08**	**235**	P*	Pn	19 13 17.4	-0.1
RAHZ	**Arahi**	**1.08**	**198**	PN	Pn	19 13 18.1	+0.4
KNZ	**Kokohu**	**1.14**	**174**	PN	Pn	19 13 17.8	-0.5
MHGZ	**Mahia Peninsul**	**1.30**	**167**	PN	Pn	19 13 20.0	-0.6
NMHZ	**Naumai**	**1.33**	**205**	PN	Pn	19 13 21.7	+0.7
NMHZ				SN	Sn	19 13 44.3	+6.4
BKZ	**Black Stump Fm**	**1.51**	**212**	P*	Pn	19 13 23.3	-0.2
TOZ	**Tahuroa Road**	**1.60**	**275**	P*	Pn	19 13 24.5	-0.1
MCHZ	**McNeill Hill**	**1.68**	**202**	PN	Pn	19 13 25.3	-0.4
KUZ	**Kuaotunu**	**1.83**	**308**	PN	Pn	19 13 27.1	-0.6
KRVZ	**Karewarewa**	**1.90**	**230**	P*	Pn	19 13 29.2	+0.3
OTVZ	**Oturere**	**1.93**	**228**	P*	Pn	19 13 29.6	+0.3
WTVZ	**West Tongariro**	**1.95**	**230**	P*	Pn	19 13 29.9	+0.4
BHHZ	**Black Hill Sta**	**1.96**	**215**	P*	Pn	19 13 29.5	-0.1
KAHZ	**Kahuranaki**	**1.97**	**195**	PN	Pn	19 13 28.8	-0.9
NGZ	**Ngauruhoe**	**1.98**	**229**	P*	Pn	19 13 30.3	+0.3
TUVZ	**Tukino**	**2.01**	**226**	P*	Pn	19 13 30.5	+0.1
TWVZ	**Taurewa**	**2.02**	**233**	P*	Pn	19 13 31.4	+1.1
MKAZ	**Moumakai**	**2.02**	**292**	PN	Pn	19 13 30.4	+0.2
MOVZ	**Moawhango**	**2.05**	**222**	P*	Pn	19 13 30.5	-0.3
WNVZ	**Wahianoa**	**2.08**	**226**	P*	Pn	19 13 31.4	+0.1
MTVZ	**Mangateitei**	**2.19**	**226**	*e*P*	Pn	19 13 33.0	+0.2
PXZ	**Pawanui**	**2.20**	**193**	PN	Pn	19 13 30.7	-2.1
PKVZ	**Pokaka**	**2.21**	**230**	*e*P*	Pn	19 13 33.7	+0.9
PNHZ	**Pukenui**	**2.27**	**207**	PN	Pn	19 13 32.2	-1.6
WPHZ	**Waipukurau**	**2.33**	**201**	*e*PN	Pn	19 13 32.6	-1.9
PRHZ	**Porangahau**	**2.48**	**196**	PN	Pn	19 13 34.3	-2.2
TSZ	**Takapari Road**	**2.49**	**209**	PN	Pn	19 13 34.8	-1.9
DVHZ	**Dannevirke**	**2.63**	**203**	PN	Pn	19 13 36.0	-2.6
WAZ	**Wanganui**	**2.72**	**226**	PN	Pn	19 13 40.4	+0.6
POWZ	**Post Office Ro**	**2.85**	**208**	PN	Pn	19 13 39.8	-1.8
MRZ	**Mangatainoka R**	**3.15**	**208**	PN	Pn	19 13 42.6	-3.2
HOWZ	**Holdsworth Sta**	**3.38**	**207**	PN	Pn	19 13 45.4	-3.6
OGWZ	**Otaki Gorge**	**3.45**	**211**	PN	Pn	19 13 47.1	-2.7
TMWZ	**Te Maipa**	**3.46**	**201**	*e*PN	Pn	19 13 46.0	-3.9
KIW	**Kapiti Island**	**3.59**	**213**	PN	Pn	19 13 49.2	-2.6
MTW	**Mount Morrison**	**3.62**	**205**	PN	Pn	19 13 48.3	-3.9
PAWZ	**Paruwai Farm**	**3.85**	**204**	PN	Pn	19 13 51.4	-3.9
PLWZ	**Palliser**	**4.07**	**205**	PN	Pn	19 13 53.6	-4.8

TCW	**Tory Channel**	**4.16 216**	PN	Pn	19 13 56.0	-3.6
TUWZ	**Tuamarina**	**4.49 217**	PN	Pn	19 14 00.7	-3.3
LTZ	**Lake Taylor**	**6.32 218**	*e*PN	Pn	19 14 24.3	-5.0
MQZ	**McQueen's Vall**	**6.89 211**	*e*PN	Pn	19 14 31.1	-5.7
MQZ			SN	Sn	19 15 43.9	-10
ODZ	**Otahua Downs**	**8.82 214**	*e*PN	Pn	19 14 57.5	-5.8

*ISCJB **13** 19:28:57.4±0.6,50˚.40N±0˚.04×18˚.79E±0˚.03,h0km, Error ellipse: s-maj=6.2km s-min=2.6km az=16.9*
*CSEM **13** 19:28:58.5±0.3,50˚.38N×18˚.84E,h2km,ML2.8/5, Error ellipse: s-maj=6.9km s-min=3.0km az=10.0*
*PRU **13** 19:28:59.4,50˚.36N×18˚.82E,h0km*
*WAR **13** 19:28:59.2,50˚.36N×18˚.88E*
*IPEC **13** 19:28:59.5±0.4,50˚.34N×18˚.85E,h0km,ML1.9/3, Error ellipse: s-maj=5.6km s-min=0.8km az=167.0*

ISC 13 19:28:58.9±0.8,50˚.33N±0˚.04×18˚.84E±0˚.02,h0km,n39, σ0°89/52,8C,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.63**	**100**	*e*Pg	**Pg**	**19 29 11.4**	**+0.5**
OJC				*e*Sg	**Sg**	**19 29 19.5**	**+0.5**
OJC	**Ojcow** baz=281	**0.63**	**100**	*e*Pg	**Pg**	**19 29 10.9**	**0.0**
OJC				*e*Sg	**Sg**	**19 29 19.3**	**+0.3**
OKC	**Ostrava-Krasne**	**0.67**	**222**	*e*PG	PG	19 29 12.8	-7.5
OKC	comp=Z,15nm,0.4s			*e*SG	**Sb**	**19 29 23.1**	**-0.1**
OKC	**Ostrava-Krasne** baz=42	**0.67**	**222**	*e*Pg	Sg	19 29 12.8	-7.5
OKC	15nm,0.4s			Sg	**Sb**	**19 29 23.1**	**-0.1**
MORC	**Moravsky Berou**	**1.00**	**237**	*i*P	**Pg**	**19 29 18.6**	**+0.5**
MORC	**Moravsky Berou**	**1.00**	**237**	*i*P	**Pg**	**19 29 18.6**	**+0.5**
MORC				S	**Sb**	**19 29 32.0**	**-0.9**
NIE	**Niedzica**	**1.32**	**133**	*e*Pg	**Pg**	**19 29 24.5**	**+0.3**
NIE				*e*Sg	**Sn**	**19 29 42.7**	**-0.3**
NIE	**Niedzica**	**1.32**	**133**	*e*Pg	**Pg**	**19 29 24.5**	**+0.3**
NIE				*e*Sg	**Sn**	**19 29 42.7**	**-0.3**
DPC	**Dobruska-Polom**	**1.61**	**272**	*e*PG	**Pn**	**19 29 28.7**	**0.0**
DPC	comp=Z,20nm,0.7s			*e*SG	**Sn**	**19 29 50.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.61**	**272**	Pg	**Pn**	**19 29 28.7**	**0.0**
DPC	20nm,0.7s			Sg	**Sn**	**19 29 50.4**	**+0.2**
KSP	**Ksiaz**	**1.70**	**288**	*e*Pg	**Pb**	**19 29 31.3**	**+0.3**
KSP				*e*Sg	**Sg**	**19 29 53.7**	**+0.2**
KSP	**Ksiaz**	**1.70**	**288**	*e*Pg	**Pb**	**19 29 31.3**	**+0.3**
KSP				*e*Sg	**Sg**	**19 29 53.7**	**+0.2**
KOLL	**Kolacno**	**1.78**	**189**	*e*PN	**Pg**	**19 29 34.5**	**+1.5**
KOLL	**Kolacno**	**1.78**	**189**	*e*Pn	**Pg**	**19 29 34.5**	**+1.5**
VRAC	**Vranov**	**1.78**	**236**	*i*P	**Pn**	**19 29 31.6**	**+0.6**
VRAC	**Vranov** baz=54	**1.78**	**236**	*e*Pn	**Pn**	**19 29 31.5**	**+0.6**
VRAC	7.0nm,0.3s,baz=54			*e*Sg	**Sb**	**19 29 54.8**	**-0.4**
VRAC				S	**Sg**	**19 29 55.6**	**-0.4**
UPC	**Upice**	**1.82**	**277**	*e*SG	**Sb**	**19 29 56.0**	**-0.3**
UPC	**Upice**	**1.82**	**277**	Sg	**Sb**	**19 29 56.0**	**-0.3**
VYHS	**Vyhne**	**1.84**	**180**	*e*PN	**Pn**	**19 29 31.7**	**-0.1**
VYHS				*e*SN	**Sn**	**19 29 55.8**	**+0.1**
VYHS	**Vyhne**	**1.84**	**180**	*e*Pn	**Pn**	**19 29 31.7**	**-0.1**
VYHS				*e*Sn	**Sn**	**19 29 55.8**	**+0.1**
KRUC	**Moravsky** baz=50	**2.03**	**232**	*e*Pn	**Pn**	**19 29 35.4**	**+1.0**
KRUC	6.6nm,0.3s,baz=50			*e*Sg	**Sb**	**19 30 02.8**	**+0.3**
KECS	**Kecovo**	**2.14**	**149**	*e*PN	**Pn**	**19 29 34.1**	**-1.8**
KECS	**Kecovo**	**2.14**	**149**	*e*Pn	**Pn**	**19 29 34.1**	**-1.8**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*PN	Pn	19 29 32.5	-4.6
CRVS				*e*SN	**Sn**	**19 30 06.0**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*Pn	Pn	19 29 32.5	-4.6
CRVS				*e*Sn	**Sn**	**19 30 06.0**	**+0.7**
PSZ	**Piszkesteto**	**2.51**	**164**	*i*P	**Pb**	**19 29 45.4**	**+0.5**
PSZ	**Piszkesteto**	**2.51**	**164**	S	**Sg**	**19 30 19.3**	**-0.3**
PSZ	**Piszkesteto**	**2.51**	**164**	*i*P	**Pb**	**19 29 45.4**	**+0.5**
KWP	**Kalwaria Pacla**	**2.59**	**104**	*i*P	**Pb**	**19 29 46.9**	**+0.6**
KWP	**Kalwaria Pacla**	**2.59**	**104**	S	**Sg**	**19 30 20.9**	**-1.3**
PVCC	**Panska Ves** comp=Z,9.4nm,0.3s	**2.74**	**276**	*e*SG	**Sg**	**19 30 26.0**	**-0.8**
PVCC	**Panska Ves** 9.4nm,0.3s	**2.74**	**276**	Sg	**Sg**	**19 30 26.0**	**-0.8**
PRU	**Pruhonice**	**2.78**	**265**	*e*SG	**Sg**	**19 30 26.6**	**-1.7**
PRU	**Pruhonice**	**2.78**	**265**	Sg	**Sg**	**19 30 26.6**	**-1.7**
BRG	**Berggiesshubel** 3.4nm,0.5s	**3.17**	**282**	SG	**Sg**	**19 30 40.4**	**-0.1**
KHC	**Kasperske Hory**	**3.62**	**253**	*e*SN	**SN**	**19 30 37.0**	**-2.6**
KHC				*e*SG	**Sg**	**19 30 53.1**	**-2.0**
CLL	**Collm**	**3.83**	**287**	*e*Sg	**Sg**	**19 31 03.0**	**+1.2**
BZS	**Buzias**	**5.07**	**157**	*i*P	Pn	19 30 21.2	+5.0
BZS	**Buzias**	**5.07**	**157**	*i*P	Pn	19 30 21.2	+5.0

*IDC **13** 19:30:48.7±0.6,13˚.13N×124˚.66E,h0km,mb3.9/14, mb1 4.0/14,mb1mx3.9/21,mbtmp3.9/14,MS3.5/5, Ms1 3.5/5,ms1mx3.1/31,Error ellipse: s-maj=30.7km s-min=13.9km az=71.0*
*MAN **13** 19:30:50,13˚.27N×124˚.99E,h1km,mb5.1,ML4.0,MS4.1*
*ISCJB **13** 19:30:52.9±0.4,13˚.36N±0˚.04×124˚.86E±0˚.06,h33km, mb4.2/26,MS3.3/3,Error ellipse: s-maj=8.5km s-min=5.3km az=165.5*
*NEIC **13** 19:30:59.9±1.7,13˚.10N×124˚.63E,h91km±15km,mb4.5/12, Error ellipse: s-maj=16.6km s-min=7.7km az=64.0*

ISC 13 19:30:54.1±0.5,13˚.33N±0˚.05×124˚.82E±0˚.07,h33km,n60, σ1°32/59,mb4.2/26,MS3.4/3,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.70**	**293**	*e*P	**Pn**	**19 31 07.0**	**-0.7**
PVCP				*e*S	**Sn**	**19 31 15.0**	**-2.4**
AUQP	**San Andres**	**2.09**	**270**	*e*P	**Pn**	**19 31 29.9**	**+3.2**
PLP	**Palo**	**2.15**	**176**	*i*P	**Pn**	**19 31 27.5**	**-0.3**
PLP				*i* S	**Sn**	**19 31 53.8**	**+0.5**
OCLP	**Ormoc**	**2.27**	**185**	*e*P	**Pn**	**19 31 31.6**	**+2.2**
GQP	**Guinayangan**	**2.38**	**284**	*i*P	**Pn**	**19 31 32.4**	**+1.6**
GQP				*e*S	**Sb**	**19 32 06.4**	**+1.2**
OTRP	**Odiongan**	**2.89**	**251**	*e*P	Pn	19 31 41.8	+3.9
MSLP	**Maasin**	**3.17**	**179**	*e*P	**Pn**	**19 31 43.6**	**+1.8**
GUIM	**Jordan**	**3.46**	**219**	*e*P	**Pn**	**19 31 47.1**	**+1.4**
TGY	**Tagaytay City** 12nm,0.3s,baz=132,slow=8.5,SNR=7.3	**3.85**	**282**	Pn	Pn	19 31 56.1	+5.0
TGY	**Tagaytay City**	**3.85**	**282**	Pn	Pn	19 31 56.1	+5.0
BALP	**Baler**	**3.95**	**308**	*e*P	sPn	19 32 09.6	+5.3
CAUP	**Cauayan**	**4.61**	**322**	*e*P	**Pn**	**19 32 02.3**	**+0.7**
BUKP	**Musuan**	**5.42**	**177**	*e*P	Pn	19 32 19.2	+6.4
DAV	**Davao City (W)** comp=Z,714nm,19.8s,baz=308,slow=45	**6.26**	**173**	LR	LR	19 35 21.6	
GUMO	**Guam** comp=Z,145nm,20.5s,baz=230,slow=31	**19.50**	**87**	LR	LR	19 41 03.2	
KSAR	**Wonju Array Be**	**24.17**	**6**	P	**P**	**19 36 08.1**	**+0.7**
KSRS	**Korea Array** 2.4nm,0.8s,baz=194,slow=9.7,SNR=5.2	**24.19**	**6**	P	**P**	**19 36 08.1**	**+0.6**
CMAR	**Chiang Mai Arr** 0.6nm,0.6s,baz=96,slow=8.3,SNR=4.2	**25.39**	**285**	P	**P**	**19 36 16.1**	**-2.6**
CMAR	comp=Z,65nm,19.2s,baz=100,slow=36			LR	LR	19 46 05.2	
CMAR	**Chiang Mai Arr**	**25.39**	**285**	P	**P**	**19 36 16.1**	**-2.6**
USRK	**Ussuriysk Arra** 2.7nm,0.7s,baz=188,slow=8.5,SNR=6.5	**31.38**	**10**	P	**P**	**19 37 13.6**	**+1.8**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=345,slow=9.1,SNR=3.1	**34.36**	**164**	P	**P**	**19 37 36.1**	**-2.1**
WRA	**Warramunga Arr**	**34.36**	**164**	P	**P**	**19 37 36.1**	**-2.1**
LSA	**Lhasa** 8.4nm,1.3s	**35.14**	**303**	*e*P	**P**	**19 37 45.7**	**+0.3**
ULN	**Ulaanbaatar** 2.4nm,0.8s	**37.48**	**340**	*e*P	**P**	**19 38 05.7**	**+0.9**
SONM	**Songino Array** 2.3nm,0.9s,baz=158,slow=9.7,SNR=14	**37.67**	**340**	P	**P**	**19 38 07.5**	**+1.1**
SONM	comp=Z,53nm,19.4s,baz=196,slow=40			LR	LR	19 56 13.5	
SONM	**Songino Array**	**37.67**	**340**	P	**P**	**19 38 07.5**	**+1.1**
AS31	**Alice Springs**	**37.83**	**166**	*e*P	**P**	**19 38 06.0**	**-1.8**
ASAR	**Alice Springs** 1.1nm,0.8s,baz=349,slow=7.1,SNR=14	**37.83**	**166**	P	**P**	**19 38 06.3**	**-1.5**
ASAR	0.5nm,0.4s,baz=341,slow=3.0,SNR=5.8			PcP	**PcP**	**19 40 22.5**	**-1.5**
ASAR	**Alice Springs**	**37.83**	**166**	P	**P**	**19 38 06.3**	**-1.5**
ASAR				PcP	**PcP**	**19 40 22.5**	**-1.5**
NWAO	**Narrogin (SRO)**	**46.56**	**189**	LR	LR	19 58 01.2	

	comp=Z,39nm,20.3s,baz=51,slow=35					
STKA	**Stephens Creek** 1.5nm,0.8s,baz=341,slow=18,SNR=2.6	**47.74**	**161**	P	**P**	**19 39 26.8**	**-1.2**
STKA	**Stephens Creek**	**47.74**	**161**	P	**P**	**19 39 26.8**	**-1.2**
MK31	**Makanchi Array**	**48.75**	**322**	*e*P	**P**	**19 39 36.6**	**+0.8**
MKAR	**Makanchi Array** 3.8nm,0.8s,baz=118,slow=8.9,SNR=36	**48.75**	**322**	P	**P**	**19 39 37.2**	**+1.4**
MKAR	1.0nm,0.7s,baz=104,slow=5.1,SNR=4.6			PcP	**PcP**	**19 41 00.2**	**-0.2**
MKAR	**Makanchi Array**	**48.75**	**322**	P	**P**	**19 39 37.2**	**+1.4**
MKAR				PcP	**PcP**	**19 41 00.2**	**-0.2**
ZAA0	**Zalesovo Array**	**51.28**	**331**	*e*P	**P**	**19 39 55.0**	**+0.3**
ZALV	**Zalesovo Beam** 4.9nm,0.8s,baz=117,slow=6.7,SNR=25	**51.28**	**331**	P	**P**	**19 39 55.4**	**+0.6**
ZALV	**Zalesovo Beam**	**51.28**	**331**	P	**P**	**19 39 55.4**	**+0.6**
TKM2	**Tokmak 2** 4.9nm,1.3s	**51.51**	**315**	*e*P	**P**	**19 39 56.3**	**-0.7**
EKS2	**Erkin-Say** 1.9nm,0.8s	**52.69**	**314**	P	**P**	**19 40 04.6**	**-1.1**
KURK	**Kurchatov** 19nm,0.9s	**52.76**	**325**	*e*P	**P**	**19 40 06.8**	**+1.0**
KBL	**Kabul** 3.1nm,0.9s	**54.46**	**303**	*e*P	**P**	**19 40 18.7**	**-0.2**
BRVK	**Borovoye** 4.9nm,0.9s	**58.43**	**325**	*e*P	**P**	**19 40 46.9**	**+0.4**
ABKAR	**Akbulak array** 9.0nm,1.4s	**63.65**	**319**	*e*P	**P**	**19 41 21.1**	**-1.0**
AKTO	**Aktyubinsk** 0.6nm,0.8s,baz=188,slow=14,SNR=2.7	**65.08**	**320**	P	**P**	**19 41 31.7**	**+0.2**
AKTO	**Aktyubinsk**	**65.08**	**320**	P	**P**	**19 41 31.7**	**+0.2**
ARU	**Arti** 8.0nm,1.0s	**65.91**	**326**	P	**P**	**19 41 36.2**	**-0.4**
MCK	**McKinley** 34nm,1.8s	**76.50**	**27**	*e*P	**P**	**19 42 41.4**	**+0.8**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=258,slow=5.8,SNR=5.1	**77.33**	**26**	P	**P**	**19 42 46.9**	**+1.7**
ILAR	**Eielson Array**	**77.33**	**26**	P	**P**	**19 42 46.9**	**+1.7**
ARCES	**ARCESS Array B** 3.1nm,0.8s,baz=75,slow=9.1,SNR=5.4	**80.85**	**339**	P	**P**	**19 43 03.2**	**-1.3**
ARCES	**ARCESS Array B**	**80.85**	**339**	P	**P**	**19 43 03.2**	**-1.3**
INK	**Inuvik** 4.0nm,1.3s	**81.98**	**22**	P	**P**	**19 43 11.3**	**+0.9**
FINES	**FINESS Array B** 1.9nm,0.8s,baz=66,slow=2.3,SNR=3.4	**82.54**	**331**	P	**P**	**19 43 13.4**	**-0.1**
FINES	**FINESS Array B**	**82.54**	**331**	P	**P**	**19 43 13.4**	**-0.1**
RES	**Resolute Bay** 3.6nm,1.0s	**88.75**	**10**	P	**P**	**19 43 45.2**	**+1.1**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=297,slow=4.6,SNR=4.0	**91.55**	**24**	P	**P**	**19 43 56.9**	**-0.4**
YKA	**Yellowknife Ar**	**91.55**	**24**	P	**P**	**19 43 56.9**	**-0.4**
PLCA	**Paso Flores** 1.6nm,0.9s,baz=219,slow=8.2,SNR=4.0	**149.56**	**157**	PKPbc	**PKPbc**	**19 50 40.5**	**-0.1**
PLCA	**Paso Flores**	**149.56**	**157**	PKPbc	**PKPbc**	**19 50 40.5**	**-0.1**

IDC 13 19:41:18.2±9.7,19˚.57N×146˚.92E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.5/23,mbtmp3.6/6,Error ellipse: s-maj=339.1km s-min=42.4km az=14.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.3nm,0.5s,baz=109,slow=8.2,SNR=5.0	**43.20**	**320**	P	P	19 49 21.4	+0.3
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=105,slow=9.1,SNR=2.5	**58.03**	**322**	P	P	19 51 11.7	-1.2
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=95,slow=7.5,SNR=2.9	**58.70**	**313**	P	P	19 51 17.2	-0.6
KURK	**Kurchatov** 0.4nm,0.3s,baz=96,slow=6.7,SNR=2.7	**61.40**	**318**	P	P	19 51 36.0	-0.1
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=88,slow=7.7,SNR=3.5	**66.54**	**320**	P	P	19 52 11.5	+1.5
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=261,slow=6.2,SNR=4.2	**81.69**	**52**	P	P	19 53 39.1	0.0

*ISCJB **13** 19:44:17.8±0.4,37˚.34N±0˚.05×137˚.76E±0˚.08, h234km±3km,mb3.5/9, Error ellipse: s-maj=10.0km s-min=7.1km az=15.4*
*JMA **13** 19:44:18.9±0.2,37˚.33N×137˚.81E,h231km±2km,M3.2*
*IDC **13** 19:44:18.2±0.6,37˚.43N×137˚.96E,h224km±7km,mb3.4/7, mb1 3.4/9,mb1mx3.1/27,mbtmp3.3/9, Error ellipse: s-maj=27.8km s-min=12.3km az=85.0*

ISC 13 19:44:18.8±0.8,37˚.32N±0˚.06×137˚.78E±0˚.07,h229km±6km, n31,σ0°64/45,mb3.7/9,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**0.35**	**292**	P	**Pn**	**19 44 48.9**	**0.0**
JSZ				S	**S**	**19 45 12.3**	**-0.1**
JJN	**Nakama**	**0.38**	**125**	P	**Pn**	**19 44 49.8**	**+0.8**
JJN				S	**S**	**19 45 13.4**	**+0.9**
JSD	**Sado**	**0.81**	**28**	P	**Pn**	**19 44 51.0**	**+0.4**
JSD				S	**S**	**19 45 14.6**	**-0.9**
MAT	**Matsushiro**	**0.85**	**156**	P	**Pn**	**19 44 51.0**	**+0.2**
MAT				S	**S**	**19 45 14.8**	**-1.1**
MAT	**Matsushiro**	**0.85**	**156**	P	**Pn**	**19 44 51.1**	**+0.2**
MAT				S	**S**	**19 45 16.4**	**+0.5**
MJAR	**Matsushiro Arr** 13nm,0.3s,baz=325,slow=7.5,SNR=176	**0.85**	**156**	P	**Pn**	**19 44 50.6**	**-0.3**
MJAR	baz=338,slow=10,SNR=2.8			S	**S**	**19 45 15.1**	**-0.8**
JNG	**Nsakai**	**0.95**	**164**	P	**Pn**	**19 44 51.8**	**+0.3**
JHK	**Hiroka**	**0.99**	**94**	P	**Pn**	**19 44 51.8**	**+0.2**
JHK				S	**S**	**19 45 17.0**	**-0.1**
JRY	**Ryogami san**	**1.58**	**145**	P	**Pn**	**19 44 55.6**	**-0.3**
JAG	**Ashikaga**	**1.61**	**123**	P	**Pn**	**19 44 56.1**	**0.0**
JHU	**Hanno**	**1.90**	**140**	P	**Pn**	**19 44 58.5**	**-0.2**
JHU				S	**S**	**19 45 28.9**	**-0.9**
JYN	**Shimob**	**1.92**	**161**	P	**Pn**	**19 44 58.8**	**-0.2**
JYN				S	**S**	**19 45 29.7**	**-0.6**
JNY	**Yasuok**	**1.96**	**178**	P	**Pn**	**19 44 59.8**	**+0.5**
JNY				S	**S**	**19 45 31.3**	**+0.4**
JFT	**Otama**	**2.05**	**84**	P	**Pn**	**19 45 00.7**	**+0.7**
JFT				S	**S**	**19 45 33.1**	**+0.9**
JAO	**Obara**	**2.09**	**192**	P	**Pn**	**19 45 01.1**	**+0.5**
JAO				S	**S**	**19 45 34.2**	**+1.0**
JYT	**Yasato**	**2.22**	**119**	P	**Pn**	**19 45 01.1**	**-0.7**
JMM	**Marumori**	**2.46**	**76**	P	**Pn**	**19 45 04.5**	**+0.4**
JMM				S	**S**	**19 45 39.9**	**+0.4**
HMMJ	**Hamamatsu 2**	**2.46**	**181**	P	**Pn**	**19 45 04.3**	**+0.1**
HMMJ				S	**S**	**19 45 38.6**	**-1.1**
ASAJ	**Asahikawa** 1.0nm,0.3s,baz=270,slow=33,SNR=15	**7.71**	**27**	P	**Pn**	**19 46 06.7**	**-1.6**
ASAJ	0.2nm,0.3s,baz=270,slow=20,SNR=2.8			S	S	19 47 28.4	-7.6
USRK	**Ussuriysk Arra** 0.2nm,0.3s,baz=138,slow=15,SNR=5.8	**8.15**	**329**	P	**Pn**	**19 46 13.6**	**-0.3**
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=69,slow=7.4,SNR=3.0	**41.50**	**301**	P	**P**	**19 51 42.4**	**-1.1**
KURK	**Kurchatov** 1.3nm,0.5s,baz=86,slow=7.8,SNR=6.4	**43.46**	**307**	P	**P**	**19 51 59.6**	**+0.4**
BVAR	**Borovoye Array** 0.9nm,0.7s,baz=90,slow=7.2,SNR=4.1	**48.22**	**312**	P	**P**	**19 52 36.3**	**0.0**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=360,slow=7.6,SNR=7.8	**57.04**	**184**	P	**P**	**19 53 41.5**	**+0.5**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=360,slow=6.0,SNR=7.5	**60.77**	**184**	P	**P**	**19 54 07.1**	**+0.5**
ARCES	**ARCESS Array B** 2.8nm,0.8s,baz=51,slow=7.1,SNR=3.3	**62.69**	**339**	P	**P**	**19 54 19.2**	**+0.4**
JOF	**Joensuu** 0.7nm,0.4s	**64.32**	**331**	*ep*	**P**	**19 54 29.0**	**-0.5**
JOF	**Joensuu** 0.7nm,0.4s	**64.32**	**331**	*ep*	**P**	**19 54 29.0**	**-0.5**
KAF	**Kangasniemi** 1.1nm,0.5s	**66.70**	**332**	*ep*	**P**	**19 54 44.4**	**-0.3**
KAF	**Kangasniemi** 1.1nm,0.5s	**66.70**	**332**	*ep*	**P**	**19 54 44.4**	**-0.3**
FINES	**FINESS Array B** 2.1nm,0.8s,baz=33,slow=6.5,SNR=8.8	**67.19**	**331**	P	**P**	**19 54 47.6**	**-0.2**

*SZGRF **13** 19:47:49.8,6˚.06N×75˚.19W,h58km,mb4.8,Northern Colombia*
*ISCJB **13** 19:47:50.9±0.5,5˚.79N±0˚.03×76˚.09W±0˚.02,h53km±4km, mb4.6/100,MS4.0/9,Error ellipse: s-maj=5.1km s-min=3.7km az=22.2*
*BJI **13** 19:47:51.2,5˚.80N×76˚.10W,h57km,mB5.2/4,Ms5.4/4, Ms7 5.1/4*
*IDC **13** 19:47:52.5±0.5,5˚.84N×76˚.11W,h59km±4km,mb4.2/24, mb1 4.4/28,mb1mx4.3/30,mbtmp4.3/28,MS3.8/8, Ms1 3.7/8,ms1mx3.5/34,Error ellipse: s-maj=14.2km s-min=8.7km az=63.0*
*NEIC **13** 19:47:52.3±0.2,5˚.77N×76˚.14W,mb4.7/46,Error ellipse: s-maj=6.6km s-min=4.8km az=57.0*
NEIC Felt [III] at Medellin and [II] at Envigado and Pereira. Also felt at Manizales and Retiro.

ISC 13 19:47:52.6±0.4,5˚.88N±0˚.04×76˚.11W±0˚.04,h59km±3km, h57km:pP-P,n448,σ1°38/495,mb4.7/101,MS3.9/9, 144C-108D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HELC	**Santa Helena**	**0.66**	**58**	*e*P	**Pn**	**19 48 05.2**	**-1.5**
HELC				*e*S	**Sn**	**19 48 15.3**	**-1.6**
SOLC	**Bahia Solano**	**1.43**	**290**	*i*P	**Pn**	**19 48 14.7**	**-1.6**
SOLC				*e*S	**Sn**	**19 48 33.8**	**-0.2**
ROSC	**El Rosal** 376nm,0.3s,baz=292,slow=2.4,SNR=126	**2.04**	**120**	P	**Pn**	**19 48 26.8**	**+1.8**
ROSC	comp=Z,1μm,19.4s,baz=22,slow=46			LR	LR	19 49 27.0	
ROSC	**El Rosal**	**2.04**	**120**	P	**Pn**	**19 48 26.8**	**+1.8**
ROSC				*e*Pn	Pn	19 48 27.0	+1.8
BCIP	**Isla Barro Col**	**4.93**	**312**	*e*Pn	**Pn**	**19 49 03.0**	**-1.3**
OTAV	**Otavalo** 302nm,0.9s	**6.07**	**203**	*e*Pn	**Pn**	**19 49 19.8**	**-0.5**
OTAV				*e*Sn	**Sn**	**19 50 26.2**	**-2.5**
SDV	**Santo Domingo** 232nm,0.6s	**6.20**	**61**	*e*Pn	**Pn**	**19 49 23.4**	**+1.6**
SDV				*e*Sn	**Sn**	**19 50 31.4**	**0.0**
YHJ	**Yallahs**	**11.95**	**358**	*i* P	Pn	19 50 45.8	+5.5
HOJ	**Hope**	**12.07**	**357**	*i* P	**Pn**	**19 50 44.6**	**+2.7**
GWJ	**Greenwich**	**12.13**	**357**	*i* P	**Pn**	**19 50 45.2**	**+2.3**
STH	**Stony Hill**	**12.14**	**357**	*i* P	**Pn**	**19 50 44.7**	**+1.8**
BBJ	**Bamboo Saint A**	**12.48**	**355**	*i* P	Pn	19 50 51.0	+3.5
ATAH	**Atahualpa** 0.2nm,0.3s,baz=29,slow=9.2,SNR=7.2	**13.13**	**190**	P	**Pn**	**19 50 58.0**	**+1.2**
ATAH	**Atahualpa**	**13.13**	**190**	P	**Pn**	**19 50 58.0**	**+1.2**
SDDR	**Presa de Saban** 228nm,0.8s	**13.85**	**19**	*e*Pn	**Pn**	**19 51 08.2**	**+2.1**
SDDR				*e*Sn	**Sn**	**19 53 34.7**	**-3.6**
GTBY	**Guantanamo Bay**	**14.00**	**4**	*e*Pn	**Pn**	**19 51 09.2**	**+1.1**
OBIP	**Obispado Ponce** 20nm,0.7s	**15.24**	**37**	*e*Pn	**P**	**19 51 28.9**	**+0.9**
CELP	**Cerrillos**	**15.28**	**37**	*e*Pn	**Pn**	**19 51 26.2**	**+1.3**
AGPR	**Aguadilla, PR**	**15.28**	**34**	*e*Pn	**Pn**	**19 51 21.9**	**-3.0**
LRS	**Lares**	**15.29**	**35**	*e*Pn	**Pn**	**19 51 22.5**	**-2.5**
SJG	**San Juan** 4.0nm,0.3s,baz=270,slow=9.9,SNR=6.9	**15.57**	**38**	P	**Pn**	**19 51 30.1**	**+1.5**
SJG	**San Juan** 27nm,0.8s	**15.57**	**38**	*e*Pn	**P**	**19 51 30.7**	**-1.0**
PAYG	**Puerto Ayora**	**15.58**	**246**	Pn	**P**	**19 51 34.5**	**+2.6**
CBYP	**Canovanas** 57nm,0.9s	**15.87**	**38**	*e*Pn	**P**	**19 51 37.2**	**+2.1**
MTP	**Monte Pirata** 39nm,0.9s	**15.93**	**39**	Pn	**Pn**	**19 51 30.2**	**-2.9**
FDF	**Fort de France**	**17.14**	**58**	*e*Pn	Pn	19 51 42.7	-5.6
NNA	**Nana** 1.0nm,0.3s,baz=328,slow=19,SNR=2.4	**17.77**	**182**	P	**P**	**19 51 57.2**	**+1.1**
NNA	**Nana** 17nm,0.8s	**17.77**	**182**	*e*Pn	**Pn**	**19 51 56.0**	**-0.1**
SAML	**Samuel** 56nm,0.8s	**19.57**	**139**	*e*Pn	**P**	**19 52 14.1**	**-1.9**
CMIG	**Matias Romero** comp=Z,92nm,21.9s,baz=187,slow=37	**21.48**	**303**	LR	LR	20 01 15.2	
LPAZ	**La Paz** 7.1nm,0.7s,baz=348,slow=5.6,SNR=19	**23.40**	**160**	P	**P**	**19 52 56.0**	**-1.1**
LPAZ	1.9nm,0.8s,baz=304,slow=6.3,SNR=3.1			S	**S**	**19 57 07.3**	**+0.9**
LPAZ	**La Paz** 14nm,0.8s	**23.40**	**160**	*e*P	**P**	**19 52 56.0**	**-1.1**
LPAZ				S	**S**	**19 57 07.3**	**+0.9**
SIV	**San Ignacio** 11nm,0.5s,baz=332,slow=10,SNR=37	**26.34**	**146**	P	**P**	**19 53 21.1**	**-2.2**
SIV	comp=Z,259nm,18.3s,slow=37			LR	LR	20 04 08.8	
SIV	**San Ignacio**	**26.34**	**146**	P	**P**	**19 53 21.1**	**-2.2**
MIAR	**Mount Ida** 6.1nm,1.0s	**32.78**	**333**	P	**P**	**19 54 19.9**	**-0.4**
628A	**Black Gap, Mar** baz=35	**34.50**	**316**	⇓P	**P**	**19 54 36.7**	**+1.4**
FVM	**French Village** 15nm,1.0s	**34.51**	**340**	*e*P	**P**	**19 54 35.7**	**+0.5**
627A	**Terlingua Ranc** baz=35,SNR=5.9	**34.82**	**316**	⇓P	**P**	**19 54 40.1**	**+1.9**
CCM	**Cathedral Cave** 8.0nm,0.8s	**34.86**	**339**	*e*P	**P**	**19 54 38.2**	**-0.1**
TUL1	**Tulsa** baz=35	**34.93**	**331**	⇓P	**P**	**19 54 40.0**	**+1.0**
TXAR	**Lajitas Array** 0.9nm,0.9s,baz=139,slow=9.8,SNR=7.1	**34.95**	**315**	P	**P**	**19 54 39.0**	**-0.2**
TXAR	1.0nm,0.7s,baz=139,slow=5.9,SNR=5.1			PcP	**PcP**	**19 57 12.3**	**+1.5**
TXAR	**Lajit

W24A **Lazy 6 Ranch,** 39.75 321 ⇑P P 19 55 21.5 +1.5
baz=40
220A **Playas Peak, P** 39.84 315 ⇑P P 19 55 23.4 +2.6
baz=40,SNR=6.7
U25A **Circle Dot Ran** 39.93 323 ⇑P P 19 55 23.2 +1.7
baz=40
Y22A **Socorro** 39.95 318 ⇓P P 19 55 22.9 +1.2
baz=40
V24A **Rampart Ranch,** 40.00 322 ⇓P P 19 55 23.6 +1.5
baz=40
319A **Douglas** 40.10 313 ⇑P P 19 55 24.3 +1.5
baz=40
S26A **Kim** 40.23 326 ⇓P P 19 55 25.6 +1.7
baz=40,SNR=5.2
ANMO **Albuquerque** 40.25 320 P P 19 55 24.4 +0.3
1.7nm,0.6s,baz=141,slow=8.1,SNR=4.4
ANMO LR LR 20 12 50.0
comp=Z,55nm,19.4s,baz=245,slow=37
ANMO **Albuquerque** 40.25 320 P P 19 55 24.4 +0.3
120A **U Bar Ranch, L** 40.28 315 ⇑P P 19 55 25.8 +1.5
baz=40
R27A **Eads** 40.34 327 ⇑P P 19 55 26.4 +1.7
baz=40,SNR=13
219A **White Tail Can** 40.42 314 ⇓P P 19 55 26.4 +0.8
baz=40
T25A **Trinidad** 40.44 324 ⇑P P 19 55 27.3 +1.6
baz=41
Y21A **Point of Rocks** 40.47 318 ⇓P P 19 55 28.3 +2.3
baz=41
Z20A **Nine Sixteen R** 40.57 316 ⇓P P 19 55 28.8 +2.1
baz=41
V23A **Ortiz Mt. (NFS** 40.58 321 ⇓P P 19 55 29.1 +2.2
baz=41
318A **Bisbee** 40.65 313 ⇓P P 19 55 28.1 +0.6
baz=41
R26A **Arlington** 40.70 326 ⇑P P 19 55 29.3 +1.6
baz=41,SNR=6.3
X21A **Alamocita Cree** 40.80 318 ⇑P P 19 55 30.7 +2.0
baz=41
S25A **Robets Cordova** 40.81 325 ⇓P P 19 55 30.8 +2.1
baz=41,SNR=8.8
Y20A **Horse Springs,** 40.88 317 ⇓P P 19 55 31.8 +2.4
baz=41
U23A **El Rito** 40.96 322 ⇓P P 19 55 32.6 +2.6
baz=41
218A **Dragoon** 40.97 314 ⇑P P 19 55 32.5 +2.4
baz=41
W21A **San Fidel** 41.12 319 ⇓P P 19 55 33.4 +2.0
baz=41
Q26A **Hugo** 41.19 327 ⇑P P 19 55 34.3 +2.5
baz=41
S24A **Houchin Ranch,** 41.24 324 ⇓P P 19 55 34.6 +2.2
baz=41
U22A **Llaves** 41.40 321 ⇑P P 19 55 35.7 +2.0
baz=42
SDCO **Great Sand Dun** 41.48 324 *eP* P 19 55 36.1 +1.8
5.9nm,0.8s
SDCO **Great Sand Dun** 41.48 324 ⇓P P 19 55 36.2 +1.8
baz=42,SNR=11
SDCO ⇓P P 19 55 36.2 +1.8
baz=42,SNR=11
Y19A **Nutrioso** 41.50 317 ⇓P P 19 55 37.2 +2.7
baz=42
P26A **Davis Ranch, A** 41.55 328 ⇑P P 19 55 37.2 +2.5
baz=42
R24A **Sanders Place,** 41.59 325 ⇑P P 19 55 37.2 +2.1
baz=42
TUC **Tucson** 41.68 314 *eP* P 19 55 36.9 +1.1
3.1nm,0.9s
RCBR **Riachuelo** 41.79 105 P P 19 55 34.9 -2.0
13nm,0.8s,baz=261,slow=6.8,SNR=6.5
RCBR **Riachuelo** 41.79 105 *eP* P 19 55 34.9 -2.0
27nm,1.4s
RCBR *e* 19 55 56.8
ECSD **EROS Data Cent** 41.80 338 *eP* P 19 55 35.1 -1.4
16nm,1.5s
U21A **Nageezi** 41.94 321 ⇑P P 19 55 39.9 +1.9
baz=42
P25A **Willow Gulch B** 41.96 327 ⇑P P 19 55 39.9 +1.8
baz=42,SNR=6.6
R23A **Moffat** 41.97 324 ⇑P P 19 55 40.3 +1.9
baz=42,SNR=5.6
W19A **Sanders** 42.26 318 ⇓P P 19 55 43.3 +2.7
baz=42
S22A **4UR Ranch, Cre** 42.27 323 ⇓P P 19 55 42.2 +1.4
baz=42
N26A **Koester Ranch,** 42.42 329 ⇑P P 19 55 43.6 +1.8
baz=43
U20A **Newcomb** 42.45 320 ⇓P P 19 55 43.9 +1.7
baz=43
W18A **Petrified Fore** 42.49 318 ⇑P P 19 55 45.1 +2.6
baz=43
R22A **Saguache, Gunn** 42.54 324 ⇓P P 19 55 44.5 +1.5
baz=43
S21A **Coal Bank Pass** 42.80 322 ⇑P P 19 55 46.4 +1.3
baz=43,SNR=5.2
ISCO **Idaho Springs** 42.95 326 ⇑P P 19 55 48.0 +1.7
baz=43
214A **Organ Pipe Nat** 42.98 312 ⇓P P 19 55 49.2 +2.9
baz=43
T19A **Beclabito** 43.05 320 ⇓P P 19 55 48.4 +1.5
baz=43
Q22A **Crested Butte,** 43.05 324 ⇑P P 19 55 49.0 +1.9
baz=43
L26A **Underwood Farm** 43.25 330 ⇑P P 19 55 50.4 +2.0
baz=43
S20A **Disappointment** 43.25 322 ⇑P P 19 55 50.7 +2.0
baz=43,SNR=9.0
N24A **Carr** 43.28 328 ⇑P P 19 55 50.8 +2.0
baz=44
O23A **Lake Granby, G** 43.41 326 ⇑P P 19 55 51.8 +1.8
baz=44
114A **Black Gap (USA** 43.42 313 ⇓P P 19 55 52.6 +2.7
baz=44
V17A **Tonalea, Kykot** 43.49 318 ⇑P P 19 55 52.5 +2.0
baz=44,SNR=8.4
R20A **Redvale** 43.49 322 ⇓P P 19 55 52.2 +1.6
baz=44
S19A **Harvey Farm, M** 43.68 321 ⇑P P 19 55 53.7 +1.6
baz=44
O22A **Kremmling** 43.72 326 ⇑P P 19 55 53.6 +1.1
baz=44,SNR=5.1
T18A **Mexican Hat** 43.77 320 ⇓P P 19 55 54.1 +1.4
baz=44
P21A **Newcastle** 43.81 324 ⇓P P 19 55 54.8 +1.7
baz=44,SNR=6.1
WUAZ **Wupatki** 43.82 317 *eP* P 19 55 53.8 +0.6
10nm,0.9s
WUAZ *e* 19 56 07.5
WUAZ **Wupatki** 43.82 317 ⇑P P 19 55 55.2 +2.0
baz=44,SNR=7.7
N23A **Red Feather La** 43.90 327 ⇑P P 19 55 55.5 +1.6
baz=44
U16A **Tuba City** 44.01 318 ⇑P P 19 55 56.9 +2.1
baz=44,SNR=5.2
113A **Mohawk Valley,** 44.08 312 ⇑P P 19 55 56.5 +1.4
baz=44
N22A **Wattenberg Ran** 44.11 327 ⇑P P 19 55 57.0 +1.4
baz=44
M23A **Laramie** 44.18 328 ⇑P P 19 55 58.0 +1.9
baz=44
S18A **Hurst Farm, Bl** 44.18 321 ⇑P P 19 55 57.7 +1.5
baz=44
Z13A **Yuma Proving G** 44.21 313 ⇓P P 19 55 58.6 +2.4
baz=44
O21A **Pagoda** 44.28 325 ⇓P P 19 55 59.2 +2.2
baz=44
T17A **Navajo Res., N** 44.29 319 ⇓P P 19 55 58.8 +1.9
baz=44
Q19A **Hogan Spring (** 44.51 323 ⇓P P 19 56 00.2 +1.6
baz=45,SNR=6.0
R18A **Canyonlands Na** 44.55 321 ⇑P P 19 55 59.4 +0.4
baz=45
S17A **Black Ridge (B** 44.66 320 ⇑P P 19 56 01.5 +1.6
baz=45
O20A **White River Ci** 44.67 325 ⇓P P 19 56 01.5 +1.5
baz=45
N21A **Black Mountain** 44.67 326 ⇓P P 19 56 01.3 +1.3
baz=45
P19A **Cripple Cowboy** 44.77 323 ⇓P P 19 56 01.9 +1.1
baz=45
U15A **North Rim** 44.95 318 ⇓P P 19 56 02.7 +0.4
baz=45
J24A **Dixon Ranch, L** 44.99 330 ⇑P P 19 56 03.5 +1.2
baz=45
K23A **Bowen Ranch, D** 45.05 329 ⇓P P 19 56 04.3 +1.4
baz=45
R17A **Hanksville Air** 45.07 321 ⇑P P 19 56 04.1 +1.0
baz=45
PDMCI **Parker Dam,Lak** 45.11 314 ⇑P P 19 56 04.2 +1.0
baz=45
Q18A **Rafter H Ranch** 45.13 322 ⇑P P 19 56 04.8 +1.2
baz=45
N20A **Spence Gulch,** 45.14 325 ⇑P P 19 56 05.3 +1.5
baz=45
S16A **Weppner Ranch,** 45.23 320 ⇓P P 19 56 05.4 +1.0
baz=45
RSSD **Black Hills** 45.28 332 *eP* P 19 56 05.5 +0.7
12nm,1.2s
W13A **Hualapai Mount** 45.33 315 ⇑P P 19 56 06.3 +0.9
baz=46
I24A **Kuemmerle Ranc** 45.37 331 ⇓P P 19 56 06.3 +1.0
baz=46
SRU **San Rafael** 45.38 322 *eP* P 19 56 05.9 +0.3
7.6nm,1.0s
SRU **San Rafael** 45.38 322 ⇑P P 19 56 07.0 +1.4
baz=46,SNR=7.0
K22A **Casper** 45.44 328 ⇑P P 19 56 07.3 +1.3
baz=46
R16A **Teasdale** 45.48 320 ⇓P P 19 56 07.7 +1.2
baz=46
J23A **Dilts Ranch, B** 45.49 330 ⇓P P 19 56 07.7 +1.4
baz=46
AGMN **Agassiz Nation** 45.50 342 *eP* P 19 56 00.8 -5.4
17nm,1.3s
TRQA **Tornquist** 45.65 164 *eP* P 19 56 06.2 -1.2
18nm,1.2s
P17A **Butcher Ranch,** 45.73 322 ⇑P P 19 56 09.5 +1.1
baz=46
IRM **Iron Mountain** 45.77 313 ⇓P P 19 56 10.1 +1.5
baz=46
K21A **Alcova** 45.81 328 ⇓P P 19 56 10.4 +1.4
baz=46,SNR=6.4
J22A **Midwest** 45.96 329 ⇑P P 19 56 11.3 +1.2
baz=46,SNR=5.5
N18A **Larsen Ranch,** 46.04 324 ⇓P P 19 56 12.4 +1.6
baz=46
MSU **Marysvale** 46.06 320 *eP* P 19 56 12.2 +1.2
3.3nm,1.0s
O17A **Robinson Place** 46.18 323 ⇑P P 19 56 13.5 +1.6
baz=46
H23A **Clabaugh Cattl** 46.26 331 ⇑P P 19 56 13.8 +1.4
baz=46
I22A **9 Mile Ranch,** 46.31 330 ⇑P P 19 56 13.8 +1.1
baz=46
BELC **Belle Mtn. Jos** 46.31 313 P P 19 56 13.0 0.0
baz=46
MDND **Maddock** 46.39 338 ⇓P P 19 56 13.4 +0.2
baz=47
J21A **Lysite** 46.41 328 ⇑P P 19 56 14.6 +0.9
baz=47
K20A **Yellowstone Ra** 46.41 327 ⇓P P 19 56 15.1 +1.4
baz=47
GMRC **Granite Mounta** 46.44 314 ⇓P P 19 56 15.4 +1.5
baz=47
PFO **Pinyon Flat Ob** 46.46 312 ⇑P P 19 56 16.6 +2.5
baz=47
M18A **Lyman** 46.56 325 ⇑P P 19 56 14.5 -0.4
baz=47
L19A **Farson** 46.60 326 ⇓P P 19 56 15.3 +0.2
baz=47
DAU **Daniels Canyon** 46.62 323 *eP* P 19 56 16.3 +0.8
9.3nm,0.9s
I21A **Big Trails, Te** 46.66 329 ⇓P P 19 56 16.6 +1.1
baz=47,SNR=7.6
PLCA **Paso Flores** 46.66 174 P P 19 56 15.3 -0.1
4.1nm,0.8s,baz=15,slow=11,SNR=8.0
PLCA **Paso Flores** 46.66 174 *eP* P 19 56 15.2 -0.3
15nm,1.1s
N17A **Moffit Pass** 46.70 324 ⇑P P 19 56 17.3 +1.2
baz=47
G23A **Biddle** 46.73 332 ⇑P P 19 56 16.7 +0.7
baz=47
J20A **Shoshoni** 46.75 328 ⇑P P 19 56 17.4 +1.2
baz=47,SNR=6.3
K19A **Absolon Red Bu** 46.80 327 ⇓P P 19 56 17.1 +0.4
baz=47
M17A **Scullys Gap (B** 46.94 324 ⇑P P 19 56 18.6 +0.8
baz=47
TUQ **Turquoise Moun** 46.94 314 ⇓P P 19 56 17.4 -0.5
baz=47
R13A **O'Grain Ranch,** 47.03 319 ⇓P P 19 56 20.2 +1.6
baz=47
F23A **Volborg** 47.12 332 ⇓P P 19 56 18.8 -0.2
baz=47
BW06 **Boulder Array** 47.15 326 ⇑P P 19 56 20.7 +1.2
baz=47,SNR=7.6
BW06 ⇑P P 19 56 20.7 +1.2
baz=47,SNR=7.6
PDAR **Pinedale Array** 47.15 326 P P 19 56 19.6 +0.1
3.9nm,0.9s,baz=134,slow=8.5,SNR=15
PDAR **Pinedale Array** 47.15 326 P P 19 56 19.6 +0.1
PD02 **Pinedale Array** 47.16 326 *eP* P 19 56 20.2 +0.7
PD01 **Pinedale Array** 47.17 326 *eP* P 19 56 20.0 +0.3
PD01 *e* 19 56 36.1
G22A **Birney** 47.17 331 ⇓P P 19 56 20.8 +1.4
baz=47,SNR=6.8
I20A **Worland** 47.19 329 ⇓P P 19 56 20.7 +1.1
baz=47,SNR=7.9
ULM **Larc du Bonnet** 47.23 343 P P 19 56 19.5 -0.2
7.5nm,0.4s,baz=153,slow=8.3,SNR=21
ULM LR LR 20 16 06.3
comp=Z,154nm,18.3s,baz=73,slow=36
ULM **Lac du Bonnet** 47.23 343 *eP* P 19 56 19.2 -0.4
14nm,0.8s
K18A **Toltan Ranch,** 47.33 326 ⇓P P 19 56 21.9 +1.0
baz=48
DUG **Dugway** 47.44 322 *eP* P 19 56 22.5 +0.8
6.7nm,1.0s
DUG **Dugway** 47.44 322 ⇑P P 19 56 23.0 +1.3
baz=48,SNR=6.6
HWUT **Hardware Ranch** 47.55 324 *eP* P 19 56 22.9 +0.4
F22A **Rosebud** 47.57 332 ⇑P P 19 56 23.7 +1.2
baz=48
G21A **Lodge Grass** 47.62 330 ⇓P P 19 56 24.1 +1.1
baz=48
J18A **Kendall Valley** 47.70 327 ⇓P P 19 56 24.9 +1.1
baz=48,SNR=14
D24A **Glendive** 47.70 334 ⇑P P 19 56 24.7 +1.3
baz=48
I19A **Meeteetse** 47.70 328 ⇑P P 19 56 24.8 +1.1
baz=48,SNR=5.1
CIS **Catalina Islan** 47.83 311 ⇓P P 19 56 26.1 +1.4
baz=48
K17A **Gardner Place,** 47.90 325 ⇓P P 19 56 26.6 +1.4
baz=48
E22A **Miles City** 47.91 332 ⇑P P 19 56 26.0 +0.9
baz=48
M15A **Larsen Ranch,** 47.98 323 ⇑P P 19 56 27.0 +1.2
baz=48,SNR=6.6
FURC **Furnace Creek,** 48.11 315 ⇑P P 19 56 29.3 +2.6
baz=48
G20A **Bridger** 48.12 330 ⇓P P 19 56 27.5 +0.6
baz=48,SNR=7.9
D23A **Lindsay** 48.13 334 ⇑P P 19 56 28.0 +1.2
baz=48
EDW2 **Edwards Air Fo** 48.17 313 ⇑P P 19 56 28.7 +1.3
baz=48
J17A **Brown Place, J** 48.18 326 ⇑P P 19 56 28.5 +1.1
baz=48,SNR=6.8
R11A **Troy Canyon, C** 48.19 318 ⇑P P 19 56 28.8 +1.2
baz=48,SNR=6.2
REDW **Red Top Meadow** 48.26 326 P P 19 56 28.3 +0.2
17nm,1.0s
L15A **Malad City** 48.27 324 ⇑P P 19 56 29.1 +0.9
baz=48
LOHW **Long Hollow** 48.28 327 *eP* P 19 56 28.9 +0.6
12nm,1.2s
MPMC **Manual Prospec** 48.36 314 ⇑P P 19 56 29.9 +1.0
baz=48
MOOW **Moose Ponds** 48.45 327 *eP* P 19 56 28.6 -0.9
3.2nm,0.8s
I17A **Pilgrim Ck.** 48.47 327 ⇓P P 19 56 30.8 +1.2
baz=49
H18A **Shoshone NF, C** 48.49 328 ⇑P P 19 56 30.3 +0.5
baz=49
F20A **Billings** 48.50 330 ⇓P P 19 56 30.2 +0.5
baz=49
D22A **Cohagen** 48.55 333 ⇓P P 19 56 31.3 +1.3
baz=49,SNR=17
RLMT **Red Lodge** 48.59 329 ⇓P P 19 56 31.1 +0.6
baz=49,SNR=5.3
RLMT ⇓P P 19 56 31.1 +0.6
baz=49,SNR=5.3
C23A **Lambert** 48.60 334 ⇑P P 19 56 31.4 +1.0
baz=49
DGMT **Dagmar** 48.70 335 *eP* P 19 56 31.8 +0.7
15nm,0.9s
DGMT **Dagmar** 48.70 335 ⇓P P 19 56 32.3 +1.2
baz=49
K15A **Arbon** 48.78 324 ⇑P P 19 56 32.6 +0.6
baz=49
H17A **Grant Village** 48.78 327 ⇓P P 19 56 33.1 +1.0
baz=49
L14A **Malta** 48.80 323 ⇑P P 19 56 32.5 +0.4
baz=49
D21A **La Casta Ranch** 48.86 332 ⇓P P 19 56 33.9 +1.5
baz=49
C22A **Vida** 48.86 334 ⇓P P 19 56 34.0 +1.6
baz=49
G18A **Lazy EL Ranch,** 48.87 329 ⇓P P 19 56 33.6 +0.9
baz=49
ISA **Isabella** 48.88 313 P P 19 56 34.6 +1.8
I16A **Newdale** 48.94 326 ⇑P P 19 56 35.8 +2.5
baz=49
A24A **Westby** 48.97 336 ⇑P P 19 56 34.5 +1.3
baz=49
E20A **Meyer Farm, Mu** 48.99 331 ⇑P P 19 56 34.4 +1.0
baz=49,SNR=9.0
B23A **Brockton** 49.03 335 ⇑P P 19 56 35.2 +1.5
baz=49
K14A **Jones Ranch, D** 49.07 324 ⇑P P 19 56 34.9 +0.7
baz=49
J15A **Blackfoot** 49.17 325 ⇓P P 19 56 35.8 +0.9
baz=49
ELK **Elko** 49.27 321 P P 19 56 37.0 +1.1
0.9nm,0.6s,baz=130,slow=5.9,SNR=5.3
ELK **Elko** 49.27 321 P P 19 56 37.0 +1.1
E19A **Rath Farm, Rou** 49.28 330 ⇑P P 19 56 37.0 +1.4
baz=50
B22A **Reddig Ranch S** 49.33 334 ⇑P P 19 56 37.7 +1.7
baz=50
H16A **Russell Place,** 49.35 327 ⇑P P 19 56 37.4 +1.0
baz=50
F18A **Big Timber** 49.35 329 ⇑P P 19 56 37.1 +0.9
baz=50,SNR=7.6
SCHQ **Schefferville** 49.38 7 P P 19 56 36.9 +0.7
17nm,1.0s,baz=190,slow=5.5,SNR=14
SCHQ LR LR 20 17 34.2
comp=Z,104nm,18.7s,baz=105,slow=36
SCHQ **Schefferville** 49.38 7 P P 19 56 36.9 +0.7
D20A **Manuel Ranch,** 49.41 332 ⇑P P 19 56 38.1 +1.4
baz=50,SNR=5.0
QLMT **Earthquake Lak** 49.53 327 *eP* P 19 56 39.6 +1.9
0.7nm,0.7s
D19A **Cripps Ranch,** 49.82 331 ⇓P P 19 56 40.5 +0.8
baz=50
F17A **Fitzpatrick Pl** 49.84 329 ⇓P P 19 56 41.4 +1.4
baz=50,SNR=5.2
E18A **Harlowton** 49.91 330 ⇑P P 19 56 41.4 +0.9
baz=50
G16A **Moss Hill, Enn** 49.99 327 ⇑P P 19 56 42.7 +1.5
baz=50,SNR=7.9
H15A **Lima** 50.05 326 ⇑P P 19 56 44.0 +2.3
baz=50,SNR=14
NVAR **Mina Array Bea** 50.07 317 P P 19 56 42.7 +0.7
1.5nm,0.8s,baz=127,slow=6.7,SNR=12
NVAR PcP PcP 19 58 02.1 +1.1
1.1nm,0.7s,baz=120,slow=5.3,SNR=2.5
NVAR **Mina Array Bea** 50.07 317 P P 19 56 42.7 +0.7
NVAR PcP PcP 19 58 02.1 +1.1
I14A **Mackay** 50.07 325 ⇓P P 19 56 43.8 +1.9
baz=50
J13A **Cove Ranch, Pi** 50.17 324 ⇑P P 19 56 43.9 +1.4
baz=50,SNR=6.7
BOZ **Bozeman (W)** 50.17 328 *eP* P 19 56 40.4 -2.2
7.4nm,0.9s
BOZ **Bozeman (W)** 50.17 328 ⇑P P 19 56 43.7 +1.1
baz=50,SNR=8.6
BOZ ⇑P P 19 56 43.7 +1.1
baz=50,SNR=8.6
F16A **Kennard Place,** 50.26 328 ⇑P P 19 56 44.0 +0.8
baz=50
D18A **Linhart Farms,** 50.29 331 ⇑P P 19 56 44.7 +1.3
baz=50
MCMT **McKenzie Canyo** 50.30 326 *eP* P 19 56 44.9 +1.2
3.9nm,1.0s
C19A **Slack Wire Ran** 50.31 332 ⇑P P 19 56 45.0 +1.5
baz=50,SNR=7.0
E17A **Martisdale** 50.31 329 ⇑P P 19 56 44.8 +1.1
baz=50,SNR=7.4
G15A **Dillon** 50.32 327 ⇑P P 19 56 45.2 +1.5
baz=50
HLID **Hailey** 50.40 324 *eP* P 19 56 45.2 +0.8
3.3nm,0.9s
HLID **Hailey** 50.40 324 ⇑P P 19 56 45.6 +1.2
baz=51,SNR=7.6
I13A **Wildhorse Cree** 50.45 325 ⇑P P 19 56 46.1 +1.4
baz=51,SNR=6.0
H14A **Leadore** 50.45 326 ⇑P P 19 56 46.1 +1.3
baz=51
DLMT **Dillon** 50.50 327 *eP* P 19 56 46.6 +1.5
7.3nm,1.1s
D17A **Six Diamond Ra** 50.70 330 ⇓P P 19 56 47.7 +1.2
baz=51,SNR=8.5
F15A **Butte** 50.76 328 ⇓P P 19 56 48.3 +1.3
baz=51,SNR=7.4
E16A **East Helena** 50.78 329 ⇑P P 19 56 48.4 +1.3
baz=51
EGMT **Eagleton** 50.85 331 ⇓P P 19 56 48.6 +1.1
baz=51
G14A **Jackson** 50.90 326 ⇑P P 19 56 49.2 +1.1
baz=51
H13A **Challis** 50.92 325 ⇓P P 19 56 49.3 +1.1
baz=51
I12A **Atlanta** 50.96 324 ⇓P P 19 56 49.8 +1.2
baz=51,SNR=6.1
HRY **Holter Researc** 50.98 329 *eP* P 19 56 49.3 +0.7
5.2nm,0.7s
A19A **Klindworth Far** 51.02 333 ⇑P P 19 56 49.5 +0.7
baz=51
D16A **Dana Ranch, Ca** 51.05 329 ⇑P P 19 56 49.8 +0.7
baz=51,SNR=8.5
C17A **Wharram Farm,** 51.06 330 ⇓P P 19 56 50.0 +0.8
baz=51,SNR=13
B18A **Beardsley Farm** 51.12 332 ⇑P P 19 56 50.4 +0.9
baz=51
MFID **Camas Ranch** 51.15 323 *eP* P 19 56 50.7 +0.8
8.2nm,1.0s
MFID **Camas Ranch** 51.15 323 ⇓P P 19 56 51.1 +1.2
baz=51,SNR=7.2
F14A **Wisdom** 51.21 327 ⇑P P 19 56 51.4 +1.0
baz=51
E15A **Deer Lodge** 51.21 328 ⇑P P 19 56 51.4 +1.0
baz=51
G13A **Cobalt** 51.23 326 ⇑P P 19 56 51.4 +0.9
baz=51,SNR=6.3
H12A **Diamond D Ranc** 51.25 325 ⇓P P 19 56 51.9 +1.2
baz=51,SNR=5.4
B17A **L&G Farms, Che** 51.54 331 ⇓P P 19 56 53.1 +0.5
baz=52
D15A **Lincoln** 51.55 329 ⇑P P 19 56 53.7 +0.8
baz=52
E14A **Clinton** 51.66 328 ⇑P P 19 56 54.6 +0.9
baz=52
C16A **Fuhringer Ranc** 51.67 330 ⇑P P 19 56 54.7 +1.0
baz=52
F13A **Darby** 51.72 327 ⇑P P 19 56 55.1 +1.0
baz=52,SNR=12
E13A **Victor** 52.05 327 ⇓P P 19 56 57.4 +0.8
baz=52
C15A **Salmond Ranch,** 52.08 329 ⇑P P 19 56 58.2 +1.4
baz=52
MSO **Missoula** 52.16 328 ⇑P P 19 56 58.1 +0.7
baz=52
WVOR **Wild Horse Val** 52.33 321 *eP* P 19 56 59.1 +0.4
11nm,1.4s
D13A **Huson** 52.60 328 ⇑P P 19 57 01.7 +1.1
baz=53,SNR=7.2
C14A **Swan Lake** 52.66 329 ⇑P P 19 57 01.8 +0.8
baz=53
B14A **Marquette Ranc** 52.80 330 ⇑P P 19 57 03.1 +0.9
baz=53
JTMT **Jette** 52.92 328 *eP* P 19 57 03.6 +0.6
4.4nm,1.0s
A15A **Johnson Ranch,** 52.94 330 ⇓P P 19 57 03.6 +0.5
baz=53
FFC **Flin Flon** 52.98 342 *eP* P 19 57 03.0 -0.2
12nm,1.4s
BSMT **Bassoo Peak** 53.25 328 *eP* P 19 57 06.7 +1.2
7.3nm,1.1s
A14A **Double T Ranch** 53.28 330 ⇓P P 19 57 06.8 +1.2
baz=54
B13A **Whitefish** 53.42 329 ⇓P P 19 57 07.9 +1.3

baz=54
C12B Naegeli Ranch, 53.52 328 ⇑P **P 19 57 08.6 +1.3**
baz=54,SNR=8.8
YBH Yreka Blue Hor 54.61 318 P **P 19 57 15.3 -0.1**
1.8nm,0.8s,baz=84,slow=5.8,SNR=6.8
YBH Yreka Blue Hor 54.61 318 P **P 19 57 15.3 -0.1**
NEW Newport 54.74 328 ⇓P **P 19 57 17.0 +0.8**
baz=55
FRB Frobisher Bay 58.01 4 P **P 19 57 39.0 -0.1**
5.9nm,0.8s,baz=200,slow=7.2,SNR=12
FRB pP **pP 19 57 53.7 -1.1**
2.6nm,0.7s,baz=201,slow=10,SNR=3.0
FRB Frobisher Bay 58.01 4 P **P 19 57 39.0 -0.1**
FRB pP **pP 19 57 53.7 -1.1**
YKA Yellowknife Ar 63.15 341 P **P 19 58 13.9 -0.2**
3.1nm,0.4s,baz=133,slow=6.8,SNR=92
YKA pP **pP 19 58 29.1 -0.9**
3.2nm,0.7s,baz=134,slow=6.9,SNR=9.7
YKA Yellowknife Ar 63.15 341 P **P 19 58 13.9 -0.2**
YKA pP **pP 19 58 29.1 -0.9**
EVO Evora 69.26 51 *eP* **P 19 58 53.6 -0.1**
18nm,0.9s
SUMG Summit 70.47 11 *eP* **P 19 59 01.4 +0.4**
37nm,1.0s
SUMG *epP* **pP 19 59 17.2 0.0**
SUMG Summit 70.47 11 *i* P **P 19 59 02.0 +1.0**
23nm,0.9s
SUMG *i* 19 59 17.3
LIC Lamto 70.63 85 *eP* **P 19 59 01.7 -0.9**
26nm,0.7s,baz=281
DBIC Dimbokro 70.77 85 P **P 19 59 02.8 -0.6**
11nm,0.7s,baz=254,slow=7.3,SNR=28
DBIC Dimbokro 70.77 85 *eP* **P 19 59 02.4 -1.1**
9.0nm,0.6s
MDT Midelt 71.29 57 P **P 19 59 05.8 -0.7**
4.4nm,0.8s,baz=295,slow=6.9,SNR=7.9
MDT Midelt 71.29 57 P **P 19 59 05.8 -0.7**
ESDC Sonseca Array 72.54 50 P **P 19 59 14.1 +0.4**
2.1nm,0.6s,baz=264,slow=5.6,SNR=18
ESDC Sonseca Array 72.54 50 P **P 19 59 14.1 +0.4**
ESLA Sonseca Array 72.54 50 *eP* **P 19 59 14.4 +0.7**
ROSF Rostrenen 74.23 41 *eP* **P 19 59 24.4 +1.0**
QUIF Quistinic 74.24 42 *eP* **P 19 59 24.4 +1.0**
SGMF Saint Gilles 74.70 42 *eP* **P 19 59 26.7 +0.6**
SJPF Ste Jean 74.97 47 *eP* **P 19 59 29.0 +1.1**
35nm,0.8s
ETSF Etsaut 75.44 47 *eP* **P 19 59 31.4 +0.8**
ESK Eskdalemuir 75.48 34 *eP* **P 19 59 30.5 0.0**
GRR Gorron 75.84 42 *eP* **P 19 59 33.6 +1.0**
22nm,0.7s
EPF Esparros 76.11 47 *eP* **P 19 59 35.5 +1.1**
11nm,0.5s
MFF Saint Martin d 76.11 44 *eP* **P 19 59 35.0 +0.8**
40nm,0.8s
MFF *epP* **pP 19 59 51.4 +0.8**
FLN La Foliniere 76.13 41 *eP* **P 19 59 35.1 +0.8**
23nm,0.7s
FLN *epP* **pP 19 59 52.2 +1.6**
LDF La Druitiere 76.35 42 *eP* **P 19 59 36.2 +0.6**
20nm,0.9s
LDF *epP* **pP 19 59 53.3 +1.4**
ILAR Eielson Array 76.57 335 P **P 19 59 36.1 -0.4**
3.1nm,0.8s,baz=109,slow=4.3,SNR=37
ILAR pP **pP 19 59 53.5 +0.6**
1.6nm,0.7s,baz=118,slow=3.8,SNR=6.1
ILAR Eielson Array 76.57 335 P **P 19 59 36.1 -0.4**
ILAR pP **pP 19 59 53.5 +0.6**
TORD Torodi Ar. Bea 76.84 78 P **P 19 59 38.4 -0.6**
6.4nm,0.3s,baz=288,slow=6.5,SNR=176
TORD LR LR 20 34 01.5
comp=Z,62nm,19.3s,baz=250,slow=36
TORD Torodi Ar. Bea 76.84 78 P **P 19 59 38.4 -0.6**
RJF Les Rejaudoux 77.14 45 *eP* **P 19 59 40.5 +0.4**
17nm,0.8s
RJF *epP* **pP 19 59 57.0 +0.5**
CAF Calviac 77.50 45 *eP* **P 19 59 42.9 +0.7**
34nm,1.1s
MTLF Montolieu 77.50 47 *eP* **P 19 59 42.5 +0.3**
28nm,1.0s
TCF Toulx Ste Croi 77.70 44 *eP* **P 19 59 43.5 +0.2**
7.5nm,0.7s
BGF Bois d'Agland 78.16 44 *eP* **P 19 59 46.0 +0.2**
22nm,0.9s
AVF Avril sur Loir 78.53 44 *eP* **P 19 59 47.8 +0.1**
11nm,0.7s
AVF *epP* **pP 20 00 04.3 +0.2**
SSF Saint Saulge 78.65 43 *eP* **P 19 59 48.7 +0.3**
18nm,0.9s
LASF Ste Croix 78.73 46 *eP* **P 19 59 50.1 +1.1**
14nm,0.8s
LOR Lormes 78.90 43 *eP* **P 19 59 50.1 +0.3**
8.3nm,0.6s
BAIF Baives 79.30 40 *eP* **P 19 59 52.4 +0.5**
VIVF Saint-Julien-l 79.35 46 *eP* **P 19 59 53.4 +1.0**
8.7nm,0.6s
SFTF Sexfontaines 79.74 42 *eP* **P 19 59 54.9 +0.5**
22nm,0.8s
MEZF Maizieres J'vi 79.77 42 *eP* **P 19 59 55.1 +0.6**
13nm,0.5s
TAM Tamanrasset 80.05 68 *eP* **P 19 59 58.1 +1.3**
15nm,1.4s
ORIF Oris-en-Rattie 80.21 46 *eP* **P 19 59 58.4 +1.3**
22nm,0.9s
PAGF Fort de Pagny 80.22 42 *eP* **P 19 59 57.6 +0.7**
7.4nm,0.8s
CABF La Chapelle 80.40 44 *eP* **P 19 59 58.7 +0.6**
13nm,0.8s
WLF Walferdange 80.54 41 *eP* **P 20 00 00.0 +1.4**
comp=Z,17nm,0.8s
HAU Haudompre 80.61 42 *eP* **P 19 59 59.5 +0.4**
LPL La Plagne 80.82 45 *eP* **P 20 00 01.7 +1.2**
comp=Z,11nm,0.8s
LPG La Plagne 80.83 45 *eP* **P 20 00 01.8 +1.1**
comp=Z,7.5nm,0.7s
HINF Hinteralfeld 80.95 43 *eP* **P 20 00 01.0 +0.1**
comp=Z,7.4nm,0.7s
CDF Champ du Feu 81.24 42 *eP* **P 20 00 03.0 +0.4**
comp=Z,12nm,0.9s
BUG Bochum--Univer 81.31 39 *eP* **P 20 00 04.2 +1.5**
comp=Z,6.0nm,0.8s
BUG *epP* **pP 20 00 20.3 +1.2**
IBBN Ibbenburen 81.63 38 *eP* **P 20 00 05.7 +1.4**
comp=Z,8.0nm,0.8s
TNS Taunus Mts 82.03 40 *eP* **P 20 00 08.0 +1.4**
comp=Z,15nm,1.2s
TUE Stuetta 82.64 44 *eP* **P 20 00 10.9 +0.8**
comp=Z,8.0nm,0.8s
KEST Kesra 82.92 55 P **P 20 00 13.4 +1.9**
comp=Z,1.6nm,0.6s,baz=270,slow=1.0,SNR=6.4
KEST Kesra 82.92 55 P **P 20 00 13.4 +1.9**
DAVA Damuels 83.00 43 ⇑*iP* **P 20 00 12.8 +1.0**
comp=Z,18nm,0.9s
DAVOX Davos/Dischmat 83.01 44 P **P 20 00 13.9 +1.9**
baz=328,slow=15
DAVOX Davos/Dischmat 83.01 44 P **P 20 00 13.9 +1.9**
NRDL Niedersach Rie 83.07 38 *eP* **P 20 00 13.4 +1.6**
comp=Z,6.0nm,0.9s
FETA Feichten 83.58 43 ⇑*iP* **P 20 00 15.4 +0.5**
comp=Z,9.2nm,0.9s
NB2 NORSAR Subarra 83.60 29 P **P 20 00 16.0 +1.5**
comp=Z,1.3nm,0.8s,baz=268,slow=5.3
NOA NORSAR Array B 83.60 29 P **P 20 00 15.4 +0.9**
comp=Z,2.4nm,0.9s,baz=274,slow=4.9,SNR=4.5
NOA pP **pP 20 00 33.1 +2.1**
comp=Z,3.1nm,0.8s,baz=269,slow=5.3,SNR=4.8
NOA NORSAR Array B 83.60 29 P **P 20 00 15.4 +0.9**
NOA pP **pP 20 00 33.1 +2.1**
GRF Grafenberg Arr 83.83 41 *eP* **P 20 00 17.2 +1.3**
comp=Z,6.0nm,0.9s
NKC Novy Kostel 84.60 40 *eP* **P 20 00 21.3 +1.5**
TANN Tannenbergstha 84.60 40 *eP* **P 20 00 21.4 +1.6**
comp=Z,4.0nm,0.9s
TANN *epP* **pP 20 00 37.9 +1.5**
ABTA Abfaltersbach 84.82 44 ⇑*iPcP* **P 20 00 22.3 +1.3**
comp=Z,13nm,1.0s
CLL Collm 84.90 39 *eP* **P 20 00 22.7 +1.5**
comp=Z,6.0nm,0.9s
CLL Collm 84.90 39 *i* P **P 20 00 21.5 +0.3**
CLL *i* sP **sP 20 00 43.9 -0.4**
WET Wettzell 84.94 41 *eP* **P 20 00 23.0 +1.5**
comp=Z,6.0nm,0.9s
WET *epP* **pP 20 00 39.4 +1.3**
KHC Kasperske Hory 85.39 41 *eP* **P 20 00 24.5 +0.7**
comp=Z,7.2nm,1.0s
KHC Kasperske Hory 85.39 41 *eP* **P 20 00 24.6 +0.7**
KHC *epP* **pP 20 00 41.1 +0.7**
GEC2 GERESS Array S 85.49 42 *eP* **P 20 00 25.4 +1.0**
comp=Z,5.0nm,0.9s
GEC2 *epP* **pP 20 00 41.9 +0.9**
GERES GERESS Array B 85.49 42 P **P 20 00 25.3 +0.9**
comp=Z,5.0nm,0.8s,baz=262,slow=4.0,SNR=34
GERES pP **pP 20 00 41.8 +0.8**
comp=Z,2.5nm,0.8s,baz=257,slow=3.6,SNR=6.9
GERES GERESS Array B 85.49 42 P **P 20 00 25.3 +0.9**
GERES pP **pP 20 00 41.8 +0.8**
BRG Berggiesshubel 85.52 39 *eP* **P 20 00 25.5 +1.2**
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 85.52 39 *eP* **P 20 00 25.8 +1.5**
comp=Z,5.0nm,0.9s
BRG *epP* **pP 20 00 42.1 +1.2**
MOA Molln 85.94 42 ⇑*iP* **P 20 00 27.2 +0.6**
comp=Z,6.5nm,0.8s
PVCC Panska Ves 85.94 40 *eP* **P 20 00 27.8 +1.4**
PRU Pruhonice 85.96 40 *eP* **P 20 00 28.0 +1.4**
PRU *epP* **pP 20 00 44.3 +1.1**
UPC Upice 86.86 40 *eP* **P 20 00 32.5 +1.5**
CSNA Conrad Observa 87.00 42 ⇑*iPcP* **P 20 00 32.8 +0.9**
DPC Dobruska-Polom 87.07 40 *eP* **P 20 00 33.7 +1.6**
DPC *epP* **pP 20 00 49.7 +1.0**
VRAC Vranov 87.35 41 ⇓*iP* **P 20 00 34.8 +1.4**
MORC Moravsky Berou 87.91 40 ⇓*iP* **P 20 00 38.1 +2.0**
VNA3 Neumayer Olymp 88.15 163 *e* **P 20 00 35.8 -0.9**
VNA2 Neumayer--Watz 88.70 162 *e* 20 00 41.3
SNAA Sanae 90.34 162 *e* **P 20 00 45.2 -1.8**
SNAA Sanae 90.34 162 *eP* **P 20 00 44.8 -2.2**
FINES FINESS Array B 90.67 28 P **P 20 00 46.8 -1.9**
comp=Z,4.5nm,0.8s,baz=280,slow=3.8,SNR=3.8
FINES LR LR 20 39 18.9
comp=Z,87nm,20.9s,baz=83,slow=34
FINES FINESS Array B 90.67 28 P **P 20 00 46.8 -1.9**
BZS Buzias 91.22 44 ⇓*iP* **P 20 00 53.1 +1.5**
GZR Gura Zlata 92.07 44 ⇓*iP* **P 20 00 57.5 +1.9**
MLR Muntele Rosu 94.23 44 ⇓*iP* **P 20 01 07.5 +1.8**
QSPA South Pole Qui 95.89 180 *eP* **P 20 01 12.5 -0.3**
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 124.16 18 PKP **PKPdf 20 06 43.8 -1.1**
comp=Z,0.5nm,0.8s,baz=24,slow=3.3,SNR=4.3
MKAR Makanchi Array 124.16 18 PKP **PKPdf 20 06 43.8 -1.1**
MDJ Mudanjiang 124.68 338 PKP **PKPdf 20 06 45.3 -0.6**
SONM Songino Array 126.47 358 PKP **PKPdf 20 06 48.1 -1.4**
comp=Z,0.4nm,0.6s,baz=344,slow=0.9,SNR=4.0
SONM PP **PP 20 08 39.3 -5.0**
comp=Z,0.2nm,0.9s,baz=14,slow=3.0,SNR=1.8
SONM Songino Array 126.47 358 PKP **PKPdf 20 06 48.1 -1.4**
SONM PP **PP 20 08 39.3 -5.0**
CN2 Changchun 126.85 341 *e*PKP **PKPdf 20 06 45.4 -4.7**
HHC Hu-ho-hao-te 132.97 352 *e*PKP PKPdf 20 06 56.1 -5.9
HHC PP **PP 20 09 26.3 -0.3**
HHC PKS PKSdf 20 10 30.5 -8.0
HHC AMB AMB
comp=Z,110nm,7.3s
HHC LR LR
comp=N,150nm,21.0s
HHC LR LR
comp=E,200nm,21.0s
HHC LR LR
comp=Z,200nm,21.8s
LZH Lanzhou 138.25 0 *e*PKP **PKPdf 20 07 12.5 +0.5**
LZH sPKP 20 07 35.3
LZH LR LR
comp=N,120nm,18.2s
LZH LR LR
comp=Z,150nm,20.3s
CD2 Chengdu 143.42 0 PKP PKPbc 20 07 19.8 +1.3
HYB Hyderabad 145.91 47 *i* PKP **PKPdf 20 07 26.0 +0.1**
AS31 Alice Springs 146.14 235 *e*PKPbc **PKPdf 20 07 25.4 -0.8**
ASAR Alice Springs 146.14 235 PKPbc **PKPdf 20 07 26.4 +0.2**
comp=Z,3.8nm,0.7s,baz=114,slow=3.9,SNR=36
ASAR Alice Springs 146.14 235 PKPbc **PKPdf 20 07 26.4 +0.2**
SHL Shillong 146.63 20 *eP* **PKPab 20 07 31.5 +1.7**
WRA Warramunga Arr 147.28 242 PKPbc **PKPdf 20 07 28.3 +0.1**
comp=Z,3.9nm,0.8s,baz=104,slow=2.9,SNR=8.3
WRA pPKPbc **pPKPbc 20 07 46.4 -1.3**
comp=Z,7.1nm,0.9s,baz=105,slow=3.7,SNR=8.9
WRA Warramunga Arr 147.28 242 PKPbc **PKPdf 20 07 28.3 +0.1**
WRA pPKPbc **pPKPbc 20 07 46.4 -1.3**
GYA Guiyang 147.74 355 *e*PKPbc **PKPdf 20 07 27.0 -1.9**
GYA PKPab **PKPab 20 07 35.6 +1.5**
GYA sPKP 20 07 50.3
GYA PP **PP 20 11 01.5 +4.4**
GYA AMB AMB
comp=Z,90nm,7.8s
KMI Kunming 149.16 2 PKPbc **PKPdf 20 07 30.1 -1.3**
CMAR Chiang Mai Arr 155.33 11 PKP **PKPdf 20 07 40.0 -0.4**
comp=Z,0.5nm,0.7s,baz=342,slow=1.1,SNR=3.7
CMAR pPKP **pPKPdf 20 07 56.4 -1.4**
comp=Z,0.8nm,0.7s,baz=303,slow=2.8,SNR=5.2
CMAR PKPab **PKPab 20 08 05.8 +0.2**
comp=Z,5.7nm,0.8s,baz=330,slow=5.2,SNR=25
CMAR pPKPab **pPKPab 20 08 22.2 -0.1**
comp=Z,6.4nm,1.0s,baz=329,slow=5.3,SNR=8.1
CMAR Chiang Mai Arr 155.33 11 PKP **PKPdf 20 07 40.0 -0.4**
CMAR pPKP **pPKPdf 20 07 56.4 -1.4**
CMAR PKPab **PKPab 20 08 05.8 +0.2**
CMAR pPKPab **pPKPab 20 08 22.2 -0.1**

*ISCJB **13** 20:03:28.7±1.1, 40.33N±0.03×25.82E±0.09, h11km, Error ellipse: s-maj=9.5km s-min=4.4km az=5.4*
*ISK **13** 20:03:29.9, 40.37N×25.89E, h16km, MD2.7*
*CSEM **13** 20:03:29.1±0.6, 40.33N×25.80E, h15km, MD2.7, Error ellipse: s-maj=12.1km s-min=6.4km az=90.0*
*DDA **13** 20:03:32.5, 40.19N×26.20E, h6km, MD2.8*
ISC 13 20:03:28.6±1.5, 40.30N±0.03×25.82E±0.07, h11km, n29, σ0s63/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.49**	**158**	*i*	P	**Pg**		**20 03 39.2**	**+0.9**
BOZC				*i*	S	**Sg**		**20 03 46.8**	**+2.0**
ENEZ	**Enez**	**0.50**	**31**	*e*	PG	**Pg**		**20 03 38.6**	**+0.1**
ENEZ				*e*	SG	**Sg**		**20 03 45.1**	**-0.1**
ENEZ	**Enez**	**0.50**	**31**	*e*	Pg	**Pg**		**20 03 38.6**	**+0.1**
ENEZ				*e*	Sg	**Sg**		**20 03 45.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.51**	**79**	*e*	PG	**Pb**		**20 03 39.4**	**-0.2**
GELI				*e*	SG	**Sg**		**20 03 46.0**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.51**	**79**	*e*	Pg	**Pb**		**20 03 39.4**	**-0.2**
GELI				*e*	Sg	**Sg**		**20 03 46.1**	**+0.7**
EZN	**Ezine**	**0.62**	**140**	*e*	PG	**Pn**		**20 03 42.8**	**-0.5**
EZN	**Ezine**	**0.62**	**140**	*e*	Pg	**Pn**		**20 03 42.8**	**-0.5**
ERIK	**Erikli-Kesan**	**0.65**	**55**	*e*	PG	**Pg**		**20 03 41.2**	**+0.1**
ERIK	**Erikli-Kesan**	**0.65**	**55**	*e*	Pg	**Pg**		**20 03 41.3**	**+0.1**
LPK	**Lapseki**	**0.72**	**84**	*e*	PG	**Pb**		**20 03 43.3**	**0.0**
LPK	**Lapseki**	**0.72**	**84**	*e*	Pg	**Pb**		**20 03 43.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.11**	**69**	*e*	PG	**Pg**		**20 03 50.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.11**	**69**	*e*	Pg	**Pg**		**20 03 50.2**	**+0.3**
SART	**Tekirdag**	**1.11**	**69**	*i*	P	**Pb**		**20 03 49.4**	**-0.5**
SART				*i*	S	**Sn**		**20 04 05.3**	**-0.2**
SART	**Tekirdag**	**1.11**	**69**	*i*	P	**Pb**		**20 03 49.4**	**-0.5**
SART				*i*	S	**Sn**		**20 04 05.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.14**	**85**	*e*	PG	**Pg**		**20 03 50.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.14**	**85**	*e*	Pg	**Pg**		**20 03 50.7**	**+0.2**
AYVA	**Ayvalik**	**1.20**	**146**	*i*	P	**Pn**		**20 03 49.6**	**-1.7**
AYVA				*i*	S	**Sg**		**20 04 07.5**	**+0.2**
AYVA	**Ayvalik**	**1.20**	**146**	*i*	P	**Pn**		**20 03 49.6**	**-1.7**
AYVA				*i*	S	**Sg**		**20 04 07.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**99**	*e*	PN	**Pg**		**20 03 56.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.46**	**99**	*e*	Pn	**Pg**		**20 03 56.6**	**0.0**
TKR	**Tekirdag**	**1.48**	**62**	*e*	PN	**Pn**		**20 03 55.3**	**+0.1**
TKR	**Tekirdag**	**1.48**	**62**	*e*	Pn	**Pn**		**20 03 55.3**	**+0.1**
BALY	**Balya**	**1.49**	**111**	*i*	P	**Pn**		**20 03 55.9**	**+0.4**
BALY				*i*	S	**Sn**		**20 04 14.4**	**-0.6**
BALY	**Balya**	**1.49**	**111**	*i*	P	**Pn**		**20 03 55.9**	**+0.4**
BALY				*i*	S	**Sn**		**20 04 14.4**	**-0.6**
CRLT	**Corlu**	**1.68**	**60**	*e*	PN	**Pn**		**20 03 58.0**	**+0.1**
CRLT	**Corlu**	**1.68**	**60**	*e*	Pn	**Pn**		**20 03 58.0**	**+0.1**
EDRB	**Edirne**	**1.70**	**24**	*e*	PN	**Pn**		**20 03 58.6**	**+0.4**
EDRB	**Edirne**	**1.70**	**24**	*e*	Pn	**Pn**		**20 03 58.6**	**+0.4**

*NEIC **13** 20:03:57.2±3.7, 19.91N×147.10E, h10km±22km, mb4.9/38, Error ellipse: s-maj=7.4km s-min=5.6km az=94.0*
*MOS **13** 20:03:58.9±0.9, 19.95N×147.07E, h33km, mb5.0/17, Error ellipse: s-maj=15.6km s-min=6.9km az=113.0*
*ISCJB **13** 20:04:01.0±1.0, 19.95N±0.03×147.05E±0.05, h51km±9km, mb4.7/87, MS3.9/18, Error ellipse: s-maj=7.4km s-min=5.6km az=178.9*

*IDC **13** 20:04:01.4±5.0, 20.02N×147.09E, h33km×37km, mb4.2/23, mb1 4.4/25, mb1mx4.3/30, mbtmp4.2/25, ML4.6/3, MS3.9/9, Ms1 3.9/9, ms1mx3.6/31, Error ellipse: s-maj=18.8km s-min=10.6km az=89.0*
*BJI **13** 20:04:01.7, 20.05N×147.17E, h58km, mB5.2/24, mb4.8/35, Ms4.6/19, Ms7 4.4/22*
ISC 13 20:04:04.0±0.4, 19.99N±0.04×147.02E±0.06, h59km±2km, n202, σ1s23/239, mb4.7/87, MS4.0/18, 4C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.69**	**198**			Pn	**Pn**	**20 05 39.6**	**-0.1**
	48nm,0.3s,baz=115,slow=4.6,SNR=31								
GUMO						Sn	**Sn**	**20 06 54.9**	**+0.2**
	51nm,0.3s,baz=303,slow=22,SNR=5.6								
GUMO						LR	LR	20 08 06.8	
	comp=Z,866nm,18.7s,baz=17,slow=36								
GUMO	**Guam**	**6.69**	**198**	*e*	P	Pn		20 05 31.3	-8.4
GUMO	**Guam**	**6.69**	**198**	*e*	Pn	Pn		20 05 31.3	-8.4
	150nm,0.8s								
GUMO						Pn	Pn	20 05 39.6	-0.1
GUMO				*e*	Sn	**Sn**		**20 06 52.0**	**-2.6**
GUMO						Sn		20 06 54.9	+0.2
CBIJ	**Chichi jima**	**8.35**	**329**			Pn	**Pn**	**20 06 01.7**	**-0.6**
	12nm,0.3s,baz=174,slow=18,SNR=2.1								
CBIJ						Sn	**Sn**	**20 07 30.2**	**-4.9**
	18nm,0.3s,baz=114,slow=23,SNR=4.8								
CBIJ	**Chichi jima**	**8.35**	**329**			Pn	**Pn**	**20 06 01.7**	**-0.6**
CBIJ						Sn	**Sn**	**20 07 30.2**	**-4.9**
MJAR	**Matsushiro Arr**	**18.21**	**337**			P	**P**	**20 08 11.3**	**-0.8**
	0.2nm,0.3s,baz=168,slow=10,SNR=8.2								
MJAR	**Matsushiro Arr**	**18.21**	**337**			P	**P**	**20 08 11.3**	**-0.8**
MJAR	**Matsushiro Arr**	**18.21**	**337**			P	**P**	**20 08 11.3**	**-0.8**
MAJO	**Matsushiro**	**18.21**	**337**	*e*	P	**Pn**	**Pn**	**20 08 12.9**	**+0.3**
MAJO	**Matsushiro**	**18.21**	**337**	*e*	P	**Pn**	**Pn**	**20 08 12.9**	**+0.3**
	16nm,0.9s								
JNU	**Nakatsue**	**19.45**	**316**	*e*	P	**P**	**P**	**20 08 26.4**	**+0.6**
	38nm,1.1s								
KSRS	**Korea Array**	**24.07**	**320**			P	**P**	**20 09 13.8**	**0.0**
	9.0nm,0.8s,baz=140,slow=8.9,SNR=19								
KSRS						LR	LR	20 18 48.8	
	comp=Z,430nm,19.0s,baz=130,slow=37								
KSAR	**Wonju Array Be**	**24.08**	**320**			P	**P**	**20 09 13.8**	**-0.1**
KSAR	**Wonju Array Be**	**24.08**	**320**			P	**P**	**20 09 13.8**	**-0.1**
YHNB	**Yeheng**	**24.16**	**286**	*e*	P	**P**	**P**	**20 09 11.6**	**-3.2**
	52nm,1.1s								
ASAJ	**Asahikawa**	**24.34**	**352**			P	**P**	**20 09 16.9**	**+0.7**
	9.0nm,0.8s,baz=246,slow=11,SNR=8.1								
ASAJ	**Asahikawa**	**24.34**	**352**			P	**P**	**20 09 16.9**	**+0.7**
DAV	**Davao City (W)**	**24.45**	**241**			LR	LR	20 18 45.2	
	comp=Z,240nm,18.8s,baz=272,slow=36								
YSS	**Yuzh-Sakhalins**	**27.12**	**354**	*e*	P	**P**	**P**	**20 09 42.2**	**+1.0**
USRK	**Ussuriysk Arra**	**27.20**	**336**			P	**P**	**20 09 43.5**	**+1.5**
	2.8nm,0.9s,baz=156,slow=11,SNR=3.9								
NJ2	**Nanjing**	**27.93**	**301**	*e*	P	**P**	**P**	**20 09 48.3**	**-0.4**
NJ2						pP	**pP**	**20 10 02.8**	**-0.6**
NJ2						sP	**sP**	**20 10 09.6**	**-0.8**
NJ2						S	**S**	**20 14 28.0**	**-0.4**
NJ2						sS	**sS**	**20 14 54.0**	**+0.6**
NJ2						pmax	pmax		
	comp=Z,10.0nm,0.7s								
NJ2						pmax	pmax		
	comp=Z,160nm,5.0s								
NJ2						LR	LR		
	comp=N,270nm,15.4s								
NJ2						LR	LR		
	comp=E,480nm,27.6s								
NJ2						LR	LR		
	comp=Z,380nm,16.6s								
MDJ	**Mudanjiang**	**28.51**	**333**			P	**P**	**20 09 53.0**	**-0.7**
MDJ						pP	**pP**	**20 10 07.9**	**-0.5**
MDJ						sP	**sP**	**20 10 15.1**	**-0.4**
MDJ						S	**S**	**20 14 36.8**	**-0.5**
MDJ						sS	**sS**	**20 15 02.6**	**+0.3**
MDJ						pmax	pmax		
	comp=Z,6.0nm,1.8s								
MDJ						pmax	pmax		
	comp=Z,130nm,5.0s								
MDJ						LR	LR		
	comp=Z,130nm,21.3s								
PMG	**Port Moresby**	**29.21**	**180**			P	**P**	**20 10 01.3**	**+1.0**
	comp=Z,12nm,0.5s,baz=356,slow=8.2,SNR=7.8								
PMG	**Port Moresby**	**29.21**	**180**	*c*	*i*P	**P**	**P**	**20 09 59.6**	**-0.6**
PMG						pmax	pmax		
	comp=Z,24nm,1.2s								
PMG	**Port Moresby**	**29.21**	**180**	*e*	P	**P**	**P**	**20 09 58.7**	**-1.5**
	comp=Z,28nm,0.9s								
CN2	**Changchun**	**29.81**	**328**	*e*	P	**P**	**P**	**20 10 07.3**	**+2.0**
CN2						pmax	pmax		
	comp=Z,10.0nm,0.6s								
HABR	**Khabarovsk**	**30.01**	**344**	*e*	P	**P**	**P**	**20 10 05.8**	**-1.2**
HABR						*PP	pP	20 10 15.0	-6.7
HABR						*e*SP	sP	20 10 19.3	-9.4
HABR						*e*S	**S**	**20 15 02.5**	**+1.8**
HABR						*e*SS	sS	20 15 19.0	-6.7
HABR						*e*SS	ScP	20 16 37.1	-8.0
HABR						*e*		20 20 41.9	
HABR						pmax	pmax		
	comp=Z,78nm,2.9s								
HABR						pmax	pmax		
	comp=N,56nm,2.9s								
HABR						pmax	pmax		
	comp=E,123nm,2.9s								
HABR						MLR	MLR		
	comp=Z,125nm,16.0s								
BJI	**Beijing**	**33.10**	**314**			P	**P**	**20 10 34.8**	**+0.5**
BJI						pmax	pmax		
	comp=Z,8.0nm,0.9s								
BJI						pmax	pmax		
	comp=Z,83nm,3.5s								
BJI						LR	LR		
	comp=Z,75nm,19.1s								
QIZ	**Qiongzhong**	**35.01**	**275**			P	P	20 10 46.1	-5.0
QIZ						S	**S**	**20 16 17.4**	**-1.8**
QIZ						pmax	pmax		
	comp=Z,53nm,1.8s								
QIZ						pmax	pmax		
	comp=Z,250nm,4.7s								
HIA	**Hailar**	**36.45**	**330**	*e*	P	**P**	**P**	**20 11 02.8**	**-0.3**
HIA	**Hailar**	**36.45**	**330**	*e*	P	**P**	**P**	**20 11 02.8**	**-0.3**
	comp=Z,13nm,1.0s								
XAN	**Xi'an**	**36.49**	**301**			P	**P**	**20 11 04.8**	**+1.1**
XAN						pP	pP	20 11 13.6	-5.0
HHC	**Hu-ho-hao-te**	**36.62**	**312**	*e*	P	**P**	**P**	**20 11 03.3**	**-1.5**
HHC						pP	**pP**	**20 11 20.4**	**+0.7**
HHC						sP	**sP**	**20 11 27.5**	**+0.8**
HHC						PP	PP	20 12 31.0	+2.0
HHC						S	**S**	**20 16 41.1**	**-2.5**
HHC						sS	**ScP**	**20 17 08.5**	**0.0**
HHC						SS	SS	20 19 11.4	-14
HHC						ScS	**ScS**	**20 21 12.8**	**-2.5**
HHC						pmax	pmax		
	comp=Z,13nm,0.7s								
HHC						pmax	pmax		
	comp=Z,94nm,5.7s								
HHC						LR	LR		
	comp=N,220nm,12.5s								
HHC						LR	LR		
	comp=E,280nm,13.8s								
HHC						LR	LR		
	comp=Z,240nm,15.3s								
GYA	**Guiyang**	**37.53**	**288**	*e*	P	**P**	**P**	**20 11 12.8**	**+0.2**
GYA						pmax	pmax		
	comp=Z,10.0nm,0.8s								
CTA	**Charters Tower**	**39.84**	**181**			P	**P**	**20 11 32.2**	**+0.4**
	comp=Z,10nm,1.1s,baz=15,slow=12,SNR=2.0								
CTA						LR	LR	20 24 49.1	
	comp=Z,42nm,20.6s,baz=229,slow=31								
CTA	**Charters Tower**	**39.84**	**181**			P	**P**	**20 11 32.2**	**+0.4**
CTA	**Charters Tower**	**39.84**	**181**			P	**P**	**20 11 32.2**	**+0.4**
CD2	**Chengdu**	**40.33**

CD2					LR	LR			
	comp=Z,300nm,6.5s								
LZH	**Lanzhou**	**40.99**	**302**	*e*P	**P**	**20 11 42.3 +0.9**			
LZH				pP	**pP**	**20 11 57.5 +0.9**			
LZH				sP	**sP**	**20 12 04.8 +1.3**			
LZH				PP	PP	20 13 20.3 +3.4			
LZH				pmax	pmax				
	comp=Z,19nm,1.2s								
LZH				pmax	pmax				
	comp=Z,65nm,5.4s								
LZH				LR	LR				
	comp=N,360nm,14.0s								
LZH				LR	LR				
	comp=E,330nm,13.2s								
LZH				LR	LR				
	comp=Z,400nm,17.0s								
KMI	**Kunming**	**41.08**	**286**	P	**P**	**20 11 42.5 +0.1**			
KMI				pP	**pP**	**20 11 57.9 +0.4**			
KMI				sP	**sP**	**20 12 05.3 +0.9**			
KMI				S	**S**	**20 17 50.0 -1.2**			
KMI				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KMI				pmax	pmax				
	comp=Z,150nm,4.3s								
KMI				LR	LR				
	comp=N,150nm,12.7s								
KMI				LR	LR				
	comp=E,100nm,12.3s								
KMI				LR	LR				
	comp=Z,110nm,13.6s								
WRAB	**Tennant Creek**	**41.58**	**198**	*e*P	**P**	**20 11 45.0 -1.1**			
WRAB	**Tennant Creek**	**41.58**	**198**	*e*P	**P**	**20 11 45.0 -1.1**			
	comp=Z,19nm,1.1s								
WRA	**Warramunga Arr**	**41.59**	**198**	P	**P**	**20 11 45.4 -0.8**			
	comp=Z,5.7nm,0.8s,baz=20,slow=8.7,SNR=11								
WRA				PcP	**PcP**	**20 13 43.4 +0.9**			
	comp=Z,2.1nm,0.8s,baz=14,slow=3.3,SNR=5.4								
WRA	**Warramunga Arr**	**41.59**	**198**	P	**P**	**20 11 45.4 -0.8**			
WRA	**Warramunga Arr**	**41.59**	**198**	P	**P**	**20 11 45.4 -0.8**			
WRA				PcP	**PcP**	**20 13 43.4 +0.9**			
ULN	**Ulaanbaatar**	**42.56**	**320**	*e*P	**P**	**20 11 54.2 +0.1**			
ULN	**Ulaanbaatar**	**42.56**	**320**	*e*P	**P**	**20 11 54.2 +0.1**			
	comp=Z,4.9nm,0.8s								
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**20 11 57.6 +0.5**			
	comp=Z,3.8nm,0.7s,baz=129,slow=6.2,SNR=30								
SONM				PcP	**PcP**	**20 13 48.1 +1.3**			
	comp=Z,0.7nm,0.8s,baz=127,slow=2.7,SNR=3.4								
SONM				LR	LR	20 31 00.2			
	comp=Z,234nm,18.6s,baz=100,slow=38								
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**20 11 57.6 +0.5**			
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**20 11 57.6 +0.5**			
SONM				PcP	**PcP**	**20 13 48.1 +1.3**			
SEY	**Seymchan**	**43.06**	**4**	⇓*i*P	**P**	**20 11 58.4 +0.7**			
FITZ	**Fitzroy Crossi**	**43.28**	**210**	*e*P	**P**	**20 11 59.9 -0.1**			
	comp=Z,15nm,1.5s								
FITZ	**Fitzroy Crossi**	**43.28**	**210**	*e*P	**P**	**20 11 59.4 -0.7**			
	comp=Z,4.0nm,0.7s								
GTA	**Gaotai**	**44.77**	**306**	*e*P	**P**	**20 12 12.8 +0.8**			
GTA				pP	**pP**	**20 12 28.1 +0.8**			
GTA				sP	**sP**	**20 12 35.4 +1.2**			
GTA				pmax	pmax				
	comp=Z,3.0nm,1.3s								
AS31	**Alice Springs**	**45.24**	**197**	*e*P	**P**	**20 12 14.4 -1.3**			
ASAR	**Alice Springs**	**45.24**	**197**	P	**P**	**20 12 15.1 -0.5**			
	comp=Z,1.7nm,0.7s,baz=24,slow=8.7,SNR=12								
ASAR				PcP	**PcP**	**20 13 55.0 +0.1**			
	comp=Z,1.0nm,0.8s,baz=7.1,slow=2.2,SNR=3.4								
ASAR	**Alice Springs**	**45.24**	**197**	P	**P**	**20 12 15.1 -0.5**			
ASAR	**Alice Springs**	**45.24**	**197**	P	**P**	**20 12 15.1 -0.5**			
ASAR				PcP	**PcP**	**20 13 55.0 +0.1**			
CM31	**Chiang Mai Arr**	**45.30**	**276**	P	**P**	**20 12 13.8 -2.5**			
	comp=Z,2.6nm,0.6s								
CMAR	**Chiang Mai Arr**	**45.30**	**276**	P	**P**	**20 12 17.1 +0.9**			
	comp=Z,4.0nm,1.0s,baz=66,slow=6.1,SNR=12								
CMAR				PcP	**PcP**	**20 13 57.9 +2.6**			
	comp=Z,0.9nm,0.9s,baz=56,slow=2.3,SNR=2.8								
CMAR	**Chiang Mai Arr**	**45.30**	**276**	P	**P**	**20 12 17.2 +0.9**			
CMAR	**Chiang Mai Arr**	**45.30**	**276**	P	**P**	**20 12 17.1 +0.9**			
CMAR				PcP	**PcP**	**20 13 57.9 +2.6**			
ZAK	**Zakamensk**	**45.88**	**322**	*e*P	**P**	**20 12 19.4 -1.2**			
ZAK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
DZM	**Mont Dzumac**	**45.91**	**155**	LR	LR	20 29 41.1			
	comp=Z,186nm,18.4s,baz=3.5,slow=34								
TLY	**Talaya**	**46.24**	**324**	*e*P	P	20 12 27.3 +4.0			
TLY				pmax	pmax				
	comp=Z,12nm,1.0s								
TLY				MLR	MLR				
	comp=Z,82nm,19.0s								
QLP	**Quilpie**	**46.38**	**183**	*e*P	**P**	**20 12 23.3 -1.2**			
KULM	**Kulim**	**47.37**	**258**	*e*P	**P**	**20 12 31.8 -0.7**			
MOY	**Mondy**	**47.73**	**323**	*e*P	**P**	**20 12 36.7 +1.7**			
MBWA	**Marble Bar**	**48.84**	**215**	*e*P	**P**	**20 12 43.7 0.0**			
MBWA	**Marble Bar**	**48.84**	**215**	*e*P	**P**	**20 12 43.8 0.0**			
UNV	**Unalaska Valle**	**48.89**	**35**	*e*P	**P**	**20 12 42.6 -1.1**			
BILL	**Bilibino**	**49.54**	**9***c*	*i*P	**P**	**20 12 48.9 +0.4**			
BILL				*i*		20 13 00.0			
BILL				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BILL	**Bilibino**	**49.54**	**9**	*e*P	**P**	**20 12 48.1 -0.4**			
	comp=Z,5.7nm,0.6s								
SHL	**Shillong**	**50.84**	**287**	*e*P	P	20 13 02.5 +3.3			
LSA	**Lhasa**	**51.20**	**292**	P	**P**	**20 13 04.3 +2.1**			
LSA	**Lhasa**	**51.20**	**292**	*e*P	**P**	**20 13 04.3 +2.1**			
	comp=Z,40nm,1.0s								
CMSA	**Cobar Meteorol**	**51.25**	**181**	*e*P	**P**	**20 13 01.7 -0.1**			
	comp=Z,22nm,0.9s								
STKA	**Stephens Creek**	**51.84**	**186**	P	**P**	**20 13 05.6 -0.5**			
	comp=Z,5.0nm,0.9s,baz=11,slow=5.0,SNR=12								
STKA				LR	LR	20 36 19.2			
	comp=Z,132nm,19.9s,baz=209,slow=37								
STKA	**Stephens Creek**	**51.84**	**186**	*e*P	**P**	**20 13 05.1 -1.1**			
	comp=Z,6.1nm,1.1s								
STKA	**Stephens Creek**	**51.84**	**186**	*e*P	**P**	**20 13 05.5 -0.7**			
STKA	**Stephens Creek**	**51.84**	**186**	*e*P	**P**	**20 13 05.5 -0.7**			
	comp=Z,2.7nm,1.1s								
TAPN	**Taplejung**	**54.39**	**290**	*e*P	**P**	**20 13 27.2 +1.6**			
	comp=Z,56nm,1.2s								
TAPN	**Taplejung**	**54.39**	**290**	*e*P	**P**	**20 13 27.2 +1.6**			
	comp=Z,56nm,1.2s								
WMQ	**Urumqi**	**54.42**	**310**	P	**P**	**20 13 25.4 +0.1**			
WMQ				pP	**pP**	**20 13 41.0 0.0**			
WMQ				sP	**sP**	**20 13 48.3 +0.5**			
WMQ				pmax	pmax				
	comp=Z,18nm,1.1s								
WMQ				LR	LR				
	comp=N,96nm,18.6s								
WMQ				LR	LR				
	comp=E,120nm,19.0s								
WMQ				LR	LR				
	comp=Z,69nm,19.0s								
ODAN	**Odare**	**54.73**	**289**	*e*P	**P**	**20 13 28.2 +0.3**			
	comp=Z,42nm,1.1s								
ODAN	**Odare**	**54.73**	**289**	*e*P	**P**	**20 13 28.2 +0.3**			
	comp=Z,42nm,1.1s								
RAMN	**Ramite**	**55.42**	**289**	*e*P	**P**	**20 13 32.4 -0.5**			
RAMN	**Ramite**	**55.42**	**289**	*e*P	**P**	**20 13 32.4 -0.5**			
JIRN	**Jiri**	**55.70**	**290**	*e*P	**P**	**20 13 36.0 +0.9**			
	comp=Z,35nm,0.9s								
JIRN	**Jiri**	**55.70**	**290**	*e*P	**P**	**20 13 36.0 +0.9**			
	comp=Z,35nm,0.9s								
GUN	**Gumba**	**55.95**	**291**	*e*P	**P**	**20 13 37.9 +1.1**			
	comp=Z,39nm,1.0s								
GUN	**Gumba**	**55.95**	**291**	*e*P	**P**	**20 13 37.9 +1.1**			
	comp=Z,39nm,1.0s								
PKI	**Pulchoki**	**56.40**	**290**	*e*P	**P**	**20 13 40.5 +0.4**			
PKI	**Pulchoki**	**56.40**	**290**	*e*P	**P**	**20 13 40.5 +0.4**			
PKI	**Pulchoki**	**56.40**	**290**	*e*P	**P**	**20 13 40.5 +0.4**			
KKN	**Kakani**	**56.49**	**291**	*e*P	**P**	**20 13 40.6 +0.1**			
	comp=Z,21nm,1.0s								
KKN	**Kakani**	**56.49**	**291**	*e*P	**P**	**20 13 40.6 +0.1**			
	comp=Z,21nm,1.0s								
DMN	**Daman**	**56.66**	**290**	*e*P	**P**	**20 13 42.5 +0.7**			
	comp=Z,27nm,0.9s								
DMN	**Daman**	**56.66**	**290**	*e*P	**P**	**20 13 42.5 +0.7**			
	comp=Z,27nm,0.9s								
ARPS	**Mount Arapiles**	**56.67**	**185**	*e*P	**P**	**20 13 41.5 +0.3**			
	comp=Z,71nm,1.2s								
GKN	**Gorkha**	**57.03**	**291**	*e*P	**P**	**20 13 45.1 +0.8**			
	comp=Z,39nm,1.0s								
GKN	**Gorkha**	**57.03**	**291**	*e*P	**P**	**20 13 45.1 +0.8**			
	comp=Z,39nm,1.0s								
DANN	**Dangsing**	**57.76**	**291**	*e*P	**P**	**20 13 50.7 +1.1**			
	comp=Z,66nm,0.6s								
DANN	**Dangsing**	**57.76**	**291**	*e*P	**P**	**20 13 50.7 +1.1**			
	comp=Z,66nm,0.6s								
ZAA0	**Zalesovo Array**	**57.76**	**322**	*e*P	**P**	**20 13 48.4 -0.4**			
ZALV	**Zalesovo Beam**	**57.76**	**322**	P	**P**	**20 13 48.6 -0.2**			
	comp=Z,4.4nm,0.7s,baz=102,slow=7.4,SNR=20								
ZALV	**Zalesovo Beam**	**57.76**	**322**	P	**P**	**20 13 48.6 -0.2**			
KOLN	**Koldanda**	**57.97**	**291**	*e*P	**P**	**20 13 50.8 -0.2**			
	comp=Z,9.3nm,0.7s								
KOLN	**Koldanda**	**57.97**	**291**	*e*P	**P**	**20 13 50.8 -0.2**			
	comp=Z,9.3nm,0.7s								
BLDU	**Ballidu**	**58.15**	**211**	*e*P	**P**	**20 13 50.7 -1.1**			
MK31	**Makanchi Array**	**58.48**	**313**	*e*P	**P**	**20 13 54.6 +0.6**			
MK31	**Makanchi Array**	**58.48**	**313**	*e*P	**P**	**20 13 54.6 +0.6**			
MKAR	**Makanchi Array**	**58.48**	**313**	P	**P**	**20 13 54.6 +0.6**			
	comp=Z,7.2nm,0.8s,baz=92,slow=9.1,SNR=56								
MKAR	**Makanchi Array**	**58.48**	**313**	P	**P**	**20 13 54.6 +0.6**			
MKAR	**Makanchi Array**	**58.48**	**313**	P	**P**	**20 13 54.6 +0.6**			
NVS	**Novosibirsk**	**58.83**	**323**	*e*P	**P**	**20 13 54.0 -2.2**			
NVS				pmax	pmax				
	comp=Z,20nm,1.6s								
NVS				pmax	pmax				
	comp=E,10.0nm,1.4s								
NWAO	**Narrogin (SRO)**	**59.83**	**209**	P	**P**	**20 14 03.1 -0.3**			
TRF	**Thorofare Moun**	**60.16**	**27**	*e*P	**P**	**20 14 03.9 -1.6**			
	comp=E,12nm,1.2s								
SML	**Sawmill**	**60.63**	**30**	P	**P**	**20 14 08.6 0.0**			
MCK	**McKinley**	**60.82**	**27**	*e*P	**P**	**20 14 08.9 -0.9**			
KURK	**Kurchatov**	**61.16**	**318**	*d*↓P	**P**	**20 14 12.4 +0.2**			
KURK				pmax	pmax				
	comp=Z,18nm,1.7s								
KURK	**Kurchatov**	**61.16**	**318**	*e*P	**P**	**20 14 12.0 -0.3**			
	comp=Z,8.5nm,0.9s								
COLA	**College**	**61.56**	**26**	P	**P**	**20 14 13.9 -0.8**			
COLA	**College**	**61.56**	**26**	P	**P**	**20 14 13.9 -0.8**			
ILAR	**Eielson Array**	**61.94**	**26**	P	**P**	**20 14 15.8 -1.4**			
	comp=Z,2.2nm,0.8s,baz=263,slow=5.8,SNR=22								
ILAR				LR	LR	20 41 03.1			
	comp=Z,95nm,18.6s,baz=293,slow=36								
ILAR	**Eielson Array**	**61.94**	**26**	P	**P**	**20 14 15.8 -1.4**			
KSH	**Kashi**	**63.15**	**305**	*e*P	P	20 14 30.3 +4.3			
KSH				*e*pP	pP	20 14 46.3 +4.2			
KSH				*e*sP	sP	20 14 53.4 +4.6			
KSH				*e*PcP	**PcP**	**20 15 05.3 +2.2**			
KSH				*e*PP	PP	20 16 55.3 +10			
KSH				*e*ScP		20 19 01.8			
KSH				*e*PcS		20 19 06.3			
KSH				*e*S	**S**	**20 22 55.5 +2.5**			
KSH				sS	sS	20 23 25.0 +4.9			
KSH				*e*ScS	**ScS**	**20 24 14.4 +0.3**			
KSH				*e*SS	**SS**	**20 27 07.6 +7.9**			
KSH				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,170nm,5.7s								
KSH				LR	LR				
	comp=N,260nm,6.3s								
KSH				LR	LR				
	comp=E,270nm,5.4s								
KSH				LR	LR				
	comp=Z,270nm,5.3s								
TKM2	**Tokmak 2**	**63.21**	**309**	*e*P	**P**	**20 14 24.4 -2.1**			
TKM2	**Tokmak 2**	**63.21**	**309**	*e*P	**P**	**20 14 24.4 -2.1**			
	comp=Z,5.7nm,0.9s								
AAK	**Ala-Archa**	**64.04**	**308**	*e*P	**P**	**20 14 31.5 -0.4**			
AAK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
AAK	**Ala-Archa**	**64.04**	**308**	*e*P	**P**	**20 14 32.2 +0.3**			
	comp=Z,9.7nm,0.8s								
EKS2	**Erkin-Say**	**64.56**	**309**	*e*P	**P**	**20 14 35.7 +0.5**			
EKS2	**Erkin-Say**	**64.56**	**309**	*e*P	**P**	**20 14 35.7 +0.5**			
	comp=Z,7.5nm,1.3s								
DAWY	**Dawson**	**65.03**	**28**	*e*P	**P**	**20 14 37.3 -0.5**			
BVA0	**Borovoye Array**	**66.28**	**320**	*i*P	**P**	**20 14 46.1 +0.1**			
BVA0				pmax	pmax				
	comp=Z,2.0nm,1.3s								
BRVK	**Borovoye**	**66.35**	**320**	⇑*e*P	**P**	**20 14 46.6 +0.2**			
BRVK				pmax	pmax				
	comp=Z,17nm,1.7s								
BRVK	**Borovoye**	**66.35**	**320**	*e*P	**P**	**20 14 46.6 +0.2**			
	comp=Z,7.4nm,0.9s								
KK31	**Karatay Array**	**66.92**	**309**	*i*P	**P**	**20 14 50.8 +0.6**			
KK31				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KKAR	**Karatay Array**	**66.92**	**309**	*e*P	**P**	**20 14 50.9 +0.6**			
KKAR	**Karatay Array**	**66.92**	**309**	*e*P	**P**	**20 14 50.9 +0.6**			
	comp=Z,4.1nm,0.6s								
INK	**Inuvik**	**67.70**	**23**	P	**P**	**20 14 54.5 -0.1**			
	comp=Z,3.4nm,0.8s,baz=275,slow=7.6,SNR=9.5								
INK	**Inuvik**	**67.70**	**23**	*e*P	**P**	**20 14 53.2 -1.5**			
	comp=Z,7.6nm,1.1s								
KBL	**Kabul**	**69.30**	**300**	*e*P	**P**	**20 15 05.5 -0.1**			
	comp=Z,16nm,0.8s								
DLBC	**Dease Lake**	**69.53**	**34**	P	**P**	**20 15 07.7 +1.3**			
	comp=Z,4.5nm,0.9s,baz=257,slow=8.9,SNR=4.1								
DLBC	**Dease Lake**	**69.53**	**34**	P	**P**	**20 15 07.7 +1.3**			
SVE	**Sverdlovsk**	**71.55**	**325**	*e*P	**P**	**20 15 19.3 +0.7**			
ARU	**Arti**	**72.74**	**324**	*d*↓P	**P**	**20 15 26.4 +0.7**			
ARU						20 18 07.7			
ARU				S	**S**	**20 24 51.2 +4.6**			
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
ARU	**Arti**	**72.74**	**324**	*e*P	**P**	**20 15 25.1 -0.6**			
	comp=Z,5.2nm,0.8s								
AB31	**Akbulak array**	**73.25**	**317**	*i*P	**P**	**20 15 27.7 -1.2**			
AB31				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ABKAR	**Akbulak array**	**73.25**	**317**	*e*P	**P**	**20 15 28.5 -0.3**			
	comp=Z,2.9nm,0.6s								
JCW	**Jim Creek**	**76.05**	**44**	*e*P	**P**	**20 15 45.5 +0.3**			
	comp=Z,12nm,0.7s								
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**20 15 45.8 -0.2**			
	comp=Z,2.5nm,0.5s,baz=287,slow=5.7,SNR=31								
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**20 15 45.9 -0.2**			
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**20 15 45.9 -0.2**			
KCPM	**Cahto Peak**	**77.07**	**52**	*e*P	**P**	**20 15 50.4 -0.8**			
	comp=Z,7.8nm,0.8s								
RES	**Resolute Bay**	**77.88**	**14**	P	**P**	**20 15 54.7 -0.2**			
	comp=Z,1.4nm,0.8s,baz=315,slow=5.7,SNR=2.3								
RES	**Resolute Bay**	**77.88**	**14**	*e*P	**P**	**20 15 54.6 -0.3**			
MOD	**Modoc**	**78.85**	**49**	*e*P	**P**	**20 16 00.9 -0.2**			
	comp=Z,5.6nm,1.4s								
WVOR	**Wild Horse Val**	**79.88**	**49**	*e*P	**P**	**20 16 06.3 -0.3**			
	comp=Z,8.0nm,1.0s								
CMB	**Columbia Colle**	**79.92**	**53**	*e*P	**P**	**20 16 06.6 -0.2**			
	comp=Z,6.0nm,1.0s								
KEV	**Kevo**	**81.09**	**342**	*e*P	**P**	**20 16 11.3 -1.1**			
KEV				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KEV	**Kevo**	**81.09**	**342**	*e*p	**P**	**20 16 11.3 -1.1**			
	comp=Z,6.2nm,0.8s								
KEV	**Kevo**	**81.09**	**342**	*e*p	**P**	**20 16 11.3 -1.1**			
	comp=Z,6.2nm,0.8s								
NVAR	**Mina Array Bea**	**81.36**	**52**	P	**P**	**20 16 15.4 +0.6**			
	comp=Z,6.2nm,0.8s,baz=263,slow=6.2,SNR=41								
NVAR	**Mina Array Bea**	**81.36**	**52**	P	**P**	**20 16 15.4 +0.6**			
ARCES	**ARCESS Array B**	**81.65**	**342**	P	**P**	**20 16 14.5 -0.9**			
	comp=Z,2.9nm,0.8s,baz=58,slow=8.6,SNR=4.0								
ARCES	**ARCESS Array B**	**81.65**	**342**	P	**P**	**20 16 14.5 -0.9**			
ARE0	**ARCESS Array S**	**81.65**	**342**	P	**P**	**20 16 17.0 +1.6**			
ELK	**Elko**	**82.83**	**49**	*e*P	**P**	**20 16 22.4 -0.1**			
JOF	**Joensuu**	**83.37**	**335**	*e*P	**P**	**20 16 23.3 -1.1**			
JOF				pmax	pmax				
	comp=Z,9.0nm,0.7s								
JOF	**Joensuu**	**83.37**	**335**	*e*p	**P**	**20 16 23.3 -1.1**			
	comp=Z,8.8nm,0.7s								
JOF	**Joensuu**	**83.37**	**335**	*e*p	**P**	**20 16 23.3 -1.1**			
	comp=Z,8.8nm,0.7s								
VRHR	**Novokhopersk**	**83.89**	**322**	*e*P	**P**	**20 16 26.3 -1.1**			
VRHR				pmax	pmax				
	comp=N,7.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
OBN	**Obninsk**	**84.87**	**327**	*e*P	**P**	**20 16 31.9 -0.3**			
OBN				*e*		20 19 50.1			
OBN				pmax	pmax				
	comp=Z,18nm,1.2s								
VSR	**Storozhevoye**	**85.25**	**323**	*e*P	**P**	**20 16 32.7 -1.5**			
VSR				pmax	pmax				
	comp=N,4.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,3.0nm,0.7s								
VSR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
FFC	**Flin Flon**	**85.33**	**33**	*e*P	**P**	**20 16 34.5 -0.1**			
FFC	**Flin Flon**	**85.33**	**33**	*e*P	**P**	**20 16 34.5 -0.1**			
	comp=Z,5.4nm,0.8s								
KAF	**Kangasniemi**	**85.75**	**336**	*e*P	**P**	**20 16 35.1 -1.4**			
KAF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KAF	**Kangasniemi**	**85.75**	**336**	*e*p	**P**	**20 16 35.1 -1.4**			
	comp=Z,4.2nm,0.8s								
KAF	**Kangasniemi**	**85.75**	**336**	*e*p	**P**	**20 16 35.1 -1.4**			
	comp=Z,4.2nm,0.8s								
PDAR	**Pinedale Array**	**86.03**	**46**	P	**P**	**20 16 38.6 0.0**			
	comp=Z,1.5nm,0.8s,baz=298,slow=10.0,SNR=3.7								
PDAR				LR	LR	20 48 10.8			
	comp=Z,48nm,20.2s,baz=149,slow=31								
PDAR	**Pinedale Array**	**86.03**	**46**	P	**P**	**20 16 38.6 0.0**			
KIV	**Kislovodsk**	**86.16**	**315**	*e*P	**P**	**20 16 41.2 +2.2**			
KIV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,89nm,19.0s								
FINES	**FINESS Array B**	**86.23**	**336**	P	**P**	**20 16 37.6 -1.2**			
	comp=Z,5.6nm,0.7s,baz=64,slow=6.3,SNR=14								
FINES	**FINESS Array B**	**86.23**	**336**	P	**P**	**20 16 37.6 -1.2**			
MIB	**Mutribah**	**88.25**	**301**	*e*P	**P**	**20 16 48.9 -0.4**			
MIB				AMb	AMB	20 16 49.9			
	comp=Z,24nm,0.7s								
NAY	**Al-Naaiem**	**88.53**	**301**	*e*P	**P**	**20 16 49.6 -1.0**			
NAY				AMb	AMB	20 16 54.8			
	comp=Z,17nm,1.0s								
BRTR	**Keskin Array B**	**94.10**	**315**	P	**P**	**20 17 16.6 +0.2**			
	comp=Z,1.0nm,0.9s,baz=50,slow=1.9,SNR=3.9								
BRTR	**Keskin Array B**	**94.10**	**315***c*	*e*P	**P**	**20 17 16.7 +0.2**			
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
BRTR	**Keskin Array B**	**94.10**	**315**	P	**P**	**20 17 16.6 +0.2**			
TXAR	**Lajitas Array**	**96.08**	**56**	P	**P**	**20 17 26.3 +0.6**			
	comp=Z,0.5nm,0.8s,baz=297,slow=6.0,SNR=3.5								
TXAR	**Lajitas Array**	**96.08**	**56**	P	**P**	**20 17 26.3 +0.6**			
TORD	**Torodi Ar. Bea**	**132.58**	**311**	PKP	**PKPdf**	**20 23 12.9 +0.1**			
	comp=Z,0.9nm,0.9s,baz=53,slow=0.7,SNR=5.8								
TORD	**Torodi Ar. Bea**	**132.58**	**311**	PKP	**PKPdf**	**20 23 12.9 +0.1**			
PLCA	**Paso Flores**	**141.94**	**131**	PKP	**PKPdf**	**20 23 30.2 +0.7**			
	comp=Z,2.1nm,0.8s,baz=213,slow=5.9,SNR=4.9								
PLCA	**Paso Flores**	**141.94**	**131**	PKP	**PKPdf**	**20 23 30.2 +0.7**			
LCO	**Las Campanas**	**144.64**	**112**	*e*PKPdf	**PKPdf**	**20 23 35.3 +0.4**			
CFAA	**Coronel Fontan**	**146.36**	**117**	PKPbc	**PKPab**	**20 23 39.5 -0.2**			
	comp=Z,0.5nm,0.7s,baz=214,slow=5.5,SNR=7.0								
CFAA	**Coronel Fontan**	**146.36**	**117**	PKPbc	**PKPab**	**20 23 39.5 -0.2**			
LPAZ	**La Paz**	**146.43**	**90**	PKPbc	**PKPab**	**20 23 41.4 +0.4**			
	comp=Z,5.0nm,0.6s,baz=296,slow=3.4,SNR=11								
LPAZ	**La Paz**	**146.43**	**90**	*e*PKPbc	**PKPab**	**20 23 40.9 -0.1**			
SAML	**Samuel**	**148.82**	**74**	*e*PKPbc	**PKPbc**	**20 23 45.4 -0.5**			

MEX 13 20:05:53.5±0.7, 14°.82N×95°.31W, h18km±19km, MD3.8, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.22**	**321**	*e*P		Pn	20 06 12.4	-3.2
HUIG				*i*	S	Sb	20 06 26.4	-5.0
PCIG		**2.20**	**66**	*i*	P	Pn	20 06 25.8	-3.3
PCIG				*i*	S	Sn	20 06 51.8	-4.1
CMIG	**Matias Romero**	**2.29**	**10**	*e*P		Pn	20 06 28.0	-2.5
CMIG				*i*	S	Sn	20 06 54.3	-4.0
VHO	**Vista Hermosa**	**2.62**	**329**	*i*	P	Pn	20 06 33.2	-2.1
VHO				*i*	S	Sn	20 07 03.6	-3.2
PNIG	**Pinotepa**	**3.13**	**300**	*i*	P	Pn	20 06 39.9	-2.1
PNIG				*i*	S	Sn	20 07 15.1	-3.9
CCIG	**Comitan**	**3.38**	**64**	*i*	P	Pn	20 06 43.9	-1.7
CCIG				*i*	S	Sn	20 07 21.8	-3.8
**

K26A				⇑Sb		**Sb**	**20 12 10.0 +0.9**
	baz=1.9								
L25A	**Engebretsen Ra**	**1.91**	**149**	⇓Pb		**Pn**	**20 11 44.5 +1.0**
	baz=1.9								
L25A				⇑Sb		**Sn**	**20 12 10.1 +1.9**
	baz=1.9								
F23A	**Volborg**	**1.92**	**357**	⇓P		**Pb**	**20 11 44.6 -1.0**
	baz=1.9,SNR=29								
F23A				⇑S		**Sg**	**20 12 11.3 -0.1**
	baz=1.9								
L22A	**Ellis Ranch, M**	**1.96**	**206**	⇓Pb		**Pn**	**20 11 45.7 +1.3**
	baz=2.0								
L22A				⇓Sb		**Sn**	**20 12 11.8 +1.9**
	baz=2.0								
G21A	**Lodge Grass**	**1.98**	**317**	⇑P		**Pb**	**20 11 45.5 -1.2**
	baz=1.9,SNR=22								
G21A				⇑S		**Sg**	**20 12 12.4 -1.0**
	baz=1.9								
I20A	**Worland**	**2.07**	**275**	⇑P		**Pn**	**20 11 46.8 +1.0**
	baz=2.1,SNR=96								
I20A				⇓Sb		**Sg**	**20 12 15.5 -0.7**
	baz=2.1								
J20A	**Shoshoni**	**2.09**	**259**	⇑Pb		**Pb**	**20 11 48.5 -0.1**
	baz=2.1								
J20A				⇑Sb		**Sg**	**20 12 17.0 +0.1**
	baz=2.1								
F22A	**Rosebud**	**2.10**	**341**	⇑P		**Pb**	**20 11 47.2 -1.5**
	baz=2.0,SNR=22								
PHWY	**Pilot Hill**	**2.50**	**183**	*e*Pn		**Pn**	**20 11 52.7 +0.8**
G20A	**Bridger**	**2.54**	**305**	⇓P		**Pn**	**20 11 52.6 +0.4**
	baz=2.5,SNR=42								
RWWY	**Rawlins**	**2.55**	**215**	*e*Pn		**Pn**	**20 11 53.3 +0.8**
F20A	**Billings**	**2.86**	**315**	⇓P		**Pn**	**20 11 57.1 +0.4**
	baz=2.8,SNR=11								
RLMT	**Red Lodge**	**3.15**	**296**	*e*Pn		Pn	20 11 56.2 -4.6
BW06	**Boulder Array**	**3.29**	**253**	*e*Pn		**Pn**	**20 12 04.1 +1.4**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn		**Pn**	**20 12 05.0 +2.3**
	3.4nm,0.3s,baz=72,slow=16,SNR=30								
PDAR				Pg		**Pg**	**20 12 13.0 +0.2**
	2.3nm,0.3s,baz=72,slow=19,SNR=35								
PDAR				Lg		Lg	20 12 51.8
	3.3nm,0.3s,baz=71,slow=32,SNR=15								
PDAR	**Pinedale Array**	**3.29**	**253**	Pn		**Pn**	**20 12 05.0 +2.3**
PDAR				Pg		**Pg**	**20 12 13.0 +0.2**
PDAR				Lg		Lg	20 12 51.8
PD02	**Pinedale Array**	**3.30**	**253**	*e*Pn		**Pn**	**20 12 02.0 -0.8**
PD01	**Pinedale Array**	**3.31**	**253**	*e*Pn		**Pn**	**20 12 04.0 +1.1**
G18A	**Lazy EL Ranch,**	**3.42**	**298**	⇑P		**Pn**	**20 12 05.2 +0.8**
	baz=3.4,SNR=11								
OGNE	**Ogallala**	**3.73**	**139**	*e*Pn		**Pn**	**20 12 09.6 +1.1**
D20A	**Manuel Ranch,**	**3.86**	**330**	⇑P		**Pn**	**20 12 11.2 +0.8**
	baz=3.8,SNR=8.1								
LOHW	**Long Hollow**	**3.87**	**269**	Pn		**Pn**	**20 12 09.7 -0.9**
FLWY	**Flagg Ranch**	**3.93**	**276**	Pn		**Pn**	**20 12 11.6 +0.2**
MOOW	**Moose Ponds**	**3.96**	**271**	*e*Pn		**Pn**	**20 12 14.9 +3.0**
YNR	**Norris Junctio**	**3.99**	**285**	Pn		Pn	20 12 16.5 +4.2
SNOW	**Snow King Moun**	**3.99**	**267**	*e*Pn		**Pn**	**20 12 11.4 -1.0**
C23A	**Lambert**	**4.00**	**1**	⇓P		**Pn**	**20 12 14.2 +1.9**
	baz=4.0,SNR=9.2								
REDW	**Red Top Meadow**	**4.08**	**266**	Pn		Pb	20 12 18.5 -3.9
E18A	**Harlowton**	**4.29**	**312**	⇓P		**Pn**	**20 12 17.4 +1.1**
	baz=4.2								
QLMT	**Earthquake Lak**	**4.54**	**285**	*e*Pn		**Pn**	**20 12 18.6 -1.2**
HWUT	**Hardware Ranch**	**5.13**	**247**	*e*Pn		**Pn**	**20 12 28.8 +0.9**
	16nm,0.9s								
LRM	**Limekiln Ridge**	**5.49**	**294**	*e*Pn		Pn	20 12 28.6 -4.3
	50nm,0.7s								
PV01	**Paradox Valley**	**6.19**	**205**	Pn		**Pn**	**20 12 41.0 -1.5**
	165nm,0.5s								
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn		**Pn**	**20 13 20.0 -2.1**
	0.3nm,0.3s,baz=231,slow=13,SNR=4.6								
ULM				Lg		Lg	20 15 52.0
	0.3nm,0.3s,baz=180,slow=20,SNR=3.4								
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn		Pn	20 13 54.6 +3.5
	0.1nm,0.3s,baz=62,slow=12,SNR=3.5								

IDC ***13*** *20:15:35.7±0.5,20.03°N×147.13°E,h0km,mb4.3/19, mb1 4.5/22,mb1mx4.4/30,mbtmp4.4/22,ML4.7/3,MS3.5/1, Ms1 3.5/1,ms1mx2.9/31,Error ellipse: s-maj=18.4km s-min=11.9km az=97.0*

NEIC ***13*** *20:15:38.6±2.4,20.02°N×147.10°E,h20km±17km,mb4.6/21, Error ellipse: s-maj=7.8km s-min=5.0km az=85.0*

ISCJB ***13*** *20:15:39.6±0.3,19.98°N±0.04°×147.06°E±0.05,h40km, mb4.4/47,MS3.9/5,Error ellipse: s-maj=7.3km s-min=5.4km az=179.4*

BJI ***13*** *20:15:47.9,20.74°N×146.24°E,h41km,mB5.0/21,mb4.6/29, Ms4.6/17,Ms7 4.4/15*

ISC 13 20:15:41.5±0.4,20.07°N±0.05°×147.06°E±0.08,h40km,n116,
σ1§27/141,mb4.5/47,MS4.0/5,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GUMO	**Guam**	**6.78**	**198**	Pn	**Pn**	**20**	**17**	**17.8**	**-0.7**
	56nm,0.3s,baz=63,slow=2.5,SNR=18								
GUMO				Sn	**Sn**	**20**	**18**	**32.9**	**-1.5**
	39nm,0.3s,baz=167,slow=21,SNR=4.5								
GUMO	**Guam**	**6.78**	**198**	Pn	**Pn**	**20**	**17**	**17.8**	**-0.7**
GUMO				Sn	**Sn**	**20**	**18**	**33.0**	**-1.5**
GUMO				*e*Sn	Sn	20	18	33.9	-0.6
CBIJ	**Chichi jima**	**8.30**	**328**	Pn	**Pn**	**20**	**17**	**37.2**	**-2.1**
	15nm,0.3s,baz=250,slow=23,SNR=2.8								
CBIJ				Sn	**Sn**	**20**	**19**	**08.1**	**-3.8**
	20nm,0.3s,baz=285,slow=22,SNR=3.3								
CBIJ	**Chichi jima**	**8.30**	**328**	Pn	**Pn**	**20**	**17**	**37.2**	**-2.1**
CBIJ				Sn	**Sn**	**20**	**19**	**08.1**	**-3.8**
MJAR	**Matsushiro Arr**	**18.15**	**337**	P	**P**	**20**	**19**	**50.0**	**-0.5**
	0.4nm,0.3s,baz=159,slow=7.2,SNR=4.5								
MJAR	**Matsushiro Arr**	**18.15**	**337**	P	**P**	**20**	**19**	**50.0**	**-0.5**
MAJO	**Matsushiro**	**18.15**	**337**	*e*P	**Pn**	**20**	**19**	**50.6**	**0.0**
	12nm,0.9s								
JNU	**Nakatsue**	**19.42**	**315**	*e*P	**P**	**20**	**20**	**04.8**	**+0.3**
	17nm,1.1s								
KSRS	**Korea Array**	**24.03**	**320**	P	**P**	**20**	**20**	**54.5**	**+1.8**
	8.5nm,0.7s,baz=145,slow=9.1,SNR=16								
KSAR	**Wonju Array Be**	**24.05**	**320**	P	**P**	**20**	**20**	**54.5**	**+1.6**
ASAJ	**Asahikawa**	**24.26**	**352**	P	**P**	**20**	**20**	**55.9**	**+1.0**
	9.9nm,1.0s,baz=193,slow=17,SNR=6.3								
ASAJ	**Asahikawa**	**24.26**	**352**	P	**P**	**20**	**20**	**55.9**	**+1.0**
USRK	**Ussuriysk Arra**	**27.14**	**336**	P	**P**	**20**	**21**	**23.4**	**+2.6**
	2.5nm,0.8s,baz=129,slow=8.7,SNR=4.1								
NJ2	**Nanjing**	**27.92**	**301**	*e*P	**P**	**20**	**21**	**26.5**	**-1.5**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MDJ	**Mudanjiang**	**28.46**	**333**	P	**P**	**20**	**21**	**32.5**	**-0.1**
MDJ				pP	**pP**	**20**	**21**	**43.5**	**-0.1**
MDJ				sP	**sP**	**20**	**21**	**48.6**	**+0.1**
MDJ				S	**S**	**20**	**26**	**18.4**	**+1.1**
MDJ				ScP	**ScP**	**20**	**28**	**20.9**	**-1.2**
MDJ				PcS	**PcS**	**20**	**28**	**25.8**	**-0.4**
MDJ				pmax	pmax				
	comp=Z,12nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,50nm,3.8s								
PMG	**Port Moresby**	**29.29**	**180**	P	**P**	**20**	**21**	**40.7**	**+0.4**
	comp=Z,13nm,0.9s,baz=342,slow=16,SNR=3.3								
PMG	**Port Moresby**	**29.29**	**180**	P	**P**	**20**	**21**	**39.2**	**-1.0**
	comp=Z,17nm,0.8s								
PETK	**Petropavlovsk-**	**33.99**	**11**	LR	LR	20	35	32.8	
	comp=Z,77nm,19.4s,baz=350,slow=35								
ENH	**Enshi**	**35.35**	**294**	P	**P**	**20**	**22**	**32.9**	**-0.4**
HIA	**Hailar**	**36.40**	**330**	P	**P**	**20**	**22**	**43.3**	**+1.2**
	comp=Z,9.7nm,1.0s								
HHC	**Hu-ho-hao-te**	**36.60**	**312**	*e*P	**P**	**20**	**22**	**42.6**	**-1.4**
HHC				pP	**pP**	**20**	**22**	**54.8**	**-0.3**
HHC				sP	**sP**	**20**	**23**	**00.3**	**+0.4**
HHC				PP	PP	20	24	08.3	+0.6
HHC				S	**S**	**20**	**28**	**22.4**	**-1.8**
HHC				ScS	**ScS**	**20**	**32**	**52.3**	**-4.6**
HHC				pmax	pmax				
	comp=Z,13nm,0.8s								
HHC				pmax	pmax				
	comp=Z,180nm,5.4s								
HHC				LR	LR				
	comp=N,170nm,11.9s								
HHC				LR	LR				
	comp=E,330nm,11.1s								
HHC				LR	LR				
	comp=Z,200nm,13.8s								
GYA	**Guiyang**	**37.54**	**288**	*e*P	**P**	**20**	**22**	**51.8**	**-0.4**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CD2	**Chengdu**	**40.33**	**294**	P	**P**	**20**	**23**	**15.8**	**+0.4**
CD2				pP	**pP**	**20**	**23**	**27.3**	**+0.7**
CD2				sP	**sP**	**20**	**23**	**32.3**	**+0.9**
CD2				PP	PP	20	24	53.1	+4.4
CD2				S	**S**	**20**	**29**	**20.3**	**-0.3**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,160nm,4.9s								
CD2				LR	LR				
	comp=E,360nm,7.1s								
CD2				LR	LR				
	comp=Z,330nm,6.0s								
LZH	**Lanzhou**	**40.98**	**302**	*e*P	**P**	**20**	**23**	**21.5**	**+0.7**
LZH				pP	**pP**	**20**	**23**	**34.0**	**+1.9**
LZH				sP	**sP**	**20**	**23**	**39.3**	**+2.5**
LZH				PP	PP	20	25	00.3	+4.5
LZH				pmax	pmax				
	comp=Z,18nm,1.0s								
LZH				pmax	pmax				
	comp=Z,57nm,5.1s								
LZH				LR	LR				
	comp=N,310nm,13.7s								
LZH				LR	LR				
	comp=E,270nm,14.0s								
LZH				LR	LR				
	comp=Z,330nm,17.2s								
KMI	**Kunming**	**41.09**	**286**	P	**P**	**20**	**23**	**22.4**	**+0.5**
KMI				pP	**pP**	**20**	**23**	**33.6**	**+0.4**
KMI				sP	**sP**	**20**	**23**	**38.5**	**+0.5**
KMI				S	**S**	**20**	**29**	**32.5**	**0.0**
KMI				pmax	pmax				
	comp=Z,6.0nm,1.2s								
KMI				pmax	pmax				
	comp=Z,93nm,4.7s								
KMI				LR	LR				
	comp=N,100nm,18.7s								
KMI				LR	LR				
	comp=E,130nm,21.0s								
KMI				LR	LR				
	comp=Z,140nm,11.9s								
WRAB	**Tennant Creek**	**41.66**	**198**	*e*P	**P**	**20**	**23**	**25.5**	**-0.8**
	comp=Z,6.4nm,0.9s								
WB2	**Warramunga Arr**	**41.67**	**198**	*e*P	**P**	**20**	**23**	**25.9**	**-0.5**
WRA	**Warramunga Arr**	**41.67**	**198**	P	**P**	**20**	**23**	**25.1**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=22,slow=9.0,SNR=6.2								
WRA	**Warramunga Arr**	**41.67**	**198**	P	**P**	**20**	**23**	**25.1**	**-1.3**
ULN	**Ulaanbaatar**	**42.52**	**320**	*e*P	**P**	**20**	**23**	**32.5**	**-0.8**
	comp=Z,6.0nm,1.2s								
SONM	**Songino Array**	**42.90**	**320**	P	**P**	**20**	**23**	**36.9**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=125,slow=9.5,SNR=16								
SONM	**Songino Array**	**42.90**	**320**	P	**P**	**20**	**23**	**36.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**43.37**	**210**	P	**P**	**20**	**23**	**39.1**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=27,slow=6.6,SNR=30								
FITZ	**Fitzroy Crossi**	**43.37**	**210**	P	**P**	**20**	**23**	**39.1**	**-1.1**
GTA	**Gaotai**	**44.76**	**306**	P	**P**	**20**	**23**	**50.3**	**+1.6**
GTA				pP	**pP**	**20**	**24**	**05.5**	**+2.8**
GTA				sP	**sP**	**20**	**24**	**10.8**	**+3.3**
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AS31	**Alice Springs**	**45.32**	**197**	*e*P	**P**	**20**	**23**	**53.7**	**-2.1**
ASAR	**Alice Springs**	**45.33**	**197**	P	**P**	**20**	**23**	**54.4**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=18,slow=6.0,SNR=11								
ASAR	**Alice Springs**	**45.33**	**197**	P	**P**	**20**	**23**	**54.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**45.33**	**276**	P	**P**	**20**	**23**	**56.2**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=64,slow=7.7,SNR=11								
CMAR	**Chiang Mai Arr**	**45.33**	**276**	P	**P**	**20**	**23**	**56.2**	**+0.2**
TLY	**Talaya**	**46.20**	**324**	P	**P**	**20**	**24**	**02.5**	**0.0**
UNV	**Unalaska Valle**	**48.80**	**35**	P	**P**	**20**	**24**	**21.2**	**-1.3**
LSA	**Lhasa**	**51.20**	**292**	P	**P**	**20**	**24**	**43.1**	**+1.3**
LSA	**Lhasa**	**51.20**	**292**	*e*P	**P**	**20**	**24**	**43.2**	**+1.5**
	comp=Z,24nm,1.0s								
STKA	**Stephens Creek**	**51.92**	**186**	P	**P**	**20**	**24**	**46.6**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=349,slow=9.0,SNR=4.9								
STKA	**Stephens Creek**	**51.92**	**186**	P	**P**	**20**	**24**	**45.9**	**-0.4**
	comp=Z,1.3nm,1.1s								
TAPN	**Taplejung**	**54.40**	**290**	*e*P	**P**	**20**	**25**	**06.4**	**+1.2**
	comp=Z,10nm,0.6s								
TAPN	**Taplejung**	**54.40**	**290**	*e*P	**P**	**20**	**25**	**06.4**	**+1.2**
WMQ	**Urumqi**	**54.40**	**310**	*e*P	**P**	**20**	**25**	**05.8**	**+1.1**
WMQ				pP	**pP**	**20**	**25**	**18.3**	**+2.0**
WMQ				sP	**sP**	**20**	**25**	**23.8**	**+2.8**
WMQ				pmax	pmax				
	comp=Z,12nm,0.9s								
WMQ				LR	LR				
	comp=N,72nm,17.0s								
WMQ				LR	LR				
	comp=Z,49nm,20.8s								
ODAN	**Odare**	**54.73**	**289**	*e*P	**P**	**20**	**25**	**08.1**	**+0.5**
	comp=Z,5.7nm,0.4s								
RAMN	**Ramite**	**55.43**	**289**	*e*P	**P**	**20**	**25**	**13.0**	**+0.4**
RAMN	**Ramite**	**55.43**	**289**	*e*P	**P**	**20**	**25**	**13.0**	**+0.4**
JIRN	**Jiri**	**55.71**	**290**	*e*P	**P**	**20**	**25**	**16.1**	**+1.4**
	comp=Z,19nm,0.7s								
JIRN	**Jiri**	**55.71**	**290**	*e*P	**P**	**20**	**25**	**16.1**	**+1.4**
GUN	**Gumba**	**55.95**	**291**	*e*P	**P**	**20**	**25**	**18.6**	**+2.1**
	comp=Z,17nm,0.8s								
GUN	**Gumba**	**55.95**	**291**	*e*P	**P**	**20**	**25**	**18.6**	**+2.1**
PKI	**Pulchoki**	**56.41**	**290**	*e*P	**P**	**20**	**25**	**20.3**	**+0.6**
	comp=Z,7.7nm,0.6s								
PKI	**Pulchoki**	**56.41**	**290**	*e*P	**P**	**20**	**25**	**20.3**	**+0.6**
KKN	**Kakani**	**56.49**	**291**	*e*P	**P**	**20**	**25**	**21.2**	**+1.0**
	comp=Z,13nm,0.9s								
KKN	**Kakani**	**56.49**	**291**	*e*P	**P**	**20**	**25**	**21.2**	**+1.0**
DMN	**Daman**	**56.67**	**290**	*e*P	**P**	**20**	**25**	**21.9**	**+0.4**
	comp=Z,4.3nm,0.4s								
GKN	**Gorkha**	**57.03**	**291**	*e*P	**P**	**20**	**25**	**24.4**	**+0.4**
	comp=Z,12nm,0.7s								
GKN	**Gorkha**	**57.03**	**291**	*e*P	**P**	**20**	**25**	**24.4**	**+0.4**
ZAA0	**Zalesovo Array**	**57.73**	**322**	*e*P	**P**	**20**	**25**	**28.0**	**-0.2**
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**20**	**25**	**28.1**	**0.0**
	comp=Z,3.2nm,0.5s,baz=107,slow=7.9,SNR=20								
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**20**	**25**	**28.1**	**0.0**
DANN	**Dangsing**	**57.76**	**291**	*e*P	**P**	**20**	**25**	**30.3**	**+1.1**
	comp=Z,31nm,0.5s								
DANN	**Dangsing**	**57.76**	**291**	*e*P	**P**	**20**	**25**	**30.3**	**+1.1**
KOLN	**Koldanda**	**57.98**	**291**	*e*P	**P**	**20**	**25**	**31.0**	**+0.4**
	comp=Z,9.8nm,0.7s								
KOLN	**Koldanda**	**57.98**	**291**	*e*P	**P**	**20**	**25**	**31.0**	**+0.4**
MK31	**Makanchi Array**	**58.45**	**313**	*e*P	**P**	**20**	**25**	**33.2**	**-0.3**
MKAR	**Makanchi Array**	**58.45**	**313**	P	**P**	**20**	**25**	**34.4**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=88,slow=8.5,SNR=27								
MKAR	**Makanchi Array**	**58.45**	**313**	P	**P**	**20**	**25**	**34.4**	**+1.0**
KURK	**Kurchatov**	**61.12**	**318**	*e*P	**P**	**20**	**25**	**50.7**	**-1.0**
	comp=Z,5.1nm,0.8s								
ILAR	**Eielson Array**	**61.85**	**26**	P	**P**	**20**	**25**	**55.4**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=258,slow=5.8,SNR=26								
ILAR	**Eielson Array**	**61.85**	**26**	P	**P**	**20**	**25**	**55.4**	**-1.0**
KSH	**Kashi**	**63.13**	**305**	*e*P	P	20	26	11.4	+5.9
KSH				e*e*pP	pP	20	26	24.3	+6.9
KSH				e*e*sP	sP	20	26	29.6	+7.6
KSH				e*e*PcP	**PcP**	**20**	**26**	**45.3**	**+3.6**
KSH				e*e*ScP		20	30	43.8	
KSH				e*e*PcS		20	30	48.8	
KSH				e*e*S	S	20	34	40.6	+6.5
KSH				e*e*ScS	**SKKSac**	**20**	**35**	**55.5**	**-0.1**
KSH				pmax	pmax				
	comp=Z,160nm,6.3s								
KSH				LR	LR				
	comp=N,280nm,6.3s								
KSH				LR	LR				
	comp=E,230nm,6.2s								
KSH				LR	LR				
	comp=Z,280nm,5.4s								
TKM2	**Tokmak 2**	**63.19**	**309**	*e*P	**P**	**20**	**26**	**06.4**	**+0.4**
	comp=Z,2.5nm,0.7s								
AAK	**Ala-Archa**	**64.02**	**308**	P	**P**	**20**	**26**	**10.2**	**-1.2**
	comp=Z,14nm,1.0s								
BRVK	**Borovoye**	**66.31**	**320**	*e*P	**P**	**20**	**26**	**25.3**	**-0.5**
	comp=Z,5.0nm,0.7s								
KKAR	**Karatay Array**	**66.89**	**309**	*e*P	**P**	**20**	**26**	**30.4**	**+0.7**
	comp=Z,3.2nm,0.6s								
INK	**Inuvik**	**67.61**	**23**	P	**P**	**20**	**26**	**33.2**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=259,slow=6.4,SNR=9.0								
INK	**Inuvik**	**67.61**	**23**	*e*P	**P**	**20**	**26**	**32.1**	**-1.6**
	comp=Z,3.4nm,0.8s								
KBL	**Kabul**	**69.29**	**300**	*e*P	**P**	**20**	**26**	**45.6**	**+0.4**
	comp=Z,8.6nm,0.8s								
DLBC	**Dease Lake**	**69.44**	**34**	P	**P**	**20**	**26**	**46.2**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=269,slow=9.9,SNR=5.7								
DLBC	**Dease Lake**	**69.44**	**34**	P	**P**	**20**	**26**	**46.2**	**+0.7**
ARU	**Arti**	**72.70**	**324**	P	**P**	**20**	**27**	**05.3**	**+0.1**
ABKAR	**Akbulak array**	**73.22**	**317**	*e*P	**P**	**20**	**27**	**08.2**	**-0.2**
	comp=Z,2.2nm,0.6s								
JCW	**Jim Creek**	**75.97**	**44**	*e*P	**P**	**20**	**27**	**25.2**	**+0.8**
	comp=Z,14nm,0.8s								
YKA	**Yellowknife Ar**	**76.18**	**28**	P	**P**	**20**	**27**	**25.1**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=288,slow=5.6,SNR=37								
YKA	**Yellowknife Ar**	**76.18**	**28**	P	**P**	**20**	**27**	**25.1**	**-0.2**
KCPM	**Cahto Peak**	**76.99**	**52**	*e*P	**P**	**20**	**27**	**31.5**	**+1.0**
ETW	**Entiat**	**77.16**	**44**	*e*P	**P**	**20**	**27**	**31.7**	**+0.3**
WVOR	**Wild Horse Val**	**79.80**	**49**	*e*P	**P**	**20**	**27**	**46.1**	**+0.2**
	comp=Z,4.7nm,0.9s								
BMO	**Blue Mountains**	**79.97**	**46**	*e*P	**P**	**20**	**27**	**46.2**	**-0.6**
	comp=Z,5.1nm,1.0s								
NVAR	**Mina Array Bea**	**81.29**	**52**	P	**P**	**20**	**27**	**55.0**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=263,slow=6.2,SNR=33								
NVAR	**Mina Array Bea**	**81.29**	**52**	P	**P**	**20**	**27**	**55.0**	**+0.9**
MFID	**Camas Ranch**	**81.44**	**47**	*e*P	**P**	**20**	**27**	**55.4**	**+0.6**
	comp=Z,4.2nm,1.0s								
ELK	**Elko**	**82.75**	**49**	*e*P	**P**	**20**	**28**	**01.4**	**-0.5**
JOF	**Joensuu**	**83.31**	**335**	*e*p	**P**	**20**	**28**	**02.7**	**-1.2**
	comp=Z,7.3nm,0.7s								
JOF	**Joensuu**	**83.31**	**335**	*e*p	**P**	**20**	**28**	**02.7**	**-1.2**
	comp=Z,7.3nm,0.7s								
HWUT	**Hardware Ranch**	**85.03**	**48**	*e*P	**P**	**20**	**28**	**13.3**	**0.0**
ARUT	**Antelope Range**	**85.11**	**52**	*e*P	**P**	**20**	**28**	**13.4**	**-0.4**
	comp=Z,4.2nm,0.9s								
KAF	**Kangasniemi**	**85.69**	**336**	*e*p	**P**	**20**	**28**	**15.3**	**-0.7**
	comp=Z,2.4nm,0.6s								
KAF	**Kangasniemi**	**85.69**	**336**	*e*p	**P**	**20**	**28**	**15.3**	**-0.7**
	comp=Z,2.4nm,0.6s								
PDAR	**Pinedale Array**	**85.95**	**46**	P	**P**	**20**	**28**	**17.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=248,slow=1.4,SNR=4.3								
PDAR	**Pinedale Array**	**85.95**	**46**	P	**P**	**20**	**28**	**17.8**	**-0.2**
FINES	**FINESS Array B**	**86.18**	**336**	P	**P**	**20**	**28**	**18.3**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=64,slow=6.3,SNR=9.3								
FINES	**FINESS Array B**	**86.18**	**336**	P	**P**	**20**	**28**	**18.3**	**-0.1**
BRTR	**Keskin Array B**	**94.07**	**315**	P	**P**	**20**	**28**	**57.5**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=64,slow=6.6,SNR=3.7								
BRTR	**Keskin Array B**	**94.07**	**315**	P	**P**	**20**	**28**	**57.5**	**+1.3**
CFAA	**Coronel Fontan**	**146.36**	**117**	PKPbc	**PKPbc**	**20**	**35**	**18.7**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=290,slow=6.3,SNR=4.7								
CFAA	**Coronel Fontan**	**146.36**	**117**	PKPbc	**PKPbc**	**20**	**35**	**18.7**	**+0.1**
LPAZ	**La Paz**	**146.39**	**89**	PKPbc	**PKPab**	**20**	**35**	**20.6**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=260,slow=1.6,SNR=6.6								
LPAZ	**La Paz**	**146.39**	**89**	*e*PKPbc	**PKPbc**	**20**	**35**	**20.0**	**+0.2**
SAML	**Samuel**	**148.76**	**74**	*e*PKPbc	**PKPbc**	**20**	**35**	**25.2**	**-0.4**

ISCJB ***13*** *20:32:27.5±0.4,1.36°N±0.04°×122.17°E±0.06,h33km, mb4.3/11,MS3.2/1,Error ellipse: s-maj=8.6km s-min=5.2km az=170.2*

DJA ***13*** *20:32:27,1.35°N×122.14°E,h10km,MLv4.7/12*

IDC ***13*** *20:32:32.1±2.7,1.21°N×122.27°E,h63km±25km,mb3.7/8, mb1 4.0/11,mb1mx3.8/23,mbtmp3.9/11,ML4.4/3,MS3.2/3, Ms1 3.2/3,ms1mx2.8/29,Error ellipse: s-maj=32.2km s-min=12.4km az=75.0*

ISC 13 20:32:29.0±0.6,1.28°N±0.07°×122.17°E±0.08,h35km,n36,
σ1§20/30,mb4.3/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MRSI	**Marisa**	**0.83**	**196**	P	**Pn**	**20**	**32**	**43.7**	**-0.5**
KMSI	**Cibinong**	**1.94**	**111**	P	Pn	20	33	04.2	+4.7
LUWI	**Luwuk**	**2.38**	**165**	P	Pn	20	33	08.8	+3.2
TTSI	**Tana Toraja**	**4.89**	**209**	P	**Pn**	**20**	**33**	**42.8**	**+2.6**

1.6nm,0.7s,baz=115,slow=8.2,SNR=18
ZALV Zalesovo Beam 67.50 332 P **P 21 35 44.8 -1.3**
0.6nm,0.7s,baz=112,slow=7.0,SNR=4.5
KURK Kurchatov 68.91 327 P **P 21 35 54.5 -0.5**
2.4nm,0.7s,baz=122,slow=5.7,SNR=26
BVAR Borovoye Array 74.51 326 P **P 21 36 28.3 -0.3**
0.7nm,0.6s,baz=96,slow=7.4,SNR=4.9
ILAR Eielson Array 86.82 25 P P 21 37 30.3 -4.0
0.5nm,1.0s,baz=267,slow=4.6,SNR=3.8

*ISCJB **13** 21:32:06.5±0.4,24.˚17S±0.˚04×66.˚88W±0.˚08,h181km±mb4.0/9,Error ellipse: s-maj=11.0km s-min=5.5km az=168.3*
*IDC **13** 21:32:06.3±1.6,24.˚19S×66.˚91W,h167km±17km,mb3.9/3,mb1 3.9/6,mb1mx3.5/16,mbtmp3.8/6,Error ellipse: s-maj=33.6km s-min=13.3km az=98.0*
*NEIC **13** 21:32:07.5±0.7,24.˚16S×66.˚93W,h181km±7km,mb4.3/11,Error ellipse: s-maj=13.5km s-min=6.7km az=89.0*
*BJI **13** 21:32:08.8,24.˚20S×66.˚90W,h175km,mB5.2/2*

ISC 13 21:32:07.1±0.4,24.˚20S±0.˚05×66.˚94W±0.˚09,h181km±1.9km,n47,σ1.9°63/59,mb4.1/9,1C,Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LVC	**Limon Verde**	**2.41**	**311**	*eP*n		**Pn**	**21 32 50.3**	**+1.3**
LVC				*eS*n		**Sn**	**21 33 22.8**	**+1.2**
LCO	**Las Campanas**	**5.85**	**214**	*eP*n		**Pn**	**21 33 31.4**	**-1.1**
LCO				*eS*n		Sn	21 34 31.9	-7.7
CFAA	**Coronel Fontan**	**7.46**	**189**	P		**Pn**	**21 33 54.3**	**+0.9**
	0.2nm,0.3s,baz=350,slow=12,SNR=33							
CFAA				S		**Sn**	**21 35 13.4**	**-4.0**
	0.9nm,0.3s,baz=150,slow=18,SNR=13							
CFAA	**Coronel Fontan**	**7.46**	**189**	P		**Pn**	**21 33 54.3**	**+0.9**
CFAA				S		**Sn**	**21 35 13.4**	**-4.0**
LPAZ	**La Paz**	**7.96**	**352**	P		**Pn**	**21 34 01.3**	**+0.8**
	2.0nm,0.3s,baz=161,slow=10,SNR=40							
LPAZ				S		**Sn**	**21 35 26.7**	**-3.4**
	1.0nm,0.3s,baz=210,slow=24,SNR=3.1							
LPAZ	**La Paz**	**7.96**	**352**	*eP*n		**Pn**	**21 34 01.1**	**+0.6**
	9.2nm,0.4s							
LPAZ				*eS*		**Sn**	**21 35 29.0**	**-1.1**
SIV	**San Ignacio**	**9.86**	**35**	P		**Pn**	**21 34 24.3**	**-0.6**
	6.8nm,0.3s,baz=230,slow=14,SNR=113							
SIV	**San Ignacio**	**9.86**	**35**	P		**Pn**	**21 34 24.3**	**-0.6**
TRQA	**Tornquist**	**14.44**	**164**	*eP*n		**P**	**21 35 24.1**	**-1.0**
	27nm,0.6s							
SAML	**Samuel**	**15.59**	**14**	*eP*		**Pn**	**21 35 36.6**	**-0.9**
	12nm,0.9s							
PLCA	**Paso Flores**	**16.76**	**190**	P		**Pn**	**21 35 52.5**	**+1.1**
	0.2nm,0.3s,baz=357,slow=13,SNR=7.1							
PLCA	**Paso Flores**	**16.76**	**190**	*eP*		**Pn**	**21 35 52.6**	**+1.1**
	4.4nm,0.8s							
OTAV	**Otavalo**	**26.74**	**334**	P		**P**	**21 37 31.4**	**+0.8**
ROSC	**El Rosal**	**29.77**	**345**	P		**P**	**21 37 57.5**	**+0.2**
BCIP	**Isla Barro Col**	**35.48**	**338**	*eP*		**P**	**21 38 47.1**	**+0.6**
VNA3	**Neumayer Olymp**	**56.94**	**161**	*e*		**P**	**21 41 35.3**	**+2.2**
VNA1	**Neumayer--Stat**	**57.14**	**160**	*e*		**P**	**21 41 37.2**	**+2.8**
VNA2	**Neumayer--Watz**	**57.51**	**160**	*e*		**P**	**21 41 39.1**	**+2.1**
	baz=289,slow=7.4							
SNAA	**Sanae**	**59.14**	**161**	*e*		**P**	**21 41 48.8**	**+0.4**
SNAA	**Sanae**	**59.14**	**161**	*eP*		**P**	**21 41 48.6**	**+0.2**
	3.7nm,0.7s							
HKT	**Hockley**	**60.57**	**331**	*eP*		**P**	**21 41 59.0**	**+0.5**
	2.5nm,0.6s							
WMOK	**Wichita Mounta**	**65.95**	**332**	*eP*		**P**	**21 42 34.3**	**+0.4**
	0.8nm,0.6s							
DBIC	**Dimbokro**	**67.82**	**71**	P		**P**	**21 42 46.1**	**+0.1**
	0.9nm,0.7s,baz=249,slow=8.0,SNR=2.8							
DBIC	**Dimbokro**	**67.82**	**71**	P		**P**	**21 42 46.1**	**+0.1**
ANMO	**Albuquerque**	**69.75**	**326**	*eP*		**P**	**21 42 56.4**	**-1.4**
	0.8nm,0.5s							
SYO	**Syowa Base**	**73.34**	**159°**	*eP*		**P**	**21 43 19.3**	**+0.8**
VNDA	**Vanda**	**74.51**	**190**	*eP*		**P**	**21 43 27.3**	**+2.1**
	1.8nm,0.5s							
SUR	**Sutherland**	**75.67**	**119**	*eP*		**P**	**21 43 35.4**	**+2.4**
	7.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P		**P**	**21 43 38.6**	**+0.6**
	1.4nm,0.5s,baz=254,slow=5.3,SNR=27							
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P		**P**	**21 43 38.6**	**+0.6**
BOSA	**Boshof**	**80.59**	**117**	P		**P**	**21 44 01.1**	**+1.1**
	5.8nm,0.4s,baz=252,slow=5.7,SNR=30							
BOSA	**Boshof**	**80.59**	**117**	*eP*		**P**	**21 44 00.8**	**+0.8**
	13nm,0.9s							
ASAR	**Alice Springs**	**128.29**	**205**	PKP		**PKiKP**	**21 50 53.5**	**+0.2**
	1.1nm,0.8s,baz=148,slow=2.1,SNR=4.1							
ASAR	**Alice Springs**	**128.29**	**205**	PKP		**PKiKP**	**21 50 53.5**	**+0.2**
WRA	**Warramunga Arr**	**131.47**	**207**	PKP		**PKiKP**	**21 50 59.8**	**0.0**
	0.7nm,0.4s,baz=156,slow=1.7,SNR=5.3							
WRA	**Warramunga Arr**	**131.47**	**207**	PKP		**PKiKP**	**21 50 59.8**	**0.0**
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP		PKPbc	21 51 18.2	+0.4
	1.4nm,0.6s,baz=313,slow=3.2,SNR=9.1							
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP		PKPbc	21 51 18.2	+0.4
TKM2	**Tokmak 2**	**144.00**	**49**	*e*PKPdf		**PKPdf**	**21 51 21.1**	**-0.2**
KSH	**Kashi**	**145.27**	**55**	*e*PKPbc		**PKPab**	**21 51 24.5**	**+0.5**
KSH				*ep*PKP		**pPKPdf**	**21 52 06.6**	**-4.3**
KSH				*e*PKS		**PKSdf**	**21 54 58.8**	**-0.3**
KSH				*e*SKS		**SKSdf**	**21 58 16.1**	**+0.4**
KSH				*e*SKKS		**SKKSac**	**22 01 19.1**	**-0.1**
KSH				*e*SS		**SS**	**22 13 19.8**	**-1.8**
KSH				AMB		AMB		
	comp=Z,160nm,4.8s							
KSH				LR		LR		
	comp=N,370nm,6.2s							
KSH				LR		LR		
	comp=E,250nm,5.8s							
KSH				LR		LR		
	comp=Z,320nm,6.1s							
MK31	**Makanchi Array**	**146.65**	**40**	*e*PKPbc		**PKPbc**	**21 51 26.9**	**-0.5**
MKAR	**Makanchi Array**	**146.65**	**40**	PKPbc		**PKPbc**	**21 51 27.1**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=310,slow=2.3,SNR=30							
MKAR	**Makanchi Array**	**146.65**	**40**	PKPbc		**PKPbc**	**21 51 27.1**	**-0.3**
CN2	**Changchun**	**157.97**	**336**	*e*PKP		**PKPdf**	**21 51 44.3**	**+2.1**
HHC	**Hu-ho-hao-te**	**163.35**	**4**	*e*PKP		**PKPdf**	**21 51 47.9**	**-0.4**
HHC				PKS		**PKSdf**	**21 55 19.3**	**-2.0**
HHC				PP		PP	21 56 28.1	+3.5
HHC				SKS		**SKSdf**	**21 58 34.8**	**-1.1**
HHC				SS		SS	22 16 38.8	+3.9
HHC				AMB		AMB		
	comp=Z,100nm,6.5s							
LZH	**Lanzhou**	**165.74**	**32**	*e*PKP		**PKPdf**	**21 51 49.5**	**-1.1**
LZH				pPKP		**pPKPdf**	**21 52 33.6**	**-4.6**
LZH				PKPab		**PKPab**	**21 52 52.5**	**+1.8**
CD2	**Chengdu**	**169.39**	**49**	PKP		**PKPdf**	**21 51 52.5**	**-0.7**

CASC 13 21:36:11.7±2.0,10.˚34N×84.˚26W,h2km±6km,MD4.0,5C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.45**	**153°**	*eP*		Pg	21 36 21.4	+0.9
LAJ	**Bijagual**	**0.49**	**164°**	*iP*		Pn	21 36 25.8	-0.3
URSC	**Urasca**	**0.69**	**136°**	*iP*		Pg	21 36 25.9	+0.7
QCR	**Quepos**	**0.91**	**174°**	*eP*		Pg	21 36 29.2	0.0
BUS	**Buena Vista**	**0.92**	**147°**	*eP*		Pg	21 36 29.5	-0.5
CUI	**Cuipilapa**	**0.94**	**290**	*iP*		Pg	21 36 29.6	-0.3
CUI				*iS*		Sb	21 36 43.3	-0.6
JCR	**Jicaral**	**0.97**	**240**	*eP*		Pg	21 36 30.1	-0.3
JCR				*eS*		Sb	21 36 45.2	+0.6
GUAB	**Guayabo de Bag**	**1.02**	**291**	*iP*		Pg	21 36 30.7	-0.7
GUAB				*iS*		Sb	21 36 45.9	-0.2
LIM1	**Limonal**	**1.04**	**290**	*iP*		Pg	21 36 31.1	-0.6
LAPC	**Finca la Perla**	**1.23**	**290**	*iP*		Pg	21 36 35.1	-0.2
ACR	**Cerro Adams**	**1.99**	**147**	*eP*		Pb	21 36 49.2	+0.4
BRU2	**Volcan**	**2.18**	**135**	*eP*		Pg	21 36 55.3	+1.5
BRU2				*iS*		Sg	21 37 22.0	-0.3
PTP	**Ponta Puerca**	**19.69**	**64**	*eP*		x	21 36 55.3	

IDC 13 21:41:26.3±2.1,6.˚87S×128.˚19E,h0km,mb3.6/1, mb1 4.5/4,mb1mx3.8/16,mbtmp4.2/4,ML4.4/3,Error ellipse: s-maj=106.6km s-min=27.0km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.44**	**192**	Pn		Pn	21 44 11.8	+0.7
	1.8nm,0.3s,baz=19,slow=11,SNR=43							
FITZ				Sn		Sn	21 46 05.7	-14
	0.8nm,0.3s,baz=75,slow=23,SNR=2.6							
WRA	**Warramunga Arr**	**14.30**	**156**	Pn		Pn	21 44 50.0	-0.3
	2.0nm,0.3s,baz=329,slow=14,SNR=53							
WRA				Sn		Sn	21 47 14.8	-15
	1.7nm,0.3s,baz=324,slow=24,SNR=7.7							
ASAR	**Alice Springs**	**17.58**	**162**	P		Pn	21 45 32.3	-0.7
	1.0nm,0.3s,baz=338,slow=10,SNR=91							
ASAR				S		Sn	21 48 34.8	-15
	0.3nm,0.3s,baz=344,slow=25,SNR=4.7							
MKAR	**Makanchi Array**	**67.14**	**328**	P		P	21 52 22.0	0.0
	0.7nm,1.0s,baz=117,slow=6.6,SNR=2.7							

*ISCJB **13** 21:44:53.5±0.7,6.˚86N±0.˚07×73.˚03W±0.˚08,h178km±7km,mb3.6/1,Error ellipse: s-maj=14.9km s-min=7.5km az=36.7*
*FUNV **13** 21:44:53.4,6.˚69N×73.˚17W,h173km,MW3.4*
*IDC **13** 21:44:56.3±7.1,6.˚72N×75.˚82W,h131km±83km,mb3.4/1,mb1 3.7/2,mb1mx3.1/19,mbtmp3.6/2,Error ellipse: s-maj=173.1km s-min=34.5km az=81.0*

ISC 13 21:44:54.3±1.1,6.˚84N±0.˚07×73.˚03W±0.˚09,h172km±9km,n21,σ0.˚72/25,5C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CAPV	**Capacho**	**1.24**	**35°**	*iP*		**Pn**	**21 45 23.8**	**+0.3**
CAPV				*eS*		**Sn**	**21 45 45.9**	**-0.1**
ROSC	**El Rosal**	**2.36**	**213**	P		Pn	21 45 35.5	+0.3
	45nm,0.3s,baz=273,slow=17,SNR=116							
ROSC				S		**Sn**	**21 46 06.2**	**-0.9**
	58nm,0.3s,baz=75,slow=19,SNR=8.9							
VIGV	**El Vigia**	**2.58**	**40°**	*eP*		**Pn**	**21 45 38.1**	**+0.6**
VIGV				*eS*		**Sn**	**21 46 11.6**	**+0.4**
SOCV	**Socops**	**2.59**	**56°**	*eP*		**Pn**	**21 45 38.3**	**+0.7**
SOCV				*eS*		**Sn**	**21 46 10.7**	**-0.6**
ELOV	**Elorza**	**3.52**	**87**	*eP*		**Pn**	**21 45 49.3**	**+0.2**
VIRV	**Villa del Rosa**	**3.69**	**10°**	*eP*		**Pn**	**21 45 50.4**	**-0.8**
VIRV				*eS*		**Sn**	**21 46 34.1**	**-1.7**
SANV	**Sanarito**	**4.35**	**52**	*eP*		**Pn**	**21 46 00.0**	**+0.2**
CURV	**Curarigua**	**4.38**	**44**	*eP*		**Pn**	**21 46 00.3**	**+0.2**
DABV	**Dabajuro**	**4.70**	**30**	*eP*		**Pn**	**21 46 04.8**	**+0.6**
TEPV	**Terepaima**	**4.90**	**50**	*eP*		**Pn**	**21 46 07.1**	**+0.2**
SIQV	**Siquisique**	**4.95**	**40**	*eP*		**Pn**	**21 46 07.4**	**-0.1**
BAUV	**El Baul**	**5.36**	**67°**	*eP*		**Pn**	**21 46 11.8**	**-1.0**
MAPV	**Macapo**	**5.41**	**56**	*eP*		**Pn**	**21 46 13.5**	**0.0**
MONV	**Montecano**	**5.91**	**30**	*eP*		**Pn**	**21 46 19.8**	**-0.2**
TURV	**Turiamo**	**6.26**	**55**	*eP*		**Pn**	**21 46 24.6**	**-0.1**
BIRV	**Birongo**	**7.59**	**61**	*eP*		**Pn**	**21 46 41.5**	**-0.7**
CUPV	**Cœpira**	**7.84**	**65**	*eP*		**Pn**	**21 46 45.0**	**-0.6**
PCRV	**Puerto La Cruz**	**8.94**	**68**	*eP*		**Pn**	**21 46 59.4**	**-0.7**
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**21 55 05.3**	**+1.0**
	0.5nm,0.5s,baz=135,slow=6.7,SNR=12							
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc		**PKPbc**	**22 04 22.7**	**-0.6**
	0.3nm,0.5s,baz=123,slow=2.9,SNR=3.3							
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc		**PKPbc**	**22 04 27.0**	**+0.7**
	0.3nm,0.5s,baz=108,slow=2.7,SNR=4.7							

IDC 13 21:46:59.1±2.1,4.˚66S×127.˚99E,h0km,mb3.3/1, mb1 3.7/3,mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=167.0km s-min=29.3km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.40**	**158**	Pn		P	21 50 52.9	-0.9
	baz=337,slow=12,SNR=4.5							
ASAR	**Alice Springs**	**19.74**	**164**	P		P	21 51 29.6	-1.1
	baz=345,slow=11,SNR=4.2							
MKAR	**Makanchi Array**	**65.19**	**327**	P		P	21 57 42.3	0.0
	0.2nm,0.6s,baz=126,slow=8.0,SNR=3.3							

IDC 13 21:51:51.7±1.8,4.˚59S×127.˚37E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.4/19,mbtmp3.5/4,ML3.3/2,MS2.7/1, Ms1 2.7/1,ms1mx2.5/18,Error ellipse: s-maj=55.3km s-min=27.7km az=59.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KAPI	**Kappang**	**7.60**	**266**	Pn		Pn	21 53 43.7	-0.2
	0.5nm,0.3s,baz=98,slow=15,SNR=2.4							
KAPI				LR		LR	21 56 24.2	
	comp=Z,64nm,20.7s,baz=261,slow=36							
WRA	**Warramunga Arr**	**16.70**	**157**	Pn		Pn	21 55 47.2	-0.1
	0.1nm,0.3s,baz=335,slow=12,SNR=5.9							
WRA				Sn		Sn	21 58 45.1	-8.6
	0.0nm,0.3s,baz=331,slow=22,SNR=3.3							
ASAR	**Alice Springs**	**19.99**	**162**	P		P	21 56 26.0	0.0
	0.1nm,0.3s,baz=343,slow=12,SNR=9.2							
MKAR	**Makanchi Array**	**64.79**	**327**	P		P	22 02 32.3	0.0
	0.4nm,0.9s,baz=141,slow=6.2,SNR=2.8							

*MOS **13** 21:58:41.9±1.0,20.˚00N×147.˚03E,h33km,mb4.7/32,Error ellipse: s-maj=14.5km s-min=7.5km az=103.9*
*ISCJB **13** 21:58:44.4±0.9,19.˚94N±0.˚04×146.˚92E±0.˚03,h49km±8km,mb4.7/101,MS3.9/24,Error ellipse: s-maj=6.1km s-min=4.6km az=8.3*
*IDC **13** 21:58:44.6±2.5,19.˚99N×147.˚06E,h41km±23km,mb4.2/23,mb1 4.3/25,mb1mx4.3/28,mbtmp4.2/25,ML5.1/2,MS3.9/18,Ms1 3.9/18,ms1mx3.7/37,Error ellipse: s-maj=18.2km s-min=9.7km az=91.0*
*NEIC **13** 21:58:46.5±0.9,19.˚94N×147.˚00E,h55km±8km,mb4.8/56,Error ellipse: s-maj=4.8km s-min=4.5km az=101.0*
*BJI **13** 21:58:47.9,20.˚02N×146.˚86E,h72km,mB5.0/22,mb4.7/34,Ms4.6/18,Ms7 4.4/19*

ISC 13 21:58:48.3±0.4,19.˚88N±0.˚05×147.˚04E±0.˚06,h76km±2km,n429,σ0.˚97/454,mb4.7/102,110C-93D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUMO	**Guam**	**6.59**	**199**	P		**Pn**	**22 00 22.3**	**-0.2**
	71nm,0.3s,baz=104,slow=3.9,SNR=7.4							
GUMO				S		**Sn**	**22 01 36.8**	**+0.6**
	98nm,0.3s,baz=169,slow=24,SNR=6.1							
GUMO				LR		LR	22 02 49.0	
	comp=Z,908nm,18.5s,baz=249,slow=36							
GUMO	**Guam**	**6.59**	**199**	P		**Pn**	**22 00 22.3**	**-0.2**
GUMO				S		**Sn**	**22 01 36.8**	**+0.6**
GUMO				pmax		pmax		
	comp=Z,71nm,0.3s							
GUMO				smax		smax		
	comp=N,98nm,0.3s							
GUMO				MLR		MLR		
	comp=Z,908nm,18.5s							
GUMO	**Guam**	**6.59**	**199**	*e*Pn		**Pn**	**22 00 22.5**	**-0.1**
GUMO				*e*Sn		**Sn**	**22 01 34.5**	**-1.8**
CBIJ	**Chichi jima**	**8.46**	**329**	P		Pn	22 00 44.6	-3.4
	comp=Z,13nm,0.3s,baz=186,slow=19,SNR=3.1							
CBIJ				S		Sn	22 02 13.1	-8.8
	comp=Z,8.1nm,0.3s,baz=287,slow=19,SNR=5.1							
CBIJ	**Chichi jima**	**8.46**	**329**	P		Pn	22 00 44.6	-3.4
CBIJ				S		Sn	22 02 13.1	-8.8
MJAR	**Matsushiro Arr**	**18.32**	**337**	P		**P**	**22 02 53.8**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=156,slow=9.5,SNR=7.5							
MJAR	**Matsushiro Arr**	**18.32**	**337**	P		**P**	**22 02 53.8**	**-2.6**
MJAR	**Matsushiro Arr**	**18.32**	**337**	P		**P**	**22 02 53.8**	**-2.6**
MAJO	**Matsushiro**	**18.32**	**337**	*eP*		**P**	**22 02 56.4**	**0.0**
	comp=Z,16nm,1.1s							
MAT	**Matsushiro**	**18.32**	**337**	P		**P**	**22 02 55.5**	**-0.9**
MAT				S		**Sn**	**22 06 23.6**	**+2.1**
JNU	**Nakatsue**	**19.54**	**316**	*eP*		**P**	**22 03 10.1**	**+0.2**
	comp=Z,42nm,1.2s							
KSRS	**Korea Array**	**24.17**	**320**	P		**P**	**22 03 56.9**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=149,slow=9.1,SNR=12							
KSRS				LR		LR	22 13 32.1	
	comp=Z,443nm,18.9s,baz=120,slow=37							
KSRS	**Korea Array**	**24.17**	**320**	P		**P**	**22 03 56.9**	**-0.5**
KSRS				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KSRS				MLR		MLR		
	comp=Z,443nm,18.9s							
KSAR	**Wonju Array Be**	**24.19**	**320**	P		**P**	**22 03 56.9**	**-0.6**
DAV	**Davao City (W)**	**24.40**	**242**	LR		LR	22 12 55.5	
	comp=Z,315nm,18.0s,baz=128,slow=35							
ASAJ	**Asahikawa**	**24.45**	**352**	P		**P**	**22 03 59.6**	**-0.3**
	comp=Z,10.0nm,1.0s,baz=260,slow=12,SNR=4.3							
ASAJ	**Asahikawa**	**24.45**	**352**	P		**P**	**22 03 59.6**	**-0.3**
ASAJ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ASAJ	**Asahikawa**	**24.45**	**352**	P		**P**	**22 03 59.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**27.24**	**354**	*eP*		pP	22 04 40.2	-2.6
USRK	**Ussuriysk Arra**	**27.31**	**336**	P		**P**	**22 04 28.1**	**+2.4**
	comp=Z,3.1nm,0.9s,baz=153,slow=8.5,SNR=4.6							
NJ2	**Nanjing**	**28.00**	**301**	*eP*		**P**	**22 04 30.6**	**-1.5**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MDJ	**Mudanjiang**	**28.62**	**333**	P		**P**	**22 04 38.3**	**+0.9**
MDJ				pP		**pP**	**22 04 55.0**	**-0.3**
MDJ				sP		**sP**	**22 05 03.4**	**-0.9**
MDJ				S		**S**	**22 09 23.0**	**+2.6**
MDJ				sS		**sS**	**22 09 52.3**	**+1.1**
MDJ				PcS		**PcS**	**22 11 29.8**	**+0.7**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,110nm,3.8s							
MDJ				LR		LR		
	comp=Z,120nm,21.6s							
PMG	**Port Moresby**	**29.10**	**180**	P		**P**	**22 04 41.4**	**-0.4**
	comp=Z,13nm,0.8s,baz=301,slow=6.4,SNR=3.2							
PMG	**Port Moresby**	**29.10**	**180**	*eP*		**P**	**22 04 42.7**	**+0.8**
PMG				pmax		pmax		
	comp=Z,61nm,1.2s							
PMG	**Port Moresby**	**29.10**	**180**	*eP*		**P**	**22 04 41.1**	**-0.8**
	comp=Z,41nm,0.9s							
CN2	**Changchun**	**29.92**	**328**	*eP*		P	22 04 53.1	+4.2
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HABR	**Khabarovsk**	**30.13**	**344**	*eP*		pP	22 05 00.8	-7.8
HABR				*e*SP		sP	22 05 07.1	-10
HABR				*e*			22 05 46.3	
HABR				*e*			22 07 48.7	
HABR				*e*S		**S**	**22 09 43.2**	**-0.7**
HABR				*e*SS		**ScP**	**22 11 20.1**	**-5.9**
HABR				*e*			22 15 22.1	
HABR				MLR		MLR		
	comp=Z,59nm,13.0s							
BJI	**Beijing**	**33.20**	**314**	P		**P**	**22 05 17.5**	**-0.3**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
COEN	**Coen**	**33.84**	**187**	*eP*		**P**	**22 05 24.5**	**+1.0**
PETK	**Petropavlovsk-**	**34.18**	**11**	P		**P**	**22 05 25.1**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=210,slow=13,SNR=4.2							
PETK				LR		LR	22 15 59.8	
	comp=Z,194nm,21.1s,baz=34,slow=30							
PETK	**Petropavlovsk-**	**34.18**	**11**	P		**P**	**22 05 25.1**	**-1.1**
PETK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
PETK				MLR		MLR		
	comp=Z,194nm,21.1s							
PETK	**Petropavlovsk-**	**34.18**	**11**	P		**P**	**22 05 25.1**	**-1.1**
QIZ	**Qiongzhong**	**35.04**	**275**	P		**P**	**22 05 31.3**	**-2.7**
QIZ				S		**S**	**22 11 00.3**	**-0.7**
QIZ				pmax		pmax		
	comp=Z,60nm,1.9s							
ENH	**Enshi**	**35.41**	**294**	*eP*		**P**	**22 05 35.4**	**-1.8**
KAPI	**Kappang**	**36.49**	**230**	LR		LR	22 19 13.4	
	comp=Z,67nm,19.9s,baz=217,slow=34							
HHC	**Hu-ho-hao-te**	**36.72**	**313**	*eP*		**P**	**22 05 47.1**	**-1.1**
HHC				pP		**pP**	**22 06 07.3**	**+0.9**
HHC				sP		**sP**	**22 06 15.6**	**+0.3**
HHC				PP		PP	22 07 15.4	+2.3
HHC				S		**S**	**22 11 24.9**	**-1.5**
HHC				sS		**sS**	**22 11 55.8**	**-1.8**
HHC				SS		SS	22 13 55.9	-12
HHC				ScS		**ScS**	**22 15 54.0**	**-2.5**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,130nm,5.5s							
HHC				LR		LR		
	comp=N,220nm,14.7s							
HHC				LR		LR		
	comp=E,260nm,13.2s							
HHC				LR		LR		
	comp=Z,250nm,12.2s							
GYA	**Guiyang**	**37.58**	**288**	P		**P**	**22 05 55.4**	**-0.3**
GYA				pP		**pP**	**22 06 13.8**	**-0.2**
GYA				sP		**sP**	**22 06 22.0**	**-0.8**
GYA				PP		PP	22 07 25.4	+2.6
GYA				S		**S**	**22 11 38.8**	**-1.1**
GYA				ScP		**ScP**	**22 11 52.1**	**-0.9**
GYA				SS		SS	22 14 15.0	-12
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=N,510nm,16.8s							
GYA				LR		LR		
	comp=E,480nm,17.0s							
GYA				LR		LR		
	comp=Z,490nm,16.9s							
FX1	**Attu Island--F**	**38.65**	**25**	LR		LR	22 20 44.8	
	comp=Z,161nm,19.3s,baz=45,slow=34							
CTA	**Charters Tower**	**39.73**	**181**	LR		LR	22 21 36.4	
	comp=Z,89nm,19.6s,baz=229,slow=34							
CD2	**Chengdu**	**40.39**	**295**	P		**P**	**22 06 19.4**	**+0.3**
CD2				pP		**pP**	**22 06 37.5**	**0.0**
CD2				sP		**sP**	**22 06 46.4**	**+0.1**
CD2

ASAR Alice Springs 45.13 197 P P 22 06 57.7 +0.3
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 45.13 197 P P 22 06 57.6 +0.3
CMAR Chiang Mai Arr 45.33 277 P P 22 06 59.4 +0.2
comp=Z,1.0nm,0.4s,baz=70,slow=7.6,SNR=6.7
CMAR LR LR 22 23 22.2
comp=Z,79nm,20.5s,baz=344,slow=33
CMAR Chiang Mai Arr 45.33 277 P P 22 06 59.4 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,79nm,20.5s
CMAR Chiang Mai Arr 45.33 277 P P 22 06 59.4 +0.2
DZM Mont Dzumac 45.80 155 *e*LR LR 22 20 07.3
comp=Z,228nm,23.4s
DZM Mont Dzumac 45.80 155 LR LR 22 23 05.7
comp=Z,211nm,19.4s,baz=354,slow=32
ZAK Zakamensk 45.99 322 *e*P **P 22 07 02.4 -1.6**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KULM Kulim 47.36 259 *e*P **P 22 07 15.0 -0.1**
BILL Bilibino 49.65 9 *e*P **P 22 07 31.4 -0.5**
BILL pmax pmax
comp=Z,11nm,1.2s
BILL Bilibino 49.65 9 *e*P **P 22 07 31.4 -0.5**
comp=Z,14nm,1.0s
SHL Shillong 50.90 287 *e*P P 22 07 46.0 +3.8
LSA Lhasa 51.26 293 P **P 22 07 46.8 +1.6**
LSA Lhasa 51.26 293 *e*P **P 22 07 46.7 +1.6**
comp=Z,24nm,0.9s
STKA Stephens Creek 51.72 186 P **P 22 07 47.6 -0.2**
comp=Z,5.5nm,0.9s,baz=2.9,slow=7.1,SNR=5.7
STKA LR LR 22 30 52.8
comp=Z,138nm,18.7s,baz=22,slow=37
STKA Stephens Creek 51.72 186 P **P 22 07 47.6 -0.2**
STKA pmax pmax
comp=Z,6.0nm,0.9s
STKA MLR MLR
comp=Z,138nm,18.7s
STKA Stephens Creek 51.72 186 *e*P **P 22 07 48.9 +1.1**
WMQ Urumqi 54.51 310 P **P 22 08 09.3 +0.9**
WMQ pP **pP 22 08 28.3 +0.6**
WMQ sP **sP 22 08 37.3 +1.0**
WMQ pmax pmax
comp=Z,18nm,1.2s
WMQ LR LR
comp=N,69nm,16.6s
WMQ LR LR
comp=E,91nm,18.0s
WMQ LR LR
comp=Z,81nm,18.0s
ODAN Odare 54.78 289 *e*P **P 22 08 12.2 +1.4**
ODAN Odare 54.78 289 *e*P **P 22 08 12.2 +1.4**
RAMN Ramite 55.47 290 *e*P **P 22 08 16.6 +0.8**
RAMN Ramite 55.47 290 *e*P **P 22 08 16.6 +0.8**
JIRN Jiri 55.76 290 *e*P **P 22 08 18.4 +0.4**
comp=Z,14nm,0.5s
JIRN Jiri 55.76 290 *e*P **P 22 08 18.4 +0.4**
comp=Z,14nm,0.5s
GUN Gumba 56.01 291 *e*P **P 22 08 20.5 +0.7**
GUN Gumba 56.01 291 *e*P **P 22 08 20.5 +0.7**
PKI Pulchoki 56.46 290 *e*P **P 22 08 22.9 -0.1**
PKI Pulchoki 56.46 290 *e*P **P 22 08 22.9 -0.1**
KKN Kakani 56.55 291 *e*P **P 22 08 24.0 +0.6**
KKN Kakani 56.55 291 *e*P **P 22 08 24.0 +0.6**
DMN Daman 56.72 290 *e*P **P 22 08 25.1 +0.4**
DMN Daman 56.72 290 *e*P **P 22 08 25.1 +0.4**
GKN Gorkha 57.09 291 *e*P **P 22 08 27.7 +0.5**
GKN Gorkha 57.09 291 *e*P **P 22 08 27.7 +0.5**
DANN Dangsing 57.82 292 *e*P **P 22 08 33.4 +0.9**
comp=Z,40nm,0.4s
ZAA0 Zalesovo Array 57.87 322 *e*P **P 22 08 31.1 -0.9**
ZALV Zalesovo Beam 57.87 322 P **P 22 08 31.6 -0.4**
comp=Z,4.2nm,0.5s,baz=107,slow=7.7,SNR=26
ZALV LR LR 22 33 03.5
comp=Z,59nm,19.3s,baz=250,slow=36
ZALV Zalesovo Beam 57.87 322 P **P 22 08 31.6 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,59nm,19.3s
ZALV Zalesovo Beam 57.87 322 P **P 22 08 31.6 -0.4**
KOLN Koldanda 58.03 291 *e*P **P 22 08 34.3 +0.4**
comp=Z,7.5nm,0.5s
KOLN Koldanda 58.03 291 *e*P **P 22 08 34.3 +0.4**
comp=Z,7.5nm,0.5s
MK31 Makanchi Array 58.57 313 *i* P **P 22 08 37.3 +0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 58.57 313 *e*P **P 22 08 36.2 -0.9**
MKAR Makanchi Array 58.57 313 P **P 22 08 37.3 +0.1**
comp=Z,2.8nm,0.6s,baz=89,slow=9.3,SNR=34
MKAR Makanchi Array 58.57 313 *ce*P **P 22 08 37.2 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 58.57 313 *e*P **P 22 08 37.3 +0.1**
NVS Novosibirsk 58.94 323 *e*P **P 22 08 38.0 -1.4**
KURK Kurchatov 61.25 318 *ci* P **P 22 08 54.8 -0.6**
KURK pmax pmax
comp=Z,15nm,1.7s
KURK Kurchatov 61.25 318 *e*P **P 22 08 55.1 -0.3**
comp=Z,29nm,1.7s
COLA College 61.66 26 *e*P **P 22 08 58.2 +0.4**
comp=Z,4.0nm,0.9s
ILAR Eielson Array 62.03 26 P **P 22 08 58.5 -1.9**
comp=Z,3.3nm,0.9s,baz=258,slow=5.8,SNR=15
ILAR LR LR 22 32 41.9
comp=Z,64nm,20.2s,baz=290,slow=33
ILAR Eielson Array 62.03 26 P **P 22 08 58.5 -1.9**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,64nm,20.2s
ILAR Eielson Array 62.03 26 P **P 22 08 58.5 -1.9**
KSH Kashi 63.23 305 *e*P P 22 09 12.6 +3.6
KSH *ep*P pP 22 09 32.3 +3.6
KSH *es*P sP 22 09 40.8 +3.6
KSH *e*PcP **PcP 22 09 48.6 +2.9**
KSH *e*PP **PP 22 11 34.6 +5.9**
KSH *e*ScP 22 13 42.8
KSH *e*PcS 22 13 50.8
KSH *e*S **S 22 17 36.4 +1.3**
KSH *es*S sS 22 18 11.4 +2.7
KSH *e*SS **SS 22 21 47.6 +5.3**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,220nm,5.6s
KSH LR LR
comp=N,210nm,5.6s
KSH LR LR
comp=E,200nm,5.2s
KSH LR LR
comp=Z,300nm,6.1s
TKM2 Tokmak 2 63.30 309 *e*P **P 22 09 10.4 +0.9**
comp=Z,10nm,1.4s
AAK Ala-Archa 64.13 309 *ci* P **P 22 09 15.2 +0.3**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 64.13 309 *e*P **P 22 09 15.5 +0.6**
comp=Z,62nm,1.9s
BRVK Borovoye 66.45 320 ⇑ *i*P **P 22 09 29.2 -0.3**
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK Borovoye 66.45 320 *e*P **P 22 09 29.6 +0.1**
comp=Z,11nm,1.0s
KK31 Karatay Array 67.00 309 *i* P **P 22 09 33.4 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 67.00 309 *e*P **P 22 09 33.1 -0.2**
comp=Z,4.8nm,0.6s
INK Inuvik 67.80 23 P **P 22 09 36.9 -0.8**
comp=Z,4.4nm,0.9s,baz=282,slow=6.1,SNR=8.6
INK Inuvik 67.80 23 P **P 22 09 36.9 -0.8**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 67.80 23 *e*P **P 22 09 36.4 -1.3**
comp=Z,9.3nm,1.2s
KBL Kabul 69.37 300 *e*P **P 22 09 49.0 +0.5**
comp=Z,18nm,0.9s
DLBC Dease Lake 69.61 34 P **P 22 09 48.8 -0.5**
comp=Z,10nm,1.1s,baz=266,slow=5.8,SNR=8.5
DLBC Dease Lake 69.61 34 P **P 22 09 48.8 -0.5**
SVE Sverdlovsk 71.65 325 *e*P **P 22 10 02.5 +0.9**
SVE pmax pmax
comp=Z,14nm,1.5s
PPT2 Papeete2 72.50 117 *e*LR LR 22 32 13.5
comp=Z,113nm,28.0s
ARU Arti 72.85 324 *ci* P **P 22 10 07.9 -0.8**
ARU 22 12 46.8
ARU S **S 22 19 29.1 +0.3**
ARU pmax pmax
comp=Z,23nm,2.5s
ARU Arti 72.85 324 *e*P **P 22 10 08.2 -0.6**
comp=Z,13nm,1.2s
AB31 Akbulak array 73.35 317 *i* P **P 22 10 11.5 -0.3**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 73.35 317 *e*P **P 22 10 11.7 -0.1**
AKTO Aktyubinsk 74.33 318 *i* P **P 22 10 17.3 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,1.3s
NLWA Neilton Lookou 75.04 45 *e*P **P 22 10 23.3 +1.5**
comp=Z,13nm,1.1s
JCW Jim Creek 76.12 44 *e*P **P 22 10 28.8 +0.8**
YKA Yellowknife Ar 76.36 28 P **P 22 10 28.4 -0.5**
comp=Z,3.0nm,0.5s,baz=290,slow=5.6,SNR=43
YKA Yellowknife Ar 76.36 28 P **P 22 10 28.4 -0.5**
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 76.36 28 P **P 22 10 28.4 -0.5**
LON Longmire 76.56 45 *e*P **P 22 10 31.1 +0.6**
comp=Z,57nm,2.7s
KHMM Horse Mountain 76.71 51 *e*P **P 22 10 33.2 +1.6**
comp=Z,221nm,2.9s
HUMO Hull Mountain 76.83 49 *e*P **P 22 10 33.7 +1.7**
comp=Z,56nm,2.1s
KCPM Cahto Peak 77.12 52 *e*P **P 22 10 35.2 +1.3**
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 77.23 50 *e*P **P 22 10 35.6 +1.2**
comp=Z,7.0nm,0.9s
WDC Whiskeytown Da 77.66 51 *e*P **P 22 10 38.2 +1.5**
comp=Z,8.5nm,1.0s
RES Resolute Bay 77.98 14 *e*P **P 22 10 37.7 -0.2**
comp=Z,5.7nm,1.4s
HAWA Hanford 78.17 45 *e*P **P 22 10 40.3 +0.9**
comp=Z,8.0nm,0.9s
OHCM Honcut 78.78 52 *e*P **P 22 10 43.5 +0.6**
MOD Modoc 78.91 49 *e*P **P 22 10 44.1 +0.3**
comp=Z,6.9nm,1.0s
NEW Newport 79.19 43 *e*P **P 22 10 45.6 +0.5**
comp=Z,11nm,1.1s
NEW Newport 79.19 43 ⇓P **P 22 10 45.4 +0.4**
baz=79,SNR=6.2
A12A Yaak River Ran 79.91 42 ⇓P **P 22 10 49.9 +1.0**
baz=80,SNR=5.7
WVOR Wild Horse Val 79.94 49 *e*P **P 22 10 49.4 0.0**
comp=Z,14nm,1.0s
CMB Columbia Colle 79.98 53 *e*P **P 22 10 50.3 +0.8**
comp=Z,16nm,1.1s
WCN Washoe City 80.07 52 ⇓P **P 22 10 50.9 +0.8**
baz=80
BMO Blue Mountains 80.12 46 *e*P **P 22 10 50.9 +0.6**
comp=Z,12nm,1.0s
C12B Naegeli Ranch, 80.42 43 ⇑P **P 22 10 52.0 +0.3**
baz=80
BSMT Bassoo Peak 80.81 42 *e*P **P 22 10 54.3 +0.3**
B13A Whitefish 80.84 42 ⇑P **P 22 10 54.6 +0.7**
baz=81,SNR=5.6
WALA Waterton Lakes 80.95 41 *e*P **P 22 10 55.1 +0.5**
comp=Z,0.7nm,1.2s
JTMT Jette 81.17 42 *e*P **P 22 10 56.4 +0.6**
D13A Huson 81.27 43 ⇑P **P 22 10 56.0 -0.3**
baz=81,SNR=5.4
A14A Double T Ranch 81.29 41 ⇑P **P 22 10 56.8 +0.3**
baz=81
PKM Peak Mountain 81.37 56 ⇓P **P 22 10 57.6 +0.4**
baz=81,SNR=6.1
NVAR Mina Array Bea 81.42 52 P **P 22 10 58.0 +0.6**
comp=Z,11nm,0.9s,baz=266,slow=6.3,SNR=43
NVAR LR LR 22 41 02.2
comp=Z,68nm,19.3s,baz=71,slow=31
NVAR Mina Array Bea 81.42 52 P **P 22 10 58.0 +0.6**
SWMT Swartz Lake 81.43 43 *e*P **P 22 10 57.5 +0.3**
MTUM Tungsten Hills 81.56 53 *e*P **P 22 10 59.0 +0.8**
BMN Battle Mountai 81.58 50 *e*P **P 22 10 59.1 +1.0**
comp=Z,10.0nm,1.0s
MFID Camas Ranch 81.59 47 ⇑P **P 22 10 58.2 +0.1**
baz=81,SNR=6.7
B14A Marquette Ranc 81.59 42 ⇑P **P 22 10 58.7 +0.7**
baz=81
E13A Victor 81.67 44 ⇓P **P 22 10 58.3 -0.2**
baz=82
A15A Johnson Ranch, 81.71 41 ⇑P **P 22 10 59.0 +0.4**
baz=82,SNR=11
ARCES ARCESS Array B 81.76 342 P **P 22 10 58.7 +0.3**
comp=Z,5.1nm,0.9s,baz=61,slow=7.4,SNR=7.3
ARCES ARCESS Array B 81.76 342 P **P 22 10 58.7 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 81.76 342 P **P 22 10 58.7 +0.3**
F13A Darby 81.80 44 ⇑P **P 22 10 59.1 -0.1**
baz=82,SNR=14
SLMT Seeley Lake 81.84 43 *e*P **P 22 10 58.1 -1.3**
H12A Diamond D Ranc 81.87 46 ⇑P **P 22 10 59.6 0.0**
baz=82,SNR=7.0
I12A Atlanta 81.94 46 ⇑P **P 22 10 59.6 -0.4**
baz=82
B15A Bradely Ranch, 82.05 42 ⇓P **P 22 11 00.3 -0.1**
baz=82,SNR=6.3
G13A Cobalt 82.10 45 ⇑P **P 22 11 01.1 +0.3**
baz=82,SNR=23
ISA Isabella 82.17 55 *e*P **P 22 11 01.3 +0.1**
comp=Z,24nm,2.0s
ISA Isabella 82.17 55 ⇓P **P 22 11 01.5 +0.2**
baz=82
C15A Salmond Ranch, 82.22 42 ⇓P **P 22 11 01.4 0.0**
baz=82
CWC Cottonwood Cre 82.22 54 ⇓P **P 22 11 01.7 +0.1**
baz=82
H13A Challis 82.27 45 ⇑P **P 22 11 01.8 +0.1**
baz=82
HLID Hailey 82.51 46 *e*P **P 22 11 03.1 +0.1**
comp=Z,5.0nm,1.1s
HLID Hailey 82.51 46 ⇑P **P 22 11 03.0 0.0**
baz=82,SNR=5.4
B16A M & M Farms, S 82.55 41 ⇓P **P 22 11 03.1 +0.1**
baz=82
I13A Wildhorse Cree 82.59 46 ⇓P **P 22 11 03.9 +0.4**
baz=82
E15A Deer Lodge 82.68 43 ⇓P **P 22 11 04.2 +0.4**
baz=82
J13A Cove Ranch, Pi 82.73 47 ⇑P **P 22 11 04.2 +0.1**
baz=83
C16A Fuhringer Ranc 82.75 42 ⇑P **P 22 11 04.1 +0.1**
baz=83,SNR=5.2
MPMC Manual Prospec 82.80 54 ⇓P **P 22 11 04.7 +0.1**
baz=83,SNR=12
EDW2 Edwards Air Fo 82.80 56 ⇑P **P 22 11 04.9 +0.3**
baz=83,SNR=6.2
LRMC Laurel Mountai 82.83 55 ⇑P **P 22 11 05.2 +0.4**
baz=83
H14A Leadore 82.84 45 ⇑P **P 22 11 05.1 +0.3**
baz=83,SNR=10
ELK Elko 82.90 49 *e*P **P 22 11 05.7 +0.6**
CIS Catalina Islan 82.95 57 ⇓P **P 22 11 05.8 +0.5**
baz=83
F15A Butte 82.98 44 ⇑P **P 22 11 05.1 -0.3**
baz=83,SNR=11
LRM Limekiln Ridge 83.02 44 *e*P **P 22 11 05.8 +0.1**
I14A Mackay 83.03 46 ⇓P **P 22 11 05.9 +0.2**
baz=83
FURC Furnace Creek, 83.14 54 ⇓P **P 22 11 06.4 +0.2**
baz=83
D16A Dana Ranch, Ca 83.16 42 ⇓P **P 22 11 06.9 +0.7**
baz=83
B17A L&G Farms, Che 83.16 41 ⇓P **P 22 11 06.4 +0.3**
baz=83,SNR=6.4
G15A Dillon 83.23 44 ⇓P **P 22 11 07.0 +0.3**
baz=83
E16A East Helena 83.26 43 ⇓P **P 22 11 07.0 +0.3**
baz=83
C17A Wharram Farm, 83.43 42 ⇓P **P 22 11 07.8 +0.2**
baz=83
R11A Troy Canyon, C 83.46 52 ⇑P **P 22 11 08.3 +0.3**
baz=83,SNR=16
JOF Joensuu 83.48 335 *e*P **P 22 11 05.3 -2.1**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 83.48 335 *ep* **P 22 11 05.3 -2.1**
comp=Z,5.6nm,0.7s
JOF Joensuu 83.48 335 *ep* **P 22 11 05.3 -2.1**
comp=Z,5.6nm,0.7s
A18A Metzger Ranch, 83.50 40 ⇓P **P 22 11 08.2 +0.4**
baz=83
GSC Goldstone 83.57 55 *e*P **P 22 11 09.2 +0.6**
comp=Z,9.4nm,1.1s
GSC Goldstone 83.57 55 ⇓P **P 22 11 09.1 +0.6**
baz=83
BOZ Bozeman (W) 83.62 44 *e*P **P 22 11 08.7 0.0**
comp=Z,5.6nm,1.0s
BOZ Bozeman (W) 83.62 44 ⇑P **P 22 11 08.9 +0.2**
baz=83
BOZ ⇑P **P 22 11 08.9 +0.2**
baz=83
D17A Six Diamond Ra 83.66 42 ⇑P **P 22 11 09.2 +0.4**
baz=84,SNR=5.1
G16A Moss Hill, Enn 83.66 44 ⇓P **P 22 11 09.2 +0.3**
baz=84,SNR=5.1
K14A Jones Ranch, D 83.71 47 ⇓P **P 22 11 09.8 +0.6**
baz=84,SNR=5.9
B18A Beardsley Farm 83.75 41 ⇑P **P 22 11 09.4 +0.2**
baz=84
E17A Martinsdale 83.81 43 ⇑P **P 22 11 09.6 -0.1**
baz=84
MURC Murrieta 83.84 57 ⇑P **P 22 11 10.4 +0.5**
baz=84
L14A Malta 83.85 48 ⇑P **P 22 11 10.6 +0.7**
baz=84,SNR=7.4
J15A Blackfoot 83.91 46 ⇓P **P 22 11 10.9 +0.7**
baz=84,SNR=7.2
QLMT Earthquake Lak 84.05 45 *e*P **P 22 11 12.1 +1.1**
HEC Hector,Ludlow 84.10 55 ⇓P **P 22 11 11.6 +0.4**
baz=84,SNR=6.0
K15A Arbon 84.11 47 ⇑P **P 22 11 11.7 +0.5**
baz=84
A19A Klindworth Far 84.17 40 ⇑P **P 22 11 12.0 +0.7**
baz=84
D18A Linhart Farms, 84.20 42 ⇑P **P 22 11 11.8 +0.3**
baz=84
TUQ Turquoise Moun 84.21 55 ⇑P **P 22 11 12.2 +0.4**
baz=84
H16A Russell Place, 84.22 45 ⇓P **P 22 11 12.1 +0.3**
baz=84
B19A Brinkman Farms 84.23 40 ⇓P **P 22 11 12.3 +0.7**
baz=84
HVU Hansel Valley 84.27 48 *e*P **P 22 11 13.3 +1.2**
comp=Z,11nm,1.0s
PFO Pinyon Flat Ob 84.42 56 *e*P **P 22 11 13.0 0.0**
comp=Z,6.8nm,1.0s
PFO Pinyon Flat Ob 84.42 56 ⇓P **P 22 11 13.1 +0.2**
baz=84,SNR=5.8
C19A Slack Wire Ran 84.46 41 ⇑P **P 22 11 13.1 +0.3**
baz=84
YFT Old Faithful 84.59 45 *e*P P 22 11 17.1 +3.3
comp=Z,14nm,1.0s
YNR Norris Junctio 84.59 44 *e*P **P 22 11 16.5 +2.7**
comp=Z,19nm,1.0s
M15A Larsen Ranch, 84.61 48 ⇓P **P 22 11 14.0 +0.2**
baz=84,SNR=7.6
GMRC Granite Mounta 84.64 55 ⇓P **P 22 11 14.5 +0.5**
baz=84,SNR=5.5
MONP Monument Peak 84.69 57 ⇓P **P 22 11 14.8 +0.4**
baz=85,SNR=9.4
K16A Soda Springs 84.70 46 ⇓P **P 22 11 14.9 +0.6**
baz=84
R13A O'Grain Ranch, 84.71 51 ⇑P **P 22 11 15.3 +0.9**
baz=85
DUG Dugway 84.82 49 *e*P **P 22 11 15.6 +0.7**
comp=Z,9.7nm,1.0s
DUG Dugway 84.82 49 ⇓P **P 22 11 14.9 +0.1**
baz=85,SNR=8.3
MOOW Moose Ponds 84.92 45 *e*P **P 22 11 15.7 +0.3**
comp=Z,3.1nm,0.9s
OBN Obninsk 84.98 327 *ci* P **P 22 11 15.0 -0.1**
OBN pmax pmax
comp=Z,29nm,1.6s
L16A Fish Haven 85.11 47 ⇑P **P 22 11 16.7 +0.4**
baz=85
E19A Rath Farm, Rou 85.13 42 ⇓P **P 22 11 16.5 +0.3**
baz=85
SWSC Sam W. Stewart 85.17 57 ⇓P **P 22 11 16.8 +0.3**
baz=85
HWUT Hardware Ranch 85.17 48 *e*P **P 22 11 17.1 +0.5**
comp=Z,13nm,1.0s
BC3 Big Chuckawall 85.19 56 ⇑P **P 22 11 17.0 +0.2**
baz=85
ARUT Antelope Range 85.25 52 *e*P **P 22 11 17.5 +0.4**
comp=Z,14nm,1.1s
IRM Iron Mountain 85.25 56 ⇑P **P 22 11 17.4 +0.5**
baz=85,SNR=5.2
D20A Manuel Ranch, 85.28 42 ⇓P **P 22 11 17.3 +0.4**
baz=85
CCUT Cedar City 85.39 52 *e*P **P 22 11 18.9 +1.1**
comp=Z,9.2nm,1.1s
B21A Ellsworth Farm 85.42 40 ⇑P **P 22 11 18.0 +0.5**
baz=85
FFC Flin Flon 85.42 33 *i* P **P 22 11 17.7 +0.4**
FFC Flin Flon 85.42 33 *e*P **P 22 11 17.3 0.0**
comp=Z,18nm,1.1s
P15A Leamington 85.43 50 ⇑P **P 22 11 18.2 +0.3**
baz=85
J18A Kendall Valley 85.61 46 ⇑P **P 22 11 18.9 0.0**
baz=85
JLU Jordanelle 85.64 48 *e*P **P 22 11 19.9 +0.8**
comp=Z,15nm,1.1s
DAU Daniels Canyon 85.84 49 *e*P **P 22 11 21.0 +0.9**
M17A Scullys Gap (B 85.85 47 ⇓P **P 22 11 19.9 -0.2**
baz=86
KAF Kangasniemi 85.86 336 *e*P **P 22 11 17.0 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 85.86 336 *ep* **P 22 11 17.0 -2.4**
comp=Z,3.9nm,0.7s
KAF Kangasniemi 85.86 336 *ep* **P 22 11 17.0 -2.4**
comp=Z,3.9nm,0.7s
Y12C Blythe 85.88 56 ⇑P **P 22 11 20.4 +0.4**
baz=86
W13A Hualapai Mount 85.89 54 ⇓P **P 22 11 20.3 0.0**
baz=86
MSU Marysvale 85.90 51 *e*P **P 22 11 21.6 +1.2**
PDMCI Parker Dam,Lak 85.98 55 ⇓P **P 22 11 20.9 +0.4**
baz=86
G20A Bridger 86.00 43 ⇑P **P 22 11 20.9 +0.3**
baz=86
PDAR Pinedale Array 86.10 46 LR LR 22 44 32.1
comp=Z,54nm,20.9s,baz=155,slow=32
L18A Fontenelle, Gr 86.11 47 ⇓P **P 22 11 21.6 +0.3**
baz=86
J19A Crowheart 86.24 45 ⇑P **P 22 11 23.0 +1.1**
baz=86,SNR=5.8
KIV Kislovodsk 86.26 315 *e*P P 22 11 25.9 +4.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,114nm,19.0s
M18A Lyman 86.28 47 ⇑P **P 22 11 22.9 +0.7**
baz=86
O17A Robinson Place 86.29 49 ⇓P **P 22 11 22.8 +0.6**
baz=86
FINES FINESS Array B 86.35 336 P **P 22 11 20.7 -1.0**
comp=Z,3.1nm,0.6s,baz=60,slow=5.5,SNR=18
FINES FINESS Array B 86.35 336 P **P 22 11 20.7 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 86.35 336 P **P 22 11 20.7 -1.0**
GNI Garni 86.37 311 *e*P **P 22 11 22.2 -0.3**
GNI pmax pmax
comp=Z,15nm,1.6s
A23A Redstone 86.47 39 ⇓P **P 22 11 23.4 +0.7**
baz=86
D22A Cohagen 86.47 41 ⇑P **P 22 11 23.7 +0.9**
baz=86
Q16A Castle Valley 86.48 50 ⇓P **P 22 11 24.2 +1.1**
baz=86
R16A Teasdale 86.49 51 ⇓P **P 22 11 24.3 +1.0**
baz=86
K19A Absolon Red Bu 86.56 46 ⇑P **P 22 11 24.2 +0.7**
baz=86
I20A Worland 86.58 44 ⇑P **P 22 11 24.3 +0.8**
baz=86
U15A North Rim 86.60 53 ⇓P **P 22 11 24.4 +0.5**
baz=86,SNR=9.0
S16A Weppner Ranch, 86.62 51 ⇓P **P 22 11 24.1 +0.2**
baz=86
G21A Lodge Grass 86.64 43 ⇑P **P 22 11 24.7 +1.0**
baz=86
N18A Larsen Ranch, 86.73 48 ⇓P **P 22 11 25.1 +0.7**
baz=87

Z13A	**Yuma Proving G**	**86.75**	**56**	⇑P		**P**	**22 11 24.8**	**+0.5**
	baz=87,SNR=5.9							
O18A	**Roosevelt**	**86.78**	**48**	⇑P		**P**	**22 11 25.1**	**+0.5**
	baz=87							
C23A	**Lambert**	**86.79**	**40**	⇓P		**P**	**22 11 25.0**	**+0.7**
	baz=87							
P18A	**Preston Nutter**	**86.86**	**49**	⇓P		**P**	**22 11 25.1**	**-0.1**
	baz=87							
SRU	**San Rafael**	**86.87**	**50**	*e*P		**P**	**22 11 25.4**	**+0.4**
	comp=Z,11nm,0.9s							
SRU	**San Rafael**	**86.87**	**50**	⇓P		**P**	**22 11 25.1**	**+0.1**
	baz=87							
E22A	**Miles City**	**86.92**	**41**	⇑P		**P**	**22 11 25.5**	**+0.5**
	baz=87							
K20A	**Yellowstone Ra**	**86.96**	**46**	⇓P		**P**	**22 11 25.8**	**+0.4**
	baz=87							
Y14A	**Wickenburg**	**86.99**	**55**	⇓P		**P**	**22 11 26.2**	**+0.6**
	baz=87							
A24A	**Westby**	**87.00**	**39**	⇑P		**P**	**22 11 25.8**	**+0.6**
	baz=87							
R17A	**Hanksville Air**	**87.00**	**50**	⇑P		**P**	**22 11 26.1**	**+0.4**
	baz=87							
F22A	**Rosebud**	**87.01**	**42**	⇑P		**P**	**22 11 25.8**	**+0.4**
	baz=87							
Q18A	**Rafter H Ranch**	**87.15**	**49**	⇑P		**P**	**22 11 26.5**	**+0.2**
	baz=87							
S17A	**Black Ridge (B**	**87.24**	**51**	⇓P		**P**	**22 11 27.1**	**+0.3**
	baz=87							
Z14A	**Wintersburg**	**87.25**	**56**	⇓P		**P**	**22 11 27.2**	**+0.5**
	baz=87							
O19A	**Miners Draw (B**	**87.39**	**48**	⇓P		**P**	**22 11 28.1**	**+0.6**
	baz=87							
T17A	**Navajo Res., N**	**87.49**	**52**	⇑P		**P**	**22 11 28.9**	**+0.8**
	baz=87							
114A	**Black Gap (USA**	**87.52**	**56**	⇓P		**P**	**22 11 28.7**	**+0.6**
	baz=87							
M20A	**Sweetwater, Wa**	**87.55**	**47**	⇑P		**P**	**22 11 29.0**	**+0.7**
	baz=87							
F23A	**Volborg**	**87.58**	**42**	⇑P		**P**	**22 11 28.7**	**+0.5**
	baz=87							
R18A	**Canyonlands Na**	**87.60**	**50**	⇑P		**P**	**22 11 29.1**	**+0.4**
	baz=87							
WUAZ	**Wupatki**	**87.64**	**53**	*e*P		**P**	**22 11 29.9**	**+1.1**
	comp=Z,12nm,0.9s							
WUAZ				*e*pP		pP	22 11 43.1	-6.5
WUAZ	**Wupatki**	**87.64**	**53**	⇑P		**P**	**22 11 29.4**	**+0.6**
	baz=88							
K21A	**Alcova**	**87.71**	**45**	⇑P		**P**	**22 11 29.6**	**+0.6**
	baz=88							
U17A	**Shonto**	**87.75**	**52**	⇓P		**P**	**22 11 30.0**	**+0.7**
	baz=88							
P19A	**Cripple Cowboy**	**87.76**	**49**	⇑P		**P**	**22 11 29.9**	**+0.5**
	baz=88							
S18A	**Hurst Farm, Bl**	**87.81**	**51**	⇓P		**P**	**22 11 29.8**	**+0.1**
	baz=88							
214A	**Organ Pipe Nat**	**87.88**	**57**	⇓P		**P**	**22 11 30.5**	**+0.6**
	baz=88							
L21A	**Rawlins**	**87.91**	**46**	⇑P		**P**	**22 11 30.2**	**+0.2**
	baz=88							
X16A	**Lo Mia Camp, P**	**88.01**	**54**	⇓P		**P**	**22 11 30.9**	**+0.3**
	baz=88							
V17A	**Tonalea, Kykot**	**88.03**	**53**	⇑P		**P**	**22 11 31.5**	**+0.8**
	baz=88							
M21A	**Separation Pea**	**88.06**	**46**	⇑P		**P**	**22 11 31.3**	**+0.5**
	baz=88							
O20A	**White River Ci**	**88.07**	**48**	⇑P		**P**	**22 11 31.4**	**+0.5**
	baz=88							
R19A	**Curley Farm, L**	**88.10**	**50**	⇑P		**P**	**22 11 31.5**	**+0.5**
	baz=88							
T18A	**Mexican Hat**	**88.12**	**51**	⇑P		**P**	**22 11 31.1**	**+0.1**
	baz=88							
P20A	**De Beque**	**88.23**	**49**	⇓P		**P**	**22 11 31.4**	**-0.2**
	baz=88							
N21A	**Black Mountain**	**88.31**	**47**	⇓P		**P**	**22 11 32.1**	**+0.1**
	baz=88							
PV04	**Paradox Valley**	**88.31**	**50**	*e*P		**P**	**22 11 32.8**	**+0.8**
MIB	**Mutribah**	**88.32**	**301**	*e*P		**P**	**22 11 31.6**	**-0.3**
MIB				AMb		AMB	22 11 33.2	
	comp=Z,32nm,0.7s							
U18A	**Rough Rock, Ch**	**88.40**	**52**	⇑P		**P**	**22 11 33.3**	**+0.8**
	baz=88							
S19A	**Harvey Farm, M**	**88.41**	**50**	⇓P		**P**	**22 11 32.8**	**+0.3**
	baz=88							
Q20A	**Ridgley Place,**	**88.52**	**49**	⇑P		**P**	**22 11 33.9**	**+0.9**
	baz=88							
NAY	**Al-Naaiem**	**88.61**	**301**	*e*P		**P**	**22 11 32.9**	**-0.4**
NAY				AMb		AMB	22 11 34.9	
	comp=Z,15nm,1.0s							
PV01	**Paradox Valley**	**88.66**	**50**	*e*P		**P**	**22 11 33.5**	**-0.2**
	comp=Z,1μm,1.1s							
Y17A	**Roosevelt**	**88.74**	**55**	⇑P		**P**	**22 11 34.6**	**+0.7**
	baz=89							
R20A	**Redvale**	**88.77**	**50**	⇑P		**P**	**22 11 35.0**	**+0.8**
	baz=89							
T19A	**Beclabito**	**88.86**	**51**	⇓P		**P**	**22 11 35.4**	**+0.8**
	baz=89							
S20A	**Disappointment**	**88.94**	**50**	⇑P		**P**	**22 11 35.5**	**+0.4**
	baz=89							
U19A	**Dine' College,**	**88.94**	**52**	⇓P		**P**	**22 11 35.9**	**+0.9**
	baz=89							
L23A	**Garrett**	**88.97**	**45**	⇑P		**P**	**22 11 35.4**	**+0.4**
	baz=89							
W18A	**Petrified Fore**	**89.02**	**53**	⇓P		**P**	**22 11 35.8**	**+0.4**
	baz=89							
Q21A	**Lamborn Mesa,**	**89.08**	**49**	⇑P		**P**	**22 11 36.1**	**+0.5**
	baz=89							
MVCO	**Mesa Verde**	**89.09**	**51**	*e*P		**P**	**22 11 37.1**	**+1.4**
	comp=Z,150nm,3.0s							
MVCO	**Mesa Verde**	**89.09**	**51**	⇓P		**P**	**22 11 36.2**	**+0.5**
	baz=89							
O22A	**Kremmling**	**89.24**	**47**	⇑P		**P**	**22 11 36.8**	**+0.4**
	baz=89							
W19A	**Sanders**	**89.29**	**53**	⇑P		**P**	**22 11 37.2**	**+0.5**
	baz=89							
R21A	**Cimarron**	**89.29**	**49**	⇓P		**P**	**22 11 37.5**	**+0.8**
	baz=89							
TUC	**Tucson**	**89.33**	**56**	*e*P		**P**	**22 11 38.3**	**+1.5**
	comp=Z,6.7nm,1.3s							
P22A	**Eagle**	**89.33**	**48**	⇑P		**P**	**22 11 37.4**	**+0.6**
	baz=89							
S21A	**Coal Bank Pass**	**89.42**	**50**	⇑P		**P**	**22 11 37.5**	**+0.1**
	baz=89							
U20A	**Newcomb**	**89.42**	**51**	⇑P		**P**	**22 11 37.5**	**+0.3**
	baz=89							
Q22A	**Crested Butte,**	**89.54**	**49**	⇓P		**P**	**22 11 38.6**	**+0.7**
	baz=89							
V20A	**Brimhall**	**89.69**	**52**	⇑P		**P**	**22 11 39.3**	**+0.8**
	baz=90							
Y19A	**Nutrioso**	**89.85**	**54**	⇑P		**P**	**22 11 40.1**	**+0.7**
	baz=90							
U21A	**Nageezi**	**90.03**	**51**	⇓P		**P**	**22 11 40.5**	**+0.3**
	baz=90							
S22A	**4UR Ranch, Cre**	**90.07**	**50**	⇓P		**P**	**22 11 41.3**	**+0.9**
	baz=90							
X20A	**Quemado**	**90.19**	**53**	⇓P		**P**	**22 11 41.7**	**+0.8**
	baz=90							
318A	**Bisbee**	**90.29**	**56**	⇓P		**P**	**22 11 41.8**	**+0.4**
	baz=90							
119A	**Ashpeak Ranch,**	**90.30**	**55**	⇓P		**P**	**22 11 42.3**	**+0.9**
	baz=90							
219A	**White Tail Can**	**90.64**	**56**	⇑P		**P**	**22 11 43.8**	**+0.8**
	baz=90							
Z20A	**Nine Sixteen R**	**90.70**	**54**	⇓P		**P**	**22 11 44.3**	**+1.0**
	baz=90							
X21A	**Alamocita Cree**	**90.76**	**53**	⇑P		**P**	**22 11 43.9**	**+0.3**
	baz=91							
120A	**U Bar Ranch, L**	**90.90**	**55**	⇑P		**P**	**22 11 45.5**	**+1.3**
	baz=91							
ULM	**Lac du Bonnet**	**90.92**	**35**	P		**P**	**22 11 42.3**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=277,slow=8.1,SNR=5.4							
ULM	**Lac du Bonnet**	**90.92**	**35**	P		**P**	**22 11 42.3**	**-1.3**
ULM				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ULM	**Lac du Bonnet**	**90.92**	**35**	*e*P		**P**	**22 11 43.6**	**0.0**
	comp=Z,2.2nm,0.6s							
O25A	**Wiggins**	**90.93**	**47**	⇑P		**P**	**22 11 45.0**	**+0.9**
	baz=91							
SDCO	**Great Sand Dun**	**91.02**	**49**	*e*P		**P**	**22 11 45.3**	**+0.5**
	comp=Z,1.9nm,0.9s							
SDCO	**Great Sand Dun**	**91.02**	**49**	⇓P		**P**	**22 11 45.0**	**+0.2**
	baz=91							
SDCO				⇓P		**P**	**22 11 45.0**	**+0.2**
	baz=91							
AKASG	**Malin Array Be**	**91.06**	**326**	P		**P**	**22 11 41.3**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=54,slow=4.9,SNR=4.0							
AKASG	**Malin Array Be**	**91.06**	**326**	P		**P**	**22 11 41.3**	**-2.9**
AKASG	**Malin Array Be**	**91.06**	**326**	P		**P**	**22 11 41.3**	**-2.9**
220A	**Playas Peak, P**	**91.25**	**55**	⇑P		**P**	**22 11 46.6**	**+0.8**
	baz=91							
S24A	**Houchin Ranch,**	**91.27**	**49**	⇑P		**P**	**22 11 46.7**	**+0.7**
	baz=91							
ANMO	**Albuquerque**	**91.54**	**52**	P		**P**	**22 11 47.5**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=288,slow=7.7,SNR=3.9							
ANMO	**Albuquerque**	**91.54**	**52**	P		**P**	**22 11 47.5**	**+0.4**
ANMO				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ANMO	**Albuquerque**	**91.54**	**52**	*e*P		**P**	**22 11 47.7**	**+0.6**
	comp=Z,2.9nm,1.2s							
T24A	**Torres, Weston**	**91.64**	**50**	⇓P		**P**	**22 11 48.3**	**+0.6**
	baz=92							
Z22A	**Elephant Butte**	**91.88**	**54**	⇑P		**P**	**22 11 49.2**	**+0.5**
	baz=92							
NOA	**NORSAR Array B**	**91.91**	**340**	LR		LR	22 57 54.3	
	comp=Z,81nm,19.3s,baz=330,slow=39							
V24A	**Rampart Ranch,**	**92.08**	**51**	⇑P		**P**	**22 11 49.8**	**+0.2**
	baz=92							
R26A	**Arlington**	**92.22**	**48**	⇑P		**P**	**22 11 50.4**	**+0.3**
	baz=92							
Y23A	**Lovelace Mesa,**	**92.28**	**53**	⇑P		**P**	**22 11 51.1**	**+0.6**
	baz=92							
U25A	**Circle Dot Ran**	**92.40**	**50**	⇑P		**P**	**22 11 51.7**	**+0.6**
	baz=92							
S26A	**Kim**	**92.52**	**49**	⇓P		**P**	**22 11 52.0**	**+0.5**
	baz=92							
R27A	**Eads**	**92.68**	**48**	⇓P		**P**	**22 11 53.0**	**+0.8**
	baz=92							
U26A	**Atchley Ranch,**	**92.88**	**50**	⇓P		**P**	**22 11 54.0**	**+0.7**
	baz=93							
W25A	**X Bar L Ranch,**	**92.89**	**51**	⇑P		**P**	**22 11 54.2**	**+0.9**
	baz=93							
Y25A	**Mesa, Roswell**	**93.30**	**52**	⇓P		**P**	**22 11 55.8**	**+0.6**
	baz=93							
T27A	**Campo**	**93.30**	**49**	⇓P		**P**	**22 11 55.9**	**+0.7**
	baz=93							
224A	**Cornudas Mount**	**93.49**	**54**	⇓P		**P**	**22 11 56.8**	**+0.7**
	baz=93							
Z25A	**Roswell**	**93.57**	**53**	⇓P		**P**	**22 11 57.3**	**+0.9**
	baz=93							
X26A	**CR and CF Fran**	**93.67**	**51**	⇑P		**P**	**22 11 57.4**	**+0.5**
	baz=94							
T28A	**Walsh**	**93.70**	**48**	⇓P		**P**	**22 11 57.5**	**+0.5**
	baz=94							
MNTX	**Cornudas Mount**	**93.76**	**55**	*e*P		**P**	**22 11 57.6**	**+0.4**
	comp=Z,2.8nm,0.9s							
MNTX	**Cornudas Mount**	**93.76**	**55**	⇑P		**P**	**22 11 58.0**	**+0.8**
	baz=94							
MNTX				⇑P		**P**	**22 11 58.0**	**+0.8**
	baz=94							
324A	**Moseley Ranch,**	**93.79**	**55**	⇑P		**P**	**22 11 58.1**	**+0.6**
	baz=94							
Z26A	**Caprock**	**94.12**	**53**	⇑P		**P**	**22 11 59.6**	**+0.6**
	baz=94							
X27A	**F and S Farms,**	**94.15**	**51**	⇓P		**P**	**22 11 59.8**	**+0.7**
	baz=94							
BRTR	**Keskin Array B**	**94.19**	**315**	P		**P**	**22 11 57.8**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=86,slow=5.9,SNR=2.5							
BRTR	**Keskin Array B**	**94.19**	**315**	P		**P**	**22 11 57.8**	**-1.4**
BRTR	**Keskin Array B**	**94.19**	**315**	P		**P**	**22 11 57.8**	**-1.4**
325A	**Bean Ranch, Si**	**94.22**	**55**	⇑P		**P**	**22 12 00.2**	**+0.7**
	baz=94							
126A	**Clayton Basin,**	**94.37**	**53**	⇓P		**P**	**22 12 00.8**	**+0.6**
	baz=94							
Y27A	**Causey**	**94.45**	**52**	⇑P		**P**	**22 12 01.2**	**+0.7**
	baz=94							
Z27A	**Tatum**	**94.67**	**52**	⇓P		**P**	**22 12 01.9**	**+0.4**
	baz=94							
MSTX	**Muleshoe**	**94.70**	**52**	⇓P		**P**	**22 12 02.2**	**+0.6**
	baz=94							
326A	**Caldwell Ranch**	**95.00**	**54**	⇑P		**P**	**22 12 03.1**	**+0.1**
	baz=95							
426A	**McDonald Obser**	**95.25**	**55**	⇓P		**P**	**22 12 04.9**	**+0.6**
	baz=95							
527A	**Woodward Ranch**	**95.81**	**55**	⇑P		**P**	**22 12 07.4**	**+0.7**
	baz=96							
TXAR	**Lajitas Array**	**96.13**	**56**	P		**P**	**22 12 08.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=292,slow=6.6,SNR=5.0							
TXAR				LR		LR	22 57 14.2	
	comp=Z,49nm,18.2s,baz=275,slow=36							
TXAR	**Lajitas Array**	**96.13**	**56**	P		**P**	**22 12 08.9**	**+0.7**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR				MLR		MLR		
	comp=Z,49nm,18.2s							
TXAR	**Lajitas Array**	**96.13**	**56**	P		**P**	**22 12 08.9**	**+0.7**
627A	**Terlingua Ranc**	**96.29**	**56**	⇑P		**P**	**22 12 09.8**	**+0.8**
	baz=96							
628A	**Black Gap, Mar**	**96.67**	**56**	⇑P		**P**	**22 12 11.3**	**+0.8**
	baz=96							
GERES	**GERESS Array B**	**99.96**	**331**	LR		LR	22 58 29.9	
	comp=Z,102nm,18.4s,baz=44,slow=36							
TORD	**Torodi Ar. Bea**	**132.67**	**311**	PKP		**PKPdf**	**22 17 56.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=75,slow=1.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**132.67**	**311**	PKP		**PKPdf**	**22 17 56.4**	**+1.2**
PLCA	**Paso Flores**	**141.85**	**131**	PKP		**PKPdf**	**22 18 12.3**	**+0.8**
	comp=Z,3.0nm,1.1s,baz=226,slow=1.6,SNR=2.5							
PLCA	**Paso Flores**	**141.85**	**131**	PKIKP		**PKPdf**	**22 18 12.3**	**+0.8**
PLCA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PLCA	**Paso Flores**	**141.85**	**131**	*e*PKPdf		**PKPdf**	**22 18 12.3**	**+0.8**
LCO	**Las Campanas**	**144.58**	**112**	*e*PKPdf		**PKPdf**	**22 18 17.7**	**+0.8**
LPAZ	**La Paz**	**146.41**	**90**	PKPbc		**PKPab**	**22 18 23.9**	**+0.7**
	comp=Z,7.4nm,0.9s,baz=315,slow=2.3,SNR=20							
LPAZ	**La Paz**	**146.41**	**90**	PKP2		**PKPab**	**22 18 23.9**	**+0.7**
LPAZ				pmax		pmax		
	comp=Z,7.0nm,0.9s							
LPAZ	**La Paz**	**146.41**	**90**	*e*PKPbc		**PKPab**	**22 18 24.0**	**+0.8**
LVC	**Limon Verde**	**146.43**	**101**	*e*PKPbc		**PKPab**	**22 18 22.3**	**-0.4**
SAML	**Samuel**	**148.84**	**74**	*e*PKPbc		**PKPbc**	**22 18 28.7**	**+0.7**
SAML				*e*PKPab		**PKPab**	**22 18 32.1**	**0.0**
TRQA	**Tornquist**	**149.00**	**132**	*e*PKPbc		**PKPbc**	**22 18 28.6**	**+0.8**

*ISCJB **13** 22:03:18.6±0.6, 57.°04N±0.°05×153.°97W±0.°07, h62km±7km, mb4.1/4, Error ellipse: s-maj=9.8km s-min=4.6km az=151.6*
*NEIC **13** 22:03:20.3±0.5, 57.°07N×154.°02W, h50km±6km, ML3.2(AEIC), Error ellipse: s-maj=8.2km s-min=3.2km az=149.0*
*IDC **13** 22:03:22.8±3.7, 57.°61N×154.°36W, h41km±38km, mb3.6/5, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=33.1km s-min=27.1km az=26.0*

ISC 13 22:03:19.6±1.2, 57.°05N±0.°07×154.°03W±0.°04, h48km±13km, n55, σ1s10/61, mb4.1/4, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.07**	**46**	P	**Pn**	**22 03 39.1**	**+0.8**
	61nm,0.3s,baz=235,slow=11,SNR=2167						
KDAK				S	**Sn**	**22 03 53.0**	**+1.0**
	50nm,0.3s,baz=250,slow=23,SNR=28						
KDAK	**Kodiak Island**	**1.07**	**46**	P	**Pn**	**22 03 38.9**	**+0.6**
KDAK				S	**Sn**	**22 03 52.6**	**+0.5**
KAKN	**Katmai Knife C**	**1.37**	**337**	P	**Pn**	**22 03 42.1**	**-0.3**
KAKN				S	**Sn**	**22 03 58.6**	**-0.8**
PLK3	**Peulik 3**	**1.37**	**299**	P	**Pn**	**22 03 42.6**	**+0.3**
PLK3				S	**Sn**	**22 03 59.8**	**+0.4**
KABU	**Katmai Buttres**	**1.40**	**332**	P	**Pn**	**22 03 43.2**	**+0.4**
KABU				S	**Sn**	**22 04 01.1**	**+1.0**
KAPH	**Katmai Pasha**	**1.56**	**354**	P	**Pn**	**22 03 45.5**	**+0.5**
KAPH				S	**Sn**	**22 04 04.9**	**+0.8**
PLK1	**Peulik 1**	**1.59**	**300**	P	**Pn**	**22 03 45.6**	**+0.4**
PLWL	**Peulik Whale M**	**1.60**	**310**	P	**Pn**	**22 03 45.2**	**-0.1**
KELA	**Mount Kelaz**	**1.67**	**327**	P	**Pn**	**22 03 46.2**	**-0.3**
FOPK	**Fourpeaked Vol**	**1.74**	**10**	P	**Pn**	**22 03 47.7**	**+0.3**
ANNE	**Aniakchak Nort**	**2.21**	**268**	P	**Pn**	**22 03 54.7**	**+0.8**
ANNW	**Aniakchak Nort**	**2.29**	**270**	P	**Pn**	**22 03 56.8**	**+1.8**
CHGN	**Chignik**	**2.53**	**255**	*e*Pn	**Pn**	**22 03 58.3**	**+0.1**
CHGN				*e*Sn	**Sn**	**22 04 25.9**	**-1.8**
OPT	**Oil Point**	**2.65**	**9**	P	**Pn**	**22 04 01.0**	**+1.2**
VNSG	**Veniaminof 6**	**2.94**	**254**	P	**Pn**	**22 04 05.3**	**+1.4**
VNHG	**Veniaminof 1**	**2.96**	**256**	P	**Pn**	**22 04 05.8**	**+1.7**
ILW	**Iliamna West**	**3.06**	**8**	P	**Pn**	**22 04 06.2**	**+0.6**
INE	**Iliamna NE**	**3.06**	**9**	P	**Pn**	**22 04 07.1**	**+1.5**
ILIM	**Iliamna**	**3.09**	**10**	P	**Pn**	**22 04 07.5**	**+1.6**
BRLK	**Bradley Lake**	**3.19**	**30**	P	**Pn**	**22 04 07.3**	**+0.1**
RSO	**Redoubt South**	**3.49**	**10**	P	**Pn**	**22 04 12.8**	**+1.3**
RDN	**Redoubt North**	**3.54**	**10**	P	**Pn**	**22 04 13.3**	**+1.2**
SEW	**Seward**	**3.89**	**36**	P	**Pn**	**22 04 16.4**	**-0.4**
SDPT	**Sand Point**	**3.98**	**247**	P	**Pn**	**22 04 18.9**	**+0.8**
SLKM	**Skilak Lake**	**4.00**	**28**	*e*Pn	**Pn**	**22 04 18.1**	**-0.1**
SLKM				*e*Sn	**Sn**	**22 04 59.5**	**-4.3**
BKG	**Blockade Glaci**	**4.13**	**12**	P	**Pn**	**22 04 21.4**	**+1.2**
CKL	**Chakachamna La**	**4.25**	**11**	P	**Pn**	**22 04 22.4**	**+0.5**
SPNW	**Spurr Northwes**	**4.37**	**9**	P	**Pn**	**22 04 24.9**	**+1.4**
STLK	**Strandline Lak**	**4.60**	**13**	P	**Pn**	**22 04 28.0**	**+1.4**
RC01	**Rabbit Creek A**	**4.62**	**27**	P	**Pn**	**22 04 27.0**	**+0.2**
SUA	**Susitna One**	**4.74**	**19**	P	**Pn**	**22 04 28.9**	**+0.3**
DT1	**Dutton Round H**	**5.01**	**251**	P	**Pn**	**22 04 32.5**	**+0.2**
VLZ	**Valdez**	**5.70**	**41**	P	**Pn**	**22 04 41.5**	**0.0**
SCM	**Sheep Creek Mo**	**5.89**	**33**	P	**Pn**	**22 04 44.3**	**0.0**
GOAT	**Goat Mountain**	**5.99**	**50**	P	**Pn**	**22 04 46.2**	**+0.5**
KLU	**Klutina**	**6.09**	**40**	P	**Pn**	**22 04 47.1**	**0.0**
BMRM	**Bremner River**	**6.25**	**47**	P	**Pn**	**22 04 49.2**	**-0.1**
RND	**Reindeer**	**6.88**	**20**	P	**Pn**	**22 04 58.7**	**+0.9**
DHY	**Denali Highway**	**6.90**	**26**	P	**Pn**	**22 04 58.7**	**+0.5**
BALM	**Baldy**	**7.23**	**52**	P	**Pn**	**22 05 03.0**	**+0.3**
RKAV	**Rock Avalanche**	**7.37**	**58**	P	**Pn**	**22 05 05.8**	**+1.1**
ILAR	**Eielson Array**	**8.49**	**21**	P	**Pn**	**22 05 18.6**	**-1.1**
	0.3nm,0.3s,baz=203,slow=13,SNR=12						
ILAR				S	Sn	22 06 45.7	-8.3
	0.4nm,0.3s,baz=223,slow=26,SNR=7.4						
ILAR	**Eielson Array**	**8.49**	**21**	P	**Pn**	**22 05 18.6**	**-1.1**
ILAR				S	Sn	22 06 45.7	-8.3
INK	**Inuvik**	**14.60**	**31**	P	**Pn**	**22 06 40.7**	**-2.2**
	0.1nm,0.3s,baz=225,slow=13,SNR=5.5						
INK	**Inuvik**	**14.60**	**31**	P	**Pn**	**22 06 40.7**	**-2.2**
YKA	**Yellowknife Ar**	**20.33**	**58**	P	Pn	22 07 53.2	-0.6
	0.6nm,0.6s,baz=271,slow=11,SNR=9.0						
YKA	**Yellowknife Ar**	**20.33**	**58**	P	Pn	22 07 53.2	-0.6
SONM	**Songino Array**	**56.11**	**307**	P	**P**	**22 12 54.7**	**+0.8**
	1.0nm,0.7s,baz=41,slow=6.7,SNR=10						
SONM	**Songino Array**	**56.11**	**307**	P	**P**	**22 12 54.7**	**+0.8**
ZALV	**Zalesovo Beam**	**59.44**	**324**	P	**P**	**22 13 16.9**	**0.0**
	1.1nm,0.6s,baz=30,slow=6.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**59.44**	**324**	P	**P**	**22 13 16.9**	**0.0**
FINES	**FINESS Array B**	**61.84**	**360**	P	**P**	**22 13 33.4**	**+0.3**
	5.7nm,1.1s,baz=356,slow=7.1,SNR=3.4						
FINES	**FINESS Array B**	**61.84**	**360**	P	**P**	**22 13 33.4**	**+0.3**
MKAR	**Makanchi Array**	**66.41**	**321**	P	**P**	**22 14 03.3**	**0.0**
	0.3nm,0.5s,baz=32,slow=5.9,SNR=7.0						
MKAR	**Makanchi Array**	**66.41**	**321**	P	**P**	**22 14 03.3**	**0.0**

*IDC **13** 22:05:07.7±4.3, 6.°77S×129.°82E, h56km±44km, mb4.1/13, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, ML4.9/3, Error ellipse: s-maj=29.1km s-min=16.6km az=63.0*
*NEIC **13** 22:05:07.2±1.4, 6.°81S×129.°72E, h53km±15km, mb4.4/10, Error ellipse: s-maj=10.2km s-min=8.2km az=46.0*
*ISCJB **13** 22:05:09.4±0.3, 6.°93S±0.°05×130.°09E±0.°08, h104km, mb4.5/25, Error ellipse: s-maj=11.4km s-min=5.2km az=157.5*
*DJA **13** 22:05:11, 6.°93S×130.°16E, h143km, MLv4.5/6*

ISC 13 22:05:10.8±0.5, 7.°01S±0.°06×130.°24E±0.°08, h104km, n77, σ1s99/75, mb4.6/25, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**3.87**	**340**	P	**Pn**	**22 06 08.9**	**+0.5**
AAI	**Ambon**	**3.88**	**328**	P	**Pn**	**22 06 07.6**	**-0.9**
KDI	**Kendari**	**8.17**	**291**	P	**Pn**	**22 07 08.3**	**+1.5**
	24nm,1.7s,816nm0.1nm						
KAPI	**Kappang**	**10.62**	**280**	P	**Pn**	**22 07 42.6**	**+2.5**
	1.1nm,0.3s,baz=111,slow=11,SNR=4.3						
KAPI	**Kappang**	**10.62**	**280**	P	**Pn**	**22 07 42.6**	**+2.5**
MRSI	**Marisa**	**11.13**	**312**	P	**Pn**	**22 07 48.3**	**+1.3**
	39nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.90**	**202**	P	**Pn**	**22 07 55.2**	**-2.0**
	4.1nm,0.3s,baz=36,slow=8.9,SNR=31						
FITZ				S	Sn	22 09 59.3	-8.8
	11nm,0.3s,baz=82,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**11.90**	**202**	*e*P	**Pn**	**22 07 54.9**	**-2.3**
	18nm,0.3s						
FITZ				*e*S	Sn	22 09 56.6	-12
FITZ	**Fitzroy Crossi**	**11.90**	**202**	P	**Pn**	**22 07 55.

24nm,1.1s
GKN Gorkha 56.12 310 eP P 22 14 37.9 -2.1
GKN Gorkha 56.12 310 eP P 22 14 37.9 -2.1
DANN Dangsing 56.97 310 eP P 22 14 44.1 -2.0
DANN Dangsing 56.97 310 eP P 22 14 44.1 -2.0
PYUN Piuthan 57.42 310 eP P 22 14 47.6 -1.7
PYUN Piuthan 57.42 310 eP P 22 14 47.6 -1.7
ULN Ulaanbaatar 58.35 342 eP P 22 14 55.5 +0.2
3.1nm,0.7s
SONM Songino Array 58.53 341 P P 22 14 56.6 +0.1
0.7nm,0.4s,baz=166,slow=7.2,SNR=16
SONM Songino Array 58.53 341 P P 22 14 56.6 +0.1
MK31 Makanchi Array 68.37 327 eP P 22 16 00.7 -0.5
MKAR Makanchi Array 68.37 327 P P 22 16 00.7 -0.5
3.4nm,0.3s,baz=115,slow=7.9,SNR=136
MKAR Makanchi Array 68.37 327 P P 22 16 00.7 -0.5
ZAA0 Zalesovo Array 71.70 334 eP P 22 16 19.5 -1.8
ZALV Zalesovo Beam 71.70 334 P P 22 16 20.2 -1.1
1.9nm,0.3s,baz=139,slow=5.5,SNR=19
ZALV Zalesovo Beam 71.70 334 P P 22 16 20.2 -1.1
KURK Kurchatov 72.65 329 P P 22 16 26.6 -0.5
4.5nm,0.5s,baz=130,slow=4.9,SNR=27
KURK Kurchatov 72.65 329 eP P 22 16 26.5 -0.7
17nm,1.3s
BRVK Borovoye 78.27 328 eP P 22 16 58.9 -0.3
3.3nm,0.7s
ABKAR Akbulak array 82.67 322 eP P 22 17 21.6 -1.2
1.0nm,0.5s
ILAR Eielson Array 93.25 25 P P 22 18 14.0 +0.6
0.2nm,0.6s,baz=270,slow=4.5,SNR=3.7
ILAR Eielson Array 93.25 25 P P 22 18 14.0 +0.6

KRSC 13 22:17:20.3±1.3, 51°01'N×160°35'E, h10km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.83**	**322**	P	Pn	22 17 52.5	+0.8
RUS				eS	Sb	22 18 16.0	-0.7
MTVR	**Mutnovka**	**2.00**	**318**	eP	Pn	22 17 55.3	+1.0
MTVR				eS	Sn	22 18 20.7	+1.2
ASAK	**Asacha**	**2.05**	**313**	eP	Pn	22 17 56.0	+1.0
ASAK				eS	Sn	22 18 22.0	+1.3
SPN	**Mys Shipunski**	**2.10**	**355**	S	Sb	22 18 24.2	-0.4
SDLR	**Sedlovina**	**2.44**	**339**	P	Pn	22 18 02.4	+2.0
SMAR	**Somma**	**2.45**	**338**	P	Pb	22 18 03.4	-1.3
AVH	**Avacha**	**2.47**	**337**	P	Pb	22 18 04.2	-0.6
KOK	**Koryaka**	**2.52**	**336**	P	Pb	22 18 03.7	-2.0
MKZ	**Mys Kozlova**	**3.65**	**13**	P	Pn	22 18 17.9	+1.1
KBTR	**Krutoberegovo**	**5.41**	**15**	P	Pn	22 18 43.0	+2.0

JMA 13 22:18:13.7, 34°97N×135°72E, h7km, M3.2, 2C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.32**	**185**	↑P	Pg	22 18 20.1	+0.2
JHE				S	Sg	22 18 24.5	+0.3
JWT	**Wachi**	**0.41**	**320**	↑P	Pg	22 18 21.9	+0.3
JWT				S	Sg	22 18 27.2	+0.2
TSUJ	**Tsu 2**	**0.63**	**114**	↓P	Pg	22 18 25.6	-0.3
TSUJ				S	Sg	22 18 33.8	-0.3
JKS	**Kasai**	**0.72**	**271**	↓P	Pg	22 18 27.5	-0.1
JKS				S	Sg	22 18 37.0	+0.1
MAT	**Matsushiro**	**2.56**	**51**	P	Pn	22 18 56.6	+0.9
MAT				S	Sb	22 19 33.5	+1.8

IDC 13 22:36:02.4±1.3, 20°15N×122°43E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, Error ellipse: s-maj=48.8km s-min=26.4km az=56.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**30.52**	**339**	P	P	22 42 17.7	+0.2
0.3nm,0.6s,baz=155,slow=10,SNR=3.8							
MKAR	**Makanchi Array**	**42.07**	**319**	P	P	22 43 55.5	-0.5
0.6nm,0.7s,baz=117,slow=9.0,SNR=9.4							
ZALV	**Zalesovo Beam**	**44.26**	**329**	P	P	22 44 13.3	-0.2
0.8nm,0.6s,baz=115,slow=9.7,SNR=5.6							
ASAR	**Alice Springs**	**44.97**	**165**	P	P	22 44 19.3	-0.2
0.2nm,0.5s,baz=343,slow=7.1,SNR=2.9							
KURK	**Kurchatov**	**45.94**	**322**	P	P	22 44 26.7	-0.3
1.1nm,0.8s,baz=122,slow=7.5,SNR=7.4							
BVAR	**Borovoye Array**	**51.53**	**323**	P	P	22 45 09.4	-0.6
0.4nm,0.5s,baz=117,slow=8.3,SNR=3.0							
AKTO	**Aktyubinsk**	**58.48**	**317**	P	P	22 46 01.3	+1.0
0.6nm,0.6s,baz=90,slow=10,SNR=2.6							
ILAR	**Eielson Array**	**72.27**	**27**	P	P	22 47 29.1	-0.3
0.1nm,0.5s,baz=274,slow=5.1,SNR=3.2							
YKA	**Yellowknife Ar**	**86.22**	**23**	P	P	22 48 45.8	+0.3
0.3nm,0.4s,baz=308,slow=4.4,SNR=8.4							

IDC 13 22:36:45.8±1.3, 3°55N×126°48E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=190.6km s-min=16.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**162**	P	P	22 42 07.2	-0.7
0.6nm,0.4s,baz=344,slow=10,SNR=5.8							
ASAR	**Alice Springs**	**28.00**	**165**	P	P	22 42 39.1	+0.4
0.3nm,0.3s,baz=339,slow=9.9,SNR=5.1							
STKA	**Stephens Creek**	**38.05**	**159**	P	P	22 44 06.4	+0.2
3.1nm,0.6s,baz=346,slow=6.9,SNR=6.7							
SONM	**Songino Array**	**47.39**	**342**	P	P	22 45 22.2	+0.2
0.4nm,0.5s,baz=162,slow=8.9,SNR=6.5							
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	22 46 37.5	+0.1
0.9nm,0.4s,baz=118,slow=7.5,SNR=22							
ZALV	**Zalesovo Beam**	**60.63**	**333**	P	P	22 46 57.6	-0.9
0.3nm,0.3s,baz=129,slow=7.3,SNR=3.0							
KURK	**Kurchatov**	**61.76**	**328**	P	P	22 47 06.3	+0.1
1.4nm,0.5s,baz=132,slow=6.5,SNR=25							

*ISCJB **13** 22:54:29.4±0.6, 53°.09S±0°.09×25°.6E±0°.3, h10km, mb4.3/8, MS3.3/6, Error ellipse: s-maj=22.5km s-min=12.0km az=168.9*
*IDC **13** 22:54:29.4±1.1, 53°.05S×25°.72E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.2/6, MS3.4/6, Ms1 3.4/6, ms1mx3.2/20, Error ellipse: s-maj=57.6km s-min=21.5km az=73.0*
*NEIC **13** 22:54:30.8±0.5, 53°.05S×25°.75E, h10km, mb4.4/6, Error ellipse: s-maj=17.4km s-min=10.0km az=79.0*
ISC 13 22:54:30.7±0.8, 53°.1S±0°.1×25°.8E±0°.2, h10km, n22, σ0s92/18, mb4.3/9, MS3.3/6, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SYO	**Syowa Base**	**17.24**	**163**	↑eP	**Pn**	**22 58 29.2**	**-2.0**
SUR	**Sutherland**	**21.00**	**348**	P	**P**	**22 59 15.0**	**+0.6**
16nm,1.0s,baz=295,slow=1.8,SNR=4.1							
SUR				LR	LR	23 05 20.5	
comp=Z,111nm,20.0s,baz=264,slow=31							
SUR	**Sutherland**	**21.00**	**348**	eP	**P**	**22 59 14.7**	**+0.3**
15nm,0.9s							
SNAA	**Sanae**	**22.48**	**203**	eP	**P**	**22 59 29.7**	**-0.1**
16nm,1.5s							
MAW	**Mawson**	**22.90**	**144**	LR	LR	23 06 11.8	
comp=Z,109nm,18.6s,baz=125,slow=31							
MAW	**Mawson**	**22.90**	**144**	eP	**P**	**22 59 34.5**	**+0.3**
40nm,1.5s							
BOSA	**Boshof**	**24.45**	**359**	P	**P**	**22 59 50.6**	**+0.9**
4.8nm,0.9s,baz=172,slow=14,SNR=5.5							
BOSA				LR	LR	23 07 38.5	
comp=Z,47nm,18.4s,baz=348,slow=32							
BOSA	**Boshof**	**24.45**	**359**	eP	**P**	**22 59 49.6**	**-0.1**
7.5nm,0.9s							
LBTB	**Lobatse**	**28.03**	**360**	LR	LR	23 09 46.0	
comp=Z,48nm,18.7s,baz=140,slow=33							
QSPA	**South Pole Qui**	**37.14**	**180**	P	**P**	**23 01 42.3**	**+1.0**
5.1nm,0.8s,baz=241,slow=6.5,SNR=7.7							
QSPA	**South Pole Qui**	**37.14**	**180**	eP	**P**	**23 01 41.8**	**+0.5**
6.7nm,1.0s							
PLCA	**Paso Flores**	**62.13**	**239**	LR	LR	23 25 17.9	
comp=Z,40nm,20.8s,baz=50,slow=30							
PLCA	**Paso Flores**	**62.13**	**239**	eP	**P**	**23 04 52.4**	**+0.7**
DBIC	**Dimbokro**	**64.95**	**326**	LR	LR	23 26 59.8	
comp=Z,43nm,18.8s,baz=61,slow=30							
TORD	**Torodi Ar. Bea**	**69.14**	**335**	P	**P**	**23 05 35.7**	**-1.4**
0.8nm,0.9s,baz=170,slow=6.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**69.14**	**335**	P	**P**	**23 05 35.7**	**-1.4**
ASAR	**Alice Springs**	**81.57**	**118**	P	**P**	**23 06 49.5**	**+0.8**
1.2nm,0.5s,baz=208,slow=5.3,SNR=16							
ASAR	**Alice Springs**	**81.57**	**118**	P	**P**	**23 06 49.5**	**+0.8**
WRA	**Warramunga Arr**	**84.83**	**116**	P	**P**	**23 07 05.6**	**0.0**
2.2nm,0.9s,baz=208,slow=4.1,SNR=7.2							
WRA	**Warramunga Arr**	**84.83**	**116**	P	**P**	**23 07 05.6**	**0.0**
WB2	**Warramunga Arr**	**84.83**	**116**	P	**P**	**23 07 06.5**	**+0.9**
WRAB	**Tennant Creek**	**84.84**	**116**	eP	**P**	**23 07 05.8**	**+0.2**
8.7nm,1.0s							

*ISCJB **13** 22:57:36.1±0.5, 6°.86N±0°.06×73°.02W±0°.07, h170km±5km, mb3.4/6, Error ellipse: s-maj=13.0km s-min=7.2km az=40.6*
*FUNV **13** 22:57:36.2, 6°.76N×73°.18W, h169km, MW3.6*
*IDC **13** 22:57:38.4±2.9, 6°.47N×73°.06W, h195km±48km, mb3.1/6, mb1 3.3/7, mb1mx3.1/22, mbtmp3.1/7, Error ellipse: s-maj=70.8km s-min=24.0km az=32.0*
ISC 13 22:57:37.2±0.9, 6°.86N±0°.07×73°.03W±0°.08, h164km±8km, n24, σ0s99/29, mb3.4/6, 6C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**351**	↑eP	**Pn**	**22 58 05.9**	**+0.4**
CAPV				eS	**Sn**	**22 58 27.3**	**+0.1**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**22 58 17.8**	**-0.2**
29nm,0.3s,baz=88,slow=16,SNR=51							
ROSC				S	**Sn**	**22 58 48.0**	**-1.5**
35nm,0.3s,baz=76,slow=18,SNR=8.3							
VIGV	**El Vigia**	**2.56**	**40**	↑eP	**Pn**	**22 58 20.3**	**+0.5**
VIGV				eS	**Sn**	**22 58 52.5**	**-0.4**
SOCV	**Socops**	**2.57**	**57**	↑eP	**Pn**	**22 58 20.6**	**+0.7**
SOCV				eS	**Sn**	**22 58 53.2**	**+0.1**
ELOV	**Elorza**	**3.52**	**88**	eP	**Pn**	**22 58 31.9**	**+0.2**
VIRV	**Villa del Rosa**	**3.67**	**10**	eP	**Pn**	**22 58 32.3**	**-1.3**
VIRV				eS	**Sn**	**22 59 15.5**	**-2.1**
QARV	**Quebrada Arrib**	**4.14**	**36**	↑eP	**Pn**	**22 58 40.3**	**+0.6**
SANV	**Sanarito**	**4.34**	**53**	eP	**Pn**	**22 58 42.3**	**0.0**
CURV	**Curarigua**	**4.36**	**44**	↑eP	**Pn**	**22 58 42.4**	**-0.1**
DABV	**Dabajuro**	**4.67**	**30**	eP	**Pn**	**22 58 46.9**	**+0.3**
TEPV	**Terepaima**	**4.89**	**51**	eP	**Pn**	**22 58 49.6**	**+0.2**
SIQV	**Siquisique**	**4.93**	**40**	eP	**Pn**	**22 58 50.0**	**+0.1**
BAUV	**El Baul**	**5.35**	**67**	↑iP	**Pn**	**22 59 54.2**	**-1.2**
MAPV	**Macapo**	**5.40**	**57**	eP	**Pn**	**22 58 55.8**	**-0.3**
MONV	**Montecano**	**5.89**	**31**	eP	**Pn**	**22 59 01.2**	**-1.4**
TURV	**Turiamo**	**6.24**	**55**	eP	**Pn**	**22 59 07.2**	**-0.1**
MERV	**Las Mercedes**	**7.07**	**70**	eP	**Pn**	**22 59 17.1**	**-1.1**
CUPV	**Cepira**	**7.83**	**66**	eP	**Pn**	**22 59 27.0**	**-1.4**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**23 04 27.4**	**+0.4**
0.3nm,0.6s,baz=135,slow=10,SNR=3.7							
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**23 05 53.3**	**-0.5**
1.5nm,0.5s,baz=162,slow=6.3,SNR=4.0							
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**23 06 01.9**	**+1.9**
0.8nm,0.6s,baz=180,slow=9.1,SNR=3.6							
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**23 06 01.5**	**+0.9**
0.2nm,0.5s,baz=113,slow=9.1,SNR=2.9							
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**23 07 48.4**	**+0.5**
0.5nm,0.5s,baz=134,slow=6.8,SNR=11							
TORD	**Torodi Ar. Bea**	**73.64**	**78**	P	**P**	**23 08 51.8**	**-1.5**
0.3nm,0.8s,baz=274,slow=5.9,SNR=3.3							

MEX 13 22:58:44.0±0.8, 17°01N×99°10W, h32km±118km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.12**	**123**	eP	Pn	22 59 02.2	-1.2
PNIG				*i* S	Sn	22 59 14.5	-3.2
CAIG	**El Cayaco**	**1.12**	**272**	eP	Pn	22 59 00.9	-2.5
CAIG				*i* S	Sn	22 59 15.3	-2.4
UTMO	**Huajuapan**	**1.48**	**56**	*i* P	Pn	22 59 06.8	-1.9
UTMO				*i* S	Sn	22 59 24.9	-2.4
PPM	**Popocatepetl**	**2.10**	**12**	*i* P	Pn	22 59 15.3	-2.2
PPM				*i* S	Sn	22 59 39.8	-3.2
ZIIG	**Zihuatanejo**	**2.33**	**285**	*i* P	Pn	22 59 17.6	-2.5
ZIIG				*i* S	Sn	22 59 45.7	-2.0

IDC 13 23:06:43.9±7.3, 0°.34S×132°.32E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=470.6km s-min=28.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.59**	**174**	P	P	23 11 14.1	+0.3
0.1nm,0.3s,baz=355,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**23.24**	**176**	P	P	23 11 52.9	-0.2
1.8nm,0.8s,baz=355,slow=10,SNR=10							
MKAR	**Makanchi Array**	**64.08**	**324**	P	P	23 17 19.8	0.0
0.2nm,0.6s,baz=124,slow=7.2,SNR=4.1							

IDC 13 23:07:02.8±3.1, 49°.57S×118°.36E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/12, mbtmp4.0/3, ML2.5/1, Error ellipse: s-maj=127.0km s-min=47.4km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**16.65**	**357**	Pn	Pn	23 10 58.4	+0.9
0.8nm,0.3s,baz=179,slow=13,SNR=10.0							
ASAR	**Alice Springs**	**28.59**	**31**	P	P	23 13 00.8	+0.2
0.8nm,0.7s,baz=201,slow=8.7,SNR=6.7							
WRA	**Warramunga Arr**	**32.21**	**29**	P	P	23 13 32.2	-0.4
1.0nm,1.1s,baz=200,slow=9.1,SNR=4.9							
TXAR	**Lajitas Array**	**142.40**	**107**	PKP	PKPdf	23 26 38.8	+1.4
0.4nm,0.9s,baz=211,slow=6.2,SNR=3.5							
PDAR	**Pinedale Array**	**146.60**	**83**	PKPbc	PKPbc	23 26 45.8	-0.2
0.3nm,0.7s,baz=220,slow=2.4,SNR=3.1							
YKA	**Yellowknife Ar**	**148.69**	**45**	PKPbc	PKPbc	23 26 48.9	-1.7
0.3nm,0.6s,baz=279,slow=2.1,SNR=4.0							

*IDC **13** 23:45:37.8±0.9, 0°.21S×132°.64E, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML4.0/2, Error ellipse: s-maj=52.4km s-min=13.4km az=77.0*
*ISCJB **13** 23:45:40.7±0.7, 0°.32S±0°.07×132°.6E±0°.3, h33km, mb3.9/10, Error ellipse: s-maj=37.1km s-min=8.2km az=171.6*
*NEIC **13** 23:45:42.8±0.5, 0°.24S×132°.71E, h35km, mb3.9/5, Error ellipse: s-maj=27.1km s-min=7.1km az=82.0*
ISC 13 23:45:42.5±0.8, 0°.37S±0°.08×132°.7E±0°.2, h35km, n24, σ1s79/26, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.95**	**201**	P	**P**	**23 50 00.3**	**-0.4**
0.3nm,0.3s,baz=43,slow=12,SNR=7.9							
FITZ				S	Sn	23 53 19.9	-13
0.1nm,0.3s,baz=135,slow=20,SNR=2.2							
FITZ	**Fitzroy Crossi**	**18.95**	**201**	eP	**Pn**	**23 50 01.7**	**0.0**
5.1nm,0.7s							
FITZ				S	Sn	23 53 19.9	-13
WRAB	**Tennant Creek**	**19.51**	**175**	eP	**Pn**	**23 50 09.2**	**+0.8**
4.2nm,0.6s							
WRA	**Warramunga Arr**	**19.52**	**175**	P	**P**	**23 50 08.7**	**+1.6**
0.5nm,0.3s,baz=354,slow=11,SNR=13							
WRA				S	**S**	**23 53 41.0**	**-4.8**
0.3nm,0.3s,baz=352,slow=23,SNR=4.7							
WRA	**Warramunga Arr**	**19.52**	**175**	P	**P**	**23 50 08.7**	**+1.6**
WRA				S	**S**	**23 53 41.0**	**-4.8**
ASAR	**Alice Springs**	**23.19**	**177**	P	**P**	**23 50 48.0**	**+1.6**
8.0nm,0.8s,baz=355,slow=11,SNR=46							
ASAR	**Alice Springs**	**23.19**	**177**	P	**P**	**23 50 48.0**	**+1.6**
STKA	**Stephens Creek**	**32.44**	**166**	P	**P**	**23 52 11.5**	**+1.9**
1.9nm,0.4s,baz=337,slow=10,SNR=4.7							
STKA				S	S	23 57 30.2	+8.3
1.7nm,0.8s,baz=322,slow=17,SNR=1.7							
STKA	**Stephens Creek**	**32.44**	**166**	eP	**P**	**23 52 11.3**	**+1.7**
1.7nm,1.1s							
STKA				S	S	23 57 30.2	+8.3
NWAO	**Narrogin (SRO)**	**35.52**	**203**	P	**P**	**23 52 37.3**	**+1.1**
6.6nm,0.8s,baz=22,slow=9.0,SNR=3.4							
NWAO	**Narrogin (SRO)**	**35.52**	**203**	eP	**P**	**23 52 37.6**	**+1.3**
5.0nm,0.7s							
ULN	**Ulaanbaatar**	**52.97**	**339**	eP	**P**	**23 54 54.8**	**-1.0**
1.3nm,0.9s							
SONM	**Songino Array**	**53.19**	**338**	P	**P**	**23 54 56.9**	**-0.5**
0.4nm,0.9s,baz=146,slow=8.0,SNR=2.9							
SONM	**Songino Array**	**53.19**	**338**	P	**P**	**23 54 56.9**	**-0.5**
MKAR	**Makanchi Array**	**64.34**	**324**	P	**P**	**23 56 15.0**	**+0.2**
1.4nm,0.7s,baz=115,slow=8.0,SNR=20							
MKAR	**Makanchi Array**	**64.34**	**324**	P	**P**	**23 56 15.0**	**+0.2**
ZALV	**Zalesovo Beam**	**66.97**	**332**	P	**P**	**23 56 30.4**	**-1.2**
0.7nm,0.6s,baz=126,slow=6.8,SNR=4.6							
ZALV	**Zalesovo Beam**	**66.97**	**332**	P	**P**	**23 56 30.4**	**-1.2**
BVAR	**Borovoye Array**	**74.01**	**326**	P	**P**	**23 57 14.7**	**+0.1**
1.2nm,0.8s,baz=120,slow=8.8,SNR=5.4							
BVAR	**Borovoye Array**	**74.01**	**326**	P	**P**	**23 57 14.7**	**+0.1**
AKTO	**Aktyubinsk**	**80.57**	**321**	P	**P**	**23 57 51.6**	**+0.1**
1.1nm,0.8s,baz=65,slow=7.9,SNR=3.8							
AKTO	**Aktyubinsk**	**80.57**	**321**	P	**P**	**23 57 51.6**	**+0.1**
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**23 58 19.4**	**-0.8**
0.3nm,0.9s,baz=252,slow=5.3,SNR=3.3							
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**23 58 19.4**	**-0.8**

*ISCJB **13** 23:49:14.9±0.9, 49°.62S±0°.09×117°.9E±0°.3, h10km, mb4.1/8, MS3.5/6, Error ellipse: s-maj=32.7km s-min=13.1km az=4.0*
*IDC **13** 23:49:15.0±1.1, 49°.62S×117°.84E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.2/14, mbtmp4.2/7, ML2.8/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/18, Error ellipse: s-maj=41.9km s-min=22.9km az=99.0*
*NEIC **13** 23:49:16.8±0.6, 49°.62S×117°.92E, h10km, mb4.3/6, Error ellipse: s-maj=23.4km s-min=9.3km az=93.0*
ISC 13 23:49:16.3±0.8, 49°.6S±0°.1×117°.8E±0°.3, h10km, n28, σ0s87/28, mb4.1/8, MS3.6/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**16.64**	**358**	Pn	**P**	**23 53 11.2**	**-0.9**
1.8nm,0.3s,baz=176,slow=12,SNR=18							
NWAO	**Narrogin (SRO)**	**16.64**	**358**	ePn	**P**	**23 53 10.8**	**-1.2**
15nm,0.6s							
STKA	**Stephens Creek**	**25.09**	**54**	P	**P**	**23 54 41.8**	**+0.7**
2.7nm,0.6s,baz=209,slow=10,SNR=2.6							
STKA				LR	LR	00 02 45.9	
comp=Z,214nm,20.4s,baz=206,slow=32							
STKA	**Stephens Creek**	**25.09**	**54**	eP	**P**	**23 54 41.3**	**+0.3**
1.0nm,0.9s							
ASAR	**Alice Springs**	**28.79**	**32**	P	**P**	**23 55 14.7**	**+0.3**
1.9nm,0.8s,baz=200,slow=8.4,SNR=12							
ASAR	**Alice Springs**	**28.79**	**32**	P	**P**	**23 55 14.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**32.03**	**14**	P	**P**	**23 55 43.8**	**+0.8**
2.3nm,0.8s,baz=191,slow=10,SNR=2.7							
FITZ				LR	LR	00 07 36.0	
comp=Z,92nm,18.7s,baz=96,slow=34							
FITZ	**Fitzroy Crossi**	**32.03**	**14**	eP	**P**	**23 55 44.0**	**+1.1**
5.1nm,0.9s							
MAW	**Mawson**	**32.38**	**216**	LR	LR	00 05 34.2	
comp=Z,149nm,20.7s,baz=303,slow=30							
WRA	**Warramunga Arr**	**32.39**	**30**	P	**P**	**23 55 45.7**	**-0.5**
2.5nm,0.7s,baz=199,slow=8.8,SNR=5.2							
WRA				LR	LR	00 08 10.9	
comp=Z,43nm,21.6s,baz=210,slow=35							
WRA	**Warramunga Arr**	**32.39**	**30**	P	**P**	**23 55 45.7**	**-0.5**
WRAB	**Tennant Creek**	**32.40**	**30**	eP	**P**	**23 55 47.3**	**+1.0**
3.1nm,0.6s							
VNDA	**Vanda**	**32.57**	**164**	eP	**P**	**23 55 47.5**	**+0.2**
7.7nm,0.8s							
CTA	**Charters Tower**	**37.15**	**48**	LR	LR	00 11 03.4	
comp=Z,138nm,18.7s,baz=230,slow=35							
QSPA	**South Pole Qui**	**40.55**	**180**	P	**P**	**23 56 55.0**	**-0.5**
2.0nm,0.9s,baz=347,slow=4.7,SNR=4.3							
QSPA	**South Pole Qui**	**40.55**	**180**	eP	**P**	**23 56 55.1**	**-0.4**
4.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**69.77**	**341**	P	**P**	**00 00 27.4**	**+0.9**
0.7nm,0.6s,baz=170,slow=5.5,SNR=4.9							
CMAR				LR	LR	00 27 52.3	
comp=Z,15nm,18.4s,baz=190,slow=33							
CMAR	**Chiang Mai Arr**	**69.77**	**341**	P	**P**	**00 00 27.4**	**+0.9**
TXAR	**Lajitas Array**	**142.75**	**107**	PKP	**PKPdf**	**00 08 51.2**	**+1.5**
0.5nm,0.8s,baz=178,slow=3.2,SNR=3.9							
TXAR	**Lajitas Array**	**142.75**	**107**	PKP	**PKPdf**	**00 08 51.2**	**+1.5**
PDAR	**Pinedale Array**	**146.97**	**84**	PKPbc	**PKPab**	**00 08 59.5**	**-0.7**
0.5nm,0.6s,baz=180,slow=3.4,SNR=5.6							
PDAR	**Pinedale Array**	**146.97**	**84**	PKPbc	**PKPab**	**00 08 59.5**	**-0.7**
YKA	**Yellowknife Ar**	**148.96**	**46**	PKPbc	**PKPbc**	**00 09 02.7**	**-0.4**
0.6nm,0.6s,baz=282,slow=2.2,SNR=8.0							
YKA	**Yellowknife Ar**	**148.96**	**46**	PKPbc	**PKPbc**	**00 09 02.8**	**-0.4**
RES	**Resolute Bay**	**151.33**	**17**	PKPbc	**PKPbc**	**00 09 09.0**	**+0.5**
1.7nm,0.7s,baz=289,slow=3.8,SNR=2.6							
RES				PKPab	**PKPab**	**00 09 15.3**	**-1.4**
3.2nm,0.9s,baz=311,slow=2.4,SNR=4.0							
RES	**Resolute Bay**	**151.33**	**17**	PKPbc	**PKPbc**	**00 09 09.0**	**+0.5**
RES				PKPab	**PKPab**	**00 09 15.3**	**-1.4**
ULM	**Lac du Bonnet**	**158.41**	**75**	PKPab	**PKPab**	**00 09 47.2**	**-0.5**
0.6nm,0.5s,baz=117,slow=2.3,SNR=2.1							
ULM	**Lac du Bonnet**	**158.41**	**75**	PKPab	**PKPab**	**00 09 47.2**	**-0.5**

IDC 13 23:55:53.5±17.0, 21°.63N×143°.23E, h336km±186km, mb3.0/7, mb1 3.2/7, mb1mx2.9/24, mbtmp3.0/7, Error ellipse: s-maj=34.0km s-min=24.9km az=58.0, Mariana Islands region

| Code | Station Name | Δ° | AZ° | Phase ID | | Time

comp=Z,50nm,21.4s,baz=12,slow=31
ULN Ulaanbaatar 85.25 324 *e*P **P 00 15 52.0 -1.4**
4.7nm,0.8s
SONM Songino Array 85.61 323 P **P 00 15 54.1 -1.1**
1.5nm,0.8s,baz=154,slow=7.1,SNR=12
SONM Songino Array 85.61 323 P **P 00 15 54.1 -1.1**
NVAR Mina Array Bea 88.29 49 P **P 00 16 10.3 +1.9**
0.1nm,0.3s,baz=226,slow=6.7,SNR=3.5
NVAR Mina Array Bea 88.29 49 P **P 00 16 10.3 +1.9**
ILAR Eielson Array 88.97 18 P **P 00 16 10.8 0.0**
0.7nm,0.7s,baz=233,slow=5.2,SNR=10.0
ILAR Eielson Array 88.97 18 P **P 00 16 10.8 0.0**
TORD Torodi Ar. Bea 166.54 252 PKP **PKPdf 00 23 21.6 -0.7**
0.6nm,0.9s,baz=126,slow=1.7,SNR=3.5
TORD PKPab **PKPab 00 24 25.3 +0.4**
0.6nm,0.9s,baz=131,slow=4.0,SNR=2.8
TORD Torodi Ar. Bea 166.54 252 PKP **PKPdf 00 23 21.6 -0.7**
TORD PKPab **PKPab 00 24 25.3 +0.4**

IDC 14 00:22:23.5±8.1, 16°54.S×176°92.W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=359.0km s-min=34.1km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.29**	**258**	P	P	00 30 50.9	-0.5
	0.2nm,0.3s,baz=94,slow=8.0,SNR=2.4						
ASAR	**Alice Springs**	**46.54**	**253**	P	P	00 30 53.5	+0.2
	1.3nm,0.4s,baz=88,slow=8.0,SNR=20						
ILAR	**Eielson Array**	**84.24**	**12**	P	P	00 34 56.5	0.0
	0.2nm,0.4s,baz=222,slow=5.1,SNR=11						

*ISCJB **14** 00:26:57.6±0.5,50.°10N±0.°03×19.°10E±0.°03, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=12.8*
*PRU **14** 00:26:59.4,50.°12N×19.°13E, h0km*
*CSEM **14** 00:26:59.3±0.3,50.°09N×19.°14E, h2km, ML2.7/6, Error ellipse: s-maj=7.3km s-min=3.5km az=13.0*
*IPEC **14** 00:27:00.8±0.3,50.°20N×19.°06E, h0km, ML1.7/3, Error ellipse: s-maj=2.4km s-min=1.8km az=161.0*

ISC 14 00:26:58.4±0.8, 50.°11N±0.°03×19.°14E±0.°02, h0km, n32, σ0s82/50, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**75**	*e*Pg	**Pg**	**00 27 06.8**	**0.0**
OJC				*e*Sg	**Sg**	**00 27 12.7**	**+0.3**
OKC	**Ostrava-Krasne**	**0.70**	**247**	*e*PG	**Pb**	**00 27 12.9**	**-0.5**
OKC				*e*SG	**Sg**	**00 27 21.1**	**+0.4**
	comp=Z,17nm,0.6s						
OKC	**Ostrava-Krasne**	**0.70**	**247**	Pg	**Pb**	**00 27 12.9**	**-0.5**
OKC				Sg	**Sg**	**00 27 21.1**	**+0.4**
	17nm,0.6s						
NIE	**Niedzica**	**1.03**	**132**	*e*Pg	**Pb**	**00 27 18.7**	**-0.4**
NIE				*e*Sg	**Sn**	**00 27 34.3**	**-0.9**
NIE	**Niedzica**	**1.03**	**132**	*e*Pg	**Pb**	**00 27 18.7**	**-0.4**
NIE				*e*Sg	**Sn**	**00 27 34.3**	**-0.9**
MORC	**Moravsky Berou**	**1.08**	**253**	⇓*i*P	**Pn**	**00 27 20.9**	**0.0**
MORC	**Moravsky Berou**	**1.08**	**253**	*e*Pg	**Pn**	**00 27 20.7**	**-0.2**
	baz=66						
MORC				*e*Sg	**Sb**	**00 27 34.9**	**+0.1**
	10nm,0.3s,baz=66						
STHS	**Stebnicka Huta**	**1.53**	**116**	*e*PG	**Pg**	**00 27 28.7**	**+1.0**
KOLL	**Kolacno**	**1.61**	**198**	*e*PG	**Pg**	**00 27 29.2**	**0.0**
KOLL				*e*SG	**Sg**	**00 27 51.3**	**+1.3**
KOLL	**Kolacno**	**1.61**	**198**	*e*Pg	**Pg**	**00 27 29.2**	**0.0**
KOLL				*e*Sg	**Sg**	**00 27 51.3**	**+1.3**
VYHS	**Vyhne**	**1.63**	**187**	*e*PG	**Pb**	**00 27 28.7**	**-0.6**
VYHS				*e*SG	**Sb**	**00 27 49.9**	**-0.5**
VYHS	**Vyhne**	**1.63**	**187**	*e*Pg	**Pb**	**00 27 28.7**	**-0.6**
VYHS				*e*Sg	**Sb**	**00 27 49.9**	**-0.5**
DPC	**Dobruska-Polom**	**1.82**	**279**	*e*PG	**Pb**	**00 27 31.9**	**-0.8**
DPC				*e*SG	**Sg**	**00 27 56.8**	**-0.2**
	comp=Z,9.4nm,0.3s						
DPC	**Dobruska-Polom**	**1.82**	**279**	*e*Pn	**Pb**	**00 27 31.8**	**-0.9**
	baz=94						
DPC				Sg	**Sg**	**00 27 56.8**	**-0.2**
	9.4nm,0.3s						
VRAC	**Vranov**	**1.84**	**245**	⇑*i*P	**Pb**	**00 27 32.6**	**-0.3**
VRAC	**Vranov**	**1.84**	**245**	⇑*i*P	**Pb**	**00 27 32.6**	**-0.3**
VRAC	**Vranov**	**1.84**	**245**	*e*Pn	**Pg**	**00 27 33.6**	**0.0**
	baz=60						
VRAC				*e*Sg	**Sg**	**00 27 57.5**	**+0.1**
	7.4nm,0.3s,baz=60						
KECS	**Kecovo**	**1.85**	**151**	*e*PG	**Pn**	**00 27 31.5**	**+0.1**
KECS	**Kecovo**	**1.85**	**151**	*e*Pg	**Pn**	**00 27 31.5**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.94**	**128**	*e*PG	**Pg**	**00 27 35.6**	**+0.1**
CRVS				*e*SG	**Sg**	**00 28 01.0**	**+0.4**
CRVS	**Cervenica-Dubn**	**1.94**	**128**	*e*Pg	**Pg**	**00 27 35.6**	**+0.1**
CRVS				*e*Sg	**Sg**	**00 28 01.0**	**+0.4**
KSP	**Ksiaz**	**1.96**	**293**	*e*Pg	**Pg**	**00 27 37.1**	**+1.1**
KSP				*e*Sg	**Sg**	**00 28 02.6**	**+1.2**
UPC	**Upice**	**2.04**	**282**	*e*SG	**Sg**	**00 28 04.0**	**0.0**
UPC	**Upice**	**2.04**	**282**	Sg	**Sg**	**00 28 04.0**	**0.0**
KRUC	**Moravsky**	**2.07**	**241**	*e*Sg	**Sg**	**00 28 04.8**	**-0.1**
	4.7nm,0.4s,baz=56						
PSZ	**Piszkesteto**	**2.25**	**167**	⇑*i*P	**Pg**	**00 27 42.6**	**+1.1**
PVCC	**Panska Ves**	**2.96**	**280**	*e*SG	**Sg**	**00 28 32.2**	**-1.2**
	comp=Z,12nm,0.4s						
PVCC	**Panska Ves**	**2.96**	**280**	Sg	**Sg**	**00 28 32.2**	**-1.2**
	12nm,0.4s						
PRU	**Pruhonice**	**2.97**	**269**	*e*SG	**Sg**	**00 28 32.2**	**-1.4**
PRU	**Pruhonice**	**2.97**	**269**	Sg	**Sg**	**00 28 32.2**	**-1.4**
KHC	**Kasperske Hory**	**3.75**	**257**	*e*PN	**Pn**	**00 27 59.0**	**+1.5**
KHC				*e*PG	**Pg**	**00 28 11.0**	**+0.8**
KHC				*ex*	x	00 28 48.5	
KHC				*e*SG	**Sg**	**00 28 59.0**	**+0.3**
CLL	**Collm**	**4.08**	**289**	*e*Sg	**Sg**	**00 29 12.0**	**+2.6**

*IDC **14** 00:29:26.9±6.4,36.°74N×71.°48E, h57km±48km, mb3.4/7, mb1 3.5/12, mb1mx3.3/31, mbtmp3.4/12, ML3.5/5, Error ellipse: s-maj=52.3km s-min=24.1km az=174.0*
*ISCJB **14** 00:29:31.9±0.4,37.°02N±0.°03×71.°58E±0.°07, h106km, mb3.5/7, Error ellipse: s-maj=8.4km s-min=3.9km az=168.5*
*NNC **14** 00:29:31.0±5.6,37.°34N×71.°13E, h0km, mb3.7, mpv4.1, Error ellipse: s-maj=48.6km s-min=37.3km az=174.0*

ISC 14 00:29:33.3±0.7, 37.°07N±0.°05×71.°63E±0.°08, h106km, n43, σ1s66/54, mb3.5/7, 9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.25**	**176**	⇓P	**Pn**	**00 30 23.1**	**+0.4**
CEP				S	**Sn**	**00 31 02.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.66**	**158**	⇓P	**Pn**	**00 30 29.9**	**+1.8**
THW	**Thamme Wali**	**4.27**	**179**	⇓P	**Pn**	**00 30 35.9**	**-0.4**
SARP	**Sargodha**	**5.21**	**170**	P	**Pn**	**00 30 48.1**	**-0.8**
AML	**Almayashu**	**5.30**	**17**	P	**Pn**	**00 30 51.9**	**+1.5**
	SNR=58						
AML				P	**Pn**	**00 30 51.9**	**+1.5**
	SNR=58						
UCH	**Uchtor**	**5.61**	**23**	P	**Sn**	**00 31 56.1**	**-1.8**
	SNR=9.1						
UCH				P	**Sn**	**00 31 56.1**	**-1.8**
	SNR=9.1						
KZA	**Kyzart**	**5.73**	**28**	P	**Pn**	**00 30 58.0**	**+1.7**
	SNR=6.5						
KZA				P	**Pn**	**00 30 58.0**	**+1.7**
	SNR=6.5						
DLH	**Dalhousie**	**5.76**	**140**	*e*P	**Pn**	**00 30 57.0**	**+0.4**
DLH				*e*S	**Sn**	**00 32 01.0**	**-0.4**
EKS2	**Erkin-Say**	**5.82**	**16**	P	**Pn**	**00 30 59.2**	**+2.0**
	SNR=21						
EKS2				P	**Pn**	**00 30 59.2**	**+2.0**
	SNR=21						
AAK	**Ala-Archa**	**5.97**	**21**	P	**Pn**	**00 31 01.7**	**+2.3**
	SNR=31						
AAK				P	**Pn**	**00 31 01.7**	**+2.3**
	SNR=31						
KK31	**Karatay Array**	**6.08**	**352**	⇓P	**Pn**	**00 31 00.4**	**-0.3**
	9.2nm,0.4s,baz=183,slow=14,SNR=112						
KK31				⇑S	**Sn**	**00 32 07.5**	**-1.4**
	7.3nm,0.4s,baz=182,slow=22,SNR=8.2						
ULHL	**Ulahol**	**6.27**	**33**	P	**Pn**	**00 31 06.2**	**+2.8**
	SNR=5.5						
ULHL				P	**Pn**	**00 31 06.2**	**+2.8**
	SNR=5.5						
CHMS	**Chumysh**	**6.38**	**21**	P	**Pn**	**00 31 06.6**	**+1.8**
	SNR=21						
CHMS				P	**Pn**	**00 31 06.6**	**+1.8**
	SNR=21						
USP	**Ospenovka**	**6.56**	**19**	P	**Pn**	**00 31 08.5**	**+1.3**
	SNR=10						
USP				P	**Pn**	**00 31 08.5**	**+1.3**
	SNR=10						
TKM2	**Tokmak 2**	**6.59**	**26**	P	**Pn**	**00 31 09.5**	**+1.9**
	SNR=20						
TKM2				P	**Pn**	**00 31 09.5**	**+1.9**
	SNR=20						
TKM2	**Tokmak 2**	**6.59**	**26**	⇓P	**Pn**	**00 31 09.7**	**+2.0**
	7.4nm,0.5s						
TKM2				⇓S	**Sn**	**00 32 22.1**	**+0.8**
	6.4nm,0.7s						
MK01	**Makanchi Array**	**12.52**	**36**	⇑P	**Pn**	**00 32 28.9**	**+1.4**
	1.2nm,0.7s						
MK31	**Makanchi Array**	**12.53**	**36**	⇑P	**Pn**	**00 32 28.9**	**+1.2**
	0.6nm,0.6s,baz=224,slow=14,SNR=14						
MKAR	**Makanchi Array**	**12.53**	**36**	P	**Pn**	**00 32 29.0**	**+1.3**
	0.1nm,0.3s,baz=227,slow=15,SNR=15						
DANN	**Dangsing**	**13.41**	**127**	*e*P	**Pn**	**00 32 37.0**	**-2.6**
DANN				*e*S	Sn	00 34 56.5	-11
KOLN	**Koldanda**	**13.71**	**129**	*e*P	**Pn**	**00 32 40.9**	**-2.5**
GKN	**Gorkha**	**14.21**	**126**	*e*P	**Pn**	**00 32 47.9**	**-1.9**
GKN				*e*S	Sn	00 35 15.0	-12
KURBB	**Kurchatov Arra**	**14.42**	**18**	⇑P	P	00 32 59.6	+3.7
	0.2nm,0.5s						
KURK	**Kurchatov**	**14.53**	**18**	P	**Pn**	**00 32 52.4**	**-1.2**
	0.1nm,0.3s,baz=211,slow=13,SNR=5.6						
AB31	**Akbulak array**	**14.84**	**329**	⇑P	Pn	00 32 54.2	-3.3
	1.3nm,0.5s,baz=136,slow=13,SNR=72						
PKI	**Pulchoki**	**15.00**	**125**	*e*P	**Pn**	**00 32 58.4**	**-1.7**
GUN	**Gumba**	**15.09**	**123**	*e*P	**Pn**	**00 32 58.8**	**-2.4**
JIRN	**Jiri**	**15.46**	**123**	*e*P	**Pn**	**00 33 03.4**	**-2.5**
VOSK	**Vostochnaya**	**15.65**	**359**	⇑P	**P**	**00 33 10.0**	**+0.4**
	0.5nm,0.5s						
BVA0	**Borovoye Array**	**15.97**	**357**	⇑P	**Pn**	**00 33 10.3**	**-1.4**
	0.1nm,0.6s,baz=175,slow=12,SNR=6.0						
BVAR	**Borovoye Array**	**15.97**	**357**	P	**Pn**	**00 33 10.4**	**-1.3**
	0.2nm,0.3s,baz=159,slow=12,SNR=6.4						
ZRNK	**Zerenda**	**15.98**	**354**	⇑P	**Pn**	**00 33 11.2**	**-0.6**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**16.55**	**328**	P	**Pn**	**00 33 16.0**	**-2.8**
	0.2nm,0.3s,baz=108,slow=17,SNR=3.4						
AKTO	**Aktyubinsk**	**16.55**	**328**	⇑P	**Pn**	**00 33 18.7**	**-0.1**
	0.5nm,0.9s						
TAPN	**Taplejung**	**16.69**	**121**	*e*P	**Pn**	**00 33 20.5**	**-0.5**
ZALV	**Zalesovo Beam**	**19.18**	**24**	P	**P**	**00 33 49.5**	**+1.2**
	0.4nm,0.3s,baz=218,slow=10,SNR=9.1						
SONM	**Songino Array**	**27.60**	**56**	P	**P**	**00 35 11.0**	**+0.5**
	0.3nm,0.7s,baz=225,slow=8.3,SNR=3.7						
FINES	**FINESS Array B**	**37.29**	**326**	P	**P**	**00 36 35.3**	**+0.7**
	3.1nm,0.9s,baz=124,slow=6.4,SNR=6.9						
HFS	**Hagfors**	**42.93**	**321**	P	**P**	**00 37 21.5**	**+0.3**
	2.6nm,1.0s,baz=96,slow=13,SNR=5.4						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**00 37 31.8**	**+0.2**
	0.4nm,0.4s,baz=111,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.23**	**269**	P	**P**	**00 40 08.4**	**-1.8**
	0.2nm,0.4s,baz=54,slow=6.4,SNR=5.3						
INK	**Inuvik**	**73.26**	**9**	P	**P**	**00 40 53.9**	**+1.5**
	0.9nm,0.8s,baz=14,slow=4.2,SNR=2.3						
YKA	**Yellowknife Ar**	**80.65**	**3**	P	**P**	**00 41 34.8**	**+0.9**
	0.3nm,0.6s,baz=349,slow=5.5,SNR=7.6						

IDC 14 00:49:11.2±2.1, 10.°98S×125.°43E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=233.5km s-min=30.8km az=55.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.37**	**137**	Pn	Pn	00 52 09.2	+0.5
	0.4nm,0.3s,baz=320,slow=13,SNR=8.5						
WRA				Sn	Sn	00 54 42.1	+15
	0.4nm,0.3s,baz=320,slow=25,SNR=3.2						
ASAR	**Alice Springs**	**14.98**	**148**	Pn	Pn	00 52 43.8	-0.6
	0.2nm,0.3s,baz=321,slow=11,SNR=15						
MKAR	**Makanchi Array**	**69.22**	**330**	P	P	01 00 20.5	+0.6
	0.8nm,0.9s,baz=119,slow=8.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**73.26**	**336**	P	P	01 00 43.6	-0.5
	1.4nm,0.9s,baz=125,slow=7.2,SNR=5.8						

*DJA **14** 00:54:23.0±7.7,33.°18N×133.°18E, h14km, MLv4.0/3*
IDC 14 00:54:18.1±1.6, 0.°75S×133.°28E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=80.6km s-min=20.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P	P	00 58 39.1	-0.2
	0.6nm,0.3s,baz=41,slow=12,SNR=10						
FITZ				S	Sn	01 01 54.0	-17
	0.1nm,0.3s,baz=103,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**19.10**	**177**	P	Pn	00 58 43.0	-0.3
	0.6nm,0.3s,baz=356,slow=11,SNR=6.9						
WRA				S	Sn	01 02 09.1	-9.0
	0.2nm,0.3s,baz=348,slow=23,SNR=4.0						
STKA	**Stephens Creek**	**31.94**	**167**	P	P	01 00 45.5	-0.2
	1.6nm,0.4s,baz=342,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**64.98**	**324**	P	P	01 05 00.0	+0.1
	1.2nm,0.6s,baz=111,slow=8.3,SNR=19						
KURK	**Kurchatov**	**69.05**	**326**	P	P	01 05 25.6	-0.1
	1.5nm,0.7s,baz=123,slow=5.7,SNR=12						

*IDC **14** 00:55:26.9±0.7, 18.°11N×146.°54E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/22, mbtmp4.0/12, MS3.5/2, Ms1 3.5/2, ms1mx3.0/29, Error ellipse: s-maj=28.6km s-min=17.3km az=84.0*
*ISCJB **14** 00:55:32.2±0.7, 18.°05N±0.°07×146.°3E±0.°2, h50km, mb4.1/14, MS3.5/2, Error ellipse: s-maj=25.1km s-min=10.1km az=178.4*
*NEIC **14** 00:55:32.1±0.5, 18.°11N×146.°42E, h35km, mb4.2/4, Error ellipse: s-maj=19.1km s-min=8.9km az=89.0*

ISC 14 00:55:33.8±0.7, 18.°0N±0.°1×146.°5E±0.°2, h50km, n35, σ0s92/31, mb4.2/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.68**	**200**	Sn	Sn	00 57 40.1	+5.0
	30nm,0.3s,baz=135,slow=23,SNR=4.5						
GUMO	**Guam**	**4.68**	**200**	*e*Pn	Pn	00 56 40.7	-1.3
MJAR	**Matsushiro Arr**	**19.86**	**340**	P	**Pn**	**01 00 05.1**	**+2.4**
	1.0nm,0.3s,baz=156,slow=8.2,SNR=4.8						
MJAR	**Matsushiro Arr**	**19.86**	**340**	P	**Pn**	**01 00 05.1**	**+2.4**
KSRS	**Korea Array**	**25.33**	**324**	P	**P**	**01 00 54.9**	**-1.0**
	1.7nm,0.8s,baz=150,slow=11,SNR=3.4						
KSAR	**Wonju Array Be**	**25.34**	**324**	P	**P**	**01 00 54.9**	**-1.1**
BJT	**Baijiatuao**	**34.16**	**316**	*e*P	P	01 02 10.4	-3.8
	47nm,0.4s						
PETK	**Petropavlovsk-**	**36.09**	**11**	LR	LR	01 16 51.2	
	comp=Z,48nm,19.3s,baz=262,slow=36						
WRAB	**Tennant Creek**	**39.56**	**198**	*e*P	**P**	**01 03 00.4**	**+0.1**
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**39.57**	**198**	P	**P**	**01 03 00.7**	**+0.2**
	0.9nm,0.3s,baz=16,slow=8.1,SNR=8.8						
WRA	**Warramunga Arr**	**39.57**	**198**	P	**P**	**01 03 00.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.35**	**211**	P	**P**	**01 03 15.6**	**+0.4**
	3.0nm,0.5s,baz=38,slow=12,SNR=6.5						
FITZ	**Fitzroy Crossi**	**41.35**	**211**	*e*P	**P**	**01 03 15.7**	**+0.6**
	2.2nm,0.5s						
SONM	**Songino Array**	**44.16**	**321**	P	**P**	**01 03 37.6**	**-0.2**
	0.5nm,0.5s,baz=138,slow=6.6,SNR=6.1						
SONM	**Songino Array**	**44.16**	**321**	P	**P**	**01 03 37.6**	**-0.2**
STKA	**Stephens Creek**	**49.83**	**185**	P	**P**	**01 04 22.1**	**+0.1**
	2.7nm,0.6s,baz=7.7,slow=12,SNR=6.8						
STKA				LR	LR	01 26 00.9	
	comp=Z,70nm,18.5s,baz=24,slow=37						
STKA	**Stephens Creek**	**49.83**	**185**	*e*P	**P**	**01 04 22.3**	**+0.3**
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**01 05 27.3**	**-1.2**
	1.1nm,0.5s,baz=109,slow=9.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**01 05 27.3**	**-1.2**
MKAR	**Makanchi Array**	**59.50**	**314**	P	**P**	**01 05 31.9**	**0.0**
	0.5nm,0.5s,baz=88,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**59.50**	**314**	P	**P**	**01 05 31.9**	**0.0**
KURK	**Kurchatov**	**62.30**	**318**	P	**P**	**01 05 50.8**	**0.0**
	0.9nm,0.5s,baz=92,slow=7.5,SNR=12						
KURK	**Kurchatov**	**62.30**	**318**	*e*P	**P**	**01 05 49.9**	**-0.9**
	3.1nm,1.1s						
YKA	**Yellowknife Ar**	**78.22**	**28**	P	**P**	**01 07 26.9**	**-1.0**
	0.1nm,0.6s,baz=286,slow=5.1,SNR=3.9						
YKA	**Yellowknife Ar**	**78.22**	**28**	P	**P**	**01 07 26.9**	**-1.0**
NVAR	**Mina Array Bea**	**82.94**	**52**	P	**P**	**01 07 54.6**	**+0.5**
	0.2nm,0.5s,baz=268,slow=6.1,SNR=2.8						
NVAR	**Mina Array Bea**	**82.94**	**52**	P	**P**	**01 07 54.5**	**+0.5**
ARCES	**ARCESS Array B**	**83.38**	**342**	P	**P**	**01 07 55.9**	**+0.5**
	4.4nm,0.9s,baz=69,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**83.38**	**342**	P	**P**	**01 07 55.9**	**+0.5**
FINES	**FINESS Array B**	**87.83**	**336**	P	**P**	**01 08 16.6**	**-1.0**
	3.5nm,1.0s,baz=66,slow=4.7,SNR=10						
FINES	**FINESS Array B**	**87.83**	**336**	P	**P**	**01 08 16.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**133.49**	**309**	PKP	**PKPdf**	**01 14 45.4**	**-0.2**
	0.7nm,0.9s,baz=53,slow=4.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**133.49**	**309**	PKP	**PKPdf**	**01 14 45.4**	**-0.2**
LPAZ	**La Paz**	**146.87**	**92**	PKPbc	**PKPbc**	**01 15 12.6**	**+0.3**
	0.6nm,0.5s,baz=304,slow=3.6,SNR=3.8						
LPAZ	**La Paz**	**146.87**	**92**	PKPbc	**PKPbc**	**01 15 12.6**	**+0.3**

*VIE **14** 00:59:37.3±0.2, 48.°06N×16.°56E, h10km±2km, mb2.1/2, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.3km az=106.0 4 km SW of Enzersdorf a.d. Fischa*
*CSEM **14** 00:59:37.8±0.2, 48.°12N×16.°56E, h15km, ML2.8/11, Error ellipse: s-maj=5.0km s-min=4.0km az=126.0*
*IPEC **14** 00:59:38.0±0.1, 48.°06N×16.°61E, h10km±2km, ML2.0/2, Error ellipse: s-maj=1.1km s-min=0.7km az=116.0*
*PRU **14** 00:59:39.6, 48.°12N×16.°43E, h10km*

ISC 14 00:59:37.0±0.9, 48.°10N±0.°02×16.°58E±0.°02, h13km±9km, n40, σ0s72/69, 4C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**0.36**	**74**	*e*PG	**Pb**	**00 59 45.1**	**-0.1**
ZST				*e*SG	**Sg**	**00 59 49.7**	**+0.4**
ZST	**Bratislava**	**0.36**	**74**	*e*Pg	**Pb**	**00 59 44.9**	**-0.3**
	baz=248						
ZST				*e*Sg	**Sg**	**00 59 49.7**	**+0.4**
SOP	**Sopron**	**0.41**	**182**	*e*Pg	**Pg**	**00 59 44.9**	**-0.3**
	baz=5.6						
SOP				⇓*e*Sg	**Sg**	**00 59 50.1**	**-0.7**
CONA	**Conrad Observa**	**0.51**	**251**	⇓*e*Pg	**Pb**	**00 59 47.7**	**-0.1**
	5.2nm,0.1s,SNR=30						
CONA				⇓*i*Sg	**Sg**	**00 59 54.2**	**+0.3**
	25nm,0.2s						
CONA	**Conrad Observa**	**0.51**	**251**	Pg	**Pb**	**00 59 47.7**	**-0.1**
	5.2nm,0.1s,SNR=30						
CONA				Sg	**Sg**	**00 59 54.2**	**+0.3**
	25nm,0.2s						
SMOL	**Smolenice**	**0.70**	**53**	*e*PG	**Pn**	**00 59 51.8**	**-0.8**
SMOL	**Smolenice**	**0.70**	**53**	*e*Pg	**Pn**	**00 59 51.8**	**-0.8**
KRUC	**Moravsky**	**0.97**	**353**	*e*Pg	**Pn**	**00 59 56.9**	**+0.6**
	baz=172						
KRUC				*e*Sg	**Sn**	**01 00 10.2**	**+0.3**
	40nm,0.3s,baz=172						
ARSA	**Arzberg**	**1.11**	**220**	⇑*e*Pg	**Pb**	**00 59 58.0**	**0.0**
	5.4nm,0.2s,SNR=27						
ARSA				⇑*i*Sg	**Sb**	**01 00 12.7**	**+0.4**
	45nm,0.5s						
ARSA	**Arzberg**	**1.11**	**220**	Pn	**Pb**	**00 59 57.9**	**0.0**
ARSA				Sg	**Sb**	**01 00 12.7**	**+0.4**
	45nm,0.5s						
VRAC	**Vranov**	**1.21**	**0**	*e*Pg	**Pg**	**01 00 00.6**	**+0.3**
	baz=179						
VRAC				*e*Sg	**Sg**	**01 00 17.1**	**+1.0**
	10nm,0.2s,baz=179						
KOLL	**Kolacno**	**1.31**	**68**	*e*PG	**Pg**	**01 00 02.0**	**-0.1**
KOLL	**Kolacno**	**1.31**	**68**	*e*Pg	**Pg**	**01 00 02.0**	**-0.1**
TREC	**Trest**	**1.40**	**329**	*e*PG	**Pg**	**01 00 03.7**	**-0.2**
TREC				*e*SG	**Sg**	**01 00 22.0**	**-0.1**
TREC	**Trest**	**1.40**	**329**	Pg	**Pg**	**01 00 03.7**	**-0.2**
TREC				Sg	**Sg**	**01 00 22.0**	**-0.1**
VYHS	**Vyhne**	**1.56**	**74**	*e*PN	**Pn**	**01 00 04.8**	**+0.5**
VYHS				*e*PG	**Pg**	**01 00 08.4**	**+1.5**
VYHS				*e*SN	**Sb**	**01 00 25.1**	**-0.1**
VYHS	**Vyhne**	**1.56**	**74**	*e*Pn	**Pn**	**01 00 04.8**	**+0.5**
MOA	**Molln**	**1.57**	**262**	⇓*i*Pn	**Pb**	**01 00 06.3**	**+0.4**
MOA				⇑*e*Pg	**Pg**	**01 00 07.5**	**+0.3**
	2.1nm,0.1s,SNR=16						
MOA				⇓*i*Sn	**Sb**	**01 00 26.2**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**01 00 28.6**	**+1.0**
	11nm,0.3s						
MOA	**Molln**	**1.57**	**262**	Pn	**Pb**	**01 00 06.3**	**+0.4**
MOA	**Molln**	**1.57**	**262**	Pg	**Pg**	**01 00 07.5**	**+0.3**
	2.1nm,0.1s,SNR=16						
MOA				Sn	**Sb**	**01 00 26.2**	**+0.5**
MOA				*e*Sg	**Sg**	**01 00 27.9**	**+0.3**
	baz=82						
KOGS	**Kog**	**1.67**	**188**	*i* Pn	**Pg**	**01 00 09.0**	**+0.1**
KOGS				*i* Sn	**Sg**	**01 00 30

Error ellipse: s-maj=26.9km s-min=11.3km az=8.7
CSEM ***14*** *01:16:18.5±2.9, 27.80N×57.48E, h30km, mb3.3/3, Error ellipse: s-maj=76.8km s-min=50.8km az=171.0*
OMAN ***14*** *01:16:38.2±0.8, 26.20N×57.08E, h0km±2km, Error ellipse: s-maj=20.4km s-min=6.7km az=5.0*

ISC 14 01:16:11.8±1.2, 28.19N±0.09×57.5E±0.2, h30km, n14, σ2§03/15, mb3.6/3, 3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.48**	**205**		P		**Pn**	**01 16 51.5**	**+1.3**
	SNR=45								
BANOM				⇓	S		**Pb**	**01 16 54.8**	**-0.9**
BANOM	**Banah**	**2.48**	**205**		P		**Pn**	**01 16 51.5**	**+1.3**
	SNR=45								
BANOM					S		**Sn**	**01 17 17.7**	**-1.8**
ASHO	**Ashiyiah**	**3.71**	**200**		P		Pn	01 17 10.5	+3.5
	SNR=16								
ASHO	**Ashiyiah**	**3.71**	**200**		P		**Pn**	**01 17 09.4**	**+2.3**
	SNR=16								
FAQ	**Al Faqa, Dubai**	**3.81**	**206**		P		**Pn**	**01 17 10.6**	**+2.1**
ASUD	**Al Ashush, Dub**	**4.03**	**209**		P		**Pn**	**01 17 13.8**	**+2.4**
	SNR=10.0								
ASUD	**Al Ashush, Dub**	**4.03**	**209**		P		**Pn**	**01 17 13.8**	**+2.4**
	SNR=10.0								
HOQ	**Hoqain**	**4.59**	**182**	⇓	P		**Pn**	**01 17 19.5**	**+0.3**
HOQ	**Hoqain**	**4.59**	**182**		P		**Pn**	**01 17 19.5**	**+0.3**
ARQ	**Araqi**	**4.90**	**190**	⇓	P		**Pn**	**01 17 26.6**	**+3.1**
ARQ	**Araqi**	**4.90**	**190**		P		**Pn**	**01 17 26.6**	**+3.1**
BRTR	**Keskin Array B**	**22.79**	**306**		P		**P**	**01 21 12.1**	**0.0**
	0.9nm,0.9s,baz=99,slow=9.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**32.60**	**30**		P		**P**	**01 22 40.7**	**+0.2**
	0.7nm,0.4s,baz=244,slow=9.5,SNR=4.4								
TORD	**Torodi Ar. Bea**	**53.84**	**266**		P		**P**	**01 25 30.9**	**-1.4**
	0.4nm,0.6s,baz=65,slow=7.2,SNR=7.8								

SSNC ***14*** *01:23:10.4±5.8, 18.69N×70.17W, h50km±999km, MD4.3, ML4.0*
IDC ***14*** *01:23:11.2±1.7, 19.93N×70.01W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/22, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=51.0km s-min=24.1km az=28.0*
ISCJB ***14*** *01:23:12.1±0.4, 19.82N±0.06×70.25W±0.03, h24km, mb3.5/6, Error ellipse: s-maj=8.8km s-min=3.1km az=16.1*
NEIC ***14*** *01:23:12.3±0.5, 19.74N×70.24W, h10km, mb3.9/1, Error ellipse: s-maj=12.3km s-min=6.5km az=210.0*

ISC 14 01:23:13.7±0.6, 19.71N±0.08×70.20W±0.04, h24km, n28, σ1§82/40, mb3.5/5, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.26**	**235**	*e*Pn			**Pn**	**01 23 34.2**	**-1.6**
SDDR				*e*Sn			**Sb**	**01 23 51.7**	**-0.9**
LSP	**Las Mesas**	**3.32**	**117**	*e*Pn			**Pn**	**01 24 05.7**	**+1.5**
LSP				*e*Sn			**Sb**	**01 24 47.0**	**-5.0**
CRPR	**Cabo Rojo, PR**	**3.38**	**120**	*e*Pn			**Pn**	**01 24 06.6**	**+1.5**
CRPR				*e*Sn			**Sb**	**01 24 49.1**	**-4.7**
LRS	**Lares**	**3.48**	**113**	*e*Pn			**Pn**	**01 24 06.9**	**+0.5**
LRS				*e*Sn			**Sn**	**01 24 50.0**	**+3.2**
OBIP	**Obispado Ponce**	**3.79**	**115**	*e*Pn			**Pn**	**01 24 11.1**	**+0.5**
OBIP				*e*Sn			**Sn**	**01 24 56.2**	**+1.7**
CELP	**Cerrillos**	**3.80**	**115**	*e*Pn			**Pn**	**01 24 12.1**	**+1.3**
CELP				*e*Sn			**Sn**	**01 24 57.1**	**+2.4**
MASC	**Masc**	**3.82**	**278**	*e*P			**Pn**	**01 24 09.6**	**-1.4**
MASC				*e*S			**Sn**	**01 24 55.6**	**+0.4**
SJG	**San Juan**	**4.15**	**112**	Pn			**Pn**	**01 24 15.7**	**0.0**
	baz=270,slow=13								
SJG				Sn			**Sn**	**01 25 02.8**	**-0.7**
	18nm,0.3s,baz=270,slow=20,SNR=5.0								
SJG	**San Juan**	**4.15**	**112**	*e*Pn			**Pn**	**01 24 15.3**	**-0.4**
SJG				*e*Sn			**Sn**	**01 25 06.1**	**+2.7**
CBYP	**Canovanas**	**4.35**	**109**	*e*Pn			**Pn**	**01 24 18.7**	**+0.2**
CBYP				*e*Sn			**Sn**	**01 25 06.4**	**-2.1**
MOAC	**Moa**	**4.57**	**283**	*e*P			**Pn**	**01 24 20.4**	**-0.9**
MOAC				*e*S			**Sn**	**01 25 12.9**	**-0.8**
	comp=N,33nm,0.7s								
MOAC				*e*					
	comp=E,25nm,0.7s								
MTP	**Monte Pirata**	**4.69**	**109**	*e*Pn			**Pn**	**01 24 23.8**	**+0.8**
MTP				*e*Sn			**Sn**	**01 25 14.1**	**-2.5**
RCC	**Rio Carpintero**	**5.18**	**274**	*e*P			**Pn**	**01 24 29.2**	**-0.5**
RCC				*e*S			**Sn**	**01 25 28.2**	**-0.6**
	comp=N,24nm,0.2s								
RCC				*e*					
	comp=E,30nm,0.2s								
LMGC	**Las Mercedes**	**6.41**	**274**	*e*P			**Pn**	**01 24 44.7**	**-2.0**
LMGC				*e*S			Sn	01 25 50.7	-8.4
	comp=N,14nm,0.7s								
LMGC				*e*					
	comp=E,15nm,0.8s								
SDV	**Santo Domingo**	**10.77**	**182**	*e*Pn			**Pn**	**01 25 47.8**	**+1.1**
	comp=E,6.1nm,0.6s								
TKL	**Tuckaleechee C**	**19.88**	**326**		P		**P**	**01 27 43.8**	**+0.5**
	comp=E,0.1nm,0.3s,baz=182,slow=15,SNR=3.1								
TKL	**Tuckaleechee C**	**19.88**	**326**		P		**P**	**01 27 43.8**	**+0.5**
OTAV	**Otavalo**	**20.98**	**204**	*e*P			Pn	01 27 59.6	+1.1
	comp=E,6.5nm,1.1s								
TXAR	**Lajitas Array**	**31.82**	**294**		P		**P**	**01 29 37.7**	**+0.9**
	comp=E,0.1nm,0.7s,baz=99,slow=11,SNR=2.1								
TXAR	**Lajitas Array**	**31.82**	**294**		P		**P**	**01 29 37.7**	**+0.9**
SCHQ	**Schefferville**	**35.15**	**3**		P		**P**	**01 30 04.7**	**-0.8**
	comp=E,1.7nm,0.9s,baz=212,slow=9.5,SNR=3.5								
SCHQ	**Schefferville**	**35.15**	**3**		P		**P**	**01 30 04.7**	**-0.8**
NVAR	**Mina Array Bea**	**45.44**	**305**		P		**P**	**01 31 33.6**	**+2.5**
	comp=E,0.9nm,0.9s,baz=103,slow=7.5,SNR=6.2								
NVAR	**Mina Array Bea**	**45.44**	**305**		P		**P**	**01 31 33.6**	**+2.5**
YKA	**Yellowknife Ar**	**52.45**	**336**		P		**P**	**01 32 23.5**	**-0.6**
	comp=E,0.3nm,0.8s,baz=115,slow=7.3,SNR=3.8								
YKA	**Yellowknife Ar**	**52.45**	**336**		P		**P**	**01 32 23.6**	**-0.6**
ILAR	**Eielson Array**	**66.67**	**333**		P		**P**	**01 34 02.8**	**+0.5**
	comp=E,0.4nm,1.0s,baz=78,slow=6.5,SNR=2.5								
ILAR	**Eielson Array**	**66.67**	**333**		P		**P**	**01 34 02.8**	**+0.5**

NIED ***14*** *01:36:00, 47.50N×153.40E, h8km, Mw4.4 Best double couple: M0 4.94000×10^15 NP1:φ=118.00000°, δ=82.00000°, λ=-68.00000°. NP2:φ=226.00000°, δ=23.00000°, λ=-160.00000°.*
SZGRF ***14*** *01:36:09.9, 47.82N×153.14E, h33km, mb4.5, Kuril Islands, Russia*
BJI ***14*** *01:36:13.5, 47.72N×153.67E, h59km, mB4.9/18, mb4.6/30, Ms4.5/11, Ms7 4.1/11*
IDC ***14*** *01:36:15.9±0.7, 47.40N×153.09E, h58km±5km, mb4.0/26, mb1 4.2/29, mb1mx4.1/32, mbtmp4.0/29, MS3.4/11, Ms1 3.5/11, ms1mx3.3/31, Error ellipse: s-maj=17.5km s-min=10.7km az=154.0*
SKHL ***14*** *01:36:16.1±1.5, 47.33N×153.48E, h94km±6km, mb5.2/7, Ms5.3/1, msh6.0/1*
ISCJB ***14*** *01:36:16.6±0.6, 47.58N±0.04×153.07E±0.03, h69km±5km, mb4.3/94, Error ellipse: s-maj=7.5km s-min=3.1km az=164.0*
MOS ***14*** *01:36:16.7±1.0, 47.59N×153.09E, h72km, mb4.6/44, Error ellipse: s-maj=9.3km s-min=6.4km az=83.6*
NEIC ***14*** *01:36:17.4±0.2, 47.74N×152.99E, mb4.5/41, Error ellipse: s-maj=8.7km s-min=3.4km az=160.0*

ISC 14 01:36:16.7±0.5, 47.46N±0.06×153.18E±0.05, h63km±3km, h62km:pP-P, n485, σ1§13/526, mb4.4/94, 109C-112D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.77**	**30**	*e*PN			**Pn**	**01 37 13.0**	**+0.8**
SKR				*e*S			**Sn**	**01 37 55.0**	**-0.2**
SKR					pmax	pmax			
	comp=Z,80nm,0.5s								
SKR					pmax	pmax			
	comp=N,80nm,0.3s								
SKR					pmax	pmax			
	comp=E,80nm,0.5s								
SKR					smax	smax			
	comp=N,590nm,0.2s								
SKR					smax	smax			
	comp=E,260nm,0.2s								
SKR	**Severo-Kuril's**	**3.77**	**30**	*e*P			**Pn**	**01 37 13.0**	**+0.8**
SKR					AMB	AMB		01 37 17.6	
	comp=E,80nm,0.2s								
SKR					AMB	AMB		01 37 17.6	
	comp=E,80nm,0.5s								
SKR				*e*S			**Sn**	**01 37 55.0**	**-0.2**
SKR					A	A		01 38 05.0	
	comp=E,590nm,0.2s								
SKR					A	A		01 38 05.0	
	comp=E,260nm,0.2s								
SKR					A	A		01 38 05.0	
	comp=E,110nm,0.5s								
KUR	**Kuril'sk**	**4.30**	**241**	⇑ *i*PN			**Pn**	**01 37 21.4**	**+1.9**
KUR				*e*S			**Sn**	**01 38 11.0**	**+2.7**
KUR					pmax	pmax			
	comp=N,50nm,0.7s								
KUR					pmax	pmax			
	comp=Z,340nm,0.7s								
KUR					pmax	pmax			
	comp=E,130nm,0.8s								
KUR					smax	smax			
	comp=N,840nm,0.5s								
KUR					smax	smax			
	comp=E,880nm,0.8s								
KUR					smax	smax			
	comp=N,3μm,1.0s								
KUR					smax	smax			
	comp=E,3μm,1.5s								
KUR	**Kuril'sk**	**4.30**	**241**	⇑ *i*P			**Pn**	**01 37 21.4**	**+1.9**
KUR					AMB	AMB		01 37 22.8	
	comp=E,50nm,0.7s								
KUR					AMB	AMB		01 37 22.8	
	comp=E,340nm,0.7s								
KUR					AMB	AMB		01 37 22.8	
	comp=E,130nm,0.8s								
KUR				*e*S			**Sn**	**01 38 11.0**	**+2.7**
KUR					A	A		01 38 28.5	
	comp=E,840nm,0.5s								
KUR					A	A		01 38 28.5	
	comp=E,880nm,0.8s								
KUR					A	A		01 38 28.8	
	comp=E,3μm,1.0s								
KUR					A	A		01 38 28.8	
	comp=E,3μm,1.5s								
YUK	**Yuzh-Kuril'sk**	**6.16**	**239**	*i* PN			Pn	01 37 52.1	+7.2
YUK				*i* S			Sn	01 39 05.4	+12
YUK					pmax	pmax			
	comp=N,101nm,0.2s								
YUK					pmax	pmax			
	comp=Z,182nm,0.2s								
YUK					pmax	pmax			
	comp=E,115nm,0.3s								
YUK					MLR	MLR			
	comp=Z,188nm,8.0s								
YUK					MLR	MLR			
	comp=E,143nm,8.0s								
YUK					MLR	MLR			
	comp=N,59nm,8.0s								
YUK	**Yuzh-Kuril'sk**	**6.16**	**239**	*e*P			Pn	01 37 52.2	+7.3
YUK					AMB	AMB		01 37 56.6	
	comp=N,115nm,0.3s								
YUK					AMB	AMB		01 37 56.6	
	comp=N,101nm,0.2s								
YUK					AMB	AMB		01 37 56.6	
	comp=N,182nm,0.2s								
YUK					AMS	AMS		01 40 24.1	
	comp=N,59nm,8.5s								
YUK					AMS	AMS		01 40 24.1	
	comp=N,143nm,8.5s								
YUK					AMS	AMS		01 40 24.1	
	comp=N,188nm,8.5s								
PEA0B	**Petropavlovsk-**	**6.36**	**25**	*e*Pn			Pn	01 37 51.9	+4.2
PETK	**Petropavlovsk-**	**6.36**	**25**	P			**Pn**	**01 37 46.2**	**-1.5**
	baz=238,slow=10.0,SNR=3.4								
PETK				S			Sn	01 39 12.6	+14
	baz=173,slow=12,SNR=1.8								
PETK				LR			LR	01 40 19.2	
	comp=N,188nm,19.8s,baz=343,slow=38								
PETK	**Petropavlovsk-**	**6.36**	**25**	PN			**Pn**	**01 37 46.2**	**-1.5**
PETK				MLR			MLR		
	comp=Z,188nm,19.8s								
PETK	**Petropavlovsk-**	**6.36**	**25**	P			**Pn**	**01 37 46.2**	**-1.5**
PETK				S			Sn	01 39 12.6	+14
NEM2	**Nemuro 2**	**6.64**	**235**	P			Pn	01 37 48.8	-2.7
NEM2				*e*S			Sn	01 39 00.2	-5.5
JNK	**Nakash**	**7.09**	**240**	P			**Pn**	**01 37 57.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.12**	**270**	⇑ *i*PN			Pn	01 38 02.4	+4.3
YSS				*e*S			**Sn**	**01 39 21.0**	**+3.6**
YSS					pmax	pmax			
	comp=Z,140nm,0.7s								
YSS					smax	smax			
	comp=N,70nm,0.9s								
YSS					MLR	MLR			
	comp=Z,400nm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.12**	**270**	*e*Pn			**Pn**	**01 38 01.0**	**+2.9**
YSS	**Yuzh-Sakhalins**	**7.12**	**270**	⇑ *i*PN			Pn	01 38 02.4	+4.3
YSS					AMB	AMB		01 38 03.2	
	comp=Z,140nm,0.7s								
YSS				*e*S			**Sn**	**01 39 21.0**	**+3.6**
YSS				A		A		01 39 25.3	
	comp=Z,70nm,0.9s								
YSS					AMS	AMS		01 40 53.0	
	comp=Z,400nm,14.0s								
JTKR	**Abashiri--Toko**	**7.36**	**245**	P			**Pn**	**01 38 02.5**	**+1.1**
JAK	**Akkeshi**	**7.46**	**236**	*e*S				01 39 20.2	
UGL	**Uglegorsk**	**7.59**	**286**	*e*P			Pn	01 38 08.5	+4.0
UGL					AMB	AMB		01 38 10.0	
	comp=Z,80nm,0.6s								
JMP	**Maruseppu**	**7.68**	**247**	P			**Pn**	**01 38 07.4**	**+1.5**
TYV	**Tymovskoe**	**7.69**	**300**	*e*P			**Pn**	**01 38 08.2**	**+2.3**
TYV					AMB	AMB		01 38 13.0	
	comp=Z,88nm,1.2s								
TYV					AMB	AMB		01 38 13.0	
	comp=Z,120nm,1.2s								
TYV					AMB	AMB		01 38 13.0	
	comp=Z,18nm,1.0s								
JAR	**Ashorobuto**	**7.82**	**241**	P			**Pn**	**01 38 08.0**	**+0.3**
ASAJ	**Asahikawa**	**8.11**	**250**	P			**Pn**	**01 38 13.8**	**+2.2**
	comp=Z,2.4nm,0.3s,baz=72,slow=15,SNR=11								
ASAJ					LR		LR	01 41 07.6	
	comp=Z,248nm,21.5s,baz=153,slow=36								
ASAJ	**Asahikawa**	**8.11**	**250**	PN			**Pn**	**01 38 13.9**	**+2.2**
ASAJ					pmax	pmax			
	comp=Z,2.0nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,248nm,21.5s								
ASAJ	**Asahikawa**	**8.11**	**250**	*e*Pn			**Pn**	**01 38 14.8**	**+3.1**
JKK2	**Kamakawa 2**	**8.13**	**248**	P			**Pn**	**01 38 13.7**	**+1.7**
JCH	**Churui**	**8.47**	**239**	P			**Pn**	**01 38 14.5**	**-2.0**
JCH				*e*S			Sn	01 39 44.7	-5.8
JBT2	**Biratori 2**	**8.96**	**242**	P			**Pn**	**01 38 22.9**	**-0.4**
ERM	**Erimo**	**8.96**	**236**	*e*PN			**Pn**	**01 38 25.6**	**+2.3**
ERM	**Erimo**	**8.96**	**236**	*e*Pn			**Pn**	**01 38 25.6**	**+2.3**
JNBK	**Urakawa-nobuka**	**9.03**	**239**	P			Pn	01 38 21.2	-3.0
NKL	**Nikolayevsk**	**9.81**	**310**	*i* P			**Pn**	**01 38 35.8**	**+1.0**
NKL					AMB	AMB		01 38 38.8	
	comp=Z,40nm,1.2s								
NKL					AMB	AMB		01 38 38.8	
	comp=Z,70nm,1.2s								
NKL					AMB	AMB		01 38 38.8	
	comp=Z,80nm,1.2s								
FX1	**Attu Island--F**	**13.90**	**60**	P			Pn	01 39 26.5	-3.9
	comp=Z,5.1nm,0.3s,baz=122,slow=19,SNR=11								
FX1					S		Sn	01 41 51.0	-12
	comp=Z,5.7nm,0.3s,baz=110,slow=23,SNR=7.8								
FX1	**Attu Island--F**	**13.90**	**60**	P			Pn	01 39 26.5	-3.9
FX1					pmax	pmax			
	comp=Z,5.0nm,0.3s								
FX1	**Attu Island--F**	**13.90**	**60**	P			Pn	01 39 26.5	-3.9
FX1				S			Sn	01 41 51.0	-12
USRK	**Ussuriysk Arra**	**15.11**	**265**	P			**Pn**	**01 39 46.6**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=73,slow=13,SNR=18								
USRK					LR		LR	01 45 18.1	
	comp=Z,95nm,20.3s,baz=91,slow=36								
MJAR	**Matsushiro Arr**	**15.55**	**231**	P			**Pn**	**01 39 48.5**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=8.6								
MJAR					LR		LR	01 45 31.8	
	comp=Z,62nm,19.0s,baz=65,slow=36								
MJAR	**Matsushiro Arr**	**15.55**	**231**	P			**Pn**	**01 39 48.5**	**-3.5**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR					MLR	MLR			
	comp=Z,62nm,19.0s								
MJAR	**Matsushiro Arr**	**15.55**	**231**	P			**Pn**	**01 39 48.5**	**-3.5**
MAJO	**Matsushiro**	**15.55**	**231**	*e*P			**P**	**01 39 55.3**	**+0.2**
MAJO					pmax	pmax			
	comp=Z,44nm,1.2s								
MAJO	**Matsushiro**	**15.55**	**231**	*e*Pn			**P**	**01 39 55.3**	**+0.2**
	comp=Z,44nm,1.2s								
MAT	**Matsushiro**	**15.55**	**231**	P			**P**	**01 39 55.1**	**0.0**
MDJ	**Mudanjiang**	**16.61**	**269**	P			**Pn**	**01 40 05.8**	**+0.6**
MDJ				*p*P			**pP**	**01 40 18.9**	**-1.1**
MDJ				*s*P			**sP**	**01 40 25.5**	**-2.5**
MDJ				S			**Sn**	**01 43 08.1**	**-0.6**
MDJ					PcP		**PcP**	**01 44 54.0**	**+2.2**
MDJ					pmax	pmax			
	comp=Z,15nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,200nm,4.1s								
ZEA	**Zeya**	**17.56**	**301**	*e*P			**Pn**	**01 40 14.1**	**-2.8**
ZEA					AMB	AMB		01 40 17.3	
	comp=Z,13nm,0.8s								
CLNS	**Chul'man**	**19.60**	**309**	*e*P			Pn	01 40 46.3	+4.9
CLNS					pmax	pmax			
	comp=Z,14nm,1.0s								
CLNS					pmax	pmax			
	comp=N,7.0nm,1.0s								
CLNS					pmax	pmax			
	comp=E,9.0nm,1.0s								
CN2	**Changchun**	**19.69**	**270**	*e*P			**P**	**01 40 39.8**	**-0.7**
CN2					PP		pP	01 40 59.8	+5.8
CN2				*e*S			**S**	**01 44 12.1**	**-7.0**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CN2					pmax	pmax			
	comp=Z,400nm,4.0s								
KSRS	**Korea Array**	**21.06**	**251**		P		**P**	**01 40 55.7**	**+0.3**
	comp=Z,14nm,1.0s,baz=56,slow=10,SNR=15								
KSRS	**Korea Array**	**21.06**	**251**		P		**P**	**01 40 55.7**	**+0.3**
KSRS					pmax	pmax			
	comp=Z,14nm,1.0s								
KSAR	**Wonju Array Be**	**21.09**	**251**		P		**P**	**01 40 55.7**	**0.0**
KSAR	**Wonju Array Be**	**21.09**	**251**		P		**P**	**01 40 55.7**	**0.0**
BILL	**Bilibino**	**21.70**	**13**	⇓ *i*P			**P**	**01 41 03.4**	**+1.5**
BILL				*e*S			Sn	01 45 04.4	-6.2
BILL					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BOD	**Bodaibo**	**25.58**	**308**	*e*P			**P**	**01 41 40.9**	**+1.4**
BJI	**Beijing**	**27.54**	**268**		P		**P**	**01 41 58.6**	**+1.4**
BJI					pmax	pmax			
	comp=Z,5.0nm,0.5s								
BJI					LR	LR			
	comp=Z,80nm,23.9s								
NJ2	**Nanjing**	**30.25**	**252**	*e*P			**P**	**01 42 23.8**	**+2.4**
NJ2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**30.29**	**273**	*e*P			**P**	**01 42 21.3**	**-0.6**
HHC					pP		**pP**	**01 42 37.3**	**0.0**
HHC					PP		PP	01 43 22.5	-8.6
HHC					S		**S**	**01 47 15.3**	**-2.0**
HHC					pmax	pmax			
	comp=Z,15nm,0.8s								
HHC					pmax	pmax			
	comp=Z,120nm,5.4s								
HHC					LR	LR			
	comp=N,250nm,12.6s								
HHC					LR	LR			
	comp=E,240nm,11.0s								
HHC					LR	LR			
	comp=Z,190nm,12.0s								
ULN	**Ulaanbaatar**	**30.71**	**288**	*e*P			**P**	**01 42 23.9**	**-1.7**
ULN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ULN	**Ulaanbaatar**	**30.71**	**288**	*e*P			**P**	**01 42 23.9**	**-1.7**
	comp=Z,1.8nm,0.8s								
SONM	**Songino Array**	**31.14**	**288**		P		**P**	**01 42 28.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=68,slow=8.1,SNR=6.8								
SONM					PcP		**PcP**	**01 45 22.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=90,slow=1.7,SNR=4.6								
SONM					LR		LR	01 56 05.7	
	comp=Z,110nm,18.6s,baz=29,slow=38								
SONM	**Songino Array**	**31.14**	**288**		P		**P**	**01 42 28.9**	**-0.5**
SONM								01 45 22.1	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM					MLR	MLR			
	comp=Z,110nm,18.6s								
SONM	**Songino Array**	**31.14**	**288**		P		**P**	**01 42 28.9**	**-0.5**
SONM					PcP		**PcP**	**01 45 22.1**	**-0.9**
GUMO	**Guam**	**34.47**	**194**		LR		LR	01 55 13.9	
	comp=Z,85nm,18.5s,baz=107,slow=33								
COLD	**Coldfoot**	**34.73**	**35**	*e*P			**P**	**01 43 01.7**	**+1.6**
	comp=Z,4.0nm,0.6s								
MCK	**McKinley**	**35.09**	**41**	*e*P			**P**	**01 43 04.1**	**+0.7**
MCK					pmax	pmax			
	comp=Z,8.0nm,1.0s								
MCK	**McKinley**	**35.09**	**41**	*e*P			**P**	**01 43 04.0**	**+0.7**
	comp=Z,7.7nm,1.0s								
COLA	**College**	**35.56**	**39**	*e*P			**P**	**01 43 07.8**	**+0.5**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.5s								
COLA	**College**	**35.56**	**39**	*e*P			**P**	**01 43 07.8**	**+0.5**
	comp=Z,3.6nm,0.5s								
XAN	**Xi'an**	**35.62**	**264**		P		**P**	**01 43 08.8**	**+0.5**
XAN					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ILAR	**Eielson Array**	**35.97**	**39**		P		**P**	**01 43 11.2**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=260,slow=8.0,SNR=12								
ILAR	**Eielson Array**	**35.97**	**39**		P		**P**	**01 43 11.2**	**+0.3**
ILAR					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ILAR	**Eielson Array**	**35.97**	**39**		P		**P**	**01 43 11.2**	**+0.3**
LZH	**Lanzhou**	**37.91**	**271**	*e*P			**P**	**01 43 30.1**	**+2.2**
LZH					pP		**pP**	**01 43 43.5**	**-0.1**
LZH					pmax	pmax			
	comp=Z,13nm,1.0s								
GTA	**Gaotai**	**38.91**	**278**	*e*P			**P**	**01 43 38.5**	**+2.3**
GTA					pP		**pP**	**01 43 53.8**	**+1.9**
GTA					sP		**sP**	**01 44 01.0**	**+1.7**
GTA					pmax	pmax			
	comp=Z,3.0nm,0.9s								
CD2	**Chengdu**	**40.98**	**264**		P		**P**	**01 43 54.1**	**+0.7**
CD2					pP		**pP**	**01 44 09.3**	**+0.1**
CD2					PP		PP	01 45 32.5	+3.7
CD2					S		**S**	**01 50 00.9**	**0.0**
CD2					pmax	pmax			
	comp=Z,20nm,0.5s								
CD2					pmax	pmax			
	comp=Z,200nm,5.4s								
CD2					LR	LR			
	comp=N,350nm,5.9s					

MKAR MLR MLR
comp=Z,50nm,18.7s
MKAR Makanchi Array 46.66 297 P **P** **01 44 37.7 -1.0**
MKAR PcP **PcP** **01 46 11.3 -0.2**
KURK Kurchatov 47.01 303 LR LR 02 05 53.8
comp=Z,90nm,18.3s,baz=50,slow=38
KURK Kurchatov 47.01 303 *e*P **P** **01 44 40.5 -0.8**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 47.01 303 *e*P **P** **01 44 40.0 -1.3**
comp=Z,3.7nm,0.8s
RES Resolute Bay 50.15 19 P **P** **01 45 05.3 +0.3**
comp=Z,0.7nm,0.5s,baz=308,slow=4.8,SNR=7.0
RES Resolute Bay 50.15 19 P **P** **01 45 05.4 +0.3**
RES pmax pmax
comp=Z,1.0nm,0.5s
RES Resolute Bay 50.15 19 *e*P **P** **01 45 05.3 +0.3**
comp=Z,1.5nm,0.6s
LSA Lhasa 50.28 273 P **P** **01 45 07.8 +0.6**
LSA Lhasa 50.28 273 *e*P **P** **01 45 08.7 +1.5**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 50.28 273 *e*P **P** **01 45 08.7 +1.5**
comp=Z,5.3nm,0.6s
YKA Yellowknife Ar 50.33 37 P **P** **01 45 06.2 -0.4**
comp=Z,5.6nm,0.8s,baz=298,slow=7.2,SNR=56
YKA PcP **PcP** **01 46 24.5 +0.2**
comp=Z,0.8nm,0.8s,baz=302,slow=3.4,SNR=5.6
YKA Yellowknife Ar 50.33 37 P **P** **01 45 06.2 -0.4**
YKA 01 46 24.5
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 50.33 37 P **P** **01 45 06.2 -0.4**
YKA PcP **PcP** **01 46 24.6 +0.2**
BVAR Borovoye Array 50.45 309 P **P** **01 45 06.0 -1.6**
comp=Z,1.0nm,0.7s,baz=58,slow=6.0,SNR=6.8
BVAR PcP **PcP** **01 46 24.1 -0.8**
comp=Z,1.9nm,0.7s,baz=87,slow=2.3,SNR=8.7
BVAR LR LR 02 08 33.7
comp=Z,85nm,18.2s,baz=231,slow=38
BVAR Borovoye Array 50.45 309 P **P** **01 45 06.0 -1.6**
BVAR 01 46 24.1
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR MLR MLR
comp=Z,85nm,18.2s
BVAR Borovoye Array 50.45 309 P **P** **01 45 06.0 -1.6**
BVAR PcP **PcP** **01 46 24.1 -0.8**
BRVK Borovoye 50.48 309⇑ *i*P **P** **01 45 07.3 -0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 50.48 309 *e*P **P** **01 45 07.3 -0.6**
comp=Z,4.6nm,1.2s
CHTO Chiang Mai 52.33 256 *e*P **P** **01 45 22.5 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 52.33 256 *e*P **P** **01 45 22.5 +0.4**
comp=Z,9.8nm,0.8s
CMAR Chiang Mai Arr 52.58 256 P **P** **01 45 24.9 +0.9**
comp=Z,4.9nm,0.8s,baz=35,slow=7.3,SNR=16
CMAR LR LR 02 09 48.1
comp=Z,27nm,20.5s,baz=45,slow=38
CMAR Chiang Mai Arr 52.58 256 P **P** **01 45 24.9 +0.9**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR MLR MLR
comp=Z,27nm,20.5s
CMAR Chiang Mai Arr 52.58 256 P **P** **01 45 24.9 +0.9**
TAPN Taplejung 54.10 273 *e*P **P** **01 45 35.3 -0.1**
TAPN Taplejung 54.10 273 *e*P **P** **01 45 35.3 -0.1**
ARU Arti 54.52 317 *e*P **P** **01 45 36.5 -1.2**
ARU pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 54.52 317 *e*P **P** **01 45 36.5 -1.2**
comp=Z,2.8nm,0.8s
JIRN Jiri 54.94 274 *e*P **P** **01 45 41.6 +0.1**
JIRN Jiri 54.94 274 *e*P **P** **01 45 41.6 +0.1**
GUN Gumba 54.98 275 *e*P **P** **01 45 41.1 -0.7**
comp=Z,7.8nm,0.6s
GUN Gumba 54.98 275 *e*P **P** **01 45 41.1 -0.7**
comp=Z,7.8nm,0.6s
RAMN Ramite 55.12 273 *e*P **P** **01 45 42.6 -0.1**
RAMN Ramite 55.12 273 *e*P **P** **01 45 42.6 -0.1**
KKN Kakani 55.47 275 *e*P **P** **01 45 44.7 -0.5**
KKN Kakani 55.47 275 *e*P **P** **01 45 44.7 -0.5**
KKN Kakani 55.47 275 *e*P **P** **01 45 44.7 -0.5**
GKN Gorkha 55.76 276 *e*P **P** **01 45 46.8 -0.4**
comp=Z,10nm,0.6s
GKN Gorkha 55.76 276 *e*P **P** **01 45 46.8 -0.4**
comp=Z,10nm,0.6s
DANN Dangsing 56.13 276 *e*P **P** **01 45 50.2 +0.2**
comp=Z,17nm,0.6s
DANN Dangsing 56.13 276 *e*P **P** **01 45 50.2 +0.2**
comp=Z,17nm,0.6s
KOLN Koldanda 56.62 276 *e*P **P** **01 45 53.7 +0.4**
KOLN Koldanda 56.62 276 *e*P **P** **01 45 53.7 +0.4**
NEW Newport 56.71 53 *e*P **P** **01 45 53.8 +0.2**
NEW pmax pmax
comp=Z,1.0nm,0.6s
NEW Newport 56.71 53 *e*P **P** **01 45 53.8 +0.2**
comp=Z,1.3nm,0.6s
NEW Newport 56.71 53⇑P **P** **01 45 54.5 +1.0**
baz=56
ARCES ARCESS Array B 57.20 341 P **P** **01 45 56.4 -0.3**
comp=Z,5.9nm,1.0s,baz=12,slow=6.2,SNR=5.4
ARCES ARCESS Array B 57.20 341 P **P** **01 45 56.4 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 57.20 341 P **P** **01 45 56.4 -0.3**
C11A Tepee Creek (N 57.44 53⇓P **P** **01 45 59.0 +0.3**
baz=57
A13A Flathead Natio 57.77 51⇓P **P** **01 46 01.7 +0.6**
baz=58
C12B Naegeli Ranch, 57.94 53⇑P **P** **01 46 03.0 +0.9**
baz=58
ABKAR Akbulak array 58.01 310 *e*P **P** **01 46 01.3 -1.3**
comp=Z,0.5nm,0.4s
B13A Whitefish 58.08 52⇑P **P** **01 46 03.8 +0.6**
baz=58,SNR=5.7
A14A Double T Ranch 58.27 51⇓P **P** **01 46 05.3 +0.7**
baz=58
AKTO Aktyubinsk 58.29 312 PcP **PcP** **01 46 54.1 -0.9**
comp=Z,1.5nm,0.6s,baz=72,slow=5.4,SNR=5.3
AKTO Aktyubinsk 58.29 312 PcP **PcP** **01 46 54.1 -0.9**
A15A Johnson Ranch, 58.63 50⇑P **P** **01 46 07.1 0.0**
baz=58
B14A Marquette Ranc 58.72 51⇓P **P** **01 46 08.3 +0.5**
baz=58
C14A Swan Lake 58.83 52⇓P **P** **01 46 09.1 +0.6**
baz=58
D13A Huson 58.86 53⇓P **P** **01 46 09.4 +0.8**
baz=58
B15A Bradely Ranch, 59.12 51⇓P **P** **01 46 11.3 +0.8**
baz=59
A16A West Butte Ran 59.23 50⇓P **P** **01 46 11.6 +0.3**
baz=59
SLMT Seeley Lake 59.29 52 *e*P **P** **01 46 12.8 +1.1**
MSO Missoula 59.30 53 *e*P **P** **01 46 12.8 +1.0**
comp=Z,4.7nm,1.2s
MSO Missoula 59.30 53⇑P **P** **01 46 12.6 +0.9**
baz=59
WVOR Wild Horse Val 59.36 59 *e*P **P** **01 46 14.4 +2.1**
WVOR *e**PP **pP** **01 46 28.8 -0.2**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 59.36 59 *e*P **P** **01 46 14.4 +2.1**
comp=Z,4.3nm,0.9s
WVOR *e*pP **pP** **01 46 28.8 -0.2**
D14A Greenough 59.38 52⇓P **P** **01 46 12.8 +0.4**
baz=59,SNR=8.4
E13A Victor 59.40 53⇑P **P** **01 46 13.3 +0.8**
baz=59
C15A Salmond Ranch, 59.43 51⇓P **P** **01 46 13.5 +0.8**
baz=59,SNR=12
B16A M & M Farms, S 59.51 50⇓P **P** **01 46 13.5 +0.3**
baz=59
A17A Triple J Farms 59.70 49⇓P **P** **01 46 14.7 +0.3**
baz=59
F13A Darby 59.73 54⇓P **P** **01 46 15.5 +0.7**
baz=59
E14A Clinton 59.80 53⇓P **P** **01 46 16.0 +0.7**
baz=60
C16A Fuhringer Ranc 59.87 51⇑P **P** **01 46 16.3 +0.6**
baz=60,SNR=6.9
D15A Lincoln 59.93 52⇑P **P** **01 46 16.8 +0.7**
baz=60
SUMG Summit 59.99 4 *i*P **P** **01 46 17.0 +0.5**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 59.99 4 *e*P **P** **01 46 17.0 +0.5**
comp=Z,213nm,3.0s
SUMG Summit 59.99 4 *i*P **P** **01 46 17.0 +0.5**
comp=Z,6.3nm,0.8s
B17A L&G Farms, Che 60.06 50⇑P **P** **01 46 17.1 +0.3**
baz=60
A18A Metzger Ranch, 60.16 49⇑P **P** **01 46 18.0 +0.5**
baz=60
FFC Flin Flon 60.17 40 *e*P **P** **01 46 17.9 +0.4**
FFC pmax pmax
comp=Z,101nm,2.9s
FFC Flin Flon 60.17 40 *e*P **P** **01 46 17.9 +0.4**
comp=Z,101nm,2.9s
G13A Cobalt 60.22 55⇑P **P** **01 46 18.6 +0.5**
baz=60,SNR=6.0
E15A Deer Lodge 60.25 53⇓P **P** **01 46 19.1 +0.7**
baz=60
D16A Dana Ranch, Ca 60.46 52⇓P **P** **01 46 20.5 +0.8**
baz=60,SNR=5.7
C17A Wharram Farm, 60.49 51⇑P **P** **01 46 20.4 +0.5**
baz=60,SNR=8.8
HRY Holter Researc 60.51 52 *e*P **P** **01 46 21.8 +1.8**
B18A Beardsley Farm 60.52 49⇑P **P** **01 46 20.6 +0.5**
baz=60,SNR=6.1
I12A Atlanta 60.53 56⇑P **P** **01 46 21.6 +1.3**
baz=60
H13A Challis 60.54 55⇑P **P** **01 46 21.2 +0.9**
baz=60
WCN Washoe City 60.64 63⇓P **P** **01 46 23.5 +2.3**
baz=60
F15A Butte 60.70 53⇑P **P** **01 46 22.2 +0.7**
baz=60,SNR=6.3
E16A East Helena 60.70 52⇑P **P** **01 46 22.4 +1.0**
baz=60
A19A Klindworth Far 60.71 48⇓P **P** **01 46 21.8 +0.5**
baz=60
JOF Joensuu 60.72 334 *e*P **P** **01 46 20.5 -0.5**
JOF Joensuu 60.72 334 *e*p **P** **01 46 20.5 -0.5**
JOF Joensuu 60.72 334 *e*p **P** **01 46 20.5 -0.5**
LRM Limekiln Ridge 60.73 53 *e*P **P** **01 46 22.8 +1.0**
LRM *e*pP **pP** **01 46 39.4 +0.9**
EGMT Eagleton 60.77 50⇑P **P** **01 46 22.4 +0.6**
baz=60
D17A Six Diamond Ra 60.84 51⇓P **P** **01 46 23.1 +0.8**
baz=60,SNR=5.8
B19A Brinkman Farms 60.91 49⇑P **P** **01 46 23.5 +0.8**
baz=61
H14A Leadore 60.99 55⇓P **P** **01 46 24.1 +0.6**
baz=61
I13A Wildhorse Cree 61.02 56⇑P **P** **01 46 24.8 +1.1**
baz=61
HLID Hailey 61.08 56 *e*P **P** **01 46 24.3 +0.2**
comp=Z,2.5nm,1.0s
G15A Dillon 61.13 54⇓P **P** **01 46 25.5 +1.1**
baz=61
E17A Martinsdale 61.19 52⇑P **P** **01 46 25.7 +0.9**
baz=61,SNR=7.5
F16A Kennard Place, 61.20 53⇓P **P** **01 46 26.0 +1.2**
baz=61
D18A Linhart Farms, 61.27 51⇑P **P** **01 46 26.3 +1.1**
baz=61
BOZ Bozeman (W) 61.29 53 *e*P **P** **01 46 26.1 +0.6**
BOZ *e**PP **pP** **01 46 42.8 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 61.29 53 *e*P **P** **01 46 26.1 +0.6**
comp=Z,3.0nm,0.8s
BOZ *e*pP **pP** **01 46 42.8 +0.6**
BOZ Bozeman (W) 61.29 53⇑P **P** **01 46 26.0 +0.6**
baz=61,SNR=7.2
BOZ ⇑P **P** **01 46 26.0 +0.6**
baz=61,SNR=7.2
J13A Cove Ranch, Pi 61.32 56⇑P **P** **01 46 27.0 +1.4**
baz=61
C19A Slack Wire Ran 61.32 50⇑P **P** **01 46 25.9 +0.4**
baz=61,SNR=6.1
I14A Mackay 61.38 55⇓P **P** **01 46 27.4 +1.3**
baz=61
B20A Solberg Farm, 61.39 49⇓P **P** **01 46 26.7 +0.8**
baz=61
G16A Moss Hill, Enn 61.46 53⇓P **P** **01 46 27.5 +0.9**
baz=61,SNR=7.9
A21A Bergtoll Ranch 61.59 48⇓P **P** **01 46 27.9 +0.7**
baz=61
E18A Harlowton 61.62 51⇓P **P** **01 46 28.7 +1.1**
baz=61
F17A Fitzpatrick Pl 61.65 52⇑P **P** **01 46 28.7 +0.9**
baz=61
J14A Carey 61.73 56⇑P **P** **01 46 29.9 +1.5**
baz=61
D19A Cripps Ranch, 61.77 50⇓P **P** **01 46 29.4 +0.9**
baz=61
C20A Veseth Ranch, 61.87 49⇓P **P** **01 46 30.2 +1.0**
baz=62,SNR=7.1
G17A Pierce Place, 61.98 53⇓P **P** **01 46 31.2 +1.1**
baz=62
NVAR Mina Array Bea 62.07 63 P **P** **01 46 32.7 +1.8**
comp=Z,0.6nm,0.6s,baz=295,slow=6.6,SNR=3.1
NVAR pP **pP** **01 46 47.7 0.0**
comp=Z,1.5nm,0.8s,baz=288,slow=6.1,SNR=3.7
NVAR Mina Array Bea 62.07 63 P **P** **01 46 32.7 +1.8**
NVAR pP **pP** **01 46 47.7 0.0**
A22A Carney Farms, 62.09 47⇑P **P** **01 46 31.5 +0.9**
baz=62
H16A Russell Place, 62.10 53⇓P **P** **01 46 32.5 +1.5**
baz=62
F18A Big Timber 62.15 52⇓P **P** **01 46 32.2 +1.1**
baz=62
D20A Manuel Ranch, 62.21 50⇑P **P** **01 46 32.4 +0.9**
baz=62,SNR=5.3
E19A Rath Farm, Rou 62.28 51⇓P **P** **01 46 32.8 +0.8**
baz=62
J15A Blackfoot 62.29 55⇓P **P** **01 46 33.6 +1.4**
baz=62
SCO Scoresbysund 62.32 358 *i*P **P** **01 46 32.8 +1.1**
SCO pmax pmax
comp=Z,2.0nm,0.7s
SCO Scoresbysund 62.32 358 *i*P **P** **01 46 32.8 +1.1**
comp=Z,2.1nm,0.7s
K14A Jones Ranch, D 62.42 56⇓P **P** **01 46 34.4 +1.4**
baz=62
I16A Newdale 62.51 54⇓P **P** **01 46 34.8 +1.2**
baz=62
F19A Roth Farm, Mol 62.59 51⇑P **P** **01 46 35.3 +1.2**
baz=62
E20A Meyer Farm, Mu 62.60 50⇑P **P** **01 46 34.9 +0.8**
baz=62
H17A Grant Village 62.67 53⇓P **P** **01 46 36.7 +1.9**
baz=62
K15A Arbon 62.70 56⇓P **P** **01 46 36.6 +1.7**
baz=62
L14A Malta 62.72 57⇓P **P** **01 46 36.7 +1.7**
baz=62
D21A La Casta Ranch 62.82 49⇑P **P** **01 46 36.8 +1.3**
baz=62
KAF Kangasniemi 62.82 335 *e*P **P** **01 46 34.0 -1.2**
KAF Kangasniemi 62.82 335 *e*p **P** **01 46 34.0 -1.2**
KAF Kangasniemi 62.82 335 *e*p **P** **01 46 34.0 -1.2**
B23A Brockton 62.90 47⇓P **P** **01 46 36.7 +0.7**
baz=62
RLMT Red Lodge 62.90 52⇑P **P** **01 46 37.6 +1.3**
baz=63
RLMT ⇑P **P** **01 46 37.6 +1.3**
baz=63
MOOW Moose Ponds 63.00 54 *e*P **P** **01 46 38.2 +1.2**
comp=Z,3.5nm,1.1s
F20A Billings 63.05 51⇓P **P** **01 46 38.6 +1.5**
baz=63
A24A Westby 63.08 46⇓P **P** **01 46 38.2 +1.0**
baz=63
K16A Soda Springs 63.13 55⇓P **P** **01 46 39.3 +1.5**
baz=63
LOHW Long Hollow 63.16 54 *e*P **P** **01 46 39.5 +1.4**
comp=Z,4.5nm,1.1s
L15A Malad City 63.22 56⇓P **P** **01 46 40.4 +2.0**
baz=63
J17A Brown Place, J 63.27 54⇓P **P** **01 46 40.3 +1.6**
baz=63
DGMT Dagmar 63.29 47 *e*P **P** **01 46 39.3 +0.7**
comp=Z,5.9nm,0.6s
DGMT Dagmar 63.29 47⇓P **P** **01 46 39.6 +1.0**
baz=63
H19A Powell 63.35 52⇑P **P** **01 46 40.5 +1.3**
baz=63
G20A Bridger 63.40 51⇓P **P** **01 46 40.3 +0.8**
baz=63
FINES FINESS Array B 63.42 335 P **P** **01 46 38.6 -0.5**
comp=Z,4.1nm,0.5s,baz=32,slow=8.3,SNR=37
FINES FINESS Array B 63.42 335 P **P** **01 46 38.6 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 63.42 335 P **P** **01 46 38.6 -0.5**
PKM Peak Mountain 63.42 67⇑P **P** **01 46 41.1 +1.2**
baz=63
M15A Larsen Ranch, 63.54 57⇓P **P** **01 46 42.1 +1.7**
baz=63
R11A Troy Canyon, C 63.75 61⇓P **P** **01 46 43.1 +1.1**
baz=64
I19A Meeteetse 63.76 53⇓P **P** **01 46 43.0 +1.0**
baz=63
HWUT Hardware Ranch 63.95 56 *e*P **P** **01 46 44.6 +1.4**
comp=Z,4.9nm,1.2s
L17A Cokeville 64.01 55⇑P **P** **01 46 44.8 +1.2**
baz=64
F22A Rosebud 64.05 50⇑P **P** **01 46 44.5 +0.8**
baz=64
E23A Ismay 64.06 49⇑P **P** **01 46 44.6 +0.9**
baz=64,SNR=5.8
K18A Toltan Ranch, 64.12 55⇓P **P** **01 46 45.8 +1.4**
baz=64
D24A Glendive 64.14 48⇑P **P** **01 46 45.2 +1.0**
baz=64
DUG Dugway 64.16 58 *e*P **P** **01 46 45.7 +1.1**
DUG *e**PP **pP** **01 47 01.8 +0.3**
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 64.16 58 *e*P **P** **01 46 45.7 +1.1**
comp=Z,5.3nm,1.0s
DUG *e*pP **pP** **01 47 01.8 +0.3**
DUG Dugway 64.16 58⇓P **P** **01 46 45.6 +1.1**
baz=64
PD01 Pinedale Array 64.28 54 *e*P **P** **01 46 44.9 -0.5**
PD01 *e*pP **pP** **01 46 59.6 -2.7**
PD02 Pinedale Array 64.28 54 *e*P **P** **01 46 46.1 +0.6**
PD02 *e*pP **pP** **01 47 02.0 -0.3**
BW06 Boulder Array 64.30 54 *e*P **P** **01 46 46.2 +0.7**
comp=Z,4.8nm,1.0s
BW06 *e*pP **pP** **01 47 02.1 -0.4**
BW06 Boulder Array 64.30 54⇑P **P** **01 46 46.7 +1.1**
baz=64
BW06 ⇑P **P** **01 46 46.7 +1.1**
baz=64
PDAR Pinedale Array 64.30 54 P **P** **01 46 46.1 +0.6**
comp=Z,2.1nm,0.9s,baz=302,slow=1.7,SNR=17
PDAR pP **pP** **01 47 00.6 -1.8**
comp=Z,3.5nm,0.9s,baz=248,slow=1.3,SNR=13
PDAR Pinedale Array 64.30 54 P **P** **01 46 46.1 +0.6**
PDAR pP **pP** **01 47 00.6 -1.8**
G22A Birney 64.41 50⇑P **P** **01 46 46.9 +0.8**
baz=64
H21A Big Horn, Sher 64.41 51⇓P **P** **01 46 47.0 +0.9**
baz=64
F23A Volborg 64.53 50⇑P **P** **01 46 47.3 +0.5**
baz=64,SNR=6.1
J20A Shoshoni 64.71 53⇑P **P** **01 46 49.3 +1.2**
baz=64
N17A Moffit Pass 64.80 56⇓P **P** **01 46 50.2 +1.3**
baz=64
I21A Big Trails, Te 64.83 52⇓P **P** **01 46 49.7 +0.8**
baz=64,SNR=5.2
P15A Leamington 64.88 58⇑P **P** **01 46 50.6 +1.2**
baz=65
G23A Biddle 64.89 50⇑P **P** **01 46 50.2 +1.0**
baz=64
F24A Ekalaka 64.94 49⇓P **P** **01 46 50.6 +1.1**
baz=65
J21A Lysite 65.06 53⇑P **P** **01 46 50.7 +0.3**
baz=65
I22A 9 Mile Ranch, 65.20 52⇓P **P** **01 46 52.4 +1.1**
baz=65
J22A Midwest 65.53 52⇓P **P** **01 46 54.6 +1.1**
baz=65
H24A Dirks Ranch, A 65.64 50⇑P **P** **01 46 54.2 +0.2**
baz=65
K21A Alcova 65.65 53⇓P **P** **01 46 55.3 +1.1**
baz=65
MDND Maddock 65.95 45⇓P **P** **01 46 56.9 +1.0**
baz=66
Q16A Castle Valley 65.96 58⇓P **P** **01 46 57.0 +0.6**
baz=66
ULM Lac du Bonnet 65.96 41 P **P** **01 46 56.0 +0.1**
comp=Z,1.7nm,0.6s,baz=297,slow=4.4,SNR=5.1
ULM Lac du Bonnet 65.96 41 P **P** **01 46 56.0 +0.1**
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 65.96 41 *e*P **P** **01 46 55.8 -0.1**
K22A Casper 66.03 53⇓P **P** **01 46 57.2 +0.6**
baz=66
SRU San Rafael 66.20 58⇑P **P** **01 46 59.4 +1.5**
baz=66
M21A Separation Pea 66.28 54⇓P **P** **01 46 59.2 +0.8**
baz=66
N20A Spence Gulch, 66.31 55⇑P **P** **01 47 00.2 +1.6**
baz=66
RSSD Black Hills 66.34 50 *e*P **P** **01 46 59.4 +0.7**
RSSD *e**PP **pP** **01 47 15.5 -0.2**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 66.34 50 *e*P **P** **01 46 59.4 +0.7**
comp=Z,7.1nm,0.9s
RSSD *e*pP **pP** **01 47 15.5 -0.2**
L22A Ellis Ranch, M 66.50 53⇑P **P** **01 47 01.0 +1.3**
baz=66
S16A Weppner Ranch, 66.52 59⇑P **P** **01 47 01.7 +1.8**
baz=66
R17A Hanksville Air 66.56 58⇑P **P** **01 47 01.2 +1.1**
baz=66
P19A Cripple Cowboy 66.73 56⇓P **P** **01 47 01.7 +0.4**
baz=66
U15A North Rim 66.98 61⇓P **P** **01 47 04.6 +1.6**
baz=67
Q19A Hogan Spring (67.03 57⇑P **P** **01 47 03.7 +0.7**
baz=67
S17A Black Ridge (B 67.04 59⇑P **P** **01 47 04.4 +1.2**
baz=67
R18A Canyonlands Na 67.06 58⇓P **P** **01 47 04.3 +1.0**
baz=67
S18A Hurst Farm, Bl 67.47 59⇑P **P** **01 47 06.8 +0.8**
baz=67
T17A Navajo Res., N 67.47 60⇑P **P** **01 47 07.3 +1.3**
baz=67
R19A Curley Farm, L 67.48 58⇑P **P** **01 47 07.4 +1.3**
baz=67
N23A Red Feather La 67.55 54⇑P **P** **01 47 06.9 +0.4**
baz=67
NB2 NORSAR Subarra 67.57 341 P **P** **01 47 05.9 -0.1**
comp=Z,13nm,1.1s,baz=29,slow=6.5
NOA NORSAR Array B 67.57 341 P **P** **01 47 06.0 0.0**
comp=Z,3.2nm,0.8s,baz=27,slow=6.4,SNR=15
NOA NORSAR Array B 67.57 341 P **P** **01 47 06.0 0.0**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 67.57 341 P **P** **01 47 06.0 0.0**
Q20A Ridgley Place, 67.58 57⇑P **P** **01 47 07.7 +1.1**
baz=67
P21A Newcastle 67.66 56⇑P **P** **01 47 08.2 +1.0**
baz=67
NAO01 NORSAR Array S 67.82 341 *e*P **P** **01 47 07.7 +0.2**
comp=Z,10nm,1.0s
U16A Tuba City 67.86 60⇓P **P** **01 47 09.4 +1.0**
baz=68
T18A Mexican Hat 67.92 59⇓P **P** **01 47 08.9 +0.2**
baz=68
S19A Harvey Farm, M 67.93 58⇓P **P** **01 47 09.3 +0.4**
baz=68
R20A Redvale 68.06 57⇓P **P** **01 47 10.1 +0.4**
baz=68
Q21A Lamborn Mesa, 68.07 56⇓P **P** **01 47 10.3 +0.6**
baz=68
SMCO Snowmass 68.17 56 *e*P **P** **01 47 11.1 +0.6**
comp=Z,4.2nm,1.0s
SMCO *e*pP **pP** **01 47 27.4 -0.2**
S20A Disappointment 68.32 57⇓P **P** **01 47 12.8 +1.4**
baz=68
R21A Cimarron 68.40 57⇓P **P** **01 47 13.5 +1.6**
baz=68
U18A Rough Rock, Ch 68.42 59⇑P **P** **01 47 12.5 +0.6**

baz=68
V17A Tonalea, Kykot 68.42 61 ⇑P P 01 47 13.6 +1.7
baz=68
Q22A Crested Butte, 68.42 56 ⇓P P 01 47 12.8 +0.7
baz=68
ISCO Idaho Springs 68.49 54 eP P 01 47 13.5 +1.0
ISCO e*PP pP 01 47 29.4 -0.1
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 68.49 54 eP P 01 47 13.5 +1.0
comp=Z,4.5nm,1.1s
ISCO epP pP 01 47 29.4 -0.1
ISCO Idaho Springs 68.49 54 ⇑P P 01 47 13.4 +0.9
baz=68
T19A Beclabito 68.62 59 ⇓P P 01 47 14.8 +1.6
baz=68
MVCO Mesa Verde 68.67 58 eP P 01 47 13.6 +0.1
comp=Z,4.8nm,1.0s
MVCO Mesa Verde 68.67 58 ⇑P P 01 47 14.9 +1.3
baz=68
S21A Coal Bank Pass 68.76 57 ⇓P P 01 47 15.9 +1.8
baz=68
X16A Lo Mia Camp, P 68.86 62 ⇓P P 01 47 16.8 +2.1
baz=69
R22A Saguache, Gunn 68.95 56 ⇑P P 01 47 17.0 +1.6
baz=69
WRA Warramunga Arr 69.19 199 P P 01 47 14.6 -1.9
comp=Z,1.6nm,0.7s,baz=21,slow=6.9,SNR=5.2
WRA Warramunga Arr 69.19 199 P P 01 47 14.6 -1.9
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 69.19 199 P P 01 47 14.6 -1.9
S22A 4UR Ranch, Cre 69.25 57 ⇑P P 01 47 18.9 +1.8
baz=69
N27A Anderson Farm, 69.45 52 ⇓P P 01 47 19.1 +0.9
baz=69
W19A Sanders 69.60 60 ⇓P P 01 47 20.3 +1.1
baz=69
U21A Nageezi 69.69 58 ⇑P P 01 47 21.2 +1.4
baz=69
T22A Edith 69.72 57 ⇓P P 01 47 20.9 +0.9
baz=69
Y17A Roosevelt 69.72 62 ⇑P P 01 47 21.2 +1.3
baz=70
FITZ Fitzroy Crossi 69.79 208 P P 01 47 18.4 -1.8
comp=Z,1.8nm,0.8s,baz=34,slow=11,SNR=2.9
FITZ Fitzroy Crossi 69.79 208 P P 01 47 18.4 -1.8
Q25A Bedland, Calha 69.87 54 ⇑P P 01 47 22.3 +1.4
baz=70
P26A Davis Ranch, A 69.90 53 ⇓P P 01 47 22.3 +1.2
baz=70
SDCO Great Sand Dun 70.00 56 eP P 01 47 23.4 +1.6
SDCO Great Sand Dun 70.00 56 ⇑P P 01 47 22.9 +1.1
baz=70
SDCO ⇑P P 01 47 22.9 +1.1
baz=70
X19A St. Johns 70.14 61 ⇑P P 01 47 24.0 +1.5
baz=70
ECSD EROS Data Cent 70.36 46 eP P 01 47 23.7 +0.1
comp=Z,9.2nm,0.9s
U23A El Rito 70.60 57 ⇓P P 01 47 26.5 +1.0
baz=70
AKASG Malin Array Be 70.98 326 P P 01 47 26.4 -0.8
comp=Z,1.7nm,0.4s,baz=34,slow=6.0,SNR=4.5
AKASG Malin Array Be 70.98 326 P P 01 47 26.4 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 70.98 326 P P 01 47 26.4 -0.8
V23A Ortiz Mt. (NFS 71.02 58 ⇓P P 01 47 29.5 +1.6
baz=71
T25A Trinidad 71.04 56 ⇑P P 01 47 28.6 +0.6
baz=71
SPMN St. Paul 71.07 43 ⇓P P 01 47 28.2 +0.4
baz=71
218A Dragoon 71.40 63 ⇓P P 01 47 31.9 +1.6
baz=71
U25A Circle Dot Ran 71.56 56 ⇓P P 01 47 31.9 +0.7
baz=71
120A U Bar Ranch, L 71.84 62 ⇑P P 01 47 34.0 +1.1
baz=72
219A White Tail Can 71.86 62 ⇑P P 01 47 34.2 +1.2
baz=72
T27A Campo 72.03 55 ⇑P P 01 47 34.6 +0.7
baz=72
T28A Walsh 72.33 54 ⇓P P 01 47 36.1 +0.5
baz=72
Z22A Elephant Butte 72.33 60 ⇓P P 01 47 36.3 +0.5
baz=72
220A Playas Peak, P 72.36 62 ⇑P P 01 47 37.3 +1.3
baz=72
W25A X Bar L Ranch, 72.38 57 ⇑P P 01 47 37.2 +1.2
baz=72
Y23A Lovelace Mesa, 72.38 59 ⇓P P 01 47 37.8 +1.6
baz=72
SCHQ Schefferville 72.64 23 P P 01 47 36.3 -0.8
comp=Z,3.8nm,0.8s,baz=8.1,slow=8.7,SNR=4.6
SCHQ pP pP 01 47 53.2 -1.1
comp=Z,3.7nm,0.8s,baz=333,slow=11,SNR=3.2
SCHQ Schefferville 72.64 23 P P 01 47 36.3 -0.8
SCHQ pP pP 01 47 53.2 -1.1
Z26A Caprock 74.06 58 ⇑P P 01 47 46.9 +1.0
baz=74
Y27A Causey 74.08 57 ⇑P P 01 47 47.3 +1.2
baz=74
AMTX Amarillo 74.19 56 eP P 01 47 47.1 +0.5
comp=Z,8.0nm,0.8s
AMTX Amarillo 74.19 56 ⇓P P 01 47 47.3 +0.7
baz=74
AMTX ⇓P P 01 47 47.3 +0.7
baz=74
KWP Kalwaria Pacla 74.24 329 ⇑P P 01 47 47.3 +0.7
KWP Kalwaria Pacla 74.24 329 ⇑iP P 01 47 47.3 +0.7
MSTX Muleshoe 74.24 57 ⇑P P 01 47 47.3 +0.3
baz=74
MNTX Cornudas Mount 74.38 60 eP P 01 47 48.1 +0.5
comp=Z,2.3nm,1.1s
MNTX Cornudas Mount 74.38 60 ⇓P P 01 47 48.3 +0.6
baz=74
MNTX ⇓P P 01 47 48.3 +0.6
baz=74
Z27A Tatum 74.47 58 ⇓P P 01 47 48.7 +0.4
baz=74
325A Bean Ranch, Si 74.86 60 ⇓P P 01 47 51.2 +0.6
baz=75
BUR08 Bucovina Ar. S 75.00 327 eP P 01 47 50.9 -0.2
BURAR Bucovina Array 75.02 326 ⇓iP P 01 47 51.1 -0.2
TESR 75.39 325 ⇑iP P 01 47 53.9 +0.6
TRPA Tarpa 75.57 328 ⇓iP P 01 47 54.1 -0.1
DPC Dobruska-Polom 75.71 333 eP P 01 47 56.1 +1.0
DPC Dobruska-Polom 75.71 333 eP P 01 47 56.1 +1.0
MORC Moravsky Berou 75.83 332 ⇓P P 01 47 55.9 +0.1
MORC Moravsky Berou 75.83 332 eP P 01 47 56.1 +0.3
comp=Z,2.8nm,0.9s
MORC Moravsky Berou 75.83 332 ⇓iP P 01 47 55.9 +0.1
CLL Collm 75.84 336 eP P 01 47 55.4 -0.3
comp=Z,6.0nm,0.9s
CLL Collm 75.84 336 iP P 01 47 55.3 -0.4
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 75.84 336 iP P 01 47 55.3 -0.4
comp=Z,7.0nm,1.0s
WMOK Wichita Mounta 75.91 54 eP P 01 47 56.5 +0.1
WMOK e*PP pP 01 48 12.3 -1.5
WMOK pmax pmax
comp=Z,4.0nm,1.0s
WMOK Wichita Mounta 75.91 54 eP P 01 47 56.5 +0.1
comp=Z,3.7nm,1.0s
WMOK epP pP 01 48 12.3 -1.5
CLZ Clausthal 76.07 337 eP P 01 47 57.7 +0.6
comp=Z,6.0nm,1.0s
CLZ Clausthal 76.07 337 eP P 01 47 57.7 +0.6
CLZ pmax pmax
comp=Z,6.0nm,1.0s
328A Wristen Ranch, 76.11 59 ⇓P P 01 47 58.1 +0.4
baz=76
427A Hayter Ranch, 76.16 59 ⇓P P 01 47 58.7 +0.7
baz=76
IBBN Ibbenburen 76.31 339 eP P 01 47 58.7 +0.4
comp=Z,7.0nm,0.9s
526A Mary Lane Ranc 76.33 60 ⇑P P 01 48 00.0 +1.0
baz=76
MLR Muntele Rosu 76.51 325 ⇑P P 01 48 00.2 +0.4
MLR Muntele Rosu 76.51 325 ⇑iP P 01 48 00.2 +0.4
PRU Pruhonice 76.57 334 eP P 01 47 59.9 0.0
PRU Pruhonice 76.57 334 eP P 01 47 59.9 0.0
ISR Istrita 76.58 324 ⇓P P 01 48 00.5 +0.4
ISR Istrita 76.58 324 ⇓iP P 01 48 00.5 +0.4
428A Kincaid Ranch, 76.66 59 ⇓P P 01 48 01.8 +0.9
baz=76
626A Big Bend Ranch 76.67 61 ⇑P P 01 48 01.7 +0.8
baz=76
MOX Moxa 76.82 336 eP P 01 48 01.0 -0.3
comp=Z,3.0nm,0.9s
MOX Moxa 76.82 336 eP P 01 48 01.0 -0.3
MOX pmax pmax
comp=Z,3.0nm,0.9s
VOIR 76.90 325 ⇑P P 01 48 02.2 +0.2
VOIR 76.90 325 ⇑iP P 01 48 02.2 +0.2
NKC Novy Kostel 76.96 335 eP P 01 48 02.2 +0.1
NKC Novy Kostel 76.96 335 eP P 01 48 02.2 +0.1
528A Cox Ranch, San 77.02 60 ⇓P P 01 48 03.5 +0.6
baz=77
UBBA Unterbreizbach 77.10 337 eP P 01 48 03.5 +0.8
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 77.11 61 P P 01 48 03.6 +0.2
comp=Z,1.4nm,0.6s,baz=299,slow=4.6,SNR=30
TXAR pP pP 01 48 20.3 -0.5
comp=Z,5.3nm,0.7s,baz=284,slow=4.0,SNR=20
TXAR Lajitas Array 77.11 61 P P 01 48 03.6 +0.2
TXAR *PP pP 01 48 20.3 -0.5
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,5.0nm,0.7s
TXAR Lajitas Array 77.11 61 P P 01 48 03.6 +0.2
TXAR pP pP 01 48 20.3 -0.5
627A Terlingua Ranc 77.19 60 ⇓P P 01 48 05.0 +1.1
baz=77
ROTZ Rotzenmuhle 77.45 335 eP P 01 48 05.4 +0.6
comp=Z,3.0nm,0.8s
628A Black Gap, Mar 77.46 60 ⇓P P 01 48 06.3 +1.0
baz=77
KHC Kasperske Hory 77.62 334 eP P 01 48 06.0 +0.1
KHC pmax pmax
comp=Z,7.0nm,1.1s
KHC Kasperske Hory 77.62 334 eP P 01 48 06.0 +0.1
comp=Z,6.6nm,1.1s
KHC Kasperske Hory 77.62 334 eP P 01 48 05.8 -0.1
GRF Grafenberg Arr 77.79 336 eP P 01 48 07.5 +0.7
comp=Z,8.0nm,0.9s
GRF Grafenberg Arr 77.79 336 eP P 01 48 07.5 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.9s
GRFO Grafenberg 77.79 336 eP P 01 48 07.3 +0.5
GRFO pmax pmax
comp=Z,45nm,1.7s
GRFO Grafenberg 77.79 336 eP P 01 48 07.3 +0.5
comp=Z,45nm,1.7s
GZR Gura Zlata 77.80 327 ⇑P P 01 48 05.4 -1.6
GZR Gura Zlata 77.80 327 ⇑iP P 01 48 05.4 -1.6
WET Wettzell 77.81 335 eP P 01 48 07.4 +0.5
comp=Z,4.0nm,1.0s
WET Wettzell 77.81 335 eP P 01 48 07.4 +0.5
WET pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 77.84 334 eP P 01 48 07.1 -0.1
comp=Z,2.0nm,0.8s
GEC2 GERESS Array S 77.84 334 eP P 01 48 07.1 -0.1
GEC2 pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 77.84 334 P P 01 48 06.8 -0.4
comp=Z,1.1nm,0.5s,baz=34,slow=5.5,SNR=13
GERES GERESS Array B 77.84 334 P P 01 48 06.8 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 77.84 334 P P 01 48 06.8 -0.4
BRTR Keskin Array B 77.91 317 P P 01 48 08.1 +0.4
comp=Z,1.9nm,0.9s,baz=74,slow=3.4,SNR=6.6
BRTR Keskin Array B 77.91 317 P P 01 48 08.1 +0.4
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 77.91 317 P P 01 48 08.1 +0.4
BZS Buzias 78.04 328 ⇓P P 01 48 05.5 -2.7
BZS Buzias 78.04 328 ⇓iP P 01 48 05.5 -2.7
TNS Taunus Mts 78.05 338 eP P 01 48 08.6 +0.3
comp=Z,3.0nm,0.7s
TNS Taunus Mts 78.05 338 eP P 01 48 08.6 +0.3
TNS pmax pmax
comp=Z,3.0nm,0.7s
MEM Membach 78.30 339 P P 01 48 09.7 +0.2
JCT Junction City 78.51 57 ⇑P P 01 48 11.7 +0.6
baz=78
PKSM Moragy 78.58 330 ⇑P P 01 48 10.2 -0.9
PKSM Moragy 78.58 330 ⇑iP P 01 48 10.2 -0.9
KBA Koelnbreinsper 79.53 333 ⇑iP P 01 48 15.8 -0.8
KBA pmax pmax
comp=Z,10.0nm,1.2s
KBA Koelnbreinsper 79.53 333 ⇑iP P 01 48 15.8 -0.8
comp=Z,10nm,1.2s
KBA Koelnbreinsper 79.53 333 ⇑iP P 01 48 15.8 -0.8
comp=Z,10nm,1.2s
BFO Black Forest 79.82 337 eP P 01 48 18.0 +0.1
comp=Z,5.0nm,1.1s
BFO Black Forest 79.82 337 eP P 01 48 18.0 +0.1
BFO pmax pmax
comp=Z,5.0nm,1.1s
WTTA Wattenberg 79.87 335 ⇑iP P 01 48 17.2 -1.2
WTTA pmax pmax
comp=Z,6.0nm,0.7s
WTTA Wattenberg 79.87 335 ⇑iP P 01 48 17.2 -1.2
comp=Z,5.9nm,0.7s
WTTA Wattenberg 79.87 335 ⇑iP P 01 48 17.2 -1.2
comp=Z,5.9nm,0.7s
VTS Vitosha 80.02 325 ⇓P P 01 48 19.0 -0.3
VTS Vitosha 80.02 325 ⇓iP P 01 48 19.0 -0.3
CDF Champ du Feu 80.02 338 eP P 01 48 18.9 -0.2
comp=Z,5.5nm,0.7s
PAGF Fort de Pagny 80.28 339 eP P 01 48 20.7 +0.3
comp=Z,5.0nm,0.7s
MEZF Maizieres J'vi 80.49 339 eP P 01 48 21.7 +0.2
WVT Waverly 80.51 46 eP P 01 48 21.9 +0.1
WVT pmax pmax
comp=Z,9.0nm,1.2s
WVT Waverly 80.51 46 eP P 01 48 21.9 +0.1
comp=Z,8.9nm,1.2s
HAU Haudompre 80.63 338 eP P 01 48 22.0 -0.3
comp=Z,8.9nm,0.8s
HINF Hinteralfeld 80.68 338 eP P 01 48 22.1 -0.5
SFTF Sexfontaines 80.77 339 eP P 01 48 23.0 0.0
comp=Z,14nm,0.6s
PMOR Pomariorio Ree 81.40 123 eT T 03 17 46.4
comp=Z,16nm,0.2s
LDF Lautiere 81.56 342 eP P 01 48 26.6 -0.6
CSS Prodhromos 81.86 314 eP P 01 48 28.6 -0.4
comp=Z,11nm,0.7s
LOR Lormes 81.93 339 eP P 01 48 29.0 -0.2
CABF La Chapelle 81.99 338 eP P 01 48 29.5 -0.1
SSF Saint Saulge 82.21 340 eP P 01 48 30.4 -0.2
ASF Jabal al Asfar 82.28 310 P P 01 48 31.9 +0.5
comp=Z,0.9nm,0.4s,baz=30,slow=2.0,SNR=3.7
ASF Jabal al Asfar 82.28 310 P P 01 48 31.9 +0.5
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 82.28 310 P P 01 48 31.9 +0.5
MMAI Mount Meron Ar 82.38 311 P P 01 48 32.6 +0.7
comp=Z,6.1nm,0.6s,baz=43,slow=6.3,SNR=16
MMAI Mount Meron Ar 82.38 311 P P 01 48 32.6 +0.7
AVF Avril sur Loir 82.50 340 eP P 01 48 32.1 0.0
PPT2 Papeete2 82.56 126 eLR LR 02 14 28.1
comp=Z,78nm,27.8s
LPL La Plagne 82.84 337 eP P 01 48 34.6 +0.4
LPG La Plagne 82.85 337 eP P 01 48 34.9 +0.5
TCF Toulx Ste Croi 83.24 340 eP P 01 48 36.2 +0.2
ORIF Oris-en-Rattie 83.62 337 eP P 01 48 38.0 -0.1
comp=Z,6.0nm,0.7s
SMRF Simiane la Rot 84.58 337 eP P 01 48 41.8 -1.1
EIL Elat 85.27 310 P P 01 48 47.5 +0.9
comp=Z,11nm,0.8s,baz=346,slow=5.1,SNR=11
EIL Elat 85.27 310 P P 01 48 47.5 +0.9
TBI Tubuai 87.31 129 eT T 03 25 05.0
comp=Z,12nm,0.3s
TORD Torodi Ar. Bea 114.51 329 PKP PKPdf 01 54 47.8 -1.9
comp=Z,0.1nm,0.4s,baz=359,slow=3.7,SNR=2.7
TORD Torodi Ar. Bea 114.51 329 PKP PKPdf 01 54 47.8 -1.9

*IDC **14** 01:47:03.7±1.4,28°.08N×57°.35E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/30, mbtmp3.8/13, ML0.6/1, Error ellipse: s-maj=30.1km s-min=20.2km az=171.0*
*ISCJB **14** 01:47:05.5±0.4, 28°.24N±0°.03×57°.58E±0°.05, h10km, mb3.6/12, Error ellipse: s-maj=6.8km s-min=4.5km az=2.0*
*TEH **14** 01:47:05.2, 28°.04N×57°.82E, h12km, ML3.5*
*CSEM **14** 01:47:08.3±0.3, 28°.15N×57°.42E, h5km, ML3.5, Error ellipse: s-maj=10.3km s-min=5.1km az=84.0*
*OMAN **14** 01:47:33.4±0.7, 26°.30N×56°.93E, h0km±2km, Error ellipse: s-maj=19.0km s-min=6.7km az=349.0*

ISC 14 01:47:07.5±0.7, 28°.15N±0°.04×57°.46E±0°.06, h10km, n43, σ1§47/41, mb3.7/12, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	Bandar-abas	1.08	230	ePg	Pg	01 47 28.0	-0.2
IBND				eSg	Sn	01 47 45.6	+1.9
IBND				e		01 47 55.0	
	comp=Z,20µm,0.2s						
IBND	Bandar-abas	1.08	230	ePg	Pg	01 47 28.0	-0.2
BANOM	Banah	2.45	205	P	Pn	01 47 48.2	+0.6
	SNR=47						
BANOM				⇓S	Pb	01 47 51.6	-0.1
BANOM	Banah	2.45	205	P	Pn	01 47 48.2	+0.6
	SNR=47						
BANOM				S	Pb	01 47 51.6	-0.1
IBAF	Bafgh	3.80	335	ePn	Pn	01 48 06.7	+0.4
IBAF				e		01 49 15.5	
	comp=Z,460nm,0.3s						
IBAF	Bafgh	3.80	335	ePn	Pn	01 48 06.7	+0.4
ASUD	Al Ashush, Dub	4.00	209	P	Pn	01 48 10.6	+1.7
	SNR=8.3						
ASUD	Al Ashush, Dub	4.00	209	P	Pn	01 48 10.6	+1.7
	SNR=8.3						
ISRV	Sarvestan	4.01	289	ePn	Pn	01 48 10.8	+1.5
ISRV				e		01 49 07.5	
	comp=Z,446nm,0.1s						
ISRV	Sarvestan	4.01	289	ePn	Pn	01 48 10.8	+1.5
IMEH	Mehriz	4.07	323	ePn	Pn	01 48 10.7	+0.6
IMEH				e		01 49 22.3	
	comp=Z,341nm,0.5s						
IMEH	Mehriz	4.07	323	ePn	Pn	01 48 10.7	+0.6
IPAR	Pars	4.22	295	ePn	Pn	01 48 13.7	+1.5
IPAR				e		01 49 42.7	
	comp=Z,440nm,0.3s						
IPAR	Pars	4.22	295	ePn	Pn	01 48 13.7	+1.5
IKOO	Kooshah	4.46	17	ePn	Pn	01 48 17.0	+1.5
IKOO	Kooshah	4.46	17	ePn	Pn	01 48 17.0	+1.5
ITEG	Tejag	4.86	13⇑	ePn	Pn	01 48 23.7	+2.8
ITEG				e		01 48 32.8	
	comp=Z,387nm,0.2s						
ITEG	Tejag	4.86	13⇑	ePn	Pn	01 48 23.7	+2.8
ICHK	Chekchek	4.86	328	ePn	Pn	01 48 21.2	+0.3
ICHK				eSg	Sg	01 49 45.1	+1.5
ICHK				e		01 49 58.7	
	comp=Z,332nm,0.3s						
ICHK	Chekchek	4.86	328	ePn	Pn	01 48 21.2	+0.3
ICHK				eSg	Sg	01 49 45.1	+1.5
ARQ	Araqi	4.87	190	⇑P	Pn	01 48 23.1	+2.2
	SNR=14						
ARQ	Araqi	4.87	190	P	Pn	01 48 23.1	+2.2
	SNR=14						
SMDO	Samad	5.10	174	⇓P	Pn	01 48 25.0	+0.8
SMDO	Samad	5.10	174	P	Pn	01 48 25.0	+0.8
BSY	Bisya	5.39	183	⇑P	Pn	01 48 29.9	+1.9
BSYO	Bisya	5.40	182	P	Pn	01 48 29.9	+1.7
WBK	Wadi Bani Khal	5.69	166	⇓P	Pn	01 48 32.5	+0.4
WBK	Wadi Bani Khal	5.69	166	P	Pn	01 48 32.5	+0.4
MIB	Mutribah	9.02	283	eP	Pn	01 49 15.9	-1.9
NAY	Al-Naaiem	9.04	279	eP	Pn	01 49 16.4	-1.8
NAY				eS	Sn	01 50 49.3	-11
NAY				AML	AML	01 50 55.8	
	comp=Z,5.7nm,0.7s						
GNI	Garni	15.92	322	Pn	Pn	01 50 53.1	+1.3
	comp=Z,0.1nm,0.3s,baz=296,slow=6.4,SNR=3.9						
AKTO	Aktyubinsk	22.26	1	P	P	01 52 03.2	-1.3
	comp=Z,3.2nm,0.6s,baz=174,slow=10,SNR=16						
BRTR	Keskin Array B	22.82	307	P	P	01 52 09.1	-1.7
	comp=Z,4.0nm,1.0s,baz=126,slow=7.8,SNR=15						
BVAR	Borovoye Array	26.63	18	P	P	01 52 44.5	-1.7
	comp=Z,1.0nm,0.7s,baz=198,slow=8.9,SNR=7.7						
MKAR	Makanchi Array	26.92	40	P	P	01 52 46.7	-2.1
	comp=Z,0.4nm,0.9s,baz=236,slow=7.9,SNR=4.5						
KURK	Kurchatov	27.65	30	P	P	01 52 53.5	-1.8
	comp=Z,1.0nm,0.7s,baz=229,slow=8.5,SNR=10						
ZALV	Zalesovo Beam	32.63	30	P	P	01 53 37.1	-2.2
	comp=Z,3.1nm,0.8s,baz=254,slow=9.9,SNR=10						
FINES	FINESS Array B	39.30	337	P	P	01 54 34.7	-1.6
	comp=Z,1.7nm,0.8s,baz=128,slow=15,SNR=4.4						
GERES	GERESS Array B	39.32	314	P	P	01 54 33.4	-3.4
	comp=Z,0.2nm,0.5s,baz=121,slow=9.3,SNR=3.2						
SONM	Songino Array	42.47	49	P	P	01 55 02.0	-0.8
	comp=Z,0.7nm,0.9s,baz=258,slow=7.4,SNR=5.1						
TORD	Torodi Ar. Bea	53.84	266	P	P	01 56 27.3	-3.8
	comp=Z,0.6nm,0.7s,baz=58,slow=6.5,SNR=5.4						
WRA	Warramunga Arr	88.31	114	P	P	01 59 58.8	-1.0
	comp=Z,0.3nm,0.3s,baz=319,slow=3.8,SNR=5.3						
YKA	Yellowknife Ar	89.45	356	P	P	02 00 01.8	-2.6
	comp=Z,0.2nm,0.5s,baz=0.1,slow=5.4,SNR=4.8						

*IDC **14** 02:17:43.2±12.0, 52°.58N×170°.34W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=239.0km s-min=45.2km az=82.0*
*ISCJB **14** 02:17:57.4±1.0, 52°.8N±0°.2×168°.6W±0°.2, h64km±9km, mb3.2/4, Error ellipse: s-maj=32.4km s-min=11.2km az=145.4*
*NEIC **14** 02:17:58.0, 52°.66N×168°.18W, h16km, ML3.2(AEIC), After AEIC.*

ISC 14 02:17:58.6±1.2, 52°.8N±0°.2×168°.6W±0°.1, h57km±13km, n25, σ0§92/30, mb3.3/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	0.23	305	P	Pn	02 18 07.5	-0.3
NIKO				S	Sn	02 18 14.7	+0.3
OKSP	Okmok Steeple	0.44	21	P	Pn	02 18 09.2	-0.5
OKSO	Okmok South	0.56	24	P	Pn	02 18 10.7	-0.4
OKSO				S	Sn	02 18 20.1	0.0
OKCE	Okmok Cone E	0.63	21	P	Pn	02 18 12.2	+0.4
OKCE				S	Sn	02 18 23.2	+1.8
OKWE	Okmok W'ng Wal	0.66	16	P	Pn	02 18 12.4	+0.3
OKRE	Okmok R'deer P	0.72	19	P	Pn	02 18 13.4	+0.5
MSOM	Makushin Julie	1.37	44	P	Pn	02 18 20.2	-1.1
MREP	Makushin Rep't	1.45	47	P	Pn	02 18 21.6	-1.0
MCIR	Makushin Cirqu	1.49	41	P	Pn	02 18 22.9	-0.2
MSW	Makushin Switc	1.51	44	P	Pn	02 18 22.6	-0.7
MSW				S	Sn	02 18 41.6	-0.3
UNV	Unalaska Valle	1.59	50	P	Pn	02 18 23.0	-1.3
MTBL	Makushin Table	1.59	44	P	Pn	02 18 24.2	-0.2
ZRO	Akutan Zero	1.98	50	P	Pn	02 18 29.6	-0.1
AHB	Akutan Harbor	2.07	51	P	Pn	02 18 30.7	-0.2
AKUT	Akutan	2.10	51	ePn	Pn	02 18 31.6	+0.3
AKUT				eSn	Sn	02 18 57.6	+1.3
ILAR	Eielson Array	16.28	34	Pn	Pn	02 21 41.9	-1.3
	0.1nm,0.3s,baz=232,slow=12,SNR=7.6						
ILAR	Eielson Array	16.28	34	Pn	Pn	02 21 41.9	-1.3
INK	Inuvik	22.68	34	P	P	02 22 53.1	-1.6
	0.8nm,0.5s,baz=263,slow=7.3,SNR=6.8						
INK	Inuvik	22.68	34	P	P	02 22 53.1	-1.6
YKA	Yellowknife Ar	29.55	50	P	P	02 23 58.1	+0.7
	0.2nm,0.5s,baz=272,slow=7.6,SNR=5.8						
YKA	Yellowknife Ar	29.55	50	P	P	02 23 58.1	+0.7
PDAR	Pinedale Array	39.83	80	P	P	02 25 26.8	+0.4
	0.2nm,0.5s,baz=290,slow=4.3,SNR=4.7						
PDAR	Pinedale Array	39.83	80	P	P	02 25 26.8	+0.4
TXAR	Lajitas Array	52.24	90	P	P	02 27 04.7	+0.7
	0.2nm,0.5s,baz=301,slow=6.5,SNR=4.7						
TXAR	Lajitas Array	52.24	90	P	P	02 27 04.7	+0.7

*ISCJB **14** 02:27:53.7±0.7, 46°.3N±0°.1×150°.4E±0°.2, h167km, mb3.5/10, Error ellipse: s-maj=22.6km s-min=6.0km az=141.1*
*JMA **14** 02:27:56.9±0.5, 45°.77N×150°.68E, h146km, M3.5*
*IDC **14** 02:27:57.8±2.8, 46°.83N×150°.12E, h177km±29km, mb3.3/9, mb1 3.6/12, mb1mx3.4/24, mbtmp3.4/12, Error ellipse: s-maj=37.6km s-min=14.1km az=161.0*

ISC 14 02:27:55.0±0.8, 46°.3N±0°.2×150°.4E±0°.1, h167km, n22, σ1§70/24, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	4.39	231	P	Pn	02 29 01.2	+0.6
NEM2				eS	Sn	02 29 50.7	-1.2
JNK	Nakash	4.83	239	P	Pn	02 29 08.3	+1.9
JAK	Akkeshi	5.20	233	P	Pn	02 29 12.2	+0.9

JAK				*e*S		**Sn**	**02 30 09.9**	**-1.1**
ASAJ	**Asahikawa**	**5.91**	**252**	P		Pn	02 29 23.9	+3.4
	1.5nm,0.3s,baz=70,slow=12,SNR=18							
ASAJ	**Asahikawa**	**5.91**	**252**	P		Pn	02 29 24.2	+3.7
JKK2	**Kamakawa 2**	**5.91**	**249**	P		**Pn**	**02 29 23.5**	**+2.9**
JCH	**Churui**	**6.21**	**237**	P		**Pn**	**02 29 26.0**	**+1.5**
JCH				*e*S		**Sn**	**02 30 33.1**	**-1.7**
JKB	**Kayabe**	**8.02**	**240**	*e*S		**Sn**	**02 31 13.8**	**-4.4**
USRK	**Ussuriysk Arra**	**13.13**	**268**	P		**Pn**	**02 30 56.3**	**+1.3**
	0.3nm,0.3s,baz=78,slow=12,SNR=6.4							
KSRS	**Korea Array**	**18.86**	**250**	P		**Pn**	**02 32 04.6**	**-0.1**
	0.4nm,0.3s,baz=60,slow=10.0,SNR=5.9							
SONM	**Songino Array**	**29.73**	**289**	P		**P**	**02 33 47.0**	**+1.5**
	0.3nm,0.6s,baz=75,slow=11,SNR=2.8							
ILAR	**Eielson Array**	**38.11**	**38**	P		**P**	**02 34 56.3**	**-0.9**
	1.2nm,1.1s,baz=275,slow=7.9,SNR=8.2							
ZALV	**Zalesovo Beam**	**41.38**	**305**	PcP		**PcP**	**02 37 19.6**	**+0.6**
	0.8nm,0.5s,baz=75,slow=1.5,SNR=5.5							
INK	**Inuvik**	**43.08**	**32**	P		**P**	**02 35 36.8**	**-1.1**
	1.3nm,0.6s,baz=302,slow=8.2,SNR=3.2							
MKAR	**Makanchi Array**	**45.49**	**297**	P		**P**	**02 35 55.8**	**-1.6**
	1.2nm,0.7s,baz=68,slow=6.9,SNR=13							
MKAR				PcP		**PcP**	**02 37 33.6**	**+0.4**
	0.4nm,0.7s,baz=57,slow=4.5,SNR=3.5							
KURK	**Kurchatov**	**46.07**	**303**	P		**P**	**02 35 59.7**	**-2.1**
	0.9nm,0.3s,baz=75,slow=8.4,SNR=3.0							
BVAR	**Borovoye Array**	**49.72**	**309**	PcP		**PcP**	**02 37 48.5**	**+0.3**
	0.4nm,0.4s,baz=45,slow=2.2,SNR=3.9							
CMAR	**Chiang Mai Arr**	**50.42**	**254**	P		**P**	**02 36 37.2**	**+1.7**
	1.1nm,0.3s,baz=47,slow=8.1,SNR=5.2							
YKA	**Yellowknife Ar**	**52.44**	**36**	P		**P**	**02 36 48.7**	**-1.1**
	0.4nm,0.6s,baz=303,slow=8.0,SNR=7.2							
NVAR	**Mina Array Bea**	**64.33**	**61**	P		**P**	**02 38 14.2**	**+1.4**
	0.5nm,0.8s,baz=274,slow=7.6,SNR=4.3							
PDAR	**Pinedale Array**	**66.55**	**52**	P		**P**	**02 38 26.1**	**-1.0**
	0.4nm,0.7s,baz=146,slow=1.2,SNR=3.6							
TXAR	**Lajitas Array**	**79.37**	**59**	P		**P**	**02 39 43.1**	**+0.6**
	0.5nm,0.7s,baz=300,slow=4.6,SNR=7.4							

IDC ***14*** *02:35:11.3±1.6, 40.76N×122.92E, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, ML2.9/3, Error ellipse: s-maj=28.7km s-min=16.5km az=32.0*

BJI ***14*** *02:35:14.2, 40.70N×122.79E, h9km, ML3.9/13*

ISC 14 02:35:13.5±0.7, 40.76N±0.05×122.79E±0.05, h13km, n10, σ2s15, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNY	**Shenyang**	**1.22**	**29**	⇑Pg		**Pn**	**02 35 36.0**	**-0.3**
SNY				Sg		**Sb**	**02 35 53.0**	**+0.9**
SNY				smax	smax			
	comp=N,870nm,0.6s							
SNY				smax	smax			
	comp=E,650nm,0.4s							
DL2	**Dalian**	**2.06**	**206**	Pg		**Pn**	**02 35 48.3**	**+0.5**
DL2				Sg		**Sb**	**02 36 14.1**	**-2.1**
DL2				smax	smax			
	comp=N,690nm,0.6s							
DL2				smax	smax			
	comp=E,1μm,0.7s							
CN2	**Changchun**	**3.62**	**32**	*e*Pg		Pb	02 36 20.9	+3.5
CN2				Sg		**Sg**	**02 37 07.8**	**-2.0**
CN2				smax	smax			
	comp=N,1μm,0.7s							
CN2				smax	smax			
	comp=E,1μm,0.7s							
BJI	**Beijing**	**5.10**	**264**	Pg		**Pb**	**02 36 45.3**	**+2.7**
BJI				Sg		**Sg**	**02 37 53.6**	**-3.7**
BJI				smax	smax			
	comp=N,53nm,0.6s							
BJI				smax	smax			
	comp=E,69nm,0.6s							
KSRS	**Korea Array**	**5.18**	**128**	Pn		**Pn**	**02 36 29.8**	**-0.9**
	comp=E,1.6nm,0.3s,baz=312,slow=14,SNR=13							
KSRS				Pg		**Pb**	**02 36 46.0**	**+2.0**
	comp=E,4.6nm,0.3s,baz=313,slow=17,SNR=13							
KSRS				Lg		Lg	02 37 51.0	
	comp=E,11nm,0.3s,baz=310,slow=31,SNR=17							
MDJ	**Mudanjiang**	**6.32**	**50**	Pg		Pb	02 37 08.4	+5.1
MDJ				Sg		**Sg**	**02 38 32.3**	**-4.0**
MDJ				smax	smax			
	comp=N,130nm,0.9s							
MDJ				smax	smax			
	comp=E,82nm,0.8s							
USRK	**Ussuriysk Arra**	**7.62**	**60**	Pn		**Pn**	**02 37 03.7**	**-0.5**
	comp=E,0.5nm,0.3s,baz=240,slow=14,SNR=7.9							
USRK				Pg		**Pb**	**02 37 27.3**	**+1.8**
	comp=E,0.4nm,0.3s,baz=240,slow=15,SNR=3.2							
USRK				Lg		Lg	02 39 10.2	
	comp=E,1.8nm,0.3s,baz=245,slow=27,SNR=8.8							
SONM	**Songino Array**	**13.69**	**307**	Pn		**Pn**	**02 38 27.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=118,slow=14,SNR=2.7							
SONM				Lg		Lg	02 42 31.6	
	comp=E,0.2nm,0.3s,baz=106,slow=26,SNR=5.5							
ILAR	**Eielson Array**	**54.14**	**32**	P		**P**	**02 44 37.0**	**-0.8**
	comp=E,0.5nm,0.8s,baz=283,slow=6.8,SNR=5.6							
FINES	**FINESS Array B**	**58.15**	**326**	P		**P**	**02 45 06.5**	**0.0**
	comp=E,1.2nm,0.5s,baz=76,slow=7.9,SNR=12							

DJA ***14*** *03:09:09, 0.05S×132.90E, h20km, MLv4.3/3*

IDC 14 03:09:08.6±3.3, 0.39S×132.94E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=236.7km s-min=29.5km az=70.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.48**	**176**	P		Pn	03 13 38.2	-0.2
	0.2nm,0.3s,baz=354,slow=11,SNR=11							
STKA	**Stephens Creek**	**32.36**	**166**	P		P	03 15 39.2	-0.7
	1.1nm,0.5s,baz=335,slow=9.8,SNR=4.4							
MKAR	**Makanchi Array**	**64.49**	**324**	P		P	03 19 47.3	+0.1
	0.2nm,0.6s,baz=114,slow=6.9,SNR=3.8							

NEIC ***14*** *03:11:05.0, 44.55N×110.80W, h6km, ML2.5(SLC), After SLC.*

NEIC Felt [III] in Yellowstone National Park.

ISC 14 03:11:05.3±0.9, 44.56N±0.02×110.81W±0.02, h6km±8km, n65, σ0.86/101, 30C-27D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YFT	**Old Faithful**	**0.11**	**189**	*e*Pg		**Pg**	**03 11 07.5**	**-0.3**
YFT				*e*Sg		**Sg**	**03 11 09.1**	**-0.4**
YMR	**Madison River**	**0.16**	**315**	*e*Pg		**Pg**	**03 11 08.8**	**+0.3**
YNR	**Norris Junctio**	**0.18**	**31**	*e*Pg		**Pg**	**03 11 09.1**	**0.0**
H17A	**Grant Village**	**0.23**	**134**	⇓P		**Pg**	**03 11 09.9**	**0.0**
	baz=0.2							
H17A				⇑S		**Sg**	**03 11 13.3**	**+0.2**
	baz=0.2							
LKWY	**Lake**	**0.29**	**88**	*e*Pg		**Pg**	**03 11 11.0**	**-0.1**
LKWY				*e*Sg		**Sg**	**03 11 14.5**	**-0.5**
H16A	**Russell Place,**	**0.34**	**295**	⇑P		**Pg**	**03 11 12.2**	**+0.2**
	baz=0.4,SNR=80							
H16A				⇓S		**Sg**	**03 11 16.7**	**+0.1**
	baz=0.4							
FLWY	**Flagg Ranch**	**0.48**	**170**	*e*Pg		**Pg**	**03 11 14.6**	**0.0**
FLWY				*e*Sg		**Sg**	**03 11 18.9**	**-2.0**
QLMT	**Earthquake Lak**	**0.52**	**302**	*e*Pg		**Pg**	**03 11 15.2**	**-0.1**
QLMT				*e*Sg		**Sg**	**03 11 22.4**	**+0.3**
I17A	**Pilgrim Ck.**	**0.66**	**165**	⇑P		**Pb**	**03 11 18.7**	**-0.6**
	baz=0.7,SNR=32							
G17A	**Pierce Place,**	**0.77**	**4**	P		**Pg**	**03 11 20.1**	**+0.1**
	baz=0.8,SNR=92							
G17A				⇑S		**Sg**	**03 11 30.4**	**+0.4**
	baz=0.8							
MOOW	**Moose Ponds**	**0.81**	**177**	*e*Pg		**Pg**	**03 11 20.8**	**0.0**
MOOW				*e*Sg		**Sg**	**03 11 30.6**	**-0.8**
H18A	**Shoshone NF, C**	**0.83**	**81**	⇓P		**Pg**	**03 11 21.2**	**0.0**
	baz=0.8							
H18A				⇑S		**Sg**	**03 11 32.4**	**+0.5**
	baz=0.8							
I16A	**Newdale**	**0.84**	**216**	⇑P		**Pg**	**03 11 21.8**	**+0.4**
	baz=0.8,SNR=17							
LOHW	**Long Hollow**	**0.96**	**171**	*e*Pg		**Pg**	**03 11 23.8**	**+0.2**
G16A	**Moss Hill, Enn**	**0.97**	**314**	⇑P		**Pg**	**03 11 23.4**	**-0.5**
	baz=1.0,SNR=43							
G16A				⇓Sb		**Sb**	**03 11 38.1**	**+0.3**
	baz=1.0							
DCID1	**Drake Creek**	**1.00**	**196**	*e*Pg		**Pg**	**03 11 24.2**	**-0.2**
SNOW	**Snow King Moun**	**1.10**	**178**	*e*Pg		**Pg**	**03 11 26.1**	**-0.1**
I18A	**Diamond G Ranc**	**1.12**	**140**	⇑P		**Pn**	**03 11 27.2**	**-0.4**
	baz=1.1							
G18A	**Lazy EL Ranch,**	**1.17**	**49**	⇓P		**Pg**	**03 11 27.3**	**-0.4**
	baz=1.2							
REDW	**Red Top Meadow**	**1.20**	**181**	*e*Pg		**Pg**	**03 11 28.1**	**-0.1**
J17A	**Brown Place, J**	**1.20**	**177**	⇑P		**Pb**	**03 11 28.3**	**-0.1**
	baz=1.2							
BOZ	**Bozeman (W)**	**1.23**	**332**	*e*Pg		**Pg**	**03 11 27.4**	**-1.6**
BOZ				*e*Sg		**Sg**	**03 11 42.4**	**-2.5**
BOZ	**Bozeman (W)**	**1.23**	**332**	⇓P		**Pg**	**03 11 27.2**	**-1.7**
	baz=1.2,SNR=98							
BOZ				⇓P		**Pg**	**03 11 27.2**	**-1.7**
	baz=1.2,SNR=98							
BOZ				⇓S		**Sg**	**03 11 42.6**	**-2.3**
	baz=1.2							
BOZ				⇓S		**Sg**	**03 11 42.6**	**-2.3**
	baz=1.2							
RLMT	**Red Lodge**	**1.23**	**62**	*e*Pg		**Pg**	**03 11 28.8**	**-0.1**
RLMT	**Red Lodge**	**1.23**	**62**	⇑P		**Pg**	**03 11 28.4**	**-0.6**
	baz=1.2,SNR=16							
RLMT				⇑P		**Pg**	**03 11 28.4**	**-0.6**
	baz=1.2,SNR=16							
H19A	**Powell**	**1.31**	**84**	⇑P		**Pg**	**03 11 30.3**	**-0.1**
	baz=1.3,SNR=7.4							
H15A	**Lima**	**1.31**	**273**	⇑P		**Pn**	**03 11 30.0**	**-0.2**
	baz=1.3,SNR=18							
H15A				⇓S		**Sg**	**03 11 48.2**	**+0.8**
	baz=1.3							
I15A	**Monteview**	**1.32**	**246**	⇓P		**Pn**	**03 11 30.3**	**-0.1**
	baz=1.3,SNR=15							
G15A	**Dillon**	**1.34**	**298**	⇑P		**Pn**	**03 11 30.1**	**-0.5**
	baz=1.3,SNR=44							
G15A				⇑S		**Sb**	**03 11 48.6**	**+0.3**
	baz=1.3							
F17A	**Fitzpatrick Pl**	**1.35**	**5**	⇓P		**Pn**	**03 11 30.6**	**-0.2**
	baz=1.4,SNR=46							
F17A				⇑S		**Sg**	**03 11 49.1**	**+0.4**
	baz=1.4							
F16A	**Kennard Place,**	**1.35**	**335**	⇓P		**Pn**	**03 11 30.3**	**-0.5**
	baz=1.4,SNR=16							
I19A	**Meeteetse**	**1.41**	**111**	⇓Pb		**Pg**	**03 11 32.0**	**-0.2**
	baz=1.4							
I19A				⇑S		**Sg**	**03 11 50.7**	**+0.3**
	baz=1.4							
J18A	**Kendall Valley**	**1.46**	**157**	⇑Pb		**Pg**	**03 11 33.2**	**-0.1**
	baz=1.5							
GCMT	**Greycliff**	**1.48**	**33**	*e*Pn		**Pb**	**03 11 33.3**	**+0.1**
GCMT				*e*Sn		**Sn**	**03 11 51.6**	**-0.6**
MCMT	**McKenzie Canyo**	**1.48**	**281**	*e*Pn		**Pn**	**03 11 33.0**	**+0.4**
MCMT				*e*Sg		**Sb**	**03 11 53.0**	**+0.6**
DLMT	**Dillon**	**1.50**	**303**	*e*Pn		**Pb**	**03 11 33.4**	**-0.2**
F18A	**Big Timber**	**1.55**	**30**	⇓Pb		**Pb**	**03 11 34.0**	**-0.5**
	baz=1.6,SNR=24							
J15A	**Blackfoot**	**1.65**	**226**	⇑P		**Pn**	**03 11 34.9**	**+0.1**
	baz=1.6,SNR=31							
LRM	**Limekiln Ridge**	**1.71**	**318**	*e*Pn		**Pb**	**03 11 37.0**	**-0.3**
LRM				*e*Sg		**Sb**	**03 11 59.9**	**+0.7**
F15A	**Butte**	**1.75**	**318**	⇓Pb		**Pb**	**03 11 37.5**	**-0.3**
	baz=1.8,SNR=82							
F15A				⇑Sb		**Sb**	**03 12 00.8**	**+0.7**
	baz=1.8							
K17A	**Gardner Place,**	**1.81**	**183**	⇓Pb		**Pb**	**03 11 38.8**	**0.0**
	baz=1.8							
J19A	**Crowheart**	**1.81**	**135**	⇓Pb		**Pb**	**03 11 38.9**	**0.0**
	baz=1.8							
K16A	**Soda Springs**	**1.81**	**198**	⇓Pb		**Pb**	**03 11 39.0**	**0.0**
	baz=1.8							
H14A	**Leadore**	**1.83**	**273**	⇑Pb		**Pb**	**03 11 38.9**	**-0.3**
	baz=1.8,SNR=13							
H14A				⇑Sb		**Sb**	**03 12 03.5**	**+1.1**
	baz=1.8							
F19A	**Roth Farm, Mol**	**1.85**	**45**	⇓Pb		**Pb**	**03 11 39.5**	**0.0**
	baz=1.8,SNR=12							
F19A				⇑Sb		**Sg**	**03 12 03.9**	**-0.8**
	baz=1.8							
E17A	**Martinsdale**	**1.91**	**359**	⇑Pb		**Pb**	**03 11 39.9**	**-0.6**
	baz=1.9,SNR=26							
E17A				⇓Sb		**Sb**	**03 12 06.0**	**+1.4**
	baz=1.9							
G20A	**Bridger**	**1.96**	**69**	⇑Pb		**Pb**	**03 11 41.3**	**-0.1**
	baz=2.0,SNR=8.1							
PD01	**Pinedale Array**	**1.99**	**153**	*e*Pn		**Pb**	**03 11 41.5**	**-0.5**
PD02	**Pinedale Array**	**2.00**	**153**	*e*Pn		**Pb**	**03 11 41.7**	**-0.4**
I14A	**Mackay**	**2.00**	**253**	⇑Pb		**Pb**	**03 11 41.5**	**-0.6**
	baz=2.0							
G14A	**Jackson**	**2.00**	**291**	⇓Pg		**Pg**	**03 11 43.3**	**-0.4**
	baz=2.0							
G14A				⇑Sb		**Sb**	**03 12 09.0**	**+1.5**
	baz=2.0							
BW06	**Boulder Array**	**2.01**	**153**	⇓Pb		**Pb**	**03 11 42.2**	**-0.1**
	baz=2.0,SNR=14							
BW06				⇓Pb		**Pb**	**03 11 42.2**	**-0.1**
	baz=2.0,SNR=14							
I20A	**Worland**	**2.02**	**107**	⇑Pb		**Pb**	**03 11 42.5**	**+0.1**
	baz=2.0							
E16A	**East Helena**	**2.07**	**343**	⇓Pb		**Pb**	**03 11 43.4**	**+0.1**
	baz=2.1							
E16A				⇓Sb		**Sb**	**03 12 10.6**	**+1.4**
	baz=2.1							
E18A	**Harlowton**	**2.10**	**17**	⇓Sb		Sb	03 12 11.6	+1.0
	baz=2.1							
F14A	**Wisdom**	**2.20**	**306**	⇑Sb		Sb	03 12 14.8	+1.3
	baz=2.2							
E15A	**Deer Lodge**	**2.27**	**326**	⇑Sb		Sb	03 12 16.3	+1.1
	baz=2.3							
HRY	**Holter Researc**	**2.27**	**342**	*e*Pn		**Pn**	**03 11 43.7**	**+0.3**
HRY				*e*Pg		**Pb**	**03 11 47.5**	**+0.8**
HRY				*e*Sn		**Sn**	**03 12 11.8**	**+0.1**
HRY				*e*Sg		**Sb**	**03 12 16.4**	**+1.4**
HLID	**Hailey**	**2.78**	**250**	*e*Pn		**Pn**	**03 11 52.4**	**+2.0**
HLID				*e*Sn		**Sn**	**03 12 23.7**	**-0.7**
HWUT	**Hardware Ranch**	**3.00**	**191**	*e*Pn		**Pn**	**03 11 52.6**	**-0.9**
HWUT				*e*Pg		**Pb**	**03 11 58.8**	**-0.4**
HWUT				*e*Sg		**Sb**	**03 12 37.8**	**+1.7**
HVU	**Hansel Valley**	**3.13**	**208**	*e*Pn		**Pn**	**03 11 54.1**	**-1.1**
HVU				*e*Pg		**Pb**	**03 12 01.6**	**+0.3**
MSO	**Missoula**	**3.16**	**317**	*e*Pn		**Pn**	**03 11 54.8**	**-0.7**
MSO				*e*Pg		**Pb**	**03 12 03.5**	**+1.7**
MSO				*e*Sg		**Sg**	**03 12 44.5**	**-2.1**
SLMT	**Seeley Lake**	**3.27**	**326**	*e*Pn		**Pn**	**03 11 57.4**	**+0.2**
SLMT				*e*Pg		**Pb**	**03 12 05.3**	**+1.5**
MFID	**Camas Ranch**	**3.80**	**254**	*e*Pg		**Pg**	**03 12 17.4**	**-0.6**
DAU	**Daniels Canyon**	**4.16**	**185**	*e*Pg		**Pb**	**03 12 20.4**	**+1.5**

IDC ***14*** *03:34:49.6±1.0, 35.16N×23.24E, h0km, mb3.9/10, mb1 3.9/14, mb1mx3.7/29, mbtmp3.8/14, ML3.4/4, MS2.7/2, Ms1 2.7/2, ms1mx2.4/42, Error ellipse: s-maj=24.9km s-min=17.2km az=118.0*

CSEM ***14*** *03:34:53.4±0.6, 35.15N×23.05E, h10km, ML3.6, Error ellipse: s-maj=16.0km s-min=5.1km az=31.0*

ATH ***14*** *03:34:54.7, 35.24N×23.06E, h23km±1km, ML3.6*

ISCJB ***14*** *03:34:56.0±0.7, 35.23N±0.05×23.15E±0.06, h67km±6km, mb3.8/10, Error ellipse: s-maj=10.8km s-min=5.0km az=37.8*

THE ***14*** *03:34:55.6, 35.11N×23.08E, h40km±31km, ML4.0/1, Error ellipse: s-maj=31.6km s-min=1.1km az=0.0*

ISC 14 03:34:57.2±1.0, 35.19N±0.06×23.15E±0.05, h57km±9km, n157, σ1.00/150, mb4.1/10, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VAM	**Vamos**	**0.89**	**75**	P		**Pn**	**03 35 12.9**	**-0.8**
VAM				S		**Sn**	**03 35 24.9**	**-0.9**
VAM	**Vamos**	**0.89**	**75**	*e*PN		**Pn**	**03 35 12.8**	**-0.9**
VAM				*e*SN		**Sn**	**03 35 26.7**	**+0.9**
VAM	**Vamos**	**0.89**	**75**	P		**Pn**	**03 35 12.9**	**-0.8**
KYTH	**Kithira**	**1.09**	**355**	P		**Pn**	**03 35 15.9**	**-0.5**
KYTH	**Kithira**	**1.09**	**355**	*e*PN		**Pn**	**03 35 14.4**	**-2.0**
KYTH	**Kithira**	**1.09**	**355**	P		**Pn**	**03 35 15.9**	**-0.5**
SIVA	**Sivas**	**1.38**	**97**	P		**Pn**	**03 35 19.1**	**-1.0**
SIVA				S		**Sn**	**03 35 37.7**	**+0.4**
SIVA	**Sivas**	**1.38**	**97**	*e*PN		**Pn**	**03 35 21.6**	**+1.5**
SIVA				*e*SN		**Sn**	**03 35 41.2**	**+3.9**
SIVA	**Sivas**	**1.38**	**97**	P		**Pn**	**03 35 19.1**	**-1.0**
SIVA	**Sivas**	**1.38**	**97**	*e*Pn		**Pn**	**03 35 21.6**	**+1.5**
SIVA				S		**Sn**	**03 35 37.7**	**+0.4**
IDI	**Anoyia**	**1.43**	**85**	P		**Pn**	**03 35 20.3**	**-0.7**
IDI	**Anoyia**	**1.43**	**85**	P		**Pn**	**03 35 20.3**	**-0.7**
VLI	**Veliai**	**1.54**	**354**	P		**Pn**	**03 35 22.3**	**0.0**
VLI				S		**Sn**	**03 35 42.2**	**+0.9**
VLI	**Veliai**	**1.54**	**354**	*e*PN		**Pn**	**03 35 22.4**	**+0.1**
VLI	**Veliai**	**1.54**	**354**	*e*Pn		**Pn**	**03 35 22.4**	**+0.1**
VLI				S		**Sn**	**03 35 42.2**	**+0.9**

NPS	**Neapolis**	**2.02**	**87**	P		**Pn**	**03 35 28.2**	**-0.7**
NPS	**Neapolis**	**2.02**	**87**	*e*PN		**Pn**	**03 35 30.0**	**+1.1**
NPS	**Neapolis**	**2.02**	**87**	P		**Pn**	**03 35 28.2**	**-0.7**
NPS	**Neapolis**	**2.02**	**87**	*e*Pn		**Pn**	**03 35 30.0**	**+1.1**
PYL	**PYLOS**	**2.05**	**327**	P		**Pn**	**03 35 27.8**	**-1.5**
PYL	**PYLOS**	**2.05**	**327**	*e*PN		**Pn**	**03 35 29.1**	**-0.2**
PYL	**PYLOS**	**2.05**	**327**	P		**Pn**	**03 35 27.8**	**-1.5**
PYL	**PYLOS**	**2.05**	**327**	*e*Pn		**Pn**	**03 35 29.1**	**-0.2**
ITM	**Ithomi**	**2.22**	**334**	P		**Pn**	**03 35 30.8**	**-0.8**
ITM	**Ithomi**	**2.22**	**334**	*e*PB		**Pn**	**03 35 31.3**	**-0.3**
ITM	**Ithomi**	**2.22**	**334**	P		**Pn**	**03 35 30.8**	**-0.8**
ITM	**Ithomi**	**2.22**	**334**	*e*Pb		**Pn**	**03 35 31.3**	**-0.3**
THR1	**Thera Island**	**2.22**	**57**	P		**Pn**	**03 35 30.5**	**-1.2**
THR1	**Thera Island**	**2.22**	**57**	P		**Pn**	**03 35 30.5**	**-1.2**
VLK	**Vlachokerasia**	**2.27**	**344**	*e*PB		**Pn**	**03 35 32.3**	**0.0**
VLK	**Vlachokerasia**	**2.27**	**344**	*e*Pb		**Pn**	**03 35 32.3**	**0.0**
DID	**Didima**	**2.32**	**2**	P		**Pn**	**03 35 31.8**	**-1.2**
DID	**Didima**	**2.32**	**2**	*e*PB		**Pn**	**03 35 33.5**	**+0.5**
DID	**Didima**	**2.32**	**2**	P		**Pn**	**03 35 31.8**	**-1.2**
DID	**Didima**	**2.32**	**2**	*e*Pb		**Pn**	**03 35 33.5**	**+0.5**
ZKR	**Zakros**	**2.52**	**91**	P		**Pn**	**03 35 34.5**	**-1.2**
ZKR	**Zakros**	**2.52**	**91**	*e*PN		Pn	03 35 38.1	+2.4
ZKR	**Zakros**	**2.52**	**91**	P		**Pn**	**03 35 34.5**	**-1.2**
NAIG	**Nisos Aigina**	**2.58**	**6**	*e*PN		**Pn**	**03 35 36.5**	**-0.1**
NAIG	**Nisos Aigina**	**2.58**	**6**	*e*Pn		**Pn**	**03 35 36.5**	**-0.1**
APE	**Apeiranthos**	**2.69**	**45**	P		**Pn**	**03 35 36.9**	**-1.2**
APE	**Apeiranthos**	**2.69**	**45**	P		**Pn**	**03 35 36.9**	**-1.2**
VLY	**Voula,Athens**	**2.71**	**11**	P		**Pn**	**03 35 37.9**	**-0.4**
VLY	**Voula,Athens**	**2.71**	**11**	*e*PN		**Pn**	**03 35 38.6**	**+0.3**
VLY	**Voula,Athens**	**2.71**	**11**	P		**Pn**	**03 35 37.9**	**-0.4**
VLY	**Voula,Athens**	**2.71**	**11**	*e*Pn		**Pn**	**03 35 38.6**	**+0.3**
ATH	**Athens Observa**	**2.82**	**9**	*e*PN		**Pn**	**03 35 40.2**	**+0.4**
ATH	**Athens Observa**	**2.82**	**9**	*e*Pn		**Pn**	**03 35 40.2**	**+0.4**
GUR	**Goura**	**2.82**	**347**	P		**Pn**	**03 35 39.9**	**0.0**
GUR	**Goura**	**2.82**	**347**	*e*PN		**Pn**	**03 35 40.1**	**+0.2**
GUR	**Goura**	**2.82**	**347**	P		**Pn**	**03 35 39.9**	**0.0**
LTK	**Loutraki**	**2.83**	**357**	P		**Pn**	**03 35 40.2**	**+0.2**
LTK	**Loutraki**	**2.83**	**357**	*e*PN		**Pn**	**03 35 40.5**	**+0.5**
LTK	**Loutraki**	**2.83**	**357**	P		**Pn**	**03 35 40.2**	**+0.2**
LTK	**Loutraki**	**2.83**	**357**	*e*Pn		**Pn**	**03 35 40.5**	**+0.5**
PTL	**Penteli**	**2.92**	**11**	P		**Pn**	**03 35 40.1**	**-1.0**
PTL	**Penteli**	**2.92**	**11**	*e*PN		**Pn**	**03 35 41.0**	**-0.1**
PTL	**Penteli**	**2.92**	**11**	P		**Pn**	**03 35 40.1**	**-1.0**
PTL	**Penteli**	**2.92**	**11**	*e*Pn		**Pn**	**03 35 41.0**	**-0.1**
VIL1	**Vilia, Western**	**2.98**	**3**	*e*PN		**Pn**	**03 35 43.1**	**+1.1**
VIL1	**Vilia, Western**	**2.98**	**3**	*e*Pn		**Pn**	**03 35 43.1**	**+1.1**
RLS	**Riolos of Patr**	**3.17**	**335**	P		**Pn**	**03 35 43.9**	**-0.7**
RLS	**Riolos of Patr**	**3.17**	**335**	*e*PN		**Pn**	**03 35 45.0**	**+0.4**
RLS	**Riolos of Patr**	**3.17**	**335**	P		**Pn**	**03 35 43.9**	**-0.7**
RLS	**Riolos of Patr**	**3.17**	**335**	*e*Pn		**Pn**	**03 35 45.0**	**+0.4**
DSF	**Desfina**	**3.26**	**351**	P		**Pn**	**03 35 45.2**	**-0.7**
DSF	**Desfina**	**3.26**	**351**	P		**Pn**	**03 35 45.2**	**-0.7**
KARP	**Karpathos**	**3.30**	**83**	P		**Pn**	**03 35 45.5**	**-0.9**
KARP	**Karpathos**	**3.30**	**83**	*e*PN		**Pn**	**03 35 48.0**	**+1.6**
KARP	**Karpathos**	**3.30**	**83**	P		**Pn**	**03 35 45.5**	**-0.9**
LKR	**Lokris**	**3.46**	**358**	P		**Pn**	**03 35 48.4**	**-0.2**
LKR	**Lokris**	**3.46**	**358**	*e*PN		**Pn**	**03 35 48

3.0nm,0.7s,baz=180,slow=5.6,SNR=4.0
MKAR Makanchi Array 45.13 56 P **P** **03 43 07.1 -0.9**
0.4nm,0.3s,baz=271,slow=7.5,SNR=15
ZALV Zalesovo Beam 46.18 46 P **P** **03 43 14.1 -1.9**
1.0nm,0.4s,baz=264,slow=10,SNR=4.2
SCHQ Schefferville 62.09 319 P **P** **03 45 11.3 -0.5**
2.8nm,0.9s,baz=62,slow=5.4,SNR=3.7
YKA Yellowknife Ar 76.91 341 P **P** **03 46 42.6 -0.4**
0.1nm,0.5s,baz=36,slow=5.2,SNR=3.6

IDC 14 03:59:51.3±1.1, 20.11N×147.27E, h38km±7km, mb3.4/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.4/6, Error ellipse: s-maj=39.8km s-min=25.8km az=108.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.77**	**198**	P	P	04 07 36.9	-0.3
	0.3nm,0.3s,baz=26,slow=9.2,SNR=3.5						
SONM	**Songino Array**	**43.00**	**320**	P	P	04 07 48.4	+1.3
	0.3nm,0.3s,baz=128,slow=6.8,SNR=6.3						
ILAR	**Eielson Array**	**61.73**	**26**	P	P	04 10 04.9	-0.7
	0.2nm,0.8s,baz=234,slow=4.0,SNR=4.1						
ILAR				pP	pP	04 10 15.9	-1.0
	0.2nm,0.7s,baz=255,slow=5.9,SNR=2.0						
YKA	**Yellowknife Ar**	**76.05**	**28**	P	P	04 11 34.6	0.0
	0.3nm,0.5s,baz=287,slow=5.3,SNR=5.5						
YKA				pP	pP	04 11 46.0	-0.2
	0.4nm,0.6s,baz=287,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**81.11**	**52**	P	P	04 12 04.3	+1.1
	0.4nm,0.6s,baz=262,slow=5.1,SNR=5.4						
NVAR				pP	pP	04 12 15.9	+1.0
	0.6nm,0.7s,baz=260,slow=6.9,SNR=4.9						
FINES	**FINESS Array B**	**86.22**	**336**	P	P	04 12 26.6	-2.0
	3.9nm,1.0s,baz=74,slow=6.8,SNR=3.5						

IGQ 14 04:07:36.5, 2.19S×80.16W, h5km±135km, Mb4.1, Ms3.9, 10C-11D, Error ellipse: s-maj=1.6km s-min=1.3km az=2.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**1.27**	**333**	S	Sg	04 08 16.7	-0.6
CHIS	**Cerro-Chispas-**	**1.27**	**333**	P	Pg	04 08 00.5	-0.4
IGUA	**Igualata**	**1.67**	**65**	⇓S	Sn	04 08 29.4	-0.1
IGUA	**Igualata**	**1.67**	**65**	⇓P	Pb	04 08 08.3	-0.2
BIL2	**Estacion Bilba**	**1.81**	**66**	S	Sb	04 08 33.5	-0.3
BIL2	**Estacion Bilba**	**1.81**	**66**	P	Pb	04 08 10.9	+0.4
BMAS	**Trigal station**	**1.81**	**68**	⇓P	Pb	04 08 10.4	-0.2
BBIL	**Ulba Tungurahu**	**1.83**	**66**	P	Pb	04 08 10.3	-0.5
ARRY	**Arrayan**	**1.83**	**68**	⇓P	Pb	04 08 10.6	-0.4
PAT1	**Patacocha**	**1.85**	**68**	P	Pb	04 08 11.3	-0.2
JUI6	**Juive**	**1.85**	**66**	⇓S	Sn	04 08 34.2	+0.7
JUI6	**Juive**	**1.85**	**66**	⇓P	Pb	04 08 11.8	+0.5
RUN5	**Runtun**	**1.90**	**66**	P	Pb	04 08 12.2	+0.1
BULB	**Ulba Tungurahu**	**1.90**	**67**	S	Sb	04 08 35.9	-0.8
BULB	**Ulba Tungurahu**	**1.90**	**67**	P	Pg	04 08 13.2	-0.3
BRUN	**Tungurahua Vol**	**1.91**	**66**	S	Sn	04 08 34.1	-0.7
BRUN	**Tungurahua Vol**	**1.91**	**66**	P	Pb	04 08 11.7	-0.5
CATE	**Catamayo**	**1.93**	**156**	⇑S	Sn	04 08 34.7	-0.3
CATE	**Catamayo**	**1.93**	**156**	⇑P	Pb	04 08 11.8	-0.5
PISA	**Pisayambo**	**2.10**	**58**	P	Pb	04 08 15.3	-0.4
YANT	**Yantaza**	**2.17**	**140**	P	Pb	04 08 15.6	-0.8
YANT	**Yantaza**	**2.17**	**140**	S	Sn	04 08 42.0	+1.2
BMOR	**Cotopaxi Volca**	**2.23**	**50**	⇑S	Sb	04 08 46.4	-0.2
BMOR	**Cotopaxi Volca**	**2.23**	**50**	⇑P	Pb	04 08 16.9	-1.2
MOV1	**Cotopaxi Vol s**	**2.26**	**50**	⇑P	Pb	04 08 17.2	-1.4
NAS2	**Nasa**	**2.28**	**48**	P	Pb	04 08 18.4	-0.5
BREF	**Cotopaxi Volca**	**2.29**	**49**	⇑P	Pb	04 08 18.0	-1.1
BVC2	**Cotopaxi Volca**	**2.32**	**49**	⇑S	Sb	04 08 48.2	-0.8
BVC2	**Cotopaxi Volca**	**2.32**	**49**	⇑P	Pb	04 08 18.1	-1.4
TAMB	**Tambo**	**2.33**	**50**	P	Pb	04 08 18.5	-1.2
VC1	**Cotopaxi 1**	**2.33**	**49**	⇑P	Pb	04 08 18.8	-1.0
COV1	**Cotopaxi Volc**	**2.37**	**50**	P	Pn	04 08 18.2	+1.3
PITA	**Cotopaxi Volc**	**2.37**	**47**	⇓P	Pb	04 08 19.1	-1.2
TERV	**Terraza Guagua**	**2.54**	**38**	P	Pn	04 08 20.0	+1.0
GGP	**Refugio Guagua**	**2.54**	**38**	⇓P	Pn	04 08 20.0	+0.9
PINO	**Pino**	**2.55**	**38**	⇑P	Pn	04 08 20.3	+1.1
ANTI	**Antisana**	**2.64**	**49**	⇓S	Sb	04 08 56.0	-2.4
ANTI	**Antisana**	**2.64**	**49**	⇓P	Pb	04 08 23.4	-1.7
OTAV	**Otavalo**	**2.96**	**35**	⇓P	Pn	04 08 25.1	+0.5
CAYR	**Refugio Cayamb**	**3.07**	**45**	P	Pb	04 08 31.1	-1.4
CAYR	**Refugio Cayamb**	**3.07**	**45**	S	Sn	04 09 05.8	+1.5
COTA	**Cotacachi**	**3.10**	**36**	P	Pn	04 08 28.1	+1.3
CAYA	**Cayambe**	**3.12**	**44**	P	Pb	04 08 31.3	-1.9

IDC 14 04:25:55.2±0.8, 0.63S×133.44E, h0km, mb4.4/8, mb1 4.5/11, mb1mx4.3/20, mbtmp4.4/11, ML4.2/3, MS3.8/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=39.7km s-min=17.3km az=78.0
ISCJB 14 04:25:57.8±0.5, 0.73S±0.05×133.4E±0.1, h28km, mb4.6/29, MS4.0/4, Error ellipse: s-maj=15.9km s-min=6.3km az=167.8
DJA 14 04:25:59, 0.67S×133.25E, h26km, MLv4.9/4
BJI 14 04:25:59.0, 0.70S×133.30E, h35km, mB5.0/10, mb4.8/22, Ms4.9/8, Ms7 4.6/8
NEIC 14 04:26:00.7±0.4, 0.69S×133.32E, h35km, mb4.6/12, Error ellipse: s-maj=13.5km s-min=6.0km az=80.0
ISC 14 04:26:00.1±0.5, 0.80S±0.06×133.4E±0.1, h28km, n56, σ1s71/83, mb4.7/29, MS4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.25**	**253**	Pn	**Pn**	**04 29 21.2**	**+1.0**
	0.7nm,0.3s,baz=70,slow=12,SNR=5.2						
KAPI	**Kappang**	**14.25**	**253**	Pn	**Pn**	**04 29 21.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P	**P**	**04 30 16.7**	**-0.9**
	0.4nm,0.3s,baz=30,slow=11,SNR=15						
FITZ				S	Sn	04 33 33.9	-14
	0.4nm,0.3s,baz=305,slow=16,SNR=5.4						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P	**P**	**04 30 16.7**	**-0.9**
FITZ				S	Sn	04 33 33.9	-14
WRAB	**Tennant Creek**	**19.04**	**177**	*e*P	**Pn**	**04 30 21.4**	**+0.3**
	14nm,0.8s						
WRA	**Warramunga Arr**	**19.05**	**177**	P	**Pn**	**04 30 21.6**	**+0.4**
	1.3nm,0.3s,baz=355,slow=11,SNR=21						
WRA				S	Sn	04 33 43.8	-10
	0.2nm,0.3s,baz=358,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**19.05**	**177**	P	**Pn**	**04 30 21.6**	**+0.4**
WRA				S	Sn	04 33 43.8	-10
WB2	**Warramunga Arr**	**19.05**	**177**	*e*P	**Pn**	**04 30 21.9**	**+0.7**
AS31	**Alice Springs**	**22.73**	**179**	*e*P	**P**	**04 31 01.1**	**+1.0**
MBWA	**Marble Bar**	**24.23**	**212**	*e*P	**P**	**04 31 15.2**	**+0.4**
	13nm,0.8s						
SSLB	**Suanglung**	**27.26**	**334**	*e*P	**P**	**04 31 41.0**	**-1.3**
QIZ	**Qiongzhong**	**30.38**	**312**	P	**P**	**04 32 09.1**	**-0.9**
QIZ				S	**S**	**04 37 08.3**	**-0.8**
QIZ				pmax	pmax		
	comp=Z,32nm,1.9s						
STKA	**Stephens Creek**	**31.87**	**167**	P	**P**	**04 32 23.7**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=349,slow=10,SNR=30						
STKA				LR	LR	04 47 01.2	
	comp=Z,244nm,18.1s,baz=219,slow=40						
STKA	**Stephens Creek**	**31.87**	**167**	*e*P	**P**	**04 32 23.4**	**+0.4**
	comp=Z,0.5nm,0.3s						
IPM	**Ipoh**	**32.76**	**279**	*e*P	**P**	**04 32 28.2**	**-2.9**
	comp=Z,8.4nm,0.7s						
NJ2	**Nanjing**	**35.45**	**338**	*e*P	**P**	**04 32 54.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA	**Guiyang**	**37.40**	**318**	P	**P**	**04 33 11.3**	**+0.3**
GYA				pP	**pP**	**04 33 21.0**	**+1.7**
GYA				PP	PP	04 34 38.9	+2.3
GYA				S	**S**	**04 38 55.4**	**-2.3**
GYA				sS	**ScP**	**04 39 12.3**	**-2.8**
GYA				SS	SS	04 41 28.9	-14
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,16.8s						
GYA				LR	LR		
	comp=E,430nm,17.7s						
GYA				LR	LR		
	comp=Z,460nm,16.6s						
KMI	**Kunming**	**39.29**	**313**	P	**P**	**04 33 28.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CD2	**Chengdu**	**42.27**	**321**	P	**P**	**04 33 52.4**	**+1.0**
CD2				pP	**pP**	**04 34 02.6**	**+2.7**
CD2				sP	**sP**	**04 34 06.9**	**+3.6**
CD2				PP	PP	04 35 33.8	+4.1
CD2				S	**S**	**04 40 10.1**	**-0.5**
CD2				sS	**sS**	**04 40 27.3**	**+2.8**
CD2				SS	SS	04 43 13.3	-6.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,5.4s						
CD2				LR	LR		
	comp=N,460nm,5.3s						
CD2				LR	LR		
	comp=Z,270nm,5.9s						
BJI	**Beijing**	**43.58**	**341**	P	**P**	**04 34 00.8**	**-1.0**
BJI				pmax	pmax		
	comp=Z,19nm,1.0s						
CN2	**Changchun**	**44.97**	**352**	*e*P	**P**	**04 34 11.8**	**-1.0**
CN2				*es*P	**sP**	**04 34 25.9**	**+1.2**
ASAJ	**Asahikawa**	**45.47**	**9**	LR	LR	04 52 20.9	
	comp=Z,50nm,18.2s,baz=190,slow=35						
LZH	**Lanzhou**	**45.85**	**326**	*e*P	**P**	**04 34 20.5**	**+0.3**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.96**	**337**	*e*P	**P**	**04 34 22.8**	**+1.9**
HHC				pP	**pP**	**04 34 32.6**	**+3.2**
HHC				sP	**sP**	**04 34 36.8**	**+4.0**
HHC				PP	PP	04 36 11.0	+2.0
HHC				S	**S**	**04 41 05.3**	**+1.2**
HHC				sS	**sS**	**04 41 21.0**	**+2.8**
HHC				ScS	**ScS**	**04 44 13.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.3s						
HHC				LR	LR		
	comp=N,160nm,14.3s						
HHC				LR	LR		
	comp=E,190nm,14.7s						
HHC				LR	LR		
	comp=Z,140nm,16.0s						
GTA	**Gaotai**	**50.46**	**326**	P	**P**	**04 34 55.0**	**-0.7**
GTA				pP	**pP**	**04 35 05.0**	**+0.7**
GTA				sP	**sP**	**04 35 08.9**	**+1.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**53.62**	**338**	*e*P	**P**	**04 35 19.1**	**0.0**
	comp=Z,12nm,1.7s						
SONM	**Songino Array**	**53.84**	**338**	P	**P**	**04 35 19.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=154,slow=6.9,SNR=5.5						
SONM				PcP	**PcP**	**04 36 25.2**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=131,slow=4.0,SNR=5.2						
SONM	**Songino Array**	**53.84**	**338**	P	**P**	**04 35 19.9**	**-0.8**
SONM				PcP	**PcP**	**04 36 25.2**	**-0.9**
WMQ	**Urumqi**	**60.27**	**323**	*e*P	**P**	**04 36 05.8**	**-0.4**
WMQ				pP	**pP**	**04 36 10.8**	**+0.9**
WMQ				sP	**sP**	**04 36 20.8**	**+2.5**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
MK31	**Makanchi Array**	**65.08**	**324**	*e*P	**P**	**04 36 37.1**	**-1.1**
MKAR	**Makanchi Array**	**65.08**	**324**	P	**P**	**04 36 37.4**	**-0.8**
	comp=Z,8.9nm,0.7s,baz=114,slow=8.0,SNR=93						
MKAR	**Makanchi Array**	**65.08**	**324**	P	**P**	**04 36 37.4**	**-0.8**
KSH	**Kashi**	**65.94**	**314**	*e*P	**P**	**04 36 44.3**	**+0.3**
KSH				*ep*P	**pP**	**04 36 54.4**	**+1.6**
KSH				*es*P	**sP**	**04 36 58.3**	**+2.1**
KSH				*e*PcP	**PcP**	**04 37 14.9**	**+0.2**
KSH				*e*PP	**PP**	**04 39 11.3**	**+1.9**
KSH				*e*ScP		04 41 14.3	
KSH				*e*PcS		04 41 17.9	
KSH				*e*S	**S**	**04 45 25.0**	**-4.9**
KSH				*es*S	**sS**	**04 45 43.8**	**-0.7**
KSH				*e*ScS	**SKSac**	**04 46 33.6**	**-4.7**
KSH				*e*SS	**SS**	**04 49 43.1**	**-2.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,130nm,5.4s						
KSH				LR	LR		
	comp=N,170nm,5.4s						
KSH				LR	LR		
	comp=E,160nm,5.8s						
KSH				LR	LR		
	comp=Z,170nm,5.7s						
TKM2	**Tokmak 2**	**67.54**	**318**	*e*P	**P**	**04 36 53.7**	**-0.6**
	comp=Z,4.7nm,0.8s						
ZAA0	**Zalesovo Array**	**67.67**	**331**	*e*P	**P**	**04 36 52.9**	**-1.6**
ZALV	**Zalesovo Beam**	**67.67**	**331**	P	**P**	**04 36 53.1**	**-1.5**
	comp=Z,5.7nm,0.9s,baz=122,slow=6.9,SNR=16						
ZALV	**Zalesovo Beam**	**67.67**	**331**	P	**P**	**04 36 53.1**	**-1.5**
AAK	**Ala-Archa**	**68.17**	**317**	*e*P	**P**	**04 36 56.5**	**-1.7**
	comp=Z,36nm,1.5s						
EKS2	**Erkin-Say**	**68.67**	**317**	*e*P	**P**	**04 37 00.1**	**-1.1**
	comp=Z,6.5nm,0.9s						
KURK	**Kurchatov**	**69.14**	**326**	*e*P	**P**	**04 37 02.8**	**-1.1**
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**71.07**	**316**	*e*P	**P**	**04 37 15.0**	**-0.9**
BVAR	**Borovoye Array**	**74.74**	**326**	P	**P**	**04 37 36.2**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=116,slow=6.6,SNR=19						
BVAR	**Borovoye Array**	**74.74**	**326**	P	**P**	**04 37 36.2**	**-1.2**
BRVK	**Borovoye**	**74.81**	**326**	*e*P	**P**	**04 37 36.7**	**-1.1**
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**78.19**	**174**	*e*P	**P**	**04 37 57.0**	**+0.6**
	comp=Z,1.9nm,0.9s						
ABKAR	**Akbulak array**	**79.85**	**320**	*e*P	**P**	**04 38 04.8**	**-1.3**
	comp=Z,1.2nm,0.5s						
AKTO	**Aktyubinsk**	**81.33**	**321**	P	**P**	**04 38 13.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=72,slow=9.6,SNR=4.0						
AKTO	**Aktyubinsk**	**81.33**	**321**	P	**P**	**04 38 13.4**	**-0.6**
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**04 38 37.5**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=258,slow=4.7,SNR=8.6						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**04 38 37.5**	**-1.9**
ARCES	**ARCESS Array B**	**96.95**	**340**	P	**P**	**04 39 26.9**	**-1.8**
	comp=Z,5.6nm,1.1s,baz=106,slow=5.7,SNR=6.6						
ARCES	**ARCESS Array B**	**96.95**	**340**	P	**P**	**04 39 26.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**130.62**	**287**	PKP	**PKPdf**	**04 45 08.0**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=58,slow=1.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**130.62**	**287**	PKP	**PKPdf**	**04 45 08.0**	**-1.5**
LPAZ	**La Paz**	**152.81**	**130**	PKPbc	**PKPbc**	**04 45 57.1**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=258,slow=3.4,SNR=5.2						
LPAZ	**La Paz**	**152.81**	**130**	*e*PKPbc	**PKPbc**	**04 45 57.8**	**+1.5**

DJA 14 04:36:37, 0.63S×133.00E, h68km, mb4.6/4
IDC 14 04:36:30.5±1.1, 0.57S×133.11E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.9/17, mbtmp3.8/7, ML3.9/2, MS3.9/2, Ms1 3.9/2, ms1mx3.0/30, Error ellipse: s-maj=60.2km s-min=19.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.90**	**202**	P	P	04 40 52.1	-0.7
	0.3nm,0.3s,baz=33,slow=9.6,SNR=12						
FITZ				S	Sn	04 44 10.6	-15
	0.2nm,0.3s,baz=176,slow=19,SNR=3.9						
FITZ				LR	LR	04 48 09.4	
	comp=Z,70nm,20.3s,baz=192,slow=37						
WRA	**Warramunga Arr**	**19.29**	**176**	P	P	04 40 57.5	+0.4
	0.4nm,0.3s,baz=348,slow=12,SNR=12						
WRA				S	Sn	04 44 21.9	-13
	0.2nm,0.3s,baz=356,slow=23,SNR=6.1						
STKA	**Stephens Creek**	**32.16**	**166**	P	P	04 43 00.5	+0.5
	3.8nm,0.6s,baz=356,slow=11,SNR=7.2						
DZM	**Mont Dzumac**	**38.87**	**126**	LR	LR	05 00 15.7	
	comp=Z,652nm,18.0s,baz=21,slow=37						
SONM	**Songino Array**	**53.52**	**338**	P	P	04 45 53.8	+0.8
	0.3nm,0.7s,baz=146,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**64.73**	**324**	P	P	04 47 11.3	+0.6
	0.3nm,0.3s,baz=114,slow=6.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**67.34**	**331**	P	P	04 47 26.7	-0.5
	0.8nm,0.6s,baz=116,slow=6.6,SNR=4.8						
ILAR	**Eielson Array**	**86.25**	**25**	P	P	04 49 13.4	-0.5
	0.9nm,1.1s,baz=251,slow=5.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**130.28**	**287**	PKP	PKPdf	04 55 42.6	-1.3
	0.3nm,0.7s,baz=359,slow=0.9,SNR=2.4						

ISCJB 14 04:48:56.9±0.9, 6.51S±0.03×155.61E±0.02, h163km±7km, mb5.2/150, Error ellipse: s-maj=4.8km s-min=3.9km az=171.8
MOS 14 04:48:57.5±0.9, 6.39S×155.65E, h164km±5km, mb5.3/58, Error ellipse: s-maj=8.8km s-min=6.1km az=94.4
IDC 14 04:48:58.5±0.6, 6.54S×155.71E, h167km±5km, mb5.0/18, mb1 5.2/18, mb1mx5.2/18, mbtmp5.0/18, MS4.7/2,
Ms1 4.6/2, ms1mx3.8/18, Error ellipse: s-maj=14.3km s-min=10.4km az=99.0
NEIC 14 04:48:58.8±0.1, 6.47S×155.70E, mb5.2/80, Error ellipse: s-maj=4.6km s-min=3.7km az=111.0
BJI 14 04:48:59.4, 6.29S×155.77E, h185km, mB5.1/34, mb5.1/54
DJA 14 04:49:08, 6.58S×155.46E, h245km, Mw5.3/32
ISC 14 04:48:59.4±0.3, 6.49S±0.04×155.77E±0.04, h179km±1km, h178km:pP-P,n708, σ1s30/806, mb5.2/147, 126C-120D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.07**	**126**	*e*P	**Pn**	**04 50 13.7**	**-0.6**
HNR	**Honiara**	**5.07**	**126**	*e*Pn	**Pn**	**04 50 13.7**	**-0.6**
PMG	**Port Moresby**	**9.01**	**251**	P	**Pn**	**04 51 07.3**	**+1.2**
	4.1nm,0.3s,baz=72,slow=11,SNR=39						
PMG				S	Sn	04 52 53.3	+6.6
	9.7nm,0.3s,baz=34,slow=18,SNR=7.8						
PMG	**Port Moresby**	**9.01**	**251**	*c i*P	**Pn**	**04 51 07.0**	**+1.0**
PMG				pmax	pmax		
	comp=Z,874nm,1.2s						
PMG	**Port Moresby**	**9.01**	**251**	P	**Pn**	**04 51 07.3**	**+1.2**
PMG				S	Sn	04 52 53.3	+6.6
COEN	**Coen**	**14.44**	**238**	*e*Pn	**P**	**04 52 18.1**	**+0.4**
CTA	**Charters Tower**	**16.38**	**213**	P	**Pn**	**04 52 41.2**	**+1.8**
	comp=Z,5.1nm,0.3s,baz=33,slow=14,SNR=58						
CTA	**Charters Tower**	**16.38**	**213**	*e*P	**Pn**	**04 52 41.0**	**+1.7**
	comp=Z,68nm,0.9s						
CTA				*e*S	**Sn**	**04 55 43.6**	**+0.6**
CTA	**Charters Tower**	**16.38**	**213**	P	**Pn**	**04 52 41.2**	**+1.8**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA	**Charters Tower**	**16.38**	**213**	P	**Pn**	**04 52 41.2**	**+1.8**
CTAO	**Charters Tower**	**16.38**	**213**	*e*P	**Pn**	**04 52 41.1**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,1μm,2.2s						
CTAO	**Charters Tower**	**16.38**	**213**	*e*Pn	**Pn**	**04 52 41.1**	**+1.7**
	comp=Z,1μm,2.2s						
NOUC	**Port Laguerre**	**18.56**	**148**	*e*P	**P**	**04 53 02.6**	**-0.3**
DZM	**Mont Dzumac**	**18.61**	**147**	*e*P	**Pn**	**04 53 04.9**	**-1.0**
	comp=Z,636nm,1.1s						
DZM	**Mont Dzumac**	**18.61**	**147**	P	**Pn**	**04 53 06.3**	**+0.3**
	comp=Z,25nm,0.3s,baz=326,slow=16,SNR=166						
DZM	**Mont Dzumac**	**18.61**	**147**	*e*P	**P**	**04 53 03.4**	**-0.1**
DZM	**Mont Dzumac**	**18.61**	**147**	*e*P	**P**	**04 53 04.8**	**+1.3**
	comp=Z,488nm,1.0s						
NORM	**Noumea**	**18.76**	**148**	*e*P	**P**	**04 53 05.7**	**+0.7**
EIDS	**Eidsvold**	**19.30**	**193**	*e*P	**Pn**	**04 53 12.5**	**-1.5**
	comp=Z,128nm,0.6s						
BAKI	**Biak**	**20.31**	**284**	P	Pn	04 53 25.5	-0.7
	comp=Z,240nm,1.1s						
FAKI	**Fak Fak**	**23.70**	**278**	P	**P**	**04 53 58.3**	**+3.0**
	comp=Z,95nm,0.8s						
ARMA	**Armidale**	**24.12**	**189**	⇓*i*P	**P**	**04 53 59.7**	**+0.7**
ARMA	**Armidale**	**24.12**	**189**	*e*P	**P**	**04 53 59.8**	**+0.8**
	comp=Z,185nm,0.8s						
WRAB	**Tennant Creek**	**24.72**	**235**	*e*P	**P**	**04 54 04.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,62nm,0.7s						
WRAB	**Tennant Creek**	**24.72**	**235**	*e*P	**P**	**04 54 04.5**	**0.0**
	comp=Z,62nm,0.7s						
WRAB	**Tennant Creek**	**24.72**	**235**	P	**P**	**04 54 04.0**	**-0.5**
	comp=Z,534nm,0.9s,SNR=95						
WB2	**Warramunga Arr**	**24.73**	**235**	*e*P	**P**	**04 54 04.8**	**+0.3**
WB2				*e*S	**S**	**04 58 11.6**	**-1.9**
WRA	**Warramunga Arr**	**24.74**	**235**	P	**P**	**04 54 04.7**	**+0.1**
	comp=Z,36nm,0.5s,baz=58,slow=9.9,SNR=49						
WRA				S	**S**	**04 58 11.4**	**-2.2**
	comp=Z,28nm,0.9s,baz=58,slow=16,SNR=8.9						
WRA	**Warramunga Arr**	**24.74**	**235**	P	**P**	**04 54 04.7**	**+0.1**
WRA				S	**S**	**04 58 11.4**	**-2.2**
WRA				pmax	pmax		
	comp=Z,36nm,0.5s						
WRA				smax	smax		
	comp=N,28nm,0.9s						
WRA	**Warramunga Arr**	**24.74**	**235**	P	**P**	**04 54 04.7**	**+0.1**
WRA				S	**S**	**04 58 11.4**	**-2.2**
AS31	**Alice Springs**	**27.08**	**229**	*e*P	**P**	**04 54 24.9**	**-0.8**
AS31				*e*S	**S**	**04 58 47.4**	**-3.3**
RIV	**Riverview**	**27.54**	**188**	*e*P	**P**	**04 54 30.7**	**+1.2**
STKA	**Stephens Creek**	**28.52**	**206**	P	**P**	**04 54 38.3**	**0.0**
	comp=N,11nm,0.4s,baz=10,slow=7.1,SNR=38						
STKA				LR	LR	05 05 53.9	
	comp=N,332nm,18.4s,baz=236,slow=36						
STKA	**Stephens Creek**	**28.52**	**206**	*e*P	**P**	**04 54 37.5**	**-0.8**
	comp=N,23nm,0.5s						
STKA				*e*S	**S**	**04 59 12.3**	**-0.7**
STKA	**Stephens Creek**	**28.52**	**206**	P	**P**	**04 54 38.3**	**0.0**
STKA				pmax	pmax		
	comp=Z,11nm,0.4s						
STKA				MLR	MLR		
	comp=Z,332nm,18.4s						
STKA	**Stephens Creek**	**28.52**	**206**	*e*P	**P**	**04 54 38.1**	**-0.3**
	comp=Z,7.2nm,0.9s						
CNB	**Canberra Magne**	**29.29**	**191**	*e*P	**P**	**04 54 46.0**	**+0.8**
	comp=Z,271nm,0.8s						
CAN	**Canberra**	**29.36**	**191**	*e*P	**P**	**04 54 46.3**	**+0.5**
CAN				pmax	p

BJII	**Banjamegara**	45.72	266	P		P	04 57 03.4	+0.2	
	comp=Z,219nm,0.8s								
MJAR	**Matsushiro Arr**	45.86	340	P		P	04 57 03.6	-0.3	
	comp=Z,21nm,0.7s,baz=168,slow=8.4,SNR=45								
MJAR				PcP		PcP	04 58 38.4	+0.3	
	comp=Z,8.9nm,0.8s,baz=156,slow=3.8,SNR=5.4								
MJAR	**Matsushiro Arr**	45.86	340	P		P	04 57 03.6	-0.3	
MJAR							04 58 38.4		
MJAR				pmax		pmax			
	comp=Z,21nm,0.7s								
MJAR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
MJAR	**Matsushiro Arr**	45.86	340	P		P	04 57 03.6	-0.3	
MJAR				PcP		PcP	04 58 38.4	+0.3	
MAJO	**Matsushiro**	45.86	340	*e*P		P	04 57 03.8	-0.1	
MAJO				pmax		pmax			
	comp=Z,14nm,0.6s								
MAJO	**Matsushiro**	45.86	340	*e*P		P	04 57 03.8	-0.1	
	comp=Z,14nm,0.6s								
MAT	**Matsushiro**	45.86	340	P		P	04 57 03.7	-0.2	
JNU	**Nakatsue**	45.94	331	*e*P		P	04 57 05.2	+0.7	
	comp=Z,76nm,0.9s								
CISI	**Cisompet, Garu**	47.59	266	P		P	04 57 15.8	-2.0	
LEM	**Lembang**	47.81	267	P		P	04 57 19.1	-0.5	
	comp=Z,158nm,0.9s								
MCQ	**Macquarie Isla**	47.94	177	*e*P		P	04 57 21.2	+1.6	
MCQ	**Macquarie Isla**	47.94	177	*e*P		P	04 57 21.2	+1.6	
ERM	**Erimo**	49.62	348	*e*P		P	04 57 33.5	+0.8	
ERM				pmax		pmax			
	comp=Z,12nm,0.9s								
SSE	**Sheshan**	49.90	320	P		P	04 57 36.0	+1.0	
SSE				pP		pP	04 58 18.4	+3.5	
SSE				S		S	05 04 30.3	-1.1	
SSE				pmax		pmax			
	comp=Z,43nm,1.2s								
SSE				pmax		pmax			
	comp=Z,130nm,4.3s								
SSE				LR		LR			
	comp=N,130nm,28.1s								
SSE				LR		LR			
	comp=E,120nm,28.2s								
SSE				LR		LR			
	comp=Z,81nm,21.2s								
KSRS	**Korea Array**	50.86	331	P		P	04 57 43.0	+1.0	
	comp=Z,66nm,0.9s,baz=148,slow=7.7,SNR=114								
KSRS				pP		pP	04 58 23.9	+1.9	
	comp=Z,15nm,1.1s,baz=142,slow=7.3,SNR=2.1								
KSRS	**Korea Array**	50.86	331	P		P	04 57 43.0	+1.0	
KSRS				*PP		pP	04 58 24.0	+1.9	
KSRS				pmax		pmax			
	comp=Z,66nm,0.9s								
KSRS				pmax		pmax			
	comp=Z,15nm,1.1s								
KSAR	**Wonju Array Be**	50.87	331	P		P	04 57 43.0	+0.9	
KSAR				*PP		pP	04 58 24.0	+1.8	
KSAR	**Wonju Array Be**	50.87	331	P		P	04 57 43.0	+0.9	
KSAR				pP		pP	04 58 23.9	+1.8	
INCN	**Inchon**	51.51	330	*e*P		P	04 57 47.9	+1.0	
	comp=Z,172nm,1.0s								
ASAJ	**Asahikawa**	51.76	348	*e*P		P	04 57 50.3	+1.7	
	comp=Z,35nm,0.9s								
QIZ	**Qiongzhong**	51.87	300	P		P	04 57 50.0	+0.1	
QIZ				S		S	05 04 58.9	0.0	
QIZ				pmax		pmax			
	comp=Z,41nm,2.5s								
QIZ				pmax		pmax			
	comp=Z,290nm,3.6s								
NJ2	**Nanjing**	52.02	320	*e*P		P	04 57 52.1	+1.3	
NJ2				pP		pP	04 58 31.9	+0.9	
NJ2				sP		sP	04 58 51.6	+0.8	
NJ2				pmax		pmax			
	comp=Z,110nm,1.2s								
VLA	**Vladivostok**	53.92	338	*e*P		P	04 58 05.7	+1.3	
VLA				pmax		pmax			
	comp=Z,116nm,1.2s								
WHN	**Wuhan**	54.12	315	P		P	04 58 06.8	+0.7	
WHN				pmax		pmax			
	comp=Z,100nm,0.9s								
PPT2	**Papeete2**	54.41	107	*e*S		S	05 05 32.6	-0.9	
	comp=Z,307nm,26.2s								
YSS	**Yuzh-Sakhalins**	54.45	349	⇑*i*P		P	04 58 10.0	+1.8	
YSS				pmax		pmax			
	comp=Z,190nm,1.0s								
YSS	**Yuzh-Sakhalins**	54.45	349	*e*P		P	04 58 09.3	+1.2	
	comp=Z,185nm,0.9s								
USRK	**Ussuriysk Arra**	54.82	339	P		P	04 58 12.2	+1.3	
	comp=Z,40nm,0.9s,baz=150,slow=7.9,SNR=34								
USRK				pP		pP	04 58 49.1	-2.5	
	comp=Z,25nm,1.2s,baz=142,slow=9.6,SNR=2.9								
TBI	**Tubuai**	55.17	114	*e*S		S	05 05 43.9	+0.5	
	comp=Z,252nm,30.0s								
PPI	**Padang Panjang**	55.56	274	P		P	04 58 14.8	-2.0	
	comp=Z,62nm,1.0s,comp=Z,668nm								
IPM	**Ipoh**	55.73	280	*e*P		P	04 58 16.8	-1.3	
	comp=Z,148nm,1.4s								
IPM	**Ipoh**	55.73	280	P		P	04 58 17.3	-0.7	
	comp=Z,79nm,2.0s								
PMOR	**Pomariorio Ree**	55.86	104	*e*P		P	04 58 20.1	+1.2	
	comp=Z,124nm,1.3s								
MDJ	**Mudanjiang**	56.06	338	*e*P		P	04 58 20.5	+0.7	
	comp=Z,99nm,1.6s								
KULM	**Kulim**	56.25	281	*e*P		P	04 58 22.0	+0.2	
	comp=Z,42nm,0.9s								
KULM	**Kulim**	56.25	281	P		P	04 58 22.5	+0.8	
	comp=Z,48nm,1.0s								
CN2	**Changchun**	57.07	334	*e*P		P	04 58 25.9	-1.0	
CN2				*ep*P		pP	04 59 06.5	-1.4	
CN2				*e*S		S	05 06 05.9	-1.7	
CN2				SS		SS	05 09 59.3	-0.2	
CN2				pmax		pmax			
	comp=Z,40nm,1.2s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,4μm,16.0s								
CN2				LR		LR			
	comp=E,2μm,16.0s								
CN2				LR		LR			
	comp=Z,4μm,19.0s								
ENH	**Enshi**	57.47	312	*e*P		P	04 58 29.4	-0.7	
	comp=Z,38nm,0.8s								
ENH				*e*PcP		PcP	04 59 21.9	+0.3	
HABR	**Khabarovsk**	57.67	344	*e*P		P	04 58 29.2	-1.8	
HABR				*e**PP		pP	04 59 12.0	-0.1	
HABR				*e*			05 00 38.4		
HABR				*e*S		S	05 06 11.4	-3.9	
HABR				*e*			05 07 58.9		
HABR				*e*SS		SS	05 10 05.5	-3.4	
HABR				pmax		pmax			
	comp=Z,178nm,1.6s								
HABR				pmax		pmax			
	comp=N,119nm,2.0s								
HABR				pmax		pmax			
	comp=E,61nm,1.2s								
HABR				MLR		MLR			
	comp=Z,4μm,15.0s								
GYA	**Guiyang**	57.76	307	⇑*i*P		P	04 58 34.3	+2.0	
GYA				pP		pP	04 59 15.6	+2.3	
GYA				sP		sP	04 59 36.0	+3.1	
GYA				PP		PP	05 00 45.4	+2.9	
GYA				ScP		ScP	05 03 05.6	-0.6	
GYA				PcS		PcS	05 03 23.3	-1.5	
GYA				S		S	05 06 17.0	-0.6	
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,130nm,5.2s								
COCO	**West Island**	58.34	260	*i*P		P	04 58 38.2	+1.9	
BJT	**Baijiatuan**	58.93	325	*e*P		P	04 58 39.8	-0.1	
BJT				pmax		pmax			
	comp=Z,40nm,0.9s								
BJT	**Baijiatuan**	58.93	325	*e*P		P	04 58 39.8	-0.1	
	comp=Z,40nm,0.9s								
BJI	**Beijing**	58.94	325	P		P	04 58 40.1	+0.1	
BJI				pP		pP	04 59 22.4	+1.2	
BJI				sP		sP	04 59 42.5	+1.8	
BJI				S		S	05 06 32.8	+0.7	
BJI				pmax		pmax			
	comp=Z,42nm,1.3s								
BJI				pmax		pmax			
	comp=Z,210nm,4.3s								
PET	**Petropavlovsk**	59.33	2	*e*P		P	04 58 43.3	+0.9	
PET				pmax		pmax			
	comp=Z,36nm,0.7s								
PEA0B	**Petropavlovsk-**	59.39	1	*e*P		P	04 58 44.2	+1.4	
PETK	**Petropavlovsk-**	59.39	1	P		P	04 58 44.2	+1.4	
	comp=Z,53nm,0.9s,baz=167,slow=8.3,SNR=44								
PETK				pP		pP	04 59 23.1	-1.0	
	comp=Z,15nm,0.8s,baz=162,slow=6.1,SNR=3.7								
PETK	**Petropavlovsk-**	59.39	1	P		P	04 58 44.3	+1.4	
PETK				*PP		pP	04 59 23.1	-1.0	
PETK				pmax		pmax			
	comp=Z,53nm,0.9s								
PETK				pmax		pmax			
	comp=Z,15nm,0.8s								
PETK	**Petropavlovsk-**	59.39	1	P		P	04 58 44.2	+1.4	
PETK				pP		pP	04 59 23.1	-1.0	
XAN	**Xi'an**	59.88	316	P		P	04 58 46.4	-0.2	
XAN				pP		PcP	04 59 30.8	-0.4	
XAN				S		S	05 06 43.1	-1.4	
XAN				sS		sS	05 07 54.5	-1.9	
XAN				ScS		ScS	05 08 17.8	-1.8	
XAN				SS		SS	05 10 43.4	-0.8	
XAN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
XAN				pmax		pmax			
	comp=Z,37nm,7.0s								
XAN				LR		LR			
	comp=N,130nm,20.6s								
KMI	**Kunming**	60.38	304	P		P	04 58 50.9	+0.5	
KMI				pP		PcP	04 59 34.8	+1.2	
KMI				PP		PP	05 01 09.9	+4.1	
KMI				ScP		ScP	05 03 17.8	-0.1	
KMI				PcS		PcS	05 03 36.4	-0.3	
KMI				S		S	05 06 48.3	-3.2	
KMI				sS		sS	05 08 04.8	+1.4	
KMI				ScS		SKKSac	05 08 21.3	-2.7	
KMI				SS		SS	05 10 53.8	+1.2	
KMI				pmax		pmax			
	comp=Z,22nm,1.0s								
KMI				pmax		pmax			
	comp=Z,91nm,4.6s								
KMI				LR		LR			
	comp=N,270nm,18.2s								
KMI				LR		LR			
	comp=E,140nm,16.9s								
KMI				LR		LR			
	comp=Z,250nm,22.7s								
FX1	**Attu Island--F**	60.96	12	LR		LR	05 19 45.4		
	comp=Z,3μm,20.7s,baz=311,slow=90								
CM31	**Chiang Mai Arr**	61.27	295	*e*P		P	04 58 57.1	+0.9	
	comp=Z,7.3nm,0.5s								
CMAR	**Chiang Mai Arr**	61.27	295	P		P	04 58 56.8	+0.6	
	comp=Z,17nm,0.8s,baz=123,slow=5.3,SNR=50								
CMAR				pP		PcP	04 59 35.5	-1.6	
	comp=Z,8.4nm,0.8s,baz=113,slow=5.0,SNR=4.0								
CMAR	**Chiang Mai Arr**	61.27	295	P		P	04 58 56.8	+0.6	
CMAR				*PP		PcP	04 59 35.5	-1.6	
CMAR				pmax		pmax			
	comp=Z,17nm,0.8s								
CMAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CMAR	**Chiang Mai Arr**	61.27	295	P		P	04 58 56.8	+0.6	
CMAR				pP		PcP	04 59 35.5	-1.6	
CHTO	**Chiang Mai**	61.38	295	*e*P		P	04 58 57.1	+0.1	
CHTO				pmax		pmax			
	comp=Z,56nm,1.5s								
CHTO	**Chiang Mai**	61.38	295	*e*P		P	04 58 57.1	+0.1	
	comp=Z,56nm,1.5s								
CHTO	**Chiang Mai**	61.38	295	P		P	04 58 57.5	+0.5	
	comp=Z,23nm,1.3s								
CD2	**Chengdu**	62.08	310	P		P	04 59 04.1	+2.6	
CD2				pP		pP	04 59 46.3	+3.2	
CD2				PP		PP	05 01 25.3	+4.8	
CD2				S		S	05 07 13.1	+0.7	
CD2				sS		sS	05 08 26.5	+1.8	
CD2				SS		SS	05 11 21.0	+2.3	
CD2				pmax		pmax			
	comp=Z,60nm,0.6s								
CD2				pmax		pmax			
	comp=Z,270nm,5.5s								
HHC	**Hu-ho-hao-te**	62.15	323	*e*P		P	04 59 02.8	+1.0	
HHC				pP		pP	04 59 43.9	+0.4	
HHC				sP		sP	05 00 03.4	+0.5	
HHC				PP		PP	05 01 23.6	+2.7	
HHC				S		S	05 07 13.0	0.0	
HHC				ScS		SKSac	05 08 33.6	-2.9	
HHC				pmax		pmax			
	comp=Z,72nm,1.1s								
HHC				pmax		pmax			
	comp=Z,220nm,5.5s								
HHC				LR		LR			
	comp=N,1μm,16.6s								
HHC				LR		LR			
	comp=E,2μm,18.0s								
HHC				LR		LR			
	comp=Z,2μm,16.9s								
BTO	**Baotou**	62.92	322	pmax		pmax	04 59 08.4		
HIA	**Hailar**	63.79	335	*e*P		P	04 59 13.3	+0.9	
HIA				*e*			04 59 46.5		
HIA				*e**PP		pP	04 59 52.6	-1.6	
HIA				*e**SP		sP	05 00 10.2	-3.4	
HIA				pmax		pmax			
	comp=Z,44nm,1.1s								
HIA	**Hailar**	63.79	335	*e*P		P	04 59 13.3	+0.9	
	comp=Z,44nm,1.1s								
HIA				*e*PcP		PcP	04 59 46.5	-0.3	
HIA				*ep*P		pP	04 59 52.6	-1.6	
HIA				*es*P		sP	05 00 10.2	-3.4	
LZH	**Lanzhou**	64.50	315	*e*P		P	04 59 18.8	+1.3	
LZH				PcP		PcP	04 59 51.9	+1.8	
LZH				sP		sP	05 00 18.1	-0.6	
LZH				*e*S		S	05 07 41.3	-1.2	
LZH				sS		SKSac	05 08 54.6	-0.1	
LZH				pmax		pmax			
	comp=Z,32nm,1.0s								
LZH				pmax		pmax			
	comp=Z,190nm,4.6s								
LZH				LR		LR			
	comp=N,1μm,12.8s								
LZH				LR		LR			
	comp=E,2μm,13.6s								
LZH				LR		LR			
	comp=Z,3μm,14.7s								
CASY	**Casey**	67.31	198	*e*P		P	04 59 34.8	+0.2	
	comp=Z,222nm,1.4s								
CLNS	**Chul'man**	67.98	342	*e*P		P	04 59 40.6	+1.6	
CLNS				*e*			05 00 05.0		
CLNS				*e**PP		pP	05 00 20.6	-0.8	
CLNS				*e*			05 02 07.7		
CLNS				*e*PPP			05 03 52.1		
CLNS				*e*S		S	05 08 23.7	+0.3	
CLNS				*e*			05 09 21.3		
CLNS				*e*SS		SS	05 12 51.6	+2.2	
CLNS				pmax		pmax			
	comp=Z,53nm,1.0s								
CLNS				pmax		pmax			
	comp=N,24nm,0.9s								
CLNS				pmax		pmax			
	comp=E,7.0nm,1.0s								
CLNS				pmax		pmax			
	comp=E,3.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CLNS				pmax		pmax			
	comp=N,5.0nm,0.8s								
CLNS				smax		smax			
	comp=N,147nm,12.7s								
CLNS				smax		smax			
	comp=E,208nm,12.4s								
GTA	**Gaotai**	68.90	317	⇑P		P	04 59 45.8	+0.6	
GTA				pP		pP	05 00 27.1	-0.6	
GTA				sP		sP	05 00 46.5	-0.4	
GTA				S		S	05 08 36.0	+0.8	
GTA				sS		sS	05 09 49.3	+0.3	
GTA				SS		SS	05 13 08.0	+3.5	
GTA				pmax		pmax			
	comp=Z,25nm,1.4s								
GTA				pmax		pmax			
	comp=Z,240nm,5.2s								
GTA				LR		LR			
	comp=N,330nm,18.8s								
GTA				LR		LR			
	comp=E,330nm,19.7s								
GTA				LR		LR			
	comp=Z,330nm,17.1s								
ULN	**Ulaanbaatar**	68.99	327	*e*P		P	04 59 47.1	+1.5	
ULN				pmax		pmax			
	comp=Z,123nm,0.9s								
ULN	**Ulaanbaatar**	68.99	327	*e*P		P	04 59 47.1	+1.5	
	comp=Z,123nm,0.9s								
ULN	**Ulaanbaatar**	68.99	327	P		P	04 59 46.8	+1.2	
	comp=Z,170nm,1.0s,comp=Z,1μm								
SEY	**Seymchan**	69.27	358	⇓*i*P		P	04 59 47.7	+0.9	
SONM	**Songino Array**	69.33	327	P		P	04 59 49.1	+1.4	
	comp=Z,133nm,0.8s,baz=140,slow=6.4,SNR=895								
SONM	**Songino Array**	69.33	327	P		P	04 59 49.1	+1.4	
SONM				pmax		pmax			
	comp=Z,133nm,0.8s								
SONM	**Songino Array**	69.33	327	P		P	04 59 49.1	+1.4	
SHL	**Shillong**	69.70	300	*e*P		P	04 59 50.0	-0.5	
VNDA	**Vanda**	71.07	179	*e*P		P	04 59 58.1	+0.5	
VNDA				pmax		pmax			
	comp=Z,78nm,1.1s								
VNDA	**Vanda**	71.07	179	*e*P		P	04 59 58.1	+0.5	
	comp=Z,78nm,1.1s								
YAK	**Yakutsk**	71.23	347	*e*P		P	04 59 59.6	+0.9	
YAK	**Yakutsk**	71.23	347	*e*P		P	04 59 59.6	+0.9	
SBA	**Scott Base**	71.56	178	*e*P		P	05 00 02.3	+1.8	
SBA				pmax		pmax			
	comp=Z,80nm,1.1s								
SBA	**Scott Base**	71.56	178	*e*P		P	05 00 02.2	+1.8	
	comp=Z,80nm,1.1s								
LSA	**Lhasa**	71.62	304	P		P	05 00 02.6	+0.2	
LSA	**Lhasa**	71.62	304	*e*P		P	05 00 02.5	+0.2	
LSA				pmax		pmax			
	comp=Z,23nm,1.2s								
LSA	**Lhasa**	71.62	304	*e*P		P	05 00 02.5	+0.1	
	comp=Z,23nm,1.2s								
BOD	**Bodaibo**	72.43	338	⇑*i*P		P	05 00 06.1	+0.1	
BOD				pmax		pmax			
	comp=Z,26nm,1.0s								
ZAK	**Zakamensk**	72.47	328	⇑*i*P		P	05 00 07.1	+0.6	
ZAK				pmax		pmax			
	comp=Z,71nm,1.1s								
TLY	**Talaya**	73.02	329	*e*P		P	05 00 09.7	+0.1	
TLY				*e*			05 10 20.6		
TLY				pmax		pmax			
	comp=Z,58nm,1.0s								
IRK	**Irkutsk**	73.03	330	*e*P		P	05 00 08.9	-0.8	
IRK				*e*			05 00 50.1		
IRK				pmax		pmax			
	comp=Z,105nm,1.7s								
TAPN	**Taplejung**	73.80	301	*e*P		P	05 00 15.1	0.0	
	comp=Z,88nm,1.1s								
TAPN	**Taplejung**	73.80	301	*e*P		P	05 00 15.1	0.0	
	comp=Z,88nm,1.1s								
ODAN	**Odare**	73.94	300	*e*P		P	05 00 15.9	+0.1	
	comp=Z,85nm,0.8s								
ODAN	**Odare**	73.94	300	*e*P		P	05 00 15.9	+0.1	
	comp=Z,85nm,0.8s								
RAMN	**Ramite**	74.64	300	*e*P		P	05 00 19.8	-0.1	
RAMN	**Ramite**	74.64	300	*e*P		P	05 00 19.8	-0.1	
BILL	**Bilibino**	74.72	4	*d*/*i*P		P	05 00 20.4	+1.3	
BILL				*e*			05 00 33.5		
BILL				*e**PP		pP	05 01 02.0	-0.2	
BILL				*e**SP		sP	05 01 21.3	0.0	
BILL				*e*			05 03 09.6		
BILL				pmax		pmax			
	comp=Z,125nm,1.3s								
BILL	**Bilibino**	74.72	4	*e*P		P	05 00 20.1	+0.9	
	comp=Z,156nm,1.1s								
JIRN	**Jiri**	75.19	301	*e*P		P	05 00 23.1	0.0	
	comp=Z,27nm,0.7s								
JIRN	**Jiri**	75.19	301	*e*P		P	05 00 23.1	0.0	
	comp=Z,27nm,0.7s								
GUN	**Gumba**	75.52	301	*e*P		P	05 00 25.0	0.0	
	comp=Z,65nm,0.8s								
GUN	**Gumba**	75.52	301	*e*P		P	05 00 25.0	0.0	
	comp=Z,65nm,0.8s								
PKI	**Pulchoki**	75.83	300	*e*P		P	05 00 26.4	-0.4	
	comp=Z,44nm,0.9s								
PKI	**Pulchoki**	75.83	300	*e*P		P	05 00 26.4	-0.4	
PKI				pmax		pmax			
	comp=Z,44nm,0.9s								
PKI	**Pulchoki**	75.83	300	*e*P		P	05 00 26.4	-0.4	
	comp=Z,44nm,0.9s								
KKN	**Kakani**	76.00	301	*e*P		P	05 00 27.4	-0.2	
	comp=Z,43nm,0.8s								
KKN	**Kakani**	76.00	301	*e*P		P	05 00 27.4	-0.2	
KKN				pmax		pmax			
	comp=Z,43nm,0.8s								
KKN	**Kakani**	76.00	301	*e*P		P	05 00 27.4	-0.2	
	comp=Z,43nm,0.8s								
DMN	**Daman**	76.10	300	*e*P		P	05 00 28.2	0.0	
	comp=Z,92nm,0.9s								
DMN	**Daman**	76.10	300	*e*P		P	05 00 28.2	0.0	
	comp=Z,92nm,0.9s								
KDAK	**Kodiak Island**	76.38	26	*i*P		P	05 00 29.8	+1.1	
GKN	**Gorkha**	76.60	301	*e*P		P	05 00 30.5	-0.4	
	comp=Z,76nm,0.8s								
GKN	**Gorkha**	76.60	301	*e*P		P	05 00 30.5	-0.4	
	comp=Z,76nm,0.8s								
TNA	**Tin City**	76.64	15	*e*P		P	05 00 31.9	+1.9	
	comp=Z,32nm,1.1s								
KOLN	**Koldanda**	77.43	300	*e*P		P	05 00 35.0	-0.6	
	comp=Z,25nm,0.7s								
KOLN	**Koldanda**	77.43	300	*e*P		P	05 00 35.0	-0.6	
	comp=Z,25nm,0.7s								
DANN	**Dangsing**	77.44	301	*e*P		P	05 00 35.1	-0.6	
	comp=Z,30nm,0.7s								
DANN	**Dangsing**	77.44	301	*e*P		P	05 00 35.1	-0.6	
	comp=Z,30nm,0.7s								
RSO	**Redoubt South**	77.92	23	*e*P		P	05 00 37.4	-0.2	
	comp=Z,30nm,0.8s								
TTA	**Tatalina**	78.28	20	*e*P		P	05 00 40.5	+1.2	
TTA				pmax		pmax			
	comp=Z,45nm,1.0s								
TTA	**Tatalina**	78.28	20	*e*P		P	05 00 40.5	+1.2	
	comp=Z,45nm,1.0s								
SLKM	**Skilak Lake**	78.96	24	*e*P		P	05 00 43.7	+0.6	
SLKM	**Skilak Lake**	78.96	24	*e*P		P	05 00 43.7	+0.6	
WMQ	**Urumqi**	78.98	317	P		P	05 00 44.3	+0.7	
WMQ				pP		pP	05 01 29.3	+2.2	
WMQ				pmax		pmax			
	comp=Z,24nm,1.3s								
RC01	**Rabbit Creek A**	79.49	24	*e*P		P	05 00 46.3	+0.4	
	comp=Z,37nm,0.8s								
PPLA	**Purkeypile**	79.62	22	*e*P		P	05 00 47.2	+0.5	
	comp=Z,48nm,1.4s								
HYB	**Hyderabad**	79.83	289	*i*P		P	05 00 48.0	-0.7	
HYB				*es*P		pP	05 01 30.0	-2.3	
PMR	**Palmer**	80.02	23	*e*P		P	05 00 48.5	-0.2	
PMR				pmax		pmax			
	comp=Z,46nm,0.9s								
PMR	**Palmer**	80.02	23	*e*P		P	05 00 48.5	-0.2	
	comp=Z,46nm,0.9s								
SML	**Sawmill**	80.45	24	*e*P		P	05 00 52.0	+0.9	
SML				pmax		pmax			
	comp=Z,34nm,1.1s								
SML	**Sawmill**	80.45	24	*e*P		P	05 00 52.0	+0.9	
	comp=Z,34nm,1.1s								
MCK	**McKinley**	81.30	22	*e*P		P	05 00 55.4	-0.1	
MCK				*e**PP		pP	05 01 37.6	-1.7	
MCK				pmax		pmax			
	comp=Z,136nm,1.1s								
MCK	**McKinley**	81.30	22	*e*P		P	05 00 55.4	-0.1	
	comp=Z,136nm,1.1s								
MCK				*ep*P		pP	05 01 37.6	-1.7	
BMRM	**Bremner River**	81.54	25	*e*P		P	05 00 58.0	+1.2	
	comp=Z,65nm,1.2s								
PAX	**Paxson**	82.21	23	*e*P		P	05 01 00.8	+0.5	
PAX				pmax		pmax			

DOT	**Dot Lake**	83.10	23	*e*P		P		05 01 05.6	+0.8
	comp=Z,20nm,0.9s									
QSPA	**South Pole Qui**	83.48	180	*e*P		P		05 01 07.2	+0.2
	comp=Z,202nm,1.1s									
MK31	**Makanchi Array**	83.53	318	*i* P		P		05 01 07.8	+0.4
MK31				pmax		pmax				
	comp=Z,34nm,0.7s									
MK31	**Makanchi Array**	83.53	318	*e*P		P		05 01 07.8	+0.4
MKAR	**Makanchi Array**	83.53	318	P		P		05 01 08.1	+0.6
	comp=Z,25nm,0.7s,baz=102,slow=5.6,SNR=264									
MKAR	**Makanchi Array**	83.53	318	*c*eP		P		05 01 07.9	+0.4
MKAR				pmax		pmax				
	comp=Z,25nm,0.7s									
MKAR	**Makanchi Array**	83.53	318	P		P		05 01 08.1	+0.6
ZAA0	**Zalesovo Array**	84.19	326	*e*P		P		05 01 09.7	-0.8
ZALV	**Zalesovo Beam**	84.19	326	P		P		05 01 10.2	-0.4
	comp=Z,33nm,0.8s,baz=112,slow=5.7,SNR=124									
ZALV	**Zalesovo Beam**	84.19	326	P		P		05 01 10.2	-0.4
ZALV				pmax		pmax				
	comp=Z,33nm,0.8s									
ZALV	**Zalesovo Beam**	84.19	326	P		P		05 01 10.2	-0.4
POO	**Poona**	84.43	289	⇓*i* P		P		05 01 11.0	-1.6
	comp=Z,50nm,1.0s									
EGAK	**Eagle**	84.75	23	*e*P		P		05 01 14.3	+1.1
	comp=Z,43nm,1.1s									
EGAK				*e*pP		pP		05 01 58.4	+1.1
DAWY	**Dawson**	85.12	24	*e*P		P		05 01 16.6	+1.5
MAW	**Mawson**	85.16	203	P		P		05 01 15.4	+0.2
	comp=Z,71nm,1.0s,baz=90,slow=11,SNR=13									
MAW	**Mawson**	85.16	203	*e*P		P		05 01 13.1	-2.0
	comp=Z,48nm,0.9s									
MAW	**Mawson**	85.16	203	P		P		05 01 15.4	+0.2
MAW				pmax		pmax				
	comp=Z,71nm,1.0s									
MAW	**Mawson**	85.16	203	*e*P		P		05 01 15.0	-0.1
	comp=Z,22nm,1.2s									
NVS	**Novosibirsk**	85.36	326	⇓*i* P		P		05 01 15.4	-0.9
NVS				*e*				05 01 55.8		
NVS				pmax		pmax				
	comp=N,25nm,1.5s									
NVS				pmax		pmax				
	comp=E,63nm,1.5s									
NVS				pmax		pmax				
	comp=Z,126nm,1.5s									
KSH	**Kashi**	86.27	310	P		P		05 01 23.5	+2.1
KSH				*e*pP		pP		05 02 06.1	+0.4
KSH				*e*sP		sP		05 02 25.3	+0.9
KSH				*e*PP		PP		05 04 48.1	+3.1
KSH				*e*SKS		SKSac		05 11 30.0	-1.0
KSH				*e*S		SKKSac		05 11 37.3	-2.0
KSH				*e*sS		sS		05 12 58.4	-0.4
KSH				*e*SS		SS		05 17 29.5	+4.0
	comp=Z,18nm,0.8s			pmax		pmax				
KSH				pmax		pmax				
	comp=Z,190nm,3.2s									
KSH				LR		LR				
	comp=N,310nm,6.4s									
KSH				LR		LR				
	comp=E,540nm,7.1s									
KSH				LR		LR				
	comp=Z,530nm,10.6s									
ULHL	**Ulahol**	86.62	313	P		P		05 01 23.8	+0.6
ULHL	SNR=7.8									
				P		P		05 01 23.8	+0.6
	SNR=7.8									
KURK	**Kurchatov**	86.91	322	*d i*P		P		05 01 23.7	-0.4
KURK				pmax		pmax				
	comp=Z,58nm,1.7s									
KURK	**Kurchatov**	86.91	322	*e*P		P		05 01 23.7	-0.4
	comp=Z,20nm,0.9s									
KURK	**Kurchatov**	86.91	322	P		P		05 01 23.5	-0.6
	comp=Z,125nm,0.6s,SNR=19									
KCPM	**Cahto Peak**	86.95	50	*e*P		P		05 01 26.2	+1.5
	comp=Z,10nm,1.2s									
KCPM				*e*pP		pP		05 02 10.2	+1.2
TKM2	**Tokmak 2**	87.22	314	P		P		05 01 26.3	+0.2
	SNR=16									
TKM2				P		P		05 01 26.3	+0.2
	SNR=16									
TKM2	**Tokmak 2**	87.22	314	*i* P		P		05 01 26.2	+0.2
TKM2	**Tokmak 2**	87.22	314	*e*P		P		05 01 26.1	0.0
	comp=Z,5.8nm,0.6s									
KZA	**Kyzart**	87.31	313	P		P		05 01 27.5	+0.8
	SNR=13									
KZA				P		P		05 01 27.5	+0.8
	SNR=13									
DLBC	**Dease Lake**	87.31	30	P		P		05 01 27.4	+1.5
	comp=Z,34nm,1.1s,baz=252,slow=5.2,SNR=22									
DLBC	**Dease Lake**	87.31	30	*e*P		P		05 01 27.6	+1.6
DLBC				*e*pP		pP		05 02 09.4	-0.9
KBK	**Karagaybulak**	87.64	313	P		P		05 01 28.7	+0.7
	SNR=6.0									
KBK				P		P		05 01 28.7	+0.7
	SNR=6.0									
CHMS	**Chumysh**	87.85	314	P		P		05 01 29.1	+0.3
	SNR=6.2									
CHMS				P		P		05 01 29.1	+0.3
	SNR=6.2									
WDC	**Whiskeytown Da**	87.90	49	*e*P		P		05 01 30.5	+1.5
WDC				*e**PP		pP		05 02 12.6	-0.9
WDC				pmax		pmax				
	comp=Z,7.0nm,1.1s									
WDC	**Whiskeytown Da**	87.90	49	*e*P		P		05 01 30.5	+1.5
	comp=Z,7.3nm,1.1s									
WDC				*e*pP		pP		05 02 12.6	-0.9
FRU	**Bishkek**	87.92	313	*i* P		P		05 01 30.0	+0.9
HUMO	**Hull Mountain**	87.96	47	*e*P		P		05 01 30.6	+1.3
	comp=Z,9.6nm,1.0s									
HUMO				*e*pP		pP		05 02 14.5	+0.7
AAK	**Ala-Archa**	87.97	313	P		P		05 01 30.0	+0.5
	SNR=8.1									
AAK				P		P		05 01 30.0	+0.5
	SNR=8.1									
AAK	**Ala-Archa**	87.97	313	*i* P		P		05 01 30.0	+0.5
AAK				pmax		pmax				
	comp=Z,31nm,1.3s									
AAK	**Ala-Archa**	87.97	313	*e*P		P		05 01 29.9	+0.4
	comp=Z,21nm,0.7s									
USP	**Ospenovka**	88.08	314	P		P		05 01 30.2	+0.3
	SNR=19									
USP				P		P		05 01 30.2	+0.3
	SNR=19									
AML	**Almayashu**	88.46	313	P		P		05 01 33.0	+0.8
	SNR=9.1									
AML				P		P		05 01 33.0	+0.8
	SNR=9.1									
EKS2	**Erkin-Say**	88.49	313	P		P		05 01 32.3	+0.3
	SNR=11									
EKS2				P		P		05 01 32.3	+0.3
	SNR=11									
EKS2	**Erkin-Say**	88.49	313	*e*P		P		05 01 31.9	0.0
EKS2				pmax		pmax				
	comp=Z,8.0nm,0.9s									
EKS2	**Erkin-Say**	88.49	313	*e*P		P		05 01 31.9	0.0
	comp=Z,7.9nm,0.9s									
INK	**Inuvik**	88.98	21	*e*P		P		05 01 34.1	+0.7
INK				pmax		pmax				
	comp=Z,65nm,1.1s									
INK	**Inuvik**	88.98	21	*e*P		P		05 01 34.1	+0.7
	comp=Z,65nm,1.1s									
SMMC	**Simmler**	89.02	54	⇑P		P		05 01 36.5	+2.0
	baz=89									
PKM	**Peak Mountain**	89.10	55	⇑P		P		05 01 37.0	+1.9
	baz=89,SNR=9.8									
SBC	**Santa Barbara**	89.12	55	⇓P		P		05 01 36.9	+2.1
	baz=89									
BSC	**Santa Cruz Isl**	89.12	56	⇑P		P		05 01 37.2	+2.2
	baz=89									
BEKR	**Beckworth**	89.43	50	⇓P		P		05 01 38.4	+1.9
	baz=90									
WCN	**Washoe City**	89.80	51	*e*P		P		05 01 40.1	+1.9
WCN				*e**PP		pP		05 02 23.0	+0.2
WCN				pmax		pmax				
	comp=Z,14nm,1.1s									
WCN	**Washoe City**	89.80	51	*e*P		P		05 01 40.0	+1.9
	comp=Z,14nm,1.1s									
WCN				*e*pP		pP		05 02 23.0	+0.2
WCN	**Washoe City**	89.80	51	⇑P		P		05 01 39.8	+1.6
	baz=90									
VES	**Vestal, Richgr**	89.83	54	⇑P		P		05 01 39.3	+1.1
	baz=90,SNR=6.6									
SCI	**San Clemente I**	89.88	57	⇓P		P		05 01 40.2	+1.7
	baz=90,SNR=7.2									
ARVC	**Arvin**	89.94	55	⇓P		P		05 01 40.2	+1.5
	baz=90									
OSI	**Osito Adit**	89.96	55	⇑P		P		05 01 40.7	+1.8
	baz=90									
CIS	**Catalina Islan**	90.06	57	⇑P		P		05 01 40.8	+1.5
	baz=90,SNR=17									
FMP	**Fort Macarthur**	90.19	56	⇓P		P		05 01 41.6	+1.7
	baz=90									
DECC	**Green Verdugo**	90.23	56	⇑P		P		05 01 41.5	+1.4
	baz=90									
MLAC	**Mammoth Lakes**	90.28	52	⇓P		P		05 01 41.8	+1.2
	baz=90									
ISA	**Isabella**	90.30	54	*e*P		P		05 01 41.7	+1.2
ISA				*e**PP		pP		05 02 25.0	0.0
ISA				pmax		pmax				
	comp=Z,25nm,1.5s									
ISA	**Isabella**	90.30	54	*e*P		P		05 01 41.7	+1.2
	comp=Z,25nm,1.5s									
ISA				*e*pP		pP		05 02 25.0	0.0
ISA	**Isabella**	90.30	54	⇑P		P		05 01 42.0	+1.5
	baz=90,SNR=10									
PASC	**Pasadena Art C**	90.34	56	*e*P		P		05 01 41.7	+1.1
	comp=Z,18nm,1.0s									
PASC				*e*pP		pP		05 02 24.0	-1.1
MWC	**Mount Wilson**	90.45	56	*e*P		P		05 01 42.9	+1.5
MWC				*e**PP		pP		05 02 24.9	-1.0
MWC				pmax		pmax				
	comp=Z,58nm,1.2s									
MWC	**Mount Wilson**	90.45	56	*e*P		P		05 01 42.9	+1.5
	comp=Z,58nm,1.2s									
MWC				*e*pP		pP		05 02 24.9	-1.0
EDW2	**Edwards Air Fo**	90.59	55	⇓P		P		05 01 43.6	+1.8
	baz=91,SNR=14									
ETW	**Entiat**	90.64	42	*e*P		P		05 01 42.2	+0.4
	comp=Z,34nm,1.4s									
ETW				*e*pP		pP		05 02 26.4	-0.1
CWC	**Cottonwood Cre**	90.72	54	⇑P		P		05 01 44.1	+1.5
	baz=91									
BFSC	**Mount Baldy Ra**	90.78	56	⇑P		P		05 01 44.2	+1.4
	baz=91,SNR=8.2									
NVAR	**Mina Array Bea**	90.80	52	P		P		05 01 44.6	+1.7
	comp=Z,15nm,1.1s,baz=254,slow=5.5,SNR=62									
NVAR				pP		pP		05 02 26.6	-0.9
	comp=Z,8.4nm,1.1s,baz=250,slow=3.7,SNR=4.7									
NVAR	**Mina Array Bea**	90.80	52	P		P		05 01 44.6	+1.7
NVAR				pP		pP		05 02 26.6	-0.9
LRMC	**Laurel Mountai**	90.91	55	⇑P		P		05 01 45.0	+1.6
	baz=91,SNR=12									
109C	**Camp Elliot, M**	91.07	57	⇓P		P		05 01 46.1	+2.1
	baz=91									
MURC	**Murrieta**	91.08	56	⇓P		P		05 01 45.5	+1.4
	baz=91									
WVOR	**Wild Horse Val**	91.08	48	*e*P		P		05 01 45.0	+0.9
WVOR				pmax		pmax				
	comp=Z,16nm,1.4s									
WVOR	**Wild Horse Val**	91.08	48	*e*P		P		05 01 45.0	+0.9
	comp=Z,16nm,1.4s									
MPMC	**Manual Prospec**	91.14	54	⇓P		P		05 01 46.2	+1.6
	baz=91,SNR=15									
GRAC	**Grapevine Rang**	91.36	53	⇓P		P		05 01 47.2	+1.8
	baz=92									
BBRC	**Big Bear Solar**	91.39	56	⇓P		P		05 01 47.2	+1.4
	baz=92									
RRX	**Edison Barstow**	91.40	55	⇓P		P		05 01 47.1	+1.6
	baz=92									
BAR	**Barrett**	91.41	57	*e*P		P		05 01 47.1	+1.5
	comp=Z,12nm,1.1s									
GSC	**Goldstone**	91.61	55	*e*P		P		05 01 48.1	+1.5
GSC				pmax		pmax				
	comp=Z,22nm,1.5s									
GSC	**Goldstone**	91.61	55	*e*P		P		05 01 48.1	+1.5
	comp=Z,22nm,1.5s									
GSC	**Goldstone**	91.61	55	⇑P		P		05 01 48.0	+1.5
	baz=92,SNR=8.2									
MONP	**Monument Peak**	91.64	57	⇓P		P		05 01 48.7	+1.8
	baz=92,SNR=17									
OD2	**Odessa Site #2**	91.70	43	*e*P		P		05 01 46.7	+0.1
	comp=Z,36nm,1.4s									
PFO	**Pinyon Flat Ob**	91.70	57	P		P		05 01 48.9	+1.8
	comp=Z,57nm,0.7s,SNR=6.1									
PFO	**Pinyon Flat Ob**	91.70	57	⇓P		P		05 01 48.6	+1.5
	baz=92									
FURC	**Furnace Creek,**	91.70	54	⇓P		P		05 01 48.7	+1.9
	baz=92,SNR=16									
BMN	**Battle Mountai**	91.89	50	*e*P		P		05 01 49.3	+1.4
BMN				pmax		pmax				
	comp=Z,33nm,1.2s									
BMN	**Battle Mountai**	91.89	50	*e*P		P		05 01 49.3	+1.4
	comp=Z,33nm,1.2s									
DVTC	**Desert V Tower**	91.89	58	⇑P		P		05 01 49.7	+1.8
	baz=92									
HEC	**Hector,Ludlow**	91.94	55	⇓P		P		05 01 49.4	+1.3
	baz=92,SNR=12									
VOSK	**Vostochnaya**	91.96	323	P		P		05 01 46.0	-1.7
VOSK				pmax		pmax				
	comp=Z,19nm,0.9s									
SHOC	**Shoshone**	92.10	54	⇓P		P		05 01 49.9	+1.2
	baz=92,SNR=11									
BELC	**Belle Mtn. Jos**	92.12	56	⇑P		P		05 01 50.4	+1.3
	baz=92,SNR=7.1									
SWSC	**Sam W. Stewart**	92.17	57	⇑P		P		05 01 50.6	+1.5
	baz=92									
TUQ	**Turquoise Moun**	92.34	55	⇓P		P		05 01 51.7	+1.6
	baz=92									
BVA0	**Borovoye Array**	92.36	323	*d i*P		P		05 01 48.5	-1.0
BVA0				pmax		pmax				
	comp=Z,8.0nm,1.3s									
BRVK	**Borovoye**	92.42	323	*d i*P		P		05 01 48.9	-0.9
BRVK				pmax		pmax				
	comp=Z,33nm,1.2s									
BRVK	**Borovoye**	92.42	323	*e*P		P		05 01 48.8	-1.0
	comp=Z,48nm,1.3s									
BRVK	**Borovoye**	92.42	323	P		P		05 01 49.5	-0.3
	comp=Z,172nm,1.2s,SNR=9.7									
GMRC	**Granite Mounta**	92.48	55	⇑P		P		05 01 52.2	+1.5
	baz=93,SNR=14									
BC3	**Big Chuckawall**	92.53	57	⇑P		P		05 01 53.0	+2.0
	baz=93,SNR=5.6									
IRM	**Iron Mountain**	92.84	56	⇑P		P		05 01 53.7	+1.5
	baz=93,SNR=21									
NEW	**Newport**	92.86	42	*e*P		P		05 01 52.2	+0.1
NEW				pmax		pmax				
	comp=Z,11nm,1.4s									
NEW	**Newport**	92.86	42	*e*P		P		05 01 52.1	+0.1
	comp=Z,11nm,1.4s									
NEW	**Newport**	92.86	42	⇑P		P		05 01 52.0	0.0
	baz=93,SNR=6.0									
R11A	**Troy Canyon, C**	92.92	52	⇑P		P		05 01 54.3	+1.6
	baz=93,SNR=28									
GLA	**Glamis**	92.99	57	⇓P		P		05 01 54.5	+1.6
	baz=93									
SYO	**Syowa Base**	93.05	199	⇑*e*P		P		05 01 50.6	-1.8
MFID	**Camas Ranch**	93.25	47	⇑P		P		05 01 55.1	+1.1
	baz=93									
C11A	**Tepee Creek (N**	93.40	42	⇑P		P		05 01 54.6	+0.1
	baz=94,SNR=5.9									
ELK	**Elko**	93.42	50	*e*P		P		05 01 56.0	+1.0
ELK				*e**PP		pP		05 02 39.2	-0.5
ELK	**Elko**	93.42	50	*e*P		P		05 01 56.0	+1.0
ELK				*e*pP		pP		05 02 39.2	-0.5
PDMCI	**Parker Dam,Lak**	93.68	56	⇑P		P		05 01 58.1	+2.0
	baz=94									
I12A	**Atlanta**	93.79	47	⇓P		P		05 01 57.6	+1.0
	baz=94									
113A	**Mohawk Valley,**	93.85	58	⇑P		P		05 01 58.5	+1.6
	baz=94									
W13A	**Hualapai Mount**	93.96	55	⇑P		P		05 01 59.0	+1.3
	baz=94									
Z13A	**Yuma Proving G**	93.98	57	⇑P		P		05 01 59.7	+2.2
	baz=94									
R13A	**O'Grain Ranch,**	94.17	52	⇑P		P		05 02 00.0	+1.5
	baz=94,SNR=13									
HLID	**Hailey**	94.29	47	*e*P		P		05 01 59.8	+1.0
	comp=Z,7.2nm,1.4s									
HLID				*e*pP		pP		05 02 43.1	-0.4
HLID	**Hailey**	94.29	47	⇓P		P		05 01 59.2	+0.3
	baz=94,SNR=5.4									
J13A	**Cove Ranch, Pi**	94.45	47	⇑P		P		05 01 59.8	+0.2
	baz=94									
H13A	**Challis**	94.48	46	⇓P		P		05 01 59.7	0.0
	baz=95,SNR=6.8									
F13A	**Darby**	94.53	45	⇑P		P		05 02 01.0	+1.1
	baz=95,SNR=8.9									
I13A	**Wildhorse Cree**	94.53	46	⇓P		P		05 02 00.8	+0.8
	baz=95									
G13A	**Cobalt**	94.54	45	⇓P		P		05 02 01.7	+1.8
	baz=95									
ARUT	**Antelope Range**	94.55	53	*e*P		P		05 02 02.1	+1.9
ARUT				pmax		pmax				
	comp=Z,22nm,1.5s									
ARUT	**Antelope Range**	94.55	53	*e*P		P		05 02 02.1	+1.9
	comp=Z,22nm,1.5s									
B13A	**Whitefish**	94.64	42	⇓P		P		05 02 00.6	+0.4
	baz=95,SNR=7.0									
J14A	**Carey**	94.92	47	⇓P		P		05 02 02.3	+0.6
	baz=95									
I14A	**Mackay**	95.01	46	⇓P		P		05 02 02.6	+0.4
	baz=95									
L14A	**Malta**	95.03	48	⇑P		P		05 02 03.2	+1.0
	baz=95,SNR=6.0									
K14A	**Jones Ranch, D**	95.11	48	⇑P		P		05 02 03.3	+0.8
	baz=95									
H14A	**Leadore**	95.12	46	⇑P		P		05 02 02.7	0.0
	baz=95									
DUG	**Dugway**	95.22	50	*e*P		P		05 02 04.3	+1.1
DUG				pmax		pmax				
	comp=Z,2.0nm,0.6s									
DUG	**Dugway**	95.22	50	*e*P		P		05 02 04.2	+1.1
	comp=Z,1.7nm,0.6s									
DUG	**Dugway**	95.22	50	⇑P		P		05 02 04.1	+0.9
	baz=95									
U15A	**North Rim**	95.36	54	⇓P		P		05 02 05.4	+1.4
	baz=95,SNR=7.1									
A14A	**Double T Ranch**	95.37	41	⇓P		P		05 02 04.5	+0.9
	baz=96									
N15A	**Stansbury Isla**	95.49	50	⇑P		P		05 02 05.3	+1.0
	baz=96									
R15A	**Junction**	95.50	52	⇑P		P		05 02 06.3	+1.8
	baz=96									
YKA	**Yellowknife Ar**	95.53	28	P		P		05 02 04.6	+0.8
	comp=Z,12nm,0.8s,baz=266,slow=4.6,SNR=142									
YKA				pP		pP		05 02 45.7	-2.8
	comp=Z,1.6nm,0.6s,baz=260,slow=4.5,SNR=2.2									
YKA				PKKPbc		PKKPdf		05 18 53.0	-4.1
	comp=Z,0.6nm,0.8s,baz=79,slow=2.9,SNR=4.8									
YKA	**Yellowknife Ar**	95.53	28	P		P		05 02 04.6	+0.8
YKA				*PP		pP		05 02 45.7	-2.8
YKA				pmax		pmax				
	comp=Z,12nm,0.8s									
YKA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
YKA				pmax		pmax				
	comp=Z,1.0nm,0.8s									
YKA	**Yellowknife Ar**	95.53	28	P		P		05 02 04.6	+0.8
YKA				pP		pP		05 02 45.7	-2.8
YKA				PKKPbc		PKKPdf		05 18 53.0	-4.1
M15A	**Larsen Ranch,**	95.58	49	⇑P		P		05 02 05.3	+0.6
	baz=96,SNR=5.5									
MSU	**Marysvale**	95.60	52	*e*P		P		05 02 07.2	+2.2
MSU				*e**PP		pP		05 02 49.3	-0.4
MSU				pmax		pmax				
	comp=Z,18nm,1.5s									
MSU	**Marysvale**	95.60	52	*e*P		P		05 02 07.2	+2.2
	comp=Z,18nm,1.5s									
MSU				*e*pP		pP		05 02 49.2	-0.4
K15A	**Arbon**	95.60	48	⇓P		P		05 02 05.7	+0.8
	baz=96,SNR=5.4									
H15A	**Lima**	95.64	46	⇓P		P		05 02 05.7	+0.7
	baz=96									
L15A	**Malad City**	95.66	48	⇑P		P		05 02 06.0	+0.8
	baz=96									
I15A	**Monteview**	95.71	46	⇓P		P		05 02 06.4	+1.2
	baz=96									
J15A	**Blackfoot**	95.71	47	⇑P		P		05 02 06.2	+0.9
	baz=96									
E15A	**Deer Lodge**	95.75	44	⇑P		P		05 02 06.6	+1.2
	baz=96									
G15A	**Dillon**	95.78	45	⇓P		P		05 02 06.2	+0.6
	baz=96									
A15A	**Johnson Ranch,**	95.83	41	⇓P		P		05 02 06.3	+0.6
	baz=96									
C15A	**Salmond Ranch,**	95.84	43	⇓P		P		05 02 06.4	+0.5
	baz=96									
D15A	**Lincoln**	95.86	43	⇓P		P		05 02 07.5	+1.6
	baz=96									
B15A	**Bradely Ranch,**	95.90	42	⇑P		P		05 02 06.3	+0.3
	baz=96									
X16A	**Lo Mia Camp, P**	95.92	56	⇑P		P		05 02 07.8	+1.3
	baz=96									
S16A	**Weppner Ranch,**	96.00	53	⇑P		P		05 02 08.2	+1.3
	baz=96									
WUAZ	**Wupatki**	96.04	55	⇑P		P		05 02 08.8	+1.7
	baz=96									
P16A	**Fountain Green**	96.07	51	⇓P		P		05 02 08.2	+1.1
	baz=96									
R16A	**Teasdale**	96.13	52	⇑P		P		05 02 09.0	+1.6
	baz=96,SNR=8.5									
O16A	**Springville**	96.22	50	⇑P		P		05 02 08.7	+1.0
	baz=96									
HWUT	**Hardware Ranch**	96.25	49	*e*P		P		05 02 08.3	+0.4
	comp=Z,3.6nm,0.8s									
U16A	**Tuba City**	96.28	54	⇑P		P		05 02 09.6	+1.5
	baz=96									
K16A	**Soda Springs**	96.30	48	⇓P		P		05 02 09.2	+1.2
	baz=96									
N16A	**Rees Ranch, Co**	96.31	50	⇓P		P		05 02 09.3	+1.1
	baz=96									
L16A	**Fish Haven**	96.37	48	⇑P		P		05 02 09.3	+0.8
	baz=96									
Q16A	**Castle Valley**	96.41	52	⇓P		P		05 02 10.0	+1.3
	baz=96									
BOZ	**Bozeman (W)**	96.41	45	*e*P		P		05 02 08.7	+0.3
BOZ				pmax		pmax				
	comp=Z,1.0nm,0.8s									
BOZ	**Bozeman (W)**	96.41	45	*e*P		P		05 02 08.7	+0.3
	comp=Z,1.1nm,0.8s									
BOZ	**Bozeman (W)**	96.41	45	⇓P		P		05 02 08.9	+0.5
	baz=96							

S18A **Hurst Farm, Bl** 97.27 53 ⇑P Pdif 05 02 13.7 +1.0
baz=97
T18A **Mexican Hat** 97.34 53 ⇑P Pdif 05 02 13.9 +1.0
baz=97
O18A **Roosevelt** 97.37 50 ⇑P Pdif 05 02 14.0 +1.0
baz=97
R18A **Canyonlands Na** 97.38 52 ⇑P Pdif 05 02 13.6 +0.5
baz=98,SNR=6.0
K18A **Toltan Ranch,** 97.43 48 ⇑P Pdif 05 02 13.7 +0.4
baz=98
J18A **Kendall Valley** 97.46 47 ⇓P Pdif 05 02 13.6 +0.1
baz=98
219A **White Tail Can** 97.61 59 ⇑P **P** **05 02 14.0 -0.2**
baz=98
I18A **Diamond G Ranc** 97.63 47 ⇑P Pdif 05 02 14.7 +0.6
baz=98
E18A **Harlowton** 97.63 44 ⇓P Pdif 05 02 14.3 +0.4
baz=98
F18A **Big Timber** 97.75 45 ⇑P Pdif 05 02 14.6 +0.1
baz=98
PD01 **Pinedale Array** 97.77 48 *e*P **P** **05 02 14.5 -0.3**
PD02 **Pinedale Array** 97.78 48 *e*P **P** **05 02 14.4 -0.4**
PD02 *e*pP **pP** **05 02 58.8 -0.8**
BW06 **Boulder Array** 97.79 48 *e*P **P** **05 02 14.5 -0.3**
comp=Z,6.7nm,1.1s
BW06 *e*pP **pP** **05 02 57.7 -1.9**
BW06 **Boulder Array** 97.79 48 ⇓P Pdif 05 02 15.0 +0.2
baz=98
BW06 ⇓P Pdif 05 02 15.0 +0.2
baz=98
PDAR **Pinedale Array** 97.79 48 P Pdif 05 02 14.9 +0.1
comp=Z,4.9nm,0.9s,baz=242,slow=1.9,SNR=26
PDAR pP pP 05 02 56.8 -2.8
comp=Z,2.4nm,1.0s,baz=242,slow=3.2,SNR=4.4
PDAR PP **PP** **05 06 12.7 -2.8**
comp=Z,2.1nm,1.1s,baz=277,slow=3.5,SNR=7.9
PDAR **Pinedale Array** 97.79 48 P Pdif 05 02 14.9 +0.1
PDAR pP pP 05 02 56.8 -2.8
PDAR PP **PP** **05 06 12.7 -2.8**
G18A **Lazy EL Ranch,** 97.85 45 ⇓Pdiff Pdif 05 02 16.0 +1.0
baz=98
Q19A **Hogan Spring (** 97.89 52 ⇑Pdiff Pdif 05 02 16.2 +0.9
baz=98
L19A **Farson** 97.92 48 ⇑Pdiff Pdif 05 02 15.7 +0.3
baz=98
S19A **Harvey Farm, M** 97.95 53 ⇑Pdiff Pdif 05 02 17.0 +1.3
baz=98
N19A **John Jarvie Ra** 98.02 50 ⇓Pdiff Pdif 05 02 16.1 +0.2
baz=98
O19A **Miners Draw (B** 98.05 50 ⇑Pdiff Pdif 05 02 16.4 +0.5
baz=98
M19A **Rock Springs** 98.05 49 ⇓Pdiff Pdif 05 02 16.1 0.0
baz=98
RLMT **Red Lodge** 98.06 45 ⇓Pdiff Pdif 05 02 16.7 +0.8
baz=98
RLMT ⇓Pdiff Pdif 05 02 16.7 +0.8
baz=98
P19A **Cripple Cowboy** 98.14 51 ⇑Pdiff Pdif 05 02 17.4 +0.9
baz=98
J19A **Crowheart** 98.17 47 ⇑Pdiff Pdif 05 02 16.9 +0.4
baz=98
I19A **Meeteetse** 98.23 47 ⇓Pdiff Pdif 05 02 16.8 +0.1
baz=98
C19A **Slack Wire Ran** 98.24 43 ⇓Pdiff Pdif 05 02 16.9 +0.3
baz=98
H19A **Powell** 98.25 46 ⇑Pdiff Pdif 05 02 17.2 +0.5
baz=98
F19A **Roth Farm, Mol** 98.29 45 ⇓Pdiff Pdif 05 02 17.0 +0.1
baz=98
K19A **Absolon Red Bu** 98.31 48 ⇓Pdiff Pdif 05 02 17.4 +0.2
baz=98
B19A **Brinkman Farms** 98.32 42 ⇑Pdiff Pdif 05 02 17.2 +0.4
baz=98
D19A **Cripps Ranch,** 98.35 43 ⇓Pdiff Pdif 05 02 17.4 +0.3
baz=98
E19A **Rath Farm, Rou** 98.41 44 ⇑Pdiff Pdif 05 02 17.9 +0.6
baz=98
MVCO **Mesa Verde** 98.44 53 ⇓Pdiff Pdif 05 02 17.7 -0.2
baz=98
A19A **Klindworth Far** 98.45 42 ⇓Pdiff Pdif 05 02 18.0 +0.5
baz=98
R20A **Redvale** 98.56 52 ⇑Pdiff Pdif 05 02 19.2 +0.8
baz=99
S20A **Disappointment** 98.57 53 ⇑Pdiff Pdif 05 02 19.3 +0.8
baz=99
P20A **De Beque** 98.59 51 ⇓Pdiff Pdif 05 02 19.5 +1.1
baz=99
Q20A **Ridgley Place,** 98.65 52 ⇑Pdiff Pdif 05 02 19.7 +1.0
baz=99
L20A **Wamsutter** 98.67 49 ⇓Pdiff Pdif 05 02 19.1 +0.3
baz=99
AB31 **Akbulak array** 98.68 319 *i*P **P** **05 02 16.5 -1.8**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR **Akbulak array** 98.68 319 *e*P **P** **05 02 16.5 -1.8**
comp=Z,7.5nm,1.0s
K20A **Yellowstone Ra** 98.68 48 ⇑Pdiff Pdif 05 02 19.1 +0.4
baz=99
N20A **Spence Gulch,** 98.71 50 ⇓Pdiff Pdif 05 02 19.7 +0.6
baz=99
O20A **White River Ci** 98.72 50 ⇓Pdiff Pdif 05 02 20.0 +0.9
baz=99
M20A **Sweetwater, Wa** 98.78 49 ⇑Pdiff Pdif 05 02 19.8 +0.5
baz=99
G20A **Bridger** 98.80 45 ⇑Pdiff Pdif 05 02 19.6 +0.5
baz=99
E20A **Meyer Farm, Mu** 98.86 44 ⇓Pdiff Pdif 05 02 20.2 +0.8
baz=99
J20A **Shoshoni** 98.88 47 ⇑Pdiff Pdif 05 02 20.4 +0.8
baz=99
C20A **Veseth Ranch,** 98.95 43 ⇓Pdiff Pdif 05 02 20.0 +0.3
baz=99
H20A **Greybull** 98.95 46 ⇑Pdiff Pdif 05 02 20.6 +0.7
baz=99
A20A **Cobblestone Ra** 98.99 42 ⇓Pdiff Pdif 05 02 20.1 +0.2
baz=99
Z21A **St. Cloud Mine** 99.00 57 ⇑Pdiff Pdif 05 02 21.5 +1.1
baz=99
S21A **Coal Bank Pass** 99.02 53 ⇑Pdiff **Pdif** **05 02 22.0 +1.4**
baz=99
Q21A **Lamborn Mesa,** 99.21 52 ⇓Pdiff **Pdif** **05 02 23.0 +1.7**
baz=99
R21A **Cimarron** 99.22 52 ⇓Pdiff **Pdif** **05 02 22.8 +1.4**
baz=99
N21A **Black Mountain** 99.28 50 ⇑Pdiff **Pdif** **05 02 22.3 +0.8**
baz=99
O21A **Pagoda** 99.31 50 ⇑Pdiff **Pdif** **05 02 22.7 +1.0**
baz=99
P21A **Newcastle** 99.32 51 ⇓Pdiff **Pdif** **05 02 22.8 +1.0**
baz=99
J21A **Lysite** 99.35 47 ⇓Pdiff **Pdif** **05 02 22.3 +0.6**
baz=99
ARU **Arti** 99.36 326 *d*P *i*P **Pdif** **05 02 19.8 -1.4**
ARU 05 06 24.8
ARU S **SKSac** **05 12 39.5 -2.9**
ARU pmax pmax
comp=Z,25nm,1.7s
ARU **Arti** 99.36 326 *e*Pdif **Pdif** **05 02 19.5 -1.7**
comp=Z,6.3nm,0.6s
L21A **Rawlins** 99.40 49 ⇑Pdiff **Pdif** **05 02 22.6 +0.5**
baz=100
M21A **Separation Pea** 99.40 49 ⇑Pdiff **Pdif** **05 02 22.4 +0.4**
baz=100
I21A **Big Trails, Te** 99.46 47 ⇑Pdiff **Pdif** **05 02 22.3 +0.1**
baz=100
K21A **Alcova** 99.49 48 ⇑Pdiff **Pdif** **05 02 22.8 +0.4**
baz=100
G21A **Lodge Grass** 99.51 45 ⇑Pdiff **Pdif** **05 02 23.2 +0.9**
baz=100
A21A **Bergtoll Ranch** 99.65 42 ⇓Pdiff **Pdif** **05 02 23.2 +0.5**
baz=100
SMCO **Snowmass** 99.68 51 *e*Pdif **Pdif** **05 02 25.3 +1.7**
comp=Z,11nm,1.3s
Q22A **Crested Butte,** 99.73 52 ⇑Pdiff **Pdif** **05 02 24.7 +1.0**
baz=100
S22A **4UR Ranch, Cre** 99.78 53 ⇑Pdiff **Pdif** **05 02 25.2 +1.3**
baz=100
P22A **Eagle** 99.85 51 ⇑Pdiff **Pdif** **05 02 25.5 +1.4**
baz=100
M22A **Cedar Creek Ra** 99.98 49 ⇓Pdiff **Pdif** **05 02 25.7 +1.0**
baz=100
O22A **Kremmling** 100.02 50 ⇑Pdiff **Pdif** **05 02 26.1 +1.2**
baz=100
K22A **Casper** 100.02 48 ⇓Pdiff **Pdif** **05 02 26.0 +1.3**
baz=100
I22A **9 Mile Ranch,** 100.04 47 ⇓Pdiff **Pdif** **05 02 25.5 +0.8**
baz=100
J22A **Midwest** 100.05 47 ⇓Pdiff **Pdif** **05 02 25.9 +1.1**
baz=100
N22A **Wattenberg Ran** 100.08 50 ⇓Pdiff **Pdif** **05 02 26.4 +1.3**
baz=100
H22A **Clearmont** 100.13 46 ⇑Pdiff **Pdif** **05 02 26.3 +1.3**
baz=100
N23A **Red Feather La** 100.47 50 ⇓Pdiff **Pdif** **05 02 28.1 +1.3**
baz=100
L23A **Garrett** 100.64 48 ⇓Pdiff **Pdif** **05 02 27.8 +0.2**
baz=101
ISCO **Idaho Springs** 100.73 51 ⇓Pdiff **Pdif** **05 02 29.3 +1.2**
baz=101
SNAA **Sanae** 100.73 187 *e*P **Pdif** **05 02 23.4 -3.8**
SNAA pmax pmax
comp=Z,4.0nm,0.8s
SNAA **Sanae** 100.73 187 *e*Pdif **Pdif** **05 02 23.4 -3.8**
comp=Z,3.9nm,0.8s
F23A **Volborg** 100.77 45 ⇓Pdiff **Pdif** **05 02 28.4 +0.5**
baz=101
G23A **Biddle** 100.80 45 ⇓Pdiff **Pdif** **05 02 28.7 +0.8**
baz=101
E23A **Ismay** 100.81 44 ⇓Pdiff **Pdif** **05 02 28.8 +0.8**
baz=101
C23A **Lambert** 100.85 43 ⇓Pdiff **Pdif** **05 02 29.2 +1.1**
baz=101
MNTX **Cornudas Mount** 100.89 59 *e*Pdif **Pdif** **05 02 30.1 +1.5**
B23A **Brockton** 100.95 42 ⇓Pdiff **Pdif** **05 02 29.4 +0.9**
baz=101
425A **Indio Mountain** 101.22 60 ⇓Pdiff **Pdif** **05 02 31.1 +0.8**
baz=101
RES **Resolute Bay** 101.28 15 *e*P **Pdif** **05 02 29.5 +0.2**
RES **Resolute Bay** 101.28 15 *e*Pdif **Pdif** **05 02 29.5 +0.2**
H24A **Dirks Ranch, A** 101.41 46 ⇑Pdiff **Pdif** **05 02 30.5 -0.2**
baz=102
F24A **Ekalaka** 101.44 45 ⇑Pdiff **Pdif** **05 02 31.3 +0.5**
baz=102
D24A **Glendive** 101.46 43 ⇓Pdiff **Pdif** **05 02 31.3 +0.4**
baz=102
DGMT **Dagmar** 101.48 42 ⇑Pdiff **Pdif** **05 02 31.1 +0.2**
baz=102
Y25A **Mesa, Roswell** 101.49 57 ⇑Pdiff **Pdif** **05 02 32.1 +0.7**
baz=102
A24A **Westby** 101.58 41 ⇑Pdiff **Pdif** **05 02 31.6 +0.3**
baz=102
RSSD **Black Hills** 101.80 46 *e*P **Pdif** **05 02 32.6 0.0**
RSSD **Black Hills** 101.80 46 *e*Pdif **Pdif** **05 02 32.6 0.0**
FFC **Flin Flon** 102.34 35 *e*P **Pdif** **05 02 35.0 +0.5**
FFC **Flin Flon** 102.34 35 *e*Pdif **Pdif** **05 02 35.0 +0.5**
TXAR **Lajitas Array** 102.34 61 PP PP 05 06 47.5 -2.5
comp=Z,0.8nm,1.1s,baz=242,slow=3.9,SNR=4.4
TXAR PKKPbc **PKKPbc** **05 18 37.5 +0.4**
comp=Z,0.4nm,0.8s,baz=118,slow=4.1,SNR=4.1
TXAR **Lajitas Array** 102.34 61 PP PP 05 06 47.5 -2.5
TXAR PKKPbc **PKKPbc** **05 18 37.5 +0.4**
WMOK **Wichita Mounta** 106.36 56 *e*PKP **PKiKP** **05 07 02.8 -0.5**
ULM **Lac du Bonnet** 106.67 39 *e*PKP **PKiKP** **05 07 02.7 -0.7**
KIV **Kislovodsk** 111.04 315 *e*PKIKP **PKiKP** **05 07 14.3 +2.4**
KIV pmax pmax
comp=Z,5.0nm,0.7s
FINES **FINESS Array B** 113.79 336 PKiKP **PKiKP** **05 07 16.3 -0.1**
comp=Z,3.4nm,0.9s,baz=229,slow=2.0,SNR=4.9
FINES **FINESS Array B** 113.79 336 PKiKP **PKiKP** **05 07 16.4 -0.1**
WCI **Wyandotte Cave** 115.83 51 *e*PKIKP **PKPdf** **05 07 20.7 -0.5**
WCI **Wyandotte Cave** 115.83 51 *e*PKPdf **PKPdf** **05 07 20.7 -0.5**
PLCA **Paso Flores** 116.65 142 PKP **PKPdf** **05 07 22.1 -0.7**
comp=Z,2.1nm,1.0s,baz=225,slow=2.6,SNR=4.2
PLCA PKKPbc **PKKPbc** **05 17 50.9 -0.9**
comp=Z,4.6nm,1.0s,baz=45,slow=3.5,SNR=8.3
PLCA **Paso Flores** 116.65 142 PKIKP **PKPdf** **05 07 22.1 -0.7**
PLCA pmax pmax
comp=Z,2.0nm,1.0s
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA **Paso Flores** 116.65 142 PKP **PKPdf** **05 07 22.1 -0.7**
PLCA PKKPbc **PKKPbc** **05 17 50.9 -0.9**
AKSAG **Malin Array Be** 117.57 325 PKP **PKPdf** **05 07 23.7 -0.3**
comp=Z,9.0nm,0.9s,baz=72,slow=1.7,SNR=20
AKSAG PP **PP** **05 08 36.5 -2.1**
comp=Z,2.2nm,0.8s,baz=51,slow=6.6,SNR=7.3
AKSAG **Malin Array Be** 117.57 325 *c i*PKIKP **PKPdf** **05 07 23.8 -0.3**
AKSAG pmax pmax
comp=Z,9.0nm,0.9s
AKASG **Malin Array Be** 117.57 325 PKP **PKPdf** **05 07 23.7 -0.3**
AKASG PP **PP** **05 08 36.5 -2.1**
AKBB **Malin Array Si** 117.57 325 *e*PKIKP **PKPdf** **05 07 22.9 -1.2**
AKBB **Malin Array Si** 117.57 325 *e*PKPdf **PKPdf** **05 07 22.9 -1.2**
KIEV **Kiev** 117.59 325 *e*PKIKP **PKPdf** **05 07 23.5 -0.6**
KIEV **Kiev** 117.59 325 *e*PKPdf **PKPdf** **05 07 23.5 -0.6**
BR131 **Keskin Array S** 118.62 312 *e*PKPdf **PKPdf** **05 07 25.9 -0.8**
BRTR **Keskin Array B** 118.62 312 PKP **PKPdf** **05 07 26.0 -0.7**
comp=Z,4.4nm,0.9s,baz=101,slow=1.5,SNR=19
BRTR PP **PP** **05 08 47.5 +0.8**
comp=Z,1.6nm,1.0s,baz=63,slow=0.6,SNR=4.7
BRTR **Keskin Array B** 118.62 312 PKIKP **PKPdf** **05 07 26.0 -0.7**
BRTR 05 08 47.5
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR **Keskin Array B** 118.62 312 PKP **PKPdf** **05 07 26.0 -0.7**
BRTR PP **PP** **05 08 47.5 +0.8**
SUW **Suwalki** 119.17 330 *e*PKP **PKPdf** **05 07 25.7 -1.4**
SUW **Suwalki** 119.17 330 *e*PKIKP **PKPdf** **05 07 25.7 -1.4**
NB2 **NORSAR Subarra** 119.47 341 PKPdf **PKPdf** **05 07 26.7 -0.8**
comp=Z,2.6nm,1.0s,baz=44,slow=1.9
NOA **NORSAR Array B** 119.47 341 PKP **PKPdf** **05 07 26.9 -0.6**
comp=Z,2.8nm,0.8s,baz=50,slow=2.2,SNR=5.8
NOA **NORSAR Array B** 119.47 341 PKIKP **PKPdf** **05 07 27.0 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA **NORSAR Array B** 119.47 341 PKP **PKPdf** **05 07 26.9 -0.6**
CSS **Prodhromos** 120.12 307 *e*PKPdf **PKPdf** **05 07 29.1 -0.4**
BOSA **Boshof** 120.94 231 PKP **PKPdf** **05 07 31.2 -0.2**
comp=Z,2.7nm,0.6s,baz=160,slow=3.0,SNR=9.5
BOSA **Boshof** 120.94 231 PKIKP **PKPdf** **05 07 31.3 -0.2**
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA **Boshof** 120.94 231 *e*PKPdf **PKPdf** **05 07 31.2 -0.2**
SCHQ **Schefferville** 120.98 27 PKKPbc PKKPbc 05 17 32.4 -4.0
comp=Z,3.4nm,0.6s,baz=146,slow=5.3,SNR=6.2
SCHQ **Schefferville** 120.98 27 PKKPbc PKKPbc 05 17 32.4 -4.0
BUR08 **Bucovina Ar. S** 121.31 323 *e*PKPdf **PKPdf** **05 07 32.7 +1.1**
BURAR **Bucovina Array** 121.31 323 ⇓*i*P **PKPdf** **05 07 33.1 +1.5**
KWP **Kalwaria Pacla** 121.77 326 *e*PKP **PKPdf** **05 07 33.0 +0.7**
KWP **Kalwaria Pacla** 121.77 326 *e*PKIKP **PKPdf** **05 07 33.0 +0.7**
KWP **Kalwaria Pacla** 121.77 326 *e*PKPdf **PKPdf** **05 07 32.2 0.0**
KWP *e*PP **PP** **05 09 07.5 +0.1**
KWP **Kalwaria Pacla** 121.77 326 ⇑*i*P **PKPdf** **05 07 32.9 +0.7**
MLR **Muntele Rosu** 121.83 321 ⇑*i*P **PKPdf** **05 07 32.6 -0.1**
KOLS **Kolonicke sedl** 122.37 326 *e*PKIKP **PKPdf** **05 07 34.7 +1.3**
KOLS **Kolonicke sedl** 122.37 326 *e*PKP **PKPdf** **05 07 34.7 +1.3**
UZH **Uzhgorod** 122.52 325 *e*PKIKP **PKPdf** **05 07 33.9 +0.2**
UZH *e* 05 08 18.0
TRPA **Tarpa** 122.64 325 ⇑*i*P **PKPdf** **05 07 34.1 +0.2**
STHS **Stebnicka Huta** 122.69 326 *e*PKIKP **PKPdf** **05 07 35.1 +1.1**
STHS **Stebnicka Huta** 122.69 326 *e*PKP **PKPdf** **05 07 35.1 +1.1**
CRVS **Cervenica-Dubn** 122.84 326 *e*PKIKP **PKPdf** **05 07 35.0 +0.7**
CRVS **Cervenica-Dubn** 122.84 326 *e*PKP **PKPdf** **05 07 35.0 +0.7**
HUMR **Humele** 122.87 320 ⇑*i*P **PKPdf** **05 07 34.6 +0.1**
OJC **Ojcow** 123.02 328 *e*PKP **PKPdf** **05 07 35.1 +0.5**
OJC **Ojcow** 123.02 328 *e*PKIKP **PKPdf** **05 07 35.1 +0.5**
LCO **Las Campanas** 123.04 131 *e*PKPdf **PKPdf** **05 07 35.7 0.0**
NIE **Niedzica** 123.19 327 *e*PKP **PKPdf** **05 07 36.0 +1.0**
NIE **Niedzica** 123.19 327 *e*PKIKP **PKPdf** **05 07 36.0 +1.0**
TRQA **Tornquist** 123.46 145 *e*PKPdf **PKPdf** **05 07 35.4 -0.5**
KECS **Kecovo** 123.61 326 *e*PKIKP **PKPdf** **05 07 39.8 +4.0**
KECS **Kecovo** 123.61 326 *e*PKP **PKPdf** **05 07 39.8 +4.0**
GZR **Gura Zlata** 123.86 322 ⇓*i*P **PKPdf** **05 07 37.0 +0.5**
OKC **Ostrava-Krasne** 124.11 328 *e*PKIKP **PKPdf** **05 07 37.8 +1.1**
OKC **Ostrava-Krasne** 124.11 328 *e*PKPdf **PKPdf** **05 07 37.8 +1.1**
PSZ **Piszkesteto** 124.25 325 *e*PKIKP **PKPdf** **05 07 37.5 +0.4**
PSZ **Piszkesteto** 124.25 325 *e*PKPdf **PKPdf** **05 07 37.5 +0.4**
PSZ **Piszkesteto** 124.25 325 ⇑*i*P **PKPdf** **05 07 37.7 +0.5**
KSP **Ksiaz** 124.45 330 *e*PKP **PKPdf** **05 07 38.5 +1.1**
KSP **Ksiaz** 124.45 330 *e*PKIKP **PKPdf** **05 07 38.4 +1.1**
KSP *e* 05 08 20.4
BZS **Buzias** 124.45 322 ⇓*i*P **PKPdf** **05 07 37.7 +0.2**
MORC **Moravsky Berou** 124.46 328 *e*PKIKP **PKPdf** **05 07 38.1 +0.6**
MORC **Moravsky Berou** 124.46 328 *e*PKPdf **PKPdf** **05 07 38.0 +0.6**
VYHS **Vyhne** 124.52 327 *e*PKIKP **PKPdf** **05 07 37.6 0.0**
VYHS **Vyhne** 124.52 327 *e*PKP **PKPdf** **05 07 37.6 0.0**
NNA **Nana** 124.56 109 *e*PKIKP **PKPdf** **05 07 38.7 0.0**
NNA **Nana** 124.56 109 *e*PKPdf **PKPdf** **05 07 38.6 0.0**
DPC **Dobruska-Polom** 124.74 330 *e*PKIKP **PKPdf** **05 07 38.6 +0.6**
DPC **Dobruska-Polom** 124.74 330 *e*PKPdf **PKPdf** **05 07 38.6 +0.6**
UPC **Upice** 124.80 330 *e*PKIKP **PKPdf** **05 07 38.9 +0.9**
UPC **Upice** 124.80 330 *e*PKPdf **PKPdf** **05 07 38.9 +0.9**
PQI **Presque Isle** 125.12 36 *e*PKPdf **PKPdf** **05 07 39.2 +0.4**
VRAC **Vranov** 125.24 328 ⇑*i*P **PKPdf** **05 07 39.8 +0.9**
PVCC **Panska Ves** 125.50 331 *e*PKIKP **PKPdf** **05 07 39.8 +0.5**
PVCC *e* 05 08 23.3
PVCC **Panska Ves** 125.50 331 *e*PKPdf **PKPdf** **05 07 39.8 +0.5**
PVCC *e*pPKP **pPKPdf** **05 08 23.3 -2.8**
OTAV **Otavalo** 125.55 94 *e*PKPdf **PKPdf** **05 07 41.3 +0.2**
BRG **Berggiesshubel** 125.58 331 *i* PKP **PKPdf** **05 07 40.3 +0.8**
comp=Z,32nm,1.2s
BRG *e*pPKP **pPKPdf** **05 08 22.6 -3.6**
comp=Z,9.8nm,1.2s
BRG **Berggiesshubel** 125.58 331 *i* PKIKP **PKPdf** **05 07 40.3 +0.8**
BRG *e* 05 08 22.6
BRG pmax pmax
comp=Z,32nm,1.3s
BRG pmax pmax
comp=Z,10.0nm,1.2s
CLL **Collm** 125.73 332 ⇓*i*PKIKP **PKPdf** **05 07 40.2 +0.4**
CLL pmax pmax
comp=Z,20nm,1.0s
CLL **Collm** 125.73 332 ⇓*i*PKPdf **PKPdf** **05 07 40.2 +0.4**
comp=Z,20nm,1.0s
TREC **Trest** 125.82 329 *e*PKIKP **PKPdf** **05 07 40.9 +0.9**
TREC **Trest** 125.82 329 *e*PKPdf **PKPdf** **05 07 40.9 +0.9**
PRU **Pruhonice** 125.86 330 *e*PKIKP **PKPdf** **05 07 40.3 +0.2**
PRU **Pruhonice** 125.86 330 *e*PKPdf **PKPdf** **05 07 40.3 +0.2**
PKSM **Moragy** 125.91 324 ⇑*i*P **PKPdf** **05 07 40.7 +0.5**
CONA **Conrad Observa** 126.46 327 ⇑*i*P **PKPdf** **05 07 42.0 +0.6**
CONA **Conrad Observa** 126.46 327 ⇑*i*PKIKP **PKPdf** **05 07 42.0 +0.6**
comp=Z,9.7nm,1.0s
NKC **Novy Kostel** 126.71 331 *e*PKIKP **PKPdf** **05 07 42.6 +0.9**
NKC **Novy Kostel** 126.71 331 *e*PKPdf **PKPdf** **05 07 42.6 +0.9**
KHC **Kasperske Hory** 126.89 330 *e*PKIKP **PKPdf** **05 07 42.4 +0.3**
KHC *e* 05 08 25.9
KHC **Kasperske Hory** 126.89 330 *e*PKPdf **PKPdf** **05 07 42.5 +0.4**
KHC **Kasperske Hory** 126.89 330 *e*PKPdf **PKPdf** **05 07 42.4 +0.3**
KHC *e*pPKP **pPKPdf** **05 08 25.9 -2.9**
GERES **GERESS Array B** 127.01 329 PKP **PKPdf** **05 07 42.7 +0.3**
comp=Z,8.2nm,0.8s,baz=77,slow=2.1,SNR=16
GERES **GERESS Array B** 127.01 329 PKIKP **PKPdf** **05 07 42.7 +0.3**
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES **GERESS Array B** 127.01 329 PKP **PKPdf** **05 07 42.7 +0.3**
LVC **Limon Verde** 127.59 125 *e*PKPdf **PKPdf** **05 07 45.5 +1.0**
WTTA **Wattenberg** 129.10 329 ⇑*i*PKIKP **PKPdf** **05 07 46.2 -0.4**
WTTA **Wattenberg** 129.10 329 ⇑*i*P **PKPdf** **05 07 46.2 -0.4**
WTTA **Wattenberg** 129.10 329 ⇑*i*PKPdf **PKPdf** **05 07 46.2 -0.4**
comp=Z,29nm,1.1s
MOTA **Moosalm** 129.31 329 ⇓*i*PKIKP **PKPdf** **05 07 46.9 0.0**
MOTA **Moosalm** 129.31 329 ⇓*i*P **PKPdf** **05 07 46.9 0.0**
MOTA **Moosalm** 129.31 329 ⇓*i*PKIKP **PKPdf** **05 07 46.9 0.0**
comp=Z,17nm,1.0s
WLF **Walferdange** 129.97 335 *e*PKIKP **PKPdf** **05 07 48.4 +0.5**
WLF **Walferdange** 129.97 335 *e*PKPdf **PKPdf** **05 07 48.4 +0.5**
ROSC **El Rosal** 130.13 89 PKP **PKPdf** **05 07 50.2 +0.5**
comp=Z,8.1nm,0.8s,baz=116,slow=4.8,SNR=6.1
ROSC **El Rosal** 130.13 89 *e*PKPdf **PKPdf** **05 07 50.1 +0.4**
CDF **Champ du Feu** 130.40 333 *e*PKIKP **PKPdf** **05 07 49.5 +0.6**
comp=Z,13nm,1.0s
BAIF **Baives** 130.47 336 *e*PKIKP **PKPdf** **05 07 50.4 +1.6**
TUE **Stuetta** 130.79 330 *e*PKPdf **PKPdf** **05 07 48.1 -1.7**
PAGF **Fort de Pagny** 130.99 334 *e*PKIKP **PKPdf** **05 07 51.3 +1.4**
LPAZ **La Paz** 131.02 118 PKP **PKPdf** **05 07 51.9 +0.2**
comp=Z,7.1nm,1.0s,baz=297,slow=3.6,SNR=16
LPAZ SKPbc **SKPab** **05 11 01.1 +1.1**
comp=Z,2.2nm,0.8s,baz=215,slow=1.9,SNR=4.5
LPAZ **La Paz** 131.02 118 PKIKP **PKPdf** **05 07 51.9 +0.2**
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ pmax pmax
comp=N,2.0nm,0.8s
LPAZ **La Paz** 131.02 118 PKP **PKPdf** **05 07 51.9 +0.2**
LPAZ *e*PKPdf **PKiKP** **05 07 52.0 -0.6**
LPAZ *e*pPKPdf **pPKPdf** **05 08 39.2 +0.8**
LPAZ SKPbc **SKPab** **05 11 01.1 +1.1**
LPAZ *e*SKP 05 11 01.2
HINF **Hinteralfeld** 131.03 333 *e*PKIKP **PKPdf** **05 07 50.8 +0.8**
comp=N,26nm,1.0s
HAU **Haudompre** 131.12 333 *e*PKIKP **PKPdf** **05 07 51.1 +0.9**
comp=N,19nm,0.8s
MEZF **Maizieres J'vi** 131.32 334 *e*PKIKP **PKPdf** **05 07 52.1 +1.6**
SFTF **Sexfontaines** 131.55 334 *e*PKIKP **PKPdf** **05 07 52.2 +1.2**
CABF **La Chapelle** 132.27 332 *e*PKIKP **PKPdf** **05 07 53.7 +1.2**
LPL **La Plagne** 132.76 330 *e*PKIKP **PKPdf** **05 07 54.2 +0.6**
comp=N,29nm,1.1s
LPG **La Plagne** 132.76 330 *e*PKIKP **PKPdf** **05 07 54.3 +0.6**
comp=N,28nm,1.0s
LOR **Lormes** 132.78 334 *e*PKIKP **PKPdf** **05 07 54.2 +0.9**
comp=N,16nm,0.9s
SSF **Saint Saulge** 133.09 334 *e*PKIKP **PKPdf** **05 07 54.8 +0.9**
comp=N,75nm,1.6s
BNI **Bardonecchia** 133.12 330 *e*PKIKP **PKPdf** **05 07 54.1 -0.1**
BNI **Bardonecchia** 133.12 330 *e*PKPdf **PKPdf** **05 07 54.1 -0.1**
FLN **La Foliniere** 133.31 339 *e*PKIKP **PKPdf** **05 07 55.7 +1.5**
comp=N,50nm,1.1s
LDF **La Druitiere** 133.32 338 *e*PKIKP **PKPdf** **05 07 55.5 +1.2**
AVF **Avril sur Loir** 133.37 334 *e*PKIKP **PKPdf** **05 07 55.5 +1.1**
SBF **Sospel** 133.57 328 *e*PKIKP **PKPdf** **05 07 55.4 +0.4**
ORIF **Oris-en-Rattie** 133.61 331 *e*PKIKP **PKPdf** **05 07 55.7 +0.6**
comp=N,32nm,1.1s
PGF **Pioggiola** 133.62 326 *e*PKIKP **PKPdf** **05 07 56.3 +1.1**
comp=N,72nm,1.1s
GRR **Gorron** 133.76 339 *e*PKIKP **PKPdf** **05 07 56.6 +1.5**
BGF **Bois d'Agland** 133.77 334 *e*PKIKP **PKPdf** **05 07 55.9 +0.7**
SDV **Santo Domingo** 133.97 84 *e*PKPdf **PKPdf** **05 07 56.7 0.0**
VIVF **Saint-Julien-l** 134.24 331 *e*PKIKP **PKPdf** **05 07 57.8 +1.6**
comp=N,26nm,1.0s
TCF **Toulx Ste Croi** 134.26 334 *e*PKIKP **PKPdf** **05 07 57.8 +1.6**
comp=N,37nm,1.2s
SMRF **Simiane la Rot** 134.44 330 *e*PKIKP **PKPdf** **05 07 57.7 +1.1**
comp=N,48nm,1.3s
ROSF **Rostrenen** 134.65 340 *e*PKIKP **PKPdf** **05 07 58.1 +1.3**
MFF **Saint Martin d** 134.97 337 *e*PKIKP **PKPdf** **05 07 58.2 +0.8**
comp=N,26nm,1.0s
LASF **Ste Croix** 135.21 331 *e*PKIKP **PKPdf** **05 07 58.8 +0.8**
comp=N,39nm,1.1s
MTLF **Montolieu** 136.54 332 *e*PKIKP **PKPdf** **05 08 02.4 +1.9**
EPF **Esparros** 137.64 333 *e*PKIKP **PKPdf** **05 08 03.5 +0.9**
ETSF **Etsaut** 138.15 334 *e*PKIKP **PKPdf** **05 08 05.0 +1.5**
comp=N,23nm,1.0s
SAML **Samuel** 138.25 111 *e*PKPdf **PKPdf** **05 08 02.9 -1.6**
MVO **Moncorvo** 142.21 339 *e*PKP **PKPdf** **05 08 11.0 +0.1**
ESDC **Sonseca Array** 142.26 334 PKhKP PKPpre 05 08 07.4
comp=N,1.1nm,0.6s,baz=22,slow=3.3,SNR=10
ESDC PP **PP** **05 11 10.5 -7.8**
comp=N,0.4nm,0.6s,baz=31,slow=7.6,SNR=4.8
ESDC **Sonseca Array** 142.26 334 PKPpre PKPpre 05 08 07.4
ESDC PP **PP** **05 11 10.5 -7.8**
POLO **Lamas de Olo** 142.30 340 *e*PKP **PKPdf** **05 08 10.1 -1.0**
PVRL **Vila Real** 142.36 339 *e*PKP **PKPdf** **05 08 10.0 -1.2**
PVIS **Viseu** 142.92 339 *e*PKP **PKPdf** **05 08 09.9 -2.3**
MTE **Manteigas** 143.07 339 *e*PKP **PKPdf** **05 08 11.4 -1.1**
PCBR **Castelo Branco** 143.54 338 *e*PKP PKPbc 05 08 12.1 +1.1
PMRV **Marv??o** 143.86 338 *e*PKP **PKPdf** **05 08 13.0 -0.8**
PTOM **Tomar** 144.07 339 *e*PKP **PKPdf** **05 08 13.5 -0.7**
PMTG **Montargil** 144.49 338 *e*PKP **PKPdf** **05 08 14.8 -0.1**
PBAR **Barrancos** 144.81 336 *e*PKP **PKPdf** **05 08 15.8 +0.3**
EVO **Evora** 144.88 338 *e*PKP **PKPdf** **05 08 15.5 -0.1**
EVO **Evora** 144.88 338 ⇓*i*PKIKP **PKPdf** **05 08 16.1 +0.5**
comp=N,106nm,1.1s
PMAFR **Mafra** 144.97 339 *e*PKP **PKPdf** **05 08 15.8 0.0**
PBEJ **Beja** 145.27 337 *e*PKP **PKPab** **05 08 17.3 +0.7**
PNCL **Nicolau / Gran** 145.44 338 *e*PKP **PKPab** **05 08 17.8 +0.5**
PCVE **Castro Verde** 145.68 337 *e*PKP **PKPdf** **05 08 16.3 -0.7**
PVAQ **Vaqueiros** 145.75 336 *e*PKP **PKPdf** **05 08 16.3 -0.8**
PBDV **Barranco-do-Ve** 145.97 336 *e*PKP **PKPab** **05 08 19.9 +0.6**
PTEO **Sao Teotonio** 146.01 338 *e*PKP **PKPab** **05 08 19.7 +0

comp=N,2.6nm,0.9s,baz=34,slow=4.4,SNR=4.0
DBIC PKPab **PKPab 05 09 21.3 -0.9**
comp=N,21nm,0.9s,baz=80,slow=5.1,SNR=24
DBIC Dimbokro 160.75 272 PKIKP **PKPdf 05 08 38.9 -0.2**
DBIC 05 09 21.3
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC pmax pmax
comp=Z,21nm,0.9s
DBIC Dimbokro 160.75 272 *e*PKPdf **PKPdf 05 08 38.6 -0.6**
DBIC PKP **PKPdf 05 08 38.9 -0.2**
DBIC PKPab **PKPab 05 09 21.3 -0.9**
DBIC *e*PKPab PKPab 05 09 21.8 -0.4
LIC Lamto 160.91 270 ⇑*i*PKIKP **PKPdf 05 08 39.2 -0.1**
comp=Z,21nm,1.0s

IDC **14** *05:14:16.2±2.9, 52.2°25N×159.39E, h10km±17km, mb4.6/26, mb1 4.8/28, mb1mx4.8/28, mbtmp4.6/28, ML5.5/1, MS4.8/33, Ms1 4.8/33, ms1mx4.7/43, Error ellipse: s-maj=15.9km s-min=9.3km az=166.0*
MOS **14** *05:14:17.9±1.0, 52.2°25N×159.26E, h31km, mb5.2/88, MS5.1/33, Error ellipse: s-maj=7.4km s-min=4.1km az=95.4*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
KRSC **14** *05:14:19.0±1.6, 52.17N×159.70E, h11km±11km, ML5.5*
BJI **14** *05:14:20.9, 52.52N×159.25E, h63km, mB5.2/38, mb5.1/52, Ms5.2/55, Ms7 5.0/54*
DJA **14** *05:14:21, 52.34N×159.20E, h25km, mb5.3/8*
ISCJB **14** *05:14:21.0±0.3, 52.16N±0.02×159.38E±0.02, h59km±2km, mb5.1/247, MS5.0/68, Error ellipse: s-maj=3.9km s-min=2.1km az=171.8*
NEIC **14** *05:14:23.3±0.6, 52.27N×159.29E, h62km±5km, mb5.1/123, Error ellipse: s-maj=5.3km s-min=2.8km az=165.0*
TEH **14** *05:14:24.0, 52.37N×159.14E, h66km, ML5.0*
SZGRF **14** *05:14:31.9, 53.04N×157.82E, h60km, mb5.1, Kamchatka Peninsula, Russia*
ISC 14 05:14:22.9±0.3, 52.23N±0.04×159.30E±0.03, h60km±2km, h59km:pP-P, n1053, σ1915/1171, mb5.2/247, MS5.0/69, 227C-192D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.53**	**293**	PN	**Pn**	**05 14 33.4**	**-1.7**
RUS	**Russkaya**	**0.53**	**293**	*i* P	**Pn**	**05 14 33.4**	**-1.7**
MTVR	**Mutnovka**	**0.73**	**291**	*i* P	**Pn**	**05 14 37.0**	**-0.7**
GRL	**Gorelyy**	**0.82**	**294**	*i* P	**Pn**	**05 14 38.9**	**+0.1**
ASAK	**Asacha**	**0.88**	**281**	*i* P	**Pn**	**05 14 39.4**	**0.0**
PET	**Petropavlovsk**	**0.89**	**334**	PN	**Pn**	**05 14 38.5**	**-1.0**
PET				S	**Sn**	**05 14 53.0**	**+1.3**
PET	**Petropavlovsk**	**0.89**	**334**	*e*Pn	**Pn**	**05 14 38.5**	**-1.0**
PET				*e*Sn	**Sn**	**05 14 49.7**	**-2.0**
PET	**Petropavlovsk**	**0.89**	**334**	*i* P	**Pn**	**05 14 38.5**	**-1.0**
PET				*i* S	**Sn**	**05 14 53.0**	**+1.3**
INSR	**Institute**	**0.94**	**333**	*i* P	**Pn**	**05 14 39.6**	**-0.6**
INSR				*i* S	**Sn**	**05 14 55.0**	**+2.1**
UGLR	**Uglovaya**	**1.02**	**344**	*i* P	**Pn**	**05 14 40.3**	**-1.1**
SMAR	**Somma**	**1.08**	**344**	*i* P	**Pn**	**05 14 40.8**	**-1.4**
SDLR	**Sedlovina**	**1.08**	**347**	*i* P	**Pn**	**05 14 40.6**	**-1.5**
AVH	**Avacha**	**1.09**	**342**	*i* P	**Pn**	**05 14 41.4**	**-0.9**
KOK	**Koryaka**	**1.14**	**339**	*i* P	**Pn**	**05 14 42.1**	**-0.8**
PEA0B	**Petropavlovsk-**	**1.32**	**313**	*e*Pn	**Pn**	**05 14 45.7**	**+0.6**
PEA0B				*e*Sn	**Sn**	**05 14 59.4**	**-2.4**
PETK	**Petropavlovsk-**	**1.32**	**313**	Pn	**Pn**	**05 14 45.7**	**+0.6**
	1μm,0.3s,baz=111,slow=20,SNR=1980						
PETK	**Petropavlovsk-**	**1.32**	**313**	PN	**Pn**	**05 14 45.7**	**+0.6**
PETK	**Petropavlovsk-**	**1.32**	**313**	Pn	**Pn**	**05 14 45.7**	**+0.6**
MIPR	**Malaya Ipel'ka**	**1.56**	**273**	*i* P	**Pn**	**05 14 49.7**	**+1.2**
KII	**Karymskiy**	**1.81**	**3**	*e*P	**Pn**	**05 14 52.5**	**+0.6**
SKR	**Severo-Kuril's**	**2.52**	**233**	*e*PN	Pn	05 14 57.3	-4.1
SKR				*i* S	**Sn**	**05 15 28.2**	**-2.8**
SKR				pmax	pmax		
	comp=E,2μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,180nm,0.5s						
SKR				pmax	pmax		
	comp=E,490nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=N,11μm,0.5s						
SKR				smax	smax		
	comp=E,2μm,0.5s						
SKR				smax	smax		
	comp=N,30μm,4.0s						
SKR				MLR	MLR		
	comp=Z,38μm,18.0s						
SKR				MLR	MLR		
	comp=N,27μm,14.0s						
SKR				MLR	MLR		
	comp=E,35μm,14.0s						
MKZ	**Mys Kozlova**	**2.75**	**31**	PN	Pn	05 15 01.2	-3.3
MKZ				S	**Sn**	**05 15 31.9**	**-4.6**
MKZ	**Mys Kozlova**	**2.75**	**31**	*e*P	Pn	05 15 01.2	-3.3
MKZ				*i* S	**Sn**	**05 15 31.9**	**-4.6**
TUMR	**Tumrok**	**3.10**	**9**	*e*P	**Pn**	**05 15 10.0**	**+0.5**
TUMR				*e*S	**Sn**	**05 15 47.0**	**+1.6**
KMNR	**Kamenistaya**	**3.58**	**8**	*e*P	**Pn**	**05 15 17.4**	**+1.4**
KMNR				*e*S	**Sn**	**05 15 59.5**	**+2.5**
ESO	**Esso**	**3.72**	**355**	PN	**Pn**	**05 15 19.2**	**+1.3**
ESO	**Esso**	**3.72**	**355**	*i* P	**Pn**	**05 15 19.2**	**+1.3**
KIRR	**Kirishev**	**3.78**	**9**	P	**Pn**	**05 15 20.8**	**+2.0**
KIRR				*i* S	**Sn**	**05 16 06.5**	**+4.4**
KOZ	**Kozyrevsk**	**3.85**	**5**	P	**Pn**	**05 15 22.1**	**+2.5**
KOZR	**Kozyr**	**3.86**	**5**	PN	**Pn**	**05 15 22.1**	**+2.3**
KRSR	**Krestovskiy**	**4.07**	**10**	P	**Pn**	**05 15 23.8**	**+1.2**
KRSR				*i* S	**Sn**	**05 16 10.9**	**+1.9**
SRDR	**Sredinnyy**	**4.11**	**3**	P	**Pn**	**05 15 24.2**	**+1.1**
KLY	**Klyuchi**	**4.17**	**10**	PN	**Pn**	**05 15 25.4**	**+1.5**
KLY				S	**Sn**	**05 16 13.4**	**+2.1**
KLY	**Klyuchi**	**4.17**	**10**	P	**Pn**	**05 15 25.4**	**+1.5**
KLY				*i* S	**Sn**	**05 16 13.4**	**+2.1**
BDR	**Baidarnaya**	**4.49**	**14**	P	**Pn**	**05 15 28.6**	**+0.2**
BDR				*i* S	**Sn**	**05 16 18.7**	**-0.6**
KBTR	**Krutoberegovo**	**4.49**	**26**	PN	**Pn**	**05 15 26.6**	**-1.7**
KBTR	**Krutoberegovo**	**4.49**	**26**	*e*P	**Pn**	**05 15 26.6**	**-1.7**
KBTR				*i* S	**Sn**	**05 16 15.5**	**-3.7**
SMKR	**Semkarok**	**4.54**	**15**	P	**Pn**	**05 15 29.0**	**-0.1**
SMKR				*i* S	**Sn**	**05 16 19.3**	**-1.3**
SRKR	**Sorokina**	**4.57**	**13**	*e*P	**Pn**	**05 15 31.5**	**+2.0**
FX1	**Attu Island--F**	**8.48**	**80**	Pn	Pn	05 16 16.3	-6.6
	comp=E,186nm,0.3s,baz=298,slow=3.3,SNR=152						
FX1				Sn	Sn	05 17 42.9	-14
	comp=E,80nm,0.3s,baz=112,slow=19,SNR=15						
FX1	**Attu Island--F**	**8.48**	**80**	*e*PN	Pn	05 16 16.9	-6.0
FX1	**Attu Island--F**	**8.48**	**80**	*e*Pn	Pn	05 16 16.9	-6.0
FX1				Sn	Sn	05 17 42.9	-14
TILK	**Tilichiki**	**9.07**	**22**	*e*P	**Pn**	**05 16 30.4**	**-0.5**
OKH	**Okha**	**9.98**	**284**	*e*PN	Pn	05 16 52.0	+8.6
OKH				pmax	pmax		
	comp=Z,1μm,5.6s						
KUR	**Kuril'sk**	**10.29**	**232**	PN	Pn	05 16 51.0	+3.3
KUR				*e*S	Sn	05 18 56.0	+15
KUR				pmax	pmax		
	comp=Z,260nm,1.0s						
KUR				pmax	pmax		
	comp=N,60nm,0.7s						
KUR				pmax	pmax		
	comp=E,50nm,0.7s						
KUR				smax	smax		
	comp=N,4μm,4.0s						
KUR				smax	smax		
	comp=E,2μm,2.4s						
KUR				smax	smax		
	comp=N,680nm,1.0s						
KUR				smax	smax		
	comp=E,540nm,1.1s						
KUR				MLR	MLR		
	comp=Z,7μm,18.0s						
KUR				MLR	MLR		
	comp=N,3μm,13.0s						
KUR				MLR	MLR		
	comp=E,8μm,13.0s						
SEY	**Seymchan**	**11.35**	**344**	*e*PN	**Pn**	**05 17 02.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**11.96**	**250**	*e*PN	**Pn**	**05 17 13.5**	**+3.1**
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS				MLR	MLR		
	comp=Z,8μm,18.0s						
YSS				MLR	MLR		
	comp=N,3μm,17.0s						
YSS				MLR	MLR		
	comp=E,7μm,19.0s						
YSS	**Yuzh-Sakhalins**	**11.96**	**250**	*e*Pn	**Pn**	**05 17 13.4**	**+3.0**
YUK	**Yuzh-Kuril'sk**	**12.14**	**233**	*d i*PN	**Pn**	**05 17 12.7**	**-0.3**
YUK				pmax	pmax		
	comp=N,696nm,1.5s						
YUK				pmax	pmax		
	comp=E,560nm,1.6s						
YUK				pmax	pmax		
	comp=Z,1μm,1.6s						
YUK				MLR	MLR		
	comp=N,745nm,20.0s						
YUK				MLR	MLR		
	comp=E,2μm,20.0s						
YUK				MLR	MLR		
	comp=Z,4μm,20.0s						
ASAJ	**Asahikawa**	**13.76**	**240**	Pn	**Pn**	**05 17 35.0**	**0.0**
	comp=Z,3.3nm,0.3s,baz=63,slow=9.8,SNR=12						
ASAJ				LR	LR	05 22 44.9	
	comp=Z,2μm,18.6s,baz=26,slow=37						
ASAJ	**Asahikawa**	**13.76**	**240**	P	**Pn**	**05 17 35.0**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.6s						
ASAJ	**Asahikawa**	**13.76**	**240**	*e*Pn	**Pn**	**05 17 35.5**	**+0.4**
ERM	**Erimo**	**14.97**	**233**	*e*P	**Pn**	**05 17 48.9**	**-1.9**
ERM				pmax	pmax		
	comp=Z,75nm,0.5s						
ERM	**Erimo**	**14.97**	**233**	*e*Pn	**Pn**	**05 17 48.9**	**-1.9**
	comp=Z,75nm,0.5s						
HABR	**Khabarovsk**	**15.90**	**266**	*e*P	**P**	**05 18 07.5**	**+2.2**
HABR				*e*S	**Sn**	**05 20 53.1**	**-4.8**
HABR				MLR	MLR		
	comp=Z,6μm,20.0s						
BILL	**Bilibino**	**16.22**	**9**	*d i*P	**Pn**	**05 18 06.8**	**+0.2**
BILL				pmax	pmax		
	comp=Z,101nm,2.5s						
BILL				MLR	MLR		
	comp=Z,5μm,23.0s						
BILL	**Bilibino**	**16.22**	**9**	*e*Pn	**Pn**	**05 18 06.6**	**+0.1**
	comp=Z,20nm,0.6s						
YAK	**Yakutsk**	**18.66**	**313**	*e*P	**P**	**05 18 34.0**	**-1.6**
YAK				*e*S	**Sn**	**05 21 59.2**	**-5.1**
YAK				pmax	pmax		
	comp=Z,49nm,0.8s						
YAK				pmax	pmax		
	comp=N,20nm,1.4s						
YAK				pmax	pmax		
	comp=E,40nm,1.2s						
YAK				pmax	pmax		
	comp=Z,227nm,2.2s						
YAK				pmax	pmax		
	comp=N,109nm,2.3s						
YAK				pmax	pmax		
	comp=E,258nm,2.2s						
YAK				smax	smax		
	comp=N,73nm,2.8s						
YAK				smax	smax		
	comp=E,63nm,2.0s						
YAK				MLR	MLR		
	comp=Z,3μm,14.0s						
YAK				MLR	MLR		
	comp=N,3μm,14.0s						
YAK				MLR	MLR		
	comp=E,1μm,13.0s						
YAK	**Yakutsk**	**18.66**	**313**	*e*P	**P**	**05 18 35.2**	**-0.4**
	comp=E,82nm,0.7s						
GAMB	**Gambell**	**19.02**	**41**	*e*P	**P**	**05 18 39.7**	**+0.1**
	comp=E,45nm,1.3s						
USRK	**Ussuriysk Arra**	**19.80**	**257**	P	**P**	**05 18 46.7**	**-1.5**
	comp=E,0.5nm,0.3s,baz=63,slow=11,SNR=13						
USRK				LR	LR	05 27 17.3	
	comp=E,5μm,18.5s,baz=232,slow=39						
CLNS	**Chul'man**	**20.35**	**297**	*e*P	Pn	05 18 56.5	-0.2
CLNS				*e*		05 19 11.8	
CLNS				*e*S	**S**	**05 22 32.0**	**-6.6**
CLNS				*e*SS	**SnSn**	**05 23 04.0**	**+3.9**
CLNS				*e*		05 23 18.9	
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,48nm,1.0s						
CLNS				pmax	pmax		
	comp=E,54nm,1.0s						
CLNS				pmax	pmax		
	comp=N,46nm,1.1s						
CLNS				smax	smax		
	comp=N,138nm,12.7s						
CLNS				smax	smax		
	comp=E,333nm,13.2s						
CLNS				MLR	MLR		
	comp=N,1μm,15.0s						
CLNS				MLR	MLR		
	comp=E,5μm,16.0s						
CLNS				MLR	MLR		
	comp=Z,7μm,15.0s						
VLA	**Vladivostok**	**20.48**	**254**	⇓*i*P	**P**	**05 18 51.8**	**-3.7**
VLA				*i*		05 19 10.5	
VLA				*e*S	**S**	**05 22 37.8**	**-3.4**
VLA				pmax	pmax		
	comp=Z,34nm,0.6s						
MDJ	**Mudanjiang**	**21.02**	**261**	P	**P**	**05 19 00.8**	**-0.7**
MDJ				pP	**pP**	**05 19 12.9**	**-1.6**
MDJ				S	**S**	**05 22 50.8**	**-1.3**
MDJ				sS	**sS**	**05 23 12.4**	**-1.0**
MDJ				ScS	**ScS**	**05 30 20.3**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,28nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,280nm,4.5s						
MDJ				LR	LR		
	comp=N,2μm,14.5s						
MDJ				LR	LR		
	comp=E,2μm,14.1s						
MDJ				LR	LR		
	comp=Z,4μm,19.3s						
MDJ	**Mudanjiang**	**21.02**	**261**	*e*P	**P**	**05 19 01.0**	**-0.5**
	comp=Z,137nm,1.4s						
TNA	**Tin City**	**21.23**	**38**	*e*P	**P**	**05 19 04.1**	**+0.7**
	comp=Z,113nm,1.4s						
MAJO	**Matsushiro**	**21.63**	**232**	*e*P	**P**	**05 19 08.5**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,134nm,0.9s						
MAJO	**Matsushiro**	**21.63**	**232**	*e*P	**P**	**05 19 08.5**	**+0.5**
	comp=Z,134nm,0.9s						
MAT	**Matsushiro**	**21.63**	**232**	P	**P**	**05 19 07.7**	**-0.3**
MAT				S	**S**	**05 23 10.0**	**+5.8**
MJAR	**Matsushiro Arr**	**21.63**	**232**	P	**P**	**05 19 08.4**	**+0.4**
	comp=Z,152nm,1.1s,baz=22,slow=9.8,SNR=80						
MJAR				LR	LR	05 27 37.1	
	comp=Z,3μm,21.9s,baz=55,slow=37						
MJAR	**Matsushiro Arr**	**21.63**	**232**	P	**P**	**05 19 08.4**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,153nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,3μm,21.9s						
MJAR	**Matsushiro Arr**	**21.63**	**232**	P	**P**	**05 19 08.4**	**+0.4**
CN2	**Changchun**	**23.98**	**263**	*e*P	**P**	**05 19 31.1**	**-0.5**
CN2				*e*pP	**pP**	**05 19 45.1**	**-1.0**
CN2				PP	**PnPn**	**05 20 06.3**	**+3.5**
CN2				*e*S	**S**	**05 23 39.1**	**-5.0**
CN2				SS	**SnSn**	**05 24 32.5**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=Z,3μm,17.0s						
HIA	**Hailar**	**24.99**	**279**	*e*P	**P**	**05 19 40.0**	**-0.8**
HIA				pmax	pmax		
	comp=Z,109nm,0.6s						
HIA	**Hailar**	**24.99**	**279**	*e*P	**P**	**05 19 40.0**	**-0.8**
	comp=Z,109nm,0.6s						
TTA	**Tatalina**	**25.69**	**48**	*e*P	**P**	**05 19 47.4**	**+0.3**
TTA	**Tatalina**	**25.69**	**48**	*e*P	**P**	**05 19 47.4**	**+0.3**
BOD	**Bodaibo**	**26.16**	**300**	*e*P	**P**	**05 19 49.1**	**-2.1**
BOD				pmax	pmax		
	comp=Z,28nm,0.9s						
SNY	**Shenyang**	**26.23**	**261**	⇓P	**P**	**05 19 52.9**	**+0.9**
SNY				S	**S**	**05 24 17.8**	**-2.0**
SNY				pmax	pmax		
	comp=Z,31nm,1.8s						
SNY				LR	LR		
	comp=N,4μm,21.3s						
SNY				LR	LR		
	comp=E,2μm,21.8s						
SNY				LR	LR		
	comp=Z,3μm,19.8s						
KSRS	**Korea Array**	**26.45**	**249**	P	**P**	**05 19 54.9**	**+0.9**
	comp=Z,9.4nm,0.6s,baz=45,slow=9.2,SNR=20						
KSRS				LR	LR	05 29 16.7	
	comp=Z,1μm,21.0s,baz=54,slow=34						
KSRS	**Korea Array**	**26.45**	**249**	P	**P**	**05 19 54.9**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,1μm,21.0s						
KSAR	**Wonju Array Be**	**26.48**	**249**	P	**P**	**05 19 54.9**	**+0.6**
KSAR	**Wonju Array Be**	**26.48**	**249**	P	**P**	**05 19 54.9**	**+0.6**
JNU	**Nakatsue**	**28.02**	**238**	*e*P	**P**	**05 20 10.2**	**+1.9**
	comp=Z,33nm,0.8s						
TRF	**Thorofare Moun**	**28.30**	**47**	*e*P	**P**	**05 20 11.1**	**+0.6**
	comp=Z,152nm,2.2s						
COLD	**Coldfoot**	**28.53**	**39**	*e*P	**P**	**05 20 12.2**	**-0.2**
	comp=Z,16nm,1.3s						
SML	**Sawmill**	**29.28**	**50**	*e*P	**P**	**05 20 18.0**	**-1.2**
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SML	**Sawmill**	**29.28**	**50**	*e*P	**P**	**05 20 18.0**	**-1.2**
	comp=Z,7.0nm,0.8s						
COLA	**College**	**29.36**	**44**	*e*P	**P**	**05 20 19.5**	**-0.2**
COLA				*e**PP	**pP**	**05 20 32.1**	**-2.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**29.36**	**44**	*e*P	**P**	**05 20 19.5**	**-0.2**
	comp=Z,4.6nm,0.8s						
COLA				*e*pP	**pP**	**05 20 32.1**	**-2.3**
ILAR	**Eielson Array**	**29.77**	**44**	P	**P**	**05 20 22.0**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=264,slow=7.5,SNR=17						
ILAR	**Eielson Array**	**29.77**	**44**	P	**P**	**05 20 22.0**	**-1.4**
ILAR	**Eielson Array**	**29.77**	**44**	P	**P**	**05 20 22.0**	**-1.4**
BJI	**Beijing**	**31.80**	**265**	P	**P**	**05 20 40.6**	**-0.9**
BJI				pP	**pP**	**05 20 54.8**	**-1.5**
BJI				sP	**sP**	**05 21 03.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,15nm,1.4s						
BJI				pmax	pmax		
	comp=Z,190nm,4.5s						
BJI				LR	LR		
	comp=N,3μm,18.8s						
BJI				LR	LR		
	comp=E,3μm,17.6s						
BJI				LR	LR		
	comp=Z,3μm,18.8s						
EGAK	**Eagle**	**32.22**	**44**	*e*P	**P**	**05 20 43.8**	**-1.1**
	comp=Z,16nm,0.6s						
ULN	**Ulaanbaatar**	**33.23**	**284**	*e*P	**P**	**05 20 53.8**	**-0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**33.23**	**284**	*e*P	**P**	**05 20 53.8**	**-0.3**
	comp=Z,7.7nm,0.7s						
ULN	**Ulaanbaatar**	**33.23**	**284**	P	**P**	**05 20 54.2**	**0.0**
	comp=Z,12nm,1.2s						
TLY	**Talaya**	**33.59**	**292**	*e*P	**P**	**05 20 56.0**	**-1.1**
TLY				*e*		05 21 10.6	
TLY				*e*S	**S**	**05 26 19.0**	**+4.0**
TLY				pmax	pmax		
	comp=Z,30nm,1.6s						
TLY				MLR	MLR		
	comp=Z,2μm,15.3s						
TLY	**Talaya**	**33.59**	**292**	*e*P	**P**	**05 20 57.0**	**0.0**
	comp=Z,62nm,1.6s						
TLY	**Talaya**	**33.59**	**292**	P	**P**	**05 20 56.6**	**-0.5**
	comp=Z,97nm,0.8s,SNR=6.1						
SONM	**Songino Array**	**33.64**	**284**	P	**P**	**05 20 57.3**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=63,slow=7.5,SNR=30						
SONM				PcP	**PcP**	**05 23 36.6**	**+0.2**
	comp=Z,9.7nm,1.0s,baz=73,slow=2.2,SNR=13						
SONM				ScP	**ScP**	**05 27 21.1**	**+5.5**
	comp=Z,2.1nm,1.1s,baz=90,slow=2.9,SNR=6.0						
SONM				LR	LR	05 36 15.6	
	comp=Z,6μm,18.3s,baz=63,slow=39						
SONM	**Songino Array**	**33.64**	**284**	P	**P**	**05 20 57.3**	**-0.4**
SONM						05 23 36.6	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,6μm,18.3s						
SONM	**Songino Array**	**33.64**	**284**	P	**P**	**05 20 57.3**	**-0.4**
SONM				PcP	**PcP**	**05 23 36.6**	**+0.2**
SONM				ScP	**ScP**	**05 27 21.1**	**+5.5**
HHC	**Hu-ho-hao-te**	**34.15**	**270**	*e*P	**P**	**05 21 01.1**	**-1.1**
HHC				pP	**pP**	**05 21 15.9**	**-1.2**
HHC				sP	**sP**	**05 21 23.5**	**-0.6**
HHC				PP	PP	05 22 16.3	-4.0
HHC				S	**S**	**05 26 21.9**	**-2.2**
HHC				SS	SS	05 28 31.6	-22
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,5.6s						
HHC				LR	LR		
	comp=N,2μm,14.3s						
HHC				LR	LR		
	comp=E,2μm,16.5s						
HHC				LR	LR		
	comp=Z,2μm,16.9s						
ZAK	**Zakamensk**	**34.33**	**290**	*e*P	**P**	**05 21 03.5**	**-0.1**
ZAK				*e*		05 23 35.0	
ZAK				pmax	pmax		
	comp=Z,18nm,1.6s						
INK	**Inuvik**	**34.85**	**37**	P	**P**	**05 21 06.6**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=286,slow=6.6,SNR=13						
INK	**Inuvik**	**34.85**	**37**	*e*P	**P**	**05 21 06.9**	**-0.8**
INK	**Inuvik**	**34.85**	**37**	*e*P	**P**	**05 21 06.9**	**-0.8**
SSE	**Sheshan**	**34.88**	**248**	P	P	05 21 03.1	-5.3
SSE				S	**S**	**05 26 31.0**	**-4.2**
SSE				sS	sS	05 26 50.5	-10
SSE				ScP	**ScP**	**05 27 16.1**	**-4.0**
SSE				pmax	pmax		
	comp=Z,12nm,0.4s						
SSE				pmax	pmax		
	comp=Z,200nm,5.7s						
SSE				LR	LR		
	comp=N,580nm,25.7s						
SSE				LR	LR		
	comp=E,700nm,25.6s						
SSE				LR	LR		
	comp=Z,880nm,19.1s						
NJ2	**Nanjing**	**35.52**	**251**	*e*P	**P**	**05 21 13.8**	**-0.1**
NJ2				pP	**pP**	**05 21 29.0**	**+0.2**
NJ2				sP	**sP**	**05 21 36.3**	**+0.5**
NJ2				PP	PP	05 22 34.9	-0.5
NJ2				S	**S**	**05 26 48.0**	**+3.0**
NJ2				sS	**sS**	**05 27 14.0**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,230nm,5.5s						
NJ2				LR	LR		
	comp=N,2μm,21.7s						
NJ2				LR	LR		
	comp=E,1μm,18.9s						
NJ2				LR	LR		
	comp=Z,1μm,21.0s						
SKAG	**Skagway**	**36.02**	**52**	*e*P	**P**	**05 21 17.9**	**+0.1**
	comp=Z,46nm,1.3s						
DLBC	**Dease Lake**	**38.95**	**52**	P	**P**	**05 21 42.5**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=285,slow=10.0,SNR=6.1						
DLBC				LR	LR	05 37 17.8	
	comp=Z,444nm,21.9s,baz=298,slow=36						
DLBC	**Dease Lake**	**38.95**	**52**	*e*P	**P**	**05 21 42.7**	**-0.1**
WHN	**Wuhan**	**39.26**	**254**	P	**P**	**05 21 45.4**	**-0.2**
WHN				S	**S**	**05 27 45.0**	**+3.2**
WHN				LR	LR		
	comp=N,1μm,10.2s						
WHN				LR	LR		
	comp=E,2μm,13.1s						
WHN				LR	LR		
	comp=Z,3μm,14.2s						
XAN	**Xi'an**	**40.09**	**263**	P	**P**	**05 21 51.3**	**-1.2**

XAN pP **pP** 05 22 07.5 -0.1
XAN pmax pmax
comp=Z,54nm,6.8s
XAN LR LR
comp=N,1µm,17.9s
XAN LR LR
comp=E,440nm,17.0s
XAN LR LR
comp=Z,730nm,18.3s
YULB Yu-li 40.84 240 *e*P **P** 05 22 01.1 +2.4
comp=Z,20nm,0.8s
TWG Pinlang 41.42 240 *e*P **P** 05 22 05.4 +1.9
comp=Z,55nm,0.6s
LZH Lanzhou 41.85 270 *e*P **P** 05 22 07.5 +0.4
LZH pP **pP** 05 22 23.3 +1.0
LZH sP **sP** 05 22 29.9 +0.7
LZH PcP **PcP** 05 24 04.0 +2.1
LZH *e*S **S** 05 28 15.3 -5.3
LZH SS SS 05 31 21.5 -7.0
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.7s
LZH LR LR
comp=N,1µm,12.8s
LZH LR LR
comp=E,2µm,13.6s
LZH LR LR
comp=Z,3µm,14.7s
GTA Gaotai 42.23 277 ⇑P **P** 05 22 10.0 -0.1
GTA pP **pP** 05 22 25.6 +0.3
GTA sP **sP** 05 22 33.1 +0.9
GTA PcP **PcP** 05 24 03.8 +0.7
GTA S **S** 05 28 25.0 -1.0
GTA sS **sS** 05 28 50.6 -1.2
GTA SS SS 05 31 27.4 -8.3
GTA pmax pmax
comp=Z,30nm,1.6s
GTA pmax pmax
comp=Z,250nm,5.5s
GTA LR LR
comp=N,2µm,19.2s
GTA LR LR
comp=E,2µm,18.5s
GTA LR LR
comp=Z,2µm,17.8s
ENH Enshi 42.37 259 *e*P **P** 05 22 10.3 -0.8
comp=Z,54nm,1.0s
ZALV Zalesovo Beam 42.84 303 P **P** 05 22 13.3 -1.4
comp=Z,3.6nm,0.5s,baz=59,slow=7.2,SNR=15
PcP **PcP** 05 24 04.6 0.0
ZALV comp=Z,7.6nm,0.8s,baz=94,slow=4.3,SNR=11
ZALV LR LR 05 41 29.7
comp=Z,3µm,18.6s,baz=68,slow=38
ZALV Zalesovo Beam 42.84 303 P **P** 05 22 13.3 -1.4
ZALV 05 24 04.6
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,3µm,18.6s
ZALV Zalesovo Beam 42.84 303 P **P** 05 22 13.3 -1.4
ZALV PcP **PcP** 05 24 04.6 0.0
NVS Novosibirsk 43.21 305 *e*P **P** 05 22 15.4 -2.2
NVS *e* 05 24 03.1
NVS *e*S **S** 05 28 36.4 -3.4
NVS *e* 05 32 18.1
NVS pmax pmax
comp=N,33nm,1.9s
NVS pmax pmax
comp=Z,104nm,1.9s
NVS pmax pmax
comp=E,49nm,1.6s
NVS smax smax
comp=N,28nm,2.5s
ALE Alert 43.84 7 P **P** 05 22 23.9 +1.5
comp=N,189nm,0.9s,SNR=18
YKA Yellowknife Ar 44.13 42 P **P** 05 22 24.1 -0.8
comp=N,1.2nm,0.6s,baz=297,slow=7.7,SNR=15
YKA Yellowknife Ar 44.13 42 P **P** 05 22 24.1 -0.8
YKA Yellowknife Ar 44.13 42 P **P** 05 22 24.1 -0.8
RES Resolute Bay 44.31 21 *e*P **P** 05 22 26.3 +0.1
RES pmax pmax
comp=Z,7.0nm,0.3s
RES Resolute Bay 44.31 21 *e*P **P** 05 22 26.3 +0.1
comp=Z,6.8nm,0.3s
CD2 Chengdu 45.40 264 P **P** 05 22 37.1 +1.6
CD2 pP **pP** 05 22 53.8 +2.9
CD2 PP PP 05 24 22.8 +0.3
CD2 S **S** 05 29 11.4 -0.9
CD2 sS **sS** 05 29 40.3 +2.1
CD2 SS **ScS** 05 32 26.5 +0.1
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=N,2µm,19.6s
CD2 LR LR
comp=Z,2µm,13.1s
WMQ Urumqi 46.80 290 P **P** 05 22 46.6 +0.2
WMQ pP **pP** 05 23 00.6 -1.2
WMQ sP **sP** 05 23 09.3 +0.6
WMQ PcP **PcP** 05 24 19.6 +1.0
WMQ S **S** 05 29 32.1 -0.1
WMQ SS SS 05 32 53.6 -5.2
WMQ pmax pmax
comp=Z,54nm,1.1s
WMQ pmax pmax
comp=Z,310nm,4.1s
WMQ LR LR
comp=N,1µm,16.3s
WMQ LR LR
comp=E,2µm,16.0s
WMQ LR LR
comp=Z,2µm,15.5s
GYA Guiyang 46.84 258 ⇑*i*P **P** 05 22 47.8 +0.8
GYA pP **pP** 05 23 04.3 +1.9
GYA sP **sP** 05 23 13.0 +3.8
GYA ScP **ScP** 05 28 05.4 -1.9
GYA PcS **PcS** 05 28 14.0 -0.3
GYA S **S** 05 29 31.6 -1.5
GYA sS **sS** 05 30 01.4 +2.2
GYA SS SS 05 32 51.3 -8.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,580nm,18.8s
GYA LR LR
comp=E,530nm,19.7s
GYA LR LR
comp=Z,560nm,17.6s
KBS Kingsbay 47.67 352 *e*P **P** 05 22 53.6 +1.0
KBS AMS AMS 05 42 30.8
comp=Z,861nm,15.5s
KBS Kingsbay 47.67 352 *e*P **P** 05 22 52.5 0.0
KBS pmax pmax
comp=Z,25nm,0.9s
KBS Kingsbay 47.67 352 *e*P **P** 05 22 52.5 0.0
comp=Z,25nm,0.9s
KURK Kurchatov 47.78 302 *c i*P **P** 05 22 51.9 -1.9
KURK pmax pmax
comp=Z,48nm,1.2s
KURK MLR MLR
comp=Z,4µm,19.0s
KURK Kurchatov 47.78 302 *e*P **P** 05 22 52.4 -1.4
comp=Z,38nm,0.9s
KURK Kurchatov 47.78 302 P **P** 05 22 52.9 -0.9
comp=Z,171nm,0.7s,SNR=22
SPA0 Spitsbergen Ar 47.91 350 *e*P **P** 05 22 54.8 +0.3
SPB4 Spitsbergen Ar 47.91 350 *e*P **P** 05 22 54.4 -0.1
MK31 Makanchi Array 48.10 296 *i* P **P** 05 22 55.0 -1.4
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 48.10 296 *e*P **P** 05 22 55.0 -1.4
MKAR Makanchi Array 48.10 296 P **P** 05 22 55.0 -1.4
comp=Z,9.6nm,0.6s,baz=56,slow=7.0,SNR=110
MKAR ScP **ScP** 05 28 15.6 +3.4
comp=Z,0.6nm,0.8s,baz=57,slow=5.3,SNR=2.4
MKAR LR LR 05 44 37.0
comp=Z,2µm,18.5s,baz=7.8,slow=38
MKAR Makanchi Array 48.10 296 P **P** 05 22 55.0 -1.4
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR MLR MLR
comp=Z,2µm,18.5s

MKAR Makanchi Array 48.10 296 P **P** 05 22 55.0 -1.4
MKAR ScP **ScP** 05 28 15.6 +3.4
JCW Jim Creek 48.23 62 *e*P **P** 05 22 57.1 -0.2
comp=Z,17nm,1.3s
HOPEN Hopen 48.27 347 *e*P **P** 05 22 57.5 +0.2
ETW Entiat 49.45 61 *e*P **P** 05 23 05.6 -1.2
comp=Z,11nm,0.6s
KMI Kunming 50.20 260 P **P** 05 23 13.0 +0.1
KMI pP **pP** 05 23 31.1 +2.7
KMI sP **sP** 05 23 38.4 +3.2
KMI PcP **PcP** 05 24 33.1 +1.8
KMI PP PP 05 25 10.0 +1.6
KMI S **S** 05 30 18.5 -2.1
KMI sS **sS** 05 30 48.1 +1.2
KMI SS SS 05 33 48.9 -5.5
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,310nm,5.1s
KMI LR LR
comp=N,2µm,16.4s
KMI LR LR
comp=E,1µm,18.4s
KMI LR LR
comp=Z,2µm,21.5s
VOSK Vostochnaya 50.45 308 P **P** 05 23 12.0 -2.2
VOSK pmax pmax
comp=Z,18nm,0.8s
OD2 Odessa Site #2 50.45 61 *e*P **P** 05 23 12.8 -1.5
comp=Z,20nm,1.2s
BVA0 Borovoye Array 50.55 309 *i* P **P** 05 23 13.1 -1.8
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 50.55 309 P **P** 05 23 13.1 -1.8
comp=Z,18nm,0.5s,baz=58,slow=8.0,SNR=138
BVAR Borovoye Array 50.55 309 P **P** 05 23 13.1 -1.8
BVAR pmax pmax
comp=Z,18nm,0.5s
BVAR Borovoye Array 50.55 309 P **P** 05 23 13.1 -1.8
BRVK Borovoye 50.58 309 *c i*P **P** 05 23 13.6 -1.5
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK MLR MLR
comp=Z,5µm,16.0s
BRVK Borovoye 50.58 309 *e*P **P** 05 23 13.6 -1.5
comp=Z,25nm,0.7s
BRVK Borovoye 50.58 309 P **P** 05 23 13.9 -1.2
comp=Z,216nm,0.8s,SNR=26
QIZ Qiongzhong 50.67 248 P **P** 05 23 15.3 -0.9
QIZ sP **sP** 05 23 39.5 +0.9
QIZ S **S** 05 30 28.3 +1.4
QIZ sS **sS** 05 30 53.9 +0.7
QIZ pmax pmax
comp=Z,26nm,1.5s
QIZ LR LR
comp=N,850nm,15.7s
QIZ LR LR
comp=E,440nm,13.9s
QIZ LR LR
comp=Z,820nm,16.8s
NEW Newport 50.76 59 ⇑P **P** 05 23 16.4 -0.2
baz=50
A12A Yaak River Ran 51.12 58 ⇑P **P** 05 23 18.9 -0.4
baz=51
ZRNK Zerenda 51.26 309 P **P** 05 23 18.8 -1.4
ZRNK pmax pmax
comp=Z,22nm,1.0s
DAG Danmarks Havn 51.27 359 *e*P **P** 05 23 19.9 -0.1
DAG pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 51.27 359 *i* P **P** 05 23 19.9 -0.1
comp=Z,142nm,0.9s
C11A Tepee Creek (N 51.48 59 ⇑P **P** 05 23 21.4 -0.6
baz=51,SNR=6.7
LNOR Lincton Mounta 51.62 62 *e*P **P** 05 23 22.1 -1.0
LNOR Lincton Mounta 51.62 62 *e*P **P** 05 23 22.1 -1.0
WALA Waterton Lakes 51.94 57 *e*P **P** 05 23 25.1 -0.4
comp=Z,0.3nm,0.8s
C12B Naegeli Ranch, 51.97 59 ⇑P **P** 05 23 25.5 -0.2
baz=52
B13A Whitefish 52.08 58 ⇑P **P** 05 23 26.0 -0.5
baz=52,SNR=6.6
A14A Double T Ranch 52.24 56 ⇑P **P** 05 23 26.6 -1.1
baz=52
SVE Sverdlovsk 52.58 317 *e*P **P** 05 23 29.7 -0.3
SVE *e*S S 05 30 59.3 +7.1
SVE *e* 05 33 20.7
SVE pmax pmax
comp=Z,21nm,1.2s
SVE MLR MLR
comp=Z,2µm,15.0s
A15A Johnson Ranch, 52.59 56 ⇓P **P** 05 23 29.6 -0.8
baz=52
B14A Marquette Ranc 52.70 57 ⇓P **P** 05 23 30.5 -0.8
baz=52
C14A Swan Lake 52.84 58 ⇓P **P** 05 23 32.0 -0.2
baz=53
D13A Huson 52.89 59 ⇑P **P** 05 23 31.6 -1.0
baz=53
MOD Modoc 53.04 67 *e*P **P** 05 23 34.7 +0.9
comp=Z,29nm,1.3s
B15A Bradely Ranch, 53.10 57 ⇑P **P** 05 23 32.9 -1.2
baz=53
A16A West Butte Ran 53.19 55 ⇓P **P** 05 23 33.5 -1.3
baz=53
SLMT Seeley Lake 53.30 58 *e*Pn **P** 05 23 35.0 -0.8
comp=Z,11nm,0.8s
MSO Missoula 53.34 59 *e*P **P** 05 23 35.4 -0.5
comp=Z,18nm,1.8s
MSO *e*pP **pP** 05 23 48.9 -2.6
MSO Missoula 53.34 59 ⇓P **P** 05 23 35.1 -0.8
baz=53
D14A Greenough 53.40 58 ⇑P **P** 05 23 36.1 -0.2
baz=53,SNR=5.4
C15A Salmond Ranch, 53.42 57 ⇓P **P** 05 23 35.9 -0.7
baz=53,SNR=17
E13A Victor 53.46 59 ⇓P **P** 05 23 36.9 +0.2
baz=53
WVOR Wild Horse Val 53.63 66 *e*P **P** 05 23 39.0 +0.9
WVOR *e**PP **pP** 05 23 52.6 -1.2
WVOR pmax pmax
comp=Z,30nm,1.5s
WVOR Wild Horse Val 53.63 66 *e*P **P** 05 23 39.0 +0.9
comp=Z,30nm,1.5s
WVOR *e*pP **pP** 05 23 52.6 -1.2
A17A Triple J Farms 53.64 55 ⇑P **P** 05 23 37.1 -0.9
baz=53
CHMT Chamberlain Mo 53.64 58 *e*P **P** 05 23 37.7 -0.5
comp=Z,7.6nm,1.1s
ARU Arti 53.71 317 *d i*P **P** 05 23 36.5 -1.8
ARU 05 24 39.1
ARU 05 25 34.3
ARU S **S** 05 31 08.1 +0.6
ARU pmax pmax
comp=Z,48nm,1.7s
ARU MLR MLR
comp=Z,1µm,16.0s
ARU Arti 53.71 317 *e*P **P** 05 23 36.8 -1.5
comp=Z,22nm,0.6s
F13A Darby 53.80 60 ⇑P **P** 05 23 38.5 -0.8
baz=54
E14A Clinton 53.84 59 ⇓P **P** 05 23 39.6 0.0
baz=54
C16A Fuhringer Ranc 53.85 57 ⇓P **P** 05 23 38.9 -0.7
baz=54
D15A Lincoln 53.94 58 ⇓P **P** 05 23 39.9 -0.4
baz=54
ARCES ARCESS Array B 53.96 342 P **P** 05 23 39.5 -0.4
comp=Z,4.7nm,0.6s,baz=46,slow=9.1,SNR=28
ARCES LR LR 05 52 25.1
comp=Z,935nm,18.0s,baz=26,slow=42
ARCES ARCESS Array B 53.96 342 P **P** 05 23 39.5 -0.4
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 53.96 342 P **P** 05 23 39.5 -0.4
ARE0 ARCESS Array S 53.96 342 *e*P **P** 05 23 40.4 +0.4
ARE0 ARCESS Array S 53.96 342 *e*P **P** 05 23 39.8 -0.2
FFC Flin Flon 53.97 45 *ce*P **P** 05 23 40.6 +0.3
FFC Flin Flon 53.97 45 *e*P **P** 05 23 40.1 -0.2
comp=Z,9.2nm,0.9s
LSA Lhasa 54.00 273 P **P** 05 23 41.9 +0.6
LSA Lhasa 54.00 273 *e*P **P** 05 23 41.8 +0.4
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 54.00 273 *e*P **P** 05 23 41.8 +0.4
comp=Z,18nm,0.7s

B17A L&G Farms, Che 54.01 56 ⇑P **P** 05 23 40.3 -0.5
baz=54
A18A Metzger Ranch, 54.09 55 ⇑P **P** 05 23 40.4 -0.9
baz=54
TKM2 Tokmak 2 54.23 296 P **P** 05 23 41.9 -0.7
SNR=16
TKM2 P **P** 05 23 41.9 -0.7
SNR=16
TKM2 Tokmak 2 54.23 296 *e*P **P** 05 23 41.6 -1.0
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 54.23 296 *e*P **P** 05 23 41.6 -1.0
comp=Z,8.5nm,0.6s
E15A Deer Lodge 54.28 58 ⇓P **P** 05 23 42.6 -0.2
baz=54
G13A Cobalt 54.31 61 ⇑P **P** 05 23 42.5 -0.6
baz=54,SNR=8.3
ULHL Ulahol 54.32 295 P **P** 05 23 42.8 -0.4
SNR=10
ULHL P **P** 05 23 42.8 -0.4
SNR=10
D16A Dana Ranch, Ca 54.45 57 ⇓P **P** 05 23 43.5 -0.5
baz=54
C17A Wharram Farm, 54.46 56 ⇑P **P** 05 23 43.1 -1.0
baz=54,SNR=6.3
B18A Beardsley Farm 54.46 55 ⇑P **P** 05 23 43.3 -0.8
baz=54,SNR=7.1
HRY Holter Researc 54.52 58 *e*P **P** 05 23 44.0 -0.5
comp=Z,4.5nm,0.7s
HRY *e*pP **pP** 05 23 58.0 -2.2
MFID Camas Ranch 54.55 63 ⇑P **P** 05 23 44.8 +0.1
baz=54
USP Ospenovka 54.61 297 P **P** 05 23 44.6 -0.5
SNR=35
USP P **P** 05 23 44.6 -0.5
SNR=35
A19A Klindworth Far 54.63 54 ⇓P **P** 05 23 44.8 -0.4
baz=54
H13A Challis 54.64 61 ⇑P **P** 05 23 45.2 -0.3
baz=54,SNR=7.6
CHMS Chumysh 54.65 296 P **P** 05 23 44.8 -0.6
SNR=8.4
CHMS P **P** 05 23 44.8 -0.6
SNR=8.4
I12A Atlanta 54.68 62 ⇓P **P** 05 23 45.3 -0.4
baz=54
E16A East Helena 54.71 58 ⇓P **P** 05 23 45.7 -0.2
baz=54
F15A Butte 54.74 59 ⇑P **P** 05 23 45.7 -0.6
baz=54
KBK Karagaybulak 54.76 296 P **P** 05 23 46.3 -0.1
SNR=7.2
KBK P **P** 05 23 46.3 -0.1
SNR=7.2
D17A Six Diamond Ra 54.82 57 ⇓P **P** 05 23 46.5 -0.2
baz=55,SNR=5.1
FRU Bishkek 54.83 296 ⇑*e*P **P** 05 23 46.0 -0.7
FRU pmax pmax
comp=Z,60nm,1.8s
B19A Brinkman Farms 54.84 54 ⇓P **P** 05 23 46.2 -0.5
baz=55,SNR=5.6
SUMG Summit 54.88 6 *i* P **P** 05 23 47.3 +0.3
SUMG pmax pmax
comp=Z,15nm,0.7s
SUMG Summit 54.88 6 *e*P **P** 05 23 47.0 -0.1
comp=Z,32nm,0.9s
SUMG Summit 54.88 6 *i* P **P** 05 23 47.3 +0.3
comp=Z,15nm,0.7s
KZA Kyzart 54.98 295 P **P** 05 23 48.1 -0.2
SNR=11
KZA P **P** 05 23 48.1 -0.2
SNR=11
DLMT Dillon 55.00 59 *e*P **P** 05 23 47.9 -0.2
comp=Z,21nm,1.5s
DLMT *e*pP **pP** 05 24 01.6 -2.2
AAK Ala-Archa 55.03 296 P **P** 05 23 47.8 -0.5
SNR=18
AAK P **P** 05 23 47.8 -0.5
SNR=18
AAK Ala-Archa 55.03 296 *c i*P **P** 05 23 47.6 -0.7
AAK MLR MLR
comp=Z,6µm,19.0s
AAK Ala-Archa 55.03 296 *e*P **P** 05 23 47.4 -0.9
comp=Z,64nm,0.5s
AAK Ala-Archa 55.03 296 P **P** 05 23 47.0 -1.3
comp=Z,178nm,0.5s,SNR=10
TRO Tromso 55.06 344 *e*P **P** 05 23 49.8 +1.9
A20A Cobblestone Ra 55.07 54 ⇑P **P** 05 23 48.1 -0.3
baz=55,SNR=5.6
WCN Washoe City 55.07 69 *e*P **P** 05 23 48.2 -0.5
WCN pmax pmax
comp=Z,12nm,1.0s
WCN Washoe City 55.07 69 *e*P **P** 05 23 48.2 -0.5
comp=Z,12nm,1.0s
WCN Washoe City 55.07 69 ⇓P **P** 05 23 48.8 +0.1
baz=55,SNR=8.1
H14A Leadore 55.09 60 ⇑P **P** 05 23 48.0 -0.7
baz=55
I13A Wildhorse Cree 55.15 62 ⇓P **P** 05 23 49.2 0.0
baz=55,SNR=14
E17A Martinsdale 55.19 57 ⇑P **P** 05 23 49.3 -0.1
baz=55,SNR=7.4
G15A Dillon 55.19 59 ⇑P **P** 05 23 48.9 -0.5
baz=55
HLID Hailey 55.22 62 ⇓P **P** 05 23 49.8 +0.1
baz=55
F16A Kennard Place, 55.23 58 ⇓P **P** 05 23 49.7 0.0
baz=55
D18A Linhart Farms, 55.24 56 ⇑P **P** 05 23 49.8 +0.1
baz=55
C19A Slack Wire Ran 55.27 55 ⇓P **P** 05 23 49.6 -0.3
baz=55,SNR=5.3
B20A Solberg Farm, 55.31 54 ⇓P **P** 05 23 49.7 -0.4
baz=55
BOZ Bozeman (W) 55.32 59 ⇑P **P** 05 23 50.4 0.0
baz=55,SNR=5.2
BOZ ⇑P **P** 05 23 50.4 0.0
baz=55,SNR=5.2
EKS2 Erkin-Say 55.41 297 P **P** 05 23 50.7 -0.3
SNR=28
EKS2 P **P** 05 23 50.7 -0.3
SNR=28
EKS2 Erkin-Say 55.41 297 *e*P **P** 05 23 50.2 -0.7
EKS2 pmax pmax
comp=Z,19nm,0.5s
EKS2 Erkin-Say 55.41 297 *e*P **P** 05 23 50.2 -0.7
comp=Z,19nm,0.5s
J13A Cove Ranch, Pi 55.46 62 ⇑P **P** 05 23 51.1 -0.3
baz=55
H15A Lima 55.47 60 ⇓P **P** 05 23 50.9 -0.6
baz=55
A21A Bergtoll Ranch 55.49 53 ⇓P **P** 05 23 51.2 -0.2
baz=55
I14A Mackay 55.50 61 ⇑P **P** 05 23 51.4 -0.3
baz=55,SNR=11
G16A Moss Hill, Enn 55.51 59 ⇑P **P** 05 23 51.5 -0.3
baz=55,SNR=9.1
CMB Columbia Colle 55.56 71 *e*P **P** 05 23 52.8 +0.8
CMB pmax pmax
comp=Z,14nm,1.2s
CMB Columbia Colle 55.56 71 *e*P **P** 05 23 52.8 +0.8
comp=Z,14nm,1.2s
E18A Harlowton 55.60 57 ⇓P **P** 05 23 51.9 -0.4
baz=55
F17A Fitzpatrick Pl 55.66 58 ⇓P **P** 05 23 52.6 -0.1
baz=55
D19A Cripps Ranch, 55.73 56 ⇓P **P** 05 23 53.3 +0.1
baz=56
BMN Battle Mountai 55.76 67 *e*P **P** 05 23 54.6 +1.0
BMN *e**PP **pP** 05 24 09.9 +0.5
BMN pmax pmax
comp=Z,5.0nm,0.7s
BMN Battle Mountai 55.76 67 *e*P **P** 05 23 54.5 +1.0
comp=Z,5.5nm,0.7s
BMN *e*pP **pP** 05 24 09.9 +0.5
AML Almayashu 55.81 296 P **P** 05 23 54.3 +0.1
SNR=6.3
AML P **P** 05 23 54.3 +0.1
SNR=6.3
C20A Veseth Ranch, 55.81 55 ⇓P **P** 05 23 53.0 -0.6
baz=56,SNR=5.3
B21A Ellsworth Farm 55.82 53 ⇓P **P** 05 23 53.6 -0.1
baz=56
J14A Carey 55.87 62 ⇑P **P** 05 23 54.6 +0.3
baz=56,SNR=8.6
QLMT Earthquake Lak 55.97 59 *e*P **P** 05 23 55.2 0.0
comp=Z,2.3nm,1.0s
A22A Carney Farms, 55.98 52 ⇓P **P** 05 23 54.7 -0.2

baz=56
G17A Pierce Place, 56.01 58 ⇓P P 05 23 54.9 -0.4
baz=56
F18A Big Timber 56.15 57 ⇓P P 05 23 56.2 0.0
baz=56,SNR=9.3
H16A Russell Place, 56.15 59 ⇑P P 05 23 56.0 -0.4
baz=56,SNR=6.2
D20A Manuel Ranch, 56.16 55 ⇓P P 05 23 56.3 +0.1
baz=56,SNR=5.2
GCMT Greycliff 56.25 57 *e*P P 05 23 57.4 +0.4
comp=Z,4.3nm,0.8s
GCMT *e*pP **pP** 05 24 12.1 -0.7
E19A Rath Farm, Rou 56.25 56 ⇑P P 05 23 56.5 -0.4
baz=56
KSH Kashi 56.29 293 *e*P P 05 24 00.8 +3.5
KSH *e*pP pP 05 24 21.5 +8.3
KSH *e*sP sP 05 24 23.5 +3.6
KSH *e*PcP **PcP** **05 24 57.0 +2.9**
KSH *e*PP **PP** **05 26 07.8 +4.9**
KSH *e*ScP **ScP** **05 28 50.0 +2.0**
KSH *e*PcS **PcS** **05 28 56.6 +1.8**
KSH *e*S **S** **05 31 43.0 +0.1**
KSH *e*ScS **ScS** **05 33 40.5 -0.6**
KSH *e*SS **SS** **05 35 31.1 +1.4**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,180nm,4.6s
KSH LR LR
comp=N,310nm,6.4s
KSH LR LR
comp=E,480nm,8.8s
KSH LR LR
comp=Z,540nm,6.7s
YMR Madison River 56.33 59 *e*P P 05 23 58.3 +0.6
comp=Z,12nm,0.8s
J15A Blackfoot 56.40 61 ⇓P P 05 23 57.8 -0.3
baz=56
NVAR Mina Array Bea 56.50 69 P P 05 23 58.7 -0.2
comp=Z,5.8nm,0.7s,baz=300,slow=7.0,SNR=49
NVAR LR LR 05 46 41.0
comp=Z,376nm,20.4s,baz=54,slow=34
NVAR Mina Array Bea 56.50 69 P P 05 23 58.7 -0.2
A23A Redstone 56.51 52 ⇑P P 05 23 58.1 -0.6
baz=56
SHL Shillong 56.51 269 *e*P P 05 23 58.0 -1.1
E20A Meyer Farm, Mu 56.56 56 ⇑P P 05 23 59.1 0.0
baz=56
K14A Jones Ranch, D 56.58 62 ⇑P P 05 23 59.8 +0.5
baz=56,SNR=20
F19A Roth Farm, Mol 56.58 57 ⇑P P 05 23 59.0 -0.3
baz=56
I16A Newdale 56.59 60 ⇑P P 05 23 59.6 +0.1
baz=56
G18A Lazy EL Ranch, 56.62 58 ⇓P P 05 23 59.5 -0.2
baz=56
ELK Elko 56.66 65 *e*P P 05 24 00.4 +0.3
ELK Elko 56.66 65 *e*P P 05 24 00.4 +0.3
LKWY Lake 56.70 59 *e*P P 05 24 02.3 +2.0
LKWY pmax pmax
comp=Z,7.0nm,0.8s
LKWY Lake 56.70 59 *e*P P 05 24 02.3 +2.0
comp=Z,7.5nm,0.8s
H17A Grant Village 56.72 59 ⇓P P 05 24 01.5 +1.0
baz=56
D21A La Casta Ranch 56.75 55 ⇓P P 05 24 00.6 +0.2
baz=56
JMIC Jan Mayen 56.78 355 LR LR 05 47 24.0
comp=Z,523nm,19.1s,baz=36,slow=35
B23A Brockton 56.79 52 ⇑P P 05 24 00.5 -0.2
baz=56
K15A Arbon 56.83 62 ⇓P P 05 24 01.8 +0.6
baz=57,SNR=10
C22A Vida 56.84 53 ⇓P P 05 24 00.9 -0.2
baz=57
FLWY Flagg Ranch 56.86 59 *e*P P 05 24 02.3 +0.8
comp=Z,44nm,1.4s
FLWY *e*pP **pP** 05 24 16.9 -0.4
KKAR Karatay Array 56.88 299 *e*P P 05 24 00.2 -1.2
KKAR pmax pmax
comp=Z,15nm,0.5s
KKAR Karatay Array 56.88 299 *e*P P 05 24 00.2 -1.2
comp=Z,15nm,0.5s
L14A Malta 56.89 63 ⇓P P 05 24 01.8 +0.3
baz=57,SNR=14
RLMT Red Lodge 56.91 58 *e*P P 05 24 01.9 +0.1
comp=Z,39nm,1.4s
RLMT Red Lodge 56.91 58 ⇑P P 05 24 01.9 +0.1
baz=57,SNR=8.9
RLMT ⇑P P 05 24 01.9 +0.1
baz=57,SNR=8.9
A24A Westby 56.95 51 ⇓P P 05 24 02.0 +0.2
baz=57
H18A Shoshone NF, C 57.01 58 ⇑P P 05 24 03.2 +0.8
baz=57
F20A Billings 57.02 56 ⇑P P 05 24 02.8 +0.4
baz=57
I17A Pilgrim Ck. 57.04 59 ⇓P P 05 24 03.0 +0.3
baz=57
E21A Keefer Ranch, 57.07 55 ⇓P P 05 24 02.9 +0.3
baz=57
MOOW Moose Ponds 57.07 60 *e*P P 05 24 03.0 +0.1
comp=Z,9.3nm,1.2s
D22A Cohagen 57.10 54 ⇓P P 05 24 03.1 +0.2
baz=57
C23A Lambert 57.15 53 ⇓P P 05 24 03.0 -0.2
baz=57
STEI Steigen 57.20 345 *e*P P 05 24 04.4 +1.3
STEI AMB AMB 05 24 13.6
comp=Z,69nm,1.5s
LOHW Long Hollow 57.23 60 *e*P P 05 24 04.4 +0.3
comp=Z,35nm,1.6s
LOHW *e*pP **pP** 05 24 18.5 -1.4
K16A Soda Springs 57.24 61 ⇓P P 05 24 05.1 +1.0
baz=57,SNR=9.7
CHTO Chiang Mai 57.26 258 *e*P P 05 24 05.3 +1.0
CHTO *e**PP **pP** 05 24 19.3 -0.8
CHTO pmax pmax
comp=Z,47nm,0.8s
CHTO Chiang Mai 57.26 258 *e*P P 05 24 05.3 +1.0
comp=Z,47nm,0.8s
CHTO *e*pP **pP** 05 24 19.3 -0.8
CHTO Chiang Mai 57.26 258 P P 05 24 05.4 +1.2
comp=Z,78nm,1.0s
SNOW Snow King Moun 57.26 60 P P 05 24 03.6 -0.7
comp=Z,22nm,1.4s
REDW Red Top Meadow 57.27 60 *e*P P 05 24 04.5 +0.1
comp=Z,40nm,1.4s
LOF Lofoten 57.28 345 *e*P P 05 23 54.3 -9.4
HVU Hansel Valley 57.31 63 *e*P P 05 24 05.0 +0.4
HVU pmax pmax
comp=Z,12nm,1.1s
HVU Hansel Valley 57.31 63 *e*P P 05 24 05.0 +0.4
comp=Z,12nm,1.1s
J17A Brown Place, J 57.35 60 ⇑P P 05 24 05.0 +0.1
baz=57
H19A Powell 57.36 58 ⇓P P 05 24 05.2 +0.4
baz=57
L15A Malad City 57.37 62 ⇓P P 05 24 05.4 +0.4
baz=57
G20A Bridger 57.39 57 ⇑P P 05 24 05.4 +0.3
baz=57,SNR=5.7
CM31 Chiang Mai Arr 57.53 258 *e*P P 05 24 07.3 +1.2
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 57.53 258 P P 05 24 07.7 +1.5
comp=Z,20nm,0.7s,baz=28,slow=7.1,SNR=61
CMAR LR LR 05 51 58.1
comp=Z,810nm,18.8s,baz=186,slow=39
CMAR Chiang Mai Arr 57.53 258 P P 05 24 07.7 +1.5
CMAR pmax pmax
comp=Z,20nm,0.7s
CMAR MLR MLR
comp=Z,810nm,18.8s
CMAR Chiang Mai Arr 57.53 258 P P 05 24 07.7 +1.5
I18A Diamond G Ranc 57.59 59 ⇑P P 05 24 06.9 +0.3
baz=57
SCO Scoresbysund 57.59 0 *i* P P 05 24 06.1 +0.2
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 57.59 0 *i* P P 05 24 06.1 +0.2
comp=Z,3.9nm,0.9s
K17A Gardner Place, 57.65 61 ⇓P P 05 24 07.4 +0.4
baz=57
E22A Miles City 57.70 55 ⇑P P 05 24 06.8 -0.4
baz=57
M15A Larsen Ranch, 57.71 63 ⇓P P 05 24 07.9 +0.5
baz=58,SNR=7.8

TAPN Taplejung 57.79 274 *e*P P 05 24 08.2 -0.1
comp=Z,69nm,0.7s
TAPN Taplejung 57.79 274 *e*P P 05 24 08.2 -0.1
comp=Z,69nm,0.7s
I19A Meeteetse 57.79 58 ⇑P P 05 24 08.3 +0.3
baz=58
J18A Kendall Valley 57.82 60 ⇓P P 05 24 08.3 0.0
baz=58
VES Vestal, Richgr 57.82 72 ⇓P P 05 24 08.5 +0.4
baz=58
L16A Fish Haven 57.88 62 ⇑P P 05 24 08.8 +0.2
baz=58
E23A Ismay 57.98 54 ⇓P P 05 24 09.3 +0.2
baz=58
AB31 Akbulak array 57.99 310 *i* P P
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 57.99 310 *e*P P 05 24 07.5 -1.4
comp=Z,6.4nm,0.5s
CWC Cottonwood Cre 57.99 71 ⇓P P 05 24 09.7 +0.3
baz=58
H20A Greybull 58.00 57 ⇓P P 05 24 09.3 0.0
baz=58
F22A Rosebud 58.00 55 ⇓P P 05 24 08.8 -0.5
baz=58
D24A Glendive 58.04 53 ⇓P P 05 24 09.6 +0.1
baz=58
AKTO Aktyubinsk 58.05 312 P P 05 24 08.6 -0.9
comp=Z,11nm,0.5s,baz=56,slow=9.0,SNR=78
AKTO LR LR 05 51 52.8
comp=Z,3µm,18.7s,baz=259,slow=39
AKTO Aktyubinsk 58.05 312 P P 05 24 08.6 -0.9
AKTO pmax pmax
comp=Z,11nm,0.5s
AKTO MLR MLR
comp=Z,3µm,18.7s
AKTO Aktyubinsk 58.05 312 P P 05 24 08.6 -0.9
PKM Peak Mountain 58.05 73 ⇑P P 05 24 10.7 +0.8
baz=58
N15A Stansbury Isla 58.06 63 ⇑P P 05 24 10.8 +0.9
baz=58,SNR=5.2
HWUT Hardware Ranch 58.09 62 *e*P P 05 24 09.8 -0.3
comp=Z,50nm,1.6s
R11A Troy Canyon, C 58.10 67 ⇓P P 05 24 10.9 +0.6
baz=58,SNR=9.3
L17A Cokeville 58.13 61 ⇓P P 05 24 11.1 +0.8
baz=58,SNR=8.1
JOF Joensuu 58.15 335 *e*P P 05 24 09.2 -0.7
JOF pmax pmax
comp=Z,13nm,0.6s
JOF Joensuu 58.15 335 *e*p P 05 24 09.2 -0.7
comp=Z,13nm,0.6s
JOF Joensuu 58.15 335 *e*p P 05 24 09.2 -0.7
comp=Z,13nm,0.6s
K18A Toltan Ranch, 58.20 60 ⇓P P 05 24 11.4 +0.5
baz=58,SNR=14
J19A Crowheart 58.29 59 ⇑P P 05 24 11.6 +0.1
baz=58
ISA Isabella 58.30 71 ⇓P P 05 24 11.7 +0.2
baz=58
I20A Worland 58.31 58 ⇓P P 05 24 11.6 +0.1
baz=58
ODAN Odare 58.34 274 *e*P P 05 24 12.1 +0.1
comp=Z,29nm,0.6s
ODAN Odare 58.34 274 *e*P P 05 24 12.1 +0.1
comp=Z,29nm,0.6s
PD01 Pinedale Array 58.35 60 *e*P P 05 24 11.9 0.0
PD02 Pinedale Array 58.36 60 *e*P P 05 24 11.7 -0.3
BW06 Boulder Array 58.37 60 ⇓P P 05 24 11.6 -0.4
BW06 ⇓P P 05 24 11.6 -0.4
baz=58,SNR=11
PDAR Pinedale Array 58.37 60 P P 05 24 11.8 -0.3
comp=Z,5.5nm,0.7s,baz=308,slow=3.2,SNR=40
PDAR LR LR 05 47 41.0
comp=Z,519nm,20.6s,baz=111,slow=34
PDAR Pinedale Array 58.37 60 P P 05 24 11.8 -0.3
G22A Birney 58.37 56 ⇓P P 05 24 12.0 +0.1
baz=58
DUG Dugway 58.38 64 *e*P P 05 24 12.4 +0.3
DUG *e**PP **pP** 05 24 26.8 -1.2
DUG pmax pmax
comp=Z,29nm,1.4s
DUG Dugway 58.38 64 *e*P P 05 24 12.4 +0.3
comp=Z,29nm,1.4s
DUG *e*pP **pP** 05 24 26.8 -1.2
DUG Dugway 58.38 64 ⇓P P 05 24 11.8 -0.3
baz=58,SNR=8.3
H21A Big Horn, Sher 58.40 57 ⇓P P 05 24 11.7 -0.4
baz=58,SNR=5.9
F23A Volborg 58.47 55 ⇓P P 05 24 12.7 +0.1
baz=58
JIRN Jiri 58.49 275 *e*P P 05 24 13.2 -0.1
comp=Z,19nm,0.4s
GUN Gumba 58.50 276 *e*P P 05 24 12.9 -0.4
comp=Z,26nm,0.6s
GUN Gumba 58.50 276 *e*P P 05 24 12.9 -0.4
comp=Z,26nm,0.6s
MPMC Manual Prospec 58.60 70 ⇓P P 05 24 14.5 +0.8
baz=58
M17A Scullys Gap (B 58.67 62 ⇑P P 05 24 14.4 +0.3
baz=58
FURC Furnace Creek, 58.68 70 ⇓P P 05 24 14.0 0.0
baz=58,SNR=16
L18A Fontenelle, Gr 58.70 61 ⇑P P 05 24 14.1 -0.2
baz=58
K19A Absolon Red Bu 58.71 59 ⇑P P 05 24 14.3 0.0
baz=58
J20A Shoshoni 58.74 58 ⇑P P 05 24 13.9 -0.6
baz=58,SNR=5.9
RAMN Ramite 58.76 275 *e*P P 05 24 14.6 -0.4
comp=Z,108nm,0.6s
RAMN Ramite 58.76 275 *e*P P 05 24 14.6 -0.4
comp=Z,108nm,0.6s
H22A Clearmont 58.78 56 ⇓P P 05 24 14.3 -0.4
baz=58
I21A Big Trails, Te 58.84 58 ⇓P P 05 24 15.2 0.0
baz=59
G23A Biddle 58.84 55 ⇑P P 05 24 15.0 -0.1
baz=59
F24A Ekalaka 58.87 54 ⇓P P 05 24 15.2 -0.1
baz=59
LRMC Laurel Mountai 58.89 71 ⇓P P 05 24 16.3 +0.6
baz=59
MOR8 Moi Rana 58.93 344 *e*P P 05 24 14.1 -1.2
MOR8 AMB AMB 05 24 15.7
comp=Z,63nm,1.5s
L19A Farson 58.94 60 ⇓P P 05 24 16.4 +0.4
baz=59
N17A Moffit Pass 58.95 62 ⇑P P 05 24 16.1 0.0
baz=59
FLOS Flostrand 58.96 345 *e*P P 05 24 16.9 +1.5
KKN Kakani 58.96 276 *e*P P 05 24 16.3 0.0
comp=Z,65nm,0.6s
KKN Kakani 58.96 276 *e*P P 05 24 16.3 0.0
KKN Kakani 58.96 276 *e*P P 05 24 16.3 0.0
comp=Z,65nm,0.6s
SFJD Kangerlussuaq 58.97 13 *i* P P 05 24 16.1 +0.6
SFJD pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 58.97 13 *i* P P 05 24 16.1 +0.6
comp=Z,7.6nm,0.8s
M18A Lyman 59.03 61 ⇓P P 05 24 17.0 +0.4
baz=59
PKI Pulchoki 59.04 276 *e*P P 05 24 16.8 -0.2
comp=Z,74nm,1.0s
PKI Pulchoki 59.04 276 *e*P P 05 24 16.8 -0.2
PKI pmax pmax
comp=Z,74nm,1.0s
PKI Pulchoki 59.04 276 *e*P P 05 24 16.8 -0.2
comp=Z,74nm,1.0s
J21A Lysite 59.08 58 ⇓P P 05 24 17.0 +0.1
baz=59
K20A Yellowstone Ra 59.09 59 ⇓P P 05 24 16.5 -0.5
baz=59
O16A Springville 59.10 63 ⇑P P 05 24 17.6 +0.5
baz=59
P15A Leamington 59.11 64 ⇓P P 05 24 17.4 +0.2
baz=59
EDW2 Edwards Air Fo 59.13 72 ⇑P P 05 24 17.2 0.0
baz=59,SNR=5.2
R13A O'Grain Ranch, 59.13 66 ⇓P P 05 24 17.9 +0.5
baz=59
MPU Maple Canyon 59.16 63 *e*P P 05 24 17.7 +0.2
comp=Z,6.0nm,0.8s
DMN Daman 59.19 276 *e*P P 05 24 18.2 +0.2
comp=Z,91nm,0.7s
DMN Daman 59.19 276 *e*P P 05 24 18.2 +0.2

comp=Z,91nm,0.7s
GKN Gorkha 59.20 277 *e*P P 05 24 17.7 -0.2
comp=Z,75nm,0.9s
GKN Gorkha 59.20 277 *e*P P 05 24 17.7 -0.2
comp=Z,75nm,0.9s
I22A 9 Mile Ranch, 59.20 57 ⇑P P 05 24 18.0 +0.3
baz=59
G24A Alzada 59.24 55 ⇓P P 05 24 17.8 -0.2
baz=59
SHOC Shoshone 59.41 70 ⇑P P 05 24 19.3 +0.2
baz=59
DANN Dangsing 59.48 278 *e*P P 05 24 20.0 0.0
comp=Z,77nm,0.9s
DANN Dangsing 59.48 278 *e*P P 05 24 20.0 0.0
comp=Z,77nm,0.9s
O17A Robinson Place 59.52 63 ⇑P P 05 24 20.1 +0.1
baz=59
GSC Goldstone 59.53 71 *e*P P 05 24 20.5 +0.5
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone 59.53 71 *e*P P 05 24 20.5 +0.5
comp=Z,8.9nm,0.9s
GSC Goldstone 59.53 71 ⇑P P 05 24 20.0 0.0
baz=59,SNR=5.6
J22A Midwest 59.54 57 ⇓P P 05 24 19.3 -0.8
baz=59,SNR=11
L20A Wamsutter 59.55 60 ⇓P P 05 24 19.8 -0.4
baz=59
H24A Dirks Ranch, A 59.59 55 ⇓P P 05 24 19.6 -0.7
baz=59,SNR=6.2
K21A Alcova 59.68 59 ⇓P P 05 24 20.8 -0.3
baz=59,SNR=9.6
ARUT Antelope Range 59.71 66 *e*P P 05 24 20.8 -0.5
ARUT pmax pmax
comp=Z,9.0nm,1.0s
ARUT Antelope Range 59.71 66 *e*P P 05 24 20.8 -0.5
comp=Z,8.5nm,1.0s
ULM Lac du Bonnet 59.77 46 P P 05 24 21.3 0.0
comp=Z,1.5nm,0.4s,baz=319,slow=9.0,SNR=5.2
ULM LR LR 05 52 37.9
comp=Z,977nm,20.4s,baz=332,slow=38
ULM Lac du Bonnet 59.77 46 *e*P P 05 24 22.2 +0.9
ULM pmax pmax
comp=Z,5.0nm,0.5s
ULM Lac du Bonnet 59.77 46 *e*P P 05 24 22.1 +0.9
comp=Z,5.5nm,0.5s
BFSC Mount Baldy Ra 59.78 72 ⇑P P 05 24 22.3 +0.5
baz=60
MDND Maddock 59.80 50 ⇑P P 05 24 21.5 -0.1
baz=60
O18A Roosevelt 59.87 62 ⇑P P 05 24 22.1 -0.2
baz=60
N19A John Jarvie Ra 59.88 61 ⇓P P 05 24 23.0 +0.6
baz=60
TMUT Trail Mountain 59.89 64 *e*P P 05 24 23.5 +0.7
comp=Z,5.8nm,0.7s
MSU Marysvale 59.91 65 *e*P P 05 24 23.7 +1.0
MSU *e*PP **pP** 05 24 38.8 +0.1
MSU pmax pmax
comp=Z,21nm,1.5s
MSU Marysvale 59.91 65 *e*P P 05 24 23.7 +1.0
comp=Z,21nm,1.5s
MSU *e*pP **pP** 05 24 38.8 +0.1
CCUT Cedar City 59.92 67 *e*P P 05 24 22.4 -0.4
comp=Z,7.2nm,1.0s
CIS Catalina Islan 59.93 73 ⇑P P 05 24 22.9 +0.2
baz=60
TUQ Turquoise Moun 59.94 70 ⇓P P 05 24 23.7 +0.8
baz=60
M20A Sweetwater, Wa 59.99 60 ⇑P P 05 24 23.7 +0.5
baz=60
KOLN Koldanda 60.00 277 *e*P P 05 24 23.1 -0.4
comp=Z,28nm,0.6s
KOLN Koldanda 60.00 277 *e*P P 05 24 23.1 -0.4
comp=Z,28nm,0.6s
P17A Butcher Ranch, 60.03 63 ⇑P P 05 24 24.0 +0.5
baz=60
K22A Casper 60.05 58 ⇑P P 05 24 23.3 -0.3
baz=60
R15A Junction 60.06 65 ⇑P P 05 24 24.2 +0.4
baz=60
KAF Kangasniemi 60.09 337 *e*P P 05 24 23.1 -0.2
KAF pmax pmax
comp=Z,12nm,0.6s
KAF Kangasniemi 60.09 337 *e*p P 05 24 23.1 -0.2
comp=Z,12nm,0.6s,baz=34,slow=6.4
KAF Kangasniemi 60.09 337 *e*p P 05 24 23.1 -0.2
comp=Z,12nm,0.6s,baz=34,slow=6.4
L21A Rawlins 60.09 59 ⇑P P 05 24 24.0 +0.1
baz=60
HEC Hector,Ludlow 60.14 71 ⇓P P 05 24 25.1 +0.9
baz=60
SCI San Clemente I 60.15 74 ⇓P P 05 24 24.8 +0.7
baz=60
Q16A Castle Valley 60.18 64 ⇓P P 05 24 25.2 +0.6
baz=60
P18A Preston Nutter 60.19 63 ⇑P P 05 24 25.2 +0.5
baz=60
RSSD Black Hills 60.29 55 *e*P P 05 24 24.8 -0.5
RSSD pmax pmax
comp=Z,16nm,0.7s
RSSD Black Hills 60.29 55 *e*P P 05 24 24.8 -0.5
comp=Z,16nm,0.7s
M21A Separation Pea 60.35 59 ⇓P P 05 24 25.4 -0.3
baz=60
SRU San Rafael 60.40 63 *e*P P 05 24 25.9 -0.1
SRU pmax pmax
comp=Z,21nm,1.0s
SRU San Rafael 60.40 63 *e*P P 05 24 25.9 -0.1
comp=Z,21nm,1.0s
SRU San Rafael 60.40 63 ⇑P P 05 24 26.0 -0.1
baz=60,SNR=8.8
N20A Spence Gulch, 60.41 61 ⇑P P 05 24 25.7 -0.5
baz=60,SNR=5.3
K23A Bowen Ranch, D 60.45 58 ⇓P P 05 24 26.2 0.0
baz=60
R16A Teasdale 60.45 65 ⇑P P 05 24 26.8 +0.2
baz=60
MURC Murrieta 60.50 72 ⇑P P 05 24 27.4 +0.8
baz=60
GMRC Granite Mounta 60.56 70 ⇓P P 05 24 27.6 +0.4
baz=60
Q18A Rafter H Ranch 60.62 63 ⇑P P 05 24 27.6 +0.1
baz=60
FINES FINESS Array B 60.72 336 P P 05 24 27.2 -0.4
comp=Z,12nm,0.6s,baz=39,slow=9.0,SNR=34
FINES LR LR 05 54 43.5
comp=Z,2µm,20.8s,baz=31,slow=40
FINES FINESS Array B 60.72 336 P P 05 24 27.2 -0.4
FINES pmax pmax
comp=Z,12nm,0.6s
FINES MLR MLR
comp=Z,2µm,20.8s
FINES FINESS Array B 60.72 336 P P 05 24 27.2 -0.4
R17A Hanksville Air 60.79 64 ⇓P P 05 24 28.4 -0.3
baz=61
S16A Weppner Ranch, 60.79 65 ⇓P P 05 24 28.8 +0.1
baz=61
NSS Namsos 60.85 345 *e*P P 05 24 27.3 -1.2
L23A Garrett 60.86 58 ⇓P P 05 24 29.0 -0.2
baz=61
N21A Black Mountain 60.86 60 ⇑P P 05 24 29.3 +0.1
baz=61
P19A Cripple Cowboy 60.88 62 ⇑P P 05 24 29.0 -0.3
baz=61,SNR=5.3
M22A Cedar Creek Ra 60.90 59 ⇓P P 05 24 29.6 +0.2
baz=61
O20A White River Ci 60.92 61 ⇓P P 05 24 29.8 +0.2
baz=61
Q19A Hogan Spring (61.20 63 ⇓P P 05 24 31.1 -0.3
baz=61,SNR=12
R18A Canyonlands Na 61.26 64 ⇓P P 05 24 31.5 -0.5
baz=61,SNR=6.7
O21A Pagoda 61.28 61 ⇑P P 05 24 31.8 -0.3
baz=61
P20A De Beque 61.29 62 ⇑P P 05 24 32.1 0.0
baz=61
S17A Black Ridge (B 61.29 65 ⇑P P 05 24 31.9 -0.2
baz=61,SNR=17
IRM Iron Mountain 61.30 70 ⇑P P 05 24 31.7 -0.4
baz=61,SNR=5.2
M23A Laramie 61.31 59 ⇓P P 05 24 32.3 0.0
baz=61
U15A North Rim 61.32 67 ⇑P P 05 24 32.3 -0.1
baz=61
W13A Hualapai Mount 61.36 69 ⇓P P 05 24 32.3 -0.3
baz=61,SNR=5.9
N22A Wattenberg Ran 61.40 60 ⇑P P 05 24 32.7 -0.2

	baz=61								
BC3	**Big Chuckawall**	61.48	71	⇓	P		P	05 24 33.7	+0.3
	baz=61								
N23A	**Red Feather La**	61.60	59	⇑	P		P	05 24 34.2	-0.1
	baz=61								
R19A	**Curley Farm, L**	61.68	63	⇓	P		P	05 24 34.8	0.0
	baz=61								
S18A	**Hurst Farm, Bl**	61.70	64	⇑	P		P	05 24 34.8	-0.2
	baz=62,SNR=8.6								
Q20A	**Ridgley Place,**	61.73	62	⇑	P		P	05 24 35.3	+0.2
	baz=62								
T17A	**Navajo Res., N**	61.75	65	⇑	P		P	05 24 35.8	+0.6
	baz=62								
PDMCI	**Parker Dam,Lak**	61.78	70	⇑	P		P	05 24 36.2	+1.0
	baz=62								
M24A	**Cheyenne**	61.78	58	⇓	P		P	05 24 35.6	+0.2
	baz=62								
P21A	**Newcastle**	61.78	61	⇑	P		P	05 24 35.7	+0.3
	baz=62								
PV04	**Paradox Valley**	61.80	63	*e*	P		P	05 24 35.6	+0.1
O22A	**Kremmling**	61.81	60	⇑	P		P	05 24 36.1	+0.4
	baz=62								
Y12C	**Blythe**	61.95	70	⇓	P		P	05 24 36.9	+0.5
	baz=62								
P22A	**Eagle**	62.10	61	⇑	P		P	05 24 37.9	+0.2
	baz=62								
O23A	**Lake Granby, G**	62.11	60	⇑	P		P	05 24 37.4	-0.4
	baz=62,SNR=6.7								
U17A	**Shonto**	62.11	66	⇑	P		P	05 24 38.0	+0.3
	baz=62								
MOS	**Moscow**	62.12	327	*e*	P		P	05 24 36.3	-0.9
MOS				*e*				05 25 11.8	
MOS				*e*				05 26 52.3	
S19A	**Harvey Farm, M**	62.14	64	⇓	P		P	05 24 37.0	-0.9
	baz=62,SNR=12								
T18A	**Mexican Hat**	62.17	65	⇑	P		P	05 24 37.4	-0.6
	baz=62,SNR=5.2								
U16A	**Tuba City**	62.18	66	⇑	P		P	05 24 38.5	+0.4
	baz=62								
Q21A	**Lamborn Mesa,**	62.21	62	⇓	P		P	05 24 37.9	-0.4
	baz=62,SNR=5.8								
R20A	**Redvale**	62.24	63	⇓	P		P	05 24 38.5	0.0
	baz=62								
GLA	**Glamis**	62.28	71	⇓	P		P	05 24 39.1	+0.5
	baz=62								
WUAZ	**Wupatki**	62.49	67	*e*	P		P	05 24 40.4	+0.3
	comp=Z,3.6nm,0.9s								
WUAZ	**Wupatki**	62.49	67	⇑	P		P	05 24 40.1	-0.1
	baz=62								
S20A	**Disappointment**	62.50	63	⇓	P		P	05 24 39.8	-0.6
	baz=62,SNR=5.7								
Q22A	**Crested Butte,**	62.55	61	⇑	P		P	05 24 40.9	+0.2
	baz=62								
R21A	**Cimarron**	62.56	62	⇑	P		P	05 24 40.2	-0.5
	baz=62,SNR=14								
ISCO	**Idaho Springs**	62.57	60	*e*	P		P	05 24 40.5	-0.3
ISCO					pmax		pmax		
	comp=Z,13nm,1.0s								
ISCO	**Idaho Springs**	62.57	60	*e*	P		P	05 24 40.5	-0.3
	comp=Z,13nm,1.0s								
ISCO	**Idaho Springs**	62.57	60	⇓	P		P	05 24 40.1	-0.7
	baz=62,SNR=6.4								
U18A	**Rough Rock, Ch**	62.68	65	⇓	P		P	05 24 41.8	+0.3
	baz=62								
Y14A	**Wickenburg**	62.69	69	⇓	P		P	05 24 42.5	+1.0
	baz=62								
V17A	**Tonalea, Kykot**	62.74	66	⇑	P		P	05 24 41.6	-0.2
	baz=62,SNR=18								
P23A	**Jefferson**	62.76	60	⇑	P		P	05 24 41.7	-0.4
	baz=62								
Z13A	**Yuma Proving G**	62.85	70	⇓	P		P	05 24 42.7	+0.3
	baz=63,SNR=5.7								
T19A	**Beclabito**	62.86	64	⇓	P		P	05 24 42.6	0.0
	baz=63								
MVCO	**Mesa Verde**	62.88	64	*e*	P		P	05 24 41.9	-0.9
	comp=Z,37nm,1.5s								
MVCO	**Mesa Verde**	62.88	64	⇑	P		P	05 24 42.7	-0.1
	baz=63								
S21A	**Coal Bank Pass**	62.94	63	⇑	P		P	05 24 43.2	-0.1
	baz=63,SNR=9.5								
OBN	**Obninsk**	62.98	327	*d*	*i*	P	P	05 24 42.2	-0.7
OBN				*e*	*e*	PP	pP	05 24 57.4	-1.5
OBN				*e*				05 25 24.5	
OBN				*e*	SS		SS	05 37 13.8	+0.3
OBN					pmax		pmax		
	comp=Z,46nm,1.7s								
OBN					MLR		MLR		
	comp=Z,1μm,17.0s								
R22A	**Saguache, Gunn**	63.09	62	⇓	P		P	05 24 44.6	+0.3
	baz=63								
U19A	**Dine' College,**	63.15	65	⇓	P		P	05 24 44.9	+0.3
	baz=63								
X16A	**Lo Mia Camp, P**	63.24	68	⇓	P		P	05 24 45.1	-0.2
	baz=63,SNR=6.1								
BORG	**Borgarnes**	63.36	0	LR			LR	05 50 22.2	
	comp=Z,545nm,19.1s,baz=12,slow=34								
MOL	**Molde**	63.39	346	*e*	P		P	05 24 45.3	-0.2
S22A	**4UR Ranch, Cre**	63.40	62	⇑	P		P	05 24 46.1	-0.3
	baz=63,SNR=6.2								
EYMN	**Ely**	63.41	45	*e*	P		P	05 24 46.4	+0.5
	comp=Z,11nm,0.8s								
P25A	**Willow Gulch B**	63.54	59	⇑	P		P	05 24 47.4	+0.3
	baz=63								
T21A	**Navajo Lake**	63.56	63	⇓	P		P	05 24 47.6	+0.2
	baz=63								
R23A	**Moffat**	63.62	61	⇓	P		P	05 24 48.3	+0.5
	baz=63								
114A	**Black Gap (USA**	63.62	70	⇓	P		P	05 24 48.7	+1.2
	baz=63								
X17A	**Forest Lakes**	63.66	67	⇑	P		P	05 24 48.9	+0.9
	baz=64								
S23A	**Nye Farm, Mont**	63.88	62	⇑	P		P	05 24 49.9	+0.4
	baz=64								
T22A	**Edith**	63.89	63	⇓	P		P	05 24 49.5	0.0
	baz=64,SNR=8.5								
U21A	**Nageezi**	63.91	64	⇑	P		P	05 24 49.7	+0.1
	baz=64								
P26A	**Davis Ranch, A**	63.94	59	⇓	P		P	05 24 49.7	0.0
	baz=64								
R24A	**Sanders Place,**	63.98	61	⇑	P		P	05 24 50.5	+0.4
	baz=64								
X18A	**Snowflake**	64.01	67	⇑	P		P	05 24 50.3	0.0
	baz=64								
Y17A	**Roosevelt**	64.11	68	⇑	P		P	05 24 51.0	+0.2
	baz=64,SNR=6.0								
SDCO	**Great Sand Dun**	64.12	61	⇓	P		P	05 24 50.6	-0.5
	baz=64								
SDCO				⇓	P		P	05 24 50.6	-0.5
	baz=64								
ECSD	**EROS Data Cent**	64.24	51	*e*	P		P	05 24 50.7	-0.7
	comp=Z,13nm,0.9s								
NB2	**NORSAR Subarra**	64.24	343		P		P	05 24 51.0	-0.2
	comp=Z,98nm,1.7s,baz=21,slow=6.9								
NOA	**NORSAR Array B**	64.24	343		P		P	05 24 50.9	-0.2
	comp=Z,10nm,0.7s,baz=21,slow=6.7,SNR=25								
NOA					LR		LR	05 56 43.9	
	comp=Z,487nm,20.8s,baz=35,slow=40								
NOA	**NORSAR Array B**	64.24	343		P		P	05 24 50.9	-0.2
NOA					pmax		pmax		
	comp=Z,10.0nm,0.7s								
NOA					MLR		MLR		
	comp=Z,487nm,20.8s								
NOA	**NORSAR Array B**	64.24	343		P		P	05 24 50.9	-0.2
Q26A	**Hugo**	64.32	59	⇓	P		P	05 24 52.7	+0.6
	baz=64								
T23A	**Casias Ranch,**	64.35	62	⇓	P		P	05 24 53.3	+0.8
	baz=64								
S24A	**Houchin Ranch,**	64.35	61	⇑	P		P	05 24 53.1	+0.4
	baz=64								
U22A	**Llaves**	64.39	63	⇑	P		P	05 24 53.6	+0.9
	baz=64								
W20A	**Ramah**	64.39	65	⇑	P		P	05 24 53.4	+0.6
	baz=64								
VRHR	**Novokhopersk**	64.42	322	*e*	P		P	05 24 50.1	-2.3
VRHR				*e*	SP		sP	05 25 06.5	-8.7
VRHR					pmax		pmax		
	comp=N,6.0nm,0.6s								
VRHR					pmax		pmax		
	comp=E,10.0nm,0.6s								
VRHR					pmax		pmax		
	comp=Z,20nm,0.6s								
VRHR					MLR		MLR		
	comp=N,570nm,15.0s								
VRHR					MLR		MLR		
	comp=Z,1μm,15.0s								
VRHR					MLR		MLR		
	comp=E,330nm,10.0s								
X19A	**St. Johns**	64.45	66	⇑	P		P	05 24 53.5	+0.3
	baz=64,SNR=6.0								
NC602	**NORSAR Array S**	64.46	343	*e*	P		P	05 24 53.2	+0.6
NAO01	**NORSAR Array S**	64.48	343	*e*	P		P	05 24 52.6	-0.1
R25A	**Fountain Ranch**	64.48	60	⇓	P		P	05 24 53.9	+0.6
	baz=64								
Y18A	**Canyon Day Jun**	64.51	67	⇓	P		P	05 24 53.6	+0.1
	baz=64,SNR=5.5								
HFS	**Hagfors**	64.62	342		LR		LR	05 58 12.1	
	comp=E,1μm,18.6s,baz=24,slow=41								
V22A	**San Miguel Ran**	64.69	64	⇑	P		P	05 24 55.4	+0.6
	baz=64								
KSCO	**Kaye Shedlock'**	64.72	59	⇓	P		P	05 24 55.1	+0.3
	baz=64								
S25A	**Robets Cordova**	64.76	61	⇑	P		P	05 24 55.3	+0.2
	baz=64								
U23A	**El Rito**	64.78	63	⇓	P		P	05 24 55.2	-0.1
	baz=64,SNR=7.2								
R26A	**Arlington**	64.81	60	⇑	P		P	05 24 55.3	-0.1
	baz=65,SNR=9.9								
X20A	**Quemado**	64.81	66	⇓	P		P	05 24 56.0	+0.5
	baz=65								
Y19A	**Nutrioso**	64.82	67	⇓	P		P	05 24 56.0	+0.3
	baz=65								
T24A	**Torres, Weston**	64.86	62	⇓	P		P	05 24 56.0	+0.1
	baz=65								
SPMN	**St. Paul**	64.89	48	⇑	P		P	05 24 55.7	0.0
	baz=65								
KSM	**Kuching**	64.94	236		P		P	05 24 59.8	+3.5
	comp=E,52nm,1.6s								
TUC	**Tucson**	65.15	69	*e*	P		P	05 24 58.4	+0.8
TUC					pmax		pmax		
	comp=Z,5.0nm,1.4s								
TUC	**Tucson**	65.15	69	*e*	P		P	05 24 58.4	+0.8
	comp=Z,5.3nm,1.4s								
T25A	**Trinidad**	65.16	61	⇑	P		P	05 24 57.9	+0.2
	baz=65								
R27A	**Eads**	65.17	59	⇑	P		P	05 24 57.8	+0.1
	baz=65								
V23A	**Ortiz Mt. (NFS**	65.22	63	⇑	P		P	05 24 58.2	0.0
	baz=65								
U24A	**Moreno Valley**	65.22	62	⇑	P		P	05 24 58.9	+0.6
	baz=65								
BGNE	**Belgrade**	65.23	54	⇓	P		P	05 24 57.8	-0.1
	baz=65								
VSR	**Storozhevoye**	65.24	323	*e*	P		P	05 24 57.4	-0.4
VSR					pmax		pmax		
	comp=N,10.0nm,0.8s								
VSR					pmax		pmax		
	comp=E,10.0nm,0.8s								
VSR					pmax		pmax		
	comp=Z,10.0nm,0.8s								
VSR					MLR		MLR		
	comp=N,1μm,16.0s								
VSR					MLR		MLR		
	comp=E,1μm,16.0s								
VSR					MLR		MLR		
	comp=Z,1μm,16.0s								
X21A	**Alamocita Cree**	65.28	65	⇓	P		P	05 24 59.2	+0.6
	baz=65								
S26A	**Kim**	65.30	60	⇓	P		P	05 24 58.8	+0.3
	baz=65								
Y20A	**Horse Springs,**	65.35	66	⇑	P		P	05 24 59.3	+0.2
	baz=65								
ANMO	**Albuquerque**	65.65	64	*e*	P		P	05 25 01.6	+0.7
ANMO					pmax		pmax		
	comp=Z,7.0nm,1.1s								
ANMO	**Albuquerque**	65.65	64	*e*	P		P	05 25 01.6	+0.7
	comp=Z,6.7nm,1.1s								
119A	**Ashpeak Ranch,**	65.66	68	⇓	P		P	05 25 01.6	+0.7
	baz=66								
W23A	**Werner Place,**	65.67	64	⇑	P		P	05 25 01.2	+0.2
	baz=65								
Y21A	**Point of Rocks**	65.67	66	⇑	P		P	05 25 01.6	+0.5
	baz=65								
X22A	**Bernardo**	65.67	65	⇑	P		P	05 25 01.1	0.0
	baz=65								
LAZ	**Ladron**	65.68	65	*e*	P		P	05 25 02.3	+1.1
	comp=Z,6.3nm,1.1s								
U25A	**Circle Dot Ran**	65.70	62	⇑	P		P	05 25 00.9	-0.4
	baz=66,SNR=7.3								
V24A	**Rampart Ranch,**	65.73	63	⇓	P		P	05 25 01.4	-0.2
	baz=66,SNR=5.8								
Z20A	**Nine Sixteen R**	65.81	67	⇑	P		P	05 25 02.2	+0.2
	baz=66								
218A	**Dragoon**	65.82	69	⇓	P		P	05 25 02.7	+0.7
	baz=66								
V25A	**Rancho No Teng**	66.00	62	⇑	P		P	05 25 03.7	+0.5
	baz=66								
W24A	**Lazy 6 Ranch,**	66.04	63	⇓	P		P	05 25 03.6	+0.2
	baz=66								
U26A	**Atchley Ranch,**	66.06	61	⇑	P		P	05 25 04.1	+0.5
	baz=66								
T27A	**Campo**	66.12	60	⇓	P		P	05 25 04.0	+0.1
	baz=66								
Y22A	**Socorro**	66.12	65	⇑	P		P	05 25 04.3	+0.4
	baz=66								
BNM	**Barren Site**	66.15	65	*e*	P		P	05 25 03.5	-0.7
Z21A	**St. Cloud Mine**	66.19	66	⇓	P		P	05 25 04.8	+0.4
	baz=66								
120A	**U Bar Ranch, L**	66.21	67	⇓	P		P	05 25 05.0	+0.5
	baz=66								
MICGM	**Minsk**	66.23	331	*e*	P		P	05 25 03.0	-1.1
MNK	**Minsk**	66.24	331	*e*	P		P	05 25 03.0	-1.2
318A	**Bisbee**	66.25	69	⇓	P		P	05 25 05.0	+0.2
	baz=66								
219A	**White Tail Can**	66.25	68	⇑	P		P	05 25 04.7	-0.1
	baz=66,SNR=6.4								
CBKS	**Cedar Bluff**	66.37	57	⇑	P		P	05 25 05.1	-0.2
	baz=66								
CBKS				⇑	P		P	05 25 05.1	-0.2
	baz=66								
T28A	**Walsh**	66.40	60	⇑	P		P	05 25 05.5	-0.1
	baz=66								
W25A	**X Bar L Ranch,**	66.55	63	⇑	P		P	05 25 07.1	+0.5
	baz=66								
Z22A	**Elephant Butte**	66.62	66	⇓	P		P	05 25 08.3	+1.2
	baz=66								
Y23A	**Lovelace Mesa,**	66.63	65	⇓	P		P	05 25 07.0	-0.3
	baz=66,SNR=5.6								
SCHQ	**Schefferville**	66.64	27	P			P	05 25 06.5	-0.2
	comp=Z,5.1nm,0.7s,baz=322,slow=8.5,SNR=17								
SCHQ					LR		LR	05 58 59.6	
	comp=Z,560nm,18.2s,baz=320,slow=40								
SCHQ	**Schefferville**	66.64	27	*e*	P		P	05 25 06.8	+0.1
	comp=Z,10nm,0.8s								
121A	**Cookes Peak, D**	66.70	67	⇑	P		P	05 25 07.6	0.0
	baz=66								
319A	**Douglas**	66.70	69	⇓	P		P	05 25 07.8	+0.1
	baz=66								
220A	**Playas Peak, P**	66.74	68	⇓	P		P	05 25 09.0	+1.0
	baz=66								
Y24A	**Capitan**	66.98	64	⇓	P		P	05 25 09.4	0.0
	baz=67,SNR=6.2								
320A	**Kipp Ranch, An**	67.16	68	⇑	P		P	05 25 10.5	-0.1
	baz=67								
SCIA	**State Center**	67.25	51	*e*	P		P	05 25 10.0	-0.8
	comp=Z,62nm,0.6s								
Y25A	**Mesa, Roswell**	67.39	64	⇑	P		P	05 25 11.9	-0.1
	baz=67,SNR=10								
X26A	**CR and CF Fran**	67.40	63	⇑	P		P	05 25 12.3	+0.2
	baz=67								
W27A	**Bowe Ranch, En**	67.43	62	⇓	P		P	05 25 12.2	0.0
	baz=67								
IPM	**Ipoh**	67.44	247	*e*	P		P	05 25 13.1	+0.8
	comp=Z,21nm,0.9s								
Z24A	**Sheeppen Canyo**	67.46	64	⇓	P		P	05 25 13.2	+0.7
	baz=67								
ISHV	**Shirvan**	67.67	303	*e*	P		P	05 25 14.3	+0.5
X27A	**F and S Farms,**	67.72	62	⇑	P		P	05 25 14.1	+0.1
	baz=68								
IAKL	**Akhelmad**	67.82	301	*e*	P		P	05 25 15.5	+0.7
Z25A	**Roswell**	67.86	64	⇓	P		P	05 25 15.1	+0.2
	baz=68								
124A	**Stringfield Ra**	67.88	65	⇑	P		P	05 25 15.6	+0.3
	baz=68								
SUW	**Suwalki**	67.99	334	*e*	P		P	05 25 15.3	+0.1
SUW	**Suwalki**	67.99	334	*e*	P		P	05 25 15.3	+0.1
Y27A	**Causey**	68.26	63	⇓	P		P	05 25 16.9	-0.5
	baz=68,SNR=9.1								
Z26A	**Caprock**	68.27	64	⇑	P		P	05 25 16.9	-0.6
	baz=68,SNR=10								
AMTX	**Amarillo**	68.31	61	⇑	P		P	05 25 17.7	0.0
	baz=68								
AMTX				⇑	P		P	05 25 17.7	0.0
	baz=68								
224A	**Cornudas Mount**	68.31	65	⇓	P		P	05 25 17.8	0.0
	baz=68								
MSTX	**Muleshoe**	68.41	62	⇓	P		P	05 25 18.2	-0.1
	baz=68								
CPRX	**Cap Rock**	68.51	64	*e*	P		P	05 25 18.2	-0.9
	comp=Z,9.9nm,0.7s								
Z27A	**Tatum**	68.66	63	⇓	P		P	05 25 19.7	-0.2
	baz=68								
MNTX	**Cornudas Mount**	68.67	66	*e*	P		P	05 25 19.4	-0.5
	comp=Z,7.6nm,1.1s								
MNTX	**Cornudas Mount**	68.67	66	⇓	P		P	05 25 19.6	-0.3
	baz=68,SNR=7.4								
MNTX				⇓	P		P	05 25 19.6	-0.3
	baz=68,SNR=7.4								
GDL2	**Guadalupe Moun**	68.86	65	*e*	P		P	05 25 22.3	+1.1
	comp=Z,12nm,1.0s								
MUD	**Monsted U'grnd**	68.92	343	*i*	P		P	05 25 23.6	+2.6
MUD					pmax		pmax		
	comp=Z,21nm,1.0s								
MUD	**Monsted U'grnd**	68.92	343	*i*	P		P	05 25 23.6	+2.6
	comp=Z,21nm,1.0s								
BSD	**Bornholm Skovb**	69.02	339	*e*	P		P	05 25 22.4	+0.8
BSD					pmax		pmax		
	comp=Z,20nm,1.2s								
BSD					MLR		MLR		
	comp=Z,1μm,20.0s								
BSD	**Bornholm Skovb**	69.02	339	*i*	P		P	05 25 22.4	+0.8
	comp=Z,20nm,1.2s								
BSD									
	comp=Z,1μm,20.0s								
AKASG	**Malin Array Be**	69.10	329		P		P	05 25 21.4	-0.9
	comp=Z,5.3nm,0.3s,baz=30,slow=6.5,SNR=10.0								
AKASG					LR		LR	05 59 08.0	
	comp=Z,1μm,21.9s,baz=20,slow=39								
AKASG	**Malin Array Be**	69.10	329		P		P	05 25 21.4	-0.9
AKASG					pmax		pmax		
	comp=Z,5.0nm,0.4s								
AKASG					MLR		MLR		
	comp=Z,1μm,21.9s								
AKASG	**Malin Array Be**	69.10	329		P		P	05 25 21.4	-0.9
AKBB	**Malin Array Si**	69.10	329	*e*	P		P	05 25 20.0	-2.2
AKBB	**Malin Array Si**	69.10	329	*e*	P		P	05 25 20.0	-2.2
226A	**Malaga, Loving**	69.11	65	⇑	P		P	05 25 22.5	-0.2
	baz=69,SNR=6.1								
KIEV	**Kiev**	69.11	329	*c*	*i*	P	P	05 25 21.5	-0.8
KIEV	**Kiev**	69.11	329	*e*	P		P	05 25 21.1	-1.2
	comp=Z,41nm,1.1s								
325A	**Bean Ranch, Si**	69.15	66	⇑	P		P	05 25 23.3	+0.2
	baz=69								
LLD	**Lille Linde**	69.39	341	*i*	P		P	05 25 19.9	-4.0
LLD					pmax		pmax		
	comp=Z,57nm,0.9s								
LLD	**Lille Linde**	69.39	341	*i*	P		P	05 25 19.9	-4.0
	comp=Z,57nm,0.9s								
425A	**Indio Mountain**	69.58	66	⇓	P		P	05 25 25.8	+0.1
	baz=69								
KIV	**Kislovodsk**	69.74	317	*e*	P		P	05 25 26.8	+0.5
KIV				*e*	S		S	05 34 33.0	+2.4
KIV				*e*	SS		SS	05 39 03.2	+4.4
KIV					pmax		pmax		
	comp=Z,22nm,0.7s								
KIV					MLR		MLR		
	comp=Z,1μm,18.0s								
KIV	**Kislovodsk**	69.74	317	*e*	P		P	05 25 26.9	+0.5
	comp=Z,21nm,0.6s								
WMOK	**Wichita Mounta**	69.96	59	*e*	P		P	05 25 26.7	-1.2
WMOK					pmax		pmax		
	comp=Z,16nm,1.1s								
WMOK	**Wichita Mounta**	69.96	59	*e*	P		P	05 25 26.7	-1.2
	comp=Z,16nm,1.1s								
PSI	**Prapat**	70.00	248		P		P	05 25 30.3	+1.9
	comp=Z,21nm,2.3s								
ZEI	**Tsey**	70.17	315	*e*	P		P	05 25 28.6	-0.7
ZEI					pmax		pmax		
	comp=Z,7.0nm,0.6s								
GKP	**Gorka Klasztor**	70.18	337	*e*	P		P	05 25 29.8	+1.0
GKP	**Gorka Klasztor**	70.18	337	*e*	P		P	05 25 29.8	+1.0
426A	**McDonald Obser**	70.21	65	⇑	P		P	05 25 29.4	-0.2
	baz=70								
328A	**Wristen Ranch,**	70.34	64	⇓	P		P	05 25 29.9	-0.3
	baz=70,SNR=14								
427A	**Hayter Ranch,**	70.42	65	⇑	P		P	05 25 31.3	+0.5
	baz=70								
AFI	**Afiamalu**	70.46	150		LR		LR	05 52 51.3	
	comp=Z,488nm,18.6s,baz=321,slow=33								
DGRG	**David-gareji**	70.58	313		P		P	05 25 32.0	+0.5
TUL1	**Tulsa**	70.61	56	⇓	P		P	05 25 31.0	-0.8
	baz=70								
526A	**Mary Lane Ranc**	70.63	66	⇑	P		P	05 25 31.8	-0.4
	baz=70,SNR=5.2								
TBLG	**Delisi**	70.64	314	*e*	P		P	05 25 32.2	+0.4
TBLG	**Delisi**	70.64	314		P		P	05 25 32.3	+0.4
HYB	**Hyderabad**	70.79	274	*i*	P		P	05 25 34.0	+0.9
HYB				*e*				05 26 08.0	
527A	**Woodward Ranch**	70.84	66	⇓	P		P	05 25 33.4	0.0
	baz=71								
IKOO	**Kooshah**	70.87	298	*e*	P		P	05 25 33.4	-0.3
428A	**Kincaid Ranch,**	70.91	64	⇓	P		P	05 25 33.7	-0.1
	baz=71,SNR=8.7								
626A	**Big Bend Ranch**	71.00	66	⇑	P		P	05 25 34.5	+0.2
	baz=71								
IANJ	**Anjilo**	71.20	304	*e*	P		P	05 25 35.5	-0.1
SOC	**Sochi**	71.28	318	*e*	P		P	05 25 34.7	-0.9
SOC				*e*	PP		pP	05 25 48.3	-3.7
SOC				*e*	PP		PPP	05 29 50.8	
SOC				*e*	S		S	05 34 50.4	+2.1
SOC					pmax		pmax		
	comp=Z,42nm,0.8s								
SOC					MLR		MLR		
	comp=Z,2μm,17.0s								
528A	**Cox Ranch, San**	71.28	65	⇑	P		P	05 25 35.8	-0.2
	baz=71,S

KSP MLR MLR
comp=Z,2µm,24.9s
JCT Junction City 72.69 63 *e*P **P 05 25 44.1 -0.2**
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 72.69 63 *e*P **P 05 25 44.1 -0.2**
comp=Z,6.7nm,0.8s
JCT Junction City 72.69 63 ⇑P **P 05 25 44.2 -0.2**
baz=72
IAS Iasi 72.70 328 P **P 05 25 44.5 +0.4**
POO Poona 72.82 278 *e*P **P 05 25 45.0 -0.3**
NIE Niedzica 72.90 333 *e*P **P 05 25 46.1 +0.8**
NIE Niedzica 72.90 333 *e*P **P 05 25 46.1 +0.8**
CLL Collm 72.99 339 *e*P **P 05 25 45.8 +0.1**
comp=Z,21nm,1.0s
CLL *e*pP **pP 05 26 02.2 +0.1**
CLL Collm 72.99 339⇑*i*P **P 05 25 45.8 +0.1**
CLL *e**PP **pP 05 26 01.0 -1.1**
CLL pmax pmax
comp=Z,109nm,1.7s
CLL Collm 72.99 339⇑*i*P **P 05 25 45.8 +0.1**
comp=Z,109nm,1.7s
CLL *e*pP **pP 05 26 01.0 -1.1**
CLL *e*PP **PP 05 28 30.0 +2.0**
CLL *e*S **SKiKP 05 35 12.0 -0.4**
CLL *e*(PS) 05 35 54.0
CLL *e* 05 41 06.0
PARMO Parma 73.03 52 *e*P **P 05 25 47.4 +1.2**
UPC Upice 73.03 336 *e*P **P 05 25 45.9 -0.1**
UPC *e* 05 25 55.6
UPC Upice 73.03 336⇑*e*P **P 05 25 45.9 -0.1**
UPC *ex* x 05 25 55.6
CLZ Clausthal 73.05 340 *e*P **P 05 25 47.2 +1.0**
comp=Z,33nm,1.0s
CLZ Clausthal 73.05 340 *e*P **P 05 25 47.2 +1.0**
CLZ pmax pmax
comp=Z,33nm,1.0s
UZH Uzhgorod 73.05 332⇓*i*P **P 05 25 46.0 -0.1**
UZH *i* 05 25 55.7
UZH MLR MLR
comp=N,1µm,17.0s
UZH MLR MLR
comp=E,1µm,17.0s
UZH MLR MLR
comp=Z,1µm,17.0s
BUR08 Bucovina Ar. S 73.06 329 *e*P **P 05 25 46.4 0.0**
BURAR Bucovina Array 73.08 329⇑*i*P **P 05 25 46.7 +0.2**
DPC Dobruska-Polom 73.09 336⇑*i*P **P 05 25 47.1 +0.7**
DPC *e* 05 25 58.4
DPC MLR MLR
comp=Z,1µm,21.3s
DPC Dobruska-Polom 73.09 336⇑*i*P **P 05 25 47.1 +0.7**
DPC *ex* x 05 25 58.4
DPC AMS AMS 06 04 20.0
comp=Z,1µm,21.3s
OKC Ostrava-Krasne 73.10 335⇑*i*P **P 05 25 47.0 +0.6**
OKC *e* 05 25 57.2
OKC Ostrava-Krasne 73.10 335⇑*i*P **P 05 25 47.0 +0.6**
OKC *ex* x 05 25 57.2
OKC AMS AMS 06 01 40.0
LEOM Leova 73.10 327 ⇑P **P 05 25 47.2 +0.7**
LEOM Leova 73.10 327⇑*i*P **P 05 25 47.2 +0.7**
BRG Berggiesshubel 73.18 338 *e*P P 05 25 42.2 -4.6
comp=Z,9.4nm,1.3s
BRG *e* 05 25 47.0
comp=Z,54nm,1.9s
BRG *e*PCP **PcP 05 26 00.5 -2.7**
comp=Z,42nm,1.5s
BRG
comp=N,1µm,25.4s
BRG
comp=E,1µm,19.3s
BRG
comp=Z,2µm,23.0s
BRG Berggiesshubel 73.18 338 *e*P **P 05 25 47.4 +0.5**
comp=Z,11nm,1.0s
BRG *e*pP **PcP 05 26 02.4 -0.8**
BRG Berggiesshubel 73.18 338 *e*P P 05 25 42.2 -4.6
BRG *e* 05 25 47.0
BRG *e* 05 26 00.5
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=N,1µm,25.4s
BRG MLR MLR
comp=E,1µm,19.3s
BRG MLR MLR
comp=Z,2µm,23.0s
HOMI Horasan 73.26 315 *i*P **P 05 25 48.9 +1.1**
MORC Moravsky Berou 73.31 335 ⇑P **P 05 25 48.4 +0.6**
MORC Moravsky Berou 73.31 335 *e*P **P 05 25 47.8 0.0**
comp=Z,74nm,1.5s
MORC Moravsky Berou 73.31 335⇑*i*P **P 05 25 48.4 +0.6**
NEUB Neuenburg 73.35 339 *e*P **P 05 25 48.1 +0.2**
comp=Z,11nm,0.8s
PVCC Panska Ves 73.35 337 *e*P **P 05 25 48.6 +0.7**
PVCC MLR MLR
comp=Z,1µm,16.4s
PVCC Panska Ves 73.35 337⇑*e*P **P 05 25 48.6 +0.7**
PVCC AMS AMS 06 03 00.0
comp=Z,1µm,16.4s
IBAF Bafgh 73.36 300 *e*P **P 05 25 47.4 -1.1**
TUTA Tutak 73.39 314 *i*P **P 05 25 49.2 +0.6**
WCI Wyandotte Cave 73.40 48 *e*P **P 05 25 46.9 -1.5**
WCI pmax pmax
comp=Z,6.0nm,0.6s
WCI Wyandotte Cave 73.40 48 *e*P **P 05 25 46.9 -1.5**
comp=Z,5.8nm,0.6s
TRPA Tarpa 73.43 331⇑*i*P **P 05 25 49.0 +0.6**
TRPA Tarpa 73.43 331⇑*e*P **P 05 25 49.0 +0.6**
ICHK Chekchek 73.46 301 *e*P **P 05 25 49.6 +0.5**
BMR Baia Mare 73.56 331 P **P 05 25 49.9 +0.8**
TESR 73.60 328⇑*i*P **P 05 25 50.3 +0.9**
WTSB Winterswijk 73.63 343 *e*P **P 05 25 50.4 +1.0**
KECS Kecovo 73.70 333 *e*P **P 05 25 49.8 -0.2**
KECS pmax pmax
comp=Z,33nm,2.2s
KECS Kecovo 73.70 333 *e*P **P 05 25 49.8 -0.2**
PRU Pruhonice 73.86 337⇑*i*P **P 05 25 51.5 +0.6**
PRU *e* 05 26 00.8
PRU MLR MLR
comp=Z,1µm,16.5s
PRU Pruhonice 73.86 337⇑*i*P **P 05 25 51.5 +0.6**
PRU *ex* x 05 26 00.8
PRU AMS AMS 06 03 30.0
comp=Z,1µm,16.5s
KOPT Kop Dagi 73.89 316 *i*P **P 05 25 53.7 +2.1**
MOX Moxa 73.92 339 *e*P **P 05 25 51.6 +0.4**
comp=Z,11nm,1.0s
MOX *e*pP **pP 05 26 08.1 +0.5**
MOX Moxa 73.92 339 *e*P **P 05 25 51.6 +0.4**
MOX *e**PP **pP 05 26 08.1 +0.5**
MOX pmax pmax
comp=Z,11nm,1.0s
TANN Tannenbergstha 73.94 339 *e*P **P 05 25 51.9 +0.4**
comp=Z,10.0nm,1.2s
VRAC Vranov 73.99 336 ⇑P **P 05 25 52.7 +1.0**
VRAC Vranov 73.99 336⇑*i*P **P 05 25 52.7 +1.0**
IMEH Mehriz 74.02 301 *e*P **P 05 25 51.3 -1.1**
IZEF Zefreh 74.03 303 *e*P **P 05 25 52.1 -0.4**
TLCR 74.04 326 ⇓P **P 05 25 52.7 +0.7**
TLCR 74.04 326⇓*i*P **P 05 25 52.7 +0.7**
BUG Bochum--Univer 74.04 342 *e*pP pP 05 26 08.8 +0.5
IKLH Kolahrood 74.08 304 *e*P **P 05 25 52.9 +0.1**
UBBA Unterbreizbach 74.09 340 *e*P **P 05 25 53.6 +1.5**
NKC Novy Kostel 74.12 339 *e*P **P 05 25 53.0 +0.6**
NKC *e* 05 25 59.6
NKC Novy Kostel 74.12 339⇑*e*P **P 05 25 53.0 +0.6**
NKC *ex* x 05 25 59.6
VRI Vrincioaia 74.14 328 ⇑P **P 05 25 52.9 +0.3**
VRI Vrincioaia 74.14 328⇑*i*P **P 05 25 52.9 +0.3**
DZM Mont Dzumac 74.24 173 *e*LR LR 05 48 54.9
comp=Z,937nm,22.1s
CFR Carcaliu 74.28 326 ⇓P **P 05 25 53.9 +0.6**
CFR Carcaliu 74.28 326⇓*i*P **P 05 25 53.9 +0.6**
TREC Trest 74.28 336⇑*i*P **P 05 25 54.0 +0.6**
TREC *e* 05 26 05.2
TREC Trest 74.28 336⇑*i*P **P 05 25 54.0 +0.6**
TREC *e*PCP **PcP 05 26 05.2 -2.8**
KELT Kelkit 74.32 316 *i*P **P 05 25 54.4 +0.4**
WVT Waverly 74.38 51 *e*P **P 05 25 54.2 +0.1**
WVT pmax pmax
comp=Z,13nm,1.1s
WVT Waverly 74.38 51 *e*P **P 05 25 54.2 +0.1**
comp=Z,13nm,1.1s
PSZ Piszkesteto 74.38 333 ⇓P **P 05 25 54.7 +0.6**
PSZ Piszkesteto 74.38 333 *e*P **P 05 25 54.4 +0.4**
comp=Z,111nm,1.6s
PSZ Piszkesteto 74.38 333⇓*i*P **P 05 25 54.7 +0.6**
PSZ Piszkesteto 74.38 333⇓*e*P **P 05 25 55.0 +0.9**
DRGR 74.58 331 ⇑P **P 05 25 55.4 +0.2**
DRGR 74.58 331⇑*i*P **P 05 25 55.4 +0.2**
ROTZ Rotzenmuhle 74.61 339 *e*P **P 05 25 56.2 +0.9**
comp=Z,12nm,0.9s
MLR Muntele Rosu 74.73 328 ⇑P **P 05 25 56.6 +0.4**
MLR Muntele Rosu 74.73 328⇑*i*P **P 05 25 56.6 +0.4**
TIRR Tirgusor 74.81 326 ⇓P **P 05 25 57.0 +0.5**
TIRR Tirgusor 74.81 326 *e*P **P 05 25 56.5 +0.1**
comp=Z,31nm,0.9s
TIRR Tirgusor 74.81 326⇓*i*P **P 05 25 57.0 +0.5**
ISR Istrita 74.86 327 ⇓P **P 05 25 57.1 +0.2**
ISR Istrita 74.86 327⇓*i*P **P 05 25 57.1 +0.2**
ZST Bratislava 74.88 335 *e*P **P 05 25 57.7 +0.9**
ZST Bratislava 74.88 335 *e*P **P 05 25 57.7 +0.9**
KHC Kasperske Hory 74.89 337⇑*i*P **P 05 25 57.8 +0.8**
KHC *e* 05 26 06.2
KHC MLR MLR
comp=Z,1µm,15.0s
KHC Kasperske Hory 74.89 337 *e*P **P 05 25 57.7 +0.8**
comp=Z,55nm,1.4s
KHC Kasperske Hory 74.89 337⇑*i*P **P 05 25 57.8 +0.8**
KHC *ex* x 05 26 06.2
KHC *e*pP **pP 05 26 12.5 -0.9**
KHC AMS AMS 06 04 00.0
comp=Z,1µm,15.0s
GRF Grafenberg Arr 74.90 339 *e*P **P 05 25 58.0 +1.1**
comp=Z,16nm,0.9s
GRF Grafenberg Arr 74.90 339 *e*P **P 05 25 58.0 +1.1**
GRF pmax pmax
comp=Z,16nm,0.9s
GRFO Grafenberg 74.90 339 *e*P **P 05 25 57.8 +0.9**
GRFO pmax pmax
comp=Z,72nm,1.4s
GRFO Grafenberg 74.90 339 *e*P **P 05 25 57.8 +0.9**
comp=Z,72nm,1.4s
IPIR Pirpir 74.93 304 *e*P **P 05 25 59.1 +1.3**
HGN Heimansgroeve 74.94 343 *e*P **P 05 25 57.2 +0.1**
BEBN Eben Emael 74.95 343 P **P 05 25 58.4 +1.2**
comp=Z,30nm,1.5s
TNS Taunus Mts 74.98 341 *e*pP pP 05 26 14.2 +0.3
TNS Taunus Mts 74.98 341 *e*P pP 05 26 14.2 +0.3
WET Wettzell 75.04 338 *e*P **P 05 25 58.7 +0.9**
comp=Z,17nm,0.9s
WET *e*pP **pP 05 26 15.1 +0.8**
WET Wettzell 75.04 338 *e*P **P 05 25 58.7 +0.9**
WET *e**PP **pP 05 26 15.1 +0.8**
WET pmax pmax
comp=Z,17nm,0.9s
VOIR 75.07 329 ⇑P **P 05 25 58.9 +0.8**
VOIR 75.07 329⇑*i*P **P 05 25 58.8 +0.7**
MEM Membach 75.07 343 P **P 05 25 58.4 +0.5**
comp=Z,64nm,1.2s
WRAB Tennant Creek 75.08 204 *e*P **P 05 25 58.0 -0.2**
WRAB pmax pmax
comp=Z,39nm,1.3s
WRAB Tennant Creek 75.08 204 *e*P **P 05 25 58.0 -0.2**
comp=Z,39nm,1.3s
WRA Warramunga Arr 75.09 204 P **P 05 25 57.3 -0.9**
comp=Z,13nm,1.0s,baz=18,slow=6.1,SNR=17
WRA LR LR 05 59 38.5
comp=Z,217nm,18.8s,baz=355,slow=36
WRA Warramunga Arr 75.09 204 P **P 05 25 57.3 -0.9**
WRA pmax pmax
comp=Z,13nm,1.0s
WRA MLR MLR
comp=Z,217nm,18.8s
WRA Warramunga Arr 75.09 204 P **P 05 25 57.3 -0.9**
GEC2 GERESS Array S 75.13 337 *e*P **P 05 25 58.7 +0.4**
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 75.13 337 *e*P **P 05 25 58.7 +0.4**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 75.13 337 P **P 05 25 58.8 +0.4**
comp=Z,2.9nm,0.4s,baz=34,slow=5.2,SNR=38
GERES LR LR 06 05 38.0
comp=Z,739nm,20.6s,baz=17,slow=41
GERES GERESS Array B 75.13 337 P **P 05 25 58.8 +0.4**
GERES pmax pmax
comp=Z,3.0nm,0.4s
GERES GERESS Array B 75.13 337 P **P 05 25 58.8 +0.4**
PKSG 75.28 334⇓*e*P **P 05 26 00.4 +1.3**
SULR 75.35 327⇑*i*P **P 05 25 59.9 +0.4**
KEMA Kemaliye 75.38 316 *i*P **P 05 26 00.4 +0.4**
IKOM Komasi 75.43 307 *e*P **P 05 25 59.4 -1.1**
CONA Conrad Observa 75.45 336⇑*i*P **P 05 26 01.4 +1.2**
comp=Z,35nm,1.2s
CONA Conrad Observa 75.45 336⇑*i*P **P 05 26 01.4 +1.2**
comp=Z,35nm,1.2s
SNF Seneffe 75.47 344 P **P 05 26 01.7 +1.6**
comp=Z,28nm,1.6s
ABH Alteburg 75.48 342 *e*P **P 05 26 00.5 +0.2**
TOD Tromm 75.49 341 *e*P **P 05 26 00.1 -0.3**
TOD Tromm 75.49 341 *e*P **P 05 26 00.1 -0.3**
SOP Sopron 75.50 335⇓*e*P **P 05 26 02.0 +1.6**
RUP Ruppelstein 75.75 342 *e*P **P 05 26 01.9 +0.1**
RUP Ruppelstein 75.75 342 *e*P **P 05 26 01.9 +0.1**
DOU Dourbes 75.82 344 P **P 05 26 03.7 +1.6**
comp=Z,27nm,1.5s
GZR Gura Zlata 75.82 330 ⇓P **P 05 26 03.1 +0.7**
GZR Gura Zlata 75.82 330⇓*i*P **P 05 26 03.1 +0.7**
BAIF Baives 75.92 344 *e*P **P 05 26 03.3 +0.6**
comp=Z,111nm,1.3s
WLF Walferdange 75.95 342 P **P 05 26 04.2 +1.2**
comp=Z,30nm,1.9s
WLF Walferdange 75.95 342 *e*P **P 05 26 03.6 +0.7**
WLF pmax pmax
comp=Z,76nm,1.8s
WLF Walferdange 75.95 342 *e*P **P 05 26 03.6 +0.7**
comp=Z,76nm,1.8s
BZS Buzias 75.97 331 ⇑P **P 05 26 03.1 0.0**
BZS Buzias 75.97 331⇑*i*P **P 05 26 03.1 0.0**
IPAR Pars 76.07 301 *e*P **P 05 26 04.5 +0.2**
ARSA Arzberg 76.16 336⇑*i*P **P 05 26 05.4 +1.1**
comp=Z,36nm,1.4s
ARSA Arzberg 76.16 336⇑*i*P **P 05 26 05.4 +1.1**
comp=Z,36nm,1.4s
STU Stuttgart 76.20 340 *e*pP pP 05 26 21.7 +0.8
STU Stuttgart 76.20 340 *e*P **P 05 26 04.7 +0.3**
STU Stuttgart 76.20 340 *e*P **P 05 26 04.7 +0.3**
LANF Langenberg 76.29 341 *e*P **P 05 26 04.8 -0.1**
LANF Langenberg 76.29 341 *e*P **P 05 26 04.8 -0.1**
LANF Langenberg 76.29 341 *e*P **P 05 26 04.8 -0.1**
PKSM Moragy 76.29 333 ⇑P **P 05 26 05.0 +0.1**
PKSM Moragy 76.29 333⇑*i*P **P 05 26 05.0 +0.1**
PKSM Moragy 76.29 333⇑*e*P **P 05 26 04.7 -0.2**
FUR Furstenfeldbru 76.33 339 *e*P **P 05 26 05.7 +0.6**
comp=Z,25nm,1.0s
FUR *e*pP **pP 05 26 22.4 +0.8**
FUR Furstenfeldbru 76.33 339 *e*P **P 05 26 05.7 +0.6**
FUR *e**PP **pP 05 26 22.4 +0.8**
FUR pmax pmax
comp=Z,25nm,1.0s
ISRV Sarvestan 76.40 300 *e*P **P 05 26 05.3 -0.9**
BEHE Becsehely 76.56 334⇓*e*P **P 05 26 07.3 +0.8**
SZH Strazhica 76.71 327 P **P 05 26 06.0 -1.3**
PINB Pinarbasi 76.75 318 *i*P **P 05 26 08.4 +0.4**
BFO Black Forest 76.80 341 *e*P **P 05 26 08.3 +0.5**
comp=Z,15nm,1.0s
BFO *e*pP **pP 05 26 24.6 +0.3**
BFO Black Forest 76.80 341 *e*P **P 05 26 08.3 +0.5**
BFO *e**PP **pP 05 26 24.6 +0.3**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 76.80 341 *e*P **P 05 26 06.6 -1.2**
comp=Z,52nm,1.4s
SOKA Soboth 76.82 336⇑*i*P **P 05 26 09.1 +1.1**
comp=Z,56nm,1.5s
SOKA Soboth 76.82 336⇑*i*P **P 05 26 09.1 +1.1**
comp=Z,56nm,1.5s
PERS Pernice 76.84 336 *i*P **P 05 26 09.2 +1.0**
PERS *i* 05 26 23.5
KBA Koelnbreinsper 76.87 337 *i*P **P 05 26 09.7 +1.3**
KBA pmax pmax
comp=Z,68nm,1.2s
KBA Koelnbreinsper 76.87 337 *i*P **P 05 26 09.7 +1.3**
comp=Z,68nm,1.2s
KBA Koelnbreinsper 76.87 337 *i*P **P 05 26 09.7 +1.3**
comp=Z,68nm,1.2s,SNR=34
SPAK Spaichingen-Ko 76.92 340 *e*P **P 05 26 09.2 +0.6**
CDF Champ du Feu 76.94 341 *e*P **P 05 26 09.0 +0.3**
comp=Z,170nm,1.3s
BR131 Keskin Array S 76.98 320 *e*P **P 05 26 09.2 0.0**
comp=Z,9.4nm,0.7s
BRTR Keskin Array B 76.98 320 P **P 05 26 08.9 -0.2**
comp=Z,10nm,0.8s,baz=52,slow=3.0,SNR=46
BRTR LR LR 06 07 54.8
comp=Z,554nm,19.1s,baz=5.6,slow=42
BRTR Keskin Array B 76.98 320*ce*P **P 05 26 09.1 0.0**
BRTR pmax pmax
comp=Z,11nm,0.7s
BRTR Keskin Array B 76.98 320 P **P 05 26 08.9 -0.2**
WTTA Wattenberg 77.09 338⇑*i*P **P 05 26 10.5 +0.8**
WTTA pmax pmax
comp=Z,73nm,1.5s
WTTA Wattenberg 77.09 338⇑*i*P **P 05 26 10.5 +0.8**
comp=Z,72nm,1.5s
WTTA Wattenberg 77.09 338⇑*i*P **P 05 26 10.5 +0.8**
comp=Z,72nm,1.5s
PAGF Fort de Pagny 77.10 342 *e*P **P 05 26 10.3 +0.9**
comp=Z,79nm,1.2s
LIBD Limburg 77.12 341 *e*P **P 05 26 10.8 +1.2**
LIBD Limburg 77.12 341 *e*P **P 05 26 10.8 +1.2**
MOTA Moosalm 77.14 338⇑*i*P **P 05 26 10.6 +0.7**
MOTA pmax pmax
comp=Z,27nm,1.1s
MOTA Moosalm 77.14 338⇑*i*P **P 05 26 10.6 +0.7**
comp=Z,27nm,1.1s
MOTA Moosalm 77.14 338⇑*i*P **P 05 26 10.6 +0.7**
comp=Z,27nm,1.1s,SNR=7.5
ECH Echery 77.15 341 *e*P **P 05 26 10.0 +0.2**
ECH pmax pmax
comp=Z,63nm,1.3s
ECH Echery 77.15 341 *e*P **P 05 26 10.0 +0.2**
comp=Z,63nm,1.3s
ECH Echery 77.15 341 *e*P **P 05 26 10.4 +0.6**
MEZF Maizieres J'vi 77.27 343 *e*P **P 05 26 11.2 +0.8**
comp=Z,347nm,1.6s
AVNT Avonos 77.30 319 *i*P **P 05 26 12.0 +1.0**
FELD Feldberg im Sc 77.30 341 *e*P **P 05 26 10.2 -0.6**
BBAL Bala 77.34 320 *i*P **P 05 26 11.5 +0.4**
MPEP Malo Peshtene 77.35 328 P **P 05 26 11.5 +0.6**
THEF They Montfort 77.36 342 *e*P **P 05 26 10.7 -0.3**
THEF They Montfort 77.36 342 *e*P **P 05 26 10.7 -0.3**
THEF They Montfort 77.36 342 *e*P **P 05 26 10.7 -0.3**
ABTA Abfaltersbach 77.38 337⇑*i*P **P 05 26 11.3 +0.2**
comp=Z,27nm,1.1s
ABTA Abfaltersbach 77.38 337⇑*i*P **P 05 26 11.3 +0.2**
comp=Z,27nm,1.1s
DAVA Damuels 77.47 339⇑*i*P **P 05 26 12.4 +0.7**
DAVA Damuels 77.47 339⇑*i*P **P 05 26 12.4 +0.7**
SNR=5.4
MOF Molkenrain 77.50 341 *e*P **P 05 26 11.1 -0.7**
MOF Molkenrain 77.50 341 *e*P **P 05 26 11.1 -0.7**
MOF Molkenrain 77.50 341 *e*P **P 05 26 11.1 -0.7**
HAU Haudompre 77.51 342 *e*P **P 05 26 12.1 +0.3**
comp=Z,91nm,1.1s
HAU *e*R
comp=Z,971nm,18.2s
SFTF Sexfontaines 77.56 343 *e*P **P 05 26 12.5 +0.5**
comp=Z,192nm,1.1s
HINF Hinteralfeld 77.59 341 *e*P **P 05 26 12.3 0.0**
comp=Z,81nm,1.4s
BHD Baghdad 77.68 309 *e*P P 05 26 07.0 -5.9
BHD *e*S **S 05 35 55.0 -5.1**
VISS Visnje 77.68 335 *i*P **P 05 26 13.3 +0.6**
VISS *i* 05 26 29.1
JAVS Javornik 77.80 336 *e* **P 05 26 14.6 +1.0**
JAVS *i* 05 26 29.6
BOJS Bojanci 77.86 335 *i*P **P 05 26 14.3 +0.6**
BOJS *i* 05 26 29.5
FLN La Foliniere 77.92 346 *e*P **P 05 26 14.2 +0.2**
comp=Z,126nm,1.3s
FLN *e*R
comp=Z,693nm,19.2s
DIM Dimitrovgrad 77.92 327 P **P 05 26 14.5 +0.4**
PGB Panagyurishte 77.93 328 P **P 05 26 14.3 0.0**
LDF La Druitiere 78.03 346 *e*P **P 05 26 14.6 -0.1**
LOMF Lomont 78.04 341 *e*P **P 05 26 14.2 -0.6**
LOMF Lomont 78.04 341 *e*P **P 05 26 14.2 -0.6**
LOMF Lomont 78.04 341 *e*P **P 05 26 14.2 -0.6**
PLD Plovdiv 78.15 327 P **P 05 26 15.3 -0.1**
VTS Vitosha 78.20 328 ⇑P **P 05 26 15.9 0.0**
VTS Vitosha 78.20 328 P **P 05 26 15.8 -0.1**
VTS Vitosha 78.20 328 P **P 05 26 15.8 -0.1**
VTS Vitosha 78.20 328⇑*i*P **P 05 26 15.9 0.0**
VTS Vitosha 78.20 328 P **P 05 26 15.3 -0.6**
SEYT Eskypehyr 78.24 322 *i*P **P 05 26 16.3 +0.2**
GRR Gorron 78.34 347 *e*P **P 05 26 16.8 +0.5**
comp=Z,131nm,1.4s
TUE Stuetta 78.36 339 *e*P **P 05 26 17.6 +0.8**
comp=Z,84nm,1.3s
LOR Lormes 78.68 343 *e*P **P 05 26 18.7 +0.4**
comp=Z,200nm,1.2s
LOR *e*R
comp=Z,965nm,22.2s
SGMF Saint Gilles 78.70 348 *e*P **P 05 26 18.9 +0.6**
comp=Z,184nm,1.5s
ROSF Rostrenen 78.72 348 *e*P **P 05 26 18.9 +0.5**
RDO Rodhopi 78.73 326 P **P 05 26 16.7 -1.9**
RDO Rodhopi 78.73 326 P **P 05 26 16.7 -1.9**
AS31 Alice Springs 78.77 204 *e*P **P 05 26 19.1 +0.2**
ALN Alexandroupoli 78.77 326 P **P 05 26 18.6 -0.2**
ALN Alexandroupoli 78.77 326 P **P 05 26 18.6 -0.2**
ALN Alexandroupoli 78.77 326 P **P 05 26 18.6 -0.2**
CABF La Chapelle 78.89 342 *e*P **P 05 26 20.2 +0.6**
comp=Z,156nm,1.3s
MMB Musomiste 78.94 328 P **P 05 26 19.7 -0.1**
SSF Saint Saulge 78.94 343 *e*P **P 05 26 20.2 +0.5**
comp=Z,95nm,1.2s
OG01 Vacheresse 79.05 341 *e*P **P 05 26 21.1 +0.7**
OG01 Vacheresse 79.05 341 *e*P **P 05 26 21.1 +0.7**
MIB Mutribah 79.05 305 *e*P **P 05 26 20.3 -0.3**
MIB AMb AMB 05 26 22.4
comp=Z,99nm,0.8s
DURS Dursunbey 79.05 323 *i*P **P 05 26 20.1 -0.5**
NVR Nevrokopi 79.11 327 P **P 05 26 20.9 +0.1**
NVR Nevrokopi 79.11 327 P **P 05 26 20.9 +0.1**
KAVA Kavala 79.21 327 P P 05 26 16.7 -4.5
KAVA Kavala 79.21 327 P P 05 26 16.7 -4.5
AVF Avril sur Loir 79.23 343 *e*P **P 05 26 21.9 +0.7**
comp=Z,180nm,1.2s
BALY Balya 79.24 324 *i*P **P 05 26 21.7 +0.2**
SRS Serrai 79.41 328 P **P 05 26 20.4 -1.9**
SRS Serrai 79.41 328 P **P 05 26 20.4 -1.9**
SRS Serrai 79.41 328 P **P 05 26 20.4 -1.9**
BGF Bois d'Agland 79.54 344 *e*P **P 05 26 23.7 +0.7**
comp=Z,94nm,1.3s
NAY Al-Naaiem 79.55 305 *e*P **P 05 26 23.0 -0.3**
NAY AMb AMB 05 26 24.9
comp=Z,81nm,1.5s
KNT Kendrikon 79.59 328 P **P 05 26 23.6 +0.2**
KNT Kendrikon 79.59 328 P **P 05 26 23.6 +0.2**
KNT Kendrikon 79.59 328 P **P 05 26 23.6 +0.2**
QRN Al-Qurain 79.61 304 *e*P **P 05 26 23.7 +0.1**
QRN AMb AMB 05 26 27.3
comp=Z,87nm,1.2s
RSL Roselend 79.67 341 *e*P **P 05 26 25.8 +1.9**
RSL Roselend 79.67 341 *e*P **P 05 26 25.8 +1.9**
RSL Roselend 79.67 341 *e*P **P 05 26 25.8 +1.9**
KHAL Karahalli 79.75 322 *i*P **P 05 26 24.7 +0.3**
LPL La Plagne 79.82 341 *e*P **P 05 26 26.1 +1.3**
comp=Z,178nm,1.3s
LPG La Plagne 79.83 341 *e*P **P 05 26 26.3 +1.4**
comp=Z,259nm,1.4s
TCF Toulx Ste Croi 79.91 344 *e*P **P 05 26 25.8 +0.8**
comp=Z,84nm,1.1s
PLDF La Plantade 79.97 343 *e*P **P 05 26 26.5 +1.1**
PLDF La Plantade 79.97 343 *e*P **P 05 26 26.5 +1.1**
PLDF La Plantade 79.97 343 *e*P **P 05 26 26.5 +1.1**
AGO Saint Agoulin 79.98 343 *e*P **P 05 26 26.6 +1.2**
AGO Saint Agoulin 79.98 343 *e*P **P 05 26 26.6 +1.2**
MFF Saint Martin d 79.98 346 *e*P **P 05 26 26.1 +0.8**
comp=Z,81nm,1.3s
BNI Bardonecchia 80.27 341 *e*P **P 05 26 28.6 +1.5**
BNI pmax pmax
comp=Z,47nm,1.1s
BNI Bardonecchia 80.27 341 *e*P **P 05 26 28.6 +1.5**
comp=Z,47nm,1.1s
PYM Petit Puy Mans 80.29 343 *e*P **P 05 26 28.3 +1.1**
PYM Petit Puy Mans 80.29 343 *e*P **P 05 26 28.3 +1.1**
PYM Petit Puy Mans 80.29 343 *e*P **P 05 26 28.3 +1.1**

SSB	**Saint Sauveur**	**80.47**	**342**	*e*P		**P**	**05 26 28.9**	**+0.8**
SSB					pmax	pmax		
	comp=E,65nm,1.3s							
SSB	**Saint Sauveur**	**80.47**	**342**	*e*P		**P**	**05 26 28.9**	**+0.8**
	comp=E,65nm,1.3s							
ORIF	**Oris-en-Rattie**	**80.56**	**341**	*e*P		**P**	**05 26 29.8**	**+1.2**
	comp=Z,183nm,1.4s							
ORIF				*e*R				
	comp=Z,707nm,23.0s							
FRNF	**Fournols**	**80.72**	**344**	*e*P		**P**	**05 26 30.6**	**+1.2**
FRNF	**Fournols**	**80.72**	**344**	*e*P		**P**	**05 26 30.6**	**+1.2**
LBL	**Lubilhac**	**80.75**	**343**	*e*P		**P**	**05 26 28.6**	**-1.0**
LBL	**Lubilhac**	**80.75**	**343**	*e*P		**P**	**05 26 28.6**	**-1.0**
LBL	**Lubilhac**	**80.75**	**343**	*e*P		**P**	**05 26 28.6**	**-1.0**
VIVF	**Saint-Julien-l**	**80.85**	**342**	*e*P		**P**	**05 26 31.2**	**+1.1**
	comp=Z,138nm,1.1s							
RJF	**Les Rejaudoux**	**80.98**	**344**	*e*P		**P**	**05 26 31.8**	**+1.1**
	comp=Z,136nm,1.3s							
RJF				*e*R				
	comp=Z,1μm,19.8s							
CSS	**Prodhromos**	**81.20**	**318**	*e*P		**P**	**05 26 31.4**	**-0.6**
	comp=Z,49nm,0.8s							
CSS	**Prodhromos**	**81.20**	**318**	P		**P**	**05 26 31.5**	**-0.6**
SBF	**Sospel**	**81.25**	**340**	*e*P		**P**	**05 26 32.5**	**+0.2**
	comp=Z,131nm,1.3s							
CAF	**Calviac**	**81.26**	**344**	*e*P		**P**	**05 26 33.7**	**+1.4**
	comp=Z,160nm,1.1s							
AQU	**L'Aquila**	**81.28**	**335**	*e*P		**P**	**05 26 32.8**	**+0.4**
AQU	**L'Aquila**	**81.28**	**335**	*e*P		**P**	**05 26 32.8**	**+0.4**
RAR	**Rarotonga**	**81.37**	**142**	LR		LR	05 57 18.2	
	comp=Z,443nm,18.9s,baz=297,slow=32							
LFF	**La Frestale**	**81.46**	**345**	*e*P		**P**	**05 26 35.6**	**+2.3**
	comp=Z,156nm,1.2s							
LASF	**Ste Croix**	**81.76**	**342**	*e*P		**P**	**05 26 36.4**	**+1.5**
	comp=Z,83nm,1.3s							
MMAI	**Mount Meron Ar**	**81.99**	**315**	LR		LR	06 06 31.2	
	comp=Z,442nm,21.6s,baz=35,slow=38							
ASF	**Jabal al Asfar**	**82.05**	**314**	LR		LR	06 07 43.0	
	comp=Z,413nm,21.3s,baz=248,slow=39							
PPT2	**Papeete2**	**82.45**	**131**	*e*S		S	05 36 58.0	+7.6
	comp=Z,727nm,32.8s							
PPT2				*e*LR		LR	05 52 40.2	
	comp=Z,1μm,23.2s,baz=332							
MTLF	**Montolieu**	**82.77**	**343**	*e*P		**P**	**05 26 41.6**	**+1.4**
	comp=Z,94nm,1.2s							
EPF	**Esparros**	**83.39**	**345**	*e*P		**P**	**05 26 44.1**	**+0.7**
	comp=Z,147nm,1.5s							
ETSF	**Etsaut**	**83.66**	**345**	*e*P		**P**	**05 26 46.1**	**+1.2**
	comp=Z,80nm,1.0s							
EIL	**Elat**	**85.05**	**314**	LR		LR	06 08 55.3	
	comp=Z,580nm,21.8s,baz=215,slow=38							
RAYN	**Ar Rayn**	**85.12**	**303**	P		**P**	**05 26 52.5**	**0.0**
	comp=Z,442nm,1.4s,SNR=16							
STKA	**Stephens Creek**	**85.17**	**195**	P		**P**	**05 26 52.0**	**-0.3**
	comp=Z,6.1nm,0.9s,baz=358,slow=7.0,SNR=9.1							
STKA					LR	LR	06 02 16.1	
	comp=Z,237nm,20.3s,baz=23,slow=34							
STKA	**Stephens Creek**	**85.17**	**195**	*e*P		**P**	**05 26 52.1**	**-0.1**
STKA					pmax	pmax		
	comp=Z,11nm,1.8s							
STKA	**Stephens Creek**	**85.17**	**195**	*e*P		**P**	**05 26 52.1**	**-0.1**
	comp=Z,11nm,1.8s							
PBRG	**Braganca**	**85.56**	**350**	*e*P		**P**	**05 26 55.1**	**+0.7**
	comp=Z,33nm,1.5s							
PGAV	**Gavieira, Arco**	**85.57**	**351**	*e*P		**P**	**05 26 56.3**	**+1.8**
	comp=Z,57nm,1.6s							
POLO	**Lamas de Olo**	**86.11**	**350**	*e*P		**P**	**05 26 57.5**	**+0.3**
	comp=Z,27nm,1.9s							
PVRL	**Vila Real**	**86.19**	**350**	*e*P		**P**	**05 26 56.9**	**-0.7**
	comp=Z,43nm,1.7s							
MVO	**Moncorvo**	**86.23**	**350**	*e*P		**P**	**05 26 58.3**	**+0.5**
	comp=Z,47nm,1.7s							
PVIS	**Viseu**	**86.77**	**350**	*e*P		**P**	**05 27 01.4**	**+1.0**
	comp=Z,53nm,1.6s							
ESDC	**Sonseca Array**	**87.32**	**347**	P		**P**	**05 27 02.7**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=1.8,slow=4.0,SNR=18							
ESDC					LR	LR	06 13 12.2	
	comp=Z,617nm,18.1s,baz=25,slow=40							
ESDC	**Sonseca Array**	**87.32**	**347**	P		**P**	**05 27 02.7**	**-0.4**
TBI	**Tubuai**	**87.52**	**134**	*e*S		S	05 37 51.8	+12
	comp=Z,536nm,29.5s							
TBI				*e*SS		SS	05 43 38.9	+11
	comp=Z,158nm,27.2s							
TBI				*e*LR		LR	05 55 05.7	
	comp=Z,801nm,23.8s,baz=332							
PCBR	**Castelo Branco**	**87.59**	**350**	*e*P		**P**	**05 27 03.1**	**-1.2**
	comp=Z,25nm,1.7s							
KEST	**Kesra**	**88.56**	**336**	P		**P**	**05 27 08.9**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=10,slow=8.6,SNR=6.8							
KEST					LR	LR	06 12 17.2	
	comp=Z,350nm,19.4s,baz=332,slow=39							
KEST	**Kesra**	**88.56**	**336**	P		**P**	**05 27 08.9**	**-0.1**
PBAR	**Barrancos**	**89.19**	**349**	*e*P		**P**	**05 27 12.6**	**+0.7**
	comp=Z,27nm,2.0s							
RKT	**Rikitea**	**94.30**	**123**	*e*SKSac		SKSac	05 38 15.0	+10
	comp=Z,167nm,27.2s							
RKT				*e*SP		SP	05 40 06.3	+8.5
	comp=Z,272nm,28.8s							
RKT				*e*SS		**SS**	**05 45 12.9**	**+7.5**
	comp=Z,301nm,28.2s							
RKT				*e*LR		LR	05 58 07.9	
	comp=Z,741nm,23.5s							
ATD	**Arta Tunnel**	**96.43**	**298**	LR		LR	06 16 33.5	
	comp=Z,1μm,19.5s,baz=8.8,slow=39							
TORD	**Torodi Ar. Bea**	**112.07**	**336**	Pdiff		**Pdif**	**05 28 58.7**	**+3.3**
	comp=Z,0.3nm,0.9s,baz=55,slow=2.0,SNR=2.3							
TORD				PKiKP		**PKiKP**	**05 32 51.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=0.5,slow=1.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**112.07**	**336**	Pdif		**Pdif**	**05 28 58.7**	**+3.3**
TORD				PKiKP		**PKiKP**	**05 32 51.2**	**-0.4**
LPAZ	**La Paz**	**128.27**	**64**	PKP		**PKPdf**	**05 33 24.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=56,slow=3.6,SNR=3.7							
LPAZ	**La Paz**	**128.27**	**64**	PKiKP		**PKPdf**	**05 33 24.0**	**+0.7**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
LPAZ	**La Paz**	**128.27**	**64**	PKP		**PKPdf**	**05 33 24.0**	**+0.7**
BOSA	**Boshof**	**138.73**	**287**	PKP		**PKPdf**	**05 33 40.0**	**-2.0**
	comp=Z,1.4nm,0.5s,baz=24,slow=3.6,SNR=3.0							
BOSA	**Boshof**	**138.73**	**287**	PKiKP		**PKPdf**	**05 33 40.0**	**-2.0**
BOSA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BOSA	**Boshof**	**138.73**	**287**	PKP		**PKPdf**	**05 33 40.0**	**-2.0**
SUR	**Sutherland**	**144.09**	**287**	PKP		**PKPdf**	**05 33 51.3**	**-0.3**
	comp=Z,22nm,1.2s,baz=70,slow=5.1,SNR=3.2							
SUR	**Sutherland**	**144.09**	**287**	PKP		**PKPdf**	**05 33 51.3**	**-0.3**
PLCA	**Paso Flores**	**144.48**	**91**	PKP		**PKPab**	**05 33 50.1**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=298,slow=3.3,SNR=10							
PLCA	**Paso Flores**	**144.48**	**91**	PKiKP		**PKPab**	**05 33 50.1**	**-0.2**
PLCA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
PLCA	**Paso Flores**	**144.48**	**91**	*e*PKPdf		**PKPab**	**05 33 50.1**	**-0.2**
TRQA	**Tornquist**	**148.09**	**80**	*e*PKPbc		**PKPbc**	**05 33 59.7**	**-1.6**

KRSC 14 05:19:36.6±1.5, 52°.20N×159°.54E, h11km±11km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.67**	**291**	*e*P		Pg	05 19 49.7	+0.1
RUS				*e*S		Sb	05 19 59.3	-0.3
MTVR	**Mutnovka**	**0.88**	**289**	*i* P		Pg	05 19 53.1	-0.7
MTVR				*e*S		Sg	05 20 05.0	-0.4
SPN	**Mys Shipunski**	**0.95**	**18**	P		Pg	05 19 54.9	+0.1
SPN				*e*S		Sn	05 20 08.7	-0.6
GRL	**Gorelyy**	**0.97**	**292**	*e*P		Pg	05 19 55.2	-0.2
GRL				S		Sb	05 20 08.9	+0.5
NLC	**Nalytchevo**	**0.98**	**353**	S		Sg	05 20 07.6	-0.6
PET	**Petropavlovsk**	**0.99**	**327**	*e*P		Pg	05 19 55.0	-0.6
PET				*e*S		Sb	05 20 09.2	+0.5
ASAK	**Asacha**	**1.02**	**281**	*i* P		Pg	05 19 55.8	-0.6
ASAK				*e*S		Sb	05 20 10.1	+0.1
SDLR	**Sedlovina**	**1.15**	**340**	*e*P		Pb	05 19 58.4	-0.3
SDLR				S		Sn	05 20 14.6	-0.1
SMAR	**Somma**	**1.16**	**337**	*e*P		Pg	05 19 59.3	+0.2
AVH	**Avacha**	**1.17**	**336**	*e*P		Pg	05 19 59.7	+0.4
AVH				S		Sn	05 20 17.0	+1.9
KOK	**Koryaka**	**1.22**	**334**	*e*P		Pg	05 20 00.3	0.0
KOK				S		Sn	05 20 17.5	+1.1
MIPR	**Malaya Ipel'ka**	**1.71**	**274**	*e*P		Pn	05 20 06.3	-0.1
KBTR	**Krutoberegovo**	**4.45**	**24**	P		Pn	05 20 43.6	-0.4

GUC 14 05:35:23.6±0.4, 22°.74S×69°.05W, h100km±2km, MD3.7, ML3.8, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.18**	**46**	*e*P		Pn	05 35 38.5	+0.5
LVC				*i* S		Sn	05 35 49.7	+0.8
LVC				AML		AML	05 35 50.7	
	comp=N,6μm,0.2s							
PB04	**Plate Boundary**	**0.62**	**320**	⇓*i* P		Pn	05 35 45.8	+5.4
PB04				*i* S		Sn	05 36 02.7	+10
PB04				AML		AML	05 36 04.9	
	comp=N,1μm,0.1s							
SPCH	**San Pedro de A**	**0.80**	**102**	⇑*i* P		Pn	05 35 42.8	+0.4
SPCH				*i* S		Sn	05 35 57.6	+1.1
MACH	**Maria Elena**	**0.85**	**310**	*e*P		Pn	05 35 43.3	+0.5
MACH				*e*S		Sn	05 35 58.3	+1.1
PB09	**Plate Boundary**	**0.96**	**349**	⇑*e*P		Pn	05 35 45.1	+1.3
PB09				*i* S		Sn	05 36 00.8	+1.8
PB09				AML		AML	05 36 02.4	
	comp=E,14μm,0.2s							
CEN1	**Los Morros**	**1.24**	**238**	AML		AML	05 36 10.2	
	comp=N,709nm,0.2s							
PB07	**Plate Boundary**	**1.27**	**322**	⇓*i* P		Pn	05 35 48.0	+0.6
PB07				*i* S		Sn	05 36 06.2	+0.9
PB07				AML		AML	05 36 07.0	
	comp=E,3μm,0.2s							
MECH	**Mejillones**	**1.34**	**254**	⇓*i* P		Pn	05 35 48.2	+0.4
MECH				*e*S		Sn	05 36 06.8	+0.6
MECH				AML		AML	05 36 15.4	
	comp=E,1μm,0.4s							
ANCH	**Antofagasta**	**1.56**	**233**	⇑*i* P		Pn	05 35 50.5	-0.1
ANCH				*i* S		Sn	05 36 11.3	+0.2
ANCH				AML		AML	05 36 12.4	
	comp=N,1μm,0.1s							
PB01	**Plate Boundary**	**1.74**	**346**	⇓*i* P		Pn	05 35 53.5	+0.5
PB01				*i* S		Sn	05 36 16.3	+1.0
PB01				AML		AML	05 36 18.1	
	comp=E,1μm,0.1s							
HMBC	**Humberstone**	**2.57**	**342**	*e*P		Pn	05 36 03.1	-0.7
HMBC				*i* S		Sn	05 36 34.6	-0.2
HMBC				AML		AML	05 37 07.7	
	comp=N,310nm,0.4s							
PSGC	**Pisagua**	**3.28**	**342**	*e*P		Pn	05 36 11.6	-1.8
PSGC				*e*S		Sn	05 36 50.5	-1.2
PSGC				AML		AML	05 37 13.9	
	comp=E,150nm,0.7s							

*ISCJB **14** 05:39:22.3±1.1, 32°.84S±0°.03×72°.27W±0°.05, h9km±6km, mb3.5/2, Error ellipse: s-maj=7.5km s-min=4.5km az=160.1*
*IDC **14** 05:39:22.1±2.9, 32°.88S×72°.04W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=89.6km s-min=49.2km az=32.0*
*GUC **14** 05:39:23.9±0.5, 32°.86S×72°.17W, h8km±1km, MD4.0, ML3.7*
ISC 14 05:39:22.8±1.7, 32°.86S±0°.03×72°.22W±0°.07, h8km±9km, n24, σ0°66/43, 6C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.51**	**109**	*e*P		**Pg**	**05 39 33.7**	**+1.0**
IHA				*i* S		**Sg**	**05 39 41.1**	**+1.7**
LCCH	**Las Cruces**	**0.82**	**139**	*e*P		**Pb**	**05 39 39.1**	**-0.2**
LCCH				*i* S		**Sb**	**05 39 50.5**	**-0.1**
ROCH	**El Roble**	**1.02**	**97**	⇑*i* P		**Pb**	**05 39 42.5**	**-0.4**
ROCH				AML		AML	05 39 57.4	
	comp=E,6μm,0.7s							
CHNG	**Los Chungos**	**1.15**	**32**	⇓*e*P		**Pg**	**05 39 44.4**	**-0.4**
CHNG				*i* S		**Sb**	**05 39 59.7**	**-0.1**
CHNG				AML		AML	05 40 02.3	
	comp=E,2μm,0.3s							
PTCH	**Petorca**	**1.24**	**62**	*e*P		**Pg**	**05 39 46.1**	**-0.5**
PTCH				*i* S		**Sb**	**05 40 02.4**	**-0.2**
PTCH				AML		AML	05 40 04.1	
	comp=N,3μm,0.6s							
LNV	**Longovilo**	**1.29**	**149**	⇑*i* P		**Pg**	**05 39 46.7**	**-0.8**
LNV				*i* S		**Sg**	**05 40 03.8**	**-0.3**
PEL	**Peldehue**	**1.32**	**103**	⇓*i* P		**Pg**	**05 39 47.5**	**-0.7**
PEL				*i* S		**Sn**	**05 40 04.8**	**-0.5**
PEL				AML		AML	05 40 06.9	
	comp=E,7μm,0.9s							
TACH	**Talagante**	**1.33**	**127**	⇑*i* P		**Pn**	**05 39 47.6**	**-0.2**
TACH				*i* S		**Sb**	**05 40 05.3**	**-0.1**
JACH	**Jahuel**	**1.38**	**83**	*e*P		**Pn**	**05 39 48.0**	**-0.5**
JACH				*i* S		**Sn**	**05 40 06.5**	**-0.5**
SAN	**Santiago**	**1.44**	**115**	*e*P		**Pn**	**05 39 49.0**	**-0.1**
SAN				*i* S		**Sb**	**05 40 07.8**	**-0.4**
SAN				AML		AML	05 40 11.3	
	comp=N,2μm,0.7s							
STL	**Santa Lucia**	**1.44**	**114**	*e*P		**Pn**	**05 39 49.1**	**-0.1**
STL				*e*S		**Sb**	**05 40 08.1**	**-0.4**
ANTU	**Antumapu**	**1.51**	**118**	⇑*i* P		**Pb**	**05 39 50.7**	**-0.3**
ANTU				*i* S		**Sg**	**05 40 10.7**	**-0.5**
ANTU				AML		AML	05 40 17.7	
	comp=E,2μm,0.5s							
CLCH	**Cerro Calan**	**1.51**	**111**	*e*P		**Pn**	**05 39 50.5**	**+0.3**
CLCH				*e*S		**Sg**	**05 40 10.3**	**-1.0**
CLCH				AML		AML	05 40 13.0	
	comp=N,3μm,0.4s							
PCH	**Pirque**	**1.62**	**118**	*e*P		**Pn**	**05 39 51.9**	**+0.2**
PCH				*i* S		**Sb**	**05 40 13.2**	**-0.4**
FCH	**Farellones**	**1.69**	**107**	⇑*i* P		**Pg**	**05 39 55.9**	**+0.7**
FCH				*i* S		**Sg**	**05 40 18.6**	**+1.6**
FCH				AML		AML	05 40 25.2	
	comp=N,1μm,0.5s							
CHCH	**Chadas Angostu**	**1.69**	**130**	⇓*i* P		**Pn**	**05 39 53.1**	**+0.4**
CHCH				*i* S		**Sb**	**05 40 15.3**	**-0.4**
SJCH	**San Jose de Ma**	**1.75**	**117**	*i* P		**Pn**	**05 39 53.4**	**-0.1**
SJCH				*i* S		**Sn**	**05 40 16.1**	**+0.2**
SJCH				AML		AML	05 40 19.5	
	comp=N,944nm,0.9s							
CACH	**El Canelo**	**1.85**	**133**	*i* P		**Pb**	**05 39 56.1**	**-0.8**
CACH				*i* S		**Sg**	**05 40 21.1**	**-1.0**
LMEL	**Las Melosas**	**1.96**	**121**	⇑*i* P		**Pn**	**05 39 57.5**	**+1.1**
LMEL				*i* S		**Sb**	**05 40 22.7**	**-0.6**
LMEL				AML		AML	05 40 31.9	
	comp=N,1μm,0.6s							
CMCH	**Combarbala**	**1.97**	**32**	*e*P		**Pn**	**05 39 56.0**	**-0.6**
CMCH				*i* S		**Sn**	**05 40 21.6**	**+0.1**
LPAZ	**La Paz**	**16.91**	**14**	Pn		**Pn**	**05 43 20.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=195,slow=7.7,SNR=6.6							
TXAR	**Lajitas Array**	**68.67**	**331**	P		**P**	**05 50 28.0**	**+1.2**
	comp=N,0.3nm,0.6s,baz=149,slow=8.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**83.97**	**70**	P		**P**	**05 51 53.8**	**0.0**
	comp=N,0.3nm,0.7s,baz=260,slow=6.0,SNR=3.2							
MKAR	**Makanchi Array**	**156.11**	**47**	PKPab		**PKPab**	**05 59 45.1**	**0.0**
	comp=N,0.3nm,0.7s,baz=291,slow=5.4,SNR=3.5							

*IDC **14** 05:39:43.7±1.0, 6°.69S×152°.48E, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.5/15, mbtmp4.5/9, Error ellipse: s-maj=39.3km s-min=18.9km az=118.0*
*NEIC **14** 05:39:45.2±0.5, 6°.68S×152°.45E, h10km, mb4.9/5, Error ellipse: s-maj=18.3km s-min=6.3km az=127.0*
*ISCJB **14** 05:39:46.1±0.5, 6°.67S±0°.09×152°.44E±0°.10, h23km, mb4.7/22, Error ellipse: s-maj=17.1km s-min=7.1km az=40.2*
*MOS **14** 05:39:47.3±0.8, 6°.69S×152°.40E, h33km, mb5.0/10, Error ellipse: s-maj=16.6km s-min=13.0km az=64.4*
ISC 14 05:39:47.2±0.7, 6.7S±0°.1×152°.5E±0°.1, h23km, n76, σ0°88/84, mb4.8/22, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.94**	**243**	Pn		**Pn**	**05 41 16.0**	**+2.2**
	5.1nm,0.3s,baz=40,slow=13,SNR=6.9							
PMG						Sn	**05 42 22.9**	**+1.8**
	9.7nm,0.3s,baz=45,slow=17,SNR=9.3							
PMG	**Port Moresby**	**5.94**	**243**	*e*P		**Pn**	**05 41 12.3**	**-1.5**
PMG							05 42 22.9	
	comp=Z,26nm,0.5s				pmax	pmax		
PMG	**Port Moresby**	**5.94**	**243**	*e*Pn		**Pn**	**05 41 12.3**	**-1.5**
	comp=Z,26nm,0.5s							
PMG						Sn	**05 42 22.9**	**+1.8**
COEN	**Coen**	**11.67**	**231**	Pn		**Pn**	**05 42 30.5**	**-2.0**
WRAB	**Tennant Creek**	**21.99**	**232**	*e*P		**P**	**05 44 40.0**	**+0.1**
WRAB					pmax	pmax		
	comp=Z,158nm,2.5s							
WRAB	**Tennant Creek**	**21.99**	**232**	*e*P		**P**	**05 44 40.0**	**+0.1**
	comp=Z,158nm,2.5s							
WB2	**Warramunga Arr**	**21.99**	**232**	*e*P		**P**	**05 44 39.7**	**-0.2**
WRA	**Warramunga Arr**	**22.00**	**232**	P		**P**	**05 44 40.8**	**+0.7**
	comp=Z,8.2nm,0.5s,baz=56,slow=10,SNR=24							
WRA	**Warramunga Arr**	**22.00**	**232**	P		**P**	**05 44 40.8**	**+0.7**
WRA	**Warramunga Arr**	**22.00**	**232**	P		**P**	**05 44 40.8**	**+0.7**
ARMA	**Armidale**	**23.60**	**182**	*e*P		**P**	**05 44 58.3**	**+1.6**
AS31	**Alice Springs**	**24.57**	**225**	*e*P		**P**	**05 45 06.3**	**+0.6**
STKA	**Stephens Creek**	**27.04**	**201**	P		**P**	**05 45 27.6**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=26,slow=14,SNR=20							
STKA	**Stephens Creek**	**27.04**	**201**	*e*P		**P**	**05 45 27.1**	**-0.8**
	comp=Z,7.8nm,1.2s							
STKA	**Stephens Creek**	**27.04**	**201**	P		**P**	**05 45 27.6**	**-0.3**
STKA	**Stephens Creek**	**27.04**	**201**	P		**P**	**05 45 27.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.53**	**244**	P		**P**	**05 45 41.4**	**0.0**
	comp=Z,10.0nm,0.5s,baz=60,slow=8.9,SNR=80							
FITZ	**Fitzroy Crossi**	**28.53**	**244**	*e*P		**P**	**05 45 41.1**	**-0.3**
	comp=Z,19nm,0.5s							
FITZ	**Fitzroy Crossi**	**28.53**	**244**	P		**P**	**05 45 41.4**	**0.0**
MBWA	**Marble Bar**	**34.80**	**242**	*e*P		**P**	**05 46 35.6**	**-1.0**
	comp=Z,24nm,1.8s							
PETK	**Petropavlovsk-**	**59.75**	**4**	P		**P**	**05 49 50.6**	**+0.5**
	comp=Z,5.9nm,0.6s,baz=178,slow=8.4,SNR=4.4							
PETK	**Petropavlovsk-**	**59.75**	**4**	P		**P**	**05 49 50.6**	**+0.5**
PETK	**Petropavlovsk-**	**59.75**	**4**	P		**P**	**05 49 50.6**	**+0.5**
SONM	**Songino Array**	**67.78**	**328**	P		**P**	**05 50 44.1**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=143,slow=4.7,SNR=23							
SONM	**Songino Array**	**67.78**	**328**	P		**P**	**05 50 44.1**	**+0.7**
SONM	**Songino Array**	**67.78**	**328**	P		**P**	**05 50 44.1**	**+0.7**
SEY	**Seymchan**	**69.44**	**360**	*e*P		**P**	**05 50 53.2**	**0.0**
ZAK	**Zakamensk**	**70.97**	**329**	*e*P		**P**	**05 51 02.0**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,9.0nm,1.0s							
BILL	**Bilibino**	**75.20**	**5**	*c i*P		**P**	**05 51 28.5**	**+0.9**
BILL					pmax	pmax		
	comp=Z,16nm,1.7s							
MK31	**Makanchi Array**	**81.57**	**319**	*e*P		**P**	**05 52 03.4**	**+0.2**
MK31	**Makanchi Array**	**81.57**	**319**	*e*P		**P**	**05 52 03.4**	**+0.2**
MKAR	**Makanchi Array**	**81.57**	**319**	P		**P**	**05 52 03.3**	**0.0**
	comp=Z,2.0nm,0.8s,baz=107,slow=5.8,SNR=21							
MKAR	**Makanchi Array**	**81.57**	**319**	P		**P**	**05 52 03.3**	**0.0**
MKAR	**Makanchi Array**	**81.57**	**319**	P		**P**	**05 52 03.3**	**0.0**
ZALV	**Zalesovo Beam**	**82.57**	**327**	P		**P**	**05 52 07.5**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=114,slow=5.5,SNR=11							
ZALV	**Zalesovo Beam**	**82.57**	**327**	P		**P**	**05 52 07.5**	**-0.8**
ZALV	**Zalesovo Beam**	**82.57**	**327**	P		**P**	**05 52 07.5**	**-0.8**
MCK	**McKinley**	**82.72**	**23**	*e*P		**P**	**05 52 09.0**	**0.0**
MCK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MCK	**McKinley**	**82.72**	**23**	*e*P		**P**	**05 52 08.9**	**0.0**
	comp=Z,9.8nm,0.8s							
COLA	**College**	**83.72**	**22**	*e*P		**P**	**05 52 13.5**	**-0.5**
COLA					pmax	pmax		
	comp=Z,7.0nm,0.8s							
COLA	**College**	**83.72**	**22**	*e*P		**P**	**05 52 13.5**	**-0.5**
	comp=Z,7.4nm,0.8s							
ILAR	**Eielson Array**	**84.03**	**22**	P		**P**	**05 52 15.1**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=254,slow=5.2,SNR=26							
ILAR	**Eielson Array**	**84.03**	**22**	P		**P**	**05 52 15.1**	**-0.5**
ILAR	**Eielson Array**	**84.03**	**22**	P		**P**	**05 52 15.1**	**-0.5**
TKM2	**Tokmak 2**	**85.04**	**314**	P		**P**	**05 52 21.8**	**+0.3**
	SNR=11							
TKM2						P	**P**	**05 52 21.8**	**+0.3**
	SNR=11							
TKM2	**Tokmak 2**	**85.04**	**314**	*e*P		**P**	**05 52 21.6**	**+0.1**
TKM2					pmax	pmax		
	comp=Z,4.0nm,0.6s							
TKM2	**Tokmak 2**	**85.04**	**314**	*e*P		**P**	**05 52 21.6**	**+0.1**
	comp=Z,3.9nm,0.6s							
KURK	**Kurchatov**	**85.09**	**322**	*d i*P		**P**	**05 52 20.6**	**-0.6**
KURK					pmax	pmax		
	comp=Z,11nm,1.7s							
KURK	**Kurchatov**	**85.09**	**322**	*e*P		**P**	**05 52 20.4**	**-0.8**
	comp=Z,8.9nm,1.1s							
KZA	**Kyzart**	**85.09**	**313**	P		**P**	**05 52 23.4**	**+1.4**
	SNR=16							
KZA						P	**P**	**05 52 23.4**	**+1.4**
	SNR=16							
CHMS	**Chumysh**	**85.66**	**314**	P		**P**	**05 52 25.1**	**+0.7**
	SNR=5.7							
CHMS						P

KBTR	**Krutoberegovo**	**4.43**	**24**	*e*P		Pn	05 46 38.1	+0.5

MOS ***14*** *06:09:19.1±1.2,38.°15N×73.°45E,h110km,mb4.4/6,Error ellipse: s-maj=14.0km s-min=5.9km az=99.2*
ISCJB ***14*** *06:09:19.6±0.2,38.°25N±0.°02×73.°55E±0.°04,h107km, mb4.2/20,Error ellipse: s-maj=5.1km s-min=3.0km az=163.3*
NEIC ***14*** *06:09:20.0±0.9,38.°16N×73.°55E,h102km±10km,mb4.5/4, Error ellipse: s-maj=12.5km s-min=4.9km az=59.0*
NNC ***14*** *06:09:20.8±5.4,38.°64N×73.°35E,h0km,mb4.6,mpv4.6, Error ellipse: s-maj=45.1km s-min=29.5km az=171.0*
IDC ***14*** *06:09:22.6±5.1,38.°33N×73.°50E,h114km±42km,mb3.8/11, mb1 4.1/14,mb1mx3.8/27,mbtmp3.9/14,Error ellipse: s-maj=36.1km s-min=16.9km az=170.0*
BJI ***14*** *06:09:27.6,38.°90N×73.°90E,h135km,mB4.7/2,mb4.2/5*
ISC 14 06:09:21.3±0.4,38.°35N±0.°03×73.°61E±0.°04,h107km,n151, σ1§79/149,mb4.3/20,5C-9D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.18**	**57**	*i* P	**Pn**	**06 09 55.8**	**-0.8**
KSH				S	**Sn**	**06 10 18.8**	**-4.8**
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,3μm,0.3s						
AML	**Almayashu**	**3.78**	**1**	P	**Pn**	**06 10 20.4**	**+2.4**
	SNR=272						
AML				P	**Pn**	**06 10 20.4**	**+2.4**
	SNR=272						
KZA	**Kyzart**	**3.93**	**18**	P	**Pn**	**06 10 22.8**	**+2.8**
	SNR=27						
KZA				P	**Pn**	**06 10 22.8**	**+2.8**
	SNR=27						
UCH	**Uchtor**	**3.93**	**10**	P	**Pn**	**06 10 23.0**	**+2.8**
	SNR=21						
UCH				P	**Pn**	**06 10 23.0**	**+2.8**
	SNR=21						
EKS2	**Erkin-Say**	**4.31**	**2**	P	**Pn**	**06 10 27.9**	**+3.0**
	SNR=97						
EKS2				P	**Pn**	**06 10 27.9**	**+3.0**
	SNR=97						
EKS2	**Erkin-Say**	**4.31**	**2**	*e*PN	**Pn**	**06 10 27.5**	**+2.6**
EKS2	**Erkin-Say**	**4.31**	**2**	*e*Pn	**Pn**	**06 10 27.5**	**+2.6**
EKS2				*e*Sn	**Sn**	**06 11 15.2**	**+1.0**
AAK	**Ala-Archa**	**4.33**	**9**	P	Pn	06 10 28.3	+3.1
	SNR=30						
AAK				P	Pn	06 10 28.3	+3.1
	SNR=30						
AAK	**Ala-Archa**	**4.33**	**9**	*i* PN	Pn	06 10 28.3	+3.1
AAK	**Ala-Archa**	**4.33**	**9**	*e*Pn	**Pn**	**06 10 28.1**	**+2.9**
AAK				*e*Sn	**Sn**	**06 11 17.1**	**+2.3**
ULHL	**Ulahol**	**4.38**	**27**	P	Pn	06 10 28.8	+2.8
	SNR=13						
ULHL				P	Pn	06 10 28.8	+2.8
	SNR=13						
KBK	**Karagaybulak**	**4.42**	**13**	P	Pn	06 10 29.7	+3.2
	SNR=16						
KBK				P	Pn	06 10 29.7	+3.2
	SNR=16						
CHCP	**Chirah Chowk**	**4.69**	**184**	P	Pn	06 10 34.3	+4.3
CEP	**Cherat**	**4.72**	**197**	P	Pn	06 10 34.0	+3.5
CHMS	**Chumysh**	**4.72**	**10**	P	**Pn**	**06 10 33.3**	**+2.9**
	SNR=15						
CHMS				P	**Pn**	**06 10 33.3**	**+2.9**
	SNR=15						
TKM2	**Tokmak 2**	**4.81**	**18**	P	Pn	06 10 34.7	+3.0
	SNR=16						
TKM2				P	Pn	06 10 34.7	+3.0
	SNR=16						
TKM2	**Tokmak 2**	**4.81**	**18**	⇓Pn	**Pn**	**06 10 34.6**	**+2.8**
	comp=E,19nm,0.6s						
TKM2				⇑Sn	**Sn**	**06 11 27.5**	**+1.1**
	comp=E,46nm,0.5s						
TKM2	**Tokmak 2**	**4.81**	**18**	PN	**Pn**	**06 10 34.5**	**+2.8**
TKM2				pmax	pmax		
	comp=E,19nm,0.6s						
TKM2	**Tokmak 2**	**4.81**	**18**	*e*Pn	**Pn**	**06 10 34.4**	**+2.6**
	comp=Z,24nm,0.5s						
USP	**Ospenovka**	**4.96**	**8**	P	**Pn**	**06 10 36.4**	**+2.9**
	SNR=19						
USP				P	**Pn**	**06 10 36.4**	**+2.9**
	SNR=19						
KK31	**Karatay Array**	**5.30**	**335**	⇓Pn	**Pn**	**06 10 39.9**	**+1.7**
	comp=Z,84nm,0.3s,baz=147,slow=13,SNR=226!						
KK31				Sn	**Sn**	**06 11 35.6**	**-2.3**
	comp=Z,222nm,0.6s,baz=154,slow=24,SNR=21						
KK31	**Karatay Array**	**5.30**	**335**	*e*PN	**Pn**	**06 10 39.8**	**+1.7**
KK31				pmax	pmax		
	comp=Z,181nm,0.3s						
KKAR	**Karatay Array**	**5.30**	**335**	*e*PN	**Pn**	**06 10 39.8**	**+1.7**
KKAR				pmax	pmax		
	comp=Z,232nm,0.3s						
KKAR	**Karatay Array**	**5.30**	**335**	*e*Pn	**Pn**	**06 10 39.8**	**+1.7**
	comp=Z,232nm,0.3s						
KKAR				*e*Sn	**Sn**	**06 11 35.3**	**-2.7**
THW	**Thamme Wali**	**5.75**	**196**	P	**Pn**	**06 10 46.8**	**+2.5**
DLH	**Dalhousie**	**6.11**	**161**	*e*P	**Pn**	**06 10 51.0**	**+1.7**
DLH				*e*S	**Sn**	**06 11 56.0**	**-1.9**
THN	**Thein Dam**	**6.15**	**163**	*e*P	**Pn**	**06 10 50.3**	**+0.6**
THN				*e*S	**Sn**	**06 11 56.4**	**-2.2**
SARP	**Sargodha**	**6.46**	**187**	P	Pn	06 10 59.9	+6.0
DDI	**Dehra Dun**	**8.81**	**154**	*e*P	**Pn**	**06 11 25.5**	**-0.4**
DDI				*ex*	x	06 13 05.0	
NDI	**New Delhi**	**10.10**	**162**	*e*P	**Pn**	**06 11 42.4**	**-0.9**
NDI				AMb	AMB	06 11 44.6	
	comp=Z,21nm,0.4s						
NDI				*e*S	Sn	06 13 25.3	-9.4
MK31	**Makanchi Array**	**10.59**	**34**	⇓P	**Pn**	**06 11 52.0**	**+2.2**
	comp=Z,5.8nm,0.7s,baz=207,slow=13,SNR=39						
MK31	**Makanchi Array**	**10.59**	**34**	*e*P	**Pn**	**06 11 52.0**	**+2.2**
MK31	**Makanchi Array**	**10.59**	**34**	*e*Pn	**Pn**	**06 11 52.0**	**+2.2**
MKAR	**Makanchi Array**	**10.59**	**34**	P	**Pn**	**06 11 51.8**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=51						
MKAR	**Makanchi Array**	**10.59**	**34**	*ce*P	Pn	06 11 59.5	+10
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**10.59**	**34**	P	**Pn**	**06 11 51.8**	**+2.0**
WMQ	**Urumqi**	**11.95**	**58**	*e*P	**Pn**	**06 12 08.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
KURBB	**Kurchatov Arra**	**12.76**	**14**	⇑P	**Pn**	**06 12 16.9**	**-1.8**
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**12.87**	**14**	P	**Pn**	**06 12 17.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=28						
KURK	**Kurchatov**	**12.87**	**14**	⇓P	**Pn**	**06 12 18.7**	**-1.4**
	comp=Z,10.0nm,0.6s						
KURK	**Kurchatov**	**12.87**	**14**	*e*P	**P**	**06 12 24.3**	**-2.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KURK	**Kurchatov**	**12.87**	**14**	*e*Pn	**Pn**	**06 12 19.5**	**-0.5**
DANN	**Dangsing**	**13.08**	**137**	*e*P	**Pn**	**06 12 20.5**	**-2.9**
DANN	**Dangsing**	**13.08**	**137**	*e*P	**Pn**	**06 12 20.5**	**-2.9**
KOLN	**Koldanda**	**13.46**	**139**	*e*P	**Pn**	**06 12 26.6**	**-1.6**
	comp=Z,49nm,0.5s						
KOLN	**Koldanda**	**13.46**	**139**	*e*P	**Pn**	**06 12 26.6**	**-1.6**
	comp=Z,49nm,0.5s						
GKN	**Gorkha**	**13.84**	**135**	*e*P	Pn	06 12 30.0	-3.0
	comp=Z,28nm,0.4s						
GKN	**Gorkha**	**13.84**	**135**	*e*P	Pn	06 12 30.0	-3.0
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**14.36**	**134**	*e*P	Pn	06 12 36.6	-3.2
	comp=Z,25nm,0.5s						
KKN	**Kakani**	**14.36**	**134**	*e*P	Pn	06 12 36.6	-3.2
KKN				pmax	pmax		
	comp=Z,25nm,0.5s						
KKN	**Kakani**	**14.36**	**134**	*e*P	Pn	06 12 36.6	-3.2
	comp=Z,25nm,0.5s						
DMN	**Daman**	**14.40**	**135**	*e*P	**Pn**	**06 12 37.7**	**-2.7**
	comp=Z,31nm,0.5s						
DMN	**Daman**	**14.40**	**135**	*e*P	**Pn**	**06 12 37.7**	**-2.7**
	comp=Z,31nm,0.5s						
VOSK	**Vostochnaya**	**14.49**	**354**	⇓P	**Pn**	**06 12 39.3**	**-1.8**
	comp=Z,4.7nm,0.9s						
VOSK	**Vostochnaya**	**14.49**	**354**	P	**Pn**	**06 12 39.3**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PKI	**Pulchoki**	**14.60**	**134**	*e*P	**Pn**	**06 12 40.1**	**-2.9**
	comp=Z,29nm,0.5s						
PKI	**Pulchoki**	**14.60**	**134**	*e*P	**Pn**	**06 12 40.1**	**-2.9**
PKI				pmax	pmax		
	comp=Z,29nm,0.5s						
PKI	**Pulchoki**	**14.60**	**134**	*e*P	**Pn**	**06 12 40.1**	**-2.9**
	comp=Z,29nm,0.5s						
GUN	**Gumba**	**14.62**	**132**	*e*P	**Pn**	**06 12 40.6**	**-2.6**
GUN	**Gumba**	**14.62**	**132**	*e*P	**Pn**	**06 12 40.6**	**-2.6**
AB31	**Akbulak array**	**14.68**	**322**	⇓P	**Pn**	**06 12 42.3**	**-1.2**
	comp=Z,9.5nm,0.5s,baz=137,slow=13,SNR=387						
AB31	**Akbulak array**	**14.68**	**322**	P	**Pn**	**06 12 42.2**	**-1.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.2s						
ABKAR	**Akbulak array**	**14.68**	**322**	*e*Pn	**Pn**	**06 12 41.3**	**-2.2**
	comp=Z,15nm,0.4s						
BVA0	**Borovoye Array**	**14.85**	**352**	⇓P	**Pn**	**06 12 44.4**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=164,slow=12,SNR=113						
BVA0	**Borovoye Array**	**14.85**	**352**	*i* P	**Pn**	**06 12 44.3**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**14.85**	**352**	P	**Pn**	**06 12 44.4**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=158,slow=12,SNR=33						
BVAR	**Borovoye Array**	**14.85**	**352**	P	**Pn**	**06 12 44.4**	**-1.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**14.85**	**352**	P	**Pn**	**06 12 44.4**	**-1.2**
BRVK	**Borovoye**	**14.89**	**352**	*d* iP	Pn	06 12 43.0	-3.1
BRVK	**Borovoye**	**14.89**	**352**	*e*Pn	**Pn**	**06 12 45.4**	**-0.8**
	comp=Z,25nm,0.8s						
ZRNK	**Zerenda**	**14.95**	**349**	⇑P	**Pn**	**06 12 44.9**	**-2.0**
	comp=Z,26nm,0.8s						
JIRN	**Jiri**	**14.98**	**132**	*e*P	**Pn**	**06 12 45.9**	**-2.0**
	comp=Z,55nm,0.5s						
JIRN	**Jiri**	**14.98**	**132**	*e*P	**Pn**	**06 12 45.9**	**-2.0**
	comp=Z,55nm,0.5s						
RAMN	**Ramite**	**15.76**	**132**	*e*P	**Pn**	**06 12 55.0**	**-2.5**
	comp=Z,52nm,0.6s						
RAMN	**Ramite**	**15.76**	**132**	*e*P	**Pn**	**06 12 55.0**	**-2.5**
	comp=Z,52nm,0.6s						
TAPN	**Taplejung**	**16.13**	**129**	*e*P	**Pn**	**06 12 59.6**	**-2.5**
	comp=Z,17nm,0.6s						
TAPN	**Taplejung**	**16.13**	**129**	*e*P	**Pn**	**06 12 59.6**	**-2.5**
	comp=Z,17nm,0.6s						
AKTO	**Aktyubinsk**	**16.39**	**322**	P	**Pn**	**06 13 04.2**	**-0.7**
	comp=Z,4.0nm,0.3s,baz=131,slow=11,SNR=74						
AKTO				S	Sn	06 15 58.2	-8.5
	comp=Z,1.0nm,0.3s,baz=162,slow=19,SNR=6.4						
AKTO	**Aktyubinsk**	**16.39**	**322**	⇓P	**Pn**	**06 13 04.0**	**-0.9**
	comp=Z,2.3nm,0.6s						
AKTO	**Aktyubinsk**	**16.39**	**322**	P	**Pn**	**06 13 04.2**	**-0.7**
AKTO				S	Sn	06 15 58.2	-8.5
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.39**	**322**	P	**Pn**	**06 13 04.2**	**-0.7**
AKTO				S	Sn	06 15 58.2	-8.5
ZAA0	**Zalesovo Array**	**17.39**	**23**	*e*Pn	**Pn**	**06 13 17.2**	**+0.1**
ZALV	**Zalesovo Beam**	**17.39**	**23**	P	**Pn**	**06 13 17.2**	**+0.2**
	comp=N,3.0nm,0.3s,baz=215,slow=10,SNR=46						
ZALV	**Zalesovo Beam**	**17.39**	**23**	P	**Pn**	**06 13 17.3**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.39**	**23**	P	**Pn**	**06 13 17.2**	**+0.2**
NVS	**Novosibirsk**	**17.74**	**19**	*e*P	**P**	**06 13 19.6**	**-1.0**
NVS				*e*S	**Sn**	**06 16 33.6**	**-5.4**
NVS				pmax	pmax		
	comp=N,13nm,0.9s						
NVS				pmax	pmax		
	comp=Z,16nm,0.9s						
NVS				smax	smax		
	comp=N,18nm,1.8s						
NGP	**Nagpur**	**17.77**	**163**	*e*P	**Pn**	**06 13 23.4**	**+1.5**
AKL	**Akola**	**17.83**	**170**	*e*P	**Pn**	**06 13 23.7**	**+1.1**
AKL				AMb	AMB	06 13 29.8	
	comp=Z,9.6nm,0.5s						
SVE	**Sverdlovsk**	**20.39**	**339**	*e*P	**P**	**06 13 50.3**	**+0.9**
SVE				pmax	pmax		
	comp=Z,23nm,0.8s						
GTA	**Gaotai**	**20.41**	**79**	*e*P	Pn	06 13 53.0	0.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARU	**Arti**	**20.68**	**336**	*c i*P	**P**	**06 13 52.7**	**+0.3**
ARU				S	S	06 17 25.4	-12
ARU				pmax	pmax		
	comp=Z,29nm,1.1s						
ARU	**Arti**	**20.68**	**336**	*e*P	**P**	**06 13 53.0**	**+0.6**
	comp=Z,15nm,0.8s						
GNI	**Garni**	**22.39**	**284**	*e*P	**P**	**06 14 14.1**	**+3.1**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIV	**Kislovodsk**	**23.86**	**293**	*e*P	**P**	**06 14 27.4**	**+2.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAK	**Zakamensk**	**24.21**	**51**	*e*P	**P**	**06 14 28.9**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
SONM	**Songino Array**	**25.58**	**58**	P	**P**	**06 14 42.6**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=260,slow=11,SNR=10						
SONM	**Songino Array**	**25.58**	**58**	P	**P**	**06 14 42.6**	**+2.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**25.58**	**58**	P	**P**	**06 14 42.6**	**+2.2**
ANN	**Anapa**	**27.65**	**295**	*e*P	P	06 14 52.2	-6.7
ANN				*e*		06 15 24.8	
ANN				pmax	pmax		
	comp=Z,98nm,1.4s						
BRTR	**Keskin Array B**	**30.90**	**285**	P	**P**	**06 15 27.9**	**0.0**
	comp=Z,0.9nm,0.4s,baz=100,slow=8.8,SNR=6.8						
BRTR	**Keskin Array B**	**30.90**	**285**	P	**P**	**06 15 27.9**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**30.90**	**285**	P	**P**	**06 15 27.9**	**0.0**
AKASG	**Malin Array Be**	**33.47**	**306**	P	**P**	**06 15 50.0**	**0.0**
	comp=Z,2.4nm,0.4s,baz=81,slow=8.0,SNR=19						
AKASG	**Malin Array Be**	**33.47**	**306**	P	**P**	**06 15 50.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**33.47**	**306**	P	**P**	**06 15 50.0**	**0.0**
JOF	**Joensuu**	**35.36**	**328**	*e*P	**P**	**06 16 05.7**	**-0.4**
JOF				pmax	pmax		
	comp=Z,11nm,0.5s						
JOF	**Joensuu**	**35.36**	**328**	*ep*	**P**	**06 16 05.7**	**-0.4**
	comp=Z,11nm,0.5s						
JOF	**Joensuu**	**35.36**	**328**	*ep*	**P**	**06 16 05.7**	**-0.4**
	comp=Z,11nm,0.5s						
FINES	**FINESS Array B**	**37.16**	**324**	P	**P**	**06 16 21.7**	**+0.2**
	comp=Z,5.7nm,0.4s,baz=99,slow=8.9,SNR=40						
FINES	**FINESS Array B**	**37.16**	**324**	P	**P**	**06 16 21.7**	**+0.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
FINES	**FINESS Array B**	**37.16**	**324**	P	**P**	**06 16 21.7**	**+0.2**
KAF	**Kangasniemi**	**37.25**	**325**	*e*P	**P**	**06 16 21.9**	**-0.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**37.25**	**325**	*ep*	**P**	**06 16 21.9**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=107,slow=8.6						
KAF	**Kangasniemi**	**37.25**	**325**	*ep*	**P**	**06 16 21.9**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=107,slow=8.6						
ARCES	**ARCESS Array B**	**40.26**	**336**	P	**P**	**06 16 47.9**	**+0.6**
	comp=Z,7.8nm,0.4s,baz=113,slow=8.9,SNR=91						
ARCES	**ARCESS Array B**	**40.26**	**336**	P	**P**	**06 16 47.9**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ARCES	**ARCESS Array B**	**40.26**	**336**	P	**P**	**06 16 47.9**	**+0.6**
GERES	**GERESS Array B**	**43.59**	**304**	P	**P**	**06 17 15.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=66,slow=9.8,SNR=6.8						
GERES	**GERESS Array B**	**43.59**	**304**	P	**P**	**06 17 15.8**	**+1.1**
GERES	**GERESS Array B**	**43.59**	**304**	P	**P**	**06 17 15.8**	**+1.1**
KHC	**Kasperske Hory**	**43.62**	**304**	*e*P	**P**	**06 17 16.0**	**+1.1**
NB2	**NORSAR Subarra**	**44.18**	**322**	P	**P**	**06 17 19.2**	**-0.1**
	comp=Z,7.2nm,0.5s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**06 17 19.4**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=92,slow=7.7,SNR=27						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**06 17 19.4**	**+0.1**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**06 17 19.4**	**+0.1**
PAGF	**Fort de Pagny**	**48.82**	**305**	*e*P	**P**	**06 17 55.3**	**-0.2**
LPG	**La Plagne**	**48.96**	**301**	*e*P	**P**	**06 17 57.4**	**+0.4**
LPL	**La Plagne**	**48.97**	**301**	*e*P	**P**	**06 17 57.9**	**+0.9**
	comp=Z,4.6nm,0.6s						
SFTF	**Sexfontaines**	**49.35**	**305**	*e*P	**P**	**06 17 59.7**	**+0.1**
VIVF	**Saint-Julien-l**	**50.55**	**301**	*e*P	**P**	**06 18 08.9**	**+0.1**
SSF	**Saint Saulge**	**50.66**	**304**	*e*P	**P**	**06 18 09.6**	**0.0**
AVF	**Avril sur Loir**	**50.84**	**303**	*e*P	**P**	**06 18 10.9**	**0.0**
	comp=Z,9.8nm,0.7s						
BGF	**Bois d'Agland**	**51.25**	**303**	*e*P	**P**	**06 18 14.1**	**+0.2**
TCF	**Toulx Ste Croi**	**51.75**	**303**	*e*P	**P**	**06 18 17.9**	**+0.2**
	comp=Z,7.6nm,0.7s						
CAF	**Calviac**	**52.29**	**302**	*e*P	**P**	**06 18 22.1**	**+0.4**
LDF	**La Druitiere**	**52.53**	**307**	*e*P	**P**	**06 18 23.4**	**0.0**
	comp=Z,7.7nm,0.5s						
GRR	**Gorron**	**53.06**	**307**	*e*P	**P**	**06 18 27.7**	**+0.4**
MFF	**Saint Martin d**	**53.19**	**304**	*e*P	**P**	**06 18 29.0**	**+0.7**
SJPF	**Ste Jean**	**55.15**	**301**	*e*P	**P**	**06 18 43.6**	**+1.0**
ESDC	**Sonseca Array**	**58.43**	**298**	P	**P**	**06 19 06.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=52,slow=7.5,SNR=7.1						
ESDC	**Sonseca Array**	**58.43**	**298**	P	**P**	**06 19 06.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**67.83**	**269**	P	**P**	**06 20 07.5**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=49,slow=5.8,SNR=43						
TORD	**Torodi Ar. Bea**	**67.83**	**269**	P	**P**	**06 20 07.5**	**-0.7**
ILAR	**Eielson Array**	**72.42**	**17**	P	**P**	**06 20 35.5**	**0.0**
	comp=Z,0.9nm,0.9s,baz=337,slow=4.7,SNR=9.6						
ILAR	**Eielson Array**	**72.42**	**17**	P	**P**	**06 20 35.5**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**72.42**	**17**	P	**P**	**06 20 35.5**	**0.0**
YKA	**Yellowknife Ar**	**79.28**	**4**	P	**P**	**06 21 15.0**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=349,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**79.28**	**4**	P	**P**	**06 21 15.1**	**+0.6**
YKA	**Yellowknife Ar**	**79.28**	**4**	P	**P**	**06 21 15.1**	**+0.6**
PLCA	**Paso Flores**	**152.38**	**254**	PKPbc	**PKPbc**	**06 29 05.2**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=45,slow=1.4,SNR=3.8						
PLCA	**Paso Flores**	**152.38**	**254**	PKPbc	**PKPbc**	**06 29 05.2**	**+0.5**

ISCJB ***14*** *06:14:19.5±0.6,6.°09S±0.°09×154.°45E±0.°09,h61km, mb3.7/5,Error ellipse: s-maj=15.1km s-min=9.8km az=140.7*
IDC ***14*** *06:14:22.7±4.6,6.°10S×154.°39E,h83km±41km,mb3.4/5, mb1 3.8/8,mb1mx3.6/18,mbtmp3.7/8,MS3.1/1,Ms1 3.1/1, ms1mx2.8/23,Error ellipse: s-maj=31.7km s-min=26.0km az=17.0*
ISC 14 06:14:20.6±0.8,6.°0S±0.°1×154.°5E±0.°1,h61km,n19, σ0§78/21,mb3.5/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.99**	**245**	P	**Pn**	**06 16 14.6**	**+0.4**
	10nm,0.3s,baz=47,slow=9.7,SNR=30						
PMG				S	**Sn**	**06 17 43.1**	**-0.1**
	3.7nm,0.3s,baz=30,slow=20,SNR=5.5						
CTA	**Charters Tower**	**16.11**	**209**	P	**Pn**	**06 18 04.1**	**+0.8**
	0.2nm,0.3s,baz=36,slow=12,SNR=4.7						
CTA				LR	LR	06 23 02.5	
	comp=Z,69nm,21.0s,baz=232,slow=32						
DZM	**Mont Dzumac**	**19.71**	**145**	P	**P**	**06 18 45.4**	**+0.1**
	0.7nm,0.3s,baz=310,slow=17,SNR=5.8						
WRA	**Tarramunga Arr**	**23.97**	**239**	P	**P**	**06 19 28.2**	**-1.4**
	0.9nm,0.6s,baz=57,slow=9.8,SNR=4.6						
WRA				PcP	**PcP**	**06 23 10.4**	**-0.3**
	1.9nm,0.7s,baz=61,slow=2.2,SNR=6.3						
SONM	**Songino Array**	**68.24**	**327**	P	**P**	**06 25 15.7**	**+0.6**
	0.7nm,0.4s,baz=129,slow=5.1,SNR=5.1						
TAPN	**Taplejung**	**72.46**	**301**	*e*P	**P**	**06 25 42.3**	**+0.8**
	12nm,0.7s						
ODAN	**Odare**	**72.60**	**300**	*e*P	**P**	**06 25 43.0**	**+0.7**
	26nm,0.8s						
RAMN	**Ramite**	**73.30**	**300**	*e*P	**P**	**06 25 47.1**	**+0.7**
	8.7nm,0.7s						
GUN	**Gumba**	**74.18**	**301**	*e*P	**P**	**06 25 52.4**	**+0.7**
	17nm,0.7s						
PKI	**Pulchoki**	**74.49**	**301**	*e*P	**P**	**06 25 53.9**	**+0.4**
KKN	**Kakani**	**74.66**	**301**	*e*P	**P**	**06 25 54.9**	**+0.6**
DMN	**Daman**	**74.76**	**301**	*e*P	**P**	**06 25 55.6**	**+0.7**
	17nm,0.5s						
GKN	**Gorkha**	**75.26**	**301**	*e*P	**P**	**06 25 58.2**	**+0.5**
	21nm,0.8s						
KOLN	**Koldanda**	**76.09**	**300**	*e*P	**P**	**06 26 02.7**	**+0.2**
	12nm,0.6s						
DANN	**Dangsing**	**76.10**	**301**	*e*P	**P**	**06 26 02.8**	**+0.1**
	9.6nm,0.6s						
MKAR	**Makanchi Array**	**82.34**	**319**	P	**P**	**06 26 35.5**	**-0.5**
	0.5nm,0.8s,baz=95,slow=5.4,SNR=5.6						
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**06 26 36.5**	**-0.7**
	0.3nm,0.7s,baz=241,slow=6.8,SNR=8.7						
NVAR	**Mina Array Bea**	**91.52**	**52**	P	**P**	**06 27 22.1**	**+0.9**
	0.6nm,0.7s,baz=244,slow=5.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.26**	**287**	PKPbc	**PKPbc**	**06 34 09.0**	**-1.6**
	1.2nm,0.6s,baz=42,slow=2.2,SNR=10						

NAO ***14*** *06:41:02.2±1.1,76.°95N×19.°19E,ML2.0*
CSEM ***14*** *06:41:02.7±0.3,76.°94N×18.°40E,h10km,ML2.3,Error ellipse: s-maj=10.2km s-min=3.7km az=40.0*
ISCJB

PCIG			*i* S	**Sn**	**07 02 29.4**	**-2.7**
UTMO	**Huajuapan**	**3.28 326**	*e*P	**Pn**	**07 02 08.9**	**+0.1**
UTMO			*i* S	**Sn**	**07 02 46.7**	**-1.2**
TPIG	**Tehuac#an**	**3.60 337**	*e*P	**Pn**	**07 02 13.4**	**+0.3**
TPIG			*i* S	**Sn**	**07 02 54.1**	**-1.5**
CCIG	**Comitan**	**3.81 71**	*i* P	**Pn**	**07 02 16.0**	**0.0**
CCIG			*i* S	**Sn**	**07 03 00.4**	**-0.5**
CAIG	**El Cayaco**	**4.63 295**	*i* P	**Pn**	**07 02 27.1**	**0.0**
PLIG	**Platanillo**	**4.77 314**	*i* P	**Pn**	**07 02 30.1**	**+1.0**
PLIG			*i* S	**Sn**	**07 03 22.3**	**-2.1**
TEIG	**Tepich**	**8.88 54**	Pn	**Pn**	**07 03 24.0**	**-1.5**
	4.6nm,0.3s,baz=29,slow=1.6,SNR=30					
TEIG		Sn	Sn		07 04 58.5	-7.0
	2.8nm,0.3s,baz=150,slow=20,SNR=6.2					
TXAR	**Lajitas Array**	**15.89 334**	Pn	**P**	**07 05 04.0**	**-0.6**
	0.0nm,0.3s,baz=147,slow=12,SNR=5.6					
YKA	**Yellowknife Ar**	**49.16 349**	P	**P**	**07 10 06.1**	**+1.2**
	0.5nm,0.6s,baz=156,slow=7.1,SNR=8.4					
INK	**Inuvik**	**58.36 345**	P	**P**	**07 11 13.7**	**+1.6**
	0.7nm,0.6s,baz=121,slow=4.3,SNR=4.5					
ILAR	**Eielson Array**	**60.37 337**	P	**P**	**07 11 27.8**	**+1.6**
	0.8nm,0.8s,baz=134,slow=4.4,SNR=9.5					

BJI **14** *07:18:54.2, 1.˚76S×133.˚63E, h35km, mB5.1/18, mb4.7/31, Ms4.8/14, Ms7 4.6/13*

IDC **14** *07:18:56.5±0.6, 0.˚68S×133.˚18E, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.5/23, mbtmp4.5/14, ML5.0/2, MS4.0/12, Ms1 4.0/12, ms1mx3.7/29, Error ellipse: s-maj=30.2km s-min=13.8km az=75.0*

ISCJB **14** *07:18:59.3±0.3, 0.˚80S±0.˚03×133.˚31E±0.˚04, h29km, mb4.6/49, MS4.1/12, Error ellipse: s-maj=5.9km s-min=4.3km az=167.0*

MOS **14** *07:18:59.7±1.0, 0.˚74S×133.˚12E, h33km, mb4.8/17, Error ellipse: s-maj=20.2km s-min=8.0km az=113.0*

NEIC **14** *07:19:01.9±0.2, 0.˚75S×133.˚16E, h35km, mb4.9/16, Error ellipse: s-maj=8.5km s-min=4.3km az=71.0*

DJA **14** *07:19:03, 0.˚83S×133.˚25E, h36km, mb5.1/14*

ISC 14 07:19:01.8±0.3, 0.˚88S±0.˚04×133.˚34E±0.˚06, h29km, n135, σ1s86/153, mb4.7/49, MS4.0/12, 2C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.30**	**208**	P	**Pn**	**07 19 39.8**	**+2.0**
BAKI	**Biak**	**2.79**	**96**	P	**Pn**	**07 19 45.6**	**+1.1**
SMPI	**Sarmi**	**5.48**	**102**	P	sPn	07 20 35.6	+3.5
	88nm,1.5s,12μm0.8nm						
LBMI	**Labuha**	**5.84**	**272**	P	**Pn**	**07 20 25.8**	**-0.7**
	582nm,1.0s,6μm1.9nm						
AAI	**Ambon**	**5.85**	**241**	P	**Pn**	**07 20 26.6**	**0.0**
	542nm,0.7s,6μm2.3nm						
TNTI	**Ternate**	**6.19**	**285**	P	**Pn**	**07 20 30.1**	**-1.3**
	217nm,0.9s,0.8nm						
NLAI	**Namlea**	**6.66**	**249**	P	**Pn**	**07 20 38.3**	**+0.5**
	210nm,0.6s,4μm1.3nm						
KMSI	**Cibinong**	**9.47**	**279**	P	sPn	07 21 26.1	-0.8
	398nm,1.2s						
LUWI	**Luwuk**	**10.56**	**269**	P	**Pn**	**07 21 31.1**	**-0.3**
	234nm,1.3s,2μm						
MTN	**Manton Dam**	**12.09**	**190**	*e*P	**Pn**	**07 21 51.4**	**-0.8**
SPSI	**Sidrap Palu**	**13.90**	**257**	P	**Pn**	**07 22 18.6**	**+1.6**
	36nm,1.0s						
BKSI	**Bulukumba**	**13.91**	**251**	P	**Pn**	**07 22 18.5**	**+1.3**
	63nm,1.2s						
KAPI	**Kappang**	**14.17**	**253**	Pn	**Pn**	**07 22 20.8**	**0.0**
	1.8nm,0.3s,baz=68,slow=7.1,SNR=6.9						
KAPI				LR	LR	07 27 52.9	
	comp=Z,172nm,21.0s,baz=342,slow=38						
KAPI	**Kappang**	**14.17**	**253**	*e*Pn	**Pn**	**07 22 18.0**	**-2.8**
KAPI				*e*Sn	**Sn**	**07 24 56.7**	**-0.4**
KAPI				*e*Sn	**Sn**	**07 24 56.7**	**-0.4**
MYLDM	**Lahad Datu**	**15.99**	**292**	P	**P**	**07 22 52.5**	**+4.3**
	95nm,1.9s						
PMG	**Port Moresby**	**16.15**	**122**	Pn	**Pn**	**07 22 48.4**	**+1.4**
	0.4nm,0.3s,baz=302,slow=19,SNR=4.3						
PMG	**Port Moresby**	**16.15**	**122**	*e*P	**P**	**07 22 50.6**	**+0.7**
PMG	**Port Moresby**	**16.15**	**122**	*e*Pn	**P**	**07 22 49.9**	**0.0**
COEN	**Coen**	**16.24**	**144**	*e*Pn	**Pn**	**07 22 49.1**	**+1.1**
	1μm,2.3s						
GUMO	**Guam**	**18.36**	**38**	LR	LR	07 29 30.8	
	comp=Z,323nm,20.8s,baz=297,slow=35						
FITZ	**Fitzroy Crossi**	**18.71**	**203**	P	**P**	**07 23 17.0**	**-1.2**
	2.2nm,0.3s,baz=38,slow=12,SNR=38						
FITZ				S	Sn	07 26 34.6	-13
	1.6nm,0.3s,baz=92,slow=15,SNR=6.2						
FITZ				LR	LR	07 31 00.2	
	comp=Z,328nm,21.2s,baz=18,slow=38						
FITZ	**Fitzroy Crossi**	**18.71**	**203**	*e*P	**P**	**07 23 16.7**	**-1.5**
	32nm,0.4s						
FITZ				*e*S	Sn	07 26 33.9	-13
FITZ	**Fitzroy Crossi**	**18.71**	**203**	*e*P	**P**	**07 23 17.6**	**-0.6**
FITZ				S	Sn	07 26 34.6	-13
WRAB	**Tennant Creek**	**18.96**	**177**	*e*P	**P**	**07 23 21.3**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,226nm,1.9s						
WRAB	**Tennant Creek**	**18.96**	**177**	*e*P	**P**	**07 23 21.3**	**+0.3**
	comp=Z,226nm,1.9s						
WRA	**Warramunga Arr**	**18.97**	**177**	P	**P**	**07 23 21.8**	**+0.7**
	comp=Z,5.6nm,0.3s,baz=356,slow=11,SNR=65						
WRA				S	**Sn**	**07 26 48.6**	**-5.1**
	comp=Z,1.1nm,0.3s,baz=355,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**18.97**	**177**	P	**P**	**07 23 21.8**	**+0.7**
WRA				S	**Sn**	**07 26 48.6**	**-5.1**
WRA	**Warramunga Arr**	**18.97**	**177**	P	**P**	**07 23 21.8**	**+0.7**
WRA				S	**Sn**	**07 26 48.6**	**-5.1**
WB2	**Warramunga Arr**	**18.97**	**177**	*e*P	**P**	**07 23 21.6**	**+0.6**
KHKI	**Kahang-Kahang**	**19.16**	**247**	P	**Pn**	**07 23 24.7**	**+0.5**
	comp=Z,81nm,1.7s						
SBUM	**Sibu**	**21.37**	**279**	P	**P**	**07 23 49.6**	**+2.4**
	comp=Z,56nm,1.3s						
AS31	**Alice Springs**	**22.66**	**179**	*e*P	**P**	**07 24 01.8**	**+0.9**
CTA	**Charters Tower**	**22.90**	**147**	P	**P**	**07 24 05.9**	**+2.5**
	comp=Z,7.7nm,0.6s,baz=332,slow=11,SNR=9.6						
CTA				LR	LR	07 34 25.4	
	comp=Z,832nm,19.0s,baz=132,slow=40						
CTA	**Charters Tower**	**22.90**	**147**	*e*P	**P**	**07 24 05.9**	**+2.5**
	comp=Z,12nm,1.3s						
CTA	**Charters Tower**	**22.90**	**147**	P	**P**	**07 24 05.9**	**+2.5**
CTA	**Charters Tower**	**22.90**	**147**	P	**P**	**07 24 05.9**	**+2.5**
MBWA	**Marble Bar**	**24.14**	**212**	*e*P	**P**	**07 24 15.5**	**0.0**
MBWA	**Marble Bar**	**24.14**	**212**	*e*P	**P**	**07 24 15.7**	**+0.2**
	comp=Z,129nm,1.6s						
BJII	**Banjamegara**	**24.41**	**254**	P	**P**	**07 24 22.0**	**+3.8**
FORT	**Forrest**	**30.16**	**189**	*e*P	**P**	**07 25 09.9**	**+0.4**
	comp=Z,26nm,0.6s						
FORT	**Forrest**	**30.16**	**189**	*e*P	**P**	**07 25 10.4**	**+0.9**
	comp=Z,36nm,0.8s						
QIZ	**Qiongzhong**	**30.39**	**312**	P	**P**	**07 25 10.6**	**-1.1**
QIZ				S	**S**	**07 30 08.4**	**-2.4**
QIZ				pmax	pmax		
	comp=Z,30nm,2.3s						
STKA	**Stephens Creek**	**31.80**	**167**	P	**P**	**07 25 24.4**	**+0.4**
	comp=Z,25nm,0.5s,baz=339,slow=9.9,SNR=127						
STKA				LR	LR	07 39 49.4	
	comp=Z,560nm,19.4s,baz=252,slow=39						
STKA	**Stephens Creek**	**31.80**	**167**	*e*P	**P**	**07 25 24.1**	**+0.1**
	comp=Z,14nm,0.3s						
STKA	**Stephens Creek**	**31.80**	**167**	P	**P**	**07 25 24.4**	**+0.4**
STKA				pmax	pmax		
	comp=Z,25nm,0.5s						
STKA				MLR	MLR		
	comp=Z,560nm,19.4s						
STKA	**Stephens Creek**	**31.80**	**167**	*e*P	**P**	**07 25 24.3**	**+0.4**
	comp=Z,5.2nm,0.5s						
BBOO	**Buckleboo**	**31.87**	**176**	*e*P	**P**	**07 25 24.1**	**-0.4**
	comp=Z,3μm,2.1s						
BLDU	**Ballidu**	**33.52**	**207**	*e*P	**P**	**07 25 38.9**	**-0.2**
KLBR	**Kellerberrin**	**33.92**	**204**	*e*P	**P**	**07 25 42.8**	**+0.3**
	comp=Z,10nm,0.6s						
ARMA	**Armidale**	**34.13**	**151**	*e*P	**P**	**07 25 45.5**	**+1.0**
ARMA	**Armidale**	**34.13**	**151**	*e*P	**P**	**07 25 45.4**	**+0.9**
	comp=Z,74nm,1.9s						
NWAO	**Narrogin (SRO)**	**35.30**	**204**	P	**P**	**07 25 54.6**	**+0.2**
	comp=Z,3.8nm,0.4s,baz=36,slow=10,SNR=7.7						
NWAO	**Narrogin (SRO)**	**35.30**	**204**	P	**P**	**07 25 54.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**35.30**	**204**	P	**P**	**07 25 54.6**	**+0.2**
NJ2	**Nanjing**	**35.51**	**339**	*e*P	**P**	**07 25 56.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	**Guiyang**	**37.42**	**319**	P	**P**	**07 26 13.0**	**+0.2**
GYA				pP	**pP**	**07 26 23.4**	**+2.0**
GYA				PP	PP	07 27 41.8	+3.3
GYA				S	**S**	**07 31 58.3**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,17.8s						
GYA				LR	LR		
	comp=E,430nm,18.7s						
GYA				LR	LR		
	comp=Z,460nm,17.6s						
MJAR	**Matsushiro Arr**	**37.51**	**6**	LR	LR	07 38 26.5	
	comp=Z,278nm,19.8s,baz=195,slow=31						
TOO	**Toolangi**	**38.20**	**164**	*e*P	**P**	**07 26 21.6**	**+2.5**
	comp=Z,39nm,0.8s						
KSRS	**Korea Array**	**38.47**	**353**	LR	LR	07 41 30.1	
	comp=Z,188nm,18.3s,baz=164,slow=35						
KMI	**Kunming**	**39.31**	**313**	P	**P**	**07 26 30.3**	**+1.5**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN	**Xi'an**	**41.62**	**329**	P	**P**	**07 26 46.9**	**-0.7**
XAN				pP	**pP**	**07 26 55.8**	**-0.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CD2	**Chengdu**	**42.30**	**321**	P	**P**	**07 26 53.3**	**+0.1**
CD2				pP	**pP**	**07 27 03.5**	**+1.6**
CD2				sP	**sP**	**07 27 07.8**	**+2.4**
CD2				PP	PP	07 28 34.6	+3.0
CD2				S	**S**	**07 33 11.0**	**-1.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,6.0s						
CD2				LR	LR		
	comp=N,430nm,5.9s						
CD2				LR	LR		
	comp=Z,250nm,5.9s						
BJI	**Beijing**	**43.64**	**341**	P	**P**	**07 27 05.0**	**+1.2**
BJI				S	**S**	**07 33 33.6**	**+1.9**
BJI				SS	SS	07 36 50.3	+2.7
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
BJI				pmax	pmax		
	comp=Z,140nm,4.7s						
BJI				LR	LR		
	comp=N,240nm,26.2s						
BJI				LR	LR		
	comp=E,200nm,26.2s						
BJI				LR	LR		
	comp=Z,110nm,25.0s						
USRK	**Ussuriysk Arra**	**44.90**	**359**	LR	LR	07 42 30.0	
	comp=Z,92nm,21.6s,baz=127,slow=32						
CN2	**Changchun**	**45.04**	**352**	*e*P	**P**	**07 27 17.3**	**+2.3**
CN2				*e*sP	**sP**	**07 27 31.0**	**+3.8**
CN2				*e*S	**S**	**07 33 54.1**	**+2.1**
ASAJ	**Asahikawa**	**45.55**	**9**	LR	LR	07 46 23.9	
	comp=Z,128nm,18.7s,baz=172,slow=36						
LZH	**Lanzhou**	**45.89**	**326**	*e*P	**P**	07 27 27.1	+5.0
LZH				sP	sP	07 27 41.6	+7.3
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC	**Hu-ho-hao-te**	**46.01**	**337**	*e*P	**P**	**07 27 23.3**	**+0.4**
HHC				pP	**pP**	**07 27 33.0**	**+1.3**
HHC				sP	**sP**	**07 27 37.0**	**+1.9**
HHC				PP	PP	07 29 11.4	+0.2
HHC				S	**S**	**07 34 05.4**	**-1.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
HHC				LR	LR		
	comp=N,240nm,13.5s						
HHC				LR	LR		
	comp=E,220nm,15.6s						
HHC				LR	LR		
	comp=Z,160nm,16.1s						
LSA	**Lhasa**	**50.42**	**311**	P	**P**	**07 27 59.8**	**+2.2**
GTA	**Gaotai**	**50.49**	**326**	*e*P	**P**	**07 27 58.3**	**+0.7**
GTA				pP	**pP**	**07 28 08.1**	**+1.7**
GTA				sP	**sP**	**07 28 12.1**	**+2.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ULN	**Ulaanbaatar**	**53.67**	**338**	*e*P	**P**	**07 28 19.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,30nm,1.8s						
ULN	**Ulaanbaatar**	**53.67**	**338**	*e*P	**P**	**07 28 19.8**	**-1.3**
	comp=Z,30nm,1.8s						
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**07 28 20.9**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=150,slow=7.6,SNR=3.3						
SONM				LR	LR	07 51 24.5	
	comp=Z,97nm,20.2s,baz=195,slow=36						
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**07 28 20.9**	**-1.8**
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**07 28 20.9**	**-1.8**
ZAK	**Zakamensk**	**57.16**	**338**	*e*P	**P**	**07 28 44.6**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PETK	**Petropavlovsk-**	**57.52**	**17**	P	**P**	**07 28 47.2**	**-1.2**
	comp=Z,4.8nm,0.9s,baz=203,slow=9.4,SNR=4.0						
PETK				LR	LR	07 48 40.2	
	comp=Z,117nm,21.7s,baz=279,slow=31						
PETK	**Petropavlovsk-**	**57.52**	**17**	P	**P**	**07 28 47.2**	**-1.2**
PETK	**Petropavlovsk-**	**57.52**	**17**	P	**P**	**07 28 47.2**	**-1.2**
TLY	**Talaya**	**58.07**	**339**	*e*P	**P**	**07 28 52.2**	**-0.2**
TLY				*e*S	S	07 36 37.9	-14
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	**Urumqi**	**60.30**	**323**	P	**P**	**07 29 07.0**	**-1.0**
WMQ				pP	**pP**	**07 29 17.0**	**0.0**
WMQ				sP	**sP**	**07 29 21.0**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
BOD	**Bodaibo**	**60.52**	**348**	*e*P	**P**	**07 29 07.1**	**-2.0**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MK31	**Makanchi Array**	**65.11**	**324**	*e*P	**P**	**07 29 38.2**	**-1.8**
MK31	**Makanchi Array**	**65.11**	**324**	*e*P	**P**	**07 29 38.2**	**-1.8**
MKAR	**Makanchi Array**	**65.11**	**324**	P	**P**	**07 29 38.2**	**-1.8**
	comp=Z,6.0nm,0.6s,baz=113,slow=7.9,SNR=80						
MKAR	**Makanchi Array**	**65.11**	**324**	*i* P	**P**	**07 29 38.4**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**65.11**	**324**	P	**P**	**07 29 38.2**	**-1.8**
SEY	**Seymchan**	**65.24**	**9**	*e*P	**P**	**07 29 38.8**	**-1.6**
KSH	**Kashi**	**65.95**	**314**	*e*P	**P**	**07 29 45.3**	**-0.4**
KSH				*e*pP	**pP**	**07 29 53.8**	**-1.0**
KSH				*e*sP	**sP**	**07 29 59.6**	**+1.4**
KSH				PcP	**PcP**	**07 30 16.8**	**+0.4**
KSH				*e*PP	**PP**	**07 32 11.8**	**+0.6**
KSH				*e*ScP		07 34 15.8	
KSH				*e*PcS		07 34 19.6	
KSH				S	S	07 38 25.3	-6.4
KSH				*e*ScS	**SKSac**	**07 39 34.3**	**-5.7**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,160nm,4.9s						
KSH				LR	LR		
	comp=N,170nm,5.4s						
KSH				LR	LR		
	comp=E,210nm,5.4s						
KSH				LR	LR		
	comp=Z,250nm,6.6s						
TKM2	**Tokmak 2**	**67.56**	**318**	*e*P	**P**	**07 29 54.5**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TKM2	**Tokmak 2**	**67.56**	**318**	*e*P	**P**	**07 29 54.5**	**-1.5**
	comp=Z,3.0nm,0.7s						
ZAA0	**Zalesovo Array**	**67.72**	**331**	*e*P	**P**	**07 29 54.1**	**-2.3**
ZALV	**Zalesovo Beam**	**67.72**	**331**	P	**P**	**07 29 53.9**	**-2.5**
	comp=Z,2.0nm,0.7s,baz=121,slow=7.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.72**	**331**	P	**P**	**07 29 53.9**	**-2.5**
ZALV	**Zalesovo Beam**	**67.72**	**331**	P	**P**	**07 29 53.9**	**-2.5**
AAK	**Ala-Archa**	**68.19**	**317**	*i* P	**P**	**07 29 59.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
EKS2	**Erkin-Say**	**68.69**	**317**	*e*P	**P**	**07 30 01.5**	**-1.5**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**68.69**	**317**	*e*P	**P**	**07 30 01.5**	**-1.5**
	comp=Z,4.5nm,0.8s						
NVS	**Novosibirsk**	**68.99**	**332**	*e*P	P	07 30 01.0	-3.4
NVS				pmax	pmax		
	comp=Z,38nm,1.9s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
KURK	**Kurchatov**	**69.18**	**326**	P	**P**	**07 30 04.0**	**-1.7**
	comp=E,7.4nm,0.7s,baz=126,slow=5.6,SNR=45						
KURK	**Kurchatov**	**69.18**	**326**	*i* P	**P**	**07 30 03.7**	**-2.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**69.18**	**326**	*e*P	**P**	**07 30 03.6**	**-2.0**
	comp=Z,27nm,1.2s						
KK31	**Karatay Array**	**71.09**	**316**	*i* P	**P**	**07 30 15.6**	**-2.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**71.09**	**316**	*e*P	**P**	**07 30 15.6**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**71.09**	**316**	*e*P	**P**	**07 30 15.6**	**-2.0**
	comp=Z,3.7nm,0.6s						
BILL	**Bilibino**	**72.45**	**12**	*e*P	**P**	**07 30 22.6**	**-2.6**
BILL				*e*		07 33 02.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
VOSK	**Vostochnaya**	**74.33**	**326**	P	**P**	**07 30 34.0**	**-2.6**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BVA0	**Borovoye Array**	**74.78**	**326**	*i* P	**P**	**07 30 37.3**	**-1.9**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BVAR	**Borovoye Array**	**74.78**	**326**	P	**P**	**07 30 37.3**	**-1.9**
	comp=Z,2.6nm,0.6s,baz=129,slow=8.0,SNR=20						
BVAR	**Borovoye Array**	**74.78**	**326**	P	**P**	**07 30 37.3**	**-1.9**
BVAR	**Borovoye Array**	**74.78**	**326**	P	**P**	**07 30 37.3**	**-1.9**
BRVK	**Borovoye**	**74.85**	**326**	*i* P	**P**	**07 30 36.7**	**-2.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	**Borovoye**	**74.85**	**326**	*e*P	**P**	**07 30 37.9**	**-1.8**
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**78.11**	**174**	*e*P	**P**	**07 30 57.9**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**78.11**	**174**	*e*P	**P**	**07 30 57.9**	**+0.2**
	comp=Z,12nm,1.4s						
AB31	**Akbulak array**	**79.88**	**320**	*i* P	**P**	**07 31 05.4**	**-2.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ABKAR	**Akbulak array**	**79.88**	**320**	*e*P	**P**	**07 31 05.5**	**-2.4**
	comp=Z,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**81.35**	**321**	P	**P**	**07 31 12.8**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=129,slow=6.5,SNR=2.7						
AKTO	**Aktyubinsk**	**81.35**	**321**	P	**P**	**07 31 12.8**	**-3.0**
AKTO	**Aktyubinsk**	**81.35**	**321**	P	**P**	**07 31 12.8**	**-3.0**
ARU	**Arti**	**82.34**	**327**	*d* P	**P**	**07 31 20.7**	**-0.1**
ARU						07 34 25.8	
ARU				S	**S**	**07 41 34.0**	**-0.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**82.34**	**327**	P	**P**	**07 31 18.6**	**-2.3**
	comp=Z,3.2nm,0.4s						
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**07 31 38.7**	**-2.7**
	comp=Z,2.7nm,0.8s,baz=247,slow=5.0,SNR=28						
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**07 31 38.7**	**-2.7**
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**07 31 38.7**	**-2.7**
QSPA	**South Pole Qui**	**89.06**	**180**	*e*P	**P**	**07 31 53.6**	**-0.5**
	comp=Z,14nm,1.3s						
FINES	**FINESS Array B**	**98.97**	**332**	LR	LR	08 19 28.7	
	comp=Z,143nm,18.0s,baz=23,slow=37						
YKA	**Yellowknife Ar**	**100.83**	**26**	P	**Pdif**	**07 32 45.8**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=292,slow=4.5,SNR=5.8						
YKA	**Yellowknife Ar**	**100.83**	**26**	P	**Pdif**	**07 32 45.9**	**-1.9**
YKA	**Yellowknife Ar**	**100.83**	**26**	P	**Pdif**	**07 32 45.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**130.59**	**287**	PKP	**PKPdf**	**07 38 09.4**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=86,slow=1.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**130.59**	**287**	PKP	**PKPdf**	**07 38 09.4**	**-1.6**
LPAZ	**La Paz**	**152.80**	**130**	PKPbc	**PKPbc**	**07 38 58.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=287,slow=6.6,SNR=7.3						
LPAZ	**La Paz**	**152.80**	**130**	PKIKP	**PKPbc**	**07 38 58.7**	**+0.8**
LPAZ	**La Paz**	**152.80**	**130**	PKPbc	**PKPbc**	**07 38 58.6**	**+0.8**

IDC 14 07:52:10.6±8.0, 21.˚21S×178.˚25W, h474km±83km, mb3.0/4, mb1 3.3/4, mb1mx3.1/15, mbtmp3.0/4, Error ellipse: s-maj=53.9km s-min=35.1km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.28**	**245**	P	P	07 58 41.2	0.0
	3.4nm,0.7s,baz=86,slow=13,SNR=7.2						
WRA	**Warramunga Arr**	**44.28**	**263**	P	P	07 59 37.0	-0.5
	0.4nm,0.3s,baz=93,slow=5.8,SNR=3.5						
NVAR	**Mina Array Bea**	**81.69**	**43**	P	P	08 03 39.4	+0.4
	0.3nm,0.6s,baz=220,slow=5.5,SNR=3.4						
ILAR	**Eielson Array**	**89.05**	**13**	P	P	08 04 13.2	-0.7
	0.4nm,0.8s,baz=210,slow=6.1,SNR=6.1						
BVAR	**Borovoye Array**	**119.47**	**320**	PKP	PKPdf	08 10 04.7	-0.7
	0.6nm,0.3s,baz=148,slow=2.4,SNR=6.4						
ARCES	**ARCESS Array B**	**129.57**	**349**	PKP	PKPdf	08 10 23.9	-0.4
	3.3nm,0.9s,baz=38,slow=6.1,SNR=3.8						
AKASG	**Malin Array Be**	**143.51**	**330**	PKP	PKPab	08 10 48.7	0.0
	1.2nm,0.4s,baz=43,slow=4.2,SNR=7.5						
BRTR	**Keskin Array B**	**147.13**	**311**	PKPbc	PKPbc	08 11 00.5	+0.2
	0.7nm,0.5s,baz=141,slow=3.0,SNR=4.2						
GERES	**GERESS Array B**	**150.81**	**344**	PKPbc	PKPbc	08 11 09.2	+0.4
	0.5nm,0.6s,baz=46,slow=2.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**171.99**

GUC 14 08:31:47.0±0.4, 32°52S×71°84W, h15km±2km, MD3.7, ML3.7, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.53**	**162**	*eP*	Pg	08 31 57.2	-0.4
IHA				*i* S	Sg	08 32 04.9	+0.2
CHNG	**Los Chungos**	**0.70**	**25**	⇓*i*P	Pg	08 31 59.8	-0.9
CHNG				*i* S	Sg	08 32 09.5	-0.4
PTCH	**Petorca**	**0.81**	**72**	⇓*i*P	Pb	08 32 02.0	-0.8
PTCH				*i* S	Sg	08 32 12.9	-0.7
PTCH				AML	AML	08 32 15.5	
	comp=E,5μm,0.2s						
ROCH	**El Roble**	**0.83**	**123**	AML	AML	08 32 18.8	
	comp=E,3μm,0.7s						
JACH	**Jahuel**	**1.06**	**99**	⇓*i*P	Pb	08 32 05.8	-1.5
PEL	**Peldehue**	**1.15**	**123**	⇓*i*P	Pn	08 32 07.4	-1.3
PEL				*i* S	Sb	08 32 22.8	-0.8
PEL				AML	AML	08 32 27.1	
	comp=E,6μm,0.3s						
SAN	**Santiago**	**1.36**	**134**	⇓*i*P	Pn	08 32 10.5	-0.9
SAN				*i* S	Sn	08 32 28.3	-1.0
SAN				AML	AML	08 32 35.4	
	comp=N,2μm,0.2s						
STL	**Santa Lucia**	**1.36**	**133**	⇓*i*P	Pn	08 32 10.4	-1.1
STL				*i* S	Sn	08 32 28.3	-1.0
TACH	**Talagante**	**1.36**	**146**	*eP*	Pn	08 32 10.6	-0.8
TACH				*i* S	Sn	08 32 28.2	-1.1
CLCH	**Cerro Calan**	**1.40**	**129**	⇑*i*P	Pn	08 32 11.8	-0.9
CLCH				*i* S	Sn	08 32 29.8	-0.6
CLCH				AML	AML	08 32 32.2	
	comp=N,3μm,0.5s						
CLCH				AML	AML	08 32 32.8	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.46**	**136**	⇓*i*P	Pn	08 32 12.4	-0.4
ANTU				*i* S	Sn	08 32 31.4	-0.3
ANTU				AML	AML	08 32 35.8	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**1.52**	**28**	⇑*i*P	Pn	08 32 12.4	-1.4
CMCH				*i* S	Sn	08 32 32.2	-1.1
FCH	**Farellones**	**1.53**	**122**	⇑*i*P	Pn	08 32 07.5	-6.7
FCH				*i* S	Sn	08 32 27.8	-6.4
FCH				AML	AML	08 32 30.1	
	comp=E,1μm,0.2s						
PCH	**Pirque**	**1.56**	**135**	⇑*i*P	Pn	08 32 13.8	-0.5
PCH				*i* S	Sn	08 32 34.2	-0.2
LMEL	**Las Melosas**	**1.91**	**134**	⇓*i*P	Pn	08 32 19.5	+0.3
LMEL				*i* S	Sn	08 32 44.0	+1.0
LMEL				AML	AML	08 32 48.8	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**2.51**	**21**	AML	AML	08 33 08.3	
	comp=N,623nm,0.8s						

WEL 14 08:40:42.4±0.3, 37°96S×176°08E, h181km±2km, ML3.8/10, 2C, Error ellipse: s-maj=3.2km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRRZ	**Plateau Road**	**0.59**	**155**	PN	Pn	08 41 08.0	+0.3
PRRZ				SN	Sn	08 41 28.2	+0.9
URZ	**Urewera**	**0.87**	**110**	PN	Pn	08 41 09.0	-0.2
URZ				SN	Sn	08 41 29.6	-0.2
KRVZ	**Karewarewa**	**1.18**	**197**	PN	Pn	08 41 11.6	-0.2
MWZ	**Matawai**	**1.20**	**109**	PN	Pn	08 41 11.7	-0.1
MWZ				SN	Sn	08 41 33.7	-0.9
WTVZ	**West Tongariro**	**1.22**	**198**	PN	Pn	08 41 11.9	-0.1
TWVZ	**Taurewa**	**1.22**	**204**	PN	Pn	08 41 12.0	0.0
TWVZ				SN	Sn	08 41 35.2	+0.1
RAHZ	**Arahi**	**1.24**	**141**	PN	Pn	08 41 12.5	+0.4
RAHZ				SN	Sn	08 41 35.5	+0.3
OTVZ	**Oturere**	**1.25**	**195**	PN	Pn	08 41 12.5	+0.2
OTVZ				SN	Sn	08 41 35.7	0.0
BKZ	**Black Stump Fm**	**1.25**	**165**	⇑PN	Pn	08 41 11.9	-0.3
BKZ				SN	Sn	08 41 34.3	-1.2
NMHZ	**Naumai**	**1.27**	**154**	PN	Pn	08 41 13.0	+0.6
WPVZ	**Whakapapa**	**1.31**	**198**	PN	Pn	08 41 12.7	-0.1
TUVZ	**Tukino**	**1.35**	**194**	PN	Pn	08 41 13.1	-0.1
FWVZ	**Far West T-bar**	**1.36**	**198**	PN	Pn	08 41 13.2	-0.1
TRVZ	**Turoa**	**1.40**	**197**	PN	Pn	08 41 13.6	-0.2
WNVZ	**Wahianoa**	**1.42**	**195**	PN	Pn	08 41 13.5	-0.3
WNVZ				SN	Sn	08 41 38.0	-0.4
MOVZ	**Moawhango**	**1.47**	**190**	PN	Pn	08 41 13.4	-0.8
MTVZ	**Mangateitei**	**1.50**	**198**	PN	Pn	08 41 14.1	-0.4
BHHZ	**Black Hill Sta**	**1.53**	**180**	PN	Pn	08 41 13.9	-0.8
MCHZ	**McNeill Hill**	**1.56**	**162**	PN	Pn	08 41 15.2	+0.3
KNZ	**Kokohu**	**1.64**	**131**	PN	Pn	08 41 15.7	0.0
PRGZ	**Paritu Road**	**1.71**	**125**	PN	Pn	08 41 16.6	+0.1
PUZ	**Puketiti**	**1.73**	**94**	PN	Pn	08 41 16.2	-0.5
PUZ				SN	Sn	08 41 41.7	-1.5
CNGZ	**Carnagh Statio**	**1.76**	**108**	PN	Pn	08 41 17.6	+0.7
MXZ	**Matakaoa Point**	**1.81**	**78**	PN	Pn	08 41 17.9	+0.4
MHGZ	**Mahia Peninsul**	**1.86**	**130**	PN	Pn	08 41 18.2	+0.2
CKHZ	**Cape Kidnapper**	**1.87**	**156**	PN	Pn	08 41 18.0	-0.1
CKHZ				SN	Sn	08 41 45.0	-0.9
KAHZ	**Kahuranaki**	**1.94**	**161**	PN	Pn	08 41 18.6	-0.3
PNHZ	**Pukenui**	**1.95**	**177**	PN	Pn	08 41 18.0	-1.0
WAZ	**Wanganui**	**1.99**	**305**	*e*PN	Pn	08 41 19.9	-0.4
PKE	**Pukeiti**	**2.05**	**232**	PN	Pn	08 41 20.0	0.0
DFE	**Dawson Falls**	**2.06**	**228**	PN	Pn	08 41 20.2	0.0
TSZ	**Takapari Road**	**2.10**	**182**	PN	Pn	08 41 19.2	-1.4
WPHZ	**Waipukurau**	**2.12**	**172**	PN	Pn	08 41 19.8	-1.0
PXZ	**Pawanui**	**2.16**	**164**	PN	Pn	08 41 20.3	-0.8
DVHZ	**Dannevirke**	**2.34**	**178**	PN	Pn	08 41 21.5	-1.7
PRHZ	**Porangahau**	**2.34**	**170**	PN	Pn	08 41 22.2	-1.1
POWZ	**Post Office Ro**	**2.44**	**186**	PN	Pn	08 41 22.7	-1.7
BFZ	**Birch Farm**	**2.72**	**177**	*e*PN	Pn	08 41 25.7	-1.9
BFZ				SN	Sn	08 41 58.5	-4.6
MRZ	**Mangatainoka R**	**2.73**	**188**	⇑PN	Pn	08 41 25.2	-2.5
MRZ				SN	Sn	08 41 58.4	-4.8
TIWZ	**Tintock**	**2.82**	**183**	PN	Pn	08 41 26.5	-2.4
HOWZ	**Holdsworth Sta**	**2.97**	**188**	PN	Pn	08 41 27.9	-2.8
KIW	**Kapiti Island**	**3.04**	**197**	PN	Pn	08 41 28.4	-3.1
TMWZ	**Te Maipa**	**3.15**	**183**	PN	Pn	08 41 30.1	-2.8
MTW	**Mount Morrison**	**3.23**	**188**	PN	Pn	08 41 30.4	-3.3
CAW	**Cannon Point**	**3.24**	**194**	PN	Pn	08 41 30.8	-3.1
DUWZ	**D'Urville Isla**	**3.29**	**210**	PN	Pn	08 41 31.7	-2.9
TRWZ	**Traveller**	**3.45**	**185**	PN	Pn	08 41 33.3	-3.2
PAWZ	**Paruwai Farm**	**3.45**	**188**	PN	Pn	08 41 33.5	-3.1
SNZO	**South Karori**	**3.51**	**197**	PN	Pn	08 41 33.6	-3.6
MSWZ	**Moikau Station**	**3.51**	**190**	PN	Pn	08 41 33.7	-3.6
TCW	**Tory Channel**	**3.53**	**203**	PN	Pn	08 41 34.3	-3.2
BHW	**Baring Head**	**3.57**	**195**	PN	Pn	08 41 34.2	-3.8
PLWZ	**Palliser**	**3.66**	**190**	PN	Pn	08 41 35.3	-3.9
TUWZ	**Tuamarina**	**3.84**	**205**	PN	Pn	08 41 37.7	-3.7
NNZ	**Nelson**	**3.86**	**212**	PN	Pn	08 41 38.0	-3.7
NNZ				SN	Sn	08 42 23.1	-5.2
QRZ	**Quartz Range**	**3.97**	**223**	*e*PN	Pn	08 41 38.8	-4.3
BSWZ	**Blackbirch Sta**	**4.12**	**204**	*e*PN	Pn	08 41 41.4	-3.5
THZ	**Tophouse**	**4.51**	**212**	PN	Pn	08 41 46.5	-3.7
KHZ	**Kahutara**	**4.86**	**203**	PN	Pn	08 41 50.4	-4.0
DSZ	**Denniston Nort**	**5.01**	**220**	*e*PN	Pn	08 41 52.1	-4.4
LTZ	**Lake Taylor**	**5.63**	**210**	*e*PN	Pn	08 41 59.7	-4.8
MQZ	**McQueen's Vall**	**6.30**	**203**	*e*PN	Pn	08 42 07.4	-5.8
MQZ				SN	Sn	08 43 13.7	-11
RPZ	**Rata Peaks**	**6.90**	**212**	SN	Sn	08 43 28.3	-11

IDC 14 08:52:54.7±2.4, 6°64S×152°91E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=98.7km s-min=35.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.36**	**232**	P	P	08 57 54.1	-0.5
	1.4nm,0.7s,baz=53,slow=9.6,SNR=5.7						
MKAR	**Makanchi Array**	**81.78**	**319**	P	P	09 05 16.2	+0.6
	0.4nm,0.7s,baz=100,slow=5.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**82.74**	**326**	P	P	09 05 20.4	0.0
	0.5nm,0.4s,baz=84,slow=7.4,SNR=2.2						
ILAR	**Eielson Array**	**83.81**	**22**	P	P	09 05 25.4	-0.3
	0.5nm,0.8s,baz=251,slow=5.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**150.93**	**285**	PKPbc	PKPbc	09 12 50.5	-0.1
	0.5nm,0.7s,baz=93,slow=3.3,SNR=2.7						

FUNV ***14*** *09:00:23.5, 5.°31N×73.°89W, h70km, MW3.7*
ISCJB ***14*** *09:00:24.2±0.5, 5.°66N±0.°06×73.°75W±0.°06, h134km, mb3.4/8, Error ellipse: s-maj=10.0km s-min=5.2km az=135.1*

IDC ***14*** *09:00:24.7±0.9, 5.°51N×73.°74W, h144km±12km, mb3.3/8, mb1 3.6/8, mb1mx3.4/20, mbtmp3.3/8, Error ellipse: s-maj=36.2km s-min=17.7km az=51.0*

ISC 14 09:00:24.5±0.7, 5.°61N±0.°07×73.°70W±0.°07, h134km, n26, σ1§31/34, mb3.4/8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**0.98**	**220**	P	Pn	**09 00 48.4**	**+0.4**
	124nm,0.3s,baz=46,slow=1.7,SNR=545						
ROSC				S	Sn	**09 01 07.0**	**+1.2**
	383nm,0.3s,baz=92,slow=19,SNR=29						
SOCV	**Socops**	**3.88**	**47**	*e*P	Pn	**09 01 24.6**	**+1.8**
SOCV				*e*S	Sn	**09 02 09.3**	**+1.3**
VIGV	**El Vigia**	**3.96**	**36**	*e*P	Pn	**09 01 25.6**	**+1.7**
VIGV				*e*S	Sn	**09 02 12.1**	**+2.1**
ELOV	**Elorza**	**4.42**	**72**	*e*P	Pn	**09 01 31.0**	**+1.1**
VIRV	**Villa del Rosa**	**5.03**	**15**	*e*P	Pn	**09 01 38.5**	**+0.5**
VIRV				*e*S	Sn	**09 02 35.7**	**+0.3**
SANV	**Sanarito**	**5.66**	**47**	*e*P	Pn	**09 01 47.7**	**+1.1**
SANV				*e*S	Sn	**09 02 50.0**	**-0.6**
CURV	**Curarigua**	**5.73**	**40**	*e*P	Pn	**09 01 48.9**	**+1.3**
CURV				*e*S	Sn	**09 02 51.9**	**-0.6**
DABV	**Dabajuro**	**6.09**	**30**	*e*P	Pn	**09 01 54.4**	**+2.1**
TEPV	**Terepaima**	**6.22**	**46**	*e*P	Pn	**09 01 55.4**	**+1.3**
BAUV	**El Baul**	**6.52**	**59**	*e*P	Pn	**09 01 58.5**	**+0.4**
BAUV				*e*S	Sn	**09 03 09.9**	**-1.3**
MAPV	**Macapo**	**6.68**	**51**	*e*P	Pn	**09 02 01.2**	**+1.0**
MONV	**Montecano**	**7.30**	**30**	*e*P	Pn	**09 02 10.7**	**+2.1**
TURV	**Turiamo**	**7.54**	**50**	*e*P	Pn	**09 02 13.4**	**+1.6**
MERV	**Las Mercedes**	**8.19**	**63**	*e*P	Pn	**09 02 20.6**	**+0.1**
BIRV	**Birongo**	**8.80**	**56**	*e*P	Pn	**09 02 29.8**	**+1.0**
CUPV	**Cepira**	**9.00**	**60**	*e*P	Pn	**09 02 32.1**	**+0.6**
TEIG	**Tepich**	**20.29**	**317**	P	P	**09 04 50.3**	**+0.5**
	5.2nm,0.8s,baz=230,slow=7.9,SNR=5.8						
LPAZ	**La Paz**	**22.44**	**166**	P	P	**09 05 16.2**	**+3.0**
	1.0nm,0.8s,baz=349,slow=9.4,SNR=6.8						
SIV	**San Ignacio**	**24.84**	**150**	P	P	**09 05 33.9**	**-0.7**
	0.8nm,0.6s,baz=320,slow=12,SNR=4.4						
TXAR	**Lajitas Array**	**36.85**	**313**	P	P	**09 07 19.7**	**-0.5**
	0.3nm,0.8s,baz=150,slow=9.3,SNR=3.2						
PDAR	**Pinedale Array**	**48.72**	**325**	P	P	**09 08 55.0**	**-0.8**
	0.3nm,0.5s,baz=123,slow=7.4,SNR=3.6						
SCHQ	**Schefferville**	**49.39**	**5**	P	P	**09 09 00.9**	**+0.6**
	2.5nm,0.5s,baz=192,slow=6.9,SNR=12						
YKA	**Yellowknife Ar**	**64.20**	**340**	P	P	**09 10 43.8**	**-0.9**
	0.7nm,0.6s,baz=132,slow=6.7,SNR=16						
YKA				pP	pP	**09 11 17.0**	**0.0**
	0.5nm,0.5s,baz=135,slow=6.5,SNR=9.4						
TORD	**Torodi Ar. Bea**	**74.55**	**78**	P	P	**09 11 48.3**	**-1.0**
	0.2nm,0.6s,baz=283,slow=6.5,SNR=2.6						
ILAR	**Eielson Array**	**77.81**	**335**	P	P	**09 12 06.3**	**-0.4**
	0.7nm,0.5s,baz=110,slow=4.4,SNR=19						
WRA	**Warramunga Arr**	**149.24**	**240**	PKPbc	PKPbc	**09 19 56.5**	**-1.9**
	0.5nm,0.4s,baz=107,slow=2.8,SNR=2.9						

CASC 14 09:16:26.2±1.5, 13°66N×91°08W, h17km±9km, MD3.5, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.81**	**16**	*e*P	Pb	09 16 42.0	-0.2
FUG				*e*S	Sn	09 16 55.0	-0.1
FG6		**0.91**	**12**	*e*P	Pb	09 16 43.5	-0.5
FG6				*e*S	Sb	09 16 55.5	-0.7
TP2	**Tecpan 2**	**1.12**	**3**	*e*P	Pn	09 16 43.8	-3.8
NBG	**Las Nubes**	**1.16**	**37**	*e*P	Pg	09 16 49.6	+0.6
RTR	**El Retiro**	**1.41**	**80**	*e*P	Pn	09 16 50.6	-0.7
RTR				*e*S	Sb	09 17 10.6	+0.4
RBDL	**Robledal**	**1.42**	**71**	*e*P	Pn	09 16 51.6	0.0
SBLS	**San Blas**	**1.42**	**83**	*e*P	Pn	09 16 51.3	-0.3
SBLS				*e*S	Sb	09 17 11.4	+0.6
BOQS	**Boqueron**	**1.75**	**87**	*e*P	Pn	09 16 56.6	+0.6
BOQS				*e*S	Sb	09 17 19.5	-0.6
SNET	**Serv Nac Est T**	**1.79**	**89**	*e*P	Pn	09 16 56.1	-0.4
SNET				*e*S	Sn	09 17 19.0	0.0
SNET				AML	AML	09 17 26.7	
	comp=Z,373nm,0.3s						
MTO2	**Montecristo 2**	**1.82**	**66**	*e*P	Pn	09 16 57.9	+0.8
MRL	**Marmol**	**1.94**	**44**	*e*P	Pn	09 16 56.9	-1.8
LFRS	**El Faro**	**1.96**	**91**	*e*P	Pn	09 16 59.1	+0.3
LFRS				*e*S	Sn	09 17 23.4	+0.3
LBRS	**Las Brisas**	**1.98**	**88**	*e*P	Pn	09 16 58.8	-0.3

IDC 14 09:38:01.8±0.8, 31°94S×57°31E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/31, Error ellipse: s-maj=25.4km s-min=24.3km az=49.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.14**	**323**	Pn	Pn	09 41 50.8	+0.4
	1.2nm,0.3s,baz=163,slow=7.7,SNR=10						
OPO				Sn	Sn	09 44 38.8	-11
	0.8nm,0.3s,baz=48,slow=23,SNR=5.2						
BOSA	**Boshof**	**27.82**	**268**	P	P	09 43 52.1	-1.0
	2.1nm,0.9s,baz=55,slow=11,SNR=3.1						
LBTB	**Lobatse**	**28.64**	**276**	LR	LR	09 52 32.8	
	comp=Z,36nm,19.6s,baz=338,slow=30						
QSPA	**South Pole Qui**	**58.23**	**180**	P	P	09 47 58.4	+0.6
	4.1nm,0.8s,baz=272,slow=3.7,SNR=10						
CMAR	**Chiang Mai Arr**	**64.06**	**45**	P	P	09 48 37.8	+0.1
	2.5nm,0.7s,baz=228,slow=6.9,SNR=8.8						
CMAR				LR	LR	10 13 45.9	
	comp=Z,35nm,19.0s,baz=25,slow=34						
WRA	**Warramunga Arr**	**69.02**	**101**	P	P	09 49 09.0	-0.6
	0.6nm,0.4s,baz=244,slow=5.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**69.59**	**301**	P	P	09 49 13.5	+0.4
	1.3nm,0.7s,baz=136,slow=5.5,SNR=8.4						
DBIC	**Dimbokro**	**70.51**	**291**	LR	LR	10 19 19.4	
	comp=Z,40nm,19.6s,baz=325,slow=35						
BRTR	**Keskin Array B**	**74.61**	**341**	P	P	09 49 42.6	-0.1
	1.2nm,0.8s,baz=171,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	**81.55**	**17**	P	P	09 50 21.0	0.0
	0.7nm,0.8s,baz=220,slow=4.7,SNR=8.6						
KURK	**Kurchatov**	**84.43**	**13**	P	P	09 50 35.6	-0.1
	1.0nm,0.4s,baz=206,slow=6.0,SNR=6.6						
BVAR	**Borovoye Array**	**85.37**	**8**	P	P	09 50 40.8	+0.3
	1.1nm,0.7s,baz=180,slow=4.4,SNR=6.9						
SONM	**Songino Array**	**90.80**	**31**	LR	LR	10 27 07.8	
	comp=Z,39nm,18.7s,baz=102,slow=32						
ILAR	**Eielson Array**	**143.91**	**17**	PKP	PKPab	09 57 35.5	0.0
	0.7nm,0.7s,baz=303,slow=3.8,SNR=9.4						
YKA	**Yellowknife Ar**	**148.99**	**353**	PKPbc	PKPbc	09 57 50.9	0.0
	2.5nm,0.7s,baz=3.9,slow=2.4,SNR=39						
ULM	**Lac du Bonnet**	**152.97**	**320**	PKPbc	PKPbc	09 57 59.8	-0.9
	3.1nm,0.8s,baz=52,slow=4.7,SNR=6.2						

ISCJB ***14*** *09:49:46.8±0.5, 21.°37S±0.°06×179.°14W±0.°10, h602km, mb3.8/16, Error ellipse: s-maj=12.2km s-min=8.0km az=12.6*
IDC ***14*** *09:49:47.7±2.1, 21.°16S×179.°17W, h592km±25km, mb3.3/14, mb1 3.5/15, mb1mx3.5/20, mbtmp3.4/15, Error ellipse: s-maj=16.8km s-min=13.9km az=126.0*
NEIC ***14*** *09:49:47.8±1.0, 21.°21S×179.°13W, h598km±12km, mb4.1/4, Error ellipse: s-maj=14.4km s-min=9.2km az=142.0*

ISC 14 09:49:48.0±0.6, 21.°3S±0.°1×179.°1W±0.°1, h602km, n54, σ1§01/52, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.10**	**45**	P	P	**09 52 07.5**	**-0.5**
	5.3nm,0.3s,baz=344,slow=8.3,SNR=5.7						
AFI	**Afiamalu**	**10.10**	**45**	P	P	**09 52 07.5**	**-0.5**
AFI				*e*S	S	09 53 55.0	-7.9
URZ	**Urewera**	**17.27**	**190**	*e*P	P	**09 53 15.9**	**-0.7**
	21nm,0.3s						
MWZ	**Matawai**	**17.27**	**189**	PN	P	**09 53 15.4**	**-1.4**
BKZ	**Black Stump Fm**	**18.26**	**191**	PN	P	**09 53 23.3**	**-2.4**
MRZ	**Mangatainoka R**	**19.88**	**192**	PN	P	**09 53 38.4**	**-2.0**
CAW	**Cannon Point**	**20.41**	**193**	PN	P	**09 53 43.5**	**-1.7**
QRZ	**Quartz Range**	**20.77**	**198**	PN	P	**09 53 48.8**	**+0.4**
THZ	**Tophouse**	**21.54**	**196**	PN	P	**09 53 54.1**	**-1.3**
DSZ	**Denniston Nort**	**21.83**	**199**	PN	P	**09 53 57.8**	**-0.2**
KHZ	**Kahutara**	**22.00**	**195**	PN	P	**09 53 57.9**	**-1.4**
LTZ	**Lake Taylor**	**22.66**	**197**	PN	P	**09 54 03.6**	**-1.7**
RPZ	**Rata Peaks**	**23.86**	**198**	P	P	**09 54 15.8**	**0.0**
	3.7nm,0.3s,baz=314,slow=5.6,SNR=8.0						
RPZ	**Rata Peaks**	**23.86**	**198**	P	P	**09 54 15.8**	**0.0**
FOZ	**Fox Glacier**	**24.14**	**200**	PN	P	**09 54 16.6**	**-1.6**
ARMA	**Armidale**	**27.82**	**245**	*e*P	P	**09 54 52.2**	**+1.2**
	2.4nm,0.7s						
PMG	**Port Moresby**	**34.52**	**285**	P	P	**09 55 47.6**	**-0.5**
	10nm,0.8s,baz=113,slow=8.0,SNR=4.8						
PMG	**Port Moresby**	**34.52**	**285**	P	P	**09 55 47.6**	**-0.5**
STKA	**Stephens Creek**	**36.54**	**245**	P	P	**09 56 05.2**	**+0.7**
	1.6nm,0.5s,baz=75,slow=12,SNR=8.6						
STKA	**Stephens Creek**	**36.54**	**245**	P	P	**09 56 05.2**	**+0.7**
COEN	**Coen**	**36.62**	**275**	*e*P	P	**09 56 05.8**	**+0.5**
WB2	**Warramunga Arr**	**43.48**	**263**	*e*P	P	**09 56 58.9**	**-1.0**
WRAB	**Tennant Creek**	**43.48**	**263**	*e*P	P	**09 56 59.1**	**-0.7**
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**43.49**	**263**	P	P	**09 56 59.3**	**-0.7**
	1.6nm,0.3s,baz=96,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**43.49**	**263**	P	P	**09 56 59.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.92**	**263**	P	P	**09 58 02.0**	**-0.7**
	1.4nm,0.4s,baz=83,slow=6.4,SNR=7.6						
FITZ	**Fitzroy Crossi**	**51.92**	**263**	P	P	**09 58 02.0**	**-0.7**
QSPA	**South Pole Qui**	**68.82**	**180**	P	P	**09 59 54.4**	**+1.3**
	6.7nm,0.7s,baz=35,slow=1.5,SNR=19						
QSPA	**South Pole Qui**	**68.82**	**180**	*e*P	P	**09 59 54.2**	**+1.0**
	9.5nm,1.0s						
MJAR	**Matsushiro Arr**	**70.21**	**325**	P	P	**10 00 01.4**	**-0.3**
	1.9nm,0.5s,baz=158,slow=5.7,SNR=12						
MJAR	**Matsushiro Arr**	**70.21**	**325**	P	P	**10 00 01.4**	**-0.3**
PETK	**Petropavlovsk-**	**76.74**	**346**	P	P	**10 00 37.5**	**-0.8**
	2.2nm,0.7s,baz=142,slow=7.3,SNR=4.2						
PETK	**Petropavlovsk-**	**76.74**	**346**	P	P	**10 00 37.5**	**-0.8**
USRK	**Ussuriysk Arra**	**79.01**	**326**	P	P	**10 00 51.2**	**+0.6**
	1.9nm,0.7s,baz=126,slow=3.0,SNR=5.6						
NVAR	**Mina Array Bea**	**82.27**	**44**	P	P	**10 01 08.6**	**+0.7**
	0.7nm,0.8s,baz=243,slow=4.5,SNR=5.4						
NVAR	**Mina Array Bea**	**82.27**	**44**	P	P	**10 01 08.6**	**+0.7**
TXAR	**Lajitas Array**	**88.32**	**58**	P	P	**10 01 38.3**	**+1.2**
	0.2nm,0.7s,baz=212,slow=4.4,SNR=4.5						
TXAR	**Lajitas Array**	**88.32**	**58**	P	P	**10 01 38.3**	**+1.2**
ILAR	**Eielson Array**	**89.27**	**13**	P	P	**10 01 40.0**	**-0.5**
	0.6nm,0.5s,baz=215,slow=5.2,SNR=26						
ILAR	**Eielson Array**	**89.27**	**13**	P	P	**10 01 40.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	P	**10 01 43.9**	**+1.6**
	0.6nm,0.3s,baz=128,slow=2.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	P	**10 01 43.9**	**+1.6**
PDAR	**Pinedale Array**	**90.21**	**44**	P	P	**10 01 46.1**	**+0.4**
	0.3nm,0.5s,baz=199,slow=3.4,SNR=4.6						
PDAR	**Pinedale Array**	**90.21**	**44**	P	P	**10 01 46.1**	**+0.4**
ARCES	**ARCESS Array B**	**129.46**	**349**	PKP	**PKPdf**	**10 07 47.3**	**-1.3**
	4.2nm,1.1s,baz=358,slow=3.6,SNR=4.1						
ARCES	**ARCESS Array B**	**129.46**	**349**	PKP	**PKPdf**	**10 07 47.3**	**-1.3**
FINES	**FINESS Array B**	**136.19**	**343**	PKP	**PKPdf**	**10 08 01.5**	**+0.1**
	3.1nm,0.8s,baz=153,slow=6.4,SNR=3.6						
FINES	**FINESS Array B**	**136.19**	**343**	PKP	**PKPdf**	**10 08 01.5**	**+0.1**
AKASG	**Malin Array Be**	**143.16**	**330**	PKhKP	PKPpre	10 08 11.4	
	3.6nm,0.4s,baz=44,slow=4.2,SNR=24						
AKASG	**Malin Array Be**	**143.16**	**330**	PKPpre	PKPpre	10 08 11.4	
BRTR	**Keskin Array B**	**146.57**	**311**	PKPbc	**PKPbc**	**10 08 22.8**	**-0.6**
	1.1nm,0.6s,baz=132,slow=4.1,SNR=6.1						
BRTR	**Keskin Array B**	**146.57**	**311**	PKPbc	**PKPbc**	**10 08 22.8**	**-0.6**
GERES	**GERESS Array B**	**150.62**	**343**	PKPbc	**PKPbc**	**10 08 32.5**	**-0.5**
	1.0nm,0.6s,baz=48,slow=2.0

OKC				*e*SG	**Sg**	**10 23 09.5**	**-1.1**
	comp=Z,89nm,0.6s							
OKC	**Ostrava-Krasne**	**2.10 140**		Pg	**Pb**	**10 22 41.7**	**-0.5**
OKC				Sg	**Sg**	**10 23 09.9**	**-0.7**
VRAC	**Vranov**	**2.19 171**		Pn	**Pn**	**10 22 40.7**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=346,slow=12,SNR=13							
VRAC				Lg	Lg	10 23 14.3		
	comp=Z,6.1nm,0.3s,baz=72,slow=20,SNR=11							
VRAC	**Vranov**	**2.19 171**	*e*Pn		**Pn**	**10 22 41.1**	**+0.2**
	baz=354							
VRAC				*e*Sg	**Sb**	**10 23 11.2**	**-0.2**
TREC	**Trest**	**2.21 190**	*e*SG		**Sg**	**10 23 13.9**	**-0.3**
	comp=Z,70nm,0.5s							
TREC	**Trest**	**2.21 190**	Sg		**Sg**	**10 23 13.9**	**-0.3**
	comp=Z,70nm,0.5s							
KRUC	**Moravsky**	**2.42 175**	*e*Pn		**Pn**	**10 22 44.3**	**+0.2**
	baz=357							
KRUC				*e*Sg	**Sb**	**10 23 19.3**	**+1.3**
	comp=Z,37nm,0.4s,baz=357							
TANN	**Tannenbergstha**	**2.52 247**	*e*Pn		**Pn**	**10 22 45.2**	**-0.4**
TANN			*e*Pg		**Pb**	**10 22 51.6**	**+2.2**
TANN			*e*Sg		**Sg**	**10 23 24.5**	**+0.3**
TANN	**Tannenbergstha**	**2.52 247**	Pn		**Pn**	**10 22 45.2**	**-0.4**
WERD	**Werda**	**2.59 248**	*e*Pn		**Pn**	**10 22 45.7**	**-0.9**
WERD			*e*Pg		**Pg**	**10 22 53.0**	**0.0**
WERD			*e*Sg		**Sg**	**10 23 26.6**	**0.0**
WERD	**Werda**	**2.59 248**	Pn		**Pn**	**10 22 45.7**	**-0.9**
NKC	**Novy Kostel**	**2.61 243**	*e*SG		**Sg**	**10 23 28.4**	**+1.2**
	comp=Z,233nm,0.9s							
NKC	**Novy Kostel**	**2.61 243**	*e*Pn		**Pn**	**10 22 46.1**	**-0.7**
	baz=60							
NKC	**Novy Kostel**	**2.61 243**	*e*Pg		**Pb**	**10 22 52.4**	**+1.4**
	baz=60							
NKC				*e*SG	**Sg**	**10 23 27.9**	**+0.7**
	baz=60							
OJC	**Ojcow**	**2.67 116**	*e*Pn		Pn	10 22 44.4	-3.1
OJC			*e*Pg		**Pb**	**10 22 52.8**	**+0.9**
OJC			*e*Sg		**Sg**	**10 23 27.9**	**-1.1**
OJC	**Ojcow**	**2.67 116**	*e*Pn		Pn	10 22 44.4	-3.1
KHC	**Kasperske Hory**	**2.83 215**	*e*PN		**Pn**	**10 22 49.3**	**-0.6**
KHC			*e*PG		**Pb**	**10 22 55.6**	**+0.8**
KHC			*e*SN		**Sn**	**10 23 24.0**	**-0.8**
KHC			*e*SG		**Sb**	**10 23 32.9**	**+2.8**
	comp=Z,63nm,0.7s							
KHC	**Kasperske Hory**	**2.83 215**	*e*Pn		**Pn**	**10 22 49.1**	**-0.8**
	baz=34							
KHC	**Kasperske Hory**	**2.83 215**	Pg		**Pb**	**10 22 55.0**	**+0.2**
KHC			Sn		**Sn**	**10 23 24.0**	**-0.8**
KHC			Sg		**Sb**	**10 23 33.1**	**+3.0**
	comp=Z,39nm,0.5s							
MOX	**Moxa**	**2.93 255**	*e*Pn		**Pn**	**10 22 50.4**	**-0.8**
MOX			*e*Pg		**Pb**	**10 22 58.8**	**+2.3**
MOX			*e*Sg		**Sg**	**10 23 38.1**	**+0.6**
MOX	**Moxa**	**2.93 255**	Pn		**Pn**	**10 22 50.4**	**-0.8**
ROTZ	**Rotzenmuhle**	**3.00 237**	*e*Pn		**Pn**	**10 22 51.8**	**-0.3**
ROTZ			*e*Sg		**Sg**	**10 23 39.5**	**0.0**
ROTZ	**Rotzenmuhle**	**3.00 237**	Pn		**Pn**	**10 22 51.8**	**-0.3**
ROTZ			Sg		**Sg**	**10 23 39.5**	**0.0**
GEC2	**GERESS Array S**	**3.04 211**	*e*Pn		**Pn**	**10 22 52.7**	**0.0**
GEC2			*e*Pg		**Pg**	**10 23 01.0**	**-0.5**
GEC2			*e*Sg		**Sg**	**10 23 40.1**	**-0.8**
GEC2	**GERESS Array S**	**3.04 211**	Pn		**Pn**	**10 22 52.7**	**0.0**
GEC2	**GERESS Array S**	**3.04 211**	Pg		**Pg**	**10 23 01.0**	**-0.5**
GEC2			Sg		**Sg**	**10 23 40.1**	**-0.8**
GERES	**GERESS Array B**	**3.04 211**	Pn		**Pn**	**10 22 53.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=34,slow=12,SNR=23							
GERES			Pg		**Pb**	**10 22 59.3**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=28,slow=16,SNR=33							
GERES			Lg		Lg	10 23 41.9		
	comp=Z,8.6nm,0.3s,baz=45,slow=25,SNR=14							
SMOL	**Smolenice**	**3.08 163**	*e*		**Pg**	**10 23 03.5**	**+1.1**
SMOL	**Smolenice**	**3.08 163**	*e*SG		**Sg**	**10 23 42.7**	**+0.4**
SMOL	**Smolenice**	**3.08 163**	*e*Sg		**Sg**	**10 23 42.7**	**+0.4**
WET	**Wettzell**	**3.10 223**	*e*Pn		**Pn**	**10 22 53.4**	**-0.1**
WET			*e*Sg		**Sg**	**10 23 42.1**	**-0.8**
WET	**Wettzell**	**3.10 223**	*e*Pn		**Pn**	**10 22 53.1**	**-0.4**
	baz=41							
WET			Sg		**Sg**	**10 23 42.1**	**-0.8**
KOLL	**Kolacno**	**3.26 152**	*e*		**Pg**	**10 23 05.1**	**-0.6**
KOLL	**Kolacno**	**3.26 152**	*e*SG		**Sg**	**10 23 48.0**	**+0.1**
KOLL	**Kolacno**	**3.26 152**	*e*Sg		**Sg**	**10 23 48.0**	**+0.1**
ZST	**Bratislava**	**3.34 168**	*e*SG		**Sg**	**10 23 49.6**	**-1.0**
ZST	**Bratislava**	**3.34 168**	*e*Sg		**Sg**	**10 23 49.6**	**-1.0**
NIE	**Niedzica**	**3.40 125**	*e*P		**Pg**	**10 23 07.0**	**-1.4**
NIE			*e*S		**Sg**	**10 23 51.3**	**-1.0**
VYHS	**Vyhne**	**3.47 148**	*e*PN		**Pn**	**10 22 57.6**	**-0.9**
VYHS			*e*			10 23 08.1		
VYHS	**Vyhne**	**3.47 148**	*e*Pn		**Pn**	**10 22 57.6**	**-0.9**
VYHS			*e*Sg		**Sg**	**10 23 54.8**	**+0.2**
CONA	**Conrad Observa**	**3.54 182**	⇓*i*Pn		**Pn**	**10 22 58.8**	**-0.9**
CONA			⇓*i*Sg		**Sg**	**10 23 56.0**	**-1.2**
	comp=Z,39nm,0.4s							
CONA	**Conrad Observa**	**3.54 182**	Pn		**Pn**	**10 22 58.8**	**-0.9**
CONA			Sg		**Sg**	**10 23 56.0**	**-1.2**
	comp=Z,39nm,0.4s							
GRA1	**Grafenberg Arr**	**3.57 242**	Pn		**Pn**	**10 22 59.8**	**-0.1**
GRA1	**Grafenberg Arr**	**3.57 242**	Pg		**Pg**	**10 23 11.7**	**0.0**
GRA1			Sg		**Sg**	**10 23 58.3**	**+0.4**
GRF	**Grafenberg Arr**	**3.57 242**	*e*Pn		**Pn**	**10 22 59.8**	**-0.1**
GRF			*e*Pg		**Pg**	**10 23 11.7**	**0.0**
GRF			*e*Sg		**Sg**	**10 23 58.3**	**+0.4**
CLZ	**Clausthal**	**3.57 278**	*e*Pn		**Pn**	**10 22 59.6**	**-0.5**
CLZ			*e*Pg		**Pb**	**10 23 09.3**	**+1.9**
CLZ			*e*Sg		**Sg**	**10 23 57.5**	**-0.6**
CLZ	**Clausthal**	**3.57 278**	Pn		**Pn**	**10 22 59.6**	**-0.5**
BSD	**Bornholm Skovb**	**3.72 350**	*i*P		Pn	10 22 58.5	-3.5
BSD			*i*			10 22 59.1		
BSD			*e*S		Sn	10 23 39.2	-7.3
BSD	**Bornholm Skovb**	**3.72 350**	*i*P		Pn	10 22 58.5	-3.5
MOA	**Molln**	**3.81 199**	⇑*i*Pn		**Pn**	**10 23 03.0**	**-0.2**
MOA			⇑*i*Sg		**Sg**	**10 24 04.8**	**-0.8**
	comp=Z,52nm,0.5s							
MOA	**Molln**	**3.81 199**	Pn		**Pn**	**10 23 03.0**	**-0.2**
MOA			Sg		**Sg**	**10 24 04.8**	**-0.8**
	comp=Z,52nm,0.5s							
STHS	**Stebnicka Huta**	**3.89 120**	*e*PN		**Pn**	**10 23 05.3**	**+1.0**
STHS			*e*			10 23 17.3		
STHS	**Stebnicka Huta**	**3.89 120**	*e*Pn		**Pn**	**10 23 05.3**	**+1.0**
STHS			*e*Sg		**Sg**	**10 24 09.2**	**+1.1**
KECS	**Kecovo**	**4.12 135**	*e*PN		**Pn**	**10 23 07.4**	**-0.1**
KECS			*e*			10 23 21.5		
KECS	**Kecovo**	**4.12 135**	*e*Pn		**Pn**	**10 23 07.4**	**-0.1**
KECS			*e*Sg		**Sg**	**10 24 14.4**	**-1.3**
CRVS	**Cervenica-Dubn**	**4.31 124**	*e*PN		**Pn**	**10 23 11.2**	**+1.2**
CRVS			*e*			10 23 25.2		
CRVS	**Cervenica-Dubn**	**4.31 124**	*e*Pn		**Pn**	**10 23 11.3**	**+1.2**
CRVS			*e*Sg		**Sg**	**10 24 21.6**	**0.0**
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pg		**Pb**	**10 23 27.5**	**+2.5**
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pg		**Pb**	**10 23 27.5**	**+2.5**
DAVOX	**Davos/Dischmat**	**6.21 223**	Pn		**Pn**	**10 23 37.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=103,slow=14,SNR=2.5							
DAVOX			Lg		Lg	10 25 23.1		
	comp=Z,1.2nm,0.3s,baz=326,slow=22,SNR=7.1							
AKASG	**Malin Array Be**	**8.31 90**	Pn		**Pn**	**10 24 03.1**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=281,slow=12,SNR=5.5							
HFS	**Hagfors**	**8.79 352**	Pn		Pn	10 24 06.9	-4.7
	comp=Z,0.1nm,0.3s,baz=182,slow=16,SNR=2.6							
FINES	**FINESS Array B**	**11.41 25**	Pn		Pn	10 24 43.3	-4.1
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=3.9							
FINES			Sn		Sn	10 26 41.8	-14	
	comp=Z,0.3nm,0.3s,baz=212,slow=18,SNR=5.0							
ARCES	**ARCESS Array B**	**18.67 10**	Pn		P	10 26 17.6	-4.9	
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=5.6							

*ISCJB **14** 10:36:49.9±0.8,5.0S±0.2×152.4E±0.2,h55km,mb4.1/14, Error ellipse: s-maj=34.1km s-min=8.1km az=38.3*
*IDC **14** 10:36:53.1±4.7,5.2S×152.59E,h79km±42km,mb3.7/10, mb1 3.9/11,mb1mx3.7/19,mbtmp3.7/11,ML2.7/1, Error ellipse: s-maj=48.9km s-min=24.5km az=133.0*
*NEIC **14** 10:36:54.8±2.0,5.20S×152.53E,h92km±17km,mb4.3/4, Error ellipse: s-maj=27.4km s-min=10.5km az=122.0*
ISC 14 10:36:50.8±1.2,5.1S±0.2×152.6E±0.2,h55km,n30, σ0s91/34,mb4.1/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.89 232**		P	**Pn**	**10 38 31.6**	**+2.2**
	1.0nm,0.3s,baz=32,slow=15,SNR=4.1						
PMG				S	**Sn**	**10 39 45.6**	**-0.9**
	1.9nm,0.3s,baz=349,slow=14,SNR=5.7						
PMG	**Port Moresby**	**6.89 232**		P	**Pn**	**10 38 31.6**	**+2.2**
PMG				S	**Sn**	**10 39 45.6**	**-0.9**
WRAB	**Tennant Creek**	**23.09 229**		*e*P	**P**	**10 41 51.1**	**-1.0**
	20nm,1.5s						
WB2	**Warramunga Arr**	**23.09 229**		*e*P	**P**	**10 41 51.5**	**-0.6**
WRA	**Warramunga Arr**	**23.10 229**		P	**P**	**10 41 52.1**	**-0.2**
	0.9nm,0.5s,baz=50,slow=9.9,SNR=5.4						
WRA	**Warramunga Arr**	**23.10 229**		P	**P**	**10 41 52.1**	**-0.2**
AS31	**Alice Springs**	**25.79 223**		*e*P	**P**	**10 42 18.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**29.35 242**		P	**P**	**10 42 47.7**	**-1.1**
	2.1nm,0.5s,baz=86,slow=6.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**29.35 242**		*e*P	**P**	**10 42 47.8**	**-1.1**
	1.8nm,0.5s						
FORT	**Forrest**	**34.43 219**		*e*P	**P**	**10 43 32.1**	**-1.1**
	9.8nm,1.0s						
MBWA	**Marble Bar**	**35.66 240**		*e*P	**P**	**10 43 43.3**	**-0.7**
	5.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.86 295**		P	**P**	**10 46 37.6**	**+0.2**
	0.6nm,0.3s,baz=123,slow=6.0,SNR=5.0						
CMAR	**Chiang Mai Arr**	**57.86 295**		P	**P**	**10 46 37.6**	**+0.2**
PETK	**Petropavlovsk-**	**58.17 4**		P	**P**	**10 46 39.2**	**+0.2**
	1.2nm,0.5s,baz=158,slow=7.2,SNR=5.3						
PETK	**Petropavlovsk-**	**58.17 4**		P	**P**	**10 46 39.2**	**+0.2**
SONM	**Songino Array**	**66.50 328**		P	**P**	**10 47 35.6**	**+0.6**
	0.3nm,0.5s,baz=147,slow=5.4,SNR=6.2						
SONM				PcP	**PcP**	**10 48 03.7**	**-0.4**
	0.3nm,0.8s,baz=145,slow=3.5,SNR=4.5						
SONM	**Songino Array**	**66.50 328**		P	**P**	**10 47 35.6**	**+0.6**
SONM				PcP	**PcP**	**10 48 03.7**	**-0.4**
TTA	**Tatalina**	**78.13 21**		*e*P	**P**	**10 48 45.1**	**+1.2**
	18nm,1.6s						
ZALV	**Zalesovo Beam**	**81.32 326**		P	**P**	**10 49 00.4**	**-0.9**
	0.9nm,0.5s,baz=110,slow=6.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**81.32 326**		P	**P**	**10 49 00.4**	**-0.9**
ILAR	**Eielson Array**	**82.52 22**		P	**P**	**10 49 06.8**	**-0.6**
	1.6nm,0.7s,baz=246,slow=5.6,SNR=29						
ILAR	**Eielson Array**	**82.52 22**		P	**P**	**10 49 06.8**	**-0.6**
INK	**Inuvik**	**88.82 21**		P	**P**	**10 49 38.8**	**+0.3**
	1.5nm,1.0s,baz=249,slow=8.0,SNR=4.1						
INK	**Inuvik**	**88.82 21**		P	**P**	**10 49 38.8**	**+0.3**
BVAR	**Borovoye Array**	**89.39 323**		P	**P**	**10 49 41.5**	**-0.1**
	0.5nm,0.4s,baz=98,slow=5.3,SNR=5.1						
BVAR	**Borovoye Array**	**89.39 323**		P	**P**	**10 49 41.5**	**-0.1**
YKA	**Yellowknife Ar**	**95.79 28**		P	**P**	**10 50 11.3**	**+0.5**
	0.2nm,0.5s,baz=88,slow=18,SNR=4.9						
YKA	**Yellowknife Ar**	**95.79 28**		P	**P**	**10 50 11.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**150.24 288**		PKPbc	**PKPbc**	**10 56 36.2**	**-0.7**
	0.5nm,0.4s,baz=91,slow=2.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**150.24 288**		PKPbc	**PKPbc**	**10 56 36.2**	**-0.7**

*ISCJB **14** 10:39:60.0±0.8,5.0S±0.1×152.4E±0.2,h55km,mb4.1/14, MS3.7/3,Error ellipse: s-maj=30.4km s-min=8.1km az=39.0*
*IDC **14** 10:40:01.9±4.5,5.20S×152.55E,h68km±40km,mb3.8/12, mb1 4.0/13,mb1mx3.9/19,mbtmp3.8/13,ML2.9/1,MS3.3/3, Ms1 3.3/3,ms1mx3.0/26,Error ellipse: s-maj=37.9km s-min=22.6km az=138.0*
*NEIC **14** 10:40:02.6±2.5,5.11S×152.53E,h71km±21km,mb4.1/1, Error ellipse: s-maj=27.3km s-min=14.9km az=127.0*
ISC 14 10:40:01.0±0.9,5.1S±0.2×152.6E±0.2,h55km,n41, σ0s92/41,mb4.2/14,MS3.4/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.86 231**		P	**Pn**	**10 41 40.2**	**+1.1**
	1.5nm,0.3s,baz=26,slow=7.5,SNR=4.5						
PMG				S	**Sn**	**10 42 55.3**	**-0.5**
	4.6nm,0.3s,baz=339,slow=20,SNR=5.9						
PMG	**Port Moresby**	**6.86 231**		P	**Pn**	**10 41 40.2**	**+1.1**
PMG				S	**Sn**	**10 42 55.3**	**-0.5**
PMG				*e*PcP	**PcP**	**10 48 27.4**	**0.0**
CTA	**Charters Tower**	**16.13 202**		LR	LR	10 49 06.4	
	comp=Z,71nm,18.7s,baz=234,slow=34						
WRAB	**Tennant Creek**	**23.06 229**		*e*P	**P**	**10 45 01.9**	**-0.1**
	6.5nm,0.9s						
WB2	**Warramunga Arr**	**23.06 229**		*e*S	**P**	**10 45 00.6**	**-1.5**
WRA	**Warramunga Arr**	**23.07 229**		P	**P**	**10 45 00.5**	**-1.6**
	1.2nm,0.4s,baz=50,slow=9.4,SNR=8.0						
WRA	**Warramunga Arr**	**23.07 229**		P	**P**	**10 45 00.5**	**-1.6**
AS31	**Alice Springs**	**25.77 222**		*e*P	**P**	**10 45 28.5**	**+1.6**
STKA	**Stephens Creek**	**28.57 200**		LR	LR	10 57 12.4	
	comp=Z,104nm,19.4s,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	**29.31 242**		P	**P**	**10 45 57.1**	**-1.5**
	3.5nm,0.5s,baz=60,slow=9.0,SNR=14						
FITZ				LR	LR	10 57 25.3	
	comp=Z,43nm,19.7s,baz=68,slow=36						
FITZ	**Fitzroy Crossi**	**29.31 242**		*e*P	**P**	**10 45 57.8**	**-0.8**
CBIJ	**Chichi jima**	**33.52 343**		LR	LR	10 58 06.8	
	comp=Z,1μm,18.2s,baz=49,slow=32						
CMAR	**Chiang Mai Arr**	**57.77 295**		P	**P**	**10 49 48.1**	**+1.1**
	2.0nm,0.8s,baz=117,slow=5.0,SNR=7.8						
CMAR	**Chiang Mai Arr**	**57.77 295**		P	**P**	**10 49 48.1**	**+1.1**
PETK	**Petropavlovsk-**	**58.13 4**		P	**P**	**10 49 48.9**	**0.0**
	1.0nm,0.4s,baz=161,slow=7.9,SNR=7.1						
PETK	**Petropavlovsk-**	**58.13 4**		P	**P**	**10 49 48.9**	**0.0**
SONM	**Songino Array**	**66.43 328**		P	**P**	**10 50 44.9**	**+0.3**
	0.3nm,0.4s,baz=144,slow=5.2,SNR=6.7						
SONM	**Songino Array**	**66.43 328**		P	**P**	**10 50 44.9**	**+0.3**
MKAR	**Makanchi Array**	**80.37 319**		P	**P**	**10 52 05.8**	**-0.8**
	0.3nm,0.4s,baz=90,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**80.37 319**		P	**P**	**10 52 05.8**	**-0.8**
ZALV	**Zalesovo Beam**	**81.25 326**		P	**P**	**10 52 10.3**	**-0.7**
	1.5nm,0.5s,baz=104,slow=5.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**81.25 326**		P	**P**	**10 52 10.3**	**-0.7**
ILAR	**Eielson Array**	**82.51 22**		P	**P**	**10 52 16.4**	**-1.1**
	3.5nm,0.3s,baz=244,slow=5.6,SNR=47						
ILAR	**Eielson Array**	**82.51 22**		P	**P**	**10 52 16.4**	**-1.1**
KURK	**Kurchatov**	**83.83 322**		P	**P**	**10 52 24.6**	**0.0**
	1.0nm,0.4s,baz=111,slow=4.1,SNR=5.9						
KURK	**Kurchatov**	**83.83 322**		P	**P**	**10 52 24.6**	**0.0**
AAK	**Ala-Archa**	**84.68 314**		*e*P	**P**	**10 52 30.2**	**+0.9**
	10nm,0.8s						
INK	**Inuvik**	**88.81 21**		P	**P**	**10 52 48.5**	**-0.1**
	baz=256,slow=6.7						
INK	**Inuvik**	**88.81 21**		P	**P**	**10 52 48.5**	**-0.1**
BVAR	**Borovoye Array**	**89.31 323**		P	**P**	**10 52 50.2**	**-1.2**
	0.7nm,0.5s,baz=99,slow=6.0,SNR=6.5						
BVAR	**Borovoye Array**	**89.31 323**		P	**P**	**10 52 50.2**	**-1.2**
NVAR	**Mina Array Bea**	**92.45 52**		P	**P**	**10 53 07.1**	**+0.5**
	0.3nm,0.7s,baz=258,slow=4.5,SNR=3.6						
NVAR	**Mina Array Bea**	**92.45 52**		P	**P**	**10 53 07.1**	**+0.5**
YKA	**Yellowknife Ar**	**95.79 28**		P	**P**	**10 53 21.4**	**+0.4**
	0.4nm,0.7s,baz=272,slow=4.7,SNR=6.7						
YKA	**Yellowknife Ar**	**95.79 28**		P	**P**	**10 53 21.4**	**+0.4**
GERES	**GERESS Array B**	**124.16 328**		PKP	**PKPdf**	**10 58 54.1**	**+0.3**
	0.8nm,0.7s,baz=27,slow=1.5,SNR=5.2						
GERES	**GERESS Array B**	**124.16 328**		PKP	**PKPdf**	**10 58 54.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**150.16 288**		PKPbc	**PKPbc**	**10 59 45.4**	**-1.4**
	1.7nm,0.8s,baz=71,slow=2.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**150.16 288**		PKPbc	**PKPbc**	**10 59 45.4**	**-1.4**
DBIC	**Dimbokro**	**157.47 275**		PKPab	**PKPab**	**11 00 23.8**	**-0.3**
	2.1nm,0.7s,baz=136,slow=2.6,SNR=5.9						
DBIC	**Dimbokro**	**157.47 275**		PKPab	**PKPab**	**11 00 23.8**	**-0.3**

MEX 14 10:54:08.8±0.4,16.00N×97.03W,h26km±25km,MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.92 104**		*e*P	Pn	10 54 23.1	-2.9
HUIG				*i* S	Sb	10 54 34.7	-3.2
VHO	**Vista Hermosa**	**1.11 15**		*e*P	Pn	10 54 26.0	-2.9
VHO				*i* S	Sn	10 54 39.8	-3.8
PNIG	**Pinotepa**	**1.13 291**		*e*P	Pn	10 54 26.2	-2.7
PNIG				*i* S	Sn	10 54 40.4	-3.2
UTMO	**Huajuapan**	**1.97 338**		*i* P	Pn	10 54 39.1	-1.7
UTMO				*i* S	Sn	10 55 02.4	-2.4
CMIG	**Matias Romero**	**2.33 62**		*i* P	Pn	10 54 43.6	-1.8
CMIG				*i* S	Sn	10 55 09.7	-3.6

IDC 14 10:58:57.1±1.6,46.74N×155.18E,h0km,mb3.5/10, mb1 3.8/13,mb1mx3.7/26,mbtmp3.6/13,ML3.2/3, MS3.0/2,Ms1 3.0/2,ms1mx2.6/39,Error ellipse: s-maj=46.0km s-min=16.7km az=174.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.58 13**		Pn	Pn	11 00 33.2	-1.8
	0.6nm,0.3s,baz=204,slow=16,SNR=7.1						
PETK				LR	LR	11 03 19.7	
	comp=Z,68nm,18.3s,baz=179,slow=40						
ASAJ	**Asahikawa**	**9.23 258**		Pn	Pn	11 01 10.4	-1.1
	0.4nm,0.3s,baz=119,slow=16,SNR=4.4						
USRK	**Ussuriysk Arra**	**16.45 270**		Pn	Pn	11 02 47.8	-1.3
	0.2nm,0.3s,baz=74,slow=15,SNR=4.6						
SONM	**Songino Array**	**32.68 290**		P	P	11 05 32.5	+1.5
	0.1nm,0.4s,baz=52,slow=5.7,SNR=2.8						
SONM				LR	LR	11 19 28.5	
	comp=Z,49nm,18.4s,baz=138,slow=38						
ILAR	**Eielson Array**	**35.67 39**		P	P	11 05 56.4	-0.2
	0.3nm,0.6s,baz=254,slow=8.5,SNR=7.0						
ZALV	**Zalesovo Beam**	**43.77 306**		P	P	11 07 03.0	-1.1
	0.3nm,0.4s,baz=67,slow=5.2,SNR=3.1						
MKAR	**Makanchi Array**	**48.20 298**		P	P	11 07 38.8	-0.4
	0.3nm,0.5s,baz=60,slow=7.2,SNR=3.9						
YKA	**Yellowknife Ar**	**50.08 37**		P	P	11 07 53.7	+0.5
	0.1nm,0.6s,baz=299,slow=7.5,SNR=2.7						
BVAR	**Borovoye Array**	**51.96 310**		P	P	11 08 07.4	-0.1
	0.6nm,0.6s,baz=51,slow=10,SNR=4.6						
NVAR	**Mina Array Bea**	**61.17 63**		P	P	11 09 13.6	-0.1
	0.5nm,0.6s,baz=290,slow=7.9,SNR=4.5						
PDAR	**Pinedale Array**	**63.59 55**		P	P	11 09 30.2	+0.4
	0.1nm,0.3s,baz=92,slow=2.1,SNR=4.0						
FINES	**FINESS Array B**	**64.65 336**		P	P	11 09 36.6	+0.5
	1.6nm,0.4s,baz=29,slow=6.8,SNR=8.4						
TXAR	**Lajitas Array**	**76.25 62**		P	P	11 10 47.2	-0.5
	0.5nm,0.5s,baz=300,slow=4.7,SNR=17						

*IDC **14** 11:09:12.1±0.6,7.75S×118.63E,h0km,mb4.4/16, mb1 4.4/19,mb1mx4.4/24,mbtmp4.4/19,ML4.3/3,MS3.8/6, Ms1 3.8/6,ms1mx3.3/32,Error ellipse: s-maj=23.6km s-min=13.9km az=73.0*
*ISCJB **14** 11:09:15.6±0.2,7.80S±0.03×118.70E±0.04,h34km, mb4.8/65,MS3.9/11,Error ellipse: s-maj=5.6km s-min=4.6km az=157.7*
*MOS **14** 11:09:15.4±1.0,7.60S×118.84E,h33km,mb5.1/21,Error ellipse: s-maj=18.1km s-min=7.2km az=113.7*
*DJA **14** 11:09:18,7.87S×118.69E,h30km,MLv5.0/22*
*NEIC **14** 11:09:18.1±0.2,7.75S×118.69E,mb5.0/15,Error ellipse: s-maj=9.7km s-min=4.4km az=58.0*
ISC 14 11:09:17.4±0.3,7.82S±0.03×118.80E±0.04,h34km, h34km:pP-P,n199,σ1s80/237,mb4.8/65,MS3.8/11,5C-2D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.36 141**		P	Pb	11 10 02.8	+3.6
MTNI	**Mataram**	**2.73 253**		P	**Pn**	**11 09 56.0**	**-2.8**
MTNI	**Mataram**	**2.73 253**		P	**Pn**	**11 09 56.2**	**-2.6**
	1μm,0.9s,25μm6.8nm						
BKSI	**Bulukumba**	**2.81 28**		P	**Pn**	**11 10 00.8**	**+0.8**
	1μm,0.7s,26μm10nm						
KAPI	**Kappang**	**2.95 19**		Pn	**Pn**	**11 10 01.0**	**-0.8**
	63nm,0.3s,baz=198,slow=7.1,SNR=149						
KAPI				Sn	**Sn**	**11 10 32.7**	**-3.3**
	136nm,0.3s,baz=182,slow=9.6,SNR=6.0						
KAPI	**Kappang**	**2.95 19**		*e*Pn	**Pn**	**11 10 01.3**	**-0.5**
KAPI				Sn	**Sn**	**11 10 32.7**	**-3.3**
KAPI	**Kappang**	**2.95 19**		P	**Pn**	**11 10 01.6**	**-0.2**
	878nm,0.6s,18μm7.1nm						

QIZ pmax pmax
comp=Z,230nm,5.5s
CTA Charters Tower 29.24 117 LR LR 11 29 20.8
comp=Z,166nm,18.2s,baz=62,slow=41
STKA Stephens Creek 31.98 142 P **P** **11 15 41.8 +1.3**
comp=Z,4.2nm,0.7s,baz=310,slow=8.6,SNR=12
STKA PcP **PcP** **11 18 29.3 -0.9**
comp=Z,5.1nm,0.9s,baz=297,slow=4.7,SNR=4.5
STKA LR LR 11 31 24.8
comp=Z,170nm,18.6s,baz=185,slow=42
STKA Stephens Creek 31.98 142 *e*P **P** **11 15 43.4 +2.9**
comp=Z,2.8nm,0.4s
STKA Stephens Creek 31.98 142 P **P** **11 15 41.8 +1.3**
STKA *e* 11 18 30.8
STKA Stephens Creek 31.98 142 P **P** **11 15 41.8 +1.3**
STKA PcP **PcP** **11 18 29.3 -0.9**
STKA *e*PcP PcP 11 18 30.8 +0.7
CMAR Chiang Mai Arr 32.65 323 P **P** **11 15 46.3 -0.1**
comp=Z,1.8nm,0.7s,baz=145,slow=7.0,SNR=12
CMAR LR LR 11 30 33.7
comp=Z,143nm,19.8s,baz=180,slow=40
CMAR Chiang Mai Arr 32.65 323 P **P** **11 15 46.3 -0.1**
CMAR Chiang Mai Arr 32.65 323 P **P** **11 15 46.3 -0.1**
CHTO Chiang Mai 32.92 324 *e*P **P** **11 15 48.0 -0.9**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 32.92 324 *e*P **P** **11 15 48.0 -0.9**
comp=Z,9.6nm,1.2s
CHTO Chiang Mai 32.92 324 P **P** **11 15 50.4 +1.5**
comp=Z,14nm,2.1s
GYA Guiyang 36.06 341 P **P** **11 16 18.3 +2.3**
GYA pP **pP** **11 16 27.8 +1.9**
GYA PP PP 11 17 42.0 +3.5
GYA S **S** **11 21 55.4 +2.2**
GYA sS **sS** **11 22 12.3 +2.8**
GYA SS SS 11 24 19.8 -12
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,590nm,17.8s
GYA LR LR
comp=E,510nm,18.7s
GYA LR LR
comp=Z,570nm,17.6s
KMI Kunming 36.29 335 P **P** **11 16 21.3 +3.1**
KMI S **S** **11 21 59.6 +2.6**
KMI pmax pmax
comp=Z,5.0nm,1.1s
KMI pmax pmax
comp=Z,110nm,5.6s
KMI LR LR
comp=Z,87nm,18.7s
ARMA Armidale 38.06 131 *e*P P 11 16 37.6 +4.5
NJ2 Nanjing 39.65 0 *e*P **P** **11 16 47.9 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 41.12 340 P **P** **11 17 01.1 +2.7**
CD2 pP **pP** **11 17 11.3 +2.9**
CD2 sP **sP** **11 17 15.3 +2.8**
CD2 S **S** **11 23 12.3 +2.9**
CD2 sS **sS** **11 23 29.3 +3.4**
CD2 SS SS 11 26 11.4 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,8.9s
CD2 LR LR
comp=N,340nm,5.9s
CD2 LR LR
comp=Z,290nm,8.9s
SHL Shillong 42.27 323 *e*P **P** **11 17 07.5 -0.6**
LSA Lhasa 45.82 326 P **P** **11 17 36.8 0.0**
LSA Lhasa 45.82 326 *e*P **P** **11 17 36.7 0.0**
LSA pmax pmax
comp=Z,40nm,1.3s
LSA Lhasa 45.82 326 *e*P **P** **11 17 36.7 0.0**
comp=Z,40nm,1.3s
KSAR Wonju Array Be 45.82 10 P **P** **11 17 36.5 +0.4**
KSAR Wonju Array Be 45.82 10 P **P** **11 17 36.5 +0.4**
KSRS Korea Array 45.84 10 P **P** **11 17 36.5 +0.2**
comp=Z,5.9nm,1.0s,baz=182,slow=8.4,SNR=9.3
LZH Lanzhou 45.89 343 *e*P **P** **11 17 37.0 +0.1**
LZH pP **pP** **11 17 48.1 +1.1**
LZH sP **sP** **11 17 52.0 +1.0**
LZH pmax pmax
comp=Z,20nm,1.2s
ODAN Odare 46.00 320 *e*P **P** **11 17 37.6 -0.4**
comp=Z,64nm,1.1s
ODAN Odare 46.00 320 *e*P **P** **11 17 37.6 -0.4**
comp=Z,64nm,1.1s
TAPN Taplejung 46.14 320 *e*P **P** **11 17 39.1 -0.1**
comp=Z,78nm,1.0s
TAPN Taplejung 46.14 320 *e*P **P** **11 17 39.1 -0.1**
comp=Z,78nm,1.0s
RAMN Ramite 46.57 319 *e*P **P** **11 17 42.4 -0.1**
comp=Z,41nm,1.0s
RAMN Ramite 46.57 319 *e*P **P** **11 17 42.4 -0.1**
comp=Z,41nm,1.0s
HYB Hyderabad 47.02 303 *i* P **P** **11 17 46.0 +0.1**
JIRN Jiri 47.32 319 *e*P **P** **11 17 48.2 -0.3**
comp=Z,35nm,0.8s
JIRN Jiri 47.32 319 *e*P **P** **11 17 48.2 -0.3**
comp=Z,35nm,0.8s
GUN Gumba 47.70 319 *e*P **P** **11 17 50.9 -0.5**
comp=Z,59nm,1.0s
GUN Gumba 47.70 319 *e*P **P** **11 17 50.9 -0.5**
comp=Z,59nm,1.0s
MJAR Matsushiro Arr 47.75 21 P **P** **11 17 49.3 -1.9**
comp=Z,2.5nm,0.9s,baz=187,slow=4.7,SNR=3.9
MJAR Matsushiro Arr 47.75 21 P **P** **11 17 49.3 -1.9**
MJAR Matsushiro Arr 47.75 21 P **P** **11 17 49.3 -1.9**
PKI Pulchoki 47.77 319 *e*P **P** **11 17 51.1 -0.9**
comp=Z,20nm,0.9s
PKI Pulchoki 47.77 319 *e*P **P** **11 17 51.1 -0.9**
PKI pmax pmax
comp=Z,21nm,0.9s
PKI Pulchoki 47.77 319 *e*P **P** **11 17 51.1 -0.9**
comp=Z,20nm,0.9s
DMN Daman 47.99 319 *e*P **P** **11 17 52.7 -0.9**
comp=Z,22nm,0.8s
DMN Daman 47.99 319 *e*P **P** **11 17 52.7 -0.9**
comp=Z,22nm,0.8s
KKN Kakani 48.00 319 *e*P **P** **11 17 52.9 -0.7**
comp=Z,20nm,0.9s
KKN Kakani 48.00 319 *e*P **P** **11 17 52.9 -0.7**
KKN pmax pmax
comp=Z,20nm,0.9s
KKN Kakani 48.00 319 *e*P **P** **11 17 52.9 -0.7**
comp=Z,20nm,0.9s
GKN Gorkha 48.56 319 *e*P **P** **11 17 57.1 -0.8**
GKN Gorkha 48.56 319 *e*P **P** **11 17 57.1 -0.8**
HHC Hu-ho-hao-te 48.89 353 *e*P **P** **11 18 02.3 +2.2**
HHC pP **pP** **11 18 12.1 +1.9**
HHC sP **sP** **11 18 16.3 +2.0**
HHC PP PP 11 19 56.6 +2.9
HHC S **S** **11 25 03.4 +1.8**
HHC ScS **ScS** **11 27 48.8 -1.2**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,82nm,5.2s
HHC LR LR
comp=N,210nm,14.2s
HHC LR LR
comp=E,230nm,14.0s
HHC LR LR
comp=Z,180nm,13.8s
KOLN Koldanda 49.10 317 *e*P **P** **11 18 01.2 -0.8**
comp=Z,20nm,0.8s
KOLN Koldanda 49.10 317 *e*P **P** **11 18 01.2 -0.8**
comp=Z,20nm,0.8s
DANN Dangsing 49.37 318 *e*P **P** **11 18 03.3 -0.9**
comp=Z,39nm,0.8s
DANN Dangsing 49.37 318 *e*P **P** **11 18 03.3 -0.9**
comp=Z,39nm,0.8s
GTA Gaotai 50.18 341 *e*P **P** **11 18 10.6 +0.6**
GTA pP **pP** **11 18 20.4 +0.2**
GTA sP **sP** **11 18 24.4 +0.1**
GTA S **S** **11 25 19.9 0.0**
GTA sS **sS** **11 25 37.3 +0.6**
GTA SS SS 11 28 51.5 -2.3
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,66nm,5.7s
GTA LR LR
comp=N,84nm,16.6s
GTA LR LR
comp=E,89nm,15.9s
GTA LR LR
comp=Z,130nm,17.8s
CN2 Changchun 51.73 6 *e*P **P** **11 18 22.6 +1.2**
CN2 *es*P **sP** **11 18 36.5 +0.8**
CN2 PP PP 11 20 21.1 +1.7
CN2 *e*S **S** **11 25 41.1 +0.2**
CN2 SS SS 11 29 15.8 -2.1
VLA Vladivostok 52.08 12 ⇑*i*P **P** **11 18 21.6 -2.4**
VLA *e* 11 20 20.0
VLA S **S** **11 25 43.3 -2.3**
VLA pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 53.10 10 P **P** **11 18 33.9 +2.4**
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,140nm,4.4s
USRK Ussuriysk Arra 53.14 12 P **P** **11 18 29.7 -2.1**
comp=Z,4.3nm,0.9s,baz=178,slow=5.7,SNR=4.6
ULN Ulaanbaatar 56.41 351 *e*P **P** **11 18 55.6 -0.1**
ULN pmax pmax
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 56.41 351 *e*P **P** **11 18 55.6 -0.1**
comp=Z,9.5nm,1.1s
SONM Songino Array 56.49 350 P **P** **11 18 55.8 -0.4**
comp=Z,6.8nm,0.9s,baz=167,slow=5.2,SNR=32
SONM Songino Array 56.49 350 P **P** **11 18 55.8 -0.4**
SONM Songino Array 56.49 350 P **P** **11 18 55.8 -0.4**
HABR Khabarovsk 57.85 13 *e*P **P** **11 19 02.7 -2.9**
HABR *e**SP **sP** **11 19 16.5 -3.5**
HABR *e* 11 19 54.9
HABR 11 21 11.4
HABR PPP PPP 11 22 28.5
HABR *e*S **S** **11 26 59.7 -3.2**
HABR *e**SS **sS** **11 27 16.5 -3.4**
HABR *e* 11 28 49.1
HABR *e*SS **SS** **11 30 51.7 -2.6**
HABR pmax pmax
comp=E,62nm,1.7s
HABR pmax pmax
comp=Z,33nm,1.3s
HABR pmax pmax
comp=N,36nm,2.4s
HABR MLR MLR
comp=Z,57nm,18.0s
WMQ Urumqi 58.62 334 *e*P **P** **11 19 12.8 +1.6**
WMQ pP **pP** **11 19 22.8 +1.2**
WMQ sP **sP** **11 19 26.8 +1.2**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=N,63nm,16.0s
WMQ LR LR
comp=Z,71nm,16.8s
ZAK Zakamensk 59.52 349 *e*P **P** **11 19 16.1 -1.2**
ZAK *e* 11 20 04.1
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 60.69 349 *e*P **P** **11 19 24.4 -0.8**
TLY *e* 11 19 33.2
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,43nm,17.0s
MOY Mondy 61.20 347 *e*P **P** **11 19 29.3 +0.5**
KSH Kashi 61.55 323 P **P** **11 19 30.5 -1.0**
KSH *ep*P **pP** **11 19 40.6 -1.3**
KSH *es*P **sP** **11 19 44.6 -1.3**
KSH *e*PcP **PcP** **11 20 13.4 +0.4**
KSH *e*PP **PP** **11 21 47.3 -0.1**
KSH *e*ScP **ScP** **11 24 10.8 -1.6**
KSH *e*PcS **PcS** **11 24 14.6 -1.5**
KSH *e*S S 11 27 43.9 -7.3
KSH *e*ScS **SKKSac** **11 29 15.3 -5.4**
KSH *e*SS **SS** **11 31 46.1 -6.9**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH pmax pmax
comp=Z,52nm,3.8s
KSH LR LR
comp=N,210nm,5.7s
KSH LR LR
comp=E,160nm,5.4s
KSH LR LR
comp=Z,160nm,5.2s
KBL Kabul 63.12 315 *e*P **P** **11 19 40.6 -1.6**
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 63.12 315 *e*P **P** **11 19 40.6 -1.6**
comp=Z,22nm,1.1s
MK31 Makanchi Array 63.33 333 *e*P **P** **11 19 42.6 -0.5**
MK31 *e**PP **pP** **11 19 53.3 -0.3**
MK31 Makanchi Array 63.33 333 *e*P **P** **11 19 42.6 -0.5**
MK31 *ep*P **pP** **11 19 53.2 -0.3**
MKAR Makanchi Array 63.33 333 P **P** **11 19 42.8 -0.3**
comp=Z,4.1nm,0.7s,baz=150,slow=7.4,SNR=41
MKAR Makanchi Array 63.33 333 P **P** **11 19 42.8 -0.3**
MKAR Makanchi Array 63.33 333 P **P** **11 19 42.8 -0.3**
TKM2 Tokmak 2 63.97 326 P **P** **11 19 47.2 -0.5**
SNR=7.6
TKM2 P **P** **11 19 47.2 -0.5**
SNR=7.6
TKM2 Tokmak 2 63.97 326 *e*P **P** **11 19 47.1 -0.6**
TKM2 pmax pmax
comp=Z,12nm,1.1s
TKM2 Tokmak 2 63.97 326 *e*P **P** **11 19 47.1 -0.6**
comp=Z,12nm,1.1s
KBK Karagaybulak 64.16 325 P **P** **11 19 48.5 -0.4**
SNR=15
KBK P **P** **11 19 48.5 -0.4**
SNR=15
AAK Ala-Archa 64.41 325 P **P** **11 19 50.3 -0.2**
SNR=14
AAK P **P** **11 19 50.3 -0.2**
SNR=14
AAK Ala-Archa 64.41 325 *i* P **P** **11 19 50.2 -0.2**
AAK pmax pmax
comp=Z,36nm,0.9s
AAK Ala-Archa 64.41 325 *e*P **P** **11 19 50.2 -0.2**
comp=Z,65nm,1.0s
AML Almayashu 64.55 324 P **P** **11 19 51.4 -0.3**
SNR=26
AML P **P** **11 19 51.4 -0.3**
SNR=26
USP Ospenovka 64.81 326 P **P** **11 19 52.2 -0.7**
SNR=11
USP P **P** **11 19 52.2 -0.7**
SNR=11
EKS2 Erkin-Say 64.83 325 P **P** **11 19 53.1 -0.1**
SNR=17
EKS2 P **P** **11 19 53.1 -0.1**
SNR=17
EKS2 Erkin-Say 64.83 325 *e*P **P** **11 19 52.5 -0.7**
EKS2 *e**PP **pP** **11 20 04.3 +0.6**
EKS2 pmax pmax
comp=Z,17nm,1.0s
EKS2 Erkin-Say 64.83 325 *e*P **P** **11 19 52.5 -0.7**
comp=Z,17nm,1.0s
EKS2 *ep*P **pP** **11 20 04.3 +0.6**
BOD Bodaibo 65.53 357 *e*P P 11 19 54.0 -3.2
BOD pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 67.00 324 *e*P **P** **11 20 05.8 -1.2**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 67.00 324 *e*P **P** **11 20 05.8 -1.2**
comp=Z,4.6nm,0.9s
KURK Kurchatov 67.86 334 P **P** **11 20 11.4 -0.8**
comp=Z,9.2nm,0.9s,baz=153,slow=5.3,SNR=38
KURK Kurchatov 67.86 334 ⇑*i*P **P** **11 20 10.8 -1.4**
KURK pmax pmax
comp=Z,37nm,1.4s
KURK Kurchatov 67.86 334 *e*P **P** **11 20 11.5 -0.8**
comp=Z,27nm,1.1s
ZAA0 Zalesovo Array 67.88 339 *e*P **P** **11 20 11.2 -1.1**
ZAA0 *ep*P **pP** **11 20 22.9 +0.1**
ZALV Zalesovo Beam 67.88 339 P **P** **11 20 11.3 -0.9**
comp=Z,3.4nm,0.5s,baz=142,slow=4.6,SNR=27
ZALV Zalesovo Beam 67.88 339 P **P** **11 20 11.3 -0.9**
ZALV Zalesovo Beam 67.88 339 P **P** **11 20 11.3 -0.9**
PETK Petropavlovsk- 69.08 24 P **P** **11 20 18.6 -1.2**
comp=Z,1.6nm,0.6s,baz=215,slow=7.0,SNR=3.7
PETK Petropavlovsk- 69.08 24 P **P** **11 20 18.6 -1.2**
PETK Petropavlovsk- 69.08 24 P **P** **11 20 18.6 -1.2**
NVS Novosibirsk 69.15 339 ‖*i*P **P** **11 20 18.3 -1.9**
NVS pmax pmax
comp=Z,26nm,1.4s
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.4s
YAK Yakutsk 70.16 5 *e*P **P** **11 20 24.2 -2.0**
YAK pmax pmax
comp=Z,17nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.1s
OPO Ambohidratompo 70.17 253 P **P** **11 20 26.0 -1.4**
comp=N,0.6nm,0.3s,baz=92,slow=2.1,SNR=4.1
OPO Ambohidratompo 70.17 253 P **P** **11 20 26.0 -1.4**
BVAR Borovoye Array 73.17 332 P **P** **11 20 43.8 -0.8**
comp=N,10nm,0.8s,baz=140,slow=7.8,SNR=46
BVAR Borovoye Array 73.17 332 P **P** **11 20 43.8 -0.8**
BVAR Borovoye Array 73.17 332 P **P** **11 20 43.8 -0.8**
VNDA Vanda 73.17 171 *e*P **P** **11 20 46.8 +2.6**
VNDA pmax pmax
comp=Z,62nm,2.8s
VNDA Vanda 73.17 171 *e*P **P** **11 20 46.8 +2.6**
comp=Z,62nm,2.8s
BRVK Borovoye 73.24 332 ⇑*i*P **P** **11 20 43.4 -1.6**
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 73.24 332 *e*P **P** **11 20 44.1 -0.9**
comp=Z,25nm,1.2s
ABKAR Akbulak array 76.49 325 *e*P **P** **11 21 02.9 -1.0**
comp=Z,12nm,1.0s
ABKAR *e* 11 21 14.3
AKTO Aktyubinsk 78.15 325 P **P** **11 21 11.4 -1.8**
comp=Z,4.8nm,1.1s,baz=110,slow=5.9,SNR=9.4
AKTO Aktyubinsk 78.15 325 P **P** **11 21 11.4 -1.8**
AKTO Aktyubinsk 78.15 325 P **P** **11 21 11.4 -1.8**
SYO Syowa Base 78.87 201 ‖*e*P **P** **11 21 16.8 0.0**
SYO Syowa Base 78.87 201 ‖*e*X 11 21 23.2
ARU Arti 80.75 331 *c i*P **P** **11 21 25.1 -2.0**
ARU 11 24 28.1
ARU S **S** **11 31 30.6 -1.9**
ARU pmax pmax
comp=Z,16nm,1.7s
QSPA South Pole Qui 82.16 180 *e*P **P** **11 21 36.0 +1.3**
comp=Z,14nm,1.3s
QSPA *ep*P **pP** **11 21 48.0 +2.5**
BILL Bilibino 82.73 16 *e*P **P** **11 21 37.6 +0.3**
BILL pmax pmax
comp=Z,3.0nm,1.5s
ZEI Tsey 84.34 314 *e*P **P** **11 21 44.9 -1.6**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
BOSA Boshof 89.39 241 P **P** **11 22 10.2 -1.2**
comp=Z,1.1nm,0.4s,baz=89,slow=3.3,SNR=4.0
BOSA LR LR 11 55 59.5
comp=Z,61nm,18.4s,baz=156,slow=31
BOSA Boshof 89.39 241 P **P** **11 22 10.2 -1.2**
BOSA Boshof 89.39 241 P **P** **11 22 10.2 -1.2**
BRTR Keskin Array B 91.24 310 P **P** **11 22 17.4 -2.3**
comp=Z,0.8nm,0.8s,baz=129,slow=3.9,SNR=3.6
BRTR Keskin Array B 91.24 310 P **P** **11 22 17.4 -2.3**
BRTR Keskin Array B 91.24 310 P **P** **11 22 17.4 -2.3**
OBN Obninsk 91.93 325 *e*P **P** **11 22 22.8 +0.5**
OBN *e* 11 26 00.7
OBN *e*SS SS 11 39 29.1 -1.3
OBN pmax pmax
comp=Z,6.0nm,1.4s
PLCA Paso Flores 130.92 171 PKP **PKPdf** **11 28 26.7 +0.8**
comp=Z,2.2nm,0.9s,baz=254,slow=3.4,SNR=3.1
PLCA Paso Flores 130.92 171 PKIKP **PKPdf** **11 28 26.7 +0.8**
PLCA Paso Flores 130.92 171 PKP **PKPdf** **11 28 26.7 +0.8**
TXAR Lajitas Array 134.76 56 PKP **PKPdf** **11 28 34.9 +1.5**
comp=Z,0.4nm,1.0s,baz=221,slow=2.0,SNR=3.4
TXAR Lajitas Array 134.76 56 PKIKP **PKPdf** **11 28 34.9 +1.5**
TXAR Lajitas Array 134.76 56 PKP **PKPdf** **11 28 34.9 +1.5**
LVC Limon Verde 148.82 166 *e*PKPbc **PKPab** **11 29 05.0 -1.4**
LPAZ La Paz 155.08 164 PKPbc PKPbc 11 29 18.8
comp=Z,2.1nm,0.9s,baz=132,slow=6.7,SNR=5.3
LPAZ PKPab **PKPab** **11 29 37.0 +4.0**
comp=Z,1.3nm,0.6s,baz=107,slow=4.8,SNR=3.5
LPAZ La Paz 155.08 164 PKIKP PKPbc 11 29 18.8
LPAZ La Paz 155.08 164 PKPbc PKPbc 11 29 18.8
LPAZ PKPab **PKPab** **11 29 37.0 +4.0**

NEIC ***14*** *11:10:18.8, 16.°80N×94.°80W, h114km, MD3.8(MEX), After MEX.*

MEX 14 11:10:18.7±0.8, 16.°82N×94.°79W, h115km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.29**	**341**	*i* P		Pn	11 10 33.4	-1.6
CMIG				*i* S		Sn	11 10 45.2	-2.1
CMIG	**Matias Romero**	**0.29**	**341**	*i* P		Pn	11 10 33.4	-1.6
CMIG				*i* S		Sn	11 10 45.2	-2.1
HUIG	**Huatulco**	**1.64**	**231**	*i* P		Pn	11 10 44.8	-2.7
HUIG				*i* S		Sn	11 11 07.7	-1.7
HUIG	**Huatulco**	**1.64**	**231**	*e*P		Pn	11 10 44.9	-2.6
HUIG				*i* S		Sn	11 11 07.7	-1.7
PCIG		**1.87**	**126**	*e*P		Pn	11 10 49.3	-0.9
PCIG				*i* S		Sn	11 11 13.8	-0.5
PCIG		**1.87**	**126**	*e*P		Pn	11 10 49.3	-0.9
PCIG				*i* S		Sn	11 11 12.4	-1.9
VHO	**Vista Hermosa**	**1.88**	**278**	*e*P		Pn	11 10 50.0	-0.6
VHO				*i* S		Sn	11 11 13.6	-1.5
VHO	**Vista Hermosa**	**1.88**	**278**	*e*P		Pn	11 10 50.0	-0.6
VHO				*i* S		Sn	11 11 13.6	-1.5
CCIG	**Comitan**	**2.60**	**101**	*e*P		Pn	11 10 58.8	-1.0
CCIG				*e*S		Sn	11 11 29.6	-1.8
CCIG	**Comitan**	**2.60**	**101**	*e*P		Pn	11 10 58.8	-1.0
CCIG				*e*S		Sn	11 11 29.6	-1.8
TPIG	**Tehuac#an**	**2.93**	**303**	*e*P		Pn	11 11 03.1	-1.0
TPIG				*e*S		Sn	11 11 37.5	-1.6
TPIG	**Tehuac#an**	**2.93**	**303**	*e*P		Pn	11 11 03.1	-1.0
TPIG				*e*S		Sn	11 11 37.5	-1.6
UTMO	**Huajuapan**	**3.05**	**290**	*i* P		Pn	11 11 05.0	-0.8
UTMO				*e*S		Sn	11 11 39.5	-2.6
UTMO	**Huajuapan**	**3.05**	**290**	*i* P		Pn	11 11 05.0	-0.8
UTMO				*e*S		Sn	11 11 39.5	-2.6
PNIG	**Pinotepa**	**3.23**	**263**	*i* P		Pn	11 11 05.3	-2.6
PNIG				*i* S		Sn	11 11 44.3	-1.6
PNIG	**Pinotepa**	**3.23**	**263**	*i* P		Pn	11 11 05.3	-2.6
PNIG				*i* S		Sn	11 11 44.3	-1.6

ISCJB ***14*** *11:11:37.2±0.6, 32.°48N±0.°04×105.°55E±0.°07, h11km, mb3.4/3, MS4.0/1, Error ellipse: s-maj=8.6km s-min=5.5km az=13.7*

IDC ***14*** *11:11:37.4±1.6, 32.°13N×104.°88E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.4/4, ML2.7/1, MS4.1/1, Ms1 4.1/1, ms1mx2.6/34, Error ellipse: s-maj=95.2km s-min=26.3km az=56.0*

ISC 14 11:11:39.3±0.2, 32.°48N±0.°04×105.°44E±0.°05, h11km, n9, σ1s82/18, mb3.4/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.12**	**223**	Pn		**Pb**	**11 12 16.0**	**-1.8**
CD2				Pg		**Pg**	**11 12 20.0**	**0.0**
CD2				Sn		**Sg**	**11 12 44.8**	**-2.7**
CD2				Sg		**Sb**	**11 12 48.4**	**+4.3**
CD2				smax		smax		
	comp=N,2μm,0.7s							
XAN	**Xi'an**	**3.31**	**61**	Pn		**Pn**	**11 12 31.1**	**+0.1**
XAN				Pg		**Pb**	**11 12 38.6**	**+0.6**
XAN				Sg		**Sb**	**11 13 18.1**	**-0.1**
XAN				smax		smax		
	comp=N,140nm,0.5s							
XAN				smax		smax		
	comp=E,76nm,0.9s							
XAN				LR		LR		
	comp=N,110nm,6.6s							
XAN				LR		LR		
	comp=E,78nm,7.6s							
XAN				LR		LR		
	comp=Z,55nm,6.6s							
LZH	**Lanzhou**	**3.84**	**340**	*e*Pn		**Pn**	**11 12 38.9**	**+0.4**

LZH				Pg	**Pb**	**11 12 47.6**	**+0.5**		
LZH				Sn	**Sn**	**11 13 24.4**	**+0.7**		
LZH				Sg	**Sb**	**11 13 32.0**	**-1.7**		
LZH				smax	smax				
	comp=N,110nm,0.5s								
LZH				smax	smax				
	comp=E,180nm,0.5s								
LZH				LR	LR				
	comp=N,340nm,4.9s								
LZH				LR	LR				
	comp=E,370nm,8.3s								
LZH				LR	LR				
	comp=Z,190nm,8.8s								
GYA	**Guiyang**	**6.09**	**170**	Pn	**Pn**	**11 13 11.4**	**+2.0**		
GYA				Pg	Pg	11 13 32.3	-3.6		
GYA				Sn	**Sn**	**11 14 19.8**	**+0.7**		
GYA				Sg	**Sg**	**11 14 51.6**	**-3.2**		
GYA				smax	smax				
	comp=N,30nm,0.6s								
GYA				smax	smax				
	comp=E,40nm,0.8s								
SONM	**Songino Array**	**15.36**	**2**	Pn	**P**	**11 15 21.1**	**+0.3**		
	comp=E,0.0nm,0.3s,baz=178,slow=10,SNR=3.4								
MKAR	**Makanchi Array**	**22.75**	**316**	P	**P**	**11 16 40.1**	**-1.3**		
	comp=E,0.5nm,0.7s,baz=110,slow=10,SNR=6.6								
KURK	**Kurchatov**	**26.87**	**321**	P	**P**	**11 17 19.4**	**-0.5**		
	comp=E,0.2nm,0.2s,baz=131,slow=8.9,SNR=4.5								
CBIJ	**Chichi jima**	**32.23**	**90**	LR	LR	11 32 58.7			
	comp=E,266nm,18.0s,baz=129,slow=39								
WRA	**Warramunga Arr**	**59.00**	**148**	P	**P**	**11 21 38.8**	**-0.4**		
	comp=E,0.9nm,0.5s,baz=342,slow=7.3,SNR=4.6								

*NEIC **14** 11:46:27.9, 44°.85S×167°.55E, h117km, MG3.7(WEL), After WEL.*

WEL 14 11:46:28.2±0.2, 44°.87S×167°.56E, h116km±1km, ML3.7/9, 9C-1D, Error ellipse: s-maj=2.0km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.33**	**54**	⇑PN	Pn	11 46 44.7	0.0
MSZ				SN	Sn	11 46 56.8	-0.4
MSZ	**Milford Sound**	**0.33**	**54**	Pn	Pn	11 46 44.8	0.0
MSZ				Sn	Sn	11 46 56.8	-0.4
MLZ	**Mavora Lakes**	**0.65**	**138**	⇑PN	Pn	11 46 46.6	-0.1
MLZ				SN	Sn	11 47 00.3	-0.5
MLZ	**Mavora Lakes**	**0.65**	**138**	Pn	Pn	11 46 46.6	-0.1
MLZ				Sn	Sn	11 47 00.3	-0.5
DCZ	**Deep Cove**	**0.67**	**205**	PN	Pn	11 46 46.5	-0.3
DCZ				SN	Sn	11 47 00.0	-0.9
DCZ	**Deep Cove**	**0.67**	**205**	Pn	Pn	11 46 46.5	-0.3
DCZ				Sn	Sn	11 47 00.0	-0.9
WKZ	**Wanaka**	**1.04**	**88**	⇑PN	Pn	11 46 50.3	0.0
WKZ				SN	Sn	11 47 06.5	-0.6
WKZ	**Wanaka**	**1.04**	**88**	Pn	Pn	11 46 50.3	0.0
WKZ				Sn	Sn	11 47 06.5	-0.6
WHZ	**Wether Hill Ro**	**1.06**	**165**	⇑PN	Pn	11 46 50.3	-0.1
WHZ	**Wether Hill Ro**	**1.06**	**165**	Pn	Pn	11 46 50.3	-0.1
JCZ	**Jackson Bay**	**1.17**	**48**	⇑PN	Pn	11 46 51.0	-0.8
JCZ	**Jackson Bay**	**1.17**	**48**	Pn	Pn	11 46 51.0	-0.8
EAZ	**Earnscleugh**	**1.29**	**107**	⇑PN	Pn	11 46 52.6	-0.3
EAZ	**Earnscleugh**	**1.29**	**107**	Pn	Pn	11 46 52.6	-0.3
PYZ	**Puysegur Point**	**1.44**	**205**	PN	Pn	11 46 55.0	+0.4
PYZ	**Puysegur Point**	**1.44**	**205**	Pn	Pn	11 46 55.0	+0.4
TUZ	**Tuapeka**	**1.82**	**127**	⇑PN	Pn	11 46 59.0	-0.2
TUZ	**Tuapeka**	**1.82**	**127**	Pn	Pn	11 46 59.0	-0.2
LBZ	**Lake Benmore**	**1.94**	**76**	⇑PN	Pn	11 46 59.0	-1.7
LBZ	**Lake Benmore**	**1.94**	**76**	Pn	Pn	11 46 59.0	-1.7
APZ	**The Paps**	**1.99**	**171**	PN	Pn	11 47 01.0	-0.3
APZ	**The Paps**	**1.99**	**171**	Pn	Pn	11 47 01.0	-0.3
SYZ	**Scrubby Hill**	**2.00**	**147**	PN	Pn	11 47 01.2	-0.2
SYZ	**Scrubby Hill**	**2.00**	**147**	Pn	Pn	11 47 01.2	-0.2
FOZ	**Fox Glacier**	**2.01**	**50**	PN	Pn	11 47 00.8	-0.8
FOZ	**Fox Glacier**	**2.01**	**50**	Pn	Pn	11 47 00.8	-0.8
ODZ	**Otahua Downs**	**2.20**	**96**	⇓PN	Pn	11 47 02.6	-1.3
ODZ	**Otahua Downs**	**2.20**	**96**	Pn	Pn	11 47 02.6	-1.3
RPZ	**Rata Peaks**	**2.76**	**67**	⇑PN	Pn	11 47 08.8	-2.5
RPZ	**Rata Peaks**	**2.76**	**67**	Pn	Pn	11 47 08.8	-2.5
WVZ	**Waitaha Valley**	**2.91**	**53**	PN	Pn	11 47 10.6	-2.6
WVZ	**Waitaha Valley**	**2.91**	**53**	Pn	Pn	11 47 10.6	-2.6
LTZ	**Lake Taylor**	**4.00**	**60**	PN	Pn	11 47 24.4	-3.3
DSZ	**Denniston Nort**	**4.40**	**46**	PN	Pn	11 47 30.4	-2.7
DSZ	**Denniston Nort**	**4.40**	**46**	Pn	Pn	11 47 30.4	-2.7
THZ	**Tophouse**	**4.99**	**53**	PN	Pn	11 47 37.7	-3.3
THZ	**Tophouse**	**4.99**	**53**	Pn	Pn	11 47 37.7	-3.3
QRZ	**Quartz Range**	**5.45**	**44**	Pn	Pn	11 47 44.6	-2.5

*TRN **14** 12:37:56.1, 18°.27N×64°.66W, h100km, MD3.4(RSPR)*
*NEIC **14** 12:37:57.2, 18°.30N×64°.65W, h105km, MD3.4(RSPR), After RSPR.*

RSPR 14 12:37:57.2, 18°.30N×64°.65W, h105km±1km, MD3.4/8, 15C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.12**	**13**	⇑*e*P	Pn	12 38 11.4	-0.4
TBVI				*e*S	Sn	12 38 22.5	-0.3
TBVI	**Tortola**	**0.12**	**13**	⇑*e*P	Pn	12 38 11.4	-0.4
TBVI				*e*S	Sn	12 38 22.5	-0.3
TBVI	**Tortola**	**0.12**	**13**	⇑*e*P	Pn	12 38 11.4	-0.4
TBVI				*e*S	Sn	12 38 22.5	-0.3
STVI	**Saint Thomas**	**0.30**	**281**	⇓*e*P	Pn	12 38 12.1	-0.3
STVI	**Saint Thomas**	**0.30**	**281**	*e*S	Sn	12 38 23.4	-0.3
STVI	**Saint Thomas**	**0.30**	**281**	⇓*e*P	Pn	12 38 12.1	-0.3
STVI				*e*S	Sn	12 38 23.4	-0.3
STVI	**Saint Thomas**	**0.30**	**281**	⇓*e*P	Pn	12 38 12.1	-0.3
STVI				*e*S	Sn	12 38 23.4	-0.3
CDVI	**St. Croix**	**0.55**	**192**	*e*S	Sn	12 38 26.3	-0.1
CDVI	**St. Croix**	**0.55**	**192**	*e*S	Sn	12 38 26.3	-0.1
MTP	**Monte Pirata**	**0.88**	**257**	⇑*e*P	Pn	12 38 16.3	-0.5
MTP	**Monte Pirata**	**0.88**	**257**	*e*S	Sn	12 38 30.8	-0.8
MTP	**Monte Pirata**	**0.88**	**257**	⇑*e*P	Pn	12 38 16.3	-0.5
MTP				*e*S	Sn	12 38 30.8	-0.8
MTP	**Monte Pirata**	**0.88**	**257**	⇑*e*P	Pn	12 38 16.3	-0.5
MTP				*e*S	Sn	12 38 30.8	-0.8
CBYP	**Canovanas**	**1.15**	**269**	⇓*e*P	Pn	12 38 19.5	-0.3
CBYP	**Canovanas**	**1.15**	**269**	*e*S	Sn	12 38 36.8	0.0
CBYP	**Canovanas**	**1.15**	**269**	⇓*e*P	Pn	12 38 19.5	-0.3
CBYP				*e*S	Sn	12 38 36.8	0.0
CBYP	**Canovanas**	**1.15**	**269**	⇓*e*P	Pn	12 38 19.5	-0.3
CBYP				*e*S	Sn	12 38 36.8	0.0
HUMP	**Col San Antoni**	**1.16**	**263**	⇑*e*P	Pn	12 38 19.4	-0.3
HUMP	**Col San Antoni**	**1.16**	**263**	*e*S	Sn	12 38 36.5	-0.1
HUMP	**Col San Antoni**	**1.16**	**263**	⇑*e*P	Pn	12 38 19.4	-0.3
HUMP				*e*S	Sn	12 38 36.5	-0.1
HUMP	**Col San Antoni**	**1.16**	**263**	⇑*e*P	Pn	12 38 19.4	-0.3
HUMP				*e*S	Sn	12 38 36.5	-0.1
CPD	**Cerro la Pandu**	**1.23**	**258**	⇑*e*P	Pn	12 38 19.8	-0.8
CPD	**Cerro la Pandu**	**1.23**	**258**	*e*S	Sn	12 38 38.2	-0.2
CPD	**Cerro la Pandu**	**1.23**	**258**	⇑*e*P	Pn	12 38 19.8	-0.8
CPD				*e*S	Sn	12 38 38.2	-0.2
CPD	**Cerro la Pandu**	**1.23**	**258**	⇑*e*P	Pn	12 38 19.8	-0.8
CPD				*e*S	Sn	12 38 38.2	-0.2
SJG	**San Juan**	**1.44**	**263**	⇓*e*P	Pn	12 38 22.8	-0.2
SJG				*e*S	Sn	12 38 42.2	-0.4
SJG	**San Juan**	**1.44**	**263**	⇓*e*P	Pn	12 38 22.8	-0.2
SJG				*e*S	Sn	12 38 42.2	-0.4
SJG	**San Juan**	**1.44**	**263**	⇓*e*P	Pn	12 38 22.8	-0.2
SJG				*e*S	Sn	12 38 42.2	-0.4
OBIP	**Obispado Ponce**	**1.88**	**263**	*e*S	Sn	12 38 52.2	-0.2
OBIP	**Obispado Ponce**	**1.88**	**263**	*e*S	Sn	12 38 52.2	-0.2
AOPR	**Arecibo Observ**	**2.00**	**272**	*e*S	Sn	12 38 55.7	+0.5
AOPR	**Arecibo Observ**	**2.00**	**272**	*e*S	Sn	12 38 55.7	+0.5
CRPR	**Cabo Rojo, PR**	**2.36**	**263**	⇑*e*P	Pn	12 38 34.8	+0.2
CRPR	**Cabo Rojo, PR**	**2.36**	**263**	⇑*e*P	Pn	12 38 34.8	+0.2
CRPR	**Cabo Rojo, PR**	**2.36**	**263**	⇑*e*P	Pn	12 38 34.8	+0.2

IDC 14 12:39:34.5±1.3, 0°.30S×132°.62E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/16, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=99.3km s-min=24.2km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.59**	**175**	P	P	12 44 03.9	-0.6
	0.4nm,0.3s,baz=354,slow=11,SNR=11						
WRA				S	Sn	12 47 31.9	-15
	0.1nm,0.3s,baz=357,slow=22,SNR=4.7						

STKA	**Stephens Creek**	**32.53**	**166**	P	P	12 46 07.7	+0.3		
	0.8nm,0.6s,baz=329,slow=12,SNR=3.2								
SONM	**Songino Array**	**53.09**	**338**	P	**P**	12 48 54.1	+0.1		
	0.9nm,0.8s,baz=152,slow=7.7,SNR=3.1								
ILAR	**Eielson Array**	**86.21**	**25**	P	P	12 52 17.3	-0.4		
	0.8nm,0.8s,baz=276,slow=5.3,SNR=5.8								

*IDC **14** 12:39:55.4±0.7, 20°.10N×147°.13E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, ML4.5/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=20.2km s-min=16.0km az=78.0*
*ISCJB **14** 12:39:59.2±0.5, 20°.01N±0°.05×147°.0E±0°.1, h40km, mb4.2/22, MS3.3/3, Error ellipse: s-maj=14.4km s-min=7.0km az=5.9*
*NEIC **14** 12:40:00.6±0.3, 20°.09N×147°.07E, h35km, mb4.4/5, Error ellipse: s-maj=10.6km s-min=7.4km az=88.0*

ISC 14 12:40:01.0±0.5, 20°.05N±0°.06×147°.1E±0°.1, h40km, n47, σ0§82/48, mb4.3/22, MS3.4/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.76**	**199**	Pn	**Pn**	**12 41 37.3**	**-0.5**
	63nm,0.3s,baz=106,slow=2.3,SNR=16						
GUMO				Sn	**Sn**	**12 42 52.9**	**-0.6**
	36nm,0.3s,baz=185,slow=20,SNR=4.1						
GUMO	**Guam**	**6.76**	**199**	*e*Pn	**Pn**	**12 41 37.9**	**+0.1**
GUMO				Sn	**Sn**	**12 42 52.9**	**-0.6**
GUMO				*e*Sn	Sn	12 42 53.6	0.0
MJAR	**Matsushiro Arr**	**18.18**	**337**	P	**P**	**12 44 08.6**	**-1.7**
	0.2nm,0.3s,baz=162,slow=9.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**18.18**	**337**	P	**P**	**12 44 08.6**	**-1.7**
KSRS	**Korea Array**	**24.07**	**320**	P	**P**	**12 45 12.9**	**+0.3**
	1.4nm,0.5s,baz=145,slow=8.6,SNR=6.9						
KSRS				LR	LR	12 54 35.1	
	comp=Z,19nm,19.2s,baz=110,slow=36						
KSAR	**Wonju Array Be**	**24.08**	**320**	P	**P**	**12 45 12.9**	**+0.2**
ASAJ	**Asahikawa**	**24.29**	**352**	P	**P**	**12 45 15.0**	**+0.4**
	16nm,1.2s,baz=177,slow=6.7,SNR=3.8						
ASAJ	**Asahikawa**	**24.29**	**352**	P	**P**	**12 45 15.0**	**+0.4**
USRK	**Ussuriysk Arra**	**27.17**	**336**	P	**P**	**12 45 41.8**	**+1.2**
	2.7nm,0.7s,baz=145,slow=4.8,SNR=3.6						
PMG	**Port Moresby**	**29.27**	**180**	P	**P**	**12 45 59.8**	**+0.2**
	4.2nm,0.5s,baz=323,slow=3.8,SNR=7.5						
PMG	**Port Moresby**	**29.27**	**180**	P	**P**	**12 45 59.8**	**+0.2**
PETK	**Petropavlovsk-**	**34.01**	**11**	P	**P**	**12 46 41.9**	**+1.0**
	1.6nm,0.7s,baz=186,slow=13,SNR=4.5						
PETK	**Petropavlovsk-**	**34.01**	**11**	P	**P**	**12 46 41.9**	**+1.0**
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**12 47 56.4**	**+0.3**
	1.5nm,0.7s,baz=128,slow=6.9,SNR=8.7						
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**12 47 56.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**45.35**	**276**	P	**P**	**12 48 16.4**	**+0.7**
	0.6nm,0.8s,baz=98,slow=5.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**45.35**	**276**	P	**P**	**12 48 16.4**	**+0.7**
BILL	**Bilibino**	**49.48**	**9**	*e*P	**P**	**12 48 47.5**	**+0.4**
	1.9nm,0.5s						
LSA	**Lhasa**	**51.23**	**292**	*e*P	**P**	**12 49 01.3**	**-0.1**
	4.8nm,0.6s						
STKA	**Stephens Creek**	**51.90**	**186**	P	**P**	**12 49 06.6**	**+0.9**
	1.4nm,0.8s,baz=184,slow=3.0,SNR=4.2						
STKA	**Stephens Creek**	**51.90**	**186**	P	**P**	**12 49 06.6**	**+0.9**
ZAA0	**Zalesovo Array**	**57.76**	**322**	*e*P	**P**	**12 49 47.8**	**-0.1**
ZALV	**Zalesovo Beam**	**57.76**	**322**	P	**P**	**12 49 47.7**	**-0.2**
	1.5nm,0.5s,baz=104,slow=7.9,SNR=11						
ZALV				LR	LR	13 13 00.5	
	comp=Z,28nm,18.8s,baz=251,slow=34						
ZALV	**Zalesovo Beam**	**57.76**	**322**	P	**P**	**12 49 47.7**	**-0.2**
MK31	**Makanchi Array**	**58.49**	**313**	*e*P	**P**	**12 49 53.3**	**+0.1**
MKAR	**Makanchi Array**	**58.49**	**313**	P	**P**	**12 49 53.5**	**+0.3**
	1.7nm,0.8s,baz=92,slow=8.7,SNR=17						
MKAR	**Makanchi Array**	**58.49**	**313**	P	**P**	**12 49 53.5**	**+0.3**
KURK	**Kurchatov**	**61.16**	**318**	P	**P**	**12 50 10.0**	**-1.4**
	2.5nm,0.5s,baz=93,slow=7.7,SNR=18						
KURK	**Kurchatov**	**61.16**	**318**	P	**P**	**12 50 10.0**	**-1.4**
ILAR	**Eielson Array**	**61.86**	**26**	P	**P**	**12 50 14.4**	**-1.6**
	1.8nm,0.7s,baz=258,slow=5.2,SNR=28						
ILAR	**Eielson Array**	**61.86**	**26**	P	**P**	**12 50 14.4**	**-1.6**
BVAR	**Borovoye Array**	**66.28**	**320**	P	**P**	**12 50 45.4**	**+0.2**
	3.4nm,0.4s,baz=89,slow=7.3,SNR=25						
BVAR	**Borovoye Array**	**66.28**	**320**	P	**P**	**12 50 45.4**	**+0.2**
KKAR	**Karatay Array**	**66.93**	**309**	*e*P	**P**	**12 50 48.1**	**-1.4**
	0.7nm,0.4s						
ABKAR	**Akbulak array**	**73.25**	**317**	*e*P	**P**	**12 51 28.0**	**-0.1**
	1.0nm,0.9s						
JCW	**Jim Creek**	**75.97**	**44**	P	**P**	**12 51 43.7**	**-0.3**
	6.0nm,0.9s						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**12 51 44.7**	**-0.1**
	2.2nm,0.6s,baz=286,slow=5.8,SNR=25						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**12 51 44.8**	**-0.1**
NVAR	**Mina Array Bea**	**81.28**	**52**	P	**P**	**12 52 14.6**	**+1.0**
	2.9nm,0.8s,baz=263,slow=6.4,SNR=23						
NVAR	**Mina Array Bea**	**81.28**	**52**	P	**P**	**12 52 14.6**	**+1.0**
PDAR	**Pinedale Array**	**85.95**	**46**	P	**P**	**12 52 37.4**	**-0.1**
	0.5nm,0.5s,baz=128,slow=1.6,SNR=8.4						
PDAR	**Pinedale Array**	**85.95**	**46**	P	**P**	**12 52 37.4**	**-0.1**
FINES	**FINESS Array B**	**86.21**	**336**	P	**P**	**12 52 38.5**	**+0.5**
	6.2nm,1.1s,baz=66,slow=3.4,SNR=4.6						
FINES	**FINESS Array B**	**86.21**	**336**	P	**P**	**12 52 38.5**	**+0.5**
ATD	**Arta Tunnel**	**99.14**	**286**	LR	LR	13 36 20.3	
	comp=Z,31nm,18.1s,baz=40,slow=34						
LPAZ	**La Paz**	**146.37**	**89**	PKPbc	**PKPab**	**12 59 38.9**	**-1.2**
	0.6nm,0.4s,baz=246,slow=7.5,SNR=3.0						
LPAZ	**La Paz**	**146.37**	**89**	PKPbc	**PKPab**	**12 59 38.9**	**-1.2**

*ISK **14** 12:40:57.8, 39°.12N×27°.61E, h5km, MD2.7*
*ISCJB **14** 12:40:58.9±0.6, 39°.11N±0°.03×27°.56E±0°.05, h7km±7km, Error ellipse: s-maj=6.3km s-min=4.6km az=169.5*
*DDA **14** 12:40:59.0, 39°.12N×27°.59E, h7km, MD2.8*
*CSEM **14** 12:40:59.0±0.2, 39°.11N×27°.60E, h8km, MD2.7, Error ellipse: s-maj=5.9km s-min=3.9km az=84.0*

ISC 14 12:40:59.1±1.0, 39°.11N±0°.02×27°.60E±0°.03, h11km±9km, n28, σ0§63/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.29**	**144**	*e*PG	**Pg**	**12 41 04.0**	**-0.9**
AKS				*e*SG	**Sg**	**12 41 10.1**	**+1.2**
AKS	**Akhisar**	**0.29**	**144**	*e*Pg	**Pg**	**12 41 04.0**	**-0.9**
AKS				*e*Sg	**Sg**	**12 41 10.1**	**+1.2**
AKHS	**Akhisar**	**0.29**	**144**	*e*P	**Pg**	**12 41 04.5**	**-0.5**
AKHS				*e*S	**Sg**	**12 41 09.4**	**+0.6**
AKHS	**Akhisar**	**0.29**	**144**	*e*P	**Pg**	**12 41 04.5**	**-0.5**
AKHS				*e*S	**Sg**	**12 41 09.4**	**+0.6**
BALY	**Balya**	**0.63**	**1**	*e*P	**Pg**	**12 41 11.0**	**-0.3**
BALY				*e*S	**Sg**	**12 41 20.1**	**+0.4**
BALY	**Balya**	**0.63**	**1**	*e*P	**Pg**	**12 41 11.0**	**-0.3**
BALY				*e*S	**Sg**	**12 41 20.1**	**+0.4**
IZM	**Izmir**	**0.76**	**200**	*e*PG	**Pg**	**12 41 12.8**	**-1.0**
IZM				*e*SG	**Sb**	**12 41 25.6**	**+0.9**
IZM	**Izmir**	**0.76**	**200**	*e*Pg	**Pg**	**12 41 12.8**	**-1.0**
IZM				*e*Sg	**Sb**	**12 41 25.6**	**+0.9**
DURS	**Dursunbey**	**0.84**	**54**	*e*P	**Pg**	**12 41 15.0**	**-0.3**
DURS				*e*S	**Sn**	**12 41 29.6**	**+0.3**
DURS	**Dursunbey**	**0.84**	**54**	*e*P	**Pg**	**12 41 15.0**	**-0.3**
DURS				*e*S	**Sn**	**12 41 29.6**	**+0.3**
BLCB	**Balcova**	**0.85**	**211**	*e*PG	**Pg**	**12 41 15.2**	**-0.2**
BLCB	**Balcova**	**0.85**	**211**	*e*Pg	**Pg**	**12 41 15.2**	**-0.2**
DEMI	**Demirci**	**0.87**	**94**	*e*P	**Pn**	**12 41 16.9**	**-0.5**
DEMI				*e*S	**Sb**	**12 41 28.5**	**+0.5**
DEMI	**Demirci**	**0.87**	**94**	*e*P	**Pn**	**12 41 16.9**	**-0.5**
DEMI				*e*S	**Sb**	**12 41 28.5**	**+0.5**
GONE	**Gonen-Balikesi**	**0.94**	**4**	*e*PG	**Pb**	**12 41 17.2**	**-0.2**
GONE	**Gonen-Balikesi**	**0.94**	**4**	*e*Pg	**Pb**	**12 41 17.2**	**-0.2**
EDC	**Edincik**	**1.25**	**9**	*e*PN	**Pn**	**12 41 21.9**	**-0.6**
EDC	**Edincik**	**1.25**	**9**	*e*Pn	**Pn**	**12 41 21.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.29**	**27**	*e*PN	**Pn**	**12 41 22.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.29**	**27**	*e*Pn	**Pn**	**12 41 22.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.30**	**350**	*e*PN	**Pn**	**12 41 23.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.30**	**350**	*e*Pn	**Pn**	**12 41 23.2**	**0.0**
LPK	**Lapseki**	**1.42**	**333**	*e*PN	**Pg**	**12 41 25.9**	**-0.4**
LPK	**Lapseki**	**1.42**	**333**	*e*Pn	**Pg**	**12 41 25.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.55**	**326**	*e*PN	**Pb**	**12 41 28.0**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.55**	**326**	*e*Pn	**Pb**	**12 41 28.0**	**+0.2**
ERIK	**Erikli-Kesan**	**1.77**	**332**	*e*PN	**Pb**	**12 41 30.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.77**	**332**	*e*Pn	**Pb**	**12 41 30.8**	**-0.7**

*IDC **14** 12:47:11.4±1.2, 10°.11N×126°.20E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, MS3.4/1, Ms1 3.4/1, ms1mx2.3/28, Error ellipse: s-maj=57.4km s-min=26.1km az=61.0*
*ISCJB **14** 12:47:16.1±0.7, 10°.14N±0°.07×126°.39E±0°.06, h42km, mb3.8/8, MS3.3/1, Error ellipse: s-maj=10.0km s-min=8.0km az=175.0*
*MAN **14** 12:47:18, 10°.05N×126°.13E, h13km, mb4.6, ML3.5, MS3.4*

ISC 14 12:47:17.8±0.9, 10°.15N±0°.08×126°.33E±0°.09, h42km, n16, σ1§03/18, mb3.8/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.45**	**270**	*e*P	**Pn**	**12 47 40.6**	**-1.0**
MSLP				*e*S	**Sn**	**12 47 58.6**	**-0.8**
PLP	**Palo**	**1.67**	**307**	⇓*e*P	**Pn**	**12 47 44.2**	**-0.4**
PLP				*i* S	**Sn**	**12 48 06.3**	**+1.5**
OCLP	**Ormoc**	**1.92**	**298**	*e*P	**Pn**	**12 47 49.5**	**+1.6**
TBP	**Tagbilaran**	**2.48**	**260**	*e*P	**Pn**	**12 47 56.4**	**+0.7**
TBP				*e*S	**Sn**	**12 48 24.6**	**0.0**
BUKP	**Musuan**	**2.58**	**209**	*e*P	**Pn**	**12 47 57.9**	**+0.8**
PAGZ	**Pagadian**	**3.70**	**232**	*e*P	**Pn**	**12 48 13.0**	**+0.5**
GUIM	**Jordan**	**3.71**	**278**	*e*P	**Pn**	**12 48 13.3**	**+0.7**
PVCP	**Virac**	**4.04**	**328**	*e*P	Pn	12 48 21.4	+4.3
SONM	**Songino Array**	**41.16**	**340**	P	**P**	**12 54 59.1**	**+0.9**
	0.3nm,0.5s,baz=155,slow=7.5,SNR=3.7						
SONM				LR	LR	13 14 42.8	
	comp=Z,43nm,19.5s,baz=84,slow=40						
STKA	**Stephens Creek**	**44.27**	**161**	P	**P**	**12 55 23.1**	**-0.3**
	3.9nm,1.1s,baz=353,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**52.16**	**323**	P	**P**	**12 56 23.6**	**-0.6**
	0.8nm,0.8s,baz=117,slow=7.9,SNR=8.3						
ZALV	**Zalesovo Beam**	**54.76**	**331**	P	**P**	**12 56 42.1**	**-1.0**
	1.1nm,1.0s,baz=124,slow=7.7,SNR=3.4						
KURK	**Kurchatov**	**56.20**	**326**	P	**P**	**12 56 52.2**	**-1.4**
	0.5nm,0.5s,baz=124,slow=7.1,SNR=6.2						
ILAR	**Eielson Array**	**79.52**	**26**	P	**P**	**12 59 19.4**	**-0.5**
	0.3nm,0.7s,baz=249,slow=4.4,SNR=7.3						
FINES	**FINESS Array B**	**86.03**	**332**	P	**P**	**12 59 52.7**	**-1.1**
	1.4nm,0.6s,baz=89,slow=8.5,SNR=4.2						
YKA	**Yellowknife Ar**	**93.84**	**24**	P	**P**	**13 00 32.0**	**+1.5**
	0.4nm,0.6s,baz=298,slow=4.3,SNR=6.4						

*ISCJB **14** 13:11:53.8±0.7, 37°.80N±0°.03×38°.27E±0°.07, h3km±11km, Error ellipse: s-maj=9.1km s-min=5.2km az=5.2*
*DDA **14** 13:11:53.2, 37°.79N×38°.28E, h7km, MD2.8*
*CSEM **14** 13:11:53.8±0.1, 37°.80N×38°.28E, h2km, MD2.8, Error ellipse: s-maj=3.9km s-min=2.4km az=110.0*
*ISK **14** 13:11:54.1, 37°.85N×38°.29E, h4km, MD2.6*

ISC 14 13:11:53.7±1.1, 37°.82N±0°.03×38°.22E±0°.05, h7km±11km, n18, σ1§05/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.35**	**170**	*e*P	**Pg**	**13 12 00.3**	**-0.3**
ATAB				*e*S	**Sg**	**13 12 04.9**	**-0.4**
ATAB	**Bozova**	**0.35**	**170**	*e*P	**Pg**	**13 12 00.3**	**-0.3**
ATAB				*e*S	**Sg**	**13 12 04.9**	**-0.4**
MALT	**Malatya**	**0.52**	**18**	*e*PG	**Pg**	**13 12 03.9**	**+0.1**
MALT	**Malat

ISCJB ***14*** *13:33:06.0±0.3,0.°43S±0.°04×133.°03E±0.°05,h32km, mb4.6/23,MS3.9/5,Error ellipse: s-maj=7.7km s-min=5.4km az=147.3*
NEIC ***14*** *13:33:08.4±0.2,0.°51S×132.°95E,h35km,mb4.7/11,Error ellipse: s-maj=10.2km s-min=4.1km az=61.0*
DJA ***14*** *13:33:08,0.°50S×133.°02E,h29km,MLv5.0/11*
ISC 14 13:33:07.8±0.5,0.°44S±0.°07×133.°02E±0.°08,h32km,n81, σ0s98/76,mb4.8/23,MS3.9/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.58**	**197**	P	**Pn**	**13 33 47.9**	**+0.5**
BAKI	**Biak**	**3.18**	**104**	P	**Pn**	**13 33 56.2**	**+0.6**
MSAI	**Masohi**	**5.00**	**235**	P	**Pn**	**13 34 23.3**	**+2.6**
	236nm,0.6s,3μm0.9nm						
TLE	**Tual**	**5.17**	**183**	P	**Pn**	**13 34 24.8**	**+1.8**
	462nm,0.9s,11μm3.0nm						
LBMI	**Labuha**	**5.52**	**268**	P	**Pn**	**13 34 28.3**	**+0.4**
	331nm,0.7s,3μm1.1nm						
AAI	**Ambon**	**5.80**	**236**	P	**Pn**	**13 34 32.7**	**+1.0**
	513nm,0.7s,5μm1.7nm						
NLAI	**Namlea**	**6.53**	**245**	P	**Pn**	**13 34 43.4**	**+1.6**
	126nm,1.2s,2μm0.6nm						
LUWI	**Luwuk**	**10.26**	**267**	P	**Pn**	**13 35 33.6**	**+0.6**
	114nm,1.0s,1μm						
KDI	**Kendari**	**10.96**	**251**	P	**Pn**	**13 35 44.8**	**+2.3**
KAPI	**Kappang**	**14.00**	**251**	Pn	**Pn**	**13 36 25.2**	**+1.0**
	0.5nm,0.3s,baz=101,slow=18,SNR=3.0						
KAPI				LR	LR	13 41 55.5	
	comp=Z,274nm,19.6s,baz=80,slow=38						
KAPI	**Kappang**	**14.00**	**251**	*eP*	Pn	13 36 27.8	+3.6
PMG	**Port Moresby**	**16.66**	**123**	Pn	**Pn**	**13 36 59.5**	**+0.5**
	0.2nm,0.3s,baz=311,slow=19,SNR=2.4						
PMG	**Port Moresby**	**16.66**	**123**	*eP*	**P**	**13 37 00.2**	**-0.9**
	20nm,1.1s						
COEN	**Coen**	**16.77**	**144**	*eP*	**Pn**	**13 36 59.2**	**-1.3**
GUMO	**Guam**	**18.23**	**40**	LR	LR	13 43 36.8	
	comp=Z,208nm,19.8s,baz=274,slow=35						
FITZ	**Fitzroy Crossi**	**18.99**	**202**	P	**P**	**13 37 24.8**	**-2.1**
	0.7nm,0.3s,baz=28,slow=13,SNR=8.3						
FITZ				S	Sn	13 40 44.5	-15
	0.3nm,0.3s,baz=319,slow=20,SNR=3.4						
FITZ				LR	LR	13 45 14.3	
	comp=Z,268nm,19.0s,baz=28,slow=38						
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*eP*	**P**	**13 37 24.6**	**-2.3**
	34nm,1.2s						
FITZ				S	Sn	13 40 44.5	-15
WRAB	**Tennant Creek**	**19.41**	**176**	*eP*	**P**	**13 37 31.4**	**-0.1**
	20nm,0.6s						
WRA	**Warramunga Arr**	**19.42**	**176**	P	**P**	**13 37 31.3**	**-0.3**
	1.8nm,0.3s,baz=354,slow=11,SNR=48						
WRA				S	S	13 40 57.3	-12
	0.5nm,0.3s,baz=358,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**19.42**	**176**	P	**P**	**13 37 31.3**	**-0.3**
WRA				S	S	13 40 57.3	-12
WB2	**Warramunga Arr**	**19.42**	**176**	*eP*	**P**	**13 37 31.8**	**+0.2**
AS31	**Alice Springs**	**23.10**	**178**	*eP*	**P**	**13 38 10.9**	**-0.3**
CTA	**Charters Tower**	**23.43**	**147**	P	**P**	**13 38 15.2**	**+0.8**
	32nm,1.0s,baz=327,slow=12,SNR=12						
CTA				LR	LR	13 48 36.8	
	comp=Z,650nm,19.1s,baz=149,slow=40						
CTA	**Charters Tower**	**23.43**	**147**	*eP*	**P**	**13 38 15.4**	**+0.9**
	23nm,0.9s						
CTA	**Charters Tower**	**23.43**	**147**	P	**P**	**13 38 15.2**	**+0.8**
CTAO	**Charters Tower**	**23.43**	**147**	*eP*	**P**	**13 38 15.0**	**+0.5**
	43nm,1.0s						
MBWA	**Marble Bar**	**24.34**	**211**	*eP*	**P**	**13 38 22.8**	**-0.1**
	94nm,1.3s						
QIZ	**Qiongzhong**	**29.87**	**312**	P	**P**	**13 39 10.4**	**-2.3**
QIZ				S	**S**	**13 44 05.3**	**-2.6**
QIZ				pmax	pmax		
	comp=Z,200nm,3.8s						
FORT	**Forrest**	**30.54**	**188**	*eP*	**P**	**13 39 16.2**	**-2.2**
	comp=Z,7.3nm,0.5s						
STKA	**Stephens Creek**	**32.30**	**166**	P	**P**	**13 39 33.2**	**-0.8**
	comp=Z,22nm,0.9s,baz=339,slow=7.9,SNR=45						
STKA	**Stephens Creek**	**32.30**	**166**	*eP*	**P**	**13 39 33.2**	**-0.8**
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**32.30**	**166**	*eP*	**P**	**13 39 33.2**	**-0.8**
	comp=Z,8.0nm,1.1s						
ARMA	**Armidale**	**34.66**	**151**	*eP*	**P**	**13 39 55.2**	**+0.5**
MJAR	**Matsushiro Arr**	**37.11**	**7**	LR	LR	13 52 53.1	
	comp=Z,78nm,18.7s,baz=160,slow=32						
KSRS	**Korea Array**	**38.00**	**353**	LR	LR	13 53 48.4	
	comp=Z,104nm,18.9s,baz=341,slow=33						
CMAR	**Chiang Mai Arr**	**38.39**	**301**	P	**P**	**13 40 26.6**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=123,slow=6.5,SNR=14						
CMAR	**Chiang Mai Arr**	**38.39**	**301**	P	**P**	**13 40 26.6**	**+0.1**
TOO	**Toolangi**	**38.70**	**164**	*eP*	**P**	**13 40 28.9**	**0.0**
	comp=Z,72nm,1.0s						
LZH	**Lanzhou**	**45.35**	**326**	*eP*	P	13 41 31.5	+8.1
LZH				pP	pP	13 41 40.0	+7.0
LZH				sP	sP	13 41 43.8	+7.0
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LSA	**Lhasa**	**49.90**	**311**	P	**P**	**13 42 00.1**	**+0.9**
LSA	**Lhasa**	**49.90**	**311**	*eP*	**P**	**13 41 59.8**	**+0.6**
	comp=Z,6.3nm,0.7s						
GTA	**Gaotai**	**49.96**	**326**	*eP*	P	13 42 07.1	+8.0
GTA				pP	pP	13 42 11.4	+2.7
GTA				sP	sP	13 42 14.3	+1.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TAPN	**Taplejung**	**51.53**	**306**	*eP*	**P**	**13 42 11.5**	**+0.1**
TAPN	**Taplejung**	**51.53**	**306**	*eP*	**P**	**13 42 11.5**	**+0.1**
ODAN	**Odare**	**51.59**	**305**	*eP*	**P**	**13 42 11.6**	**-0.1**
ODAN	**Odare**	**51.59**	**305**	*eP*	**P**	**13 42 11.6**	**-0.1**
RAMN	**Ramite**	**52.27**	**305**	*eP*	**P**	**13 42 16.9**	**+0.1**
	comp=Z,16nm,0.6s						
RAMN	**Ramite**	**52.27**	**305**	*eP*	**P**	**13 42 16.9**	**+0.1**
	comp=Z,16nm,0.6s						
JIRN	**Jiri**	**52.89**	**306**	*eP*	**P**	**13 42 21.4**	**-0.1**
	comp=Z,10nm,0.7s						
JIRN	**Jiri**	**52.89**	**306**	*eP*	**P**	**13 42 21.4**	**-0.1**
	comp=Z,10nm,0.7s						
GUN	**Gumba**	**53.24**	**306**	*eP*	**P**	**13 42 24.1**	**0.0**
	comp=Z,16nm,0.8s						
GUN	**Gumba**	**53.24**	**306**	*eP*	**P**	**13 42 24.1**	**0.0**
	comp=Z,16nm,0.8s						
SONM	**Songino Array**	**53.37**	**338**	P	**P**	**13 42 25.4**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=152,slow=9.6,SNR=3.5						
SONM	**Songino Array**	**53.37**	**338**	P	**P**	**13 42 25.4**	**+0.9**
DMN	**Daman**	**53.75**	**305**	*eP*	**P**	**13 42 27.6**	**-0.2**
DMN	**Daman**	**53.75**	**305**	*eP*	**P**	**13 42 27.6**	**-0.2**
GKN	**Gorkha**	**54.29**	**306**	*eP*	**P**	**13 42 31.2**	**-0.3**
	comp=Z,6.5nm,0.5s						
GKN	**Gorkha**	**54.29**	**306**	*eP*	**P**	**13 42 31.2**	**-0.3**
	comp=Z,6.5nm,0.5s						
KOLN	**Koldanda**	**55.05**	**305**	*eP*	**P**	**13 42 37.1**	**0.0**
	comp=Z,14nm,0.6s						
KOLN	**Koldanda**	**55.05**	**305**	*eP*	**P**	**13 42 37.1**	**0.0**
	comp=Z,14nm,0.6s						
DANN	**Dangsing**	**55.14**	**306**	*eP*	**P**	**13 42 37.7**	**-0.2**
DANN	**Dangsing**	**55.14**	**306**	*eP*	**P**	**13 42 37.7**	**-0.2**
WMQ	**Urumqi**	**59.76**	**323**	*eP*	**P**	**13 43 11.3**	**+1.4**
WMQ				pP	**pP**	**13 43 21.3**	**+1.6**
WMQ				sP	**sP**	**13 43 25.3**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	**64.57**	**324**	*eP*	**P**	**13 43 43.1**	**+1.1**
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**13 43 42.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=112,slow=8.5,SNR=18						
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**13 43 42.3**	**+0.3**
ZAA0	**Zalesovo Array**	**67.18**	**331**	*eP*	**P**	**13 43 59.2**	**+0.5**
ZALV	**Zalesovo Beam**	**67.18**	**331**	P	**P**	**13 43 58.6**	**0.0**
	comp=Z,1.6nm,0.6s,baz=118,slow=7.3,SNR=9.8						
ZALV	**Zalesovo Beam**	**67.18**	**331**	P	**P**	**13 43 58.6**	**0.0**
KURK	**Kurchatov**	**68.64**	**326**	*eP*	**P**	**13 44 08.6**	**+0.7**
	comp=Z,18nm,1.4s						
BRVK	**Borovoye**	**74.31**	**326**	*eP*	**P**	**13 44 42.5**	**+0.5**
	comp=Z,21nm,1.4s						
ABKAR	**Akbulak array**	**79.34**	**320**	*eP*	**P**	**13 45 10.3**	**-0.2**
	comp=Z,2.6nm,0.7s						
ARU	**Arti**	**81.81**	**327**	*eP*	**P**	**13 45 23.2**	**-0.4**
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**13 45 44.7**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=253,slow=4.1,SNR=6.6						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**13 45 44.7**	**-1.0**
ARCES	**ARCESS Array B**	**96.49**	**340**	LR	LR	14 36 49.2	
	comp=Z,74nm,18.6s,baz=228,slow=40						
AKASG	**Malin Array Be**	**99.06**	**321**	LR	LR	14 34 14.2	
	comp=Z,37nm,21.4s,baz=180,slow=37						
TORD	**Torodi Ar. Bea**	**130.16**	**287**	PKP	**PKPdf**	**13 52 16.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=106,slow=1.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**130.16**	**287**	PKP	**PKPdf**	**13 52 16.0**	**+0.2**
LPAZ	**La Paz**	**153.32**	**129**	PKPbc	**PKPbc**	**13 53 04.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=297,slow=2.3,SNR=2.8						
LPAZ	**La Paz**	**153.32**	**129**	PKPbc	**PKPbc**	**13 53 04.7**	**+0.1**

ISCJB ***14*** *13:34:55.0±0.8,40.°74N±0.°03×25.°22E±0.°03,h1km±6km, Error ellipse: s-maj=5.7km s-min=3.9km az=2.8*
CSEM ***14*** *13:34:55.9±0.3,40.°69N×25.°26E,h10km, MD3.0, Error ellipse: s-maj=5.4km s-min=4.1km az=151.0*
ATH ***14*** *13:34:55.6,40.°76N×25.°22E,h24km±1km,MD3.0/4*
THE ***14*** *13:34:56.4,40.°76N×25.°20E,h5km,ML2.5/4, Error ellipse: s-maj=1.1km s-min=0.4km az=170.0*
SKO ***14*** *13:34:57.1,40.°69N×25.°16E,h0km*
SOF ***14*** *13:34:57.5,40.°81N×25.°25E,h10km, MD2.5*
BEO ***14*** *13:34:58.5±1.6,40.°78N×25.°27E,h12km±9km, ML2.6/5*
ISC 14 13:34:56.0±1.1,40.°72N±0.°03×25.°22E±0.°02,h5km±11km, n43,σ0s76/74,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDO	**Rodhopi**	**0.49**	**29**	*e*PB	**Pg**	**13 35 05.2**	**-0.2**
RDO				*e*SB	**Sg**	**13 35 12.0**	**+0.2**
RDO	**Rodhopi**	**0.49**	**29**	*e*Pb	**Pg**	**13 35 05.2**	**-0.2**
RDO				*e*Sb	**Sg**	**13 35 12.0**	**+0.2**
KAVA	**Kavala**	**0.60**	**298**	P	**Pg**	**13 35 07.5**	**-0.1**
KAVA				S	**Sg**	**13 35 15.5**	**0.0**
KAVA	**Kavala**	**0.60**	**298**	P	**Pg**	**13 35 07.5**	**-0.1**
KAVA				S	**Sg**	**13 35 15.5**	**0.0**
ALN	**Alexandroupoli**	**0.65**	**74**	P	**Pg**	**13 35 08.6**	**+0.2**
ALN				S	**Sb**	**13 35 18.3**	**-0.8**
ALN	**Alexandroupoli**	**0.65**	**74**	P	**Pg**	**13 35 08.6**	**+0.2**
ALN				S	**Sb**	**13 35 18.3**	**-0.8**
LIA	**Limnos Island**	**0.82**	**182**	*e*PN	**Pg**	**13 35 12.0**	**+0.3**
LIA				*e*SN	**Sb**	**13 35 24.9**	**+0.9**
LIA	**Limnos Island**	**0.82**	**182**	*e*Pn	**Pg**	**13 35 12.0**	**+0.3**
LIA				*e*Sn	**Sb**	**13 35 24.9**	**+0.9**
KDZ	**Kurdzhali**	**0.94**	**9**	P	**Pg**	**13 35 13.4**	**-0.6**
KDZ	**Kurdzhali**	**0.94**	**9**	P	**Pg**	**13 35 13.4**	**-0.6**
OUR	**Ouranopolis**	**1.02**	**248**	P	**Pg**	**13 35 15.5**	**0.0**
OUR				S	**Sb**	**13 35 30.4**	**+0.6**
OUR	**Ouranopolis**	**1.02**	**248**	P	**Pg**	**13 35 15.5**	**0.0**
OUR				S	**Sb**	**13 35 30.4**	**+0.6**
RZN	**Rozhen**	**1.04**	**339**	P	**Pn**	**13 35 17.4**	**0.0**
RZN	**Rozhen**	**1.04**	**339**	P	**Pn**	**13 35 17.4**	**0.0**
NVR	**Nevrokopi**	**1.21**	**302**	*e*PN	**Pb**	**13 35 18.8**	**-0.5**
NVR				*e*SN	**Sg**	**13 35 34.5**	**-0.3**
NVR	**Nevrokopi**	**1.21**	**302**	*e*Pn	**Pb**	**13 35 18.8**	**-0.5**
NVR				*e*Sn	**Sg**	**13 35 34.5**	**-0.3**
SRS	**Serrai**	**1.30**	**288**	P	**Pn**	**13 35 19.7**	**-1.0**
SRS				S	**Sg**	**13 35 37.9**	**+0.2**
SRS	**Serrai**	**1.30**	**288**	P	**Pn**	**13 35 19.7**	**-1.0**
SRS				S	**Sg**	**13 35 37.9**	**+0.2**
PLG	**Polygyros**	**1.40**	**256**	*e*PN	**Pn**	**13 35 21.4**	**-0.7**
PLG				*e*SN	**Sb**	**13 35 40.0**	**-0.7**
PLG	**Polygyros**	**1.40**	**256**	*e*Pn	**Pn**	**13 35 21.4**	**-0.7**
PLG				*e*Sn	**Sb**	**13 35 40.0**	**-0.7**
SOH	**Sokhos**	**1.42**	**275**	P	**Pn**	**13 35 21.6**	**-0.9**
SOH				S	**Sb**	**13 35 41.5**	**+0.1**
SOH	**Sokhos**	**1.42**	**275**	P	**Pn**	**13 35 21.6**	**-0.9**
SOH				S	**Sb**	**13 35 41.5**	**+0.1**
MMB	**Musomiste**	**1.43**	**308**	P	**Pb**	**13 35 23.0**	**0.0**
MMB	**Musomiste**	**1.43**	**308**	P	**Pb**	**13 35 23.0**	**0.0**
PLD	**Plovdiv**	**1.44**	**344**	*e*Pg	**Pg**	**13 35 23.6**	**+0.1**
PLD				*e*Sg	**Sg**	**13 35 44.1**	**+1.9**
PLD	**Plovdiv**	**1.44**	**344**	*e*Pg	**Pg**	**13 35 23.6**	**+0.1**
PLD				*e*Sg	**Sg**	**13 35 44.1**	**+1.9**
KNT	**Kendrikon**	**1.82**	**285**	P	**Pn**	**13 35 27.5**	**-0.4**
KNT				S	**Sn**	**13 35 51.2**	**0.0**
KNT	**Kendrikon**	**1.82**	**285**	P	**Pn**	**13 35 27.5**	**-0.4**
KNT				S	**Sn**	**13 35 51.2**	**0.0**
KKB	**Krupnik**	**1.98**	**306**	P	**Pg**	**13 35 33.7**	**-0.2**
KKB	**Krupnik**	**1.98**	**306**	P	**Pg**	**13 35 33.7**	**-0.2**
JMB	**Yambol**	**2.02**	**30**	*e*Pg	**Pg**	**13 35 34.4**	**-0.3**
JMB				*e*Sg	**Sg**	**13 35 59.5**	**-1.4**
JMB	**Yambol**	**2.02**	**30**	*e*Pg	**Pg**	**13 35 34.4**	**-0.3**
JMB				*e*Sg	**Sg**	**13 35 59.5**	**-1.4**
VAY	**Valandovo**	**2.10**	**288**	*e*Pn	**Pb**	**13 35 33.3**	**-1.1**
VAY				*e*Sg	**Sg**	**13 36 02.6**	**-0.7**
VAY	**Valandovo**	**2.10**	**288**	*e*Pn	**Pb**	**13 35 33.8**	**-0.6**
VAY				*e*Sg	**Sb**	**13 36 01.0**	**+0.3**
VTS	**Vitosha**	**2.40**	**322**	P	**Pg**	**13 35 41.0**	**-1.0**
VTS	**Vitosha**	**2.40**	**322**	*e*Pn	**Pn**	**13 35 37.1**	**+1.0**
VTS				*e*Sg	**Sg**	**13 36 13.7**	**+0.5**
VTS	**Vitosha**	**2.40**	**322**	*e*Pn	**Pn**	**13 35 37.1**	**+1.0**
VTS	**Vitosha**	**2.40**	**322**	P	**Pg**	**13 35 41.0**	**-1.0**
VTS				*e*Sg	**Sg**	**13 36 13.7**	**+0.5**
MPEP	**Malo Peshtene**	**2.86**	**338**	P	**Pb**	**13 35 48.2**	**+0.8**
ZAPS	**Zavoj**	**3.20**	**324**	*e*Pn	**Pn**	**13 35 48.8**	**+1.9**
ZAPS				*e*Sg	**Sg**	**13 36 39.7**	**+1.0**
BARS	**Barje**	**3.30**	**311**	*e*Pn	**Pn**	**13 35 49.7**	**+1.4**
BARS				*e*Sg	**Sg**	**13 36 42.5**	**+0.6**
BARS	**Barje**	**3.30**	**311**	*e*Pn	**Pn**	**13 35 49.7**	**+1.4**
BARS				*e*Sg	**Sg**	**13 36 42.5**	**+0.6**
SELS	**Selova**	**3.95**	**311**	*e*Sg	**Sg**	**13 37 03.0**	**+0.2**

GUC 14 14:42:19.0±0.8,32.°55S×71.°88W,h15km±5km, MD3.6, ML2.9,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.52**	**157**	⇑*i*P	Pg	14 42 29.1	-0.2
IHA				*i* S	Sg	14 42 36.4	+0.2
CHNG	**Los Chungos**	**0.74**	**26**	⇓*i*P	Pg	14 42 33.2	-0.3
CHNG				*i* S	Sg	14 42 42.7	-0.5
CHNG				AML	AML	14 42 45.1	
	comp=E,304nm,0.5s						
ROCH	**El Roble**	**0.85**	**120**	⇓*i*P	Pb	14 42 34.6	-1.2
ROCH				*i* S	Sb	14 42 45.6	-1.5
ROCH				AML	AML	14 42 46.9	
	comp=N,746nm,0.6s						
JACH	**Jahuel**	**1.10**	**97**	⇑*i*P	Pb	14 42 38.4	-1.4
JACH				*i* S	Sb	14 42 53.0	-1.0
PEL	**Peldehue**	**1.17**	**121**	⇑*i*P	Pn	14 42 39.9	-1.0
PEL				*i* S	Sb	14 42 54.9	-1.1
PEL				AML	AML	14 42 58.6	
	comp=E,852nm,0.2s						
CLCH	**Cerro Calan**	**1.41**	**127**	*eP*	Pn	14 42 43.5	-0.8
CLCH				*i* S	Sn	14 43 01.9	-0.8
CLCH				AML	AML	14 43 08.4	
	comp=N,276nm,1.4s						
LNV	**Longovilo**	**1.46**	**164**	*eP*	Pn	14 42 43.8	-1.0
LNV				*i* S	Sn	14 43 03.0	-0.6
ANTU	**Antumapu**	**1.46**	**134**	*i* S	Sn	14 43 03.0	-0.9
ANTU				AML	AML	14 43 08.8	
	comp=E,198nm,0.4s						
FCH	**Farellones**	**1.55**	**121**	*eP*	Pn	14 42 45.0	-1.5
FCH				*i* S	Sn	14 43 06.3	-0.3
FCH				AML	AML	14 43 08.9	
	comp=E,300nm,0.3s						
CMCH	**Combarbala**	**1.56**	**29**	*eP*	Pn	14 42 45.6	-0.7
CMCH				*i* S	Sn	14 43 06.0	-0.4
CMCH				AML	AML	14 43 11.2	
	comp=E,874nm,0.6s						
PCH	**Pirque**	**1.57**	**133**	*eP*	Pn	14 42 46.0	-0.5
PCH				*i* S	Sn	14 43 06.5	-0.1
CHCH	**Chadas Angostu**	**1.72**	**144**	*eP*	Pn	14 42 48.5	-0.1
CHCH				*i* S	Sn	14 43 10.6	+0.3
CACH	**El Canelo**	**1.90**	**146**	⇓*i*P	Pn	14 42 51.6	+0.6
CACH				eS	Sb	14 43 17.2	0.0
LMEL	**Las Melosas**	**1.91**	**133**	⇑*i*P	Pn	14 42 51.5	+0.2
LMEL				*i* S	Sn	14 43 15.9	+0.6
LMEL				AML	AML	14 43 18.6	
	comp=N,190nm,0.2s						

NNC ***14*** *14:48:47.7±2.6,34.°58N×70.°37E,h0km,mb3.6,mpv4.1, Error ellipse: s-maj=30.8km s-min=20.3km az=130.0*
IDC ***14*** *14:48:48.3±1.0,34.°80N×70.°57E,h0km,mb3.8/9, mb1 3.8/13,mb1mx3.6/30,mbtmp3.7/13,ML3.2/4,Error ellipse: s-maj=22.7km s-min=19.3km az=19.0*
ISC 14 14:48:48.6±1.2,34.°30N±0.°07×70.°2E±0.°1,h63km,n47, σ1s93/49,mb3.6/9,6C-6D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.52**	**108**	⇓P	**Pn**	**14 49 14.2**	**+0.4**
CEP				S	**Sn**	**14 49 36.0**	**+3.2**
THW	**Thamme Wali**	**2.00**	**138**	⇓P	Pn	14 49 28.7	+8.6
CHCP	**Chirah Chowk**	**2.65**	**103**	⇓P	**Pn**	**14 49 31.7**	**+2.6**
THN	**Thein Dam**	**5.00**	**110**	*eP*	**Pn**	**14 50 02.6**	**+1.5**

THN				*eS*	**Sn**	**14 51 01.8**	**+4.1**
DLH	**Dalhousie**	**5.16**	**108**	*eP*	**Pn**	**14 50 05.0**	**+1.5**
DLH				*eS*	**Sn**	**14 51 04.0**	**+2.2**
DDI	**Dehra Dun**	**7.77**	**119**	*ex*	x	14 51 18.0	
DDI				*ex*	x	14 52 53.6	
KHET	**Khetri**	**7.86**	**141**	*eP*	**Pn**	**14 50 39.9**	**-0.5**
KHET				*eS*	**Sn**	**14 52 07.8**	**-0.1**
KHET				AML	AML	14 53 24.2	
	comp=N,10.0nm,0.1s						
KHET				AML	AML	14 53 24.4	
	comp=E,9.3nm,0.1s						
KUDL	**Kundal**	**8.18**	**137**	*eP*	**Pn**	**14 50 45.2**	**+0.5**
KUDL				*eS*	**Sn**	**14 52 15.5**	**-0.1**
KUDL				AML	AML	14 53 29.3	
	comp=E,17nm,0.6s						
KUDL				AML	AML	14 53 31.0	
	comp=N,12nm,0.4s						
AML	**Almayashu**	**8.30**	**19**	P	**Pn**	**14 50 45.9**	**-0.7**
	SNR=13						
AML				P	**Pn**	**14 50 45.9**	**-0.7**
	SNR=13						
KK31	**Karatay Array**	**8.79**	**2**	⇑Pn	**Pn**	**14 50 53.7**	**+0.7**
	comp=N,3.5nm,0.4s,baz=190,slow=17,SNR=75						
KK31				⇑Sn	**Sn**	**14 52 30.5**	**-0.1**
	comp=N,7.5nm,0.7s,baz=183,slow=22,SNR=6.8						
AAK	**Ala-Archa**	**8.98**	**21**	P	**Pn**	**14 50 53.0**	**-2.8**
	SNR=15						
AAK				P	**Pn**	**14 50 53.0**	**-2.8**
	SNR=15						
KBK	**Karagaybulak**	**9.15**	**23**	P	**Pn**	**14 50 59.4**	**+1.4**
	SNR=5.1						
KBK				P	**Pn**	**14 50 59.4**	**+1.4**
	SNR=5.1						
ULHL	**Ulahol**	**9.26**	**29**	P	Pn	14 51 08.8	+9.2
	SNR=6.5						
ULHL				P	Pn	14 51 08.8	+9.2
	SNR=6.5						
CHMS	**Chumysh**	**9.40**	**21**	P	**Pn**	**14 51 00.0**	**-1.2**
	SNR=6.1						
CHMS				P	**Pn**	**14 51 00.0**	**-1.2**
	SNR=6.1						
USP	**Ospenovka**	**9.57**	**19**	P	**Pn**	**14 51 02.5**	**-1.2**
	SNR=5.5						
USP				P	**Pn**	**14 51 02.5**	**-1.2**
	SNR=5.5						
TKM2	**Tokmak 2**	**9.60**	**25**	P	**Pn**	**14 51 03.3**	**-0.9**
	SNR=8.8						
TKM2				P	**Pn**	**14 51 03.3**	**-0.9**
	SNR=8.8						
TKM2	**Tokmak 2**	**9.60**	**25**	⇓Pn	**Pn**	**14 51 03.3**	**-0.9**
	comp=N,2.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 52 48.4**	**-2.1**
	comp=N,4.0nm,0.9s						
AGRA	**Agra**	**9.71**	**134**	*eP*	**Pn**	**14 51 07.3**	**+1.7**
AGRA				*eS*	**Sn**	**14 52 49.6**	**-3.6**
AGRA				AML	AML	14 54 04.9	
	comp=N,52nm,0.4s						
AGRA				AML	AML	14 54 09.2	
	comp=E,57nm,0.2s						
DANN	**Dangsing**	**13.04**	**113**	*eP*	**Pn**	**14 51 49.8**	**-1.5**
KOLN	**Koldanda**	**13.23**	**116**	*eP*	**Pn**	**14 51 52.6**	**-1.1**
	comp=E,11nm,0.5s						
GKN	**Gorkha**	**13.89**	**113**	*eP*	**Pn**	**14 52 00.6**	**-2.0**
	comp=E,15nm,0.4s						
DMN	**Daman**	**14.44**	**113**	*eP*	**Pn**	**14 52 07.9**	**-2.1**
	comp=E,21nm,0.6s						
KKN	**Kakani**	**14.48**	**113**	*eP*	**Pn**	**14 52 08.2**	**-2.3**
	comp=E,15nm,0.5s						
PKI	**Pulchoki**	**14.69**	**113**	*eP*	**Pn**	**14 52 11.0**	**-2.3**
	comp=E,22nm,0.7s						
GUN	**Gumba**	**14.89**	**111**	*eP*	**Pn**	**14 52 13.6**	**-2.2**
	comp=E,8.6nm,0.3s						
JIRN	**Jiri**	**15.25**	**111**	*eP*	**Pn**	**14 52 18.1**	**-2.4**
	comp=E,15nm,0.3s						
MK31	**Makanchi Array**	**15.49**	**33**	⇑P	**Pn**	**14 52 24.3**	**+1.2**
	comp=E,0.5nm,0.4s,baz=210,slow=12,SNR=21						
MKAR	**Makanchi Array**	**15.49**	**33**	Pn	**Pn**	**14 52 19.2**	**-3.9**
	comp=E,0.0nm,0

TCW	**Tory Channel**	**4.76 213**	PN	Pn	14 52 12.5	-3.0
TCW			SN	Sn	14 53 04.1	-5.3
QRZ	**Quartz Range**	**5.38 227**	PN	Pn	14 52 21.5	-2.4
QRZ			SN	Sn	14 53 21.4	-3.1
THZ	**Tophouse**	**5.83 218**	PN	Pn	14 52 26.6	-3.6
THZ			SN	Sn	14 53 30.6	-5.1

MEX 14 14:54:54.9±0.7, 16°54N×94°67W, h101km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.59**	**339**	*eP*	Pn	14 55 10.3	-1.1
CMIG				*i* S	Sn	14 55 22.0	-1.8
HUIG	**Huatulco**	**1.58**	**241**	*eP*	Pn	14 55 20.3	-1.9
HUIG				*i* S	Sn	14 55 41.8	-1.2
PCIG		**1.62**	**121**	*i* P	Pn	14 55 22.0	-0.7
PCIG				*i* S	Sn	14 55 42.4	-1.4
VHO	**Vista Hermosa**	**2.05**	**285**	*i* P	Pn	14 55 28.0	-0.4
VHO				*i* S	Sn	14 55 53.2	-0.8
CCIG	**Comitan**	**2.44**	**96**	*i* P	Pn	14 55 32.4	-1.1
CCIG				*i* S	Sn	14 56 01.2	-1.9
UTMO	**Huajuapan**	**3.26**	**294**	*i* P	Pn	14 55 44.1	-0.3
UTMO				*i* S	Sn	14 56 21.4	-1.3
PNIG	**Pinotepa**	**3.32**	**268**	*i* P	Pn	14 55 44.1	-0.9
PNIG				*i* S	Sn	14 56 22.9	-0.9

NNC 14 15:19:10.3±5.8, 38°65N×72°14E, h0km, mb3.5, mpv3.4, 2C-4D, Error ellipse: s-maj=47.9km s-min=38.0km az=7.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.62**	**345**	⇓Pn	Pn	15 20 21.1	-0.3
	2.0nm,0.3s,baz=167,slow=13,SNR=43						
KK31				⇑Sn	Sn	15 21 17.4	+1.6
	2.9nm,0.3s,baz=160,slow=24,SNR=3.9						
TKM2	**Tokmak 2**	**5.01**	**30**	⇓Pn	Pn	15 20 28.7	+1.7
	3.9nm,0.7s						
TKM2				⇓Lg	Lg	15 21 46.0	
	8.2nm,0.8s						
AB31	**Akbulak array**	**13.75**	**324**	⇓P	Pn	15 22 23.4	-3.0
	0.4nm,0.4s,baz=140,slow=16,SNR=20						
AKTO	**Aktyubinsk**	**15.46**	**324**	⇑P	Pn	15 22 47.2	-2.5
	0.2nm,0.7s						

IDC ***14*** *15:22:19.3±0.9, 2°60S×127°75E, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.4/19, mbtmp4.3/12, ML4.2/3, MS4.0/3, Ms1 4.0/3, ms1mx3.0/26, Error ellipse: s-maj=28.7km s-min=18.5km az=78.0*
BJI ***14*** *15:22:21.0, 3°72S×127°86E, h84km, mB5.2/18, mb4.8/32, Ms4.8/11, Ms7 4.5/11*
MOS ***14*** *15:22:22.8±1.1, 2°61S×127°61E, h33km, mb4.8/13, Error ellipse: s-maj=20.7km s-min=9.3km az=121.1*
ISCJB ***14*** *15:22:22.1±0.3, 2°70S±0°04×127°63E±0°05, h29km, mb4.7/49, MS4.1/4, Error ellipse: s-maj=8.0km s-min=4.4km az=155.7*
DJA ***14*** *15:22:23, 2°59S×127°44E, h15km, MLv4.8/10*
NEIC ***14*** *15:22:28.5±1.3, 2°78S×127°63E, h75km±13km, mb4.6/14, Error ellipse: s-maj=11.2km s-min=5.2km az=48.0*

ISC 14 15:22:24.0±0.4, 2°65S±0°04×127°54E±0°05, h29km, n132, σ1°44/131, mb4.7/49, MS4.1/4, 2C-3D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.73**	**217**	P	**Pb**	**15 22 37.0**	**-1.3**
AAI	**Ambon**	**1.22**	**148**	P	**Pb**	**15 22 47.4**	**+1.0**
MSAI	**Masohi**	**1.55**	**117**	P	**Pb**	**15 22 53.3**	**+1.3**
LBMI	**Labuha**	**2.00**	**359**	P	**Pn**	**15 22 56.6**	**+0.8**
TNTI	**Ternate**	**3.40**	**357**	P	**Pb**	**15 23 21.1**	**-2.5**
FAKI	**Fak Fak**	**4.71**	**93**	P	Pb	15 23 39.4	-6.4
KMSI	**Cibinong**	**4.79**	**312**	P	Pn	15 23 38.8	+4.6
LUWI	**Luwuk**	**5.03**	**288**	P	**Pn**	**15 23 37.4**	**-0.1**
MRSI	**Marisa**	**6.41**	**299**	P	**Pn**	**15 23 56.5**	**+0.1**
	79nm,0.6s,1μm0.5nm						
SPSI	**Sidrap Palu**	**7.87**	**260**	P	Pb	15 24 30.7	-9.0
KAPI	**Kappang**	**8.12**	**253**	Pn	**Pn**	**15 24 22.1**	**+2.1**
	0.6nm,0.3s,baz=80,slow=16,SNR=3.0						
KAPI	**Kappang**	**8.12**	**253**	P	**Pn**	**15 24 22.7**	**+2.7**
KKM	**Kota Kinabalu**	**14.23**	**307**	P	**P**	**15 25 50.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**15.47**	**187**	Pn	**Pn**	**15 26 01.0**	**+0.7**
	0.5nm,0.3s,baz=353,slow=8.4,SNR=12						
FITZ				LR	LR	15 32 28.7	
	comp=Z,84nm,18.7s,baz=185,slow=39						
FITZ	**Fitzroy Crossi**	**15.47**	**187**	*eP*	**P**	**15 26 05.0**	**+0.6**
	14nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.47**	**187**	*eP*	**P**	**15 26 05.0**	**+0.6**
WRAB	**Tennant Creek**	**18.42**	**159**	*eP*	**P**	**15 26 36.5**	**-0.6**
	45nm,0.9s						
WRA	**Warramunga Arr**	**18.42**	**159**	P	**P**	**15 26 35.2**	**-2.0**
	2.4nm,0.3s,baz=342,slow=12,SNR=63						
WRA				S	**Sn**	**15 29 59.0**	**-3.5**
	0.4nm,0.3s,baz=335,slow=21,SNR=5.9						
WRA	**Warramunga Arr**	**18.42**	**159**	P	**P**	**15 26 35.2**	**-2.0**
WRA				S	**Sn**	**15 29 59.0**	**-3.5**
WB2	**Warramunga Arr**	**18.43**	**159**	*eP*	**P**	**15 26 36.2**	**-1.0**
COEN	**Coen**	**19.10**	**127**	*eP*	**P**	**15 26 44.7**	**+0.1**
	248nm,0.8s						
MBWA	**Marble Bar**	**19.91**	**202**	*eP*	**P**	**15 26 53.6**	**+0.1**
PMG	**Port Moresby**	**20.62**	**110**	P	Pn	15 27 02.3	-1.3
	8.5nm,0.6s,baz=308,slow=7.7,SNR=9.8						
PMG	**Port Moresby**	**20.62**	**110**	*ceP*	Pn	15 27 03.3	-0.3
PMG				pmax	pmax		
	comp=Z,28nm,1.7s						
PMG	**Port Moresby**	**20.62**	**110**	*eP*	Pn	15 27 02.3	-1.3
	comp=Z,9.9nm,0.7s						
AS31	**Alice Springs**	**21.78**	**164**	*eP*	**P**	**15 27 12.3**	**-1.3**
CTA	**Charters Tower**	**25.18**	**135**	*eP*	**P**	**15 27 45.8**	**-1.4**
	comp=Z,7.6nm,0.8s						
TPUB	**Ta-pu**	**26.66**	**346**	*eP*	**P**	**15 28 01.7**	**+1.2**
	comp=Z,56nm,0.9s						
QIZ	**Qiongzhong**	**27.70**	**322**	P	P	15 28 15.3	+5.4
QIZ				S	**S**	**15 32 51.8**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,32nm,1.8s						
FORT	**Forrest**	**27.98**	**179**	*eP*	**P**	**15 28 11.0**	**-1.3**
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**31.94**	**157**	P	**P**	**15 28 46.5**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=340,slow=8.6,SNR=6.2						
STKA	**Stephens Creek**	**31.94**	**157**	*eP*	**P**	**15 28 46.4**	**-1.0**
	comp=Z,6.2nm,1.1s						
STKA	**Stephens Creek**	**31.94**	**157**	*eP*	**P**	**15 28 46.4**	**-1.0**
STKA	**Stephens Creek**	**31.94**	**157**	*eP*	**P**	**15 28 46.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**35.11**	**308**	P	**P**	**15 29 15.4**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=142,slow=7.5,SNR=8.8						
CMAR	**Chiang Mai Arr**	**35.11**	**308**	P	**P**	**15 29 15.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**35.11**	**308**	P	**P**	**15 29 15.4**	**+0.2**
GYA	**Guiyang**	**35.28**	**326**	*eP*	P	15 29 20.4	+3.8
GYA				pP	pP	15 29 41.3	+16
GYA				sP	sP	15 29 51.6	+23
GYA				PP	PP	15 30 43.3	+6.2
GYA				S	**S**	**15 34 48.9**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHTO	**Chiang Mai**	**35.31**	**308**	*eP*	**P**	**15 29 18.2**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**35.31**	**308**	*eP*	**P**	**15 29 18.2**	**+1.4**
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**35.31**	**308**	P	**P**	**15 29 19.1**	**+2.3**
	comp=Z,9.6nm,1.3s						
NJ2	**Nanjing**	**35.48**	**347**	*eP*	**P**	**15 29 20.6**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARMA	**Armidale**	**35.81**	**143**	*eP*	P	15 29 15.3	-5.9
KMI	**Kunming**	**36.62**	**320**	P	**P**	**15 29 30.9**	**+2.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
ENH	**Enshi**	**37.00**	**334**	*eP*	**P**	**15 29 31.9**	**+0.7**
	comp=Z,7.2nm,0.8s						
MAT	**Matsushiro**	**40.24**	**13**	P	**P**	**15 29 58.9**	**+0.6**
MJAR	**Matsushiro Arr**	**40.24**	**13**	P	**P**	**15 29 57.1**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=190,slow=9.7,SNR=9.1						
MJAR	**Matsushiro Arr**	**40.24**	**13**	P	**P**	**15 29 57.1**	**-1.2**
MJAR	**Matsushiro Arr**	**40.24**	**13**	P	**P**	**15 29 57.1**	**-1.2**
CD2	**Chengdu**	**40.34**	**328**	P	**P**	**15 30 00.3**	**+1.0**
CD2				pP	pP	15 30 20.6	+13
CD2				sP	sP	15 30 30.8	+19
CD2				PP	PP	15 31 38.5	+6.0
CD2				S	**S**	**15 36 03.6**	**-1.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,200nm,5.3s						
CD2				LR	LR		
	comp=E,300nm,4.8s						
CD2				LR	LR		
	comp=Z,420nm,6.5s						
XAN	**Xi'an**	**40.49**	**336**	P	**P**	**15 30 00.0**	**-0.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**44.44**	**332**	*eP*	**P**	**15 30 34.5**	**+1.8**
LZH				pP	pP	15 30 54.8	+13
LZH				sP	sP	15 31 04.8	+20
LZH				*eS*	**S**	**15 37 05.4**	**-0.6**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.7s						
SHL	**Shillong**	**44.49**	**311**	*eP*	**P**	**15 30 35.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**45.69**	**343**	*eP*	**P**	**15 30 45.1**	**+2.7**
HHC				pP	pP	15 31 08.3	+17
HHC				sP	sP	15 31 19.3	+25
HHC				PP	PP	15 32 35.3	+5.5
HHC				S	**S**	**15 37 22.3**	**-1.5**
HHC				sS	sS	15 38 02.4	+24
HHC				ScS	ScS	15 40 28.5	-8.3
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,93nm,5.1s						
HHC				LR	LR		
	comp=N,140nm,16.2s						
HHC				LR	LR		
	comp=E,180nm,15.3s						
HHC				LR	LR		
	comp=Z,130nm,17.3s						
CN2	**Changchun**	**46.28**	**358**	*eP*	P	15 30 53.6	+6.7
CN2				*es*P	sP	15 31 21.1	+22
CN2				*eS*	**S**	**15 37 37.3**	**+5.3**
CN2				SS	SS	15 40 57.3	-0.6
USRK	**Ussuriysk Arra**	**46.81**	**4**	P	**P**	**15 30 49.8**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=190,slow=8.4,SNR=4.7						
LSA	**Lhasa**	**47.39**	**315**	P	**P**	**15 30 58.4**	**+2.0**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**47.39**	**315**	*eP*	**P**	**15 30 58.6**	**+2.2**
LSA				pmax	pmax		
	comp=Z,21nm,0.8s						
LSA	**Lhasa**	**47.39**	**315**	*eP*	**P**	**15 30 58.6**	**+2.2**
	comp=Z,21nm,0.8s						
ODAN	**Odare**	**48.59**	**310**	*eP*	**P**	**15 31 06.9**	**+1.4**
	comp=Z,50nm,1.0s						
ODAN	**Odare**	**48.59**	**310**	*eP*	**P**	**15 31 06.9**	**+1.4**
	comp=Z,50nm,1.0s						
TAPN	**Taplejung**	**48.60**	**311**	*eP*	**P**	**15 31 07.0**	**+1.4**
	comp=Z,53nm,1.1s						
TAPN	**Taplejung**	**48.60**	**311**	*eP*	**P**	**15 31 07.0**	**+1.4**
	comp=Z,53nm,1.1s						
GTA	**Gaotai**	**49.01**	**331**	P	**P**	**15 31 09.3**	**+0.9**
GTA				pP	pP	15 31 30.1	+13
GTA				sP	sP	15 31 40.8	+20
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RAMN	**Ramite**	**49.24**	**309**	*eP*	**P**	**15 31 12.1**	**+1.6**
	comp=Z,98nm,1.1s						
RAMN	**Ramite**	**49.24**	**309**	*eP*	**P**	**15 31 12.1**	**+1.6**
	comp=Z,98nm,1.1s						
JIRN	**Jiri**	**49.92**	**310**	*eP*	**P**	**15 31 17.0**	**+1.2**
	comp=Z,38nm,1.1s						
JIRN	**Jiri**	**49.92**	**310**	*eP*	**P**	**15 31 17.0**	**+1.2**
	comp=Z,38nm,1.1s						
GUN	**Gumba**	**50.28**	**310**	*eP*	**P**	**15 31 19.7**	**+1.2**
	comp=Z,37nm,0.9s						
GUN	**Gumba**	**50.28**	**310**	*eP*	**P**	**15 31 19.7**	**+1.2**
	comp=Z,37nm,0.9s						
PKI	**Pulchoki**	**50.47**	**309**	*eP*	**P**	**15 31 20.8**	**+0.8**
PKI	**Pulchoki**	**50.47**	**309**	*eP*	**P**	**15 31 20.8**	**+0.8**
PKI	**Pulchoki**	**50.47**	**309**	*eP*	**P**	**15 31 20.8**	**+0.8**
KKN	**Kakani**	**50.68**	**310**	*eP*	**P**	**15 31 22.2**	**+0.8**
KKN	**Kakani**	**50.68**	**310**	*eP*	**P**	**15 31 22.2**	**+0.8**
KKN	**Kakani**	**50.68**	**310**	*eP*	**P**	**15 31 22.2**	**+0.8**
DMN	**Daman**	**50.72**	**309**	*eP*	**P**	**15 31 22.9**	**+1.1**
	comp=Z,39nm,1.0s						
DMN	**Daman**	**50.72**	**309**	*eP*	**P**	**15 31 22.9**	**+1.1**
	comp=Z,39nm,1.0s						
GKN	**Gorkha**	**51.28**	**310**	*eP*	**P**	**15 31 26.6**	**+0.8**
	comp=Z,36nm,1.0s						
GKN	**Gorkha**	**51.28**	**310**	*eP*	**P**	**15 31 26.6**	**+0.8**
	comp=Z,36nm,1.0s						
KOLN	**Koldanda**	**51.97**	**309**	*eP*	**P**	**15 31 32.3**	**+1.2**
	comp=Z,38nm,0.9s						
KOLN	**Koldanda**	**51.97**	**309**	*eP*	**P**	**15 31 32.3**	**+1.2**
	comp=Z,38nm,0.9s						
DANN	**Dangsing**	**52.12**	**309**	*eP*	**P**	**15 31 33.3**	**+1.0**
	comp=Z,67nm,1.0s						
DANN	**Dangsing**	**52.12**	**309**	*eP*	**P**	**15 31 33.3**	**+1.0**
	comp=Z,67nm,1.0s						
HYB	**Hyderabad**	**52.26**	**294**	*i* P	**P**	**15 31 33.0**	**-0.1**
ULN	**Ulaanbaatar**	**53.41**	**343**	*eP*	**P**	**15 31 41.8**	**+0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ULN	**Ulaanbaatar**	**53.41**	**343**	*eP*	**P**	**15 31 41.8**	**+0.5**
	comp=Z,8.6nm,1.3s						
ULN	**Ulaanbaatar**	**53.41**	**343**	P	**P**	**15 31 41.9**	**+0.6**
SONM	**Songino Array**	**53.58**	**342**	P	**P**	**15 31 42.9**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=146,slow=8.3,SNR=20						
SONM				PcP	**PcP**	**15 32 49.9**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=166,slow=4.4,SNR=5.2						
SONM	**Songino Array**	**53.58**	**342**	P	**P**	**15 31 42.9**	**+0.4**
SONM						15 32 49.9	
SONM	**Songino Array**	**53.58**	**342**	P	**P**	**15 31 42.9**	**+0.4**
SONM				PcP	**PcP**	**15 32 49.9**	**+1.1**
ZAK	**Zakamensk**	**56.79**	**342**	*eP*	**P**	**15 32 05.3**	**-0.3**
ZAK				*e*		15 33 02.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WMQ	**Urumqi**	**58.44**	**327**	P	**P**	**15 32 18.0**	**+0.7**
WMQ				pP	pP	15 32 38.0	+12
WMQ				sP	sP	15 32 44.0	+14
WMQ				pmax	pmax		
	comp=Z,14nm,1.0s						
WMQ				LR	LR		
	comp=N,49nm,22.0s						
WMQ				LR	LR		
	comp=Z,42nm,21.3s						
PETK	**Petropavlovsk-**	**61.05**	**20**	P	**P**	**15 32 34.7**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=214,slow=7.2,SNR=6.8						
PETK	**Petropavlovsk-**	**61.05**	**20**	P	**P**	**15 32 34.7**	**-0.3**
PETK	**Petropavlovsk-**	**61.05**	**20**	P	**P**	**15 32 34.7**	**-0.3**
BOD	**Bodaibo**	**61.25**	**352**	*eP*	**P**	**15 32 35.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSH	**Kashi**	**63.18**	**317**	*eP*	**P**	**15 32 51.4**	**+1.7**
KSH				*ep*P	pP	15 33 10.8	+12
KSH				*es*P	sP	15 33 19.8	+18
KSH				*ePcP*	**PcP**	**15 33 27.9**	**+0.8**
KSH				*ePP*	**PP**	**15 35 13.8**	**+4.8**
KSH				*e*ScP		15 37 21.8	
KSH				*e*PcS		15 37 30.1	
KSH				*eS*	S	15 41 13.1	-6.5
KSH				*e*ScS	SKSac	15 42 33.6	-7.4
KSH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,84nm,4.2s						
KSH				LR	LR		
	comp=N,140nm,5.8s						
KSH				LR	LR		
	comp=E,160nm,5.8s						
KSH				LR	LR		
	comp=Z,280nm,5.2s						
MK31	**Makanchi Array**	**63.27**	**327**	*eP*	**P**	**15 32 50.1**	**+0.1**
MK31	**Makanchi Array**	**63.27**	**327**	*eP*	**P**	**15 32 50.1**	**+0.1**
MKAR	**Makanchi Array**	**63.27**	**327**	P	**P**	**15 32 50.4**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=126,slow=7.8,SNR=49						
MKAR	**Makanchi Array**	**63.27**	**327**	P	**P**	**15 32 50.4**	**+0.3**
MKAR	**Makanchi Array**	**63.27**	**327**	P	**P**	**15 32 50.4**	**+0.3**
YAK	**Yakutsk**	**64.52**	**1**	*eP*	**P**	**15 32 58.2**	**+0.3**
YAK				*e*		15 33 16.4	
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK	**Yakutsk**	**64.52**	**1**	*eP*	**P**	**15 32 58.4**	**+0.5**
	comp=N,39nm,0.8s						
TKM2	**Tokmak 2**	**65.09**	**320**	*eP*	**P**	**15 33 02.4**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TKM2	**Tokmak 2**	**65.09**	**320**	*eP*	**P**	**15 33 02.4**	**+0.1**
	comp=Z,2.3nm,0.7s						
KBL	**Kabul**	**66.11**	**310**	*eP*	**P**	**15 33 09.3**	**+0.2**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBL	**Kabul**	**66.11**	**310**	*eP*	**P**	**15 33 09.3**	**+0.2**
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**66.63**	**334**	P	**P**	**15 33 10.9**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=142,slow=5.4,SNR=11						
ZALV	**Zalesovo Beam**	**66.63**	**334**	P	**P**	**15 33 10.9**	**-0.8**
ZALV	**Zalesovo Beam**	**66.63**	**334**	P	**P**	**15 33 10.9**	**-0.8**
KURK	**Kurchatov**	**67.55**	**329**	⇓*i*P	**P**	**15 33 17.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**67.55**	**329**	*eP*	**P**	**15 33 16.7**	**-0.9**
	comp=Z,14nm,0.9s						
NVS	**Novosibirsk**	**67.91**	**334**	*eP*	**P**	**15 33 16.8**	**-3.0**
SEY	**Seymchan**	**68.05**	**12**	*d*P	**P**	**15 33 21.2**	**+0.7**
KKAR	**Karatay Array**	**68.48**	**319**	*eP*	**P**	**15 33 23.4**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**68.48**	**319**	*eP*	**P**	**15 33 23.4**	**-0.2**
	comp=Z,1.9nm,0.6s						
RAR	**Rarotonga**	**72.91**	**111**	LR	LR	15 59 18.6	
	comp=Z,646nm,20.4s,slow=30						
BRVK	**Borovoye**	**73.17**	**328**	⇓*i*P	**P**	**15 33 52.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,13nm,1.3s						
BRVK	**Borovoye**	**73.17**	**328**	*eP*	**P**	**15 33 51.9**	**-0.1**
	comp=Z,15nm,1.4s						
BILL	**Bilibino**	**75.49**	**14**	*eP*	**P**	**15 34 06.7**	**+1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ABKAR	**Akbulak array**	**77.60**	**322**	*eP*	**P**	**15 34 17.3**	**-0.2**
	comp=Z,3.5nm,0.9s						
ARU	**Arti**	**80.74**	**328**	P	**P**	**15 34 31.4**	**-3.1**
SYO	**Syowa Base**	**86.81**	**201**	⇑*e*X	P	15 35 00.2	-5.1
ZEI	**Tsey**	**87.11**	**313**	*eP*	**P**	**15 35 07.7**	**0.0**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VRHR	**Novokhopersk**	**89.47**	**321**	*eP*	**P**	**15 35 16.9**	**-1.4**
VRHR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ILAR	**Eielson Array**	**90.48**	**25**	P	**P**	**15 35 21.0**	**-1.8**
	comp=Z,1.0nm,0.9s,baz=259,slow=4.4,SNR=7.7						
ILAR	**Eielson Array**	**90.48**	**25**	P	**P**	**15 35 21.0**	**-1.8**
ILAR	**Eielson Array**	**90.48**	**25**	P	**P**	**15 35 21.0**	**-1.8**
OBN	**Obninsk**	**92.71**	**325**	*eP*	**P**	**15 35 35.0**	**+1.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES	**ARCESS Array B**	**96.68**	**340**	LR	LR	16 21 41.2	
	comp=Z,56nm,18.3s,baz=352,slow=37						

CSEM ***14*** *15:27:20.9±0.2, 45°93N×13°82E, h15km, ML1.0, Error ellipse: s-maj=6.4km s-min=2.3km az=84.0*

LJU 14 15:27:21.2, 45°91N×13°81E, h10km, ML1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOJS	**Vojsko**	**0.13**	**23**	*i* Pg	Pg	15 27 24.7	+0.3
VOJS				*i* Sg	Sg	15 27 26.7	0.0
VOJS	**Vojsko**	**0.13**	**23**	Pg	Pg	15 27 24.7	+0.3
VOJS				*i* Sg	Sg	15 27 26.7	+0.1
JAVS	**Javornik**	**0.18**	**96**	*i* Pg	Pg	15 27 25.4	+0.2
JAVS				*i* Sg	Sg	15 27 27.9	0.0
JAVS							
	comp=Z,9.0nm,0.1s						
JAVS	**Javornik**	**0.18**	**96**	*i* Pg	Pg	15 27 25.4	+0.2
JAVS				*i* Sg	Sg	15 27 28.0	+0.1
	comp=Z,9.0nm,0.1s						
SKDS	**Skadanscina**	**0.39**	**159**	*i* Pg	Pg	15 27 28.9	-0.1
SKDS				*i* Sg	Sg	15 27 35.1	+0.8
SKDS							
	comp=Z,4.0nm,0.1s						
SKDS	**Skadanscina**	**0.39**	**159**	*i* Pg	Pg	15 27 28.9	-0.1
SKDS				*i* Sg	Sg	15 27 35.1	+0.8
	comp=Z,4.0nm,0.1s						
NVLJ	**Novalja**	**1.54**	**151**	*eP*g	Sn	15 28 06.4	-2.4
NVLJ				Sg	Sg	15 28 11.1	+0.2
NVLJ	**Novalja**	**1.54**	**151**	Sg	Sg	15 28 11.0	+0.2

DDA ***14*** *15:35:09.9, 36°93N×40°38E, h7km, MD3.0*
CSEM ***14*** *15:35:09.9, 36°93N×40°38E, h7km, MD3.0, After DDA*
ISCJB ***14*** *15:35:11.7±0.5, 36°92N±0°03×40°50E±0°05, h21km±7km, Error ellipse: s-maj=6.9km s-min=4.3km az=19.4*
NSSC ***14*** *15:35:12.8±0.3, 36°82N×40°49E, h11km±2km, ML1.7*

ISC 14 15:35:10.8±1.1, 36°94N±0°03×40°48E±0°03, h13km±9km, n13, σ0°88/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**0.44**	**32**	*i* P	**Pb**	**15 35 21.0**	**+0.3**
MARD				*i* S	**Sb**	**15 35 27.5**	**+0.2**
SFNV	**Sufian**	**0.60**	**210**	*i* P	**Pg**	**15 35 23.0**	**+0.4**
SFNV				*i* S	**Sg**	**15 35 31.1**	**+0.6**
SFNV				AML	AML	15 35 32.0	
	comp=Z,65nm,0.3s						
DIYA	**Diyarbakir**	**1.03**	**344**	*i* P	**Pg**	**15 35 29.8**	**-0.9**
DIYA				*i* S	**Sg**	**15 35 44.1**	**0.0**
DIYA	**Diyarbakir**	**1.03**	**344**	*i* P	**Pg**	**15 35 29.8**	**-0.9**
DIYA				*i* S	**Sg**	**15 35 44.1**	**0.0**
MZRK	**Al-Mazareg

comp=Z,2.1nm,0.6s,baz=49,slow=2.9,SNR=4.8
BRTR Keskin Array B 152.95 299 PKPbc PKPbc 16 55 47.1 +0.7
comp=Z,0.7nm,0.6s,baz=90,slow=2.9,SNR=4.7
TORD Torodi Ar. Bea 162.87 177 PKPab PKPab 16 56 41.4 +0.8
comp=Z,0.7nm,0.8s,baz=201,slow=1.8,SNR=3.1

*ISK **14** 16:45:07.7, 38˚.44N×39˚.06E, h2km, MD2.8*
*DDA **14** 16:45:08.4, 38˚.43N×39˚.07E, h15km, ML3.5*
*ISCJB **14** 16:45:09.1±0.5, 38˚.44N±0˚.04×39˚.07E±0˚.03, h10km±3km, Error ellipse: s-maj=6.0km s-min=3.8km az=4.0*
*CSEM **14** 16:45:09.1±0.2, 38˚.43N×39˚.05E, h5km, ML3.5, Error ellipse: s-maj=5.6km s-min=3.7km az=179.0*
ISC 14 16:45:09.2±0.9, 38˚.42N±0˚.03×39˚.07E±0˚.02, h11km±5km, n29, σ0§75/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.10**	**319**	*i* P		**Pg**	**16 45 12.2**	**0.0**
ELZG				*i* S		**Sg**	**16 45 14.4**	**+0.1**
ELZG	**Elazig**	**0.10**	**319**	*i* P		**Pg**	**16 45 12.2**	**0.0**
ELZG				*i* S		**Sg**	**16 45 14.4**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.20**	**103**	*e*PG		**Pg**	**16 45 12.7**	**-0.8**
SVRC				*e*SG		**Sg**	**16 45 16.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.20**	**103**	*e*Pg		**Pg**	**16 45 12.7**	**-0.8**
SVRC				*e*Sg		**Sg**	**16 45 16.7**	**+0.1**
MYA	**Malataya**	**0.51**	**259**	*e*PG		**Pg**	**16 45 18.3**	**-1.0**
MYA				*e*SG		**Sg**	**16 45 26.4**	**+0.4**
MYA	**Malataya**	**0.51**	**259**	*e*Pg		**Pg**	**16 45 18.3**	**-1.0**
MYA				*e*Sg		**Sg**	**16 45 26.5**	**+0.4**
MALT	**Malatya**	**0.51**	**258**	*e*PG		**Pg**	**16 45 18.7**	**-0.6**
MALT	**Malatya**	**0.51**	**258**	*e*Pg		**Pg**	**16 45 18.7**	**-0.6**
PTK	**Pertek**	**0.53**	**29**	*e*PG		**Pg**	**16 45 18.9**	**-0.8**
PTK	**Pertek**	**0.53**	**29**	*e*Pg		**Pg**	**16 45 18.9**	**-0.8**
AKCD	**Akcadag**	**0.91**	**262**	*i* P		**Pg**	**16 45 25.9**	**-0.8**
AKCD				*i* S		**Sb**	**16 45 39.0**	**-0.1**
AKCD	**Akcadag**	**0.91**	**262**	*i* P		**Pg**	**16 45 25.9**	**-0.8**
AKCD				*i* S		**Sb**	**16 45 39.0**	**-0.1**
KEMA	**Kemaliye**	**0.95**	**332**	*i* P		**Pg**	**16 45 27.2**	**-0.4**
KEMA				*i* S		**Sg**	**16 45 39.5**	**-0.6**
KEMA	**Kemaliye**	**0.95**	**332**	*i* P		**Pg**	**16 45 27.2**	**-0.4**
KEMA				*i* S		**Sg**	**16 45 39.5**	**-0.6**
DIYA	**Diyarbakir**	**0.97**	**121**	*i* P		**Pg**	**16 45 27.8**	**-0.1**
DIYA				*i* S		**Sb**	**16 45 40.9**	**0.0**
DIYA	**Diyarbakir**	**0.97**	**121**	*i* P		**Pg**	**16 45 27.8**	**-0.1**
DIYA				*i* S		**Sb**	**16 45 40.9**	**0.0**
DARE	**Darende-Malaty**	**1.12**	**299**	*e*PN		**Pn**	**16 45 32.2**	**+1.3**
DARE	**Darende-Malaty**	**1.12**	**299**	*e*Pn		**Pn**	**16 45 32.2**	**+1.3**
BINT	**Bingol**	**1.20**	**68**	*e*Pn		**Pg**	**16 45 34.7**	**+2.3**
ERZN	**Erzincan**	**1.27**	**24**	*e*PN		**Pn**	**16 45 32.4**	**-0.6**
EZC	**Erzincan**	**1.34**	**9**	*e*PN		**Pn**	**16 45 34.0**	**-0.1**
EZC	**Erzincan**	**1.34**	**9**	*e*Pn		**Pn**	**16 45 34.0**	**-0.1**
BNGB	**Bing¶ll**	**1.38**	**65**	*e*PN		**Pn**	**16 45 34.6**	**+0.1**
GZT	**Gaziantep**	**1.60**	**229**	*e*P		**Pn**	**16 45 37.9**	**+0.4**
GZT				*e*S		**Sg**	**16 46 00.0**	**-0.5**
BEST	**Besiri**	**1.82**	**106**	*i* P		**Pn**	**16 45 39.5**	**-1.0**
BEST				*i* S		**Sn**	**16 46 03.7**	**+0.1**
GAZ	**Gaziantep**	**1.93**	**230**	*e*PN		**Pn**	**16 45 42.7**	**+0.7**
GAZ	**Gaziantep**	**1.93**	**230**	*e*Pn		**Pn**	**16 45 42.7**	**+0.7**
KMRS	**Kahramanmaras**	**1.94**	**242**	*e*PN		**Pn**	**16 45 43.2**	**+1.0**
KMRS	**Kahramanmaras**	**1.94**	**242**	*e*Pn		**Pn**	**16 45 43.2**	**+1.0**

*IDC **14** 16:59:59.0±1.9, 43˚.37N×105˚.27W, h0km, mb1 3.6/3, mb1mx3.3/25, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=45.4km s-min=9.1km az=153.0*
*NEIC **14** 16:59:59.9±0.6, 43˚.63N×105˚.14W, h0km, ML3.0, Error ellipse: s-maj=8.1km s-min=6.9km az=136.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
*ISCJB **14** 17:00:00.3±0.2, 43˚.60N±0˚.01×105˚.29W±0˚.02, h0km, Error ellipse: s-maj=2.5km s-min=2.0km az=168.5*
ISC 14 17:00:00.4±0.7, 43˚.60N±0˚.02×105˚.21W±0˚.02, h0km, n94, σ1§02/112, 39C-43D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.32**	**232**	⇑P		**Pg**	**17 00 06.4**	**-0.1**
	baz=0.4,SNR=558							
J23A				⇓S		**Sg**	**17 00 09.3**	**-1.3**
	baz=0.4							
I23A	**Meade Ranch, G**	**0.40**	**333**	⇑P		**Pg**	**17 00 09.0**	**+0.9**
	baz=0.4,SNR=40							
I23A				⇓S		**Sg**	**17 00 12.6**	**-0.8**
	baz=0.4							
J24A	**Dixon Ranch, L**	**0.48**	**124**	P		**Pb**	**17 00 11.3**	**-0.6**
	baz=0.5,SNR=290							
I24A	**Kuemmerle Ranc**	**0.50**	**58**	⇑P		**Pb**	**17 00 11.7**	**-0.4**
	baz=0.4,SNR=1000							
K23A	**Bowen Ranch, D**	**0.90**	**200**	⇓P		**Pg**	**17 00 17.5**	**-0.1**
	baz=0.9,SNR=18							
K24A	**Anderson Ranch**	**0.92**	**162**	⇑P		**Pg**	**17 00 18.4**	**+0.3**
	baz=0.9,SNR=22							
J22A	**Midwest**	**0.94**	**259**	P		**Pg**	**17 00 17.2**	**-1.2**
	baz=1.0,SNR=271							
I22A	**9 Mile Ranch,**	**0.97**	**288**	P		**Pg**	**17 00 18.1**	**-0.8**
	baz=1.0,SNR=369							
H23A	**Clabaugh Cattl**	**0.97**	**352**	⇑P		**Pb**	**17 00 18.9**	**-1.3**
	baz=0.9,SNR=48							
RSSD	**Black Hills**	**1.00**	**58**	*e*Pn		**Pn**	**17 00 20.3**	**-1.6**
H24A	**Dirks Ranch, A**	**1.24**	**22**	⇓P		**Pn**	**17 00 24.1**	**-1.0**
	baz=1.2							
H24A				⇑S		**Sn**	**17 00 42.7**	**+0.1**
	baz=1.2							
H22A	**Clearmont**	**1.29**	**321**	⇑P		**Pg**	**17 00 24.5**	**-0.6**
	baz=1.3,SNR=84							
K22A	**Casper**	**1.35**	**226**	⇑P		**Pn**	**17 00 24.6**	**-2.1**
	baz=1.4,SNR=105							
K25A	**Mack Ranch, Ha**	**1.39**	**135**	⇓P		**Pb**	**17 00 28.1**	**+0.7**
	baz=1.4,SNR=226							
I21A	**Big Trails, Te**	**1.52**	**279**	P		**Pn**	**17 00 27.4**	**-1.6**
	baz=1.6,SNR=529							
I21A				⇑S		**Sn**	**17 00 48.1**	**-1.6**
	baz=1.6							
L23A	**Garrett**	**1.53**	**194**	⇑P		**Pn**	**17 00 28.2**	**-1.1**
	baz=1.6,SNR=298							
L24A	**Wheatland**	**1.57**	**172**	⇓P		**Pn**	**17 00 29.5**	**-0.2**
	baz=1.6,SNR=71							
G23A	**Biddle**	**1.60**	**355**	⇓P		**Pb**	**17 00 30.3**	**-0.7**
	baz=1.6,SNR=196							
J21A	**Lysite**	**1.65**	**262**	P		**Pn**	**17 00 29.5**	**-1.3**
	baz=1.7,SNR=163							
J21A				⇓S		**Sn**	**17 00 51.4**	**-1.4**
	baz=1.7							
H21A	**Big Horn, Sher**	**1.67**	**309**	⇓P		**Pn**	**17 00 30.7**	**-0.4**
	baz=1.7,SNR=127							
L25A	**Engebretsen Ra**	**1.71**	**147**	⇓Pb		**Pg**	**17 00 33.4**	**+0.2**
	baz=1.7,SNR=54							
K26A	**Motz Farm, Whi**	**1.74**	**120**	⇓P		**Pg**	**17 00 33.0**	**-0.7**
	baz=1.7,SNR=17							
K21A	**Alcova**	**1.78**	**238**	P		**Pn**	**17 00 32.1**	**-0.5**
	baz=1.8,SNR=459							
K21A				⇓S		**Sn**	**17 00 55.4**	**-0.6**
	baz=1.8							
G22A	**Birney**	**1.79**	**335**	⇓P		**Pb**	**17 00 33.2**	**-1.0**
	baz=1.8,SNR=64							
G22A				⇑Sg		**Sg**	**17 00 59.4**	**+1.4**
	baz=1.8							
L22A	**Ellis Ranch, M**	**1.81**	**210**	⇑P		**Pn**	**17 00 32.9**	**-0.2**
	baz=1.9,SNR=43							
G24A	**Alzada**	**1.82**	**18**	⇓P		**Pg**	**17 00 34.3**	**-1.0**
	baz=1.8,SNR=18							
G24A				⇓Sb		**Sg**	**17 01 00.7**	**+1.9**
	baz=1.8							
J20A	**Shoshoni**	**2.11**	**264**	⇓Pb		**Pn**	**17 00 38.4**	**+1.3**
	baz=2.2							
J20A				⇑Sb		**Sn**	**17 01 05.8**	**+1.7**
	baz=2.2							
F23A	**Volborg**	**2.12**	**356**	P		**Pb**	**17 00 37.8**	**-2.0**
	baz=2.1,SNR=117							
F23A				⇓Sb		**Sg**	**17 01 08.5**	**-0.1**
	baz=2.1							
I20A	**Worland**	**2.14**	**280**	⇓P		**Pn**	**17 00 37.9**	**+0.3**
	baz=2.2,SNR=74							
I20A				⇑Sb		**Sn**	**17 01 06.4**	**+1.5**
	baz=2.2							
M24A	**Cheyenne**	**2.15**	**172**	⇑P		**Pn**	**17 00 39.0**	**+1.3**
	baz=2.2							
G21A	**Lodge Grass**	**2.16**	**319**	⇑P		**Pn**	**17 00 38.1**	**+0.3**
	baz=2.2,SNR=64							
G21A				⇓Sb		**Sb**	**17 01 08.6**	**+0.6**
	baz=2.2							
M23A	**Laramie**	**2.17**	**190**	⇑P		**Pn**	**17 00 38.5**	**+0.5**
	baz=2.2							
M23A				⇑Sb		**Sb**	**17 01 09.0**	**+0.9**
	baz=2.2							
H20A	**Greybull**	**2.20**	**295**	⇓P		**Pn**	**17 00 38.1**	**-0.2**
	baz=2.2,SNR=38							
H20A				⇑Sb		**Sn**	**17 01 07.7**	**+1.4**
	baz=2.2							
L21A	**Rawlins**	**2.28**	**225**	⇑P		**Pn**	**17 00 39.8**	**+0.3**
	baz=2.3							
F22A	**Rosebud**	**2.30**	**341**	⇑P		**Pn**	**17 00 39.9**	**+0.2**
	baz=2.3,SNR=67							
PHWY	**Pilot Hill**	**2.31**	**185**	*e*Pn		**Pn**	**17 00 40.2**	**+0.3**
M25A	**Palm-Egli Farm**	**2.33**	**158**	⇑P		**Pb**	**17 00 41.6**	**-1.7**
	baz=2.3							
M25A				⇑Sb		**Sg**	**17 01 14.7**	**-0.5**
	baz=2.3							
K27A	**Flueckinger Fa**	**2.35**	**111**	⇓P		**Pb**	**17 00 42.6**	**-1.1**
	baz=2.3							
K27A				⇑Sb		**Sg**	**17 01 16.2**	**+0.2**
	baz=2.3							
RWWY	**Rawlins**	**2.41**	**218**	*e*P		**Pn**	**17 00 42.8**	**+1.4**
M22A	**Cedar Creek Ra**	**2.42**	**205**	⇑P		**Pn**	**17 00 42.9**	**+1.4**
	baz=2.5							
K20A	**Yellowstone Ra**	**2.48**	**249**	⇓Pb		**Pn**	**17 00 44.2**	**+1.9**
	baz=2.5							
K20A				⇓Sb		**Sn**	**17 01 16.2**	**+2.9**
	baz=2.5							
M21A	**Separation Pea**	**2.55**	**219**	⇑Sb		Sb	17 01 18.8	-0.8
	baz=2.6							
F21A	**Absaloka Mine,**	**2.61**	**329**	⇓P		**Pn**	**17 00 43.3**	**-0.6**
	baz=2.6,SNR=9.9							
G20A	**Bridger**	**2.69**	**308**	P		**Pn**	**17 00 44.5**	**-0.7**
	baz=2.7,SNR=62							
N23A	**Red Feather La**	**2.76**	**192**	⇑P		**Pn**	**17 00 47.3**	**+1.1**
	baz=2.8							
J19A	**Crowheart**	**2.82**	**264**	⇑Sb		Sb	17 01 26.2	-0.9
	baz=2.9							
E22A	**Miles City**	**2.88**	**350**	⇓P		**Pn**	**17 00 47.5**	**-0.2**
	baz=2.9,SNR=12							
E24A	**Baker**	**3.03**	**12**	⇓P		**Pn**	**17 00 51.1**	**+1.4**
	baz=3.0,SNR=16							
F20A	**Billings**	**3.04**	**317**	⇑P		**Pn**	**17 00 49.5**	**-0.4**
	baz=3.0,SNR=27							
RLMT	**Red Lodge**	**3.28**	**299**	*e*Pn		**Pn**	**17 00 53.2**	**-0.1**
RLMT	**Red Lodge**	**3.28**	**299**	⇓P		**Pn**	**17 00 53.3**	**0.0**
	baz=3.3,SNR=38							
RLMT				⇓P		**Pn**	**17 00 53.3**	**0.0**
	baz=3.3,SNR=38							
PDAR	**Pinedale Array**	**3.29**	**257**	Pn		**Pn**	**17 00 53.3**	**-0.1**
	2.8nm,0.3s,baz=85,slow=13,SNR=70							
PDAR				Lg		Lg	17 01 38.6	
	11nm,0.3s,baz=85,slow=34,SNR=15							
PDAR	**Pinedale Array**	**3.29**	**257**	Pn		**Pn**	**17 00 53.3**	**-0.1**
PDAR				Lg		Lg	17 01 38.6	
H18A	**Shoshone NF, C**	**3.38**	**290**	⇓P		**Pn**	**17 00 54.9**	**+0.2**
	baz=3.4,SNR=29							
F19A	**Roth Farm, Mol**	**3.49**	**312**	⇑P		**Pn**	**17 00 56.2**	**+0.2**
	baz=3.5,SNR=66							
G18A	**Lazy EL Ranch,**	**3.56**	**300**	⇓P		**Pn**	**17 00 57.2**	**+0.1**
	baz=3.6,SNR=46							
E20A	**Meyer Farm, Mu**	**3.56**	**326**	⇓P		**Pn**	**17 00 57.3**	**+0.3**
	baz=3.6							
D24A	**Glendive**	**3.57**	**10**	⇓P		**Pn**	**17 00 59.0**	**+1.9**
	baz=3.5,SNR=8.4							
D22A	**Cohagen**	**3.61**	**349**	⇓P		**Pn**	**17 00 58.8**	**+1.0**
	baz=3.6,SNR=9.3							
ISCO	**Idaho Springs**	**3.81**	**185**	Pn		**Pn**	**17 00 59.5**	**-1.1**
E19A	**Rath Farm, Rou**	**3.82**	**320**	⇑P		**Pn**	**17 01 00.6**	**0.0**
	baz=3.8							
GCMT	**Greycliff**	**3.86**	**306**	*e*Pn		**Pn**	**17 01 01.5**	**+0.4**
LKWY	**Lake**	**3.86**	**286**	*e*Pn		**Pn**	**17 01 04.0**	**+2.7**
LOHW	**Long Hollow**	**3.92**	**272**	*e*Pn		**Pn**	**17 01 01.6**	**-0.4**
F18A	**Big Timber**	**3.95**	**307**	⇑P		**Pn**	**17 01 03.2**	**+0.8**
	baz=4.0,SNR=34							
FLWY	**Flagg Ranch**	**4.00**	**279**	*e*Pn		**Pn**	**17 01 04.1**	**+0.9**
MOOW	**Moose Ponds**	**4.02**	**274**	*e*Pn		**Pn**	**17 01 02.3**	**-1.1**
SNOW	**Snow King Moun**	**4.03**	**270**	*e*Pg		**Pb**	**17 01 13.3**	**+0.8**
D20A	**Manuel Ranch,**	**4.05**	**330**	⇓P		**Pn**	**17 01 03.9**	**+0.2**
	baz=4.0,SNR=8.1							
YNR	**Norris Junctio**	**4.09**	**288**	*e*Pg		**Pb**	**17 01 14.6**	**+1.2**
REDW	**Red Top Meadow**	**4.11**	**269**	*e*Pg		**Pb**	**17 01 12.6**	**-1.3**
C22A	**Vida**	**4.17**	**354**	⇑P		**Pn**	**17 01 06.5**	**+1.2**
	baz=4.1,SNR=12							
C23A	**Lambert**	**4.20**	**0**	⇑P		**Pn**	**17 01 07.2**	**+1.4**
	baz=4.2,SNR=52							
P26A	**Davis Ranch, A**	**4.27**	**160**	⇑P		**Pn**	**17 01 07.9**	**+1.0**
	baz=4.3,SNR=32							
YMR	**Madison River**	**4.28**	**286**	*e*Pg		**Pb**	**17 01 15.7**	**-0.9**
E18A	**Harlowton**	**4.46**	**313**	⇓P		**Pn**	**17 01 09.5**	**+0.1**
	baz=4.5,SNR=19							
Q26A	**Hugo**	**4.84**	**164**	⇓P		**Pn**	**17 01 15.4**	**+0.7**
	baz=4.9,SNR=12							
C19A	**Slack Wire Ran**	**4.93**	**328**	⇓P		**Pn**	**17 01 16.6**	**+0.8**
	baz=4.9,SNR=14							
D17A	**Six Diamond Ra**	**5.24**	**315**	⇑P		**Pn**	**17 01 20.0**	**-0.2**
	baz=5.2,SNR=54							
E16A	**East Helena**	**5.44**	**305**	⇓P		**Pn**	**17 01 22.4**	**-0.4**
	baz=5.4,SNR=9.4							
R26A	**Arlington**	**5.46**	**165**	⇓P		**Pn**	**17 01 23.7**	**+0.5**
	baz=5.5,SNR=64							
DAU	**Daniels Canyon**	**5.52**	**237**	P		**Pn**	**17 01 24.0**	**-0.1**
R27A	**Eads**	**5.62**	**160**	⇑P		**Pn**	**17 01 26.1**	**+0.8**
	baz=5.6,SNR=14							
HRY	**Holter Researc**	**5.62**	**306**	*e*Pn		**Pn**	**17 01 25.0**	**-0.4**
D16A	**Dana Ranch, Ca**	**5.63**	**310**	⇑P		**Pn**	**17 01 25.5**	**0.0**
	baz=5.6,SNR=13							
S25A	**Robets Cordova**	**5.96**	**174**	⇓P		**Pn**	**17 01 30.2**	**+0.1**
	baz=6.0,SNR=9.1							
S26A	**Kim**	**6.12**	**167**	⇑P		**Pn**	**17 01 32.7**	**+0.5**
	baz=6.1,SNR=22							
C15A	**Salmond Ranch,**	**6.65**	**311**	⇓P		**Pn**	**17 01 38.8**	**-0.8**
	baz=6.7,SNR=17							
S17A	**Black Ridge (B**	**7.32**	**217**	⇓P		**Pn**	**17 01 48.4**	**-0.3**
	baz=7.4,SNR=13							
B14A	**Marquette Ranc**	**7.36**	**313**	⇓P		**Pn**	**17 01 49.1**	**-0.1**
	baz=7.4,SNR=7.2							
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		**Pn**	**17 02 13.2**	**-1.3**
	0.9nm,0.3s,baz=228,slow=12,SNR=8.6							
ULM				Sn		**Sn**	**17 03 59.1**	**+0.2**
	0.5nm,0.3s,baz=161,slow=16,SNR=3.4							
ULM				Lg		Lg	17 04 51.5	
	0.7nm,0.3s,baz=223,slow=19,SNR=4.2							
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		**Pn**	**17 02 13.2**	**-1.3**
ULM				Sn		**Sn**	**17 03 59.1**	**+0.2**
ULM				Lg		Lg	17 04 51.5	
NVAR	**Mina Array Bea**	**11.16**	**247**	Pn		**Pn**	**17 02 42.5**	**+1.2**
	0.1nm,0.3s,baz=55,slow=16,SNR=2.4							
NVAR	**Mina Array Bea**	**11.16**	**247**	Pn		**Pn**	**17 02 42.5**	**+1.2**

*ISCJB **14** 17:04:33.6±0.3, 18˚.09N±0˚.02×100˚.04W±0˚.02, h60km±3km, mb4.1/14, Error ellipse: s-maj=4.1km s-min=3.3km az=8.3*
*NEIC **14** 17:04:35.8, 18˚.10N×100˚.07W, h51km, mb4.0/12, After MEX.*
*MEX **14** 17:04:35.8±0.8, 18˚.10N×100˚.07W, h51km±7km, MD4.4*
*IDC **14** 17:04:35.1±1.3, 18˚.34N×99˚.96W, h55km±5km, mb4.0/9, mb1 4.1/12, mb1mx3.9/22, mbtmp3.9/12, MS2.9/2, Ms1 2.9/2, ms1mx2.6/28, Error ellipse: s-maj=32.7km s-min=21.2km az=28.0*
ISC 14 17:04:34.2±0.5, 18˚.12N±0˚.03×100˚.06W±0˚.02, h55km±4km, h54km:pP-P, n221, σ1§10/268, mb4.1/14, 68C-67D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.46**	**115**	P		**Pn**	**17 04 45.2**	**-0.2**
MEIG				*S*		**Sn**	**17 04 53.5**	**0.0**
MEIG	**Mezcala**	**0.46**	**115**	*e*P		**Pn**	**17 04 45.2**	**-0.2**
MEIG				*i* S		**Sn**	**17 04 53.5**	**0.0**
PLIG	**Platanillo**	**0.59**	**63**	P		**Pn**	**17 04 46.8**	**-0.1**
PLIG				S		**Sn**	**17 04 55.9**	**-0.2**
PLIG	**Platanillo**	**0.59**	**63**	*e*P		**Pn**	**17 04 46.8**	**-0.1**
PLIG				*i* S		**Sn**	**17 04 55.9**	**-0.2**
CAIG	**El Cayaco**	**1.09**	**191**	P		**Pn**	**17 04 52.5**	**-0.7**
CAIG				S		**Sn**	**17 05 06.2**	**-1.1**
CAIG	**El Cayaco**	**1.09**	**191**	*e*P		**Pn**	**17 04 52.5**	**-0.7**
CAIG				*i* S		**Sn**	**17 05 06.2**	**-1.1**
YAIG	**Yautepec**	**1.19**	**52**	P		**Pn**	**17 04 54.6**	**-0.1**
YAIG				S		**Sn**	**17 05 10.1**	**+0.1**
YAIG	**Yautepec**	**1.19**	**52**	*e*P		**Pn**	**17 04 54.6**	**-0.1**
YAIG				*i* S		**Sn**	**17 05 10.1**	**+0.1**
MZVM		**1.32**	**36**	*i* P		**Pn**	**17 04 57.4**	**+1.0**
MZVM				*i* S		**Sn**	**17 05 12.9**	**+0.1**
SZVM	**Salazar**	**1.35**	**28**	P		**Pn**	**17 04 57.7**	**+0.5**
SZVM				S		**Sn**	**17 05 13.7**	**-0.6**
SZVM	**Salazar**	**1.35**	**28**	*i* P		**Pn**	**17 04 57.7**	**+0.5**
SZVM				*i* S		**Sn**	**17 05 13.7**	**-0.6**
ZIIG	**Zihuatanejo**	**1.44**	**249**	P		**Pn**	**17 04 57.2**	**-0.7**
ZIIG				S		**Sn**	**17 05 15.2**	**-0.4**
ZIIG	**Zihuatanejo**	**1.44**	**249**	*e*P		**Pn**	**17 04 57.2**	**-0.7**
ZIIG				*i* S		**Sn**	**17 05 15.2**	**-0.4**
UNM	**Universidad Na**	**1.46**	**35**	P		**Pn**	**17 04 58.9**	**+0.4**
UNM				S		**Sn**	**17 05 16.9**	**+0.1**
UNM	**Universidad Na**	**1.46**	**35**	*e*P		**Pn**	**17 04 58.9**	**+0.4**
UNM				*i* S		**Sn**	**17 05 16.9**	**+0.1**
PBIG	**Penon de los B**	**1.60**	**35**	*i* P		**Pn**	**17 05 00.7**	**+0.5**
PBIG				*i* S		**Sn**	**17 05 19.1**	**-0.6**
PBVM	**Pinon**	**1.60**	**35**	P		**Pn**	**17 05 00.7**	**+0.5**
PBVM	**Pinon**	**1.60**	**35**	*e*P		**Pn**	**17 05 00.7**	**+0.5**
PPM	**Popocatepetl**	**1.65**	**55**	P		**Pn**	**17 05 01.7**	**+0.4**
PPM				S		**Sn**	**17 05 21.6**	**0.0**
PPM	**Popocatepetl**	**1.65**	**55**	*e*P		**Pn**	**17 05 01.7**	**+0.4**
PPM				*i* S		**Sn**	**17 05 21.6**	**0.0**
PTVM	**Pico Tres Padr**	**1.71**	**31**	P		**Pn**	**17 05 01.9**	**0.0**
PTVM				S		**Sn**	**17 05 22.6**	**-0.2**
PTVM	**Pico Tres Padr**	**1.71**	**31**	*e*P		**Pn**	**17 05 01.9**	**0.0**
PTVM				*i* S		**Sn**	**17 05 22.6**	**-0.2**
MOIG	**Morelia**	**1.88**	**325**	P		**Pn**	**17 05 04.2**	**0.0**
MOIG				S		**Sn**	**17 05 25.7**	**-1.3**
MOIG	**Morelia**	**1.88**	**325**	*e*P		**Pn**	**17 05 04.2**	**0.0**
MOIG				*i* S		**Sn**	**17 05 25.7**	**-1.3**
IIO	**Organos**	**1.93**	**41**	P		**Pn**	**17 05 05.0**	**+0.1**
IIO				S		**Sn**	**17 05 22.7**	**-5.6**
IIO	**Organos**	**1.93**	**41**	*e*P		**Pn**	**17 05 05.0**	**+0.1**
IIO				*i* S		**Sn**	**17 05 28.3**	**0.0**
UTMO	**Huajuapan**	**2.16**	**97**	P		**Pn**	**17 05 09.2**	**+1.2**
UTMO				S		**Sn**	**17 05 32.9**	**-0.9**
UTMO	**Huajuapan**	**2.16**	**97**	*e*P		**Pn**	**17 05 09.2**	**+1.2**
UTMO				*e*S		**Sn**	**17 05 32.9**	**-0.9**
PNIG	**Pinotepa**	**2.52**	**133**	P		**Pn**	**17 05 13.3**	**+0.5**
PNIG				S		**Sn**	**17 05 42.4**	**+0.1**
PNIG	**Pinotepa**	**2.52**	**133**	*e*P		**Pn**	**17 05 13.3**	**+0.5**
PNIG				*i* S		**Sn**	**17 05 42.4**	**+0.1**
TPIG	**Tehuac#an**	**2.58**	**83**	P		**Pn**	**17 05 14.7**	**+1.1**
TPIG				S		**Sn**	**17 05 43.5**	**-0.4**
TPIG	**Tehuac#an**	**2.58**	**83**	*e*P		**Pn**	**17 05 14.7**	**+1.1**
TPIG				*i* S		**Sn**	**17 05 43.5**	**-0.4**
MMIG	**Aquila**	**3.13**	**274**	P		**Pn**	**17 05 20.4**	**-0.6**
MMIG				S		**Sn**	**17 05 57.0**	**-0.2**
MMIG	**Aquila**	**3.13**	**274**	*e*P		**Pn**	**17 05 20.4**	**-0.6**
MMIG				*i* S		**Sn**	**17 05 57.0**	**-0.2**
VHO	**Vista Hermosa**	**3.34**	**108**	P		**Pn**	**17 05 26.0**	**+1.9**
VHO				S		**Sn**	**17 06 02.6**	**0.0**
VHO	**Vista Hermosa**	**3.34**	**108**	*e*P		**Pn**	**17 05 26.0**	**+1.9**
VHO				*i* S		**Sn**	**17 06 02.6**	**0.0**
EZ5V		**3.62**	**292**	*e*P		**Pn**	**17 05 30.1**	**+2.1**
EZ5V				*i* S		**Sn**	**17 06 10.1**	**+0.5**
R15V		**3.87**	**286**	*e*P		**Pn**	**17 05 32.6**	**+1.4**
R15V				*i* S		**Sn**	**17 06 14.6**	**-0.8**
HUIG	**Huatulco**	**4.44**	**121**	P		**Pn**	**17 05 40.8**	**+1.7**
HUIG				S		**Sn**	**17 06 29.1**	**-0.5**
HUIG	**Huatulco**	**4.44**	**121**	*e*P		**Pn**	**17 05 40.8**	**+1.7**
HUIG				*i* S		**Sn**	**17 06 29.1**	**-0.5**
CMIG	**Matias Romero**	**5.04**	**101**	P		**Pn**	**17 05 48.1**	**+0.9**
	11nm,0.3s,ba

	baz=20									
Y12C	Blythe	20.25	323	⇑P	P	17 09 06.8	+1.8			
	baz=20									
R26A	Arlington	20.32	352	⇓P	P	17 09 06.7	+0.8			
	baz=20									
MVCO	Mesa Verde	20.41	340	*e*P	Pn	17 09 09.3	-0.2			
	8.9nm,0.7s									
MVCO	Mesa Verde	20.41	340	⇑P	P	17 09 08.5	+1.5			
	baz=20									
S22A	4UR Ranch, Cre	20.43	344	⇓P	P	17 09 08.2	+0.9			
	baz=20									
PDMCI	Parker Dam,Lak	20.44	325	⇓P	P	17 09 08.9	+1.9			
	baz=20									
SWSC	Sam W. Stewart	20.44	319	⇑P	P	17 09 09.1	+2.1			
	baz=20									
DVTC	Desert V Tower	20.45	318	⇓P	Pn	17 09 09.5	-0.3			
	baz=20									
U16A	Tuba City	20.45	334	⇑P	P	17 09 09.4	+2.0			
	baz=20									
R24A	Sanders Place,	20.52	349	⇓P	P	17 09 09.0	+0.9			
	baz=21									
S21A	Coal Bank Pass	20.62	342	⇑P	P	17 09 10.2	+0.9			
	baz=21									
R23A	Moffat	20.62	347	⇓P	P	17 09 09.9	+0.6			
	baz=21									
U17A	Shonto	20.65	335	⇑P	P	17 09 10.8	+1.3			
	baz=21									
BC3	Big Chuckawall	20.72	321	⇓P	Pn	17 09 12.6	-0.5			
	baz=21									
MONP	Monument Peak	20.80	318	⇑P	P	17 09 13.1	+1.9			
	baz=21,SNR=9.2									
T18A	Mexican Hat	20.82	337	⇑P	P	17 09 12.9	+1.6			
	baz=21									
BAR	Barrett	20.82	317	*e*P	P	17 09 12.3	+1.0			
	6.3nm,0.9s									
IRM	Iron Mountain	20.90	323	⇑P	P	17 09 13.7	+1.6			
	baz=21,SNR=8.4									
W13A	Hualapai Mount	20.91	327	⇑P	P	17 09 14.5	+2.1			
	baz=21									
S20A	Disappointment	20.94	341	⇓P	P	17 09 14.1	+1.4			
	baz=21									
T17A	Navajo Res., N	21.05	335	⇑P	P	17 09 15.6	+1.8			
	baz=21									
S19A	Harvey Farm, M	21.11	340	⇓P	P	17 09 15.6	+1.1			
	baz=21,SNR=7.7									
U15A	North Rim	21.20	332	⇑P	P	17 09 17.3	+1.8			
	baz=21									
R21A	Cimarron	21.21	344	⇑P	P	17 09 17.4	+1.8			
	baz=21									
PFO	Pinyon Flat Ob	21.30	320	⇑P	P	17 09 18.7	+2.3			
	baz=21									
S18A	Hurst Farm, Bl	21.36	338	⇑P	P	17 09 18.7	+1.5			
	baz=21,SNR=7.7									
Q22A	Crested Butte,	21.51	345	⇓P	P	17 09 20.5	+1.6			
	baz=22									
S17A	Black Ridge (B	21.61	336	⇑P	P	17 09 21.6	+1.9			
	baz=22									
GMRC	Granite Mounta	21.64	323	⇓P	P	17 09 22.5	+2.4			
	baz=22									
Q21A	Lamborn Mesa,	21.65	344	⇑P	P	17 09 21.8	+1.6			
	baz=22									
R18A	Canyonlands Na	21.94	339	⇑P	P	17 09 24.0	+0.7			
	baz=22									
S16A	Weppner Ranch,	21.99	335	⇓P	P	17 09 25.8	+1.9			
	baz=22									
HEC	Hector,Ludlow	22.06	322	⇑P	P	17 09 27.0	+2.4			
	baz=22									
ISCO	Idaho Springs	22.13	349	*e*P	P	17 09 25.8	+0.3			
	2.9nm,0.6s									
ISCO	Idaho Springs	22.13	349	⇑P	P	17 09 26.1	+0.6			
	baz=22									
Q19A	Hogan Spring (	22.25	341	⇓P	P	17 09 28.2	+1.6			
	baz=22									
TUQ	Turquoise Moun	22.26	324	⇑P	P	17 09 28.2	+1.4			
	baz=22,SNR=11									
R16A	Teasdale	22.43	336	⇑P	P	17 09 30.5	+1.8			
	baz=22									
O23A	Lake Granby, G	22.59	348	⇑P	P	17 09 31.1	+0.7			
	baz=23									
Q18A	Rafter H Ranch	22.67	339	⇓P	P	17 09 32.5	+1.5			
	baz=23									
O22A	Kremmling	22.67	347	⇑P	P	17 09 31.6	+0.4			
	baz=23,SNR=7.1									
R15A	Junction	22.69	334	⇓P	P	17 09 33.0	+1.6			
	baz=23									
ARUT	Antelope Range	22.83	332	*e*P	P	17 09 33.9	+1.1			
	12nm,0.8s									
Q16A	Castle Valley	22.87	337	⇑P	P	17 09 34.4	+1.1			
	baz=23									
MSU	Marysvale	22.90	335	*e*P	P	17 09 34.1	+0.4			
	5.3nm,0.8s									
O21A	Pagoda	22.93	345	⇓P	P	17 09 34.9	+1.0			
	baz=23									
EDW2	Edwards Air Fo	23.09	320	⇑P	P	17 09 37.1	+1.7			
	baz=23									
P18A	Preston Nutter	23.18	340	⇓P	P	17 09 36.9	+0.4			
	baz=23									
P17A	Butcher Ranch,	23.21	339	⇓P	P	17 09 37.5	+0.9			
	baz=23									
N23A	Red Feather La	23.25	349	⇓P	P	17 09 37.2	+0.1			
	baz=23									
N22A	Wattenberg Ran	23.27	348	⇑P	P	17 09 37.9	+0.6			
	baz=23									
LRMC	Laurel Mountai	23.31	321	⇓P	P	17 09 38.9	+1.3			
	baz=23									
R13A	O'Grain Ranch,	23.39	331	⇑P	P	17 09 39.4	+1.0			
	baz=24									
O19A	Miners Draw (B	23.45	342	⇓P	P	17 09 39.7	+0.8			
	baz=24									
N21A	Black Mountain	23.46	346	⇓P	P	17 09 40.3	+1.3			
	baz=24,SNR=7.0									
MPMC	Manual Prospec	23.60	323	⇑P	P	17 09 41.2	+0.8			
	baz=24,SNR=6.7									
M24A	Cheyenne	23.62	351	⇓P	P	17 09 41.1	+0.6			
	baz=24									
O17A	Robinson Place	23.85	339	⇑P	P	17 09 43.4	+0.7			
	baz=24									
M21A	Separation Pea	24.23	347	⇑P	P	17 09 47.2	+1.0			
	baz=24,SNR=5.5									
R11A	Troy Canyon, C	24.29	329	⇓P	P	17 09 47.8	+1.1			
	baz=24									
M20A	Sweetwater, Wa	24.31	345	⇓P	P	17 09 47.2	+0.3			
	baz=24									
DUG	Dugway	24.60	336	*e*P	P	17 09 50.0	+0.6			
	4.4nm,0.8s									
M17A	Scullys Gap (B	24.99	341	⇓P	P	17 09 54.3	+1.3			
	baz=25,SNR=5.4									
K21A	Alcova	25.19	347	⇑P	P	17 09 55.6	+0.8			
	baz=25									
L18A	Fontenelle, Gr	25.21	342	⇑P	P	17 09 56.3	+1.3			
	baz=25									
M15A	Larsen Ranch,	25.57	338	⇑P	P	17 09 58.9	+0.7			
	baz=26									
NVAR	Mina Array Bea	25.75	326	P	P	17 10 00.2	+0.3			
	5.2nm,0.7s,baz=153,slow=9.5,SNR=32									
NVAR	Mina Array Bea	25.75	326	P	P	17 10 00.2	+0.3			
J22A	Midwest	25.79	349	⇓P	P	17 09 59.9	-0.3			
	baz=26									
BW06	Boulder Array	25.86	344	⇓P	P	17 10 01.0	+0.1			
	baz=26									
BW06				⇓P	P	17 10 01.0	+0.1			
	baz=26									
PDAR	Pinedale Array	25.86	344	P	P	17 10 00.7	-0.3			
	1.4nm,0.5s,baz=138,slow=11,SNR=12									
PDAR	Pinedale Array	25.86	344	P	P	17 10 00.7	-0.3			
L15A	Malad City	26.03	339	⇓P	P	17 10 02.9	+0.5			
	baz=26									
J20A	Shoshoni	26.05	347	⇑P	P	17 10 02.8	+0.2			
	baz=26									
I21A	Big Trails, Te	26.33	348	⇑P	P	17 10 05.2	+0.1			
	baz=26									
J18A	Kendall Valley	26.40	343	⇑P	P	17 10 05.9	+0.1			
	baz=26,SNR=5.7									
I20A	Worland	26.63	347	⇓P	P	17 10 07.8	+0.1			
	baz=27									
K15A	Arbon	26.68	339	⇓P	P	17 10 08.6	+0.4			
	baz=27									
K14A	Jones Ranch, D	26.78	338	⇓P	P	17 10 09.6	+0.4			
	baz=27									
LOHW	Long Hollow	26.93	343	*e*P	P	17 10 09.9	-0.6			
	2.7nm,0.8s									
RLMT	Red Lodge	28.00	346	⇓P	P	17 10 20.1	0.0			
	baz=28									
RLMT				⇓P	P	17 10 20.1	0.0			
	baz=28									
I14A	Mackay	28.09	339	⇑P	P	17 10 20.9	-0.1			
	baz=28									
HLID	Hailey	28.11	338	⇓P	P	17 10 21.2	+0.1			
	baz=28									
I13A	Wildhorse Cree	28.31	338	⇑P	P	17 10 23.2	+0.3			
	baz=28									
F20A	Billings	28.41	348	⇓P	P	17 10 23.2	-0.4			
	baz=28									
H14A	Leadore	28.68	340	⇓P	P	17 10 26.6	+0.5			
	baz=29									
G16A	Moss Hill, Enn	28.75	343	⇓P	P	17 10 27.5	+0.8			
	baz=29									
F18A	Big Timber	28.84	346	⇓P	P	17 10 27.8	+0.3			
	baz=29									
E20A	Meyer Farm, Mu	29.08	348	⇓P	P	17 10 29.5	0.0			
	baz=29									
E19A	Rath Farm, Rou	29.17	348	⇑P	P	17 10 30.6	+0.3			
	baz=29									
G14A	Jackson	29.27	340	⇓P	P	17 10 31.8	+0.4			
	baz=29									
D22A	Cohagen	29.39	351	⇓P	P	17 10 32.4	+0.2			
	baz=30									
G13A	Cobalt	29.39	339	⇓P	P	17 10 32.9	+0.6			
	baz=30									
F15A	Butte	29.51	342	⇓P	P	17 10 33.6	+0.1			
	baz=30									
F14A	Wisdom	29.75	341	⇑P	P	17 10 35.9	+0.3			
	baz=30									
D19A	Cripps Ranch,	29.86	348	⇑P	P	17 10 36.2	-0.2			
	baz=30									
C23A	Lambert	29.90	353	⇑P	P	17 10 36.3	-0.5			
	baz=30									
E16A	East Helena	29.92	344	⇓P	P	17 10 36.9	-0.1			
	baz=30									
F13A	Darby	30.03	340	⇑P	P	17 10 38.2	+0.2			
	baz=30,SNR=5.1									
D17A	Six Diamond Ra	30.24	346	⇓P	P	17 10 39.7	-0.2			
	baz=30									
D16A	Dana Ranch, Ca	30.34	344	⇑P	P	17 10 40.4	-0.4			
	baz=30									
C19A	Slack Wire Ran	30.44	348	⇑P	P	17 10 41.2	-0.4			
	baz=30									
E13A	Victor	30.57	341	⇑P	P	17 10 42.7	0.0			
	baz=31									
B19A	Brinkman Farms	31.11	349	⇑P	P	17 10 47.3	-0.1			
	baz=31									
C16A	Fuhringer Ranc	31.11	345	⇑P	P	17 10 47.5	0.0			
	baz=31									
D13A	Huson	31.23	341	⇑P	P	17 10 48.2	-0.4			
	baz=31,SNR=9.6									
A19A	Klindworth Far	31.53	349	⇓P	P	17 10 50.8	-0.3			
	baz=32									
B15A	Bradely Ranch,	31.79	344	⇑P	P	17 10 53.0	-0.5			
	baz=32									
A17A	Triple J Farms	31.93	347	⇓P	P	17 10 54.2	-0.5			
	baz=32									
ULM	Lac du Bonnet	32.23	5	P	P	17 10 54.5	-2.6			
	2.7nm,0.7s,baz=186,slow=11,SNR=4.6									
ULM	Lac du Bonnet	32.23	5	P	P	17 10 54.5	-2.6			
B13A	Whitefish	32.38	342	⇑P	P	17 10 58.7	+0.1			
	baz=32									
A14A	Double T Ranch	32.62	344	⇓P	P	17 11 00.4	-0.4			
	baz=33									
SCHQ	Schefferville	44.57	27	P	P	17 12 38.9	-1.7			
	2.8nm,0.6s,baz=222,slow=5.6,SNR=9.6									
SCHQ	Schefferville	44.57	27	P	P	17 12 38.9	-1.7			
YKA	Yellowknife Ar	45.48	351	P	P	17 12 45.7	-1.9			
	1.6nm,0.5s,baz=158,slow=7.7,SNR=19									
YKA				PcP	PcP	17 14 25.4	-0.3			
	0.8nm,0.7s,baz=156,slow=3.2,SNR=8.5									
YKA	Yellowknife Ar	45.48	351	P	P	17 12 45.8	-1.9			
YKA				PcP	PcP	17 14 25.4	-0.3			
ILAR	Eielson Array	56.07	338	P	P	17 14 07.3	-0.1			
	2.8nm,0.9s,baz=141,slow=5.2,SNR=22									
ILAR				pP	pP	17 14 22.2	+0.1			
	0.6nm,0.6s,baz=153,slow=6.4,SNR=4.0									
ILAR				sP	sP	17 14 28.4	0.0			
	1.2nm,0.8s,baz=141,slow=4.0,SNR=5.1									
ILAR				PcP	PcP	17 15 05.2	+0.2			
	0.5nm,0.6s,baz=137,slow=3.4,SNR=7.3									
ILAR	Eielson Array	56.07	338	P	P	17 14 07.3	-0.1			
ILAR				pP	pP	17 14 22.2	+0.1			
ILAR				sP	sP	17 14 28.4	0.0			
ILAR				PcP	PcP	17 15 05.2	+0.2			
PETK	Petropavlovsk-	82.82	324	P	P	17 16 53.5	+1.0			
	2.0nm,0.7s,baz=98,slow=11,SNR=5.6									
PETK				sP	sP	17 17 14.9	+0.8			
	2.2nm,0.6s,baz=99,slow=8.6,SNR=3.1									
PETK	Petropavlovsk-	82.82	324	P	P	17 16 53.5	+1.0			
PETK				sP	sP	17 17 14.9	+0.8			
NB2	NORSAR Subarra	84.14	27	P	P	17 17 00.4	+1.2			
	comp=Z,0.7nm,0.7s,baz=294,slow=5.1									
NOA	NORSAR Array B	84.14	27	P	P	17 17 00.4	+1.2			
	comp=Z,1.1nm,0.7s,baz=292,slow=4.7,SNR=3.3									
NOA	NORSAR Array B	84.14	27	P	P	17 17 00.4	+1.2			
ARCES	ARCESS Array B	84.56	17	P	P	17 17 01.9	+0.7			
	comp=Z,2.2nm,0.6s,baz=299,slow=2.5,SNR=9.1									
ARCES	ARCESS Array B	84.56	17	P	P	17 17 01.9	+0.7			
WRA	Warramunga Arr	128.73	259	PKP	PKPdf	17 23 35.8	-0.5			
	comp=Z,0.9nm,0.6s,baz=83,slow=2.7,SNR=16									
WRA	Warramunga Arr	128.73	259	PKP	PKPdf	17 23 35.8	-0.5			

*SOF **14** 17:28:24.1,42˚47N×26˚15E,h9km,MD2.7*
*CSEM **14** 17:28:26.0±0.1,42˚44N×26˚03E,h2km,MD2.7,Error ellipse: s-maj=4.1km s-min=2.8km az=56.0*
*ISK **14** 17:28:27.2,42˚27N×26˚18E,h5km,MD3.1*
*BEO **14** 17:28:27.0±1.0,42˚45N×25˚84E,h0km,ML2.5/3*

ISC 14 17:28:24.8±1.3,42˚45N±0˚02×26˚14E±0˚02,h2km±12km, n91,σ1ᵗ30/101,14C,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMB	Yambol	0.33	87	P		Pg	17 28 30.2	-1.0
JMB	Yambol	0.33	87	P		Pg	17 28 30.2	-1.0
DIM	Dimitrovgrad	0.60	228	P		Pg	17 28 35.9	-0.3
DIM	Dimitrovgrad	0.60	228	P		Pg	17 28 35.9	-0.3
EDRB	Edirne	0.75	143	*e*PG		Pg	17 28 38.9	-0.3
EDRB				*e*SG		Sg	17 28 49.4	+0.5
EDRB	Edirne	0.75	143	*e*Pg		Pg	17 28 38.9	-0.3
EDRB				*e*Sg		Sg	17 28 49.4	+0.5
SZH	Strazhica	0.83	350	P		Pg	17 28 40.7	0.0
SZH	Strazhica	0.83	350	P		Pg	17 28 40.7	0.0
KDZ	Kurdzhali	0.96	214	P		Pn	17 28 44.8	-0.5
KDZ	Kurdzhali	0.96	214	P		Pn	17 28 44.8	-0.5
PVL	Pavlikeni	0.97	323	P		Pb	17 28 44.4	+0.2
PVL	Pavlikeni	0.97	323	P		Pb	17 28 44.4	+0.2
PRD	Provadia	1.20	51	P		Pn	17 28 46.1	-2.3
PRD	Provadia	1.20	51	P		Pn	17 28 46.1	-2.3
RZN	Rozhen	1.30	235	P		Pn	17 28 49.3	-0.8
RZN	Rozhen	1.30	235	P		Pn	17 28 49.3	-0.8
ZIMR		1.33	335	⇑*i*P		Pg	17 28 51.2	+0.9
ZIMR		1.33	335	S		Sb	17 29 07.6	+0.3
RDO	Rodhopi	1.38	199	*e*P		Pn	17 28 50.1	-0.8
PGB	Panagyurishte	1.46	275	P		Pn	17 28 52.1	0.0
PGB	Panagyurishte	1.46	275	P		Pn	17 28 52.1	0.0
ALN	Alexandroupoli	1.55	183	*e*P		Pn	17 28 53.2	-0.1
ENEZ	Enez	1.71	180	*e*PN		Pb	17 28 57.0	+0.1
ENEZ	Enez	1.71	180	*e*Pn		Pb	17 28 57.0	+0.1
CRLT	Corlu	1.78	137	*e*PN		Pb	17 28 57.9	-0.2
CRLT	Corlu	1.78	137	*e*Pn		Pb	17 28 57.9	-0.2
ERIK	Erikli-Kesan	1.80	171	*e*PN		Pb	17 28 57.7	-0.7
ERIK	Erikli-Kesan	1.80	171	*e*Pn		Pb	17 28 57.7	-0.7
CTYL	Yal??k??y-??at	1.88	121	*e*PN		Pb	17 28 59.9	+0.2
CTYL	Yal??k??y-??at	1.88	121	*e*Pn		Pb	17 28 59.9	+0.2
RKY	Sarkoy-Tekirda	1.93	156	*e*PN		Pb	17 28 59.6	-1.0
RKY	Sarkoy-Tekirda	1.93	156	*e*Pn		Pb	17 28 59.6	-1.0
SLVT	Silivri	1.97	127	*e*PN		Pb	17 29 01.2	-0.1
SLVT	Silivri	1.97	127	*e*Pn		Pb	17 29 01.2	-0.1
MPEP	Malo Peshtene	1.98	298	*e*P		Pg	17 29 03.5	+0.8
MMB	Musomiste	1.99	245	*e*P		Pb	17 29 01.5	-0.2
MMB	Musomiste	1.99	245	*e*P		Pb	17 29 01.5	-0.2
NVR	Nevrokopi	2.02	238	*e*P		Pn	17 28 58.9	-1.0
GELI	Tayfur-Gelibol	2.07	173	*e*PN		Pb	17 29 01.8	-1.1
GELI	Tayfur-Gelibol	2.07	173	*e*Pn		Pb	17 29 01.8	-1.1
LPK	Lapseki	2.13	167	*e*PN		Pb	17 29 02.5	-1.5
LPK	Lapseki	2.13	167	*e*Pn		Pb	17 29 02.5	-1.5
CTKS	Kestanelik-??a	2.15	124	*e*PN		Pb	17 29 03.6	-0.7
CTKS	Kestanelik-??a	2.15	124	*e*Pn		Pb	17 29 03.6	-0.7
VTS	Vitosha	2.17	275	⇑*i*P		Pn	17 29 01.5	-0.5
VTS	Vitosha	2.17	275	*e*Pg		Pn	17 29 01.5	-0.5
VTS				*e*Sg		Sn	17 29 28.5	-1.0
VTS	Vitosha	2.17	275	*e*Pg		Pn	17 29 01.5	-0.5
VTS				S		Sn	17 29 27.0	-2.5
VTS				*e*Sg		Sn	17 29 28.5	-1.0
SULR		2.23	2	⇑*i*P		Pb	17 29 04.6	-1.1
SULR		2.23	2	⇑*i*P		Pb	17 29 04.6	-1.1
KRBG	Karabiga-Canak	2.23	157	*e*PN		Pb	17 29 04.2	-1.5
KRBG	Karabiga-Canak	2.23	157	*e*Pn		Pb	17 29 04.3	-1.5
BGKT	Bogazkoy	2.34	122	*e*PN		Pb	17 29 06.8	-0.9
BGKT	Bogazkoy	2.34	122	*e*Pn		Pb	17 29 06.8	-0.9
EDC	Edincik	2.47	148	*e*PN		Pn	17 29 07.5	+1.6
EDC	Edincik	2.47	148	*e*Pn		Pn	17 29 07.6	+1.6
KLYT	Kilyos	2.48	118	*e*PN		Pb	17 29 08.8	-1.2
KLYT	Kilyos	2.48	118	*e*Pn		Pb	17 29 08.8	-1.2
BNT	Bandirma	2.49	147	*e*PN		Pn	17 29 07.8	+1.6
BNT	Bandirma	2.49	147	*e*Pn		Pn	17 29 07.8	+1.6
ISK	Istanbul-Kandi	2.59	121	*e*PN		Pb	17 29 10.2	-1.6
ISK	Istanbul-Kandi	2.59	121	*e*Pn		Pb	17 29 10.2	-1.6
TIRR	Tirgusor	2.60	39	⇑*i*P		Pb	17 29 11.1	-1.0
TIRR	Tirgusor	2.60	39	⇑*i*P		Pb	17 29 11.1	-1.0
EZN	Ezine	2.62	177	*e*PN		Pn	17 29 10.0	+1.9
EZN	Ezine	2.62	177	*e*Pn		Pn	17 29 10.0	+1.9
SOH	Sokhos	2.64	233	*e*P		Pn	17 29 08.4	0.0
GONE	Gonen-Balikesi	2.67	154	*e*PN		Pn	17 29 10.4	+1.7
GONE	Gonen-Balikesi	2.67	154	*e*Pn		Pn	17 29 10.4	+1.7
ZAPS	Zavoj	2.70	289	*e*Pn		Pn	17 29 09.5	+0.3
ZAPS				*e*Sg		Sb	17 29 46.7	-0.7
BADT	Buyukada	2.75	125	*e*PN		Pb	17 29 12.3	-2.2
BADT	Buyukada	2.75	125	*e*Pn		Pb	17 29 12.4	-2.2
KCTX	Karacabey (Bur	2.75	142	*e*PN		Pn	17 29 11.4	+1.6
KCTX	Karacabey (Bur	2.75	142	*e*Pn		Pn	17 29 11.4	+1.6
ARMT	Armutlu	2.78	132	*e*PN		Pn	17 29 12.4	+2.1
ARMT	Armutlu	2.78	132	*e*Pn		Pn	17 29 12.4	+2.1
MLR	Muntele Rosu	3.04	357	⇑*i*P		Pn	17 29 15.0	+1.0
MLR	Muntele Rosu	3.04	357	⇑*i*P		Pn	17 29 15.0	+1.0
GEMT	Gemlik	3.05	130	*e*PN		Pn	17 29 16.3	+2.3
GEMT	Gemlik	3.05	130	*e*Pn		Pn	17 29 16.3	+2.3
VOIR		3.09	346	⇑*i*P		Pn	17 29 15.7	+1.1
VOIR		3.09	346	⇑*i*P		Pn	17 29 15.7	+1.1
HRT	Hereke	3.11	120	*e*PN		Pn	17 29 17.6	+2.8
HRT	Hereke	3.11	120	*e*Pn		Pn	17 29 17.6	+2.8
BARS	Barje	3.21	278	*e*Pn		Pn	17 29 15.7	-0.5
BARS				*e*Sg		Sb	17 30 02.7	+0.8
BARS	Barje	3.21	278	*e*Pn		Pn	17 29 15.7	-0.5
BARS				*e*Sg		Sb	17 30 02.7	+0.8
PLOR	Plostina	3.42	6	⇑*i*P		Pn	17 29 20.9	+1.8
PLOR	Plostina	3.42	6	⇑*i*P		Pn	17 29 20.9	+1.8
VRI	Vrincioaia	3.44	7	⇑*i*P		Pn	17 29 20.5	+1.1
VRI	Vrincioaia	3.44	7	⇑*i*P		Pn	17 29 20.5	+1.1
GRUS	Gruza	4.22	292	*e*Pn		Pn	17 29 29.1	-0.9
GRUS				*e*Sg		Sb	17 30 33.9	+3.0
GRUS	Gruza	4.22	292	*e*Pn		Pn	17 29 29.1	-0.9
GRUS				*e*Sg		Sb	17 30 33.9	+3.0

*IDC **14** 17:30:55.2±0.9,44˚73N×46˚66E,h0km,mb3.6/6, mb1 3.7/9,mb1mx3.4/28,mbtmp3.6/9,ML3.3/2,Error ellipse: s-maj=20.3km s-min=9.8km az=127.0*
*ISCJB **14** 17:30:55.6±2.2,44˚85N±0˚04×46˚81E±0˚06,h15km±20km, mb3.3/7,Error ellipse: s-maj=8.4km s-min=5.2km az=135.8*
*MOS **14** 17:30:56.8±0.7,44˚82N×46˚82E,h27km,mb4.3/1,Error ellipse: s-maj=14.5km s-min=6.2km az=79.0*
*NNC **14** 17:30:58.1±1.1,44˚85N×47˚13E,h0km,mb3.5,mpv4.7, Error ellipse: s-maj=52.4km s-min=8.3km az=159.0*
*CSEM **14** 17:30:59.7±0.1,44˚76N×46˚76E,h40km,mb4.3,mb3.5/4, Error ellipse: s-maj=6.5km s-min=3.8km az=122.0*
*AZER **14** 17:31:09.9,43˚68N×46˚67E,h142km*

ISC 14 17:30:58.2±0.8,44˚78N±0˚04×46˚90E±0˚03,h28km±6km, n85,σ1ᵗ47/78,mb3.3/7,13C-9D,Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DLMR	Dylym	1.72	187	*e*PN		Pn	17 31 26.1	-0.2
DLMR				*e*S		pPn	17 31 33.4	+1.0
DLMR				pmax		pmax		
	comp=Z,246nm,0.3s							
DLMR	Dylym	1.72	187	*e*Pn		Pn	17 31 26.1	-0.2
	comp=Z,246nm,0.3s							
DBC	Dubki

VRHR					pmax	pmax		
	comp=Z,3.0nm,0.4s							
VRHR					pmax	pmax		
	comp=N,1.0nm,0.2s							
VRHR					pmax	pmax		
	comp=E,6.0nm,0.4s							
VRHR					smax	smax		
	comp=N,40nm,0.8s							
VRHR					smax	smax		
	comp=E,7.0nm,0.4s							
VRHR					smax	smax		
	comp=Z,7.0nm,0.4s							
AKTK	**Aktyubinsk**	**9.40**	**49**		P	Pn	17 33 13.7	+2.0
	comp=Z,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**9.40**	**49**		Pn	Pn	17 33 13.7	+2.0
	comp=Z,0.3nm,0.3s,baz=267,slow=8.3,SNR=7.9							
AKTO					Sn	**Sn**	**17 34 55.6**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=144,slow=20,SNR=15							
AKTO	**Aktyubinsk**	**9.40**	**49**	⇑	Pn	Pn	17 33 14.3	+2.6
	comp=Z,0.1nm,0.2s							
AKTO				⇑	Sn	**Sn**	**17 34 56.8**	**+0.4**
	comp=Z,0.5nm,0.5s							
AKTO	**Aktyubinsk**	**9.40**	**49**		P	Pn	17 33 13.7	+2.0
AKTO							17 34 55.6	
AKTO					smax	smax		
	comp=N,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**9.40**	**49**		Pn	Pn	17 33 14.3	+2.6
	comp=N,0.1nm,0.2s							
AKTO					Sn	**Sn**	**17 34 56.8**	**+0.4**
	comp=N,0.5nm,0.5s							
AB31	**Akbulak array**	**9.97**	**59**	⇓	Pn	Pn	17 33 21.3	+1.8
	comp=N,0.6nm,0.3s,baz=241,slow=12,SNR=8.0							
AB31				⇑	Sn	**Sn**	**17 35 08.9**	**-1.4**
	comp=N,3.4nm,0.3s,baz=256,slow=25,SNR=7.0							
AB31	**Akbulak array**	**9.97**	**59**		Pn	Pn	17 33 21.3	+1.8
	comp=N,0.6nm,0.3s,baz=241,SNR=8.0							
AB31					Sn	**Sn**	**17 35 08.9**	**-1.4**
	comp=N,3.4nm,0.3s,SNR=7.0							
ARU	**Arti**	**13.79**	**28**		P	P	17 34 16.0	-3.8
ARU	**Arti**	**13.79**	**28**		P	P	17 34 16.0	-3.8
ZRNK	**Zerenda**	**16.63**	**53**	⇑	P	**P**	**17 34 49.0**	**-2.4**
	comp=N,1.0nm,0.8s							
ZRNK	**Zerenda**	**16.63**	**53**		P	**P**	**17 34 49.0**	**-2.4**
	comp=N,1.0nm,0.8s							
KK31	**Karatay Array**	**17.08**	**87**	⇓	P	**P**	**17 34 56.4**	**0.0**
	comp=N,0.3nm,0.3s,baz=296,slow=11,SNR=3.6							
KK31	**Karatay Array**	**17.08**	**87**		P	**P**	**17 34 56.4**	**0.0**
	comp=N,0.3nm,0.3s,SNR=3.6							
BVA0	**Borovoye Array**	**17.45**	**53**	⇑	P	**P**	**17 35 01.8**	**+1.4**
	baz=260,slow=13,SNR=5.6							
BVA0	**Borovoye Array**	**17.45**	**53**		P	**P**	**17 35 01.8**	**+1.4**
	baz=260,SNR=5.6							
BVAR	**Borovoye Array**	**17.45**	**53**		Pn	**P**	**17 34 58.1**	**-2.3**
	comp=N,0.1nm,0.3s,baz=253,slow=13,SNR=3.5							
BVAR					Sn	**Sn**	**17 38 08.5**	**-4.1**
	comp=N,0.6nm,0.3s,baz=247,slow=25,SNR=8.3							
BVAR	**Borovoye Array**	**17.45**	**53**		P	**P**	**17 34 58.1**	**-2.3**
BVAR							17 38 08.5	
BVAR					smax	smax		
	comp=N,1.0nm,0.3s							
VOSK	**Vostochnaya**	**17.70**	**55**	⇓	P	**P**	**17 35 03.5**	**+0.4**
	comp=N,1.5nm,0.8s							
FINES	**FINESS Array B**	**20.69**	**331**		P	Pn	17 35 36.6	-1.7
	comp=N,2.0nm,0.5s,baz=136,slow=13,SNR=11							
FINES	**FINESS Array B**	**20.69**	**331**		P	Pn	17 35 36.6	-1.7
FINES					pmax	pmax		
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**20.69**	**331**		P	Pn	17 35 36.6	-1.7
	comp=Z,2.0nm,0.5s							
KURBB	**Kurchatov Arra**	**21.97**	**63**	⇑	P	**P**	**17 35 51.5**	**+1.9**
	comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**21.97**	**63**		P	**P**	**17 35 51.5**	**+1.9**
	comp=Z,0.3nm,0.6s							
KURK	**Kurchatov**	**22.03**	**63**		P	**P**	**17 35 51.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=270,slow=10,SNR=9.2							
KURK	**Kurchatov**	**22.03**	**63**		P	**P**	**17 35 51.8**	**+1.5**
KURK	**Kurchatov**	**22.03**	**63**		P	**P**	**17 35 51.8**	**+1.5**
MK31	**Makanchi Array**	**24.64**	**73**		P	**P**	**17 36 18.3**	**+2.0**
	comp=Z,0.1nm,0.2s,baz=268,slow=8.2,SNR=9.6							
MK31	**Makanchi Array**	**24.64**	**73**		P	**P**	**17 36 18.3**	**+2.0**
	comp=Z,0.1nm,0.2s,SNR=9.6							
MKAR	**Makanchi Array**	**24.64**	**73**		P	**P**	**17 36 17.9**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=268,slow=9.0,SNR=11							
MKAR	**Makanchi Array**	**24.64**	**73**		P	**P**	**17 36 17.9**	**+1.6**
MKAR	**Makanchi Array**	**24.64**	**73**		P	**P**	**17 36 17.9**	**+1.6**
HFS	**Hagfors**	**25.05**	**320**		P	**P**	**17 36 19.7**	**0.0**
	comp=Z,1.0nm,0.5s,baz=97,slow=11,SNR=5.8							
HFS	**Hagfors**	**25.05**	**320**		P	**P**	**17 36 19.7**	**0.0**
HFS					pmax	pmax		
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**25.05**	**320**		P	**P**	**17 36 19.7**	**0.0**
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**26.06**	**56**		P	**P**	**17 36 30.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=282,slow=10,SNR=2.2							
ZALV	**Zalesovo Beam**	**26.06**	**56**		P	**P**	**17 36 30.1**	**+1.1**
ZALV	**Zalesovo Beam**	**26.06**	**56**		P	**P**	**17 36 30.1**	**+1.1**
ARCES	**ARCESS Array B**	**27.08**	**344**		P	**P**	**17 36 39.0**	**+0.9**
	comp=Z,5.8nm,1.1s,baz=141,slow=10,SNR=4.6							
ARCES	**ARCESS Array B**	**27.08**	**344**		P	**P**	**17 36 39.0**	**+0.9**
ARCES					pmax	pmax		
	comp=Z,6.0nm,1.1s							
ARCES	**ARCESS Array B**	**27.08**	**344**		P	**P**	**17 36 39.0**	**+0.9**
	comp=Z,6.0nm,1.1s							

*ISCJB **14** 17:35:12.8±0.4, 14°.09N±0°.06×91°.46W±0°.03, h110km±3km, mb4.3/12, Error ellipse: s-maj=10.5km s-min=3.4km az=24.5*

*IDC **14** 17:35:12.3±2.2, 14°.42N×90°.83W, h75km±16km, mb4.1/11, mb1 4.2/13, mb1mx4.0/23, mbtmp4.0/13, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=31.0km s-min=16.8km az=51.0*

*CASC **14** 17:35:14.6±1.1, 14°.02N×91°.42W, h85km±13km, MD4.0, ML4.3*

*MEX **14** 17:35:16.0±0.4, 14°.04N×91°.57W, h106km±6km, MD4.2*

ISC 14 17:35:13.8±0.8, 14°.13N±0°.07×91°.44W±0°.04, h98km±6km, n45, σ1§34/67, mb4.4/12, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
JAT	**Jato**	**0.27**	**315**	⇑	*i*P		**Pn**	**17 35 29.1**	**+1.1**
FUG	**Fuego 3**	**0.66**	**61**	⇓	*e*P		**Pn**	**17 35 31.1**	**+0.2**
FG6		**0.69**	**51**		*e*P		**Pn**	**17 35 31.6**	**+0.3**
PCG	**Pacaya**	**0.85**	**72**		*e*P		**Pn**	**17 35 33.0**	**+0.3**
PCG					*e*S		**Sn**	**17 35 47.0**	**+0.1**
THIG		**1.11**	**314**		*e*P		**Pn**	**17 35 36.3**	**+0.9**
THIG					*e*S		**Sn**	**17 35 52.9**	**+1.3**
NBG	**Las Nubes**	**1.15**	**66**		*e*P		**Pn**	**17 35 37.1**	**+1.0**
NBG					*e*S		S	17 35 52.2	
RBDL	**Robledal**	**1.70**	**90**		*e*P		**Pn**	**17 35 42.5**	**-0.2**
RTR	**El Retiro**	**1.76**	**97**		*e*P		**Pn**	**17 35 43.6**	**+0.2**
RTR					*e*S		**Sn**	**17 36 07.2**	**+1.4**
SBLS	**San Blas**	**1.79**	**99**		*e*P		**Pn**	**17 35 43.7**	**-0.1**
SNJE	**San Jose**	**1.80**	**98**	⇓	*e*P		**Pn**	**17 35 43.9**	**0.0**
SNJE					*e*S		**Sn**	**17 36 07.6**	**+0.8**
MRL	**Marmol**	**1.93**	**61**		*i*P		**Pn**	**17 35 46.9**	**+1.2**
MRL					*e*S		S	17 36 11.4	
BQQS	**Boqueron**	**2.13**	**100**	⇑	*e*P		**Pn**	**17 35 48.2**	**0.0**
SNET	**Serv Nac Est T**	**2.19**	**101**		*e*P		**Pn**	**17 35 48.7**	**-0.2**
SNET					*e*S		**Sn**	**17 36 15.6**	**-0.1**
SNET						AML	AML	17 36 22.7	
	comp=Z,3μm,0.3s								
CCIG	**Comitan**	**2.25**	**343**		*e*P		**Pn**	**17 35 51.6**	**+1.9**
CCIG					*i*S		**Sn**	**17 36 19.3**	**+2.2**
PCIG		**2.33**	**313**		*e*P		**Pn**	**17 35 51.8**	**+1.2**
PCIG					*i*S		**Sn**	**17 36 19.1**	**+0.3**
LBRS	**Las Brisas**	**2.36**	**99**		*e*P		**Pn**	**17 35 51.3**	**+0.2**
LFRS	**El Faro**	**2.36**	**102**		*e*P		**Pn**	**17 35 51.2**	**0.0**
SNVI	**San Vicente**	**2.58**	**101**		*e*P		**Pn**	**17 35 54.6**	**+0.5**
SNVI					*e*S		**Sn**	**17 36 25.5**	**+0.6**
BLLM	**Bellamira**	**3.18**	**102**		*e*P		**Pn**	**17 36 02.7**	**+0.7**
CMIG	**Matias Romero**	**4.44**	**312**		P		**Pn**	**17 36 19.6**	**+0.7**
	comp=Z,9.3nm,0.3s,baz=141,slow=10,SNR=54								
CMIG					S		Sn	17 37 20.8	+11
	comp=Z,24nm,0.3s,baz=65,slow=19,SNR=3.2								
CMIG	**Matias Romero**	**4.44**	**312**		*e*P		**Pn**	**17 36 19.2**	**+0.3**
CMIG					*i*S		**Sn**	**17 37 09.3**	**-0.2**
HUIG	**Huatulco**	**4.80**	**290**		*i*P		**Pn**	**17 36 23.9**	**+0.1**
HUIG					*i*S		**Sn**	**17 37 16.4**	**-1.9**
VHO	**Vista Hermosa**	**5.88**	**301**		*i*P		**Pn**	**17 36 39.9**	**+1.2**
VHO					*i*S		**Sn**	**17 37 44.1**	**-0.8**
TEIG	**Tepich**	**6.78**	**26**		P		**Pn**	**17 36 49.8**	**-0.9**
	comp=Z,102nm,0.3s,baz=248,slow=1.9,SNR=115								
TEIG					S		Sn	17 37 59.5	-6.9
	baz=180,slow=19,SNR=1.9								
PNIG	**Pinotepa**	**6.84**	**290**		*i*P		**Pn**	**17 36 53.0**	**+1.4**
PNIG					*i*S		**Sn**	**17 38 06.8**	**-1.1**
UTMO	**Huajuapan**	**7.14**	**302**		*i*P		**Pn**	**17 36 57.2**	**+1.3**
UTMO					*i*S		**Sn**	**17 38 13.4**	**-2.3**
JTS	**JuntasAbangare**	**7.40**	**120**		P		**Pn**	**17 37 00.3**	**+1.1**
	comp=Z,3.2nm,0.3s,baz=311,slow=17,SNR=11								
JTS					S		**Sn**	**17 38 22.2**	**+0.5**
	baz=317,slow=19,SNR=2.0								
TXAR	**Lajitas Array**	**18.90**	**325**		P		**Pn**	**17 39 29.3**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=149,slow=12,SNR=56								
TXAR					PcP		**PcP**	**17 43 50.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=149,slow=3.7,SNR=5.7								
TXAR					ScP		**ScP**	**17 47 19.6**	**+3.2**
	baz=151,slow=5.8,SNR=7.6								
TKL	**Tuckaleechee C**	**22.52**	**16**		P		**P**	**17 40 06.2**	**+0.6**
	comp=Z,26nm,0.6s,baz=183,slow=11,SNR=28								
TKL					LR		LR	17 49 18.9	
	comp=Z,62nm,21.2s,baz=256,slow=38								
PDAR	**Pinedale Array**	**32.53**	**335**		P		**P**	**17 41 36.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=133,slow=12,SNR=6.2								
PDAR					PcP		**PcP**	**17 44 21.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=126,slow=4.5,SNR=6.1								
PDAR					ScP		**ScP**	**17 47 58.8**	**+3.2**
	comp=Z,0.4nm,0.8s,baz=148,slow=5.3,SNR=3.7								
NVAR	**Mina Array Bea**	**33.92**	**321**		P		P	17 41 51.5	+3.6
	comp=Z,12nm,0.7s,baz=134,slow=8.2,SNR=97								
NVAR					PcP		**PcP**	**17 44 26.4**	**+2.1**
	comp=Z,2.1nm,0.7s,baz=135,slow=3.9,SNR=10								
NVAR					ScP		**ScP**	**17 48 05.2**	**+4.7**
	comp=Z,0.2nm,0.4s,baz=127,slow=5.8,SNR=4.3								
ULM	**Lac du Bonnet**	**36.21**	**355**		P		**P**	**17 42 05.0**	**-2.1**
	comp=Z,4.2nm,0.5s,baz=167,slow=9.7,SNR=14								
ULM					PcP		**PcP**	**17 44 29.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=212,slow=4.6,SNR=5.6								
SIV	**San Ignacio**	**42.38**	**134**		P		**P**	**17 42 58.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=319,slow=7.0,SNR=10								
SIV					sP		sP	17 43 23.0	-10
	comp=Z,3.3nm,0.8s,baz=320,slow=9.3,SNR=6.8								
SIV					PcP		**PcP**	**17 44 50.6**	**0.0**
	comp=Z,2.1nm,0.8s,baz=303,slow=2.5,SNR=5.6								
SCHQ	**Schefferville**	**44.92**	**20**		P		**P**	**17 43 16.8**	**-2.0**
	comp=Z,7.1nm,0.5s,baz=216,slow=8.0,SNR=24								
SCHQ					LR		LR	18 03 56.9	
	comp=Z,72nm,18.7s,baz=35,slow=39								
YKA	**Yellowknife Ar**	**51.03**	**346**		P		**P**	**17 44 05.4**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=149,slow=8.0,SNR=39								
YKA					sP		sP	17 44 32.4	-7.7
	comp=Z,1.6nm,0.9s,baz=146,slow=8.0,SNR=3.0								
YKA					PcP		**PcP**	**17 45 20.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=150,slow=4.0,SNR=12								
KDAK	**Kodiak Island**	**62.90**	**328**		P		**P**	**17 45 31.1**	**+1.6**
	comp=Z,8.1nm,0.4s,baz=148,slow=8.5,SNR=13								
ILAR	**Eielson Array**	**62.94**	**337**		P		**P**	**17 45 29.8**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=118,slow=5.6,SNR=46								
NOA	**NORSAR Array B**	**83.78**	**29**		P		**P**	**17 47 30.7**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=287,slow=4.8,SNR=3.5								
HFS	**Hagfors**	**85.23**	**29**		P		**P**	**17 47 37.8**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=282,slow=2.9,SNR=6.6								
ARCES	**ARCESS Array B**	**85.85**	**18**		P		**P**	**17 47 40.1**	**-2.2**
	comp=Z,1.3nm,0.6s,baz=329,slow=1.4,SNR=7.3								
KURK	**Kurchatov**	**114.85**	**7**		PKP		**PKiKP**	**17 53 42.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=348,slow=1.7,SNR=13								
SONM	**Songino Array**	**116.30**	**347**		PKP		**PKPdf**	**17 53 46.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=359,slow=2.1,SNR=3.8								
MKAR	**Makanchi Array**	**119.10**	**5**		PKP		**PKPdf**	**17 53 50.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=345,slow=2.7,SNR=6.4								
WRA	**Warramunga Arr**	**135.95**	**256**		PKP		**PKiKP**	**17 54 25.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=86,slow=2.4,SNR=4.8								
CMAR	**Chiang Mai Arr**	**146.04**	**342**		PKPbc		**PKPbc**	**17 54 43.7**	**+0.3**
	comp=Z,8.8nm,0.6s,baz=340,slow=3.3,SNR=77								

KRSC 14 18:00:53.2±1.5, 49°.90N×157°.54E, h10km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.43**	**349**	P		Pn	18 01 33.5	+0.5
MIPR				S		Sn	18 02 02.7	-0.1
ASAK	**Asacha**	**2.50**	**5**	*e*P		Pn	18 01 35.7	+1.7
ASAK				S		Sn	18 02 06.8	+2.2
RUS	**Russkaya**	**2.61**	**13**	P		Pn	18 01 36.8	+1.4
RUS				*e*S		Sn	18 02 08.9	+1.8
MTVR	**Mutnovka**	**2.62**	**9**	*e*P		Pn	18 01 37.4	+1.7
MTVR				*e*S		Sn	18 02 09.6	+1.9
PET	**Petropavlovsk**	**3.21**	**12**	P		Pn	18 01 45.4	+1.8
PET				S		Sn	18 02 23.7	+1.9
SDLR	**Sedlovina**	**3.48**	**13**	*e*P		Pn	18 01 49.5	+1.9
SDLR				S		Sn	18 02 30.9	+1.9
SPN	**Mys Shipunski**	**3.56**	**25**	S		Sn	18 02 33.9	+3.4
KBTR	**Krutoberegovo**	**7.07**	**25**	P		Pn	18 02 38.6	+1.9

IDC 14 18:03:26.4±9.1, 22°.20S×178°.27W, h483km±86km, mb3.1/5, mb1 3.3/6, mb1mx3.1/18, mbtmp3.2/6, Error ellipse: s-maj=80.5km s-min=40.8km az=129.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.17**	**268**	P		P	18 06 29.6	+1.3
	0.2nm,0.3s,baz=111,slow=12,SNR=4.3							
PMG	**Port Moresby**	**35.51**	**285**	P		P	18 09 42.0	0.0
	1.7nm,0.4s,baz=130,slow=16,SNR=6.3							
STKA	**Stephens Creek**	**36.85**	**246**	P		P	18 09 52.1	-0.8
	0.4nm,0.3s,baz=91,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**44.14**	**264**	P		P	18 10 50.8	-0.8
	0.6nm,0.3s,baz=96,slow=8.2,SNR=16							
FITZ	**Fitzroy Crossi**	**52.57**	**264**	P		P	18 11 55.1	+0.6
	2.6nm,0.8s,baz=92,slow=5.9,SNR=9.2							
ILAR	**Eielson Array**	**90.02**	**13**	P		P	18 15 32.6	-0.7
	0.2nm,0.5s,baz=206,slow=8.0,SNR=4.0							
ARCES	**ARCESS Array B**	**130.53**	**349**	PKP		PKPdf	18 21 41.8	+0.8
	4.2nm,1.0s,baz=8.5,slow=1.8,SNR=3.8							
AKASG	**Malin Array Be**	**144.35**	**330**	PKP		PKPab	18 22 06.7	-0.1
	0.6nm,0.4s,baz=38,slow=3.6,SNR=5.4							

*IDC **14** 18:23:36.0±0.6, 31°.16N×103°.31E, h0km, mb4.6/25, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, ML3.4/1, MS3.9/21, Ms1 3.9/21, ms1mx3.8/40, Error ellipse: s-maj=17.3km s-min=13.0km az=27.0*

*BJI **14** 18:23:36.8, 31°.26N×103°.21E, h15km, mB4.9/22, mb4.8/37, ML5.0/16, Ms4.7/43, Ms7 4.5/40*

*ISCJB **14** 18:23:36.2±0.9, 31°.17N±0°.02×103°.37E±0°.02, h10km±5km, mb4.8/135, MS4.0/29, Error ellipse: s-maj=3.5km s-min=3.0km az=13.9*

*NEIC **14** 18:23:37.8±1.9, 31°.18N×103°.32E, h10km±12km, mb5.0/54, Error ellipse: s-maj=5.3km s-min=4.0km az=189.0*

NEIC Felt [II] at Chengdu.

*MOS **14** 18:23:39.6±1.0, 31°.16N×103°.38E, h33km, mb5.0/63, Error ellipse: s-maj=7.1km s-min=4.3km az=117.1*

*TEH **14** 18:23:42.2, 31°.57N×103°.41E, h33km, ML5.2*

*DJA **14** 18:23:42, 31°.44N×103°.17E, h10km, mb5.0/8*

*SZGRF **14** 18:23:55.3, 33°.26N×102°.78E, h33km, mb4.9, Sichuan, China*

ISC 14 18:23:40.0±0.4, 31°.18N±0°.03×103°.40E±0°.03, h23km±2km, h23km:pP-P, n443, σ1§31/488, mb4.9/135, MS4.0/30, 46C-17D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**0.41**	**131**	Pg		**Pb**	**18 23 48.3**	**-0.3**
CD2				Sg		**Sn**	**18 23 56.4**	**-1.0**
CD2				smax		smax		
	comp=N,165μm,0.7s							
CD2				smax		smax		
	comp=E,101μm,0.8s							
LZH	**Lanzhou**	**4.91**	**4**	*e*Pn		**Pn**	**18 24 53.3**	**+0.8**
LZH				Pg		**Pb**	**18 25 04.8**	**-0.5**
LZH				Sn		**Sn**	**18 25 48.3**	**-0.3**
LZH				Sg		**Sb**	**18 26 06.1**	**+2.1**
LZH				smax		smax		
	comp=N,2μm,1.2s							
LZH				smax		smax		
	comp=E,2μm,1.3s							
ENH	**Enshi**	**5.32**	**98**	*e*Pn		**Pn**	**18 24 58.8**	**+0.9**
	comp=E,940nm,1.0s							
XAN	**Xi'an**	**5.46**	**57**	Pn		**Pn**	**18 24 59.9**	**-0.1**
XAN				Sn		Sn	18 25 55.5	-6.6
XAN				Sg		Sb	18 26 27.9	+8.1
XAN				smax		smax		
	comp=N,1μm,0.8s							
XAN				smax		smax		
	comp=E,650nm,1.0s							
GYA	**Guiyang**	**5.51**	**148**	Pn		**Pn**	**18 25 01.1**	**+0.4**
GYA				Sn		**Sn**	**18 26 04.8**	**+1.5**
GYA				Sg		Sb	18 26 35.9	+15
GYA				smax		smax		
	comp=N,2μm,0.9s							
GYA				smax		smax		
	comp=E,2μm,0.9s							
KMI	**Kunming**	**6.06**	**186**	Pn		**Pn**	**18 25 09.6**	**+1.2**
KMI				Sn		**Sn**	**18 26 18.5**	**+1.3**
KMI				smax		smax		
	comp=N,410nm,1.5s							
KMI				smax		smax		
	comp=E,520nm,1.0s							
GTA	**Gaotai**	**8.72**	**341**	⇑	P	**Pn**	**18 25 46.3**	**+1.6**
GTA					pP		18 25 50.9	
GTA					sP		18 25 53.8	
GTA					S	**Sn**	**18 27 25.9**	**+3.6**
GTA					sS		18 27 32.5	
GTA					pmax	pmax		
	comp=Z,99nm,4.3s							
GTA					LR	LR		
	comp=N,1μm,11.2s							
GTA					LR	LR		
	comp=E,3μm,10.5s							
GTA					LR	LR		
	comp=Z,2μm,9.0s							
WHN	**Wuhan**	**9.43**	**91**	⇓	P	**Pn**	**18 25 53.6**	**-0.8**
WHN					S	**Sn**	**18 27 39.0**	**-0.7**
WHN					LR	LR		
	comp=N,3μm,6.8s							
WHN					LR	LR		
	comp=E,5μm,6.9s							
WHN					LR	LR		
	comp=Z,6μm,7.5s							
LSA	**Lhasa**	**10.68**	**265**		P	**Pn**	**18 26 12.4**	**+0.5**
LSA					LR	LR		
	comp=E,2μm,11.4s							
LSA					LR	LR		
	comp=Z,3μm,10.5s							
LSA	**Lhasa**	**10.68**	**265**	*e*	P	**Pn**	**18 26 12.8**	**+0.9**
LSA					pmax	pmax		
	comp=Z,21nm,0.8s							
LSA	**Lhasa**	**10.68**	**265**	*e*	P	**Pn**	**18 26 12.8**	**+0.9**
	comp=Z,21nm,0.8s							
BTO	**Baotou**	**10.82**	**28**	*e*	P	Pn	18 26 09.4	-4.2
BTO					S	Sn	18 28 22.5	+8.5
BTO					LR	LR		
	comp=N,1μm,11.3s							
BTO					LR	LR		
	comp=E,1μm,13.2s							
SHL	**Shillong**	**11.58**	**244**	*e*	P	**Pn**	**18 26 23.5**	**-0.5**
SHL				*ex*		x	18 29 48.0	
HHC	**Hu-ho-hao-te**	**11.69**	**32**	*e*	P	**Pn**	**18 26 26.8**	**+1.4**
HHC					pP		18 26 32.6	
HHC					sP		18 26 36.3	
HHC					S	**Sn**	**18 28 37.0**	**+1.9**
HHC					sS		18 28 45.3	
HHC					SS	**SnSn**	**18 28 50.9**	**+3.6**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,140nm,4.8s							
HHC					LR	LR		
	comp=N,2μm,8.0s							
HHC					LR	LR		
	comp=E,2μm,7.2s							
HHC					LR	LR		
	comp=Z,1μm,7.6s							
GZH	**Guangzhou**	**11.97**	**130**		P	**Pn**	**18 26 26.4**	**-2.8**
GZH					S	Sn	18 28 33.6	-8.3
GZH					LR	LR		
	comp=N,4μm,8.7s							
GZH					LR	LR		
	comp=E,3μm,9.6s							
TIA	**Tai'an**	**12.48**	**63**		P	**Pn**	**18 26 35.8**	**-0.3**
TIA					pmax	pmax		
	comp=Z,20nm,0.8s							
TIA					LR	LR		
	comp=N,850nm,8.4s							
TIA					LR	LR		
	comp=E,1μm,8.8s							
TIA					LR	LR		
	comp=Z,640nm,9.0s							
CHTO	**Chiang Mai**	**12.96**	**199**	*e*	P	**Pn**	**18 26 44.2**	**+1.5**
CHTO					pmax	pmax		
	comp=Z,27nm,0.8s							
CHTO	**Chiang Mai**	**12.96**	**199**	*e*	Pn	**Pn**	**18 26 44.2**	**+1.5**
	comp=Z,27nm,0.8s							
CHTO	**Chiang Mai**	**12.96**	**199**		P	P	18 26 48.0	-5.1
	comp=Z,38nm,0.8s							
NJ2	**Nanjing**	**13.20**	**82**	*e*	P	**Pn**	**18 26 46.0**	**0.0**
NJ2					pP	P	18 26 50.4	-5.3
NJ2					sP		18 26 54.3

comp=Z,920nm,9.2s
RAMN Ramite 15.28 258 *e*P **Pn 18 27 11.5 -3.0**
comp=Z,58nm,0.7s
RAMN Ramite 15.28 258 *e*P **Pn 18 27 11.5 -3.0**
comp=Z,58nm,0.7s
JIRN Jiri 15.40 261 *e*P **Pn 18 27 14.5 -1.7**
comp=Z,63nm,0.7s
JIRN Jiri 15.40 261 *e*P **Pn 18 27 14.5 -1.7**
comp=Z,63nm,0.7s
GUN Gumba 15.59 262 *e*P **Pn 18 27 17.3 -1.3**
comp=Z,185nm,0.8s
GUN Gumba 15.59 262 *e*P **Pn 18 27 17.3 -1.3**
comp=Z,185nm,0.8s
PKI Pulchoki 16.09 262 *e*P **Pn 18 27 22.5 -2.5**
comp=Z,154nm,0.8s
PKI Pulchoki 16.09 262 *e*P **Pn 18 27 22.5 -2.5**
PKI pmax pmax
comp=Z,154nm,0.8s
PKI Pulchoki 16.09 262 *e*P **Pn 18 27 22.5 -2.5**
comp=Z,154nm,0.8s
KKN Kakani 16.14 262 *e*P **Pn 18 27 23.0 -2.5**
comp=Z,164nm,0.7s
KKN Kakani 16.14 262 *e*P **Pn 18 27 23.0 -2.5**
KKN pmax pmax
comp=Z,164nm,0.7s
KKN Kakani 16.14 262 *e*P **Pn 18 27 23.0 -2.5**
comp=Z,164nm,0.7s
DMN Daman 16.34 262 *e*P **Pn 18 27 25.3 -2.8**
comp=Z,141nm,0.9s
DMN Daman 16.34 262 *e*P **Pn 18 27 25.3 -2.8**
comp=Z,141nm,0.9s
GKN Gorkha 16.62 264 *e*P **Pn 18 27 29.4 -2.3**
comp=Z,402nm,0.8s
GKN Gorkha 16.62 264 *e*P **Pn 18 27 29.4 -2.3**
comp=Z,402nm,0.8s
SONM Songino Array 16.79 7 Pn **Pn 18 27 33.5 -0.1**
comp=Z,0.1nm,0.3s,baz=189,slow=10,SNR=43
SONM Lg Lg 18 32 35.6
comp=Z,0.0nm,0.3s,baz=187,slow=30,SNR=3.0
SONM LR LR 18 34 42.0
comp=Z,661nm,21.3s,baz=21,slow=40
SONM Songino Array 16.79 7 P **Pn 18 27 33.5 -0.1**
SONM MLR MLR
comp=Z,661nm,21.3s
SONM Songino Array 16.79 7 Pn **Pn 18 27 33.5 -0.1**
SONM Lg Lg 18 32 35.6
ULN Ulaanbaatar 16.90 8 *e*P **Pn 18 27 34.0 -1.0**
ULN pmax pmax
comp=Z,35nm,1.1s
ULN Ulaanbaatar 16.90 8 *e*Pn **Pn 18 27 34.0 -1.0**
comp=Z,35nm,1.1s
ULN Ulaanbaatar 16.90 8 P **Pn 18 27 34.5 -0.5**
comp=Z,20nm,1.2s
TPUB Ta-pu 17.20 113 Pn **P 18 27 39.9 -0.3**
comp=Z,61nm,1.0s
SSLB Suanglung 17.22 111 *e*Pn **Pn 18 27 37.5 -1.5**
comp=Z,111nm,1.2s
DANN Dangsing 17.29 266 *e*P **Pn 18 27 37.4 -2.7**
comp=Z,117nm,0.9s
DANN Dangsing 17.29 266 *e*P **Pn 18 27 37.4 -2.7**
comp=Z,117nm,0.9s
KOLN Koldanda 17.57 264 *e*P **Pn 18 27 39.7 -3.9**
comp=Z,70nm,0.7s
KOLN Koldanda 17.57 264 *e*P **Pn 18 27 39.7 -3.9**
comp=Z,70nm,0.7s
WMQ Urumqi 17.70 320 P **Pn 18 27 45.3 +0.4**
WMQ pP **pP 18 27 51.3 -0.8**
WMQ sP **sP 18 27 54.9 -0.2**
WMQ S **Sn 18 30 59.9 -1.4**
WMQ ScS **ScS 18 39 37.3 +0.9**
WMQ pmax pmax
comp=Z,18nm,1.0s
WMQ pmax pmax
comp=Z,200nm,5.0s
WMQ LR LR
comp=N,1μm,8.6s
WMQ LR LR
comp=E,1μm,9.3s
WMQ LR LR
comp=Z,910nm,8.3s
ZAK Zakamensk 19.18 360 *e*P **Pn 18 28 04.1 +1.1**
ZAK pmax pmax
comp=Z,14nm,0.9s
SNY Shenyang 19.35 51 ⇓P **P 18 28 01.9 -1.8**
SNY S **S 18 31 37.8 -3.3**
SNY LR LR
comp=N,740nm,17.1s
SNY LR LR
comp=E,550nm,16.2s
SNY LR LR
comp=Z,450nm,12.0s
INCN Inchon 20.17 66 *e*P **P 18 28 10.7 -2.0**
comp=Z,42nm,0.9s
TLY Talaya 20.48 0 *e*P Pn 18 28 18.3 0.0
TLY *e* 18 28 29.6
TLY *e*S S 18 31 54.9 -9.3
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,494nm,19.0s
TLY Talaya 20.48 0 *e*P Pn 18 28 17.5 -0.8
comp=Z,14nm,0.9s
TLY Talaya 20.48 0 Pn **P 18 28 17.1 +1.1**
comp=Z,85nm,0.8s,SNR=6.2
MOY Mondy 20.55 356 *e*P Pn 18 28 18.6 -0.5
MOY pmax pmax
comp=Z,69nm,1.4s
KSAR Wonju Array Be 21.14 66 P **P 18 28 23.8 +0.6**
KSAR Wonju Array Be 21.14 66 P **P 18 28 23.8 +0.6**
KSRS Korea Array 21.17 66 P **P 18 28 23.8 +0.3**
comp=Z,13nm,0.7s,baz=244,slow=10,SNR=51
KSRS LR LR 18 36 14.4
comp=Z,152nm,20.3s,baz=99,slow=36
KSRS Korea Array 21.17 66 P **P 18 28 23.8 +0.3**
KSRS pmax pmax
comp=Z,13nm,0.7s
KSRS MLR MLR
comp=Z,152nm,20.3s
CN2 Changchun 21.48 48 *e*P **P 18 28 26.9 +0.1**
CN2 *e*pP **pP 18 28 33.9 +0.5**
CN2 *e*sP **sP 18 28 37.4 +1.0**
CN2 *e*S **S 18 32 18.3 -5.6**
CN2 SS SS 18 32 53.5
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,600nm,11.0s
CN2 LR LR
comp=E,500nm,11.0s
CN2 LR LR
comp=Z,500nm,12.0s
DDI Dehra Dun 21.79 274 *e*P **P 18 28 30.0 -0.3**
HIA Hailar 21.87 30 *e*P **P 18 28 31.6 +0.6**
HIA pmax pmax
comp=Z,94nm,1.5s
HIA Hailar 21.87 30 *e*P **P 18 28 31.6 +0.6**
comp=Z,94nm,1.5s
CIT Chita 22.12 17 *e*P **P 18 28 33.9 +0.2**
CIT *e* 18 28 47.4
CIT *e* 18 29 13.3
CIT pmax pmax
comp=Z,180nm,1.7s
MK31 Makanchi Array 22.53 320 *e*P **P 18 28 36.9 -1.2**
MK31 Makanchi Array 22.53 320 *e*P **P 18 28 36.9 -1.2**
MKAR Makanchi Array 22.53 320 P **P 18 28 37.6 -0.5**
comp=Z,8.7nm,0.9s,baz=130,slow=12,SNR=56
MKAR LR LR 18 38 21.6
comp=Z,364nm,20.6s,baz=123,slow=39
MKAR Makanchi Array 22.53 320 P **P 18 28 37.6 -0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR MLR MLR
comp=Z,365nm,20.6s
MKAR Makanchi Array 22.53 320 P **P 18 28 37.6 -0.5**
AGRA Agra 22.55 266 *e*P **P 18 28 35.9 -2.5**
BISR Bishrakh 22.65 270 *e*P **P 18 28 38.6 -0.9**
BISR AMb AMB 18 28 46.6
comp=Z,188nm,1.0s
NDI New Delhi 22.81 270 *e*P **P 18 28 41.5 +0.3**
KKR Kurukshetra 22.90 274 *e*P **P 18 28 40.9 -1.2**
AYAN Aya Nagar 22.93 270 *e*P **P 18 28 40.8 -1.7**
AYAN AMb AMB 18 28 53.4
comp=Z,37nm,1.3s
JNU Nakatsue 23.32 78 *e*P **P 18 28 44.9 -1.5**

comp=Z,70nm,1.5s
THN Thein Dam 23.54 280 *e*P **P 18 28 46.7 -1.8**
KUDL Kundal 23.56 269 *e*P **P 18 28 48.7 0.0**
KUDL AMb AMB 18 28 51.5
comp=Z,44nm,1.6s
KSH Kashi 23.80 298 P **P 18 28 54.8 +3.7**
KSH *e*pP **pP 18 28 58.8 +0.8**
KSH *e*sP **sP 18 29 01.8 +0.8**
KSH *e*S **S 18 33 08.8 +3.2**
KSH *e*sS **sS 18 33 16.6 -0.4**
KSH *e*ScP **ScP 18 36 13.3 +2.2**
KSH *e*PcS **PcS 18 36 18.3 +4.5**
KSH *e*ScS **ScS 18 39 59.5 +1.5**
KSH pmax pmax
comp=Z,65nm,1.9s
KSH LR LR
comp=N,600nm,9.0s
KSH LR LR
comp=E,500nm,13.1s
KSH LR LR
comp=Z,590nm,11.3s
NGP Nagpur 23.98 251 *e*P **P 18 28 51.2 -1.7**
NGP *e*x x 18 29 03.3
NGP *e*x x 18 29 03.7
comp=N,39nm,0.6s
KHET Khetri 24.16 270 *e*P **P 18 28 52.8 -1.6**
KHET AMb AMB 18 28 59.8
comp=Z,51nm,1.6s
MDJ Mudanjiang 24.51 49 P **P 18 28 57.3 -0.2**
MDJ pP **pP 18 29 03.4 -1.1**
MDJ sP **sP 18 29 06.0 -1.4**
MDJ PcP **PcP 18 32 32.4 -3.0**
MDJ S **S 18 33 17.1 +0.5**
MDJ sS **sS 18 33 27.4 -0.7**
MDJ pmax pmax
comp=Z,25nm,1.6s
MDJ pmax pmax
comp=Z,250nm,5.0s
MDJ LR LR
comp=N,350nm,9.5s
MDJ LR LR
comp=E,300nm,14.1s
MDJ LR LR
comp=Z,390nm,9.5s
MDJ Mudanjiang 24.51 49 *e*P **P 18 28 57.8 +0.3**
comp=Z,91nm,1.6s
KZA Kyzart 24.97 304 P **P 18 29 03.7 +1.6**
SNR=11
KZA P **P 18 29 03.7 +1.6**
SNR=11
TKM2 Tokmak 2 24.98 306 P **P 18 29 03.7 +1.7**
SNR=7.3
TKM2 P **P 18 29 03.7 +1.7**
SNR=7.3
TKM2 Tokmak 2 24.98 306 *e*P **P 18 29 03.1 +1.1**
TKM2 pmax pmax
comp=Z,25nm,1.1s
TKM2 Tokmak 2 24.98 306 *e*P **P 18 29 03.1 +1.1**
comp=Z,26nm,1.1s
KBK Karagaybulak 25.35 305 P **P 18 29 07.0 +1.7**
SNR=19
KBK P **P 18 29 07.0 +1.7**
SNR=19
AAK Ala-Archa 25.66 305 P **P 18 29 08.8 +0.6**
SNR=17
AAK P **P 18 29 08.8 +0.6**
SNR=17
AAK Ala-Archa 25.66 305 ⇓*e*P **P 18 29 09.7 +1.5**
AAK pmax pmax
comp=Z,58nm,0.8s
AAK Ala-Archa 25.66 305 *e*P **P 18 29 08.4 +0.2**
comp=Z,103nm,0.8s
AAK Ala-Archa 25.66 305 P **P 18 29 10.8 +2.6**
comp=Z,179nm,0.8s,SNR=9.3
USP Ospenovka 25.85 306 P **P 18 29 11.8 +2.0**
SNR=14
USP P **P 18 29 11.8 +2.0**
SNR=14
USRK Ussuriysk Arra 25.95 52 P **P 18 29 10.3 -0.2**
comp=Z,3.7nm,0.8s,baz=248,slow=8.0,SNR=4.2
AML Almayashu 26.09 303 P **P 18 29 15.0 +2.6**
SNR=16
AML P **P 18 29 15.0 +2.6**
SNR=16
EKS2 Erkin-Say 26.18 304 *e*P **P 18 29 12.7 -0.1**
EKS2 pmax pmax
comp=Z,15nm,0.9s
EKS2 Erkin-Say 26.18 304 *e*P **P 18 29 12.7 -0.1**
comp=Z,15nm,0.9s
HYB Hyderabad 26.39 244 *i* P **P 18 29 16.0 +1.2**
ZAA0 Zalesovo Array 26.39 335 *e*P **P 18 29 13.5 -0.9**
ZALV Zalesovo Beam 26.39 335 P **P 18 29 13.9 -0.5**
comp=Z,17nm,0.8s,baz=137,slow=8.9,SNR=59
ZALV LR LR 18 40 57.4
comp=Z,122nm,20.9s,baz=252,slow=40
ZALV Zalesovo Beam 26.39 335 P **P 18 29 14.0 -0.5**
ZALV pmax pmax
comp=Z,17nm,0.8s
ZALV MLR MLR
comp=Z,122nm,20.9s
ZALV Zalesovo Beam 26.39 335 P **P 18 29 13.9 -0.5**
KURK Kurchatov 26.83 324 P **P 18 29 18.0 -0.4**
comp=Z,10nm,0.8s,baz=129,slow=9.3,SNR=80
KURK PcP **PcP 18 32 40.3 -0.3**
comp=Z,5.5nm,0.8s,baz=116,slow=2.0,SNR=11
KURK LR LR 18 40 32.3
comp=Z,408nm,18.4s,baz=120,slow=38
KURK Kurchatov 26.83 324 *ce*P **P 18 29 18.7 +0.3**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 26.83 324 *e*P **P 18 29 17.8 -0.5**
comp=Z,30nm,1.1s
KURK PcP **PcP 18 32 40.3 -0.3**
KURK Kurchatov 26.83 324 P **P 18 29 18.2 -0.2**
comp=Z,134nm,1.0s,SNR=11
BOD Bodaibo 27.62 12 *e*P **P 18 29 25.2 -0.2**
BOD pmax pmax
comp=Z,15nm,1.4s
NVS Novosibirsk 27.67 335 *e*P **P 18 29 29.0 +3.1**
NVS pmax pmax
comp=Z,55nm,2.4s
NVS pmax pmax
comp=E,10.0nm,1.6s
KK31 Karatay Array 28.61 304 *e*P **P 18 29 34.4 -0.1**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 28.61 304 *e*P **P 18 29 34.1 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 28.61 304 *e*P **P 18 29 34.0 -0.4**
comp=Z,6.4nm,0.8s
KBL Kabul 28.97 286 *e*P **P 18 29 38.7 +0.7**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 28.97 286 *e*P **P 18 29 38.7 +0.7**
comp=Z,23nm,1.0s
MJAR Matsushiro Arr 29.29 70 P **P 18 29 42.3 +1.7**
comp=Z,3.5nm,1.1s,baz=269,slow=9.8,SNR=4.1
MJAR Matsushiro Arr 29.29 70 P **P 18 29 42.3 +1.7**
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 29.29 70 P **P 18 29 42.3 +1.7**
POO Poona 29.52 252 *e*P **P 18 29 41.0 -1.8**
HABR Khabarovsk 29.53 45 *e*P **P 18 29 40.4 -2.1**
HABR *e**PP **pP 18 29 49.8 +0.3**
HABR *e**SP **sP 18 29 54.1 +1.7**
HABR *e*PPP PPP 18 30 43.7
HABR *e* 18 32 45.2
HABR *e*S **S 18 34 32.8 -3.0**
HABR *e**SS **sS 18 34 49.3 +1.9**
HABR *e*SS SS 18 36 02.7 -39
HABR *e* 18 36 28.7
HABR *e* 18 40 19.2
HABR pmax pmax
comp=E,13nm,1.4s
HABR pmax pmax
comp=N,42nm,2.2s
HABR pmax pmax
comp=Z,45nm,1.8s
HABR MLR MLR
comp=Z,208nm,16.0s
CLNS Chul'man 29.69 24 *e*P **P 18 29 44.7 +0.8**
CLNS pmax pmax
comp=Z,12nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.3s

CLNS pmax pmax
comp=N,11nm,1.4s
BVA0 Borovoye Array 32.36 322 P **P 18 30 07.6 +0.2**
BVA0 pmax pmax
comp=Z,1.0nm,1.3s
BRVK Borovoye 32.43 322 ⇓*e*P **P 18 30 08.9 +0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
YAK Yakutsk 35.25 21 *e*P **P 18 30 31.9 -0.5**
YAK *e* 18 31 49.5
YAK *e* 18 33 01.9
YAK *e*S S 18 35 57.6 -6.9
YAK *e*SS **SnSn 18 38 16.9 -5.9**
YAK *e* 18 40 42.6
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,31nm,3.3s
YAK pmax pmax
comp=N,137nm,5.1s
YAK pmax pmax
comp=E,46nm,3.3s
YAK smax smax
comp=N,57nm,2.5s
YAK smax smax
comp=E,76nm,3.3s
IMYA Miami 36.14 290 *e*P **P 18 30 42.1 +1.5**
IMOG Moghan 36.77 290 *e*P **P 18 30 47.5 +1.3**
IPAY Payeh 37.02 290 *e*P **P 18 30 50.1 +1.9**
AB31 Akbulak array 37.17 312 P **P 18 30 48.8 -0.2**
IAKL Akhelmad 37.20 291 *e*P **P 18 30 49.3 -0.5**
IKRD Kardeh 37.38 291 *e*P P 18 30 47.1 -4.1
IKOO Kooshah 37.55 284 *e*P **P 18 30 50.2 -2.5**
ITEG Tejag 37.68 285 *e*P **P 18 30 54.9 +1.1**
ISFR Sfrayin 37.76 292 *e*P **P 18 30 56.8 +2.3**
SVE Sverdlovsk 39.08 324 ⇓*e*P **P 18 31 06.5 +1.5**
SVE pmax pmax
comp=Z,24nm,1.1s
ARU Arti 40.00 322 *c i*P **P 18 31 12.9 +0.2**
ARU *e* 18 32 42.9
ARU S **S 18 37 18.7 +1.9**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU Arti 40.00 322 P **P 18 31 12.1 -0.6**
comp=Z,157nm,0.8s,SNR=10
IGLO Ghaloghah 41.15 291 *e*P **P 18 31 25.5 +2.8**
IANJ Anjilo 41.23 290 *e*P **P 18 31 24.9 +1.5**
IKIA Kiasar 41.31 291 *e*P **P 18 31 26.1 +2.1**
ISHM Shahmirzad 41.68 290 *e*P **P 18 31 27.8 +0.7**
SOKR Solikamsk 42.00 326 ⇑*i*P **P 18 31 30.5 +1.5**
SOKR pmax pmax
comp=Z,30nm,1.2s
SOKR MLR MLR
comp=Z,170nm,19.0s
IDMV Damavand 42.73 290 *e*P **P 18 31 36.9 +1.2**
IPAR Pars 43.10 282 *e*P **P 18 31 39.1 +0.3**
ISRV Sarvestan 43.16 281 *e*P **P 18 31 38.8 -0.5**
IKLH Kolahrood 43.51 287 *e*P **P 18 31 42.6 +0.6**
SEY Seymchan 44.32 30 *ce*P **P 18 31 47.1 -0.7**
PETK Petropavlovsk- 44.56 44 P **P 18 31 49.5 -0.3**
comp=Z,9.2nm,0.9s,baz=204,slow=3.3,SNR=7.1
PETK Petropavlovsk- 44.56 44 P **P 18 31 49.5 -0.3**
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 44.56 44 P **P 18 31 49.5 -0.3**
IDHR Dehrash 47.44 290 *e*P **P 18 32 13.1 +0.1**
GNI Garni 47.73 298 ⇑*i*P **P 18 32 16.5 +1.3**
GNI pmax pmax
comp=Z,19nm,1.2s
GNI Garni 47.73 298 *e*P **P 18 32 14.8 -0.5**
comp=Z,34nm,1.1s
MIB Mutribah 47.88 284 *e*P **P 18 32 15.4 -0.9**
MIB AMb AMB 18 32 17.6
comp=Z,65nm,1.0s
RDF Al-Radifah 47.96 282 *e*P **P 18 32 16.6 -0.3**
ZEI Tsey 48.02 301 *e*P **P 18 32 17.0 -0.5**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
NAY Al-Naaiem 48.12 283 *e*P **P 18 32 17.5 -0.7**
NAY AMb AMB 18 32 22.1
comp=Z,48nm,0.8s
KIV Kislovodsk 48.77 303 *e*P **P 18 32 24.6 +1.6**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV Kislovodsk 48.77 303 *e*P **P 18 32 24.6 +1.6**
comp=Z,49nm,1.1s
KIV Kislovodsk 48.77 303 P **P 18 32 25.6 +2.5**
comp=Z,226nm,1.1s,SNR=6.7
VRHR Novokhopersk 49.05 313 *e*P **P 18 32 24.6 -0.4**
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 50.59 313 *e*P **P 18 32 36.2 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
SOC Sochi 50.95 303 *e*P **P 18 32 38.6 -0.9**
SOC *e* 18 34 38.0
SOC *e*PPP PPP 18 35 41.4
SOC *e*S **S 18 39 54.0 -0.9**
SOC pmax pmax
comp=Z,15nm,0.9s
BILL Bilibino 51.37 25 ⇑*i*P **P 18 32 41.9 -0.4**
BILL pmax pmax
comp=Z,40nm,1.2s
BILL MLR MLR
comp=Z,200nm,14.0s
BILL Bilibino 51.37 25 *e*P **P 18 32 40.5 -1.8**
comp=Z,21nm,0.9s
MOS Moscow 51.41 319 *e*P **P 18 32 45.2 +2.4**
RAYN Ar Rayn 51.50 277 P **P 18 32 43.5 -0.5**
comp=Z,50nm,1.4s,SNR=6.9
OBN Obninsk 52.02 318 ⇓*i*P **P 18 32 47.1 -0.2**
OBN *e* 18 33 53.4
OBN *e*SS **SS 18 43 48.0 +1.9**
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,300nm,17.0s
ANN Anapa 52.39 305 *e**PP **P 18 32 48.4 -1.8**
ANN pmax pmax
comp=Z,80nm,1.3s
LVZ Lovozero 53.53 334 *ce*P **P 18 32 59.2 +0.8**
LVZ pmax pmax
comp=Z,33nm,1.7s
FX1 Attu Island--F 53.88 45 P **P 18 33 03.0 +1.9**
comp=Z,15nm,0.7s,baz=260,slow=18,SNR=3.6
FX1 Attu Island--F 53.88 45 P **P 18 33 03.0 +1.9**
FX1 pmax pmax
comp=Z,15nm,0.7s
FX1 Attu Island--F 53.88 45 P **P 18 33 03.0 +1.9**
APA Apatity 53.97 334 ⇑*e*P **P 18 33 02.0 +0.5**
APA *i* 18 33 10.0
APA MLR MLR
comp=Z,600nm,13.0s
MBWA Marble Bar 54.35 161 *e*P **P 18 33 04.5 -0.3**
MBWA Marble Bar 54.35 161 *e*P **P 18 33 04.7 -0.1**
comp=Z,29nm,1.1s
ASF Jabal al Asfar 55.75 290 LR LR 19 00 55.6
comp=Z,44nm,18.2s,baz=275,slow=40
BR131 Keskin Array S 56.18 299 *e*P **P 18 33 17.7 -0.5**
comp=Z,5.7nm,0.9s
BRTR Keskin Array B 56.18 299 P **P 18 33 17.4 -0.7**
comp=Z,5.3nm,0.8s,baz=106,slow=6.0,SNR=12
BRTR PcP **PcP 18 34 15.9 +0.1**
comp=Z,1.7nm,0.8s,baz=110,slow=5.4,SNR=2.3
BRTR LR LR 18 57 58.2
comp=Z,45nm,21.5s,baz=259,slow=37
BRTR Keskin Array B 56.18 299 P **P 18 33 17.5 -0.7**
BRTR 18 34 15.9
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR

comp=Z,45nm,21.5s
BRTR Keskin Array B 56.18 299 P **P** **18 33 17.4 -0.7**
BRTR PcP **PcP** **18 34 15.9 +0.1**
MMAI Mount Meron Ar 56.69 291 LR LR 19 03 51.9
comp=Z,55nm,18.8s,baz=60,slow=43
AKASG Malin Array Be 56.89 313 P **P** **18 33 22.2 -0.6**
comp=Z,4.4nm,0.5s,baz=68,slow=7.4,SNR=14
AKASG PcP **PcP** **18 34 17.6 -0.6**
comp=Z,3.8nm,0.8s,baz=66,slow=4.5,SNR=6.2
AKASG LR LR 18 59 06.2
comp=Z,110nm,18.7s,baz=70,slow=38
AKASG Malin Array Be 56.89 313 P **P** **18 33 22.2 -0.6**
AKASG 18 34 17.6
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG MLR MLR
comp=Z,110nm,18.7s
AKASG Malin Array Be 56.89 313 P **P** **18 33 22.2 -0.6**
AKASG PcP **PcP** **18 34 17.6 -0.6**
AKBB Malin Array Si 56.89 313 *eP* **P** **18 33 21.8 -1.0**
AKBB Malin Array Si 56.89 313 *eP* **P** **18 33 21.8 -1.0**
KIEV Kiev 56.90 313⇓ *iP* **P** **18 33 22.2 -0.7**
KIEV Kiev 56.90 313 *eP* **P** **18 33 21.7 -1.2**
comp=Z,5.3nm,0.6s
ARCES ARCESS Array B 56.94 336 P **P** **18 33 21.9 -1.1**
comp=Z,5.5nm,0.7s,baz=79,slow=8.8,SNR=10
ARCES PcP **PcP** **18 34 17.5 -0.5**
comp=Z,4.0nm,0.6s,baz=102,slow=5.2,SNR=6.6
ARCES LR LR 18 59 43.1
comp=Z,135nm,18.0s,baz=127,slow=38
ARCES ARCESS Array B 56.94 336 P **P** **18 33 21.9 -1.1**
ARCES 18 34 17.5
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES MLR MLR
comp=Z,135nm,18.0s
ARCES ARCESS Array B 56.94 336 P **P** **18 33 21.9 -1.1**
ARCES PcP **PcP** **18 34 17.5 -0.5**
FINES FINESS Array B 57.17 326 P **P** **18 33 24.2 -0.4**
comp=Z,5.0nm,0.6s,baz=85,slow=8.0,SNR=21
FINES FINESS Array B 57.17 326 P **P** **18 33 24.2 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 57.17 326 P **P** **18 33 24.2 -0.4**
IDID Didziasalis 57.61 319 *eP* **P** **18 33 26.8 -1.0**
IDID AMB AMB 18 33 31.6
comp=Z,4.6nm,0.9s
IZAR Zarasai 57.81 319 *eP* **P** **18 33 28.3 -1.0**
IZAR AMB AMB 18 33 34.0
comp=Z,7.3nm,1.2s
IIGN Ignalina 57.89 319 *eP* **P** **18 33 28.8 -1.1**
IIGN AMB AMB 18 33 33.7
comp=Z,7.1nm,0.9s
ISAL Salakas 57.91 319 *eP* **P** **18 33 28.9 -1.0**
ISAL AMB AMB 18 33 33.7
comp=Z,8.6nm,0.9s
EIL Elat 58.15 288 LR LR 19 03 34.7
comp=Z,78nm,18.5s,baz=257,slow=41
PMG Port Moresby 58.19 127 *ceP* **P** **18 33 32.7 +0.3**
PMG pmax pmax
comp=Z,27nm,1.2s
PMG Port Moresby 58.19 127 *eP* **P** **18 33 32.9 +0.6**
comp=Z,23nm,1.0s
WRAB Tennant Creek 58.87 146 *eP* **P** **18 33 37.0 0.0**
WRAB pmax pmax
comp=Z,44nm,0.9s
WRAB Tennant Creek 58.87 146 *eP* **P** **18 33 37.0 0.0**
comp=Z,44nm,0.9s
WRAB Tennant Creek 58.87 146 P **P** **18 33 37.0 0.0**
comp=Z,264nm,0.8s,SNR=23
WRA Warramunga Arr 58.88 146 P **P** **18 33 37.3 +0.2**
comp=Z,26nm,0.8s,baz=338,slow=7.4,SNR=110
WRA Warramunga Arr 58.88 146 P **P** **18 33 37.3 +0.2**
WRA pmax pmax
comp=Z,26nm,0.8s
WRA Warramunga Arr 58.88 146 P **P** **18 33 37.3 +0.2**
WB2 Warramunga Arr 58.88 146 *eP* **P** **18 33 37.1 0.0**
COEN Coen 58.93 134 *eP* **P** **18 33 37.9 +0.4**
comp=Z,57nm,0.6s
COEN Coen 58.93 134 *eP* **P** **18 33 37.6 0.0**
comp=Z,155nm,1.1s
SPITS Spitsbergen Ar 59.12 346 P **P** **18 33 38.7 +0.6**
comp=Z,6.8nm,0.8s,baz=119,slow=6.9,SNR=3.5
SPITS Spitsbergen Ar 59.12 346 P **P** **18 33 38.7 +0.6**
SPITS pmax pmax
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 59.12 346 P **P** **18 33 38.7 +0.6**
VRI Vrincioaia 59.56 308⇑ *P* **P** **18 33 42.8 +1.2**
VRI Vrincioaia 59.56 308⇑ *iP* **P** **18 33 42.8 +1.2**
PLOR Plostina 59.62 308⇑ *P* **P** **18 33 43.9 +1.8**
PLOR Plostina 59.62 308⇑ *iP* **P** **18 33 43.9 +1.8**
SUW Suwalki 59.88 318 *eP* **P** **18 33 43.4 -0.2**
SUW Suwalki 59.88 318 *eP* **P** **18 33 42.5 -1.1**
SUW pmax pmax
comp=Z,36nm,0.9s
SUW Suwalki 59.88 318 *eP* **P** **18 33 42.5 -1.1**
comp=Z,36nm,0.9s
BURAR Bucovina Array 60.12 310⇓ *iP* **P** **18 33 45.6 0.0**
BUR08 Bucovina Ar. S 60.13 310 *eP* **P** **18 33 45.9 +0.3**
MLR Muntele Rosu 60.19 308 LR LR 19 04 25.0
comp=Z,20nm,18.2s,baz=255,slow=41
MLR Muntele Rosu 60.19 308⇑ *P* **P** **18 33 47.9 +1.8**
MLR Muntele Rosu 60.19 308⇑ *iP* **P** **18 33 47.9 +1.8**
LVV L'vov 60.34 313 *eP* **P** **18 33 46.5 -0.4**
VOIR 60.81 308⇓ *P* **P** **18 33 51.0 +0.7**
VOIR 60.81 308⇓ *iP* **P** **18 33 51.0 +0.7**
KWP Kalwaria Pacla 61.21 313 *eP* **P** **18 33 53.3 +0.5**
KWP Kalwaria Pacla 61.21 313⇑ *P* **P** **18 33 53.4 +0.5**
KWP Kalwaria Pacla 61.21 313 *eP* **P** **18 33 53.1 +0.3**
comp=Z,66nm,1.3s
KWP Kalwaria Pacla 61.21 313⇑ *iP* **P** **18 33 53.4 +0.5**
KOLS Kolonicke sedl 61.67 312 *eP* **P** **18 33 58.4 +2.4**
KOLS Kolonicke sedl 61.67 312 *e* **P** **18 33 58.4 +2.4**
TRPA Tarpa 61.73 311⇑ *iP* **P** **18 33 56.4 +0.1**
UZH Uzhgorod 61.75 312 *eP* **P** **18 33 56.0 -0.4**
UZH *e* 18 34 03.3
UZH *i* 18 34 08.9
UZH *e* 18 34 37.9
AS31 Alice Springs 61.87 148 *eP* **P** **18 33 57.9 +0.4**
STHS Stebnicka Huta 62.19 313 *eP* **P** **18 33 59.5 0.0**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 62.19 313 *eP* **P** **18 33 59.5 0.0**
CRVS Cervenica-Dubn 62.20 312 *eP* **P** **18 33 59.9 +0.4**
CRVS Cervenica-Dubn 62.20 312 *eP* **P** **18 33 59.9 +0.4**
OJC Ojcow 62.86 314 *eP* **P** **18 34 03.9 0.0**
OJC Ojcow 62.86 314 *eP* **P** **18 34 03.9 0.0**
VTS Vitosha 62.92 305⇑ *P* **P** **18 34 05.8 +1.2**
VTS Vitosha 62.92 305⇑ *iP* **P** **18 34 05.8 +1.2**
KECS Kecovo 62.94 312 *eP* **P** **18 34 04.6 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 62.94 312 *eP* **P** **18 34 04.6 +0.2**
BZS Buzias 63.07 309⇑ *P* **P** **18 34 05.8 +0.5**
BZS Buzias 63.07 309⇑ *iP* **P** **18 34 05.8 +0.5**
HFS Hagfors 63.37 326 LR LR 19 05 09.9
comp=Z,90nm,18.5s,baz=255,slow=39
KLBR Kellerberrin 63.90 166 *eP* **P** **18 34 11.1 +0.3**
comp=Z,18nm,0.7s
VYHS Vyhne 63.98 313 *eP* **P** **18 34 11.8 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 63.98 313 *eP* **P** **18 34 11.8 +0.5**
KOLL Kolacno 64.23 313 *eP* **P** **18 34 13.6 +0.7**
KOLL Kolacno 64.23 313 *eP* **P** **18 34 13.6 +0.7**
NB2 NORSAR Subarra 64.27 327 P **P** **18 34 12.0 -1.0**
comp=Z,7.3nm,1.0s,baz=73,slow=6.9
NOA NORSAR Array B 64.27 327 P **P** **18 34 12.1 -1.0**
comp=Z,2.4nm,0.6s,baz=73,slow=6.9,SNR=11
NOA LR LR 19 03 07.4
comp=Z,64nm,19.0s,baz=95,slow=37
NOA NORSAR Array B 64.27 327 P **P** **18 34 12.1 -1.0**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,65nm,19.0s
NOA NORSAR Array B 64.27 327 P **P** **18 34 12.1 -1.0**
MORC Moravsky Berou 64.38 314 *eP* **P** **18 34 14.0 0.0**
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 64.38 314 *eP* **P** **18 34 14.0 0.0**
comp=Z,9.2nm,1.0s
KSP Ksiaz 64.80 316 *eP* **P** **18 34 17.8 +1.2**
KSP Ksiaz 64.80 316 *eP* **P** **18 34 17.0 +0.4**
PKSM Moragy 64.84 310⇑ *P* **P** **18 34 17.0 0.0**
PKSM Moragy 64.84 310⇑ *iP* **P** **18 34 17.0 0.0**
SMOL Smolenice 64.86 313 *eP* **P** **18 34 18.7 +1.6**
SMOL Smolenice 64.86 313 *eP* **P** **18 34 18.7 +1.6**
DPC Dobruska-Polom 64.94 315 *eP* **P** **18 34 17.9 +0.3**
DPC Dobruska-Polom 64.94 315 *eP* **P** **18 34 17.9 +0.3**
VRAC Vranov 65.12 314 LR LR 19 02 33.4
comp=Z,108nm,21.1s,baz=216,slow=36
VRAC Vranov 65.12 314⇑ *P* **P** **18 34 19.3 +0.5**
VRAC Vranov 65.12 314⇑ *iP* **P** **18 34 19.3 +0.5**
CTA Charters Tower 65.50 135 *eP* **P** **18 34 22.0 +0.5**
comp=Z,16nm,1.0s
RUE Ruedersdorf 65.73 318 *eP* **P** **18 34 20.8 -1.8**
comp=Z,13nm,0.8s
FORT Forrest 65.92 157 *eP* **P** **18 34 23.6 -0.3**
comp=Z,15nm,0.7s
PVCC Panska Ves 65.94 316 *eP* **P** **18 34 25.3 +1.3**
PVCC Panska Ves 65.94 316 *eP* **P** **18 34 25.3 +1.3**
CONA Conrad Observa 66.05 313⇑ *iP* **P** **18 34 25.1 +0.2**
comp=Z,11nm,1.1s
CONA Conrad Observa 66.05 313⇑ *ipP* **P** **18 34 25.1 +0.2**
comp=Z,11nm,1.1s
CSNA Conrad Observa 66.05 313⇑ *iP* **P** **18 34 25.1 +0.2**
comp=Z,12nm,1.4s
CSNA Conrad Observa 66.05 313⇑ *ipP* **P** **18 34 25.1 +0.2**
comp=Z,12nm,1.4s
PRU Pruhonice 66.14 315 *eP* **P** **18 34 25.5 +0.2**
PRU Pruhonice 66.14 315 *eP* **P** **18 34 25.5 +0.2**
BRG Berggiesshubel 66.19 316 *eP* **P** **18 34 25.7 +0.1**
comp=Z,8.2nm,0.8s
BRG Berggiesshubel 66.19 316 *eP* **P** **18 34 24.9 -0.7**
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 66.19 316 *eP* **P** **18 34 25.7 +0.1**
BRG pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 66.59 317 *eP* **P** **18 34 28.6 +0.4**
comp=Z,5.0nm,0.9s
CLL Collm 66.59 317 *eP* **P** **18 34 29.0 +0.8**
CLL *e* 18 34 34.0
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,20.1s
CLL Collm 66.59 317 *eP* **P** **18 34 29.0 +0.8**
comp=Z,6.0nm,0.8s
CLL *e*(pP) **pP** **18 34 34.0 -1.6**
CLL Lm MLR 19 04 00.0
comp=Z,300nm,20.1s
PERS Pernice 66.98 312 *i P* **P** **18 34 31.1 +0.2**
SOKA Soboth 67.02 312⇓ *iP* **P** **18 34 30.8 -0.3**
comp=Z,16nm,1.1s
SOKA Soboth 67.02 312⇓ *iP* **P** **18 34 30.8 -0.3**
comp=Z,16nm,1.1s
GEC2 GERESS Array S 67.06 314 *eP* **P** **18 34 32.4 +1.0**
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 67.06 314 *eP* **P** **18 34 32.4 +1.0**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 67.06 314 P **P** **18 34 31.2 -0.1**
comp=Z,2.8nm,0.8s,baz=76,slow=5.6,SNR=21
GERES LR LR 19 05 40.8
comp=Z,189nm,19.3s,baz=264,slow=38
GERES GERESS Array B 67.06 314 P **P** **18 34 31.3 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,189nm,19.3s
GERES GERESS Array B 67.06 314 P **P** **18 34 31.2 -0.1**
BSEG Bad Segeberg 67.16 320 *eP* **P** **18 34 32.7 +1.0**
comp=Z,13nm,0.9s
BSEG Bad Segeberg 67.16 320 *eP* **P** **18 34 32.7 +1.0**
BSEG pmax pmax
comp=Z,13nm,0.9s
TANN Tannenbergstha 67.23 316 *eP* **P** **18 34 33.4 +1.0**
comp=Z,4.0nm,0.9s
NKC Novy Kostel 67.31 316 *eP* **P** **18 34 33.1 +0.3**
NKC Novy Kostel 67.31 316 *eP* **P** **18 34 33.1 +0.3**
BOJS Bojanci 67.31 310 *i P* **P** **18 34 33.8 +0.9**
NEUB Neuenburg 67.34 317 *eP* **P** **18 34 33.0 0.0**
comp=Z,7.0nm,0.8s
WET Wettzell 67.45 315 *eP* **P** **18 34 35.0 +1.2**
comp=Z,3.0nm,0.9s
WET Wettzell 67.45 315 *eP* **P** **18 34 35.0 +1.2**
WET pmax pmax
comp=Z,3.0nm,0.9s
VISS Visnje 67.47 311 *i P* **P** **18 34 33.3 -0.6**
ROTZ Rotzenmuhle 67.63 315 *eP* **P** **18 34 36.4 +1.6**
comp=Z,9.0nm,1.0s
COLD Coldfoot 67.64 24 *eP* **P** **18 34 35.0 +0.4**
comp=Z,24nm,1.0s
NRDL Niedersach Rie 67.82 319 *eP* **P** **18 34 37.0 +1.2**
comp=Z,6.0nm,0.9s
CLZ Clausthal 67.92 318 *eP* **P** **18 34 37.3 +0.7**
comp=Z,12nm,0.9s
CLZ Clausthal 67.92 318 *eP* **P** **18 34 37.3 +0.7**
CLZ pmax pmax
comp=Z,12nm,0.9s
RJOB Jochberg 68.04 313 *eP* **P** **18 34 38.7 +1.2**
comp=Z,4.0nm,0.9s
GRF Grafenberg Arr 68.25 316 *eP* **P** **18 34 40.2 +1.5**
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 68.25 316 *eP* **P** **18 34 40.2 +1.5**
GRF pmax pmax
comp=Z,7.0nm,0.9s
UBBA Unterbreizbach 68.53 317 *eP* **P** **18 34 41.0 +0.7**
comp=Z,2.0nm,1.0s
FUR Furstenfeldbru 68.81 314 *eP* **P** **18 34 43.4 +1.1**
comp=Z,32nm,1.0s
FUR Furstenfeldbru 68.81 314 *eP* **P** **18 34 43.4 +1.1**
FUR pmax pmax
comp=Z,32nm,1.0s
SQTA Sankt Quirin 69.23 313⇑ *iP* **P** **18 34 44.5 -0.5**
SQTA pmax pmax
comp=Z,5.0nm,0.5s
SQTA Sankt Quirin 69.23 313⇑ *iP* **P** **18 34 44.5 -0.5**
comp=Z,4.6nm,0.5s
SQTA Sankt Quirin 69.23 313 *iP* **P** **18 34 44.5 -0.5**
comp=Z,4.6nm,0.5s
QLP Quilpie 69.43 141 *eP* **P** **18 34 47.0 +0.8**
FETA Feichten 69.61 313⇑ *eP* **P** **18 34 46.8 -0.7**
comp=Z,17nm,0.9s
FETA Feichten 69.61 313⇑ *eP* **P** **18 34 46.7 -0.7**
comp=Z,17nm,0.9s
COLA College 69.62 26 *eP* **P** **18 34 47.0 +0.1**
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 69.62 26 *eP* **P** **18 34 47.0 +0.1**
comp=Z,34nm,1.0s
TNS Taunus Mts 69.68 317 *eP* **P** **18 34 48.7 +1.0**
comp=Z,4.0nm,0.9s
TNS Taunus Mts 69.68 317 *eP* **P** **18 34 48.7 +1.0**
TNS pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 70.03 25 P **P** **18 34 48.0 -1.4**
comp=Z,6.3nm,1.0s,baz=281,slow=5.7,SNR=33
ILAR LR LR 19 06 56.9
comp=Z,104nm,18.5s,baz=288,slow=37
ILAR Eielson Array 70.03 25 P **P** **18 34 48.1 -1.4**
ILAR pmax pmax
comp=Z,6.0nm,1.0s
ILAR MLR MLR
comp=Z,104nm,18.5s
ILAR Eielson Array 70.03 25 P **P** **18 34 48.0 -1.4**
DAVOX Davos/Dischmat 70.24 313 LR LR 19 07 39.0
comp=Z,251nm,21.2s,baz=52,slow=38
BFO Black Forest 70.54 315 *eP* **P** **18 34 53.5 +0.6**
comp=Z,7.0nm,1.0s
BFO Black Forest 70.54 315 *eP* **P** **18 34 53.2 +0.2**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 70.54 315 *eP* **P** **18 34 53.1 +0.2**
comp=Z,9.1nm,1.1s
TUE Stuetta 70.70 313 *eP* **P** **18 34 53.0 -1.1**
comp=Z,9.2nm,0.9s
BBOO Buckleboo 70.74 151 *eP* **P** **18 34 53.9 -0.3**
comp=Z,40nm,0.7s
SML Sawmill 70.98 28 *eP* **P** **18 34 55.1 -0.3**
SML pmax pmax
comp=Z,6.0nm,0.9s
SML Sawmill 70.98 28 *eP* **P** **18 34 55.1 -0.3**
comp=Z,6.4nm,0.9s
KDAK Kodiak Island 71.11 33 P **P** **18 34 55.9 -0.2**
comp=Z,28nm,0.8s,baz=345,slow=5.9,SNR=9.0
KDAK Kodiak Island 71.11 33 P **P** **18 34 55.9 -0.2**
KDAK pmax pmax
comp=Z,28nm,0.8s
KDAK Kodiak Island 71.11 33 P **P** **18 34 55.9 -0.2**
CDF Champ du Feu 71.14 316 *eP* **P** **18 34 55.8 -0.9**
comp=Z,16nm,0.9s
WLF Walferdange 71.26 317 P **P** **18 34 58.7 +1.5**
comp=Z,21nm,1.3s
WLF Walferdange 71.26 317 *eP* **P** **18 34 57.3 +0.1**
comp=Z,24nm,1.0s
WLF Walferdange 71.26 317 *eP* **P** **18 34 58.7 +1.5**
WLF pmax pmax
comp=Z,33nm,1.1s
WLF Walferdange 71.26 317 *eP* **P** **18 34 58.7 +1.5**
comp=Z,33nm,1.1s
SCO Scoresbysund 71.42 343 *eP* **P** **18 34 59.0 +1.2**
SCO pmax pmax
comp=Z,2.0nm,1.1s
SCO Scoresbysund 71.42 343 *i P* **P** **18 34 59.0 +1.2**
comp=Z,2.0nm,1.1s
HINF Hinteralfeld 71.66 315 *eP* **P** **18 34 58.7 -1.0**
comp=Z,15nm,0.9s
HAU Haudompre 71.88 315 *eP* **P** **18 35 00.1 -0.9**
HAU *eR*
comp=Z,272nm,19.5s
SNF Seneffe 71.95 318 P **P** **18 35 01.6 +0.2**
PAGF Fort de Pagny 72.00 316 *eP* **P** **18 35 00.5 -1.2**
comp=Z,6.5nm,1.1s
BAIF Baives 72.20 318 *eP* **P** **18 35 02.6 -0.3**
comp=Z,36nm,1.5s
INK Inuvik 72.28 19 P **P** **18 35 03.0 -0.1**
comp=Z,12nm,0.9s,baz=320,slow=7.1,SNR=30
INK Inuvik 72.28 19 *eP* **P** **18 35 02.2 -0.8**
INK pmax pmax
comp=Z,24nm,1.2s
INK Inuvik 72.28 19 *eP* **P** **18 35 02.2 -0.8**
comp=Z,24nm,1.2s
STKA Stephens Creek 72.40 147 P **P** **18 35 04.1 -0.1**
comp=Z,9.7nm,0.5s,baz=331,slow=6.0,SNR=44
STKA Stephens Creek 72.40 147 *eP* **P** **18 35 03.9 -0.3**
comp=Z,7.7nm,0.5s
STKA Stephens Creek 72.40 147 P **P** **18 35 04.1 -0.1**
STKA pmax pmax
comp=Z,10.0nm,0.5s
STKA Stephens Creek 72.40 147 *eP* **P** **18 35 04.1 -0.1**
comp=Z,2.1nm,0.6s
SFTF Sexfontaines 72.57 316 *eP* **P** **18 35 04.2 -0.9**
PGF Pioggiola 72.63 309 *eP* **P** **18 35 04.3 -1.5**
comp=Z,152nm,1.4s
CABF La Chapelle 72.66 314 *eP* **P** **18 35 04.8 -1.0**
LPG La Plagne 72.76 313 *eP* **P** **18 35 06.4 -0.3**
comp=Z,41nm,0.9s
LPL La Plagne 72.76 313 *eP* **P** **18 35 06.4 -0.2**
comp=Z,33nm,0.9s
BMRM Bremner River 72.95 28 *eP* **P** **18 35 07.6 +0.4**
comp=Z,22nm,0.8s
BNI Bardonecchia 73.00 313 *eP* **P** **18 35 08.1 +0.1**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 73.00 313 *eP* **P** **18 35 08.1 +0.1**
comp=Z,10.0nm,0.8s
SBF Sospel 73.06 311 *eP* **P** **18 35 06.5 -1.7**
DAWY Dawson 73.12 24 *eP* **P** **18 35 08.0 -0.1**
SUMG Summit 73.25 349 *eP* **P** **18 35 08.3 -0.9**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 73.25 349 *i P* **P** **18 35 08.3 -0.9**
comp=Z,5.6nm,0.9s
ORIF Iris-en-Rattie 73.57 313 *eP* **P** **18 35 10.6 -0.6**
comp=Z,40nm,1.3s
ORIF *eR*
comp=Z,252nm,19.2s
LOR Lormes 73.71 316 *eP* **P** **18 35 10.7 -1.2**
comp=Z,14nm,1.1s
LOR *eR*
comp=Z,249nm,20.0s
RES Resolute Bay 73.72 5 *eP* **P** **18 35 11.7 +0.3**
RES pmax pmax
comp=Z,5.0nm,0.4s
RES Resolute Bay 73.72 5 *eP* **P** **18 35 11.7 +0.3**
comp=Z,4.5nm,0.4s
SSF Saint Saulge 74.02 316 *eP* **P** **18 35 12.8 -0.9**
comp=Z,16nm,1.1s
AVF Avril sur Loir 74.24 315 *eP* **P** **18 35 14.1 -0.9**
comp=Z,27nm,1.0s
VIVF Saint-Julien-l 74.36 313 *eP* **P** **18 35 14.1 -1.7**
comp=Z,31nm,1.2s
BORG Borgarnes 75.17 339 LR LR 19 13 10.4
comp=Z,217nm,20.1s,baz=66,slow=40
TCF Toulx Ste Croi 75.18 315 *eP* **P** **18 35 18.9 -1.6**
comp=Z,56nm,1.3s
LDF La Druitiere 75.39 318 *eP* **P** **18 35 20.5 -1.1**
comp=Z,5.1nm,0.6s
KEST Kesra 75.51 303 P **P** **18 35 22.2 -0.4**
comp=Z,2.1nm,0.9s,baz=36,slow=7.3,SNR=5.1
KEST Kesra 75.51 303 P **P** **18 35 22.2 -0.4**
GRR Gorron 75.92 318 *eP* **P** **18 35 23.1 -1.5**
comp=Z,19nm,0.8s
CAF Calviac 75.94 314 *eP* **P** **18 35 24.7 -0.2**
comp=Z,26nm,1.1s
ARPS Mount Arapiles 76.58 149 *eP* **P** **18 35 28.5 +0.1**
comp=Z,25nm,0.7s
TOO Toolangi 78.90 147 *eP* **P** **18 35 41.8 +0.5**
comp=Z,620nm,16.8s
YKA Yellowknife Ar 81.79 17 P **P** **18 35 56.8 +0.2**
comp=Z,2.9nm,0.8s,baz=323,slow=4.9,SNR=30
YKA LR LR 19 14 31.6
comp=Z,6.4nm,18.0s,baz=140,slow=37
YKA Yellowknife Ar 81.79 17 P **P** **18 35 56.8 +0.2**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA MLR MLR
comp=Z,6.0nm,18.0s
YKA Yellowknife Ar 81.79 17 P **P** **18 35 56.8 +0.2**
ESDC Sonseca Array 82.52 312 P **P** **18 36 01.4 +0.4**
comp=Z,0.4nm,0.4s,baz=47,slow=5.0,SNR=5.8
ESDC Sonseca Array 82.52 312 P **P** **18 36 01.4 +0.4**
TAM Tamanrasset 84.83 293 *eP* **P** **18 36 13.1 -0.1**
TAM pmax pmax
comp=Z,19nm,1.8s
TAM Tamanrasset 84.83 293 *eP* **P** **18 36 13.1 -0.1**
comp=Z,19nm,1.8s
FFC Flin Flon 91.69 14 *i P* **P** **18 36 45.3 +0.1**
ETW Entiat 92.28 28 *eP* **P** **18 36 49.2 +0.9**
comp=Z,19nm,1.2s
TORD Torodi Ar. Bea 93.03 287 P **P** **18 36 51.6 -0.6**
comp=Z,5.2nm,1.0s,baz=50,slow=3.6,SNR=20
TORD PP **PP** **18 40 34.1 -0.9**
comp=Z,0.5nm,0.7s,baz=54,slow=7.8,SNR=3.6
TORD Torodi Ar. Bea 93.03 287 P **P** **18 36 51.6 -0.6**
TORD PP **PP** **18 40 34.1 -0.9**
A13A Flathead Natio 93.39 24⇑ *P* **P** **18 36 54.1 +0.7**
baz=93
WALA Waterton Lakes 93.46 24 *eP* **P** **18 36 53.4 -0.3**
C11A Tepee Creek (N 93.66 26⇑ *P* **P** **18 36 55.0 +0.5**
baz=93
B13A Whitefish 93.85 24⇑ *P* **P** **18 36 56.3 +0.9**
baz=94
SCHQ Schefferville 93.93 354 P **P** **18 36 54.4 -1.2**
comp=Z,4.0nm,0.7s,baz=45,slow=8.5,SNR=4.6
SCHQ LR LR 19 22 36.9
comp=Z,91nm,18.7s,baz=143,slow=38
SCHQ Schefferville 93.93 354 P **P** **18 36 54.4 -1.2**
A15A Johnson Ranch, 93.93 23⇓ *P* **P** **18 36 56.6 +0.8**
baz=94
C12B Naegeli Ranch, 94.05 25⇑ *P* **P** **18 36 57.6 +1.2**
baz=94
BSMT Bassoo Peak 94.18 25 *eP* **P** **18 36 58.5 +1.4**
comp=Z,4.7nm,1.0s
A16A West Butte Ran 94.33 22⇑ *P* **P** **18 36 58.0 +0.3**
baz=94
C13A Hot Springs 94.40 25⇑ *P* **P** **18 36 58.8 +0.8**
baz=94
B15A Bradely Ranch, 94.56 23⇑ *P* **P** **18 36 58.8 0.0**
baz=94
C14A Swan Lake 94.62 24⇓ *P* **P** **18 36 59.7 +0.6**
baz=94
D13A Huson 94.94 25⇓ *P* **P** **18 37 00.7 +0.2**
baz=95
C15A Salmond Ranch, 95.01 23⇓ *P* **P** **18 37 00.6 -0.3**
baz=95
B17A L&G Farms, Che 95.16 22⇑ *P* **P** **18 37 01.8 +0.3**
baz=95
SLMT Seeley Lake 95.16 24 *eP* **P** **18 37 02.0 +0.4**
comp=Z,10nm,1.1s
E13A Victor 95.59 25⇓ *P* **P** **18 37 03.9 +0.4**

baz=95
D16A **Dana Ranch, Ca** 96.01 23 ⇑P P 18 37 05.8 +0.3
baz=96
F17A **Fitzpatrick Pl** 97.30 23 ⇑P P 18 37 12.0 +0.7
baz=97
TXAR **Lajitas Array** 114.54 26 PKP PKPdf 18 42 18.5 -0.2
comp=Z,0.4nm,0.7s,baz=214,slow=2.1,SNR=5.4
TXAR **Lajitas Array** 114.54 26 PKIKP PKPdf 18 42 18.5 -0.1
TXAR **Lajitas Array** 114.54 26 PKP PKPdf 18 42 18.5 -0.2
ROSC **El Rosal** 144.10 356 PKP PKPbc 18 43 13.4 +0.5
comp=Z,24nm,0.8s,baz=274,slow=10.0,SNR=8.6
ROSC **El Rosal** 144.10 356 PKP PKPbc 18 43 13.4 +0.5
ROSC *e*PKPdf **PKPab** **18 43 13.5 +1.1**
SAML **Samuel** 154.59 328 *e*PKPbc **PKPbc** **18 43 38.9 -0.6**
SAML *e*PKPab **PKPab** **18 43 53.2 -0.9**
LPAZ **La Paz** 163.28 331 PKP **PKPdf** **18 43 41.5 -0.5**
comp=Z,0.9nm,0.7s,baz=53,slow=0.7,SNR=3.9
LPAZ PKPab **PKPab** **18 44 30.6 -1.7**
comp=Z,1.0nm,0.7s,baz=36,slow=2.5,SNR=3.8
LPAZ **La Paz** 163.28 331 PKIKP **PKPdf** **18 43 41.5 -0.5**
LPAZ 18 44 30.6
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ **La Paz** 163.28 331 PKP **PKPdf** **18 43 41.5 -0.5**
LPAZ PKPab **PKPab** **18 44 30.6 -1.7**
PLCA **Paso Flores** 169.28 206 PKPab **PKPab** **18 44 56.0 -1.6**
comp=Z,2.4nm,0.8s,baz=214,slow=5.2,SNR=3.9
PLCA **Paso Flores** 169.28 206 PKP2 **PKPab** **18 44 56.0 -1.6**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA **Paso Flores** 169.28 206 PKPab **PKPab** **18 44 56.0 -1.6**

*ISCJB **14** 18:26:01.0±1.9,52°.2N±0°.1×174°.7E±0°.1,h36km±14km, mb4.3/22, Error ellipse: s-maj=22.1km s-min=9.4km az=167.7*
*NEIC **14** 18:26:02.8±1.8,52°.29N×174°.63E,h33km±10km,mb4.9/7, Error ellipse: s-maj=16.4km s-min=5.9km az=166.0*
*IDC **14** 18:26:02.0±0.9,52°.18N×174°.67E,h30km±4km,mb3.9/16, mb1 4.0/18,mb1mx3.9/28,mbtmpb3.9/18,ML4.2/2,MS2.8/1, Ms1 2.8/1,ms1mx2.3/42, Error ellipse: s-maj=20.5km s-min=10.5km az=13.0*
ISC 14 18:26:02.4±0.8,52°.3N±0°.1×174°.61E±0°.06,h31km±4km, h30km:pP-P,n66,σ0s70/76,mb4.3/22,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.57**	**327**	*e*P	**Pb**	**18 26 13.5**	**-0.5**
FX1	**Attu Island--F**	**1.08**	**306**	Pn	**Pn**	**18 26 20.8**	**-0.7**
FX1	baz=117,slow=2.3			Sn	**Sn**	**18 26 35.4**	**0.0**
	846nm,0.3s,baz=210,slow=20,SNR=22						
FX1	**Attu Island--F**	**1.08**	**306**	Pn	**Pn**	**18 26 20.8**	**-0.7**
FX1				Sn	**Sn**	**18 26 35.4**	**0.0**
PEA0B	**Petropavlovsk-**	**10.31**	**281**	*e*P	**Pn**	**18 28 29.6**	**+1.6**
PETK	**Petropavlovsk-**	**10.31**	**281**	Pn	**Pn**	**18 28 29.6**	**+1.7**
PETK	1.3nm,0.3s,baz=97,slow=19,SNR=72			Sn	**Sn**	**18 30 21.2**	**-1.1**
	1.0nm,0.3s,baz=89,slow=28,SNR=7.0						
PETK				LR	LR	18 32 21.4	
	comp=Z,60nm,20.9s,baz=101,slow=37						
PETK	**Petropavlovsk-**	**10.31**	**281**	Pn	**Pn**	**18 28 29.6**	**+1.7**
PETK				Sn	**Sn**	**18 30 21.2**	**-1.1**
TNA	**Tin City**	**16.02**	**27**	*e*P	**Pn**	**18 29 45.6**	**+0.6**
	20nm,1.7s						
KDAK	**Kodiak Island**	**19.47**	**61**	P	**P**	**18 30 25.9**	**-0.4**
	1.3nm,0.3s,baz=281,slow=16,SNR=14						
KDAK	**Kodiak Island**	**19.47**	**61**	P	**P**	**18 30 25.9**	**-0.4**
ILAR	**Eielson Array**	**23.25**	**43**	P	**P**	**18 31 05.8**	**-0.9**
	0.8nm,0.6s,baz=251,slow=8.6,SNR=20						
ILAR	**Eielson Array**	**23.25**	**43**	P	**P**	**18 31 05.8**	**-0.9**
WRAK	**Wrangell Islan**	**30.56**	**61**	*e*P	P	18 32 16.1	+3.3
	15nm,0.6s						
YKA	**Yellowknife Ar**	**37.58**	**46**	P	**P**	**18 33 14.2**	**+0.8**
	1.4nm,0.6s,baz=287,slow=8.0,SNR=16						
YKA				PcP	**PcP**	**18 35 30.5**	**-0.1**
	0.3nm,0.4s,baz=293,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**37.58**	**46**	P	**P**	**18 33 14.2**	**+0.8**
YKA				PcP	**PcP**	**18 35 30.6**	**-0.1**
SONM	**Songino Array**	**42.56**	**292**	P	**P**	**18 33 56.0**	**+0.9**
	1.1nm,0.5s,baz=56,slow=7.0,SNR=12						
SONM	**Songino Array**	**42.56**	**292**	P	**P**	**18 33 56.0**	**+0.9**
SPITS	**Spitsbergen Ar**	**49.15**	**354**	P	**P**	**18 34 46.6**	**0.0**
	1.7nm,0.4s,baz=75,slow=10,SNR=14						
SPITS	**Spitsbergen Ar**	**49.15**	**354**	P	**P**	**18 34 46.6**	**0.0**
ZALV	**Zalesovo Beam**	**50.39**	**310**	PcP	**PcP**	**18 36 15.3**	**+1.0**
	0.5nm,0.5s,baz=44,slow=4.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**50.39**	**310**	PcP	**PcP**	**18 36 15.3**	**+1.0**
DAG	**Danmarks Havn**	**50.97**	**4**	*i* P	P	18 35 04.9	+4.6
	40nm,0.8s						
ULM	**Lac du Bonnet**	**52.55**	**54**	P	**P**	**18 35 12.3**	**-0.2**
	1.1nm,0.4s,baz=299,slow=6.3,SNR=4.5						
ULM	**Lac du Bonnet**	**52.55**	**54**	P	**P**	**18 35 12.3**	**-0.2**
KURK	**Kurchatov**	**55.39**	**310**	P	**P**	**18 35 33.9**	**+0.8**
	5.2nm,0.8s,baz=49,slow=6.8,SNR=22						
KURK	**Kurchatov**	**55.39**	**310**	*e*P	**P**	**18 35 33.0**	**-0.1**
	9.8nm,0.8s						
MK31	**Makanchi Array**	**56.22**	**304**	*e*P	**P**	**18 35 37.9**	**-1.4**
MKAR	**Makanchi Array**	**56.22**	**304**	P	**P**	**18 35 38.8**	**-0.5**
	1.4nm,0.4s,baz=55,slow=6.3,SNR=36						
MKAR	**Makanchi Array**	**56.22**	**304**	P	**P**	**18 35 38.8**	**-0.5**
ARCES	**ARCESS Array B**	**56.44**	**347**	P	**P**	**18 35 40.6**	**+0.1**
	5.1nm,0.9s,baz=20,slow=11,SNR=3.2						
SCHQ	**Schefferville**	**61.75**	**35**	P	**P**	**18 36 17.1**	**-0.4**
	3.9nm,0.9s,baz=330,slow=8.1,SNR=3.5						
SCHQ	**Schefferville**	**61.75**	**35**	P	**P**	**18 36 17.1**	**-0.4**
TXAR	**Lajitas Array**	**62.50**	**77**	P	**P**	**18 36 22.8**	**-0.1**
	0.4nm,0.4s,baz=305,slow=5.7,SNR=12						
TXAR	**Lajitas Array**	**62.50**	**77**	P	**P**	**18 36 22.8**	**-0.1**
FINES	**FINESS Array B**	**63.91**	**344**	P	**P**	**18 36 31.5**	**-0.1**
	2.1nm,0.7s,baz=27,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**63.91**	**344**	P	**P**	**18 36 31.5**	**-0.1**
KKAR	**Karatay Array**	**64.70**	**308**	*e*P	**P**	**18 36 37.4**	**+0.2**
NB2	**NORSAR Subarra**	**66.28**	**351**	P	**P**	**18 36 47.0**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=6.9						
NOA	**NORSAR Array B**	**66.28**	**351**	P	**P**	**18 36 47.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=13,slow=6.0,SNR=4.8						
NOA	**NORSAR Array B**	**66.28**	**351**	P	**P**	**18 36 47.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**66.88**	**271**	P	**P**	**18 36 51.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=29,slow=7.1,SNR=5.3						
CMAR				sP	**sP**	**18 37 04.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=24,slow=7.2,SNR=5.6						
CMAR	**Chiang Mai Arr**	**66.88**	**271**	P	**P**	**18 36 51.0**	**-0.4**
CMAR				sP	**sP**	**18 37 04.6**	**-0.2**
TAPN	**Taplejung**	**67.04**	**285**	*e*P	**P**	**18 36 53.7**	**+0.9**
TAPN	**Taplejung**	**67.04**	**285**	*e*P	**P**	**18 36 53.7**	**+0.9**
GUN	**Gumba**	**67.71**	**287**	*e*P	**P**	**18 36 57.9**	**+0.8**
	comp=Z,6.8nm,0.3s						
GUN	**Gumba**	**67.71**	**287**	*e*P	**P**	**18 36 57.9**	**+0.8**
	comp=Z,6.8nm,0.3s						
JIRN	**Jiri**	**67.71**	**287**	*e*P	**P**	**18 36 58.1**	**+1.0**
JIRN	**Jiri**	**67.71**	**287**	*e*P	**P**	**18 36 58.1**	**+1.0**
RAMN	**Ramite**	**68.00**	**286**	*e*P	**P**	**18 36 59.1**	**+0.3**
RAMN	**Ramite**	**68.00**	**286**	*e*P	**P**	**18 36 59.1**	**+0.3**
KKN	**Kakani**	**68.15**	**287**	*e*P	**P**	**18 37 00.3**	**+0.6**
	comp=Z,11nm,0.8s						
KKN	**Kakani**	**68.15**	**287**	*e*P	**P**	**18 37 00.3**	**+0.6**
	comp=Z,11nm,0.8s						
PKI	**Pulchoki**	**68.24**	**287**	*e*P	**P**	**18 37 00.7**	**+0.3**
	comp=Z,5.0nm,0.4s						
PKI	**Pulchoki**	**68.24**	**287**	*e*P	**P**	**18 37 00.7**	**+0.3**
	comp=Z,5.0nm,0.4s						
GKN	**Gorkha**	**68.37**	**288**	*e*P	**P**	**18 37 01.2**	**+0.2**
GKN	**Gorkha**	**68.37**	**288**	*e*P	**P**	**18 37 01.2**	**+0.2**
DMN	**Daman**	**68.39**	**287**	*e*P	**P**	**18 37 02.0**	**+0.8**
	comp=Z,3.5nm,0.5s						
DMN	**Daman**	**68.39**	**287**	*e*P	**P**	**18 37 02.0**	**+0.8**
	comp=Z,3.5nm,0.5s						
KBL	**Kabul**	**72.00**	**303**	*e*P	**P**	**18 37 21.4**	**-1.8**
AKASG	**Malin Array Be**	**73.32**	**338**	P	**P**	**18 37 30.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=23,slow=6.3,SNR=4.0						
AKASG				pP	**pP**	**18 37 40.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=24,slow=6.2,SNR=3.2						
AKASG	**Malin Array Be**	**73.32**	**338**	P	**P**	**18 37 30.3**	**-0.2**
AKASG				pP	**pP**	**18 37 40.2**	**0.0**
WRA	**Warramunga Arr**	**79.99**	**218**	P	**P**	**18 38 07.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=28,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**79.99**	**218**	P	**P**	**18 38 07.6**	**-0.8**
BRTR	**Keskin Array B**	**82.31**	**331**	P	**P**	**18 38 21.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=68,slow=2.5,SNR=9.2						
BRTR				pP	**pP**	**18 38 31.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.2,SNR=3.5						
BRTR	**Keskin Array B**	**82.31**	**331**	P	**P**	**18 38 21.1**	**+0.2**
BRTR				pP	**pP**	**18 38 31.1**	**+0.3**
BOSA	**Boshof**	**147.22**	**304**	PKPbc	**PKPbc**	**18 45 42.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=315,slow=4.3,SNR=2.3						
BOSA	**Boshof**	**147.22**	**304**	PKPbc	**PKPbc**	**18 45 42.2**	**-0.2**

IDC 14 18:35:39.6±1.8,15°.15S×174°.30W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.6/17,mbtmp3.9/3,ML2.7/1,Error ellipse: s-maj=128.5km s-min=27.3km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**64**	Pn	Pn	18 36 24.9	+0.1
	79nm,0.3s,baz=198,slow=3.2,SNR=30						
AFI				Sn	Sn	18 36 50.7	-8.0
	144nm,0.3s,baz=67,slow=22,SNR=19						
STKA	**Stephens Creek**	**43.41**	**239**	P	P	18 43 43.8	-0.5
	1.1nm,0.5s,baz=81,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**49.06**	**257**	P	P	18 44 29.3	+0.4
	0.6nm,0.9s,baz=92,slow=7.7,SNR=9.0						
BRTR	**Keskin Array B**	**145.42**	**320**	PKPbc	PKPbc	18 55 18.9	-1.2
	0.7nm,0.7s,baz=63,slow=3.5,SNR=4.6						

*NSSP **14** 18:46:06.2,41°.55N×46°.32E,h5km,Ms2.9*
*TIF **14** 18:46:09.8,41°.91N×46°.13E,h23km±1km*
*AZER **14** 18:46:09.0,41°.72N×46°.15E,h0km*
*CSEM **14** 18:46:10.5±0.2,41°.88N×46°.13E,h2km,mb4.2, Error ellipse: s-maj=4.5km s-min=3.8km az=57.0*
*MOS **14** 18:46:11.5±1.7,41°.85N×46°.14E,h20km,mb4.2/1, Error ellipse: s-maj=10.4km s-min=6.7km az=110.5*
ISC 14 18:46:09.8±1.1,41°.86N±0°.02×46°.12E±0°.02,h8km±10km, n64,σ1s02/105,13C-15D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.70**	**234**	P	**Pn**	**18 46 25.3**	**-0.6**
DGRG				S	**Sb**	**18 46 37.3**	**+3.3**
BTLR	**Botlikh**	**0.80**	**5**	*e*PG	**Pg**	**18 46 24.5**	**-0.8**
BTLR				*e*S	**Sg**	**18 46 34.5**	**-1.2**
BTLR				pmax	pmax		
	comp=Z,98nm,0.3s						
BTLR	**Botlikh**	**0.80**	**5**	*e*Pg	**Pg**	**18 46 24.5**	**-0.8**
	comp=Z,98nm,0.3s						
BTLR				*e*Sg	**Sg**	**18 46 34.5**	**-1.2**
ARKR	**Arakani**	**0.98**	**41**	*e*PG	**Pg**	**18 46 28.0**	**-0.7**
ARKR				*e*S	**Sg**	**18 46 41.0**	**-0.5**
ARKR				pmax	pmax		
	comp=Z,161nm,0.2s						
ARKR	**Arakani**	**0.98**	**41**	*e*Pg	**Pg**	**18 46 28.0**	**-0.7**
	comp=Z,161nm,0.2s						
ARKR				*e*Sg	**Sg**	**18 46 41.0**	**-0.5**
UNCR	**Uncukul**	**0.99**	**30**	⇑*i*PG	**Pg**	**18 46 27.5**	**-1.2**
UNCR				pmax	pmax		
	comp=Z,193nm,0.3s						
UNCR	**Uncukul**	**0.99**	**30**	*i* Pg	**Pg**	**18 46 27.5**	**-1.2**
	comp=Z,193nm,0.3s						
SEKA	**Sheki**	**1.04**	**129**	⇑P	**Pb**	**18 46 30.1**	**+0.1**
	SNR=26						
SEKA				⇓S	**Sn**	**18 46 45.5**	**0.0**
SEKA	**Sheki**	**1.04**	**129**	P	**Pb**	**18 46 30.1**	**+0.1**
	SNR=26						
SEKA				S	**Sn**	**18 46 45.5**	**0.0**
TBLG	**Delisi**	**1.04**	**263**	*i* PG	**Pg**	**18 46 29.5**	**-0.3**
TBLG				*i* S	**Sn**	**18 46 45.2**	**-0.3**
TBLG	**Delisi**	**1.04**	**263**	P	**Pg**	**18 46 29.5**	**-0.3**
TBLG				S	**Sn**	**18 46 45.2**	**-0.3**
TBLG	**Delisi**	**1.04**	**263**	P	**Pg**	**18 46 29.5**	**-0.3**
TBLG				S	**Sn**	**18 46 45.2**	**-0.3**
GANJ	**Ganja**	**1.23**	**173**	⇓P	**Pn**	**18 46 32.8**	**-0.4**
	SNR=19						
GANJ				⇑S	**Sn**	**18 46 50.4**	**+0.4**
GANJ	**Ganja**	**1.23**	**173**	P	**Pn**	**18 46 32.8**	**-0.4**
	SNR=19						
GANJ				S	**Sn**	**18 46 50.4**	**+0.4**
DBC	**Dubki**	**1.27**	**24**	*i* PG	**Pn**	**18 46 32.7**	**-1.2**
DBC				*i* S	**Sb**	**18 46 49.8**	**-0.7**
DBC	**Dubki**	**1.27**	**24**	*i* Pg	**Pn**	**18 46 32.7**	**-1.2**
DBC				*i* Sg	**Sb**	**18 46 49.8**	**-0.7**
MAK	**Makhachkala**	**1.50**	**43**	⇑*i*PG	**Pg**	**18 46 40.4**	**+1.8**
MAK				*e*		18 46 59.3	
MAK				pmax	pmax		
	comp=Z,271nm,0.4s						
MAK				smax	smax		
	comp=E,494nm,0.7s						
MAK				smax	smax		
	comp=N,417nm,0.4s						
MAK	**Makhachkala**	**1.50**	**43**	*i* Pg	**Pg**	**18 46 40.4**	**+1.8**
	comp=N,271nm,0.4s						
MAK				*e*Sg	**Sg**	**18 46 59.3**	**+1.3**
	comp=N,417nm,0.4s						
GOR	**Gori**	**1.51**	**275**	P	**Pn**	**18 46 37.0**	**-0.2**
GOR				S	**Sb**	**18 46 57.9**	**+0.6**
SNJR	**Sundja**	**1.55**	**322**	*e*PG	**Pg**	**18 46 39.8**	**+0.4**
SNJR				*i* S	**Sg**	**18 47 01.9**	**+2.4**
SNJR	**Sundja**	**1.55**	**322**	*e*Pg	**Pg**	**18 46 39.8**	**+0.4**
SNJR				*i* Sg	**Sg**	**18 47 01.9**	**+2.4**
STEZ	**Stepenevan**	**1.56**	**237**	⇓*i*P	**Pn**	**18 46 36.4**	**-1.5**
STEZ				⇓S	**Sn**	**18 46 58.0**	**-0.3**
STE	**Stepanavan**	**1.57**	**237**	⇓P	**Pn**	**18 46 36.4**	**-1.7**
STE				S	**Sn**	**18 46 58.0**	**-0.8**
VLKR	**Vladikavkaz**	**1.59**	**318**	*e*PG	**Pg**	**18 46 40.3**	**-0.1**
VLKR				*e*S	**Sg**	**18 47 02.7**	**+1.7**
VLKR	**Vladikavkaz**	**1.59**	**318**	*e*Pg	**Pg**	**18 46 40.3**	**-0.1**
VLKR				*e*Sg	**Sg**	**18 47 02.7**	**+1.7**
DRN	**Derbent**	**1.66**	**84**	PN	**Pg**	**18 46 42.5**	**+1.0**
DRN				*i* S	**Sg**	**18 47 05.0**	**+2.0**
DRN	**Derbent**	**1.66**	**84**	Pn	**Pg**	**18 46 42.5**	**+1.0**
DRN				*i* Sg	**Sg**	**18 47 05.0**	**+2.0**
LACR	**Lac**	**1.66**	**306**	*e*PN	**Pn**	**18 46 39.2**	**-0.1**
LACR	**Lac**	**1.66**	**306**	*e*Pn	**Pn**	**18 46 39.2**	**-0.1**
VADZ	**Vardenis**	**1.71**	**190**	⇑*i*P	**Pn**	**18 46 41.6**	**0.0**
VADZ				⇓S	**Sg**	**18 47 05.6**	**+0.7**
VADZ	**Vardenis**	**1.71**	**190**	⇑P	**Pn**	**18 46 41.6**	**0.0**
VADZ				S	**Sg**	**18 47 05.6**	**+0.7**
BRDA	**Brd**	**1.79**	**153**	⇑P	**Pg**	**18 46 43.6**	**-0.4**
	SNR=6.1						
BRDA				⇑S	**Sg**	**18 47 08.9**	**+1.7**
BRDA	**Brd**	**1.79**	**153**	P	**Pg**	**18 46 43.6**	**-0.4**
	SNR=6.1						
BRDA				S	**Sg**	**18 47 08.9**	**+1.7**
QUBA	**Quba, Azerbaij**	**1.85**	**105**	⇓P	**Pg**	**18 46 45.8**	**+0.5**
	SNR=3.0						
QUBA	**Quba, Azerbaij**	**1.85**	**105**	P	**Pg**	**18 46 45.8**	**+0.5**
	SNR=3.0						
ZEI	**Tsey**	**1.88**	**300**	⇓*i*PN	**Pn**	**18 46 43.3**	**+0.9**
ZEI	**Tsey**	**1.88**	**300**	*i* Pn	**Pn**	**18 46 43.3**	**+0.9**
IML	**Ismayilli**	**1.89**	**124**	⇑P	**Pn**	**18 46 43.4**	**+1.1**
	SNR=5.5						
IML	**Ismayilli**	**1.89**	**124**	P	**Pn**	**18 46 43.4**	**+1.1**
	SNR=5.5						
ARNR	**Ardon**	**1.90**	**315**	*e*PN	**Pb**	**18 46 44.4**	**-0.3**
ARNR	**Ardon**	**1.90**	**315**	*e*Pn	**Pb**	**18 46 44.4**	**-0.3**
BTKR	**Batakoyurt**	**1.91**	**323**	*e*PN	**Pb**	**18 46 45.2**	**+0.4**
BTKR				*e*S	**Sg**	**18 47 11.4**	**+0.4**
BTKR	**Batakoyurt**	**1.91**	**323**	*e*Pn	**Pb**	**18 46 45.2**	**+0.4**
BTKR				*e*Sg	**Sg**	**18 47 11.4**	**+0.4**
KORR	**Kora**	**1.95**	**309**	*e*PN	**Pb**	**18 46 45.0**	**-0.6**
KORR	**Kora**	**1.95**	**309**	*e*Pn	**Pb**	**18 46 45.0**	**-0.6**
GNI	**Garni**	**2.01**	**212**	⇓*i*P	**Pb**	**18 46 45.5**	**-1.1**
GNI				⇓*i*S	**Sb**	**18 47 11.3**	**-0.4**
GNI	**Garni**	**2.01**	**212**	*d*PN	**Pb**	**18 46 45.5**	**-1.1**
GNI				pmax	pmax		
	comp=Z,82nm,1.2s						
GNI	**Garni**	**2.01**	**212**	⇓P	**Pb**	**18 46 45.5**	**-1.1**
GNI				S	**Sb**	**18 47 11.4**	**-0.4**
AKH	**Akhalkalaki**	**2.02**	**258**	P	**Pn**	**18 46 44.5**	**+0.2**
AKH				S	**Sb**	**18 47 11.7**	**-0.6**
KMSR	**Komsomolskaya**	**2.02**	**319**	⇑*i*PN	**Pb**	**18 46 46.6**	**-0.2**
KMSR	**Komsomolskaya**	**2.02**	**319**	*i* Pn	**Pb**	**18 46 46.6**	**-0.2**
STKZ		**2.10**	**167**	⇓*i*P	Pn	18 46 39.6	-5.7
STKZ				⇑*i*S	Sn	18 47 04.2	-7.5
ONI	**Oni**	**2.11**	**291**	P	**Pn**	**18 46 46.7**	**+1.2**
ONI				S	**Sb**	**18 47 14.4**	**-0.3**
TRKR	**Terskaya**	**2.12**	**332**	*e*PN	**Pb**	**18 46 48.7**	**+0.2**
TRKR				*e*S	**Sg**	**18 47 17.3**	**-0.6**
TRKR	**Terskaya**	**2.12**	**332**	*e*Pn	**Pb**	**18 46 48.7**	**+0.2**
TRKR				*e*Sb	**Sg**	**18 47 17.3**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.15**	**300**	*e*PN	**Pn**	**18 46 47.6**	**+1.5**
DIGR				*i* S	**Sb**	**18 47 15.2**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.15**	**300**	*e*Pn	**Pn**	**18 46 47.6**	**+1.5**
DIGR				*i* Sn	**Sb**	**18 47 15.2**	**-0.7**
PQL	**Pirkuli**	**2.15**	**119**	⇓P	**Pb**	**18 46 47.7**	**-1.3**
	SNR=3.6						
PQL				⇑S	**Sg**	**18 47 18.4**	**-0.4**
PQL	**Pirkuli**	**2.15**	**119**	P	**Pb**	**18 46 47.7**	**-1.3**
	SNR=3.6						
PQL				S	**Sg**	**18 47 18.4**	**-0.4**
LSNR	**Lesken**	**2.21**	**310**	*e*PN	**Pn**	**18 46 48.6**	**+1.8**
LSNR				*e*S	**Sb**	**18 47 17.1**	**-0.5**
LSNR	**Lesken**	**2.21**	**310**	*e*Pn	**Pn**	**18 46 48.6**	**+1.8**
LSNR				*e*Sn	**Sb**	**18 47 17.1**	**-0.5**
SIZA	**Siyzn**	**2.23**	**110**	⇓P	**Pg**	**18 46 51.5**	**-1.0**
SIZA	**Siyzn**	**2.23**	**110**	P	**Pg**	**18 46 51.5**	**-1.0**
NAX	**Nakhchivan**	**2.73**	**190**	⇑S	**Sg**	**18 47 36.7**	**-0.7**

*BJI **14** 18:46:24.4,1°.15S×132°.60E,h38km,mB5.2/19,mb4.7/29, Ms4.6/17,Ms7 4.4/17*
*IDC **14** 18:46:26.9±0.7,0°.33S×132°.28E,h0km,mb4.5/8, mb1 4.6/11,mb1mx4.3/19,mbtmp4.5/11,ML4.4/2,MS3.9/19, Ms1 3.9/19,ms1mx3.7/30,Error ellipse: s-maj=32.9km s-min=14.8km az=64.0*
*ISCJB **14** 18:46:29.8±0.2,0°.36S±0°.04×132°.35E±0°.06,h33km, mb4.8/51,MS4.0/24,Error ellipse: s-maj=9.2km s-min=4.4km az=156.5*
*MOS **14** 18:46:29.5±0.9,0°.35S×132°.22E,h31km,mb5.1/14,Error ellipse: s-maj=19.4km s-min=7.2km az=117.1*
*NEIC **14** 18:46:31.9±0.2,0°.39S×132°.21E,h35km,mb5.0/24,Error ellipse: s-maj=9.2km s-min=3.7km az=62.0*
*TEH **14** 18:46:32.0,0°.36S×132°.32E,h39km,ML4.9*
*DJA **14** 18:46:32,0°.34S×132°.28E,h46km,MLv5.0/3*
ISC 14 18:46:31.8±0.3,0°.35S±0°.05×132°.34E±0°.08,h33km, h33km:pP-P,n169,σ1s17/178,mb4.9/51,MS4.0/24,5C-5D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.55**	**182**	P	**Pn**	**18 47 12.0**	**+1.0**
MSAI	**Masohi**	**4.52**	**229**	P	Pn	18 47 42.0	+3.9
LBMI	**Labuha**	**4.84**	**267**	P	**Pn**	**18 47 44.2**	**+1.7**
	127nm,1.1s,2μm0.7nm						
DAV	**Davao City (W)**	**9.99**	**318**	LR	LR	18 53 18.8	
	comp=Z,833nm,18.0s,baz=128,slow=42						
KAPI	**Kappang**	**13.39**	**250**	Pn	Pn	18 49 42.5	+2.7
	0.9nm,0.3s,baz=27,slow=18,SNR=3.8						
KAPI	**Kappang**	**13.39**	**250**	Pn	Pn	18 49 42.5	+2.7
COEN	**Coen**	**17.26**	**142**	*e*P	**Pn**	**18 50 30.9**	**+0.4**
	81nm,1.2s						
COEN	**Coen**	**17.26**	**142**	*e*Pn	**Pn**	**18 50 30.3**	**-0.2**
	133nm,1.1s						
COEN				*e*Sn	Sn	18 53 31.6	-10
PMG	**Port Moresby**	**17.28**	**122**	P	**Pn**	**18 50 30.6**	**-0.2**
	0.2nm,0.3s,baz=292,slow=8.3,SNR=5.1						
PMG	**Port Moresby**	**17.28**	**122**	*e*P	**P**	**18 50 32.5**	**+0.5**
PMG				pmax	pmax		
	comp=Z,16nm,1.2s						
PMG	**Port Moresby**	**17.28**	**122**	P	**Pn**	**18 50 30.6**	**-0.2**
GUMO	**Guam**	**18.60**	**41**	LR	LR	18 57 10.0	
	comp=Z,193nm,20.1s,baz=207,slow=34						
FITZ	**Fitzroy Crossi**	**18.83**	**200**	P	**P**	**18 50 46.3**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=58,slow=7.1,SNR=18						
FITZ				S	Sn	18 54 04.0	-16
	comp=Z,0.2nm,0.3s,baz=58,slow=19,SNR=6.2						
FITZ	**Fitzroy Crossi**	**18.83**	**200**	*e*P	**P**	**18 50 46.4**	**-2.7**
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.83**	**200**	P	**P**	**18 50 46.3**	**-2.7**
FITZ				S	Sn	18 54 04.0	-16
WRAB	**Tennant Creek**	**19.56**	**174**	*e*P	**P**	**18 50 56.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**19.56**	**174**	*e*P	**P**	**18 50 56.5**	**-0.6**
	comp=Z,10nm,0.6s						
WRAB				*e*Sn	S	18 54 20.8	-15
WRA	**Warramunga Arr**	**19.57**	**174**	P	**P**	**18 50 56.8**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=353,slow=11,SNR=64						
WRA				S

comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,150nm,4.9s
CD2 LR LR
comp=E,460nm,6.0s
CD2 LR LR
comp=Z,400nm,6.6s
BJT Baijiatuau 42.80 342 *e*P **P** **18 54 26.6 0.0**
BJT Baijiatuau 42.80 342 *e*P **P** **18 54 26.6 0.0**
USRK Ussuriysk Arra 44.36 360 LR LR 19 12 44.3
comp=Z,104nm,18.2s,baz=270,slow=36
CN2 Changchun 44.39 353 *e*P P 18 54 44.3 +5.1
MDJ Mudanjiang 44.84 357 P **P** **18 54 44.8 +2.0**
MDJ pP **pP** **18 54 53.8 +1.1**
MDJ S **S** **19 01 20.8 +2.6**
MDJ pmax pmax
comp=Z,13nm,1.4s
MDJ pmax pmax
comp=Z,260nm,5.8s
MDJ LR LR
comp=N,87nm,18.4s
MDJ LR LR
comp=E,44nm,20.4s
MDJ LR LR
comp=Z,79nm,19.8s
LZH Lanzhou 44.90 327 *e*P **P** **18 54 44.4 +0.7**
LZH pP **pP** **18 54 54.5 +1.0**
LZH pmax pmax
comp=Z,20nm,1.2s
HHC Hu-ho-hao-te 45.15 338 *e*P **P** **18 54 45.4 -0.1**
HHC pP **pP** **18 54 57.8 +2.5**
HHC PP PP 18 56 32.5 +1.0
HHC S **S** **19 01 22.5 -0.5**
HHC ScS **ScS** **19 04 35.5 -4.7**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.2s
HHC LR LR
comp=N,240nm,14.5s
HHC LR LR
comp=E,200nm,16.0s
HHC LR LR
comp=Z,180nm,14.4s
ASAJ Asahikawa 45.21 10 LR LR 19 12 00.5
comp=Z,167nm,19.2s,baz=301,slow=34
HABR Khabarovsk 48.69 2 *e*P **P** **18 55 10.9 -2.0**
HABR *e* 18 56 35.3
HABR 18 57 04.2
HABR *e*S **S** **19 02 11.9 -1.1**
HABR *e**SS **sS** **19 02 28.9 -0.4**
HABR *e* 19 05 00.5
HABR *e*SS SS 19 05 44.2 +0.5
HABR *e*SSS SSS 19 06 59.3
HABR MLR MLR
comp=Z,113nm,15.0s
LSA Lhasa 49.33 311 P **P** **18 55 18.3 -0.4**
LSA Lhasa 49.33 311 *e*P **P** **18 55 18.7 0.0**
LSA pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 49.33 311 *e*P **P** **18 55 18.7 0.0**
comp=Z,1.5nm,0.6s
GTA Gaotai 49.51 327 *e*P **P** **18 55 19.8 +0.3**
GTA pP **pP** **18 55 29.9 +0.5**
GTA S **S** **19 02 25.1 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,170nm,4.3s
GTA LR LR
comp=N,76nm,15.2s
GTA LR LR
comp=E,160nm,17.8s
GTA LR LR
comp=Z,160nm,15.0s
TAPN Taplejung 50.93 306 *e*P **P** **18 55 29.4 -1.3**
comp=Z,37nm,1.5s
TAPN Taplejung 50.93 306 *e*P **P** **18 55 29.4 -1.3**
comp=Z,37nm,1.5s
ODAN Odare 50.98 306 *e*P **P** **18 55 29.9 -1.2**
ODAN Odare 50.98 306 *e*P **P** **18 55 29.9 -1.2**
RAMN Ramite 51.66 305 *e*P **P** **18 55 35.4 -0.8**
RAMN Ramite 51.66 305 *e*P **P** **18 55 35.4 -0.8**
JIRN Jiri 52.29 306 *e*P **P** **18 55 39.9 -1.1**
JIRN Jiri 52.29 306 *e*P **P** **18 55 39.9 -1.1**
GUN Gumba 52.64 306 *e*P **P** **18 55 41.7 -1.8**
comp=Z,18nm,0.8s
GUN Gumba 52.64 306 *e*P **P** **18 55 41.7 -1.8**
comp=Z,18nm,0.8s
ULN Ulaanbaatar 52.82 339⇓ *e*P **P** **18 55 44.6 +0.4**
ULN pmax pmax
comp=Z,14nm,1.2s
ULN Ulaanbaatar 52.82 339⇓ *e*P **P** **18 55 44.6 +0.4**
comp=Z,14nm,1.2s
PKI Pulchoki 52.88 306 *e*P **P** **18 55 43.8 -1.5**
PKI Pulchoki 52.88 306 *e*P **P** **18 55 43.8 -1.5**
PKI Pulchoki 52.88 306 *e*P **P** **18 55 43.8 -1.5**
SONM Songino Array 53.03 338 P **P** **18 55 46.1 +0.3**
comp=Z,6.4nm,1.1s,baz=156,slow=6.7,SNR=25
SONM LR LR 19 17 46.3
comp=Z,143nm,19.6s,baz=144,slow=36
SONM Songino Array 53.03 338 P **P** **18 55 46.1 +0.3**
SONM Songino Array 53.03 338 P **P** **18 55 46.1 +0.3**
KKN Kakani 53.08 306 *e*P **P** **18 55 45.4 -1.2**
KKN Kakani 53.08 306 *e*P **P** **18 55 45.4 -1.2**
KKN Kakani 53.08 306 *e*P **P** **18 55 45.4 -1.2**
DMN Daman 53.15 305 *e*P **P** **18 55 45.8 -1.4**
comp=Z,18nm,1.1s
DMN Daman 53.15 305 *e*P **P** **18 55 45.8 -1.4**
comp=Z,18nm,1.1s
GKN Gorkha 53.68 306 *e*P **P** **18 55 49.8 -1.2**
comp=Z,17nm,1.1s
GKN Gorkha 53.68 306 *e*P **P** **18 55 49.8 -1.2**
comp=Z,17nm,1.1s
KOLN Koldanda 54.44 305 *e*P **P** **18 55 55.8 -0.8**
comp=Z,31nm,0.8s
KOLN Koldanda 54.44 305 *e*P **P** **18 55 55.8 -0.8**
comp=Z,31nm,0.8s
DANN Dangsing 54.53 306 *e*P **P** **18 55 56.4 -0.9**
comp=Z,33nm,0.8s
DANN Dangsing 54.53 306 *e*P **P** **18 55 56.4 -0.9**
comp=Z,33nm,0.8s
HYB Hyderabad 55.79 291 *i*P **P** **18 56 05.0 -1.3**
ZAK Zakamensk 56.29 338 *e*P **P** **18 56 09.4 0.0**
ZAK *e* 18 57 06.7
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 57.22 339 *e*P **P** **18 56 16.9 +1.1**
TLY *e*S S 19 04 18.0 +8.6
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,61nm,19.0s
PETK Petropavlovsk- 57.32 18 LR LR 19 16 01.0
comp=Z,99nm,21.4s,baz=19,slow=31
MOY Mondy 58.19 338 *e*P **P** **18 56 23.0 +0.3**
MOY pmax pmax
comp=Z,34nm,2.9s
WMQ Urumqi 59.28 324 P **P** **18 56 31.0 +0.5**
WMQ PcP **PcP** **18 57 19.0 +0.6**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=N,65nm,21.3s
WMQ LR LR
comp=Z,89nm,21.3s
BOD Bodaibo 59.81 349 *e*P **P** **18 56 32.8 -0.9**
YAK Yakutsk 62.25 359 *e*P **P** **18 56 50.5 +0.3**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,15nm,1.2s
YAK MLR MLR
comp=Z,173nm,22.0s
YAK MLR MLR
comp=N,146nm,24.0s
YAK Yakutsk 62.25 359 *e*P **P** **18 56 50.5 +0.3**
comp=N,42nm,0.8s
FX1 Attu Island--F 63.02 26 LR LR 19 20 50.8
comp=N,91nm,19.1s,baz=251,slow=33
MK31 Makanchi Array 64.10 324 *e*P **P** **18 57 02.1 -0.7**
MK31 Makanchi Array 64.10 324 *e*P **P** **18 57 02.1 -0.7**
MKAR Makanchi Array 64.10 324 P **P** **18 57 02.7 -0.2**
comp=N,5.7nm,0.7s,baz=111,slow=9.0,SNR=55
MKAR LR LR 19 24 57.8
comp=N,71nm,20.2s,baz=266,slow=36
MKAR Makanchi Array 64.10 324 P **P** **18 57 02.7 -0.2**
MKAR Makanchi Array 64.10 324 P **P** **18 57 02.7 -0.2**
KSH Kashi 64.87 315 P **P** **18 57 09.1 +0.9**
KSH *e*pP **pP** **18 57 19.3 +0.9**
KSH *e*PcP **PcP** **18 57 42.3 +1.0**
KSH *e*PP **PP** **18 59 33.5 +2.3**
KSH *e*ScP 19 01 41.1
KSH *e*PcS 19 01 44.5
KSH *e*S **S** **19 05 44.0 -3.5**
KSH *e*ScS **SKSac** **19 06 57.3 -3.5**
KSH pmax pmax
comp=Z,19nm,1.4s
KSH pmax pmax
comp=Z,59nm,2.7s
KSH LR LR
comp=N,130nm,5.8s
KSH LR LR
comp=E,180nm,5.7s
KSH LR LR
comp=Z,370nm,5.6s
SEY Seymchan 64.89 10*c* *e*P **P** **18 57 07.7 +0.1**
TKM2 Tokmak 2 66.50 318 *e*P **P** **18 57 18.4 -0.3**
TKM2 pmax pmax
comp=Z,16nm,1.3s
TKM2 Tokmak 2 66.50 318 *e*P **P** **18 57 18.4 -0.3**
comp=Z,16nm,1.3s
ZAA0 Zalesovo Array 66.78 332 *e*P **P** **18 57 18.9 -1.1**
ZALV Zalesovo Beam 66.78 332 P **P** **18 57 19.0 -0.9**
comp=Z,4.1nm,0.9s,baz=104,slow=6.3,SNR=14
ZALV LR LR 19 26 06.7
comp=Z,34nm,18.6s,baz=44,slow=36
ZALV Zalesovo Beam 66.78 332 P **P** **18 57 19.0 -0.9**
ZALV Zalesovo Beam 66.78 332 P **P** **18 57 19.0 -0.9**
AAK Ala-Archa 67.13 317*c* *e*P **P** **18 57 22.7 0.0**
AAK pmax pmax
comp=Z,45nm,2.5s
NVS Novosibirsk 68.05 332 *e*P **P** **18 57 25.9 -2.1**
NVS pmax pmax
comp=Z,44nm,2.1s
NVS pmax pmax
comp=N,16nm,2.0s
NVS pmax pmax
comp=E,21nm,2.0s
KURK Kurchatov 68.19 326⇓ *i*P **P** **18 57 28.0 -0.9**
KURK pmax pmax
comp=Z,20nm,1.4s
KURK Kurchatov 68.19 326 *e*P **P** **18 57 28.6 -0.4**
comp=Z,24nm,1.4s
KBL Kabul 68.44 308 *e*P **P** **18 57 30.5 -0.6**
KBL pmax pmax
comp=Z,11nm,1.3s
KBL Kabul 68.44 308 *e*P **P** **18 57 30.5 -0.6**
comp=Z,12nm,1.3s
KKAR Karatay Array 70.02 317 *e*P **P** **18 57 40.6 0.0**
KKAR pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 70.02 317 *e*P **P** **18 57 40.6 0.0**
comp=Z,12nm,1.1s
BILL Bilibino 72.15 13⇑ *e*P **P** **18 57 53.1 +0.2**
BILL *e**PP **pP** **18 58 02.8 -0.4**
BILL *e* 18 58 12.8
BILL pmax pmax
comp=Z,13nm,2.7s
BRVK Borovoye 73.86 326⇓ *i*P **P** **18 58 02.9 -0.4**
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 73.86 326 *e*P **P** **18 58 03.5 +0.2**
comp=Z,19nm,1.3s
IMYA Miami 75.95 308 *e*P **P** **18 58 16.9 +0.9**
ITEG Tejag 76.44 304 *e*P **P** **18 58 18.7 -0.2**
IMOG Moghan 76.51 307 *e*P **P** **18 58 20.2 +0.9**
IPAY Payeh 76.85 308 *e*P **P** **18 58 21.8 +0.6**
IAKL Akhelmad 77.06 308 *e*P **P** **18 58 22.7 +0.3**
IKRD Kardeh 77.29 308 *e*P **P** **18 58 20.5 -3.1**
ISFR Sfrayin 77.74 308 *e*P **P** **18 58 27.0 +0.8**
VNDA Vanda 78.74 174 *e*P **P** **18 58 30.8 +0.2**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 78.74 174 *e*P **P** **18 58 30.8 +0.2**
comp=Z,3.4nm,0.8s
ABKAR Akbulak array 78.84 320 *e*P **P** **18 58 31.4 -0.2**
comp=Z,12nm,0.9s
SVE Sverdlovsk 80.36 328⇑ *e*P **P** **18 58 39.6 -0.1**
SVE pmax pmax
comp=Z,25nm,1.2s
ISHM Shahmirzad 81.32 306 *e*P **P** **18 58 45.6 -0.1**
ARU Arti 81.36 327 *d* *i*P **P** **18 58 44.5 -0.6**
ARU 19 01 56.4
ARU S **S** **19 08 55.0 +1.3**
ARU SS **SS** **19 14 07.9 -2.2**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU Arti 81.36 327 *e*P **P** **18 58 44.5 -0.6**
comp=Z,21nm,1.1s
IFIR Firoozkooh 81.73 306 *e*P **P** **18 58 48.4 +0.5**
MAW Mawson 81.95 201 LR LR 19 35 21.9
comp=Z,162nm,18.0s,baz=297,slow=36
IDMV Damavand 82.31 306 *e*P **P** **18 58 50.5 -0.5**
IKLH Kolahrood 82.46 304 *e*P **P** **18 58 51.3 -0.5**
IPIR Pirpir 82.98 303 *e*P **P** **18 58 53.8 -0.7**
MIB Mutribah 85.83 300 *e*P **P** **18 59 07.6 -1.0**
MIB AMb AMB 18 59 09.3
comp=Z,50nm,1.1s
NAY Al-Naaiem 85.88 299 *e*P **P** **18 59 07.5 -1.4**
NAY AMb AMB 18 59 09.3
comp=Z,31nm,1.3s
ILAR Eielson Array 86.38 25 P **P** **18 59 09.6 -1.0**
comp=Z,3.0nm,0.9s,baz=254,slow=4.9,SNR=20
ILAR LR LR 19 32 02.6
comp=Z,107nm,20.9s,baz=23,slow=32
ILAR Eielson Array 86.38 25 P **P** **18 59 09.6 -1.0**
ILAR Eielson Array 86.38 25 P **P** **18 59 09.6 -1.0**
QSPA South Pole Qui 89.58 180 *e*P **P** **18 59 25.9 0.0**
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 96.17 340 P **P** **18 59 55.9 -0.3**
comp=Z,6.8nm,1.0s,baz=79,slow=4.7,SNR=4.8
ARCES LR LR 19 46 15.1
comp=Z,102nm,18.7s,baz=25,slow=37
ARCES ARCESS Array B 96.17 340 P **P** **18 59 55.9 -0.3**
ARCES ARCESS Array B 96.17 340 P **P** **18 59 55.9 -0.3**
FINES FINESS Array B 98.04 332 LR LR 19 46 41.1
comp=Z,84nm,20.1s,baz=330,slow=37
AKASG Malin Array Be 98.57 321 *i*P Pdif 19 00 11.6 +4.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 100.79 26 P **Pdif** **19 00 15.7 -1.3**
comp=Z,0.6nm,1.0s,baz=291,slow=5.0,SNR=3.6
YKA Yellowknife Ar 100.79 26 P **Pdif** **19 00 15.7 -1.3**
YKA Yellowknife Ar 100.79 26 P **Pdif** **19 00 15.7 -1.3**
CCUT Cedar City 109.31 50 *e*PKiKP **PKiKP** **19 04 59.9 +0.4**
ATAH Atahualpa 148.46 104 PKPbc **PKPab** **19 06 18.6 -1.6**
comp=Z,7.8nm,0.8s,baz=202,slow=5.4,SNR=7.7
ATAH Atahualpa 148.46 104 PKPbc **PKPab** **19 06 18.6 -1.6**
LPAZ La Paz 153.90 130 PKPbc **PKPbc** **19 06 30.1 +0.4**
comp=Z,1.0nm,0.7s,baz=351,slow=2.9,SNR=4.6
LPAZ PKPab **PKPab** **19 06 44.4 +1.6**
comp=Z,2.5nm,0.9s,baz=199,slow=2.5,SNR=6.4
LPAZ La Paz 153.90 130 PKIKP **PKPbc** **19 06 30.1 +0.4**
LPAZ 19 06 44.4
LPAZ La Paz 153.90 130 PKPbc **PKPbc** **19 06 30.1 +0.4**
LPAZ PKPab **PKPab** **19 06 44.4 +1.6**

*ISCJB **14** 18:49:55.2±0.4, 38.60N±0.02×23.72E±0.04, h21km±3km, Error ellipse: s-maj=5.3km s-min=3.3km az=177.7*
*THE **14** 18:49:55.8, 38.60N×23.66E, h14km±1km, ML2.5/4, Error ellipse: s-maj=1.4km s-min=0.8km az=93.0*
*ATH **14** 18:49:55.1, 38.62N×23.65E, h25km±1km, ML2.8*
*CSEM **14** 18:49:55.2±0.2, 38.61N×23.69E, h15km, ML2.5/4, Error ellipse: s-maj=4.7km s-min=2.9km az=89.0*

ISC 14 18:49:55.5±0.8, 38.60N±0.02×23.64E±0.03, h15km±5km, n54, σ0.948/92, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.11**	**340**	P	**Pg**	**18 49 59.0**	**0.0**
MRKA				S	**Sg**	**18 50 01.2**	**0.0**
MRKA	**Markates**	**0.11**	**340**	P	**Pg**	**18 49 59.0**	**0.0**
MRKA				S	**Sg**	**18 50 01.2**	**0.0**
ERET	**Eretria**	**0.21**	**140**	P	**Pg**	**18 50 00.3**	**-0.1**
ERET				S	**Sg**	**18 50 03.4**	**-0.3**
ERET	**Eretria**	**0.21**	**140**	P	**Pg**	**18 50 00.3**	**-0.1**
ERET				S	**Sg**	**18 50 03.4**	**-0.3**
ATAL	**Atalanti**	**0.49**	**281**	P	**Pg**	**18 50 05.3**	**+0.1**
ATAL				S	**Sb**	**18 50 13.6**	**+0.8**
ATAL	**Atalanti**	**0.49**	**281**	P	**Pg**	**18 50 05.3**	**+0.1**
ATAL				S	**Sb**	**18 50 13.6**	**+0.8**
LKR	**Lokris**	**0.50**	**276**	*e*PN	**Pg**	**18 50 05.3**	**-0.1**
LKR				*e*SN	**Sb**	**18 50 13.4**	**+0.3**
LKR	**Lokris**	**0.50**	**276**	*e*Pn	**Pg**	**18 50 05.3**	**-0.1**
LKR				*e*Sn	**Sb**	**18 50 13.4**	**+0.3**
VIL1	**Vilia, Western**	**0.50**	**209**	*e*PN	**Pg**	**18 50 05.2**	**-0.3**
VIL1				*e*SN	**Sb**	**18 50 13.5**	**+0.4**
VIL1	**Vilia, Western**	**0.50**	**209**	*e*Pn	**Pg**	**18 50 05.2**	**-0.3**
VIL1				*e*Sn	**Sb**	**18 50 13.5**	**+0.4**
SKIA	**Skiathos**	**0.58**	**347**	P	**Pb**	**18 50 07.2**	**-0.1**
SKIA				S	**Sb**	**18 50 16.2**	**+0.9**
SKIA	**Skiathos**	**0.58**	**347**	P	**Pb**	**18 50 07.2**	**-0.1**
SKIA				S	**Sb**	**18 50 16.2**	**+0.9**
PTL	**Penteli**	**0.58**	**162**	*e*PN	**Pg**	**18 50 07.0**	**0.0**
PTL				*e*SN	**Sg**	**18 50 15.1**	**+0.3**
PTL	**Penteli**	**0.58**	**162**	*e*Pn	**Pg**	**18 50 07.0**	**0.0**
PTL				*e*Sn	**Sg**	**18 50 15.1**	**+0.3**
AOS	**Alonnisos**	**0.60**	**19**	P	**Pg**	**18 50 07.1**	**-0.2**
AOS				S	**Sb**	**18 50 16.4**	**+0.5**
AOS	**Alonnisos**	**0.60**	**19**	P	**Pg**	**18 50 07.1**	**-0.2**
AOS				S	**Sb**	**18 50 16.4**	**+0.5**
ATH	**Athens Observa**	**0.63**	**174**	*e*PN	**Pg**	**18 50 07.9**	**0.0**
ATH				*e*SN	**Sb**	**18 50 17.3**	**+0.4**
ATH	**Athens Observa**	**0.63**	**174**	*e*Pn	**Pg**	**18 50 07.9**	**0.0**
ATH				*e*Sn	**Sb**	**18 50 17.3**	**+0.4**
VLY	**Voula,Athens**	**0.76**	**171**	*e*PN	**Pg**	**18 50 10.0**	**-0.3**
VLY				*e*SN	**Sb**	**18 50 21.3**	**+0.8**
VLY	**Voula,Athens**	**0.76**	**171**	*e*Pn	**Pg**	**18 50 10.0**	**-0.3**
VLY				*e*Sn	**Sb**	**18 50 21.3**	**+0.8**
NEO	**Neokhori**	**0.77**	**336**	*e*PN	**Pb**	**18 50 10.7**	**+0.1**
NEO				*e*SN	**Sb**	**18 50 20.7**	**-0.2**
NEO	**Neokhori**	**0.77**	**336**	*e*Pn	**Pb**	**18 50 10.7**	**+0.1**
NEO				*e*Sn	**Sb**	**18 50 20.7**	**-0.2**
LTK	**Loutraki**	**0.78**	**222**	P	**Pg**	**18 50 10.2**	**-0.5**
LTK				S	**Sn**	**18 50 23.6**	**+0.2**
LTK	**Loutraki**	**0.78**	**222**	*e*PB	**Pg**	**18 50 10.2**	**-0.5**
LTK				*e*SN	**Sn**	**18 50 23.3**	**-0.1**
LTK	**Loutraki**	**0.78**	**222**	*e*Pb	**Pg**	**18 50 10.3**	**-0.5**
LTK				*e*Sn	**Sn**	**18 50 23.3**	**-0.1**
LTK				S	**Sn**	**18 50 23.6**	**+0.2**
XOR	**Xorichti**	**0.84**	**336**	P	**Pg**	**18 50 11.7**	**-0.1**
XOR				S	**Sn**	**18 50 23.9**	**-0.9**
XOR	**Xorichti**	**0.84**	**336**	P	**Pg**	**18 50 11.7**	**-0.1**
XOR				S	**Sn**	**18 50 23.9**	**-0.9**
NAIG	**Nisos Aigina**	**0.85**	**188**	*e*PN	**Pb**	**18 50 11.7**	**-0.3**
NAIG	**Nisos Aigina**	**0.85**	**188**	*e*Pn	**Pb**	**18 50 11.7**	**-0.3**
DESF	**Desfina**	**0.89**	**258**	P	**Pb**	**18 50 11.2**	**-1.4**
DESF				S	**Sn**	**18 50 25.8**	**-0.3**
DESF	**Desfina**	**0.89**	**258**	P	**Pb**	**18 50 11.2**	**-1.4**
DESF				S	**Sn**	**18 50 25.8**	**-0.3**
DSF	**Desfina**	**0.89**	**258**	P	**Pb**	**18 50 12.1**	**-0.6**
DSF				S	**Sn**	**18 50 26.0**	**-0.2**
DSF	**Desfina**	**0.89**	**258**	P	**Pb**	**18 50 12.1**	**-0.6**
DSF				S	**Sn**	**18 50 26.0**	**-0.2**
DID	**Didima**	**1.14**	**196**	P	**Pn**	**18 50 16.7**	**-0.2**
DID	**Didima**	**1.14**	**196**	*e*PN	**Pb**	**18 50 17.0**	**+0.1**
DID				*e*SN	**Sg**	**18 50 32.8**	**+0.4**
DID	**Didima**	**1.14**	**196**	P	**Pn**	**18 50 16.7**	**-0.2**
DID	**Didima**	**1.14**	**196**	*e*Pn	**Pb**	**18 50 17.0**	**+0.1**
DID				*e*Sn	**Sg**	**18 50 32.8**	**+0.4**
KALE	**Kalithea**	**1.19**	**260**	P	**Pb**	**18 50 18.0**	**+0.2**
KALE	**Kalithea**	**1.19**	**260**	P	**Pb**	**18 50 18.0**	**+0.2**
GUR	**Goura**	**1.22**	**237**	*e*PN	**Pb**	**18 50 18.6**	**+0.3**
GUR	**Goura**	**1.22**	**237**	*e*Pn	**Pb**	**18 50 18.6**	**+0.3**
PAIG	**Paliouri**	**1.32**	**1**	P	**Pn**	**18 50 19.3**	**-0.1**
PAIG	**Paliouri**	**1.32**	**1**	P	**Pn**	**18 50 19.3**	**-0.1**
EFP	**Efpalio**	**1.37**	**263**	*e*PN	**Pb**	**18 50 21.2**	**+0.4**
EFP	**Efpalio**	**1.37**	**263**	*e*Pn	**Pb**	**18 50 21.2**	**+0.4**
VLX	**Vlachokerasia**	**1.58**	**219**	*e*PN	**Pb**	**18 50 24.7**	**+0.2**
VLX				*e*SN	**Sb**	**18 50 45.3**	**+1.0**
VLX	**Vlachokerasia**	**1.58**	**219**	*e*Pn	**Pb**	**18 50 24.7**	**+0.2**
VLX				*e*Sn	**Sb**	**18 50 45.3**	**+1.0**
THL	**Klokotos Trika**	**1.58**	**308**	*e*PB	**Pn**	**18 50 23.0**	**0.0**
THL	**Klokotos Trika**	**1.58**	**308**	*e*Pb	**Pn**	**18 50 23.0**	**0.0**
PLG	**Polygyros**	**1.77**	**355**	*e*PN	**Pn**	**18 50 26.1**	**+0.5**
PLG				*e*SN	**Sn**	**18 50 47.4**	**-0.5**
PLG	**Polygyros**	**1.77**	**355**	*e*Pn	**Pn**	**18 50 26.1**	**+0.5**
PLG				*e*Sn	**Sn**	**18 50 47.4**	**-0.5**
ITM	**Ithomi**	**1.96**	**224**	*e*PN	**Pb**	**18 50 30.1**	**-0.8**
ITM	**Ithomi**	**1.96**	**224**	*e*Pn	**Pb**	**18 50 30.1**	**-0.8**
VLI	**Veliai**	**1.96**	**197**	*e*PN	**Pb**	**18 50 29.8**	**-1.1**

IDC 14 18:52:56.3±2.9, 0.48S×131.63E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/16, mbtmpg3.7/3, ML3.8/1, Error ellipse: s-maj=217.4km s-min=31.0km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.52**	**172**	P	P	18 57 25.4	-0.1
	0.3nm,0.3s,baz=351,slow=11,SNR=4.5						
SONM	**Songino Array**	**52.90**	**339**	P	P	19 02 13.7	-0.5
	0.4nm,0.6s,baz=150,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**63.79**	**324**	P	P	19 03 30.7	+0.3
	1.3nm,0.8s,baz=113,slow=8.4,SNR=16						

*ISCJB **14** 18:54:50.5±0.6, 9.10S±0.1×125.1E±0.2, h25km, mb3.8/7, MS3.8/1, Error ellipse: s-maj=26.8km s-min=7.5km az=148.4*
*IDC **14** 18:54:51.8±0.9, 9.12S×124.22E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/17, mbtmp4.0/9, ML4.8/1, MS3.5/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=55.6km s-min=17.1km az=70.0*

ISC 14 18:54:53.8±0.8, 9.10S±0.1×125.0E±0.2, h25km, n23, σ1.961/21, mb4.0/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.57**	**307**	Pn	**Pn**	**18 56 29.8**	**+0.9**
	4.5nm,0.3s,baz=142,slow=2.2,SNR=14						
FITZ	**Fitzroy Crossi**	**9.05**	**176**	Pn	**Pn**	**18 57 03.7**	**+0.8**
	7.6nm,0.3s,baz=360,slow=11,SNR=136						
FITZ				Sn	Sn	18 58 35.0	-9.2
	15nm,0.3s,baz=257,slow=13,SNR=16						
FITZ				LR	LR	19 00 54.2	
	comp=Z,170nm,19.1s,baz=128,slow=40						
WRA	**Warramunga Arr**	**14.11**	**141**	Pn	Pn	18 58 16.9	+4.6
	1.2nm,0.3s,baz=323,slow=14,SNR=18						
WRA				Sn	**Sn**	**19 00 46.5**	**-1.6**
	4.1nm,0.3s,baz=321,slow=24,SNR=11						
NWAO	**Narrogin (SRO)**	**24.86**	**196**	P	**P**	**19 00 12.4**	**-2.0**
	9.4nm,0.9s,baz=17,slow=6.7,SNR=7.1						
STKA	**Stephens Creek**	**27.46**	**148**	P	P	19 00 44.1	+6.1
	2.7nm,0.7s,baz=313,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**37.52**	**317**	P	**P**	**19 02 05.2**	**-0.9**
	0.4nm,0.4s,baz=146,slow=6.3,SNR=6.8						
ODAN	**Odare**	**51.03**	**315**	*e*P	**P**	**19 03 53.4**	**-1.0**
TAPN	**Taplejung**	**51.12**	**316**	*e*P	**P**	**19 03 54.1**	**-1.1**
	5.1nm,0.5s						
RAMN	**Ramite**	**51.64**	**315**	*e*P	**P**	**19 03 58.1**	**-0.9**
JIRN	**Jiri**	**52.37**	**315**	*e*P	**P**	**19 04 03.5**	**-1.0**
	3.0nm,0.3s						
GUN	**Gumba**	**52.73**	**315**	*e*P	**P**	**19 04 05.9**	**-1.3**
	5.1nm,0.4s						
PKI	**Pulchoki**	**52.85**	**315**	*e*P	**P**	**19 04 06.2**	**-1.9**
	5.0nm,0.4s						
DMN	**Daman**	**53.09**	**315**	*e*P	**P**	**19 04 08.4**	**-1.4**
GKN	**Gorkha**	**53.66**	**315**	*e*P	**P**	**19 04 12.0**	**-1.8**
	5.0nm,0.3s						
KOLN	**Koldanda**	**54.25**	**314**	*e*P	**P**	**19 04 16.3**	**-1.9**
	4.6nm,0.5s						
DANN	**Dangsing**	**54.48**	**314**	*e*P	**P**	**19 04 18.2**	**-1.8**
	9.5nm,0.5s						
SONM	**Songino Array**	**58.96**	**345**	P	**P**	**19 04 52.2**	**+0.9**
	0.3nm,0.6s,baz=175,slow=4.5,SNR=3.4						
MKAR	**Makanchi Array**	**67.33**	**330**	P	**P**	**19 05 45.9**	**-0.8**
	0.6nm,0.7s,baz=128,slow=7.9,SNR=6.2						
ZALV	**Zalesovo Beam**	**71.31**	**336**	P	**P**	**19 06 10.3**	**-0.8**
	0.4nm,0.3s,baz=143,slow=7.1,SNR=3.2						
QSPA	**South Pole Qui**	**80.97**	**180**	P	**P**	**19 07 07.0**	**+0.9**
	1.3nm,0.8s,baz=4.6,slow=1.2,SNR=7.5						
BOSA	**Boshof**	**94.19**	**240**	LR	LR	19 46 24.0	
	comp=Z,31nm,19.4s,baz=166,slow=33						
TORD	**Torodi Ar. Bea**	**124.32**	**280**	PKP	**PKPdf**	**19 13 53.8**	**+2.2**
	0.2nm,0.5s,baz=52,slow=2.1,SNR=2.3						
LPAZ	**La Paz**	**151.69**	**153**	PKPbc	**PKPbc**	**19 14 50.9**	**+2.9**
	0.5nm,0.4s,baz=211,slow=5.9,SNR=3.1						

NSSC 14 18:58:09.3±1.8, 36°29'N×36°14'E, h0km±822km, ML1.7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.36**	**134**	*e*P	Pb	18 58 18.0	-0.7
BTCH				*e*S	Sg	18 58 22.2	+1.1
BTCH				AML	AML	18 58 23.3	
	comp=N,160nm,0.3s						
BTCH				AML	AML	18 58 23.6	
	comp=E,224nm,0.1s						
BTCH	**Batrach**	**0.36**	**134**	*e*P	Pb	18 58 17.9	-0.7
BTCH				*e*S	Sg	18 58 21.6	+0.6
BTCH				*e*S	Sb	18 58 22.2	-2.8
BTCH				AML	AML	18 58 23.4	
	comp=N,160nm,0.3s						
BTCH				AML	AML	18 58 23.6	
	comp=E,226nm,0.1s						
BTCH	**Batrach**	**0.36**	**134**	*i* P	Pb	18 58 18.0	-0.7
BTCH				*e*S	Sg	18 58 22.2	+1.1
BTCH				AML	AML	18 58 23.3	
	comp=N,160nm,0.3s						
BTCH				AML	AML	18 58 23.6	
	comp=E,222nm,0.1s						
ARNB	**Al Arnab**	**0.45**	**198**	*e*P	Pg	18 58 18.2	+0.2
ARNB				*e*S	Sg	18 58 24.7	+0.8
ARNB				AML	AML	18 58 25.1	
	comp=E,84nm,0.3s						
ARNB				AML	AML	18 58 25.1	
	comp=N,94nm,0.2s						
ARNB	**Al Arnab**	**0.45**	**198**	*e*P	Pb	18 58 19.4	-0.8
ARNB				*e*S	Sg	18 58 24.4	+0.6
ARNB				AML	AML	18 58 25.1	
	comp=N,94nm,0.2s						
ARNB				AML	AML	18 58 25.1	
	comp=E,84nm,0.3s						
DRWC	**Darouich**	**0.54**	**52**	*e*P	Pg	18 58 19.4	-0.5
DRWC				*e*S	Sb	18 58 30.0	-0.3
DRWC				AML	AML	18 58 31.8	
	comp=E,9.3nm,0.2s						
DRWC				AML	AML	18 58 31.9	
	comp=N,28nm,0.2s						
DRWC	**Darouich**	**0.54**	**52**	*e*P	Pg	18 58 19.4	-0.5
DRWC				*e*S	Sb	18 58 28.8	-1.4
DRWC				AML	AML	18 58 31.9	
	comp=N,28nm,0.2s						
DRWC				AML	AML	18 58 34.5	
	comp=E,11nm,0.2s						
DRWC	**Darouich**	**0.54**	**52**	*e*P	Pg	18 58 19.4	-0.5
DRWC				*e*S	Sb	18 58 29.5	-0.7
DRWC				AML	AML	18 58 31.9	
	comp=N,28nm,0.2s						
DRWC				AML	AML	18 58 34.5	
	comp=E,11nm,0.2s						
HAWK	**Haweek**	**1.77**	**173**	*e*P	Pn	18 58 33.7	-7.7
HAWK				*e*S	Sn	18 58 53.0	-12
HAWK				AML	AML	18 58 54.4	
	comp=E,9.2nm,0.5s						
HAWK				AML	AML	18 58 54.4	
	comp=N,13nm,0.5s						

*ISCJB **14** 19:09:22.5±0.8, 39°64'N±0°03'×142°1'E±0°1, h53km±5km, mb3.6/6, Error ellipse: s-maj=13.0km s-min=5.1km az=7.4*
*JMA **14** 19:09:23.3, 39°64'N×142°11'E, h48km±1km, M3.4*
JMA Felt I J1.
*IDC **14** 19:09:26.1±2.5, 39°60'N×142°12'E, h79km±22km, mb3.3/6, mb1 3.4/10, mb1mx3.3/25, mbtmp3.3/10, Error ellipse: s-maj=26.3km s-min=19.4km az=104.0*

ISC 14 19:09:23.7±1.0, 39°63'N±0°04'×142°13'E±0°09, h48km±7km, n21, σ1°976/32, mb3.6/6, 1C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.24**	**257**	⇓P	**Pn**	**19 09 31.7**	**-0.5**
MIYJ				S	**Sn**	**19 09 37.4**	**-0.8**
JTH	**Tanohata**	**0.37**	**326**	⇓P	**Pn**	**19 09 32.8**	**-0.5**
JTH				S	**Sn**	**19 09 39.3**	**-0.9**
OFUJ	**Ofunato**	**0.66**	**213**	⇑P	**Pn**	**19 09 36.1**	**-0.7**
OFUJ				S	**Sn**	**19 09 45.2**	**-1.1**
JOM	**Ohasama**	**0.67**	**256**	⇓P	**Pn**	**19 09 36.5**	**-0.4**
JOM				S	**Sn**	**19 09 45.8**	**-0.7**
JKZ	**Kuzumaki**	**0.71**	**300**	⇓P	**Pn**	**19 09 37.0**	**-0.5**
JKZ				S	**Sn**	**19 09 46.7**	**-0.8**
JANG	**Nango**	**0.88**	**328**	⇓P	**Pn**	**19 09 38.9**	**-0.8**
JANG				S	**Sn**	**19 09 50.5**	**-0.9**
JMK	**Ichinoseki**	**0.98**	**226**	⇓P	**Pn**	**19 09 40.5**	**-0.6**
JMK				S	**Sn**	**19 09 53.3**	**-0.6**
JAH	**Hinai**	**1.27**	**296**	⇓P	**Pn**	**19 09 44.7**	**-0.4**
JIO	**Ouri**	**1.33**	**207**	P	**Pn**	**19 09 45.2**	**-0.6**
JIO				*e*S	**Sn**	**19 10 02.0**	**-0.3**
JTM	**Tenmabayashi**	**1.41**	**325**	⇓P	**Pn**	**19 09 46.5**	**-0.4**
JTM				*e*S	**Sn**	**19 10 04.0**	**-0.3**
MJAR	**Matsushiro Arr**	**4.37**	**226**	P	**Pn**	**19 10 30.1**	**+2.5**
	1.5nm,0.3s,baz=33,slow=13,SNR=36						
MJAR				S	Sn	19 11 27.9	+11
	baz=50,slow=31,SNR=3.0						
MAT	**Matsushiro**	**4.37**	**226**	P	**Pn**	**19 10 30.0**	**+2.4**
MAT				*e*S	**Sn**	**19 11 22.9**	**+5.7**
ASAJ	**Asahikawa**	**4.49**	**4**	P	**Pn**	**19 10 30.4**	**+1.2**
	1.4nm,0.3s,baz=208,slow=33,SNR=11						
ASAJ				S	**Sn**	**19 11 22.4**	**+2.2**
	0.3nm,0.3s,baz=297,slow=16,SNR=1.7						
USRK	**Ussuriysk Arra**	**8.82**	**304**	P	**Pn**	**19 11 31.1**	**+2.6**
	0.2nm,0.3s,baz=116,slow=15,SNR=3.5						
KSRS	**Korea Array**	**11.34**	**263**	P	Pn	19 12 06.8	+3.9
	0.2nm,0.3s,baz=71,slow=14,SNR=4.2						
SONM	**Songino Array**	**26.89**	**300**	P	**P**	**19 15 00.2**	**0.0**
	0.2nm,0.4s,baz=103,slow=9.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.62**	**310**	P	**P**	**19 16 56.9**	**-1.7**
	0.8nm,0.5s,baz=87,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**43.26**	**300**	P	**P**	**19 17 19.4**	**-0.9**
	0.7nm,0.6s,baz=83,slow=9.9,SNR=9.7						
MKAR				pP	**pP**	**19 17 36.9**	**+3.6**
	0.4nm,0.8s,baz=76,slow=7.7,SNR=2.6						
ILAR	**Eielson Array**	**47.01**	**34**	P	**P**	**19 17 50.1**	**+0.3**
	0.3nm,0.7s,baz=270,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**59.71**	**188**	P	**P**	**19 19 21.6**	**-1.8**
	0.6nm,0.9s,baz=7.4,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**19 20 09.0**	**-0.7**
	4.2nm,1.0s,baz=55,slow=10,SNR=3.9						

*IDC **14** 19:25:49.3±1.2, 31°15'N×103°28'E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=43.1km s-min=21.3km az=49.0*
*ISCJB **14** 19:25:51.3±0.6, 31°28'N±0°04'×103°31'E±0°08, h16km, mb3.6/6, Error ellipse: s-maj=10.9km s-min=5.2km az=159.6*

ISC 14 19:25:52.6±0.8, 31°18'N±0°05'×103°30'E±0°10, h16km, n12, σ1°946/18, mb3.6/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.48**	**125**	Pg	**Pg**	**19 26 01.3**	**-0.9**
CD2				Sg	**Sb**	**19 26 10.1**	**+0.6**
CD2				smax	smax		
	comp=N,6μm,0.6s						
CD2				smax	smax		
	comp=E,5μm,0.6s						
LZH	**Lanzhou**	**4.91**	**5**	*e*Pn	**Pn**	**19 27 06.3**	**+0.4**
LZH				Pg	**Pb**	**19 27 18.9**	**+0.6**
LZH				Sn	**Sn**	**19 28 03.0**	**+0.5**
LZH				Sg	**Sb**	**19 28 20.5**	**+3.3**
LZH				smax	smax		
	comp=N,39nm,1.0s						
LZH				smax	smax		
	comp=E,82nm,1.3s						
LZH				LR	LR		
	comp=N,400nm,5.3s						
LZH				LR	LR		
	comp=E,440nm,4.7s						
LZH				LR	LR		
	comp=Z,320nm,5.8s						
GYA	**Guiyang**	**5.56**	**147**	Pn	Pn	19 27 19.1	+4.4
GYA				Pg	**Pg**	**19 27 40.5**	**+1.5**
GYA				Sn	**Sn**	**19 28 20.4**	**+2.0**
GYA				Sg	**Sg**	**19 28 50.3**	**-0.7**
GYA				smax	smax		
	comp=N,80nm,1.0s						
GYA				smax	smax		
	comp=E,90nm,0.8s						
KMI	**Kunming**	**6.06**	**185**	Pn	Pn	19 27 25.5	+3.8
KMI				Sn	**Sn**	**19 28 33.3**	**+2.4**
KMI				smax	smax		
	comp=N,20nm,1.0s						
KMI				smax	smax		
	comp=E,19nm,1.2s						
CMAR	**Chiang Mai Arr**	**13.27**	**198**	Pn	P	19 29 05.3	-4.8
	comp=E,0.0nm,0.3s,baz=8.9,slow=8.9,SNR=2.8						
SONM	**Songino Array**	**16.80**	**7**	Pn	**Pn**	**19 29 45.9**	**-1.3**
	comp=E,0.0nm,0.3s,baz=179,slow=11,SNR=3.4						
KSRS	**Korea Array**	**21.25**	**66**	P	**P**	**19 30 37.1**	**-0.8**
	comp=E,1.5nm,0.8s,baz=247,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**22.47**	**320**	P	**P**	**19 30 50.6**	**-0.4**
	comp=E,1.4nm,0.9s,baz=123,slow=10,SNR=8.3						
ZALV	**Zalesovo Beam**	**26.36**	**335**	P	**P**	**19 31 27.2**	**-0.5**
	comp=E,0.6nm,0.3s,baz=134,slow=10,SNR=4.2						
KURK	**Kurchatov**	**26.77**	**324**	P	**P**	**19 31 31.0**	**-0.6**
	comp=E,0.7nm,0.8s,baz=126,slow=10,SNR=7.5						
KURK				PcP	**PcP**	**19 34 53.0**	**-1.3**
	comp=E,0.3nm,0.6s,baz=111,slow=2.2,SNR=4.5						
FINES	**FINESS Array B**	**57.12**	**326**	P	**P**	**19 35 36.8**	**-1.1**
	comp=E,1.8nm,0.9s,baz=90,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**58.93**	**146**	P	**P**	**19 35 50.4**	**-0.8**
	comp=E,1.2nm,0.7s,baz=338,slow=7.4,SNR=9.0						

*ISCJB **14** 19:33:10.3±1.2, 40°36'N±0°03'×25°80'E±0°09, h9km±6km, Error ellipse: s-maj=11.5km s-min=5.4km az=7.2*
*ISK **14** 19:33:10.0, 40°36'N×25°80'E, h8km, MD2.7*
*CSEM **14** 19:33:10.4±0.3, 40°35'N×25°79'E, h10km, MD2.7, Error ellipse: s-maj=6.3km s-min=3.0km az=92.0*
*DDA **14** 19:33:12.1, 40°32'N×25°97'E, h6km, MD2.6*

ISC 14 19:33:10.6±1.5, 40°35'N±0°03'×25°80'E±0°07, h12km±9km, n25, σ0°830/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**35**	*e*PG	**Pg**	**19 33 19.5**	**-0.3**
ENEZ				*e*SG	**Sg**	**19 33 26.3**	**+0.2**
ENEZ	**Enez**	**0.47**	**35**	*e*Pg	**Pg**	**19 33 19.5**	**-0.3**
ENEZ				*e*Sg	**Sg**	**19 33 26.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.52**	**85**	*e*PG	**Pg**	**19 33 20.7**	**-0.1**
GELI				*e*SG	**Sg**	**19 33 27.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.52**	**85**	*e*Pg	**Pg**	**19 33 20.7**	**-0.1**
GELI				*e*Sg	**Sg**	**19 33 27.9**	**+0.2**
BOZC	**Bozcaada**	**0.55**	**159**	*i* P	**Pb**	**19 33 21.7**	**-0.4**
BOZC				*i* S	**Sg**	**19 33 28.8**	**+0.2**
ERIK	**Erikli-Kesan**	**0.63**	**60**	*e*PG	**Pg**	**19 33 22.7**	**-0.2**
ERIK				*e*SG	**Sb**	**19 33 32.1**	**-0.2**
ERIK	**Erikli-Kesan**	**0.63**	**60**	*e*Pg	**Pg**	**19 33 22.7**	**-0.2**
ERIK				*e*Sg	**Sb**	**19 33 32.1**	**-0.2**
EZN	**Ezine**	**0.67**	**142**	*e*PG	**Pg**	**19 33 23.2**	**-0.3**
EZN	**Ezine**	**0.67**	**142**	*e*Pg	**Pg**	**19 33 23.2**	**-0.3**
LPK	**Lapseki**	**0.74**	**88**	*e*PG	**Pg**	**19 33 24.7**	**-0.2**
LPK	**Lapseki**	**0.74**	**88**	*e*Pg	**Pg**	**19 33 24.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.10**	**72**	*e*PN	**Pb**	**19 33 31.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.10**	**72**	*e*Pn	**Pb**	**19 33 31.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.15**	**88**	*e*PN	**Pb**	**19 33 32.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.15**	**88**	*e*Pn	**Pb**	**19 33 32.1**	**-0.2**
MFT	**Murefte**	**1.21**	**69**	*e*PN	**Pg**	**19 33 33.8**	**-0.1**
MFT	**Murefte**	**1.21**	**69**	*e*Pn	**Pg**	**19 33 33.8**	**-0.1**
AYVA	**Ayvalik**	**1.25**	**146**	*i* P	**Pb**	**19 33 34.1**	**0.0**
AYVA				*i* S	**Sb**	**19 33 50.1**	**0.0**
AYVA	**Ayvalik**	**1.25**	**146**	*i* P	**Pb**	**19 33 34.1**	**0.0**
AYVA				*i* S	**Sb**	**19 33 50.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*PN	**Pn**	**19 33 37.6**	**+0.6**
GONE	**Gonen-Balikesi**	**1.48**	**101**	*e*Pn	**Pn**	**19 33 37.6**	**+0.6**
BALY	**Balya**	**1.53**	**113**	*i* P	**Pb**	**19 33 38.5**	**-0.3**
BALY				*i* S	**Sn**	**19 33 57.2**	**-0.3**
BALY	**Balya**	**1.53**	**113**	*i* P	**Pb**	**19 33 38.5**	**-0.3**
BALY				*i* S	**Sn**	**19 33 57.2**	**-0.3**
EDRB	**Edirne**	**1.66**	**25**	*e*PN	**Pn**	**19 33 39.9**	**+0.5**
EDRB	**Edirne**	**1.66**	**25**	*e*Pn	**Pn**	**19 33 39.9**	**+0.5**

IDC 14 19:33:19.8±2.2, 26°41'N×44°62'W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.7/25, mbtmp3.8/7, MS3.5/7, Ms1 3.5/7, ms1mx3.1/34, Error ellipse: s-maj=72.2km s-min=26.2km az=88.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADO	**Sadowa**	**33.20**	**312**	LR	LR	19 50 48.1	
	comp=Z,78nm,18.4s,baz=97,slow=32						
TKL	**Tuckaleechee C**	**34.61**	**295**	LR	LR	19 53 00.8	
	comp=Z,62nm,18.8s,baz=96,slow=34						
FRB	**Frobisher Bay**	**40.47**	**344**	LR	LR	19 55 26.5	
	comp=Z,94nm,19.3s,baz=218,slow=33						
DBIC	**Dimbokro**	**42.62**	**110**	LR	LR	19 55 47.6	
	comp=Z,65nm,20.0s,baz=226,slow=32						
TORD	**Torodi Ar. Bea**	**45.30**	**98**	LR	LR	20 00 17.3	
	comp=Z,74nm,18.5s,baz=285,slow=36						
LPAZ	**La Paz**	**48.20**	**211**	P	P	19 42 03.2	+0.1
	0.4nm,0.5s,baz=328,slow=6.4,SNR=4.1						
TXAR	**Lajitas Array**	**51.80**	**288**	P	P	19 42 29.5	-0.4
	0.4nm,0.8s,baz=57,slow=6.6,SNR=3.0						
PDAR	**Pinedale Array**	**54.62**	**305**	P	P	19 42 50.8	+0.2
	0.9nm,0.8s,baz=93,slow=9.4,SNR=7.8						
YKA	**Yellowknife Ar**	**57.70**	**329**	P	P	19 43 11.5	-0.4
	0.4nm,0.7s,baz=92,slow=7.7,SNR=7.6						
YKA				LR	LR	20 07 28.6	
	comp=Z,7.2nm,18.4s,baz=30,slow=36						
INK	**Inuvik**	**65.35**	**336**	P	P	19 44 03.6	+0.1
	0.6nm,0.6s,baz=62,slow=5.6,SNR=5.3						
PLCA	**Paso Flores**	**71.01**	**201**	P	P	19 44 39.2	-0.3
	1.3nm,0.9s,baz=11,slow=5.2,SNR=2.9						
ILAR	**Eielson Array**	**71.46**	**334**	P	P	19 44 42.1	+0.2
	0.8nm,0.7s,baz=71,slow=4.2,SNR=9.0						
ILAR				LR	LR	20 13 31.9	
	comp=Z,64nm,19.3s,baz=251,slow=34						

MAN 14 19:52:48, 9°87N×125°78E, h77km, mb4.9, ML3.9, MS3.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.95**	**286**	*e*P	Pn	19 53 07.7	+1.5
MSLP				*e*S	Sn	19 53 21.9	+2.0
PLP	**Palo**	**1.51**	**329**	⇑*e*P	Pn	19 53 14.7	+1.2
PLP				*i* S	Sn	19 53 39.4	+6.9
OCLP	**Ormoc**	**1.65**	**316**	*e*P	Pn	19 53 17.0	+1.8
OCLP				*e*S	Sn	19 53 28.9	-6.8

FUNV 14 19:56:17.8, 10°57N×63°04W, h5km, MW3.6, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.22**	**298**	⇓*i* P	Pg	19 56 20.0	-2.1
CRUV				*e*S	Sg	19 56 22.2	-2.8
GUNV	**Guanoco**	**0.42**	**167**	⇓*e*P	Pg	19 56 25.5	-0.4
GUNV				*e*S	Sg	19 56 32.2	+0.8
GUIV	**Guiria**	**0.81**	**85**	*e*P	Pg	19 56 33.5	+0.2
GUIV				*e*S	Sg	19 56 44.6	+0.8
ORIV	**Oritupano**	**1.54**	**194**	*e*P	Pn	19 56 45.8	-0.2
ORIV				*e*S	Sn	19 57 06.4	+0.1
PCRV	**Puerto La Cruz**	**1.62**	**256**	*e*P	Pn	19 56 46.2	-0.9
PCRV				*e*S	Sn	19 57 06.9	-1.5
CUPV	**Cœpira**	**2.75**	**260**	*e*P	Pn	19 57 02.5	-0.3
RIOV	**Rio Grande**	**2.77**	**154**	*e*P	Pn	19 57 02.0	-0.8
RIOV				*e*S	Sn	19 57 35.1	-1.6
GURV	**El Guri**	**2.79**	**181**	*e*P	Pn	19 57 02.1	-1.1
BIRV	**Birongo**	**3.18**	**269**	*e*P	Pn	19 57 08.2	-0.3
LUEV	**Luepa**	**4.95**	**161**	*e*P	Pn	19 57 31.1	-2.0
BAUV	**El Baul**	**5.19**	**252**	*e*P	Pn	19 57 34.8	-1.4
MAPV	**Macapo**	**5.38**	**263**	*e*P	Pn	19 57 37.6	-1.3
MONV	**Montecano**	**6.94**	**282**	*e*P	Pn	19 57 58.3	-1.9

IDC 14 20:30:11.0±1.4, 0°35'S×132°45'E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=65.9km s-min=24.6km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.87**	**200**	P	P	20 34 32.2	-0.8
	0.1nm,0.3s,baz=34,slow=17,SNR=3.3						
FITZ				S	Sn	20 37 46.9	-19
	0.1nm,0.3s,baz=237,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**19.56**	**175**	P	Pn	20 34 41.4	-0.4
	0.4nm,0.3s,baz=351,slow=11,SNR=28						
WRA				S	Sn	20 38 10.1	-12
	0.1nm,0.3s,baz=355,slow=23,SNR=5.3						
SONM	**Songino Array**	**53.07**	**338**	P	P	20 39 30.8	+0.5
	0.6nm,0.8s,baz=155,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	20 40 47.5	0.0
	1.5nm,0.6s,baz=116,slow=7.8,SNR=23						
ILAR	**Eielson Array**	**86.33**	**25**	P	P	20 42 54.0	-0.8
	0.6nm,0.9s,baz=261,slow=4.5,SNR=4.4						

IDC 14 21:04:53.4±2.0, 0°78S×133°27E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=81.6km s-min=26.0km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.78**	**203**	P	P	21 09 14.4	0.0
	0.2nm,0.3s,baz=31,slow=13,SNR=3.1						
FITZ				S	Sn	21 12 33.3	-12
	0.1nm,0.3s,baz=151,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**19.07**	**177**	P	P	21 09 17.9	+0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=9.5						
STKA	**Stephens Creek**	**31.92**	**167**	P	P	21 11 20.6	-0.2
	0.8nm,0.5s,baz=338,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**64.99**	**324**	P	P	21 15 35.2	-0.1
	0.3nm,0.5s,baz=108,slow=7.5,SNR=7.0						

*DJA **14** 21:06:54, 1°00N×121°74E, h4km, MLv4.4/4*

IDC 14 21:06:45.6±1.2, 1°30N×122°06E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=64.4km s-min=20.5km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.69**	**200**	Pn	Pn	21 08 25.8	+0.7
	0.6nm,0.3s,baz=29,slow=10,SNR=2.9						
KAPI				LR	LR	21 11 31.1	
	comp=Z,108nm,19.0s,baz=107,slow=43						
FITZ	**Fitzroy Crossi**	**19.60**	**170**	P	P	21 11 15.6	0.0
	0.3nm,0.3s,baz=359,slow=8.7,SNR=8.1						
WRA	**Warramunga Arr**	**24.31**	**151**	P	P	21 12 04.7	-0.4
	4.0nm,0.8s,baz=325,slow=11,SNR=27						
STKA	**Stephens Creek**	**37.84**	**152**	P	P	21 14 04.4	+0.2
	2.4nm,0.8s,baz=324,slow=9.9,SNR=6.3						
SONM	**Songino Array**	**48.30**	**346**	P	P	21 15 28.4	-0.4
	0.4nm,0.8s,baz=168,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**57.02**	**328**	P	P	21 16 33.1	-0.1
	0.1nm,0.5s,baz=132,slow=8.3,SNR=2.4						

*IDC **14** 21:22:36.9±0.5, 26°40N×44°58W, h0km, mb4.2/23, mb1 4.4/23, mb1mx4.3/27, mbtmp4.2/23, MS3.6/22, Ms1 3.6/22, ms1mx3.5/41, Error ellipse: s-maj=15.5km s-min=14.2km az=168.0*
*ISCJB **14** 21:22:37.4±0.3, 26°42N±0°07'×44°55W±0°04, h11km, mb4.4/55, MS3.7/23, Error ellipse: s-maj=9.7km s-min=5.4km az=177.6*
*NEIC **14** 21:22:38.8±0.2, 26°38N×44°55W, h10km, mb4.7/34, Error ellipse: s-maj=7.1km s-min=4.6km az=180.0*

ISC 14 21:22:38.8±0.5, 26°39N±0°10'×44°57W±0°08, h11km, n276, σ0°874/277, mb4.5/57, MS3.7/23, 85C-90D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.66**	**108**	LR	LR	21 36 32.1	
	comp=Z,174nm,20.8s,baz=54,slow=29						
SCHQ	**Schefferville**	**32.77**	**336**	P	**P**	**21 29 12.0**	**+0.3**
	4.3nm,1.1s,baz=180,slow=12,SNR=3.6						
SCHQ				LR	LR	21 40 22.5	
	comp=Z,153nm,19.9s,baz=252,slow=32						
SCHQ	**Schefferville**	**32.77**	**336**	P	**P**	**21 29 12.0**	**+0.3**
RCBR	**Riachuelo**	**33.11**	**164**	LR	LR	21 39 09.1	
	comp=Z,61nm,20.1s,baz=223,slow=30						
TKL	**Tuckaleechee C**	**34.65**	**295**	LR	LR	21 41 02.5	
	comp=Z,190nm,19.8s,baz=287,slow=32						
ESDC	**Sonseca Array**	**36.23**	**58**	LR	LR	21 41 38.2	
	comp=Z,75nm,19.9s,baz=195,slow=32						
WCI	**Wyandotte Cave**	**36.90**	**299**	*e*P	**P**	**21 29 47.1**	**-0.5**
	26nm,0.9s						
WVT	**Waverly**	**37.97**	**296**	*e*P	**P**	**21 29 57.2**	**+0.6**
	4.5nm,0.5s						
SAML	**Samuel**	**39.50**	**210**	*e*P	**P**	**21 30 08.9**	**-0.8**
	3.1nm,0.8s						
TEIG	**Tepich**	**40.46**	**271**	LR	LR	21 45 50.8	
	comp=Z,110nm,20.1s,baz=24,slow=34						
FRB	**Frobisher Bay**	**40.50**	**344**	P	**P**	**21 30 17.2**	**-0.1**
	11nm,0.8s,baz=141,slow=9.9,SNR=16						
FRB	**Frobisher Bay**	**40.50**	**344**	P	**P**	**21 30 17.2**	**-0.1**
JTS	**JuntasAbangare**	**41.33**	**255**	LR	LR	21 44 04.9	
	comp=Z,110nm,21.6s,baz=323,slow=31						
DBIC	**Dimbokro**	**42.58**	**110**	P	**P**	**21 30 34.8**	**-0.3**
	2.6nm,0.9s,baz=324,slow=12,SNR=3.0						
DBIC				LR	LR	21 45 03.6	
	comp=Z,129nm,20.6s,baz=296,slow=32						
DBIC	**Dimbokro**	**42.58**	**110**	*e*P	**P**	**21 30 35.5**	**+0.4**
HKT	**Hockley**	**45.03**	**287**	*e*P	**P**	**21 30 55.8**	**+1.2**
	4.5nm,0.6s						
SIV	**San Ignacio**	**45.07**	**203**	P	**P**	**21 30 55.0**	**0.0**
	2.1nm,0.9s,baz=44,slow=8.1,SNR=8.3						
SIV	**San Ignacio**	**45.07**	**203**	P	**P**	**21 30 55.0**	**0.0**
TORD	**Torodi Ar. Bea**	**45.26**	**98**	P	**P**	**21 30 56.0**	**-0.6**
	0.8nm,0.8s,baz=296,slow=5.4,SNR=4.2						
TORD				LR	LR	21 49 04.2	
	comp=Z,156nm,19.1s,baz=300,slow=35						
TORD	**Torodi Ar. Bea**	**45.26**	**98**	P	**P**	**21 30 56.0**	**-0.6**
TAM	**Tamanrasset**	**45.47**	**83**	*e*P	**P**	**21 30 58.6**	**+0.1**
ULM	**Lac du Bonnet**	**45.66**	**316**	P	**P**	**21 30 58.

	baz=51								
428A	Kincaid Ranch,	50.74	289	⇓P		P	21 31 38.9	-0.2	
	baz=51,SNR=5.8								
Z27A	Tatum	50.76	293	⇑P		P	21 31 40.0	+0.7	
	baz=51								
U26A	Atchley Ranch,	50.80	297	⇓P		P	21 31 40.4	+0.8	
	baz=51								
NB2	NORSAR Subarra	50.83	31	P		P	21 31 39.4	+0.2	
	comp=Z,8.7nm,1.2s,baz=252,slow=7.9								
NOA	NORSAR Array B	50.83	31	P		P	21 31 39.9	+0.7	
	comp=Z,3.4nm,1.0s,baz=253,slow=7.6,SNR=5.6								
NOA				LR		LR	21 48 27.6		
	comp=Z,40nm,18.7s,baz=260,slow=30								
NOA	NORSAR Array B	50.83	31	P		P	21 31 39.9	+0.7	
P25A	Willow Gulch B	50.85	301	⇓P		P	21 31 40.8	+0.9	
	baz=51								
528A	Cox Ranch, San	50.94	289	⇓P		P	21 31 40.6	0.0	
	baz=51								
X26A	CR and CF Fran	51.08	294	⇑P		P	21 31 41.8	+0.1	
	baz=51								
628A	Black Gap, Mar	51.15	288	⇓P		P	21 31 41.8	-0.3	
	baz=51,SNR=5.1								
S25A	Robets Cordova	51.22	298	⇑P		P	21 31 43.2	+0.5	
	baz=51								
M24A	Cheyenne	51.24	303	⇑P		P	21 31 43.7	+1.0	
	baz=51								
427A	Hayter Ranch,	51.33	290	⇑P		P	21 31 43.1	-0.4	
	baz=51								
U25A	Circle Dot Ran	51.33	297	⇓P		P	21 31 44.1	+0.5	
	baz=51								
B23A	Brockton	51.34	312	⇓P		P	21 31 43.2	-0.1	
	baz=51								
Z26A	Caprock	51.40	293	⇓P		P	21 31 43.7	-0.3	
	baz=51								
627A	Terlingua Ranc	51.59	288	⇑P		P	21 31 45.1	-0.4	
	baz=52								
527A	Woodward Ranch	51.64	289	⇓P		P	21 31 46.0	+0.1	
	baz=52								
Q24A	Divide	51.66	300	⇓P		P	21 31 46.8	+0.7	
	baz=52								
226A	Malaga, Loving	51.70	291	⇓P		P	21 31 46.8	+0.5	
	baz=52								
K23A	Bowen Ranch, D	51.77	305	⇓P		P	21 31 47.1	+0.4	
	baz=52								
TXAR	Lajitas Array	51.85	288	P		P	21 31 47.1	-0.3	
	comp=Z,1.1nm,0.7s,baz=95,slow=7.9,SNR=12								
TXAR				PcP		PcP	21 33 00.6	+0.3	
	comp=Z,0.5nm,0.8s,baz=95,slow=4.5,SNR=4.1								
TXAR				LR		LR	21 54 25.3		
	comp=Z,55nm,18.9s,baz=5.0,slow=37								
TXAR	Lajitas Array	51.85	288	P		P	21 31 47.1	-0.3	
TXAR				PcP		PcP	21 33 00.6	+0.3	
L23A	Garrett	51.86	304	⇑P		P	21 31 47.7	+0.3	
	baz=52								
426A	McDonald Obser	51.89	289	⇓P		P	21 31 48.6	+0.7	
	baz=52								
Y25A	Mesa, Roswell	51.89	294	⇑P		P	21 31 48.1	+0.4	
	baz=52								
Z25A	Roswell	52.01	293	⇑P		P	21 31 49.2	+0.6	
	baz=52								
526A	Mary Lane Ranc	52.06	289	⇓P		P	21 31 49.3	+0.2	
	baz=52								
N23A	Red Feather La	52.11	303	⇓P		P	21 31 49.1	-0.3	
	baz=52								
H22A	Clearmont	52.24	307	⇓P		P	21 31 50.4	+0.3	
	baz=52								
W24A	Lazy 6 Ranch,	52.29	295	⇑P		P	21 31 51.2	+0.5	
	baz=52								
225A	Deer Hill, Car	52.30	291	⇓P		P	21 31 51.2	+0.4	
	baz=52								
I22A	9 Mile Ranch,	52.36	306	⇓P		P	21 31 51.3	+0.2	
	baz=52								
J22A	Midwest	52.37	306	⇓P		P	21 31 51.0	-0.2	
	baz=52								
K22A	Casper	52.44	305	⇑P		P	21 31 51.7	0.0	
	baz=52								
N22A	Wattenberg Ran	52.51	302	⇓P		P	21 31 52.9	+0.5	
	baz=52								
MORC	Moravsky Berou	52.52	46	eP		P	21 31 53.2	+1.2	
	comp=Z,2.4nm,0.9s								
Z24A	Sheeppen Canyo	52.54	293	⇑P		P	21 31 53.8	+1.2	
	baz=52								
325A	Bean Ranch, Si	52.55	290	⇑P		P	21 31 53.5	+0.8	
	baz=52								
M22A	Cedar Creek Ra	52.57	303	⇓P		P	21 31 53.0	+0.2	
	baz=52								
A21A	Bergtoll Ranch	52.64	313	⇓P		P	21 31 52.8	-0.2	
	baz=53								
425A	Indio Mountain	52.68	290	⇑P		P	21 31 53.9	+0.3	
	baz=53								
124A	Stringfield Ra	52.72	292	⇓P		P	21 31 55.3	+1.3	
	baz=53								
MNTX	Cornudas Mount	52.84	291	⇓P		P	21 31 54.4	-0.3	
MNTX				⇓P		P	21 31 54.4	-0.3	
	baz=53								
P22A	Eagle	52.84	301	⇓P		P	21 31 55.5	+0.7	
	baz=53								
224A	Cornudas Mount	52.89	291	⇑P		P	21 31 55.4	+0.3	
	baz=53								
I21A	Big Trails, Te	52.95	306	⇓P		P	21 31 55.3	-0.1	
	baz=53,SNR=6.5								
324A	Moseley Ranch,	52.97	291	⇑P		P	21 31 55.5	-0.3	
	baz=53,SNR=5.6								
K21A	Alcova	52.98	305	⇑P		P	21 31 56.5	+0.7	
	baz=53								
R22A	Saguache, Gunn	52.98	299	⇓P		P	21 31 57.5	+1.6	
	baz=53								
Y23A	Lovelace Mesa,	53.01	294	⇓P		P	21 31 56.7	+0.6	
	baz=53								
Q22A	Crested Butte,	53.03	300	⇑P		P	21 31 56.5	+0.2	
	baz=53								
J21A	Lysite	53.08	306	⇑P		P	21 31 56.5	0.0	
	baz=53,SNR=5.9								
S22A	4UR Ranch, Cre	53.10	299	⇓P		P	21 31 57.6	+0.8	
	baz=53								
M21A	Separation Pea	53.13	304	⇑P		P	21 31 57.6	+0.7	
	baz=53								
ANMO	Albuquerque	53.18	295	eP		P	21 31 58.3	+1.0	
	comp=Z,3.6nm,1.1s								
T22A	Edith	53.25	298	⇓P		P	21 31 59.2	+1.4	
	baz=53,SNR=6.4								
Z23A	Rita Site, Whi	53.27	293	⇓P		P	21 31 59.1	+1.2	
	baz=53,SNR=7.5								
A20A	Cobblestone Ra	53.30	313	⇓P		P	21 31 58.0	+0.1	
	baz=53								
N21A	Black Mountain	53.32	302	⇑P		P	21 31 59.2	+0.9	
	baz=53								
P21A	Newcastle	53.38	301	⇓P		P	21 31 59.4	+0.7	
	baz=53								
D20A	Manuel Ranch,	53.44	310	⇑P		P	21 31 59.4	+0.5	
	baz=53								
E20A	Meyer Farm, Mu	53.45	310	⇓P		P	21 31 59.2	+0.2	
	baz=53								
I20A	Worland	53.54	306	⇓P		P	21 32 00.3	+0.6	
	baz=54								
J20A	Shoshoni	53.54	306	⇑P		P	21 32 00.3	+0.5	
	baz=54								
G20A	Bridger	53.55	308	⇓P		P	21 31 59.7	0.0	
	baz=54								
M20A	Sweetwater, Wa	53.76	303	⇓P		P	21 32 02.5	+1.0	
	baz=54								
A19A	Klindworth Far	53.84	313	⇓P		P	21 32 02.1	+0.3	
	baz=54								
S21A	Coal Bank Pass	53.86	299	⇑P		P	21 32 03.2	+0.7	
	baz=54								
N20A	Spence Gulch,	53.87	303	⇑P		P	21 32 03.2	+0.8	
	baz=54								
Z22A	Elephant Butte	53.87	293	⇓P		P	21 32 02.9	+0.6	
	baz=54,SNR=9.0								
E19A	Rath Farm, Rou	53.90	310	⇑P		P	21 32 03.0	+0.7	
	baz=54								
O20A	White River Ci	53.92	302	⇓P		P	21 32 03.3	+0.6	
	baz=54								
U21A	Nageezi	53.93	297	⇑P		P	21 32 04.2	+1.4	
	baz=54								
B19A	Brinkman Farms	53.98	312	⇓P		P	21 32 03.5	+0.7	
	baz=54								
F19A	Roth Farm, Mol	54.03	309	⇑P		P	21 32 03.8	+0.5	
	baz=54								
C19A	Slack Wire Ran	54.05	311	⇓P		P	21 32 03.6	+0.2	
	baz=54								
H19A	Powell	54.12	307	⇑P		P	21 32 04.3	+0.3	
	baz=54								
K19A	Absolon Red Bu	54.14	305	⇑P		P	21 32 03.8	-0.4	
	baz=54,SNR=6.3								
222A	Williams Famil	54.20	292	⇓P		P	21 32 05.3	+0.6	
	baz=54								
J19A	Crowheart	54.26	306	⇑P		P	21 32 04.7	-0.3	
	baz=54								
S20A	Disappointment	54.29	299	⇓P		P	21 32 06.6	+1.2	
	baz=54								
RLMT	Red Lodge	54.29	308	eP		P	21 32 06.2	+0.8	
	comp=Z,149nm,3.0s								
RLMT	Red Lodge	54.29	308	⇑P		P	21 32 05.5	+0.1	
	baz=54								
RLMT				⇑P		P	21 32 05.5	+0.1	
	baz=54								
Y21A	Point of Rocks	54.32	294	⇓P		P	21 32 06.9	+1.1	
	baz=54								
X21A	Alamocita Cree	54.34	295	⇑P		P	21 32 07.1	+1.2	
	baz=54								
M19A	Rock Springs	54.48	304	⇓P		P	21 32 07.2	+0.4	
	baz=54								
EGMT	Eagleton	54.52	312	⇓P		P	21 32 06.9	+0.1	
	baz=54								
P19A	Cripple Cowboy	54.55	301	⇓P		P	21 32 07.7	+0.4	
	baz=54								
A18A	Metzger Ranch,	54.57	313	⇑P		P	21 32 07.0	-0.1	
	baz=54								
F18A	Big Timber	54.57	309	⇑P		P	21 32 07.4	+0.2	
	baz=54,SNR=5.1								
D18A	Linhart Farms,	54.58	311	⇑P		P	21 32 07.9	+0.7	
	baz=54								
BW06	Boulder Array	54.66	305	eP		P	21 32 08.1	0.0	
	comp=Z,6.7nm,0.9s								
BW06	Boulder Array	54.66	305	⇑P		P	21 32 07.9	-0.2	
	baz=55,SNR=6.8								
BW06				⇑P		P	21 32 07.9	-0.2	
	baz=55,SNR=6.8								
PDAR	Pinedale Array	54.66	305	P		P	21 32 07.8	-0.3	
	comp=Z,4.3nm,0.8s,baz=90,slow=8.4,SNR=35								
PDAR				LR		LR	21 52 40.0		
	comp=Z,89nm,21.2s,baz=69,slow=33								
PDAR	Pinedale Array	54.66	305	P		P	21 32 07.8	-0.3	
RES	Resolute Bay	54.67	345	P		P	21 32 07.1	-0.2	
	comp=Z,1.7nm,0.6s,baz=111,slow=5.8,SNR=6.1								
RES	Resolute Bay	54.67	345	eP		P	21 32 07.5	+0.3	
E18A	Harlowton	54.68	310	⇑P		P	21 32 08.4	+0.4	
	baz=55								
121A	Cookes Peak, D	54.69	292	⇑P		P	21 32 10.0	+1.7	
	baz=55								
W20A	Ramah	54.80	296	⇓P		P	21 32 10.8	+1.5	
	baz=55								
Q19A	Hogan Spring (	54.85	300	⇓P		P	21 32 09.9	+0.6	
	baz=55								
X20A	Quemado	54.90	295	⇓P		P	21 32 11.1	+1.1	
	baz=55								
Y20A	Horse Springs,	54.92	294	⇑P		P	21 32 11.6	+1.5	
	baz=55,SNR=8.9								
T19A	Beclabito	54.95	298	⇑P		P	21 32 10.9	+0.7	
	baz=55								
J18A	Kendall Valley	54.96	306	⇓P		P	21 32 10.6	+0.3	
	baz=55								
K18A	Toltan Ranch,	55.03	305	⇑P		P	21 32 11.6	+0.8	
	baz=55								
LKWY	Lake	55.13	307	eP		P	21 32 13.6	+2.1	
	comp=Z,60nm,2.6s								
D17A	Six Diamond Ra	55.18	311	⇓P		P	21 32 11.9	+0.3	
	baz=55								
B17A	L&G Farms, Che	55.22	312	⇑P		P	21 32 12.0	+0.2	
	baz=55								
F17A	Fitzpatrick Pl	55.23	309	⇓P		P	21 32 12.9	+0.9	
	baz=55								
Z20A	Nine Sixteen R	55.24	293	⇓P		P	21 32 13.0	+0.7	
	baz=55								
I17A	Pilgrim Ck.	55.31	307	⇓P		P	21 32 13.0	+0.2	
	baz=55								
E17A	Martinsdale	55.33	310	⇑P		P	21 32 13.0	+0.2	
	baz=55								
LOHW	Long Hollow	55.35	306	eP		P	21 32 13.1	0.0	
	comp=Z,2.9nm,0.8s								
120A	U Bar Ranch, L	55.38	293	⇓P		P	21 32 14.8	+1.4	
	baz=55								
R18A	Canyonlands Na	55.41	300	⇑P		P	21 32 14.6	+1.1	
	baz=55,SNR=5.6								
220A	Playas Peak, P	55.42	292	⇑P		P	21 32 14.6	+0.9	
	baz=55								
MOOW	Moose Ponds	55.44	306	eP		P	21 32 13.5	-0.2	
	comp=Z,2.6nm,1.0s								
Q18A	Rafter H Ranch	55.50	301	⇓P		P	21 32 15.0	+1.0	
	baz=55								
P18A	Preston Nutter	55.52	301	⇑P		P	21 32 14.9	+0.5	
	baz=55								
W19A	Sanders	55.52	296	⇑P		P	21 32 15.9	+1.5	
	baz=56								
T18A	Mexican Hat	55.58	298	⇑P		P	21 32 15.8	+1.1	
	baz=56								
Y19A	Nutrioso	55.62	294	⇓P		P	21 32 16.2	+1.0	
	baz=56								
U18A	Rough Rock, Ch	55.69	297	⇑P		P	21 32 16.7	+1.2	
	baz=56								
L17A	Cokeville	55.70	304	⇑P		P	21 32 15.4	-0.2	
	baz=56								
A16A	West Butte Ran	55.72	313	⇓P		P	21 32 15.5	0.0	
	baz=56								
H16A	Russell Place,	55.73	308	⇑P		P	21 32 17.0	+1.3	
	baz=56								
D16A	Dana Ranch, Ca	55.78	310	⇓P		P	21 32 16.5	+0.5	
	baz=56								
SRU	San Rafael	55.80	301	eP		P	21 32 17.1	+0.8	
	comp=Z,7.3nm,0.8s								
SRU	San Rafael	55.80	301	⇑P		P	21 32 17.3	+1.0	
	baz=56								
C16A	Fuhringer Ranc	55.87	311	⇑P		P	21 32 16.8	+0.3	
	baz=56								
E16A	East Helena	55.89	310	⇑P		P	21 32 16.9	+0.1	
	baz=56								
BOZ	Bozeman (W)	55.92	309	⇑P		P	21 32 17.6	+0.5	
BOZ				⇑P		P	21 32 17.6	+0.5	
	baz=56								
I16A	Newdale	55.97	307	⇓P		P	21 32 18.5	+1.0	
	baz=56								
219A	White Tail Can	56.02	292	⇓P		P	21 32 18.8	+0.8	
	baz=56								
R17A	Hanksville Air	56.04	300	⇓P		P	21 32 18.9	+0.9	
	baz=56								
G16A	Moss Hill, Enn	56.08	308	⇓P		P	21 32 18.4	+0.2	
	baz=56								
L16A	Fish Haven	56.12	304	⇑P		P	21 32 18.7	+0.1	
	baz=56								
S17A	Black Ridge (B	56.23	299	⇓P		P	21 32 20.3	+1.0	
	baz=56								
HWUT	Hardware Ranch	56.27	304	eP		P	21 32 19.2	-0.4	
	comp=Z,2.9nm,1.0s								
T17A	Navajo Res., N	56.34	298	⇑P		P	21 32 21.6	+1.4	
	baz=56								
B15A	Bradely Ranch,	56.39	312	⇑P		P	21 32 20.1	-0.2	
	baz=56								
D15A	Lincoln	56.44	310	⇓P		P	21 32 21.2	+0.5	
	baz=56								
C15A	Salmond Ranch,	56.45	311	⇑P		P	21 32 21.1	+0.4	
	baz=56								
F15A	Butte	56.51	309	⇑P		P	21 32 21.8	+0.5	
	baz=56								
V17A	Tonalea, Kykot	56.56	297	⇓P		P	21 32 22.7	+0.9	
	baz=56,SNR=5.2								
218A	Dragoon	56.67	292	⇓P		P	21 32 23.7	+1.1	
	baz=57								
318A	Bisbee	56.74	292	⇑P		P	21 32 24.2	+1.0	
	baz=57								
A14A	Double T Ranch	56.92	313	⇑P		P	21 32 23.8	-0.2	
	baz=57								
Y17A	Roosevelt	56.97	294	⇑P		P	21 32 25.9	+1.3	
	baz=57								
TUC	Tucson	57.21	293	eP		P	21 32 27.3	+1.0	
	comp=Z,2.6nm,0.9s								
C14A	Swan Lake	57.22	311	⇑P		P	21 32 25.8	-0.4	
	baz=57								
DUG	Dugway	57.39	302	eP		P	21 32 28.2	+0.6	
	comp=Z,4.7nm,0.8s								
DUG	Dugway	57.39	302	⇓P		P	21 32 27.6	0.0	
	baz=57,SNR=5.8								
SWMT	Swartz Lake	57.41	311	eP		P	21 32 27.7	+0.2	
J14A	Carey	57.49	306	⇑P		P	21 32 29.1	+0.8	
	baz=57								
U15A	North Rim	57.61	298	⇑P		P	21 32 30.5	+1.1	
	baz=58								
BUR08	Bucovina Ar. S	57.63	49	eP		P	21 32 30.5	+1.4	
YKA	Yellowknife Ar	57.74	329	P		P	21 32 28.6	-0.8	
	comp=Z,2.0nm,0.7s,baz=93,slow=7.6,SNR=34								
YKA				PcP		PcP	21 33 21.6	-0.6	
	comp=Z,0.7nm,0.7s,baz=94,slow=5.6,SNR=4.9								
YKA				LR		LR	21 57 23.2		
	comp=Z,13nm,18.1s,baz=40,slow=36								
YKA	Yellowknife Ar	57.74	329	P		P	21 32 28.6	-0.8	
YKA				PcP		PcP	21 33 21.6	-0.6	
C13A	Hot Springs	57.78	311	⇓P		P	21 32 30.1	0.0	
	baz=58								
G13A	Cobalt	57.80	308	⇓P		P	21 32 31.1	+0.8	
	baz=58								
J13A	Cove Ranch, Pi	57.96	306	⇑P		P	21 32 31.8	+0.2	
	baz=58								
FINES	FINESS Array B	57.96	32	P		P	21 32 31.0	0.0	
	comp=Z,4.9nm,0.9s,baz=289,slow=5.8,SNR=6.0								
FINES	FINESS Array B	57.96	32	P		P	21 32 31.0	0.0	
HLID	Hailey	58.11	307	eP		P	21 32 33.1	+0.5	
	comp=Z,35nm,2.6s								
HLID	Hailey	58.11	307	⇓P		P	21 32 33.1	+0.5	
	baz=58								
CCUT	Cedar City	58.25	299	eP		P	21 32 34.8	+1.1	
	comp=Z,3.8nm,0.9s								
H12A	Diamond D Ranc	58.30	308	⇓P		P	21 32 34.6	+0.7	
	baz=58								
ARCES	ARCESS Array B	58.58	23	P		P	21 32 34.3	-0.9	
	comp=Z,4.7nm,0.8s,baz=267,slow=11,SNR=5.9								
ARCES	ARCESS Array B	58.58	23	P		P	21 32 34.3	-0.9	
I12A	Atlanta	58.60	307	⇓P		P	21 32 36.9	+0.9	
	baz=58								
R13A	O'Grain Ranch,	58.61	300	⇓P		P	21 32 37.3	+1.1	
	baz=58								
114A	Black Gap (USA	58.84	294	⇓P		P	21 32 38.9	+1.2	
	baz=59								
C11A	Tepee Creek (N	58.90	312	⇑P		P	21 32 38.3	+0.4	
	baz=59								
214A	Organ Pipe Nat	58.97	293	⇑P		P	21 32 40.1	+1.5	
	baz=59								
ELK	Elko	59.13	303	eP		P	21 32 39.9	+0.1	
W13A	Hualapai Mount	59.15	297	⇓P		P	21 32 41.3	+1.3	
	baz=59								
MFID	Camas Ranch	59.15	307	eP		P	21 32 40.2	+0.5	
	comp=Z,34nm,2.3s								
MFID	Camas Ranch	59.15	307	⇓P		P	21 32 40.5	+0.7	
	baz=59								
Z13A	Yuma Proving G	59.38	294	⇑P		P	21 32 43.1	+1.7	
	baz=59								
NEW	Newport	59.43	312	eP		P	21 32 41.6	+0.1	
	comp=Z,6.8nm,0.8s								
NEW	Newport	59.43	312	⇑P		P	21 32 41.3	-0.2	
	baz=59								
R11A	Troy Canyon, C	59.83	301	⇓P		P	21 32 45.3	+0.7	
	baz=60								
AKASG	Malin Array Be	59.98	45	P		P	21 32 44.4	-0.8	
	comp=Z,0.2nm,0.3s,baz=277,slow=6.1,SNR=4.3								
AKASG	Malin Array Be	59.98	45	P		P	21 32 44.4	-0.8	
IRM	Iron Mountain	60.37	296	⇑P		P	21 32 49.3	+1.1	
	baz=60								
GMRC	Granite Mounta	60.64	297	⇓P		P	21 32 51.0	+0.8	
	baz=61								
TUQ	Turquoise Moun	60.70	297	⇓P		P	21 32 51.5	+0.9	
	baz=61								
HAWA	Hanford	61.30	310	eP		P	21 32 54.9	+0.5	
	comp=Z,6.4nm,0.6s								
DVTC	Desert V Tower	61.50	294	⇓P		P	21 32 57.2	+1.2	
	baz=61								
MONP	Monument Peak	61.70	295	⇑P		P	21 32 58.3	+0.8	
	baz=62								
MPMC	Manual Prospec	61.80	298	⇓P		P	21 32 59.1	+1.0	
	baz=62								
NVAR	Mina Array Bea	61.90	301	P		P	21 32 58.6	-0.2	
	comp=Z,0.4nm,0.5s,baz=79,slow=7.1,SNR=5.0								
NVAR				LR		LR	21 58 12.9		
	comp=Z,136nm,18.2s,baz=252,slow=35								
NVAR	Mina Array Bea	61.90	301	P		P	21 32 58.6	-0.2	
MOD	Modoc	62.67	305	eP		P	21 33 04.4	+0.7	
	comp=Z,5.5nm,0.9s								
ISA	Isabella	62.67	298	eP		P	21 33 05.0	+1.2	
	comp=Z,4.7nm,1.0s								
ISA	Isabella	62.67	298	⇑P		P	21 33 05.5	+1.7	
	baz=63								
SCI	San Clemente I	63.41	295	⇑P		P	21 33 09.8	+1.1	
	baz=63								
BR131	Keskin Array S	65.00	56	eP		P	21 33 19.2	+0.1	
	comp=Z,3.5nm,1.1s								
BRTR	Keskin Array B	65.00	56	P		P	21 33 19.4	+0.2	
	comp=Z,2.5nm,0.9s,baz=284,slow=5.7,SNR=11								
BRTR	Keskin Array B	65.00	56	P		P	21 33 19.4	+0.2	
INK	Inuvik	65.39	336	eP		P	21 33 20.1	-0.9	
	comp=Z,4.4nm,0.7s								
HOPS	Hopland	65.39	303	eP		P	21 33 23.6	+2.1	
	comp=Z,12nm,0.9s								
PLCA	Paso Flores	71.01	201	P		P	21 33 57.0	+0.4	
	comp=Z,4.2nm,0.9s,baz=0.4,slow=4.3,SNR=3.2								
PLCA	Paso Flores	71.01	201	eP		P	21 33 56.8	+0.3	
	comp=Z,3.4nm,0.9s								
ILAR	Eielson Array	71.50	334	P		P	21 33 59.3	0.0	
	comp=Z,3.8nm,0.8s,baz=72,slow=4.7,SNR=43								
ILAR	Eielson Array	71.50	334	P		P	21 33 59.3	0.0	
GNI	Garni	73.02	53	eP		P	21 34 10.2	+1.2	
	comp=Z,38nm,1.9s								
AKTO	Aktyubinsk	77.60	40	LR		LR	22 06 17.7		
	comp=Z,54nm,21.5s,baz=223,slow=34								
ABKAR	Akbulak array	79.25	40	eP		P	21 34 44.9	+0.8	
	comp=Z,0.2nm,0.4s								
BRVK	Borovoye	82.83	34	eP		P	21 35 03.3	+0.2	
	comp=Z,2.2nm,0.7s								
BVAR	Borovoye Array	82.90	33	LR		LR	22 10 12.1		
	comp=Z,40nm,18.9s,baz=66,slow=34								
BILL	Bilibino	83.11	349	eP		P	21 35 04.2	-0.1	
	comp=Z,2.0nm,0.8s								
BOSA	Boshof	86.48	124	LR		LR	22 07 55.4		
	comp=Z,43nm,19.1s,baz=346,slow=31								
ZALV	Zalesovo Beam	88.85	27	P		P	21 35 32.8	-0.1	
	comp=Z,0.8nm,0.3s,baz=324,slow=7.3,SNR=3.9								
ZALV	Zalesovo Beam	88.85	27	P		P	21 35 32.8	-0.1	
MKAR	Makanchi Array	92.78	33	P		P	21 35 50.9	-0.6	
	comp=Z,0.7nm,1.0s

SNET AML AML 21 41 23.5
comp=Z,3μm,0.3s

BOQS Boqueron 1.15 324⇑ *e*P **Pn 21 41 09.5 -0.5**
BOQS *e*S **Sn 21 41 24.7 -0.3**
SBLS San Blas 1.44 316 *e*P **Pn 21 41 13.8 -0.1**
SNJE San Jose 1.45 317 *e*P **Pn 21 41 13.6 -0.4**
RTR El Retiro 1.50 317 *e*P **Pn 21 41 14.8 +0.1**
RBDL Robledal 1.69 321⇑ *e*P **Pn 21 41 17.3 +0.1**
MTO2 Montecristo 2 1.76 335 *e*P **Pn 21 41 18.1 -0.1**
MTO2 *e*S **Sn 21 41 42.4 +2.7**
TGUH Tegucigalpa,Un 1.79 46 *e*Pn **Pn 21 41 19.0 +0.6**
TGUH *e*Sn Sn 21 41 29.2 -11
IXG Ixpaco 2.27 307 *e*P **Pn 21 41 25.5 +0.4**
IXG *e*S **Sn 21 41 52.2 +0.1**
MRL Marmol 2.49 335 *e*P **Pn 21 41 29.8 +1.6**
MRL *e*S Sn 21 42 06.9 +9.4
FUG Fuego 3 2.73 307 *e*S **Sn 21 42 05.7 +2.3**
JTS JuntasAbangare 4.35 125 P **Pn 21 41 52.0 -1.4**
comp=Z,0.6nm,0.3s,baz=322,slow=16,SNR=4.6
JTS S **Sn 21 42 42.6 -0.3**
comp=Z,3.9nm,0.3s,baz=294,slow=20,SNR=3.0
JTS JuntasAbangare 4.35 125 P **Pn 21 41 52.0 -1.4**
JTS S **Sn 21 42 42.6 -0.3**
LAJ Bijagual 5.27 123 *e*P **Pn 21 42 05.2 -1.0**
QCR Quepos 5.49 127 *e*P **Pn 21 42 11.5 +2.5**
URSC Urasca 5.56 121 *e*P Pn 21 42 14.5 +4.3
URSC *e*S **Sn 21 43 16.3 +3.3**
BUS Buena Vista 5.74 124⇑ *e*P Pn 21 42 16.2 +3.4
ACR Cerro Adams 6.74 127 *e*P Pn 21 42 29.1 +3.0
TEIG Tepich 7.39 2 P **Pn 21 42 37.3 +2.2**
comp=Z,3.0nm,0.3s,baz=161,slow=20,SNR=9.3
TEIG Tepich 7.39 2 P **Pn 21 42 37.3 +2.2**
CMIG Matias Romero 7.43 306 P **Pn 21 42 37.6 +2.1**
comp=Z,0.6nm,0.3s,baz=88,slow=12,SNR=5.3
CMIG S Sn 21 44 05.8 +7.3
comp=Z,0.7nm,0.3s,baz=120,slow=3.4,SNR=4.3
CMIG Matias Romero 7.43 306 P **Pn 21 42 37.6 +2.1**
CMIG S Sn 21 44 05.8 +7.3
628A Black Gap, Mar 21.26 324⇑ P **P 21 45 33.7 +2.6**
baz=21
627A Terlingua Ranc 21.53 323⇓ P **P 21 45 37.1 +3.1**
baz=22
TXAR Lajitas Array 21.61 322 P **P 21 45 36.3 +1.4**
comp=Z,2.4nm,0.8s,baz=140,slow=11,SNR=27
TXAR PcP **PcP 21 49 36.4 +1.5**
comp=Z,0.2nm,0.6s,baz=132,slow=5.0,SNR=4.2
TXAR Lajitas Array 21.61 322 P **P 21 45 36.3 +1.4**
TXAR PcP **PcP 21 49 36.4 +1.5**
626A Big Bend Ranch 22.05 322⇑ P **P 21 45 42.6 +3.0**
baz=22
527A Woodward Ranch 22.17 323⇓ P **P 21 45 42.1 +1.1**
baz=22
526A Mary Lane Ranc 22.39 323⇓ P **P 21 45 45.4 +2.0**
baz=22
328A Wristen Ranch, 22.66 327⇑ P **P 21 45 47.4 +1.2**
baz=23,SNR=9.8
326A Caldwell Ranch 23.25 325⇑ P **P 21 45 53.2 +1.1**
baz=23
WMOK Wichita Mounta 23.72 339 *e*P **P 21 45 55.5 -0.9**
comp=Z,5.3nm,1.0s
325A Bean Ranch, Si 23.86 323⇑ P **P 21 45 58.9 +1.0**
baz=24
127A Arkansas Junct 23.96 328⇑ P **P 21 45 59.2 +0.5**
baz=24
324A Moseley Ranch, 24.21 323⇑ P **P 21 46 01.1 +0.1**
baz=24
225A Deer Hill, Car 24.32 325⇑ P **P 21 46 04.3 +2.3**
baz=24
Z27A Tatum 24.40 329⇑ P **P 21 46 02.6 -0.1**
baz=24,SNR=5.6
224A Cornudas Mount 24.69 324⇑ P **P 21 46 06.6 +1.1**
baz=25
MSTX Muleshoe 24.71 331⇓ P **P 21 46 05.7 +0.2**
baz=25
Z26A Caprock 24.75 328⇑ P **P 21 46 06.4 +0.5**
baz=25
Y27A Causey 24.83 330⇓ P **P 21 46 06.3 -0.3**
baz=25,SNR=6.0
AMTX Amarillo 24.98 334⇑ P **P 21 46 07.5 -0.5**
baz=25
AMTX ⇑P **P 21 46 07.5 -0.5**
baz=25
124A Stringfield Ra 25.11 325⇑ P **P 21 46 11.8 +2.5**
baz=25
Z24A Sheeppen Canyo 25.54 326⇑ P **P 21 46 14.5 +1.4**
baz=26
Y25A Mesa, Roswell 25.63 328⇓ P **P 21 46 14.6 +0.7**
baz=26
X26A CR and CF Fran 25.69 330⇓ P **P 21 46 13.7 -0.7**
baz=26
Z23A Rita Site, Whi 25.97 325⇓ P **P 21 46 19.5 +2.5**
baz=26
121A Cookes Peak, D 26.36 321⇑ P **P 21 46 22.7 +2.2**
baz=26
Y23A Lovelace Mesa, 26.37 326⇓ P **P 21 46 22.6 +2.0**
baz=26
V25A Rancho No Teng 27.11 331⇑ P **P 21 46 28.2 +0.9**
baz=27,SNR=6.5
U26A Atchley Ranch, 27.16 332⇓ P **P 21 46 27.9 +0.2**
baz=27
Y21A Point of Rocks 27.34 324⇑ P **P 21 46 32.3 +2.9**
baz=27
ANMO Albuquerque 27.36 327 P **P 21 46 29.7 +0.3**
T24A Torres, Weston 28.32 331⇑ P **P 21 46 39.8 +1.6**
baz=28
R25A Fountain Ranch 28.86 334⇑ P **P 21 46 44.1 +1.4**
baz=29
SDCO Great Sand Dun 29.07 332⇓ P **P 21 46 45.8 +1.0**
baz=29
SDCO ⇓P **P 21 46 45.8 +1.0**
baz=29
S22A 4UR Ranch, Cre 29.70 330⇑ P **P 21 46 52.1 +1.7**
baz=30
S21A Coal Bank Pass 30.12 329⇑ P **P 21 46 55.6 +1.4**
baz=30
MONP Monument Peak 32.35 313⇑ P P 21 47 18.7 +4.9
baz=32
SPMN St. Paul 32.52 354⇑ P **P 21 47 13.9 -0.9**
baz=33
L23A Garrett 32.78 336⇑ P **P 21 47 17.3 -0.2**
baz=33
L21A Rawlins 33.34 334⇓ P **P 21 47 22.8 +0.5**
baz=33
J21A Lysite 34.51 335⇑ P **P 21 47 33.7 +1.2**
baz=35
PDAR Pinedale Array 34.95 333 P **P 21 47 36.6 +0.4**
comp=Z,0.7nm,0.6s,baz=125,slow=8.7,SNR=3.5
PDAR sP **sP 21 47 59.1 +0.7**
comp=Z,0.2nm,0.4s,baz=89,slow=14,SNR=2.5
PDAR PcP **PcP 21 50 07.5 -0.1**
comp=Z,0.4nm,0.6s,baz=155,slow=4.9,SNR=2.5
PDAR Pinedale Array 34.95 333 P **P 21 47 36.6 +0.4**
PDAR sP **sP 21 47 59.1 +0.7**
PDAR PcP **PcP 21 50 07.5 -0.1**
LPAZ La Paz 35.28 144 P **P 21 47 41.1 +1.3**
comp=Z,0.6nm,0.4s,baz=323,slow=8.6,SNR=4.1
LPAZ La Paz 35.28 144 *e*P **P 21 47 40.7 +1.0**
comp=Z,0.9nm,0.6s
I20A Worland 35.29 335⇓ P **P 21 47 39.9 +0.9**
baz=35
M15A Larsen Ranch, 35.34 328⇓ P **P 21 47 41.5 +2.0**
baz=36
H21A Big Horn, Sher 35.43 337⇓ P **P 21 47 40.8 +0.6**
baz=36
J18A Kendall Valley 35.51 333⇓ P **P 21 47 41.4 +0.4**
baz=36
L15A Malad City 35.71 329⇑ P **P 21 47 43.0 +0.3**
baz=36
I19A Meeteetse 35.72 334⇑ P **P 21 47 43.8 +1.0**
baz=36
I18A Diamond G Ranc 35.80 333⇓ P **P 21 47 44.2 +0.6**
baz=36
F22A Rosebud 36.13 339⇓ P **P 21 47 45.4 -0.7**
baz=36
L14A Malta 36.16 328⇓ P **P 21 47 47.5 +0.9**
baz=36
H19A Powell 36.23 335⇑ P **P 21 47 47.8 +0.7**
baz=36
K15A Arbon 36.28 330⇓ P **P 21 47 48.6 +1.0**
baz=36
G20A Bridger 36.38 336⇓ P **P 21 47 48.3 -0.1**
baz=36
K14A Jones Ranch, D 36.50 329⇑ P **P 21 47 51.1 +1.7**
baz=37
H18A Shoshone NF, C 36.52 334⇑ P **P 21 47 50.2 +0.5**
baz=37,SNR=6.9
D24A Glendive 36.67 342⇓ P **P 21 47 51.3 +0.6**
baz=37
NVAR Mina Array Bea 36.71 319 P **P 21 47 53.2 +1.8**
comp=Z,0.8nm,0.7s,baz=133,slow=6.5,SNR=5.8
NVAR PcP **PcP 21 50 14.2 +1.2**
comp=Z,1.1nm,0.6s,baz=137,slow=3.2,SNR=10
NVAR pPcP 21 50 28.6
comp=Z,0.7nm,0.6s,baz=135,slow=4.5,SNR=5.2
NVAR Mina Array Bea 36.71 319 P **P 21 47 53.2 +1.8**
NVAR PcP **PcP 21 50 14.2 +1.2**
NVAR pPcP 21 50 28.6
RLMT Red Lodge 36.72 335⇓ P **P 21 47 51.9 +0.6**
baz=37
RLMT ⇓P **P 21 47 51.9 +0.6**
baz=37
G18A Lazy EL Ranch, 37.00 335⇑ P **P 21 47 54.0 +0.4**
baz=37,SNR=5.3
F19A Roth Farm, Mol 37.19 336⇑ P **P 21 47 55.5 +0.3**
baz=37,SNR=5.1
H16A Russell Place, 37.23 333⇓ P **P 21 47 57.1 +1.4**
baz=37
J14A Carey 37.24 329⇓ P **P 21 47 56.9 +1.1**
baz=37
D22A Cohagen 37.29 340⇓ P **P 21 47 57.0 +1.0**
baz=37
E20A Meyer Farm, Mu 37.42 338⇓ P **P 21 47 57.5 +0.4**
baz=38,SNR=5.2
F18A Big Timber 37.54 336⇑ P **P 21 47 58.9 +0.7**
baz=38
J13A Cove Ranch, Pi 37.63 329⇑ P **P 21 48 00.1 +1.1**
baz=38
I14A Mackay 37.66 330⇑ P **P 21 48 00.8 +1.5**
baz=38
ULM Lac du Bonnet 37.82 352 P **P 21 47 58.4 -1.9**
comp=Z,2.7nm,0.6s,baz=166,slow=9.9,SNR=6.5
ULM Lac du Bonnet 37.82 352 *e*P **P 21 47 58.4 -1.9**
comp=Z,2.6nm,0.6s
DGMT Dagmar 37.86 343⇑ P **P 21 48 01.0 +0.3**
baz=38
HLID Hailey 37.87 329⇓ P **P 21 48 03.3 +2.2**
baz=38
G16A Moss Hill, Enn 37.88 333⇓ P **P 21 48 02.8 +1.6**
baz=38
D20A Manuel Ranch, 37.92 338⇑ P **P 21 48 02.2 +0.9**
baz=38
F17A Fitzpatrick Pl 37.93 335⇓ P **P 21 48 02.8 +1.4**
baz=38
I13A Wildhorse Cree 37.97 330⇓ P **P 21 48 03.5 +1.5**
baz=38
BOZ Bozeman (W) 38.13 334 *e*P **P 21 48 03.4 +0.1**
comp=Z,1.9nm,0.7s
BOZ Bozeman (W) 38.13 334⇑ P **P 21 48 03.8 +0.5**
baz=38
BOZ ⇑P **P 21 48 03.8 +0.5**
baz=38
G15A Dillon 38.14 332⇑ P **P 21 48 04.8 +1.4**
baz=38
E18A Harlowton 38.16 336⇓ P **P 21 48 04.1 +0.7**
baz=38
D19A Cripps Ranch, 38.26 338⇑ P **P 21 48 04.5 +0.3**
baz=38
I12A Atlanta 38.40 329⇓ P **P 21 48 06.6 +1.1**
baz=38
C20A Veseth Ranch, 38.41 339⇓ P **P 21 48 06.1 +0.8**
baz=38
E17A Martinsdale 38.46 335⇓ P **P 21 48 06.8 +0.8**
baz=39
H13A Challis 38.52 330⇑ P **P 21 48 07.8 +1.3**
baz=39
D18A Linhart Farms, 38.63 337⇓ P **P 21 48 08.4 +1.1**
baz=39
F15A Butte 38.66 333⇑ P **P 21 48 07.9 +0.2**
baz=39
C19A Slack Wire Ran 38.80 338⇓ P **P 21 48 09.6 +0.9**
baz=39,SNR=5.2
E16A East Helena 38.85 334⇑ P **P 21 48 09.8 +0.6**
baz=39
D17A Six Diamond Ra 38.95 336⇓ P **P 21 48 10.7 +0.7**
baz=39,SNR=6.9
E15A Deer Lodge 39.18 334⇑ P **P 21 48 13.1 +1.1**
baz=39
D16A Dana Ranch, Ca 39.20 335⇑ P **P 21 48 13.0 +0.9**
baz=39
EGMT Eagleton 39.30 338⇑ P **P 21 48 13.1 +0.2**
baz=39,SNR=5.7
C17A Wharram Farm, 39.37 336⇑ P **P 21 48 13.7 +0.3**
baz=40
A20A Cobblestone Ra 39.38 340⇑ P **P 21 48 13.9 +0.4**
baz=40
F13A Darby 39.46 331⇓ P **P 21 48 14.9 +0.6**
baz=40
SIV San Ignacio 39.49 136 P **P 21 48 14.4 -0.3**
comp=Z,0.5nm,0.3s,baz=355,slow=19,SNR=4.3
SIV San Ignacio 39.49 136 P **P 21 48 14.4 -0.3**
D15A Lincoln 39.61 334⇓ P **P 21 48 16.4 +0.8**
baz=40
B18A Beardsley Farm 39.62 338⇑ P **P 21 48 16.5 +1.0**
baz=40
A19A Klindworth Far 39.70 339⇓ P **P 21 48 16.8 +0.7**
baz=40
E13A Victor 39.88 332⇓ P **P 21 48 19.3 +1.5**
baz=40
B17A L&G Farms, Che 39.92 337⇑ P **P 21 48 18.2 +0.2**
baz=40
A18A Metzger Ranch, 40.08 338⇓ P **P 21 48 19.3 0.0**
baz=40
C15A Salmond Ranch, 40.23 335⇓ P **P 21 48 21.8 +1.2**
baz=40
B16A M & M Farms, S 40.37 336⇓ P **P 21 48 21.9 +0.1**
baz=40
A17A Triple J Farms 40.42 338⇑ P **P 21 48 22.3 +0.2**
baz=40,SNR=8.4
D13A Huson 40.50 333⇓ P **P 21 48 23.9 +1.1**
baz=41
B15A Bradely Ranch, 40.63 335⇓ P **P 21 48 24.8 +0.9**
baz=41
A15A Johnson Ranch, 41.23 336⇑ P **P 21 48 29.4 +0.6**
baz=41,SNR=9.7
A14A Double T Ranch 41.50 335⇑ P **P 21 48 31.7 +0.6**
baz=42,SNR=6.4
SCHQ Schefferville 45.28 18 P **P 21 48 59.3 -2.0**
comp=Z,2.2nm,0.6s,baz=207,slow=9.0,SNR=4.6
SCHQ Schefferville 45.28 18 *e*P **P 21 48 59.2 -2.0**
comp=Z,2.6nm,0.6s
YKA Yellowknife Ar 52.99 345 P **P 21 49 59.1 -0.9**
comp=Z,2.9nm,0.7s,baz=141,slow=7.6,SNR=49
YKA pP **pP 21 50 14.2 -1.7**
comp=Z,0.4nm,0.4s,baz=142,slow=7.6,SNR=4.3
YKA PcP **PcP 21 51 07.3 -0.7**
comp=Z,0.4nm,0.6s,baz=145,slow=4.3,SNR=5.3
YKA Yellowknife Ar 52.99 345 P **P 21 49 59.1 -0.9**
YKA pP **pP 21 50 14.2 -1.7**
YKA PcP **PcP 21 51 07.3 -0.7**
ILAR Eielson Array 65.25 336 P **P 21 51 23.9 -0.9**
comp=Z,1.1nm,0.7s,baz=168,slow=5.1,SNR=21
ILAR Eielson Array 65.25 336 P **P 21 51 23.9 -0.9**
SONM Songino Array 118.18 349 PKP **PKPdf 21 59 29.7 -0.7**
comp=Z,0.4nm,0.7s,baz=307,slow=0.7,SNR=2.8
SONM Songino Array 118.18 349 PKP **PKPdf 21 59 29.7 -0.7**
WRA Warramunga Arr 138.29 254 PKP **PKPdf 22 00 09.2 +0.1**
comp=Z,0.8nm,1.0s,baz=90,slow=3.0,SNR=4.9
WRA pPKP **pPKPdf 22 00 26.7 -0.2**
comp=Z,1.1nm,0.8s,baz=65,slow=1.2,SNR=4.2
WRA Warramunga Arr 138.29 254 PKP **PKPdf 22 00 09.2 +0.1**
WRA pPKP **pPKPdf 22 00 26.7 -0.2**
CMAR Chiang Mai Arr 148.07 346 PKP **PKPdf 22 00 26.4 0.0**
comp=Z,1.1nm,0.7s,baz=349,slow=3.7,SNR=5.4
CMAR PKPbc **PKPbc 22 00 29.1 -0.5**
comp=Z,0.8nm,0.6s,baz=343,slow=3.9,SNR=5.3
CMAR Chiang Mai Arr 148.07 346 PKP **PKPdf 22 00 26.4 0.0**
CMAR PKPbc **PKPbc 22 00 29.1 -0.5**

NNC ***14*** *22:03:51.0±7.6, 36°.38N×69°.57E, h0km, mb3.7, mpv4.0, Error ellipse: s-maj=71.3km s-min=53.5km az=157.0*
ISCJB ***14*** *22:04:00.4±0.3, 36°.47N±0°.02×70°.16E±0°.05, h213km, mb3.4/11, Error ellipse: s-maj=6.1km s-min=3.1km az=163.3*
IDC ***14*** *22:04:00.9±4.0, 36°.30N×70°.14E, h218km±38km, mb3.2/11, mb1 3.3/15, mb1mx3.1/29, mbtmp3.2/15, Error ellipse: s-maj=23.2km s-min=15.5km az=164.0*
NEIC ***14*** *22:04:01.5±0.6, 36°.46N×70°.15E, h215km±7km, mb4.1/7, Error ellipse: s-maj=8.5km s-min=5.4km az=55.0*
ISC 14 22:04:01.2±0.5, 36°.43N±0°.05×70°.11E±0°.06, h213km, n87, σ1ş25/112, mb3.5/11, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.07**	**205**	*e*P		**Pn**	**22 04 43.6**	**+1.9**
KBL				*e*S		**S**	**22 05 14.4**	**+1.5**
CEP	**Cherat**	**2.99**	**150**	⇓P		**Pn**	**22 04 53.6**	**+2.0**
CEP				S		**S**	**22 05 32.0**	**+1.4**
CHCP	**Chirah Chowk**	**3.79**	**136**	⇓P		**Pn**	**22 05 02.8**	**+1.9**
THW	**Thamme Wali**	**3.87**	**159**	⇓P		**Pn**	**22 05 03.5**	**+1.6**
THW				S		**S**	**22 05 49.0**	**-0.2**
SARP	**Sargodha**	**4.97**	**154**	P		**Pn**	**22 05 16.5**	**+0.9**
THN	**Thein Dam**	**6.11**	**129**	*e*P		**Pn**	**22 05 29.3**	**-0.8**
THN				*e*S		**S**	**22 06 36.8**	**-3.6**
DLH	**Dalhousie**	**6.20**	**127**	*e*P		**Pn**	**22 05 31.0**	**-0.4**
DLH				*e*S		**S**	**22 06 40.0**	**-2.8**
AML	**Almayashu** SNR=60	**6.34**	**25**	P		**Pn**	**22 05 32.7**	**-0.6**
AML	SNR=60			P		**Pn**	**22 05 32.7**	**-0.6**
KK31	**Karatay Array** 2.7nm,0.3s,baz=180,slow=12,SNR=94	**6.68**	**3**	⇑Pn		**Pn**	**22 05 36.7**	**-0.5**
KK31	1.9nm,0.3s,baz=186,slow=21			⇑Sn		**S**	**22 06 49.1**	**-4.5**
KKAR	**Karatay Array** 7.3nm,0.3s	**6.68**	**3**	*e*Pn		**Pn**	**22 05 37.1**	**-0.2**
KKAR				*e*S		**S**	**22 06 53.1**	**-0.4**
EKS2	**Erkin-Say** SNR=74	**6.84**	**23**	P		**Pn**	**22 05 39.3**	**-0.2**
EKS2	SNR=74			P		**Pn**	**22 05 39.3**	**-0.2**
EKS2	**Erkin-Say** 24nm,0.3s	**6.84**	**23**	*e*Pn		**Pn**	**22 05 39.2**	**-0.3**
EKS2				*e*S		**S**	**22 06 54.4**	**-3.3**
KZA	**Kyzart** SNR=14	**6.91**	**34**	P		**Pn**	**22 05 40.1**	**-0.5**
KZA	SNR=14			P		**Pn**	**22 05 40.1**	**-0.5**
AAK	**Ala-Archa** SNR=17	**7.07**	**27**	P		**Pn**	**22 05 42.3**	**-0.1**
AAK	SNR=17			P		**Pn**	**22 05 42.3**	**-0.1**
AAK	**Ala-Archa** 72nm,0.5s	**7.07**	**27**	*e*Pn		**Pn**	**22 05 42.1**	**-0.3**
AAK				*e*S		**S**	**22 07 05.0**	**+2.1**
KBK	**Karagaybulak** SNR=13	**7.26**	**30**	P		**Pn**	**22 05 45.0**	**0.0**
KBK	SNR=13			P		**Pn**	**22 05 45.0**	**0.0**
CHMS	**Chumysh** SNR=13	**7.48**	**27**	P		**Pn**	**22 05 46.9**	**-0.6**
CHMS	SNR=13			P		**Pn**	**22 05 46.9**	**-0.6**
ULHL	**Ulahol** SNR=18	**7.51**	**37**	P		**Pn**	**22 05 47.6**	**-0.5**
ULHL	SNR=18			P		**Pn**	**22 05 47.6**	**-0.5**
USP	**Ospenovka** SNR=27	**7.62**	**25**	P		**Pn**	**22 05 48.5**	**-1.0**
USP	SNR=27			P		**Pn**	**22 05 48.5**	**-1.0**
TKM2	**Tokmak 2** SNR=9.8	**7.75**	**31**	P		**Pn**	**22 05 50.7**	**-0.5**
TKM2	SNR=9.8			P		**Pn**	**22 05 50.7**	**-0.5**
TKM2	**Tokmak 2** 4.0nm,0.4s	**7.75**	**31**	⇑Pn		**Pn**	**22 05 50.5**	**-0.7**
TKM2	4.6nm,0.8s			⇓Sn		**S**	**22 07 22.6**	**+3.6**
TKM2	**Tokmak 2** 10nm,0.6s	**7.75**	**31**	*e*Pn		**Pn**	**22 05 50.3**	**-0.9**
TKM2				*e*S		**S**	**22 07 21.3**	**+2.3**
KHET	**Khetri**	**9.62**	**148**	*e*P		**Pn**	**22 06 17.1**	**+1.6**
KHET				*e*S		S	**22 07 56.1**	**-7.3**
KUDL	**Kundal**	**9.86**	**145**	*e*P		**Pn**	**22 06 17.9**	**-0.6**
KUDL				*e*S		S	**22 08 01.3**	**-7.8**
AYAN	**Aya Nagar**	**9.89**	**141**	*ex*		Pn	**22 06 13.9**	**-5.0**
AYAN				*e*S		S	**22 08 01.4**	**-8.3**
AGRA	**Agra**	**11.33**	**142**	*e*P		Pn	**22 06 33.6**	**-3.6**
AGRA				*e*S		S	**22 08 28.2**	**-14**
AGRA	comp=E,56nm,0.3s			AML		AML	**22 09 01.0**	
AGRA	comp=N,49nm,0.3s			AML		AML	**22 09 01.3**	
MK31	**Makanchi Array** comp=N,1.7nm,0.7s,baz=217,slow=11,SNR=29	**13.78**	**38**	P		**Pn**	**22 07 06.8**	**-1.0**
MK31	**Makanchi Array**	**13.78**	**38**	*e*P		**Pn**	**22 07 06.6**	**-1.2**
MKAR	**Makanchi Array** comp=N,0.3nm,0.3s,baz=218,slow=12,SNR=22	**13.78**	**38**	P		**Pn**	**22 07 07.0**	**-0.8**
MKAR				S		S	**22 09 47.5**	**+7.1**
MKAR	**Makanchi Array** comp=N,0.0nm,0.3s,baz=240,slow=20,SNR=2.8	**13.78**	**38**	P		**Pn**	**22 07 07.0**	**-0.8**
MKAR				S		S	**22 09 47.5**	**+7.1**
DANN	**Dangsing** comp=N,19nm,0.4s	**14.06**	**121**	*e*P		**Pn**	**22 07 11.0**	**-0.7**
DANN	**Dangsing** comp=N,19nm,0.4s	**14.06**	**121**	*e*P		**Pn**	**22 07 11.0**	**-0.7**
KOLN	**Koldanda** comp=N,6.3nm,0.3s	**14.32**	**123**	*e*P		**Pn**	**22 07 12.7**	**-2.0**
KOLN	**Koldanda** comp=N,6.3nm,0.3s	**14.32**	**123**	*e*P		**Pn**	**22 07 12.7**	**-2.0**
AB31	**Akbulak array** comp=N,0.8nm,0.3s,baz=154,slow=12,SNR=88	**14.81**	**333**	⇑P		**Pn**	**22 07 18.8**	**-1.5**
ABKAR	**Akbulak array** comp=N,2.2nm,0.4s	**14.81**	**333**	*e*Pn		**Pn**	**22 07 19.6**	**-0.7**
ABKAR				*e*S		**S**	**22 10 03.6**	**-0.6**
GKN	**Gorkha** comp=N,14nm,0.3s	**14.88**	**120**	*e*P		**Pn**	**22 07 21.4**	**-0.2**
GKN	**Gorkha** comp=N,14nm,0.3s	**14.88**	**120**	*e*P		**Pn**	**22 07 21.4**	**-0.2**
DMN	**Daman** comp=N,9.2nm,0.3s	**15.45**	**120**	*e*P		**P**	**22 07 28.0**	**-0.5**
DMN	**Daman** comp=N,9.2nm,0.3s	**15.45**	**120**	*e*P		**P**	**22 07 28.0**	**-0.5**
KKN	**Kakani** comp=N,20nm,0.5s	**15.46**	**120**	*e*P		**P**	**22 07 28.3**	**-0.3**
KKN	**Kakani** comp=N,20nm,0.5s	**15.46**	**120**	*e*P		**P**	**22 07 28.3**	**-0.3**
KURK	**Kurchatov** comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=14	**15.54**	**21**	P		**P**	**22 07 26.8**	**-2.2**
KURK	**Kurchatov** comp=N,1.1nm,0.7s	**15.54**	**21**	*e*P		**P**	**22 07 27.8**	**-1.2**
PKI	**Pulchoki** comp=N,10nm,0.4s	**15.68**	**120**	*e*P		**P**	**22 07 30.9**	**-0.3**
PKI	**Pulchoki** comp=N,10nm,0.4s	**15.68**	**120**	*e*P		**P**	**22 07 30.9**	**-0.3**
GUN	**Gumba** comp=N,15nm,0.5s	**15.81**	**118**	*e*P		**Pn**	**22 07 33.8**	**+0.8**
GUN	**Gumba** comp=N,15nm,0.5s	**15.81**	**118**	*e*P		**Pn**	**22 07 33.8**	**+0.8**
JIRN	**Jiri** comp=N,32nm,0.5s	**16.18**	**118**	*e*P		**Pn**	**22 07 37.6**	**+0.1**
JIRN	**Jiri** comp=N,32nm,0.5s	**16.18**	**118**	*e*P		**Pn**	**22 07 37.6**	**+0.1**
VOSK	**Vostochnaya** comp=N,0.5nm,0.6s	**16.31**	**2**	⇑P		**Pn**	**22 07 39.5**	**+1.1**
AKTO	**Aktyubinsk** comp=N,0.4nm,0.3s,baz=132,slow=9.5,SNR=8.4	**16.50**	**332**	P		**Pn**	**22 07 41.0**	**+0.4**
AKTO	comp=N,0.0nm,0.3s,baz=318,slow=20,SNR=2.4			S		**S**	**22 10 40.4**	**-0.7**
AKTO	**Aktyubinsk** comp=N,0.2nm,0.5s	**16.50**	**332**	⇑P		**Pn**	**22 07 40.4**	**-0.2**
AKTO	**Aktyubinsk**	**16.50**	**332**	P		**Pn**	**22 07 41.0**	**+0.4**
AKTO				S		**S**	**22 10 40.4**	**-0.7**
ZRNK	**Zerenda** comp=N,0.9nm,0.4s	**16.54**	**358**	⇑P		**Pn**	**22 07 42.0**	**+0.9**
BVA0	**Borovoye Array** comp=N,0.2nm,0.5s,baz=160,slow=11,SNR=5.0	**16.60**	**1**	⇑P		**Pn**	**22 07 41.4**	**-0.4**
BVAR	**Borovoye Array** comp=N,0.6nm,0.3s,baz=174,slow=12,SNR=12	**16.60**	**1**	P		**Pn**	**22 07 42.1**	**+0.3**
BVAR	comp=N,0.1nm,0.3s,baz=179,slow=23,SNR=3.7			S		**S**	**22 10 44.2**	**+1.0**
BVAR	**Borovoye Array**	**16.60**	**1**	P		**Pn**	**22 07 42.1**	**+0.3**
BVAR				S		**S**	**22 10 44.2**	**+1.0**
RAMN	**Ramite** comp=N,14nm,0.6s	**16.90**	**119**	*e*P		**Pn**	**22 07 45.3**	**-0.6**
RAMN	**Ramite** comp=N,14nm,0.6s	**16.90**	**119**	*e*P		**Pn**	**22 07 45.3**	**-0.6**
TAPN	**Taplejung** comp=N,9.9nm,0.5s	**17.45**	**116**	*e*P		**Pn**	**22 07 52.5**	**0.0**
TAPN	**Taplejung** comp=N,9.9nm,0.5s	**17.45**	**116**	*e*P		**Pn**	**22 07 52.5**	**0.0**
ODAN	**Odare** comp=N,16nm,0.6s	**17.51**	**118**	*e*P		**Pn**	**22 07 52.5**	**-0.6**
ODAN	**Odare** comp=N,16nm,0.6s	**17.51**	**118**	*e*P		**Pn**	**22 07 52.5**	**-0.6**
ZALV	**Zalesovo Beam** comp=N,2.2nm,0.4s,baz=223,slow=11,SNR=7.5	**20.29**	**26**	P		**P**	**22 08 20.4**	**-0.1**

ZALV	**Zalesovo Beam**	**20.29**	**26**	P		**P**	**22 08 20.4**	**-0.1**
ASF	**Jabal al Asfar**	**27.68**	**271**	P		**P**	**22 09 29.4**	**-0.2**
	comp=N,1.4nm,0.6s,baz=294,slow=12,SNR=2.5							
ASF	**Jabal al Asfar**	**27.68**	**271**	P		**P**	**22 09 29.4**	**-0.2**
BRTR	**Keskin Array B**	**28.77**	**288**	P		**P**	**22 09 39.3**	**+0.1**
	comp=N,0.2nm,0.5s,baz=81,slow=8.9,SNR=2.5							
BRTR	**Keskin Array B**	**28.77**	**288**	P		**P**	**22 09 39.3**	**+0.1**
SONM	**Songino Array**	**28.97**	**55**	P		**P**	**22 09 41.9**	**+1.0**
	comp=N,0.4nm,0.8s,baz=270,slow=8.1,SNR=4.8							
SONM	**Songino Array**	**28.97**	**55**	P		**P**	**22 09 41.9**	**+1.0**
ULN	**Ulaanbaatar**	**29.41**	**56**	*e*P		**P**	**22 09 45.5**	**+0.6**
	comp=N,0.4nm,0.3s							
FINES	**FINESS Array B**	**37.15**	**326**	P		**P**	**22 10 51.7**	**+0.6**
	comp=N,2.7nm,0.9s,baz=113,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**37.15**	**326**	P		**P**	**22 10 51.7**	**+0.6**
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**	**22 11 23.4**	**+1.0**
	comp=N,2.6nm,0.9s,baz=116,slow=8.1,SNR=4.0							
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**	**22 11 23.4**	**+1.0**
NOA	**NORSAR Array B**	**44.01**	**323**	P		**P**	**22 11 47.6**	**+0.4**
	comp=N,0.8nm,0.6s,baz=99,slow=7.8,SNR=3.5							
NOA	**NORSAR Array B**	**44.01**	**323**	P		**P**	**22 11 47.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**65.00**	**268**	P		**P**	**22 14 17.8**	**-0.9**
	comp=N,0.4nm,0.4s,baz=54,slow=5.4,SNR=9.3							
TORD	**Torodi Ar. Bea**	**65.00**	**268**	P		**P**	**22 14 17.8**	**-0.9**
ILAR	**Eielson Array**	**75.05**	**15**	P		**P**	**22 15 18.4**	**-0.6**
	comp=N,0.9nm,1.0s,baz=316,slow=5.1,SNR=4.8							
ILAR	**Eielson Array**	**75.05**	**15**	P		**P**	**22 15 18.4**	**-0.6**
YKA	**Yellowknife Ar**	**81.35**	**2**	P		**P**	**22 15 53.5**	**0.0**
	comp=N,0.5nm,0.5s,baz=346,slow=5.4,SNR=8.7							
YKA				pP		**pP**	**22 16 48.1**	**+3.3**
	comp=N,0.4nm,0.6s,baz=348,slow=5.8,SNR=5.2							
YKA	**Yellowknife Ar**	**81.35**	**2**	P		**P**	**22 15 53.5**	**0.0**
YKA				pP		**pP**	**22 16 48.1**	**+3.3**
WRA	**Warramunga Arr**	**82.57**	**121**	P		**P**	**22 15 59.0**	**-1.5**
	comp=N,0.3nm,0.4s,baz=320,slow=4.6,SNR=3.4							
WRA	**Warramunga Arr**	**82.57**	**121**	P		**P**	**22 15 59.0**	**-1.5**

WEL 14 22:10:57.1±0.8, 37.40S×177.54E, h229km±6km, ML3.6/9, Error ellipse: s-maj=7.2km s-min=6.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.88**	**140**	PN	Pn	22 11 28.8	-0.4
PUZ				*e*SN		22 11 53.0	
PUZ				SN		22 11 53.9	
URZ	**Urewera**	**0.92**	**201**	PN	Pn	22 11 28.1	-1.2
URZ				SN		22 11 53.7	
MWZ	**Matawai**	**0.94**	**180**	PN	Pn	22 11 29.3	-0.2
MWZ				SN		22 11 55.0	
RAHZ	**Arahi**	**1.56**	**193**	PN	Pn	22 11 34.7	+0.8
NMHZ	**Naumai**	**1.79**	**198**	PN	Pn	22 11 36.8	+0.9
BKZ	**Black Stump Fm**	**1.95**	**205**	PN	Pn	22 11 37.2	-0.1
KAIZ	**Kauri Point**	**2.33**	**283**	PN	Pn	22 11 41.8	+0.7
TUVZ	**Tukino**	**2.38**	**218**	PN	Pn	22 11 41.3	-0.4
BHHZ	**Black Hill Sta**	**2.39**	**209**	PN	Pn	22 11 41.3	-0.4
WNVZ	**Wahianoa**	**2.46**	**218**	PN	Pn	22 11 41.9	-0.6
PNHZ	**Pukenui**	**2.72**	**202**	PN	Pn	22 11 45.3	0.0
TSZ	**Takapari Road**	**2.93**	**204**	PN	Pn	22 11 47.3	-0.1
PRHZ	**Porangahau**	**2.95**	**194**	PN	Pn	22 11 48.5	+0.8
BFZ	**Birch Farm**	**3.43**	**197**	PN	Pn	22 11 53.4	+0.3
MRZ	**Mangatainoka R**	**3.60**	**204**	PN	Pn	22 11 54.5	-0.6
TIWZ	**Tintock**	**3.61**	**200**	PN	Pn	22 11 55.2	-0.1
HOWZ	**Holdsworth Sta**	**3.83**	**204**	PN	Pn	22 11 57.0	-1.0
OGWZ	**Otaki Gorge**	**3.88**	**208**	PN	Pn	22 11 57.5	-0.9
TMWZ	**Te Maipa**	**3.92**	**199**	PN	Pn	22 11 58.8	-0.1
KIW	**Kapiti Island**	**4.02**	**210**	PN	Pn	22 11 58.8	-1.3
MTW	**Mount Morrison**	**4.07**	**202**	PN	Pn	22 11 59.8	-1.0
CAW	**Cannon Point**	**4.17**	**207**	PN	Pn	22 12 00.8	-1.2
PLWZ	**Palliser**	**4.52**	**202**	PN	Pn	22 12 05.2	-1.2
TCW	**Tory Channel**	**4.57**	**213**	PN	Pn	22 12 05.1	-1.7
THZ	**Tophouse**	**5.64**	**218**	PN	Pn	22 12 18.8	-1.5
KHZ	**Kahutara**	**5.88**	**210**	PN	Pn	22 12 21.4	-1.8

KRSC 14 22:16:01.6±1.0, 53.10N×159.81E, h64km±25km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.13**	**91**	*i* P	Pn	22 16 11.2	0.0
SPN				*i* S	Sn	22 16 18.0	-0.1
NLC	**Nalytchevo**	**0.29**	**284**	*i* P	Pn	22 16 12.2	+0.2
NLC				*i* S	Sn	22 16 19.8	+0.2
SDLR	**Sedlovina**	**0.58**	**288**	*i* P	Pn	22 16 15.0	+0.1
SDLR				*i* S	Sn	22 16 25.0	+0.3
UGLR	**Uglovaya**	**0.60**	**281**	*i* P	Pn	22 16 15.7	+0.6
UGLR				*i* S	Sn	22 16 26.2	+1.2
SMAR	**Somma**	**0.63**	**285**	*e*P	Pn	22 16 15.6	0.0
SMAR				*e*S	Sn	22 16 26.2	+0.4
AVH	**Avacha**	**0.67**	**285**	*i* P	Pn	22 16 16.3	+0.5
AVH				*i* S	Sn	22 16 27.4	+1.2
PET	**Petropavlovsk**	**0.70**	**264**	*e*P	Pn	22 16 15.9	-0.2
PET				*i* S	Sn	22 16 26.4	-0.3
KOK	**Koryaka**	**0.73**	**286**	*i* P	Pn	22 16 16.9	+0.3
KOK				*i* S	Sn	22 16 28.1	+0.5
KII	**Karymskiy**	**0.96**	**347**	*e*P	Pn	22 16 19.7	+0.3
RUS	**Russkaya**	**1.03**	**230**	*i* P	Pn	22 16 19.9	-0.3
RUS				*i* S	Sn	22 16 33.8	-0.2
MTVR	**Mutnovka**	**1.17**	**239**	*e*P	Pn	22 16 22.3	+0.2
MTVR				*i* S	Sn	22 16 37.9	+0.5
GRL	**Gorelyy**	**1.19**	**243**	*e*P	Pn	22 16 22.9	+0.5
GRL				*e*S	Sn	22 16 38.7	+0.8
ASAK	**Asacha**	**1.36**	**239**	*e*P	Pn	22 16 25.3	+0.6
MKZ	**Mys Kozlova**	**1.85**	**37**	*e*P	Pn	22 16 30.9	-0.1
MKZ				*i* S	Sn	22 16 52.4	-1.0
MIPR	**Malaya Ipel'ka**	**2.03**	**247**	*e*P	Pn	22 16 34.5	+0.9
TUMR	**Tumrok**	**2.20**	**5**	P	Pn	22 16 36.9	+1.0
KBTR	**Krutoberegovo**	**3.57**	**28**	P	Pn	22 16 55.6	+1.1

IDC 14 22:18:01.8±5.4, 39.38N×110.81E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/24, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=112.3km s-min=24.1km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.36**	**334**	*e*P	Pg	22 18 25.4	-2.7
BTO				pmax	pmax		
	comp=Z,62nm,0.9s						
XAN	**Xi'an**	**5.54**	**196**	P	Pn	22 19 26.3	+0.7
SONM	**Songino Array**	**9.03**	**341**	Pn	Pn	22 20 13.6	0.0
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=26						
SONM				Sn	Sn	22 21 51.7	-4.4
	comp=Z,0.0nm,0.3s,baz=152,slow=25,SNR=3.5						
SONM				Lg	Lg	22 22 49.5	
	comp=Z,0.1nm,0.3s,baz=156,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**22.02**	**299**	P	P	22 22 57.3	-0.4
	comp=Z,2.1nm,0.8s,baz=96,slow=13,SNR=23						
CMAR	**Chiang Mai Arr**	**23.25**	**210**	P	P	22 23 10.8	+0.1
	comp=Z,2.2nm,0.7s,baz=12,slow=9.5,SNR=14						
KURK	**Kurchatov**	**25.20**	**307**	P	P	22 23 29.4	+0.5
	comp=Z,1.6nm,0.9s,baz=107,slow=9.7,SNR=7.0						

ISCJB 14 22:30:14.5±0.6, 55.63N±0.07×158.82W±0.08, h66km±6km, mb3.3/4, Error ellipse: s-maj=13.6km s-min=3.9km az=149.2
NEIC 14 22:30:15.5, 55.55N×158.73W, h46km, ML3.3(AEIC), After AEIC.
IDC 14 22:30:16.5±3.6, 55.92N×158.96W, h64km±34km, mb3.1/4, mb1 3.5/8, mb1mx3.3/28, mbtmp3.4/8, ML3.8/4, Error ellipse: s-maj=39.9km s-min=17.5km az=175.0
ISC 14 22:30:15.0±1.1, 55.64N±0.08×158.81W±0.06, h60km±10km, n41, σ1s04/53, mb3.3/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNSG	**Veniaminof 6**	**0.51**	**343**	P	**Pn**	**22 30 27.4**	**+0.3**
VNHG	**Veniaminof 1**	**0.62**	**341**	P	**Pn**	**22 30 28.9**	**+0.5**
CHGN	**Chignik**	**0.70**	**18**	*e*Pn	**Pn**	**22 30 28.8**	**-0.4**
CHGN				*e*Sn	**Sn**	**22 30 39.1**	**-0.6**
VNFG	**Veniaminof 2**	**0.77**	**328**	P	**Pn**	**22 30 30.9**	**+0.7**
VNFG				S	**Sn**	**22 30 41.8**	**+0.4**
SDPT	**Sand Point**	**0.99**	**254**	P	**Pn**	**22 30 32.7**	**-0.1**
SDPT				S	**Sn**	**22 30 46.0**	**-0.1**
ANPK	**Aniakchak Peak**	**1.27**	**17**	P	**Pn**	**22 30 37.0**	**+0.4**
ANPK				S	**Sn**	**22 30 53.9**	**+1.1**
AZAC	**Aniakchak**	**1.30**	**14**	P	**Pn**	**22 30 37.6**	**+0.5**
ANNE	**Aniakchak Nort**	**1.35**	**18**	P	**Pn**	**22 30 38.0**	**+0.4**
ANNW	**Aniakchak Nort**	**1.37**	**14**	P	**Pn**	**22 30 38.7**	**+0.7**
PVV	**Pavlof Volcano**	**1.71**	**262**	P	**Pn**	**22 30 42.6**	**+0.1**
PS4A	**Pavlof South-4**	**1.76**	**262**	P	**Pn**	**22 30 43.1**	**0.0**
DOL	**Dolgoi Island**	**1.81**	**256**	P	**Pn**	**22 30 43.8**	**0.0**
DTNA	**Dutton South F**	**2.02**	**257**	P	**Pn**	**22 30 46.7**	**0.0**
DTNA				S	**Sn**	**22 31 10.3**	**-0.5**
DT1	**Dutton Round H**	**2.05**	**256**	P	**Pn**	**22 30 46.8**	**-0.3**
DRIA	**Deer Island**	**2.08**	**253**	P	**Pn**	**22 30 47.5**	**-0.1**
PLK4	**Peulik 4**	**2.42**	**33**	P	**Pn**	**22 30 53.6**	**+1.5**
PLK1	**Peulik 1**	**2.49**	**28**	P	**Pn**	**22 30 54.0**	**+1.0**
FALS	**False Pass**	**2.75**	**255**	P	**Pn**	**22 30 57.3**	**+0.7**
FALS				S	**Sn**	**22 31 30.4**	**+1.8**
CAHL	**Cahill**	**3.10**	**37**	P	**Pn**	**22 31 02.7**	**+1.3**
ANCK	**Angle Creek**	**3.15**	**34**	P	**Pn**	**22 31 03.3**	**+1.3**
MGLS	**Mageik Landsli**	**3.21**	**37**	P	**Pn**	**22 31 03.4**	**+0.5**
KABR	**Katmai Barrier**	**3.27**	**39**	P	**Pn**	**22 31 04.9**	**+1.1**
KELA	**Mount Kelaz**	**3.27**	**30**	P	**Pn**	**22 31 04.7**	**+0.9**
KDAK	**Kodiak Island**	**4.05**	**55**	P	**Pn**	**22 31 14.5**	**+0.2**
	1.6nm,0.3s,baz=220,slow=8.7,SNR=26						
KDAK				S	**Sn**	**22 32 00.7**	**+0.3**
	4.3nm,0.3s,baz=273,slow=19,SNR=14						
KDAK	**Kodiak Island**	**4.05**	**55**	P	**Pn**	**22 31 14.5**	**+0.2**
KDAK				S	**Sn**	**22 32 00.7**	**+0.3**
ILAR	**Eielson Array**	**10.89**	**28**	P	**Pn**	**22 32 46.6**	**-1.3**
	0.1nm,0.3s,baz=217,slow=13,SNR=9.8						
ILAR				S	**Sn**	**22 34 45.0**	**-2.9**
	0.1nm,0.3s,baz=210,slow=6.8,SNR=3.6						
ILAR	**Eielson Array**	**10.89**	**28**	P	**Pn**	**22 32 46.5**	**-1.3**
ILAR				S	**Sn**	**22 34 45.0**	**-2.9**
DLBC	**Dease Lake**	**15.86**	**68**	P	**P**	**22 33 56.1**	**-0.8**
	0.9nm,0.3s,baz=190,slow=22,SNR=3.1						
DLBC	**Dease Lake**	**15.86**	**68**	P	**P**	**22 33 56.1**	**-0.8**
FX1	**Attu Island--F**	**16.55**	**272**	P	**Pn**	**22 34 02.5**	**-0.4**
	0.9nm,0.3s,baz=41,slow=12,SNR=2.3						
FX1				S	**Sn**	**22 37 04.9**	**-0.7**
	1.5nm,0.3s,baz=267,slow=21,SNR=3.0						
FX1	**Attu Island--F**	**16.55**	**272**	P	**Pn**	**22 34 02.5**	**-0.4**
FX1				S	**Sn**	**22 37 04.9**	**-0.7**
INK	**Inuvik**	**17.20**	**32**	P	**P**	**22 34 12.0**	**+0.5**
	0.1nm,0.3s,baz=252,slow=13,SNR=3.4						
INK	**Inuvik**	**17.20**	**32**	P	**P**	**22 34 12.0**	**+0.5**
PETK	**Petropavlovsk-**	**25.15**	**283**	P	**P**	**22 35 34.5**	**+0.4**
	1.5nm,0.4s,baz=81,slow=13,SNR=4.9						
PETK	**Petropavlovsk-**	**25.15**	**283**	P	**P**	**22 35 34.5**	**+0.4**
TXAR	**Lajitas Array**	**46.81**	**101**	P	**P**	**22 38 40.7**	**+2.2**
	0.1nm,0.5s,baz=311,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**46.81**	**101**	P	**P**	**22 38 40.7**	**+2.2**
SONM	**Songino Array**	**54.78**	**305**	P	**P**	**22 39 38.2**	**0.0**
	0.3nm,0.9s,baz=45,slow=7.1,SNR=2.8						
SONM	**Songino Array**	**54.78**	**305**	P	**P**	**22 39 38.2**	**0.0**
MKAR	**Makanchi Array**	**65.78**	**319**	P	**P**	**22 40 52.0**	**-1.2**
	0.2nm,0.6s,baz=28,slow=6.5,SNR=3.7						
MKAR	**Makanchi Array**	**65.78**	**319**	P	**P**	**22 40 52.0**	**-1.2**

MAN 14 22:30:51, 6.89N×125.68E, h22km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.26**	**319**	*e*P	Pb	22 30 59.8	+2.5
DMPH				*e*S	Sb	22 31 06.4	+4.8
MATI	**Mati**	**0.57**	**84**	*e*P	Pn	22 31 03.5	-0.3
MATI				*e*S	Sn	22 31 14.7	+2.1
BUKP	**Musuan**	**1.16**	**328**	*e*P	Pb	22 31 12.9	+0.4
BUKP				*e*S	Sn	22 31 28.8	+1.4

IDC 14 22:46:04.9±2.5, 2.40N×95.76E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/25, mbtmp4.0/7, ML4.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/30, Error ellipse: s-maj=95.2km s-min=20.0km az=59.0
ISC 14 22:46:09.6±2.0, 2.6N±0.3×96.0E±0.4, h25km, n17, σ0s55/16, mb4.1/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.03**	**10**	Pn	**P**	**22 49 56.4**	**-0.4**
	0.3nm,0.3s,baz=200,slow=11,SNR=11						
ODAN	**Odare**	**25.52**	**342**	*e*P	**P**	**22 51 37.0**	**+0.4**
	8.0nm,0.6s						
RAMN	**Ramite**	**25.86**	**340**	*e*P	**P**	**22 51 40.4**	**+0.7**
	18nm,0.9s						
TAPN	**Taplejung**	**25.88**	**343**	*e*P	**P**	**22 51 40.6**	**+0.7**
	18nm,0.9s						
JIRN	**Jiri**	**26.65**	**340**	*e*P	**P**	**22 51 47.0**	**0.0**
	21nm,0.6s						
GUN	**Gumba**	**26.99**	**340**	*e*P	**P**	**22 51 50.3**	**+0.3**
	16nm,0.7s						
KKN	**Kakani**	**27.09**	**339**	*e*P	**P**	**22 51 50.8**	**0.0**
	9.5nm,0.7s						
GKN	**Gorkha**	**27.52**	**338**	*e*P	**P**	**22 51 54.5**	**-0.1**
	16nm,0.9s						
KOLN	**Koldanda**	**27.72**	**336**	*e*P	**P**	**22 51 56.5**	**+0.1**
	8.3nm,0.6s						
DANN	**Dangsing**	**28.17**	**337**	*e*P	**P**	**22 52 00.4**	**-0.1**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.68**	**126**	P	**P**	**22 53 05.2**	**-1.0**
	4.7nm,1.1s,baz=194,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**43.76**	**123**	P	**P**	**22 54 14.6**	**+1.1**
	0.3nm,0.5s,baz=298,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**45.63**	**347**	P	**P**	**22 54 28.0**	**0.0**
	1.4nm,0.5s,baz=158,slow=8.8,SNR=31						
SONM	**Songino Array**	**45.96**	**10**	P	**P**	**22 54 30.8**	**+0.1**
	1.4nm,0.6s,baz=190,slow=9.0,SNR=16						
KURK	**Kurchatov**	**50.17**	**346**	P	**P**	**22 55 02.5**	**-0.5**
	0.9nm,0.6s,baz=168,slow=6.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**52.02**	**352**	P	**P**	**22 55 17.1**	**+0.2**
	1.3nm,0.5s,baz=190,slow=4.4,SNR=5.8						
ASAJ	**Asahikawa**	**58.28**	**38**	LR	LR	23 24 08.3	
	comp=Z,68nm,19.6s,baz=54,slow=39						

CSEM 14 23:00:17.8±0.2, 39.92N×22.00E, h5km, MD3.3, Error ellipse: s-maj=5.8km s-min=3.9km az=92.0
ATH 14 23:00:18.1, 39.98N×21.93E, h10km±2km, MD3.3/18
SKO 14 23:00:18.1, 39.85N×21.88E, h11km, M2.1, ML2.4
ISC 14 23:00:18.0±1.2, 39.98N±0.02×21.99E±0.03, h1km±10km, n47, σ0s66/69, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.37**	**333**	*e*Pg	**Pg**	**23 00 24.9**	**-0.2**
KZN				*e*SB	**Sg**	**23 00 30.4**	**+0.4**
THL	**Klokotos Trika**	**0.41**	**178**	*e*PG	**Pg**	**23 00 25.7**	**-0.1**
THL				*e*SB	**Sg**	**23 00 32.0**	**+0.9**
THL	**Klokotos Trika**	**0.41**	**178**	*e*Pg	**Pg**	**23 00 25.7**	**-0.1**
THL				*e*Sb	**Sg**	**23 00 32.0**	**+0.9**
JAN	**Janina**	**0.94**	**250**	*e*PG	**Pg**	**23 00 34.8**	**-1.1**
JAN				*e*SB	**Sg**	**23 00 48.2**	**+0.2**
EVR	**Evrytania**	**1.07**	**188**	*e*PG	**Pg**	**23 00 37.6**	**-0.8**
EVR				*e*SB	**Sb**	**23 00 53.6**	**-0.1**
EVR	**Evrytania**	**1.07**	**188**	*e*Pg	**Pg**	**23 00 37.6**	**-0.8**
EVR				*e*Sb	**Sb**	**23 00 53.6**	**-0.1**
BIA	**Bitola**	**1.16**	**334**	*e*Pg	**Pg**	**23 00 40.3**	**+0.1**
BIA				*e*Sg	**Sn**	**23 00 57.6**	**-0.4**
BIA	**Bitola**	**1.16**	**334**	*e*Pg	**Pg**	**23 00 40.5**	**+0.2**
BIA				*e*Sg	**Sn**	**23 00 57.5**	**-0.4**
BIA	**Bitola**	**1.16**	**334**	*e*Pg	**Pg**	**23 00 40.4**	**+0.1**
BIA				*e*Sg	**Sn**	**23 00 57.5**	**-0.4**
NEO	**Neokhori**	**1.16**	**125**	*e*PB	**Pn**	**23 00 41.1**	**-0.3**
NEO				*e*SB	**Sn**	**23 00 57.3**	**-0.6**
NEO	**Neokhori**	**1.16**	**125**	*e*Pb	**Pn**	**23 00 41.1**	**-0.3**
NEO				*e*Sb	**Sn**	**23 00 57.3**	**-0.6**
PLG	**Polygyros**	**1.18**	**70**	*e*PG	**Pn**	**23 00 41.4**	**-0.3**
PLG				*e*SB	**Sn**	**23 00 57.9**	**-0.5**
PLG	**Polygyros**	**1.18**	**70**	*e*Pg	**Pn**	**23 00 41.4**	**-0.3**
PLG				*e*Sb	**Sn**	**23 00 57.9**	**-0.5**
SOH	**Sokhos**	**1.34**	**50**	*e*PG	**Pn**	**23 00 43.5**	**-0.4**
SOH				*e*SB	**Sn**	**23 01 03.3**	**+0.9**
SOH	**Sokhos**	**1.34**	**50**	*e*Pg	**Pn**	**23 00 43.5**	**-0.4**
SOH				*e*Sb	**Sn**	**23 01 03.3**	**+0.9**
VAY	**Valandovo**	**1.41**	**18**	*e*Pg	**Pn**	**23 00 44.8**	**-0.1**
VAY				*e*Sg	**Sn**	**23 01 04.1**	**0.0**
VAY	**Valandovo**	**1.41**	**18**	*e*Pn	**Pb**	**23 00 44.9**	**-0.2**
VAY				*e*Sn	**Sn**	**23 01 06.1**	**+2.0**
VAY				*e*Lg	Lg	23 01 08.2	
	comp=E,42nm,0.5s						
VAY				*e*Lg	Lg	23 01 10.1	
	comp=N,36nm,0.5s						
VAY	**Valandovo**	**1.41**	**18**	*e*Pn	**Pg**	**23 00 45.4**	**+0.3**
VAY				*e*Sn	**Sg**	**23 01 01.6**	**-1.8**
VAY				*e*Lg	Lg	23 01 10.5	
	comp=N,36nm,0.5s						
LKR	**Lokris**	**1.54**	**149**	*e*PG	**Pn**	**23 00 46.6**	**+0.1**
LKR	**Lokris**	**1.54**	**149**	*e*Pg	**Pn**	**23 00 46.6**	**+0.1**
EFP	**Efpalio**	**1.55**	**183**	*e*PG	**Pn**	**23 00 46.8**	**+0.2**
EFP				*e*SB	**Sg**	**23 01 09.3**	**+1.6**
EFP	**Efpalio**	**1.55**	**183**	*e*Pg	**Pn**	**23 00 46.8**	**+0.2**
KEK	**Kerkira**	**1.71**	**262**	*e*PB	**Pb**	**23 00 49.8**	**-0.4**
KEK				*e*SB	**Sb**	**23 01 12.0**	**-0.2**
KEK	**Kerkira**	**1.71**	**262**	*e*Pb	**Pb**	**23 00 49.8**	**-0.4**
KEK				*e*Sb	**Sb**	**23 01 12.0**	**-0.2**
RLS	**Riolos of Patr**	**1.96**	**192**	*e*PG	**Pb**	**23 00 54.7**	**+0.3**
RLS	**Riolos of Patr**	**1.96**	**192**	*e*Pg	**Pb**	**23 00 54.7**	**+0.3**
NVR	**Nevrokopi**	**1.98**	**45**	*e*PB	**Pn**	**23 00 52.9**	**+0.3**
NVR				*e*SN	**Sg**	**23 01 21.3**	**-0.2**
NVR	**Nevrokopi**	**1.98**	**45**	*e*Pb	**Pn**	**23 00 52.9**	**+0.3**
GUR	**Goura**	**2.05**	**172**	*e*PB	**Pn**	**23 00 53.5**	**-0.2**
GUR	**Goura**	**2.05**	**172**	*e*Pb	**Pn**	**23 00 53.5**	**-0.2**
VIL1	**Vilia, Western**	**2.08**	**150**	*e*PB	**Pn**	**23 00 54.7**	**+0.6**
VIL1	**Vilia, Western**	**2.08**	**150**	*e*Pb	**Pn**	**23 00 54.7**	**+0.6**
LTK	**Loutraki**	**2.09**	**158**	*e*PB	**Pn**	**23 00 53.8**	**-0.4**
LTK	**Loutraki**	**2.09**	**158**	*e*Pb	**Pn**	**23 00 53.8**	**-0.4**
VLS	**Valsamata**	**2.10**	**212**	*e*PG	**Pb**	**23 00 56.6**	**-0.3**
VLS	**Valsamata**	**2.10**	**212**	*e*Pg	**Pb**	**23 00 56.6**	**-0.3**
PTL	**Penteli**	**2.41**	**142**	*e*PB	**Pn**	**23 00 59.3**	**+0.7**
PTL	**Penteli**	**2.41**	**142**	*e*Pb	**Pn**	**23 00 59.3**	**+0.7**
VLY	**Voula,Athens**	**2.54**	**146**	*e*PN	**Pn**	**23 00 59.4**	**-1.0**
VLY	**Voula,Athens**	**2.54**	**146**	*e*Pn	**Pn**	**23 00 59.4**	**-1.0**
VLX	**Vlachokerasia**	**2.62**	**173**	*e*PB	**Pn**	**23 01 02.7**	**+1.2**
VLX	**Vlachokerasia**	**2.62**	**173**	*e*Pb	**Pn**	**23 01 02.7**	**+1.2**
DID	**Didima**	**2.65**	**158**	*e*PN	**Pn**	**23 01 01.5**	**-0.4**
DID	**Didima**	**2.65**	**158**	*e*Pn	**Pn**	**23 01 01.5**	**-0.4**
BARS	**Barje**	**2.84**	**357**	*e*Pn	**Pn**	**23 01 05.3**	**+0.8**
GRUS	**Gruza**	**4.03**	**347**	*e*Pn	**Pn**	**23 01 21.2**	**+0.5**
DIVS	**Divibare**	**4.38**	**341**	*e*Pn	**Pn**	**23 01 26.1**	**+0.4**

IDC 14 23:14:32.1±0.8, 0.43S×133.08E, h0km, mb4.0/7, mb1 4.3/10, mb1mx4.1/20, mbtmp4.1/10, ML4.4/3, MS3.7/10, Ms1 3.7/10, ms1mx3.3/31, Error ellipse: s-maj=38.1km s-min=15.9km az=73.0
NEIC 14 23:14:36.7±0.5, 0.53S×133.11E, h35km, mb4.4/7, Error ellipse: s-maj=11.8km s-min=7.3km az=70.0
DJA 14 23:14:38, 0.57S×132.85E, h97km, MLv4.8/6
ISC 14 23:14:37.1±0.7, 0.88S±0.07×132.58E±0.09, h32km, n38, σ2s83/37, mb4.0/8, MS3.7/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.45**	**252**	Pn	**P**	**23 17 54.7**	**-0.1**
	1.2nm,0.3s,baz=107,slow=9.4,SNR=5.7						
KAPI				LR	LR	23 22 38.7	
	comp=Z,122nm,21.4s,baz=94,slow=35						
KAPI	**Kappang**	**13.45**	**252**	Pn	**P**	**23 17 54.7**	**-0.1**
COEN	**Coen**	**16.70**	**142**	*e*Pn	**Pn**	**23 18 28.0**	**-0.9**
	63nm,0.8s						
COEN				*e*Sn	**Sn**	**23 21 33.9**	**+0.4**
PMG	**Port Moresby**	**16.80**	**121**	Pn	**P**	**23 18 33.3**	**+1.2**
	0.9nm,0.3s,baz=275,slow=11,SNR=4.2				

AGRB	**Hanur-Agry**	**1.01 357**	*e*PG	**Pb**	**23 38 57.2**	**-1.2**
AGRB	**Hanur-Agry**	**1.01 357**	*e*Pg	**Pb**	**23 38 57.2**	**-1.2**
HAKT	**HAKKARI**	**1.13 153**	*i* P	**Pn**	**23 38 59.3**	**-1.1**
HAKT			*i* S	**Sn**	**23 39 15.7**	**+0.1**
HAKT	**HAKKARI**	**1.13 153**	*i* P	**Pn**	**23 38 59.3**	**-1.1**
HAKT			*i* S	**Sn**	**23 39 15.7**	**+0.1**
CUKT	**Cukurca**	**1.39 162**	*e*PN	**Pb**	**23 39 04.9**	**+0.1**
CUKT	**Cukurca**	**1.39 162**	*e*Pn	**Pb**	**23 39 04.9**	**+0.1**
VRTB	**Varto-Mus**	**1.39 296**	*e*PN	**Pn**	**23 39 02.9**	**-1.1**
VRTB	**Varto-Mus**	**1.39 296**	*e*Pn	**Pn**	**23 39 02.9**	**-1.1**
BEST	**Besiri**	**1.57 245**	*i* P	**Pn**	**23 39 05.7**	**-0.6**
BEST			*i* S	**Sg**	**23 39 30.1**	**+0.1**
EZM	**Erzurum**	**1.88 316**	*e*PN	**Pn**	**23 39 09.9**	**-0.9**
BNGB	**Bing¨		**	**1.91 284**	*e*PN	**Pn**	**23 39 10.3**	**-0.8**
BINT	**Bingol**	**2.04 279**	*e*Pn	**Pn**	**23 39 10.3**	**-2.6**
GNI	**Garni**	**2.04 39**	*e*PN	**Pn**	**23 39 13.7**	**+0.7**
GNI	**Garni**	**2.04 39**	*e*Pn	**Pn**	**23 39 13.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.96 268**	*e*PN	**Pn**	**23 39 25.3**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.96 268**	*e*Pn	**Pn**	**23 39 25.3**	**-0.2**

*ISCJB **14** 23:45:08.7±0.6,24˚.42S±0˚.10×180˚.0W±0˚.1, h505km, mb4.0/11, Error ellipse: s-maj=16.2km s-min=8.6km az=136.6*
*IDC **14** 23:45:09.5±1.8,24˚.37S×179˚.96E, h504km±16km, mb3.5/7, mb1 3.8/7, mb1mx3.6/14, mbtmp3.5/7, Error ellipse: s-maj=33.7km s-min=17.2km az=150.0*
*NEIC **14** 23:45:10.8±1.2,24˚.45S×179˚.96E, h525km±12km, mb4.5/5, Error ellipse: s-maj=18.5km s-min=14.0km az=121.0*

ISC 14 23:45:09.1±0.5,24˚.4S±0˚.1×179˚.8W±0˚.1, h505km, n50, σ1§09/56, mb4.2/11, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.94**	**343**	*e*P		**P**	**23 46 56.5**	**+1.4**
	33nm,0.9s							
DZM	**Mont Dzumac**	**12.86**	**278**	P		**P**	**23 47 59.0**	**+2.1**
	1.2nm,0.3s,baz=96,slow=15,SNR=16							
DZM	**Mont Dzumac**	**12.86**	**278**	*e*P		**P**	**23 47 57.9**	**+1.0**
	23nm,0.6s							
AFI	**Afiamalu**	**12.90**	**37**	P		**P**	**23 47 55.6**	**-1.7**
	7.7nm,0.3s,baz=36,slow=20,SNR=6.1							
AFI				S		**S**	**23 50 14.5**	**-1.6**
	3.0nm,0.3s,baz=54,slow=22,SNR=3.1							
URZ	**Urewera**	**14.06**	**190**	*e*P		**P**	**23 48 08.9**	**-0.2**
	13nm,0.7s							
CTA	**Charters Tower**	**31.66**	**271**	*e*P		**P**	**23 50 50.3**	**-0.3**
	9.4nm,0.4s							
STKA	**Stephens Creek**	**34.71**	**249**	P		**P**	**23 51 15.8**	**-0.4**
	1.9nm,0.5s,baz=100,slow=12,SNR=12							
STKA	**Stephens Creek**	**34.71**	**249**	*e*P		**P**	**23 51 15.9**	**-0.4**
	2.7nm,0.6s							
STKA	**Stephens Creek**	**34.71**	**249**	*e*P		**P**	**23 51 14.9**	**-1.4**
	0.6nm,0.5s							
AS31	**Alice Springs**	**42.13**	**261**	*e*P		**P**	**23 52 15.7**	**-1.2**
WRAB	**Tennant Creek**	**42.55**	**267**	*e*P		**P**	**23 52 18.7**	**-1.4**
	4.7nm,0.4s							
WRA	**Warramunga Arr**	**42.56**	**267**	P		**P**	**23 52 18.6**	**-1.6**
	6.1nm,0.5s,baz=104,slow=8.1,SNR=55							
WRA				ScP		**ScP**	**23 57 05.4**	**+1.5**
	4.7nm,0.9s,baz=100,slow=4.1,SNR=17							
WRA	**Warramunga Arr**	**42.56**	**267**	P		**P**	**23 52 18.6**	**-1.6**
WRA				ScP		**ScP**	**23 57 05.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**50.97**	**266**	*e*P		**P**	**23 53 23.7**	**-0.2**
	9.2nm,0.6s							
QSPA	**South Pole Qui**	**65.68**	**180**	*e*P		**P**	**23 55 03.9**	**+1.0**
	22nm,1.1s							
PETK	**Petropavlovsk-**	**79.64**	**346**	P		**P**	**23 56 23.7**	**+0.5**
	0.9nm,0.6s,baz=131,slow=5.9,SNR=2.8							
PETK	**Petropavlovsk-**	**79.64**	**346**	P		**P**	**23 56 23.7**	**+0.5**
NVAR	**Mina Array Bea**	**84.99**	**44**	P		**P**	**23 56 52.8**	**+1.8**
	0.9nm,0.7s,baz=224,slow=8.1,SNR=5.0							
NVAR	**Mina Array Bea**	**84.99**	**44**	P		**P**	**23 56 52.8**	**+1.8**
TXAR	**Lajitas Array**	**90.55**	**58**	P		**P**	**23 57 19.6**	**+2.3**
	2.4nm,0.7s,baz=212,slow=6.6,SNR=31							
TXAR	**Lajitas Array**	**90.55**	**58**	P		**P**	**23 57 19.6**	**+2.3**
ILAR	**Eielson Array**	**92.48**	**13**	P		**P**	**23 57 24.9**	**-0.3**
	0.5nm,0.8s,baz=209,slow=5.6,SNR=4.3							
ILAR	**Eielson Array**	**92.48**	**13**	P		**P**	**23 57 24.9**	**-0.3**
PDAR	**Pinedale Array**	**92.93**	**44**	P		**P**	**23 57 29.0**	**+0.9**
	0.7nm,0.7s,baz=226,slow=3.0,SNR=6.1							
PDAR	**Pinedale Array**	**92.93**	**44**	P		**P**	**23 57 29.0**	**+0.9**
MKAR	**Makanchi Array**	**112.63**	**312**	PKiKP		**PKiKP**	**00 02 46.6**	**-1.1**
	0.8nm,0.9s,baz=27,slow=0.6,SNR=6.2							
MKAR	**Makanchi Array**	**112.63**	**312**	PKiKP		**PKiKP**	**00 02 46.6**	**-1.1**
KURK	**Kurchatov**	**115.69**	**316**	PKP		**PKPdf**	**00 02 51.9**	**-1.5**
	0.9nm,0.7s,baz=92,slow=1.8,SNR=11							
KURK				SKP		**SKPdf**	**00 05 40.1**	**-0.6**
	0.3nm,0.3s,baz=110,slow=1.1,SNR=4.7							
KURK	**Kurchatov**	**115.69**	**316**	PKP		**PKPdf**	**00 02 51.9**	**-1.5**
KURK				SKP		**SKPdf**	**00 05 40.1**	**-0.6**
ARCES	**ARCESS Array B**	**132.42**	**348**	PKP		**PKPdf**	**00 03 25.0**	**+0.1**
	2.1nm,0.7s,baz=87,slow=2.4,SNR=9.3							
ARCES	**ARCESS Array B**	**132.42**	**348**	PKP		**PKPdf**	**00 03 25.0**	**+0.1**
FINES	**FINESS Array B**	**138.99**	**341**	PKhKP		PKPpre	00 03 27.7	
	0.8nm,0.5s,baz=60,slow=4.6,SNR=7.7							
FINES				PKP		**PKiKP**	**00 03 38.7**	**-0.9**
	4.3nm,1.0s,baz=119,slow=2.4,SNR=6.3							
FINES				SKPbc		**SKPbc**	**00 06 24.5**	**0.0**
	2.7nm,0.8s,baz=48,slow=5.7,SNR=6.1							
FINES	**FINESS Array B**	**138.99**	**341**	PKPpre		PKPpre	00 03 27.7	
FINES				PKP		**PKiKP**	**00 03 38.7**	**-0.9**
FINES				SKPbc		**SKPbc**	**00 06 24.5**	**0.0**
NB2	**NORSAR Subarra**	**142.61**	**351**	PKP		PKPpre	00 03 40.2	
	comp=Z,0.5nm,0.6s,baz=13,slow=3.0							
NOA	**NORSAR Array B**	**142.61**	**351**	PKhKP		PKPpre	00 03 40.6	
	comp=Z,1.8nm,0.9s,baz=3.9,slow=2.3,SNR=5.6							
NOA	**NORSAR Array B**	**142.61**	**351**	PKPpre		PKPpre	00 03 40.6	
AKASG	**Malin Array Be**	**145.50**	**327**	PKPbc		**PKPdf**	**00 03 49.4**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=44,slow=3.6,SNR=11							
AKASG	**Malin Array Be**	**145.50**	**327**	PKPbc		**PKPdf**	**00 03 49.4**	**+0.3**
BRTR	**Keskin Array B**	**148.03**	**307**	PKPbc		**PKPbc**	**00 03 57.3**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=141,slow=4.8,SNR=11							
BRTR	**Keskin Array B**	**148.03**	**307**	PKPbc		**PKPbc**	**00 03 57.3**	**-0.4**
KOLS	**Kolonicke sedl**	**150.00**	**330**	*e*		**PKPdf**	**00 03 55.7**	**-0.8**
STHS	**Stebnicka Huta**	**150.10**	**332**	*e*		**PKPbc**	**00 04 02.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**150.39**	**331**	*e*		**PKPdf**	**00 03 58.1**	**+1.0**
CLL	**Collm**	**151.39**	**343**	↑*i*	PKPbc	**PKPbc**	**00 04 04.7**	**-0.4**
	comp=Z,7.0nm,0.7s							
BRG	**Berggiesshubel**	**151.53**	**342**	*i*	PKP	**PKPbc**	**00 04 05.5**	**+0.1**
	comp=Z,12nm,1.2s							
VYHS	**Vyhne**	**151.82**	**333**	*e*		**PKPbc**	**00 04 05.8**	**-0.4**
GERES	**GERESS Array B**	**153.40**	**340**	PKPbc		**PKPbc**	**00 04 10.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=38,slow=2.4,SNR=4.1							
GERES	**GERESS Array B**	**153.40**	**340**	PKPbc		**PKPbc**	**00 04 10.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**168.71**	**187**	PKP		**PKPdf**	**00 04 17.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=62,slow=0.9,SNR=5.2							
TORD				PKPab		**PKPab**	**00 05 31.8**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=173,slow=3.6,SNR=13							
TORD	**Torodi Ar. Bea**	**168.71**	**187**	PKP		**PKPdf**	**00 04 17.8**	**-0.7**
TORD				PKPab		**PKPab**	**00 05 31.8**	**-0.2**

*MOS **15** 00:01:30.8±1.5,52˚.35N×106˚.45E, h18km, mb4.3/1, Error ellipse: s-maj=30.5km s-min=18.2km az=77.3*
*BYKL **15** 00:01:31.5±0.2,52˚.38N×106˚.34E, h18km±3km*

ISC 15 00:01:31.4±0.7,52˚.38N±0˚.02×106˚.37E±0˚.02, h13km±6km, n32, σ1§61/68, 12C-2D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STDB	**Stepnoy Dvoret**	**0.21**	**180**	↑*i*	PG	**Pg**	**00 01 37.2**	**+1.2**
STDB				*e*			00 01 40.2	
STDB				*i*	Sg	**Sg**	**00 01 41.7**	**+2.6**
STDB				Pmax				
	557nm,0.2s							
STDB				Smax				
	5µm,0.2s							
KAB	**Kabansk**	**0.37**	**152**	↑*i*	PG	**Pg**	**00 01 38.8**	**-0.1**
KAB				*e*			00 01 44.6	
KAB				pmax	pmax			
	comp=Z,763nm,0.4s							
KAB				smax	smax			
	comp=E,2µm,0.5s							
KAB	**Kabansk**	**0.37**	**152**	↑*i*	Pg	**Pg**	**00 01 38.8**	**-0.1**
KAB				*i*	Sg	**Sg**	**00 01 44.5**	**+0.6**
KAB				Pmax				
	comp=E,738nm,0.2s							
KAB				Smax				
	comp=E,2µm,0.6s							
TRG	**Tyrgan**	**0.38**	**358**	↑*i*	PG	**Pg**	**00 01 39.0**	**-0.1**
TRG				*e*	S	**Sg**	**00 01 44.5**	**+0.1**
TRG				smax	smax			
	comp=E,3µm,0.1s							
TRG	**Tyrgan**	**0.38**	**358**	*e*PG		**Pg**	**00 01 38.7**	**-0.4**
TRG				↑*i*			00 01 39.0	
TRG				*e*	Sg	**Sg**	**00 01 44.4**	**+0.1**
TRG				max				
	comp=E,294nm,0.1s							
TRG				Smax				
	comp=E,3µm,0.2s							
FFNB	**Fofonovo**	**0.41**	**144**	↓*i*	Pg	**Pg**	**00 01 38.8**	**-0.8**
	comp=E,297nm,0.4s							
FFNB				↑*i*	Pg	**Pg**	**00 01 38.8**	**-0.8**
	comp=E,253nm,0.4s							
FFNB				↑*i*	Pg	**Pg**	**00 01 38.8**	**-0.8**
	comp=E,502nm,0.4s							
FFNB				*e*	Sg	**Sg**	**00 01 44.4**	**-0.7**
FFNB				Pmax				
	comp=E,436nm,0.2s							
FFNB				Smax				
	comp=E,1µm,0.4s							
ZRHB	**Zarechye**	**0.51**	**69**	*e*P		**Pg**	**00 01 41.3**	**-0.2**
ZRHB				↓*i*			00 01 41.6	
ZRHB				*e*	Sg	**Sg**	**00 01 48.3**	**0.0**
ZRHB				max				
	comp=E,231nm,0.2s							
ZRHB				Smax				
	comp=E,2µm,0.5s							
HRMR	**Khuramsha**	**0.83**	**154**	↑*i*	Pg	**Pg**	**00 01 46.8**	**-0.7**
HRMR				*e*	Pb	**Pn**	**00 01 49.0**	**+0.1**
HRMR				*e*	Sg	**Sg**	**00 01 57.7**	**-0.7**
HRMR				*e*	Sb	**Sn**	**00 02 01.8**	**+0.7**
UUDB	**Ulan-Yde**	**0.95**	**122**	↑*i*	Pg	**Pg**	**00 01 48.8**	**-0.9**
UUDB				*i*	Sg	**Sg**	**00 02 01.3**	**-0.8**
UUDB				Pmax				
	comp=E,304nm,0.2s							
UUDB				Smax				
	comp=E,475nm,0.4s							
LSTR	**Listvyanka**	**1.08**	**242**	*e*PG		**Pg**	**00 01 50.3**	**-1.8**
LSTR				*e*			00 02 04.2	
LSTR				pmax	pmax			
	comp=Z,163nm,0.1s							
LSTR				smax	smax			
	comp=N,171nm,0.2s							
LSTR	**Listvyanka**	**1.08**	**242**	*e*Pn		**Pg**	**00 01 50.9**	**-1.2**
LSTR				*e*Pg		**Pg**	**00 01 50.9**	**-1.2**
LSTR				*e*Pb		**Pn**	**00 01 52.3**	**0.0**
LSTR				*e*Sg		**Sg**	**00 02 04.7**	**-1.5**
LSTR				max				
	comp=N,171nm,0.2s							
LSTR				Smax				
	comp=N,203nm,0.3s							
IRK	**Irkutsk**	**1.29**	**265**	*e*PG		**Pg**	**00 01 55.6**	**-0.7**
IRK				*e*			00 02 11.5	
IRK				pmax	pmax			
	comp=Z,321nm,0.2s							
IRK				smax	smax			
	comp=N,2µm,0.4s							
IRK	**Irkutsk**	**1.29**	**265**	*e*Sg		**Sg**	**00 02 12.4**	**-0.7**
IRK				Smax				
	comp=N,2µm,0.4s							
OGRR	**Ongureny**	**1.47**	**30**	*e*PN		**Pn**	**00 01 58.1**	**+0.4**
OGRR				*e*S		**Sg**	**00 02 18.2**	**-0.5**
OGRR	**Ongureny**	**1.47**	**30**	*e*Pg		**Pn**	**00 01 58.0**	**+0.4**
OGRR				*e*Pb		**Pb**	**00 01 58.8**	**+0.2**
OGRR				*e*Sg		**Sn**	**00 02 17.7**	**+0.9**
OGRR				max				
	comp=N,48nm,0.3s							
OGRR				Smax				
	comp=N,173nm,0.4s							
MXMB	**Maximikha**	**1.69**	**57**	*e*Pn		**Pn**	**00 02 01.1**	**+0.4**
MXMB				*e*Pg		**Pb**	**00 02 02.2**	**-0.3**
MXMB				*e*Sg		**Sb**	**00 02 24.7**	**+1.0**
MXMB				Pmax				
	comp=N,60nm,0.5s							
MXMB				Smax				
	comp=N,282nm,0.8s							
TLY	**Talaya**	**1.82**	**249**	↑*e*PN		**Pn**	**00 02 03.5**	**+1.0**
TLY				*i*			00 02 04.0	
TLY				*e*			00 02 27.5	
TLY				pmax	pmax			
	comp=Z,70nm,0.3s							
TLY				smax	smax			
	comp=E,356nm,0.4s							
TLY	**Talaya**	**1.82**	**249**	*e*Pg		**Pn**	**00 02 03.5**	**+1.0**
TLY				*e*			00 02 03.9	
TLY				*e*Sg		**Sb**	**00 02 27.5**	**+0.1**
TLY				max				
	comp=E,69nm,0.4s							
TLY				Smax				
	comp=E,357nm,0.4s							
ARS	**Arshan**	**2.47**	**261**	*e*Pn		**Pn**	**00 02 11.8**	**+0.3**
ARS				*e*Pg		**Pb**	**00 02 14.9**	**-0.9**
ARS				*e*Sg		**Sb**	**00 02 47.0**	**+0.8**
ARS				Pmax				
	comp=E,45nm,0.2s							
ARS				Smax				
	comp=E,472nm,0.3s							
SYVR	**Suvo**	**2.54**	**58**	*e*Pn		**Pn**	**00 02 12.7**	**+0.3**
SYVR				*e*Pg		**Pb**	**00 02 17.5**	**+0.6**
SYVR				*e*Sn		**Sn**	**00 02 44.8**	**+1.6**
SYVR				*e*Sg		**Sg**	**00 02 51.2**	**-1.8**
SYVR				Pmax				
	comp=E,7.0nm,0.2s							
SYVR				Smax				
	comp=E,45nm,0.3s							
ZAK	**Zakamensk**	**2.78**	**225**	*e*Pn		**Pn**	**00 02 16.5**	**+0.7**
ZAK				↑*i*			00 02 17.0	
ZAK				*e*Pg		**Pb**	**00 02 21.3**	**+0.2**
ZAK				*e*Sg		**Sg**	**00 02 58.1**	**-2.6**
ZAK				Pmax				
	comp=E,13nm,0.2s							
ZAK				Smax				
	comp=E,54nm,0.4s							
MOY	**Mondy**	**3.40**	**260**	*e*Pn		**Pn**	**00 02 26.3**	**+2.1**
MOY				↑*i*			00 02 27.9	
MOY				*e*Pg		**Pb**	**00 02 32.3**	**+0.8**
MOY				*e*			00 03 08.7	
MOY				*e*Sg		**Sb**	**00 03 15.0**	**+2.2**
MOY				Pmax				
	comp=E,28nm,1.0s							
MOY				Smax				
	comp=E,148nm,0.5s							
YLYR	**Ulyunkhan**	**3.80**	**47**	*e*Sn		**Sn**	**00 03 12.4**	**-1.7**
YLYR				*e*Sg		**Sg**	**00 03 29.1**	**-4.1**
YLYR				Smax				
	comp=E,29nm,0.8s							
NIZ	**Nizh Angarsk**	**3.88**	**27**	*e*Pn		**Pn**	**00 02 31.4**	**+0.6**
NIZ				*e*Pg		**Pb**	**00 02 41.3**	**+1.5**
NIZ				*e*Sg		**Sb**	**00 03 30.7**	**+4.1**
NIZ				Pmax				
	comp=E,8.0nm,0.4s							
NIZ				Smax				
	comp=E,33nm,0.6s							
ORL	**Orlik**	**4.01**	**275**	*e*Pn		**Pn**	**00 02 34.3**	**+1.5**
ORL				*e*Pg		**Pb**	**00 02 41.7**	**-0.4**
ORL				*e*			00 03 21.5	
ORL				*e*Sg		**Sb**	**00 03 34.8**	**+4.2**
ORL				Pmax				
	comp=E,8.0nm,0.4s							
ORL				Smax				
	comp=E,116nm,1.3s							
KMO	**Kumora**	**4.52**	**37**	*e*Pg		**Pb**	**00 02 52.3**	**+1.7**
KMO				*e*Sg		**Sb**	**00 03 49.6**	**+4.6**
KMO				Pmax				
	comp=E,4.0nm,0.5s							
KMO				Smax				
	comp=E,17nm,0.8s							
ULN	**Ulaanbaatar**	**4.54**	**174**	*e*Pn		**Pn**	**00 02 41.3**	**+1.3**
ULN				*e*Pg		**Pb**	**00 02 51.9**	**+0.9**
ULN				*e*Sn		**Sn**	**00 03 31.7**	**-1.0**
ULN				*e*Sg		Sg	00 03 51.3	-5.8
KPC	**Khapcheranga**	**4.64**	**123**	*e*Pn		**Pn**	**00 02 40.8**	**-0.5**
KPC				*e*Pg		**Pb**	**00 02 54.4**	**+1.7**
KPC				*e*Sg		Sg	00 03 54.1	-6.3
KPC				Pmax				
	comp=E,8.0nm,0.5s							
KPC				Smax				
	comp=E,25nm,0.5s							
UKT	**Uakit**	**5.30**	**51**	*e*Sg		**Sg**	**00 04 16.7**	**-4.7**
UKT				Smax				
	comp=E,7.0nm,0.8s							
NLYR	**Nelyaty**	**6.83**	**49**	*e*Sg		Sg	00 05 03.8	-6.5
NLYR				Smax				
	comp=E,9.0nm,0.8s							
CRS	**Chara**	**8.25**	**52**	*e*Sg			00 05 48.2	
CRS				Smax				
	comp=E,8.0nm,1.2s							
TUP	**Tupik**	**8.38**	**70**	*e*			00 05 29.9	
TUP				*e*Sg			00 05 52.1	
TUP				Smax				
	comp=E,10.0nm,1.2s							

*LDG **15** 00:08:43.8±0.1,45˚.74N×80˚.80E, h10km, Mb4.6/21, Error ellipse: s-maj=7.3km s-min=4.1km az=7.0*
*BJI **15** 00:08:45.9,45˚.78N×80˚.85E, h11km, mB4.9/16, mb4.5/21, ML4.2/10, Ms4.5/12, Ms7 4.3/12*
*ISCJB **15** 00:08:46.5±0.8,45˚.92N±0˚.03×80˚.72E±0˚.03, h15km±4km, mb4.4/66, MS3.7/4, Error ellipse: s-maj=4.3km s-min=3.5km az=169.8*
*NNC **15** 00:08:46.6±0.9,45˚.82N×80˚.66E, h16km, mb4.6, mpv4.5, Error ellipse: s-maj=14.6km s-min=5.1km az=147.0*
*IDC **15** 00:08:47.8±0.7,45˚.64N×81˚.08E, h32km±3km, mb4.0/14, mb1 4.1/19, mb1mx4.0/30, mbtmp4.0/19, ML4.1/5, MS2.9/4, Ms1 2.9/4, ms1mx2.7/28, Error ellipse: s-maj=10.5km s-min=9.1km az=145.0*
*NEIC **15** 00:08:48.5±1.5,45˚.73N×80˚.95E, h29km±12km, mb4.6/18, Error ellipse: s-maj=5.5km s-min=4.9km az=73.0*
*MOS **15** 00:08:48.5±1.2,45˚.85N×80˚.79E, h33km, mb4.6/19, Error ellipse: s-maj=7.4km s-min=5.2km az=128.1*
MOS Felt (III) at Uchural.

ISC 15 00:08:48.6±0.3,45˚.85N±0˚.03×80˚.87E±0˚.03, h27km±2km, h26km:pP-P, n267, σ1§69/320, mb4.5/66, MS3.8/4, 42C-32D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.36**	**46**	↓*i*	P	**Pb**	**00 09 13.3**	**-0.2**
	500nm,0.3s,baz=214,slow=15							
MK31				↑*i*	S	**Sb**	**00 09 31.9**	**+1.5**
	725nm,0.3s,baz=218,slow=23,SNR=21							
MK31	**Makanchi Array**	**1.36**	**46**	*e*PG		**Pb**	**00 09 13.2**	**-0.2**
MK31				S		**Sb**	**00 09 31.9**	**+1.5**
MK31				pmax	pmax			
	comp=Z,803nm,0.2s							
MK31				smax	smax			
	comp=N,1µm,0.2s							
MK31	**Makanchi Array**	**1.36**	**46**	*e*Pn		**Pb**	**00 09 12.9**	**-0.5**
MK31				*e*Sn		**Sb**	**00 09 31.9**	**+1.5**
MKAR	**Makanchi Array**	**1.36**	**46**	Pn		**Pb**	**00 09 13.2**	**-0.2**
	comp=N,431nm,0.3s,baz=215,slow=15							
MKAR				Sn		**Sb**	**00 09 31.7**	**+1.3**
	comp=N,1µm,0.3s,baz=216,slow=28,SNR=44							
MKAR	**Makanchi Array**	**1.36**	**46**	PG		**Pb**	**00 09 13.2**	**-0.2**
MKAR							00 09 31.7	
MKAR	**Makanchi Array**	**1.36**	**46**	Pn		**Pb**	**00 09 13.2**	**-0.2**
MKAR				Sn		**Sb**	**00 09 31.7**	**+1.3**
AAA	**Alma-Ata**	**3.81**	**229**	*i*	PN	Pb	00 10 02.5	+7.3
AAA				*i*	S	**Sb**	**00 10 45.9**	**+5.0**
AAA				pmax	pmax			
	comp=Z,359nm,0.3s							
AAA				smax	smax			
	comp=N,1µm,0.5s							
KNDC	**Almaty**	**3.84**	**228**	↓*i*	Pn	**Pn**	**00 09 46.6**	**+0.6**
	comp=N,128nm,0.5s							
KNDC				↑*i*	Lg	Lg	00 10 43.8	
	comp=N,1µm,0.7s							
TKM2	**Tokmak 2**	**4.79**	**234**	P		**Pn**	**00 09 58.9**	**-0.2**
	SNR=45							
TKM2				P		**Pn**	**00 09 58.9**	**-0.2**
	SNR=45							
TKM2	**Tokmak 2**	**4.79**	**234**	↑*i*	Pn	**Pn**	**00 09 58.7**	**-0.4**
	comp=N,8.8nm,0.4s							
TKM2				↓*i*	Sn	**Sn**	**00 10 52.0**	**-1.7**
	comp=N,49nm,0.3s							
TKM2				↑*i*	Lg	Lg	00 11 14.4	
	comp=N,262nm,0.6s							
TKM2	**Tokmak 2**	**4.79**	**234**	*i*	PN	**Pn**	**00 09 58.8**	**-0.2**
TKM2	**Tokmak 2**	**4.79**	**234**	*e*Pn		**Pn**	**00 09 58.6**	**-0.4**
TKM2				*e*Pg		Pb	00 10 16.5	+4.6
TKM2				*e*Sg		**Sb**	**00 11 12.6**	**+3.6**
ULHL	**Ulahol**	**4.91**	**224**	P		**Pn**	**00 10 01.5**	**+0.7**
	SNR=19							
ULHL				P		**Pn**	**00 10 01.5**	**+0.7**
	SNR=19							
KURK	**Kurchatov**	**5.09**	**344**	Pn		**Pn**	**00 10 03.8**	**+0.7**
	comp=N,1.4nm,0.3s,baz=162,slow=13,SNR=99							
KURK				Sn		**Sn**	**00 11 01.2**	**+0.4**
	comp=N,7.1nm,0.3s,baz=155,slow=24,SNR=8.3							
KURK				Lg		Lg	00 11 31.1	
	comp=N,25nm,0.3s,baz=138,slow=51,SNR=8.0							
KURK				LR		LR	00 12 18.3	
	comp=N,176nm,18.3s,baz=160,slow=40							
KURK	**Kurchatov**	**5.09**	**344**	↑Pn		**Pn**	**00 10 05.2**	**+2.2**
	comp=N,31nm,0.5s							
KURK				↑*i*	Sn	**Sn**	**00 11 02.2**	**+1.4**
	comp=N,87nm,0.5s							
KURK				↑*i*	Lg	Lg	00 11 29.5	
	comp=N,535nm,0.8s							
KURK	**Kurchatov**	**5.09**	**344**	*ce*PN		**Pn**	**00 10 05.4**	**+2.4**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KURK	**Kurchatov**	**5.09**	**344**	*e*Pn		**Pn**	**00 10 05.2**	**+2.2**
KURK				*e*Sg		Sb	00 11 24.9	+7.4
KURK				Lg		Lg	00 11 31.1	
USP	**Ospenovka**	**5.24**	**243**	P		**Pn**	**00 10 04.9**	**-0.2**
	SNR=54							
USP				P		**Pn**	**00 10 04.9**	**-0.2**
	SNR=54							
WMQ	**Urumqi**	**5.26**	**110**	Pn		**Pn**	**00 10 03.8**	**-1.7**
WMQ			

KKAR *e* 00 12 07.6
KKAR pmax pmax
comp=Z,34nm,0.6s
KKAR Karatay Array 7.90 253 *e*Pn **Pn 00 10 41.3 -0.4**
comp=Z,34nm,0.6s
KKAR *e*Sn **Sn 00 12 07.6 -2.6**
ZAA0 Zalesovo Array 8.49 16 *e*Pn **Pn 00 10 50.8 +1.1**
ZAA0 *e*Sn **Sn 00 12 25.5 +1.0**
ZALV Zalesovo Beam 8.49 16 Pn **Pn 00 10 50.6 +0.9**
comp=Z,2.9nm,0.3s,baz=197,slow=13,SNR=65
ZALV Sn **Sn 00 12 23.3 -1.2**
comp=Z,6.2nm,0.3s,baz=200,slow=17,SNR=4.6
ZALV Lg Lg 00 13 14.4
comp=Z,3.4nm,0.3s,baz=221,slow=25,SNR=2.1
ZALV LR LR 00 14 36.1
comp=Z,70nm,19.8s,baz=105,slow=40
ZALV Zalesovo Beam 8.49 16 P **Pn 00 10 50.6 +0.9**
ZALV 00 12 23.3
ZALV Zalesovo Beam 8.49 16 Pn **Pn 00 10 50.6 +0.9**
ZALV Sn **Sn 00 12 23.3 -1.2**
ZALV Lg Lg 00 13 14.4
NVS Novosibirsk 9.12 9 ⇑*i*P **Pn 00 10 59.2 +0.9**
NVS *e* 00 12 37.6
VOSK Vostochnaya 9.43 320 ⇑Pn **Pn 00 11 03.9 +1.4**
comp=Z,17nm,0.3s
VOSK ⇑Sn **Sn 00 12 46.8 -0.8**
comp=Z,25nm,0.5s
VOSK ⇓Lg Lg 00 13 41.8
comp=Z,141nm,0.8s
BVA0 Borovoye Array 9.90 320 ⇑Pn **Pn 00 11 09.9 +1.0**
comp=Z,0.8nm,0.4s,baz=137,slow=14,SNR=104
BVA0 ⇑Sn **Sn 00 12 56.9 -2.2**
comp=Z,1.4nm,0.5s,baz=120,slow=23,SNR=5.4
BVA0 ⇑Lg Lg 00 13 56.5
comp=Z,18nm,0.8s,baz=134,slow=26,SNR=3.6
BVA0 Borovoye Array 9.90 320 *e*P **Pn 00 11 09.9 +1.0**
BVA0 00 12 56.8
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVA0 smax smax
comp=N,1.0nm,0.5s
BVA0 pmax pmax
comp=N,18nm,0.8s
BVAR Borovoye Array 9.90 320 Pn **Pn 00 11 10.0 +1.0**
comp=N,4.4nm,0.3s,baz=137,slow=14,SNR=65
BVAR Sn **Sn 00 12 58.2 -0.9**
comp=N,4.9nm,0.3s,baz=128,slow=18,SNR=6.3
BVAR Lg Lg 00 14 01.3
comp=N,6.4nm,0.3s,baz=130,slow=23,SNR=6.2
BVAR LR LR 00 14 36.1
comp=N,26nm,18.9s,baz=254,slow=34
BVAR Borovoye Array 9.90 320 P **Pn 00 11 10.0 +1.0**
BVAR 00 12 58.2
BVAR Borovoye Array 9.90 320 Pn **Pn 00 11 10.0 +1.0**
BVAR Sn **Sn 00 12 58.2 -0.9**
BVAR Lg Lg 00 14 01.3
BRVK Borovoye 9.97 320 *e*P **Pn 00 11 11.0 +1.1**
BRVK *e* 00 13 01.0
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 9.97 320 *e*Pn **Pn 00 11 11.0 +1.1**
comp=Z,15nm,0.7s
BRVK *e*Sn **Sn 00 13 01.0 +0.2**
ZRNK Zerenda 10.49 317 ⇑Pn **Pn 00 11 17.5 +0.4**
comp=Z,3.1nm,0.3s
ZRNK ⇑Sn **Sn 00 13 11.5 -2.1**
comp=Z,21nm,0.5s
ZRNK ⇓Lg Lg 00 14 16.7
comp=Z,152nm,0.9s
KBL Kabul 14.45 223 *e*P **Pn 00 12 11.5 0.0**
KBL pmax pmax
comp=Z,2.0nm,0.5s
KBL Kabul 14.45 223 *e*Pn **Pn 00 12 11.5 0.0**
comp=Z,2.3nm,0.5s
AB31 Akbulak array 14.53 291 ⇑Pn **Pn 00 12 10.5 -1.8**
comp=Z,0.8nm,0.3s
AB31 ⇓Lg Lg 00 16 23.4
comp=Z,43nm,0.9s
AB31 Akbulak array 14.53 291 *i* P **Pn 00 12 10.4 -1.8**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 14.53 291 *e*Pn **Pn 00 12 09.8 -2.4**
comp=Z,9.7nm,0.3s
ABKAR *e*Sn **Sn 00 14 51.9 -0.3**
GTA Gaotai 15.34 108 *e*P **P 00 12 31.3 +3.5**
GTA pP **pP 00 12 34.8 -0.2**
GTA sP **sP 00 12 38.3 -0.2**
GTA S **S 00 15 27.1 -1.1**
GTA sS sS 00 15 31.3 -8.4
GTA pmax pmax
comp=Z,3.0nm,1.6s
GTA pmax pmax
comp=Z,71nm,5.7s
GTA LR LR
comp=N,150nm,10.5s
GTA LR LR
comp=E,140nm,10.5s
GTA LR LR
comp=Z,140nm,11.2s
ZAK Zakamensk 15.62 65 *e*P **P 00 12 30.4 -0.3**
ZAK pmax pmax
comp=Z,1.0nm,1.0s
AKTO Aktyubinsk 15.91 295 Pn **Pn 00 12 28.9 -1.5**
comp=Z,1.4nm,0.3s,baz=91,slow=10,SNR=47
AKTO Sn **Sn 00 15 21.5 -4.2**
comp=Z,0.7nm,0.3s,baz=40,slow=18,SNR=2.6
AKTO Lg Lg 00 17 13.2
comp=Z,0.6nm,0.3s,baz=87,slow=9.2,SNR=4.3
AKTO Aktyubinsk 15.91 295 ⇓Pn **Pn 00 12 28.6 -1.8**
comp=Z,1.8nm,0.7s
AKTO ⇑Lg Lg 00 17 03.5
comp=Z,6.6nm,1.1s
AKTO Aktyubinsk 15.91 295 P **Pn 00 12 28.9 -1.5**
AKTO 00 15 21.5
AKTO Aktyubinsk 15.91 295 Pn **Pn 00 12 28.9 -1.5**
AKTO Sn **Sn 00 15 21.5 -4.2**
AKTO Lg Lg 00 17 13.2
SVE Sverdlovsk 16.68 318 *e*P **Pn 00 12 39.7 -0.4**
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 17.46 315 *d i*P **Pn 00 12 48.1 -1.9**
ARU S **Sn 00 15 58.6 -4.8**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 17.46 315 *e*P **Pn 00 12 50.2 +0.2**
comp=Z,3.4nm,0.8s
SONM Songino Array 17.55 74 Pn **Pn 00 12 49.2 -2.0**
comp=Z,0.1nm,0.3s,baz=270,slow=12,SNR=8.3
SONM Lg Lg 00 17 60.0
comp=Z,0.1nm,0.3s,baz=260,slow=25,SNR=4.5
SONM LR LR 00 19 48.1
comp=Z,61nm,20.3s,baz=38,slow=38
SONM Songino Array 17.55 74 P **Pn 00 12 49.2 -2.0**
SONM Songino Array 17.55 74 Pn **Pn 00 12 49.2 -2.0**
SONM Lg Lg 00 17 60.0
ULN Ulaanbaatar 17.99 74 *e*P **P 00 12 58.1 +1.0**
ULN Ulaanbaatar 17.99 74 *e*P **P 00 12 58.1 +1.0**
LSA Lhasa 18.03 150 P P 00 13 05.1 +7.2
LSA Lhasa 18.03 150 *e*P **P 00 12 58.0 +0.1**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 18.03 150 *e*Pn **P 00 12 58.0 +0.1**
comp=Z,4.6nm,0.6s
GKN Gorkha 18.07 169 *e*P **Pn 00 12 55.2 -2.5**
comp=Z,12nm,0.6s
GKN Gorkha 18.07 169 *e*P **Pn 00 12 55.2 -2.5**
comp=Z,12nm,0.6s
KOLN Koldanda 18.18 172 *e*P **Pn 00 12 54.6 -4.6**
comp=Z,5.7nm,0.4s
KOLN Koldanda 18.18 172 *e*P **Pn 00 12 54.6 -4.6**
comp=Z,5.7nm,0.4s
GUN Gumba 18.34 166 *e*P **P 00 12 59.1 -2.2**
comp=Z,38nm,0.9s
GUN Gumba 18.34 166 *e*P **P 00 12 59.1 -2.2**
comp=Z,38nm,0.9s
JIRN Jiri 18.64 165 *e*P **P 00 13 02.5 -2.1**
comp=Z,31nm,0.8s
JIRN Jiri 18.64 165 *e*P **P 00 13 02.5 -2.1**
comp=Z,31nm,0.8s
TAPN Taplejung 19.25 161 *e*P **P 00 13 09.3 -1.9**
TAPN Taplejung 19.25 161 *e*P **P 00 13 09.3 -1.9**
ODAN Odare 19.66 162 *e*P **P 00 13 13.0 -2.5**
comp=Z,19nm,0.6s
ODAN Odare 19.66 162 *e*P **P 00 13 13.0 -2.5**
comp=Z,19nm,0.6s
SHL Shillong 22.09 153 *e*P P 00 13 50.5 +8.8

HHC Hu-ho-hao-te 22.79 92 *e*P **P 00 13 48.3 -0.8**
HHC pP **pP 00 13 54.3 -2.2**
HHC sP **sP 00 13 57.0 -3.0**
HHC PP **PnPn 00 14 19.0 +5.6**
HHC S **S 00 17 53.3 -3.1**
HHC SS SnSn 00 18 37.3 +10
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,82nm,5.6s
HHC LR LR
comp=N,210nm,11.8s
HHC LR LR
comp=E,250nm,12.2s
HHC LR LR
comp=Z,160nm,10.1s
CD2 Chengdu 23.22 122 P **P 00 13 54.4 +0.9**
CD2 pP **pP 00 13 58.8 -2.2**
CD2 sP **sP 00 14 01.6 -2.9**
CD2 PP **PnPn 00 14 25.3 +5.9**
CD2 S **S 00 18 01.8 -1.9**
CD2 sS sS 00 18 08.9 -8.0
CD2 SS **SnSn 00 18 47.5 +9.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,170nm,4.2s
CD2 LR LR
comp=N,360nm,5.9s
CD2 LR LR
comp=Z,300nm,5.9s
BOD Bodaibo 23.45 47 *e*P **P 00 13 53.9 -1.6**
XAN Xi'an 24.40 109 P P 00 14 12.3 +7.7
XAN pP pP 00 14 16.6 +4.0
XAN pmax pmax
comp=Z,2.0nm,0.8s
VRHR Novokhopersk 26.31 296 *e*P **P 00 14 20.3 -1.4**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
BJI Beijing 26.34 90 P **P 00 14 23.8 +1.7**
BJI S **S 00 18 57.6 +4.3**
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI pmax pmax
comp=Z,120nm,4.1s
BJI LR LR
comp=N,240nm,24.8s
BJI LR LR
comp=E,230nm,25.5s
ZEI Tsey 26.48 277 *e*P **P 00 14 22.8 -0.9**
ZEI pmax pmax
comp=Z,1.0nm,0.5s
GNI Garni 26.87 271 P **P 00 14 28.7 +1.6**
comp=Z,9.2nm,0.8s,baz=18,slow=1.6,SNR=16
GNI Garni 26.87 271 ⇓*i*P **P 00 14 28.5 +1.4**
GNI pmax pmax
comp=Z,17nm,1.3s
GNI Garni 26.87 271 *e*P **P 00 14 28.7 +1.6**
comp=Z,8.0nm,0.7s
KIV Kislovodsk 26.95 280 *e*P **P 00 14 28.2 +0.5**
KIV pmax pmax
comp=Z,3.0nm,0.7s
KIV MLR MLR
comp=Z,24nm,14.0s
KIV Kislovodsk 26.95 280 *e*P **P 00 14 29.4 +1.7**
comp=Z,6.5nm,0.8s
KMI Kunming 27.13 132 P **P 00 14 33.8 +4.2**
KMI pmax pmax
comp=Z,4.0nm,1.1s
VSR Storozhevoye 27.84 296 *e*P **P 00 14 35.9 +0.4**
VSR pmax pmax
comp=Z,7.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
GYA Guiyang 28.23 124 *e*P **P 00 14 41.3 +2.0**
GYA PP PP 00 15 33.0 -10
GYA S **S 00 19 25.6 +2.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.2s
BHD Baghdad 30.54 259 *e*P P 00 14 52.0 -7.6
CHTO Chiang Mai 30.84 145 *e*P **P 00 15 03.1 +0.8**
CHTO Chiang Mai 30.84 145 *e*P **P 00 15 03.1 +0.8**
CMAR Chiang Mai Arr 31.16 145 P P 00 14 59.8 -5.4
comp=Z,1.2nm,0.4s,baz=316,slow=12,SNR=7.4
CMAR Chiang Mai Arr 31.16 145 P P 00 14 59.8 -5.4
CMAR Chiang Mai Arr 31.16 145 P P 00 14 59.8 -5.4
CN2 Changchun 31.37 77 *e*P P 00 15 10.9 +4.0
CN2 *es*P sP 00 15 18.0 -0.2
CN2 *e*S **S 00 20 16.3 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
JOF Joensuu 32.50 320 *e*P **P 00 15 17.6 +1.1**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 32.50 320 *ep* **P 00 15 17.6 +1.1**
comp=Z,5.2nm,0.5s
JOF Joensuu 32.50 320 *ep* **P 00 15 17.6 +1.1**
comp=Z,5.2nm,0.5s
MDJ Mudanjiang 33.91 74 P **P 00 15 30.3 +1.3**
MDJ pmax pmax
comp=Z,7.0nm,1.9s
MDJ pmax pmax
comp=Z,120nm,3.6s
AKASG Malin Array Be 34.13 297 P **P 00 15 31.1 +0.2**
comp=Z,4.2nm,0.5s,baz=65,slow=8.6,SNR=9.8
AKASG Malin Array Be 34.13 297 *ce*P **P 00 15 31.2 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 34.13 297 P **P 00 15 31.1 +0.2**
AKBB Malin Array Si 34.13 297 *e*P **P 00 15 30.9 0.0**
AKBB Malin Array Si 34.13 297 *e*P **P 00 15 30.9 0.0**
KIEV Kiev 34.14 297 *e*P **P 00 15 31.2 +0.2**
KIEV pmax pmax
comp=Z,19nm,1.1s
KIEV Kiev 34.14 297 *e*P **P 00 15 31.1 +0.2**
comp=Z,18nm,1.1s
KAF Kangasniemi 34.74 318 *e*P **P 00 15 35.9 -0.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 34.74 318 *ep* **P 00 15 35.9 -0.1**
comp=Z,1.6nm,0.5s
KAF Kangasniemi 34.74 318 *ep* **P 00 15 35.9 -0.1**
comp=Z,1.6nm,0.5s
BR131 Keskin Array S 34.79 277 *e*P **P 00 15 37.5 +0.6**
comp=Z,15nm,1.1s
BRTR Keskin Array B 34.79 277 P **P 00 15 37.7 +0.8**
comp=Z,4.1nm,0.7s,baz=84,slow=7.6,SNR=26
BRTR Keskin Array B 34.79 277 *ce*P **P 00 15 38.0 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 34.79 277 P **P 00 15 37.7 +0.8**
FINES FINESS Array B 34.83 317 P **P 00 15 37.3 +0.5**
comp=Z,0.7nm,0.4s,baz=102,slow=10,SNR=9.2
FINES FINESS Array B 34.83 317 P **P 00 15 37.3 +0.5**
FINES FINESS Array B 34.83 317 P **P 00 15 37.3 +0.5**
QIZ Qiongzhong 35.88 129 P **P 00 15 47.6 +1.3**
QIZ S **S 00 21 27.8 +5.2**
QIZ pmax pmax
comp=Z,15nm,2.0s
QIZ pmax pmax
comp=Z,170nm,3.7s
ARCES ARCESS Array B 35.98 330 P **P 00 15 47.5 +0.9**
comp=Z,3.7nm,0.8s,baz=80,slow=8.7,SNR=8.5
ARCES ARCESS Array B 35.98 330 P **P 00 15 47.5 +0.9**
ARCES ARCESS Array B 35.98 330 P **P 00 15 47.5 +0.9**
TESR 36.92 291 ⇑*i*P **P 00 15 56.8 +1.9**
VRI Vrincioaia 37.09 290 ⇓P **P 00 15 57.6 +1.2**
VRI Vrincioaia 37.09 290 ⇓*i*P **P 00 15 57.6 +1.2**
PLOR Plostina 37.15 290 ⇑P **P 00 15 58.8 +1.9**
PLOR Plostina 37.15 290 ⇑*i*P **P 00 15 58.8 +1.9**
BURAR Bucovina Array 37.49 293 ⇓*i*P **P 00 16 00.9 +1.0**

BUR08 Bucovina Ar. S 37.49 293 *e*P **P 00 16 00.7 +0.8**
MLR Muntele Rosu 37.73 290 ⇓P **P 00 16 03.7 +1.7**
MLR Muntele Rosu 37.73 290 ⇓*i*P **P 00 16 03.7 +1.7**
DOPR Dopca 37.93 291 ⇑*i*P **P 00 16 05.1 +1.6**
VOIR 38.34 290 ⇓P **P 00 16 08.3 +1.3**
VOIR 38.34 290 ⇓*i*P **P 00 16 08.3 +1.3**
KWP Kalwaria Pacla 38.46 297 *e*P **P 00 16 09.4 +1.6**
KWP Kalwaria Pacla 38.46 297 ⇓P **P 00 16 09.3 +1.4**
KWP Kalwaria Pacla 38.46 297 *e*P **P 00 16 09.5 +1.6**
comp=Z,44nm,0.9s
KWP Kalwaria Pacla 38.46 297 ⇓*i*P **P 00 16 09.3 +1.4**
KOLS Kolonicke sedl 38.94 296 *e*P **P 00 16 12.9 +1.0**
KOLS Kolonicke sedl 38.94 296 *e*P **P 00 16 12.9 +1.0**
TRPA Tarpa 39.03 295 ⇑*i*P **P 00 16 14.1 +1.4**
DRGR 39.38 293 ⇓P **P 00 16 17.2 +1.5**
DRGR 39.38 293 ⇓*i*P **P 00 16 17.2 +1.5**
STHS Stebnicka Huta 39.43 297 *e*P **P 00 16 16.8 +0.8**
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 39.43 297 *e*P **P 00 16 16.8 +0.8**
CRVS Cervenica-Dubn 39.46 297 *e*P **P 00 16 17.0 +0.7**
CRVS Cervenica-Dubn 39.46 297 *e*P **P 00 16 17.0 +0.7**
NIE Niedzica 40.01 298 *i* P **P 00 16 22.9 +2.1**
NIE Niedzica 40.01 298 ⇑*i*P **P 00 16 22.9 +2.1**
OJC Ojcow 40.07 299 *e*P **P 00 16 21.5 +0.2**
OJC Ojcow 40.07 299 *e*P **P 00 16 21.5 +0.2**
KECS Kecovo 40.21 296 *e*P **P 00 16 23.5 +1.0**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 40.21 296 *e*P **P 00 16 23.5 +1.0**
BZS Buzias 40.52 292 ⇑P **P 00 16 26.4 +1.3**
BZS Buzias 40.52 292 ⇑*i*P **P 00 16 26.4 +1.3**
PSZ Piszkesteto 40.77 296 *e*P **P 00 16 28.5 +1.3**
PSZ pmax pmax
comp=Z,12nm,1.1s
PSZ Piszkesteto 40.77 296 *e*P **P 00 16 28.5 +1.3**
comp=Z,12nm,1.1s
VYHS Vyhne 41.23 297 *e*P **P 00 16 32.1 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 41.23 297 *e*P **P 00 16 32.1 +1.1**
KOLL Kolacno 41.47 297 *e*P **P 00 16 35.0 +2.1**
KOLL Kolacno 41.47 297 *e*P **P 00 16 35.0 +2.1**
MORC Moravsky Berou 41.59 299 ⇓P **P 00 16 35.4 +1.5**
MORC Moravsky Berou 41.59 299 *e*P **P 00 16 34.5 +0.6**
comp=Z,9.5nm,1.1s
MORC Moravsky Berou 41.59 299 ⇓*i*P **P 00 16 35.4 +1.5**
KSP Ksiaz 41.99 301 *e*P **P 00 16 38.3 +1.3**
KSP Ksiaz 41.99 301 *e*P **P 00 16 38.4 +1.3**
NB2 NORSAR Subarra 42.01 317 P **P 00 16 37.4 +0.3**
comp=Z,1.7nm,0.6s,baz=78,slow=8.6
NOA NORSAR Array B 42.01 317 P **P 00 16 37.5 +0.3**
comp=Z,1.6nm,0.4s,baz=78,slow=8.2,SNR=14
NOA pP **pP 00 16 47.2 +1.8**
comp=Z,1.1nm,0.5s,baz=79,slow=8.1,SNR=3.8
NOA NORSAR Array B 42.01 317 P **P 00 16 37.5 +0.3**
NOA *PP **pP 00 16 47.2 +1.8**
NOA NORSAR Array B 42.01 317 P **P 00 16 37.5 +0.3**
NOA pP **pP 00 16 47.2 +1.8**
SMOL Smolenice 42.10 297 *e*P **P 00 16 39.9 +1.9**
SMOL Smolenice 42.10 297 *e*P **P 00 16 39.9 +1.9**
DPC Dobruska-Polom 42.13 300 *e*P **P 00 16 39.9 +1.6**
DPC Dobruska-Polom 42.13 300 *e*P **P 00 16 39.9 +1.6**
NAO01 NORSAR Array S 42.21 317 *e*P **P 00 16 38.8 0.0**
UPC Upice 42.27 301 *e*P **P 00 16 41.0 +1.6**
UPC Upice 42.27 301 *e*P **P 00 16 41.0 +1.6**
ZST Bratislava 42.42 297 *e*P **P 00 16 42.4 +1.8**
ZST pmax pmax
comp=Z,6.0nm,0.7s
ZST Bratislava 42.42 297 *e*P **P 00 16 42.4 +1.8**
PVCC Panska Ves 43.12 301 *e*P **P 00 16 48.1 +1.8**
PVCC Panska Ves 43.12 301 *e*P **P 00 16 48.1 +1.8**
CONA Conrad Observa 43.29 297 ⇓*i*P **P 00 16 50.0 +2.1**
comp=Z,6.5nm,0.8s
CONA Conrad Observa 43.29 297 ⇓*i*P **P 00 16 50.0 +2.1**
comp=Z,6.5nm,0.8s
PRU Pruhonice 43.33 301 *e*P **P 00 16 49.4 +1.4**
PRU Pruhonice 43.33 301 *e*P **P 00 16 49.4 +1.4**
CLL Collm 43.78 303 ⇑*i*P **P 00 16 52.6 +1.0**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 43.78 303 ⇑*i*P **P 00 16 52.6 +1.0**
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 44.23 300 *e*P **P 00 16 56.8 +1.5**
KHC Kasperske Hory 44.23 300 *e*P **P 00 16 56.8 +1.5**
GERES GERESS Array B 44.27 299 P **P 00 16 56.8 +1.1**
comp=Z,1.2nm,0.7s,baz=65,slow=7.5,SNR=11
GERES GERESS Array B 44.27 299 P **P 00 16 56.8 +1.1**
GERES GERESS Array B 44.27 299 P **P 00 16 56.8 +1.1**
KBA Koelnbreinsper 45.20 297 ⇑*i*P **P 00 17 04.2 +1.0**
KBA pmax pmax
comp=Z,3.0nm,0.5s
KBA Koelnbreinsper 45.20 297 ⇑*i*P **P 00 17 04.2 +1.0**
comp=Z,3.1nm,0.5s
KBA Koelnbreinsper 45.20 297 ⇑*i*P **P 00 17 04.2 +1.0**
comp=Z,3.1nm,0.5s
WTTA Wattenberg 46.18 298 ⇑*i*P **P 00 17 12.2 +1.3**
WTTA pmax pmax
comp=Z,15nm,0.6s
WTTA Wattenberg 46.18 298 ⇑*i*P **P 00 17 12.2 +1.3**
comp=Z,15nm,0.6s
WTTA Wattenberg 46.18 298 ⇑*i*P **P 00 17 12.2 +1.3**
comp=Z,15nm,0.6s
WATA Walderalm 46.18 298 ⇓*i*P **P 00 17 12.1 +1.1**
WATA pmax pmax
comp=Z,5.0nm,0.6s
WATA Walderalm 46.18 298 ⇓*i*P **P 00 17 12.1 +1.1**
comp=Z,5.1nm,0.6s
WATA Walderalm 46.18 298 ⇓*i*P **P 00 17 12.1 +1.1**
comp=Z,5.1nm,0.6s
SQTA Sankt Quirin 46.46 298 ⇑*i*P **P 00 17 14.3 +1.3**
SQTA pmax pmax
comp=Z,11nm,0.5s
SQTA Sankt Quirin 46.46 298 ⇑*i*P **P 00 17 14.3 +1.3**
comp=Z,11nm,0.5s
SQTA Sankt Quirin 46.46 298 ⇑*i*P **P 00 17 14.3 +1.3**
comp=Z,11nm,0.5s
RETA Reutte 46.62 299 ⇓*i*P **P 00 17 15.4 +1.2**
comp=Z,2.8nm,0.5s
RETA Reutte 46.62 299 ⇓*i*P **P 00 17 15.4 +1.2**
comp=Z,2.8nm,0.5s
FETA Feichten 46.84 298 ⇑*i*P **P 00 17 16.8 +0.6**
comp=Z,6.4nm,0.7s
FETA Feichten 46.84 298 ⇑*i*P **P 00 17 16.7 +0.6**
comp=Z,6.4nm,0.7s
DAVA Damuels 47.25 299 ⇓*i*P **P 00 17 20.0 +0.8**
comp=Z,4.4nm,0.8s
DAVA Damuels 47.25 299 ⇓*i*P **P 00 17 20.0 +0.8**
comp=Z,4.4nm,0.8s
CDF Champ du Feu 48.33 301 *e*P **P 00 17 27.9 +0.3**
HINF Hinteralfeld 48.85 301 *e*P **P 00 17 32.0 +0.5**
comp=Z,4.2nm,0.5s
HAU Haudompre 49.07 301 *e*P **P 00 17 33.2 0.0**
comp=Z,5.4nm,0.6s
BAIF Baives 49.40 304 *e*P **P 00 17 36.8 +1.2**
MEZF Maizieres J'vi 49.61 302 *e*P **P 00 17 38.6 +1.3**
comp=Z,17nm,0.8s
SFTF Sexfontaines 49.76 302 *e*P **P 00 17 39.2 +0.8**
comp=Z,1.1nm,0.5s
LPG La Plagne 49.99 298 *e*P **P 00 17 41.7 +1.2**
comp=Z,33nm,0.7s
LPL La Plagne 49.99 298 *e*P **P 00 17 41.6 +1.1**
comp=Z,46nm,0.5s
PGF Pioggiola 50.02 294 *e*P **P 00 17 41.2 +0.6**
BNI Bardonecchia 50.25 297 *e*P **P 00 17 42.7 +0.4**
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 50.25 297 *e*P **P 00 17 42.7 +0.4**
comp=Z,9.9nm,0.9s
ORIF Oris-en-Rattie 50.81 298 *e*P **P 00 17 46.9 +0.4**
comp=Z,12nm,0.6s
LOR Lormes 50.90 301 *e*P **P 00 17 46.9 -0.2**
comp=Z,7.4nm,0.6s
SSF Saint Saulge 51.21 301 *e*P **P 00 17 49.2 -0.2**
comp=Z,2.1nm,0.4s
AVF Avril sur Loir 51.43 301 *e*P **P 00 17 51.1 +0.1**
VIVF Saint-Julien-l 51.59 298 *e*P **P 00 17 52.6 +0.3**
comp=Z,13nm,0.6s
BGF Bois d'Agland 51.85 301 *e*P **P 00 17 54.5 +0.3**
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 52.37 301 *e*P **P 00 17 58.5 +0.4**
LASF Ste Croix 52.48 298 *e*P **P 00 17 59.8 +0.8**
comp=Z,29nm,0.9s
LDF La Druitiere 52.59 304 *e*P **P 00 17 59.7 +0.1**
comp=Z,8.7nm,0.4s

FLN	**La Foliniere**	**52.72**	**305**	*eP*		**P**		**00 18 00.6**	**+0.1**
	comp=Z,16nm,0.5s								
GRR	**Gorron**	**53.12**	**304**	*eP*		**P**		**00 18 03.8**	**+0.3**
CAF	**Calviac**	**53.15**	**299**	*eP*		**P**		**00 18 04.5**	**+0.6**
RJF	**Les Rejaudoux**	**53.28**	**300**	*eP*		**P**		**00 18 05.3**	**+0.5**
	comp=Z,14nm,0.9s								
MFF	**Saint Martin d**	**53.61**	**302**	*eP*		**P**		**00 18 07.1**	**-0.1**
	comp=Z,8.5nm,0.6s								
MTLF	**Montolieu**	**53.88**	**298**	*eP*		**P**		**00 18 09.7**	**+0.5**
SGMF	**Saint Gilles**	**54.16**	**305**	*eP*		**P**		**00 18 11.6**	**+0.4**
ROSF	**Rostrenen**	**54.53**	**305**	*eP*		**P**		**00 18 14.2**	**+0.4**
QUIF	**Quistinic**	**54.69**	**305**	*eP*		**P**		**00 18 15.3**	**+0.3**
EPF	**Esparros**	**55.21**	**298**	*eP*		**P**		**00 18 18.5**	**-0.4**
	comp=Z,8.6nm,0.6s								
ETSF	**Etsaut**	**55.83**	**299**	*eP*		**P**		**00 18 24.0**	**+0.6**
	comp=Z,8.1nm,0.7s								
ESDC	**Sonseca Array**	**59.78**	**297**	P		**P**		**00 18 50.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=46,slow=6.7,SNR=4.7								
ESDC				ScP		**ScP**		**00 23 36.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=8.3,SNR=4.4								
ESDC	**Sonseca Array**	**59.78**	**297**	P		**P**		**00 18 50.7**	**-0.5**
ESDC				ScP		**ScP**		**00 23 36.5**	**-0.1**
INK	**Inuvik**	**63.29**	**14**	*eP*		**P**		**00 19 14.5**	**+0.3**
INK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
INK	**Inuvik**	**63.29**	**14**	*eP*		**P**		**00 19 14.5**	**+0.3**
	comp=Z,6.9nm,1.3s								
ILAR	**Eielson Array**	**63.59**	**21**	P		**P**		**00 19 15.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=330,slow=5.8,SNR=11								
ILAR	**Eielson Array**	**63.59**	**21**	P		**P**		**00 19 15.7**	**-0.6**
ILAR	**Eielson Array**	**63.59**	**21**	P		**P**		**00 19 15.7**	**-0.6**
YKA	**Yellowknife Ar**	**71.29**	**8**	P		**P**		**00 20 04.5**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=347,slow=6.2,SNR=16								
YKA				pP		**pP**		**00 20 14.8**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=345,slow=6.2,SNR=6.6								
YKA				sP		**sP**		**00 20 19.2**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=347,slow=6.4,SNR=6.7								
YKA	**Yellowknife Ar**	**71.29**	**8**	P		**P**		**00 20 04.5**	**-0.6**
YKA				*PP		**pP**		**00 20 14.8**	**+1.2**
YKA				*SP		**sP**		**00 20 19.2**	**+2.3**
YKA	**Yellowknife Ar**	**71.29**	**8**	P		**P**		**00 20 04.5**	**-0.6**
YKA				pP		**pP**		**00 20 14.8**	**+1.2**
YKA				sP		**sP**		**00 20 19.2**	**+2.3**
TORD	**Torodi Ar. Bea**	**73.17**	**272**	P		**P**		**00 20 15.7**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=39,slow=5.1,SNR=27								
TORD				pP		**pP**		**00 20 26.2**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=36,slow=5.6,SNR=5.9								
TORD				sP		**sP**		**00 20 30.1**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=44,slow=5.1,SNR=5.6								
TORD	**Torodi Ar. Bea**	**73.17**	**272**	P		**P**		**00 20 15.7**	**-1.3**
TORD				pP		**pP**		**00 20 26.2**	**+0.6**
TORD				sP		**sP**		**00 20 30.1**	**+1.3**
WRA	**Warramunga Arr**	**81.44**	**130**	P		**P**		**00 21 00.2**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=332,slow=5.2,SNR=5.3								
WRA	**Warramunga Arr**	**81.44**	**130**	P		**P**		**00 21 00.2**	**-2.9**
WRA	**Warramunga Arr**	**81.44**	**130**	P		**P**		**00 21 00.2**	**-2.9**
DBIC	**Dimbokro**	**82.29**	**272**	P		**P**		**00 21 06.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=315,slow=4.3,SNR=4.1								
DBIC	**Dimbokro**	**82.29**	**272**	P		**P**		**00 21 06.6**	**-1.2**
DBIC	**Dimbokro**	**82.29**	**272**	P		**P**		**00 21 06.6**	**-1.2**

CSEM ***15*** *00:52:14.7±0.5,38°.03N×20°.17E,h5km,MD3.3,Error ellipse: s-maj=12.6km s-min=8.0km az=42.0*
ISCJB ***15*** *00:52:15.3±1.2,38°.2N±0°.1×20°.2E±0°.1,h11km,Error ellipse: s-maj=18.0km s-min=4.8km az=36.7*
ATH ***15*** *00:52:18.4,38°.02N×20°.44E,h7km±3km,MD3.3/7*
ISC 15 00:52:15.1±1.2**,38°.03N**±0°.05×**20°.23E**±0°.06**,h11km,n18,**
σ1817/25,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.32**	**62**	*e*PG	**Pg**	**00 52 22.2**	**+0.7**
VLS				*e*SG	**Sg**	**00 52 25.8**	**0.0**
VLS	**Valsamata**	**0.32**	**62**	*e*Pg	**Pg**	**00 52 22.2**	**+0.7**
VLS				*e*Sg	**Sg**	**00 52 25.8**	**0.0**
RLS	**Riolos of Patr**	**0.97**	**88**	*e*PB	**Pg**	**00 52 33.9**	**+0.1**
RLS				*e*SB	**Sg**	**00 52 44.8**	**-1.7**
RLS	**Riolos of Patr**	**0.97**	**88**	*e*Pb	**Pg**	**00 52 33.9**	**+0.1**
RLS				*e*Sb	**Sg**	**00 52 44.8**	**-1.7**
EFP	**Efpalio**	**1.38**	**73**	*e*PB	**Pb**	**00 52 41.4**	**+0.6**
EFP	**Efpalio**	**1.38**	**73**	*e*Pb	**Pb**	**00 52 41.4**	**+0.6**
EVR	**Evrytania**	**1.52**	**54**	*e*PB	**Pg**	**00 52 45.2**	**+0.9**
EVR	**Evrytania**	**1.52**	**54**	*e*Pb	**Pg**	**00 52 45.2**	**+0.9**
ITM	**Ithomi**	**1.59**	**122**	*e*PG	**Pb**	**00 52 45.4**	**+1.0**
ITM	**Ithomi**	**1.59**	**122**	*e*Pg	**Pb**	**00 52 45.4**	**+1.0**
PYL	**PYLOS**	**1.65**	**133**	*e*PB	**Pg**	**00 52 47.2**	**+0.5**
PYL	**PYLOS**	**1.65**	**133**	*e*Pb	**Pg**	**00 52 47.2**	**+0.5**
GUR	**Goura**	**1.67**	**92**	*e*PB	**Pg**	**00 52 47.0**	**-0.1**
GUR	**Goura**	**1.67**	**92**	*e*Pb	**Pg**	**00 52 47.0**	**-0.1**
THL	**Klokotos Trika**	**2.07**	**42**	*e*PN	**Pb**	**00 52 54.0**	**+1.4**
STON	**Ston**	**5.21**	**339**	*e*Pn	**Pn**	**00 53 33.9**	**+1.0**
STON				Sn	**Sn**	**00 54 29.3**	**-3.5**
NVLJ	**Novalja**	**7.68**	**330**	*e*Pn	**Pn**	**00 54 06.8**	**+0.1**
NVLJ				Sn	**Sn**	**00 55 32.4**	**-1.1**
NVLJ	**Novalja**	**7.68**	**330**	*e*Pn	**Pn**	**00 54 06.8**	**+0.1**
NVLJ				Sn	**Sn**	**00 55 32.4**	**-1.1**

IDC 15 01:09:35.6±1.9**,58°.11S**×**25°.50W,h0km,mb3.6/1,**
mb1 3.6/1,mb1mx3.4/11,mbtmp3.6/1,Error ellipse:
s-maj=112.0km s-min=76.7km az=138.0,South
Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**14.73**	**160**	*e*P	P	01 13 08.6	-2.7
VNA2	**Neumayer--Watz**	**14.93**	**157**	*e*P	P	01 13 11.4	-2.1
	baz=323,slow=14						
SNAA	**Sanae**	**16.48**	**155**	*e*P	P	01 13 29.7	-1.0
TORD	**Torodi Ar. Bea**	**74.43**	**28**	P	P	01 21 15.4	0.0
	0.3nm,0.6s,baz=198,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**138.31**	**316**	PKP	PKPdf	01 29 00.9	-0.3
	0.1nm,0.3s,baz=132,slow=2.3,SNR=6.7						
SONM	**Songino Array**	**149.89**	**89**	PKPbc	PKPbc	01 29 26.4	-0.4
	0.2nm,0.5s,baz=248,slow=1.9,SNR=4.1						
ILAR	**Eielson Array**	**152.15**	**308**	PKPbc	PKPbc	01 29 31.2	-0.2
	0.5nm,0.5s,baz=142,slow=1.8,SNR=6.9						

ISCJB ***15*** *01:12:38.4±0.3,45°.56N±0°.03×26°.33E±0°.04,h152km±3km, mb3.3/3,Error ellipse: s-maj=4.5km s-min=4.1km az=22.5*
BUC ***15*** *01:12:38.9±0.9,45°.55N×26°.33E,h154km±8km,MD4.6/2, Error ellipse: s-maj=6.1km s-min=5.7km az=80.0*
IDC ***15*** *01:12:38.9±0.7,45°.62N×26°.24E,h138km±3km,mb3.2/3, mb1 3.0/9,mb1mx2.9/27,mbtmp2.9/9,Error ellipse: s-maj=22.5km s-min=12.2km az=116.0*
CSEM ***15*** *01:12:39.0±0.2,45°.54N×26°.32E,h150km±2km,MD4.6/2, Error ellipse: s-maj=3.6km s-min=3.4km az=77.0*
SOF ***15*** *01:12:40.0,45°.68N×26°.28E,h48km,MD3.1*
ISC 15 01:12:39.3±0.7**,45°.56N**±0°.03×**26°.32E**±0°.03**,h154**km±4km**,**
n148,σ0884/189,mb3.6/3,43C-56D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.27**	**256**	P	**Pn**	**01 13 00.1**	**-0.2**
	7.6nm,0.3s,baz=324,slow=9.1,SNR=1611						
MLR				S	**Sn**	**01 13 13.5**	**-2.8**
	6.1nm,0.3s,baz=277,slow=18,SNR=18						
MLR	**Muntele Rosu**	**0.27**	**256**	↑*i*P	**Pn**	**01 13 00.1**	**-0.2**
MLR	**Muntele Rosu**	**0.27**	**256**	S	**Sn**	**01 13 15.6**	**-0.7**
MLR	**Muntele Rosu**	**0.27**	**256**	↑*i*P	**Pn**	**01 13 00.1**	**-0.2**
MLR				*i* S	**Sn**	**01 13 15.6**	**-0.7**
MLR	**Muntele Rosu**	**0.27**	**256**	↑*i*P	**Pn**	**01 13 00.1**	**-0.2**
MLR				*i* S	**Sn**	**01 13 15.6**	**-0.7**
PLOR	**Plostina**	**0.37**	**38**	↓*i*P	**Pn**	**01 13 00.0**	**-0.5**
PLOR	**Plostina**	**0.37**	**38**	S	**Sn**	**01 13 15.7**	**-1.1**
PLOR	**Plostina**	**0.37**	**38**	↓*i*P	**Pn**	**01 13 00.0**	**-0.5**
PLOR				*i* S	**Sn**	**01 13 15.7**	**-1.1**
PLOR	**Plostina**	**0.37**	**38**	↓*i*P	**Pn**	**01 13 00.0**	**-0.5**
PLOR				*i* S	**Sn**	**01 13 15.7**	**-1.1**
VRI	**Vrincioaia**	**0.42**	**43**	↑*i*P	**Pn**	**01 13 00.4**	**-0.3**
VRI	**Vrincioaia**	**0.42**	**43**	S	**Sn**	**01 13 16.0**	**-1.0**
VRI	**Vrincioaia**	**0.42**	**43**	↑*i*P	**Pn**	**01 13 00.4**	**-0.3**
VRI				*i* S	**Sn**	**01 13 16.0**	**-1.0**
VRI	**Vrincioaia**	**0.42**	**43**	↑*i*P	**Pn**	**01 13 00.4**	**-0.3**
VRI				*i* S	**Sn**	**01 13 16.0**	**-1.0**
ISR	**Istrita**	**0.47**	**160**	↓*i*P	**Pn**	**01 13 01.3**	**+0.3**
ISR	**Istrita**	**0.47**	**160**	↓*i*P	**Pn**	**01 13 01.3**	**+0.3**
ISR	**Istrita**	**0.47**	**160**	↓*i*P	**Pn**	**01 13 01.3**	**+0.3**
GRER		**0.49**	**111**	S	**Sn**	**01 13 16.4**	**-1.1**
GRER		**0.49**	**111**	*i* S	**Sn**	**01 13 16.4**	**-1.1**
GRER		**0.49**	**111**	*i* S	**Sn**	**01 13 16.4**	**-1.1**
ODBI	**Odobesti**	**0.55**	**68**	↑*i*P	**Pn**	**01 13 02.1**	**+0.9**
ODBI	**Odobesti**	**0.55**	**68**	↑*i*P	**Pn**	**01 13 02.1**	**+0.9**
ODBI	**Odobesti**	**0.55**	**68**	↑*i*P	**Pn**	**01 13 02.1**	**+0.9**
SECR		**0.55**	**199**	↑*i*P	**Pn**	**01 13 01.6**	**+0.3**
SECR		**0.55**	**199**	↑*i*P	**Pn**	**01 13 01.6**	**+0.3**
SECR		**0.55**	**199**	↑*i*P	**Pn**	**01 13 01.6**	**+0.3**
PETR		**0.66**	**75**	↑*i*P	**Pn**	**01 13 02.3**	**+0.5**
PETR		**0.66**	**75**	S	**Sn**	**01 13 19.0**	**-0.1**
PETR		**0.66**	**75**	↑*i*P	**Pn**	**01 13 02.3**	**+0.5**
PETR				*i* S	**Sn**	**01 13 19.0**	**-0.1**
PETR		**0.66**	**75**	↑*i*P	**Pn**	**01 13 02.3**	**+0.5**
PETR				*i* S	**Sn**	**01 13 19.0**	**-0.1**
PLAR	**PLOIESTI**	**0.68**	**198**	↓*i*P	**Pn**	**01 13 02.5**	**+0.5**
PLAR	**PLOIESTI**	**0.68**	**198**	↓*i*P	**Pn**	**01 13 02.5**	**+0.5**
PLAR	**PLOIESTI**	**0.68**	**198**	↓*i*P	**Pn**	**01 13 02.5**	**+0.5**
DOPR	**Dopca**	**0.77**	**302**	↑*i*P	**Pn**	**01 13 02.3**	**-0.3**
DOPR	**Dopca**	**0.77**	**302**	S	**Sn**	**01 13 19.7**	**-0.8**
DOPR	**Dopca**	**0.77**	**302**	↑*i*P	**Pn**	**01 13 02.3**	**-0.3**
DOPR				*i* S	**Sn**	**01 13 19.7**	**-0.8**
DOPR	**Dopca**	**0.77**	**302**	↑*i*P	**Pn**	**01 13 02.3**	**-0.3**
DOPR				*i* S	**Sn**	**01 13 19.7**	**-0.8**
PGOR	**Pogoanele**	**0.80**	**144**	↓*i*P	**Pn**	**01 13 03.1**	**+0.3**
PGOR	**Pogoanele**	**0.80**	**144**	↓*i*P	**Pn**	**01 13 03.1**	**+0.3**
PGOR	**Pogoanele**	**0.80**	**144**	↓*i*P	**Pn**	**01 13 03.1**	**+0.3**
SULR		**0.88**	**183**	↓*i*P	**Pn**	**01 13 02.2**	**-1.2**
SULR		**0.88**	**183**	S	**Sn**	**01 13 20.6**	**-1.2**
SULR		**0.88**	**183**	↓*i*P	**Pn**	**01 13 02.2**	**-1.2**
SULR				*i* S	**Sn**	**01 13 20.6**	**-1.2**
SULR		**0.88**	**183**	↓*i*P	**Pn**	**01 13 02.2**	**-1.2**
SULR				*i* S	**Sn**	**01 13 20.6**	**-1.2**
VOIR		**0.90**	**263**	↑*i*P	**Pn**	**01 13 03.3**	**-0.4**
VOIR		**0.90**	**263**	S	**Sn**	**01 13 21.2**	**-1.1**
VOIR		**0.90**	**263**	↑*i*P	**Pn**	**01 13 03.3**	**-0.4**
VOIR				*i* S	**Sn**	**01 13 21.2**	**-1.1**
VOIR		**0.90**	**263**	↑*i*P	**Pn**	**01 13 03.3**	**-0.4**
VOIR				*i* S	**Sn**	**01 13 21.2**	**-1.1**
TESR		**0.98**	**13**	↑*i*P	**Pn**	**01 13 04.7**	**+0.5**
TESR		**0.98**	**13**	↑*i*P	**Pn**	**01 13 04.7**	**+0.5**
TESR		**0.98**	**13**	↑*i*P	**Pn**	**01 13 04.7**	**+0.5**
CIOR	**Ciorogarla**	**1.15**	**196**	↓*i*P	**Pn**	**01 13 05.6**	**-0.1**
CIOR	**Ciorogarla**	**1.15**	**196**	S	**Sn**	**01 13 25.4**	**-0.5**
CIOR	**Ciorogarla**	**1.15**	**196**	↓*i*P	**Pn**	**01 13 05.6**	**-0.1**
CIOR				*i* S	**Sn**	**01 13 25.4**	**-0.5**
CIOR	**Ciorogarla**	**1.15**	**196**	↓*i*P	**Pn**	**01 13 05.6**	**-0.1**
CIOR				*i* S	**Sn**	**01 13 25.4**	**-0.5**
BUC	**Bucharest**	**1.16**	**188**	↓*i*P	**Pn**	**01 13 05.8**	**+0.1**
BUC	**Bucharest**	**1.16**	**188**	S	**Sn**	**01 13 25.7**	**-0.2**
BUC	**Bucharest**	**1.16**	**188**	↓*i*P	**Pn**	**01 13 05.8**	**+0.1**
BUC				*i* S	**Sn**	**01 13 25.7**	**-0.2**
AMRR	**Amara**	**1.19**	**143**	↓*i*P	**Pn**	**01 13 06.1**	**+0.1**
AMRR	**Amara**	**1.19**	**143**	S	**Sn**	**01 13 26.0**	**-0.4**
AMRR	**Amara**	**1.19**	**143**	↓*i*P	**Pn**	**01 13 06.1**	**+0.1**
AMRR				*i* S	**Sn**	**01 13 26.0**	**-0.4**
AMRR	**Amara**	**1.19**	**143**	↓*i*P	**Pn**	**01 13 06.1**	**+0.1**
AMRR				*i* S	**Sn**	**01 13 26.0**	**-0.4**
BUC1	**Bucharest**	**1.23**	**190**	↓*i*P	**Pn**	**01 13 06.5**	**+0.1**
BUC1	**Bucharest**	**1.23**	**190**	S	**Sn**	**01 13 26.6**	**-0.5**
BUC1	**Bucharest**	**1.23**	**190**	↓*i*P	**Pn**	**01 13 06.5**	**+0.1**
BUC1				*i* S	**Sn**	**01 13 26.6**	**-0.5**
BUC1	**Bucharest**	**1.23**	**190**	↓*i*P	**Pn**	**01 13 05.8**	**-0.6**
BUC1				*i* S	**Sn**	**01 13 26.6**	**-0.5**
HUMR	**Humele**	**1.40**	**223**	↓*i*P	**Pn**	**01 13 07.8**	**-0.3**
HUMR	**Humele**	**1.40**	**223**	S	**Sn**	**01 13 29.2**	**-0.9**
HUMR	**Humele**	**1.40**	**223**	↓*i*P	**Pn**	**01 13 07.8**	**-0.3**
HUMR				*i* S	**Sn**	**01 13 29.2**	**-0.9**
HUMR	**Humele**	**1.40**	**223**	↓*i*P	**Pn**	**01 13 07.8**	**-0.3**
HUMR				*i* S	**Sn**	**01 13 29.2**	**-0.9**
MDB	**Medias**	**1.48**	**294**	↓*i*P	**Pn**	**01 13 09.7**	**+0.9**
MDB	**Medias**	**1.48**	**294**	↓*i*P	**Pn**	**01 13 09.7**	**+0.9**
MDB	**Medias**	**1.48**	**294**	↓*i*P	**Pn**	**01 13 09.7**	**+0.9**
LEOM	**Leova**	**1.62**	**55**	↑*i*P	**Pn**	**01 13 10.3**	**0.0**
LEOM	**Leova**	**1.62**	**55**	S	**Sn**	**01 13 33.2**	**-1.0**
LEOM	**Leova**	**1.62**	**55**	↑*i*P	**Pn**	**01 13 10.3**	**0.0**
LEOM				*i* S	**Sn**	**01 13 33.2**	**-1.0**
LEOM	**Leova**	**1.62**	**55**	↑*i*P	**Pn**	**01 13 10.3**	**0.0**
LEOM				*i* S	**Sn**	**01 13 33.2**	**-1.0**
CVD	**Cernavoda**	**1.74**	**135**	↓*i*P	**Pn**	**01 13 11.4**	**-0.2**
CVD	**Cernavoda**	**1.74**	**135**	S	**Sn**	**01 13 34.7**	**-1.8**
CVD	**Cernavoda**	**1.74**	**135**	↓*i*P	**Pn**	**01 13 11.4**	**-0.2**
CVD				*i* S	**Sn**	**01 13 34.7**	**-1.8**
CVD	**Cernavoda**	**1.74**	**135**	↓*i*P	**Pn**	**01 13 11.4**	**-0.2**
CVD				*i* S	**Sn**	**01 13 34.7**	**-1.8**
TLCR		**1.80**	**101**	↓*i*P	**Pn**	**01 13 11.9**	**-0.3**
TLCR		**1.80**	**101**	S	**Sn**	**01 13 36.6**	**-1.0**
TLCR		**1.80**	**101**	↓*i*P	**Pn**	**01 13 11.9**	**-0.3**
TLCR				*i* S	**Sn**	**01 13 36.6**	**-1.0**
TLCR		**1.80**	**101**	↓*i*P	**Pn**	**01 13 11.9**	**-0.3**
TLCR				*i* S	**Sn**	**01 13 36.6**	**-1.0**
PRAR	**RASCA**	**1.80**	**358**	↑*i*P	**Pn**	**01 13 12.7**	**+0.4**
PRAR	**RASCA**	**1.80**	**358**	↑*i*P	**Pn**	**01 13 12.7**	**+0.4**
PRAR	**RASCA**	**1.80**	**358**	↑*i*P	**Pn**	**01 13 12.7**	**+0.4**
IAS	**Iasi**	**1.85**	**27**	↑*i*P	**Pn**	**01 13 12.5**	**-0.3**
IAS	**Iasi**	**1.85**	**27**	S	**Sn**	**01 13 37.2**	**-1.4**
IAS	**Iasi**	**1.85**	**27**	↑*i*P	**Pn**	**01 13 12.5**	**-0.3**
IAS				*i* S	**Sn**	**01 13 37.2**	**-1.4**
IAS	**Iasi**	**1.85**	**27**	↑*i*P	**Pn**	**01 13 12.5**	**-0.3**
IAS				*i* S	**Sn**	**01 13 37.2**	**-1.4**
TIRR	**Tirgusor**	**1.85**	**126**	↓*i*P	**Pn**	**01 13 12.7**	**-0.1**
TIRR	**Tirgusor**	**1.85**	**126**	S	**Sn**	**01 13 36.6**	**-2.0**
TIRR	**Tirgusor**	**1.85**	**126**	↓*i*P	**Pn**	**01 13 12.7**	**-0.1**
TIRR				*i* S	**Sn**	**01 13 36.6**	**-2.0**
TIRR	**Tirgusor**	**1.85**	**126**	↓*i*P	**Pn**	**01 13 12.7**	**-0.1**
TIRR				*i* S	**Sn**	**01 13 36.6**	**-2.0**
ZIMR		**2.02**	**200**	↓*i*P	**Pn**	**01 13 14.6**	**-0.2**
ZIMR		**2.02**	**200**	S	**Sn**	**01 13 40.7**	**-1.4**
ZIMR		**2.02**	**200**	↓*i*P	**Pn**	**01 13 14.6**	**-0.2**
ZIMR				*i* S	**Sn**	**01 13 40.7**	**-1.4**
BURAR	**Bucovina Array**	**2.19**	**340**	↑*i*P	**Pn**	**01 13 17.8**	**+0.9**
BURAR	**Bucovina Array**	**2.19**	**340**	↑*i*P	**Pn**	**01 13 17.8**	**+0.9**
BURAR	**Bucovina Array**	**2.19**	**340**	↑*i*P	**Pn**	**01 13 17.8**	**+0.9**
EFOR	**EFORIE**	**2.21**	**131**	↓*i*P	**Pn**	**01 13 17.1**	**+0.1**
EFOR	**EFORIE**	**2.21**	**131**	S	**Sn**	**01 13 44.9**	**-1.2**
EFOR	**EFORIE**	**2.21**	**131**	↓*i*P	**Pn**	**01 13 17.1**	**+0.1**
EFOR				*i* S	**Sn**	**01 13 44.9**	**-1.2**
EFOR	**EFORIE**	**2.21**	**131**	↓*i*P	**Pn**	**01 13 17.1**	**+0.1**
EFOR				*i* S	**Sn**	**01 13 44.9**	**-1.2**
KIS	**Kishinev**	**2.25**	**49**	↑*i*P	**Pn**	**01 13 17.2**	**-0.3**
KIS	**Kishinev**	**2.25**	**49**	↑*i*P	**Pn**	**01 13 17.2**	**-0.3**
KIS				*i* S	**Sn**	**01 13 45.4**	**-1.6**
KIS	**Kishinev**	**2.25**	**49**	↑*i*P	**Pn**	**01 13 18.1**	**+0.6**
	170nm,0.6s						
KIS				*i* S	**Sn**	**01 13 45.4**	**-1.6**
	1µm,0.5s						
KIS	**Kishinev**	**2.25**	**49**	↑*i*P	**Pn**	**01 13 17.2**	**-0.3**
KIS				*i* S	**Sn**	**01 13 45.4**	**-1.6**
	1µm,0.5s						
SZH	**Strazhica**	**2.31**	**187**	P	**Pn**	**01 13 18.0**	**-0.3**
SZH	**Strazhica**	**2.31**	**187**	P	**Pn**	**01 13 18.0**	**-0.3**
MANR	**Mangalia**	**2.38**	**136**	↓*i*P	**Pn**	**01 13 19.0**	**0.0**
MANR	**Mangalia**	**2.38**	**136**	↓*i*P	**Pn**	**01 13 19.0**	**0.0**
MANR	**Mangalia**	**2.38**	**136**	↓*i*P	**Pn**	**01 13 19.0**	**0.0**
PRD	**Provadia**	**2.48**	**161**	P	**Pn**	**01 13 20.5**	**+0.2**
PRD	**Provadia**	**2.48**	**161**	P	**Pn**	**01 13 20.5**	**+0.2**
GZR	**Gura Zlata**	**2.50**	**267**	↑*i*P	**Pn**	**01 13 20.4**	**-0.2**
GZR	**Gura Zlata**	**2.50**	**267**	↑*i*P	**Pn**	**01 13 20.4**	**-0.2**
GZR	**Gura Zlata**	**2.50**	**267**	↑*i*P	**Pn**	**01 13 20.4**	**-0.2**
DRGR		**2.79**	**297**	↓*i*P	**Pn**	**01 13 23.7**	**-0.5**
DRGR		**2.79**	**297**	↓*i*P	**Pn**	**01 13 23.7**	**-0.5**
DRGR		**2.79**	**297**	↓*i*P	**Pn**	**01 13 23.7**	**-0.5**
MPEP	**Malo Peshtene**	**2.88**	**221**	P	**Pn**	**01 13 24.5**	**-0.7**
BZS	**Buzias**	**3.30**	**273**	↓*i*P	**Pn**	**01 13 30.0**	**-0.6**
BZS	**Buzias**	**3.30**	**273**	↓*i*P	**Pn**	**01 13 30.0**	**-0.6**
BZS	**Buzias**	**3.30**	**273**	↓*i*P	**Pn**	**01 13 30.0**	**-0.6**
ZAPS	**Zavoj**	**3.49**	**230**	↓*i*Pn	**Pn**	**01 13 32.9**	**-0.2**
BARS	**Barje**	**4.25**	**231**	*e*Pn	**Pn**	**01 13 44.2**	**+1.4**
GRUS	**Gruza**	**4.33**	**249**	*e*Pn	**Pn**	**01 13 44.0**	**+0.1**
KOLS	**Kolonicke sedl**	**4.36**	**322**	*e*P	**Pn**	**01 13 44.8**	**+0.6**
KOLS	**Kolonicke sedl**	**4.36**	**322**	*e*P	**Pn**	**01 13 44.8**	**+0.6**
TRUS	**Trudelj**	**4.41**	**254**	*e*Pn	**Pn**	**01 13 43.0**	**-1.9**
CRVS	**Cervenica-Dubn**	**4.71**	**317**	*e*P	**Pn**	**01 13 49.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.71**	**317**	*e*P	**Pn**	**01 13 49.1**	**+0.3**
DIVS	**Divibare**	**4.73**	**254**	*e*Pn	**Pn**	**01 13 47.8**	**-1.5**
KECS	**Kecovo**	**4.95**	**308**	*e*P	**Pn**	**01 13 52.0**	**+0.1**
KECS	**Kecovo**	**4.95**	**308**	*e*P	**Pn**	**01 13 52.1**	**+0.1**
STHS	**Stebnicka Huta**	**5.17**	**320**	*e*P	**Pn**	**01 13 55.3**	**+0.4**
STHS	**Stebnicka Huta**	**5.17**	**320**	*e*P	**Pn**	**01 13 55.3**	**+0.4**
AKASG	**Malin Array Be**	**5.50**	**20**	P	**Pn**	**01 13 58.5**	**-0.7**
	1.7nm,0.3s,baz=206,slow=13,SNR=5.6						
AKASG				S	**Sn**	**01 14 58.2**	**-3.6**
	1.5nm,0.3s,baz=203,slow=22,SNR=5.1						
BRTR	**Keskin Array B**	**7.94**	**135**	P	**Pn**	**01 14 31.9**	**-0.1**
	0.1nm,0.3s,baz=327,slow=12,SNR=4.3						
GERES	**GERESS Array B**	**9.20**	**295**	P	**Pn**	**01 14 48.3**	**-0.2**
	0.1nm,0.3s,baz=106,slow=14,SNR=5.9						
FINES	**FINESS Array B**	**15.91**	**360**	P	**Pn**	**01 16 14.2**	**-0.2**
	0.1nm,0.3s,baz=176,slow=20,SNR=3.5						
HFS	**Hagfors**	**16.42**	**337**	P	**Pn**	**01 16 20.7**	**+0.1**
	0.2nm,0.3s,baz=155,slow=11,SNR=5.7						
NOA	**NORSAR Array B**	**17.87**	**336**	P	**P**	**01 16 36.4**	**-0.1**
	0.1nm,0.3s,baz=149,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**38.08**	**67**	P	**P**	**01 19 44.4**	**+1.6**
	0.1nm,0.6s,baz=336,slow=3.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**38.47**	**221**	P	**P**	**01 19 47.0**	**+0.7**
	0.6nm,0.4s,baz=30,slow=8.7,SNR=15						
DBIC	**Dimbokro**	**47.22**	**224**	P	**P**	**01 20 56.7**	**0.0**
	0.9nm,0.4s,baz=26,slow=8.8,SNR=8.0						

**RSPR 15 02:01:11.8,18°.00N×65°.50W

az=118.0
*NEIC **15** 03:24:34.1±1.9,4.°42S×152.°85E,h99km±17km,mb4.4/4, Error ellipse: s-maj=15.1km s-min=12.3km az=120.0*

ISC 15 03:24:29.6±0.7,4.°3S±0.°1×152.°9E±0.°1,h55km,n32, σ1s09/30,mb4.3/11,MS3.6/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.62**	**228**	P	Pn	03 26 21.1	+3.1
	2.1nm,0.3s,baz=45,slow=7.1,SNR=3.3						
PMG				S	**Sn**	**03 27 44.2**	**+1.2**
	2.2nm,0.3s,baz=122,slow=19,SNR=12						
PMG	**Port Moresby**	**7.62**	**228**	P	Pn	03 26 21.1	+3.1
DZM	**Mont Dzumac**	**22.04**	**145**	P	**P**	**03 29 20.7**	**+0.8**
	14nm,0.8s,baz=309,slow=19,SNR=9.9						
DZM	**Mont Dzumac**	**22.04**	**145**	*e*P	**P**	**03 29 20.3**	**+0.4**
	10nm,0.7s						
WRAB	**Tennant Creek**	**23.82**	**228**	*e*P	**P**	**03 29 37.0**	**-0.8**
	14nm,0.7s						
WB2	**Warramunga Arr**	**23.83**	**228**	*e*P	**P**	**03 29 37.1**	**-0.7**
WRA	**Warramunga Arr**	**23.84**	**228**	P	**P**	**03 29 37.0**	**-0.9**
	8.0nm,0.5s,baz=52,slow=9.6,SNR=59						
WRA				S	**S**	**03 33 48.8**	**-1.4**
	1.4nm,1.0s,baz=54,slow=15,SNR=5.7						
WRA				ScP	**ScP**	**03 36 56.4**	**+2.4**
	2.2nm,0.9s,baz=55,slow=3.1,SNR=8.7						
WRA	**Warramunga Arr**	**23.84**	**228**	P	**P**	**03 29 37.0**	**-0.9**
WRA				S	**S**	**03 33 48.8**	**-1.4**
WRA				ScP	**ScP**	**03 36 56.4**	**+2.4**
AS31	**Alice Springs**	**26.57**	**222**	*e*P	**P**	**03 30 02.2**	**-0.6**
ASAR	**Alice Springs**	**26.58**	**222**	P	**P**	**03 30 01.9**	**-0.9**
	0.9nm,0.3s,baz=57,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**26.58**	**222**	P	**P**	**03 30 01.9**	**-0.9**
KSRS	**Korea Array**	**47.57**	**333**	LR	LR	03 52 23.9	
	comp=Z,17nm,18.6s,baz=155,slow=35						
PETK	**Petropavlovsk-**	**57.32**	**3**	LR	LR	03 57 13.1	
	comp=Z,43nm,18.6s,baz=352,slow=34						
SONM	**Songino Array**	**65.93**	**328**	P	**P**	**03 35 11.1**	**+1.0**
	0.5nm,0.7s,baz=155,slow=5.1,SNR=3.6						
SONM	**Songino Array**	**65.93**	**328**	P	**P**	**03 35 11.1**	**+1.0**
BILL	**Bilibino**	**72.77**	**5**	*e*P	**P**	**03 35 52.2**	**+0.4**
	4.2nm,0.8s						
MKAR	**Makanchi Array**	**79.98**	**319**	P	**P**	**03 36 33.8**	**+0.7**
	0.2nm,0.6s,baz=106,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**79.98**	**319**	P	**P**	**03 36 33.8**	**+0.7**
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**03 36 40.2**	**-1.4**
	1.3nm,0.8s,baz=245,slow=5.5,SNR=10.0						
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**03 36 40.2**	**-1.4**
MAW	**Mawson**	**86.07**	**203**	LR	LR	04 12 18.0	
	comp=Z,174nm,18.0s,baz=310,slow=33						
BVAR	**Borovoye Array**	**88.87**	**323**	P	**P**	**03 37 17.3**	**-0.6**
	1.2nm,0.7s,baz=90,slow=5.8,SNR=6.7						
BVAR	**Borovoye Array**	**88.87**	**323**	P	**P**	**03 37 17.3**	**-0.6**
BRVK	**Borovoye**	**88.94**	**323**	*e*P	**P**	**03 37 18.2**	**0.0**
	2.6nm,0.9s						
YKA	**Yellowknife Ar**	**94.94**	**28**	P	**P**	**03 37 45.7**	**-0.1**
	0.4nm,0.8s,baz=267,slow=5.4,SNR=5.4						
YKA	**Yellowknife Ar**	**94.94**	**28**	P	**P**	**03 37 45.6**	**-0.1**
BRTR	**Keskin Array B**	**115.01**	**312**	PKP	PKPdf	03 43 05.5	+0.4
	0.1nm,0.3s,baz=68,slow=3.2,SNR=2.8						
BRTR	**Keskin Array B**	**115.01**	**312**	PKP	PKPdf	03 43 05.5	+0.4
GERES	**GERESS Array B**	**123.65**	**329**	PKP	**PKPdf**	**03 43 20.9**	**-0.4**
	0.4nm,0.6s,baz=90,slow=2.7,SNR=4.9						
GERES	**GERESS Array B**	**123.65**	**329**	PKP	**PKPdf**	**03 43 20.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	**PKPbc**	**03 44 15.1**	**-0.5**
	2.1nm,0.3s,baz=88,slow=2.2,SNR=102						
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	**PKPbc**	**03 44 15.1**	**-0.5**

NNC 15 03:43:15.4±3.7,37.°38N×70.°65E,h0km,mb3.7,mpv3.6, 1C-3D,Error ellipse: s-maj=30.6km s-min=29.2km az=101.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.72**	**359**	Pn	Pn	03 44 45.2	+3.6
	2.8nm,0.3s,baz=234,slow=26,SNR=84						
KK31				⇓Sn	Sn	03 45 54.5	+6.6
	2.4nm,0.5s,baz=234,slow=26,SNR=8.9						
TKM2	**Tokmak 2**	**6.71**	**33**	⇓Pn	Pn	03 44 54.2	-1.3
	1.7nm,0.5s,baz=234,slow=26						
TKM2				⇑Sn	Sn	03 46 13.1	+0.3
	3.9nm,0.9s,baz=234,slow=26						
AB31	**Akbulak array**	**14.18**	**330**	Pn	Pn	03 46 36.5	-1.0
	0.1nm,0.3s,baz=234,slow=26,SNR=11						
AB31				⇓Sn	Sn	03 49 13.7	-1.7
	0.2nm,0.4s,baz=234,slow=26						
AKTO	**Aktyubinsk**	**15.88**	**329**	Pn	Pn	03 46 56.1	-4.0
	baz=234,slow=26						

*ISCJB **15** 04:14:34.9±1.4,34.°74N±0.°05×1.°06W±0.°07,h14km±11km, Error ellipse: s-maj=11.4km s-min=6.1km az=31.3*
*MDD **15** 04:14:34.4±1.8,34.°62N×1.°15W,h0km,mb3.9/11,Error ellipse: s-maj=17.0km s-min=12.1km az=160.0,PRXIMO*
*CSEM **15** 04:14:36.9±0.6,34.°88N×1.°21W,h2km,MD3.7,Error ellipse: s-maj=13.5km s-min=9.3km az=133.0*
*CNRM **15** 04:14:45.2,34.°67N×1.°14W,h30km,MD3.7*

ISC 15 04:14:36.3±2.2,34.°72N±0.°05×1.°12W±0.°06,h17km±14km, n38,σ1s47/66,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**1.36**	**281**	P	**Pn**	**04 15 00.0**	**-0.6**
ZAI				S	**Sg**	**04 15 22.0**	**+1.5**
ZAI	**Zaio**	**1.36**	**281**	*i* P	**Pn**	**04 15 00.0**	**-0.6**
ZAI				S	**Sg**	**04 15 22.0**	**+1.5**
ENIJ	**Nijar**	**2.42**	**339**	P	**Pn**	**04 15 13.8**	**-1.3**
	6.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**04 15 44.3**	**0.0**
	6.5nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.42**	**339**	P	**Pn**	**04 15 13.8**	**-1.3**
	6.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**04 15 44.3**	**0.0**
	6.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.61**	**327**	P	**Pn**	**04 15 16.6**	**-1.3**
	0.4nm,0.2s,SNR=11						
EBER				S	**Sn**	**04 15 50.8**	**+1.5**
	17nm,0.4s,SNR=5.6						
EBER	**Berja**	**2.61**	**327**	P	**Pn**	**04 15 16.6**	**-1.3**
	0.4nm,0.2s,SNR=11						
EBER				S	**Sn**	**04 15 50.8**	**+1.5**
	17nm,0.4s,SNR=5.6						
EGUA	**Guajares**	**2.90**	**317**	P	**Pn**	**04 15 20.3**	**-1.5**
	6.4nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**04 15 54.8**	**-1.4**
	12nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.90**	**317**	P	**Pn**	**04 15 20.3**	**-1.5**
	6.4nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**04 15 54.8**	**-1.4**
	12nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.12**	**323**	P	**Pn**	**04 15 25.0**	**+0.2**
	1.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**04 16 02.7**	**+1.0**
	1.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.12**	**323**	P	**Pn**	**04 15 25.0**	**+0.2**
	1.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**04 16 02.7**	**+1.0**
	1.5nm,0.2s,SNR=7.9						
ERON	**Agron**	**3.17**	**317**	P	**Pn**	**04 15 24.5**	**-1.0**
	2.0nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**04 16 02.8**	**-0.2**
	2.3nm,0.4s,SNR=7.9						
ERON	**Agron**	**3.17**	**317**	P	**Pn**	**04 15 24.5**	**-1.0**
	2.0nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**04 16 02.8**	**-0.2**
	2.3nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.24**	**323**	P	**Pn**	**04 15 27.0**	**+0.5**
	3.8nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**04 16 04.7**	**+0.1**
	4.9nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.24**	**323**	P	**Pn**	**04 15 27.0**	**+0.5**
	3.8nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**04 16 04.7**	**+0.1**
	4.9nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**3.31**	**339**	P	**Pn**	**04 15 27.8**	**+0.3**
	1.6nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.31**	**339**	P	**Pn**	**04 15 27.8**	**+0.3**
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.46**	**333**	P	**Pn**	**04 15 30.6**	**+1.1**
	2.5nm,0.1s,SNR=44						
EQES				S	**Sn**	**04 16 13.8**	**+3.7**
	3.8nm,0.2s,SNR=9.3						
EQES	**Quesada**	**3.46**	**333**	P	**Pn**	**04 15 30.6**	**+1.1**
	2.5nm,0.1s,SNR=44						
EQES				S	**Sn**	**04 16 13.8**	**+3.7**
	3.8nm,0.2s,SNR=9.3						
EMIJ	**Mijas**	**3.50**	**303**	P	**Pn**	**04 15 27.7**	**-2.3**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**04 16 09.2**	**-1.9**
	2.0nm,0.2s,SNR=6.1						
EMIJ	**Mijas**	**3.50**	**303**	P	**Pn**	**04 15 27.7**	**-2.3**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**04 16 09.2**	**-1.9**
	2.0nm,0.2s,SNR=6.1						
CZD	**Col de Zad**	**3.67**	**244**	P	**Pb**	**04 15 39.0**	**-1.9**
CZD				S	**Sn**	**04 16 19.0**	**+3.4**
CZD	**Col de Zad**	**3.67**	**244**	*i* P	**Pb**	**04 15 39.0**	**-1.9**
CZD				*i* S	**Sn**	**04 16 19.0**	**+3.4**
ZFT	**Errachidia**	**3.81**	**226**	P	Pn	04 15 40.0	+5.7
ZFT				S	**Sn**	**04 16 20.0**	**+1.2**
ZFT	**Errachidia**	**3.81**	**226**	*i* P	Pn	04 15 40.0	+5.7
ZFT				*i* S	**Sn**	**04 16 20.0**	**+1.2**
ETOB	**Tobarra**	**3.94**	**355**	⇓P	**Pn**	**04 15 36.5**	**+0.5**
	6.2nm,0.1s,SNR=18						
ETOB				S	**Sn**	**04 16 23.2**	**+1.4**
	3.4nm,0.2s,SNR=7.4						
ETOB	**Tobarra**	**3.94**	**355**	P	**Pn**	**04 15 36.5**	**+0.5**
	6.2nm,0.1s,SNR=18						
ETOB				S	**Sn**	**04 16 23.2**	**+1.4**
	3.4nm,0.2s,SNR=7.4						
EBEN	**Beniarda**	**4.04**	**10**	P	**Pn**	**04 15 37.0**	**-0.5**
	3.7nm,0.2s,SNR=6.9						
EBEN	**Beniarda**	**4.04**	**10**	P	**Pn**	**04 15 37.0**	**-0.5**
	3.7nm,0.2s,SNR=6.9						
EVIA	**Vianos**	**4.07**	**345**	P	**Pn**	**04 15 39.3**	**+1.4**
	1.4nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**04 16 25.7**	**+0.5**
	1.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.07**	**345**	P	**Pn**	**04 15 39.3**	**+1.4**
	1.4nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**04 16 25.7**	**+0.5**
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.43**	**322**	P	**Pn**	**04 15 44.1**	**+1.3**
	SNR=4.0						
EADA				S	**Sn**	**04 16 35.4**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.43**	**322**	P	**Pn**	**04 15 44.1**	**+1.3**
	SNR=4.0						
EADA				S	**Sn**	**04 16 35.4**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**4.73**	**24**	P	**Pn**	**04 15 46.6**	**-0.3**
	1.3nm,0.1s,SNR=8.6						
EIBI				S	**Sn**	**04 16 40.2**	**-1.1**
	SNR=7.9						
EIBI	**Ibiza**	**4.73**	**24**	P	**Pn**	**04 15 46.6**	**-0.3**
	1.3nm,0.1s,SNR=8.6						
EIBI				S	**Sn**	**04 16 40.2**	**-1.1**
	SNR=7.9						
EMOS	**Mosqueruela**	**5.66**	**5**	P	**Pn**	**04 16 01.2**	**+1.4**
	0.4nm,0.1s,SNR=7.7						
EMOS	**Mosqueruela**	**5.66**	**5**	P	**Pn**	**04 16 01.2**	**+1.4**
	0.4nm,0.1s,SNR=7.7						
ERTA	**Horta de San J**	**6.33**	**10**	P	**Pn**	**04 16 09.4**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**6.33**	**10**	P	**Pn**	**04 16 09.4**	**+0.5**
	0.4nm,0.1s,SNR=7.9						

*ISCJB **15** 04:48:25.4±0.5,24.°92N±0.°02×122.°12E±0.°02,h1km±3km, mb3.9/12,MS3.6/12,Error ellipse: s-maj=3.9km s-min=3.6km az=38.6*
*TAP **15** 04:48:26.0,24.°88N×122.°02E,h5km,ML4.1,C*
*BJI **15** 04:48:35.8,25.°30N×121.°23E,h17km,mB4.3/2,mb3.8/7, ML3.6/3*
*IDC **15** 04:48:39.7±5.8,24.°76N×121.°76E,h123km±55km, mb3.5/11,mb1 3.7/12,mb1mx3.5/25,mbtmp3.5/12, MS3.6/13,Ms1 3.6/13,ms1mx3.2/51,Error ellipse: s-maj=33.8km s-min=14.7km az=65.0*

ISC 15 04:48:26.5±0.8,24.°87N±0.°02×122.°03E±0.°03,h11km±5km, n78,σ1s18/93,mb3.9/12,MS3.5/12,3C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.14**	**344**	⇓*i* P	**Pg**	**04 48 29.4**	**-0.5**
	baz=350						
TWB1				*e*S	**Sg**	**04 48 31.5**	**-0.7**
	baz=350						
ILA	**Ilan**	**0.28**	**249**	*e*P	**Pb**	**04 48 32.1**	**-1.3**
	baz=245						
ILA				*e*S	**Sb**	**04 48 37.0**	**-1.2**
	baz=245						
NWF	**Wu-fen Shan**	**0.30**	**312**	⇓*i* P	**Pb**	**04 48 33.0**	**-1.0**
	baz=312						
NWF				*e*S	**Sb**	**04 48 37.2**	**-1.8**
	baz=312						
TWC	**Suao**	**0.31**	**213**	⇓*i* P	**Pb**	**04 48 32.7**	**-1.3**
	baz=209						
TWC				*e*S	**Sb**	**04 48 36.8**	**-2.2**
	baz=209						
TWE	**Neicheng**	**0.36**	**246**	⇓*i* P	**Pb**	**04 48 33.8**	**-1.2**
	baz=243						
TWE				S	**Sb**	**04 48 38.7**	**-1.9**
	baz=243						
TWA	**Mucha**	**0.42**	**285**	⇓*i* P	**Pb**	**04 48 35.2**	**-0.8**
	baz=285						
TWA				*i* S	**Sb**	**04 48 41.5**	**-0.9**
	baz=285						
ENTT	**Nioudou**	**0.48**	**242**	⇓*i* P	**Pb**	**04 48 35.9**	**-1.1**
	baz=239						
ENTT				*e*S	**Sb**	**04 48 43.5**	**-0.5**
	baz=239						
TAP1	**Taipei**	**0.49**	**290**	⇓*i* P	**Pb**	**04 48 36.9**	**-0.2**
	baz=291						
TAP1				S	**Sb**	**04 48 43.7**	**-0.7**
	baz=291						
ENA	**Nanau**	**0.51**	**211**	*e*P	**Pb**	**04 48 36.4**	**-1.1**
	baz=207						
TWY	**Chenhua**	**0.56**	**316**	⇓*i* P	**Pb**	**04 48 38.1**	**-0.3**
	baz=317						
TWS1	**Kuangyinshan**	**0.60**	**293**	*i* P	**Pn**	**04 48 39.3**	**-1.7**
	baz=293						
TWS1				*e*S	**Sn**	**04 48 49.5**	**-1.3**
	baz=293						
NSK	**Sanguang**	**0.64**	**253**	⇓*i* P	**Pb**	**04 48 38.6**	**-1.1**
	baz=251						
NSK				*e*S	**Sg**	**04 48 46.5**	**-0.9**
	baz=251						
NNS	**Nan Shan**	**0.74**	**235**	*e*P	**Pb**	**04 48 40.6**	**-0.8**
	baz=231						
NCU	**National Centr**	**0.77**	**278**	P	**Pn**	**04 48 42.9**	**-0.5**
	baz=265						
NCU				S	**Sn**	**04 48 54.2**	**-0.8**
	baz=265						
TWD	**Chiawan**	**0.88**	**207**	*e*P	**Pb**	**04 48 43.2**	**-0.6**
	baz=196						
TWD				*e*S	**Sb**	**04 48 54.3**	**-1.2**
	baz=196						
NSTT	**Nanjuang**	**0.97**	**256**	*e*P	**Pn**	**04 48 45.3**	**-0.7**
	baz=255						
NSTT				*e*S	**Sn**	**04 49 00.2**	**+0.5**
	baz=255						
HSN	**Hsinchu**	**0.97**	**266**	⇓P	**Pn**	**04 48 45.7**	**-0.3**
	baz=269						
HSN				*e*S	**Sn**	**04 48 58.6**	**-1.1**
	baz=269						
HWA	**Hwalien**	**0.97**	**204**	*e*P	**Pn**	**04 48 46.0**	**0.0**
	baz=201						
YOJ	**Yonaguni jima**	**0.98**	**114**	⇑*i* P	**Pg**	**04 48 44.1**	**-1.3**
	baz=114						
YOJ				S	**Sb**	**04 48 58.5**	**+0.2**
	baz=114						
TWT	**Tachien**	**0.99**	**232**	*e*P	**Pn**	**04 48 45.5**	**-1.0**
	baz=220						
WHF	**Hehuan Shan**	**1.00**	**224**	*e*P	**Pb**	**04 48 45.6**	**-0.6**
	baz=223						
WHF				*e*S	**Sn**	**04 49 00.5**	**-0.8**
	baz=223						
ESL	**Shilin**	**1.18**	**208**	*e*P	**Pn**	**04 48 48.4**	**-0.6**
	baz=206						
ESL				*e*S	**Sn**	**04 49 05.3**	**+0.2**
	baz=206						
NSY	**Sanyi**	**1.24**	**249**	*e*P	**Pn**	**04 48 50.9**	**+1.1**
	baz=249						
NSY				*e*S	**Sn**	**04 49 09.2**	**+2.6**
	baz=249						
TWQ1	**Liyutan**	**1.26**	**246**	*e*P	**Pn**	**04 48 51.3**	**+1.3**
	baz=246						
TWQ1				*e*S	**Sn**	**04 49 09.3**	**+2.3**
	baz=246						
SMLT	**Sun Moon Lake**	**1.42**	**227**	P	**Pg**	**04 48 53.8**	**0.0**
	baz=213						
TCU	**Taichung**	**1.43**	**240**	*e*P	**Pg**	**04 48 54.8**	**+0.9**
	baz=261						
TYC	**Yuchr**	**1.44**	**228**	*e*P	**Pg**	**04 48 54.0**	**-0.1**
	baz=215						
EHY	**Hungye**	**1.50**	**206**	*e*P	**Pg**	**04 48 54.0**	**-1.4**
	baz=205						
WNT	**Mingjian**	**1.58**	**232**	*e*P	**Pg**	**04 48 58.0**	**+1.2**
	baz=219						
TWF1	**Yuli**	**1.65**	**204**	*e*P	**Pb**	**04 48 56.4**	**-0.5**
	baz=214						
YUS	**Yu-Shan**	**1.69**	**216**	*e*P	**Pg**	**04 48 58.7**	**-0.3**
	baz=215						
CHN5	**Tsauling**	**1.77**	**225**	P	**Pg**	**04 49 00.2**	**-0.2**
	baz=225						
CHN5				*e*S	**Sg**	**04 49 25.4**	**+2.0**
	baz=225						
WGK	**Gukeng**	**1.79**	**229**	*e*P	**Pg**	**04 49 00.9**	**+0.2**
	baz=249						
ELDTW	**Lidau**	**1.91**	**209**	*e*P	**Pb**	**04 49 00.4**	**-1.1**
	baz=209						
CHN2	**Minshiung**	**1.95**	**227**	*e*P	**Pg**	**04 49 04.0**	**+0.2**
	baz=247						
CHN4	**Tsaushan**	**2.00**	**221**	P	**Pg**	**04 49 04.0**	**-0.9**
	baz=223						
CHN4				*e*S	**Sg**	**04 49 32.2**	**+1.4**
	baz=223						
CHY	**Chiayi**	**2.00**	**227**	*e*P	**Pg**	**04 49 04.7**	**-0.3**
	baz=247						
STYT	**Tauyuan**	**2.06**	**215**	*e*P	**Pb**	**04 49 03.7**	**-0.2**
	baz=202						
WTP	**Ta-pu**	**2.07**	**219**	⇑P	**Pg**	**04 49 04.6**	**-1.6**
	baz=205						
TWK	**Hsinying**	**2.13**	**222**	*e*P	**Pg**	**04 49 05.2**	**-2.2**
	baz=223						
TWK				*e*S	**Sg**	**04 49 35.5**	**+0.5**
	baz=223						
CHN1	**Nanshi**	**2.17**	**220**	*e*P	**Pb**	**04 49 05.7**	**-0.1**
	baz=208						
CHN1				*e*S	**Sg**	**04 49 35.3**	**-0.9**
	baz=208						
TWG	**Pinlang**	**2.22**	**204**	*e*P	**Pn**	**04 49 03.7**	**+0.4**
	baz=204						
CHN8	**Yiju**	**2.25**	**228**	*e*P	**Pb**	**04 49 07.0**	**-0.2**
	baz=245						
TTN	**Taitung**	**2.25**	**201**	*e*P	**Pb**	**04 49 06.3**	**-0.9**
	baz=203						
CHN3	**Shinhua**	**2.35**	**221**	*e*P	**Pg**	**04 49 09.7**	**-1.8**
	baz=221						
ECL	**Taimali**	**2.47**	**204**	*e*P	**Pb**	**04 49 08.4**	**-2.4**
	baz=192						
SSD	**Sandimen**	**2.47**	**212**	*e*P	**Pb**	**04 49 10.0**	**-0.9**
	baz=213						
TWM1	**Shoushan**	**2.51**	**216**	*e*P	**Pg**	**04 49 12.1**	**-2.6**
	baz=220						
EAST	**Anshuo**	**2.70**	**204**	*e*P	**Pn**	**04 49 11.1**	**+1.2**
	baz=194						
TAW	**Tawu**	**2.71**	**203**	*e*P	**Pb**	**04 49 13.3**	**-1.7**
	baz=193						
SCZT	**Fangliau**	**2.80**	**208**	*e*P	**Pb**	**04 49 15.0**	**-1.5**
	baz=211						
TWP	**Hsiaoliuchiu**	**2.94**	**212**	*e*P	**Pb**	**04 49 18.0**	**-0.9**
	baz=216						
TWK1	**Hengchun**	**3.12**	**201**	*e*P	**Pn**	**04 49 17.5**	**+1.8**
	baz=192						
QZH	**Quanzhou**	**3.12**	**272**	⇑*i* Pn	**Pn**	**04 49 15.1**	**-0.6**
QZH				Sn	**Sn**	**04 49 51.1**	**-1.9**
QZH				smax	smax		
	comp=N,400nm,0.8s						
QZH				smax	smax		
	comp=E,260nm,0.8s						
KNM	**Kinmen**	**3.31**	**263**	*e*P	**Pn**	**04 49 19.5**	**+1.4**
	baz=262						
KSRS	**Korea Array**	**13.52**	**20**	P	P	04 51 50.1	+2.7
	comp=E,0.2nm,0.3s,baz=197,slow=12,SNR=4.0						
KSRS				LR	LR	04 57 09.8	
	comp=E,93nm,18.4s,baz=355,slow=37						
LZH	**Lanzhou**	**19.22**	**310**	*e*P	**Pn**	**04 52 53.0**	**+1.2**
LZH				pP	pP	04 52 58.3	+4.4
LZH				sP	sP	04 53 01.3	+6.0
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**22.37**	**258**	LR	LR	05 03 07.3	
	comp=Z,177nm,18.9s,baz=80,slow=39						
GTA	**Gaotai**	**23.67**	**313**	*e*P	**P**	**04 53 39.0**	**+0.8**
GTA				pP	**pP**	**04 53 43.4**	**+2.0**
GTA				sP	sP	04 53 45.8	+3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GUMO	**Guam**	**24.27**	**113**	LR	LR	05 01 26.2	
	comp=Z,128nm,20.1s,baz=136,slow=31						
SONM	**Songino Array**	**26.05**	**336**	P	**P**	**04 54 00.8**	**+0.8**
	comp=Z,4.8nm,1.0s,baz=154,slow=6.4,SNR=23						
SONM				LR	LR	05 04 13.9	
	comp=Z,110nm,19.9s,baz=172,slow=36						
MKAR	**Makanchi Array**	**38.39**	**315**	P	**P**	**04 55 48.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=106,slow=10.0,SNR=6.4						
MKAR				LR	LR	05 13 02.6	
	comp=Z,70nm,18.6s,baz=351,slow=38						
ZALV	**Zalesovo Beam**	**40.10**	**326**	P	**P**	**04 56 01.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=132,slow=8.2,SNR=7.2						
ZALV				LR	LR	05 13 43.1	
	comp=Z,64nm,21.4s,baz=32,slow=38						
KURK	**Kurchatov**	**42.07**	**319**	P	**P**	**04 56 18.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=109,slow=7.8,SNR=2.6						
WRA	**Warramunga Arr**	**46.12**	**164**	P	**P**	**04 56 50.8**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=348,slow=8.4,SNR=14						
BVAR	**Borovoye Array**	**47.64**	**320**	P	**P**	**04 57 03.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=83,slow=6.1,SNR=3.9						
ASAR	**Alice Springs**	**49.60**	**166**	P	**P**	**04 57 18.7**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=339,slow=7.7,SNR=8.5						
AKTO	**Aktyubinsk**	**54.83**	**315**	LR	LR	05 23 52.3	
	comp=Z,36nm,19.0s,baz=244,slow=39						
GNI	**Garni**	**65.05**	**304**	LR	LR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTV	**Artvin**	**0.17**	**267**	*i* P	**Pg**	**05 11 09.5**	**-0.1**
ARTV				*i* S	**Sg**	**05 11 12.4**	**+0.1**
ARTV	**Artvin**	**0.17**	**267**	*i* P	**Pg**	**05 11 09.5**	**-0.1**
ARTV				*i* S	**Sg**	**05 11 12.4**	**+0.1**
DAGI	**Agillar**	**0.21**	**237**	*i* P	**Pg**	**05 11 10.0**	**-0.3**
DAGI				*i* S	**Sg**	**05 11 13.6**	**+0.3**
DBOC	**Borcka**	**0.40**	**293**	*i* P	**Pg**	**05 11 13.6**	**0.0**
DBOC				*i* S	**Sg**	**05 11 19.4**	**+0.5**
DBOC	**Borcka**	**0.40**	**293**	*i* P	**Pg**	**05 11 13.6**	**0.0**
DBOC				*i* S	**Sg**	**05 11 19.4**	**+0.5**
DDEM	**Demirkent**	**0.43**	**225**	*i* P	**Pg**	**05 11 13.8**	**-0.4**
DDEM				*i* S	**Sg**	**05 11 20.3**	**+0.4**
DDEM	**Demirkent**	**0.43**	**225**	*i* P	**Pg**	**05 11 13.8**	**-0.4**
DDEM				*i* S	**Sg**	**05 11 20.3**	**+0.4**
BCA	**Borcka**	**0.47**	**302**	*e*PG	**Sg**	**05 11 14.7**	**-0.3**
BCA				*e*SG	**Sg**	**05 11 21.3**	**0.0**
BCA	**Borcka**	**0.47**	**302**	*e*Pg	**Pg**	**05 11 14.7**	**-0.3**
BCA				*e*Sg	**Sg**	**05 11 21.3**	**0.0**
KARS	**Kars**	**0.90**	**129**	*e*PG	**Pb**	**05 11 23.8**	**+0.2**
KARS				*e*SG	**Sn**	**05 11 37.8**	**-0.1**
KARS	**Kars**	**0.90**	**129**	*e*Pg	**Pb**	**05 11 23.8**	**+0.2**
KARS				*e*Sg	**Sn**	**05 11 37.8**	**-0.1**
AKH	**Akhalkalaki**	**1.03**	**78**	P	**Pg**	**05 11 24.7**	**-0.9**
AKH				S	**Sg**	**05 11 39.0**	**-0.1**
HOMI	**Horasan**	**1.16**	**189**	*i* P	**Pg**	**05 11 27.2**	**-1.0**
HOMI				*i* S	**Sn**	**05 11 45.9**	**+1.4**
EZM	**Erzurum**	**1.42**	**205**	*e*PN	**Pn**	**05 11 31.7**	**-0.2**
KOPT	**Kop Dagi**	**1.72**	**228**	*i* P	**Pb**	**05 11 38.4**	**+0.7**
KOPT				*i* S	**Sg**	**05 12 02.2**	**+1.0**
KOPT	**Kop Dagi**	**1.72**	**228**	*i* P	**Pb**	**05 11 38.4**	**+0.7**
KOPT				*i* S	**Sg**	**05 12 02.2**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.72**	**243**	*e*PN	**Pn**	**05 11 36.3**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.72**	**243**	*e*Pn	**Pn**	**05 11 36.3**	**+0.3**
AGRB	**Hanur-Agry**	**1.74**	**158**	*e*PN	**Pn**	**05 11 37.0**	**+0.8**
AGRB	**Hanur-Agry**	**1.74**	**158**	*e*Pn	**Pn**	**05 11 37.0**	**+0.8**
MACK	**Trabzon**	**1.82**	**263**	*i* P	**Pn**	**05 11 37.9**	**+0.7**
MACK				*i* S	**Sn**	**05 12 00.8**	**+0.4**
MACK	**Trabzon**	**1.82**	**263**	*i* P	**Pn**	**05 11 37.9**	**+0.7**
MACK				*i* S	**Sn**	**05 12 00.8**	**+0.4**
GUMT	**Gumushane**	**2.16**	**251**	*e*PN	**Pn**	**05 11 42.3**	**+0.4**
GUMT	**Gumushane**	**2.16**	**251**	*e*Pn	**Pn**	**05 11 42.3**	**+0.4**
KELT	**Kelkit**	**2.44**	**246**	*i* P	**Pb**	**05 11 48.9**	**-1.0**
KELT				*i* S	**Sb**	**05 12 19.6**	**-0.4**
KELT				*i* S	**Sg**	**05 12 21.9**	**-2.2**
KELT	**Kelkit**	**2.44**	**246**	*i* P	**Pb**	**05 11 48.9**	**-1.0**
KELT				*i* S	**Sb**	**05 12 19.6**	**-0.4**

IPEC ***15*** *05:17:27.9±0.2, 51°.63N×16°.22E, h0km, ML2.8/4, Error ellipse: s-maj=1.8km s-min=1.6km az=38.0*

ISCJB ***15*** *05:17:28.4±0.3, 51°.45N±0°.02×16°.14E±0°.02, h0km, Error ellipse: s-maj=2.7km s-min=1.9km az=14.2*

IDC ***15*** *05:17:30.6±0.8, 51°.48N×16°.08E, h0km, mb1 3.4/7, mb1mx3.2/27, mbtmp3.4/7, ML3.1/7, Error ellipse: s-maj=11.9km s-min=7.1km az=117.0*

PRU ***15*** *05:17:30.4, 51°.50N×16°.11E, h0km*

CSEM ***15*** *05:17:30.4±0.2, 51°.45N×16°.09E, h2km, ML4.0/10, Error ellipse: s-maj=3.3km s-min=2.0km az=10.0*

WAR ***15*** *05:17:31.9, 51°.45N×16°.18E*

BGR ***15*** *05:17:31.1±0.4, 51°.45N×16°.10E, h1km, ML3.4/15, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*

VIE ***15*** *05:17:31.4±0.8, 51°.36N×16°.05E, h0km, mb2.8/5, ML3.4/5, Error ellipse: s-maj=5.1km s-min=3.3km az=17.0 73 km WNW of Wroclaw Suspected Mining induced.*

ISC 15 05:17:31.3±0.7, 51°.45N±0°.02×16°.13E±0°.02, h0km, n117, σ1s 20/179, 7C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**171**	*e*Pg	**Pg**	**05 17 43.3**	**+0.2**
KSP				*e*Sg	**Sb**	**05 17 53.1**	**-1.1**
KSP	**Ksiaz**	**0.62**	**171**	*i* Pg	**Pg**	**05 17 43.3**	**+0.2**
KSP				*e*Sg	**Sg**	**05 17 51.7**	**+0.7**
KSP				*e*L	L	05 17 55.5	
KSP	**Ksiaz** SNR=88	**0.62**	**171**	*e*Pg	**Pg**	**05 17 43.3**	**+0.2**
KSP				*e*Sg	**Sg**	**05 17 51.3**	**+0.3**
KSP	**Ksiaz** SNR=88	**0.62**	**171**	Pg	**Pg**	**05 17 43.3**	**+0.2**
KSP				Sg	**Sg**	**05 17 51.3**	**+0.3**
UPC	**Upice**	**0.95**	**185**	*e*PG	**Pg**	**05 17 49.3**	**-0.1**
UPC	**Upice**	**0.95**	**185**	*i* Pg	**Pg**	**05 17 49.3**	**-0.1**
DPC	**Dobruska-Polom** SNR=127	**1.11**	**174**	*e*Pg	**Pg**	**05 17 52.1**	**-0.5**
DPC				*e*Sg	**Sb**	**05 18 07.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.11**	**174**	*e*PG	**Pg**	**05 17 52.0**	**-0.5**
DPC				*e*SG	**Sg**	**05 18 07.0**	**+0.2**
	comp=Z,132nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**174**	Pg	**Pg**	**05 17 52.0**	**-0.5**
DPC				Sg	**Sg**	**05 18 07.0**	**+0.2**
	132nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	**Pg**	**05 17 56.0**	**-1.2**
PVCC				*e*SG	**Sg**	**05 18 14.7**	**0.0**
	comp=Z,566nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	Pg	**Pg**	**05 17 56.0**	**-1.2**
PVCC				Sg	**Sg**	**05 18 14.7**	**0.0**
	566nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**248**	PN	**Pn**	**05 17 57.9**	**-1.5**
BRG				PG	**Pn**	**05 17 58.5**	**-0.9**
BRG				SG	**Sg**	**05 18 19.2**	**-0.1**
	329nm,0.5s						
BRG	**Berggiesshubel** SNR=41	**1.50**	**248**	*e*Pg	**Pn**	**05 17 58.5**	**-0.9**
BRG				*e*Sg	**Sg**	**05 18 18.6**	**-0.7**
BRG	**Berggiesshubel** SNR=41	**1.50**	**248**	Pg	**Pn**	**05 17 58.5**	**-0.9**
BRG				Sg	**Sg**	**05 18 18.6**	**-0.7**
PRU	**Pruhonice**	**1.78**	**215**	*e*PN	**Pn**	**05 18 01.8**	**-1.5**
PRU				*e*PG	**Pn**	**05 18 03.7**	**+0.4**
PRU				*e*SG	**Sb**	**05 18 27.8**	**+0.2**
	comp=Z,182nm,0.3s						
PRU	**Pruhonice**	**1.78**	**215**	Pn	**Pn**	**05 18 01.8**	**-1.5**
PRU	**Pruhonice**	**1.78**	**215**	Pg	**Pn**	**05 18 03.7**	**+0.4**
PRU				Sg	**Sb**	**05 18 27.8**	**+0.2**
	182nm,0.3s						
FBE	**Freiberg** SNR=11	**1.83**	**254**	*e*Pg	**Pn**	**05 18 04.3**	**+0.4**
FBE				*e*Sg	**Sn**	**05 18 28.7**	**+0.9**
FBE	**Freiberg** SNR=11	**1.83**	**254**	Pg	**Pn**	**05 18 04.3**	**+0.4**
FBE				Sg	**Sn**	**05 18 28.7**	**+0.9**
RAC	**Raciborz**	**1.89**	**135**	*e*Pg	**Pb**	**05 18 06.1**	**-0.6**
RAC				*e*Sg	**Sg**	**05 18 31.0**	**-1.1**
RAC	**Raciborz**	**1.89**	**135**	*e*Pg	**Pb**	**05 18 06.1**	**-0.6**
RAC				*e*Sg	**Sg**	**05 18 31.0**	**-1.1**
MORC	**Moravsky Berou** SNR=95	**1.90**	**151**	*e*Pn	**Pn**	**05 18 03.6**	**-1.4**
MORC				*e*Sg	**Sb**	**05 18 30.8**	**-0.4**
MORC	**Moravsky Berou**	**1.90**	**151**	⇓*i*P	**Pn**	**05 18 03.9**	**-1.1**
MORC	**Moravsky Berou** SNR=95	**1.90**	**151**	Pn	**Pn**	**05 18 03.6**	**-1.4**
MORC	**Moravsky Berou**	**1.90**	**151**	⇓*i*P	**Pn**	**05 18 03.9**	**-1.1**
MORC				*e*Sg	**Sg**	**05 18 31.6**	**-0.7**
	80nm,0.3s,baz=336						
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*Pg	**Pg**	**05 18 09.2**	**+0.7**
GKP				*e*Sg	**Sg**	**05 18 32.8**	**-0.9**
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*Pg	**Pg**	**05 18 09.2**	**+0.7**
GKP				*e*Sg	**Sg**	**05 18 32.8**	**-0.9**
CLL	**Collm** SNR=41	**1.97**	**267**	*e*Pn	**Pn**	**05 18 03.3**	**-2.5**
CLL				*e*Sg	**Sn**	**05 18 32.3**	**+1.1**
CLL	**Collm**	**1.97**	**267**	*i* Pn	**Pn**	**05 18 03.3**	**-2.5**
	comp=Z,5.0nm,0.3s						
CLL				*i* Pg	**Pb**	**05 18 07.1**	**-0.8**
CLL				*i*		05 18 10.8	
CLL				*e*Sg	**Sn**	**05 18 32.0**	**+0.8**
	comp=Z,183nm,0.8s						
CLL	**Collm** SNR=41	**1.97**	**267**	Pn	**Pn**	**05 18 03.3**	**-2.5**
CLL				Sg	**Sn**	**05 18 32.3**	**+1.1**
OKC	**Ostrava-Krasne** SNR=19	**2.06**	**141**	*e*Pn	**Pn**	**05 18 05.7**	**-1.4**
OKC				*e*Pg	**Pb**	**05 18 09.5**	**0.0**
	SNR=6.4						
OKC				*e*Sg	**Sg**	**05 18 36.1**	**-1.4**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*PN	**Pn**	**05 18 05.7**	**-1.4**
OKC				*e*PG	**Pb**	**05 18 09.3**	**-0.2**
OKC				*e*SG	**Sg**	**05 18 36.0**	**-1.4**
OKC	**Ostrava-Krasne** SNR=19	**2.06**	**141**	Pn	**Pn**	**05 18 05.7**	**-1.4**
VRAC	**Vranov**	**2.17**	**172**	Pn	**Pn**	**05 18 07.7**	**-0.9**
	comp=Z,4.0nm,0.3s,baz=346,slow=16,SNR=17						
VRAC				Lg	Lg	05 18 40.2	
	comp=Z,8.1nm,0.3s,baz=87,slow=21,SNR=3.9						
VRAC	**Vranov**	**2.17**	**172**	⇓*i*P	**Pb**	**05 18 09.6**	**-1.7**
VRAC	**Vranov** baz=354	**2.17**	**172**	*e*Pn	**Pn**	**05 18 07.9**	**-0.7**
VRAC	**Vranov**	**2.17**	**172**	⇓*i*P	**Pb**	**05 18 09.6**	**-1.7**
VRAC				*e*Sg	**Sg**	**05 18 40.6**	**-0.2**
	comp=Z,49nm,0.2s,baz=354						
TREC	**Trest**	**2.20**	**191**	*e*PN	**Pn**	**05 18 07.6**	**-1.4**
TREC				*e*PG	**Pb**	**05 18 11.7**	**-0.2**
TREC	**Trest**	**2.20**	**191**	Pn	**Pn**	**05 18 07.6**	**-1.4**
TREC	**Trest**	**2.20**	**191**	Pg	**Pb**	**05 18 11.7**	**-0.2**
KRUC	**Moravsky** baz=358	**2.40**	**176**	*e*Pn	**Pn**	**05 18 11.2**	**-0.6**
KRUC				*e*Sg	**Sg**	**05 18 48.8**	**+0.6**
	comp=Z,27nm,0.3s,baz=358						
TANN	**Tannenbergstha** SNR=19	**2.54**	**247**	*e*Pn	**Pn**	**05 18 12.4**	**-1.4**
TANN				*e*Sg	**Sb**	**05 18 50.4**	**+0.7**
TANN	**Tannenbergstha** SNR=19	**2.54**	**247**	Pn	**Pn**	**05 18 12.4**	**-1.4**
TANN				Sg	**Sb**	**05 18 50.4**	**+0.7**
WERD	**Werda** SNR=22	**2.62**	**249**	*e*Pn	**Pn**	**05 18 13.4**	**-1.5**
WERD				*e*Pg	**Pb**	**05 18 20.5**	**+1.4**
	SNR=9.3						
WERD				*e*Sg	**Sb**	**05 18 52.5**	**+0.7**
WERD	**Werda** SNR=22	**2.62**	**249**	Pn	**Pn**	**05 18 13.4**	**-1.5**
OJC	**Ojcow**	**2.63**	**117**	*e*Pn	Pn	05 18 11.1	-3.9
OJC				*e*Pg	**Pb**	**05 18 19.6**	**+0.4**
OJC				*e*Sg	**Sg**	**05 18 54.7**	**-1.0**
OJC	**Ojcow** SNR=13	**2.63**	**117**	*e*Pg	**Pb**	**05 18 19.6**	**+0.4**
OJC				*e*Sg	**Sg**	**05 18 55.1**	**-0.6**
OJC	**Ojcow**	**2.63**	**117**	*e*Pn	Pn	05 18 11.1	-3.9
OJC	**Ojcow** SNR=13	**2.63**	**117**	Pg	**Pb**	**05 18 19.6**	**+0.4**
OJC				Sg	**Sg**	**05 18 55.1**	**-0.6**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**05 18 14.0**	**-1.1**
NKC				*e*PG	**Pb**	**05 18 19.5**	**+0.1**
NKC				*e*SG	**Sg**	**05 18 54.9**	**-1.0**
	comp=Z,225nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	Pn	**Pn**	**05 18 14.0**	**-1.1**
NKC	**Novy Kostel**	**2.63**	**244**	Pg	**Pb**	**05 18 19.5**	**+0.1**
NKC				Sg	**Sg**	**05 18 54.9**	**-1.0**
	comp=Z,225nm,0.3s						
JAVC	**Velka Javorina** comp=Z,56nm,0.7s	**2.78**	**159**	*e*Sg	**Sg**	**05 19 05.1**	**+4.7**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**05 18 16.8**	**-1.1**
KHC				*e*PG	**Pb**	**05 18 23.1**	**+0.2**
KHC				*e*SG	**Sb**	**05 19 00.2**	**+2.0**
	comp=Z,56nm,0.4s						
KHC	**Kasperske Hory**	**2.84**	**216**	Pn	**Pn**	**05 18 16.8**	**-1.1**
KHC	**Kasperske Hory**	**2.84**	**216**	Pg	**Pb**	**05 18 23.1**	**+0.2**
KHC				Sg	**Sb**	**05 19 00.2**	**+2.0**
	comp=Z,56nm,0.4s						
MOX	**Moxa** SNR=7.0	**2.96**	**256**	*e*Pn	**Pn**	**05 18 18.4**	**-1.1**
MOX				*e*Pg	**Pb**	**05 18 26.6**	**+1.6**
	SNR=5.1						
MOX				*e*Sg	**Sb**	**05 19 03.9**	**+2.2**
MOX	**Moxa** SNR=7.0	**2.96**	**256**	Pn	**Pn**	**05 18 18.4**	**-1.1**
ROTZ	**Rotzenmuhle** SNR=15	**3.02**	**238**	*e*Pn	**Pn**	**05 18 19.3**	**-1.0**
ROTZ				*e*Sg	**Sb**	**05 19 05.2**	**+2.0**
ROTZ	**Rotzenmuhle** SNR=15	**3.02**	**238**	Pn	**Pn**	**05 18 19.3**	**-1.0**
ROTZ				Sg	**Sb**	**05 19 05.2**	**+2.0**
GEC2	**GERESS Array S** SNR=12	**3.04**	**212**	*e*Pn	**Pn**	**05 18 19.6**	**-1.1**
GEC2				*e*Sg	**Sb**	**05 19 06.3**	**+2.3**
GEC2	**GERESS Array S** SNR=12	**3.04**	**212**	Pn	**Pn**	**05 18 19.6**	**-1.1**
GEC2				Sg	**Sb**	**05 19 06.3**	**+2.3**
GERES	**GERESS Array B**	**3.04**	**212**	Pn	**Pn**	**05 18 20.6**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=32,slow=12,SNR=70						
GERES				Pg	**Pb**	**05 18 26.8**	**+0.5**
	comp=Z,5.1nm,0.3s,baz=28,slow=18,SNR=54						
GERES				Lg	Lg	05 19 05.7	
	comp=Z,12nm,0.3s,baz=26,slow=25,SNR=7.7						
SMOL	**Smolenice**	**3.06**	**164**	*e*PN	**Pn**	**05 18 21.6**	**+0.8**
SMOL				*e*		05 18 29.2	
SMOL	**Smolenice**	**3.06**	**164**	*e*Pn	**Pn**	**05 18 21.6**	**+0.8**
SMOL				*e*Sg	**Sg**	**05 19 09.4**	**0.0**
WET	**Wettzell** SNR=7.6	**3.11**	**223**	*e*Pn	**Pn**	**05 18 20.5**	**-1.2**
WET	**Wettzell** SNR=7.6	**3.11**	**223**	Pn	**Pn**	**05 18 20.5**	**-1.2**
KOLL	**Kolacno**	**3.23**	**152**	*e*	**Pg**	**05 18 32.5**	**-0.6**
KOLL	**Kolacno**	**3.23**	**152**	*e*SG	**Sg**	**05 19 14.4**	**-0.4**
KOLL	**Kolacno**	**3.23**	**152**	*e*Sg	**Sg**	**05 19 14.4**	**-0.4**
NIE	**Niedzica**	**3.36**	**126**	*e*Pn	**Pn**	**05 18 24.5**	**-0.5**
NIE				*e*Pg	**Sg**	**05 18 33.9**	**-1.7**
NIE				*e*Sg	**Sg**	**05 19 18.5**	**-0.6**
NIE	**Niedzica**	**3.36**	**126**	*e*Pn	**Pn**	**05 18 24.5**	**-0.5**
VYHS	**Vyhne**	**3.44**	**148**	*e*Pn	**Pn**	**05 18 24.8**	**-1.2**
VYHS				*e*		05 18 37.1	
VYHS	**Vyhne**	**3.44**	**148**	*e*Pn	**Pn**	**05 18 24.8**	**-1.2**
VYHS				*e*Sg	**Sg**	**05 19 20.8**	**-0.8**
CONA	**Conrad Observa**	**3.53**	**183**	⇓*i*Pn	**Pn**	**05 18 26.9**	**-0.5**
	comp=Z,2.3nm,0.2s,SNR=12						
CONA				⇑*i*Sg	**Sg**	**05 19 25.3**	**+0.7**
	comp=Z,49nm,0.4s						
CONA	**Conrad Observa**	**3.53**	**183**	Sg	**Sg**	**05 19 25.3**	**+0.7**
	comp=Z,49nm,0.4s						
CONA	**Conrad Observa**	**3.53**	**183**	Pn	**Pn**	**05 18 26.9**	**-0.5**
	comp=Z,2.3nm,0.2s,SNR=12						
GRA1	**Grafenberg Arr** SNR=3.4	**3.59**	**243**	Pn	**Pn**	**05 18 27.3**	**-0.9**
GRA1				Sg	**Sg**	**05 19 24.8**	**-1.8**
GRF	**Grafenberg Arr** SNR=3.4	**3.59**	**243**	*e*Pn	**Pn**	**05 18 27.3**	**-0.9**
GRF				*e*Sg	**Sg**	**05 19 24.8**	**-1.8**
CLZ	**Clausthal** SNR=5.4	**3.61**	**278**	*e*Pn	**Pn**	**05 18 27.4**	**-1.1**
CLZ				*e*Sg	**Sb**	**05 19 24.2**	**+3.9**
CLZ	**Clausthal** SNR=5.4	**3.61**	**278**	Pn	**Pn**	**05 18 27.4**	**-1.1**
CLZ				Sg	**Sb**	**05 19 24.2**	**+3.9**
BSD	**Bornholm Skovb**	**3.74**	**349**	*i* P	Pn	05 18 25.9	-4.3
BSD				*i* S	Sn	05 19 07.0	-8.0
MOA	**Molln**	**3.80**	**199**	⇑*i*Pn	**Pn**	**05 18 30.5**	**-0.6**
	comp=Z,9.1nm,0.3s,SNR=19						
MOA				⇑*i*Sg	**Sg**	**05 19 33.5**	**+0.1**
	comp=Z,35nm,0.5s						
MOA	**Molln**	**3.80**	**199**	Pn	**Pn**	**05 18 30.5**	**-0.6**
	comp=Z,9.1nm,0.3s,SNR=19						
MOA				Sg	**Sg**	**05 19 33.5**	**+0.1**
	comp=Z,35nm,0.5s						
STHS	**Stebnicka Huta**	**3.85**	**120**	*e*PN	**Pn**	**05 18 30.7**	**-1.0**
STHS				*e*		05 18 45.4	
STHS	**Stebnicka Huta**	**3.85**	**120**	*e*Pn	**Pn**	**05 18 30.7**	**-1.0**
STHS				*e*Sg	**Sg**	**05 19 35.8**	**+0.9**
KECS	**Kecovo**	**4.09**	**135**	*e*PN	**Pn**	**05 18 33.8**	**-1.2**
KECS				*e*		05 18 49.1	
KECS	**Kecovo**	**4.09**	**135**	*e*Pn	**Pn**	**05 18 33.8**	**-1.2**
KECS				*e*Sg	**Sg**	**05 19 42.5**	**0.0**
ARSA	**Arzberg**	**4.22**	**186**	⇓*e*Pn	**Pn**	**05 18 37.4**	**+0.5**
ARSA				⇑*i*Sg	**Sg**	**05 19 46.5**	**-0.3**
	comp=Z,25nm,0.5s						
ARSA	**Arzberg**	**4.22**	**186**	Pn	**Pn**	**05 18 37.4**	**+0.5**
ARSA				Sg	**Sg**	**05 19 46.5**	**-0.3**
	comp=Z,25nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.27**	**125**	*e*PN	**Pn**	**05 18 37.1**	**-0.4**
CRVS				*e*		05 18 53.2	
CRVS	**Cervenica-Dubn**	**4.27**	**125**	*e*Pn	**Pn**	**05 18 37.1**	**-0.4**
CRVS				*e*Sg	**Sg**	**05 19 48.9**	**+0.5**
KWP	**Kalwaria Pacla**	**4.57**	**111**	*e*Pb	**Pb**	**05 18 54.3**	**+2.0**
KWP				*e*Sg	Sg	05 20 04.9	+6.9
KWP	**Kalwaria Pacla**	**4.57**	**111**	⇓*i*P	Pb	05 18 48.1	-4.2
KWP	**Kalwaria Pacla**	**4.57**	**111**	*e*Pb	**Pb**	**05 18 54.3**	**+2.0**
KOLS	**Kolonicke sedl**	**4.68**	**120**	*e*SG	**Sg**	**05 20 02.7**	**+1.2**
KOLS	**Kolonicke sedl**	**4.68**	**120**	*e*Sg	**Sg**	**05 20 02.7**	**+1.2**
TRPA	**Tarpa**	**5.31**	**126**	⇓*i*P	**Pn**	**05 18 51.0**	**-0.8**
TRPA	**Tarpa**	**5.31**	**126**	⇓*i*P	**Pn**	**05 18 51.0**	**-0.8**
VNDS	**Vrh nad Dolski**	**5.44**	**191**	*e*Pn	**Pn**	**05 18 53.6**	**+0.1**
PKSM	**Moragy**	**5.50**	**162**	⇑*i*P	**Pn**	**05 18 54.9**	**+0.6**
PKSM	**Moragy**	**5.50**	**162**	⇑*i*P	**Pn**	**05 18 54.9**	**+0.6**
VISS	**Visnje**	**5.72**	**189**	*i* Pn	**Pn**	**05 18 57.3**	**-0.1**
VISS	**Visnje**	**5.72**	**189**	*i* Pn	**Pn**	**05 18 57.3**	**-0.1**
DAVOX	**Davos/Dischmat**	**6.22**	**224**	Pn	**Pn**	**05 19 03.7**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=42,slow=12,SNR=8.1						
DAVOX				Lg	Lg	05 20 46.4	
	comp=Z,0.5nm,0.3s,baz=164,slow=23,SNR=2.2						
DRGR		**6.35**	**135**	⇓*i*P	Pn	05 19 02.5	-3.7
BZS	**Buzias**	**6.88**	**146**	⇑*i*P	Pn	05 19 19.8	+6.5
BURAR	**Bucovina Array**	**7.05**	**119**	⇓*i*P	**Pn**	**05 19 15.9**	**+0.2**
BURAR	**Bucovina Array**	**7.05**	**119**	⇓*i*P	**Pn**	**05 19 15.9**	**+0.2**
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	Pn	05 19 28.9	-3.6
	comp=Z,1.2nm,0.3s,baz=278,slow=12,SNR=5.2						
AKASG				Sn	Sn	05 20 58.9	-7.7
	comp=Z,1.8nm,0.3s,baz=251,slow=33,SNR=6.1						
HFS	**Hagfors**	**8.81**	**352**	Pn	Pn	05 19 35.8	-4.0
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=4.4						
FINES	**FINESS Array B**	**11.41**	**25**	Pn	Pn	05 20 10.5	-4.8
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=4.7						
FINES				Sn	Sn	05 22 11.4	-12
	comp=Z,0.5nm,0.3s,baz=214,slow=20,SNR=6.4						
KAF	**Kangasniemi** comp=Z,1.1nm,0.5s	**12.04**	**23**	*ep*	**Pn**	**05 20 21.3**	**-2.6**
KAF	**Kangasniemi** comp=Z,1.1nm,0.5s	**12.04**	**23**	*ep*	**Pn**	**05 20 21.3**	**-2.6**
JOF	**Joensuu** comp=Z,1.3nm,0.7s	**14.09**	**30**	*ep*	**Pn**	**05 20 50.2**	**-1.6**
JOF	**Joensuu** comp=Z,1.3nm,0.7s	**14.09**	**30**	*ep*	**Pn**	**05 20 50.2**	**-1.6**
ARCES	**ARCESS Array B**	**18.68**	**10**	Pn	P	05 21 44.2	-6.5
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=6.3						

NEIC ***15*** *05:18:27.8±1.1, 16°.50S×173°.80W, h69km±9km, mb4.9/5, Error ellipse: s-maj=15.3km s-min=7.0km az=138.0*

IDC ***15*** *05:18:32.9±0.9, 16°.53S×173°.81W, h11km±6km, mb3.7/9, mb1 4.0/9, mb1mx3.8/18, mbtmp3.7/9, Error ellipse: s-maj=37.8km s-min=15.2km az=147.0*

ISC 15 05:18:32.8±0.8, 16°.5S±0°.2×173°.8W±0°.1, h113km±6km, h112km:pP-P, n70, σ0s 61/76, mb4.2/14, 5C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.28**	**38**	P	Pn	05 19 16.0	-6.7
	185nm,0.3s,baz=53,slow=1.6,SNR=90						
AFI				S	Sn	05 19 49.3	-12
	561nm,0.3s,baz=246,slow=20,SNR=15						
AFI	**Afiamalu**	**3.28**	**38**	*e*Pn	Pn	05 19 16.3	-6.4
AFI				S	Sn	05 19 49.3	-12
URZ	**Urewera** 25nm,0.5s	**23.06**	**198**	*e*P	**P**	**05 23 28.4**	**-0.1**
COEN	**Coen** 18nm,0.6s	**41.49**	**267**	*e*P	**P**	**05 26 08.8**	**-0.4**
STKA	**Stephens Creek**	**43.11**	**241**	P	**P**	**05 26 22.4**	**+0.3**
	3.1nm,0.7s,baz=77,slow=10,SNR=5.4						
STKA				pP	**pP**	**05 26 47.8**	**-0.2**
	3.2nm,1.1s,baz=72,slow=9.6,SNR=2.1						
STKA	**Stephens Creek**	**43.11**	**241**	P	**P**	**05 26 22.4**	**+0.3**
STKA				pP	**pP**	**05 26 47.8**	**-0.2**
WRA	**Warramunga Arr**	**49.18**	**258**	P	**P**	**05 27 09.4**	**-0.5**
	0.4nm,0.3s,baz=92,slow=6.8,SNR=5.3						
WRA				pP	**pP**	**05 27 36.2**	**-0.1**
	0.9nm,0.8s,baz=95,slow=6.4,SNR=2.2						
WRA	**Warramunga Arr**	**49.18**	**258**	P	**P**	**05 27 09.4**	**-0.5**
WRA				pP	**pP**	**05 27 36.2**	**-0.1**
AS31	**Alice Springs**	**49.37**	**253**	*e*P	**P**	**05 27 11.0**	**-0.2**
ASAR	**Alice Springs**	**49.37**	**253**	P	**P**	**05 27 10.6**	**-0.6**
	2.4nm,0.6s,baz=88,slow=8.3,SNR=27						
ASAR				pP	**pP**	**05 27 38.2**	**+0.5**
	6.8nm,0.7s,baz=87,slow=8.3,SNR=11						
ASAR				PcP	**PcP**	**05 28 32.9**	**+0.7**
	1.0nm,0.6s,baz=99,slow=5.0,SNR=2.8						
ASAR	**Alice Springs**	**49.37**	**253**	P	**P**	**05 27 10.6**	**-0.6**
ASAR				pP	**pP**	**05 27 38.2**	**+0.5

VNA2	**Neumayer--Watz**	**12.35**	**152**	*e*	Pn	05 27 52.5	+0.4
VNA2				*e*		05 29 56.7	
SNAA	**Sanae**	**13.93**	**150**	*e*	Pn	05 28 12.2	-1.6
SNAA				*e*		05 30 34.1	
LPAZ	**La Paz**	**54.11**	**306**	P	P	05 34 22.4	-0.1
	0.9nm,0.7s,baz=158,slow=6.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.75**	**27**	P	P	05 36 48.2	+0.1
	1.9nm,0.7s,baz=203,slow=6.6,SNR=18						
SONM	**Songino Array**	**149.59**	**93**	PKPbc	PKPbc	05 44 45.2	-0.5
	0.9nm,0.8s,baz=212,slow=2.2,SNR=6.5						

BER ***15*** *05:32:27.1±3.3, 60.42N×1.53W, h10km, MD2.9, ML2.8, ML3.3(BGS)*
CSEM ***15*** *05:32:28.2±0.4, 60.33N×1.33W, h30km, ML3.3, Error ellipse: s-maj=15.3km s-min=4.5km az=149.0*
NEIC ***15*** *05:32:29.7, 60.27N×1.28W, h29km, ML3.3(BGS), After BGS.*
NEIC Felt in the Shetland Islands.
BGS ***15*** *05:32:29.7±0.8, 60.27N×1.28W, h29km±4km, ML3.3*
IDC ***15*** *05:32:33.9±2.0, 61.00N×0.37W, h0km, mb3.1/1, mb1 3.4/5, mb1mx3.2/27, mbtmp3.2/5, ML3.3/4, Error ellipse: s-maj=43.4km s-min=17.6km az=12.0*

ISC 15 05:32:29.5±2.2, 60.3N±0.1×1.24W±0.09, h27km±8km, n109, σ1s04/50, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
LRW	**Lerwick**	**0.18**	**170**	P		Pb	Pb	05 32 35.0	-0.1
LRW				S		*e*S	**Sb**	**05 32 38.4**	**-0.6**
LRW				AML		AML	AML	05 32 39.2	
	3μm,0.1s								
LRW				AML		AML	AML	05 32 39.5	
	2μm,0.1s								
LRW	**Lerwick**	**0.18**	**170**	*e*P		Pb	Pb	05 32 35.0	-0.1
LRW				*e*S		**Sb**	**Sb**	**05 32 38.4**	**-0.6**
LRW				AML		AML	AML	05 32 39.2	
	comp=N,3μm,0.1s								
LRW				AML		AML	AML	05 32 39.5	
	comp=E,2μm,0.1s								
LRW	**Lerwick**	**0.18**	**170**	*e*P		Pb	Pb	05 32 35.0	-0.1
LRW				*e*S		**Sb**	**Sb**	**05 32 38.4**	**-0.6**
LRW				AML		AML	AML	05 32 39.2	
	comp=E,3μm,0.1s								
LRW				AML		AML	AML	05 32 39.5	
	comp=E,2μm,0.1s								
LRW	**Lerwick**	**0.18**	**170**	*e*P		Pb	Pb	05 32 35.0	-0.1
LRW				*e*S		**Sb**	**Sb**	**05 32 38.4**	**-0.6**
LRW				AML		AML	AML	05 32 39.2	
	comp=N,3μm,0.1s								
LRW				AML		AML	AML	05 32 39.5	
	comp=E,2μm,0.1s								
LRW	**Lerwick**	**0.18**	**170**	*e*P		Pb	Pb	05 32 35.0	-0.1
LRW				*e*S		**Sb**	**Sb**	**05 32 38.4**	**-0.6**
LRW				AML		AML	AML	05 32 39.2	
	comp=E,2μm,0.1s,SNR=105								
RSC	**Scourie**	**2.82**	**227**	P		Pn	Pn	05 33 10.9	-1.8
RSC	**Scourie**	**2.82**	**227**	*e*P		Pn	Pn	05 33 10.9	-1.8
RSC	**Scourie**	**2.82**	**227**	P		Pn	Pn	05 33 10.9	-1.8
RSC	**Scourie**	**2.82**	**227**	*e*P		Pn	Pn	05 33 10.9	-1.8
RSC	**Scourie**	**2.82**	**227**	*e*P		Pn	Pn	05 33 10.9	-1.8
MVH1	**Achvaich**	**2.84**	**214**	P		**Pb**	**Pb**	**05 33 20.5**	**+1.1**
MVH1	**Achvaich**	**2.84**	**214**	*e*P		**Pb**	**Pb**	**05 33 20.5**	**+1.1**
MVH1	**Achvaich**	**2.84**	**214**	P		**Pb**	**Pb**	**05 33 20.5**	**+1.1**
MVH1	**Achvaich**	**2.84**	**214**	*e*P		**Pb**	**Pb**	**05 33 20.5**	**+1.1**
MCD	**Coleburn Disti**	**2.93**	**202**	P		**Pb**	**Pb**	**05 33 22.6**	**+1.6**
MCD				S		Sn	Sn	05 33 54.1	+5.5
MCD				AML		AML	AML	05 34 12.6	
	comp=E,71nm,0.3s								
MCD				AML		AML	AML	05 34 18.3	
	comp=E,113nm,0.8s								
MCD	**Coleburn Disti**	**2.93**	**202**	*e*P		**Pb**	**Pb**	**05 33 22.6**	**+1.6**
MCD				*e*S		Sn	Sn	05 33 54.1	+5.5
MCD				AML		AML	AML	05 34 12.6	
	comp=E,71nm,0.3s								
MCD				AML		AML	AML	05 34 18.3	
	comp=N,113nm,0.8s								
MCD	**Coleburn Disti**	**2.93**	**202**	*e*P		**Pb**	**Pb**	**05 33 22.6**	**+1.6**
MCD				S		Sn	Sn	05 33 54.1	+5.5
MCD				AML		AML	AML	05 34 12.6	
	comp=N,71nm,0.3s								
MCD				AML		AML	AML	05 34 18.3	
	comp=N,113nm,0.8s								
MCD	**Coleburn Disti**	**2.93**	**202**	*e*P		**Pb**	**Pb**	**05 33 22.6**	**+1.6**
MCD				*e*S		Sn	Sn	05 33 54.1	+5.5
MCD				AML		AML	AML	05 34 12.6	
	comp=E,71nm,0.3s								
MCD				AML		AML	AML	05 34 18.3	
	comp=N,113nm,0.8s								
MME1	**Meikle Cairn**	**3.14**	**197**	P		**Pb**	**Pb**	**05 33 25.8**	**+1.2**
MME1	**Meikle Cairn**	**3.14**	**197**	*e*P		**Pb**	**Pb**	**05 33 25.8**	**+1.2**
MME1	**Meikle Cairn**	**3.14**	**197**	P		**Pb**	**Pb**	**05 33 25.8**	**+1.2**
MME1	**Meikle Cairn**	**3.14**	**197**	*e*P		**Pb**	**Pb**	**05 33 25.8**	**+1.2**
ASK	**Askoy**	**3.20**	**84**	*e*P		Pn	Pn	05 33 17.4	-0.5
EGD	**Espegrend**	**3.22**	**88**	*e*P		Pn	Pn	05 33 18.0	-0.2
RUND	**Rundenannen**	**3.28**	**85**	*e*P		Pn	Pn	05 33 18.2	-1.0
MDO	**Dochfour**	**3.31**	**211**	P		**Pb**	**Pb**	**05 33 27.5**	**+0.1**
MDO	**Dochfour**	**3.31**	**211**	P		**Pb**	**Pb**	**05 33 27.5**	**+0.1**
MDO	**Dochfour**	**3.31**	**211**	*e*P		**Pb**	**Pb**	**05 33 27.5**	**+0.1**
FOO	**Floro**	**3.32**	**65**	P		Pn	Pn	05 33 18.8	-0.9
FOO				AML		AML	AML	05 34 06.8	
	comp=N,117nm,0.3s								
FOO				AML		AML	AML	05 34 09.1	
	comp=N,67nm,0.4s								
FOO	**Floro**	**3.32**	**65**	*e*P		Pn	Pn	05 33 18.5	-1.1
FOO				*e*S		Sn	Sn	05 33 55.3	-2.9
FOO				AML		AML	AML	05 34 06.8	
	comp=N,117nm,0.3s								
FOO				AML		AML	AML	05 34 09.1	
	comp=E,67nm,0.4s								
FOO	**Floro**	**3.32**	**65**	P		Pn	Pn	05 33 18.8	-0.9
FOO				AML		AML	AML	05 34 06.8	
	comp=E,117nm,0.3s								
FOO				AML		AML	AML	05 34 09.1	
	comp=E,67nm,0.4s								
FOO	**Floro**	**3.32**	**65**	*e*P		Pn	Pn	05 33 18.8	-0.9
FOO				AML		AML	AML	05 34 06.8	
	comp=N,117nm,0.3s								
FOO				AML		AML	AML	05 34 09.1	
	comp=E,67nm,0.4s								
FOO	**Floro**	**3.32**	**65**	*e*P		Pn	Pn	05 33 18.5	-1.1
	SNR=50								
FOO				*e*S		Sn	Sn	05 33 55.3	-2.9
	comp=E,67nm,0.4s,SNR=50								
RRR	**Rubha Reidh**	**3.41**	**226**	P		Pn	Pn	05 33 19.1	-1.7
RRR				S		Sn	Sn	05 33 55.1	-5.2
RRR				AML		AML	AML	05 34 16.8	
	comp=E,78nm,0.5s								
RRR				AML		AML	AML	05 34 20.5	
	comp=E,93nm,0.4s								
RRR	**Rubha Reidh**	**3.41**	**226**	*e*P		Pn	Pn	05 33 19.1	-1.7
RRR				*e*S		Sn	Sn	05 33 55.1	-5.2
RRR				AML		AML	AML	05 34 16.8	
	comp=E,78nm,0.5s								
RRR				AML		AML	AML	05 34 20.5	
	comp=E,93nm,0.4s								
RRR	**Rubha Reidh**	**3.41**	**226**	*e*P		Pn	Pn	05 33 19.1	-1.7
RRR				*e*S		Sn	Sn	05 33 55.1	-5.2
RRR				AML		AML	AML	05 34 16.8	
	comp=N,78nm,0.5s								
RRR				AML		AML	AML	05 34 20.5	
	comp=E,93nm,0.4s								
RRR	**Rubha Reidh**	**3.41**	**226**	*e*P		Pn	Pn	05 33 19.1	-1.7
RRR				*e*S		Sn	Sn	05 33 55.1	-5.2
	comp=E,93nm,0.4s,SNR=50								
KMY	**Karmoy**	**3.46**	**106**	*e*P		**Pn**	**Pn**	**05 33 22.0**	**+0.5**
KMY				*e*S		**Sn**	**Sn**	**05 34 00.8**	**-0.8**
KMY				AML		AML	AML	05 34 13.4	
	comp=Z,58nm,0.4s								
KMY	**Karmoy**	**3.46**	**106**	*e*P		**Pn**	**Pn**	**05 33 22.0**	**+0.5**
	SNR=50								
KMY				*e*S		**Sn**	**Sn**	**05 34 00.8**	**-0.8**
	comp=Z,58nm,0.4s,SNR=50								
KAC	**Achnashellach**	**3.52**	**218**	P		Pn	Pn	05 33 20.3	-2.1
KAC	**Achnashellach**	**3.52**	**218**	P		Pn	Pn	05 33 20.3	-2.1
KAC	**Achnashellach**	**3.52**	**218**	*e*P		Pn	Pn	05 33 20.3	-2.1
KAC	**Achnashellach**	**3.52**	**218**	*e*P		Pn	Pn	05 33 20.3	-2.1
RRH	**Rhenigidale**	**3.70**	**232**	P		Pn	Pn	05 33 22.6	-2.1
RRH	**Rhenigidale**	**3.70**	**232**	*e*P		Pn	Pn	05 33 22.6	-2.1
RRH	**Rhenigidale**	**3.70**	**232**	P		Pn	Pn	05 33 22.6	-2.1
RRH	**Rhenigidale**	**3.70**	**232**	*e*P		Pn	Pn	05 33 22.6	-2.1
RRH	**Rhenigidale**	**3.70**	**232**	*e*P		Pn	Pn	05 33 22.6	-2.1
KPL	**Plockton**	**3.77**	**219**	P		Pn	Pn	05 33 23.7	-2.0
KPL				S		Sn	Sn	05 34 02.1	-6.9
KPL				AML		AML	AML	05 34 29.6	
	comp=Z,59nm,0.4s								
KPL				AML		AML	AML	05 34 29.8	
	comp=Z,78nm,0.5s								
KPL	**Plockton**	**3.77**	**219**	*e*P		Pn	Pn	05 33 23.7	-2.0
KPL				*e*S		Sn	Sn	05 34 02.1	-6.9
KPL				AML		AML	AML	05 34 29.6	
	comp=N,59nm,0.4s								
KPL				AML		AML	AML	05 34 29.8	
	comp=E,78nm,0.5s								
KPL	**Plockton**	**3.77**	**219**	*e*P		Pn	Pn	05 33 23.7	-2.0
KPL				*e*S		Sn	Sn	05 34 02.1	-6.9
KPL				AML		AML	AML	05 34 29.6	
	comp=N,59nm,0.4s								
KPL				AML		AML	AML	05 34 29.8	
	comp=E,78nm,0.5s								
KPL	**Plockton**	**3.77**	**219**	P		Pn	Pn	05 33 23.7	-2.0
KPL				S		Sn	Sn	05 34 02.1	-6.9
KPL				AML		AML	AML	05 34 29.6	
	comp=E,59nm,0.4s								
KPL				AML		AML	AML	05 34 29.8	
	comp=E,78nm,0.5s								
KPL	**Plockton**	**3.77**	**219**	*e*P		Pn	Pn	05 33 23.7	-2.0
KPL				*e*S		Sn	Sn	05 34 02.1	-6.9
KPL				AML		AML	AML	05 34 29.6	
	comp=N,59nm,0.4s								
KPL				AML		AML	AML	05 34 29.8	
	comp=E,78nm,0.5s								
KPL	**Plockton**	**3.77**	**219**	*e*P		Pn	Pn	05 33 23.7	-2.0
KPL				*e*S		Sn	Sn	05 34 02.1	-6.9
	comp=E,78nm,0.5s,SNR=50								
ODD1	**Odda**	**3.96**	**92**	*e*P		Pn	Pn	05 33 28.0	-0.4
ODD1				*e*S		**Sn**	**Sn**	**05 34 12.9**	**-1.0**
ODD1				AML		AML	AML	05 34 28.8	
	comp=Z,24nm,0.7s								
ODD1	**Odda**	**3.96**	**92**	*e*P		Pn	Pn	05 33 28.0	-0.4
	SNR=49								
ODD1				*e*S		**Sn**	**Sn**	**05 34 12.9**	**-1.0**
	comp=Z,24nm,0.7s,SNR=49								
BLS5	**Blasjo**	**3.98**	**100**	*e*P		**Pn**	**Pn**	**05 33 29.1**	**+0.4**
BLS5				*e*S		**Sn**	**Sn**	**05 34 13.6**	**-0.9**
BLS5				AML		AML	AML	05 34 41.0	
	comp=Z,28nm,0.5s								
BLS5	**Blasjo**	**3.98**	**100**	*e*P		**Pn**	**Pn**	**05 33 29.1**	**+0.4**
	SNR=49								
BLS5				*e*S		**Sn**	**Sn**	**05 34 13.6**	**-0.9**
	comp=Z,28nm,0.5s,SNR=49								
EAB	**Aberfoyle**	**4.45**	**203**	P		Pn	Pn	05 33 33.7	-1.5
EAB	**Aberfoyle**	**4.45**	**203**	P		Pn	Pn	05 33 33.7	-1.5
EAB	**Aberfoyle**	**4.45**	**203**	*e*P		Pn	Pn	05 33 33.7	-1.5
EAB	**Aberfoyle**	**4.45**	**203**	*e*P		Pn	Pn	05 33 33.7	-1.5
ESY	**Stoneypath**	**4.47**	**190**	P		Pn	Pn	05 33 34.6	-0.8
ESY	**Stoneypath**	**4.47**	**190**	P		Pn	Pn	05 33 34.6	-0.8
ESY	**Stoneypath**	**4.47**	**190**	*e*P		Pn	Pn	05 33 34.6	-0.8
ESY	**Stoneypath**	**4.47**	**190**	*e*P		Pn	Pn	05 33 34.6	-0.8
EDI	**Edinburgh**	**4.53**	**194**	P		Pn	Pn	05 33 32.5	-3.7
EDI				AML		AML	AML	05 34 23.1	
	comp=Z,11nm,0.2s								
EDI				AML		AML	AML	05 34 48.5	
	comp=Z,24nm,0.5s								
EDI	**Edinburgh**	**4.53**	**194**	*e*P		Pn	Pn	05 33 32.5	-3.7
EDI				AML		AML	AML	05 34 23.1	
	comp=E,11nm,0.2s								
EDI				AML		AML	AML	05 34 48.5	
	comp=N,24nm,0.5s								
EDI	**Edinburgh**	**4.53**	**194**	*e*P		Pn	Pn	05 33 32.5	-3.7
EDI				AML		AML	AML	05 34 23.1	
	comp=E,11nm,0.2s								
EDI				AML		AML	AML	05 34 48.5	
	comp=N,24nm,0.5s								
EDI	**Edinburgh**	**4.53**	**194**	P		Pn	Pn	05 33 32.5	-3.7
EDI				AML		AML	AML	05 34 23.1	
	comp=N,11nm,0.2s								
EDI				AML		AML	AML	05 34 48.5	
	comp=N,24nm,0.5s								
EDI	**Edinburgh**	**4.53**	**194**	*e*P		Pn	Pn	05 33 32.5	-3.7
EDI				AML		AML	AML	05 34 23.1	
	comp=E,11nm,0.2s								
EDI				AML		AML	AML	05 34 48.5	
	comp=N,24nm,0.5s								
EDI	**Edinburgh**	**4.53**	**194**	*e*P		Pn	Pn	05 33 32.5	-3.7
	comp=N,24nm,0.5s								
EBL	**Broad Law**	**4.66**	**193**	P		**Pn**	**Pn**	**05 33 37.4**	**-0.6**
EBL	**Broad Law**	**4.66**	**193**	P		**Pn**	**Pn**	**05 33 37.4**	**-0.6**
EBL	**Broad Law**	**4.66**	**193**	*e*P		**Pn**	**Pn**	**05 33 37.4**	**-0.6**
EBL	**Broad Law**	**4.66**	**193**	*e*P		**Pn**	**Pn**	**05 33 37.4**	**-0.6**
SNART	**Snartemo**	**4.76**	**111**	*e*P		Pn	Pn	05 33 39.5	+0.1
SNART				*e*S		**Sn**	**Sn**	**05 34 32.5**	**-1.1**
SNART				AML		AML	AML	05 34 53.8	
	comp=Z,20nm,0.3s								
PGBU	**Glenifferbraes**	**4.83**	**202**	P		**Pn**	**Pn**	**05 33 39.6**	**-0.7**
PGBU				S		Sn	Sn	05 34 29.3	-6.1
PGBU				AML		AML	AML	05 35 03.0	
	comp=Z,37nm,0.6s								
PGBU				AML		AML	AML	05 35 07.9	
	comp=Z,36nm,0.6s								
PGBU	**Glenifferbraes**	**4.83**	**202**	*e*P		**Pn**	**Pn**	**05 33 39.6**	**-0.7**
PGBU				*e*S		Sn	Sn	05 34 29.3	-6.1
PGBU				AML		AML	AML	05 35 03.0	
	comp=E,37nm,0.6s								
PGBU				AML		AML	AML	05 35 07.9	
	comp=N,36nm,0.6s								
PGBU	**Glenifferbraes**	**4.83**	**202**	*e*P		**Pn**	**Pn**	**05 33 39.6**	**-0.7**
PGBU				*e*S		Sn	Sn	05 34 29.3	-6.1
PGBU				AML		AML	AML	05 35 03.0	
	comp=E,37nm,0.6s								
PGBU				AML		AML	AML	05 35 07.9	
	comp=N,36nm,0.6s								
PGBU	**Glenifferbraes**	**4.83**	**202**	P		**Pn**	**Pn**	**05 33 39.6**	**-0.7**
PGBU				S		Sn	Sn	05 34 29.3	-6.1
PGBU				AML		AML	AML	05 35 03.0	
	comp=N,37nm,0.6s								
PGBU				AML		AML	AML	05 35 07.9	
	comp=N,36nm,0.6s								
PGBU	**Glenifferbraes**	**4.83**	**202**	*e*P		**Pn**	**Pn**	**05 33 39.6**	**-0.7**
PGBU				*e*S		Sn	Sn	05 34 29.3	-6.1
PGBU				AML		AML	AML	05 35 03.0	
	comp=E,37nm,0.6s								
PGBU				AML		AML	AML	05 35 07.9	
	comp=N,36nm,0.6s								
PGBU	**Glenifferbraes**	**4.83**	**202**	*e*P		**Pn**	**Pn**	**05 33 39.7**	**-0.7**
ESK	**Eskdalemuir**	**5.12**	**193**	P		Pn	Pn	05 33 43.2	-1.2
ESK				AML		AML	AML	05 34 40.7	
	comp=N,13nm,0.3s								
ESK				AML		AML	AML	05 34 53.0	
	comp=N,15nm,0.4s								
ESK	**Eskdalemuir**	**5.12**	**193**	*e*P		Pn	Pn	05 33 43.2	-1.2
ESK				AML		AML	AML	05 34 40.7	
	comp=E,13nm,0.3s								
ESK				AML		AML	AML	05 34 53.0	
	comp=N,15nm,0.4s								
ESK	**Eskdalemuir**	**5.12**	**193**	*e*P		Pn	Pn	05 33 43.2	-1.2
ESK				AML		AML	AML	05 34 40.7	
	comp=N,13nm,0.3s								
ESK				AML		AML	AML	05 34 53.0	
	comp=N,15nm,0.4s								
ESK	**Eskdalemuir**	**5.12**	**193**	*e*P		Pn	Pn	05 33 43.2	-1.2
ESK				AML		AML	AML	05 34 40.7	
	comp=E,13nm,0.3s								
ESK				AML		AML	AML	05 34 53.0	
	comp=N,15nm,0.4s								
ESK	**Eskdalemuir**	**5.12**	**193**	*e*Pn		Pn	Pn	05 33 43.1	-1.2
ESK				*e*Sn		Sn	Sn	05 34 39.0	-3.5
ESK	**Eskdalemuir**	**5.12**	**193**	*e*Pn		Pn	Pn	05 33 43.1	-1.2
ESK				*e*Sn		Sn	Sn	05 34 39.0	-3.5
KONO	**Kongsberg**	**5.48**	**92**	Pn		Pn	Pn	05 33 52.6	+3.3
KONO				*e*Sn		**Sn**	**Sn**	**05 34 49.6**	**-1.8**
NAO01	**NORSAR Array S**	**6.00**	**80**	*e*Pn		**Pn**	**Pn**	**05 33 57.0**	**+0.6**
	comp=N,3.2nm,0.4s								
NAO01				Sn		**Sn**	**Sn**	**05 35 02.3**	**-1.9**
NAO01	**NORSAR Array S**	**6.00**	**80**	*e*Pn		**Pn**	**Pn**	**05 33 57.0**	**+0.6**
	comp=N,3.2nm,0.4s								
NAO01				Sn		**Sn**	**Sn**	**05 35 02.3**	**-1.9**
NOA	**NORSAR Array B**	**6.16**	**78**	Pn		Pn	Pn	05 33 58.4	-0.3
	comp=N,0.6nm,0.3s,baz=268,slow=13,SNR=5.8								
NOA				Sn		Sn	Sn	05 35 04.9	-3.3
	comp=N,0.9nm,0.3s,baz=220,slow=23,SNR=1.8								
NOA				Lg		Lg	Lg	05 35 30.1	
	comp=N,1.5nm,0.3s,baz=296,slow=13,SNR=3.9								
NOA	**NORSAR Array B**	**6.16**	**78**	Pn		Pn	Pn	05 33 58.4	-0.3
NOA				Sn		Sn	Sn	05 35 05.0	-3.3
NOA				Lg		Lg	Lg	05 35 30.1	
NOA	**NORSAR Array B**	**6.16**	**78**	Pn		Pn	Pn	05 33 58.4	-0.3
HFS	**Hagfors**	**7.44**	**85**	Pn		Pn	Pn	05 34 15.7	-0.5
	comp=N,0.7nm,0.3s,baz=277,slow=12,SNR=10								
HFS				Sn		Sn	Sn	05 35 37.0	-2.5
	comp=N,0.6nm,0.3s,baz=271,slow=22,SNR=4.6								
HFS	**Hagfors**	**7.44**	**85**	Pn		Pn	Pn	05 34 15.7	-0.5
HFS				Sn		Sn	Sn	05 35 37.0	-2.5
HFS	**Hagfors**	**7.44**	**85**	Pn		Pn	Pn	05 34 15.6	-0.5
HFS				Sn		Sn	Sn	05 35 37.0	-2.5
RGN	**Rugen**	**9.74**	**120**	Pn		Pn	Pn	05 34 51.8	+4.2
FINES	**FINESS Array B**	**13.31**	**73**	Pn		Pn	Pn	05 35 33.6	-2.8
	comp=N,0.2nm,0.3s,baz=285,slow=11,SNR=3.0								
FINES	**FINESS Array B**	**13.31**	**73**	Pn		Pn	Pn	05 35 33.6	-2.8
FINES	**FINESS Array B**	**13.31**	**73**	Pn		Pn	Pn	05 35 33.6	-2.8
GERES	**GERESS Array B**	**14.35**	**137**	Pn		**P**	**P**	**05 35 58.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=328,slow=13,SNR=4.1								
GERES	**GERESS Array B**	**14.35**	**137**	Pn		**P**	**P**	**05 35 58.3**	**+0.9**
YKA	**Yellowknife Ar**	**47.43**	**325**	P		P	P	05 41 06.8	+5.8
	comp=N,0.2nm,0.7s,baz=29,slow=8.3,SNR=3.0								

IDC 15 06:02:34.8±2.0, 0.32S×133.07E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=84.1km s-min=23.7km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
FITZ	**Fitzroy Crossi**	**19.12**	**202**	P		P	P	06 06 59.8	+0.2
	0.1nm,0.3s,baz=36,slow=14,SNR=5.5								
WRA	**Warramunga Arr**	**19.54**	**176**	P		P	P	06 07 04.4	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**23.22**	**178**	P		P	P	06 07 44.0	+0.3
	2.3nm,0.7s,baz=356,slow=11,SNR=24								
STKA	**Stephens Creek**	**32.41**	**166**	P		P	P	06 09 06.0	-0.5
	0.9nm,0.4s,baz=2.0,slow=8.2,SNR=3.7								
MKAR	**Makanchi Array**	**64.51**	**324**	P		P	P	06 13 13.5	0.0
	0.1nm,0.5s,baz=111,slow=7.1,SNR=2.6								

IDC ***15*** *06:02:58.7±1.1, 0.68S×133.31E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=58.2km s-min=18.3km az=81.0*
NEIC ***15*** *06:03:03.9±0.6, 0.73S×133.24E, h35km, mb4.0/3, Error ellipse: s-maj=15.8km s-min=9.2km az=78.0*

ISC 15 06:03:04.7±1.3, 1.11S±0.10×132.9E±0.2, h28km, n19, σ2s90/21, mb4.2/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KAPI	**Kappang**	**13.72**	**253**	*e*Pn		Pn	Pn	06 06 21.7	+4.2
COEN	**Coen**	**16.30**	**142**	*e*Pn		**Pn**	**Pn**	**06 06 48.8**	**-2.9**
	20nm,0.5s								
FITZ	**Fitzroy Crossi**	**18.34**	**203**	P		**Pn**	**Pn**	**06 07 19.5**	**+2.3**
	0.6nm,0.3s,baz=48,slow=13,SNR=13								
FITZ				S		**Sn**	**Sn**	**06 10 37.9**	**-3.5**
	0.4nm,0.3s,baz=177,slow=11,SNR=6.6								
FITZ				LR		LR		06 15 00.7	
	comp=Z,63nm,20.2s,baz=204,slow=38								
FITZ	**Fitzroy Crossi**	**18.34**	**203**	P		**Pn**	**Pn**	**06 07 19.5**	**+2.3**
	4.9nm,0.6s								
FITZ				S		**Sn**	**Sn**	**06 10 37.9**	**-3.5**
WRAB	**Tennant Creek**	**18.76**	**176**	*e*P		**Pn**	**Pn**	**06 07 23.6**	**+1.3**
	5.6nm,0.6s								
WRAB				*e*S		Sn	Sn	06 10 43.7	-7.8
WRA	**Warramunga Arr**	**18.77**	**176**	P		**Pn**	**Pn**	**06 07 24.0**	**+1.7**
	0.8nm,0.3s,baz=356,slow=12,SNR=17								
WRA				S		**Sn**	**Sn**	**06 10 48.4**	**-3.3**
	0.5nm,0.3s,baz=359,slow=23,SNR=6.0								
WRA	**Warramunga Arr**	**18.77**	**176**	P		**Pn**	**Pn**	**06 07 24.0**	**+1.7**
WRA				S		**Sn**	**Sn**	**06 10 48.4**	**-3.3**
WB2	**Warramunga Arr**	**18.77**	**176**	*e*P		**Pn**	**Pn**	**06 07 24.3**	**+2.0**
WB2				*e*S		**Sn**	**Sn**	**06 10 46.5**	**-5.2**
AS31	**Alice Springs**	**22.44**	**178**	*e*P		**P**	**P**	**06 08 03.8**	**+2.2**
ASAR	**Alice Springs**	**22.44**	**178**	P		**P**	**P**	**06 08 04.7**	**+3.1**
	3.4nm,0.3s,baz=358,slow=11,SNR=17								
ASAR				S		**S**	**S**	**06 12 09.2**	**+2.6**
	0.6nm,0.8s,baz=1.1,slow=18,SNR=2.9								
ASAR	**Alice Springs**	**22.44**	**178**	P		**P**	**P**	**06 08 04.7**	**+3.1**
ASA

EGUA	**Guajares**	**3.50**	**295**	P		**Pn**	**06 50 16.2**	**+0.4**
	5.8nm,0.1s,SNR=7.9								
EGUA				S		**Sn**	**06 50 55.7**	**-0.6**
	6.5nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**3.50**	**295**	P		**Pn**	**06 50 16.2**	**+0.4**
	5.8nm,0.1s,SNR=7.9								
EGUA				S		**Sn**	**06 50 55.7**	**-0.6**
	6.5nm,0.3s,SNR=7.9								
EQUE	**Quentar**	**3.57**	**301**	P		**Pn**	**06 50 18.8**	**+1.9**
	24nm,3.6s,SNR=7.9								
EQUE				S		**Sn**	**06 50 58.4**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**3.57**	**301**	P		**Pn**	**06 50 18.8**	**+1.9**
	24nm,3.6s,SNR=7.9								
EQUE				S		**Sn**	**06 50 58.4**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**3.57**	**335**	P		**Pn**	**06 50 18.2**	**+1.4**
	3.7nm,0.2s,SNR=28								
ETOB				S		**Sn**	**06 50 56.6**	**-1.5**
	1.7nm,0.2s								
ETOB	**Tobarra**	**3.57**	**335**	P		**Pn**	**06 50 18.2**	**+1.4**
	3.7nm,0.2s,SNR=28								
ETOB				S		**Sn**	**06 50 56.6**	**-1.5**
	1.7nm,0.2s								
EQES	**Quesada**	**3.66**	**311**	P		**Pn**	**06 50 20.4**	**+2.3**
	1.4nm,0.2s,SNR=28								
EQES				S		**Sn**	**06 51 01.3**	**+0.9**
	7.4nm,0.6s								
EQES	**Quesada**	**3.66**	**311**	P		**Pn**	**06 50 20.4**	**+2.3**
	1.4nm,0.2s,SNR=28								
EQES				S		**Sn**	**06 51 01.3**	**+0.9**
	7.4nm,0.6s								
EIBI	**Ibiza**	**3.67**	**12**	P		**Pn**	**06 50 19.2**	**+1.0**
	18nm,0.8s,SNR=7.4								
EIBI				S		**Sn**	**06 50 59.3**	**-1.3**
	2.6nm,0.2s								
EIBI	**Ibiza**	**3.67**	**12**	P		**Pn**	**06 50 19.2**	**+1.0**
	18nm,0.8s,SNR=7.4								
EIBI				S		**Sn**	**06 50 59.3**	**-1.3**
	2.6nm,0.2s								
ECOG	**Cogollos-Vega**	**3.69**	**301**	P		**Pn**	**06 50 20.5**	**+1.9**
	4.7nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.69**	**301**	P		**Pn**	**06 50 20.5**	**+1.9**
	4.7nm,0.2s,SNR=7.9								
ERON	**Agron**	**3.75**	**296**	P		**Pn**	**06 50 20.2**	**+0.8**
	4.9nm,0.3s,SNR=7.9								
ERON	**Agron**	**3.75**	**296**	P		**Pn**	**06 50 20.2**	**+0.8**
	4.9nm,0.3s,SNR=7.9								
EVIA	**Vianos**	**3.96**	**325**	P		**Pn**	**06 50 23.3**	**+1.1**
	9.3nm,0.4s,SNR=10.0								
EVIA				S		**Sn**	**06 51 07.8**	**+0.1**
	14nm,0.3s,SNR=5.4								
EVIA	**Vianos**	**3.96**	**325**	P		**Pn**	**06 50 23.3**	**+1.1**
	9.3nm,0.4s,SNR=10.0								
EVIA				S		**Sn**	**06 51 07.8**	**+0.1**
	14nm,0.3s,SNR=5.4								
EMIJ	**Mijas**	**4.34**	**287**	P		**Pn**	**06 50 27.1**	**-0.3**
	0.8nm,0.2s,SNR=7.9								
EMIJ				S		**Sn**	**06 51 16.2**	**-0.8**
	1.4nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**4.34**	**287**	P		**Pn**	**06 50 27.1**	**-0.3**
	0.8nm,0.2s,SNR=7.9								
EMIJ				S		**Sn**	**06 51 16.2**	**-0.8**
	1.4nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**4.84**	**306**	P		**Pn**	**06 50 36.1**	**+1.9**
	0.6nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**06 51 27.9**	**-1.4**
	0.5nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**4.84**	**306**	P		**Pn**	**06 50 36.1**	**+1.9**
	0.6nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**06 51 27.9**	**-1.4**
	0.5nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.98**	**352**	P		**Pn**	**06 50 37.7**	**+1.4**
	10nm,1.0s,SNR=14								
EMOS	**Mosqueruela**	**4.98**	**352**	P		**Pn**	**06 50 37.7**	**+1.4**
	10nm,1.0s,SNR=14								
EPOB	**Poblet**	**5.94**	**5**	P		**Pn**	**06 50 50.0**	**+0.5**
	0.5nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**5.94**	**5**	P		**Pn**	**06 50 50.0**	**+0.5**
	0.5nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.15**	**294**	P		**Pn**	**06 50 52.3**	**+0.1**
	0.4nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.15**	**294**	P		**Pn**	**06 50 52.3**	**+0.1**
	0.4nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**6.33**	**327**	P		**Pn**	**06 50 55.7**	**+0.9**
	1.1nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**6.33**	**327**	P		**Pn**	**06 50 55.7**	**+0.9**
	1.1nm,0.2s,SNR=7.9								

*ISCJB **15** 06:49:27.2±0.4, 43°.35N±0°.02×44°.95E±0°.03, h8km±3km, Error ellipse: s-maj=3.8km s-min=3.2km az=16.6*
*TIF **15** 06:49:27.8, 43°.31N×44°.83E, h20km±4km*
*NNC **15** 06:49:27.5±4.9, 43°.72N×45°.03E, h0km, mb3.5, mpv3.9, Error ellipse: s-maj=97.3km s-min=15.7km az=169.0*
*MOS **15** 06:49:28.6±1.1, 43°.26N×44°.78E, h12km, mb4.2/1, Error ellipse: s-maj=7.4km s-min=6.2km az=117.8*
*CSEM **15** 06:49:28.0±0.2, 43°.28N×44°.93E, h5km, mb4.2, Error ellipse: s-maj=4.6km s-min=4.0km az=12.0*

ISC 15 06:49:28.7±0.9, 43°.27N±0°.02×44°.88E±0°.02, h10km±6km, n60, σ1°.21/101, 14C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.21**	**193**	*i* PG	**Pg**	**06 49 32.2**	**-0.8**
SNJR				*i* S	**Sg**	**06 49 37.5**	**+1.6**
SNJR	**Sundja**	**0.21**	**193**	*i* Pg	**Pg**	**06 49 32.2**	**-0.8**
SNJR				*i* Sg	**Sg**	**06 49 37.5**	**+1.6**
BTKR	**Batakoyurt**	**0.26**	**293**	⇓*i* PG	**Pg**	**06 49 32.0**	**-2.0**
BTKR				*e*S	**Sg**	**06 49 37.8**	**+0.2**
BTKR	**Batakoyurt**	**0.26**	**293**	*i* Pg	**Pg**	**06 49 32.0**	**-2.0**
BTKR				*e*Sg	**Sg**	**06 49 37.8**	**+0.2**
VLKR	**Vladikavkaz**	**0.27**	**213**	⇓*i* Pg	**Pg**	**06 49 33.7**	**-0.4**
VLKR				*i* S	**Sg**	**06 49 39.9**	**+2.2**
VLKR	**Vladikavkaz**	**0.27**	**213**	*i* Pg	**Pg**	**06 49 33.7**	**-0.4**
VLKR				*i* Sg	**Sg**	**06 49 39.9**	**+2.2**
KMSR	**Komsomolskaya**	**0.44**	**283**	⇑*i* PG	**Pg**	**06 49 36.5**	**-0.7**
KMSR				*i* S	**Sg**	**06 49 44.8**	**+1.8**
KMSR	**Komsomolskaya**	**0.44**	**283**	*i* Pg	**Pg**	**06 49 36.5**	**-0.7**
KMSR				*i* Sg	**Sg**	**06 49 44.8**	**+1.8**
ARNR	**Ardon**	**0.44**	**260**	⇑*i* PG	**Pg**	**06 49 36.9**	**-0.4**
ARNR				*i* S	**Sg**	**06 49 45.5**	**+2.3**
ARNR	**Ardon**	**0.44**	**260**	*i* Pg	**Pg**	**06 49 36.9**	**-0.4**
ARNR				*i* Sg	**Sg**	**06 49 45.5**	**+2.3**
TRKR	**Terskaya**	**0.46**	**347**	⇓*i* PG	**Pg**	**06 49 38.2**	**+0.5**
TRKR				*e*S	**Sg**	**06 49 45.6**	**+1.7**
TRKR	**Terskaya**	**0.46**	**347**	*i* Pg	**Pg**	**06 49 38.2**	**+0.5**
TRKR				*e*Sg	**Sg**	**06 49 45.6**	**+1.7**
LACR	**Lac**	**0.61**	**224**	⇑*i* PG	**Pg**	**06 49 40.2**	**-0.4**
LACR				*i* S	**Sb**	**06 49 51.2**	**+0.8**
LACR	**Lac**	**0.61**	**224**	*i* Pg	**Pg**	**06 49 40.2**	**-0.4**
LACR				*i* Sg	**Sb**	**06 49 51.2**	**+0.8**
KORR	**Kora**	**0.62**	**253**	⇓*i* PG	**Pg**	**06 49 40.3**	**-0.4**
KORR				*i* S	**Sb**	**06 49 51.3**	**+0.9**
KORR	**Kora**	**0.62**	**253**	*i* Pg	**Pg**	**06 49 40.3**	**-0.4**
KORR				*i* Sg	**Sb**	**06 49 51.3**	**+0.9**
PRTR	**Priterechnaya**	**0.65**	**318**	⇓*i* PG	**Pb**	**06 49 41.7**	**-0.4**
PRTR				*e*S	**Sb**	**06 49 52.7**	**+1.6**
PRTR	**Priterechnaya**	**0.65**	**318**	*i* Pg	**Pb**	**06 49 41.7**	**-0.4**
PRTR				*e*Sg	**Sb**	**06 49 52.7**	**+1.6**
LSNR	**Lesken**	**0.77**	**271**	⇑*i* PG	**Pg**	**06 49 43.5**	**-0.1**
LSNR				*i* S	**Sn**	**06 49 56.7**	**-0.8**
LSNR	**Lesken**	**0.77**	**271**	*i* Pg	**Pg**	**06 49 43.5**	**-0.1**
LSNR				*i* Sg	**Sn**	**06 49 56.7**	**-0.8**
ZEI	**Tsey**	**0.87**	**235**	⇓*i* PG	**Pg**	**06 49 44.9**	**-0.6**
ZEI				*i* S	**Sb**	**06 49 59.1**	**+1.2**
ZEI	**Tsey**	**0.87**	**235**	*i* Pg	**Pg**	**06 49 44.9**	**-0.6**
ZEI				*i* Sg	**Sb**	**06 49 59.1**	**+1.2**
DIGR	**Digorskoe uzhe**	**1.02**	**249**	⇑*i* PG	**Pb**	**06 49 47.0**	**-1.5**
DIGR				*i* S	**Sb**	**06 50 02.8**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.02**	**249**	*i* Pg	**Pb**	**06 49 47.0**	**-1.5**
DIGR				*i* Sg	**Sb**	**06 50 02.8**	**+0.7**
BTLR	**Botlikh**	**1.16**	**121**	⇑*i* PG	**Pg**	**06 49 50.5**	**-0.4**
BTLR				*e*S	**Sn**	**06 50 09.0**	**+2.0**
BTLR	**Botlikh**	**1.16**	**121**	*i* Pg	**Pg**	**06 49 50.5**	**-0.4**
BTLR				*e*Sg	**Sn**	**06 50 09.0**	**+2.0**
KUBR	**Kubataba**	**1.19**	**297**	⇑*e*PG	**Pn**	**06 49 50.5**	**-1.0**
KUBR				*i* S	**Sn**	**06 50 09.1**	**+1.4**
KUBR	**Kubataba**	**1.19**	**297**	*e*Pg	**Pn**	**06 49 50.5**	**-1.0**
KUBR				*i* Sg	**Sn**	**06 50 09.1**	**+1.4**
ONI	**Oni**	**1.25**	**237**	P	**Pn**	**06 49 51.3**	**-0.9**
ONI				S	**Sb**	**06 50 09.2**	**+0.7**
GOR	**Gori**	**1.40**	**204**	P	**Pn**	**06 49 53.8**	**-0.6**
GOR				S	**Sb**	**06 50 13.4**	**+0.5**
DBC	**Dubki**	**1.45**	**99**	*i* PG	**Pg**	**06 49 55.0**	**-1.5**
DBC				*i* S	**Sg**	**06 50 16.3**	**+0.9**
DBC	**Dubki**	**1.45**	**99**	*i* Pg	**Pg**	**06 49 55.0**	**-1.5**
DBC				*i* Sg	**Sg**	**06 50 16.3**	**+0.9**
UNCR	**Uncukul**	**1.51**	**111**	⇓*i* PG	**Pb**	**06 49 55.5**	**-1.4**
UNCR				pmax	pmax		
	comp=Z,251nm,0.4s						
UNCR	**Uncukul**	**1.51**	**111**	*i* Pg	**Pb**	**06 49 55.5**	**-1.4**
	comp=Z,251nm,0.4s						
TBLG	**Delisi**	**1.54**	**184**	*i* PG	**Pb**	**06 49 56.9**	**-0.4**
TBLG				*i* S	**Sg**	**06 50 18.3**	**+0.1**
TBLG	**Delisi**	**1.54**	**184**	P	**Pb**	**06 49 56.9**	**-0.4**
TBLG				S	**Sg**	**06 50 18.3**	**+0.1**
TBLG	**Delisi**	**1.54**	**184**	P	**Pb**	**06 49 56.9**	**-0.4**
TBLG				S	**Sg**	**06 50 18.3**	**+0.1**
SHAR	**Shatzhatmas**	**1.67**	**287**	⇑*e*PG	**Pn**	**06 49 58.4**	**+0.1**
SHAR				*i* S	**Sg**	**06 50 22.3**	**-0.2**
SHAR	**Shatzhatmas**	**1.67**	**287**	*e*Pg	**Pn**	**06 49 58.4**	**+0.1**
SHAR				*i* Sg	**Sg**	**06 50 22.3**	**-0.2**
KIV	**Kislovodsk**	**1.73**	**294**	⇑*i* Pn	**Pn**	**06 49 58.1**	**-0.8**
	comp=Z,420nm,0.4s						
KIV				⇑Sn	**Sb**	**06 50 22.6**	**+0.1**
	comp=Z,474nm,0.6s						
KIV	**Kislovodsk**	**1.73**	**294**	⇑*i* PN	**Pn**	**06 49 58.3**	**-0.6**
KIV				*e*S	**Sb**	**06 50 22.4**	**-0.1**
KIV	**Kislovodsk**	**1.73**	**294**	*i* Pn	**Pn**	**06 49 58.3**	**-0.6**
KIV				Sn	**Sb**	**06 50 22.6**	**+0.1**
	comp=Z,474nm,0.6s						
DGRG	**David-gareji**	**1.86**	**168**	P	**Pb**	**06 50 03.1**	**+0.4**
DGRG				S	**Sg**	**06 50 29.8**	**+1.5**
MAK	**Makhachkala**	**1.95**	**98**	*e*PN	**Pg**	**06 50 05.0**	**-1.0**
MAK				*e*		06 50 34.9	
MAK				smax	smax		
	comp=N,356nm,0.6s						
MAK				smax	smax		
	comp=E,317nm,0.6s						
MAK	**Makhachkala**	**1.95**	**98**	*e*Pn	**Pg**	**06 50 05.0**	**-1.0**
	comp=E,356nm,0.6s						
MAK				*e*Sg	**Sg**	**06 50 34.9**	**+3.6**
DOMR	**Dombai**	**2.38**	**272**	*e*PN	**Pb**	**06 50 10.2**	**-1.4**
DOMR	**Dombai**	**2.38**	**272**	*e*Pn	**Pb**	**06 50 10.2**	**-1.4**
GNI	**Garni**	**3.12**	**182**	*e*PN	**Pb**	**06 50 23.5**	**-0.8**
GNI				pmax	pmax		
	comp=Z,32nm,0.8s						
GNI	**Garni**	**3.12**	**182**	*e*Pn	**Pb**	**06 50 23.5**	**-0.8**
	comp=Z,32nm,0.8s						
ANN	**Anapa**	**5.58**	**288**	*e*P	Pn	06 50 42.9	-8.8
ANN				pmax	pmax		
	comp=Z,29nm,1.3s						
ANN	**Anapa**	**5.58**	**288**	*e*P	Pn	06 50 42.9	-8.8
	comp=Z,29nm,1.3s						
VRHR	**Novokhopersk**	**8.13**	**345**	*e*P	Pn	06 51 30.0	+3.3
VRHR				*e*S	**Sn**	**06 52 58.5**	**-0.2**
VRHR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,2.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRHR				smax	smax		
	comp=N,7.0nm,0.8s						
VRHR				smax	smax		
	comp=E,20nm,0.8s						
VRHR				smax	smax		
	comp=Z,6.0nm,0.8s						
VRHR	**Novokhopersk**	**8.13**	**345**	*e*P	Pn	06 51 30.0	+3.3
VRHR				*e*S	**Sn**	**06 52 58.5**	**-0.2**
AKTO	**Aktyubinsk**	**11.49**	**47**	⇑Pn	**Pn**	**06 52 11.3**	**-1.4**
	comp=Z,0.2nm,1.1s						
AKTO				⇑Sn	Sn	06 54 10.6	-10
	comp=Z,0.4nm,1.6s						
AKTO	**Aktyubinsk**	**11.49**	**47**	Pn	**Pn**	**06 52 11.3**	**-1.4**
	comp=Z,0.2nm,1.1s						
AB31	**Akbulak array**	**12.02**	**55**	Pn	**Pn**	**06 52 17.5**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=250,slow=12,SNR=12						
AB31				⇓Sn	Sn	06 54 24.7	-9.2
	comp=Z,0.4nm,0.5s,baz=246,slow=22,SNR=3.6						
AB31	**Akbulak array**	**12.02**	**55**	Pn	**Pn**	**06 52 17.5**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=250,SNR=12						
OBN	**Obninsk**	**13.03**	**338**	⇑*e*P	**Pn**	**06 52 35.5**	**+1.9**
OBN				*i* S	**Sn**	**06 54 58.4**	**-0.1**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
OBN	**Obninsk**	**13.03**	**338**	*e*P	**Pn**	**06 52 35.5**	**+1.9**
	comp=Z,8.0nm,0.5s						
OBN				*i* S	**Sn**	**06 54 58.4**	**-0.1**
	comp=Z,100nm,16.0s						
AAK	**Ala-Archa**	**21.64**	**81**	*e*P	pP	06 54 23.6	+1.6

*ISK **15** 06:55:04.7, 37°.36N×38°.59E, h8km, MD2.9*
*DDA **15** 06:55:05.7, 37°.48N×38°.61E, h7km, MD3.0*
*CSEM **15** 06:55:05.9±0.2, 37°.43N×38°.59E, h5km, MD2.9, Error ellipse: s-maj=4.2km s-min=3.7km az=26.0*
*ISCJB **15** 06:55:06.1±0.6, 37°.42N±0°.03×38°.60E±0°.03, h5km±4km, Error ellipse: s-maj=4.7km s-min=3.5km az=13.6*
*NSSC **15** 06:55:07.6±0.9, 37°.34N×38°.61E, h11km±7km, MD2.2, ML2.3*

ISC 15 06:55:06.1±0.9, 37°.44N±0°.02×38°.61E±0°.02, h9km±7km, n34, σ0°.65/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.17**	**88**	*e*PG	**Pg**	**06 55 09.4**	**-0.3**
URFA				*e*SG	**Sg**	**06 55 12.8**	**+0.6**
URFA	**Urfa**	**0.17**	**88**	*e*Pg	**Pg**	**06 55 09.4**	**-0.3**
URFA				*e*Sg	**Sg**	**06 55 12.8**	**+0.6**
ATAB	**Bozova**	**0.25**	**278**	*i* P	**Pg**	**06 55 11.0**	**-0.2**
ATAB				*i* S	**Sg**	**06 55 14.9**	**+0.3**
ATAB	**Bozova**	**0.25**	**278**	*i* P	**Pg**	**06 55 11.0**	**-0.2**
ATAB				*i* S	**Sg**	**06 55 14.9**	**+0.3**
GZT	**Gaziantep**	**0.84**	**265**	*i* P	**Pg**	**06 55 21.6**	**-0.7**
GZT				*i* S	**Sb**	**06 55 34.9**	**+0.5**
MALT	**Malatya**	**0.89**	**351**	*e*PG	**Pb**	**06 55 23.4**	**-0.4**
MALT				*e*SG	**Sn**	**06 55 37.5**	**-0.5**
MALT	**Malatya**	**0.89**	**351**	*e*Pg	**Pb**	**06 55 23.4**	**-0.4**
MYA	**Malatya**	**0.90**	**351**	*e*PG	**Pb**	**06 55 24.0**	**-0.1**
MYA				*e*SG	**Sn**	**06 55 37.8**	**-0.5**
MYA	**Malatya**	**0.90**	**351**	*e*Pg	**Pb**	**06 55 24.0**	**-0.1**
AKCD	**Akcadag**	**1.02**	**328**	*i* P	**Pg**	**06 55 25.1**	**-0.6**
AKCD				*i* S	**Sg**	**06 55 38.4**	**-0.5**
AKCD	**Akcadag**	**1.02**	**328**	*i* P	**Pg**	**06 55 25.1**	**-0.6**
AKCD				*i* S	**Sg**	**06 55 38.4**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.09**	**30**	*e*PN	**Pb**	**06 55 27.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.09**	**30**	*e*Pn	**Pb**	**06 55 27.5**	**+0.2**
GAZ	**Gaziantep**	**1.15**	**257**	*e*PN	**Pg**	**06 55 26.8**	**-1.4**
GAZ	**Gaziantep**	**1.15**	**257**	*e*Pn	**Pg**	**06 55 26.8**	**-1.4**
KMRS	**Kahramanmaras**	**1.36**	**273**	*e*PN	**Pn**	**06 55 30.2**	**-1.2**
KMRS	**Kahramanmaras**	**1.36**	**273**	*e*Pn	**Pn**	**06 55 30.2**	**-1.2**
KUZU	**Kuzuini**	**1.39**	**242**	*i* P	**Pg**	**06 55 32.5**	**-0.4**
KUZU				*i* S	**Sg**	**06 55 51.8**	**+0.8**
KUZU	**Kuzuini**	**1.39**	**242**	*i* P	**Pg**	**06 55 32.5**	**-0.4**
KUZU				*i* S	**Sg**	**06 55 51.8**	**+0.8**
SFNV	**Sufian**	**1.57**	**130**	*e*P	**Pb**	**06 55 35.1**	**-0.4**
SFNV				*e*S	**Sg**	**06 55 56.4**	**-0.4**
SFNV				AML	AML	06 55 59.8	
	comp=Z,86nm,0.3s						
SFNV	**Sufian**	**1.57**	**130**	*e*P	**Pb**	**06 55 35.1**	**-0.4**
	SNR=57						
SFNV				*e*S	**Sg**	**06 55 56.4**	**-0.4**
	comp=Z,86nm,0.3s,SNR=49						
PTK	**Pertek**	**1.58**	**23**	*e*PN	**Pn**	**06 55 35.1**	**+0.5**
PTK	**Pertek**	**1.58**	**23**	*e*Pn	**Pn**	**06 55 35.1**	**+0.5**
KBSD	**Kabsdagh**	**1.60**	**105**	*e*P	**Pb**	**06 55 35.4**	**-0.6**
KBSD				*e*S	**Sg**	**06 55 57.6**	**-0.1**
KBSD				AML	AML	06 56 00.9	
	comp=Z,36nm,0.2s						
KBSD	**Kabsdagh**	**1.60**	**105**	*e*P	**Pb**	**06 55 35.4**	**-0.6**
	SNR=57						
KBSD				*e*S	**Sg**	**06 55 57.6**	**-0.1**
	comp=Z,36nm,0.2s,SNR=49						
MARD	**Mardin**	**1.73**	**93**	*i* P	**Pn**	**06 55 36.7**	**+0.1**
MARD				*i* S	**Sg**	**06 56 01.2**	**-0.6**
KEMA	**Kemaliye**	**1.83**	**357**	*i* P	**Pn**	**06 55 38.5**	**+0.5**
KEMA				*i* S	**Sb**	**06 56 03.6**	**+0.6**
KEMA	**Kemaliye**	**1.83**	**357**	*i* P	**Pn**	**06 55 38.5**	**+0.5**
KEMA				*i* S	**Sb**	**06 56 03.6**	**+0.6**
ILIC	**ilic-Erzincan**	**2.01**	**359**	*e*PN	**Pn**	**06 55 41.1**	**+0.6**
ILIC	**ilic-Erzincan**	**2.01**	**359**	*e*Pn	**Pn**	**06 55 41.1**	**+0.6**
BTCH	**Batrach**	**2.22**	**232**	*e*P	**Pn**	**06 55 43.8**	**+0.6**
BTCH				*e*S	**Sn**	**06 56 12.3**	**+1.4**
BTCH				AML	AML	06 56 26.1	
	comp=E,29nm,0.8s						
BTCH				AML	AML	06 56 26.5	
	comp=N,65nm,0.8s						
BTCH	**Batrach**	**2.22**	**232**	*e*P	**Pn**	**06 55 43.8**	**+0.6**
	SNR=45						
BTCH				*e*S	**Sn**	**06 56 12.3**	**+1.4**
	comp=N,65nm,0.8s,SNR=40						
MZRK	**Al-Mazaregh**	**2.30**	**134**	*e*P	**Pn**	**06 55 44.1**	**-0.1**
MZRK				*e*S	**Sn**	**06 56 13.0**	**+0.3**
MZRK				AML	AML	06 56 25.0	
	comp=Z,27nm,0.8s						
MZRK	**Al-Mazaregh**	**2.30**	**134**	*e*P	**Pn**	**06 55 44.1**	**-0.1**
	SNR=45						
MZRK				*e*S	**Sn**	**06 56 13.0**	**+0.3**
	comp=Z,27nm,0.8s,SNR=40						

IDC 15 07:08:35.1±3.3, 4°.73S×149°.26E, h578km±22km, mb2.8/4, mb1 2.9/5, mb1mx2.7/16, mbtmp2.8/5, Error ellipse: s-maj=106.8km s-min=24.0km az=102.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.09**	**204**	P	P	07 10 07.3	0.0
	0.9nm,0.3s,baz=48,slow=19,SNR=2.3						
PMG				S	S	07 11 23.1	+0.4
	1.0nm,0.3s,baz=154,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**20.97**	**223**	P	P	07 12 38.9	+0.2
	1.0nm,0.7s,baz=46,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**23.96**	**217**	P	P	07 13 05.2	-0.1
	0.6nm,0.4s,baz=47,slow=8.1,SNR=8.5						
SONM	**Songino Array**	**64.43**	**329**	P	P	07 18 15.9	+0.4
	0.9nm,0.6s,baz=141,slow=3.1,SNR=7.9						
MKAR	**Makanchi Array**	**77.97**	**320**	P	P	07 19 34.0	-0.5
	0.2nm,0.3s,baz=100,slow=7.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.92**	**287**	PKPbc	PKPbc	07 27 13.6	-0.9
	0.3nm,0.3s,baz=88,slow=2.8,SNR=6.3						

*ISCJB **15** 07:12:12.9±1.9, 13°.50N±0°.08×91°.47W±0°.04, h24km±19km, mb3.5/3, Error ellipse: s-maj=13.4km s-min=5.9km az=18.5*
*CASC **15** 07:12:14.4±2.1, 13°.63N×91°.46W, h30km±15km, MD3.7, ML3.9*
*IDC **15** 07:12:17.5±3.1, 13°.73N×91°.21W, h51km±23km, mb3.2/3, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML3.8/4, Error ellipse: s-maj=54.4km s-min=18.4km az=33.0*

ISC 15 07:12:16.0±2.3, 13°.7N±0°.1×91°.37W±0°.06, h31km±14km, n26, σ1°30/32, mb3.6/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.91**	**34**	*e*P	**Pn**	**07 12 33.0**	**+0.2**
FG6		**0.99**	**29**	*e*P	**Pb**	**07 12 34.1**	**-0.6**
PCG	**Pacaya**	**1.02**	**46**	*e*P	**Pb**	**07 12 34.9**	**-0.4**
TP2	**Tecpan 2**	**1.14**	**17**	*e*P	**Pn**	**07 12 34.2**	**-1.9**
NBG	**Las Nubes**	**1.33**	**48**	*e*P	**Pb**	**07 12 40.1**	**-0.5**
NBG				*e*S	**Sb**	**07 12 59.2**	**+1.8**
RBDL	**Robledal**	**1.69**	**75**	*e*P	**Pn**	**07 12 43.3**	**-0.2**
RTR	**El Retiro**	**1.69**	**83**	*e*P	**Pn**	**07 12 42.9**	**-0.5**
SBLS	**San Blas**	**1.70**	**85**	*e*P	**Pn**	**07 12 42.9**	**-0.9**
SBLS				*e*S	**Sn**	**07 13 05.8**	**+1.2**
SNJE	**San Jose**	**1.72**	**84**	*e*P	**Pn**	**07 12 43.5**	**-0.4**
BOQS	**Boqueron**	**2.03**	**88**	*e*P	**Pn**	**07 12 48.9**	**+0.6**
MTO2	**Montecristo 2**	**2.07**	**70**	*e*P	**Pn**	**07 12 48.9**	**+0.1**
MTO2				*e*S	**Sn**	**07 13 15.6**	**+1.9**
SNET	**Serv Nac Est T**	**2.08**	**90**	*e*P	**Pn**	**07 12 48.5**	**-0.3**
SNET				*e*S	**Sn**	**07 13 14.6**	**+1.0**
SNET				AML	AML	07 13 19.7	
	comp=Z,1μm,0.3s						
SNET				AML	AML	07 13 19.7	
	comp=Z,1μm,0.3s						
MRL	**Marmol**	**2.12**	**50**	*e*P	**Pb**	**07 12

baz=327
TAP1 *i* S Sn 07 21 55.3 +1.4
baz=327
ESL Shilin 0.75 218 *e*P Pb 07 21 43.9 0.0
baz=230
TWS1 Kuangyinshan 0.84 325 *e*P Pb 07 21 46.0 +0.6
baz=335
TWS1 *e*S Sn 07 21 58.8 +2.3
baz=335
NCU National Centr 0.89 309 *e*P Pb 07 21 47.5 +1.3
baz=309
NCU *e*S Sn 07 22 00.7 +3.0
baz=309
NSTT Nanjuang 0.89 285 *e*P Pb 07 21 46.9 +0.7
baz=284
NSTT S Sn 07 21 59.1 +1.4
baz=284
TWY Chenhua 0.92 340 *e*P Pb 07 21 47.2 +0.5
baz=340
TWY *e*S Sb 07 22 00.5 +1.9
baz=340
HSN Hsinchu 0.97 294 *e*P Pb 07 21 48.8 +1.2
baz=296
HSN *e*S Sb 07 22 02.9 +2.8
baz=296
YOJ Yonaguni jima 0.97 87↓ *i*P Pn 07 21 47.0 0.0
baz=82
YOJ *i* S Sb 07 22 00.6 +0.5
baz=82
EHY Hungye 1.06 212 *e*P Pn 07 21 47.1 -1.2
baz=212
TWQ1 Liyutan 1.07 267 P Pb 07 21 50.6 +1.3
baz=265
TWQ1 S Sb 07 22 05.5 +2.5
baz=265
NSY Sanyi 1.08 271 *e*P Pb 07 21 50.2 +0.8
baz=269
NSY *e*S Sb 07 22 06.2 +3.0
baz=269
SMLT Sun Moon Lake 1.09 241 *e*P Pb 07 21 49.5 -0.2
baz=234
SMLT *e*S Sb 07 22 05.6 +2.0
baz=234
TYC Yuchr 1.11 243 P Pb 07 21 49.9 -0.1
baz=243
TYC S Sb 07 22 05.9 +1.9
baz=243
TCU Taichung 1.19 258 *e*P Pb 07 21 52.0 +0.8
baz=256
TCU *e*S Sb 07 22 09.0 +2.8
baz=256
TWF1 Yuli 1.21 210 *e*P Pn 07 21 49.6 -0.6
baz=221
WNT Mingjian 1.27 246 *e*P Pb 07 21 53.4 +0.8
baz=245
WNT *e*S Sb 07 22 12.0 +3.5
baz=245
CHN5 Tsauling 1.41 235 *e*P Pb 07 21 55.3 +0.1
baz=235
CHN5 *e*S Sb 07 22 15.4 +2.5
baz=235
WGK Gukeng 1.45 241 *e*P Pb 07 21 55.5 -0.2
baz=240
ELDTW Lidau 1.48 215 *e*P Pn 07 21 54.9 +0.8
baz=204
CHN2 Minshiung 1.60 237 *e*P Pb 07 21 58.4 +0.1
baz=237
CHN2 *e*S Sb 07 22 21.3 +3.2
baz=237
CHN4 Tsaushan 1.62 230 *e*P Pb 07 21 58.1 -0.6
baz=230
STYT Tauyuan 1.65 222 *e*P Pn 07 21 57.7 +1.3
baz=210
CHY Chiayi 1.66 237 *e*P Pb 07 21 58.8 -0.5
baz=252
WTP Ta-pu 1.68 227 *e*P Pb 07 21 59.1 -0.6
baz=227
WTP *e*S Sb 07 22 21.9 +1.4
baz=227
TWK Hsinying 1.75 230 *e*P Pb 07 21 60.0 -0.9
baz=230
TWK *e*S Sb 07 22 23.4 +0.8
baz=230
CHN1 Nanshi 1.78 227 *e*P Pb 07 22 00.7 -0.6
baz=227
CHN1 *e*S Sb 07 22 24.3 +1.0
baz=227
SSD Sandimen 2.05 216 *e*P Pn 07 22 03.7 +1.9
baz=217
EAST Anshuo 2.25 207 *e*P Pn 07 22 06.4 +1.7
baz=197
PNG Penghu 2.34 250 *e*P Pn 07 22 06.8 +1.0
baz=248
SCZT Fangliau 2.36 211 *e*P Pn 07 22 07.9 +1.8
baz=200
KNM Kinmen 3.20 271 *e*P Pn 07 22 19.9 +2.2
baz=267

NOU ***15*** *07:27:14.8±1.1, 20.°92S×170.°82E, h10km, MD3.7, ML4.4*
IDC ***15*** *07:27:17.0±0.4, 22.°24S×170.°59E, h0km, mb5.3/22, mb1 5.4/24, mb1mx5.4/24, mbtmp5.3/24, ML4.2/2, MS6.2/15, Ms1 6.2/15, ms1mx6.1/19, Error ellipse: s-maj=10.8km s-min=9.5km az=10.0*
ISCJB ***15*** *07:27:17.7±1.0, 22.°31S±0.°03×170.°60E±0.°02, h19km±7km, mb5.7/191, MS6.4/241, Error ellipse: s-maj=4.4km s-min=2.8km az=175.4*
BJI ***15*** *07:27:17.9, 21.°58S×170.°91E, h11km, mB6.7/50, mb5.5/64, Ms6.4/72, Ms7 6.2/67*
LDG ***15*** *07:27:18.2±0.1, 21.°59S×170.°74E, h10km, Mb6.0/4, Ms6.3/10, Error ellipse: s-maj=11.0km s-min=4.3km az=170.0*
MOS ***15*** *07:27:20.7±1.4, 22.°19S×170.°60E, h33km, mb5.9/71, MS6.4/74, Error ellipse: s-maj=7.6km s-min=7.1km az=143.1*
NEIC ***15*** *07:27:20.3±0.1, 22.°35S×170.°64E, h27km, mb5.8/127, ME5.9, MS6.5/177, MW6.7, MW6.4, Error ellipse: s-maj=5.0km s-min=3.6km az=158.0, Moment Tensor Solution. s48 Moment tensor: Scale 10¹⁸Nm; Mrr4.11; Mθθ-2.23; Mϕϕ-1.88; Mrθ1.60; Mθϕ 1.70; Mϕr-1.36; Best double couple: M₀4.50000×10¹⁸ NP1:ϕs313.00000°, δ31.00000°, λ91.00000°. NP2:ϕs131.00000°, δ59.00000°, λ89.00000°. Principal axes: T 4.6400, Plg75.0000°, Azm39.0000°; N -0.3500, Plg0.0000°, Azm131.0000°; P -4.2900, Plg14.0000°, Azm221.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt at Noumea, New Caledonia.
SZGRF ***15*** *07:27:21.4, 22.°36S×171.°04E, h33km, mb6.4, Southeast of Loyalty Islands*
BGS ***15*** *07:27:22.3±4.8, 22.°35S×170.°64E, h27km, mb5.8(NEIC)*
DJA ***15*** *07:27:27, 22.°32S×170.°41E, h68km, Mw6.5/69*
NEIC ***15*** *07:27:44.4±0.0, 22.°22S×169.°99E, h28km, Moment Tensor Solution. s176 Moment tensor: Scale 10¹⁹Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mθϕ0.00; Mϕr0.00; Best double couple: M₀1.40000×10¹⁹ NP1:ϕs131.00000°, δ73.00000°, λ98.00000°. NP2:ϕs286.00000°, δ19.00000°, λ66.00000°. Principal axes: T 1.4300, Plg61.0000°, Azm52.0000°; N -0.0700, Plg7.0000°, Azm308.0000°; P -1.3600, Plg27.0000°, Azm214.0000°;*

ISC 15 07:27:19.8±0.3, 22.°26S±0.°03×170.°64E±0.°03, h22km±2km, h21km:pP-P, n1635, σ1s30/2456, mb5.8/190, MS6.4/244, 675C-728D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.48**	**271**	*e*P	**Pn**	**07 28 12.0**	**-0.6**
BAYA				*e*S	**Sn**	**07 28 52.2**	**-0.9**
BAYA				AMP		07 29 05.8	
	comp=Z,344nm,0.7s						
PLUM	**Mont Dore**	**3.70**	**269**	*e*P	**Pn**	**07 28 14.0**	**-1.6**
PLUM				*e*S	**Sn**	**07 28 59.2**	**+0.6**
PLUM				AMP		07 29 02.1	
	comp=Z,5μm,1.9s						
NORM	**Noumea**	**3.85**	**270**	*e*P	**Pn**	**07 28 16.1**	**-1.6**
NORM				*e*S	**Sn**	**07 29 01.2**	**-1.1**
NORM				AMP		07 29 18.8	
	comp=Z,4μm,7.5s						
DZM	**Mont Dzumac**	**3.89**	**272**	*e*Pn	**Pn**	**07 28 17.4**	**-1.0**
	comp=Z,2μm,0.2s						
DZM				*e*Sn	**Sn**	**07 29 02.1**	**-1.4**
	comp=Z,2μm,0.3s						
DZM				*e*LR	LR	07 29 14.8	
	comp=Z,438μm,23.1s						
DZM	**Mont Dzumac**	**3.89**	**272**	Pn	**Pn**	**07 28 17.9**	**-0.4**
	comp=Z,154nm,0.3s,baz=357,slow=19,SNR=1058						
DZM				Sn	**Sn**	**07 29 05.6**	**+2.2**
	comp=Z,854nm,0.3s,baz=115,slow=22,SNR=20						
DZM	**Mont Dzumac**	**3.89**	**272**	*e*P	**Pn**	**07 28 16.5**	**-1.9**
DZM	**Mont Dzumac**	**3.89**	**272**	Pn	**Pn**	**07 28 17.9**	**-0.4**
DZM				*e*Sn	**Sn**	**07 29 02.0**	**-1.5**
DZM				Sn	**Sn**	**07 29 05.6**	**+2.2**
NOUC	**Port Laguerre**	**4.02**	**271**	*e*P	**Pn**	**07 28 18.7**	**-1.3**
NOUC				*e*S	**Sn**	**07 29 07.4**	**+0.9**
NOUC				AMP		07 29 09.8	
	comp=Z,3μm,0.8s						
MSVF	**Nonsavu**	**8.30**	**58**	*e*P	Pn	07 29 22.8	+3.9
MSVF	**Nonsavu**	**8.30**	**58**	*e*Pn	Pn	07 29 22.8	+3.9
MSVF				*e*Sn	Sb	07 31 09.8	-12
MSVF	**Nonsavu**	**8.30**	**58**	Pn	Pn	07 29 26.0	+7.1
	comp=Z,16μm,1.3s						
OUZ	**Omahuta**	**13.17**	**169**	*e*Pn	Pn	07 30 20.4	-5.1
OUZ				*e*Sn	S	07 33 04.8	-11
OUZ	**Omahuta**	**13.17**	**169**	PN	**Pn**	**07 30 23.9**	**-1.6**
FUNA	**Funafuti**	**15.95**	**32**	*e*Pn	**Pn**	**07 31 04.1**	**+1.2**
	comp=Z,4μm,2.0s						
FUNA				*e*S	**S**	**07 34 16.9**	**+4.1**
HNR	**Honiara**	**16.37**	**320**	*e*P	**Pn**	**07 31 08.9**	**+0.6**
HNR				pmax	pmax		
	comp=Z,5μm,1.5s						
HNR	**Honiara**	**16.37**	**320**	*e*Pn	**Pn**	**07 31 08.9**	**+0.6**
	comp=Z,5μm,1.5s						
HNR				*e*S	**S**	**07 34 22.9**	**+1.4**
URZ	**Urewera**	**16.89**	**162**	*e*Pn	**Pn**	**07 31 13.4**	**-1.3**
	comp=Z,2μm,1.9s						
URZ				*e*S	**Sn**	**07 34 22.6**	**+0.8**
PUZ	**Puketiti**	**17.07**	**159**	PN	**P**	**07 31 19.0**	**+0.3**
KNZ	**Kokohu**	**17.76**	**162**	PN	**P**	**07 31 27.1**	**+0.9**
EIDS	**Eidsvold**	**18.16**	**256**	*e*P	**P**	**07 31 31.1**	**+0.3**
	comp=Z,936nm,1.6s						
EIDS				*e*S	**S**	**07 35 03.3**	**+5.5**
QRZ	**Quartz Range**	**18.58**	**175**	*e*PN	**Pn**	**07 31 37.2**	**+1.6**
AFI	**Afiamalu**	**18.65**	**67**	P	**Pn**	**07 31 37.2**	**+0.4**
	comp=Z,4.5nm,0.3s,baz=228,slow=16,SNR=18						
AFI				S	**Sn**	**07 35 02.5**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=116,slow=17,SNR=1.7						
AFI				LR	LR	07 37 17.4	
	comp=Z,85μm,20.1s,baz=242,slow=32						
AFI	**Afiamalu**	**18.65**	**67**	P	**Pn**	**07 31 37.2**	**+0.4**
AFI				S	**Sn**	**07 35 02.5**	**-2.4**
AFI				pmax	pmax		
	comp=Z,75nm,2.1s						
AFI	**Afiamalu**	**18.65**	**67**	P	**Pn**	**07 31 37.2**	**+0.4**
	comp=Z,75nm,2.1s						
AFI				S	**Sn**	**07 35 02.5**	**-2.4**
MRZ	**Mangatainoka R**	**18.82**	**168**	PN	**P**	**07 31 37.1**	**-0.8**
ARMA	**Armidale**	**18.86**	**241**	*e*P	**Pn**	**07 31 39.3**	**+0.1**
ARMA				*e*S	S	07 35 21.5	+10
ARMA	**Armidale**	**18.86**	**241**	*e*Pn	**Pn**	**07 31 39.5**	**+0.3**
	comp=Z,2μm,2.1s						
ARMA				*e*S	**S**	**07 35 14.8**	**+3.1**
HOWZ	**Holdsworth Sta**	**19.04**	**169**	*e*PN	**Pn**	**07 31 41.2**	**+0.1**
NNZ	**Nelson**	**19.04**	**174**	PN	**P**	**07 31 40.6**	**+0.3**
SNZO	**South Karori**	**19.30**	**171**	*e*P	**P**	**07 31 41.6**	**-1.6**
	comp=Z,2μm,1.7s						
SNZO				*e*S	Sn	07 35 11.5	-8.6
DSZ	**Denniston Nort**	**19.45**	**177**	PN	**Pn**	**07 31 45.7**	**-0.5**
KHZ	**Kahutara**	**20.25**	**174**	*e*P	**P**	**07 31 51.7**	**-1.8**
	comp=Z,896nm,1.2s						
KHZ				*e*S	Sn	07 35 43.4	+0.5
KHZ	**Kahutara**	**20.25**	**174**	PN	**P**	**07 31 53.4**	**-0.1**
LTZ	**Lake Taylor**	**20.51**	**177**	*e*PN	Pn	07 32 00.6	+1.9
RIV	**Riverview**	**20.66**	**232**	*e*P	Pn	07 32 02.1	+1.7
FOZ	**Fox Glacier**	**21.26**	**182**	*e*PN	**P**	**07 32 05.3**	**+0.9**
RPZ	**Rata Peaks**	**21.40**	**179**	P	**P**	**07 32 06.7**	**+0.7**
	comp=Z,188nm,1.0s,baz=42,slow=4.7,SNR=13						
RPZ				S	**S**	**07 36 05.1**	**+2.6**
	comp=Z,15nm,0.9s,baz=64,slow=13,SNR=2.0						
RPZ				LR	LR	07 39 15.5	
	comp=Z,79μm,20.0s,baz=355,slow=34						
RPZ	**Rata Peaks**	**21.40**	**179**	*e*P	**P**	**07 32 04.5**	**-1.5**
	comp=Z,833nm,1.2s						
RPZ				S	**S**	**07 36 05.1**	**+2.6**
RPZ				*e*S	Sn	07 36 06.1	-4.6
JCZ	**Jackson Bay**	**21.81**	**184**	*e*PN	**P**	**07 32 10.0**	**-0.5**
CNB	**Canberra Magne**	**22.67**	**230**	*e*P	**P**	**07 32 20.5**	**+0.7**
	comp=Z,2μm,1.0s						
ODZ	**Otahua Downs**	**22.73**	**180**	*e*P	P	07 32 15.2	-5.0
	comp=Z,4μm,1.8s						
CTA	**Charters Tower**	**22.84**	**271**	P	**P**	**07 32 22.1**	**+0.5**
	comp=Z,49nm,0.7s,baz=90,slow=14,SNR=38						
CTA				S	**S**	**07 36 34.2**	**+4.3**
	comp=Z,16nm,1.1s,baz=292,slow=20,SNR=7.3						
CTA				LR	LR	07 38 42.2	
	comp=Z,11μm,21.7s,baz=97,slow=30						
CTA	**Charters Tower**	**22.84**	**271**	*e*P	**P**	**07 32 23.0**	**+1.4**
	comp=Z,77nm,1.0s						
CTA				*e*S	**S**	**07 36 32.0**	**+2.1**
CTA	**Charters Tower**	**22.84**	**271**	P	**P**	**07 32 22.1**	**+0.5**
CTA	**Charters Tower**	**22.84**	**271**	P	**P**	**07 32 22.1**	**+0.5**
CTA				S	**S**	**07 36 34.2**	**+4.3**
CTAO	**Charters Tower**	**22.84**	**271**	*e*P	**P**	**07 32 21.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,314nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,61μm,19.0s						
CTAO	**Charters Tower**	**22.84**	**271**	*e*P	**P**	**07 32 21.8**	**+0.3**
	comp=Z,314nm,1.2s						
CTAO				*e*S	S	07 36 37.5	+7.6
CTAO				LR	LR		
	comp=Z,61μm,19.0s						
CAN	**Canberra**	**22.94**	**231**	*e*P	**P**	**07 32 21.5**	**-1.1**
CAN				*e*S	**S**	**07 36 31.8**	**+0.3**
CAN				pmax	pmax		
	comp=Z,584nm,1.4s						
CAN				MLR	MLR		
	comp=Z,72μm,19.0s						
CAN	**Canberra**	**22.94**	**231**	*e*P	**P**	**07 32 21.5**	**-1.1**
	comp=Z,584nm,1.4s						
CAN				*e*S	**S**	**07 36 31.8**	**+0.3**
CAN				LR	LR		
	comp=Z,72μm,19.0s						
DCZ	**Deep Cove**	**23.34**	**186**	*e*PN	**P**	**07 32 26.1**	**-0.2**
TARA	**Tarawa**	**23.58**	**6**	PFAKE		07 32 40.0	+11
TARA				LR	LR		
	comp=Z,4.0nm,19.0s						
WHZ	**Wether Hill Ro**	**23.68**	**185**	*e*P	**P**	**07 32 28.3**	**-1.5**
PMG	**Port Moresby**	**25.90**	**296**	P	**P**	**07 32 51.0**	**+0.6**
	comp=Z,92nm,1.0s,baz=106,slow=7.6,SNR=20						
PMG				S	**S**	**07 37 18.8**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=32,slow=21,SNR=1.7						
PMG	**Port Moresby**	**25.90**	**296**	*ce*P	**P**	**07 32 50.3**	**0.0**
PMG				pmax	pmax		
	comp=Z,418nm,1.7s						
PMG	**Port Moresby**	**25.90**	**296**	*e*P	**P**	**07 32 50.4**	**0.0**
	comp=Z,922nm,1.8s						
PMG				S	**S**	**07 37 18.8**	**-0.6**
PMG				*e*S	S	07 37 28.4	+9.0
PMG				LR	LR		
	comp=Z,147μm,19.0s						
TOO	**Toolangi**	**26.49**	**229**	*e*P	**P**	**07 32 53.8**	**-1.8**
COEN	**Coen**	**27.34**	**283**	*e*P	**P**	**07 33 04.2**	**+0.9**
	comp=Z,651nm,0.9s						
RAR	**Rarotonga**	**27.49**	**93**	P	**P**	**07 33 05.2**	**+0.6**
	comp=Z,24nm,1.1s,baz=225,slow=2.8,SNR=3.8						
RAR				S	**S**	**07 37 43.6**	**-0.8**
	comp=Z,40nm,0.9s,baz=156,slow=19,SNR=1.5						
RAR				LR	LR	07 40 22.6	
	comp=Z,12μm,20.9s,baz=266,slow=28						
RAR	**Rarotonga**	**27.49**	**93**	*e*P	**P**	**07 33 05.1**	**+0.5**
RAR				S	**S**	**07 37 43.6**	**-0.8**
RAR				pmax	pmax		
	comp=Z,110nm,1.6s						
RAR	**Rarotonga**	**27.49**	**93**	*e*P	**P**	**07 33 05.1**	**+0.5**
	comp=Z,110nm,1.6s						
RAR				S	**S**	**07 37 43.6**	**-0.8**
STKA	**Stephens Creek**	**27.51**	**243**	P	**P**	**07 33 05.2**	**+0.5**
	comp=Z,8.8nm,0.4s,baz=81,slow=9.5,SNR=16						
STKA				PcP	**PcP**	**07 36 26.1**	**+3.3**
	comp=Z,23nm,0.8s,baz=25,slow=5.8,SNR=2.9						
STKA				S	**S**	**07 37 40.6**	**-4.0**
	comp=Z,11nm,1.0s,baz=72,slow=5.8,SNR=1.9						
STKA				LR	LR	07 43 20.5	
	comp=Z,92nm,18.4s,baz=72,slow=35						
STKA	**Stephens Creek**	**27.51**	**243**	*e*P	**P**	**07 33 04.4**	**-0.3**
	comp=Z,70nm,1.5s						
STKA	**Stephens Creek**	**27.51**	**243**	*e*P	**P**	**07 33 04.6**	**-0.1**
STKA						07 36 26.1	
STKA				S	**S**	**07 37 40.6**	**-4.0**
STKA				*e*S	S	07 37 49.2	+4.6
STKA				pmax	pmax		
	comp=Z,166nm,1.9s						
STKA	**Stephens Creek**	**27.51**	**243**	*e*P	**P**	**07 33 04.6**	**-0.1**
	comp=Z,166nm,1.9s						
STKA				PcP	**PcP**	**07 36 26.1**	**+3.3**
STKA				S	**S**	**07 37 40.6**	**-4.0**
STKA				*e*S	S	07 37 49.2	+4.6
MOO	**Moorlands**	**28.08**	**219**	*e*P	**P**	**07 33 11.3**	**+1.6**
	comp=Z,732nm,1.0s						
TAU	**Tasmania Unive**	**28.30**	**218**	*e*P	**P**	**07 33 09.5**	**-2.1**
TAU				pmax	pmax		
	comp=Z,161nm,1.4s						
TAU				MLR	MLR		
	comp=Z,78μm,20.0s						
TAU	**Tasmania Unive**	**28.30**	**218**	*e*P	**P**	**07 33 09.5**	**-2.1**
	comp=Z,161nm,1.4s						
TAU				LR	LR		
	comp=Z,78μm,20.0s						
BBOO	**Buckleboo**	**32.28**	**243**	*e*P	**P**	**07 33 46.3**	**-0.8**
	comp=Z,5μm,1.2s						
BBOO				*e*S	**S**	**07 38 54.8**	**-4.7**
BBOO				*e*ScP	**ScP**	**07 40 19.2**	**+1.7**
MCQ	**Macquarie Isla**	**33.38**	**192**	P	**P**	**07 33 55.9**	**-0.4**
MCQ	**Macquarie Isla**	**33.38**	**192**	P	**P**	**07 33 55.9**	**-0.4**
AS31	**Alice Springs**	**33.79**	**260**	*e*P	**P**	**07 33 59.9**	**-0.6**
ASAR	**Alice Springs**	**33.79**	**260**	P	**P**	**07 33 59.6**	**-0.8**
	comp=Z,24nm,0.7s,baz=80,slow=9.1,SNR=99						
ASAR	**Alice Springs**	**33.79**	**260**	P	**P**	**07 33 59.6**	**-0.8**
ASAR	**Alice Springs**	**33.79**	**260**	P	**P**	**07 33 59.5**	**-0.8**
WB2	**Warramunga Arr**	**33.88**	**267**	*e*P	**P**	**07 33 59.8**	**-1.3**
WB2				*e*S	**S**	**07 39 20.9**	**-3.8**
WRAB	**Tennant Creek**	**33.88**	**267**	*e*P	**P**	**07 33 59.7**	**-1.5**
WRAB				*e*S	**S**	**07 39 21.1**	**-3.6**
WRAB				pmax	pmax		
	comp=Z,221nm,1.5s						
WRAB				MLR	MLR		
	comp=Z,88μm,19.0s						
WRAB	**Tennant Creek**	**33.88**	**267**	*e*P	**P**	**07 33 59.7**	**-1.5**
	comp=Z,222nm,1.5s						
WRAB				*e*S	**S**	**07 39 21.1**	**-3.6**
WRAB				LR	LR		
	comp=Z,88μm,19.0s						
WRAB	**Tennant Creek**	**33.88**	**267**	P	**P**	**07 33 59.0**	**-2.2**
	comp=Z,386nm,0.9s,SNR=17						
WRA	**Warramunga Arr**	**33.89**	**267**	P	**P**	**07 34 00.0**	**-1.3**
	comp=Z,8.1nm,0.5s,baz=98,slow=8.3,SNR=39						
WRA				S	**S**	**07 39 25.4**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=103,slow=10,SNR=6.3						
WRA				ScP	**ScP**	**07 40 26.9**	**+3.6**
	comp=Z,5.8nm,1.0s,baz=100,slow=3.7,SNR=4.0						
WRA				LR	LR	07 48 04.5	
	comp=Z,110μm,18.1s,baz=100,slow=37						
WRA				PKPPKP	**P'P'df**	**08 07 22.0**	**-4.8**
	comp=Z,0.6nm,1.0s,baz=270,slow=0.8,SNR=4.7						
WRA	**Warramunga Arr**	**33.89**	**267**	P	**P**	**07 34 00.0**	**-1.3**
WRA				S	**S**	**07 39 25.4**	**+0.6**
WRA	**Warramunga Arr**	**33.89**	**267**	P	**P**	**07 34 00.0**	**-1.3**
WRA				S	**S**	**07 39 25.4**	**+0.6**
WRA				ScP	**ScP**	**07 40 26.9**	**+3.6**
WRA				P'P'		08 07 22.0	
JAY	**Jayapura**	**35.07**	**300**	P	**P**	**07 34 11.4**	**-0.1**
	comp=Z,238nm,1.9s						
TBI	**Tubuai**	**36.72**	**100**	*e*S	**S**	**07 40 11.3**	**+3.2**
	comp=Z,11μm,25.5s						
TBI				*e*LQ	LQ	07 42 45.4	
	comp=Z,44μm,28.8s						
TBI				*e*LR	LR	07 44 15.4	
	comp=Z,59μm,25.8s,baz=271						
SMPI	**Sarmi**	**36.99**	**299**	P	**P**	**07 34 28.2**	**+0.3**
	comp=Z,282nm,1.9s,comp=Z,42μmcomp=Z,63μm						
PAE	**Paea**	**37.60**	**90**	*e*P	P	07 34 36.7	+3.7
	comp=Z,9.5nm,1.0s						
PPT2	**Papeete2**	**37.62**	**90**	*e*S	**S**	**07 40 22.8**	**+0.8**
	comp=Z,21μm,27.5s						
PPT2				*e*LQ	LQ	07 43 02.2	
	comp=Z,70μm,35.2s						
PPT2				*e*LR	LR	07 44 41.4	
	comp=Z,46μm,25.0s,baz=256						
TIAR	**Tiarei**	**37.84**	**90**	*e*P	**P**	**07 34 37.3**	**+2.2**
	comp=Z,76nm,1.2s						
FORT	**Forrest**	**38.84**	**248**	*e*P	**P**	**07 34 42.5**	**-0.9**
	comp=Z,122nm,0.9s						
FORT	**Forrest**	**38.84**	**248**	*e*P	**P**	**07 34 42.8**	**-0.7**
	comp=Z,190nm,0.9s						
FORT				*e*S	S	07 40 31.5	-8.7
XMAS	**Kiritimati**	**39.42**	**56**	PFAKE		07 35 00.0	+12
XMAS				LR	LR		
	comp=Z,65μm,20.0s						
BAKI	**Biak**	**39.58**	**297**	P	**P**	**07 34 49.8**	**+0.1**
	comp=Z,586nm,2.4s,comp=Z,17μm						
PMOR	**Pomariorio Ree**	**39.85**	**87**	*e*P	**P**	**07 34 54.3**	**+2.3**
	comp=Z,168nm,1.2s						
TLE	**Tual**	**40.16**	**289**	P	**P**	**07 34 55.0**	**+0.4**
	comp=Z,512nm,1.9s,comp=Z,21μm						
WAKE	**Wake Island**	**41.47**	**354**	PFAKE		07 35 20.0	+15
WAKE				LR	LR		
	comp=Z,61μm,19.0s						
FAKI	**Fak Fak**	**41.91**	**292**	P	**P**	**07 35 08.6**	**-0.4**
	comp=Z,296nm,2.1s,comp=Z,12μm						
FITZ	**Fitzroy Crossi**	**42.32**	**267**	P	**P**	**07 35 12.0**	**-0.3**
	comp=Z,54nm,1.0s,baz=121,slow=7.9,SNR=34						
FITZ	**Fitzroy Crossi**	**42.32**	**267**	*e*P	**P**	**07 35 11.1**	**-1.2**
	comp=Z,176nm,0.8s						
FITZ				*e*S	**S**	**07 41 28.0**	**-4.4**
FITZ	**Fitzroy Crossi**	**42.32**	**267**	P	**P**	**07 35 12.0**	**-0.3**
	comp=Z,82nm,0.8s						
FITZ				*e*PcP	**PcP**	**07 37 09.3**	**+3.6**
FITZ				*e*S	**S**	**07 41 31.8**	**-0.6**
GUMO	**Guam**	**43.68**	**322**	LR	LR	07 51 53.5	
	comp=Z,19μm,21.1s,baz=333,slow=34						
MSAI	**Masohi**	**44.58**	**289**	P	**P**	**07 35 29.9**	**-0.7**
	comp=Z,35nm,0.9s,comp=Z,2μm						
NLAI	**Namlea**	**46.24**	**288**	P	**P**	**07 35 44.5**	**+0.8**
	comp=Z,286nm,1.7s,comp=Z,8μm						
MBWA	**Marble Bar**	**47.12**	**261**	*e*P	**P**	**07 35 49.7**	**-0.9**
	comp=Z,128nm,0.8s						
MBWA				*e*S	**S**	**07 42 41.0**	**-1.0**
MBWA				LR	LR		
	comp=Z,59μm,19.0s						
LBMI	**Labuha**	**47.15**	**291**	P	**P**	**07 35 51.9**	**+1.1**
	comp=Z,518nm,1.8s,comp=Z,12μm						
KLBR	**Kellerberrin**	**47.67**	**247**	*e*P	**P**	**07 35 53.4**	**-1.4**
	comp=Z,614nm,1.7s						
TNTI	**Ternate**	**47.98**	**293**	P	**P**	**07 35 57.4**	**+0.1**
	comp=Z,338nm,2.6s,comp=Z,17μmcomp=Z,61μm						
NWAO	**Narrogin (SRO)**	**48.07**	**245**	*e*P	**P**	**07 35 57.4**	**-0.4**
NWAO				*e*S	S	07 42 48.6	-6.6
NWAO				pmax	pmax		
	comp=Z,116nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,81μm,21.0s						
NWAO	**Narrogin (SRO)**	**48.07**	**245**	*e*P	**P**	**07 35 57.4**	**-0.4**
	comp=Z,116nm,1.1s						
NWAO				*e*S	S	07 42 48.6	-6.6
NWAO				LR	LR		
	comp=Z,81μm,21.0s						
DRV	**Dumont d'Urvil**	**48.47**	**196**	P	P	07 35 48.0	-12
DRV				S	S	07 42 49.0	-11
DRV				SS	**SS**	**07 46 26.0**	**-3.5**
DRV				R		07 49 00.0	
TAOE	**Nuku Hiva Isla**	**49.03**	**82**	*e*S	**S**	**07 43 11.0**	**+1.6**
	comp=Z,21μm,26.6s						
TAOE				*e*LQ	LQ	07 47 12.8	
	comp=Z,37μm,26.2s						
TAOE				*e*LR	LR	07 50 01.6	
	comp=Z,34μm,23.9s,baz=252						
KDI	**Kendari**	**49.91**	**284**	P	P	07 36 20.1	+8.0
RKT	**Rikitea**	**49.94**	**102**	*e*S	**S**	**07 43 25.6**	**+4.0**
	comp=Z,12μm,28.2s						
RKT				*e*LQ	LQ	07 47 57.3	
	comp=Z,30μm,30.5s						
RKT				*e*LR	LR	07 50 20.

MIDW LR LR
comp=Z,26μm,19.0s
BKSI Bulukumba 51.59 281 P P 07 36 28.3 +3.5
comp=Z,120nm,2.1s,comp=Z,5μmcomp=Z,28μm
KAPI Kappang 52.05 281 *e*P **P** **07 36 27.5 -0.8**
comp=Z,838nm,1.7s
KAPI LR LR
comp=Z,25μm,19.0s
KAPI Kappang 52.05 281 P **P** **07 36 30.5 +2.2**
comp=Z,525nm,1.2s,comp=Z,8μmcomp=Z,31μm
SPSI Sidrap Palu 52.47 283 P P 07 36 34.6 +3.2
comp=Z,112nm,2.9s,comp=Z,4μmcomp=Z,24μm
MRSI Marisa 52.53 289 P P 07 36 36.8 +5.0
comp=Z,231nm,1.0s,comp=Z,5μm
DAV Davao City (W) 52.88 298 P **P** **07 36 35.7 +1.3**
comp=Z,208nm,0.4s,baz=149,slow=0.9,SNR=8.6
DAV Davao City (W) 52.88 298 P **P** **07 36 35.7 +1.3**
DAV LR LR
comp=Z,19μm,22.0s
KIP Kipapa 53.10 37*c i*P P 07 36 41.0 +5.2
KIP Kipapa 53.10 37 *e*P **P** **07 36 38.3 +2.5**
comp=Z,79nm,0.8s
KIP LR LR
comp=Z,28μm,19.0s
KHKI Kahang-Kahang 54.56 276 P P 07 36 50.3 +3.6
comp=Z,184nm,1.5s,comp=Z,5μmcomp=Z,45μm
VNDA Vanda 55.48 182 *e*P **P** **07 36 51.1 -1.3**
VNDA pmax pmax
comp=Z,228nm,2.1s
VNDA MLR MLR
comp=Z,40μm,19.0s
VNDA Vanda 55.48 182 *e*P **P** **07 36 51.1 -1.3**
comp=Z,228nm,2.1s
VNDA LR LR
comp=Z,40μm,19.0s
SBA Scott Base 55.68 181 *e*P **P** **07 36 54.5 +0.7**
SBA pmax pmax
comp=Z,444nm,1.8s
SBA MLR MLR
comp=Z,30μm,19.0s
SBA Scott Base 55.68 181 *e*P **P** **07 36 54.5 +0.7**
comp=Z,444nm,1.8s
SBA LR LR
comp=Z,30μm,19.0s
MYLDM Lahad Datu 57.83 292 P **P** **07 37 11.4 +1.3**
MYLDM Lahad Datu 57.83 292 P P 07 37 16.0 +6.0
comp=Z,780nm,2.2s,comp=Z,12μm
CASY Casey 57.91 204 *e*P P 07 37 16.8 +7.0
CASY Casey 57.91 204 *e*P **P** **07 37 07.4 -2.4**
comp=Z,287nm,1.5s
CASY LR LR
comp=Z,19μm,22.0s
TSM Tawau 57.93 290 P **P** **07 37 12.4 +1.6**
SDKM Sandakan 59.18 291 P **P** **07 37 20.5 +0.9**
KDM Kudat 60.13 292 P **P** **07 37 27.0 +1.0**
KKM Kota Kinabalu 60.22 291 *e*P **P** **07 37 27.1 +0.3**
comp=Z,951nm,1.8s
KKM LR LR
comp=Z,11μm,19.0s
KKM Kota Kinabalu 60.22 291 P **P** **07 37 25.7 -1.1**
KKM Kota Kinabalu 60.22 291 P P 07 37 30.0 +3.2
comp=Z,266nm,1.6s,comp=Z,10μmcomp=Z,52μm
BTM Bintulu 61.62 287 P **P** **07 37 36.5 +0.3**
SBUM Sibu 62.05 286 P **P** **07 37 40.5 +1.4**
SBUM Sibu 62.05 286 P P 07 37 42.6 +3.5
comp=Z,156nm,1.9s,comp=Z,6μmcomp=Z,46μm
KSM Kuching 63.33 284 *e*P **P** **07 37 47.6 0.0**
comp=Z,118nm,0.8s
KSM *e*PP **PP** **07 40 09.9 +2.8**
KSM LR LR
comp=Z,18μm,22.0s
KSM Kuching 63.33 284 P **P** **07 37 46.8 -0.9**
KSM Kuching 63.33 284 P **P** **07 37 49.6 +2.0**
comp=Z,231nm,1.1s,comp=Z,5μm
JOW Kunigami 63.73 318 *e*P **P** **07 37 50.8 +0.8**
comp=Z,90nm,1.2s
MIR Mirnyy 64.87 206⇑ *i*P **P** **07 37 59.2 +2.3**
MIR *e* 07 38 12.0
MIR *e* 07 40 18.0
MIR *i*S **S** **07 46 35.0 -1.6**
MIR *e*SS **SS** **07 50 52.0 +4.2**
MIR pmax pmax
comp=Z,477nm,2.0s
MIR pmax pmax
comp=Z,2μm,4.0s
MIR smax smax
comp=E,14μm,20.0s
MIR smax smax
comp=N,2μm,6.0s
MIR MLR MLR
comp=N,8μm,16.0s
MIR MLR MLR
comp=E,15μm,16.0s
MIR MLR MLR
comp=Z,20μm,16.0s
TWG Pinlang 65.85 310 *e*P **P** **07 38 03.0 -0.9**
comp=Z,220nm,1.3s
TWG *e*PP **PP** **07 40 24.5 -4.7**
MJAR Matsushiro Arr 66.02 332 P **P** **07 38 05.2 +0.5**
comp=Z,118nm,1.3s,baz=168,slow=7.2,SNR=34
MJAR Matsushiro Arr 66.02 332 P **P** **07 38 05.2 +0.5**
MJAR Matsushiro Arr 66.02 332 P **P** **07 38 05.2 +0.5**
MAJO Matsushiro 66.02 332 *e*P **P** **07 38 04.5 -0.2**
MAJO pmax pmax
comp=Z,123nm,1.1s
MAJO MLR MLR
comp=Z,12μm,20.0s
MAJO Matsushiro 66.02 332 *e*P **P** **07 38 04.5 -0.2**
comp=Z,123nm,1.1s
MAJO LR LR
comp=Z,12μm,20.0s
MAT Matsushiro 66.02 332 P **P** **07 38 04.6 -0.1**
MAT S **S** **07 46 51.0 -0.4**
YULB Yu-li 66.05 310 *e*P **P** **07 38 04.9 -0.3**
comp=Z,121nm,1.3s
NACB Ninganchiao 66.34 311 *e*P **P** **07 38 06.4 -0.6**
comp=Z,575nm,1.4s
TPUB Ta-pu 66.47 310 *e*P **P** **07 38 08.2 +0.4**
comp=Z,358nm,1.1s
TPUB *e*PP **PP** **07 40 34.2 -0.4**
SSLB Suanglung 66.55 310 *e*P **P** **07 38 07.6 -0.8**
comp=Z,123nm,0.8s
YHNB Yeheng 66.82 311 *e*P **P** **07 38 09.7 -0.4**
comp=Z,470nm,1.3s
YHNB LR LR
comp=Z,13μm,19.0s
JNU Nakatsue 66.87 324 *e*P **P** **07 38 10.6 +0.3**
comp=Z,75nm,1.1s
TATO Taipei 66.94 312 *e*P **P** **07 38 11.0 +0.3**
comp=Z,1μm,1.6s
TATO LR LR
comp=Z,14μm,19.0s
QSPA South Pole Qui 67.81 180 P **P** **07 38 17.2 +1.3**
comp=Z,118nm,1.1s,baz=31,slow=2.9,SNR=41
QSPA S S 07 47 06.1 -6.5
comp=Z,0.8nm,0.3s,baz=283,slow=1.5,SNR=2.6
QSPA LR LR 08 05 45.0
comp=Z,23μm,18.1s,baz=33,slow=34
QSPA PKPPKP P'P'df 08 06 35.5 -6.6
comp=Z,5.6nm,0.9s,baz=226,slow=2.9,SNR=7.0
QSPA South Pole Qui 67.81 180 *e*P **P** **07 38 15.8 -0.2**
comp=Z,263nm,1.3s
QSPA *e*S S 07 47 05.9 -6.7
QSPA S S 07 47 06.1 -6.6
QSPA P'P' 08 06 35.5
ERM Erimo 68.82 338 PFAKE 07 38 30.0 +7.8
ERM LR LR
comp=Z,30μm,20.0s
QZH Quanzhou 68.94 310⇑ *i*P **P** **07 38 24.3 +0.9**
QZH S **S** **07 47 28.1 +1.2**
QZH pmax pmax
comp=Z,12μm,6.7s
QZH LR LR
comp=N,2μm,12.4s
QZH LR LR
comp=E,18μm,19.2s
QZH LR LR
comp=Z,17μm,18.3s
MYKOM Kota Tinggi 69.31 281 P **P** **07 38 26.4 +0.4**
MYKOM Kota Tinggi 69.31 281 P P 07 38 30.1 +4.1
comp=Z,124nm,1.4s,comp=Z,6μm
YUK Yuzh-Kuril'sk 69.77 341*ce*P P 07 38 23.8 -4.3
YUK *i*S S 07 47 42.0 +6.1
YUK pmax pmax
comp=Z,21μm,17.2s
KGM Kluang 69.89 281 P **P** **07 38 29.5 -0.1**

HKC Hong Kong Obse 70.62 305⇑ *i*P **P** **07 38 36.0 +2.2**
HKC S **S** **07 47 50.0 +3.3**
COCO West Island 70.63 264 P **P** **07 38 32.7 -1.4**
COCO pmax pmax
comp=Z,407nm,1.5s
COCO MLR MLR
comp=Z,30μm,20.0s
COCO West Island 70.63 264 P **P** **07 38 32.7 -1.4**
comp=Z,407nm,1.5s
COCO LR LR
comp=Z,30μm,20.0s
COCO West Island 70.63 264 P P 07 38 39.8 +5.7
comp=Z,223nm,2.6s,comp=Z,9μm
SSE Sheshan 71.15 316 P **P** **07 38 36.0 -0.8**
SSE S **S** **07 47 52.8 +0.2**
SSE pmax pmax
comp=Z,78nm,1.3s
SSE pmax pmax
comp=Z,5μm,9.7s
SSE LR LR
comp=N,7μm,20.1s
SSE LR LR
comp=E,6μm,20.2s
SSE LR LR
comp=Z,10μm,20.1s
GZH Guangzhou 71.69 305 P **P** **07 38 42.8 +2.5**
GZH S **S** **07 48 02.9 +3.8**
GZH LR LR
comp=N,5μm,15.7s
GZH LR LR
comp=E,5μm,18.2s
GZH LR LR
comp=Z,13μm,23.7s
RPN Rapa Nui 71.71 112 P **P** **07 38 42.7 +2.2**
comp=Z,95nm,0.9s,baz=332,slow=4.1,SNR=4.0
RPN Rapa Nui 71.71 112 *e*P **P** **07 38 40.6 +0.1**
RPN pmax pmax
comp=Z,167nm,1.0s
RPN MLR MLR
comp=Z,12μm,20.0s
RPN Rapa Nui 71.71 112 *e*P **P** **07 38 40.6 +0.1**
comp=Z,167nm,1.0s
RPN LR LR
comp=Z,12μm,20.0s
KSRS Korea Array 71.72 325 P **P** **07 38 40.9 +0.7**
comp=Z,8.8nm,0.9s,baz=143,slow=6.1,SNR=23
KSAR Wonju Array Be 71.74 325 P **P** **07 38 40.9 +0.7**
KSAR Wonju Array Be 71.74 325 P **P** **07 38 40.9 +0.7**
FRIM Kepong 71.93 281 P **P** **07 38 41.6 -0.4**
QIZ Qiongzhong 72.21 300 P **P** **07 38 43.8 +0.3**
QIZ pP **pP** **07 38 48.8 -1.9**
QIZ sP **sP** **07 38 54.4 +1.1**
QIZ S **S** **07 48 09.6 +4.4**
QIZ sS **SKiKP** **07 48 19.0 +0.1**
QIZ pmax pmax
comp=Z,73nm,1.7s
QIZ pmax pmax
comp=Z,6μm,10.8s
QIZ LR LR
comp=N,4μm,19.6s
QIZ LR LR
comp=E,2μm,19.6s
QIZ LR LR
comp=Z,8μm,37.7s
QIZ Qiongzhong 72.21 300 *e*P **P** **07 38 42.3 -1.1**
comp=Z,117nm,1.3s
QIZ LR LR
comp=Z,6μm,19.0s
INCN Inchon 72.43 325 *e*P **P** **07 38 45.3 +0.9**
comp=Z,526nm,1.6s
INCN LR LR
comp=Z,11μm,21.0s
IPM Ipoh 72.99 282 *e*P **P** **07 38 47.8 -0.5**
comp=Z,156nm,1.1s
IPM *e*PP PP 07 41 38.0 +6.9
IPM Ipoh 72.99 282 P **P** **07 38 49.3 +1.0**
IPM Ipoh 72.99 282 P **P** **07 38 49.1 +0.8**
comp=Z,156nm,1.6s,comp=Z,5μm
NJ2 Nanjing 73.28 316 *e*P **P** **07 38 50.3 +0.8**
NJ2 pP **pP** **07 38 54.0 -2.7**
NJ2 sP **sP** **07 38 57.1 -2.3**
NJ2 PP **PP** **07 41 36.6 +3.4**
NJ2 S **SKiKP** **07 48 20.0 -0.1**
NJ2 sS **sS** **07 48 27.5 -1.3**
NJ2 pmax pmax
comp=Z,280nm,1.2s
NJ2 pmax pmax
comp=Z,7μm,8.0s
NJ2 LR LR
comp=N,6μm,20.3s
NJ2 LR LR
comp=E,4μm,16.6s
NJ2 LR LR
comp=Z,6μm,20.3s
YSS Yuzh-Sakhalins 73.35 340*ce*P **P** **07 38 52.0 +2.4**
YSS *e* 07 39 03.1
YSS *e* 07 41 32.0
YSS *e*S **SKiKP** **07 48 22.0 +2.3**
YSS *e*PS **PnS** **07 48 50.0 -1.1**
YSS *e*PPS PPS 07 49 02.0
YSS Yuzh-Sakhalins 73.35 340 *e*P **P** **07 38 51.8 +2.2**
comp=Z,49nm,0.3s
YSS LR LR
comp=Z,11μm,20.0s
KULM Kulim 73.67 283 *e*P P 07 38 56.1 +3.8
comp=Z,424nm,1.5s
KULM LR LR
comp=Z,26μm,22.0s
KULM Kulim 73.67 283 P P 07 38 58.6 +6.4
KULM Kulim 73.67 283 P P 07 38 59.7 +7.4
SKR Severo-Kuril's 73.75 350 *e*P P 07 38 45.0 -6.8
SKR *e* 07 41 46.0
SKR *e*S **SKiKP** **07 48 20.0 -0.2**
SKR *e* 07 48 58.0
SKR *e*SSS SSS 07 56 10.0
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=Z,800nm,1.5s
SKR pmax pmax
comp=N,6μm,16.0s
SKR pmax pmax
comp=E,3μm,16.0s
SKR pmax pmax
comp=Z,9μm,16.0s
SKR smax smax
comp=E,11μm,16.0s
SKR smax smax
comp=N,6μm,20.0s
SKR MLR MLR
comp=N,7μm,20.0s
SKR MLR MLR
comp=E,6μm,20.0s
SKR MLR MLR
comp=Z,12μm,20.0s
VLA Vladivostok 74.19 332⇑ *i*P **P** **07 38 55.0 +0.4**
VLA *e* 07 39 09.5
VLA S **S** **07 48 24.8 -1.9**
VLA pmax pmax
comp=Z,228nm,2.0s
PSI Prapat 74.21 280 P **P** **07 38 55.2 -0.4**
comp=Z,196nm,1.8s,comp=Z,5μmcomp=Z,26μm
USRK Ussuriysk Arra 75.00 332 P **P** **07 39 00.4 +1.1**
comp=Z,16nm,1.1s,baz=124,slow=3.4,SNR=18
USRK LR LR 08 10 35.2
comp=Z,7μm,19.0s,baz=314,slow=35
WHN Wuhan 75.34 312⇑ P **P** **07 39 02.1 +0.5**
WHN S **S** **07 48 40.6 +0.5**
WHN pmax pmax
comp=Z,510nm,1.8s
WHN pmax pmax
comp=Z,10μm,7.8s
WHN LR LR
comp=N,10μm,17.8s
WHN LR LR
comp=E,11μm,17.1s
WHN LR LR
comp=Z,29μm,27.7s
PET Petropavlovsk 75.69 353*c i*P **P** **07 39 03.2 +0.2**
PET *e**PP **PcP** **07 39 17.5 +1.8**
PET *e* 07 41 59.3
PET *e*S **S** **07 48 43.0 0.0**
PET *e*SS **SS** **07 53 32.3 -3.0**
PET pmax pmax
comp=Z,6μm,9.2s
PET pmax pmax
comp=Z,53nm,1.3s
PET pmax pmax
comp=Z,8μm,15.2s
PET pmax pmax
comp=Z,2μm,18.7s
PET Petropavlovsk 75.69 353 *e*P **P** **07 39 03.1 +0.1**
comp=Z,70nm,1.2s
PET LR LR
comp=Z,22μm,19.0s
PEA0B Petropavlovsk- 75.89 352 *e*P **P** **07 39 04.2 0.0**
PETK Petropavlovsk- 75.89 352 P **P** **07 39 05.0 +0.7**
comp=Z,34nm,0.9s,baz=149,slow=6.1,SNR=19
PETK LR LR 08 08 29.3
comp=Z,18μm,19.8s,baz=152,slow=33
PETK Petropavlovsk- 75.89 352 P **P** **07 39 05.0 +0.7**
PETK Petropavlovsk- 75.89 352 P **P** **07 39 05.0 +0.7**
MAW Mawson 76.14 202 P **P** **07 39 06.8 +1.2**
comp=Z,22nm,0.8s,baz=121,slow=7.0,SNR=7.7
MAW S **S** **07 48 44.1 -3.8**
comp=Z,14nm,1.1s,baz=60,slow=13,SNR=2.1
MAW LR LR 08 07 26.4
comp=Z,14μm,21.8s,baz=71,slow=32
MAW Mawson 76.14 202 *e*P **P** **07 39 05.8 +0.2**
comp=Z,29nm,0.9s
MAW Mawson 76.14 202 P **P** **07 39 06.8 +1.2**
MAW S **S** **07 48 44.1 -3.8**
MAW Mawson 76.14 202 P **P** **07 39 06.8 +1.2**
MAW S **S** **07 48 44.1 -3.8**
DL2 Dalian 76.20 323⇑ *i*P **P** **07 39 07.0 +0.7**
DL2 S **S** **07 48 48.6 -0.7**
DL2 pmax pmax
comp=Z,90nm,1.5s
DL2 pmax pmax
comp=Z,4μm,8.6s
DL2 LR LR
comp=N,4μm,28.2s
DL2 LR LR
comp=E,3μm,28.1s
DL2 LR LR
comp=Z,4μm,28.4s
MDJ Mudanjiang 76.39 331 P **P** **07 39 07.5 +0.2**
MDJ pP **pP** **07 39 14.0 -0.5**
MDJ sP **sP** **07 39 16.9 -0.2**
MDJ PcP **PcP** **07 39 18.3 -0.7**
MDJ PP **PP** **07 41 59.9 +0.5**
MDJ S **S** **07 48 54.5 +3.4**
MDJ pmax pmax
comp=Z,35nm,2.4s
MDJ pmax pmax
comp=Z,6μm,11.9s
MDJ LR LR
comp=N,9μm,28.7s
MDJ LR LR
comp=Z,14μm,23.0s
MDJ Mudanjiang 76.39 331 *e*P **P** **07 39 06.8 -0.5**
comp=Z,126nm,1.6s
MDJ LR LR
comp=Z,13μm,22.0s
NIKO Nikolski 77.01 13 *e*P P 07 39 07.1 -3.4
comp=Z,69nm,0.6s
TIA Tai'an 77.06 318 P **P** **07 39 11.8 +0.5**
TIA pP **pP** **07 39 19.9 +1.4**
TIA PP **PP** **07 42 07.6 +2.4**
TIA S **S** **07 49 03.9 +5.1**
TIA pmax pmax
comp=Z,160nm,1.5s
TIA LR LR
comp=N,9μm,23.6s
TIA LR LR
comp=E,8μm,18.6s
TIA LR LR
comp=Z,12μm,21.6s
SNY Shenyang 77.21 326⇓ P **P** **07 39 11.8 -0.1**
SNY S **S** **07 49 02.8 +2.6**
SNY pmax pmax
comp=Z,42nm,2.0s
SNY LR LR
comp=N,8μm,19.1s
SNY LR LR
comp=E,5μm,21.5s
SNY LR LR
comp=Z,11μm,19.1s
HABR Khabarovsk 77.28 337*d i*P **P** **07 39 11.1 -1.1**
HABR *e* 07 39 21.2
HABR *e**PP **PcP** **07 39 25.4 +2.7**
HABR *e* 07 42 05.4
HABR *e*PPP PPP 07 43 52.7
HABR pmax pmax
comp=Z,329nm,2.3s
HABR pmax pmax
comp=E,224nm,3.0s
HABR pmax pmax
comp=N,225nm,3.0s
HABR pmax pmax
comp=Z,3μm,4.9s
CN2 Changchun 77.70 328 *e*P **P** **07 39 12.9 -1.8**
CN2 *e*pP **PcP** **07 39 25.9 +1.2**
CN2 *e*S **S** **07 49 08.4 +2.9**
CN2 pmax pmax
comp=Z,40nm,1.4s
CN2 pmax pmax
comp=Z,6μm,7.0s
CN2 LR LR
comp=N,12μm,20.0s
CN2 LR LR
comp=E,6μm,20.0s
CN2 LR LR
comp=Z,13μm,20.0s
ENH Enshi 78.59 309 *e*P **P** **07 39 20.0 0.0**
comp=Z,982nm,1.8s
ENH LR LR
comp=Z,10μm,22.0s
GYA Guiyang 78.61 305⇑ *i*P **P** **07 39 20.8 +0.5**
GYA PP **PP** **07 42 21.8 +3.2**
GYA S **S** **07 49 15.0 -1.3**
GYA SKS **SKSac** **07 49 28.6 -5.8**
GYA SS **SS** **07 54 22.3 +1.5**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,5μm,12.4s
GYA LR LR
comp=N,4μm,22.9s
GYA LR LR
comp=E,4μm,26.3s
GYA LR LR
comp=Z,6μm,25.4s
PAF Port-aux-Franc 79.90 221 PFAKE 07 39 40.0 +13
PAF LR LR
comp=Z,18μm,21.0s
BJT Baijiatuao 80.08 321 *e*P **P** **07 39 28.5 +0.7**
BJT pmax pmax
comp=Z,340nm,1.7s
BJT MLR MLR
comp=Z,14μm,22.0s
BJT Baijiatuao 80.08 321 *e*P **P** **07 39 28.5 +0.7**
comp=Z,340nm,1.7s
BJT LR LR
comp=Z,14μm,22.0s
BJI Beijing 80.09 321 P **P** **07 39 28.4 +0.5**
BJI S **S** **07 49 32.5 +1.4**
BJI pmax pmax
comp=Z,65nm,1.8s
BJI pmax pmax
comp=Z,7μm,10.6s
BJI LR LR
comp=N,10μm,21.9s
BJI LR LR
comp=E,10μm,22.2s
BJI LR LR
comp=Z,13μm,23.9s
TIY Taiyuan 80.93 317⇑ P **P** **07 39 33.5 +1.0**
TIY S **S** **07 49 39.8 -0.4**
TIY pmax pmax
comp=Z,5μm,9.6s
TIY LR LR
comp=N,7μm,16.8s
TIY LR LR
comp=E,4μm,18.6s
TIY LR LR
comp=Z,10μm,19.2s
CM31 Chiang Mai Arr 80.93 294 *e*P **P** **07 39 34.5 +1.6**
comp=Z,90nm,1.0s
CM31 LR LR
comp=Z,8μm,20.0s
CMAR Chiang Mai Arr 80.93 294 P **P** **07 39 35.0 +2.2**

comp=Z,20nm,0.8s,baz=136,slow=4.1,SNR=59
CMAR S S 07 49 47.7 +6.9
comp=Z,0.9nm,0.3s,baz=102,slow=13,SNR=3.5
CMAR PKKPbc **PKKPbc** **07 58 10.9 +0.2**
comp=Z,4.0nm,0.6s,baz=283,slow=3.7,SNR=11
CMAR PKPPKP **P'P'df** **08 06 17.6 +3.2**
comp=Z,1.9nm,0.3s,baz=291,slow=6.0,SNR=7.8
CMAR LR LR 08 14 15.5
comp=Z,4µm,21.3s,baz=155,slow=35
CMAR Chiang Mai Arr 80.93 294 P **P** **07 39 35.1 +2.2**
CMAR S S 07 49 47.7 +6.9
CMAR 07 58 10.9
CMAR Chiang Mai Arr 80.93 294 P **P** **07 39 35.0 +2.2**
CMAR S S 07 49 47.7 +6.9
CMAR PKKPbc **PKKPbc** **07 58 10.9 +0.2**
CMAR P'P' 08 06 17.6
KMI Kunming 80.97 302 ⇑P **P** **07 39 35.3 +2.1**
KMI PP **PP** **07 42 39.8 +1.5**
KMI S **S** **07 49 40.4 -1.1**
KMI SKS **SKSac** **07 49 47.6 -3.7**
KMI SS **SS** **07 54 58.9 +2.5**
KMI pmax pmax
comp=Z,140nm,1.6s
KMI pmax pmax
comp=Z,6µm,7.9s
KMI LR LR
comp=N,6µm,16.1s
KMI LR LR
comp=E,8µm,17.8s
KMI LR LR
comp=Z,7µm,15.7s
CHTO Chiang Mai 81.09 294 *e*P **P** **07 39 34.7 +1.0**
CHTO *e* 07 42 44.9
CHTO pmax pmax
comp=Z,136nm,1.1s
CHTO MLR MLR
comp=Z,12µm,21.0s
CHTO Chiang Mai 81.09 294 *e*P **P** **07 39 34.7 +1.0**
comp=Z,136nm,1.1s
CHTO *e*PP PP 07 42 44.9 +5.8
CHTO LR LR
comp=Z,12µm,21.0s
CHTO Chiang Mai 81.09 294 P **P** **07 39 35.5 +1.8**
XAN Xi'an 81.10 312 P **P** **07 39 33.6 +0.1**
XAN PP **PP** **07 42 38.6 -0.5**
XAN S **S** **07 49 44.9 +2.8**
XAN SS **SS** **07 55 01.4 +3.6**
XAN pmax pmax
comp=Z,27nm,1.6s
XAN pmax pmax
comp=Z,2µm,10.7s
XAN LR LR
comp=N,4µm,20.6s
XAN LR LR
comp=E,2µm,21.9s
XAN LR LR
comp=Z,3µm,28.3s
SYO Syowa Base 82.41 196⇑ *e*P **P** **07 39 36.7 -3.1**
SYO Syowa Base 82.41 196⇑ *e*sP sP 07 39 50.2 +0.5
CD2 Chengdu 83.10 307 P **P** **07 39 44.8 +0.7**
CD2 PP **PP** **07 42 58.5 +2.9**
CD2 SKS **SKSac** **07 49 58.4 -6.6**
CD2 S **S** **07 49 59.8 -3.0**
CD2 SS **SS** **07 55 28.6 +1.0**
CD2 pmax pmax
comp=Z,90nm,1.9s
CD2 pmax pmax
comp=Z,9µm,11.8s
CD2 LR LR
comp=N,7µm,21.4s
CD2 LR LR
comp=Z,9µm,26.2s
HHC Hu-ho-hao-te 83.35 319 *e*P **P** **07 39 45.8 +0.6**
HHC PP **PP** **07 43 01.0 +3.5**
HHC S **S** **07 50 03.0 -2.1**
HHC pmax pmax
comp=Z,30nm,1.2s
HHC pmax pmax
comp=Z,7µm,7.3s
HHC LR LR
comp=N,6µm,16.8s
HHC LR LR
comp=E,5µm,16.3s
HHC LR LR
comp=Z,8µm,16.2s
PMSA Palmer Station 83.64 159 PFAKE 07 40 00.0 +14
PMSA LR LR
comp=Z,15µm,20.0s
BTO Baotou 84.15 318 *e*P **P** **07 39 49.3 0.0**
HIA Hailar 84.37 329 *e*P **P** **07 39 49.5 -0.6**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA MLR MLR
comp=Z,11µm,19.0s
HIA Hailar 84.37 329 *e*P **P** **07 39 49.5 -0.6**
comp=Z,18nm,0.9s
HIA LR LR
comp=Z,11µm,19.0s
KDAK Kodiak Island 85.44 19 PFAKE 07 40 10.0 +15
KDAK LR LR
comp=Z,12µm,19.0s
LZH Lanzhou 85.71 312 ⇑P **P** **07 39 58.8 +1.5**
LZH PP **PP** **07 43 19.3 +2.4**
LZH SKS **SKSac** **07 50 18.0 -3.8**
LZH *e*S **S** **07 50 24.0 -4.9**
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,7µm,9.1s
LZH LR LR
comp=N,6µm,15.8s
LZH LR LR
comp=E,5µm,16.4s
LZH LR LR
comp=Z,10µm,18.2s
NVL N'lazarevskaya 86.04 187⇑ *i*P P 07 40 01.9 +3.7
NVL *e**PP pP 07 40 12.6 +7.1
NVL *e**SP sP 07 40 16.1 +7.9
NVL *i* 07 45 20.8
NVL *i*S **SKSac** **07 50 21.4 -1.2**
NVL *i*S **SKSac** **07 50 21.8 -0.8**
NVL *e*SS SS 07 56 17.3 +10
NVL pmax pmax
comp=Z,89nm,1.0s
NVL MLR MLR
comp=Z,9µm,17.0s
MAIT Maitri 86.04 187 *e*P **P** **07 39 57.8 -0.4**
MAIT *e* 07 40 11.1
SEY Seymchan 86.13 352 *ce*P **P** **07 39 58.4 -0.1**
SNAA Sanae 86.21 182 *e* P 07 39 55.4 -3.8
SNAA *e* 07 40 09.9
SNAA *e* 07 40 15.1
SNAA Sanae 86.21 182 *e*P P 07 39 54.5 -4.7
SNAA pmax pmax
comp=Z,221nm,1.4s
SNAA Sanae 86.21 182 *e*P P 07 39 54.5 -4.7
comp=Z,221nm,1.4s
MCCM Marconi Confer 86.57 46 *e*P **P** **07 40 00.3 -1.0**
comp=Z,52nm,1.1s
BSC Santa Cruz Isl 86.73 51 ⇓P **P** **07 40 02.2 0.0**
baz=87
BSC ⇓P **P** **07 40 02.2 0.0**
baz=87
BSC ⇓P **P** **07 40 02.2 0.0**
baz=87
VNA3 Neumayer Olymp 86.75 180 *e* **P** **07 40 00.2 -1.6**
VNA3 *e* 07 40 14.9
VNA3 *e* 07 40 19.6
SAO San Andreas Ge 86.83 48 *e*P **P** **07 40 01.7 -1.0**
SAO *e* 07 43 26.9
SAO pmax pmax
comp=Z,33nm,1.0s
SAO San Andreas Ge 86.83 48 *e*P **P** **07 40 01.7 -1.0**
comp=Z,33nm,1.0s
SAO *e*PP **PP** **07 43 26.9 +1.1**
GAMB Gambell 86.86 8 *e*P **P** **07 40 02.0 0.0**
comp=Z,64nm,1.2s
GAMB *e*PP **PP** **07 43 27.3 +2.0**
HOPS Hopland 86.89 46 *e*P **P** **07 40 02.8 -0.1**
comp=Z,57nm,1.1s
SBC Santa Barbara 86.89 51 ⇑P **P** **07 40 03.0 0.0**
baz=87
SBC ⇑P **P** **07 40 03.0 0.0**
baz=87
SBC ⇑P **P** **07 40 03.0 0.0**
baz=87
KCPM Cahto Peak 86.92 45 *e*P **P** **07 40 03.4 +0.2**
comp=Z,49nm,1.0s
SCI San Clemente I 87.03 53 ⇓P **P** **07 40 03.7 0.0**
baz=87
SCI ⇓P **P** **07 40 03.7 0.0**
baz=87
SCI ⇓P **P** **07 40 03.7 0.0**
baz=87
SCI ⇑SKSac **SKSac** **07 50 31.6 +1.8**
baz=87
SCI ⇑SKSac **SKSac** **07 50 31.6 +1.8**
baz=87
SCI ⇑SKSac **SKSac** **07 50 31.6 +1.8**
baz=87
PKM Peak Mountain 87.04 50 ⇑P **P** **07 40 03.8 -0.1**
baz=87,SNR=9.7
PKM ⇑P **P** **07 40 03.8 -0.1**
baz=87,SNR=9.7
PKM ⇑P **P** **07 40 03.8 -0.1**
baz=87,SNR=9.7
KIPM Iron Peak 87.05 45 *e*P **P** **07 40 04.4 +0.5**
comp=Z,86nm,1.1s
VNA2 Neumayer--Watz 87.06 181 *e* **P** **07 40 02.1 -1.2**
baz=177,slow=2.3
VNA2 *e* 07 40 16.7
VNA2 *e* 07 40 22.6
SMMC Simmler 87.12 50 ⇑P **P** **07 40 03.9 -0.3**
baz=87,SNR=6.5
SMMC ⇑P **P** **07 40 03.9 -0.3**
baz=87,SNR=6.5
SMMC ⇑P **P** **07 40 03.9 -0.3**
baz=87,SNR=6.5
BLG Laguna Peak 87.20 51 ⇓P **P** **07 40 04.3 -0.2**
baz=87
BLG ⇓P **P** **07 40 04.3 -0.2**
baz=87
BLG ⇓P **P** **07 40 04.3 -0.2**
baz=87
CIS Catalina Islan 87.34 52 ⇑P **P** **07 40 04.9 -0.3**
baz=88
CIS ⇑P **P** **07 40 04.9 -0.3**
baz=88
CIS ⇑P **P** **07 40 04.9 -0.3**
baz=88
VNA1 Neumayer--Stat 87.34 180 *e* **P** **07 40 03.7 -0.9**
VNA1 *e* 07 40 18.3
VNA1 *e* 07 40 23.2
KHMM Horse Mountain 87.46 44 *e*P **P** **07 40 06.8 +1.0**
comp=Z,79nm,1.2s
FMP Fort Macarthur 87.57 52 ⇑P **P** **07 40 05.9 -0.3**
baz=88
FMP ⇑P **P** **07 40 05.9 -0.3**
baz=88
FMP ⇑P **P** **07 40 05.9 -0.3**
baz=88
CLNS Chul'man 87.67 337 *c i*P **P** **07 40 06.0 -0.3**
CLNS *e* 07 40 15.2
CLNS *e**PP pP 07 40 24.7 +11
CLNS *e* 07 43 28.2
CLNS *e*PPP PPP 07 45 26.9
CLNS *e*S **SKSac** **07 50 27.2 -5.5**
CLNS *e*SS **SS** **07 56 32.4 -1.4**
CLNS pmax pmax
comp=Z,109nm,1.4s
CLNS pmax pmax
comp=N,79nm,1.5s
CLNS pmax pmax
comp=E,19nm,1.3s
CLNS pmax pmax
comp=N,19nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.2s
CLNS pmax pmax
comp=Z,14nm,1.6s
CLNS smax smax
comp=N,2µm,14.1s
CLNS smax smax
comp=E,3µm,13.3s
CLNS MLR MLR
comp=Z,4µm,16.0s
CLNS MLR MLR
comp=N,3µm,16.0s
CLNS MLR MLR
comp=E,4µm,15.0s
OSI Osito Adit 87.69 51 *e*P **P** **07 40 05.5 -1.5**
comp=E,90nm,1.5s
OSI *e*PP **PP** **07 43 32.4 -0.4**
OSI Osito Adit 87.69 51 ⇓P **P** **07 40 06.5 -0.4**
baz=88
OSI ⇓P **P** **07 40 06.5 -0.4**
baz=88
OSI ⇓P **P** **07 40 06.5 -0.4**
baz=88
DECC Green Verdugo 87.80 52 ⇓P **P** **07 40 07.2 -0.3**
baz=88
DECC ⇓P **P** **07 40 07.2 -0.3**
baz=88
DECC ⇓P **P** **07 40 07.2 -0.3**
baz=88
ARVC Arvin 87.86 51 ⇓P **P** **07 40 07.2 -0.4**
baz=88,SNR=6.9
ARVC ⇓P **P** **07 40 07.2 -0.4**
baz=88,SNR=6.9
ARVC ⇓P **P** **07 40 07.2 -0.4**
baz=88,SNR=6.9
KBO Bosley Butte 87.87 42 *e*P **P** **07 40 08.4 +0.8**
comp=E,162nm,1.6s
PASC Pasadena Art C 87.87 52 *e*P **P** **07 40 07.1 -0.6**
comp=E,19nm,0.9s
PASC *e*PP **PP** **07 43 34.4 +0.2**
MWC Mount Wilson 87.98 52 *e*P **P** **07 40 07.9 -0.6**
MWC *e* 07 43 36.5
MWC pmax pmax
comp=Z,64nm,1.3s
MWC Mount Wilson 87.98 52 *e*P **P** **07 40 07.9 -0.6**
comp=Z,64nm,1.3s
MWC *e*PP **PP** **07 43 36.5 +1.1**
VES Vestal, Richgr 88.03 50 ⇑P **P** **07 40 07.7 -0.8**
baz=88,SNR=8.2
VES ⇑P **P** **07 40 07.7 -0.8**
baz=88,SNR=8.2
VES ⇑P **P** **07 40 07.7 -0.8**
baz=88,SNR=8.2
109C Camp Elliot, M 88.05 53 ⇓P **P** **07 40 08.6 0.0**
baz=88
109C ⇓P **P** **07 40 08.6 0.0**
baz=88
109C ⇓P **P** **07 40 08.6 0.0**
baz=88
WDC Whiskeytown Da 88.07 44 *e*P **P** **07 40 08.4 -0.1**
WDC *e* 07 43 38.8
WDC pmax pmax
comp=Z,108nm,1.5s
WDC Whiskeytown Da 88.07 44 *e*P **P** **07 40 08.4 -0.1**
comp=Z,108nm,1.5s
WDC *e*PP **PP** **07 43 38.8 +3.1**
RCTC Rector, Farmer 88.15 49 ⇓P **P** **07 40 08.1 -0.9**
baz=88
RCTC ⇓P **P** **07 40 08.1 -0.9**
baz=88
RCTC ⇓P **P** **07 40 08.1 -0.9**
baz=88
KEBM Edson Butte 88.16 42 *e*P **P** **07 40 08.5 -0.4**
comp=Z,117nm,1.6s
KEBM *e*PP **PP** **07 43 36.6 +0.2**
CMB Columbia Colle 88.20 48 *e*P **P** **07 40 09.0 -0.3**
CMB *e* 07 43 37.9
CMB pmax pmax
comp=Z,58nm,1.4s
CMB Columbia Colle 88.20 48 *e*P **P** **07 40 09.0 -0.3**
comp=Z,58nm,1.4s
CMB *e*PP **PP** **07 43 37.9 +1.0**
BAR Barrett 88.28 54 *e*P **P** **07 40 08.9 -0.9**
comp=Z,104nm,2.1s
BFSC Mount Baldy Ra 88.28 52 ⇑P **P** **07 40 09.3 -0.5**
baz=88
BFSC ⇑P **P** **07 40 09.3 -0.5**
baz=88
BFSC ⇑P **P** **07 40 09.3 -0.5**
baz=88
MURC Murrieta 88.32 53 ⇓P **P** **07 40 09.3 -0.6**
baz=88
MURC ⇓P **P** **07 40 09.3 -0.6**
baz=88
MURC ⇓P **P** **07 40 09.3 -0.6**
baz=88
EDW2 Edwards Air Fo 88.35 51 ⇓P **P** **07 40 10.1 +0.1**
baz=89,SNR=28
EDW2 ⇓P **P** **07 40 10.1 +0.1**
baz=89,SNR=28
EDW2 ⇓P **P** **07 40 10.1 +0.1**
baz=89,SNR=28
ISA Isabella 88.37 50 *e*P **P** **07 40 09.1 -1.1**
ISA pmax pmax
comp=Z,44nm,1.1s
ISA Isabella 88.37 50 *e*P **P** **07 40 09.1 -1.1**
comp=Z,44nm,1.1s
ISA Isabella 88.37 50 ⇓P **P** **07 40 10.3 +0.1**
baz=89,SNR=48
ISA ⇓P **P** **07 40 10.3 +0.1**
baz=89,SNR=48
ISA ⇓P **P** **07 40 10.3 +0.1**
baz=89,SNR=48
MONP Monument Peak 88.56 54 ⇓P **P** **07 40 11.2 -0.1**
baz=89
MONP ⇓P **P** **07 40 11.2 -0.1**
baz=89
MONP ⇓P **P** **07 40 11.2 -0.1**
baz=89
YBH Yreka Blue Hor 88.57 43 *e*P **P** **07 40 11.3 +0.3**
YBH *e* 07 43 42.1
YBH pmax pmax
comp=Z,76nm,1.4s
YBH Yreka Blue Hor 88.57 43 *e*P **P** **07 40 11.3 +0.3**
comp=Z,76nm,1.4s
YBH *e*PP **PP** **07 43 42.1 +2.3**
DVTC Desert V Tower 88.70 54 ⇓P **P** **07 40 11.8 0.0**
baz=89
DVTC ⇓P **P** **07 40 11.8 0.0**
baz=89
DVTC ⇓P **P** **07 40 11.8 0.0**
baz=89
BBRC Big Bear Solar 88.83 52 ⇑P **P** **07 40 12.3 -0.3**
baz=89
BBRC ⇑P **P** **07 40 12.3 -0.3**
baz=89
BBRC ⇑P **P** **07 40 12.3 -0.3**
baz=89
LRMC Laurel Mountai 88.85 51 ⇓P **P** **07 40 12.0 -0.5**
baz=89,SNR=29
LRMC ⇓P **P** **07 40 12.0 -0.5**
baz=89,SNR=29
LRMC ⇓P **P** **07 40 12.0 -0.5**
baz=89,SNR=29
PFO Pinyon Flat Ob 88.87 53 *e*P **P** **07 40 11.3 -1.3**
PFO *e* 07 43 40.3
PFO pmax pmax
comp=Z,37nm,1.5s
PFO MLR MLR
comp=Z,25µm,20.0s
PFO Pinyon Flat Ob 88.87 53 *e*P **P** **07 40 11.3 -1.3**
comp=Z,38nm,1.5s
PFO *e*PP **PP** **07 43 40.3 -2.2**
PFO LR LR
comp=Z,25µm,20.0s
PFO Pinyon Flat Ob 88.87 53 P **P** **07 40 12.0 -0.6**
comp=Z,80nm,1.7s,SNR=7.0
PFO Pinyon Flat Ob 88.87 53 ⇑P **P** **07 40 12.2 -0.5**
baz=89,SNR=10
PFO ⇑P **P** **07 40 12.2 -0.5**
baz=89,SNR=10
PFO ⇑P **P** **07 40 12.2 -0.5**
baz=89,SNR=10
HUMO Hull Mountain 88.87 43 *e*P **P** **07 40 11.4 -0.9**
comp=Z,76nm,1.4s
HUMO *e*PP **PP** **07 43 44.1 +2.0**
CWC Cottonwood Cre 89.03 50 ⇑P **P** **07 40 13.6 +0.2**
baz=89,SNR=13
CWC ⇑P **P** **07 40 13.6 +0.2**
baz=89,SNR=13
CWC ⇑P **P** **07 40 13.6 +0.2**
baz=89,SNR=13
SWSC Sam W. Stewart 89.05 54 ⇓P **P** **07 40 13.2 -0.1**
baz=89,SNR=11
SWSC ⇓P **P** **07 40 13.2 -0.1**
baz=89,SNR=11
SWSC ⇓P **P** **07 40 13.2 -0.1**
baz=89,SNR=11
RRX Edison Barstow 89.06 52 ⇑P **P** **07 40 13.1 -0.3**
baz=89
RRX ⇑P **P** **07 40 13.1 -0.3**
baz=89
RRX ⇑P **P** **07 40 13.1 -0.3**
baz=89
MLAC Mammoth Lakes 89.07 48 ⇓P **P** **07 40 13.5 -0.2**
baz=89
MLAC ⇓P **P** **07 40 13.5 -0.2**
baz=89
MLAC ⇓P **P** **07 40 13.5 -0.2**
baz=89
CIT Chita 89.14 329 *e*P **P** **07 40 13.9 +0.5**
CIT *e* 07 40 25.8
WCN Washoe City 89.26 47 *e*P **P** **07 40 14.6 +0.2**
WCN pmax pmax
comp=Z,53nm,1.4s
WCN Washoe City 89.26 47 *e*P **P** **07 40 14.6 +0.2**
comp=Z,53nm,1.4s
WCN Washoe City 89.26 47 ⇑P **P** **07 40 14.4 0.0**
baz=90
WCN ⇑P **P** **07 40 14.4 0.0**
baz=90
WCN ⇑P **P** **07 40 14.4 0.0**
baz=90
MPMC Manual Prospec 89.27 50 ⇑P **P** **07 40 14.4 -0.1**
baz=90,SNR=25
MPMC ⇑P **P** **07 40 14.4 -0.1**
baz=90,SNR=25
MPMC ⇑P **P** **07 40 14.4 -0.1**
baz=90,SNR=25
DAC Darwin (Calif) 89.30 50 PFAKE 07 40 30.0 +15
DAC LR LR
comp=Z,28µm,20.0s
BELC Belle Mtn. Jos 89.39 53 ⇓P **P** **07 40 15.0 -0.1**
baz=90,SNR=22
BELC ⇓P **P** **07 40 15.0 -0.1**
baz=90,SNR=22
BELC ⇓P **P** **07 40 15.0 -0.1**
baz=90,SNR=22
GSC Goldstone 89.40 51 *e*P **P** **07 40 14.9 -0.1**
GSC pmax pmax
comp=Z,59nm,1.5s
GSC Goldstone 89.40 51 *e*P **P** **07 40 14.9 -0.1**
comp=Z,59nm,1.5s
GSC Goldstone 89.40 51 ⇓P **P** **07 40 14.9 -0.1**
baz=90,SNR=15
GSC ⇓P **P** **07 40 14.9 -0.1**
baz=90,SNR=15
GSC ⇓P **P** **07 40 14.9 -0.1**
baz=90,SNR=15
MPOR Mary's Peak 89.51 41 P **P** **07 40 16.8 +1.4**
HEC Hector,Ludlow 89.53 52 ⇓P **P** **07 40 15.1 -0.5**
baz=90,SNR=8.3
HEC ⇓P **P** **07 40 15.1 -0.5**
baz=90,SNR=8.3
HEC ⇓P **P** **07 40 15.1 -0.5**
baz=90,SNR=8.3
BC3 Big Chuckawall 89.63 53 ⇓P **P** **07 40 15.6 -0.6**
baz=90,SNR=9.2
BC3 ⇓P **P** **07 40 15.6 -0.6**
baz=90,SNR=9.2
BC3 ⇓P **P** **07 40 15.6 -0.6**
baz=90,SNR=9.2
COR Corvallis 89.71 41 *e*P **P** **07 40 15.4 -0.7**
COR *e* 07 43 48.6
COR pmax pmax
comp=Z,104nm,1.4s
COR Corvallis 89.71 41 *e*P **P** **07 40 15.4 -0.7**
comp=Z,104nm,1.4s
COR *e*PP **PP** **07 43 48.6 -0.1**
AGT Agartala 89.74 296 *e*P **P** **07 40 16.0 -0.7**
AGT *ex* x 07 41 27.0
HEBO Mount Hebo 89.77 40 *e*P **P** **07 40 16.8 +0.3**
comp=Z,116nm,1.2s
GRAC Grapevine Rang 89.80 50 ⇑P **P** **07 40 16.8 0.0**
baz=90
GRAC ⇑P **P** **07 40 16.8 0.0**
baz=90
GRAC ⇑P **P** **07 40 16.8 0.0**
baz=90
NVAR Mina Array Bea 89.83 48 P **P** **07 40 17.6 +0.5**
comp=Z,19nm,0.8s,baz=226,slow=7.5,SNR=46
NVAR PKKPbc **PKKPbc** **07 57 52.3 +1.6**
comp=Z,1.6nm,1.1s,baz=63,slow=6.8,SNR=4.6

NVAR PKPPKP P'P'df 08 06 02.1 +5.7
comp=Z,1.6nm,1.1s,baz=99,slow=2.4,SNR=5.5
NVAR LR LR 08 14 09.7
comp=Z,36μm,19.3s,baz=107,slow=31
NVAR Mina Array Bea 89.83 48 P **P 07 40 17.6 +0.5**
NVAR PKKPbc **PKKPbc 07 57 52.3 +1.6**
NVAR P'P' 08 06 02.1
GLA Glamis 89.83 54 *e*P **P 07 40 17.0 -0.1**
GLA pmax pmax
comp=Z,45nm,1.0s
GLA Glamis 89.83 54 *e*P **P 07 40 16.9 -0.1**
comp=Z,45nm,1.0s
GLA Glamis 89.83 54 ⇓P **P 07 40 17.1 +0.1**
baz=90
GLA ⇓P **P 07 40 17.1 +0.1**
baz=90
GLA ⇓P **P 07 40 17.1 +0.1**
baz=90
FURC Furnace Creek, 89.91 50 ⇓P **P 07 40 17.3 +0.1**
baz=90,SNR=15
FURC ⇓P **P 07 40 17.3 +0.1**
baz=90,SNR=15
FURC ⇓P **P 07 40 17.3 +0.1**
baz=90,SNR=15
SHL Shillong 89.91 298 ⇑ *i*P **P 07 40 19.0 +1.2**
SHL *e*S **SKSac 07 50 46.0 -1.7**
GMRC Granite Mounta 89.99 52 ⇓P **P 07 40 17.2 -0.7**
baz=90,SNR=12
GMRC ⇓P **P 07 40 17.2 -0.7**
baz=90,SNR=12
GMRC ⇓P **P 07 40 17.2 -0.7**
baz=90,SNR=12
ULN Ulaanbaatar 90.05 323 *e*P **P 07 40 18.1 +0.2**
ULN pmax pmax
comp=Z,204nm,1.5s
ULN MLR MLR
comp=Z,14μm,20.0s
ULN Ulaanbaatar 90.05 323 *e*P **P 07 40 18.1 +0.2**
comp=Z,204nm,1.5s
ULN LR LR
comp=Z,14μm,20.0s
BROR Big Rock Looko 90.06 41 P **P 07 40 18.5 +0.7**
SHOC Shoshone 90.06 51 ⇓P **P 07 40 17.6 -0.4**
baz=90,SNR=10
SHOC ⇓P **P 07 40 17.6 -0.4**
baz=90,SNR=10
SHOC ⇓P **P 07 40 17.6 -0.4**
baz=90,SNR=10
IRM Iron Mountain 90.09 53 ⇑P **P 07 40 18.2 0.0**
baz=90,SNR=31
IRM ⇑P **P 07 40 18.2 0.0**
baz=90,SNR=31
IRM ⇑P **P 07 40 18.2 0.0**
baz=90,SNR=31
BILL Bilibino 90.09 358 ⇓ *e*P **P 07 40 16.3 -1.0**
BILL *e* 07 43 53.8
BILL *e*S S 07 50 56.8 -12
BILL *e*SS SS 07 57 23.1 +15
BILL pmax pmax
comp=Z,103nm,1.7s
BILL MLR MLR
comp=Z,7μm,23.0s
BILL Bilibino 90.09 358 *e*P **P 07 40 16.5 -0.8**
comp=Z,255nm,1.8s
BILL *e*PP **PP 07 43 47.0 -4.1**
BILL LR LR
comp=Z,12μm,21.0s
TUQ Turquoise Moun 90.10 52 ⇑P **P 07 40 18.2 -0.2**
baz=90,SNR=6.0
TUQ ⇑P **P 07 40 18.2 -0.2**
baz=90,SNR=6.0
TUQ ⇑P **P 07 40 18.2 -0.2**
baz=90,SNR=6.0
YAK Yakutsk 90.13 342 *i* P **P 07 40 16.7 -0.9**
YAK *e**PP **pP 07 40 27.7 +2.7**
YAK *e*PPP PPP 07 45 50.9
YAK *e*S **SKSac 07 50 44.7 -2.2**
YAK *e**SS **SKKSac 07 51 03.9 +3.5**
YAK *e*SS **SS 07 57 09.9 +0.6**
YAK *e*SSS SSS 08 00 42.5
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,42nm,1.4s
YAK pmax pmax
comp=N,20nm,1.8s
YAK pmax pmax
comp=N,492nm,4.5s
YAK pmax pmax
comp=Z,1μm,7.6s
YAK pmax pmax
comp=E,461nm,9.2s
YAK smax smax
comp=N,595nm,4.9s
YAK smax smax
comp=E,980nm,8.4s
YAK MLR MLR
comp=N,15μm,20.0s
YAK MLR MLR
comp=E,6μm,16.0s
YAK MLR MLR
comp=Z,16μm,17.0s
YAK Yakutsk 90.13 342 *e*P **P 07 40 17.1 -0.5**
YAK *e*PP **PP 07 43 48.2 -3.4**
YAK LR LR
comp=Z,16μm,19.0s
GTA Gaotai 90.14 313 ⇑P **P 07 40 19.3 +0.9**
GTA PP **PP 07 43 56.8 +4.4**
GTA SKS **SKSac 07 50 44.4 -4.0**
GTA S **S 07 51 08.1 -2.8**
GTA SS **SS 07 57 12.8 +2.1**
GTA pmax pmax
comp=Z,20nm,2.3s
GTA pmax pmax
comp=Z,5μm,7.6s
GTA LR LR
comp=N,6μm,21.1s
GTA LR LR
comp=E,7μm,20.4s
GTA LR LR
comp=Z,8μm,22.3s
MOD Modoc 90.20 44 *e*P **P 07 40 18.7 0.0**
comp=Z,50nm,1.3s
MOD *e*PP **PP 07 43 52.6 -0.3**
Y12C Blythe 90.37 54 ⇑P **P 07 40 19.5 0.0**
baz=91,SNR=22
Y12C ⇑P **P 07 40 19.5 0.0**
baz=91,SNR=22
Y12C ⇑P **P 07 40 19.5 0.0**
baz=91,SNR=22
SONM Songino Array 90.41 323 P **P 07 40 19.9 +0.4**
comp=Z,52nm,1.1s,baz=140,slow=4.3,SNR=79
SONM S **SKSac 07 50 51.8 +2.3**
comp=Z,0.2nm,0.6s,baz=119,slow=14,SNR=1.7
SONM PKKPbc **PKKPbc 07 57 50.9 +1.4**
comp=Z,1.5nm,0.6s,baz=291,slow=2.3,SNR=7.0
SONM PKPPKP P'P'df 08 05 59.6 +5.5
comp=Z,1.5nm,1.0s,baz=225,slow=1.0,SNR=5.2
SONM LR LR 08 22 03.3
comp=Z,11μm,19.4s,baz=28,slow=36
SONM Songino Array 90.41 323 P **P 07 40 19.9 +0.4**
SONM S **SKSac 07 50 51.8 +2.3**
SONM Songino Array 90.41 323 P **P 07 40 19.9 +0.4**
SONM S **SKSac 07 50 51.8 +2.3**
SONM PKKPbc **PKKPbc 07 57 50.9 +1.4**
SONM P'P' 08 05 59.6
TPH Tonopah 90.41 49 PFAKE 07 40 30.0 +10
TPH LR LR
comp=Z,32μm,20.0s
113A Mohawk Valley, 90.50 55 ⇓P **P 07 40 20.1 0.0**
baz=91,SNR=14
113A ⇓P **P 07 40 20.1 0.0**
baz=91,SNR=14
113A ⇓P **P 07 40 20.1 0.0**
baz=91,SNR=14
NEE2 Needles Airpor 90.75 53 ⇑P **P 07 40 21.2 -0.1**
baz=91
NEE2 ⇑P **P 07 40 21.2 -0.1**
baz=91
NEE2 ⇑P **P 07 40 21.2 -0.1**
baz=91
Z13A Yuma Proving G 90.77 54 ⇑P **P 07 40 21.5 +0.1**
baz=91,SNR=22
Z13A ⇑P **P 07 40 21.5 +0.1**
baz=91,SNR=22
Z13A ⇑P **P 07 40 21.5 +0.1**
baz=91,SNR=22
214A Organ Pipe Nat 90.87 56 ⇓P **P 07 40 22.0 +0.1**
baz=91
214A ⇓P **P 07 40 22.0 +0.1**
baz=91
214A ⇓P **P 07 40 22.0 +0.1**
baz=91
NLWA Neilton Lookou 90.88 38 *e*P **P 07 40 22.0 +0.4**
comp=Z,42nm,1.1s
NLWA *e*PP **PP 07 43 53.8 -4.2**
NLWA LR LR
comp=Z,23μm,20.0s
PDMCI Parker Dam,Lak 90.90 53 ⇑P **P 07 40 22.1 +0.2**
baz=91,SNR=8.6
PDMCI ⇑P **P 07 40 22.1 +0.2**
baz=91,SNR=8.6
PDMCI ⇑P **P 07 40 22.1 +0.2**
baz=91,SNR=8.6
114A Black Gap (USA 91.16 55 ⇓P **P 07 40 23.4 +0.2**
baz=91,SNR=8.0
114A ⇓P **P 07 40 23.4 +0.2**
baz=91,SNR=8.0
114A ⇓P **P 07 40 23.4 +0.2**
baz=91,SNR=8.0
VIPM Ingram Point 91.31 42 P **P 07 40 26.4 +2.6**
VIPM Ingram Point 91.31 42 P **P 07 40 26.4 +2.6**
MCK McKinley 91.35 17 *e*P **P 07 40 21.9 -1.5**
MCK pmax pmax
comp=Z,18nm,1.1s
MCK McKinley 91.35 17 *e*P **P 07 40 21.9 -1.5**
comp=Z,18nm,1.1s
Z14A Wintersburg 91.38 54 ⇑P **P 07 40 24.3 +0.1**
baz=92,SNR=5.1
Z14A ⇑P **P 07 40 24.3 +0.1**
baz=92,SNR=5.1
Z14A ⇑P **P 07 40 24.3 +0.1**
baz=92,SNR=5.1
GULW Guler Mountain 91.43 40 P P 07 40 28.8 +4.5
W13A Hualapai Mount 91.44 53 ⇓P **P 07 40 24.6 -0.1**
baz=92,SNR=30
W13A ⇓P **P 07 40 24.6 -0.1**
baz=92,SNR=30
W13A ⇓P **P 07 40 24.6 -0.1**
baz=92,SNR=30
BMN Battle Mountai 91.52 47 *e*P **P 07 40 24.8 -0.1**
BMN *e* 07 44 03.8
BMN pmax pmax
comp=Z,65nm,1.3s
BMN MLR MLR
comp=Z,21μm,20.0s
BMN Battle Mountai 91.52 47 *e*P **P 07 40 24.8 -0.1**
comp=Z,65nm,1.3s
BMN *e*PP **PP 07 44 03.8 +0.5**
BMN LR LR
comp=Z,21μm,20.0s
WVOR Wild Horse Val 91.54 44 *e*P **P 07 40 24.6 -0.3**
WVOR *e* 07 43 58.8
WVOR pmax pmax
comp=Z,51nm,1.4s
WVOR MLR MLR
comp=Z,19μm,19.0s
WVOR Wild Horse Val 91.54 44 *e*P **P 07 40 24.6 -0.3**
comp=Z,51nm,1.4s
WVOR *e*PP **PP 07 43 58.8 -4.7**
WVOR LR LR
comp=Z,19μm,19.0s
Y14A Wickenburg 91.58 54 ⇓P **P 07 40 25.2 0.0**
baz=92,SNR=6.2
Y14A ⇓P **P 07 40 25.2 0.0**
baz=92,SNR=6.2
Y14A ⇓P **P 07 40 25.2 0.0**
baz=92,SNR=6.2
CAL Calcutta 91.66 294 *e*P **P 07 40 24.5 -1.2**
CAL *ex* x 07 51 39.1
CAL AMS AMS 07 55 13.8
comp=Z,2μm,16.6s
R11A Troy Canyon, C 91.67 49 ⇓P **P 07 40 25.5 -0.2**
baz=92
R11A ⇓P **P 07 40 25.5 -0.2**
baz=92
R11A ⇓P **P 07 40 25.5 -0.2**
baz=92
LON Longmire 91.73 39 *e*P **P 07 40 25.3 -0.3**
LON *e* 07 44 01.1
LON pmax pmax
comp=Z,19nm,1.3s
LON Longmire 91.73 39 *e*P **P 07 40 25.3 -0.3**
comp=Z,19nm,1.3s
LON *e*PP **PP 07 44 01.1 -3.7**
WPW White Pass 91.86 40 P P 07 40 30.7 +4.5
WRAK Wrangell Islan 91.88 28 PFAKE 07 40 40.0 +14
WRAK LR LR
comp=Z,15μm,20.0s
LSA Lhasa 92.21 301 P **P 07 40 29.3 +0.6**
LSA LR LR
comp=E,7μm,26.6s
LSA LR LR
comp=Z,6μm,28.9s
LSA Lhasa 92.21 301 *e*P **P 07 40 28.7 0.0**
LSA *e* 07 44 08.7
LSA pmax pmax
comp=Z,86nm,1.4s
LSA MLR MLR
comp=Z,6μm,21.0s
LSA Lhasa 92.21 301 *e*P **P 07 40 28.7 0.0**
comp=Z,86nm,1.4s
LSA *e*PP **PP 07 44 08.7 -0.7**
LSA LR LR
comp=Z,6μm,21.0s
JCW Jim Creek 92.41 38 *e*P **P 07 40 28.6 0.0**
comp=Z,112nm,1.7s
COLA College 92.55 16 *e*P **P 07 40 28.2 -0.6**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA MLR MLR
comp=Z,16μm,19.0s
COLA College 92.55 16 *e*P **P 07 40 28.2 -0.6**
comp=Z,14nm,0.9s
COLA LR LR
comp=Z,16μm,19.0s
TUC Tucson 92.58 56 *e*P **P 07 40 29.7 -0.2**
TUC *e* 07 44 10.1
TUC pmax pmax
comp=Z,37nm,1.4s
TUC MLR MLR
comp=Z,27μm,19.0s
TUC Tucson 92.58 56 *e*P **P 07 40 29.7 -0.2**
comp=Z,37nm,1.4s
TUC *e*PP **PP 07 44 10.1 -1.7**
TUC LR LR
comp=Z,27μm,19.0s
BOD Bodaibo 92.61 333 *e*P **P 07 40 27.1 -2.1**
BOD *e* 07 50 58.3
BOD pmax pmax
comp=Z,38nm,2.0s
ILAR Eielson Array 92.72 17 P **P 07 40 28.7 -0.9**
comp=Z,4.0nm,0.8s,baz=240,slow=5.3,SNR=30
ILAR PKiKP **PKiKP 07 45 17.6 0.0**
comp=Z,0.4nm,0.5s,baz=280,slow=3.5,SNR=5.1
ILAR PKKPbc **PKKPbc 07 57 44.4 +0.2**
comp=Z,0.7nm,0.9s,baz=2.9,slow=1.8,SNR=3.5
ILAR LR LR 08 18 38.9
comp=Z,16μm,19.4s,baz=240,slow=33
ILAR Eielson Array 92.72 17 P **P 07 40 28.7 -0.9**
ILAR 07 57 44.4
ILAR Eielson Array 92.72 17 P **P 07 40 28.7 -0.9**
ILAR PKiKP **PKiKP 07 45 17.6 0.0**
ILAR PKKPbc **PKKPbc 07 57 44.4 +0.2**
R13A O'Grain Ranch, 92.74 50 ⇑P **P 07 40 30.6 0.0**
baz=93
R13A ⇑P **P 07 40 30.6 0.0**
baz=93
R13A ⇑P **P 07 40 30.6 0.0**
baz=93
RPW Rockport 92.78 38 *e*P **P 07 40 27.9 -2.5**
comp=Z,3.7nm,0.7s
318A Bisbee 92.83 57 ⇑P **P 07 40 31.1 -0.1**
baz=93,SNR=7.0
318A ⇑P **P 07 40 31.1 -0.1**
baz=93,SNR=7.0
318A ⇑P **P 07 40 31.1 -0.1**
baz=93,SNR=7.0
RSW Rattlesnake Hi 92.88 41 *e*P **P 07 40 31.3 +0.4**
comp=Z,39nm,1.2s
CCUT Cedar City 92.89 51 *e*P **P 07 40 32.0 +0.6**
comp=Z,37nm,1.4s
CCUT *e*PP **PP 07 44 15.5 +1.1**
HAWA Hanford 92.91 41 *e*P **P 07 40 32.3 +1.3**
comp=Z,51nm,1.4s
HAWA *e*PP **PP 07 44 14.3 +0.3**
HAWA LR LR
comp=Z,28μm,20.0s
ARUT Antelope Range 92.94 50 *e*P **P 07 40 31.7 +0.2**
ARUT pmax pmax
comp=Z,22nm,1.3s
ARUT Antelope Range 92.94 50 *e*P **P 07 40 31.7 +0.2**
comp=Z,22nm,1.3s
X16A Lo Mia Camp, P 92.96 54 ⇓P **P 07 40 31.8 +0.1**
baz=93,SNR=8.8
X16A ⇓P **P 07 40 31.8 +0.1**
baz=93,SNR=8.8
X16A ⇓P **P 07 40 31.8 +0.1**
baz=93,SNR=8.8
ELK Elko 93.00 47 *e*P **P 07 40 31.4 -0.4**
ELK *e* 07 44 14.9
ELK Elko 93.00 47 *e*P **P 07 40 31.4 -0.4**
ELK *e*PP **PP 07 44 14.9 -0.2**
218A Dragoon 93.01 57 ⇑P **P 07 40 32.2 +0.2**
baz=93
218A ⇑P **P 07 40 32.2 +0.2**
baz=93
218A ⇑P **P 07 40 32.2 +0.2**
baz=93
ETW Entiat 93.04 39 *e*P **P 07 40 31.2 -0.5**
comp=Z,19nm,1.1s
Y17A Roosevelt 93.11 55 ⇑P **P 07 40 32.7 +0.4**
baz=93,SNR=6.1
Y17A ⇑P **P 07 40 32.7 +0.4**
baz=93,SNR=6.1
Y17A ⇑P **P 07 40 32.7 +0.4**
baz=93,SNR=6.1
U15A North Rim 93.18 52 ⇑P **P 07 40 33.1 +0.3**
baz=93
U15A ⇑P **P 07 40 33.1 +0.3**
baz=93
U15A ⇑P **P 07 40 33.1 +0.3**
baz=93
Z17A San Carlos Hig 93.23 55 ⇑P **P 07 40 32.6 -0.2**
baz=93
Z17A ⇑P **P 07 40 32.6 -0.2**
baz=93
Z17A ⇑P **P 07 40 32.6 -0.2**
baz=93
319A Douglas 93.36 58 ⇓P **P 07 40 33.6 0.0**
baz=94,SNR=7.0
319A ⇓P **P 07 40 33.6 0.0**
baz=94,SNR=7.0
319A ⇓P **P 07 40 33.6 0.0**
baz=94,SNR=7.0
X17A Forest Lakes 93.41 54 ⇓P **P 07 40 34.1 +0.2**
baz=94,SNR=11
X17A ⇓P **P 07 40 34.1 +0.2**
baz=94,SNR=11
X17A ⇓P **P 07 40 34.1 +0.2**
baz=94,SNR=11
WUAZ Wupatki 93.47 53 *e*P **P 07 40 32.9 -1.2**
comp=Z,41nm,1.3s
WUAZ LR LR
comp=Z,25μm,21.0s
WUAZ Wupatki 93.47 53 ⇑P **P 07 40 33.7 -0.4**
baz=94,SNR=11
WUAZ ⇑P **P 07 40 33.7 -0.4**
baz=94,SNR=11
WUAZ ⇑P **P 07 40 33.7 -0.4**
baz=94,SNR=11
Z18A Geronimo 93.47 56 ⇓P **P 07 40 34.1 +0.1**
baz=94
Z18A ⇓P **P 07 40 34.1 +0.1**
baz=94
Z18A ⇓P **P 07 40 34.1 +0.1**
baz=94
ZAK Zakamensk 93.50 324 ⇑ *i*P **P 07 40 33.7 0.0**
ZAK pmax pmax
comp=Z,42nm,1.5s
BMO Blue Mountains 93.54 43 *e*P **P 07 40 33.7 -0.4**
BMO pmax pmax
comp=Z,17nm,1.6s
BMO MLR MLR
comp=Z,21μm,20.0s
BMO Blue Mountains 93.54 43 *e*P **P 07 40 33.7 -0.4**
comp=Z,17nm,1.6s
BMO LR LR
comp=Z,21μm,20.0s
219A White Tail Can 93.63 57 ⇓P **P 07 40 35.4 +0.6**
baz=94,SNR=6.2
219A ⇓P **P 07 40 35.4 +0.6**
baz=94,SNR=6.2
219A ⇓P **P 07 40 35.4 +0.6**
baz=94,SNR=6.2
Y18A Canyon Day Jun 93.76 55 ⇑P **P 07 40 35.4 0.0**
baz=94,SNR=8.6
Y18A ⇑P **P 07 40 35.4 0.0**
baz=94,SNR=8.6
Y18A ⇑P **P 07 40 35.4 0.0**
baz=94,SNR=8.6
W17A Winslow 93.78 54 ⇑P **P 07 40 35.9 +0.5**
baz=94
W17A ⇑P **P 07 40 35.9 +0.5**
baz=94
W17A ⇑P **P 07 40 35.9 +0.5**
baz=94
MFID Camas Ranch 93.82 44 ⇓P **P 07 40 35.4 0.0**
baz=94
MFID ⇓P **P 07 40 35.4 0.0**
baz=94
MFID ⇓P **P 07 40 35.4 0.0**
baz=94
OD2 Odessa Site #2 93.89 40 *e*P **P 07 40 34.3 -1.2**
comp=Z,29nm,1.4s
119A Ashpeak Ranch, 93.91 56 ⇓P **P 07 40 36.3 +0.2**
baz=94
119A ⇓P **P 07 40 36.3 +0.2**
baz=94
119A ⇓P **P 07 40 36.3 +0.2**
baz=94
U16A Tuba City 93.91 53 ⇑P **P 07 40 36.4 +0.4**
baz=94,SNR=7.5
U16A ⇑P **P 07 40 36.4 +0.4**
baz=94,SNR=7.5
U16A ⇑P **P 07 40 36.4 +0.4**
baz=94,SNR=7.5
320A Kipp Ranch, An 93.94 58 ⇑P **P 07 40 36.5 +0.3**
baz=94
320A ⇑P **P 07 40 36.5 +0.3**
baz=94
320A ⇑P **P 07 40 36.5 +0.3**
baz=94
IRK Irkutsk 93.94 326 *e*P **P 07 40 36.4 +0.8**
IRK pmax pmax
comp=Z,76nm,2.4s
V17A Tonalea, Kykot 93.95 53 ⇓P **P 07 40 36.3 +0.1**
baz=94
V17A ⇓P **P 07 40 36.3 +0.1**
baz=94
V17A ⇓P **P 07 40 36.3 +0.1**
baz=94
R15A Junction 93.95 50 ⇑P **P 07 40 36.7 +0.4**
baz=94
R15A ⇑P **P 07 40 36.7 +0.4**
baz=94
R15A ⇑P **P 07 40 36.7 +0.4**
baz=94
TLY Talaya 93.97 325 *e*P **P 07 40 33.7 -2.1**
TLY *e* 07 51 12.2
TLY *e*S **S 07 51 45.0 +0.4**
TLY *e*SS SS 07 58 15.9 +11
TLY pmax pmax
comp=Z,39nm,1.2s
TLY MLR MLR
comp=Z,4μm,21.0s
TLY Talaya 93.97 325 *e*P **P 07 40 34.6 -1.1**
comp=Z,122nm,1.6s
TLY LR LR
comp=Z,9μm,21.0s
TAPN Taplejung 94.05 298 *e*P **P 07 40 37.5 +0.4**
comp=Z,191nm,1.3s
TAPN Taplejung 94.05 298 *e*P **P 07 40 37.5 +0.4**
comp=Z,191nm,1.3s
MVU Marysvale 94.12 50 PFAKE 07 40 50.0 +13
MVU LR LR
comp=Z,29μm,21.0s
ODAN Odare 94.13 297 *e*P **P 07 40 37.7 +0.4**
comp=Z,178nm,1.4s
ODAN Odare 94.13 297 *e*P **P 07 40 37.7 +0.4**
comp=Z,178nm,1.4s

X18A	**Snowflake**	**94.13**	**54**	⇓P		**P**	**07 40 37.4**	**+0.3**
	baz=94								
X18A				⇓P		**P**	**07 40 37.4**	**+0.3**
	baz=94								
X18A				⇓P		**P**	**07 40 37.4**	**+0.3**
	baz=94								
Z19A	**T-Link Ranch,**	**94.15**	**56**	⇑P		**P**	**07 40 37.3**	**+0.1**
	baz=94								
Z19A				⇑P		**P**	**07 40 37.3**	**+0.1**
	baz=94								
Z19A				⇑P		**P**	**07 40 37.3**	**+0.1**
	baz=94								
MSU	**Marysvale**	**94.15**	**50**	*e*P		**P**	**07 40 38.1**	**+0.9**
MSU				pmax		pmax			
	comp=Z,105nm,2.3s								
MSU	**Marysvale**	**94.15**	**50**	*e*P		**P**	**07 40 38.1**	**+0.9**
	comp=Z,105nm,2.3s								
220A	**Playas Peak, P**	**94.16**	**57**	⇑P		**P**	**07 40 37.7**	**+0.4**
	baz=94								
220A				⇑P		**P**	**07 40 37.7**	**+0.4**
	baz=94								
220A				⇑P		**P**	**07 40 37.7**	**+0.4**
	baz=94								
S16A	**Weppner Ranch,**	**94.23**	**51**	⇑P		**P**	**07 40 37.7**	**+0.2**
	baz=94								
S16A				⇑P		**P**	**07 40 37.7**	**+0.2**
	baz=94								
S16A				⇑P		**P**	**07 40 37.7**	**+0.2**
	baz=94								
120A	**U Bar Ranch, L**	**94.34**	**57**	⇓P		**P**	**07 40 38.3**	**+0.2**
	baz=94								
120A				⇓P		**P**	**07 40 38.3**	**+0.2**
	baz=94								
120A				⇓P		**P**	**07 40 38.3**	**+0.2**
	baz=94								
EGAK	**Eagle**	**94.34**	**19**	*e*P		**P**	**07 40 37.6**	**+0.5**
	comp=Z,58nm,1.4s								
EGAK				LR		LR			
	comp=Z,7μm,20.0s								
DAWY	**Dawson**	**94.38**	**20**	*e*P		**P**	**07 40 37.4**	**0.0**
DUG	**Dugway**	**94.42**	**48**	*e*P		**P**	**07 40 37.6**	**-0.7**
DUG				*e*			07 44 22.5	
DUG				pmax		pmax			
	comp=Z,15nm,1.4s								
DUG				MLR		MLR			
	comp=Z,35μm,20.0s								
DUG	**Dugway**	**94.42**	**48**	*e*P		**P**	**07 40 37.6**	**-0.7**
	comp=Z,15nm,1.4s								
DUG				*e*PP		**PP**	**07 44 22.5**	**-3.7**
DUG				LR		LR			
	comp=Z,35μm,20.0s								
DUG	**Dugway**	**94.42**	**48**	⇓P		**P**	**07 40 38.4**	**+0.2**
	baz=95								
DUG				⇓P		**P**	**07 40 38.4**	**+0.2**
	baz=95								
DUG				⇓P		**P**	**07 40 38.4**	**+0.2**
	baz=95								
Y19A	**Nutrioso**	**94.42**	**55**	⇓P		**P**	**07 40 38.5**	**-0.1**
	baz=95								
Y19A				⇓P		**P**	**07 40 38.5**	**-0.1**
	baz=95								
Y19A				⇓P		**P**	**07 40 38.5**	**-0.1**
	baz=95								
U17A	**Shonto**	**94.45**	**52**	⇑P		**P**	**07 40 38.6**	**+0.1**
	baz=95								
U17A				⇑P		**P**	**07 40 38.6**	**+0.1**
	baz=95								
U17A				⇑P		**P**	**07 40 38.6**	**+0.1**
	baz=95								
T17A	**Navajo Res., N**	**94.51**	**52**	⇓P		**P**	**07 40 39.1**	**+0.3**
	baz=95								
T17A				⇓P		**P**	**07 40 39.1**	**+0.3**
	baz=95								
T17A				⇓P		**P**	**07 40 39.1**	**+0.3**
	baz=95								
P15A	**Leamington**	**94.53**	**49**	⇑P		**P**	**07 40 39.3**	**+0.5**
	baz=95								
P15A				⇑P		**P**	**07 40 39.3**	**+0.5**
	baz=95								
P15A				⇑P		**P**	**07 40 39.3**	**+0.5**
	baz=95								
W18A	**Petrified Fore**	**94.53**	**54**	⇑P		**P**	**07 40 38.8**	**-0.1**
	baz=95								
W18A				⇑P		**P**	**07 40 38.8**	**-0.1**
	baz=95								
W18A				⇑P		**P**	**07 40 38.8**	**-0.1**
	baz=95								
R16A	**Teasdale**	**94.55**	**51**	⇑P		**P**	**07 40 39.2**	**+0.2**
	baz=95								
R16A				⇑P		**P**	**07 40 39.2**	**+0.2**
	baz=95								
R16A				⇑P		**P**	**07 40 39.2**	**+0.2**
	baz=95								
X19A	**St. Johns**	**94.59**	**55**	⇓P		**P**	**07 40 39.3**	**+0.1**
	baz=95								
X19A				⇓P		**P**	**07 40 39.3**	**+0.1**
	baz=95								
X19A				⇓P		**P**	**07 40 39.3**	**+0.1**
	baz=95								
V18A	**Ganado**	**94.62**	**53**	⇓P		**P**	**07 40 39.8**	**+0.4**
	baz=95								
V18A				⇓P		**P**	**07 40 39.8**	**+0.4**
	baz=95								
V18A				⇓P		**P**	**07 40 39.8**	**+0.4**
	baz=95								
O15A	**The Old Anders**	**94.69**	**48**	⇑P		**P**	**07 40 40.4**	**+0.9**
	baz=95								
O15A				⇑P		**P**	**07 40 40.4**	**+0.9**
	baz=95								
O15A				⇑P		**P**	**07 40 40.4**	**+0.9**
	baz=95								
DGAR	**Diego Garcia**	**94.73**	**260**	PFAKE			07 40 50.0	+10
DGAR				LR		LR			
	comp=Z,33μm,22.0s								
S17A	**Black Ridge (B**	**94.77**	**51**	⇓P		**P**	**07 40 40.2**	**+0.3**
	baz=95								
S17A				⇓P		**P**	**07 40 40.2**	**+0.3**
	baz=95								
S17A				⇓P		**P**	**07 40 40.2**	**+0.3**
	baz=95								
W19A	**Sanders**	**94.79**	**54**	⇓P		**P**	**07 40 40.2**	**+0.1**
	baz=95								
W19A				⇓P		**P**	**07 40 40.2**	**+0.1**
	baz=95								
W19A				⇓P		**P**	**07 40 40.2**	**+0.1**
	baz=95								
221A	**Mesquite Ranch**	**94.79**	**57**	⇑P		**P**	**07 40 40.4**	**+0.3**
	baz=95								
221A				⇑P		**P**	**07 40 40.4**	**+0.3**
	baz=95								
221A				⇑P		**P**	**07 40 40.4**	**+0.3**
	baz=95								
HLID	**Hailey**	**94.81**	**45**	*e*P		**P**	**07 40 38.6**	**-1.4**
	comp=Z,5.7nm,1.0s								
HLID				*e*PP		**PP**	**07 44 25.7**	**-3.4**
HLID				LR		LR			
	comp=Z,14μm,19.0s								
HLID	**Hailey**	**94.81**	**45**	⇓P		**P**	**07 40 40.4**	**+0.4**
	baz=95								
HLID				⇓P		**P**	**07 40 40.4**	**+0.4**
	baz=95								
HLID				⇓P		**P**	**07 40 40.4**	**+0.4**
	baz=95								
RAMN	**Ramite**	**94.81**	**297**	*e*P		**P**	**07 40 40.9**	**+0.4**
	comp=Z,339nm,1.7s								
RAMN	**Ramite**	**94.81**	**297**	*e*P		**P**	**07 40 40.9**	**+0.4**
	comp=Z,339nm,1.7s								
J13A	**Cove Ranch, Pi**	**94.89**	**45**	⇓P		**P**	**07 40 41.1**	**+0.8**
	baz=95								
J13A				⇓P		**P**	**07 40 41.1**	**+0.8**
	baz=95								
J13A				⇓P		**P**	**07 40 41.1**	**+0.8**
	baz=95								
L14A	**Malta**	**94.92**	**47**	⇓P		**P**	**07 40 41.0**	**+0.5**
	baz=95								
L14A				⇓P		**P**	**07 40 41.0**	**+0.5**
	baz=95								
L14A				⇓P		**P**	**07 40 41.0**	**+0.5**
	baz=95								
N15A	**Stansbury Isla**	**94.92**	**48**	⇑P		**P**	**07 40 41.1**	**+0.6**
	baz=95								
N15A				⇑P		**P**	**07 40 41.1**	**+0.6**
	baz=95								
N15A				⇑P		**P**	**07 40 41.1**	**+0.6**
	baz=95								
EFI	**East Falkland**	**94.93**	**152**	PFAKE			07 40 50.0	+10
EFI				LR		LR			
	comp=Z,12μm,22.0s								
U18A	**Rough Rock, Ch**	**94.95**	**53**	⇑P		**P**	**07 40 40.9**	**0.0**
	baz=95								
U18A				⇑P		**P**	**07 40 40.9**	**0.0**
	baz=95								
U18A				⇑P		**P**	**07 40 40.9**	**0.0**
	baz=95								
H12A	**Diamond D Ranc**	**94.96**	**44**	⇓P		**P**	**07 40 41.0**	**+0.3**
	baz=95								
H12A				⇓P		**P**	**07 40 41.0**	**+0.3**
	baz=95								
H12A				⇓P		**P**	**07 40 41.0**	**+0.3**
	baz=95								
P16A	**Fountain Green**	**94.98**	**49**	⇓P		**P**	**07 40 41.5**	**+0.6**
	baz=95								
P16A				⇓P		**P**	**07 40 41.5**	**+0.6**
	baz=95								
P16A				⇓P		**P**	**07 40 41.5**	**+0.6**
	baz=95								
121A	**Cookes Peak, D**	**94.99**	**57**	⇑P		**P**	**07 40 41.6**	**+0.5**
	baz=95								
121A				⇑P		**P**	**07 40 41.6**	**+0.5**
	baz=95								
121A				⇑P		**P**	**07 40 41.6**	**+0.5**
	baz=95								
Q16A	**Castle Valley**	**95.03**	**50**	⇓P		**P**	**07 40 41.7**	**+0.5**
	baz=95								
Q16A				⇓P		**P**	**07 40 41.7**	**+0.5**
	baz=95								
Q16A				⇓P		**P**	**07 40 41.7**	**+0.5**
	baz=95								
Y20A	**Horse Springs,**	**95.07**	**56**	⇑P		**P**	**07 40 41.9**	**+0.4**
	baz=95								
Y20A				⇑P		**P**	**07 40 41.9**	**+0.4**
	baz=95								
Y20A				⇑P		**P**	**07 40 41.9**	**+0.4**
	baz=95								
HVU	**Hansel Valley**	**95.12**	**47**	*e*P		**P**	**07 40 39.9**	**-1.6**
HVU				*e*			07 44 30.9		
HVU				pmax		pmax			
	comp=Z,15nm,1.2s								
HVU	**Hansel Valley**	**95.12**	**47**	*e*P		**P**	**07 40 39.9**	**-1.6**
	comp=Z,15nm,1.2s								
HVU				*e*PP		**PP**	**07 44 30.9**	**-0.7**
I13A	**Wildhorse Cree**	**95.15**	**45**	⇑P		**P**	**07 40 42.2**	**+0.6**
	baz=95								
I13A				⇑P		**P**	**07 40 42.2**	**+0.6**
	baz=95								
I13A				⇑P		**P**	**07 40 42.2**	**+0.6**
	baz=95								
R17A	**Hanksville Air**	**95.16**	**51**	⇑P		**P**	**07 40 42.1**	**+0.5**
	baz=95								
R17A				⇑P		**P**	**07 40 42.1**	**+0.5**
	baz=95								
R17A				⇑P		**P**	**07 40 42.1**	**+0.5**
	baz=95								
K14A	**Jones Ranch, D**	**95.18**	**46**	⇑P		**P**	**07 40 42.4**	**+0.8**
	baz=95								
K14A				⇑P		**P**	**07 40 42.4**	**+0.8**
	baz=95								
K14A				⇑P		**P**	**07 40 42.4**	**+0.8**
	baz=95								
M15A	**Larsen Ranch,**	**95.21**	**47**	⇓P		**P**	**07 40 42.5**	**+0.7**
	baz=95								
M15A				⇓P		**P**	**07 40 42.5**	**+0.7**
	baz=95								
M15A				⇓P		**P**	**07 40 42.5**	**+0.7**
	baz=95								
X20A	**Quemado**	**95.23**	**55**	⇓P		**P**	**07 40 42.6**	**+0.4**
	baz=95								
X20A				⇓P		**P**	**07 40 42.6**	**+0.4**
	baz=95								
X20A				⇓P		**P**	**07 40 42.6**	**+0.4**
	baz=95								
T18A	**Mexican Hat**	**95.24**	**52**	⇓P		**P**	**07 40 42.2**	**+0.1**
	baz=96								
T18A				⇓P		**P**	**07 40 42.2**	**+0.1**
	baz=96								
T18A				⇓P		**P**	**07 40 42.2**	**+0.1**
	baz=96								
NEW	**Newport**	**95.24**	**40**	*e*P		**P**	**07 40 39.8**	**-1.9**
NEW				pmax		pmax			
	comp=Z,1.0nm,0.6s								
NEW				MLR		MLR			
	comp=Z,18μm,21.0s								
NEW	**Newport**	**95.24**	**40**	*e*P		**P**	**07 40 39.8**	**-1.9**
	comp=Z,0.9nm,0.6s								
NEW				LR		LR			
	comp=Z,18μm,21.0s								
NEW	**Newport**	**95.24**	**40**	⇑P		**P**	**07 40 43.3**	**+1.6**
	baz=96								
NEW				⇑P		**P**	**07 40 43.3**	**+1.6**
	baz=96								
NEW				⇑P		**P**	**07 40 43.3**	**+1.6**
	baz=96								
V19A	**Window Rock**	**95.28**	**54**	⇓P		**P**	**07 40 42.5**	**+0.1**
	baz=96								
V19A				⇓P		**P**	**07 40 42.5**	**+0.1**
	baz=96								
V19A				⇓P		**P**	**07 40 42.5**	**+0.1**
	baz=96								
J14A	**Carey**	**95.29**	**45**	⇓P		**P**	**07 40 42.8**	**+0.6**
	baz=96								
J14A				⇓P		**P**	**07 40 42.8**	**+0.6**
	baz=96								
J14A				⇓P		**P**	**07 40 42.8**	**+0.6**
	baz=96								
O16A	**Springville**	**95.33**	**49**	⇓P		**P**	**07 40 43.7**	**+1.2**
	baz=96								
O16A				⇓P		**P**	**07 40 43.7**	**+1.2**
	baz=96								
O16A				⇓P		**P**	**07 40 43.7**	**+1.2**
	baz=96								
H13A	**Challis**	**95.35**	**44**	⇑P		**P**	**07 40 43.0**	**+0.6**
	baz=96								
H13A				⇑P		**P**	**07 40 43.0**	**+0.6**
	baz=96								
H13A				⇑P		**P**	**07 40 43.0**	**+0.6**
	baz=96								
222A	**Williams Famil**	**95.36**	**58**	⇓P		**P**	**07 40 43.2**	**+0.5**
	baz=96								
222A				⇓P		**P**	**07 40 43.2**	**+0.5**
	baz=96								
222A				⇓P		**P**	**07 40 43.2**	**+0.5**
	baz=96								
S18A	**Hurst Farm, Bl**	**95.38**	**52**	⇓P		**P**	**07 40 43.2**	**+0.4**
	baz=96								
S18A				⇓P		**P**	**07 40 43.2**	**+0.4**
	baz=96								
S18A				⇓P		**P**	**07 40 43.2**	**+0.4**
	baz=96								
Z21A	**St. Cloud Mine**	**95.38**	**56**	⇑P		**P**	**07 40 42.8**	**-0.2**
	baz=96,SNR=7.0								
Z21A				⇑P		**P**	**07 40 42.8**	**-0.2**
	baz=96,SNR=7.0								
Z21A				⇑P		**P**	**07 40 42.8**	**-0.2**
	baz=96,SNR=7.0								
MOY	**Mondy**	**95.39**	**324**	*e*P		**P**	**07 40 42.2**	**-0.2**
MOY				pmax		pmax			
	comp=Z,95nm,3.0s								
U19A	**Dine' College,**	**95.39**	**53**	⇓P		**P**	**07 40 43.1**	**+0.2**
	baz=96								
U19A				⇓P		**P**	**07 40 43.1**	**+0.2**
	baz=96								
U19A				⇓P		**P**	**07 40 43.1**	**+0.2**
	baz=96								
JIRN	**Jiri**	**95.42**	**298**	*e*P		**P**	**07 40 43.8**	**+0.4**
	comp=Z,97nm,1.3s								
JIRN	**Jiri**	**95.42**	**298**	*e*P		**P**	**07 40 43.8**	**+0.4**
	comp=Z,97nm,1.3s								
PLCA	**Paso Flores**	**95.42**	**138**	P		**P**	**07 40 45.0**	**+2.0**
	comp=Z,14nm,0.9s,baz=212,slow=4.8,SNR=16								
PLCA				S		**SKSac**	**07 51 14.7**	**-3.3**
	comp=Z,1.5nm,0.8s,baz=42,slow=13,SNR=2.2								
PLCA				PKKPbc		**PKKPbc**	**07 57 36.7**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=63,slow=4.5,SNR=3.2								
PLCA	**Paso Flores**	**95.42**	**138**	*e*P		**P**	**07 40 41.2**	**-1.8**
PLCA				S		**SKSac**	**07 51 14.7**	**-3.3**
PLCA				pmax		pmax			
	comp=Z,60nm,1.4s								
PLCA				MLR		MLR			
	comp=Z,7μm,20.0s								
PLCA	**Paso Flores**	**95.42**	**138**	*e*P		**P**	**07 40 41.2**	**-1.8**
	comp=Z,60nm,1.4s								
PLCA				S		**SKSac**	**07 51 14.7**	**-3.3**
PLCA				PKKPbc		**PKKPbc**	**07 57 36.7**	**+1.3**
PLCA				LR		LR			
	comp=Z,7μm,20.0s								
W20A	**Ramah**	**95.46**	**54**	⇑P		**P**	**07 40 42.5**	**-0.8**
	baz=96								
W20A				⇑P		**P**	**07 40 42.5**	**-0.8**
	baz=96								
W20A				⇑P		**P**	**07 40 42.5**	**-0.8**
	baz=96								
L15A	**Malad City**	**95.48**	**47**	⇑P		**P**	**07 40 42.7**	**-0.4**
	baz=96								
L15A				⇑P		**P**	**07 40 42.7**	**-0.4**
	baz=96								
L15A				⇑P		**P**	**07 40 42.7**	**-0.4**
	baz=96								
JLU	**Jordanelle**	**95.54**	**48**	*e*P		**P**	**07 40 42.9**	**-0.6**
	comp=Z,13nm,1.4s								
JLU				*e*PP		**PP**	**07 44 32.7**	**-2.3**
C11A	**Tepee Creek (N**	**95.57**	**40**	⇑P		**P**	**07 40 43.9**	**+0.7**
	baz=96								
C11A				⇑P		**P**	**07 40 43.9**	**+0.7**
	baz=96								
C11A				⇑P		**P**	**07 40 43.9**	**+0.7**
	baz=96								
P17A	**Butcher Ranch,**	**95.57**	**50**	⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
P17A				⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
P17A				⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
SRU	**San Rafael**	**95.57**	**50**	⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
SRU				⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
SRU				⇑P		**P**	**07 40 43.1**	**-0.5**
	baz=96								
DAU	**Daniels Canyon**	**95.59**	**49**	*e*P		**P**	**07 40 42.8**	**-1.0**
DAU				pmax		pmax			
	comp=Z,14nm,1.4s								
DAU	**Daniels Canyon**	**95.59**	**49**	*e*P		**P**	**07 40 42.8**	**-1.0**
	comp=Z,14nm,1.4s								
I14A	**Mackay**	**95.59**	**45**	⇓P		**P**	**07 40 44.4**	**+0.8**
	baz=96								
I14A				⇓P		**P**	**07 40 44.4**	**+0.8**
	baz=96								
I14A				⇓P		**P**	**07 40 44.4**	**+0.8**
	baz=96								
G13A	**Cobalt**	**95.59**	**43**	⇑P		**P**	**07 40 43.5**	**0.0**
	baz=96								
G13A				⇑P		**P**	**07 40 43.5**	**0.0**
	baz=96								
G13A				⇑P		**P**	**07 40 43.5**	**0.0**
	baz=96								
Y21A	**Point of Rocks**	**95.65**	**56**	⇓P		**P**	**07 40 44.6**	**+0.4**
	baz=96,SNR=5.6								
Y21A				⇓P		**P**	**07 40 44.6**	**+0.4**
	baz=96,SNR=5.6								
Y21A				⇓P		**P**	**07 40 44.6**	**+0.4**
	baz=96,SNR=5.6								
122A	**Conniff Cattle**	**95.66**	**57**	⇓P		**P**	**07 40 44.2**	**0.0**
	baz=96								
122A				⇓P		**P**	**07 40 44.2**	**0.0**
	baz=96								
122A				⇓P		**P**	**07 40 44.2**	**0.0**
	baz=96								
K15A	**Arbon**	**95.67**	**46**	⇓P		**P**	**07 40 43.9**	**0.0**
	baz=96								
K15A				⇓P		**P**	**07 40 43.9**	**0.0**
	baz=96								
K15A				⇓P		**P**	**07 40 43.9**	**0.0**
	baz=96								
R18A	**Canyonlands Na**	**95.73**	**51**	⇓P		**P**	**07 40 44.0**	**-0.4**
	baz=96								
R18A				⇓P		**P**	**07 40 44.0**	**-0.4**
	baz=96								
R18A				⇓P		**P**	**07 40 44.0**	**-0.4**
	baz=96								
X21A	**Alamocita Cree**	**95.73**	**55**	⇓P		**P**	**07 40 43.9**	**-0.6**
	baz=96								
X21A				⇓P		**P**	**07 40 43.9**	**-0.6**
	baz=96								
X21A				⇓P		**P**	**07 40 43.9**	**-0.6**
	baz=96								
T19A	**Beclabito**	**95.74**	**53**	⇑P		**P**	**07 40 44.6**	**+0.2**
	baz=96								
T19A				⇑P		**P**	**07 40 44.6**	**+0.2**
	baz=96								
T19A				⇑P		**P**	**07 40 44.6**	**+0.2**
	baz=96								
V20A	**Brimhall**	**95.75**	**54**	⇓P		**P**	**07 40 43.9**	**-0.7**
	baz=96								
V20A				⇓P		**P**	**07 40 43.9**	**-0.7**
	baz=96								
V20A				⇓P		**P**	**07 40 43.9**	**-0.7**
	baz=96								
GUN	**Gumba**	**95.77**	**298**	*e*P		**P**	**07 40 45.4**	**+0.4**
	comp=Z,140nm,1.4s								
GUN	**Gumba**	**95.77**	**298**	*e*P		**P**	**07 40 45.4**	**+0.4**
	comp=Z,140nm,1.4s								
F13A	**Darby**	**95.83**	**43**	⇓P		**P**	**07 40 44.1**	**-0.5**
	baz=96								
F13A				⇓P		**P**	**07 40 44.1**	**-0.5**
	baz=96								
F13A				⇓P		**P**	**07 40 44.1**	**-0.5**
	baz=96								
223A	**Chaparral, Ant**	**95.85**	**58**	⇓P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
223A				⇓P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
223A				⇓P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
Q18A	**Rafter H Ranch**	**95.85**	**50**	⇑P		**P**	**07 40 43.8**	**-1.0**
	baz=96								
Q18A				⇑P		**P**	**07 40 43.8**	**-1.0**
	baz=96								
Q18A				⇑P		**P**	**07 40 43.8**	**-1.0**
	baz=96								
O17A	**Robinson Place**	**95.86**	**49**	⇓P		**P**	**07 40 44.0**	**-1.0**
	baz=96								
O17A				⇓P		**P**	**07 40 44.0**	**-1.0**
	baz=96								
O17A				⇓P		**P**	**07 40 44.0**	**-1.0**
	baz=96								
HWUT	**Hardware Ranch**	**95.87**	**47**	*e*P		**P**	**07 40 44.0**	**-1.0**
	comp=Z,5.1nm,1.0s								
HWUT				LR		LR			
	comp=Z,26μm,20.0s								
Z22A	**Elephant Butte**	**95.91**	**57**	⇑P		**P**	**07 40 45.0**	**-0.2**
	baz=96								
Z22A				⇑P		**P**	**07 40 45.0**	**-0.2**
	baz=96								
Z22A				⇑P		**P**	**07 40 45.0**	**-0.2**
	baz=96								
U20A	**Newcomb**	**95.94**	**53**	⇑P		**P**	**07 40 44.6**	**-0.7**
	baz=96								
U20A				⇑P		**P**	**07 40 44.6**	**-0.7**
	baz=96								
U20A				⇑P		**P**	**07 40 44.6**	**-0.7**
	baz=96								
H14A	**Leadore**	**95.94**	**44**	⇓P		**P**	**07 40 44.9**	**-0.2**
	baz=96								
H14A				⇓P		**P**	**07 40 44.9**	**-0.2**
	baz=96								
H14A				⇓P		**P**	**07 40 44.9**	**-0.2**
	baz=96								
C12B	**Naegeli Ranch,**	**95.98**	**41**	⇑P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
C12B				⇑P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
C12B				⇑P		**P**	**07 40 45.1**	**+0.1**
	baz=96								
P18A	**Preston Nutter**	**95.98**	**50**	⇓P		**P**	**07 40 44.9**	**-0.7**
	baz=96								
P18A				⇓P		**P**	**07 40 44.9**	**-0.7**
	baz=96								
P18A				⇓P		**P**	**07 40 44.9**	**-0.7**
	baz=96								
S19A	**Harvey Farm, M**	**96.02**	**52**	⇓P		**P**	**07 40 45.2**	**-0.6**
	baz=96								
S19A				⇓P		**P**	**07 40 45.2**	**-0.6**
	baz=96								
S19A				⇓P		**P**	**07 40 45.2**	**-0.6**
	baz=96								
PKI	**Pulchoki**	**96.03**	**297**	*e*P		**P**	**07 40 46.3**	**+0.2**
	comp=Z,114nm,1.2s								
PKI	**Pulchoki**	**96.03**	**297**	*e*P		**P**	**07 40 46.3**	**+0.2**
PKI				pmax		pmax			
	comp=Z,114nm,1.2s								
PKI	**Pulchoki**	**96.03**	**297**	*e*P		**P**	**07 40 46.3**	**+0.2**
	comp=Z,114nm,1.2s								
J15A	**Blackfoot**	**96.04**	**46**	⇑P		**P**	**07 40 45.6**	**0.0**
	baz=96								

J15A ⇑P P 07 40 45.6 0.0
baz=96
J15A ⇑P P 07 40 45.6 0.0
baz=96
W21A San Fidel 96.10 55 ⇑P P 07 40 46.2 0.0
baz=96
W21A ⇑P P 07 40 46.2 0.0
baz=96
W21A ⇑P P 07 40 46.2 0.0
baz=96
N17A Moffit Pass 96.10 48 ⇑P P 07 40 46.3 +0.2
baz=96
N17A ⇑P P 07 40 46.3 +0.2
baz=96
N17A ⇑P P 07 40 46.3 +0.2
baz=96
L16A Fish Haven 96.13 47 ⇓P P 07 40 45.7 -0.5
baz=96
L16A ⇓P P 07 40 45.7 -0.5
baz=96
L16A ⇓P P 07 40 45.7 -0.5
baz=96
R19A Curley Farm, L 96.15 51 ⇑P P 07 40 45.1 -1.2
baz=96
R19A ⇑P P 07 40 45.1 -1.2
baz=96
R19A ⇑P P 07 40 45.1 -1.2
baz=96
G14A Jackson 96.15 44 ⇓P P 07 40 46.9 +0.7
baz=96
G14A ⇓P P 07 40 46.9 +0.7
baz=96
G14A ⇓P P 07 40 46.9 +0.7
baz=96
Y22A Socorro 96.17 56 ⇓P P 07 40 45.6 -0.9
baz=96
Y22A ⇓P P 07 40 45.6 -0.9
baz=96
Y22A ⇓P P 07 40 45.6 -0.9
baz=96
E13A Victor 96.21 42 ⇑P P 07 40 46.6 +0.4
baz=96
E13A ⇑P P 07 40 46.6 +0.4
baz=96
E13A ⇑P P 07 40 46.6 +0.4
baz=96
123A Bell Site, Whi 96.21 57 ⇓P P 07 40 45.8 -0.8
baz=96
123A ⇓P P 07 40 45.8 -0.8
baz=96
123A ⇓P P 07 40 45.8 -0.8
baz=96
KKN Kakani 96.21 297 *e*P P 07 40 47.3 +0.5
KKN Kakani 96.21 297 *e*P P 07 40 47.3 +0.5
KKN Kakani 96.21 297 *e*P P 07 40 47.3 +0.5
B12A Libby 96.25 40 ⇓P P 07 40 45.5 -0.8
baz=96
B12A ⇓P P 07 40 45.5 -0.8
baz=96
B12A ⇓P P 07 40 45.5 -0.8
baz=96
Y22D IRIS PASSCAL I 96.25 56 ⇑P P 07 40 46.6 -0.2
baz=96
Y22D ⇑P P 07 40 46.6 -0.2
baz=96
Y22D ⇑P P 07 40 46.6 -0.2
baz=96
I15A Monteview 96.25 45 ⇓P P 07 40 45.7 -0.8
baz=96
I15A ⇓P P 07 40 45.7 -0.8
baz=96
I15A ⇓P P 07 40 45.7 -0.8
baz=96
MVCO Mesa Verde 96.28 52 PFAKE 07 41 00.0 +13
MVCO LR LR
comp=Z,24µm,21.0s
MVCO Mesa Verde 96.28 52 ⇑P P 07 40 45.7 -1.3
baz=96
MVCO ⇑P P 07 40 45.7 -1.3
baz=96
MVCO ⇑P P 07 40 45.7 -1.3
baz=96
DMN Daman 96.29 297 *e*P P 07 40 47.7 +0.5
comp=Z,146nm,1.2s
DMN Daman 96.29 297 *e*P P 07 40 47.7 +0.5
comp=Z,146nm,1.2s
D13A Huson 96.33 42 ⇑P P 07 40 46.2 -0.5
baz=97
D13A ⇑P P 07 40 46.2 -0.5
baz=97
D13A ⇑P P 07 40 46.2 -0.5
baz=97
PV10 Paradox Valley 96.34 51 *e*P P 07 40 51.2 +4.0
comp=Z,78nm,0.9s
K16A Soda Springs 96.36 46 ⇓P P 07 40 46.3 -0.8
baz=97
K16A ⇓P P 07 40 46.3 -0.8
baz=97
K16A ⇓P P 07 40 46.3 -0.8
baz=97
V21A Milan 96.37 54 ⇑P P 07 40 46.4 -1.0
baz=97
V21A ⇑P P 07 40 46.4 -1.0
baz=97
V21A ⇑P P 07 40 46.4 -1.0
baz=97
324A Moseley Ranch, 96.38 59 ⇑P P 07 40 46.7 -0.7
baz=97
324A ⇑P P 07 40 46.7 -0.7
baz=97
324A ⇑P P 07 40 46.7 -0.7
baz=97
O18A Roosevelt 96.40 49 ⇑P P 07 40 47.4 0.0
baz=97
O18A ⇑P P 07 40 47.4 0.0
baz=97
O18A ⇑P P 07 40 47.4 0.0
baz=97
H15A Lima 96.41 44 ⇓P P 07 40 46.4 -0.9
baz=97
H15A ⇓P P 07 40 46.4 -0.9
baz=97
H15A ⇓P P 07 40 46.4 -0.9
baz=97
Q19A Hogan Spring (96.41 51 ⇑P P 07 40 47.2 -0.2
baz=97
Q19A ⇑P P 07 40 47.2 -0.2
baz=97
Q19A ⇑P P 07 40 47.2 -0.2
baz=97
A12A Yaak River Ran 96.42 40 ⇑P P 07 40 47.0 0.0
baz=97
A12A ⇑P P 07 40 47.0 0.0
baz=97
A12A ⇑P P 07 40 47.0 0.0
baz=97
M17A Scullys Gap (B 96.43 48 ⇓P P 07 40 46.8 -0.7
baz=97
M17A ⇓P P 07 40 46.8 -0.7
baz=97
M17A ⇓P P 07 40 46.8 -0.7
baz=97
F14A Wisdom 96.45 43 ⇓P P 07 40 46.6 -0.8
baz=97
F14A ⇓P P 07 40 46.6 -0.8
baz=97
F14A ⇓P P 07 40 46.6 -0.8
baz=97
BSMT Bassoo Peak 96.46 41 *e*P P 07 40 46.6 -0.8
comp=Z,5.4nm,1.1s
Z23A Rita Site, Whi 96.47 57 ⇓P P 07 40 46.6 -1.2
baz=97
Z23A ⇓P P 07 40 46.6 -1.2
baz=97
Z23A ⇓P P 07 40 46.6 -1.2
baz=97
425A Indio Mountain 96.53 60 ⇑P P 07 40 47.4 -0.7
baz=97
425A ⇑P P 07 40 47.4 -0.7
baz=97
425A ⇑P P 07 40 47.4 -0.7
baz=97
MSO Missoula 96.53 42 PFAKE 07 41 00.0 +12
MSO LR LR
comp=Z,17µm,20.0s
MSO Missoula 96.53 42 ⇓P P 07 40 47.9 +0.2
baz=97
MSO ⇓P P 07 40 47.9 +0.2
baz=97
L17A Cokeville 96.55 47 ⇑P P 07 40 48.0 0.0
baz=97
L17A ⇑P P 07 40 48.0 0.0
baz=97
L17A ⇑P P 07 40 48.0 0.0
baz=97
MNTX Cornudas Mount 96.55 59 *e*P P 07 40 48.7 +0.6
comp=Z,5.7nm,1.2s
MNTX LR LR
comp=Z,17µm,19.0s
MNTX Cornudas Mount 96.55 59 ⇑P P 07 40 48.3 +0.2
baz=97,SNR=5.9
MNTX ⇑P P 07 40 48.3 +0.2
baz=97,SNR=5.9
MNTX ⇑P P 07 40 48.3 +0.2
baz=97,SNR=5.9
MNTX ⇑P P 07 40 48.3 +0.2
baz=97,SNR=5.9
MNTX ⇑P P 07 40 48.3 +0.2
baz=97,SNR=5.9
PV01 Paradox Valley 96.59 52 *e*P P 07 40 47.8 -0.5
comp=Z,733nm,1.3s
U21A Nageezi 96.60 53 ⇓P P 07 40 47.6 -0.8
baz=97
U21A ⇓P P 07 40 47.6 -0.8
baz=97
U21A ⇓P P 07 40 47.6 -0.8
baz=97
S20A Disappointment 96.62 52 ⇑P P 07 40 48.0 -0.6
baz=97
S20A ⇑P P 07 40 48.0 -0.6
baz=97
S20A ⇑P P 07 40 48.0 -0.6
baz=97
E14A Clinton 96.63 42 ⇑P P 07 40 46.9 -1.3
baz=97
E14A ⇑P P 07 40 46.9 -1.3
baz=97
E14A ⇑P P 07 40 46.9 -1.3
baz=97
AHID Auburn Hatcher 96.66 47 PFAKE 07 41 00.0 +11
AHID LR LR
comp=Z,14µm,21.0s
W22A Albuquerque 96.67 55 ⇑P P 07 40 47.0 -1.7
baz=97
W22A ⇑P P 07 40 47.0 -1.7
baz=97
W22A ⇑P P 07 40 47.0 -1.7
baz=97
G15A Dillon 96.74 44 ⇑P P 07 40 48.0 -0.8
baz=97
G15A ⇑P P 07 40 48.0 -0.8
baz=97
G15A ⇑P P 07 40 48.0 -0.8
baz=97
R20A Redvale 96.75 52 ⇓P P 07 40 48.3 -0.7
baz=97
R20A ⇓P P 07 40 48.3 -0.7
baz=97
R20A ⇓P P 07 40 48.3 -0.7
baz=97
325A Bean Ranch, Si 96.76 59 ⇓P P 07 40 48.8 -0.4
baz=97
325A ⇓P P 07 40 48.8 -0.4
baz=97
325A ⇓P P 07 40 48.8 -0.4
baz=97
626A Big Bend Ranch 96.76 61 ⇓P P 07 40 48.7 -0.4
baz=97
626A ⇓P P 07 40 48.7 -0.4
baz=97
626A ⇓P P 07 40 48.7 -0.4
baz=97
K17A Gardner Place, 96.78 47 ⇓P P 07 40 48.0 -1.0
baz=97
K17A ⇓P P 07 40 48.0 -1.0
baz=97
K17A ⇓P P 07 40 48.0 -1.0
baz=97
GKN Gorkha 96.82 297 *e*P P 07 40 49.3 -0.2
comp=Z,95nm,1.2s
GKN Gorkha 96.82 297 *e*P P 07 40 49.3 -0.2
comp=Z,95nm,1.2s
M18A Lyman 96.83 48 ⇓P P 07 40 48.5 -0.9
baz=97
M18A ⇓P P 07 40 48.5 -0.9
baz=97
M18A ⇓P P 07 40 48.5 -0.9
baz=97
I16A Newdale 96.86 45 ⇓P P 07 40 48.4 -0.9
baz=97
I16A ⇓P P 07 40 48.4 -0.9
baz=97
I16A ⇓P P 07 40 48.4 -0.9
baz=97
Y23A Lovelace Mesa, 96.86 56 ⇑P P 07 40 47.8 -1.8
baz=97
Y23A ⇑P P 07 40 47.8 -1.8
baz=97
Y23A ⇑P P 07 40 47.8 -1.8
baz=97
124A Stringfield Ra 96.87 58 ⇑P P 07 40 49.3 -0.4
baz=97
124A ⇑P P 07 40 49.3 -0.4
baz=97
124A ⇑P P 07 40 49.3 -0.4
baz=97
B13A Whitefish 96.88 40 ⇓P P 07 40 48.0 -1.2
baz=97
B13A ⇓P P 07 40 48.0 -1.2
baz=97
B13A ⇓P P 07 40 48.0 -1.2
baz=97
P19A Cripple Cowboy 96.88 50 ⇑P P 07 40 48.8 -0.8
baz=97
P19A ⇑P P 07 40 48.8 -0.8
baz=97
P19A ⇑P P 07 40 48.8 -0.8
baz=97
T21A Navajo Lake 96.91 53 ⇑P P 07 40 48.7 -1.1
baz=97
T21A ⇑P P 07 40 48.7 -1.1
baz=97
T21A ⇑P P 07 40 48.7 -1.1
baz=97
D14A Greenough 96.91 42 ⇓P P 07 40 49.2 -0.2
baz=97
D14A ⇓P P 07 40 49.2 -0.2
baz=97
D14A ⇓P P 07 40 49.2 -0.2
baz=97
ANMO Albuquerque 96.94 55 *e*P P 07 40 49.6 -0.3
ANMO *e* 07 44 40.7
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO MLR MLR
comp=Z,21µm,19.0s
ANMO Albuquerque 96.94 55 *e*P P 07 40 49.6 -0.3
comp=Z,3.0nm,0.9s
ANMO *e*PP PP 07 44 40.7 -5.1
ANMO LR LR
comp=Z,21µm,19.0s
S21A Coal Bank Pass 96.97 52 ⇑P P 07 40 50.0 -0.2
baz=97
S21A ⇑P P 07 40 50.0 -0.2
baz=97
S21A ⇑P P 07 40 50.0 -0.2
baz=97
526A Mary Lane Ranc 96.98 61 ⇓P P 07 40 49.9 -0.3
baz=97
526A ⇓P P 07 40 49.9 -0.3
baz=97
526A ⇓P P 07 40 49.9 -0.3
baz=97
X23A Hourglass Bar 97.00 56 ⇓P P 07 40 49.2 -1.1
baz=97
X23A ⇓P P 07 40 49.2 -1.1
baz=97
X23A ⇓P P 07 40 49.2 -1.1
baz=97
F15A Butte 97.02 43 ⇑P P 07 40 49.5 -0.5
baz=97
F15A ⇑P P 07 40 49.5 -0.5
baz=97
O19A Miners Draw (B 97.04 49 ⇑P P 07 40 49.5 -0.7
baz=97
O19A ⇑P P 07 40 49.5 -0.7
baz=97
O19A ⇑P P 07 40 49.5 -0.7
baz=97
L18A Fontenelle, Gr 97.05 48 ⇑P P 07 40 50.2 -0.1
baz=97
L18A ⇑P P 07 40 50.2 -0.1
baz=97
L18A ⇑P P 07 40 50.2 -0.1
baz=97
TXAR Lajitas Array 97.06 61 P P 07 40 50.5 0.0
comp=Z,1.6nm,0.8s,baz=226,slow=5.2,SNR=17
TXAR PKKPbc **PKKPdf 07 57 32.4 -1.1**
comp=Z,1.6nm,0.8s,baz=99,slow=3.2,SNR=6.7
TXAR Lajitas Array 97.06 61 P P 07 40 50.5 0.0
TXAR Lajitas Array 97.06 61 P P 07 40 50.5 0.0
TXAR PKKPbc **PKKPdf 07 57 32.4 -1.1**
REDW Red Top Meadow 97.07 46 *e*P Pdif 07 40 54.6 +4.1
comp=Z,12nm,1.4s
Q20A Ridgley Place, 97.10 51 ⇓P P 07 40 50.4 -0.2
baz=97
Q20A ⇓P P 07 40 50.4 -0.2
baz=97
Q20A ⇓P P 07 40 50.4 -0.2
baz=97
225A Deer Hill, Car 97.15 58 ⇓P P 07 40 50.6 -0.4
baz=97
225A ⇓P P 07 40 50.6 -0.4
baz=97
225A ⇓P P 07 40 50.6 -0.4
baz=97
A13A Flathead Natio 97.15 40 ⇑P Pdif 07 40 51.2 +0.6
baz=97
A13A ⇑P Pdif 07 40 51.2 +0.6
baz=97
A13A ⇑P Pdif 07 40 51.2 +0.6
baz=97
J17A Brown Place, J 97.17 46 ⇑P P 07 40 50.1 -0.6
baz=97
J17A ⇑P P 07 40 50.1 -0.6
baz=97
J17A ⇑P P 07 40 50.1 -0.6
baz=97
E15A Deer Lodge 97.17 43 ⇓P P 07 40 49.8 -0.8
baz=97
E15A ⇓P P 07 40 49.8 -0.8
baz=97
E15A ⇓P P 07 40 49.8 -0.8
baz=97
Z24A Sheeppen Canyo 97.17 57 ⇓P P 07 40 50.4 -0.6
baz=97
Z24A ⇓P P 07 40 50.4 -0.6
baz=97
Z24A ⇓P P 07 40 50.4 -0.6
baz=97
U22A Llaves 97.18 54 ⇑P P 07 40 50.7 -0.4
baz=97
U22A ⇑P P 07 40 50.7 -0.4
baz=97
U22A ⇑P P 07 40 50.7 -0.4
baz=97
G16A Moss Hill, Enn 97.21 44 ⇓P P 07 40 50.8 0.0
baz=98
G16A ⇓P P 07 40 50.8 0.0
baz=98
G16A ⇓P P 07 40 50.8 0.0
baz=98
N19A John Jarvie Ra 97.23 49 ⇑P P 07 40 50.4 -0.7
baz=98
N19A ⇑P P 07 40 50.4 -0.7
baz=98
N19A ⇑P P 07 40 50.4 -0.7
baz=98
P20A De Beque 97.25 50 ⇑P P 07 40 50.9 -0.3
baz=98
P20A ⇑P P 07 40 50.9 -0.3
baz=98
P20A ⇑P P 07 40 50.9 -0.3
baz=98
426A McDonald Obser 97.25 60 ⇓P P 07 40 51.0 -0.5
baz=97
426A ⇓P P 07 40 51.0 -0.5
baz=97
426A ⇓P P 07 40 51.0 -0.5
baz=97
W23A Werner Place, 97.25 55 ⇓P P 07 40 51.2 -0.2
baz=98
W23A ⇓P P 07 40 51.2 -0.2
baz=98
W23A ⇓P P 07 40 51.2 -0.2
baz=98
K18A Toltan Ranch, 97.33 47 ⇓P P 07 40 51.4 -0.1
baz=98
K18A ⇓P P 07 40 51.4 -0.1
baz=98
K18A ⇓P P 07 40 51.4 -0.1
baz=98
627A Terlingua Ranc 97.33 61 ⇓P P 07 40 51.0 -0.7
baz=98
627A ⇓P P 07 40 51.0 -0.7
baz=98
627A ⇓P P 07 40 51.0 -0.7
baz=98
H16A Russell Place, 97.35 45 ⇓P P 07 40 51.6 0.0
baz=98
H16A ⇓P P 07 40 51.6 0.0
baz=98
H16A ⇓P P 07 40 51.6 0.0
baz=98
T22A Edith 97.38 53 ⇓P P 07 40 51.3 -0.6
baz=98
T22A ⇓P P 07 40 51.3 -0.6
baz=98
T22A ⇓P P 07 40 51.3 -0.6
baz=98
527A Woodward Ranch 97.40 61 ⇓P P 07 40 51.4 -0.7
baz=98
527A ⇓P P 07 40 51.4 -0.7
baz=98
527A ⇓P P 07 40 51.4 -0.7
baz=98
R21A Cimarron 97.42 52 ⇑P P 07 40 52.0 -0.1
baz=98
R21A ⇑P P 07 40 52.0 -0.1
baz=98
R21A ⇑P P 07 40 52.0 -0.1
baz=98
V23A Ortiz Mt. (NFS 97.44 55 ⇓P P 07 40 51.5 -0.8
baz=98
V23A ⇓P P 07 40 51.5 -0.8
baz=98
V23A ⇓P P 07 40 51.5 -0.8
baz=98
I17A Pilgrim Ck. 97.48 46 ⇓P P 07 40 51.2 -1.0
baz=98
I17A ⇓P P 07 40 51.2 -1.0
baz=98
I17A ⇓P P 07 40 51.2 -1.0
baz=98
M19A Rock Springs 97.49 48 ⇑P P 07 40 51.6 -0.7
baz=98
M19A ⇑P P 07 40 51.6 -0.7
baz=98
M19A ⇑P P 07 40 51.6 -0.7
baz=98
BOZ Bozeman (W) 97.49 44 PFAKE 07 41 00.0 +7.8
BOZ LR LR
comp=Z,17µm,19.0s
BOZ Bozeman (W) 97.49 44 ⇑P P 07 40 51.5 -0.6
baz=98
BOZ ⇑P P 07 40 51.5 -0.6
baz=98
BOZ ⇑P P 07 40 51.5 -0.6
baz=98
BOZ ⇑P P 07 40 51.5 -0.6
baz=98
BOZ ⇑P P 07 40 51.5 -0.6
baz=98
BOZ ⇑P P 07 40 51.5 -0.6
baz=98
D15A Lincoln 97.50 42 ⇓P P 07 40 51.3 -0.8
baz=98
D15A ⇓P P 07 40 51.3 -0.8

baz=98
D15A ⇓P P 07 40 51.3 -0.8
baz=98
WALA Waterton Lakes 97.50 40 *e*P P 07 40 51.1 -1.0
comp=Z,0.2nm,1.2s
326A Caldwell Ranch 97.53 59 ⇓P P 07 40 51.5 -1.1
baz=98
326A ⇓P P 07 40 51.5 -1.1
baz=98
326A ⇓P P 07 40 51.5 -1.1
baz=98
GDL2 Guadalupe Moun 97.54 58 *e*P Pdif 07 40 53.5 +0.8
comp=Z,36nm,1.7s
F16A Kennard Place, 97.55 44 ⇑P Pdif 07 40 53.0 +0.6
baz=98
F16A ⇑P Pdif 07 40 53.0 +0.6
baz=98
F16A ⇑P Pdif 07 40 53.0 +0.6
baz=98
J18A Kendall Valley 97.57 46 ⇓P P 07 40 52.0 -0.6
baz=98
J18A ⇓P P 07 40 52.0 -0.6
baz=98
J18A ⇓P P 07 40 52.0 -0.6
baz=98
X24A Lazy VL Ranch, 97.58 56 ⇑P P 07 40 52.8 -0.1
baz=98
X24A ⇑P P 07 40 52.8 -0.1
baz=98
X24A ⇑P P 07 40 52.8 -0.1
baz=98
Q21A Lamborn Mesa, 97.58 51 ⇓P P 07 40 52.0 -0.7
baz=98
Q21A ⇓P P 07 40 52.0 -0.7
baz=98
Q21A ⇓P P 07 40 52.0 -0.7
baz=98
L19A Farson 97.58 48 ⇓P P 07 40 51.3 -1.4
baz=98
L19A ⇓P P 07 40 51.3 -1.4
baz=98
L19A ⇓P P 07 40 51.3 -1.4
baz=98
B14A Marquette Ranc 97.59 41 ⇓P P 07 40 51.2 -1.2
baz=98
B14A ⇓P P 07 40 51.2 -1.2
baz=98
B14A ⇓P P 07 40 51.2 -1.2
baz=98
KOLN Koldanda 97.59 297 *e*P P 07 40 52.7 -0.4
comp=Z,22nm,0.8s
KOLN Koldanda 97.59 297 *e*P P 07 40 52.7 -0.4
comp=Z,22nm,0.8s
O20A White River Ci 97.60 50 ⇓P P 07 40 52.1 -0.7
baz=98
O20A ⇓P P 07 40 52.1 -0.7
baz=98
O20A ⇓P P 07 40 52.1 -0.7
baz=98
U23A El Rito 97.66 54 ⇑P P 07 40 52.4 -0.8
baz=98
U23A ⇑P P 07 40 52.4 -0.8
baz=98
U23A ⇑P P 07 40 52.4 -0.8
baz=98
Z25A Roswell 97.66 57 ⇑P P 07 40 52.7 -0.4
baz=98
Z25A ⇑P P 07 40 52.7 -0.4
baz=98
Z25A ⇑P P 07 40 52.7 -0.4
baz=98
DANN Dangsing 97.67 297 *e*P P 07 40 53.1 -0.4
DANN Dangsing 97.67 297 *e*P P 07 40 53.1 -0.4
H17A Grant Village 97.67 45 ⇓P P 07 40 53.1 0.0
baz=98
H17A ⇓P P 07 40 53.1 0.0
baz=98
H17A ⇓P P 07 40 53.1 0.0
baz=98
PD01 Pinedale Array 97.69 47 *e*P P 07 40 52.2 -1.0
226A Malaga, Loving 97.70 59 ⇑P P 07 40 52.5 -0.8
baz=98
226A ⇑P P 07 40 52.5 -0.8
baz=98
226A ⇑P P 07 40 52.5 -0.8
baz=98
BW06 Boulder Array 97.70 47 PFAKE 07 41 00.0 +6.7
BW06 LR LR
comp=Z,20μm,20.0s
BW06 Boulder Array 97.70 47 ⇑P P 07 40 52.5 -0.8
baz=98
BW06 ⇑P P 07 40 52.5 -0.8
baz=98
BW06 ⇑P P 07 40 52.5 -0.8
baz=98
BW06 ⇑P P 07 40 52.5 -0.8
baz=98
BW06 ⇑P P 07 40 52.5 -0.8
baz=98
BW06 ⇑P P 07 40 52.5 -0.8
baz=98
PDAR Pinedale Array 97.70 47 P P 07 40 53.3 0.0
comp=Z,1.2nm,1.1s,baz=155,slow=12,SNR=5.5
PDAR PP PP 07 44 53.5 +1.9
comp=Z,4.4nm,1.1s,baz=262,slow=3.6,SNR=5.7
PDAR PKKPbc PKKPdf 07 57 31.8 -1.3
comp=Z,1.4nm,1.1s,baz=90,slow=4.9,SNR=4.2
PDAR PKPPKP P'P'df 08 05 46.8 +5.1
comp=Z,0.5nm,1.0s,baz=90,slow=1.8,SNR=4.5
PDAR Pinedale Array 97.70 47 P P 07 40 53.3 0.0
PDAR PP PP 07 44 53.5 +1.9
PDAR PKKPbc PKKPdf 07 57 31.8 -1.3
PDAR P'P' 08 05 46.8
S22A 4UR Ranch, Cre 97.71 52 ⇓P P 07 40 52.7 -0.8
baz=98
S22A ⇓P P 07 40 52.7 -0.8
baz=98
S22A ⇓P P 07 40 52.7 -0.8
baz=98
628A Black Gap, Mar 97.75 61 ⇑P P 07 40 53.1 -0.4
baz=98
628A ⇑P P 07 40 53.1 -0.4
baz=98
628A ⇑P P 07 40 53.1 -0.4
baz=98
C15A Salmond Ranch, 97.75 42 ⇓P P 07 40 53.1 -0.2
baz=98
C15A ⇓P P 07 40 53.1 -0.2
baz=98
C15A ⇓P P 07 40 53.1 -0.2
baz=98
A14A Double T Ranch 97.76 40 ⇓P Pdif 07 40 53.9 +0.6
baz=98
A14A ⇓P Pdif 07 40 53.9 +0.6
baz=98
A14A ⇓P Pdif 07 40 53.9 +0.6
baz=98
427A Hayter Ranch, 97.82 60 ⇑P P 07 40 52.5 -1.4
baz=98
427A ⇑P P 07 40 52.5 -1.4
baz=98
427A ⇑P P 07 40 52.5 -1.4
baz=98
E16A East Helena 97.82 43 ⇓P Pdif 07 40 53.8 +0.2
baz=98
E16A ⇓P Pdif 07 40 53.8 +0.2
baz=98
E16A ⇓P Pdif 07 40 53.8 +0.2
baz=98
W24A Lazy 6 Ranch, 97.83 55 ⇓P P 07 40 53.6 -0.3
baz=98
W24A ⇓P P 07 40 53.6 -0.3
baz=98
W24A ⇓P P 07 40 53.6 -0.3
baz=98
N20A Spence Gulch, 97.85 49 ⇓P Pdif 07 40 54.9 +0.9
baz=98
N20A ⇓P Pdif 07 40 54.9 +0.9
baz=98
N20A ⇓P Pdif 07 40 54.9 +0.9
baz=98
LKWY Lake 97.85 45 *e*P Pdif 07 40 54.6 +0.6
LKWY *e* 07 44 53.8
LKWY pmax pmax
comp=Z,10.0nm,1.4s
LKWY MLR MLR
comp=Z,31μm,19.0s
LKWY Lake 97.85 45 *e*P Pdif 07 40 54.5 +0.6
comp=Z,10nm,1.4s
LKWY *e*PP PP 07 44 53.8 +1.1
LKWY LR LR
comp=Z,31μm,19.0s
I18A Diamond G Ranc 97.90 46 ⇑P Pdif 07 40 54.2 +0.1
baz=98
I18A ⇑P Pdif 07 40 54.2 +0.1
baz=98
I18A ⇑P Pdif 07 40 54.2 +0.1
baz=98
Y25A Mesa, Roswell 97.91 57 ⇑P Pdif 07 40 54.5 +0.1
baz=98
Y25A ⇑P Pdif 07 40 54.5 +0.1
baz=98
Y25A ⇑P Pdif 07 40 54.5 +0.1
baz=98
P21A Newcastle 97.93 51 ⇓P Pdif 07 40 54.8 +0.4
baz=98
P21A ⇓P Pdif 07 40 54.8 +0.4
baz=98
P21A ⇓P Pdif 07 40 54.8 +0.4
baz=98
G17A Pierce Place, 97.93 44 ⇓P Pdif 07 40 55.2 +1.0
baz=98
G17A ⇓P Pdif 07 40 55.2 +1.0
baz=98
G17A ⇓P Pdif 07 40 55.2 +1.0
baz=98
327A Balmorhea Ranc 97.93 59 ⇓P Pdif 07 40 54.9 +0.5
baz=98
327A ⇓P Pdif 07 40 54.9 +0.5
baz=98
327A ⇓P Pdif 07 40 54.9 +0.5
baz=98
R22A Saguache, Gunn 97.94 52 ⇑P Pdif 07 40 55.2 +0.6
baz=98
R22A ⇑P Pdif 07 40 55.2 +0.6
baz=98
R22A ⇑P Pdif 07 40 55.2 +0.6
baz=98
126A Clayton Basin, 97.97 58 ⇓P Pdif 07 40 55.2 +0.6
baz=98
126A ⇓P Pdif 07 40 55.2 +0.6
baz=98
126A ⇓P Pdif 07 40 55.2 +0.6
baz=98
B15A Bradely Ranch, 98.00 41 ⇑P Pdif 07 40 54.7 +0.3
baz=98
B15A ⇑P Pdif 07 40 54.7 +0.3
baz=98
B15A ⇑P Pdif 07 40 54.7 +0.3
baz=98
T23A Casias Ranch, 98.03 53 ⇑P Pdif 07 40 55.8 +0.8
baz=98
T23A ⇑P Pdif 07 40 55.8 +0.8
baz=98
T23A ⇑P Pdif 07 40 55.8 +0.8
baz=98
528A Cox Ranch, San 98.07 61 ⇓P P 07 40 54.6 -0.5
baz=98
528A ⇓P P 07 40 54.6 -0.5
baz=98
528A ⇓P P 07 40 54.6 -0.5
baz=98
Q22A Crested Butte, 98.07 51 ⇓Pdiff P 07 40 55.1 0.0
baz=98
Q22A ⇓Pdiff P 07 40 55.1 0.0
baz=98
Q22A ⇓Pdiff P 07 40 55.1 0.0
baz=98
D16A Dana Ranch, Ca 98.10 42 ⇓Pdiff P 07 40 52.6 -2.2
baz=98
D16A ⇓Pdiff P 07 40 52.6 -2.2
baz=98
D16A ⇓Pdiff P 07 40 52.6 -2.2
baz=98
V24A Rampart Ranch, 98.13 55 ⇓Pdiff P 07 40 53.9 -1.5
baz=98
V24A ⇓Pdiff P 07 40 53.9 -1.5
baz=98
V24A ⇓Pdiff P 07 40 53.9 -1.5
baz=98
PAYG Puerto Ayora 98.15 94 PFAKE 07 41 10.0 +14
PAYG LR LR
comp=Z,7μm,22.0s
M20A Sweetwater, Wa 98.15 49 ⇓Pdiff P 07 40 54.1 -1.2
baz=98
M20A ⇓Pdiff P 07 40 54.1 -1.2
baz=98
M20A ⇓Pdiff P 07 40 54.1 -1.2
baz=98
X25A Clemmons Ranch 98.16 56 ⇑Pdiff Pdif 07 40 56.4 +0.9
baz=98
X25A ⇑Pdiff Pdif 07 40 56.4 +0.9
baz=98
X25A ⇑Pdiff Pdif 07 40 56.4 +0.9
baz=98
O21A Pagoda 98.17 50 ⇓Pdiff P 07 40 54.2 -1.3
baz=98
O21A ⇓Pdiff P 07 40 54.2 -1.3
baz=98
O21A ⇓Pdiff P 07 40 54.2 -1.3
baz=98
A15A Johnson Ranch, 98.17 40 ⇑Pdiff Pdif 07 40 55.8 +0.7
baz=98
A15A ⇑Pdiff Pdif 07 40 55.8 +0.7
baz=98
A15A ⇑Pdiff Pdif 07 40 55.8 +0.7
baz=98
K19A Absolon Red Bu 98.21 47 ⇓Pdiff P 07 40 54.4 -1.1
baz=98
K19A ⇓Pdiff P 07 40 54.4 -1.1
baz=98
K19A ⇓Pdiff P 07 40 54.4 -1.1
baz=98
F17A Fitzpatrick Pl 98.22 44 ⇑Pdiff Pdif 07 40 56.4 +1.0
baz=98
F17A ⇑Pdiff Pdif 07 40 56.4 +1.0
baz=98
F17A ⇑Pdiff Pdif 07 40 56.4 +1.0
baz=98
Z26A Caprock 98.23 58 ⇑Pdiff P 07 40 53.8 -1.9
baz=98
Z26A ⇑Pdiff P 07 40 53.8 -1.9
baz=98
Z26A ⇑Pdiff P 07 40 53.8 -1.9
baz=98
J19A Crowheart 98.24 47 ⇑Pdiff P 07 40 54.1 -1.5
baz=98
J19A ⇑Pdiff P 07 40 54.1 -1.5
baz=98
J19A ⇑Pdiff P 07 40 54.1 -1.5
baz=98
L20A Wamsutter 98.24 48 ⇓Pdiff P 07 40 55.5 -0.2
baz=98
L20A ⇓Pdiff P 07 40 55.5 -0.2
baz=98
L20A ⇓Pdiff P 07 40 55.5 -0.2
baz=98
HYB Hyderabad 98.29 285 *i* P P 07 40 56.0 -0.2
HYB *e*PP PP 07 44 50.0 -6.4
HYB *e*SKS SKSac 07 51 36.0 +2.7
HYB *e*S S 07 52 20.0 -3.4
C16A Fuhringer Ranc 98.29 42 ⇓Pdiff P 07 40 54.9 -0.8
baz=98
C16A ⇓Pdiff P 07 40 54.9 -0.8
baz=98
C16A ⇓Pdiff P 07 40 54.9 -0.8
baz=98
S23A Nye Farm, Mont 98.30 53 ⇑Pdiff P 07 40 55.2 -0.9
baz=98
S23A ⇑Pdiff P 07 40 55.2 -0.9
baz=98
S23A ⇑Pdiff P 07 40 55.2 -0.9
baz=98
E17A Martinsdale 98.31 43 ⇓Pdiff P 07 40 55.9 0.0
baz=99
E17A ⇓Pdiff P 07 40 55.9 0.0
baz=99
E17A ⇓Pdiff P 07 40 55.9 0.0
baz=99
227A Bennet, Jal 98.32 59 ⇑Pdiff P 07 40 54.7 -1.4
baz=98
227A ⇑Pdiff P 07 40 54.7 -1.4
baz=98
227A ⇑Pdiff P 07 40 54.7 -1.4
baz=98
N21A Black Mountain 98.34 49 ⇑Pdiff P 07 40 55.4 -0.8
baz=99
N21A ⇑Pdiff P 07 40 55.4 -0.8
baz=99
N21A ⇑Pdiff P 07 40 55.4 -0.8
baz=99
428A Kincaid Ranch, 98.35 60 ⇓Pdiff P 07 40 55.2 -1.0
baz=98
428A ⇓Pdiff P 07 40 55.2 -1.0
baz=98
428A ⇓Pdiff P 07 40 55.2 -1.0
baz=98
U24A Moreno Valley 98.37 54 ⇑Pdiff Pdif 07 40 56.9 +0.4
baz=99
U24A ⇑Pdiff Pdif 07 40 56.9 +0.4
baz=99
U24A ⇑Pdiff Pdif 07 40 56.9 +0.4
baz=99
H18A Shoshone NF, C 98.38 45 ⇓Pdiff Pdif 07 40 56.6 +0.3
baz=99
H18A ⇓Pdiff Pdif 07 40 56.6 +0.3
baz=99
H18A ⇓Pdiff Pdif 07 40 56.6 +0.3
baz=99
P22A Eagle 98.45 51 ⇑Pdiff P 07 40 55.9 -0.8
baz=99
P22A ⇑Pdiff P 07 40 55.9 -0.8
baz=99
P22A ⇑Pdiff P 07 40 55.9 -0.8
baz=99
328A Wristen Ranch, 98.48 60 ⇑Pdiff P 07 40 56.3 -0.5
baz=99
328A ⇑Pdiff P 07 40 56.3 -0.5
baz=99
328A ⇑Pdiff P 07 40 56.3 -0.5
baz=99
K20A Yellowstone Ra 98.49 47 ⇑Pdiff P 07 40 54.7 -2.0
baz=99
K20A ⇑Pdiff P 07 40 54.7 -2.0
baz=99
K20A ⇑Pdiff P 07 40 54.7 -2.0
baz=99
127A Arkansas Junct 98.51 58 ⇑Pdiff P 07 40 56.5 -0.5
baz=99
127A ⇑Pdiff P 07 40 56.5 -0.5
baz=99
127A ⇑Pdiff P 07 40 56.5 -0.5
baz=99
W25A X Bar L Ranch, 98.56 56 ⇑Pdiff P 07 40 56.3 -0.9
baz=99
W25A ⇑Pdiff P 07 40 56.3 -0.9
baz=99
W25A ⇑Pdiff P 07 40 56.3 -0.9
baz=99
B16A M & M Farms, S 98.56 41 ⇓Pdiff P 07 40 55.6 -1.2
baz=99
B16A ⇓Pdiff P 07 40 55.6 -1.2
baz=99
B16A ⇓Pdiff P 07 40 55.6 -1.2
baz=99
I19A Meeteetse 98.58 46 ⇑Pdiff P 07 40 56.5 -0.6
baz=99
I19A ⇑Pdiff P 07 40 56.5 -0.6
baz=99
I19A ⇑Pdiff P 07 40 56.5 -0.6
baz=99
Y26A Elida 98.59 57 ⇑Pdiff P 07 40 56.4 -1.0
baz=99
Y26A ⇑Pdiff P 07 40 56.4 -1.0
baz=99
Y26A ⇑Pdiff P 07 40 56.4 -1.0
baz=99
R23A Moffat 98.61 52 ⇑Pdiff P 07 40 57.0 -0.5
baz=99
R23A ⇑Pdiff P 07 40 57.0 -0.5
baz=99
R23A ⇑Pdiff P 07 40 57.0 -0.5
baz=99
V25A Rancho No Teng 98.66 55 ⇓Pdiff P 07 40 57.2 -0.5
baz=99
V25A ⇓Pdiff P 07 40 57.2 -0.5
baz=99
V25A ⇓Pdiff P 07 40 57.2 -0.5
baz=99
SDCO Great Sand Dun 98.69 53 *e*P P 07 40 57.2 -0.7
comp=Z,7.5nm,1.8s
SDCO LR LR
comp=Z,18μm,20.0s
SDCO Great Sand Dun 98.69 53 ⇑Pdiff P 07 40 56.4 -1.5
baz=99
SDCO ⇑Pdiff P 07 40 56.4 -1.5
baz=99
SDCO ⇑Pdiff P 07 40 56.4 -1.5
baz=99
SDCO ⇑Pdiff P 07 40 56.4 -1.5
baz=99
SDCO ⇑Pdiff P 07 40 56.4 -1.5
baz=99
SDCO ⇑Pdiff P 07 40 56.4 -1.5
baz=99
D17A Six Diamond Ra 98.69 43 ⇓Pdiff Pdif 07 40 57.6 +0.1
baz=99
D17A ⇓Pdiff Pdif 07 40 57.6 +0.1
baz=99
D17A ⇓Pdiff Pdif 07 40 57.6 +0.1
baz=99
G18A Lazy EL Ranch, 98.69 45 ⇑Pdiff Pdif 07 40 59.0 +1.4
baz=99
G18A ⇑Pdiff Pdif 07 40 59.0 +1.4
baz=99
G18A ⇑Pdiff Pdif 07 40 59.0 +1.4
baz=99
M21A Separation Pea 98.77 49 ⇓Pdiff P 07 40 56.4 -1.7
baz=99
M21A ⇓Pdiff P 07 40 56.4 -1.7
baz=99
M21A ⇓Pdiff P 07 40 56.4 -1.7
baz=99
T24A Torres, Weston 98.78 54 ⇓Pdiff P 07 40 56.3 -2.0
baz=99
T24A ⇓Pdiff P 07 40 56.3 -2.0
baz=99
T24A ⇓Pdiff P 07 40 56.3 -2.0
baz=99
O22A Kremmling 98.81 50 ⇑Pdiff P 07 40 57.5 -0.9
baz=99
O22A ⇑Pdiff P 07 40 57.5 -0.9
baz=99
O22A ⇑Pdiff P 07 40 57.5 -0.9
baz=99
RLMT Red Lodge 98.81 45 PFAKE 07 41 10.0 +12
RLMT LR LR
comp=Z,15μm,22.0s
RLMT Red Lodge 98.81 45 ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
RLMT ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
RLMT ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
RLMT ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
RLMT ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
RLMT ⇓Pdiff Pdif 07 40 58.5 +0.4
baz=99
X26A CR and CF Fran 98.82 56 ⇓Pdiff P 07 40 57.9 -0.5
baz=99
X26A ⇓Pdiff P 07 40 57.9 -0.5
baz=99
X26A ⇓Pdiff P 07 40 57.9 -0.5
baz=99
F18A Big Timber 98.82 44 ⇑Pdiff Pdif 07 40 59.5 +1.5
baz=99
F18A ⇑Pdiff Pdif 07 40 59.5 +1.5
baz=99
F18A ⇑Pdiff Pdif 07 40 59.5 +1.5
baz=99
H19A Powell 98.82 45 ⇑Pdiff Pdif 07 40 58.6 +0.4
baz=99
H19A ⇑Pdiff Pdif 07 40 58.6 +0.4
baz=99
H19A ⇑Pdiff Pdif 07 40 58.6 +0.4
baz=99
C17A Wharram Farm, 98.83 42 ⇓Pdiff Pdif 07 40 58.2 +0.2
baz=99
C17A ⇓Pdiff Pdif 07 40 58.2 +0.2
baz=99
C17A ⇓Pdiff Pdif 07 40 58.2 +0.2
baz=99

A16A	**West Butte Ran**	**98.85**	**41**	⇑Pdiff	Pdif	07 40 58.7	+0.6
	baz=99						
A16A				⇑Pdiff	Pdif	07 40 58.7	+0.6
	baz=99						
A16A				⇑Pdiff	Pdif	07 40 58.7	+0.6
	baz=99						
Z27A	**Tatum**	**98.85**	**58**	⇓Pdiff	**P**	**07 40 58.0**	**-0.5**
	baz=99						
Z27A				⇓Pdiff	**P**	**07 40 58.0**	**-0.5**
	baz=99						
Z27A				⇓Pdiff	**P**	**07 40 58.0**	**-0.5**
	baz=99						
S24A	**Houchin Ranch,**	**98.86**	**53**	⇓Pdiff	**P**	**07 40 58.1**	**-0.5**
	baz=99						
S24A				⇓Pdiff	**P**	**07 40 58.1**	**-0.5**
	baz=99						
S24A				⇓Pdiff	**P**	**07 40 58.1**	**-0.5**
	baz=99						
Q23A	**Hartsel**	**98.86**	**52**	⇑Pdiff	**P**	**07 40 58.2**	**-0.5**
	baz=99						
Q23A				⇑Pdiff	**P**	**07 40 58.2**	**-0.5**
	baz=99						
Q23A				⇑Pdiff	**P**	**07 40 58.2**	**-0.5**
	baz=99						
L21A	**Rawlins**	**98.90**	**48**	⇑Pdiff	Pdif	07 40 58.8	+0.2
	baz=99						
L21A				⇑Pdiff	Pdif	07 40 58.8	+0.2
	baz=99						
L21A				⇑Pdiff	Pdif	07 40 58.8	+0.2
	baz=99						
J20A	**Shoshoni**	**98.93**	**47**	⇓Pdiff	**P**	**07 40 57.6**	**-1.0**
	baz=99						
J20A				⇓Pdiff	**P**	**07 40 57.6**	**-1.0**
	baz=99						
J20A				⇓Pdiff	**P**	**07 40 57.6**	**-1.0**
	baz=99						
E18A	**Harlowton**	**98.95**	**43**	⇓Pdiff	Pdif	07 40 59.2	+0.5
	baz=99						
E18A				⇓Pdiff	Pdif	07 40 59.2	+0.5
	baz=99						
E18A				⇓Pdiff	Pdif	07 40 59.2	+0.5
	baz=99						
INK	**Inuvik**	**98.99**	**18**	*e*P	**P**	**07 40 58.0**	**0.0**
INK				pmax	pmax		
	comp=Z,26nm,1.6s						
INK	**Inuvik**	**98.99**	**18**	*e*P	**P**	**07 40 58.0**	**0.0**
	comp=Z,26nm,1.6s						
U25A	**Circle Dot Ran**	**99.02**	**54**	⇓Pdiff	**Pdif**	**07 40 58.3**	**-1.0**
	baz=99						
U25A				⇓Pdiff	**Pdif**	**07 40 58.3**	**-1.0**
	baz=99						
U25A				⇓Pdiff	**Pdif**	**07 40 58.3**	**-1.0**
	baz=99						
P23A	**Jefferson**	**99.03**	**51**	⇑Pdiff	**Pdif**	**07 41 00.3**	**+0.9**
	baz=99						
P23A				⇑Pdiff	**Pdif**	**07 41 00.3**	**+0.9**
	baz=99						
P23A				⇑Pdiff	**Pdif**	**07 41 00.3**	**+0.9**
	baz=99						
W26A	**Owens Ranch, T**	**99.05**	**56**	⇓Pdiff	**Pdif**	**07 40 58.4**	**-0.9**
	baz=99						
W26A				⇓Pdiff	**Pdif**	**07 40 58.4**	**-0.9**
	baz=99						
W26A				⇓Pdiff	**Pdif**	**07 40 58.4**	**-0.9**
	baz=99						
B17A	**L&G Farms, Che**	**99.07**	**42**	⇓Pdiff	**Pdif**	**07 41 00.2**	**+1.2**
	baz=99						
B17A				⇓Pdiff	**Pdif**	**07 41 00.2**	**+1.2**
	baz=99						
B17A				⇓Pdiff	**Pdif**	**07 41 00.2**	**+1.2**
	baz=99						
Y27A	**Causey**	**99.09**	**57**	⇓Pdiff	**Pdif**	**07 40 59.0**	**-0.5**
	baz=99						
Y27A				⇓Pdiff	**Pdif**	**07 40 59.0**	**-0.5**
	baz=99						
Y27A				⇓Pdiff	**Pdif**	**07 40 59.0**	**-0.5**
	baz=99						
N22A	**Wattenberg Ran**	**99.11**	**50**	⇑Pdiff	**Pdif**	**07 41 00.2**	**+0.6**
	baz=99						
N22A				⇑Pdiff	**Pdif**	**07 41 00.2**	**+0.6**
	baz=99						
N22A				⇑Pdiff	**Pdif**	**07 41 00.2**	**+0.6**
	baz=99						
I20A	**Worland**	**99.12**	**46**	⇑Pdiff	**Pdif**	**07 40 58.0**	**-1.5**
	baz=99						
I20A				⇑Pdiff	**Pdif**	**07 40 58.0**	**-1.5**
	baz=99						
I20A				⇑Pdiff	**Pdif**	**07 40 58.0**	**-1.5**
	baz=99						
NGP	**Nagpur**	**99.15**	**289**	*e*P	**Pdif**	**07 40 58.9**	**-1.0**
R24A	**Sanders Place,**	**99.15**	**53**	⇑Pdiff	**Pdif**	**07 40 59.0**	**-0.9**
	baz=99						
R24A				⇑Pdiff	**Pdif**	**07 40 59.0**	**-0.9**
	baz=99						
R24A				⇑Pdiff	**Pdif**	**07 40 59.0**	**-0.9**
	baz=99						
K21A	**Alcova**	**99.23**	**48**	⇓Pdiff	**Pdif**	**07 40 59.8**	**-0.2**
	baz=100						
K21A				⇓Pdiff	**Pdif**	**07 40 59.8**	**-0.2**
	baz=100						
K21A				⇓Pdiff	**Pdif**	**07 40 59.8**	**-0.2**
	baz=100						
M22A	**Cedar Creek Ra**	**99.23**	**49**	⇑Pdiff	**Pdif**	**07 41 00.8**	**+0.6**
	baz=100						
M22A				⇑Pdiff	**Pdif**	**07 41 00.8**	**+0.6**
	baz=100						
M22A				⇑Pdiff	**Pdif**	**07 41 00.8**	**+0.6**
	baz=100						
HVS	**Khovu-Aksy**	**99.24**	**322**	*c j*P	**Pdif**	**07 40 59.3**	**-0.4**
D18A	**Linhart Farms,**	**99.27**	**43**	⇑Pdiff	**Pdif**	**07 41 00.1**	**+0.1**
	baz=100						
D18A				⇑Pdiff	**Pdif**	**07 41 00.1**	**+0.1**
	baz=100						
D18A				⇑Pdiff	**Pdif**	**07 41 00.1**	**+0.1**
	baz=100						
O23A	**Lake Granby, G**	**99.28**	**50**	⇓Pdiff	**Pdif**	**07 41 01.0**	**+0.5**
	baz=100						
O23A				⇓Pdiff	**Pdif**	**07 41 01.0**	**+0.5**
	baz=100						
O23A				⇓Pdiff	**Pdif**	**07 41 01.0**	**+0.5**
	baz=100						
T25A	**Trinidad**	**99.28**	**54**	⇓Pdiff	**Pdif**	**07 41 00.9**	**+0.5**
	baz=100						
T25A				⇓Pdiff	**Pdif**	**07 41 00.9**	**+0.5**
	baz=100						
T25A				⇓Pdiff	**Pdif**	**07 41 00.9**	**+0.5**
	baz=100						
F19A	**Roth Farm, Mol**	**99.30**	**44**	⇑Pdiff	**Pdif**	**07 40 58.8**	**-1.4**
	baz=100						
F19A				⇑Pdiff	**Pdif**	**07 40 58.8**	**-1.4**
	baz=100						
F19A				⇑Pdiff	**Pdif**	**07 40 58.8**	**-1.4**
	baz=100						
ISCO	**Idaho Springs**	**99.35**	**51**	PFAKE		07 41 10.0	+9.2
ISCO				LR	LR		
	comp=Z,12µm,22.0s						
ISCO	**Idaho Springs**	**99.35**	**51**	⇓Pdiff	**Pdif**	**07 41 01.7**	**+0.9**
	baz=100						
ISCO				⇓Pdiff	**Pdif**	**07 41 01.7**	**+0.9**
	baz=100						
ISCO				⇓Pdiff	**Pdif**	**07 41 01.7**	**+0.9**
	baz=100						
J21A	**Lysite**	**99.36**	**47**	⇑Pdiff	**Pdif**	**07 41 00.9**	**+0.3**
	baz=100						
J21A				⇑Pdiff	**Pdif**	**07 41 00.9**	**+0.3**
	baz=100						
J21A				⇑Pdiff	**Pdif**	**07 41 00.9**	**+0.3**
	baz=100						
Q24A	**Divide**	**99.39**	**52**	⇓Pdiff	**Pdif**	**07 41 01.4**	**+0.4**
	baz=100						
Q24A				⇓Pdiff	**Pdif**	**07 41 01.4**	**+0.4**
	baz=100						
Q24A				⇓Pdiff	**Pdif**	**07 41 01.4**	**+0.4**
	baz=100						
A17A	**Triple J Farms**	**99.39**	**41**	⇓Pdiff	**Pdif**	**07 41 00.7**	**+0.2**
	baz=100						
A17A				⇓Pdiff	**Pdif**	**07 41 00.7**	**+0.2**
	baz=100						
A17A				⇓Pdiff	**Pdif**	**07 41 00.7**	**+0.2**
	baz=100						
X27A	**F and S Farms,**	**99.40**	**57**	⇓Pdiff	**Pdif**	**07 40 59.0**	**-1.9**
	baz=100						
X27A				⇓Pdiff	**Pdif**	**07 40 59.0**	**-1.9**
	baz=100						
X27A				⇓Pdiff	**Pdif**	**07 40 59.0**	**-1.9**
	baz=100						
H20A	**Greybull**	**99.41**	**46**	⇑Pdiff	**Pdif**	**07 41 00.2**	**-0.5**
	baz=100						
H20A				⇑Pdiff	**Pdif**	**07 41 00.2**	**-0.5**
	baz=100						
H20A				⇑Pdiff	**Pdif**	**07 41 00.2**	**-0.5**
	baz=100						
MSTX	**Muleshoe**	**99.42**	**57**	⇑Pdiff	**Pdif**	**07 41 00.5**	**-0.5**
	baz=100						
MSTX				⇑Pdiff	**Pdif**	**07 41 00.5**	**-0.5**
	baz=100						
MSTX				⇑Pdiff	**Pdif**	**07 41 00.5**	**-0.5**
	baz=100						
S25A	**Robets Cordova**	**99.45**	**53**	⇓Pdiff	**Pdif**	**07 41 00.7**	**-0.4**
	baz=100						
S25A				⇓Pdiff	**Pdif**	**07 41 00.7**	**-0.4**
	baz=100						
S25A				⇓Pdiff	**Pdif**	**07 41 00.7**	**-0.4**
	baz=100						
N23A	**Red Feather La**	**99.50**	**50**	⇓Pdiff	**Pdif**	**07 41 01.5**	**+0.1**
	baz=100						
N23A				⇓Pdiff	**Pdif**	**07 41 01.5**	**+0.1**
	baz=100						
N23A				⇓Pdiff	**Pdif**	**07 41 01.5**	**+0.1**
	baz=100						
U26A	**Atchley Ranch,**	**99.52**	**55**	⇓Pdiff	**Pdif**	**07 41 02.0**	**+0.5**
	baz=100						
U26A				⇓Pdiff	**Pdif**	**07 41 02.0**	**+0.5**
	baz=100						
U26A				⇓Pdiff	**Pdif**	**07 41 02.0**	**+0.5**
	baz=100						
G20A	**Bridger**	**99.54**	**45**	⇑Pdiff	**Pdif**	**07 41 00.8**	**-0.5**
	baz=100						
G20A				⇑Pdiff	**Pdif**	**07 41 00.8**	**-0.5**
	baz=100						
G20A				⇑Pdiff	**Pdif**	**07 41 00.8**	**-0.5**
	baz=100						
L22A	**Ellis Ranch, M**	**99.57**	**49**	⇓Pdiff	**Pdif**	**07 41 01.8**	**+0.2**
	baz=100						
L22A				⇓Pdiff	**Pdif**	**07 41 01.8**	**+0.2**
	baz=100						
L22A				⇓Pdiff	**Pdif**	**07 41 01.8**	**+0.2**
	baz=100						
W27A	**Bowe Ranch, En**	**99.58**	**56**	⇓Pdiff	**Pdif**	**07 41 02.2**	**+0.5**
	baz=100						
W27A				⇓Pdiff	**Pdif**	**07 41 02.2**	**+0.5**
	baz=100						
W27A				⇓Pdiff	**Pdif**	**07 41 02.2**	**+0.5**
	baz=100						
EGMT	**Eagleton**	**99.61**	**42**	PFAKE		07 41 10.0	+8.5
EGMT				LR	LR		
	comp=Z,20µm,20.0s						
EGMT	**Eagleton**	**99.61**	**42**	⇓Pdiff	**Pdif**	**07 41 01.2**	**-0.3**
	baz=100						
EGMT				⇓Pdiff	**Pdif**	**07 41 01.2**	**-0.3**
	baz=100						
EGMT				⇓Pdiff	**Pdif**	**07 41 01.2**	**-0.3**
	baz=100						
E19A	**Rath Farm, Rou**	**99.63**	**44**	⇓Pdiff	**Pdif**	**07 41 03.1**	**+1.5**
	baz=100						
E19A				⇓Pdiff	**Pdif**	**07 41 03.1**	**+1.5**
	baz=100						
E19A				⇓Pdiff	**Pdif**	**07 41 03.1**	**+1.5**
	baz=100						
I21A	**Big Trails, Te**	**99.63**	**47**	⇓Pdiff	**Pdif**	**07 41 01.7**	**-0.1**
	baz=100						
I21A				⇓Pdiff	**Pdif**	**07 41 01.7**	**-0.1**
	baz=100						
I21A				⇓Pdiff	**Pdif**	**07 41 01.7**	**-0.1**
	baz=100						
R25A	**Fountain Ranch**	**99.73**	**53**	⇑Pdiff	**Pdif**	**07 41 02.0**	**-0.4**
	baz=100						
R25A				⇑Pdiff	**Pdif**	**07 41 02.0**	**-0.4**
	baz=100						
R25A				⇑Pdiff	**Pdif**	**07 41 02.0**	**-0.4**
	baz=100						
K22A	**Casper**	**99.73**	**48**	⇑Pdiff	**Pdif**	**07 41 01.6**	**-0.7**
	baz=100						
K22A				⇑Pdiff	**Pdif**	**07 41 01.6**	**-0.7**
	baz=100						
K22A				⇑Pdiff	**Pdif**	**07 41 01.6**	**-0.7**
	baz=100						
B18A	**Beardsley Farm**	**99.74**	**42**	⇑Pdiff	**Pdif**	**07 41 02.2**	**+0.2**
	baz=100						
B18A				⇑Pdiff	**Pdif**	**07 41 02.2**	**+0.2**
	baz=100						
B18A				⇑Pdiff	**Pdif**	**07 41 02.2**	**+0.2**
	baz=100						
P24A	**Kohler Place,**	**99.75**	**51**	⇓Pdiff	**Pdif**	**07 41 02.6**	**+0.1**
	baz=100						
P24A				⇓Pdiff	**Pdif**	**07 41 02.6**	**+0.1**
	baz=100						
P24A				⇓Pdiff	**Pdif**	**07 41 02.6**	**+0.1**
	baz=100						
F20A	**Billings**	**99.80**	**45**	⇓Pdiff	**Pdif**	**07 41 02.9**	**+0.5**
	baz=100						
F20A				⇓Pdiff	**Pdif**	**07 41 02.9**	**+0.5**
	baz=100						
F20A				⇓Pdiff	**Pdif**	**07 41 02.9**	**+0.5**
	baz=100						
D19A	**Cripps Ranch,**	**99.83**	**43**	⇓Pdiff	**Pdif**	**07 41 02.1**	**-0.4**
	baz=100						
D19A				⇓Pdiff	**Pdif**	**07 41 02.1**	**-0.4**
	baz=100						
D19A				⇓Pdiff	**Pdif**	**07 41 02.1**	**-0.4**
	baz=100						
O24A	**Longmont**	**99.85**	**51**	⇑Pdiff	**Pdif**	**07 41 02.6**	**-0.3**
	baz=100						
O24A				⇑Pdiff	**Pdif**	**07 41 02.6**	**-0.3**
	baz=100						
O24A				⇑Pdiff	**Pdif**	**07 41 02.6**	**-0.3**
	baz=100						
M23A	**Laramie**	**99.87**	**49**	⇑Pdiff	**Pdif**	**07 41 02.2**	**-0.8**
	baz=100						
M23A				⇑Pdiff	**Pdif**	**07 41 02.2**	**-0.8**
	baz=100						
M23A				⇑Pdiff	**Pdif**	**07 41 02.2**	**-0.8**
	baz=100						
A18A	**Metzger Ranch,**	**99.90**	**41**	⇑Pdiff	**Pdif**	**07 41 03.4**	**+0.7**
	baz=100						
A18A				⇑Pdiff	**Pdif**	**07 41 03.4**	**+0.7**
	baz=100						
A18A				⇑Pdiff	**Pdif**	**07 41 03.4**	**+0.7**
	baz=100						
C19A	**Slack Wire Ran**	**99.94**	**42**	⇑Pdiff	**Pdif**	**07 41 04.0**	**+1.1**
	baz=100						
C19A				⇑Pdiff	**Pdif**	**07 41 04.0**	**+1.1**
	baz=100						
C19A				⇑Pdiff	**Pdif**	**07 41 04.0**	**+1.1**
	baz=100						
Q25A	**Bedland, Calha**	**100.03**	**52**	⇑Pdiff	**Pdif**	**07 41 02.8**	**-0.9**
	baz=100						
Q25A				⇑Pdiff	**Pdif**	**07 41 02.8**	**-0.9**
	baz=100						
Q25A				⇑Pdiff	**Pdif**	**07 41 02.8**	**-0.9**
	baz=100						
J22A	**Midwest**	**100.04**	**47**	⇓Pdiff	**Pdif**	**07 41 02.0**	**-1.6**
	baz=100						
J22A				⇓Pdiff	**Pdif**	**07 41 02.0**	**-1.6**
	baz=100						
J22A				⇓Pdiff	**Pdif**	**07 41 02.0**	**-1.6**
	baz=100						
E20A	**Meyer Farm, Mu**	**100.07**	**44**	⇑Pdiff	**Pdif**	**07 41 04.1**	**+0.6**
	baz=100						
E20A				⇑Pdiff	**Pdif**	**07 41 04.1**	**+0.6**
	baz=100						
E20A				⇑Pdiff	**Pdif**	**07 41 04.1**	**+0.6**
	baz=100						
H21A	**Big Horn, Sher**	**100.09**	**46**	⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.1**
	baz=100						
H21A				⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.1**
	baz=100						
H21A				⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.1**
	baz=100						
L23A	**Garrett**	**100.11**	**49**	⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.3**
	baz=100						
L23A				⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.3**
	baz=100						
L23A				⇓Pdiff	**Pdif**	**07 41 03.7**	**-0.3**
	baz=100						
S26A	**Kim**	**100.15**	**54**	⇓Pdiff	**Pdif**	**07 41 05.3**	**+1.1**
	baz=100						
S26A				⇓Pdiff	**Pdif**	**07 41 05.3**	**+1.1**
	baz=100						
S26A				⇓Pdiff	**Pdif**	**07 41 05.3**	**+1.1**
	baz=100						
G21A	**Lodge Grass**	**100.20**	**45**	⇑Pdiff	**Pdif**	**07 41 04.7**	**+0.5**
	baz=100						
G21A				⇑Pdiff	**Pdif**	**07 41 04.7**	**+0.5**
	baz=100						
G21A				⇑Pdiff	**Pdif**	**07 41 04.7**	**+0.5**
	baz=100						
I22A	**9 Mile Ranch,**	**100.21**	**47**	⇓Pdiff	**Pdif**	**07 41 05.1**	**+0.9**
	baz=100						
I22A				⇓Pdiff	**Pdif**	**07 41 05.1**	**+0.9**
	baz=100						
I22A				⇓Pdiff	**Pdif**	**07 41 05.1**	**+0.9**
	baz=100						
WMQ	**Urumqi**	**100.22**	**313**	P	**Pdif**	**07 41 02.1**	**-2.2**
WMQ				PP	**PP**	**07 45 11.3**	**+0.7**
WMQ				S	SKKSac	07 52 25.1	+9.4
WMQ				SS	SS	07 59 25.5	-8.3
WMQ				pmax	pmax		
	comp=Z,19nm,1.8s						
WMQ				pmax	pmax		
	comp=Z,2µm,7.2s						
WMQ				LR	LR		
	comp=N,5µm,18.0s						
WMQ				LR	LR		
	comp=E,3µm,16.4s						
WMQ				LR	LR		
	comp=Z,4µm,19.0s						
N24A	**Carr**	**100.23**	**50**	⇑Pdiff	**Pdif**	**07 41 04.3**	**-0.3**
	baz=100						
N24A				⇑Pdiff	**Pdif**	**07 41 04.3**	**-0.3**
	baz=100						
N24A				⇑Pdiff	**Pdif**	**07 41 04.3**	**-0.3**
	baz=100						
B19A	**Brinkman Farms**	**100.28**	**42**	⇓Pdiff	**Pdif**	**07 41 05.5**	**+1.2**
	baz=100						
B19A				⇓Pdiff	**Pdif**	**07 41 05.5**	**+1.2**
	baz=100						
B19A				⇓Pdiff	**Pdif**	**07 41 05.5**	**+1.2**
	baz=100						
D20A	**Manuel Ranch,**	**100.28**	**43**	⇓Pdiff	**Pdif**	**07 41 03.6**	**-0.8**
	baz=100						
D20A				⇓Pdiff	**Pdif**	**07 41 03.6**	**-0.8**
	baz=100						
D20A				⇓Pdiff	**Pdif**	**07 41 03.6**	**-0.8**
	baz=100						
P25A	**Willow Gulch B**	**100.29**	**52**	⇓Pdiff	**Pdif**	**07 41 05.9**	**+1.1**
	baz=100						
P25A				⇓Pdiff	**Pdif**	**07 41 05.9**	**+1.1**
	baz=100						
P25A				⇓Pdiff	**Pdif**	**07 41 05.9**	**+1.1**
	baz=100						
K23A	**Bowen Ranch, D**	**100.39**	**48**	⇑Pdiff	**Pdif**	**07 41 05.0**	**-0.2**
	baz=101						
K23A				⇑Pdiff	**Pdif**	**07 41 05.0**	**-0.2**
	baz=101						
K23A				⇑Pdiff	**Pdif**	**07 41 05.0**	**-0.2**
	baz=101						
R26A	**Arlington**	**100.40**	**53**	⇓Pdiff	**Pdif**	**07 41 05.0**	**-0.3**
	baz=101						
R26A				⇓Pdiff	**Pdif**	**07 41 05.0**	**-0.3**
	baz=101						
R26A				⇓Pdiff	**Pdif**	**07 41 05.0**	**-0.3**
	baz=101						
F21A	**Absaloka Mine,**	**100.47**	**45**	⇑Pdiff	**Pdif**	**07 41 06.4**	**+1.0**
	baz=101						
F21A				⇑Pdiff	**Pdif**	**07 41 06.4**	**+1.0**
	baz=101						
F21A				⇑Pdiff	**Pdif**	**07 41 06.4**	**+1.0**
	baz=101						
M24A	**Cheyenne**	**100.50**	**50**	⇑Pdiff	**Pdif**	**07 41 06.9**	**+1.1**
	baz=101						
M24A				⇑Pdiff	**Pdif**	**07 41 06.9**	**+1.1**
	baz=101						
M24A				⇑Pdiff	**Pdif**	**07 41 06.9**	**+1.1**
	baz=101						
T27A	**Campo**	**100.52**	**54**	⇑Pdiff	**Pdif**	**07 41 05.9**	**+0.1**
	baz=101						
T27A				⇑Pdiff	**Pdif**	**07 41 05.9**	**+0.1**
	baz=101						
T27A				⇑Pdiff	**Pdif**	**07 41 05.9**	**+0.1**
	baz=101						
O25A	**Wiggins**	**100.53**	**51**	⇑Pdiff	**Pdif**	**07 41 06.5**	**+0.7**
	baz=101						
O25A				⇑Pdiff	**Pdif**	**07 41 06.5**	**+0.7**
	baz=101						
O25A				⇑Pdiff	**Pdif**	**07 41 06.5**	**+0.7**
	baz=101						
H22A	**Clearmont**	**100.54**	**46**	⇑Pdiff	**Pdif**	**07 41 06.2**	**+0.4**
	baz=101						
H22A				⇑Pdiff	**Pdif**	**07 41 06.2**	**+0.4**
	baz=101						
H22A				⇑Pdiff	**Pdif**	**07 41 06.2**	**+0.4**
	baz=101						
Q26A	**Hugo**	**100.56**	**52**	⇑Pdiff	**Pdif**	**07 41 06.6**	**+0.6**
	baz=101						
Q26A				⇑Pdiff	**Pdif**	**07 41 06.6**	**+0.6**
	baz=101						
Q26A				⇑Pdiff	**Pdif**	**07 41 06.6**	**+0.6**
	baz=101						
A19A	**Klindworth Far**	**100.58**	**41**	⇓Pdiff	**Pdif**	**07 41 06.4**	**+0.7**
	baz=101						
A19A				⇓Pdiff	**Pdif**	**07 41 06.4**	**+0.7**
	baz=101						
A19A				⇓Pdiff	**Pdif**	**07 41 06.4**	**+0.7**
	baz=101						
AMTX	**Amarillo**	**100.58**	**57**	PFAKE		07 41 20.0	+14
AMTX				LR	LR		
	comp=Z,17µm,19.0s						
AMTX	**Amarillo**	**100.58**	**57**	⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
AMTX				⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
AMTX				⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
AMTX				⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
AMTX				⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
AMTX				⇑Pdiff	**Pdif**	**07 41 06.2**	**0.0**
	baz=101						
C20A	**Veseth Ranch,**	**100.59**	**43**	⇑Pdiff	**Pdif**	**07 41 05.5**	**-0.3**
	baz=101						
C20A				⇑Pdiff	**Pdif**	**07 41 05.5**	**-0.3**
	baz=101						
C20A				⇑Pdiff	**Pdif**	**07 41 05.5**	**-0.3**
	baz=101						
JCT	**Junction City**	**100.60**	**61**	PFAKE		07 41 20.0	+14
JCT				LR	LR		
	comp=Z,13µm,20.0s						
JCT	**Junction City**	**100.60**	**61**	⇓Pdiff	**Pdif**	**07 41 06.6**	**+0.4**
	baz=101						
JCT				⇓Pdiff	**Pdif**	**07 41 06.6**	**+0.4**
	baz=101						
JCT				⇓Pdiff	**Pdif**	**07 41 06.6**	**+0.4**
	baz=101						
S27A	**Las Animas**	**100.60**	**54**	⇓Pdiff	**Pdif**	**07 41 07.2**	**+1.0**
	baz=101						
S27A				⇓Pdiff	**Pdif**	**07 41 07.2**	**+1.0**
	baz=101						
S27A				⇓Pdiff	**Pdif**	**07 41 07.2**	**+1.0**
	baz=101						
L24A	**Wheatland**	**100.62**	**49**	⇓Pdiff	**Pdif**	**07 41 06.5**	**+0.3**
	baz=101						
L24A				⇓Pdiff	**Pdif**	**07 41 06.5**	**+0.3**
	baz=101						
L24A				⇓Pdiff	**Pdif**	**07 41 06.5**	**+0.3**
	baz=101						
J23A	**Dilts Ranch, B**	**100.67**	**48**	⇓Pdiff	**Pdif**	**07 41 07.6**	**+1.3**
	baz=101						
J23A				⇓Pdiff	**Pdif**	**07 41 07.6**	**+1.3**
	baz=101						
J23A				⇓Pdiff	**Pdif**	**07 41 07.6**	**+1.3**
	baz=101						
E21A	**Keefer Ranch,**	**100.76**	**44**	⇓Pdiff	**Pdif**	**07 41 07.2**	**+0.6**
	baz=101						
E21A				⇓Pdiff	**Pdif**	**07 41 07.2**	**+0.6**
	baz=101						
E21A				⇓Pdiff	**Pdif**	**07 41 07.2**	**+0.6**
	baz=101						
N25A	**Grover**	**100.80**	**50**	⇑Pdiff	**Pdif**	**07 41 08.2**	**+1.1**
	baz=101						
N25A				⇑Pdiff	**Pdif**	**07 41 08.2**	**+1.1**
	baz=101						
N25A				⇑Pdiff	**Pdif**	**07 41 08.2**	**+1.1**
	baz=101						
G22A	**Birney**	**100.80**	**46**	⇑Pdiff	**Pdif**	**07 41 06.4**	**-0.5**
	baz=101						
G22A				⇑Pdiff	**Pdif**	**07 41 06.4**	**-0.5**
	baz=101						
G22

B20A baz=101 ⇓Pdiff **Pdiff** 07 41 07.6 +0.7
R27A **Eads** 100.88 53 baz=101 ⇓Pdiff **Pdiff** 07 41 07.1 -0.3
R27A baz=101 ⇓Pdiff **Pdiff** 07 41 07.1 -0.3
R27A baz=101 ⇓Pdiff **Pdiff** 07 41 07.1 -0.3
P26A **Davis Ranch, A** 100.90 52 baz=101 ⇑Pdiff **Pdiff** 07 41 06.7 -0.8
P26A baz=101 ⇑Pdiff **Pdiff** 07 41 06.7 -0.8
P26A baz=101 ⇑Pdiff **Pdiff** 07 41 06.7 -0.8
I23A **Meade Ranch, G** 100.92 47 baz=101 ⇑Pdiff **Pdiff** 07 41 06.9 -0.6
I23A baz=101 ⇑Pdiff **Pdiff** 07 41 06.9 -0.6
I23A baz=101 ⇑Pdiff **Pdiff** 07 41 06.9 -0.6
K24A **Anderson Ranch** 100.94 48 baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.2
K24A baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.2
K24A baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.2
D21A **La Casta Ranch** 101.00 44 baz=101 ⇑Pdiff **Pdiff** 07 41 08.2 +0.6
D21A baz=101 ⇑Pdiff **Pdiff** 07 41 08.2 +0.6
D21A baz=101 ⇑Pdiff **Pdiff** 07 41 08.2 +0.6
T28A **Walsh** 101.00 54 baz=101 ⇓Pdiff **Pdiff** 07 41 08.5 +0.6
T28A baz=101 ⇓Pdiff **Pdiff** 07 41 08.5 +0.6
T28A baz=101 ⇓Pdiff **Pdiff** 07 41 08.5 +0.6
F22A **Rosebud** 101.02 45 baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.0
F22A baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.0
F22A baz=101 ⇓Pdiff **Pdiff** 07 41 08.8 +1.0
M25A **Palm-Egli Farm** 101.03 50 baz=101 ⇓Pdiff **Pdiff** 07 41 07.3 -0.7
M25A baz=101 ⇓Pdiff **Pdiff** 07 41 07.3 -0.7
M25A baz=101 ⇓Pdiff **Pdiff** 07 41 07.3 -0.7
A20A **Cobblestone Ra** 101.06 42 baz=101 ⇓Pdiff **Pdiff** 07 41 08.1 +0.2
A20A baz=101 ⇓Pdiff **Pdiff** 07 41 08.1 +0.2
A20A baz=101 ⇓Pdiff **Pdiff** 07 41 08.1 +0.2
O26A **Horse Wrangler** 101.16 51 baz=101 ⇓Pdiff **Pdiff** 07 41 07.9 -0.8
O26A baz=101 ⇓Pdiff **Pdiff** 07 41 07.9 -0.8
O26A baz=101 ⇓Pdiff **Pdiff** 07 41 07.9 -0.8
H23A **Clabaugh Cattl** 101.17 46 baz=101 ⇓Pdiff **Pdiff** 07 41 09.4 +0.9
H23A baz=101 ⇓Pdiff **Pdiff** 07 41 09.4 +0.9
H23A baz=101 ⇓Pdiff **Pdiff** 07 41 09.4 +0.9
C21A **Desert Coulee** 101.20 43 baz=101 ⇓Pdiff **Pdiff** 07 41 09.1 +0.6
C21A baz=101 ⇓Pdiff **Pdiff** 07 41 09.1 +0.6
C21A baz=101 ⇓Pdiff **Pdiff** 07 41 09.1 +0.6
KVTX **Kingsville** 101.21 65 PFAKE 07 41 20.0 +11
KVTX LR LR
comp=Z,8μm,19.0s
KSCO **Kaye Shedlock'** 101.25 52 baz=101 ⇑Pdiff **Pdiff** 07 41 08.7 -0.3
KSCO baz=101 ⇑Pdiff **Pdiff** 07 41 08.7 -0.3
KSCO baz=101 ⇑Pdiff **Pdiff** 07 41 08.7 -0.3
J24A **Dixon Ranch, L** 101.25 48 baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 +0.3
J24A baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 +0.3
J24A baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 +0.3
L25A **Engebretsen Ra** 101.34 49 baz=102 ⇑Pdiff **Pdiff** 07 41 07.7 -1.6
L25A baz=102 ⇑Pdiff **Pdiff** 07 41 07.7 -1.6
L25A baz=102 ⇑Pdiff **Pdiff** 07 41 07.7 -1.6
G23A **Biddle** 101.40 46 baz=102 ⇑Pdiff **Pdiff** 07 41 08.5 -1.0
G23A baz=102 ⇑Pdiff **Pdiff** 07 41 08.5 -1.0
G23A baz=102 ⇑Pdiff **Pdiff** 07 41 08.5 -1.0
N26A **Koester Ranch,** 101.42 51 baz=102 ⇓Pdiff **Pdiff** 07 41 09.5 -0.2
N26A baz=102 ⇓Pdiff **Pdiff** 07 41 09.5 -0.2
N26A baz=102 ⇓Pdiff **Pdiff** 07 41 09.5 -0.2
E22A **Miles City** 101.45 45 baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +1.0
E22A baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +1.0
E22A baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +1.0
I24A **Kuemmerle Ranc** 101.45 47 baz=102 ⇓Pdiff **Pdiff** 07 41 09.2 -0.6
I24A baz=102 ⇓Pdiff **Pdiff** 07 41 09.2 -0.6
I24A baz=102 ⇓Pdiff **Pdiff** 07 41 09.2 -0.6
B21A **Ellsworth Farm** 101.46 42 baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 -0.3
B21A baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 -0.3
B21A baz=102 ⇓Pdiff **Pdiff** 07 41 09.3 -0.3
D22A **Cohagen** 101.55 44 baz=102 ⇓Pdiff **Pdiff** 07 41 11.6 +1.5
D22A baz=102 ⇓Pdiff **Pdiff** 07 41 11.6 +1.5
D22A baz=102 ⇓Pdiff **Pdiff** 07 41 11.6 +1.5
K25A **Mack Ranch, Ha** 101.56 49 baz=102 ⇓Pdiff **Pdiff** 07 41 10.6 +0.3
K25A baz=102 ⇓Pdiff **Pdiff** 07 41 10.6 +0.3
K25A baz=102 ⇓Pdiff **Pdiff** 07 41 10.6 +0.3
F23A **Volborg** 101.56 45 baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +0.5
F23A baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +0.5
F23A baz=102 ⇑Pdiff **Pdiff** 07 41 10.7 +0.5
M26A **McRoberts Ranc** 101.69 50 baz=102 ⇓Pdiff **Pdiff** 07 41 10.7 -0.2
M26A baz=102 ⇓Pdiff **Pdiff** 07 41 10.7 -0.2
M26A baz=102 ⇓Pdiff **Pdiff** 07 41 10.7 -0.2
A21A **Bergtoll Ranch** 101.72 42 baz=102 ⇓Pdiff **Pdiff** 07 41 10.5 -0.3
A21A baz=102 ⇓Pdiff **Pdiff** 07 41 10.5 -0.3
A21A baz=102 ⇓Pdiff **Pdiff** 07 41 10.5 -0.3
O27A **Beecher Island** 101.74 51 baz=102 ⇑Pdiff **Pdiff** 07 41 11.9 +0.7
O27A baz=102 ⇑Pdiff **Pdiff** 07 41 11.9 +0.7
O27A baz=102 ⇑Pdiff **Pdiff** 07 41 11.9 +0.7
H24A **Dirks Ranch, A** 101.80 46 baz=102 ⇑Pdiff **Pdiff** 07 41 10.8 -0.5
H24A baz=102 ⇑Pdiff **Pdiff** 07 41 10.8 -0.5
H24A baz=102 ⇑Pdiff **Pdiff** 07 41 10.8 -0.5
baz=102

E23A **Ismay** 101.89 45 baz=102 ⇑Pdiff **Pdiff** 07 41 12.6 +1.0
E23A baz=102 ⇑Pdiff **Pdiff** 07 41 12.6 +1.0
E23A baz=102 ⇑Pdiff **Pdiff** 07 41 12.6 +1.0
N27A **Anderson Farm,** 101.90 51 baz=102 ⇓Pdiff **Pdiff** 07 41 12.6 +0.7
N27A baz=102 ⇓Pdiff **Pdiff** 07 41 12.6 +0.7
N27A baz=102 ⇓Pdiff **Pdiff** 07 41 12.6 +0.7
L26A **Underwood Farm** 101.92 49 baz=102 ⇑Pdiff **Pdiff** 07 41 11.7 -0.2
L26A baz=102 ⇑Pdiff **Pdiff** 07 41 11.7 -0.2
L26A baz=102 ⇑Pdiff **Pdiff** 07 41 11.7 -0.2
C22A **Vida** 101.94 43 baz=102 ⇓Pdiff **Pdiff** 07 41 11.4 -0.3
C22A baz=102 ⇓Pdiff **Pdiff** 07 41 11.4 -0.3
C22A baz=102 ⇓Pdiff **Pdiff** 07 41 11.4 -0.3
LCO **Las Campanas** 101.97 128 PFAKE 07 41 20.0 +7.2
LCO LR LR
comp=Z,13μm,22.0s
B22A **Reddig Ranch S** 102.06 43 baz=102 ⇓Pdiff **Pdiff** 07 41 12.5 +0.1
B22A baz=102 ⇓Pdiff **Pdiff** 07 41 12.5 +0.1
B22A baz=102 ⇓Pdiff **Pdiff** 07 41 12.5 +0.1
K26A **Motz Farm, Whi** 102.07 49 baz=102 ⇑Pdiff **Pdiff** 07 41 12.4 -0.1
K26A baz=102 ⇑Pdiff **Pdiff** 07 41 12.4 -0.1
K26A baz=102 ⇑Pdiff **Pdiff** 07 41 12.4 -0.1
G24A **Alzada** 102.09 46 baz=102 ⇑Pdiff **Pdiff** 07 41 11.6 -1.0
G24A baz=102 ⇑Pdiff **Pdiff** 07 41 11.6 -1.0
G24A baz=102 ⇑Pdiff **Pdiff** 07 41 11.6 -1.0
D23A **Lindsay** 102.18 44 baz=102 ⇑Pdiff **Pdiff** 07 41 13.9 +1.0
D23A baz=102 ⇑Pdiff **Pdiff** 07 41 13.9 +1.0
D23A baz=102 ⇑Pdiff **Pdiff** 07 41 13.9 +1.0
F24A **Ekalaka** 102.24 45 baz=102 ⇑Pdiff **Pdiff** 07 41 14.2 +0.9
F24A baz=102 ⇑Pdiff **Pdiff** 07 41 14.2 +0.9
F24A baz=102 ⇑Pdiff **Pdiff** 07 41 14.2 +0.9
M27A **Reverse DX Ran** 102.24 50 baz=102 ⇓Pdiff **Pdiff** 07 41 13.2 -0.2
M27A baz=102 ⇓Pdiff **Pdiff** 07 41 13.2 -0.2
M27A baz=102 ⇓Pdiff **Pdiff** 07 41 13.2 -0.2
TRQA **Tornquist** 102.29 140 PFAKE 07 41 20.0 +6.3
TRQA LR LR
comp=Z,5μm,21.0s
A22A **Carney Farms,** 102.34 42 baz=103 ⇑Pdiff **Pdiff** 07 41 15.6 +2.1
A22A baz=103 ⇑Pdiff **Pdiff** 07 41 15.6 +2.1
A22A baz=103 ⇑Pdiff **Pdiff** 07 41 15.6 +2.1
C23A **Lambert** 102.41 43 baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +1.6
C23A baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +1.6
C23A baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +1.6
E24A **Baker** 102.56 45 baz=103 ⇑Pdiff **Pdiff** 07 41 13.7 -0.9
E24A baz=103 ⇑Pdiff **Pdiff** 07 41 13.7 -0.9
E24A baz=103 ⇑Pdiff **Pdiff** 07 41 13.7 -0.9
K27A **Flueckinger Fa** 102.72 49 baz=103 ⇓Pdiff **Pdiff** 07 41 16.7 +1.3
K27A baz=103 ⇓Pdiff **Pdiff** 07 41 16.7 +1.3
K27A baz=103 ⇓Pdiff **Pdiff** 07 41 16.7 +1.3
D24A **Glendive** 102.73 44 baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +0.1
D24A baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +0.1
D24A baz=103 ⇑Pdiff **Pdiff** 07 41 15.4 +0.1
YKA **Yellowknife Ar** 102.74 27 P **Pdiff** 07 41 15.3 +0.4
comp=Z,0.4nm,0.7s,baz=258,slow=4.3,SNR=4.7
YKA PP **PP** 07 45 28.3 -0.6
comp=Z,2.7nm,1.1s,baz=241,slow=8.1,SNR=6.5
YKA PKiKP **PKiKP** 07 45 36.6 +1.1
comp=Z,0.6nm,0.5s,baz=253,slow=1.7,SNR=12
YKA PKKPbc **PKKPbc** 07 57 17.5 +1.6
comp=Z,0.2nm,0.6s,baz=280,slow=7.8,SNR=4.3
YKA **Yellowknife Ar** 102.74 27 P **Pdiff** 07 41 15.3 +0.4
YKA 07 45 28.3
YKA **Yellowknife Ar** 102.74 27 P **Pdiff** 07 41 15.3 +0.4
YKA PP **PP** 07 45 28.3 -0.6
YKA PKiKP **PKiKP** 07 45 36.6 +1.1
YKA PKKPbc **PKKPbc** 07 57 17.6 +1.6
B23A **Brockton** 102.75 43 baz=103 ⇓Pdiff **Pdiff** 07 41 16.0 +0.6
B23A baz=103 ⇓Pdiff **Pdiff** 07 41 16.0 +0.6
B23A baz=103 ⇓Pdiff **Pdiff** 07 41 16.0 +0.6
WMOK **Wichita Mounta** 102.79 58 PFAKE 07 41 30.0 +14
WMOK LR LR
comp=Z,21μm,19.0s
C24A **Savage** 102.80 44 baz=103 ⇓Pdiff **Pdiff** 07 41 14.8 -0.8
C24A baz=103 ⇓Pdiff **Pdiff** 07 41 14.8 -0.8
C24A baz=103 ⇓Pdiff **Pdiff** 07 41 14.8 -0.8
POO **Poona** 102.88 285 *e*P **Pdif** 07 41 15.0 -1.6
A23A **Redstone** 102.98 42 baz=103 ⇑Pdiff **Pdiff** 07 41 16.5 +0.2
A23A baz=103 ⇑Pdiff **Pdiff** 07 41 16.5 +0.2
A23A baz=103 ⇑Pdiff **Pdiff** 07 41 16.5 +0.2
AYAN **Aya Nagar** 103.22 296 *e*P **Pdif** 07 41 15.3 -2.5
RER **Riviere de l'E** 103.22 240 PFAKE 07 41 30.0 +12
RER LR LR
comp=Z,9μm,19.0s
DGMT **Dagmar** 103.25 43 PFAKE 07 41 30.0 +12
DGMT LR LR
comp=Z,17μm,20.0s
DGMT **Dagmar** 103.25 43 baz=104 ⇓Pdiff **Pdiff** 07 41 17.7 +0.1
DGMT baz=104 ⇓Pdiff **Pdiff** 07 41 17.7 +0.1
DGMT baz=104 ⇓Pdiff **Pdiff** 07 41 17.7 +0.1
CBKS **Cedar Bluff** 103.32 53 PFAKE 07 41 30.0 +12
CBKS LR LR
comp=Z,17μm,22.0s
CBKS **Cedar Bluff** 103.32 53 baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
CBKS baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
CBKS baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
CBKS baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
CBKS baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
CBKS baz=104 ⇑Pdiff **Pdiff** 07 41 16.9 -1.2
A24A **Westby** 103.51 43 baz=104 ⇓Pdiff **Pdiff** 07 41 17.5 -1.3
A24A baz=104 ⇓Pdiff **Pdiff** 07 41 17.5 -1.3
A24A baz=104 ⇓Pdiff **Pdiff** 07 41 17.5 -1.3
KUDL **Kundal** 103.64 295 *e*P **Pdif** 07 41 19.3 -0.4
KHET **Khetri** 104.20 295 *e*P **Pdif** 07 41 22.7 +0.5

MK31 **Makanchi Array** 104.79 315 *e*P **Pdif** 07 41 23.7 -0.8
MK31 **Makanchi Array** 104.79 315 *e*Pdif **Pdif** 07 41 23.7 -0.8
MKAR **Makanchi Array** 104.79 315 Pdiff **Pdif** 07 41 25.2 +0.7
comp=Z,2.1nm,0.7s,baz=105,slow=5.1,SNR=14
MKAR PKiKP **PKiKP** 07 45 40.7 +0.9
comp=Z,2.1nm,0.8s,baz=231,slow=2.1,SNR=7.7
MKAR PKKPbc **PKKPbc** 07 57 07.5 -1.8
comp=Z,3.1nm,0.6s,baz=278,slow=2.5,SNR=20
MKAR PKPPKP **P'P'df** 08 05 31.8 +3.9
comp=Z,1.2nm,1.0s,baz=294,slow=3.9,SNR=7.4
MKAR **Makanchi Array** 104.79 315 P **Pdif** 07 41 25.2 +0.7
MKAR **Makanchi Array** 104.79 315 Pdif **Pdif** 07 41 25.2 +0.7
MKAR PKiKP **PKiKP** 07 45 40.7 +0.9
MKAR PKKPbc **PKKPbc** 07 57 07.5 -1.8
MKAR P'P' 08 05 31.8
NATX **Nacogdoches** 105.19 62 PFAKE 07 45 50.0
NATX LR LR
comp=Z,21μm,21.0s
BGNE **Belgrade** 105.24 51 baz=105 ⇓Pdiff **PKiKP** 07 45 39.5 -1.2
BGNE baz=105 ⇓Pdiff **PKiKP** 07 45 39.5 -1.2
BGNE baz=105 ⇓Pdiff **PKiKP** 07 45 39.5 -1.2
ZAA0 **Zalesovo Array** 105.30 322 *e*Pdif **Pdif** 07 41 24.5 -2.0
ZALV **Zalesovo Beam** 105.30 322 Pdiff **Pdif** 07 41 25.7 -0.8
comp=Z,1.8nm,0.6s,baz=111,slow=6.5,SNR=8.2
ZALV PKiKP **PKiKP** 07 45 41.6 +1.2
comp=Z,0.7nm,0.4s,baz=108,slow=4.8,SNR=4.6
ZALV PKKPbc **PKKPbc** 07 57 07.9 0.0
comp=Z,1.4nm,0.5s,baz=284,slow=3.2,SNR=4.7
ZALV **Zalesovo Beam** 105.30 322 P **Pdif** 07 41 25.7 -0.8
ZALV **Zalesovo Beam** 105.30 322 Pdif **Pdif** 07 41 25.7 -0.8
ZALV PKiKP **PKiKP** 07 45 41.6 +1.2
ZALV PKKPbc **PKKPbc** 07 57 07.9 0.0
TUL1 **Tulsa** 105.47 57 baz=106 ⇓Pdiff **PKiKP** 07 45 39.9 -1.4
TUL1 baz=106 ⇓Pdiff **PKiKP** 07 45 39.9 -1.4
TUL1 baz=106 ⇓Pdiff **PKiKP** 07 45 39.9 -1.4
BRSD **Miller** 105.52 48 baz=106 ⇑Pdiff **PKiKP** 07 45 39.6 -1.6
BRSD baz=106 ⇑Pdiff **PKiKP** 07 45 39.6 -1.6
BRSD baz=106 ⇑Pdiff **PKiKP** 07 45 39.6 -1.6
NNA **Nana** 105.63 110 PFAKE 07 45 50.0
NNA LR LR
comp=Z,8μm,20.0s
KSU1 **Kansas State U** 105.74 54 PFAKE 07 45 50.0
KSU1 LR LR
comp=Z,24μm,19.0s
MDND **Maddock** 106.01 44 baz=106 ⇓Pdiff **PKiKP** 07 45 40.0 -1.9
MDND baz=106 ⇓Pdiff **PKiKP** 07 45 40.0 -1.9
MDND baz=106 ⇓Pdiff **PKiKP** 07 45 40.0 -1.9
TGUH **Tegucigalpa,Un** 106.21 81 PFAKE 07 45 50.0
TGUH LR LR
comp=Z,4μm,21.0s
FFC **Flin Flon** 106.40 37 PFAKE 07 45 50.0
FFC LR LR
comp=Z,20μm,22.0s
NVS **Novosibirsk** 106.44 323 *e*P **Pdif** 07 41 30.0 -1.5
NVS *i* 07 45 52.7
NVS pmax pmax
comp=Z,64nm,2.5s
NVS pmax pmax
comp=E,38nm,2.6s
MIAR **Mount Ida** 106.84 59 PFAKE 07 46 00.0
MIAR LR LR
comp=Z,22μm,20.0s
LVC **Limon Verde** 106.85 124 *e*PKPdf **PKiKP** 07 45 39.5 -5.1
LVC LR LR
comp=Z,9μm,21.0s
ECSD **EROS Data Cent** 106.96 49 *e*PKPdf **PKiKP** 07 45 44.2 +0.4
ECSD LR LR
comp=Z,29μm,20.0s
JTS **JuntasAbangare** 107.08 86 PFAKE 07 46 00.0
JTS LR LR
comp=Z,6μm,20.0s
TEIG **Tepich** 107.26 75 PFAKE 07 46 00.0
TEIG LR LR
comp=Z,8μm,22.0s
NIL **Nilore** 107.88 300 PFAKE 07 46 00.0
NIL LR LR
comp=Z,103nm,20.0s
KURK **Kurchatov** 108.15 318 *e*PKPdf **PKiKP** 07 45 46.3 +0.5
KURK LR LR
comp=Z,10μm,19.0s
TKM2 **Tokmak 2** 108.38 310 *e*PKPdf **PKiKP** 07 45 50.0 +3.2
TKM2 LR LR
comp=Z,6μm,20.0s
AGMN **Agassiz Nation** 108.55 45 PFAKE 07 46 00.0
AGMN LR LR
comp=Z,23μm,20.0s
VBMS **Vicksburg** 108.70 62 PFAKE 07 46 00.0
VBMS LR LR
comp=Z,8μm,20.0s
SCIA **State Center** 108.95 52 PFAKE 07 46 00.0
SCIA LR LR
comp=Z,27μm,20.0s
ULM **Lac du Bonnet** 108.96 43 PKKPbc PKKPbc 07 56 57.4 +1.1
comp=Z,1.6nm,0.8s,baz=13,slow=2.4,SNR=2.9
ULM **Lac du Bonnet** 108.96 43 PKKPbc PKKPbc 07 56 57.4 +1.1
ULM LR LR
comp=Z,23μm,19.0s
AAK **Ala-Archa** 109.11 309 PFAKE 07 46 00.0
AAK LR LR
comp=Z,9μm,22.0s
OTAV **Otavalo** 109.40 98 PFAKE 07 46 00.0
OTAV LR LR
comp=Z,4μm,19.0s
EKS2 **Erkin-Say** 109.63 309 PFAKE 07 46 00.0
EKS2 LR LR
comp=Z,6μm,20.0s
SPMN **St. Paul** 109.95 48 baz=110 ⇓Pdiff **PKiKP** 07 45 45.9 -3.5
SPMN baz=110 ⇓Pdiff **PKiKP** 07 45 45.9 -3.5
SPMN baz=110 ⇓Pdiff **PKiKP** 07 45 45.9 -3.5
OXF **Oxford** 110.16 60 PFAKE 07 46 00.0
OXF LR LR
comp=Z,19μm,22.0s
LPAZ **La Paz** 110.87 118 PKKPbc PKKPbc 07 56 53.2 +3.3
comp=Z,1.3nm,0.8s,baz=338,slow=2.3,SNR=4.2
LPAZ **La Paz** 110.87 118 PKKPbc PKKPbc 07 56 53.2 +3.3
LPAZ LR LR
comp=Z,3μm,19.0s
ABPO **Ambohimpanom** 111.14 238 PFAKE 07 46 00.0
ABPO LR LR
comp=Z,15μm,20.0s
MSEY **Mahe Island** 111.22 255 PFAKE 07 46 00.0
MSEY LR LR
comp=Z,19μm,21.0s
BRAL **Brewton** 111.26 64 PFAKE 07 46 00.0
BRAL LR LR
comp=Z,7μm,20.0s
JFWS **Jewell Farm** 111.31 51 *e*PKIKP **PKiKP** 07 45 49.6 -2.4
JFWS MLR MLR
comp=Z,23μm,19.0s
JFWS **Jewell Farm** 111.31 51 *e*PKPdf **PKiKP** 07 45 49.6 -2.4
JFWS LR LR
comp=Z,23μm,19.0s
PLAL **Pickwick Lake** 111.34 60 PFAKE 07 46 00.0
PLAL LR LR
comp=Z,21μm,20.0s
BCIP **Isla Barro Col** 111.43 89 PFAKE 07 46 00.0
BCIP LR LR
comp=Z,2μm,21.0s
LRAL **Lakeview Retre** 111.78 62 PFAKE 07 46 00.0
LRAL LR LR
comp=Z,11μm,20.0s
KKAR **Karatay Array** 112.07 309 *e*PKIKP **PKiKP** 07 45 56.8 +3.3
KKAR **Karatay Array** 112.07 309 *e*PKPdf **PKiKP** 07 45 56.8 +3.3
RES **Resolute Bay** 112.47 17 *e*PKIKP **PKiKP** 07 45 52.4 -0.9
RES **Resolute Bay** 112.47 17 *e*PKPdf **PKiKP** 07 45 52.4 -0.9
SFIN **Scholer Farm** 113.17 54 baz=113 ⇓Pdiff **PKiKP** 07 45 53.9 -1.7
SFIN baz=113 ⇓Pdiff **PKiKP** 07 45 53.9 -1.7
SFIN baz=113 ⇓Pdiff **PKiKP** 07 45 53.9 -1.7

BVAR Borovoye Array 113.56 320 PKKPbc PKKPbc 07 56 41.4 +0.2
comp=Z,1.2nm,0.6s,baz=268,slow=3.0,SNR=7.3
BVAR Borovoye Array 113.56 320 PKKPbc PKKPbc 07 56 41.4 +0.2
BRVK Borovoye 113.63 320 *e*PKIKP **PKiKP** **07 45 54.9 -1.2**
BRVK MLR MLR
comp=Z,12µm,19.0s
BRVK Borovoye 113.63 320 *e*PKPdf **PKiKP** **07 45 54.9 -1.2**
BRVK LR LR
comp=Z,12µm,19.0s
GOGA Godfrey 114.75 62 *e*PKIKP PKPdf 07 45 58.8 -0.1
GOGA MLR MLR
comp=Z,17µm,21.0s
GOGA Godfrey 114.75 62 *e*PKPdf PKPdf 07 45 58.8 0.0
GOGA LR LR
comp=Z,17µm,21.0s
TKL Tuckaleechee C 114.92 60 *e*PKIKP PKPdf 07 45 59.8 +0.7
TKL Tuckaleechee C 114.92 60 *e*PKPdf PKPdf 07 45 59.8 +0.7
ROSC El Rosal 114.98 95 PKP PKPdf 07 46 01.7 +1.4
comp=Z,2.8nm,0.5s,baz=107,slow=18,SNR=4.6
ROSC El Rosal 114.98 95 PKP PKPdf 07 46 01.7 +1.4
ROSC *e*PP **PP** **07 46 57.9 -1.7**
GLMI Grayling 115.62 50 PFAKE 07 46 10.0 +10
GLMI LR LR
comp=Z,38µm,20.0s
ACSO Alum Creek Sta 116.25 55 PFAKE 07 46 10.0 +8.4
ACSO LR LR
comp=Z,19µm,19.0s
NHSC New Hope 117.40 63 PFAKE 07 46 20.0 +16
NHSC LR LR
comp=Z,13µm,19.0s
BLA Blacksburg 117.83 59 *e*PKIKP **PKPdf** **07 46 06.5 +1.8**
BLA MLR MLR
comp=Z,20µm,20.0s
BLA Blacksburg 117.83 59 *e*PKPdf **PKPdf** **07 46 06.5 +1.8**
BLA LR LR
comp=Z,20µm,20.0s
SUR Sutherland 118.48 209 PKP **PKPdf** **07 46 09.3 +2.8**
comp=Z,13nm,0.9s,baz=219,slow=2.9,SNR=4.3
SUR Sutherland 118.48 209 PKP **PKPdf** **07 46 09.3 +2.8**
SUR LR LR
comp=Z,14µm,19.0s
ERPA Erie 118.70 53 PFAKE 07 46 20.0 +14
ERPA LR LR
comp=Z,20µm,19.0s
SAML Samuel 118.82 114 *e*PKPdf **PKPdf** **07 46 06.0 -1.3**
SAML LR LR
comp=Z,16µm,22.0s
GTBY Guantanamo Bay 119.05 79 PFAKE 07 46 20.0 +13
GTBY LR LR
comp=Z,4µm,19.0s
SVE Sverdlovsk 119.26 324 *e*PKIKP **PKPdf** **07 46 10.4 +3.6**
SVE pmax pmax
comp=Z,34nm,1.5s
BOSA Boshof 119.39 215 PKP **PKPdf** **07 46 09.8 +1.6**
comp=Z,11nm,1.0s,baz=153,slow=4.3,SNR=7.9
BOSA Boshof 119.39 215 *e*PKIKP **PKPdf** **07 46 07.0 -1.3**
BOSA MLR MLR
comp=Z,10µm,22.0s
BOSA Boshof 119.39 215 *e*PKPdf **PKPdf** **07 46 07.0 -1.3**
BOSA PKP **PKPdf** **07 46 09.8 +1.6**
BOSA LR LR
comp=Z,10µm,22.0s
CNNC Cliffs of the 119.60 61 PFAKE 07 46 20.0 +12
CNNC LR LR
comp=Z,19µm,20.0s
SDV Santo Domingo 119.86 92 *e*PKPdf **PKPdf** **07 46 08.7 -0.8**
SDV LR LR
comp=Z,1µm,19.0s
ABKAR Akbulak array 119.94 315 *e*PKPdf **PKPdf** **07 46 07.7 -0.6**
ABKAR *e*PP **PP** **07 47 30.4 -2.4**
CBN Corbin 120.35 58 PFAKE 07 46 20.0 +11
CBN LR LR
comp=Z,30µm,19.0s
ARU Arti 120.44 323 *i* PKIKP **PKPdf** **07 46 09.0 -0.1**
ARU 07 47 36.2
ARU PPP PPP 07 50 06.6
ARU 07 53 01.5
ARU PS **PS** **07 57 23.3 -3.6**
ARU SS SS 08 03 57.6 -5.9
ARU Arti 120.44 323 *e*PKPdf **PKPdf** **07 46 08.6 -0.5**
ARU *e*PP **PP** **07 47 33.1 -2.9**
ARU LR LR
comp=Z,8µm,20.0s
TRIS Tristan da Cun 120.93 177 PFAKE 07 46 20.0 +9.2
TRIS LR LR
comp=Z,9µm,19.0s
SOKR Solikamsk 120.98 327 *d i* PKIKP **PKPdf** **07 46 11.0 +1.0**
SOKR 07 47 37.7
SOKR 07 53 14.7
SOKR SSS SSS 08 08 44.6
SOKR pmax pmax
comp=Z,40nm,1.1s
AKTO Aktyubinsk 121.16 316 PKP **PKPdf** **07 46 10.6 -0.1**
comp=Z,12nm,0.8s,baz=5.5,slow=0.7,SNR=32
AKTO PKKPbc **PKKPbc** **07 56 14.3 +0.4**
comp=Z,2.6nm,0.8s,baz=282,slow=2.8,SNR=7.8
AKTO Aktyubinsk 121.16 316 PKIKP **PKPdf** **07 46 10.6 -0.1**
AKTO Aktyubinsk 121.16 316 PKP **PKPdf** **07 46 10.6 -0.1**
AKTO PKKPbc **PKKPbc** **07 56 14.3 +0.4**
SPB Sao Paulo 121.28 139 PFAKE 07 46 20.0 +8.2
SPB LR LR
comp=Z,6µm,20.0s
BINY Binghamton 121.68 53 PFAKE 07 46 20.0 +8.0
BINY LR LR
comp=Z,23µm,20.0s
LBTB Lobatse 122.03 218 PKP **PKPdf** **07 46 14.7 +1.3**
comp=Z,4.8nm,0.8s,baz=159,slow=2.8,SNR=6.0
LBTB Lobatse 122.03 218 PKIKP **PKPdf** **07 46 14.7 +1.3**
LBTB MLR MLR
comp=Z,9µm,19.0s
LBTB Lobatse 122.03 218 PKP **PKPdf** **07 46 14.7 +1.3**
LBTB LR LR
comp=Z,9µm,19.0s
SDDR Presa de Saban 122.30 81 PFAKE 07 46 30.0 +16
SDDR LR LR
comp=Z,6µm,22.0s
KBS Kingsbay 122.44 355 *e*P **PKPdf** **07 46 11.7 -0.7**
KBS *e*PP PP 07 47 43.7 -5.2
KBS AMS AMS 08 34 54.7
comp=Z,6µm,19.5s
KBS Kingsbay 122.44 355 PFAKE 07 46 20.0 +7.6
KBS LR LR
comp=Z,7µm,21.0s
MSNY Massena 122.55 50 *e*PKPdf **PKPdf** **07 46 12.7 -0.8**
SPITS Spitsbergen Ar 122.72 354 PKP **PKPdf** **07 46 13.0 0.0**
comp=Z,25nm,0.7s,baz=121,slow=7.5,SNR=28
SPITS Spitsbergen Ar 122.72 354 PKIKP **PKPdf** **07 46 13.0 0.0**
SPITS Spitsbergen Ar 122.72 354 PKP **PKPdf** **07 46 13.0 0.0**
SPB4 Spitsbergen Ar 122.73 354 *e*PKPdf **PKPdf** **07 46 13.6 +0.6**
HOPEN Hopen 123.07 351 *e*P **PKPdf** **07 46 08.5 -5.1**
HOPEN *e*PP **PP** **07 47 48.7 -4.4**
MDV Middlebury 123.76 51 *e*PKPdf **PKPdf** **07 46 16.1 +0.3**
YLE Yale 123.94 54 *e*PKPdf **PKPdf** **07 46 16.8 +0.6**
LBNH Lisbon 124.66 51 PFAKE 07 46 30.0 +12
LBNH LR LR
comp=Z,26µm,20.0s
CAM4 Nova Friburgo 125.11 142 ⇓ *i*P **PKPdf** **07 46 21.9 +2.4**
CAM4 *i* 07 46 27.8
CAM4 *i* 07 46 30.3
CAM4 *i* 07 46 32.3
CAM4 *i* 07 46 35.2
CAM4 *i* 07 46 39.5
CAM4 *i* 07 46 43.2
DAG Danmarks Havn 125.24 3 *i* PKIKP **PKPdf** **07 46 16.1 -1.7**
DAG *i* 07 48 07.0
DAG *i* 07 53 22.0
DAG pmax pmax
comp=Z,21nm,0.9s
DAG MLR MLR
comp=Z,11µm,22.0s
DAG Danmarks Havn 125.24 3 *i* P **PKPdf** **07 46 16.1 -1.7**
comp=Z,206nm,0.9s
DAG *i* 07 48 07.0
DAG *i* 08 05 32.2
DAG
comp=Z,15µm,22.0s
BJO Bjornoya 125.56 351 *e*P **PKPdf** **07 46 17.2 -1.2**
BJO *e*PP **PP** **07 48 07.1 -2.8**
BJO AMS AMS 08 44 10.6
comp=Z,6µm,16.1s
LRS Lares 126.20 83 *e*PKPdf **PKPdf** **07 46 20.1 -1.2**
OBIP Obispado Ponce 126.36 83 *e*PKPdf **PKPdf** **07 46 21.2 -0.4**
CELP Cerrillos 126.39 83 *e*PKPdf **PKPdf** **07 46 21.6 -0.1**
PKME Peaks-Kenny Pk 126.47 49 *e*PKPdf **PKPdf** **07 46 20.6 -0.4**
PKME LR LR
comp=Z,26µm,22.0s
SCHQ Schefferville 126.54 37 PKP **PKPdf** **07 46 20.8 -0.1**
comp=Z,14nm,0.9s,baz=237,slow=4.4,SNR=17
SCHQ Schefferville 126.54 37 PKP **PKPdf** **07 46 20.8 -0.1**
SCHQ LR LR
comp=Z,37µm,21.0s
SJG San Juan 126.80 84 *e*PKIKP **PKPdf** **07 46 20.7 -1.7**
SJG MLR MLR
comp=Z,3µm,19.0s
SJG San Juan 126.80 84 *e*PKPdf **PKPdf** **07 46 20.7 -1.7**
SJG LR LR
comp=Z,3µm,19.0s
LVZ Lovozero 126.92 341 PFAKE 07 46 30.0 +8.7
LVZ LR LR
comp=Z,12µm,21.0s
SUMG Summit 127.09 11 *e*PKIKP **PKPdf** **07 46 21.0 -0.9**
SUMG Summit 127.09 11 *e*PKPdf **PKPdf** **07 46 21.0 -0.9**
SUMG Summit 127.09 11 *i* P **PKPdf** **07 46 23.2 +1.3**
SUMG comp=Z,27nm,1.0s
SUMG *i* 07 48 21.4
comp=Z,7µm,18.0s
PQI Presque Isle 127.22 48 *e*PKPdf **PKPdf** **07 46 21.9 -0.5**
APA Apatity 127.50 341 ‖ *i*PKIKP **PKPdf** **07 46 25.0 +2.7**
APA *i* 07 48 24.0
APA *i* 07 53 28.0
APA *i* 07 58 20.0
APA *i* PPS PPS 08 00 06.0
APA *i* SS SS 08 05 36.0 +4.2
APA pmax pmax
comp=Z,81nm,1.4s
APA MLR MLR
comp=Z,12µm,23.0s
KEV Kevo 127.79 345 *e*PKIKP **PKPdf** **07 46 23.9 +1.1**
KEV Kevo 127.79 345 PFAKE 07 46 30.0 +7.2
KEV LR LR
comp=Z,8µm,21.0s
KEV Kevo 127.79 345 *e*pkp **PKPdf** **07 46 23.9 +1.1**
KEV Kevo 127.79 345 *e*pkp **PKPdf** **07 46 23.9 +1.1**
ARCES ARCESS Array B 128.31 345 PKP **PKPdf** **07 46 24.4 +0.6**
comp=Z,11nm,0.4s,baz=25,slow=3.2,SNR=99
ARCES ARCESS Array B 128.31 345 PKIKP **PKPdf** **07 46 24.4 +0.6**
ARCES ARCESS Array B 128.31 345 PKP **PKPdf** **07 46 24.4 +0.6**
ARE0 ARCESS Array S 128.31 345 *e*P **PKPdf** **07 46 23.2 -0.6**
ARE0 *e*PP **PP** **07 48 24.0 -4.2**
ARE0 *e*SS SS 08 05 48.8 +7.2
ARE0 ARCESS Array S 128.31 345 *e*PKPdf **PKPdf** **07 46 25.6 +1.8**
SFJD Kangerlussuaq 128.32 19 *i* PKIKP **PKPdf** **07 46 23.7 -0.2**
SFJD *i* 07 48 28.3
SFJD *i* 08 06 11.3
SFJD pmax pmax
comp=Z,14nm,0.9s
SFJD MLR MLR
comp=Z,10µm,21.0s
SFJD Kangerlussuaq 128.32 19 PFAKE 07 46 40.0 +16
SFJD LR LR
comp=Z,14µm,21.0s
SFJD Kangerlussuaq 128.32 19 *i* P **PKPdf** **07 46 23.7 -0.2**
comp=Z,14nm,1.0s
SFJD *i* 07 48 28.3
SFJD *i* 08 06 11.3
SFJD
comp=Z,10µm,21.0s
KBD Kabd 128.55 290 *e*P **PKPdf** **07 46 25.2 -0.3**
KBD AMb AMB 07 46 30.3
comp=Z,101nm,1.5s
MAK Makhachkala 128.86 308 *e*P **Pdif** **07 43 12.7 +1.2**
MAK *i* 07 46 26.3
MAK *e* 07 48 32.1
MAK *e*PPP PPP 07 51 18.7
MAK *e* 07 53 34.2
MAK *i* SP SP 07 58 35.7 -2.6
MAK *e*SSS SSS 08 10 38.8
MAK pmax pmax
comp=Z,220nm,2.0s
MIB Mutribah 128.92 291 *e*P **PKPdf** **07 46 25.8 -0.4**
MIB AMb AMB 07 46 28.1
comp=Z,32nm,1.2s
NAY Al-Naaiem 128.95 290 *e*P **PKPdf** **07 46 25.9 -0.3**
NAY AMb AMB 07 46 34.9
comp=Z,68nm,1.5s
KMBO Kilima Mbogo 128.96 249 *e*PKIKP **PKPdf** **07 46 26.2 -0.9**
KMBO MLR MLR
comp=Z,11µm,21.0s
KMBO Kilima Mbogo 128.96 249 *e*PKPdf **PKPdf** **07 46 26.2 -0.9**
KMBO LR LR
comp=Z,11µm,21.0s
GRGR Grenville 129.25 92 PFAKE 07 46 40.0 +13
GRGR LR LR
comp=Z,3µm,19.0s
TRO Tromso 129.67 348 *e*P **PKPdf** **07 46 26.3 0.0**
TRO *e*PP **PP** **07 48 37.0 +0.1**
BBSR BB Station 130.28 66 PFAKE 07 46 40.0 +11
BBSR LR LR
comp=Z,6µm,19.0s
FDF Fort de France 130.51 89 PFAKE 07 46 40.0 +10
FDF LR LR
comp=Z,4µm,22.0s
ANWB Willy Bob 130.71 85 PFAKE 07 46 40.0 +10
ANWB LR LR
comp=Z,3µm,19.0s
TBLG Delisi 131.02 307 PKIKP **PKPdf** **07 46 27.9 -1.9**
TBLG Delisi 131.02 307 P **PKPdf** **07 46 27.9 -1.9**
TBLG S **SKPab** **07 49 56.0 +2.7**
JOF Joensuu 131.03 337 *e*PKIKP **PKPdf** **07 46 31.7 +2.6**
JOF Joensuu 131.03 337 *e*pkp **PKPdf** **07 46 31.7 +2.6**
JOF Joensuu 131.03 337 *e*pkp **PKPdf** **07 46 31.7 +2.6**
TSUM Tsumeb 131.09 215 *e*PKPdf **PKPdf** **07 46 33.3 +2.5**
TSUM *e*SKPbc **SKPbc** **07 49 52.8 -1.4**
TSUM LR LR
comp=Z,16µm,20.0s
GNI Garni 131.16 304 *i* PKIKP **PKPdf** **07 46 30.0 -0.4**
GNI MLR MLR
comp=Z,3µm,25.0s
GNI Garni 131.16 304 PFAKE 07 46 40.0 +10
GNI LR LR
comp=Z,6µm,19.0s
SCO Scoresbysund 131.19 6 *i* PKIKP **PKPdf** **07 46 29.9 +0.7**
SCO *i* 07 48 48.8
SCO pmax pmax
comp=Z,14nm,0.8s
SCO MLR MLR
comp=Z,6µm,18.0s
SCO Scoresbysund 131.19 6 *i* P **PKPdf** **07 46 29.9 +0.7**
comp=Z,14nm,0.8s
SCO *i* 07 48 48.8
SCO
comp=Z,6µm,18.0s
JMIC Jan Mayen 131.25 360 *e*PP PP 07 48 43.2 -4.0
VRHR Novokhopersk 131.30 319 *e*PKIKP **PKPdf** **07 46 28.7 -1.3**
VRHR *e* 07 48 47.3
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,160nm,1.6s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,850nm,4.9s
VRHR pmax pmax
comp=N,90nm,2.5s
VRHR pmax pmax
comp=E,430nm,4.9s
BBGH Gun Hill 131.51 92 PFAKE 07 46 40.0 +8.5
BBGH LR LR
comp=Z,6µm,20.0s
ZEI Tsey 131.52 308 *i* PKIKP **PKPdf** **07 46 31.1 +0.1**
ZEI pmax pmax
comp=Z,53nm,2.1s
BHD Baghdad 131.65 295 *i* PKP **PKPdf** **07 46 30.0 -1.2**
BHD *i* PP **PP** **07 48 47.0 -4.4**
BHD *i* PKS PKSdf 07 49 57.0 -11
BHD *e*SKS **SKSdf** **07 53 40.0 -1.5**
BHD *i* PS PS 07 58 42.0 -24
ONI Oni 131.87 308 P **PKPdf** **07 46 29.9 -1.5**
ONI S **SKPab** **07 49 59.3 +2.4**
MOS Moscow 131.91 326 *e*PKIKP **PKPdf** **07 46 28.3 -2.7**
MOS *e* 07 46 39.0
MOS *e* 07 48 53.0
MOS pmax pmax
comp=Z,112nm,1.9s
MOS pmax pmax
comp=Z,500nm,2.6s
AKH Akhalkalaki 131.98 306 P **PKPdf** **07 46 31.0 -0.9**
AKH S **SKPab** **07 49 59.2 +1.6**
DYDN Diyadin 132.02 304 *i* P **PKPdf** **07 46 32.2 +0.1**
HAKT HAKKARI 132.14 301 *i* P **PKPdf** **07 46 31.9 -0.5**
KIV Kislovodsk 132.22 310 *e*P **Pdif** **07 43 24.5 -2.1**
KIV *i* 07 46 31.5
KIV *e* 07 48 52.5
KIV *e*PS **PS** **07 59 09.4 -1.6**
KIV *e*SS SS 08 06 28.8 -3.0
KIV *e*SSS SSS 08 11 21.7
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 132.22 310 PFAKE 07 46 40.0 +7.9
KIV LR LR
comp=Z,6µm,19.0s
TUTA Tutak 132.71 304 *i* P **PKPdf** **07 46 33.7 +0.4**
OBN Obninsk 132.72 326 ‖ *i*PKIKP **PKPdf** **07 46 33.7 +1.2**
OBN *i* 07 49 00.5
OBN *i* PS **PS** **07 59 12.9 -2.5**
OBN *i* SS SS 08 06 35.1 -1.5
OBN pmax pmax
comp=Z,109nm,2.0s
OBN MLR MLR
comp=Z,6µm,19.0s
OBN Obninsk 132.72 326 PFAKE 07 46 40.0 +7.5
OBN LR LR
comp=Z,9µm,20.0s
VSR Storozhevoye 132.74 320 *i* PKIKP **PKPdf** **07 46 31.1 -1.6**
VSR *e* 07 48 56.7
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,380nm,3.8s
VSR pmax pmax
comp=N,90nm,3.7s
VSR pmax pmax
comp=E,80nm,2.6s
SIRN S¯–rnak 133.17 301 *i* P **PKPdf** **07 46 33.9 -0.3**
ARTV Artvin 133.18 306 *i* P **PKPdf** **07 46 34.5 +0.3**
DAGI Agillar 133.21 306 *i* P **PKPdf** **07 46 34.1 0.0**
TATV Tatvan 133.21 302 *i* P **PKPdf** **07 46 34.5 +0.1**
KAF Kangasniemi 133.33 338 *e*PKIKP **PKPdf** **07 46 34.9 +1.4**
KAF Kangasniemi 133.33 338 *e*pkp **PKPdf** **07 46 34.9 +1.4**
KAF Kangasniemi 133.33 338 *e*pkp **PKPdf** **07 46 34.9 +1.4**
HOMI Horasan 133.34 305 *i* P **PKPdf** **07 46 34.6 +0.1**
DDEM Demirkent 133.35 306 *i* P **PKPdf** **07 46 33.6 -0.8**
DBOC Borcka 133.36 306 *i* P **PKPdf** **07 46 33.3 -1.0**
ERZM Erzurum 133.77 304 *i* P **PKPdf** **07 46 36.6 +1.2**
FINES FINESS Array B 133.86 337 PKhKP PKPpre 07 46 24.7
comp=E,2.5nm,0.5s,baz=59,slow=3.2,SNR=9.3
FINES PKP **PKPdf** **07 46 35.8 +1.2**
comp=E,11nm,0.8s,baz=291,slow=5.3,SNR=11
FINES SKPbc **SKPbc** **07 50 03.2 +1.0**
comp=E,10nm,0.6s,baz=72,slow=4.5,SNR=12
FINES FINESS Array B 133.86 337 PKIKP **PKPdf** **07 46 35.8 +1.2**
FINES FINESS Array B 133.86 337 PKP **PKPdf** **07 46 35.8 +1.2**
FINES SKPbc **SKPbc** **07 50 03.2 +1.0**
BNGL BINGOL 134.04 303 *i* P **PKPdf** **07 46 36.5 +0.6**
SOC Sochi 134.40 310 *ce*P **Pdif** **07 43 33.4 -2.8**
SOC *i* 07 46 34.9
SOC *e* 07 46 50.2
SOC *e* 07 49 07.9
SOC *e*PPP PPP 07 52 01.1
SOC *e*SSS SSS 08 12 01.3
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,4µm,15.0s
KOPT Kop Dagi 134.41 305 *i* P **PKPdf** **07 46 37.4 +0.8**
MARD Mardin 134.48 301 *i* P **PKPdf** **07 46 36.4 -0.3**
MBAR Mbarara 134.80 245 PFAKE 07 46 50.0 +12
MBAR LR LR
comp=Z,753nm,21.0s
DIYA Diyarbakir 134.95 302 *i* P **PKPdf** **07 46 37.5 +0.1**
KELT Kelkit 135.34 305 *i* P **PKPdf** **07 46 39.0 +0.7**
NSS Namsos 135.46 347 *e*P PKPdf 07 46 31.9 -5.5
NSS *e*PP **PP** **07 49 09.0 -5.0**
NSS AMS AMS 08 41 46.1
comp=Z,8µm,24.3s
ANN Anapa 135.72 312 *i* PKHKP PKPpre 07 46 26.4
ANN *e* 07 46 40.4
ANN pmax pmax
comp=Z,76nm,1.7s
ANN pmax pmax
comp=N,550nm,10.4s
ANN pmax pmax
comp=E,66nm,10.4s
ANN pmax pmax
comp=Z,1µm,10.4s
ELZG Elazig 135.77 303 *i* P **PKPdf** **07 46 39.7 +0.7**
MALT Malatya 136.23 303 PFAKE 07 46 50.0 +10
MALT LR LR
comp=Z,105nm,21.0s
ATAB Bozova 136.44 301 *i* P **PKPdf** **07 46 40.3 +0.2**
AKCD Akcadag 136.63 303 *i* P **PKPdf** **07 46 36.7 -3.9**
BORG Borgarnes 136.80 7 PFAKE 07 46 50.0 +10
BORG LR LR
comp=Z,7µm,21.0s
GZT Gaziantep 137.03 301 *i* P **PKPdf** **07 46 43.1 +1.7**
ERBA Erbaa 137.13 306 *i* P **PKPdf** **07 46 41.3 -0.1**
MICGM Minsk 137.40 329 *e*PKP PKPdf 07 46 36.0 -5.3
TOKA Tokat 137.41 306 *i* P **PKPdf** **07 46 41.7 -0.2**
MNK Minsk 137.42 329 *ce*PKIKP PKPdf 07 46 36.0 -5.4
MNK *e* 07 49 26.0
MNK *e*PPS PPS 08 01 40.0
MNK MLR MLR
comp=Z,29µm,23.0s
MNK MLR MLR
comp=E,14µm,22.0s
MNK MLR MLR
comp=N,17µm,22.0s
KUZU Kuzuini 137.48 301 *i* P **PKPdf** **07 46 40.9 -1.2**
PINB Pinarbasi 137.75 303 *i* P PKPdf 07 46 33.5 -9.3
SIM Simferopol' 137.95 313 *ce*PKIKP **PKPdf** **07 46 38.9 -3.8**
SIM *e* 07 49 31.0
SIM *e* 07 53 43.5
SIM *e*PPS PPS 08 01 49.0
SIM pmax pmax
comp=Z,1µm,10.1s
SIM pmax pmax
comp=Z,2µm,15.3s
ASF Jabal al Asfar 137.97 294 SKP **SKPdf** **07 50 19.5 +2.5**
comp=Z,5.2nm,0.9s,baz=141,slow=1.7,SNR=4.0
MOL Molde 138.10 348 *e*P **PKPdf** **07 46 38.8 -3.6**
MOL *e*PP **PP** **07 49 27.9 -2.6**
MOL AMS AMS 08 45 08.9
comp=Z,4µm,22.6s
YAYL Yayladag 138.34 300 *i* P PKPdf 07 46 38.4 -5.4
CTKT Corum 138.61 307 *i* P **PKPdf** **07 46 44.0 -0.2**
NB2 NORSAR Subarra 138.69 345 PKPdf PKPpre 07 46 37.2
comp=Z,43nm,1.4s,baz=27,slow=1.8
NB2 NORSAR Subarra 138.69 345 PKPdf PKPpre 07 46 37.2
baz=27,slow=1.8
NOA NORSAR Array B 138.69 345 PKhKP PKPpre 07 46 34.6
comp=Z,3.3nm,0.8s,baz=25,slow=4.0,SNR=8.4
NOA PKP **PKPdf** **07 46 44.9 +1.3**
comp=Z,2.1nm,0.5s,baz=43,slow=2.5,SNR=8.6
NOA SKP 07 50 17.2
comp=Z,3.8nm,0.8s,baz=18,slow=4.1,SNR=7.8
NOA NORSAR Array B 138.69 345 PKIKP **PKPdf** **07 46 44.9 +1.3**
NOA NORSAR Array B 138.69 345 PKP **PKPdf** **07 46 44.9 +1.3**
NOA SKP 07 50 17.2
AKASG Malin Array Be 138.69 323 PKhKP PKPpre 07 46 35.6
comp=Z,0.7nm,0.3s,baz=59,slow=3.6,SNR=6.2
AKASG PKP **PKPdf** **07 46 44.9 +1.1**
comp=Z,5.8nm,0.7s,baz=57,slow=3.3,SNR=15
AKASG SKP 07 50 20.2
comp=Z,8.9nm,0.7s,baz=47,slow=3.8,SNR=17
AKASG Malin Array Be 138.69 323 PKHKP PKPpre 07 46 35.6
AKASG 07 46 44.9
AKASG Malin Array Be 138.69 323 PKPpre PKPpre 07 46 35.6
AKASG PKP **PKPdf** **07 46 44.9 +1.1**

AKASG SKP 07 50 20.2
KIEV Kiev 138.70 323 *e*PKHKP PKPpre 07 46 37.3
NC602 NORSAR Array S 138.87 345 *e*P PKPpre 07 46 32.4
NC602 *e*PP **PP** **07 49 30.8 -4.7**
NAO01 NORSAR Array S 138.94 345 PKPdf **PKPdf** **07 46 43.9 -0.1**
NAO01 LR LR
comp=Z,11µm,20.0s
MMAI Mount Meron Ar 139.19 295 SKP **SKPbc** **07 50 23.4 +4.0**
comp=Z,13nm,1.0s,baz=40,slow=7.5,SNR=4.9
FOO Floro 139.44 349 *e*P PKPdf 07 46 38.3 -6.6
FOO *e*PP **PP** **07 49 35.9 -3.0**
BR131 Keskin Array S 139.66 306 *e*PKPdf **PKPdf** **07 46 42.0 -4.2**
BR131 *e*PP **PP** **07 49 42.1 +0.3**
BR131 LR LR
comp=Z,4µm,22.0s
BRTR Keskin Array B 139.66 306 PKP **PKPdf** **07 46 45.1 -1.0**
comp=Z,2.5nm,0.8s,baz=117,slow=3.8,SNR=9.9
BRTR Keskin Array B 139.66 306 PKIKP **PKPdf** **07 46 45.2 -1.0**
BRTR Keskin Array B 139.66 306 PKP **PKPdf** **07 46 45.1 -1.0**
EIL Elat 139.67 290 PKP **PKPdf** **07 46 45.8 -0.5**
comp=Z,19nm,1.0s,baz=45,slow=4.3,SNR=8.8
EIL Elat 139.67 290 PKP **PKPdf** **07 46 45.8 -0.5**
SUW Suwalki 139.90 330 *e*PKPdf PKPpre 07 46 39.7
SUW *e*PP **PP** **07 49 41.7 -0.4**
SUW *e* 07 50 22.0
SUW LMZ LR 08 49 00.6
comp=Z,16µm,22.3s
SUW Suwalki 139.90 330 *e*PKHKP PKPpre 07 46 39.7
SUW *e* 07 49 41.7
SUW MLR MLR
comp=Z,16µm,22.3s
SUW Suwalki 139.90 330 *e*PKPdf PKPpre 07 46 39.1
SUW *e*PP **PP** **07 49 42.0 -0.1**
KONO Kongsberg 140.30 345 *e*P PKPdf 07 46 37.7 -8.7
KONO *e*PP **PP** **07 49 41.2 -2.9**
KONO AMS AMS 08 42 25.8
comp=Z,9µm,26.5s
KONO Kongsberg 140.30 345 PFAKE 07 47 00.0 +14
KONO LR LR
comp=Z,10µm,20.0s
BER Bergen 140.53 349 *e*P PKPdf 07 46 41.3 -5.5
BER *e*PP **PP** **07 49 41.6 -3.9**
BER AMS AMS 08 52 22.5
comp=Z,6µm,19.8s
KIS Kishinev 140.62 318 *de*P **Pdif** **07 44 04.0 +0.2**
KIS *e* 07 49 48.0
KIS *e*PPS PPS 08 02 16.0
KIS *e* 08 08 06.0
KIS pmax pmax
comp=Z,2µm,8.0s
KIS pmax pmax
comp=Z,3µm,18.0s
KIS MLR MLR
comp=N,3µm,20.0s
KIS MLR MLR
comp=E,1µm,20.0s
KIS MLR MLR
comp=Z,9µm,20.0s
KIS MLR MLR
comp=Z,10µm,20.0s
KIS Kishinev 140.62 318 *e*P **Pdif** **07 44 04.0 +0.2**
KIS Kishinev 140.62 318 *i* PKP **PKPdf** **07 46 43.0 -4.5**
comp=Z,3µm,18.0s
KIS *e*pPKP pPKPdf 07 47 15.0 +20
KIS Kishinev 140.62 318 *e*PP PP 07 49 48.0 +1.0
comp=Z,3µm,18.0s
KIS Kishinev 140.62 318 *e*PPS PPS 08 02 16.0
KIS LRM MLR 08 51 14.0
comp=Z,3µm,20.0s
KIS Kishinev 140.62 318 *e*UNK **07 59 52.0 +3.9**
KIS XM 07 59 55.0
comp=Z,100nm,1.6s
CSS Prodhromos 140.72 298 PFAKE 07 47 00.0 +12
CSS LR LR
comp=Z,7µm,20.0s
ERMK Ermenek 140.81 301 *i* P PKPdf 07 46 38.6 -10
HOMB Homborsund 141.78 345 *e*P **PKPdf** **07 46 46.5 -2.6**
HOMB *e*PP **PP** **07 49 53.5 +0.3**
SEYT Eskypehyr 141.80 306 *i* P **PKPdf** **07 46 49.0 -1.0**
SHEL Horse Pasture 141.85 186 PFAKE 07 47 00.0 +9.3
SHEL LR LR
comp=Z,5µm,19.0s
RCBR Riachuelo 141.86 134 *e*PKPdf PKPdf 07 46 41.7 -9.1
RCBR *e*PP **PP** **07 49 54.1 -0.6**
RCBR LR LR
comp=Z,9µm,20.0s
BOLV Bolvadin 141.92 305 *i* P PKPdf 07 46 42.8 -7.5
LVV L'vov 141.99 325 *e*PKIKP **PKPdf** **07 46 48.2 -1.7**
LVV *e* 07 49 52.8
LVV *i* PS 08 08 25.4
TESR 142.18 319 ⇓*i* P **PKPdf** **07 46 51.5 +1.2**
PSN Preselentsi 142.38 314 *i* P PKPdf 07 46 44.9 -5.8
ISP Isparta 142.46 304 PFAKE 07 47 00.0 +8.8
ISP LR LR
comp=Z,8µm,19.0s
BUR08 Bucovina Ar. S 142.50 321 *e*PKPdf **PKPdf** **07 46 49.8 -1.2**
BURAR Bucovina Array 142.50 321 ⇓*i* P **PKPdf** **07 46 51.3 +0.3**
BSD Bornholm Skovb 142.51 337 *e*PKHKP PKPpre 07 46 44.6
BSD pmax pmax
comp=Z,20nm,0.8s
BSD MLR MLR
comp=Z,8µm,25.0s
BSD Bornholm Skovb 142.51 337 *i* P PKPpre 07 46 44.6
comp=Z,20nm,0.8s
BSD *i* 08 09 22.2
BSD
comp=Z,8µm,25.0s
KORT Korkueli 142.77 302 *i* P PKPdf 07 46 45.5 -6.3
KWP Kalwaria Pacla 142.80 325 *e*PKPdf PKPdf 07 46 45.9 -5.4
KWP *e*PP **PP** **07 50 01.5 +1.5**
KWP LMZ LR 08 51 16.4
comp=Z,17µm,21.6s
KWP Kalwaria Pacla 142.80 325 *e*PKIKP **PKPdf** **07 46 47.8 -3.5**
KWP *e* 07 49 57.7
KWP MLR MLR
comp=Z,16µm,21.0s
KWP Kalwaria Pacla 142.80 325 *e*PKPdf **PKPdf** **07 46 47.8 -3.5**
KWP *e*PP **PP** **07 49 57.7 -2.4**
KWP LR LR
comp=Z,16µm,21.0s
KWP Kalwaria Pacla 142.80 325 ⇓*i* P **PKPdf** **07 46 54.6 +3.3**
COP Copenhagen 142.90 340 *e*PKHKP **PKPdf** **07 46 46.3 -4.9**
COP pmax pmax
comp=Z,22nm,0.8s
COP MLR MLR
comp=Z,5µm,21.0s
COP Copenhagen 142.90 340 *i* P **PKPdf** **07 46 46.3 -4.9**
comp=Z,22nm,0.8s
COP *i* 08 14 06.1
COP
comp=Z,5µm,21.0s
GDZ Gediz 142.94 306 *i* P PKPdf 07 46 46.2 -5.9
GKP Gorka Klasztor 143.00 333 *e*PKPdf **PKPdf** **07 46 50.1 -1.4**
GKP *e*PP **PP** **07 50 04.7 +3.8**
GKP LMZ LR 08 44 32.9
comp=Z,10µm,26.6s
GKP Gorka Klasztor 143.00 333 *e*PKIKP **PKPdf** **07 46 50.1 -1.4**
GKP *e* 07 50 04.7
MLR Muntele Rosu 143.08 317 ⇓PKIKP **PKPdf** **07 46 52.1 0.0**
MLR Muntele Rosu 143.08 317 ⇓*i* P **PKPdf** **07 46 52.1 0.0**
PRD Provadia 143.09 313 *i* P PKPab 07 46 47.2 -0.2
KHAL Karahalli 143.12 305 *i* P PKPab 07 46 45.8 -2.1
DOPR Dopca 143.20 318 ⇑*i* P **PKPdf** **07 46 54.5 +2.3**
SECR 143.21 317 ⇓*i* P **PKPdf** **07 46 52.6 +0.4**
MUD Monsted U'grnd 143.21 343 *i* PKHKP PKPab 07 46 47.9 +0.5
MUD pmax pmax
comp=Z,15nm,0.8s
MUD MLR MLR
comp=Z,10µm,25.0s
MUD Monsted U'grnd 143.21 343 *i* P PKPab 07 46 47.9 +0.5
comp=Z,15nm,0.8s
MUD
comp=Z,10µm,25.0s
LLD Lille Linde 143.26 339 *e*PKIKP PKPbc 07 46 49.3 +0.4
LLD Lille Linde 143.26 339 *i* P PKPbc 07 46 49.3 +0.4
KOLS Kolonicke sedl 143.44 325 *e*PKIKP **PKPdf** **07 46 54.2 +1.7**
KOLS Kolonicke sedl 143.44 325 *e*PKP **PKPdf** **07 46 54.2 +1.7**
BMR Baia Mare 143.47 322 ⇓PKIKP **PKPdf** **07 46 55.3 +2.8**
BMR Baia Mare 143.47 322 ⇓*i* P **PKPdf** **07 46 55.3 +2.8**
DEMI Demirci 143.53 306 *i* P PKPab 07 46 49.4 -0.1
DURS Dursunbey 143.55 307 *i* P PKPab 07 46 47.7 -1.7
UZH Uzhgorod 143.60 324 ⇑*i* PKIKP PKPbc 07 46 51.2 +1.1
UZH *e* 07 47 03.0
UZH *i* SS SS 08 08 50.0 +4.6

STHS Stebnicka Huta 143.70 326 *e*PKIKP **PKPdf** **07 46 53.9 +1.0**
STHS Stebnicka Huta 143.70 326 *e*PKP **PKPdf** **07 46 53.9 +1.0**
MDB Medias 143.73 319 ⇓PKIKP **PKPdf** **07 46 53.3 +0.2**
MDB Medias 143.73 319 ⇓*i* P **PKPdf** **07 46 53.3 +0.2**
TRPA Tarpa 143.75 323 ⇑*i* P PKPbc 07 46 51.5 +0.9
TRPA Tarpa 143.75 323 ⇑*e*PKPdf PKPab 07 46 50.2 +0.3
MANT Manisa 143.79 305 *i* P PKPab 07 46 50.9 +0.2
CRVS Cervenica-Dubn 143.89 325 *e*PKIKP PKPbc 07 46 51.7 +0.7
CRVS Cervenica-Dubn 143.89 325 *e*PKP PKPbc 07 46 51.6 +0.6
JMB Yambol 143.93 312 PKIKP PKPbc 07 46 51.9 +0.6
JMB Yambol 143.93 312 P PKPbc 07 46 51.9 +0.6
JMB Yambol 143.93 312 P PKPbc 07 46 51.9 +0.6
JMB Yambol 143.93 312 *i* P PKPab 07 46 50.7 0.0
OJC Ojcow 143.93 328 *e*PKPdf PKPab 07 46 49.9 -0.6
OJC *e* 07 46 53.1
OJC *e*pPKPdf pPKPdf 07 47 07.7 +6.9
OJC *e*PP **PP** **07 50 05.8 -0.9**
OJC L L 08 56 28.3
comp=Z,13nm,19.3s
OJC Ojcow 143.93 328 *e*PKIKP PKPab 07 46 49.9 -0.6
OJC *e* 07 50 05.8
SZH Strazhica 144.05 314 *i* P **PKPab** **07 46 50.4 -0.8**
HUMR Humele 144.12 316 ⇓*i* P PKPbc 07 46 52.6 +0.7
BALY Balya 144.14 308 *i* P **PKPab** **07 46 51.1 -0.5**
SART Tekirdag 144.15 309 *i* P **PKPab** **07 46 51.1 -0.7**
TURN Turunc 144.16 303 *i* P PKPbc 07 46 52.9 +0.7
NIE Niedzica 144.18 326 *e*PKPdf PKPbc 07 46 51.9 0.0
NIE *e* 07 46 53.6
NIE *e*pPKPdf pPKPdf 07 47 08.6 +7.3
NIE Niedzica 144.18 326 *e*PKIKP PKPbc 07 46 51.9 0.0
NIE *e* 07 47 08.6
AKHS Akhisar 144.25 306 *i* P **PKPab** **07 46 51.4 -0.7**
DRGR 144.39 321 ⇓PKIKP PKPbc 07 46 53.4 +0.7
DRGR 144.39 321 ⇓*i* P PKPbc 07 46 53.4 +0.7
PVL Pavlikeni 144.47 314 *i* P **PKPab** **07 46 52.5 -0.2**
AYDN Tasoluk 144.53 304 *i* P PKPbc 07 46 53.4 0.0
KECS Kecovo 144.66 325 *e*PKIKP **PKPdf** **07 46 54.3 -0.3**
KECS Kecovo 144.66 325 *e*PKP **PKPdf** **07 46 54.3 -0.3**
KAC Achnashellach 144.68 356 *e*P **PKPab** **07 46 51.6 -1.5**
KAC Achnashellach 144.68 356 P **PKPab** **07 46 51.6 -1.5**
ARG Arkhangelos 144.68 302 *e*P **PKPdf** **07 46 54.8 -0.2**
DEV Deva 144.75 320 ⇑PKIKP **PKPdf** **07 46 58.7 +3.9**
DEV Deva 144.75 320 ⇑*i* P **PKPdf** **07 46 58.7 +3.9**
RAC Raciborz 144.80 329 *e*PKIKP **PKPab** **07 46 53.7 0.0**
DIM Dimitrovgrad 144.81 312 *i* P PKPbc 07 46 54.1 0.0
KPL Plockton 144.86 357 *e*P **PKPab** **07 46 53.2 -0.5**
KPL AMB AMB 07 47 05.7
comp=Z,496nm,2.6s
KPL Plockton 144.86 357 P **PKPab** **07 46 53.2 -0.5**
KPL AMB AMB 07 47 05.7
comp=Z,496nm,2.6s
ALN Alexandroupoli 144.88 310 PKIKP **PKPab** **07 46 52.7 -1.6**
ALN Alexandroupoli 144.88 310 P **PKPab** **07 46 52.7 -1.6**
ALN Alexandroupoli 144.88 310 P **PKPab** **07 46 52.7 -1.6**
ALN Alexandroupoli 144.88 310 *e*P **PKPab** **07 46 53.3 -1.0**
AYVA Ayvalik 144.95 307 *i* P **PKPab** **07 46 53.5 -1.2**
RUE Ruedersdorf 144.98 335 *e*PKPbc PKPbc 07 46 54.5 +0.2
RUE Ruedersdorf 144.98 335 *e*PKPbc **PKPdf** **07 46 54.7 -0.3**
OKC Ostrava-Krasne 144.99 329 *e*PKIKP **PKPdf** **07 46 55.1 0.0**
OKC *e* 07 50 09.1
OKC MLR MLR
comp=Z,11µm,23.0s
OKC Ostrava-Krasne 144.99 329 *e*PKP **PKPdf** **07 46 55.1 0.0**
OKC *e*PP **PP** **07 50 09.1 -3.9**
OKC *ex* x 08 00 45.4
OKC *ex* x 08 09 13.6
OKC AMS AMS 08 47 30.0
comp=Z,11µm,23.0s
GCAM G?zelcaml? 145.01 304 *i* P **PKPbc** **07 46 53.3 -1.6**
BDRM Kayabasi 145.02 303 *i* P **PKPab** **07 46 55.2 +0.2**
KDZ Kurdzhali 145.04 312 *i* P **PKPbc** **07 46 54.7 -0.2**
GZR Gura Zlata 145.08 319 ⇓PKIKP **PKPdf** **07 46 55.5 0.0**
GZR Gura Zlata 145.08 319 ⇓*i* P **PKPdf** **07 46 55.5 0.0**
KSP Ksiaz 145.15 331 *e*PKPdf **PKPdf** **07 46 55.2 -0.1**
KSP *e*PP **PP** **07 50 17.0 +3.1**
KSP *e*SKSdf SKSdf 07 53 39.5 -24
KSP LMZ LR 08 54 26.5
comp=Z,15µm,20.7s
KSP Ksiaz 145.15 331 *i* PKIKP **PKPdf** **07 46 59.6 +4.2**
KSP *e* 07 50 10.5
KSP *e* 08 02 46.5
KSP *e*SS SS 08 09 04.0 +1.2
BOZC Bozcaada 145.25 308 *i* P **PKPbc** **07 46 54.6 -1.0**
PRK Paraskevi 145.28 307 *e*P **PKPbc** **07 46 55.0 -0.7**
SMG Samos 145.31 305 *e*P **PKPbc** **07 46 55.7 -0.2**
MORC Moravsky Berou 145.32 329 *e*PKIKP **PKPdf** **07 46 55.8 0.0**
MORC Moravsky Berou 145.32 329 *e*PKPdf **PKPdf** **07 46 55.8 0.0**
MORC Moravsky Berou 145.32 329 ⇓*i* P **PKPdf** **07 46 56.1 +0.3**
PSZ Piszkesteto 145.32 325 ⇓PKIKP **PKPdf** **07 46 56.2 +0.3**
PSZ Piszkesteto 145.32 325 *e*PKPdf **PKPbc** **07 46 55.0 -0.7**
PSZ LR LR
comp=Z,14µm,20.0s
PSZ Piszkesteto 145.32 325 ⇓*i* P **PKPdf** **07 46 56.2 +0.3**
PSZ Piszkesteto 145.32 325 ⇑*e*PKPbc **PKPbc** **07 46 55.6 -0.1**
NIS1 Nisyros Isl. 145.34 303 P **PKPbc** **07 46 55.2 -0.8**
NIS1 Nisyros Isl. 145.34 303 P **PKPbc** **07 46 55.2 -0.8**
PLD Plovdiv 145.35 313 PKIKP **PKPbc** **07 46 55.4 -0.4**
PLD Plovdiv 145.35 313 P **PKPbc** **07 46 55.4 -0.4**
PLD Plovdiv 145.35 313 P **PKPbc** **07 46 55.4 -0.4**
PLD Plovdiv 145.35 313 *i* P **PKPbc** **07 46 55.4 -0.4**
MPEP Malo Peshtene 145.45 315 *i* P **PKPbc** **07 46 56.2 0.0**
DPC Dobruska-Polom 145.49 331 *e*PKIKP **PKPdf** **07 46 56.1 +0.1**
DPC *e* 07 50 17.4
DPC MLR MLR
comp=Z,13µm,24.3s
DPC Dobruska-Polom 145.49 331 *e*PKP **PKPdf** **07 46 56.1 +0.1**
DPC *e*PP **PP** **07 50 17.4 +1.4**
DPC *ex* x 08 00 31.0
DPC *e*SS SS 08 09 14.6 +7.8
DPC AMS AMS 08 51 50.0
comp=Z,13µm,24.3s
RZN Rozhen 145.51 312 *i* P **PKPdf** **07 46 55.9 -0.6**
UPC Upice 145.52 331 *e*PKIKP **PKPab** **07 46 56.8 +0.4**
UPC Upice 145.52 331 *e*PKP **PKPab** **07 46 56.8 +0.4**
VYHS Vyhne 145.52 326 *e*PKIKP **PKPab** **07 46 57.1 +0.7**
VYHS Vyhne 145.52 326 *e*PKP **PKPab** **07 46 57.1 +0.7**
PGB Panagyurishte 145.53 314 *i* P **PKPdf** **07 46 55.7 -0.7**
HLG Helgoland 145.56 342 *e*PKPbc **PKPdf** **07 46 56.0 +0.1**
KARP Karpathos 145.59 301 *e*P **PKPdf** **07 46 55.1 -1.6**
BZS Buzias 145.66 320 ⇑PKP2 **PKPab** **07 46 57.7 +0.7**
BZS Buzias 145.66 320 ⇑*i* P **PKPab** **07 46 57.7 +0.7**
KOLL Kolacno 145.68 327 *e*PKP2 **PKPab** **07 46 57.8 +0.8**
KOLL Kolacno 145.68 327 *e*PKP **PKPab** **07 46 57.8 +0.8**
CHOS Chios island 145.71 306 P **PKPdf** **07 46 56.8 0.0**
CHOS Chios island 145.71 306 *e*P **PKPbc** **07 46 57.1 -0.1**
EAB Aberfoyle 145.91 355 *e*P **PKPdf** **07 46 54.8 -1.7**
EAB Aberfoyle 145.91 355 P **PKPdf** **07 46 54.8 -1.7**
KAVA Kavala 145.92 311 P **PKPdf** **07 46 56.2 -0.8**
KAVA Kavala 145.92 311 P **PKPdf** **07 46 56.2 -0.8**
ESY Stoneypath 146.01 353 *e*P **PKPdf** **07 46 56.6 -0.1**
ESY Stoneypath 146.01 353 P **PKPdf** **07 46 56.6 -0.1**
BUD Budapest 146.05 325 ⇑*e*PKPdf **PKPbc** **07 46 58.0 +0.2**
EDI Edinburgh 146.07 354 AMB AMB 07 46 58.0
comp=Z,436nm,3.9s
VRAC Vranov 146.09 329 ⇓PKP2 **PKPab** **07 46 58.9 +0.3**
VRAC Vranov 146.09 329 ⇓*i* P **PKPab** **07 46 58.9 +0.3**
PVCC Panska Ves 146.13 332 *e*PKP2 **PKPab** **07 46 58.5 -0.2**
PVCC *e* 07 50 21.9
PVCC MLR MLR
comp=Z,13µm,22.9s
PVCC Panska Ves 146.13 332 *e*PKP **PKPab** **07 46 58.5 -0.2**
PVCC *e*PP **PP** **07 50 21.9 +2.2**
PVCC AMS AMS 08 50 20.0
comp=Z,13µm,22.9s
BRG Berggiesshubel 146.14 333 *i* PKP **PKPbc** **07 46 58.3 +0.3**
comp=Z,704nm,1.7s
BRG PP **PP** **07 50 23.0 +3.3**
BRG *i* PKS PKSdf 07 50 38.2 +6.0
comp=Z,79nm,1.6s
BRG *e* 07 53 43.3
comp=Z,105nm,2.2s
BRG Berggiesshubel 146.14 333 *e*PKPbc **PKPab** **07 46 58.4 -0.3**
BRG Berggiesshubel 146.14 333 *i* PKP2 **PKPbc** **07 46 58.3 +0.3**
BRG 07 50 23.0
BRG *e* 07 53 43.3
BRG pmax pmax
comp=Z,704nm,1.7s
BRG pmax pmax
comp=Z,79nm,1.6s
BRG pmax pmax
comp=Z,105nm,2.2s

BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=N,10µm,24.6s
BRG MLR MLR
comp=E,6µm,22.0s
BRG MLR MLR
comp=Z,13µm,22.3s
VTS Vitosha 146.15 314 ⇑PKP2 **PKPab** **07 46 59.1 -0.1**
VTS Vitosha 146.15 314 P **PKPdf** **07 46 56.3 -1.2**
VTS Vitosha 146.15 314 P **PKPdf** **07 46 56.3 -1.2**
VTS Vitosha 146.15 314 ⇑*i* P **PKPab** **07 46 59.1 -0.1**
VTS Vitosha 146.15 314 *i* P **PKPdf** **07 46 57.6 +0.1**
EAU Auchinoon 146.17 354 *e*P **PKPdf** **07 46 57.4 +0.5**
EAU Auchinoon 146.17 354 P **PKPdf** **07 46 57.4 +0.5**
CLL Collm 146.19 335 *e*PKPbc **PKPbc** **07 46 58.2 0.0**
CLL Collm 146.19 335 ⇑*i* PKP2 **PKPbc** **07 46 58.2 0.0**
CLL pmax pmax
comp=Z,749nm,1.8s
CLL MLR MLR
comp=Z,9µm,21.9s
CLL Collm 146.19 335 ⇑*i* PKPdf **PKPbc** **07 46 58.2 0.0**
comp=Z,749nm,1.8s
CLL *e*PKPlp 07 46 59.0
CLL *i* PKiKP **PKiKP** **07 47 03.0 +1.6**
CLL *e*(pPKPbc) 07 47 07.0
CLL *i* sPKPdf **sPKPdf** **07 47 09.6 +2.4**
CLL *e*pPKiKP **pPKiKP** **07 47 11.0 +2.1**
CLL *e*PP **PP** **07 50 20.0 +0.1**
comp=Z,5µm,17.1s
CLL *e*SKPbc **SKPbc** **07 50 36.0 0.0**
CLL *e*SKKSac **SKKSac** **07 57 06.0 -5.0**
CLL *e*SKSP 08 00 30.0
CLL *e*PPS PPS 08 03 01.0
CLL *e*SS **SS** **08 09 12.0 -2.4**
CLL *e*SSS SSS 08 14 36.0
CLL L L 08 48 00.0
comp=Z,9µm,21.9s
EBL Broad Law 146.20 354 *e*P **PKPdf** **07 46 56.1 -0.9**
EBL Broad Law 146.20 354 P **PKPdf** **07 46 56.1 -0.9**
SMOL Smolenice 146.22 327 *e*PKP2 **PKPab** **07 47 00.7 +1.6**
SMOL Smolenice 146.22 327 *e*PKP **PKPab** **07 47 00.7 +1.6**
MMB Musomiste 146.23 313 *i* P **PKPdf** **07 46 57.3 -0.3**
NVR Nevrokopi 146.23 312 *e*P **PKPdf** **07 46 58.0 +0.4**
PGBU Glenifferbraes 146.30 355 *e*P **PKPdf** **07 46 57.3 +0.1**
PGBU AMB AMB 07 47 01.6
comp=Z,550nm,5.0s
PGBU Glenifferbraes 146.30 355 P **PKPdf** **07 46 57.3 +0.1**
PGBU AMB AMB 07 47 01.6
comp=Z,550nm,5.0s
NRDL Niedersach Rie 146.31 338 *e*PKPbc **PKPbc** **07 46 58.6 +0.2**
ZKR Zakros 146.44 300 *e*P **PKPdf** **07 46 57.5 -0.6**
PKSG 146.44 325 ⇑*e*PKPdf **PKPbc** **07 46 58.7 -0.3**
APE Apeiranthos 146.49 304 *e*P **PKPdf** **07 46 58.6 +0.4**
SRS Serrai 146.51 312 PKIKP **PKPdf** **07 46 57.3 -0.7**
SRS Serrai 146.51 312 P **PKPdf** **07 46 57.3 -0.7**
SRS Serrai 146.51 312 P **PKPdf** **07 46 57.3 -0.7**
PRA Prague 146.53 332 PKP **PKPbc** **07 46 59.0 -0.2**
PRA PP **PP** **07 50 23.0 +1.0**
PRA AMS AMS 08 51 00.0
PRU Pruhonice 146.54 332 *e*PKP2 **PKPbc** **07 46 59.1 -0.2**
PRU *e* 07 50 24.8
PRU MLR MLR
comp=Z,11µm,23.1s
PRU Pruhonice 146.54 332 *e*PKP **PKPbc** **07 46 59.1 -0.2**
PRU *e*PP **PP** **07 50 24.8 +2.7**
PRU *ex* x 08 00 46.7
PRU *ex* x 08 09 37.3
PRU AMS AMS 08 48 50.0
comp=Z,11µm,23.1s
KKB Krupnik 146.55 313 *i* P **PKPdf** **07 46 57.0 -1.1**
OUR Ouranopolis 146.55 310 PKIKP **PKPdf** **07 46 58.1 0.0**
OUR Ouranopolis 146.55 310 P **PKPdf** **07 46 58.1 0.0**
OUR Ouranopolis 146.55 310 P **PKPdf** **07 46 58.1 0.0**
ZST Bratislava 146.59 327 *e*PKP2 **PKPbc** **07 47 00.0 +0.6**
ZST *e* 07 50 25.5
ZST Bratislava 146.59 327 *e*PKP **PKPbc** **07 47 00.0 +0.6**
ZST *e*PP **PP** **07 50 25.5 +3.0**
TREC Trest 146.62 330 *e*PKP2 **PKPbc** **07 46 59.6 +0.1**
TREC *e* 07 50 25.0
TREC MLR MLR
comp=Z,16µm,22.5s
TREC Trest 146.62 330 *e*PKP **PKPbc** **07 46 59.6 +0.1**
TREC *e*PP **PP** **07 50 25.0 +2.4**
TREC AMS AMS 08 51 20.0
comp=Z,16µm,22.5s
ESK Eskdalemuir 146.67 354 *e*P **PKPdf** **07 46 58.3 +0.4**
ESK AMB AMB 07 47 11.5
comp=Z,277nm,2.7s
ESK Eskdalemuir 146.67 354 P **PKPdf** **07 46 58.3 +0.4**
ESK AMB AMB 07 47 11.5
comp=Z,277nm,2.7s
ESK Eskdalemuir 146.67 354 *e*PKP2 **PKPdf** **07 46 58.2 +0.4**
ESK MLR MLR
comp=Z,7µm,20.0s
ESK Eskdalemuir 146.67 354 *e*PKPdf **PKPdf** **07 46 58.2 +0.4**
ESK LR LR
comp=Z,7µm,20.0s
PKST T"s 146.72 325 ⇑*e*PKPdf **PKPdf** **07 46 58.7 +0.5**
NEUB Neuenburg 146.75 336 *e*PKPbc **PKPbc** **07 47 00.3 +0.5**
CLZ Clausthal 146.76 338 *e*PKPbc **PKPbc** **07 47 00.5 +0.6**
CLZ Clausthal 146.76 338 *e*PKP2 **PKPbc** **07 47 00.5 +0.6**
SOH Sokhos 146.80 311 PKP2 **PKPdf** **07 46 59.3 +0.7**
SOH Sokhos 146.80 311 P **PKPdf** **07 46 59.3 +0.7**
SOH Sokhos 146.80 311 P **PKPdf** **07 46 59.3 +0.7**
SOH Sokhos 146.80 311 *e*P **PKPbc** **07 46 59.7 -0.7**
PLG Polygyros 146.91 311 *e*P **PKPdf** **07 46 57.2 -1.6**
PAIG Paliouri 146.92 310 PKIKP **PKPdf** **07 46 58.7 0.0**
PAIG Paliouri 146.92 310 P **PKPdf** **07 46 58.7 0.0**
PAIG Paliouri 146.92 310 P **PKPdf** **07 46 58.7 0.0**
KNT Kendrikon 146.97 312 PKIKP **PKPdf** **07 46 58.2 -0.6**
KNT Kendrikon 146.97 312 P **PKPdf** **07 46 58.2 -0.6**
KNT Kendrikon 146.97 312 P **PKPdf** **07 46 58.2 -0.6**
PKS9 Tamasi 147.00 324 *e*PKPdf **PKPab** **07 47 01.9 -0.3**
XAL Allendale 147.00 352 *e*P **PKPdf** **07 46 59.0 +0.6**
XAL Allendale 147.00 352 P **PKPdf** **07 46 59.0 +0.6**
PKSM Moragy 147.03 323 ⇓PKP2 **PKPbc** **07 47 01.1 +0.3**
PKSM Moragy 147.03 323 ⇓*i* P **PKPbc** **07 47 01.1 +0.3**
PKSM Moragy 147.03 323 ⇑*e*PKPdf **PKPdf** **07 46 59.0 +0.3**
AOS Alonnisos 147.06 308 P **PKPab** **07 47 02.4 -0.2**
AOS Alonnisos 147.06 308 P **PKPab** **07 47 02.4 -0.2**
MRMA Marmari 147.06 306 P **PKPdf** **07 47 00.0 +1.0**
HORT Hortiatis 147.07 311 P **PKPdf** **07 47 00.1 +1.0**
HORT Hortiatis 147.07 311 P **PKPdf** **07 47 00.1 +1.0**
TANN Tannenbergstha 147.10 334 *e*PKPbc **PKPbc** **07 47 01.5 +0.6**
VAY Valandovo 147.13 313 *e*PKP **PKPdf** **07 47 00.0 +1.0**
THE Thessaloniki 147.15 311 PKP2 **PKPbc** **07 47 00.5 -0.7**
THE Thessaloniki 147.15 311 P **PKPbc** **07 47 00.5 -0.7**
THE Thessaloniki 147.15 311 P **PKPbc** **07 47 00.5 -0.7**
SOP Sopron 147.21 327 ⇑*e*PKPdf **PKPdf** **07 46 58.4 -0.6**
IBBN Ibbenburen 147.23 340 *e*PKPbc **PKPbc** **07 47 01.1 0.0**
NKC Novy Kostel 147.25 334 *e*PKP2 **PKPbc** **07 47 00.9 -0.4**
NKC *e* 07 50 31.0
NKC MLR MLR
comp=Z,8µm,24.2s
NKC Novy Kostel 147.25 334 *e*PKP **PKPbc** **07 47 00.9 -0.4**
NKC *e*PP **PP** **07 50 31.0 +4.8**
NKC *ex* x 08 00 43.9
NKC *ex* x 08 09 42.4
NKC AMS AMS 08 48 20.0
comp=Z,8µm,24.2s
GAL1 Galloway 147.25 355 *e*P **PKPdf** **07 46 59.8 +1.0**
GAL1 AMB AMB 07 47 09.5
comp=Z,335nm,2.3s
GAL1 Galloway 147.25 355 P **PKPdf** **07 46 59.8 +1.0**
GAL1 AMB AMB 07 47 09.5
comp=Z,335nm,2.3s
MOX Moxa 147.26 335 *e*PKPbc **PKPbc** **07 47 01.6 +0.3**
MOX Moxa 147.26 335 *e*PKP2 **PKPbc** **07 47 01.6 +0.3**
MSKU Masuku 147.32 226 PKPbc **PKPbc** **07 47 01.8 -0.7**
comp=Z,83nm,0.6s,baz=159,slow=22,SNR=14
MSKU Masuku 147.32 226 PKPbc **PKPbc** **07 47 01.8 -0.7**
SKIA Skiathos 147.36 309 P **PKPbc** **07 47 00.8 -1.1**
KESW Keswick, Cumbr 147.38 353 *e*P **PKPdf** **07 46 59.2 +0.2**
KESW Keswick, Cumbr 147.38 353 P **PKPdf** **07 46 59.2 +0.2**
CONA Conrad Observa 147.39 328 ⇑*i* P **PKPdf** **07 46 59.7 +0.4**
CONA Conrad Observa 147.39 328 ⇑*i* PKPbc **PKPdf** **07 46 59.7 +0.4**
comp=Z,118nm,1.4s,SNR=26
MRKA Markates 147.43 308 P **PKPdf** **07 47 00.0 +0.3**
RHK3 Tenkes 147.44 323 ⇑*e*PKPdf **PKPdf** **07 47 00.4 +1.0**
PTL Penteli 147.45 306 *e*P **PKPdf** **07 47 00.6 +0.9**
IDI Anoyia 147.46 301 *e*PKPbc **PKPbc** **07 47 01.4 -1.0**

IDI Anoyia 147.46 301 P PKPbc 07 47 01.9 -0.5
NEO Neokhori 147.48 309 eP PKPdf 07 47 00.7 +1.0
XOR Xorichti 147.48 309 P PKPdf 07 46 59.0 -0.7
XOR Xorichti 147.48 309 P PKPdf 07 46 59.0 -0.7
VLY Voula,Athens 147.57 306 eP PKPbc 07 47 01.6 -0.9
ATH Athens Observa 147.59 306 eP PKPbc 07 47 01.7 -0.9
SKO Skopje 147.60 315 ePKP PKPbc 07 47 03.5 +1.0
KHC Kasperske Hory 147.60 331 ePKIKP PKPdf 07 46 59.7 +0.1
KHC e 07 47 04.0
KHC e 07 50 32.4
KHC MLR MLR
comp=Z,12µm,21.0s
KHC Kasperske Hory 147.60 331 ePKPdf PKPdf 07 46 58.1 -1.5
KHC Kasperske Hory 147.60 331 ePKP PKPdf 07 46 59.7 +0.1
KHC ex x 07 47 04.0
KHC ePP PP 07 50 32.4 +4.0
KHC ex x 08 00 46.9
KHC ex x 08 09 44.0
KHC AMS AMS 08 53 10.0
comp=Z,12µm,21.0s
FYTO Fytoko, Volos 147.65 309 P PKPab 07 47 11.9 +7.0
ROTZ Rotzenmuhle 147.71 333 ePKPbc PKPbc 07 47 03.1 +0.6
UBBA Unterbreizbach 147.73 337 ePKPbc PKPbc 07 47 03.5 +1.1
GEC2 GERESS Array S 147.76 331 ePKPbc PKPbc 07 47 03.0 +0.2
GEC2 GERESS Array S 147.76 331 ePKP2 PKPbc 07 47 03.0 +0.2
GERES GERESS Array B 147.76 331 PKPbc PKPdf 07 47 00.8 +0.8
comp=Z,8.1nm,0.6s,baz=48,slow=2.0,SNR=46
GERES GERESS Array B 147.76 331 PKIKP PKPdf 07 47 00.8 +0.8
GERES GERESS Array B 147.76 331 PKPbc PKPdf 07 47 00.8 +0.8
VIL1 Vilia, Western 147.81 307 eP PKPab 07 47 06.3 +0.6
WTSB Winterswijk 147.82 341 ePKP PKPbc 07 47 02.5 -0.2
WTSB ePP PP 07 50 33.6 +4.3
NAIG Nisos Aigina 147.83 306 eP PKPbc 07 47 02.4 -0.8
ATAL Atalanti 147.85 308 P PKPdf 07 47 00.6 +0.3
ATAL Atalanti 147.85 308 P PKPdf 07 47 00.6 +0.3
LKR Lokris 147.88 308 eP PKPdf 07 47 00.8 +0.4
BEHE Becsehely 147.88 325⇓ePKPdf PKPab 07 47 06.5 +0.9
WET Wettzell 147.90 332 ePKPbc PKPbc 07 47 03.7 +0.6
WET Wettzell 147.90 332 ePKP2 PKPbc 07 47 03.6 +0.5
VAM Vamos 147.97 302 eP PKPbc 07 47 04.4 +0.7
ARSA Arzberg 148.02 327⇓iP PKPdf 07 47 01.9 +1.5
ARSA Arzberg 148.02 327⇓iPKPbc PKPdf 07 47 01.9 +1.5
comp=Z,10nm,1.5s,SNR=14
DID Didima 148.10 306 P PKPdf 07 47 00.6 -0.2
DID Didima 148.10 306 eP PKPdf 07 46 58.4 -2.4
BIA Bitola 148.11 313 ePKP PKPbc 07 47 05.2 +1.2
KZN Kozani 148.11 312 eP PKPbc 07 47 03.5 -0.5
LTK Loutraki 148.13 307 P PKPbc 07 47 03.1 -1.0
LTK Loutraki 148.13 307 P PKPbc 07 47 03.1 -1.0
LTK Loutraki 148.13 307 eP PKPdf 07 46 57.9 -2.9
DIDY Didyma 148.13 306 P PKPbc 07 47 02.8 -1.4
IVA Berane 148.15 317⇑iPKP PKPbc 07 47 05.3 +1.2
GRF Grafenberg Arr 148.17 334 ePKPbc PKPbc 07 47 04.4 +0.6
GRF eL L 08 53 58.3
comp=Z,6µm,22.0s
GRF Grafenberg Arr 148.17 334 ePKP2 PKPbc 07 47 04.4 +0.6
GRF MLR MLR
comp=Z,6µm,22.0s
GRFO Grafenberg 148.17 334 ePKP2 PKPbc 07 47 04.7 +0.9
GRFO Grafenberg 148.17 334 ePKPbc PKPbc 07 47 04.7 +0.9
FNA Florina 148.18 313 PKIKP PKPdf 07 46 59.5 -1.4
FNA Florina 148.18 313 P PKPdf 07 46 59.5 -1.4
FNA Florina 148.18 313 P PKPdf 07 46 59.5 -1.4
KOGS Kog 148.18 325 ePKPdf PKPbc 07 47 03.8 -0.1
KOGS ePP PP 07 50 32.0 +0.1
GVD Gavdhos 148.21 301 ePKPbc PKPbc 07 47 04.5 +0.1
GVD Gavdhos 148.21 301 eP PKPbc 07 47 03.8 -0.5
MOA Molln 148.22 329⇓iP PKPdf 07 47 02.3 +1.6
MOA Molln 148.22 329⇓iPKPbc PKPdf 07 47 02.3 +1.6
comp=Z,116nm,1.4s,SNR=15
PLE Pljevlja 148.23 318⇑iPKP PKPab 07 47 07.7 +0.4
THL Klokotos Trika 148.24 310 eP PKPdf 07 46 59.2 -1.7
PVY Plav 148.25 317⇑iPKP PKPdf 07 47 02.4 +1.4
DESF Desfina 148.31 308 P PKPdf 07 47 02.4 +1.2
DSF Desfina 148.31 308 P PKPbc 07 47 03.8 -0.8
DSF Desfina 148.31 308 P PKPbc 07 47 03.8 -0.8
MAKR Makrakomi, Fth 148.38 309 P PKPbc 07 47 03.5 -1.2
MAKR Makrakomi, Fth 148.38 309 P PKPbc 07 47 03.5 -1.2
KBI1 Birley Grange 148.48 351 eP PKPbc 07 47 03.6 -0.9
KBI1 Birley Grange 148.48 351 P PKPbc 07 47 03.6 -0.9
NEST Nestorio 148.56 312 P PKPbc 07 47 05.7 +0.5
VLI Veliai 148.58 305 eP PKPbc 07 47 06.7 +1.4
UPM Unac-Piva 148.59 318⇑iPKP PKPbc 07 47 03.7 -1.6
KALE Kalithea 148.60 308 P PKPdf 07 46 57.3 -4.4
KALE Kalithea 148.60 308 P PKPdf 07 46 57.3 -4.4
AEU East Anglia Un 148.61 348 eP PKPbc 07 47 03.5 -1.2
AEU East Anglia Un 148.61 348 P PKPbc 07 47 03.5 -1.2
GUR Goura 148.62 307 P PKPbc 07 47 04.3 -1.2
GUR Goura 148.62 307 eP PKPdf 07 47 02.1 +0.3
KYTH Kithira 148.64 304 eP PKPbc 07 47 05.2 -0.3
EVR Evrytania 148.65 309 eP PKPab 07 47 14.1 +5.0
SOKA Soboth 148.65 327⇓iP PKPdf 07 47 02.8 +1.3
SOKA Soboth 148.65 327⇓iPKPbc PKPdf 07 47 02.8 +1.3
comp=Z,26nm,1.8s
SOKA ⇑iPKiKP PKiKP 07 47 06.6 -0.2
comp=Z,105nm,1.1s
TRIZ Trizonia 148.66 308 P PKPbc 07 47 03.6 -1.8
MEV Metsovon 148.71 311 P PKPab 07 47 12.2 +2.8
STNC Stoke 148.74 352 eP PKPbc 07 47 04.7 -0.4
STNC Stoke 148.74 352 P PKPbc 07 47 04.7 -0.4
SISC Sisak 148.74 324 P PKPbc 07 47 04.7 -0.7
NKY Niksic 148.75 318⇑iPKP PKPdf 07 47 03.0 +1.2
KWE Weaver Farm 148.76 351 eP PKPbc 07 47 04.0 -1.1
KWE Weaver Farm 148.76 351 P PKPbc 07 47 04.0 -1.1
EFP Efpalio 148.76 308 P PKPdf 07 47 03.5 +1.7
EFP Efpalio 148.76 308 eP PKPbc 07 47 06.0 +0.3
LAKA Lakka 148.78 308 P PKPdf 07 47 03.8 +1.9
LAKA Lakka 148.78 308 P PKPdf 07 47 03.8 +1.9
TNS Taunus Mts 148.78 338 ePKPbc PKPbc 07 47 05.9 +0.5
TNS Taunus Mts 148.78 338 ePKP2 PKPbc 07 47 05.9 +0.5
TTG Podgorica 148.78 317⇑iPKP PKPbc 07 47 05.1 -0.4
VLX Vlachokerasia 148.79 306 P PKPdf 07 47 02.0 0.0
VLX Vlachokerasia 148.79 306 eP PKPdf 07 47 00.4 -1.6
UPR University Cam 148.90 308 P PKPbc 07 47 07.1 +1.1
UPR University Cam 148.90 308 eP PKPbc 07 47 06.4 +0.4
TIR Tirane 148.93 315 ePKP2 PKPbc 07 47 04.9 -1.1
TIR MLR MLR
comp=Z,16µm,22.0s
TIR Tirane 148.93 315 ePKPbc PKPbc 07 47 04.9 -1.1
TIR LR LR
comp=Z,16µm,22.0s
RJOB Jochberg 148.98 330 ePKPbc PKPbc 07 47 05.9 -0.1
BRY Bratogost 148.98 318⇑iPKP PKPdf 07 47 01.4 -0.8
CRES Cresnjev 149.00 325 ePKPdf PKPbc 07 47 04.4 -1.6
OBKA Obir 149.01 327⇓iP PKPdf 07 47 03.4 +1.3
OBKA Obir 149.01 327⇓iPKPbc PKPdf 07 47 03.4 +1.3
comp=Z,67nm,1.1s
JAN Janina 149.03 311 eP PKPbc 07 47 04.8 -1.5
ULC Ulcinj 149.03 316⇑iPKP PKPbc 07 47 05.6 -0.7
FOEL Foel Wylfa 149.06 353 eP PKPdf 07 47 02.0 +0.1
FOEL AMB AMB 07 47 10.5
comp=Z,333nm,1.9s
FOEL Foel Wylfa 149.06 353 P PKPdf 07 47 02.0 +0.1
FOEL AMB AMB 07 47 10.5
comp=Z,333nm,1.9s
BUM Brajici-Budva 149.08 317⇑iPKP PKPbc 07 47 04.9 -1.5
HGN Heimansgroeve 149.14 341 ePKP PKPdf 07 47 03.3 +1.3
HGN ePP PP 07 50 40.5 +3.4
BEBN Eben Emael 149.19 341 PKPbc PKPbc 07 47 06.7 +0.4
ITM Ithomi 149.19 306 eP PKPdf 07 47 03.7 +1.1
KBA Koelnbreinsper 149.20 329⇓iPKP2 PKPbc 07 47 06.3 -0.5
KBA Koelnbreinsper 149.20 329⇓iP PKPbc 07 47 06.3 -0.5
KBA Koelnbreinsper 149.20 329⇓iPKPbc PKPbc 07 47 06.3 -0.5
comp=Z,133nm,1.1s,SNR=18
RLS Riolos of Patr 149.22 308 eP PKPdf 07 47 04.7 +2.1
MEM Membach 149.25 341 PKPbc PKPbc 07 47 06.5 0.0
HCY Herceg Novi 149.26 317⇑iPKP PKPdf 07 47 02.9 +0.4
LJU Ljubljana 149.34 326 ePKPdf PKPdf 07 47 02.0 -0.5
LJU ePP PP 07 50 40.4 +1.8
LJU e 08 03 43.0
LJU e 08 10 09.1
LJU e 08 16 35.4
MYKA Terra Mystica 149.38 328 ⇑P PKPdf 07 47 02.7 0.0
MYKA Terra Mystica 149.38 328 ⇑PKPdf PKPdf 07 47 02.7 0.0
comp=Z,17nm,1.7s
MYKA ⇓iPKiKP PKiKP 07 47 08.7 +0.5
comp=Z,61nm,0.7s
HLM1 Long Mynd 149.38 352 eP PKPbc 07 47 04.7 -2.1
HLM1 AMB AMB 07 47 16.4
comp=Z,257nm,3.0s
HLM1 Long Mynd 149.38 352 P PKPbc 07 47 04.7 -2.1
HLM1 AMB AMB 07 47 16.4
comp=Z,257nm,3.0s
PYL PYLOS 149.43 305 P PKPbc 07 47 05.8 -1.6
PYL PYLOS 149.43 305 eP PKPbc 07 47 08.9 +1.5
IGT Igoumenitsa 149.44 311 PKHKP PKPbc 07 47 06.3 -1.0
IGT Igoumenitsa 149.44 311 P PKPbc 07 47 06.3 -1.0
IGT Igoumenitsa 149.44 311 P PKPbc 07 47 06.3 -1.0
STON Ston 149.52 319 P PKPdf 07 47 02.6 -0.3
LKD2 Lefkada island 149.52 310 P PKPbc 07 47 07.0 -0.6
LKD2 Lefkada island 149.52 310 P PKPbc 07 47 07.0 -0.6
CADS Cadrg 149.61 327 ePKPdf PKPdf 07 47 01.8 -1.2
CADS e 08 01 09.1
CADS e 08 03 43.0
VOY Vojsko 149.67 327 ePKPdf PKPbc 07 47 06.7 -1.1
VOY e 07 47 11.8
VOY e 07 47 38.5
STU Stuttgart 149.70 335 ePKPbc PKPbc 07 47 08.2 +0.5
STU Stuttgart 149.70 335 ePKP2 PKPbc 07 47 07.1 -0.6
STU Stuttgart 149.70 335 ePKPbc PKPbc 07 47 07.1 -0.6
KEK Kerkira 149.73 312 eP PKPbc 07 47 07.2 -0.9
SSW Stow on the Wo 149.78 351 eP PKPbc 07 47 06.5 -1.3
SSW Stow on the Wo 149.78 351 P PKPbc 07 47 06.5 -1.3
VLS Valsamata 149.81 309 eP PKPbc 07 47 07.9 -0.4
WATA Walderalm 149.83 331⇑ePKPdf PKPdf 07 47 04.3 +0.8
comp=Z,40nm,0.4s,SNR=14
ABTA Abfaltersbach 149.84 329⇑iP PKPdf 07 47 02.8 -0.6
ABTA Abfaltersbach 149.84 329⇑iPKPdf PKPdf 07 47 02.8 -0.6
comp=Z,27nm,1.4s,SNR=7.8
ABTA ⇓iPKiKP PKiKP 07 47 09.9 +0.8
comp=Z,106nm,0.9s
SNF Seneffe 149.84 343 PKPbc PKPbc 07 47 07.5 -0.5
SKP1 Kophill 149.85 349 eP PKPbc 07 47 06.2 -1.7
SKP1 Kophill 149.85 349 P PKPbc 07 47 06.2 -1.7
WTTA Wattenberg 149.86 331⇓ePKHKP PKPdf 07 47 03.6 0.0
WTTA Wattenberg 149.86 331⇓eP PKPdf 07 47 03.6 0.0
WTTA Wattenberg 149.86 331⇓ePKPdf PKPdf 07 47 03.6 0.0
comp=Z,197nm,1.2s,SNR=7.9
WTTA ⇓iPKPdf pPKPdf 07 47 10.5 -0.6
comp=Z,197nm,1.2s
MCH1 Michaelchurch 149.91 352 eP PKPbc 07 47 06.3 -1.7
MCH1 AMB AMB 07 47 12.8
comp=Z,238nm,2.0s
MCH1 Michaelchurch 149.91 352 P PKPbc 07 47 06.3 -1.7
MCH1 AMB AMB 07 47 12.8
comp=Z,238nm,2.0s
TRI Trieste 149.96 327 ePKIKP PKPdf 07 47 01.4 -2.1
TRI e 07 47 09.4
TRI MLR MLR
comp=Z,7µm,20.0s
TRI Trieste 149.96 327 ePKPdf PKPdf 07 47 01.4 -2.1
TRI ePKPbc PKiKP 07 47 09.4 +0.1
TRI LR LR
comp=Z,7µm,20.0s
WLF Walferdange 150.03 340 PKPbc PKPbc 07 47 09.4 +0.9
WLF Walferdange 150.03 340 ePKPbc PKPbc 07 47 09.4 +0.9
WLF Walferdange 150.03 340 ePKHKP PKPbc 07 47 06.8 -1.6
WLF MLR MLR
comp=Z,9µm,20.0s
WLF Walferdange 150.03 340 ePKPbc PKPbc 07 47 06.8 -1.6
WLF LR LR
comp=Z,9µm,20.0s
MOTA Moosalm 150.04 332⇓ePKHKP PKPdf 07 47 03.3 -0.5
MOTA Moosalm 150.04 332⇓eP PKPdf 07 47 03.2 -0.5
MOTA Moosalm 150.04 332⇓ePKPdf PKPdf 07 47 03.2 -0.5
comp=Z,164nm,1.1s,SNR=32
MOTA ⇓iPKPdf pPKPdf 07 47 11.3 0.0
comp=Z,40nm,0.5s
LANF Langenberg 150.05 337 PKIKP PKPdf 07 46 58.4 -5.2
LANF Langenberg 150.05 337 PKP PKPdf 07 46 58.4 -5.2
LANF Langenberg 150.05 337 PKP PKPdf 07 46 58.4 -5.2
RETA Reutte 150.08 332⇑iP PKPdf 07 47 04.4 +0.6
RETA Reutte 150.08 332⇑iPKPdf PKPdf 07 47 04.4 +0.6
comp=Z,26nm,2.0s,SNR=6.9
RETA ⇓iPKPdf pPKPdf 07 47 10.8 -0.4
comp=Z,99nm,1.3s
SQTA Sankt Quirin 150.08 331 ⇑PKIKP PKPdf 07 47 05.7 +1.9
SQTA Sankt Quirin 150.08 331 ⇑P PKPdf 07 47 05.7 +1.9
SQTA Sankt Quirin 150.08 331 ⇑PKPbc PKPdf 07 47 05.7 +1.9
comp=Z,85nm,0.9s
SQTA ⇑iPKPdf pPKPdf 07 47 11.4 0.0
DOU Dourbes 150.12 342 PKPbc PKPbc 07 47 08.7 +0.1
NVLJ Novalja 150.14 324 P PKPbc 07 47 07.5 -1.3
SWN1 Swindon 150.21 350 eP PKPbc 07 47 08.2 -0.6
SWN1 AMB AMB 07 47 13.4
comp=Z,545nm,0.9s
SWN1 Swindon 150.21 350 P PKPbc 07 47 08.2 -0.6
SWN1 AMB AMB 07 47 13.4
comp=Z,545nm,0.9s
HGH Gray Hill 150.24 352 eP PKPdf 07 47 03.1 -0.6
HGH Gray Hill 150.24 352 P PKPdf 07 47 03.1 -0.6
BAIF Baives 150.27 342 ePKIKP PKPdf 07 47 03.7 -0.1
comp=Z,243nm,1.1s
WOL Wolverton 150.31 350 eP PKPbc 07 47 07.3 -1.7
WOL AMB AMB 07 47 11.3
comp=Z,487nm,2.1s
WOL Wolverton 150.31 350 P PKPbc 07 47 07.3 -1.7
WOL AMB AMB 07 47 11.3
comp=Z,487nm,2.1s
BFO Black Forest 150.40 336 ePKPbc PKPbc 07 47 08.9 -0.5
BFO Black Forest 150.40 336 ePKIKP PKPdf 07 47 01.4 -2.8
BFO MLR MLR
comp=Z,7µm,21.0s
BFO Black Forest 150.40 336 ePKPdf PKPdf 07 47 01.4 -2.8
BFO LR LR
comp=Z,7µm,21.0s
FETA Feichten 150.45 332⇑iP PKPdf 07 47 05.5 +1.1
FETA Feichten 150.45 332⇑iPKPdf PKPdf 07 47 05.5 +1.1
comp=Z,23nm,1.9s,SNR=20
FETA ⇓iPKPdf pPKPdf 07 47 12.1 +0.1
comp=Z,127nm,1.0s
DAVA Damuels 150.61 333⇓iP PKPdf 07 47 06.2 +1.5
DAVA Damuels 150.61 333⇓iPKPdf PKPdf 07 47 06.2 +1.5
comp=Z,149nm,1.3s,SNR=15
DAVA ⇑iPKiKP PKiKP 07 47 11.4 +0.6
comp=Z,49nm,1.0s
CDF Champ du Feu 150.72 337 ePKIKP PKPdf 07 47 04.0 -0.7
FELD Feldberg im Sc 150.89 336 PKP PKPdf 07 47 00.1 -5.0
HEX Exmoor 150.92 353 eP PKPbc 07 47 09.9 -0.6
HEX Exmoor 150.92 353 P PKPbc 07 47 09.9 -0.6
ECH Echery 150.93 337 PKIKP PKPdf 07 46 59.9 -5.1
ECH e 07 47 04.5
ECH MLR MLR
comp=Z,8µm,20.0s
ECH Echery 150.93 337 PKP PKPdf 07 46 59.9 -5.1
ECH ePKPdf PKPbc 07 47 04.5 -6.2
ECH LR LR
comp=Z,8µm,20.0s
ECH Echery 150.93 337 PKP PKPdf 07 46 59.9 -5.1
HTL Hartland 151.07 354 eP PKPbc 07 47 08.5 -2.3
HTL AMB AMB 07 47 15.3
comp=Z,253nm,2.1s
HTL Hartland 151.07 354 P PKPbc 07 47 08.5 -2.3
HTL AMB AMB 07 47 15.3
comp=Z,253nm,2.1s
PAGF Fort de Pagny 151.13 339 ePKIKP PKPdf 07 47 04.4 -0.8
MOF Molkenrain 151.24 337 PKP PKPdf 07 47 00.1 -5.5
THEF They Montfort 151.33 338 PKIKP PKPdf 07 47 00.5 -5.1
THEF They Montfort 151.33 338 PKP PKPdf 07 47 00.5 -5.1
THEF They Montfort 151.33 338 PKP PKPdf 07 47 00.5 -5.1
HINF Hinteralfeld 151.37 337 ePKIKP PKPdf 07 47 05.1 -0.6
HAU Haudompre 151.39 338 ePKIKP PKPdf 07 47 05.0 -0.7
comp=Z,200nm,0.9s
HAU eR
comp=Z,10µm,21.8s
MEZF Maizieres J'vi 151.40 340 ePKIKP PKPdf 07 47 05.7 +0.1
comp=Z,348nm,0.9s
TUE Stuetta 151.47 332 ePKPbc PKPbc 07 47 12.3 +0.1
TUE LR LR
comp=Z,15µm,20.0s
SFTF Sexfontaines 151.66 339 ePKIKP PKPdf 07 47 05.4 -0.7
comp=Z,292nm,1.0s
LOMF Lomont 151.77 336 PKP PKPdf 07 47 00.9 -5.5
CUC Castrocucco 152.27 315 ePKPdf PKPdf 07 47 04.0 -3.3
CUC ePP PP 07 50 56.5 +0.5
CUC LR LR
comp=Z,8µm,21.0s
AQU L'Aquila 152.37 322 ePKIKP PKPdf 07 47 06.5 -0.9
AQU e 07 50 55.9
AQU MLR MLR
comp=Z,15µm,20.0s
AQU L'Aquila 152.37 322 ePKPdf PKPdf 07 47 06.5 -0.9
AQU ePP PP 07 50 55.9 -0.4
AQU LR LR
comp=Z,15µm,20.0s
AQU L'Aquila 152.37 322⇓iP PKPbc 07 47 18.8 +4.6
FLN La Foliniere 152.62 347 ePKIKP PKPdf 07 47 06.7 -0.8
comp=Z,185nm,1.0s
FLN eR
comp=Z,10µm,21.5s
CABF La Chapelle 152.67 336 ePKIKP PKPdf 07 47 07.3 -0.4
LDF La Druitiere 152.71 347 ePKIKP PKPdf 07 47 06.8 -0.8
LOR Lormes 152.87 340 ePKIKP PKPdf 07 47 07.4 -0.5
comp=Z,99nm,1.0s
LOR eR
comp=Z,15µm,21.8s
GRR Gorron 153.06 347 ePKIKP PKPdf 07 47 07.7 -0.4
CEL Celeste 153.10 312 ePKPdf PKPdf 07 47 06.0 -2.6
CEL ePP PP 07 51 02.4 +1.6
CEL LR LR
comp=Z,7µm,20.0s
SSF Saint Saulge 153.16 340 ePKIKP PKPdf 07 47 07.9 -0.4
comp=Z,94nm,0.9s
LPL La Plagne 153.33 334 ePKIKP PKPdf 07 47 08.8 -0.1
LPG La Plagne 153.34 334 ePKIKP PKPdf 07 47 08.7 -0.3
AVF Avril sur Loir 153.45 340 ePKIKP PKPdf 07 47 08.1 -0.6
SGMF Saint Gilles 153.50 350 ePKIKP PKPdf 07 47 08.0 -0.7
comp=Z,221nm,1.2s
ROSF Rostrenen 153.53 351 ePKIKP PKPdf 07 47 07.7 -1.1
BNI Bardonecchia 153.73 334 ePKIKP PKPdf 07 47 09.8 +0.4
BNI MLR MLR
comp=Z,14µm,20.0s
BNI Bardonecchia 153.73 334 ePKPdf PKPdf 07 47 09.8 +0.4
BNI LR LR
comp=Z,14µm,20.0s
BGF Bois d'Agland 153.81 341 ePKIKP PKPdf 07 47 08.9 -0.4
comp=Z,180nm,1.3s
QUIF Quistinic 153.92 350 ePKIKP PKPdf 07 47 08.5 -0.8
PLDF La Plantade 154.09 339 PKP PKPdf 07 47 02.9 -6.9
ORIF Oris-en-Rattie 154.16 335 ePKIKP PKPdf 07 47 09.3 -0.7
comp=Z,94nm,0.9s
ORIF eR
comp=Z,9µm,21.8s
AGO Saint Agoulin 154.18 340 PKP PKPdf 07 47 01.8 -8.0
TCF Toulx Ste Croi 154.25 341 ePKIKP PKPdf 07 47 09.2 -0.7
SBF Sospel 154.36 331 ePKIKP PKPdf 07 47 09.3 -0.9
comp=Z,120nm,0.8s
SSB Saint Sauveur 154.37 337 ePKIKP PKPdf 07 47 10.0 -0.2
SSB MLR MLR
comp=Z,7µm,20.0s
SSB Saint Sauveur 154.37 337 ePKPdf PKPdf 07 47 10.0 -0.2
SSB LR LR
comp=Z,7µm,20.0s
MFF Saint Martin d 154.59 345 ePKIKP PKPdf 07 47 09.7 -0.7
comp=Z,161nm,1.2s
PGF Pioggiola 154.62 327 ePKIKP PKPdf 07 47 09.9 -0.8
comp=Z,354nm,1.6s
VIVF Saint-Julien-l 154.68 336 ePKIKP PKPdf 07 47 10.0 -0.6
comp=Z,410nm,1.7s
SMRF Simiane la Rot 155.07 334 ePKIKP PKPdf 07 47 09.9 -1.3
comp=Z,199nm,1.5s
WDD Wield Dalam 155.19 308 PFAKE 07 47 20.0 +8.5
WDD LR LR
comp=Z,4µm,21.0s
RJF Les Rejaudoux 155.35 341 ePKIKP PKPdf 07 47 10.5 -1.0
comp=Z,180nm,1.4s
RJF eR
comp=Z,12µm,22.0s
CAF Calviac 155.52 340 ePKIKP PKPdf 07 47 10.7 -1.0
VSL Villasalto 156.54 321 PFAKE 07 47 20.0 +6.8
VSL LR LR
comp=Z,5µm,21.0s
MTLF Montolieu 156.88 338 ePKIKP PKPdf 07 47 13.0 -0.5
EPF Esparros 157.76 341 ePKIKP PKPdf 07 47 14.4 -0.3
SJPF Ste Jean 158.13 344 ePKIKP PKPdf 07 47 14.6 -0.5
ETSF Etsaut 158.15 342 ePKIKP PKPdf 07 47 15.3 +0.1
comp=Z,34nm,1.0s
KEST Kesra 158.88 314 PKP PKPdf 07 47 18.9 +2.5
comp=Z,2.6nm,0.9s,baz=258,slow=2.8,SNR=4.5
KEST PKPab PKPab 07 47 55.0 +2.6
comp=Z,6.0nm,0.9s,baz=340,slow=4.9,SNR=5.7
KEST Kesra 158.88 314 PKP PKPdf 07 47 18.9 +2.5
KEST PKPab PKPab 07 47 55.0 +2.6
CMLA Cha da Macela 159.20 38 PFAKE 07 47 30.0 +13
CMLA LR LR
comp=Z,20µm,20.0s
PGAV Gavieira, Arco 160.33 358 ePP PP 07 51 41.1 +1.5
PGAV eSS SS 08 13 07.0 +78
PGAV eLR LR 08 51 23.7
comp=Z,10µm,18.0s
PBRG Braganca 160.39 354 ePKPdf PKPdf 07 47 15.7 -2.1
PBRG Braganca 160.39 354 ePP PP 07 51 42.1 +2.2
POLO Lamas de Olo 160.90 356 ePKPdf PKPdf 07 47 18.3 -0.2
POLO Lamas de Olo 160.90 356 ePP PP 07 51 42.6 -0.1
MVO Moncorvo 161.05 355 ePKPdf PKPdf 07 47 20.1 +1.5
MVO Moncorvo 161.05 355 ePP PP 07 51 48.0 +4.5
MVO eSS SS 08 13 14.7 +79
MVO eLR LR 08 49 21.4
comp=Z,13µm,20.0s
MTE Manteigas 161.85 356 ePKPdf PKPdf 07 47 17.6 -1.9
MTE Manteigas 161.85 356 ePP PP 07 51 45.6 -2.1
MTE eSS SS 08 12 20.8 +16
MTE eLR LR 08 51 49.0
comp=Z,12µm,20.0s
MTE Manteigas 161.85 356 PFAKE 07 47 30.0 +11
MTE LR LR
comp=Z,14µm,21.0s
ESDC Sonseca Array 162.04 346 PKP PKPdf 07 47 21.4 +1.7
comp=Z,0.6nm,0.5s,baz=13,slow=3.2,SNR=4.7
ESDC PKPab PKPab 07 48 05.7 -0.1
comp=Z,3.4nm,0.8s,baz=5.9,slow=2.6,SNR=6.3
ESDC Sonseca Array 162.04 346 PKP PKPdf 07 47 21.4 +1.7
ESDC PKPab PKPab 07 48 05.7 -0.1
ESLA Sonseca Array 162.04 346 PFAKE 07 47 30.0 +10
ESLA LR LR
comp=Z,62µm,20.0s
PAB San Pablo 162.25 347 PFAKE 07 47 30.0 +10
PAB LR LR
comp=Z,14µm,20.0s
PCBR Castelo Branco 162.40 355 ePKPdf PKPdf 07 47 23.9 +4.0
PMRV Marv??o 162.80 355 ePKPdf PKPdf 07 47 19.9 -0.5
PMRV Marv??o 162.80 355 ePP PP 07 51 56.5 +3.8
PMTG Montargil 163.22 357 ePKPdf PKPdf 07 47 20.6 -0.1
PMTG Montargil 163.22 357 ePP PP 07 52 00.4 +5.5
PMAFR Mafra 163.36 360 ePKPdf PKPdf 07 47 22.7 +1.8
PMAFR Mafra 163.36 360 ePP PP 07 51 58.9 +3.3
PESTR Estremoz 163.38 355 ePKPdf PKPdf 07 47 23.1 +2.2
PESTR Estremoz 163.38 355 ePP PP 07 51 55.4 -0.4
LIC Lamto 163.52 195 ePKIKP PKPdf 07 47 21.3 -0.5
comp=Z,180nm,1.3s
LIC eR
comp=Z,17µm,19.8s
LIS Lisbon 163.59 359 eP PKPdf 07 47 21.6 +0.5
LIS AMS AMS 09 04 17.2
comp=Z,14µm,19.0s
LIS Lisbon 163.59 359 ePKIKP PKPdf 07 47 21.6 +0.5
EVO Evora 163.74 356 ePKPdf PKPdf 07 47 20.9 -0.4
EVO Evora 163.74 356 ePP PP 07 52 06.4 +8.8
DBIC Dimbokro 163.90 196 PKP PKPdf 07 47 22.1 0.0
comp=Z,24nm,1.0s,baz=134,slow=1.4,SNR=16
DBIC PKPab PKPab 07 48 16.3 +1.8
comp=Z,28nm,0.9s,baz=136,slow=3.7,SNR=7.5
DBIC Dimbokro 163.90 196 ePKIKP PKPdf 07 47 21.6 -0.6
DBIC e 07 48 16.1
DBIC MLR MLR
comp=Z,12µm,19.0s
DBIC Dimbokro 163.90 196 ePKPdf PKPdf 07 47 21.6 -0.6
DBIC PKP PKPdf 07 47 22.1 0.0
DBIC ePKPab PKPab 07 48 16.1 +1.6
DBIC PKPab PKPab 07 48 16.3 +1.8
DBIC LR LR
comp=Z,12µm,19.0s
PBAR Barrancos 164.01 353 ePKPdf PKPdf 07 47 20.9 -0.6
PBAR Barrancos 164.01 353 ePP PP 07 52 00.4 +1.3
PNCL Nicolau / Gran 164.18 358 ePKPdf PKPdf 07 47 19.7 -2.0
PNCL Nicolau / Gran 164.18 358 ePP PP 07 52 05.4 +5.5
PBEJ Beja 164.23 356 ePKPdf PKPdf 07 47 22.2 +0.5
PBEJ Beja 164.23 356 ePP PP 07 52 03.8 +3.6
PCVE Castro Verde 164.64 356 ePKPdf PKPdf 07 47 18.2 -3.9
PCVE Castro Verde 164.64 356 ePP PP 07 52 05.4 +3.1
SACV Santiago Islan 164.68 116 PFAKE 07 47 30.0 +7.2
SACV LR LR
comp=Z,10µm,19.0s
PTEO Sao Teotonio 164.75 358 ePKPdf PKPdf 07 47 23.3 +1.1
PVAQ Vaqueiros 164.84 355 ePKPdf PKPdf 07 47 24.3 +2.0
PVAQ Vaqueiros 164.84 355 ePP PP 07 52 05.9 +2.5
PVAQ eSS SS 08 13 29.9 +55
PVAQ eLR LR 08 48 14.8
comp=Z,16µm,20.0s

MORF	**Marmelete**	**164.99**	**358**	*e*PKPdf	**PKPdf**	07 47 22.1	**-0.4**
MORF	**Marmelete**	**164.99**	**358**	*e*PP	PP	07 52 06.4	+2.1
MORF	**Marmelete**	**164.99**	**358**	*e*PKIKP	**PKPdf**	**07 47 22.1**	**-0.4**
MORF				*e*		07 52 07.3	
PBDV	**Barranco-do-Ve**	**165.02**	**356**	*e*PKPdf	**PKPdf**	**07 47 21.9**	**-0.6**
PBDV	**Barranco-do-Ve**	**165.02**	**356**	*e*PP	PP	07 52 06.9	+2.5
PFVI	**Vila Bisbo**	**165.17**	**358**	*e*PKPdf	**PKPdf**	**07 47 24.8**	**+2.2**
PFVI	**Vila Bisbo**	**165.17**	**358**	*e*PP	PP	07 52 08.8	+3.7
SFS	**San Fernando**	**165.58**	**350**	PFAKE		07 47 30.0	+7.1
SFS				LR	LR		
	comp=Z,33μm,20.0s						
TORD	**Torodi Ar. Bea**	**166.11**	**231**	PKP	**PKPdf**	**07 47 22.9**	**-1.1**
	comp=Z,28nm,1.0s,baz=358,slow=0.1,SNR=28						
TORD				PKPab	**PKPab**	**07 48 25.1**	**+0.6**
	comp=Z,28nm,1.2s,baz=121,slow=4.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**166.11**	**231**	PKP	**PKPdf**	**07 47 22.9**	**-1.1**
TORD				PKPab	**PKPab**	**07 48 25.1**	**+0.6**
TAM	**Tamanrasset**	**166.23**	**275**	*e*PKIKP	**PKPdf**	**07 47 24.9**	**+0.8**
TAM				MLR	MLR		
	comp=Z,17μm,20.0s						
TAM	**Tamanrasset**	**166.23**	**275**	*e*PKPdf	**PKPdf**	**07 47 24.9**	**+0.8**
TAM				*e*PKPab	**PKPab**	**07 48 27.6**	**+2.4**
TAM				LR	LR		
	comp=Z,17μm,20.0s						
RTC	**Rabat Centre**	**168.11**	**350**	PFAKE		07 47 40.0	+15
RTC				LR	LR		
	comp=Z,14μm,21.0s						
BBTS	**Babate**	**169.83**	**137**	PKP	**PKPdf**	**07 47 26.6**	**+0.1**
	comp=Z,32nm,0.9s,baz=168,slow=2.9,SNR=5.5						
BBTS	**Babate**	**169.83**	**137**	PKP	**PKPdf**	**07 47 26.6**	**+0.1**

NEIC ***15*** *07:33:27.9, 36.80S×176.95E, h216km, MG4.0(WEL), After WEL.*

WEL 15 07:33:28.4±0.6, 36.88S×177.08E, h219km±6km, ML4.0/8, 1C, Error ellipse: s-maj=8.3km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**1.38**	**179**	PN		Pn	07 34 02.8	0.0
URZ	**Urewera**	**1.38**	**179**	Pn		Pn	07 34 02.8	+0.1
MWZ	**Matawai**	**1.49**	**166**	PN		Pn	07 34 03.7	-0.1
MWZ				SN		S	07 34 31.9	+0.5
MWZ	**Matawai**	**1.49**	**166**	Pn		Pn	07 34 04.0	+0.2
MWZ				Sn		S	07 34 31.9	+0.5
PUZ	**Puketiti**	**1.51**	**142**	⇑PN		Pn	07 34 04.0	+0.1
PUZ				SN		S	07 34 29.3	-2.3
CNGZ	**Carnagh Statio**	**1.83**	**151**	PN		Pn	07 34 07.4	+0.6
CNGZ	**Carnagh Statio**	**1.83**	**151**	Pn		Pn	07 34 07.5	+0.7
KNZ	**Kokohu**	**2.19**	**168**	PN		Pn	07 34 10.1	0.0
KNZ				SN		S	07 34 42.6	-0.1
NMHZ	**Naumai**	**2.22**	**186**	PN		Pn	07 34 11.4	+0.8
NMHZ				SN		S	07 34 45.0	+1.3
NMHZ	**Naumai**	**2.22**	**186**	Pn		Pn	07 34 11.5	+0.8
NMHZ				Sn		S	07 34 46.9	+3.2
BKZ	**Black Stump Fm**	**2.33**	**191**	PN		Pn	07 34 11.5	-0.2
BKZ				SN		S	07 34 46.2	+0.7
BKZ	**Black Stump Fm**	**2.33**	**191**	Pn		Pn	07 34 11.6	-0.2
MHGZ	**Mahia Peninsul**	**2.36**	**164**	*e*PN		Pn	07 34 12.2	+0.2
MHGZ	**Mahia Peninsul**	**2.36**	**164**	Pn		Pn	07 34 12.3	+0.3
TUVZ	**Tukino**	**2.64**	**205**	*e*PN		Pn	07 34 15.2	0.0
TUVZ	**Tukino**	**2.64**	**205**	Pn		Pn	07 34 15.4	+0.2
WNVZ	**Wahianoa**	**2.71**	**205**	*e*PN		Pn	07 34 15.4	-0.6
WNVZ	**Wahianoa**	**2.71**	**205**	Pn		Pn	07 34 15.9	-0.1
BHHZ	**Black Hill Sta**	**2.73**	**197**	PN		Pn	07 34 15.4	-0.6
BHHZ	**Black Hill Sta**	**2.73**	**197**	Pn		Pn	07 34 15.5	-0.5
KAHZ	**Kahuranaki**	**2.91**	**183**	*e*PN		Pn	07 34 17.8	-0.3
KAHZ	**Kahuranaki**	**2.91**	**183**	Pn		Pn	07 34 18.1	0.0
PNHZ	**Pukenui**	**3.11**	**193**	PN		Pn	07 34 19.4	-0.9
PNHZ	**Pukenui**	**3.11**	**193**	Pn		Pn	07 34 19.5	-0.8
PXZ	**Pawanui**	**3.15**	**183**	PN		Pn	07 34 20.1	-0.6
PXZ				SN		S	07 35 00.2	-1.5
PXZ	**Pawanui**	**3.15**	**183**	Pn		Pn	07 34 20.1	-0.6
WPHZ	**Waipukurau**	**3.22**	**189**	SN		S	07 35 04.3	+1.1
TSZ	**Takapari Road**	**3.29**	**195**	PN		Pn	07 34 20.4	-2.0
TSZ				SN		S	07 35 04.9	+0.1
TSZ	**Takapari Road**	**3.29**	**195**	Pn		Pn	07 34 20.8	-1.7
PRHZ	**Porangahau**	**3.40**	**186**	PN		Pn	07 34 23.0	-0.7
PRHZ	**Porangahau**	**3.40**	**186**	Pn		Pn	07 34 23.4	-0.3
DVHZ	**Dannevirke**	**3.49**	**192**	*e*PN		Pn	07 34 23.3	-1.4
DVHZ	**Dannevirke**	**3.49**	**192**	Pn		Pn	07 34 23.4	-1.3
BFZ	**Birch Farm**	**3.85**	**190**	SN		S	07 35 12.9	-3.7
BFZ	**Birch Farm**	**3.85**	**190**	Pn		Pn	07 34 28.5	-0.5
MRZ	**Mangatainoka R**	**3.95**	**197**	PN		Pn	07 34 28.3	-2.0
MRZ				SN		S	07 35 16.6	-2.3
TIWZ	**Tintock**	**4.00**	**193**	*e*PN		Pn	07 34 29.8	-1.1
TIWZ	**Tintock**	**4.00**	**193**	Pn		Pn	07 34 29.9	-1.0
HOWZ	**Holdsworth Sta**	**4.19**	**196**	PN		Pn	07 34 32.0	-1.3
HOWZ	**Holdsworth Sta**	**4.19**	**196**	Pn		Pn	07 34 32.0	-1.2
KIW	**Kapiti Island**	**4.32**	**202**	*e*PN		Pn	07 34 32.5	-2.3
KIW	**Kapiti Island**	**4.32**	**202**	Pn		Pn	07 34 33.0	-1.8
MTW	**Mount Morrison**	**4.45**	**196**	*e*PN		Pn	07 34 34.8	-1.5
MTW	**Mount Morrison**	**4.45**	**196**	Pn		Pn	07 34 35.0	-1.3
CAW	**Cannon Point**	**4.50**	**200**	*e*PN		Pn	07 34 34.7	-2.3
CAW	**Cannon Point**	**4.50**	**200**	Pn		Pn	07 34 34.8	-2.2
SNZO	**South Karori**	**4.79**	**202**	*e*PN		Pn	07 34 38.0	-2.6
SNZO	**South Karori**	**4.79**	**202**	Pn		Pn	07 34 38.1	-2.5
PLWZ	**Palliser**	**4.89**	**196**	*e*PN		Pn	07 34 39.1	-2.9
PLWZ	**Palliser**	**4.89**	**196**	Pn		Pn	07 34 39.9	-2.1
NNZ	**Nelson**	**5.20**	**213**	SN		S	07 35 44.6	-2.3
MQZ	**McQueen's Vall**	**7.61**	**205**	SN		S	07 36 35.1	-7.8

IDC ***15*** *07:33:44.8±0.7, 20.82S×173.85W, h0km, mb4.6/14, mb1 4.8/14, mb1mx4.7/21, mbtmp4.6/14, MS5.6/1, Ms1 5.8/1, ms1mx4.7/24, Error ellipse: s-maj=27.5km s-min=17.8km az=134.0*

ISCJB ***15*** *07:33:47.0±0.4, 20.8S±0.1×174.0W±0.1, h26km, mb4.7/21, MS5.8/1, Error ellipse: s-maj=18.0km s-min=9.7km az=138.8*

NEIC ***15*** *07:33:49.7±0.5, 20.93S×173.74W, h35km, mb4.9/5, Error ellipse: s-maj=18.9km s-min=11.5km az=147.0*

ISC 15 07:33:48.8±0.6, 20.8S±0.1×173.9W±0.1, h26km, n77, σ1§21/80, mb4.6/21, 6C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.17**	**17**	Pn		Pn	07 35 25.3	-6.8
	12nm,0.3s,baz=140,slow=20,SNR=12							
AFI				Sn		Sn	07 36 41.9	-11
	12nm,0.3s,baz=262,slow=22,SNR=5.5							
AFI	**Afiamalu**	**7.17**	**17**	Pn		Pn	07 35 25.3	-6.8
AFI				Sn		Sn	07 36 41.9	-11
MSVF	**Nonsavu**	**8.21**	**291**	*e*Pn		Pn	07 35 53.1	+6.7
MSVF				*e*ScP		**ScP**	**07 45 43.8**	**-6.4**
RAR	**Rarotonga**	**13.19**	**94**	Pn		Pn	07 36 43.5	-11
	7.4nm,0.3s,baz=252,slow=7.2,SNR=12							
RAR	**Rarotonga**	**13.19**	**94**	Pn		Pn	07 36 43.5	-11
URZ	**Urewera**	**19.03**	**202**	*e*P		**Pn**	**07 38 09.9**	**+0.2**
	62nm,1.2s							
RPZ	**Rata Peaks**	**26.05**	**205**	P		**P**	**07 39 19.3**	**-0.7**
	9.2nm,0.7s,baz=344,slow=4.5,SNR=5.8							
RPZ				PKKP		**PKKPdf**	**08 05 31.2**	**+0.6**
	6.5nm,1.0s,baz=331,slow=11,SNR=3.3							
RPZ	**Rata Peaks**	**26.05**	**205**	P		**P**	**07 39 19.3**	**-0.7**
RPZ				PKKP		**PKKPdf**	**08 05 31.1**	**+0.6**
ARMA	**Armidale**	**32.41**	**246**	*e*P		**P**	**07 40 16.2**	**-0.7**
	82nm,1.6s							
CTA	**Charters Tower**	**37.28**	**264**	P		**P**	**07 40 58.3**	**-0.6**
	4.7nm,0.6s,baz=90,slow=18,SNR=5.6							
CTA	**Charters Tower**	**37.28**	**264**	P		**P**	**07 40 58.3**	**-0.6**
STKA	**Stephens Creek**	**41.13**	**245**	P		**P**	**07 41 31.4**	**+0.5**
	4.2nm,0.7s,baz=89,slow=10,SNR=3.8							
STKA	**Stephens Creek**	**41.13**	**245**	P		**P**	**07 41 31.4**	**+0.5**
COEN	**Coen**	**41.44**	**272**	*e*P		**P**	**07 41 33.0**	**-0.7**
	128nm,1.2s							
AS31	**Alice Springs**	**48.19**	**256**	*e*P		**P**	**07 42 26.7**	**-0.7**
AS31				*e*PcP		**PcP**	**07 43 55.4**	**+0.9**
WRAB	**Tennant Creek**	**48.35**	**261**	*e*P		**P**	**07 42 27.0**	**-1.7**
WRA	**Warramunga Arr**	**48.36**	**261**	P		**P**	**07 42 27.1**	**-1.7**
	5.7nm,0.9s,baz=96,slow=8.3,SNR=14							
WRA	**Warramunga Arr**	**48.36**	**261**	P		**P**	**07 42 27.1**	**-1.7**
QSPA	**South Pole Qui**	**69.24**	**180**	P		**P**	**07 44 54.4**	**+1.0**
	21nm,1.2s,baz=63,slow=6.7,SNR=5.5							
QSPA	**South Pole Qui**	**69.24**	**180**	P		**P**	**07 44 54.4**	**+1.0**
MJAR	**Matsushiro Arr**	**72.82**	**321**	P		**P**	**07 45 15.2**	**0.0**
	3.5nm,0.8s,baz=169,slow=6.3,SNR=4.2							
MJAR	**Matsushiro Arr**	**72.82**	**321**	P		**P**	**07 45 15.2**	**0.0**
PETK	**Petropavlovsk-**	**77.65**	**343**	P		**P**	**07 45 42.5**	**-0.1**
	10nm,0.8s,baz=133,slow=6.5,SNR=9.5							
PETK	**Petropavlovsk-**	**77.65**	**343**	P		**P**	**07 45 42.5**	**-0.1**
NVAR	**Mina Array Bea**	**78.67**	**41**	P		**P**	**07 45 48.6**	**-0.4**
	14nm,0.9s,baz=223,slow=9.9,SNR=25							
NVAR	**Mina Array Bea**	**78.67**	**41**	P		**P**	**07 45 48.6**	**-0.4**
CCUT	**Cedar City**	**81.30**	**44**	*e*P		**P**	**07 46 01.8**	**-1.5**
	31nm,1.6s							
USRK	**Ussuriysk Arra**	**81.44**	**324**	P		**P**	**07 46 04.7**	**+1.2**
	3.1nm,0.9s,baz=126,slow=5.0,SNR=4.2							
TMUT	**Trail Mountain**	**83.68**	**44**	*e*P		**P**	**07 46 12.9**	**-2.8**
	60nm,1.6s							
TXAR	**Lajitas Array**	**84.03**	**56**	P		**P**	**07 46 17.1**	**-0.3**
	3.9nm,1.1s,baz=223,slow=5.0,SNR=5.8							
TXAR	**Lajitas Array**	**84.03**	**56**	P		**P**	**07 46 17.1**	**-0.3**
LPM	**Los Pinos Moun**	**84.21**	**50**	*e*P		**P**	**07 46 18.0**	**-0.3**
	26nm,1.7s							
JLU	**Jordanelle**	**84.24**	**43**	*e*P		**P**	**07 46 18.4**	**-0.1**
	4.7nm,1.2s							
ANMO	**Albuquerque**	**84.65**	**50**	*e*P		**P**	**07 46 20.0**	**-0.5**
	12nm,1.2s							
PDAR	**Pinedale Array**	**86.61**	**42**	P		**P**	**07 46 29.8**	**-0.4**
	1.8nm,0.9s,baz=233,slow=4.8,SNR=3.8							
PDAR	**Pinedale Array**	**86.61**	**42**	P		**P**	**07 46 29.8**	**-0.4**
ILAR	**Eielson Array**	**87.84**	**11**	P		**P**	**07 46 34.6**	**-0.7**
	3.7nm,1.1s,baz=212,slow=5.7,SNR=5.3							
ILAR	**Eielson Array**	**87.84**	**11**	P		**P**	**07 46 34.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P		**P**	**07 47 06.7**	**+2.2**
	0.9nm,0.3s,baz=116,slow=2.1,SNR=4.3							
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P		**P**	**07 47 06.7**	**+2.2**
YKA	**Yellowknife Ar**	**95.24**	**24**	P		**P**	**07 47 09.9**	**-0.2**
	0.9nm,0.9s,baz=236,slow=4.3,SNR=7.4							
YKA	**Yellowknife Ar**	**95.24**	**24**	P		**P**	**07 47 09.9**	**+0.2**
LPAZ	**La Paz**	**98.36**	**111**	LR		LR	08 26 41.3	
	comp=Z,3μm,18.6s,baz=226,slow=32							
MKAR	**Makanchi Array**	**114.23**	**313**	PKP		PKPdf	07 52 25.0	-1.0
	1.3nm,0.8s,baz=64,slow=3.5,SNR=7.2							
MKAR	**Makanchi Array**	**114.23**	**313**	PKP		PKPdf	07 52 25.0	-1.0
ARCES	**ARCESS Array B**	**129.89**	**351**	PKP		**PKPdf**	**07 52 54.6**	**-0.7**
	3.8nm,0.9s,baz=328,slow=4.3,SNR=4.4							
ARCES	**ARCESS Array B**	**129.89**	**351**	PKP		**PKPdf**	**07 52 54.6**	**-0.7**
AKASG	**Malin Array Be**	**145.08**	**334**	PKPbc		**PKPbc**	**07 53 22.0**	**-1.1**
	10nm,0.7s,baz=38,slow=4.1,SNR=16							
AKASG	**Malin Array Be**	**145.08**	**334**	PKPbc		**PKPbc**	**07 53 22.0**	**-1.1**
KWP	**Kalwaria Pacla**	**148.38**	**339**	⇓*i*P		**PKPbc**	**07 53 34.0**	**+1.2**
OJC	**Ojcow**	**148.74**	**343**	*e*PKP		**PKPbc**	**07 53 33.4**	**-0.3**
STHS	**Stebnicka Huta**	**149.03**	**341**	*e*PKP		**PKPab**	**07 53 36.3**	**-2.3**
CLL	**Collm**	**149.11**	**352**	*i* PKPbc		**PKPbc**	**07 53 34.9**	**+0.3**
	comp=Z,58nm,1.7s							
CLL				*e*PKPab		**PKPab**	**07 53 39.0**	**+0.2**
	comp=Z,16nm,1.2s							
KOLS	**Kolonicke sedl**	**149.12**	**339**	*e*PKP		**PKPbc**	**07 53 36.2**	**+1.5**
BURAR	**Bucovina Array**	**149.13**	**334**	⇓*i*P		**PKPbc**	**07 53 36.4**	**+1.5**
CRVS	**Cervenica-Dubn**	**149.41**	**340**	*e*PKP		**PKPbc**	**07 53 37.1**	**+1.6**
TRPA	**Tarpa**	**149.72**	**338**	⇑*i*P		**PKPbc**	**07 53 36.0**	**-0.2**
MORC	**Moravsky Berou**	**149.72**	**345**	⇑*i*P		**PKPbc**	**07 53 37.2**	**+1.0**
BR131	**Keskin Array S**	**149.86**	**315**	*e*PKPbc		**PKPbc**	**07 53 38.0**	**+0.9**
BRTR	**Keskin Array B**	**149.86**	**315**	PKPbc		**PKPbc**	**07 53 36.9**	**-0.1**
	comp=Z,8.3nm,1.0s,baz=144,slow=2.2,SNR=18							
BRTR	**Keskin Array B**	**149.86**	**315**	PKPbc		**PKPbc**	**07 53 36.9**	**-0.1**
KECS	**Kecovo**	**150.09**	**341**	*e*PKP		**PKPbc**	**07 53 37.4**	**+0.3**
ASF	**Jabal al Asfar**	**150.32**	**299**	PKPbc		**PKPbc**	**07 53 39.9**	**+1.6**
	comp=Z,6.1nm,0.8s,baz=47,slow=1.5,SNR=7.1							
ASF	**Jabal al Asfar**	**150.32**	**299**	PKPbc		**PKPbc**	**07 53 39.9**	**+1.6**
MLR	**Muntele Rosu**	**150.49**	**331**	PKPbc		**PKPbc**	**07 53 39.0**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=328,slow=3.9,SNR=7.0							
MLR				PKPab		**PKPab**	**07 53 44.4**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=320,slow=11,SNR=3.5							
MLR	**Muntele Rosu**	**150.49**	**331**	PKPbc		**PKPbc**	**07 53 39.0**	**+0.6**
MLR				PKPab		**PKPab**	**07 53 44.4**	**-0.4**
MLR	**Muntele Rosu**	**150.49**	**331**	⇑*i*P		**PKPbc**	**07 53 39.2**	**+0.9**
VYHS	**Vyhne**	**150.57**	**343**	*e*PKP		**PKPbc**	**07 53 39.0**	**+0.7**
DRGR		**150.79**	**336**	⇓*i*P		**PKPbc**	**07 53 39.6**	**+0.7**
KHC	**Kasperske Hory**	**151.14**	**350**	*e*PKPbc		**PKPbc**	**07 53 39.9**	**+0.3**
MMAI	**Mount Meron Ar**	**151.30**	**301**	PKPbc		**PKPbc**	**07 53 41.4**	**+0.8**
	comp=Z,6.5nm,0.7s,baz=85,slow=1.8,SNR=5.6							
MMAI				PKPab		**PKPab**	**07 53 49.8**	**+1.1**
	comp=Z,6.6nm,0.7s,baz=116,slow=1.9,SNR=3.8							
MMAI	**Mount Meron Ar**	**151.30**	**301**	PKPbc		**PKPbc**	**07 53 41.4**	**+0.8**
MMAI				PKPab		**PKPab**	**07 53 49.8**	**+1.1**
GERES	**GERESS Array B**	**151.40**	**349**	PKPbc		**PKPbc**	**07 53 40.1**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=45,slow=2.1,SNR=9.9							
GERES				PKPab		**PKPab**	**07 53 49.0**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=352,slow=4.0,SNR=4.2							
GERES	**GERESS Array B**	**151.40**	**349**	PKPbc		**PKPbc**	**07 53 40.1**	**-0.2**
GERES				PKPab		**PKPab**	**07 53 49.0**	**+0.5**
GZR	**Gura Zlata**	**151.92**	**335**	⇑*i*P		**PKPbc**	**07 53 42.3**	**+0.7**
BZS	**Buzias**	**152.19**	**336**	⇑*i*P		**PKPbc**	**07 53 41.8**	**-0.3**
PKSM	**Moragy**	**152.69**	**341**	⇑*i*P		**PKPbc**	**07 53 44.0**	**+0.9**

NOU ***15*** *07:34:56.3±0.9, 20.04S×170.07E, h10km, MD3.0, ML2.4*

IDC ***15*** *07:35:05.1±7.3, 19.74S×168.85E, h0km, mb3.9/3, mb1 4.1/4, mb1mx4.0/16, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=169.2km s-min=31.4km az=118.0*

ISC 15 07:35:00.7±4.0, 23.3S±1.1×170.4E±0.3, h35km, n8, σ0§77/10, mb4.1/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**3.31**	**279**	*e*P		**Pn**	**07 35 50.1**	**+0.1**
BAYA				*e*S		**Sn**	**07 36 28.4**	**+0.2**
BAYA				AMP			07 36 37.6	
	comp=Z,20nm,4.2s							
LASL	**Noumea**	**3.61**	**277**	*e*P		**Pn**	**07 35 53.5**	**-0.7**
NORM	**Noumea**	**3.67**	**277**	*e*S		**Sn**	**07 36 37.3**	**+0.3**
DZM	**Mont Dzumac**	**3.73**	**279**	Pn		**Pn**	**07 35 56.0**	**+0.1**
	comp=Z,21nm,0.3s,baz=45,slow=5.7,SNR=20							
DZM				Sn		**Sn**	**07 36 39.3**	**+0.7**
	comp=Z,20nm,0.3s,baz=146,slow=20,SNR=7.6							
NOUC	**Port Laguerre**	**3.85**	**278**	*e*P		**Pn**	**07 35 55.9**	**-1.6**
NOUC				*e*S		**Sn**	**07 36 41.2**	**-0.3**
NOUC				AMP			07 36 45.2	
	comp=Z,52nm,6.4s							
ASAR	**Alice Springs**	**33.52**	**261**	P		**P**	**07 41 37.4**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=82,slow=8.8,SNR=5.7							
WRA	**Warramunga Arr**	**33.66**	**268**	P		**P**	**07 41 39.1**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=89,slow=8.5,SNR=3.6							
KSRS	**Korea Array**	**71.98**	**326**	P		P	07 46 10.9	-10
	comp=Z,2.3nm,0.9s,baz=150,slow=5.4,SNR=4.6							

WEL 15 07:38:51.8±0.8, 35.56S×178.58E, h209km±12km, ML3.8/6, Error ellipse: s-maj=26.2km s-min=13.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**2.01**	**186**	PN		Pn	07 39 31.4	+0.4
MXZ				SN		S	07 40 00.4	-1.0
PUZ	**Puketiti**	**2.52**	**186**	PN		Pn	07 39 36.6	+0.2
PUZ				SN		S	07 40 10.9	-0.2
MWZ	**Matawai**	**2.89**	**197**	PN		Pn	07 39 41.1	+0.5
MWZ				SN		S	07 40 19.2	+0.6
CNGZ	**Carnagh Statio**	**2.93**	**186**	PN		Pn	07 39 41.6	+0.6
URZ	**Urewera**	**2.94**	**203**	PN		Pn	07 39 41.2	+0.1
URZ				SN		S	07 40 20.4	+1.0
KNZ	**Kokohu**	**3.53**	**192**	PN		Pn	07 39 47.5	-0.5
NMHZ	**Naumai**	**3.80**	**201**	PN		Pn	07 39 51.6	+0.1
KAHZ	**Kahuranaki**	**4.44**	**197**	PN		Pn	07 39 58.5	-0.8
BFZ	**Birch Farm**	**5.43**	**199**	SN		S	07 41 14.2	-0.7
MRZ	**Mangatainoka R**	**5.61**	**204**	PN		Pn	07 40 12.1	-2.0
MRZ				SN		S	07 41 15.2	-4.0
TIWZ	**Tintock**	**5.62**	**201**	PN		Pn	07 40 12.4	-1.9
KIW	**Kapiti Island**	**6.03**	**208**	PN		Pn	07 40 17.2	-2.2
CAW	**Cannon Point**	**6.19**	**205**	PN		Pn	07 40 19.0	-2.5

IDC ***15*** *07:43:34.5±0.8, 21.94S×170.33E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML4.6/1, Error ellipse: s-maj=24.2km s-min=20.6km az=157.0*

ISCJB ***15*** *07:43:38.6±0.6, 22.27S±0.10×170.38E±0.05, h51km, mb4.3/13, Error ellipse: s-maj=14.3km s-min=7.0km az=5.9*

NEIC ***15*** *07:43:39.1±0.6, 22.10S×170.37E, h35km, mb4.4/8, Error ellipse: s-maj=14.0km s-min=11.9km az=201.0*

ISC 15 07:43:40.7±0.6, 22.2S±0.1×170.36E±0.07, h51km, n63, σ1§40/64, mb4.3/13, 3C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**3.22**	**271**	*e*P		**Pn**	**07 44 28.4**	**-0.5**
BAYA				*e*S		**Sn**	**07 45 05.9**	**-0.1**
DZM	**Mont Dzumac**	**3.64**	**272**	Pn		**Pn**	**07 44 33.8**	**-0.8**
	48nm,0.3s,baz=106,slow=19,SNR=35							
DZM				Sn		**Sn**	**07 45 16.6**	**+0.3**
	73nm,0.3s,baz=139,slow=20,SNR=9.2							
DZM	**Mont Dzumac**	**3.64**	**272**	Pn		**Pn**	**07 44 33.8**	**-0.8**
DZM				Sn		**Sn**	**07 45 16.6**	**+0.3**
NOUC	**Port Laguerre**	**3.77**	**271**	*e*P		**Pn**	**07 44 34.1**	**-2.2**
NOUC				*e*S		**Sn**	**07 45 21.0**	**+1.6**
URZ	**Urewera**	**17.00**	**162**	*e*Pn		**Pn**	**07 47 33.5**	**-1.3**
	44nm,1.3s							
EIDS	**Eidsvold**	**17.92**	**256**	*e*Pn		**Pn**	**07 47 44.8**	**-1.5**
	18nm,1.3s							
ARMA	**Armidale**	**18.65**	**240**	*e*P		**Pn**	**07 47 57.0**	**+1.7**
ARMA	**Armidale**	**18.65**	**240**	*e*P		**Pn**	**07 47 55.4**	**+0.1**
	3.2nm,0.5s							
RPZ	**Rata Peaks**	**21.44**	**179**	P		**P**	**07 48 27.1**	**+2.6**
	18nm,1.1s,baz=184,slow=1.5,SNR=3.8							
RPZ	**Rata Peaks**	**21.44**	**179**	P		**P**	**07 48 27.1**	**+2.6**
CTA	**Charters Tower**	**22.58**	**271**	P		**P**	**07 48 37.0**	**0.0**
	6.5nm,0.7s,baz=100,slow=12,SNR=7.2							
CTA	**Charters Tower**	**22.58**	**271**	*e*P		**P**	**07 48 36.8**	**-0.2**
	5.9nm,0.8s							
CTA	**Charters Tower**	**22.58**	**271**	P		**P**	**07 48 37.0**	**0.0**
CTAO	**Charters Tower**	**22.58**	**271**	*e*P		**P**	**07 48 38.9**	**+1.9**
	5.1nm,0.8s							
PMG	**Port Moresby**	**25.66**	**296**	*e*P		**P**	**07 49 05.0**	**-0.9**
	10.0nm,0.9s							
STKA	**Stephens Creek**	**27.29**	**243**	P		**P**	**07 49 21.3**	**+0.8**
	2.6nm,0.4s,baz=83,slow=11,SNR=6.6							
STKA	**Stephens Creek**	**27.29**	**243**	*e*P		**P**	**07 49 21.0**	**+0.5**
	6.1nm,0.9s							
STKA	**Stephens Creek**	**27.29**	**243**	P		**P**	**07 49 21.3**	**+0.8**
AS31	**Alice Springs**	**33.55**	**260**	*e*P		**P**	**07 50 14.8**	**-1.1**
ASAR	**Alice Springs**	**33.55**	**260**	P		**P**	**07 50 14.8**	**-1.1**
	1.9nm,0.6s,baz=81,slow=9.0,SNR=23							
ASAR	**Alice Springs**	**33.55**	**260**	P		**P**	**07 50 14.8**	**-1.1**
WB2	**Warramunga Arr**	**33.63**	**267**	*e*P		**P**	**07 50 16.2**	**-0.5**
WRA	**Warramunga Arr**	**33.64**	**267**	P		**P**	**07 50 15.3**	**-1.4**
	0.6nm,0.4s,baz=92,slow=8.5,SNR=

n139,σ1$43/205,10C-6D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	**Wimmis** 11µm,0.7s	**0.20**	**70**	*e*Pg	**Pg**	**07 54 05.8**	**-0.3**
WIMIS	**Wimmis** 11µm,0.7s	**0.20**	**70**	*e*Pg	Pg	07 54 02.8	-3.4
SENIN	**Lac Senin/Sane** 2µm,0.9s	**0.24**	**189**	*e*Pg	**Pb**	**07 54 09.3**	**+1.3**
SENIN	**Lac Senin/Sane** 2µm,0.9s	**0.24**	**189**	*e*Pg	**Pg**	**07 54 06.4**	**-0.5**
LKBD	**Leukerbad** 785nm,0.3s	**0.28**	**138**	*e*Pg	**Pb**	**07 54 08.9**	**+0.2**
LKBD	785nm,0.3s			*e*Sg	**Sg**	**07 54 12.8**	**+1.2**
LKBD	**Leukerbad** 785nm,0.3s	**0.28**	**138**	*e*Pg	Pg	07 54 05.4	-2.3
LKBD2	**Leukerbad 2**	**0.30**	**138**	⇑*i*Pg	**Pg**	**07 54 06.1**	**-1.9**
TORNY	**Torny/Romont** 3µm,0.7s	**0.32**	**303**	*e*Pg	**Pn**	**07 54 11.6**	**-0.6**
TORNY	**Torny/Romont** 3µm,0.7s	**0.32**	**303**	⇑*i*Pg	**Pg**	**07 54 09.3**	**+1.0**
AIGLE	**Aigle** 2µm,1.0s	**0.38**	**227**	*e*Pg	**Pn**	**07 54 12.5**	**-0.4**
AIGLE	**Aigle** 2µm,1.0s	**0.38**	**227**	*e*Pg	**Pg**	**07 54 09.6**	**+0.3**
GRYON	**Gryon** 277nm,0.4s	**0.39**	**206**	*e*Pg	**Pn**	**07 54 12.2**	**-0.9**
GRYON	277nm,0.4s			*e*Sg	**Sn**	**07 54 19.5**	**-0.9**
GRYON	**Gryon** 277nm,0.4s	**0.39**	**206**	*e*Pg	**Pg**	**07 54 09.4**	**-0.1**
DIX	**Grande Dixence** 531nm,0.5s	**0.52**	**176**	*e*Pg	**Pb**	**07 54 14.1**	**+1.3**
SALAN	**Lac Salanfe** 129nm,0.9s	**0.53**	**210**	*e*Pg	**Pn**	**07 54 14.9**	**-0.2**
SALAN	**Lac Salanfe** 129nm,0.9s	**0.53**	**210**	*e*Pg	**Pg**	**07 54 12.2**	**+0.2**
HASLI	**Hasliberg/Brie** 1µm,0.9s	**0.57**	**74**	*e*Pg	**Pg**	**07 54 13.0**	**+0.1**
HASLI	**Hasliberg/Brie** 1µm,0.9s	**0.57**	**74**	*e*Pg	**Pg**	**07 54 11.0**	**-1.9**
BALST	**Balsthal** 3µm,0.6s	**0.78**	**17**	*e*Pg	**Pb**	**07 54 17.6**	**+0.5**
BNALP	**Bannalp** 495nm,0.5s	**0.79**	**69**	*e*Pg	**Pg**	**07 54 17.3**	**+0.3**
LOMF	**Lomont**	**0.84**	**335**	Pg	**Pn**	**07 54 20.2**	**+0.9**
CABF	**La Chapelle** SNR=1.0	**0.87**	**271**	*e*Pg	**Pb**	**07 54 19.2**	**+0.4**
CABF	149nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 54 31.7**	**+1.7**
CABF	**La Chapelle** SNR=1.0	**0.87**	**271**	*e*Pg	**Pb**	**07 54 19.2**	**+0.4**
CABF	75nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 54 31.7**	**+1.7**
BBS	**Basel-Blauen**	**0.87**	**7**	Pg	**Pn**	**07 54 20.1**	**+0.3**
BBS				Sg	**Sn**	**07 54 31.7**	**-0.7**
MUO	**Muotathal** 3µm,0.7s	**0.96**	**67**	*e*Pg	**Pg**	**07 54 20.8**	**+0.6**
RSL	**Roselend**	**1.04**	**209**	Pg	Pg	07 54 25.4	+3.6
TRAV	**Traversella**	**1.12**	**166**	P	**Pg**	**07 54 24.8**	**+1.6**
TRAV				S	**Sn**	**07 54 41.4**	**+2.9**
LSD	**Lago del Serru**	**1.15**	**188**	P	**Pg**	**07 54 25.1**	**+1.3**
LSD				S	**Sg**	**07 54 42.0**	**+3.2**
LPL	**La Plagne**	**1.17**	**202**	*e*Pg	**Pn**	**07 54 24.1**	**+0.2**
LPL	94nm,0.4s,SNR=1.0			*e*Sg	**Sb**	**07 54 38.9**	**0.0**
LPL	**La Plagne**	**1.17**	**202**	*e*Pg	**Pn**	**07 54 24.1**	**+0.2**
LPL	47nm,0.4s,SNR=1.0			*e*Sg	**Sb**	**07 54 38.9**	**0.0**
LPG	**La Plagne**	**1.18**	**201**	*e*Pg	**Pn**	**07 54 24.1**	**-0.1**
LPG	212nm,0.6s			*e*Sg	**Sb**	**07 54 39.6**	**+0.3**
LPG	**La Plagne**	**1.18**	**201**	*e*Pg	**Pn**	**07 54 24.1**	**-0.1**
LPG	106nm,0.6s			*e*Sg	**Sb**	**07 54 39.6**	**+0.3**
MOF	**Molkenrain**	**1.26**	**353**	Pg	**Pg**	**07 54 27.5**	**+1.5**
MOF				Sg	**Sg**	**07 54 44.7**	**+2.2**
HINF	**Hinteralfeld** SNR=1.0	**1.27**	**345**	*e*Pn	**Pn**	**07 54 23.7**	**-1.5**
HINF	**Hinteralfeld**	**1.27**	**345**	*e*P	**Pn**	**07 54 25.4**	**+0.2**
HINF	152nm,0.6s,SNR=1.0			*e*Sn	**Sb**	**07 54 41.5**	**-0.2**
HINF	**Hinteralfeld** SNR=1.0	**1.27**	**345**	*e*Pn	**Pn**	**07 54 23.7**	**-1.5**
HINF	**Hinteralfeld**	**1.27**	**345**	*e*P	**Pn**	**07 54 25.4**	**+0.2**
HINF	76nm,0.6s,SNR=1.0			*e*Sn	**Sb**	**07 54 41.5**	**-0.2**
FELD	**Feldberg im Sc**	**1.35**	**19**	Pn	**Pn**	**07 54 26.6**	**+0.1**
RSP	**Reno Superiore**	**1.45**	**182**	P	**Pb**	**07 54 28.7**	**+0.1**
RSP				S	**Sb**	**07 54 48.1**	**+1.0**
LIBD	**Limburg**	**1.56**	**6**	Pn	**Pb**	**07 54 31.2**	**+0.7**
HAU	**Haudompre** SNR=1.0	**1.57**	**334**	*e*Pn	**Pn**	**07 54 27.8**	**-1.5**
HAU	**Haudompre**	**1.57**	**334**	*e*Pg	**Pb**	**07 54 30.5**	**-0.1**
HAU	157nm,0.4s,SNR=1.0			*e*Sg	**Sb**	**07 54 51.3**	**+1.0**
HAU	**Haudompre** SNR=1.0	**1.57**	**334**	*e*Pn	**Pn**	**07 54 27.8**	**-1.5**
HAU	**Haudompre**	**1.57**	**334**	*e*Pg	**Pb**	**07 54 30.5**	**-0.1**
HAU	79nm,0.4s,SNR=1.0			*e*Sg	**Sb**	**07 54 51.3**	**+1.0**
ECH	**Echery**	**1.62**	**355**	Pn	**Pb**	**07 54 32.1**	**+0.5**
ECH				Sg	**Sg**	**07 54 56.1**	**+2.1**
SPAK	**Spaichingen-Ko**	**1.79**	**32**	Pn	**Pn**	**07 54 33.0**	**+0.6**
CDF	**Champ du Feu** SNR=1.0	**1.82**	**358**	*e*Pn	**Pn**	**07 54 31.1**	**-1.7**
CDF	**Champ du Feu**	**1.82**	**358**	*e*Pg	**Pb**	**07 54 34.7**	**-0.2**
CDF	SNR=1.0			*e*Sn	**Sn**	**07 54 52.5**	**-3.2**
CDF	75nm,0.3s			*e*Sg	**Sb**	**07 54 58.1**	**+0.5**
CDF	**Champ du Feu** SNR=1.0	**1.82**	**358**	*e*Pn	**Pn**	**07 54 31.1**	**-1.7**
CDF	**Champ du Feu**	**1.82**	**358**	*e*Pg	**Pb**	**07 54 34.7**	**-0.2**
CDF	SNR=1.0			*e*Sn	**Sn**	**07 54 52.5**	**-3.2**
CDF	38nm,0.3s			*e*Sg	**Sb**	**07 54 58.1**	**+0.5**
BFO	**Black Forest** SNR=22	**1.86**	**21**	*e*Pn	**Pn**	**07 54 34.2**	**+0.9**
BFO	SNR=3.5			*e*Pg	**Pg**	**07 54 38.8**	**+1.5**
BFO				*e*Sg	**Sg**	**07 55 01.8**	**+0.4**
BFO	**Black Forest** SNR=22	**1.86**	**21**	Pn	**Pn**	**07 54 34.2**	**+0.9**
DAVA	**Damuels** 1.5nm,0.2s,SNR=14	**1.86**	**67**	⇓*e*Pn	**Pb**	**07 54 35.6**	**-0.1**
DAVA	22nm,0.3s			⇑*i*Pg	**Pg**	**07 54 38.1**	**+0.7**
DAVA	129nm,0.4s			⇓*i*Sg	**Sg**	**07 55 03.0**	**+1.4**
DAVA	**Damuels** 1.5nm,0.2s,SNR=14	**1.86**	**67**	Pn	**Pb**	**07 54 35.6**	**-0.1**
DAVA	**Damuels** 22nm,0.3s	**1.86**	**67**	Pg	**Pg**	**07 54 38.1**	**+0.7**
DAVA	129nm,0.4s			Sg	**Sg**	**07 55 03.0**	**+1.4**
THEF	**They Montfort**	**1.88**	**331**	Pn	**Pb**	**07 54 35.6**	**-0.2**
MBDF	**Montbardon**	**1.92**	**193**	*e*Pg	**Pb**	**07 54 36.7**	**+0.1**
MBDF	166nm,0.7s			*e*Sg	**Sb**	**07 55 02.3**	**+1.9**
MBDF	**Montbardon**	**1.92**	**193**	*e*Pg	**Pb**	**07 54 36.7**	**+0.1**
MBDF	83nm,0.7s			*e*Sg	**Sb**	**07 55 02.3**	**+1.9**
ORIF	**Oris-en-Rattie**	**1.97**	**212**	*e*Pg	**Pb**	**07 54 38.4**	**+0.9**
ORIF	68nm,0.5s,SNR=1.0			*e*Sg	**Sg**	**07 55 04.4**	**-0.7**
ORIF	**Oris-en-Rattie**	**1.97**	**212**	*e*Pg	**Pb**	**07 54 38.4**	**+0.9**
ORIF	34nm,0.5s,SNR=1.0			*e*Sg	**Sg**	**07 55 04.4**	**-0.7**
PZZ	**Stroppo**	**2.10**	**185**	P	**Pb**	**07 54 38.5**	**-1.2**
PCP	**Piancastagn**	**2.22**	**157**	P	**Pb**	**07 54 40.5**	**-1.2**
PAGF	**Fort de Pagny** 32nm,0.6s	**2.25**	**331**	*e*Sg	**Sg**	**07 55 12.7**	**-1.2**
PAGF	**Fort de Pagny** 16nm,0.6s	**2.25**	**331**	*e*Sg	**Sg**	**07 55 12.7**	**-1.2**
SFTF	**Sexfontaines** 79nm,0.5s	**2.25**	**316**	*e*Sg	**Sg**	**07 55 13.2**	**-0.8**
SFTF	**Sexfontaines** 40nm,0.5s	**2.25**	**316**	*e*Sg	**Sg**	**07 55 13.2**	**-0.8**
FETA	**Feichten** 11nm,0.3s,SNR=17	**2.36**	**78**	⇓*e*Pn	**Pb**	**07 54 43.8**	**-0.3**
FETA	31nm,0.6s			⇓*i*Sg	**Sg**	**07 55 17.3**	**-0.1**
FETA	**Feichten**	**2.36**	**78**	Pn	**Pb**	**07 54 43.8**	**-0.3**
FETA	11nm,0.3s,SNR=17			Sg	**Sg**	**07 55 17.3**	**-0.1**
MEZF	**Maizieres J'vi** SNR=1.0	**2.46**	**322**	*e*Pg	**Pb**	**07 54 47.5**	**+1.7**
MEZF	109nm,0.6s			*e*Sg	**Sg**	**07 55 19.4**	**-1.4**
MEZF	**Maizieres J'vi** SNR=1.0	**2.46**	**322**	*e*Pg	**Pb**	**07 54 47.5**	**+1.7**
MEZF	54nm,0.6s			*e*Sg	**Sg**	**07 55 19.4**	**-1.4**
LOR	**Lormes** baz=109	**2.49**	**287**	*e*Pg	**Pb**	**07 54 48.1**	**+1.8**
LOR	53nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 55 22.1**	**+0.5**
LOR	**Lormes** baz=109	**2.49**	**287**	*e*Pg	**Pb**	**07 54 48.1**	**+1.8**
LOR	26nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 55 22.1**	**+0.5**
RETA	**Reutte** 4.4nm,0.2s	**2.50**	**68**	⇑*i*Pn	**Pb**	**07 54 47.0**	**+0.6**
RETA	22nm,0.4s			⇑*i*Sg	**Sg**	**07 55 22.2**	**+0.4**
RETA	**Reutte** 4.4nm,0.2s	**2.50**	**68**	Pn	**Pb**	**07 54 47.0**	**+0.6**
RETA	22nm,0.4s			Sg	**Sg**	**07 55 22.2**	**+0.4**
STU	**Stuttgart**	**2.51**	**29**	*e*Sg	**Sg**	**07 55 24.9**	**+2.7**
STU	**Stuttgart**	**2.51**	**29**	Sg	**Sg**	**07 55 24.9**	**+2.7**
VIVF	**Saint-Julien-l** SNR=1.0	**2.56**	**228**	*e*P	**Pn**	**07 54 44.7**	**+1.7**
VIVF	42nm,0.4s			*e*Sg	**Sg**	**07 55 23.7**	**-0.3**
VIVF	**Saint-Julien-l** SNR=1.0	**2.56**	**228**	*e*P	**Pn**	**07 54 44.7**	**+1.7**
VIVF	21nm,0.4s			*e*Sg	**Sg**	**07 55 23.7**	**-0.3**
PLDF	**La Plantade**	**2.66**	**258**	Pn	**Pb**	**07 54 47.5**	**-1.8**
MOTA	**Moosalm** 6.1nm,0.3s	**2.67**	**72**	⇓*i*Pn	**Pb**	**07 54 48.1**	**-1.4**
MOTA	37nm,0.6s			⇓*i*Sg	**Sg**	**07 55 27.1**	**-0.5**
MOTA	**Moosalm** 6.1nm,0.3s	**2.67**	**72**	Pn	**Pb**	**07 54 48.1**	**-1.4**
MOTA	37nm,0.6s			Sg	**Sg**	**07 55 27.1**	**-0.5**
SSF	**Saint Saulge** SNR=1.0	**2.68**	**281**	*e*P	**Pn**	**07 54 46.6**	**+2.0**
SSF	**Saint Saulge**	**2.68**	**281**	*e*Pg	**Pb**	**07 54 51.6**	**+2.0**
SSF	36nm,0.6s,SNR=1.0			*e*Sg	**Sg**	**07 55 27.8**	**0.0**
SSF	**Saint Saulge** SNR=1.0	**2.68**	**281**	*e*P	**Pn**	**07 54 46.6**	**+2.0**
SSF	**Saint Saulge**	**2.68**	**281**	*e*Pg	**Pb**	**07 54 51.6**	**+2.0**
SSF	18nm,0.6s,SNR=1.0			*e*Sg	**Sg**	**07 55 27.8**	**0.0**
IMI	**Imperia**	**2.71**	**172**	P	**Pn**	**07 54 46.5**	**+1.4**
SQTA	**Sankt Quirin** 7.2nm,0.0s	**2.71**	**75**	⇑*i*Pn	**Pb**	**07 54 49.2**	**-1.0**
SQTA	**Sankt Quirin** 7.2nm,0.0s	**2.71**	**75**	Pn	**Pb**	**07 54 49.2**	**-1.0**
SBF	**Sospel** SNR=1.0	**2.73**	**179**	*e*Pn	**Pn**	**07 54 43.7**	**-1.7**
SBF	**Sospel**	**2.73**	**179**	*e*Pg	**Pb**	**07 54 50.9**	**+0.4**
SBF	42nm,0.5s			*e*Sg	**Sb**	**07 55 27.1**	**+3.1**
SBF	**Sospel** SNR=1.0	**2.73**	**179**	*e*Pn	**Pn**	**07 54 43.7**	**-1.7**
SBF	**Sospel**	**2.73**	**179**	*e*Pg	**Pb**	**07 54 50.9**	**+0.4**
SBF	21nm,0.5s			*e*Sg	**Sb**	**07 55 27.1**	**+3.1**
AVF	**Avril sur Loir** SNR=1.0	**2.76**	**275**	*e*Pn	**Pn**	**07 54 44.8**	**-0.8**
AVF	**Avril sur Loir**	**2.76**	**275**	*e*Pg	**Pb**	**07 54 53.1**	**+2.2**
AVF	SNR=1.0			*e*Sn	**Sn**	**07 55 17.5**	**-1.3**
AVF	36nm,0.7s,SNR=1.0			*e*Sg	**Sg**	**07 55 30.0**	**-0.3**
AVF	**Avril sur Loir** SNR=1.0	**2.76**	**275**	*e*Pn	**Pn**	**07 54 44.8**	**-0.8**
AVF	**Avril sur Loir**	**2.76**	**275**	*e*Pg	**Pb**	**07 54 53.1**	**+2.2**
AVF	SNR=1.0			*e*Sn	**Sn**	**07 55 17.5**	**-1.3**
AVF	18nm,0.7s,SNR=1.0			*e*Sg	**Sg**	**07 55 30.0**	**-0.3**
SMRF	**Simiane la Rot**	**2.91**	**206**	*e*Pg	**Pb**	**07 54 54.9**	**+1.5**
SMRF	12nm,0.4s,SNR=1.0			*e*Sn	**Sn**	**07 55 19.8**	**-2.7**
SMRF	**Simiane la Rot**	**2.91**	**206**	*e*Pg	**Pb**	**07 54 54.9**	**+1.5**
SMRF	5.8nm,0.4s,SNR=1.0			*e*Sn	**Sn**	**07 55 19.8**	**-2.7**
WTTA	**Wattenberg** 4.9nm,0.2s	**3.01**	**76**	⇑*i*Pn	**Pb**	**07 54 52.9**	**-2.4**
WTTA	14nm,0.5s			⇑*i*Sn	**Sn**	**07 55 26.7**	**+1.4**
WTTA	**Wattenberg** 4.9nm,0.2s	**3.01**	**76**	Pn	**Pb**	**07 54 52.9**	**-2.4**
WTTA	14nm,0.5s			Sn	**Sn**	**07 55 26.7**	**+1.4**
FUR	**Furstenfeldbru**	**3.09**	**58**	*e*Sg	**Sg**	**07 55 41.0**	**0.0**
FUR	**Furstenfeldbru**	**3.09**	**58**	Sg	**Sg**	**07 55 41.0**	**0.0**
WLF	**Walferdange**	**3.17**	**346**	*e*Sg	**Sg**	**07 55 45.8**	**+2.2**
WLF	**Walferdange**	**3.17**	**346**	Sg	**Sg**	**07 55 45.8**	**+2.2**
LBL	**Lubilhac**	**3.17**	**246**	Pn	Pn	07 54 54.6	+3.2
LASF	**Ste Croix** 17nm,0.5s	**3.53**	**226**	*e*Sg	**Sg**	**07 55 53.6**	**-1.3**
LASF	**Ste Croix** 8.3nm,0.5s	**3.53**	**226**	*e*Sg	**Sg**	**07 55 53.6**	**-1.3**
ABTA	**Abfaltersbach** 3.7nm,0.4s	**3.56**	**86**	⇑*e*Pn	Pb	07 55 01.2	-3.3
ABTA	9.1nm,0.5s			⇑*i*Sg	**Sg**	**07 55 58.0**	**+2.2**
ABTA	**Abfaltersbach** 3.7nm,0.4s	**3.56**	**86**	Pn	Pb	07 55 01.2	-3.3
ABTA	9.1nm,0.5s			Sg	**Sg**	**07 55 58.0**	**+2.2**
TNS	**Taunus Mts** SNR=2.2	**3.70**	**11**	*e*Pn	**Pn**	**07 55 00.2**	**+1.6**
TNS				*e*Sn	**Sn**	**07 55 44.3**	**+2.2**
TNS				*e*Sg	**Sg**	**07 56 01.3**	**+0.9**
TNS	**Taunus Mts** SNR=2.2	**3.70**	**11**	Pn	**Pn**	**07 55 00.2**	**+1.6**
TNS				Sn	**Sn**	**07 55 44.3**	**+2.2**
TNS				Sg	**Sg**	**07 56 01.3**	**+0.9**
GIVF	**Givet** 41nm,0.6s	**3.89**	**335**	*e*Sg	**Sg**	**07 56 04.1**	**-2.5**
GIVF	**Givet** 20nm,0.6s	**3.89**	**335**	*e*Sg	**Sg**	**07 56 04.1**	**-2.5**
GRA1	**Grafenberg Arr** SNR=2.9	**4.04**	**38**	Pg	Pg	**07 55 18.6**	**-0.4**
GRA1				Sg	**Sg**	**07 56 10.2**	**-1.0**
GRF	**Grafenberg Arr** SNR=2.9	**4.04**	**38**	*e*Pg	**Pg**	**07 55 18.6**	**-0.4**
GRF				*e*Sg	**Sg**	**07 56 10.2**	**-1.0**
BAIF	**Baives**	**4.05**	**330**	*e*P	**Pn**	**07 55 05.5**	**+2.1**
BAIF				*e*Sg	**Sg**	**07 56 08.9**	**-2.8**
BAIF	**Baives**	**4.05**	**330**	*e*P	**Pn**	**07 55 05.5**	**+2.1**
BAIF				*e*Sg	**Sg**	**07 56 08.9**	**-2.8**
CAF	**Calviac** 7.4nm,0.5s	**4.06**	**248**	*e*Sg	**Sg**	**07 56 10.7**	**-1.4**
CAF	**Calviac** 3.7nm,0.5s	**4.06**	**248**	*e*Sg	**Sg**	**07 56 10.7**	**-1.4**
PGF	**Pioggiola** SNR=1.0	**4.22**	**163**	*e*Pn	**Pn**	**07 55 03.6**	**-2.2**
PGF	**Pioggiola** SNR=1.0	**4.22**	**163**	*e*Pn	Pn	**07 55 03.6**	**-2.2**
RJF	**Les Rejaudoux** 7.3nm,0.4s	**4.27**	**254**	*e*Sg	**Sg**	**07 56 17.6**	**-1.2**
RJF	**Les Rejaudoux** 3.7nm,0.4s	**4.27**	**254**	*e*Sg	**Sg**	**07 56 17.6**	**-1.2**
WET	**Wettzell** SNR=1.9	**4.51**	**54**	*e*Pn	**Pn**	**07 55 09.9**	**+0.2**
WET				*e*Sg	**Sg**	**07 56 24.5**	**-1.8**
WET	**Wettzell** SNR=1.9	**4.51**	**54**	Pn	**Pn**	**07 55 09.9**	**+0.2**
WET				Sg	**Sg**	**07 56 24.5**	**-1.8**
GEC2	**GERESS Array S** SNR=2.0	**4.84**	**60**	*e*Pn	**Pn**	**07 55 15.8**	**+1.5**
GEC2	SNR=2.1			*e*Pg	**Pg**	**07 55 33.6**	**-0.7**
GEC2				*e*Sn	**Sn**	**07 56 08.0**	**-2.2**
GEC2				*e*Sg	**Sg**	**07 56 35.5**	**-1.5**
GEC2	**GERESS Array S** SNR=2.0	**4.84**	**60**	Pn	**Pn**	**07 55 15.8**	**+1.5**
MTLF	**Montolieu** 5.7nm,0.4s,SNR=1.0	**4.89**	**230**	*e*Sn	**Sn**	**07 56 07.9**	**-3.4**
MTLF	**Montolieu**	**4.89**	**230**	*e*Sn	**Sn**	**07 56 07.9**	**-3.4**
	2.8nm,0.4s,SNR=1.0						
MOX	**Moxa** SNR=1.9	**4.94**	**33**	*e*Pg	**Pg**	**07 56 36.6**	**+0.4**
MOX				*e*Sg	**Sg**	**07 56 39.2**	**-0.9**
MOX	**Moxa** SNR=1.9	**4.94**	**33**	Pg	**Pg**	**07 55 36.6**	**+0.4**
MOX				Sg	**Sg**	**07 56 39.2**	**-0.9**
TANN	**Tannenbergstha** SNR=2.5	**5.11**	**40**	*e*Pg	**Pg**	**07 55 39.9**	**+0.4**
TANN				*e*Sg	**Sg**	**07 56 45.5**	**-0.2**
TANN	**Tannenbergstha** SNR=2.5	**5.11**	**40**	Pg	**Pg**	**07 55 39.9**	**+0.4**
TANN				Sg	**Sg**	**07 56 45.5**	**-0.2**
MFF	**Saint Martin d** SNR=1.0	**5.17**	**273**	*e*P	Pn	07 55 21.6	+2.9
MFF	**Saint Martin d** SNR=1.0	**5.17**	**273**	*e*P	Pn	07 55 21.6	+2.9
CLZ	**Clausthal**	**5.61**	**20**	*e*Sg	**Sg**	**07 57 01.9**	**+0.3**
CLZ	**Clausthal**	**5.61**	**20**	Sg	**Sg**	**07 57 01.9**	**+0.3**
CLL	**Collm**	**6.00**	**36**	*e*Sg	**Sg**	**07 57 17.0**	**+2.7**
BRG	**Berggiesshubel** 4.9nm,0.7s	**6.11**	**43**	SG	**Sg**	**07 57 16.9**	**-0.7**
BRG	comp=N,10µm,24.6s			*i*		08 00 38.0	
BRG	comp=E,6µm,22.0s			*i*		08 02 59.0	
BRG	comp=Z,13µm,22.3s			*e*		08 03 14.8	
BRG	9.8nm,1.1s			SS	ScS	08 09 22.0	-14

NOU ***15*** *08:00:50.8±0.9,20°.88S×170°.73E,h10km,MD3.0,ML3.6*
IDC ***15*** *08:00:51.6±1.0,22°.18S×170°.57E,h0km,mb4.2/8, mb1 4.4/9,mb1mx4.3/18,mbtmp4.3/9,ML4.7/1,Error ellipse: s-maj=31.9km s-min=21.9km az=165.0*
ISCJB ***15*** *08:00:55.6±1.3,22°.3S±0°.1×170°.52E±0°.06,h38km±12km, mb4.3/12,Error ellipse: s-maj=20.4km s-min=8.8km az=173.5*
NEIC ***15*** *08:00:56.8±0.6,22°.25S×170°.52E,h35km,mb4.5/6,Error ellipse: s-maj=19.8km s-min=11.0km az=160.0*
SZGRF ***15*** *08:00:56.2,22°.03S×171°.08E,h33km,Southeast of Loyalty Islands*

ISC 15 08:00:58.4±1.4,22°.3S±0°.1×170°.49E±0°.07,h49km±12km, n77,σ0$97/81,mb4.3/12,6C-3D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.34**	**272**	*e*P	**Pn**	**08 01 46.4**	**-1.7**
BAYA				*e*S	**Sn**	**08 02 27.2**	**+0.6**
BAYA	comp=Z,32nm,2.1s			AMP		08 02 34.2	
PLUM	**Mont Dore**	**3.56**	**269**	*e*P	**Pn**	**08 01 49.5**	**-1.8**
PLUM				*e*S	**Sn**	**08 02 32.3**	**+0.2**
PLUM	comp=Z,394nm,0.0s			AMP		08 02 38.2	
DZM	**Mont Dzumac** comp=Z,58nm,0.3s,baz=90,slow=17,SNR=70	**3.75**	**272**	Pn	**Pn**	**08 01 53.5**	**-0.4**
DZM	comp=Z,44nm,0.3s,baz=125,slow=22,SNR=16			Sn	**Sn**	**08 02 37.8**	**+0.9**
DZM	**Mont Dzumac**	**3.75**	**272**	*e*P	**Pn**	**08 01 51.3**	**-2.6**
DZM				*e*S	**Sn**	**08 02 36.6**	**-0.3**
DZM	comp=Z,2µm,1.8s			AMP		08 02 39.6	
DZM	**Mont Dzumac**	**3.75**	**272**	Pn	**Pn**	**08 01 53.5**	**-0.4**
DZM				Sn	**Sn**	**08 02 37.8**	**+0.9**
NOUC	**Port Laguerre**	**3.88**	**272**	*e*P	**Pn**	**08 01 53.7**	**-1.9**
NOUC	comp=Z,154nm,5.4s			AMP		08 02 40.8	
NOUC				*e*S	**Sn**	**08 02 40.9**	**+0.9**
MSVF	**Nonsavu** comp=Z,142nm,1.3s	**8.43**	**59**	*e*Pn	**Pn**	**08 02 58.6**	**+0.5**
EIDS	**Eidsvold** comp=Z,20nm,1.2s	**18.02**	**256**	*e*P	**Pn**	**08 05 06.8**	**+1.5**
ARMA	**Armidale**	**18.73**	**240**	*e*P	**Pn**	**08 05 14.8**	**+0.8**
ARMA	**Armidale** comp=Z,31nm,1.4s	**18.73**	**240**	*e*P	**Pn**	**08 05 14.8**	**+0.8**
RPZ	**Rata Peaks** comp=Z,11nm,0.9s,baz=85,slow=5.0,SNR=4.6	**21.38**	**179**	P	**P**	**08 05 42.8**	**+1.0**
RPZ	**Rata Peaks**	**21.38**	**179**	P	**P**	**08 05 42.8**	**+1.0**
CTA	**Charters Tower** comp=Z,8.6nm,1.0s,baz=87,slow=10,SNR=6.5	**22.70**	**271**	P	**P**	**08 05 57.5**	**+1.4**
CTA	**Charters Tower** comp=Z,7.8nm,0.9s	**22.70**	**271**	*e*P	**P**	**08 05 56.4**	**+0.3**
CTA	**Charters Tower**	**22.70**	**271**	P	**P**	**08 05 57.5**	**+1.4**
CTAO	**Charters Tower** comp=Z,26nm,1.4s	**22.70**	**271**	*e*P	**P**	**08 05 55.1**	**-0.9**
STKA	**Stephens Creek** comp=Z,2.7nm,0.8s,baz=97,slow=8.1,SNR=3.8	**27.37**	**243**	P	**P**	**08 06 39.9**	**+0.8**
STKA	**Stephens Creek**	**27.37**	**243**	P	**P**	**08 06 39.9**	**+0.8**
AS31	**Alice Springs**	**33.65**	**260**	*e*P	**P**	**08 07 34.1**	**-0.6**
ASAR	**Alice Springs** comp=Z,3.7nm,0.7s,baz=87,slow=9.2,SNR=37	**33.65**	**260**	P	**P**	**08 07 34.1**	**-0.7**
ASAR	**Alice Springs**	**33.65**	**260**	P	**P**	**08 07 34.1**	**-0.7**
WRAB	**Tennant Creek** comp=Z,5.1nm,1.1s	**33.75**	**267**	P	**P**	**08 07 35.2**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.5s,baz=96,slow=7.8,SNR=5.7	**33.75**	**267**	P	**P**	**08 07 34.0**	**-1.6**
WRA	**Warramunga Arr**	**33.75**	**267**	P	**P**	**08 07 34.0**	**-1.6**
FORT	**Forrest** comp=Z,18nm,1.0s	**38.71**	**248**	*e*P	**P**	**08 08 17.7**	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,9.2nm,0.8s	**42.18**	**267**	*e*P	**P**	**08 08 45.9**	**-0.8**
QSPA	**South Pole Qui** comp=Z,12nm,1.0s	**67.79**	**180**	*e*P	**P**	**08 11 49.2**	**-1.8**
CMAR	**Chiang Mai Arr** comp=Z,2.4nm,0.6s,baz=140,slow=4.5,SNR=10	**80.81**	**294**	P	**P**	**08 13 09.6**	**+2.2**
CMAR	**Chiang Mai Arr**	**80.81**	**294**	P	**P**	**08 13 09.6**	**+2.2**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.9s,baz=230,slow=8.7,SNR=6.1	**89.94**	**48**	P	**P**	**08 13 53.6**	**+0.8**
NVAR	**Mina Array Bea**	**89.94**	**48**	P	**P**	**08 13 53.6**	**+0.8**
SONM	**Songino Array** comp=Z,4.6nm,0.9s,baz=136,slow=4.8,SNR=23	**90.34**	**323**	P	**P**	**08 13 54.2**	**0.0**
SONM	**Songino Array**	**90.34**	**323**	P	**P**	**08 13 54.2**	**0.0**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.8s,baz=76,slow=3.3,SNR=7.5	**128.29**	**345**	PKP	**PKPdf**	**08 19 57.8**	**-0.9**
ARCES	**ARCESS Array B**	**128.29**	**345**	PKP	**PKPdf**	**08 19 57.8**	**-0.9**
STHS	**Stebnicka Huta**	**143.64**	**326**	*e*PKP	PKPbc	08 20 25.2	-0.1
CRVS	**Cervenica-Dubn**	**143.83**	**325**	*e*PKP	PKPbc	08 20 26.2	+0.3
DRGR		**144.32**	**321**	⇓*i*P	PKPbc	08 20 27.4	-0.1
KECS	**

WLF	**Walferdange**	**150.00**	**339**	*e*PKPbc	**PKPbc**	**08**	**20**	**43.1 -0.2**
TUE	**Stuetta**	**151.43**	**332**	*e*PKPbc	**PKPbc**	**08**	**20**	**45.8 -1.3**
TORD	**Torodi Ar. Bea**	**165.99**	**231**	PKP	**PKPdf**	**08**	**20**	**57.6 -1.2**
	comp=Z,1.6nm,1.1s,baz=34,slow=1.9,SNR=5.9							
TORD				PKPab	**PKPab**	**08**	**21**	**59.7 +0.7**
	comp=Z,1.3nm,1.2s,baz=144,slow=2.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**165.99**	**231**	PKP	**PKPdf**	**08**	**20**	**57.6 -1.2**
TORD				PKPab	**PKPab**	**08**	**21**	**59.7 +0.7**

MEX 15 08:26:16.1±0.5, 16°.81N×101°.67W, h25km±43km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.82**	**14**	*e*P	Pb	08 26 29.1	-2.6
ZIIG				*i* S	Sb	08 26 39.3	-3.1
MEIG	**Mezcala**	**2.25**	**60**	*i* P	Pn	08 26 50.1	-1.8
MEIG				*i* S	Sn	08 27 16.2	-2.8
PNIG	**Pinotepa**	**3.42**	**96**	*e*P	Pn	08 27 05.4	-2.5
PNIG				*i* S	Sn	08 27 44.3	-3.4
PPM	**Popocatepetl**	**3.67**	**52**	*i* P	Pn	08 27 09.2	-2.7
PPM				*i* S	Sn	08 27 51.6	-3.2
UTMO	**Huajuapan**	**3.83**	**74**	*i* P	Pn	08 27 12.5	-1.3
UTMO				*i* S	Sn	08 27 55.2	-3.1

IDC ***15*** *08:29:44.4±0.8, 21°.96N×145°.22E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/27, mbtmp4.1/17, ML4.0/2, Error ellipse: s-maj=24.6km s-min=18.8km az=49.0*
ISCJB ***15*** *08:29:47.7±0.6, 21°.89N±0°.08×145°.2E±0°.1, h36km, mb4.2/20, Error ellipse: s-maj=18.6km s-min=10.5km az=164.4*
NEIC ***15*** *08:29:49.5±0.5, 21°.93N×145°.18E, h35km, mb4.1/5, Error ellipse: s-maj=18.7km s-min=10.5km az=69.0*

ISC 15 08:29:49.8±0.7, 22°.02N±0°.10×145°.1E±0°.1, h36km, n51, σ1§34/53, mb4.1/20, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.70**	**333**	Pn	**Pn**	**08**	**31**	**10.5 -1.4**
	11nm,0.3s,baz=148,slow=23,SNR=3.0							
CBIJ				Sn	**Sn**	**08**	**32**	**14.4 -1.7**
	16nm,0.3s,baz=307,slow=24,SNR=4.9							
CBIJ	**Chichi jima**	**5.70**	**333**	Pn	**Pn**	**08**	**31**	**10.5 -1.4**
CBIJ				Sn	**Sn**	**08**	**32**	**14.4 -1.7**
MJAR	**Matsushiro Arr**	**15.66**	**339**	Pn	**Pn**	**08**	**33**	**28.9 +1.3**
	0.3nm,0.3s,baz=285,slow=26,SNR=3.5							
MJAR	**Matsushiro Arr**	**15.66**	**339**	Pn	**Pn**	**08**	**33**	**28.9 +1.3**
MAJO	**Matsushiro**	**15.66**	**339**	*e*P	**P**	**08**	**33**	**30.8 -0.6**
	6.6nm,0.8s							
JNU	**Nakatsue**	**16.74**	**314**	*e*P	**P**	**08**	**33**	**44.8 +1.3**
	9.5nm,1.2s							
KSRS	**Korea Array**	**21.36**	**320**	P	**P**	**08**	**34**	**36.4 +2.5**
	2.2nm,0.7s,baz=134,slow=12,SNR=5.6							
KSAR	**Wonju Array Be**	**21.38**	**320**	P	**P**	**08**	**34**	**36.4 +2.3**
USRK	**Ussuriysk Arra**	**24.62**	**337**	P	**P**	**08**	**35**	**09.1 +2.4**
	3.5nm,0.7s,baz=134,slow=10,SNR=6.0							
SONM	**Songino Array**	**40.23**	**319**	P	**P**	**08**	**37**	**25.1 +2.0**
	0.6nm,0.5s,baz=117,slow=8.0,SNR=3.7							
SONM	**Songino Array**	**40.23**	**319**	P	**P**	**08**	**37**	**25.1 +2.0**
WRAB	**Tennant Creek**	**43.00**	**195**	*e*P	**P**	**08**	**37**	**45.2 -0.6**
	8.5nm,0.8s							
WRA	**Warramunga Arr**	**43.01**	**195**	P	**P**	**08**	**37**	**45.4 -0.5**
	1.3nm,0.3s,baz=14,slow=8.7,SNR=30							
WRA	**Warramunga Arr**	**43.01**	**195**	P	**P**	**08**	**37**	**45.4 -0.5**
AS31	**Alice Springs**	**46.70**	**194**	*e*P	**P**	**08**	**38**	**14.6 -0.7**
ZALV	**Zalesovo Beam**	**55.06**	**321**	P	**P**	**08**	**39**	**19.6 +1.8**
	0.6nm,0.4s,baz=95,slow=7.2,SNR=3.0							
ZALV	**Zalesovo Beam**	**55.06**	**321**	P	**P**	**08**	**39**	**19.6 +1.8**
MK31	**Makanchi Array**	**55.78**	**312**	*e*P	**P**	**08**	**39**	**23.3 +0.1**
MKAR	**Makanchi Array**	**55.78**	**312**	P	**P**	**08**	**39**	**23.1 -0.1**
	0.7nm,0.5s,baz=89,slow=8.9,SNR=12							
MKAR	**Makanchi Array**	**55.78**	**312**	P	**P**	**08**	**39**	**23.1 -0.1**
KURK	**Kurchatov**	**58.45**	**317**	P	**P**	**08**	**39**	**42.8 +0.9**
	1.6nm,0.8s,baz=93,slow=7.6,SNR=5.5							
KURK	**Kurchatov**	**58.45**	**317**	P	**P**	**08**	**39**	**42.8 +0.9**
ILAR	**Eielson Array**	**60.95**	**27**	P	**P**	**08**	**39**	**58.0 -0.9**
	1.1nm,0.9s,baz=250,slow=5.5,SNR=7.7							
ILAR	**Eielson Array**	**60.95**	**27**	P	**P**	**08**	**39**	**58.0 -0.9**
BVAR	**Borovoye Array**	**63.58**	**319**	P	**P**	**08**	**40**	**17.8 +1.1**
	2.1nm,0.4s,baz=94,slow=7.2,SNR=9.4							
BVAR	**Borovoye Array**	**63.58**	**319**	P	**P**	**08**	**40**	**17.8 +1.1**
KKAR	**Karatay Array**	**64.24**	**308**	*e*P	**P**	**08**	**40**	**20.7 -0.6**
	3.4nm,1.1s							
ABKAR	**Akbulak array**	**70.55**	**316**	*e*P	**P**	**08**	**41**	**00.0 -1.0**
	0.8nm,0.4s							
YKA	**Yellowknife Ar**	**75.34**	**28**	P	**P**	**08**	**41**	**29.0 -0.1**
	1.1nm,0.8s,baz=289,slow=5.7,SNR=17							
YKA	**Yellowknife Ar**	**75.34**	**28**	P	**P**	**08**	**41**	**29.0 -0.1**
ARCES	**ARCESS Array B**	**79.17**	**342**	P	**P**	**08**	**41**	**52.5 +1.9**
	5.6nm,1.0s,baz=52,slow=7.9,SNR=4.5							
ARCES	**ARCESS Array B**	**79.17**	**342**	P	**P**	**08**	**41**	**52.5 +1.9**
JOF	**Joensuu**	**80.78**	**335**	*ep*	**P**	**08**	**41**	**57.1 -2.2**
	4.9nm,0.5s							
JOF	**Joensuu**	**80.78**	**335**	*ep*	**P**	**08**	**41**	**57.1 -2.2**
	4.9nm,0.5s							
NVAR	**Mina Array Bea**	**81.55**	**52**	P	**P**	**08**	**42**	**05.1 +0.9**
	1.7nm,0.7s,baz=272,slow=5.9,SNR=17							
NVAR	**Mina Array Bea**	**81.55**	**52**	P	**P**	**08**	**42**	**05.1 +0.9**
KAF	**Kangasniemi**	**83.17**	**335**	*ep*	**P**	**08**	**42**	**10.1 -1.8**
	2.9nm,0.7s							
KAF	**Kangasniemi**	**83.17**	**335**	*ep*	**P**	**08**	**42**	**10.1 -1.8**
	2.9nm,0.7s							
FINES	**FINESS Array B**	**83.64**	**335**	P	**P**	**08**	**42**	**13.5 -0.8**
	6.2nm,0.7s,baz=60,slow=5.0,SNR=15							
FINES	**FINESS Array B**	**83.64**	**335**	P	**P**	**08**	**42**	**13.5 -0.8**
PDAR	**Pinedale Array**	**85.91**	**45**	P	**P**	**08**	**42**	**26.6 +0.1**
	0.8nm,0.7s,baz=215,slow=1.4,SNR=7.1							
PDAR	**Pinedale Array**	**85.91**	**45**	P	**P**	**08**	**42**	**26.6 +0.1**
NB2	**NORSAR Subarra**	**89.28**	**339**	P	**P**	**08**	**42**	**40.5 -1.5**
	comp=Z,1.2nm,0.7s,baz=52,slow=5.1							
NOA	**NORSAR Array B**	**89.28**	**339**	P	**P**	**08**	**42**	**41.0 -1.0**
	comp=Z,1.2nm,0.6s,baz=46,slow=4.9,SNR=6.1							
NOA	**NORSAR Array B**	**89.28**	**339**	P	**P**	**08**	**42**	**41.0 -1.0**
VNA2	**Neumayer--Watz**	**128.51**	**191**	*e*	**PKPdf**	**08**	**48**	**52.0 -0.1**
	baz=162,slow=3.9							
VNA3	**Neumayer Olymp**	**128.63**	**190**	*e*	**PKPdf**	**08**	**48**	**50.4 -1.9**
PLCA	**Paso Flores**	**144.62**	**130**	PKP	**PKPdf**	**08**	**49**	**22.6 -0.1**
	comp=Z,2.9nm,1.0s,baz=259,slow=1.3,SNR=3.6							
PLCA	**Paso Flores**	**144.62**	**130**	PKP	**PKPdf**	**08**	**49**	**22.6 -0.1**
LPAZ	**La Paz**	**148.15**	**86**	PKPbc	**PKPbc**	**08**	**49**	**34.2 +0.8**
	comp=Z,2.8nm,0.6s,baz=308,slow=1.4,SNR=20							
LPAZ	**La Paz**	**148.15**	**86**	PKPbc	**PKPbc**	**08**	**49**	**34.2 +0.8**

MEX 15 08:38:18.7±1.0, 19°.04N×103°.90W, h10km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.15**	**328**	*i* P	Pg	08 38 20.8	-1.4
R15V				*i* S	Sg	08 38 24.3	-0.3
EZ5V		**0.52**	**33**	*i* P	Pg	08 38 28.3	-0.9
EZ5V				*i* S	Sg	08 38 36.5	+0.2
CJM	**Chamela**	**1.17**	**293**	*i* P	Pb	08 38 37.2	-3.9
CJM				*i* S	Sb	08 38 53.0	-3.3
ANIG	**Ahuacatlan**	**2.08**	**344**	*i* P	Pn	08 38 51.7	-2.2
ANIG				*i* S	Sn	08 39 16.3	-3.7
ZIIG	**Zihuatanejo**	**2.72**	**121**	*i* P	Pn	08 39 00.5	-1.9
ZIIG				*i* S	Sn	08 39 32.8	-2.6

LDG ***15*** *08:43:40.9±0.1, 45°.90N×7°.97E, h6km, Md2.3/3, Ml2.5/11, Error ellipse: s-maj=1.6km s-min=1.0km az=126.0*
CSEM ***15*** *08:43:40.2±0.1, 45°.91N×7°.94E, h17km±1km, ML2.6/12, Error ellipse: s-maj=2.5km s-min=1.9km az=98.0*
ZUR ***15*** *08:43:41.0, 45°.91N×7°.97E, h6km±2km, ML2.0/8*
GEN ***15*** *08:43:42.7, 45°.83N×7°.83E, h15km, ML1.7*

ISC 15 08:43:39.8±0.9, 45°.91N±0°.02×7°.97E±0°.03, h17km±6km, n51, σ0§66/78, 6C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMK	**Mattmark**	**0.14**	**360**	⇑*i*Pg	**Pg**	**08**	**43**	**44.2 0.0**
	3µm,0.1s							
MMK				*i* Sg	**Sg**	**08**	**43**	**46.1 -1.0**
	3µm,0.1s							
MMK	**Mattmark**	**0.14**	**360**	⇑*i*Pg	**Pg**	**08**	**43**	**44.2 0.0**
	3µm,0.1s							
MMK				*i* Sg	**Sg**	**08**	**43**	**46.1 -1.0**
	3µm,0.1s							
TRAV	**Traversella**	**0.42**	**201**	P	**Pb**	**08**	**43**	**49.2 +0.3**
TRAV				S	**Sg**	**08**	**43**	**53.7 -0.6**
DIX	**Grande Dixence**	**0.42**	**294**	⇓*i*Pg	**Pg**	**08**	**43**	**49.1 +0.5**
	219nm,0.1s							
DIX	**Grande Dixence**	**0.42**	**294**	⇓*i*Pg	**Pg**	**08**	**43**	**49.1 +0.5**
	219nm,0.1s							
LKBD2	**Leukerbad 2**	**0.52**	**335**	⇑*i*Pg	**Pb**	**08**	**43**	**51.2 +0.6**
LKBD2				*i* Sg	**Sg**	**08**	**43**	**57.5 +0.2**
LKBD2	**Leukerbad 2**	**0.52**	**335**	⇑*i*Pg	**Pb**	**08**	**43**	**51.2 +0.6**
LKBD2				*i* Sg	**Sg**	**08**	**43**	**57.5 +0.2**
LKBD	**Leukerbad**	**0.54**	**334**	⇑*i*Pg	**Pb**	**08**	**43**	**51.5 +0.7**
	67nm,0.3s							
LKBD				*i* Sg	**Sg**	**08**	**43**	**58.0 +0.2**
	67nm,0.3s							
LKBD	**Leukerbad**	**0.54**	**334**	⇑*i*Pg	**Pb**	**08**	**43**	**51.5 +0.7**
	67nm,0.3s							
LKBD				*i* Sg	**Sg**	**08**	**43**	**58.0 +0.2**
	67nm,0.3s							
SENIN	**Lac Senin/Sane**	**0.65**	**315**	*e*Pg	**Pb**	**08**	**43**	**53.5 +0.7**
	259nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.65**	**315**	*e*Pg	**Pb**	**08**	**43**	**53.5 +0.7**
	259nm,0.2s							
GRYON	**Gryon**	**0.69**	**300**	*e*Pg	**Pb**	**08**	**43**	**54.1 +0.7**
	13nm,0.1s							
GRYON	**Gryon**	**0.69**	**300**	*e*Pg	**Pb**	**08**	**43**	**54.1 +0.7**
	13nm,0.1s							
SALAN	**Lac Salanfe**	**0.73**	**289**	⇓*i*Pg	**Pb**	**08**	**43**	**54.7 +0.5**
	8.9nm,0.3s							
SALAN	**Lac Salanfe**	**0.73**	**289**	⇓*i*Pg	**Pb**	**08**	**43**	**54.7 +0.5**
	8.9nm,0.3s							
FUSIO	**Fusio**	**0.73**	**41**	*e*Pg	**Pb**	**08**	**43**	**55.0 +0.8**
	138nm,0.1s							
FUSIO	**Fusio**	**0.73**	**41**	*e*Pg	**Pb**	**08**	**43**	**55.0 +0.8**
	138nm,0.1s							
LSD	**Lago del Serru**	**0.73**	**233**	P	**Pg**	**08**	**43**	**54.5 +0.3**
MUGIO	**Muggio**	**0.75**	**88**	⇓*i*Pg	**Pb**	**08**	**43**	**55.1 +0.6**
	58nm,0.1s							
MUGIO	**Muggio**	**0.75**	**88**	⇓*i*Pg	**Pb**	**08**	**43**	**55.1 +0.6**
	58nm,0.1s							
RSP	**Reno Superiore**	**0.90**	**213**	P	**Pb**	**08**	**43**	**57.3 +0.2**
LPG	**La Plagne**	**0.94**	**245**	*e*Pg	**Pg**	**08**	**43**	**58.9 +0.7**
LPG				*e*Sg	**Sb**	**08**	**44**	**10.6 +0.4**
	16nm,0.2s							
LPG	**La Plagne**	**0.94**	**245**	*e*Pg	**Pg**	**08**	**43**	**58.9 +0.7**
LPG				*e*Sg	**Sb**	**08**	**44**	**10.6 +0.4**
	8.0nm,0.2s							
LPL	**La Plagne**	**0.95**	**246**	*e*Pg	**Pg**	**08**	**43**	**58.7 +0.5**
LPL				*e*Sg	**Sg**	**08**	**44**	**11.3 +0.6**
	27nm,0.4s							
LPL	**La Plagne**	**0.95**	**246**	*e*Pg	**Pg**	**08**	**43**	**58.7 +0.5**
LPL				*e*Sg	**Sg**	**08**	**44**	**11.3 +0.6**
	13nm,0.4s							
PCP	**Piancastagn**	**1.43**	**163**	P	**Pb**	**08**	**44**	**06.7 +0.8**
PCP				S	**Sn**	**08**	**44**	**22.8 -0.5**
MBDF	**Montbardon**	**1.45**	**216**	*e*Pg	**Pg**	**08**	**44**	**08.1 +0.4**
MBDF				*e*Sg	**Sg**	**08**	**44**	**27.1 +0.5**
	8.1nm,0.2s							
MBDF	**Montbardon**	**1.45**	**216**	*e*Pg	**Pg**	**08**	**44**	**08.1 +0.4**
MBDF				*e*Sg	**Sg**	**08**	**44**	**27.1 +0.5**
	4.1nm,0.2s							
CABF	**La Chapelle**	**1.48**	**299**	*e*Pg	**Pg**	**08**	**44**	**08.8 +0.5**
CABF				*e*Sg	**Sg**	**08**	**44**	**28.1 +0.5**
	3.6nm,0.2s							
CABF	**La Chapelle**	**1.48**	**299**	*e*Pg	**Pg**	**08**	**44**	**08.8 +0.5**
CABF				*e*Sg	**Sg**	**08**	**44**	**28.1 +0.5**
	1.8nm,0.2s							
PZZ	**Stroppo**	**1.52**	**204**	P	**Pn**	**08**	**44**	**06.4 0.0**
PZZ				S	**Sn**	**08**	**44**	**23.0 -2.8**
ORIF	**Oris-en-Rattie**	**1.77**	**237**	*e*Pg	**Pg**	**08**	**44**	**13.8 0.0**
ORIF				*e*Sg	**Sg**	**08**	**44**	**37.1 +0.3**
	8.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.77**	**237**	*e*Pg	**Pg**	**08**	**44**	**13.8 0.0**
ORIF				*e*Sg	**Sg**	**08**	**44**	**37.1 +0.3**
	4.1nm,0.3s							
HINF	**Hinteralfeld**	**2.06**	**339**	*e*Pn	**Pn**	**08**	**44**	**14.2 +0.6**
HINF	**Hinteralfeld**	**2.06**	**339**	*e*Pg	**Pg**	**08**	**44**	**19.2 -0.1**
HINF				*e*Sg	**Sg**	**08**	**44**	**45.8 -0.2**
	6.6nm,0.3s							
HINF	**Hinteralfeld**	**2.06**	**339**	*e*Pn	**Pn**	**08**	**44**	**14.2 +0.6**
HINF	**Hinteralfeld**	**2.06**	**339**	*e*Pg	**Pg**	**08**	**44**	**19.2 -0.1**
HINF				*e*Sg	**Sg**	**08**	**44**	**45.8 -0.2**
	3.3nm,0.3s							
HAU	**Haudompre**	**2.37**	**333**	*e*Pg	**Pg**	**08**	**44**	**25.1 -0.2**
HAU				*e*Sg	**Sg**	**08**	**44**	**56.0 -0.1**
	6.4nm,0.2s							
HAU	**Haudompre**	**2.37**	**333**	*e*Pg	**Pg**	**08**	**44**	**25.1 -0.2**
HAU				*e*Sg	**Sg**	**08**	**44**	**56.0 -0.1**
	3.2nm,0.2s							
VIVF	**Saint-Julien-l**	**2.55**	**247**	*e*Sg	**Sg**	**08**	**45**	**01.1 -0.6**
	2.2nm,0.3s							
VIVF	**Saint-Julien-l**	**2.55**	**247**	*e*Sg	**Sg**	**08**	**45**	**01.1 -0.6**
	1.1nm,0.3s							
LOR	**Lormes**	**3.14**	**297**	*e*Pn	**Pn**	**08**	**44**	**29.1 +0.6**
LOR	**Lormes**	**3.14**	**297**	*e*Pg	**Pg**	**08**	**44**	**39.4 -0.6**
	baz=111							
LOR				*e*Sg	**Sg**	**08**	**45**	**19.6 -1.1**
	2.5nm,0.3s							
LOR	**Lormes**	**3.14**	**297**	*e*Pn	**Pn**	**08**	**44**	**29.1 +0.6**
LOR	**Lormes**	**3.14**	**297**	*e*Pg	**Pg**	**08**	**44**	**39.4 -0.6**
	baz=111							
LOR				*e*Sg	**Sg**	**08**	**45**	**19.6 -1.1**
	1.2nm,0.3s							
SSF	**Saint Saulge**	**3.29**	**292**	*e*Pn	**Pn**	**08**	**44**	**31.1 +0.6**
SSF	**Saint Saulge**	**3.29**	**292**	*e*Pg	**Pg**	**08**	**44**	**41.9 -0.9**
SSF	**Saint Saulge**	**3.29**	**292**	*e*Pn	**Pn**	**08**	**44**	**31.1 +0.6**
SSF	**Saint Saulge**	**3.29**	**292**	*e*Pg	**Pg**	**08**	**44**	**41.9 -0.9**
LASF	**Ste Croix**	**3.44**	**239**	*e*Pn	**Pn**	**08**	**44**	**32.3 -0.3**
LASF				*e*Sn	**Sn**	**08**	**45**	**12.0 -1.0**
	5.7nm,0.3s							
LASF	**Ste Croix**	**3.44**	**239**	*e*Pn	**Pn**	**08**	**44**	**32.3 -0.3**
LASF				*e*Sn	**Sn**	**08**	**45**	**12.0 -1.0**
	2.8nm,0.3s							

IDC 15 09:01:04.0±2.5, 18°.70N×145°.54E, h229km±23km, mb3.0/5, mb1 3.3/6, mb1mx3.1/22, mbtmp3.1/6, Error ellipse: s-maj=35.4km s-min=19.4km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.12**	**187**	P	Pn	09	02	22.6 +1.9
	2.5nm,0.3s,baz=154,slow=20,SNR=2.9							
GUMO				S	S	09	03	20.5 -1.1
	12nm,0.3s,baz=34,slow=22,SNR=3.4							
WRA	**Warramunga Arr**	**39.94**	**197**	P	P	09	08	16.2 -0.1
	1.0nm,0.5s,baz=20,slow=8.9,SNR=11							
WRA				PcP	PcP	09	10	16.0 -1.0
	0.2nm,0.5s,baz=16,slow=3.6,SNR=5.1							
ASAR	**Alice Springs**	**43.61**	**196**	P	P	09	08	46.5 +0.4
	0.3nm,0.6s,baz=12,slow=9.0,SNR=5.8							
MKAR	**Makanchi Array**	**58.36**	**314**	P	P	09	10	35.2 -0.2
	0.3nm,0.7s,baz=88,slow=8.2,SNR=2.9							
YKA	**Yellowknife Ar**	**78.06**	**28**	P	P	09	12	36.7 -0.4
	0.2nm,0.5s,baz=288,slow=5.2,SNR=5.3							
NVAR	**Mina Array Bea**	**83.25**	**52**	P	P	09	13	06.0 +0.5
	0.6nm,0.7s,baz=263,slow=5.8,SNR=5.6							

PRE 15 09:04:37.9±1.2, 20°.90S×33°.39E, h10km, ML4.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.19**	**215**	*e*P	Pn	09	05	29.6 +1.4
MOPA				*e*S	Sn	09	06	06.0 -0.5
MOPA				AML	AML	09	06	30.0
	comp=Z,242nm,0.5s							
POGA	**Pongola**	**6.64**	**194**	*e*P	Pn	09	06	16.7 +1.0
POGA				*e*S	Sn	09	07	27.9 -3.6
POGA				AML	AML	09	08	07.8
	comp=Z,43nm,0.5s							
SLR	**Silverton**	**6.72**	**223**	*e*P	Pn	09	06	17.0 +0.1
SLR				*e*S	Sn	09	07	31.0 -2.8
SLR				AML	AML	09	08	21.9
	comp=Z,143nm,0.5s							
ERPM	**east rand prop**	**7.18**	**220**	*e*P	Pn	09	06	23.2 -0.1
ERPM				*e*S	Sn	09	07	40.4 -4.8
ERPM				AML	AML	09	08	24.9
	comp=Z,52nm,0.6s							
KLOF	**Kloof**	**7.58**	**223**	*e*P	Pn	09	06	29.1 +0.3
KLOF				*e*S	Sn	09	07	50.6 -4.4
KLOF				AML	AML	09	09	04.5
	comp=Z,195nm,0.1s							
PRYS	**Parys**	**8.15**	**221**	*e*P	Pn	09	06	36.9 +0.4
PRYS				*e*S	Sn	09	08	04.4 -4.4
PRYS				AML	AML	09	09	00.3
	comp=Z,48nm,0.7s							
LBTB	**Lobatse**	**8.26**	**239**	*e*P	Pn	09	06	39.5 +1.4
LBTB				*e*S	Sn	09	08	07.0 -4.6
LBTB				AML	AML	09	09	04.1
	comp=Z,47nm,0.6s							
SEK	**Senekal**	**9.06**	**214**	*e*P	Pn	09	06	49.6 +0.6
SEK				*e*S	Sn	09	08	26.0 -5.3
SEK				AML	AML	09	09	40.3
	comp=Z,31nm,0.6s							
KSD	**Kokstad**	**10.25**	**200**	*e*P	Pn	09	07	05.9 +0.6
KSD				*e*S	Sn	09	08	54.6 -5.8
KSD				AML	AML	09	10	04.2
	comp=Z,57nm,0.7s							
BOSA	**Boshof**	**10.65**	**222**	*e*P	Pn	09	07	11.3 +0.5
BOSA				*e*S	Sn	09	09	04.6 -5.8
BOSA				AML	AML	09	10	19.9
	comp=Z,21nm,0.6s							
HVD	**Gariep Dam**	**11.99**	**215**	*e*P	Pn	09	07	31.1 +1.9
HVD				*e*S	Sn	09	09	37.0 -6.2
HVD				AML	AML	09	10	59.2
	comp=Z,16nm,0.7s							
TSUM	**Tsumeb**	**14.95**	**274**	*e*P	Pn	09	08	12.2 +2.6
TSUM				*e*S	Sn	09	10	47.8 -7.6
SUR	**Sutherland**	**16.02**	**222**	*e*P	P	09	08	25.7 -1.4
SUR				*e*S	Sn	09	11	13.4 -8.2
SUR				AML	AML	09	13	16.6
	comp=Z,5.7nm,0.8s							
CVNA	**Calvinia**	**16.13**	**226**	*e*P	P	09	08	27.1 -1.2
CVNA				*e*S	Sn	09	11	16.2 -7.8
CVNA				AML	AML	09	13	25.3
	comp=Z,11nm,0.7s							
CER	**Ceres**	**17.62**	**222**	*e*S	S	09	11	50.9 -17
CER				AML	AML	09	13	47.3
	comp=Z,5.2nm,0.8s							

IDC 15 09:28:30.6±0.8, 21°.98N×145°.14E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=35.3km s-min=21.2km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**24.68**	**337**	P	P	09	33	55.1 +1.9
	2.5nm,0.7s,baz=151,slow=11,SNR=5.4							
WRA	**Warramunga Arr**	**42.98**	**195**	P	P	09	36	31.9 +0.1
	0.8nm,0.4s,baz=15,slow=8.9,SNR=8.2							
ASAR	**Alice Springs**	**46.67**	**194**	P	P	09	37	00.9 -0.2
	0.3nm,0.5s,baz=18,slow=8.3,SNR=9.1							
MKAR	**Makanchi Array**	**55.85**	**312**	P	P	09	38	09.8 -0.2
	0.4nm,0.8s,baz=101,slow=8.1,SNR=2.6							
MKAR				PcP	PcP	09	39	08.3 -0.6
	0.2nm,0.4s,baz=69,slow=4.8,SNR=2.1							
YKA	**Yellowknife Ar**	**75.35**	**28**	P	P	09	40	15.3 -0.3
	0.5nm,0.7s,baz=290,slow=5.6,SNR=7.7							
NVAR	**Mina Array Bea**	**81.54**	**52**	P	P	09	40	50.6 0.0
	1.0nm,0.9s,baz=268,slow=6.8,SNR=5.2							
FINES	**FINESS Array B**	**83.70**	**335**	P	P	09	40	59.6 -1.5
	3.0nm,0.7s,baz=46,slow=5.5,SNR=6.0							
PLCA	**Paso Flores**	**144.56**	**130**	PKP	PKPbc	09	48	08.4 +0.4
	1.0nm,0.7s,baz=263,slow=1.7,SNR=3.2							
LPAZ	**La Paz**	**148.10**	**86**	PKPbc	PKPbc	09	48	20.2 +0.3
	1.0nm,0.6s,baz=305,slow=3.8,SNR=5.5							

IDC ***15*** *09:30:09.6±0.8, 22°.00N×145°.18E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/26, mbtmp3.9/13, ML3.8/2, Error ellipse: s-maj=28.5km s-min=17.4km az=78.0*
ISCJB ***15*** *09:30:13.9±0.6, 22°.02N±0°.06×145°.0E±0°.2, h44km, mb4.0/16, Error ellipse: s-maj=21.5km s-min=7.6km az=167.4*
NEIC ***15*** *09:30:14.7±0.5, 22°.00N×145°.08E, h35km, mb4.2/2, Error ellipse: s-maj=19.1km s-min=8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.30**	**315**	P	**Pn**	**09 35 16.9**	**-2.9**
JHJ2				S	**Sn**	**09 35 48.3**	**+1.3**
BSO1	**Boso 1**	**3.21**	**348**	P	**Pn**	**09 35 29.1**	**-2.8**
BSO1				S	**Sn**	**09 36 07.6**	**-1.0**
BSO3	**Boso 3**	**3.46**	**343**	P	**Pn**	**09 35 32.8**	**-2.6**
BSO3				S	**Sn**	**09 36 14.9**	**-0.1**
JKO	**Kozu shima**	**3.47**	**321**	P	**Pn**	**09 35 33.8**	**-2.1**
JKO				S	**Sn**	**09 36 16.7**	**+1.0**
JOD2	**Odawara 2**	**4.37**	**330**	P	**Pn**	**09 35 45.6**	**-2.6**
JOD2				S	**Sn**	**09 36 38.2**	**+0.4**
CBIJ	**Chichi jima**	**4.40**	**175**	Pn	Pn	09 35 44.8	-3.9
	94nm,0.3s,baz=284,slow=21,SNR=22						
CBIJ				Sn	**Sn**	**09 36 34.4**	**-4.2**
	54nm,0.3s,baz=287,slow=23,SNR=4.2						
CBIJ				LR	LR	09 37 39.0	
	comp=Z,2μm,18.1s,baz=332,slow=41						
CBIJ	**Chichi jima**	**4.40**	**175**	Pn	Pn	09 35 44.8	-3.9
CBIJ				Sn	**Sn**	**09 36 34.4**	**-4.2**
CBIJ	**Chichi jima**	**4.40**	**175**	P	Pn	09 35 45.1	-3.5
JRY	**Ryogami san**	**5.10**	**333**	P	**Pn**	**09 35 56.9**	**-1.3**
JRY				S	**Sn**	**09 36 56.2**	**+0.5**
JIE	**Ise**	**5.13**	**306**	P	**Pn**	**09 35 57.7**	**-0.9**
JWZ	**Kozaga**	**5.49**	**293**	P	**Pn**	**09 36 02.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**5.65**	**352**	P	Pn	09 36 01.5	-4.2
MJAR	**Matsushiro Arr**	**5.83**	**331**	Pn	**Pn**	**09 36 07.5**	**-0.7**
	6.4nm,0.3s,baz=149,slow=11,SNR=127						
MJAR				Sn	**Sn**	**09 37 15.0**	**+1.3**
	2.0nm,0.3s,baz=164,slow=13,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.83**	**331**	P	**Pn**	**09 36 07.5**	**-0.7**
MJAR						09 37 15.0	
MJAR	**Matsushiro Arr**	**5.83**	**331**	Pn	**Pn**	**09 36 07.5**	**-0.7**
MJAR				Sn	**Sn**	**09 37 15.0**	**+1.3**
MAJO	**Matsushiro**	**5.83**	**331**	*e*P	**Pn**	**09 36 07.8**	**-0.5**
MAJO	**Matsushiro**	**5.83**	**331**	*e*Pn	**Pn**	**09 36 07.8**	**-0.5**
MAT	**Matsushiro**	**5.83**	**331**	P	**Pn**	**09 36 05.7**	**-2.5**
MAT				S	**Sn**	**09 37 13.2**	**-0.6**
MAT	**Matsushiro**	**5.83**	**331**	P	**Pn**	**09 36 08.1**	**-0.1**
JMK	**Ichinoseki**	**7.45**	**357**	P	Pn	09 36 26.3	-4.1
JMK				S	Sn	09 37 46.9	-6.5
JNU	**Nakatsue**	**9.35**	**283**	*e*Pn	**Pn**	**09 36 59.1**	**+2.6**
ASAJ	**Asahikawa**	**12.62**	**3**	Pn	Pn	09 37 37.0	-3.9
	2.0nm,0.3s,baz=249,slow=19,SNR=5.7						
ASAJ				Sn	**Sn**	**09 39 54.6**	**-5.1**
	0.7nm,0.3s,baz=72,slow=29,SNR=4.2						
ASAJ	**Asahikawa**	**12.62**	**3**	P	Pn	09 37 37.0	-3.9
ASAJ						09 39 54.6	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**12.62**	**3**	Pn	Pn	09 37 37.0	-3.9
ASAJ				Sn	**Sn**	**09 39 54.6**	**-5.1**
KSRS	**Korea Array**	**12.86**	**301**	Pn	**Pn**	**09 37 46.4**	**+2.1**
	comp=N,0.4nm,0.3s,baz=111,slow=13,SNR=14						
KSRS	**Korea Array**	**12.86**	**301**	P	**Pn**	**09 37 46.4**	**+2.1**
KSAR	**Wonju Array Be**	**12.89**	**301**	P	**Pn**	**09 37 46.4**	**+1.7**
KSAR	**Wonju Array Be**	**12.89**	**301**	Pn	**Pn**	**09 37 46.4**	**+1.7**
USRK	**Ussuriysk Arra**	**14.82**	**332**	Pn	**Pn**	**09 38 09.8**	**-0.7**
	comp=N,0.3nm,0.3s,baz=142,slow=12,SNR=13						
YSS	**Yuzh-Sakhalins**	**15.46**	**3**	*e*P	**Pn**	**09 38 15.0**	**-3.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
MDJ	**Mudanjiang**	**16.20**	**327**	P	**P**	**09 38 29.8**	**-0.7**
MDJ				S	**Sn**	**09 41 31.3**	**+4.4**
MDJ				PcP	**PcP**	**09 43 21.1**	**+1.0**
MDJ				ScP	**ScP**	**09 46 51.3**	**+1.5**
MDJ				PcS	**PcS**	**09 46 56.9**	**+1.3**
MDJ				ScS	**ScS**	**09 50 30.3**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,25nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,800nm,12.5s						
MDJ				LR	LR		
	comp=N,420nm,19.4s						
MDJ				LR	LR		
	comp=Z,780nm,22.8s						
MDJ	**Mudanjiang**	**16.20**	**327**	*e*Pn	**Pn**	**09 38 26.7**	**-1.5**
	comp=Z,25nm,0.8s						
HABR	**Khabarovsk**	**17.70**	**345**	*e*P	**Pn**	**09 38 45.6**	**-1.2**
HABR				*e*S	**Sn**	**09 42 02.4**	**-0.8**
HABR				pmax	pmax		
	comp=N,119nm,2.2s						
HABR				pmax	pmax		
	comp=Z,80nm,1.1s						
HABR				pmax	pmax		
	comp=E,113nm,2.2s						
HABR				MLR	MLR		
	comp=Z,725nm,15.0s						
CN2	**Changchun**	**17.78**	**318**	*e*P	**Pn**	**09 38 45.8**	**-2.0**
CN2				*es*P	**sP**	**09 39 05.0**	**-2.3**
CN2				*e*S	**Sn**	**09 42 00.5**	**-4.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,600nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
GUMO	**Guam**	**18.05**	**170**	P	**P**	**09 38 49.8**	**-1.3**
	comp=Z,5.2nm,0.3s,baz=212,slow=15,SNR=3.8						
GUMO	**Guam**	**18.05**	**170**	P	**P**	**09 38 49.8**	**-1.3**
GUMO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
NACB	**Ninganchiao**	**19.25**	**253**	*e*P	**P**	**09 39 03.8**	**-0.4**
	comp=Z,56nm,1.0s						
NJ2	**Nanjing**	**19.48**	**278**	*e*P	**Pn**	**09 39 09.6**	**+1.3**
NJ2				pP	**pP**	**09 39 20.9**	**+1.9**
NJ2				PP	**PnPn**	**09 39 28.3**	**+5.2**
NJ2				S	**S**	**09 42 40.5**	**-3.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,300nm,6.1s						
NJ2				LR	LR		
	comp=N,740nm,17.0s						
NJ2				LR	LR		
	comp=E,740nm,17.4s						
NJ2				LR	LR		
	comp=Z,1μm,15.7s						
YULB	**Yu-li**	**19.85**	**251**	*e*P	**P**	**09 39 09.6**	**-1.2**
	comp=Z,56nm,0.9s						
SSLB	**Suanglung**	**19.95**	**252**	*e*P	**P**	**09 39 11.4**	**-0.4**
	comp=Z,126nm,1.0s						
TWG	**Pinlang**	**20.31**	**250**	*e*P	**P**	**09 39 15.0**	**-0.8**
	comp=Z,78nm,1.0s						
TPUB	**Ta-pu**	**20.43**	**252**	*e*P	**P**	**09 39 16.9**	**-0.3**
	comp=Z,182nm,1.4s						
SKR	**Severo-Kuril's**	**21.94**	**25**	*e*P	**P**	**09 39 31.0**	**-2.0**
BJI	**Beijing**	**22.38**	**299**	P	**P**	**09 39 35.6**	**-2.3**
BJI				S	**S**	**09 43 40.8**	**+0.6**
BJI				pmax	pmax		
	comp=Z,35nm,1.3s						
BJI				pmax	pmax		
	comp=Z,270nm,7.4s						
BJI				LR	LR		
	comp=N,1μm,20.6s						
BJI				LR	LR		
	comp=E,1μm,21.6s						
BJI				LR	LR		
	comp=Z,1μm,24.9s						
BJT	**Baijiatuau**	**22.38**	**299**	*e*P	**P**	**09 39 36.4**	**-1.6**
BJT				pmax	pmax		
	comp=Z,86nm,0.3s						
BJT	**Baijiatuau**	**22.38**	**299**	*e*P	**P**	**09 39 36.4**	**-1.6**
	comp=Z,86nm,0.3s						
WHN	**Wuhan**	**23.49**	**275**	*e*P	P	09 39 43.0	-6.2
HIA	**Hailar**	**24.27**	**323**	*e*P	**P**	**09 39 55.3**	**-0.9**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
HIA	**Hailar**	**24.27**	**323**	*e*P	**P**	**09 39 55.3**	**-0.9**
	comp=Z,31nm,0.8s						
PETK	**Petropavlovsk-**	**24.50**	**24**	P	**P**	**09 39 58.2**	**0.0**
	comp=Z,2.8nm,0.8s,baz=174,slow=6.8,SNR=2.8						
PETK	**Petropavlovsk-**	**24.50**	**24**	P	**P**	**09 39 58.2**	**0.0**
PETK	**Petropavlovsk-**	**24.50**	**24**	P	**P**	**09 39 58.2**	**0.0**
HHC	**Hu-ho-hao-te**	**25.99**	**299**	*e*P	**P**	**09 40 11.0**	**-1.0**
HHC				pP	**pP**	**09 40 25.3**	**-0.6**
HHC				sP	**sP**	**09 40 32.3**	**-0.2**
HHC				PP	**PnPn**	**09 40 53.8**	**+1.6**
HHC				S	**S**	**09 44 35.9**	**-3.0**
HHC				SS		09 45 43.3	
HHC				ScS	**ScS**	**09 51 01.0**	**-2.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,420nm,7.1s						
HHC				LR	LR		
	comp=N,520nm,14.9s						
HHC				LR	LR		
	comp=E,2μm,13.3s						
HHC				LR	LR		
	comp=Z,2μm,12.8s						
XAN	**Xi'an**	**27.66**	**284**	P	**P**	**09 40 25.3**	**-1.8**
XAN				pP	**pP**	**09 40 36.6**	**-4.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ENH	**Enshi**	**27.67**	**276**	*e*P	**P**	**09 40 25.9**	**-1.2**
	comp=Z,6.4nm,0.6s						
CLNS	**Chul'man**	**27.92**	**340**	*e*P	**P**	**09 40 29.0**	**0.0**
CLNS				*e**PP	**pP**	**09 40 38.6**	**-4.4**
CLNS				*e*		09 41 15.3	
CLNS				*e*PPP	PPP	09 41 25.2	
CLNS				*e*		09 43 40.9	
CLNS				*e*S	**S**	**09 45 13.2**	**+4.5**
CLNS				*e*SS	SnSn	09 46 38.2	+11
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				smax	smax		
	comp=N,482nm,16.6s						
CLNS				smax	smax		
	comp=E,311nm,17.3s						
CLNS				MLR	MLR		
	comp=N,388nm,15.0s						
CLNS				MLR	MLR		
	comp=E,653nm,16.0s						
CLNS				MLR	MLR		
	comp=Z,338nm,14.0s						
ULN	**Ulaanbaatar**	**30.99**	**312**	*e*P	**P**	**09 40 57.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,34nm,1.1s						
ULN	**Ulaanbaatar**	**30.99**	**312**	*e*P	**P**	**09 40 57.2**	**+0.7**
	comp=Z,34nm,1.1s						
GYA	**Guiyang**	**31.02**	**270**	P	**P**	**09 40 57.8**	**+0.8**
GYA				pP	**pP**	**09 41 13.3**	**+2.3**
GYA				sP	**sP**	**09 41 19.8**	**+2.2**
GYA				PP	PP	09 42 01.0	-6.8
GYA				S	**S**	**09 45 55.6**	**-2.6**
GYA				sS	**sS**	**09 46 22.3**	**+0.3**
GYA				ScP	**ScP**	**09 47 30.4**	**+0.4**
GYA				PcS	**PcS**	**09 47 36.9**	**+0.7**
GYA				SS	SS	09 47 42.5	-30
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=N,640nm,17.4s						
GYA				LR	LR		
	comp=E,580nm,18.0s						
GYA				LR	LR		
	comp=Z,610nm,17.8s						
QIZ	**Qiongzhong**	**31.30**	**254**	P	**P**	**09 40 57.9**	**-1.4**
QIZ				S	**S**	**09 46 02.6**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,19nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,420nm,5.3s						
SONM	**Songino Array**	**31.40**	**312**	P	**P**	**09 41 01.4**	**+1.3**
	comp=Z,21nm,0.9s,baz=115,slow=8.6,SNR=68						
SONM	**Songino Array**	**31.40**	**312**	P	**P**	**09 41 01.4**	**+1.3**
SONM	**Songino Array**	**31.40**	**312**	P	**P**	**09 41 01.4**	**+1.3**
YAK	**Yakutsk**	**31.54**	**349**	*e*P	**P**	**09 40 59.3**	**-1.6**
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH	**Lanzhou**	**31.70**	**289**	*e*P	**P**	**09 41 02.1**	**-0.9**
LZH				pP	**pP**	**09 41 18.8**	**+1.8**
LZH				sP	**sP**	**09 41 26.3**	**+2.8**
LZH				PP	PP	09 42 11.3	-4.0
LZH				*e*S	**S**	**09 46 05.0**	**-3.8**
LZH				sS	**sS**	**09 46 34.1**	**+1.5**
LZH				SS	SS	09 48 03.3	-23
LZH				pmax	pmax		
	comp=Z,54nm,1.4s						
LZH				pmax	pmax		
	comp=Z,210nm,4.1s						
LZH				LR	LR		
	comp=N,2μm,12.3s						
LZH				LR	LR		
	comp=E,2μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,16.9s						
SEY	**Seymchan**	**32.18**	**9**	*ce*P	**P**	**09 41 07.0**	**+0.4**
CD2	**Chengdu**	**32.40**	**279**	P	**P**	**09 41 09.6**	**+0.6**
CD2				pP	**pP**	**09 41 24.3**	**+1.3**
CD2				sP	**sP**	**09 41 31.3**	**+1.7**
CD2				PP	PP	09 42 18.6	-4.4
CD2				S	**S**	**09 46 17.8**	**-1.8**
CD2				sS	**sS**	**09 46 42.8**	**-0.5**
CD2				SS	SS	09 48 15.3	-25
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				pmax	pmax		
	comp=Z,320nm,5.9s						
CD2				LR	LR		
	comp=N,1μm,15.5s						
CD2				LR	LR		
	comp=Z,1μm,15.5s						
BOD	**Bodaibo**	**32.46**	**332**	*e*P	**P**	**09 41 08.7**	**-0.4**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s						
ZAK	**Zakamensk**	**34.16**	**315**	*e*P	**P**	**09 41 23.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TLY	**Talaya**	**34.38**	**317**	*e*P	**P**	**09 41 26.8**	**+0.9**
TLY				pmax	pmax		
	comp=Z,21nm,0.9s						
TLY				MLR	MLR		
	comp=Z,2μm,20.0s						
TLY	**Talaya**	**34.38**	**317**	*e*P	**P**	**09 41 27.9**	**+1.9**
	comp=Z,20nm,0.9s						
KMI	**Kunming**	**34.80**	**269**	P	**P**	**09 41 29.9**	**-0.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA	**Gaotai**	**34.82**	**295**	*e*P	**P**	**09 41 28.4**	**-1.6**
GTA				pP	**pP**	**09 41 43.6**	**-0.5**
GTA				sP	**sP**	**09 41 50.8**	**+0.1**
GTA				PcP	**PcP**	**09 44 04.3**	**+2.1**
GTA				S	**S**	**09 46 53.3**	**-3.6**
GTA				sS	**sS**	**09 47 17.5**	**-3.3**
GTA				SS	SS	09 49 07.8	-22
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,600nm,5.7s						
GTA				LR	LR		
	comp=N,980nm,17.8s						
GTA				LR	LR		
	comp=E,1μm,17.1s						
GTA				LR	LR		
	comp=Z,950nm,16.6s						
MOY	**Mondy**	**35.93**	**316**	*e*P	**P**	**09 41 38.2**	**-1.2**
BILL	**Bilibino**	**39.28**	**14**	*e*P	**P**	**09 42 07.2**	**-0.1**
BILL				*e*S	S	09 47 56.8	-7.0
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
BILL	**Bilibino**	**39.28**	**14**	*e*P	**P**	**09 42 07.5**	**+0.2**
	comp=Z,8.0nm,0.8s						
HVS	**Khovu-Aksy**	**40.23**	**313**	*c i*P	**P**	**09 42 16.3**	**+0.8**
CHTO	**Chiang Mai**	**40.52**	**262**	*e*P	**P**	**09 42 16.6**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**40.52**	**262**	*e*P	**P**	**09 42 16.6**	**-1.6**
	comp=Z,9.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.68**	**262**	P	**P**	**09 42 17.9**	**-1.6**
	comp=Z,3.9nm,0.7s,baz=54,slow=6.7,SNR=11						
CMAR	**Chiang Mai Arr**	**40.68**	**262**	P	**P**	**09 42 17.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**40.68**	**262**	P	**P**	**09 42 17.9**	**-1.6**
PMG	**Port Moresby**	**41.00**	**172**	*e*P	**P**	**09 42 22.4**	**+0.4**
LSA	**Lhasa**	**43.28**	**281**	P	**P**	**09 42 40.3**	**-0.9**
WMQ	**Urumqi**	**43.81**	**302**	P	**P**	**09 42 45.3**	**+0.5**
WMQ				pP	**pP**	**09 43 00.3**	**+1.0**
WMQ				sP	**sP**	**09 43 07.3**	**+1.5**
WMQ				PP	**PcP**	**09 44 30.3**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
COEN	**Coen**	**45.21**	**178**	*e*P	**P**	**09 42 56.4**	**+0.3**
	comp=Z,91nm,0.9s						
COEN	**Coen**	**45.21**	**178**	*e*P	**P**	**09 42 56.6**	**+0.5**
	comp=Z,123nm,0.8s						
ZAAO	**Zalesovo Array**	**45.99**	**316**	*e*P	**P**	**09 43 01.7**	**-0.1**
ZALV	**Zalesovo Beam**	**45.99**	**316**	P	**P**	**09 43 01.9**	**+0.1**
	comp=Z,7.3nm,0.5s,baz=102,slow=6.8,SNR=60						
ZALV	**Zalesovo Beam**	**45.99**	**316**	P	**P**	**09 43 01.9**	**+0.1**
ZALV	**Zalesovo Beam**	**45.99**	**316**	P	**P**	**09 43 01.9**	**+0.1**
TAPN	**Taplejung**	**46.87**	**279**	*e*P	**P**	**09 43 08.4**	**-1.1**
	comp=Z,17nm,0.7s						
TAPN	**Taplejung**	**46.87**	**279**	*e*P	**P**	**09 43 08.4**	**-1.1**
	comp=Z,17nm,0.7s						
NVS	**Novosibirsk**	**46.99**	**318**	*i*P	**P**	**09 43 09.1**	**-0.6**
NVS				*e*		09 43 17.3	
NVS				pmax	pmax		
	comp=Z,33nm,0.9s						
NVS				pmax	pmax		
	comp=E,26nm,0.9s						
ODAN	**Odare**	**47.30**	**279**	*e*P	**P**	**09 43 11.5**	**-1.3**
ODAN	**Odare**	**47.30**	**279**	*e*P	**P**	**09 43 11.5**	**-1.3**
MK31	**Makanchi Array**	**47.47**	**307**	*e*P	**P**	**09 43 13.9**	**+0.3**
MK31	**Makanchi Array**	**47.47**	**307**	*e*P	**P**	**09 43 13.9**	**+0.3**
MKAR	**Makanchi Array**	**47.47**	**307**	P	**P**	**09 43 14.0**	**+0.4**
	comp=E,9.7nm,0.8s,baz=86,slow=9.8,SNR=74						
MKAR	**Makanchi Array**	**47.47**	**307**	P	**P**	**09 43 14.0**	**+0.4**
MKAR	**Makanchi Array**	**47.47**	**307**	P	**P**	**09 43 14.0**	**+0.4**
RAMN	**Ramite**	**47.93**	**279**	*e*P	**P**	**09 43 16.9**	**-0.8**
	comp=E,60nm,0.9s						
RAMN	**Ramite**	**47.93**	**279**	*e*P	**P**	**09 43 16.9**	**-0.8**
	comp=E,60nm,0.9s						
JIRN	**Jiri**	**48.05**	**280**	*e*P	**P**	**09 43 18.2**	**-0.5**
	comp=E,58nm,0.7s						
JIRN	**Jiri**	**48.05**	**280**	*e*P	**P**	**09 43 18.2**	**-0.5**
	comp=E,58nm,0.7s						
GUN	**Gumba**	**48.23**	**281**	*e*P	**P**	**09 43 19.7**	**-0.4**
	comp=E,66nm,0.8s						
GUN	**Gumba**	**48.23**	**281**	*e*P	**P**	**09 43 19.7**	**-0.4**
	comp=E,66nm,0.8s						
PKI	**Pulchoki**	**48.73**	**281**	*e*P	**P**	**09 43 23.1**	**-0.9**
PKI	**Pulchoki**	**48.73**	**281**	*e*P	**P**	**09 43 23.1**	**-0.9**
PKI	**Pulchoki**	**48.73**	**281**	*e*P	**P**	**09 43 23.1**	**-0.9**
KKN	**Kakani**	**48.77**	**281**	*e*P	**P**	**09 43 23.6**	**-0.5**
KKN	**Kakani**	**48.77**	**281**	*e*P	**P**	**09 43 23.6**	**-0.5**
KKN	**Kakani**	**48.77**	**281**	*e*P	**P**	**09 43 23.6**	**-0.5**
DMN	**Daman**	**48.98**	**281**	*e*P	**P**	**09 43 25.1**	**-0.6**
DMN	**Daman**	**48.98**	**281**	*e*P	**P**	**09 43 25.1**	**-0.6**
GKN	**Gorkha**	**49.24**	**281**	*e*P	**P**	**09 43 27.0**	**-0.7**
	comp=E,36nm,0.8s						
GKN	**Gorkha**	**49.24**	**281**	*e*P	**P**	**09 43 27.0**	**-0.7**
	comp=E,36nm,0.8s						
KURK	**Kurchatov**	**49.71**	**312**	*ce*P	**P**	**09 43 30.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,67nm,1.0s						
KURK	**Kurchatov**	**49.71**	**312**	*e*P	**P**	**09 43 30.6**	**0.0**
	comp=Z,64nm,1.0s						
KURK	**Kurchatov**	**49.71**	**312**	P	**P**	**09 43 30.7**	**0.0**
	comp=Z,373nm,1.0s,SNR=44						
DANN	**Dangsing**	**49.86**	**282**	*e*P	**P**	**09 43 32.4**	**-0.2**
DANN	**Dangsing**	**49.86**	**282**	*e*P	**P**	**09 43 32.4**	**-0.2**
KOLN	**Koldanda**	**50.19**	**281**	*e*P	**P**	**09 43 34.6**	**-0.3**
	comp=Z,20nm,0.7s						
KOLN	**Koldanda**	**50.19**	**281**	*e*P	**P**	**09 43 34.6**	**-0.3**
	comp=Z,20nm,0.7s						
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**09 43 42.0**	**+0.7**
	comp=Z,33nm,0.8s,baz=255,slow=3.1,SNR=6.6						
KDAK	**Kodiak Island**	**51.12**	**39**	*i* P	**P**	**09 43 41.8**	**+0.6**
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**09 43 42.0**	**+0.7**
RSO	**Redoubt South**	**51.16**	**35**	*e*P	**P**	**09 43 43.0**	**+1.3**
CTA	**Charters Tower**	**51.47**	**175**	P	**P**	**09 43 44.5**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=359,slow=13,SNR=3.2						
CTA	**Charters Tower**	**51.47**	**175**	P	**P**	**09 43 44.5**	**+0.3**
CTA	**Charters Tower**	**51.47**	**175**	P	**P**	**09 43 44.5**	**+0.3**
WRAB	**Tennant Creek**	**51.63**	**189**	*e*P	**P**	**09 43 44.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**51.63**	**189**	*e*P	**P**	**09 43 44.5**	**-0.9**
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**51.63**	**189**	P	**P**	**09 43 44.2**	**-1.2**
	comp=Z,158nm,1.1s,SNR=14						
WB2	**Warramunga Arr**	**51.64**	**189**	*e*P	**P**	**09 43 44.4**	**-1.0**
WRA	**Warramunga Arr**	**51.64**	**189**	P	**P**	**09 43 44.1**	**-1.4**
	comp=Z,22nm,1.0s,baz=5.4,slow=7.6,SNR=101						
WRA	**Warramunga Arr**	**51.64**	**189**	P	**P**	**09 43 44.1**	**-1.4**
WRA	**Warramunga Arr**	**51.64**	**189**	P	**P**	**09 43 44.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**51.69**	**200**	*e*P	**P**	**09 43 45.0**	**-0.8**
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.69**	**200**	*e*P	**P**	**09 43 45.3**	**-0.5**
	comp=Z,16nm,1.3s						
TKM2	**Tokmak 2**	**52.67**	**302**	P	**P**	**09 43 54.6**	**+1.3**
	SNR=12						
TKM2				P	**P**	**09 43 54.6**	**+1.3**
	SNR=12						
TKM2	**Tokmak 2**	**52.67**	**302**	*e*P	**P**	**09 43 53.9**	**+0.6**
TKM2	**Tokmak 2**	**52.67**	**302**	*e*P	**P**	**09 43 53.9**	**+0.6**
COLD	**Coldfoot**	**52.90**	**27**	*e*P	**P**	**09 43 56.4**	**+2.1**
KZA	**Kyzart**	**53.09**	**301**	P	**P**	**09 43 58.4**	**+1.8**
	SNR=6.5						
KZA				P	**P**	**09 43 58.4**	**+1.8**
	SNR=6.5						
KSH	**Kashi**	**53.09**	**298**	P	P	09 44 00.8	+4.5
KSH				*ep*P	pP	09 44 16.5	+5.3
KSH				*es*P	sP	09 44 23.4	+5.8
KSH				*e*PcP	**PcP**	**09 45 07.1**	**+3.0**
KSH				*e*PP	PP	09 46 03.0	+6.5
KSH				*e*ScP	**ScP**	**09 48 58.3**	**+1.4**
KSH				*e*PcS	**PcS**	**09 49 04.8**	**+1.8**
KSH				*e*S	**S**	**09 51 25.6**	**+2.9**
KSH				*es*S	sS	09 51 53.8	+6.1
KSH				*e*ScS	**ScS**	**09 53 41.3**	**+0.1**
KSH				*e*SS	**SKiKP**	**09 55 06.5**	**-2.9**
KSH				pmax	pmax		
	comp=Z,10.0n

COLA **College** 53.66 30 *e*P P 09 44 02.0 +2.1
comp=Z,13nm,1.0s
EKS2 **Erkin-Say** 54.04 302 P P 09 44 04.0 +0.8
SNR=6.2
EKS2 P P 09 44 04.0 +0.8
SNR=6.2
EKS2 **Erkin-Say** 54.04 302 *e*P P 09 44 03.9 +0.7
EKS2 pmax pmax
comp=Z,8.0nm,0.9s
EKS2 **Erkin-Say** 54.04 302 *e*P P 09 44 03.9 +0.7
comp=Z,8.1nm,0.9s
ILAR **Eielson Array** 54.07 30 P P 09 44 02.8 -0.1
comp=Z,14nm,1.0s,baz=263,slow=5.9,SNR=40
ILAR **Eielson Array** 54.07 30 P P 09 44 02.8 -0.1
ILAR **Eielson Array** 54.07 30 P P 09 44 02.8 -0.1
AML **Almayashu** 54.21 302 P P 09 44 06.2 +1.5
SNR=39
AML P P 09 44 06.2 +1.5
SNR=39
BRVK **Borovoye** 54.67 315 *ce*P P 09 44 08.2 +0.8
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK **Borovoye** 54.67 315 *e*P P 09 44 07.9 +0.5
BRVK **Borovoye** 54.67 315 P P 09 44 07.0 -0.4
comp=Z,103nm,1.0s,SNR=7.2
PAX **Paxson** 54.69 32 *e*P P 09 44 09.0 +1.5
PAX **Paxson** 54.69 32 *e*P P 09 44 09.0 +1.5
BMRM **Bremner River** 55.16 35 *e*P P 09 44 12.0 +1.1
comp=Z,31nm,0.9s
AS31 **Alice Springs** 55.36 189 *e*P P 09 44 11.9 -0.8
KKAR **Karatay Array** 56.28 304 *e*P P 09 44 20.0 +0.8
KKAR pmax pmax
comp=Z,38nm,0.9s
KKAR **Karatay Array** 56.28 304 *e*P P 09 44 20.0 +0.8
comp=Z,38nm,0.9s
EGAK **Eagle** 56.52 30 *e*P P 09 44 24.6 +4.1
DZM **Mont Dzumac** 58.28 153 *e*P P 09 44 34.9 +1.4
comp=Z,31nm,1.2s
INK **Inuvik** 59.21 26 P P 09 44 40.2 +0.9
comp=Z,12nm,1.0s,baz=291,slow=6.7,SNR=20
INK **Inuvik** 59.21 26 P P 09 44 40.2 +0.9
INK **Inuvik** 59.21 26 P P 09 44 40.2 +0.9
SVE **Sverdlovsk** 59.55 321⇑ *i*P P 09 44 43.0 +1.2
SVE pmax pmax
comp=Z,38nm,1.1s
KBL **Kabul** 59.80 294 *e*P P 09 44 45.6 +1.3
KBL **Kabul** 59.80 294 *e*P P 09 44 45.6 +1.3
ARU **Arti** 60.76 321 *d i*P P 09 44 50.9 +0.8
ARU 09 47 01.3
ARU S S 09 53 06.7 +3.9
ARU pmax pmax
comp=Z,45nm,1.0s
ARU **Arti** 60.76 321 *e*P P 09 44 50.5 +0.4
comp=Z,50nm,1.0s
ARU **Arti** 60.76 321 P P 09 44 50.0 -0.1
comp=Z,248nm,1.3s,SNR=13
SOKR **Solikamsk** 60.94 325⇑ *i*P P 09 44 53.7 +2.4
SOKR pmax pmax
comp=Z,9.0nm,0.9s
ABKAR **Akbulak array** 61.81 313 *e*P P 09 44 57.9 +0.6
comp=Z,20nm,0.8s
POO **Poona** 62.03 275 *e*P P 09 44 58.5 -0.8
DLBC **Dease Lake** 62.86 36 P P 09 45 06.0 +1.7
comp=Z,7.6nm,0.9s,baz=302,slow=9.9,SNR=6.0
DLBC **Dease Lake** 62.86 36 P P 09 45 06.0 +1.7
STKA **Stephens Creek** 63.03 180 P P 09 45 06.1 +0.6
comp=Z,3.5nm,0.9s,baz=320,slow=11,SNR=3.9
STKA **Stephens Creek** 63.03 180 P P 09 45 06.1 +0.6
STKA **Stephens Creek** 63.03 180 P P 09 45 06.1 +0.6
FORT **Forrest** 63.29 193 *e*P P 09 45 06.8 -0.4
comp=Z,21nm,0.7s
FORT **Forrest** 63.29 193 *e*P P 09 45 06.8 -0.4
comp=Z,48nm,1.0s
ABKT **Ailbek** 66.85 301 P P 09 45 31.6 +1.0
comp=Z,154nm,1.0s,SNR=7.2
APA **Apatity** 67.86 337⇑ *e*P P 09 45 36.6 +0.2
APA *i* S S 09 54 26.0 -4.2
APA *i* SS SS 09 58 56.0 +4.2
APA MLR MLR
comp=Z,600nm,17.0s
RES **Resolute Bay** 67.89 14 P P 09 45 36.7 +0.3
comp=Z,5.5nm,0.9s,baz=329,slow=6.3,SNR=12
RES **Resolute Bay** 67.89 14 P P 09 45 36.7 +0.3
RES **Resolute Bay** 67.89 14 P P 09 45 36.7 +0.3
YKA **Yellowknife Ar** 68.47 29 P P 09 45 40.6 +0.3
comp=Z,4.6nm,0.9s,baz=296,slow=6.3,SNR=15
YKA **Yellowknife Ar** 68.47 29 P P 09 45 40.6 +0.3
YKA **Yellowknife Ar** 68.47 29 P P 09 45 40.6 +0.3
ARE0 **ARCESS Array S** 69.28 340 *e*P P 09 45 42.5 -2.7
JOF **Joensuu** 70.99 333 *e*P P 09 45 52.5 -3.3
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF **Joensuu** 70.99 333 *ep* P 09 45 52.5 -3.3
comp=Z,4.4nm,0.6s
JOF **Joensuu** 70.99 333 *ep* P 09 45 52.5 -3.3
comp=Z,4.4nm,0.6s
JCW **Jim Creek** 71.12 45 *e*P P 09 45 58.4 +1.5
comp=Z,15nm,1.0s
VRHR **Novokhopersk** 72.02 319 *e*P P 09 46 01.0 -1.1
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
ETW **Entiat** 72.35 45 *e*P P 09 46 05.6 +1.2
comp=Z,27nm,1.7s
OBN **Obninsk** 72.73 325⇓ *i*P P 09 46 07.1 +0.8
OBN *e*S S 09 55 24.7 -2.6
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,300nm,17.0s
VSR **Storozhevoye** 73.32 320 *e*P P 09 46 10.5 +0.6
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,40nm,1.0s
KAF **Kangasniemi** 73.37 334 *e*P P 09 46 08.6 -1.4
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF **Kangasniemi** 73.37 334 *ep* P 09 46 08.6 -1.4
comp=Z,4.3nm,0.6s
KAF **Kangasniemi** 73.37 334 *ep* P 09 46 08.6 -1.4
comp=Z,4.3nm,0.6s
FINES **FINESS Array B** 73.85 333 P P 09 46 12.9 +0.1
comp=Z,6.4nm,0.8s,baz=57,slow=7.0,SNR=12
FINES **FINESS Array B** 73.85 333 P P 09 46 12.9 +0.1
FINES **FINESS Array B** 73.85 333 P P 09 46 12.9 +0.1
NEW **Newport** 73.94 43 ⇑P P 09 46 14.6 +0.9
baz=74,SNR=7.8
A12A **Yaak River Ran** 74.45 42 ⇑P P 09 46 18.2 +1.5
baz=74
C11A **Tepee Creek (N** 74.65 43 ⇓P P 09 46 18.9 +1.1
baz=74
B12A **Libby** 74.72 42 ⇑P P 09 46 19.7 +1.5
baz=75
KIV **Kislovodsk** 74.79 312 *e*P P 09 46 19.9 +1.1
KIV pmax pmax
comp=Z,25nm,1.1s
KIV **Kislovodsk** 74.79 312 *e*P P 09 46 21.1 +2.4
comp=Z,19nm,0.8s
A13A **Flathead Natio** 75.16 41 ⇑P P 09 46 22.2 +1.4
baz=75
C12B **Naegeli Ranch,** 75.17 43 ⇑P P 09 46 22.1 +1.2
baz=75
GNI **Garni** 75.29 308 *e*P P 09 46 23.6 +1.8
GNI pmax pmax
comp=Z,18nm,1.2s
GNI **Garni** 75.29 308 *e*P P 09 46 23.7 +1.9
comp=Z,22nm,1.0s
B13A **Whitefish** 75.41 42 ⇑P P 09 46 23.6 +1.4
baz=75,SNR=13
BSMT **Bassoo Peak** 75.50 43 *e*P P 09 46 24.2 +1.3
comp=Z,4.1nm,1.0s
A14A **Double T Ranch** 75.69 41 ⇓P P 09 46 24.8 +0.9
baz=76,SNR=6.1
JTMT **Jette** 75.84 42 *e*P P 09 46 26.2 +1.4
comp=Z,13nm,1.1s
A15A **Johnson Ranch,** 76.08 41 ⇑P P 09 46 26.8 +0.7
baz=76,SNR=6.3
D13A **Huson** 76.08 43 ⇓P P 09 46 26.6 +0.6
baz=76
B14A **Marquette Ranc** 76.10 42 ⇑P P 09 46 27.3 +1.0
baz=76,SNR=9.0
SWMT **Swartz Lake** 76.13 43 *e*P P 09 46 27.5 +1.1
comp=Z,15nm,1.1s
MSO **Missoula** 76.52 43 ⇓P P 09 46 29.4 +0.8
baz=76
B15A **Bradely Ranch,** 76.53 41 ⇓P P 09 46 29.6 +1.0
baz=76,SNR=14
E13A **Victor** 76.58 44 ⇓P P 09 46 29.3 +0.4
baz=76
D14A **Greenough** 76.64 43 ⇓P P 09 46 29.7 +0.4
baz=76,SNR=6.4
WCN **Washoe City** 76.69 52 ⇑P P 09 46 30.5 +0.7
baz=77
A16A **West Butte Ran** 76.72 40 ⇓P P 09 46 30.4 +0.6
baz=77
C15A **Salmond Ranch,** 76.79 42 ⇑P P 09 46 31.4 +1.3
baz=77,SNR=11
F13A **Darby** 76.83 44 ⇓P P 09 46 30.8 +0.4
baz=77,SNR=12
SOC **Sochi** 76.84 313 *e*P P 09 46 27.5 -2.8
SOC *e**PP pP 09 46 45.9 0.0
SOC *e*S S 09 56 11.3 -2.3
SOC pmax pmax
comp=Z,17nm,0.8s
SOC MLR MLR
comp=Z,434nm,17.0s
B16A **M & M Farms, S** 76.95 41 ⇓P P 09 46 31.8 +0.8
baz=77
E14A **Clinton** 77.00 43 ⇓P P 09 46 31.8 +0.4
baz=77
H12A **Diamond D Ranc** 77.17 46 ⇓P P 09 46 33.0 +0.6
baz=77,SNR=7.1
A17A **Triple J Farms** 77.22 40 ⇓P P 09 46 33.1 +0.6
baz=77,SNR=8.2
D15A **Lincoln** 77.23 42 ⇑P P 09 46 33.2 +0.6
baz=77
G13A **Colt** 77.26 45 ⇑P P 09 46 33.4 +0.5
baz=77,SNR=8.5
C16A **Fuhringer Ranc** 77.26 42 ⇓P P 09 46 33.7 +0.9
baz=77,SNR=13
F14A **Wisdom** 77.39 44 ⇑P P 09 46 34.4 +0.8
baz=77
E15A **Deer Lodge** 77.49 43 ⇓P P 09 46 35.0 +0.9
baz=77,SNR=7.5
NACGM **Naroch** 77.52 328 *e* P 09 46 25.0 -8.9
B17A **L&G Farms, Che** 77.53 41 ⇓P P 09 46 35.3 +1.1
baz=77,SNR=11
H13A **Challis** 77.53 45 ⇓P P 09 46 35.5 +1.1
baz=77,SNR=12
ANN **Anapa** 77.61 315 *e*P P 09 46 35.9 +1.4
ANN *e**PP pP 09 46 50.8 +0.6
ANN *e*S S 09 56 29.7 +7.9
ANN pmax pmax
comp=Z,44nm,1.0s
A18A **Metzger Ranch,** 77.70 40 ⇓P P 09 46 36.3 +1.1
baz=78,SNR=10.0
D16A **Dana Ranch, Ca** 77.80 42 ⇓P P 09 46 36.8 +1.0
baz=78,SNR=9.2
HRY **Holter Researc** 77.81 42 *e*P P 09 46 37.2 +1.4
comp=Z,10nm,0.9s
F15A **Butte** 77.90 43 ⇑P P 09 46 37.6 +1.2
baz=78,SNR=21
C17A **Wharram Farm,** 77.91 41 ⇑P P 09 46 36.8 +0.5
baz=78,SNR=7.3
LRM **Limekiln Ridge** 77.93 43 *e*P P 09 46 38.1 +1.4
comp=Z,213nm,1.1s
I13A **Wildhorse Cree** 77.95 46 ⇓P P 09 46 38.2 +1.4
baz=78,SNR=8.1
HLID **Hailey** 77.96 46 ⇓P P 09 46 37.9 +1.1
baz=78,SNR=9.2
E16A **East Helena** 78.00 43 ⇓P P 09 46 37.6 +0.7
baz=78
H14A **Leadore** 78.03 45 ⇑P P 09 46 37.5 +0.3
baz=78
B18A **Bearsley Farm** 78.04 40 ⇑P P 09 46 38.1 +1.1
baz=78,SNR=12
NVAR **Mina Array Bea** 78.11 52 P P 09 46 38.9 +1.1
comp=Z,4.8nm,0.9s,baz=285,slow=5.4,SNR=26
NVAR **Mina Array Bea** 78.11 52 P P 09 46 38.9 +1.1
J13A **Cove Ranch, Pi** 78.19 46 ⇓P P 09 46 39.2 +1.1
baz=78,SNR=7.6
FFC **Flin Flon** 78.22 32 *ce*P P 09 46 39.5 +1.7
FFC **Flin Flon** 78.22 32 *e*P P 09 46 38.1 +0.3
comp=Z,6.2nm,0.9s
D17A **Six Diamond Ra** 78.22 42 ⇓P P 09 46 39.0 +0.9
baz=78,SNR=12
EGMT **Eagleton** 78.26 41 ⇑P P 09 46 38.7 +0.4
baz=78
G15A **Dillon** 78.27 44 ⇓P P 09 46 39.0 +0.5
baz=78,SNR=6.5
A19A **Klindworth Far** 78.30 39 ⇑P P 09 46 39.2 +0.7
baz=78
I14A **Mackay** 78.35 46 ⇑P P 09 46 40.8 +1.8
baz=78,SNR=23
F16A **Kennard Place,** 78.44 43 ⇓P P 09 46 40.5 +1.1
baz=78,SNR=11
B19A **Brinkman Farms** 78.46 40 ⇑P P 09 46 39.9 +0.6
baz=78
H15A **Lima** 78.47 45 ⇓P P 09 46 40.4 +0.7
baz=78
MIB **Mutribah** 78.47 298 *e*P P 09 46 39.4 -0.2
MIB AMb AMB 09 46 41.1
comp=Z,61nm,1.0s
E17A **Martinsdale** 78.51 42 ⇑P P 09 46 41.1 +1.3
baz=78,SNR=14
BOZ **Bozeman (W)** 78.51 43 *e*P P 09 46 41.1 +1.3
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ **Bozeman (W)** 78.51 43 *e*P P 09 46 41.1 +1.3
comp=Z,2.8nm,0.9s
BOZ **Bozeman (W)** 78.51 43 ⇓P P 09 46 40.7 +0.9
baz=78
BOZ ⇓P P 09 46 40.7 +0.9
baz=78
QRN **Al-Qurain** 78.55 297 *e*P P 09 46 39.4 -0.7
QRN AMb AMB 09 46 41.2
comp=Z,104nm,1.0s
G16A **Moss Hill, Enn** 78.64 44 ⇑P P 09 46 41.3 +0.8
baz=78,SNR=8.7
J14A **Carey** 78.64 46 ⇓P P 09 46 41.7 +1.2
baz=78
D18A **Linhart Farms,** 78.70 41 ⇑P P 09 46 41.8 +1.0
baz=78,SNR=5.8
A20A **Cobblestone Ra** 78.77 39 ⇑P P 09 46 41.7 +0.7
baz=79
C19A **Slack Wire Ran** 78.81 41 ⇑P P 09 46 42.5 +1.2
baz=79,SNR=9.0
NAY **Al-Naaiem** 78.82 297 *e*P P 09 46 41.2 -0.4
NAY AMb AMB 09 46 43.6
comp=Z,40nm,0.9s
PKM **Peak Mountain** 78.86 56 ⇑P P 09 46 42.8 +0.9
baz=79
AKASG **Malin Array Be** 78.87 323 P P 09 46 41.6 +0.2
comp=Z,5.0nm,0.7s,baz=48,slow=5.9,SNR=19
AKASG **Malin Array Be** 78.87 323 P P 09 46 41.7 +0.2
AKASG **Malin Array Be** 78.87 323 P P 09 46 41.6 +0.2
AKBB **Malin Array Si** 78.87 323 *e*P P 09 46 41.2 -0.2
AKBB **Malin Array Si** 78.87 323 *e*P P 09 46 41.2 -0.2
KIEV **Kiev** 78.88 323 *d i*P P 09 46 41.9 +0.4
KIEV **Kiev** 78.88 323 *e*P P 09 46 41.8 +0.4
comp=Z,11nm,0.8s
VES **Vestal, Richgr** 78.89 55 ⇑P P 09 46 42.2 +0.4
baz=79
I15A **Monteview** 78.90 45 ⇓P P 09 46 43.1 +1.2
baz=79
F17A **Fitzpatrick Pl** 78.93 43 ⇓P P 09 46 43.3 +1.2
baz=79,SNR=6.1
B20A **Solberg Farm,** 78.97 40 ⇓P P 09 46 43.1 +0.9
baz=79
E18A **Harlowton** 78.99 42 ⇓P P 09 46 43.6 +1.2
baz=79,SNR=8.6
QLMT **Earthquake Lak** 79.08 44 *e*P P 09 46 44.5 +1.5
comp=Z,1.7nm,1.2s
G17A **Pierce Place,** 79.21 43 ⇑P P 09 46 44.9 +1.3
baz=79
D19A **Cripps Ranch,** 79.23 41 ⇑P P 09 46 44.6 +0.9
baz=79,SNR=7.9
A21A **Bergtoll Ranch** 79.24 39 ⇓P P 09 46 44.4 +0.8
baz=79
H16A **Russell Place,** 79.25 44 ⇑P P 09 46 45.5 +1.5
baz=79,SNR=7.7
J15A **Blackfoot** 79.26 46 ⇑P P 09 46 45.1 +1.2
baz=79
K14A **Jones Ranch, D** 79.27 47 ⇓P P 09 46 45.6 +1.6
baz=79,SNR=9.8
NB2 **NORSAR Subarra** 79.40 338 P P 09 46 44.1 -0.1
comp=Z,14nm,0.9s,baz=42,slow=5.3
NOA **NORSAR Array B** 79.40 338 P P 09 46 43.6 -0.6
comp=Z,11nm,0.9s,baz=41,slow=5.4,SNR=21
NOA **NORSAR Array B** 79.40 338 P P 09 46 43.6 -0.6
NOA **NORSAR Array B** 79.40 338 P P 09 46 43.6 -0.6
C20A **Veseth Ranch,** 79.40 40 ⇑P P 09 46 45.7 +1.2
baz=79
ISA **Isabella** 79.41 55 *e*P P 09 46 44.6 -0.2
ISA pmax pmax
comp=Z,3.0nm,1.0s
ISA **Isabella** 79.41 55 *e*P P 09 46 44.6 -0.2
comp=Z,3.3nm,1.0s
ISA **Isabella** 79.41 55 ⇑P P 09 46 44.7 -0.2
baz=79
ARVC **Arvin** 79.44 55 ⇓P P 09 46 45.1 +0.2
baz=79
F18A **Big Timber** 79.48 42 ⇓P P 09 46 46.0 +1.0
baz=79,SNR=6.5
L14A **Malta** 79.51 47 ⇓P P 09 46 46.7 +1.4
baz=79,SNR=7.3
B21A **Ellsworth Farm** 79.53 39 ⇓P P 09 46 45.6 +0.5
baz=79
I16A **Newdale** 79.57 45 ⇓P P 09 46 47.6 +1.9
baz=79,SNR=10
K15A **Arbon** 79.59 46 ⇓P P 09 46 47.0 +1.3
baz=80
E19A **Rath Farm, Rou** 79.69 41 ⇑P P 09 46 47.2 +1.0
baz=80,SNR=9.9
D20A **Manuel Ranch,** 79.69 41 ⇓P P 09 46 47.0 +0.9
baz=80,SNR=7.2
SUW **Suwalki** 79.72 328 *e*P P 09 46 47.0 +1.0
SUW **Suwalki** 79.72 328 *e*P P 09 46 47.0 +1.0
A22A **Carney Farms,** 79.78 38 ⇓P P 09 46 47.0 +0.4
baz=80
H17A **Grant Village** 79.83 44 ⇓P P 09 46 50.3 +3.1
baz=80,SNR=9.3
C21A **Desert Coulee** 79.83 40 ⇑P P 09 46 47.5 +0.7
baz=80
MPMC **Manual Prospec** 79.89 54 ⇓P P 09 46 48.2 +0.6
baz=80,SNR=7.0
DCID1 **Drake Creek** 79.91 45 *e*P P 09 46 49.1 +1.6
comp=Z,19nm,1.0s
F19A **Roth Farm, Mol** 79.95 42 ⇑P P 09 46 48.3 +0.7
baz=80
R11A **Troy Canyon, C** 79.97 51 ⇑P P 09 46 48.8 +0.9
baz=80,SNR=8.7
E20A **Meyer Farm, Mu** 80.03 41 ⇓P P 09 46 49.0 +1.0
baz=80,SNR=5.7
LRMC **Laurel Mountai** 80.05 55 ⇓P P 09 46 48.8 +0.4
baz=80
L15A **Malad City** 80.06 47 ⇓P P 09 46 49.1 +0.8
baz=80,SNR=7.1
K16A **Soda Springs** 80.09 46 ⇑P P 09 46 50.1 +1.6
baz=80,SNR=13
I17A **Pilgrim Ck.** 80.09 44 ⇓P P 09 46 50.7 +2.2
baz=80,SNR=10
FURC **Furnace Creek,** 80.11 53 ⇓P P 09 46 49.1 +0.7
baz=80,SNR=8.2
EDW2 **Edwards Air Fo** 80.16 55 ⇓P P 09 46 49.7 +0.9
baz=80,SNR=5.4
RLMT **Red Lodge** 80.18 43 ⇑P P 09 46 49.9 +0.9
baz=80
RLMT ⇑P P 09 46 49.9 +0.9
baz=80
H18A **Shoshone NF, C** 80.20 43 ⇑P P 09 46 50.2 +1.1
baz=80,SNR=5.2
M15A **Larsen Ranch,** 80.32 47 ⇑P P 09 46 50.7 +1.1
baz=80,SNR=5.9
J17A **Brown Place, J** 80.33 45 ⇓P P 09 46 50.7 +0.9
baz=80
D21A **La Casta Ranch** 80.34 40 ⇓P P 09 46 50.5 +0.9
baz=80
C22A **Vida** 80.54 39 ⇓P P 09 46 51.4 +0.8
baz=80
K17A **Gardner Place,** 80.54 45 ⇑P P 09 46 51.8 +0.8
baz=80
B23A **Brockton** 80.58 38 ⇑P P 09 46 51.3 +0.4
baz=80
N15A **Stansbury Isla** 80.59 48 ⇑P P 09 46 52.3 +1.1
baz=80
E21A **Keefer Ranch,** 80.60 41 ⇑P P 09 46 52.2 +1.1
baz=80
H19A **Powell** 80.60 43 ⇑P P 09 46 52.7 +1.5
baz=80,SNR=5.6
CIS **Catalina Islan** 80.63 57 ⇑P P 09 46 51.5 +0.1
baz=80
I18A **Diamond G Ranc** 80.67 44 ⇑P P 09 46 52.8 +1.1
baz=80
G20A **Bridger** 80.73 42 ⇓P P 09 46 52.6 +0.8
baz=81
D22A **Cohagen** 80.74 40 ⇓P P 09 46 52.7 +1.0
baz=81
SCI **San Clemente I** 80.75 57 ⇑P P 09 46 52.9 +0.9
baz=81
GSC **Goldstone** 80.76 54 ⇑P P 09 46 52.7 +0.6
baz=81,SNR=7.4
DUG **Dugway** 80.78 48 *e*P P 09 46 53.5 +1.3
DUG pmax pmax
comp=Z,11nm,1.1s
DUG **Dugway** 80.78 48 *e*P P 09 46 53.5 +1.3
comp=Z,12nm,1.1s
DUG **Dugway** 80.78 48 ⇑P P 09 46 53.0 +0.8
baz=81,SNR=12
A24A **Westby** 80.82 38 ⇑P P 09 46 52.9 +0.8
baz=81
J18A **Kendall Valley** 80.83 45 ⇓P P 09 46 53.8 +1.3
baz=81,SNR=7.4
C23A **Lambert** 80.88 39 ⇑P P 09 46 53.4 +0.9
baz=81
L17A **Cokeville** 80.94 46 ⇑P P 09 46 54.1 +1.0
baz=81
O15A **The Old Anders** 80.96 48 ⇓P P 09 46 54.4 +1.2
baz=81
I19A **Meeteetse** 80.97 44 ⇓P P 09 46 54.6 +1.4
baz=81
DGMT **Dagmar** 81.00 38 ⇓P P 09 46 54.1 +1.0
baz=81
R13A **O'Grain Ranch,** 81.14 51 ⇑P P 09 46 55.1 +0.9
baz=81
K18A **Toltan Ranch,** 81.14 45 ⇓P P 09 46 55.1 +0.9
baz=81
D23A **Lindsay** 81.25 39 ⇓P P 09 46 55.5 +1.0
baz=81
H20A **Greybull** 81.28 43 ⇑P P 09 46 55.4 +0.7
baz=81
TUQ **Turquoise Moun** 81.30 54 ⇑P P 09 46 55.5 +0.5
baz=81
G21A **Lodge Grass** 81.31 42 ⇓P P 09 46 55.5 +0.7
baz=81
PD01 **Pinedale Array** 81.34 45 *e*P P 09 46 56.0 +0.7
HEC **Hector,Ludlow** 81.34 55 ⇓P P 09 46 56.0 +0.8
baz=81
PD02 **Pinedale Array** 81.35 45 *e*P P 09 46 56.0 +0.7
BW06 **Boulder Array** 81.36 45 ⇑P P 09 46 56.0 +0.6
baz=81
BW06 ⇑P P 09 46 56.0 +0.6
baz=81
PDAR **Pinedale Array** 81.36 45 P P 09 46 55.9 +0.5
comp=Z,3.2nm,0.9s,baz=285,slow=2.8,SNR=19
PDAR **Pinedale Array** 81.36 45 P P 09 46 55.9 +0.5
J19A **Crowheart** 81.38 44 ⇑P P 09 46 56.5 +1.1
baz=81,SNR=8.8
MURC **Murrieta** 81.38 56 ⇑P P 09 46 56.2 +0.8
baz=81
M17A **Scullys Gap (B** 81.42 46 ⇓P P 09 46 56.4 +0.8
baz=81
C24A **Savage** 81.46 39 ⇑P P 09 46 56.3 +0.8
baz=81
F22A **Rosebud** 81.51 41 ⇓P P 09 46 56.7 +0.9
baz=81
I20A **Worland** 81.52 43 ⇓P P 09 46 57.2 +1.2
baz=81,SNR=5.4
L18A **Fontenelle, Gr** 81.55 46 ⇑P P 09 46 57.6 +1.3
baz=81
E23A **Ismay** 81.61 40 ⇓P P 09 46 57.6 +1.3
baz=82
N17A **Moffit Pass** 81.62 47 ⇓P P 09 46 57.5 +0.7
baz=82
DAU **Daniels Canyon** 81.65 48 *e*P P 09 46 58.6 +1.6
DAU pmax pmax
comp=Z,23nm,1.3s
DAU **Daniels Canyon** 81.65 48 *e*P P 09 46 58.6 +1.6
comp=Z,23nm,1.3s
ARUT **Antelope Range** 81.70 51 *e*P P 09 46 58.3 +1.1
ARUT pmax pmax
comp=Z,8.0nm,1.0s
ARUT **Antelope Range** 81.70 51 *e*P P 09 46 58.3 +1.1
comp=Z,8.2nm,1.0s
H21A **Big Horn, Sher** 81.75 42 ⇓P P 09 46 58.3 +1.0

	baz=82							
K19A	**Absolon Red Bu**	81.75	45	⇑P		P	09 46 57.9	+0.6
	baz=82							
D24A	**Glendive**	81.76	39	⇓P		P	09 46 58.3	+1.1
	baz=82							
M18A	**Lyman**	81.82	46	⇑P		P	09 46 58.5	+0.8
	baz=82							
109C	**Camp Elliot, M**	81.83	57	⇓P		P	09 46 58.7	+1.1
	baz=82							
GMRC	**Granite Mounta**	81.83	54	⇑P		P	09 46 58.5	+0.6
	baz=82,SNR=8.6							
P16A	**Fountain Green**	81.85	48	⇓P		P	09 46 58.8	+0.9
	baz=82							
L19A	**Farson**	81.86	45	⇓P		P	09 46 59.0	+1.0
	baz=82							
J20A	**Shoshoni**	81.90	44	⇑P		P	09 46 58.6	+0.5
	baz=82							
PFO	**Pinyon Flat Ob**	81.91	56	*e*P		P	09 46 58.8	+0.6
PFO				pmax		pmax		
	comp=Z,9.0nm,1.1s							
PFO	**Pinyon Flat Ob**	81.91	56	*e*P		P	09 46 58.8	+0.6
	comp=Z,9.3nm,1.1s							
PFO	**Pinyon Flat Ob**	81.91	56	P		P	09 46 58.3	0.0
	comp=Z,46nm,1.0s,SNR=6.6							
PFO	**Pinyon Flat Ob**	81.91	56	⇑P		P	09 46 58.9	+0.6
	baz=82,SNR=11							
BELC	**Belle Mtn. Jos**	82.02	55	⇓P		P	09 46 59.1	+0.2
	baz=82							
F23A	**Volborg**	82.02	41	⇓P		P	09 46 59.4	+0.8
	baz=82							
I21A	**Big Trails, Te**	82.09	43	⇑P		P	09 47 00.2	+1.1
	baz=82							
O17A	**Robinson Place**	82.10	48	⇓P		P	09 47 00.7	+1.4
	baz=82,SNR=12							
E24A	**Baker**	82.11	40	⇓P		P	09 46 59.8	+0.7
	baz=82							
MSU	**Marysvale**	82.13	50	*e*P		P	09 47 01.2	+1.7
MSU				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MSU	**Marysvale**	82.13	50	*e*P		P	09 47 01.1	+1.7
	comp=Z,8.1nm,1.1s							
K20A	**Yellowstone Ra**	82.15	44	⇑P		P	09 47 00.0	+0.6
	baz=82							
H22A	**Clearmont**	82.17	42	⇓P		P	09 47 00.2	+0.8
	baz=82							
R15A	**Junction**	82.23	50	⇓P		P	09 47 01.3	+1.3
	baz=82,SNR=7.0							
BAR	**Barrett**	82.25	56	*e*P		P	09 47 00.4	+0.5
	comp=Z,6.1nm,0.9s							
J21A	**Lysite**	82.28	43	⇓P		P	09 47 01.0	+0.9
	baz=82							
MONP	**Monument Peak**	82.31	56	⇓P		P	09 47 01.1	+0.5
	baz=82,SNR=7.3							
G23A	**Biddle**	82.35	41	⇑P		P	09 47 01.1	+0.8
	baz=82							
F24A	**Ekalaka**	82.48	40	⇑P		P	09 47 01.5	+0.6
	baz=82							
P17A	**Butcher Ranch,**	82.51	48	⇓P		P	09 47 02.6	+1.2
	baz=82,SNR=7.8							
I22A	**9 Mile Ranch,**	82.52	43	⇑P		P	09 47 01.9	+0.6
	baz=82							
O18A	**Roosevelt**	82.52	47	⇓P		P	09 47 03.0	+1.6
	baz=82,SNR=7.7							
IRM	**Iron Mountain**	82.52	55	⇑P		P	09 47 02.2	+0.8
	baz=82,SNR=6.0							
L20A	**Wamsutter**	82.53	45	⇓P		P	09 47 02.3	+0.8
	baz=82							
Q16A	**Castle Valley**	82.55	49	⇑P		P	09 47 02.7	+1.0
	baz=82,SNR=6.8							
BC3	**Big Chuckawall**	82.58	55	⇓P		P	09 47 02.2	+0.4
	baz=82,SNR=6.0							
N19A	**John Jarvie Ra**	82.67	46	⇓P		P	09 47 02.9	+0.7
	baz=82,SNR=7.7							
R16A	**Teasdale**	82.71	49	⇑P		P	09 47 04.1	+1.6
	baz=83,SNR=11							
SWSC	**Sam W. Stewart**	82.73	56	⇓P		P	09 47 03.1	+0.7
	baz=83							
P18A	**Preston Nutter**	82.74	48	⇑P		P	09 47 03.6	+0.9
	baz=83,SNR=6.8							
BR131	**Keskin Array S**	82.76	312	*e*P		P	09 47 03.8	+1.2
	comp=Z,6.1nm,0.9s							
BRTR	**Keskin Array B**	82.76	312	P		P	09 47 03.9	+1.3
	comp=Z,8.5nm,1.0s,baz=108,slow=4.0,SNR=31							
BRTR	**Keskin Array B**	82.76	312	P		P	09 47 03.9	+1.3
BRTR	**Keskin Array B**	82.76	312	P		P	09 47 03.9	+1.3
KWP	**Kalwaria Pacla**	82.80	325	*e*P		P	09 47 03.6	+1.1
KWP	**Kalwaria Pacla**	82.80	325	*e*P		P	09 47 03.6	+1.1
KWP	**Kalwaria Pacla**	82.80	325	*e*P		P	09 47 03.9	+1.4
	comp=Z,48nm,1.1s							
K21A	**Alcova**	82.82	44	⇑P		P	09 47 03.8	+0.8
	baz=83,SNR=5.8							
BUR08	**Bucovina Ar. S**	82.83	322	*e*P		P	09 47 04.0	+1.2
SRU	**San Rafael**	82.86	48	⇓P		P	09 47 04.0	+0.8
	baz=83,SNR=9.5							
W13A	**Hualapai Mount**	82.88	53	⇓P		P	09 47 03.8	+0.4
	baz=83,SNR=5.8							
M20A	**Sweetwater, Wa**	82.93	45	⇓P		P	09 47 04.7	+1.1
	baz=83							
S16A	**Weppner Ranch,**	82.95	50	⇑P		P	09 47 04.7	+0.9
	baz=83,SNR=5.8							
O19A	**Miners Draw (B**	83.05	47	⇑P		P	09 47 05.1	+0.9
	baz=83							
RAYN	**Ar Rayn**	83.06	293	P		P	09 47 05.7	+1.4
	comp=Z,108nm,0.6s,SNR=8.7							
H24A	**Dirks Ranch, A**	83.10	41	⇑P		P	09 47 04.7	+0.5
	baz=83							
Q18A	**Rafter H Ranch**	83.11	48	⇑P		P	09 47 05.2	+0.7
	baz=83							
R17A	**Hanksville Air**	83.13	49	⇑P		P	09 47 05.2	+0.6
	baz=83,SNR=7.8							
L21A	**Rawlins**	83.14	45	⇓P		P	09 47 04.9	+0.2
	baz=83							
PDMCI	**Parker Dam,Lak**	83.15	54	⇓P		P	09 47 05.3	+0.8
	baz=83							
Y12C	**Blythe**	83.18	55	⇑P		P	09 47 05.5	+0.8
	baz=83							
U15A	**North Rim**	83.22	51	⇑P		P	09 47 06.0	+0.8
	baz=83							
K22A	**Casper**	83.24	44	⇑P		P	09 47 05.5	+0.4
	baz=83							
N20A	**Spence Gulch,**	83.27	46	⇓P		P	09 47 06.4	+1.0
	baz=83,SNR=12							
GLA	**Glamis**	83.35	55	⇑P		P	09 47 06.6	+1.0
	baz=83							
M21A	**Separation Pea**	83.36	45	⇓P		P	09 47 06.4	+0.6
	baz=83							
KOLS	**Kolonicke sedl**	83.48	325	*e*P		P	09 47 06.9	+0.9
KOLS				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KOLS	**Kolonicke sedl**	83.48	325	*e*P		P	09 47 06.9	+0.9
S17A	**Black Ridge (B**	83.52	50	⇑P		P	09 47 06.8	+0.3
	baz=83,SNR=7.2							
P19A	**Cripple Cowboy**	83.53	47	⇓P		P	09 47 08.0	+1.2
	baz=83,SNR=17							
L22A	**Ellis Ranch, M**	83.66	44	⇓P		P	09 47 08.3	+1.0
	baz=84							
UZH	**Uzhgorod**	83.67	324	*e*P		P	09 47 07.8	+0.9
UZH				*e*			09 47 17.0	
R18A	**Canyonlands Na**	83.67	49	⇑P		P	09 47 07.2	-0.2
	baz=84,SNR=7.5							
O20A	**White River Ci**	83.69	46	⇓P		P	09 47 08.2	+0.7
	baz=84,SNR=7.5							
K23A	**Bowen Ranch, D**	83.70	43	⇓P		P	09 47 07.8	+0.3
	baz=84							
Q19A	**Hogan Spring (**	83.75	48	⇓P		P	09 47 08.3	+0.6
	baz=84,SNR=5.5							
N21A	**Black Mountain**	83.77	46	⇓P		P	09 47 08.8	+0.8
	baz=84							
OJC	**Ojcow**	83.80	327	*e*P		P	09 47 08.0	+0.4
OJC	**Ojcow**	83.80	327	*e*P		P	09 47 08.0	+0.4
T17A	**Navajo Res., N**	83.88	50	⇑P		P	09 47 08.9	+0.4
	baz=84							
CRVS	**Cervenica-Dubn**	83.90	325	*e*P		P	09 47 09.0	+0.9
CRVS				pmax		pmax		
	comp=Z,11nm,1.3s							
CRVS	**Cervenica-Dubn**	83.90	325	*e*P		P	09 47 09.0	+0.9
M22A	**Cedar Creek Ra**	83.94	45	⇓P		P	09 47 09.4	+0.5
	baz=84							
P20A	**De Beque**	83.98	47	⇑P		P	09 47 09.6	+0.6
	baz=84							
S18A	**Hurst Farm, Bl**	84.01	49	⇓P		P	09 47 09.7	+0.4
	baz=84,SNR=11							
L23A	**Garrett**	84.05	44	⇓P		P	09 47 09.6	+0.3
	baz=84							
Z13A	**Yuma Proving G**	84.09	55	⇑P		P	09 47 10.7	+1.3
	baz=84,SNR=7.8							
Y14A	**Wickenburg**	84.13	54	⇑P		P	09 47 10.4	+0.7
	baz=84,SNR=8.4							
R19A	**Curley Farm, L**	84.13	48	⇓P		P	09 47 10.6	+0.7
	baz=84,SNR=8.8							
U16A	**Tuba City**	84.16	51	⇓P		P	09 47 10.9	+1.1
	baz=84,SNR=6.6							
U17A	**Shonto**	84.20	50	⇑P		P	09 47 11.0	+0.8
	baz=84							
113A	**Mohawk Valley,**	84.25	55	⇑P		P	09 47 10.9	+0.7
	baz=84,SNR=7.2							
WUAZ	**Wupatki**	84.35	52	⇑P		P	09 47 11.6	+0.7
	baz=84,SNR=10							
Q20A	**Ridgley Place,**	84.36	47	⇑P		P	09 47 12.0	+1.2
	baz=84,SNR=23							
N22A	**Wattenberg Ran**	84.39	45	⇓P		P	09 47 12.0	+0.9
	baz=84							
T18A	**Mexican Hat**	84.41	50	⇑P		P	09 47 11.3	+0.2
	baz=84							
S19A	**Harvey Farm, M**	84.53	49	⇓P		P	09 47 12.0	+0.1
	baz=84,SNR=5.3							
P21A	**Newcastle**	84.55	47	⇓P		P	09 47 12.7	+0.8
	baz=84							
N23A	**Red Feather La**	84.64	45	⇑P		P	09 47 13.4	+1.0
	baz=84							
KECS	**Kecovo**	84.66	325	*e*P		P	09 47 13.0	+1.0
KECS				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KECS	**Kecovo**	84.66	325	*e*P		P	09 47 13.0	+1.0
PV01	**Paradox Valley**	84.67	48	*e*P		P	09 47 13.4	+0.9
	comp=Z,1um,1.1s							
V17A	**Tonalea, Kykot**	84.68	51	⇓P		P	09 47 13.6	+1.1
	baz=84,SNR=22							
O22A	**Kremmling**	84.72	46	⇓P		P	09 47 13.7	+0.9
	baz=85,SNR=5.3							
R20A	**Redvale**	84.76	48	⇓P		P	09 47 13.7	+0.7
	baz=85,SNR=13							
U18A	**Rough Rock, Ch**	84.83	50	⇓P		P	09 47 14.3	+1.0
	baz=85,SNR=12							
OKC	**Ostrava-Krasne**	84.83	327	*e*P		P	09 47 13.9	+1.1
OKC	**Ostrava-Krasne**	84.83	327	*e*P		P	09 47 13.9	+1.1
114A	**Black Gap (USA**	84.88	55	⇓P		P	09 47 14.6	+1.2
	baz=85							
Q21A	**Lamborn Mesa,**	84.88	47	⇑P		P	09 47 14.9	+1.4
	baz=85,SNR=8.1							
X16A	**Lo Mia Camp, P**	84.93	53	⇓P		P	09 47 15.1	+1.3
	baz=85,SNR=14							
P22A	**Eagle**	84.93	46	⇑P		P	09 47 15.2	+1.3
	baz=85,SNR=12							
M24A	**Cheyenne**	84.96	44	⇓P		P	09 47 15.0	+1.1
	baz=85							
KSP	**Ksiaz**	84.96	329	*e*P		P	09 47 14.7	+1.2
KSP	**Ksiaz**	84.96	329	*e*P		P	09 47 14.5	+1.1
S20A	**Disappointment**	84.98	48	⇑P		P	09 47 14.6	+0.4
	baz=85,SNR=5.3							
O23A	**Lake Granby, G**	85.08	45	⇓P		P	09 47 15.6	+1.0
	baz=85							
T19A	**Beclabito**	85.14	49	⇓P		P	09 47 15.6	+0.8
	baz=85,SNR=9.4							
R21A	**Cimarron**	85.17	48	⇓P		P	09 47 16.3	+1.2
	baz=85,SNR=16							
V18A	**Ganado**	85.20	51	⇑P		P	09 47 16.3	+1.1
	baz=85,SNR=9.9							
MVCO	**Mesa Verde**	85.26	49	⇓P		P	09 47 15.9	+0.4
	baz=85							
Q22A	**Crested Butte,**	85.28	47	⇓P		P	09 47 16.5	+0.9
	baz=85,SNR=14							
DPC	**Dobruska-Polom**	85.30	328	*e*P		P	09 47 16.7	+1.5
DPC	**Dobruska-Polom**	85.30	328	*e*P		P	09 47 16.7	+1.5
UPC	**Upice**	85.33	329	*e*P		P	09 47 16.6	+1.3
UPC	**Upice**	85.33	329	*e*P		P	09 47 16.6	+1.3
U19A	**Dine' College,**	85.34	50	⇓P		P	09 47 16.7	+0.8
	baz=85,SNR=16							
214A	**Organ Pipe Nat**	85.38	55	⇓P		P	09 47 16.9	+1.0
	baz=85,SNR=5.8							
X17A	**Forest Lakes**	85.41	52	⇑P		P	09 47 17.5	+1.2
	baz=85,SNR=9.2							
S21A	**Coal Bank Pass**	85.44	48	⇑P		P	09 47 17.5	+1.0
	baz=85,SNR=6.4							
VYHS	**Vyhne**	85.45	326	*e*P		P	09 47 17.0	+1.1
VYHS				pmax		pmax		
	comp=Z,8.0nm,1.2s							
VYHS	**Vyhne**	85.45	326	*e*P		P	09 47 17.0	+1.1
VYHS				*e*			10 05 12.5	
ISCO	**Idaho Springs**	85.51	46	⇓P		P	09 47 17.8	+0.9
	baz=85							
KOLL	**Kolacno**	85.59	326	*e*P		P	09 47 15.8	-0.8
KOLL	**Kolacno**	85.59	326	*e*P		P	09 47 15.8	-0.8
P23A	**Jefferson**	85.63	46	⇑P		P	09 47 18.5	+1.0
	baz=86							
O24A	**Longmont**	85.64	45	⇑P		P	09 47 18.4	+1.1
	baz=86							
K27A	**Flueckinger Fa**	85.69	42	⇑P		P	09 47 18.6	+1.2
	baz=86							
U20A	**Newcomb**	85.73	50	⇓P		P	09 47 18.7	+0.9
	baz=86							
Y17A	**Roosevelt**	85.75	53	⇑P		P	09 47 18.2	+0.4
	baz=86,SNR=7.3							
R22A	**Saguache, Gunn**	85.76	47	⇓P		P	09 47 19.7	+1.6
	baz=86,SNR=11							
V19A	**Window Rock**	85.78	50	⇑P		P	09 47 19.0	+0.9
	baz=86							
X18A	**Snowflake**	85.87	52	⇑P		P	09 47 19.3	+0.7
	baz=86							
W19A	**Sanders**	85.91	51	⇑P		P	09 47 19.3	+0.6
	baz=86,SNR=8.3							
BRG	**Berggiesshubel**	85.96	330	*e*P		P	09 47 20.8	+2.4
	comp=Z,25nm,1.8s							
BRG	**Berggiesshubel**	85.96	330	*e*P		P	09 47 20.8	+2.4
BRG				pmax		pmax		
	comp=Z,25nm,1.8s							
S22A	**4UR Ranch, Cre**	86.00	48	⇓P		P	09 47 20.4	+1.1
	baz=86,SNR=7.5							
T21A	**Navajo Lake**	86.01	49	⇓P		P	09 47 19.9	+0.7
	baz=86							
CLL	**Collm**	86.04	331	*i* P		P	09 47 19.6	+0.8
CLL				pmax		pmax		
	comp=Z,13nm,0.9s							
CLL	**Collm**	86.04	331	⇓ *i*P		P	09 47 19.6	+0.8
	comp=Z,13nm,0.9s							
V20A	**Brimhall**	86.11	50	⇑P		P	09 47 20.4	+0.7
	baz=86							
O25A	**Wiggins**	86.22	45	⇓P		P	09 47 21.0	+0.9
	baz=86							
Z17A	**San Carlos Hig**	86.23	53	⇓P		P	09 47 21.2	+1.0
	baz=86,SNR=5.2							
Y18A	**Canyon Day Jun**	86.25	52	⇑P		P	09 47 21.6	+1.2
	baz=86,SNR=7.4							
U21A	**Nageezi**	86.26	49	⇓P		P	09 47 21.4	+0.9
	baz=86							
BRSD	**Miller**	86.36	39	⇑P		P	09 47 21.4	+0.8
	baz=86							
R23A	**Moffat**	86.36	47	⇑P		P	09 47 22.0	+1.0
	baz=86							
X19A	**St. Johns**	86.37	52	⇑P		P	09 47 21.8	+0.7
	baz=86,SNR=9.1							
T22A	**Edith**	86.40	48	⇓P		P	09 47 22.0	+0.8
	baz=86,SNR=6.0							
W20A	**Ramah**	86.49	51	⇓P		P	09 47 22.3	+0.6
	baz=86							
V21A	**Milan**	86.65	50	⇑P		P	09 47 23.3	+0.9
	baz=86							
Y19A	**Nutrioso**	86.67	52	⇓P		P	09 47 23.3	+0.7
	baz=86							
R24A	**Sanders Place,**	86.78	46	⇓P		P	09 47 23.8	+0.8
	baz=87							
X20A	**Quemado**	86.83	51	⇓P		P	09 47 24.4	+1.1
	baz=87,SNR=8.0							
SDCO	**Great Sand Dun**	86.84	47	⇓P		P	09 47 24.2	+0.8
	baz=87							
SDCO				⇓P		P	09 47 24.2	+0.8
	baz=87							
Q25A	**Bedland, Calha**	86.89	46	⇓P		P	09 47 24.3	+0.8
	baz=87							
T23A	**Casias Ranch,**	86.93	48	⇓P		P	09 47 24.8	+1.0
	baz=87							
S24A	**Houchin Ranch,**	87.08	47	⇑P		P	09 47 25.8	+1.2
	baz=87							
U23A	**El Rito**	87.27	49	⇓P		P	09 47 26.5	+1.1
	baz=87							
Y20A	**Horse Springs,**	87.29	52	⇑P		P	09 47 26.6	+1.0
	baz=87,SNR=5.7							
218A	**Dragoon**	87.29	54	⇑P		P	09 47 26.6	+1.1
	baz=87							
119A	**Ashpeak Ranch,**	87.34	53	⇑P		P	09 47 26.6	+0.9
	baz=87							
X21A	**Alamocita Cree**	87.36	51	⇓P		P	09 47 27.2	+1.3
	baz=87							
KHC	**Kasperske Hory**	87.41	329	*e*P		P	09 47 25.7	+0.1
KHC	**Kasperske Hory**	87.41	329	*e*P		P	09 47 25.7	+0.1
T24A	**Torres, Weston**	87.53	47	⇓P		P	09 47 27.9	+1.2
	baz=87							
GERES	**GERESS Array B**	87.57	329	P		P	09 47 26.8	+0.4
	comp=Z,0.8nm,0.7s,baz=56,slow=3.4,SNR=6.7							
GERES	**GERESS Array B**	87.57	329	P		P	09 47 26.8	+0.4
GERES	**GERESS Array B**	87.57	329	P		P	09 47 26.8	+0.4
V23A	**Ortiz Mt. (NFS**	87.63	49	⇓P		P	09 47 28.1	+1.0
	baz=88							
318A	**Bisbee**	87.64	54	⇑P		P	09 47 28.4	+1.2
	baz=88							
U24A	**Moreno Valley**	87.80	48	⇓P		P	09 47 29.3	+1.3
	baz=88							
219A	**White Tail Can**	87.82	54	⇓P		P	09 47 29.4	+1.3
	baz=88							
120A	**U Bar Ranch, L**	87.92	53	⇑P		P	09 47 29.2	+0.7
	baz=88							
W23A	**Werner Place,**	88.00	49	⇑P		P	09 47 29.4	+0.5
	baz=88							
Y22A	**Socorro**	88.21	51	⇑P		P	09 47 30.6	+0.7
	baz=88							
V24A	**Rampart Ranch,**	88.22	49	⇓P		P	09 47 31.3	+1.3
	baz=88							
W24A	**Lazy 6 Ranch,**	88.45	49	⇑P		P	09 47 31.9	+0.9
	baz=88							
Z22A	**Elephant Butte**	88.62	51	⇑P		P	09 47 32.5	+0.7
	baz=88							
U26A	**Atchley Ranch,**	88.78	47	⇓P		P	09 47 33.3	+0.8
	baz=89							
Y23A	**Lovelace Mesa,**	88.82	50	⇑P		P	09 47 33.3	+0.5
	baz=89							
Z24A	**Sheeppen Canyo**	89.64	50	⇓P		P	09 47 37.1	+0.5
	baz=90							
124A	**Stringfield Ra**	89.97	51	⇓P		P	09 47 39.2	+1.0
	baz=90							
W27A	**Bowe Ranch, En**	90.05	48	⇓P		P	09 47 39.5	+1.1
	baz=90							
Z25A	**Roswell**	90.10	50	⇑P		P	09 47 39.4	+0.7
	baz=90							
BFO	**Black Forest**	90.27	331	*e*P		P	09 47 37.8	-1.3
BFO				pmax		pmax		
	comp=Z,20nm,1.4s							
BFO	**Black Forest**	90.27	331	*e*P		P	09 47 37.8	-1.3
	comp=Z,20nm,1.4s							
Z26A	**Caprock**	90.58	50	⇓P		P	09 47 41.7	+0.7
	baz=90							
MNTX	**Cornudas Mount**	90.63	52	⇑P		P	09 47 41.8	+0.7
	baz=90							
MNTX				⇑P		P	09 47 41.8	+0.7
	baz=90							
324A	**Moseley Ranch,**	90.72	52	⇓P		P	09 47 42.1	+0.4
	baz=91							
Y27A	**Causey**	90.73	49	⇑P		P	09 47 42.2	+0.6
	baz=91							
MSTX	**Muleshoe**	90.92	49	⇑P		P	09 47 43.3	+0.8
	baz=91							
Z27A	**Tatum**	91.05	49	⇓P		P	09 47 43.7	+0.6
	baz=91							
325A	**Bean Ranch, Si**	91.11	52	⇑P		P	09 47 43.9	+0.4
	baz=91							
HINF	**Hinteralfeld**	91.28	331	*e*P		P	09 47 43.7	-0.1
425A	**Indio Mountain**	91.46	52	⇓P		P	09 47 45.6	+0.6
	baz=91							
SFTF	**Sexfontaines**	91.69	333	*e*P		P	09 47 46.0	+0.4
	comp=Z,102nm,1.4s							
326A	**Caldwell Ranch**	91.81	51	⇑P		P	09 47 47.2	+0.6
	baz=92							
426A	**McDonald Obser**	92.18	52	⇑P		P	09 47 49.1	+0.6
	baz=92							
427A	**Hayter Ranch,**	92.48	51	⇑P		P	09 47 50.5	+0.7
	baz=92							
526A	**Mary Lane Ranc**	92.52	52	⇑P		P	09 47 50.8	+0.8
	baz=92							
328A	**Wristen Ranch,**	92.54	51	⇓P		P	09 47 50.7	+0.8
	baz=92							
CABF	**La Chapelle**	92.56	331	*e*P		P	09 47 50.7	+0.9
	comp=Z,35nm,1.2s							
527A	**Woodward Ranch**	92.78	52	⇑P		P	09 47 51.9	+0.6
	baz=93							
626A	**Big Bend Ranch**	92.80	53	⇑P		P	09 47 52.0	+0.7
	baz=93							
428A	**Kincaid Ranch,**	93.04	51	⇑P		P	09 47 53.0	+0.7
	baz=93							
LPL	**La Plagne**	93.16	330	*e*P		P	09 47 52.0	-0.8
LPG	**La Plagne**	93.17	330	*e*P		P	09 47 53.2	+0.3
	comp=Z,27nm,0.9s							
SSF	**Saint Saulge**	93.23	333	*e*P		P	09 47 52.9	+0.2
	comp=Z,43nm,1.4s							
TXAR	**Lajitas Array**	93.26	53	P		P	09 47 54.6	+1.2
	comp=Z,8.1nm,0.8s,baz=296,slow=3.1,SNR=81							
TXAR				PP		PP	09 51 37.0	0.0
	comp=Z,0.6nm,1.0s,baz=306,slow=4.3,SNR=3.5							
TXAR	**Lajitas Array**	93.26	53	P		P	09 47 54.6	+1.2
TXAR							09 51 37.0	
TXAR	**Lajitas Array**	93.26	53	P		P	09 47 54.6	+1.2
TXAR				PP		PP	09 51 37.0	0.0
528A	**Cox Ranch, San**	93.33	52	⇑P		P	09 47 54.5	+0.8
	baz=93							
627A	**Terlingua Ranc**	93.37	52	⇓P		P	09 47 54.8	+0.9
	baz=93							
AVF	**Avril sur Loir**	93.51	333	*e*P		P	09 47 54.3	+0.3
	comp=Z,41nm,1.2s							
628A	**Black Gap, Mar**	93.69	52	⇓P		P	09 47 56.1	+0.9
	baz=94							
TUL1	**Tulsa**	93.93	43	⇓P		P	09 47 57.2	+1.0
	baz=94							
VIVF	**Saint-Julien-l**	94.56	331	*e*P		P	09 47 59.2	+0.3
	comp=Z,23nm,1.1s							

ASAR	**Alice Springs**	**33.60**	**261**	P		**P**		**09 52 15.5**	**-0.4**
	1.8nm,0.7s,baz=86,slow=8.8,SNR=24								
WRA	**Warramunga Arr**	**33.76**	**268**	P		**P**		**09 52 15.7**	**-1.5**
	0.4nm,0.6s,baz=98,slow=8.7,SNR=2.1								
CMAR	**Chiang Mai Arr**	**81.00**	**294**	P		**P**		**09 57 50.9**	**+0.5**
	3.7nm,0.8s,baz=137,slow=4.1,SNR=11								
SNAA	**Sanae**	**85.76**	**182**	*e*		P		09 58 11.4	-2.7
VNA3	**Neumayer Olymp**	**86.30**	**180**	*e*		**P**		**09 58 15.1**	**-1.6**
VNA2	**Neumayer--Watz**	**86.61**	**181**	*e*		**P**		**09 58 16.5**	**-1.7**
	baz=188,slow=4.0								
NVAR	**Mina Array Bea**	**90.21**	**48**	P		**P**		**09 58 35.8**	**-0.3**
	0.4nm,0.7s,baz=225,slow=8.1,SNR=3.9								
SONM	**Songino Array**	**90.69**	**323**	P		P		09 58 35.6	-2.3
	2.7nm,0.9s,baz=114,slow=3.7,SNR=8.4								
ILAR	**Eielson Array**	**93.18**	**17**	P		**P**		**09 58 49.3**	**+0.5**
	0.7nm,1.0s,baz=218,slow=5.6,SNR=2.9								
ARCES	**ARCESS Array B**	**128.71**	**345**	PKP		**PKPdf**		**10 04 42.7**	**+1.1**
	1.1nm,0.5s,baz=38,slow=3.4,SNR=7.5								
DPC	**Dobruska-Polom**	**145.82**	**330**	*eP*		**PKPdf**		**10 05 11.9**	**-1.8**
UPC	**Upice**	**145.85**	**331**	*eP*		**PKPdf**		**10 05 12.1**	**-1.5**
PVCC	**Panska Ves**	**146.47**	**332**	*eP*		**PKPdf**		**10 05 14.2**	**-0.5**
BRG	**Berggiesshubel**	**146.49**	**333**	*eP*		**PKPdf**		**10 05 14.4**	**-0.3**
	9.2nm,0.9s								
KHC	**Kasperske Hory**	**147.94**	**331**	*eP*		**PKPbc**		**10 05 21.4**	**+1.1**
GERES	**GERESS Array B**	**148.09**	**331**	PKPbc		**PKPdf**		**10 05 19.3**	**+1.7**
	1.9nm,0.7s,baz=48,slow=2.0,SNR=12								

INMG ***15*** *10:03:37.8±1.0,36°.84N×9°.64W,h23km±9km,ML2.1, Error ellipse: s-maj=8.0km s-min=3.3km az=47.0*
CSEM ***15*** *10:03:37.8±0.3,36°.94N×9°.62W,h30km,ML2.1, Error ellipse: s-maj=5.0km s-min=3.4km az=40.0*
MDD ***15*** *10:03:37.2±1.4,36°.83N×9°.72W,h45km±28km,mb3.9/6, Error ellipse: s-maj=13.4km s-min=10.0km az=63.0, PRXIMO*

ISC 15 10:03:34.9±2.4,36°.95N±0°.09×9°.63W±0°.10,h10km,n70, σ1ᵍ17/122,3C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.67**	**73**	*i* P		**Pn**	**10 03 51.1**	**+0.7**
PFVI				*e*S		**Sn**	**10 04 00.9**	**0.0**
PFVI				A		A	10 04 02.1	
	23nm,0.4s							
PFVI	**Vila Bisbo**	**0.67**	**73**	⇑P		**Pn**	**10 03 51.2**	**+0.7**
	21nm,0.8s,SNR=18							
PFVI				S		**Sn**	**10 04 00.9**	**0.0**
	37nm,0.8s,SNR=22							
PFVI	**Vila Bisbo**	**0.67**	**73**	P		**Pn**	**10 03 51.2**	**+0.8**
	21nm,0.8s,SNR=18							
PFVI				S		**Sn**	**10 04 00.9**	**0.0**
	37nm,0.8s,SNR=22							
MORF	**Marmelete**	**0.86**	**65**	*e*P		**Pn**	**10 03 54.2**	**+1.1**
MORF				*e*S		**Sn**	**10 04 06.4**	**+0.6**
MORF				A		A	10 04 06.9	
	35nm,0.2s							
MORF	**Marmelete**	**0.86**	**65**	P		**Pn**	**10 03 54.2**	**+1.1**
MORF				S		**Sn**	**10 04 06.4**	**+0.6**
	35nm,0.2s							
MORF	**Marmelete**	**0.86**	**65**	*e*P		**Pn**	**10 03 54.2**	**+1.1**
MORF				S		**Sn**	**10 04 06.4**	**+0.6**
	35nm,0.2s							
PTEO	**Sao Teotonio**	**0.94**	**50**	*e*S		**Sn**	**10 04 08.4**	**+0.8**
PTEO				A		A	10 04 09.1	
	22nm,0.2s							
PTEO	**Sao Teotonio**	**0.94**	**50**	S		**Sn**	**10 04 08.4**	**+0.8**
	11nm,0.2s							
PTEO	**Sao Teotonio**	**0.94**	**50**	S		**Sn**	**10 04 08.4**	**+0.8**
	11nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.39**	**77**	*e*P		**Pn**	**10 04 01.1**	**+0.7**
PBDV				*e*S		**Sn**	**10 04 18.7**	**-0.1**
PBDV				A		A	10 04 24.7	
	8.5nm,0.6s							
PBDV	**Barranco-do-Ve**	**1.39**	**77**	⇑P		**Pn**	**10 04 01.1**	**+0.7**
PBDV				S		**Sn**	**10 04 18.7**	**-0.1**
	8.5nm,0.6s							
PBDV	**Barranco-do-Ve**	**1.39**	**77**	P		**Pn**	**10 04 01.1**	**+0.7**
PBDV				S		**Sn**	**10 04 18.7**	**-0.1**
	8.5nm,0.6s							
PCVE	**Castro Verde**	**1.44**	**61**	*e*P		**Pb**	**10 04 02.3**	**+0.5**
PCVE				*e*S		**Sn**	**10 04 20.1**	**+0.1**
PCVE				A		A	10 04 22.1	
	12nm,0.2s							
PCVE	**Castro Verde**	**1.44**	**61**	P		**Pb**	**10 04 02.3**	**+0.5**
PCVE				S		**Sn**	**10 04 20.1**	**+0.1**
	12nm,0.2s							
PCVE	**Castro Verde**	**1.44**	**61**	*e*P		**Pb**	**10 04 02.3**	**+0.5**
PCVE				S		**Sn**	**10 04 20.1**	**+0.1**
	12nm,0.2s							
PNCL	**Nicolau / Gran**	**1.46**	**37**	*e*P		**Pb**	**10 04 02.4**	**+0.3**
PNCL				*e*S		**Sn**	**10 04 21.0**	**+0.6**
PNCL				A		A	10 04 24.8	
	13nm,0.1s							
PNCL	**Nicolau / Gran**	**1.46**	**37**	*e*P		**Pb**	**10 04 02.4**	**+0.3**
PNCL				*e*S		**Sn**	**10 04 21.0**	**+0.6**
	13nm,0.1s							
PVAQ	**Vaqueiros**	**1.59**	**73**	*e*Pn		**Pn**	**10 04 03.9**	**+0.8**
PVAQ				*e*Sn		**Sn**	**10 04 23.7**	**-0.1**
PVAQ				A		A	10 04 26.3	
	7.1nm,0.1s							
PVAQ	**Vaqueiros**	**1.59**	**73**	P		**Pn**	**10 04 03.9**	**+0.8**
PVAQ				S		**Sn**	**10 04 23.7**	**-0.1**
	7.1nm,0.1s							
PVAQ	**Vaqueiros**	**1.59**	**73**	P		**Pn**	**10 04 03.9**	**+0.8**
PVAQ				S		**Sn**	**10 04 23.7**	**-0.1**
	7.1nm,0.1s							
PBEJ	**Beja**	**1.77**	**52**	*e*Sn		**Sn**	**10 04 28.0**	**-0.1**
PBEJ				A		A	10 04 30.3	
	6.3nm,0.1s							
PBEJ	**Beja**	**1.77**	**52**	S		**Sn**	**10 04 28.0**	**-0.1**
	3.2nm,0.1s							
PBEJ	**Beja**	**1.77**	**52**	S		**Sn**	**10 04 28.0**	**-0.1**
	3.2nm,0.1s							
MOE	**Montemor**	**1.87**	**32**	*e*Pn		**Pn**	**10 04 07.7**	**+0.7**
MOE				*e*Sn		**Sn**	**10 04 30.4**	**-0.3**
MOE	**Montemor**	**1.87**	**32**	P		**Pn**	**10 04 07.7**	**+0.7**
MOE				S		**Sn**	**10 04 30.4**	**-0.3**
MOE	**Montemor**	**1.87**	**32**	P		**Pn**	**10 04 07.7**	**+0.7**
MOE				S		**Sn**	**10 04 30.4**	**-0.3**
PMAFR	**Mafra**	**2.03**	**8**	*e*Pn		**Pn**	**10 04 10.2**	**+1.1**
PMAFR				*e*Sn		**Sn**	**10 04 35.3**	**+0.8**
PMAFR	**Mafra**	**2.03**	**8**	P		**Pn**	**10 04 10.2**	**+1.1**
	34nm,0.7s,SNR=14							
PMAFR				S		**Sn**	**10 04 34.9**	**+0.4**
	17nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**2.03**	**8**	P		**Pn**	**10 04 10.2**	**+1.1**
	34nm,0.7s,SNR=14							
PMAFR				S		**Sn**	**10 04 34.9**	**+0.4**
	17nm,0.2s,SNR=7.9							
PMAFR				*e*Sn		**Sn**	**10 04 35.3**	**+0.8**
EVO	**Evora**	**2.04**	**38**	*e*Pn		**Pn**	**10 04 10.3**	**+1.0**
EVO				*e*Sn		**Sn**	**10 04 34.6**	**-0.2**
EVO				A		A	10 04 35.8	
	22nm,0.1s							
EVO	**Evora**	**2.04**	**38**	⇑P		**Pn**	**10 04 10.3**	**+1.0**
EVO				S		**Sn**	**10 04 34.6**	**-0.2**
	22nm,0.1s							
EVO	**Evora**	**2.04**	**38**	P		**Pn**	**10 04 10.3**	**+1.0**
EVO				S		**Sn**	**10 04 34.6**	**-0.2**
	22nm,0.1s							
PMTG	**Montargil**	**2.39**	**27**	*e*Pn		**Pn**	**10 04 15.3**	**+1.2**
PMTG				*e*Sn		**Sn**	**10 04 43.2**	**-0.3**
PMTG				A		A	10 04 44.2	
	14nm,0.5s							
PMTG	**Montargil**	**2.39**	**27**	*e*Pn		**Pn**	**10 04 15.3**	**+1.2**
PMTG				*e*Sn		**Sn**	**10 04 43.2**	**-0.3**
	14nm,0.5s							
PBAR	**Barrancos**	**2.40**	**58**	*e*Pn		**Pn**	**10 04 15.2**	**+1.0**
PBAR				*e*Sn		**Sn**	**10 04 43.0**	**-0.6**
PBAR				A		A	10 04 44.7	
	4.3nm,0.3s							
PBAR	**Barrancos**	**2.40**	**58**	P		**Pn**	**10 04 15.2**	**+1.0**
PBAR				S		**Sn**	**10 04 43.0**	**-0.6**
	4.3nm,0.3s							
PBAR	**Barrancos**	**2.40**	**58**	P		**Pn**	**10 04 15.2**	**+1.0**
PBAR				S		**Sn**	**10 04 43.0**	**-0.6**
	4.3nm,0.3s							
EMIN	**Mina Concepcio**	**2.49**	**70**	P		**Pn**	**10 04 15.8**	**+0.3**
	2.5nm,0.7s,SNR=19							
EMIN				S		**Sn**	**10 04 44.7**	**-1.3**
	2.1nm,0.3s,SNR=13							
EMIN	**Mina Concepcio**	**2.49**	**70**	P		**Pn**	**10 04 15.8**	**+0.3**
	2.5nm,0.7s,SNR=19							
EMIN				S		**Sn**	**10 04 44.7**	**-1.3**
	2.1nm,0.3s,SNR=13							
PESTR	**Estremoz**	**2.51**	**39**	*e*Sn		**Sn**	**10 04 46.0**	**-0.4**
PESTR				A		A	10 04 52.3	
	5.6nm,0.4s							
PESTR	**Estremoz**	**2.51**	**39**	S		**Sn**	**10 04 46.0**	**-0.4**
	5.6nm,0.4s							
PESTR	**Estremoz**	**2.51**	**39**	S		**Sn**	**10 04 46.0**	**-0.4**
	5.6nm,0.4s							
EBAD	**Badajoz**	**2.75**	**48**	P		**Pn**	**10 04 19.4**	**+0.4**
	5.0nm,0.1s,SNR=5.6							
EBAD				S		**Sn**	**10 04 51.1**	**-1.2**
	5.0nm,0.4s,SNR=16							
EBAD	**Badajoz**	**2.75**	**48**	P		**Pn**	**10 04 19.4**	**+0.4**
	0.4nm,0.1s,SNR=5.6							
EBAD				S		**Sn**	**10 04 51.1**	**-1.2**
	5.0nm,0.4s,SNR=16							
ESPR	**Espera**	**3.02**	**90**	P		**Pn**	**10 04 22.8**	**0.0**
	4.3nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**10 04 57.2**	**-1.9**
	5.7nm,0.2s,SNR=7.9							
ESPR	**Espera**	**3.02**	**90**	P		**Pn**	**10 04 22.8**	**0.0**
	4.3nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**10 04 57.2**	**-1.9**
	5.7nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**3.04**	**35**	*e*Pn		**Pn**	**10 04 24.2**	**+1.1**
PMRV				*e*Sn		**Sn**	**10 04 58.5**	**-1.1**
PMRV				A		A	10 04 59.9	
	5.9nm,0.2s							
PMRV	**Marv??o**	**3.04**	**35**	P		**Pn**	**10 04 24.2**	**+1.1**
PMRV				S		**Sn**	**10 04 58.5**	**-1.1**
	5.9nm,0.2s							
PMRV	**Marv??o**	**3.04**	**35**	P		**Pn**	**10 04 24.2**	**+1.1**
PMRV				S		**Sn**	**10 04 58.5**	**-1.1**
	5.9nm,0.2s							
PVIS	**Viseu**	**4.00**	**19**	*e*Pn		**Pn**	**10 04 37.1**	**+0.8**
PVIS				*e*Sn		**Sn**	**10 05 22.1**	**-1.2**
PVIS	**Viseu**	**4.00**	**19**	P		**Pn**	**10 04 37.1**	**+0.8**
PVIS				S		**Sn**	**10 05 22.1**	**-1.2**
PVIS	**Viseu**	**4.00**	**19**	P		**Pn**	**10 04 37.1**	**+0.8**
PVIS				S		**Sn**	**10 05 22.1**	**-1.2**
EPLA	**Plasencia**	**4.18**	**41**	S		**Sn**	**10 05 26.4**	**-1.2**
	4.4nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**4.18**	**41**	S		**Sn**	**10 05 26.4**	**-1.2**
	4.4nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**4.65**	**17**	*e*Pn		**Pn**	**10 04 46.0**	**+0.8**
POLO				*e*Sn		**Sn**	**10 05 36.9**	**-2.4**
POLO	**Lamas de Olo**	**4.65**	**17**	*e*Pn		**Pn**	**10 04 46.0**	**+0.8**
POLO				*e*Sn		**Sn**	**10 05 36.9**	**-2.4**
MVO	**Moncorvo**	**4.67**	**25**	*e*Pn		**Pn**	**10 04 46.7**	**+1.1**
MVO	**Moncorvo**	**4.67**	**25**	P		**Pn**	**10 04 46.5**	**+0.9**
	0.5nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**10 05 38.3**	**-1.6**
	0.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.67**	**25**	P		**Pn**	**10 04 46.5**	**+0.9**
	0.5nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**10 05 38.3**	**-1.6**
	0.9nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**4.92**	**14**	*e*Pn		**Pn**	**10 04 49.5**	**+0.6**
PCAB	**Cabril**	**4.92**	**14**	P		**Pn**	**10 04 49.5**	**+0.6**
PCAB	**Cabril**	**4.92**	**14**	P		**Pn**	**10 04 49.5**	**+0.6**
ELOB	**Lobios**	**5.06**	**13**	P		**Pn**	**10 04 51.7**	**+0.8**
	1.2nm,0.2s,SNR=7.9							
ELOB				S		**Sn**	**10 05 45.1**	**-4.4**
	1.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.06**	**13**	P		**Pn**	**10 04 51.7**	**+0.8**
	1.2nm,0.2s,SNR=7.9							
ELOB				S		**Sn**	**10 05 45.1**	**-4.4**
	1.2nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.12**	**11**	*e*Pn		**Pn**	**10 04 52.6**	**+0.8**
PGAV	**Gavieira, Arco**	**5.12**	**11**	*e*Pn		**Pn**	**10 04 52.6**	**+0.8**
ECAL	**Calabor**	**5.47**	**23**	P		**Pn**	**10 04 57.6**	**+1.1**
	6.5nm,0.8s,SNR=6.7							
ECAL				S		**Sn**	**10 05 55.3**	**-4.2**
	1.1nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.47**	**23**	P		**Pn**	**10 04 57.6**	**+1.1**
	6.5nm,0.8s,SNR=6.7							
GUD	**Guadarrama**	**5.65**	**48**	P		**Pn**	**10 04 59.2**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
GUD				S		**Sn**	**10 05 59.6**	**-4.5**
	0.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.65**	**48**	P		**Pn**	**10 04 59.2**	**+0.2**
	0.2nm,0.1s,SNR=7.9							

BJI ***15*** *10:03:47.9,31°.15N×142°.08E,h10km,mB5.3/24,mb4.5/35, Ms4.5/23,Ms7 4.3/23*
JMA ***15*** *10:03:52.3±0.2,31°.51N×141°.97E,h14km,M4.4*
IDC ***15*** *10:03:52.7±0.5,31°.46N×141°.78E,h0km,mb4.2/18, mb1 4.4/22,mb1mx4.3/27,mbtmp4.2/22,ML4.2/3, Error ellipse: s-maj=18.2km s-min=13.2km az=83.0*
ISCJB ***15*** *10:03:52.3±1.1,31°.42N±0°.03×141°.68E±0°.05,h7km±6km, mb4.5/50,MS4.3/7, Error ellipse: s-maj=7.9km s-min=4.1km az=159.2*
NEIC ***15*** *10:03:54.4±0.3,31°.43N×141°.71E,h10km,mb4.8/13, Error ellipse: s-maj=8.5km s-min=6.0km az=76.0*
MOS ***15*** *10:03:56.0±1.0,31°.44N×141°.69E,h33km,mb4.8/21, Error ellipse: s-maj=15.3km s-min=7.1km az=112.2*

ISC 15 10:03:56.1±0.6,31°.50N±0°.04×141°.81E±0°.05,h20km±2km, n151,σ1ᵍ41/191,mb4.5/50,MS4.3/7,3C-2D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.33**	**314**	P		**Pn**	**10 04 32.3**	**-1.0**
JHJ2				*e*S		**Sn**	**10 05 02.8**	**+1.3**
BSO1	**Boso 1**	**3.23**	**348**	P		**Pn**	**10 04 44.5**	**-0.6**
BSO1				S		**Sn**	**10 05 23.7**	**+1.0**
BSO3	**Boso 3**	**3.47**	**342**	P		**Pn**	**10 04 48.1**	**-0.7**
BSO4	**Boso 4**	**3.70**	**341**	P		**Pn**	**10 04 52.1**	**+0.1**
JOD2	**Odawara 2**	**4.39**	**330**	P		**Pn**	**10 05 00.8**	**-0.9**
JOD2				S		**Sn**	**10 05 53.1**	**+0.8**
CBIJ	**Chichi jima**	**4.40**	**176**	Pn		**Pn**	**10 05 00.8**	**-0.9**
	37nm,0.3s,baz=75,slow=21,SNR=10.0							
CBIJ				Sn		**Sn**	**10 05 53.7**	**+1.3**
	29nm,0.3s,baz=100,slow=23,SNR=3.3							
CBIJ	**Chichi jima**	**4.40**	**176**	Pn		**Pn**	**10 05 00.8**	**-0.9**
CBIJ				Sn		**Sn**	**10 05 53.7**	**+1.3**
CBIJ	**Chichi jima**	**4.40**	**176**	P		**Pn**	**10 05 00.3**	**-1.4**
JHU	**Hanno**	**4.83**	**335**	P		**Pn**	**10 05 08.1**	**+0.4**
JHU				S		**Sn**	**10 06 04.2**	**+1.2**
JRY	**Ryogami san**	**5.12**	**333**	P		**Pn**	**10 05 12.8**	**+1.1**
JRY				S		**Sn**	**10 06 12.4**	**+2.2**
JHO	**Hitachi**	**5.21**	**349**	P		**Pn**	**10 05 11.5**	**-1.3**
JHO				S		**Sn**	**10 06 10.3**	**-2.0**
MJAR	**Matsushiro Arr**	**5.85**	**330**	Pn		**Pn**	**10 05 22.3**	**+0.5**
	4.4nm,0.3s,baz=153,slow=11,SNR=30							
MJAR				Sn		**Sn**	**10 06 31.4**	**+3.1**
	0.8nm,0.3s,baz=68,slow=28,SNR=2.2							
MJAR	**Matsushiro Arr**	**5.85**	**330**	P		**Pn**	**10 05 22.3**	**+0.5**
MJAR							10 06 31.4	
MJAR	**Matsushiro Arr**	**5.85**	**330**	Pn		**Pn**	**10 05 22.3**	**+0.5**
MJAR				Sn		**Sn**	**10 06 31.4**	**+3.1**
MAJO	**Matsushiro**	**5.86**	**330**	*e*P		**Pn**	**10 05 22.6**	**+0.8**
MAJO				pmax		pmax		
	comp=Z,30nm,0.6s							
MAJO	**Matsushiro**	**5.86**	**330**	*e*Pn		**Pn**	**10 05 22.6**	**+0.8**
	comp=Z,30nm,0.6s							
MAT	**Matsushiro**	**5.86**	**330**	P		**Pn**	**10 05 22.3**	**+0.5**
MAT				S		**Sn**	**10 06 29.0**	**+0.6**
MAT	**Matsushiro**	**5.86**	**330**	P		**Pn**	**10 05 22.7**	**+0.9**
JMK	**Ichinoseki**	**7.46**	**356**	P		**Pn**	**10 05 41.8**	**-1.9**
JMK				S		Sn	10 07 00.8	-6.9
ASAJ	**Asahikawa**	**12.62**	**3**	Pn		**Pn**	**10 06 53.0**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=25,slow=22,SNR=6.9							
ASAJ				Sn		**Sn**	**10 09 10.6**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=86,slow=32,SNR=2.9							
ASAJ	**Asahikawa**	**12.62**	**3**	P		**Pn**	**10 06 53.0**	**-1.4**
ASAJ							10 09 10.6	
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				smax		smax		
	comp=N,1.0nm,0.3s							
ASAJ	**Asahikawa**	**12.62**	**3**	Pn		**Pn**	**10 06 53.0**	**-1.4**
ASAJ				Sn		**Sn**	**10 09 10.6**	**-3.6**
KSRS	**Korea Array**	**12.90**	**301**	Pn		P	10 07 04.1	-4.8
	comp=N,0.3nm,0.3s,baz=109,slow=13,SNR=8.6							
KSRS	**Korea Array**	**12.90**	**301**	P		P	10 07 04.1	-4.8
KSAR	**Wonju Array Be**	**12.93**	**301**	P		P	10 07 04.1	-5.1
KSAR	**Wonju Array Be**	**12.93**	**301**	Pn		P	10 07 04.1	-5.1
USRK	**Ussuriysk Arra**	**14.85**	**331**	Pn		**Pn**	**10 07 24.2**	**-0.6**
	comp=N,0.2nm,0.3s,baz=139,slow=12,SNR=4.8							
MDJ	**Mudanjiang**	**16.23**	**327**	P		**Pn**	**10 07 42.5**	**-0.3**
MDJ				pP		**pP**	**10 07 48.3**	**-3.0**
MDJ				S		**Sn**	**10 10 43.5**	**+1.2**
MDJ				PcP		**PcP**	**10 12 37.3**	**+0.6**
MDJ				PcS		**PcS**	**10 16 11.1**	**-1.2**
MDJ				pmax		pmax		
	comp=Z,9.0nm,1.7s							
MDJ				pmax		pmax		
	comp=Z,800nm,9.9s							
MDJ				LR		LR		
	comp=N,520nm,18.9s							
MDJ				LR		LR		
	comp=Z,620nm,17.2s							
HABR	**Khabarovsk**	**17.72**	**345**	*e*P		**P**	**10 08 01.8**	**-0.5**
HABR				*e*			10 11 19.1	
HABR				pmax		pmax		
	comp=Z,82nm,1.8s							
HABR				pmax		pmax		
	comp=N,29nm,1.8s							
HABR				pmax		pmax		
	comp=E,55nm,2.7s							
HABR				MLR		MLR		
	comp=Z,436nm,15.0s							
CN2	**Changchun**	**17.82**	**318**	*e*P		**P**	**10 08 03.3**	**-0.1**
CN2				*e*S		**Sn**	**10 11 18.8**	**-1.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CN2				pmax		pmax		
	comp=Z,600nm,7.0s							
CN2				LR		LR		
	comp=N,600nm,11.0s							
CN2				LR		LR		
	comp=E,800nm,11.0s							
CN2				LR		LR		
	comp=Z,900nm,13.0s							
SNY	**Shenyang**	**17.86**	**310**	⇓P		**P**	**10 08 05.3**	**+1.4**
SNY				pmax		pmax		
	comp=Z,10.0nm,0.4s							
SNY				pmax		pmax		
	comp=Z,880nm,14.1s							
SNY				LR		LR		
	comp=N,750nm,15.7s							
SNY				LR		LR		
	comp=E,740nm,17.6s							
SNY				LR		LR		
	comp=Z,900nm,17.3s							
NJ2	**Nanjing**	**19.52**	**278**	*e*P		**P**	**10 08 21.9**	**-0.4**
NJ2				pP		**pP**	**10 08 30.9**	**+3.1**
NJ2				sP		**sP**	**10 08 34.6**	**+4.2**
NJ2				PP		**PnPn**	**10 08 38.8**	**+1.8**
NJ2				S		S	10 11 51.0	-11
NJ2				sS		**sS**	**10 12 10.0**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,430nm,7.0s							
NJ2				LR		LR		
	comp=N,710nm,21.4s							
NJ2				LR		LR		
	comp=E,600nm,20.3s							
NJ2				LR		LR		
	comp=Z,1μm,21.6s							
BJI	**Beijing**	**22.42**	**299**	P		**P**	**10 08 51.6**	**-1.9**
BJI				S		**S**	**10 12 57.9**	**-0.9**
BJI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BJI				pmax		pmax		
	comp=Z,590nm,6.5s							
BJI				LR		LR		
	comp=N,470nm,13.6s							
BJI				LR		LR		
	comp=E,450nm,17.2s							
BJI				LR		LR		
	comp=Z,330nm,17.6s							
HIA	**Hailar**	**24.30**	**323**	*e*P		**P**	**10 09 11.1**	**-1.1**
HIA				pmax		pmax		
	comp=Z,23nm,1.1s							
HIA	**Hailar**	**24.30**	**323**	*e*P		**P**	**10 09 11.1**	**-1.1**
	comp=Z,23nm,1.1s							
HHC	**Hu-ho-hao-te**	**26.03**	**299**	*e*P		**P**	**10 09 25.1**	**-3.0**
HHC				PP		**PnPn**	**10 10 07.8**	**+1.7**
HHC				S		**S**	**10 13 54.0**	**-4.1**
HHC				pmax		pmax		
	comp=Z,18nm,0.7s							
HHC				pmax		pmax		
	comp=Z,400nm,5.1s							
HHC				LR		LR		
	comp=N,420nm,14.3s							
HHC				LR		LR		
	comp=E,320nm,13.5s							
HHC				LR		LR		
	comp=Z,370nm,14.1s							
XAN	**Xi'an**	**27.71**	**284**	P		**P**	**10 09 40.6**	**-2.5**
XAN				pP		**pP**	**10 09 48.9**	**-0.2**
ULN	**Ulaanbaatar**	**31.03**	**312**	*e*P		**P**	**10 10 12.3**	**-0.3**
ULN				pmax		pmax		
	comp=Z,22nm,1.3s							
ULN	**Ulaanbaatar**	**31.03**	**312**	*e*P		**P**	**10 10 12.3**	**-0.3**
	comp=Z,22nm,1.3s							
GYA	**Guiyang**	**31.07**	**270**	P		**P**	**10 10 11.8**	**-1.3**
GYA				PP		**PnPn**	**10 11 13.4**	**-1.1**
GYA				S		**S**	**10 15 15.0**	**-2.6**
GYA				SS		**SnSn**	**10 16 58.0**	**-1.0**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.4s							
GYA				LR		LR		
	comp=N,540nm,17.2s							
GYA		

comp=Z,0.6nm,0.3s,baz=52,slow=6.4,SNR=5.1
CMAR Chiang Mai Arr 40.72 262 P **P** 10 11 35.8 0.0
CMAR Chiang Mai Arr 40.72 262 P **P** 10 11 35.8 0.0
WMQ Urumqi 43.85 302 *e*P **P** 10 12 01.0 0.0
WMQ pP **pP** 10 12 06.0 -1.2
WMQ sP **sP** 10 12 09.0 -0.6
WMQ pmax pmax
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 46.02 316 *e*P **P** 10 12 17.6 -0.4
ZALV Zalesovo Beam 46.02 316 P **P** 10 12 17.6 -0.4
comp=Z,2.8nm,0.6s,baz=95,slow=6.4,SNR=18
ZALV PcP **PcP** 10 13 54.7 +0.4
comp=Z,1.7nm,0.7s,baz=95,slow=2.9,SNR=4.0
ZALV Zalesovo Beam 46.02 316 P **P** 10 12 17.6 -0.4
ZALV 10 13 54.7
ZALV Zalesovo Beam 46.02 316 P **P** 10 12 17.6 -0.4
ZALV PcP **PcP** 10 13 54.7 +0.4
NVS Novosibirsk 47.02 318 *e*P **P** 10 12 24.9 -1.0
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=E,9.0nm,1.0s
MK31 Makanchi Array 47.51 307 *e*P **P** 10 12 29.6 -0.3
MK31 Makanchi Array 47.51 307 *e*P **P** 10 12 29.6 -0.3
MKAR Makanchi Array 47.51 307 P **P** 10 12 29.6 -0.2
comp=E,1.9nm,0.4s,baz=86,slow=10,SNR=48
MKAR Makanchi Array 47.51 307 *e*P **P** 10 12 29.7 -0.2
MKAR Makanchi Array 47.51 307 *e*P **P** 10 12 29.7 -0.2
KURK Kurchatov 49.74 312 *e*P **P** 10 12 46.2 -0.7
KURK pmax pmax
comp=Z,27nm,1.2s
KURK Kurchatov 49.74 312 *e*P **P** 10 12 46.2 -0.7
comp=Z,19nm,1.0s
WRAB Tennant Creek 51.63 189 *e*P **P** 10 13 00.1 -1.3
WRAB pmax pmax
comp=Z,20nm,1.3s
WRAB Tennant Creek 51.63 189 *e*P **P** 10 13 00.1 -1.3
comp=Z,20nm,1.3s
WB2 Warramunga Arr 51.64 189 *e*P **P** 10 13 00.1 -1.3
WRA Warramunga Arr 51.64 189 P **P** 10 13 00.2 -1.3
comp=Z,2.8nm,0.4s,baz=4.7,slow=7.7,SNR=67
WRA Warramunga Arr 51.64 189 P **P** 10 13 00.2 -1.3
WRA Warramunga Arr 51.64 189 P **P** 10 13 00.2 -1.3
TKM2 Tokmak 2 52.71 302 *e*P **P** 10 13 09.9 +0.3
TKM2 pmax pmax
comp=Z,16nm,1.4s
TKM2 Tokmak 2 52.71 302 *e*P **P** 10 13 09.9 +0.3
comp=Z,16nm,1.4s
KSH Kashi 53.13 298 *e*P P 10 13 16.5 +3.8
KSH *e*pP pP 10 13 21.5 +2.6
KSH *e*sP sP 10 13 23.6 +2.3
KSH *e*PcP **PcP** 10 14 23.6 +2.8
KSH *e*PP PP 10 15 18.8 +6.3
KSH *e*PcS **PcS** 10 18 21.0 +1.3
KSH *e*S **S** 10 20 47.1 +4.8
KSH *e*ScS **ScS** 10 23 02.3 +0.8
KSH *e*SS **SS** 10 24 24.3 +2.7
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH pmax pmax
comp=Z,270nm,6.2s
KSH LR LR
comp=N,170nm,5.8s
KSH LR LR
comp=E,290nm,6.1s
KSH LR LR
comp=Z,260nm,9.1s
AAK Ala-Archa 53.56 302 *e*P **P** 10 13 16.2 +0.4
AAK pmax pmax
comp=Z,16nm,2.5s
ILAR Eielson Array 54.05 30 P **P** 10 13 18.6 -0.2
comp=Z,3.7nm,0.9s,baz=262,slow=5.9,SNR=10
ILAR Eielson Array 54.05 30 P **P** 10 13 18.6 -0.2
ILAR Eielson Array 54.05 30 P **P** 10 13 18.6 -0.2
BRVK Borovoye 54.70 315 *e*P **P** 10 13 24.2 +0.5
BRVK pmax pmax
comp=Z,8.0nm,1.2s
AS31 Alice Springs 55.37 189 *e*P **P** 10 13 27.5 -1.3
ASAR Alice Springs 55.37 189 P **P** 10 13 27.1 -1.8
comp=Z,2.8nm,0.6s,baz=17,slow=13,SNR=32
ASAR Alice Springs 55.37 189 P **P** 10 13 27.1 -1.8
ASAR Alice Springs 55.37 189 P **P** 10 13 27.1 -1.8
INK Inuvik 59.20 26 P **P** 10 13 55.4 +0.1
comp=Z,2.7nm,0.8s,baz=307,slow=6.5,SNR=10
INK Inuvik 59.20 26 P **P** 10 13 55.4 +0.1
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 59.20 26 *e*P **P** 10 13 56.2 +0.9
comp=Z,15nm,1.4s
ARU Arti 60.79 321 *d iP* **P** 10 14 06.3 -0.1
ARU 10 16 15.9
ARU S **S** 10 22 22.6 +0.1
ARU SS SS 10 26 13.3 -7.6
ARU pmax pmax
comp=Z,25nm,1.7s
ARU Arti 60.79 321 *e*P **P** 10 14 05.6 -0.8
comp=Z,12nm,0.8s
ABKAR Akbulak array 61.84 313 *e*P **P** 10 14 13.4 -0.3
STKA Stephens Creek 63.03 180 P **P** 10 14 22.7 +1.0
comp=Z,0.9nm,0.5s,baz=315,slow=13,SNR=3.5
STKA Stephens Creek 63.03 180 P **P** 10 14 22.7 +1.0
STKA Stephens Creek 63.03 180 P **P** 10 14 22.7 +1.0
YKA Yellowknife Ar 68.45 29 P **P** 10 14 56.6 +0.2
comp=Z,0.7nm,0.8s,baz=295,slow=6.0,SNR=8.0
YKA Yellowknife Ar 68.45 29 P **P** 10 14 56.6 +0.2
YKA Yellowknife Ar 68.45 29 P **P** 10 14 56.6 +0.2
ARCES ARCESS Array B 69.30 340 P **P** 10 15 01.8 +0.3
comp=Z,2.5nm,0.8s,baz=54,slow=6.2,SNR=3.8
ARCES ARCESS Array B 69.30 340 P **P** 10 15 01.8 +0.3
ARCES ARCESS Array B 69.30 340 P **P** 10 15 01.8 +0.3
JOF Joensuu 71.02 333 *e*P **P** 10 15 10.8 -1.3
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 71.02 333 *ep* **P** 10 15 10.8 -1.3
comp=Z,1.4nm,0.5s
JOF Joensuu 71.02 333 *ep* **P** 10 15 10.8 -1.3
comp=Z,1.4nm,0.5s
OBN Obninsk 72.75 325 *e*P **P** 10 15 22.1 -0.6
OBN *e*S **S** 10 24 47.2 +0.1
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,17.0s
KAF Kangasniemi 73.39 334 *e*P **P** 10 15 25.3 -1.0
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 73.39 334 *ep* **P** 10 15 25.3 -1.0
comp=Z,1.7nm,0.4s
KAF Kangasniemi 73.39 334 *ep* **P** 10 15 25.3 -1.0
comp=Z,1.7nm,0.4s
FINES FINESS Array B 73.88 333 P **P** 10 15 28.7 -0.5
comp=Z,1.7nm,0.5s,baz=62,slow=5.5,SNR=12
FINES FINESS Array B 73.88 333 P **P** 10 15 28.7 -0.5
FINES FINESS Array B 73.88 333 P **P** 10 15 28.7 -0.5
NEW Newport 73.91 43 *e*P **P** 10 15 30.3 +0.6
NEW pmax pmax
comp=Z,27nm,1.9s
NEW Newport 73.91 43 *e*P **P** 10 15 30.3 +0.6
comp=Z,27nm,1.9s
KIV Kislovodsk 74.83 312 *i* P **P** 10 15 35.7 +0.5
KIV pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 75.33 308 *e*P **P** 10 15 39.8 +1.5
GNI pmax pmax
comp=Z,10.0nm,1.7s
JTMT Jette 75.81 43 *e*P **P** 10 15 41.8 +0.9
comp=Z,3.9nm,1.1s
SWMT Swartz Lake 76.10 43 *e*P **P** 10 15 43.2 +0.7
comp=Z,3.1nm,1.0s
LRM Limekiln Ridge 77.90 44 *e*P **P** 10 15 54.0 +1.1
NVAR Mina Array Bea 78.08 52 P **P** 10 15 54.4 +0.4
comp=Z,1.9nm,0.8s,baz=277,slow=6.7,SNR=8.8
NVAR Mina Array Bea 78.08 52 P **P** 10 15 54.4 +0.4
AKASG Malin Array Be 78.90 323 P **P** 10 15 57.0 -0.8
comp=Z,4.1nm,0.8s,baz=51,slow=5.3,SNR=7.6
AKASG Malin Array Be 78.90 323 *ceP* **P** 10 16 00.5 +2.6
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 78.90 323 P **P** 10 15 57.0 -0.8
NB2 NORSAR Subarra 79.42 338 P **P** 10 15 59.8 -0.9
comp=Z,4.7nm,0.9s,baz=41,slow=5.3
NOA NORSAR Array B 79.42 338 P **P** 10 15 59.7 -0.9
comp=Z,1.6nm,0.7s,baz=42,slow=5.4,SNR=7.1
NOA NORSAR Array B 79.42 338 P **P** 10 15 59.7 -0.9
NOA NORSAR Array B 79.42 338 P **P** 10 15 59.7 -0.9
REDW Red Top Meadow 80.21 45 *e*P **P** 10 16 07.6 +2.0
comp=Z,48nm,2.5s
DUG Dugway 80.75 48 *e*P **P** 10 16 10.6 +2.2
DUG pmax pmax
comp=Z,23nm,2.0s
DUG Dugway 80.75 48 *e*P **P** 10 16 10.6 +2.2
comp=Z,23nm,2.0s
PDAR Pinedale Array 81.33 45 P **P** 10 16 10.4 -1.1
comp=Z,0.9nm,0.9s,baz=284,slow=2.4,SNR=4.6
PDAR Pinedale Array 81.33 45 P **P** 10 16 10.4 -1.1
ARUT Antelope Range 81.67 51 *e*P **P** 10 16 14.0 +0.6
ARUT pmax pmax
comp=Z,2.0nm,0.8s
ARUT Antelope Range 81.67 51 *e*P **P** 10 16 14.0 +0.6
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 82.79 312 P **P** 10 16 19.4 +0.3
comp=Z,1.5nm,0.9s,baz=77,slow=5.6,SNR=7.6
BRTR Keskin Array B 82.79 312 P **P** 10 16 19.5 +0.3
BRTR Keskin Array B 82.79 312 P **P** 10 16 19.4 +0.3
OJC Ojcow 83.83 327 *e*P **P** 10 16 23.4 -0.7
OJC Ojcow 83.83 327 *e*P **P** 10 16 23.4 -0.7
PV01 Paradox Valley 84.63 48 *e*P **P** 10 16 29.1 +0.4
comp=Z,182nm,0.7s
CLL Collm 86.06 331 *i* P **P** 10 16 35.5 +0.2
CLL Collm 86.06 331 *i* P **P** 10 16 35.5 +0.2
TXAR Lajitas Array 93.22 53 P **P** 10 17 10.5 +0.9
comp=Z,2.5nm,0.7s,baz=297,slow=2.9,SNR=19
TXAR Lajitas Array 93.22 53 P **P** 10 17 10.5 +0.9
TXAR Lajitas Array 93.22 53 P **P** 10 17 10.5 +0.9
TORD Torodi Ar. Bea 121.40 313 PKP **PKPdf** 10 22 46.8 -1.9
comp=Z,0.6nm,1.0s,baz=55,slow=1.9,SNR=2.5
TORD Torodi Ar. Bea 121.40 313 PKP **PKPdf** 10 22 46.8 -1.9
SAML Samuel 147.70 51 *e*PKPdf **PKPdf** 10 23 37.8 +0.6
SAML *e*PKPbc **PKPbc** 10 23 39.6 -0.4
SAML *e*PKPab **PKPab** 10 23 43.0 +0.7
LPAZ La Paz 148.85 68 PKPbc **PKPbc** 10 23 45.3 +1.6
comp=Z,2.3nm,0.7s,baz=266,slow=1.5,SNR=10
LPAZ La Paz 148.85 68 PKP2 **PKPbc** 10 23 45.3 +1.6
LPAZ La Paz 148.85 68 PKPbc **PKPbc** 10 23 45.3 +1.6

JMA 15 10:06:07.9±0.6, 31.60N×141.87E, h11km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.30**	**311**	P	Pn	10 06 47.1	+1.3
JHJ2				*e*S	Sn	10 07 15.9	+1.8
JOD2	**Odawara 2**	**4.33**	**328**	*e*S	Sn	10 08 07.3	+3.1
JHU	**Hanno**	**4.76**	**334**	*e*S	Sn	10 08 16.4	+1.7
JRY	**Ryogami san**	**5.05**	**332**	*e*S	Sn	10 08 25.9	+3.9
JHO	**Hitachi**	**5.11**	**348**	P	Pn	10 07 25.6	+1.1
JHO				*e*S	Sn	10 08 22.6	-0.9
JAG	**Ashikaga**	**5.21**	**338**	P	Pn	10 07 28.4	+2.6
JMK	**Ichinoseki**	**7.36**	**356**	*e*S	Sn	10 09 15.1	-3.5

*NEIC **15** 10:10:43.2, 17.88N×66.81W, h5km, MD2.5(RSPR), After RSPR.*

RSPR 15 10:10:43.2, 17.88N×66.81W, h5km±31km, MD2.2/13, 27C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBPR	**Guanica, Bosqu**	**0.12**	**326**	↑*e*P	Pg	10 10 45.7	+0.1
GBPR	**Guanica, Bosqu**	**0.12**	**326**	↑*e*P	Pg	10 10 45.9	+0.3
GBPR				*e*S	Sg	10 10 48.0	+0.8
GBPR	**Guanica, Bosqu**	**0.12**	**326**	↑*e*P	Pg	10 10 45.7	+0.1
GBPR				↑↑*e*P	Pg	10 10 45.9	+0.3
GBPR				*e*S	Sg	10 10 48.0	+0.8
OBIP	**Obispado Ponce**	**0.25**	**50**	↓*e*P	Pg	10 10 48.3	+0.1
OBIP	**Obispado Ponce**	**0.25**	**50**	*e*S	Sg	10 10 52.9	+1.3
OBIP	**Obispado Ponce**	**0.25**	**50**	↑*e*P	Pg	10 10 48.4	+0.2
OBIP	**Obispado Ponce**	**0.25**	**50**	*e*S	Sg	10 10 52.6	+1.1
OBIP	**Obispado Ponce**	**0.25**	**50**	↓*e*P	Pg	10 10 48.3	+0.1
OBIP				*e*S	Sg	10 10 52.6	+1.1
OBIP				*e*S	Sb	10 10 52.9	-2.1
ICM	**Isla Caja Muer**	**0.28**	**87**	↓*e*P	Pg	10 10 48.8	+0.2
ICM	**Isla Caja Muer**	**0.28**	**87**	*e*S	Sg	10 10 53.9	+1.6
ICM	**Isla Caja Muer**	**0.28**	**87**	↑*e*P	Pg	10 10 48.7	+0.1
ICM	**Isla Caja Muer**	**0.28**	**87**	*e*S	Sg	10 10 53.9	+1.6
ICM	**Isla Caja Muer**	**0.28**	**87**	↑*e*P	Pg	10 10 48.7	+0.1
ICM				*e*S	Sg	10 10 53.9	+1.6
CELP	**Cerrillos**	**0.29**	**49**	↓*i*P	Pg	10 10 49.1	+0.2
CELP				*e*S	Sg	10 10 53.5	+0.6
CELP	**Cerrillos**	**0.29**	**49**	↓*e*P	Pg	10 10 49.1	+0.1
CELP				*e*S	Sg	10 10 54.3	+1.5
CELP	**Cerrillos**	**0.29**	**49**	↓*e*P	Pg	10 10 49.1	+0.1
CELP				*e*S	Sg	10 10 53.5	+0.6
CELP				*e*S	Sb	10 10 54.3	-1.9
CRPR	**Cabo Rojo, PR**	**0.31**	**294**	↑*e*P	Pg	10 10 49.8	+0.6
CRPR	**Cabo Rojo, PR**	**0.31**	**294**	*e*S	Sb	10 10 55.3	-1.4
CRPR	**Cabo Rojo, PR**	**0.31**	**294**	↓*e*P	Pg	10 10 49.9	+0.6
CRPR	**Cabo Rojo, PR**	**0.31**	**294**	*e*S	Sb	10 10 55.5	-1.1
CRPR	**Cabo Rojo, PR**	**0.31**	**294**	↑*e*P	Pg	10 10 49.8	+0.6
CRPR				*e*S	Sb	10 10 55.3	-1.4
CRPR				*e*S	Sg	10 10 55.5	+2.1
LSP	**Las Mesas**	**0.39**	**318**	↑*i*P	Pg	10 10 51.0	+0.1
LSP	**Las Mesas**	**0.39**	**318**	↑*e*P	Pg	10 10 51.0	+0.1
LSP				*e*S	Sg	10 10 56.8	+0.7
LSP	**Las Mesas**	**0.39**	**318**	*i* Pu	Pg	10 10 51.0	+0.1
LSP				*e*S	Sg	10 10 56.8	+0.7
LRS	**Lares**	**0.41**	**356**	↑*e*P	Pg	10 10 51.0	-0.3
LRS				*e*S	Sb	10 10 58.2	-1.5
LRS	**Lares**	**0.41**	**356**	↑*e*P	Pg	10 10 51.4	+0.2
LRS				*e*S	Sb	10 10 58.2	-1.4
LRS	**Lares**	**0.41**	**356**	↑*e*P	Pg	10 10 51.0	-0.3
LRS				↑↑*e*P	Pb	10 10 51.4	-1.7
LRS				*e*S	Sb	10 10 58.2	-1.5
AOPR	**Arecibo Observ**	**0.47**	**7**	↓*e*P	Pg	10 10 52.1	-0.2
AOPR	**Arecibo Observ**	**0.47**	**7**	*e*S	Sg	10 10 59.7	+1.3
AOPR	**Arecibo Observ**	**0.47**	**7**	↑*e*P	Pg	10 10 52.3	0.0
AOPR	**Arecibo Observ**	**0.47**	**7**	*e*S	Sg	10 10 59.5	+1.0
AOPR	**Arecibo Observ**	**0.47**	**7**	↓*e*P	Pg	10 10 52.1	-0.2
AOPR				↑↑*e*P	Pb	10 10 52.3	-1.7
AOPR				*e*S	Sg	10 10 59.5	+1.0
AOPR				*e*S	Sb	10 10 59.7	-1.6
AGPR	**Aguadilla, PR**	**0.65**	**334**	↑*e*P	Pg	10 10 55.6	-0.1
AGPR	**Aguadilla, PR**	**0.65**	**334**	*e*S	Sb	10 11 05.6	-0.8
AGPR	**Aguadilla, PR**	**0.65**	**334**	↑*e*P	Pg	10 10 55.6	-0.1
AGPR				*e*S	Sb	10 11 05.6	-0.8
SJG	**San Juan**	**0.67**	**70**	↑*e*P	Pg	10 10 55.5	-0.6
SJG	**San Juan**	**0.67**	**70**	↑*e*P	Pg	10 10 55.5	-0.6
CPD	**Cerro la Pandu**	**0.87**	**79**	↑*e*P	Pg	10 10 59.1	-0.8
CPD	**Cerro la Pandu**	**0.87**	**79**	↓*e*P	Pg	10 10 58.8	-1.1
CPD	**Cerro la Pandu**	**0.87**	**79**	↓*e*P	Pg	10 10 58.8	-1.1
CPD				↑↑*e*P	Pb	10 10 59.1	-1.7
CPD				*e*S	Sg	10 11 10.4	-0.8
CPD				*e*S	Sb	10 11 11.5	-1.2
HUMP	**Col San Antoni**	**0.95**	**74**	↑*e*P	Pg	10 11 00.1	-1.4
HUMP	**Col San Antoni**	**0.95**	**74**	↑*e*P	Pg	10 11 00.1	-1.4
HUMP	**Col San Antoni**	**0.95**	**74**	↑*e*P	Pg	10 11 00.1	-1.4
HUMP				*e*S	Sg	10 11 13.4	-0.4
HUMP				*e*S	Sb	10 11 13.6	-1.5
CBYP	**Canovanas**	**0.99**	**67**	↑*e*P	Pg	10 11 01.4	-0.8
CBYP	**Canovanas**	**0.99**	**67**	↓*e*P	Pg	10 11 01.5	-0.8
CBYP	**Canovanas**	**0.99**	**67**	↑*e*P	Pg	10 11 01.4	-0.8
CBYP				*e*S	Sg	10 11 13.6	-1.6
CBYP				*e*S	Sb	10 11 14.3	-2.0

*IDC **15** 10:34:13.4±0.8, 31.37N×141.72E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, ML3.9/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/32, Error ellipse: s-maj=27.7km s-min=15.4km az=77.0*

*NEIC **15** 10:34:14.8±0.5, 31.38N×141.77E, h10km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=8.8km az=72.0*

*ISCJB **15** 10:34:15.0±0.5, 31.53N±0.04×141.91E±0.10, h29km, mb4.3/14, MS3.9/1, Error ellipse: s-maj=12.6km s-min=3.8km az=164.0*

*JMA **15** 10:34:15.9±0.3, 31.62N×141.89E, h21km, M3.9*

ISC 15 10:34:17.3±0.7, 31.54N±0.06×142.00E±0.10, h29km, n43, σ1§41/53, mb4.1/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.43**	**311**	P	**Pn**	**10 34 54.1**	**-0.9**
JHJ2				*e*S	**Sn**	**10 35 21.5**	**-2.2**
BSO1	**Boso 1**	**3.23**	**345**	P	**Pn**	**10 35 04.7**	**-0.8**
BSO1				*e*S	**Sn**	**10 35 42.6**	**-0.1**
BSO2	**Boso 2**	**3.37**	**342**	*e*S		10 35 46.1	
BSO3	**Boso 3**	**3.49**	**339**	P	**Pn**	**10 35 08.6**	**-0.8**
BSO3				*e*S	**Sn**	**10 35 49.4**	**-0.2**
CBIJ	**Chichi jima**	**4.43**	**178**	Pn	**Pn**	**10 35 20.4**	**-2.1**
	16nm,0.3s,baz=306,slow=16,SNR=4.8						
CBIJ				Sn	**Sn**	**10 36 12.7**	**-0.5**
	7.8nm,0.3s,baz=284,slow=22,SNR=2.0						
CBIJ	**Chichi jima**	**4.43**	**178**	Pn	**Pn**	**10 35 20.4**	**-2.1**
CBIJ				Sn	**Sn**	**10 36 12.7**	**-0.5**
JOD2	**Odawara 2**	**4.45**	**328**	P	**Pn**	**10 35 22.8**	**0.0**
JOD2				*e*S	**Sn**	**10 36 11.8**	**-1.8**
JHU	**Hanno**	**4.87**	**333**	P	**Pn**	**10 35 28.5**	**0.0**
JHU				S	**Sn**	**10 36 22.0**	**-1.9**
JYT	**Yasato**	**4.92**	**343**	P	**Pn**	**10 35 28.8**	**-0.4**
JYT				*e*S	**Sn**	**10 36 25.7**	**+0.6**
JRY	**Ryogami san**	**5.16**	**331**	P	**Pn**	**10 35 33.5**	**+0.9**
JRY				*e*S	**Sn**	**10 36 31.1**	**-0.1**
JHO	**Hitachi**	**5.20**	**347**	P	**Pn**	**10 35 31.8**	**-1.3**
JHO				*e*S	**Sn**	**10 36 30.1**	**-2.0**
JAG	**Ashikaga**	**5.32**	**337**	P	**Pn**	**10 35 34.0**	**-0.7**
JAG				*e*S	**Sn**	**10 36 33.1**	**-1.9**
JFK	**Kawauchi**	**5.89**	**351**	*e*S		10 36 44.4	
MJAR	**Matsushiro Arr**	**5.90**	**329**	Pn	**Pn**	**10 35 43.2**	**+0.4**
	1.7nm,0.3s,baz=148,slow=10,SNR=15						
MJAR				Sn	**Sn**	**10 36 50.3**	**+0.8**
	0.3nm,0.3s,baz=188,slow=15,SNR=2.4						
MJAR	**Matsushiro Arr**	**5.90**	**329**	Pn	**Pn**	**10 35 43.2**	**+0.4**
MJAR				Sn	**Sn**	**10 36 50.3**	**+0.8**
MAJO	**Matsushiro**	**5.90**	**329**	*e*Pn	**Pn**	**10 35 44.1**	**+1.3**
MAT	**Matsushiro**	**5.90**	**329**	P	**Pn**	**10 35 43.9**	**+1.1**
JMK	**Ichinoseki**	**7.43**	**355**	P	**Pn**	**10 36 02.8**	**-0.9**
JMK				*e*S	**Sn**	**10 37 21.8**	**-5.1**
SONM	**Songino Array**	**31.53**	**311**	P	**P**	**10 40 37.5**	**+0.5**
	3.2nm,0.9s,baz=118,slow=8.6,SNR=10						
SONM				LR	LR	10 51 55.7	
	comp=Z,232nm,19.0s,baz=59,slow=34						
SONM	**Songino Array**	**31.53**	**311**	P	**P**	**10 40 37.5**	**+0.5**
ZAA0	**Zalesovo Array**	**46.10**	**316**	*e*P	**P**	**10 42 37.8**	**-0.8**
ZALV	**Zalesovo Beam**	**46.10**	**316**	P	**P**	**10 42 38.1**	**-0.6**
	1.5nm,0.8s,baz=99,slow=9.2,SNR=8.7						
ZALV	**Zalesovo Beam**	**46.10**	**316**	P	**P**	**10 42 38.1**	**-0.6**
MK31	**Makanchi Array**	**47.62**	**307**	*e*P	**P**	**10 42 49.5**	**-1.1**
MKAR	**Makanchi Array**	**47.62**	**307**	P	**P**	**10 42 50.5**	**-0.1**
	0.7nm,0.6s,baz=88,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**47.62**	**307**	P	**P**	**10 42 50.5**	**-0.1**
KURK	**Kurchatov**	**49.84**	**312**	P	**P**	**10 43 07.3**	**-0.2**
	4.5nm,0.9s,baz=87,slow=7.5,SNR=15						
KURK	**Kurchatov**	**49.84**	**312**	*e*P	**P**	**10 43 06.6**	**-1.0**
	3.6nm,0.6s						
WRAB	**Tennant Creek**	**51.70**	**189**	*e*P	**P**	**10 43 21.7**	**-0.2**
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**51.71**	**189**	P	**P**	**10 43 20.6**	**-1.4**
	0.9nm,0.4s,baz=5.5,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**51.71**	**189**	P	**P**	**10 43 20.6**	**-1.4**
ILAR	**Eielson Array**	**53.93**	**30**	P	**P**	**10 43 39.4**	**+1.4**
	0.5nm,0.8s,baz=284,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**53.93**	**30**	P	**P**	**10 43 39.4**	**+1.4**
ASAR	**Alice Springs**	**55.44**	**189**	P	**P**	**10 43 48.1**	**-1.1**
	0.6nm,0.6s,baz=16,slow=13,SNR=14						
ASAR	**Alice Springs**	**55.44**	**189**	P	**P**	**10 43 48.1**	**-1.1**
KKAR	**Karatay Array**	**56.43**	**304**	*e*P	**P**	**10 43 55.9**	**-0.4**
	3.4nm,0.9s						
INK	**Inuvik**	**59.09**	**26**	P	P	10 44 17.7	+3.2
	0.5nm,0.6s,baz=297,slow=6.2,SNR=3.6						
INK	**Inuvik**	**59.09**	**26**	P	P	10 44 17.7	+3.2
ABKAR	**Akbulak array**	**61.93**	**313**	*e*P	**P**	**10 44 33.7**	**-0.5**
	0.9nm,0.4s						
CBKS	**Cedar Bluff**	**89.48**	**43**	*e*P	**P**	**10 47 11.3**	**-0.6**
	4.0nm,0.6s						
AQU	**L'Aquila**	**92.61**	**325**	*e*P	**P**	**10 47 28.7**	**+2.4**
	180nm,0.5s						
TXAR	**Lajitas Array**	**93.07**	**53**	P	**P**	**10 47 31.2**	**+2.5**
	0.5nm,0.8s,baz=269,slow=2.1,SNR=4.9						
TXAR	**Lajitas Array**	**93.07**	**53**	P	**P**	**10 47 31.2**	**+2.5**

WEL 15 10:40:57.0±0.4, 38.79S×175.29E, h213km±3km, ML3.6/11, 4C-4D, Error ellipse: s-maj=4.8km s-min=4.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUVZ	**Tukino**	**0.55**	**150**	PN	Pn	10 41 25.8	-0.1
WNVZ	**Wahianoa**	**0.59**	**156**	PN	Pn	10 41 25.8	-0.2
MTVZ	**Mangateitei**	**0.61**	**167**	PN	Pn	10 41 25.8	-0.2
MTVZ				SN	S	10 41 48.4	-0.4
BHHZ	**Black Hill Sta**	**0.92**	**140**	↓PN	Pn	10 41 27.2	-0.4
BHHZ				SN	S	10 41 50.3	-1.2
WAZ	**Wanganui**	**0.99**	**194**	PN	Pn	10 41 27.8	-0.1
WAZ				SN	S	10 41 52.2	0.0
BKZ	**Black Stump Fm**	**1.01**	**112**	↓PN	Pn	10 41 27.6	-0.5
BKZ				SN	S	10 41 51.4	-0.9
NMHZ	**Naumai**	**1.22**	**105**	PN	Pn	10 41 29.9	+0.3
NMHZ				SN	S	10 41 55.8	+0.9
MCHZ	**McNeill Hill**	**1.27**	**121**	PN	Pn	10 41 30.5	+0.6
PNHZ	**Pukenui**	**1.32**	**148**	PN	Pn	10 41 30.3	0.0
TSZ	**Takapari Road**	**1.37**	**158**	SN	S	10 41 56.1	-0.9
RAHZ	**Arahi**	**1.41**	**96**	PN	Pn	10 41 30.7	-0.3
URZ	**Urewera**	**1.52**	**70**	↓PN	Pn	10 41 29.9	-2.0
WPHZ	**Waipukurau**	**1.55**	**145**	PN	Pn	10 41 32.3	+0.1
KAHZ	**Kahuranaki**	**1.59**	**130**	↓PN	Pn	10 41 32.8	+0.3
MWZ	**Matawai**	**1.81**	**76**	PN	Pn	10 41 32.9	-1.7
KNZ	**Kokohu**	**1.87**	**98**	PN	Pn	10 41 34.4	-0.7
MRZ	**Mangatainoka R**	**1.88**	**173**	PN	Pn	10 41 34.5	-0.7
MRZ				SN	S	10 42 03.9	-1.1
OGWZ	**Otaki Gorge**	**2.03**	**183**	↑↑PN	Pn	10 41 36.1	-0.5
MHGZ	**Mahia Peninsul**	**2.07**	**101**	↑↑PN	Pn	10 41 36.6	-0.5
KIW	**Kapiti Island**	**2.09**	**188**	PN	Pn	10 41 36.1	-1.2
HOWZ	**Holdsworth Sta**	**2.11**	**175**	↑↑PN	Pn	10 41 36.5	-1.0
DUWZ	**D'Urville Isla**	**2.27**	**207**	PN	Pn	10 41 37.5	-1.7
CNGZ	**Carnagh Statio**	**2.30**	**83**	PN	Pn	10 41 38.8	-0.7
CAW	**Cannon Point**	**2.32**	**184**	PN	Pn	10 41 38.5	-1.2
MTW	**Mount Morrison**	**2.37**	**176**	PN	Pn	10 41 38.8	-1.4
TCW	**Tory Channel**	**2.54**	**198**	PN	Pn	10 41 40.7	-1.3
MSWZ	**Moikau Station**	**2.62**	**181**	PN	Pn	10 41 41.3	-1.6
PLWZ	**Palliser**	**2.78**

8.9nm,1.2s
MSU Marysvale 14.68 107 *e*Pn **P 11 13 18.6 -2.3**
2.2nm,1.3s
PDAR Pinedale Array 15.06 88 Pn **P 11 13 23.2 -1.9**
0.0nm,0.3s,baz=287,slow=7.6,SNR=3.9
PDAR Pinedale Array 15.06 88 Pn **P 11 13 23.2 -1.9**
LAZ Ladron 20.30 111 P Pn 11 14 26.4 +1.5
4.2nm,1.4s
YKA Yellowknife Ar 20.45 21 P Pn 11 14 28.7 +2.5
0.4nm,0.7s,baz=214,slow=11,SNR=5.4
YKA Yellowknife Ar 20.45 21 P Pn 11 14 28.8 +2.5
ULM Lac du Bonnet 23.94 63 P **P 11 15 02.4 +1.5**
3.1nm,0.8s,baz=270,slow=8.1,SNR=3.1
ULM Lac du Bonnet 23.94 63 P **P 11 15 02.4 +1.5**
INK Inuvik 24.23 357 P **P 11 15 03.5 +0.3**
1.6nm,1.2s,baz=179,slow=7.8,SNR=2.2
INK Inuvik 24.23 357 P **P 11 15 03.5 +0.3**
TXAR Lajitas Array 25.79 116 P **P 11 15 16.6 -1.3**
0.3nm,1.0s,baz=324,slow=9.1,SNR=2.5
TXAR Lajitas Array 25.79 116 P **P 11 15 16.6 -1.3**

*JMA **15** 11:13:05.5±0.6, 31°.48N×141°.85E, h0km, M3.8*
*ISCJB **15** 11:13:08.7±1.7, 31°.6N±0°.1×142°.5E±0°.5, h40km, mb3.5/3, Error ellipse: s-maj=63.3km s-min=8.7km az=165.4*
*IDC **15** 11:13:10.4±4.1, 31°.11N×141°.09E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=162.7km s-min=25.8km az=72.0*
ISC 15 11:13:11.5±1.8, 31°.6N±0°.1×142°.3E±0°.4, h40km, n11, σ1s35/12, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.28**	**340**	P	**Pn**	**11 13 59.3**	**-0.5**
BSO1				*e*S	**Sn**	**11 14 38.2**	**+0.8**
BSO2	**Boso 2**	**3.44**	**338**	*e*S	**Sn**	**11 14 44.1**	**+2.5**
BSO3	**Boso 3**	**3.57**	**335**	P	**Pn**	**11 14 02.9**	**-1.1**
JHU	**Hanno**	**4.97**	**330**	*e*S	**Sn**	**11 15 17.5**	**-2.3**
JHO	**Hitachi**	**5.24**	**344**	P	**Pn**	**11 14 27.0**	**-0.3**
JRY	**Ryogami san**	**5.28**	**328**	P	**Pn**	**11 14 28.0**	**+0.2**
JAG	**Ashikaga**	**5.40**	**335**	P	**Pn**	**11 14 28.0**	**-1.5**
MJAR	**Matsushiro Arr**	**6.02**	**327**	Pn	**Pn**	**11 14 38.6**	**+0.6**
	0.5nm,0.3s,baz=156,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**47.82**	**307**	P	**P**	**11 21 45.4**	**+0.3**
	0.2nm,0.5s,baz=90,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**51.78**	**190**	P	**P**	**11 22 15.1**	**-0.2**
	0.4nm,0.6s,baz=5.4,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**55.50**	**189**	P	**P**	**11 22 42.9**	**+0.3**
	0.3nm,0.6s,baz=9.4,slow=7.1,SNR=4.4						

WEL 15 11:23:57.0±0.6, 38°.11S×175°.96E, h158km±6km, ML3.5/12, 2C, Error ellipse: s-maj=5.7km s-min=5.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.92**	**100**	⇑P	Pn	11 24 21.8	+0.1
URZ				S	Sn	11 24 40.6	0.0
BKZ	**Black Stump Fm**	**1.13**	**159**	⇑P	Pn	11 24 23.4	-0.2
BKZ				S	Sn	11 24 42.9	-1.3
WPVZ	**Whakapapa**	**1.14**	**197**	PN	Pn	11 24 24.1	+0.3
TUVZ	**Tukino**	**1.18**	**192**	PN	Pn	11 24 24.4	+0.2
NMHZ	**Naumai**	**1.19**	**146**	PN	Pn	11 24 24.7	+0.6
NMHZ				S	Sn	11 24 45.9	+0.8
RAHZ	**Arahi**	**1.19**	**133**	PN	Pn	11 24 24.5	+0.4
RAHZ				S	Sn	11 24 44.9	-0.1
WNVZ	**Wahianoa**	**1.25**	**193**	PN	Pn	11 24 24.8	0.0
MWZ	**Matawai**	**1.25**	**101**	PN	Pn	11 24 24.8	+0.1
MWZ				S	Sn	11 24 44.9	-1.0
MOVZ	**Moawhango**	**1.30**	**187**	PN	Pn	11 24 24.8	-0.5
MTVZ	**Mangateitei**	**1.33**	**197**	PN	Pn	11 24 25.4	0.0
BHHZ	**Black Hill Sta**	**1.38**	**177**	PN	Pn	11 24 25.4	-0.6
MCHZ	**McNeill Hill**	**1.45**	**157**	PN	Pn	11 24 26.8	+0.3
KNZ	**Kokohu**	**1.62**	**125**	PN	Pn	11 24 27.8	-0.4
PNHZ	**Pukenui**	**1.81**	**174**	PN	Pn	11 24 29.3	-1.1
PNHZ				S	Sn	11 24 53.3	-3.0
PUZ	**Puketiti**	**1.81**	**89**	PN	Pn	11 24 29.6	-0.8
PUZ				S	Sn	11 24 54.0	-2.2
WAZ	**Wanganui**	**1.81**	**205**	PN	Pn	11 24 29.9	-0.5
WAZ				S	Sn	11 24 56.3	+0.1
KAHZ	**Kahuranaki**	**1.82**	**157**	PN	Pn	11 24 30.1	-0.5
TSZ	**Takapari Road**	**1.94**	**180**	PN	Pn	11 24 30.6	-1.3
WPHZ	**Waipukurau**	**1.98**	**169**	PN	Pn	11 24 31.1	-1.2
DVHZ	**Dannevirke**	**2.19**	**176**	PN	Pn	11 24 32.9	-1.8
MRZ	**Mangatainoka R**	**2.56**	**187**	PN	Pn	11 24 36.7	-2.4
BFZ	**Birch Farm**	**2.58**	**175**	PN	Pn	11 24 37.0	-2.3
OGWZ	**Otaki Gorge**	**2.77**	**193**	PN	Pn	11 24 39.4	-2.3
HOWZ	**Holdsworth Sta**	**2.80**	**187**	PN	Pn	11 24 39.3	-2.9
KIW	**Kapiti Island**	**2.87**	**196**	PN	Pn	11 24 40.1	-2.8
TMWZ	**Te Maipa**	**2.99**	**181**	SN	Sn	11 25 15.5	-6.0
MTW	**Mount Morrison**	**3.06**	**187**	PN	Pn	11 24 42.0	-3.4
CAW	**Cannon Point**	**3.07**	**193**	PN	Pn	11 24 42.5	-3.0
PAWZ	**Paruwai Farm**	**3.29**	**187**	SN	Sn	11 25 21.7	-6.5
MSWZ	**Moikau Station**	**3.34**	**189**	SN	Sn	11 25 21.7	-7.7
TCW	**Tory Channel**	**3.36**	**202**	SN	Sn	11 25 24.2	-5.5
PLWZ	**Palliser**	**3.50**	**189**	PN	Pn	11 24 46.8	-4.1
NNZ	**Nelson**	**3.69**	**212**	PN	Pn	11 24 49.6	-3.7
NNZ				SN	Sn	11 25 32.3	-4.8
QRZ	**Quartz Range**	**3.80**	**223**	PN	Pn	11 24 50.6	-4.1
THZ	**Tophouse**	**4.34**	**212**	PN	Pn	11 24 57.7	-4.2
THZ				SN	Sn	11 25 47.1	-5.4
KHZ	**Kahutara**	**4.68**	**203**	PN	Pn	11 25 02.2	-4.0
MQZ	**McQueen's Vall**	**6.13**	**203**	SN	Sn	11 26 23.9	-11

IDC 15 11:26:05.4±2.7, 0°.84S×133°.25E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=138.8km s-min=25.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.02**	**177**	P	P	11 30 29.0	-0.1
	0.2nm,0.3s,baz=356,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.70**	**178**	P	P	11 31 09.1	+0.2
	1.2nm,0.7s,baz=0.8,slow=11,SNR=15						
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	11 36 47.5	-0.1
	0.9nm,0.5s,baz=114,slow=8.3,SNR=15						

IDC 15 11:36:09.3±2.8, 0°.84S×133°.06E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/17, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=135.9km s-min=28.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.03**	**176**	P	P	11 40 33.0	-0.1
	0.1nm,0.3s,baz=355,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**22.71**	**178**	P	P	11 41 13.1	+0.2
	0.6nm,0.7s,baz=2.1,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**64.92**	**324**	P	P	11 46 50.6	-0.2
	0.3nm,0.6s,baz=115,slow=8.3,SNR=3.7						

*NEIC **15** 11:47:41.9, 15°.07N×94°.99W, h16km, MD4.0(MEX), After MEX.*
MEX 15 11:47:41.9±0.5, 15°.07N×94°.99W, h16km±7km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.29**	**303**	*e*P	Pn	11 48 01.4	-3.8
HUIG				*i* S	Sb	11 48 16.5	-5.6
HUIG	**Huatulco**	**1.29**	**303**	*e*P	Pn	11 48 01.4	-3.8
HUIG				*i* S	Sb	11 48 16.5	-5.6
PCIG		**1.82**	**69**	*e*P	Pn	11 48 08.8	-3.8
PCIG				*i* S	Sn	11 48 30.6	-4.7
PCIG		**1.82**	**69**	*e*P	Pn	11 48 08.8	-3.8
PCIG				*i* S	Sn	11 48 30.6	-4.7
CMIG	**Matias Romero**	**2.02**	**3**	*e*P	Pn	11 48 12.3	-3.0
CMIG				*i* S	Sn	11 48 35.0	-5.2
CMIG	**Matias Romero**	**2.02**	**3**	*e*P	Pn	11 48 12.3	-3.0
CMIG				*i* S	Sn	11 48 35.0	-5.2
VHO	**Vista Hermosa**	**2.61**	**320**	*i* P	Pn	11 48 20.3	-3.4
VHO				*i* S	Sn	11 48 50.7	-4.5
VHO	**Vista Hermosa**	**2.61**	**320**	*i* P	Pn	11 48 20.3	-3.4
VHO				*i* S	Sn	11 48 50.7	-4.5
CCIG	**Comitan**	**3.00**	**66**	*i* P	Pn	11 48 25.3	-3.8
CCIG				*i* S	Sn	11 49 00.4	-4.4
CCIG	**Comitan**	**3.00**	**66**	*i* P	Pn	11 48 25.3	-3.8
CCIG				*i* S	Sn	11 49 00.4	-4.4
PNIG	**Pinotepa**	**3.30**	**294**	*e*P	Pn	11 48 30.5	-2.5
PNIG				*i* S	Sn	11 49 07.3	-4.6
PNIG	**Pinotepa**	**3.30**	**294**	*e*P	Pn	11 48 30.5	-2.5
PNIG				*i* S	Sn	11 49 07.3	-4.6
UTMO	**Huajuapan**	**3.85**	**316**	*i* P	Pn	11 48 38.7	-2.2
UTMO				*i* S	Sn	11 49 22.6	-3.4
UTMO	**Huajuapan**	**3.85**	**316**	*i* P	Pn	11 48 38.7	-2.2
UTMO				*i* S	Sn	11 49 22.6	-3.4

*ISK **15** 11:58:14.4, 40°.88N×30°.39E, h5km, ML2.1*
*CSEM **15** 11:58:15.3±0.2, 40°.84N×30°.35E, h10km, MD3.0, Error ellipse: s-maj=5.8km s-min=3.6km az=13.0*
*DDA **15** 11:58:19.5, 40°.69N×30°.95E, h20km, MD3.0*
ISC 15 11:58:14.8±1.0, 40°.90N±0°.04×30°.38E±0°.02, h13km±10km, n40, σ0s98/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.22**	**194**	*e*PG	**Pg**	**11 58 19.2**	**-0.4**
SPNC	**Sapanca-Adapaz**	**0.22**	**194**	*e*Pg	**Pg**	**11 58 19.2**	**-0.4**
HENT	**Hendek**	**0.40**	**101**	*i* P	**Pg**	**11 58 22.9**	**+0.1**
HENT				*i* S	**Sg**	**11 58 28.2**	**0.0**
HENT	**Hendek**	**0.40**	**101**	*i* P	**Pg**	**11 58 22.9**	**+0.1**
HENT				*i* S	**Sg**	**11 58 28.2**	**0.0**
GULT	**Gulveren**	**0.48**	**168**	*e*PG	**Pg**	**11 58 24.0**	**-0.3**
GULT				*e*SG	**Sg**	**11 58 30.9**	**+0.3**
GULT	**Gulveren**	**0.48**	**168**	*e*Pg	**Pg**	**11 58 24.0**	**-0.3**
HRT	**Hereke**	**0.55**	**262**	*e*PG	**Pg**	**11 58 25.6**	**+0.2**
HRT				*e*SG	**Sb**	**11 58 33.4**	**-0.6**
HRT	**Hereke**	**0.55**	**262**	*e*Pg	**Pg**	**11 58 25.7**	**+0.2**
HRT				*e*Sg	**Sb**	**11 58 33.4**	**-0.6**
SILT	**Sile**	**0.61**	**294**	*e*PG	**Pb**	**11 58 27.7**	**+0.4**
SILT				*e*SG	**Sb**	**11 58 36.0**	**+0.2**
SILT	**Sile**	**0.61**	**294**	*e*Pg	**Pb**	**11 58 27.7**	**+0.4**
SILT				*e*Sg	**Sb**	**11 58 36.0**	**+0.2**
ADVT	**Abdulvahap**	**0.68**	**226**	*e*PG	**Pg**	**11 58 27.5**	**-0.4**
ADVT	**Abdulvahap**	**0.68**	**226**	*e*Pg	**Pg**	**11 58 27.5**	**-0.4**
MDUB	**Mudurnu**	**0.76**	**124**	*e*PG	**Pg**	**11 58 29.2**	**-0.3**
MDUB				*e*SG	**Sg**	**11 58 39.0**	**-0.4**
MDUB	**Mudurnu**	**0.76**	**124**	*e*Pg	**Pg**	**11 58 29.2**	**-0.3**
CAVI	**Cavuskoy**	**0.81**	**211**	*e*PG	**Pg**	**11 58 29.5**	**-0.9**
CAVI	**Cavuskoy**	**0.81**	**211**	*e*Pg	**Pg**	**11 58 29.5**	**-0.9**
YLV	**Yalova**	**0.83**	**247**	*e*PG	**Pg**	**11 58 30.1**	**-0.8**
YLV	**Yalova**	**0.83**	**247**	*e*Pg	**Pg**	**11 58 30.1**	**-0.8**
ISK	**Istanbul-Kandi**	**1.01**	**280**	*e*PG	**Pn**	**11 58 34.6**	**-0.1**
ISK	**Istanbul-Kandi**	**1.01**	**280**	*e*Pg	**Pn**	**11 58 34.6**	**-0.1**
KLYT	**Kilyos**	**1.07**	**290**	*e*PN	**Pb**	**11 58 35.2**	**+0.1**
KLYT	**Kilyos**	**1.07**	**290**	*e*Pn	**Pb**	**11 58 35.2**	**+0.1**
ARMT	**Armutlu**	**1.20**	**254**	*e*PN	**Pn**	**11 58 37.1**	**-0.2**
ARMT	**Armutlu**	**1.20**	**254**	*e*Pn	**Pn**	**11 58 37.1**	**-0.2**
ULDT	**Uludag**	**1.21**	**232**	*e*P	**Pn**	**11 58 36.2**	**-1.4**
ULDT	**Uludag**	**1.21**	**232**	*e*P	**Pn**	**11 58 36.2**	**-1.4**
BGKT	**Bogazkoy**	**1.25**	**283**	*e*PN	**Pg**	**11 58 38.6**	**-0.1**
BGKT	**Bogazkoy**	**1.25**	**283**	*e*Pn	**Pg**	**11 58 38.6**	**-0.1**
SEYT	**Eskypehyr**	**1.43**	**165**	*e*P	**Pg**	**11 58 41.9**	**-0.3**
SEYT				*e*S	**Sg**	**11 59 03.5**	**+2.7**
SEYT	**Eskypehyr**	**1.43**	**165**	*e*P	**Pg**	**11 58 41.9**	**-0.3**
CTKS	**Kestanelik-??a**	**1.46**	**284**	*e*PN	**Pb**	**11 58 42.1**	**+0.4**
CTKS	**Kestanelik-??a**	**1.46**	**284**	*e*Pn	**Pb**	**11 58 42.1**	**+0.4**
CTYL	**Yal??k??y-??at**	**1.68**	**291**	*e*PN	**Pb**	**11 58 45.6**	**+0.1**
CTYL	**Yal??k??y-??at**	**1.68**	**291**	*e*Pn	**Pb**	**11 58 45.6**	**+0.1**
SAFT	**Safranbolu**	**1.78**	**78**	*e*PN	**Pb**	**11 58 46.6**	**-0.6**
SAFT	**Safranbolu**	**1.78**	**78**	*e*Pn	**Pb**	**11 58 46.6**	**-0.6**
ELDT	**Eldivan**	**2.35**	**99**	*e*P	**Sg**	**11 59 30.1**	**-0.3**
BALT	**Daday**	**2.35**	**73**	*e*P	**Pb**	**11 58 56.2**	**-1.0**
BALT				*e*S	**Sb**	**11 59 28.3**	**+2.1**
BALT	**Daday**	**2.35**	**73**	*e*P	**Pb**	**11 58 56.2**	**-1.0**
KDHN	**Kadinhani**	**2.73**	**150**	*e*P	**Sg**	**11 59 46.9**	**+4.4**

*CSEM **15** 12:02:23.8±0.3, 50°.59N×4°.51E, h5km, ML2.6/11, Error ellipse: s-maj=4.8km s-min=4.6km az=135.0*
*LDG **15** 12:02:24.5±0.1, 50°.63N×4°.58E, h2km, Md2.8/2, Ml2.7/9, Error ellipse: s-maj=1.5km s-min=1.1km az=178.0*
*UCC **15** 12:02:24.5±0.3, 50°.63N×4°.58E, h5km±2km, ML1.9*
ISC 15 12:02:23.4±0.9, 50°.59N±0°.03×4°.54E±0°.03, h13km±9km, n46, σ0s88/75, 1C-1D, Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCC	**Uccle**	**0.24**	**331**	⇓P	**Pg**	**12 02 28.7**	**+0.2**
UCC				S	**Sg**	**12 02 31.6**	**-0.3**
	comp=N,407nm,0.1s						
UCC	**Uccle**	**0.24**	**331**	P	**Pg**	**12 02 28.7**	**+0.2**
UCC				S	**Sg**	**12 02 31.6**	**-0.3**
	comp=N,407nm,0.1s						
DOU	**Dourbes**	**0.50**	**176**	S	**Sb**	**12 02 42.0**	**+0.7**
	comp=E,17nm,0.4s						
DOU	**Dourbes**	**0.50**	**176**	S	**Sb**	**12 02 42.0**	**+0.7**
	comp=E,17nm,0.4s						
GIVF	**Givet**	**0.52**	**160**	*e*Pg	**Pb**	**12 02 35.2**	**+0.7**
GIVF				*e*Sg	**Sb**	**12 02 42.3**	**+0.3**
	comp=E,114nm,0.3s						
GIVF	**Givet**	**0.52**	**160**	*e*Pg	**Pb**	**12 02 35.2**	**+0.7**
GIVF				*e*Sg	**Sb**	**12 02 42.3**	**+0.3**
	comp=E,57nm,0.3s						
BAIF	**Baives**	**0.58**	**202**	*e*Pg	**Pn**	**12 02 36.3**	**-1.1**
BAIF				*e*Sg	**Sb**	**12 02 44.5**	**+1.0**
	comp=E,15nm,0.2s						
BAIF	**Baives**	**0.58**	**202**	*e*Pg	**Pn**	**12 02 36.3**	**-1.1**
BAIF				*e*Sg	**Sb**	**12 02 44.5**	**+1.0**
	comp=E,7.4nm,0.2s						
HGN	**Heimansgroeve**	**0.90**	**79**	*e*Pg	**Pb**	**12 02 40.6**	**-0.3**
	comp=E,17nm,0.2s						
HGN				*e*Sg	**Sb**	**12 02 52.9**	**+0.1**
HGN	**Heimansgroeve**	**0.90**	**79**	*e*Pg	**Pb**	**12 02 40.6**	**-0.3**
	comp=E,17nm,0.2s						
HGN				*e*Sg	**Sb**	**12 02 52.9**	**+0.1**
MEM	**Membach**	**0.93**	**88**	⇑P	**Pb**	**12 02 41.5**	**0.0**
MEM				S	**Sn**	**12 02 55.3**	**-0.2**
	comp=E,13nm,0.2s						
MEM	**Membach**	**0.93**	**88**	P	**Pb**	**12 02 41.5**	**0.0**
MEZF	**Maizieres J'vi**	**2.12**	**171**	*e*Pg	**Pg**	**12 03 04.5**	**+0.4**
MEZF				*e*Sg	**Sg**	**12 03 32.2**	**+0.7**
	comp=E,16nm,0.4s						
MEZF	**Maizieres J'vi**	**2.12**	**171**	*e*Pg	**Pg**	**12 03 04.5**	**+0.4**
MEZF				*e*Sg	**Sg**	**12 03 32.2**	**+0.7**
	comp=E,8.1nm,0.4s						
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*Pn	**Pn**	**12 03 00.3**	**+0.8**
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*P	**Pb**	**12 03 02.8**	**0.0**
	baz=334						
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*Pg	**Pg**	**12 03 05.6**	**+0.4**
	baz=334						
PAGF				*e*Sg	**Sg**	**12 03 33.5**	**0.0**
	comp=E,4.4nm,0.5s,baz=341						
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*Pn	**Pn**	**12 03 00.3**	**+0.8**
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*P	**Pb**	**12 03 02.8**	**0.0**
	baz=334						
PAGF	**Fort de Pagny**	**2.18**	**159**	*e*Pg	**Pg**	**12 03 05.6**	**+0.4**
	baz=334						
PAGF				*e*Sg	**Sg**	**12 03 33.5**	**0.0**
	comp=E,2.2nm,0.5s,baz=341						
SFTF	**Sexfontaines**	**2.41**	**172**	*e*Pn	**Pn**	**12 03 04.2**	**+1.6**
SFTF	**Sexfontaines**	**2.41**	**172**	*e*Pg	**Pg**	**12 03 09.7**	**0.0**
	baz=356						
SFTF				*e*Sg	**Sg**	**12 03 41.4**	**+0.5**
	comp=E,14nm,0.3s						
SFTF	**Sexfontaines**	**2.41**	**172**	*e*Pn	**Pn**	**12 03 04.2**	**+1.6**
SFTF	**Sexfontaines**	**2.41**	**172**	*e*Pg	**Pg**	**12 03 09.7**	**0.0**
	baz=356						
SFTF				*e*Sg	**Sg**	**12 03 41.4**	**+0.5**
	comp=E,6.8nm,0.3s						
CDF	**Champ du Feu**	**2.82**	**140**	*e*P	**Pb**	**12 03 11.6**	**-2.1**
CDF				*e*Sg	**Sg**	**12 03 53.5**	**-0.4**
	comp=E,2.3nm,0.2s						
CDF	**Champ du Feu**	**2.82**	**140**	*e*P	**Pb**	**12 03 11.6**	**-2.1**
CDF				*e*Sg	**Sg**	**12 03 53.5**	**-0.4**
	comp=E,1.1nm,0.2s						
HAU	**Haudompre**	**2.85**	**155**	*e*Pn	**Pn**	**12 03 09.6**	**+1.0**
HAU	**Haudompre**	**2.85**	**155**	*e*Pg	**Pg**	**12 03 17.7**	**-0.3**
HAU				*e*Sg	**Sg**	**12 03 54.3**	**-0.6**
	comp=E,9.0nm,0.3s						
HAU	**Haudompre**	**2.85**	**155**	*e*Pn	**Pn**	**12 03 09.6**	**+1.0**
HAU	**Haudompre**	**2.85**	**155**	*e*Pg	**Pg**	**12 03 17.7**	**-0.3**
HAU				*e*Sg	**Sg**	**12 03 54.3**	**-0.6**
	comp=E,4.5nm,0.3s						
HINF	**Hinteralfeld**	**3.17**	**151**	*e*Pn	**Pn**	**12 03 14.0**	**+1.0**
HINF				*e*Sg	**Sg**	**12 04 03.8**	**-1.3**
	comp=E,4.7nm,0.3s						
HINF	**Hinteralfeld**	**3.17**	**151**	*e*Pn	**Pn**	**12 03 14.0**	**+1.0**
HINF				*e*Sg	**Sg**	**12 04 03.8**	**-1.3**
	comp=E,2.3nm,0.3s						
LOR	**Lormes**	**3.36**	**188**	*e*Pn	**Pn**	**12 03 16.8**	**+1.1**
	baz=10						
LOR	**Lormes**	**3.36**	**188**	*e*Pg	**Pg**	**12 03 26.9**	**-0.9**
	baz=5.3						
LOR				*e*Sg	**Sg**	**12 04 11.1**	**-0.1**
	comp=E,4.0nm,0.3s,baz=9.5						
LOR	**Lormes**	**3.36**	**188**	*e*Pn	**Pn**	**12 03 16.8**	**+1.1**
	baz=10						
LOR	**Lormes**	**3.36**	**188**	*e*Pg	**Pg**	**12 03 26.9**	**-0.9**
	baz=5.3						
LOR				*e*Sg	**Sg**	**12 04 11.1**	**-0.1**
	comp=E,2.0nm,0.3s,baz=9.5						
SSF	**Saint Saulge**	**3.60**	**191**	*e*Pn	**Pn**	**12 03 20.5**	**+1.5**
SSF	**Saint Saulge**	**3.60**	**191**	*e*Pg	**Pg**	**12 03 31.5**	**-0.9**
SSF	**Saint Saulge**	**3.60**	**191**	*e*Pn	**Pn**	**12 03 20.5**	**+1.5**
SSF	**Saint Saulge**	**3.60**	**191**	*e*Pg	**Pg**	**12 03 31.5**	**-0.9**
LDF	**La Druitiere**	**3.63**	**238**	*e*Pn	**Pn**	**12 03 20.5**	**+1.1**
LDF	**La Druitiere**	**3.63**	**238**	*e*Pg	**Pg**	**12 03 32.3**	**-0.7**
LDF				*e*Sg	**Sg**	**12 04 19.9**	**-0.2**
	comp=E,2.8nm,0.2s						
LDF	**La Druitiere**	**3.63**	**238**	*e*Pn	**Pn**	**12 03 20.5**	**+1.1**
LDF	**La Druitiere**	**3.63**	**238**	*e*Pg	**Pg**	**12 03 32.3**	**-0.7**
LDF				*e*Sg	**Sg**	**12 04 19.9**	**-0.2**
	comp=E,1.4nm,0.2s						
BGF	**Bois d'Agland**	**4.19**	**196**	*e*Pn	**Pn**	**12 03 28.6**	**+1.5**
BGF				*e*Sn	**Sn**	**12 04 15.1**	**-0.8**
BGF				*e*Sg	**Sg**	**12 04 36.9**	**-1.1**
	comp=E,12nm,0.5s						
BGF	**Bois d'Agland**	**4.19**	**196**	*e*Pn	**Pn**	**12 03 28.6**	**+1.5**
BGF				*e*Sn	**Sn**	**12 04 15.1**	**-0.8**
BGF				*e*Sg	**Sg**	**12 04 36.9**	**-1.1**
	comp=E,5.8nm,0.5s						

*CSEM **15** 12:05:33.2, 63°.74N×22°.83E, h0km, ML1.3, Mining explosion. After HEL*
HEL 15 12:05:33.2±1.3, 63°.74N×22°.83E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.70**	**186**	PG	Pg	12 05 44.1	-2.5
VAF				SG	Sg	12 05 54.1	-1.6
VAF				RG	Rg	12 05 58.6	
VAF	**Ylistaro**	**0.70**	**186**	Pg	Pg	12 05 44.0	-2.6
VAF				Sg	Sg	12 05 54.1	-1.6
SUF	**Sumiainen**	**1.82**	**123**	PN	Pn	12 06 05.2	-0.5
SUF				SG	Sn	12 06 29.0	-0.4
SUF				MSG		12 06 29.0	
	comp=Z,2.1nm,0.2s						
SUF	**Sumiainen**	**1.82**	**123**	Pn	Pn	12 06 05.2	-0.5
SUF				Sg	Sn	12 06 28.9	-0.5
KEF	**Keuruu**	**1.83**	**148**	SG	Sn	12 06 29.7	0.0
KEF				MSG		12 06 29.7	
	comp=Z,0.6nm,0.1s						
KEF	**Keuruu**	**1.83**	**148**	Sg	Sn	12 06 29.7	0.0
OUL	**Oulu**	**1.90**	**43**	SG	Sn	12 06 30.1	-1.3
OUL				MSG		12 06 30.1	
	comp=Z,0.5nm,0.2s						
OUL	**Oulu**	**1.90**	**43**	Sg	Sn	12 06 30.0	-1.4
KAF	**Kangasniemi**	**2.28**	**134**	SG	Sn	12 06 42.3	+1.5
KAF				MSG		12 06 42.3	
	comp=Z,0.8nm,0.1s						
KAF	**Kangasniemi**	**2.28**	**134**	Sg	Sn	12 06 42.2	+1.5
FIA0	**FINESS Array S**	**2.75**	**145**	PN	Pn	12 06 19.1	+0.6
	baz=330						
FIA0				SG	Sn	12 06 54.2	+1.9
FIA0				MSG		12 06 54.2	
	comp=Z,0.8nm,0.3s						
FIA0	**FINESS Array S**	**2.75**	**145**	Pn	Pn	12 06 19.1	+0.6
FIA0				Sg	Sn	12 06 54.2	+1.9
RAF	**Rauma**	**2.77**	**191**	SG	Sb	12 06 56.0	-1.9
RAF				MSG		12 06 56.0	
	comp=Z,1.3nm,0.4s						
RAF	**Rauma**	**2.77**	**191**	Sg	Sb	12 06 56.0	-1.9
AAL	**Aland**	**3.81**	**202**	SG	Sg	12 07 33.5	-2.1
AAL	**Aland**	**3.81**	**202**	Sg	Sg	12 07 33.5	-2.1
JOF	**Joensuu**	**3.91**	**98**	SG	Sg	12 07 35.2	-3.6
JOF				MSG		12 07 35.2	
	comp=Z,0

JGM					*e*S	**S**	**12 28 53.4**	**-0.2**	
JRY	**Ryogami san**	**3.19**	**7**	P	**Pn**	**12 28 08.4**	**+0.7**		
JRY				S	**S**	**12 28 53.5**	**-0.5**		
JAI	**Aioi**	**3.44**	**287**	P	**Pn**	**12 28 10.3**	**0.0**		
JWT	**Wachi**	**3.48**	**315**	P	**Pn**	**12 28 10.9**	**+0.2**		
JWT				*e*S	**S**	**12 28 57.5**	**-1.8**		
JAG	**Ashikaga**	**3.67**	**13**	P	**Pn**	**12 28 11.6**	**-1.1**		
JAG				*e*S	**S**	**12 29 00.1**	**-2.9**		
MJAR	**Matsushiro Arr**	**3.69**	**358**	P	**Pn**	**12 28 12.9**	**0.0**		
	14nm,0.3s,baz=134,slow=31,SNR=180								
MJAR				S	**S**	**12 29 01.0**	**-2.4**		
	baz=210,slow=11,SNR=2.5								
MAT	**Matsushiro**	**3.69**	**358**	⇑P	**Pn**	**12 28 13.2**	**+0.3**		
MAT				S	**S**	**12 29 03.5**	**+0.1**		
MAT	**Matsushiro**	**3.69**	**358**	P	**Pn**	**12 28 13.0**	**+0.1**		
MAT				*e*S	**S**	**12 29 03.7**	**+0.3**		
JKG	**Kaga**	**3.82**	**334**	P	**Pn**	**12 28 14.7**	**+0.4**		
JTO	**Tosashimizu**	**4.71**	**272**	P	**Pn**	**12 28 24.0**	**-0.3**		
JHS	**Saijyo**	**4.89**	**297**	P	**Pn**	**12 28 26.4**	**+0.1**		
CBIJ	**Chichi jima**	**6.60**	**149**	P	Pn	12 28 49.6	+2.9		
	12nm,0.3s,baz=290,slow=18,SNR=3.3								
CBIJ				S	**S**	**12 29 59.2**	**-5.6**		
	25nm,0.3s,baz=318,slow=23,SNR=7.6								
KSRS	**Korea Array**	**9.73**	**301**	P	**Pn**	**12 29 24.9**	**+0.3**		
	1.6nm,0.3s,baz=111,slow=13,SNR=51								
ASAJ	**Asahikawa**	**11.72**	**15**	P	**Pn**	**12 29 48.7**	**-0.1**		
	1.5nm,0.3s,baz=250,slow=12,SNR=12								
USRK	**Ussuriysk Arra**	**12.39**	**338**	P	**Pn**	**12 29 56.4**	**-0.5**		
	1.7nm,0.3s,baz=146,slow=9.3,SNR=29								
SONM	**Songino Array**	**28.38**	**311**	P	**P**	**12 32 37.3**	**+0.5**		
	2.7nm,0.6s,baz=127,slow=9.5,SNR=13								
ZALV	**Zalesovo Beam**	**43.05**	**316**	P	**P**	**12 34 39.7**	**-0.5**		
	0.4nm,0.3s,baz=81,slow=9.2,SNR=3.5								
MKAR	**Makanchi Array**	**44.38**	**305**	P	**P**	**12 34 50.1**	**-0.8**		
	0.6nm,0.5s,baz=87,slow=9.4,SNR=11								
WRA	**Warramunga Arr**	**52.63**	**185**	P	**P**	**12 35 53.6**	**+0.1**		
	1.4nm,0.3s,baz=0.1,slow=7.6,SNR=50								
ASAR	**Alice Springs**	**56.36**	**185**	P	**P**	**12 36 20.5**	**+0.4**		
	0.9nm,0.5s,baz=13,slow=11,SNR=26								
ARCES	**ARCESS Array B**	**67.03**	**339**	P	**P**	**12 37 30.2**	**-0.2**		
	4.5nm,0.9s,baz=24,slow=6.6,SNR=3.9								
LPAZ	**La Paz**	**150.90**	**62**	PKPbc	**PKPbc**	**12 46 31.4**	**+3.3**		
	1.0nm,0.4s,baz=230,slow=13,SNR=6.8								

IDC 15 12:58:03.2±1.9,5.14S×147.64E,h0km,mb4.2/2, mb1 4.8/3,mb1mx3.9/15,mbtmp4.5/3,ML5.3/1,MS4.2/1, Ms1 4.2/1,ms1mx3.4/20,Error ellipse: s-maj=113.0km s-min=29.1km az=121.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**220**	P		P	13 02 33.5	+0.2
	10.0nm,0.3s,baz=46,slow=12,SNR=202							
ASAR	**Alice Springs**	**22.68**	**214**	P		P	13 03 06.8	+0.2
	14nm,0.4s,baz=47,slow=8.6,SNR=278							
NWAO	**Narrogin (SRO)**	**39.59**	**222**	LR		LR	13 21 56.6	
	comp=Z,327nm,20.1s,baz=99,slow=36							
ILAR	**Eielson Array**	**84.45**	**23**	P		P	13 10 37.9	+0.4
	0.7nm,1.0s,baz=258,slow=4.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**145.49**	**286**	PKPbc		PKPdf	13 17 42.9	-1.6
	0.2nm,0.4s,baz=78,slow=2.1,SNR=3.2							

*IDC **15** 13:02:25.5±0.7,22.54S×170.67E,h0km,mb4.5/15, mb1 4.7/17,mb1mx4.6/23,mbtmp4.6/17,MS4.9/15, Ms1 4.9/15,ms1mx4.8/21,Error ellipse: s-maj=18.6km s-min=16.3km az=147.0*

*ISCJB **15** 13:02:29.2±0.3,22.59S±0.04×170.56E±0.04,h33km, mb5.0/47,MS4.9/26,Error ellipse: s-maj=6.4km s-min=4.7km az=3.6*

*MOS **15** 13:02:30.5±1.4,22.39S×170.40E,h35km,mb5.1/12,Error ellipse: s-maj=12.5km s-min=10.2km az=177.1*

*DJA **15** 13:02:30,22.56S×170.76E,h36km,mb5.1/16*

*BJI **15** 13:02:30.4,22.60S×170.40E,h35km,mB5.5/21,mb4.9/23, Ms5.3/21,Ms7 4.9/22*

*NEIC **15** 13:02:31.2±0.3,22.54S×170.43E,h35km,mb5.3/21,Error ellipse: s-maj=7.6km s-min=6.9km az=128.0*

ISC 15 13:02:31.0±0.3,22.60S±0.05×170.61E±0.04,h33km, h33km:pP-P,n251,σ1s77/263,mb5.0/47,MS4.9/27, 10C-11D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**3.48**	**277**	*e*P		**Pn**	**13 03 21.7**	**-1.1**
BAYA				*e*S		**Sn**	**13 04 03.4**	**+0.4**
DZM	**Mont Dzumac**	**3.90**	**277**	*e*Pn		**Pn**	**13 03 26.6**	**-2.1**
	323nm,0.2s							
DZM				*e*Sn		**Sn**	**13 04 09.9**	**-3.5**
	655nm,0.5s							
DZM	**Mont Dzumac**	**3.90**	**277**	Pn		**Pn**	**13 03 27.6**	**-1.1**
	45nm,0.3s,baz=93,slow=18,SNR=18							
DZM				Sn		**Sn**	**13 04 13.5**	**+0.1**
	19nm,0.3s,baz=46,slow=14,SNR=4.6							
DZM	**Mont Dzumac**	**3.90**	**277**	Pn		**Pn**	**13 03 27.6**	**-1.1**
DZM				Sn		**Sn**	**13 04 13.5**	**+0.1**
NOUC	**Port Laguerre**	**4.02**	**276**	*e*S		**Sn**	**13 04 16.4**	**0.0**
MSVF	**Nonsavu**	**8.50**	**57**	*e*P		**Pn**	**13 04 34.3**	**+2.4**
MSVF	**Nonsavu**	**8.50**	**57**	*e*Pn		**Pn**	**13 04 34.2**	**+2.4**
MSVF	**Nonsavu**	**8.50**	**57**	Pn		Pn	13 04 35.9	+4.0
	2µm,1.7s,SNR=15							
OUZ	**Omahuta**	**12.84**	**169**	*e*Pn		**Pn**	**13 05 33.1**	**+1.9**
FUNA	**Funafuti**	**16.24**	**32**	*e*Pn		**P**	**13 06 19.0**	**-0.6**
	1µm,2.3s							
URZ	**Urewera**	**16.57**	**162**	*e*Pn		**P**	**13 06 22.3**	**-0.8**
	102nm,1.1s							
HNR	**Honiara**	**16.62**	**320**	*e*P		**Pn**	**13 06 19.5**	**-2.1**
HNR				pmax		pmax		
	comp=Z,480nm,1.3s							
HNR	**Honiara**	**16.62**	**320**	*e*Pn		**Pn**	**13 06 19.5**	**-2.1**
	comp=Z,480nm,1.3s							
ARMA	**Armidale**	**18.67**	**241**	*e*P		**Pn**	**13 06 48.0**	**+1.0**
ARMA				*e*S		**S**	**13 10 23.5**	**+6.0**
ARMA	**Armidale**	**18.67**	**241**	*e*Pn		**P**	**13 06 44.5**	**-2.0**
	comp=Z,786nm,2.3s							
AFI	**Afiamalu**	**18.81**	**66**	P		**P**	**13 06 47.1**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=13,slow=22,SNR=5.2							
AFI				LR		LR	13 12 24.9	
	comp=Z,6µm,20.8s,baz=243,slow=32							
AFI	**Afiamalu**	**18.81**	**66**	P		**P**	**13 06 47.1**	**-0.9**
AFI	**Afiamalu**	**18.81**	**66**	P		**P**	**13 06 47.1**	**-0.9**
KHZ	**Kahutara**	**19.91**	**174**	*e*P		**Pn**	**13 07 02.2**	**+0.6**
	comp=Z,141nm,1.2s							
RPZ	**Rata Peaks**	**21.06**	**179**	P		**P**	**13 07 13.4**	**+1.1**
	comp=Z,34nm,0.8s,baz=59,slow=1.0,SNR=15							
RPZ				LR		LR	13 14 11.6	
	comp=Z,2µm,21.9s,baz=356,slow=33							
RPZ	**Rata Peaks**	**21.06**	**179**	P		**P**	**13 07 13.4**	**+1.1**
ODZ	**Otahua Downs**	**22.39**	**180**	*e*P		**P**	**13 07 26.1**	**-0.3**
	comp=Z,1µm,1.8s							
CNB	**Canberra Magne**	**22.44**	**231**	*e*P		**P**	**13 07 28.3**	**+1.0**
	comp=Z,255nm,1.1s							
CNB				*e*S		**S**	**13 11 30.9**	**-0.9**
CAN	**Canberra**	**22.71**	**231**	*e*P		**P**	**13 07 28.7**	**-1.4**
CAN				pmax		pmax		
	comp=Z,593nm,2.0s							
CAN	**Canberra**	**22.71**	**231**	*e*P		**P**	**13 07 28.6**	**-1.4**
	comp=Z,593nm,2.0s							
CTA	**Charters Tower**	**22.82**	**272**	P		**P**	**13 07 32.2**	**+0.9**
	comp=Z,12nm,0.7s,baz=96,slow=11,SNR=15							
CTA				LR		LR	13 15 22.6	
	comp=Z,6µm,21.7s,baz=98,slow=34							
CTA	**Charters Tower**	**22.82**	**272**	*e*P		**P**	**13 07 31.6**	**+0.3**
	comp=Z,6.3nm,0.4s							
CTA				*e*S		**S**	**13 11 41.8**	**+3.2**
CTA	**Charters Tower**	**22.82**	**272**	P		**P**	**13 07 32.3**	**+0.9**
CTA	**Charters Tower**	**22.82**	**272**	P		**P**	**13 07 32.2**	**+0.9**
CTAO	**Charters Tower**	**22.82**	**272**	*e*P		**P**	**13 07 30.1**	**-1.3**
CTAO				pmax		pmax		
	comp=Z,183nm,1.7s							
CTAO	**Charters Tower**	**22.82**	**272**	*e*P		**P**	**13 07 30.1**	**-1.3**
	comp=Z,184nm,1.7s							
WHZ	**Wether Hill Ro**	**23.34**	**185**	*e*P		**P**	**13 07 37.8**	**+1.5**
PMG	**Port Moresby**	**26.03**	**297**	P		**P**	**13 08 01.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=127,slow=1.9,SNR=7.4							
PMG	**Port Moresby**	**26.03**	**297**	*e*P		**P**	**13 08 00.4**	**-1.0**
PMG				pmax		pmax		
	comp=Z,26nm,0.9s							
PMG	**Port Moresby**	**26.03**	**297**	*e*P		**P**	**13 08 00.4**	**-1.0**
	comp=Z,26nm,0.9s							
TOO	**Toolangi**	**26.26**	**230**	*e*P		**P**	**13 08 03.1**	**-0.2**
	comp=Z,146nm,1.0s							
STKA	**Stephens Creek**	**27.34**	**244**	P		**P**	**13 08 13.8**	**+0.8**
	comp=Z,14nm,0.9s,baz=84,slow=8.7,SNR=15							
STKA				LR		LR	13 18 36.8	
	comp=Z,4µm,18.5s,baz=87,slow=35							
STKA	**Stephens Creek**	**27.34**	**244**	*e*P		**P**	**13 08 10.7**	**-2.3**
	comp=Z,17nm,0.9s							
STKA				*e*S		**S**	**13 12 45.8**	**-5.0**
STKA	**Stephens Creek**	**27.34**	**244**	*e*P		**P**	**13 08 12.0**	**-1.0**
STKA				pmax		pmax		
	comp=Z,21nm,1.5s							
STKA	**Stephens Creek**	**27.34**	**244**	*e*P		**P**	**13 08 12.0**	**-1.0**
	comp=Z,22nm,1.5s							
COEN	**Coen**	**27.40**	**284**	*e*P		**P**	**13 08 12.8**	**-0.9**
	comp=Z,148nm,1.0s							
RAR	**Rarotonga**	**27.49**	**93**	LR		LR	13 16 15.3	
	comp=Z,2µm,21.1s,baz=263,slow=30							
BBOO	**Buckleboo**	**32.11**	**244**	*e*P		**P**	**13 08 52.4**	**-2.9**
	comp=Z,1µm,1.6s							
AS31	**Alice Springs**	**33.72**	**261**	*e*P		**P**	**13 09 08.8**	**-0.7**
ASAR	**Alice Springs**	**33.72**	**261**	P		**P**	**13 09 08.5**	**-1.0**
	comp=Z,9.3nm,0.6s,baz=76,slow=9.0,SNR=51							
ASAR				ScP		**ScP**	**13 15 34.2**	**+3.0**
	comp=Z,0.2nm,0.9s,baz=200,slow=24,SNR=4.1							
ASAR	**Alice Springs**	**33.72**	**261**	P		**P**	**13 09 08.5**	**-1.0**
ASAR	**Alice Springs**	**33.72**	**261**	P		**P**	**13 09 08.5**	**-1.0**
ASAR				ScP		**ScP**	**13 15 34.2**	**+3.0**
WB2	**Warramunga Arr**	**33.84**	**268**	*e*P		**P**	**13 09 07.8**	**-2.9**
WRAB	**Tennant Creek**	**33.85**	**268**	*e*P		**P**	**13 09 07.7**	**-3.0**
WRAB				pmax		pmax		
	comp=Z,67nm,1.6s							
WRAB	**Tennant Creek**	**33.85**	**268**	*e*P		**P**	**13 09 07.7**	**-3.0**
	comp=Z,67nm,1.6s							
WRA	**Warramunga Arr**	**33.86**	**268**	P		**P**	**13 09 08.8**	**-2.0**
	comp=Z,2.0nm,0.4s,baz=93,slow=8.7,SNR=19							
WRA	**Warramunga Arr**	**33.86**	**268**	P		**P**	**13 09 08.8**	**-2.0**
WRA	**Warramunga Arr**	**33.86**	**268**	P		**P**	**13 09 08.8**	**-2.0**
TBI	**Tubuai**	**36.69**	**99**	*e*S		**S**	**13 15 15.5**	**-0.9**
	comp=Z,700nm,26.8s							
TBI				*e*LQ		LQ	13 17 46.4	
	comp=Z,2µm,28.8s							
TBI				*e*LR		LR	13 19 21.8	
	comp=Z,3µm,28.2s,baz=270							
PPT2	**Papeete2**	**37.64**	**90**	*e*S		S	13 15 24.9	-6.3
	comp=Z,834nm,25.8s							
PPT2				*e*LQ		LQ	13 18 06.8	
	comp=Z,3µm,31.2s							
PPT2				*e*LR		LR	13 19 50.7	
	comp=Z,2µm,23.8s,baz=244							
FORT	**Forrest**	**38.70**	**249**	*e*P		**P**	**13 09 51.2**	**-0.8**
	comp=Z,22nm,0.9s							
FORT	**Forrest**	**38.70**	**249**	*e*P		**P**	**13 09 51.5**	**-0.5**
	comp=Z,63nm,1.1s							
FITZ	**Fitzroy Crossi**	**42.29**	**268**	P		**P**	**13 10 21.8**	**0.0**
	comp=Z,22nm,0.8s,baz=138,slow=8.2,SNR=20							
FITZ	**Fitzroy Crossi**	**42.29**	**268**	*e*P		**P**	**13 10 20.9**	**-0.9**
	comp=Z,39nm,0.9s							
FITZ	**Fitzroy Crossi**	**42.29**	**268**	*e*P		**P**	**13 10 19.5**	**-2.3**
	comp=Z,70nm,1.3s							
MBWA	**Marble Bar**	**47.05**	**262**	*e*P		**P**	**13 10 57.3**	**-2.5**
	comp=Z,43nm,1.0s							
MBWA				*e*			13 12 51.5	
KLBR	**Kellerberrin**	**47.52**	**247**	*e*P		**P**	**13 11 01.6**	**-1.7**
	comp=Z,52nm,1.2s							
NWAO	**Narrogin (SRO)**	**47.91**	**245**	P		**P**	**13 11 06.3**	**0.0**
	comp=Z,13nm,0.5s,baz=95,slow=5.9,SNR=16							
NWAO	**Narrogin (SRO)**	**47.91**	**245**	P		**P**	**13 11 06.3**	**0.0**
NWAO				pmax		pmax		
	comp=Z,3.0nm,1.4s							
NWAO	**Narrogin (SRO)**	**47.91**	**245**	P		**P**	**13 11 06.3**	**0.0**
	comp=Z,2.7nm,1.4s							
DRV	**Dumont d'Urvil**	**48.14**	**196**	P		P	13 10 59.0	-8.5
DRV				S		S	13 17 53.0	-11
DRV				SS		SS	13 21 48.0	+15
DRV				L		L	13 22 00.0	
DRV				R			13 25 00.0	
RKT	**Rikitea**	**49.89**	**102**	*e*S		**S**	**13 18 26.5**	**-3.2**
	comp=Z,900nm,29.2s							
RKT				*e*LQ		LQ	13 22 43.0	
	comp=Z,2µm,31.0s							
RKT				*e*LR		LR	13 25 25.0	
	comp=Z,2µm,30.8s,baz=265							
KIP	**Kipapa**	**53.39**	**37**	*e*P		**P**	**13 11 48.4**	**+0.8**
KIP				pmax		pmax		
	comp=Z,164nm,2.5s							
MJAR	**Matsushiro Arr**	**66.31**	**332**	P		**P**	**13 13 15.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=159,slow=6.4,SNR=5.3							
MJAR	**Matsushiro Arr**	**66.31**	**332**	P		**P**	**13 13 15.9**	**-0.3**
MJAR	**Matsushiro Arr**	**66.31**	**332**	P		**P**	**13 13 15.9**	**-0.3**
QSPA	**South Pole Qui**	**67.47**	**180**	P		**P**	**13 13 23.4**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=18,slow=1.1,SNR=12							
QSPA	**South Pole Qui**	**67.47**	**180**	*e*P		**P**	**13 13 22.9**	**-0.6**
	comp=Z,20nm,1.0s							
KSRS	**Korea Array**	**71.99**	**325**	P		**P**	**13 13 51.3**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=72,slow=30,SNR=4.8							
KSAR	**Wonju Array Be**	**72.00**	**325**	P		**P**	**13 13 51.3**	**-0.2**
KSAR	**Wonju Array Be**	**72.00**	**325**	P		**P**	**13 13 51.3**	**-0.2**
QIZ	**Qiongzhong**	**72.36**	**300**	P		**P**	**13 13 56.4**	**+2.4**
QIZ				sS		**SKiKP**	**13 23 32.5**	**+5.0**
QIZ				pmax		pmax		
	comp=Z,28nm,1.4s							
QIZ				pmax		pmax		
	comp=Z,360nm,7.9s							
NJ2	**Nanjing**	**73.51**	**316**	*e*P		**P**	**13 13 59.3**	**-1.2**
NJ2				pP		**pP**	**13 14 09.1**	**-1.8**
NJ2				sP		**sP**	**13 14 13.0**	**-1.7**
NJ2				PP		**PP**	**13 16 47.3**	**+2.3**
NJ2				S		**S**	**13 23 24.5**	**-3.6**
NJ2				sS		**sS**	**13 23 42.5**	**-2.7**
NJ2				pmax		pmax		
	comp=Z,20nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,310nm,5.8s							
NJ2				LR		LR		
	comp=N,260nm,15.8s							
NJ2				LR		LR		
	comp=E,340nm,14.4s							
NJ2				LR		LR		
	comp=Z,460nm,21.2s							
FX1	**Attu Island--F**	**75.19**	**2**	LR		LR	13 39 58.2	
	comp=Z,509nm,20.9s,baz=197,slow=30							
USRK	**Ussuriysk Arra**	**75.29**	**332**	LR		LR	13 44 37.8	
	comp=Z,369nm,20.5s,baz=314,slow=34							
MAW	**Mawson**	**75.82**	**202**	LR		LR	13 42 30.9	
	comp=Z,512nm,20.0s,baz=102,slow=32							
PET	**Petropavlovsk**	**76.02**	**353**	*e*P		**P**	**13 14 14.2**	**-0.4**
PET				*e*S		**S**	**13 23 54.2**	**-1.1**
PET				pmax		pmax		
	comp=Z,100nm,8.2s							
PET				pmax		pmax		
	comp=Z,8.0nm,0.7s							
PET				smax		smax		
	comp=E,17nm,0.6s							
PET				MLR		MLR		
	comp=Z,700nm,20.0s							
PETK	**Petropavlovsk-**	**76.22**	**352**	P		**P**	**13 14 15.1**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=142,slow=7.5,SNR=5.1							
PETK				LR		LR	13 43 47.1	
	comp=Z,379nm,20.5s,baz=39,slow=33							
PETK	**Petropavlovsk-**	**76.22**	**352**	P		**P**	**13 14 15.1**	**-0.7**
PETK	**Petropavlovsk-**	**76.22**	**352**	P		**P**	**13 14 15.1**	**-0.7**
DL2	**Dalian**	**76.46**	**323**	P		P	13 14 22.8	+5.4
DL2				pmax		pmax		
	comp=Z,20nm,1.3s							
DL2				pmax		pmax		
	comp=Z,210nm,6.1s							
DL2				LR		LR		
	comp=N,200nm,17.7s							
DL2				LR		LR		
	comp=E,240nm,19.9s							
DL2				LR		LR		
	comp=Z,270nm,17.3s							
MDJ	**Mudanjiang**	**76.68**	**331**	P		P	13 14 22.1	+3.6
MDJ				pP		**PcP**	**13 14 31.8**	**+2.0**
MDJ				sP		sP	13 14 35.6	+2.9
MDJ				PP		**PP**	**13 17 14.8**	**+3.2**
MDJ				pmax		pmax		
	comp=Z,350nm,5.4s							
MDJ				LR		LR		
	comp=N,200nm,29.0s							
MDJ				LR		LR		
	comp=Z,230nm,28.0s							
CN2	**Changchun**	**77.98**	**328**	*e*P		**P**	**13 14 29.0**	**+3.1**
CN2				*e*sP		**sP**	**13 14 44.3**	**+4.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,600nm,14.0s							
CN2				LR		LR		
	comp=E,400nm,14.0s							
CN2				LR		LR		
	comp=Z,500nm,17.0s							
GYA	**Guiyang**	**78.79**	**305**	⇑*i*P		**P**	**13 14 33.8**	**+2.9**
GYA				pP		**pP**	**13 14 43.6**	**+2.3**
GYA				sP		sP	13 14 50.8	+5.7
GYA				PP		**PP**	**13 17 33.8**	**+4.0**
GYA				S		**S**	**13 24 27.3**	**+0.5**
GYA				SKS		**SKSac**	**13 24 42.0**	**-2.2**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,160nm,5.4s							
GYA				LR		LR		
	comp=N,740nm,19.2s							
GYA				LR		LR		
	comp=E,590nm,20.8s							
GYA				LR		LR		
	comp=Z,610nm,19.3s							
ENH	**Enshi**	**78.79**	**309**	*e*P		P	13 14 25.9	-4.9
BJI	**Beijing**	**80.34**	**321**	P		P	13 14 42.3	+3.4
BJI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BJI				pmax		pmax		
	comp=Z,270nm,6.3s							
BJI				LR		LR		
	comp=N,440nm,13.2s							
BJI				LR		LR		
	comp=E,400nm,17.1s							
BJI				LR		LR		
	comp=Z,370nm,21.4s							
CMAR	**Chiang Mai Arr**	**81.05**	**294**	P		**P**	**13 14 44.1**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=137,slow=4.4,SNR=19							
CMAR	**Chiang Mai Arr**	**81.05**	**294**	P		**P**	**13 14 44.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**81.05**	**294**	P		**P**	**13 14 44.1**	**+0.9**
KMI	**Kunming**	**81.13**	**302**	P		**P**	**13 14 46.6**	**+2.9**
KMI				pP		**pP**	**13 14 57.6**	**+3.4**
KMI				sP		**sP**	**13 15 01.8**	**+3.8**
KMI				S		**S**	**13 24 52.9**	**+1.2**
KMI				SKS		**SKSac**	**13 24 58.5**	**-2.4**
KMI				pmax		pmax		
	comp=Z,12nm,1.2s							
KMI				pmax		pmax		
	comp=Z,290nm,5.1s							
KMI				LR		LR		
	comp=N,390nm,13.9s							
KMI				LR		LR		
	comp=E,390nm,16.2s							
KMI				LR		LR		
	comp=Z,420nm,12.4s							
CHTO	**Chiang Mai**	**81.21**	**295**	*e*P		**P**	**13 14 44.1**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,13nm,0.8s							
CHTO	**Chiang Mai**	**81.21**	**295**	*e*P		**P**	**13 14 44.1**	**+0.1**
	comp=Z,13nm,0.8s							
CHTO	**Chiang Mai**	**81.21**	**295**	P		**P**	**13 14 46.1**	**+2.1**
	comp=Z,20nm,0.8s							
XAN	**Xi'an**	**81.32**	**312**	P		P	13 14 53.8	+9.5
XAN				pP		pP	13 15 03.8	+9.1
XAN				S		**S**	**13 24 53.4**	**+0.5**
XAN				pmax		pmax		
	comp=Z,4.0nm,1.6s							
XAN				pmax		pmax		
	comp=Z,46nm,6.0s							
XAN				LR		LR		
	comp=N,240nm,17.9s							
XAN				LR		LR		
	comp=E,85nm,15.6s							
XAN				LR		LR		
	comp=Z,110nm,17.5s							
SYO	**Syowa Base**	**82.07**	**196**	⇑*e*sP		sP	13 15 01.6	-0.4
CD2	**Chengdu**	**83.29**	**307**	P		**P**	**13 14 56.9**	**+2.2**
CD2				pP		**pP**	**13 15 07.9**	**+2.7**
CD2				sP		**sP**	**13 15 12.0**	**+3.0**
CD2				PP		**PP**	**13 18 10.9**	**+4.0**
CD2				SKS		**S**	**13 25 12.5**	**-0.8**
CD2				S		**SKSac**	**13 25 14.0**	**-0.7**
CD2				sS		**sS**	**13 25 32.3**	**+1.7**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,240nm,6.0s							
CD2				LR		LR		
	comp=E,590nm,13.1s							
CD2				LR		LR		
	comp=Z,430nm,22.6s							
HHC	**Hu-ho-hao-te**	**83.59**	**319**	*e*P		**P**	**13 14 57.3**	**+1.2**
HHC				pP		**pP**	**13 15 07.5**	**+0.9**
HHC				sP		**sP**	**13 15 11.8**	**+1.4**
HHC				PP		**PP**	**13 18 11.6**	**+2.3**
HHC				SKS		**S**	**13 25 13.4**	**-2.7**
HHC				S		**SKSac**	**13 25 15.8**	**-0.6**
HHC				sS		**sS**	**13 25 33.5**	**+0.1**
HHC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,340nm,5.6s							
HHC				LR		LR		
	comp=N,400nm,15.2s							
HHC				LR		LR		
	comp=E,260nm,13.5s							
HHC				LR		LR		
	comp=Z,470nm,17.1s							
NVL	**N'lazarevskaya**	**85.70**	**187**	*e*P		P	13 15 10.1	+3.9
NVL				*e*S		**S**	**13 25 33.9**	**-2.1**
NVL				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NVL				MLR		MLR		
	comp=Z,408nm,17.0s							
SNAA	**Sanae**	**85.87**	**182**	*e*		P	13 15 03.5	-3.6
SNAA				*e*		

GTA				LR	LR				
	comp=E,320nm,18.3s								
GTA				LR	LR				
	comp=Z,370nm,18.1s								
BILL	**Bilibino**	**90.43**	**358**⇑	*e*P	**P**		**13 15 29.0**	**+0.4**	
BILL				*e*			13 19 03.3		
BILL				*i* S	**SKSac**		**13 25 57.1**	**+0.2**	
BILL				*e*PS	**PS**		**13 27 22.3**	**-10**	
BILL				pmax	pmax				
	comp=Z,5.0nm,1.9s								
BILL	**Bilibino**	**90.43**	**358**	*e*P	**P**		**13 15 29.3**	**+0.7**	
	comp=Z,36nm,1.5s								
YAK	**Yakutsk**	**90.45**	**342**	*e*P	P		13 15 36.5	+7.8	
YAK				pmax	pmax				
	comp=Z,12nm,1.5s								
SONM	**Songino Array**	**90.66**	**323**	P	**P**		**13 15 28.9**	**-1.4**	
	comp=Z,2.2nm,0.8s,baz=127,slow=3.9,SNR=7.0								
SONM				LR	LR		13 57 36.3		
	comp=Z,478nm,18.7s,baz=107,slow=36								
SONM	**Songino Array**	**90.66**	**323**	P	**P**		**13 15 28.9**	**-1.4**	
SONM	**Songino Array**	**90.66**	**323**	P	**P**		**13 15 28.9**	**-1.4**	
BOD	**Bodaibo**	**92.90**	**333**	*e*P	P		13 15 48.3	+8.1	
ILAR	**Eielson Array**	**93.05**	**17**	P	**P**		**13 15 39.5**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=248,slow=4.8,SNR=3.7								
ILAR				LR	LR		13 57 32.8		
	comp=Z,505nm,18.0s,baz=331,slow=36								
ILAR	**Eielson Array**	**93.05**	**17**	P	**P**		**13 15 39.6**	**-1.2**	
ILAR	**Eielson Array**	**93.05**	**17**	P	**P**		**13 15 39.5**	**-1.2**	
HAWA	**Hanford**	**93.18**	**41**	*e*P	**P**		**13 15 43.9**	**+2.0**	
ZAK	**Zakamensk**	**93.76**	**324**	*e*P	**pP**		**13 15 53.2**	**-1.9**	
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.4s								
PLCA	**Paso Flores**	**95.18**	**138**	LR	LR		13 47 34.8		
	comp=Z,287nm,20.7s,baz=30,slow=28								
TXAR	**Lajitas Array**	**97.24**	**61**	LR	LR		13 51 55.4		
	comp=Z,923nm,19.1s,baz=280,slow=31								
PDAR	**Pinedale Array**	**97.95**	**47**	LR	LR		13 53 11.5		
	comp=Z,750nm,19.8s,baz=192,slow=31								
BVAR	**Borovoye Array**	**113.81**	**319**	PKiKP	**PKiKP**		**13 21 06.4**	**+0.4**	
	comp=Z,0.7nm,0.8s,baz=143,slow=1.6,SNR=4.2								
BVAR	**Borovoye Array**	**113.81**	**319**	PKiKP	**PKiKP**		**13 21 06.4**	**+0.4**	
BVAR	**Borovoye Array**	**113.81**	**319**	PKiKP	**PKiKP**		**13 21 06.4**	**+0.4**	
BRVK	**Borovoye**	**113.87**	**320***c*	*i*PKiKP	**PKiKP**		**13 21 08.7**	**+2.6**	
BRVK				pmax	pmax				
	comp=Z,7.0nm,2.5s								
ARCES	**ARCESS Array B**	**128.63**	**345**	PKP	**PKPdf**		**13 21 32.0**	**-2.0**	
	comp=Z,6.0nm,1.0s,baz=107,slow=1.6,SNR=6.1								
ARCES	**ARCESS Array B**	**128.63**	**345**	PKiKP	**PKPdf**		**13 21 32.0**	**-2.0**	
ARCES	**ARCESS Array B**	**128.63**	**345**	PKP	**PKPdf**		**13 21 32.0**	**-2.0**	
MAK	**Makhachkala**	**129.05**	**308**	*e*PKiKP	**PKPdf**		**13 21 32.1**	**-3.5**	
ZEI	**Tsey**	**131.71**	**308**	*i*PKiKP	**PKPdf**		**13 21 43.5**	**+2.5**	
ZEI				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ANN	**Anapa**	**135.94**	**312**	*i*PKHKP	PKPpre		13 21 40.1		
ANN				pmax	pmax				
	comp=Z,87nm,1.4s								
AKASG	**Malin Array Be**	**138.95**	**323**	*i*PKiKP	PKPdf		13 22 03.4	+10	
BRTR	**Keskin Array B**	**139.84**	**305**	PKP	**PKPdf**		**13 21 54.5**	**-1.6**	
	comp=Z,0.7nm,0.9s,baz=176,slow=3.2,SNR=4.3								
BRTR	**Keskin Array B**	**139.84**	**305**	PKiKP	**PKPdf**		**13 21 54.5**	**-1.6**	
BRTR	**Keskin Array B**	**139.84**	**305**	PKP	**PKPdf**		**13 21 54.5**	**-1.6**	
PRD	**Provadia**	**143.31**	**313**	*e*P	PKPdf		13 22 09.4	+7.5	
MLR	**Muntele Rosu**	**143.31**	**317**	PKP	PKPbc		13 21 60.0	+0.7	
	comp=Z,0.4nm,0.7s,baz=198,slow=6.4,SNR=2.9								
MLR	**Muntele Rosu**	**143.31**	**317**	PKiKP	**PKPbc**		13 22 00.0	+0.8	
MLR	**Muntele Rosu**	**143.31**	**317**	PKP	PKPbc		13 21 60.0	+0.7	
UZH	**Uzhgorod**	**143.87**	**324**	*e*PKiKP	PKPbc		13 22 00.2	-0.3	
UZH				*e*			13 22 11.0		
VOIR		**143.90**	**317**	⇓PKiKP	PKPdf		13 22 09.9	+6.8	
VOIR		**143.90**	**317**	⇓*i*P	PKPdf		13 22 09.9	+6.8	
TRPA	**Tarpa**	**144.01**	**323**	⇓*i*P	PKPdf		13 22 10.4	+7.4	
CRVS	**Cervenica-Dubn**	**144.16**	**325**	*e*PKiKP	**PKPab**		**13 22 01.1**	**+0.1**	
CRVS	**Cervenica-Dubn**	**144.16**	**325**	*e*PKP	**PKPab**		**13 22 01.1**	**+0.1**	
SZH	**Strazhica**	**144.27**	**314**	*e*P	PKPdf		13 22 10.4	+6.7	
DRGR		**144.64**	**321**	⇑PKiKP	**PKPab**		**13 22 02.9**	**-0.1**	
DRGR		**144.64**	**321**	⇑*i*P	**PKPab**		**13 22 02.8**	**-0.2**	
PVL	**Pavlikeni**	**144.69**	**314**	*e*P	PKPdf		13 22 20.8	+16	
KECS	**Kecovo**	**144.93**	**325**	*e*PKiKP	**PKPab**		**13 22 03.5**	**-0.4**	
KECS	**Kecovo**	**144.93**	**325**	*e*PKP	**PKPab**		**13 22 03.5**	**-0.4**	
KDZ	**Kurdzhali**	**145.25**	**311**	*e*P	PKPdf		13 22 21.3	+16	
OKC	**Ostrava-Krasne**	**145.26**	**328**	*e*PKiKP	**PKPbc**		**13 22 04.0**	**-0.9**	
OKC				*e*			13 22 15.2		
OKC	**Ostrava-Krasne**	**145.26**	**328**	*e*PKP	**PKPbc**		**13 22 04.0**	**-0.9**	
OKC				*e*pPKP	**pPKPdf**		**13 22 15.2**	**-0.8**	
GZR	**Gura Zlata**	**145.32**	**319**	⇓PKHKP	PKPpre		13 22 04.4		
GZR	**Gura Zlata**	**145.32**	**319**	⇓*i*P	**PKPbc**		**13 22 04.4**	**-0.9**	
BSEG	**Bad Segeberg**	**145.34**	**339**	*e*P	**PKPbc**		**13 22 03.4**	**-1.6**	
	comp=Z,46nm,0.8s								
BSEG	**Bad Segeberg**	**145.34**	**339**	*e*PKP2	**PKPbc**		**13 22 03.4**	**-1.6**	
BSEG				pmax	pmax				
	comp=Z,46nm,0.8s								
KSP	**Ksiaz**	**145.44**	**331**	*e*PKP	**PKPbc**		**13 22 04.5**	**-1.0**	
KSP				*e*			13 22 14.8		
KSP	**Ksiaz**	**145.44**	**331**	*e*PKiKP	**PKPbc**		**13 22 04.4**	**-1.0**	
KSP				*e*			13 22 06.1		
KSP				*i*			13 22 12.4		
PSZ	**Piszkesteto**	**145.58**	**324**	*e*PKiKP	**PKPdf**		**13 22 04.6**	**-1.3**	
PSZ	**Piszkesteto**	**145.58**	**324**	*e*PKPdf	**PKPdf**		**13 22 04.6**	**-1.3**	
PSZ	**Piszkesteto**	**145.58**	**324**	⇓*i*P	PKPab		13 22 15.6	+9.2	
MORC	**Moravsky Berou**	**145.60**	**329**	*e*PKP2	**PKPdf**		**13 22 04.3**	**-1.5**	
MORC	**Moravsky Berou**	**145.60**	**329**	*e*PKPdf	**PKPdf**		**13 22 04.2**	**-1.5**	
MORC	**Moravsky Berou**	**145.60**	**329**	⇓*i*P	**PKPdf**		**13 22 05.2**	**-0.6**	
MPEP	**Malo Peshtene**	**145.68**	**315**	*e*P	**PKPdf**		**13 22 06.2**	**+0.1**	
RZN	**Rozhen**	**145.72**	**312**	*e*P	PKPab		13 22 23.4	+16	
PGB	**Panagyurishte**	**145.75**	**313**	*e*P	PKPab		13 22 21.0	+14	
DPC	**Dobruska-Polom**	**145.77**	**330**	*e*PKiKP	**PKPdf**		**13 22 06.1**	**0.0**	
DPC				*e*			13 22 14.2		
DPC	**Dobruska-Polom**	**145.77**	**330**	*e*PKP	**PKPdf**		**13 22 06.1**	**0.0**	
DPC				*e*pPKP	**pPKPdf**		**13 22 14.2**	**-2.8**	
VYHS	**Vyhne**	**145.79**	**326**	*e*PKiKP	**PKPdf**		**13 22 06.3**	**+0.2**	
VYHS	**Vyhne**	**145.79**	**326**	*e*PKP	**PKPdf**		**13 22 06.3**	**+0.2**	
UPC	**Upice**	**145.80**	**331**	*e*PKP2	**PKPdf**		**13 22 06.0**	**-0.1**	
UPC	**Upice**	**145.80**	**331**	*e*PKP	**PKPdf**		**13 22 06.0**	**-0.1**	
UPC				*e*pPKP	**pPKPdf**		**13 22 17.0**	**+0.1**	
BZS	**Buzias**	**145.91**	**320**	⇑PKP2	**PKPab**		**13 22 08.0**	**+0.4**	
BZS	**Buzias**	**145.91**	**320**	⇑*i*P	**PKPab**		**13 22 08.0**	**+0.4**	
KOLL	**Kolacno**	**145.96**	**326**	*e*PKP2	**PKPbc**		**13 22 07.2**	**+0.1**	
KOLL	**Kolacno**	**145.96**	**326**	*e*PKP	**PKPbc**		**13 22 07.2**	**+0.1**	
VTS	**Vitosha**	**146.37**	**314**	⇓PKP2	**PKPbc**		**13 22 08.8**	**0.0**	
VTS	**Vitosha**	**146.37**	**314**	⇓*i*P	**PKPbc**		**13 22 08.8**	**0.0**	
VRAC	**Vranov**	**146.37**	**329**	PKPbc	**PKPdf**		**13 22 07.2**	**+0.1**	
	comp=Z,5.8nm,0.9s,baz=108,slow=4.4,SNR=3.4								
VRAC	**Vranov**	**146.37**	**329**	PKP2	**PKPdf**		**13 22 07.2**	**+0.1**	
VRAC	**Vranov**	**146.37**	**329**	PKPbc	**PKPdf**		**13 22 07.2**	**+0.1**	
VRAC	**Vranov**	**146.37**	**329**	⇑*i*P	PKPab		13 22 14.8	+5.6	
PVCC	**Panska Ves**	**146.43**	**332**	*e*PKP2	**PKPab**		**13 22 10.3**	**+0.9**	
PVCC	**Panska Ves**	**146.43**	**332**	*e*PKP	**PKPab**		**13 22 10.3**	**+0.9**	
PVCC				*e*pPKP	**pPKPdf**		**13 22 18.8**	**+0.8**	
BRG	**Berggiesshubel**	**146.44**	**333**	*e*PKP	**PKPbc**		**13 22 08.2**	**-0.3**	
	comp=Z,5.0nm,0.6s								
BRG				*i*			13 22 18.3		
	comp=Z,196nm,2.0s								
BRG				*e*PKS	PKSdf		13 25 48.5	+6.2	
	comp=Z,14nm,1.7s								
BRG	**Berggiesshubel**	**146.44**	**333**	*e*P	**PKPbc**		**13 22 07.9**	**-0.6**	
	comp=Z,13nm,0.8s								
BRG	**Berggiesshubel**	**146.44**	**333**	*e*PKP2	**PKPbc**		**13 22 08.2**	**-0.3**	
BRG				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BRG				pmax	pmax				
	comp=Z,196nm,2.0s								
BRG				pmax	pmax				
	comp=Z,14nm,1.7s								
ZAPS	**Zavoj**	**146.44**	**316**	*e*P	**PKPab**		**13 22 10.2**	**+0.5**	
MMB	**Musomiste**	**146.44**	**312**	*e*P	**PKPbc**		**13 22 09.3**	**+0.4**	
CLL	**Collm**	**146.49**	**334**	*e*P	**PKPdf**		**13 22 07.1**	**-0.1**	
	comp=Z,17nm,0.7s								
CLL	**Collm**	**146.49**	**334**	*i*PKiKP	**PKPdf**		**13 22 06.2**	**-1.0**	
CLL	**Collm**	**146.49**	**334**	*e*PKPdf	**PKPbc**		**13 22 08.0**	**-0.6**	
CLL				*e*PKPbc	**PKPab**		**13 22 10.0**	**+0.4**	
	comp=Z,15nm,1.3s								
CLL				*i* pPKPbc	pPKPbc		13 22 18.5	-0.9	
CLL				*e*SS	SS		13 44 30.0	+3.5	
CLL				LmV			14 23 00.0		
	comp=Z,300nm,21.1s								
PRU	**Pruhonice**	**146.83**	**331**	*e*pPKP	pPKPdf		13 22 19.9	+1.2	
NEUB	**Neuenburg**	**147.05**	**335**	*e*P	**PKPab**		**13 22 11.1**	**-0.7**	
	comp=Z,17nm,0.7s								
CLZ	**Clausthal**	**147.06**	**337**	*e*P	**PKPab**		**13 22 11.1**	**-0.8**	
	comp=Z,16nm,0.9s								
CLZ	**Clausthal**	**147.06**	**337**	*e*PKP2	**PKPab**		**13 22 11.1**	**-0.8**	
CLZ				pmax	pmax				
	comp=Z,16nm,0.9s								
BARS	**Barje**	**147.18**	**315**	*e*P	**PKPbc**		**13 22 10.2**	**-0.7**	
FRGS	**Fruska Gora**	**147.23**	**320**	*e*P	**PKPab**		**13 22 12.9**	**+0.2**	
PKSM	**Moragy**	**147.29**	**323**	⇓PKHKP	**PKPdf**		**13 22 05.9**	**-2.8**	
PKSM	**Moragy**	**147.29**	**323**	⇓*i*P	**PKPdf**		**13 22 05.9**	**-2.8**	
GRUS	**Gruza**	**147.35**	**318**	*e*P	**PKPab**		**13 22 12.6**	**-0.6**	
TANN	**Tannenbergstha**	**147.40**	**334**	*e*P	**PKPbc**		**13 22 10.2**	**-1.1**	
	comp=Z,14nm,1.1s								
SELS	**Selova**	**147.44**	**316**	*e*P	**PKPbc**		**13 22 11.5**	**-0.1**	
NKC	**Novy Kostel**	**147.54**	**334**	*e*PKP2	**PKPab**		**13 22 13.8**	**0.0**	
NKC	**Novy Kostel**	**147.54**	**334**	*e*PKP	**PKPab**		**13 22 13.8**	**0.0**	
NKC				*e*pPKP	**pPKPdf**		**13 22 21.5**	**+1.6**	
MOX	**Moxa**	**147.56**	**335**	*e*P	**PKPbc**		**13 22 12.3**	**+0.6**	
	comp=Z,7.0nm,0.9s								
MOX	**Moxa**	**147.56**	**335**	*e*PKP2	**PKPbc**		**13 22 12.3**	**+0.6**	
MOX				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KHC	**Kasperske Hory**	**147.89**	**331**	*e*PKiKP	**PKPdf**		**13 22 09.6**	**-0.1**	
KHC	**Kasperske Hory**	**147.89**	**331**	*e*PKPdf	**PKPdf**		**13 22 09.6**	**-0.1**	
KHC	**Kasperske Hory**	**147.89**	**331**	*e*PKP	**PKPdf**		**13 22 10.0**	**+0.3**	
KHC				*ex*	x		13 22 16.0		
KHC				*e*pPKP	**pPKPdf**		**13 22 23.1**	**+2.6**	
ROTZ	**Rotzenmuhle**	**148.00**	**333**	*e*P	**PKPab**		**13 22 15.0**	**-0.6**	
	comp=Z,9.0nm,0.9s								
GEC2	**GERESS Array S**	**148.04**	**331**	*e*P	**PKPbc**		**13 22 14.0**	**+0.8**	
	comp=Z,7.0nm,0.8s								
GEC2	**GERESS Array S**	**148.04**	**331**	*e*PKP2	**PKPbc**		**13 22 14.0**	**+0.8**	
GEC2				pmax	pmax				
	comp=Z,7.0nm,0.9s								
GERES	**GERESS Array B**	**148.04**	**331**	PKPbc	**PKPbc**		**13 22 12.2**	**-1.0**	
	comp=Z,2.3nm,0.7s,baz=56,slow=3.4,SNR=7.6								
GERES	**GERESS Array B**	**148.04**	**331**	PKP2	**PKPbc**		**13 22 12.2**	**-1.0**	
GERES	**GERESS Array B**	**148.04**	**331**	PKPbc	**PKPbc**		**13 22 12.2**	**-1.0**	
WET	**Wettzell**	**148.19**	**332**	*e*P	**PKPbc**		**13 22 14.9**	**+1.4**	
	comp=Z,24nm,1.3s								
WET	**Wettzell**	**148.19**	**332**	*e*PKP2	**PKPbc**		**13 22 14.9**	**+1.4**	
WET				pmax	pmax				
	comp=Z,24nm,1.3s								
GRF	**Grafenberg Arr**	**148.46**	**334**	*e*P	**PKPab**		**13 22 16.3**	**-1.2**	
	comp=Z,8.0nm,0.8s								
GRF	**Grafenberg Arr**	**148.46**	**334**	*e*PKP2	**PKPab**		**13 22 16.3**	**-1.2**	
GRF				pmax	pmax				
	comp=Z,8.0nm,0.8s								
RJOB	**Jochberg**	**149.27**	**330**	*e*P	**PKPab**		**13 22 18.9**	**-2.0**	
	comp=Z,8.0nm,0.8s								
MEM	**Membach**	**149.56**	**340**	PKPbc	**PKPbc**		**13 22 17.6**	**+0.7**	
DOU	**Dourbes**	**150.44**	**342**	PKPbc	**PKPbc**		**13 22 21.2**	**+2.2**	
BFO	**Black Forest**	**150.70**	**335**	*e*P	**PKPab**		**13 22 27.1**	**+0.4**	
	comp=Z,9.0nm,0.8s								
BFO	**Black Forest**	**150.70**	**335**	*e*PKiKP	**PKPab**		**13 22 27.1**	**+0.4**	
BFO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
DAVOX	**Davos/Dischmat**	**151.29**	**332**	PKPbc	**PKPbc**		**13 22 22.1**	**+0.7**	
	comp=Z,6.0nm,0.5s,baz=198,slow=5.7,SNR=5.6								
DAVOX	**Davos/Dischmat**	**151.29**	**332**	PKiKP	**PKPbc**		**13 22 22.1**	**+0.7**	
DAVOX	**Davos/Dischmat**	**151.29**	**332**	PKPbc	**PKPbc**		**13 22 22.1**	**+0.7**	
TUE	**Stuetta**	**151.77**	**332**	*e*PKPdf	**PKPdf**		**13 22 15.6**	**-0.5**	
ESDC	**Sonseca Array**	**162.37**	**346**	PKPab	**PKPab**		**13 23 15.7**	**-1.2**	
	comp=Z,0.3nm,0.4s,baz=49,slow=5.7,SNR=3.2								
ESDC	**Sonseca Array**	**162.37**	**346**	PKPab	**PKPab**		**13 23 15.7**	**-1.2**	
DBIC	**Dimbokro**	**163.57**	**196**	PKP	**PKPdf**		**13 22 33.9**	**+2.5**	
	comp=Z,3.1nm,1.0s,baz=153,slow=2.3,SNR=2.4								
DBIC				PKPab	**PKPab**		**13 23 21.2**	**-1.4**	
	comp=Z,5.9nm,1.0s,baz=127,slow=8.5,SNR=4.5								
DBIC	**Dimbokro**	**163.57**	**196**	PKiKP	**PKPdf**		**13 22 33.9**	**+2.5**	
DBIC							13 23 21.3		
DBIC	**Dimbokro**	**163.57**	**196**	PKP	**PKPdf**		**13 22 33.9**	**+2.5**	
DBIC				PKPab	**PKPab**		**13 23 21.2**	**-1.4**	
TORD	**Torodi Ar. Bea**	**165.88**	**230**	PKP	**PKPdf**		**13 22 34.0**	**+0.7**	
	comp=Z,2.4nm,1.1s,baz=185,slow=4.5,SNR=4.7								
TORD				PKPab	**PKPab**		**13 23 30.7**	**-2.3**	
	comp=Z,4.6nm,1.1s,baz=132,slow=4.6,SNR=7.0								
TORD	**Torodi Ar. Bea**	**165.88**	**230**	PKP	**PKPdf**		**13 22 34.0**	**+0.7**	
TORD				PKPab	**PKPab**		**13 23 30.7**	**-2.3**	

*PGC **15** 13:04:26.7±2.6,56.°03N×135.°43W,h10km,ML3.4/6, 113km south of Sitka, Ak Southeastern Alaska*
*NEIC **15** 13:04:27.2,56.°12N×135.°61W,h20km,ML3.4(PGC), ML3.2(AEIC), After AEIC.*
ISC 15 13:04:24.1±2.6,56.°05N±0.°04×135.°73W±0.°08, h12km±19km,n18,σ1°81/31,7D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SIT	**Sitka**	**1.03**	**12**	P	**Pb**		**13 04 43.7**	**-0.1**
SIT				S	**Sb**		**13 04 55.5**	**-1.8**
CRAG	**Craig**	**1.58**	**111**	P	**Pn**		**13 04 51.5**	**-0.4**
CRAG				S	**Sn**		**13 05 11.3**	**-0.9**
WRAK	**Wrangell Islan**	**1.93**	**78**	P	**Pn**		**13 04 56.5**	**0.0**
WRAK				S	**Sn**		**13 05 19.5**	**-1.2**
BESE	**Bessie Mountai**	**2.58**	**10**	P	**Pn**		**13 05 06.2**	**+0.6**
BESE				S	**Sn**		**13 05 35.7**	**-1.2**
NDB	**Naden**	**2.64**	**141**	⇑Pn	**Pn**		**13 05 07.1**	**+0.6**
NDB				⇑Sn	**Sn**		**13 05 37.5**	**-1.0**
NDB				⇑Sg	**Sb**		**13 05 46.4**	**+2.6**
DIB	**Dawson Inlet,**	**3.42**	**145**	⇑Pn	**Pn**		**13 05 18.0**	**+0.8**
DIB				⇓Sn	**Sn**		**13 05 55.7**	**-1.9**
DIB				⇓Sg	**Sb**		**13 06 08.2**	**+2.1**
SKAG	**Skagway**	**3.42**	**3**	P	**Pn**		**13 05 18.3**	**+1.1**
SKAG				S	**Sn**		**13 05 57.2**	**-0.5**
BNAB	**Bonilla**	**3.91**	**129**	⇓Pn	**Pn**		**13 05 24.3**	**+0.5**
BNAB				⇑Sn	**Sn**		**13 06 07.2**	**-2.3**
DLBC	**Dease Lake**	**3.91**	**50**	P	**Pn**		**13 05 24.1**	**+0.1**
DLBC	**Dease Lake**	**3.91**	**50**	⇓Pn	**Pn**		**13 05 24.4**	**+0.4**
DLBC				⇓Sg	**Sb**		**13 06 24.5**	**+4.2**
PNL	**Peninsula**	**4.12**	**333**	P	**Pn**		**13 05 27.7**	**+0.9**
WHY	**Whitehorse**	**4.64**	**5**	P	**Pn**		**13 05 35.8**	**+1.7**
WHY	**Whitehorse**	**4.64**	**5**	⇑Pn	**Pn**		**13 05 36.3**	**+2.2**
WHY				⇑Sn	**Sn**		**13 06 27.7**	**-0.2**
WHY				⇓Sg	**Sg**		**13 06 50.6**	**-2.4**
HYT	**Haines Junctio**	**4.88**	**350**	⇓Pn	Pn		13 05 40.8	+3.5
TABL	**Table Mountain**	**5.25**	**329**	P	**Pn**		**13 05 43.1**	**+0.7**
ISLE	**Juniper Island**	**5.74**	**325**	P	**Pn**		**13 05 50.2**	**+1.1**
BBB	**Bella Bella**	**5.92**	**128**	P	**Pn**		**13 05 52.5**	**+1.1**
BBB	**Bella Bella**	**5.92**	**128**	⇑Pn	**Pn**		**13 05 52.2**	**+0.8**
BBB				⇓Sn	**Sn**		**13 06 54.5**	**-4.6**

*ISCJB **15** 13:17:51.8±0.4,50.°31N±0.°03×18.°72E±0.°02,h0km, Error ellipse: s-maj=5.2km s-min=1.8km az=16.1*
*IPEC **15** 13:17:53.7±0.5,50.°26N×18.°96E,h3km±1km,ML2.5/4, Error ellipse: s-maj=2.7km s-min=2.6km az=125.0*
*CSEM **15** 13:17:53.9±0.2,50.°29N×18.°82E,h2km,ML3.4/7, Error ellipse: s-maj=5.2km s-min=1.9km az=12.0*
*PRU **15** 13:17:54.9,50.°26N×18.°82E,h0km*
*WAR **15** 13:17:54.8,50.°23N×18.°92E*
*VIE **15** 13:17:55.7±1.1,49.°67N×19.°01E,h0km,mb1.9/2,ML3.1/3, Error ellipse: s-maj=6.4km s-min=5.4km az=103.0 54 km NNE of Zilina Suspected Mining induced.*
*BGR **15** 13:18:10.9±1.0,50.°05N×17.°98E,h1km,ML3.1/21, Error ellipse: s-maj=10.0km s-min=7.8km az=64.0*
ISC 15 13:17:54.3±0.7,50.°23N±0.°03×18.°86E±0.°02,h0km,n100, σ1°79/127,9C-7D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAC	**Raciborz**	**0.45**	**252**	*e*Pg	**Pb**		**13 18 05.0**	**-0.1**
RAC				*e*Sg	**Sb**		**13 18 12.4**	**0.0**
OJC	**Ojcow**	**0.60**	**90**	*e*Pg	**Pg**		**13 18 05.5**	**-0.3**
OJC				*i* Sg	**Sg**		**13 18 13.6**	**+0.1**
OJC	**Ojcow**	**0.60**	**90**	*e*Pg	**Pg**		**13 18 05.5**	**-0.3**
OJC				*i* Sg	**Sg**		**13 18 13.6**	**+0.1**
OKC	**Ostrava-Krasne**	**0.60**	**230**	*e*PG	**Pg**		**13 18 06.9**	**+1.1**
OKC				*e*SG	**Sg**		**13 18 15.1**	**+1.4**
	comp=Z,58nm,0.3s							
OKC	**Ostrava-Krasne**	**0.60**	**230**	Pg	**Pg**		**13 18 06.9**	**+1.1**
OKC				Sg	**Sg**		**13 18 15.1**	**+1.4**
	58nm,0.3s							
MORC	**Moravsky Berou**	**0.96**	**243**	⇓*i*P	**Pg**		**13 18 13.3**	**+0.6**
MORC	**Moravsky Berou**	**0.96**	**243**	⇓*i*P	**Pg**		**13 18 13.3**	**+0.6**
MORC				*e*Sg	**Sg**		**13 18 26.4**	**+1.2**
	103nm,0.3s,baz=62							
LIKS	**Likavka**	**1.19**	**172**	*e*PG	**Pg**		**13 18 15.6**	**-1.4**
LIKS	**Likavka**	**1.19**	**172**	*e*Pg	**Pg**		**13 18 15.6**	**-1.4**
NIE	**Niedzica**	**1.24**	**130**	*e*Pg	**Pb**		**13 18 18.1**	**-0.5**
NIE				*e*Sg	**Sn**		**13 18 35.3**	**-1.0**
NIE	**Niedzica**	**1.24**	**130**	*e*Pg	**Pb**		**13 18 18.1**	**-0.5**
NIE				*e*Sg	**Sn**		**13 18 35.3**	**-1.0**
KRLC	**Kraliky**	**1.35**	**264**	*e*PG	**Pg**		**13 18 19.3**	**-0.8**
KRLC				*e*SG	**Sg**		**13 18 36.5**	**-1.1**
KRLC	**Kraliky**	**1.35**	**264**	Pg	**Pg**		**13 18 19.3**	**-0.8**
KRLC				Sg	**Sg**		**13 18 36.5**	**-1.1**
JAVC	**Velka Javorina**	**1.57**	**210**	*e*Sg	**Sg**		**13 18 45.8**	**+1.0**
	29nm,0.5s							
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*PG	**Pn**		**13 18 24.2**	**-0.1**
DPC				*e*SG	**Sn**		**13 18 44.9**	**-1.2**
	comp=Z,64nm,0.4s							
DPC	**Dobruska-Polom**	**1.64**	**275**	Pg	**Pn**		**13 18 24.2**	**-0.1**
DPC				Sg	**Sn**		**13 18 44.9**	**-1.2**
	64nm,0.4s							
KOLL	**Kolacno**	**1.68**	**191**	*e*PG	**Pg**		**13 18 27.2**	**+0.8**
KOLL	**Kolacno**	**1.68**	**191**	*e*Pg	**Pg**		**13 18 27.2**	**+0.8**
VRAC	**Vranov**	**1.74**	**239**⇑	*i*P	**Pn**		**13 18 26.3**	**+0.6**
VRAC	**Vranov**	**1.74**	**239**	*e*Pn	**Pn**		**13 18 26.2**	**+0.6**
VRAC				*e*Sg	**Sb**		**13 18 49.7**	**+0.3**
	40nm,0.3s,baz=57							
VYHS	**Vyhne**	**1.74**	**181**	*e*PN	**Pn**		**13 18 25.7**	**0.0**
VYHS				*e*SN	**Sn**		**13 18 48.0**	**-0.5**
VYHS	**Vyhne**	**1.74**	**181**	*e*Pn	**Pn**		**13 18 25.7**	**0.0**
VYHS				*e*Sn	**Sn**		**13 18 48.0**	**-0.5**
STHS	**Stebnicka Huta**	**1.74**	**117**	*e*PN	**Pb**		**13 18 25.8**	**-1.3**
STHS	**Stebnicka Huta**	**1.74**	**117**	*e*Pn	**Pb**		**13 18 25.8**	**-1.3**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**		**13 18 28.0**	**+0.2**
KSP				*e*Sg	**Sg**		**13 18 51.5**	**+1.0**
KSP	**Ksiaz**

*DJA **15** 13:23:51.0±86.5×133.1°11E, h39km, mb4.3/7*
IDC 15 13:23:42.9±3.0, 0.78S×133.28E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=189.7km s-min=24.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**177**	P	P	13 28 07.1	-0.1
	0.3nm,0.3s,baz=358,slow=12,SNR=23						
ASAR	**Alice Springs**	**22.76**	**179**	P	P	13 28 47.2	+0.2
	1.5nm,0.3s,baz=358,slow=11,SNR=54						
STKA	**Stephens Creek**	**31.91**	**167**	P	P	13 30 10.2	-0.1
	1.3nm,0.7s,baz=338,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**65.00**	**324**	P	P	13 34 24.9	-0.1
	0.6nm,0.6s,baz=110,slow=7.5,SNR=6.3						

*ISK **15** 13:29:03.0, 39.94N×33.04E, h9km, ML1.8*
*DDA **15** 13:29:03.8, 39.87N×32.96E, h7km, MD2.8*
*ISCJB **15** 13:29:04.5±0.6, 39.89N±0.03×32.99E±0.05, h8km±7km, Error ellipse: s-maj=6.7km s-min=5.5km az=178.8*
*CSEM **15** 13:29:04.3±0.3, 39.87N×33.01E, h10km, ML1.8, Error ellipse: s-maj=7.4km s-min=6.4km az=114.0*
ISC 15 13:29:04.4±1.0, 39.89N±0.03×33.02E±0.03, h9km±9km, n18, σ0s82/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.19**	**269**	*e*PG	**Pg**	**13 29 07.7**	**-0.7**
LOD				*e*SG	**Sg**	**13 29 11.7**	**+0.5**
LOD	**Lodumlu**	**0.19**	**269**	*e*Pg	**Pg**	**13 29 07.7**	**-0.7**
LOD				*e*Sg	**Sg**	**13 29 11.7**	**+0.5**
BBAL	**Bala**	**0.36**	**167**	*i* P	**Pg**	**13 29 10.6**	**-0.9**
BBAL				*i* S	**Sg**	**13 29 16.8**	**+0.5**
BBAL	**Bala**	**0.36**	**167**	*i* P	**Pg**	**13 29 10.6**	**-0.9**
BBAL				*i* S	**Sg**	**13 29 16.8**	**+0.5**
AFSR	**Afʿar-Bala (A**	**0.45**	**174**	*e*PG	**Pg**	**13 29 12.7**	**-0.5**
AFSR				*e*SG	**Sg**	**13 29 20.8**	**+1.7**
AFSR	**Afʿar-Bala (A**	**0.45**	**174**	*e*Pg	**Pg**	**13 29 12.7**	**-0.5**
AFSR				*e*Sg	**Sg**	**13 29 20.8**	**+1.7**
ELDT	**Eldivan**	**0.68**	**28**	*i* P	**Pg**	**13 29 17.3**	**-0.2**
ELDT				*i* S	**Sb**	**13 29 28.2**	**+0.1**
ELDT	**Eldivan**	**0.68**	**28**	*i* P	**Pg**	**13 29 17.3**	**-0.2**
ELDT				*i* S	**Sb**	**13 29 28.2**	**+0.1**
CDAG	**Cicekdag**	**1.08**	**104**	*i* P	**Pg**	**13 29 24.3**	**-0.9**
CDAG				*i* S	**Sn**	**13 29 41.0**	**-0.1**
CDAG	**Cicekdag**	**1.08**	**104**	*i* P	**Pg**	**13 29 24.3**	**-0.9**
CDAG				*i* S	**Sn**	**13 29 41.0**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.23**	**249**	*e*PN	**Pg**	**13 29 27.3**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.23**	**249**	*e*Pn	**Pg**	**13 29 27.3**	**-0.8**
CORM	**Corum**	**1.27**	**77**	*e*PN	**Pg**	**13 29 27.8**	**-1.1**
CORM	**Corum**	**1.27**	**77**	*e*Pn	**Pg**	**13 29 27.8**	**-1.1**
KDHN	**Kadinhani**	**1.54**	**207**	*i* P	**Pn**	**13 29 32.2**	**0.0**
KDHN	**Kadinhani**	**1.54**	**207**	*i* P	**Pn**	**13 29 32.2**	**0.0**
BALT	**Daday**	**1.66**	**10**	*i* P	**Pg**	**13 29 35.9**	**-0.5**
BALT	**Daday**	**1.66**	**10**	*i* P	**Pg**	**13 29 35.9**	**-0.5**

*CSEM **15** 13:35:24.8±0.5, 38.53N×44.29E, h2km, MD2.9, Error ellipse: s-maj=9.9km s-min=4.7km az=97.0*
*DDA **15** 13:35:26.2, 38.50N×44.12E, h7km, MD3.1*
*ISK **15** 13:35:27.7, 38.64N×44.08E, h2km, MD2.9*
ISC 15 13:35:26.2±1.3, 38.53N±0.03×44.12E±0.06, h3km±12km, n18, σ0s79/29, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.56**	**270**	*i* P	**Pg**	**13 35 37.0**	**+0.1**
TVAN	**Van**	**0.56**	**270**	*i* P	**Pg**	**13 35 37.0**	**+0.1**
VANB	**Van**	**0.57**	**277**	*e*PG	**Pb**	**13 35 38.5**	**-0.5**
VANB				*e*SG	**Sb**	**13 35 48.0**	**+0.3**
VANB	**Van**	**0.57**	**277**	*e*Pg	**Pb**	**13 35 38.5**	**-0.5**
VANB				*e*Sg	**Sb**	**13 35 48.0**	**+0.3**
CLDR	**Caldiran**	**0.63**	**346**	*e*PG	**Pg**	**13 35 38.0**	**-0.3**
CLDR				*e*SG	**Sg**	**13 35 47.4**	**+0.8**
CLDR	**Caldiran**	**0.63**	**346**	*e*Pg	**Pg**	**13 35 38.0**	**-0.3**
CLDR				*e*Sg	**Sg**	**13 35 47.4**	**+0.8**
VANT	**Van**	**0.68**	**261**	*e*PG	**Pb**	**13 35 40.9**	**+0.1**
VANT				*e*SG	**Sn**	**13 35 52.6**	**-1.5**
VANT	**Van**	**0.68**	**261**	*e*Pg	**Pb**	**13 35 40.9**	**+0.1**
VANT				*e*Sg	**Sn**	**13 35 52.6**	**-1.5**
HAKT	**HAKKARI**	**1.02**	**199**	*i* P	**Pg**	**13 35 45.9**	**+0.1**
HAKT				*i* S	**Sg**	**13 35 59.2**	**+0.2**
HAKT	**HAKKARI**	**1.02**	**199**	*i* P	**Pg**	**13 35 45.9**	**+0.1**
HAKT				*i* S	**Sg**	**13 35 59.2**	**+0.2**
DYDN	**Diyadin**	**1.07**	**342**	*i* P	**Pg**	**13 35 46.7**	**0.0**
DYDN				*i* S	**Sg**	**13 35 59.0**	**-1.5**
DYDN	**Diyadin**	**1.07**	**342**	*i* P	**Pg**	**13 35 46.7**	**0.0**
DYDN				*i* S	**Sg**	**13 35 59.0**	**-1.5**
TUTA	**Tutak**	**1.34**	**311**	*i* P	**Pg**	**13 35 52.5**	**+0.6**
TUTA				*i* S	**Sn**	**13 36 11.8**	**+1.3**
TUTA	**Tutak**	**1.34**	**311**	*i* P	**Pg**	**13 35 52.5**	**+0.6**
TUTA				*i* S	**Sn**	**13 36 11.8**	**+1.3**
CUKT	**Cukurca**	**1.34**	**198**	*e*PN	Pg	13 35 56.4	+4.5
AGRB	**Hanur-Agry**	**1.36**	**320**	*e*PN	**Pn**	**13 35 52.4**	**0.0**
AGRB	**Hanur-Agry**	**1.36**	**320**	*e*Pn	**Pn**	**13 35 52.4**	**0.0**
GNI	**Garni**	**1.69**	**16**	*e*PN	**Pb**	**13 35 58.0**	**0.0**

NNC 15 13:35:32.1±6.0, 37.35N×70.52E, h0km, mb3.7, mpv3.4, 4C-2D, Error ellipse: s-maj=44.7km s-min=44.2km az=0.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.75**	**360**	Pn	Pn	13 37 02.1	+3.4
	2.2nm,0.3s,baz=177,slow=12,SNR=33						
KK31				⇑Sn	Sn	13 38 12.0	+6.7
	2.1nm,0.4s,baz=186,slow=23,SNR=4.7						
TKM2	**Tokmak 2**	**6.79**	**33**	⇓Pn	Pn	13 37 10.9	-2.3
	1.3nm,0.6s						
TKM2				⇓Sn	Sn	13 38 31.0	-0.4
	2.9nm,1.0s						
AB31	**Akbulak array**	**14.15**	**331**	⇑Pn	Pn	13 38 53.3	-0.4
	0.5nm,0.3s						
AB31				⇑Sn	Sn	13 41 29.4	-2.1
	0.9nm,0.7s,baz=152,slow=25,SNR=5.0						
AKTO	**Aktyubinsk**	**15.85**	**330**	⇑Pn	Pn	13 39 18.0	+1.5
	0.6nm,0.9s						

*ISK **15** 13:37:57.4, 38.54N×37.15E, h28km, ML1.5*
*DDA **15** 13:37:59.9, 37.27N×38.63E, h5km, MD2.9*
*CSEM **15** 13:38:00.8±1.3, 37.34N×38.53E, h5km, MD2.9, Error ellipse: s-maj=36.5km s-min=11.7km az=130.0*
ISC 15 13:38:02.3±1.2, 37.44N±0.08×38.41E±0.08, h0km±12km, n15, σ1s18/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.68**	**263**	*i* P	**Pb**	**13 38 17.0**	**-0.1**
GZT				*i* S	**Sn**	**13 38 29.6**	**-1.1**
MALT	**Malatya**	**0.87**	**1**	*e*PG	**Pg**	**13 38 17.2**	**-1.8**
MALT	**Malatya**	**0.87**	**1**	*e*Pg	**Pg**	**13 38 17.2**	**-1.8**
AKCD	**Akcadag**	**0.94**	**336**	*i* P	**Pn**	**13 38 23.1**	**+0.2**
AKCD				*i* S	**Sn**	**13 38 39.1**	**+2.1**
AKCD	**Akcadag**	**0.94**	**336**	*i* P	**Pn**	**13 38 23.1**	**+0.2**
AKCD				*i* S	**Sn**	**13 38 39.1**	**+2.1**
GAZ	**Gaziantep**	**0.99**	**255**	*e*PN	**Pg**	**13 38 21.1**	**-0.3**
GAZ				*e*SN	**Sn**	**13 38 38.2**	**-0.2**
GAZ	**Gaziantep**	**0.99**	**255**	*e*Pn	**Pg**	**13 38 21.1**	**-0.3**
GAZ				*e*Sn	**Sn**	**13 38 38.2**	**-0.2**
ELZG	**Elazig**	**1.15**	**23**	*i* P	**Pg**	**13 38 24.6**	**+0.3**
ELZG				*i* S	**Sn**	**13 38 40.5**	**-1.8**
ELZG	**Elazig**	**1.15**	**23**	*i* P	**Pg**	**13 38 24.6**	**+0.3**
ELZG				*i* S	**Sn**	**13 38 40.5**	**-1.8**
SVRC	**Sivrice-ELAZID**	**1.17**	**37**	*e*PN	**Pg**	**13 38 25.2**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.17**	**37**	*e*Pn	**Pg**	**13 38 25.2**	**+0.4**
KUZU	**Kuzuini**	**1.26**	**238**	*i* P	**Pg**	**13 38 25.8**	**-0.6**
KUZU				*i* S	**Sg**	**13 38 43.3**	**+0.5**
KUZU	**Kuzuini**	**1.26**	**238**	*i* P	**Pg**	**13 38 25.8**	**-0.6**
KUZU				*i* S	**Sg**	**13 38 43.3**	**+0.5**
PTK	**Pertek**	**1.64**	**28**	*e*PN	Pn	13 38 27.0	-5.6
PTK	**Pertek**	**1.64**	**28**	*e*Pn	Pn	13 38 27.0	-5.6

*ISCJB **15** 14:03:30.9±0.8, 37.01N±0.04×71.0E±0.2, h40km, Error ellipse: s-maj=17.4km s-min=5.1km az=178.6*
*NNC **15** 14:03:36.3±6.5, 37.65N×70.63E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=51.8km s-min=43.6km az=3.0*
ISC 15 14:03:32.5±1.1, 36.99N±0.06×71.0E±0.1, h40km, n13, σ1s14/23, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.25**	**166**	P	**Pn**	**14 04 22.3**	**+1.1**
CEP				S	**Sn**	**14 04 58.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.81**	**150**	P	**Pn**	**14 04 28.7**	**-0.1**
THW	**Thamme Wali**	**4.23**	**171**	P	**Pn**	**14 04 35.1**	**+0.5**
AML	**Almayashu**	**5.55**	**21**	P	**Pn**	**14 04 54.0**	**+1.1**
	SNR=54						
AML				P	**Pn**	**14 04 54.0**	**+1.1**
	SNR=54						
EKS2	**Erkin-Say**	**6.06**	**20**	P	**Pn**	**14 05 00.9**	**+1.2**
	SNR=17						
EKS2				P	**Pn**	**14 05 00.9**	**+1.2**
	SNR=17						
KK31	**Karatay Array**	**6.12**	**357**	Pn	**Pn**	**14 05 02.4**	**+2.0**
	6.5nm,0.4s,baz=181,slow=13,SNR=57						
KK31				⇑Sn	**Sn**	**14 06 08.9**	**-0.2**
	2.8nm,0.4s,baz=184,slow=24,SNR=4.8						
AAK	**Ala-Archa**	**6.25**	**25**	P	**Pn**	**14 05 03.5**	**+1.0**
	SNR=29						
AAK				P	**Pn**	**14 05 03.5**	**+1.0**
	SNR=29						
KBK	**Karagaybulak**	**6.43**	**27**	P	**Pn**	**14 05 06.6**	**+1.7**
	SNR=6.6						
KBK				P	**Pn**	**14 05 06.6**	**+1.7**
	SNR=6.6						
CHMS	**Chumysh**	**6.67**	**25**	P	**Pn**	**14 05 08.7**	**+0.8**
	SNR=9.3						
CHMS				P	**Pn**	**14 05 08.7**	**+0.8**
	SNR=9.3						
USP	**Ospenovka**	**6.83**	**22**	P	**Pn**	**14 05 10.7**	**+0.5**
	SNR=18						
USP				P	**Pn**	**14 05 10.7**	**+0.5**
	SNR=18						
TKM2	**Tokmak 2**	**6.91**	**30**	P	**Pn**	**14 05 12.2**	**+0.7**
	SNR=7.6						
TKM2				P	**Pn**	**14 05 12.2**	**+0.7**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.91**	**30**	⇑Pn	**Pn**	**14 05 10.7**	**-0.7**
	8.7nm,0.7s						
TKM2				⇑Sn	**Sn**	**14 06 28.2**	**-0.6**
	3.4nm,0.8s						
AB31	**Akbulak array**	**14.65**	**330**	⇑Pn	**Pn**	**14 06 55.3**	**-1.6**
	0.2nm,0.3s,baz=141,slow=13,SNR=15						
AB31				⇑Sn	Sn	14 09 29.3	-8.6
	0.7nm,0.6s,baz=152,slow=22,SNR=4.6						

*IDC **15** 14:05:56.5±1.0, 0.60S×133.48E, h0km, mb4.1/6, mb1 4.5/8, mb1mx4.2/18, mbtmp4.3/8, ML4.6/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=39.2km s-min=13.4km az=78.0*
*NEIC **15** 14:06:01.9±0.6, 0.65S×133.28E, h35km, mb4.3/3, Error ellipse: s-maj=18.1km s-min=9.8km az=63.0*
*DJA **15** 14:06:05, 0.72S×133.00E, h38km, mb4.8/8*
ISC 15 14:06:04.9±1.2, 1.2S±0.1×132.7E±0.1, h28km, n31, σ1s95/29, mb4.2/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.48**	**254**	Pn	**P**	**14 09 21.8**	**-1.7**
	1.5nm,0.3s,baz=128,slow=12,SNR=3.7						
KAPI				LR	LR	14 15 02.5	
	comp=Z,51nm,18.7s,baz=7.1,slow=38						
KAPI	**Kappang**	**13.48**	**254**	Pn	**P**	**14 09 21.8**	**-1.7**
COEN	**Coen**	**16.34**	**141**	*e*Pn	**Pn**	**14 09 51.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.16**	**202**	P	**P**	**14 10 17.3**	**+2.0**
	0.7nm,0.3s,baz=42,slow=11,SNR=17						
FITZ				S	**Sn**	**14 13 36.1**	**-1.0**
	0.4nm,0.3s,baz=124,slow=20,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.16**	**202**	*e*P	**P**	**14 10 18.4**	**+3.1**
	10.0nm,0.4s						
FITZ				*e*S	**Sn**	**14 13 34.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**18.16**	**202**	P	**P**	**14 10 17.3**	**+2.0**
FITZ				*e*P	**Pn**	**14 10 17.7**	**+2.6**
FITZ				S	**Sn**	**14 13 36.1**	**-1.0**
WRAB	**Tennant Creek**	**18.66**	**175**	*e*P	**Pn**	**14 10 22.0**	**+0.7**
	8.2nm,0.6s						
WRAB				*e*S	**Sn**	**14 13 48.9**	**-0.4**
WRA	**Warramunga Arr**	**18.67**	**175**	P	**Pn**	**14 10 22.4**	**+1.0**
	2.1nm,0.3s,baz=355,slow=11,SNR=110						
WRA				S	**Sn**	**14 13 45.9**	**-3.6**
	0.3nm,0.3s,baz=4.7,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**18.67**	**175**	P	**Pn**	**14 10 22.4**	**+1.0**
WRA				S	**Sn**	**14 13 45.9**	**-3.6**
GUMO	**Guam**	**19.02**	**39**	LR	LR	14 14 40.7	
	comp=Z,86nm,21.5s,baz=184,slow=29						
AS31	**Alice Springs**	**22.34**	**177**	*e*P	**P**	**14 11 02.9**	**+2.2**
ASAR	**Alice Springs**	**22.34**	**177**	P	**P**	**14 11 03.1**	**+2.4**
	21nm,0.7s,baz=357,slow=10,SNR=198						
ASAR				S	Sn	14 15 14.3	-3.5
	5.5nm,1.1s,baz=357,slow=26,SNR=8.3						
ASAR	**Alice Springs**	**22.34**	**177**	P	**P**	**14 11 03.1**	**+2.4**
ASAR				S	Sn	14 15 14.3	-3.5
CTA	**Charters Tower**	**22.95**	**146**	P	**P**	**14 11 07.5**	**+0.3**
	18nm,0.7s,baz=325,slow=11,SNR=26						
CTA				LR	LR	14 20 04.9	
	comp=Z,153nm,18.9s,baz=319,slow=37						
CTA	**Charters Tower**	**22.95**	**146**	*e*P	**P**	**14 11 07.6**	**+0.4**
	14nm,0.6s						
CTA	**Charters Tower**	**22.95**	**146**	P	**P**	**14 11 07.5**	**+0.3**
CTAO	**Charters Tower**	**22.95**	**146**	*e*P	**P**	**14 11 04.0**	**-3.2**
	12nm,0.6s						
STKA	**Stephens Creek**	**31.62**	**166**	P	**P**	**14 12 25.9**	**+0.4**
	23nm,1.0s,baz=346,slow=8.4,SNR=43						
STKA	**Stephens Creek**	**31.62**	**166**	*e*P	**P**	**14 12 24.9**	**-0.7**
	12nm,0.8s						
STKA	**Stephens Creek**	**31.62**	**166**	P	**P**	**14 12 25.9**	**+0.4**
ARMA	**Armidale**	**34.13**	**150**	*e*P	**P**	**14 12 47.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.55**	**302**	P	**P**	**14 13 24.7**	**-0.8**
	0.4nm,0.6s,baz=116,slow=8.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**38.55**	**302**	P	**P**	**14 13 24.7**	**-0.8**
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	14 16 38.0	-4.7
	1.0nm,0.6s,baz=112,slow=8.7,SNR=17						
MKAR	**Makanchi Array**	**65.03**	**324**	P	P	14 16 38.0	-4.7
ZALV	**Zalesovo Beam**	**67.72**	**332**	P	P	14 16 53.9	-5.8
	0.3nm,0.3s,baz=123,slow=5.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**67.72**	**332**	P	P	14 16 53.9	-5.8
KURK	**Kurchatov**	**69.13**	**327**	*e*P	P	14 17 02.4	-6.1
	1.8nm,0.6s						
ABKAR	**Akbulak array**	**79.75**	**321**	*e*P	P	14 18 05.2	-5.2
ILAR	**Eielson Array**	**87.00**	**25**	P	P	14 18 39.2	-8.1
	0.6nm,0.7s,baz=261,slow=4.2,SNR=8.8						
ILAR	**Eielson Array**	**87.00**	**25**	P	P	14 18 39.2	-8.1

*NIED **15** 14:24:00, 30.00N×131.40E, h23km, Mw4.0 Best double couple: Mo1.11000×10^15 NP1:φ=25.00000°, δ=58.00000°, λ=76.00000°. NP2:φ=230.00000°, δ=35.00000°, λ=111.00000°.*
*IDC **15** 14:24:51.0±3.8, 29.54N×131.25E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=75.5km s-min=43.6km az=153.0*
*ISCJB **15** 14:24:56.1±0.9, 29.94N±0.04×131.40E±0.09, h27km, mb3.8/5, MS3.1/1, Error ellipse: s-maj=11.3km s-min=5.9km az=14.8*
*JMA **15** 14:24:57.2±0.2, 29.97N×131.39E, h39km±3km, M3.5*
ISC 15 14:24:56.9±1.1, 29.89N±0.05×131.25E±0.09, h27km, n20, σ0s77/23, mb3.9/5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.80**	**343**	P	**Pb**	**14 25 11.7**	**-0.5**
JTN				*e*S	**Sb**	**14 25 22.2**	**-0.5**
JKC	**Kuchinoerabu**	**1.08**	**302**	P	**Pb**	**14 25 17.3**	**+0.4**
JNN	**Nakanoshima**	**1.19**	**268**	P	**Pb**	**14 25 19.7**	**+0.8**
JTSR	**Tashiro 2**	**1.31**	**348**	P	**Pn**	**14 25 18.9**	**-0.5**
JTSR				*e*S	**Sn**	**14 25 35.1**	**-0.9**
JNAR	**Kushima--Naru**	**1.64**	**1**	P	**Pn**	**14 25 23.6**	**-0.3**
JSU	**Suzuyama**	**1.75**	**337**	P	**Pn**	**14 25 25.3**	**-0.2**
JSU				*e*S	**Sn**	**14 25 46.3**	**-0.7**
JTZ	**Takazaki**	**2.01**	**356**	P	**Pn**	**14 25 29.1**	**0.0**
JAM	**Amami Oshima**	**2.06**	**225**	P	**Pb**	**14 25 32.6**	**-0.9**
JAM				*e*S	**Sb**	**14 25 58.3**	**-0.3**
JSJ	**Shimokoshiki**	**2.22**	**324**	P	**Pn**	**14 25 31.6**	**-0.3**
JZO	**Okuchi**	**2.31**	**346**	P	**Pn**	**14 25 33.1**	**-0.2**
JTSN	**Tsuno**	**2.36**	**5**	P	**Pn**	**14 25 33.3**	**-0.6**
JIU2	**Izumi 2**	**2.68**	**352**	P	**Pn**	**14 25 38.4**	**+0.2**
KSRS	**Korea Array**	**8.04**	**341**	Pn	**Pn**	**14 26 54.1**	**+2.3**
	0.1nm,0.3s,baz=146,slow=13,SNR=2.8						
MJAR	**Matsushiro Arr**	**8.83**	**39**	Pn	**Pn**	**14 27 04.1**	**+1.3**
	0.7nm,0.3s,baz=252,slow=13,SNR=8.9						
GUMO	**Guam**	**20.54**	**139**	LR	LR	14 37 07.2	
	comp=Z,80nm,18.6s,baz=45,slow=36						
SONM	**Songino Array**	**26.20**	**320**	P	**P**	**14 30 29.1**	**-0.2**
	0.4nm,0.3s,baz=119,slow=8.4,SNR=3.3						
MKAR	**Makanchi Array**	**41.24**	**308**	P	**P**	**14 32 39.8**	**+0.3**
	0.3nm,0.4s,baz=68,slow=10,SNR=16						
BVAR	**Borovoye Array**	**49.42**	**316**	P	**P**	**14 33 44.5**	**+0.3**
	0.7nm,0.3s,baz=94,slow=9.6,SNR=5.6						
FINES	**FINESS Array B**	**71.00**	**331**	P	**P**	**14 36 11.6**	**-0.2**
	1.8nm,0.7s,baz=76,slow=8.0,SNR=6.2						
BRTR	**Keskin Array B**	**76.89**	**308**	P	**P**	**14 36 46.9**	**0.0**
	0.9nm,0.7s,baz=81,slow=7.6,SNR=5.5						

IDC 15 14:26:06.5±2.1, 6.57S×129.48E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=82.6km s-min=27.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.06**	**198**	Pn	Pn	14 29 00.4	+0.7
	0.2nm,0.3s,baz=245,slow=15,SNR=10.0						
FITZ				S	Sn	14 31 01.1	-14
	0.2nm,0.3s,baz=80,slow=23,SNR=3.4						
WRA	**Warramunga Arr**	**14.11**	**161**	Pn	Pn	14 29 27.5	-0.2
	0.2nm,0.3s,baz=339,slow=13,SNR=11						
WRA				S	Sn	14 31 51.6	-14
	0.5nm,0.3s,baz=323,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**17.52**	**166**	P	Pn	14 30 11.9	-0.5
	0.1nm,0.3s,baz=335,slow=9.8,SNR=7.3						
ASAR				S	Sn	14 33 15.8	-13
	0.1nm,0.3s,baz=334,slow=41,SNR=4.3						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	14 37 05.0	0.0
	0.2nm,0.5s,baz=114,slow=8.0,SNR=7.1						

*IDC **15** 14:40:53.2±2.2, 22.51S×170.48E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.6/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/19, Error ellipse: s-maj=70.7km s-min=33.8km az=157.0*
ISC 15 14:40:59.6±1.4, 22.25S±0.3×170.1E±0.1, h25km, n14, σ1s53/12, mb3.8/6, MS3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.37**	**271**	Pn	Pn	14 41 54.5	+3.7
	5.0nm,0.3s,baz=95,slow=19,SNR=46						
DZM				S	**Sb**	**14 42 39.8**	**+0.5**
	baz=15,slow=22,SNR=2.3						
DZM				LR	LR	14 42 40.3	
	comp=Z,138nm,19.1s,baz=204,slow=28						
DZM	**Mont Dzumac**	**3.37**	**271**	*e*P	**Pn**	**14 41 53.1**	**+2.3**
DZM				*e*S	**Sb**	**14 42 36.4**	**-2.9**
NOUC	**Port Laguerre**	**3.50**	**271**	*e*P	**Pn**	**14 41 54.6**	**+2.1**
AFI	**Afiamalu**	**19.10**	**68**	LR	LR	14 50 42.7	
	comp=Z,175nm,21.3s,baz=332,slow=31						
CTA	**Charters Tower**	**22.31**	**271**	LR	LR	14 53 57.5	
	comp=Z,134nm,19.4s,baz=181,slow=35						
CMSA	**Cobar Meteorol**	**23.62**	**242**	*e*P	**P**	**14 46 08.1**	**-0.7**
	77nm,0.8s						
QLP	**Quilpie**	**23.92**	**254**	*e*P	**P**	**14 46 12.2**	**+0.5**
STKA	**Stephens Creek**	**27.08**	**243**	P	**P**	**14 46 40.2**	**-0.1**
	2.0nm,0.8s,baz=273,slow=24,SNR=3.6						
STKA				LR	LR	14 56 22.6	
	comp=Z,136nm,19.9s,baz=24,slow=34						
ASAR	**Alice Springs**	**33.29**	**260**	P	**P**	**14 47 35.1**	**-0.3**
	1.1nm,0.8s,baz=86,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**14 47 35.1**	**-1.2**
	0.5nm,0.7s,baz=102,slow=8.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**41.81**	**267**	LR	LR	15 07 12.5	
	comp=Z,70nm,18.9s,baz=2.1,slow=38						
CMAR	**Chiang Mai Arr**	**80.42**	**294**	P	**P**	**14 53 09.3**	**-0.3**
	0.7nm,0.9s,baz=223,slow=31,SNR=3.2						
SONM	**Songino Array**	**90.03**	**323**	P	**P**	**14 53 57.0**	**-0.1**
	0.5nm,0.6s,baz=134,slow=8.3,SNR=3.1						
GERES	**GERESS Array B**	**147.44**	**331**	PKPbc	**PKPbc**	**15 00 40.8**	**-0.5**
	0.2nm,0.3s,baz=50,slow=4.2,SNR=4.1						

*ISCJB **15** 14:41:23.3±0.6, 22.26S±0.04×70.10W±0.07, h69km±6km, mb3.8/1, Error ellipse: s-maj=11.1km s-min=5.3km az=17.3*
*GUC **15** 14:41:24.1±1.0, 22.25S×70.05W, h56km±4km, ML4.1*
*IDC **15** 14:41:25.4±4.3, 22.38S×69.89W, h74km±40km, mb3.7/1, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=109.3km s-min=34.4km az=104.0*
**ISC 15 14:41:24.2±1.0,

baz=2.0
PKM Peak Mountain 2.21 143 ⇓P Pn 14 44 28.6 -0.3
baz=2.2
MLAC Mammoth Lakes 2.30 64 ⇓P Pb 14 44 33.1 -0.9
baz=2.2
MLAC ⇑S Sb 14 45 02.3 0.0
baz=2.2
ISA Isabella 2.61 112 ePn Pn 14 44 34.7 +0.4
ISA Isabella 2.61 112 ⇑P Pn 14 44 34.7 +0.4
baz=2.5
HOPS Hopland 2.66 332 ePn Pn 14 44 35.2 +0.4
WCN Washoe City 2.95 26 ePn Pn 14 44 40.6 +1.5
WCN eSn Sn 14 45 15.4 +1.1
OSI Osito Adit 3.02 132 ePn Pn 14 44 41.2 +1.3
KCPM Cahto Peak 3.45 332 ePn Pn 14 44 47.0 +1.0
PASC Pasadena Art C 3.65 132 ePn Pn 14 44 50.1 +1.6
MWC Mount Wilson 3.69 130 ePn Pn 14 44 50.7 +1.4
WDC Whiskeytown Da 4.00 348 ePn Pn 14 44 54.5 +1.2
GSC Goldstone 4.01 108 ePn Pn 14 44 53.4 -0.1
PFO Pinyon Flat Ob 5.10 125 ePn Pn 14 45 10.1 +1.4
9.9nm,0.8s
MOD Modoc 5.30 9 ePn Pn 14 45 13.4 +1.9
11nm,0.7s
KBO Bosley Butte 5.94 340 ePn Pn 14 45 21.8 +1.7
CCUT Cedar City 6.52 80 ePn Pn 14 45 28.5 +0.3
7.6nm,1.0s

NEIC 15 14:44:07.0, 36.68N×121.33W, h6km, MW3.7(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.13	309	ePg	Pg	14 44 09.6	-0.1
SAO				eSg	Sg	14 44 11.9	+0.4
CMB	Columbia Colle	1.54	29	ePn	Pn	14 44 35.0	-0.2
MCCM	Marconi Confer	1.91	320	ePn	Pn	14 44 39.6	-0.5
ISA	Isabella	2.52	113	ePn	Pn	14 44 48.5	-0.1
ISA				eSn	Sn	14 45 20.8	+1.1
HOPS	Hopland	2.69	330	ePn	Pn	14 44 47.8	-3.0
GSC	Goldstone	3.92	109	ePn	Pn	14 45 06.3	-1.5
WDC	Whiskeytown Da	4.00	347	ePn	Pn	14 45 09.3	+0.5
PFO	Pinyon Flat Ob	5.03	126	ePn	Pn	14 45 23.1	-0.1
KBO	Bosley Butte	5.96	339	ePn	Pn	14 45 37.6	+1.8

NEIC 15 14:58:22.9, 36.69N×121.32W, h6km, ML3.0(NCEDC), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.12	306	ePg	Pg	14 58 25.5	0.0
SAC	San Andreas	1.25	316	ePn	Pb	14 58 44.0	-2.8
CMB	Columbia Colle	1.53	29	ePn	Pn	14 58 50.0	-0.9
CMB				eSn	Sn	14 59 08.6	-2.6
ISA	Isabella	2.52	113	ePn	Pn	14 59 03.3	-1.2
ISA				eSn	Sn	14 59 35.2	-0.5
HOPS	Hopland	2.68	329	ePn	Pn	14 59 03.6	-3.0
WCN	Washoe City	2.88	25	ePn	Pn	14 59 11.5	+1.9

DJA 15 15:26:18, 1.87N×127.29E, h31km, MLv3.8/4
IDC 15 15:26:03.5±1.7, 1.60N×126.65E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=169.3km s-min=20.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.70	161	P	P	15 31 07.2	+0.2
	1.9nm,0.4s,baz=339,slow=11,SNR=31						
ASAR	Alice Springs	26.09	165	P	P	15 31 38.8	-0.3
	0.7nm,0.5s,baz=350,slow=7.3,SNR=32						
MKAR	Makanchi Array	59.25	326	P	P	15 36 07.3	+0.5
	0.4nm,0.4s,baz=111,slow=8.1,SNR=17						
KURK	Kurchatov	63.48	328	P	P	15 36 34.8	-0.6
	0.7nm,0.6s,baz=131,slow=6.3,SNR=7.2						

IDC 15 15:32:39.2±3.9, 8.07S×159.83E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, Error ellipse: s-maj=108.2km s-min=28.3km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.36	242	P	P	15 38 26.1	-0.2
	2.7nm,0.6s,baz=65,slow=9.0,SNR=30						
STKA	Stephens Creek	29.14	213	P	P	15 38 42.9	+0.8
	3.0nm,1.1s,baz=45,slow=10.0,SNR=3.2						
ASAR	Alice Springs	29.29	235	P	P	15 38 42.8	-0.7
	0.5nm,0.5s,baz=61,slow=9.4,SNR=8.8						
CMAR	Chiang Mai Arr	65.58	294	P	P	15 43 26.0	+0.6
	0.8nm,0.3s,baz=128,slow=5.3,SNR=7.8						
SONM	Songino Array	72.88	326	P	P	15 44 10.3	+0.1
	0.7nm,0.6s,baz=138,slow=7.1,SNR=3.1						
MKAR	Makanchi Array	87.39	318	P	P	15 45 27.7	-0.7
	0.6nm,0.7s,baz=105,slow=5.7,SNR=7.0						

ISCJB 15 15:36:37.9±0.7, 38.72N±0.03×33.70E±0.04, h3km±7km, Error ellipse: s-maj=5.4km s-min=4.6km az=23.0
ISK 15 15:36:37.4, 38.73N×33.72E, h7km, MD2.7
DDA 15 15:36:37.8, 38.69N×33.71E, h7km, MD3.0
CSEM 15 15:36:38.0±0.2, 38.71N×33.69E, h10km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.6km az=124.0
ISC 15 15:36:37.8±1.2, 38.71N±0.03×33.69E±0.03, h5km±11km, n22, σ0.50/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	Sultanhani-AKS	0.52	195	ePG	Pg	15 36 48.5	+0.6
SULT				eSG	Sb	15 36 56.8	-0.6
SULT	Sultanhani-AKS	0.52	195	ePg	Pg	15 36 48.5	+0.6
SULT				eSg	Sb	15 36 56.8	-0.6
KAMT	Kaman	0.66	2	ePG	Pg	15 36 50.0	-0.6
KAMT				eSG	Sg	15 36 59.2	+0.1
KAMT	Kaman	0.66	2	ePg	Pg	15 36 50.0	-0.6
KAMT				eSg	Sg	15 36 59.3	+0.1
AFSR	Afar-Bala (A	0.88	327	ePG	Pb	15 36 55.4	-0.2
AFSR				eSG	Sb	15 37 07.6	-0.1
AFSR	Afar-Bala (A	0.88	327	ePg	Pb	15 36 55.4	-0.2
AFSR				eSg	Sb	15 37 07.6	-0.1
AVNT	Avonos	0.92	85	iP	Pg	15 36 55.0	-0.4
AVNT				iS	Sb	15 37 08.7	0.0
AVNT	Avonos	0.92	85	iP	Pg	15 36 55.0	-0.4
AVNT				iS	Sb	15 37 08.7	0.0
BBAL	Bala	0.94	332	iP	Pg	15 36 56.2	+0.3
BBAL				iS	Sg	15 37 08.6	+0.4
BBAL	Bala	0.94	332	iP	Pg	15 36 56.2	+0.3
BBAL				iS	Sg	15 37 08.6	+0.4
CDAG	Cicekdag	1.06	30	iP	Pb	15 36 58.6	-0.1
CDAG				iS	Sb	15 37 13.3	+0.4
CDAG	Cicekdag	1.06	30	iP	Pb	15 36 58.6	-0.1
CDAG				iS	Sb	15 37 13.3	+0.4
KDHN	Kadinhani	1.25	262	iP	Pn	15 37 00.6	-1.3
KDHN				iS	Sn	15 37 19.8	+0.7
KDHN	Kadinhani	1.25	262	iP	Pn	15 37 00.6	-1.3
KDHN				iS	Sn	15 37 19.8	+0.7
KONT	Konya--Tatoy	1.29	234	ePN	Pn	15 37 02.0	-0.5
KONT	Konya--Tatoy	1.29	234	ePn	Pn	15 37 02.0	-0.5
KIZT	Kizilcal	1.42	278	ePN	Pn	15 37 04.4	0.0
KIZT	Kizilcal	1.42	278	ePn	Pn	15 37 04.4	0.0
YOZ	Yozgat	1.57	53	ePN	Pn	15 37 06.6	+0.1
YOZ	Yozgat	1.57	53	ePn	Pn	15 37 06.6	+0.1
CORM	Corum	1.64	26	ePN	Pn	15 37 07.3	-0.1
CORM	Corum	1.64	26	ePn	Pn	15 37 07.3	-0.1

DJA 15 15:36:52, 0.49S×132.89E, h15km, mb4.8/7
IDC 15 15:36:47.8±1.1, 0.49S×132.78E, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, ML4.0/2, Error ellipse: s-maj=61.9km s-min=17.9km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.86	201	P	P	15 41 09.7	0.0
	0.3nm,0.3s,baz=37,slow=13,SNR=6.9						
FITZ				S	Sn	15 44 25.0	-17
	0.1nm,0.3s,baz=259,slow=21,SNR=2.4						
WRA	Warramunga Arr	19.40	176	P	P	15 41 16.1	+0.5
	0.5nm,0.3s,baz=355,slow=12,SNR=21						
WRA				S	Sn	15 44 41.0	-14
	0.1nm,0.3s,baz=359,slow=23,SNR=5.3						
CTA	Charters Tower	23.52	147	P	P	15 42 00.9	+1.1
	2.7nm,0.6s,baz=317,slow=10,SNR=4.2						
STKA	Stephens Creek	32.31	166	P	P	15 43 17.8	-1.0
	3.3nm,0.4s,baz=355,slow=9.0,SNR=13						
MKAR	Makanchi Array	64.47	324	P	P	15 47 26.9	+0.5
	0.5nm,0.5s,baz=103,slow=6.2,SNR=12						
KURK	Kurchatov	68.55	326	P	P	15 47 51.8	-0.5
	0.5nm,0.6s,baz=116,slow=5.9,SNR=4.9						
BVAR	Borovoye Array	74.15	326	P	P	15 48 25.9	-0.2
	0.4nm,0.5s,baz=116,slow=6.6,SNR=3.4						

ISCJB 15 15:44:30.9±0.5, 12.82N±0.06×88.76W±0.05, h72km±6km, mb3.6/7, Error ellipse: s-maj=12.6km s-min=4.7km az=36.7
CASC 15 15:44:31.3±1.7, 12.80N×88.84W, h25km±6km, MD3.9, ML4.3
IDC 15 15:44:36.4±1.7, 13.10N×88.16W, h107km±18km, mb3.4/7, mb1 3.7/10, mb1mx3.5/23, mbtmp3.5/10, Error ellipse: s-maj=46.2km s-min=12.2km az=49.0
ISC 15 15:44:30.9±1.2, 12.74N±0.07×88.80W±0.06, h61km±12km, n33, σ1.35/40, mb3.8/7, 5C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.85	37	⇑iP	Pn	15 44 47.5	0.0
VSM				eS	Sn	15 44 59.5	0.0
SNVI	San Vicente	0.87	358	eP	Pn	15 44 47.0	-0.5
SNVI				eS	Sn	15 44 58.6	-1.0
BLLM	Bellamira	0.89	38	⇑iP	Pn	15 44 47.6	0.0
BLLM				eS	Sn	15 44 59.2	-0.7
LFRS	El Faro	0.91	344	eP	Pn	15 44 47.3	-0.7
LBRS	Las Brisas	1.02	347	eP	Pn	15 44 49.0	-0.3
SNET	Serv Nac Est T	1.03	336	eP	Pn	15 44 48.2	-1.2
SNET				eS	Sn	15 45 01.9	-1.3
SNET				AML	AML	15 45 03.4	
	comp=Z,10μm,0.3s						
CNCH	Conchagua	1.08	61	eP	Pn	15 44 50.4	+0.1
BOQS	Boqueron	1.09	335	⇓eP	Pn	15 44 50.1	-0.4
BOQS				eS	Sn	15 45 04.2	-0.7
CAHU	Cacacuatique	1.17	29	⇑eP	Pn	15 44 51.7	+0.2
SBLS	San Blas	1.35	324	eP	Pn	15 44 53.7	-0.2
SBLS				eS	Sn	15 45 11.7	+0.7
SNJE	San Jose	1.36	325	eP	Pn	15 44 53.8	-0.2
SNJE				eS	Sn	15 45 11.4	+0.1
RTR	El Retiro	1.41	325	eP	Pn	15 44 54.9	+0.3
RTR				eS	Sn	15 45 12.8	+0.5
IXG	Ixpaco	2.15	312	eP	Pn	15 45 05.3	+0.8
NBG	Las Nubes	2.37	321	eP	Pn	15 45 10.5	+2.8
MRL	Marmol	2.46	340	eP	Pn	15 45 11.0	+2.1
FUG	Fuego 3	2.61	311	eP	Pn	15 45 11.8	+0.9
JAT	Jato	3.17	300	eP	Pn	15 45 19.9	+1.5
JTS	JuntasAbangare	4.49	122	P	Pn	15 45 37.9	+1.3
	comp=Z,13nm,0.3s,baz=314,slow=19,SNR=22						
JTS				S	Sn	15 46 26.7	-0.9
	comp=Z,3.4nm,0.3s,baz=273,slow=19,SNR=1.9						
JCR	Jicaral	4.62	128	⇓eP	Pn	15 45 40.0	+1.7
JCR				eS	Sn	15 46 28.8	-2.0
LAJ	Bijagual	5.41	121	eP	Pn	15 45 47.6	-1.7
QCR	Quepos	5.62	125	⇑eP	Pn	15 45 54.5	+2.5
URSC	Urasca	5.71	120	eP	Pn	15 45 56.9	+3.5
BUS	Buena Vista	5.88	122	eP	Pn	15 45 58.6	+2.7
ACR	Cerro Adams	6.87	126	⇑eP	Pn	15 46 11.9	+2.8
CMIG	Matias Romero	7.29	307	P	Pn	15 46 25.4	+10
	comp=Z,1.8nm,0.3s,baz=118,slow=11,SNR=11						
TEIG	Tepich	7.46	4	P	Pn	15 46 18.9	+1.8
	comp=Z,2.8nm,0.3s,baz=195,slow=6.7,SNR=8.7						
TXAR	Lajitas Array	21.52	322	P	P	15 49 16.8	+1.6
	comp=Z,0.9nm,0.6s,baz=140,slow=11,SNR=11						
PDAR	Pinedale Array	34.90	333	P	P	15 51 17.7	+0.7
	comp=Z,0.2nm,0.5s,baz=123,slow=11,SNR=3.6						
ULM	Lac du Bonnet	37.85	353	P	P	15 51 40.4	-1.3
	comp=Z,2.4nm,0.5s,baz=175,slow=9.5,SNR=4.6						
SIV	San Ignacio	39.59	135	P	P	15 51 57.1	+0.3
	comp=Z,1.7nm,0.9s,baz=302,slow=11,SNR=5.5						
YKA	Yellowknife Ar	52.99	345	P	P	15 53 40.4	-0.8
	comp=Z,0.7nm,0.3s,baz=147,slow=6.9,SNR=15						
ILAR	Eielson Array	65.22	336	P	P	15 55 05.7	-0.1
	comp=Z,0.4nm,0.9s,baz=140,slow=3.9,SNR=4.5						
GERES	GERESS Array B	88.57	40	P	P	15 57 13.1	-4.2
	comp=Z,0.2nm,0.3s,baz=285,slow=5.0,SNR=3.5						

NEIC 15 15:44:52.9±0.4, 22.15S×173.64W, h10km, mb5.0/10, Error ellipse: s-maj=17.4km s-min=8.4km az=170.0
IDC 15 15:44:53.8±0.7, 21.49S×174.00W, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.5/20, mbtmp4.5/13, MS3.7/1, Ms1 3.7/1, ms1mx3.0/28, Error ellipse: s-maj=28.3km s-min=16.3km az=147.0
ISCJB 15 15:44:56.0±0.4, 21.65S±0.1×174.06W±0.08, h26km, mb4.7/26, Error ellipse: s-maj=20.3km s-min=7.4km az=153.1
MOS 15 15:45:07.6±1.2, 20.50S×175.61W, h33km, mb5.2/4, Error ellipse: s-maj=27.0km s-min=15.7km az=6.2
ISC 15 15:44:57.6±0.5, 21.15S±0.1×174.1W±0.1, h26km, n148, σ1.99/133, mb4.8/26, 22C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.50	17	Pn	Pn	15 46 43.8	-1.6
	14nm,0.3s,baz=88,slow=6.1,SNR=17						
AFI				Sn	Sn	15 48 05.7	-3.9
	11nm,0.3s,baz=211,slow=20,SNR=2.9						
AFI	Afiamalu	7.50	17	P	Pn	15 46 43.8	-1.6
AFI	Afiamalu	7.50	17	Pn	Pn	15 46 43.8	-1.6
AFI				eSn	Sn	15 48 03.5	-6.2
AFI				Sn	Sb	15 48 05.7	-30
MSVF	Nonsavu	8.16	293	eP	Pn	15 47 02.5	+8.0
MSVF				pmax	pmax		
	comp=Z,63nm,1.0s						
MSVF	Nonsavu	8.16	293	ePn	Pn	15 47 02.5	+8.0
	comp=Z,63nm,1.0s						
RAR	Rarotonga	13.34	93	Pn	Pn	15 47 54.3	-11
	comp=Z,11nm,0.3s,baz=256,slow=10.0,SNR=32						
RAR				Sn	Sn	15 50 05.2	-28
	comp=Z,5.0nm,0.3s,baz=38,slow=13,SNR=5.2						
RAR				LR	LR	15 51 56.2	
	comp=Z,312nm,19.7s,baz=286,slow=32						
RAR	Rarotonga	13.34	93	ePn	Pn	15 47 54.1	-11
RAR				eSn	Sn	15 50 05.0	-28
RAR				Sn	S	15 50 05.2	-51
RPZ	Rata Peaks	25.71	205	P	P	15 50 24.9	-0.9
	comp=Z,5.4nm,0.7s,baz=30,slow=11,SNR=3.6						
EIDS	Eidsvold	32.24	256	eP	P	15 51 24.5	+0.5
	comp=Z,19nm,0.6s						
EIDS	Eidsvold	32.24	256	P	P	15 51 23.5	-0.5
	comp=Z,4.4nm,0.6s						
RMQ	Roma	34.34	254	eP	P	15 51 42.4	0.0
	comp=Z,23nm,1.3s						
CTA	Charters Tower	37.08	264	P	P	15 52 05.7	-0.3
	comp=Z,9.7nm,0.6s,baz=102,slow=8.8,SNR=16						
CTA	Charters Tower	37.08	264	eP	P	15 52 05.8	-0.3
	comp=Z,6.5nm,0.5s						
CTA	Charters Tower	37.08	264	P	P	15 52 05.7	-0.3
CTA	Charters Tower	37.08	264	P	P	15 52 05.7	-0.3
CTAO	Charters Tower	37.08	264	eP	P	15 52 06.0	0.0
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	Charters Tower	37.08	264	eP	P	15 52 06.0	0.0
	comp=Z,9.4nm,0.6s						
PMG	Port Moresby	39.06	281	P	P	15 52 24.3	+1.6
	comp=Z,26nm,1.1s,baz=163,slow=4.7,SNR=5.8						
PMG	Port Moresby	39.06	281	eP	P	15 52 23.4	+0.7
PMG				pmax	pmax		
	comp=Z,25nm,1.1s						
PMG	Port Moresby	39.06	281	eP	P	15 52 23.4	+0.7
	comp=Z,25nm,1.1s						
STKA	Stephens Creek	40.85	245	P	P	15 52 36.3	-1.1
	comp=Z,13nm,0.8s,baz=85,slow=8.8,SNR=22						
STKA	Stephens Creek	40.85	245	eP	P	15 52 36.3	-1.1
	comp=Z,8.8nm,0.9s						
STKA	Stephens Creek	40.85	245	P	P	15 52 36.3	-1.1
STKA				e		15 52 48.0	
STKA	Stephens Creek	40.85	245	P	P	15 52 36.3	-1.1
STKA				e		15 52 48.0	
BBOO	Buckleboo	45.58	244	eP	P	15 53 13.8	-1.8
	comp=Z,31nm,0.4s						
ASAR	Alice Springs	47.95	257	P	P	15 53 33.6	-0.8
	comp=Z,20nm,0.9s,baz=90,slow=8.2,SNR=76						
ASAR	Alice Springs	47.95	257	P	P	15 53 33.6	-0.8
ASAR	Alice Springs	47.95	257	P	P	15 53 33.5	-0.8
WB2	Warramunga Arr	48.14	262	eP	P	15 53 34.5	-1.3
WB2				e		15 53 46.6	
WRAB	Tennant Creek	48.14	262	eP	P	15 53 34.8	-1.1
WRAB				pmax	pmax		
	comp=Z,22nm,0.9s						
WRAB	Tennant Creek	48.14	262	eP	P	15 53 34.8	-1.1
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	48.15	262	P	P	15 53 35.2	-0.7
	comp=Z,15nm,0.8s,baz=92,slow=8.4,SNR=228						
WRA	Warramunga Arr	48.15	262	P	P	15 53 35.2	-0.7
WRA	Warramunga Arr	48.15	262	P	P	15 53 35.2	-0.7
FORT	Forrest	52.42	247	eP	P	15 54 07.3	-0.8
	comp=Z,25nm,0.6s						
FITZ	Fitzroy Crossi	56.58	262	eP	P	15 54 38.7	+0.2
	comp=Z,12nm,0.8s						
MBWA	Marble Bar	61.30	257	eP	P	15 55 10.0	-1.2
	comp=Z,17nm,1.0s						
QSPA	South Pole Qui	68.95	180	eP	P	15 55 57.8	-2.6
	comp=Z,10nm,1.3s						
MJAR	Matsushiro Arr	72.93	321	P	P	15 56 27.4	+2.7
	comp=Z,0.8nm,0.5s,baz=157,slow=6.1,SNR=7.1						
MJAR	Matsushiro Arr	72.93	321	P	P	15 56 27.4	+2.7
MJAR	Matsushiro Arr	72.93	321	P	P	15 56 27.4	+2.7
KSM	Kuching	77.13	277	P	P	15 56 49.1	-0.4
	comp=Z,24nm,0.9s						
ISA	Isabella	77.20	44	P	P	15 56 49.5	+0.1
ISA	Isabella	77.20	44	P	P	15 56 49.5	+0.1
CMB	Columbia Colle	77.48	41	P	P	15 56 51.3	+0.4
CMB	Columbia Colle	77.48	41	P	P	15 56 51.2	+0.4
PETK	Petropavlovsk-	77.87	343	P	P	15 56 56.0	+3.3
	comp=Z,7.2nm,0.8s,baz=135,slow=7.1,SNR=9.2						
PETK	Petropavlovsk-	77.87	343	P	P	15 56 56.0	+3.3
PETK	Petropavlovsk-	77.87	343	P	P	15 56 56.0	+3.3
YSS	Yuzh-Sakhalins	78.14	331	P	P	15 56 57.9	+3.6
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	78.14	331	P	P	15 56 57.9	+3.6
	comp=Z,30nm,0.9s						
NVAR	Mina Array Bea	79.00	41	P	P	15 57 01.6	+2.0
	comp=Z,3.5nm,1.0s,baz=226,slow=9.0,SNR=12						
NVAR	Mina Array Bea	79.00	41	P	P	15 57 01.6	+2.0
PMSA	Palmer Station	79.24	156	eP	P	15 56 51.3	-8.9
	comp=Z,46nm,1.0s						
V17A	Tonalea, Kykot	82.28	47	⇓P	P	15 57 19.1	+2.0
	baz=83						
Z20A	Nine Sixteen R	82.51	50	⇓P	P	15 57 19.9	+1.5
	baz=83						
T17A	Navajo Res., N	83.02	46	⇑P	P	15 57 22.7	+1.7
	baz=84						
MDJ	Mudanjiang	83.17	323	P	P	15 57 25.0	+3.7
	comp=Z,7.5nm,0.9s						
T18A	Mexican Hat	83.72	46	⇓P	P	15 57 26.0	+1.5
	baz=84						
R17A	Hanksville Air	83.85	45	⇓P	P	15 57 26.6	+1.4
	baz=84						
626A	Big Bend Ranch	84.08	55	⇑P	P	15 57 27.0	+0.6
	baz=84						
I12A	Atlanta	84.16	39	⇑P	P	15 57 28.6	+2.0
	baz=85						
TXAR	Lajitas Array	84.33	56	P	P	15 57 28.3	+0.6
	comp=Z,0.6nm,0.8s,baz=224,slow=7.0,SNR=5.7						
TXAR	Lajitas Array	84.33	56	P	P	15 57 28.3	+0.6
TXAR	Lajitas Array	84.33	56	P	P	15 57 28.3	+0.6
R18A	Canyonlands Na	84.37	45	⇑P	P	15 57 29.4	+1.5
	baz=85						
HLID	Hailey	84.44	39	⇓P	P	15 57 29.7	+1.6
	baz=85						
J13A	Cove Ranch, Pi	84.49	39	⇑P	P	15 57 30.2	+1.9
	baz=85						
H12A	Diamond D Ranc	84.77	38	⇑P	P	15 57 31.4	+1.7
	baz=86						
J14A	Carey	84.83	40	⇓P	P	15 57 32.0	+1.9
	baz=86						
U21A	Nageezi	84.87	48	⇓P	P	15 57 31.4	+0.9
	baz=85						
427A	Hayter Ranch,	85.24	55	⇑P	P	15 57 33.1	+0.8
	baz=86						
Z26A	Caprock	85.94	52	⇓P	P	15 57 36.5	+0.8
	baz=86						
PDAR	Pinedale Array	86.94	42	P	P	15 57 40.4	-0.2
	comp=Z,0.7nm,1.0s,baz=169,slow=3.0,SNR=3.4						
PDAR	Pinedale Array	86.94	42	P	P	15 57 40.4	-0.2
ILAR	Eielson Array	88.15	11	P	P	15 57 47.6	+2.0
	comp=Z,1.2nm,0.9s,baz=211,slow=6.6,SNR=6.9						
ILAR	Eielson Array	88.15	11	P	P	15 57 47.6	+2.0
ILAR	Eielson Array	88.15	11	P	P	15 57 47.6	+2.0
CMAR	Chiang Mai Arr	93.79	288	P	P	15 58 16.8	+3.8
	comp=Z,2.1nm,0.9s,baz=132,slow=3.0,SNR=12						
CMAR	Chiang Mai Arr	93.79	288	P	P	15 58 16.8	+3.8
CMAR	Chiang Mai Arr	93.79	288	P	P	15 58 16.8	+3.8
YKA	Yellowknife Ar	95.57	24	P	P	15 58 21.0	+1.0
	comp=Z,0.9nm,0.6s,baz=238,slow=4.3,SNR=7.4						
YKA	Yellowknife Ar	95.57	24	P	P	15 58 21.0	+1.0
YKA	Yellowknife Ar	95.57	24	P	P	15 58 21.0	+1.0
MKAR	Makanchi Array	114.30	313	PKP	PKPdf	16 03 35.4	+0.5
	comp=Z,0.5nm,0.8s,baz=72,slow=2.1,SNR=8.0						
MKAR	Makanchi Array	114.30	313	PKIKP	PKPdf	16 03 35.4	+0.5
MKAR	Makanchi Array	114.30	313	PKP	PKPdf	16 03 35.4	+0.5
ARCES	ARCESS Array B	130.14	351	PKP	PKPdf	16 04 06.0	+1.4
	comp=Z,4.5nm,0.9s,baz=2.9,slow=2.4,SNR=5.2						
ARCES	ARCESS Array B	130.14	351	PKIKP	PKPdf	16 04 06.0	+1.4
ARCES	ARCESS Array B	130.14	351	PKP	PKPdf	16 04 06.0	+1.4
AKASG	Malin Array Be	145.26	334	PKPbc	PKPdf	16 04 33.9	+1.1
	comp=Z,1.5nm,0.4s,baz=37,slow=4.0,SNR=16						
AKASG	Malin Array Be	145.26	334	PKHKP	PKPdf	16 04 33.9	+1.1
AKASG	Malin Array Be	145.26	334	PKPbc	PKPdf	16 04 33.9	+1.1
KIEV	Kiev	145.27	334	ePKHKP	PKPdf	16 04 33.5	+0.7
KIEV	Kiev	145.27	334	ePKPdf	PKPdf	16 04 33.5	+0.7
KSP	Ksiaz	149.24	347	ePKHKP	PKPbc	16 04 45.9	+2.2
STHS	Stebnicka Huta	149.24	340	ePKHKP	PKPbc	16 04 43.0	-0.8
STHS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STHS	Stebnicka Huta	149.24	340	ePKP	PKPbc	16 04 43.0	-0.8
BURAR	Bucovina Array	149.31	334	⇑iP	PKPab	16 04 47.5	-1.3
C

DRGR		**150.98 336**	⇑*iP*		**PKPbc**	**16 04 49.7**	**+1.5**
VOIR		**151.10 331**	⇑PKHKP		PKPab	16 04 50.7	-5.4
VOIR		**151.10 331**	⇑*iP*		PKPab	16 04 50.7	-5.4
KHC	**Kasperske Hory**	**151.39 349**	*e*PKIKP		**PKPbc**	**16 04 51.0**	**+2.0**
KHC	**Kasperske Hory**	**151.39 349**	*e*PKPbc		**PKPbc**	**16 04 51.0**	**+2.0**
GERES	**GERESS Array B**	**151.64 349**	PKPbc		**PKPbc**	**16 04 51.3**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=24,slow=2.6,SNR=9.9						
GERES	**GERESS Array B**	**151.64 349**	PKIKP		**PKPbc**	**16 04 51.3**	**+1.6**
GERES	**GERESS Array B**	**151.64 349**	PKPbc		**PKPbc**	**16 04 51.3**	**+1.6**
GZR	**Gura Zlata**	**152.10 334**	⇑PKIKP		**PKPbc**	**16 04 52.3**	**+1.5**
GZR	**Gura Zlata**	**152.10 334**	⇑*iP*		**PKPbc**	**16 04 52.3**	**+1.5**
BZS	**Buzias**	**152.38 336**	⇑PKIKP		**PKPbc**	**16 04 53.0**	**+1.7**
BZS	**Buzias**	**152.38 336**	⇑*iP*		**PKPbc**	**16 04 53.0**	**+1.7**
TORD	**Torodi Ar. Bea**	**171.10 152**	PKP		**PKPdf**	**16 05 02.9**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=297,slow=1.0,SNR=6.4						
TORD			PKPab		**PKPab**	**16 06 21.7**	**-1.9**
	comp=Z,0.8nm,1.0s,baz=233,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**171.10 152**	PKP		**PKPdf**	**16 05 02.9**	**-1.6**
TORD			PKPab		**PKPab**	**16 06 21.7**	**-1.9**

ISK ***15*** *16:11:12.3,39˚.55N×34˚.80E, h2km, MD3.0*
DDA ***15*** *16:11:13.3,39˚.54N×34˚.78E, h7km, MD3.0*
CSEM ***15*** *16:11:13.3±0.1,39˚.54N×34˚.78E, h2km, MD3.0, Error ellipse: s-maj=3.0km s-min=2.6km az=178.0*

ISC 15 16:11:13.8±1.1,39˚.55N±0˚.02×34˚.79E±0˚.02, h3km±10km, n45, σ0.975/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.33**	**283**	*i* P		**Pg**	**16 11 20.0**	**-0.1**
CDAG				*i* S		**Sg**	**16 11 25.6**	**+1.1**
CDAG	**Cicekdag**	**0.33**	**283**	*i* P		**Pg**	**16 11 20.0**	**-0.1**
CDAG				*i* S		**Sg**	**16 11 25.6**	**+1.1**
YOZ	**Yozgat**	**0.42**	**78**	*e*PG		**Pg**	**16 11 21.5**	**-0.5**
YOZ				*e*SG		**Sg**	**16 11 27.5**	**0.0**
YOZ	**Yozgat**	**0.42**	**78**	*e*Pg		**Pg**	**16 11 21.5**	**-0.5**
YOZ				*e*Sg		**Sg**	**16 11 27.5**	**0.0**
CORM	**Corum**	**0.64**	**349**	*e*PG		**Pg**	**16 11 25.5**	**-0.6**
CORM				*e*SG		**Sg**	**16 11 35.2**	**+0.8**
CORM	**Corum**	**0.64**	**349**	*e*Pg		**Pg**	**16 11 25.5**	**-0.6**
CORM				*e*Sg		**Sg**	**16 11 35.2**	**+0.8**
AVNT	**Avonos**	**0.77**	**176**	*i* P		**Pg**	**16 11 28.1**	**-0.5**
AVNT				*i* S		**Sg**	**16 11 39.3**	**+0.7**
AVNT	**Avonos**	**0.77**	**176**	*i* P		**Pg**	**16 11 28.1**	**-0.5**
AVNT				*i* S		**Sg**	**16 11 39.3**	**+0.7**
KAMT	**Kaman**	**0.85**	**258**	*e*PG		**Pg**	**16 11 29.2**	**-0.9**
KAMT				*e*SG		**Sg**	**16 11 42.1**	**+1.0**
KAMT	**Kaman**	**0.85**	**258**	*e*Pg		**Pg**	**16 11 29.2**	**-0.9**
KAMT				*e*Sg		**Sg**	**16 11 42.1**	**+1.0**
CTKT	**Corum**	**1.07**	**0**	*i* P		**Pg**	**16 11 34.2**	**-0.2**
CTKT				*i* S		**Sb**	**16 11 49.7**	**+0.1**
CTKT	**Corum**	**1.07**	**0**	*i* P		**Pg**	**16 11 34.2**	**-0.2**
CTKT				*i* S		**Sb**	**16 11 49.7**	**+0.1**
BNN	**Bunyan**	**1.08**	**130**	*e*PG		**Pg**	**16 11 33.4**	**-1.1**
BNN				*e*SG		**Sb**	**16 11 49.4**	**-0.4**
BNN	**Bunyan**	**1.08**	**130**	*e*Pg		**Pg**	**16 11 33.4**	**-1.1**
BNN				*e*Sg		**Sb**	**16 11 49.4**	**-0.4**
BBAL	**Bala**	**1.29**	**270**	*i* P		**Pg**	**16 11 37.1**	**-1.4**
BBAL				*i* S		**Sb**	**16 11 55.8**	**+0.1**
BBAL	**Bala**	**1.29**	**270**	*i* P		**Pg**	**16 11 37.1**	**-1.4**
BBAL				*i* S		**Sb**	**16 11 55.8**	**+0.1**
AFSR	**Afˇar-Bala (A**	**1.33**	**266**	*e*PN		**Pn**	**16 11 38.6**	**-0.8**
AFSR				*e*SN		**Sn**	**16 11 58.0**	**+0.3**
AFSR	**Afˇar-Bala (A**	**1.33**	**266**	*e*Pn		**Pn**	**16 11 38.6**	**-0.8**
AFSR				*e*Sn		**Sn**	**16 11 58.0**	**+0.3**
CANT	**Cankiri**	**1.38**	**320**	*e*PN		**Pn**	**16 11 39.1**	**-1.0**
ELDT	**Eldivan**	**1.40**	**312**	*i* P		**Pn**	**16 11 38.7**	**-1.8**
ELDT				*i* S		**Sn**	**16 12 00.1**	**+0.5**
ELDT	**Eldivan**	**1.40**	**312**	*i* P		**Pn**	**16 11 38.7**	**-1.8**
ELDT				*i* S		**Sn**	**16 12 00.1**	**+0.5**
PINB	**Pinarbasi**	**1.53**	**124**	*i* P		**Pn**	**16 11 42.0**	**-0.3**
PINB				*i* S		**Sg**	**16 12 05.1**	**+2.1**
PINB	**Pinarbasi**	**1.53**	**124**	*i* P		**Pn**	**16 11 42.0**	**-0.3**
TOS	**Tosya**	**1.59**	**339**	*e*PN		**Pn**	**16 11 41.6**	**-1.4**
TOS	**Tosya**	**1.59**	**339**	*e*Pn		**Pn**	**16 11 41.7**	**-1.4**
LOD	**Lodumlu**	**1.60**	**283**	*e*PN		**Pn**	**16 11 43.1**	**+0.1**
LOD	**Lodumlu**	**1.60**	**283**	*e*Pn		**Pn**	**16 11 43.1**	**+0.1**
SULT	**Sultanhani-AKS**	**1.67**	**217**	*e*PN		**Pn**	**16 11 43.8**	**-0.3**
SULT	**Sultanhani-AKS**	**1.67**	**217**	*e*Pn		**Pn**	**16 11 43.8**	**-0.3**
HAVZ	**Havza**	**1.68**	**25**	*i* P		**Pn**	**16 11 44.8**	**+0.7**
HAVZ				*i* S		**Sg**	**16 12 08.3**	**+0.5**
HAVZ	**Havza**	**1.68**	**25**	*i* P		**Pn**	**16 11 44.8**	**+0.7**
HAVZ				*i* S		**Sg**	**16 12 08.3**	**+0.5**
SCER	**sogukcermik**	**1.83**	**79**	*i* P		**Pn**	**16 11 46.0**	**-0.3**
SCER				*i* S		**Sg**	**16 12 12.6**	**-0.2**
SCER	**sogukcermik**	**1.83**	**79**	*i* P		**Pn**	**16 11 46.0**	**-0.3**
ERBA	**Erbaa**	**1.89**	**53**	*i* P		**Pn**	**16 11 47.0**	**0.0**
ERBA				*i* S		**Sn**	**16 12 11.9**	**+0.6**
ERBA	**Erbaa**	**1.89**	**53**	*i* P		**Pn**	**16 11 47.0**	**0.0**
ERBA				*i* S		**Sn**	**16 12 11.9**	**+0.6**
DIKM	**Dikmen**	**2.13**	**10**	*e*PN		**Pn**	**16 11 50.0**	**-0.2**
DIKM	**Dikmen**	**2.13**	**10**	*e*Pn		**Pn**	**16 11 50.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.13**	**66**	*e*PN		**Pn**	**16 11 50.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.13**	**66**	*e*Pn		**Pn**	**16 11 50.1**	**-0.2**
LADK	**Ladik-KONYA**	**2.32**	**235**	*e*PN		**Pn**	**16 11 53.5**	**+0.6**
LADK	**Ladik-KONYA**	**2.32**	**235**	*e*Pn		**Pn**	**16 11 53.6**	**+0.6**
KIZT	**Kizilcal**	**2.35**	**254**	*e*PN		**Pn**	**16 11 53.4**	**-0.1**
KIZT	**Kizilcal**	**2.35**	**254**	*e*Pn		**Pn**	**16 11 53.4**	**-0.1**
SUSE	**Susehri**	**2.71**	**75**	*i* P		**Pn**	**16 11 58.2**	**-0.2**
SUSE	**Susehri**	**2.71**	**75**	*i* P		**Pn**	**16 11 58.2**	**-0.2**

ISCJB ***15*** *16:14:58.4±0.1, 10˚.30S±0˚.02×161˚.15E±0˚.02, h88km, mb5.5/207, Error ellipse: s-maj=3.5km s-min=2.8km az=175.4*
IDC ***15*** *16:14:58.8±0.4, 10˚.43S×161˚.31E, h88km±2km, mb5.1/24, mb1 5.2/24, mb1mx5.2/24, mbtmp5.1/24, MS4.6/20, Ms1 4.6/20, ms1mx4.5/23, Error ellipse: s-maj=14.7km s-min=10.5km az=105.0*
BJI ***15*** *16:14:59.9, 10˚.24S×161˚.55E, h118km, mB5.4/38, mb5.3/59*
MOS ***15*** *16:15:00.4±1.0, 10˚.26S×161˚.17E, h108km, mb5.7/54, MS4.7/5, Error ellipse: s-maj=7.6km s-min=6.6km az=86.6*
NEIC ***15*** *16:15:01.9±0.7, 10˚.33S×161˚.21E, h114km±6km, mb5.6/136, MW5.7, MW5.6, Error ellipse: s-maj=4.4km s-min=4.0km az=160.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.31; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$3.63; $M_{r\theta}$1.41; $M_{r\phi}$1.09; $M_{\theta\phi}$-1.05; Best double couple: $M_0$3.80000×10^{17} NP1:ϕ_s341.00000°, δ62.00000°, λ-133.00000°. NP2:ϕ_s224.00000°, δ50.00000°, λ-38.00000°. Principal axes: T 3.9500, Plg7.0000°, Azm99.0000°; N -0.3400, Plg36.0000°, Azm4.0000°; P -3.6200, Plg52.0000°, Azm199.0000°;*
NEIC Felt [III] at Honiara.
DJA ***15*** *16:15:06, 10˚.34S×161˚.40E, h161km, Mw5.6/52*
NEIC ***15*** *16:15:14.5±0.0, 10˚.27S×161˚.19E, h80km, Moment Tensor Solution. s158 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$2.07; $M_{r\theta}$1.25; $M_{\theta\phi}$2.52; $M_{r\phi}$-0.80; Best double couple: $M_0$3.40000×10^{17} NP1:ϕ_s349.00000°, δ68.00000°, λ-154.00000°. NP2:ϕ_s249.00000°, δ66.00000°, λ-23.00000°. Principal axes: T 3.4900, Plg1.0000°, Azm119.0000°; N -0.1200, Plg57.0000°, Azm27.0000°; P -3.3700, Plg32.0000°, Azm209.0000°;*

ISC 15 16:14:58.7±0.2, 10˚.35S±0˚.03×161˚.28E±0˚.04, h89km, h89km:pP-P, n947, σ1.5/46/1408, mb5.6/204, 328C-314D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.60**	**305**	⇑*iP*		**Pn**	**16 15 27.8**	**+2.1**
HNR				*e*			16 15 48.7	
HNR	**Honiara**	**1.60**	**305**	⇑*iPn*		**Pn**	**16 15 27.8**	**+2.1**
HNR				*e*Sn		**Sn**	**16 15 48.7**	**+2.5**
NOUC	**Port Laguerre**	**12.64**	**158**	*e*P		**Pn**	**16 17 56.9**	**+1.6**
NOUC				*e*S		**Sn**	**16 20 13.9**	**-0.4**
DZM	**Mont Dzumac**	**12.67**	**158**	*e*Pn		Pn	16 17 58.5	+2.8
	129nm,0.3s							
DZM				*e*Sn		**Sn**	**16 20 11.2**	**-3.8**
	42nm,0.2s							
DZM				*e*LR		LR	16 21 04.4	
	8μm,24.8s							
DZM	**Mont Dzumac**	**12.67**	**158**	P		P	16 17 59.7	-3.8
	20nm,0.3s,baz=357,slow=13,SNR=53							
DZM				S		**Sn**	**16 20 15.3**	**+0.3**
	18nm,0.3s,baz=308,slow=23,SNR=4.1							
DZM				LR		LR	16 22 15.9	
	comp=Z,4μm,19.6s,baz=342,slow=35							
DZM	**Mont Dzumac**	**12.67**	**158**	P		P	16 17 59.7	-3.8
DZM				S		**Sn**	**16 20 15.3**	**+0.3**
NORM	**Noumea**	**12.82**	**158**	*e*P		**Pn**	**16 18 00.3**	**+2.6**
MVNO	**Noumea**	**12.85**	**158**	*e*P		P	16 18 01.4	-4.0
BAYA	**Yate Dam**	**12.91**	**156**	*e*P		**Pn**	**16 18 01.3**	**+2.4**
PLUM	**Mont Dore**	**12.92**	**157**	*e*P		**Pn**	**16 18 01.7**	**+2.6**
PMG	**Port Moresby**	**13.95**	**273**	P		**P**	**16 18 17.7**	**0.0**
	1.1nm,0.3s,baz=84,slow=7.2,SNR=68							
PMG	**Port Moresby**	**13.95**	**273**	*e*P		**P**	**16 18 17.2**	**-0.4**
PMG					pmax	pmax		
	comp=Z,518nm,1.2s							
PMG	**Port Moresby**	**13.95**	**273**	⇑*i*Pn		**P**	**16 18 17.4**	**-0.3**
	comp=Z,594nm,1.0s							
PMG				P		**P**	**16 18 17.7**	**0.0**
CTA	**Charters Tower**	**17.42**	**234**	P		Pn	16 19 00.7	+4.5
	comp=Z,15nm,0.3s,baz=61,slow=12,SNR=326							
CTA	**Charters Tower**	**17.42**	**234**	⇓*iP*		Pn	16 19 00.6	+4.4
	comp=Z,519nm,0.9s							
CTA				*e*S		**Sn**	**16 22 04.1**	**-6.0**
CTA	**Charters Tower**	**17.42**	**234**	P		Pn	16 19 00.7	+4.5
CTA	**Charters Tower**	**17.42**	**234**	P		Pn	16 19 00.7	+4.5
CTAO	**Charters Tower**	**17.42**	**234**	⇓*eP*		**Pn**	**16 18 59.2**	**+3.0**
CTAO					pmax	pmax		
	comp=Z,2μm,1.3s							
CTAO	**Charters Tower**	**17.42**	**234**	⇓*e*Pn		**Pn**	**16 18 59.2**	**+3.0**
	comp=Z,2μm,1.3s							
CTAO				*e*S		**S**	**16 22 15.8**	**+3.2**
FUNA	**Funafuti**	**17.77**	**86**	⇑*i*Pn		**Pn**	**16 19 00.1**	**-0.3**
	comp=Z,950nm,1.6s							
EIDS	**Eidsvold**	**17.80**	**212**	⇓*e*Pn		**Pn**	**16 19 02.5**	**+1.8**
	comp=Z,626nm,1.1s							
MSVF	**Nonsavu**	**17.84**	**116**	*e*P		**Pn**	**16 19 02.9**	**+1.5**
MSVF					pmax	pmax		
	comp=Z,331nm,1.1s							
MSVF	**Nonsavu**	**17.84**	**116**	*e*Pn		**Pn**	**16 19 02.9**	**+1.5**
	comp=Z,331nm,1.1s							
MSVF	**Nonsavu**	**17.84**	**116**	Pn		**Pn**	**16 19 03.0**	**+1.5**
	comp=Z,1μm,1.1s,SNR=16							
COEN	**Coen**	**18.06**	**257**	⇓*i*Pn		**Pn**	**16 19 08.1**	**+4.1**
	comp=Z,2μm,0.9s							
KWAJ	**Kwajalein Atol**	**20.04**	**19**	*e*P		Pn	16 19 35.2	+7.9
KWAJ					pmax	pmax		
	comp=Z,1μm,0.6s							
KWAJ	**Kwajalein Atol**	**20.04**	**19**	*e*P		Pn	16 19 35.2	+7.8
	comp=Z,1μm,0.6s							
JAY	**Jayapura**	**21.86**	**289**	P		**P**	**16 19 44.9**	**+0.4**
	comp=Z,191nm,1.4s,comp=Z,5μm							
ARMA	**Armidale**	**21.90**	**203**	*e*P		**P**	**16 19 46.1**	**+1.3**
ARMA				*e*S		**S**	**16 23 46.8**	**+5.1**
ARMA	**Armidale**	**21.90**	**203**	⇓*i*Pn		**P**	**16 19 45.5**	**+0.7**
	comp=Z,703nm,1.2s							
SMPI	**Sarmi**	**23.91**	**289**	P		**P**	**16 20 06.2**	**+1.6**
	comp=Z,940nm,1.2s,comp=Z,12μm							
RIV	**Riverview**	**25.15**	**200**	*e*P		**P**	**16 20 17.6**	**+1.9**
AFI	**Afiamalu**	**26.57**	**100**	LR		LR	16 29 21.7	
	comp=Z,839nm,21.4s,baz=96,slow=32							
AFI	**Afiamalu**	**26.57**	**100**	P		**P**	**16 20 30.4**	**+1.6**
AFI					pmax	pmax		
	comp=Z,286nm,1.3s							
AFI	**Afiamalu**	**26.57**	**100**	P		**P**	**16 20 30.4**	**+1.6**
	comp=Z,286nm,1.3s							
CNB	**Canra Magne**	**27.12**	**202**	*e*P		**P**	**16 20 35.3**	**+1.8**
	comp=Z,1μm,1.0s							
OUZ	**Omahuta**	**27.19**	**158**	*e*P		**P**	**16 20 35.4**	**+1.4**
	comp=Z,344nm,1.3s							
CAN	**Canberra**	**27.26**	**202**	*e*P		**P**	**16 20 36.5**	**+1.7**
	comp=Z,143nm,1.0s							
CAN	**Canberra**	**27.26**	**202**	⇓*i*P		**P**	**16 20 36.0**	**+1.2**
CAN					pmax	pmax		
	comp=Z,274nm,1.0s							
CAN	**Canberra**	**27.26**	**202**	⇓*i*P		**P**	**16 20 36.0**	**+1.2**
	comp=Z,274nm,1.0s							
WRAB	**Tennant Creek**	**27.65**	**247**	⇓*i*P		**P**	**16 20 39.5**	**+1.1**
WRAB				*e*			16 21 02.1	
WRAB					pmax	pmax		
	comp=Z,571nm,1.3s							
WRAB	**Tennant Creek**	**27.65**	**247**	⇓*i*P		**P**	**16 20 39.5**	**+1.1**
	comp=Z,571nm,1.3s							
WRAB				*e*			16 21 02.0	
WRAB	**Tennant Creek**	**27.65**	**247**	P		**P**	**16 20 39.0**	**+0.6**
	comp=Z,2μm,0.8s							
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**	**16 20 38.9**	**+0.4**
	comp=Z,206nm,0.9s,baz=75,slow=9.0,SNR=622							
WRA					ScP	**ScP**	**16 27 26.5**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=73,slow=3.7,SNR=5.2							
WRA					LR	LR	16 30 49.9	
	comp=Z,985nm,21.3s,baz=75,slow=34							
WRA					PKiKP	**PKiKP**	**16 31 29.1**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=348,slow=0.7,SNR=13							
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**	**16 20 38.9**	**+0.4**
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**	**16 20 38.9**	**+0.4**
WRA					ScP	**ScP**	**16 27 26.5**	**-0.2**
WRA					PKiKP	**PKiKP**	**16 31 29.1**	**-1.5**
STKA	**Stephens Creek**	**28.12**	**217**	P		**P**	**16 20 43.8**	**+1.4**
	comp=Z,51nm,0.8s,baz=27,slow=8.1,SNR=60							
STKA					LR	LR	16 32 16.5	
	comp=Z,2μm,18.1s,baz=39,slow=37							
STKA	**Stephens Creek**	**28.12**	**217**	*e*P		**P**	**16 20 43.6**	**+1.2**
	comp=Z,42nm,0.8s							
STKA	**Stephens Creek**	**28.12**	**217**	P		**P**	**16 20 43.8**	**+1.4**
STKA	**Stephens Creek**	**28.12**	**217**	P		**P**	**16 20 43.8**	**+1.4**
ASAR	**Alice Springs**	**29.27**	**240**	P		**P**	**16 20 53.1**	**+0.4**
	comp=Z,78nm,0.9s,baz=70,slow=9.4,SNR=394							
ASAR	**Alice Springs**	**29.27**	**240**	P		**P**	**16 20 53.1**	**+0.4**
ASAR	**Alice Springs**	**29.27**	**240**	P		**P**	**16 20 53.1**	**+0.4**
FAKI	**Fak Fak**	**29.74**	**282**	P		P	16 21 01.3	+4.3
	comp=Z,28nm,1.4s,comp=Z,2μm							
TOO	**Toolangi**	**30.61**	**205**	*e*P		**P**	**16 21 06.4**	**+2.0**
	comp=Z,628nm,0.8s							
URZ	**Urewera**	**31.21**	**156**	*e*P		**P**	**16 21 10.3**	**+0.6**
	comp=Z,208nm,1.5s							
BBOO	**Buckleboo**	**32.24**	**222**	*e*P		**P**	**16 21 19.7**	**+1.0**
	comp=Z,4μm,0.9s							
BBOO					*e*pP	**pP**	**16 21 39.2**	**0.0**
AAI	**Ambon**	**33.48**	**279**	P		P	16 21 34.2	+4.4
	comp=Z,167nm,0.8s,comp=Z,2μm							
KHZ	**Kahutara**	**33.70**	**164**	P		**P**	**16 21 31.0**	**-0.4**
	comp=Z,106nm,1.2s							
MOO	**Moorlands**	**34.27**	**199**	*e*P		**P**	**16 21 38.7**	**+2.4**
	comp=Z,2μm,0.9s							
RPZ	**Rata Peaks**	**34.31**	**167**	P		**P**	**16 21 36.6**	**-0.1**
	comp=Z,87nm,0.9s,baz=16,slow=0.8,SNR=22							
RPZ					LR	LR	16 32 13.8	
	comp=Z,1μm,19.7s,baz=334,slow=30							
RPZ	**Rata Peaks**	**34.31**	**167**	*e*P		**P**	**16 21 36.5**	**-0.2**
	comp=Z,438nm,1.4s							
RPZ					*e*pP	pP	16 22 04.3	+7.1
RPZ					*e*PP	PP	16 23 03.5	+7.5
TAU	**Tasmania Unive**	**34.65**	**198**	*e*P		**P**	**16 21 41.4**	**+1.8**
TAU					pmax	pmax		
	comp=Z,772nm,1.4s							
TAU	**Tasmania Unive**	**34.65**	**198**	*e*P		**P**	**16 21 41.4**	**+1.8**
	comp=Z,772nm,1.4s							
TAU	**Tasmania Unive**	**34.65**	**198**	P		**P**	**16 21 41.5**	**+1.8**
	comp=Z,2μm,1.1s,SNR=14							
LBMI	**Labuha**	**34.94**	**284**	P		P	16 21 45.1	+2.7
	comp=Z,157nm,0.9s,comp=Z,4μm							
FITZ	**Fitzroy Crossi**	**35.35**	**253**	*e*P		**P**	**16 21 46.7**	**+0.8**
	comp=Z,682nm,1.0s							
FITZ				*e*S		**S**	**16 27 11.9**	**-2.1**
TNTI	**Ternate**	**35.50**	**286**	P		**PP**	**16 23 14.9**	**+5.3**
	comp=Z,202nm,1.7s							
FORT	**Forrest**	**36.94**	**232**	*e*P		**P**	**16 21 59.7**	**+0.4**
	comp=Z,187nm,0.9s							
FORT	**Forrest**	**36.94**	**232**	*e*P		**P**	**16 22 00.0**	**+0.7**
	comp=Z,445nm,1.2s							
MMRI	**Maumere**	**38.53**	**269**	P		**P**	**16 22 13.6**	**+0.6**
MMRI	**Maumere**	**38.53**	**269**	P		**P**	**16 22 13.6**	**+0.6**
	comp=Z,332nm,1.2s,comp=Z,5μm							
KMSI	**Cibinong**	**38.66**	**284**	P		**P**	**16 22 15.6**	**+1.6**
	comp=Z,697nm,1.0s,comp=Z,8μm							
MRSI	**Marisa**	**40.58**	**283**	P		sP	16 23 10.9	+10
	comp=Z,119nm,1.2s,comp=Z,0.4nm							
BKSI	**Bulukumba**	**41.05**	**274**	P		**P**	**16 22 35.2**	**+1.3**
MBWA	**Marble Bar**	**41.29**	**250**	*e*P		**P**	**16 22 36.3**	**+0.5**
	comp=Z,304nm,0.9s							
MBWA					*e*pP	**pP**	**16 22 58.0**	**+1.2**
MBWA	**Marble Bar**	**41.29**	**250**	P		**P**	**16 22 37.4**	**+1.6**
	SNR=13							
KAPI	**Kappang**	**41.47**	**274**	*e*P		**P**	**16 22 37.0**	**-0.2**
	comp=Z,209nm,1.0s							
KAPI					*e*pP	**pP**	**16 22 57.1**	**-1.3**
KAPI	**Kappang**	**41.47**	**274**	P		**P**	**16 22 38.1**	**+0.8**
	SNR=6.7							
KAPI	**Kappang**	**41.47**	**274**	P		**P**	**16 22 38.1**	**+0.8**
	comp=Z,166nm,1.3s,comp=Z,3μmcomp=Z,0.8nm							
KAPI	**Kappang**	**41.47**	**274**	P		**P**	**16 22 38.1**	**+0.8**
	comp=Z,166nm,1.3s,comp=Z,3μm							
CBIJ	**Chichi jima**	**41.58**	**334**	P		**P**	**16 22 36.7**	**-1.2**
	comp=Z,252nm,0.8s,baz=122,slow=3.2,SNR=7.5							
CBIJ	**Chichi jima**	**41.58**	**334**	P		**P**	**16 22 36.7**	**-1.2**
SPSI	**Sidrap Palu**	**41.64**	**276**	P		**P**	**16 22 39.7**	**+1.0**
	comp=Z,74nm,1.2s,comp=Z,1μmcomp=Z,0.4nm							
MCQ	**Macquarie Isla**	**44.08**	**182**	*e*P		**P**	**16 22 55.1**	**-2.6**
	comp=Z,30μm,1.2s							
MCQ	**Macquarie Isla**	**44.08**	**182**	*e*P		**P**	**16 22 59.1**	**+1.3**
MCQ					pmax	pmax		
	comp=Z,10μm,1.3s							
MCQ	**Macquarie Isla**	**44.08**	**182**	*e*P		**P**	**16 22 59.1**	**+1.3**
	comp=Z,93μm,1.3s							
MTNI	**Mataram**	**44.50**	**268**	P		**P**	**16 23 02.2**	**+0.4**
	comp=Z,172nm,1.0s,comp=Z,3μmcomp=Z,0.8nm							
SMKI	**Samarinda**	**44.90**	**280**	P		P	16 23 08.0	+3.0
	comp=Z,300nm,1.1s							
KHKI	**Kahang-Kahang**	**45.08**	**268**	P		**P**	**16 23 06.4**	**0.0**
	comp=Z,124nm,0.8s,comp=Z,0.6nm							
KBKI	**Kotabaru**	**45.30**	**276**	P		**P**	**16 23 09.8**	**+1.7**
	comp=Z,105nm,1.5s,comp=Z,1μm							
KBKI	**Kotabaru**	**45.30**	**276**	P		**P**	**16 23 09.8**	**+1.7**
	comp=Z,105nm,1.5s,comp=Z,1μm							
MYLDM	**Lahad Datu**	**45.31**	**288**	P		P	16 23 11.4	+3.2
MYLDM	**Lahad Datu**	**45.31**	**288**	P		P	16 23 11.8	+3.6
	comp=Z,134nm,1.3s							
KLBR	**Kellerberrin**	**45.42**	**236**	*e*P		**P**	**16 23 09.5**	**+0.6**
	comp=Z,303nm,1.4s							
IGBI	**Denpasar**	**45.49**	**268**	P		**P**	**16 23 10.9**	**+1.3**
	comp=Z,254nm,1.2s,comp=Z,1μmcomp=Z,1.0nm							
TSM	**Tawau**	**45.61**	**286**	P		**P**	**16 23 11.8**	**+1.2**
NWAO	**Narrogin (SRO)**	**46.26**	**234**	*e*P		**P**	**16 23 15.9**	**+0.4**
NWAO				*e**PP		**pP**	**16 23 39.5**	**+2.6**
NWAO				*e*			16 25 04.7	
NWAO					pmax	pmax		
	comp=Z,210nm,1.1s							
NWAO	**Narrogin (SRO)**	**46.26**	**234**	*e*P		**P**	**16 23 15.9**	**+0.4**
	comp=Z,210nm,1.1s							
NWAO				*e*pP		**pP**	**16 23 39.5**	**+2.6**
NWAO				*e*PP		**PP**	**16 25 04.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**46.50**	**268**	P		P	16 23 17.3	-0.3
BBKI	**Banjar Baru**	**46.56**	**275**	P		P	16 23 20.2	+2.1
	comp=Z,336nm,1.4s,comp=Z,4μm							
SDKM	**Sandakan**	**46.69**	**288**	P		**P**	**16 23 19.1**	**0.0**
KKM	**Kota Kinabalu**	**47.74**	**288**	*e*P		**P**	**16 23 28.0**	**+0.7**
	comp=Z,208nm,0.9s							
KKM				*e*pP		**pP**	**16 23 48.4**	**-0.4**
KKM	**Kota Kinabalu**	**47.74**	**288**	P		**P**	**16 23 28.5**	**+1.2**
KKM	**Kota Kinabalu**	**47.74**	**288**	P		**P**	**16 23 28.6**	**+1.3**
	comp=Z,195nm,1.3s,comp=Z,2μm							
PAE	**Paea**

comp=Z,612nm,21.7s,baz=136,slow=32
KSRS Korea Array 56.91 329 P **P** **16 24 35.8 +1.2**
KSRS *PP **pP** **16 24 57.3 +0.6**
KSRS pmax pmax
comp=Z,11nm,0.5s
KSRS pmax pmax
comp=Z,60nm,1.0s
KSRS MLR MLR
comp=Z,612nm,21.7s
KSAR Wonju Array Be 56.92 328 P **P** **16 24 35.8 +1.1**
KSAR *PP **pP** **16 24 57.3 +0.5**
KSAR Wonju Array Be 56.92 328 P **P** **16 24 35.8 +1.1**
KSAR pP **pP** **16 24 57.3 +0.5**
INCN Inchon 57.60 328 *eP* **P** **16 24 40.8 +1.3**
comp=Z,254nm,1.2s
INCN *epP* **pP** **16 25 02.6 +0.9**
DRV Dumont d'Urvil 58.07 190 S **S** **16 32 31.0 -5.1**
DRV L L 16 39 00.0
DRV R 16 41 00.0
NJ2 Nanjing 58.50 318 *eP* **P** **16 24 47.5 +1.6**
NJ2 PP **PP** **16 27 00.6 +4.2**
NJ2 S **S** **16 32 41.5 -1.2**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,250nm,4.0s
NJ2 LR LR
comp=N,510nm,17.6s
NJ2 LR LR
comp=E,770nm,19.6s
NJ2 LR LR
comp=Z,830nm,30.1s
QIZ Qiongzhong 58.50 300 P **P** **16 24 44.8 -1.4**
QIZ S **S** **16 32 42.4 -0.9**
QIZ sS sS 16 33 29.1 +7.9
QIZ pmax pmax
comp=Z,46nm,1.9s
QIZ pmax pmax
comp=Z,260nm,3.6s
QIZ LR LR
comp=N,650nm,18.1s
QIZ LR LR
comp=E,330nm,24.7s
QIZ LR LR
comp=Z,1μm,29.3s
QIZ Qiongzhong 58.50 300 *eP* **P** **16 24 47.9 +1.7**
comp=Z,79nm,1.4s
QIZ *epP* **pP** **16 25 09.2 +0.8**
KGM Kluang 58.97 279 P **P** **16 24 50.1 +0.5**
KGM Kluang 58.97 279 P **P** **16 24 50.7 +1.2**
YSS Yuzh-Sakhalins 59.39 345⇑ *eP* **P** **16 24 53.6 +1.9**
YSS *e* 16 25 19.0
YSS Yuzh-Sakhalins 59.39 345 *eP* **P** **16 24 52.4 +0.6**
comp=Z,225nm,1.4s
YSS *epP* **pP** **16 25 16.2 +2.1**
VLA Vladivostok 59.59 335⇑ *iP* **P** **16 24 53.2 +0.1**
VLA *e* 16 25 39.4
VLA *e* 16 27 04.9
VLA S **S** **16 32 56.1 -0.3**
VLA pmax pmax
comp=Z,65nm,1.3s
USRK Ussuriysk Arra 60.44 336 P **P** **16 25 00.5 +1.5**
comp=Z,65nm,0.9s,baz=146,slow=5.3,SNR=63
USRK pP **pP** **16 25 22.7 +1.4**
comp=Z,93nm,1.0s,baz=144,slow=7.1,SNR=7.1
WHN Wuhan 60.69 314⇑ P **P** **16 25 02.0 +1.0**
FRIM Kepong 60.90 280 P **P** **16 25 02.4 -0.4**
FRIM Kepong 60.90 280 P **P** **16 25 03.3 +0.5**
FRIM Kepong 60.90 280 P **P** **16 25 03.2 +0.5**
DL2 Dalian 61.35 325 P **P** **16 25 06.3 +1.1**
DL2 pP **pP** **16 25 31.8 +4.2**
DL2 S **S** **16 33 17.8 -1.2**
DL2 pmax pmax
comp=Z,30nm,0.6s
MDJ Mudanjiang 61.77 335 P **P** **16 25 09.6 +1.6**
MDJ pP pP 16 25 36.5 +6.1
MDJ sP sP 16 25 48.3 +8.1
MDJ PP **PP** **16 27 25.4 +0.3**
MDJ ScP **ScP** **16 29 40.4 -1.8**
MDJ PcS **PcS** **16 29 52.6 +1.3**
MDJ S **S** **16 33 24.5 +0.3**
MDJ SS **SS** **16 37 29.0 +1.3**
MDJ pmax pmax
comp=Z,58nm,1.0s
MDJ pmax pmax
comp=Z,300nm,5.2s
MDJ Mudanjiang 61.77 335 *eP* **P** **16 25 09.2 +1.2**
comp=Z,128nm,1.1s
MDJ *epP* **pP** **16 25 31.5 +1.1**
IPM Ipoh 61.78 281 *eP* **P** **16 25 08.7 0.0**
comp=Z,234nm,1.2s
IPM *epP* **pP** **16 25 31.1 -0.1**
IPM Ipoh 61.78 281 P **P** **16 25 08.7 0.0**
IPM Ipoh 61.78 281 P **P** **16 25 09.3 +0.5**
IPM Ipoh 61.78 281 P **P** **16 25 09.5 +0.8**
IPM Ipoh 61.78 281 P **P** **16 25 09.2 +0.5**
comp=Z,181nm,1.2s,comp=Z,2μm
RKT Rikitea 61.94 111 *eS* **S** **16 33 28.9 +1.7**
comp=Z,1μm,24.2s
RKT *eLR* LR 16 43 55.7
comp=Z,3μm,34.0s
TIA Tai'an 62.23 320 P **P** **16 25 11.8 +0.6**
TIA S **S** **16 33 32.6 +2.3**
TIA pmax pmax
comp=Z,20nm,0.8s
TIA LR LR
comp=N,680nm,23.5s
TIA LR LR
comp=E,580nm,25.5s
TIA LR LR
comp=Z,610nm,33.3s
KULM Kulim 62.34 282 *eP* P 16 25 17.2 +4.8
comp=Z,133nm,1.1s
KULM Kulim 62.34 282 P P 16 25 16.2 +3.8
KULM Kulim 62.34 282 P P 16 25 17.9 +5.4
KULM Kulim 62.34 282 P P 16 25 18.1 +5.7
comp=Z,108nm,1.2s
SNY Shenyang 62.40 329⇓ P **sP** **16 25 41.6 -2.9**
SNY S **S** **16 33 34.0 +1.8**
SNY pmax pmax
comp=Z,22nm,1.0s
SNY pmax pmax
comp=Z,320nm,3.4s
SNY LR LR
comp=N,790nm,22.1s
SNY LR LR
comp=E,560nm,20.1s
SNY LR LR
comp=Z,980nm,35.7s
CN2 Changchun 62.97 332 *eP* **P** **16 25 17.4 +1.4**
CN2 *epP* **pP** **16 25 41.8 +3.3**
CN2 *eS* **S** **16 33 41.3 +2.1**
CN2 SS **SS** **16 37 49.8 +3.3**
CN2 pmax pmax
comp=Z,70nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,16.0s
CN2 LR LR
comp=E,500nm,16.0s
CN2 LR LR
comp=Z,800nm,20.0s
HABR Khabarovsk 62.99 341 *eP* **P** **16 25 15.1 -0.9**
HABR *e*PP **pP** **16 25 38.5 0.0**
HABR *e* 16 25 51.2
HABR *e* 16 27 33.3
HABR *eS* **S** **16 33 37.9 -1.4**
HABR *e*SS **sS** **16 34 18.1 +0.4**
HABR *e* 16 34 57.5
HABR *eSS* **SS** **16 37 44.6 -2.0**
HABR pmax pmax
comp=E,205nm,3.3s
HABR pmax pmax
comp=Z,139nm,2.0s
HABR pmax pmax
comp=N,125nm,3.1s
HABR MLR MLR
comp=Z,331nm,19.0s
COCO West Island 63.10 262 *eP* **P** **16 25 19.8 +2.4**
COCO *e*PP **pP** **16 25 44.1 +4.2**
COCO pmax pmax
comp=Z,280nm,1.4s
COCO West Island 63.10 262 *eP* **P** **16 25 19.8 +2.4**
comp=Z,280nm,1.4s
COCO *epP* **pP** **16 25 44.1 +4.2**
COCO West Island 63.10 262 P P 16 25 21.6 +4.2
comp=Z,174nm,1.4s,comp=Z,4μm
PET Petropavlovsk 63.16 358 *eP* **P** **16 25 17.3 +0.3**
PET *e*PP **pP** **16 25 39.5 -0.1**
PET *e*SP **sP** **16 25 49.3 0.0**
PET *eS* S 16 33 29.4 -12
PET pmax pmax
comp=Z,32nm,1.4s
PET pmax pmax
comp=Z,500nm,6.6s
PET Petropavlovsk 63.16 358 *eP* **P** **16 25 14.0 -3.0**
comp=Z,266nm,1.1s
PET *epP* **pP** **16 25 39.4 -0.1**
PETK Petropavlovsk- 63.28 358 P **P** **16 25 18.7 +0.9**
comp=Z,13nm,0.8s,baz=164,slow=7.9,SNR=13
PETK pP **pP** **16 25 41.2 +0.9**
comp=Z,136nm,0.9s,baz=147,slow=8.3,SNR=23
PETK LR LR 16 49 23.0
comp=Z,457nm,19.8s,baz=176,slow=33
PETK Petropavlovsk- 63.28 358 P **P** **16 25 18.7 +0.9**
PETK *PP **pP** **16 25 41.3 +0.9**
PETK Petropavlovsk- 63.28 358 P **P** **16 25 18.7 +0.9**
PETK pP **pP** **16 25 41.2 +0.9**
PSI Prapat 63.43 278 P **P** **16 25 19.2 -0.6**
comp=Z,101nm,1.2s,comp=Z,2μm
FX1 Attu Island--F 63.79 8 P **P** **16 25 22.2 +1.0**
comp=Z,52nm,0.6s,baz=241,slow=2.5,SNR=30
FX1 pP **pP** **16 25 44.6 +0.8**
comp=Z,177nm,0.8s,baz=128,slow=11,SNR=8.0
FX1 LR LR 16 49 24.6
comp=Z,264nm,21.3s,baz=225,slow=32
FX1 Attu Island--F 63.79 8 P **P** **16 25 22.3 +1.0**
FX1 *PP **pP** **16 25 44.6 +0.8**
FX1 Attu Island--F 63.79 8 P **P** **16 25 22.2 +1.0**
FX1 pP **pP** **16 25 44.6 +0.8**
ENH Enshi 64.09 311 *eP* **P** **16 25 23.6 -0.1**
comp=Z,93nm,0.9s
GYA Guiyang 64.42 306⇑ *iP* **P** **16 25 27.6 +1.5**
GYA pP **PcP** **16 25 57.0 -2.8**
GYA sP sP 16 26 08.9 +10
GYA PP PP 16 27 53.4 +4.4
GYA ScP 16 29 51.3
GYA PcS 16 30 03.5
GYA S **S** **16 33 56.8 -1.5**
GYA sS sS 16 34 45.6 +8.8
GYA SKS **SKSac** **16 35 07.3 -5.3**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.6s
BJI Beijing 65.24 323 P **P** **16 25 31.9 +1.0**
BJI S **S** **16 34 06.3 -1.2**
BJI SS **SS** **16 38 22.1 0.0**
BJI pmax pmax
comp=Z,27nm,1.1s
BJI pmax pmax
comp=Z,150nm,3.8s
BJI LR LR
comp=N,470nm,16.6s
BJI LR LR
comp=E,530nm,17.1s
BJI LR LR
comp=Z,1μm,18.4s
CASY Casey 65.48 200 *eP* **P** **16 25 32.7 +0.6**
CASY Casey 65.48 200 *eP* **P** **16 25 32.5 +0.4**
comp=Z,296nm,1.2s
XAN Xi'an 66.45 314 P **P** **16 25 38.9 0.0**
XAN PcP **PcP** **16 26 04.8 -3.1**
XAN S **S** **16 34 16.8 -5.8**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN pmax pmax
comp=Z,29nm,4.8s
XAN LR LR
comp=N,320nm,18.9s
XAN LR LR
comp=E,85nm,15.6s
XAN LR LR
comp=Z,180nm,25.0s
KMI Kunming 67.03 303⇑ P **P** **16 25 45.3 +2.3**
KMI PcP **PcP** **16 26 12.6 +1.8**
KMI pP pP 16 26 14.1 +8.3
KMI sP sP 16 26 26.8 +11
KMI PP **PP** **16 28 16.1 +4.2**
KMI S **S** **16 34 28.8 -1.5**
KMI sS sS 16 35 18.3 +9.2
KMI SKS **SKSac** **16 35 27.9 -4.8**
KMI SS **SS** **16 38 51.8 +0.8**
KMI pmax pmax
comp=Z,41nm,1.2s
KMI pmax pmax
comp=Z,250nm,3.1s
KMI LR LR
comp=N,450nm,17.9s
KMI LR LR
comp=E,360nm,14.7s
KMI LR LR
comp=Z,570nm,20.5s
SBA Scott Base 67.55 179 *eP* **P** **16 25 46.6 +1.5**
SBA *e*PP **PcP** **16 26 09.4 -2.3**
SBA pmax pmax
comp=Z,121nm,1.3s
SBA Scott Base 67.55 179 *eP* **P** **16 25 46.6 +1.5**
comp=Z,122nm,1.3s
SBA *epP* **PcP** **16 26 09.4 -2.3**
CMAR Chiang Mai Arr 67.82 295 P **P** **16 25 49.5 +1.6**
comp=Z,22nm,0.6s,baz=127,slow=5.2,SNR=150
CMAR PKP2bc 16 54 08.4
comp=Z,12nm,1.3s,baz=284,slow=4.3,SNR=11
CMAR LR LR 16 55 01.6
comp=Z,358nm,18.7s,baz=280,slow=35
CMAR Chiang Mai Arr 67.82 295 P **P** **16 25 49.5 +1.6**
CMAR Chiang Mai Arr 67.82 295 P **P** **16 25 49.5 +1.6**
CMAR ⇑ *e* 16 54 08.4
CHTO Chiang Mai 67.94 295 *eP* **P** **16 25 49.7 +1.1**
CHTO *e*PP **pP** **16 26 07.4 -4.0**
CHTO pmax pmax
comp=Z,49nm,1.0s
CHTO Chiang Mai 67.94 295 *eP* **P** **16 25 49.6 +1.1**
comp=Z,49nm,1.0s
CHTO *epP* **pP** **16 26 07.3 -4.0**
CHTO Chiang Mai 67.94 295 P **P** **16 25 49.6 +1.0**
comp=Z,57nm,1.5s,comp=Z,832nm
NIKO Nikolski 68.04 19 *eP* **P** **16 25 48.1 -0.3**
comp=Z,393nm,1.1s
NIKO *epP* **pP** **16 26 07.8 -3.4**
HHC Hu-ho-hao-te 68.51 322 *eP* **P** **16 25 53.5 +1.7**
HHC pP PcP 16 26 21.0 +4.5
HHC sP sP 16 26 33.8 +9.4
HHC PP PP 16 28 28.8 +4.5
HHC S **S** **16 34 45.9 -1.2**
HHC sS **SKiKP** **16 35 33.6 -3.3**
HHC ScS **SKSac** **16 35 39.3 -3.7**
HHC pmax pmax
comp=Z,35nm,1.1s
HHC pmax pmax
comp=Z,150nm,6.8s
HHC LR LR
comp=N,600nm,16.3s
HHC LR LR
comp=E,470nm,16.7s
HHC LR LR
comp=Z,870nm,16.5s
CD2 Chengdu 68.72 309 P **P** **16 25 54.8 +1.5**
CD2 pP PcP 16 26 22.0 +4.5
CD2 sP sP 16 26 34.0 +8.2
CD2 PP PP 16 28 30.9 +4.6
CD2 S **S** **16 34 49.3 -0.6**
CD2 sS **SKiKP** **16 35 35.8 -1.6**
CD2 SS **SS** **16 39 18.3 +1.8**
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.9s
CD2 LR LR
comp=N,740nm,20.2s
CD2 LR LR
comp=Z,740nm,25.0s
BTO Baotou 69.32 321 *eP* **P** **16 25 57.6 +0.7**
HIA Hailar 69.66 332 *eP* **P** **16 25 59.3 +0.6**
HIA *e*PP **pP** **16 26 21.4 -0.1**
HIA pmax pmax
comp=Z,188nm,1.1s
HIA Hailar 69.66 332 *eP* **P** **16 25 59.2 +0.6**
comp=Z,188nm,1.1s
HIA *epP* **pP** **16 26 21.4 -0.1**
LZH Lanzhou 71.07 314 *eP* **P** **16 26 09.9 +2.1**
LZH PcP **pP** **16 26 28.8 -1.9**
LZH pP pwP 16 26 35.6 +4.9
LZH sP sP 16 26 47.5 +7.1
LZH PP PP 16 28 53.3 +6.7
LZH *eS* **S** **16 35 17.3 -0.2**
LZH SS **SS** **16 39 50.5 -2.3**
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,270nm,5.8s
FALS False Pass 71.42 21 *eP* **P** **16 26 08.7 -0.4**
comp=Z,120nm,0.8s
FALS *epP* **pP** **16 26 31.6 -0.5**
SDPT Sand Point 72.85 22 *eP* **P** **16 26 17.6 -0.1**
comp=Z,158nm,0.8s
SDPT *epP* **pP** **16 26 38.0 -2.7**
CLNS Chul'man 73.36 340 *eP* **P** **16 26 22.0 +1.2**
CLNS *e* 16 26 43.6
CLNS pmax pmax
comp=Z,75nm,1.3s
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.8s
SEY Seymchan 73.38 356*c eP* **P** **16 26 21.6 +0.9**
CIT Chita 74.41 332 *eP* **P** **16 26 28.2 +1.2**
CIT *e* 16 26 40.4
CIT *e* 16 26 53.7
CIT pmax pmax
comp=Z,363nm,1.7s
ULN Ulaanbaatar 75.20 326 *eP* **P** **16 26 32.9 +1.0**
ULN *e*PP **pP** **16 26 55.5 +0.5**
ULN pmax pmax
comp=Z,139nm,0.9s
ULN Ulaanbaatar 75.20 326 *eP* **P** **16 26 32.9 +1.0**
comp=Z,139nm,0.9s
ULN *epP* **pP** **16 26 55.5 +0.5**
ULN Ulaanbaatar 75.20 326 P **P** **16 26 32.8 +1.0**
comp=Z,115nm,1.5s,comp=Z,2μm
GTA Gaotai 75.44 315⇓ P **P** **16 26 34.6 +1.2**
GTA pP **pP** **16 26 59.8 +3.3**
GTA S **S** **16 36 06.5 -0.2**
GTA SKS **SKSac** **16 36 30.4 -5.0**
GTA SS **SS** **16 41 02.3 +3.0**
GTA pmax pmax
comp=Z,61nm,1.5s
GTA pmax pmax
comp=Z,310nm,4.3s
GTA LR LR
comp=N,400nm,17.6s
GTA LR LR
comp=E,380nm,18.5s
GTA LR LR
comp=Z,370nm,17.6s
SONM Songino Arbay 75.55 325 P **P** **16 26 35.0 +1.2**
comp=Z,41nm,0.8s,baz=138,slow=5.6,SNR=137
SONM pP **pP** **16 26 57.3 +0.3**
comp=Z,137nm,0.9s,baz=139,slow=5.5,SNR=14
SONM LR LR 16 57 29.8
comp=Z,429nm,20.5s,baz=264,slow=34
SONM Songino Array 75.55 325 P **P** **16 26 35.0 +1.2**
SONM Songino Array 75.55 325 P **P** **16 26 35.0 +1.2**
SONM pP **pP** **16 26 57.3 +0.3**
YAK Yakutsk 76.25 345 *eP* **P** **16 26 37.6 +0.4**
YAK *e* 16 26 47.2
YAK *e*PP **pP** **16 27 02.2 +1.8**
YAK *eS* **S** **16 36 13.7 -0.6**
YAK *e* 16 36 40.8
YAK *e*SS **sS** **16 36 52.6 -1.3**
YAK *eSS* **SS** **16 41 10.1 0.0**
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=Z,121nm,1.0s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=Z,180nm,3.2s
YAK smax smax
comp=N,293nm,4.1s
YAK smax smax
comp=E,86nm,2.5s
YAK Yakutsk 76.25 345 *eP* **P** **16 26 37.3 +0.1**
comp=E,252nm,0.8s
YAK *epP* **pP** **16 27 01.3 +0.9**
SHL Shillong 76.34 300 *eP* **P** **16 26 41.0 +2.2**
SHL *ex* x 16 27 00.5
SHL *eS* **S** **16 36 18.0 +0.8**
GAMB Gambell 76.73 12 *eP* **P** **16 26 40.2 +0.3**
comp=E,30nm,0.8s
GAMB *epP* **pP** **16 27 04.4 +1.3**
KDAK Kodiak Island 77.61 23 P **P** **16 26 46.0 +1.1**
comp=E,50nm,0.6s,baz=244,slow=4.0,SNR=39
KDAK pP **pP** **16 27 09.2 +1.0**
comp=E,92nm,0.8s,baz=198,slow=4.1,SNR=10.0
KDAK Kodiak Island 77.61 23 P **P** **16 26 46.0 +1.1**
KDAK *PP **pP** **16 27 09.2 +1.0**
KDAK pmax pmax
comp=Z,50nm,0.6s
KDAK pmax pmax
comp=Z,92nm,0.8s
KDAK Kodiak Island 77.61 23 *eP* **P** **16 26 45.5 +0.6**
comp=Z,43nm,0.7s
KDAK *epP* **pP** **16 27 09.1 +1.0**
KDAK Kodiak Island 77.61 23 P **P** **16 26 46.0 +1.1**
comp=Z,412nm,0.7s,SNR=14
BOD Bodaibo 78.08 336 *eP* **P** **16 26 47.3 -0.3**
BOD pmax pmax
comp=Z,31nm,1.1s
BOD pmax pmax
comp=Z,81nm,1.5s
BILL Bilibino 78.27 2⇓ *eP* **P** **16 26 49.0 +0.6**
BILL *e* 16 29 42.9
BILL *eS* **S** **16 36 40.1 +4.1**
BILL pmax pmax
comp=Z,103nm,1.4s
BILL Bilibino 78.27 2 *eP* **P** **16 26 48.3 -0.1**
comp=Z,402nm,1.2s
BILL *epP* **pP** **16 27 12.6 +0.9**
LSA Lhasa 78.29 303 P **P** **16 26 50.3 +0.3**
LSA S **S** **16 36 33.0 -5.7**
LSA LR LR
comp=Z,420nm,28.1s
LSA Lhasa 78.29 303 *eP* **P** **16 26 49.6 -0.4**
LSA *e*PP **pP** **16 27 12.9 -0.4**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 78.29 303 *eP* **P** **16 26 49.6 -0.4**
comp=Z,30nm,0.9s
LSA *epP* **pP** **16 27 12.9 -0.4**
ZAK Zakamensk 78.65 326 *eP* **P** **16 26 51.7 +0.6**
ZAK *e* 16 27 14.5
ZAK pmax pmax
comp=Z,49nm,1.4s
TNA Tin City 79.08 13 *eP* **P** **16 26 54.3 +1.4**
comp=Z,94nm,1.0s
TNA *epP* **pP** **16 27 17.4 +1.1**
IRK Irkutsk 79.12 328 *eP* **P** **16 26 53.7 +0.2**
IRK pmax pmax
comp=Z,104nm,1.6s
TLY Talaya 79.15 328*d iP* **P** **16 26 54.3 +0.7**
TLY *eS* **S** **16 36 47.4 +1.3**
TLY *e* 16 37 01.7
TLY *e* 16 37 28.8
TLY pmax pmax
comp=Z,65nm,1.1s
TLY MLR MLR
comp=Z,238nm,20.0s
TLY Talaya 79.15 328 *eP* **P** **16 26 54.3 +0.7**
comp=Z,99nm,1.0s
TLY *epP* **pP** **16 27 15.8 -1.2**
TLY Talaya 79.15 328 P **P** **16 26 54.3 +0.7**
comp=Z,327nm,1.3s,SNR=6.0
RSO Redoubt South 79.40 21 *eP* **P** **16 26 54.7 -0.4**
comp=Z,158nm,0.8s
QSPA South Pole Qui 79.65 180 *eP* **P** **16 26 56.7 +0.4**
comp=Z,256nm,1.1s
QSPA *epP* **pP** **16 27 19.0 -0.7**
SLKM Skilak Lake 80.35 22 *eP* **P** **16 27 00.4 +0.4**
SLKM Skilak Lake 80.35 22 *eP* **P** **16 27 00.4 +0.4**
TAPN Taplejung 80.44 300 *eP* **P** **16 27 01.7 +0.1**
TAPN Taplejung 80.44 300 *eP* **P** **16 27 01.7 +0.1**

MOY **Mondy** 80.55 327 *eP* **P** 16 27 01.5 +0.1
MOY pmax pmax
comp=Z,57nm,1.7s
ODAN **Odare** 80.58 300 *eP* **P** 16 27 02.4 +0.2
ODAN **Odare** 80.58 300 *eP* **P** 16 27 02.4 +0.2
RAMN **Ramite** 81.28 299 *eP* **P** 16 27 06.0 +0.1
RAMN **Ramite** 81.28 299 *eP* **P** 16 27 06.0 +0.1
PPLA **Purkeypile** 81.29 20 P **P** 16 27 04.1 -1.0
comp=Z,128nm,1.3s
PPLA *epP* **pP** 16 27 27.4 -1.2
PMR **Palmer** 81.47 22 *eP* **P** 16 27 04.9 -0.9
PMR *e*PP* **pP** 16 27 29.5 +0.2
PMR pmax pmax
comp=Z,262nm,1.4s
PMR **Palmer** 81.47 22 *eP* **P** 16 27 04.9 -0.9
comp=Z,262nm,1.4s
PMR *epP* **pP** 16 27 29.5 +0.2
JIRN **Jiri** 81.83 300 *eP* **P** 16 27 09.2 +0.2
JIRN **Jiri** 81.83 300 *eP* **P** 16 27 09.2 +0.2
SML **Sawmill** 81.90 22 *eP* **P** 16 27 08.8 +0.6
SML pmax pmax
comp=Z,18nm,0.9s
SML **Sawmill** 81.90 22 *eP* **P** 16 27 08.8 +0.6
comp=Z,18nm,0.9s
SML *epP* **pP** 16 27 31.5 -0.1
GUN **Gumba** 82.16 300 *eP* **P** 16 27 10.9 +0.2
GUN **Gumba** 82.16 300 *eP* **P** 16 27 10.9 +0.2
TRF **Thorofare Moun** 82.30 20 *eP* **P** 16 27 08.0 -2.4
comp=Z,51nm,1.0s
TRF *epP* **pP** 16 27 32.6 -1.2
DIV **Divide** 82.43 23 *eP* **P** 16 27 10.0 -0.9
comp=Z,50nm,1.0s
DIV *epP* **pP** 16 27 34.4 0.0
PKI **Pulchoki** 82.47 300 *eP* **P** 16 27 12.3 0.0
PKI **Pulchoki** 82.47 300 *eP* **P** 16 27 12.3 0.0
PKI **Pulchoki** 82.47 300 *eP* **P** 16 27 12.3 0.0
KKN **Kakani** 82.64 300 *eP* **P** 16 27 13.1 +0.1
KKN **Kakani** 82.64 300 *eP* **P** 16 27 13.1 +0.1
KKN **Kakani** 82.64 300 *eP* **P** 16 27 13.1 +0.1
DMN **Daman** 82.74 300 *eP* **P** 16 27 13.8 +0.2
comp=Z,212nm,1.2s
DMN **Daman** 82.74 300 *eP* **P** 16 27 13.8 +0.2
comp=Z,212nm,1.2s
BMRM **Bremner River** 82.79 23 *eP* **P** 16 27 13.2 +0.4
comp=Z,54nm,1.1s
BMRM *epP* **pP** 16 27 36.3 -0.1
MCK **McKinley** 82.94 20 *eP* **P** 16 27 13.3 -0.2
MCK *e*PP* **pP** 16 27 36.6 -0.4
MCK pmax pmax
comp=Z,335nm,1.0s
MCK **McKinley** 82.94 20 *eP* **P** 16 27 13.3 -0.2
comp=Z,336nm,1.0s
MCK *epP* **pP** 16 27 36.6 -0.4
GKN **Gorkha** 83.24 300 *eP* **P** 16 27 15.9 -0.2
comp=Z,262nm,1.2s
GKN **Gorkha** 83.24 300 *eP* **P** 16 27 15.9 -0.2
comp=Z,262nm,1.2s
PAX **Paxson** 83.67 22 *eP* **P** 16 27 16.3 -1.1
PAX *e*PP* **pP** 16 27 41.5 +0.6
PAX pmax pmax
comp=Z,31nm,1.0s
PAX **Paxson** 83.67 22 *eP* **P** 16 27 16.3 -1.1
comp=Z,31nm,1.0s
PAX *epP* **pP** 16 27 41.5 +0.6
MAW **Mawson** 83.70 202 P **P** 16 27 18.4 +1.0
comp=Z,90nm,1.0s,baz=94,slow=6.4,SNR=24
MAW pP **pP** 16 27 40.7 -0.2
comp=Z,54nm,0.8s,baz=96,slow=5.2,SNR=6.3
MAW LR LR 16 58 44.5
comp=Z,456nm,21.1s,baz=92,slow=31
MAW **Mawson** 83.70 202 *eP* **P** 16 27 18.1 +0.7
comp=Z,56nm,0.8s
MAW **Mawson** 83.70 202 P **P** 16 27 18.4 +1.0
MAW **Mawson** 83.70 202 P **P** 16 27 18.4 +1.0
MAW pP **pP** 16 27 40.7 -0.2
COLA **College** 84.04 19 *eP* **P** 16 27 18.6 -0.4
COLA *e*PP* **pP** 16 27 42.3 -0.3
COLA pmax pmax
comp=Z,178nm,0.9s
COLA **College** 84.04 19 *eP* **P** 16 27 18.6 -0.4
comp=Z,178nm,0.9s
COLA *epP* **pP** 16 27 42.3 -0.3
KOLN **Koldanda** 84.07 299 *eP* **P** 16 27 19.9 -0.5
comp=Z,49nm,0.8s
KOLN **Koldanda** 84.07 299 *eP* **P** 16 27 19.9 -0.5
comp=Z,49nm,0.8s
DANN **Dangsing** 84.08 300 *eP* **P** 16 27 20.0 -0.5
comp=Z,76nm,0.7s
DANN **Dangsing** 84.08 300 *eP* **P** 16 27 20.0 -0.5
comp=Z,76nm,0.7s
MENT **Mentasta** 84.29 22 *eP* **P** 16 27 21.4 +1.0
MENT *epP* **pP** 16 27 44.6 +0.6
ILAR **Eielson Array** 84.30 20 P **P** 16 27 20.1 -0.3
comp=Z,12nm,0.7s,baz=244,slow=4.9,SNR=149
ILAR pP **pP** 16 27 43.7 -0.3
comp=Z,79nm,1.1s,baz=248,slow=2.8,SNR=20
ILAR PKKP **PKKPbc** 16 45 31.8 -4.3
comp=Z,0.7nm,0.5s,baz=347,slow=1.7,SNR=22
ILAR LR LR 17 02 29.3
comp=Z,378nm,19.7s,baz=73,slow=34
ILAR **Eielson Array** 84.30 20 P **P** 16 27 20.1 -0.3
ILAR *PP **pP** 16 27 43.7 -0.3
ILAR **Eielson Array** 84.30 20 P **P** 16 27 20.1 -0.3
ILAR pP **pP** 16 27 43.7 -0.3
ILAR PKKP **PKKPbc** 16 45 31.8 -4.3
DOT **Dot Lake** 84.59 21 *eP* **P** 16 27 22.6 +0.6
comp=Z,49nm,0.9s
DOT *epP* **pP** 16 27 46.1 +0.6
COLD **Coldfoot** 84.87 17 *eP* **P** 16 27 23.6 +0.3
comp=Z,6.7nm,0.8s
COLD *epP* **pP** 16 27 46.4 -0.4
KCPM **Cahto Peak** 85.34 48 *eP* **P** 16 27 26.5 +0.1
KCPM *epP* **pP** 16 27 50.2 +0.3
KIPM **Iron Peak** 85.45 48 *eP* **P** 16 27 27.9 +0.9
comp=Z,74nm,1.2s
KIPM *epP* **pP** 16 27 51.2 +0.7
HOPS **Hopland** 85.51 49 *eP* **P** 16 27 28.2 +1.1
comp=Z,120nm,1.5s
HOPS *epP* **pP** 16 27 51.8 +1.1
WMQ **Urumqi** 85.52 316 P **P** 16 27 27.3 +0.2
WMQ sP sP 16 28 10.3 +10
WMQ S **SKKSac** 16 37 47.8 -3.7
WMQ SS **SS** 16 43 30.3 +0.9
WMQ pmax pmax
comp=Z,63nm,1.1s
WMQ pmax pmax
comp=Z,330nm,7.0s
WMQ LR LR
comp=N,460nm,23.5s
WMQ LR LR
comp=E,360nm,27.2s
WMQ LR LR
comp=Z,400nm,23.5s
KHMM **Horse Mountain** 85.59 47 *eP* **P** 16 27 28.9 +1.3
comp=Z,64nm,1.2s
KHMM *epP* **pP** 16 27 53.0 +1.8
KBO **Bosley Butte** 85.64 46 *eP* **P** 16 27 29.4 +1.6
comp=Z,79nm,1.1s
KBO *epP* **pP** 16 27 52.3 +0.9
KEBM **Edson Butte** 85.77 45 *eP* **P** 16 27 30.1 +1.8
comp=Z,64nm,1.1s
KEBM *epP* **pP** 16 27 53.7 +1.7
SKAG **Skagway** 85.89 27 *eP* **P** 16 27 29.7 +1.2
comp=Z,40nm,1.1s
SKAG *epP* **pP** 16 27 51.7 -0.3
WRAK **Wrangell Islan** 85.94 31 *eP* **P** 16 27 29.0 +0.3
comp=Z,38nm,1.0s
WRAK *epP* **pP** 16 27 49.8 -2.6
SAO **San Andreas Ge** 86.11 52 *eP* **P** 16 27 31.4 +1.3
SAO *e*PP* **pP** 16 27 55.5 +1.7
SAO pmax pmax
comp=Z,42nm,1.1s
SAO **San Andreas Ge** 86.11 52 *eP* **P** 16 27 31.4 +1.3
comp=Z,42nm,1.1s
SAO *epP* **pP** 16 27 55.5 +1.7
HYB **Hyderabad** 86.22 288 *i* P **P** 16 27 29.0 -2.1
HYB *e* 16 27 53.0
HYB eSP sP 16 28 13.0 +8.7
HYB eS **SKKSac** 16 37 56.0 -1.8
HYB eScS **S** 16 38 00.0 +0.5
EGAK **Eagle** 86.28 21 *eP* **P** 16 27 30.8 +0.5
comp=Z,200nm,1.1s
EGAK *epP* **pP** 16 27 54.9 +0.9
WDC **Whiskeytown Da** 86.36 48 *eP* **P** 16 27 32.8 +1.5
WDC pmax pmax
comp=Z,46nm,1.3s
WDC **Whiskeytown Da** 86.36 48 *eP* **P** 16 27 32.8 +1.5
comp=Z,46nm,1.3s
WDC *epP* **pP** 16 27 54.9 0.0
BBB **Bella Bella** 86.53 36 LR LR 16 57 14.1
comp=Z,373nm,22.0s,baz=217,slow=29
DAWY **Dawson** 86.53 22 *eP* **P** 16 27 32.9 +1.2
DAWY *epP* **pP** 16 27 56.8 +1.5
YBH **Yreka Blue Hor** 86.58 47 *eP* **P** 16 27 33.8 +1.4
YBH *e*PP* **pP** 16 27 57.6 +1.6
YBH pmax pmax
comp=Z,38nm,1.0s
YBH **Yreka Blue Hor** 86.58 47 *eP* **P** 16 27 33.8 +1.4
comp=Z,38nm,1.0s
YBH *epP* **pP** 16 27 57.6 +1.6
HUMO **Hull Mountain** 86.66 46 *eP* **P** 16 27 34.1 +1.4
comp=Z,41nm,1.0s
HUMO *epP* **pP** 16 27 57.9 +1.5
BSC **Santa Cruz Isl** 86.82 55 ⇓P **P** 16 27 34.9 +1.2
baz=87
BSC ⇓P **P** 16 27 34.9 +1.2
baz=87
SMMC **Simmler** 86.86 53 ⇓P **P** 16 27 35.6 +1.8
baz=87
SMMC ⇓P **P** 16 27 35.6 +1.8
baz=87
SBC **Santa Barbara** 86.87 54 ⇑P **P** 16 27 35.3 +1.4
baz=87
SBC ⇑P **P** 16 27 35.3 +1.4
baz=87
HEBO **Mount Hebo** 86.89 43 *eP* **P** 16 27 35.5 +1.7
HEBO *epP* **pP** 16 27 57.9 +0.4
PKM **Peak Mountain** 86.90 54 ⇑P **P** 16 27 35.7 +1.4
baz=87
PKM ⇑P **P** 16 27 35.7 +1.4
baz=87
COR **Corvallis** 87.01 44 *eP* **P** 16 27 35.5 +1.3
COR *e*PP* **pP** 16 28 01.0 +3.0
COR pmax pmax
comp=Z,32nm,0.9s
COR **Corvallis** 87.01 44 *eP* **P** 16 27 35.5 +1.3
comp=Z,32nm,0.9s
COR *epP* **pP** 16 28 01.0 +3.0
CMB **Columbia Colle** 87.27 51 *eP* **P** 16 27 36.6 +0.8
CMB *e*PP* **pP** 16 28 00.7 +1.2
CMB pmax pmax
comp=Z,26nm,1.0s
CMB **Columbia Colle** 87.27 51 *eP* **P** 16 27 36.6 +0.8
comp=Z,26nm,1.0s
CMB *epP* **pP** 16 28 00.7 +1.2
LBCM **Butte Creek Ri** 87.31 48 P **P** 16 27 37.2 +1.2
BLG **Laguna Peak** 87.31 55 ⇓P **P** 16 27 36.5 +0.5
baz=87
BLG ⇓P **P** 16 27 36.5 +0.5
baz=87
OOW **Octopus West** 87.39 41 P **P** 16 27 38.1 +2.0
SCI **San Clemente I** 87.45 56 P **P** 16 27 37.7 +1.0
baz=88
SCI P **P** 16 27 37.7 +1.0
baz=88
NLWA **Neilton Lookou** 87.49 41 *eP* **P** 16 27 36.7 +0.1
comp=Z,38nm,1.3s
NLWA *epP* **pP** 16 28 00.5 +0.2
CIS **Catalina Islan** 87.67 56 ⇑P **P** 16 27 38.7 +0.9
baz=88,SNR=15
CIS ⇑P **P** 16 27 38.7 +0.9
baz=88,SNR=15
OSI **Osito Adit** 87.70 54 *eP* **P** 16 27 39.5 +1.5
comp=Z,14nm,0.3s
OSI *epP* **pP** 16 28 02.2 +0.5
OSI **Osito Adit** 87.70 54 ⇑P **P** 16 27 39.4 +1.5
baz=88
OSI ⇑P **P** 16 27 39.4 +1.5
baz=88
RCTC **Rector, Farmer** 87.71 53 ⇓P **P** 16 27 39.0 +1.1
baz=88
RCTC ⇓P **P** 16 27 39.0 +1.1
baz=88
VES **Vestal, Richgr** 87.72 53 ⇑P **P** 16 27 39.1 +1.2
baz=88,SNR=6.5
VES ⇑P **P** 16 27 39.1 +1.2
baz=88,SNR=6.5
ARVC **Arvin** 87.74 54 ⇓P **P** 16 27 39.2 +1.1
baz=88
ARVC ⇓P **P** 16 27 39.2 +1.1
baz=88
BEKR **Beckworth** 87.77 49 ⇓P **P** 16 27 39.1 +0.7
baz=88
BEKR ⇓P **P** 16 27 39.1 +0.7
baz=88
FMP **Fort Macarthur** 87.83 55 ⇑P **P** 16 27 39.6 +1.1
baz=88
FMP ⇑P **P** 16 27 39.6 +1.1
baz=88
DLBC **Dease Lake** 87.92 29 P **P** 16 27 39.5 +1.1
comp=Z,7.8nm,1.0s,baz=205,slow=6.9,SNR=8.2
DLBC **Dease Lake** 87.92 29 *eP* **P** 16 27 38.4 -0.1
DLBC *epP* **pP** 16 28 02.0 -0.2
DECC **Green Verdugo** 87.93 55 ⇓P **P** 16 27 40.0 +1.0
baz=88
DECC ⇓P **P** 16 27 40.0 +1.0
baz=88
PASC **Pasadena Art C** 88.03 55 *eP* **P** 16 27 40.1 +0.7
comp=Z,40nm,1.1s
PASC *epP* **pP** 16 28 03.0 -0.2
LVP **Lakeview Peak** 88.05 43 P **P** 16 27 41.2 +1.8
WCN **Washoe City** 88.08 50 *eP* **P** 16 27 40.9 +1.1
WCN *e*PP* **pP** 16 28 05.5 +2.0
WCN pmax pmax
comp=Z,47nm,1.7s
WCN **Washoe City** 88.08 50 *eP* **P** 16 27 40.9 +1.1
comp=Z,47nm,1.7s
WCN *epP* **pP** 16 28 05.5 +2.0
WCN **Washoe City** 88.08 50 ⇓P **P** 16 27 41.0 +1.3
baz=88
WCN ⇓P **P** 16 27 41.0 +1.3
baz=88
MWC **Mount Wilson** 88.14 55 *eP* **P** 16 27 41.4 +1.2
MWC pmax pmax
comp=Z,148nm,1.3s
MWC **Mount Wilson** 88.14 55 *eP* **P** 16 27 41.4 +1.2
comp=Z,148nm,1.3s
MWC *epP* **pP** 16 28 04.2 +0.2
ISA **Isabella** 88.16 53 *eP* **P** 16 27 41.0 +0.9
ISA pmax pmax
comp=Z,66nm,1.4s
ISA **Isabella** 88.16 53 *eP* **P** 16 27 41.0 +0.9
comp=Z,66nm,1.4s
ISA *epP* **pP** 16 28 04.6 +0.7
ISA **Isabella** 88.16 53 ⇓P **P** 16 27 41.6 +1.5
baz=88,SNR=31
ISA ⇓P **P** 16 27 41.6 +1.5
baz=88,SNR=31
TDL **Tradedollar La** 88.26 42 P **P** 16 27 41.8 +1.3
MOD **Modoc** 88.35 47 *eP* **P** 16 27 41.9 +0.9
comp=Z,42nm,1.2s
MOD *epP* **pP** 16 28 05.9 +1.1
EDW2 **Edwards Air Fo** 88.35 54 ⇑P **P** 16 27 42.2 +1.2
baz=88,SNR=25
EDW2 ⇑P **P** 16 27 42.2 +1.2
baz=88,SNR=25
MLAC **Mammoth Lakes** 88.35 51 ⇓P **P** 16 27 42.6 +1.4
baz=88
MLAC ⇓P **P** 16 27 42.6 +1.4
baz=88
BFSC **Mount Baldy Ra** 88.47 55 ⇓P **P** 16 27 42.7 +1.0
baz=89,SNR=7.0
BFSC ⇓P **P** 16 27 42.7 +1.0
baz=89,SNR=7.0
109C **Camp Elliot, M** 88.61 56 ⇓P **P** 16 27 43.3 +1.2
baz=89
109C ⇓P **P** 16 27 43.3 +1.2
baz=89
CWC **Cottonwood Cre** 88.65 53 ⇑P **P** 16 27 43.7 +1.1
baz=89,SNR=30
CWC ⇑P **P** 16 27 43.7 +1.1
baz=89,SNR=30
MURC **Murrieta** 88.69 56 ⇑P **P** 16 27 43.8 +1.1
baz=89
MURC ⇑P **P** 16 27 43.8 +1.1
baz=89
LRMC **Laurel Mountai** 88.73 54 ⇑P **P** 16 27 44.4 +1.5
baz=89,SNR=38
LRMC ⇑P **P** 16 27 44.4 +1.5
baz=89,SNR=38
WPW **White Pass** 88.80 42 P **P** 16 27 44.2 +1.3
VIPM **Ingram Point** 88.83 44 P **P** 16 27 44.9 +1.7
VIPM **Ingram Point** 88.83 44 P **P** 16 27 44.9 +1.7
BAR **Barrett** 88.92 57 *eP* **P** 16 27 44.3 +0.6
comp=Z,59nm,1.3s
BAR *epP* **pP** 16 28 08.9 +1.4
NVAR **Mina Array Bea** 88.96 51 P **P** 16 27 45.2 +1.2
comp=Z,19nm,0.7s,baz=238,slow=6.7,SNR=105
NVAR pP **pP** 16 28 09.0 +1.2
comp=Z,22nm,0.8s,baz=235,slow=7.5,SNR=11
NVAR PKPPKP **P'P'df** 16 53 32.5 +1.5
comp=Z,0.2nm,0.5s,baz=56,slow=9.1,SNR=3.7
NVAR LR LR 16 58 31.6
comp=Z,385nm,20.4s,baz=105,slow=29
NVAR **Mina Array Bea** 88.96 51 P **P** 16 27 45.2 +1.2
NVAR pP **pP** 16 28 09.0 +1.2
NVAR P'P' 16 53 32.5
JCW **Jim Creek** 88.98 41 *eP* **P** 16 27 44.0 +0.3
comp=Z,42nm,1.2s
JCW *epP* **pP** 16 28 07.5 +0.1
MPMC **Manual Prospec** 89.03 53 ⇑P **P** 16 27 45.7 +1.3
baz=89,SNR=49
MPMC ⇑P **P** 16 27 45.7 +1.3
baz=89,SNR=49
BBRC **Big Bear Solar** 89.07 55 ⇓P **P** 16 27 45.6 +1.0
baz=89
BBRC ⇓P **P** 16 27 45.6 +1.0
baz=89
RRX **Edison Barstow** 89.14 54 ⇓P **P** 16 27 45.9 +1.2
baz=89
RRX ⇓P **P** 16 27 45.9 +1.2
baz=89
MONP **Monument Peak** 89.17 56 ⇑P **P** 16 27 46.7 +1.6
baz=89,SNR=50
MONP ⇑P **P** 16 27 46.7 +1.6
baz=89,SNR=50
PFO **Pinyon Flat Ob** 89.30 56 *eP* **P** 16 27 45.7 +0.1
PFO pmax pmax
comp=Z,39nm,1.3s
PFO **Pinyon Flat Ob** 89.30 56 *eP* **P** 16 27 45.7 +0.1
comp=Z,39nm,1.3s
PFO *epP* **pP** 16 28 07.4 -2.0
PFO **Pinyon Flat Ob** 89.30 56 P **P** 16 27 46.8 +1.2
comp=Z,120nm,1.0s,SNR=5.5
PFO **Pinyon Flat Ob** 89.30 56 ⇓P **P** 16 27 46.8 +1.2
baz=89,SNR=13
PFO ⇓P **P** 16 27 46.8 +1.2
baz=89,SNR=13
GRAC **Grapevine Rang** 89.34 52 ⇑P **P** 16 27 47.1 +1.5
baz=90
GRAC ⇑P **P** 16 27 47.1 +1.5
baz=90
DVTC **Desert V Tower** 89.38 57 ⇑P **P** 16 27 47.3 +1.3
baz=90
DVTC ⇑P **P** 16 27 47.3 +1.3
baz=90
GSC **Goldstone** 89.39 54 *eP* **P** 16 27 47.2 +1.3
GSC *e*PP* **pP** 16 28 11.3 +1.6
GSC pmax pmax
comp=Z,60nm,1.3s
GSC **Goldstone** 89.39 54 *eP* **P** 16 27 47.2 +1.3
comp=Z,60nm,1.3s
GSC *epP* **pP** 16 28 11.3 +1.6
GSC **Goldstone** 89.39 54 ⇑P **P** 16 27 47.0 +1.0
baz=90,SNR=18
GSC ⇑P **P** 16 27 47.0 +1.0
baz=90,SNR=18
FURC **Furnace Creek,** 89.62 53 ⇑P **P** 16 27 48.3 +1.5
baz=90,SNR=22
FURC ⇑P **P** 16 27 48.3 +1.5
baz=90,SNR=22
HEC **Hector,Ludlow** 89.67 55 ⇑P **P** 16 27 48.4 +1.1
baz=90,SNR=12
HEC ⇑P **P** 16 27 48.4 +1.1
baz=90,SNR=12
WVOR **Wild Horse Val** 89.69 47 *eP* **P** 16 27 48.4 +1.2
WVOR *e*PP* **pP** 16 28 12.5 +1.5
WVOR pmax pmax
comp=Z,117nm,1.3s
WVOR **Wild Horse Val** 89.69 47 *eP* **P** 16 27 48.4 +1.2
comp=Z,117nm,1.3s
WVOR *epP* **pP** 16 28 12.5 +1.5
SWSC **Sam W. Stewart** 89.69 57 ⇓P **P** 16 27 48.6 +1.4
baz=90,SNR=13
SWSC ⇓P **P** 16 27 48.6 +1.4
baz=90,SNR=13
BELC **Belle Mtn. Jos** 89.76 55 ⇓P **P** 16 27 48.9 +1.2
baz=90,SNR=30
BELC ⇓P **P** 16 27 48.9 +1.2
baz=90,SNR=30
ETW **Entiat** 89.85 42 *eP* **P** 16 27 47.7 -0.1
comp=Z,39nm,1.1s
ETW *epP* **pP** 16 28 09.8 -1.8
SHOC **Shoshone** 89.95 54 ⇑P **P** 16 27 49.6 +1.2
baz=90,SNR=6.6
SHOC ⇑P **P** 16 27 49.6 +1.2
baz=90,SNR=6.6
RSW **Rattlesnake Hi** 90.02 43 *eP* **P** 16 27 49.9 +1.3
comp=Z,8.6nm,0.5s
RSW *epP* **pP** 16 28 12.2 -0.2
MK31 **Makanchi Array** 90.03 318 *eP* **P** 16 27 48.5 -0.1
MK31 pmax pmax
comp=Z,60nm,0.9s
MKAR **Makanchi Array** 90.03 318 P **P** 16 27 48.5 -0.1
comp=Z,8.7nm,0.5s,baz=94,slow=5.3,SNR=136
MKAR pP **pP** 16 28 11.2 -1.2
comp=Z,34nm,0.9s,baz=98,slow=5.4,SNR=6.3
MKAR PKKPbc **PKKPbc** 16 45 18.7 -2.5
comp=Z,0.3nm,0.5s,baz=261,slow=5.3,SNR=6.0
MKAR LR LR 17 11 01.2
comp=Z,153nm,18.3s,baz=208,slow=37
MKAR **Makanchi Array** 90.03 318 P **P** 16 27 48.5 -0.1
MKAR **Makanchi Array** 90.03 318 P **P** 16 27 48.5 -0.1
MKAR pP **pP** 16 28 11.2 -1.2
MKAR PKKPbc **PKKPbc** 16 45 18.7 -2.5
BC3 **Big Chuckawall** 90.12 56 ⇑P **P** 16 27 50.9 +1.4
baz=90,SNR=25
BC3 ⇑P **P** 16 27 50.9 +1.4
baz=90,SNR=25
TUQ **Turquoise Moun** 90.13 54 ⇓P **P** 16 27 50.5 +1.1
baz=90,SNR=30
TUQ ⇓P **P** 16 27 50.5 +1.1
baz=90,SNR=30
GMRC **Granite Mounta** 90.20 55 ⇑P **P** 16 27 50.9 +1.1
baz=90,SNR=35
GMRC ⇑P **P** 16 27 50.9 +1.1
baz=90,SNR=35
BMN **Battle Mountai** 90.24 49 *eP* **P** 16 27 51.1 +1.2
BMN pmax pmax
comp=Z,51nm,1.1s
BMN **Battle Mountai** 90.24 49 *eP* **P** 16 27 51.1 +1.2
comp=Z,51nm,1.1s
BMN *epP* **pP** 16 28 11.4 -2.2
ZALV **Zalesovo Beam** 90.44 325 P **P** 16 27 49.2 -1.0
comp=Z,7.4nm,0.7s,baz=108,slow=5.7,SNR=38
ZALV pP **pP** 16 28 12.2 -1.8
comp=Z,10.0nm,0.8s,baz=117,slow=5.8,SNR=7.6
ZALV PKKPbc **PKKPdf** 16 45 16.3 -0.2
comp=Z,0.7nm,0.5s,baz=311,slow=3.8,SNR=4.4
ZALV LR LR 17 05 03.5
comp=Z,274nm,21.6s,baz=99,slow=33
ZALV **Zalesovo Beam** 90.44 325 P **P** 16 27 49.2 -1.0
ZALV **Zalesovo Beam** 90.44 325 P **P** 16 27 49.2 -1.0
ZALV pP **pP** 16 28 12.2 -1.8
ZALV PKKPbc **PKKPdf** 16 45 16.3 -0.2
IRM **Iron Mountain** 90.48 55 ⇑P **P** 16 27 52.4 +1.4
baz=91,SNR=36
IRM ⇑P **P** 16 27 52.4 +1.4
baz=91,SNR=36
GLA **Glamis** 90.51 57 *eP* **P** 16 27 52.8 +1.6
GLA pmax pmax
comp=Z,60nm,1.1s
GLA **Glamis** 90.51 57 *eP* **P** 16 27 52.8 +1.6
comp=Z,60nm,1.1s
GLA *epP* **pP** 16 28 16.3 +1.3
GLA **Glamis** 90.51 57 ⇓P **P** 16 27 53.0 +1.8
baz=91
GLA ⇓P **P** 16 27 53.0 +1.8
baz=91
INK **Inuvik** 90.70 20 P **P** 16 27 52.1 +1.0
comp=Z,10nm,1.1s,baz=252,slow=4.9,SNR=13
INK PKKPbc **PKKPdf** 16 45 16.4 +0.1
comp=Z,2.4nm,1.0s,baz=56,slow=1.6,SNR=3.9
INK **Inuvik** 90.70 20 P **P** 16 27 52.1 +1.0
INK pmax pmax
comp=Z,10.0nm,1.1s
INK pmax pmax
comp=Z,2.0nm,1.0s

INK **Inuvik** 90.70 20 *e*P P 16 27 51.2 +0.1
comp=Z,60nm,1.3s
INK *ep*P **pP** 16 28 14.7 -0.2
INK PKKPbc **PKKPdf** 16 45 16.4 +0.1
LDFC Landfair 90.70 55 *e*P **P** 16 27 53.8 +1.7
comp=Z,189nm,1.3s
LDFC *ep*P **pP** 16 28 18.1 +2.2
LNOR Lincton Mounta 90.77 44 *e*P **P** 16 27 53.1 +1.0
LNOR pmax pmax
comp=Z,7.0nm,1.0s
LNOR Lincton Mounta 90.77 44 *e*P P 16 27 53.1 +1.0
comp=Z,7.1nm,1.0s
LNOR *ep*P **pP** 16 28 16.6 +0.7
OD2 Odessa Site #2 90.86 42 *e*P **P** 16 27 53.2 +0.8
comp=Z,65nm,1.0s
OD2 *ep*P **pP** 16 28 16.9 +0.7
Y12C Blythe 90.90 56 ⇓P **P** 16 27 54.2 +1.3
baz=91,SNR=9.5
Y12C ⇓P P 16 27 54.2 +1.3
baz=91,SNR=9.5
R11A Troy Canyon, C 91.02 51 ⇑P P 16 27 54.8 +1.2
baz=91,SNR=69
R11A ⇑P P 16 27 54.8 +1.2
baz=91,SNR=69
NEE2 Needles Airpor 91.03 55 ⇑P P 16 27 55.0 +1.5
baz=91
NEE2 ⇑P P 16 27 55.0 +1.5
baz=91
SYO Syowa Base 91.14 198 ⇑*e*P P 16 27 51.6 -1.7
SYO Syowa Base 91.14 198 ⇑*e*PcP **PcP** 16 27 53.0 -1.2
BMO Blue Mountains 91.20 45 *e*P **P** 16 27 54.2 0.0
BMO *e**PP **pP** 16 28 18.4 +0.4
BMO pmax pmax
comp=Z,47nm,1.3s
BMO Blue Mountains 91.20 45 *e*P P 16 27 54.2 0.0
comp=Z,47nm,1.3s
BMO *ep*P **pP** 16 28 18.4 +0.4
PDMCI Parker Dam,Lak 91.33 56 ⇑P **P** 16 27 56.2 +1.3
baz=91,SNR=10
PDMCI ⇑P P 16 27 56.2 +1.3
baz=91,SNR=10
113A Mohawk Valley, 91.33 57 ⇑P P 16 27 56.2 +1.4
baz=92
113A ⇑P P 16 27 56.2 +1.4
baz=92
Z13A Yuma Proving G 91.50 57 ⇑P P 16 27 57.2 +1.5
baz=92
Z13A ⇑P P 16 27 57.2 +1.5
baz=92
NVS Novosibirsk 91.58 326 ⇓*i*P **P** 16 27 53.9 -1.6
NVS *i* S **SKSac** 16 38 16.6 -3.3
NVS *i* *SS **ScS** 16 38 50.9 +0.2
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,30nm,1.4s
NVS pmax pmax
comp=Z,72nm,1.4s
NVS pmax pmax
comp=Z,44nm,2.0s
NVS pmax pmax
comp=N,45nm,1.5s
NVS pmax pmax
comp=E,14nm,1.5s
NVS smax smax
comp=N,11nm,2.2s
NVS smax smax
comp=E,67nm,2.2s
W13A Hualapai Mount 91.69 55 ⇑P **P** 16 27 58.1 +1.3
baz=92,SNR=23
W13A ⇑P P 16 27 58.1 +1.3
baz=92,SNR=23
ELK Elko 91.78 49 *e*P **P** 16 27 58.1 +1.0
ELK *e**PP **pP** 16 28 22.3 +1.4
ELK Elko 91.78 49 *e*P **P** 16 27 58.1 +1.0
ELK *ep*P **pP** 16 28 22.3 +1.4
214A Organ Pipe Nat 91.97 58 ⇑P **P** 16 27 59.4 +1.5
baz=92
214A ⇑P P 16 27 59.4 +1.5
baz=92
114A Black Gap (USA 92.06 57 ⇑P P 16 27 59.7 +1.4
baz=92
114A ⇑P P 16 27 59.7 +1.4
baz=92
NEW Newport 92.10 41 *e*P **P** 16 27 58.7 +0.5
NEW pmax pmax
comp=Z,52nm,1.1s
NEW Newport 92.10 41 *e*P P 16 27 58.7 +0.5
comp=Z,52nm,1.1s
NEW *ep*P **pP** 16 28 21.8 -0.2
NEW Newport 92.10 41 ⇓P **P** 16 27 59.0 +0.9
baz=92
NEW ⇓P P 16 27 59.0 +0.9
baz=92
Z14A Wintersburg 92.12 57 ⇓P P 16 28 00.1 +1.5
baz=92
Z14A ⇓P P 16 28 00.1 +1.5
baz=92
R13A O'Grain Ranch, 92.23 52 ⇓P P 16 28 00.7 +1.5
baz=92,SNR=25
R13A ⇓P P 16 28 00.7 +1.5
baz=92,SNR=25
ARUT Antelope Range 92.56 52 *e*P **P** 16 28 02.1 +1.4
ARUT pmax pmax
comp=Z,53nm,1.2s
ARUT Antelope Range 92.56 52 *e*P P 16 28 02.1 +1.4
comp=Z,53nm,1.2s
ARUT *ep*P **pP** 16 28 25.6 +1.1
C11A Tepee Creek (N 92.58 42 ⇓P **P** 16 28 01.5 +1.1
baz=93,SNR=36
C11A ⇓P P 16 28 01.5 +1.1
baz=93,SNR=36
CCUT Cedar City 92.58 52 *e*P P 16 28 02.2 +1.3
comp=Z,48nm,1.2s
CCUT *ep*P **pP** 16 28 26.2 +1.5
H12A Diamond D Ranc 92.84 45 ⇑P **P** 16 28 02.8 +1.0
baz=93,SNR=28
H12A ⇑P P 16 28 02.8 +1.0
baz=93,SNR=28
KSH Kashi 92.91 309 P **P** 16 28 03.5 +1.3
KSH *ep*P pP 16 28 32.5 +6.4
KSH *es*P sP 16 28 44.6 +9.0
KSH *e*PP **PP** 16 31 50.3 +4.2
KSH SS SKSac 16 38 18.1 -10
KSH *e*SKS **SKSac** 16 38 25.6 -2.8
KSH *e*S S 16 38 54.4 -6.6
KSH *es*S sS 16 39 47.9 +5.9
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,150nm,4.5s
KSH LR LR
comp=N,280nm,5.8s
KSH LR LR
comp=E,220nm,5.5s
KSH LR LR
comp=Z,250nm,6.7s
HLID Hailey 92.96 46 *e*P **P** 16 28 03.5 +1.1
comp=Z,45nm,1.0s
HLID *ep*P **pP** 16 28 27.7 +1.5
HLID Hailey 92.96 46 ⇑P **P** 16 28 04.0 +1.5
baz=93,SNR=52
HLID ⇑P P 16 28 04.0 +1.5
baz=93,SNR=52
C12B Naegeli Ranch, 93.06 42 ⇑P **P** 16 28 03.7 +1.0
baz=93
C12B ⇑P P 16 28 03.7 +1.0
baz=93
J13A Cove Ranch, Pi 93.09 47 ⇑P **P** 16 28 05.0 +1.9
baz=93,SNR=40
J13A ⇑P P 16 28 05.0 +1.9
baz=93,SNR=40
A12A Yaak River Ran 93.20 41 ⇑P **P** 16 28 04.6 +1.4
baz=93
A12A ⇑P P 16 28 04.6 +1.4
baz=93
U15A North Rim 93.21 54 ⇓P **P** 16 28 05.4 +1.5
baz=93,SNR=20
U15A ⇓P P 16 28 05.4 +1.5
baz=93,SNR=20
I13A Wildhorse Cree 93.23 46 ⇑P **P** 16 28 05.2 +1.5
baz=93,SNR=75
I13A ⇑P P 16 28 05.2 +1.5
baz=93,SNR=75
H13A Challis 93.26 45 ⇓P **P** 16 28 05.1 +1.3
baz=93,SNR=66
H13A ⇓P P 16 28 05.1 +1.3
baz=93,SNR=66
KURK Kurchatov 93.31 321 *de*P **P** 16 28 02.6 -1.0
KURK pmax pmax
comp=Z,48nm,1.2s
KURK Kurchatov 93.31 321 *e*P **P** 16 28 02.3 -1.3
comp=Z,57nm,1.3s
KURK *ep*P **pP** 16 28 24.9 -2.6
KURK Kurchatov 93.31 321 P **P** 16 28 03.6 0.0
comp=Z,178nm,1.1s,SNR=14
G13A Cobalt 93.38 45 ⇓P **P** 16 28 05.5 +1.2
baz=94,SNR=42
G13A ⇓P P 16 28 05.5 +1.2
baz=94,SNR=42
F13A Darby 93.45 44 ⇓P **P** 16 28 05.3 +0.8
baz=94,SNR=61
F13A ⇓P P 16 28 05.3 +0.8
baz=94,SNR=61
DUG Dugway 93.49 50 *e*P **P** 16 28 04.7 -0.2
DUG *e**PP **pP** 16 28 29.4 +0.6
DUG pmax pmax
comp=Z,14nm,1.4s
DUG Dugway 93.49 50 *e*P P 16 28 04.7 -0.2
comp=Z,14nm,1.4s
DUG *ep*P **pP** 16 28 29.4 +0.6
DUG Dugway 93.49 50 ⇑P **P** 16 28 06.1 +1.2
baz=94
DUG ⇑P P 16 28 06.1 +1.2
baz=94
L14A Malta 93.51 48 ⇓P P 16 28 06.5 +1.5
baz=94,SNR=16
L14A ⇓P P 16 28 06.5 +1.5
baz=94,SNR=16
X16A Lo Mia Camp, P 93.54 56 ⇑P P 16 28 06.5 +1.1
baz=94
X16A ⇑P P 16 28 06.5 +1.1
baz=94
R15A Junction 93.54 52 ⇑P P 16 28 06.7 +1.4
baz=94
R15A ⇑P P 16 28 06.7 +1.4
baz=94
BSMT Bassoo Peak 93.55 42 *e*P P 16 28 05.1 0.0
comp=Z,15nm,0.9s
BSMT *ep*P **pP** 16 28 28.6 -0.3
D13A Huson 93.62 43 ⇑P **P** 16 28 06.1 +0.9
baz=94
D13A ⇑P P 16 28 06.1 +0.9
baz=94
K14A Jones Ranch, D 93.65 48 ⇑P P 16 28 07.0 +1.4
baz=94,SNR=6.9
K14A ⇑P P 16 28 07.0 +1.4
baz=94,SNR=6.9
E13A Victor 93.67 44 ⇑P P 16 28 06.0 +0.4
baz=94,SNR=11
E13A ⇑P P 16 28 06.0 +0.4
baz=94,SNR=11
MSU Marysvale 93.67 52 *e*P **P** 16 28 07.4 +1.5
MSU pmax pmax
comp=Z,50nm,1.4s
MSU Marysvale 93.67 52 *e*P P 16 28 07.3 +1.5
comp=Z,50nm,1.4s
MSU *ep*P **pP** 16 28 30.4 +0.6
I14A Mackay 93.71 46 ⇑P **P** 16 28 07.8 +1.9
baz=94,SNR=39
I14A ⇑P P 16 28 07.8 +1.9
baz=94,SNR=39
TUC Tucson 93.72 58 *e*P **P** 16 28 06.6 +0.5
TUC *e**PP **pP** 16 28 31.6 +1.7
TUC pmax pmax
comp=Z,11nm,1.0s
TUC Tucson 93.72 58 *e*P P 16 28 06.6 +0.5
comp=Z,11nm,1.0s
TUC *ep*P **pP** 16 28 31.6 +1.7
O15A The Old Anders 93.77 50 ⇑P **P** 16 28 07.5 +1.3
baz=94
O15A ⇑P P 16 28 07.5 +1.3
baz=94
P15A Leamington 93.78 51 ⇑P P 16 28 07.7 +1.4
baz=94
P15A ⇑P P 16 28 07.7 +1.4
baz=94
WUAZ Wupatki 93.79 55 ⇑P P 16 28 07.7 +1.3
baz=94
WUAZ ⇑P P 16 28 07.7 +1.3
baz=94
HVU Hansel Valley 93.81 48 *e*P **P** 16 28 07.8 +1.5
HVU pmax pmax
comp=Z,47nm,1.3s
HVU Hansel Valley 93.81 48 *e*P P 16 28 07.8 +1.5
comp=Z,47nm,1.3s
HVU *ep*P **pP** 16 28 30.6 +0.5
TKM2 Tokmak 2 93.82 313 *e*P **P** 16 28 05.9 -0.6
TKM2 pmax pmax
comp=Z,23nm,1.2s
TKM2 Tokmak 2 93.82 313 *e*P P 16 28 05.8 -0.6
comp=Z,23nm,1.2s
TKM2 *ep*P **pP** 16 28 29.2 -1.1
N15A Stansbury Isla 93.84 49 ⇓P **P** 16 28 07.8 +1.3
baz=94
N15A ⇓P P 16 28 07.8 +1.3
baz=94
B13A Whitefish 93.86 42 ⇓P P 16 28 07.6 +1.3
baz=94,SNR=7.2
B13A ⇓P P 16 28 07.6 +1.3
baz=94,SNR=7.2
JTMT Jette 93.86 42 *e*P P 16 28 04.5 -1.9
comp=Z,6.5nm,1.2s
H14A Leadore 93.90 46 ⇑P P 16 28 08.4 +1.6
baz=94,SNR=28
H14A ⇑P P 16 28 08.4 +1.6
baz=94,SNR=28
Y17A Roosevelt 93.91 57 ⇑P P 16 28 08.1 +1.2
baz=94
Y17A ⇑P P 16 28 08.1 +1.2
baz=94
G14A Jackson 93.95 45 ⇓P P 16 28 08.4 +1.4
baz=94,SNR=40
G14A ⇓P P 16 28 08.4 +1.4
baz=94,SNR=40
S16A Weppner Ranch, 93.99 53 ⇑P P 16 28 08.7 +1.3
baz=94
S16A ⇑P P 16 28 08.7 +1.3
baz=94
M15A Larsen Ranch, 93.99 49 ⇑P P 16 28 08.4 +1.2
baz=94
M15A ⇑P P 16 28 08.4 +1.2
baz=94
SWMT Swartz Lake 94.00 43 *e*P P 16 28 06.8 -0.2
comp=Z,13nm,1.4s
SWMT *ep*P **pP** 16 28 31.3 +0.4
U16A Tuba City 94.09 54 ⇓P **P** 16 28 09.0 +1.2
baz=94
U16A ⇓P P 16 28 09.0 +1.2
baz=94
L15A Malad City 94.13 48 ⇓P P 16 28 09.2 +1.4
baz=94,SNR=5.0
L15A ⇓P P 16 28 09.2 +1.4
baz=94,SNR=5.0
E14A Clinton 94.14 44 ⇓P P 16 28 09.0 +1.3
baz=94
E14A ⇓P P 16 28 09.0 +1.3
baz=94
K15A Arbon 94.15 48 ⇓P P 16 28 09.4 +1.5
baz=94,SNR=8.6
K15A ⇓P P 16 28 09.4 +1.5
baz=94,SNR=8.6
R16A Teasdale 94.17 52 ⇑P P 16 28 10.0 +1.8
baz=94,SNR=13
R16A ⇑P P 16 28 10.0 +1.8
baz=94,SNR=13
318A Bisbee 94.24 59 ⇓P P 16 28 09.6 +1.0
baz=94
318A ⇓P P 16 28 09.6 +1.0
baz=94
D14A Greenough 94.25 43 ⇑P P 16 28 09.4 +1.1
baz=94
D14A ⇑P P 16 28 09.4 +1.1
baz=94
V17A Tonalea, Kykot 94.27 55 ⇑P P 16 28 09.7 +1.0
baz=94
V17A ⇑P P 16 28 09.7 +1.0
baz=94
218A Dragoon 94.28 58 ⇓P P 16 28 10.0 +1.2
baz=94,SNR=5.2
218A ⇓P P 16 28 10.0 +1.2
baz=94,SNR=5.2
MCMT McKenzie Canyo 94.30 45 *e*P P 16 28 09.8 +1.1
comp=Z,16nm,1.4s
MCMT *ep*P **pP** 16 28 33.8 +1.3
J15A Blackfoot 94.34 47 ⇓P **P** 16 28 10.1 +1.3
baz=94
J15A ⇓P P 16 28 10.1 +1.3
baz=94
WALA Waterton Lakes 94.35 41 *e*P P 16 28 09.2 +0.6
comp=Z,0.5nm,0.8s
WALA *ep*P **pP** 16 28 32.9 +0.4
MPU Maple Canyon 94.35 50 *e*P P 16 28 09.9 +1.0
comp=Z,8.6nm,1.2s
MPU *ep*P **pP** 16 28 33.6 +0.8
H15A Lima 94.41 46 ⇑P P 16 28 10.6 +1.5
baz=94,SNR=41
H15A ⇑P P 16 28 10.6 +1.5
baz=94,SNR=41
I15A Monteview 94.41 46 ⇓P P 16 28 11.0 +1.9
baz=94,SNR=7.4
I15A ⇓P P 16 28 11.0 +1.9
baz=94,SNR=7.4
T17A Navajo Res., N 94.49 53 ⇑P P 16 28 10.6 +1.0
baz=95
T17A ⇑P P 16 28 10.6 +1.0
baz=95
FRU Bishkek 94.52 313 *e*P P 16 28 08.0 -1.4
FRU *e* 16 28 48.0
Q16A Castle Valley 94.52 51 ⇓P P 16 28 10.7 +0.9
baz=95
Q16A ⇓P P 16 28 10.7 +0.9
baz=95
U17A Shonto 94.54 54 ⇓P P 16 28 10.9 +1.1
baz=95
U17A ⇓P P 16 28 10.9 +1.1
baz=95
DLMT Dillon 94.57 45 *e*P P 16 28 10.5 +0.8
comp=Z,75nm,1.4s
DLMT *ep*P **pP** 16 28 34.5 +1.0
AAK Ala-Archa 94.57 312 *e*P P 16 28 08.1 -1.8
AAK *e**PP **pP** 16 28 33.6 -0.1
AAK pmax pmax
comp=Z,37nm,1.4s
AAK Ala-Archa 94.57 312 *e*P P 16 28 08.1 -1.8
comp=Z,37nm,1.4s
AAK *ep*P **pP** 16 28 33.6 -0.1
Y18A Canyon Day Jun 94.58 57 ⇓P **P** 16 28 11.5 +1.4
baz=95
Y18A ⇓P P 16 28 11.5 +1.4
baz=95
S17A Black Ridge (B 94.59 53 ⇓P P 16 28 11.3 +1.3
baz=95
S17A ⇓P P 16 28 11.3 +1.3
baz=95
G15A Dillon 94.61 45 ⇑P P 16 28 11.1 +1.1
baz=95,SNR=15
G15A ⇑P P 16 28 11.1 +1.1
baz=95,SNR=15
B14A Marquette Ranc 94.64 42 ⇑P P 16 28 11.5 +1.5
baz=95,SNR=6.2
B14A ⇑P P 16 28 11.5 +1.5
baz=95,SNR=6.2
A14A Double T Ranch 94.65 41 ⇑P P 16 28 11.4 +1.4
baz=95,SNR=6.3
A14A ⇑P P 16 28 11.4 +1.4
baz=95,SNR=6.3
DAU Daniels Canyon 94.70 50 *e*P P 16 28 12.0 +1.3
DAU pmax pmax
comp=Z,34nm,1.5s
DAU Daniels Canyon 94.70 50 *e*P P 16 28 12.0 +1.3
comp=Z,34nm,1.5s
DAU *ep*P **pP** 16 28 32.0 -2.6
E15A Deer Lodge 94.72 44 ⇑P P 16 28 11.3 +0.8
baz=95,SNR=7.9
E15A ⇑P P 16 28 11.3 +0.8
baz=95,SNR=7.9
F15A Butte 94.72 44 ⇑P P 16 28 11.3 +0.8
baz=95,SNR=13
F15A ⇑P P 16 28 11.3 +0.8
baz=95,SNR=13
LRM Limekiln Ridge 94.75 44 *e*P P 16 28 10.8 +0.2
comp=Z,136nm,1.1s
LRM *ep*P **pP** 16 28 34.0 -0.6
X18A Snowflake 94.78 56 ⇓P P 16 28 12.1 +1.1
baz=95,SNR=5.6
X18A ⇓P P 16 28 12.1 +1.1
baz=95,SNR=5.6
R17A Hanksville Air 94.79 52 ⇓P P 16 28 11.9 +1.0
baz=95
R17A ⇓P P 16 28 11.9 +1.0
baz=95
319A Douglas 94.83 59 ⇑P P 16 28 12.5 +1.2
baz=95,SNR=5.9
319A ⇑P P 16 28 12.5 +1.2
baz=95,SNR=5.9
K16A Soda Springs 94.86 48 ⇑P P 16 28 12.9 +1.7
baz=95,SNR=6.5
K16A ⇑P P 16 28 12.9 +1.7
baz=95,SNR=6.5
D15A Lincoln 94.91 43 ⇓P P 16 28 12.6 +1.3
baz=95,SNR=5.3
D15A ⇓P P 16 28 12.6 +1.3
baz=95,SNR=5.3
219A White Tail Can 94.95 59 ⇑P P 16 28 12.9 +1.0
baz=95,SNR=7.0
219A ⇑P P 16 28 12.9 +1.0
baz=95,SNR=7.0
C15A Salmond Ranch, 94.98 42 ⇑P P 16 28 12.7 +1.1
baz=95,SNR=20
C15A ⇑P P 16 28 12.7 +1.1
baz=95,SNR=20
119A Ashpeak Ranch, 95.03 58 ⇓P P 16 28 13.7 +1.6
baz=95
119A ⇓P P 16 28 13.7 +1.6
baz=95
W18A Petrified Fore 95.04 55 ⇑P P 16 28 13.7 +1.5
baz=95
W18A ⇑P P 16 28 13.7 +1.5
baz=95
O17A Robinson Place 95.06 50 ⇑P P 16 28 13.2 +1.0
baz=95
O17A ⇑P P 16 28 13.2 +1.0
baz=95
G16A Moss Hill, Enn 95.10 45 ⇑P P 16 28 13.1 +0.9
baz=95,SNR=12
G16A ⇑P P 16 28 13.1 +0.9
baz=95,SNR=12
B15A Bradely Ranch, 95.10 42 ⇑P P 16 28 11.8 -0.2
baz=95,SNR=7.0
B15A ⇑P P 16 28 11.8 -0.2
baz=95,SNR=7.0
A15A Johnson Ranch, 95.10 41 ⇓P P 16 28 12.7 +0.7
baz=95,SNR=6.9
A15A ⇓P P 16 28 12.7 +0.7
baz=95,SNR=6.9
I16A Newdale 95.10 46 ⇓P P 16 28 14.0 +1.7
baz=95,SNR=14
I16A ⇓P P 16 28 14.0 +1.7
baz=95,SNR=14
S18A Hurst Farm, Bl 95.24 53 ⇑P P 16 28 14.2 +1.1
baz=95
S18A ⇑P P 16 28 14.2 +1.1
baz=95
T18A Mexican Hat 95.25 53 ⇑P P 16 28 14.5 +1.5
baz=95
T18A ⇑P P 16 28 14.5 +1.5
baz=95
Y19A Nutrioso 95.25 57 ⇑P P 16 28 14.4 +1.1
baz=95
Y19A ⇑P P 16 28 14.4 +1.1
baz=95
BOZ Bozeman (W) 95.29 45 *e*P P 16 28 13.9 +0.9
BOZ pmax pmax
comp=Z,17nm,1.1s
BOZ Bozeman (W) 95.29 45 *e*P P 16 28 13.9 +0.9
comp=Z,17nm,1.1s
BOZ *ep*P **pP** 16 28 37.3 +0.4
BOZ Bozeman (W) 95.29 45 ⇓P P 16 28 14.2 +1.2
baz=95,SNR=18
BOZ ⇓P P 16 28 14.2 +1.2
baz=95,SNR=18
BOZ ⇓P P 16 28 14.2 +1.2
baz=95,SNR=18
BOZ ⇓P P 16 28 14.2 +1.2
baz=95,SNR=18
QLMT Earthquake Lak 95.29 46 *e*P P 16 28 14.3 +1.2
comp=Z,1.9nm,1.0s
QLMT *ep*P **pP** 16 28 36.6 -0.4
X19A St. Johns 95.30 56 ⇑P P 16 28 14.7 +1.3
baz=95
X19A ⇑P P 16 28 14.7 +1.3
baz=95

F16A	**Kennard Place,**	**95.31**	**45**	⇑P		**P**	**16 28 14.3 +1.2**
	baz=95,SNR=6.6						
F16A				⇑P		**P**	**16 28 14.3 +1.2**
	baz=95,SNR=6.6						
M17A	**Scullys Gap (B**	**95.31**	**49**	⇑P		**P**	**16 28 14.4 +1.1**
	baz=95						
M17A				⇑P		**P**	**16 28 14.4 +1.1**
	baz=95						
HRY	**Holter Researc**	**95.32**	**44**	*e*P		**P**	**16 28 13.8 +0.7**
HRY				*e*pP		**pP**	**16 28 36.3 -0.6**
P18A	**Preston Nutter**	**95.34**	**51**	⇓P		**P**	**16 28 15.1 +1.4**
	baz=96						
P18A				⇓P		**P**	**16 28 15.1 +1.4**
	baz=96						
Q18A	**Rafter H Ranch**	**95.35**	**51**	⇓P		**P**	**16 28 14.0 +0.6**
	baz=96						
Q18A				⇓P		**P**	**16 28 14.0 +0.6**
	baz=96						
E16A	**East Helena**	**95.40**	**44**	⇓P		**P**	**16 28 14.6 +1.1**
	baz=96,SNR=11						
E16A				⇓P		**P**	**16 28 14.6 +1.1**
	baz=96,SNR=11						
H16A	**Russell Place,**	**95.40**	**46**	⇑P		**P**	**16 28 15.7 +2.0**
	baz=96,SNR=20						
H16A				⇑P		**P**	**16 28 15.7 +2.0**
	baz=96,SNR=20						
R18A	**Canyonlands Na**	**95.42**	**52**	⇑P		**P**	**16 28 15.2 +1.3**
	baz=96						
R18A				⇑P		**P**	**16 28 15.2 +1.3**
	baz=96						
REDW	**Red Top Meadow**	**95.47**	**47**	*e*P		**P**	**16 28 12.7 -1.4**
	comp=Z,10.0nm,1.2s						
REDW				*e*pP		**pP**	**16 28 37.5 -0.4**
220A	**Playas Peak, P**	**95.55**	**59**	⇑P		**P**	**16 28 15.6 +1.1**
	baz=96						
220A				⇑P		**P**	**16 28 15.6 +1.1**
	baz=96						
C16A	**Fuhringer Ranc**	**95.55**	**43**	⇓P		**P**	**16 28 14.8 +0.6**
	baz=96,SNR=11						
C16A				⇓P		**P**	**16 28 14.8 +0.6**
	baz=96,SNR=11						
120A	**U Bar Ranch, L**	**95.56**	**58**	⇑P		**P**	**16 28 15.3 +0.7**
	baz=96						
120A				⇑P		**P**	**16 28 15.3 +0.7**
	baz=96						
D16A	**Dana Ranch, Ca**	**95.56**	**43**	⇓P		**P**	**16 28 14.2 -0.1**
	baz=96						
D16A				⇓P		**P**	**16 28 14.2 -0.1**
	baz=96						
J17A	**Brown Place, J**	**95.57**	**47**	⇓P		**P**	**16 28 14.8 +0.3**
	baz=96						
J17A				⇓P		**P**	**16 28 14.8 +0.3**
	baz=96						
O18A	**Roosevelt**	**95.62**	**50**	⇑P		**P**	**16 28 15.5 +0.8**
	baz=96						
O18A				⇑P		**P**	**16 28 15.5 +0.8**
	baz=96						
U19A	**Dine' College,**	**95.65**	**54**	⇑P		**P**	**16 28 16.0 +1.0**
	baz=96						
U19A				⇑P		**P**	**16 28 16.0 +1.0**
	baz=96						
YFT	**Old Faithful**	**95.65**	**46**	*e*P		**P**	**16 28 16.4 +1.5**
	comp=Z,14nm,0.9s						
YFT				*e*pP		**pP**	**16 28 41.5 +2.8**
B16A	**M & M Farms, S**	**95.67**	**42**	⇑P		**P**	**16 28 15.5 +0.9**
	baz=96						
B16A				⇑P		**P**	**16 28 15.5 +0.9**
	baz=96						
FLWY	**Flagg Ranch**	**95.69**	**46**	*e*P		**P**	**16 28 16.8 +1.8**
	comp=Z,16nm,1.0s						
FLWY				*e*pP		**pP**	**16 28 40.4 +1.5**
M18A	**Lyman**	**95.75**	**49**	⇓P		**P**	**16 28 16.6 +1.3**
	baz=96						
M18A				⇓P		**P**	**16 28 16.6 +1.3**
	baz=96						
I17A	**Pilgrim Ck.**	**95.76**	**47**	⇑P		**P**	**16 28 17.4 +2.1**
	baz=96,SNR=7.6						
I17A				⇑P		**P**	**16 28 17.4 +2.1**
	baz=96,SNR=7.6						
H17A	**Grant Village**	**95.83**	**46**	⇑P		P	16 28 18.1 +2.5
	baz=96,SNR=13						
H17A				⇑P		P	16 28 18.1 +2.5
	baz=96,SNR=13						
A16A	**West Butte Ran**	**95.83**	**41**	⇑P		**P**	**16 28 16.2 +0.8**
	baz=96,SNR=27						
A16A				⇑P		**P**	**16 28 16.2 +0.8**
	baz=96,SNR=27						
L18A	**Fontenelle, Gr**	**95.85**	**49**	⇓P		**P**	**16 28 17.1 +1.3**
	baz=96						
L18A				⇓P		**P**	**16 28 17.1 +1.3**
	baz=96						
G17A	**Pierce Place,**	**95.85**	**45**	⇓P		**P**	**16 28 17.9 +2.3**
	baz=96						
G17A				⇓P		**P**	**16 28 17.9 +2.3**
	baz=96						
T19A	**Beclabito**	**95.87**	**54**	⇓P		**P**	**16 28 17.7 +1.8**
	baz=96						
T19A				⇓P		**P**	**16 28 17.7 +1.8**
	baz=96						
R19A	**Curley Farm, L**	**95.90**	**52**	⇓P		**P**	**16 28 17.6 +1.5**
	baz=96						
R19A				⇓P		**P**	**16 28 17.6 +1.5**
	baz=96						
S19A	**Harvey Farm, M**	**95.92**	**53**	⇑P		**P**	**16 28 17.4 +1.2**
	baz=96						
S19A				⇑P		**P**	**16 28 17.4 +1.2**
	baz=96						
E17A	**Martinsdale**	**95.94**	**44**	⇑P		**P**	**16 28 17.2 +1.1**
	baz=96,SNR=12						
E17A				⇑P		**P**	**16 28 17.2 +1.1**
	baz=96,SNR=12						
K18A	**Toltan Ranch,**	**95.95**	**48**	⇓P		**P**	**16 28 18.1 +1.9**
	baz=96						
K18A				⇓P		**P**	**16 28 18.1 +1.9**
	baz=96						
X20A	**Quemado**	**95.96**	**56**	⇓P		**P**	**16 28 18.4 +1.9**
	baz=96						
X20A				⇓P		**P**	**16 28 18.4 +1.9**
	baz=96						
Y20A	**Horse Springs,**	**95.97**	**57**	⇓P		**P**	**16 28 17.9 +1.3**
	baz=96						
Y20A				⇓P		**P**	**16 28 17.9 +1.3**
	baz=96						
Q19A	**Hogan Spring (**	**96.00**	**52**	⇑P		**P**	**16 28 17.7 +1.4**
	baz=96						
Q19A				⇑P		**P**	**16 28 17.7 +1.4**
	baz=96						
F17A	**Fitzpatrick Pl**	**96.00**	**45**	⇓P		**P**	**16 28 17.9 +1.6**
	baz=96,SNR=15						
F17A				⇓P		**P**	**16 28 17.9 +1.6**
	baz=96,SNR=15						
W20A	**Ramah**	**96.04**	**56**	⇓P		**P**	**16 28 17.9 +1.1**
	baz=96						
W20A				⇓P		**P**	**16 28 17.9 +1.1**
	baz=96						
J18A	**Kendall Valley**	**96.05**	**47**	⇑P		**P**	**16 28 18.0 +1.3**
	baz=96						
J18A				⇑P		**P**	**16 28 18.0 +1.3**
	baz=96						
D17A	**Six Diamond Ra**	**96.16**	**43**	⇑P		**P**	**16 28 18.1 +1.2**
	baz=96,SNR=6.1						
D17A				⇑P		**P**	**16 28 18.1 +1.2**
	baz=96,SNR=6.1						
V20A	**Brimhall**	**96.17**	**55**	⇓P		**P**	**16 28 18.8 +1.4**
	baz=96						
V20A				⇓P		**P**	**16 28 18.8 +1.4**
	baz=96						
C17A	**Wharram Farm,**	**96.18**	**43**	⇑P		**P**	**16 28 17.6 +0.6**
	baz=96,SNR=12						
C17A				⇑P		**P**	**16 28 17.6 +0.6**
	baz=96,SNR=12						
221A	**Mesquite Ranch**	**96.19**	**59**	⇓P		**P**	**16 28 18.9 +1.4**
	baz=96						
221A				⇓P		**P**	**16 28 18.9 +1.4**
	baz=96						
B17A	**L&G Farms, Che**	**96.26**	**42**	⇑P		**P**	**16 28 17.7 +0.4**
	baz=96,SNR=18						
B17A				⇑P		**P**	**16 28 17.7 +0.4**
	baz=96,SNR=18						
121A	**Cookes Peak, D**	**96.26**	**58**	⇓P		**P**	**16 28 19.5 +1.6**
	baz=96						
121A				⇓P		**P**	**16 28 19.5 +1.6**
	baz=96						
I18A	**Diamond G Ranc**	**96.27**	**47**	⇑P		**P**	**16 28 18.6 +0.9**
	baz=96,SNR=7.9						
I18A				⇑P		**P**	**16 28 18.6 +0.9**
	baz=96,SNR=7.9						
P19A	**Cripple Cowboy**	**96.31**	**51**	⇓P		**P**	**16 28 19.4 +1.5**
	baz=96						
P19A				⇓P		**P**	**16 28 19.4 +1.5**
	baz=96						
BW06	**Boulder Array**	**96.32**	**48**	⇑P		**P**	**16 28 18.7 +0.7**
	baz=96						
BW06				⇑P		**P**	**16 28 18.7 +0.7**
	baz=96						
BW06				⇑P		**P**	**16 28 18.7 +0.7**
	baz=96						
BW06				⇑P		**P**	**16 28 18.7 +0.7**
	baz=96						
PDAR	**Pinedale Array**	**96.32**	**48**	P		**P**	**16 28 18.2 +0.3**
	comp=Z,2.8nm,0.7s,baz=215,slow=1.8,SNR=24						
PDAR				pP		**pP**	**16 28 41.5 -0.2**
	comp=Z,4.0nm,0.8s,baz=222,slow=2.0,SNR=5.1						
PDAR				LR		LR	17 03 39.7
	comp=Z,245nm,21.3s,baz=260,slow=30						
PDAR	**Pinedale Array**	**96.32**	**48**	P		**P**	**16 28 18.2 +0.3**
PDAR				pP		**pP**	**16 28 41.5 -0.2**
N19A	**John Jarvie Ra**	**96.34**	**50**	⇓P		**P**	**16 28 20.4 +2.4**
	baz=96						
N19A				⇓P		**P**	**16 28 20.4 +2.4**
	baz=96						
MVCO	**Mesa Verde**	**96.34**	**53**	⇑P		**P**	**16 28 19.8 +1.7**
	baz=96						
MVCO				⇑P		**P**	**16 28 19.8 +1.7**
	baz=96						
L19A	**Farson**	**96.38**	**48**	⇑P		**P**	**16 28 19.4 +1.3**
	baz=96						
L19A				⇑P		**P**	**16 28 19.4 +1.3**
	baz=96						
YKA	**Yellowknife Ar**	**96.38**	**28**	P		**P**	**16 28 17.1 -0.3**
	comp=Z,6.0nm,0.5s,baz=259,slow=4.7,SNR=124						
YKA				pP		**pP**	**16 28 40.7 -0.6**
	comp=Z,19nm,0.8s,baz=256,slow=4.6,SNR=19						
YKA				PP		PP	16 32 28.9 +17
	comp=Z,1.5nm,0.8s,baz=261,slow=8.1,SNR=4.7						
YKA				LR		LR	17 12 35.9
	comp=Z,31nm,18.8s,baz=140,slow=36						
YKA	**Yellowknife Ar**	**96.38**	**28**	P		**P**	**16 28 17.1 -0.3**
YKA	**Yellowknife Ar**	**96.38**	**28**	P		**P**	**16 28 17.1 -0.3**
YKA				pP		**pP**	**16 28 40.7 -0.6**
YKA				PP		PP	16 32 28.9 +17
A17A	**Triple J Farms**	**96.42**	**42**	⇑P		**P**	**16 28 18.9 +0.9**
	baz=96,SNR=21						
A17A				⇑P		**P**	**16 28 18.9 +0.9**
	baz=96,SNR=21						
PV01	**Paradox Valley**	**96.42**	**53**	*e*P		**P**	**16 28 19.0 +0.5**
	comp=Z,472nm,1.0s						
PV01				*e*pP		**pP**	**16 28 42.8 +0.4**
MAIT	**Maitri**	**96.47**	**190**	*e*P		**P**	**16 28 18.6 +0.9**
Z21A	**St. Cloud Mine**	**96.47**	**57**	⇓P		**P**	**16 28 19.6 +0.8**
	baz=97						
Z21A				⇓P		**P**	**16 28 19.6 +0.8**
	baz=97						
H18A	**Shoshone NF, C**	**96.52**	**46**	⇓P		**P**	**16 28 20.6 +1.9**
	baz=97						
H18A				⇓P		**P**	**16 28 20.6 +1.9**
	baz=97						
X21A	**Alamocita Cree**	**96.53**	**56**	⇑P		**P**	**16 28 20.7 +1.6**
	baz=97						
X21A				⇑P		**P**	**16 28 20.7 +1.6**
	baz=97						
S20A	**Disappointment**	**96.54**	**53**	⇑P		**P**	**16 28 19.4 +0.3**
	baz=97						
S20A				⇑P		**P**	**16 28 19.4 +0.3**
	baz=97						
Y21A	**Point of Rocks**	**96.56**	**57**	⇑P		**P**	**16 28 20.0 +0.8**
	baz=97						
Y21A				⇑P		**P**	**16 28 20.0 +0.8**
	baz=97						
R20A	**Redvale**	**96.57**	**52**	⇓P		**P**	**16 28 19.2 +0.1**
	baz=97						
R20A				⇓P		**P**	**16 28 19.2 +0.1**
	baz=97						
E18A	**Harlowton**	**96.60**	**44**	⇑P		**P**	**16 28 20.5 +1.5**
	baz=97,SNR=12						
E18A				⇑P		**P**	**16 28 20.5 +1.5**
	baz=97,SNR=12						
F18A	**Big Timber**	**96.65**	**45**	⇓P		**P**	**16 28 20.7 +1.5**
	baz=97,SNR=8.7						
F18A				⇓P		**P**	**16 28 20.7 +1.5**
	baz=97,SNR=8.7						
G18A	**Lazy EL Ranch,**	**96.67**	**45**	⇓P		**P**	**16 28 20.2 +0.9**
	baz=97						
G18A				⇓P		**P**	**16 28 20.2 +0.9**
	baz=97						
W21A	**San Fidel**	**96.73**	**56**	⇑P		**P**	**16 28 21.3 +1.4**
	baz=97						
W21A				⇑P		**P**	**16 28 21.3 +1.4**
	baz=97						
P20A	**De Beque**	**96.74**	**51**	⇓P		**P**	**16 28 21.4 +1.5**
	baz=97						
P20A				⇓P		**P**	**16 28 21.4 +1.5**
	baz=97						
Q20A	**Ridgley Place,**	**96.74**	**52**	⇓P		**P**	**16 28 20.8 +1.0**
	baz=97						
Q20A				⇓P		**P**	**16 28 20.8 +1.0**
	baz=97						
J19A	**Crowheart**	**96.76**	**47**	⇓P		**P**	**16 28 20.9 +1.1**
	baz=97						
J19A				⇓P		**P**	**16 28 20.9 +1.1**
	baz=97						
D18A	**Linhart Farms,**	**96.77**	**43**	⇓P		**P**	**16 28 21.2 +1.5**
	baz=97						
D18A				⇓P		**P**	**16 28 21.2 +1.5**
	baz=97						
K19A	**Absolon Red Bu**	**96.85**	**48**	⇑P		**P**	**16 28 22.1 +1.9**
	baz=97						
K19A				⇑P		**P**	**16 28 22.1 +1.9**
	baz=97						
RLMT	**Red Lodge**	**96.86**	**45**	⇑P		**P**	**16 28 22.4 +2.2**
	baz=97						
RLMT				⇑P		**P**	**16 28 22.4 +2.2**
	baz=97						
RLMT				⇑P		**P**	**16 28 22.4 +2.2**
	baz=97						
RLMT				⇑P		**P**	**16 28 22.4 +2.2**
	baz=97						
I19A	**Meeteetse**	**96.90**	**47**	⇑P		**P**	**16 28 22.1 +1.6**
	baz=97						
I19A				⇑P		**P**	**16 28 22.1 +1.6**
	baz=97						
U21A	**Nageezi**	**96.90**	**54**	⇓P		**P**	**16 28 22.9 +2.2**
	baz=97						
U21A				⇓P		**P**	**16 28 22.9 +2.2**
	baz=97						
EGMT	**Eagleton**	**96.91**	**43**	*e*P		**P**	**16 28 20.7 +0.4**
	comp=Z,38nm,1.0s						
EGMT				*e*pP		**pP**	**16 28 43.6 -0.5**
EGMT	**Eagleton**	**96.91**	**43**	⇑P		**P**	**16 28 21.1 +0.8**
	baz=97,SNR=15						
EGMT				⇑P		**P**	**16 28 21.1 +0.8**
	baz=97,SNR=15						
B18A	**Beardsley Farm**	**96.94**	**42**	⇑P		**P**	**16 28 21.1 +0.7**
	baz=97,SNR=11						
B18A				⇑P		**P**	**16 28 21.1 +0.7**
	baz=97,SNR=11						
S21A	**Coal Bank Pass**	**96.96**	**53**	⇓P		**P**	**16 28 20.7 -0.3**
	baz=97						
S21A				⇓P		**P**	**16 28 20.7 -0.3**
	baz=97						
A18A	**Metzger Ranch,**	**96.97**	**42**	⇓P		**P**	**16 28 20.5 0.0**
	baz=97						
A18A				⇓P		**P**	**16 28 20.5 0.0**
	baz=97						
H19A	**Powell**	**96.99**	**46**	⇑P		**P**	**16 28 21.4 +0.6**
	baz=97						
H19A				⇑P		**P**	**16 28 21.4 +0.6**
	baz=97						
N20A	**Spence Gulch,**	**97.02**	**50**	⇓P		Pdif	16 28 22.8 +1.6
	baz=97						
N20A				⇓P		Pdif	16 28 22.8 +1.6
	baz=97						
Z22A	**Elephant Butte**	**97.05**	**58**	⇓P		Pdif	16 28 23.0 +1.6
	baz=97						
Z22A				⇓P		Pdif	16 28 23.0 +1.6
	baz=97						
LAZ	**Ladron**	**97.05**	**56**	*e*P		Pdif	16 28 21.9 +0.4
LAZ				*e*pP		pP	16 28 46.2 +1.0
Y22A	**Socorro**	**97.14**	**57**	⇓P		Pdif	16 28 22.8 +1.0
	baz=97						
Y22A				⇓P		Pdif	16 28 22.8 +1.0
	baz=97						
F19A	**Roth Farm, Mol**	**97.18**	**45**	⇑P		Pdif	16 28 22.9 +1.3
	baz=97,SNR=6.7						
F19A				⇑P		Pdif	16 28 22.9 +1.3
	baz=97,SNR=6.7						
R21A	**Cimarron**	**97.24**	**52**	⇓P		Pdif	16 28 23.3 +1.0
	baz=97						
R21A				⇓P		Pdif	16 28 23.3 +1.0
	baz=97						
Q21A	**Lamborn Mesa,**	**97.28**	**52**	⇑P		Pdif	16 28 23.8 +1.4
	baz=97						
Q21A				⇑P		Pdif	16 28 23.8 +1.4
	baz=97						
C19A	**Slack Wire Ran**	**97.34**	**43**	⇑P		Pdif	16 28 23.2 +0.9
	baz=98,SNR=9.7						
C19A				⇑P		Pdif	16 28 23.2 +0.9
	baz=98,SNR=9.7						
E19A	**Rath Farm, Rou**	**97.36**	**44**	⇑P		Pdif	16 28 23.6 +1.2
	baz=98,SNR=16						
E19A				⇑P		Pdif	16 28 23.6 +1.2
	baz=98,SNR=16						
D19A	**Cripps Ranch,**	**97.39**	**43**	⇓P		Pdif	16 28 23.6 +1.1
	baz=98,SNR=8.3						
D19A				⇓P		Pdif	16 28 23.6 +1.1
	baz=98,SNR=8.3						
BNM	**Barren Site**	**97.44**	**57**	*e*P		Pdif	16 28 24.1 +0.8
	comp=Z,5.6nm,0.9s						
BNM				*e*pP		pP	16 28 47.7 +0.6
J20A	**Shoshoni**	**97.47**	**47**	⇓P		Pdif	16 28 24.6 +1.6
	baz=98						
J20A				⇓P		Pdif	16 28 24.6 +1.6
	baz=98						
SNAA	**Sanae**	**97.48**	**185**	*e*		**P**	**16 28 19.9 -2.5**
SNAA	**Sanae**	**97.48**	**185**	*e*P		P	16 28 18.1 -4.3
SNAA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
SNAA	**Sanae**	**97.48**	**185**	*e*P		P	16 28 18.1 -4.3
	comp=Z,9.9nm,1.0s						
SNAA				*e*pP		**PP**	**16 32 15.8 -4.1**
B19A	**Brinkman Farms**	**97.50**	**42**	⇓P		Pdif	16 28 23.9 +0.9
	baz=98,SNR=9.9						
B19A				⇓P		Pdif	16 28 23.9 +0.9
	baz=98,SNR=9.9						
I20A	**Worland**	**97.51**	**47**	⇓P		Pdif	16 28 24.5 +1.3
	baz=98						
I20A				⇓P		Pdif	16 28 24.5 +1.3
	baz=98						
KKAR	**Karatay Array**	**97.54**	**312**	*e*P		**P**	**16 28 22.0 -1.1**
KKAR	**Karatay Array**	**97.54**	**312**	*e*P		**P**	**16 28 21.9 -1.1**
KKAR				*e*pP		**pP**	**16 28 45.3 -1.7**
U22A	**Llaves**	**97.54**	**54**	⇑P		Pdif	16 28 24.6 +1.0
	baz=98						
U22A				⇑P		Pdif	16 28 24.6 +1.0
	baz=98						
T22A	**Edith**	**97.58**	**54**	⇑P		Pdif	16 28 24.5 +0.7
	baz=98						
T22A				⇑P		Pdif	16 28 24.5 +0.7
	baz=98						
G20A	**Bridger**	**97.61**	**45**	⇓P		Pdif	16 28 24.9 +1.3
	baz=98						
G20A				⇓P		Pdif	16 28 24.9 +1.3
	baz=98						
ANMO	**Albuquerque**	**97.68**	**56**	*e*P		Pdif	16 28 24.0 -0.3
ANMO				*e**PP		pP	16 28 48.7 +0.6
ANMO				pmax		pmax	
	comp=Z,13nm,1.2s						
ANMO	**Albuquerque**	**97.68**	**56**	*e*P		Pdif	16 28 24.0 -0.3
	comp=Z,14nm,1.2s						
ANMO				*e*pP		pP	16 28 48.7 +0.6
A19A	**Klindworth Far**	**97.69**	**42**	⇓P		Pdif	16 28 25.1 +1.2
	baz=98						
A19A				⇓P		Pdif	16 28 25.1 +1.2
	baz=98						
F20A	**Billings**	**97.72**	**45**	⇓P		Pdif	16 28 24.9 +0.9
	baz=98						
F20A				⇓P		Pdif	16 28 24.9 +0.9
	baz=98						
S22A	**4UR Ranch, Cre**	**97.73**	**53**	⇑P		Pdif	16 28 24.4 -0.1
	baz=98						
S22A				⇑P		Pdif	16 28 24.4 -0.1
	baz=98						
M21A	**Separation Pea**	**97.79**	**49**	⇑P		Pdif	16 28 25.5 +0.8
	baz=98						
M21A				⇑P		Pdif	16 28 25.5 +0.8
	baz=98						
Q22A	**Crested Butte,**	**97.80**	**52**	⇓P		Pdif	16 28 25.5 +0.7
	baz=98						
Q22A				⇓P		Pdif	16 28 25.5 +0.7
	baz=98						
E20A	**Meyer Farm, Mu**	**97.82**	**44**	⇑P		Pdif	16 28 25.6 +1.2
	baz=98						
E20A				⇑P		Pdif	16 28 25.6 +1.2
	baz=98						
L21A	**Rawlins**	**97.83**	**49**	⇓P		Pdif	16 28 25.4 +0.6
	baz=98						
L21A				⇓P		Pdif	16 28 25.4 +0.6
	baz=98						
D20A	**Manuel Ranch,**	**97.88**	**44**	⇓P		Pdif	16 28 25.1 +0.4
	baz=98						
D20A				⇓P		Pdif	16 28 25.1 +0.4
	baz=98						
Y23A	**Lovelace Mesa,**	**97.88**	**57**	⇓P		Pdif	16 28 26.7 +1.5
	baz=98						
Y23A				⇓P		Pdif	16 28 26.7 +1.5
	baz=98						
J21A	**Lysite**	**97.93**	**47**	⇓P		Pdif	16 28 26.4 +1.2
	baz=98						
J21A				⇓P		Pdif	16 28 26.4 +1.2
	baz=98						
W23A	**Werner Place,**	**97.96**	**56**	⇓P		Pdif	16 28 26.5 +1.0
	baz=98						
W23A				⇓P		Pdif	16 28 26.5 +1.0
	baz=98						
K21A	**Alcova**	**97.99**	**48**	⇓P		Pdif	16 28 26.6 +1.2
	baz=98						
K21A				⇓P		Pdif	16 28 26.6 +1.2
	baz=98						
324A	**Moseley Ranch,**	**98.05**	**60**	⇓Pdiff		Pdif	16 28 26.6 +0.7
	baz=98						
324A				⇓Pdiff		Pdif	16 28 26.6 +0.7
	baz=98						
U23A	**El Rito**	**98.06**	**55**	⇓Pdiff		Pdif	16 28 27.2 +1.2
	baz=98						
U23A				⇓Pdiff		Pdif	16 28 27.2 +1.2
	baz=98						
I21A	**Big Trails, Te**	**98.10**	**47**	⇑Pdiff		Pdif	16 28 26.6 +0.8
	baz=98						
I21A				⇑Pdiff		Pdif	16 28 26.6 +0.8
	baz=98						
MNTX	**Cornudas Mount**	**98.17**	**59**	⇓Pdiff		Pdif	16 28 27.4 +1.2
	baz=98						
MNTX				⇓Pdiff		Pdif	16 28 27.4 +1.2
	baz=98						
MNTX				⇓Pdiff		Pdif	16 28 27.4 +1.2
	baz=98						
MNTX				⇓Pdiff		Pdif	16 28 27.4 +1.2
	baz=98						
A20A	**Cobblestone Ra**	**98.22**	**42**	⇑Pdiff		Pdif	16 28 27.4 +1.3
	baz=98						
A20A				⇑Pdiff		Pdif	16 28 27.4 +1.3
	baz=98						
124A	**Stringfield Ra**	**98.23**	**58**	⇑Pdiff		Pdif	16 28 27.7 +0.9
	baz=98						
124A				⇑Pdiff		Pdif	16 28 27.7 +0.9
	baz=98						
O22A	**Kremmling**	**98.23**	**51**	⇓Pdiff		Pdif	16 28 28.0 +1.2
	baz=98						
O22A				⇓Pdiff		Pdif	16 28 28.0 +1.2
	baz=98						
G21A	**Lodge Grass**	**98.31**	**46**	⇓Pdiff		Pdif	16 28 28.1 +1.4
	baz=98						
G21A				⇓Pdiff		Pdif	16 28 28.1 +1.4
	baz=98						
VOSK	**Vostochnaya**	**98.32**	**322**	P		**P**	**16 28 24.2 -2.2**
VOSK				pmax		pmax	
	comp=Z,40nm,1.4s						
425A	**Indio Mountain**	**98.40**	**60**	⇑Pdiff		Pdif	16 28 28.1 +0.7
	baz=98						
425A				⇑Pdiff		Pdif	16 28 28.1 +0.7
	baz=98						
325A	**Bean Ranch, Si**	**98.48**	**60**	⇓Pdiff		Pdif	16 28 27.7 -0.2
	baz=99						
325A				⇓Pdiff		Pdif	16 28 27.7 -0.2
	baz=99						
E21A	**Keefer Ranch,**	**98.55**	**44**	⇓Pdiff		Pdif	16 28 28.8 +1.2
	baz=99						
E21A				⇓Pdiff		Pdif	16 28 28.8 +1.2
	baz=99						
VNA2	**Neumayer--Watz**	**98.55**	**184**

R23A	**Moffat**	**98.57**	**53**	⇓Pdiff		Pdif		16 28 28.9	+0.7
	baz=99								
R23A				⇓Pdiff		Pdif		16 28 28.9	+0.7
	baz=99								
D21A	**La Casta Ranch**	**98.66**	**44**	⇑Pdiff		Pdif		16 28 29.3	+1.2
	baz=99								
D21A				⇑Pdiff		Pdif		16 28 29.3	+1.2
	baz=99								
C21A	**Desert Coulee**	**98.66**	**43**	⇑Pdiff		Pdif		16 28 29.6	+1.5
	baz=99								
C21A				⇑Pdiff		Pdif		16 28 29.6	+1.5
	baz=99								
I22A	**9 Mile Ranch,**	**98.69**	**47**	⇑Pdiff		Pdif		16 28 29.7	+1.3
	baz=99								
I22A				⇑Pdiff		Pdif		16 28 29.7	+1.3
	baz=99								
BVA0	**Borovoye Array**	**98.71**	**322**		P	**P**		**16 28 25.6**	**-2.5**
BVA0					pmax	pmax			
	comp=Z,7.0nm,1.3s								
V24A	**Rampart Ranch,**	**98.74**	**55**	⇑Pdiff		Pdif		16 28 30.3	+1.3
	baz=99								
V24A				⇑Pdiff		Pdif		16 28 30.3	+1.3
	baz=99								
N23A	**Red Feather La**	**98.77**	**50**	⇑Pdiff		Pdif		16 28 30.1	+1.0
	baz=99								
N23A				⇑Pdiff		Pdif		16 28 30.1	+1.0
	baz=99								
SDCO	**Great Sand Dun**	**98.78**	**53**	⇓Pdiff		Pdif		16 28 29.9	+0.7
	baz=99								
SDCO				⇓Pdiff		Pdif		16 28 29.9	+0.7
	baz=99								
SDCO				⇓Pdiff		Pdif		16 28 29.9	+0.7
	baz=99								
SDCO				⇓Pdiff		Pdif		16 28 29.9	+0.7
	baz=99								
B21A	**Ellsworth Farm**	**98.78**	**42**	⇑Pdiff		Pdif		16 28 29.8	+1.3
	baz=99								
B21A				⇑Pdiff		Pdif		16 28 29.8	+1.3
	baz=99								
BRVK	**Borovoye**	**98.78**	**322**	*ce*	P	Pdif		16 28 27.8	-0.6
BRVK					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BRVK	**Borovoye**	**98.78**	**322**	*eP*		**P**		**16 28 27.4**	**-1.0**
	comp=Z,14nm,1.2s								
BRVK				*ep*	P	**pP**		**16 28 50.1**	**-2.2**
H22A	**Clearmont**	**98.85**	**46**	⇓Pdiff		Pdif		16 28 30.2	+1.1
	baz=99								
H22A				⇓Pdiff		Pdif		16 28 30.2	+1.1
	baz=99								
VNA1	**Neumayer--Stat**	**98.88**	**184**	*e*		Pdif		16 28 28.4	-0.1
A21A	**Bergtoll Ranch**	**98.89**	**42**	⇑Pdiff		Pdif		16 28 30.1	+1.0
	baz=99								
A21A				⇑Pdiff		Pdif		16 28 30.1	+1.0
	baz=99								
ISCO	**Idaho Springs**	**98.91**	**51**	⇓Pdiff		Pdif		16 28 31.0	+1.2
	baz=99								
ISCO				⇓Pdiff		Pdif		16 28 31.0	+1.2
	baz=99								
626A	**Big Bend Ranch**	**98.98**	**62**	⇓Pdiff		Pdif		16 28 31.6	+1.5
	baz=99								
626A				⇓Pdiff		Pdif		16 28 31.6	+1.5
	baz=99								
S24A	**Houchin Ranch,**	**98.99**	**53**	⇓Pdiff		Pdif		16 28 31.6	+1.4
	baz=99								
S24A				⇓Pdiff		Pdif		16 28 31.6	+1.4
	baz=99								
Y25A	**Mesa, Roswell**	**99.01**	**57**	⇓Pdiff		Pdif		16 28 30.6	+0.5
	baz=99								
Y25A				⇓Pdiff		Pdif		16 28 30.6	+0.5
	baz=99								
F22A	**Rosebud**	**99.03**	**45**	⇓Pdiff		**Pdif**		**16 28 31.8**	**+2.0**
	baz=99								
F22A				⇓Pdiff		**Pdif**		**16 28 31.8**	**+2.0**
	baz=99								
T24A	**Torres, Weston**	**99.06**	**54**	⇑Pdiff		**Pdif**		**16 28 32.7**	**+2.3**
	baz=99								
T24A				⇑Pdiff		**Pdif**		**16 28 32.7**	**+2.3**
	baz=99								
L23A	**Garrett**	**99.08**	**49**	⇑Pdiff		**Pdif**		**16 28 32.0**	**+1.7**
	baz=99								
L23A				⇑Pdiff		**Pdif**		**16 28 32.0**	**+1.7**
	baz=99								
526A	**Mary Lane Ranc**	**99.08**	**61**	⇓Pdiff		**Pdif**		**16 28 31.2**	**+0.7**
	baz=99								
526A				⇓Pdiff		**Pdif**		**16 28 31.2**	**+0.7**
	baz=99								
Q24A	**Divide**	**99.18**	**52**	⇑Pdiff		**Pdif**		**16 28 31.9**	**+0.9**
	baz=99								
Q24A				⇑Pdiff		**Pdif**		**16 28 31.9**	**+0.9**
	baz=99								
K23A	**Bowen Ranch, D**	**99.20**	**48**	⇑Pdiff		**Pdif**		**16 28 32.8**	**+2.0**
	baz=99								
K23A				⇑Pdiff		**Pdif**		**16 28 32.8**	**+2.0**
	baz=99								
426A	**McDonald Obser**	**99.20**	**60**	⇓Pdiff		**Pdif**		**16 28 32.0**	**+0.9**
	baz=99								
426A				⇓Pdiff		**Pdif**		**16 28 32.0**	**+0.9**
	baz=99								
D22A	**Cohagen**	**99.22**	**44**	⇑Pdiff		**Pdif**		**16 28 31.8**	**+1.2**
	baz=99								
D22A				⇑Pdiff		**Pdif**		**16 28 31.8**	**+1.2**
	baz=99								
V25A	**Rancho No Teng**	**99.28**	**55**	⇓Pdiff		**Pdif**		**16 28 32.6**	**+1.3**
	baz=99								
V25A				⇓Pdiff		**Pdif**		**16 28 32.6**	**+1.3**
	baz=99								
W25A	**X Bar L Ranch,**	**99.34**	**56**	⇓Pdiff		**Pdif**		**16 28 33.4**	**+1.9**
	baz=99								
W25A				⇓Pdiff		**Pdif**		**16 28 33.4**	**+1.9**
	baz=99								
TXAR	**Lajitas Array**	**99.36**	**62**	P		**Pdif**		**16 28 32.7**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=232,slow=4.4,SNR=7.2								
TXAR					pP	**pP**		**16 28 55.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=216,slow=6.2,SNR=6.1								
TXAR					PP	PKiKP		16 32 54.6	-6.5
	comp=Z,2.1nm,1.0s,baz=260,slow=7.4,SNR=6.9								
TXAR					PKKP	**PKKPbc**		**16 44 55.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=120,slow=1.7,SNR=3.7								
TXAR					LR	LR		17 03 35.8	
	comp=Z,188nm,20.5s,baz=50,slow=29								
TXAR	**Lajitas Array**	**99.36**	**62**		P	**Pdif**		**16 28 32.7**	**+1.0**
TXAR	**Lajitas Array**	**99.36**	**62**		P	**Pdif**		**16 28 32.7**	**+1.0**
TXAR					pP	**pP**		**16 28 55.8**	**+0.2**
TXAR					PP	PKiKP		16 32 54.6	-6.5
TXAR					PKKP	**PKKPbc**		**16 44 55.0**	**-0.7**
B22A	**Reddig Ranch S**	**99.44**	**43**	⇑Pdiff		**Pdif**		**16 28 32.8**	**+1.2**
	baz=100								
B22A				⇑Pdiff		**Pdif**		**16 28 32.8**	**+1.2**
	baz=100								
527A	**Woodward Ranch**	**99.50**	**61**	⇑Pdiff		**Pdif**		**16 28 33.6**	**+1.2**
	baz=100								
527A				⇑Pdiff		**Pdif**		**16 28 33.6**	**+1.2**
	baz=100								
U25A	**Circle Dot Ran**	**99.50**	**55**	⇑Pdiff		**Pdif**		**16 28 34.1**	**+1.8**
	baz=100								
U25A				⇑Pdiff		**Pdif**		**16 28 34.1**	**+1.8**
	baz=100								
Z26A	**Caprock**	**99.53**	**58**	⇓Pdiff		**Pdif**		**16 28 33.7**	**+1.3**
	baz=100								
Z26A				⇓Pdiff		**Pdif**		**16 28 33.7**	**+1.3**
	baz=100								
A22A	**Carney Farms,**	**99.55**	**42**	⇓Pdiff		**Pdif**		**16 28 33.6**	**+1.5**
	baz=100								
A22A				⇓Pdiff		**Pdif**		**16 28 33.6**	**+1.5**
	baz=100								
G23A	**Biddle**	**99.59**	**46**	⇓Pdiff		**Pdif**		**16 28 34.5**	**+2.2**
	baz=100								
G23A				⇓Pdiff		**Pdif**		**16 28 34.5**	**+2.2**
	baz=100								
S25A	**Robets Cordova**	**99.61**	**53**	⇑Pdiff		**Pdif**		**16 28 34.6**	**+1.9**
	baz=100								
S25A				⇑Pdiff		**Pdif**		**16 28 34.6**	**+1.9**
	baz=100								
627A	**Terlingua Ranc**	**99.61**	**62**	⇓Pdiff		**Pdif**		**16 28 34.1**	**+1.2**
	baz=100								
627A				⇓Pdiff		**Pdif**		**16 28 34.1**	**+1.2**
	baz=100								
F23A	**Volborg**	**99.62**	**45**	⇓Pdiff		**Pdif**		**16 28 34.7**	**+2.2**
	baz=100								
F23A				⇓Pdiff		**Pdif**		**16 28 34.7**	**+2.2**
	baz=100								
D23A	**Lindsay**	**99.88**	**44**	⇑Pdiff		**Pdif**		**16 28 35.3**	**+1.7**
	baz=100								
D23A				⇑Pdiff		**Pdif**		**16 28 35.3**	**+1.7**
	baz=100								
C23A	**Lambert**	**99.94**	**43**	⇑Pdiff		**Pdif**		**16 28 35.6**	**+1.8**
	baz=100								
C23A				⇑Pdiff		**Pdif**		**16 28 35.6**	**+1.8**
	baz=100								
J24A	**Dixon Ranch, L**	**99.95**	**48**	⇑Pdiff		**Pdif**		**16 28 36.1**	**+2.1**
	baz=100								
J24A				⇑Pdiff		**Pdif**		**16 28 36.1**	**+2.1**
	baz=100								
U26A	**Atchley Ranch,**	**100.04**	**55**	⇑Pdiff		**Pdif**		**16 28 35.7**	**+1.0**
	baz=100								
U26A				⇑Pdiff		**Pdif**		**16 28 35.7**	**+1.0**
	baz=100								
628A	**Black Gap, Mar**	**100.05**	**62**	⇑Pdiff		**Pdif**		**16 28 36.3**	**+1.6**
	baz=100								
628A				⇑Pdiff		**Pdif**		**16 28 36.3**	**+1.6**
	baz=100								
B23A	**Brockton**	**100.12**	**42**	⇑Pdiff		**Pdif**		**16 28 36.3**	**+1.8**
	baz=100								
B23A				⇑Pdiff		**Pdif**		**16 28 36.3**	**+1.8**
	baz=100								
H24A	**Dirks Ranch, A**	**100.14**	**46**	⇑Pdiff		**Pdif**		**16 28 36.4**	**+1.6**
	baz=100								
H24A				⇑Pdiff		**Pdif**		**16 28 36.4**	**+1.6**
	baz=100								
A23A	**Redstone**	**100.23**	**42**	⇑Pdiff		**Pdif**		**16 28 36.6**	**+1.5**
	baz=100								
A23A				⇑Pdiff		**Pdif**		**16 28 36.6**	**+1.5**
	baz=100								
Y27A	**Causey**	**100.27**	**57**	⇑Pdiff		**Pdif**		**16 28 37.3**	**+1.6**
	baz=100								
Y27A				⇑Pdiff		**Pdif**		**16 28 37.3**	**+1.6**
	baz=100								
F24A	**Ekalaka**	**100.30**	**45**	⇓Pdiff		**Pdif**		**16 28 36.9**	**+1.4**
	baz=100								
F24A				⇓Pdiff		**Pdif**		**16 28 36.9**	**+1.4**
	baz=100								
S26A	**Kim**	**100.37**	**53**	⇓Pdiff		**Pdif**		**16 28 37.7**	**+1.6**
	baz=100								
S26A				⇓Pdiff		**Pdif**		**16 28 37.7**	**+1.6**
	baz=100								
C24A	**Savage**	**100.44**	**43**	⇓Pdiff		**Pdif**		**16 28 38.0**	**+2.0**
	baz=100								
C24A				⇓Pdiff		**Pdif**		**16 28 38.0**	**+2.0**
	baz=100								
R26A	**Arlington**	**100.44**	**53**	⇓Pdiff		**Pdif**		**16 28 37.8**	**+1.4**
	baz=100								
R26A				⇓Pdiff		**Pdif**		**16 28 37.8**	**+1.4**
	baz=100								
E24A	**Baker**	**100.45**	**44**	⇓Pdiff		**Pdif**		**16 28 37.0**	**+0.9**
	baz=101								
E24A				⇓Pdiff		**Pdif**		**16 28 37.0**	**+0.9**
	baz=101								
MSTX	**Muleshoe**	**100.60**	**57**	⇓Pdiff		**Pdif**		**16 28 38.2**	**+1.1**
	baz=101								
MSTX				⇓Pdiff		**Pdif**		**16 28 38.2**	**+1.1**
	baz=101								
DGMT	**Dagmar**	**100.65**	**42**	*e*Pdif		**Pdif**		**16 28 37.9**	**+0.9**
	comp=Z,35nm,1.2s								
DGMT	**Dagmar**	**100.65**	**42**	⇓Pdiff		**Pdif**		**16 28 37.9**	**+0.9**
	baz=101								
DGMT				⇓Pdiff		**Pdif**		**16 28 37.9**	**+0.9**
	baz=101								
A24A	**Westby**	**100.81**	**42**	⇓Pdiff		**Pdif**		**16 28 39.1**	**+1.5**
	baz=101								
A24A				⇓Pdiff		**Pdif**		**16 28 39.1**	**+1.5**
	baz=101								
AMTX	**Amarillo**	**101.58**	**56**	*e*Pdif		**Pdif**		**16 28 42.4**	**+0.9**
	comp=Z,14nm,0.9s								
AMTX				*ep*	P	pP		16 29 06.0	+0.4
AMTX	**Amarillo**	**101.58**	**56**	⇓Pdiff		**Pdif**		**16 28 42.3**	**+0.9**
	baz=102								
AMTX				⇓Pdiff		**Pdif**		**16 28 42.3**	**+0.9**
	baz=102								
AMTX				⇓Pdiff		**Pdif**		**16 28 42.3**	**+0.9**
	baz=102								
AMTX				⇓Pdiff		**Pdif**		**16 28 42.3**	**+0.9**
	baz=102								
AB31	**Akbulak array**	**105.16**	**318**	*i* P		**Pdif**		**16 28 53.5**	**-3.4**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ABKAR	**Akbulak array**	**105.16**	**318**	*e*Pdif		**Pdif**		**16 28 55.2**	**-1.7**
	comp=Z,0.9nm,0.7s								
ABKAR				*e*				16 29 18.7	
ULM	**Lac du Bonnet**	**106.09**	**41**		Pdiff	**Pdif**		**16 29 00.9**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=174,slow=4.6,SNR=4.6								
ULM	**Lac du Bonnet**	**106.09**	**41**		P	**Pdif**		**16 29 00.9**	**-0.1**
ULM	**Lac du Bonnet**	**106.09**	**41**		Pdif	**Pdif**		**16 29 00.9**	**-0.1**
APA	**Apatity**	**113.36**	**341**	⇑*e*PKIKP		PKiKP		16 33 33.0	+7.3
APA				*e**PP		PP		16 34 00.0	-18
APA				*i*				16 34 24.0	
APA					MLR	MLR			
	comp=Z,900nm,26.0s								
KEV	**Kevo**	**113.98**	**344**	*e*PKIKP		**PKiKP**		**16 33 23.5**	**-3.3**
KEV	**Kevo**	**113.98**	**344**	*e*pkp		**PKiKP**		**16 33 23.5**	**-3.3**
KEV	**Kevo**	**113.98**	**344**	*e*pkp		**PKiKP**		**16 33 23.5**	**-3.3**
MAK	**Makhachkala**	**114.35**	**312**	*e*PKIKP		PKPdf		16 33 32.0	+3.7
ARCES	**ARCESS Array B**	**114.52**	**344**		PKP	PKPdf		16 33 27.1	-0.9
	comp=Z,2.1nm,0.5s,baz=74,slow=1.6,SNR=26								
ARCES	**ARCESS Array B**	**114.52**	**344**		PKIKP	PKPdf		16 33 27.1	-0.9
ARCES	**ARCESS Array B**	**114.52**	**344**		PKP	PKPdf		16 33 27.1	-0.9
JOF	**Joensuu**	**116.61**	**337**	*e*PKIKP		**PKPdf**		**16 33 29.9**	**-2.2**
JOF	**Joensuu**	**116.61**	**337**	*e*pkp		**PKPdf**		**16 33 29.9**	**-2.2**
JOF	**Joensuu**	**116.61**	**337**	*e*pkp		**PKPdf**		**16 33 29.9**	**-2.2**
SUMG	**Summit**	**116.69**	**7**	*i* P		pPKPdf		16 33 55.8	-1.6
	comp=Z,6.8nm,1.0s								
ZEI	**Tsey**	**117.00**	**313**	*e*PKIKP		**PKPdf**		**16 33 34.0**	**+0.2**
ZEI					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KIV	**Kislovodsk**	**117.61**	**314**	*i* PKIKP		**PKPdf**		**16 33 37.0**	**+2.2**
KIV					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,178nm,20.0s								
OBN	**Obninsk**	**117.90**	**328**	⇓*i* PKIKP		**PKPdf**		**16 33 30.3**	**-4.5**
OBN				*e*				16 33 57.5	
OBN				*e*				16 34 51.2	
OBN				*e*				16 40 23.1	
OBN				*e*PS		PKKPdf		16 44 16.9	-8.6
OBN					pmax	pmax			
	comp=Z,8.0nm,0.6s								
OBN					MLR	MLR			
	comp=Z,400nm,22.0s								
KAF	**Kangasniemi**	**118.98**	**338**	*e*PKIKP		**PKPdf**		**16 33 35.1**	**-1.6**
KAF	**Kangasniemi**	**118.98**	**338**	*e*pkp		**PKPdf**		**16 33 35.1**	**-1.6**
KAF	**Kangasniemi**	**118.98**	**338**	*e*pkp		**PKPdf**		**16 33 35.1**	**-1.6**
FINES	**FINESS Array B**	**119.47**	**337**		PKP	**PKPdf**		**16 33 36.8**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=48,slow=2.8,SNR=9.3								
FINES					pPKP	**pPKPdf**		**16 34 00.5**	**-1.9**
	comp=Z,15nm,1.1s,baz=147,slow=3.9,SNR=4.5								
FINES	**FINESS Array B**	**119.47**	**337**		PKIKP	**PKPdf**		**16 33 36.8**	**-0.9**
FINES	**FINESS Array B**	**119.47**	**337**		PKP	**PKPdf**		**16 33 36.8**	**-0.9**
FINES					pPKP	**pPKPdf**		**16 34 00.5**	**-1.9**
SFJD	**Kangerlussuaq**	**119.50**	**14**	*i* P		pPKPdf		16 34 00.3	-2.0
	comp=Z,7.9nm,1.0s								
SCO	**Scoresbysund**	**119.88**	**1**	*i* P		pPKPdf		16 34 01.4	-1.6
	comp=Z,8.2nm,1.0s								
SSPA	**Standing Stone**	**119.97**	**49**	*e*PKPdf		**PKPdf**		**16 33 37.8**	**-1.5**
SSPA				*ep*PKPdf		**pPKPdf**		**16 34 02.6**	**-1.4**
SCHQ	**Schefferville**	**121.71**	**30**		PKP	**PKPdf**		**16 33 41.6**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=280,slow=6.3,SNR=13								
SCHQ	**Schefferville**	**121.71**	**30**		PKP	**PKPdf**		**16 33 41.6**	**-0.6**
BOSA	**Boshof**	**122.52**	**226**		PKP	**PKPdf**		**16 33 43.5**	**-1.2**
	comp=Z,5.6nm,0.5s,baz=132,slow=2.5,SNR=14								
BOSA	**Boshof**	**122.52**	**226**		PKIKP	**PKPdf**		**16 33 43.5**	**-1.2**
BOSA	**Boshof**	**122.52**	**226**		PKP	**PKPdf**		**16 33 43.5**	**-1.2**
NACGM	**Naroch**	**122.96**	**331**	*e*		**PKPdf**		**16 33 42.0**	**-2.5**
KMBO	**Kilima Mbogo**	**123.16**	**262**	*e*PKIKP		**PKPdf**		**16 33 45.8**	**-0.7**
KMBO	**Kilima Mbogo**	**123.16**	**262**	*e*PKPdf		**PKPdf**		**16 33 45.8**	**-0.7**
QUA2	**Belchertown**	**123.54**	**46**	*e*PKPdf		**PKPdf**		**16 33 45.6**	**-0.4**
AKASG	**Malin Array Be**	**123.84**	**325**		PKP	**PKPdf**		**16 33 45.6**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=47,slow=2.8,SNR=16								
AKASG					pPKP	**pPKPdf**		**16 34 09.5**	**-1.7**
	comp=Z,15nm,0.9s,baz=66,slow=2.0,SNR=9.7								
AKASG					PKKPbc	**PKKPbc**		**16 43 33.5**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=255,slow=4.8,SNR=5.8								
AKASG	**Malin Array Be**	**123.84**	**325**		PKIKP	**PKPdf**		**16 33 45.7**	**-0.7**
AKASG	**Malin Array Be**	**123.84**	**325**		PKP	**PKPdf**		**16 33 45.6**	**-0.7**
AKASG					pPKP	**pPKPdf**		**16 34 09.5**	**-1.7**
AKASG					PKKPbc	**PKKPbc**		**16 43 33.5**	**-1.5**
KIEV	**Kiev**	**123.85**	**325**	*e*PKIKP		**PKPdf**		**16 33 44.9**	**-1.5**
KIEV				*e*				16 34 09.5	
KIEV	**Kiev**	**123.85**	**325**	*e*PKPdf		**PKPdf**		**16 33 44.9**	**-1.5**
KIEV				*ep*PKPdf		**pPKPdf**		**16 34 09.5**	**-1.7**
NB2	**NORSAR Subarra**	**124.81**	**343**		PKPdf	**PKPdf**		**16 33 47.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=52,slow=2.6								
NOA	**NORSAR Array B**	**124.81**	**343**		PKP	**PKPdf**		**16 33 47.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=348,slow=1.8,SNR=10								
NOA					pPKP	**pPKPdf**		**16 34 10.9**	**-1.9**
	comp=Z,7.8nm,1.0s,baz=37,slow=2.0,SNR=6.6								
NOA	**NORSAR Array B**	**124.81**	**343**		PKIKP	**PKPdf**		**16 33 47.4**	**-0.6**
NOA	**NORSAR Array B**	**124.81**	**343**		PKP	**PKPdf**		**16 33 47.4**	**-0.6**
NOA					pPKP	**pPKPdf**		**16 34 10.9**	**-1.9**
SUW	**Suwalki**	**125.19**	**331**	*e*PKP		**PKPdf**		**16 33 47.4**	**-1.4**
SUW				*e*				16 34 12.7	
SUW	**Suwalki**	**125.19**	**331**	*e*PKIKP		**PKPdf**		**16 33 48.1**	**-0.7**
SUW				*e*				16 34 12.7	
SUW	**Suwalki**	**125.19**	**331**	*e*PKPdf		**PKPdf**		**16 33 48.1**	**-0.7**
SUW				*ep*PKPdf		**pPKPdf**		**16 34 12.7**	**-0.9**
BRTR	**Keskin Array B**	**125.24**	**312**		PKP	**PKPdf**		**16 33 48.6**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=142,slow=5.3,SNR=16								
BRTR					pPKP	**pPKPdf**		**16 34 12.4**	**-2.0**
	comp=Z,8.8nm,1.1s,baz=122,slow=1.9,SNR=8.5								
BRTR					PKKPbc	**PKKPbc**		**16 43 29.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=132,slow=1.8,SNR=4.0								
BRTR	**Keskin Array B**	**125.24**	**312**		PKIKP	**PKPdf**		**16 33 48.7**	**-1.0**
BRTR	**Keskin Array B**	**125.24**	**312**		PKP	**PKPdf**		**16 33 48.6**	**-1.0**
BRTR					pPKP	**pPKPdf**		**16 34 12.4**	**-2.0**
BRTR					PKKPbc	**PKKPbc**		**16 43 29.2**	**0.0**
TLCR		**126.58**	**319**	⇓PKIKP		**PKPdf**		**16 33 52.5**	**+0.7**
TLCR		**126.58**	**319**	⇓*i*P		**PKPdf**		**16 33 52.5**	**+0.7**
CFR	**Carcaliu**	**127.02**	**320**	⇑PKIKP		**PKPdf**		**16 33 52.8**	**+0.2**
CFR	**Carcaliu**	**127.02**	**320**	⇑*i*P		**PKPdf**		**16 33 52.8**	**+0.2**
TIRR	**Tirgusor**	**127.15**	**319**	⇓PKIKP		**PKPdf**		**16 33 51.6**	**-1.3**
TIRR	**Tirgusor**	**127.15**	**319**	⇓*i*P		**PKPdf**		**16 33 51.6**	**-1.3**
VRI	**Vrincioaia**	**127.59**	**321**	⇑PKIKP		**PKPdf**		**16 33 49.0**	**-4.8**
VRI	**Vrincioaia**	**127.59**	**321**	⇑*i*P		**PKPdf**		**16 33 49.0**	**-4.8**
BURAR	**Bucovina Array**	**127.65**	**324**	⇑*i*P		**PKiKP**		**16 33 55.4**	**+0.9**
KWP	**Kalwaria Pacla**	**127.97**	**327**	*e*PKP		**PKPdf**		**16 33 54.4**	**0.0**
KWP				*e*				16 34 19.0	
KWP	**Kalwaria Pacla**	**127.97**	**327**	⇑PKIKP		**PKPdf**		**16 33 54.9**	**+0.5**
KWP	**Kalwaria Pacla**	**127.97**	**327**	*e*PKPdf		**PKPdf**		**16 33 53.7**	**-0.6**
KWP				*ep*PKPdf		pPKPdf		16 34 11.8	-7.3
KWP	**Kalwaria Pacla**	**127.97**	**327**	⇑*i*P		**PKPdf**		**16 33 54.9**	**+0.5**
MLR	**Muntele Rosu**	**128.25**	**321**	⇓PKIKP		**PKPdf**		**16 33 55.2**	**0.0**
MLR	**Muntele Rosu**	**128.25**	**321**	⇓*i*P		**PKPdf**		**16 33 55.2**	**0.0**
KOLS	**Kolonicke sedl**	**128.60**	**326**	*e*PKIKP		**PKPdf**		**16 33 56.0**	**+0.4**
KOLS				*e*				16 34 20.7	
KOLS	**Kolonicke sedl**	**128.60**	**326**	*e*PKP		**PKPdf**		**16 33 56.0**	**+0.4**
KOLS				*e*				16 34 20.7	
UZH	**Uzhgorod**	**128.76**	**326**	*e*PKHKP		PKPpre		16 33 38.8	
UZH				*e*				16 33 55.8	
VOIR		**128.83**	**321**	⇓PKIKP		**PKPdf**		**16 33 58.2**	**+2.0**
VOIR		**128.83**	**321**	⇓*i*P		**PKPdf**		**16 33 58.2**	**+2.0**
SDV	**Santo Domingo**	**128.84**	**87**	*e*PKPdf		**PKPdf**		**16 33 56.2**	**-1.1**
SDV				*ep*PKPdf		**pPKPdf**		**16 34 21.2**	**-0.8**
STHS	**Stebnicka Huta**	**128.88**	**327**	*e*PKIKP		**PKPdf**		**16 33 56.5**	**+0.4**
STHS				*e*				16 34 21.1	
STHS	**Stebnicka Huta**	**128.88**	**327**	*e*PKP		**PKPdf**		**16 33 56.5**	**+0.4**
STHS				*e*				16 34 21.1	
CRVS	**Cervenica-Dubn**	**129.06**	**327**	*e*PKIKP		**PKPdf**		**16 33 56.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**129.06**	**327**	*e*PKP		**PKPdf**		**16 33 56.8**	**+0.3**
CRVS				*e*				16 34 20.9	

LJU			*e*			16 38 16.0		
VOY	**Vojsko**	**134.86 328**	*e*PKPdf	**PKPdf**	**16 34 07.9**	**+0.3**		
VOY			*ep*PKPdf	**pPKPdf**	**16 34 31.6**	**-0.8**		
ABTA	**Abfaltersbach**	**135.08 330**	P	PKPdf	16 34 01.7	-6.3		
	comp=Z,6.8nm,0.7s							
MOTA	**Moosalm**	**135.34 331**	⇑*i*PKIKP	**PKPdf**	**16 34 07.9**	**-0.6**		
MOTA	**Moosalm**	**135.34 331**	⇑*i*P	**PKPdf**	**16 34 07.9**	**-0.6**		
MOTA	**Moosalm**	**135.34 331**	⇑*i*PKPdf	**PKPdf**	**16 34 07.9**	**-0.6**		
	comp=Z,5.3nm,0.7s							
FETA	**Feichten**	**135.75 331**	⇑*i*P	**PKPdf**	**16 34 08.9**	**-0.4**		
FETA	**Feichten**	**135.75 331**	⇑*i*PKPdf	**PKPdf**	**16 34 08.9**	**-0.4**		
	comp=Z,16nm,1.1s							
BFO	**Black Forest**	**135.86 334**	*e*PKPdf	**PKPdf**	**16 34 08.0**	**-1.3**		
BFO	**Black Forest**	**135.86 334**	*e*PKIKP	**PKPdf**	**16 34 08.0**	**-1.3**		
TUE	**Stuetta**	**136.80 332**	*e*PKPdf	**PKPdf**	**16 34 09.3**	**-2.0**		
TUE			*ep*PKPdf	**pPKPdf**	**16 34 35.1**	**-1.0**		
CABF	**La Chapelle**	**138.16 334**	*e*PKIKP	**PKPdf**	**16 34 11.2**	**-2.5**		
LPL	**La Plagne**	**138.72 333**	*e*PKIKP	PKPdf	16 34 08.9	-6.1		
LPG	**La Plagne**	**138.73 333**	*e*PKIKP	PKPdf	16 34 08.7	-6.4		
	comp=Z,8.9nm,0.6s							
ORIF	**Oris-en-Rattie**	**139.57 333**	*e*PKIKP	**PKPdf**	**16 34 12.2**	**-4.2**		
TCF	**Toulx Ste Croi**	**139.98 337**	*e*PKIKP	PKPdf	16 34 10.8	-6.2		
	comp=Z,36nm,1.0s							
VIVF	**Saint-Julien-l**	**140.15 334**	*e*PKIKP	PKPdf	16 34 09.6	-7.7		
SMRF	**Simiane la Rot**	**140.44 332**	*e*PKIKP	PKPdf	16 34 10.7	-7.2		
MFF	**Saint Martin d**	**140.56 340**	*e*PKIKP	PKPdf	16 34 10.2	-7.8		
	comp=Z,19nm,0.7s							
RJF	**Les Rejaudoux**	**141.07 337**	*e*PKIKP	PKPdf	16 34 13.0	-5.9		
	comp=Z,23nm,0.8s							
LASF	**Ste Croix**	**141.12 334**	*e*PKIKP	PKPdf	16 34 12.6	-6.5		
BDFB	**Brasilia**	**141.16 131**	PKP	**PKPdf**	**16 34 18.3**	**-1.7**		
	comp=Z,3.3nm,0.5s,baz=205,slow=4.5,SNR=3.9							
BDFB	**Brasilia**	**141.16 131**	PKIKP	**PKPdf**	**16 34 18.3**	**-1.7**		
BDFB	**Brasilia**	**141.16 131**	PKP	**PKPdf**	**16 34 18.3**	**-1.7**		
CAF	**Calviac**	**141.18 336**	*e*PKIKP	**PKPdf**	**16 34 14.8**	**-4.4**		
MTLF	**Montolieu**	**142.42 335**	*e*PKIKP	**PKPdf**	**16 34 16.8**	**-4.6**		
	comp=Z,14nm,0.7s							
EPF	**Esparros**	**143.44 336**	*e*PKIKP	PKPbc	16 34 20.0	-0.7		
RESF	**Ens**	**143.63 336**	*e*P	**PKPdf**	**16 34 22.7**	**-1.0**		
REYF	**Montagne du Re**	**143.69 337**	*e*P	**PKPdf**	**16 34 22.3**	**-1.5**		
ETSF	**Etsaut**	**143.91 337**	*e*PKIKP	**PKPdf**	**16 34 22.7**	**-1.4**		
	comp=Z,40nm,0.6s							
SJPF	**Ste Jean**	**143.97 338**	*e*PKIKP	PKPab	16 34 20.9	-0.7		
KEST	**Kesra**	**144.11 319**	PKP	**PKPdf**	**16 34 23.4**	**-1.4**		
	comp=Z,5.7nm,0.6s,baz=268,slow=1.0,SNR=18							
KEST	**Kesra**	**144.11 319**	*e*PKPdf	PKPbc	16 34 22.2	-0.8		
KEST			PKP	**PKPdf**	**16 34 23.4**	**-1.4**		
KEST			*ep*PKPdf	pPKPdf	16 34 46.5	-3.1		
CMAH	**Djebel Manchou**	**144.75 322**	P	PKPbc	16 34 24.3	-0.6		
ABSA	**Djebel Ababsia**	**144.94 322**	P	**PKPdf**	**16 34 25.7**	**-0.5**		
CAEH	**'Ain El Ouahch**	**144.98 323**	P	**PKPdf**	**16 34 27.2**	**+1.1**		
CKFL	**Kef-Lekhel**	**145.31 322**	P	**PKPab**	**16 34 27.4**	**+0.4**		
CASM	**Ain Smara**	**145.55 323**	P	**PKPab**	**16 34 27.4**	**-0.3**		
DFRA	**Djebel Bou Aff**	**145.72 323**	P	**PKPab**	**16 34 28.6**	**+0.1**		
SET	**Setif**	**146.23 324**	P	**PKPab**	**16 34 32.0**	**+1.6**		
PBRG	**Braganca**	**146.94 343**	*e*PKP	**PKPab**	**16 34 31.4**	**-1.5**		
PBRG			*i* P	pPKPbc	16 34 56.0	+0.1		
PGAV	**Gavieira, Arco**	**147.19 346**	*e*PKP	**PKPbc**	**16 34 30.9**	**-1.2**		
PGAV			*i* P	**pPKPbc**	**16 34 56.5**	**-0.2**		
PCAB	**Cabril**	**147.37 345**	*e*PKP	**PKPbc**	**16 34 31.8**	**-0.8**		
PCAB			*i* P	**pPKPbc**	**16 34 56.6**	**-0.5**		
MVO	**Moncorvo**	**147.62 343**	*e*PKP	**PKPbc**	**16 34 31.5**	**-1.8**		
MVO			*i* P	**pPKPbc**	**16 34 57.3**	**-0.6**		
POLO	**Lamas de Olo**	**147.63 345**	*e*PKP	**PKPdf**	**16 34 27.7**	**-2.9**		
POLO			*i* P	**pPKPbc**	**16 34 57.5**	**-0.4**		
PVRL	**Vila Real**	**147.70 344**	*e*PKP	**PKPab**	**16 34 35.0**	**-0.9**		
PVRL			*i* P	**pPKPbc**	**16 34 58.2**	**+0.1**		
ESDC	**Sonseca Array**	**147.97 338**	PKPbc	**PKPbc**	**16 34 33.9**	**-0.4**		
	comp=Z,4.0nm,0.6s,baz=11,slow=3.0,SNR=24							
ESDC			pPKPbc	**pPKPbc**	**16 34 58.3**	**-0.6**		
	comp=Z,20nm,0.9s,baz=1.5,slow=3.1,SNR=5.8							
ESDC	**Sonseca Array**	**147.97 338**	PKPbc	**PKPbc**	**16 34 33.9**	**-0.4**		
ESDC			pPKPbc	**pPKPbc**	**16 34 58.3**	**-0.6**		
ESLA	**Sonseca Array**	**147.97 338**	*e*PKPdf	**PKPbc**	**16 34 33.2**	**-1.1**		
ESLA			*ep*PKPdf	**pPKPdf**	**16 34 58.1**	**+2.1**		
PAB	**San Pablo**	**148.23 339**	*e*PKP2	**PKPbc**	**16 34 33.9**	**-1.1**		
PAB	**San Pablo**	**148.23 339**	*e*PKPdf	**PKPbc**	**16 34 33.9**	**-1.1**		
PAB			*ep*PKPdf	**pPKPdf**	**16 34 56.3**	**-0.1**		
PVIS	**Viseu**	**148.27 344**	*e*PKP	**PKPdf**	**16 34 30.4**	**-1.2**		
PVIS			*i* P	**pPKPbc**	**16 34 59.7**	**+0.1**		
EBNR	**Beni Rached**	**148.32 328**	P	**PKPdf**	**16 34 31.8**	**0.0**		
MTE	**Manteigas**	**148.47 344**	*e*PKP	**PKPbc**	**16 34 36.0**	**+0.4**		
MTE			*i* P	**pPKPbc**	**16 35 00.0**	**-0.2**		
MTE	**Manteigas**	**148.47 344**	*e*PKPdf	**PKPdf**	**16 34 32.1**	**+0.1**		
MTE			*e*PKPbc	**PKPbc**	**16 34 36.0**	**+0.4**		
MTE			*ep*PKPdf	**pPKPdf**	**16 34 59.5**	**+2.7**		
ECHA	**Ech Chlef**	**148.51 328**	P	**PKPbc**	**16 34 35.0**	**-0.7**		
CART	**Cartagena**	**148.53 332**	*e*PKPdf	**PKPdf**	**16 34 32.1**	**+0.1**		
CART			*ep*PKPdf	**pPKPdf**	**16 34 56.2**	**-0.6**		
EANR	**'Ain N'Sour**	**148.80 328**	P	**PKPbc**	**16 34 37.0**	**+0.5**		
PCBR	**Castelo Branco**	**148.97 343**	*e*PKP	**PKPbc**	**16 34 36.8**	**+0.1**		
PCBR			*i* P	**pPKPbc**	**16 35 01.2**	**-0.2**		
ETRT	**Tiaret**	**149.12 327**	P	**PKPab**	**16 34 39.0**	**-2.9**		
PMRV	**Marv??o**	**149.33 343**	*e*PKP	**PKPbc**	**16 34 37.8**	**+0.1**		
PMRV			*i* P	**pPKPbc**	**16 35 02.4**	**+0.1**		
PTOM	**Tomar**	**149.44 344**	*e*PKP	**PKPbc**	**16 34 38.5**	**+0.6**		
PTOM			*i* P	**pPKPbc**	**16 35 02.5**	**-0.1**		
PMTG	**Montargil**	**149.90 344**	*e*PKP	**PKPbc**	**16 34 37.9**	**-1.2**		
PMTG			*i* P	**pPKPbc**	**16 35 02.5**	**-1.2**		
PESTR	**Estremoz**	**149.91 343**	*e*PKP	**PKPbc**	**16 34 39.6**	**+0.5**		
PESTR			*i* P	**pPKPbc**	**16 35 03.2**	**-0.6**		
PMAFR	**Mafra**	**150.29 345**	*e*PKP	**PKPab**	**16 34 46.2**	**-0.2**		
EVO	**Evora**	**150.34 343**	*e*PKP	**PKPbc**	**16 34 40.6**	**+0.4**		
EVO			*i* P	**pPKPbc**	**16 35 03.6**	**-1.2**		
EVO	**Evora**	**150.34 343**	*e*PKIKP	**PKPdf**	**16 34 35.7**	**+0.8**		
	comp=Z,50nm,1.4s							
PBAR	**Barrancos**	**150.37 341**	*e*PKP	**PKPbc**	**16 34 39.7**	**-0.5**		
PBEJ	**Beja**	**150.76 342**	*e*PKP	**PKPbc**	**16 34 41.6**	**+0.4**		
PBEJ			*i* P	**pPKPbc**	**16 35 05.9**	**0.0**		
PNCL	**Nicolau / Gran**	**150.88 343**	*e*PKP	**PKPdf**	**16 34 34.7**	**-1.0**		
PNCL			*i* P	**pPKPbc**	**16 35 06.0**	**-0.1**		
PCVE	**Castro Verde**	**151.18 342**	*e*PKP	**PKPbc**	**16 34 37.3**	**+0.1**		
PVAQ	**Vaqueiros**	**151.29 342**	*e*PKP	**PKPdf**	**16 34 34.8**	**-1.6**		
PTEO	**Sao Teotonio**	**151.46 343**	*e*PKP	**PKPab**	**16 34 48.8**	**-2.5**		
PBDV	**Barranco-do-Ve**	**151.51 342**	*i* P	pPKPbc	16 35 05.6	-2.1		
MORF	**Marmelete**	**151.66 343**	*e*PKP	**PKPbc**	**16 34 42.9**	**-0.5**		
TAM	**Tamanrasset**	**153.72 301**	*e*PKIKP	**PKPdf**	**16 34 40.5**	**-0.1**		
TAM	**Tamanrasset**	**153.72 301**	*e*PKPdf	**PKPdf**	**16 34 40.5**	**-0.1**		
TAM			*e*PKPbc	**PKiKP**	**16 34 49.2**	**+0.6**		
TAM			*e*PKPab	**PKPab**	**16 35 02.2**	**+0.7**		
TORD	**Torodi Ar. Bea**	**159.82 280**	PKP	**PKPdf**	**16 34 47.5**	**-0.9**		
	comp=Z,14nm,1.1s,baz=50,slow=0.7,SNR=32							
TORD			pPKP	**pPKPdf**	**16 35 12.0**	**-1.3**		
	comp=Z,5.7nm,0.9s,baz=67,slow=0.9,SNR=6.3							
TORD			PKPab	**PKPab**	**16 35 26.4**	**-1.4**		
	comp=Z,21nm,1.2s,baz=78,slow=3.4,SNR=9.5							
TORD	**Torodi Ar. Bea**	**159.82 280**	PKP	**PKPdf**	**16 34 47.5**	**-0.9**		
TORD			pPKP	**pPKPdf**	**16 35 12.0**	**-1.3**		
TORD			PKPab	**PKPab**	**16 35 26.4**	**-1.4**		
DBIC	**Dimbokro**	**165.81 256**	PKP	**PKPdf**	**16 34 53.3**	**-1.0**		
	comp=Z,15nm,1.1s,baz=91,slow=1.5,SNR=9.8							
DBIC			pPKP	**pPKPdf**	**16 35 17.9**	**-1.3**		
	comp=Z,8.9nm,1.1s,baz=26,slow=2.4,SNR=3.5							
DBIC			PKPab	**PKPab**	**16 35 53.4**	**-0.8**		
	comp=Z,25nm,1.1s,baz=84,slow=3.2,SNR=8.9							
DBIC			PP	**PP**	**16 39 39.1**	**-2.6**		
	comp=Z,11nm,1.1s,baz=86,slow=7.9,SNR=5.7							
DBIC	**Dimbokro**	**165.81 256**	PKIKP	**PKPdf**	**16 34 53.3**	**-1.0**		
DBIC					16 35 53.4			
DBIC					16 39 39.1			
DBIC	**Dimbokro**	**165.81 256**	PKP	**PKPdf**	**16 34 53.3**	**-1.0**		
DBIC			pPKP	**pPKPdf**	**16 35 17.9**	**-1.3**		
DBIC			PKPab	**PKPab**	**16 35 53.4**	**-0.8**		
DBIC			PP	**PP**	**16 39 39.1**	**-2.6**		
LIC	**Lamto**	**165.85 254**	*e*PKIKP	**PKPdf**	**16 34 53.1**	**-1.2**		
	comp=Z,83nm,1.4s							

WEL 15 16:28:56.1±0.4, 38°.11S × 176°.35E, h157km±3km, ML3.9/19, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TARZ	**Mount Tarawera**	**0.18**	**136**	PN	Pn	16	29	17.4 +0.1
RRRZ	**Republican Roa**	**0.27**	**151**	PN	Pn	16	29	17.4 0.0
MARZ	**Manawahe**	**0.28**	**65**	PN	Pn	16	29	17.5 0.0
PRRZ	**Plateau Road**	**0.39**	**175**	PN	Pn	16	29	17.8 0.0
URZ	**Urewera**	**0.62**	**105**	PN	Pn	16	29	18.2 -0.6
URZ				SN	Sn	16	29	35.0 -1.2
URZ						16	29	35.1
TOZ	**Tahuroa Road**	**0.77**	**299**	PN	Pn	16	29	20.0 +0.2
RITZ	**Rihia Road**	**0.95**	**204**	PN	Pn	16	29	21.6 +0.4
MWZ	**Matawai**	**0.96**	**104**	PN	Pn	16	29	20.9 -0.3
MWZ				SN	Sn	16	29	39.5 -0.9
RAHZ	**Arahi**	**0.99**	**145**	PN	Pn	16	29	21.8 +0.3
RAHZ				SN	Sn	16	29	41.2 +0.2
NMHZ	**Naumai**	**1.05**	**160**	PN	Pn	16	29	22.7 +0.6
BKZ	**Black Stump Fm**	**1.06**	**174**	PN	Pn	16	29	21.8 -0.4
KRVZ	**Karewarewa**	**1.13**	**209**	PN	Pn	16	29	22.6 -0.2
WTVZ	**West Tongariro**	**1.17**	**210**	PN	Pn	16	29	22.9 -0.2
OTVZ	**Oturere**	**1.19**	**207**	PN	Pn	16	29	23.5 +0.2
TWVZ	**Taurewa**	**1.20**	**216**	PN	Pn	16	29	23.2 -0.1
NGZ	**Ngauruhoe**	**1.22**	**209**	PN	Pn	16	29	23.5 -0.1
HIZ	**Hauiti**	**1.24**	**250**	PN	Pn	16	29	24.0 +0.3
WPVZ	**Whakapapa**	**1.27**	**210**	PN	Pn	16	29	23.7 -0.3
TUVZ	**Tukino**	**1.28**	**205**	PN	Pn	16	29	24.1 -0.1
FWVZ	**Far West T-bar**	**1.31**	**208**	PN	Pn	16	29	24.1 -0.4
DRZ	**Dome Shelter**	**1.32**	**208**	PN	Pn	16	29	24.8 0.0
TRVZ	**Turoa**	**1.35**	**207**	PN	Pn	16	29	24.7 -0.3
WNVZ	**Wahianoa**	**1.35**	**205**	PN	Pn	16	29	24.7 -0.2
MCHZ	**McNeill Hill**	**1.36**	**169**	PN	Pn	16	29	25.3 +0.5
MCHZ				SN	Sn	16	29	47.1 +0.2
MOVZ	**Moawhango**	**1.38**	**200**	PN	Pn	16	29	24.5 -0.6
KNZ	**Kokohu**	**1.38**	**132**	PN	Pn	16	29	24.9 0.0
BHHZ	**Black Hill Sta**	**1.40**	**189**	PN	Pn	16	29	24.8 -0.5
BHHZ				SN	Sn	16	29	47.1 -0.6
PKVZ	**Pokaka**	**1.42**	**213**	PN	Pn	16	29	25.3 -0.1
MTVZ	**Mangateitei**	**1.45**	**208**	PN	Pn	16	29	25.6 -0.2
PRGZ	**Paritu Road**	**1.45**	**125**	PN	Pn	16	29	25.7 -0.1
PUZ	**Puketiti**	**1.51**	**89**	PN	Pn	16	29	25.9 -0.3
CNGZ	**Carnagh Statio**	**1.51**	**105**	PN	Pn	16	29	26.8 +0.5
MHGZ	**Mahia Peninsul**	**1.61**	**131**	PN	Pn	16	29	27.5 +0.2
MXZ	**Matakaoa Point**	**1.64**	**71**	PN	Pn	16	29	27.6 -0.1
CKHZ	**Cape Kidnapper**	**1.65**	**160**	PN	Pn	16	29	28.0 +0.2
KAHZ	**Kahuranaki**	**1.74**	**166**	PN	Pn	16	29	28.6 -0.1
PNHZ	**Pukenui**	**1.81**	**184**	PN	Pn	16	29	28.7 -0.8
WPHZ	**Waipukurau**	**1.96**	**178**	PN	Pn	16	29	30.4 -0.8
WAZ	**Wanganui**	**1.96**	**212**	PN	Pn	16	29	30.8 -0.4
PXZ	**Pawanui**	**1.96**	**168**	PN	Pn	16	29	30.7 -0.5
TSZ	**Takapari Road**	**1.97**	**189**	PN	Pn	16	29	30.3 -1.1
PKE	**Pukeiti**	**2.15**	**239**	PN	Pn	16	29	33.6 +0.3
PRHZ	**Porangahau**	**2.17**	**174**	PN	Pn	16	29	32.8 -0.8
DVHZ	**Dannevirke**	**2.19**	**184**	PN	Pn	16	29	32.7 -1.3
NWEZ	**Newall Road**	**2.27**	**238**	*e*PN	Pn	16	29	34.8 +0.1
POWZ	**Post Office Ro**	**2.33**	**191**	PN	Pn	16	29	34.1 -1.3
BFZ	**Birch Farm**	**2.57**	**182**	PN	Pn	16	29	36.9 -1.5
MRZ	**Mangatainoka R**	**2.62**	**193**	PN	Pn	16	29	37.2 -1.8
TIWZ	**Tintock**	**2.69**	**188**	PN	Pn	16	29	38.2 -1.7
OGWZ	**Otaki Gorge**	**2.86**	**198**	PN	Pn	16	29	40.0 -1.9
OGWZ				SN	Sn	16	30	13.5 -3.9
HOWZ	**Holdsworth Sta**	**2.86**	**193**	PN	Pn	16	29	39.8 -2.2
KIW	**Kapiti Island**	**2.97**	**202**	PN	Pn	16	29	41.0 -2.4
TMWZ	**Te Maipa**	**3.02**	**187**	PN	Pn	16	29	41.8 -2.2
MTW	**Mount Morrison**	**3.12**	**192**	PN	Pn	16	29	42.6 -2.6
CAW	**Cannon Point**	**3.16**	**198**	PN	Pn	16	29	43.2 -2.5
DUWZ	**D'Urville Isla**	**3.28**	**214**	PN	Pn	16	29	44.8 -2.5
TRWZ	**Traveller**	**3.33**	**189**	PN	Pn	16	29	45.3 -2.6
PAWZ	**Paruwai Farm**	**3.35**	**192**	PN	Pn	16	29	45.3 -2.8
WEL	**Wellington**	**3.40**	**201**	PN	Pn	16	29	46.1 -2.6
MSWZ	**Moikau Station**	**3.41**	**194**	PN	Pn	16	29	46.0 -3.0
SNZO	**South Karori**	**3.44**	**201**	PN	Pn	16	29	46.3 -3.0
BHW	**Baring Head**	**3.49**	**199**	PN	Pn	16	29	46.9 -3.0
TCW	**Tory Channel**	**3.49**	**207**	PN	Pn	16	29	47.0 -2.9
PLWZ	**Palliser**	**3.56**	**193**	PN	Pn	16	29	47.7 -3.2
TUWZ	**Tuamarina**	**3.80**	**208**	PN	Pn	16	29	50.8 -3.1
NNZ	**Nelson**	**3.86**	**215**	PN	Pn	16	29	51.6 -3.0
QRZ	**Quartz Range**	**4.01**	**226**	PN	Pn	16	29	53.1 -3.6
BSWZ	**Blackbirch Sta**	**4.08**	**207**	PN	Pn	16	29	54.4 -3.1
THZ	**Tophouse**	**4.51**	**215**	PN	Pn	16	29	59.9 -3.3
KHZ	**Kahutara**	**4.81**	**206**	PN	Pn	16	30	03.5 -3.6
DSZ	**Denniston Nort**	**5.04**	**222**	PN	Pn	16	30	05.9 -4.4
LTZ	**Lake Taylor**	**5.61**	**212**	PN	Pn	16	30	13.3 -4.4
MQZ	**McQueen's Vall**	**6.26**	**205**	PN	Pn	16	30	20.9 -5.3
RPZ	**Rata Peaks**	**6.89**	**214**	PN	Pn	16	30	30.4 -4.2

MEX 15 16:53:00.6±0.8, 15°.71N × 93°.73W, h88km±8km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PCIG		**0.50**	**91**	*e*P	Pn	16	53	13.6 -1.5
PCIG				*e*S	Sn	16	53	24.3 -1.6
THIG		**1.63**	**119**	*i* P	Pn	16	53	27.1 -0.8
THIG				*i* S	Sn	16	53	47.7 -0.9
CCIG	**Comitan**	**1.64**	**70**	*e*P	Pn	16	53	26.9 -1.4
CCIG				*i* S	Sn	16	53	46.9 -2.3
CMIG	**Matias Romero**	**1.76**	**321**	*e*P	Pn	16	53	28.6 -1.0
CMIG				*i* S	Sn	16	53	50.7 -0.9
HUIG	**Huatulco**	**2.29**	**272**	*i* P	Pn	16	53	34.5 -2.1
HUIG				*i* S	Sn	16	54	02.0 -2.1
VHO	**Vista Hermosa**	**3.18**	**296**	*i* P	Pn	16	53	48.1 -0.7
VHO				*i* S	Sn	16	54	24.9 -1.1
PNIG	**Pinotepa**	**4.28**	**280**	*e*P	Pn	16	54	02.3 -1.1
PNIG				*i* S	Sn	16	54	50.5 -1.8
UTMO	**Huajuapan**	**4.43**	**299**	*i* P	Pn	16	54	05.5 -0.3
UTMO				*i* S	Sn	16	54	54.9 -1.5

CSEM 15 16:58:13.6, 14°.55N × 42°.47E, h54km, ML3.6, After DHMR
DHMR 15 16:58:13.6±0.8, 14°.55N × 42°.47E, h54km±21km, ML3.6, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
UDYN	**Al 'Udayn**	**1.56**	**112**	*i* P	Pn	16	58	40.3 +1.1
UDYN				*i* P		16	58	40.7
UDYN				*i* S	Sn	16	59	01.9 +3.4
HAJJ	**Hajjah**	**1.58**	**43**	⇑*i*P	Pn	16	58	40.9 +1.4
HAJJ				*i* S	Sn	16	59	01.7 +2.7
HAJJ	**Hajjah**	**1.58**	**43**	⇑*i*P	Pn	16	58	40.9 +1.4
HAJJ				*i* S	Sn	16	59	01.7 +2.7
DHBB	**Dhamar BB**	**1.86**	**89**	*i* P	Pn	16	58	45.0 +1.5
DHBB				*i* S	Sn	16	59	09.0 +2.9
DHBB	**Dhamar BB**	**1.86**	**89**	*i* P	Pn	16	58	45.0 +1.6
DHBB				*i* S	Sn	16	59	09.0 +2.9
TRBA	**At Turbah**	**2.06**	**129**	⇓*i*P	Pn	16	58	48.0 +1.8
TRBA				*i* S	Sn	16	59	13.7 +2.7
TRBA				AML	AML	16	59	23.6
	comp=N,605nm,0.6s							
LBOS		**2.77**	**104**	*i* P	Pn	16	58	56.5 +0.5
LBOS				*i* S	Sn	16	59	31.8 +3.2
LBOS		**2.77**	**104**	*i* P	Pn	16	58	56.5 +0.5
LBOS				*i* S	Sn	16	59	31.8 +3.2
BDHA	**Al Bayda'**	**3.05**	**100**	*i* P	Pn	16	59	01.4 +1.7
BDHA				*i* S	Sn	16	59	38.3 +3.0
BDHA				AML	AML	16	59	58.5
	comp=N,291nm,0.4s							
BDHA	**Al Bayda'**	**3.05**	**100**	*i* P	Pn	16	59	01.4 +1.6
BDHA				*i* S	Sn	16	59	38.3 +3.0
	comp=N,145nm,0.4s							

IDC 15 17:12:40.8±1.6, 0°.10N × 133°.76E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=60.0km s-min=23.1km az=70.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**19.77**	**203**	P	P	17	17	12.9 +0.2
	0.1nm,0.3s,baz=54,slow=17,SNR=2.8							
WRA	**Warramunga Arr**	**19.93**	**178**	P	P	17	17	14.5 +0.1
	0.2nm,0.3s,baz=358,slow=11,SNR=15							
CTA	**Charters Tower**	**23.50**	**149**	P	P	17	17	52.0 -0.6
	1.4nm,0.4s,baz=338,slow=16,SNR=3.0							
ASAR	**Alice Springs**	**23.62**	**180**	P	P	17	17	53.4 -0.5
	1.1nm,0.4s,baz=355,slow=12,SNR=21							
STKA	**Stephens Creek**	**32.66**	**168**	P	P	17	19	15.8 +1.0
	1.8nm,0.8s,baz=330,slow=18,SNR=2.8							
MKAR	**Makanchi Array**	**64.58**	**323**	P	P	17	23	20.0 -0.1
	0.2nm,0.5s,baz=112,slow=8.7,SNR=6.8							

DJA 15 17:17:06, 5°.15S × 133°.92E, h61km, mb4.4/6
IDC 15 17:17:01.1±2.4, 5°.41S × 133°.87E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/13, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=82.4km s-min=29.4km az=87.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**14.46**	**178**	Pn	Pn	17	20	27.8 +0.6
	0.2nm,0.3s,baz=357,slow=13,SNR=5.7							
WRA				Sn	Sn	17	23	08.1 -0.3
	0.3nm,0.3s,baz=0.5,slow=23,SNR=4.2							
FITZ	**Fitzroy Crossi**	**14.96**	**212**	Pn	Pn	17	20	34.7 +0.6
	0.6nm,0.3s,baz=56,slow=8.4,SNR=17							
FITZ				Sn	Sn	17	23	15.1 -5.6
	0.7nm,0.3s,baz=5.2,slow=22,SNR=6.4							
CMAR	**Chiang Mai Arr**	**41.81**	**305**	P	P	17	24	52.9 0.0
	0.8nm,0.8s,baz=135,slow=8.3,SNR=6.2							
SONM	**Songino Array**	**58.26**	**339**	P	P	17	26	59.0 +1.3
	0.2nm,0.3s,baz=97,slow=4.6,SNR=2.4							
MKAR	**Makanchi Array**	**69.08**	**325**	P	P	17	28	08.9 0.0
	0.8nm,0.5s,baz=114,slow=8.1,SNR=20							
ZALV	**Zalesovo Beam**	**71.93**	**332**	P	P	17	28	24.8 -1.4
	0.2nm,0.4s,baz=101,slow=6.0,SNR=3.1							

IDC 15 17:24:17.9±2.1, 61°.42S × 155°.79E, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.1/8, mbtmp4.1/3, MS4.1/6, Ms1 4.1/6, ms1mx4.0/18, Error ellipse: s-maj=111.4km s-min=32.3km az=83.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RPZ	**Rata Peaks**	**19.92**	**34**	LR	LR	17	35	08

SKR AMB AMB 17 50 45.0
comp=E,251μm,12.0s
SKR AMB AMB 17 50 45.0
comp=E,141μm,4.0s
SKR A A 17 51 20.0
comp=E,1649μm,10.0s
SKR A A 17 51 20.0
comp=E,2233μm,20.0s
SKR A A 17 51 20.0
comp=E,1026μm,20.0s
SKR AMS AMS 17 51 53.0
comp=E,2615μm,18.0s
KUR Kuril'sk 5.38 255⇑ *i* PN **Pn 17 50 57.4 +0.9**
KUR pmax pmax
comp=Z,341μm,5.0s
KUR MLR MLR
comp=Z,536μm,14.0s
KUR MLR MLR
comp=N,234μm,6.0s
KUR MLR MLR
comp=E,545μm,16.0s
KUR Kuril'sk 5.38 255⇓ *i* P **Pn 17 50 57.4 +0.9**
KUR AMB AMB 17 51 07.0
comp=E,341μm,5.0s
KUR *i* S **Sn 17 51 57.0 -0.4**
KUR A A 17 52 19.0
comp=E,3538μm,24.0s
KUR A A 17 52 19.0
comp=E,421μm,8.0s
KUR AMS AMS 17 54 45.6
comp=E,545μm,16.0s
KUR AMS AMS 17 54 45.6
comp=E,234μm,6.0s
KUR AMS AMS 17 54 45.6
comp=E,536μm,14.0s
MIPR Malaya Ipel'ka 5.54 10 *i* P **Pn 17 50 59.0 +0.4**
ASAK Asacha 5.82 16 *e*P **Pn 17 51 01.9 -0.7**
MTVR Mutnovka 5.97 18 *e*P **Pn 17 51 04.2 -0.5**
RUS Russkaya 5.99 20 PN **Pn 17 51 03.2 -1.7**
RUS Russkaya 5.99 20 *i* P **Pn 17 51 03.2 -1.7**
GRL Gorelyy 6.01 17 *i* P **Pn 17 51 04.9 -0.4**
PETK Petropavlovsk- 6.48 13 P **Pn 17 51 11.7 +0.1**
comp=E,151nm,0.3s,baz=178,slow=11,SNR=1517
PETK S Sn 17 52 32.1 +7.7
comp=E,936nm,0.3s,baz=167,slow=14,SNR=5.5
PETK P3KPbc 18 29 02.8
baz=93,slow=3.0,SNR=4.2
PETK P3KP 18 29 32.9
baz=69,slow=8.1,SNR=7.6
PETK Petropavlovsk- 6.48 13 PN **Pn 17 51 11.7 +0.1**
PETK S Sn 17 52 32.1 +7.7
PETK Petropavlovsk- 6.48 13 P **Pn 17 51 11.7 +0.1**
PETK S Sn 17 52 32.1 +7.7
PETK *e* 18 29 02.8
PETK PKKKP 18 29 32.9
PET Petropavlovsk 6.58 18κ *i* PN **Pn 17 51 12.0 -0.9**
PET pmax pmax
comp=Z,11μm,5.6s
PET pmax pmax
comp=Z,18μm,13.3s
PET MLR MLR
comp=Z,2532μm,21.0s
PET MLR MLR
comp=Z,2028μm,16.0s
PET Petropavlovsk 6.58 18 *e*Pn **Pn 17 51 11.8 -1.1**
PET Petropavlovsk 6.58 18 *i* P **Pn 17 51 12.0 -0.9**
PET *i* S **Sn 17 52 24.4 -2.3**
INSR Institute 6.60 18 *e*P **Pn 17 51 12.0 -1.3**
SDLR Sedlovina 6.86 19 *i* P **Pn 17 51 15.9 -1.0**
SPN Mys Shipunski 6.99 24 PN **Pn 17 51 17.4 -1.1**
SPN Mys Shipunski 6.99 24 *i* P **Pn 17 51 17.4 -1.1**
YUK Yuzh-Kuril'sk 7.17 250 *i* PN **Pn 17 51 21.4 +0.4**
YUK pmax pmax
comp=N,17μm,0.5s
YUK pmax pmax
comp=Z,334μm,2.1s
YUK MLR MLR
comp=Z,411μm,9.0s
YUK Yuzh-Kuril'sk 7.17 250⇓ *i* P **Pn 17 51 21.5 +0.4**
YUK Yuzh-Kuril'sk 7.17 250⇓ *i* P **Pn 17 51 21.4 +0.4**
YUK AMB AMB 17 51 39.4
comp=Z,17μm,0.5s
YUK AMB AMB 17 51 39.4
comp=Z,37μm,0.5s
YUK AMB AMB 17 51 39.4
comp=Z,39μm,1.0s
YUK *i* S **Sn 17 52 40.0 -1.4**
YUK AMS AMS 17 54 14.3
comp=Z,411μm,9.0s
NEM2 Nemuro 2 7.56 246 ⇓P **Pn 17 51 24.4 -2.1**
NEM2 *e*S Sn 17 52 44.2 -6.9
JRA Rausu 7.69 252 P **Pn 17 51 28.6 +0.4**
KII Karymskiy 7.69 19 *i* P **Pn 17 51 28.7 +0.4**
JNK Nakash 8.11 250 ⇓P **Pn 17 51 33.6 -0.4**
JAK Akkeshi 8.41 247 P **Pn 17 51 36.1 -2.0**
JAK *e*S Sn 17 53 04.8 -7.1
JTKR Abashiri--Toko 8.48 254 ⇓P **Pn 17 51 39.2 +0.2**
YSS Yuzh-Sakhalins 8.56 275κ *i* PN **Pn 17 51 43.0 +2.9**
YSS *e*S Sn 17 53 22.0 +6.5
YSS MLR MLR
comp=Z,696μm,15.0s
YSS Yuzh-Sakhalins 8.56 275 *i* P **Pn 17 51 42.6 +2.5**
comp=Z,20μm,0.9s
YSS Yuzh-Sakhalins 8.56 275 *i* P **Pn 17 51 42.9 +2.9**
YSS Yuzh-Sakhalins 8.56 275⇓ *i* P **Pn 17 51 43.0 +2.9**
YSS ⇓*i* P **Pn 17 51 43.0 +2.9**
YSS *e*pP 17 51 52.0
YSS *e*sP 17 51 56.0
YSS *e*S Sn 17 53 22.0 +6.5
YSS AMS AMS 17 56 21.0
comp=Z,696μm,15.0s
YSS AMS AMS 17 56 21.0
comp=Z,614μm,15.0s
YSS AMS AMS 17 56 21.0
comp=Z,450μm,15.0s
MKZ Mys Kozlova 8.76 26 PN **Pn 17 51 40.8 -1.9**
MKZ Mys Kozlova 8.76 26 *e*P **Pn 17 51 40.8 -1.9**
JMP Maruseppu 8.82 256 P **Pn 17 51 44.7 +0.9**
JAR Ashorobuto 8.86 251 ⇓P **Pn 17 51 43.9 -0.3**
JAR *e*S **Sn 17 53 19.7 -3.2**
TUMR Tumrok 9.00 18 *e*P **Pn 17 51 46.6 +0.3**
JOB Onbets 9.00 248 P **Pn 17 51 44.8 -1.4**
JSE Soyaes 9.03 263 P **Pn 17 51 48.7 +2.2**
UGL Uglegorsk 9.13 289 *i* PN Pn 17 51 52.0 +4.1
UGL *e*S Sn 17 53 38.0 +8.6
UGL pmax pmax
comp=N,3μm,0.8s
UGL pmax pmax
comp=E,2μm,0.8s
UGL pmax pmax
comp=Z,7μm,0.8s
UGL smax smax
comp=N,2μm,0.5s
UGL smax smax
comp=E,4μm,0.5s
UGL Uglegorsk 9.13 289 ⇓*i* P Pn 17 51 52.0 +4.1
UGL AMB AMB 17 51 53.5
comp=E,2μm,0.8s
UGL AMB AMB 17 51 53.5
comp=E,2μm,0.8s
UGL AMB AMB 17 51 53.5
comp=E,7μm,0.8s
JKK2 Kamakawa 2 9.29 256 ⇓P **Pn 17 51 50.9 +0.8**
ASAJ Asahikawa 9.29 258 P **Pn 17 51 52.3 +2.1**
comp=E,221nm,0.3s,baz=87,slow=14,SNR=499
ASAJ S Sn 17 53 46.1 +12
comp=E,125nm,0.3s,baz=114,slow=12,SNR=2.1
ASAJ LR LR 17 55 35.8
comp=E,431μm,20.7s,baz=264,slow=38
ASAJ Asahikawa 9.29 258 PN **Pn 17 51 52.3 +2.1**
ASAJ S Sn 17 53 46.1 +12
ASAJ pmax pmax
comp=Z,221nm,0.3s
ASAJ smax smax
comp=N,125nm,0.3s
ASAJ MLR MLR
comp=Z,431μm,20.7s
ASAJ Asahikawa 9.29 258 *e*Pn **Pn 17 51 51.7 +1.6**
ASAJ S Sn 17 53 46.1 +12
ASAJ Asahikawa 9.29 258 ⇓P **Pn 17 51 51.6 +1.4**
ESO Esso 9.36 12 PN **Pn 17 51 51.7 +0.7**
ESO Esso 9.36 12 *e*P **Pn 17 51 51.7 +0.7**
JWK2 Keihoku 9.40 266 P Pn 17 51 55.1 +3.4
JCH Churui 9.45 248 P **Pn 17 51 49.9 -2.4**
JCH *e*S Sn 17 53 29.9 -7.5

KMNR Kamenistaya 9.46 17 *e*P **Pn 17 51 53.2 +0.6**
KOZ Kozyrevsk 9.68 16 *e*P **Pn 17 51 56.3 +0.9**
JFR Furan 9.68 252 P **Pn 17 51 55.1 -0.5**
KOZR Kozyr 9.69 16 PN **Pn 17 51 56.3 +0.8**
JSS Shosan 9.70 260 P **Pn 17 51 58.5 +2.8**
BZWR Bezymyannyi-We 9.71 18 *e*P **Pn 17 51 57.2 +1.2**
JAB Ashibetsu 9.78 255 P **Pn 17 51 58.0 +1.1**
ZLN Zelenaya 9.83 19 P **Pn 17 51 57.9 +0.4**
SRDR Sredinnyy 9.89 15 *e*P **Pn 17 51 59.6 +1.2**
JEM Erimo 9.89 245 P **Pn 17 51 57.5 -0.9**
ERM Erimo 9.90 245*c* *i* PN **Pn 17 51 55.8 -2.6**
ERM Erimo 9.90 245 *e*Pn **Pn 17 51 56.6 -1.8**
ERM Erimo 9.90 245 Pn **Pn 17 51 58.3 -0.1**
comp=Z,90μm,1.8s
JNBK Urakawa-nobuka 10.01 247 P **Pn 17 51 57.8 -2.2**
JBT2 Biratori 2 10.01 251 ⇓P **Pn 17 51 58.3 -1.7**
JHR Hokuryu 10.02 257 P **Pn 17 52 01.9 +1.8**
KLY Klyuchi 10.07 17 PN **Pn 17 52 01.7 +1.0**
KLY Klyuchi 10.07 17 *e*P **Pn 17 52 01.7 +1.0**
OKH Okha 10.36 315 *e*PN **Pn 17 52 06.4 +1.7**
OKH Okha 10.36 315 ⇓*i* P **Pn 17 52 06.4 +1.7**
OKH *e*P 17 52 06.8
OKH AMB AMB 17 52 09.8
comp=Z,10μm,1.1s
OKH *e*S **Sn 17 54 01.0 +1.4**
OKH A A 17 54 03.7
comp=Z,10μm,0.9s
OKH A A 17 54 03.7
comp=Z,5μm,0.5s
SRKR Sorokina 10.49 18 *e*P **Pn 17 52 06.1 -0.5**
KBTR Krutoberegovo 10.50 24 PN **Pn 17 52 05.2 -1.4**
KBTR Krutoberegovo 10.50 24 *e*P **Pn 17 52 05.2 -1.4**
JEW Eniwo 10.58 253 P **Pn 17 52 07.6 -0.2**
BKI Bering 10.75 35 PN **Pn 17 52 09.1 -1.0**
BKI Bering 10.75 35 *e*P **Pn 17 52 09.1 -1.0**
JSK Shakotan 11.01 257 P **Pn 17 52 13.9 +0.3**
JNB Noboribetsu 11.02 252 P **Pn 17 52 12.1 -1.7**
NKL Nikolayevsk 11.30 309 ⇓*i* P **Pn 17 52 16.0 -1.5**
JKB Kayabe 11.31 249 P **Pn 17 52 15.2 -2.6**
JSH Shimam 11.59 254 P **Pn 17 52 21.0 -0.6**
JYM2 Yakumo 2 11.62 251 P **Pn 17 52 20.1 -2.0**
JANG Nango 11.86 242 P Pn 17 52 20.9 -4.4
JANG *e*S Sn 17 54 22.5 -14
JTM Tenmabayashi 11.89 245 P Pn 17 52 22.1 -3.6
JTM *e*S Sn 17 54 25.5 -12
JSR Shiriuchi 11.89 249 ⇓P Pn 17 52 22.4 -3.3
JTH Tanohata 11.92 240 P Pn 17 52 21.6 -4.5
JTH *e*S Sn 17 54 24.5 -13
JOSM Okushiri--Mats 12.22 253 P **Pn 17 52 28.0 -2.3**
OFUJ Ofunato 12.60 237 P Pn 17 52 30.9 -4.5
OFUJ *e*S Sn 17 54 43.4 -11
PALN Palana 12.60 11 *e*P **Pn 17 52 35.1 -0.2**
JRG Rokugo 12.99 240 P Pn 17 52 36.8 -4.0
FX1 Attu Island--F 13.03 56 P **Pn 17 52 40.7 -0.6**
comp=Z,82nm,0.3s,baz=276,slow=4.3,SNR=154
FX1 S Sn 17 54 56.0 -9.1
comp=Z,2μm,0.3s,baz=60,slow=18,SNR=11
FX1 LR LR 17 56 44.9
comp=Z,2480μm,20.9s,baz=263,slow=32
FX1 Attu Island--F 13.03 56 PN **Pn 17 52 40.7 -0.6**
FX1 Attu Island--F 13.03 56 P **Pn 17 52 40.7 -0.6**
FX1 S Sn 17 54 56.0 -9.1
TEY Ternei 13.10 269 *i* P **Pn 17 52 44.8 +2.6**
TEY AMB AMB 17 52 45.0
comp=Z,58nm,0.8s
TEY AMB AMB 17 52 45.0
comp=Z,1118μm,1.0s
TEY AMB AMB 17 52 45.0
comp=Z,11μm,8.0s
TEY AMB AMB 17 52 45.0
comp=Z,434nm,0.9s
JOG2 Oga 2 13.19 244 P Pn 17 52 40.2 -3.2
JIO Ouri 13.21 236 ⇓P Pn 17 52 39.5 -4.2
JIO *e*S Sn 17 54 57.0 -12
SMY Shemya 13.52 57 *e*PN **Pn 17 52 47.0 -0.9**
SMY Shemya 13.52 57 *e*Pn **Pn 17 52 47.0 -0.9**
HABR Khabarovsk 13.71 284 *i* P **Pn 17 52 53.1 +2.6**
HABR *e* 17 55 24.9
HABR pmax pmax
comp=N,367nm,2.7s
HABR pmax pmax
comp=E,8μm,2.3s
HABR pmax pmax
comp=E,3μm,1.3s
HABR MLR MLR
comp=Z,1260μm,21.0s
HABR MLR MLR
comp=E,1087μm,21.0s
HABR MLR MLR
comp=N,417μm,16.0s
JYA Atsumi 14.06 240 P Pn 17 52 51.7 -3.7
JFK Kawauchi 14.24 234 P Pn 17 52 53.7 -4.1
JFK *e*S Sn 17 55 20.6 -14
JFY Yanaizu 14.87 236 P **Pn 17 53 03.2 -3.1**
SEY Seymchan 16.22 355*de*P **Pn 17 53 22.1 -1.6**
MJAR Matsushiro Arr 16.33 237 P **Pn 17 53 23.3 -2.0**
comp=N,20nm,0.3s,baz=26,slow=12,SNR=472
MJAR P3KPbc 18 28 28.5
comp=N,0.1nm,0.3s,baz=269,slow=6.2,SNR=4.8
MJAR P3KP 18 29 16.6
comp=N,0.2nm,0.3s,baz=194,slow=2.6,SNR=4.7
MJAR Matsushiro Arr 16.33 237 P **Pn 17 53 23.3 -2.0**
MJAR Matsushiro Arr 16.33 237 P **Pn 17 53 23.3 -2.0**
MJAR *e* 18 28 28.5
MJAR PKKKP 18 29 16.6
MAJO Matsushiro 16.33 237 *e*P **Pn 17 53 22.8 -2.5**
MAJO pmax pmax
comp=Z,10μm,1.3s
MAJO Matsushiro 16.33 237 *e*Pn **Pn 17 53 22.8 -2.5**
comp=Z,21μm,1.3s
MAT Matsushiro 16.33 237 P **Pn 17 53 23.3 -2.0**
MAT S **Sn 17 56 25.0 -0.4**
USRK Ussuriysk Arra 16.49 269 P **Pn 17 53 25.9 -1.4**
comp=Z,51nm,0.3s,baz=73,slow=11,SNR=424
USRK S **Sn 17 56 31.5 +2.3**
baz=77,slow=8.6,SNR=2.3
USRK LR LR 17 59 51.1
comp=Z,507μm,21.4s,baz=31,slow=37
VLA Vladivostok 16.92 266⇑ *i* P **Pn 17 53 30.7 -2.0**
VLA *e*S **Sn 17 56 40.3 +0.7**
VLA pmax pmax
comp=Z,7μm,1.4s
MDJ Mudanjiang 18.03 272 P **Pn 17 53 45.6 -0.8**
MDJ pP **pP 17 53 53.8 -1.1**
MDJ sP **sP 17 53 58.3 -0.5**
MDJ S **Sn 17 57 04.3 -2.1**
MDJ PcP **PcP 17 58 20.3 +0.3**
MDJ ScP **ScP 18 01 53.4 +0.7**
MDJ PcS **PcS 18 01 56.9 +0.6**
MDJ ScS **ScS 18 05 33.6 +0.4**
MDJ pmax pmax
comp=Z,2μm,1.4s
MDJ pmax pmax
comp=Z,72μm,5.9s
MDJ LR LR
comp=N,738μm,36.6s
MDJ LR LR
comp=Z,872μm,24.4s
MDJ Mudanjiang 18.03 272 *e*P **Pn 17 53 43.3 -3.1**
comp=Z,3μm,1.0s
ZEA Zeya 19.09 302 ⇓*i* P **P 17 53 54.2 -4.1**
ZEA ⇓*i* P **P 17 53 54.2 -4.1**
ZEA AMB AMB 17 53 56.9
comp=Z,2μm,1.6s
ZEA AMB AMB 17 53 56.9
comp=Z,3μm,1.4s
YAK Yakutsk 21.06 326 *i* P **P 17 54 16.9 -2.7**
YAK *e* 17 54 33.5
YAK *e*S **S 17 58 06.9 -5.2**
YAK *e* 17 58 25.1
YAK *e*SSS SSS 17 58 42.3
YAK pmax pmax
comp=N,2μm,1.1s
YAK pmax pmax
comp=E,3μm,1.3s
YAK pmax pmax
comp=Z,5μm,0.9s
YAK smax smax
comp=E,2μm,1.1s
YAK MLR MLR
comp=E,557μm,13.0s
YAK MLR MLR
comp=Z,838μm,14.0s

YAK MLR MLR
comp=N,682μm,15.0s
YAK Yakutsk 21.06 326 *e*P **P 17 54 16.7 -2.9**
comp=N,5μm,0.8s
YAK LR LR
comp=Z,1375μm,22.0s
CLNS Chul'man 21.09 309 *i* P **P 17 54 19.1 -0.9**
CLNS *e**PP **pP 17 54 29.2 +0.9**
CLNS *e* 17 54 37.5
CLNS *e*S **S 17 58 09.1 -3.8**
CLNS *e* 17 58 26.5
CLNS *e*SS SS 17 58 45.0
CLNS pmax pmax
comp=E,2μm,1.0s
CLNS pmax pmax
comp=N,2μm,0.8s
CLNS pmax pmax
comp=Z,3μm,0.9s
CLNS pmax pmax
comp=N,6μm,1.0s
CLNS pmax pmax
comp=Z,4μm,1.2s
CLNS pmax pmax
comp=E,6μm,1.1s
CLNS smax smax
comp=E,120μm,16.2s
CLNS smax smax
comp=N,115μm,15.8s
CLNS MLR MLR
comp=Z,228μm,16.0s
CLNS MLR MLR
comp=N,188μm,14.0s
CLNS MLR MLR
comp=E,190μm,13.0s
CN2 Changchun 21.11 273 *e*P **P 17 54 17.8 -2.5**
CN2 *ep*P **pP 17 54 26.9 -1.8**
CN2 *es*P **sP 17 54 31.0 -1.6**
CN2 *e*S **S 17 58 08.1 -5.4**
BILL Bilibino 22.00 11⇓ *e*P **P 17 54 29.4 -0.3**
BILL *e*S **S 17 58 32.5 +2.0**
BILL pmax pmax
comp=Z,3μm,1.0s
BILL MLR MLR
comp=Z,1960μm,22.0s
BILL Bilibino 22.00 11 *e*P **P 17 54 28.6 -1.1**
comp=Z,8μm,1.0s
BILL LR LR
comp=Z,1643μm,20.0s
KSRS Korea Array 22.23 255 P **P 17 54 34.2 +1.9**
comp=Z,1μm,0.9s,baz=57,slow=11,SNR=438
KSRS SKKS **SKKSdf 18 28 15.8 -5.0**
comp=Z,6.0nm,0.9s,baz=232,slow=4.3,SNR=11
KSRS Korea Array 22.23 255 P **P 17 54 34.2 +1.9**
KSRS pmax pmax
comp=N,6.0nm,0.9s
CBIJ Chichi jima 22.24 212 P **P 17 54 32.9 +0.4**
comp=N,871nm,1.1s,baz=36,slow=7.1,SNR=17
CBIJ Chichi jima 22.24 212 P **P 17 54 32.9 +0.4**
KSAR Wonju Array Be 22.26 255 P **P 17 54 34.2 +1.5**
KSAR Wonju Array Be 22.26 255 P **P 17 54 34.2 +1.5**
KSAR SKKS **SKKSdf 18 28 15.8 -5.0**
JNU Nakatsue 23.04 242 *e*P **P 17 54 40.5 -0.4**
comp=N,25μm,2.5s
INCN Inchon 23.07 256 *e*P **P 17 54 42.2 +0.9**
comp=N,16μm,1.5s
INCN LR LR
comp=Z,290μm,22.0s
SNY Shenyang 23.11 269 ⇓P **P 17 54 40.6 -0.9**
SNY pmax pmax
comp=Z,2μm,1.2s
SNY pmax pmax
comp=Z,84μm,6.8s
SNY LR LR
comp=N,256μm,19.2s
SNY LR LR
comp=E,390μm,21.6s
SNY LR LR
comp=Z,570μm,22.1s
HIA Hailar 23.73 289 *e*P **P 17 54 44.0 -3.6**
HIA pmax pmax
comp=Z,930nm,0.6s
HIA MLR MLR
comp=Z,1064μm,22.0s
HIA Hailar 23.73 289 *e*P **P 17 54 44.0 -3.6**
comp=Z,930nm,0.6s
HIA LR LR
comp=Z,1064μm,22.0s
NIKO Nikolski 23.74 62 *e*P **P 17 54 48.8 +1.2**
comp=Z,2μm,1.1s
GAMB Gambell 24.90 35 *e*P **P 17 54 58.1 0.0**
comp=Z,791nm,0.5s
UNV Unalaska Valle 25.16 60 *e*P **P 17 55 03.9 +3.4**
comp=Z,2μm,1.4s
AKUT Akutan 25.59 59 *e*P **P 17 55 05.8 +1.4**
comp=Z,7μm,1.9s
DL2 Dalian 25.73 264⇓ *i* P **P 17 55 07.1 +1.2**
DL2 S **S 17 59 33.8 +1.1**
DL2 pmax pmax
comp=Z,3μm,1.3s
DL2 pmax pmax
comp=Z,89μm,6.2s
DL2 LR LR
comp=N,108μm,23.8s
DL2 LR LR
comp=E,57μm,22.1s
DL2 LR LR
comp=Z,143μm,28.8s
FALS False Pass 26.97 57 *e*P **P 17 55 17.2 +0.3**
comp=Z,738nm,1.0s
BOD Bodaibo 27.07 309⇓ *i* P **P 17 55 16.0 -1.8**
BOD pmax pmax
comp=Z,2μm,1.1s
TNA Tin City 27.15 33 *e*P **P 17 55 19.7 +1.2**
comp=Z,4μm,0.5s
CIT Chita 27.32 296 *e*P **P 17 55 18.8 -1.5**
CIT *e* 17 55 34.7
CIT *e* 17 59 56.0
CIT pmax pmax
comp=Z,6μm,1.4s
MIDW Midway 28.36 121 *e*P **P 17 55 29.7 +0.1**
comp=Z,26μm,2.6s
MIDW LR LR
comp=Z,921μm,22.0s
SDPT Sand Point 28.65 56 *e*P **P 17 55 33.1 +1.2**
comp=Z,3μm,1.4s
BJI Beijing 28.94 271 P **P 17 55 35.3 +0.6**
BJI S **S 18 00 22.5 -0.8**
BJI pmax pmax
comp=Z,2μm,2.3s
BJI pmax pmax
comp=Z,51μm,6.5s
BJI LR LR
comp=N,259μm,17.2s
BJI LR LR
comp=E,353μm,22.4s
BJI LR LR
comp=Z,469μm,25.1s
BJT Baijiatuau 28.96 271 *e*P **P 17 55 35.6 +0.8**
BJT pmax pmax
comp=Z,2μm,0.8s
BJT MLR MLR
comp=Z,501μm,22.0s
BJT Baijiatuau 28.96 271 *e*P **P 17 55 35.6 +0.8**
comp=Z,2μm,0.8s
BJT LR LR
comp=Z,501μm,22.0s
WAKE Wake Island 29.03 157 *e*P **P 17 55 37.4 +1.8**
WAKE LR LR
comp=Z,304μm,22.0s
JOW Kunigami 29.17 236 *e*P **P 17 55 37.0 +0.2**
comp=Z,1μm,1.4s
CHGN Chignik 29.79 54 P **P 17 55 42.1 +0.1**
TIA Tai'an 30.18 263 P **P 17 55 47.8 +2.1**
TIA pP **pP 17 55 54.3 -0.5**
TIA PP **PP 17 56 49.1 -4.9**
TIA S **S 18 00 46.3 +3.5**
TIA pmax pmax
comp=Z,540nm,1.3s
TIA LR LR
comp=N,583μm,51.0s
TIA LR LR
comp=E,305μm,24.5s
TIA LR LR
comp=Z,322μm,30.4s
SSE Sheshan 30.50 251 P **P 17 55 49.8 +1.2**
SSE pP **pP 17 55 58.6 +1.0**

SSE sP **sP** **17 56 05.0 +3.6**
SSE S **S** **18 00 50.4 +2.5**
SSE sS **sS** **18 01 02.8 0.0**
SSE pmax pmax
comp=Z,46µm,5.6s
SSE LR LR
comp=N,436µm,39.7s
SSE LR LR
comp=E,375µm,40.2s
SSE LR LR
comp=Z,216µm,26.7s
SVW2 Sparrevohn 31.40 45 *e*P **P** **17 55 56.7 +0.4**
comp=Z,1µm,1.7s
NJ2 Nanjing 31.43 255 *e*P **P** **17 55 58.0 +1.2**
NJ2 pP **pP** **17 56 09.3 +3.5**
NJ2 PP **PnPn** **17 57 02.3 +2.3**
NJ2 S **S** **18 01 01.5 -0.9**
NJ2 sS **sS** **18 01 13.5 -3.8**
NJ2 pmax pmax
comp=Z,1µm,1.0s
NJ2 pmax pmax
comp=Z,45µm,8.0s
HHC Hu-ho-hao-te 31.75 275⇓ *i*P **P** **17 56 00.3 +0.7**
HHC pP **pP** **17 56 10.3 +1.6**
HHC sP **sP** **17 56 14.3 +1.9**
HHC PP **PnPn** **17 57 06.1 +1.9**
HHC S **S** **18 01 06.9 -0.6**
HHC ScS **ScS** **18 06 28.8 -0.7**
HHC pmax pmax
comp=Z,3µm,1.2s
HHC pmax pmax
comp=Z,15µm,5.1s
HHC LR LR
comp=N,256µm,15.0s
HHC LR LR
comp=E,360µm,16.5s
HHC LR LR
comp=Z,327µm,18.1s
ULN Ulaanbaatar 32.25 290 *e*P **P** **17 56 02.9 -1.1**
ULN pmax pmax
comp=Z,1µm,0.9s
ULN MLR MLR
comp=Z,680µm,21.0s
ULN Ulaanbaatar 32.25 290 *e*P **P** **17 56 02.9 -1.1**
comp=Z,1µm,0.9s
ULN LR LR
comp=Z,680µm,21.0s
ULN Ulaanbaatar 32.25 290 P **P** **17 56 02.8 -1.3**
comp=Z,978nm,1.1s,comp=Z,33µmcomp=Z,647µm
TIY Taiyuan 32.62 269⇓ P **P** **17 56 09.1 +1.9**
TIY S **S** **18 01 23.1 +2.1**
TIY LR LR
comp=N,135µm,12.2s
TIY LR LR
comp=E,34µm,11.7s
TIY LR LR
comp=Z,321µm,20.9s
SONM Songino Array 32.68 290 P **P** **17 56 06.9 -0.9**
comp=Z,399nm,0.8s,baz=63,slow=7.9,SNR=602
SONM LR LR 18 10 51.0
comp=Z,664µm,19.9s,baz=352,slow=39
SONM P3KPbc 18 27 29.9
comp=Z,3.2nm,0.8s,baz=243,slow=4.5,SNR=12
SONM P3KP 18 28 40.6
comp=Z,6.2nm,1.0s,baz=186,slow=1.9,SNR=3.7
SONM Songino Array 32.68 290 P **P** **17 56 06.9 -0.9**
SONM Songino Array 32.68 290 P **P** **17 56 06.9 -0.9**
SONM *e* 18 27 29.9
SONM PKKKP 18 28 40.6
RSO Redoubt South 32.76 46 *e*P **P** **17 56 08.2 -0.2**
BTO Baotou 32.91 276 *e*P **P** **17 56 10.3 +0.5**
BTO pmax pmax
comp=Z,280nm,1.6s
KDAK Kodiak Island 32.91 51 *i*P **P** **17 56 10.0 +0.5**
KDAK Kodiak Island 32.91 51 *e*P **P** **17 56 09.0 -0.4**
comp=Z,2µm,1.2s
KDAK LR LR
comp=Z,1689µm,22.0s
KDAK Kodiak Island 32.91 51 P **P** **17 56 11.8 +2.3**
comp=Z,7µm,0.9s,SNR=6.0
IRK Irkutsk 32.95 299⇓ *i*P **P** **17 56 09.1 -0.8**
IRK *e* 17 57 30.6
IRK *e* 17 58 57.2
IRK pmax pmax
comp=Z,2µm,1.5s
SPU Mount Spurr 33.11 45 *e*P **P** **17 56 11.5 +0.2**
PPLA Purkeypile 33.13 42 *e*P **P** **17 56 12.7 +1.2**
comp=Z,6µm,1.5s
TLY Talaya 33.44 298*d i*P **P** **17 56 12.5 -1.7**
TLY *e* 17 57 24.9
TLY *e*PPP PPP 17 57 47.6
TLY *e*S **S** **18 01 35.3 +1.8**
TLY *e*SS **SS** **18 04 04.9 +6.8**
TLY pmax pmax
comp=Z,1µm,1.1s
TLY MLR MLR
comp=Z,627µm,19.0s
TLY Talaya 33.44 298 *e*P **P** **17 56 13.7 -0.5**
comp=Z,1µm,1.0s
TLY LR LR
comp=Z,1070µm,21.0s
TLY Talaya 33.44 298 P **P** **17 56 13.1 -1.1**
comp=Z,6µm,0.9s,SNR=68
ZAK Zakamensk 33.97 296 *e*P **P** **17 56 19.1 +0.2**
ZAK *e* 17 56 31.9
ZAK *e* 17 59 02.4
ZAK pmax pmax
comp=Z,805nm,1.4s
SLKM Skilak Lake 34.01 46 *e*P **P** **17 56 19.1 0.0**
SLKM Skilak Lake 34.01 46 *e*P **P** **17 56 19.1 0.0**
TRF Thorofare Moun 34.02 41 *e*P **P** **17 56 18.9 -0.5**
comp=Z,6µm,2.0s
GUMO Guam 34.27 198 P **P** **17 56 18.7 -2.9**
comp=Z,97nm,0.6s,baz=324,slow=1.6,SNR=4.0
GUMO Guam 34.27 198 *e*P **P** **17 56 20.3 -1.3**
GUMO pmax pmax
comp=Z,889nm,1.1s
GUMO MLR MLR
comp=Z,85µm,21.0s
GUMO Guam 34.27 198 *e*P **P** **17 56 20.3 -1.3**
comp=Z,889nm,1.1s
GUMO LR LR
comp=Z,85µm,21.0s
SEW Seward 34.41 47 *e*P **P** **17 56 24.7 +2.2**
comp=Z,3µm,1.6s
COLD Coldfoot 34.44 34 *e*P **P** **17 56 22.8 +0.1**
comp=Z,2µm,1.7s
PMR Palmer 34.52 44 *e*P **P** **17 56 23.4 0.0**
PMR pmax pmax
comp=Z,1µm,1.4s
PMR Palmer 34.52 44 *e*P **P** **17 56 23.4 0.0**
comp=Z,1µm,1.4s
TATO Taipei 34.58 243 *e*P **P** **17 56 25.6 +1.3**
comp=Z,4µm,1.8s
TATO LR LR
comp=Z,155µm,20.0s
MCK McKinley 34.64 40 *e*P **P** **17 56 24.0 -0.5**
MCK pmax pmax
comp=Z,3µm,1.4s
MCK McKinley 34.64 40 *e*P **P** **17 56 24.0 -0.5**
comp=Z,3µm,1.4s
YHNB Yeheng 34.87 242 *e*P **P** **17 56 27.8 +0.8**
comp=Z,353nm,0.8s
YHNB LR LR
comp=Z,177µm,21.0s
SML Sawmill 34.90 44 *e*P **P** **17 56 26.8 +0.1**
SML pmax pmax
comp=Z,918nm,1.1s
SML Sawmill 34.90 44 *e*P **P** **17 56 26.8 +0.1**
comp=Z,918nm,1.1s
MOY Mondy 35.05 298 *e*P **P** **17 56 27.6 -0.7**
MOY pmax pmax
comp=Z,1µm,2.4s
NACB Ninganchiao 35.11 242 *e*P **P** **17 56 28.8 -0.1**
comp=Z,475nm,1.1s
COLA College 35.16 38 *e*P **P** **17 56 29.0 +0.1**
COLA pmax pmax
comp=Z,3µm,1.2s
COLA MLR MLR
comp=Z,599µm,19.0s
COLA College 35.16 38 *e*P **P** **17 56 29.0 +0.1**
comp=Z,3µm,1.2s
COLA LR LR
comp=Z,599µm,19.0s
WHN Wuhan 35.37 257⇑ P **P** **17 56 31.9 +0.8**
WHN S **S** **18 02 06.3 +2.7**
WHN pmax pmax
comp=Z,890nm,1.0s
WHN LR LR
comp=N,184µm,14.3s
WHN LR LR
comp=E,306µm,14.8s
WHN LR LR
comp=Z,363µm,22.0s
ILAR Eielson Array 35.57 39 P **P** **17 56 31.8 -0.7**
comp=Z,92nm,1.1s,baz=255,slow=7.9,SNR=80
ILAR LR LR 18 11 57.7
comp=Z,694µm,19.1s,baz=271,slow=38
ILAR P3KPbc 18 27 16.9
comp=Z,4.5nm,0.9s,baz=100,slow=2.4,SNR=9.9
ILAR P3KP 18 28 32.4
comp=Z,6.1nm,1.0s,baz=216,slow=2.0,SNR=5.6
ILAR PKPPKP P'P'df 18 29 36.2 -9.5
comp=Z,19nm,1.2s,baz=148,slow=2.6,SNR=4.7
ILAR Eielson Array 35.57 39 P **P** **17 56 31.8 -0.7**
ILAR Eielson Array 35.57 39 P **P** **17 56 31.8 -0.7**
ILAR *e* 18 27 16.9
ILAR PKKKP 18 28 32.4
ILAR P'P' 18 29 36.2
SSLB Suanglung 35.78 242 *e*P **P** **17 56 34.5 -0.3**
comp=Z,620nm,1.1s
YULB Yu-li 35.87 241 *e*P **P** **17 56 35.4 -0.1**
comp=Z,895nm,1.3s
MID Middleton Isla 36.03 48 *e*P **P** **17 56 36.5 +0.1**
MID pmax pmax
comp=Z,6µm,1.4s
MID Middleton Isla 36.03 48 *e*P **P** **17 56 36.5 +0.1**
comp=Z,6µm,1.4s
DIV Divide 36.16 45 *e*P **P** **17 56 38.2 +0.6**
comp=Z,3µm,1.4s
PAX Paxson 36.20 42 *e*P **P** **17 56 38.8 +0.8**
PAX pmax pmax
comp=Z,2µm,1.6s
PAX Paxson 36.20 42 *e*P **P** **17 56 38.8 +0.8**
comp=Z,2µm,1.6s
TPUB Ta-pu 36.35 242 *e*P **P** **17 56 40.1 +0.5**
comp=Z,2µm,1.1s
QZH Quanzhou 36.40 246⇑ *i*P **P** **17 56 41.6 +1.7**
QZH S **S** **18 02 20.3 +1.0**
QZH pmax pmax
comp=Z,7µm,1.5s
QZH pmax pmax
comp=Z,176µm,4.5s
QZH LR LR
comp=N,1620µm,38.0s
QZH LR LR
comp=E,1682µm,36.4s
QZH LR LR
comp=Z,400µm,26.9s
TWG Pinlang 36.44 241 *e*P **P** **17 56 39.8 -0.5**
comp=Z,2µm,1.1s
BMRM Bremner River 36.74 45 *e*P **P** **17 56 43.0 +0.4**
comp=Z,2µm,1.2s
DOT Dot Lake 36.81 41 *e*P **P** **17 56 42.4 -0.7**
comp=Z,569nm,0.9s
XAN Xi'an 36.98 267 P **P** **17 56 46.4 +1.5**
XAN pP **pP** **17 56 53.9 -0.2**
XAN S **S** **18 02 24.1 -4.2**
XAN pmax pmax
comp=Z,300nm,1.2s
XAN pmax pmax
comp=Z,17µm,8.3s
XAN LR LR
comp=N,221µm,42.0s
XAN LR LR
comp=E,86µm,44.7s
XAN LR LR
comp=Z,78µm,26.3s
MENT Mentasta 37.00 42 *e*P **P** **17 56 45.3 +0.5**
EGAK Eagle 38.02 39 *e*P **P** **17 56 52.8 -0.5**
comp=Z,5µm,1.6s
EGAK LR LR
comp=Z,713µm,19.0s
ENH Enshi 38.82 261 *e*P **P** **17 57 00.8 +0.3**
comp=Z,998nm,1.1s
ENH LR LR
comp=Z,143µm,21.0s
DAWY Dawson 38.84 40 *e*P **P** **17 57 00.5 +0.2**
KWAJ Kwajalein Atol 39.34 160 *e*P **P** **17 57 05.8 +1.0**
KWAJ pmax pmax
comp=Z,3µm,1.8s
KWAJ Kwajalein Atol 39.34 160 *e*P **P** **17 57 05.8 +1.0**
comp=Z,3µm,1.8s
LZH Lanzhou 39.35 273⇑ P **P** **17 57 06.8 +1.8**
LZH pP **pP** **17 57 16.1 +2.0**
LZH sP **sP** **17 57 20.6 +2.7**
LZH PP **PP** **17 58 35.5 +0.1**
LZH PcP **PcP** **17 59 15.6 +2.6**
LZH *e*S **S** **18 03 03.0 -1.2**
LZH sS **sS** **18 03 21.3 +2.0**
LZH pmax pmax
comp=Z,6µm,1.0s
LZH pmax pmax
comp=Z,33µm,4.2s
LZH LR LR
comp=N,153µm,15.2s
LZH LR LR
comp=E,338µm,17.9s
LZH LR LR
comp=Z,391µm,19.2s
PNL Peninsula 39.49 47 *e*P **P** **17 57 08.4 +2.8**
comp=Z,2µm,1.4s
HVS Khovu-Aksy 39.58 300*d i*P **P** **17 57 05.9 -0.8**
GTA Gaotai 40.40 280⇓ P **P** **17 57 14.8 +1.1**
GTA pP **pP** **17 57 24.8 +2.0**
GTA sP **sP** **17 57 28.4 +1.8**
GTA PP **PnPn** **17 58 52.3 +1.6**
GTA S **S** **18 03 20.9 +1.0**
GTA pmax pmax
comp=Z,940nm,1.7s
GTA pmax pmax
comp=Z,18µm,6.2s
GTA LR LR
comp=N,331µm,16.1s
GTA LR LR
comp=E,187µm,18.5s
GTA LR LR
comp=Z,333µm,17.8s
SIPP Brgy, Tapao 40.60 237⇓ *e*P **P** **17 57 15.2 -0.2**
CAUP Cauayan 40.62 234 *e*P **P** **17 57 17.1 +1.7**
ABRA Dolores 40.68 236 *e*P **P** **17 57 17.7 +1.8**
INK Inuvik 40.79 33 P **P** **17 57 17.0 +0.7**
comp=Z,313nm,0.9s,baz=284,slow=7.6,SNR=176
INK Inuvik 40.79 33 *e*P **P** **17 57 16.7 +0.4**
INK Inuvik 40.79 33 *e*P **P** **17 57 16.6 +0.4**
comp=Z,73nm,1.6s
GZH Guangzhou 41.06 249 P P 17 57 14.9 -4.1
GZH pP pP 17 57 26.0 -2.2
GZH PP **PnPn** **17 58 58.9 +0.4**
GZH S S 18 03 23.0 -6.6
GZH SS **SS** **18 06 34.6 +2.2**
GZH LR LR
comp=N,123µm,23.1s
GZH LR LR
comp=E,167µm,22.4s
GZH LR LR
comp=Z,216µm,26.9s
HKC Hong Kong Obse 41.09 248⇑ *i*P **P** **17 57 22.0 +2.7**
SKAG Skagway 41.55 46 *e*P **P** **17 57 25.0 +2.3**
comp=Z,5µm,1.6s
BALP Baler 41.73 233 *e*P **P** **17 57 26.0 +1.4**
BCPH Baguio City Da 41.77 235⇑ *i*P **P** **17 57 24.9 -0.2**
BCPH *i* S sP 17 57 45.9 +7.8
PVCP Virac 42.14 228 *e*P **P** **17 57 29.7 +1.7**
BOLP Bolinao 42.15 236 *e*P **P** **17 57 28.3 +0.3**
SIT Sitka 42.20 50 *e*P P 17 57 31.9 +3.9
SIT pmax pmax
comp=Z,6µm,1.8s
SIT Sitka 42.20 50 *e*P P 17 57 31.9 +3.9
comp=Z,6µm,1.8s
CD2 Chengdu 42.35 267 P **P** **17 57 30.6 +1.0**
CD2 pP **pP** **17 57 40.4 +1.6**
CD2 sP **sP** **17 57 44.8 +2.2**
CD2 PP **PP** **17 59 11.4 +3.5**
CD2 S **S** **18 03 47.8 -0.9**
CD2 sS **sS** **18 04 04.8 +0.9**
CD2 SS **SS** **18 06 50.8 -7.0**
CD2 pmax pmax
comp=Z,8µm,1.4s
CD2 pmax pmax
comp=Z,124µm,8.3s
CD2 LR LR
comp=N,147µm,21.4s
CD2 LR LR
comp=Z,254µm,25.0s
SCZP Santa Cruz 42.63 235 *e*P **P** **17 57 30.6 -1.3**
GQP Guinayangan 42.77 231⇑ *i*P **P** **17 57 34.5 +1.4**
AUQP San Andres 43.14 230 *e*P pP 17 57 48.6 +3.3
GYA Guiyang 43.17 259⇑ *i*P **P** **17 57 36.8 +0.4**
GYA pP **pP** **17 57 47.0 +1.4**
GYA PP **PP** **17 59 19.4 +2.6**
GYA PcP **PcP** **17 59 26.6 +1.1**
GYA ScP **ScP** **18 03 14.0 -0.3**
GYA S **S** **18 04 00.8 -0.2**
GYA sS **sS** **18 04 17.3 +1.1**
GYA SS SS 18 07 05.3 -8.9
GYA pmax pmax
comp=Z,2µm,1.2s
GYA pmax pmax
comp=Z,56µm,8.7s
GYA LR LR
comp=N,133µm,26.6s
GYA LR LR
comp=E,154µm,26.7s
GYA LR LR
comp=Z,139µm,26.7s
BOAC Boac 43.47 231 *e*P **P** **17 57 40.0 +1.3**
ZALV Zalesovo Beam 43.75 306 P **P** **17 57 39.2 -1.4**
comp=Z,533nm,0.7s,baz=64,slow=6.9,SNR=325
ZALV PP **PcP** **17 59 30.8 +3.9**
comp=Z,401nm,0.9s,baz=130,slow=6.2,SNR=3.5
ZALV LR LR 18 16 58.3
comp=Z,814µm,20.9s,baz=64,slow=38
ZALV SKKS 18 27 55.6
comp=Z,1.9nm,0.9s,baz=282,slow=2.9,SNR=3.7
ZALV P3KP 18 28 22.6
comp=Z,2.2nm,0.9s,baz=298,slow=3.2,SNR=3.7
ZALV Zalesovo Beam 43.75 306 P **P** **17 57 39.2 -1.4**
ZALV 17 59 30.8
ZALV Zalesovo Beam 43.75 306 P **P** **17 57 39.2 -1.4**
ZALV PP **PcP** **17 59 30.8 +3.9**
ZALV SKKS 18 27 55.6
ZALV PKKKP 18 28 22.6
CRAG Craig 43.87 51 *e*P **P** **17 57 43.5 +2.0**
comp=Z,2µm,1.3s
WRAK Wrangell Islan 43.96 50 *e*P **P** **17 57 44.1 +1.8**
comp=Z,2µm,1.4s
WRAK LR LR
comp=Z,533µm,20.0s
OCLP Ormoc 44.08 226 *e*P **P** **17 57 45.1 +1.4**
OTRP Odiongan 44.29 230 *e*P **P** **17 57 47.1 +1.8**
NVS Novosibirsk 44.30 308 *e*P **P** **17 57 46.2 +1.3**
NVS *i* 17 59 28.6
NVS *i* S **S** **18 04 18.3 +1.7**
NVS pmax pmax
comp=Z,7µm,1.6s
NVS pmax pmax
comp=N,1µm,1.2s
NVS pmax pmax
comp=E,3µm,1.2s
NVS pmax pmax
comp=N,490nm,1.9s
NVS pmax pmax
comp=E,472nm,1.9s
NVS pmax pmax
comp=Z,3µm,1.9s
NVS smax smax
comp=N,2µm,1.9s
NVS smax smax
comp=E,5µm,2.1s
DLBC Dease Lake 44.48 46 P **P** **17 57 48.3 +1.8**
comp=E,102nm,0.9s,baz=286,slow=8.5,SNR=30
DLBC Dease Lake 44.48 46 *e*P **P** **17 57 48.3 +1.8**
RCP Roxas 44.59 229⇓ *e*P **P** **17 57 49.2 +1.5**
MSLP Maasin 44.75 225 *e*P **P** **17 57 49.9 +1.0**
OPA Opana 45.20 107 *e*P **P** **17 57 55.1 +2.6**
OPA Opana 45.20 107 *e*P **P** **17 57 55.1 +2.6**
KIP Kipapa 45.38 108 *e*P **P** **17 57 55.0 +1.0**
KIP Kipapa 45.38 108 *e*P **P** **17 57 55.2 +1.2**
comp=E,1µm,1.1s
KIP LR LR
comp=Z,444µm,20.0s
BUTP Butuan 45.39 223 *e*P **P** **17 57 54.9 +0.8**
GUIM Jordan 45.46 228 *e*P **P** **17 57 55.7 +1.1**
HON Honolulu 45.46 108 *e*P **P** **17 57 56.1 +1.6**
HON Honolulu 45.46 108 *e*P **P** **17 57 56.1 +1.6**
BUSP Coron 45.56 232 *e*P **P** **17 57 56.6 +1.2**
CUYO Cuyo Island 46.08 230 *e*P **P** **17 58 00.9 +1.3**
QIZ Qiongzhong 46.24 249 P **P** **17 58 02.8 +2.0**
QIZ sP **sP** **17 58 13.8 0.0**
QIZ PP **PP** **17 59 51.3 +1.8**
QIZ S **S** **18 04 45.6 +0.2**
QIZ pmax pmax
comp=Z,200nm,1.7s
QIZ pmax pmax
comp=Z,16µm,10.0s
QIZ LR LR
comp=N,102µm,29.0s
QIZ LR LR
comp=E,80µm,29.3s
QIZ LR LR
comp=Z,168µm,29.3s
QIZ Qiongzhong 46.24 249 *e*P **P** **17 58 02.5 +1.8**
comp=Z,5µm,1.7s
QIZ LR LR
comp=Z,106µm,22.0s
WMQ Urumqi 46.26 292 P **P** **17 58 01.8 +1.0**
WMQ pP **pP** **17 58 11.8 +1.7**
WMQ sP **sP** **17 58 15.8 +2.0**
WMQ PcP **PcP** **17 59 37.5 +1.6**
WMQ S **S** **18 04 45.0 -0.3**
WMQ SS SS 18 08 02.5 -8.0
WMQ pmax pmax
comp=Z,1µm,1.2s
WMQ pmax pmax
comp=Z,77µm,12.6s
WMQ LR LR
comp=N,592µm,19.7s
WMQ LR LR
comp=E,541µm,16.0s
WMQ LR LR
comp=Z,831µm,16.3s
CGP Cagayan de Oro 46.28 224⇑ *i*P **P** **17 58 00.7 -0.4**
BUKP Musuan 46.61 223 *e*P **P** **17 58 04.5 +0.8**
ENPP El Nido 46.64 232 *e*P **P** **17 58 05.2 +1.3**
KMI Kunming 46.70 261⇑ P **P** **17 58 05.8 +1.2**
KMI pP **pP** **17 58 15.5 +1.6**
KMI sP **sP** **17 58 19.8 +2.2**
KMI PcP **PcP** **17 59 39.9 +2.0**
KMI PP **PP** **17 59 52.8 -1.8**
KMI ScP **ScP** **18 03 28.4 -0.6**
KMI PcS **PcS** **18 03 32.6 -0.5**
KMI S **S** **18 04 47.6 -4.8**
KMI sS sS 18 05 03.1 -4.6
KMI ScS **ScS** **18 07 54.3 -3.0**
KMI SS SS 18 08 05.5 -13
KMI pmax pmax
comp=Z,1µm,1.3s
KMI pmax pmax
comp=Z,70µm,5.7s
KMI LR LR
comp=N,164µm,16.7s
KMI LR LR
comp=E,117µm,16.7s
KMI LR LR
comp=Z,159µm,31.8s
MATI Mati 46.88 221 *e*P **P** **17 58 05.3 -0.5**
DAV Davao City (W) 47.08 222 *e*P **P** **17 58 08.6 +1.2**
comp=Z,4µm,1.6s
DAV LR LR
comp=Z,73µm,21.0s
DAV Davao City (W) 47.08 222 P **P** **17 58 09.8 +2.4**
comp=Z,1µm,2.2s,comp=Z,54µmcomp=Z,491µm
DMPH Davao City--Mi 47.10 222⇑ *e*P **P** **17 58 08.6 +1.1**
PAGZ Pagadian 47.44 225 *e*P **P** **17 58 10.7 +0.5**
BBB Bella Bella 47.89 54 P **P** **17 58 14.2 +1.0**
comp=Z,122nm,1.0s,baz=291,slow=6.4,SNR=12
BBB Bella Bella 47.89 54 P **P** **17 58 14.2 +1.0**
POHA Pohakuloa 48.19 107 *e*P **P** **17 58 17.4 +1.2**
MKAR Makanchi Array 48.20 298 P **P** **17 58 15.3 -0.5**
comp=Z,300nm,0.6s,baz=70,slow=5.9,SNR=958
MKAR LR LR 18 21 02.5
comp=Z,511µm,18.1s,baz=354,slow=39
MKAR P3KP 18 28 10.0
comp=Z,1.1nm,0.9s,baz=242,slow=2.6,SNR=4.1
MKAR P4KPbc 18 35 56.3

comp=Z,0.7nm,0.7s,baz=67,slow=3.1,SNR=6.3
MKAR Makanchi Array 48.20 298 P **P** **17 58 15.3 -0.5**
MKAR Makanchi Array 48.20 298 P **P** **17 58 15.3 -0.5**
MKAR PKKKP 18 28 10.0
MKAR *e* 18 35 56.3
GSPH General Santos 48.23 222 *e*P **P** **17 58 16.6 +0.1**
KURK Kurchatov 48.53 304 P4KPbc 18 35 56.9
comp=Z,21nm,1.3s,baz=67,slow=3.6,SNR=9.3
KURK Kurchatov 48.53 304 *de*P **P** **17 58 17.6 -0.7**
KURK pmax pmax
comp=Z,796nm,0.6s
KURK MLR MLR
comp=Z,1047µm,21.0s
KURK Kurchatov 48.53 304 *e*P **P** **17 58 17.5 -0.7**
comp=Z,3µm,0.9s
KURK *e* 18 35 56.9
KURK LR LR
comp=Z,1028µm,21.0s
KURK Kurchatov 48.53 304 P **P** **17 58 17.7 -0.5**
comp=Z,16µm,0.8s
PUH Pauahi 48.67 107 *e*P **P** **17 58 21.0 +1.2**
STCH Steam Cracks 48.72 107 *e*P **P** **17 58 21.3 +1.1**
ALE Alert 49.51 6 P **P** **17 58 25.1 -0.2**
comp=Z,3µm,0.9s
BATP Bataraza 49.52 232 *e*P **P** **17 58 28.3 +2.1**
YKA Yellowknife Ar 49.98 37 P **P** **17 58 29.2 +0.1**
comp=Z,280nm,1.0s,baz=295,slow=7.2,SNR=374
YKA LR LR 18 21 42.2
comp=Z,49µm,19.3s,baz=155,slow=38
YKA Yellowknife Ar 49.98 37 P **P** **17 58 29.2 +0.1**
YKA pmax pmax
comp=Z,280nm,1.0s
YKA MLR MLR
comp=Z,49µm,19.3s
YKA Yellowknife Ar 49.98 37 P **P** **17 58 29.2 +0.1**
SGSI Sangihe 50.10 220 P P 17 58 39.9 +9.3
RES Resolute Bay 50.29 19 *e*P **P** **17 58 31.4 +0.1**
RES Resolute Bay 50.29 19 *e*P **P** **17 58 31.4 +0.1**
comp=Z,61nm,1.3s
LSA Lhasa 51.73 275 P **P** **17 58 45.5 +2.2**
LSA S S 18 05 57.1 -6.2
LSA LR LR
comp=N,176µm,41.4s
LSA LR LR
comp=E,290µm,33.6s
LSA LR LR
comp=Z,349µm,25.9s
LSA Lhasa 51.73 275 *e*P **P** **17 58 44.9 +1.6**
LSA pmax pmax
comp=Z,2µm,0.8s
LSA MLR MLR
comp=Z,158µm,19.0s
LSA Lhasa 51.73 275 *e*P **P** **17 58 44.9 +1.6**
comp=Z,2µm,0.8s
LSA LR LR
comp=Z,158µm,19.0s
BRVK Borovoye 51.97 310 *de*P **P** **17 58 44.1 -0.2**
BRVK pmax pmax
comp=Z,2µm,1.2s
BRVK MLR MLR
comp=Z,1373µm,18.0s
BRVK Borovoye 51.97 310 *e*P **P** **17 58 44.0 -0.2**
BRVK LR LR
comp=Z,1370µm,19.0s
BRVK Borovoye 51.97 310 P **P** **17 58 44.5 +0.3**
comp=Z,16µm,1.3s
OBC Olympics--Boni 52.15 57 P **P** **17 58 46.7 +1.0**
MYLDM Lahad Datu 52.18 229 P **P** **17 58 48.9 +2.7**
MYLDM Lahad Datu 52.18 229 P **P** **17 58 48.6 +2.4**
comp=Z,1µm,2.1s,comp=Z,87µmcomp=Z,997µm
PGC Sidney 52.19 56 *e*P **P** **17 58 46.3 +0.4**
comp=Z,77nm,1.5s
VGZ Gonzales 52.38 56 P **P** **17 58 47.5 +0.2**
SDKM Sandakan 52.48 231 P **P** **17 58 49.3 +0.8**
OSR Olympics--Salm 52.49 58 P **P** **17 58 49.3 +1.1**
NLWA Neilton Lookou 52.60 58 *e*P **P** **17 58 50.3 +1.2**
NLWA LR LR
comp=Z,592µm,22.0s
KBS Kingsbay 52.63 352 ⇑*i*P **P** **17 58 49.7 +0.9**
KBS AMB AMB 17 58 59.4
comp=Z,2µm,2.8s
KBS *e*S **S** **18 06 11.9 -1.7**
KBS *e*SS **SS** **18 09 54.4 +3.1**
KBS AMS AMS 18 19 50.7
comp=Z,491µm,20.7s
KBS Kingsbay 52.63 352 *ce*P **P** **17 58 49.5 +0.7**
KBS pmax pmax
comp=Z,798nm,0.7s
KBS Kingsbay 52.63 352 *e*P **P** **17 58 49.0 +0.2**
KBS LR LR
comp=Z,549µm,21.0s
KKM Kota Kinabalu 52.67 232 *e*P **P** **17 58 50.9 +1.0**
KKM LR LR
comp=Z,52µm,20.0s
KKM Kota Kinabalu 52.67 232 P **P** **17 58 51.2 +1.2**
KKM Kota Kinabalu 52.67 232 P **P** **17 58 51.2 +1.2**
comp=Z,693nm,1.7s,comp=Z,61µmcomp=Z,890µm
SPB4 Spitsbergen Ar 52.79 350 *e*P **P** **17 58 50.0 0.0**
HOPEN Hopen 52.94 347 *e*P **P** **17 58 50.3 -0.8**
HOPEN AMB AMB 17 59 13.8
comp=Z,3µm,2.0s
HOPEN *e*S **S** **18 06 15.0 -2.8**
HOPEN *e*SS **SS** **18 09 58.6 +2.5**
HOPEN AMS AMS 18 25 13.1
comp=Z,357µm,18.1s
GNW Green Mountain 53.11 57 *e*P **P** **17 58 53.5 +0.8**
LBMI Labuha 53.16 216 P P'P'ab 18 30 11.8 +20
AAA Alma-Ata 53.25 297 *e*P **P** **17 58 55.9 +1.9**
AAA *e*S **S** **18 06 26.5 +3.5**
AAA pmax pmax
comp=Z,58µm,6.2s
AAA smax smax
comp=E,111µm,22.8s
AAA MLR MLR
comp=Z,760µm,17.0s
TSM Tawau 53.26 229 P **P** **17 58 54.7 +0.5**
JCW Jim Creek 53.29 56 *e*P **P** **17 58 54.4 +0.3**
RPW Rockport 53.39 55 *e*P **P** **17 58 55.0 0.0**
BMW Boistfort Moun 53.46 58 *e*P **P** **17 58 56.3 +0.9**
BMW Boistfort Moun 53.46 58 *e*P **P** **17 58 56.3 +0.9**
NLO Nicolai Mounta 53.53 59 P **P** **17 58 57.3 +1.3**
KMSI Cibinong 53.55 220 P P'P'bc 18 29 35.7 +8.3
comp=Z,580nm,1.2s
CHTO Chiang Mai 53.57 258 *e*P **P** **17 58 56.8 +0.3**
CHTO pmax pmax
comp=Z,3µm,1.1s
CHTO MLR MLR
comp=Z,133µm,19.0s
CHTO Chiang Mai 53.57 258 *e*P **P** **17 58 56.8 +0.3**
comp=Z,3µm,1.1s
CHTO LR LR
comp=Z,133µm,19.0s
CHTO Chiang Mai 53.57 258 P **P** **17 58 57.5 +1.0**
comp=Z,2µm,1.5s,comp=Z,110µmcomp=Z,614µm
HTW Haystack Looko 53.59 56 P **P** **17 58 56.8 +0.4**
CM31 Chiang Mai Arr 53.82 258 *e*P **P** **17 58 59.9 +1.5**
comp=Z,5.1nm,0.6s
CMAR Chiang Mai Arr 53.82 258 P **P** **17 58 59.5 +1.2**
comp=Z,258nm,0.8s,baz=36,slow=6.8,SNR=289
CMAR LR LR 18 24 22.2
comp=Z,117µm,20.6s,baz=158,slow=39
CMAR PKP2ab 18 29 52.4
comp=Z,11nm,1.0s,baz=239,slow=4.1,SNR=4.1
CMAR P4KPbc 18 36 21.4
comp=Z,1.0nm,0.6s,baz=18,slow=2.9,SNR=4.6
CMAR Chiang Mai Arr 53.82 258 P **P** **17 58 59.5 +1.2**
CMAR Chiang Mai Arr 53.82 258 P **P** **17 58 59.5 +1.2**
CMAR P'P'ab **P'P'ab** **18 29 52.4 -2.4**
CMAR *e* 18 36 21.4
HEBO Mount Hebo 53.83 60 *e*P **P** **17 58 59.2 +1.1**
SHL Shillong 53.84 270 ⇑*i*P **P** **17 59 01.0 +2.4**
SHL *ex* x 18 06 36.5
HSP Hornsund 53.86 350 *e*P **P** **17 58 58.8 +1.0**
LON Longmire 54.13 57 *e*P **P** **17 59 00.5 +0.1**
LON Longmire 54.13 57 *e*P **P** **17 59 00.5 +0.1**
ULHL Ulahol 54.25 296 P **P** **17 59 02.4 +0.9**
SNR=180
ULHL P **P** **17 59 02.4 +0.9**
SNR=180
NLW Nelson Butte 54.26 55 P **P** **17 59 01.8 +0.5**
TKM2 Tokmak 2 54.27 297 P **P** **17 59 02.3 +0.7**
SNR=504
TKM2 P **P** **17 59 02.3 +0.7**
SNR=504
TKM2 Tokmak 2 54.27 297 *i*P **P** **17 59 02.3 +0.7**
TKM2 Tokmak 2 54.27 297 *e*P **P** **17 59 02.2 +0.6**
comp=Z,496nm,2.1s
TKM2 LR LR
comp=Z,526µm,19.0s
COR Corvallis 54.44 60 *e*P **P** **17 59 03.7 +1.2**
COR pmax pmax
comp=Z,4µm,1.8s
COR Corvallis 54.44 60 *e*P **P** **17 59 03.7 +1.2**
comp=Z,4µm,1.8s
ETW Entiat 54.52 56 *e*P **P** **17 59 03.2 0.0**
RNO Roman Nose 54.55 61 P **P** **17 59 05.3 +1.9**
WTV Waterville 54.68 56 P **P** **17 59 04.5 +0.2**
CHMS Chumysh 54.74 298 P **P** **17 59 05.4 +0.6**
SNR=264
CHMS P **P** **17 59 05.4 +0.6**
SNR=264
USP Ospenovka 54.75 298 P **P** **17 59 05.4 +0.5**
SNR=1487
USP P **P** **17 59 05.4 +0.5**
SNR=1487
SVE Sverdlovsk 54.76 318 *c i*P **P** **17 59 05.5 +0.8**
SVE *e* 18 01 10.4
SVE *e*PPP PPP 18 02 21.1
SVE *e*S **S** **18 06 39.2 -3.7**
SVE pmax pmax
comp=Z,3µm,1.0s
SVE pmax pmax
comp=Z,61µm,17.0s
SVE smax smax
comp=Z,98µm,17.4s
SVE smax smax
comp=E,160µm,20.5s
SVE smax smax
comp=N,100µm,17.5s
SVE MLR MLR
comp=N,306µm,18.0s
SVE MLR MLR
comp=E,603µm,19.0s
SVE MLR MLR
comp=Z,538µm,17.0s
KEBM Edson Butte 54.77 63 *e*P **P** **17 59 06.2 +1.2**
KBK Karagaybulak 54.81 297 P **P** **17 59 06.3 +0.8**
SNR=552
KBK P **P** **17 59 06.3 +0.8**
SNR=552
VLL Laurance Lake 54.91 59 P **P** **17 59 07.2 +1.1**
FRU Bishkek 54.92 298 ⇓*i*P **P** **17 59 08.5 +2.4**
FRU *i* 17 59 22.5
FRU *i* S **S** **18 06 41.5 -4.0**
FRU pmax pmax
comp=Z,6µm,3.5s
FRU smax smax
comp=E,132µm,19.5s
FRU MLR MLR
comp=Z,800µm,23.0s
SOKR Solikamsk 54.94 322 *c i*P **P** **17 59 05.8 -0.1**
SOKR 18 01 05.7
SOKR S **S** **18 06 40.2 -4.9**
SOKR SS **SS** **18 10 24.1 -4.0**
SOKR pmax pmax
comp=Z,4µm,1.1s
SOKR MLR MLR
comp=Z,650µm,20.0s
KZA Kyzart 54.95 296 P **P** **17 59 08.3 +1.4**
SNR=536
KZA P **P** **17 59 08.3 +1.4**
SNR=536
AAK Ala-Archa 55.10 297 P **P** **17 59 08.1 +0.5**
SNR=634
AAK P **P** **17 59 08.1 +0.5**
SNR=634
AAK Ala-Archa 55.10 297 *i*P **P** **17 59 08.6 +1.0**
AAK pmax pmax
comp=Z,3µm,1.3s
AAK MLR MLR
comp=Z,1786µm,23.0s
AAK Ala-Archa 55.10 297 *e*P **P** **17 59 07.9 +0.3**
comp=Z,10µm,0.9s
AAK LR LR
comp=Z,560µm,21.0s
AAK Ala-Archa 55.10 297 P **P** **17 59 08.0 +0.3**
comp=Z,10µm,0.9s
KBO Bosley Butte 55.20 63 *e*P **P** **17 59 09.6 +1.4**
comp=Z,367nm,0.6s
UCH Uchtor 55.32 297 P **P** **17 59 11.0 +1.5**
SNR=27
UCH P **P** **17 59 11.0 +1.5**
SNR=27
MDW Midway 55.39 57 P **P** **17 59 10.1 +0.8**
MDW Midway 55.39 57 P **P** **17 59 10.1 +0.8**
BJO Bjornoya 55.43 347 *e*P **P** **17 59 08.6 -0.6**
BJO AMB AMB 17 59 21.4
comp=Z,2µm,1.2s
BJO *e*S **S** **18 06 49.8 -1.5**
BJO *e*SS **SS** **18 10 39.1 +3.8**
BJO AMS AMS 18 24 23.5
comp=Z,351µm,22.5s
EKS2 Erkin-Say 55.52 298 P **P** **17 59 11.5 +0.9**
SNR=713
EKS2 P **P** **17 59 11.5 +0.9**
SNR=713
EKS2 Erkin-Say 55.52 298 *e*P **P** **17 59 11.4 +0.9**
EKS2 pmax pmax
comp=Z,496nm,2.1s
EKS2 MLR MLR
comp=Z,876µm,22.0s
EKS2 Erkin-Say 55.52 298 *e*P **P** **17 59 11.4 +0.9**
comp=Z,496nm,2.1s
EKS2 LR LR
comp=Z,876µm,22.0s
OD2 Odessa Site #2 55.55 55 *e*P **P** **17 59 10.7 +0.1**
CROR Criterion Ridg 55.59 59 P **P** **17 59 12.0 +1.0**
RSW Rattlesnake Hi 55.61 57 *e*P **P** **17 59 11.6 +0.6**
HAWA Hanford 55.64 57 *e*P **P** **17 59 11.7 +0.5**
HAWA LR LR
comp=Z,453µm,22.0s
HUMO Hull Mountain 55.76 62 *e*P **P** **17 59 13.1 +1.0**
comp=Z,650nm,0.5s
AML Almayashu 55.88 297 P **P** **17 59 14.3 +0.8**
SNR=453
AML P **P** **17 59 14.3 +0.8**
SNR=453
ARU Arti 55.93 318 *c i*P **P** **17 59 13.1 0.0**
ARU *e* 18 00 09.9
ARU S **S** **18 06 59.4 +0.9**
ARU pmax pmax
comp=Z,5µm,1.7s
ARU pmax pmax
comp=Z,16µm,6.2s
ARU MLR MLR
comp=Z,701µm,22.0s
ARU Arti 55.93 318 *e*P **P** **17 59 12.4 -0.7**
comp=Z,312nm,1.4s
ARU LR LR
comp=Z,700µm,22.0s
ARU Arti 55.93 318 P **P** **17 59 13.1 0.0**
comp=Z,23µm,0.9s
NEW Newport 55.95 54 *e*P **P** **17 59 13.5 +0.1**
NEW pmax pmax
comp=Z,963nm,1.3s
NEW MLR MLR
comp=Z,325µm,21.0s
NEW Newport 55.95 54 *e*P **P** **17 59 13.5 +0.1**
comp=Z,963nm,1.3s
NEW LR LR
comp=Z,325µm,21.0s
NEW Newport 55.95 54 ⇑P **P** **17 59 13.7 +0.3**
baz=56,SNR=101
NEW ⇑P **P** **17 59 13.7 +0.3**
baz=56,SNR=101
NEW ⇑P **P** **17 59 13.7 +0.3**
baz=56,SNR=101
NEW ⇑S **S** **18 06 57.8 -1.4**
baz=56
NEW ⇑S **S** **18 06 57.8 -1.4**
baz=56
NEW ⇑S **S** **18 06 57.8 -1.4**
baz=56
KSH Kashi 55.97 293 ⇑*i*P P 17 59 18.3 +4.5
KSH *e*pP pP 17 59 28.1 +4.8
KSH *e*sP sP 17 59 32.3 +5.3
KSH *e*PcP **PcP** **18 00 15.3 +3.3**
KSH PP PP 18 01 24.8 +6.3
KSH *e*ScP **ScP** **18 04 10.6 +1.9**
KSH *e*PcS **PcS** **18 04 14.6 +2.1**
KSH *e*S **S** **18 07 02.6 +2.8**
KSH *e*sS sS 18 07 20.3 +4.9
KSH *e*ScS **ScS** **18 09 01.1 +0.4**
KSH *e*SS **SS** **18 10 50.0 +4.5**
KSH pmax pmax
comp=Z,930nm,1.3s
KSH pmax pmax
comp=Z,36µm,5.3s
KSH LR LR
comp=N,559µm,20.8s
KSH LR LR
comp=E,470µm,18.0s
KSH LR LR
comp=Z,1008µm,24.3s
VIPM Ingram Point 56.07 59 P **P** **17 59 15.3 +0.7**
VIPM Ingram Point 56.07 59 P **P** **17 59 15.3 +0.7**
HNR Honiara 56.17 174 *e*P **P** **17 59 14.4 -0.8**
HNR pmax pmax
comp=Z,2µm,1.3s
HNR MLR MLR
comp=Z,115µm,21.0s
HNR Honiara 56.17 174 *e*P **P** **17 59 14.4 -0.8**
comp=Z,2µm,1.3s
HNR LR LR
comp=Z,115µm,21.0s
KHMM Horse Mountain 56.27 64 *e*P **P** **17 59 17.9 +1.9**
comp=Z,1µm,1.2s
A12A Yaak River Ran 56.38 52 ⇑P **P** **17 59 17.5 +1.0**
baz=56,SNR=38
A12A ⇑P **P** **17 59 17.5 +1.0**
baz=56,SNR=38
A12A ⇑P **P** **17 59 17.5 +1.0**
baz=56,SNR=38
YBH Yreka Blue Hor 56.41 63 *e*P **P** **17 59 18.5 +1.7**
YBH pmax pmax
comp=Z,741nm,1.1s
YBH Yreka Blue Hor 56.41 63 *e*P **P** **17 59 18.5 +1.7**
comp=Z,741nm,1.1s
PMG Port Moresby 56.45 190 P **P** **17 59 16.8 -0.4**
comp=Z,237nm,0.9s,baz=4.8,slow=6.5,SNR=69
PMG Port Moresby 56.45 190 *ce*P **P** **17 59 15.7 -1.5**
PMG pmax pmax
comp=Z,314nm,0.8s
PMG Port Moresby 56.45 190 *e*P **P** **17 59 16.4 -0.8**
comp=Z,2µm,1.4s
PMG LR LR
comp=Z,64µm,22.0s
DAG Danmarks Havn 56.61 358 ⇑*i*P **P** **17 59 17.5 -0.2**
DAG pmax pmax
comp=Z,410nm,1.0s
DAG MLR MLR
comp=Z,300µm,20.0s
DAG Danmarks Havn 56.61 358 ⇑*i*P **P** **17 59 17.5 -0.2**
comp=Z,4µm,1.0s
DAG
comp=Z,405µm,20.0s
LNOR Lincton Mounta 56.65 57 *e*P **P** **17 59 19.0 +0.5**
LNOR pmax pmax
comp=Z,352nm,1.5s
LNOR Lincton Mounta 56.65 57 *e*P **P** **17 59 19.0 +0.5**
comp=Z,352nm,1.5s
C11A Tepee Creek (N 56.67 54 ⇑P **P** **17 59 18.7 +0.1**
baz=56,SNR=181
C11A ⇑P **P** **17 59 18.7 +0.1**
baz=56,SNR=181
C11A ⇑P **P** **17 59 18.7 +0.1**
baz=56,SNR=181
BTM Bintulu 56.74 233 P **P** **17 59 21.0 +1.6**
KIPM Iron Peak 57.05 65 *e*P **P** **17 59 22.5 +1.0**
comp=Z,15µm,0.4s
KCPM Cahto Peak 57.06 65 *e*P **P** **17 59 22.2 +0.7**
comp=Z,852nm,1.4s
C12B Naegeli Ranch, 57.18 53 ⇑P **P** **17 59 22.8 +0.6**
baz=57,SNR=57
C12B ⇑P **P** **17 59 22.8 +0.6**
baz=57,SNR=57
C12B ⇑P **P** **17 59 22.8 +0.6**
baz=57,SNR=57
WDC Whiskeytown Da 57.18 64 *e*P **P** **17 59 22.8 +0.5**
WDC pmax pmax
comp=Z,1µm,1.3s
WDC Whiskeytown Da 57.18 64 *e*P **P** **17 59 22.8 +0.5**
comp=Z,1µm,1.3s
WALA Waterton Lakes 57.25 51 *e*P **P** **17 59 22.7 0.0**
comp=Z,10nm,0.7s
LVZ Lovozero 57.27 337 *ce*P **P** **17 59 21.8 -0.7**
LVZ pmax pmax
comp=Z,2µm,1.3s
LVZ MLR MLR
comp=Z,1287µm,23.0s
LVZ Lovozero 57.27 337 *e*P **P** **17 59 22.3 -0.2**
comp=Z,6µm,1.5s
LVZ LR LR
comp=Z,1216µm,22.0s
LVZ Lovozero 57.27 337 P **P** **17 59 23.3 +0.8**
comp=Z,9µm,1.3s,SNR=29
B13A Whitefish 57.34 52 ⇑P **P** **17 59 24.1 +0.7**
baz=57,SNR=183
B13A ⇑P **P** **17 59 24.1 +0.7**
baz=57,SNR=183
B13A ⇑P **P** **17 59 24.1 +0.7**
baz=57,SNR=183
BSMT Bassoo Peak 57.47 53 *e*P **P** **17 59 24.8 +0.4**
comp=Z,437nm,0.6s
A14A Double T Ranch 57.56 51 ⇑P **P** **17 59 25.4 +0.5**
baz=57,SNR=109
A14A ⇑P **P** **17 59 25.4 +0.5**
baz=57,SNR=109
A14A ⇑P **P** **17 59 25.4 +0.5**
baz=57,SNR=109
D12A Red Ives Fores 57.63 54 ⇓P **P** **17 59 25.7 +0.3**
baz=57
D12A ⇓P **P** **17 59 25.7 +0.3**
baz=57
D12A ⇓P **P** **17 59 25.7 +0.3**
baz=57
KEV Kevo 57.74 341 *e*P **P** **17 59 25.8 +0.1**
KEV pmax pmax
comp=Z,2µm,1.6s
KEV MLR MLR
comp=Z,981µm,21.0s
KEV Kevo 57.74 341 *e*P **P** **17 59 25.8 +0.1**
comp=Z,2µm,1.6s
KEV LR LR
comp=Z,981µm,21.0s
KEV Kevo 57.74 341 *ep* **P** **17 59 25.3 -0.4**
comp=Z,364nm,0.7s
KEV Kevo 57.74 341 *ep* **P** **17 59 25.3 -0.4**
comp=Z,364nm,0.7s
MOD Modoc 57.77 61 *e*P **P** **17 59 27.2 +0.6**
comp=Z,78nm,0.9s
HOPS Hopland 57.79 66 *e*P **P** **17 59 27.5 +0.9**
comp=Z,1µm,1.3s
BMO Blue Mountains 57.80 57 *e*P **P** **17 59 27.2 +0.5**
BMO pmax pmax
comp=Z,161nm,0.7s
BMO MLR MLR
comp=Z,436µm,22.0s
BMO Blue Mountains 57.80 57 *e*P **P** **17 59 27.2 +0.5**
comp=Z,162nm,0.7s
BMO LR LR
comp=Z,436µm,22.0s
JTMT Jette 57.81 53 *e*P **P** **17 59 27.4 +0.6**
comp=Z,2µm,0.5s
APA Apatity 57.83 337 ⇓*i*P **P** **17 59 27.0 +0.6**
APA *i* 18 01 34.0
APA *i* SS SS 18 11 21.0 +7.7
APA pmax pmax
comp=Z,319nm,0.9s
APA MLR MLR
comp=Z,1206µm,21.0s
SBUM Sibu 57.84 234 P **P** **17 59 28.5 +1.4**
SBUM Sibu 57.84 234 P **P** **17 59 27.8 +0.7**
comp=Z,332nm,2.0s,comp=Z,62µmcomp=Z,808µm
YBMT Yellow Bay 57.89 53 *eP* **P** **17 59 27.8 +0.5**
comp=Z,894nm,0.5s
A15A Johnson Ranch, 57.93 51 ⇓P **P** **17 59 27.5 0.0**
baz=58,SNR=57
A15A ⇓P **P** **17 59 27.5 0.0**
baz=58,SNR=57
A15A ⇓P **P** **17 59 27.5 0.0**
baz=58,SNR=57
B14A Marquette Ranc 58.00 52 ⇑P **P** **17 59 28.5 +0.5**
baz=58,SNR=157
B14A ⇑P **P** **17 59 28.5 +0.5**
baz=58,SNR=157
B14A ⇑P **P** **17 59 28.5 +0.5**
baz=58,SNR=157

D13A Huson 58.10 54 ⇓P P 17 59 29.0 +0.3
baz=58,SNR=106
D13A ⇓P P 17 59 29.0 +0.3
baz=58,SNR=106
D13A ⇓P P 17 59 29.0 +0.3
baz=58,SNR=106
SWMT Swartz Lake 58.11 53 eP P 17 59 29.3 +0.5
comp=Z,11μm,1.4s
ARCES ARCESS Array B 58.25 341 P P 17 59 29.2 -0.1
comp=Z,543nm,0.8s,baz=24,slow=9.4,SNR=160
ARCES LR LR 18 28 20.3
comp=Z,995μm,20.9s,baz=31,slow=40
ARCES PKPPKP P'P'df 18 29 09.1 -7.5
comp=Z,15nm,1.0s,baz=316,slow=5.1,SNR=5.3
ARCES PKP2bc 18 29 23.9
comp=Z,39nm,0.9s,baz=222,slow=1.6,SNR=10.0
ARCES PKP2ab 18 29 34.8
comp=Z,43nm,1.0s,baz=230,slow=3.0,SNR=6.2
ARCES ARCESS Array B 58.25 341 P P 17 59 29.2 -0.1
ARCES ARCESS Array B 58.25 341 P P 17 59 29.2 -0.1
ARCES P'P' 18 29 09.1
ARCES ⇑e 18 29 23.9
ARCES P'P'ab P'P'ab 18 29 34.8 -7.6
ARE0 ARCESS Array S 58.25 341 eS S 18 07 25.6 -3.2
CAL Calcutta 58.27 270 eP P 17 59 30.2 +0.2
CAL ex x 18 07 34.9
B15A Bradely Ranch, 58.41 52 ⇓P P 17 59 31.0 +0.1
baz=58,SNR=132
B15A ⇓P P 17 59 31.0 +0.1
baz=58,SNR=132
B15A ⇓P P 17 59 31.0 +0.1
baz=58,SNR=132
MCCM Marconi Confer 58.42 66 eP P 17 59 31.5 +0.6
comp=Z,653nm,1.1s
F12A Elk City 58.44 55 ⇓P P 17 59 32.1 +0.9
baz=58,SNR=184
F12A ⇓P P 17 59 32.1 +0.9
baz=58,SNR=184
F12A ⇓P P 17 59 32.1 +0.9
baz=58,SNR=184
WVOR Wild Horse Val 58.45 60 eP P 17 59 31.8 +0.5
WVOR pmax pmax
comp=Z,2μm,1.3s
WVOR MLR MLR
comp=Z,427μm,21.0s
WVOR Wild Horse Val 58.45 60 eP P 17 59 31.8 +0.5
comp=Z,2μm,1.3s
WVOR LR LR
comp=Z,427μm,21.0s
MSO Missoula 58.54 54 eP P 17 59 32.0 +0.2
comp=Z,465nm,1.7s
MSO LR LR
comp=Z,138μm,22.0s
MSO Missoula 58.54 54 ⇑P P 17 59 32.3 +0.4
baz=58,SNR=134
MSO ⇑P P 17 59 32.3 +0.4
baz=58,SNR=134
MSO ⇑P P 17 59 32.3 +0.4
baz=58,SNR=134
SLMT Seeley Lake 58.54 53 eP P 17 59 31.9 +0.1
comp=Z,2μm,0.5s
D14A Greenough 58.63 53 ⇑P P 17 59 32.6 +0.1
baz=58,SNR=99
D14A ⇑P P 17 59 32.6 +0.1
baz=58,SNR=99
D14A ⇑P P 17 59 32.6 +0.1
baz=58,SNR=99
E13A Victor 58.63 54 ⇑P P 17 59 32.9 +0.4
baz=58,SNR=118
E13A ⇑P P 17 59 32.9 +0.4
baz=58,SNR=118
E13A ⇑P P 17 59 32.9 +0.4
baz=58,SNR=118
C15A Salmond Ranch, 58.71 52 ⇓P P 17 59 34.1 +1.1
baz=58,SNR=307
C15A ⇓P P 17 59 34.1 +1.1
baz=58,SNR=307
C15A ⇓P P 17 59 34.1 +1.1
baz=58,SNR=307
B16A M & M Farms, S 58.81 51 ⇑P P 17 59 33.7 0.0
baz=59,SNR=64
B16A ⇑P P 17 59 33.7 0.0
baz=59,SNR=64
B16A ⇑P P 17 59 33.7 0.0
baz=59,SNR=64
CHMT Chamberlain Mo 58.87 53 eP P 17 59 34.2 0.0
comp=Z,191nm,0.4s
F13A Darby 58.94 55 ⇓P P 17 59 35.0 +0.3
baz=59,SNR=188
F13A ⇓P P 17 59 35.0 +0.3
baz=59,SNR=188
F13A ⇓P P 17 59 35.0 +0.3
baz=59,SNR=188
A17A Triple J Farms 59.02 50 ⇓P P 17 59 35.1 0.0
baz=59,SNR=162
A17A ⇓P P 17 59 35.1 0.0
baz=59,SNR=162
A17A ⇓P P 17 59 35.1 0.0
baz=59,SNR=162
E14A Clinton 59.03 54 ⇓P P 17 59 35.7 +0.4
baz=59,SNR=64
E14A ⇓P P 17 59 35.7 +0.4
baz=59,SNR=64
E14A ⇓P P 17 59 35.7 +0.4
baz=59,SNR=64
SAC San Andreas 59.05 67 eP P 17 59 35.7 +0.4
SAC pmax pmax
comp=Z,2μm,1.7s
SAC San Andreas 59.05 67 eP P 17 59 35.7 +0.4
comp=Z,2μm,1.7s
FUNA Funafuti 59.10 152 eP P 17 59 34.5 -1.3
comp=Z,14μm,2.6s
FUNA LR LR
comp=Z,91μm,20.0s
BOK Bokaro 59.11 273 ix P 17 59 40.0 +4.0
BOK iS S 18 07 42.0 +9.0
C16A Fuhringer Ranc 59.16 52 ⇑P P 17 59 36.8 +0.8
baz=59,SNR=142
C16A ⇑P P 17 59 36.8 +0.8
baz=59,SNR=142
C16A ⇑P P 17 59 36.8 +0.8
baz=59,SNR=142
D15A Lincoln 59.19 53 ⇓P P 17 59 37.1 +0.7
baz=59,SNR=118
D15A ⇓P P 17 59 37.1 +0.7
baz=59,SNR=118
D15A ⇓P P 17 59 37.1 +0.7
baz=59,SNR=118
PTH Pithoragarh 59.25 282 eS S 18 07 43.5 +0.3
B17A L&G Farms, Che 59.37 51 ⇑P P 17 59 38.0 +0.5
baz=59,SNR=112
B17A ⇑P P 17 59 38.0 +0.5
baz=59,SNR=112
B17A ⇑P P 17 59 38.0 +0.5
baz=59,SNR=112
H12A Diamond D Ranc 59.39 56 ⇓P P 17 59 38.1 +0.3
baz=59,SNR=75
H12A ⇓P P 17 59 38.1 +0.3
baz=59,SNR=75
H12A ⇓P P 17 59 38.1 +0.3
baz=59,SNR=75
G13A Cobalt 59.42 55 ⇑P P 17 59 38.4 +0.4
baz=59,SNR=388
G13A ⇑P P 17 59 38.4 +0.4
baz=59,SNR=388
G13A ⇑P P 17 59 38.4 +0.4
baz=59,SNR=388
F14A Wisdom 59.47 54 ⇓P P 17 59 38.8 +0.5
baz=59,SNR=88
F14A ⇓P P 17 59 38.8 +0.5
baz=59,SNR=88
F14A ⇓P P 17 59 38.8 +0.5
baz=59,SNR=88
A18A Metzger Ranch, 59.49 50 ⇓P P 17 59 38.3 0.0
baz=59,SNR=66
A18A ⇓P P 17 59 38.3 0.0
baz=59,SNR=66
A18A ⇓P P 17 59 38.3 0.0
baz=59,SNR=66
ABKAR Akbulak array 59.49 311 eP P 17 59 37.9 -0.3
comp=Z,5.6nm,1.1s
E15A Deer Lodge 59.50 53 ⇑P P 17 59 39.0 +0.5
baz=59,SNR=130
E15A ⇑P P 17 59 39.0 +0.5
baz=59,SNR=130
E15A ⇑P P 17 59 39.0 +0.5
baz=59,SNR=130
TRO Tromso 59.52 344 eP P 17 59 38.8 +0.7
TRO AMB AMB 17 59 56.0
comp=Z,3μm,1.4s
TRO eS S 18 07 44.2 -0.9
TRO AMS AMS 18 31 19.0
comp=Z,435μm,16.3s
WCN Washoe City 59.66 64 eP P 17 59 40.4 +0.6
WCN pmax pmax
comp=Z,2μm,1.6s
WCN Washoe City 59.66 64 eP P 17 59 40.4 +0.6
comp=Z,2μm,1.6s
WCN Washoe City 59.66 64 ⇓P P 17 59 40.6 +0.8
baz=60,SNR=37
WCN ⇓P P 17 59 40.6 +0.8
baz=60,SNR=37
WCN ⇓P P 17 59 40.6 +0.8
baz=60,SNR=37
I12A Atlanta 59.69 57 ⇑P P 17 59 40.6 +0.7
baz=60
I12A ⇑P P 17 59 40.6 +0.7
baz=60
I12A ⇑P P 17 59 40.6 +0.7
baz=60
KSM Kuching 59.71 235 eP P 17 59 41.3 +1.2
comp=Z,1μm,1.2s
KSM LR LR
comp=Z,39μm,21.0s
KSM Kuching 59.71 235 P P 17 59 41.9 +1.8
KSM Kuching 59.71 235 P P 17 59 41.5 +1.4
comp=Z,845nm,1.2s,comp=Z,66μmcomp=Z,784μm
FFC Flin Flon 59.72 41 eP P 17 59 39.5 -0.2
FFC pmax pmax
comp=Z,3μm,0.9s
FFC MLR MLR
comp=Z,410μm,19.0s
FFC Flin Flon 59.72 41 eP P 17 59 39.5 -0.2
comp=Z,3μm,0.9s
FFC LR LR
comp=Z,410μm,19.0s
FFC Flin Flon 59.72 41 P P 17 59 40.6 +0.9
comp=Z,5μm,1.7s
H13A Challis 59.72 56 ⇓P P 17 59 40.7 +0.6
baz=60,SNR=95
H13A ⇓P P 17 59 40.7 +0.6
baz=60,SNR=95
H13A ⇓P P 17 59 40.7 +0.6
baz=60,SNR=95
D16A Dana Ranch, Ca 59.73 52 ⇓P P 17 59 40.9 +0.9
baz=60,SNR=36
D16A ⇓P P 17 59 40.9 +0.9
baz=60,SNR=36
D16A ⇓P P 17 59 40.9 +0.9
baz=60,SNR=36
G14A Jackson 59.76 55 ⇓P P 17 59 40.6 +0.2
baz=60,SNR=55
G14A ⇓P P 17 59 40.6 +0.2
baz=60,SNR=55
G14A ⇓P P 17 59 40.6 +0.2
baz=60,SNR=55
HRY Holter Researc 59.77 53 eP P 17 59 41.2 +0.9
comp=Z,1μm,0.9s
C17A Wharram Farm, 59.79 51 ⇓P P 17 59 40.8 +0.4
baz=60,SNR=247
C17A ⇓P P 17 59 40.8 +0.4
baz=60,SNR=247
C17A ⇓P P 17 59 40.8 +0.4
baz=60,SNR=247
B18A Beardsley Farm 59.84 50 ⇓P P 17 59 41.5 +0.8
baz=60,SNR=234
B18A ⇓P P 17 59 41.5 +0.8
baz=60,SNR=234
B18A ⇓P P 17 59 41.5 +0.8
baz=60,SNR=234
F15A Butte 59.94 54 ⇑P P 17 59 42.3 +0.7
baz=60,SNR=267
F15A ⇑P P 17 59 42.3 +0.7
baz=60,SNR=267
F15A ⇑P P 17 59 42.3 +0.7
baz=60,SNR=267
E16A East Helena 59.96 53 ⇓P P 17 59 42.7 +1.0
baz=60,SNR=84
E16A ⇓P P 17 59 42.7 +1.0
baz=60,SNR=84
E16A ⇓P P 17 59 42.7 +1.0
baz=60,SNR=84
LRM Limekiln Ridge 59.97 54 eP P 17 59 41.8 -0.1
comp=Z,22μm,0.4s
CMB Columbia Colle 60.05 65 eP P 17 59 42.4 +0.1
CMB pmax pmax
comp=Z,2μm,1.6s
CMB Columbia Colle 60.05 65 eP P 17 59 42.4 +0.1
comp=Z,2μm,1.6s
A19A Klindworth Far 60.06 49 ⇓P P 17 59 42.8 +0.6
baz=60,SNR=198
A19A ⇓P P 17 59 42.8 +0.6
baz=60,SNR=198
A19A ⇓P P 17 59 42.8 +0.6
baz=60,SNR=198
EGMT Eagleton 60.08 50 eP P 17 59 42.4 0.0
comp=Z,12μm,2.0s
EGMT LR LR
comp=Z,430μm,22.0s
EGMT Eagleton 60.08 50 ⇑P P 17 59 43.1 +0.6
baz=60,SNR=166
EGMT ⇑P P 17 59 43.1 +0.6
baz=60,SNR=166
EGMT ⇑P P 17 59 43.1 +0.6
baz=60,SNR=166
D17A Six Diamond Ra 60.12 52 ⇓P P 17 59 43.4 +0.6
baz=60,SNR=175
D17A ⇓P P 17 59 43.4 +0.6
baz=60,SNR=175
D17A ⇓P P 17 59 43.4 +0.6
baz=60,SNR=175
SAO San Andreas Ge 60.16 67 eP P 17 59 43.3 +0.3
SAO pmax pmax
comp=Z,794nm,1.4s
SAO San Andreas Ge 60.16 67 eP P 17 59 43.3 +0.3
comp=Z,794nm,1.4s
DLMT Dillon 60.17 54 eP P 17 59 43.5 +0.3
comp=Z,163nm,1.1s
DLH Dalhousie 60.19 287 eP P 17 59 44.0 +0.4
DLH ex x 18 08 00.0
H14A Leadore 60.20 55 ⇓P P 17 59 43.8 +0.4
baz=60,SNR=77
H14A ⇓P P 17 59 43.8 +0.4
baz=60,SNR=77
H14A ⇓P P 17 59 43.8 +0.4
baz=60,SNR=77
I13A Wildhorse Cree 60.20 56 ⇑P P 17 59 44.2 +0.7
baz=60,SNR=275
I13A ⇑P P 17 59 44.2 +0.7
baz=60,SNR=275
I13A ⇑P P 17 59 44.2 +0.7
baz=60,SNR=275
DDI Dehra Dun 60.21 284 ex x 17 59 34.7
DDI eS S 18 07 54.0 -1.2
HLID Hailey 60.24 57 eP P 17 59 44.2 +0.5
comp=Z,4μm,0.4s
HLID LR LR
comp=Z,374μm,22.0s
HLID Hailey 60.24 57 ⇑P P 17 59 44.7 +0.9
baz=60,SNR=127
HLID ⇑P P 17 59 44.7 +0.9
baz=60,SNR=127
HLID ⇑P P 17 59 44.7 +0.9
baz=60,SNR=127
B19A Brinkman Farms 60.24 50 ⇑P P 17 59 44.3 +0.8
baz=60,SNR=146
B19A ⇑P P 17 59 44.3 +0.8
baz=60,SNR=146
B19A ⇑P P 17 59 44.3 +0.8
baz=60,SNR=146
G15A Dillon 60.35 54 ⇓P P 17 59 45.1 +0.6
baz=60,SNR=111
G15A ⇓P P 17 59 45.1 +0.6
baz=60,SNR=111
G15A ⇓P P 17 59 45.1 +0.6
baz=60,SNR=111
MCMT McKenzie Canyo 60.36 55 eP P 17 59 44.3 -0.2
comp=Z,894nm,0.5s
KAPI Kappang 60.41 222 P P 17 59 44.0 -0.8
comp=Z,86nm,0.8s,baz=264,slow=0.5,SNR=18
KAPI PKP2bc 18 29 17.8
comp=Z,43nm,1.0s,baz=32,slow=5.4,SNR=4.2
KAPI Kappang 60.41 222 eP P 17 59 44.1 -0.8
comp=Z,2μm,1.4s
KAPI ⇑e 18 29 17.8
KAPI LR LR
comp=Z,28μm,20.0s
KAPI Kappang 60.41 222 P P 17 59 44.6 -0.3
SNR=44
KAPI Kappang 60.41 222 P P'P'bc 18 29 18.6 +6.7
comp=Z,252nm,2.0s
KAPI Kappang 60.41 222 P P 17 59 44.4 -0.5
comp=Z,637nm,1.4s,comp=Z,42μmcomp=Z,536μm
F16A Kennard Place, 60.45 53 ⇑P P 17 59 45.9 +0.9
baz=60,SNR=155
F16A ⇑P P 17 59 45.9 +0.9
baz=60,SNR=155
F16A ⇑P P 17 59 45.9 +0.9
baz=60,SNR=155
E17A Martinsdale 60.45 52 ⇑P P 17 59 46.3 +1.2
baz=60,SNR=192
E17A ⇑P P 17 59 46.3 +1.2
baz=60,SNR=192
E17A ⇑P P 17 59 46.3 +1.2
baz=60,SNR=192
J13A Cove Ranch, Pi 60.48 57 ⇑P P 17 59 46.5 +1.2
baz=60,SNR=122
J13A ⇑P P 17 59 46.5 +1.2
baz=60,SNR=122
J13A ⇑P P 17 59 46.5 +1.2
baz=60,SNR=122
SUMG Summit 60.51 5 ⇑iP P 17 59 46.5 +1.2
SUMG iS S 18 08 07.2 +8.6
SUMG pmax pmax
comp=Z,1μm,1.0s
SUMG MLR MLR
comp=Z,570μm,24.0s
SUMG Summit 60.51 5 eP P 17 59 45.9 +0.6
comp=Z,2μm,1.0s
SUMG Summit 60.51 5 ⇑iP P 17 59 46.5 +1.2
comp=Z,1μm,1.0s
SUMG iS S 18 08 07.2 +8.6
SUMG
comp=Z,571μm,24.0s
BMN Battle Mountai 60.51 61 eP P 17 59 46.2 +0.6
BMN pmax pmax
comp=Z,955nm,1.3s
BMN MLR MLR
comp=Z,494μm,22.0s
BMN Battle Mountai 60.51 61 eP P 17 59 46.2 +0.6
comp=Z,955nm,1.3s
BMN LR LR
comp=Z,494μm,22.0s
A20A Cobblestone Ra 60.51 49 ⇓P P 17 59 45.9 +0.6
baz=60,SNR=290
A20A ⇓P P 17 59 45.9 +0.6
baz=60,SNR=290
A20A ⇓P P 17 59 45.9 +0.6
baz=60,SNR=290
BOZ Bozeman (W) 60.53 54 eP P 17 59 46.0 +0.3
BOZ pmax pmax
comp=Z,178nm,0.7s
BOZ MLR MLR
comp=Z,164μm,20.0s
BOZ Bozeman (W) 60.53 54 eP P 17 59 46.0 +0.3
comp=Z,178nm,0.7s
BOZ LR LR
comp=Z,164μm,20.0s
BOZ Bozeman (W) 60.53 54 ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
BOZ ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
BOZ ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
BOZ ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
BOZ ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
BOZ ⇓P P 17 59 46.9 +1.2
baz=60,SNR=445
D18A Linhart Farms, 60.57 51 ⇑P P 17 59 46.9 +1.1
baz=60,SNR=50
D18A ⇑P P 17 59 46.9 +1.1
baz=60,SNR=50
D18A ⇑P P 17 59 46.9 +1.1
baz=60,SNR=50
I14A Mackay 60.57 56 ⇓P P 17 59 47.1 +1.1
baz=60,SNR=313
I14A ⇓P P 17 59 47.1 +1.1
baz=60,SNR=313
I14A ⇓P P 17 59 47.1 +1.1
baz=60,SNR=313
XMAS Kiritimati 60.59 123 eP P 17 59 45.2 -1.0
comp=Z,6μm,1.9s
XMAS LR LR
comp=Z,156μm,22.0s
H15A Lima 60.60 55 ⇑P P 17 59 46.7 +0.5
baz=60,SNR=30
H15A ⇑P P 17 59 46.7 +0.5
baz=60,SNR=30
H15A ⇑P P 17 59 46.7 +0.5
baz=60,SNR=30
BHK Bhakra 60.60 286 eP P 17 59 47.0 +0.9
BHK ex x 18 00 39.6
C19A Slack Wire Ran 60.64 50 ⇑P P 17 59 47.5 +1.3
baz=60,SNR=228
C19A ⇑P P 17 59 47.5 +1.3
baz=60,SNR=228
C19A ⇑P P 17 59 47.5 +1.3
baz=60,SNR=228
G16A Moss Hill, Enn 60.69 54 ⇑P P 17 59 47.7 +1.0
baz=60,SNR=358
G16A ⇑P P 17 59 47.7 +1.0
baz=60,SNR=358
G16A ⇑P P 17 59 47.7 +1.0
baz=60,SNR=358
B20A Solberg Farm, 60.74 49 ⇑P P 17 59 47.5 +0.6
baz=60,SNR=174
B20A ⇑P P 17 59 47.5 +0.6
baz=60,SNR=174
B20A ⇑P P 17 59 47.5 +0.6
baz=60,SNR=174
E18A Harlowton 60.90 52 ⇑P P 17 59 49.2 +1.1
baz=61,SNR=58
E18A ⇑P P 17 59 49.2 +1.1
baz=61,SNR=58
E18A ⇑P P 17 59 49.2 +1.1
baz=61,SNR=58
J14A Carey 60.90 57 ⇓P P 17 59 49.6 +1.4
baz=61
J14A ⇓P P 17 59 49.6 +1.4
baz=61
J14A ⇓P P 17 59 49.6 +1.4
baz=61
F17A Fitzpatrick Pl 60.91 53 ⇓P P 17 59 49.4 +1.2
baz=61,SNR=121
F17A ⇓P P 17 59 49.4 +1.2
baz=61,SNR=121
F17A ⇓P P 17 59 49.4 +1.2
baz=61,SNR=121
A21A Bergtoll Ranch 60.96 48 ⇓P P 17 59 49.3 +1.0
baz=61,SNR=218
A21A ⇓P P 17 59 49.3 +1.0
baz=61,SNR=218
A21A ⇓P P 17 59 49.3 +1.0
baz=61,SNR=218
I15A Monteview 61.07 55 ⇓P P 17 59 50.4 +1.1
baz=61,SNR=15
I15A ⇓P P 17 59 50.4 +1.1
baz=61,SNR=15
I15A ⇓P P 17 59 50.4 +1.1
baz=61,SNR=15
D19A Cripps Ranch, 61.08 51 ⇑P P 17 59 50.0 +0.8
baz=61,SNR=138
D19A ⇑P P 17 59 50.0 +0.8
baz=61,SNR=138
D19A ⇑P P 17 59 50.0 +0.8
baz=61,SNR=138
NVAR Mina Array Bea 61.09 64 P P 17 59 50.2 +0.6
comp=Z,111nm,0.9s,baz=289,slow=6.6,SNR=380
NVAR LR LR 18 23 15.6
comp=Z,229μm,19.8s,baz=315,slow=33
NVAR PKPPKP P'P'df 18 29 08.7 -1.5
comp=Z,10nm,1.0s,baz=142,slow=2.5,SNR=7.1
NVAR PKP2bc 18 29 13.0
comp=Z,9.6nm,1.0s,baz=167,slow=3.3,SNR=7.0
NVAR Mina Array Bea 61.09 64 P P 17 59 50.2 +0.6
NVAR P'P' 18 29 08.7
NVAR ⇑e 18 29 13.0
QLMT Earthquake Lak 61.15 54 eP P 17 59 50.6 +0.7
comp=Z,1μm,0.4s
C20A Veseth Ranch, 61.20 50 ⇑P P 17 59 51.2 +1.1
baz=61,SNR=180
C20A ⇑P P 17 59 51.2 +1.1

baz=61,SNR=180
C20A ⇑P P 17 59 51.2 +1.1
baz=61,SNR=180
G17A Pierce Place, 61.23 53 ⇓P P 17 59 51.2 +0.9
baz=61,SNR=66
G17A ⇓P P 17 59 51.2 +0.9
baz=61,SNR=66
G17A ⇓P P 17 59 51.2 +0.9
baz=61,SNR=66
MLAC Mammoth Lakes 61.26 65 ⇓P P 17 59 52.1 +1.3
baz=61,SNR=26
MLAC ⇓P P 17 59 52.1 +1.3
baz=61,SNR=26
MLAC ⇓P P 17 59 52.1 +1.3
baz=61,SNR=26
KKR Kurukshetra 61.26 284 *e*P P 17 59 51.1 +0.5
KKR AMb AMB 17 59 57.1
comp=Z,2μm,0.7s
B21A Ellsworth Farm 61.27 49 ⇑P P 17 59 51.1 +0.6
baz=61,SNR=21
B21A ⇑P P 17 59 51.1 +0.6
baz=61,SNR=21
B21A ⇑P P 17 59 51.1 +0.6
baz=61,SNR=21
H16A Russell Place, 61.33 54 ⇑P P 17 59 52.0 +0.8
baz=61,SNR=192
H16A ⇑P P 17 59 52.0 +0.8
baz=61,SNR=192
H16A ⇑P P 17 59 52.0 +0.8
baz=61,SNR=192
F18A Big Timber 61.42 52 ⇓P P 17 59 53.0 +1.4
baz=61,SNR=47
F18A ⇓P P 17 59 53.0 +1.4
baz=61,SNR=47
F18A ⇓P P 17 59 53.0 +1.4
baz=61,SNR=47
A22A Carney Farms, 61.47 48 ⇓P P 17 59 52.5 +0.7
baz=61,SNR=171
A22A ⇓P P 17 59 52.5 +0.7
baz=61,SNR=171
A22A ⇓P P 17 59 52.5 +0.7
baz=61,SNR=171
COEN Coen 61.47 193 *e*P P 17 59 51.4 -0.6
comp=Z,4μm,1.7s
J15A Blackfoot 61.48 56 ⇓P P 17 59 53.6 +1.6
baz=61,SNR=85
J15A ⇓P P 17 59 53.6 +1.6
baz=61,SNR=85
J15A ⇓P P 17 59 53.6 +1.6
baz=61,SNR=85
ELK Elko 61.50 60 *e*P P 17 59 52.4 0.0
ELK Elko 61.50 60 *e*P P 17 59 52.4 0.0
BWNR Bhubaneshwar 61.51 270 *ex* P 17 59 47.0 -5.3
BWNR *ex* x 18 02 00.0
YMR Madison River 61.51 54 *e*P P 17 59 53.0 +0.6
comp=Z,388nm,0.4s
GCMT Greycliff 61.52 52 *e*P P 17 59 53.4 +1.1
comp=Z,316nm,1.1s
D20A Manuel Ranch, 61.52 51 ⇑P P 17 59 53.6 +1.4
baz=61,SNR=273
D20A ⇑P P 17 59 53.6 +1.4
baz=61,SNR=273
D20A ⇑P P 17 59 53.6 +1.4
baz=61,SNR=273
E19A Rath Farm, Rou 61.57 51 ⇓P P 17 59 53.7 +1.1
baz=61,SNR=155
E19A ⇓P P 17 59 53.7 +1.1
baz=61,SNR=155
E19A ⇓P P 17 59 53.7 +1.1
baz=61,SNR=155
K14A Jones Ranch, D 61.59 57 ⇑P P 17 59 54.4 +1.6
baz=61,SNR=80
K14A ⇑P P 17 59 54.4 +1.6
baz=61,SNR=80
K14A ⇑P P 17 59 54.4 +1.6
baz=61,SNR=80
C21A Desert Coulee 61.60 49 ⇑P P 17 59 54.0 +1.3
baz=61,SNR=178
C21A ⇑P P 17 59 54.0 +1.3
baz=61,SNR=178
C21A ⇑P P 17 59 54.0 +1.3
baz=61,SNR=178
YNR Norris Junctio 61.64 54 *e*P P 17 59 54.4 +1.1
comp=Z,1μm,1.3s
I16A Newdale 61.71 55 ⇑P P 17 59 55.2 +1.5
baz=62,SNR=24
I16A ⇑P P 17 59 55.2 +1.5
baz=62,SNR=24
I16A ⇑P P 17 59 55.2 +1.5
baz=62,SNR=24
YFT Old Faithful 61.72 54 *e*P P 17 59 56.0 +2.2
comp=Z,2μm,0.5s
NDI New Delhi 61.82 283 *e*P P 17 59 53.9 -0.4
NDI AMb AMB 18 00 07.3
comp=Z,2μm,1.3s
NDI *e*S S 18 08 17.0 +1.3
RCTC Rector, Farmer 61.83 66 ⇑P P 17 59 54.8 +0.4
baz=62,SNR=11
RCTC ⇑P P 17 59 54.8 +0.4
baz=62,SNR=11
RCTC ⇑P P 17 59 54.8 +0.4
baz=62,SNR=11
K15A Arbon 61.87 57 ⇓P P 17 59 56.3 +1.6
baz=62,SNR=114
K15A ⇓P P 17 59 56.3 +1.6
baz=62,SNR=114
K15A ⇓P P 17 59 56.3 +1.6
baz=62,SNR=114
L14A Malta 61.87 58 ⇑P P 17 59 55.7 +1.0
baz=62,SNR=108
L14A ⇑P P 17 59 55.7 +1.0
baz=62,SNR=108
L14A ⇑P P 17 59 55.7 +1.0
baz=62,SNR=108
B22A Reddig Ranch S 61.87 48 ⇑P P 17 59 55.4 +0.8
baz=62,SNR=71
B22A ⇑P P 17 59 55.4 +0.8
baz=62,SNR=71
B22A ⇑P P 17 59 55.4 +0.8
baz=62,SNR=71
F19A Roth Farm, Mol 61.87 52 ⇓P P 17 59 55.7 +1.0
baz=62,SNR=138
F19A ⇓P P 17 59 55.7 +1.0
baz=62,SNR=138
F19A ⇓P P 17 59 55.7 +1.0
baz=62,SNR=138
G18A Lazy EL Ranch, 61.87 53 ⇑P P 17 59 55.5 +0.7
baz=62,SNR=50
G18A ⇑P P 17 59 55.5 +0.7
baz=62,SNR=50
G18A ⇑P P 17 59 55.5 +0.7
baz=62,SNR=50
LKWY Lake 61.89 54 *e*P P 17 59 57.0 +2.0
LKWY pmax pmax
comp=Z,2μm,1.2s
LKWY MLR MLR
comp=Z,271μm,19.0s
LKWY Lake 61.89 54 *e*P P 17 59 57.0 +2.0
comp=Z,2μm,1.2s
LKWY LR LR
comp=Z,271μm,19.0s
H17A Grant Village 61.90 54 ⇓P P 17 59 57.3 +2.2
baz=62,SNR=182
H17A ⇓P P 17 59 57.3 +2.2
baz=62,SNR=182
H17A ⇓P P 17 59 57.3 +2.2
baz=62,SNR=182
E20A Meyer Farm, Mu 61.90 51 ⇑P P 17 59 56.0 +1.3
baz=62,SNR=110
E20A ⇑P P 17 59 56.0 +1.3
baz=62,SNR=110
E20A ⇑P P 17 59 56.0 +1.3
baz=62,SNR=110
JOF Joensuu 61.90 335 *e*P P 17 59 54.0 -0.4
JOF pmax pmax
comp=Z,933nm,0.8s
JOF Joensuu 61.90 335 *e*p P 17 59 54.0 -0.4
comp=Z,933nm,0.8s
JOF Joensuu 61.90 335 *e*p P 17 59 54.0 -0.4
comp=Z,933nm,0.8s
JMIC Jan Mayen 61.91 354 ⇑*i*P P 17 59 55.8 +1.5
JMIC AMB AMB 18 00 14.4
comp=Z,3μm,3.3s
JMIC *e*S S 18 08 17.2 +1.6
JMIC AMS AMS 18 24 51.1
comp=Z,183μm,22.5s
TPH Tonopah 61.98 63 PFAKE 18 00 10.0 +14
TPH LR LR
comp=Z,238μm,20.0s
SMMC Simmler 61.98 67 ⇓P P 17 59 56.6 +1.1
baz=62,SNR=12
SMMC ⇓P P 17 59 56.6 +1.1
baz=62,SNR=12
SMMC ⇓P P 17 59 56.6 +1.1
baz=62,SNR=12
AYAN Aya Nagar 62.01 283 *e*P P 17 59 55.5 -0.1
A23A Redstone 62.02 47 ⇑P P 17 59 56.2 +0.7
baz=62,SNR=52
A23A ⇑P P 17 59 56.2 +0.7
baz=62,SNR=52
A23A ⇑P P 17 59 56.2 +0.7
baz=62,SNR=52
FLWY Flagg Ranch 62.03 54 *e*P P 17 59 57.2 +1.3
comp=Z,929nm,1.2s
DCID1 Drake Creek 62.06 55 *e*P P 17 59 57.9 +1.8
comp=Z,1μm,1.2s
D21A La Casta Ranch 62.14 50 ⇓P P 17 59 57.5 +1.1
baz=62,SNR=95
D21A ⇓P P 17 59 57.5 +1.1
baz=62,SNR=95
D21A ⇓P P 17 59 57.5 +1.1
baz=62,SNR=95
RLMT Red Lodge 62.16 53 *e*P P 17 59 57.2 +0.5
comp=Z,654nm,2.1s
RLMT LR LR
comp=Z,220μm,20.0s
RLMT Red Lodge 62.16 53 ⇓P P 17 59 57.9 +1.2
baz=62
RLMT ⇓P P 17 59 57.9 +1.2
baz=62
RLMT ⇓P P 17 59 57.9 +1.2
baz=62
RLMT ⇓P P 17 59 57.9 +1.2
baz=62
RLMT ⇓P P 17 59 57.9 +1.2
baz=62
RLMT ⇓P P 17 59 57.9 +1.2
baz=62
I17A Pilgrim Ck. 62.20 55 ⇑P P 17 59 58.9 +1.9
baz=62,SNR=128
I17A ⇑P P 17 59 58.9 +1.9
baz=62,SNR=128
I17A ⇑P P 17 59 58.9 +1.9
baz=62,SNR=128
MOOW Moose Ponds 62.21 55 *e*P P 17 59 57.5 +0.5
comp=Z,182nm,1.1s
H18A Shoshone NF, C 62.22 53 ⇓P P 17 59 58.2 +1.0
baz=62,SNR=71
H18A ⇓P P 17 59 58.2 +1.0
baz=62,SNR=71
H18A ⇓P P 17 59 58.2 +1.0
baz=62,SNR=71
VES Vestal, Richgr 62.23 66 ⇓P P 17 59 57.0 0.0
baz=62,SNR=30
VES ⇓P P 17 59 57.0 0.0
baz=62,SNR=30
VES ⇓P P 17 59 57.0 0.0
baz=62,SNR=30
AGRA Agra 62.27 281 *e*P P 17 59 57.8 +0.4
AGRA AMb AMB 18 00 07.9
comp=Z,1μm,1.0s
AGRA *ex* x 18 08 24.2
B23A Brockton 62.28 48 ⇑P P 17 59 58.1 +0.8
baz=62,SNR=218
B23A ⇑P P 17 59 58.1 +0.8
baz=62,SNR=218
B23A ⇑P P 17 59 58.1 +0.8
baz=62,SNR=218
C22A Vida 62.28 49 ⇓P P 17 59 57.9 +0.6
baz=62,SNR=37
C22A ⇓P P 17 59 57.9 +0.6
baz=62,SNR=37
C22A ⇓P P 17 59 57.9 +0.6
baz=62,SNR=37
HVU Hansel Valley 62.30 58 *e*P P 17 59 58.0 +0.3
HVU pmax pmax
comp=Z,998nm,0.9s
HVU Hansel Valley 62.30 58 *e*P P 17 59 58.0 +0.3
comp=Z,998nm,0.9s
K16A Soda Springs 62.31 56 ⇑P P 17 59 59.3 +1.5
baz=62,SNR=136
K16A ⇑P P 17 59 59.3 +1.5
baz=62,SNR=136
K16A ⇑P P 17 59 59.3 +1.5
baz=62,SNR=136
F20A Billings 62.34 52 ⇑P P 17 59 58.5 +0.8
baz=62,SNR=62
F20A ⇑P P 17 59 58.5 +0.8
baz=62,SNR=62
F20A ⇑P P 17 59 58.5 +0.8
baz=62,SNR=62
PKM Peak Mountain 62.36 68 ⇑P P 17 59 59.4 +1.3
baz=62,SNR=105
PKM ⇑P P 17 59 59.4 +1.3
baz=62,SNR=105
PKM ⇑P P 17 59 59.4 +1.3
baz=62,SNR=105
LOHW Long Hollow 62.38 55 *e*P P 17 59 59.2 +1.0
comp=Z,944nm,1.2s
L15A Mad City 62.38 57 ⇑P P 17 59 59.3 +1.1
baz=62,SNR=76
L15A ⇑P P 17 59 59.3 +1.1
baz=62,SNR=76
L15A ⇑P P 17 59 59.3 +1.1
baz=62,SNR=76
SNOW Snow King Moun 62.39 55 *e*P P 17 59 59.6 +1.3
comp=Z,1μm,1.3s
REDW Red Top Meadow 62.40 55 *e*P P 17 59 59.3 +0.9
comp=Z,47nm,1.4s
E21A Keefer Ranch, 62.44 51 ⇓P P 17 59 59.6 +1.3
baz=62,SNR=67
E21A ⇓P P 17 59 59.6 +1.3
baz=62,SNR=67
E21A ⇓P P 17 59 59.6 +1.3
baz=62,SNR=67
KULM Kulim 62.44 246 PFAKE 18 00 10.0 +11
KULM LR LR
comp=Z,57μm,21.0s
KULM Kulim 62.44 246 P P 18 00 05.4 +6.8
KULM Kulim 62.44 246 P P 18 00 04.7 +6.0
comp=Z,1μm,1.1s,comp=Z,66μmcomp=Z,767μm
J17A Brown Place, J 62.47 55 ⇓P P 18 00 00.2 +1.4
baz=62,SNR=111
J17A ⇓P P 18 00 00.2 +1.4
baz=62,SNR=111
J17A ⇓P P 18 00 00.2 +1.4
baz=62,SNR=111
CWC Cottonwood Cre 62.48 65 ⇑P P 17 59 59.7 +0.8
baz=62,SNR=70
CWC ⇑P P 17 59 59.7 +0.8
baz=62,SNR=70
CWC ⇑P P 17 59 59.7 +0.8
baz=62,SNR=70
A24A Westby 62.48 47 ⇑P P 17 59 59.1 +0.5
baz=62,SNR=106
A24A ⇑P P 17 59 59.1 +0.5
baz=62,SNR=106
A24A ⇑P P 17 59 59.1 +0.5
baz=62,SNR=106
D22A Cohagen 62.52 50 ⇓P P 17 59 59.9 +1.0
baz=62,SNR=142
D22A ⇓P P 17 59 59.9 +1.0
baz=62,SNR=142
D22A ⇓P P 17 59 59.9 +1.0
baz=62,SNR=142
GRAC Grapevine Rang 62.56 64 ⇑P P 18 00 00.5 +1.2
baz=62,SNR=32
GRAC ⇑P P 18 00 00.5 +1.2
baz=62,SNR=32
GRAC ⇑P P 18 00 00.5 +1.2
baz=62,SNR=32
H19A Powell 62.60 53 ⇑P P 18 00 01.0 +1.4
baz=62,SNR=24
H19A ⇑P P 18 00 01.0 +1.4
baz=62,SNR=24
H19A ⇑P P 18 00 01.0 +1.4
baz=62,SNR=24
C23A Lambert 62.61 48 ⇑P P 18 00 00.3 +0.9
baz=62,SNR=55
C23A ⇑P P 18 00 00.3 +0.9
baz=62,SNR=55
C23A ⇑P P 18 00 00.3 +0.9
baz=62,SNR=55
AHID Auburn Hatcher 62.63 56 *e*P P 18 00 00.8 +0.9
comp=Z,1μm,1.3s
AHID LR LR
comp=Z,492μm,22.0s
KUDL Kundal 62.65 283 *e*P P 18 00 00.3 +0.4
KUDL AMb AMB 18 00 06.9
comp=Z,1μm,0.9s
KUDL *ex* x 18 08 28.8
G20A Bridger 62.67 52 ⇑P P 18 00 00.4 +0.4
baz=62,SNR=105
G20A ⇑P P 18 00 00.4 +0.4
baz=62,SNR=105
G20A ⇑P P 18 00 00.4 +0.4
baz=62,SNR=105
DGMT Dagmar 62.68 47 *e*P P 18 00 00.1 +0.2
comp=Z,2μm,1.3s
DGMT LR LR
comp=Z,426μm,21.0s
DGMT Dagmar 62.68 47 ⇓P P 18 00 00.5 +0.6
baz=62,SNR=129
DGMT ⇓P P 18 00 00.5 +0.6
baz=62,SNR=129
DGMT ⇓P P 18 00 00.5 +0.6
baz=62,SNR=129
M15A Larsen Ranch, 62.69 58 ⇑P P 18 00 01.0 +0.8
baz=62,SNR=241
M15A ⇑P P 18 00 01.0 +0.8
baz=62,SNR=241
M15A ⇑P P 18 00 01.0 +0.8
baz=62,SNR=241
SBC Santa Barbara 62.72 68 ⇓P P 18 00 01.3 +1.0
baz=63,SNR=11
SBC ⇓P P 18 00 01.3 +1.0
baz=63,SNR=11
SBC ⇓P P 18 00 01.3 +1.0
baz=63,SNR=11
ISA Isabella 62.72 66 *e*P P 17 59 59.8 -0.7
ISA pmax pmax
comp=Z,629nm,0.7s
ISA Isabella 62.72 66 *e*P P 17 59 59.8 -0.7
comp=Z,629nm,0.7s
ISA Isabella 62.72 66 ⇓P P 18 00 00.4 -0.1
baz=63,SNR=96
ISA ⇓P P 18 00 00.4 -0.1
baz=63,SNR=96
ISA ⇓P P 18 00 00.4 -0.1
baz=63,SNR=96
K17A Gardner Place, 62.75 56 ⇓P P 18 00 01.3 +0.6
baz=63,SNR=24
K17A ⇓P P 18 00 01.3 +0.6
baz=63,SNR=24
K17A ⇓P P 18 00 01.3 +0.6
baz=63,SNR=24
I18A Diamond G Ranc 62.76 54 ⇑P P 18 00 02.2 +1.4
baz=63,SNR=91
I18A ⇑P P 18 00 02.2 +1.4
baz=63,SNR=91
I18A ⇑P P 18 00 02.2 +1.4
baz=63,SNR=91
R11A Troy Canyon, C 62.80 62 ⇓P P 18 00 01.7 +0.6
baz=63,SNR=253
R11A ⇓P P 18 00 01.7 +0.6
baz=63,SNR=253
R11A ⇓P P 18 00 01.7 +0.6
baz=63,SNR=253
IPM Ipoh 62.83 245 *e*P P 18 00 01.9 +0.6
comp=Z,1μm,1.2s
IPM Ipoh 62.83 245 P P 18 00 02.7 +1.4
IPM Ipoh 62.83 245 P P 18 00 01.7 +0.4
comp=Z,663nm,1.2s,comp=Z,53μmcomp=Z,732μm
ARVC Arvin 62.84 67 ⇑P P 18 00 01.5 +0.4
baz=63,SNR=18
ARVC ⇑P P 18 00 01.5 +0.4
baz=63,SNR=18
ARVC ⇑P P 18 00 01.5 +0.4
baz=63,SNR=18
F21A Absaloka Mine, 62.87 51 ⇓P P 18 00 01.8 +0.5
baz=63,SNR=18
F21A ⇓P P 18 00 01.8 +0.5
baz=63,SNR=18
F21A ⇓P P 18 00 01.8 +0.5
baz=63,SNR=18
DAC Darwin (Calif) 62.88 65 PFAKE 18 00 10.0 +8.3
DAC LR LR
comp=Z,331μm,21.0s
J18A Kendall Valley 62.96 55 ⇓P P 18 00 03.3 +1.2
baz=63,SNR=94
J18A ⇓P P 18 00 03.3 +1.2
baz=63,SNR=94
J18A ⇓P P 18 00 03.3 +1.2
baz=63,SNR=94
SCO Scoresbysund 62.98 359 ⇑*i*P P 18 00 02.5 +1.0
SCO *i* S S 18 08 32.9 +3.9
SCO pmax pmax
comp=Z,330nm,0.9s
SCO MLR MLR
comp=Z,170μm,20.0s
SCO Scoresbysund 62.98 359 ⇑*i*P P 18 00 02.5 +1.0
comp=Z,328nm,0.9s
SCO *i* S S 18 08 32.9 +3.9
SCO
comp=Z,172μm,20.0s
I19A Meeteetse 63.00 54 ⇓P P 18 00 03.5 +1.2
baz=63,SNR=42
I19A ⇓P P 18 00 03.5 +1.2
baz=63,SNR=42
I19A ⇓P P 18 00 03.5 +1.2
baz=63,SNR=42
D23A Lindsay 63.01 49 ⇓P P 18 00 03.0 +0.9
baz=63,SNR=43
D23A ⇓P P 18 00 03.0 +0.9
baz=63,SNR=43
D23A ⇓P P 18 00 03.0 +0.9
baz=63,SNR=43
N15A Stansbury Isla 63.01 58 ⇑P P 18 00 03.3 +0.9
baz=63,SNR=57
N15A ⇑P P 18 00 03.3 +0.9
baz=63,SNR=57
N15A ⇑P P 18 00 03.3 +0.9
baz=63,SNR=57
BSC Santa Cruz Isl 63.05 68 ⇓P P 18 00 02.9 +0.3
baz=63,SNR=14
BSC ⇓P P 18 00 02.9 +0.3
baz=63,SNR=14
BSC ⇓P P 18 00 02.9 +0.3
baz=63,SNR=14
MPMC Manual Prospec 63.09 65 ⇓P P 18 00 03.7 +0.7
baz=63,SNR=277
MPMC ⇓P P 18 00 03.7 +0.7
baz=63,SNR=277
MPMC ⇓P P 18 00 03.7 +0.7
baz=63,SNR=277
E22A Miles City 63.10 50 ⇓P P 18 00 03.6 +0.9
baz=63,SNR=91
E22A ⇓P P 18 00 03.6 +0.9
baz=63,SNR=91
E22A ⇓P P 18 00 03.6 +0.9
baz=63,SNR=91
HWUT Hardware Ranch 63.11 57 *e*P P 18 00 03.7 +0.7
comp=Z,4μm,2.1s
HWUT LR LR
comp=Z,254μm,21.0s
KHET Khetri 63.16 283 *e*P P 18 00 03.6 +0.3
KHET *e*S S 18 08 34.7 +2.2
C24A Savage 63.18 48 ⇓P P 18 00 04.0 +0.7
baz=63,SNR=15
C24A ⇓P P 18 00 04.0 +0.7
baz=63,SNR=15
C24A ⇓P P 18 00 04.0 +0.7
baz=63,SNR=15
L17A Cokeville 63.19 56 ⇓P P 18 00 04.5 +0.9
baz=63,SNR=86
L17A ⇓P P 18 00 04.5 +0.9
baz=63,SNR=86
L17A ⇓P P 18 00 04.5 +0.9
baz=63,SNR=86
MYKOM Kota Tinggi 63.21 241 P P 18 00 06.0 +2.2
MYKOM Kota Tinggi 63.21 241 P P 18 00 05.6 +1.8
comp=Z,968nm,1.1s,comp=Z,64μmcomp=Z,757μm
G21A Lodge Grass 63.21 52 ⇑P P 18 00 04.1 +0.5
baz=63,SNR=30
G21A ⇑P P 18 00 04.1 +0.5
baz=63,SNR=30
G21A ⇑P P 18 00 04.1 +0.5
baz=63,SNR=30
FURC Furnace Creek, 63.22 64 ⇑P P 18 00 04.6 +1.0
baz=63,SNR=85
FURC ⇑P P 18 00 04.6 +1.0
baz=63,SNR=85
FURC ⇑P P 18 00 04.6 +1.0
baz=63,SNR=85

OSI Osito Adit 63.23 67 *e*P P 18 00 04.3 +0.5
comp=Z,789nm,0.9s
OSI Osito Adit 63.23 67 ⇓P P 18 00 04.6 +0.7
baz=63,SNR=7.7
OSI ⇓P P 18 00 04.6 +0.7
baz=63,SNR=7.7
OSI ⇓P P 18 00 04.6 +0.7
baz=63,SNR=7.7
H20A Greybull 63.26 53 ⇑P P 18 00 04.1 +0.2
baz=63,SNR=25
H20A ⇑P P 18 00 04.1 +0.2
baz=63,SNR=25
H20A ⇑P P 18 00 04.1 +0.2
baz=63,SNR=25
DUG Dugway 63.28 59 *e*P P 18 00 04.8 +0.6
DUG pmax pmax
comp=Z,49nm,0.6s
DUG MLR MLR
comp=Z,304μm,21.0s
DUG Dugway 63.28 59 *e*P P 18 00 04.8 +0.6
comp=Z,49nm,0.6s
DUG LR LR
comp=Z,304μm,21.0s
DUG Dugway 63.28 59 ⇓P P 18 00 05.2 +1.1
baz=63,SNR=204
DUG ⇓P P 18 00 05.2 +1.1
baz=63,SNR=204
DUG ⇓P P 18 00 05.2 +1.1
baz=63,SNR=204
K18A Toltan Ranch, 63.32 55 ⇑P P 18 00 05.7 +1.2
baz=63,SNR=48
K18A ⇑P P 18 00 05.7 +1.2
baz=63,SNR=48
K18A ⇑P P 18 00 05.7 +1.2
baz=63,SNR=48
LRMC Laurel Mountai 63.33 66 ⇑P P 18 00 05.1 +0.5
baz=63,SNR=121
LRMC ⇑P P 18 00 05.1 +0.5
baz=63,SNR=121
LRMC ⇑P P 18 00 05.1 +0.5
baz=63,SNR=121
BLG Laguna Peak 63.34 68 ⇑P P 18 00 04.7 +0.2
baz=63,SNR=6.5
BLG ⇑P P 18 00 04.7 +0.2
baz=63,SNR=6.5
BLG ⇑P P 18 00 04.7 +0.2
baz=63,SNR=6.5
KGM Kluang 63.35 242 P P 18 00 07.0 +2.3
F22A Rosebud 63.36 51 ⇑P P 18 00 05.2 +0.7
baz=63,SNR=111
F22A ⇑P P 18 00 05.2 +0.7
baz=63,SNR=111
F22A ⇑P P 18 00 05.2 +0.7
baz=63,SNR=111
MOR8 Moi Rana 63.37 343 *e*P P 18 00 02.8 -1.4
MOR8 AMB AMB 18 00 22.9
comp=Z,3μm,1.2s
KBL Kabul 63.39 293 *e*P P 18 00 04.5 -0.6
KBL pmax pmax
comp=Z,676nm,0.6s
KBL Kabul 63.39 293 *e*P P 18 00 04.5 -0.6
comp=Z,676nm,0.6s
E23A Ismay 63.40 50 ⇑P P 18 00 05.8 +1.1
baz=63,SNR=20
E23A ⇑P P 18 00 05.8 +1.1
baz=63,SNR=20
E23A ⇑P P 18 00 05.8 +1.1
baz=63,SNR=20
FRIM Kepong 63.43 244 P P 18 00 07.0 +1.8
O15A The Old Anders 63.43 59 ⇑P P 18 00 06.2 +1.0
baz=63,SNR=27
O15A ⇑P P 18 00 06.2 +1.0
baz=63,SNR=27
O15A ⇑P P 18 00 06.2 +1.0
baz=63,SNR=27
FLOS Flostrand 63.44 344 *e*P P 18 00 04.9 +0.4
J19A Crowheart 63.47 54 ⇑P P 18 00 06.6 +1.2
baz=63,SNR=200
J19A ⇑P P 18 00 06.6 +1.2
baz=63,SNR=200
J19A ⇑P P 18 00 06.6 +1.2
baz=63,SNR=200
D24A Glendive 63.50 49 ⇓P P 18 00 06.3 +0.9
baz=63,SNR=136
D24A ⇓P P 18 00 06.3 +0.9
baz=63,SNR=136
D24A ⇓P P 18 00 06.3 +0.9
baz=63,SNR=136
BW06 Boulder Array 63.51 55 *e*P P 18 00 05.7 -0.1
comp=Z,362nm,1.1s
BW06 LR LR
comp=Z,296μm,22.0s
BW06 Boulder Array 63.51 55 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
BW06 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
BW06 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
BW06 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
BW06 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
BW06 ⇓P P 18 00 06.1 +0.3
baz=63,SNR=221
PDAR Pinedale Array 63.51 55 P P 18 00 05.9 +0.1
comp=Z,150nm,0.9s,baz=273,slow=2.1,SNR=532
PDAR LR LR 18 23 51.6
comp=Z,230μm,21.8s,baz=325,slow=32
PDAR PKPPKP P'P'df 18 28 59.8 -7.1
comp=Z,12nm,1.1s,baz=131,slow=3.8,SNR=6.9
PDAR PKP2bc 18 29 06.3
comp=Z,7.5nm,0.9s,baz=126,slow=2.0,SNR=13
PDAR PKP2ab 18 29 15.1
comp=Z,11nm,1.0s,baz=131,slow=4.1,SNR=6.1
PDAR Pinedale Array 63.51 55 P P 18 00 05.9 +0.1
PDAR P'P' 18 28 59.8
PDAR ⇑*e* 18 29 06.3
PDAR P'P'ab **P'P'ab 18 29 15.1 -4.6**
STOK Stokkvaagen 63.51 344 *e*P P 18 00 04.3 -0.7
STOK AMB AMB 18 00 23.4
comp=Z,3μm,3.0s
STOK *e*S S 18 08 36.1 +0.4
STOK AMS AMS 18 33 39.4
comp=Z,603μm,14.9s
EDW2 Edwards Air Fo 63.53 66 ⇑P P 18 00 06.5 +0.7
baz=63,SNR=216
EDW2 ⇑P P 18 00 06.5 +0.7
baz=63,SNR=216
EDW2 ⇑P P 18 00 06.5 +0.7
baz=63,SNR=216
I20A Worland 63.54 53 ⇑P P 18 00 06.8 +1.0
baz=63,SNR=76
I20A ⇑P P 18 00 06.8 +1.0
baz=63,SNR=76
I20A ⇑P P 18 00 06.8 +1.0
baz=63,SNR=76
CTU Camp Tracy 63.59 58 *e*P P 18 00 03.6 -2.6
comp=Z,688nm,1.4s
N16A Rees Ranch, Co 63.64 58 ⇓P P 18 00 07.7 +1.1
baz=64
N16A ⇓P P 18 00 07.7 +1.1
baz=64
N16A ⇓P P 18 00 07.7 +1.1
baz=64
H21A Big Horn, Sher 63.69 52 ⇓P P 18 00 07.7 +0.9
baz=64,SNR=64
H21A ⇓P P 18 00 07.7 +0.9
baz=64,SNR=64
H21A ⇓P P 18 00 07.7 +0.9
baz=64,SNR=64
M17A Scullys Gap (B 63.71 57 ⇓P P 18 00 07.5 +0.4
baz=64,SNR=46
M17A ⇓P P 18 00 07.5 +0.4
baz=64,SNR=46
M17A ⇓P P 18 00 07.5 +0.4
baz=64,SNR=46
DECC Green Verdugo 63.72 67 ⇑P P 18 00 07.6 +0.6
baz=64,SNR=21
DECC ⇑P P 18 00 07.6 +0.6
baz=64,SNR=21
DECC ⇑P P 18 00 07.6 +0.6
baz=64,SNR=21
L18A Fontenelle, Gr 63.78 56 ⇓P P 18 00 08.2 +0.6
baz=64,SNR=83
L18A ⇓P P 18 00 08.2 +0.6
baz=64,SNR=83
L18A ⇓P P 18 00 08.2 +0.6
baz=64,SNR=83

JLU Jordanelle 63.82 58 *e*P P 18 00 08.2 +0.4
comp=Z,2μm,1.9s
F23A Volborg 63.85 50 ⇑P P 18 00 08.5 +0.8
baz=64,SNR=308
F23A ⇑P P 18 00 08.5 +0.8
baz=64,SNR=308
F23A ⇑P P 18 00 08.5 +0.8
baz=64,SNR=308
PASC Pasadena Art C 63.86 67 *e*P P 18 00 07.9 0.0
comp=Z,2μm,1.7s
K19A Absolon Red Bu 63.87 55 ⇑P P 18 00 08.3 +0.2
baz=64,SNR=152
K19A ⇑P P 18 00 08.3 +0.2
baz=64,SNR=152
K19A ⇑P P 18 00 08.3 +0.2
baz=64,SNR=152
E24A Baker 63.87 49 ⇓P P 18 00 08.5 +0.6
baz=64,SNR=40
E24A ⇓P P 18 00 08.5 +0.6
baz=64,SNR=40
E24A ⇓P P 18 00 08.5 +0.6
baz=64,SNR=40
R13A O'Grain Ranch, 63.89 61 ⇓P P 18 00 08.9 +0.6
baz=64,SNR=72
R13A ⇓P P 18 00 08.9 +0.6
baz=64,SNR=72
R13A ⇓P P 18 00 08.9 +0.6
baz=64,SNR=72
MWC Mount Wilson 63.91 67 *e*P P 18 00 08.4 -0.1
MWC pmax pmax
comp=Z,3μm,1.7s
MWC Mount Wilson 63.91 67 *e*P P 18 00 08.4 -0.1
comp=Z,3μm,1.7s
SHOC Shoshone 63.94 65 ⇑P P 18 00 09.0 +0.6
baz=64,SNR=21
SHOC ⇑P P 18 00 09.0 +0.6
baz=64,SNR=21
SHOC ⇑P P 18 00 09.0 +0.6
baz=64,SNR=21
J20A Shoshoni 63.95 54 ⇑P P 18 00 09.5 +1.0
baz=64,SNR=130
J20A ⇑P P 18 00 09.5 +1.0
baz=64,SNR=130
J20A ⇑P P 18 00 09.5 +1.0
baz=64,SNR=130
N17A Moffit Pass 63.96 57 ⇓P P 18 00 09.3 +0.5
baz=64,SNR=212
N17A ⇓P P 18 00 09.3 +0.5
baz=64,SNR=212
N17A ⇓P P 18 00 09.3 +0.5
baz=64,SNR=212
P15A Leamington 64.00 59 ⇑P P 18 00 09.7 +0.8
baz=64,SNR=60
P15A ⇑P P 18 00 09.7 +0.8
baz=64,SNR=60
P15A ⇑P P 18 00 09.7 +0.8
baz=64,SNR=60
GSC Goldstone 64.00 65 *e*P P 18 00 09.1 +0.2
GSC pmax pmax
comp=Z,437nm,1.0s
GSC Goldstone 64.00 65 *e*P P 18 00 09.1 +0.2
comp=Z,437nm,1.0s
GSC Goldstone 64.00 65 ⇑P P 18 00 09.7 +0.7
baz=64,SNR=91
GSC ⇑P P 18 00 09.7 +0.7
baz=64,SNR=91
GSC ⇑P P 18 00 09.7 +0.7
baz=64,SNR=91
L19A Farson 64.05 55 ⇑P P 18 00 10.0 +0.7
baz=64,SNR=33
L19A ⇑P P 18 00 10.0 +0.7
baz=64,SNR=33
L19A ⇑P P 18 00 10.0 +0.7
baz=64,SNR=33
DAU Daniels Canyon 64.05 58 *e*P P 18 00 10.5 +1.0
DAU pmax pmax
comp=Z,149nm,0.4s
DAU Daniels Canyon 64.05 58 *e*P P 18 00 10.5 +1.0
comp=Z,149nm,0.4s
M18A Lyman 64.08 56 ⇑P P 18 00 09.9 +0.4
baz=64,SNR=48
M18A ⇑P P 18 00 09.9 +0.4
baz=64,SNR=48
M18A ⇑P P 18 00 09.9 +0.4
baz=64,SNR=48
H22A Clearmont 64.08 52 ⇓P P 18 00 09.9 +0.5
baz=64,SNR=12
H22A ⇓P P 18 00 09.9 +0.5
baz=64,SNR=12
H22A ⇓P P 18 00 09.9 +0.5
baz=64,SNR=12
I21A Big Trails, Te 64.08 53 ⇓P P 18 00 10.0 +0.6
baz=64,SNR=186
I21A ⇓P P 18 00 10.0 +0.6
baz=64,SNR=186
I21A ⇓P P 18 00 10.0 +0.6
baz=64,SNR=186
FMP Fort Macarthur 64.09 68 ⇑P P 18 00 09.7 +0.4
baz=64,SNR=9.8
FMP ⇑P P 18 00 09.7 +0.4
baz=64,SNR=9.8
FMP ⇑P P 18 00 09.7 +0.4
baz=64,SNR=9.8
MPU Maple Canyon 64.09 58 *e*P P 18 00 10.1 +0.5
comp=Z,801nm,1.3s
BFSC Mount Baldy Ra 64.15 67 ⇑P P 18 00 10.3 +0.4
baz=64,SNR=65
BFSC ⇑P P 18 00 10.3 +0.4
baz=64,SNR=65
BFSC ⇑P P 18 00 10.3 +0.4
baz=64,SNR=65
RRX Edison Barstow 64.15 66 ⇓P P 18 00 10.5 +0.7
baz=64
RRX ⇓P P 18 00 10.5 +0.7
baz=64
RRX ⇓P P 18 00 10.5 +0.7
baz=64
G23A Biddle 64.20 51 ⇓P P 18 00 10.7 +0.6
baz=64,SNR=190
G23A ⇓P P 18 00 10.7 +0.6
baz=64,SNR=190
G23A ⇓P P 18 00 10.7 +0.6
baz=64,SNR=190
CIS Catalina Islan 64.22 68 ⇓P P 18 00 10.7 +0.4
baz=64,SNR=120
CIS ⇓P P 18 00 10.7 +0.4
baz=64,SNR=120
CIS ⇓P P 18 00 10.7 +0.4
baz=64,SNR=120
K20A Yellowstone Ra 64.26 54 ⇓P P 18 00 10.6 0.0
baz=64,SNR=80
K20A ⇓P P 18 00 10.6 0.0
baz=64,SNR=80
K20A ⇓P P 18 00 10.6 0.0
baz=64,SNR=80
F24A Ekalaka 64.28 50 ⇑P P 18 00 11.2 +0.6
baz=64,SNR=45
F24A ⇑P P 18 00 11.2 +0.6
baz=64,SNR=45
F24A ⇑P P 18 00 11.2 +0.6
baz=64,SNR=45
J21A Lysite 64.31 53 ⇓P P 18 00 11.5 +0.6
baz=64,SNR=102
J21A ⇓P P 18 00 11.5 +0.6
baz=64,SNR=102
J21A ⇓P P 18 00 11.5 +0.6
baz=64,SNR=102
P16A Fountain Green 64.34 59 ⇓P P 18 00 12.5 +1.3
baz=64,SNR=16
P16A ⇓P P 18 00 12.5 +1.3
baz=64,SNR=16
P16A ⇓P P 18 00 12.5 +1.3
baz=64,SNR=16
SCI San Clemente I 64.40 68 ⇑P P 18 00 12.1 +0.6
baz=64,SNR=39
SCI ⇑P P 18 00 12.1 +0.6
baz=64,SNR=39
SCI ⇑P P 18 00 12.1 +0.6
baz=64,SNR=39
ARUT Antelope Range 64.46 61 *e*P P 18 00 12.4 +0.4
ARUT pmax pmax
comp=Z,2μm,0.8s
ARUT Antelope Range 64.46 61 *e*P P 18 00 12.4 +0.4
comp=Z,2μm,0.8s
TUQ Turquoise Moun 64.46 65 ⇓P P 18 00 12.7 +0.7
baz=64,SNR=95
TUQ ⇓P P 18 00 12.7 +0.7
baz=64,SNR=95
TUQ ⇓P P 18 00 12.7 +0.7
baz=64,SNR=95

I22A 9 Mile Ranch, 64.47 52 ⇓P P 18 00 12.7 +0.7
baz=64,SNR=198
I22A ⇓P P 18 00 12.7 +0.7
baz=64,SNR=198
I22A ⇓P P 18 00 12.7 +0.7
baz=64,SNR=198
O17A Robinson Place 64.50 58 ⇑P P 18 00 13.0 +0.7
baz=64,SNR=57
O17A ⇑P P 18 00 13.0 +0.7
baz=64,SNR=57
O17A ⇑P P 18 00 13.0 +0.7
baz=64,SNR=57
M19A Rock Springs 64.55 56 ⇑P P 18 00 12.7 +0.1
baz=64,SNR=29
M19A ⇑P P 18 00 12.7 +0.1
baz=64,SNR=29
M19A ⇑P P 18 00 12.7 +0.1
baz=64,SNR=29
FINES FINESS Array B 64.58 336 P P 18 00 11.9 -0.2
comp=Z,855nm,0.8s,baz=35,slow=6.6,SNR=171
FINES PKPPKP **P'P'df 18 29 01.9 -4.1**
comp=Z,29nm,1.0s,baz=173,slow=3.3,SNR=8.7
FINES PKP2ab 18 29 08.4
comp=Z,24nm,0.8s,baz=114,slow=2.3,SNR=7.5
FINES LR LR 18 32 57.5
comp=Z,660μm,21.0s,baz=39,slow=40
FINES FINESS Array B 64.58 336 P P 18 00 11.9 -0.2
FINES FINESS Array B 64.58 336 P P 18 00 11.9 -0.2
FINES P'P' **P'P'df 18 29 01.9 -4.1**
FINES P'P'ab P'P'ab 18 29 08.4 -7.9
BBRC Big Bear Solar 64.60 66 ⇓P P 18 00 13.6 +0.6
baz=64,SNR=16
BBRC ⇓P P 18 00 13.6 +0.6
baz=64,SNR=16
BBRC ⇓P P 18 00 13.6 +0.6
baz=64,SNR=16
HEC Hector,Ludlow 64.60 66 ⇓P P 18 00 13.6 +0.7
baz=64,SNR=81
HEC ⇓P P 18 00 13.6 +0.7
baz=64,SNR=81
HEC ⇓P P 18 00 13.6 +0.7
baz=64,SNR=81
H23A Clabaugh Cattl 64.62 51 ⇓P P 18 00 12.8 0.0
baz=64,SNR=9.5
H23A ⇓P P 18 00 12.8 0.0
baz=64,SNR=9.5
H23A ⇓P P 18 00 12.8 0.0
baz=64,SNR=9.5
G24A Alzada 64.63 50 ⇑P P 18 00 13.3 +0.4
baz=64,SNR=25
G24A ⇑P P 18 00 13.3 +0.4
baz=64,SNR=25
G24A ⇑P P 18 00 13.3 +0.4
baz=64,SNR=25
PUL Pulkovo 64.65 333*ce*P P 18 00 12.2 -0.4
PUL pmax pmax
comp=Z,2μm,0.8s
PUL MLR MLR
comp=Z,515μm,23.0s
CCUT Cedar City 64.66 62 *e*P P 18 00 14.0 +0.6
comp=Z,147nm,0.4s
L20A Wamsutter 64.68 55 ⇓P P 18 00 14.1 +0.6
baz=64,SNR=64
L20A ⇓P P 18 00 14.1 +0.6
baz=64,SNR=64
L20A ⇓P P 18 00 14.1 +0.6
baz=64,SNR=64
MVU Marysvale 64.73 60 PFAKE 18 00 30.0 +16
MVU LR LR
comp=Z,369μm,21.0s
MSU Marysvale 64.75 60 *e*P P 18 00 14.5 +0.6
MSU pmax pmax
comp=Z,485nm,0.9s
MSU Marysvale 64.75 60 *e*P P 18 00 14.5 +0.6
comp=Z,485nm,0.9s
SFJD Kangerlussuaq 64.80 11⇑*i*P P 18 00 14.0 +0.5
SFJD *e*S S 18 08 51.5 -0.2
SFJD pmax pmax
comp=Z,1μm,0.8s
SFJD MLR MLR
comp=Z,320μm,21.0s
SFJD Kangerlussuaq 64.80 11 *e*P P 18 00 10.9 -2.6
comp=Z,1μm,0.8s
SFJD LR LR
comp=Z,436μm,21.0s
SFJD Kangerlussuaq 64.80 11⇑*i*P P 18 00 14.0 +0.5
comp=Z,1μm,0.9s
SFJD *e*S S 18 08 51.5 -0.2
SFJD
comp=Z,316μm,21.0s
TMUT Trail Mountain 64.81 59 *e*P P 18 00 14.7 +0.3
comp=Z,2μm,0.5s
MURC Murrieta 64.85 67 ⇓P P 18 00 14.9 +0.4
baz=65,SNR=65
MURC ⇓P P 18 00 14.9 +0.4
baz=65,SNR=65
MURC ⇓P P 18 00 14.9 +0.4
baz=65,SNR=65
O18A Roosevelt 64.87 57 ⇑P P 18 00 15.9 +1.2
baz=65,SNR=46
O18A ⇑P P 18 00 15.9 +1.2
baz=65,SNR=46
O18A ⇑P P 18 00 15.9 +1.2
baz=65,SNR=46
K21A Alcova 64.88 54 ⇑P P 18 00 15.1 +0.3
baz=65,SNR=215
K21A ⇑P P 18 00 15.1 +0.3
baz=65,SNR=215
K21A ⇑P P 18 00 15.1 +0.3
baz=65,SNR=215
R15A Junction 64.88 60 ⇓P P 18 00 16.0 +1.2
baz=65,SNR=24
R15A ⇓P P 18 00 16.0 +1.2
baz=65,SNR=24
R15A ⇓P P 18 00 16.0 +1.2
baz=65,SNR=24
N19A John Jarvie Ra 64.94 56 ⇑P P 18 00 15.5 +0.4
baz=65,SNR=111
N19A ⇑P P 18 00 15.5 +0.4
baz=65,SNR=111
N19A ⇑P P 18 00 15.5 +0.4
baz=65,SNR=111
H24A Dirks Ranch, A 64.95 51 ⇓P P 18 00 15.2 +0.2
baz=65,SNR=112
H24A ⇓P P 18 00 15.2 +0.2
baz=65,SNR=112
H24A ⇓P P 18 00 15.2 +0.2
baz=65,SNR=112
KMMI Kalianget 64.95 226 P P'P'ab 18 29 09.3 +4.3
P17A Butcher Ranch, 64.97 58 ⇑P P 18 00 16.0 +0.8
baz=65,SNR=60
P17A ⇑P P 18 00 16.0 +0.8
baz=65,SNR=60
P17A ⇑P P 18 00 16.0 +0.8
baz=65,SNR=60
I23A Meade Ranch, G 64.98 52 ⇓P P 18 00 15.7 +0.4
baz=65
I23A ⇓P P 18 00 15.7 +0.4
baz=65
I23A ⇓P P 18 00 15.7 +0.4
baz=65
GMRC Granite Mounta 65.05 65 ⇑P P 18 00 16.5 +0.7
baz=65,SNR=216
GMRC ⇑P P 18 00 16.5 +0.7
baz=65,SNR=216
GMRC ⇑P P 18 00 16.5 +0.7
baz=65,SNR=216
Q16A Castle Valley 65.08 59 ⇑P P 18 00 16.7 +0.6
baz=65,SNR=86
Q16A ⇑P P 18 00 16.7 +0.6
baz=65,SNR=86
Q16A ⇑P P 18 00 16.7 +0.6
baz=65,SNR=86
M20A Sweetwater, Wa 65.11 55 ⇑P P 18 00 17.2 +1.0
baz=65,SNR=71
M20A ⇑P P 18 00 17.2 +1.0
baz=65,SNR=71
M20A ⇑P P 18 00 17.2 +1.0
baz=65,SNR=71
TSI Tuntungan 65.13 247 P P'P'bc 18 29 03.9 +1.1
comp=Z,830nm,1.3s
P18A Preston Nutter 65.15 58 ⇑P P 18 00 17.5 +0.8
baz=65,SNR=110
P18A ⇑P P 18 00 17.5 +0.8
baz=65,SNR=110
P18A ⇑P P 18 00 17.5 +0.8

baz=65,SNR=110
MOS Moscow 65.19 326 *e*P P 18 00 11.7 -4.5
MOS *i* 18 00 44.7
MOS *i* S **S** **18 08 51.2 -5.6**
MOS pmax pmax
comp=Z,8μm,1.6s
MOS pmax pmax
comp=E,2μm,1.0s
MOS MLR MLR
comp=Z,379μm,19.0s
MOS MLR MLR
comp=N,338μm,18.0s
MOS MLR MLR
comp=E,199μm,18.0s
LDFC Landfair 65.20 65 *e*P **P** **18 00 17.0 +0.2**
comp=E,4μm,1.6s
K22A Casper 65.27 54 ⇓P **P** **18 00 17.3 +0.1**
baz=65,SNR=76
K22A ⇓P **P** **18 00 17.3 +0.1**
baz=65,SNR=76
K22A ⇓P **P** **18 00 17.3 +0.1**
baz=65,SNR=76
J23A Dilts Ranch, B 65.30 52 ⇓P **P** **18 00 17.6 +0.2**
baz=65,SNR=34
J23A ⇓P **P** **18 00 17.6 +0.2**
baz=65,SNR=34
J23A ⇓P **P** **18 00 17.6 +0.2**
baz=65,SNR=34
R16A Teasdale 65.31 60 ⇓P **P** **18 00 18.9 +1.4**
baz=65,SNR=168
R16A ⇓P **P** **18 00 18.9 +1.4**
baz=65,SNR=168
R16A ⇓P **P** **18 00 18.9 +1.4**
baz=65,SNR=168
NSS Namsos 65.31 343⇑ *i*P **P** **18 00 15.6 -1.2**
NSS AMB AMB 18 00 44.2
comp=Z,3μm,0.5s
NSS *e*S **S** **18 08 56.1 -2.0**
NSS AMS AMS 18 35 11.0
comp=Z,432μm,17.9s
PFO Pinyon Flat Ob 65.32 67 *e*P **P** **18 00 17.7 +0.1**
PFO pmax pmax
comp=Z,2μm,1.9s
PFO MLR MLR
comp=Z,294μm,22.0s
PFO Pinyon Flat Ob 65.32 67 *e*P **P** **18 00 17.7 +0.1**
comp=Z,2μm,1.9s
PFO LR LR
comp=Z,294μm,22.0s
PFO Pinyon Flat Ob 65.32 67 P **P** **18 00 17.0 -0.6**
comp=Z,1μm,2.0s,SNR=70
PFO Pinyon Flat Ob 65.32 67 ⇓P **P** **18 00 18.1 +0.5**
baz=65,SNR=61
PFO ⇓P **P** **18 00 18.1 +0.5**
baz=65,SNR=61
PFO ⇓P **P** **18 00 18.1 +0.5**
baz=65,SNR=61
SRU San Rafael 65.33 59 *e*P **P** **18 00 17.9 +0.3**
SRU pmax pmax
comp=Z,360nm,0.8s
SRU San Rafael 65.33 59 *e*P **P** **18 00 17.9 +0.3**
comp=Z,360nm,0.8s
SRU San Rafael 65.33 59 ⇓P **P** **18 00 18.3 +0.6**
baz=65
SRU ⇓P **P** **18 00 18.3 +0.6**
baz=65
SRU ⇓P **P** **18 00 18.3 +0.6**
baz=65
BELC Belle Mtn. Jos 65.35 66 ⇑P **P** **18 00 17.9 +0.1**
baz=65,SNR=63
BELC ⇑P **P** **18 00 17.9 +0.1**
baz=65,SNR=63
BELC ⇑P **P** **18 00 17.9 +0.1**
baz=65,SNR=63
O19A Miners Draw (B 65.36 57 ⇓P **P** **18 00 18.4 +0.6**
baz=65,SNR=57
O19A ⇓P **P** **18 00 18.4 +0.6**
baz=65,SNR=57
O19A ⇓P **P** **18 00 18.4 +0.6**
baz=65,SNR=57
109C Camp Elliot, M 65.38 68 ⇑P **P** **18 00 18.4 +0.6**
baz=65,SNR=20
109C ⇑P **P** **18 00 18.4 +0.6**
baz=65,SNR=20
109C ⇑P **P** **18 00 18.4 +0.6**
baz=65,SNR=20
MDND Maddock 65.39 46 ⇓P **P** **18 00 18.2 +0.6**
baz=65,SNR=75
MDND ⇓P **P** **18 00 18.2 +0.6**
baz=65,SNR=75
MDND ⇓P **P** **18 00 18.2 +0.6**
baz=65,SNR=75
PSI Prapat 65.44 246 P **P'P'df** **18 28 56.5 -0.9**
comp=Z,625nm,1.0s
PSI Prapat 65.44 246 P **P** **18 00 18.9 +0.3**
comp=Z,773nm,1.0s,comp=Z,47μmcomp=Z,621μm
ULM Lac du Bonnet 65.49 42 P **P** **18 00 18.4 +0.1**
comp=Z,113nm,0.8s,baz=311,slow=7.0,SNR=195
ULM PKPPKP P'P'df 18 28 58.4 -5.6
comp=Z,25nm,1.0s,baz=153,slow=4.0,SNR=8.2
ULM LR LR 18 29 33.8
comp=Z,374μm,19.9s,baz=316,slow=36
ULM Lac du Bonnet 65.49 42 P **P** **18 00 18.4 +0.1**
ULM Lac du Bonnet 65.49 42 P **P** **18 00 18.4 +0.1**
ULM P'P' 18 28 58.4
M21A Separation Pea 65.50 55 ⇓P **P** **18 00 19.2 +0.4**
baz=65,SNR=91
M21A ⇓P **P** **18 00 19.2 +0.4**
baz=65,SNR=91
M21A ⇓P **P** **18 00 19.2 +0.4**
baz=65,SNR=91
I24A Kuemmerle Ranc 65.50 51 ⇓P **P** **18 00 18.5 -0.1**
baz=65,SNR=76
I24A ⇓P **P** **18 00 18.5 -0.1**
baz=65,SNR=76
I24A ⇓P **P** **18 00 18.5 -0.1**
baz=65,SNR=76
N20A Spence Gulch, 65.50 56 ⇓P **P** **18 00 19.9 +1.1**
baz=65,SNR=179
N20A ⇓P **P** **18 00 19.9 +1.1**
baz=65,SNR=179
N20A ⇓P **P** **18 00 19.9 +1.1**
baz=65,SNR=179
RWWY Rawlins 65.53 55 *e*P **P** **18 00 18.7 -0.3**
comp=Z,2μm,1.8s
NGP Nagpur 65.56 275 *e*P **P** **18 00 18.3 -0.8**
NGP AMb AMB 18 00 37.6
comp=Z,2μm,1.6s
NGP *ex* x 18 09 08.8
Q18A Rafter H Ranch 65.56 58 ⇓P **P** **18 00 19.4 +0.3**
baz=65,SNR=93
Q18A ⇓P **P** **18 00 19.4 +0.3**
baz=65,SNR=93
Q18A ⇓P **P** **18 00 19.4 +0.3**
baz=65,SNR=93
S16A Weppner Ranch, 65.61 60 ⇑P **P** **18 00 20.5 +1.1**
baz=65,SNR=147
S16A ⇑P **P** **18 00 20.5 +1.1**
baz=65,SNR=147
S16A ⇑P **P** **18 00 20.5 +1.1**
baz=65,SNR=147
RSSD Black Hills 65.64 51 *e*P **P** **18 00 19.4 -0.2**
RSSD pmax pmax
comp=Z,2μm,1.4s
RSSD Black Hills 65.64 51 *e*P **P** **18 00 19.4 -0.2**
comp=Z,2μm,1.4s
R17A Hanksville Air 65.67 59 ⇑P **P** **18 00 20.4 +0.6**
baz=66,SNR=137
R17A ⇑P **P** **18 00 20.4 +0.6**
baz=66,SNR=137
R17A ⇑P **P** **18 00 20.4 +0.6**
baz=66,SNR=137
K23A Bowen Ranch, D 65.70 53 ⇑P **P** **18 00 19.9 0.0**
baz=66,SNR=34
K23A ⇑P **P** **18 00 19.9 0.0**
baz=66,SNR=34
K23A ⇑P **P** **18 00 19.9 0.0**
baz=66,SNR=34
NEE2 Needles Airpor 65.71 65 ⇓P **P** **18 00 20.4 +0.5**
baz=66,SNR=20
NEE2 ⇓P **P** **18 00 20.4 +0.5**
baz=66,SNR=20
NEE2 ⇓P **P** **18 00 20.4 +0.5**
baz=66,SNR=20
BLJI Banyuglugur 65.73 226 P **P'P'ab** **18 29 05.7 +3.8**
comp=Z,666nm,1.5s,comp=Z,18μm
L22A Ellis Ranch, M 65.73 54 ⇓P **P** **18 00 20.7 +0.4**
baz=66
L22A ⇓P **P** **18 00 20.7 +0.4**
baz=66
L22A ⇓P **P** **18 00 20.7 +0.4**
baz=66
IRM Iron Mountain 65.78 65 ⇓P **P** **18 00 21.0 +0.6**
baz=66,SNR=253
IRM ⇓P **P** **18 00 21.0 +0.6**
baz=66,SNR=253
IRM ⇓P **P** **18 00 21.0 +0.6**
baz=66,SNR=253
BAR Barrett 65.79 68 *e*P **P** **18 00 20.6 +0.1**
comp=Z,1μm,1.7s
MONP Monument Peak 65.81 67 ⇓P **P** **18 00 21.1 +0.2**
baz=66,SNR=119
MONP ⇓P **P** **18 00 21.1 +0.2**
baz=66,SNR=119
MONP ⇓P **P** **18 00 21.1 +0.2**
baz=66,SNR=119
J24A Dixon Ranch, L 65.84 52 ⇑P **P** **18 00 20.8 0.0**
baz=66,SNR=46
J24A ⇑P **P** **18 00 20.8 0.0**
baz=66,SNR=46
J24A ⇑P **P** **18 00 20.8 0.0**
baz=66,SNR=46
P19A Cripple Cowboy 65.88 57 ⇑P **P** **18 00 21.7 +0.4**
baz=66,SNR=226
P19A ⇑P **P** **18 00 21.7 +0.4**
baz=66,SNR=226
P19A ⇑P **P** **18 00 21.7 +0.4**
baz=66,SNR=226
BC3 Big Chuckawall 65.92 66 ⇑P **P** **18 00 21.8 +0.4**
baz=66,SNR=94
BC3 ⇑P **P** **18 00 21.8 +0.4**
baz=66,SNR=94
BC3 ⇑P **P** **18 00 21.8 +0.4**
baz=66,SNR=94
W13A Hualapai Mount 65.94 64 ⇑P **P** **18 00 22.0 +0.2**
baz=66
W13A ⇑P **P** **18 00 22.0 +0.2**
baz=66
W13A ⇑P **P** **18 00 22.0 +0.2**
baz=66
N21A Black Mountain 65.97 56 ⇓P **P** **18 00 22.3 +0.5**
baz=66,SNR=116
N21A ⇓P **P** **18 00 22.3 +0.5**
baz=66,SNR=116
N21A ⇓P **P** **18 00 22.3 +0.5**
baz=66,SNR=116
O20A White River Ci 65.98 57 ⇓P **P** **18 00 22.1 +0.3**
baz=66,SNR=61
O20A ⇓P **P** **18 00 22.1 +0.3**
baz=66,SNR=61
O20A ⇓P **P** **18 00 22.1 +0.3**
baz=66,SNR=61
U15A North Rim 66.04 62 ⇑P **P** **18 00 23.5 +1.1**
baz=66,SNR=165
U15A ⇑P **P** **18 00 23.5 +1.1**
baz=66,SNR=165
U15A ⇑P **P** **18 00 23.5 +1.1**
baz=66,SNR=165
OBN Obninsk 66.06 327⇑ *e*P **P** **18 00 20.9 -0.9**
OBN *e* 18 02 47.8
OBN *i* S **S** **18 09 12.0 +4.6**
OBN *i* SS **SS** **18 13 28.1 +6.0**
OBN pmax pmax
comp=Z,2μm,1.3s
OBN MLR MLR
comp=Z,642μm,18.0s
OBN Obninsk 66.06 327 *e*P **P** **18 00 20.6 -1.1**
comp=Z,9μm,1.4s
OBN LR LR
comp=Z,697μm,20.0s
OBN Obninsk 66.06 327 P **P** **18 00 21.6 -0.2**
comp=Z,16μm,1.2s,SNR=54
M22A Cedar Creek Ra 66.06 55 ⇑P **P** **18 00 22.9 +0.4**
baz=66,SNR=224
M22A ⇑P **P** **18 00 22.9 +0.4**
baz=66,SNR=224
M22A ⇑P **P** **18 00 22.9 +0.4**
baz=66,SNR=224
BKNI Bangkinang 66.07 243 P **P'P'df** **18 28 56.6 +0.9**
L23A Garrett 66.08 53 ⇑P **P** **18 00 22.4 -0.1**
baz=66,SNR=59
L23A ⇑P **P** **18 00 22.4 -0.1**
baz=66,SNR=59
L23A ⇑P **P** **18 00 22.4 -0.1**
baz=66,SNR=59
S17A Black Ridge (B 66.14 60 ⇓P **P** **18 00 23.5 +0.6**
baz=66,SNR=320
S17A ⇓P **P** **18 00 23.5 +0.6**
baz=66,SNR=320
S17A ⇓P **P** **18 00 23.5 +0.6**
baz=66,SNR=320
K24A Anderson Ranch 66.16 53 ⇑P **P** **18 00 22.5 -0.4**
baz=66,SNR=22
K24A ⇑P **P** **18 00 22.5 -0.4**
baz=66,SNR=22
K24A ⇑P **P** **18 00 22.5 -0.4**
baz=66,SNR=22
DVTC Desert V Tower 66.17 67 ⇓P **P** **18 00 23.8 +0.7**
baz=66
DVTC ⇓P **P** **18 00 23.8 +0.7**
baz=66
DVTC ⇓P **P** **18 00 23.8 +0.7**
baz=66
Q19A Hogan Spring (66.17 58 ⇓P **P** **18 00 23.1 +0.1**
baz=66,SNR=250
Q19A ⇓P **P** **18 00 23.1 +0.1**
baz=66,SNR=250
Q19A ⇓P **P** **18 00 23.1 +0.1**
baz=66,SNR=250
SWSC Sam W. Stewart 66.17 67 ⇑P **P** **18 00 23.0 +0.1**
baz=66,SNR=37
SWSC ⇑P **P** **18 00 23.0 +0.1**
baz=66,SNR=37
SWSC ⇑P **P** **18 00 23.0 +0.1**
baz=66,SNR=37
R18A Canyonlands Na 66.18 59 ⇑P **P** **18 00 23.0 -0.1**
baz=66,SNR=176
R18A ⇑P **P** **18 00 23.0 -0.1**
baz=66,SNR=176
R18A ⇑P **P** **18 00 23.0 -0.1**
baz=66,SNR=176
GMJI Gumukmas 66.26 226 P P'P'ab 18 29 07.7 +7.9
comp=Z,702nm,0.8s
P20A De Beque 66.31 57 ⇑P **P** **18 00 24.1 +0.1**
baz=66,SNR=30
P20A ⇑P **P** **18 00 24.1 +0.1**
baz=66,SNR=30
P20A ⇑P **P** **18 00 24.1 +0.1**
baz=66,SNR=30
PDMCI Parker Dam,Lak 66.31 65 ⇓P **P** **18 00 24.4 +0.6**
baz=66,SNR=139
PDMCI ⇓P **P** **18 00 24.4 +0.6**
baz=66,SNR=139
PDMCI ⇓P **P** **18 00 24.4 +0.6**
baz=66,SNR=139
O21A Pagoda 66.36 56 ⇓P **P** **18 00 24.8 +0.5**
baz=66,SNR=74
O21A ⇓P **P** **18 00 24.8 +0.5**
baz=66,SNR=74
O21A ⇓P **P** **18 00 24.8 +0.5**
baz=66,SNR=74
Y12C Blythe 66.44 65 ⇑P **P** **18 00 25.4 +0.8**
baz=66,SNR=104
Y12C ⇑P **P** **18 00 25.4 +0.8**
baz=66,SNR=104
Y12C ⇑P **P** **18 00 25.4 +0.8**
baz=66,SNR=104
M23A Laramie 66.51 54 ⇓P **P** **18 00 25.6 +0.3**
baz=66,SNR=35
M23A ⇓P **P** **18 00 25.6 +0.3**
baz=66,SNR=35
M23A ⇓P **P** **18 00 25.6 +0.3**
baz=66,SNR=35
N22A Wattenberg Ran 66.54 55 ⇑P **P** **18 00 26.5 +0.9**
baz=66,SNR=115
N22A ⇑P **P** **18 00 26.5 +0.9**
baz=66,SNR=115
N22A ⇑P **P** **18 00 26.5 +0.9**
baz=66,SNR=115
L24A Wheatland 66.56 53 ⇑P **P** **18 00 25.6 +0.1**
baz=66,SNR=13
L24A ⇑P **P** **18 00 25.6 +0.1**
baz=66,SNR=13
L24A ⇑P **P** **18 00 25.6 +0.1**
baz=66,SNR=13
T17A Navajo Res., N 66.56 61 ⇓P **P** **18 00 25.8 +0.2**
baz=66,SNR=50
T17A ⇓P **P** **18 00 25.8 +0.2**
baz=66,SNR=50
T17A ⇓P **P** **18 00 25.8 +0.2**
baz=66,SNR=50
S18A Hurst Farm, Bl 66.58 59 ⇓P **P** **18 00 26.1 +0.3**
baz=66,SNR=256
S18A ⇓P **P** **18 00 26.1 +0.3**
baz=66,SNR=256
S18A ⇓P **P** **18 00 26.1 +0.3**
baz=66,SNR=256
MNSI Mandailing Nat 66.60 244 P **P'P'df** **18 28 53.5 -1.5**
comp=Z,577nm,1.0s,comp=Z,22μm
R19A Curley Farm, L 66.61 59 ⇓P **P** **18 00 26.3 +0.3**
baz=66,SNR=96
R19A ⇓P **P** **18 00 26.3 +0.3**
baz=66,SNR=96
R19A ⇓P **P** **18 00 26.3 +0.3**
baz=66,SNR=96
SJI Sawahan 66.64 228 P **P'P'bc** **18 29 01.1 +4.7**
comp=Z,139nm,2.0s
KRKI Karangkates 66.66 227 P P'P'ab 18 29 05.0 +6.6
comp=Z,2μm,1.1s,comp=Z,29μm
GLA Glamis 66.71 66 *e*P **P** **18 00 26.8 +0.3**
GLA pmax pmax
comp=Z,1μm,1.3s
GLA Glamis 66.71 66 *e*P **P** **18 00 26.8 +0.3**
comp=Z,1μm,1.3s
GLA Glamis 66.71 66 ⇑P **P** **18 00 27.3 +0.8**
baz=67,SNR=100
GLA ⇑P **P** **18 00 27.3 +0.8**
baz=67,SNR=100
GLA ⇑P **P** **18 00 27.3 +0.8**
baz=67,SNR=100
Q20A Ridgley Place, 66.73 57 ⇓P **P** **18 00 27.0 +0.4**
baz=66,SNR=39
Q20A ⇓P **P** **18 00 27.0 +0.4**
baz=66,SNR=39
Q20A ⇓P **P** **18 00 27.0 +0.4**
baz=66,SNR=39
K25A Mack Ranch, Ha 66.75 52 ⇑P **P** **18 00 26.7 0.0**
baz=66,SNR=20
K25A ⇑P **P** **18 00 26.7 0.0**
baz=66,SNR=20
K25A ⇑P **P** **18 00 26.7 0.0**
baz=66,SNR=20
PV04 Paradox Valley 66.75 58 *e*P **P** **18 00 27.0 +0.2**
PHWY Pilot Hill 66.77 54 *e*P **P** **18 00 26.9 -0.1**
comp=Z,243nm,1.6s
N23A Red Feather La 66.77 55 ⇑P **P** **18 00 27.6 +0.6**
baz=67,SNR=148
N23A ⇑P **P** **18 00 27.6 +0.6**
baz=67,SNR=148
N23A ⇑P **P** **18 00 27.6 +0.6**
baz=67,SNR=148
TBLU Trondheim 66.80 344 *e*P **P** **18 00 24.5 -1.9**
VSU Vasula 66.81 333 *c i*P **P** **18 00 25.4 -1.1**
P21A Newcastle 66.84 57 ⇓P **P** **18 00 27.9 +0.5**
baz=67,SNR=86
P21A ⇓P **P** **18 00 27.9 +0.5**
baz=67,SNR=86
P21A ⇓P **P** **18 00 27.9 +0.5**
baz=67,SNR=86
PWJI Pagerwojo 66.87 228 P P'P'ab 18 29 04.6 +6.9
comp=Z,1μm,0.8s
AGMN Agassiz Nation 66.87 43 *e*P **P** **18 00 26.7 -0.5**
comp=Z,4μm,1.0s
AGMN LR LR
comp=Z,410μm,20.0s
U17A Shonto 66.91 61 ⇓P **P** **18 00 28.2 +0.3**
baz=67,SNR=26
U17A ⇓P **P** **18 00 28.2 +0.3**
baz=67,SNR=26
U17A ⇓P **P** **18 00 28.2 +0.3**
baz=67,SNR=26
O22A Kremmling 66.92 56 ⇓P **P** **18 00 28.5 +0.5**
baz=67,SNR=66
O22A ⇓P **P** **18 00 28.5 +0.5**
baz=67,SNR=66
O22A ⇓P **P** **18 00 28.5 +0.5**
baz=67,SNR=66
U16A Tuba City 66.93 61 ⇑P **P** **18 00 28.7 +0.8**
baz=67,SNR=63
U16A ⇑P **P** **18 00 28.7 +0.8**
baz=67,SNR=63
U16A ⇑P **P** **18 00 28.7 +0.8**
baz=67,SNR=63
VRHR Novokhopersk 66.99 321 *c i*P **P** **18 00 26.3 -1.6**
VRHR *e**PP **pP** **18 00 36.5 -1.0**
VRHR *e* 18 00 55.6
VRHR *e* 18 02 53.3
VRHR *e*S **S** **18 09 14.9 -4.0**
VRHR *e*SS **SS** **18 13 33.1 -3.8**
VRHR pmax pmax
comp=N,1μm,1.0s
VRHR pmax pmax
comp=E,920nm,1.0s
VRHR pmax pmax
comp=Z,2μm,1.0s
VRHR pmax pmax
comp=N,2μm,1.1s
VRHR pmax pmax
comp=E,1μm,1.1s
VRHR pmax pmax
comp=Z,2μm,1.1s
VRHR pmax pmax
comp=N,520nm,1.2s
VRHR pmax pmax
comp=Z,1μm,1.2s
VRHR pmax pmax
comp=E,460nm,0.6s
VRHR smax smax
comp=N,47μm,8.9s
VRHR smax smax
comp=E,30μm,8.9s
VRHR smax smax
comp=Z,23μm,8.9s
VRHR MLR MLR
comp=N,438μm,20.0s
VRHR MLR MLR
comp=E,209μm,20.0s
VRHR MLR MLR
comp=Z,489μm,20.0s
M24A Cheyenne 67.00 54 ⇓P **P** **18 00 29.2 +0.8**
baz=67,SNR=76
M24A ⇓P **P** **18 00 29.2 +0.8**
baz=67,SNR=76
M24A ⇓P **P** **18 00 29.2 +0.8**
baz=67,SNR=76
L25A Engebretsen Ra 67.01 53 ⇓P **P** **18 00 28.7 +0.4**
baz=67,SNR=55
L25A ⇓P **P** **18 00 28.7 +0.4**
baz=67,SNR=55
L25A ⇓P **P** **18 00 28.7 +0.4**
baz=67,SNR=55
T18A Mexican Hat 67.02 60 ⇓P **P** **18 00 28.5 0.0**
baz=67,SNR=173
T18A ⇓P **P** **18 00 28.5 0.0**
baz=67,SNR=173
T18A ⇓P **P** **18 00 28.5 0.0**
baz=67,SNR=173
S19A Harvey Farm, M 67.05 59 ⇑P **P** **18 00 29.1 +0.4**
baz=67,SNR=315
S19A ⇑P **P** **18 00 29.1 +0.4**
baz=67,SNR=315
S19A ⇑P **P** **18 00 29.1 +0.4**
baz=67,SNR=315
K26A Motz Farm, Whi 67.06 52 ⇓P **P** **18 00 28.4 -0.2**
baz=67,SNR=26
K26A ⇓P **P** **18 00 28.4 -0.2**
baz=67,SNR=26
K26A ⇓P **P** **18 00 28.4 -0.2**
baz=67,SNR=26
PPI Padang Panjang 67.08 243 P **P'P'df** **18 28 52.1 -1.9**
comp=Z,108nm,1.4s
CTA Charters Tower 67.10 189 *e*P **P** **18 00 27.5 -1.2**
comp=Z,359nm,1.1s
CTA *e*S **S** **18 09 22.4 +1.7**
CTA *e*PKPPKP P'P'df 18 28 36.8 -12
CTAO Charters Tower 67.10 189 *e*P **P** **18 00 27.6 -1.2**
CTAO pmax pmax
comp=Z,881nm,1.3s
CTAO MLR MLR
comp=Z,57μm,21.0s
CTAO Charters Tower 67.10 189 *e*P **P** **18 00 27.6 -1.2**
comp=Z,881nm,1.3s
CTAO LR LR
comp=Z,57μm,21.0s

PV01 Paradox Valley 67.12 58 eP P 18 00 29.7 +0.5
comp=Z,2μm,0.9s
P22A Eagle 67.18 56 ⇓P P 18 00 30.3 +0.7
baz=67,SNR=71
P22A ⇓P P 18 00 30.3 +0.7
baz=67,SNR=71
P22A ⇓P P 18 00 30.3 +0.7
baz=67,SNR=71
R20A Redvale 67.20 58 ⇓P P 18 00 30.1 +0.5
baz=67,SNR=27
R20A ⇓P P 18 00 30.1 +0.5
baz=67,SNR=27
R20A ⇓P P 18 00 30.1 +0.5
baz=67,SNR=27
WUAZ Wupatki 67.20 62 eP P 18 00 30.3 +0.6
comp=Z,422nm,0.9s
WUAZ LR LR
comp=Z,253μm,20.0s
WUAZ Wupatki 67.20 62 ⇓P P 18 00 30.6 +0.9
baz=67,SNR=106
WUAZ ⇓P P 18 00 30.6 +0.9
baz=67,SNR=106
WUAZ ⇓P P 18 00 30.6 +0.9
baz=67,SNR=106
Q21A Lamborn Mesa, 67.23 57 ⇓P P 18 00 30.6 +0.7
baz=67,SNR=173
Q21A ⇓P P 18 00 30.6 +0.7
baz=67,SNR=173
Q21A ⇓P P 18 00 30.6 +0.7
baz=67,SNR=173
O23A Lake Granby, G 67.25 55 ⇑P P 18 00 31.1 +1.0
baz=67,SNR=138
O23A ⇑P P 18 00 31.1 +1.0
baz=67,SNR=138
O23A ⇑P P 18 00 31.1 +1.0
baz=67,SNR=138
AKL Akola 67.25 276 ⇑iP P 18 00 30.8 +0.8
AKL AMP 18 00 38.8
comp=Z,2μm,1.0s
AKL *i*S **S 18 09 23.6 +0.7**
Y14A Wickenburg 67.25 64 ⇑P P 18 00 30.7 +0.8
baz=67,SNR=84
Y14A ⇑P P 18 00 30.7 +0.8
baz=67,SNR=84
Y14A ⇑P P 18 00 30.7 +0.8
baz=67,SNR=84
AFI Afiamalu 67.32 145 eP P 18 00 29.9 -0.5
AFI pmax pmax
comp=Z,1μm,1.5s
AFI MLR MLR
comp=Z,157μm,22.0s
AFI Afiamalu 67.32 145 eP P 18 00 29.9 -0.5
comp=Z,1μm,1.5s
AFI LR LR
comp=Z,157μm,22.0s
PCJI Pacitan 67.33 228 P P'P'ab 18 29 01.5 +5.6
comp=Z,773nm,1.0s
SMCO Snowmass 67.34 57 eP P 18 00 30.7 -0.1
comp=Z,182nm,1.1s
Z13A Yuma Proving G 67.34 65 ⇓P P 18 00 31.0 +0.6
baz=67,SNR=334
Z13A ⇓P P 18 00 31.0 +0.6
baz=67,SNR=334
Z13A ⇓P P 18 00 31.0 +0.6
baz=67,SNR=334
BJII Banjamegara 67.37 230 P P'P'ab 18 29 04.4 +8.3
N24A Carr 67.41 54 ⇑P P 18 00 31.9 +1.0
baz=67,SNR=6.6
N24A ⇑P P 18 00 31.9 +1.0
baz=67,SNR=6.6
N24A ⇑P P 18 00 31.9 +1.0
baz=67,SNR=6.6
S20A Disappointment 67.45 58 ⇑P P 18 00 31.8 +0.4
baz=67,SNR=193
S20A ⇑P P 18 00 31.8 +0.4
baz=67,SNR=193
S20A ⇑P P 18 00 31.8 +0.4
baz=67,SNR=193
M25A Palm-Egli Farm 67.45 53 ⇑P P 18 00 32.0 +0.9
baz=67,SNR=108
M25A ⇑P P 18 00 32.0 +0.9
baz=67,SNR=108
M25A ⇑P P 18 00 32.0 +0.9
baz=67,SNR=108
MSVF Nonsavu 67.47 156 eP P 18 00 32.4 +1.1
MSVF pmax pmax
comp=Z,2μm,1.4s
MSVF MLR MLR
comp=Z,143μm,22.0s
MSVF Nonsavu 67.47 156 eP P 18 00 32.4 +1.1
comp=Z,2μm,1.4s
MSVF LR LR
comp=Z,143μm,22.0s
MSVF Nonsavu 67.47 156 P P 18 00 32.0 +0.7
comp=Z,5μm,1.3s,SNR=7.7
V17A Tonalea, Kykot 67.48 62 ⇓P P 18 00 32.7 +1.3
baz=67,SNR=451
V17A ⇓P P 18 00 32.7 +1.3
baz=67,SNR=451
V17A ⇓P P 18 00 32.7 +1.3
baz=67,SNR=451
U18A Rough Rock, Ch 67.50 60 ⇑P P 18 00 32.3 +0.7
baz=67,SNR=85
U18A ⇑P P 18 00 32.3 +0.7
baz=67,SNR=85
U18A ⇑P P 18 00 32.3 +0.7
baz=67,SNR=85
VOR Voronezh 67.55 323 ⇑iP P 18 00 29.0 -2.4
VOR *e*S **S 18 09 22.0 -3.6**
VOR pmax pmax
comp=Z,5μm,1.2s
R21A Cimarron 67.56 58 ⇓P P 18 00 32.9 +0.9
baz=67,SNR=234
R21A ⇓P P 18 00 32.9 +0.9
baz=67,SNR=234
R21A ⇓P P 18 00 32.9 +0.9
baz=67,SNR=234
113A Mohawk Valley, 67.56 66 ⇑P P 18 00 32.2 +0.4
baz=67,SNR=49
113A ⇑P P 18 00 32.2 +0.4
baz=67,SNR=49
113A ⇑P P 18 00 32.2 +0.4
baz=67,SNR=49
K27A Flueckinger Fa 67.57 51 ⇓P P 18 00 31.7 -0.1
baz=67,SNR=12
K27A ⇓P P 18 00 31.7 -0.1
baz=67,SNR=12
K27A ⇓P P 18 00 31.7 -0.1
baz=67,SNR=12
L26A Underwood Farm 67.57 52 ⇑P P 18 00 32.1 +0.3
baz=67,SNR=9.3
L26A ⇑P P 18 00 32.1 +0.3
baz=67,SNR=9.3
L26A ⇑P P 18 00 32.1 +0.3
baz=67,SNR=9.3
Q22A Crested Butte, 67.59 57 ⇓P P 18 00 33.2 +0.9
baz=67,SNR=98
Q22A ⇓P P 18 00 33.2 +0.9
baz=67,SNR=98
Q22A ⇓P P 18 00 33.2 +0.9
baz=67,SNR=98
Z14A Wintersburg 67.68 65 ⇓P P 18 00 33.4 +0.8
baz=68,SNR=45
Z14A ⇓P P 18 00 33.4 +0.8
baz=68,SNR=45
Z14A ⇓P P 18 00 33.4 +0.8
baz=68,SNR=45
ISCO Idaho Springs 67.69 55 eP P 18 00 33.4 +0.5
ISCO pmax pmax
comp=Z,812nm,0.6s
ISCO MLR MLR
comp=Z,487μm,22.0s
ISCO Idaho Springs 67.69 55 eP P 18 00 33.4 +0.5
comp=Z,812nm,0.6s
ISCO LR LR
comp=Z,487μm,22.0s
ISCO Idaho Springs 67.69 55 ⇑P P 18 00 33.7 +0.7
baz=68,SNR=208
ISCO ⇑P P 18 00 33.7 +0.7
baz=68,SNR=208
ISCO ⇑P P 18 00 33.7 +0.7
baz=68,SNR=208
IMYA Miami 67.71 300 eP P 18 00 34.5 +1.6
T19A Beclabito 67.73 60 ⇑P P 18 00 33.6 +0.6
baz=68,SNR=14
T19A ⇑P P 18 00 33.6 +0.6
baz=68,SNR=14
T19A ⇑P P 18 00 33.6 +0.6
baz=68,SNR=14
O24A Longmont 67.78 55 ⇑P P 18 00 34.4 +1.2
baz=68,SNR=13
O24A ⇑P P 18 00 34.4 +1.2
baz=68,SNR=13
O24A ⇑P P 18 00 34.4 +1.2
baz=68,SNR=13
MVCO Mesa Verde 67.78 59 eP P 18 00 33.5 0.0
comp=Z,812nm,1.2s
MVCO LR LR
comp=Z,326μm,21.0s
MVCO Mesa Verde 67.78 59 ⇓P P 18 00 33.9 +0.5
baz=68,SNR=31
MVCO ⇓P P 18 00 33.9 +0.5
baz=68,SNR=31
MVCO ⇓P P 18 00 33.9 +0.5
baz=68,SNR=31
ABKT Ailbek 67.81 302 P P 18 00 34.6 +1.3
comp=Z,7μm,0.8s
IEMG Emamgholi 67.84 301 ⇓eP P 18 00 34.6 +0.7
N25A Grover 67.86 54 ⇓P P 18 00 34.6 +0.9
baz=68,SNR=58
N25A ⇓P P 18 00 34.6 +0.9
baz=68,SNR=58
N25A ⇓P P 18 00 34.6 +0.9
baz=68,SNR=58
P23A Jefferson 67.86 56 ⇑P P 18 00 35.4 +1.4
baz=68
P23A ⇑P P 18 00 35.4 +1.4
baz=68
P23A ⇑P P 18 00 35.4 +1.4
baz=68
S21A Coal Bank Pass 67.89 58 ⇑P P 18 00 35.3 +1.1
baz=68,SNR=220
S21A ⇑P P 18 00 35.3 +1.1
baz=68,SNR=220
S21A ⇑P P 18 00 35.3 +1.1
baz=68,SNR=220
W17A Winslow 67.90 62 ⇓P P 18 00 34.9 +0.8
baz=68,SNR=35
W17A ⇓P P 18 00 34.9 +0.8
baz=68,SNR=35
W17A ⇓P P 18 00 34.9 +0.8
baz=68,SNR=35
X16A Lo Mia Camp, P 67.90 63 ⇓P P 18 00 35.3 +1.2
baz=68,SNR=165
X16A ⇓P P 18 00 35.3 +1.2
baz=68,SNR=165
X16A ⇓P P 18 00 35.3 +1.2
baz=68,SNR=165
M26A McRoberts Ranc 67.93 53 ⇓P P 18 00 35.1 +1.0
baz=68,SNR=31
M26A ⇓P P 18 00 35.1 +1.0
baz=68,SNR=31
M26A ⇓P P 18 00 35.1 +1.0
baz=68,SNR=31
MOL Molde 67.94 345 eP P 18 00 33.1 -0.5
MOL AMB AMB 18 00 50.9
comp=Z,2μm,3.8s
MOL *e*S **S 18 09 31.2 +1.3**
MOL AMS AMS 18 30 57.4
comp=Z,239μm,22.3s
V18A Ganado 67.94 61 ⇑P P 18 00 35.4 +0.9
baz=68,SNR=72
V18A ⇑P P 18 00 35.4 +0.9
baz=68,SNR=72
V18A ⇑P P 18 00 35.4 +0.9
baz=68,SNR=72
VSR Storozhevoye 67.95 322 eP P 18 00 33.6 -0.3
VSR *e**PP **pP 18 00 43.0 -0.6**
VSR *e**SP **sP 18 00 48.7 +1.5**
VSR *e*S **S 18 09 24.5 -5.9**
VSR *e*SS **SS 18 13 47.2 -4.4**
VSR pmax pmax
comp=Z,60nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.5s
VSR pmax pmax
comp=N,120nm,1.1s
VSR pmax pmax
comp=Z,350nm,1.1s
VSR pmax pmax
comp=E,150nm,1.2s
VSR smax smax
comp=E,18μm,4.9s
VSR smax smax
comp=Z,6μm,6.0s
VSR smax smax
comp=N,4μm,3.4s
VSR MLR MLR
comp=N,202μm,21.0s
VSR MLR MLR
comp=Z,577μm,21.0s
VSR MLR MLR
comp=E,106μm,15.0s
L27A T5 Ranch, Ells 67.95 52 ⇓P P 18 00 34.4 +0.1
baz=68,SNR=12
L27A ⇓P P 18 00 34.4 +0.1
baz=68,SNR=12
L27A ⇓P P 18 00 34.4 +0.1
baz=68,SNR=12
KLI Kotabumi 67.98 236 P P'P'ab 18 28 59.7 +5.3
U19A Dine' college, 67.98 60 ⇓P P 18 00 35.3 +0.6
baz=68,SNR=39
U19A ⇓P P 18 00 35.3 +0.6
baz=68,SNR=39
U19A ⇓P P 18 00 35.3 +0.6
baz=68,SNR=39
LEM Lembang 68.06 232 P P'P'df 18 28 54.6 +3.3
comp=E,3μm,1.4s,comp=E,45μm
BRSD Miller 68.07 48 ⇓P P 18 00 34.6 -0.2
baz=68,SNR=18
BRSD ⇓P P 18 00 34.6 -0.2
baz=68,SNR=18
BRSD ⇓P P 18 00 34.6 -0.2
baz=68,SNR=18
ISRO Mashad 68.11 300 eP P 18 00 36.5 +1.2
MHI Mashad 68.11 300 eP P 18 00 38.7 +3.4
R22A Saguache, Gunn 68.11 57 ⇑P P 18 00 37.1 +1.5
baz=68,SNR=152
R22A ⇑P P 18 00 37.1 +1.5
baz=68,SNR=152
R22A ⇑P P 18 00 37.1 +1.5
baz=68,SNR=152
114A Black Gap (USA 68.12 65 ⇓P P 18 00 36.3 +1.0
baz=68,SNR=230
114A ⇓P P 18 00 36.3 +1.0
baz=68,SNR=230
114A ⇓P P 18 00 36.3 +1.0
baz=68,SNR=230
DOMB Dombas 68.13 344 eP P 18 00 36.2 +1.3
Q23A Hartsel 68.18 56 ⇑P P 18 00 36.9 +0.9
baz=68,SNR=24
Q23A ⇑P P 18 00 36.9 +0.9
baz=68,SNR=24
Q23A ⇑P P 18 00 36.9 +0.9
baz=68,SNR=24
P24A Kohler Place, 68.29 55 ⇓P P 18 00 37.6 +1.1
baz=68,SNR=8.6
P24A ⇓P P 18 00 37.6 +1.1
baz=68,SNR=8.6
P24A ⇓P P 18 00 37.6 +1.1
baz=68,SNR=8.6
SBJI Serang 68.29 234 P P'P'ab 18 29 05.1 +12
IPAY Payeh 68.30 300 eP P 18 00 37.8 +1.2
M27A Reverse DX Ran 68.30 52 ⇓P P 18 00 36.9 +0.5
baz=68,SNR=44
M27A ⇓P P 18 00 36.9 +0.5
baz=68,SNR=44
M27A ⇓P P 18 00 36.9 +0.5
baz=68,SNR=44
KSI Kapahiang 68.31 239 P P'P'df 18 28 50.3 -1.3
comp=E,330nm,1.8s,comp=E,39μm
ISHV Shirvan 68.32 302 eP P 18 00 38.6 +1.9
O25A Wiggins 68.32 54 ⇑P P 18 00 37.3 +0.7
baz=68,SNR=10
O25A ⇑P P 18 00 37.3 +0.7
baz=68,SNR=10
O25A ⇑P P 18 00 37.3 +0.7
baz=68,SNR=10
IMOG Moghan 68.32 300 eP P 18 00 37.7 +0.8
N26A Koester Ranch, 68.32 53 ⇓P P 18 00 37.4 +0.8
baz=68,SNR=67
N26A ⇓P P 18 00 37.4 +0.8
baz=68,SNR=67
N26A ⇓P P 18 00 37.4 +0.8
baz=68,SNR=67
IAKL Akhelmad 68.33 301 ⇑eP P 18 00 37.6 +0.6
U20A Newcomb 68.34 60 ⇑P P 18 00 37.5 +0.7
baz=68
U20A ⇑P P 18 00 37.5 +0.7
baz=68
U20A ⇑P P 18 00 37.5 +0.7
baz=68
IKRD Kardeh 68.36 301 ⇓eP P 18 00 35.1 -2.0
S22A 4UR Ranch, Cre 68.40 58 ⇓P P 18 00 38.3 +1.0
baz=68
S22A ⇓P P 18 00 38.3 +1.0
baz=68
S22A ⇓P P 18 00 38.3 +1.0
baz=68
HYB Hyderabad 68.46 273 *i* P P 18 00 36.0 -1.6
comp=E,286nm,0.5s
HYB *e*PP **PP 18 03 12.0 +3.2**
HYB *e*S **S 18 09 38.0 +0.5**
HYB LR LR 18 20 00.0
comp=E,108nm,24.0s
W18A Petrified Fore 68.46 61 ⇑P P 18 00 38.9 +1.2
baz=68,SNR=23
W18A ⇑P P 18 00 38.9 +1.2
baz=68,SNR=23
W18A ⇑P P 18 00 38.9 +1.2
baz=68,SNR=23
V19A Window Rock 68.47 61 ⇓P P 18 00 38.9 +1.2
baz=68,SNR=52
V19A ⇓P P 18 00 38.9 +1.2
baz=68,SNR=52
V19A ⇓P P 18 00 38.9 +1.2
baz=68,SNR=52
ISFR Sfrayin 68.47 301 eP P 18 00 38.9 +1.1
T21A Navajo Lake 68.50 59 ⇑P P 18 00 38.6 +0.7
baz=68,SNR=19
T21A ⇑P P 18 00 38.6 +0.7
baz=68,SNR=19
T21A ⇑P P 18 00 38.6 +0.7
baz=68,SNR=19
Q24A Divide 68.53 56 ⇓P P 18 00 38.7 +0.5
baz=68,SNR=110
Q24A ⇓P P 18 00 38.7 +0.5
baz=68,SNR=110
Q24A ⇓P P 18 00 38.7 +0.5
baz=68,SNR=110
LWLI Liwa 68.56 237 P P'P'ab 18 28 57.0 +4.6
comp=E,398nm,1.1s
NB2 NORSAR Subarra 68.61 342 P P 18 00 38.1 +0.1
comp=Z,3μm,1.1s,baz=30,slow=6.5
NOA NORSAR Array B 68.61 342 P P 18 00 38.0 +0.1
comp=Z,247nm,1.0s,baz=26,slow=6.3,SNR=124
NOA PKPPKP P'P'df 18 28 52.8 -6.5
comp=Z,32nm,1.0s,baz=204,slow=3.0,SNR=12
NOA LR LR 18 35 56.9
comp=Z,453μm,19.3s,baz=25,slow=40
NOA NORSAR Array B 68.61 342 P P 18 00 38.0 +0.1
NOA NORSAR Array B 68.61 342 P P 18 00 38.0 +0.1
NOA P'P' 18 28 52.8
R23A Moffat 68.67 57 ⇑P P 18 00 40.2 +1.2
baz=68,SNR=146
R23A ⇑P P 18 00 40.2 +1.2
baz=68,SNR=146
R23A ⇑P P 18 00 40.2 +1.2
baz=68,SNR=146
W19A Sanders 68.67 61 ⇑P P 18 00 40.0 +1.0
baz=68,SNR=71
W19A ⇑P P 18 00 40.0 +1.0
baz=68,SNR=71
W19A ⇑P P 18 00 40.0 +1.0
baz=68,SNR=71
O26A Horse Wrangler 68.68 54 ⇑P P 18 00 39.3 +0.4
baz=68,SNR=52
O26A ⇑P P 18 00 39.3 +0.4
baz=68,SNR=52
O26A ⇑P P 18 00 39.3 +0.4
baz=68,SNR=52
214A Organ Pipe Nat 68.70 66 ⇓P P 18 00 39.9 +0.9
baz=69,SNR=148
214A ⇓P P 18 00 39.9 +0.9
baz=69,SNR=148
214A ⇓P P 18 00 39.9 +0.9
baz=69,SNR=148
P25A Willow Gulch B 68.70 55 ⇑P P 18 00 40.2 +1.1
baz=68,SNR=84
P25A ⇑P P 18 00 40.2 +1.1
baz=68,SNR=84
P25A ⇑P P 18 00 40.2 +1.1
baz=68,SNR=84
N27A Anderson Farm, 68.71 53 ⇑P P 18 00 39.8 +0.8
baz=68,SNR=52
N27A ⇑P P 18 00 39.8 +0.8
baz=68,SNR=52
N27A ⇑P P 18 00 39.8 +0.8
baz=68,SNR=52
BORG Borgarnes 68.73 358 eP P 18 00 41.0 +2.5
BORG pmax pmax
comp=Z,1μm,1.1s
BORG MLR MLR
comp=Z,237μm,20.0s
BORG Borgarnes 68.73 358 eP P 18 00 41.0 +2.5
comp=Z,1μm,1.1s
BORG LR LR
comp=Z,237μm,20.0s
BORG Borgarnes 68.73 358 P P 18 00 41.0 +2.5
comp=Z,3μm,0.8s,SNR=18
X18A Snowflake 68.73 62 ⇓P P 18 00 40.3 +1.0
baz=69,SNR=66
X18A ⇓P P 18 00 40.3 +1.0
baz=69,SNR=66
X18A ⇓P P 18 00 40.3 +1.0
baz=69,SNR=66
Y17A Roosevelt 68.75 63 ⇓P P 18 00 40.2 +0.8
baz=69,SNR=165
Y17A ⇓P P 18 00 40.2 +0.8
baz=69,SNR=165
Y17A ⇓P P 18 00 40.2 +0.8
baz=69,SNR=165
V20A Brimhall 68.76 60 ⇓P P 18 00 40.0 +0.4
baz=69
V20A ⇓P P 18 00 40.0 +0.4
baz=69
V20A ⇓P P 18 00 40.0 +0.4
baz=69
SKJI Sukabumi 68.79 233 P P'P'ab 18 29 01.9 +11
comp=Z,808nm,2.1s,comp=Z,34μm
U21A Nageezi 68.81 59 ⇑P P 18 00 40.7 +0.9
baz=69
U21A ⇑P P 18 00 40.7 +0.9
baz=69
U21A ⇑P P 18 00 40.7 +0.9
baz=69
NC602 NORSAR Array S 68.82 342 ⇑iP P 18 00 38.5 -0.7
NC602 *e*S **S 18 09 39.6 -0.8**
T22A Edith 68.85 58 ⇑P P 18 00 41.2 +1.1
baz=69,SNR=61
T22A ⇑P P 18 00 41.2 +1.1
baz=69,SNR=61
T22A ⇑P P 18 00 41.2 +1.1
baz=69,SNR=61
NAO01 NORSAR Array S 68.86 342 eP P 18 00 39.0 -0.4
comp=Z,980nm,1.0s
NAO01 LR LR
comp=Z,492μm,19.0s
S23A Nye Farm, Mont 68.90 57 ⇓P P 18 00 41.7 +1.3
baz=69,SNR=14
S23A ⇓P P 18 00 41.7 +1.3
baz=69,SNR=14
S23A ⇓P P 18 00 41.7 +1.3
baz=69,SNR=14
R24A Sanders Place, 69.06 56 ⇓P P 18 00 42.1 +0.8
baz=69,SNR=110
R24A ⇓P P 18 00 42.1 +0.8
baz=69,SNR=110
R24A ⇓P P 18 00 42.1 +0.8
baz=69,SNR=110
Q25A Bedland, Calha 69.07 55 ⇑P P 18 00 41.6 +0.1
baz=69,SNR=116
Q25A ⇑P P 18 00 41.6 +0.1
baz=69,SNR=116
Q25A ⇑P P 18 00 41.6 +0.1
baz=69,SNR=116
WRAB Tennant Creek 69.08 201 eP P 18 00 40.0 -1.2
WRAB pmax pmax
comp=Z,2μm,1.2s
WRAB MLR MLR
comp=Z,53μm,21.0s
WRAB Tennant Creek 69.08 201 eP P 18 00 40.0 -1.2

WRAB LR LR
comp=Z,2µm,1.2s
WRAB Tennant Creek 69.08 201 P P 18 00 40.5 -0.7
comp=Z,53µm,21.0s
WRA Warramunga Arr 69.09 201 PKPPKP P'P'df 18 28 51.6 +5.1
comp=Z,6µm,1.1s,SNR=96
WRA LR LR 18 31 27.7
comp=Z,17nm,0.8s,baz=195,slow=3.1,SNR=14
P26A Davis Ranch, A 69.13 54 ⇑P P 18 00 42.1 +0.4
comp=Z,46µm,19.8s,baz=10.0,slow=36
P26A ⇑P P 18 00 42.1 +0.4
baz=69,SNR=99
P26A ⇑P P 18 00 42.1 +0.4
baz=69,SNR=99
LATR Latur 69.13 275 eP P 18 00 42.4 +0.6
LATR ex x 18 09 52.3
EYMN Ely 69.15 41 eP P 18 00 40.0 -1.5
comp=Z,4µm,1.0s
EYMN LR LR
comp=Z,317µm,20.0s
SDCO Great Sand Dun 69.16 57 eP P 18 00 42.3 +0.2
comp=Z,693nm,0.8s
SDCO LR LR
comp=Z,233µm,22.0s
SDCO Great Sand Dun 69.16 57 ⇑P P 18 00 42.6 +0.5
baz=69
SDCO ⇑P P 18 00 42.6 +0.5
baz=69
SDCO ⇑P P 18 00 42.6 +0.5
baz=69
SDCO ⇑P P 18 00 42.6 +0.5
baz=69
SDCO ⇑P P 18 00 42.6 +0.5
baz=69
O27A Beecher Island 69.17 53 ⇓P P 18 00 42.2 +0.3
baz=69,SNR=34
O27A ⇓P P 18 00 42.2 +0.3
baz=69,SNR=34
O27A ⇓P P 18 00 42.2 +0.3
baz=69,SNR=34
IZAR Zarasai 69.18 332 eP P 18 00 41.6 +0.1
IZAR AMB AMB 18 00 58.5
comp=Z,741nm,1.2s
Y18A Canyon Day Jun 69.19 63 ⇑P P 18 00 43.1 +1.0
baz=69,SNR=36
Y18A ⇑P P 18 00 43.1 +1.0
baz=69,SNR=36
Y18A ⇑P P 18 00 43.1 +1.0
baz=69,SNR=36
W20A Ramah 69.20 61 ⇓P P 18 00 42.7 +0.4
baz=69,SNR=54
W20A ⇓P P 18 00 42.7 +0.4
baz=69,SNR=54
W20A ⇓P P 18 00 42.7 +0.4
baz=69,SNR=54
X19A St. Johns 69.20 62 ⇑P P 18 00 43.2 +1.0
baz=69,SNR=254
X19A ⇑P P 18 00 43.2 +1.0
baz=69,SNR=254
X19A ⇑P P 18 00 43.2 +1.0
baz=69,SNR=254
V21A Milan 69.25 60 ⇑P P 18 00 43.1 +0.5
baz=69
V21A ⇑P P 18 00 43.1 +0.5
baz=69
V21A ⇑P P 18 00 43.1 +0.5
baz=69
Z17A San Carlos Hig 69.25 63 ⇓P P 18 00 43.6 +1.2
baz=69,SNR=47
Z17A ⇓P P 18 00 43.6 +1.2
baz=69,SNR=47
Z17A ⇓P P 18 00 43.6 +1.2
baz=69,SNR=47
FOO Floro 69.28 345 eP P 18 00 40.5 -1.5
FOO AMB AMB 18 01 00.3
comp=Z,6µm,4.1s
FOO eS S 18 09 44.1 -1.8
FOO AMS AMS 18 29 03.8
comp=Z,588µm,24.0s
U22A Llaves 69.32 59 ⇑P P 18 00 43.9 +0.8
baz=69,SNR=21
U22A ⇑P P 18 00 43.9 +0.8
baz=69,SNR=21
U22A ⇑P P 18 00 43.9 +0.8
baz=69,SNR=21
DZM Mont Dzumac 69.32 169 eP P 18 00 43.6 +0.8
comp=Z,2µm,1.4s
DZM eS S 18 09 35.3 -12
comp=Z,167µm,31.6s
DZM eSS SS 18 14 00.3 -15
comp=Z,112µm,31.1s
DZM eLQ LQ 18 18 23.1
comp=Z,673µm,35.4s
DZM eLR LR 18 21 17.8
comp=Z,431µm,31.6s
NOUC Port Laguerre 69.33 169 eP P 18 00 41.6 -1.1
T23A Casias Ranch, 69.34 58 ⇑P P 18 00 43.8 +0.6
baz=69,SNR=24
T23A ⇑P P 18 00 43.8 +0.6
baz=69,SNR=24
T23A ⇑P P 18 00 43.8 +0.6
baz=69,SNR=24
ISAL Salakas 69.37 332 eP P 18 00 42.8 +0.1
ISAL AMB AMB 18 00 59.9
comp=Z,984nm,1.1s
IDID Didziasalis 69.38 331 AMB AMB 18 01 03.9
comp=Z,943nm,1.1s
S24A Houchin Ranch, 69.40 57 ⇑P P 18 00 44.4 +0.8
baz=69,SNR=103
S24A ⇑P P 18 00 44.4 +0.8
baz=69,SNR=103
S24A ⇑P P 18 00 44.4 +0.8
baz=69,SNR=103
Q26A Hugo 69.48 55 ⇓P P 18 00 44.4 +0.6
baz=69,SNR=114
Q26A ⇓P P 18 00 44.4 +0.6
baz=69,SNR=114
Q26A ⇓P P 18 00 44.4 +0.6
baz=69,SNR=114
NORM Noumea 69.48 169 eP P 18 00 43.5 -0.1
LASL Noumea 69.49 169 eP P 18 00 43.7 0.0
IIGN Ignalina 69.52 332 eP P 18 00 43.8 +0.2
IIGN AMB AMB 18 01 00.8
comp=Z,1µm,1.1s
Y19A Nutrioso 69.54 62 ⇑P P 18 00 45.6 +1.1
baz=69
Y19A ⇑P P 18 00 45.6 +1.1
baz=69
Y19A ⇑P P 18 00 45.6 +1.1
baz=69
PLUM Mont Dore 69.55 169 eP P 18 00 44.1 0.0
R25A Fountain Ranch 69.58 56 ⇓P P 18 00 44.8 +0.3
baz=69
R25A ⇓P P 18 00 44.8 +0.3
baz=69
R25A ⇓P P 18 00 44.8 +0.3
baz=69
X20A Quemado 69.60 61 ⇓P P 18 00 45.9 +1.2
baz=69,SNR=194
X20A ⇓P P 18 00 45.9 +1.2
baz=69,SNR=194
X20A ⇓P P 18 00 45.9 +1.2
baz=69,SNR=194
Z18A Geronimo 69.66 63 ⇑P P 18 00 46.0 +1.1
baz=70
Z18A ⇑P P 18 00 46.0 +1.1
baz=70
Z18A ⇑P P 18 00 46.0 +1.1
baz=70
MICGM Minsk 69.66 330 ⇑iP P 18 00 43.0 -1.5
MNK Minsk 69.68 330 ciP P 18 00 43.0 -1.6
MNK e 18 03 26.0
MNK ePPP PPP 18 05 00.0
MNK eS S 18 09 46.0 -4.8
MNK eSSS SSS 18 17 20.0
MNK pmax pmax
comp=Z,780nm,1.4s
MNK pmax pmax
comp=N,560nm,1.4s
MNK pmax pmax
comp=E,670nm,1.4s
MNK pmax pmax
comp=E,25µm,14.0s
MNK pmax pmax
comp=N,54µm,16.0s
MNK pmax pmax
comp=Z,89µm,16.0s
MNK pmax pmax
comp=Z,44µm,12.0s
MNK smax smax
comp=E,194µm,18.0s
MNK smax smax
comp=N,214µm,16.0s
MNK MLR MLR
comp=Z,418µm,20.0s
MNK MLR MLR
comp=E,380µm,20.0s
MNK MLR MLR
comp=N,419µm,21.0s
NACGM Naroch 69.70 331 eP P 18 00 40.0 -4.8
W21A San Fidel 69.71 60 ⇑P P 18 00 45.7 +0.3
baz=70,SNR=26
W21A ⇑P P 18 00 45.7 +0.3
baz=70,SNR=26
W21A ⇑P P 18 00 45.7 +0.3
baz=70,SNR=26
OSL Oslo 69.71 342 eP P 18 00 44.8 +0.1
TUC Tucson 69.73 64 eP P 18 00 45.7 +0.3
TUC pmax pmax
comp=Z,3µm,2.2s
TUC MLR MLR
comp=Z,152µm,19.0s
TUC Tucson 69.73 64 eP P 18 00 45.7 +0.3
comp=Z,3µm,2.2s
TUC LR LR
comp=Z,152µm,19.0s
U23A El Rito 69.74 58 ⇑P P 18 00 46.4 +0.8
baz=70,SNR=390
U23A ⇑P P 18 00 46.4 +0.8
baz=70,SNR=390
U23A ⇑P P 18 00 46.4 +0.8
baz=70,SNR=390
ECSD EROS Data Cent 69.76 47 eP P 18 00 44.6 -0.7
comp=Z,36nm,0.5s
ECSD LR LR
comp=Z,501µm,20.0s
S25A Robets Cordova 69.83 56 ⇓P P 18 00 46.2 +0.1
baz=70
S25A ⇓P P 18 00 46.2 +0.1
baz=70
S25A ⇓P P 18 00 46.2 +0.1
baz=70
T24A Torres, Weston 69.89 57 ⇓P P 18 00 47.6 +1.0
baz=70
T24A ⇓P P 18 00 47.6 +1.0
baz=70
T24A ⇓P P 18 00 47.6 +1.0
baz=70
KSCO Kaye Shedlock' 69.91 54 ⇑P P 18 00 46.5 0.0
baz=70
KSCO ⇑P P 18 00 46.5 0.0
baz=70
KSCO ⇑P P 18 00 46.5 0.0
baz=70
FITZ Fitzroy Crossi 69.93 210 P P 18 00 46.9 +0.4
comp=Z,103nm,0.8s,baz=22,slow=5.8,SNR=57
FITZ Fitzroy Crossi 69.93 210 eP P 18 00 46.6 +0.2
comp=Z,829nm,1.2s
FITZ eS S 18 09 59.9 +5.6
FITZ ePKPPKP P'P'df 18 28 27.8 -18
FITZ Fitzroy Crossi 69.93 210 eP P 18 00 46.6 +0.2
comp=Z,985nm,1.4s
R26A Arlington 69.95 55 ⇑P P 18 00 46.9 +0.1
baz=70,SNR=99
R26A ⇑P P 18 00 46.9 +0.1
baz=70,SNR=99
R26A ⇑P P 18 00 46.9 +0.1
baz=70,SNR=99
Z19A T-Link Ranch, 69.99 63 ⇓P P 18 00 48.4 +1.3
baz=70
Z19A ⇓P P 18 00 48.4 +1.3
baz=70
Z19A ⇓P P 18 00 48.4 +1.3
baz=70
X21A Alamocita Cree 70.09 61 ⇑P P 18 00 49.3 +1.5
baz=70
X21A ⇑P P 18 00 49.3 +1.5
baz=70
X21A ⇑P P 18 00 49.3 +1.5
baz=70
Y20A Horse Springs, 70.10 62 ⇓P P 18 00 49.3 +1.4
baz=70
Y20A ⇓P P 18 00 49.3 +1.4
baz=70
Y20A ⇓P P 18 00 49.3 +1.4
baz=70
MAK Makhachkala 70.11 312 eP P 18 00 48.0 +0.5
MAK i 18 01 12.4
MAK e 18 03 24.1
MAK ePPP PPP 18 05 02.7
MAK eS S 18 09 54.8 -1.4
MAK e 18 10 46.5
MAK eSS SS 18 14 32.3 +6.9
MAK pmax pmax
comp=E,900nm,0.9s
MAK pmax pmax
comp=Z,4µm,1.5s
MAK pmax pmax
comp=N,1µm,1.0s
MAK smax smax
comp=E,67µm,11.6s
MAK smax smax
comp=N,132µm,12.6s
MAK MLR MLR
comp=N,831µm,22.0s
MAK MLR MLR
comp=Z,843µm,19.0s
MAK MLR MLR
comp=E,1050µm,19.0s
V23A Ortiz Mt. (NFS 70.15 59 ⇑P P 18 00 49.6 +1.5
baz=70,SNR=68
V23A ⇑P P 18 00 49.6 +1.5
baz=70,SNR=68
V23A ⇑P P 18 00 49.6 +1.5
baz=70,SNR=68
W22A Albuquerque 70.21 60 ⇑P P 18 00 49.6 +1.2
baz=70,SNR=12
W22A ⇑P P 18 00 49.6 +1.2
baz=70,SNR=12
W22A ⇑P P 18 00 49.6 +1.2
baz=70,SNR=12
T25A Trinidad 70.21 57 ⇑P P 18 00 48.8 +0.3
baz=70,SNR=109
T25A ⇑P P 18 00 48.8 +0.3
baz=70,SNR=109
T25A ⇑P P 18 00 48.8 +0.3
baz=70,SNR=109
KONO Kongsberg 70.22 342 ⇑iP P 18 00 47.7 -0.1
KONO AMB AMB 18 01 07.2
comp=Z,2µm,1.4s
KONO eS S 18 09 55.4 -1.4
KONO AMS AMS 18 35 48.8
comp=Z,459µm,19.4s
KONO Kongsberg 70.22 342 eP P 18 00 48.1 +0.3
KONO pmax pmax
comp=Z,2µm,1.1s
KONO MLR MLR
comp=Z,572µm,20.0s
KONO Kongsberg 70.22 342 eP P 18 00 48.1 +0.3
comp=Z,2µm,1.1s
KONO LR LR
comp=Z,572µm,20.0s
U24A Moreno Valley 70.22 58 ⇓P P 18 00 49.8 +1.2
baz=70,SNR=11
U24A ⇓P P 18 00 49.8 +1.2
baz=70,SNR=11
U24A ⇓P P 18 00 49.8 +1.2
baz=70,SNR=11
ASK Askoy 70.30 345 eP P 18 00 49.5 +1.2
119A Ashpeak Ranch, 70.33 63 ⇓P P 18 00 49.7 +0.6
baz=70
119A ⇓P P 18 00 49.7 +0.6
baz=70
119A ⇓P P 18 00 49.7 +0.6
baz=70
R27A Eads 70.33 55 ⇑P P 18 00 49.1 +0.1
baz=70
R27A ⇑P P 18 00 49.1 +0.1
baz=70
R27A ⇑P P 18 00 49.1 +0.1
baz=70
RUND Rundenannen 70.33 345 eP P 18 00 48.3 -0.3
BER Bergen 70.37 345 eP P 18 00 49.5 +0.7
BER AMB AMB 18 01 11.8
comp=Z,3µm,1.7s
BER eS S 18 09 58.5 -0.1
BER AMS AMS 18 30 01.1
comp=Z,271µm,22.1s
S26A Kim 70.41 56 ⇑P P 18 00 49.4 -0.2
baz=70
S26A ⇑P P 18 00 49.4 -0.2
baz=70
S26A ⇑P P 18 00 49.4 -0.2
baz=70
218A Dragoon 70.41 64 ⇓P P 18 00 50.6 +0.9
baz=70,SNR=88
218A ⇓P P 18 00 50.6 +0.9
baz=70,SNR=88
218A ⇓P P 18 00 50.6 +0.9
baz=70,SNR=88
Y21A Point of Rocks 70.46 61 ⇓P P 18 00 51.4 +1.3
baz=70
Y21A ⇓P P 18 00 51.4 +1.3
baz=70
Y21A ⇓P P 18 00 51.4 +1.3
baz=70
EGD Espegrend 70.49 345 eP P 18 00 50.7 +1.2
LAZ Ladron 70.51 60 eP P 18 00 51.0 +0.7
comp=Z,1µm,0.5s
Z20A Nine Sixteen R 70.52 62 ⇑P P 18 00 51.4 +1.0
baz=70
Z20A ⇑P P 18 00 51.4 +1.0
baz=70
Z20A ⇑P P 18 00 51.4 +1.0
baz=70
ANMO Albuquerque 70.54 60 eP P 18 00 50.8 +0.3
ANMO pmax pmax
comp=Z,9.0nm,0.5s
ANMO MLR MLR
comp=Z,405µm,22.0s
ANMO Albuquerque 70.54 60 eP P 18 00 50.8 +0.3
comp=Z,8.8nm,0.5s
ANMO LR LR
comp=Z,405µm,22.0s
SPMN St. Paul 70.55 44 ⇑P P 18 00 50.0 -0.1
baz=70
SPMN ⇑P P 18 00 50.0 -0.1
baz=70
SPMN ⇑P P 18 00 50.0 -0.1
baz=70
ODD1 Odda 70.57 344 eP P 18 00 49.5 -0.6
W23A Werner Place, 70.57 59 ⇓P P 18 00 51.7 +1.0
baz=70
W23A ⇓P P 18 00 51.7 +1.0
baz=70
W23A ⇓P P 18 00 51.7 +1.0
baz=70
BGNE Belgrade 70.64 50 ⇓P P 18 00 50.2 -0.5
baz=70
BGNE ⇓P P 18 00 50.2 -0.5
baz=70
BGNE ⇓P P 18 00 50.2 -0.5
baz=70
S27A Las Animas 70.69 55 ⇑P P 18 00 50.9 -0.4
baz=70,SNR=101
S27A ⇑P P 18 00 50.9 -0.4
baz=70,SNR=101
S27A ⇑P P 18 00 50.9 -0.4
baz=70,SNR=101
V24A Rampart Ranch, 70.69 58 ⇑P P 18 00 52.6 +1.1
baz=70
V24A ⇑P P 18 00 52.6 +1.1
baz=70
V24A ⇑P P 18 00 52.6 +1.1
baz=70
U25A Circle Dot Ran 70.72 57 ⇓P P 18 00 52.1 +0.5
baz=70
U25A ⇓P P 18 00 52.1 +0.5
baz=70
U25A ⇓P P 18 00 52.1 +0.5
baz=70
LENM Lemitar 70.77 60 eP P 18 00 52.7 +0.8
comp=Z,534nm,1.5s
318A Bisbee 70.81 64 ⇓P P 18 00 52.9 +0.8
baz=71,SNR=269
318A ⇓P P 18 00 52.9 +0.8
baz=71,SNR=269
318A ⇓P P 18 00 52.9 +0.8
baz=71,SNR=269
Y22D IRIS PASSCAL I 70.86 61 ⇓P P 18 00 53.9 +1.5
baz=71
Y22D ⇓P P 18 00 53.9 +1.5
baz=71
Y22D ⇓P P 18 00 53.9 +1.5
baz=71
LPM Los Pinos Moun 70.87 60 eP P 18 00 53.1 +0.6
comp=Z,3µm,1.0s
219A White Tail Can 70.88 64 ⇓P P 18 00 53.6 +1.1
baz=71
219A ⇓P P 18 00 53.6 +1.1
baz=71
219A ⇓P P 18 00 53.6 +1.1
baz=71
120A U Bar Ranch, L 70.89 63 ⇑P P 18 00 53.6 +1.0
baz=71,SNR=179
120A ⇑P P 18 00 53.6 +1.0
baz=71,SNR=179
120A ⇑P P 18 00 53.6 +1.0
baz=71,SNR=179
POO Poona 70.91 277 ⇑iP P 18 00 53.4 +0.6
POO AMb AMB 18 01 02.6
comp=Z,2µm,1.1s
POO eS S 18 10 06.4 +0.1
Y22A Socorro 70.93 61 ⇑P P 18 00 54.1 +1.2
baz=71
Y22A ⇑P P 18 00 54.1 +1.2
baz=71
Y22A ⇑P P 18 00 54.1 +1.2
baz=71
Z21A St. Cloud Mine 70.94 62 ⇓P P 18 00 54.5 +1.5
baz=71
Z21A ⇓P P 18 00 54.5 +1.5
baz=71
Z21A ⇓P P 18 00 54.5 +1.5
baz=71
X23A Hourglass Bar 70.95 60 ⇑P P 18 00 54.3 +1.3
baz=71
X23A ⇑P P 18 00 54.3 +1.3
baz=71
X23A ⇑P P 18 00 54.3 +1.3
baz=71
W24A Lazy 6 Ranch, 70.97 59 ⇓P P 18 00 54.2 +1.0
baz=71
W24A ⇓P P 18 00 54.2 +1.0
baz=71
W24A ⇓P P 18 00 54.2 +1.0
baz=71
BNM Barren Site 70.99 60 eP P 18 00 53.7 +0.5
comp=Z,2µm,0.4s
V25A Rancho No Teng 71.00 58 ⇓P P 18 00 54.1 +0.9
baz=71,SNR=77
V25A ⇓P P 18 00 54.1 +0.9
baz=71,SNR=77
V25A ⇓P P 18 00 54.1 +0.9
baz=71,SNR=77
BLS5 Blasjo 71.05 344 eP P 18 00 53.4 +0.5
BLS5 AMB AMB 18 01 17.1
comp=Z,713nm,1.3s
U26A Atchley Ranch, 71.11 57 ⇑P P 18 00 54.3 +0.4
baz=71
U26A ⇑P P 18 00 54.3 +0.4
baz=71
U26A ⇑P P 18 00 54.3 +0.4
baz=71
T27A Campo 71.23 56 ⇑P P 18 00 54.4 -0.2
baz=71
T27A ⇑P P 18 00 54.4 -0.2
baz=71
T27A ⇑P P 18 00 54.4 -0.2
baz=71
IGLO Ghaloghah 71.27 303 ⇑eP P 18 00 56.1 +1.2
319A Douglas 71.30 64 ⇑P P 18 00 56.1 +1.0
baz=71
319A ⇑P P 18 00 56.1 +1.0
baz=71
319A ⇑P P 18 00 56.1 +1.0
baz=71
220A Playas Peak, P 71.39 63 ⇑P P 18 00 56.4 +0.7
baz=71
220A ⇑P P 18 00 56.4 +0.7

baz=71
220A ⇑P P 18 00 56.4 +0.7
baz=71
X24A Lazy VL Ranch, 71.41 59 ⇑P P 18 00 56.9 +1.2
baz=71
X24A ⇑P P 18 00 56.9 +1.2
baz=71
X24A ⇑P P 18 00 56.9 +1.2
baz=71
Z22A Elephant Butte 71.41 61 ⇓P P 18 00 56.8 +1.0
baz=71
Z22A ⇓P P 18 00 56.8 +1.0
baz=71
Z22A ⇓P P 18 00 56.8 +1.0
baz=71
121A Cookes Peak, D 71.41 62 ⇓P P 18 00 57.0 +1.2
baz=71
121A ⇓P P 18 00 57.0 +1.2
baz=71
121A ⇓P P 18 00 57.0 +1.2
baz=71
KMY Karmoy 71.48 344⇑*i*P P 18 00 56.0 +0.5
Y23A Lovelace Mesa, 71.48 60 ⇓P P 18 00 57.2 +1.0
baz=71
Y23A ⇓P P 18 00 57.2 +1.0
baz=71
Y23A ⇓P P 18 00 57.2 +1.0
baz=71
W25A X Bar L Ranch, 71.52 58 ⇑P P 18 00 57.2 +0.8
baz=71
W25A ⇑P P 18 00 57.2 +0.8
baz=71
W25A ⇑P P 18 00 57.2 +0.8
baz=71
T28A Walsh 71.53 55 ⇑P P 18 00 56.1 -0.3
baz=71
T28A ⇑P P 18 00 56.1 -0.3
baz=71
T28A ⇑P P 18 00 56.1 -0.3
baz=71
IKIA Kiasar 71.56 303⇑*e*P P 18 00 57.6 +0.9
COWI Conover 71.60 41 *e*P P 18 00 55.6 -0.9
comp=Z,366nm,1.0s
COWI LR LR
comp=Z,347μm,20.0s
SUW Suwalki 71.61 333 *e*P P 18 00 55.7 -0.7
comp=Z,6μm,4.8s
SUW *ep*P pP 18 00 59.5 -6.6
SUW *es*P sP 18 01 04.0 -5.7
SUW *e*PcP **PcP 18 01 11.3 -4.2**
SUW *e*S **S 18 10 08.6 -4.7**
SUW LMZ LR 18 34 57.4
comp=Z,675μm,22.4s
SUW Suwalki 71.61 333 *e*P P 18 00 55.7 -0.7
SUW *e**SP sP 18 01 04.0 -5.7
SUW *e* 18 01 11.3
SUW *e*S **S 18 10 08.6 -4.7**
SUW pmax pmax
comp=Z,6μm,4.8s
SUW MLR MLR
comp=Z,675μm,22.4s
SUW Suwalki 71.61 333 *e*P P 18 00 55.3 -1.0
comp=Z,5μm,1.2s
CBKS Cedar Bluff 71.65 53 *e*P P 18 00 55.9 -1.1
CBKS pmax pmax
comp=Z,656nm,1.1s
CBKS MLR MLR
comp=Z,196μm,20.0s
CBKS Cedar Bluff 71.65 53 *e*P P 18 00 55.9 -1.1
comp=Z,656nm,1.1s
CBKS LR LR
comp=Z,196μm,20.0s
CBKS Cedar Bluff 71.65 53 ⇓P P 18 00 56.2 -0.8
baz=71
CBKS ⇓P P 18 00 56.2 -0.8
baz=71
CBKS ⇓P P 18 00 56.2 -0.8
baz=71
CBKS ⇓P P 18 00 56.2 -0.8
baz=71
CBKS ⇓P P 18 00 56.2 -0.8
baz=71
CBKS ⇓P P 18 00 56.2 -0.8
baz=71
STAV Stavanger 71.65 344 *e*P P 18 00 56.8 +0.3
LRW Lerwick 71.67 348 *e*P P 18 00 57.1 +0.5
LRW AMB AMB 18 01 14.0
comp=Z,915nm,5.5s
LRW Lerwick 71.67 348 P P 18 00 57.1 +0.5
LRW AMB AMB 18 01 14.0
comp=Z,915nm,5.5s
HOMB Homborsund 71.71 342 *e*P P 18 00 56.8 -0.1
HOMB *ep*P **pP 18 01 06.3 -0.2**
HOMB *e*S **S 18 10 14.3 +0.1**
122A Conniff Cattle 71.77 62 ⇓P P 18 00 59.0 +1.1
baz=72
122A ⇓P P 18 00 59.0 +1.1
baz=72
122A ⇓P P 18 00 59.0 +1.1
baz=72
221A Mesquite Ranch 71.78 63 ⇑P P 18 00 58.9 +1.0
baz=72
221A ⇑P P 18 00 58.9 +1.0
baz=72
221A ⇑P P 18 00 58.9 +1.0
baz=72
KIV Kislovodsk 71.78 315*c i*P P 18 00 58.2 +0.5
KIV *e* 18 01 16.0
KIV *e*PPP PPP 18 05 22.9
KIV *e*S **S 18 10 15.7 -0.1**
KIV *e*SS **SS 18 14 54.6 +3.5**
KIV pmax pmax
comp=Z,3μm,4.4s
KIV pmax pmax
comp=Z,2μm,1.1s
KIV MLR MLR
comp=Z,597μm,19.0s
KIV Kislovodsk 71.78 315 *e*P P 18 00 57.9 +0.2
comp=Z,6μm,1.4s
KIV LR LR
comp=Z,657μm,20.0s
KIV Kislovodsk 71.78 315 P P 18 00 58.2 +0.5
comp=Z,15μm,1.0s
320A Kipp Ranch, An 71.79 64 ⇑P P 18 00 58.9 +0.9
baz=72
320A ⇑P P 18 00 58.9 +0.9
baz=72
320A ⇑P P 18 00 58.9 +0.9
baz=72
Z23A Rita Site, Whi 71.84 61 ⇓P P 18 00 58.8 +0.4
baz=72
Z23A ⇓P P 18 00 58.8 +0.4
baz=72
Z23A ⇓P P 18 00 58.8 +0.4
baz=72
X25A Clemmons Ranch 71.89 59 ⇑P P 18 00 59.5 +0.9
baz=72
X25A ⇑P P 18 00 59.5 +0.9
baz=72
X25A ⇑P P 18 00 59.5 +0.9
baz=72
SNART Snartemo 71.91 343 *e*P P 18 00 58.7 +0.6
IANJ Anjilo 71.95 303⇓*e*P P 18 00 59.8 +0.7
EIDS Eidsvold 71.96 184 *e*P P 18 00 58.5 -0.2
comp=Z,3μm,2.0s
W26A Owens Ranch, T 72.02 58 ⇓P P 18 01 00.2 +0.9
baz=72
W26A ⇓P P 18 01 00.2 +0.9
baz=72
W26A ⇓P P 18 01 00.2 +0.9
baz=72
ISHM Shahmirzad 72.07 303 *e*P P 18 01 01.2 +1.4
ZEI Tsey 72.07 314 *e*P P 18 00 58.4 -1.2
ZEI *e*S **S 18 10 18.0 -1.4**
ZEI *e*SS **SS 18 14 59.5 +3.7**
ZEI pmax pmax
comp=Z,258nm,1.0s
ZEI pmax pmax
comp=E,283nm,1.0s
ZEI pmax pmax
comp=N,122nm,0.8s
ZEI MLR MLR
comp=Z,593μm,17.0s
222A Williams Famil 72.12 62 ⇑P P 18 01 00.8 +0.7
baz=72
222A ⇑P P 18 01 00.8 +0.7
baz=72
222A ⇑P P 18 01 00.8 +0.7
baz=72
IALA Alasht 72.15 304 *e*P P 18 01 00.0 -0.3
XMIS Christmas Isla 72.16 232 *e*P P 18 00 59.6 -0.6
comp=Z,2μm,1.0s
XMIS *e*S S 18 10 21.3 +0.8
123A Bell Site, Whi 72.26 61 ⇓P P 18 01 01.5 +0.7
baz=72
123A ⇓P P 18 01 01.5 +0.7
baz=72
123A ⇓P P 18 01 01.5 +0.7
baz=72
AKASG Malin Array Be 72.28 327 P P 18 00 59.8 -0.7
comp=Z,264nm,0.7s,baz=33,slow=6.5,SNR=92
AKASG PKP2bc 18 28 41.8
comp=Z,11nm,1.0s,baz=227,slow=2.2,SNR=8.4
AKASG LR LR 18 34 54.5
comp=Z,621μm,20.2s,baz=35,slow=38
AKASG Malin Array Be 72.28 327 P P 18 00 59.8 -0.7
AKASG Malin Array Be 72.28 327 P P 18 00 59.8 -0.7
AKASG ⇑*e* 18 28 41.8
KIEV Kiev 72.29 327*c i*P P 18 00 59.1 -1.4
KIEV Kiev 72.29 327 *e*P P 18 00 59.0 -1.4
comp=Z,3μm,1.3s
KIEV LR LR
comp=Z,660μm,21.0s
Y25A Mesa, Roswell 72.29 59 ⇓P P 18 01 01.4 +0.4
baz=72
Y25A ⇓P P 18 01 01.4 +0.4
baz=72
Y25A ⇓P P 18 01 01.4 +0.4
baz=72
DGRG David-gareji 72.30 312 P P 18 01 02.4 +1.6
DGRG *S* **S 18 10 25.9 +4.2**
IPRN Peran 72.30 304 *e*P P 18 01 01.6 +0.6
Z24A Sheeppen Canyo 72.31 60 ⇓P P 18 01 01.9 +0.7
baz=72
Z24A ⇓P P 18 01 01.9 +0.7
baz=72
Z24A ⇓P P 18 01 01.9 +0.7
baz=72
X26A CR and CF Fran 72.37 58 ⇑P P 18 01 02.1 +0.6
baz=72
X26A ⇑P P 18 01 02.1 +0.6
baz=72
X26A ⇑P P 18 01 02.1 +0.6
baz=72
TBLG Delisi 72.42 313 P P 18 01 02.8 +1.3
TBLG S S 18 10 24.1 +1.1
TBLG Delisi 72.42 313 P P 18 01 02.8 +1.3
TBLG S S 18 10 24.1 +1.1
ONI Oni 72.42 314 P P 18 01 03.1 +1.5
ONI S S 18 10 27.3 +4.1
W27A Bowe Ranch, En 72.44 57 ⇑P P 18 01 02.4 +0.5
baz=72
W27A ⇑P P 18 01 02.4 +0.5
baz=72
W27A ⇑P P 18 01 02.4 +0.5
baz=72
IFIR Firoozkooh 72.49 304 *e*P P 18 01 05.5 +3.1
GOR Gori 72.54 313 P P 18 01 03.7 +1.4
GOR S S 18 10 26.6 +2.1
ILAS Lasjerd 72.56 303 *e*P P 18 01 04.0 +1.3
223A Chaparral, Ant 72.60 62 ⇓P P 18 01 03.7 +0.9
baz=72
223A ⇓P P 18 01 03.7 +0.9
baz=72
223A ⇓P P 18 01 03.7 +0.9
baz=72
SCHQ Schefferville 72.65 24 P P 18 01 02.8 +0.2
comp=Z,89nm,0.8s,baz=349,slow=5.8,SNR=73
SCHQ PKPPKP P'P'df 18 28 44.9 -7.2
comp=Z,12nm,0.8s,baz=149,slow=4.4,SNR=6.6
SCHQ LR LR 18 37 22.1
comp=Z,256μm,20.1s,baz=331,slow=39
SCHQ Schefferville 72.65 24 P P 18 01 02.9 +0.2
SCHQ P'P' 18 28 44.9
124A Stringfield Ra 72.70 61 ⇑P P 18 01 03.9 +0.3
baz=72
124A ⇑P P 18 01 03.9 +0.3
baz=72
124A ⇑P P 18 01 03.9 +0.3
baz=72
X27A F and S Farms, 72.72 58 ⇓P P 18 01 04.1 +0.6
baz=72
X27A ⇓P P 18 01 04.1 +0.6
baz=72
X27A ⇓P P 18 01 04.1 +0.6
baz=72
Z25A Roswell 72.73 60 ⇓P P 18 01 04.4 +0.8
baz=73
Z25A ⇓P P 18 01 04.4 +0.8
baz=73
Z25A ⇓P P 18 01 04.4 +0.8
baz=73
ASAR Alice Springs 72.78 200 P P 18 01 03.3 -0.3
comp=Z,222nm,0.8s,baz=15,slow=5.7,SNR=504
ASAR Alice Springs 72.78 200 P P 18 01 03.3 -0.3
ASAR Alice Springs 72.78 200 P P 18 01 03.3 -0.3
SCIA State Center 72.80 47 *e*P P 18 01 03.3 -0.5
comp=Z,1μm,0.9s
SCIA LR LR
comp=Z,562μm,20.0s
Y26A Elida 72.80 59 ⇑P P 18 01 04.4 +0.4
baz=73
Y26A ⇑P P 18 01 04.4 +0.4
baz=73
Y26A ⇑P P 18 01 04.4 +0.4
baz=73
IDMV Damavand 72.95 304 *e*P P 18 01 06.2 +1.1
BSD Bornholm Skovb 73.05 337⇑*i*P P 18 01 04.5 -0.5
BSD *i*S S 18 10 28.4 -1.3
BSD pmax pmax
comp=Z,1μm,1.1s
BSD Bornholm Skovb 73.05 337⇑*i*P P 18 01 04.5 -0.5
comp=Z,1μm,1.1s
BSD *i*S S 18 10 28.4 -1.3
KSU1 Kansas State U 73.12 51 *e*P P 18 01 03.9 -1.8
comp=Z,500nm,1.0s
KSU1 LR LR
comp=Z,311μm,21.0s
Z26A Caprock 73.17 59 ⇑P P 18 01 06.7 +0.4
baz=73
Z26A ⇑P P 18 01 06.7 +0.4
baz=73
Z26A ⇑P P 18 01 06.7 +0.4
baz=73
Y27A Causey 73.22 58 ⇓P P 18 01 07.1 +0.6
baz=73
Y27A ⇓P P 18 01 07.1 +0.6
baz=73
Y27A ⇓P P 18 01 07.1 +0.6
baz=73
MUD Monsted U'grnd 73.23 341⇑*i*P P 18 01 06.4 +0.4
MUD pmax pmax
comp=Z,260nm,1.0s
MUD MLR MLR
comp=Z,470μm,18.0s
MUD Monsted U'grnd 73.23 341⇑*i*P P 18 01 06.4 +0.4
comp=Z,261nm,1.0s
MUD
comp=Z,472μm,18.0s
AKH Akhalkalaki 73.28 313 P P 18 01 08.8 +2.0
AKH S **SKiKP 18 10 35.0 -0.6**
AMTX Amarillo 73.36 57 *e*P P 18 01 07.4 +0.1
comp=Z,3μm,0.5s
AMTX LR LR
comp=Z,314μm,22.0s
AMTX Amarillo 73.36 57 ⇑P P 18 01 08.1 +0.8
baz=73
AMTX ⇑P P 18 01 08.1 +0.8
baz=73
AMTX ⇑P P 18 01 08.1 +0.8
baz=73
AMTX ⇑P P 18 01 08.1 +0.8
baz=73
AMTX ⇑P P 18 01 08.1 +0.8
baz=73
AMTX ⇑P P 18 01 08.1 +0.8
baz=73
MSTX Muleshoe 73.39 58 ⇑P P 18 01 07.9 +0.4
baz=73
MSTX ⇑P P 18 01 07.9 +0.4
baz=73
MSTX ⇑P P 18 01 07.9 +0.4
baz=73
CPRX Cap Rock 73.41 59 *e*P P 18 01 07.8 +0.1
comp=Z,749nm,1.0s
MNTX Cornudas Mount 73.45 61 *e*P P 18 01 07.8 0.0
comp=Z,464nm,0.5s
MNTX LR LR
comp=Z,174μm,21.0s
MNTX Cornudas Mount 73.45 61 ⇑P P 18 01 08.4 +0.6
baz=73
MNTX ⇑P P 18 01 08.4 +0.6
baz=73
MNTX ⇑P P 18 01 08.4 +0.6
baz=73
MNTX ⇑P P 18 01 08.4 +0.6
baz=73
MNTX ⇑P P 18 01 08.4 +0.6
baz=73
SOC Sochi 73.47 317*c i*P P 18 01 08.0 +0.3
SOC *e**SP **sP 18 01 20.2 -0.8**
SOC *e* 18 01 23.5
SOC *e*PPP PPP 18 05 38.4
SOC *i*S **S 18 10 34.7 -0.2**
SOC *e* 18 11 13.8
SOC *e*SSS SSS 18 18 32.4
SOC pmax pmax
comp=Z,12μm,4.9s
SOC pmax pmax
comp=Z,1μm,1.7s
SOC MLR MLR
comp=Z,848μm,19.0s
225A Deer Hill, Car 73.49 61 ⇓P P 18 01 08.7 +0.5
baz=73
225A ⇓P P 18 01 08.7 +0.5
baz=73
225A ⇓P P 18 01 08.7 +0.5
baz=73
JFWS Jewell Farm 73.50 44 *e*P P 18 01 06.6 -1.3
JFWS pmax pmax
comp=Z,260nm,0.8s
JFWS MLR MLR
comp=Z,451μm,20.0s
JFWS Jewell Farm 73.50 44 *e*P P 18 01 06.5 -1.3
comp=Z,260nm,0.8s
JFWS LR LR
comp=Z,451μm,20.0s
LLD Lille Linde 73.55 339 *i*P P 18 01 07.9 +0.1
LLD pmax pmax
comp=Z,2μm,0.8s
LLD Lille Linde 73.55 339 *i*P P 18 01 07.9 +0.1
comp=Z,2μm,0.8s
324A Moseley Ranch, 73.57 62 ⇑P P 18 01 09.0 +0.3
baz=73
324A ⇑P P 18 01 09.0 +0.3
baz=73
324A ⇑P P 18 01 09.0 +0.3
baz=73
GNI Garni 73.58 312 LR LR 18 37 08.6
comp=Z,737μm,20.5s,baz=234,slow=39
GNI Garni 73.58 312 *e*P P 18 01 09.9 +1.2
GNI Garni 73.58 312*ce*P P 18 01 10.1 +1.5
GNI pmax pmax
comp=Z,2μm,1.7s
GNI MLR MLR
comp=Z,697μm,20.0s
GNI Garni 73.58 312 *e*P P 18 01 09.8 +1.2
comp=Z,6μm,1.3s
ANN Anapa 73.59 319⇑*i*P P 18 01 06.6 -1.7
ANN *e* 18 04 01.7
ANN *i*S **SKiKP 18 10 34.6 -1.1**
ANN *e*SS **SS 18 15 22.3 +4.0**
ANN *e*SSS SSS 18 18 37.7
ANN pmax pmax
comp=Z,2μm,1.5s
ANN pmax pmax
comp=N,11μm,6.6s
ANN pmax pmax
comp=E,8μm,6.6s
ANN pmax pmax
comp=Z,34μm,6.6s
126A Clayton Basin, 73.59 60 ⇓P P 18 01 08.8 +0.1
baz=73
126A ⇓P P 18 01 08.8 +0.1
baz=73
126A ⇓P P 18 01 08.8 +0.1
baz=73
Z27A Tatum 73.59 59 ⇓P P 18 01 09.0 +0.3
baz=73
Z27A ⇓P P 18 01 09.0 +0.3
baz=73
Z27A ⇓P P 18 01 09.0 +0.3
baz=73
IR3 Iran Long-Peri 73.60 304⇑*e*P P 18 01 08.7 0.0
IMHD Mahdasht 73.65 305 *e*P P 18 01 10.2 +1.2
GDL2 Guadalupe Moun 73.70 60 *e*P P 18 01 09.5 +0.1
comp=Z,1μm,0.7s
IBAF Bafgh 73.71 299⇑*e*P P 18 01 08.7 -0.8
325A Bean Ranch, Si 73.93 61 ⇓P P 18 01 11.3 +0.5
baz=74
325A ⇓P P 18 01 11.3 +0.5
baz=74
325A ⇓P P 18 01 11.3 +0.5
baz=74
ICHK Chekchek 73.94 300⇑*e*P P 18 01 11.2 +0.3
CLNB Carlsbad 73.95 60 *e*P P 18 01 11.0 +0.2
comp=Z,26nm,0.6s
226A Malaga, Loving 73.96 60 ⇑P P 18 01 11.1 +0.3
baz=74
226A ⇑P P 18 01 11.1 +0.3
baz=74
226A ⇑P P 18 01 11.1 +0.3
baz=74
127A Arkansas Junct 73.96 59 ⇑P P 18 01 10.7 -0.2
baz=74
127A ⇑P P 18 01 10.7 -0.2
baz=74
127A ⇑P P 18 01 10.7 -0.2
baz=74
RGN Rugen 73.98 338 *e*P P 18 01 10.8 +0.4
RGN Rugen 73.98 338 *e*P P 18 01 10.9 +0.5
comp=Z,4μm,1.3s
GKP Gorka Klasztor 74.05 335 *e*P P 18 01 10.8 -0.1
comp=Z,6μm,5.1s
GKP *ep*P **pP 18 01 16.8 -3.8**
GKP *es*P **sP 18 01 20.8 -3.4**
GKP *e*PcP **PcP 18 01 26.7 +0.7**
GKP *e*S **S 18 10 46.2 +5.2**
GKP LMZ LR 18 36 24.4
comp=Z,860μm,21.1s
GKP Gorka Klasztor 74.05 335 *e*P P 18 01 10.8 -0.1
GKP *e**SP **sP 18 01 20.8 -3.4**
GKP *e* 18 01 26.7
GKP *e*S **S 18 10 46.2 +5.2**
GKP pmax pmax
comp=Z,6μm,5.1s
GKP MLR MLR
comp=Z,860μm,21.1s
KARS Kars 74.07 313 *e*P P 18 01 12.4 +1.0
BCA Borcka 74.18 314 *e*P P 18 01 12.8 +0.9
ARTV Artvin 74.23 314 *i*P P 18 01 13.2 +0.8
DBOC Borcka 74.23 314 *i*P P 18 01 12.1 -0.1
DAGI Agillar 74.31 314 *i*P P 18 01 12.3 -0.5
425A Indio Mountain 74.33 62 ⇓P P 18 01 13.6 +0.5
baz=74
425A ⇓P P 18 01 13.6 +0.5
baz=74
425A ⇓P P 18 01 13.6 +0.5
baz=74
IMEH Mehriz 74.42 299 *e*P P 18 01 13.5 -0.2
DBAD Bademkaya 74.47 314 *i*P P 18 01 12.9 -0.7
227A Bennet, Jal 74.47 60 ⇓P P 18 01 14.2 +0.4
baz=74
227A ⇓P P 18 01 14.2 +0.4
baz=74
227A ⇓P P 18 01 14.2 +0.4
baz=74
DDEM Demirkent 74.54 314 *i*P P 18 01 14.4 +0.4
326A Caldwell Ranch 74.56 61 ⇓P P 18 01 14.7 +0.4
baz=74
326A ⇓P P 18 01 14.7 +0.4
baz=74
326A ⇓P P 18 01 14.7 +0.4
baz=74
DYDN Diyadin 74.57 312 *i*P P 18 01 16.3 +1.8
GLMI Grayling 74.60 40 *e*P P 18 01 14.4 +0.2
comp=Z,1μm,0.9s
GLMI LR LR

comp=Z,383µm,22.0s
ISAD Sadrabad 74.60 300 *e*P **P** **18 01 17.0 +2.2**
PZAR Pazar-Rize 74.74 315 *e*P **P** **18 01 15.4 +0.3**
CLDR Caldiran 74.76 311 *e*P **P** **18 01 16.7 +1.2**
KAC Achnashellach 74.78 349⇑*e*P **P** **18 01 15.1 +0.1**
KAC Achnashellach 74.78 349 P **P** **18 01 15.1 +0.1**
327A Balmorhea Ranc 74.81 60 ⇑P **P** **18 01 16.5 +0.7**
baz=75
327A ⇑P **P** **18 01 16.5 +0.7**
baz=75
327A ⇑P **P** **18 01 16.5 +0.7**
baz=75
LVV L'vov 74.88 330 *e*P **P** **18 01 15.1 -0.6**
LVV *i* 18 01 31.9
LVV *e*S **S** **18 10 47.1 -3.3**
LVV MLR MLR
comp=N,262µm,19.0s
LVV MLR MLR
comp=E,197µm,19.0s
LVV MLR MLR
comp=Z,361µm,19.0s
MBWA Marble Bar 74.89 214 *e*P **P** **18 01 15.8 -0.2**
comp=Z,1µm,1.1s
MBWA LR LR
comp=Z,26µm,20.0s
AGRB Hanur-Agry 74.91 312 *e*P **P** **18 01 17.8 +1.5**
SIM Simferopol' 74.94 321*c* *i*P **P** **18 01 16.2 0.0**
SIM *i* 18 01 32.6
SIM *e*PPP PPP 18 05 49.0
SIM *i*S **S** **18 10 50.5 -0.8**
SIM pmax pmax
comp=Z,888nm,0.8s
SIM MLR MLR
comp=Z,666µm,18.7s
KPL Plockton 74.98 349 *e*P **P** **18 01 16.2 +0.1**
KPL AMB AMB 18 01 30.6
comp=Z,1µm,1.3s
KPL *e* 18 10 47.4
KPL AMS AMS 18 33 47.0
comp=Z,182µm,20.9s
KPL Plockton 74.98 349 P **P** **18 01 16.2 +0.1**
KPL AMB AMB 18 01 30.6
comp=Z,1µm,1.3s
KPL 18 10 47.4
KPL AMS AMS 18 33 47.0
426A McDonald Obser 74.99 61 ⇑P **P** **18 01 17.4 +0.4**
baz=75
426A ⇑P **P** **18 01 17.4 +0.4**
baz=75
426A ⇑P **P** **18 01 17.4 +0.4**
baz=75
HOMI Horasan 75.10 313 *i*P **P** **18 01 17.4 -0.1**
WMOK Wichita Mounta 75.12 55 *e*P **P** **18 01 17.0 -0.4**
WMOK pmax pmax
comp=Z,475nm,0.5s
WMOK MLR MLR
comp=Z,244µm,22.0s
WMOK Wichita Mounta 75.12 55 *e*P **P** **18 01 17.0 -0.4**
comp=Z,475nm,0.5s
WMOK LR LR
comp=Z,244µm,22.0s
TUTA Tutak 75.13 312 *i*P **P** **18 01 19.2 +1.5**
328A Wristen Ranch, 75.21 60 ⇓P **P** **18 01 18.2 +0.1**
baz=75
328A ⇓P **P** **18 01 18.2 +0.1**
baz=75
328A ⇓P **P** **18 01 18.2 +0.1**
baz=75
427A Hayter Ranch, 75.24 61 ⇓P **P** **18 01 18.7 +0.4**
baz=75
427A ⇓P **P** **18 01 18.7 +0.4**
baz=75
427A ⇓P **P** **18 01 18.7 +0.4**
baz=75
526A Mary Lane Ranc 75.39 62 ⇑P **P** **18 01 20.0 +0.7**
baz=75
526A ⇑P **P** **18 01 20.0 +0.7**
baz=75
526A ⇑P **P** **18 01 20.0 +0.7**
baz=75
KTUT Trabzon 75.44 315 *e*P **P** **18 01 19.4 +0.3**
VANB Van 75.44 311 *e*P **P** **18 01 20.0 +0.6**
KIS Kishinev 75.46 325*a* *i*P **P** **18 01 19.0 -0.1**
KIS *i* 18 04 16.0
KIS *i*PPP PPP 18 06 02.0
KIS *i*S **S** **18 10 54.0 -3.0**
KIS *i*PS **SKSac** **18 11 28.0 +1.6**
KIS pmax pmax
comp=Z,3µm,1.5s
KIS pmax pmax
comp=N,2µm,1.6s
KIS pmax pmax
comp=E,1µm,1.4s
KIS pmax pmax
comp=Z,144µm,16.0s
KIS pmax pmax
comp=N,36µm,18.0s
KIS pmax pmax
comp=E,13µm,15.0s
KIS pmax pmax
comp=Z,21µm,18.0s
KIS smax smax
comp=N,3µm,1.7s
KIS smax smax
comp=E,3µm,1.8s
KIS smax smax
comp=E,23µm,16.0s
KIS MLR MLR
comp=E,135µm,18.0s
KIS Kishinev 75.46 325⇓*i*P **P** **18 01 18.7 -0.4**
KIS Kishinev 75.46 325 *i*P **P** **18 01 19.0 -0.1**
comp=E,3µm,1.5s
KIS Kishinev 75.46 325 *i*PP PP 18 04 16.0 +8.3
comp=E,21µm,18.0s
KIS Kishinev 75.46 325 *i*PPP PPP 18 06 02.0
KIS *i*S **S** **18 10 54.0 -3.0**
comp=E,3µm,1.8s
KIS Kishinev 75.46 325 *i*PS 18 11 28.0
KIS *e*SS SS 18 15 37.0 -10
KIS *e*SSS SSS 18 19 22.0
KIS *e*LQ LQ 18 23 46.0
KIS LRM MLR 18 35 14.0
comp=E,135µm,18.0s
MACK Trabzon 75.47 315 *i*P **P** **18 01 18.5 -0.8**
ERZM Erzurum 75.48 313 *i*P **P** **18 01 21.2 +1.5**
EZM Erzurum 75.48 313 *e*P **P** **18 01 21.0 +1.3**
TVAN Van 75.48 311 *i*P **P** **18 01 21.1 +1.4**
KWP Kalwaria Pacla 75.49 330 *e*P **P** **18 01 19.9 +0.5**
comp=E,9µm,5.3s
KWP *e*pP pP 18 01 24.4 -4.7
KWP *e*sP **sP** **18 01 28.3 -4.4**
KWP *e*PcP **PcP** **18 01 35.6 +3.4**
KWP *e*S **S** **18 11 01.2 +3.9**
KWP LMZ LR 18 32 42.7
comp=E,474µm,26.5s
KWP Kalwaria Pacla 75.49 330 *e*P **P** **18 01 19.8 +0.5**
KWP *e**SP **sP** **18 01 28.3 -4.4**
KWP *e* 18 01 35.6
KWP *e*S **S** **18 11 01.2 +3.9**
KWP pmax pmax
comp=Z,9µm,5.3s
KWP MLR MLR
comp=Z,474µm,26.5s
KWP Kalwaria Pacla 75.49 330 *e*P **P** **18 01 19.2 -0.1**
comp=Z,7µm,0.9s
KWP LR LR
comp=Z,527µm,21.0s
KWP Kalwaria Pacla 75.49 330⇑*i*P **P** **18 01 19.6 +0.3**
ELO Logie Almond 75.57 348⇑*e*P **P** **18 01 21.3 +1.7**
ELO Logie Almond 75.57 348 P **P** **18 01 21.3 +1.7**
HLG Helgoland 75.62 341 *e*P **P** **18 01 20.4 +0.5**
comp=Z,1µm,1.1s
527A Woodward Ranch 75.62 61 ⇑P **P** **18 01 20.8 +0.2**
baz=76
527A ⇑P **P** **18 01 20.8 +0.2**
baz=76
527A ⇑P **P** **18 01 20.8 +0.2**
baz=76
VANT Van 75.63 311 *e*P P 18 01 24.1 +3.5
BAYT Ayd¨-ntepe-Bay 75.71 314 *e*P **P** **18 01 21.6 +0.6**
RUE Ruedersdorf 75.71 337 *e*P **P** **18 01 20.7 +0.2**
comp=Z,4µm,1.4s
RUE Ruedersdorf 75.71 337 *e*P **P** **18 01 20.3 -0.1**
comp=Z,3µm,1.1s
LPIG La Paz 75.72 70 P **P** **18 01 22.1 +1.1**

626A Big Bend Ranch 75.73 62 ⇓P **P** **18 01 21.7 +0.6**
baz=76
626A ⇓P **P** **18 01 21.7 +0.6**
baz=76
626A ⇓P **P** **18 01 21.7 +0.6**
baz=76
428A Kincaid Ranch, 75.76 60 ⇓P **P** **18 01 22.3 +1.0**
baz=76
428A ⇓P **P** **18 01 22.3 +1.0**
baz=76
428A ⇓P **P** **18 01 22.3 +1.0**
baz=76
HDIL Hopedale 75.76 45 *e*P **P** **18 01 20.5 -0.5**
comp=Z,2µm,1.1s
HDIL LR LR
comp=Z,346µm,22.0s
IAS Iasi 75.79 326 ⇑P **P** **18 01 20.7 -0.3**
IAS Iasi 75.79 326⇑*i*P **P** **18 01 20.7 -0.3**
KOPT Kop Dagi 75.82 314 *i*P **P** **18 01 22.6 +0.9**
TUL1 Tulsa 75.91 52 ⇑P **P** **18 01 22.0 +0.1**
baz=76
TUL1 ⇑P **P** **18 01 22.0 +0.1**
baz=76
TUL1 ⇑P **P** **18 01 22.0 +0.1**
baz=76
EAB Aberfoyle 75.93 348⇑*e*P **P** **18 01 21.9 +0.2**
EAB Aberfoyle 75.93 348 P **P** **18 01 21.9 +0.2**
OJC Ojcow 75.94 332 *i*P **P** **18 01 21.4 -0.5**
OJC *e*pP **pP** **18 01 31.4 -0.2**
OJC *i*S **S** **18 11 01.5 -0.7**
OJC L L 18 39 04.4
comp=Z,534nm,19.2s
OJC Ojcow 75.94 332⇑*i*P **P** **18 01 21.4 -0.5**
OJC *e**PP **pP** **18 01 31.4 -0.2**
OJC *i*S **S** **18 11 01.5 -0.7**
OJC MLR MLR
comp=Z,534µm,19.2s
ESY Stoneypath 75.94 347 *e*P **P** **18 01 21.4 -0.4**
ESY Stoneypath 75.94 347 P **P** **18 01 21.4 -0.4**
GUMT Gumushane 75.98 315 *e*P **P** **18 01 23.5 +1.1**
VRTB Varto-Mus 76.00 313 *e*P **P** **18 01 24.0 +1.4**
EDI Edinburgh 76.02 348 AMB AMB 18 01 30.0
comp=Z,453nm,1.4s
EDI AMS AMS 18 34 12.5
comp=Z,175µm,22.2s
HAKT HAKKARI 76.05 310 *i*P **P** **18 01 23.2 +0.2**
TATV Tatvan 76.08 312 *i*P **P** **18 01 22.8 -0.3**
528A Cox Ranch, San 76.10 61 ⇓P **P** **18 01 24.0 +0.7**
baz=76
528A ⇓P **P** **18 01 24.0 +0.7**
baz=76
528A ⇓P **P** **18 01 24.0 +0.7**
baz=76
LEOM Leova 76.12 325 ⇑P **P** **18 01 22.8 -0.1**
LEOM Leova 76.12 325⇑*i*P **P** **18 01 22.8 -0.1**
EAU Auchinoon 76.14 348⇑*e*P **P** **18 01 22.5 -0.4**
EAU Auchinoon 76.14 348 P **P** **18 01 22.5 -0.4**
EBL Broad Law 76.15 348⇑*e*P **P** **18 01 22.9 0.0**
EBL Broad Law 76.15 348 P **P** **18 01 22.9 0.0**
STHS Stebnicka Huta 76.17 331 *e*P **P** **18 01 24.4 +1.2**
STHS pmax pmax
comp=Z,370nm,1.2s
STHS Stebnicka Huta 76.17 331 *e*P **P** **18 01 24.4 +1.2**
STHS *e*S **S** **18 11 05.4 +0.6**
TXAR Lajitas Array 76.17 62 P **P** **18 01 23.8 +0.2**
comp=Z,500nm,0.8s,baz=299,slow=4.1,SNR=1781
TXAR PKKPbc **PKKPbc** **18 20 38.4 +2.9**
comp=Z,3.1nm,0.9s,baz=147,slow=4.9,SNR=5.2
TXAR PKP2ab 18 28 27.8
comp=Z,11nm,1.2s,baz=151,slow=2.9,SNR=7.2
TXAR PKPPKP P'P'df 18 28 38.5 -5.7
comp=Z,7.5nm,1.0s,baz=186,slow=2.5,SNR=5.7
TXAR LR LR 18 33 06.9
comp=Z,208µm,20.8s,baz=165,slow=34
TXAR Lajitas Array 76.17 62 P **P** **18 01 23.8 +0.2**
TXAR Lajitas Array 76.17 62 P **P** **18 01 23.8 +0.2**
TXAR PKKPbc **PKKPbc** **18 20 38.4 +2.9**
TXAR P'P'ab 18 28 27.8
TXAR P'P' 18 28 38.5
GRSN GIRESUNGRSN 76.20 316 *i*P **P** **18 01 22.9 -0.7**
KOLS Kolonicke sedl 76.23 330 *e*P **P** **18 01 23.7 +0.1**
KOLS pmax pmax
comp=Z,169nm,1.1s
KOLS Kolonicke sedl 76.23 330 *e*P **P** **18 01 23.7 +0.1**
KOLS *e*S **S** **18 11 05.5 0.0**
KOLS *e*SS **SS** **18 16 01.4 +3.1**
627A Terlingua Ranc 76.25 62 ⇓P **P** **18 01 24.9 +0.8**
baz=76
627A ⇓P **P** **18 01 24.9 +0.8**
baz=76
627A ⇓P **P** **18 01 24.9 +0.8**
baz=76
ILIN Lien 76.27 307 *e*P **P** **18 01 24.6 +0.3**
BNGL BINGOL 76.31 313 *i*P **P** **18 01 25.9 +1.5**
BURAR Bucovina Array 76.31 328⇑*i*P **P** **18 01 24.3 +0.2**
PGBU Glenifferbraes 76.31 348 *e*P **P** **18 01 23.9 0.0**
PGBU AMB AMB 18 01 39.3
comp=Z,2µm,1.2s
PGBU *e* 18 10 59.5
PGBU AMS AMS 18 28 58.8
comp=Z,120µm,29.9s
PGBU Glenifferbraes 76.31 348 P **P** **18 01 23.9 0.0**
PGBU AMB AMB 18 01 39.3
comp=Z,2µm,1.2s
PGBU 18 10 59.5
PGBU AMS AMS 18 28 58.8
KELT Kelkit 76.33 315 *i*P **P** **18 01 24.1 -0.4**
CUKT Cukurca 76.34 310 *e*P **P** **18 01 25.3 +0.8**
KSP Ksiaz 76.47 335 *e*P **P** **18 01 25.1 +0.3**
comp=Z,6µm,5.8s
KSP *e*pP pP 18 01 29.8 -4.8
KSP *e*PcP PcP 18 01 41.6 +5.2
KSP *e*S **S** **18 11 13.7 +5.7**
KSP LMZ LR 18 41 27.7
comp=Z,745µm,19.3s
KSP Ksiaz 76.47 335⇑*i*P **P** **18 01 25.1 +0.3**
KSP *e* 18 04 12.0
KSP *e*S **S** **18 11 04.0 -4.0**
NIE Niedzica 76.47 332 *i*P **P** **18 01 25.7 +0.8**
NIE *e*pP **pP** **18 01 35.5 +0.8**
NIE Niedzica 76.47 332⇑*i*P **P** **18 01 25.7 +0.8**
NIE *e**PP **pP** **18 01 35.5 +0.8**
UZH Uzhgorod 76.49 330⇓*i*P **P** **18 01 24.6 -0.3**
UZH *i* 18 01 43.6
UZH *i* 18 04 20.0
UZH *i*S **S** **18 11 04.6 -3.6**
UZH *e* 18 11 37.0
UZH *i*SS **SS** **18 15 59.0 -3.0**
UZH MLR MLR
comp=N,270µm,19.0s
UZH MLR MLR
comp=E,248µm,19.0s
UZH MLR MLR
comp=Z,215µm,19.0s
BNGB Bing¨ll 76.52 313 *e*P **P** **18 01 26.1 +0.7**
IKOM Komasi 76.52 306⇑*e*P **P** **18 01 25.6 0.0**
628A Black Gap, Mar 76.53 61 ⇑P **P** **18 01 26.2 +0.6**
baz=76
628A ⇑P **P** **18 01 26.2 +0.6**
baz=76
628A ⇑P **P** **18 01 26.2 +0.6**
baz=76
ERZN Erzincan 76.53 314 *e*P **P** **18 01 26.7 +1.1**
CRVS Cervenica-Dubn 76.53 331 *e*P **P** **18 01 25.7 +0.4**
CRVS pmax pmax
comp=Z,1µm,2.1s
CRVS Cervenica-Dubn 76.53 331 *e*P **P** **18 01 25.7 +0.4**
CRVS *e*S **S** **18 11 05.8 -3.0**
CRVS *e*SS **SS** **18 16 07.2 +4.4**
RAC Raciborz 76.56 333 *e*P **P** **18 01 26.1 +0.7**
RAC *e*S **S** **18 11 14.3 +5.3**
RAC MLR MLR
comp=E,1050µm,22.0s
RAC MLR MLR
comp=N,500µm,21.0s
EZC Erzincan 76.59 315 *e*P **P** **18 01 27.3 +1.4**
ESK Eskdalemuir 76.61 348 *e*P **P** **18 01 27.0 +1.5**
ESK AMB AMB 18 01 35.2
comp=Z,546nm,1.8s
ESK *e* 18 10 54.5
ESK AMS AMS 18 34 43.3
ESK Eskdalemuir 76.61 348 *e*P **P** **18 01 25.4 -0.1**
ESK pmax pmax
comp=Z,358nm,0.6s
ESK MLR MLR
comp=Z,223µm,22.0s
ESK Eskdalemuir 76.61 348 *e*P **P** **18 01 25.4 -0.1**
comp=Z,358nm,0.6s
ESK LR LR
comp=Z,223µm,22.0s
ESK Eskdalemuir 76.61 348 P **P** **18 01 27.3 +1.8**
comp=Z,2µm,1.4s,SNR=10
IVIS Veis 76.62 306 *e*P **P** **18 01 26.1 -0.1**
NRDL Niedersach Rie 76.65 339 *e*P **P** **18 01 25.9 +0.2**
comp=Z,1µm,1.3s
CCM Cathedral Cave 76.70 48 *e*P **P** **18 01 25.5 -0.8**
CCM pmax pmax
comp=Z,834nm,1.4s
CCM Cathedral Cave 76.70 48 *e*P **P** **18 01 25.5 -0.8**
comp=Z,834nm,1.4s
TESR 76.70 326⇓*i*P **P** **18 01 27.0 +0.8**
SLM Saint Louis 76.76 47 *e*P **P** **18 01 26.2 -0.5**
SLM pmax pmax
comp=Z,2µm,1.5s
SLM Saint Louis 76.76 47 *e*P **P** **18 01 26.2 -0.5**
comp=Z,2µm,1.5s
SIRN S¨-rnak 76.77 311 *i*P **P** **18 01 27.9 +1.0**
SUSE Susehri 76.79 316 *i*P **P** **18 01 26.4 -0.6**
OKC Ostrava-Krasne 76.79 333 *e*P **P** **18 01 27.1 +0.4**
OKC MLR MLR
comp=Z,639µm,19.5s
OKC Ostrava-Krasne 76.79 333 *e*P **P** **18 01 27.1 +0.4**
OKC *e*S S 18 11 18.6 +7.0
OKC *e*x x 18 16 20.9
OKC *e*PKPPKP P'P'df 18 28 31.4 -13
OKC *e*x x 18 28 47.0
OKC AMS AMS 18 40 10.0
comp=Z,639µm,19.5s
TRPA Tarpa 76.83 330⇑*i*P **P** **18 01 27.2 +0.3**
TRPA Tarpa 76.83 330 *e*P **P** **18 01 27.4 +0.5**
UPC Upice 76.85 335 *e*P **P** **18 01 27.4 +0.4**
UPC Upice 76.85 335 *e*P **P** **18 01 27.4 +0.4**
UPC *e*PKPPKP **P'P'df** **18 28 40.7 -3.8**
BMR Baia Mare 76.88 329⇓P **P** **18 01 27.6 +0.4**
BMR Baia Mare 76.88 329⇓*i*P **P** **18 01 27.6 +0.4**
DPC Dobruska-Polom 76.90 334 *e*P **P** **18 01 28.0 +0.7**
DPC *e*S S 18 11 18.6 +5.8
DPC Dobruska-Polom 76.90 334 *e*P **P** **18 01 28.0 +0.7**
DPC *e*S S 18 11 18.6 +5.8
DPC *e*SS SS 18 16 18.4 +10
DPC *e*x x 18 28 16.0
DPC *e*PKPPKP **P'P'df** **18 28 39.5 -4.9**
DPC AMS AMS 18 41 20.0
comp=Z,717µm,18.3s
XAL Allendale 76.90 347 *e*P **P** **18 01 27.2 0.0**
XAL Allendale 76.90 347 P **P** **18 01 27.2 0.0**
IGHG Ghaleghazi 76.93 306 *e*P **P** **18 01 27.5 -0.5**
TLCR 76.95 324 ⇑P **P** **18 01 27.6 0.0**
TLCR 76.95 324⇑*i*P **P** **18 01 27.6 0.0**
ARMA Armidale 76.96 183 *e*P **P** **18 01 28.0 +0.2**
ARMA Armidale 76.96 183 *e*P **P** **18 01 28.4 +0.6**
comp=Z,1µm,1.3s
SADO Sadowa 76.97 36 LR LR 18 37 36.8
comp=Z,355µm,19.6s,baz=354,slow=37
CLL Collm 76.98 337 *e*P **P** **18 01 27.6 -0.1**
comp=Z,3µm,1.2s
CLL Collm 76.98 337 *i*P **P** **18 01 27.6 -0.1**
CLL *e*S **S** **18 11 10.0 -3.6**
CLL pmax pmax
comp=Z,2µm,1.2s
CLL Collm 76.98 337 *i*P **P** **18 01 27.6 -0.1**
comp=Z,258nm,0.9s
CLL *i* P(2) 18 01 31.9
comp=Z,2µm,1.4s
CLL *i* P(3) 18 01 37.3
comp=Z,2µm,1.2s
CLL *e*Plp 18 01 41.0
comp=N,35µm,19.8s
CLL *e*Plp 18 01 41.0
comp=E,19µm,18.7s
CLL *e*Plp 18 01 41.0
comp=Z,67µm,16.9s
CLL *e*Pmax 18 01 42.0
CLL *e*PPlp 18 04 33.0
comp=Z,17µm,19.0s
CLL *e*PPP PPP 18 06 19.0
CLL *e*S **S** **18 11 10.0 -3.6**
comp=N,87µm,17.6s
CLL *e*S **S** **18 11 10.0 -3.6**
comp=E,75µm,20.1s
CLL *e*S **S** **18 11 10.0 -3.6**
comp=Z,56µm,21.0s
CLL *e*SS **SS** **18 16 12.0 +2.7**
CLL *i* PKPPKPd P'P'df 18 28 34.0 -10
CLL *i* 18 28 54.2
CLL Lmax 18 38 00.0
CLL LmV 18 38 00.0
comp=Z,739µm,21.0s
CLL W 21 47 00.0
comp=Z,4µm,23.0s
AAM Ann Arbor 77.03 41 *e*P **P** **18 01 28.2 +0.1**
AAM pmax pmax
comp=Z,575nm,1.1s
AAM MLR MLR
comp=Z,327µm,20.0s
AAM Ann Arbor 77.03 41 *e*P **P** **18 01 28.2 +0.1**
comp=Z,575nm,1.1s
AAM LR LR
comp=Z,327µm,20.0s
MORC Moravsky Berou 77.03 333 ⇑P **P** **18 01 28.5 +0.4**
MORC Moravsky Berou 77.03 333 *e*P **P** **18 01 27.8 -0.3**
comp=Z,1µm,1.0s
MORC Moravsky Berou 77.03 333⇑*i*P **P** **18 01 28.5 +0.4**
DIKM Dikmen 77.04 318 *e*P **P** **18 01 28.1 -0.1**
BEST Besiri 77.06 312 *i*P **P** **18 01 29.9 +1.4**
RSDY Resadiye-TOKAT 77.06 316 *e*P **P** **18 01 29.1 +0.7**
ERBA Erbaa 77.11 317 *i*P **P** **18 01 29.9 +1.2**
BRG Berggiesshubel 77.11 336 *i*P **P** **18 01 28.1 -0.3**
comp=Z,457nm,2.1s
BRG *i* 18 01 32.3
comp=Z,972nm,1.4s
BRG *i* PCP **pP** **18 01 38.0 -0.3**
comp=Z,1µm,1.4s
BRG *i* 18 01 44.6
comp=Z,970nm,1.2s
BRG PP **PP** **18 04 18.0 -3.5**
BRG S **S** **18 11 14.0 -1.0**
BRG SP **S** **18 11 14.0 -1.0**
BRG SS **SS** **18 16 09.0 -2.4**
BRG *i* PKPPKP **P'P'df** **18 28 40.7 -3.3**
comp=Z,103nm,2.1s
BRG
comp=N,669µm,24.7s
BRG
comp=E,807µm,24.4s
BRG
comp=Z,605µm,21.2s
BRG Berggiesshubel 77.11 336 *e*P **P** **18 01 28.1 -0.3**
comp=Z,1µm,1.2s
BRG Berggiesshubel 77.11 336 *i*P **P** **18 01 28.1 -0.3**
BRG *i* 18 01 38.0
BRG *i* 18 01 44.6
BRG 18 04 18.0
BRG S **S** **18 11 14.0 -1.0**
BRG SS **SS** **18 16 09.0 -2.4**
BRG pmax pmax
comp=Z,972nm,1.4s
BRG MLR MLR
comp=N,669µm,24.7s
BRG MLR MLR
comp=E,807µm,24.4s
BRG MLR MLR
comp=Z,605µm,21.2s
KVT Kavak 77.13 317 *e*P **P** **18 01 30.1 +1.3**
PETR 77.14 326⇑*i*P **P** **18 01 29.6 +1.0**
GCD Castle Douglas 77.16 348 *e*P **P** **18 01 28.5 -0.1**
GCD Castle Douglas 77.16 348 P **P** **18 01 28.5 -0.1**
FVM French Village 77.17 48 *e*P **P** **18 01 28.1 -0.9**
FVM pmax pmax
comp=Z,256nm,0.8s
FVM French Village 77.17 48 *e*P **P** **18 01 28.1 -0.9**
comp=Z,256nm,0.8s
LIKS Likavka 77.18 332 *e*P **P** **18 01 27.8 -1.1**

LIKS pmax pmax
comp=Z,453nm,1.2s
LIKS Likavka 77.18 332 *e*P **P 18 01 27.8 -1.1**
CLZ Clausthal 77.18 339 *e*P **P 18 01 29.5 +0.6**
comp=Z,2µm,1.2s
CLZ Clausthal 77.18 339 *e*P **P 18 01 29.5 +0.6**
CLZ pmax pmax
comp=Z,2µm,1.2s
ILIC ilic-Erzincan 77.20 315 *e*P **P 18 01 30.4 +1.1**
VRI Vrincioaia 77.21 326 ⇑P **P 18 01 29.2 +0.1**
VRI Vrincioaia 77.21 326 ⇑*i*P **P 18 01 29.2 +0.1**
KECS Kecovo 77.22 331 *e*P **P 18 01 29.5 +0.4**
KECS pmax pmax
comp=Z,256nm,1.4s
KECS Kecovo 77.22 331 *e*P **P 18 01 29.5 +0.4**
PTK Pertek 77.23 314 *e*P **P 18 01 30.9 +1.3**
FBE Freiberg 77.23 336 *e*P **P 18 01 29.3 +0.2**
comp=Z,3µm,1.3s
PVCC Panska Ves 77.25 336 *e*P **P 18 01 29.7 +0.5**
PVCC *e*S **S 18 11 21.9 +5.4**
PVCC MLR MLR
comp=Z,682µm,21.5s
PVCC Panska Ves 77.25 336 *e*P **P 18 01 29.7 +0.5**
PVCC *e*S **S 18 11 21.9 +5.4**
PVCC *e*SS SS 18 16 23.8 +10
PVCC AMS AMS 18 37 50.0
comp=Z,682µm,21.5s
PLOR Plostina 77.25 326 ⇑P **P 18 01 29.4 0.0**
PLOR Plostina 77.25 326 ⇑*i*P **P 18 01 29.4 0.0**
GAL1 Galloway 77.27 348 *e*P **P 18 01 30.9 +1.6**
GAL1 AMB AMB 18 01 40.9
comp=Z,553nm,2.5s
GAL1 *e* 18 11 08.8
GAL1 AMS AMS 18 33 56.3
comp=Z,153µm,20.9s
GAL1 Galloway 77.27 348 P **P 18 01 30.9 +1.6**
GAL1 AMB AMB 18 01 40.9
comp=Z,553nm,2.5s
GAL1 18 11 08.8
GAL1 AMS AMS 18 33 56.3
HAVZ Havza 77.29 318 *i* P **P 18 01 30.1 +0.5**
KESW Keswick, Cumbr 77.30 347 *e*P **P 18 01 30.6 +1.1**
KESW AMB AMB 18 01 39.2
comp=Z,984nm,2.4s
KESW *e* 18 11 10.2
KESW AMS AMS 18 41 08.2
comp=Z,203µm,19.4s
KESW Keswick, Cumbr 77.30 347 P **P 18 01 30.6 +1.1**
KESW AMB AMB 18 01 39.2
comp=Z,984nm,2.4s
KESW 18 11 10.2
KESW AMS AMS 18 41 08.2
BZK Bozkurt 77.37 319 *e*P **P 18 01 29.6 -0.4**
KEMA Kemaliye 77.38 315 *i* P **P 18 01 31.5 +1.1**
IBBN Ibbenburen 77.39 340 *e*P **P 18 01 30.1 +0.2**
comp=Z,3µm,1.3s
NEUB Neuenburg 77.40 337 *e*P **P 18 01 30.1 +0.1**
comp=Z,2µm,1.2s
TOKT Tokat 77.50 317 *e*P P 18 01 35.0 +4.2
GRER 77.52 325 ⇑*i*P **P 18 01 32.3 +1.5**
TOKA Tokat 77.52 317 *i* P **P 18 01 29.9 -1.1**
RFTA Plano 77.56 55 *e*P **P 18 01 31.0 -0.2**
SCER sogukcermik 77.58 316 *i* P **P 18 01 32.2 +0.8**
DIYA Diyarbakir 77.62 313 *i* P **P 18 01 32.7 +1.1**
DOPR Dopca 77.64 327 ⇑*i*P **P 18 01 32.3 +0.8**
JCT Junction City 77.64 59 *e*P **P 18 01 31.5 -0.3**
JCT pmax pmax
comp=Z,2µm,1.6s
JCT MLR MLR
comp=Z,368µm,22.0s
JCT Junction City 77.64 59 *e*P **P 18 01 31.5 -0.3**
comp=Z,2µm,1.6s
JCT LR LR
comp=Z,368µm,22.0s
JCT Junction City 77.64 59 ⇑P **P 18 01 32.0 +0.2**
baz=78
JCT ⇑P **P 18 01 32.0 +0.2**
baz=78
JCT ⇑P **P 18 01 32.0 +0.2**
baz=78
SVRC Sivrice-ELAZID 77.67 314 *e*P **P 18 01 33.6 +1.6**
PRA Prague 77.70 335 P **P 18 01 32.0 +0.3**
PRA S S 18 11 29.0 +7.6
PRA SS SS 18 16 40.0 +20
PRA AMS AMS 18 38 30.0
TIRR Tirgusor 77.72 324 ⇑P **P 18 01 31.8 -0.1**
TIRR Tirgusor 77.72 324 *e*P **P 18 01 31.3 -0.6**
comp=Z,1µm,0.9s
TIRR Tirgusor 77.72 324 ⇑*i*P **P 18 01 31.8 -0.1**
ELZG Elazig 77.74 314 *i* P **P 18 01 34.0 +1.6**
PRU Pruhonice 77.74 335 *e*P **P 18 01 32.4 +0.4**
PRU *e*S **S 18 11 24.1 +2.3**
PRU MLR MLR
comp=Z,628µm,18.3s
PRU Pruhonice 77.74 335 *e*P **P 18 01 32.4 +0.4**
PRU *e*S **S 18 11 24.1 +2.3**
PRU *ex* x 18 16 08.2
PRU *ex* x 18 28 21.4
PRU *e*PKPPKP **P'P'df 18 28 40.1 -2.7**
PRU AMS AMS 18 40 10.0
comp=Z,628µm,18.3s
VRAC Vranov 77.74 334 ⇑P **P 18 01 32.4 +0.4**
VRAC Vranov 77.74 334 ⇑*i*P **P 18 01 32.4 +0.4**
OLIL Olney 77.75 46 *e*P **P 18 01 32.0 -0.3**
comp=Z,1µm,1.4s
MARD Mardin 77.75 312 *i* P **P 18 01 33.7 +1.3**
VYHS Vyhne 77.75 332 *e*P **P 18 01 32.7 +0.6**
VYHS pmax pmax
comp=Z,508nm,1.4s
VYHS Vyhne 77.75 332 *e*P **P 18 01 32.7 +0.6**
VYHS *e*S **S 18 11 17.3 -4.8**
VYHS *e*SS **SS 18 16 26.4 +5.2**
KAST KASTAMONU 77.77 319 *i* P **P 18 01 33.1 +0.7**
MLR Muntele Rosu 77.83 326 ⇑P **P 18 01 32.7 0.0**
MLR Muntele Rosu 77.83 326 ⇑*i*P **P 18 01 32.7 0.0**
MDB Medias 77.86 327 ⇓P **P 18 01 33.9 +1.1**
MDB Medias 77.86 327 ⇓*i*P **P 18 01 33.9 +1.1**
ISR Istrita 77.91 326 ⇑P **P 18 01 33.8 +0.7**
ISR Istrita 77.91 326 ⇑*i*P **P 18 01 33.8 +0.7**
PGOR Pogoanele 77.91 325 ⇑*i*P **P 18 01 33.4 +0.4**
PSZ Piszkesteto 77.91 331 *e*P **P 18 01 33.2 +0.1**
PSZ pmax pmax
comp=Z,2µm,1.3s
PSZ MLR MLR
comp=Z,412µm,19.0s
PSZ Piszkesteto 77.91 331 *e*P **P 18 01 33.2 +0.1**
comp=Z,2µm,1.3s
PSZ LR LR
comp=Z,412µm,19.0s
PSZ Piszkesteto 77.91 331 ⇑*i*P **P 18 01 33.2 +0.1**
PSZ Piszkesteto 77.91 331 ⇑*e*P **P 18 01 33.6 +0.5**
DRGR 77.92 329 ⇓P **P 18 01 33.0 -0.1**
DRGR 77.92 329 ⇓*i*P **P 18 01 33.0 -0.1**
WTSB Winterswijk 77.92 341 *e*P **P 18 01 33.4 +0.5**
WTSB *e*S **S 18 11 23.8 +0.2**
TANN Tannenbergstha 77.94 337 *e*P **P 18 01 33.3 +0.2**
comp=Z,2µm,1.5s
EFOR EFORIE 77.94 324 ⇑*i*P P 18 01 37.6 +4.4
WERD Werda 77.95 337 *e*P **P 18 01 33.3 +0.1**
comp=Z,1µm,1.2s
MOX Moxa 77.95 337 *e*P **P 18 01 33.3 +0.1**
comp=Z,2µm,1.3s
MOX Moxa 77.95 337 *e*P **P 18 01 33.3 +0.1**
MOX pmax pmax
comp=Z,2µm,1.3s
PLN Plauen 77.95 337 *e*P **P 18 01 33.2 0.0**
comp=Z,10µm,1.5s
DARE Darende-Malaty 77.96 315 *e*P P 18 01 36.9 +3.3
BALT Daday 77.98 319 *i* P **P 18 01 34.2 +0.4**
SIUC Southern Illin 77.98 47 *e*P **P 18 01 33.4 -0.2**
comp=Z,626nm,1.1s
CVD Cernavoda 77.99 324 ⇓*i*P **P 18 01 35.4 +2.0**
GUNZ Gunzen 78.02 337 *e*P **P 18 01 33.8 +0.2**
comp=Z,2µm,1.6s
AMRR Amara 78.02 325 ⇑P **P 18 01 34.3 +0.7**
AMRR Amara 78.02 325 ⇑*i*P **P 18 01 34.3 +0.7**
GMM Mts of Mourne 78.05 349 *e*P **P 18 01 33.6 0.0**
GMM Mts of Mourne 78.05 349 P **P 18 01 33.6 0.0**
CTKT Corum 78.07 318 *i* P **P 18 01 34.4 +0.2**
WERN Wernitzgruen 78.07 337 *e*P **P 18 01 33.5 -0.4**
comp=Z,1µm,1.2s
TREC Trest 78.08 334 *e*P **P 18 01 34.4 +0.5**
TREC *e*S **S 18 11 28.6 +3.0**
TREC MLR MLR
comp=Z,723µm,18.2s
TREC Trest 78.08 334 *e*P **P 18 01 34.4 +0.5**
TREC *e*S **S 18 11 28.6 +3.0**
TREC *e*SS SS 18 16 45.1 +19
TREC AMS AMS 18 42 20.0
comp=Z,723µm,18.2s
TOS Tosya 78.09 319 *e*P **P 18 01 35.8 +1.5**
NKC Novy Kostel 78.10 337 *e*P **P 18 01 34.4 +0.4**
NKC *e*S **S 18 11 28.5 +2.7**
NKC MLR MLR
comp=Z,567µm,20.3s
NKC Novy Kostel 78.10 337 *e*P **P 18 01 34.4 +0.4**
NKC *e*S **S 18 11 28.5 +2.7**
NKC *ex* x 18 16 09.6
NKC *ex* x 18 28 27.1
NKC *ex* x 18 28 49.8
NKC AMS AMS 18 38 30.0
comp=Z,567µm,20.3s
MIAR Mount Ida 78.13 52 *e*P **P 18 01 34.1 -0.3**
MIAR pmax pmax
comp=Z,1µm,0.9s
MIAR MLR MLR
comp=Z,223µm,20.0s
MIAR Mount Ida 78.13 52 *e*P **P 18 01 34.1 -0.3**
comp=Z,1µm,0.9s
MIAR LR LR
comp=Z,223µm,20.0s
MYA Malataya 78.15 314 *e*P **P 18 01 35.0 +0.4**
MALT Malatya 78.16 314 *e*P **P 18 01 36.1 +1.4**
MALT Malatya 78.16 314 *e*P **P 18 01 35.3 +0.6**
MALT Malatya 78.16 314 *e*P **P 18 01 35.2 +0.6**
comp=Z,16nm,1.0s
MALT LR LR
comp=Z,6µm,19.0s
SECR 78.16 326 ⇓*i*P **P 18 01 34.2 -0.2**
BLO Bloomington 78.17 44 *e*P **P 18 01 34.3 -0.3**
BLO pmax pmax
comp=Z,467nm,0.9s
BLO Bloomington 78.17 44 *e*P **P 18 01 34.3 -0.3**
comp=Z,467nm,0.9s
MANR Mangalia 78.18 324 ⇓*i*P **P 18 01 35.5 +1.0**
SMOL Smolenice 78.18 333 *e*P **P 18 01 35.4 +0.9**
SMOL *e* 18 04 30.3
SMOL Smolenice 78.18 333 *e*P **P 18 01 35.4 +0.9**
SMOL *e*PP **PP 18 04 30.3 -0.2**
VOIR 78.21 327 ⇓P **P 18 01 35.0 +0.2**
VOIR 78.21 327 ⇓*i*P **P 18 01 35.0 +0.2**
UBBA Unterbreizbach 78.21 338 *e*P **P 18 01 35.5 +1.0**
comp=Z,3µm,1.9s
AWI1 Witton 78.22 344 *e*P **P 18 01 33.7 -0.8**
AWI1 Witton 78.22 344 P **P 18 01 33.7 -0.8**
BUG Bochum--Univer 78.30 340 *e*P **P 18 01 35.0 0.0**
comp=Z,3µm,1.8s
KBI1 Birley Grange 78.34 346 ⇑*i*P **P 18 01 35.3 +0.1**
KBI1 Birley Grange 78.34 346 P **P 18 01 35.3 +0.1**
SULR 78.39 326 ⇑*i*P **P 18 01 34.3 -1.3**
AKCD Akcadag 78.42 314 *i* P **P 18 01 36.3 +0.2**
PSN Preselentsi 78.45 324 P **P 18 01 37.1 +1.1**
AEU East Anglia Un 78.46 344 *e*P **P 18 01 36.4 +0.5**
AEU East Anglia Un 78.46 344 P **P 18 01 36.4 +0.5**
MSNY Massena 78.47 34 *e*P **P 18 01 35.1 -0.9**
comp=Z,10µm,0.9s
CORM Corum 78.50 318 *e*P **P 18 01 36.9 +0.3**
COCO West Island 78.52 238 *e*P **P 18 01 37.3 +0.7**
COCO pmax pmax
comp=Z,5µm,1.6s
COCO MLR MLR
comp=Z,25µm,20.0s
COCO West Island 78.52 238 *e*P **P 18 01 37.3 +0.7**
comp=Z,5µm,1.6s
COCO LR LR
comp=Z,25µm,20.0s
COCO West Island 78.52 238 P **P 18 01 38.7 +2.1**
comp=Z,8µm,1.5s,SNR=28
COCO West Island 78.52 238 P **P 18 01 38.3 +1.7**
comp=Z,2µm,2.0s,comp=Z,72µmcomp=Z,379µm
PARMO Parma 78.53 48 *e*P **P 18 01 36.8 +0.3**
SAFT Safranbolu 78.53 320 *e*P **P 18 01 36.9 +0.3**
USIN University of 78.56 46 *e*P **P 18 01 36.7 0.0**
comp=Z,836nm,1.0s
ZST Bratislava 78.57 333 *e*P **P 18 01 37.6 +1.0**
ZST pmax pmax
comp=Z,72nm,0.9s
ZST Bratislava 78.57 333 *e*P **P 18 01 37.6 +1.0**
ZST *e*PP **PP 18 04 31.9 -1.8**
ZST *e*S **S 18 11 26.4 -4.4**
BUD Budapest 78.58 331 *e*P **P 18 01 37.5 +0.8**
ROTZ Rotzenmuhle 78.59 337 *e*P **P 18 01 37.1 +0.4**
comp=Z,1µm,1.2s
STNC Stoke 78.61 346 *e*P **P 18 01 36.2 -0.5**
STNC AMB AMB 18 01 51.0
comp=Z,1µm,2.6s
STNC *e* 18 11 19.0
STNC AMS AMS 18 36 32.7
comp=Z,208µm,21.0s
STNC Stoke 78.61 346 P **P 18 01 36.2 -0.5**
STNC AMB AMB 18 01 51.0
comp=Z,1µm,2.6s
STNC 18 11 19.0
STNC AMS AMS 18 36 32.7
YOZ Yozgat 78.61 317 *e*P **P 18 01 38.2 +1.0**
UALR University of 78.62 51 *e*P **P 18 01 36.2 -0.9**
comp=Z,410nm,1.2s
KWE Weaver Farm 78.62 346 ⇑*e*P **P 18 01 37.0 +0.1**
KWE Weaver Farm 78.62 346 P **P 18 01 37.0 +0.1**
CANT Cankiri 78.62 319 *e*P **P 18 01 37.4 +0.3**
DEV Deva 78.62 328 ⇓P **P 18 01 36.9 0.0**
DEV Deva 78.62 328 ⇓*i*P **P 18 01 36.9 0.0**
MNCY Minicoy 78.70 270 *e*P **P 18 01 38.0 +0.2**
MNCY *ex* x 18 06 26.0
CIOR Ciorogarla 78.73 326 ⇑*i*P P 18 01 41.7 +4.2
PVMO Portageville 78.74 48 *e*P **P 18 01 38.2 +0.4**
comp=Z,1µm,1.0s
BUC1 Bucharest 78.75 325 ⇑*i*P **P 18 01 38.7 +1.0**
ERPA Erie 78.78 39 *e*P **P 18 01 37.7 -0.2**
comp=Z,824nm,1.1s
ERPA LR LR
comp=Z,324µm,22.0s
KHC Kasperske Hory 78.79 335 *e*P **P 18 01 38.2 +0.4**
KHC *e*S **S 18 11 37.6 +4.4**
KHC *e*SS **SS 18 16 36.4 -0.3**
KHC MLR MLR
comp=Z,604µm,21.1s
KHC Kasperske Hory 78.79 335 *e*P **P 18 01 38.0 +0.2**
comp=Z,1µm,0.8s
KHC Kasperske Hory 78.79 335 *e*P **P 18 01 38.2 +0.4**
KHC *e*S **S 18 11 37.6 +4.4**
KHC *e*SS **SS 18 16 36.4 -0.3**
KHC *ex* x 18 28 14.0
KHC *e*PKPPKP **P'P'df 18 28 37.3 -3.7**
KHC AMS AMS 18 39 00.0
comp=Z,604µm,21.1s
ELDT Eldivan 78.80 319 *i* P **P 18 01 39.3 +1.0**
PINB Pinarbasi 78.86 316 *i* P **P 18 01 39.2 +0.5**
MAIG Mazatlaan 78.86 68 P **P 18 01 39.3 +0.7**
PKSG 78.86 332 *e*P **P 18 01 38.8 +0.6**
ATAB Bozova 78.88 314 *i* P **P 18 01 39.9 +1.4**
LONY Lake Ozonia 78.89 34 *e*P **P 18 01 37.1 -1.3**
comp=Z,2µm,1.6s
LONY LR LR
comp=Z,187µm,20.0s
HBAR Harrisburg 78.91 49 *e*P **P 18 01 38.8 +0.1**
BHD Baghdad 78.92 307 *i* P **P 18 01 37.0 -1.8**
BHD *i* PCP pP 18 01 55.5 +6.9
BHD *i* S **S 18 11 32.0 -3.1**
BHD *i* ScS ScS 18 12 07.0 +8.5
BHD *i* PS **PnS 18 12 28.0 +8.3**
BHD *i* SS SS 18 16 27.0 -13
BHD *i* SSS SSS 18 20 28.0
GNAR Gosnell 78.93 49 *e*P **P 18 01 39.2 +0.4**
comp=Z,20µm,1.2s
GRF Grafenberg Arr 78.93 337 *e*P **P 18 01 39.0 +0.4**
comp=Z,3µm,1.1s
GRF *e*L L 18 40 04.0
comp=Z,647µm,20.7s
GRF Grafenberg Arr 78.93 337 *e*P **P 18 01 39.0 +0.4**
GRF pmax pmax
comp=Z,3µm,1.1s
GRF MLR MLR
comp=Z,647µm,20.7s
GRFO Grafenberg 78.93 337 *e*P **P 18 01 38.8 +0.2**
GRFO Grafenberg 78.93 337 *e*P **P 18 01 38.8 +0.2**
comp=Z,18nm,1.1s
RAR Rarotonga 78.95 138 *e*P **P 18 01 40.0 +1.1**
RAR pmax pmax
comp=Z,974nm,1.6s
RAR MLR MLR
comp=Z,109µm,20.0s
RAR Rarotonga 78.95 138 *e*P **P 18 01 40.0 +1.1**
comp=Z,974nm,1.6s
RAR LR LR
comp=Z,109µm,20.0s
FOEL Foel Wylfa 78.96 347 *e*P **P 18 01 38.1 -0.5**
FOEL AMB AMB 18 01 48.4
comp=Z,1µm,2.1s
FOEL *e* 18 11 27.1
FOEL AMS AMS 18 39 56.6
comp=Z,195µm,19.1s
FOEL Foel Wylfa 78.96 347 P **P 18 01 38.1 -0.5**
FOEL AMB AMB 18 01 48.4
comp=Z,1µm,2.1s
FOEL 18 11 27.1
FOEL AMS AMS 18 39 56.6
WET Wettzell 78.97 336 *e*P **P 18 01 39.4 +0.5**
comp=Z,2µm,1.2s
WET Wettzell 78.97 336 *e*P **P 18 01 39.4 +0.5**
WET pmax pmax
comp=Z,2µm,1.2s
BNN Bunyan 78.98 316 *e*P **P 18 01 39.5 +0.3**
ACSO Alum Creek Sta 78.99 42 *e*P **P 18 01 38.4 -0.7**
comp=Z,963nm,1.3s
ACSO LR LR
comp=Z,234µm,20.0s
HUMR Humele 79.00 326 ⇓*i*P **P 18 01 39.5 +0.4**
GEC2 GERESS Array S 79.01 335 *e*P **P 18 01 39.2 +0.1**
comp=Z,1µm,1.2s
GEC2 GERESS Array S 79.01 335 *e*P **P 18 01 39.2 +0.1**
GEC2 pmax pmax
comp=Z,1µm,1.2s
GERES GERESS Array B 79.01 335 P **P 18 01 39.3 +0.2**
comp=Z,44nm,0.6s,baz=31,slow=5.1,SNR=181
GERES PKKPbc **PKKPbc 18 20 29.0 -0.7**
comp=Z,4.1nm,0.9s,baz=201,slow=2.6,SNR=6.0
GERES PKP2bc 18 28 19.4
comp=Z,1.3nm,0.7s,baz=114,slow=1.6,SNR=3.5
GERES PKPPKP **P'P'df 18 28 36.8 -3.9**
comp=Z,8.7nm,1.0s,baz=191,slow=1.4,SNR=9.5
GERES LR LR 18 39 39.0
comp=Z,563µm,21.2s,baz=17,slow=38
GERES GERESS Array B 79.01 335 P **P 18 01 39.3 +0.2**
GERES GERESS Array B 79.01 335 P **P 18 01 39.3 +0.2**
GERES PKKPbc **PKKPbc 18 20 29.0 -0.7**
GERES ⇑*e* 18 28 19.4
GERES P'P' 18 28 36.8
KDZE Karadeniz Ereo 79.02 320 *e*P **P 18 01 38.2 -1.0**
DLF Lyons Farm 79.04 349 ⇑*i*P **P 18 01 39.1 0.0**
CDAG Cicekdag 79.06 318 *i* P **P 18 01 39.4 -0.2**
GLAT Glass 79.07 48 *e*P **P 18 01 39.7 +0.2**
DSB Dublin 79.07 349 *e*P **P 18 01 39.6 +0.4**
comp=Z,1µm,1.2s
FRNY Flat Rock 79.08 33 *e*P **P 18 01 38.0 -1.5**
comp=Z,2µm,0.5s
GZR Gura Zlata 79.09 328 ⇓P **P 18 01 39.4 -0.2**
GZR Gura Zlata 79.09 328 ⇓*i*P **P 18 01 39.4 -0.2**
PKST T"s 79.10 332 *e*P **P 18 01 39.8 +0.2**
TNS Taunus Mts 79.15 339 *e*P **P 18 01 39.5 -0.3**
comp=Z,2µm,1.1s
TNS Taunus Mts 79.15 339 *e*P **P 18 01 39.5 -0.3**
TNS pmax pmax
comp=Z,2µm,1.1s
PRD Provadia 79.17 324 P **P 18 01 40.3 +0.3**
CONA Conrad Observa 79.19 334 ⇑*i*P **P 18 01 41.1 +0.9**
comp=Z,31µm,5.4s
CONA Conrad Observa 79.19 334 ⇑*i*P **P 18 01 41.1 +0.9**
comp=Z,31µm,5.4s,SNR=285
SOP Sopron 79.19 333 *e*P **P 18 01 41.0 +1.0**
UTMT University of 79.22 48 *e*P **P 18 01 39.3 -1.1**
comp=Z,1µm,0.9s
HGN Heimansgroeve 79.24 341 *e*P **P 18 01 40.6 +0.4**
HGN *e*PP PP 18 04 54.1 +15
HGN *e*S **S 18 11 35.8 -2.1**
HGN *e*SS **SS 18 16 42.0 -1.2**
HGN Heimansgroeve 79.24 341 *e*L L 18 40 40.5
comp=Z,489µm,20.9s
BEBN Eben Emael 79.27 341 P **P 18 01 40.8 +0.5**
comp=Z,645nm,1.7s
HLM1 Long Mynd 79.27 347 *e*P **P 18 01 40.2 -0.1**
HLM1 AMB AMB 18 01 49.6
comp=Z,804nm,3.4s
HLM1 Long Mynd 79.27 347 P **P 18 01 40.2 -0.1**
HLM1 AMB AMB 18 01 49.6
comp=Z,804nm,3.4s
STKA Stephens Creek 79.31 192 P **P 18 01 40.5 -0.1**
comp=Z,161nm,0.9s,baz=349,slow=7.0,SNR=94
STKA PKKPbc **PKKPbc 18 20 35.1 +4.1**
comp=Z,15nm,1.0s,baz=34,slow=1.4,SNR=4.0
STKA PKPPKP **P'P'df 18 28 30.2 +2.0**
comp=Z,6.0nm,1.0s,baz=219,slow=4.2,SNR=4.5
STKA LR LR 18 35 49.5
comp=Z,76µm,21.1s,baz=12,slow=35
STKA Stephens Creek 79.31 192 *e*P **P 18 01 39.7 -0.9**
comp=Z,157nm,0.9s
STKA *e*S **S 18 11 40.1 +1.4**
STKA *e*PKKP PKKPdf 18 20 15.0 -5.9
STKA *e*PKPPKP **P'P'df 18 28 29.6 +1.4**
STKA *e* 18 48 22.9
STKA Stephens Creek 79.31 192 P **P 18 01 40.5 -0.1**
STKA Stephens Creek 79.31 192 P **P 18 01 40.5 -0.1**
STKA PKKPbc **PKKPbc 18 20 35.1 +4.1**
STKA P'P' 18 28 30.2
BZS Buzias 79.31 329 ⇑P **P 18 01 40.2 -0.5**
BZS Buzias 79.31 329 ⇑*i*P **P 18 01 40.2 -0.5**
HALT Halls 79.32 48 *e*P **P 18 01 40.6 -0.3**
BRTR Keskin Array B 79.32 318 P **P 18 01 40.8 -0.3**
comp=Z,482nm,1.2s,baz=63,slow=3.0,SNR=190
BRTR PKKP **PKKPdf 18 20 21.0 +4.9**
comp=Z,1.7nm,0.8s,baz=171,slow=5.8,SNR=5.4
BRTR PKKPbc **PKKPbc 18 20 28.1 -0.8**
comp=Z,6.6nm,0.9s,baz=178,slow=3.9,SNR=7.3
BRTR PKP2bc 18 28 17.8
comp=Z,6.3nm,0.9s,baz=175,slow=4.0,SNR=11
BRTR PKPPKP **P'P'df 18 28 37.3 -2.4**
comp=Z,3.7nm,0.9s,baz=193,slow=4.6,SNR=4.4
BRTR Keskin Array B 79.32 318 P **P 18 01 40.8 -0.3**
BRTR Keskin Array B 79.32 318 P **P 18 01 40.8 -0.3**
BRTR PKKP **PKKPdf 18 20 21.0 +4.9**
BRTR PKKPbc **PKKPbc 18 20 28.1 -0.8**
BRTR ⇑*e* 18 28 17.8
BRTR P'P' 18 28 37.2
GZT Gaziantep 79.33 314 *i* P **P 18 01 41.6 +0.4**
MEM Membach 79.37 341 P **P 18 01 41.4 +0.5**
comp=Z,785nm,1.6s
PQI Presque Isle 79.46 29 *e*P **P 18 01 41.7 +0.2**
comp=Z,649nm,1.1s
AVNT Avonos 79.51 317 *i* P **P 18 01 42.7 +0.5**
RAO Raoul Island 79.52 156 PFAKE 18 01 50.0 +8.2
RAO LR LR
comp=Z,107µm,20.0s
KMRS Kahramanmaras 79.54 315 *e*P **P 18 01 42.5 +0.3**
UCC Uccle 79.56 342 P **P 18 01 42.2 +0.3**
KAMT Kaman 79.57 318 *e*P **P 18 01 42.0 -0.4**
LOD Lodumlu 79.59 319 *e*P **P 18 01 43.3 +0.8**
ZIMR 79.59 326 ⇓*i*P P 18 01 45.4 +3.1
PKS9 Tamasi 79.61 331 *e*P **P 18 01 42.0 -0.3**
MET Memphis--Engin 79.62 49 *e*P **P 18 01 44.1 +1.6**
comp=Z,6µm,1.5s
CRAR CRAIOVA 79.62 327 ⇓P **P 18 01 42.4 0.0**
CRAR CRAIOVA 79.62 327 ⇓*i*P **P 18 01 42.4 0.0**
TOD Tromm 79.63 339 *e*P **P 18 01 42.8 +0.4**
TOD Tromm 79.63 339 *e*P **P 18 01 42.8 +0.4**
SSW Stow on the Wo 79.63 346 *e*P **P 18 01 43.0 +0.6**
SSW Stow on the Wo 79.63 346 P **P 18 01 43.0 +0.6**
NATX Nacogdoches 79.64 54 *e*P **P 18 01 43.3 +0.6**
comp=Z,2µm,1.1s
NATX LR LR
comp=Z,361µm,21.0s
TAOE Nuku Hiva Isla 79.64 115 *e*P **P 18 01 43.2 +0.2**
comp=Z,371nm,0.9s
TAOE *e*S S 18 11 33.2 -10
comp=Z,240µm,31.3s
TAOE *e*LR LR 18 26 00.0
comp=Z,551µm,22.8s,baz=322
GAZ Gaziantep 79.65 314 *e*P **P 18 01 43.3 +0.5**
HENT Hendek 79.66 320 *i* P **P 18 01 42.1 -0.7**
HMDM Hanimaadhoo 79.67 269 P P 18 01 46.4 +3.3
comp=Z,3µm,1.6s,comp=Z,97µmcomp=Z,617µm
ABH Alteburg 79.69 339 *e*P **P 18 01 43.0 +0.3**
SKP1 Kophill 79.69 345 ⇑*e*P **P 18 01 42.4 -0.3**

SKP1	Kophill	79.69	345	P		P	18 01 42.4	-0.3	
SZH	Strazhica	79.70	325	P		P	18 01 42.1	-0.8	
BBAL	Bala	79.70	318	*i* P		P	18 01 43.2	+0.1	
MOA	Molln	79.74	334	*e*P		P	18 01 43.5	+0.4	
	comp=Z,2µm,1.6s								
MOA	Molln	79.74	334	*i* P		P	18 01 43.5	+0.4	
	comp=Z,18µm,3.9s								
MOA	Molln	79.74	334	*i* P		P	18 01 43.5	+0.4	
	comp=Z,18µm,3.9s,SNR=132								
ANDN	Andirin	79.75	315	*i* P		P	18 01 36.9	-6.5	
MCH1	Michaelchurch	79.79	347⇑	*e*P		P	18 01 43.1	-0.1	
MCH1					AMB	AMB	18 01 53.9		
	comp=Z,860nm,2.4s								
MCH1	Michaelchurch	79.79	347	P		P	18 01 43.1	-0.1	
MCH1					AMB	AMB	18 01 53.9		
	comp=Z,860nm,2.4s								
AFSR	Af˙ar-Bala (A	79.80	318	*e*P		P	18 01 43.3	-0.3	
MDUB	Mudurnu	79.81	320	*e*P		P	18 01 43.3	-0.4	
PKSM	Moragy	79.82	331	⇑P		P	18 01 42.8	-0.7	
PKSM	Moragy	79.82	331	⇑*i*P		P	18 01 42.8	-0.7	
PKSM	Moragy	79.82	331	*e*P		P	18 01 42.8	-0.7	
UMR	Umm Al-Rimmam	79.83	302	*e*P		P	18 01 44.1	+0.3	
UMR					AMb	AMB	18 02 00.4		
	comp=Z,2µm,1.2s								
SNF	Seneffe	79.85	342	P		P	18 01 43.9	+0.4	
	comp=Z,985nm,2.1s								
MIB	Mutribah	79.86	303	*e*P		P	18 01 43.8	-0.1	
MIB					AMb	AMB	18 02 02.4		
	comp=Z,4µm,1.1s								
ELSH	Elham, Standar	79.88	344	*e*P		P	18 01 44.5	+0.8	
ELSH					AMB	AMB	18 01 50.6		
	comp=Z,2µm,1.2s								
ELSH				*e*			18 11 30.0		
ELSH					AMS	AMS	18 42 14.4		
	comp=Z,560µm,20.3s								
ELSH	Elham, Standar	79.88	344	P		P	18 01 44.5	+0.8	
ELSH					AMB	AMB	18 01 50.6		
	comp=Z,2µm,1.2s								
ELSH							18 11 30.0		
ELSH					AMS	AMS	18 42 14.4		
PMOR	Pomariorio Ree	79.88	125	*e*P		P	18 01 44.0	-0.1	
	comp=Z,437nm,1.0s								
ARSA	Arzberg	79.90	333	*e*P		P	18 01 44.1	+0.2	
	comp=Z,1µm,1.2s								
ARSA	Arzberg	79.90	333⇑	*i*P		P	18 01 44.5	+0.6	
	comp=Z,13µm,3.8s								
ARSA	Arzberg	79.90	333⇑	*i*P		P	18 01 44.5	+0.6	
	comp=Z,13µm,3.8s,SNR=133								
WVT	Waverly	79.91	47	*e*P		P	18 01 43.6	-0.6	
WVT					pmax	pmax			
	comp=Z,397nm,1.0s								
WVT	Waverly	79.91	47	*e*P		P	18 01 43.6	-0.6	
	comp=Z,397nm,1.0s								
SILT	Sile	79.93	321	*e*P		P	18 01 43.8	-0.3	
MDV	Middlebury	79.95	33	*e*P		P	18 01 43.1	-1.1	
	comp=Z,637nm,0.9s								
RUP	Ruppelstein	79.97	340	*e*P		P	18 01 44.5	+0.2	
RUP	Ruppelstein	79.97	340	*e*P		P	18 01 44.5	+0.2	
PVL	Pavlikeni	79.98	325	P		P	18 01 44.9	+0.5	
SPNC	Sapanca-Adapaz	80.03	321	*e*P		P	18 01 44.4	-0.3	
KUZU	Kuzuini	80.03	314	*i* P		P	18 01 45.7	+0.8	
SWN1	Swindon	80.06	346	*e*P		P	18 01 44.9	+0.3	
SWN1					AMB	AMB	18 01 51.7		
	comp=Z,3µm,1.3s								
SWN1				*e*			18 11 40.9		
SWN1					AMS	AMS	18 43 18.9		
	comp=Z,320µm,20.4s								
SWN1	Swindon	80.06	346	P		P	18 01 44.9	+0.3	
SWN1					AMB	AMB	18 01 51.7		
	comp=Z,3µm,1.3s								
SWN1							18 11 40.9		
SWN1					AMS	AMS	18 43 18.9		
KTD	Kalmit	80.08	339	*e*P		P	18 01 45.1	+0.2	
KTD	Kalmit	80.08	339	*e*P		P	18 01 45.1	+0.2	
KOZT	Kozan	80.08	315	*e*P		P	18 01 46.5	+1.5	
KLYT	Kilyos	80.11	322	*e*P		P	18 01 44.4	-0.7	
HGH	Gray Hill	80.11	346⇑	*e*P		P	18 01 44.7	-0.3	
HGH	Gray Hill	80.11	346	P		P	18 01 44.7	-0.3	
JMB	Yambol	80.11	324	P		P	18 01 45.5	+0.4	
JMB	Yambol	80.11	324	P		P	18 01 45.5	+0.4	
JMB	Yambol	80.11	324	P		P	18 01 45.9	+0.4	
JMB	Yambol	80.11	324	P		P	18 01 45.9	+0.8	
KBD	Kabd	80.12	302	*e*P		P	18 01 45.4	0.0	
KBD					AMb	AMB	18 02 10.0		
	comp=Z,2µm,1.3s								
GULT	Gulveren	80.15	320	*e*P		P	18 01 45.5	0.0	
WOL	Wolverton	80.16	345	*e*P		P	18 01 45.3	+0.2	
WOL					AMB	AMB	18 01 55.8		
	comp=Z,1µm,2.3s								
WOL				*e*			18 11 44.4		
WOL					AMS	AMS	18 42 19.0		
	comp=Z,277µm,20.3s								
WOL	Wolverton	80.16	345	P		P	18 01 45.3	+0.2	
WOL					AMB	AMB	18 01 55.8		
	comp=Z,1µm,2.3s								
WOL							18 11 44.4		
WOL					AMS	AMS	18 42 19.0		
DOU	Dourbes	80.17	341	P		P	18 01 45.5	+0.2	
	comp=Z,790nm,2.0s								
HRT	Hereke	80.19	321	*e*P		P	18 01 45.2	-0.5	
BEHE	Becsehely	80.20	332⇑	*e*P		P	18 01 45.6	+0.1	
LBNH	Lisbon	80.21	32	*e*P		P	18 01 45.3	-0.4	
LBNH					pmax	pmax			
	comp=Z,620nm,2.1s								
LBNH					MLR	MLR			
	comp=Z,218µm,20.0s								
LBNH	Lisbon	80.21	32	*e*P		P	18 01 45.2	-0.4	
	comp=Z,620nm,2.1s								
LBNH					LR	LR			
	comp=Z,218µm,20.0s								
WLF	Walferdange	80.22	340	*e*P		P	18 01 45.9	+0.3	
	comp=Z,4µm,1.9s								
WLF	Walferdange	80.22	340	*e*P		P	18 01 46.1	+0.5	
WLF					pmax	pmax			
	comp=Z,2µm,1.4s								
WLF	Walferdange	80.22	340	*e*P		P	18 01 46.1	+0.5	
	comp=Z,2µm,1.4s								
WLF					LR	LR			
	comp=Z,697µm,20.0s								
RHK3	Tenkes	80.23	331	*e*P		P	18 01 36.4	-9.3	
CTYL	Yal??k??y-??at	80.24	322	*e*P		P	18 01 45.2	-0.6	
ISK	Istanbul-Kandi	80.25	322	*e*P		P	18 01 45.2	-0.7	
PKME	Peaks-Kenny Pk	80.26	30	*e*P		P	18 01 45.7	-0.2	
	comp=Z,447nm,1.2s								
PKME					LR	LR			
	comp=Z,195µm,20.0s								
RJOB	Jochberg	80.27	335	*e*P		P	18 01 46.5	+0.5	
	comp=Z,2µm,1.6s								
BGKT	Bogazkoy	80.28	322	*e*P		P	18 01 45.5	-0.5	
BAIF	Baives	80.29	342⇑	*i*P		P	18 01 46.1	+0.2	
	comp=Z,2µm,1.2s								
ACCN	Adirondack Com	80.29	34	*e*P		P	18 01 45.5	-0.6	
	comp=Z,451nm,1.0s								
STU	Stuttgart	80.30	338	*e*P		P	18 01 46.4	+0.3	
	comp=Z,2µm,1.5s								
STU	Stuttgart	80.30	338	*e*P		P	18 01 46.4	+0.3	
STU					pmax	pmax			
	comp=Z,2µm,1.3s								
STU	Stuttgart	80.30	338	*e*P		P	18 01 46.4	+0.3	
	comp=Z,2µm,1.3s								
FUR	Furstenfeldbru	80.31	336	*e*P		P	18 01 46.5	+0.4	
	comp=Z,3µm,1.2s								
FUR	Furstenfeldbru	80.31	336	*e*P		P	18 01 46.5	+0.4	
FUR					pmax	pmax			
	comp=Z,3µm,1.2s								
QRN	Al-Qurain	80.31	302	*e*P		P	18 01 46.1	-0.4	
QRN					AMb	AMB	18 02 00.6		
	comp=Z,3µm,1.1s								
NAY	Al-Naaiem	80.33	303	*e*P		P	18 01 46.1	-0.5	
NAY					AMb	AMB	18 01 57.9		
	comp=Z,2µm,1.1s								
HKT	Hockley	80.33	56	*e*P		P	18 01 46.1	-0.3	
HKT					pmax	pmax			
	comp=Z,7µm,3.0s								
HKT	Hockley	80.33	56	*e*P		P	18 01 46.1	-0.3	
	comp=Z,7µm,3.0s								
CTKS	Kestanelik-??a	80.35	322	*e*P		P	18 01 45.2	-1.2	
OXF	Oxford	80.36	49	*e*P		P	18 01 46.4	-0.2	
OXF					pmax	pmax			
	comp=Z,1µm,1.2s								
OXF					MLR	MLR			
	comp=Z,322µm,21.0s								
OXF	Oxford	80.36	49	*e*P		P	18 01 46.4	-0.2	
	comp=Z,1µm,1.2s								
OXF					LR	LR			
	comp=Z,322µm,21.0s								
RIV	Riverview	80.38	183	*e*P		P	18 01 46.6	+0.3	
BINY	Binghamton	80.38	36	*e*P		P	18 01 46.1	-0.5	
	comp=Z,385nm,1.1s								
BINY					LR	LR			
	comp=Z,300µm,19.0s								
KOGS	Kog	80.39	333	*e*P		P	18 01 46.3	-0.2	
KOGS				*e*PP		PP	18 04 56.0	+7.2	
KOGS				*e*			18 07 06.0		
KOGS				*e*S		S	18 11 48.1	-2.0	
RDF	Al-Radifah	80.39	302	*e*P		P	18 01 47.4	+0.5	
RDF					AMb	AMB	18 02 04.3		
	comp=Z,5µm,1.0s								
BADT	Buyukada	80.41	322	*e*P		P	18 01 49.2	+2.5	
ELBA	Catalca	80.45	322	*i* P		P	18 01 46.9	-0.1	
LANF	Langenberg	80.46	339	*e*P		P	18 01 47.3	+0.4	
LANF	Langenberg	80.46	339	*e*P		P	18 01 47.3	+0.4	
LANF	Langenberg	80.46	339	*e*P		P	18 01 47.3	+0.4	
MPEP	Malo Peshtene	80.47	326	P		P	18 01 47.2	+0.1	
SLVT	Silivri	80.48	322	*e*P		P	18 01 46.5	-0.6	
ADVT	Abdulvahap	80.48	321	*e*P		P	18 01 46.5	-0.6	
SVRH	Sivrihisar-ESK	80.50	319	*e*P		P	18 01 46.3	-1.2	
YLV	Yalova	80.53	321	*e*P		P	18 01 47.0	-0.5	
HNH	Hanover	80.54	33	*e*P		P	18 01 48.4	+1.0	
	comp=Z,392nm,1.1s								
BISS	Bistriski jare	80.56	333⇑	*i*P		P	18 01 47.8	+0.3	
SOKA	Soboth	80.56	333⇑	*i*P		P	18 01 47.9	+0.3	
	comp=Z,10µm,2.9s								
SOKA	Soboth	80.56	333⇑	*i*P		P	18 01 47.9	+0.3	
	comp=Z,10µm,2.9s								
EDRB	Edirne	80.57	324	*e*P		P	18 01 47.3	-0.2	
PERS	Pernice	80.57	333	*i* P		P	18 01 47.8	+0.2	
PERS				*e*S		S	18 11 49.5	-2.7	
SULT	Sultanhani-AKS	80.60	317	*e*P		P	18 01 47.9	-0.1	
CAVI	Cavuskoy	80.63	321	*e*P		P	18 01 47.9	-0.1	
COBT	Iskenderun	80.63	314	*i* P		P	18 01 48.3	0.0	
PLAL	Pickwick Lake	80.69	48	*e*P		P	18 01 47.4	-0.9	
	comp=Z,937nm,1.5s								
PLAL					LR	LR			
	comp=Z,355µm,21.0s								
KBA	Koelnbreinsper	80.71	335	*e*P		P	18 01 48.4	-0.1	
	comp=Z,3µm,0.9s								
KBA	Koelnbreinsper	80.71	335	*i* P		P	18 01 49.0	+0.5	
KBA					pmax	pmax			
	comp=Z,10µm,4.3s								
KBA	Koelnbreinsper	80.71	335	*i* P		P	18 01 49.0	+0.5	
	comp=Z,23µm,4.3s								
KBA	Koelnbreinsper	80.71	335	*i* P		P	18 01 49.0	+0.5	
	comp=Z,23µm,4.3s,SNR=297								
GEMT	Gemlik	80.72	321	*e*P		P	18 01 47.3	-1.1	
GULE	Gulek	80.74	316	*i* P		P	18 01 49.3	+0.5	
WVL	Waterville	80.74	31	*e*P		P	18 01 48.6	+0.1	
	comp=Z,687nm,1.0s								
ESKT	Eskisehir	80.75	320	*e*P		P	18 01 48.4	-0.4	
SEYT	Eskypehyr	80.75	320	*i* P		P	18 01 48.2	-0.5	
ARMT	Armutlu	80.75	322	*e*P		P	18 01 48.1	-0.5	
CRLT	Corlu	80.76	323	*e*P		P	18 01 48.7	+0.1	
KIZT	Kizilcal	80.81	319	*e*P		P	18 01 49.2	+0.1	
HEX	Exmoor	80.82	347⇑	*i*P		P	18 01 49.2	+0.5	
HEX	Exmoor	80.82	347	P		P	18 01 49.2	+0.5	
STR	Strasbourg	80.84	339	*e*P		P	18 01 49.9	+1.0	
STR	Strasbourg	80.84	339	*e*P		P	18 01 49.9	+1.0	
STR	Strasbourg	80.84	339	*e*P		P	18 01 49.9	+1.0	
TRY	Troy	80.84	34	*e*P		P	18 01 48.3	-0.8	
	comp=Z,557nm,1.1s								
OBKA	Obir	80.86	334	*e*P		P	18 01 49.0	-0.2	
	comp=Z,2µm,1.7s								
OBKA	Obir	80.86	334	*i* P		P	18 01 49.3	+0.1	
	comp=Z,37µm,6.5s								
OBKA	Obir	80.86	334	*i* P		P	18 01 49.3	+0.1	
	comp=Z,37µm,6.5s,SNR=92								
DIM	Dimitrovgrad	80.88	325	P		P	18 01 49.6	+0.3	
SSPA	Standing Stone	80.90	38	*e*P		P	18 01 49.3	-0.1	
	comp=Z,3µm,1.8s								
MDNY	Mudanya-Bursa	80.90	321	*e*P		P	18 01 48.4	-1.0	
KVTX	Kingsville	80.93	59	*e*P		P	18 01 50.8	+1.0	
	comp=Z,1µm,1.1s								
KVTX					LR	LR			
	comp=Z,221µm,21.0s								
BFO	Black Forest	80.93	338	*e*P		P	18 01 49.7	+0.2	
	comp=Z,2µm,1.4s								
BFO	Black Forest	80.93	338	*e*P		P	18 01 49.7	+0.2	
BFO					pmax	pmax			
	comp=Z,1µm,1.1s								
BFO					MLR	MLR			
	comp=Z,225µm,21.0s								
BFO	Black Forest	80.93	338	*e*P		P	18 01 49.7	+0.2	
	comp=Z,1µm,1.1s								
BFO					LR	LR			
	comp=Z,225µm,21.0s								
BFO	Black Forest	80.93	338	P		P	18 01 49.3	-0.2	
	comp=Z,5µm,1.4s,SNR=66								
TKR	Tekirdag	80.96	323	*e*P		P	18 01 49.8	+0.1	
FFD	Franklin Falls	80.97	33	*e*P		P	18 01 49.9	+0.2	
	comp=Z,190nm,0.6s								
WATA	Walderalm	80.98	336	*i* P		P	18 01 50.5	+0.6	
WATA					pmax	pmax			
	comp=Z,3µm,1.3s								
WATA	Walderalm	80.98	336	*i* P		P	18 01 50.5	+0.6	
	comp=Z,3µm,1.3s								
WATA	Walderalm	80.98	336	*i* P		P	18 01 50.5	+0.6	
	comp=Z,3µm,1.3s,SNR=88								
ULDT	Uludag	80.98	321	*i* P		P	18 01 50.0	-0.1	
KDHN	Kadinhani	80.99	318	*i* P		P	18 01 49.9	-0.2	
PGB	Panagyurishte	81.00	326	P		P	18 01 50.3	+0.4	
HTL	Hartland	81.00	347	*e*P		P	18 01 49.9	+0.2	
HTL					AMB	AMB	18 01 55.8		
	comp=Z,779nm,2.1s								
HTL					AMS	AMS	18 44 06.3		
	comp=Z,289µm,20.2s								
HTL	Hartland	81.00	347	P		P	18 01 49.9	+0.2	
HTL					AMB	AMB	18 01 55.8		
	comp=Z,779nm,2.1s								
HTL					AMS	AMS	18 44 06.3		
HTY	Hatay	81.01	314	*e*P		P	18 01 50.4	+0.4	
KRTS	Karatas	81.02	315	*e*P		P	18 01 50.0	-0.1	
MYKA	Terra Mystica	81.02	334⇑	*i*P		P	18 01 49.8	-0.3	
	comp=Z,28µm,6.2s								
MYKA	Terra Mystica	81.02	334⇑	*i*P		P	18 01 49.8	-0.3	
	comp=Z,28µm,6.2s								
SPAK	Spaichingen-Ko	81.03	338	*e*P		P	18 01 50.3	+0.3	
WTTA	Wattenberg	81.03	336	*e*P		P	18 01 51.0	+0.8	
	comp=Z,6µm,1.3s								
WTTA	Wattenberg	81.03	336	*i* P		P	18 01 50.8	+0.6	
WTTA					pmax	pmax			
	comp=Z,10µm,3.7s								
WTTA	Wattenberg	81.03	336	*i* P		P	18 01 50.8	+0.6	
	comp=Z,23µm,3.7s								
WTTA	Wattenberg	81.03	336	*i* P		P	18 01 50.8	+0.6	
	comp=Z,23µm,3.7s,SNR=327								
PPT2	Papeete2	81.05	128	*e*PP		PP	18 04 49.1	-6.8	
	comp=Z,26µm,26.8s								
PPT2				*e*S		S	18 11 44.9	-13	
	comp=Z,435µm,32.5s								
PPT2				*e*LR		LR	18 26 33.9		
	comp=Z,531µm,22.2s,baz=325								
FORT	Forrest	81.06	203⇑	*i*P		P	18 01 49.7	-0.4	
	comp=Z,803nm,0.9s								
FORT				*e*PKKP		PKKPbc	18 20 24.3	-2.6	
FORT				*e*PKPPKP		P'P'df	18 28 33.3	+7.7	
FORT	Forrest	81.06	203	*e*P		P	18 01 49.6	-0.4	
	comp=Z,1µm,0.9s								
RETA	Reutte	81.07	336⇓	*i*P		P	18 01 50.8	+0.6	
	comp=Z,26µm,5.4s								
RETA	Reutte	81.07	336⇓	*i*P		P	18 01 50.8	+0.6	
	comp=Z,26µm,5.4s,SNR=142								
YAYL	Yayladag	81.09	314	*i* P		P	18 01 50.8	+0.2	
MOTA	Moosalm	81.10	336	*i* P		P	18 01 50.9	+0.3	
MOTA					pmax	pmax			
	comp=Z,3µm,1.2s								
MOTA	Moosalm	81.10	336	*i* P		P	18 01 50.9	+0.3	
	comp=Z,3µm,1.2s								
MOTA	Moosalm	81.10	336	*i* P		P	18 01 50.9	+0.3	
	comp=Z,3µm,1.2s,SNR=275								
PAE	Paea	81.11	128	*e*P		P	18 01 50.8	+0.2	
	comp=Z,100nm,1.3s								
CDF	Champ du Feu	81.12	339	*e*P		P	18 01 50.5	0.0	
	comp=Z,8µm,1.6s								
LADK	Ladik-KONYA	81.14	318	*e*P		P	18 01 50.0	-0.8	
BBOO	Buckleboo	81.14	196	*e*P		P	18 01 49.3	-1.2	
	comp=Z,12µm,1.3s								
TIAR	Tiarei	81.15	127	*e*P		P	18 01 51.1	+0.2	
	comp=Z,593nm,0.9s								
TIAR				*e*pP		pP	18 02 02.5	+1.8	
	comp=Z,1µm,1.1s								
PLD	Plovdiv	81.17	325	P		P	18 01 50.6	-0.2	
PLD	Plovdiv	81.17	325	P		P	18 01 50.6	-0.2	
PLD	Plovdiv	81.17	325	P		P	18 01 50.6	-0.2	
PLD	Plovdiv	81.17	325	P		P	18 01 50.4	-0.4	
MERS	Mersin	81.20	316	*e*P		P	18 01 50.0	-1.1	
KCTX	Karacabey (Bur	81.22	322	*e*P		P	18 01 50.0	-1.1	
SISC	Sisak	81.22	332	P		P	18 01 50.9	-0.1	
MFT	Murefte	81.23	323	*e*P		P	18 01 50.5	-0.7	
ABTA	Abfaltersbach	81.25	335	*i* P		P	18 01 51.1	-0.2	
	comp=Z,20µm,5.2s								
ABTA	Abfaltersbach	81.25	335	*i* P		P	18 01 51.1	-0.2	
	comp=Z,20µm,5.2s,SNR=121								
KDZ	Kurdzhali	81.27	324	P		P	18 01 51.9	+0.6	
LIBD	Limburg	81.28	339	*e*P		P	18 01 51.9	+0.6	
LIBD	Limburg	81.28	339	*e*P		P	18 01 51.9	+0.6	
LJU	Ljubljana	81.28	334	*i* P		P	18 01 50.8	-0.5	
LJU				*e*PP		PP	18 05 01.3	+5.0	
LJU				*e*S		S	18 11 56.9	-2.7	
BNT	Bandirma	81.32	322	*e*P		P	18 01 52.0	+0.3	
VTS	Vitosha	81.33	326	⇑P		P	18 01 51.7	-0.1	
VTS	Vitosha	81.33	326	P		P	18 01 52.0	+0.1	
VTS	Vitosha	81.33	326	P		P	18 01 52.0	+0.1	
VTS	Vitosha	81.33	326	⇑*i*P		P	18 01 51.7	-0.1	
VTS	Vitosha	81.33	326	P		P	18 01 51.9	+0.1	
ECH	Echery	81.33	339	*e*P		P	18 01 51.5	-0.1	
ECH					pmax	pmax			
	comp=Z,3µm,1.4s								
ECH					MLR	MLR			
	comp=Z,475µm,22.0s								
ECH	Echery	81.33	339	*e*P		P	18 01 51.5	-0.1	
	comp=Z,3µm,1.4s								
ECH					LR	LR			
	comp=Z,475µm,22.0s								
ECH	Echery	81.33	339	*e*P		P	18 01 52.1	+0.5	
KONT	Konya--Tatoy	81.34	318	*e*P		P	18 01 51.4	-0.5	
BOLV	Bolvadin	81.36	319	*i* P		P	18 01 51.1	-1.0	
EDC	Edincik	81.36	322	*e*P		P	18 01 51.1	-0.7	
CADS	Cadrg	81.36	334	*i* P		P	18 01 50.8	-1.0	
CADS				*e*PP		PP	18 05 01.3	+4.4	
PAGF	Fort de Pagny	81.36	340⇑	*i*P		P	18 01 52.1	+0.4	
	comp=Z,3µm,1.4s,baz=41								
SART	Tekirdag	81.36	323	*i* P		P	18 01 51.4	-0.5	
RKY	Sarkoy-Tekirda	81.36	323	*e*P		P	18 01 51.1	-0.8	
EMMW	East Machias	81.37	29	*e*P		P	18 01 51.8	0.0	
	comp=Z,30µm,1.8s								
ROBS	Robic	81.41	334	*e*P		P	18 01 49.5	-2.5	
FELD	Feldberg im Sc	81.44	338	*e*P		P	18 01 52.5	+0.2	
ALT	Altintas	81.45	320	*e*P		P	18 01 51.9	-0.6	
ALT	Altintas	81.45	320	*i* P		P	18 01 46.6	-5.9	
DYA	Yadsworthy	81.45	347	*e*P		P	18 01 52.4	+0.3	
DYA					AMB	AMB	18 01 58.1		
	comp=Z,2µm,1.5s								
DYA				*e*			18 11 52.1		
DYA					AMS	AMS	18 44 17.7		
	comp=Z,241µm,19.4s								
DYA	Yadsworthy	81.45	347	P		P	18 01 52.4	+0.3	
DYA					AMB	AMB	18 01 58.1		
	comp=Z,2µm,1.5s								
DYA							18 11 52.1		
DYA					AMS	AMS	18 44 17.7		
VOY	Vojsko	81.49	334	*e*P		P	18 01 51.5	-1.0	
VOY				*e*			18 01 55.4		
VOY				*e*			18 02 01.0		
DAVA	Damuels	81.49	337	*e*P		P	18 01 52.7	+0.1	
	comp=Z,2µm,1.1s								
DAVA	Damuels	81.49	337	*i* P		P	18 01 53.1	+0.5	
	comp=Z,53µm,6.5s								
DAVA	Damuels	81.49	337	*i* P		P	18 01 53.1	+0.5	
	comp=Z,53µm,6.5s,SNR=113								
FETA	Feichten	81.50	336⇑	*i*P		P	18 01 53.5	+0.9	
	comp=Z,51µm,6.3s								
FETA	Feichten	81.50	336⇑	*i*P		P	18 01 53.5	+0.9	
	comp=Z,51µm,6.3s,SNR=117								
RZN	Rozhen	81.51	325	P		P	18 01 52.7	-0.2	
BOJS	Bojanci	81.54	333	*i* P		P	18 01 52.1	-0.6	
VBMS	Vicksburg	81.55	51	*e*P		P	18 01 53.6	+0.7	
	comp=Z,1µm,1.3s								
VBMS					LR	LR			
	comp=Z,291µm,21.0s								
KRBG	Karabiga-Canak	81.56	322	*e*P		P	18 01 52.4	-0.4	
MEZF	Maizieres J'vi	81.56	340	*e*P		P	18 01 53.0	+0.3	
	comp=Z,9µm,1.6s,baz=13								
SWET	Sewanee	81.58	46	*e*P		P	18 01 52.4	-0.8	
	comp=Z,99nm,1.4s								
THEF	They Montfort	81.60	340	*e*P		P	18 01 53.6	+0.6	
THEF	They Montfort	81.60	340	*e*P		P	18 01 53.6	+0.6	
THEF	They Montfort	81.60	340	*e*P		P	18 01 53.6	+0.6	
ZAIG	Zacatecas	81.60	66	P		P	18 01 54.2	+0.4	
ANIG	Ahuacatlan	81.62	68	P		P	18 01 53.9	+0.3	
ERIK	Erikli-Kesan	81.65	323	*e*P		P	18 01 53.0	-0.3	
ALN	Alexandroupoli	81.65	324	P		P	18 01 51.9

PAL Palisades 82.22 35 eP P 18 01 55.8 -0.5
comp=Z,2µm,1.7s
BRNJ Basking Ridge 82.23 36 eP P 18 01 56.7 +0.3
ISP Isparta 82.28 319 eP P 18 01 55.4 -1.5
ISP Isparta 82.28 319 eP P 18 01 55.8 -1.1
ISP pmax pmax
comp=Z,557nm,0.9s
ISP MLR MLR
comp=Z,401µm,20.0s
ISP Isparta 82.28 319 ⇑P P 18 01 56.1 -0.8
ISP Isparta 82.28 319 eP P 18 01 55.8 -1.1
comp=Z,557nm,0.9s
ISP LR LR
comp=Z,401µm,20.0s
ISP Isparta 82.28 319 P P 18 01 55.5 -1.4
ISP Isparta 82.28 319 ⇑iP P 18 01 56.1 -0.8
TKL Tuckaleechee C 82.29 45 LR LR 18 37 36.8
comp=Z,469µm,21.1s,baz=331,slow=35
KHAL Karahalli 82.29 320 iP P 18 01 56.8 -0.1
IVA Berane 82.31 329 ⇑iP P 18 01 56.5 -0.4
KHL Karahalli 82.32 320 eP P 18 01 56.5 -0.6
YLE Yale 82.34 35 eP P 18 01 56.5 -0.4
comp=Z,281nm,0.9s
BRYW Bryant College 82.35 33 eP P 18 01 56.9 -0.2
comp=Z,322nm,0.8s
FKH Fakeheh 82.36 313 eP P 18 01 57.6 +0.2
SDMD Soldier's Deli 82.36 38 eP P 18 01 56.5 -0.7
comp=Z,426nm,1.0s
JSA Saint Aubin 82.37 345 eP P 18 01 56.9 0.0
JSA AMB AMB 18 02 08.0
comp=Z,2µm,1.6s
JSA e 18 12 03.8
JSA AMS AMS 18 42 32.8
comp=Z,295µm,20.7s
JSA Saint Aubin 82.37 345 P P 18 01 56.9 0.0
JSA AMB AMB 18 02 08.0
comp=Z,2µm,1.6s
JSA 18 12 03.8
JSA AMS AMS 18 42 32.8
UPM Unac-Piva 82.37 329 ⇑iP P 18 01 56.5 -0.9
CPNY Central Park 82.38 35 eP P 18 01 56.6 -0.6
comp=Z,522nm,1.0s
TUE Stuetta 82.38 337 eP P 18 01 57.7 +0.4
comp=Z,2µm,0.9s
TUE LR LR
comp=Z,490µm,20.0s
CJM Chamela 82.42 70 P P 18 01 57.4 -0.3
EZN Ezine 82.44 323 eP P 18 01 56.5 -1.0
EREN Erenkoy 82.44 315 eP P 18 01 56.7 -0.9
ELN Prospectdale 82.44 42 eP P 18 01 57.0 -0.7
SRS Serrai 82.44 325 P P 18 01 55.9 -1.6
SRS Serrai 82.44 325 P P 18 01 55.9 -1.6
SRS Serrai 82.44 325 P P 18 01 55.9 -1.6
FLN La Foliniere 82.47 344 eP P 18 01 57.4 -0.1
comp=Z,4µm,1.2s,baz=19
FLN eR
comp=Z,550µm,21.0s
NVLJ Novalja 82.51 333 P P 18 01 56.9 -0.8
SKO Skopje 82.53 327 eP P 18 01 58.4 +0.5
comp=Z,1µm,1.1s
PVY Plav 82.53 328 ⇑iP P 18 01 57.0 -1.1
BOZC Bozcaada 82.53 323 iP P 18 01 56.9 -1.1
KULA Kula-Manisa 82.54 321 eP P 18 01 56.5 -1.7
BCK Bucak 82.55 319 eP P 18 01 56.5 -1.8
LDF La Druitiere 82.56 344 eP P 18 01 57.7 -0.3
comp=Z,5µm,1.6s
HWQ Hawqa 82.57 313 eP P 18 01 58.3 -0.2
AKHS Akhisar 82.60 321 iP P 18 01 58.1 -0.3
AKS Akhisar 82.60 321 eP P 18 01 57.5 -0.9
MANT Manisa 82.60 321 iP P 18 01 57.9 -0.8
BLA Blacksburg 82.61 42 eP P 18 01 58.3 -0.2
BLA pmax pmax
comp=Z,798nm,1.0s
BLA MLR MLR
comp=Z,294µm,19.0s
BLA Blacksburg 82.61 42 eP P 18 01 58.3 -0.2
comp=Z,798nm,1.0s
BLA LR LR
comp=Z,294µm,19.0s
VAY Valandovo 82.66 326 eP P 18 01 58.2 -0.4
comp=Z,7µm,2.1s
KNT Kendrikon 82.67 326 P P 18 01 57.3 -1.4
KNT Kendrikon 82.67 326 P P 18 01 57.3 -1.4
KNT Kendrikon 82.67 326 P P 18 01 57.3 -1.4
NKY Niksic 82.68 329 ⇑iP P 18 01 57.8 -1.1
BCI Bajram Curri 82.69 328 ePN P 18 02 00.5 +1.7
AYVA Ayvalik 82.72 322 iP P 18 01 57.3 -1.6
BRY Bratogost 82.76 329 ⇑iP P 18 01 58.2 -1.1
LRAL Lakeview Retre 82.77 49 eP P 18 01 58.5 -0.8
comp=Z,244nm,0.6s
LRAL LR LR
comp=Z,219µm,22.0s
SOH Sokhos 82.79 325 P P 18 01 57.3 -2.1
SOH Sokhos 82.79 325 P P 18 01 57.3 -2.1
SOH Sokhos 82.79 325 P P 18 01 57.3 -2.1
SOH Sokhos 82.79 325 eP P 18 01 59.6 +0.2
LIA Limnos Island 82.84 324 eP P 18 01 59.5 -0.1
GRR Gorron 82.90 344 eP P 18 01 59.8 0.0
comp=Z,7µm,1.3s
TTG Podgorica 82.92 329 eP P 18 01 58.8 -1.2
PHNC Paralimni 82.93 315 P P 18 02 05.1 +5.0
comp=Z,29nm,1.1s
PHNC Paralimni 82.93 315 P S 18 12 21.7 +4.9
comp=Z,34nm,2.4s
PRK Paraskevi 82.95 323 eP P 18 01 60.0 -0.2
LFK Lefkose 82.95 315 eP P 18 01 59.1 -1.2
OUR Ouranopolis 82.96 325 P P 18 01 58.4 -1.8
OUR Ouranopolis 82.96 325 P P 18 01 58.4 -1.8
OUR Ouranopolis 82.96 325 P P 18 01 58.4 -1.8
ANTB Antalya 82.98 318 eP P 18 01 58.3 -2.0
LOR Lormes 83.00 341 ⇑iP P 18 02 00.2 -0.1
comp=Z,5µm,1.2s,baz=21
LOR eR
comp=Z,884µm,22.2s
BHL Bhannes 83.01 313 eP P 18 02 01.0 +0.3
PUK Puka 83.03 328 ePN P 18 01 59.2 -1.5
KORT Korkueli 83.04 319 iP P 18 01 59.5 -1.4
GRG Griva 83.04 326 P P 18 01 58.8 -1.9
GRG Griva 83.04 326 P P 18 01 58.8 -1.9
GRG Griva 83.04 326 P P 18 01 58.8 -1.9
DNZL Cakiroluk 83.05 320 iP P 18 02 00.7 -0.3
HORT Hortiatis 83.08 325 P P 18 01 58.5 -2.4
HORT Hortiatis 83.08 325 P P 18 01 58.5 -2.4
STON Ston 83.08 330 P P 18 01 59.5 -1.3
CABF La Chapelle 83.09 339 eP P 18 02 01.2 +0.3
comp=Z,9µm,1.6s
THE Thessaloniki 83.10 325 P P 18 01 59.0 -1.9
THE Thessaloniki 83.10 325 P P 18 01 59.0 -1.9
THE Thessaloniki 83.10 325 P P 18 01 59.0 -1.9
BEYL Beirut 83.12 313 eP P 18 02 01.1 0.0
PLG Polygyros 83.14 325 eP P 18 02 00.4 -0.8
CBN Corbin 83.14 39 eP P 18 02 01.3 +0.2
comp=Z,1µm,1.4s
CBN LR LR
comp=Z,375µm,21.0s
PHP Peshkopia 83.15 328 ePN P 18 01 59.1 -2.1
BUM Brajici-Budva 83.17 329 ⇑iP P 18 02 00.3 -1.0
HCY Herceg Novi 83.18 329 ⇑iP P 18 02 00.1 -1.2
MAMC Mammari 83.19 316 P P 18 02 00.4 -1.1
MAMC Mammari 83.19 316 P S 18 12 26.1 +6.7
GOLH Golhisar 83.20 319 iP P 18 02 01.2 -0.5
OG01 Vacheresse 83.20 339 eP P 18 02 02.2 +0.7
OG01 Vacheresse 83.20 339 eP P 18 02 02.2 +0.7
IZM Izmir 83.24 321 eP P 18 02 01.4 -0.3
RCY Rachaya 83.24 313 eP P 18 02 01.9 -0.1
SSF Saint Saulge 83.27 341 ⇑iP P 18 02 01.7 0.0
comp=Z,2µm,1.1s
CSS Prodhromos 83.30 315 P P 18 02 04.1 +2.0
comp=Z,30nm,1.1s
CSS Prodhromos 83.30 315 eP P 18 02 01.9 -0.2
comp=Z,3µm,1.3s
CSS LR LR
comp=Z,293µm,19.0s
CSS Prodhromos 83.30 315 P P 18 02 02.2 +0.1
OUZ Omahuta 83.33 165 eP P 18 02 02.5 +0.7
comp=Z,1µm,1.5s
SGMF Saint Gilles 83.34 345 eP P 18 02 02.1 +0.1
comp=Z,6µm,1.4s
ULC Ulcinj 83.34 329 ⇑iP P 18 02 01.6 -0.6
BLCB Balcova 83.34 322 eP P 18 02 01.0 -1.2
ROSF Rostrenen 83.38 346 eP P 18 02 02.4 +0.2
comp=Z,4µm,1.1s
LEF Lefka 83.39 316 eP P 18 02 01.3 -1.2
BIA Bitola 83.40 327 eP P 18 02 01.1 -1.5
comp=Z,157nm,1.1s
PAIG Paliouri 83.42 325 P P 18 02 00.4 -2.2
PAIG Paliouri 83.42 325 P P 18 02 00.4 -2.2
PAIG Paliouri 83.42 325 P P 18 02 00.4 -2.2
ELL Elmali 83.44 319 eP P 18 02 01.6 -1.4
ALFC Alevga 83.50 316 P P 18 02 02.3 -0.8
comp=Z,40nm,0.7s
ALFC Alevga 83.50 316 P S 18 12 27.6 +5.0
comp=Z,18nm,2.6s
BST Brest 83.55 346 eP P 18 02 03.7 +0.6
BST Brest 83.55 346 eP P 18 02 03.7 +0.6
URLA Izmir 83.56 322 iP P 18 02 02.3 -1.1
AVF Avril sur Loir 83.56 341 eP P 18 02 03.2 0.0
comp=Z,9µm,1.6s
FNA Florina 83.58 327 iPN P 18 02 02.4 -1.1
FNA Florina 83.58 327 P P 18 02 01.8 -1.7
FNA Florina 83.58 327 P P 18 02 01.8 -1.7
FNA Florina 83.58 327 P P 18 02 01.8 -1.7
AYDN Tasoluk 83.59 321 iP P 18 02 03.0 -0.6
TIR Tirane 83.65 328 eP P 18 02 02.7 -1.1
TIR pmax pmax
comp=Z,2µm,0.8s
TIR MLR MLR
comp=Z,561µm,22.0s
TIR Tirane 83.65 328 eP P 18 02 02.7 -1.1
comp=Z,2µm,0.8s
TIR LR LR
comp=Z,561µm,22.0s
SZAC Souni-Zanaja 83.68 316 P P 18 02 05.5 +1.4
comp=Z,39nm,1.1s
SZAC Souni-Zanaja 83.68 316 P S 18 12 25.3 +0.8
ASF Jabal al Asfar 83.75 311 PKKPbc PKKPbc 18 20 20.2 +1.5
ASF PKPPKP P'P'df 18 28 23.9 -7.1
comp=Z,5.3nm,1.0s,baz=17,slow=1.7,SNR=4.9
ASF LR LR 18 43 12.2
comp=Z,353µm,21.9s,baz=264,slow=38
ASF Jabal al Asfar 83.75 311 PKKPbc PKKPbc 18 20 20.2 +1.5
ASF P'P' 18 28 23.9
CHOS Chios island 83.76 322 P P 18 02 03.1 -1.4
CHOS Chios island 83.76 322 eP P 18 02 03.8 -0.7
QUIF Quistinic 83.77 346 eP P 18 02 04.1 -0.1
comp=Z,838nm,0.8s
RSL Roselend 83.82 338 eP P 18 02 06.4 +1.6
RSL Roselend 83.82 338 eP P 18 02 06.4 +1.6
RSL Roselend 83.82 338 eP P 18 02 06.4 +1.6
GCAM G?zelcaml? 83.84 321 iP P 18 02 03.4 -1.4
PPCY Paphos 83.84 316 P P 18 02 04.3 -0.5
PPCY Paphos 83.84 316 P S 18 12 30.1 +4.2
KZN Kozani 83.84 326 eP P 18 02 04.0 -0.8
MMAI Mount Meron Ar 83.84 313 LR LR 18 45 35.9
comp=Z,427µm,18.6s,baz=30,slow=40
YER Yerkesik 83.85 320 eP P 18 02 04.5 -0.4
BGF Bois d'Agland 83.89 341 eP P 18 02 04.9 0.0
comp=Z,5µm,1.6s
FETY Fethiye 83.91 319 eP P 18 02 02.9 -2.3
TURN Turunc 83.93 320 iP P 18 02 06.1 +0.8
KBN Korca 83.94 327 ePN P 18 02 04.1 -1.3
LPL La Plagne 83.95 338 eP P 18 02 06.3 +0.8
comp=Z,13µm,1.5s
LPG La Plagne 83.96 338 eP P 18 02 06.4 +0.7
comp=Z,12µm,1.3s
AOS Alonnisos 83.99 324 P P 18 02 03.9 -1.6
AOS Alonnisos 83.99 324 P P 18 02 03.9 -1.6
SMG Samos 84.00 321 eP P 18 02 04.9 -0.8
AKAS Kas 84.01 319 iP P 18 02 02.8 -3.1
NEST Nestorio 84.03 327 P P 18 02 04.2 -1.6
KSL Kastellorizon 84.08 319 eP P 18 02 05.9 -0.1
XOR Xorichti 84.10 325 P P 18 02 04.2 -1.9
XOR Xorichti 84.10 325 P P 18 02 04.2 -1.9
NEO Neokhori 84.14 325 eP P 18 02 04.9 -1.4
SKIA Skiathos 84.16 324 P P 18 02 04.0 -2.4
FYTO Fytoko, Volos 84.16 325 P P 18 02 14.2 +7.8
GOGA Godfrey 84.25 46 eP P 18 02 06.5 -0.4
GOGA pmax pmax
comp=Z,1µm,1.8s
GOGA MLR MLR
comp=Z,389µm,20.0s
GOGA Godfrey 84.25 46 eP P 18 02 06.5 -0.4
comp=Z,1µm,1.8s
GOGA LR LR
comp=Z,389µm,20.0s
BDRM Kayabasi 84.28 321 iP P 18 02 06.3 -0.8
TCF Toulx Ste Croi 84.29 342 ⇑iP P 18 02 07.1 +0.1
comp=Z,1µm,0.8s
AGO Saint Agoulin 84.31 341 eP P 18 02 07.4 +0.3
AGO Saint Agoulin 84.31 341 eP P 18 02 07.4 +0.3
KAAM Kaadhehdhoo 84.33 265 P P 18 02 13.2 +5.6
comp=Z,1µm,2.9s,comp=Z,95µmcomp=Z,575µm
BRAL Brewton 84.33 50 eP P 18 02 07.7 +0.3
comp=Z,561nm,0.8s
BRAL LR LR
comp=Z,257µm,21.0s
BODT Bodrum 84.34 321 eP P 18 02 05.6 -1.8
MMIG Aquila 84.39 69 P P 18 02 07.7 -0.2
THL Klokotos Trika 84.39 326 eP P 18 02 05.7 -1.8
BNI Bardonecchia 84.40 338 eP P 18 02 08.3 +0.6
BNI pmax pmax
comp=Z,3µm,1.4s
BNI MLR MLR
comp=Z,238µm,19.0s
BNI Bardonecchia 84.40 338 eP P 18 02 08.3 +0.6
comp=Z,3µm,1.4s
BNI LR LR
comp=Z,238µm,19.0s
GDM Grand'Maison 84.40 339 eP P 18 02 08.5 +0.8
GDM Grand'Maison 84.40 339 eP P 18 02 08.5 +0.8
GRN Grenoble 84.45 339 eP P 18 02 09.0 +1.1
GRN Grenoble 84.45 339 eP P 18 02 09.0 +1.1
GRN Grenoble 84.45 339 eP P 18 02 09.0 +1.1
MFF Saint Martin d 84.48 343 eP P 18 02 08.0 +0.1
comp=Z,1µm,0.9s
TOO Toolangi 84.48 188 eP P 18 02 07.9 +0.2
comp=Z,2µm,1.3s
MEV Metsovon 84.50 326 P P 18 02 08.2 -0.1
MEV Metsovon 84.50 326 P P 18 02 08.2 -0.1
MRKA Markates 84.51 324 P P 18 02 06.0 -2.2
JSC Jenkinsville 84.61 44 eP P 18 02 08.5 -0.3
JSC Jenkinsville 84.61 44 eP P 18 02 08.4 -0.3
PYM Petit Puy Mans 84.62 341 eP P 18 02 09.0 +0.3
PYM Petit Puy Mans 84.62 341 eP P 18 02 09.0 +0.3
PYM Petit Puy Mans 84.62 341 eP P 18 02 09.0 +0.3
ERET Eretria 84.64 324 P P 18 02 06.4 -2.6
MBDF Montbardon 84.68 338 eP P 18 02 09.3 +0.2
comp=Z,4µm,1.1s
ARG Arkhangelos 84.69 320 eP P 18 02 09.1 0.0
COLF Collangettes 84.69 340 eP P 18 02 09.5 +0.5
COLF Collangettes 84.69 340 eP P 18 02 09.5 +0.5
SSB Saint Sauveur 84.71 340 eP P 18 02 09.4 +0.2
SSB pmax pmax
comp=Z,570nm,0.8s
SSB MLR MLR
comp=Z,259µm,21.0s
SSB Saint Sauveur 84.71 340 eP P 18 02 09.4 +0.2
comp=Z,570nm,0.8s
SSB LR LR
comp=Z,259µm,21.0s
SSB Saint Sauveur 84.71 340 eP P 18 02 09.6 +0.4
ORIF Oris-en-Rattie 84.72 339 eP P 18 02 09.9 +0.6
comp=Z,9µm,1.3s
ORIF eR
comp=Z,550µm,23.0s
MRMA Marmari 84.74 323 P P 18 02 07.0 -2.4
VERF Verneugheol 84.74 341 eP P 18 02 10.3 +1.0
VERF Verneugheol 84.74 341 eP P 18 02 10.3 +1.0
MOIG Morelia 84.74 67 P P 18 02 08.9 -1.0
ATAL Atalanti 84.75 324 P P 18 02 05.9 -3.5
ATAL Atalanti 84.75 324 P P 18 02 05.9 -3.5
JAN Janina 84.76 326 eP P 18 02 09.5 0.0
NIS1 Nisyros Isl. 84.78 320 P P 18 02 06.5 -3.1
NIS1 Nisyros Isl. 84.78 320 P P 18 02 06.5 -3.1
LKR Lokris 84.79 324 eP P 18 02 08.1 -1.5
MAKR Makrakomi, Fth 84.82 325 P P 18 02 07.2 -2.6
MAKR Makrakomi, Fth 84.82 325 P P 18 02 07.2 -2.6
SRN Sarande 84.88 327 ePN P 18 02 06.2 -3.8
SURF Saint Ours 84.90 338 eP P 18 02 11.1 +0.8
SURF Saint Ours 84.90 338 eP P 18 02 11.1 +0.8
PTL Penteli 84.96 324 eP P 18 02 08.8 -1.7
AQU L'Aquila 84.96 333 ⇑P P 18 02 10.7 +0.2
AQU L'Aquila 84.96 333 eP P 18 02 10.9 +0.4
comp=Z,1µm,0.8s
AQU LR LR
comp=Z,398µm,22.0s
AQU L'Aquila 84.96 333 ⇑iP P 18 02 10.6 +0.1
EVR Evrytania 85.03 325 eP P 18 02 09.9 -1.0
LBL Lubilhac 85.06 341 eP P 18 02 10.9 0.0
LBL Lubilhac 85.06 341 eP P 18 02 10.9 0.0
LBL Lubilhac 85.06 341 eP P 18 02 10.9 0.0
IGT Igoumenitsa 85.06 327 P P 18 02 09.2 -1.8
IGT Igoumenitsa 85.06 327 P P 18 02 09.2 -1.8
IGT Igoumenitsa 85.06 327 P P 18 02 09.2 -1.8
KLBR Kellerberrin 85.08 211 eP P 18 02 09.7 -1.1
comp=Z,665nm,1.1s
KLBR ePKKP PKKPbc 18 20 20.6 +3.2
KLBR ePKPPKP P'P'df 18 28 20.1 +1.1
VIL1 Vilia, Western 85.08 324 eP P 18 02 09.4 -1.7
VIVF Saint-Julien-l 85.08 339 eP P 18 02 11.4 +0.4
comp=Z,4µm,1.4s
ATH Athens Observa 85.08 324 eP P 18 02 09.4 -1.7
APE Apeiranthos 85.10 322 ⇑P P 18 02 09.2 -2.0
APE Apeiranthos 85.10 322 eP P 18 02 09.2 -2.0
APE Apeiranthos 85.10 322 ⇑iP P 18 02 09.1 -2.1
KEK Kerkira 85.11 327 eP P 18 02 10.3 -0.9
VLY Voula,Athens 85.15 323 eP P 18 02 09.4 -2.0
SAOF Saorge 85.16 337 eP P 18 02 11.5 +0.1
SAOF Saorge 85.16 337 eP P 18 02 11.5 +0.1
SAOF Saorge 85.16 337 eP P 18 02 11.5 +0.1
DESF Desfina 85.18 325 P P 18 02 07.5 -4.1
DSF Desfina 85.18 325 P P 18 02 08.6 -3.1
DSF Desfina 85.18 325 P P 18 02 08.6 -3.1
AUTN L'Aution 85.19 337 eP P 18 02 11.8 0.0
AUTN L'Aution 85.19 337 eP P 18 02 11.8 0.0
AUTN L'Aution 85.19 337 eP P 18 02 11.8 0.0
OG25 Le Caire 85.19 338 eP P 18 02 12.1 +0.5
OG25 Le Caire 85.19 338 eP P 18 02 12.1 +0.5
TOUF Mont Tournerai 85.22 337 eP P 18 02 12.0 +0.1
TOUF Mont Tournerai 85.22 337 eP P 18 02 12.0 +0.1
TOUF Mont Tournerai 85.22 337 eP P 18 02 12.0 +0.1
RGA Parga 85.24 327 P P 18 02 08.8 -3.1
SBF Sospel 85.31 337 eP P 18 02 11.9 -0.3
comp=Z,8µm,1.3s
LTK Loutraki 85.34 324 P P 18 02 08.8 -3.6
LTK Loutraki 85.34 324 P P 18 02 08.8 -3.6
LTK Loutraki 85.34 324 eP P 18 02 10.0 -2.4
MVIF Mont Vial 85.35 337 eP P 18 02 12.8 +0.3
MVIF Mont Vial 85.35 337 eP P 18 02 12.8 +0.3
MVIF Mont Vial 85.35 337 eP P 18 02 12.8 +0.3
KALE Kalithea 85.36 325 P P 18 02 09.8 -2.7
KALE Kalithea 85.36 325 P P 18 02 09.8 -2.7
NAIG Nisos Aigina 85.36 324 eP P 18 02 09.9 -2.6
RJF Les Rejaudoux 85.38 342 eP P 18 02 12.5 +0.1
comp=Z,2µm,1.2s
RJF eR
comp=Z,681µm,22.5s
CNNC Cliffs of the 85.38 41 eP P 18 02 12.9 +0.3
comp=Z,2µm,1.6s
CNNC LR LR
comp=Z,303µm,20.0s
TRIZ Trizonia 85.40 325 P P 18 02 09.8 -2.8
EFP Efpalio 85.42 325 P P 18 02 10.7 -2.0
EFP Efpalio 85.42 325 eP P 18 02 12.0 -0.8
REVF Revere 85.44 337 eP P 18 02 12.8 0.0
REVF Revere 85.44 337 eP P 18 02 12.8 0.0
REVF Revere 85.44 337 eP P 18 02 12.8 0.0
LAKA Lakka 85.55 325 P P 18 02 11.3 -2.1
LAKA Lakka 85.55 325 P P 18 02 11.3 -2.1
CALN Calern 85.56 338 eP P 18 02 13.8 +0.3
CALN Calern 85.56 338 eP P 18 02 13.8 +0.3
CALN Calern 85.56 338 eP P 18 02 13.8 +0.3
LKD2 Lefkada island 85.59 326 P P 18 02 11.5 -2.1
LKD2 Lefkada island 85.59 326 P P 18 02 11.5 -2.1
UPR University Cam 85.59 325 P P 18 02 10.8 -2.8
UPR University Cam 85.59 325 eP P 18 02 13.2 -0.4
CAF Calviac 85.61 341 eP P 18 02 14.0 +0.3
comp=Z,5µm,1.5s
DEIG Demacu 85.63 65 P P 18 02 14.6 +0.3
RAYN Ar Rayn 85.66 300 P P 18 02 13.0 -1.3
comp=Z,4µm,1.6s
GUR Goura 85.67 324 P P 18 02 11.4 -2.7
GUR Goura 85.67 324 eP P 18 02 12.5 -1.7
KARP Karpathos 85.67 320 eP P 18 02 13.2 -0.9
DID Didima 85.68 324 P P 18 02 09.5 -4.6
DID Didima 85.68 324 eP P 18 02 11.0 -3.1
SMRF Simiane la Rot 85.68 339 eP P 18 02 14.7 +0.7
comp=Z,3µm,1.3s
DIDY Didyma 85.71 324 P P 18 02 11.4 -3.0
THR1 Thera Island 85.72 322 P P 18 02 08.4 -5.9
TBI Tubuai 85.83 131 eP P 18 02 15.1 +0.4
comp=Z,1µm,1.4s
TBI Tubuai 85.83 131 ePP PP 18 05 27.3 -7.6
comp=Z,22µm,30.5s
TBI eS S 18 12 33.7 -12
comp=Z,236µm,34.8s
TBI eLQ LQ 18 24 58.6
comp=Z,221µm,33.8s
TBI eLR LR 18 28 44.7
comp=Z,630µm,33.2s,baz=324
RLS Riolos of Patr 85.91 325 eP P 18 02 14.7 -0.5
LASF Ste Croix 86.01 340 eP P 18 02 15.4 -0.2
comp=Z,3µm,1.4s
LMR La Mourre 86.05 338 eP P 18 02 15.9 +0.1
comp=Z,6µm,1.4s
NHSC New Hope 86.09 44 eP P 18 02 16.6 +0.5
comp=Z,3µm,1.7s
NHSC LR LR
comp=Z,355µm,21.0s
ZIIG Zihuatanejo 86.10 68 P P 18 02 15.8 -0.6
PGF Pioggiola 86.10 336 eP P 18 02 15.9 -0.3
comp=Z,4µm,1.3s
PTVM Pico Tres Padr 86.11 66 P P 18 02 16.0 -0.8
TOZ Tahuroa Road 86.12 164 PN P 18 02 15.8 0.0
KFL Anninata 86.13 326 P P 18 02 15.2 -1.1
VLX Vlachokerasia 86.14 324 P P 18 02 13.9 -2.6
VLX Vlachokerasia 86.14 324 eP P 18 02 15.0 -1.5
SZVM Salazar 86.14 66 P P 18 02 16.0 -1.1
VLS Valsamata 86.14 326 eP P 18 02 15.6 -0.8
PBVM Pinon 86.24 66 P P 18 02 16.4 -0.6
CUC Castrocucco 86.29 330 eP P 18 02 15.8 -1.3
comp=Z,852nm,1.0s
CUC LR LR
comp=Z,484µm,21.0s
IIO Organos 86.36 65 P P 18 02 16.4 -1.7
ZKR Zakros 86.45 320 eP P 18 02 17.4 -0.5
NWAO Narrogin (SRO) 86.47 211 PKKPbc PKKPbc 18 20 18.1 +4.0
comp=Z,18nm,0.8s,baz=197,slow=2.9,SNR=5.5
NWAO PKPPKP P'P'df 18 28 23.0 +6.6
comp=Z,14nm,1.2s,baz=116,slow=17,SNR=1.8
NWAO Narrogin (SRO) 86.47 211 eP P 18 02 17.4 -0.3
NWAO pmax pmax
comp=Z,596nm,0.9s
NWAO MLR MLR
comp=Z,27µm,20.0s
NWAO Narrogin (SRO) 86.47 211 eP P 18 02 17.4 -0.3
comp=Z,596nm,0.9s
NWAO PKKPbc PKKPbc 18 20 18.1 +4.0
NWAO P'P' 18 28 23.0
NWAO LR LR
comp=Z,27µm,20.0s
VLI Velia 86.47 323 eP P 18 02 12.9 -5.1
ITM Ithomi 86.49 324 eP P 18 02 16.8 -1.3
NPS Neapolis 86.59 321 eP P 18 02 16.6 -2.1
YAIG Yautepec 86.68 66 P P 18 02 18.5 -1.0
EIL Elat 86.75 311 PKKPbc PKKPbc 18 20 13.0 +1.4
EIL PKPPKP P'P'df 18 28 18.8 -6.5
comp=Z,14nm,1.3s,baz=74,slow=4.2,SNR=5.4
EIL LR LR 18 45 07.5
comp=Z,458µm,21.5s,baz=244,slow=38
EIL Elat 86.75 311 PKKPbc PKKPbc 18 20 13.0 +1.4
EIL P'P' 18 28 18.8
PYL PYLOS 86.81 324 P P 18 02 15.8 -3.8
PYL PYLOS 86.81 324 eP P 18 02 17.8 -1.9
PPM Popocatepetl 86.81 66 P P 18 02 20.5 0.0
PPM Popocatepetl 86.81 66 P P 18 02 20.5 0.0
KYTH Kithira 86.81 323 eP P 18 02 17.9 -1.8
IDI Anoyia 86.88 321 eP P 18 02 17.6 -2.5
comp=Z,500nm,0.6s
IDI Anoyia 86.88 321 P P 18 02 14.9 -5.2
IDI Anoyia 86.88 321 eP P 18 02 18.0 -2.1
URZ Urewera 86.95 163 eP P 18 02 18.9 -1.0
comp=Z,1µm,1.8s
MEIG Mezcala 87.03 67 P P 18 02 20.2 -0.9
VAM Vamos 87.07 322 eP P 18 02 19.4 -1.5
MTLF Montolieu 87.09 341 eP P 18 02 20.3 -0.6
comp=Z,1µm,1.1s
MWZ Matawai 87.11 163 PN P 18 02 20.4 -0.3
SIVA Sivas 87.14 321 eP P 18 02 20.4 -0.9
CAIG El Cayaco 87.27 68 P P 18 02 21.9 -0.2

LRDF Laroque-de-Fa 87.40 340 *e*P **P 18 02 22.6 +0.2**
LRDF Laroque-de-Fa 87.40 340 *e*P **P 18 02 22.6 +0.2**
GVD Gavdhos 87.60 322 *e*P **P 18 02 22.2 -1.3**
comp=Z,3µm,0.9s
GVD Gavdhos 87.60 322 *e*P **P 18 02 22.4 -1.1**
BKZ Black Stump Fm 87.70 164 PN **P 18 02 22.0 -1.6**
MLS Moulis 87.70 341 *e*P **P 18 02 23.6 -0.3**
MLS Moulis 87.70 341 *e*P **P 18 02 23.6 -0.3**
CARF Carcanieres 87.71 341 *e*P **P 18 02 23.6 -0.4**
CARF Carcanieres 87.71 341 *e*P **P 18 02 23.6 -0.4**
SJAF Saint Jean de 87.75 340 *e*P **P 18 02 23.4 -0.7**
SJAF Saint Jean de 87.75 340 *e*P **P 18 02 23.4 -0.7**
FILF Fillols 87.75 340 *e*P **P 18 02 23.9 -0.3**
FILF Fillols 87.75 340 *e*P **P 18 02 23.9 -0.3**
EPF Esparros 87.80 342 *e*P **P 18 02 23.0 -1.4**
comp=Z,357nm,0.6s
CEL Celeste 87.81 329 *e*P **P 18 02 22.8 -1.7**
comp=Z,1µm,1.0s
CEL LR LR
comp=Z,477µm,21.0s
LABF Labassere 87.84 342 *e*P **P 18 02 24.5 -0.1**
LABF Labassere 87.84 342 *e*P **P 18 02 24.5 -0.1**
SALF Salau 87.87 341 *e*P **P 18 02 23.9 -0.9**
SALF Salau 87.87 341 *e*P **P 18 02 23.9 -0.9**
ORDF Ordiarp 87.89 343 *e*P **P 18 02 23.6 -1.1**
ORDF Ordiarp 87.89 343 *e*P **P 18 02 23.6 -1.1**
OSSF Osses 87.91 343 *e*P **P 18 02 23.6 -1.2**
OSSF Osses 87.91 343 *e*P **P 18 02 23.6 -1.2**
REYF Montagne du Re 87.91 342 *e*P **P 18 02 24.6 -0.4**
REYF Montagne du Re 87.91 342 *e*P **P 18 02 24.6 -0.4**
VIEF Viey 88.00 342 *e*P **P 18 02 25.1 -0.3**
VIEF Viey 88.00 342 *e*P **P 18 02 25.1 -0.3**
RESF Ens 88.01 342 *e*P **P 18 02 25.7 +0.2**
RESF Ens 88.01 342 *e*P **P 18 02 25.7 +0.2**
VALF Valcebollere 88.03 340 *e*P **P 18 02 25.3 -0.3**
VALF Valcebollere 88.03 340 *e*P **P 18 02 25.3 -0.3**
SJPF Ste Jean 88.04 343 *e*P **P 18 02 24.7 -0.8**
TPIG Tehuac#an 88.08 65 P **P 18 02 25.9 -0.4**
ETSF Etsaut 88.11 342 *e*P **P 18 02 25.3 -0.6**
comp=Z,621nm,0.6s
UTMO Huajuapan 88.25 66 P **P 18 02 27.1 0.0**
QRZ Quartz Range 88.63 167 *e*PN **P 18 02 27.6 -0.2**
VSL Villasalto 88.81 334 *e*P **P 18 02 29.1 0.0**
comp=Z,1µm,1.1s
VSL LR LR
comp=Z,289µm,21.0s
MRZ Mangatainoka R 88.98 165 *e*PN **P 18 02 27.7 -1.8**
PNIG Pinotepa 89.12 67 P **P 18 02 31.0 +0.1**
NNZ Nelson 89.14 166 PN **P 18 02 29.3 -0.9**
MOO Moorlands 89.18 186 *e*P **P 18 02 31.3 +0.9**
comp=Z,3µm,1.2s
SNZO South Karori 89.45 165 *e*P **P 18 02 30.8 -0.9**
comp=Z,2µm,1.5s
SNZO LR LR
comp=Z,53µm,20.0s
VHO Vista Hermosa 89.48 65 P **P 18 02 33.3 +0.4**
DWPF Disney 89.56 48 *e*P **P 18 02 32.7 -0.1**
comp=Z,2µm,1.9s
TAU Tasmania Unive 89.64 186 *e*P **P 18 02 33.0 +0.5**
TAU pmax pmax
comp=Z,2µm,1.5s
TAU MLR MLR
comp=Z,40µm,20.0s
TAU Tasmania Unive 89.64 186 *e*P **P 18 02 33.0 +0.5**
comp=Z,2µm,1.5s
TAU LR LR
comp=Z,40µm,20.0s
TAU Tasmania Unive 89.64 186 P **P 18 02 34.1 +1.6**
comp=Z,4µm,1.7s,SNR=8.6
MUKL Al Mukalla 90.29 292 *e*P **P 18 02 34.6 -1.8**
PBRG Braganca 90.30 347 *e*P **P 18 02 35.0 -1.2**
comp=Z,1µm,1.6s
KHZ Kahutara 90.34 167 *e*P **P 18 02 34.7 -1.1**
comp=Z,713nm,1.7s
PGAV Gavieira, Arco 90.38 348 *e*P **P 18 02 35.9 -0.7**
comp=Z,1µm,1.8s
PGAV Gavieira, Arco 90.38 348 *e*PP PP 18 06 10.4 +0.4
PGAV *e*S **SKSac 18 13 06.1 +0.5**
PGAV *e*LQ LQ 18 28 22.8
PGAV *e*LR LR 18 35 33.0
comp=Z,183µm,18.0s
WDD Wield Dalam 90.43 329 *e*P **P 18 02 35.9 -0.9**
comp=Z,658nm,1.1s
WDD LR LR
comp=Z,119µm,20.0s
DGAR Diego Garcia 90.44 260*c i*P **P 18 02 35.9 -1.2**
DGAR Diego Garcia 90.44 260 *e*P **P 18 02 36.8 -0.3**
comp=Z,1µm,1.4s
DGAR LR LR
comp=Z,74µm,20.0s
WVZ Waitaha Valley 90.57 169 PN **P 18 02 35.2 -1.7**
PCAB Cabril 90.59 348 *e*P **P 18 02 37.0 -0.5**
comp=Z,2µm,1.7s
CMIG Matias Romero 90.62 64 P **P 18 02 37.3 -0.7**
HUIG Huatulco 90.86 66 P **P 18 02 38.8 -0.3**
POLO Lamas de Olo 90.89 347 *e*P **P 18 02 38.3 -0.7**
comp=Z,946nm,1.5s
POLO Lamas de Olo 90.89 347 *e*PP PP 18 06 24.5 +10
PVRL Vila Real 90.97 347 *e*P **P 18 02 38.8 -0.5**
comp=Z,2µm,1.4s
MVO Moncorvo 90.97 347 *e*P **P 18 02 38.5 -0.8**
comp=Z,2µm,1.6s
MVO Moncorvo 90.97 347 *e*PP PP 18 06 24.5 +10
MVO *e*S **SKSac 18 13 15.8 +6.8**
MVO *e*LQ LQ 18 28 27.8
MVO *e*LR LR 18 33 46.2
comp=Z,249µm,20.0s
PTO Porto 91.24 348 *e*P **P 18 02 39.9 -0.5**
comp=Z,1µm,1.7s
RPZ Rata Peaks 91.24 169 *e*P **P 18 02 38.5 -1.5**
comp=Z,595nm,1.5s
PVIS Viseu 91.55 347 *e*P **P 18 02 41.1 -0.9**
comp=Z,1µm,1.5s
PVIS Viseu 91.55 347 *e*PP PP 18 06 07.6 -12
LBZ Lake Benmore 91.79 169 PN **P 18 02 42.5 0.0**
MTE Manteigas 91.80 347 *e*P **P 18 02 42.5 -0.7**
comp=Z,1µm,1.8s
MTE Manteigas 91.80 347 *e*PP PP 18 06 30.7 +9.5
MTE *e*S **SKSac 18 13 12.9 -0.8**
MTE *e*LQ LQ 18 28 32.2
MTE *e*LR LR 18 34 42.1
comp=Z,272µm,20.0s
MTE Manteigas 91.80 347 *e*P **P 18 02 42.1 -1.1**
comp=Z,1µm,1.4s
MTE LR LR
comp=Z,280µm,20.0s
ESDC Sonseca Array 91.89 344 P **P 18 02 42.3 -1.3**
comp=Z,121nm,0.9s,baz=9.1,slow=3.5,SNR=86
ESDC PKKPbc **PKKPbc 18 19 59.4 0.0**
comp=Z,12nm,0.9s,baz=202,slow=1.5,SNR=12
ESDC PKPPKP **P'P'df 18 28 12.3 -4.2**
comp=Z,1.5nm,0.7s,baz=271,slow=0.4,SNR=5.5
ESDC LR LR 18 48 50.8
comp=Z,375µm,20.6s,baz=15,slow=39
ESDC Sonseca Array 91.89 344 P **P 18 02 42.3 -1.3**
ESDC PKKPbc **PKKPbc 18 19 59.4 0.0**
ESDC P'P' 18 28 12.3
ESLA Sonseca Array 91.89 344 *e*P **P 18 02 42.5 -1.1**
comp=Z,527nm,1.6s
ESLA LR LR
comp=Z,2841µm,21.0s
CMAH Djebel Manchou 92.04 335 P **P 18 02 43.4 -1.0**
CAEH 'Ain El Ouahch 92.06 335 P **P 18 02 46.6 +2.2**
PAB San Pablo 92.09 344 *e*P **P 18 02 43.2 -1.4**
PAB pmax pmax
comp=Z,915nm,1.5s
PAB San Pablo 92.09 344 *e*P **P 18 02 43.2 -1.4**
comp=Z,916nm,1.5s
PAB LR LR
comp=Z,569µm,20.0s
TEIG Tepich 92.15 57 *e*P **P 18 02 44.1 -0.9**
comp=Z,786nm,2.0s
TEIG LR LR
comp=Z,127µm,20.0s
KEST Kesra 92.28 333 P **P 18 02 45.3 -0.2**
comp=Z,127nm,0.9s,baz=346,slow=0.6,SNR=66
KEST PKKPbc **PKKPbc 18 20 00.2 +1.9**
comp=Z,4.3nm,0.9s,baz=227,slow=2.0,SNR=4.6
KEST PKPPKP **P'P'df 18 28 16.6 +0.9**
comp=Z,3.0nm,1.1s,baz=257,slow=12,SNR=3.0
KEST LR LR 18 49 11.2
comp=Z,249µm,20.4s,baz=221,slow=39
KEST Kesra 92.28 333 *e*P **P 18 02 45.5 0.0**
KEST PKKPbc **PKKPbc 18 20 00.2 +1.9**
KEST P'P' 18 28 16.6

PCBR Castelo Branco 92.34 347 *e*P **P 18 02 44.5 -1.1**
comp=Z,1µm,1.7s
ABSA Djebel Ababsia 92.35 334 P **P 18 02 45.5 -0.3**
CKFL Kef-Lekhel 92.45 335 P **P 18 02 45.9 -0.4**
ODZ Otahua Downs 92.50 169 *e*P **P 18 02 45.8 +0.1**
comp=Z,3µm,1.7s
CASM Ain Smara 92.65 335 P **P 18 02 46.3 -0.9**
PTOM Tomar 92.70 347 *e*P **P 18 02 46.1 -1.1**
comp=Z,1µm,1.4s
PCIG 92.70 64 P **P 18 02 46.9 -0.7**
PMRV Marv??o 92.73 347 *e*P **P 18 02 46.5 -0.9**
comp=Z,1µm,1.5s
PMRV Marv??o 92.73 347 *e*PP PP 18 06 30.7 +2.3
PMRV *e*S SKSac 18 13 27.6 +8.8
PMRV *e*LQ LQ 18 28 40.5
PMRV *e*LR LR 18 35 13.4
comp=Z,464µm,20.0s
BDHA Al Bayda'' 92.86 294 *e*P **P 18 02 47.8 -0.9**
CCIG Comitan 92.92 63 P **P 18 02 49.0 +0.1**
SET Setif 93.02 336 P **P 18 02 50.0 +1.1**
SOR Soroa 93.06 52 *e*P P 18 02 43.8 -5.4
LBOS 93.14 294 *e*P **P 18 02 48.8 -1.2**
DHBB Dhamar BB 93.15 295 *e*P **P 18 02 47.2 -2.8**
ALMR Almeirim 93.18 347 *e*P **P 18 02 48.3 -1.1**
ALMR Almeirim 93.18 347 *e*P **P 18 02 48.3 -1.1**
PMTG Montargil 93.21 347 *e*P **P 18 02 48.4 -1.2**
comp=Z,910nm,1.5s
PMTG Montargil 93.21 347 *e*PP PP 18 06 33.8 +1.6
CART Cartagena 93.30 341 *e*P **P 18 02 50.8 +0.7**
comp=Z,274nm,1.3s
PESTR Estremoz 93.31 347 *e*P **P 18 02 48.3 -1.8**
comp=Z,851nm,1.6s
PESTR Estremoz 93.31 347 *e*PP PP 18 06 41.6 +8.6
BBSR BB Station 93.33 33 *e*P **P 18 02 50.5 +0.3**
comp=Z,4µm,2.5s
BBSR LR LR
comp=Z,173µm,20.0s
PMAFR Mafra 93.48 348 *e*P **P 18 02 50.0 -0.9**
comp=Z,1µm,1.7s
PMAFR Mafra 93.48 348 *e*PP PP 18 06 43.2 +8.9
LIS Lisbon 93.69 348 *e*P **P 18 02 51.0 -0.8**
LIS *e*S **SKSac 18 13 22.1 -2.0**
LIS AMS AMS 18 48 35.5
comp=E,226µm,19.4s
LIS Lisbon 93.69 348 *e*P **P 18 02 51.0 -0.8**
LIS *e*S **SKSac 18 13 22.1 -2.0**
LIS Lisbon 93.69 348 *e*P **P 18 02 50.9 -0.8**
LIS *e*S **SKSac 18 13 22.1 -2.0**
EVO Evora 93.70 347 *e*P **P 18 02 50.9 -1.0**
comp=E,895nm,1.6s
EVO Evora 93.70 347 *e*PP PP 18 06 46.3 +10
EVO Evora 93.70 347⇑ *i*P **P 18 02 50.9 -1.0**
comp=E,2µm,1.5s
EVO *e*R
comp=E,506µm,21.5s
RKT Rikitea 93.75 120 *e*P **P 18 02 53.8 +1.7**
comp=E,156nm,1.5s
RKT Rikitea 93.75 120 *e*PP PP 18 06 32.5 -5.5
comp=E,16µm,29.2s
RKT *e*SKSac **SKSac 18 13 20.4 -3.9**
comp=E,56µm,24.0s
RKT Rikitea 93.75 120 *e*PS PS 18 15 08.4 -8.6
comp=E,157µm,31.5s
RKT *e*SS SS 18 20 02.2 -16
comp=E,193µm,28.8s
RKT *e*LR LR 18 32 23.8
comp=E,417µm,31.2s,baz=318
PBAR Barrancos 93.90 346 *e*P **P 18 02 51.8 -1.0**
comp=E,1µm,1.6s
PBAR Barrancos 93.90 346 *e*PP PP 18 06 31.7 -5.9
EBNR Beni Rached 93.95 339 P **P 18 02 56.1 +3.0**
ECHA Ech Chlef 94.12 339 P **P 18 02 54.4 +0.6**
PBEJ Beja 94.17 347 *e*P **P 18 02 53.1 -1.0**
comp=E,1µm,1.6s
PBEJ Beja 94.17 347 *e*PP PP 18 06 35.9 -3.8
PNCL Nicolau / Gran 94.19 347 *e*P **P 18 02 53.3 -0.8**
comp=E,542nm,1.5s
PNCL Nicolau / Gran 94.19 347 *e*PP PP 18 06 43.2 +3.3
TRBA At Turbah 94.34 294 *e*P **P 18 02 52.5 -2.9**
EANR 'Ain N'Sour 94.38 339 P P 18 02 50.8 -4.3
OKGL Djebel Kef Gue 94.41 340 P P 18 03 02.0 +6.8
PCVE Castro Verde 94.59 347 *e*P **P 18 02 54.5 -1.5**
comp=E,1µm,1.5s
PCVE Castro Verde 94.59 347 *e*PP PP 18 06 42.1 -0.9
PVAQ Vaqueiros 94.76 346 *e*P **P 18 02 56.0 -0.7**
comp=E,775nm,1.3s
PVAQ Vaqueiros 94.76 346 *e*PP PP 18 06 44.7 +0.4
PVAQ *e*S **SKSac 18 13 33.8 +3.9**
PVAQ *e*LQ LQ 18 28 31.7
PVAQ *e*LR LR 18 36 20.5
comp=E,367µm,20.0s
ROSA Rosais 94.77 3 *e*P P 18 03 05.3 +8.5
comp=E,954nm,1.5s
ROSA *e*SP SP 18 15 43.7 +21
ROSA *e*SS SS 18 20 56.4 +26
PTEO Sao Teotonio 94.78 347 *e*P **P 18 02 55.6 -1.2**
comp=E,1µm,1.5s
PTEO Sao Teotonio 94.78 347 *e*PP PP 18 07 01.9 +17
PCED Cedros 94.84 3 *e*P **P 18 02 54.9 -2.2**
PMAN Manadas 94.86 3 *e*P P 18 03 02.3 +5.1
comp=E,878nm,1.5s
PMAN Manadas 94.86 3 *e*PP PP 18 06 43.7 -1.3
PMAN *e*SP SP 18 15 40.8 +17
ADH Angra Heroismo 94.86 2 *e*P **P 18 02 58.8 +1.6**
comp=E,242nm,0.9s
ETRT Tiaret 94.86 339 P P 18 02 48.5 -8.9
CALA Caldeira 94.89 3 *e*P **P 18 02 59.4 +2.0**
HOR Horta 94.95 3 *e*P P 18 02 54.0 -3.6
PBDV Barranco-do-Ve 94.95 347 *e*P **P 18 02 57.1 -0.6**
comp=E,1µm,1.6s
PBDV Barranco-do-Ve 94.95 347 *e*PP PP 18 06 50.0 +4.2
USTO Oran 94.98 340 P P 18 03 08.0 +10
PICO Pico 94.98 3 *e*P **P 18 02 59.4 +1.6**
MORF Marmelete 95.00 347 *e*P **P 18 02 57.6 -0.3**
comp=E,1µm,1.6s
MORF Marmelete 95.00 347 *e*PP PP 18 06 54.6 +8.3
MORF Marmelete 95.00 347 *e*P **P 18 02 56.8 -1.1**
MORF *e* 18 06 46.3
MORF *e*S **SKSac 18 13 28.8 -2.6**
PCAN Candelaria 95.02 3 *e*P **P 18 02 56.3 -1.6**
comp=E,430nm,1.2s
PCAN Candelaria 95.02 3 *e*PP PP 18 06 47.8 +1.5
PID Ribeirinha 95.05 3 *e*P **P 18 02 56.3 -1.8**
MGV Manicaragua 95.22 50 *e*P **P 18 02 57.6 -1.5**
SFS San Fernando 95.42 345 PFAKE 18 03 10.0 +10
SFS LR LR
comp=Z,917µm,19.0s
BART Pico Bartolome 95.77 0 *e*P P 18 03 09.3 +7.8
comp=Z,266nm,1.1s
BART *e*P PP 18 07 06.7 +15
CMLA Cha da Macela 95.78 1 *e*P P 18 03 09.0 +7.6
comp=Z,467nm,1.3s
CMLA Cha da Macela 95.78 1 *e*PP PP 18 06 48.2 -4.0
CMLA *e*SP SP 18 15 56.0 +22
CMLA *e*SS SS 18 20 52.9 +8.3
CMLA Cha da Macela 95.78 1 PFAKE 18 03 10.0 +8.6
CMLA LR LR
comp=Z,150µm,21.0s
PDA Ponta Delgada 95.79 1 *e*P P 18 03 07.7 +6.3
comp=Z,622nm,1.8s
PDA *e*P PP 18 06 09.0 -43
PSMN Pico do Norte, 96.54 0 *e*P P 18 03 08.4 +3.5
comp=Z,522nm,1.7s
PSMN Pico do Norte, 96.54 0 *e*PP PP 18 07 06.7 +8.6
PSMN *e*SP SP 18 15 32.0 -10
PSMN *e*SS **SS 18 20 57.6 +2.2**
PSMA Santa Maria 96.55 0 *e*P P 18 03 11.1 +6.2
comp=Z,351nm,1.4s
PSMA Santa Maria 96.55 0 *e*PP PP 18 06 57.7 -0.4
PSMA *e*SP SP 18 15 34.9 -7.6
TGUH Tegucigalpa,Un 97.58 60 *e*P **P 18 03 09.9 0.0**
comp=Z,718nm,1.6s
TGUH LR LR
comp=Z,110µm,22.0s
RTC Rabat Centre 97.95 345 PFAKE 18 03 20.0 +8.7
RTC LR LR
comp=Z,225µm,20.0s
LMGC Las Mercedes 98.46 49 *e*P **P 18 03 11.2 -2.6**
MOAC Moa 99.00 47 *e*P **Pdif 18 03 13.3 -2.9**
RCC Rio Carpintero 99.19 48 *e*P **Pdif 18 03 15.4 -1.7**
GTBY Guantanamo Bay 99.54 47 PFAKE 18 03 30.0 +11
GTBY LR LR
comp=Z,194µm,21.0s
MASC Masc 99.78 46 *e*P **Pdif 18 03 20.3 +0.7**

MSEY Mahe Island 100.08 274 *e*P **Pdif 18 03 19.8 -1.3**
MSEY pmax pmax
comp=Z,89nm,1.0s
MSEY MLR MLR
comp=Z,103µm,20.0s
MSEY Mahe Island 100.08 274 *e*Pdif **Pdif 18 03 19.8 -1.3**
comp=Z,89nm,1.0s
MSEY LR LR
comp=Z,103µm,20.0s
PMPST Porto Santo, M 100.09 353 *e*P **Pdif 18 03 24.9 +4.0**
comp=Z,884nm,1.4s
PMPST Porto Santo, M 100.09 353 *e*PP PP 18 07 36.2 +11
PMPS Porto Santo 100.11 353 *e*P **Pdif 18 03 24.7 +3.7**
comp=Z,1µm,1.5s
PMPS Porto Santo 100.11 353 *e*PP PP 18 07 41.7 +16
PMOZ Porto Moniz, M 100.42 354 *e*P **Pdif 18 03 28.9 +6.4**
PMOZ Porto Moniz, M 100.42 354 *e*PP PP 18 07 30.5 +2.6
PMOZ *e*S **SKSac 18 14 05.0 +5.7**
PMOZ *e*LQ LQ 18 31 46.2
PMOZ *e*LR LR 18 40 07.9
comp=Z,98µm,20.0s
PMAR Madeira 100.49 353 *e*P **Pdif 18 03 27.1 +4.2**
comp=Z,911nm,1.4s
PMAR Madeira 100.49 353 *e*PP PP 18 07 36.2 +7.6
FUL Funchal 100.57 353 *e*P **Pdif 18 03 22.8 -0.2**
comp=Z,674nm,1.5s
FUL Funchal 100.57 353 *e*PP PP 18 07 48.2 +19
JTS JuntasAbangare 101.93 61 PKKPab 18 19 48.2
comp=Z,12nm,0.9s,baz=46,slow=8.6,SNR=4.6
JTS JuntasAbangare 101.93 61*c i*P **Pdif 18 03 26.8 -2.6**
JTS JuntasAbangare 101.93 61 PFAKE 18 03 40.0 +11
JTS LR LR
comp=Z,105µm,22.0s
SDDR Presa de Saban 102.23 45 *e*Pdif **Pdif 18 03 30.5 -0.2**
comp=Z,151nm,1.6s
SDDR LR LR
comp=Z,207µm,20.0s
LRS Lares 104.91 41 *e*Pdif **Pdif 18 03 43.8 +1.2**
SJG San Juan 105.38 41 PFAKE 18 08 10.0
SJG LR LR
comp=Z,123µm,21.0s
TAM Tamanrasset 105.49 331 *e*P **Pdif 18 03 44.9 -0.4**
TAM pmax pmax
comp=Z,136nm,1.4s
TAM MLR MLR
comp=Z,366µm,22.0s
TAM Tamanrasset 105.49 331 *e*Pdif **Pdif 18 03 44.9 -0.4**
comp=Z,136nm,1.4s
TAM LR LR
comp=Z,366µm,22.0s
MTP Monte Pirata 105.66 40 *e*Pdif **Pdif 18 03 44.6 -1.3**
comp=Z,334nm,1.8s
BCIP Isla Barro Col 105.84 57 PFAKE 18 08 10.0
BCIP LR LR
comp=Z,112µm,22.0s
PAYG Puerto Ayora 107.03 72 PFAKE 18 08 10.0
PAYG LR LR
comp=Z,131µm,22.0s
SKI Saint Kitts 107.55 38 *e* **Pdif 18 03 54.1 -0.2**
ANWB Willy Bob 107.65 37 PFAKE 18 08 10.0
ANWB LR LR
comp=Z,90µm,20.0s
BPA Boggy Peak 108.18 37 *e* **PP 18 08 24.6 -1.4**
LZG Guadaloupe-1 109.02 38 *e*P **PP 18 08 37.0 +4.8**
PHG Guadaloupe-2 109.19 38 *e*P PP 18 08 42.9 +9.4
TBG Guadaloupe-3 109.34 38 *e*P **PP 18 08 34.3 -0.1**
KMBO Kilima Mbogo 109.66 290 *e*P **Pdif 18 04 02.7 -1.3**
KMBO MLR MLR
comp=Z,205µm,21.0s
KMBO Kilima Mbogo 109.66 290 *e*Pdif **Pdif 18 04 02.7 -1.3**
KMBO LR LR
comp=Z,205µm,21.0s
MRIV Mauritius Mete 109.73 261 *e*PKiKP **PKiKP 18 08 06.6 +0.3**
MDN Morne-Daniel 109.92 38 *e* **PP 18 08 37.8 -0.9**
DLPL La Plaine 109.97 38 *e* **PP 18 08 37.8 -1.3**
FDF Fort de France 110.55 38 PFAKE 18 08 20.0
FDF LR LR
comp=Z,101µm,20.0s
SDV Santo Domingo 111.14 50 *e*PKiKP **PKiKP 18 08 07.6 -1.9**
SDV LR LR
comp=Z,44µm,21.0s
RER Riviere de l'E 111.51 262 PFAKE 18 08 20.0
RER LR LR
comp=Z,46µm,20.0s
MCLT Moule a Chique 111.55 38 *e* **PP 18 08 49.2 -1.2**
SVB Belmont 111.81 39 *e* **PP 18 08 47.6 -4.8**
ROSC El Rosal 112.49 55 PKiKP **PKiKP 18 08 12.2 -0.1**
comp=Z,6.5nm,0.5s,baz=95,slow=17,SNR=3.2
ROSC PKKPab **PKKPab 18 19 10.2 -1.0**
comp=Z,31nm,0.8s,baz=81,slow=20,SNR=5.7
ROSC PKKP **PKKPdf 18 19 19.1 +0.3**
comp=Z,19nm,0.7s,baz=96,slow=21,SNR=4.6
ROSC El Rosal 112.49 55 PKiKP **PKiKP 18 08 12.2 -0.1**
ROSC PKKPab **PKKPab 18 19 10.2 -1.0**
ROSC PKKP **PKKPdf 18 19 19.1 +0.3**
BBGH Gun Hill 112.64 37 PFAKE 18 08 20.0
BBGH LR LR
comp=Z,158µm,22.0s
GRGR Grenville 112.65 40 PFAKE 18 08 20.0
GRGR LR LR
comp=Z,76µm,19.0s
RPN Rapa Nui 112.80 106 PFAKE 18 08 20.0
RPN LR LR
comp=Z,108µm,22.0s
MBAR Mbarara 113.36 296 PFAKE 18 08 30.0
MBAR LR LR
comp=Z,777nm,21.0s
DRV Dumont d'Urvil 113.77 187 Pdif **Pdif 18 04 19.0 -1.5**
DRV Dumont d'Urvil 113.77 187 PP PP 18 08 51.0 -16
DRV SKS **SKSac 18 14 56.0 +0.9**
DRV SP **SP 18 18 34.0 -4.3**
DRV SS SS 18 25 14.0 +21
DRV Dumont d'Urvil 113.77 187 L L 18 36 00.0
DRV R 18 44 00.0
OTAV Otavalo 113.80 62 *e*PKiKP **PKiKP 18 08 15.8 +1.0**
OTAV LR LR
comp=Z,63µm,21.0s
TOSP Speyside 113.88 39 *e* **Pdif 18 04 24.3 +1.9**
OPO Ambohidratompo115.60 270 PKKPab PKKPab 18 18 52.7 -2.4
comp=Z,8.9nm,1.1s,baz=231,slow=8.4,SNR=4.0
OPO Ambohidratompo115.60 270 PKKPab PKKPab 18 18 52.7 -2.4
TORD Torodi Ar. Bea 115.75 331 PKP **PKPdf 18 08 16.9 -1.0**
comp=Z,25nm,0.8s,baz=2.4,slow=1.6,SNR=16
TORD PP **PP 18 09 15.0 -5.1**
comp=Z,127nm,1.1s,baz=24,slow=3.2,SNR=7.5
TORD PKKPbc **PKKPbc 18 18 45.8 -2.3**
comp=Z,6.8nm,0.9s,baz=238,slow=2.3,SNR=4.1
TORD PKKPab **PKKPab 18 18 58.5 +1.0**
comp=Z,15nm,1.0s,baz=207,slow=1.9,SNR=4.8
TORD Torodi Ar. Bea 115.75 331 PKP **PKPdf 18 08 16.9 -1.0**
TORD PP **PP 18 09 15.0 -5.1**
TORD PKKPbc **PKKPbc 18 18 45.8 -2.3**
TORD PKKPab **PKKPab 18 18 58.5 +1.0**
ABPO Ambohimpanom 115.88 269 *e*PKiKP **PKPdf 18 08 17.6 -0.6**
ABPO MLR MLR
comp=Z,64µm,22.0s
ABPO Ambohimpanom 115.88 269 *e*PKPdf **PKPdf 18 08 17.6 -0.6**
ABPO LR LR
comp=Z,64µm,22.0s
CASY Casey 117.87 199 *e*P **PKPdf 18 08 19.6 -0.7**
CASY Casey 117.87 199 *e*PKPdf **PKPdf 18 08 20.8 +0.5**
CASY LR LR
comp=Z,25µm,20.0s
SACV Santiago Islan 118.48 359 *e*PKPdf **PKPdf 18 08 22.4 -0.8**
SACV LR LR
comp=Z,81µm,20.0s
PAF Port-aux-Franc 120.74 229 PFAKE 18 08 40.0 +14
PAF LR LR
comp=Z,33µm,22.0s
MIR Mirnyy 122.57 205⇑ *i*PKIKP **PKPdf 18 08 28.0 -1.3**
MIR *i* **PP 18 10 06.0 -1.6**
MIR *e*SS **PS 18 20 08.0 +5.9**
MIR pmax pmax
comp=Z,2µm,1.2s
MIR pmax pmax
comp=Z,4µm,11.0s
DBIC Dimbokro 123.87 336 PKP **PKPdf 18 08 32.7 -0.9**
comp=Z,71nm,0.8s,baz=22,slow=1.5,SNR=37
DBIC PP **PP 18 10 12.6 -3.3**
comp=Z,134nm,1.1s,baz=353,slow=7.2,SNR=5.9
DBIC PKKPab **PKKPab 18 18 22.9 +0.7**
comp=Z,19nm,0.9s,baz=170,slow=6.5,SNR=3.4
DBIC Dimbokro 123.87 336 PKIKP **PKPdf 18 08 32.7 -0.9**
DBIC 18 10 12.6
DBIC pmax pmax

comp=Z,71nm,0.8s
DBIC pmax pmax
comp=Z,134nm,1.1s
DBIC Dimbokro 123.87 336 *e*PKPdf **PKPdf** **18 08 32.6 -1.1**
DBIC PKP **PKPdf** **18 08 32.7 -0.9**
DBIC PP **PP** **18 10 12.6 -3.3**
DBIC PKKPab **PKKPab** **18 18 22.9 +0.7**
DBIC LR LR
comp=Z,30µm,22.0s
MSKU Masuku 123.98 312 PKP **PKPdf** **18 08 32.3 -1.6**
MSKU Masuku 123.98 312 PKP **PKPdf** **18 08 32.2 -1.6**
VNDA Vanda 124.15 178 PFAKE 18 08 40.0 +7.8
VNDA LR LR
comp=Z,25µm,21.0s
NNA Nana 124.25 69 *e*PKIKP **PKPdf** **18 08 33.3 -1.0**
NNA MLR MLR
comp=Z,101µm,22.0s
NNA Nana 124.25 69 *e*PKPdf **PKPdf** **18 08 33.3 -1.0**
NNA LR LR
comp=Z,101µm,22.0s
LIC Lamto 124.35 336 ⇑*i*PKIKP **PKPdf** **18 08 33.7 -0.8**
comp=Z,1µm,1.3s
LIC *e*R
comp=Z,387µm,21.8s
SBA Scott Base 124.62 177 *e*PKIKP **PKPdf** **18 08 32.7 -0.4**
SBA MLR MLR
comp=Z,37µm,22.0s
SBA Scott Base 124.62 177 *e*PKPdf **PKPdf** **18 08 32.6 -0.4**
SBA LR LR
comp=Z,37µm,22.0s
SAML Samuel 130.07 53 *e*PKPdf **PKPdf** **18 08 44.9 -0.5**
SAML LR LR
comp=Z,153µm,21.0s
POGA Pongola 132.12 273 *e*P PKPdf 18 08 39.0 -10
POGA Pongola 132.12 273 AMS AMS 19 48 45.2
comp=Z,81µm,19.9s
MAW Mawson 133.04 212 PKP **PKPdf** **18 08 48.8 -0.5**
comp=Z,57nm,0.9s,baz=44,slow=0.4,SNR=4.8
MAW PP **PP** **18 11 14.1 -2.4**
comp=Z,12nm,0.8s,baz=98,slow=16,SNR=1.5
MAW Mawson 133.04 212 *e*P **PKPdf** **18 08 46.1 -3.2**
comp=Z,87nm,0.4s
MAW Mawson 133.04 212 PKIKP **PKPdf** **18 08 48.8 -0.5**
MAW 18 11 14.1
MAW MLR MLR
comp=Z,36µm,22.0s
MAW Mawson 133.04 212 PKP **PKPdf** **18 08 48.8 -0.5**
MAW PP **PP** **18 11 14.1 -2.4**
MAW LR LR
comp=Z,36µm,22.0s
SLR Silverton 133.34 278 *e*P PKPdf 18 08 39.4 -12
SLR AMS AMS 19 17 42.5
comp=Z,95µm,22.3s
ERPM east rand prop 133.76 277 *e*P PKPdf 18 08 43.1 -9.2
LBTB Lobatse 134.69 281 PKP **PKPdf** **18 08 53.7 -0.2**
comp=Z,78nm,0.7s
LBTB PP **PP** **18 11 24.3 -3.5**
comp=Z,38nm,1.0s,baz=35,slow=5.5,SNR=2.8
LBTB SKKPbc SKKPbc 18 21 21.1 -5.7
comp=Z,18nm,1.0s,baz=250,slow=8.8,SNR=3.5
LBTB Lobatse 134.69 281 *e*P PKPpre 18 08 41.4
LBTB Lobatse 134.69 281 *e*PKHKP PKPpre 18 08 41.0
LBTB 18 08 53.7
LBTB 18 11 24.3
LBTB MLR MLR
comp=Z,23µm,21.0s
LBTB Lobatse 134.69 281 *e*PKPpre PKPpre 18 08 41.0
LBTB PKP **PKPdf** **18 08 53.7 -0.2**
LBTB PP **PP** **18 11 24.3 -3.5**
LBTB SKKPbc SKKPbc 18 21 21.1 -5.7
LBTB LR LR
comp=Z,23µm,21.0s
PRYS Parys 134.74 277 *e*P PKPdf 18 08 47.0 -7.1
PRYS AMS AMS 19 18 46.5
comp=Z,58µm,20.4s
SEK Senekal 135.45 276 *e*P PKPdf 18 08 44.2 -11
SEK AMS AMS 19 19 18.1
comp=Z,66µm,22.0s
KSD Kokstad 135.59 272 *e*P **PKPdf** **18 08 50.5 -4.9**
KSD AMS AMS 19 21 26.0
comp=Z,259µm,20.1s
TSUM Tsumeb 135.83 294 *e*P PKPpre 18 08 45.2
TSUM Tsumeb 135.83 294 *e*PKPpre PKPpre 18 08 44.0
TSUM LR LR
comp=Z,148µm,22.0s
QSPA South Pole Qui 136.57 180 PKP **PKPdf** **18 08 54.4 -1.7**
comp=Z,84nm,0.9s,baz=341,slow=1.8,SNR=28
QSPA PP **PP** **18 11 40.0 +1.1**
comp=Z,23nm,0.8s,baz=359,slow=16,SNR=1.6
QSPA SKKPbc SKKPbc 18 21 17.6 -6.5
comp=Z,55nm,1.0s,baz=232,slow=0.6,SNR=4.0
QSPA South Pole Qui 136.57 180 *e*PKPpre PKPpre 18 08 42.1
QSPA PKP **PKPdf** **18 08 54.4 -1.7**
QSPA PP **PP** **18 11 40.0 +1.1**
QSPA SKKPbc SKKPbc 18 21 17.6 -6.5
QSPA LR LR
comp=Z,44µm,20.0s
SIV San Ignacio 136.98 57 PKhKP PKPpre 18 08 46.7
comp=Z,13nm,0.8s,baz=325,slow=2.4,SNR=14
SIV PKP **PKPdf** **18 08 57.8 -0.6**
comp=Z,109nm,0.9s,baz=326,slow=0.4,SNR=43
SIV PP **PP** **18 11 42.0 +0.3**
comp=Z,22nm,1.0s,baz=220,slow=15,SNR=2.7
SIV San Ignacio 136.98 57 PKPpre PKPpre 18 08 46.7
SIV PKP **PKPdf** **18 08 57.8 -0.6**
SIV PP **PP** **18 11 42.0 +0.3**
LVC Limon Verde 137.15 71 *e*PKPpre PKPpre 18 08 46.7
LVC LR LR
comp=Z,125µm,22.0s
RCBR Riachuelo 138.03 17 PKhKP PKPpre 18 08 50.4
comp=Z,12nm,0.8s,baz=356,slow=7.2,SNR=3.1
RCBR PKP **PKPdf** **18 08 59.3 -1.1**
comp=Z,14nm,0.8s,baz=347,slow=3.3,SNR=7.7
RCBR PP **PP** **18 11 49.1 +1.6**
comp=Z,10nm,0.8s,baz=105,slow=8.1,SNR=2.0
RCBR Riachuelo 138.03 17 *e*PKPpre PKPpre 18 08 50.2
RCBR PKPpre PKPpre 18 08 50.4
RCBR PKP **PKPdf** **18 08 59.2 -1.1**
RCBR PP **PP** **18 11 49.1 +1.6**
RCBR LR LR
comp=Z,119µm,21.0s
HVD Gariep Dam 138.32 275 *e*P **PKPdf** **18 08 56.8 -3.7**
HVD AMS AMS 19 30 39.5
comp=Z,129µm,20.8s
GRM Grahamstown 139.22 270 *e*P PKPdf 18 08 56.1 -5.9
GRM AMS AMS 19 32 56.9
comp=Z,126µm,20.7s
SOE Somerset East 139.52 272 *e*P PKPdf 18 08 56.0 -6.6
SOE AMS AMS 19 25 28.8
comp=Z,81µm,21.0s
LCO Las Campanas 140.26 80 *e*PKPpre PKPpre 18 08 55.5
LCO LR LR
comp=Z,191µm,20.0s
LCO Las Campanas 140.26 80 ⇑*i*P PKPpre 18 08 53.9
TLL Tololo Astrono 140.91 81 ⇑*i*P PKPdf 18 08 53.9 -12
SUR Sutherland 142.58 276 PKhKP PKPpre 18 09 03.2
comp=Z,101nm,1.0s,baz=34,slow=1.3,SNR=14
SUR Sutherland 142.58 276 *e*P PKPpre 18 09 03.0
SUR AMS AMS 19 26 14.1
comp=Z,72µm,20.6s
SUR Sutherland 142.58 276 PKPpre PKPpre 18 09 03.2
SUR *e*PKPpre PKPpre 18 09 04.5
SUR LR LR
comp=Z,160µm,22.0s
CVNA Calvinia 142.76 278 *e*P PKPdf 18 09 02.2 -6.3
CVNA AMS AMS 19 21 48.0
comp=Z,172µm,19.9s
PEL Peldehue 142.78 85 ⇓*i*P PKPdf 18 09 01.6 -6.8
CLCH Cerro Calan 143.02 85 ⇑*i*P PKPab 18 09 03.1 -1.0
KOMG Komaggas 143.25 282 *e*P PKPbc 18 09 05.9 -0.5
KOMG AMS AMS 19 16 40.9
comp=Z,94µm,22.6s
BDFB Brasilia 143.37 40 PKhKP PKPpre 18 09 05.4
comp=Z,240nm,0.9s,baz=300,slow=3.5,SNR=107
BDFB PP **PP** **18 12 18.9 -1.8**
comp=Z,46nm,0.9s,baz=149,slow=27,SNR=1.9
BDFB Brasilia 143.37 40 PKIKP PKPab 18 09 05.4 -0.6
BDFB 18 12 18.9
BDFB Brasilia 143.37 40 PKPpre PKPpre 18 09 05.4
BDFB PP **PP** **18 12 18.9 -1.8**
LMEL Las Melosas 143.51 86 ⇑*i*P PKPab 18 09 05.3 -0.9
CFAA Coronel Fontan 143.53 81 PKhKP PKPpre 18 09 05.6
comp=Z,32nm,0.9s,baz=290,slow=2.9,SNR=3.2
CFAA PP **PP** **18 12 22.6 +0.2**
comp=Z,4.0nm,0.8s,baz=320,slow=11,SNR=1.4
CFAA Coronel Fontan 143.53 81 PKPpre PKPpre 18 09 05.6
CFAA PP **PP** **18 12 22.6 +0.2**
CCHI Chillan 143.72 91 ⇑*i*P PKPab 18 09 05.9 -0.8
CER Ceres 144.19 276 *e*P PKPbc 18 09 09.0 -0.1
CER AMS AMS 19 13 23.2
comp=Z,40µm,24.1s
ELIM Elim 144.58 274 ⇑*i*P **PKPab** **18 09 09.3 -0.8**
SHEL Horse Pasture 145.40 327 *e*PKIKP **PKPab** **18 09 13.4 -0.1**
SHEL MLR MLR
comp=Z,110µm,22.0s
SHEL Horse Pasture 145.40 327 *e*PKPdf **PKPab** **18 09 13.4 -0.1**
SHEL LR LR
comp=Z,110µm,22.0s
ILCA Isla Las Cabra 145.98 100 ⇑*i*P **PKPdf** **18 09 12.7 -0.8**
PLCA Paso Flores 146.76 96 PKPbc **PKPdf** **18 09 14.5 -0.6**
comp=Z,251nm,0.9s,baz=275,slow=3.5,SNR=121
PLCA PP **PP** **18 12 42.4 +0.7**
comp=Z,12nm,0.8s,baz=306,slow=14,SNR=1.6
PLCA PKKP **PKKPdf** **18 18 13.2 -1.2**
comp=Z,10nm,1.0s,baz=60,slow=3.8,SNR=2.9
PLCA Paso Flores 146.76 96 PKIKP **PKPdf** **18 09 14.5 -0.6**
PLCA 18 12 42.4
PLCA pmax pmax
comp=Z,251nm,0.9s
PLCA Paso Flores 146.76 96 *e*PKPdf **PKPdf** **18 09 14.2 -0.8**
PLCA PKPbc **PKPdf** **18 09 14.5 -0.6**
PLCA PP **PP** **18 12 42.4 +0.7**
PLCA PKKP **PKKPdf** **18 18 13.2 -1.2**
COYC Coyhaique 147.61 105 ⇓*i*P **PKPdf** **18 09 11.5 -4.7**
NVL N'lazarevskaya 150.31 203 *c i*PKIKP **PKPbc** **18 09 24.1 -0.9**
NVL *e* 18 13 03.7
NVL *e* 18 16 32.9
NVL *e* 18 25 47.8
MAIT Maitri 150.33 203 *e*P **PKPbc** **18 09 25.0 -0.1**
MAIT *e* 18 09 30.4
SPB Sao Paulo 150.52 46 *e*PKPdf **PKPdf** **18 09 22.6 +1.0**
SPB LR LR
comp=Z,114µm,21.0s
TRQA Tornquist 151.39 86 *e*PKPdf **PKPdf** **18 09 22.2 -0.3**
TRQA LR LR
comp=Z,130µm,22.0s
CAM4 Nova Friburgo 151.65 37 ⇑*i*P **PKPab** **18 09 34.7 -4.0**
CAM4 *i* 18 09 42.3
CAM4 *i* 18 09 44.9
CAM4 *i* 18 09 49.5
CAM4 *i* 18 09 53.7
CAM4 *i* 18 10 01.7
CAM4 *i* 18 10 24.2
CAM4 *i* 18 11 03.2
PMSA Palmer Station 152.21 144 PKP **PKPdf** **18 09 21.7 -1.1**
comp=Z,32nm,1.1s,baz=99,slow=5.0,SNR=0.7
PMSA PKPbc **PKPbc** **18 09 29.4 -0.1**
comp=Z,449nm,0.9s,baz=207,slow=1.3,SNR=6.4
PMSA Palmer Station 152.21 144 PKP **PKPdf** **18 09 21.7 -1.1**
PMSA *e*PKPbc **PKPbc** **18 09 28.6 -0.9**
PMSA PKPbc **PKPbc** **18 09 29.4 -0.1**
PMSA LR LR
comp=Z,85µm,21.0s
LPA La Plata 152.43 76 PKIKP **PKPdf** **18 09 23.0 -1.1**
LPA PKIKP **PKiKP** **18 09 32.0 +0.7**
LPA La Plata 152.43 76 PKP **PKPab** **18 09 43.0 +1.6**
LPA SS SS 18 32 42.0 0.0
SNAA Sanae 153.03 195 *e* **PKPdf** **18 09 22.5 -1.5**
SNAA Sanae 153.03 195 *e*PKIKP **PKPdf** **18 09 21.0 -3.0**
SNAA Sanae 153.03 195 *e*PKPdf **PKPdf** **18 09 21.0 -3.0**
VNA2 Neumayer--Watz 154.43 193 *e* **PKPdf** **18 09 25.0 -0.9**
VNA1 Neumayer--Stat 154.81 193 *e* **PKPdf** **18 09 25.8 -0.6**
VNA1 *e* 18 09 40.5
EFI East Falkland 157.85 115 *e*PKIKP **PKPdf** **18 09 29.1 -1.8**
EFI MLR MLR
comp=Z,164µm,20.0s
EFI East Falkland 157.85 115 *e*PKPdf **PKPdf** **18 09 29.1 -1.8**
EFI LR LR
comp=Z,164µm,20.0s
TRIS Tristan da Cun 166.57 312 PFAKE 18 09 50.0 +10
TRIS LR LR
comp=Z,146µm,20.0s

*LDG **15** 17:56:27.4±0.5,47.44N×11.57E,h10km,Ml2.6/3,Error ellipse: s-maj=12.2km s-min=7.3km az=48.0*
*ISCJB **15** 17:56:31.5±0.3,47.44N±0.02×10.99E±0.02,h15km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=152.1*
*ZUR **15** 17:56:32.4,47.25N×10.96E,h-5km±9km,ML2.0/4*
*VIE **15** 17:56:32.4±0.4,47.30N×10.93E,h13km±3km, mb1.0/1, ML2.2/6, Error ellipse: s-maj=1.7km s-min=1.3km az=161.0 11 km W of Telfs*
*CSEM **15** 17:56:32.3±0.1,47.34N×10.96E,h15km,ML2.5/9, Error ellipse: s-maj=3.2km s-min=2.2km az=166.0*
*BGR **15** 17:56:33.7±0.3,47.37N×10.95E,h10km,ML2.3/14, Error ellipse: s-maj=3.3km s-min=3.3km az=11.0*
*PRU **15** 17:56:33.1,47.35N×10.98E,h0km*
ISC 15 17:56:32.9±0.8, 47.32N±0.02×10.94E±0.01, h16km±4km, n76,σ1.18/113, 9C-12D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**0.12**	**80**	*e*Pg		**Pg**		**17 56 36.2**	**-0.4**
	68nm,0.1s,SNR=139								
MOTA				⇑*i*Sg		**Sg**		**17 56 38.7**	**-0.3**
	96nm,0.1s								
MOTA	**Moosalm**	**0.12**	**80**	Pg		**Pg**		**17 56 36.2**	**-0.4**
	68nm,0.1s,SNR=139								
MOTA				Sg		**Sg**		**17 56 38.7**	**-0.3**
	96nm,0.1s								
RETA	**Reutte**	**0.20**	**324**	⇑*e*Pg		**Pg**		**17 56 37.5**	**-0.2**
	37nm,0.1s,SNR=50								
RETA				⇓*i*Sg		**Sg**		**17 56 41.0**	**0.0**
	55nm,0.1s								
RETA	**Reutte**	**0.20**	**324**	Pg		**Pg**		**17 56 37.5**	**-0.2**
	37nm,0.1s,SNR=50								
RETA				Sg		**Sg**		**17 56 41.0**	**0.0**
	55nm,0.1s								
PART	**Garmisch-Parte**	**0.21**	**34**	⇓*i*Pg		**Pg**		**17 56 37.7**	**-0.1**
PART				⇓*i*Sg		**Sg**		**17 56 41.5**	**+0.4**
PART	**Garmisch-Parte**	**0.21**	**34**	Pg		**Pg**		**17 56 37.7**	**-0.1**
PART				Sg		**Sg**		**17 56 41.5**	**+0.4**
SQTA	**Sankt Quirin**	**0.21**	**119**	⇓*i*Pg		**Pg**		**17 56 37.5**	**-0.4**
SQTA	**Sankt Quirin**	**0.21**	**119**	Pg		**Pg**		**17 56 37.5**	**-0.4**
FETA	**Feichten**	**0.34**	**205**	⇓*i*Pg		**Pg**		**17 56 39.2**	**-0.7**
	8.8nm,0.1s								
FETA				⇓*i*Sg		**Sg**		**17 56 43.4**	**-1.3**
	22nm,0.1s								
FETA	**Feichten**	**0.34**	**205**	Pg		**Pg**		**17 56 39.2**	**-0.7**
	8.8nm,0.1s								
FETA				Sg		**Sg**		**17 56 43.4**	**-1.3**
	22nm,0.1s								
WATA	**Walderalm**	**0.43**	**88**	⇓*e*Pg		**Pg**		**17 56 41.0**	**-0.7**
	4.8nm,0.1s,SNR=11								
WATA	**Walderalm**	**0.43**	**88**	Pg		**Pg**		**17 56 41.0**	**-0.7**
	4.8nm,0.1s,SNR=11								
OBER	**Oberstdorf**	**0.45**	**281**	⇑*i*Pg		**Pg**		**17 56 41.9**	**0.0**
OBER				⇑*i*Sg		**Sb**		**17 56 49.3**	**+0.4**
OBER	**Oberstdorf**	**0.45**	**281**	Pg		**Pg**		**17 56 41.9**	**0.0**
OBER				Sg		**Sb**		**17 56 49.3**	**+0.4**
WTTA	**Wattenberg**	**0.48**	**97**	*e*Pg		**Pg**		**17 56 42.1**	**-0.5**
	SNR=28								
WTTA				*e*Sg		**Sg**		**17 56 49.0**	**-0.1**
WTTA	**Wattenberg**	**0.48**	**97**	⇑*e*Pg		**Pg**		**17 56 42.0**	**-0.5**
	8.8nm,0.2s,SNR=13								
WTTA				⇑*i*Sg		**Sg**		**17 56 48.9**	**-0.1**
	38nm,0.2s								
WTTA	**Wattenberg**	**0.48**	**97**	Pg		**Pg**		**17 56 42.1**	**-0.5**
	SNR=28								
WTTA				Sg		**Sg**		**17 56 48.9**	**-0.1**
	38nm,0.2s								
SCE	**Schlegeis**	**0.60**	**118**	⇑*i*Pg		**Pg**		**17 56 43.9**	**-0.9**
SCE				⇑*i*Sg		**Sg**		**17 56 51.9**	**-0.9**
SCE	**Schlegeis**	**0.60**	**118**	Pg		**Pg**		**17 56 43.9**	**-0.9**
SCE				Sg		**Sg**		**17 56 51.9**	**-0.9**
DAVA	**Damuels**	**0.72**	**267**	*e*Pg		**Pg**		**17 56 47.0**	**0.0**
	SNR=7.6								
DAVA				*e*Sg		**Sb**		**17 56 58.4**	**+1.5**
DAVA	**Damuels**	**0.72**	**267**	⇑*e*Pg		**Pg**		**17 56 46.6**	**-0.4**
	5.4nm,0.2s,SNR=8.4								
DAVA				⇓*i*Sg		**Sg**		**17 56 56.1**	**-0.5**
	25nm,0.2s								
DAVA	**Damuels**	**0.72**	**267**	Pg		**Pg**		**17 56 47.0**	**0.0**
	SNR=7.6								
DAVA				Sg		**Sg**		**17 56 56.1**	**-0.5**
	25nm,0.2s								
FUORN	**Ofenpass-Fuorn**	**0.84**	**213**	⇓*i*Pg		**Pg**		**17 56 48.5**	**-0.8**
	36nm,0.4s								
FUORN	**Ofenpass-Fuorn**	**0.84**	**213**	⇓*i*Pg		**Pg**		**17 56 48.5**	**-0.8**
	36nm,0.4s								
DAVOX	**Davos/Dischmat**	**0.91**	**233**	⇓*i*Pg		**Pb**		**17 56 49.5**	**-0.9**
	70nm,0.3s								
DAVOX	**Davos/Dischmat**	**0.91**	**233**	⇓*i*Pg		**Pb**		**17 56 49.5**	**-0.9**
	70nm,0.3s								
LIENZ	**Kamor/St.Gall**	**0.98**	**269**	*e*Pn		**Pb**		**17 56 51.9**	**+0.2**
	107nm,0.4s								
LIENZ	**Kamor/St.Gall**	**0.98**	**269**	*e*Pn		**Pb**		**17 56 51.9**	**+0.2**
	107nm,0.4s								
PLONS	**Plons/SG**	**1.10**	**256**	*e*Pn		**Pn**		**17 56 53.7**	**0.0**
	71nm,0.3s								
PLONS	**Plons/SG**	**1.10**	**256**	*e*Pn		**Pn**		**17 56 53.7**	**0.0**
	71nm,0.3s								
RJOB	**Jochberg**	**1.32**	**71**	*e*Pg		**Pg**		**17 56 58.6**	**+0.3**
	SNR=8.4								
RJOB				*e*Sg		**Sg**		**17 57 17.9**	**+2.2**
RJOB	**Jochberg**	**1.32**	**71**	Pg		**Pg**		**17 56 58.7**	**+0.3**
	SNR=8.4								
RJOB				Sg		**Sg**		**17 57 17.9**	**+2.2**
KBA	**Koelnbreinsper**	**1.66**	**98**	*e*Pg		**Pg**		**17 57 04.8**	**0.0**
	SNR=4.0								
KBA				*e*Sg		**Sg**		**17 57 25.6**	**-0.8**
KBA	**Koelnbreinsper**	**1.66**	**98**	Pg		**Pg**		**17 57 04.8**	**0.0**
	SNR=4.0								
KBA				Sg		**Sg**		**17 57 25.6**	**-0.8**
BFO	**Black Forest**	**2.02**	**301**	*e*Sg		**Sg**		**17 57 37.2**	**-0.8**
BFO	**Black Forest**	**2.02**	**301**	Sg		**Sg**		**17 57 37.2**	**-0.8**
WET	**Wettzell**	**2.24**	**35**	*e*Pn		**Pn**		**17 57 10.1**	**+0.8**
	SNR=3.1								
WET				*e*Sg		**Sg**		**17 57 43.2**	**-1.6**
WET	**Wettzell**	**2.24**	**35**	Pn		**Pn**		**17 57 10.1**	**+0.8**
	SNR=3.1								
WET				Sg		**Sg**		**17 57 43.2**	**-1.6**
MOA	**Molln**	**2.31**	**76**	*e*Pg		**Pb**		**17 57 15.4**	**+1.2**
	SNR=8.6								
MOA				*e*Sg		**Sg**		**17 57 47.1**	**-0.2**
MOA	**Molln**	**2.31**	**76**	Pg		**Pb**		**17 57 15.4**	**+1.2**
	SNR=8.6								
MOA				Sg		**Sg**		**17 57 47.1**	**-0.2**
GEC2	**GERESS Array S**	**2.40**	**50**	*e*Pn		**Pn**		**17 57 11.7**	**+0.1**
	SNR=4.5								
GEC2				*e*Pg		**Pg**		**17 57 17.7**	**-1.1**
	SNR=3.9								
GEC2				*e*Sg		**Sg**		**17 57 48.9**	**-1.1**
GEC2	**GERESS Array S**	**2.40**	**50**	Pn		**Pn**		**17 57 11.7**	**+0.1**
	SNR=4.5								
KHC	**Kasperske Hory**	**2.53**	**43**	*e*PG		**Pb**		**17 57 18.3**	**+0.4**
KHC				*e*SG		**Sg**		**17 57 52.4**	**-1.7**
	comp=Z,5.4nm,0.3s								
KHC	**Kasperske Hory**	**2.53**	**43**	Pg		**Pb**		**17 57 18.3**	**+0.4**
KHC				Sg		**Sg**		**17 57 52.4**	**-1.7**
	5.4nm,0.3s								
ROTZ	**Rotzenmuhle**	**2.59**	**19**	*e*Sg		**Sg**		**17 57 54.1**	**-1.8**
ROTZ	**Rotzenmuhle**	**2.59**	**19**	Sg		**Sg**		**17 57 54.1**	**-1.8**
CDF	**Champ du Feu**	**2.69**	**295**	*e*Pn		**Pn**		**17 57 13.8**	**-1.9**
CDF	**Champ du Feu**	**2.69**	**295**	*e*Pg		**Pg**		**17 57 24.0**	**-0.5**
CDF				*e*Sn		**Sn**		**17 57 48.3**	**+0.3**
	2.8nm,0.2s								
CDF	**Champ du Feu**	**2.69**	**295**	*e*Pn		**Pn**		**17 57 13.8**	**-1.9**
CDF	**Champ du Feu**	**2.69**	**295**	*e*Pg		**Pg**		**17 57 24.0**	**-0.5**
CDF				*e*Sn		**Sn**		**17 57 48.3**	**+0.3**
	1.4nm,0.2s								
HINF	**Hinteralfeld**	**2.81**	**282**	*e*Pn		**Pn**		**17 57 16.1**	**-1.1**
HINF	**Hinteralfeld**	**2.81**	**282**	*e*Pg		**Pg**		**17 57 26.9**	**+0.2**
HINF				*e*Sn		**Sn**		**17 57 51.4**	**+0.6**
HINF				*e*Sg		**Sg**		**17 58 08.4**	**+5.3**
	3.2nm,0.3s								
HINF	**Hinteralfeld**	**2.81**	**282**	*e*Pn		**Pn**		**17 57 16.1**	**-1.1**
HINF	**Hinteralfeld**	**2.81**	**282**	*e*Pg		**Pg**		**17 57 26.9**	**+0.2**
HINF				*e*Sn		**Sn**		**17 57 51.4**	**+0.6**
NKC	**Novy Kostel**	**3.08**	**18**	*e*SG		**Sg**		**17 58 11.1**	**-0.6**
	comp=Z,4.4nm,0.3s								
NKC	**Novy Kostel**	**3.08**	**18**	Sg		**Sg**		**17 58 11.1**	**-0.6**
	4.4nm,0.3s								
WERN	**Wernitzgruen**	**3.11**	**17**	*e*Sg		**Sg**		**17 58 10.7**	**-2.2**
WERN	**Wernitzgruen**	**3.11**	**17**	Sg		**Sg**		**17 58 10.7**	**-2.2**
HAU	**Haudompre**	**3.18**	**284**	*e*P		**Pn**		**17 57 24.0**	**+1.8**
HAU	**Haudompre**	**3.18**	**284**	*e*Pg		**Pg**		**17 57 32.9**	**-0.8**
HAU				*e*Sn		**Sn**		**17 58 00.7**	**+0.9**
	5.4nm,0.3s								
HAU	**Haudompre**	**3.18**	**284**	*e*P		**Pn**		**17 57 24.0**	**+1.8**
HAU	**Haudompre**	**3.18**	**284**	*e*Pg		**Pg**		**17 57 32.9**	**-0.8**
HAU				*e*Sn		**Sn**		**17 58 00.7**	**+0.9**
	2.7nm,0.3s								
GUNZ	**Gunzen**	**3.18**	**16**	*e*Sg		**Sg**		**17 58 13.6**	**-1.3**
GUNZ	**Gunzen**	**3.18**	**16**	Sg		**Sg**		**17 58 13.6**	**-1.3**
TANN	**Tannenbergstha**	**3.25**	**17**	*e*Sg		**Sg**		**17 58 15.6**	**-1.7**
TANN	**Tannenbergstha**	**3.25**	**17**	Sg		**Sg**		**17 58 15.6**	**-1.7**
WERD	**Werda**	**3.25**	**16**	*e*Sg		**Sg**		**17 58 15.0**	**-2.3**
WERD	**Werda**	**3.25**	**16**	Sg		**Sg**		**17 58 15.0**	**-2.3**
PLN	**Plauen**	**3.26**	**14**	*e*Sg		**Sg**		**17 58 15.3**	**-2.4**
PLN	**Plauen**	**3.26**	**14**	Sg		**Sg**		**17 58 15.3**	**-2.4**
MOX	**Moxa**	**3.35**	**7**	*e*Sg		**Sg**		**17 58 18.8**	**-1.7**
MOX	**Moxa**	**3.35**	**7**	Sg		**Sg**		**17 58 18.8**	**-1.7**
PRU	**Pruhonice**	**3.58**	**41**	*e*SG		**Sg**		**17 58 26.5**	**-1.3**
PRU	**Pruhonice**	**3.58**	**41**	Sg		**Sg**		**17 58 26.5**	**-1.3**
DPC	**Dobruska-Polom**	**4.67**	**48**	*e*SG		**Sg**		**17 59 02.1**	**-0.6**
DPC	**Dobruska-Polom**	**4.67**	**48**	Sg		**Sg**		**17 59 02.1**	**-0.6**

*DJA **15** 18:19:33,1.20S×126.92E,h14km,MLv4.2/6*
IDC 15 18:19:28.1±1.5, 1.12S×127.06E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=38.5km s-min=23.9km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.26**	**242**	Pn		Pn		18 21 29.7	+0.4
	2.2nm,0.3s,baz=59,slow=5.9,SNR=7.2								
KAPI				Sn		Sn		18 23 02.2	-1.1
	0.5nm,0.3s,baz=77,slow=17,SNR=2.4								
WRA	**Warramunga Arr**	**20.02**	**160**	P		P		18 24 02.1	-0.6
	1.3nm,0.6s,baz=340,slow=11,SNR=13								
ASAR	**Alice Springs**	**23.37**	**164**	P		P		18 24 38.0	-0.6
	2.8nm,0.8s,baz=345,slow=12,SNR=22								
STKA	**Stephens Creek**	**33.53**	**157**	P		P		18 26 10.4	+0.8
	3.0nm,0.9s,baz=333,slow=9.0,SNR=2.9								
MKAR	**Makanchi Array**	**61.73**	**327**	P		P		18 29 48.3	-0.1
	4.3nm,1.0s,baz=119,slow=8.0,SNR=5.8								

*ISK **15** 18:31:39.2,37.58N×35.70E,h9km,ML2.0*
*DDA **15** 18:31:39.4,37.51N×35.74E,h7km,MD2.9*
*ISCJB **15** 18:31:40.2±0.6,37.50N±0.04×35.74E±0.04,h13km±4km, Error ellipse: s-maj=6.8km s-min=5.7km az=167.9*
*CSEM **15** 18:31:40.0±0.2,37.51N×35.74E,h15km,ML2.0,Error ellipse: s-maj=4.2km s-min=3.6km az=155.0*
ISC 15 18:31:40.0±0.8, 37.52N±0.04×35.73E±0.03, h15km±5km, n20,σ0.39/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.09**	**117**	*e*PG		**Pg**		**18 31 43.0**	**-0.1**
KOZT				*e*SG		**Sg**		**18 31 45.2**	**+0.1**
KOZT	**Kozan**	**0.09**	**117**	*e*Pg		**Pg**		**18 31 43.0**	**-0.1**
KOZT				*e*Sg		**Sg**		**18 31 45.2**	**+0.1**
GULE	**Gulek**	**0.80**	**253**	*i* P		**Pg**		**18 31 55.0**	**-0.5**
GULE				*i* S		**Sb**		**18 32 06.5**	**+0.2**
GULE	**Gulek**	**0.80**	**253**	*i* P		**Pg**		**18 31 55.0**	**-0.5**
GULE				*i* S		**Sb**		**18 32 06.5**	**+0.2**
KMRS	**Kahramanmaras**	**0.93**	**90**	*e*PG		**Pg**		**18 31 57.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.93**	**90**	*e*Pg

AKCD				*i* S		**Sn**	**18 32 35.7**	**0.0**
AKCD	**Akcadag**	**1.90**	**65**	*i* P		**Pg**	**18 32 15.9**	**-0.5**
AKCD				*i* S		**Sn**	**18 32 35.7**	**0.0**

*IDC **15** 18:35:45.5±0.7,22.°46S×170.°69E,h0km,mb4.4/13, mb1 4.5/15,mb1mx4.5/20,mbtmp4.4/15, Error ellipse: s-maj=21.8km s-min=17.6km az=160.0*
*NOU **15** 18:35:46.7±1.3,20.°78S×170.°62E,h10km,MD3.0,ML3.0*
*ISCJB **15** 18:35:48.0±2.4,22.°50S±0.°07×170.°61E±0.°04,h26km±17km, mb4.6/27, Error ellipse: s-maj=11.9km s-min=6.5km az=7.8*
*NEIC **15** 18:35:49.0±3.1,22.°50S×170.°68E,h22km±21km,mb4.8/6, Error ellipse: s-maj=12.0km s-min=9.0km az=208.0*
*SZGRF **15** 18:35:48.2,21.°73S×170.°91E,h33km, Southeast of Loyalty Islands*
*MOS **15** 18:35:51.5±1.6,22.°16S×170.°38E,h33km,mb5.1/5, Error ellipse: s-maj=18.3km s-min=12.7km az=23.6*

ISC 15 18:35:50.9±0.5,22.°51S±0.°09×170.°66E±0.°09,h34km±3km, n159,σ0.°85/163,mb4.7/27,12C-4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.52**	**275**	*eP*		**Pn**	**Pn**	**18 36 42.2**	**-1.0**
BAYA				*eS*		**Sn**	**Sn**	**18 37 21.3**	**-2.3**
BAYA	comp=Z,23nm,3.5s			AMP				18 37 29.4	
NORM	**Noumea**	**3.88**	**273**	*eP*		**Pn**	**Pn**	**18 36 46.4**	**-1.7**
NORM				*eS*		**Sn**	**Sn**	**18 37 30.3**	**-2.3**
NORM	comp=Z,233nm,4.7s			AMP				18 37 37.8	
DZM	**Mont Dzumac**	**3.93**	**276**	Pn		**Pn**	**Pn**	**18 36 48.0**	**-0.9**
DZM	comp=Z,50nm,0.3s,baz=110,slow=16,SNR=100			Sn		**Sn**	**Sn**	**18 37 33.2**	**-0.8**
DZM	comp=Z,23nm,0.3s,baz=26,slow=19,SNR=9.7 **Mont Dzumac**	**3.93**	**276**	Pn		**Pn**	**Pn**	**18 36 48.0**	**-0.9**
DZM				Sn		**Sn**	**Sn**	**18 37 33.2**	**-0.8**
NOUC	**Port Laguerre**	**4.06**	**275**	*eP*		**Pn**	**Pn**	**18 36 48.4**	**-2.2**
NOUC				*eS*		**Sn**	**Sn**	**18 37 36.3**	**-0.7**
NOUC	comp=Z,93nm,4.0s			AMP				18 37 37.3	
MSVF	**Nonsavu**	**8.41**	**57**	*eP*		Pn		18 37 55.3	+4.8
URZ	comp=Z,298nm,1.4s **Urewera**	**16.65**	**162**	*eP*		**Pn**		**18 39 40.2**	**-1.4**
AFI	comp=Z,72nm,1.4s **Afiamalu**	**18.73**	**66**	P		**P**		**18 40 06.8**	**-0.2**
AFI	comp=Z,1.0nm,0.3s,baz=264,slow=14,SNR=3.6 **Afiamalu**	**18.73**	**66**	P		**P**		**18 40 06.8**	**-0.2**
AFI	**Afiamalu**	**18.73**	**66**	P		**P**		**18 40 06.8**	**-0.2**
RPZ	**Rata Peaks**	**21.16**	**179**	P		**P**		**18 40 34.0**	**+0.9**
RPZ	comp=Z,28nm,0.8s,baz=83,slow=1.6,SNR=9.9 **Rata Peaks**	**21.16**	**179**	P		**P**		**18 40 34.0**	**+0.9**
CNB	**Canberra Magne**	**22.54**	**231**	*eP*		**P**		**18 40 50.1**	**+2.1**
CTA	comp=Z,78nm,0.9s **Charters Tower**	**22.86**	**271**	P		**P**		**18 40 51.5**	**0.0**
CTA	comp=Z,5.4nm,0.7s,baz=92,slow=10,SNR=8.1 **Charters Tower**	**22.86**	**271**	*eP*		**P**		**18 40 51.5**	**0.0**
CTA	comp=Z,7.1nm,0.8s **Charters Tower**	**22.86**	**271**	P		**P**		**18 40 51.5**	**0.0**
CTA	**Charters Tower**	**22.86**	**271**	P		**P**		**18 40 51.5**	**0.0**
CTAO	**Charters Tower**	**22.86**	**271**	*eP*		**P**		**18 40 51.2**	**-0.3**
CTAO	**Charters Tower**	**22.86**	**271**	*eP*		**P**		**18 40 51.2**	**-0.3**
CMSA	**Cobar Meteorol**	**23.95**	**243**	*eP*		**P**		**18 41 02.4**	**+0.3**
QLP	comp=Z,181nm,0.7s **Quilpie**	**24.36**	**255**	*eP*		**P**		**18 41 05.8**	**-0.1**
MTSU	**Mount Surprise**	**25.07**	**275**	*eP*		**P**		**18 41 13.1**	**+0.7**
PMG	comp=Z,86nm,1.7s **Port Moresby**	**26.03**	**296**	P		**P**		**18 41 21.3**	**+0.2**
PMG	comp=Z,8.9nm,0.7s,baz=148,slow=3.9,SNR=4.6 **Port Moresby**	**26.03**	**296**	P		**P**		**18 41 21.3**	**+0.2**
PMG	**Port Moresby**	**26.03**	**296**	P		**P**		**18 41 21.3**	**+0.2**
STKA	**Stephens Creek**	**27.42**	**244**	P		**P**		**18 41 34.4**	**+0.9**
STKA	comp=Z,3.8nm,0.8s,baz=94,slow=12,SNR=4.7 **Stephens Creek**	**27.42**	**244**	*eP*		**P**		**18 41 33.8**	**+0.3**
STKA	comp=Z,4.3nm,0.8s **Stephens Creek**	**27.42**	**244**	P		**P**		**18 41 34.4**	**+0.9**
STKA	**Stephens Creek**	**27.42**	**244**	P		**P**		**18 41 34.4**	**+0.9**
COEN	**Coen**	**27.42**	**283**	*eP*		**P**		**18 41 34.3**	**+0.6**
ASAR	comp=Z,36nm,0.9s **Alice Springs**	**33.78**	**261**	P		**P**		**18 42 29.1**	**-0.7**
ASAR	comp=Z,6.0nm,0.8s,baz=84,slow=8.8,SNR=46 **Alice Springs**	**33.78**	**261**	P		**P**		**18 42 29.1**	**-0.7**
ASAR	**Alice Springs**	**33.78**	**261**	P		**P**		**18 42 29.1**	**-0.7**
WRA	**Warramunga Arr**	**33.91**	**267**	P		**P**		**18 42 29.2**	**-1.7**
WRA	comp=Z,1.0nm,0.4s,baz=95,slow=8.6,SNR=30			PcP		**PcP**	**PcP**	**18 45 09.1**	**0.0**
WRA	comp=Z,1.4nm,0.8s,baz=104,slow=2.2,SNR=4.7 **Warramunga Arr**	**33.91**	**267**	P		**P**		**18 42 29.2**	**-1.7**
WRA								18 45 09.1	
WRA	**Warramunga Arr**	**33.91**	**267**	P		**P**		**18 42 29.2**	**-1.7**
WRA				PcP		**PcP**	**PcP**	**18 45 09.1**	**0.0**
FITZ	**Fitzroy Crossi**	**42.34**	**267**	*eP*		**P**		**18 43 41.3**	**-0.6**
MEEK	comp=Z,22nm,0.9s **Meekatharra**	**47.26**	**254**	*eP*		**P**		**18 44 19.8**	**-1.3**
BLDU	comp=Z,47nm,0.9s **Balliduu**	**48.55**	**248**	*eP*		**P**		**18 44 29.0**	**-2.0**
MJAR	**Matsushiro Arr**	**66.25**	**332**	P		**P**		**18 46 33.8**	**-1.8**
MJAR	comp=Z,1.8nm,0.8s,baz=172,slow=7.7,SNR=5.2 **Matsushiro Arr**	**66.25**	**332**	P		**P**		**18 46 33.8**	**-1.8**
QSPA	**Matsushiro Arr**	**66.25**	**332**	P		**P**		**18 46 33.8**	**-1.8**
KSRS	**South Pole Qui**	**67.56**	**180**	*eP*		**P**		**18 46 43.0**	**-0.8**
KSAR	comp=Z,9.0nm,1.0s **Korea Array**	**71.94**	**325**	P		**P**		**18 47 10.6**	**-0.2**
KSAR	comp=Z,2.3nm,0.9s,baz=139,slow=8.8,SNR=5.4 **Wonju Array Be**	**71.95**	**325**	P		**P**		**18 47 10.6**	**-0.3**
KSAR	**Wonju Array Be**	**71.95**	**325**	P		**P**		**18 47 10.6**	**-0.3**
PETK	**Petropavlovsk-**	**76.13**	**352**	P		**P**		**18 47 35.3**	**+0.3**
PETK	comp=Z,5.4nm,0.9s,baz=156,slow=7.8,SNR=5.9 **Petropavlovsk-**	**76.13**	**352**	P		**P**		**18 47 35.3**	**+0.3**
PETK	**Petropavlovsk-**	**76.13**	**352**	P		**P**		**18 47 35.3**	**+0.3**
ENH	**Enshi**	**78.77**	**309**	*eP*		**P**		**18 47 48.7**	**-1.7**
CM31	comp=Z,2.4nm,0.6s **Chiang Mai Arr**	**81.05**	**294**	*eP*		**P**		**18 48 04.0**	**+1.1**
CMAR	comp=Z,4.5nm,0.6s **Chiang Mai Arr**	**81.05**	**294**	P		**P**		**18 48 04.2**	**+1.3**
CMAR	comp=Z,7.5nm,0.8s,baz=138,slow=4.0,SNR=38 **Chiang Mai Arr**	**81.05**	**294**	P		**P**		**18 48 04.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**81.05**	**294**	P		**P**		**18 48 04.2**	**+1.3**
CHTO	**Chiang Mai**	**81.21**	**294**	*eP*		**P**		**18 48 04.9**	**+1.1**
CHTO	comp=Z,14nm,0.9s			pmax		pmax			
CHTO	**Chiang Mai**	**81.21**	**294**	*eP*		**P**		**18 48 04.9**	**+1.1**
SNAA	comp=Z,14nm,0.9s **Sanae**	**85.97**	**182**	*e*		**P**		**18 48 24.3**	**-3.0**
SNAA	**Sanae**	**85.97**	**182**	*eP*		P		18 48 23.7	-3.6
SNAA	comp=Z,13nm,0.9s			pmax		pmax			
SNAA	**Sanae**	**85.97**	**182**	*eP*		P		18 48 23.7	-3.6
SEY	comp=Z,13nm,0.9s **Seymchan**	**86.37**	**352**	*ceP*		**P**		**18 48 29.0**	**-0.1**
VNA3	**Neumayer Olymp**	**86.50**	**180**	*e*		**P**		**18 48 29.2**	**-0.7**
VNA2	**Neumayer--Watz**	**86.81**	**181**	*e*		**P**		**18 48 31.0**	**-0.4**
VNA1	baz=181,slow=3.8 **Neumayer--Stat**	**87.10**	**180**	*e*		**P**		**18 48 32.6**	**-0.2**
NVAR	**Mina Array Bea**	**89.97**	**48**	P		**P**		**18 48 47.1**	**-0.1**
NVAR	comp=Z,0.8nm,0.7s,baz=230,slow=7.1,SNR=3.6 **Mina Array Bea**	**89.97**	**48**	P		**P**		**18 48 47.1**	**-0.1**
ULN	**Ulaanbaatar**	**90.27**	**323**	*eP*		**P**		**18 48 47.6**	**-0.6**
ULN	**Ulaanbaatar**	**90.27**	**323**	*e*PKPbc		**P**		**18 48 47.6**	**-0.6**
BILL	**Bilibino**	**90.33**	**358**	*i*P		**P**		**18 48 47.8**	**0.0**
BILL	comp=Z,8.0nm,1.7s			pmax		pmax			
YAK	**Yakutsk**	**90.37**	**342**	*eP*		**P**		**18 48 46.0**	**-2.1**
YAK	comp=Z,6.0nm,0.9s			pmax		pmax			
SONM	**Songino Array**	**90.62**	**323**	P		**P**		**18 48 49.6**	**-0.2**
SONM	comp=Z,6.0nm,0.9s,baz=136,slow=4.9,SNR=23 **Songino Array**	**90.62**	**323**	P		**P**		**18 48 49.6**	**-0.2**
SONM	**Songino Array**	**90.62**	**323**	P		**P**		**18 48 49.6**	**-0.2**
ILAR	**Eielson Array**	**92.95**	**17**	P		**P**		**18 49 00.1**	**0.0**
ILAR	comp=Z,0.6nm,1.0s,baz=228,slow=4.5,SNR=3.5 **Eielson Array**	**92.95**	**17**	P		**P**		**18 49 00.1**	**0.0**
ILAR	**Eielson Array**	**92.95**	**17**	P		**P**		**18 49 00.1**	**0.0**
ZAK	**Zakamensk**	**93.71**	**324**	*eP*		**P**		**18 49 02.9**	**-1.1**
ZAK	comp=Z,4.0nm,1.3s			pmax		pmax			
BDFB	**Brasilia**	**126.41**	**132**	PKP		**PKPdf**		**18 54 50.6**	**-0.6**
BDFB	comp=Z,3.8nm,0.8s,baz=185,slow=9.5,SNR=4.9 **Brasilia**	**126.41**	**132**	PKIKP		**PKPdf**		**18 54 50.6**	**-0.6**
BDFB	**Brasilia**	**126.41**	**132**	PKP		**PKPdf**		**18 54 50.6**	**-0.6**
SJG	**San Juan**	**126.80**	**84**	PKP		**PKPdf**		**18 54 50.3**	**-1.3**
	comp=Z,8.7nm,0.2s,baz=272,slow=17,SNR=3.0								
SJG	**San Juan**	**126.80**	**84**	PKIKP		**PKPdf**		**18 54 50.4**	**-1.3**
SJG	**San Juan**	**126.80**	**84**	PKP		**PKPdf**		**18 54 50.4**	**-1.3**
ARCES	**ARCESS Array B**	**128.55**	**345**	PKP		**PKPdf**		**18 54 52.9**	**-0.7**
	comp=Z,6.5nm,1.0s,baz=78,slow=2.8,SNR=7.4								
ARCES	**ARCESS Array B**	**128.55**	**345**	PKIKP		**PKPdf**		**18 54 52.9**	**-0.7**
ARCES	**ARCESS Array B**	**128.55**	**345**	PKP		**PKPdf**		**18 54 52.9**	**-0.7**
FINES	**FINESS Array B**	**134.10**	**337**	PKhKP		PKPpre		18 55 00.3	
	comp=Z,4.0nm,0.9s,baz=164,slow=35,SNR=2.6								
FINES	**FINESS Array B**	**134.10**	**337**	PKIKP		PKPpre		18 55 00.3	
FINES	**FINESS Array B**	**134.10**	**337**	PKPpre		PKPpre		18 55 00.3	
BRTR	**Keskin Array B**	**139.82**	**305**	PKP		**PKPdf**		**18 55 16.8**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=160,slow=3.9,SNR=5.0								
BRTR	**Keskin Array B**	**139.82**	**305**	PKIKP		**PKPdf**		**18 55 16.8**	**+1.0**
BRTR	**Keskin Array B**	**139.82**	**305**	PKP		**PKPdf**		**18 55 16.8**	**+1.0**
MLR	**Muntele Rosu**	**143.28**	**317**	PKP		**PKPdf**		**18 55 20.7**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=134,slow=6.8,SNR=4.0								
MLR	**Muntele Rosu**	**143.28**	**317**	PKIKP		**PKPdf**		**18 55 20.7**	**-1.0**
MLR	**Muntele Rosu**	**143.28**	**317**	PKP		**PKPdf**		**18 55 20.7**	**-1.0**
UZH	**Uzhgorod**	**143.82**	**324**	*i*PKIKP		PKPab		18 55 19.6	+0.2
UZH				*e*				18 55 29.2	
HUMR	**Humele**	**144.32**	**316**	*i*P		**PKPab**		**18 55 21.4**	**0.0**
DRGR		**144.60**	**321**	*i*PKIKP		**PKPab**		**18 55 22.1**	**-0.4**
DRGR		**144.60**	**321**	*i*P		**PKPab**		**18 55 22.1**	**-0.4**
OKC	**Ostrava-Krasne**	**145.21**	**328**	*e*PKIKP		**PKPbc**		**18 55 24.1**	**-0.3**
OKC	**Ostrava-Krasne**	**145.21**	**328**	*e*PKP		**PKPbc**		**18 55 24.1**	**-0.3**
RUE	**Ruedersdorf**	**145.21**	**335**	*e*PKPbc		**PKPab**		**18 55 24.5**	**+0.1**
GZR	comp=Z,19nm,0.7s **Gura Zlata**	**145.28**	**319**	*i*PKHKP		**PKPdf**		**18 55 24.9**	**-0.2**
GZR	**Gura Zlata**	**145.28**	**319**	*i*P		**PKPdf**		**18 55 24.9**	**-0.2**
KSP	**Ksiaz**	**145.38**	**331**	*e*PKIKP		**PKPbc**		**18 55 24.4**	**-0.6**
PSZ	**Piszkesteto**	**145.53**	**325**	*i*PKIKP		**PKPbc**		**18 55 25.6**	**-0.1**
PSZ	**Piszkesteto**	**145.53**	**325**	*e*P		**PKPdf**		**18 55 25.2**	**-0.3**
PSZ	**Piszkesteto**	**145.53**	**325**	*i*P		**PKPbc**		**18 55 25.6**	**-0.1**
MORC	**Moravsky Berou**	**145.54**	**329**	*i*PKP2		**PKPdf**		**18 55 25.1**	**-0.3**
MORC	**Moravsky Berou**	**145.54**	**329**	*i*P		**PKPdf**		**18 55 25.1**	**-0.3**
DPC	**Dobruska-Polom**	**145.72**	**330**	*e*PKIKP		**PKPab**		**18 55 26.3**	**-0.2**
DPC	**Dobruska-Polom**	**145.72**	**330**	*e*PKP		**PKPab**		**18 55 26.3**	**-0.2**
UPC	**Upice**	**145.74**	**331**	*e*PKIKP		**PKPbc**		**18 55 26.1**	**0.0**
UPC	**Upice**	**145.74**	**331**	*e*PKP		**PKPbc**		**18 55 26.1**	**0.0**
VRAC	**Vranov**	**146.31**	**329**	PKPbc		**PKPbc**		**18 55 28.2**	**+0.3**
VRAC	comp=Z,8.8nm,1.0s,baz=31,slow=4.8,SNR=6.7 **Vranov**	**146.31**	**329**	*i*PKP2		**PKPab**		**18 55 29.1**	**+0.4**
VRAC	**Vranov**	**146.31**	**329**	PKPbc		**PKPbc**		**18 55 28.2**	**+0.3**
VRAC	**Vranov**	**146.31**	**329**	*i*P		**PKPab**		**18 55 29.1**	**+0.4**
PVCC	**Panska Ves**	**146.36**	**332**	*e*PKP2		**PKPab**		**18 55 29.1**	**+0.2**
PVCC	**Panska Ves**	**146.36**	**332**	*e*PKP		**PKPab**		**18 55 29.1**	**+0.2**
BRG	**Berggiesshubel**	**146.37**	**333**	*i* PKP		**PKPdf**		**18 55 27.2**	**+0.5**
BRG	comp=Z,31nm,1.3s			*e*				18 55 44.6	
BRG	comp=Z,6.3nm,1.1s **Berggiesshubel**	**146.37**	**333**	*e*PKPbc		**PKPbc**		**18 55 27.5**	**-0.5**
BRG	comp=Z,10.0nm,0.8s **Berggiesshubel**	**146.37**	**333**	*i* PKIKP		**PKPdf**		**18 55 27.2**	**+0.5**
BRG	comp=Z,31nm,1.3s			pmax		pmax			
BRG	comp=Z,6.0nm,1.1s			pmax		pmax			
CLL	**Collm**	**146.43**	**334**	*e*PKPbc		**PKPbc**		**18 55 27.6**	**-0.5**
CLL	comp=Z,13nm,0.7s **Collm**	**146.43**	**334**	*i* PKIKP		**PKPdf**		**18 55 27.2**	**+0.4**
CLL				*i*				18 55 28.5	
CLL	comp=Z,31nm,1.5s			pmax		pmax			
CLL	comp=Z,20nm,0.7s			pmax		pmax			
CLL	**Collm**	**146.43**	**334**	*i* PKPdf		**PKPdf**		**18 55 27.2**	**+0.4**
CLL	comp=Z,31nm,1.5s			*i* PKPbc		**PKPbc**		**18 55 28.5**	**+0.4**
CLL	comp=Z,20nm,0.7s			*i* PKPab		**PKiKP**		**18 55 30.3**	**-0.8**
CLL	comp=Z,10.0nm,0.7s			*e*				18 55 46.0	
NRDL	**Niedersach Rie**	**146.55**	**338**	*e*PKPbc		**PKPbc**		**18 55 28.0**	**-0.4**
PRU	comp=Z,8.0nm,0.9s **Pruhonice**	**146.77**	**332**	*e*PKP2		**PKPbc**		**18 55 28.8**	**-0.4**
PRU	**Pruhonice**	**146.77**	**332**	*e*PKP		**PKPbc**		**18 55 28.8**	**-0.4**
TREC	**Trest**	**146.84**	**330**	*e*PKP2		**PKPbc**		**18 55 29.4**	**-0.1**
TREC	**Trest**	**146.84**	**330**	*e*PKP		**PKPbc**		**18 55 29.4**	**-0.1**
NEUB	**Neuenburg**	**146.99**	**335**	*e*PKPbc		**PKPbc**		**18 55 29.5**	**-0.2**
CLZ	comp=Z,9.0nm,0.7s **Clausthal**	**146.99**	**337**	*e*PKPbc		**PKPbc**		**18 55 29.4**	**-0.4**
CLZ	comp=Z,7.0nm,0.8s **Clausthal**	**146.99**	**337**	*e*PKP2		**PKPbc**		**18 55 29.4**	**-0.4**
CLZ	comp=Z,7.0nm,0.8s			pmax		pmax			
PKSM	**Moragy**	**147.24**	**323**	*i*PKIKP		**PKPdf**		**18 55 28.4**	**+0.1**
PKSM	**Moragy**	**147.24**	**323**	*i*P		**PKPdf**		**18 55 28.4**	**+0.1**
TANN	**Tannenbergstha**	**147.33**	**334**	*e*PKPbc		**PKPbc**		**18 55 30.6**	**-0.3**
IBBN	comp=Z,7.0nm,0.9s **Ibbenburen**	**147.47**	**340**	*e*PKPbc		**PKPbc**		**18 55 30.6**	**-0.5**
MOX	comp=Z,20nm,0.8s **Moxa**	**147.49**	**335**	*e*PKPbc		**PKPbc**		**18 55 31.0**	**-0.2**
MOX	comp=Z,6.0nm,0.9s **Moxa**	**147.49**	**335**	*e*PKP2		**PKPbc**		**18 55 31.0**	**-0.2**
MOX				pmax		pmax			
KHC	comp=Z,6.0nm,0.9s **Kasperske Hory**	**147.83**	**331**	*e*PKP2		**PKPbc**		**18 55 31.7**	**-0.5**
KHC	**Kasperske Hory**	**147.83**	**331**	*e*P		**PKPbc**		**18 55 31.5**	**-0.8**
KHC	**Kasperske Hory**	**147.83**	**331**	*e*PKP		**PKPbc**		**18 55 31.7**	**-0.5**
UBBA	**Unterbreizbach**	**147.97**	**337**	*e*PKPbc		**PKPbc**		**18 55 32.8**	**+0.5**
GEC2	comp=Z,2.0nm,0.9s **GERESS Array S**	**147.98**	**331**	*e*PKPbc		**PKPbc**		**18 55 32.3**	**-0.4**
GEC2	comp=Z,3.0nm,0.8s **GERESS Array S**	**147.98**	**331**	*e*PKP2		**PKPbc**		**18 55 32.3**	**-0.4**
GEC2	comp=Z,3.0nm,0.8s			pmax		pmax			
GERES	**GERESS Array B**	**147.98**	**331**	PKPbc		**PKPbc**		**18 55 32.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=45,slow=2.1,SNR=17								
GERES	**GERESS Array B**	**147.98**	**331**	PKP2		**PKPbc**		**18 55 32.4**	**-0.4**
GERES	**GERESS Array B**	**147.98**	**331**	PKPbc		**PKPbc**		**18 55 32.4**	**-0.4**
WET	**Wettzell**	**148.13**	**332**	*e*PKPbc		**PKPbc**		**18 55 32.6**	**-0.4**
WET	comp=Z,4.0nm,0.9s **Wettzell**	**148.13**	**332**	*e*PKP2		**PKPbc**		**18 55 32.6**	**-0.4**
WET	comp=Z,4.0nm,0.9s			pmax		pmax			
TNS	**Taunus Mts**	**149.02**	**338**	*e*PKPbc		**PKPbc**		**18 55 35.0**	**-0.3**
TNS	comp=Z,4.0nm,0.8s **Taunus Mts**	**149.02**	**338**	*e*PKP2		**PKPbc**		**18 55 35.0**	**-0.3**
TNS	comp=Z,4.0nm,0.8s			pmax		pmax			
BFO	**Black Forest**	**150.63**	**336**	*e*PKIKP		**PKPdf**		**18 55 34.6**	**+0.8**
BFO	**Black Forest**	**150.63**	**336**	*e*PKPdf		**PKPdf**		**18 55 34.6**	**+0.8**
DBIC	**Dimbokro**	**163.67**	**196**	PKPab		**PKPab**		**18 56 42.2**	**-0.6**
DBIC	comp=Z,7.6nm,0.9s,baz=162,slow=6.1,SNR=8.8 **Dimbokro**	**163.67**	**196**	PKP2		**PKPab**		**18 56 42.2**	**-0.6**
DBIC	**Dimbokro**	**163.67**	**196**	PKPab		**PKPab**		**18 56 42.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.97**	**230**	PKP		**PKPdf**		**18 55 52.8**	**-0.3**
TORD	comp=Z,2.0nm,1.0s,baz=236,slow=0.8,SNR=5.0			PKPab		**PKPab**		**18 56 52.5**	**-0.7**
TORD	comp=Z,3.4nm,1.1s,baz=134,slow=2.6,SNR=7.2 **Torodi Ar. Bea**	**165.97**	**230**	PKP		**PKPdf**		**18 55 52.8**	**-0.3**
TORD				PKPab		**PKPab**		**18 56 52.5**	**-0.7**

*ISCJB **15** 18:37:58.4±0.5, 15.°77S±0.°06×74.°27W±0.°08, h49km, mb4.6/17, Error ellipse: s-maj=12.9km s-min=6.8km az=149.5*
*NEIC **15** 18:37:58.1±1.6, 15.°78S×74.°33W, h29km±12km, mb4.9/6, ML4.6(ARE), Error ellipse: s-maj=9.9km s-min=5.5km az=60.0*
NEIC Felt [III] at Chala.
*IDC **15** 18:37:59.6±2.4, 15.°83S×74.°36W, h42km±21km, mb4.3/11, mb1 4.4/15, mb1mx4.2/20, mbtmp4.2/15, ML4.1/3, Error ellipse: s-maj=23.8km s-min=15.0km az=44.0*

ISC 15 18:38:00.4±0.5, 15.78S±0.°08×74.°27W±0.°10, h49km, n73, σ0.°90/67, mb4.7/17, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.52**	**326**	P		**Pn**	**Pn**	**18 39 06.8**	**+0.4**
NNA	28nm,0.3s,baz=120,slow=10,SNR=25			S		Sn		18 40 09.2	+11
NNA	616nm,0.3s,baz=218,slow=20,SNR=11 **Nana**	**4.52**	**326**	*e*Pn		**Pn**		**18 39 06.3**	**-0.1**
NNA				S		Sn		18 40 09.2	+11
LVC	**Limon Verde**	**8.47**	**144**	*e*Pn		**Pn**		**18 39 58.8**	**-2.0**
ATAH	74nm,0.9s **Atahualpa**	**9.49**	**334**	P		**Pn**		**18 40 13.5**	**-1.5**
ATAH	baz=18,slow=11,SNR=1.8			S		Sn		18 42 17.6	+17
ATAH	4.2nm,0.3s,baz=325,slow=22,SNR=8.2 **Atahualpa**	**9.49**	**334**	P		**Pn**		**18 40 13.5**	**-1.5**
ATAH				S		Sn		18 42 17.6	+17

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**12.70**	**93**	P			**Pn**	**18 40 57.0**	**-1.5**
SIV	1.1nm,0.3s,baz=278,slow=13,SNR=22 **San Ignacio**	**12.70**	**93**	P			**Pn**	**18 40 57.0**	**-1.5**
SAML	**Samuel**	**12.78**	**59**	*e*Pn			**Pn**	**18 40 58.6**	**-1.0**
LCO	88nm,0.4s **Las Campanas**	**13.57**	**167**	*e*P			**Pn**	**18 41 09.6**	**-1.0**
OTAV	29nm,1.0s **Otavalo**	**16.44**	**345**	*e*P			**Pn**	**18 41 45.9**	**-2.4**
CFAA	540nm,2.6s **Coronel Fontan**	**16.69**	**162**	P			**Pn**	**18 41 51.0**	**+0.2**
ROSC	0.1nm,0.3s,baz=331,slow=13,SNR=14 **El Rosal**	**20.50**	**360**	P			**Pn**	**18 42 41.1**	**+3.5**
SDV	17nm,0.7s,baz=98,slow=23,SNR=6.9 **Santo Domingo**	**24.77**	**9**	*e*P			**P**	**18 43 18.0**	**+0.1**
PLCA	32nm,0.9s **Paso Flores**	**25.07**	**173**	P			**P**	**18 43 19.6**	**-0.7**
PDAR	4.9nm,0.9s,baz=337,slow=8.8,SNR=9.1 **Pinedale Array**	**66.68**	**332**	P			**P**	**18 48 46.4**	**-0.1**
SCHQ	0.6nm,0.8s,baz=162,slow=5.6,SNR=3.7 **Schefferville**	**70.62**	**5**	P			**P**	**18 49 10.7**	**+0.2**
DBIC	11nm,0.9s,baz=142,slow=1.3,SNR=5.2 **Dimbokro**	**72.24**	**78**	P			**P**	**18 49 20.9**	**-0.1**
DBIC	10nm,0.7s,baz=224,slow=6.4,SNR=18 **Dimbokro**	**72.24**	**78**	P			**P**	**18 49 20.9**	**-0.1**
MAIT	**Maitri**	**73.91**	**160**	*e*P			**P**	**18 49 31.6**	**+1.7**
OD2	**Odessa Site #2**	**74.41**	**330**	*e*P			**P**	**18 49 34.0**	**+0.8**
TORD	5.6nm,0.9s **Torodi Ar. Bea**	**80.43**	**73**	P			**P**	**18 50 07.8**	**+0.3**
TORD	20nm,0.7s,baz=261,slow=5.9,SNR=113 **Torodi Ar. Bea**	**80.43**	**73**	P			**P**	**18 50 07.8**	**+0.3**
YKA	**Yellowknife Ar**	**84.18**	**342**	P			**P**	**18 50 25.3**	**-0.7**
YKA	1.8nm,0.9s,baz=137,slow=5.3,SNR=22 **Yellowknife Ar**	**84.18**	**342**	P			**P**	**18 50 25.3**	**-0.7**
ESDC	**Sonseca Array**	**85.50**	**47**	P			**P**	**18 50 34.7**	**+1.4**
ESDC	2.9nm,0.7s,baz=250,slow=5.0,SNR=10 **Sonseca Array**	**85.50**	**47**	P			**P**	**18 50 34.7**	**+1.4**
SUMG	**Summit**	**91.29**	**10**	*i* P			**P**	**18 51 01.2**	**+0.6**
GERES	9.5nm,0.9s **GERESS Array B**	**100.40**	**42**	P			**Pdif**	**18 51 43.1**	**+1.0**
GERES	0.4nm,0.9s,baz=257,slow=5.2,SNR=4.2 **GERESS Array B**	**100.40**	**42**	P			**Pdif**	**18 51 43.1**	**+1.0**
ASAR	**Alice Springs**	**132.09**	**216**	PKP			**PKPdf**	**18 57 08.7**	**-0.9**
ASAR	1.4nm,0.9s,baz=137,slow=1.8,SNR=8.6 **Alice Springs**	**132.09**	**216**	PKP			**PKPdf**	**18 57 08.7**	**-0.9**
WRA	**Warramunga Arr**	**134.71**	**219**	PKP			**PKPdf**	**18 57 14.0**	**-0.5**
WRA	1.5nm,0.8s,baz=133,slow=1.9,SNR=12 **Warramunga Arr**	**134.71**	**219**	PKP			**PKPdf**	**18 57 14.0**	**-0.5**
ZALV	**Zalesovo Beam**	**138.56**	**19**	PKP			**PKPdf**	**18 57 21.3**	**+0.

LPK	Lapseki	2.50	352	*e*Pn	Pn	18 44 41.6	+1.1
EDC	Edincik	2.50	12	*e*PN	Pn	18 44 41.5	+0.9
EDC	Edincik	2.50	12	*e*Pn	Pn	18 44 41.5	+0.9
BNT	Bandirma	2.52	12	*e*PN	Pn	18 44 41.2	+0.4
BNT	Bandirma	2.52	12	*e*Pn	Pn	18 44 41.2	+0.4
KCTX	Karacabey (Bur	2.53	20	*e*PN	Pn	18 44 41.7	+0.7
KCTX	Karacabey (Bur	2.53	20	*e*Pn	Pn	18 44 41.7	+0.7
RKY	Sarkoy-Tekirda	2.79	359	*e*PN	Pn	18 44 45.5	+0.9
RKY	Sarkoy-Tekirda	2.79	359	*e*Pn	Pn	18 44 45.5	+0.9
ERIK	Erikli-Kesan	2.83	349	*e*PN	Pn	18 44 46.2	+1.2
ERIK	Erikli-Kesan	2.83	349	*e*Pn	Pn	18 44 46.2	+1.2
ARMT	Armutlu	2.96	25	*e*PN	Pn	18 44 48.1	+1.2
ARMT	Armutlu	2.96	25	*e*Pn	Pn	18 44 48.1	+1.2

NOU ***15*** *18:45:20.3±0.4, 21°.11S×170°.58E, h10km, MD3.4, ML2.6*
IDC ***15*** *18:45:26.8±8.7, 22°.02S×170°.39E, h48km±59km, mb3.5/4, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=98.0km s-min=62.8km az=2.0*

ISC 15 18:45:25.9±3.4, 22°.3S±0°.8×170°.4E±0°.2, h35km, n8, σ0s73/9, mb3.7/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.27	272	*e*S	Sn	18 46 51.9	-0.4
LASL	Noumea	3.58	270	*e*S	Sn	18 46 59.3	-0.8
DZM	Mont Dzumac	3.68	272	P	Pn	18 46 20.8	+0.4
	9.5nm,0.3s,baz=92,slow=17,SNR=32						
DZM				S	Sn	18 47 03.5	+0.9
	7.3nm,0.3s,baz=109,slow=23,SNR=12						
NOUC	Port Laguerre	3.81	272	*e*P	Pn	18 46 21.2	-0.9
NOUC				*e*S	Sn	18 47 06.3	+0.6
NOUC				AMP		18 47 09.4	
	comp=Z,26nm,2.5s						
CTA	Charters Tower	22.62	271	P	P	18 50 24.1	+0.2
	comp=Z,4.1nm,0.8s,baz=86,slow=12,SNR=2.9						
STKA	Stephens Creek	27.31	243	P	P	18 51 07.8	+0.5
	comp=Z,2.1nm,0.9s,baz=91,slow=15,SNR=3.9						
ASAR	Alice Springs	35.36	260	P	P	18 52 02.7	-0.3
	comp=Z,0.5nm,0.6s,baz=77,slow=9.7,SNR=6.5						
WRA	Warramunga Arr	33.68	267	P	P	18 52 03.2	-0.6
	comp=Z,0.4nm,0.8s,baz=102,slow=8.3,SNR=3.4						

WEL 15 18:50:11.6±0.4, 36°.34S×177°.58E, h237km±5km, ML3.6/3, Error ellipse: s-maj=5.8km s-min=5.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.95	191	PN	Pn	18 50 52.9	+0.4
URZ				SN	S	18 51 23.8	-0.9
MWZ	Matawai	1.99	181	PN	Pn	18 50 52.9	0.0
MWZ				SN	S	18 51 25.0	-0.4
CNGZ	Carnagh Statio	2.19	167	PN	Pn	18 50 55.1	+0.3
KNZ	Kokohu	2.67	178	PN	Pn	18 50 59.6	0.0
BKZ	Black Stump Fm	2.95	197	PN	Pn	18 51 03.0	+0.2
BKZ				SN	S	18 51 43.1	0.0

IDC 15 19:04:28.7±1.3, 47°.04N×155°.35E, h0km, mb3.6/9, mb1 3.6/10, mb1mx3.5/28, mbtmp3.6/10, ML3.2/1, Error ellipse: s-maj=31.4km s-min=22.9km az=151.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.26	13	Pn	Pn	19 06 02.1	-0.1
	0.5nm,0.3s,baz=178,slow=13,SNR=5.8						
SONM	Songino Array	32.68	290	P	P	19 11 02.6	0.0
	0.3nm,0.8s,baz=79,slow=8.3,SNR=2.4						
ILAR	Eielson Array	35.36	39	P	P	19 11 24.9	-0.6
	0.5nm,0.6s,baz=251,slow=7.9,SNR=8.6						
INK	Inuvik	40.58	33	P	P	19 12 09.7	+0.3
	1.1nm,0.8s,baz=305,slow=3.8,SNR=3.7						
ZALV	Zalesovo Beam	43.68	306	P	P	19 12 35.1	+0.2
	0.2nm,0.4s,baz=54,slow=6.3,SNR=3.7						
MKAR	Makanchi Array	48.16	298	P	P	19 13 10.0	-0.4
	0.2nm,0.6s,baz=66,slow=8.7,SNR=3.2						
KURK	Kurchatov	48.47	304	P	P	19 13 11.4	-1.3
	1.7nm,0.8s,baz=66,slow=8.3,SNR=9.9						
BVAR	Borovoye Array	51.85	310	P	P	19 13 39.3	+1.0
	0.9nm,0.5s,baz=48,slow=7.3,SNR=7.2						
AKTO	Aktyubinsk	59.66	313	P	P	19 14 35.2	+0.8
	0.2nm,0.4s,baz=23,slow=18,SNR=2.9						
ASAR	Alice Springs	73.00	201	P	P	19 16 00.1	+0.1
	0.2nm,0.6s,baz=8.2,slow=5.2,SNR=5.0						

IDC 15 19:08:37.9±7.1, 0°.63S×90°.62W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.8/5, Error ellipse: s-maj=158.9km s-min=130.2km az=28.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	32.30	338	P	P	19 15 08.5	-0.4
	0.6nm,0.6s,baz=152,slow=11,SNR=7.2						
NVAR	Mina Array Bea	46.48	330	P	P	19 17 07.2	+0.1
	0.6nm,0.8s,baz=156,slow=9.0,SNR=4.0						
ULM	Lac du Bonnet	48.39	316	P	P	19 17 41.1	+0.6
	1.1nm,0.6s,baz=173,slow=8.1,SNR=3.2						
YKA	Yellowknife Ar	65.52	348	P	P	19 19 22.5	-0.3
	0.9nm,0.8s,baz=147,slow=6.6,SNR=4.0						
ILAR	Eielson Array	76.82	339	P	P	19 20 31.2	0.0
	0.7nm,0.8s,baz=144,slow=5.0,SNR=6.4						

ATH ***15*** *19:23:29.2, 38°.16N×20°.15E, h5km, MD3.3/12*
CSEM ***15*** *19:23:30.6±0.7, 38°.22N×20°.23E, h0km±2km, MD3.3, Error ellipse: s-maj=19.0km s-min=7.0km az=42.0*

ISC 15 19:23:31.5±1.5, 38°.22N±0°.05×20°.27E±0°.05, h14km±10km, n30, σ0s84/42, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.26	98	*e*PB	Pg	19 23 36.3	-0.7
VLS	Valsamata	0.26	98	*e*Pb	Pg	19 23 36.3	-0.7
LKD2	Lefkada island	0.65	28	*e*PB	Pg	19 23 43.4	-0.9
LKD2				*e*SB	Sb	19 23 54.2	+0.5
LKD2	Lefkada island	0.65	28	*e*Pb	Pg	19 23 43.4	-0.9
LKD2				*e*Sb	Sb	19 23 54.2	+0.5
RLS	Riolos of Patr	0.96	99	*e*PB	Pg	19 23 49.2	-0.9
RLS				*e*SB	Sn	19 24 04.1	0.0
RLS	Riolos of Patr	0.96	99	*e*Pb	Pg	19 23 49.2	-0.9
RLS				*e*Sb	Sn	19 24 04.1	0.0
EFP	Efpalio	1.31	80	*e*PG	Pn	19 23 55.3	-0.1
EFP				*e*SB	Sg	19 24 15.0	+1.3
EFP	Efpalio	1.31	80	*e*Pg	Pn	19 23 55.3	-0.1
EFP				*e*Sb	Sg	19 24 15.0	+1.3
EVR	Evrytania	1.40	59	*e*PB	Pg	19 23 58.9	+0.5
EVR	Evrytania	1.40	59	*e*Pb	Pg	19 23 58.9	+0.5
KEK	Kerkira	1.54	346	*e*PG	Pn	19 23 58.7	+0.1
KEK	Kerkira	1.54	346	*e*Pg	Pn	19 23 58.7	+0.1
GUR	Goura	1.66	99	*e*PG	Pb	19 24 01.5	-0.5
GUR				*e*SN	Sg	19 24 26.2	+1.1
GUR	Goura	1.66	99	*e*Pg	Pb	19 24 01.5	-0.5
GUR				*e*Sn	Sg	19 24 26.2	+1.1
ITM	Ithomi	1.67	128	*e*PN	Pb	19 24 02.0	-0.2
ITM	Ithomi	1.67	128	*e*Pn	Pb	19 24 02.0	-0.2
PYL	PYLOS	1.76	138	*e*PN	Pb	19 24 03.3	-0.4
PYL	PYLOS	1.76	138	*e*Pn	Pb	19 24 03.3	-0.4
VLX	Vlachokerasia	1.88	116	*e*PG	Pb	19 24 05.3	-0.3
VLX	Vlachokerasia	1.88	116	*e*Pg	Pb	19 24 05.3	-0.3
THL	Klokotos Trika	1.92	45	*e*PN	Pg	19 24 07.6	-0.8
THL	Klokotos Trika	1.92	45	*e*Pn	Pg	19 24 07.6	-0.8
LTK	Loutraki	2.14	94	*e*PN	Pb	19 24 09.0	-1.1
LTK	Loutraki	2.14	94	*e*Pn	Pb	19 24 09.0	-1.1
DID	Didima	2.46	106	*e*PN	Pb	19 24 14.3	-1.2
DID	Didima	2.46	106	*e*Pn	Pb	19 24 14.3	-1.2
STON	Ston	5.05	338	*e*PN	Pn	19 24 47.4	+0.6
STON				*e*Sn	Sn	19 25 44.1	-0.7
STON	Ston	5.05	338	*e*Pn	Pn	19 24 47.4	+0.6
STON				*e*Sn	Sn	19 25 44.1	-0.7
NVLJ	Novalja	7.53	329	*e*Pn	Pn	19 25 22.4	+1.6
NVLJ				*e*Sn	Sn	19 26 45.1	-0.8
NVLJ	Novalja	7.53	329	*e*Pn	Pn	19 25 22.4	+1.6
NVLJ				*e*Sn	Sn	19 26 45.1	-0.8

ISK ***15*** *19:40:32.4, 37°.92N×27°.22E, h5km, MD3.1*
DDA ***15*** *19:40:32.5, 37°.90N×27°.18E, h11km, MD2.8*

CSEM ***15*** *19:40:33.5±0.1, 37°.89N×27°.25E, h2km, MD2.8, Error ellipse: s-maj=4.2km s-min=2.5km az=88.0*

ISC 15 19:40:33.3±1.1, 37°.89N±0°.02×27°.29E±0°.03, h2km±13km, n46, σ0s62/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.19	192	*i* P	Pg	19 40 37.1	+0.2
GCAM				*i* S	Sg	19 40 39.8	+0.4
GCAM	G?zelcaml?	0.19	192	*i* P	Pg	19 40 37.1	+0.2
GCAM				*i* S	Sg	19 40 39.8	+0.4
IZM	Izmir	0.51	358	*e*PG	Pg	19 40 42.5	-0.6
IZM				*e*SG	Sg	19 40 50.7	+0.9
IZM	Izmir	0.51	358	*e*Pg	Pg	19 40 42.5	-0.6
IZM				*e*Sg	Sg	19 40 50.7	+0.9
AYDN	Tasoluk	0.52	115	*i* P	Pb	19 40 44.6	-0.6
AYDN				*i* S	Sb	19 40 51.9	-1.3
AYDN	Tasoluk	0.52	115	*i* P	Pb	19 40 44.6	-0.6
AYDN				*i* S	Sb	19 40 51.9	-1.3
BLCB	Balcova	0.54	339	*e*PG	Pg	19 40 42.5	-1.0
BLCB	Balcova	0.54	339	*e*Pg	Pg	19 40 42.5	-1.0
BODT	Bodrum	0.82	179	*e*PG	Pb	19 40 50.0	-0.3
BODT	Bodrum	0.82	179	*e*Pg	Pb	19 40 50.0	-0.3
BDRM	Kayabasi	0.83	171	*i* P	Pg	19 40 48.7	-0.4
BDRM	Kayabasi	0.83	171	*i* P	Pg	19 40 48.7	-0.4
AKHS	Akhisar	1.08	23	*i* P	Pg	19 40 53.5	-0.4
AKHS				*i* S	Sb	19 41 09.6	+0.4
AKHS	Akhisar	1.08	23	*i* P	Pg	19 40 53.5	-0.4
AKHS				*i* S	Sb	19 41 09.6	+0.4
AKS	Akhisar	1.08	23	*e*PG	Pg	19 40 54.0	+0.1
AKS				*e*SG	Sb	19 41 09.7	+0.6
AKS	Akhisar	1.08	23	*e*Pg	Pg	19 40 54.0	+0.1
AKS				*e*Sg	Sb	19 41 09.7	+0.6
YER	Yerkesik	1.09	133	*e*PN	Pb	19 40 55.2	+0.4
YER	Yerkesik	1.09	133	*e*Pn	Pb	19 40 55.3	+0.4
MANT	Manisa	1.17	59	*i* P	Pb	19 40 56.5	+0.1
MANT				*i* S	Sg	19 41 10.9	0.0
MANT	Manisa	1.17	59	*i* P	Pb	19 40 56.5	+0.1
MANT				*i* S	Sg	19 41 10.9	0.0
KULA	Kula-Manisa	1.25	59	*e*PN	Pn	19 40 58.0	+0.2
KULA	Kula-Manisa	1.25	59	*e*Pn	Pn	19 40 58.1	+0.2
APE	Apeiranthos	1.62	240	*e*PN	Pb	19 41 03.3	-0.6
APE	Apeiranthos	1.62	240	*e*Pn	Pb	19 41 03.3	-0.6
KHL	Karahalli	1.82	75	*e*PN	Pb	19 41 06.6	-0.8
KHL	Karahalli	1.82	75	*e*Pn	Pb	19 41 06.6	-0.8
BALY	Balya	1.87	8	*i* P	Pn	19 41 06.8	+0.4
BALY				*i* S	Sb	19 41 31.2	-0.9
BALY	Balya	1.87	8	*i* P	Pn	19 41 06.8	+0.4
BALY				*i* S	Sb	19 41 31.2	-0.9
DURS	Dursunbey	1.95	28	*i* P	Pn	19 41 07.8	+0.3
DURS				*i* S	Sb	19 41 34.6	+0.2
DURS	Dursunbey	1.95	28	*i* P	Pn	19 41 07.8	+0.3
DURS				*i* S	Sb	19 41 34.6	+0.2
GONE	Gonen-Balikesi	2.18	8	*e*PN	Pn	19 41 10.7	+0.1
GONE	Gonen-Balikesi	2.18	8	*e*Pn	Pn	19 41 10.7	+0.1
KRBG	Karabiga-Canak	2.50	0	*e*PN	Pn	19 41 15.6	+0.6
KRBG	Karabiga-Canak	2.50	0	*e*Pn	Pn	19 41 15.6	+0.6
ALT	Altintas	2.51	61	*e*PN	Pn	19 41 16.2	+1.0
ALT	Altintas	2.51	61	*e*Pn	Pn	19 41 16.2	+1.0
BNT	Bandirma	2.52	11	*e*PN	Pn	19 41 15.8	+0.7
BNT	Bandirma	2.52	11	*e*Pn	Pn	19 41 15.9	+0.7
KCTX	Karacabey (Bur	2.52	19	*e*PN	Pn	19 41 15.8	+0.5
KCTX	Karacabey (Bur	2.52	19	*e*Pn	Pn	19 41 15.8	+0.5
RKY	Sarkoy-Tekirda	2.80	358	*e*PN	Pn	19 41 19.8	+0.6
RKY	Sarkoy-Tekirda	2.80	358	*e*Pn	Pn	19 41 19.8	+0.6
ERIK	Erikli-Kesan	2.85	348	*e*PN	Pn	19 41 20.3	+0.6
ERIK	Erikli-Kesan	2.85	348	*e*Pn	Pn	19 41 20.3	+0.6
ARMT	Armutlu	2.94	24	*e*PN	Pn	19 41 21.8	+0.7
ARMT	Armutlu	2.94	24	*e*Pn	Pn	19 41 21.8	+0.7

IDC 15 19:44:52.7±3.4, 46°.88N×155°.68E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=68.8km s-min=37.3km az=147.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.37	11	Pn	Pn	19 46 27.4	-0.4
	0.6nm,0.3s,baz=200,slow=12,SNR=17						
PETK				Sn	Sn	19 47 42.9	+1.7
	0.6nm,0.3s,baz=66,slow=35,SNR=3.7						
ILAR	Eielson Array	35.35	39	P	P	19 51 49.3	-0.1
	0.2nm,0.5s,baz=245,slow=7.7,SNR=5.7						
MKAR	Makanchi Array	48.44	298	P	P	19 53 36.5	-0.1
	0.6nm,1.1s,baz=63,slow=6.6,SNR=3.7						

IDC ***15*** *19:55:53.6±0.9, 41°.69N×144°.99E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.1/27, mbtmp4.1/17, ML3.8/2, Error ellipse: s-maj=23.1km s-min=16.8km az=177.0*
ISCJB ***15*** *19:55:55.8±1.5, 41°.87N±0°.04×144°.91E±0°.06, h23km±10km, mb4.1/19, Error ellipse: s-maj=8.0km s-min=6.1km az=24.4*
JMA ***15*** *19:55:57.8±0.1, 41°.95N×144°.91E, h60km±1km, M4.3*

ISC 15 19:55:56.3±1.9, 41°.93N±0°.05×144°.90E±0°.05, h13km±11km, n36, σ1s25/42, mb4.2/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	1.08	352	P	Pg	19 56 17.0	-0.1
JAK				*e*S	Sb	19 56 30.7	-0.1
JOB	Onbets	1.25	321	P	Pn	19 56 19.5	0.0
JOB				*e*S	Sb	19 56 35.2	-0.6
JEM	Erimo	1.30	274	P	Pb	19 56 20.6	0.0
JCH	Churui	1.33	302	P	Pn	19 56 20.5	0.0
JCH				*e*S	Sb	19 56 36.1	-1.9
NEM2	Nemuro 2	1.56	23	P	Pn	19 56 23.8	0.0
NEM2				*e*S	Sn	19 56 42.1	-1.8
JAR	Ashorobuto	1.60	329	P	Pn	19 56 23.8	-0.5
JAR				*e*S	Sn	19 56 42.4	-2.4
JNBK	Urakawa-nobuka	1.63	283	P	Pn	19 56 24.4	-0.3
JNK	Nakash	1.66	356	P	Pn	19 56 24.3	-0.8
JNK				*e*S	Sn	19 56 43.4	-2.9
ASAJ	Asahikawa	2.76	323	Pn	Pn	19 56 40.8	+0.5
	12nm,0.3s,baz=158,slow=13,SNR=21						
ASAJ				Sn	Sn	19 57 15.2	+1.7
	26nm,0.3s,baz=61,slow=26,SNR=6.8						
MAT	Matsushiro	7.47	226	P	Pn	19 57 44.8	-0.2
MAT				*e*S	Sn	19 59 08.2	-1.4
MJAR	Matsushiro Arr	7.47	226	Pn	Pn	19 57 45.0	0.0
	2.0nm,0.3s,baz=28,slow=14,SNR=45						
PETK	Petropavlovsk-	14.11	33	Pn	Pn	19 59 15.4	-0.4
	0.2nm,0.3s,baz=205,slow=16,SNR=3.0						
SONM	Songino Array	27.70	296	P	P	20 01 45.6	+1.4
	1.8nm,0.6s,baz=81,slow=8.5,SNR=17						
ZALV	Zalesovo Beam	40.80	306	P	P	20 03 37.5	+0.5
	1.2nm,0.5s,baz=79,slow=7.7,SNR=11						
ZALV				PcP	PcP	20 05 36.4	-1.5
	0.7nm,0.5s,baz=69,slow=2.7,SNR=4.2						
ILAR	Eielson Array	43.93	35	P	P	20 04 02.6	+0.2
	0.8nm,0.6s,baz=264,slow=6.2,SNR=11						
MKAR	Makanchi Array	43.98	299	P	P	20 04 04.8	+1.7
	0.9nm,0.6s,baz=82,slow=10,SNR=20						
KURK	Kurchatov	45.19	305	P	P	20 04 14.4	+1.8
	2.4nm,0.3s,baz=71,slow=8.8,SNR=6.2						
INK	Inuvik	48.81	29	P	P	20 04 40.6	0.0
	1.3nm,0.6s,baz=325,slow=8.5,SNR=8.0						
BVAR	Borovoye Array	49.39	310	P	P	20 04 44.3	-1.0
	0.7nm,0.4s,baz=78,slow=9.1,SNR=7.3						
RES	Resolute Bay	57.18	16	P	P	20 05 43.6	+1.4
	2.3nm,0.5s,baz=318,slow=11,SNR=7.9						
YKA	Yellowknife Ar	58.23	32	P	P	20 05 51.2	+1.4
	0.5nm,0.7s,baz=306,slow=6.7,SNR=3.0						
KEV	Kevo	59.83	339	*ep*	P	20 05 52.4	-8.4
	0.6nm,0.8s						
KEV	Kevo	59.83	339	*ep*	P	20 05 52.4	-8.4
	6.6nm,0.8s						
WRA	Warramunga Arr	62.33	191	P	P	20 06 16.1	-2.2
	0.4nm,0.7s,baz=8.7,slow=7.2,SNR=4.5						
JOF	Joensuu	62.92	332	*ep*	P	20 06 21.2	-0.6
	2.8nm,0.6s						
JOF	Joensuu	62.92	332	*ep*	P	20 06 21.2	-0.6
	2.8nm,0.6s						
KAF	Kangasniemi	65.19	333	*ep*	P	20 06 37.5	+0.8
	2.6nm,0.5s						
KAF	Kangasniemi	65.19	333	*ep*	P	20 06 37.5	+0.8
	2.6nm,0.5s						
FINES	FINESS Array B	65.73	332	P	P	20 06 41.9	+1.7
	6.2nm,0.5s,baz=46,slow=8.0,SNR=10						
NVAR	Mina Array Bea	69.96	56	P	P	20 07 08.0	+0.4
	0.5nm,0.2s,baz=271,slow=5.9,SNR=5.0						
NB2	NORSAR Subarra	70.69	338	P	P	20 07 13.0	+1.6
	comp=Z,4.5nm,0.7s,baz=30,slow=6.2						
NOA	NORSAR Array B	70.69	338	P	P	20 07 13.2	+1.8
	comp=Z,4.2nm,0.7s,baz=35,slow=6.2,SNR=14						
AKASG	Malin Array Be	72.05	323	P	P	20 07 20.0	+0.3
	comp=Z,1.3nm,0.6s,baz=44,slow=6.9,SNR=5.0						
GERES	GERESS Array B	79.92	330	P	P	20 08 09.1	+4.3
	comp=Z,0.1nm,0.3s,baz=41,slow=8.8,SNR=4.1						
TXAR	Lajitas Array	85.05	55	P	P	20 08 31.2	-0.7
	comp=Z,0.6nm,0.7s,baz=300,slow=4.0,SNR=8.0						
SIV	San Ignacio	145.84	49	PKPbc	PKPdf	20 15 34.4	-0.7
	comp=Z,1.3nm,0.6s,baz=311,slow=6.9,SNR=7.1						

ISCJB ***15*** *20:05:46.5±1.1, 10°.37N±0°.04×84°.04W±0°.04, h3km±7km, mb3.8/6, Error ellipse: s-maj=7.9km s-min=4.8km az=33.2*
IDC ***15*** *20:05:46.2±3.1, 10°.12N×84°.08W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/21, mbtmp3.9/6, MS5.2/1, Ms1 5.2/1, ms1mx4.6/37, Error ellipse: s-maj=69.2km s-min=11.7km az=179.0*
CASC ***15*** *20:05:47.4±2.3, 10°.28N×84°.12W, h0km±6km, MD4.3*

ISC 15 20:05:47.9±1.3, 10°.26N±0°.05×84°.10W±0°.04, h9km±10km, n25, σ1s32/29, mb3.9/6, 6C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	Escuela Geolog	0.32	173	*i* P	Pb	20 05 55.7	-0.1
SJS				*e*S	Sb	20 06 00.9	-0.3
LAJ	Bijagual	0.39	184	*i* P	Pn	20 06 02.4	+2.5
URSC	Urasca	0.52	143	*i* P	Pb	20 05 59.5	+0.2
BUS	Buena Vista	0.77	155	*e*P	Pg	20 06 03.7	+0.8
QCR	Quepos	0.83	185	*i* P	Pg	20 06 04.2	+0.3
QCR				*e*S	Sn	20 06 17.6	-0.5
JTS	JuntasAbangare	0.84	272	Pg	Pb	20 06 03.1	-1.6
	174nm,0.3s,baz=95,slow=22,SNR=209						
JTS				Lg	Lg	20 06 15.5	
	227nm,0.3s,baz=90,slow=22,SNR=23						
PTEN	Parque Tenorio	0.99	297	*i* S	Sn	20 06 22.1	0.0
JCR	Jicaral	1.08	248	*e*P	Pn	20 06 07.5	-1.7
JCR				*e*S	Sg	20 06 24.5	+1.8
CUI	Cuipilapa	1.12	291	*i* P	Pn	20 06 08.0	-1.8
CUI				*i* S	Sg	20 06 25.8	+1.6
MESS	Mesas	1.18	294	*i* P	Pn	20 06 08.7	-2.0
LIM1	Limonal	1.22	291	*i* P	Pn	20 06 09.2	-1.9
LAPC	Finca la Perla	1.41	291	*i* P	Pn	20 06 12.3	-1.4
LAPC				*i* S	Sg	20 06 33.1	-0.2
GBS2	Las Lilas	1.45	293	*i* P	Pn	20 06 13.4	-1.0
ACR	Cerro Adams	1.84	150	*e*P	Pb	20 06 19.9	-1.8
BRU2	Volcan	2.01	136	*i* P	Pb	20 06 24.5	-0.1
BRU2				*i* S	Sg	20 06 53.1	+0.6
TBS2		2.03	136	*e*P	Pg	20 06 25.5	-1.4
TBS2				*i* P	Pg	20 06 25.5	-1.4
BCIP	Isla Barro Col	4.33	104	*e*P	Pb	20 06 59.4	-4.9
BCIP				*e*S	Sn	20 07 44.1	-0.6
ROSC	El Rosal	11.07	118	LR	LR	20 12 27.8	
	comp=Z,14µm,21.7s,baz=188,slow=36						
PTP	Ponta Puerca	19.57	64	*i* S	x	20 07 12.7	
TKL	Tuckaleechee C	25.29	1	P	P	20 11 16.9	+2.2
	6.9nm,0.8s,baz=195,slow=8.0,SNR=5.1						
TXAR	Lajitas Array	26.36	319	P	P	20 11 26.5	+1.8
	0.8nm,1.0s,baz=152,slow=5.7,SNR=4.7						
ULM	Lac du Bonnet	41.05	348	P	P	20 13 31.0	-0.5
	4.8nm,1.1s,baz=146,slow=8.3,SNR=3.7						
YKA	Yellowknife Ar	56.61	344	P	P	20 15 30.8	0.0
	1.0nm,0.9s,baz=137,slow=7.2,SNR=11						
ILAR	Eielson Array	69.35	336	P	P	20 16 56.3	+0.7
	0.6nm,1.0s,baz=132,slow=4.6,SNR=4.9						
ESDC	Sonseca Array	75.95	52	P	P	20 17 36.0	+0.5
	1.0nm,0.7s,baz=279,slow=5.7,SNR=5.1						

CASC 15 20:11:00.7±2.1, 10°.25N×84°.14W, h1km±4km, MD3.8, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	Escuela Geolog	0.32	165	*e*P	Pb	20 11 08.4	-1.0
SJS				*e*S	Sg	20 11 12.0	+0.7
LAJ	Bijagual	0.38	177	*e*P	Pn	20 11 14.9	+1.3
URSC	Urasca	0.54	139	*i* P	Pg	20 11 12.3	+0.9
BUS	Buena Vista	0.78	151	*e*P	Pg	20 11 16.3	0.0
QCR	Quepos	0.82	182	*e*P	Pg	20 11 16.9	+0.5
PTEN	Parque Tenorio	0.95	299	*i* P	Pb	20 11 19.8	-0.4
JCR	Jicaral	1.04	248	*e*P	Pg	20 11 20.4	-0.3
CUI	Cuipilapa	1.09	292	*i* P	Pg	20 11 20.9	-0.8
MESS	Mesas	1.15	295	*i* P	Pg

CDAG Cicekdag 1.20 310 *i* P **Pg** 20 23 46.7 -0.7
CDAG *i* S **Sn** 20 24 04.0 -1.6
CDAG Cicekdag 1.20 310 *i* P **Pg** 20 23 46.7 -0.7
CDAG *i* S **Sn** 20 24 04.0 -1.6
KOZT Kozan 1.39 171 *e*PN **Pg** 20 23 51.0 -0.1
KOZT *e*SN **Sg** 20 24 10.4 +1.4
KOZT Kozan 1.39 171 *e*Pn **Pg** 20 23 51.0 -0.1
KOZT *e*Sn **Sg** 20 24 10.5 +1.4
ANDN Andirin 1.42 154 *i* P Pn 20 23 45.4 -6.2
ANDN *i* S **Sb** 20 24 05.1 -5.4
CORM Corum 1.50 332 *e*PN **Pb** 20 23 52.4 -0.9
CORM Corum 1.50 332 *e*Pn **Pb** 20 23 52.4 -0.9
KAMT Kaman 1.52 290 *e*PN **Pn** 20 23 51.4 -1.7
KAMT *e*SN **Sg** 20 24 13.0 -0.4
KAMT Kaman 1.52 290 *e*Pn **Pn** 20 23 51.4 -1.7
KAMT *e*Sn **Sg** 20 24 13.0 -0.4
TOKT Tokat 1.65 27 *e*PN **Pb** 20 23 54.5 -1.2
TOKT Tokat 1.65 27 *e*Pn **Pb** 20 23 54.5 -1.2
GULE Gulek 1.69 202 *i* P **Pg** 20 23 56.2 -0.6
GULE *i* S **Sg** 20 24 21.3 +2.6
GULE Gulek 1.69 202 *i* P **Pg** 20 23 56.2 -0.6
GULE *i* S **Sg** 20 24 21.3 +2.6
KMRS Kahramanmaras 1.71 142 *e*PN **Pb** 20 23 55.9 -0.9
KMRS Kahramanmaras 1.71 142 *e*Pn **Pb** 20 23 55.9 -0.9
BRTR Keskin Array B 1.72 301 Pn **Pn** 20 23 54.8 -1.0
45nm,0.3s,baz=131,slow=19,SNR=1091
BRTR Lg Lg 20 24 20.2
315nm,0.3s,baz=128,slow=32,SNR=36
SULT Sultanhani-AKS 1.73 248 *e*PN **Pn** 20 23 54.7 -1.2
SULT Sultanhani-AKS 1.73 248 *e*Pn **Pn** 20 23 54.7 -1.2
DARE Darende-Malaty 1.75 86 *e*PN **Pn** 20 23 53.2 -3.0
CTKT Corum 1.86 342 *i* P **Pg** 20 23 59.3 -0.8
CTKT *i* S Sn 20 24 14.5 -7.5
CTKT Corum 1.86 342 *i* P **Pg** 20 23 59.3 -0.8
AKCD Akcadag 1.93 106 *i* P **Pg** 20 24 01.2 -0.3
AKCD *i* S **Sg** 20 24 26.8 +0.3
AKCD Akcadag 1.93 106 *i* P **Pg** 20 24 01.2 -0.3
AKCD *i* S **Sg** 20 24 26.8 +0.3
BBAL Bala 2.01 291 *i* P **Pb** 20 24 00.8 -1.2
BBAL *i* S **Sg** 20 24 30.1 +1.0
BBAL Bala 2.01 291 *i* P **Pb** 20 24 00.8 -1.2
BBAL *i* S **Sg** 20 24 30.1 +1.0
AFSR Afˇar-Bala (A 2.02 288 *e*PN **Pn** 20 23 59.6 -0.2
AFSR Afˇar-Bala (A 2.02 288 *e*Pn **Pn** 20 23 59.7 -0.2
ERBA Erbaa 2.04 26 *i* P **Pb** 20 24 01.9 -0.5
ERBA *i* S **Sg** 20 24 30.6 +0.7
ERBA Erbaa 2.04 26 *i* P **Pb** 20 24 01.9 -0.5
ERBA *i* S **Sg** 20 24 30.6 +0.7
RSDY Resadiye-TOKAT 2.05 41 *e*PN **Pn** 20 24 00.6 +0.3
RSDY Resadiye-TOKAT 2.05 41 *e*Pn **Pn** 20 24 00.6 +0.3
GAZ Gaziantep 2.13 142 *e*PN **Pb** 20 24 02.0 -1.9
GAZ Gaziantep 2.13 142 *e*Pn **Pb** 20 24 02.0 -1.9
MERS Mersin 2.15 203 *e*PN **Pn** 20 24 01.8 +0.2
MERS Mersin 2.15 203 *e*Pn **Pn** 20 24 01.8 +0.2
HAVZ Havza 2.22 3 *i* P **Pb** 20 24 03.4 -2.0
HAVZ *i* S **Sg** 20 24 36.4 +0.7
HAVZ Havza 2.22 3 *i* P **Pb** 20 24 03.4 -2.0
KVT Kavak 2.25 9 *e*PN **Pn** 20 24 03.0 +0.1
KVT Kavak 2.25 9 *e*Pn **Pn** 20 24 03.0 +0.1
KRTS Karatas 2.29 184 *e*PN **Pb** 20 24 04.0 -2.5
KRTS Karatas 2.29 184 *e*Pn **Pb** 20 24 04.1 -2.5
CANT Cankiri 2.30 320 *e*PN **Pn** 20 24 03.9 +0.2
MYA Malatya 2.31 102 *e*PN **Pn** 20 24 04.3 +0.5
MYA Malatya 2.31 102 *e*Pn **Pn** 20 24 04.3 +0.5
MALT Malatya 2.31 103 *e*PN **Pb** 20 24 05.0 -2.0
MALT Malatya 2.31 103 *e*Pn **Pb** 20 24 05.0 -2.0
ELDT Eldivan 2.32 315 *i* P **Pb** 20 24 06.8 -0.4
ELDT *i* S **Sb** 20 24 36.3 -0.1
ELDT Eldivan 2.32 315 *i* P **Pb** 20 24 06.8 -0.4
ELDT *i* S **Sb** 20 24 36.3 -0.1
KEMA Kemaliye 2.32 79 *i* P **Pb** 20 24 05.3 -1.9
KEMA *i* S **Sg** 20 24 38.4 -0.5
KEMA Kemaliye 2.32 79 *i* P **Pb** 20 24 05.3 -1.9
KEMA *i* S **Sg** 20 24 38.4 -0.5
LOD Lodumlu 2.40 296 *e*PN **Pn** 20 24 05.1 +0.1
LOD Lodumlu 2.40 296 *e*Pn **Pn** 20 24 05.1 +0.1
KUZU Kuzuini 2.40 150 *i* P **Pb** 20 24 07.4 -1.2
KUZU *i* S **Sg** 20 24 43.3 +1.7
KUZU Kuzuini 2.40 150 *i* P **Pb** 20 24 07.4 -1.2
ILIC ilic-Erzincan 2.41 75 *e*PN **Pn** 20 24 05.9 +0.6
ILIC ilic-Erzincan 2.41 75 *e*Pn **Pn** 20 24 05.9 +0.6
TOS Tosya 2.48 332 *e*PN **Pn** 20 24 06.3 +0.2
TOS Tosya 2.48 332 *e*Pn **Pn** 20 24 06.3 +0.2
LADK Ladik-KONYA 2.59 256 *e*PN **Pn** 20 24 07.8 +0.1
LADK Ladik-KONYA 2.59 256 *e*Pn **Pn** 20 24 07.8 +0.1
KONT Konya--Tatoy 2.67 251 *e*PN **Pn** 20 24 08.9 +0.2
KONT Konya--Tatoy 2.67 251 *e*Pn **Pn** 20 24 09.0 +0.2
ELZG Elazig 2.70 97 *i* P **Pn** 20 24 10.4 +1.1
ELZG *i* S **Sg** 20 24 51.8 +0.6
ELZG Elazig 2.70 97 *i* P **Pn** 20 24 10.4 +1.1
KDHN Kadinhani 2.72 264 *i* P **Pb** 20 24 11.2 -2.7
KDHN Kadinhani 2.72 264 *i* P **Pb** 20 24 11.2 -2.7
HTY Hatay 2.77 170 *e*PN **Pn** 20 24 10.7 +0.7
HTY Hatay 2.77 170 *e*Pn **Pn** 20 24 10.7 +0.7
DIKM Dikmen 2.80 355 *e*PN **Pn** 20 24 11.0 +0.6
DIKM Dikmen 2.80 355 *e*Pn **Pn** 20 24 11.0 +0.6
KIZT Kizilcal 2.87 272 *e*PN **Pn** 20 24 11.4 -0.2
KIZT Kizilcal 2.87 272 *e*Pn **Pn** 20 24 11.4 -0.2
KAST KASTAMONU 2.91 335 *i* P **Pb** 20 24 15.8 -1.4
KAST *i* S **Sg** 20 24 58.8 +0.9
KAST KASTAMONU 2.91 335 *i* P **Pb** 20 24 15.8 -1.4
URFA Urfa 2.93 118 *e*PN **Pn** 20 24 12.9 +0.5
URFA Urfa 2.93 118 *e*Pn **Pn** 20 24 12.9 +0.5
SVRC Sivrice-ELAZID 2.97 98 *e*PN **Pn** 20 24 13.5 +0.5
SVRC Sivrice-ELAZID 2.97 98 *e*Pn **Pn** 20 24 13.5 +0.5
PTK Pertek 2.99 88 *e*PN **Pn** 20 24 14.0 +0.7
PTK Pertek 2.99 88 *e*Pn **Pn** 20 24 14.0 +0.7
EZC Erzincan 3.07 72 *e*PN **Pn** 20 24 14.9 +0.6
EZC Erzincan 3.07 72 *e*Pn **Pn** 20 24 15.0 +0.6
KELT Kelkit 3.13 65 *i* P **Pn** 20 24 17.0 +1.7
KELT Kelkit 3.13 65 *i* P **Pn** 20 24 17.0 +1.7
SVRH Sivrihisar-ESK 3.19 282 *e*PN **Pn** 20 24 16.2 +0.2
SVRH Sivrihisar-ESK 3.19 282 *e*Pn **Pn** 20 24 16.2 +0.2
SAFT Safranbolu 3.24 318 *e*PN **Pn** 20 24 17.1 +0.5
SAFT Safranbolu 3.24 318 *e*Pn **Pn** 20 24 17.1 +0.5
ERZN Erzincan 3.31 76 *e*PN **Pn** 20 24 18.7 +1.1
BZK Bozkurt 3.32 339 *e*PN **Pn** 20 24 18.3 +0.7
BZK Bozkurt 3.32 339 *e*Pn **Pn** 20 24 18.3 +0.7
GUMT Gumushane 3.42 61 *e*PN **Pn** 20 24 20.4 +1.2
GUMT Gumushane 3.42 61 *e*Pn **Pn** 20 24 20.4 +1.2
EREN Erenkoy 3.50 199 *e*PN **Pn** 20 24 21.2 +1.1
EREN Erenkoy 3.50 199 *e*Pn **Pn** 20 24 21.2 +1.1
BOLV Bolvadin 3.61 269 *i* P **Pg** 20 24 31.7 -1.8
BOLV *i* S **Sg** 20 25 22.0 +1.7
ESKT Eskisehir 3.72 282 *e*PN **Pn** 20 24 23.9 +0.7
ESKT Eskisehir 3.72 282 *e*Pn **Pn** 20 24 23.9 +0.7
MDUB Mudurnu 3.73 297 *e*PN **Pn** 20 24 24.0 +0.6
MDUB Mudurnu 3.73 297 *e*Pn **Pn** 20 24 24.0 +0.6
BAYT Ayd¨–ntepe-Bay 3.85 65 *e*PN **Pn** 20 24 26.6 +1.5
BAYT Ayd¨–ntepe-Bay 3.85 65 *e*Pn **Pn** 20 24 26.6 +1.5
KTUT Trabzon 3.87 55 *e*PN **Pn** 20 24 26.6 +1.4
KTUT Trabzon 3.87 55 *e*Pn **Pn** 20 24 26.6 +1.4
LFK Lefkose 3.92 205 *e*PN **Pn** 20 24 26.1 +0.1
LFK Lefkose 3.92 205 *e*Pn **Pn** 20 24 26.1 +0.1
SHUT Suhut-Afyon 3.93 267 *e*PN **Pn** 20 24 26.9 +0.8
SHUT Suhut-Afyon 3.93 267 *e*Pn **Pn** 20 24 26.9 +0.8
BNGB Bing¨ll 3.99 87 *e*PN **Pn** 20 24 28.7 +1.7
KDZE Karadeniz Ereo 4.00 309 *e*PN **Pn** 20 24 27.8 +0.9
KDZE Karadeniz Ereo 4.00 309 *e*Pn **Pn** 20 24 27.8 +0.9
BCK Bucak 4.16 252 *e*PN **Pn** 20 24 30.2 +1.0
BCK Bucak 4.16 252 *e*Pn **Pn** 20 24 30.3 +1.0
GULT Gulveren 4.20 294 *e*PN **Pn** 20 24 30.8 +1.0
GULT Gulveren 4.20 294 *e*Pn **Pn** 20 24 30.8 +1.0
ALT Altintas 4.25 274 *e*PN **Pn** 20 24 31.6 +1.1
ALT Altintas 4.25 274 *e*Pn **Pn** 20 24 31.7 +1.1
CSS Prodhromos 4.28 205 *e*PN **Pn** 20 24 31.1 +0.3
CSS Prodhromos 4.28 205 *e*Pn **Pn** 20 24 31.1 +0.3
LEF Lefka 4.30 211 *e*PN **Pn** 20 24 32.2 +1.1
LEF Lefka 4.30 211 *e*Pn **Pn** 20 24 32.2 +1.1
VRTB Varto-Mus 4.60 84 *e*PN **Pn** 20 24 37.5 +2.1
VRTB Varto-Mus 4.60 84 *e*Pn **Pn** 20 24 37.5 +2.1
EZM Erzurum 4.62 75 *e*PN **Pn** 20 24 37.4 +1.7
MMAI Mount Meron Ar 5.83 181 Pn **Pn** 20 24 53.0 +0.8
4.1nm,0.3s,baz=353,slow=13,SNR=24
MMAI Sn **Sn** 20 26 01.7 +1.8
baz=350,slow=19,SNR=2.6
ASF Jabal al Asfar 6.76 170 Pn **Pn** 20 25 04.1 -0.8
0.2nm,0.3s,baz=161,slow=9.5,SNR=2.0
GNI Garni 7.21 77 Pn Pn 20 25 15.1 +3.8
0.2nm,0.3s,baz=354,slow=8.3,SNR=3.8

TIRR Tirgusor 7.74 319⇑ *i*P **Pn** 20 25 20.5 +2.2
TLCR 8.07 324⇑ *i*P **Pn** 20 25 21.8 -1.0
BHD Baghdad 9.06 125 *e*P **Pn** 20 25 34.0 -2.4
BHD *e*S **Sn** 20 27 16.0 -3.0
ISR Istrita 9.17 316⇓ *i*P Pn 20 25 40.6 +2.6
EIL Elat 9.18 183 Pn Pn 20 25 43.1 +5.0
0.3nm,0.3s,baz=163,slow=4.9,SNR=3.5
VRI Vrincioaia 9.57 320⇑ *i*P Pn 20 25 47.1 +3.6
PLOR Plostina 9.60 320⇑ *i*P Pn 20 25 53.1 +9.2
MLR Muntele Rosu 9.73 316 Pn Pn 20 25 52.1 +6.4
0.1nm,0.3s,baz=121,slow=21,SNR=6.9
MLR Muntele Rosu 9.73 316⇓ *i*P Pn 20 25 48.3 +2.5
TESR 10.07 322⇑ *i*P Pn 20 25 53.8 +3.5
VTS Vitosha 10.09 296⇑ *i*P **Pn** 20 25 49.7 -1.0
VOIR 10.20 313⇓ *i*P Pn 20 25 54.4 +2.3
GZR Gura Zlata 11.52 309⇑ *i*P Pn 20 26 12.8 +2.7
BURAR Bucovina Array 11.54 323⇑ *i*P **Pn** 20 26 12.0 +1.5
BZS Buzias 12.34 308⇑ *i*P **Pn** 20 26 22.7 +1.5
AKASG Malin Array Be 12.66 341 Pn **Pn** 20 26 27.4 +1.8
0.7nm,0.3s,baz=77,slow=21,SNR=1.8
GERES GERESS Array B 18.60 310 P **Pn** 20 27 46.1 +2.8
0.1nm,0.3s,baz=108,slow=8.6,SNR=5.5
AKTO Aktyubinsk 19.64 47 P **Pn** 20 27 55.5 -0.3
0.2nm,0.3s,baz=246,slow=10,SNR=10
DAVOX Davos/Dischmat 20.37 301 P Pn 20 28 07.2 +2.5
2.8nm,0.7s,baz=37,slow=13,SNR=3.1
KEST Kesra 21.06 270 P **P** 20 28 12.6 +2.4
5.2nm,1.0s,baz=216,slow=20,SNR=5.3
FINES FINESS Array B 23.36 348 P P 20 28 38.5 +4.2
1.9nm,0.6s,baz=176,slow=8.8,SNR=4.7
HFS Hagfors 25.36 334 P P 20 28 57.5 +4.6
6.5nm,1.1s,baz=186,slow=12,SNR=2.5
BVAR Borovoye Array 27.72 48 P **P** 20 29 16.8 +2.3
0.6nm,0.9s,baz=267,slow=5.9,SNR=4.0
ARCES ARCESS Array B 31.21 353 P P 20 29 48.6 +3.5
3.8nm,0.9s,baz=172,slow=11,SNR=4.7
KURK Kurchatov 32.33 54 P P 20 29 57.2 +2.1
1.7nm,0.4s,baz=274,slow=8.9,SNR=6.2
MKAR Makanchi Array 34.74 61 P **P** 20 30 16.6 +0.4
0.4nm,0.6s,baz=266,slow=9.4,SNR=8.3
ZALV Zalesovo Beam 36.37 49 P **P** 20 30 30.2 +0.1
0.7nm,0.6s,baz=260,slow=8.3,SNR=3.8
TORD Torodi Ar. Bea 39.40 239 P **P** 20 30 55.8 -0.3
1.7nm,0.9s,baz=36,slow=7.6,SNR=6.9
SONM Songino Array 50.62 55 P P 20 32 27.8 +2.6
0.2nm,0.5s,baz=277,slow=9.5,SNR=3.2
YKA Yellowknife Ar 76.17 346 P **P** 20 35 14.9 +1.0
0.9nm,0.8s,baz=27,slow=5.5,SNR=11

IDC 15 20:32:36.4±4.4,**17.97S**×**177.59E,h159**km±39km,**mb3.8**/5, **mb1 4.2**/6,**mb1mx3.7**/18,**mbtmpb3.9**/6,**Error ellipse: s-maj=37.0km s-min=21.1km az=142.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.99**	**70**	P		P	Pn	20 35 08.8	-0.6
	13nm,0.3s,baz=97,slow=21,SNR=3.5								
ASAR	**Alice Springs**	**41.11**	**254**	P		P		20 40 04.9	-0.1
	1.2nm,0.8s,baz=94,slow=8.5,SNR=6.8								
QSPA	**South Pole Qui**	**72.08**	**180**	P		P		20 43 43.6	+0.4
	1.9nm,0.5s,baz=48,slow=1.0,SNR=6.6								
ILAR	**Eielson Array**	**86.85**	**14**	P		P		20 45 03.4	+0.9
	0.8nm,0.6s,baz=234,slow=5.0,SNR=14								
TXAR	**Lajitas Array**	**89.26**	**59**	P		P		20 45 14.9	0.0
	2.4nm,0.7s,baz=220,slow=5.6,SNR=34								
PDAR	**Pinedale Array**	**90.04**	**45**	P		P		20 45 18.2	-0.2
	0.8nm,0.6s,baz=209,slow=4.1,SNR=9.5								
BVAR	**Borovoye Array**	**114.48**	**321**	PKP		PKPdf		20 50 55.4	-1.9
	0.4nm,0.4s,baz=46,slow=1.3,SNR=6.2								
ARCES	**ARCESS Array B**	**125.65**	**348**	PKP		PKPdf		20 51 16.0	-2.2
	5.3nm,1.0s,baz=46,slow=3.5,SNR=3.8								
BRTR	**Keskin Array B**	**142.06**	**312**	PKP		PKPdf		20 51 46.6	-3.4
	0.6nm,0.7s,baz=134,slow=7.1,SNR=4.5								
GERES	**GERESS Array B**	**146.54**	**341**	PKPbc		PKPbc		20 51 59.1	0.0
	1.5nm,0.5s,baz=35,slow=3.1,SNR=20								

*IDC **15** 20:33:17.2*±*1.3,22.39S*×*170.50E,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.1/18,mbtmp4.0/11,ML4.0/1,Error ellipse: s-maj=31.7km s-min=24.2km az=128.0*
*ISCJB **15** 20:33:19.8*±*0.7,22.73S*±*0.07*×*170.34E*±*0.06,h33km, mb4.0/9,Error ellipse: s-maj=12.2km s-min=5.1km az=34.8*
*NOU **15** 20:33:19.7*±*1.1,20.89S*×*170.31E,h10km,MD3.1,ML3.6*
ISC 15 20:33:21.0±0.8,**22.6S**±0.1×**170.44E**±0.09,**h33km**,**n26,** σ1§**75**/28,**mb4.0**/10,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.32**	**278**	*e*S		**Sn**		**20 34 47.0**	**-2.1**
NORM	**Noumea**	**3.68**	**275**	*e*P		**Pn**		**20 34 15.0**	**-0.6**
DZM	**Mont Dzumac**	**3.74**	**278**	Pn		**Pn**		**20 34 17.0**	**+0.4**
	11nm,0.3s,baz=122,slow=14,SNR=244								
DZM				Sn		**Sn**		**20 34 57.8**	**-1.6**
	10nm,0.3s,baz=96,slow=16,SNR=6.3								
DZM	**Mont Dzumac**	**3.74**	**278**	*e*P		**Pn**		**20 34 15.8**	**-0.7**
DZM				*e*S		**Sn**		**20 34 56.8**	**-2.7**
DZM				AMP				20 35 00.9	
	comp=Z,1μm,0.6s								
NOUC	**Port Laguerre**	**3.87**	**277**	*e*P		**Pn**		**20 34 17.5**	**-0.6**
NOUC				*e*S		**Sn**		**20 35 00.8**	**-1.6**
NOUC				AMP				20 35 04.0	
	comp=Z,69nm,3.2s								
URZ	**Urewera**	**16.60**	**161**	PN		**Pn**		**20 37 09.6**	**-1.6**
MWZ	**Matawai**	**16.79**	**160**	PN		**Pn**		**20 37 10.1**	**-3.6**
MWZ				SN		**Sn**		**20 40 18.8**	**-0.4**
PUZ	**Puketiti**	**16.79**	**158**	*e*PN		Pn		20 37 08.4	-5.3
MRZ	**Mangatainoka R**	**18.50**	**168**	PN		**P**		**20 37 31.5**	**-2.8**
MRZ				SN		Sn		20 40 52.7	-7.7
THZ	**Tophouse**	**19.19**	**174**	PN		**Pn**		**20 37 44.7**	**+1.6**
RPZ	**Rata Peaks**	**21.04**	**179**	P		**P**		**20 38 05.0**	**+3.0**
	comp=Z,7.9nm,0.7s,baz=322,slow=2.4,SNR=6.8								
CTA	**Charters Tower**	**22.66**	**272**	P		**P**		**20 38 21.3**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=89,slow=12,SNR=3.3								
STKA	**Stephens Creek**	**27.18**	**244**	P		**P**		**20 39 04.6**	**+3.0**
	comp=Z,2.8nm,0.8s,baz=77,slow=5.6,SNR=4.6								
ASAR	**Alice Springs**	**33.55**	**261**	P		**P**		**20 39 59.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=80,slow=9.4,SNR=9.0								
WRA	**Warramunga Arr**	**33.69**	**268**	P		**P**		**20 39 59.4**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=100,slow=8.1,SNR=2.9								
MJAR	**Matsushiro Arr**	**66.26**	**332**	P		**P**		**20 44 05.0**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=169,slow=8.3,SNR=6.6								
KSRS	**Korea Array**	**71.92**	**326**	P		**P**		**20 44 41.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=132,slow=6.7,SNR=4.6								
CMAR	**Chiang Mai Arr**	**80.91**	**294**	P		P		20 45 35.1	+2.7
	comp=Z,1.7nm,0.7s,baz=131,slow=4.0,SNR=10								
SONM	**Songino Array**	**90.59**	**323**	P		**P**		**20 46 20.7**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=144,slow=5.3,SNR=6.2								
ILAR	**Eielson Array**	**93.13**	**17**	P		**P**		**20 46 30.0**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=236,slow=5.3,SNR=4.3								
DPC	**Dobruska-Polom**	**145.72**	**330**	*e*P		**PKPab**		**20 52 57.4**	**+0.6**
VYHS	**Vyhne**	**145.72**	**326**	*e*		**PKPab**		**20 52 56.6**	**-0.2**
UPC	**Upice**	**145.75**	**331**	*e*P		**PKPab**		**20 52 57.3**	**+0.5**
BRG	**Berggiesshubel**	**146.39**	**333**	*e*P		**PKPab**		**20 53 01.4**	**+2.2**
	comp=Z,3.0nm,0.7s								
BRG				*e*				20 53 06.9	
	comp=Z,15nm,1.3s								
KHC	**Kasperske Hory**	**147.84**	**331**	*e*P		**PKPab**		**20 53 04.5**	**-0.5**
GERES	**GERESS Array B**	**147.99**	**331**	PKPbc		**PKPab**		**20 53 04.7**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=55,slow=5.1,SNR=8.7								

*IDC **15** 20:34:04.9*±*0.6,46.92N*×*155.30E,h0km,mb4.1/19, mb1 4.3/24,mb1mx4.2/30,mbtmp4.1/24,ML3.6/5,Error ellipse: s-maj=18.9km s-min=11.8km az=151.0*
*NEIC **15** 20:34:05.9*±*3.7,47.00N*×*155.37E,h4km*±*23km,mb4.6/5, Error ellipse: s-maj=14.1km s-min=7.4km az=149.0*
*BJI **15** 20:34:06.1,47.34N*×*155.31E,h11km,mb4.4/12, Ms7 4.5/1*
*ISCJB **15** 20:34:07.1*±*0.5,47.12N*±*0.07*×*155.34E*±*0.09,h18km, mb4.3/38,Error ellipse: s-maj=11.3km s-min=6.1km az=139.1*
*MOS **15** 20:34:10.9*±*1.6,47.14N*×*155.42E,h50km,mb4.6/10,Error ellipse: s-maj=13.3km s-min=7.3km az=90.7*
ISC 15 20:34:08.3±0.6,**47.04N**±0.07×**155.36E**±0.07,**h18km**,**n127,** σ1§**24**/128,**mb4.4**/38,**7C-13D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**7**	*e*PN		**Pn**		**20 35 04.7**	**+0.4**
SKR				*e*S		**Sn**		**20 35 44.6**	**-2.5**
SKR				pmax	pmax				
	comp=N,20nm,0.5s								
SKR				pmax	pmax				
	comp=N,70nm,0.6s								
SKR				smax	smax				
	comp=E,90nm,0.6s								
SKR				smax	smax				
	comp=Z,130nm,1.0s								
PEA0B	**Petropavlovsk-**	**6.26**	**13**	*e*P		**Pn**		**20 35 39.1**	**-0.6**
PETK	**Petropavlovsk-**	**6.26**	**13**	Pn		**Pn**		**20 35 39.4**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=185,slow=14,SNR=16								
PETK				Sn		**Sb**		**20 37 09.4**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=166,slow=15,SNR=3.0								
PETK	**Petropavlovsk-**	**6.26**	**13**	PN		**Pn**		**20 35 39.4**	**-0.3**
PETK	**Petropavlovsk-**	**6.26**	**13**	Pn		**Pn**		**20 35 39.4**	**-0.3**
PETK				Sn		**Sb**		**20 37 09.4**	**-1.7**
PET	**Petropavlovsk**	**6.36**	**18**	*e*PN		**Pn**		**20 35 39.3**	**-1.7**
PET				pmax	pmax				
	comp=Z,19nm,0.6s								
PET	**Petropavlovsk**	**6.36**	**18**	*e*P		**Pn**		**20 35 39.3**	**-1.7**
	comp=Z,20nm,0.6s								
ASAJ	**Asahikawa**	**9.42**	**257**	Pn		**Pn**		**20 36 22.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=104,slow=20,SNR=3.4								
ASAJ	**Asahikawa**	**9.42**	**257**	PN		**Pn**		**20 36 22.7**	**-0.3**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**9.42**	**257**	Pn		**Pn**		**20 36 22.7**	**-0.3**
FX1	**Attu Island--F**	**12.85**	**56**	Pn		**Pn**		**20 37 09.8**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=84,slow=19,SNR=4.1								
FX1				Sn		Sn		20 39 22.1	-10
	comp=Z,1.0nm,0.3s,baz=131,slow=22,SNR=2.8								
FX1	**Attu Island--F**	**12.85**	**56**	PN		**Pn**		**20 37 09.9**	**-0.1**
FX1	**Attu Island--F**	**12.85**	**56**	Pn		**Pn**		**20 37 09.8**	**-0.1**
FX1				Sn		Sn		20 39 22.1	-10
MJAR	**Matsushiro Arr**	**16.51**	**237**	Pn		**Pn**		**20 37 54.2**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=8.2								
MJAR	**Matsushiro Arr**	**16.51**	**237**	P		**Pn**		**20 37 54.3**	**-4.6**
MJAR	**Matsushiro Arr**	**16.51**	**237**	Pn		**Pn**		**20 37 54.2**	**-4.6**
USRK	**Ussuriysk Arra**	**16.58**	**269**	Pn		**Pn**		**20 37 58.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=12								
YAK	**Yakutsk**	**20.94**	**325**	*e*P		**P**		**20 38 48.1**	**-1.6**
YAK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
BILL	**Bilibino**	**21.79**	**11⇓**	*e*P		**P**		**20 38 59.0**	**+0.2**
BILL				*e*				20 39 20.2	
BILL				*e*S		S		20 42 45.7	-13
BILL				pmax	pmax				
	comp=Z,11nm,1.2s								
BILL	**Bilibino**	**21.79**	**11**	*e*P		**P**		**20 38 59.7**	**+0.9**
	comp=Z,5.2nm,0.6s								
KSRS	**Korea Array**	**22.36**	**255**	P		**P**		**20 39 06.8**	**+1.6**
	comp=Z,4.3nm,0.8s,baz=59,slow=10,SNR=11								
KSRS	**Korea Array**	**22.36**	**255**	P		**P**		**20 39 06.8**	**+1.6**
KSRS				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KSAR	**Wonju Array Be**	**22.39**	**255**	P		**P**		**20 39 06.8**	**+1.3**
KSAR	**Wonju Array Be**	**22.39**	**255**	P		**P**		**20 39 06.8**	**+1.3**
SONM	**Songino Array**	**32.69**	**290**	P		**P**		**20 40 38.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=61,slow=8.9,SNR=8.2								
SONM	**Songino Array**	**32.69**	**290**	P		**P**		**20 40 38.6**	**-0.9**
SONM	**Songino Array**	**32.69**	**290**	P		**P**		**20 40 38.6**	**-0.9**
KDAK	**Kodiak Island**	**32.72**	**51**	P		**P**		**20 40 39.0**	**-0.5**
	comp=Z,15nm,0.8s,baz=306,slow=11,SNR=2.6								
KDAK	**Kodiak Island**	**32.72**	**51**	P		**P**		**20 40 39.0**	**-0.5**
KDAK	**Kodiak Island**	**32.72**	**51**	P		**P**		**20 40 39.0**	**-0.5**
ILAR	**Eielson Array**	**35.36**	**39**	P		**P**		**20 41 02.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=248,slow=7.5,SNR=27								
ILAR	**Eielson Array**	**35.36**	**39**	P		**P**		**20 41 02.4**	**+0.1**
ILAR	**Eielson Array**	**35.36**	**39**	P		**P**		**20 41 02.4**	**+0.1**
LZH	**Lanzhou**	**39.42**	**273**	*e*P		**P**		**20 41 38.0**	**+0.8**
LZH				pP		**pP**		**20 41 43.5**	**+0.7**
LZH				sP		**sP**		**20 41 46.0**	**+1.0**
LZH				pmax	pmax				
	comp=Z,15nm,1.0s								
GTA	**Gaotai**	**40.44**	**280**	*e*P		**P**		**20 41 46.4**	**+0.7**
GTA				pmax	pmax				
	comp=Z,5.0nm,0.8s					

HFS	**Hagfors**	**68.71 341**	P	P	20 45 13.4	+3.1
	comp=Z,1.0nm,0.3s,baz=35,slow=3.6,SNR=7.0					
HFS	**Hagfors**	**68.71 341**	P	P	20 45 13.4	+3.1
HFS	**Hagfors**	**68.71 341**	P	P	20 45 13.4	+3.1
WRA	**Warramunga Arr**	**69.31 201**	P	**P**	**20 45 12.4**	**-2.0**
	comp=Z,3.2nm,0.8s,baz=20,slow=6.5,SNR=13					
WRA	**Warramunga Arr**	**69.31 201**	P	**P**	**20 45 12.5**	**-2.0**
WRA	**Warramunga Arr**	**69.31 201**	P	**P**	**20 45 12.4**	**-2.0**
KIV	**Kislovodsk**	**71.69 315**	*eP*	**P**	**20 45 29.3**	**+0.3**
KIV			pmax	pmax		
	comp=Z,4.0nm,0.9s					
AKASG	**Malin Array Be**	**72.15 327**	P	**P**	**20 45 30.7**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=33,slow=6.2,SNR=6.7					
AKASG	**Malin Array Be**	**72.15 327**	P	**P**	**20 45 30.7**	**-0.7**
AKASG	**Malin Array Be**	**72.15 327**	P	**P**	**20 45 30.7**	**-0.7**
ASAR	**Alice Springs**	**73.00 201**	P	**P**	**20 45 35.5**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=15,slow=5.9,SNR=16					
ASAR	**Alice Springs**	**73.00 201**	P	**P**	**20 45 35.5**	**-1.2**
ASAR	**Alice Springs**	**73.00 201**	P	**P**	**20 45 35.5**	**-1.2**
ANN	**Anapa**	**73.49 319**	*eP*	P	20 45 51.6	+12
ANN			pmax	pmax		
	comp=Z,53nm,1.0s					
KWP	**Kalwaria Pacla**	**75.35 330**	⇓*iP*	**P**	**20 45 50.7**	**+0.4**
KWP	**Kalwaria Pacla**	**75.35 330**	⇓*iP*	**P**	**20 45 50.7**	**+0.4**
TXAR	**Lajitas Array**	**76.00 62**	P	**P**	**20 45 54.7**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=294,slow=3.9,SNR=13					
TXAR	**Lajitas Array**	**76.00 62**	P	**P**	**20 45 54.7**	**+0.3**
TXAR	**Lajitas Array**	**76.00 62**	P	**P**	**20 45 54.7**	**+0.3**
STHS	**Stebnicka Huta**	**76.02 331**	*eP*	**P**	**20 45 52.5**	**-1.7**
STHS			pmax	pmax		
	comp=Z,2.0nm,0.9s					
STHS	**Stebnicka Huta**	**76.02 331**	*eP*	**P**	**20 45 52.5**	**-1.7**
KOLS	**Kolonicke sedl**	**76.09 330**	*eP*	**P**	**20 45 54.5**	**-0.1**
KOLS			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KOLS	**Kolonicke sedl**	**76.09 330**	*eP*	**P**	**20 45 54.5**	**-0.1**
BUR08	**Bucovina Ar. S**	**76.16 328**	*eP*	**P**	**20 45 55.2**	**+0.1**
BURAR	**Bucovina Array**	**76.18 328**	⇑*iP*	**P**	**20 45 55.7**	**+0.5**
TESR		**76.58 326**	⇓*iP*	**P**	**20 45 57.6**	**+0.3**
TRPA	**Tarpa**	**76.69 330**	⇑*iP*	**P**	**20 45 58.7**	**+0.8**
MORC	**Moravsky Berou**	**76.89 333**	⇑P	P	20 46 02.4	+3.3
MORC	**Moravsky Berou**	**76.89 333**	⇑*iP*	P	20 46 02.4	+3.3
MLR	**Muntele Rosu**	**77.70 326**	⇓P	**P**	**20 46 04.7**	**+0.9**
MLR	**Muntele Rosu**	**77.70 326**	⇓*iP*	**P**	**20 46 04.7**	**+0.9**
VOIR		**78.08 327**	⇓P	**P**	**20 46 06.7**	**+0.8**
VOIR		**78.08 327**	⇓*iP*	**P**	**20 46 06.7**	**+0.8**
KHC	**Kasperske Hory**	**78.63 336**	*eP*	**P**	**20 46 09.0**	**+0.2**
KHC	**Kasperske Hory**	**78.63 336**	*eP*	**P**	**20 46 09.0**	**+0.2**
GERES	**GERESS Array B**	**78.86 335**	P	**P**	**20 46 09.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=46,slow=5.8,SNR=5.3					
GERES	**GERESS Array B**	**78.86 335**	P	**P**	**20 46 09.9**	**-0.2**
GERES	**GERESS Array B**	**78.86 335**	P	**P**	**20 46 09.8**	**-0.2**
BZS	**Buzias**	**79.18 329**	⇓P	**P**	**20 46 12.2**	**+0.4**
BZS	**Buzias**	**79.18 329**	⇓*iP*	**P**	**20 46 12.2**	**+0.4**
BRTR	**Keskin Array B**	**79.22 318**	P	**P**	**20 46 13.0**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=106,slow=2.9,SNR=6.8					
BRTR	**Keskin Array B**	**79.22 318**	P	**P**	**20 46 13.0**	**+0.7**
BRTR	**Keskin Array B**	**79.22 318**	P	**P**	**20 46 13.0**	**+0.7**
LPL	**La Plagne**	**83.79 338**	*eP*	**P**	**20 46 38.1**	**+1.6**
LPG	**La Plagne**	**83.80 338**	*eP*	**P**	**20 46 37.3**	**+0.6**
	comp=Z,33nm,1.3s					

*ISCJB **15** 20:38:21.9±1.4, 32°.54S±0°.04×72°.23W±0°.05, h13km±10km, mb3.9/4, Error ellipse: s-maj=7.6km s-min=5.8km az=162.5*

*IDC **15** 20:38:21.4±1.1, 32°.52S×72°.10W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.9/14, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=46.4km s-min=26.3km az=85.0*

*GUC **15** 20:38:23.0±0.8, 32°.54S×72°.11W, h6km±8km, ML4.0*

*NEIC **15** 20:38:23.0, 32°.54S×72°.11W, h6km, ML4.0(GUC), After GUC.*

ISC 15 20:38:22.4±1.9, 32°.54S±0°.03×72°.11W±0°.07, h6km±11km, n42, σ0s53/60, mb4.0/4, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.63**	**141**	*e*P		**Pb**		**20 38 35.5**	**-0.3**
IHA				*i* S		**Sb**		**20 38 45.5**	**+0.7**
IHA	**Instituto Hidr**	**0.63**	**141**	*e*P		**Pb**		**20 38 35.5**	**-0.3**
IHA				*i* S		**Sb**		**20 38 45.5**	**+0.7**
CHNG	**Los Chungos**	**0.84**	**39**	⇓*i*P		**Pb**		**20 38 38.9**	**-0.4**
CHNG				*i* S		**Sb**		**20 38 51.3**	**+0.5**
CHNG	**Los Chungos**	**0.84**	**39**	⇓*i*P		**Pb**		**20 38 38.9**	**-0.4**
CHNG				*i* S		**Sb**		**20 38 51.3**	**+0.5**
ROCH	**El Roble**	**1.02**	**115**	*e*P		**Pg**		**20 38 41.6**	**-0.4**
ROCH				*i* S		**Sb**		**20 38 57.1**	**+0.6**
ROCH				AML		AML		20 38 58.6	
	comp=E,13μm,0.6s								
PTCH	**Petorca**	**1.04**	**75**	⇑*i*P		**Pg**		**20 38 42.4**	**+0.1**
PTCH				*e*S		**Sb**		**20 38 57.1**	**+0.5**
PTCH	**Petorca**	**1.04**	**75**	⇑*i*P		**Pg**		**20 38 42.4**	**+0.1**
PTCH				*e*S		**Sb**		**20 38 57.1**	**+0.5**
PTCH				AML		AML		20 38 59.1	
	comp=N,9μm,0.1s								
LCCH	**Las Cruces**	**1.04**	**154**	⇓*i*P		**Pg**		**20 38 42.5**	**+0.1**
LCCH	**Las Cruces**	**1.04**	**154**	⇓*i*P		**Pg**		**20 38 42.5**	**+0.1**
JACH	**Jahuel**	**1.29**	**97**	⇑*i*P		**Pn**		**20 38 46.2**	**-0.9**
JACH				*i* S		**Sg**		**20 39 04.0**	**+0.1**
JACH	**Jahuel**	**1.29**	**97**	⇑*i*P		**Pn**		**20 38 46.2**	**-0.9**
JACH				*i* S		**Sg**		**20 39 04.0**	**+0.1**
PEL	**Peldehue**	**1.34**	**117**	⇓*i*P		**Pn**		**20 38 47.3**	**-0.5**
PEL				*i* S		**Sn**		**20 39 08.6**	**-0.4**
PEL				AML		AML		20 39 08.3	
	comp=E,10μm,0.5s								
SAN	**Santiago**	**1.52**	**127**	*e*P		**Pn**		**20 38 50.5**	**+0.3**
SAN				*i* S		**Sb**		**20 39 10.5**	**-0.1**
SAN	**Santiago**	**1.52**	**127**	*e*P		**Pn**		**20 38 50.5**	**+0.3**
SAN				*i* S		**Sb**		**20 39 10.5**	**-0.1**
SAN				AML		AML		20 39 13.0	
	comp=N,3μm,0.9s								
STL	**Santa Lucia**	**1.53**	**126**	*e*P		**Pn**		**20 38 50.3**	**+0.1**
STL				*i* S		**Sb**		**20 39 10.4**	**-0.3**
LNV	**Longovilo**	**1.53**	**158**	P		**Pn**		**20 38 49.0**	**-1.3**
LNV	**Longovilo**	**1.53**	**158**	*e*P		**Pn**		**20 38 49.0**	**-1.3**
CLCH	**Cerro Calan**	**1.58**	**123**	⇑*i*P		**Pn**		**20 38 51.2**	**+0.2**
CLCH				*i* S		**Sb**		**20 39 11.9**	**-0.3**
ANTU	**Antumapu**	**1.61**	**130**	*e*P		**Pn**		**20 38 51.8**	**+0.3**
ANTU				*i* S		**Sb**		**20 39 12.8**	**-0.4**
ANTU	**Antumapu**	**1.61**	**130**	*e*P		**Pn**		**20 38 51.8**	**+0.3**
ANTU				*i* S		**Sb**		**20 39 12.8**	**-0.4**
ANTU				AML		AML		20 39 17.1	
	comp=N,2μm,0.5s								
CMCH	**Combarbala**	**1.66**	**35**	⇑*i*P		**Pn**		**20 38 51.9**	**-0.2**
CMCH	**Combarbala**	**1.66**	**35**	⇑*i*P		**Pn**		**20 38 51.9**	**-0.2**
CMCH				AML		AML		20 39 24.8	
	comp=E,5μm,0.8s								
PCH	**Pirque**	**1.72**	**129**	*e*P		**Pn**		**20 38 53.3**	**+0.3**
PCH				*i* S		**Sb**		**20 39 16.4**	**-0.1**
PCH	**Pirque**	**1.72**	**129**	*e*P		**Pn**		**20 38 53.3**	**+0.3**
PCH				*i* S		**Sb**		**20 39 16.4**	**-0.1**
LMEL	**Las Melosas**	**2.06**	**130**	*e*P		**Pn**		**20 38 58.6**	**+0.8**
LMEL	**Las Melosas**	**2.06**	**130**	*e*P		**Pn**		**20 38 58.6**	**+0.8**
LMEL				AML		AML		20 39 31.1	
	comp=N,1μm,0.7s								
PLCA	**Paso Flores**	**8.27**	**172**	Pn		**Pn**		**20 40 23.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=12,slow=11,SNR=6.0								
PLCA	**Paso Flores**	**8.27**	**172**	Pn		**Pn**		**20 40 23.9**	**+0.9**
LPAZ	**La Paz**	**16.58**	**14**	Pn		**Pn**		**20 42 16.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=181,slow=11,SNR=5.5								
LPAZ	**La Paz**	**16.58**	**14**	Pn		**Pn**		**20 42 16.3**	**+0.1**
QSPA	**South Pole Qui**	**57.69**	**180**	P		**P**		**20 48 13.7**	**+0.1**
	comp=N,0.6nm,0.2s,baz=138,slow=2.4,SNR=3.7								
QSPA	**South Pole Qui**	**57.69**	**180**	P		**P**		**20 48 13.7**	**+0.1**
TXAR	**Lajitas Array**	**68.43**	**331**	P		**P**		**20 49 25.5**	**+0.2**
	comp=N,0.4nm,0.7s,baz=166,slow=12,SNR=3.8								
TXAR	**Lajitas Array**	**68.43**	**331**	P		**P**		**20 49 25.5**	**+0.2**
DBIC	**Dimbokro**	**74.78**	**72**	P		**P**		**20 50 04.5**	**+0.7**
	comp=N,1.5nm,0.8s,baz=245,slow=14,SNR=3.0								
DBIC	**Dimbokro**	**74.78**	**72**	P		**P**		**20 50 04.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**83.77**	**70**	P		**P**		**20 50 52.5**	**-0.4**
	comp=N,0.9nm,0.9s,baz=250,slow=4.1,SNR=4.5								
TORD	**Torodi Ar. Bea**	**83.77**	**70**	P		**P**		**20 50 52.5**	**-0.4**
KURK	**Kurchatov**	**151.84**	**41**	PKPbc		**PKPbc**		**20 58 17.0**	**-0.7**
	comp=N,1.0nm,0.2s,baz=295,slow=3.4,SNR=3.3								
KURK	**Kurchatov**	**151.84**	**41**	PKPbc		**PKPbc**		**20 58 17.0**	**-0.7**
ZALV	**Zalesovo Beam**	**153.02**	**31**	PKPbc		**PKPbc**		**20 58 19.7**	**-0.5**
	comp=N,0.9nm,0.7s,baz=325,slow=1.8,SNR=4.4								
ZALV	**Zalesovo Beam**	**153.02**	**31**	PKPbc		**PKPbc**		**20 58 19.7**	**-0.5**

IDC 15 20:39:17.5±0.9, 47°.07N×155°.60E, h0km, mb3.7/13, mb1 3.9/16, mb1mx3.8/28, mbtmp3.7/16, ML3.1/3, Error ellipse: s-maj=24.9km s-min=15.5km az=150.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.19**	**12**	Pn		Pn	Pn	20 40 49.5	-0.6
	0.5nm,0.3s,baz=161,slow=15,SNR=4.0								
PETK				Sn		Sn	Sn	20 42 04.0	+2.4
	0.5nm,0.3s,baz=133,slow=17,SNR=3.2								
MJAR	**Matsushiro Arr**	**16.66**	**237**	Pn		Pn	Pn	20 43 12.9	+0.6
	0.2nm,0.3s,baz=234,slow=13,SNR=6.6								
USRK	**Ussuriysk Arra**	**16.74**	**269**	Pn		Pn	Pn	20 43 12.8	-0.5
	0.2nm,0.3s,baz=73,slow=14,SNR=2.9								
SONM	**Songino Array**	**32.83**	**290**	P		P	P	20 45 51.8	-1.0
	0.4nm,0.8s,baz=80,slow=8.1,SNR=3.3								
ILAR	**Eielson Array**	**35.23**	**39**	P		P	P	20 46 12.7	-0.5
	0.4nm,0.5s,baz=253,slow=8.1,SNR=10								
INK	**Inuvik**	**40.46**	**33**	P		P	P	20 46 58.0	+0.7
	1.1nm,0.8s,baz=307,slow=5.5,SNR=6.6								
ZALV	**Zalesovo Beam**	**43.80**	**306**	P		P	P	20 47 23.8	-0.9
	0.5nm,0.4s,baz=57,slow=7.7,SNR=4.7								
ZALV				PcP		PcP	PcP	20 49 10.8	-0.5
	0.3nm,0.4s,baz=85,slow=3.4,SNR=4.0								
MKAR	**Makanchi Array**	**48.30**	**298**	P		P	P	20 48 00.2	-0.2
	0.8nm,1.0s,baz=60,slow=7.2,SNR=3.6								
YKA	**Yellowknife Ar**	**49.64**	**38**	P		P	P	20 48 10.4	+0.1
	0.6nm,0.7s,baz=295,slow=7.3,SNR=7.4								
BVAR	**Borovoye Array**	**51.97**	**310**	P		P	P	20 48 28.3	+0.3
	0.9nm,0.4s,baz=56,slow=6.7,SNR=17								
CMAR	**Chiang Mai Arr**	**54.11**	**258**	P		P	P	20 48 45.1	+0.9
	0.4nm,0.5s,baz=37,slow=7.0,SNR=3.9								
PDAR	**Pinedale Array**	**63.17**	**55**	P		P	P	20 49 47.0	-0.4
	0.5nm,0.9s,baz=343,slow=3.1,SNR=3.5								
FINES	**FINESS Array B**	**64.46**	**336**	P		P	P	20 49 55.8	+0.5
	2.0nm,0.7s,baz=64,slow=4.4,SNR=6.3								
ASAR	**Alice Springs**	**73.08**	**201**	P		P	P	20 50 49.3	-0.2
	0.4nm,0.7s,baz=17,slow=9.7,SNR=3.8								
TXAR	**Lajitas Array**	**75.84**	**62**	P		P	P	20 51 05.5	-0.2
	0.2nm,0.5s,baz=299,slow=5.5,SNR=4.0								
BRTR	**Keskin Array B**	**79.31**	**318**	P		P	P	20 51 24.9	-0.2
	0.5nm,0.9s,baz=270,slow=1.2,SNR=3.6								

IDC 15 20:45:01.3±1.6, 47°.14N×155°.25E, h0km, mb3.5/9, mb1 3.8/11, mb1mx3.6/26, mbtmp3.6/11, ML2.9/2, Error ellipse: s-maj=46.7km s-min=17.3km az=161.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.50**	**236**	Pn		P	P	20 48 55.5	-1.3
	0.1nm,0.3s,baz=24,slow=11,SNR=4.9								
USRK	**Ussuriysk Arra**	**16.50**	**268**	Pn		Pn	Pn	20 48 53.7	-0.2
	0.2nm,0.3s,baz=70,slow=14,SNR=4.7								
SONM	**Songino Array**	**32.58**	**290**	P		P	P	20 51 34.8	+0.5
	0.3nm,0.8s,baz=76,slow=8.0,SNR=2.7								
ILAR	**Eielson Array**	**35.33**	**39**	P		P	P	20 51 57.4	-0.4
	0.4nm,0.7s,baz=254,slow=7.3,SNR=8.4								
INK	**Inuvik**	**40.53**	**33**	P		P	P	20 52 43.1	+1.6
ZALV	**Zalesovo Beam**	**43.56**	**306**	P		P	P	20 53 05.4	-1.2
	0.3nm,0.5s,baz=66,slow=7.2,SNR=3.6								
MKAR	**Makanchi Array**	**48.05**	**298**	P		P	P	20 53 41.6	-0.5
	0.5nm,0.8s,baz=69,slow=8.3,SNR=6.0								
KURK	**Kurchatov**	**48.36**	**304**	P		P	P	20 53 45.4	+1.0
	1.4nm,0.7s,baz=66,slow=8.3								
YKA	**Yellowknife Ar**	**49.73**	**37**	P		P	P	20 53 54.5	-0.2
	0.1nm,0.4s,baz=294,slow=7.4,SNR=3.4								
CMAR	**Chiang Mai Arr**	**53.88**	**258**	P		P	P	20 54 26.3	0.0
	0.3nm,0.6s,baz=34,slow=6.6,SNR=3.4								
FINES	**FINESS Array B**	**64.30**	**336**	P		P	P	20 55 37.6	-0.4
	2.3nm,0.8s,baz=21,slow=8.9,SNR=4.9								
TXAR	**Lajitas Array**	**76.02**	**62**	P		P	P	20 56 49.6	-0.9
	0.4nm,0.7s,baz=281,slow=3.6,SNR=4.5								

*IDC **15** 20:48:31.2±0.8, 0°.60S×133°.44E, h0km, mb4.6/9, mb1 4.8/12, mb1mx4.5/20, mbtmp4.7/12, ML4.6/3, MS4.7/1, Ms1 4.7/1, ms1mx3.8/35, Error ellipse: s-maj=39.5km s-min=14.3km az=82.0*

*ISCJB **15** 20:48:34.4±0.5, 0°.63S±0°.05×133°.31E±0°.07, h32km, mb4.6/21, Error ellipse: s-maj=10.3km s-min=7.2km az=163.5*

*DJA **15** 20:48:37, 0°.73S×133°.21E, h15km, mb4.9/14*

*NEIC **15** 20:48:37.0±0.3, 0°.72S×132°.97E, h35km, mb4.6/12, Error ellipse: s-maj=13.3km s-min=6.0km az=72.0*

ISC 15 20:48:36.5±0.5, 0°.62S±0°.08×133°.24E±0°.07, h32km, n61, σ1s17/58, mb4.7/21, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.49**	**203**	P		**Pn**		**20 49 14.6**	**-0.3**
BAKI	**Biak**	**2.93**	**101**	P		**Pb**		**20 49 27.7**	**-0.3**
TLE	**Tual**	**5.01**	**186**	P		**Pn**		**20 49 51.6**	**+2.0**
MSAI	**Masohi**	**5.09**	**238**	P		**Pn**		**20 49 52.5**	**+1.9**
LBMI	**Labuha**	**5.74**	**270**	P		**Pn**		**20 50 00.1**	**+0.6**
	104nm,1.1s,0.6nm								
AAI	**Ambon**	**5.89**	**239**	P		**Pn**		**20 50 01.8**	**+0.2**
	914nm,0.7s,11μm3.5nm								
DAV	**Davao City (W)**	**10.80**	**315**	LR		LR		20 54 35.3	
	comp=Z,4μm,20.9s,baz=18,slow=33								
KAPI	**Kappang**	**14.16**	**252**	Pn		**Pn**		**20 51 57.2**	**+2.3**
	2.5nm,0.3s,baz=69,slow=2.4,SNR=11								
KAPI	**Kappang**	**14.16**	**252**	Pn		**Pn**		**20 51 57.2**	**+2.3**
PMG	**Port Moresby**	**16.38**	**123**	Pn		**P**		**20 52 29.3**	**+2.5**
	2.3nm,0.3s,baz=335,slow=12,SNR=4.7								
PMG	**Port Moresby**	**16.38**	**123**	*e*P		**P**		**20 52 27.6**	**+0.8**
	21nm,1.1s								
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P		**P**		**20 52 52.9**	**-1.9**
	1.4nm,0.3s,baz=43,slow=12,SNR=18								
FITZ	**Fitzroy Crossi**	**18.91**	**203**	*e*P		**P**		**20 52 52.6**	**-2.1**
	23nm,0.4s								
FITZ				*e*S		Sn		20 56 07.9	-19
FITZ	**Fitzroy Crossi**	**18.91**	**203**	*e*P		**P**		**20 52 51.8**	**-2.9**
	18nm,0.6s								
WRAB	**Tennant Creek**	**19.23**	**177**	*e*P		**P**		**20 52 56.8**	**-1.4**
	29nm,0.9s								
WRAB				*e*Sn		Sn		20 56 22.0	-12
WRA	**Warramunga Arr**	**19.24**	**177**	P		**P**		**20 52 57.3**	**-1.0**
	2.2nm,0.3s,baz=354,slow=11,SNR=68								
WRA	**Warramunga Arr**	**19.24**	**177**	P		**P**		**20 52 57.3**	**-1.0**
WB2	**Warramunga Arr**	**19.24**	**177**	*e*P		**P**		**20 52 57.2**	**-1.2**
AS31	**Alice Springs**	**22.92**	**178**	*e*P		**P**		**20 53 37.2**	**-0.8**
ASAR	**Alice Springs**	**22.92**	**178**	P		**P**		**20 53 37.5**	**-0.6**
	30nm,0.6s,baz=1.3,slow=10,SNR=149								
ASAR	**Alice Springs**	**22.92**	**178**	P		**P**		**20 53 37.5**	**-0.6**
CTA	**Charters Tower**	**23.17**	**147**	P		**P**		**20 53 42.0**	**+1.4**
	30nm,0.7s,baz=324,slow=11,SNR=35								
CTA	**Charters Tower**	**23.17**	**147**	*e*P		**P**		**20 53 41.8**	**+1.2**
	25nm,0.7s								
CTA				*e*S		S		20 57 20.4	-30
CTA	**Charters Tower**	**23.17**	**147**	P		**P**		**20 53 42.0**	**+1.4**
CTAO	**Charters Tower**	**23.17**	**147**	*e*P		**P**		**20 53 41.3**	**+0.7**
	35nm,0.8s								
MBWA	**Marble Bar**	**24.31**	**212**	*e*P		**P**		**20 53 50.8**	**-0.5**
MBWA	**Marble Bar**	**24.31**	**212**	*e*P		**P**		**20 53 50.5**	**-0.9**
	25nm,0.9s								
BJII	**Banjamegara**	**24.39**	**254**	P		**P**		**20 53 54.4**	**+2.1**
	67nm,1.6s								
CISI	**Cisompet, Garu**	**26.26**	**254**	P		**P**		**20 54 09.0**	**-0.3**
	140nm,0.7s								
TNG	**Tangerang**	**27.10**	**258**	P		**P**		**20 54 16.8**	**0.0**
QLP	**Quilpie**	**27.90**	**159**	*e*P		**P**		**20 54 23.1**	**-0.7**
FORT	**Forrest**	**30.40**	**189**	*e*P		**P**		**20 54 45.9**	**0.0**
	22nm,0.6s								
STKA	**Stephens Creek**	**32.08**	**167**	P		**P**		**20 55 00.1**	**-0.6**
	13nm,0.5s,baz=341,slow=8.4,SNR=61								
STKA	**Stephens Creek**	**32.08**	**167**	*e*P		**P**		**20 54 59.9**	**-0.8**
	11nm,0.4s								
STKA	**Stephens Creek**	**32.08**	**167**	P		**P**		**20 55 00.1**	**-0.6**
KMBL	**Kambalda**	**32.42**	**198**	*e*P		**P**		**20 55 03.2**	**-0.5**
	95nm,0.6s								
ARMA	**Armidale**	**34.41**	**151**	*e*P		**P**		**20 55 21.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**35.50**	**204**	P		**P**		**20 55 31.1**	**+0.7**
	5.0nm,0.6s,baz=11,slow=14,SNR=3.8								
NWAO	**Narrogin (SRO)**	**35.50**	**204**	P		**P**		**20 55 29.3**	**-1.1**
	10nm,0.9s								
CMAR	**Chiang Mai Arr**	**38.67**	**301**	P		P	P	20 56 03.9	+6.3
	1.4nm,0.8s,baz=116,slow=5.4,SNR=4.4								
CMAR	**Chiang Mai Arr**	**38.67**	**301**	P		P	P	20 56 03.9	+6.3
LSA	**Lhasa**	**50.18**	**311**	*e*P		**P**		**20 57 29.3**	**-0.7**
	3.6nm,0.8s								
SONM	**Songino Array**	**53.61**	**338**	P		**P**		**20 57 55.7**	**+0.8**
	0.3nm,0.6s,baz=155,slow=6.9,SNR=3.7								
SONM	**Songino Array**	**53.61**	**338**	P		**P**		**20 57 55.7**	**+0.8**

MKAR	**Makanchi Array**	**64.84**	**324**	P		**P**	**20 59 13.0**	**+0.5**
	2.6nm,0.5s,baz=114,slow=8.0,SNR=25							
MKAR	**Makanchi Array**	**64.84**	**324**	P		**P**	**20 59 13.0**	**+0.5**
ZALV	**Zalesovo Beam**	**67.44**	**331**	P		**P**	**20 59 29.2**	**+0.2**
	1.1nm,0.6s,baz=127,slow=7.1,SNR=6.4							
ZALV	**Zalesovo Beam**	**67.44**	**331**	P		**P**	**20 59 29.2**	**+0.2**
KURK	**Kurchatov**	**68.91**	**326**	P		**P**	**20 59 38.7**	**+0.5**
	4.1nm,0.7s,baz=120,slow=5.8,SNR=24							
KURK	**Kurchatov**	**68.91**	**326**	*e*P		**P**	**20 59 38.4**	**+0.2**
	4.5nm,0.6s							
BRVK	**Borovoye**	**74.58**	**326**	*e*P		**P**	**21 00 12.2**	**-0.1**
	4.5nm,0.6s							
VNDA	**Vanda**	**78.38**	**174**	*e*P		**P**	**21 00 33.3**	**-0.1**
	3.1nm,0.9s							
ABKAR	**Akbulak array**	**79.61**	**320**	*e*P		**P**	**21 00 40.0**	**-0.6**
	3.2nm,0.7s							
ILAR	**Eielson Array**	**86.23**	**25**	P		**P**	**21 01 14.1**	**-0.6**
	0.8nm,0.7s,baz=250,slow=4.9,SNR=8.6							
ILAR	**Eielson Array**	**86.23**	**25**	P		**P**	**21 01 14.1**	**-0.6**
QSPA	**South Pole Qui**	**89.32**	**180**	P		**P**	**21 01 29.7**	**+0.1**
	6.5nm,0.9s,baz=343,slow=2.1,SNR=12							
QSPA	**South Pole Qui**	**89.32**	**180**	*e*P		**P**	**21 01 29.2**	**-0.4**
	9.3nm,1.1s							
ARCES	**ARCESS Array B**	**96.72**	**340**	P		**P**	**21 02 02.6**	**-0.8**
	4.1nm,1.0s,baz=50,slow=6.5,SNR=5.3							
ARCES	**ARCESS Array B**	**96.72**	**340**	P		**P**	**21 02 02.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**130.42**	**287**	PKP		**PKPdf**	**21 07 43.4**	**-1.5**
	0.5nm,0.8s,baz=87,slow=2.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**130.42**	**287**	PKP		**PKPdf**	**21 07 43.4**	**-1.5**

*IDC **15** 20:50:14.6±1.4, 23°.21S×174°.58W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/17, mbtmp4.2/12, Error ellipse: s-maj=64.0km s-min=20.4km az=160.0*

*NEIC **15** 20:50:19.7±0.6, 23°.32S×174°.57W, h35km, mb4.8/4, Error ellipse: s-maj=22.4km s-min=11.0km az=166.0*

ISC 15 20:50:18.5±0.8, 23°.4S±0°.2×174°.27W±0°.09, h35km, n42, σ1s39/38, mb4.3/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.13**	**307**	*e*P		**Pn**		**20 52 25.9**	**-1.9**
	27nm,1.0s								
RAR	**Rarotonga**	**13.

SLVT	**Silivri**	**0.90 306**	*e*Pg	Pb	20 53 32.2	-0.3		
BNT	**Bandirma**	**1.02 250**	*e*PG	Pg	20 53 34.2	+0.1		
BNT	**Bandirma**	**1.02 250**	*e*Pg	Pg	20 53 34.2	+0.1		
CTYL	**Yal??k??y-??at**	**1.02 319**	*e*PG	Pb	20 53 34.4	-0.1		
CTYL	**Yal??k??y-??at**	**1.02 319**	*e*Pg	Pb	20 53 34.4	-0.2		
GULT	**Gulveren**	**1.06 105**	*e*PG	Pb	20 53 35.3	-0.1		
GULT	**Gulveren**	**1.06 105**	*e*Pg	Pb	20 53 35.3	0.0		
EDC	**Edincik**	**1.06 251**	*e*PG	Pn	20 53 36.0	+0.1		
EDC	**Edincik**	**1.06 251**	*e*Pg	Pn	20 53 36.0	+0.1		
CRLT	**Corlu**	**1.17 292**	*e*PN	Pn	20 53 37.5	0.0		
CRLT	**Corlu**	**1.17 292**	*e*Pn	Pn	20 53 37.5	+0.1		
DURS	**Dursunbey**	**1.23 206**	*i* P	Pn	20 53 39.9	+1.6		
DURS			*i* S	Sn	20 53 55.6	+0.3		
DURS	**Dursunbey**	**1.23 206**	*i* P	Pn	20 53 39.9	+1.6		
DURS			*i* S	Sn	20 53 55.6	+0.3		
TKR	**Tekirdag**	**1.28 283**	*e*PN	Pg	20 53 39.3	+0.3		
TKR	**Tekirdag**	**1.28 283**	*e*Pn	Pg	20 53 39.3	+0.3		
GONE	**Gonen-Balikesi**	**1.31 240**	*e*PN	Pg	20 53 39.9	+0.1		
GONE	**Gonen-Balikesi**	**1.31 240**	*e*Pn	Pg	20 53 39.9	+0.2		
BALB	**Balikesir**	**1.46 223**	*e*PN	Pb	20 53 41.8	-0.2		
BALB	**Balikesir**	**1.46 223**	*e*Pn	Pb	20 53 41.8	-0.2		
KRBG	**Karabiga-Canak**	**1.46 258**	*e*PN	Pb	20 53 42.2	+0.1		
KRBG	**Karabiga-Canak**	**1.46 258**	*e*Pn	Pb	20 53 42.3	+0.2		
SART	**Tekirdag**	**1.52 270**	*i* P	Pn	20 53 42.5	+0.2		
SART			*i* S	Sg	20 54 03.5	0.0		
SART	**Tekirdag**	**1.52 270**	*i* P	Pn	20 53 42.5	+0.2		
SART			*i* S	Sg	20 54 03.5	0.0		
RKY	**Sarkoy-Tekirda**	**1.52 270**	*e*PN	Pb	20 53 42.8	-0.3		
RKY	**Sarkoy-Tekirda**	**1.52 270**	*e*Pn	Pb	20 53 42.8	-0.4		
BALY	**Balya**	**1.53 231**	*i* P	Pg	20 53 43.7	-0.3		
BALY			*i* S	Sg	20 54 04.4	+0.5		
BALY	**Balya**	**1.53 231**	*i* P	Pg	20 53 43.7	-0.3		
BALY			*i* S	Sg	20 54 04.4	+0.5		
MDUB	**Mudurnu**	**1.56 98**	*e*PN	Pb	20 53 43.7	-0.2		
MDUB	**Mudurnu**	**1.56 98**	*e*Pn	Pb	20 53 43.7	-0.2		
GDZ	**Gediz**	**1.63 172**	*i* P	Pn	20 53 44.4	+0.5		
GDZ			*i* S	Sg	20 54 08.4	+1.0		
GDZ	**Gediz**	**1.63 172**	*i* P	Pn	20 53 44.4	+0.4		
GDZ			*i* S	Sg	20 54 08.4	+1.1		
DEMI	**Demirci**	**1.70 192**	*i* P	Pn	20 53 44.9	+0.1		
DEMI			*i* S	Sg	20 54 09.3	0.0		
DEMI	**Demirci**	**1.70 192**	*i* P	Pn	20 53 44.9	+0.1		
DEMI			*i* S	Sg	20 54 09.3	0.0		
ESKT	**Eskisehir**	**1.75 132**	*e*PN	Pn	20 53 46.2	+0.7		
ESKT	**Eskisehir**	**1.75 132**	*e*Pn	Pn	20 53 46.2	+0.7		
ALT	**Altintas**	**1.80 156**	*e*PN	Pn	20 53 46.7	+0.5		
ALT	**Altintas**	**1.80 156**	*e*Pn	Pn	20 53 46.7	+0.5		
LPK	**Lapseki**	**1.87 261**	*e*PN	Pn	20 53 47.9	+0.9		
LPK	**Lapseki**	**1.87 261**	*e*Pn	Pn	20 53 47.9	+0.9		
ERIK	**Erikli-Kesan**	**2.02 270**	*e*PN	Pn	20 53 50.2	+1.1		
ERIK	**Erikli-Kesan**	**2.02 270**	*e*Pn	Pn	20 53 50.2	+1.1		
GELI	**Tayfur-Gelibol**	**2.08 262**	*e*PN	Pn	20 53 51.0	+1.0		
GELI	**Tayfur-Gelibol**	**2.08 262**	*e*Pn	Pn	20 53 51.0	+1.1		
AKS	**Akhisar**	**2.10 210**	*e*PN	Pn	20 53 51.5	+1.2		
AKS	**Akhisar**	**2.10 210**	*e*Pn	Pn	20 53 51.5	+1.2		
EDRB	**Edirne**	**2.16 303**	*e*PN	Pn	20 53 52.1	+1.1		
EDRB	**Edirne**	**2.16 303**	*e*Pn	Pn	20 53 52.1	+1.1		
ENEZ	**Enez**	**2.30 272**	*e*PN	Pn	20 53 54.0	+1.2		
ENEZ	**Enez**	**2.30 272**	*e*Pn	Pn	20 53 54.1	+1.2		
KHAL	**Karahalli**	**2.34 174**	*i* P	Pn	20 53 53.7	-0.1		
KHAL			*i* S	Sg	20 54 30.7	+0.5		
KHAL	**Karahalli**	**2.34 174**	*i* P	Pn	20 53 53.7	0.0		
KHL	**Karahalli**	**2.40 173**	*e*PN	Pn	20 53 55.5	+1.2		
KHL	**Karahalli**	**2.40 173**	*e*Pn	Pn	20 53 55.5	+1.1		
TIRR	**Tirgusor**	**3.79 352**	⇓*i*P	Pn	20 54 13.8	+0.4		
TIRR			*i* S	Sn	20 54 57.7	-0.6		

BUC 15 20:53:25.9±0.6, 45°48.N×26°.80E, h40km, MD2.1/1, 6C, Error ellipse: s-maj=11.0km s-min=5.0km az=13.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PLOR	**Plostina**	**0.38**	**344**	⇑*i*P	Pn	20 53 35.1		-0.1
PLOR	**Plostina**	**0.38**	**344**	*i* S	Sn	20 53 42.7		+0.9
PLOR	**Plostina**	**0.38**	**344**	⇑*i*P	Pn	20 53 35.1		-0.1
PLOR				*i* S	Sn	20 53 42.7		+0.9
VRI	**Vrincioaia**	**0.39**	**353**	⇑*i*P	Pn	20 53 36.0		+0.7
VRI	**Vrincioaia**	**0.39**	**353**	*i* S	Sn	20 53 43.0		+1.2
VRI	**Vrincioaia**	**0.39**	**353**	⇑*i*P	Pn	20 53 36.0		+0.7
VRI				*i* S	Sn	20 53 43.0		+1.2
MLR	**Muntele Rosu**	**0.60**	**271**	⇑*i*P	Pn	20 53 38.8		+0.6
MLR	**Muntele Rosu**	**0.60**	**271**	*i* S	Sn	20 53 47.3		+0.4
MLR	**Muntele Rosu**	**0.60**	**271**	⇑*i*P	Pn	20 53 38.8		+0.6
MLR				*i* S	Sn	20 53 47.3		+0.4
CFR	**Carcaliu**	**0.99**	**107**	*i* S	Sn	20 53 57.0		+0.9
CFR	**Carcaliu**	**0.99**	**107**	*i* S	Sn	20 53 57.0		+0.9

*IDC **15** 21:00:14.1±0.7, 46°.96N×155°.39E, h0km, mb3.9/16, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, ML3.3/3, Error ellipse: s-maj=20.5km s-min=13.3km az=147.0*
*ISCJB **15** 21:00:15.6±0.6, 47°.04N±0°.07×155°.4E±0°.1, h18km, mb3.9/19, Error ellipse: s-maj=15.3km s-min=6.7km az=37.1*
*NEIC **15** 21:00:19.8±0.5, 47°.07N×155°.36E, h35km, mb4.3/3, Error ellipse: s-maj=12.9km s-min=6.3km az=131.0*
ISC 15 21:00:16.5±0.7, 46°.93N±0°.09×155°.51E±0°.10, h18km, n49, σ0°.96/51, mb3.9/19, 2C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PEA0B	**Petropavlovsk-**	**6.35**	**12**	*e*Pn	**Pn**	**21 01 48.3**		**-0.8**
PETK	**Petropavlovsk-**	**6.35**	**12**	Pn	**Pn**	**21 01 48.3**		**-0.8**
	1.1nm,0.3s,baz=185,slow=14,SNR=5.6							
PETK				Sn	**Sn**	**21 03 01.8**		**+0.8**
	0.4nm,0.3s,baz=188,slow=20,SNR=2.2							
PETK	**Petropavlovsk-**	**6.35**	**12**	Pn	**Pn**	**21 01 48.3**		**-0.8**
PETK				Sn	**Sn**	**21 03 01.8**		**+0.8**
PET	**Petropavlovsk**	**6.43**	**17**	Pn	**Pn**	**21 01 49.4**		**-0.8**
PET				Sn	Sn	21 02 55.1		-7.9
FX1	**Attu Island--F**	**12.83**	**56**	Pn	**Pn**	**21 03 15.1**		**-2.8**
	1.0nm,0.3s,baz=243,slow=2.3,SNR=3.4							
FX1				Sn	Sn	21 05 30.9		-9.2
	1.6nm,0.3s,baz=342,slow=20,SNR=4.2							
FX1	**Attu Island--F**	**12.83**	**56**	Pn	**Pn**	**21 03 15.1**		**-2.8**
FX1				Sn	Sn	21 05 30.9		-9.2
MJAR	**Matsushiro Arr**	**16.53**	**237**	Pn	**P**	**21 04 09.6**		**-0.3**
	0.2nm,0.3s,baz=29,slow=11,SNR=5.6							
MJAR	**Matsushiro Arr**	**16.53**	**237**	Pn	**P**	**21 04 09.6**		**-0.3**
USRK	**Ussuriysk Arra**	**16.68**	**269**	Pn	**Pn**	**21 04 07.7**		**-1.4**
	0.1nm,0.3s,baz=69,slow=13,SNR=3.0							
BILL	**Bilibino**	**21.88**	**11**	*e*P	**P**	**21 05 08.6**		**+0.6**
	5.3nm,0.4s							
KSRS	**Korea Array**	**22.43**	**255**	P	**P**	**21 05 14.9**		**+0.8**
	1.6nm,0.6s,baz=51,slow=9.9,SNR=5.2							
KSAR	**Wonju Array Be**	**22.46**	**255**	P	**P**	**21 05 14.9**		**+0.5**
SONM	**Songino Array**	**32.82**	**290**	P	**P**	**21 06 48.2**		**-0.7**
	0.4nm,0.7s,baz=62,slow=8.1,SNR=3.9							
SONM	**Songino Array**	**32.82**	**290**	P	**P**	**21 06 48.2**		**-0.7**
ILAR	**Eielson Array**	**35.38**	**39**	P	**P**	**21 07 11.3**		**+0.6**
	1.0nm,0.5s,baz=252,slow=7.7,SNR=31							
ILAR	**Eielson Array**	**35.38**	**39**	P	**P**	**21 07 11.3**		**+0.6**
INK	**Inuvik**	**40.62**	**33**	P	**P**	**21 07 56.5**		**+1.7**
	1.2nm,0.7s,baz=290,slow=6.1,SNR=9.4							
INK	**Inuvik**	**40.62**	**33**	P	**P**	**21 07 56.5**		**+1.7**
ZALV	**Zalesovo Beam**	**43.84**	**306**	P	**P**	**21 08 19.9**		**-1.3**
	0.9nm,0.5s,baz=51,slow=7.5,SNR=7.1							
ZALV				PcP	**PcP**	**21 10 07.5**		**+0.2**
	1.1nm,0.8s,baz=22,slow=1.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**43.84**	**306**	P	**P**	**21 08 19.9**		**-1.3**
ZALV				PcP	**PcP**	**21 10 07.5**		**+0.2**
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**21 08 56.3**		**-0.3**
	0.9nm,0.7s,baz=65,slow=7.7,SNR=8.8							
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**21 08 56.3**		**-0.3**
KURK	**Kurchatov**	**48.63**	**304**	P	**P**	**21 08 59.0**		**+0.1**
	3.1nm,0.6s,baz=68,slow=8.3,SNR=29							
KURK	**Kurchatov**	**48.63**	**304**	*e*P	**P**	**21 08 57.8**		**-1.1**
	3.8nm,0.7s							
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**21 09 08.7**		**+1.1**
	0.5nm,0.6s,baz=296,slow=7.2,SNR=7.6							
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**21 09 08.7**		**+1.1**
BRVK	**Borovoye**	**52.05**	**310**	*e*P	**P**	**21 09 24.8**		**0.0**
CMAR	**Chiang Mai Arr**	**54.01**	**258**	P	**P**	**21 09 39.3**		**-0.4**
	1.3nm,0.6s,baz=37,slow=7.4,SNR=10							
CMAR	**Chiang Mai Arr**	**54.01**	**258**	P	**P**	**21 09 39.3**		**-0.4**
ARU	**Arti**	**55.98**	**318**	*e*P	**P**	**21 09 53.2**		**-0.2**
KBL	**Kabul**	**63.52**	**293**	*e*P	**P**	**21 10 46.2**		**+0.3**
	0.6nm,0.6s							
FINES	**FINESS Array B**	**64.57**	**336**	P	**P**	**21 10 52.0**		**0.0**
	2.6nm,0.8s,baz=30,slow=7.4,SNR=11							
FINES	**FINESS Array B**	**64.57**	**336**	P	**P**	**21 10 52.0**		**0.0**
WRA	**Warramunga Arr**	**69.25**	**201**	P	**P**	**21 11 22.2**		**0.0**
	1.1nm,0.7s,baz=20,slow=6.8,SNR=8.0							
WRA	**Warramunga Arr**	**69.25**	**201**	P	**P**	**21 11 22.2**		**0.0**
AKASG	**Malin Array Be**	**72.30**	**327**	P	**P**	**21 11 40.2**		**-0.3**
	1.1nm,0.5s,baz=32,slow=5.6,SNR=3.9							
AKASG	**Malin Array Be**	**72.30**	**327**	P	**P**	**21 11 40.2**		**-0.3**
ASAR	**Alice Springs**	**72.92**	**207**	P	**P**	**21 11 45.4**		**+0.8**
	1.2nm,0.6s,baz=17,slow=5.8,SNR=17							
ASAR	**Alice Springs**	**72.93**	**201**	P	**P**	**21 11 45.4**		**+0.8**
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**21 12 03.2**		**+0.8**
	0.5nm,0.5s,baz=305,slow=3.2,SNR=9.8							
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**21 12 03.2**		**+0.8**
TRPA	**Tarpa**	**76.84**	**330**	⇓*i*P	P	21 12 10.1		+3.1
CLL	**Collm**	**76.97**	**337**	*e*P	P	21 12 12.0		+4.4
	comp=Z,8.0nm,1.3s							
MLR	**Muntele Rosu**	**77.85**	**326**	⇑*i*P	**P**	**21 12 14.1**		**+1.2**
VOIR		**78.23**	**327**	⇑*i*P	**P**	**21 12 15.8**		**+0.9**
GERES	**GERESS Array B**	**79.00**	**335**	P	**P**	**21 12 19.6**		**+0.5**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.6,SNR=2.6							
GERES	**GERESS Array B**	**79.00**	**335**	P	**P**	**21 12 19.6**		**+0.5**
BRTR	**Keskin Array B**	**79.37**	**318**	P	**P**	**21 12 22.0**		**+0.6**
	comp=Z,0.7nm,0.8s,baz=50,slow=2.9,SNR=4.5							
BRTR	**Keskin Array B**	**79.37**	**318**	P	**P**	**21 12 22.0**		**+0.6**

IDC 15 21:03:47.7±0.9, 46°.92N×155°.51E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.8/26, mbtmp3.7/14, ML3.1/3, Error ellipse: s-maj=23.5km s-min=15.7km az=143.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PETK	**Petropavlovsk-**	**6.36**	**12**	Pn	Pn	21 05 22.4		-0.2
	1.0nm,0.3s,baz=180,slow=13,SNR=8.0							
PETK				Sn	Sn	21 06 38.3		+2.4
	0.2nm,0.3s,baz=178,slow=21,SNR=2.6							
FX1	**Attu Island--F**	**12.84**	**56**	Pn	Pn	21 06 50.0		-1.4
	0.7nm,0.3s,baz=229,slow=20,SNR=2.3							
FX1				Sn	Sn	21 09 01.1		-14
	0.5nm,0.3s,baz=101,slow=19,SNR=2.3							
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn	P	21 07 45.7		+2.1
	0.1nm,0.3s,baz=31,slow=9.0,SNR=5.4							
USRK	**Ussuriysk Arra**	**16.67**	**269**	Pn	Pn	21 07 43.2		+0.6
	0.1nm,0.3s,baz=71,slow=13,SNR=6.2							
KSRS	**Korea Array**	**22.42**	**255**	P	P	21 08 51.5		+3.6
	2.5nm,0.9s,baz=54,slow=11,SNR=5.1							
SONM	**Songino Array**	**32.82**	**290**	P	P	21 10 22.2		-0.7
	0.2nm,0.3s,baz=64,slow=10,SNR=2.5							
ILAR	**Eielson Array**	**35.39**	**39**	P	P	21 10 45.2		+0.5
	0.5nm,0.5s,baz=253,slow=7.8,SNR=10.0							
ZALV	**Zalesovo Beam**	**43.84**	**306**	P	P	21 11 54.8		-0.4
	0.8nm,0.6s,baz=58,slow=8.9,SNR=3.9							
MKAR	**Makanchi Array**	**48.32**	**298**	P	P	21 12 29.8		-0.8
	0.5nm,0.7s,baz=68,slow=6.7,SNR=4.8							
KURK	**Kurchatov**	**48.63**	**304**	P	P	21 12 33.1		+0.2
	1.9nm,0.7s,baz=67,slow=8.2,SNR=9.8							
YKA	**Yellowknife Ar**	**49.80**	**37**	P	P	21 12 41.4		-0.3
	0.1nm,0.5s,baz=292,slow=6.6,SNR=3.2							
CMAR	**Chiang Mai Arr**	**54.01**	**258**	P	P	21 13 15.4		+1.7
	0.4nm,0.7s,baz=38,slow=7.4,SNR=2.8							
FINES	**FINESS Array B**	**64.58**	**336**	P	P	21 14 26.4		+0.2
	0.8nm,0.3s,baz=45,slow=8.4,SNR=7.4							
NOA	**NORSAR Array B**	**68.58**	**342**	P	P	21 14 52.1		+0.2
	1.0nm,0.9s,baz=26,slow=6.0,SNR=2.9							
WRA	**Warramunga Arr**	**69.24**	**201**	P	P	21 14 55.9		-0.4
	0.7nm,0.8s,baz=15,slow=6.3,SNR=3.9							
ASAR	**Alice Springs**	**72.92**	**201**	P	P	21 15 18.3		-0.3
	0.3nm,0.6s,baz=22,slow=5.3,SNR=4.9							

*IDC **15** 21:06:09.6±0.7, 46°.93N×155°.35E, h0km, mb3.8/16, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, ML3.0/2, Error ellipse: s-maj=21.8km s-min=14.8km az=149.0*
*ISCJB **15** 21:06:11.2±0.6, 47°.08N±0°.08×155°.3E±0°.1, h18km, mb3.8/18, Error ellipse: s-maj=14.5km s-min=7.0km az=41.4*
*NEIC **15** 21:06:15.0±0.5, 47°.01N×155°.31E, h35km, mb4.2/2, Error ellipse: s-maj=13.3km s-min=7.4km az=136.0*
*BJI **15** 21:06:20.3, 47°.40N×154°.33E, h33km, mb4.2/6*
ISC 15 21:06:12.7±0.7, 47°.00N±0°.09×155°.31E±0°.10, h18km, n42, σ1°17/46, mb3.9/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PETK	**Petropavlovsk-**	**6.30**	**13**	Pn	**Pn**	**21 07 43.8**		**-0.8**
	0.8nm,0.3s,baz=185,slow=15,SNR=5.9							
PETK				Sn	**Sn**	**21 08 54.4**		**-1.8**
	baz=192,slow=13,SNR=2.0							
PETK	**Petropavlovsk-**	**6.30**	**13**	Pn	**Pn**	**21 07 43.8**		**-0.8**
PETK				Sn	**Sn**	**21 08 54.4**		**-1.8**
PET	**Petropavlovsk**	**6.40**	**18**	*e*Pn	**Pn**	**21 07 45.3**		**-0.6**
ERM	**Erimo**	**10.01**	**245**	*e*Pn	**Pn**	**21 08 35.2**		**-0.2**
MJAR	**Matsushiro Arr**	**16.45**	**237**	Pn	**Pn**	**21 09 58.9**		**-3.6**
	0.2nm,0.3s,baz=30,slow=13,SNR=6.4							
MJAR	**Matsushiro Arr**	**16.45**	**237**	Pn	**Pn**	**21 09 58.9**		**-3.6**
USRK	**Ussuriysk Arra**	**16.54**	**269**	Pn	**Pn**	**21 10 03.0**		**-0.5**
	0.2nm,0.3s,baz=74,slow=12,SNR=12							
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**21 10 54.2**		**0.0**
	12nm,0.7s							
BILL	**Bilibino**	**21.83**	**11**	*e*P	**P**	**21 11 04.4**		**+0.8**
	3.0nm,0.6s							
KSRS	**Korea Array**	**22.31**	**255**	P	**P**	**21 11 10.6**		**+1.5**
	3.1nm,0.9s,baz=58,slow=10,SNR=6.0							
KSAR	**Wonju Array Be**	**22.35**	**255**	P	**P**	**21 11 10.6**		**+1.2**
SONM	**Songino Array**	**32.67**	**290**	P	**P**	**21 12 43.3**		**-0.3**
	0.8nm,0.4s,baz=65,slow=9.1,SNR=4.4							
SONM	**Songino Array**	**32.67**	**290**	P	**P**	**21 12 43.3**		**-0.3**
ILAR	**Eielson Array**	**35.41**	**39**	P	**P**	**21 13 06.7**		**-0.4**
	0.5nm,0.6s,baz=251,slow=7.9,SNR=14							
ILAR	**Eielson Array**	**35.41**	**39**	P	**P**	**21 13 06.7**		**-0.4**
GTA	**Gaotai**	**40.41**	**280**	*e*P	**P**	**21 13 51.8**		**+2.1**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**40.63**	**33**	P	**P**	**21 13 51.8**		**+0.9**
	comp=Z,1.7nm,0.6s,baz=278,slow=6.0,SNR=3.6							
INK	**Inuvik**	**40.63**	**33**	P	**P**	**21 13 51.8**		**+0.9**
ZALV	**Zalesovo Beam**	**43.68**	**306**	P	**P**	**21 14 15.5**		**-0.5**
	comp=Z,1.7nm,0.6s,baz=67,slow=6.8,SNR=11							
ZALV				PcP	**PcP**	**21 16 03.3**		**+0.5**
	comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**43.68**	**306**	P	**P**	**21 14 15.5**		**-0.5**
ZALV				PcP	**PcP**	**21 16 03.3**		**+0.5**
MKAR	**Makanchi Array**	**48.16**	**298**	P	**P**	**21 14 51.6**		**+0.1**
	comp=Z,1.3nm,0.6s,baz=70,slow=8.0,SNR=14							
MKAR	**Makanchi Array**	**48.16**	**298**	P	**P**	**21 14 51.6**		**+0.1**
YKA	**Yellowknife Ar**	**49.82**	**37**	P	**P**	**21 15 04.1**		**+0.2**
	comp=Z,0.4nm,0.7s,baz=296,slow=7.3,SNR=5.7							
YKA	**Yellowknife Ar**	**49.82**	**37**	P	**P**	**21 15 04.1**		**+0.2**
CMAR	**Chiang Mai Arr**	**53.90**	**258**	P	**P**	**21 15 36.3**		**+1.4**
	comp=Z,0.8nm,0.7s,baz=37,slow=7.3,SNR=5.8							
CMAR	**Chiang Mai Arr**	**53.90**	**258**	P	**P**	**21 15 36.3**		**+1.4**
NVAR	**Mina Array Bea**	**60.98**	**64**	P	**P**	**21 16 25.8**		**+0.9**
	comp=Z,0.2nm,0.3s,baz=267,slow=7.2,SNR=2.6							
NVAR	**Mina Array Bea**	**60.98**	**64**	P	**P**	**21 16 25.8**		**+0.9**
FINES	**FINESS Array B**	**64.44**	**336**	P	**P**	**21 16 47.6**		**+0.3**
	comp=Z,2.9nm,0.7s,baz=22,slow=6.6,SNR=7.5							
FINES	**FINESS Array B**	**64.44**	**336**	P	**P**	**21 16 47.6**		**+0.3**
WRA	**Warramunga Arr**	**69.26**	**201**	P	**P**	**21 17 16.9**		**-1.6**
	comp=Z,1.3nm,0.8s,baz=17,slow=6.5,SNR=5.6							
WRA	**Warramunga Arr**	**69.26**	**201**	P	**P**	**21 17 16.9**		**-1.6**
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**	**21 17 35.6**		**-0.2**
	comp=Z,0.6nm,0.4s,baz=34,slow=6.2,SNR=4.1							
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**	**21 17 35.6**		**-0.2**
ASAR	**Alice Springs**	**72.95**	**200**	P	**P**	**21 17 40.1**		**-0.7**
	comp=Z,0.8nm,0.8s,baz=16,slow=5.6,SNR=8.4							
ASAR	**Alice Springs**	**72.95**	**200**	P	**P**	**21 17 40.1**		**-0.7**
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**21 17 58.9**		**-0.2**
	comp=Z,0.9nm,0.8s,baz=310,slow=6.1,SNR=5.9							
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**21 17 58.9**		**-0.2**
GERES	**GERESS Array B**	**78.88**	**335**	P	**P**	**21 18 14.9**		**+0.4**
	comp=Z,0.5nm,0.7s,baz=23,slow=3.2,SNR=3.6							
GERES	**GERESS Array B**	**78.88**	**335**	P	**P**	**21 18 14.9**		**+0.4**
BRTR	**Keskin Array B**	**79.23**	**318**	P	**P**	**21 18 17.2**		**+0.6**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.9,SNR=4.2							
BRTR	**Keskin Array B**	**79.23**	**318**	P	**P**	**21 18 17.2**		**+0.6**

*ISCJB **15** 21:07:37.4±0.2, 43°.76N±0°.01×105°.33W±0°.02, h0km, mb4.2/3, Error ellipse: s-maj=2.0km s-min=1.7km az=157.4*
*NEIC **15** 21:07:37.5±0.7, 43°.63N×105°.25W, h0km, ML3.2, Error ellipse: s-maj=9.6km s-min=8.1km az=98.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
*IDC **15** 21:07:38.2±0.9, 43°.84N×105°.69W, h0km, mb4.1/3, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML3.2/4, Error ellipse: s-maj=22.5km s-min=10.7km az=142.0*
ISC 15 21:07:37.2±0.5, 43.67N±0°.02×105°.27W±0°.02, h0km, n131, σ1°18/174, mb4.0/3, 61C-52D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
I23A	**Meade Ranch, G**	**0.32**	**335**	⇑P	**Pg**	**21 07 43.9**		**+0.5**
	baz=0.4,SNR=313							
I23A				⇓S	**Sg**	**21 07 47.5**		**0.0**
	baz=0.4							
I24A	**Kuemmerle Ranc**	**0.51**	**68**	⇓P	**Pg**	**21 07 48.1**		**+1.1**
	baz=0.5,SNR=174							
I24A				⇑S	**Sg**	**21 07 55.3**		**+1.8**
	baz=0.5							
J24A	**Dixon Ranch, L**	**0.56**	**127**	P	**Pb**	**21 07 49.5**		**-0.4**
	baz=0.5,SNR=87							
J24A				⇑S	**Sb**	**21 07 57.7**		**-0.9**
	baz=0.5							
H23A	**Clabaugh Cattl**	**0.90**	**354**	P	**Pg**	**21 07 53.9**		**-0.5**
	baz=0.9,SNR=65							
I22A	**9 Mile Ranch,**	**0.91**	**285**	P	**Pg**	**21 07 54.4**		**-0.2**
	baz=0.9,SNR=510							
I22A				⇑S	**Sg**	**21 08 04.7**		**-1.6**
	baz=0.9							
K23A	**Bowen Ranch, D**	**0.95**	**196**	⇑P	**Pb**	**21 07 56.2**		**-0.4**
	baz=0.9							
K24A	**Anderson Ranch**	**1.00**	**160**	⇑P	**Pb**	**21 07 57.5**		**-0.1**
	baz=1.0,SNR=77							
H24A	**Dirks Ranch, A**	**1.20**	**25**	P	**Pg**	**21 07 59.4**		**-0.8**
	baz=1.2,SNR=68							
H24A				⇑S	**Sg**	**21 08 15.6**		**-0.1**
	baz=1.2							
H22A	**Clearmont**	**1.21**	**320**	⇑P	**Pg**	**21 07 59.7**		**-0.7**
	baz=1.2,SNR=143							
K22A	**Casper**	**1.37**	**222**	⇑P	**Pg**	**21 08 03.1**		**-0.4**
	baz=1.4,SNR=129							
I21A	**Big

	baz=3.3,SNR=74							
BW06				⇑P		Pn	21 08 30.1	+0.3
	baz=3.3,SNR=74							
PDAR	Pinedale Array	3.26	255	Pn		Pn	21 08 30.8	+0.9
	3.4nm,0.3s,baz=73,slow=15,SNR=61							
PDAR				Pg		Pb	21 08 36.3	+0.2
	7.4nm,0.3s,baz=69,slow=20,SNR=53							
PDAR				Lg		Lg	21 09 15.2	
	4.0nm,0.3s,baz=70,slow=29,SNR=4.4							
PDAR	Pinedale Array	3.26	255	Pn		Pn	21 08 30.8	+0.9
PDAR				Pg		Pb	21 08 36.3	+0.2
PDAR				Lg		Lg	21 09 15.2	
PD02	Pinedale Array	3.26	256	*e*Pn		Pn	21 08 30.9	+1.0
PD02				*e*Sg		Sb	21 09 18.0	+1.5
PD01	Pinedale Array	3.27	256	*e*Pn		Pn	21 08 30.9	+0.9
PD01				*e*Sg		Sb	21 09 19.0	+2.2
H18A	Shoshone NF, C	3.32	289	⇑P		Pn	21 08 30.3	-0.3
	baz=3.3							
N21A	Black Mountain	3.35	211	⇓P		Pn	21 08 33.5	+2.4
	baz=3.3							
L19A	Farson	3.39	244	⇑P		Pn	21 08 33.3	+1.7
	baz=3.4							
F19A	Roth Farm, Mol	3.41	311	⇑P		Pn	21 08 31.7	0.0
	baz=3.4,SNR=36							
F19A				⇑S		Sn	21 09 12.4	-0.5
	baz=3.4							
E20A	Meyer Farm, Mu	3.48	325	⇓P		Pn	21 08 32.0	-0.7
	baz=3.5,SNR=10							
G18A	Lazy EL Ranch,	3.48	300	⇑P		Pn	21 08 32.9	+0.1
	baz=3.5,SNR=39							
D23A	Lindsay	3.50	1	⇑P		Pn	21 08 33.4	+0.4
	baz=3.5,SNR=47							
D24A	Glendive	3.51	11	⇓P		Pn	21 08 33.5	+0.4
	baz=3.5,SNR=22							
D22A	Cohagen	3.54	350	⇑P		Pn	21 08 33.6	+0.1
	baz=3.6,SNR=11							
N20A	Spence Gulch,	3.60	219	⇑P		Pn	21 08 36.0	+1.5
	baz=3.6,SNR=6.7							
O22A	Kremmling	3.63	196	⇑P		Pn	21 08 36.9	+1.9
	baz=3.6							
E19A	Rath Farm, Rou	3.74	319	⇑P		Pn	21 08 35.6	-0.7
	baz=3.8							
GCMT	Greycliff	3.78	306	*e*Pn		Pn	21 08 37.1	+0.2
GCMT				*e*Pg		Pb	21 08 48.1	+3.2
LKWY	Lake	3.80	285	*e*Pn		Pn	21 08 37.3	0.0
LKWY				*e*Sg		Sg	21 09 39.8	+0.5
LOHW	Long Hollow	3.87	271	*e*Pn		Pn	21 08 40.4	+2.1
F18A	Big Timber	3.87	307	⇓P		Pn	21 08 38.7	+0.5
	baz=3.9							
ISCO	Idaho Springs	3.88	184	*e*Pn		Pn	21 08 40.5	+2.2
ISCO				*e*Sg		Sg	21 09 38.9	-2.9
ISCO	Idaho Springs	3.88	184	⇓P		Pn	21 08 40.4	+2.1
	baz=3.8							
C24A	Savage	3.91	8	⇓P		Pn	21 08 39.5	+1.0
	baz=3.9,SNR=16							
FLWY	Flagg Ranch	3.94	278	*e*Pn		Pn	21 08 40.1	+0.9
FLWY				*e*Pg		Pb	21 08 50.8	+3.1
FLWY				*e*Sn		Sn	21 09 26.8	+0.5
MOOW	Moose Ponds	3.97	273	*e*Pn		Pn	21 08 41.1	+1.5
MOOW				*e*Sn		Sn	21 09 26.6	-0.3
D20A	Manuel Ranch,	3.97	330	⇑P		Pn	21 08 39.0	-0.5
	baz=4.0,SNR=26							
O27A	Beecher Island	4.05	148	⇑P		Pn	21 08 42.6	+1.9
	baz=4.0							
REDW	Red Top Meadow	4.07	268	*e*Pg		Pb	21 08 53.0	+3.1
REDW				*e*Sg		Sg	21 09 49.9	+1.9
C22A	Vida	4.10	354	⇓P		Pn	21 08 41.8	+0.7
	baz=4.1,SNR=20							
C23A	Lambert	4.13	1	⇓P		Pn	21 08 42.4	+0.8
	baz=4.2,SNR=62							
YMR	Madison River	4.22	286	*e*Pn		Pn	21 08 46.2	+3.3
DCID1	Drake Creek	4.29	271	*e*Pn		Pn	21 08 44.9	+0.9
DCID1				*e*Sg		Sg	21 09 52.0	-3.1
P26A	Davis Ranch, A	4.35	160	⇓P		Pn	21 08 46.6	+1.8
	baz=4.3,SNR=10							
AHID	Auburn Hatcher	4.35	260	*e*Pn		Pn	21 08 43.9	-1.0
E18A	Harlowton	4.38	313	⇑P		Pn	21 08 45.3	+0.2
	baz=4.4							
RRI2	Red Ridge	4.41	268	*e*Pn		Pn	21 08 46.6	+1.0
RRI2				*e*Sn		Sn	21 09 38.2	+0.4
F17A	Fitzpatrick Pl	4.44	302	⇓P		Pn	21 08 46.6	+0.7
	baz=4.5,SNR=16							
QLMT	Earthquake Lak	4.57	287	*e*Pn		Pn	21 08 44.9	-3.0
QLMT				*e*Sg		Sg	21 10 03.4	-0.7
SMCO	Snowmass	4.67	196	*e*Pg		Pg	21 09 04.8	-1.8
E17A	Martinsdale	4.84	307	⇓P		Pn	21 08 52.1	+0.5
	baz=4.9,SNR=17							
DGMT	Dagmar	4.86	8	*e*Pn		Pn	21 08 52.3	+0.7
BOZ	Bozeman (W)	4.95	296	⇓P		Pn	21 08 52.4	-0.6
	baz=5.0,SNR=7.8							
BOZ				⇓P		Pn	21 08 52.4	-0.6
	baz=5.0,SNR=7.8							
HWUT	Hardware Ranch	5.08	248	*e*Pn		Pn	21 08 55.5	+0.7
	9.4nm,0.5s							
B20A	Solberg Farm,	5.14	339	⇓P		Pn	21 08 55.3	-0.1
	baz=5.2,SNR=7.8							
D17A	Six Diamond Ra	5.16	314	⇑P		Pn	21 08 55.6	-0.2
	baz=5.2,SNR=69							
A22A	Carney Farms,	5.34	355	⇓P		Pn	21 08 58.2	-0.1
	baz=5.4,SNR=9.0							
E16A	East Helena	5.36	305	⇓P		Pn	21 08 58.4	-0.1
	baz=5.4,SNR=8.8							
EGMT	Eagleton	5.36	326	*e*Pn		Pn	21 08 58.0	-0.6
	25nm,0.6s							
A21A	Bergtoll Ranch	5.44	348	⇓P		Pn	21 08 59.4	-0.2
	baz=5.5,SNR=5.1							
C17A	Wharram Farm,	5.52	318	⇑P		Pn	21 09 00.6	-0.2
	baz=5.6,SNR=8.0							
R26A	Arlington	5.54	165	⇓P		Pn	21 09 02.3	+1.2
	baz=5.5,SNR=12							
LRM	Limekiln Ridge	5.55	295	*e*Pn		Pn	21 08 59.4	-1.8
	31nm,0.6s							
LRM				*e*Sg		Sg	21 10 33.7	-1.7
MCMT	McKenzie Canyo	5.56	285	*e*Pn		Pn	21 09 06.3	+4.8
	1.3nm,0.4s							
E15A	Deer Lodge	5.90	300	⇑P		Pn	21 09 05.8	-0.3
	baz=5.9,SNR=8.5							
SDCO	Great Sand Dun	5.92	182	*e*Pg		Pg	21 09 29.8	-0.9
SDCO				*e*Sg		Sg	21 10 46.4	-1.0
PV04	Paradox Valley	5.94	209	*e*Pn		Pn	21 09 09.5	+2.8
SRU	San Rafael	6.03	223	*e*Pn		Pn	21 09 09.1	+1.3
	16nm,0.7s							
SRU	San Rafael	6.03	223	⇓P		Pn	21 09 08.7	+0.9
	baz=6.0,SNR=12							
C16A	Fuhringer Ranc	6.13	315	⇓P		Pn	21 09 08.3	-0.8
	baz=6.2,SNR=7.8							
ECSD	EROS Data Cent	6.28	86	*e*Pn		Pn	21 09 12.0	+0.9
ECSD				*e*Sg		Sg	21 10 56.4	-2.4
R18A	Canyonlands Na	6.33	215	⇓P		Pn	21 09 12.7	+0.7
	baz=6.3,SNR=18							
B16A	M & M Farms, S	6.52	319	⇑P		Pn	21 09 13.6	-0.9
	baz=6.6,SNR=7.7							
D14A	Greenough	6.73	303	⇑P		Pn	21 09 17.0	-0.4
	baz=6.7,SNR=9.5							
S18A	Hurst Farm, Bl	6.97	213	⇑P		Pn	21 09 21.6	+0.9
	baz=6.9,SNR=12							
ULM	Lac du Bonnet	9.19	41	Pn		Pn	21 09 51.1	+0.1
	0.6nm,0.3s,baz=232,slow=14,SNR=4.1							
ULM				Pg			21 10 23.0	
	0.5nm,0.3s,baz=222,slow=17,SNR=3.9							
ULM				Lg		Lg	21 12 21.1	
	0.6nm,0.3s,baz=320,slow=22,SNR=3.1							
ULM	Lac du Bonnet	9.19	41	Pn		Pn	21 09 51.1	+0.1
ULM				Pg			21 10 23.0	
ULM				Lg		Lg	21 12 21.1	
TXAR	Lajitas Array	14.37	174	Pn		P	21 11 07.1	-2.1
	0.0nm,0.3s,baz=1.1,slow=9.0,SNR=2.8							
TXAR	Lajitas Array	14.37	174	Pn		P	21 11 07.1	-2.1
YKA	Yellowknife Ar	19.63	347	P		P	21 12 07.0	0.0
	0.1nm,0.3s,baz=154,slow=11,SNR=6.0							
YKA	Yellowknife Ar	19.63	347	P		P	21 12 07.0	0.0
ARCES	ARCESS Array B	61.48	18	P		P	21 17 54.0	-1.2
	5.4nm,1.0s,baz=320,slow=8.3,SNR=3.2							
ARCES	ARCESS Array B	61.48	18	P		P	21 17 54.0	-1.2
ZALV	Zalesovo Beam	82.37	354	P		P	21 20 00.1	-0.6
	0.8nm,0.7s,baz=353,slow=4.5,SNR=3.7							
ZALV	Zalesovo Beam	82.37	354	P		P	21 20 00.1	-0.6
SONM	Songino Array	84.70	339	P		P	21 20 14.0	+1.0
	0.3nm,0.3s,baz=22,slow=4.7,SNR=2.7							
SONM	Songino Array	84.70	339	P		P	21 20 14.0	+1.0

*IDC **15** 21:09:49.0±0.7,46°.95N×155°.31E,h0km,mb3.8/15, mb1 4.1/19,mb1mx4.0/28,mbtmp3.9/19,ML3.2/4,Error ellipse: s-maj=21.1km s-min=12.8km az=149.0*

*ISCJB **15** 21:09:50.0±0.6,47°.00N±0°.07×155°.2E±0°.1,h18km, mb3.8/16,Error ellipse: s-maj=14.4km s-min=5.8km az=43.8*

*NEIC **15** 21:09:54.2±0.6,47°.00N×155°.17E,h35km,mb4.1/1,Error ellipse: s-maj=18.4km s-min=8.5km az=135.0*

ISC 15 21:09:52.0±0.7,46.97N±0°.09×155.26E±0°.10,h18km,n40, σ0.94/41,mb3.9/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.34	13	Pn		Pn	Pn	21 11 23.3	-1.2
	1.1nm,0.3s,baz=184,slow=14,SNR=6.7								
PETK				Sn		Sn	Sn	21 12 36.7	+0.3
	baz=174,slow=17,SNR=2.6								
PETK	Petropavlovsk-	6.34	13	Pn		Pn	Pn	21 11 23.3	-1.2
PETK				Sn		Sn	Sn	21 12 36.7	+0.3
PET	Petropavlovsk	6.44	19	*e*Pn		Pn	Pn	21 11 24.0	-1.9
ERM	Erimo	9.96	245	*e*P		Pn	P	21 12 13.0	-1.1
ERM				*e*Sn		Sn	Sn	21 14 06.3	+1.0
FX1	Attu Island--F	12.95	56	Pn		Pn	Pn	21 12 50.5	-4.4
	0.6nm,0.3s,baz=270,slow=20,SNR=2.6								
FX1	Attu Island--F	12.95	56	Pn		Pn	Pn	21 12 50.5	-4.4
MJAR	Matsushiro Arr	16.41	237	Pn		Pn	Pn	21 13 39.2	-2.1
	0.1nm,0.3s,baz=24,slow=14,SNR=4.4								
MJAR	Matsushiro Arr	16.41	237	Pn		Pn	P	21 13 39.2	-2.1
USRK	Ussuriysk Arra	16.50	269	Pn		Pn	P	21 13 42.5	+0.2
	0.1nm,0.3s,baz=76,slow=15,SNR=4.8								
BILL	Bilibino	21.87	11	*e*P		P	P	21 14 43.8	+0.4
	5.6nm,0.7s								
KSRS	Korea Array	22.27	255	P		P	P	21 14 48.2	+0.3
	1.2nm,0.6s,baz=61,slow=8.9,SNR=3.4								
KSAR	Wonju Array Be	22.30	255	P		P	P	21 14 48.2	-0.1
SONM	Songino Array	32.65	290	P		P	P	21 16 22.5	-0.3
	0.4nm,0.8s,baz=97,slow=5.8,SNR=2.5								
SONM	Songino Array	32.65	290	P		P	P	21 16 22.5	-0.3
ILAR	Eielson Array	35.46	39	P		P	P	21 16 46.5	-0.4
	0.9nm,0.7s,baz=251,slow=8.3,SNR=22								
ILAR	Eielson Array	35.46	39	P		P	P	21 16 46.5	-0.4
INK	Inuvik	40.67	33	P		P	P	21 17 31.9	+1.3
	3.3nm,0.9s,baz=278,slow=6.7,SNR=8.7								
INK	Inuvik	40.67	33	P		P	P	21 17 31.9	+1.3
ZALV	Zalesovo Beam	43.67	306	P		P	P	21 17 54.7	-0.6
	0.8nm,0.7s,baz=59,slow=7.1,SNR=5.5								
ZALV	Zalesovo Beam	43.67	306	P		P	P	21 17 54.7	-0.6
MKAR	Makanchi Array	48.14	298	P		P	P	21 18 30.9	+0.2
	0.9nm,0.8s,baz=61,slow=6.7,SNR=7.9								
MKAR	Makanchi Array	48.14	298	P		P	P	21 18 30.9	+0.2
YKA	Yellowknife Ar	49.86	37	P		P	P	21 18 43.9	+0.4
	0.5nm,0.7s,baz=293,slow=7.2,SNR=4.3								
YKA	Yellowknife Ar	49.86	37	P		P	P	21 18 44.0	+0.4
CMAR	Chiang Mai Arr	53.85	258	P		P	P	21 19 15.8	+1.9
	0.9nm,0.7s,baz=37,slow=7.4,SNR=6.8								
CMAR	Chiang Mai Arr	53.85	258	P		P	P	21 19 15.8	+1.9
NVAR	Mina Array Bea	61.02	64	P		P	P	21 20 05.2	+0.6
	0.4nm,0.7s,baz=310,slow=7.0,SNR=2.5								
NVAR	Mina Array Bea	61.02	64	P		P	P	21 20 05.2	+0.6
FINES	FINESS Array B	64.46	336	P		P	P	21 20 27.1	+0.3
	3.0nm,0.8s,baz=58,slow=4.7,SNR=7.0								
FINES	FINESS Array B	64.46	336	P		P	P	21 20 27.1	+0.3
NOA	NORSAR Array B	68.48	342	P		P	P	21 20 52.3	-0.3
	0.5nm,0.7s,baz=25,slow=6.4,SNR=2.6								
NOA	NORSAR Array B	68.48	342	P		P	P	21 20 52.3	-0.3
WRA	Warramunga Arr	69.22	201	P		P	P	21 20 56.3	-1.2
	1.0nm,0.7s,baz=21,slow=6.5,SNR=5.4								
WRA	Warramunga Arr	69.22	201	P		P	P	21 20 56.3	-1.2
AKASG	Malin Array Be	72.17	327	P		P	P	21 21 15.2	0.0
	0.6nm,0.4s,baz=32,slow=6.5,SNR=2.6								
AKASG	Malin Array Be	72.17	327	P		P	P	21 21 15.2	0.0
ASAR	Alice Springs	72.91	200	P		P	P	21 21 19.9	+0.1
	0.8nm,0.6s,baz=15,slow=5.0,SNR=12								
ASAR	Alice Springs	72.91	200	P		P	P	21 21 19.9	+0.1
TXAR	Lajitas Array	76.10	62	P		P	P	21 21 38.8	+0.1
	1.3nm,0.8s,baz=286,slow=3.9,SNR=11								
TXAR	Lajitas Array	76.10	62	P		P	P	21 21 38.8	+0.1

*IDC **15** 21:14:46.4±1.8,22°.71S×170°.72E,h0km,mb3.9/6, mb1 4.1/7,mb1mx4.0/16,mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=73.5km s-min=26.0km az=157.0*

*ISCJB **15** 21:14:50.5±1.0,22°.7S±0°.3×170°.54E±0°.08,h33km, mb3.9/6,Error ellipse: s-maj=37.8km s-min=10.3km az=3.4*

ISC 15 21:14:51.6±1.3,22°.5S±0°.4×170°.6E±0°.1,h33km,n18, σ1.9/14/19,mb3.9/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.87	276	Pn		Pn	Pn	21 15 50.0	+1.1
	6.0nm,0.3s,baz=88,slow=17,SNR=83								
DZM				Sn		Sn	Sn	21 16 34.4	+1.1
	3.4nm,0.3s,baz=112,slow=19,SNR=2.5								
DZM	Mont Dzumac	3.87	276	*e*P		Pn	P	21 15 47.5	-1.3
NOUC	Port Laguerre	3.99	275	*e*P		Pn	P	21 15 50.1	-0.4
NOUC				*e*S		Sn	P	21 16 35.5	-0.7
STKA	Stephens Creek	27.35	244	P		P	P	21 20 34.8	+1.1
	1.6nm,0.7s,baz=98,slow=7.1,SNR=2.1								
ASAR	Alice Springs	33.71	261	P		P	P	21 21 29.0	-1.0
	1.1nm,0.7s,baz=82,slow=8.9,SNR=18								
WRA	Warramunga Arr	33.84	267	P		P	P	21 21 30.6	-0.6
	0.2nm,0.4s,baz=99,slow=8.3,SNR=5.2								
CMAR	Chiang Mai Arr	81.00	294	P		P		21 27 05.9	+2.4
	1.0nm,0.7s,baz=147,slow=5.4,SNR=5.4								
NVAR	Mina Array Bea	90.04	48	P		P	P	21 27 48.2	-0.2
	0.6nm,0.8s,baz=213,slow=6.5,SNR=3.0								
SONM	Songino Array	90.59	323	P		P	P	21 27 51.5	+0.9
	0.8nm,0.5s,baz=131,slow=5.2,SNR=7.1								
KRLC	Kraliky	145.68	330	*e*P		PKPab	P	21 34 27.3	+0.1
DPC	Dobruska-Polom	145.70	330	*e*P		PKPab	P	21 34 27.2	-0.1
VYHS	Vyhne	145.72	326	*e*		PKPab	P	21 34 28.2	+0.8
UPC	Upice	145.73	331	*e*P		PKPab	P	21 34 27.8	+0.5
CLL	Collm	146.42	334	*e*P		PKPab	P	21 34 30.0	+0.1
	comp=Z,5.0nm,0.8s								
PRU	Pruhonice	146.76	331	*e*P		PKPab	P	21 34 31.5	+0.2
NKC	Novy Kostel	147.47	334	*e*P		PKPab	P	21 34 35.0	+0.9
KHC	Kasperske Hory	147.82	331	*e*P		PKPab	P	21 34 33.5	-2.0
GERES	GERESS Array B	147.97	331	PKPbc		PKPab	P	21 34 33.7	-2.5
	comp=Z,1.4nm,0.9s,baz=42,slow=4.5,SNR=7.0								

*CSEM **15** 21:19:52.9±0.1,37°.88N×29°.46E,h5km,MD3.0,Error ellipse: s-maj=2.6km s-min=2.3km az=53.0*

*DDA **15** 21:19:53.0,37°.93N×29°.44E,h15km,MD3.0*

ISK 15 21:19:51.4,37.89N×29.47E,h5km,MD3.3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.39	239	*i* P		Pn	Pb	21 20 00.5	-0.6
DNZL				*i* S		Sb	Sb	21 20 07.0	-0.6
DNZL	Cakiroluk	0.39	239	*i* P		Pn	Pb	21 20 00.5	-0.6
DNZL				*i* S		Sb	Sb	21 20 07.0	-0.6
KHL	Karahalli	0.43	5	*i* Pg		Pb	Pb	21 20 01.1	-0.6
KHL				*e*Sg		Sb	Sb	21 20 08.1	-0.5
KHL	Karahalli	0.43	5	PG		Pb	Pb	21 20 01.1	-0.6
KHL				*e*SG		Sb	Sb	21 20 08.1	-0.6
KHAL	Karahalli	0.48	2	*i* P		Pb	Pb	21 20 01.9	-0.7
KHAL				*i* S		Sb	Sb	21 20 09.3	-0.7
KHAL	Karahalli	0.48	2	*i* P		Pb	Pb	21 20 01.9	-0.6
KHAL				*i* S		Sb	Sb	21 20 09.3	-0.7
GOLH	Golhisar	0.66	174	*i* P		Pb	Pb	21 20 05.4	-0.1
GOLH				*i* S		Sb	Sb	21 20 16.6	+1.6
GOLH	Golhisar	0.66	174	*i* P		Pb	Pb	21 20 05.4	-0.1
ISP	Isparta	0.83	94	*e*PG		Pb	Pb	21 20 08.5	0.0
ISP				*e*SG		Sb	Sb	21 20 21.4	+1.2
ISP	Isparta	0.83	94	*e*Pg		Pb	Pb	21 20 08.5	-0.1
ISP				*e*Sg		Sb	Sb	21 20 21.4	+1.2
KULA	Kula-Manisa	0.89	315	*e*PG		Pb	Pb	21 20 09.9	+0.4
KULA	Kula-Manisa	0.89	315	*e*Pg		Pb	Pb	21 20 09.9	+0.4
BCK	Bucak	0.99	115	*e*PG		Pb	Pb	21 20 11.5	+0.4
BCK				*e*SG		Sn	Pb	21 20 26.2	-0.2
BCK	Bucak	0.99	115	*e*Pg		Pb	Pb	21 20 11.5	+0.4
BCK				*e*Sg		Sn	Pb	21 20 26.2	-0.2
SHUT	Suhut-Afyon	1.08	52	*e*PG		Pn	Pb	21 20 13.1	-0.2
SHUT	Suhut-Afyon	1.08	52	*e*Pg		Pn	Pb	21 20 13.1	-0.2
KORT	Korkueli	1.13	142	*i* P		Pn	Pb	21 20 16.3	+2.2
KORT	Korkueli	1.13	142	*i* P		Pn	Pb	21 20 16.3	+2.2
ELL	Elmali	1.19	163	*e*PN		Pn	Pb	21 20 15.5	+0.6
ELL	Elmali	1.19	163	*e*Pn		Pn	Pb	21 20 15.5	+0.6
GDZ	Gediz	1.20	0	*i* P		Pn	Pb	21 20 15.4	+0.4
GDZ				*i* S		Sn	Pb	21 20 31.5	-0.3
GDZ	Gediz	1.20	0	*i* P		Pn	Pb	21 20 15.4	+0.4
GDZ				*i* S		Sn	Pb	21 20 31.5	-0.3
YER	Yerkesik	1.21	232	*e*PN		Pn	Pb	21 20 14.9	0.0
YER	Yerkesik	1.21	232	*e*Pn		Pn	Pb	21 20 14.9	0.0
ALT	Altintas	1.27	23	*e*PN		Pn	Pb	21 20 16.5	+0.6
ALT	Altintas	1.27	23	*e*Pn		Pn	Pb	21 20 16.5	+0.6
AYDN	Tasoluk	1.28	260	*i* P		Pb	Pb	21 20 16.7	+0.6
AYDN				*i* S		Sn	Pb	21 20 36.8	+3.1
AYDN	Tasoluk	1.28	260	*i* P		Pn	Pb	21 20 16.7	+0.6
FETY	Fethiye	1.29	194	*e*PN		Pg	Pb	21 20 16.7	+0.5
FETY	Fethiye	1.29	194	*e*Pn		Pg	Pb	21 20 16.7	+0.5
DEMI	Demirci	1.29	333	*i* P		Pg	Pb	21 20 17.4	+1.1
DEMI				*i* S		Sb	Pb	21 20 33.5	+0.1
DEMI	Demirci	1.29	333	*i* P		Pg	Pb	21 20 17.4	+1.0
DEMI				*i* S		Sb	Pb	21 20 33.5	+0.1
ANTB	Antalya	1.37	136	*e*PN		Pg	Pb	21 20 18.6	+1.0
ANTB	Antalya	1.37	136	*e*Pn		Pg	Pb	21 20 18.6	+1.0
BOLV	Bolvadin	1.43	54	*i* P		Pg	Pb	21 20 20.1	+1.1
BOLV				*i* S		Sg	Pb	21 20 38.9	+1.2
BOLV	Bolvadin	1.43	54	*i* P		Pg	Pb	21 20 20.1	+1.1
BOLV				*i* S		Sg	Pb	21 20 38.9	+1.3
AKHS	Akhisar	1.63	308	*i* P		Pg	Pb	21 20 23.5	+0.8
AKHS				*i* S		Sg	Pb	21 20 43.6	-0.4
AKHS	Akhisar	1.63	308	*i* P		Pg	Pb	21 20 23.5	+0.7
AKHS				*i* S		Sg	Pb	21 20 43.6	-0.4
AKS	Akhisar	1.63	308	*e*PN		Pg	Pb	21 20 22.8	0.0
AKS	Akhisar	1.63	308	*e*Pn		Pg	Pb	21 20 22.8	0.0
AKAS	Kas	1.66	176	*i* P		Pg	Pb	21 20 25.4	+2.0
AKAS				*i* S		Sg	Pb	21 20 48.8	+3.8
IZM	Izmir	1.81	287	*e*PN		Pb	Pb	21 20 25.3	+0.1
IZM	Izmir	1.81	287	*e*Pn		Pb	Pb	21 20 25.3	+0.1
DURS	Dursunbey	1.88	336	*i* P		Pn	Pb	21 20 25.3	+1.0
DURS				*i* S		Sn	Pb	21 20 48.5	0.0
DURS	Dursunbey	1.88	336	*i* P		Pn	Pb	21 20 25.3	+1.0
DURS				*i* S		Sn	Pb	21 20 48.5	0.0
BODT	Bodrum	1.91	245	*e*PN		Pb	Pb	21 20 26.8	+0.0
BODT	Bodrum	1.91	245	*e*Pn		Pb	Pb	21 20 26.8	+0.1
ESKT	Eskisehir	1.95	33	*e*PN		Pb	Pb	21 20 27.3	-0.4
ESKT	Eskisehir	1.95	33	*e*Pn		Pb	Pb	21 20 27.3	-0.3
BLCB	Balcova	1.98	285	*e*PN		Pb	Pb	21 20 27.7	-0.2
BLCB	Balcova	1.98	285	*e*Pn		Pb	Pb	21 20 27.7	-0.2
KIZT	Kizilcal	2.13	62	*e*PN		Pb	Pb	21 20 29.6	-1.2
KIZT	Kizilcal	2.13	62	*e*Pn		Pb	Pb	21 20 29.6	-1.2
BALB	Balikesir	2.14	325	*e*PN		Pb	Pb	21 20 29.7	-1.0
BALB	Balikesir	2.14	325	*e*Pn		Pb	Pb	21 20 29.7	-1.0
SVRH	Sivrihisar-ESK	2.23	45	*e*PN		Pb	Pb	21 20 31.1	-1.3
SVRH	Sivrihisar-ESK	2.23	45	*e*Pn		Pb	Pb	21 20 31.1	-1.3
KONT	Konya--Tatoy	2.29	88	*e*PN		Pb	Pb	21 20 31.7	-1.5
KONT	Konya--Tatoy	2.29	88	*e*Pn		Pb	Pb	21 20 31.7	-1.5
LADK	Ladik-KONYA	2.31	81	*e*PN		Pb	Pb	21 20 32.0	-1.7
LADK	Ladik-KONYA	2.31	81	*e*Pn		Pb	Pb	21 20 32.0	-1.6
CAVI	Cavuskoy	2.33

0.9nm,0.6s,baz=352,slow=8.7,SNR=17
MKAR Makanchi Array 63.72 325 P P 21 34 56.2 +0.1
0.6nm,0.6s,baz=115,slow=8.2,SNR=11

IDC 15 21:27:14.8±2.4, 46°.94N×155°.41E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, ML3.3/1, MS4.5/2, Ms1 4.5/2, ms1mx4.0/32, Error ellipse: s-maj=61.0km s-min=31.8km az=176.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.35**	**13**	Pn	Pn	21 28 49.1	-0.5
	0.7nm,0.3s,baz=183,slow=13,SNR=5.5						
ASAJ	**Asahikawa**	**9.43**	**257**	LR	LR	21 33 37.9	
	comp=Z,3μm,19.7s,baz=13,slow=41						
CBIJ	**Chichi jima**	**22.39**	**212**	LR	LR	21 41 15.8	
	comp=Z,986nm,18.1s,baz=106,slow=38						
ILAR	**Eielson Array**	**35.41**	**39**	P	P	21 34 11.8	-0.2
	0.3nm,0.7s,baz=260,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**48.24**	**298**	P	P	21 35 56.6	-0.6
	0.2nm,0.8s,baz=71,slow=8.6,SNR=2.3						
FINES	**FINESS Array B**	**64.53**	**336**	P	P	21 37 53.8	+0.8
	4.6nm,1.0s,baz=32,slow=8.2,SNR=3.6						
TXAR	**Lajitas Array**	**76.02**	**62**	P	P	21 39 04.0	0.0
	0.1nm,0.5s,baz=310,slow=5.7,SNR=2.7						

ISCJB 15 21:31:20.6±0.5, 26°.48S±0°.05×67°.31W±0°.09, h150km, mb4.2/5, Error ellipse: s-maj=11.7km s-min=6.3km az=21.9
NEIC 15 21:31:21.4±0.9, 26°.57S×67°.03W, h132km±10km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=9.1km az=111.0
IDC 15 21:31:21.7±2.9, 26°.57S×67°.03W, h131km±23km, mb4.0/5, mb1 3.9/6, mb1mx3.6/15, mbtmp3.9/6, Error ellipse: s-maj=42.7km s-min=17.9km az=123.0
ISC 15 21:31:21.7±0.6, 26°.53S±0°.06×67°.25W±0°.09, h150km, n35, σ1§91/34, mb4.2/5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**3.93**	**230**	*e*Pn	**Pn**	**21 32 21.1**	**-0.3**
LCO				*e*Sn	**Sn**	**21 33 06.2**	**-1.4**
CFAA	**Coronel Fontan**	**5.13**	**189**	P	**Pn**	**21 32 36.2**	**-0.6**
	0.5nm,0.3s,baz=7.3,slow=13,SNR=25						
CFAA				S	**Sn**	**21 33 32.1**	**-3.4**
	9.6nm,0.3s,baz=284,slow=22,SNR=51						
CFAA	**Coronel Fontan**	**5.13**	**189**	P	**Pn**	**21 32 36.2**	**-0.6**
CFAA				S	**Sn**	**21 33 32.1**	**-3.4**
LPAZ	**La Paz**	**10.22**	**355**	S	**Sn**	**21 35 34.6**	**-4.3**
	0.1nm,0.3s,baz=24,slow=20,SNR=2.4						
LPAZ	**La Paz**	**10.22**	**355**	S	**Sn**	**21 35 34.6**	**-4.3**
SIV	**San Ignacio**	**11.96**	**30**	P	**Pn**	**21 34 08.0**	**+0.4**
	0.8nm,0.3s,baz=242,slow=9.8,SNR=10						
SIV	**San Ignacio**	**11.96**	**30**	P	**Pn**	**21 34 08.0**	**+0.4**
TRQA	**Tornquist**	**12.32**	**160**	*e*Pn	**Pn**	**21 34 12.7**	**+0.5**
NNA	**Nana**	**17.05**	**326**	*e*Pn	**Pn**	**21 35 14.1**	**+2.8**
	3.4nm,0.4s						
SAML	**Samuel**	**17.91**	**13**	*e*P	**Pn**	**21 35 21.1**	**-0.4**
	1.3nm,0.5s						
SPB	**Sao Paulo**	**18.19**	**85**	*e*P	**P**	**21 35 19.9**	**-3.2**
BDFB	**Brasilia**	**20.94**	**63**	P	**P**	**21 35 52.8**	**-0.1**
	4.1nm,0.4s,baz=253,slow=2.2,SNR=6.9						
BDFB	**Brasilia**	**20.94**	**63**	P	**P**	**21 35 52.8**	**-0.1**
RCBR	**Riachuelo**	**36.29**	**61**	P	**P**	**21 38 11.0**	**-0.1**
	19nm,1.3s,baz=221,slow=11,SNR=4.0						
RCBR	**Riachuelo**	**36.29**	**61**	*e*P	**P**	**21 38 10.2**	**-0.9**
	6.4nm,0.8s						
VNA3	**Neumayer Olymp**	**54.85**	**160**	*e*	P	21 40 45.4	+9.4
VNA2	**Neumayer--Watz**	**55.42**	**160**	*e*	P	21 40 42.5	+2.4
	baz=288,slow=6.2						
SNAA	**Sanae**	**57.05**	**160**	*e*	**P**	**21 40 51.6**	**-0.1**
QSPA	**South Pole Qui**	**63.68**	**180**	*e*P	**P**	**21 41 39.1**	**+2.2**
	6.5nm,0.5s						
DBIC	**Dimbokro**	**68.83**	**71**	P	**P**	**21 42 10.7**	**+0.3**
	0.8nm,0.3s,baz=219,slow=7.7,SNR=5.2						
DBIC	**Dimbokro**	**68.83**	**71**	*e*P	**P**	**21 42 10.9**	**+0.7**
	11nm,1.4s						
TORD	**Torodi Ar. Bea**	**77.70**	**69**	P	**P**	**21 43 03.4**	**+1.1**
	1.8nm,0.5s,baz=265,slow=5.9,SNR=36						
TORD	**Torodi Ar. Bea**	**77.70**	**69**	P	**P**	**21 43 03.4**	**+1.1**
MAW	**Mawson**	**79.10**	**163**	P	P	21 43 11.5	+2.4
	3.6nm,0.7s,baz=256,slow=12,SNR=3.6						
MAW	**Mawson**	**79.10**	**163**	*e*P	P	21 43 11.6	+2.5
	5.5nm,1.4s						
ASAR	**Alice Springs**	**126.07**	**204**	PKP	**PKPdf**	**21 50 07.9**	**+1.1**
	0.8nm,0.6s,baz=130,slow=1.9,SNR=9.2						
ASAR	**Alice Springs**	**126.07**	**204**	PKP	**PKPdf**	**21 50 07.9**	**+1.1**
WRA	**Warramunga Arr**	**129.28**	**207**	PKP	**PKPdf**	**21 50 14.2**	**+1.2**
	0.5nm,0.4s,baz=171,slow=1.6,SNR=6.9						
WRA	**Warramunga Arr**	**129.28**	**207**	PKP	**PKPdf**	**21 50 14.2**	**+1.2**
ZALV	**Zalesovo Beam**	**145.71**	**29**	PKPbc	**PKPab**	**21 50 44.8**	**+1.6**
	2.7nm,0.4s,baz=302,slow=4.0,SNR=22						
ZALV				pPKPbc	pPKPbc	21 51 19.9	-1.9
	0.4nm,0.4s,baz=316,slow=8.3,SNR=1.2						
ZALV	**Zalesovo Beam**	**145.71**	**29**	PKPbc	**PKPab**	**21 50 44.8**	**+1.6**
ZALV				pPKPbc	pPKPbc	21 51 19.9	-1.9
MKAR	**Makanchi Array**	**148.58**	**42**	PKPbc	**PKPab**	**21 50 52.8**	**-2.0**
	0.5nm,0.4s,baz=320,slow=2.1,SNR=20						
MKAR	**Makanchi Array**	**148.58**	**42**	PKPbc	**PKPab**	**21 50 52.8**	**-2.0**
SONM	**Songino Array**	**158.16**	**12**	PKPab	**PKPab**	**21 51 36.6**	**+1.4**
	0.2nm,0.5s,baz=351,slow=4.1,SNR=2.5						
SONM	**Songino Array**	**158.16**	**12**	PKPab	**PKPab**	**21 51 36.6**	**+1.4**

ISCJB 15 21:46:06.1±0.8, 40°.31N±0°.03×25°.73E±0°.04, h2km±5km, Error ellipse: s-maj=4.8km s-min=4.5km az=150.3
CSEM 15 21:46:07.9±0.2, 40°.32N×25°.82E, h10km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.7km az=111.0
ATH 15 21:46:07.5, 40°.34N×25°.82E, h30km, MD3.0/6
ISK 15 21:46:07.3, 40°.30N×25°.85E, h5km, MD3.0
DDA 15 21:46:08.8, 40°.29N×25°.93E, h7km, MD3.0
ISC 15 21:46:07.7±1.1, 40°.32N±0°.02×25°.81E±0°.03, h10km±9km, n58, σ0§53/81, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.49**	**32**	*e*PG	**Pg**	**21 46 17.3**	**0.0**
ENEZ				*e*SG	**Sg**	**21 46 24.3**	**+0.5**
ENEZ	**Enez**	**0.49**	**32**	*e*Pg	**Pg**	**21 46 17.3**	**0.0**
ENEZ				*e*Sg	**Sg**	**21 46 24.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.51**	**81**	*e*PG	**Pg**	**21 46 17.9**	**+0.2**
GELI				*e*SG	**Sg**	**21 46 24.5**	**0.0**
GELI	**Tayfur-Gelibol**	**0.51**	**81**	*e*Pg	**Pg**	**21 46 17.9**	**+0.2**
GELI				*e*Sg	**Sg**	**21 46 24.5**	**0.0**
ALN	**Alexandroupoli**	**0.60**	**17**	*i*PN	**Pg**	**21 46 19.4**	**-0.1**
ALN				*e*SN	**Sg**	**21 46 27.9**	**+0.5**
ALN	**Alexandroupoli**	**0.60**	**17**	*i*Pn	**Pg**	**21 46 19.4**	**-0.1**
ALN				*e*Sn	**Sg**	**21 46 27.9**	**+0.5**
EZN	**Ezine**	**0.63**	**141**	*e*PG	**Pg**	**21 46 19.6**	**-0.3**
EZN				*e*SG	**Sg**	**21 46 27.8**	**-0.4**
EZN	**Ezine**	**0.63**	**141**	*e*Pg	**Pg**	**21 46 19.6**	**-0.3**
EZN				*e*Sg	**Sg**	**21 46 27.8**	**-0.4**
LIA	**Limnos Island**	**0.64**	**229**	*e*PN	**Pb**	**21 46 21.0**	**+0.1**
LIA				*e*SN	**Sb**	**21 46 30.7**	**+0.8**
LIA	**Limnos Island**	**0.64**	**229**	*e*Pn	**Pb**	**21 46 21.0**	**+0.1**
LIA				*e*Sn	**Sb**	**21 46 30.7**	**+0.8**
ERIK	**Erikli-Kesan**	**0.64**	**57**	*e*PG	**Pg**	**21 46 19.9**	**-0.3**
ERIK				*e*SG	**Sb**	**21 46 29.5**	**-0.5**
ERIK	**Erikli-Kesan**	**0.64**	**57**	*e*Pg	**Pg**	**21 46 19.9**	**-0.3**
ERIK				*e*Sg	**Sb**	**21 46 29.5**	**-0.5**
LPK	**Lapseki**	**0.73**	**85**	*e*PG	**Pg**	**21 46 21.5**	**-0.3**
LPK	**Lapseki**	**0.73**	**85**	*e*Pg	**Pg**	**21 46 21.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.11**	**70**	*e*PN	**Pb**	**21 46 28.1**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.11**	**70**	*e*Pn	**Pb**	**21 46 28.1**	**-0.9**
SART	**Tekirdag**	**1.11**	**70**	*i*P	**Pb**	**21 46 28.5**	**-0.5**
SART				*i*S	**Sb**	**21 46 43.5**	**0.0**
SART	**Tekirdag**	**1.11**	**70**	*i*P	**Pb**	**21 46 28.5**	**-0.5**
SART				*i*S	**Sb**	**21 46 43.5**	**0.0**
PRK	**Paraskevi**	**1.13**	**161**	*e*PN	**Pb**	**21 46 29.4**	**+0.1**
PRK				*e*SN	**Sn**	**21 46 44.8**	**-0.3**
PRK	**Paraskevi**	**1.13**	**161**	*e*Pn	**Pb**	**21 46 29.4**	**+0.1**
PRK				*e*Sn	**Sn**	**21 46 44.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.14**	**86**	*e*PN	**Pb**	**21 46 28.7**	**-0.8**
KRBG	**Karabiga-Canak**	**1.14**	**86**	*e*Pn	**Pb**	**21 46 28.7**	**-0.8**
MFT	**Murefte**	**1.21**	**67**	*e*PN	**Pn**	**21 46 30.3**	**-0.5**
MFT	**Murefte**	**1.21**	**67**	*e*Pn	**Pn**	**21 46 30.3**	**-0.5**
AYVA	**Ayvalik**	**1.22**	**146**	*i*P	**Pn**	**21 46 30.8**	**0.0**
AYVA				*i*S	**Sg**	**21 46 46.8**	**-0.1**
AYVA	**Ayvalik**	**1.22**	**146**	*i*P	**Pn**	**21 46 30.8**	**0.0**
AYVA				*i*S	**Sg**	**21 46 46.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**100**	*e*PN	**Pb**	**21 46 34.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.46**	**100**	*e*Pn	**Pb**	**21 46 34.6**	**-0.4**
TKR	**Tekirdag**	**1.47**	**62**	*e*PN	**Pb**	**21 46 35.1**	**-0.1**
TKR	**Tekirdag**	**1.47**	**62**	*e*Pn	**Pb**	**21 46 35.1**	**-0.1**
BALY	**Balya**	**1.50**	**112**	*i*P	**Pb**	**21 46 35.8**	**0.0**
BALY				*i*S	**Sb**	**21 46 55.1**	**+0.2**
BALY	**Balya**	**1.50**	**112**	*i*P	**Pb**	**21 46 35.8**	**0.0**
BALY				*i*S	**Sb**	**21 46 55.1**	**+0.2**
EDC	**Edincik**	**1.57**	**88**	*e*PN	**Pb**	**21 46 36.2**	**-0.6**
EDC	**Edincik**	**1.57**	**88**	*e*Pn	**Pb**	**21 46 36.2**	**-0.6**
BNT	**Bandirma**	**1.61**	**88**	*e*PN	**Pn**	**21 46 36.5**	**+0.3**
BNT	**Bandirma**	**1.61**	**88**	*e*Pn	**Pn**	**21 46 36.5**	**+0.3**
CRLT	**Corlu**	**1.67**	**60**	*e*PN	**Pb**	**21 46 37.8**	**-0.8**
CRLT	**Corlu**	**1.67**	**60**	*e*Pn	**Pb**	**21 46 37.8**	**-0.8**
EDRB	**Edirne**	**1.68**	**25**	*e*PN	**Pb**	**21 46 38.1**	**-0.7**
EDRB	**Edirne**	**1.68**	**25**	*e*Pn	**Pb**	**21 46 38.1**	**-0.7**
BALB	**Balikesir**	**1.73**	**112**	*e*PN	**Pn**	**21 46 38.1**	**+0.3**
BALB	**Balikesir**	**1.73**	**112**	*e*Pn	**Pn**	**21 46 38.1**	**+0.3**
NVR	**Nevrokopi**	**1.80**	**306**	*e*PN	**Pn**	**21 46 38.8**	**-0.1**
NVR				*e*SN	**Sn**	**21 47 00.8**	**-1.0**
NVR	**Nevrokopi**	**1.80**	**306**	*e*Pn	**Pn**	**21 46 38.8**	**-0.1**
SOH	**Sokhos**	**1.94**	**286**	*e*PB	**Pn**	**21 46 40.8**	**+0.1**
SOH	**Sokhos**	**1.94**	**286**	*e*Pb	**Pn**	**21 46 40.8**	**+0.1**
CHOS	**Chios island**	**1.94**	**174**	*e*PN	**Pn**	**21 46 41.0**	**+0.2**
CHOS	**Chios island**	**1.94**	**174**	*e*Pn	**Pn**	**21 46 41.0**	**+0.2**
DURS	**Dursunbey**	**2.17**	**108**	*e*P	**Pn**	**21 46 44.7**	**+0.8**
DURS				*e*S	**Sb**	**21 47 15.0**	**+0.9**
DURS	**Dursunbey**	**2.17**	**108**	*e*P	**Pn**	**21 46 44.7**	**+0.8**
DURS				*e*S	**Sb**	**21 47 15.0**	**+0.9**
CTYL	**Yal??k??y-??at**	**2.21**	**58**	*e*PN	**Pn**	**21 46 45.5**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.21**	**58**	*e*Pn	**Pn**	**21 46 45.5**	**+1.1**
CTKS	**Kestanelik-??a**	**2.24**	**65**	*e*PN	**Pn**	**21 46 45.9**	**+1.0**
CTKS	**Kestanelik-??a**	**2.24**	**65**	*e*Pn	**Pn**	**21 46 45.9**	**+1.0**
ARMT	**Armutlu**	**2.34**	**83**	*e*PN	**Pn**	**21 46 47.3**	**+1.0**
ARMT	**Armutlu**	**2.34**	**83**	*e*Pn	**Pn**	**21 46 47.3**	**+1.0**
SMG	**Samos**	**2.73**	**163**	*e*PN	**Pn**	**21 46 51.7**	**+0.1**
SMG	**Samos**	**2.73**	**163**	*e*Pn	**Pn**	**21 46 51.7**	**+0.1**

IDC 15 21:48:44.9±0.7, 47°.05N×155°.51E, h0km, mb4.0/20, mb1 4.2/24, mb1mx4.1/30, mbtmp4.1/24, ML3.9/3, Error ellipse: s-maj=20.1km s-min=12.3km az=149.0
MOS 15 21:48:48.8±1.1, 47°.13N×155°.39E, h38km, mb4.7/12, Error ellipse: s-maj=13.2km s-min=8.4km az=91.1
NEIC 15 21:48:50.2±0.5, 47°.13N×155°.50E, h35km, mb4.6/7, Error ellipse: s-maj=12.7km s-min=6.9km az=143.0
ISC 15 21:48:46.9±1.4, 47°.02N±0°.07×155°.55E±0°.08, h14km±8km, n104, σ1§19/111, mb4.2/33, 5C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.68**	**6**	*e*PN	**Pn**	**21 49 43.0**	**-0.3**
SKR				*e*S	**Sn**	**21 50 23.4**	**-3.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.9s						
SKR				smax	smax		
	comp=N,160nm,0.3s						
SKR				smax	smax		
	comp=E,140nm,0.3s						
SKR				smax	smax		
	comp=Z,40nm,0.5s						
PETK	**Petropavlovsk-**	**6.25**	**12**	Pn	**Pn**	**21 50 17.2**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=174,slow=14,SNR=18						
PETK				Sn	**Sn**	**21 51 31.2**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=184,slow=17,SNR=2.4						
PETK	**Petropavlovsk-**	**6.25**	**12**	PN	**Pn**	**21 50 17.2**	**-1.3**
PETK						21 51 31.2	
PETK	**Petropavlovsk-**	**6.25**	**12**	Pn	**Pn**	**21 50 17.2**	**-1.3**
PETK				Sn	**Sn**	**21 51 31.2**	**+1.5**
PET	**Petropavlovsk**	**6.33**	**17**	*e*PN	**Pn**	**21 50 17.2**	**-2.5**
PET	**Petropavlovsk**	**6.33**	**17**	*e*Pn	**Pn**	**21 50 17.2**	**-2.5**
ASAJ	**Asahikawa**	**9.54**	**257**	Pn	**Pn**	**21 51 04.6**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=83,slow=17,SNR=4.4						
ASAJ	**Asahikawa**	**9.54**	**257**	PN	**Pn**	**21 51 04.6**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**9.54**	**257**	*e*Pn	**Pn**	**21 51 04.5**	**+0.8**
ERM	**Erimo**	**10.16**	**245**	*e*PN	**Pn**	**21 51 12.8**	**+0.5**
ERM	**Erimo**	**10.16**	**245**	*e*Pn	**Pn**	**21 51 12.3**	**0.0**
FX1	**Attu Island--F**	**12.76**	**56**	Pn	**Pn**	**21 51 45.9**	**-1.8**
	comp=Z,2.3nm,0.3s,baz=286,slow=8.1,SNR=5.5						
FX1				Sn	Sn	21 53 55.6	-14
	comp=Z,5.7nm,0.3s,baz=56,slow=20,SNR=8.1						
FX1	**Attu Island--F**	**12.76**	**56**	PN	**Pn**	**21 51 45.9**	**-1.8**
FX1	**Attu Island--F**	**12.76**	**56**	Pn	**Pn**	**21 51 45.9**	**-1.8**
FX1				Sn	Sn	21 53 55.6	-14
MJA0	**Matsu Arr-Jizo**	**16.58**	**237**	*e*P	**Pn**	**21 52 35.9**	**-3.0**
MJAR	**Matsushiro Arr**	**16.60**	**237**	Pn	**Pn**	**21 52 35.6**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=9.4						
MJAR	**Matsushiro Arr**	**16.60**	**237**	P	**Pn**	**21 52 35.6**	**-3.6**
MJAR	**Matsushiro Arr**	**16.60**	**237**	Pn	**Pn**	**21 52 35.6**	**-3.6**
USRK	**Ussuriysk Arra**	**16.70**	**269**	Pn	**Pn**	**21 52 38.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=72,slow=13,SNR=10.0						
YAK	**Yakutsk**	**21.02**	**325**	*e*P	**P**	**21 53 28.7**	**-1.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
YAK	**Yakutsk**	**21.02**	**325**	*e*P	**P**	**21 53 28.7**	**-1.1**
	comp=Z,11nm,0.5s						
BILL	**Bilibino**	**21.78**	**11**	*i*P	**P**	**21 53 39.1**	**+1.2**
BILL				pmax	pmax		
	comp=Z,13nm,1.4s						
BILL	**Bilibino**	**21.78**	**11**	*e*P	**P**	**21 53 38.8**	**+1.0**
	comp=Z,4.2nm,0.5s						
KSRS	**Korea Array**	**22.48**	**255**	P	**P**	**21 53 46.7**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=60,slow=10,SNR=6.6						
KSRS	**Korea Array**	**22.48**	**255**	P	**P**	**21 53 46.7**	**+1.1**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSAR	**Wonju Array Be**	**22.51**	**255**	P	**P**	**21 53 46.7**	**+0.7**
KSAR	**Wonju Array Be**	**22.51**	**255**	P	**P**	**21 53 46.7**	**+0.7**
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**21 55 18.8**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=60,slow=9.4,SNR=6.1						
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**21 55 18.8**	**-1.0**
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**21 55 18.8**	**-1.0**
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**21 55 40.7**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=248,slow=8.1,SNR=17						
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**21 55 40.7**	**-0.2**
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**21 55 40.7**	**-0.2**
INK	**Inuvik**	**40.52**	**33**	P	**P**	**21 56 25.8**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=285,slow=6.8,SNR=12						
INK	**Inuvik**	**40.52**	**33**	*e*P	**P**	**21 56 25.7**	**+0.8**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**40.52**	**33**	*e*P	**P**	**21 56 25.6**	**+0.8**
	comp=Z,3.8nm,0.7s						
GTA	**Gaotai**	**40.57**	**280**	*e*P	**P**	**21 56 27.1**	**+1.2**
GTA				pP	**pP**	**21 56 30.8**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**43.80**	**306**	P	**P**	**21 56 50.7**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=57,slow=7.1,SNR=12						
ZALV				PcP	**PcP**	**21 58 38.3**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=64,slow=3.4,SNR=7.2						
ZALV	**Zalesovo Beam**	**43.80**	**306**	P	**P**	**21 56 50.7**	**-1.2**
ZALV						21 58 38.3	
ZALV	**Zalesovo Beam**	**43.80**	**306**	P	**P**	**21 56 50.7**	**-1.2**
ZALV				PcP	**PcP**	**21 58 38.3**	**+0.1**
NVS	**Novosibirsk**	**44.34**	**308**	*i*P	**P**	**21 56 54.6**	**-1.6**
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**21 57 27.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=66,slow=7.1,SNR=17						
MKAR				PcP	**PcP**	**21 58 54.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=47,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**21 57 27.1**	**-0.3**
MKAR						21 58 54.1	
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**21 57 27.1**	**-0.3**
MKAR				PcP	**PcP**	**21 58 54.1**	**0.0**
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**21 57 29.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,17nm,1.2s						
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**21 57 28.4**	**-1.2**
	comp=Z,7.9nm,0.7s						
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**21 57 38.4**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=295,slow=7.4,SNR=9.0						
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**21 57 38.5**	**+0.5**
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**21 57 38.5**	**+0.5**
RES	**Resolute Bay**	**50.04**	**19**	P	**P**	**21 57 41.5**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=346,slow=14,SNR=3.8						
RES	**Resolute Bay**	**50.04**	**19**	P	**P**	**21 57 41.5**	**+1.2**
RES	**Resolute Bay**	**50.04**	**19**	P	**P**	**21 57 41.5**	**+1.2**
BRVK	**Borovoye**	**52.00**	**310**	*e*P	**P**	**21 57 55.8**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**52.00**	**310**	*e*P	**P**	**21 57 55.2**	**-0.2**
	comp=Z,4.3nm,0.6s						
BRVK				*e*PcP	**PcP**	**21 59 07.4**	**-0.2**
SPITS	**Spitsbergen Ar**	**52.63**	**350**	P	**P**	**21 57 59.3**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=89,slow=10,SNR=6.5						
SPITS	**Spitsbergen Ar**	**52.63**	**350**	P	**P**	**21 57 59.3**	**-0.5**
SPITS	**Spitsbergen Ar**	**52.63**	**350**	P	**P**	**21 57 59.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**54.06**	**258**	P	**P**	**21 58 12.5**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=37,slow=7.2,SNR=12						
CMAR	**Chiang Mai Arr**	**54.06**	**258**	P	**P**	**21 58 12.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**54.06**	**258**	P	**P**	**21 58 12.5**	**+1.5**
SVE	**Sverdlovsk**	**54.76**	**318**	*e*P	**P**	**21 58 16.2**	**+0.6**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	**Ala-Archa**	**55.20**	**297**	*c*eP	**P**	**21 58 20.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARU	**Arti**	**55.93**	**318**	*c i*P	**P**	**21 58 24.1**	**+0.1**
ARU						22 00 26.6	
ARU				S	**S**	**22 06 10.4**	**-0.7**
ARU				SS	SS	22 09 49.7	-6.5
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU	**Arti**	**55.93**	**318**	*e*P	**P**	**21 58 23.9**	**-0.1**
	comp=Z,5.9nm,0.4s						
ARCES	**ARCESS Array B**	**58.13**	**342**	P	**P**	**21 58 39.4**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=25,slow=9.3,SNR=3.5						
ARCES	**ARCESS Array B**	**58.13**	**342**	P	**P**	**21 58 39.4**	**-0.1**
ARCES	**ARCESS Array B**	**58.13**	**342**	P	**P**	**21 58 39.4**	**-0.1**
ABKAR	**Akbulak array**	**59.52**	**311**	*e*P	**P**	**21 58 49.6**	**+0.2**
	comp=Z,2.8nm,0.4s						
JOF	**Joensuu**	**61.81**	**335**	*e*P	P	21 58 58.4	-6.4
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**61.81**	**335**	*e*p	P	21 58 58.4	-6.4
	comp=Z,3.1nm,0.8s						
JOF	**Joensuu**	**61.81**	**335**	*e*p	P	21 58 58.4	-6.4
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**63.23**	**55**	P	**P**	**21 59 15.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=259,slow=1.5,SNR=4.5						
PDAR	**Pinedale Array**	**63.23**	**55**	P	**P**	**21 59 15.2**	**+0.3**
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**21 59 22.3**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=32,slow=7.5,SNR=13						
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**21 59 22.3**	**-0.2**
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**21 59 22.3**	**-0.2**
VRHR	**Novokhopersk**	**66.97**	**321**	*e*P	**P**	**21 59 36.7**	**-2.0**
VRHR				pmax	pmax		
	comp=N,20nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VSR	**Storozhevoye**	**67.92**	**323

	124nm,0.3s,baz=84,slow=20,SNR=229							
JTS					Lg	Lg	22 18 48.0	
	142nm,0.3s,baz=14,slow=19,SNR=22							
BUS	**Buena Vista**	**0.85**	**155**	⫛	*i*P	**Pg**	**22 18 37.2**	**-0.9**
AMAS	**Alto Masis**	**0.90**	**288**		*i* P	**Pg**	**22 18 37.9**	**-1.1**
QCR	**Quepos**	**0.90**	**183**	⫛	*e*P	**Pg**	**22 18 37.8**	**-1.2**
CUI	**Cuipilapa**	**1.07**	**288**		*i* P	**Pg**	**22 18 41.2**	**-1.2**
CUI					*i* S	**Sn**	**22 18 58.9**	**+1.1**
JCR	**Jicaral**	**1.08**	**244**	⫛	*e*P	**Pg**	**22 18 40.6**	**-1.9**
MESS	**Mesas**	**1.13**	**291**		*i* P	**Pb**	**22 18 41.7**	**-1.6**
LIM1	**Limonal**	**1.17**	**288**		*i* P	**Pb**	**22 18 42.7**	**-1.3**
GPS1	**Guardaparques**	**1.28**	**290**		*i* P	**Pn**	**22 18 44.7**	**-1.0**
GPS3	**Bodega del ICE**	**1.29**	**289**		*i* P	**Pb**	**22 18 45.0**	**-1.1**
GPS3					*i* S	**Sg**	**22 19 03.7**	**+0.4**
GB1A	**Borinquen Arri**	**1.34**	**291**		*i* P	**Pb**	**22 18 45.8**	**-1.2**
GB1A					*i* S	**Sg**	**22 19 06.8**	**+1.8**
BUEV	**Buena Vista**	**1.35**	**290**		*i* P	**Pg**	**22 18 46.7**	**-0.8**
LAPC	**Finca la Perla**	**1.36**	**289**		*i* P	**Pn**	**22 18 45.4**	**-1.3**
LAPC					*i* S	**Sg**	**22 19 06.3**	**+0.8**
GBS2	**Las Lilas**	**1.40**	**291**		*i* P	**Pn**	**22 18 46.5**	**-0.8**
GBS2					*i* S	**Sg**	**22 19 08.3**	**+1.6**
ACR	**Cerro Adams**	**1.91**	**150**	⫛	*e*P	**Pn**	**22 18 54.0**	**-0.4**
BRU2	**Volcan**	**2.08**	**137**		*e*P	**Pb**	**22 18 58.6**	**-1.0**
BRU2					*i* S	**Sg**	**22 19 27.2**	**-1.3**
TBS2		**2.10**	**136**		*e*P	**Pb**	**22 18 58.7**	**-1.3**
TBS2					*i* S	**Sb**	**22 19 26.5**	**+0.3**
BCIP	**Isla Barro Col**	**4.38**	**105**	⫛	*e*P	**Pn**	**22 19 28.3**	**0.0**
BCIP					*i* S	**Sn**	**22 20 16.8**	**-2.6**
PTP	**Ponta Puerca**	**19.57**	**64**	⫛	*i*P	x	22 19 03.9	
TXAR	**Lajitas Array**	**26.29**	**319**		P	P	22 24 01.5	+3.8
	0.6nm,0.9s,baz=139,slow=9.9,SNR=5.9							
ULM	**Lac du Bonnet**	**40.97**	**348**		P	**P**	**22 26 03.9**	**-0.6**
	5.0nm,0.9s,baz=160,slow=8.2,SNR=4.5							
NVAR	**Mina Array Bea**	**41.44**	**318**		P	P	22 26 11.8	+2.9
	0.4nm,0.6s,baz=112,slow=6.4,SNR=3.7							
BDFB	**Brasilia**	**44.10**	**125**		P	**P**	**22 26 31.3**	**+0.8**
	4.2nm,1.0s,baz=304,slow=3.6,SNR=3.7							
PLCA	**Paso Flores**	**52.33**	**167**		P	**P**	**22 27 34.8**	**+1.0**
	3.4nm,1.1s,baz=304,slow=3.6,SNR=3.1							
YKA	**Yellowknife Ar**	**56.53**	**344**		P	**P**	**22 28 03.9**	**0.0**
	0.9nm,0.9s,baz=132,slow=7.7,SNR=12							
RES	**Resolute Bay**	**64.62**	**357**		P	**P**	**22 28 59.0**	**+0.1**
	0.9nm,0.8s,baz=164,slow=7.4,SNR=4.0							
INK	**Inuvik**	**66.20**	**342**		P	**P**	**22 29 10.7**	**+1.4**
	1.2nm,0.8s,baz=99,slow=10,SNR=3.9							
ILAR	**Eielson Array**	**69.27**	**336**		P	**P**	**22 29 29.2**	**+0.4**
	0.4nm,0.8s,baz=116,slow=6.1,SNR=4.5							
ESDC	**Sonseca Array**	**75.93**	**52**		P	**P**	**22 30 09.8**	**+0.9**
	0.1nm,0.3s,baz=282,slow=5.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.67**	**78**		P	**P**	**22 30 51.3**	**-0.1**
	0.4nm,0.8s,baz=295,slow=3.0,SNR=2.5							
GERES	**GERESS Array B**	**87.41**	**41**		P	**P**	**22 31 10.0**	**+0.6**
	0.2nm,0.6s,baz=270,slow=2.6,SNR=3.8							

CASC 15 22:22:38.0±2.1, 10°27N×84°15W, h1km±5km, MD4.2, 5C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.34**	**164** ⫛	*e*P	Pb	22 22 46.2	-0.9
SJS				*e*S	Sg	22 22 51.2	+1.9
LAJ	**Bijagual**	**0.40**	**177** ⫛	*e*P	Pn	22 22 52.2	+1.0
LAJ				*e*S	Sb	22 23 02.4	+7.4
URSC	**Urasca**	**0.56**	**140** ⫛	*i*P	Pb	22 22 50.2	-0.7
BUS	**Buena Vista**	**0.80**	**152** ⫛	*i*P	Pg	22 22 54.3	+0.3
QCR	**Quepos**	**0.84**	**181** ⫛	*e*P	Pg	22 22 54.5	+0.4
JCR	**Jicaral**	**1.04**	**247** ⫛	*e*P	Pg	22 22 57.5	-0.5
CUI	**Cuipilapa**	**1.07**	**291**	*i* P	Pg	22 22 58.2	-0.5
CUI				*i* S	Sn	22 23 15.2	-0.8
COLC	**Colonia**	**1.11**	**291**	*i* P	Pg	22 22 58.9	-0.5
COLC				*i* S	Sb	22 23 15.7	+0.5
BUEV	**Buena Vista**	**1.35**	**293**	*i* P	Pg	22 23 04.1	+0.1
GB1A	**Borinquen Arri**	**1.35**	**294**	*i* P	Pg	22 23 03.6	-0.4
LAPC	**Finca la Perla**	**1.36**	**292**	*i* P	Pg	22 23 03.1	-1.1
ACR	**Cerro Adams**	**1.87**	**149**	*e*P	Pn	22 23 09.8	-1.4
BRU2	**Volcan**	**2.05**	**135**	*i* P	Pb	22 23 15.8	-0.5
BRU2				*i* S	Sb	22 23 42.3	-0.2
TBS2		**2.07**	**135**	*e*P	Pn	22 23 15.4	+1.2
TBS2				*i* S	Sg	22 23 44.4	-0.8

IDC 15 22:24:16.6±0.7, 47°04N×155°49E, h0km, mb4.0/22, mb1 4.2/26, mb1mx4.1/32, mbtmp4.1/26, ML3.6/4, Error ellipse: s-maj=19.7km s-min=11.6km az=155.0
MOS 15 22:24:20.3±1.4, 47°07N×155°40E, h42km, mb4.6/9, Error ellipse: s-maj=12.8km s-min=7.9km az=79.6
NEIC 15 22:24:21.5±0.6, 47°06N×155°38E, h35km, mb4.4/8, Error ellipse: s-maj=15.6km s-min=7.4km az=137.0
ISC 15 22:24:19.0±0.9, 47°01N±0°08×155°59E±0°08, h18km±5km, n100, σ1s24/117, mb4.2/31, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.70**	**5**	*e*PN	**Pn**	**22 25 14.5**	**-0.8**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.26**	**12**	*e*Pn	**Pn**	**22 25 48.9**	**-1.6**
PEA0B				*e*Sn	**Sn**	**22 27 00.9**	**-0.6**
PETK	**Petropavlovsk-**	**6.26**	**12**	Pn	**Pn**	**22 25 49.0**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=193,slow=14,SNR=24						
PETK				Sn	**Sn**	**22 27 02.5**	**+1.0**
	baz=195,slow=22,SNR=2.2						
PETK	**Petropavlovsk-**	**6.26**	**12**	PN	**Pn**	**22 25 49.0**	**-1.5**
PETK	**Petropavlovsk-**	**6.26**	**12**	Pn	**Pn**	**22 25 49.0**	**-1.5**
PETK				Sn	**Sn**	**22 27 02.5**	**+1.0**
PET	**Petropavlovsk**	**6.34**	**17**	*e*PN	**Pn**	**22 25 49.5**	**-2.0**
PET				pmax	pmax		
	comp=Z,24nm,0.3s						
PET	**Petropavlovsk**	**6.34**	**17**	*e*Pn	**Pn**	**22 25 49.5**	**-2.0**
PET				*e*Sn	**Sn**	**22 27 02.3**	**-1.2**
ASAJ	**Asahikawa**	**9.56**	**257**	Pn	**Pn**	**22 26 36.5**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=84,slow=16,SNR=3.8						
ASAJ	**Asahikawa**	**9.56**	**257**	PN	**Pn**	**22 26 36.6**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.56**	**257**	*e*Pn	**Pn**	**22 26 34.9**	**-0.9**
ERM	**Erimo**	**10.18**	**245**	*e*PN	**Pn**	**22 26 44.1**	**-0.1**
ERM	**Erimo**	**10.18**	**245**	*e*Pn	**Pn**	**22 26 41.6**	**-2.6**
ERM				*e*Sn	Sn	22 28 28.9	-9.0
FX1	**Attu Island--F**	**12.74**	**56**	Pn	**Pn**	**22 27 17.3**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=259,slow=16,SNR=4.0						
FX1				Sn	Sn	22 29 28.1	-12
	comp=Z,3.8nm,0.3s,baz=69,slow=21,SNR=7.2						
FX1	**Attu Island--F**	**12.74**	**56**	PN	**Pn**	**22 27 17.3**	**-1.9**
FX1	**Attu Island--F**	**12.74**	**56**	Pn	**Pn**	**22 27 17.3**	**-1.9**
FX1				Sn	Sn	22 29 28.1	-12
MJA0	**Matsu Arr-Jizo**	**16.59**	**237**	*e*P	**P**	**22 28 15.3**	**+2.1**
MJAR	**Matsushiro Arr**	**16.62**	**237**	Pn	**Pn**	**22 28 07.8**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=30,slow=15,SNR=5.8						
MJAR	**Matsushiro Arr**	**16.62**	**237**	P	**Pn**	**22 28 07.8**	**-3.3**
MJAR	**Matsushiro Arr**	**16.62**	**237**	Pn	**Pn**	**22 28 07.8**	**-3.3**
MAJO	**Matsushiro**	**16.62**	**237**	*e*P	**Pn**	**22 28 08.2**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**16.62**	**237**	*e*Pn	**Pn**	**22 28 08.2**	**-2.8**
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Arra**	**16.73**	**269**	Pn	**Pn**	**22 28 10.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=78,slow=14,SNR=16						
YAK	**Yakutsk**	**21.05**	**325**	*e*P	**P**	**22 29 00.4**	**-1.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s						
YAK	**Yakutsk**	**21.05**	**325**	*e*P	**P**	**22 29 00.4**	**-1.4**
	comp=Z,12nm,0.6s						
BILL	**Bilibino**	**21.79**	**11**	⫛ *e*P	**P**	**22 29 10.4**	**+0.7**
BILL				*e*S	Sn	22 33 50.3	+31
BILL				pmax	pmax		
	comp=Z,12nm,1.0s						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s						
BILL	**Bilibino**	**21.79**	**11**	*e*P	**P**	**22 29 08.6**	**-1.1**
	comp=Z,6.5nm,0.6s						
KSRS	**Korea Array**	**22.50**	**255**	P	**P**	**22 29 17.1**	**-0.3**
	comp=Z,5.0nm,1.0s,baz=56,slow=11,SNR=7.4						
KSRS	**Korea Array**	**22.50**	**255**	*e*P	**P**	**22 29 21.1**	**+3.6**
KSRS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSAR	**Wonju Array Be**	**22.53**	**255**	P	**P**	**22 29 17.2**	**-0.7**
KSAR	**Wonju Array Be**	**22.53**	**255**	P	**P**	**22 29 17.1**	**-0.7**
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**22 30 50.1**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=62,slow=9.0,SNR=6.2						
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**22 30 50.1**	**-1.6**
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**22 30 50.1**	**-1.6**
SML	**Sawmill**	**34.61**	**44**	*e*P	**P**	**22 31 07.1**	**+0.3**
SML				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SML	**Sawmill**	**34.61**	**44**	*e*P	**P**	**22 31 07.1**	**+0.3**
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**22 31 12.5**	**0.0**
	comp=Z,1.4nm,0.6s,baz=250,slow=8.3,SNR=21						
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**22 31 12.5**	**0.0**
ILAR	**Eielson Array**	**35.29**	**39**	P	**P**	**22 31 12.5**	**0.0**
INK	**Inuvik**	**40.52**	**33**	P	**P**	**22 31 57.9**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=300,slow=7.1,SNR=15						
INK	**Inuvik**	**40.52**	**33**	P	**P**	**22 31 57.9**	**+1.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**40.52**	**33**	*e*P	**P**	**22 31 57.7**	**+1.1**
	comp=Z,3.7nm,0.7s						
GTA	**Gaotai**	**40.60**	**280**	*e*P	**P**	**22 31 59.1**	**+1.3**
GTA				pP	**pP**	**22 32 03.5**	**+0.3**
GTA				sP	**sP**	**22 32 06.3**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ZALV	**Zalesovo Beam**	**43.83**	**306**	P	**P**	**22 32 22.7**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=65,slow=6.5,SNR=13						
ZALV				PcP	**PcP**	**22 34 09.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=62,slow=3.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**43.83**	**306**	P	**P**	**22 32 22.7**	**-1.1**
ZALV						22 34 09.9	
ZALV	**Zalesovo Beam**	**43.83**	**306**	P	**P**	**22 32 22.7**	**-1.1**
ZALV				PcP	**PcP**	**22 34 09.9**	**0.0**
DLBC	**Dease Lake**	**44.19**	**47**	P	**P**	**22 32 28.4**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=7.7,slow=16,SNR=3.3						
DLBC	**Dease Lake**	**44.19**	**47**	P	**P**	**22 32 28.4**	**+1.7**
MK31	**Makanchi Array**	**48.32**	**298**	*e*P	**P**	**22 32 58.6**	**-0.7**
MK31				*e*		22 34 25.3	
MK31	**Makanchi Array**	**48.32**	**298**	*e*P	**P**	**22 32 58.6**	**-0.7**
MK31				*e*PcP	**PcP**	**22 34 25.3**	**-0.5**
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**22 32 58.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=69,slow=8.1,SNR=16						
MKAR				PcP	**PcP**	**22 34 25.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=87,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**22 32 58.9**	**-0.4**
MKAR						22 34 25.4	
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**22 32 58.9**	**-0.4**
MKAR				PcP	**PcP**	**22 34 25.4**	**-0.4**
KURK	**Kurchatov**	**48.63**	**304**	P	**P**	**22 33 01.7**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=67,slow=8.4,SNR=52						
KURK				PcP	**PcP**	**22 34 27.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=65,slow=3.4,SNR=6.6						
KURK	**Kurchatov**	**48.63**	**304**	P	**P**	**22 33 01.7**	**+0.2**
KURK						22 34 27.3	
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**48.63**	**304**	*e*P	**P**	**22 33 00.7**	**-0.8**
	comp=Z,7.0nm,0.6s						
KURK				*e*PcP	**PcP**	**22 34 25.9**	**-0.8**
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**22 33 10.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=294,slow=7.2,SNR=13						
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**22 33 10.2**	**+0.7**
YKA	**Yellowknife Ar**	**49.70**	**38**	P	**P**	**22 33 10.2**	**+0.7**
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**22 33 26.6**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=55,slow=7.3,SNR=28						
BVAR				PcP	**PcP**	**22 34 39.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=40,slow=2.5,SNR=4.0						
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**22 33 26.6**	**-0.4**
BVAR				PcP	**PcP**	**22 34 39.6**	**+0.4**
BRVK	**Borovoye**	**52.04**	**310**	*ce*P	**P**	**22 33 27.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SPITS	**Spitsbergen Ar**	**52.66**	**350**	P	**P**	**22 33 31.9**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=15,slow=8.1,SNR=5.4						
SPITS	**Spitsbergen Ar**	**52.66**	**350**	P	**P**	**22 33 31.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**52.66**	**350**	P	**P**	**22 33 31.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**54.08**	**258**	P	**P**	**22 33 44.5**	**+1.7**
	comp=Z,1.7nm,0.5s,baz=42,slow=7.0,SNR=5.9						
CMAR	**Chiang Mai Arr**	**54.08**	**258**	P	**P**	**22 33 44.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**54.08**	**258**	P	**P**	**22 33 44.5**	**+1.7**
SVE	**Sverdlovsk**	**54.79**	**318**	*e*P	**P**	**22 33 47.9**	**+0.5**
SVE				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	**Ala-Archa**	**55.23**	**297**	*e*P	**P**	**22 33 51.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARU	**Arti**	**55.96**	**318**	*d i*P	**P**	**22 33 55.7**	**-0.1**
ARU				*e*		22 35 59.3	
ARU				S	**S**	**22 41 44.3**	**+1.6**
ARU				SS	SS	22 45 30.1	+2.1
ARU				pmax	pmax		
	comp=Z,24nm,1.7s						
ARU	**Arti**	**55.96**	**318**	*e*P	**P**	**22 33 55.8**	**-0.1**
	comp=Z,7.8nm,0.6s						
ARU				*e*PcP	**PcP**	**22 34 53.5**	**-0.6**
ARCES	**ARCESS Array B**	**58.16**	**342**	P	**P**	**22 34 11.4**	**+0.2**
	comp=Z,6.2nm,0.9s,baz=37,slow=9.1,SNR=2.6						
ARCES	**ARCESS Array B**	**58.16**	**342**	P	**P**	**22 34 11.4**	**+0.2**
ARCES	**ARCESS Array B**	**58.16**	**342**	P	**P**	**22 34 11.4**	**+0.2**
ABKAR	**Akbulak array**	**59.55**	**311**	*e*P	**P**	**22 34 21.4**	**+0.1**
	comp=Z,3.9nm,0.5s						
PDAR	**Pinedale Array**	**63.22**	**55**	P	**P**	**22 34 46.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=284,slow=0.7,SNR=6.3						
PDAR	**Pinedale Array**	**63.22**	**55**	P	**P**	**22 34 46.3**	**-0.1**
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**22 34 54.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=35,slow=10,SNR=7.1						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**22 34 54.0**	**-0.3**
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**22 34 54.0**	**-0.3**
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**22 35 25.0**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=20,slow=7.0,SNR=5.2						
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**22 35 25.0**	**-0.4**
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**22 35 25.0**	**-0.4**
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**22 35 42.3**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=33,slow=5.8,SNR=3.3						
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**22 35 42.3**	**-0.6**
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**22 35 42.3**	**-0.6**
SCHQ	**Schefferville**	**72.40**	**24**	P	**P**	**22 35 45.2**	**+1.4**
	comp=Z,7.1nm,1.0s,baz=315,slow=5.7,SNR=3.6						
SCHQ	**Schefferville**	**72.40**	**24**	P	**P**	**22 35 45.2**	**+1.4**
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**22 35 48.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=18,slow=5.6,SNR=6.6						
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**22 35 48.2**	**+0.5**
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**22 35 48.2**	**+0.5**
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**22 36 05.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=299,slow=4.4,SNR=11						
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**22 36 05.2**	**+0.6**
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**22 36 05.2**	**+0.6**
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**22 36 21.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=23,slow=6.4,SNR=3.0						
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**22 36 21.0**	**-0.4**
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**22 36 21.0**	**-0.4**
BRTR	**Keskin Array B**	**79.35**	**318**	P	**P**	**22 36 25.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=38,slow=2.2,SNR=4.7						
BRTR	**Keskin Array B**	**79.35**	**318**	P	**P**	**22 36 25.2**	**+1.4**
BRTR	**Keskin Array B**	**79.35**	**318**	P	**P**	**22 36 25.2**	**+1.4**

IDC 15 22:27:54.9±1.1, 3°83N×126°54E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/21, mbtmp3.8/9, Error ellipse: s-maj=98.1km s-min=15.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.81**	**182**	P	P	22 32 49.4	+0.6
	3.5nm,1.0s,baz=354,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**24.83**	**162**	P	P	22 33 18.1	-1.0
	2.1nm,0.7s,baz=344,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**28.25**	**166**	P	P	22 33 50.5	+0.6
	0.4nm,0.7s,baz=355,slow=9.3,SNR=2.7						
STKA	**Stephens Creek**	**38.28**	**159**	P	P	22 35 17.0	-0.2
	2.5nm,0.9s,baz=356,slow=6.3,SNR=3.5						
SONM	**Songino Array**	**47.15**	**342**	P	P	22 36 29.6	+0.4
	0.5nm,0.7s,baz=153,slow=7.6,SNR=5.4						
SONM				PcP	PcP	22 38 01.3	+0.4
	0.4nm,0.6s,baz=185,slow=1.9,SNR=3.6						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	22 37 45.1	0.0
	0.8nm,0.4s,baz=119,slow=7.3,SNR=29						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	22 38 05.7	-0.4
	0.4nm,0.5s,baz=120,slow=11,SNR=3.9						
KURK	**Kurchatov**	**61.56**	**328**	P	P	22 38 13.7	-0.2
	1.6nm,0.9s,baz=127,slow=6.3,SNR=11						
BRTR	**Keskin Array B**	**89.82**	**310**	P	P	22 40 55.5	-0.5
	0.4nm,0.7s,baz=90,slow=2.9,SNR=3.4						

DDA 15 22:34:59.5, 38°00N×37°78E, h7km, MD3.0

ISCJB 15 22:35:00.9±0.6, 37°98N±0°03×37°90E±0°04, h10km±6km, Error ellipse: s-maj=6.3km s-min=4.4km az=44.8
CSEM 15 22:35:00.1±0.3, 37°98N×37°83E, h5km, MD3.0, Error ellipse: s-maj=6.2km s-min=5.5km az=77.0
ISK 15 22:35:01.1, 38°00N×37°93E, h6km, MD2.7
ISC 15 22:35:00.5±1.1, 37°99N±0°03×37°85E±0°04, h7km±10km, n22, σ0s62/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.31**	**10**	*i* P	**Pg**	**22 35 06.9**	**+0.2**
AKCD				*i* S	**Sg**	**22 35 11.4**	**+0.6**
AKCD	**Akcadag**	**0.31**	**10**	*i* P	**Pg**	**22 35 06.9**	**+0.2**
AKCD				*i* S	**Sg**	**22 35 11.4**	**+0.6**
MALT	**Malatya**	**0.56**	**54**	*e*PG	**Pg**	**22 35 11.2**	**-0.1**
MALT				*e*SG	**Sg**	**22 35 18.6**	**0.0**
MALT	**Malatya**	**0.56**	**54**	*e*Pg	**Pg**	**22 35 11.2**	**-0.1**
MALT				*e*Sg	**Sg**	**22 35 18.6**	**0.0**
MYA	**Malataya**	**0.56**	**53**	*e*PG	**Pg**	**22 35 11.5**	**0.0**
MYA				*e*SG	**Sg**	**22 35 18.8**	**0.0**
MYA	**Malataya**	**0.56**	**53**	*e*Pg	**Pg**	**22 35 11.5**	**0.0**
MYA				*e*Sg	**Sg**	**22 35 18.8**	**0.0**
GZT	**Gaziantep**	**0.67**	**200**	*i* P	**Pg**	**22 35 13.0**	**-0.5**
KMRS	**Kahramanmaras**	**0.90**	**238**	*e*PG	**Pn**	**22 35 20.8**	**+1.2**
KMRS				*e*SG	**Sn**	**22 35 33.2**	**+0.4**
KMRS	**Kahramanmaras**	**0.90**	**238**	*e*Pg	**Pn**	**22 35 20.8**	**+1.2**
URFA	**Urfa**	**0.94**	**125**	*e*PG	**Pg**	**22 35 18.9**	**+0.2**
URFA				*e*SG	**Sb**	**22 35 31.8**	**-0.2**
URFA	**Urfa**	**0.94**	**125**	*e*Pg	**Pg**	**22 35 18.9**	**+0.2**
URFA				*e*Sg	**Sb**	**22 35 31.8**	**-0.2**
DARE	**Darende-Malaty**	**0.96**	**358**	*e*PG	Pg	22 35 15.0	-4.0
DARE	**Darende-Malaty**	**0.96**	**358**	*e*Pg	Pg	22 35 15.0	-4.0
SVRC	**Sivrice-ELAZID**	**1.21**	**71**	*e*PN	**Pg**	**22 35 23.0**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.21**	**71**	*e*Pn	**Pg**	**22 35 23.0**	**-0.8**
ANDN	**Andirin**	**1.26**	**251**	*i* P	Pg	22 35 19.3	-5.4
ANDN				*i* S	**Sg**	**22 35 39.1**	**-2.0**
KEMA	**Kemaliye**	**1.37**	**21**	*i* P	**Pn**	**22 35 26.1**	**-0.1**
KEMA				*i* S	**Sn**	**22 35 44.5**	**-0.1**
KEMA	**Kemaliye**	**1.37**	**21**	*i* P	**Pn**	**22 35 26.1**	**-0.1**
KEMA				*i* S	**Sn**	**22 35 44.5**	**-0.1**
PTK	**Pertek**	**1.51**	**53**	*e*PN	**Pb**	**22 35 28.9**	**-0.1**
PTK	**Pertek**	**1.51**	**53**	*e*Pn	**Pb**	**22 35 28.9**	**-0.1**
ILIC	**ilic-Erzincan**	**1.56**	**21**	*e*PN	**Pg**	**22 35 30.0**	**-0.5**
ILIC	**ilic-Erzincan**	**1.56**	**21**	*e*Pn	**Pg**	**22 35 30.0**	**-0.5**

*ISCJB 15 23:24:52.3±0.7, 8°1S±0°1×68°19E±0°06, h15km, mb4.1/10, MS4.3/2, Error ellipse: s

baz=248
NNS S Sn 23 28 18.6 +0.3
baz=248
WHF Hehuan Shan 1.19 244 P Pn 23 28 05.6 -0.1
baz=234
WHF S Sn 23 28 23.0 +0.2
baz=234
IRIF Iriomote-Funau 1.22 106 P Pn 23 28 05.2 -0.3
IRIF S Sn 23 28 23.8 +1.2
ESL Shilin 1.25 227 *e*P Pn 23 28 05.1 -0.8
baz=231
ESL *e*S Sn 23 28 22.0 -1.3
baz=231
NSTT Nanjuang 1.31 269 *e*P Pn 23 28 06.2 -0.4
baz=265
NSTT *e*S Sn 23 28 23.8 -0.7
baz=265
HATJ Hateruma jima 1.39 116 P Pn 23 28 07.6 +0.1
HATJ *e*S Sn 23 28 26.8 +0.7
JKRS Kuro-shima 1.49 107 P Pn 23 28 09.1 +0.3
EHY Hungye 1.55 222 *e*P Pn 23 28 08.5 -1.0
baz=225
TWQ1 Liyutan 1.55 258 *e*P Pn 23 28 10.5 +0.9
baz=255
TWQ1 *e*S Sn 23 28 29.9 0.0
baz=255
JIJ Ishigaki jima 1.58 101 P Pn 23 28 09.4 -0.5
JIJ S Sn 23 28 30.4 -0.1
SMLT Sun Moon Lake 1.61 241 P Pn 23 28 11.1 +0.7
baz=233
SMLT *e*S Sn 23 28 32.4 +1.1
baz=233
TYC Yuchr 1.63 242 *e*P Pn 23 28 11.3 +0.7
baz=239
TYC S Sn 23 28 32.2 +0.5
baz=239
TWF1 Yuli 1.68 219 *e*P Pn 23 28 09.8 -1.5
baz=223
TWF1 *e*S Sn 23 28 30.6 -2.1
baz=223
YUS Yu-Shan 1.80 229 *e*P Pn 23 28 13.9 +0.7
baz=219
YUS S Sn 23 28 36.7 +0.6
baz=219
CHN5 Tsauling 1.93 237 *e*P Pn 23 28 15.1 +0.6
baz=243
CHN5 *e*S Sn 23 28 39.6 +1.0
baz=243
JTJ Tarama 2.06 90 P Pn 23 28 15.9 -0.1
JTJ *e*S Sn 23 28 41.2 -0.2
CHN4 Tsaushan 2.14 232 P Pn 23 28 18.2 +1.1
baz=240
CHN4 *e*S Sn 23 28 44.8 +1.4
baz=240
STYT Tauyuan 2.15 226 *e*P Pn 23 28 17.4 0.0
baz=223
WTP Ta-pu 2.19 230 *e*P Pn 23 28 17.8 -0.1
baz=227
WTP *e*S Sn 23 28 45.6 +1.0
baz=227
TWG Pinlang 2.23 214 *e*P Pn 23 28 16.9 -1.4
baz=211
TWK Hsinying 2.27 232 *e*P Pn 23 28 19.7 +0.8
baz=229
TWK *e*S Sn 23 28 46.9 +0.5
baz=229
CHN1 Nanshi 2.29 230 *e*P Pn 23 28 19.2 +0.1
baz=228
CHN1 *e*S Sn 23 28 47.2 +0.3
baz=228
LAY Lan-yu 2.75 197 *e*P Pn 23 28 23.8 -1.4
baz=194

IDC 15 23:32:29.1±1.6, 7.79S×67.91E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/23, mbtmp4.0/5, Error ellipse: s-maj=80.0km s-min=26.8km az=138.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**40.22**	**49**	P	P	23 40 07.3	-0.4
	1.4nm,0.8s,baz=246,slow=8.9,SNR=8.2						
LBTB	**Lobatse**	**43.83**	**242**	P	P	23 40 36.9	-0.5
	2.1nm,0.8s,baz=91,slow=5.3,SNR=4.1						
MKAR	**Makanchi Array**	**55.83**	**12**	P	P	23 42 07.8	-0.5
	1.0nm,0.7s,baz=198,slow=7.5,SNR=12						
MKAR				PcP	PcP	23 43 07.1	-0.1
	0.7nm,0.9s,baz=215,slow=5.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**63.14**	**11**	P	P	23 42 57.5	-1.0
	0.5nm,0.5s,baz=209,slow=8.5,SNR=5.8						
SONM	**Songino Array**	**64.97**	**28**	P	P	23 43 11.4	+0.5
	3.9nm,1.0s,baz=220,slow=6.5,SNR=21						
YKA	**Yellowknife Ar**	**125.37**	**1**	PKP	PKPdf	23 51 30.2	-1.6
	0.6nm,0.9s,baz=2.5,slow=2.5,SNR=6.4						
PDAR	**Pinedale Array**	**145.09**	**357**	PKPbc	PKPab	23 52 08.7	+0.1
	0.9nm,0.7s,baz=72,slow=2.9,SNR=6.5						
NVAR	**Mina Array Bea**	**148.98**	**9**	PKPbc	PKPbc	23 52 20.2	+0.3
	1.9nm,0.9s,baz=248,slow=3.0,SNR=8.9						
TXAR	**Lajitas Array**	**157.15**	**341**	PKPab	PKPab	23 52 58.6	+0.4
	0.7nm,1.0s,baz=331,slow=3.2,SNR=3.2						

*IDC **15** 23:37:59.6±0.6, 0.485×132.94E, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.5/21, mbtmp4.5/14, ML4.7/2, MS4.0/2, Ms1 4.0/2, ms1mx3.5/26, Error ellipse: s-maj=28.0km s-min=12.6km az=80.0*
*ISCJB **15** 23:38:02.2±0.3, 0.46S±0.04×133.08E±0.06, h32km, mb4.6/35, MS4.4/4, Error ellipse: s-maj=8.2km s-min=4.6km az=161.6*
*BJI **15** 23:38:02.7, 0.50S×132.90E, h35km, mB5.2/20, mb4.6/33, Ms4.8/15, Ms7 4.5/14*
*DJA **15** 23:38:04, 0.65S×132.79E, h10km, MLv5.1/7*
*NEIC **15** 23:38:04.5±0.3, 0.46S×132.98E, h35km, mb4.8/18, Error ellipse: s-maj=10.3km s-min=5.2km az=63.0*

ISC 15 23:38:04.6±0.4, 0.46S±0.05×133.06E±0.07, h32km, n100, σ1s79/132, mb4.8/35, MS4.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.57**	**198**	P	**Pn**	**23 38 43.6**	**-0.5**
MSAI	**Masohi**	**5.02**	**235**	P	**Pn**	**23 39 18.2**	**+0.4**
TLE	**Tual**	**5.15**	**184**	P	**Pn**	**23 39 21.7**	**+2.1**
AAI	**Ambon**	**5.82**	**237**	P	**Pn**	**23 39 27.7**	**-1.1**
NLAI	**Namlea**	**6.56**	**245**	P	**Pn**	**23 39 41.7**	**+2.7**
	124nm,0.9s,2µm0.6nm						
LUWI	**Luwuk**	**10.30**	**267**	P	Pn	23 40 37.3	+7.0
	108nm,1.4s,1µm						
KDI	**Kendari**	**10.99**	**251**	P	**Pn**	**23 40 42.1**	**+2.3**
	31nm,1.2s						
KAPI	**Kappang**	**14.04**	**251**	Pn	**Pn**	**23 41 22.8**	**+1.4**
	1.1nm,0.3s,baz=100,slow=12,SNR=3.3						
KAPI	**Kappang**	**14.04**	**251**	Pn	**Pn**	**23 41 22.8**	**+1.4**
SMKI	**Samarinda**	**15.85**	**270**	P	**P**	**23 41 51.1**	**+2.1**
	152nm,0.5s,7µm						
PMG	**Port Moresby**	**16.61**	**123**	Pn	**P**	**23 42 00.1**	**+2.5**
	1.1nm,0.3s,baz=304,slow=8.0,SNR=8.8						
PMG	**Port Moresby**	**16.61**	**123**	*e*Pn	**P**	**23 41 56.4**	**-1.1**
	23nm,0.9s						
COEN	**Coen**	**16.74**	**144**	*e*Pn	**Pn**	**23 41 55.1**	**-1.8**
	128nm,1.4s						
COEN				*e*Sn	**Sn**	**23 44 59.2**	**-2.8**
COEN				*e*PcP	PcP	23 46 38.8	-6.2
FITZ	**Fitzroy Crossi**	**18.99**	**202**	P	**P**	**23 42 21.5**	**-2.1**
	2.2nm,0.3s,baz=34,slow=10,SNR=45						
FITZ				S	Sn	23 45 39.5	-17
	1.1nm,0.3s,baz=223,slow=16,SNR=4.2						
FITZ				LR	LR	23 48 40.8	
	comp=Z,303nm,21.6s,baz=291,slow=34						
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*e*P	**P**	**23 42 21.0**	**-2.7**
	9.8nm,0.4s						
FITZ				*e*S	Sn	23 45 37.3	-19
FITZ	**Fitzroy Crossi**	**18.99**	**202**	*e*P	**P**	**23 42 21.7**	**-2.0**
	24nm,1.0s						
FITZ				*e*Sn	Sn	23 45 41.4	-15
WRAB	**Tennant Creek**	**19.39**	**176**	*e*P	**P**	**23 42 26.5**	**-1.6**
	28nm,0.6s						
WRAB				*e*S	S	23 45 53.2	-13
WRA	**Warramunga Arr**	**19.40**	**176**	P	**P**	**23 42 27.4**	**-0.8**
	2.0nm,0.3s,baz=356,slow=12,SNR=102						
WRA				S	S	23 45 52.3	-14
	0.9nm,0.3s,baz=357,slow=24,SNR=6.6						
WRA	**Warramunga Arr**	**19.40**	**176**	P	**P**	**23 42 27.4**	**-0.8**
WRA				S	S	23 45 52.3	-14
AS31	**Alice Springs**	**23.08**	**178**	*e*P	**P**	**23 43 07.2**	**-0.6**
AS31				*e*Sn	S	23 47 25.1	+8.1
ASAR	**Alice Springs**	**23.08**	**178**	P	**P**	**23 43 06.9**	**-0.9**
	37nm,0.7s,baz=5.0,slow=10,SNR=240						
ASAR				S	**S**	**23 47 21.1**	**+4.1**
	4.5nm,0.9s,baz=359,slow=27,SNR=5.9						
ASAR	**Alice Springs**	**23.08**	**178**	P	**P**	**23 43 06.9**	**-0.9**
ASAR				S	**S**	**23 47 21.1**	**+4.1**
CTA	**Charters Tower**	**23.40**	**147**	P	**P**	**23 43 12.8**	**+1.8**
	14nm,0.7s,baz=324,slow=10,SNR=15						
CTA	**Charters Tower**	**23.40**	**147**	*e*P	**P**	**23 43 12.7**	**+1.8**
	12nm,0.7s						
CTA	**Charters Tower**	**23.40**	**147**	P	**P**	**23 43 12.8**	**+1.8**
CTAO	**Charters Tower**	**23.40**	**147**	*e*P	**P**	**23 43 12.5**	**+1.6**
	21nm,1.0s						
MBWA	**Marble Bar**	**24.34**	**211**	*e*P	**P**	**23 43 19.4**	**-0.4**
FORT	**Forrest**	**30.52**	**188**	*e*P	**P**	**23 44 14.2**	**-0.9**
STKA	**Stephens Creek**	**32.27**	**166**	P	**P**	**23 44 30.0**	**-0.6**
	26nm,0.7s,baz=338,slow=8.3,SNR=51						
STKA	**Stephens Creek**	**32.27**	**166**	*e*P	**P**	**23 44 29.3**	**-1.2**
	21nm,0.7s						
STKA	**Stephens Creek**	**32.27**	**166**	*e*P	**P**	**23 44 29.9**	**-0.6**
	5.8nm,0.8s						
ARMA	**Armidale**	**34.63**	**151**	*e*P	**P**	**23 44 52.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**35.57**	**203**	P	**P**	**23 44 58.5**	**-0.6**
	14nm,1.1s,baz=354,slow=10,SNR=3.8						
NWAO	**Narrogin (SRO)**	**35.57**	**203**	P	**P**	**23 44 58.5**	**-0.6**
WHN	**Wuhan**	**35.60**	**332**	*e*P	P	23 45 06.8	+7.4
GYA	**Guiyang**	**36.92**	**318**	P	**P**	**23 45 12.0**	**+1.0**
GYA				pP	**pP**	**23 45 22.4**	**+2.0**
GYA				S	**S**	**23 50 53.8**	**-0.4**
GYA				sS	**sS**	**23 51 11.0**	**+1.4**
GYA				ScP	**ScP**	**23 51 16.3**	**-0.6**
GYA				SS	**SnSn**	**23 53 24.3**	**-4.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,480nm,17.2s						
GYA				LR	LR		
	comp=E,440nm,18.8s						
GYA				LR	LR		
	comp=Z,460nm,17.3s						
CMAR	**Chiang Mai Arr**	**38.43**	**301**	P	**P**	**23 45 22.6**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=124,slow=7.1,SNR=11						
CMAR	**Chiang Mai Arr**	**38.43**	**301**	P	**P**	**23 45 22.6**	**-1.1**
KMI	**Kunming**	**38.82**	**313**	P	**P**	**23 45 28.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN	**Xi'an**	**41.12**	**329**	P	**P**	**23 45 44.6**	**-1.3**
XAN				S	**S**	**23 51 53.6**	**-3.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CD2	**Chengdu**	**41.80**	**321**	P	**P**	**23 45 53.0**	**+1.4**
CD2				pP	**pP**	**23 46 03.3**	**+2.3**
CD2				sP	**sP**	**23 46 07.5**	**+2.6**
CD2				PP	**PnPn**	**23 47 33.5**	**-0.2**
CD2				S	**S**	**23 52 08.3**	**+1.0**
CD2				sS	**sS**	**23 52 25.3**	**+2.4**
CD2				SS	**SS**	**23 55 09.8**	**-4.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,360nm,4.7s						
CD2				LR	LR		
	comp=N,350nm,5.9s						
CD2				LR	LR		
	comp=Z,340nm,9.5s						
USRK	**Ussuriysk Arra**	**44.47**	**359**	P	**P**	**23 46 13.3**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=148,slow=4.3,SNR=6.5						
CN2	**Changchun**	**44.59**	**352**	*e*P	P	23 46 17.4	+3.6
CN2				*es*P	sP	23 46 32.0	+4.8
CN2				*e*S	**S**	**23 52 52.3**	**+4.7**
CN2				SS	SS	23 56 01.3	-7.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,5.0s						
CN2				LR	LR		
	comp=E,100nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,5.0s						
MDJ	**Mudanjiang**	**44.99**	**357**	P	**P**	**23 46 17.0**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,13nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,310nm,4.9s						
ASAJ	**Asahikawa**	**45.19**	**10**	LR	LR	00 05 15.6	
	comp=Z,328nm,18.5s,baz=63,slow=36						
LZH	**Lanzhou**	**45.39**	**326**	*e*P	P	23 46 27.3	+6.8
LZH				pP	pP	23 46 36.1	+6.0
LZH				sP	sP	23 46 40.3	+6.4
LZH				PP	PP	23 48 18.1	+11
LZH				*e*S	S	23 53 06.5	+6.7
LZH				sS	sS	23 53 22.4	+6.9
LZH				SS	**SS**	**23 56 21.3**	**-2.4**
LZH				pmax	pmax		
	comp=Z,28nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,5.1s						
LZH	**Lanzhou**	**45.39**	**326**	*e*P	**P**	**23 46 21.0**	**+0.5**
LZH				*e*S	S	23 53 06.5	+6.7
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
HHC	**Hu-ho-hao-te**	**45.52**	**337**	*e*P	**P**	**23 46 22.1**	**+0.7**
HHC				pP	**pP**	**23 46 31.8**	**+0.8**
HHC				sP	**sP**	**23 46 35.8**	**+1.0**
HHC				PP	**PP**	**23 48 09.4**	**+1.0**
HHC				S	**S**	**23 53 01.5**	**+0.1**
HHC				ScS	**ScS**	**23 56 13.3**	**-2.4**
HHC				SS	SS	23 56 17.3	-8.4
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.0s						
HHC				LR	LR		
	comp=N,280nm,15.7s						
HHC				LR	LR		
	comp=E,270nm,14.3s						
HHC				LR	LR		
	comp=Z,320nm,15.7s						
LSA	**Lhasa**	**49.94**	**311**	P	**P**	**23 46 55.8**	**-0.5**
LSA	**Lhasa**	**49.94**	**311**	*e*P	**P**	**23 46 56.0**	**-0.4**
	comp=Z,6.2nm,0.7s						
GTA	**Gaotai**	**49.99**	**326**	*e*P	**P**	**23 46 55.6**	**-0.6**
GTA				pP	**pP**	**23 47 05.5**	**-0.3**
GTA				sP	**sP**	**23 47 09.5**	**-0.1**
GTA				S	**S**	**23 54 03.4**	**-1.6**
GTA				sS	**sS**	**23 54 19.3**	**-1.6**
GTA				SS	**SS**	**23 57 32.4**	**-6.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,130nm,6.2s						
GTA				LR	LR		
	comp=N,250nm,14.7s						
GTA				LR	LR		
	comp=E,140nm,15.4s						
GTA				LR	LR		
	comp=Z,370nm,16.9s						
TAPN	**Taplejung**	**51.58**	**306**	*e*P	**P**	**23 47 06.8**	**-1.7**
	comp=Z,40nm,1.5s						
TAPN	**Taplejung**	**51.58**	**306**	*e*P	**P**	**23 47 06.8**	**-1.7**
	comp=Z,40nm,1.5s						
ODAN	**Odare**	**51.63**	**305**	*e*P	**P**	**23 47 07.1**	**-1.8**
	comp=Z,12nm,0.7s						
ODAN	**Odare**	**51.63**	**305**	*e*P	**P**	**23 47 07.1**	**-1.8**
	comp=Z,12nm,0.7s						
RAMN	**Ramite**	**52.31**	**305**	*e*P	**P**	**23 47 11.1**	**-2.8**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**52.31**	**305**	*e*P	**P**	**23 47 11.1**	**-2.8**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**52.93**	**306**	*e*P	**P**	**23 47 16.5**	**-2.2**
	comp=Z,11nm,0.8s						
JIRN	**Jiri**	**52.93**	**306**	*e*P	**P**	**23 47 16.5**	**-2.2**
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**53.18**	**338**	*e*P	**P**	**23 47 19.5**	**-0.3**
	comp=Z,15nm,1.3s						
GUN	**Gumba**	**53.28**	**306**	*e*P	**P**	**23 47 19.6**	**-1.6**
	comp=Z,31nm,1.1s						
GUN	**Gumba**	**53.28**	**306**	*e*P	**P**	**23 47 19.6**	**-1.6**
	comp=Z,31nm,1.1s						
SONM	**Songino Array**	**53.40**	**338**	P	**P**	**23 47 21.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=162,slow=7.2,SNR=6.5						
SONM	**Songino Array**	**53.40**	**338**	P	**P**	**23 47 21.3**	**-0.2**
PKI	**Pulchoki**	**53.53**	**305**	*e*P	**P**	**23 47 20.9**	**-2.1**
PKI	**Pulchoki**	**53.53**	**305**	*e*P	**P**	**23 47 20.9**	**-2.1**
KKN	**Kakani**	**53.72**	**306**	*e*P	**P**	**23 47 22.8**	**-1.5**
KKN	**Kakani**	**53.72**	**306**	*e*P	**P**	**23 47 22.8**	**-1.5**
DMN	**Daman**	**53.80**	**305**	*e*P	**P**	**23 47 23.6**	**-1.3**
DMN	**Daman**	**53.80**	**305**	*e*P	**P**	**23 47 23.6**	**-1.3**
GKN	**Gorkha**	**54.33**	**305**	*e*P	**P**	**23 47 27.4**	**-1.3**
	comp=Z,14nm,0.9s						
GKN	**Gorkha**	**54.33**	**305**	*e*P	**P**	**23 47 27.4**	**-1.3**
	comp=Z,14nm,0.9s						
KOLN	**Koldanda**	**55.09**	**305**	*e*P	**P**	**23 47 32.7**	**-1.5**
	comp=Z,15nm,0.7s						
KOLN	**Koldanda**	**55.09**	**305**	*e*P	**P**	**23 47 32.7**	**-1.5**
	comp=Z,15nm,0.7s						
PETK	**Petropavlovsk-**	**57.21**	**17**	P	**P**	**23 47 49.4**	**+0.7**
	comp=Z,7.6nm,0.9s,baz=190,slow=7.5,SNR=7.5						
PETK	**Petropavlovsk-**	**57.21**	**17**	P	**P**	**23 47 49.4**	**+0.7**
WMQ	**Urumqi**	**59.80**	**323**	P	**P**	**23 48 07.6**	**+0.6**
WMQ				pP	**pP**	**23 48 17.3**	**+0.5**
WMQ				sP	**sP**	**23 48 21.3**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
MK31	**Makanchi Array**	**64.61**	**324**	*e*P	**P**	**23 48 38.4**	**-0.7**
MKAR	**Makanchi Array**	**64.61**	**324**	P	**P**	**23 48 38.8**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=113,slow=5.8,SNR=44						
MKAR	**Makanchi Array**	**64.61**	**324**	*e*P	**P**	**23 48 38.6**	**-0.5**
KSH	**Kashi**	**65.46**	**314**	*e*P	**P**	**23 48 46.1**	**+1.2**
KSH				*ep*P	**pP**	**23 48 56.3**	**+1.4**
KSH				*es*P	**sP**	**23 49 00.4**	**+1.8**
KSH				*e*PcP	**PcP**	**23 49 17.4**	**+0.7**
KSH				*e*PP	**PP**	**23 51 12.8**	**+3.5**
KSH				*e*ScP		23 53 16.6	
KSH				*e*PcS		23 53 20.6	
KSH				*e*S	**S**	**23 57 25.6**	**-2.2**
KSH				*es*S	**sS**	**23 57 44.6**	**+0.5**
KSH				*e*ScS	**SKSac**	**23 58 35.4**	**-2.9**
KSH				*es*S	**SS**	**00 01 43.5**	**+1.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,160nm,4.9s						
KSH				LR	LR		
	comp=N,190nm,6.0s						
KSH				LR	LR		
	comp=E,180nm,5.7s						
KSH				LR	LR		
	comp=Z,220nm,5.9s						
ZAA0	**Zalesovo Array**	**67.22**	**331**	*e*P	**P**	**23 48 55.3**	**-0.4**
ZALV	**Zalesovo Beam**	**67.22**	**331**	P	**P**	**23 48 54.6**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=121,slow=6.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**67.22**	**331**	P	**P**	**23 48 54.6**	**-1.1**
KURK	**Kurchatov**	**68.68**	**326**	*e*P	**P**	**23 49 04.4**	**-0.6**
	comp=Z,12nm,1.0s						
BRVK	**Borovoye**	**74.35**	**326**	*e*P	**P**	**23 49 38.6**	**-0.5**
	comp=Z,8.6nm,0.9s						
ABKAR	**Akbulak array**	**79.38**	**320**	*e*P	**P**	**23 50 07.1**	**-0.4**
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**23 50 41.8**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=258,slow=4.5,SNR=22						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**23 50 41.8**	**-0.7**
QSPA	**South Pole Qui**	**89.47**	**180**	P	**P**	**23 50 57.8**	**-0.6**
	comp=Z,3.3nm,1.0s,baz=349,slow=3.0,SNR=6.3						
QSPA	**South Pole Qui**	**89.47**	**180**	P	**P**	**23 50 57.8**	**-0.6**
YKA	**Yellowknife Ar**	**100.58**	**26**	P	**Pdif**	**23 51 49.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=294,slow=5.0,SNR=3.1						
YKA	**Yellowknife Ar**	**100.58**	**26**	P	**Pdif**	**23 51 49.2**	**+0.2**
PD01	**Pinedale Array**	**110.11**	**44**	*e*Pdif	**Pdif**	**23 52 29.9**	**-2.2**
PD02	**Pinedale Array**	**110.12**	**44**	*e*Pdif	**Pdif**	**23 52 28.5**	**-3.7**
TORD	**Torodi Ar. Bea**	**130.20**	**287**	PKP	**PKPdf**	**23 57 12.8**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=51,slow=1.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**130.20**	**287**	PKP	**PKPdf**	**23 57 12.8**	**+0.1**
LVC	**Limon Verde**	**148.64**	**138**	*e*PKPbc	**PKPbc**	**23 57 50.0**	**+0.2**
LPAZ	**La Paz**	**153.28**	**129**	PKPab	**PKPab**	**23 58 11.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=288,slow=3.2,SNR=4.2						
LPAZ	**La Paz**	**153.28**	**129**	PKPab	**PKPab**	**23 58 11.6**	**-1.6**

KRSC 15 23:40:46.7±1.1, 56.42N×161.57E, h110km±20km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**0.17**	**341**	*i* P	Pn	23 41 02.8	+0.7
SMKR				*e*S	Sn	23 41 14.2	+0.5
BDR	**Baidarnaya**	**0.25**	**307**	*i* P	Pn	23 41 03.0	+0.7
BDR				*e*S	Sn	23 41 14.9	+0.8
KLY	**Klyuchi**	**0.52**	**259**	*e*P	Pn	23 41 03.5	-0.1
KLY				*e*S	Sn	23 41 15.7	-0.7
KBTR	**Krutoberegovo**	**0.73**	**106**	*i* P	Pn	23 41 06.1	+0.9
KBTR				*e*S	Sn	23 41 20.1	+0.9
KMNR	**Kamenistaya**	**1.00**	**229**	*i* P	Pn	23 41 09.1	+1.1
KOZ	**Kozyrevsk**	**1.01**	**250**	P	Pn	23 41 08.5	+0.5
SRDR	**Sredinnyy**	**1.04**	**265**	*e*S	Sn	23 41 23.6	-1.0
TUMR	**Tumrok**	**1.39**	**216**	P	Pn	23 41 13.6	+1.2
TUMR				S	Sn	23 41 33.1	+1.2
MKZ	**Mys Kozlova**	**1.87**	**177**	*e*P	Pn	23 41 18.6	+0.6
MKZ				*e*S	Sn	23 41 42.1	+0.3
SPN	**Mys Shipunski**	**3.45**	**196**	S	Sn	23 42 17.1	-1.6
SDLR	**Sedlovina**	**3.51**	**207**	P	Pn	23 41 42.5	+2.9
SMAR	**Somma**	**3.55**	**208**	P	Pn	23 41 42.7	+2.5
AVH	**Avacha**	**3.56**	**209**	P	Pn	23 41 42.7	+2.5
KOK	**Koryaka**	**3.56**	**210**	P	Pn	23 41 43.3	+3.0
UGLR	**Uglovaya**	**3.59**	**207**	P	Pn	23 41 44.7	+4.1

*IDC **15** 23:52:31.4±0.5, 0.29S×132.56E, h0km, mb4.6/16, mb1 4.7/19, mb1mx4.6/25, mbtmp4.6/19, ML4.2/3, Error ellipse: s-maj=24.4km s-min=11.4km az=76.0*
*MOS **15** 23:52:34.6±0.9, 0.29S×132.52E, h33km, mb5.0/16, Error ellipse: s-maj=17.2km s-min=7.1km az=113.2*
*DJA **15** 23:52:34, 0.21S×132.59E, h10km, MLv5.3/6*
*ISCJB **15** 23:52:35.4±0.8, 0.24S±0.04×132.66E±0.04, h39km±8km, mb4.8/52, Error ellipse: s-maj=7.8km s-min=5.3km az=146.2*
*NEIC **15** 23:52:36.5±0.2, 0.30S×132.60E, h35km, mb5.0/24, Error ellipse: s-maj=9.2km s-min=4.7km az=66.0*

ISC 15 23:52:36.6±0.6, 0.27S±0.04×132.68E±0.06, h34km±1km, h34km:pP-P, n163, σ1s43/184, mb4.9/52, 5C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.66**	**189**	P	**Pn**	**23 53 16.9**	**-0.3**
BAKI	**Biak**	**3.55**	**105**	P	**Pn**	**23 53 29.3**	**-0.1**
MSAI	**Masohi**	**4.83**	**231**	P	**Pn**	**23 53 48.5**	**+1.5**
LBMI	**Labuha**	**5.19**	**266**	P	**Pn**	**23 53 52.5**	**+0.6**
	279nm,1.1s,4µm1.2nm						
TLE	**Tual**	**5.33**	**179**	P	**Pn**	**23 53 55.3**	**+1.4**
	2µm,1.1s,17µm6.7nm						
AAI	**Ambon**	**5.62**	**233**	P	**Pn**	**23 53 58.3**	**+0.5**
	475nm,0.9s,5µm1.7nm						
SMPI	**Sarmi**	**6.27**	**106**	P	**Pn**	**23 54 09.1**	**+2.3**
	68nm,1.4s,36µm2.1nm						
NLAI	**Namlea**	**6.30**	**242**	P	**Pn**	**23 54 09.1**	**+1.8**
	96nm,0.9s,2µm0.6nm						
LUWI	**Luwuk**	**9.93**	**266**	P	**Pn**	**23 54 58.7**	**+1.6**
	102nm,1.3s,1µm						
KDI	**Kendari**	**10.69**	**250**	P	**Pn**	**23 55 08.2**	**+0.7**
	72nm,1.2s,841nm						
**S

FITZ S Sn 00 00 13.1 -16
comp=Z,0.6nm,0.3s,baz=132,slow=14,SNR=3.6
FITZ Fitzroy Crossi 19.02 201 *eP* **P 23 56 51.4 -4.4**
comp=Z,63nm,1.0s
FITZ *eS* Sn 00 00 11.7 -17
FITZ Fitzroy Crossi 19.02 201 *eP* **P 23 56 52.0 -3.8**
comp=Z,192nm,1.6s
FITZ *eSn* **Sn 00 00 27.7 -1.2**
WRAB Tennant Creek 19.61 175 *eP* **P 23 57 01.7 -0.5**
WRAB *eS* **S 00 00 38.7 -3.1**
WRAB pmax pmax
comp=Z,81nm,1.0s
WRAB Tennant Creek 19.61 175 *eP* **P 23 57 01.7 -0.5**
comp=Z,81nm,1.0s
WRAB *es*P **sP 23 57 16.1 +0.6**
WRAB *eS* **S 00 00 38.7 -3.1**
WRA Warramunga Arr 19.61 175 P **P 23 57 01.8 -0.6**
comp=Z,1.7nm,0.3s,baz=355,slow=11,SNR=72
WRA S S 00 00 29.4 -13
comp=Z,0.7nm,0.3s,baz=358,slow=22,SNR=7.0
WRA Warramunga Arr 19.61 175 P **P 23 57 01.8 -0.6**
WRA S S 00 00 29.4 -13
WRA Warramunga Arr 19.61 175 P **P 23 57 01.8 -0.6**
WRA S S 00 00 29.4 -13
WB2 Warramunga Arr 19.62 175 *eP* **P 23 57 01.9 -0.4**
WB2 *es*P **sP 23 57 16.1 +0.5**
BLJI Banyuglugur 20.42 248 P Pn 23 57 18.3 +4.9
SBUM Sibu 20.63 278 P Pn 23 57 19.1 +3.2
comp=Z,37nm,1.6s
STKI Sintang 21.20 271 P **P 23 57 23.5 +3.9**
comp=Z,53nm,1.0s,comp=Z,18μm
AS31 Alice Springs 23.28 177 *eP* **P 23 57 41.0 -0.6**
ASAR Alice Springs 23.28 177 P **P 23 57 40.8 -0.8**
comp=Z,30nm,0.8s,baz=354,slow=10.0,SNR=125
ASAR S **S 00 01 56.4 +4.6**
comp=Z,12nm,1.0s,baz=358,slow=25,SNR=7.7
ASAR Alice Springs 23.28 177 P **P 23 57 40.8 -0.8**
ASAR S **S 00 01 56.4 +4.6**
ASAR Alice Springs 23.28 177 P **P 23 57 40.8 -0.8**
ASAR S **S 00 01 56.4 +4.6**
CTA Charters Tower 23.76 147 P **P 23 57 47.0 +0.8**
comp=Z,25nm,0.9s,baz=329,slow=11,SNR=19
CTA Charters Tower 23.76 147 *eP* **P 23 57 46.5 +0.3**
comp=Z,20nm,0.9s
CTA Charters Tower 23.76 147 P **P 23 57 47.0 +0.8**
CTA Charters Tower 23.76 147 P **P 23 57 47.0 +0.8**
CTAO Charters Tower 23.76 147 *eP* **P 23 57 46.5 +0.3**
CTAO pmax pmax
comp=Z,26nm,0.9s
CTAO Charters Tower 23.76 147 *eP* **P 23 57 46.5 +0.3**
comp=Z,26nm,0.9s
BJII Banjamegara 23.95 252 P P 23 57 54.2 +6.1
comp=Z,90nm,1.8s
MBWA Marble Bar 24.30 211 *eP* **P 23 57 51.5 +0.3**
comp=Z,86nm,1.4s
FORT Forrest 30.65 188 *eP* **P 23 58 50.9 +2.9**
comp=Z,16nm,0.9s
PPI Padang Panjang 32.28 270 P P 23 59 06.3 +3.7
comp=Z,18nm,1.5s
BBOO Buckleboo 32.52 175 *eP* **P 23 59 05.4 +1.0**
STKA Stephens Creek 32.55 166 P **P 23 59 04.3 -0.3**
comp=Z,10nm,0.8s,baz=340,slow=8.5,SNR=14
STKA Stephens Creek 32.55 166 *eP* **P 23 59 04.1 -0.6**
comp=Z,14nm,1.0s
STKA Stephens Creek 32.55 166 *eP* **P 23 59 04.4 -0.3**
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 32.55 166 *eP* **P 23 59 04.3 -0.3**
comp=Z,6.1nm,1.0s
PSI Prapat 33.88 275 P P 23 59 19.8 +3.1
comp=Z,20nm,1.2s
NJ2 Nanjing 34.71 339 *eP* **P 23 59 23.3 -0.2**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NWAO Narrogin (SRO) 35.59 203 P **P 23 59 30.1 -1.0**
comp=Z,4.9nm,0.6s,baz=26,slow=7.4,SNR=3.2
NWAO Narrogin (SRO) 35.59 203 P **P 23 59 30.1 -1.0**
NWAO Narrogin (SRO) 35.59 203 P **P 23 59 30.1 -1.0**
KSAR Wonju Array Be 37.79 354 P **P 23 59 50.3 +0.5**
KSAR Wonju Array Be 37.79 354 P **P 23 59 50.2 +0.5**
KSRS Korea Array 37.80 354 P **P 23 59 50.2 +0.5**
comp=Z,1.6nm,0.8s,baz=154,slow=6.7,SNR=4.0
CMAR Chiang Mai Arr 38.01 301 P **P 23 59 51.8 -0.2**
comp=Z,1.0nm,0.3s,baz=122,slow=6.8,SNR=7.3
CMAR Chiang Mai Arr 38.01 301 P **P 23 59 51.8 -0.2**
CMAR Chiang Mai Arr 38.01 301 P **P 23 59 51.8 -0.2**
KMI Kunming 38.41 313 P **P 23 59 55.9 +0.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Arra 44.28 359 P **P 00 00 43.4 +0.3**
comp=Z,4.1nm,0.8s,baz=162,slow=6.4,SNR=8.8
LZH Lanzhou 45.02 326 *eP* **P 00 00 49.9 +0.5**
LZH pP **pP 00 00 58.1 -1.3**
LZH sP **sP 00 01 02.5 -1.0**
LZH PP **PcP 00 02 29.3 -0.7**
LZH *eS* **S 00 07 28.0 +1.9**
LZH sS **sS 00 07 44.4 +1.7**
LZH SS **ScS 00 10 40.4 -4.0**
LZH pmax pmax
comp=Z,35nm,1.4s
LZH pmax pmax
comp=Z,140nm,5.1s
TAPN Taplejung 51.16 306 *eP* **P 00 01 36.3 -0.8**
TAPN Taplejung 51.16 306 *eP* **P 00 01 36.3 -0.8**
ODAN Odare 51.22 305 *eP* **P 00 01 36.3 -1.2**
comp=Z,23nm,1.1s
ODAN Odare 51.22 305 *eP* **P 00 01 36.3 -1.2**
comp=Z,23nm,1.1s
RAMN Ramite 51.90 305 *eP* **P 00 01 41.8 -0.8**
comp=Z,20nm,0.9s
RAMN Ramite 51.90 305 *eP* **P 00 01 41.8 -0.8**
comp=Z,20nm,0.9s
JIRN Jiri 52.52 306 *eP* **P 00 01 45.9 -1.4**
comp=Z,13nm,0.9s
JIRN Jiri 52.52 306 *eP* **P 00 01 45.9 -1.4**
comp=Z,13nm,0.9s
GUN Gumba 52.87 306 *eP* **P 00 01 48.8 -1.1**
comp=Z,17nm,0.7s
GUN Gumba 52.87 306 *eP* **P 00 01 48.8 -1.1**
comp=Z,17nm,0.7s
ULN Ulaanbaatar 52.87 339 *eP* **P 00 01 49.9 +0.6**
ULN pmax pmax
comp=Z,60nm,0.4s
ULN Ulaanbaatar 52.87 339 *eP* **P 00 01 49.9 +0.6**
comp=Z,60nm,0.4s
SONM Songino Array 53.09 338 P **P 00 01 51.2 +0.3**
comp=Z,4.9nm,1.1s,baz=163,slow=6.2,SNR=19
SONM PcP **PcP 00 02 58.6 -0.4**
comp=Z,0.9nm,0.8s,baz=158,slow=3.7,SNR=1.9
SONM Songino Array 53.09 338 P **P 00 01 51.2 +0.3**
SONM 00 02 58.6
SONM Songino Array 53.09 338 P **P 00 01 51.2 +0.3**
SONM PcP **PcP 00 02 58.6 -0.4**
PKI Pulchoki 53.12 305 *eP* **P 00 01 50.1 -1.6**
PKI Pulchoki 53.12 305 *eP* **P 00 01 50.1 -1.6**
PKI Pulchoki 53.12 305 *eP* **P 00 01 50.1 -1.6**
KKN Kakani 53.31 306 *eP* **P 00 01 52.1 -0.9**
comp=Z,11nm,0.9s
KKN Kakani 53.31 306 *eP* **P 00 01 52.1 -0.9**
KKN pmax pmax
comp=Z,11nm,0.9s
KKN Kakani 53.31 306 *eP* **P 00 01 52.1 -0.9**
comp=Z,11nm,0.9s
DMN Daman 53.38 305 *eP* **P 00 01 52.2 -1.4**
comp=Z,14nm,0.9s
DMN Daman 53.38 305 *eP* **P 00 01 52.2 -1.4**
comp=Z,14nm,0.9s
GKN Gorkha 53.91 306 *eP* **P 00 01 55.8 -1.6**
comp=Z,17nm,1.0s
GKN Gorkha 53.91 306 *eP* **P 00 01 55.8 -1.6**
comp=Z,17nm,1.0s
KOLN Koldanda 54.67 305 *eP* **P 00 02 02.0 -1.0**
comp=Z,20nm,0.8s
KOLN Koldanda 54.67 305 *eP* **P 00 02 02.0 -1.0**
comp=Z,20nm,0.8s
DANN Dangsing 54.76 306 *eP* **P 00 02 02.7 -1.0**
comp=Z,33nm,0.9s
DANN Dangsing 54.76 306 *eP* **P 00 02 02.7 -1.0**
comp=Z,33nm,0.9s
ZAK Zakamensk 56.35 338 *eP* **P 00 02 13.9 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
PETK Petropavlovsk- 57.15 18 P **P 00 02 20.1 +0.2**
comp=Z,12nm,0.9s,baz=182,slow=4.2,SNR=7.1
PETK Petropavlovsk- 57.15 18 P **P 00 02 20.2 +0.2**
PETK Petropavlovsk- 57.15 18 P **P 00 02 20.1 +0.2**
TLY Talaya 57.27 339 *eP* P 00 02 29.1 +8.2
TLY pmax pmax
comp=Z,5.0nm,0.8s
CLNS Chul'man 57.28 355 *eP* **P 00 02 21.0 +0.2**
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.1s
MOY Mondy 58.25 337 *eP* **P 00 02 28.7 +0.9**
BOD Bodaibo 59.80 349 *eP* **P 00 02 38.1 -0.2**
BOD pmax pmax
comp=Z,15nm,1.5s
DDI Dehra Dun 60.12 306 *ex* **P 00 02 40.6 -0.5**
YAK Yakutsk 62.19 358 *eP* **P 00 02 54.1 -0.3**
YAK *e* 00 03 00.5
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
MK31 Makanchi Array 64.24 324 *eP* **P 00 03 08.4 0.0**
MK31 Makanchi Array 64.24 324 *eP* **P 00 03 08.4 0.0**
MKAR Makanchi Array 64.24 324 P **P 00 03 08.4 0.0**
comp=E,7.2nm,0.7s,baz=118,slow=8.0,SNR=108
MKAR Makanchi Array 64.24 324 *eP* **P 00 03 08.6 +0.2**
MKAR Makanchi Array 64.24 324 *eP* **P 00 03 08.6 +0.2**
SEY Seymchan 64.76 10 *ce*P **P 00 03 12.4 +1.0**
KZA Kyzart 66.57 317 P **P 00 03 25.2 +1.1**
SNR=9.0
KZA P **P 00 03 25.2 +1.1**
SNR=9.0
TKM2 Tokmak 2 66.67 318 P **P 00 03 24.6 +0.1**
SNR=5.0
TKM2 P **P 00 03 24.6 +0.1**
SNR=5.0
TKM2 Tokmak 2 66.67 318 *eP* **P 00 03 24.3 -0.2**
TKM2 pmax pmax
comp=Z,10.0nm,1.3s
TKM2 Tokmak 2 66.67 318 *eP* **P 00 03 24.3 -0.2**
comp=Z,9.8nm,1.3s
ZAA0 Zalesovo Array 66.87 332 *eP* **P 00 03 24.2 -1.0**
ZAA0 *e*PP **PP 00 05 52.9 0.0**
ZALV Zalesovo Beam 66.87 332 P **P 00 03 24.3 -0.9**
comp=Z,5.3nm,0.7s,baz=114,slow=6.5,SNR=27
ZALV Zalesovo Beam 66.87 332 P **P 00 03 24.3 -0.9**
ZALV Zalesovo Beam 66.87 332 P **P 00 03 24.3 -0.9**
AAK Ala-Archa 67.30 317 *ce*P **P 00 03 28.9 +0.5**
AAK pmax pmax
comp=Z,31nm,2.5s
USP Ospenovka 67.55 318 P **P 00 03 30.2 +0.4**
SNR=10
USP P **P 00 03 30.2 +0.4**
SNR=10
AML Almayashu 67.66 316 P **P 00 03 31.6 +0.6**
SNR=7.2
AML P **P 00 03 31.6 +0.6**
SNR=7.2
EKS2 Erkin-Say 67.80 317 P **P 00 03 32.4 +0.8**
SNR=5.1
EKS2 P **P 00 03 32.4 +0.8**
SNR=5.1
EKS2 Erkin-Say 67.80 317 *eP* **P 00 03 32.0 +0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 67.80 317 *eP* **P 00 03 32.0 +0.5**
comp=Z,7.5nm,0.9s
NVS Novosibirsk 68.15 332 *eP* **P 00 03 31.3 -1.9**
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,16nm,0.9s
NVS pmax pmax
comp=E,7.0nm,1.2s
KURK Kurchatov 68.32 326 P **P 00 03 34.2 -0.1**
comp=E,12nm,0.8s,baz=120,slow=5.8,SNR=51
KURK Kurchatov 68.32 326 *ce*P **P 00 03 34.5 +0.1**
KURK pmax pmax
comp=Z,24nm,1.2s
KURK Kurchatov 68.32 326 *eP* **P 00 03 34.3 -0.1**
comp=Z,13nm,0.9s
KKAR Karatay Array 70.20 316 *eP* **P 00 03 45.6 -0.7**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 70.20 316 *eP* **P 00 03 45.6 -0.7**
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 73.91 326 P **P 00 04 08.3 0.0**
comp=Z,11nm,0.9s,baz=116,slow=6.8,SNR=36
BVAR Borovoye Array 73.91 326 P **P 00 04 08.3 0.0**
BRVK Borovoye 73.98 326 *ce*P **P 00 04 08.7 0.0**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 73.98 326 *eP* **P 00 04 08.5 -0.2**
comp=Z,14nm,1.0s
ABKT Ailbek 78.02 309 P **P 00 04 32.1 0.0**
comp=Z,65nm,0.9s,SNR=5.3
ABKAR Akbulak array 79.00 320 *eP* **P 00 04 36.4 -0.8**
comp=Z,4.0nm,0.6s
SVE Sverdlovsk 80.47 328 *dl eP* **P 00 04 45.0 0.0**
SVE pmax pmax
comp=Z,21nm,1.2s
AKTO Aktyubinsk 80.47 321 P **P 00 04 44.7 -0.5**
comp=Z,3.5nm,0.9s,baz=99,slow=7.8,SNR=8.8
AKTO Aktyubinsk 80.47 321 P **P 00 04 44.7 -0.5**
AKTO Aktyubinsk 80.47 321 P **P 00 04 44.7 -0.5**
ARU Arti 81.48 327 *d i*P **P 00 04 49.9 -0.5**
ARU 00 07 59.0
ARU S **S 00 14 59.7 +0.2**
ARU SS **SS 00 20 10.4 -6.1**
ARU pmax pmax
comp=Z,11nm,1.0s
ILAR Eielson Array 86.16 25 P **P 00 05 13.1 -1.1**
comp=Z,5.2nm,0.9s,baz=257,slow=4.9,SNR=36
ILAR Eielson Array 86.16 25 P **P 00 05 13.1 -1.1**
ZEI Tsey 89.28 313 *eP* **P 00 05 30.2 +0.3**
ZEI pmax pmax
comp=Z,5.0nm,1.3s
DAWY Dawson 89.33 26 *eP* **P 00 05 29.5 +0.1**
QSPA South Pole Qui 89.66 180 *eP* **P 00 05 30.9 -0.1**
comp=Z,10nm,1.0s
INK Inuvik 91.67 22 P **P 00 05 38.6 -1.5**
comp=Z,2.6nm,0.9s,baz=226,slow=4.2,SNR=5.2
INK Inuvik 91.67 22 P **P 00 05 38.6 -1.5**
INK Inuvik 91.67 22 P **P 00 05 38.6 -1.5**
GNW Green Mountain 99.96 42 *e*Pdif **Pdif 00 06 23.0 +4.7**
YKA Yellowknife Ar 100.57 26 P **Pdif 00 06 20.0 -0.7**
comp=Z,0.7nm,0.9s,baz=291,slow=4.7,SNR=5.8
YKA Yellowknife Ar 100.57 26 P **Pdif 00 06 20.0 -0.7**
YKA Yellowknife Ar 100.57 26 P **Pdif 00 06 20.0 -0.7**
RES Resolute Bay 100.59 12 P **Pdif 00 06 20.1 -0.4**
comp=Z,1.1nm,0.8s,baz=336,slow=4.5,SNR=5.1
RES Resolute Bay 100.59 12 P **Pdif 00 06 20.1 -0.4**
RES Resolute Bay 100.59 12 P **Pdif 00 06 20.1 -0.4**
TORD Torodi Ar. Bea 129.79 287 PKP **PKPdf 00 11 42.1 -1.4**
comp=Z,0.5nm,0.8s,baz=53,slow=2.1,SNR=2.5
TORD Torodi Ar. Bea 129.79 287 PKP **PKPdf 00 11 42.1 -1.4**
PLCA Paso Flores 134.05 155 PKP **PKPdf 00 11 50.6 -0.5**
comp=Z,3.2nm,0.9s,baz=202,slow=1.4,SNR=4.4
PLCA Paso Flores 134.05 155 PKIKP **PKPdf 00 11 50.6 -0.5**
PLCA Paso Flores 134.05 155 PKP **PKPdf 00 11 50.6 -0.5**
LVC Limon Verde 149.03 139 *e*PKPbc **PKPbc 00 12 23.6 +1.1**
LPAZ La Paz 153.69 130 PKPbc **PKPbc 00 12 34.8 +0.9**
comp=Z,1.6nm,0.8s,baz=158,slow=1.6,SNR=3.6
LPAZ PKPab **PKPab 00 12 48.3 +1.7**
comp=Z,3.4nm,0.9s,baz=212,slow=3.8,SNR=6.4
LPAZ La Paz 153.69 130 PKPbc **PKPbc 00 12 34.8 +0.9**
LPAZ PKPab **PKPab 00 12 48.3 +1.7**

IDC 15 23:55:02.2±2.2, 46.99N×155.32E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.7/25, mbtmp3.6/10, ML2.7/2, Error ellipse: s-maj=59.4km s-min=22.5km az=169.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.31**	**13**	Pn		Pn	23 56 36.0	-0.5
	0.4nm,0.3s,baz=176,slow=17,SNR=7.6							
PETK				Sn		Sn	23 57 51.7	+2.4
	0.1nm,0.3s,baz=191,slow=14,SNR=3.2							
USRK	**Ussuriysk Arra**	**16.54**	**269**	Pn		Pn	23 58 54.9	-0.5
	0.2nm,0.3s,baz=84,slow=15,SNR=4.9							
SONM	**Songino Array**	**32.68**	**290**	P		P	00 01 35.0	-1.0
	0.4nm,0.8s,baz=70,slow=8.2,SNR=3.6							
ILAR	**Eielson Array**	**35.42**	**39**	P		P	00 01 59.0	-0.4
	0.3nm,0.7s,baz=252,slow=8.1,SNR=6.4							
ZALV	**Zalesovo Beam**	**43.69**	**306**	P		P	00 03 07.4	-1.1
	0.7nm,0.5s,baz=64,slow=7.2,SNR=4.7							
YKA	**Yellowknife Ar**	**49.82**	**37**	P		P	00 03 56.2	-0.2
	0.2nm,0.7s,baz=295,slow=7.4,SNR=3.3							
FINES	**FINESS Array B**	**64.46**	**336**	P		P	00 05 40.0	0.0
	2.6nm,0.8s,baz=47,slow=8.9,SNR=7.3							
AKASG	**Malin Array Be**	**72.17**	**327**	P		P	00 06 29.4	+0.9
	0.5nm,0.4s,baz=33,slow=7.0,SNR=3.3							
TXAR	**Lajitas Array**	**76.05**	**62**	P		P	00 06 51.4	-0.2
	0.5nm,0.9s,baz=318,slow=1.7,SNR=4.4							
BRTR	**Keskin Array B**	**79.24**	**318**	P		P	00 07 10.3	+1.0
	0.4nm,0.8s,baz=46,slow=6.2,SNR=2.4							

*IDC **15** 23:58:26.2±2.3, 46.86N×155.14E, h0km, mb4.0/11, mb1 4.0/13, mb1mx3.9/27, mbtmp3.9/13, ML3.0/2, Error ellipse: s-maj=58.2km s-min=22.1km az=170.0*
*ISCJB **15** 23:58:28.0±1.1, 47.1N±0.1×155.1E±0.2, h18km, mb4.0/15, Error ellipse: s-maj=20.9km s-min=7.9km az=136.7*
*NEIC **15** 23:58:31.5±1.3, 46.92N×155.11E, h35km, mb4.5/1, Error ellipse: s-maj=29.2km s-min=13.1km az=146.0*
*MOS **15** 23:58:31.3±0.9, 47.24N×155.03E, h35km, mb4.9/5, Error ellipse: s-maj=17.8km s-min=10.5km az=94.5*

ISC 15 23:58:29.1±1.1, 46.9N±0.1×155.2E±0.1, h18km, n52, σ0.96s/49, mb4.1/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.82**	**9**	*e*PN		**Pn**	**23 59 24.0**	**-2.9**
SKR				*e*			00 00 07.0	
PETK	**Petropavlovsk-**	**6.41**	**14**	Pn		**Pn**	**00 00 00.9**	**-1.6**
	0.9nm,0.3s,baz=180,slow=14,SNR=15							
PETK				Sn		**Sn**	**00 01 15.2**	**+0.1**
	0.1nm,0.3s,baz=185,slow=16,SNR=2.0							
PETK	**Petropavlovsk-**	**6.41**	**14**	PN		**Pn**	**00 00 00.9**	**-1.6**
PETK							00 01 15.2	
PETK	**Petropavlovsk-**	**6.41**	**14**	Pn		**Pn**	**00 00 00.9**	**-1.6**
PETK				Sn		**Sn**	**00 01 15.2**	**+0.1**
PET	**Petropavlovsk**	**6.51**	**19**	*e*PN		**Pn**	**00 00 02.7**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.51**	**275**	*e*PN		**Pn**	**00 00 32.3**	**+1.1**
ERM	**Erimo**	**9.89**	**245**	*e*Pn		**Pn**	**00 00 48.9**	**-1.3**
USRK	**Ussuriysk Arra**	**16.45**	**269**	Pn		**Pn**	**00 02 18.7**	**0.0**
	0.2nm,0.3s,baz=79,slow=12,SNR=4.1							
BILL	**Bilibino**	**21.93**	**11**	*e*P		**P**	**00 03 22.2**	**+1.0**
ULN	**Ulaanbaatar**	**32.18**	**290**	*e*P		**P**	**00 04 56.9**	**+1.1**
SONM	**Songino Array**	**32.62**	**290**	P		**P**	**00 04 59.2**	**-0.4**
	0.9nm,0.7s,baz=61,slow=8.8,SNR=5.5							
SONM	**Songino Array**	**32.62**	**290**	P		**P**	**00 04 59.2**	**-0.4**
SONM	**Songino Array**	**32.62**	**290**	P		**P**	**00 04 59.2**	**-0.4**
ZALV	**Zalesovo Beam**	**43.66**	**306**	P		**P**	**00 06 31.6**	**-0.7**
	1.7nm,0.5s,baz=62,slow=7.3,SNR=5.3							
ZALV	**Zalesovo Beam**	**43.66**	**306**	P		**P**	**00 06 31.6**	**-0.7**
ZALV	**Zalesovo Beam**	**43.66**	**306**	P		**P**	**00 06 31.6**	**-0.7**
MK31	**Makanchi Array**	**48.12**	**298**	*e*P		**P**	**00 07 07.4**	**-0.2**
MK31	**Makanchi Array**	**48.12**	**298**	*e*P		**P**	**00 07 07.4**	**-0.2**
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**00 07 07.3**	**-0.3**
	0.9nm,0.6s,baz=65,slow=8.0,SNR=7.5							
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**00 07 07.3**	**-0.3**
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**00 07 07.3**	**-0.3**
KURK	**Kurchatov**	**48.45**	**304**	P		**P**	**00 07 10.6**	**+0.5**
	3.6nm,0.7s,baz=66,slow=8.2,SNR=8.7							
KURK	**Kurchatov**	**48.45**	**304**	P		**P**	**00 07 10.6**	**+0.5**
KURK	**Kurchatov**	**48.45**	**304**	P		**P**	**00 07 10.6**	**+0.5**
YKA	**Yellowknife Ar**	**49.94**	**37**	P		**P**	**00 07 22.6**	**+1.3**
	0.2nm,0.6s,baz=299,slow=7.2,SNR=3.0							
YKA	**Yellowknife Ar**	**49.94**	**37**	P		**P**	**00 07 22.6**	**+1.3**
YKA	**Yellowknife Ar**	**49.94**	**37**	P		**P**	**00 07 22.6**	**+1.3**
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**	**00 07 36.0**	**+0.2**
	3.7nm,0.5s,baz=54,slow=7.0,SNR=21							
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**	**00 07 36.0**	**+0.2**
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**	**00 07 36.0**	**+0.2**
BRVK	**Borovoye**	**51.88**	**310**	*e*P		**P**	**00 07 36.4**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ABKAR	**Akbulak array**	**59.40**	**311**	*e*P		**P**	**00 08 30.6**	**+0.5**
	comp=Z,2.3nm,0.6s							
AKTO	**Aktyubinsk**	**59.67**	**313**	P		**P**	**00 08 32.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=64,slow=14,SNR=9.3							
AKTO	**Aktyubinsk**	**59.67**	**313**	P		**P**	**00 08 32.5**	**+0.5**
AKTO	**Aktyubinsk**	**59.67**	**313**	P		**P**	**00 08 32.5**	**+0.5**
FINES	**FINESS Array B**	**64.49**	**336**	P		**P**	**00 09 03.9**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=46,slow=11,SNR=14							
FINES	**FINESS Array B**	**64.49**	**336**	P		**P**	**00 09 03.9**	**-0.1**
FINES	**FINESS Array B**	**64.49**	**336**	P		**P**	**00 09 03.9**	**-0.1**
NOA	**NORSAR Array B**	**68.52**	**342**	P		**P**	**00 09 31.6**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=27,slow=6.4,SNR=3.1							
NOA	**NORSAR Array B**	**68.52**	**342**	P		**P**	**00 09 31.6**	**+1.7**
NOA	**NORSAR Array B**	**68.52**	**342**	P		**P**	**00 09 31.6**	**+1.7**
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**00 09 52.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=28,slow=5.0,SNR=3.5							
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**00 09 52.1**	**-0.3**
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**00 09 52.1**	**-0.3**
TXAR	**Lajitas Array**	**76.17**	**62**	P		**P**	**00 10 15.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=286,slow=3.6,SNR=4.2							
TXAR	**Lajitas Array**	**76.17**	**62**	P		**P**	**00 10 15.7**	**-0.5**
TXAR	**Lajitas Array**	**76.17**	**62**	P		**P**	**00 10 15.7**	**-0.5**
CLL	**Collm**	**76.89**	**337**	*e*P		P	00 10 23.0	+3.3
CLL				pmax	pmax			
	comp=Z,5.0nm,1.1s							
CLL	**Collm**	**76.89**	**337**	*e*P		P	00 10 23.0	+3.3
BRTR	**Keskin Array B**	**79.23**	**318**	P		P	00 10 37.9	+4.8
	comp=Z,0.8nm,0.8s,baz=63,slow=5.7,SNR=5.3							
BRTR	**Keskin Array B**	**79.23**	**318**	P		P	00 10 37.9	+4.8
BRTR	**Keskin Array B**	**79.23**	**318**	P		P	00 10 37.9	+4.8

IDC 15 23:58:34.9±2.7, 0.48S×131.99E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=207.4km s-min=21.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.48**	**173**	P		P	00 03 03.8	+0.2
	0.2nm,0.3s,baz=353,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**23.12**	**176**	P		P	00 03 42.7	-0.1
	2.3nm,0.6s,baz=358,slow=11,SNR=4.3							
SONM	**Songino Array**	**53.03**	**339**	P		P	00 07 53.9	0.0
	0.4nm,0.7s,baz=161,slow=6.1,SNR=2.9							
MKAR	**Makanchi Array**	**64.00**	**324**	P		P	00 09 10.7	+0.3
	1.4nm,0.7s,baz=122,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**66.73**	**332**	P		P	00 09 27.1	-0.8
	0.9nm,0.9s,baz=115,slow=6.5,SNR=2.4							
KURK	**Kurchatov**	**68.11**	**327**	P		P	00 09 36.7	+0.1
	1.7nm,0.8s,baz=121,slow=6.1,SNR=9.4							
BVAR	**Borovoye Array**	**73.70**	**326**	P		P	00 10 10.9	+0.3
	1.7nm,0.9s,baz=124,slow=7.3,SNR=4.7							

*IDC **15** 23:58:43.5±0.5, 0.50S×132.89E, h0km, mb4.6/17, mb1 4.8/19, mb1mx4.7/23, mbtmp4.6/19, ML4.9/2, MS4.0/6, Ms1 4.0/6, ms1mx3.7/21, Error ellipse: s-maj=26.1km s-min=11.6km az=79.0*
*MOS **15** 23:58:45.9±0.9, 0.61S×132.92E, h33km, mb5.0/14, Error ellipse: s-maj=28.6km s-min=9.4km az=117.3*
*ISCJB **15** 23:58:47.0±0.3, 0.45S±0.03×132.89E±0.05, h33km, mb4.8/62, MS4.1/2, Error ellipse: s-maj=6.6km s-min=4.3km az=175.9*
*DJA **15** 23:58:47, 0.46S×132.87E, h10km, MLv5.2/7*
*NEIC **15** 23:58:48.5±2.4, 0.56S×132.71E, h32km±17km, mb5.0/26, Error ellipse: s-maj=7.5km s-min=4.4km az=60.0*

ISC 15 23:58:48.5±0.5, 0.46S±0.04×132.85E±0.06, h32km±2km, h31km:pP-P, n162, σ1s23/178, mb4.8/62, 5C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.52**	**194**	P		**Pn**	**23 59 28.1**	**+0.8**
FAKI				S		**Sn**	**23 59 58.6**	**+1.7**
BAKI	**Biak**	**3.33**	**103**	P		**Pn**	**23 59 39.1**	**+0.6**
MSAI	**Masohi**	**4.86**	**234**	P		Pn	00 00 02.3	+2.8
TLE	**Tual**	**5.14**	**181**	P		**Pn**	**00 00 04.8**	**+1.4**
	1μm,0.7s,16μm4.8nm							
LBMI	**Labuha**	**5.36**	**268**	P		**Pn**	**00 00 07.4**	**+1.1**
	384nm,0.7s,5μm1.4nm							
AAI	**Ambon**	**5.65**	**235**	P		**Pn**	**00 00 11.6**	**+1.2**
	1μm,0.9s,10μm3.6nm							
LUWI	**Luwuk**	**10.10**	**267**	P		**Pn**	**00 01 10.3**	**-1.2

152nm,0.6s,2μm
DAV Davao City (W) 10.42 316 LR LR 00 04 38.9
comp=Z,454nm,20.6s,baz=323,slow=34
KDI Kendari 10.80 251 P Pn 00 01 23.4 +2.3
46nm,1.1s,1μm
KAPI Kappang 13.84 251 Pn P 00 02 06.2 -4.5
2.2nm,0.3s,baz=133,slow=7.2,SNR=7.6
KAPI LR LR 00 07 33.9
comp=Z,509nm,20.7s,baz=29,slow=38
KAPI Kappang 13.84 251 *e*Pn Pn 00 01 59.2 -3.5
PMG Port Moresby 16.79 122 Pn **P 00 02 43.9 +0.5**
1.0nm,0.3s,baz=298,slow=7.4,SNR=11
PMG Port Moresby 16.79 122 P **P 00 02 43.9 +0.5**
PMG Port Moresby 16.79 122 Pn **P 00 02 43.9 +0.5**
COEN Coen 16.86 143 *e*Pn **Pn 00 02 41.7 -0.7**
BBKI Banjar Baru 18.25 260 P P 00 03 12.6 +13
GUMO Guam 18.35 40 LR LR 00 09 08.7
comp=Z,586nm,19.6s,baz=59,slow=34
KHKI Kahang-Kahang 18.89 245 P **Pn 00 03 09.0 +1.6**
94nm,1.0s
FITZ Fitzroy Crossi 18.91 202 P **P 00 03 04.3 -2.5**
2.3nm,0.3s,baz=30,slow=15,SNR=18
FITZ S Sn 00 06 26.3 -12
1.4nm,0.3s,baz=145,slow=15,SNR=4.4
FITZ LR LR 00 10 58.0
comp=Z,353nm,20.9s,baz=306,slow=39
FITZ Fitzroy Crossi 18.91 202 *e*P **P 00 03 04.2 -2.6**
29nm,0.4s
FITZ Fitzroy Crossi 18.91 202 P **P 00 03 04.3 -2.5**
FITZ S Sn 00 06 26.3 -12
WRA Warramunga Arr 19.42 176 P **P 00 03 11.3 -1.0**
3.8nm,0.3s,baz=356,slow=12,SNR=22
WRA S S 00 06 37.1 -13
1.7nm,0.3s,baz=357,slow=23,SNR=6.6
WRA Warramunga Arr 19.42 176 P **P 00 03 11.3 -1.0**
WRA S S 00 06 37.1 -13
WRA Warramunga Arr 19.42 176 P **P 00 03 11.3 -1.0**
WRA S S 00 06 37.1 -13
SBUM Sibu 20.83 278 P Pn 00 03 45.4 +15
SJI Sawahan 22.23 250 P P 00 03 53.8 +11
ASAR Alice Springs 23.09 178 P **P 00 03 51.0 -0.8**
89nm,0.7s,baz=4.7,slow=9.9,SNR=82
ASAR S **S 00 08 01.8 +0.8**
2.4nm,0.6s,baz=0.4,slow=26,SNR=3.4
ASAR Alice Springs 23.09 178 P **P 00 03 51.1 -0.8**
ASAR S **S 00 08 01.8 +0.8**
ASAR Alice Springs 23.09 178 P **P 00 03 51.0 -0.8**
ASAR S **S 00 08 01.8 +0.8**
CTA Charters Tower 23.51 147 P **P 00 03 56.1 +0.1**
33nm,0.7s,baz=330,slow=11,SNR=24
CTA Charters Tower 23.51 147 *e*P **P 00 03 56.7 +0.7**
32nm,0.9s
CTA Charters Tower 23.51 147 P **P 00 03 56.1 +0.1**
CTA Charters Tower 23.51 147 P **P 00 03 56.1 +0.1**
CTAO Charters Tower 23.51 147 *e*P **P 00 03 56.1 +0.1**
CTAO pmax pmax
comp=Z,33nm,0.7s
CTAO Charters Tower 23.51 147 *e*P **P 00 03 56.1 +0.1**
comp=Z,33nm,0.7s
BJII Banjamegara 24.07 253 P **P 00 04 02.0 +0.6**
comp=Z,122nm,2.0s
MBWA Marble Bar 24.24 211 *e*P **P 00 04 02.4 -0.4**
CLJI Cilicap 24.83 253 P **P 00 04 11.2 +2.9**
comp=Z,1μm,0.5s,comp=Z,19μm
CISI Cisompet, Garu 25.94 254 P **P 00 04 17.0 -1.4**
comp=Z,246nm,0.8s
SSLB Suanglung 26.73 335 *e*P **P 00 04 25.8 +0.4**
comp=Z,22nm,0.9s
KSI Kapahiang 30.40 264 P **P 00 04 59.9 +1.6**
comp=Z,73nm,0.7s,comp=Z,13μm
FORT Forrest 30.50 188 *e*P **P 00 04 58.4 -0.4**
comp=Z,38nm,0.7s
BBOO Buckleboo 32.32 175 *e*P **P 00 05 13.2 -1.7**
comp=Z,183nm,0.6s
STKA Stephens Creek 32.32 166 P **P 00 05 13.8 -1.1**
comp=Z,54nm,0.8s,baz=338,slow=8.6,SNR=64
STKA LR LR 00 18 57.5
comp=Z,357nm,18.9s,baz=342,slow=38
STKA Stephens Creek 32.32 166 ǁ *i*P **P 00 05 13.8 -1.1**
comp=Z,7.9nm,0.6s
STKA Stephens Creek 32.32 166 *e*P **P 00 05 13.6 -1.3**
STKA pmax pmax
comp=Z,9.0nm,0.7s
STKA Stephens Creek 32.32 166 *e*P **P 00 05 13.6 -1.3**
comp=Z,8.6nm,0.7s
PSI Prapat 34.07 276 P **P 00 05 29.7 -0.9**
comp=Z,19nm,0.8s
KLBR Kellerberrin 34.10 203 *e*P **P 00 05 29.1 -1.4**
comp=Z,36nm,1.0s
ARMA Armidale 34.73 151 *e*P **P 00 05 35.9 -0.1**
ARMA Armidale 34.73 151 *e*P **P 00 05 35.8 -0.3**
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 35.49 203 P **P 00 05 41.8 -0.6**
comp=Z,12nm,0.9s,baz=48,slow=8.6,SNR=4.8
NWAO Narrogin (SRO) 35.49 203 P **P 00 05 41.8 -0.6**
NWAO Narrogin (SRO) 35.49 203 P **P 00 05 41.8 -0.6**
WHN Wuhan 35.50 332 P **P 00 05 44.8 +2.3**
MJAR Matsushiro Arr 37.15 7 P **P 00 05 55.8 -0.8**
comp=Z,3.8nm,0.9s,baz=187,slow=9.2,SNR=5.2
MJAR Matsushiro Arr 37.15 7 P **P 00 05 55.8 -0.8**
MJAR Matsushiro Arr 37.15 7 P **P 00 05 55.8 -0.8**
ENH Enshi 37.80 326 *e*P **P 00 06 02.7 +0.5**
comp=Z,5.7nm,0.6s
KSAR Wonju Array Be 37.99 354 P **P 00 06 04.5 +0.9**
KSAR Wonju Array Be 37.99 354 P **P 00 06 04.5 +0.9**
KSRS Korea Array 38.00 354 P **P 00 06 04.5 +0.8**
comp=Z,2.9nm,0.8s,baz=176,slow=11,SNR=7.9
KSRS LR LR 00 22 06.2
comp=Z,340nm,18.6s,baz=170,slow=37
CMAR Chiang Mai Arr 38.26 301 P **P 00 06 06.5 +0.3**
comp=Z,3.4nm,0.8s,baz=121,slow=7.0,SNR=13
CMAR Chiang Mai Arr 38.26 301 P **P 00 06 06.5 +0.3**
CMAR Chiang Mai Arr 38.26 301 P **P 00 06 06.5 +0.3**
CHTO Chiang Mai 38.41 302 P **P 00 06 09.9 +2.4**
comp=Z,7.1nm,1.3s
KMI Kunming 38.67 313 P **P 00 06 11.5 +1.7**
KMI pmax pmax
comp=Z,9.0nm,1.3s
TOO Toolangi 38.73 164 *e*P **P 00 06 09.9 0.0**
comp=Z,99nm,0.8s
XAN Xi'an 41.02 329 P **P 00 06 28.8 -0.2**
XAN pP **pP 00 06 34.3 -4.1**
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,31nm,5.0s
BJT Baijiatuau 43.07 341 *e*P **P 00 06 46.3 +0.7**
BJT pmax pmax
comp=Z,33nm,0.8s
BJT Baijiatuau 43.07 341 *e*P **P 00 06 46.2 +0.7**
comp=Z,33nm,0.8s
USRK Ussuriysk Arra 44.47 359 P **P 00 06 57.1 +0.3**
comp=Z,7.0nm,0.8s,baz=152,slow=6.1,SNR=11
MDJ Mudanjiang 44.98 357 *e*P **P 00 07 01.2 +0.4**
comp=Z,16nm,0.9s
HABR Khabarovsk 48.78 2 *e*P **P 00 07 29.2 -1.2**
HABR *e**PP **pP 00 07 38.8 -1.1**
HABR *e* 00 08 52.8
HABR *e* 00 09 22.3
HABR *e*PPP PPP 00 10 13.3
HABR *e*S **S 00 14 30.7 -0.6**
HABR *e**SS **sS 00 14 47.6 +0.7**
HABR *e* 00 17 18.2
HABR *e*SS SS 00 18 03.0 +0.8
HABR *e*SSS SSS 00 19 18.6
HABR pmax pmax
comp=N,181nm,4.2s
HABR pmax pmax
comp=E,140nm,2.6s
HABR pmax pmax
comp=Z,226nm,3.5s
LSA Lhasa 49.79 311 P **P 00 07 38.5 -0.6**
GTA Gaotai 49.88 326 *e*P **P 00 07 40.8 +1.5**
GTA pP **pP 00 07 45.4 -3.4**
GTA sP **sP 00 07 47.8 -4.8**
GTA pmax pmax
comp=Z,5.0nm,1.2s
TAPN Taplejung 51.41 306 *e*P **P 00 07 50.8 -0.4**
comp=Z,27nm,1.1s
TAPN Taplejung 51.41 306 *e*P **P 00 07 50.8 -0.4**
comp=Z,27nm,1.1s
ODAN Odare 51.47 306 *e*P **P 00 07 50.9 -0.7**
comp=Z,23nm,0.7s
ODAN Odare 51.47 306 *e*P **P 00 07 50.9 -0.7**
comp=Z,23nm,0.7s
RAMN Ramite 52.15 305 *e*P **P 00 07 56.2 -0.5**
comp=Z,27nm,0.6s
RAMN Ramite 52.15 305 *e*P **P 00 07 56.2 -0.5**
comp=Z,27nm,0.6s
JIRN Jiri 52.77 306 *e*P **P 00 08 00.3 -1.1**
comp=Z,11nm,0.5s
JIRN Jiri 52.77 306 *e*P **P 00 08 00.3 -1.1**
comp=Z,11nm,0.5s
ULN Ulaanbaatar 53.11 339 *e*P **P 00 08 04.0 +0.7**
ULN Ulaanbaatar 53.11 339 *e*P **P 00 08 04.0 +0.7**
ULN Ulaanbaatar 53.11 339 P **P 00 08 05.3 +2.0**
comp=Z,6.9nm,1.0s
GUN Gumba 53.12 306 *e*P **P 00 08 03.1 -0.9**
comp=Z,19nm,0.6s
GUN Gumba 53.12 306 *e*P **P 00 08 03.1 -0.9**
comp=Z,19nm,0.6s
SONM Songino Array 53.33 338 P **P 00 08 05.8 +0.9**
comp=Z,1.4nm,0.7s,baz=154,slow=7.8,SNR=9.8
SONM Songino Array 53.33 338 P **P 00 08 05.8 +0.9**
SONM Songino Array 53.33 338 P **P 00 08 05.8 +0.9**
PKI Pulchoki 53.37 305 *e*P **P 00 08 04.4 -1.4**
comp=Z,8.7nm,0.7s
PKI Pulchoki 53.37 305 *e*P **P 00 08 04.4 -1.4**
comp=Z,8.7nm,0.7s
KKN Kakani 53.56 306 *e*P **P 00 08 06.4 -0.7**
comp=Z,15nm,0.8s
KKN Kakani 53.56 306 *e*P **P 00 08 06.4 -0.7**
comp=Z,15nm,0.8s
DMN Daman 53.63 305 *e*P **P 00 08 07.2 -0.4**
comp=Z,16nm,0.6s
DMN Daman 53.63 305 *e*P **P 00 08 07.2 -0.4**
comp=Z,16nm,0.6s
GKN Gorkha 54.17 306 *e*P **P 00 08 10.4 -1.0**
comp=Z,11nm,0.6s
GKN Gorkha 54.17 306 *e*P **P 00 08 10.4 -1.0**
comp=Z,11nm,0.6s
KOLN Koldanda 54.92 305 *e*P **P 00 08 16.6 -0.4**
comp=Z,35nm,0.8s
KOLN Koldanda 54.92 305 *e*P **P 00 08 16.6 -0.4**
comp=Z,35nm,0.8s
DANN Dangsing 55.01 306 *e*P **P 00 08 17.1 -0.6**
comp=Z,30nm,0.7s
DANN Dangsing 55.01 306 *e*P **P 00 08 17.1 -0.6**
comp=Z,30nm,0.7s
ZAK Zakamensk 56.59 338 *e*P **P 00 08 29.7 +1.3**
ZAK *e* 00 08 36.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,3.0nm,1.0s
PETK Petropavlovsk- 57.27 18 P **P 00 08 32.8 -0.2**
comp=Z,15nm,0.9s,baz=199,slow=8.5,SNR=8.8
PETK Petropavlovsk- 57.27 18 P **P 00 08 32.8 -0.2**
PETK Petropavlovsk- 57.27 18 P **P 00 08 32.8 -0.2**
TLY Talaya 57.51 339 *e*P **P 00 08 36.2 +1.4**
TLY pmax pmax
comp=Z,3.0nm,1.1s
MOY Mondy 58.49 337 *e*P **P 00 08 44.7 +3.0**
WMQ Urumqi 59.68 324 P **P 00 08 51.3 +1.2**
WMQ pP **pP 00 09 02.3 +2.5**
WMQ sP **sP 00 09 06.3 +2.8**
WMQ PP **PcP 00 09 38.3 +1.4**
WMQ pmax pmax
comp=Z,23nm,0.8s
BOD Bodaibo 60.02 348 *e*P **P 00 08 52.5 +0.5**
BOD pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 62.38 358 *e*P **P 00 09 08.1 +0.2**
YAK pmax pmax
comp=Z,52nm,0.8s
YAK Yakutsk 62.38 358 *e*P **P 00 09 08.1 +0.2**
comp=Z,52nm,0.8s
MK31 Makanchi Array 64.49 324 *e*P **P 00 09 21.6 -0.7**
MK31 Makanchi Array 64.49 324 *e*P **P 00 09 21.6 -0.7**
MKAR Makanchi Array 64.49 324 P **P 00 09 23.0 +0.7**
comp=Z,3.4nm,0.5s,baz=112,slow=8.5,SNR=41
MKAR Makanchi Array 64.49 324 P **P 00 09 23.0 +0.7**
MKAR Makanchi Array 64.49 324 P **P 00 09 23.0 +0.7**
SEY Seymchan 64.91 10 *ce*P **P 00 09 25.5 +0.9**
KSH Kashi 65.32 315 *e*P **P 00 09 29.4 +1.4**
KSH *e*pP **pP 00 09 39.8 +2.0**
KSH *e*sP **sP 00 09 44.8 +3.3**
KSH *e*PcP **PcP 00 10 01.6 +1.6**
KSH *e*PP **PP 00 11 55.1 +3.1**
KSH *e*ScP 00 14 00.6
KSH *e*PcS 00 14 04.5
KSH *e*S **S 00 18 07.5 -2.5**
KSH *e*sS **sS 00 18 25.8 -0.4**
KSH *e*ScS **SKSac 00 19 18.3 -2.9**
KSH *e*SS **SS 00 22 23.3 -0.2**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH pmax pmax
comp=Z,240nm,5.5s
KSH LR LR
comp=N,250nm,7.7s
KSH LR LR
comp=E,210nm,5.8s
KSH LR LR
comp=Z,350nm,6.2s
TKM2 Tokmak 2 66.93 318 *e*P **P 00 09 38.9 +0.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 66.93 318 *e*P **P 00 09 38.9 +0.5**
comp=Z,2.3nm,0.6s
ZAA0 Zalesovo Array 67.12 332 *e*P **P 00 09 38.7 -0.3**
ZALV Zalesovo Beam 67.12 332 P **P 00 09 38.6 -0.4**
comp=Z,3.0nm,0.9s,baz=115,slow=5.7,SNR=8.0
ZALV Zalesovo Beam 67.12 332 P **P 00 09 38.6 -0.4**
ZALV Zalesovo Beam 67.12 332 P **P 00 09 38.6 -0.4**
KURK Kurchatov 68.57 326 P **P 00 09 48.5 +0.3**
comp=Z,4.3nm,0.8s,baz=121,slow=5.8,SNR=16
KURK Kurchatov 68.57 326 *ce*P **P 00 09 49.2 +1.0**
KURK pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 68.57 326 P **P 00 09 48.5 +0.3**
KBL Kabul 68.91 307 *e*P **P 00 09 50.0 -1.0**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 68.91 307 *e*P **P 00 09 50.0 -1.0**
comp=Z,4.7nm,0.7s
KKAR Karatay Array 70.45 316 *e*P **P 00 10 00.1 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 70.45 316 *e*P **P 00 10 00.1 0.0**
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 74.16 326 P **P 00 10 22.4 +0.4**
comp=Z,9.8nm,1.1s,baz=124,slow=8.0,SNR=12
BVAR Borovoye Array 74.16 326 P **P 00 10 22.4 +0.4**
BVAR Borovoye Array 74.16 326 P **P 00 10 22.4 +0.4**
BRVK Borovoye 74.24 326 *ce*P **P 00 10 23.3 +0.9**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 74.24 326 *e*P **P 00 10 22.4 0.0**
comp=Z,5.2nm,0.8s
VNDA Vanda 78.58 174 *e*P **P 00 10 45.9 -0.7**
VNDA *e* 00 10 54.2
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 78.58 174 *e*P **P 00 10 45.9 -0.7**
comp=Z,5.5nm,0.8s
VNDA *e*PcP **PcP 00 10 54.2 -1.3**
ABKAR Akbulak array 79.25 320 *e*P **P 00 10 50.3 -0.5**
comp=Z,3.1nm,0.7s
SVE Sverdlovsk 80.72 328 ǁ *e*P **P 00 10 59.0 +0.4**
SVE pmax pmax
comp=Z,16nm,1.5s
AKTO Aktyubinsk 80.73 321 P **P 00 10 58.5 -0.3**
comp=Z,1.9nm,0.9s,baz=100,slow=9.8,SNR=6.2
AKTO Aktyubinsk 80.73 321 P **P 00 10 58.5 -0.3**
AKTO Aktyubinsk 80.73 321 P **P 00 10 58.5 -0.3**
ARU Arti 81.73 327 *c i*P **P 00 11 04.4 +0.4**
ARU 00 14 09.5
ARU S **S 00 21 16.0 +1.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ILAR Eielson Array 86.26 25 P **P 00 11 25.7 -1.2**
comp=Z,2.3nm,0.8s,baz=262,slow=4.8,SNR=17
ILAR Eielson Array 86.26 25 P **P 00 11 25.7 -1.2**
ILAR Eielson Array 86.26 25 P **P 00 11 25.7 -1.2**
QSPA South Pole Qui 89.47 180 *e*P **P 00 11 41.9 -0.5**
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 96.45 340 P **P 00 12 14.4 +0.1**
comp=Z,6.4nm,0.9s,baz=80,slow=5.6,SNR=6.1
ARCES ARCESS Array B 96.45 340 P **P 00 12 14.4 +0.1**
ARCES ARCESS Array B 96.45 340 P **P 00 12 14.4 +0.1**
RES Resolute Bay 100.74 12 P **Pdif 00 12 33.0 -0.5**
comp=Z,1.0nm,0.8s,baz=310,slow=2.1,SNR=3.7
RES Resolute Bay 100.74 12 P **Pdif 00 12 33.0 -0.5**
RES Resolute Bay 100.74 12 P **Pdif 00 12 33.0 -0.5**
TORD Torodi Ar. Bea 130.01 287 PKP **PKPdf 00 17 55.4 -0.9**
comp=Z,0.7nm,0.8s,baz=61,slow=2.5,SNR=5.8
TORD Torodi Ar. Bea 130.01 287 PKP **PKPdf 00 17 55.4 -0.9**
LPAZ La Paz 153.44 130 PKP **PKPdf 00 18 38.5 +0.6**
comp=Z,1.3nm,0.9s,baz=252,slow=3.2,SNR=3.0
LPAZ PKPab **PKPab 00 18 57.1 -0.6**
comp=Z,2.8nm,0.8s,baz=194,slow=2.2,SNR=7.2
LPAZ La Paz 153.44 130 PKIKP **PKPdf 00 18 38.6 +0.6**
LPAZ La Paz 153.44 130 PKP **PKPdf 00 18 38.5 +0.6**
LPAZ PKPab **PKPab 00 18 57.1 -0.6**

IDC 16 00:02:56.6±1.1, 46.82N×155.28E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.3/1, Error ellipse: s-maj=28.9km s-min=20.4km az=160.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.49**	**13**	Pn	Pn	00 04 31.4	-1.9
	0.6nm,0.3s,baz=186,slow=14,SNR=5.7						
ILAR	**Eielson Array**	**35.56**	**39**	P	P	00 09 54.3	-0.9
	0.2nm,0.5s,baz=252,slow=7.0,SNR=5.5						
INK	**Inuvik**	**40.79**	**33**	P	P	00 10 39.6	+0.5
	0.6nm,0.6s,baz=262,slow=4.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**43.77**	**306**	P	P	00 11 02.8	-0.8
	0.6nm,0.5s,baz=63,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**48.23**	**298**	P	P	00 11 39.0	+0.2
	0.7nm,0.7s,baz=67,slow=8.3,SNR=2.7						
KURK	**Kurchatov**	**48.56**	**304**	P	P	00 11 42.2	+0.9
	2.1nm,0.9s,baz=67,slow=7.8,SNR=4.6						
YKA	**Yellowknife Ar**	**49.97**	**37**	P	P	00 11 52.7	+0.7
	0.2nm,0.7s,baz=296,slow=8.9,SNR=4.3						
BVAR	**Borovoye Array**	**51.96**	**310**	P	P	00 12 07.2	+0.2
	1.0nm,0.4s,baz=57,slow=6.4,SNR=8.9						
FINES	**FINESS Array B**	**64.60**	**336**	P	P	00 13 35.3	+0.1
	3.1nm,1.0s,baz=28,slow=6.3,SNR=4.3						
ASAR	**Alice Springs**	**72.77**	**200**	P	P	00 14 26.4	-0.2
	1.1nm,0.7s,baz=12,slow=4.8,SNR=5.3						
TXAR	**Lajitas Array**	**76.15**	**62**	P	P	00 14 46.4	-0.2
	0.6nm,0.8s,baz=300,slow=4.3,SNR=5.8						

IDC 16 00:07:15.9±1.2, 10.64S×164.23E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.8/9, ML3.9/2, MS4.1/1, Ms1 4.1/1, ms1mx3.5/15, Error ellipse: s-maj=39.8km s-min=21.6km az=137.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.57**	**170**	Pn	Pn	00 10 02.5	0.0
	0.8nm,0.3s,baz=23,slow=13,SNR=6.2						
CTA	**Charters Tower**	**19.70**	**239**	P	P	00 11 46.7	-0.3
	0.2nm,0.3s,baz=61,slow=10,SNR=1.8						
AFI	**Afiamalu**	**23.67**	**100**	LR	LR	00 20 21.5	
	comp=Z,438nm,18.3s,baz=277,slow=33						
WRA	**Warramunga Arr**	**30.23**	**249**	P	P	00 13 28.2	-0.4
	1.1nm,0.9s,baz=80,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**31.66**	**242**	P	P	00 13 42.5	+1.3
	0.4nm,0.6s,baz=66,slow=10,SNR=2.6						
FITZ	**Fitzroy Crossi**	**38.05**	**254**	P	P	00 14 35.5	-0.9
	4.7nm,0.9s,baz=78,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**77.46**	**324**	P	P	00 19 14.3	+0.9
	0.1nm,0.4s,baz=141,slow=5.5,SNR=2.7						
ILAR	**Eielson Array**	**83.61**	**19**	P	P	00 19 45.5	-0.2
	1.3nm,1.0s,baz=225,slow=5.6,SNR=4.9						
NVAR	**Mina Array Bea**	**86.90**	**50**	P	P	00 20 03.2	0.0
	0.2nm,0.5s,baz=234,slow=7.7,SNR=2.3						
MKAR	**Makanchi Array**	**92.21**	**317**	P	P	00 20 26.4	-1.3
	0.8nm,1.1s,baz=103,slow=6.2,SNR=3.5						

*CSEM **16** 00:24:36.2±0.6, 36.92N×28.27E, h10km, MD2.6, Error ellipse: s-maj=15.2km s-min=9.1km az=19.0*
*DDA **16** 00:24:37.2, 36.97N×28.20E, h7km, MD2.6*
ISC 16 00:24:36.3±1.3, 36.93N±0.04×28.23E±0.03, h4km±11km, n13, σ1.932/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**11**	*e*Pg	**Pg**	**00 24 40.9**	**+0.6**
YER				*e*Sg	**Sg**	**00 24 44.1**	**+1.1**
YER	**Yerkesik**	**0.20**	**11**	*e*Pg	**Pg**	**00 24 40.9**	**+0.6**
YER				*e*Sg	**Sg**	**00 24 44.1**	**+1.1**
TURN	**Turunc**	**0.30**	**101**	*i* P	**Pg**	**00 24 41.5**	**-0.7**
TURN				*i* S	**Sg**	**00 24 44.8**	**-1.3**
TURN	**Turunc**	**0.30**	**101**	*i* P	**Pg**	**00 24 41.5**	**-0.7**
TURN				*i* S	**Sg**	**00 24 44.8**	**-1.3**
BDRM	**Kayabasi**	**0.65**	**282**	*i* P	**Pg**	**00 24 49.3**	**+0.6**
BDRM				*i* S	**Sb**	**00 25 00.1**	**+0.6**
BDRM	**Kayabasi**	**0.65**	**282**	*i* P	**Pg**	**00 24 49.3**	**+0.6**
BDRM				*i* S	**Sb**	**00 25 00.1**	**+0.6**
AYDN	**Tasoluk**	**0.78**	**339**	*i* P	**Pg**	**00 24 51.6**	**+0.3**
AYDN				*i* S	**Sb**	**00 25 02.7**	**-0.7**
AYDN	**Tasoluk**	**0.78**	**339**	*i* P	**Pg**	**00 24 51.6**	**+0.3**
AYDN				*i* S	**Sb**	**00 25 02.7**	**-0.7**
GOLH	**Golhisar**	**1.10**	**74**	*e*P	**Pn**	**00 24 58.8**	**+0.1**
GOLH				*i* S	**Sn**	**00 25 15.6**	**+1.2**
GOLH	**Golhisar**	**1.10**	**74**	*e*P	**Pn**	**00 24 58.8**	**+0.1**
ELL	**Elmali**	**1.36**	**97**	*e*PN	**Pg**	**00 25 04.5**	**+3.1**
KULA	**Kula-Manisa**	**1.61**	**12**	*e*PN	**Pn**	**00 25 03.4**	**-2.3**
KULA	**Kula-Manisa**	**1.61**	**12**	*e*Pn	**Pn**	**00 25 03.4**	**-2.3**

*IDC **16** 00:34:28.5±1.6, 22.20S×170.36E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/17, mbtmp4.1/12, ML4.2/1, MS4.2/4, Ms1 4.2/4, ms1mx3.7/23, Error ellipse: s-maj=48.7km s-min=19.9km az=153.0*
*NOU **16** 00:34:31.2±1.3, 20.66S×170.18E, h10km, MD3.0, ML2.8*
*NEIC **16** 00:34:35.5±1.0, 22.03S×170.06E, h35km, mb4.3/4, Error ellipse: s-maj=41.3km s-min=10.9km az=158.0*
ISC 16 00:34:30.8±3.5, 22.2S±0.2×170.08E±0.06, h7km±21km, n60, σ1.977/61, mb4.1/13, MS4.5/3, 8C-6D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.96**	**271**	*e*P	**Pb**	**00 35 22.1**	**-1.8**
BAYA				*e*S	**Sb**	**00 35 57.9**	**-2.4**
BAYA				AMP		00 36 00.1	
	comp=Z,15nm,0.7s						
PLUM	**Mont Dore**	**3.18**	**268**	*e*P	Pn	00 35 24.9	+3.5
PLUM				*e*S	**Sb**	**00 36 04.0**	**-2.8**
PLUM				AMP		00 36 09.7	
	comp=Z,185nm,0.9s						
DZM	**Mont Dzumac**	**3.37**	**272**	Pn	Pn	00 35 27.6	+3.6
	comp=Z,18nm,0.3s,baz=105,slow=19,SNR=120						
DZM				LR	LR	00 36 02.8	
	comp=Z,1μm,20.9s,baz=206,slow=26						
DZM				Sn	**Sb**	**00 36 09.2**	**-3.0**
	comp=Z,14nm,0.3s,baz=107,slow=19,SNR=4.2						
DZM	**Mont Dzumac**	**3.37**	**272**	*e*P	**Pn**	**00 35 25.7**	**+1.7**
DZM				*e*S	**Sn**	**00 36 07.6**	**+3.2**
DZM	**Mont Dzumac**	**3.37**	**272**	*e*Pn	**Pn**	**00 35 25.7**	**+1.7**
DZM				*e*Sn	**Sn**	**00 36 08.0**	**+3.7**
NOUC	**Port Laguerre**	**3.50**	**271**	*e*P	**Pn**	**00 35 28.0**	**+2.3**
NOUC				*e*S	**Sb**	**00 36 12.4**	**-3.5**
NOUC				AMP		00 36 25.5	
	comp=Z,51nm,5.9s						
MSVF	**Nonsavu**	**8.72**	**61**	*e*Pn	**Pn**	**00 36 40.5**	**+2.9**
EIDS	**Eidsvold**	**17.66**	**256**	*e*P	**P**	**00 38 41.0**	**+2.5**
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**22.31**	**271**	P	**P**	**00 39 31.6**	**+2.3**
	comp=Z,2.5nm,0.7s,baz=101,slow=10,SNR=2.2						
CTA	**Charters Tower**	**22.31**	**271**	P	**P**	**00 39 31.6**	**+2.3**
STKA	**Stephens Creek**	**27.06**	**243**	P	**P**	**00 40 15.2**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=84,slow=12,SNR=5.2						
STKA				LR	LR	00 50 33.9	
	comp=Z,521nm,18.8s,baz=45,slow=35						
STKA	**Stephens Creek**	**27.06**	**243**	*e*P	**P**	**00 40 14.7**	**+0.6**
	comp=Z,5.8nm,1.5s						
ASAR	**Alice Springs**	**33.29**	**260**	P	**P**	**00 41 09.8**	**+0.4**
	comp=Z,2.8nm,1.0s,baz=80,slow=8.9,SNR=10.0						
ASAR	**Alice Springs**	**33.29**	**260**	P	**P**	**00 41 09.8**	**+0.4**
WRAB	**Tennant Creek**	**33.37**	**267**	*e*P	**P**	**00 41 10.0**	**-0.1**
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**00 41 09.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=90,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**00 41 09.6**	**-0.6**
MJAR	**Matsushiro Arr**	**65.73**	**332**	P	**P**	**00 45 15.4**	**-0.9**

comp=Z,1.9nm,0.5s,baz=135,slow=8.5,SNR=7.5
MJAR Matsushiro Arr 65.73 332 P **P** **00 45 15.4 -0.9**
KSRS Korea Array 71.39 326 P **P** **00 45 51.3 -0.3**
comp=Z,0.9nm,0.5s,baz=144,slow=6.3,SNR=4.9
KSAR Wonju Array Be 71.40 326 P **P** **00 45 51.3 -0.4**
USRK Ussuriysk Arra 74.72 333 P **P** **00 46 11.0 -0.1**
comp=Z,1.6nm,0.7s,baz=172,slow=3.6,SNR=3.6
CMAR Chiang Mai Arr 80.44 294 P **P** **00 46 45.1 +1.3**
comp=Z,0.7nm,0.3s,baz=123,slow=3.3,SNR=4.8
CMAR Chiang Mai Arr 80.44 294 P **P** **00 46 45.1 +1.3**
SNAA Sanae 86.24 182 *e* P 00 47 08.0 -4.9
GAMB Gambell 86.89 8 *e*P **P** **00 47 15.2 -0.6**
comp=Z,2.0nm,0.8s
VNA2 Neumayer--Watz 87.10 181 *e* **P** **00 47 14.6 -2.4**
baz=197,slow=4.3
SONM Songino Array 90.05 323 P **P** **00 47 30.6 -0.8**
comp=Z,1.3nm,0.9s,baz=130,slow=5.2,SNR=6.6
SONM Songino Array 90.05 323 P **P** **00 47 30.6 -0.8**
NVAR Mina Array Bea 90.18 48 P **P** **00 47 30.8 -1.5**
comp=Z,0.2nm,0.6s,baz=249,slow=7.6,SNR=2.2
NVAR LR LR 01 21 57.5
comp=Z,209nm,18.0s,baz=158,slow=32
NVAR Mina Array Bea 90.18 48 P **P** **00 47 30.8 -1.5**
ILAR Eielson Array 92.83 17 P **P** **00 47 40.9 -2.8**
comp=Z,0.5nm,0.7s,baz=234,slow=5.1,SNR=10.0
ILAR Eielson Array 92.83 17 P **P** **00 47 40.9 -2.8**
TXAR Lajitas Array 97.49 62 LR LR 01 23 47.5
comp=Z,155nm,19.9s,baz=10.0,slow=30
HUMR Humele 143.73 316 ⇓*i*P PKPab 00 54 03.9 +0.4
DRGR 144.03 321 ⇓*i*P **PKPab** **00 54 04.0 -0.7**
GZR Gura Zlata 144.70 319 ⇓*i*P **PKPdf** **00 54 10.3 +1.8**
PSZ Piszkesteto 144.98 324 ⇓*i*P **PKPdf** **00 54 10.6 +1.7**
MORC Moravsky Berou 145.01 329 ⇓*i*P **PKPab** **00 54 07.1 -1.1**
KRLC Kraliky 145.17 330 *e*PKP **PKPbc** **00 54 07.3 -1.4**
VYHS Vyhne 145.19 326 *e*PKP **PKPbc** **00 54 08.1 -0.7**
DPC Dobruska-Polom 145.19 330 *e*PKP **PKPbc** **00 54 07.5 -1.2**
DPC *ex* x 00 54 10.7
UPC Upice 145.22 331 *e*PKP **PKPbc** **00 54 08.0 -0.8**
UPC *ex* x 00 54 11.0
BZS Buzias 145.29 320 ⇑*i*P **PKPbc** **00 54 09.0 -0.1**
VTS Vitosha 145.74 314 ⇑*i*P **PKPab** **00 54 14.9 +3.6**
VRAC Vranov 145.78 329 ⇓*i*P **PKPab** **00 54 13.2 +2.2**
PVCC Panska Ves 145.85 332 *e*PKP **PKPdf** **00 54 09.7 -0.5**
BRG Berggiesshubel 145.86 333 *e*P **PKPdf** **00 54 09.8 -0.5**
comp=Z,7.8nm,1.0s
BRG *e* 00 54 17.0
comp=Z,11nm,1.1s
CLL Collm 145.93 334 *e*PKPbc **PKPab** **00 54 13.0 +1.6**
PRU Pruhonice 146.25 331 *e*PKP **PKPdf** **00 54 11.3 +0.4**
NKC Novy Kostel 146.97 333 *e*PKP **PKPbc** **00 54 14.2 +0.1**
KHC Kasperske Hory 147.31 331 *e*PKP **PKPbc** **00 54 14.9 -0.2**
KHC *ex* x 00 54 17.5
GERES GERESS Array B 147.46 331 PKPbc **PKPdf** **00 54 14.2 +1.0**
comp=Z,1.8nm,0.7s,baz=33,slow=3.0,SNR=15
GERES GERESS Array B 147.46 331 PKPbc **PKPdf** **00 54 14.2 +1.0**
SOKA Soboth 148.32 326 ⇑*i*P **PKPdf** **00 54 15.2 +0.5**
SOKA Soboth 148.32 326 ⇑*i*PKPdf **PKPdf** **00 54 15.1 +0.5**
comp=Z,0.3nm,0.4s
ABTA Abfaltersbach 149.53 329 ⇑*i*P **PKPbc** **00 54 19.3 -1.8**
ABTA Abfaltersbach 149.53 329 ⇑*i*PKPbc **PKPbc** **00 54 19.3 -1.8**
comp=Z,3.3nm,1.0s
MOTA Moosalm 149.74 331 ⇑*i*P **PKPbc** **00 54 20.8 -0.9**
MOTA Moosalm 149.74 331 ⇑*i*PKPbc **PKPbc** **00 54 20.8 -0.9**
comp=Z,1.3nm,0.4s

*THE **16** 00:35:17.6, 38.˚90N×20.˚44E, h26km±2km, ML2.0/2, Error ellipse: s-maj=6.3km s-min=1.0km az=241.0*
*ISCJB **16** 00:35:18.8±0.5, 39.˚01N±0.˚03×20.˚61E±0.˚08, h20km±7km, Error ellipse: s-maj=10.5km s-min=4.6km az=160.0*
*ATH **16** 00:35:18.5, 39.˚02N×20.˚63E, h17km±1km, MD3.0/9*
*CSEM **16** 00:35:18.3±0.3, 39.˚00N×20.˚59E, h15km, ML2.0/2, Error ellipse: s-maj=10.2km s-min=5.4km az=69.0*
ISC 16 00:35:18.6±0.9, 38.˚99N±0.˚03×20.˚61E±0.˚04, h18km±6km, n29, σ1§65/44, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.21**	**168**	P	**Pg**	**00 35 23.6**	**-0.1**
LKD2				S	**Sg**	**00 35 27.4**	**+0.3**
LKD2	**Lefkada island**	**0.21**	**168**	⇑*i*PB	**Pg**	**00 35 23.5**	**-0.1**
LKD2				*e*SB	**Sg**	**00 35 27.8**	**+0.7**
LKD2	**Lefkada island**	**0.21**	**168**	⇑*i*Pb	**Pg**	**00 35 23.5**	**-0.1**
LKD2				S	**Sg**	**00 35 27.4**	**+0.3**
LKD2				*e*Sb		00 35 27.8	
RGA	**Parga**	**0.38**	**329**	P	**Pg**	**00 35 26.5**	**-0.1**
RGA				S	**Sb**	**00 35 33.8**	**+1.2**
RGA	**Parga**	**0.38**	**329**	P	**Pg**	**00 35 26.5**	**-0.1**
RGA				S	**Sb**	**00 35 33.8**	**+1.2**
IGT	**Igoumenitsa**	**0.58**	**339**	P	**Pg**	**00 35 29.3**	**-0.9**
IGT				S	**Sb**	**00 35 38.9**	**+0.7**
IGT	**Igoumenitsa**	**0.58**	**339**	P	**Pg**	**00 35 29.3**	**-0.9**
IGT				S	**Sb**	**00 35 38.9**	**+0.7**
JAN	**Janina**	**0.69**	**16**	*e*PN	**Pb**	**00 35 31.4**	**-0.8**
JAN				*e*SN	**Sb**	**00 35 41.1**	**-0.3**
JAN	**Janina**	**0.69**	**16**	*e*Pn	**Pb**	**00 35 31.4**	**-0.8**
JAN				*e*Sn	**Sb**	**00 35 41.1**	**-0.3**
VLS	**Valsamata**	**0.81**	**181**	*e*PN	**Pn**	**00 35 35.3**	**0.0**
VLS	**Valsamata**	**0.81**	**181**	*e*Pn	**Pn**	**00 35 35.3**	**0.0**
MEV	**Metsovon**	**0.93**	**31**	P	**Pg**	**00 35 36.4**	**-0.3**
MEV	**Metsovon**	**0.93**	**31**	P	**Pg**	**00 35 36.4**	**-0.3**
EVR	**Evrytania**	**0.94**	**94**	*e*PN	**Pb**	**00 35 36.4**	**-0.1**
EVR				*e*SN	**Sb**	**00 35 48.8**	**+0.1**
EVR	**Evrytania**	**0.94**	**94**	*e*Pn	**Pb**	**00 35 36.4**	**-0.1**
EVR				*e*Sn	**Sb**	**00 35 48.8**	**+0.1**
KEK	**Kerkira**	**0.95**	**319**	*e*PN	**Pb**	**00 35 36.5**	**-0.2**
KEK	**Kerkira**	**0.95**	**319**	*e*Pn	**Pb**	**00 35 36.5**	**-0.2**
RLS	**Riolos of Patr**	**1.15**	**144**	*e*PN	**Pn**	**00 35 39.8**	**-0.1**
RLS				*e*SN	**Sg**	**00 35 57.1**	**+1.1**
RLS	**Riolos of Patr**	**1.15**	**144**	*e*Pn	**Pn**	**00 35 39.8**	**-0.1**
RLS				*e*Sn	**Sg**	**00 35 57.1**	**+1.1**
EFP	**Efpalio**	**1.16**	**119**	*e*PN	**Pn**	**00 35 40.0**	**-0.1**
EFP	**Efpalio**	**1.16**	**119**	*e*Pn	**Pn**	**00 35 40.0**	**-0.1**
THL	**Klokotos Trika**	**1.23**	**62**	*e*PN	**Pb**	**00 35 41.2**	**-0.2**
THL				*e*SN	**Sn**	**00 35 57.5**	**+0.3**
THL	**Klokotos Trika**	**1.23**	**62**	*e*Pn	**Pb**	**00 35 41.2**	**-0.2**
THL				*e*Sn	**Sn**	**00 35 57.5**	**+0.3**
GUR	**Goura**	**1.72**	**127**	*e*PN	**Pb**	**00 35 50.0**	**+0.1**
GUR	**Goura**	**1.72**	**127**	*e*Pn	**Pb**	**00 35 50.0**	**+0.1**
LKR	**Lokris**	**1.90**	**100**	*e*PN	**Pb**	**00 35 52.6**	**-0.2**
LKR	**Lokris**	**1.90**	**100**	*e*Pn	**Pb**	**00 35 52.6**	**-0.2**
PYL	**PYLOS**	**2.28**	**156**	*e*PB	**Pb**	**00 35 57.5**	**-1.7**
PYL	**PYLOS**	**2.28**	**156**	*e*Pb	**Pb**	**00 35 57.5**	**-1.7**

*IDC **16** 00:42:04.3±0.6, 12.˚36N×143.˚48E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/24, mbtmp4.2/13, Error ellipse: s-maj=21.3km s-min=13.9km az=89.0*
*NEIC **16** 00:42:05.9±0.3, 12.˚33N×143.˚55E, h10km, mb4.3/3, Error ellipse: s-maj=13.1km s-min=8.3km az=92.0*
*ISCJB **16** 00:42:06.6±0.5, 12.˚33N±0.˚07×143.˚52E±0.˚09, h27km, mb4.1/13, Error ellipse: s-maj=13.4km s-min=7.9km az=32.2*
ISC 16 00:42:08.1±0.5, 12.˚38N±0.˚08×143.˚68E±0.˚10, h27km, n37, σ1§26/43, mb4.1/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.67**	**44**	Pn	**Pb**	**00 42 36.7**	**-1.5**
	259nm,0.3s,baz=210,slow=7.7,SNR=48						
GUMO				Sn	**Sb**	**00 42 58.2**	**-0.6**
	271nm,0.3s,baz=22,slow=19,SNR=15						
GUMO	**Guam**	**1.67**	**44**	*e*Pn	**Pb**	**00 42 36.6**	**-1.5**
GUMO				*e*Sn	**Sb**	**00 42 59.1**	**+0.3**
CTA	**Charters Tower**	**32.37**	**175**	P	**P**	**00 48 35.1**	**-0.4**
	1.9nm,0.7s,baz=353,slow=12,SNR=5.0						
CTA	**Charters Tower**	**32.37**	**175**	P	**P**	**00 48 35.1**	**-0.4**
CTAO	**Charters Tower**	**32.37**	**175**	*e*P	**P**	**00 48 35.2**	**-0.3**
	3.2nm,0.6s						
WRA	**Warramunga Arr**	**33.41**	**196**	P	**P**	**00 48 44.1**	**-0.6**
	5.1nm,0.6s,baz=20,slow=9.6,SNR=32						
WRA	**Warramunga Arr**	**33.41**	**196**	P	**P**	**00 48 44.1**	**-0.6**
AS31	**Alice Springs**	**37.08**	**195**	*e*P	**P**	**00 49 16.5**	**+0.3**
ASAR	**Alice Springs**	**37.08**	**195**	P	**P**	**00 49 15.4**	**-0.8**
	1.4nm,0.6s,baz=19,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**37.08**	**195**	P	**P**	**00 49 15.4**	**-0.8**
DZM	**Mont Dzumac**	**40.88**	**147**	P	**P**	**00 49 50.0**	**+1.8**
	7.7nm,0.8s,baz=323,slow=10,SNR=5.7						
DZM	**Mont Dzumac**	**40.88**	**147**	*e*P	**P**	**00 49 48.9**	**+0.7**
	6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.46**	**284**	P	**P**	**00 50 09.4**	**+0.1**
	0.9nm,0.5s,baz=77,slow=6.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**43.46**	**284**	P	**P**	**00 50 09.4**	**+0.1**
STKA	**Stephens Creek**	**44.05**	**183**	P	**P**	**00 50 13.1**	**-0.6**
	3.0nm,0.4s,baz=359,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**44.05**	**183**	*e*P	**P**	**00 50 12.8**	**-0.9**
	0.7nm,0.5s						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**00 50 38.1**	**+0.6**
	0.8nm,0.7s,baz=143,slow=7.8,SNR=6.6						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**00 50 38.1**	**+0.6**
MK31	**Makanchi Array**	**61.56**	**317**	*e*P	**P**	**00 52 23.5**	**+0.5**
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**00 52 23.1**	**+0.1**
	0.7nm,0.5s,baz=94,slow=9.2,SNR=15						
MKAR				PcP	**PcP**	**00 53 02.9**	**-1.7**
	1.0nm,0.9s,baz=117,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**00 52 23.1**	**+0.1**
MKAR				PcP	**PcP**	**00 53 02.9**	**-1.7**
ZALV	**Zalesovo Beam**	**61.93**	**325**	P	**P**	**00 52 24.6**	**-0.7**
	0.7nm,0.5s,baz=108,slow=7.3,SNR=5.4						
ZALV				PcP	**PcP**	**00 53 04.1**	**-1.8**
	0.6nm,0.4s,baz=108,slow=4.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**61.93**	**325**	P	**P**	**00 52 24.6**	**-0.7**
ZALV				PcP	**PcP**	**00 53 04.1**	**-1.8**
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**00 53 18.1**	**+0.1**
	0.7nm,0.5s,baz=251,slow=5.3,SNR=20						
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**00 53 18.1**	**+0.1**
YKA	**Yellowknife Ar**	**84.46**	**27**	P	**P**	**00 54 39.7**	**+1.6**
	0.9nm,0.4s,baz=286,slow=5.0,SNR=17						
YKA	**Yellowknife Ar**	**84.46**	**27**	P	**P**	**00 54 39.7**	**+1.6**
NVAR	**Mina Array Bea**	**88.58**	**51**	P	**P**	**00 55 01.7**	**+2.5**
	1.3nm,0.7s,baz=262,slow=6.2,SNR=7.1						
NVAR	**Mina Array Bea**	**88.58**	**51**	P	**P**	**00 55 01.7**	**+2.5**
FINES	**FINESS Array B**	**91.76**	**335**	P	**P**	**00 55 12.1**	**-1.0**
	1.2nm,0.5s,baz=66,slow=4.3,SNR=11						
FINES	**FINESS Array B**	**91.76**	**335**	P	**P**	**00 55 12.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**134.56**	**303**	PKP	**PKPdf**	**01 01 25.2**	**+0.2**
	0.1nm,0.4s,baz=69,slow=2.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**134.56**	**303**	PKP	**PKPdf**	**01 01 25.2**	**+0.2**
DBIC	**Dimbokro**	**143.44**	**299**	PKP	**PKPdf**	**01 01 43.3**	**+2.1**
	0.7nm,0.4s,baz=76,slow=4.2,SNR=3.0						
DBIC	**Dimbokro**	**143.44**	**299**	PKP	**PKPdf**	**01 01 43.3**	**+2.1**
LPAZ	**La Paz**	**148.96**	**101**	PKPbc	**PKPab**	**01 01 57.3**	**-2.1**
	2.1nm,1.0s,baz=281,slow=5.2,SNR=5.7						
LPAZ	**La Paz**	**148.96**	**101**	PKPbc	**PKPab**	**01 01 57.3**	**-2.1**

IDC 16 00:50:00.0±3.8, 47.˚14N×155.˚48E, h0km, mb3.7/8, mb1 3.7/9, mb1mx3.5/27, mbtmp3.6/9, ML3.1/1, Error ellipse: s-maj=90.6km s-min=23.9km az=165.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.15**	**13**	Pn	Pn	00 51 32.0	0.0
	0.4nm,0.3s,baz=191,slow=15,SNR=3.4						
ILAR	**Eielson Array**	**35.23**	**39**	P	P	00 56 55.2	-0.5
	0.3nm,0.5s,baz=253,slow=7.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**43.69**	**306**	P	P	00 58 04.8	-1.5
	0.4nm,0.4s,baz=67,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**48.19**	**298**	P	P	00 58 41.8	-0.2
	0.3nm,0.7s,baz=47,slow=7.6,SNR=2.8						
KURK	**Kurchatov**	**48.49**	**304**	P	P	00 58 45.4	+1.2
	1.6nm,0.7s,baz=66,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**49.64**	**38**	P	P	00 58 52.9	+0.1
	0.2nm,0.7s,baz=300,slow=7.6,SNR=3.2						
BVAR	**Borovoye Array**	**51.86**	**310**	P	P	00 59 10.2	+0.5
	1.1nm,0.6s,baz=60,slow=7.9,SNR=11						
AKTO	**Aktyubinsk**	**59.66**	**313**	P	P	01 00 05.5	-0.2
	0.4nm,0.4s,baz=60,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**64.37**	**336**	P	P	01 00 37.7	+0.5
	2.4nm,0.8s,baz=12,slow=7.5,SNR=4.3						

IDC 16 00:55:21.7±19.0, 13.˚00N×57.˚87E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=364.7km s-min=49.5km az=179.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**34.13**	**326**	P	P	01 02 08.6	+0.1
	0.4nm,0.8s,baz=145,slow=7.9,SNR=3.0						
AKTO	**Aktyubinsk**	**37.33**	**0**	P	P	01 02 35.2	-0.5
	1.5nm,0.9s,baz=200,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**39.45**	**27**	P	P	01 02 53.9	+0.2
	0.6nm,0.7s,baz=206,slow=8.1,SNR=5.3						
KURK	**Kurchatov**	**41.24**	**20**	P	P	01 03 07.8	-0.6
	1.5nm,0.9s,baz=218,slow=8.3,SNR=10						
ZALV	**Zalesovo Beam**	**46.06**	**22**	P	P	01 03 46.5	-0.7
	1.8nm,0.8s,baz=224,slow=6.2,SNR=9.5						

*IDC **16** 01:12:56.5±0.8, 10.˚11N×126.˚83E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/22, mbtmp3.8/12, Error ellipse: s-maj=53.5km s-min=17.2km az=75.0*
*ISCJB **16** 01:13:00.9±0.6, 10.˚08N±0.˚07×126.˚76E±0.˚09, h42km, mb3.8/12, Error ellipse: s-maj=13.5km s-min=8.0km az=31.6*
*MAN **16** 01:13:04, 10.˚10N×126.˚47E, h40km, mb4.6, ML3.4, MS3.3*
ISC 16 01:13:02.8±0.8, 10.˚09N±0.˚08×126.˚7E±0.˚1, h42km, n18, σ1§01/20, mb3.7/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.53**	**223**	*e*P	**Pn**	**01 13 26.8**	**-0.8**
BUTP				*e*S	**Sn**	**01 13 46.0**	**-0.3**
MSLP	**Maasin**	**1.79**	**272**	*e*P	**Pn**	**01 13 30.6**	**-0.6**
BUKP	**Musuan**	**2.72**	**216**	*e*P	**Pn**	**01 13 45.8**	**+1.8**
TBP	**Tagbilaran**	**2.81**	**262**	*e*P	**Pn**	**01 13 45.5**	**+0.3**
TBP				*e*S	Sn	01 14 05.6	-12
PAGZ	**Pagadian**	**3.95**	**236**	*e*P	**Pn**	**01 14 01.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**28.03**	**182**	P	**P**	**01 18 51.3**	**+1.1**
	2.1nm,0.9s,baz=8.4,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**30.78**	**166**	P	**P**	**01 19 12.7**	**-1.9**
	1.1nm,1.1s,baz=349,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**34.28**	**168**	P	**P**	**01 19 44.5**	**-0.8**
	0.2nm,0.4s,baz=351,slow=6.8,SNR=5.8						
SONM	**Songino Array**	**41.33**	**339**	P	**P**	**01 20 45.7**	**+1.1**
	1.1nm,0.8s,baz=154,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**01 22 10.5**	**-0.6**
	0.6nm,0.6s,baz=120,slow=7.2,SNR=5.9						
MKAR				PcP	**PcP**	**01 23 21.8**	**+0.3**
	0.4nm,0.7s,baz=120,slow=2.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**54.98**	**331**	P	**P**	**01 22 29.1**	**-0.6**
	0.7nm,0.6s,baz=112,slow=4.5,SNR=5.2						
KURK	**Kurchatov**	**56.44**	**325**	P	**P**	**01 22 39.9**	**-0.3**
	0.4nm,0.5s,baz=121,slow=7.2,SNR=5.0						
ILAR	**Eielson Array**	**79.42**	**26**	P	**P**	**01 25 03.4**	**-1.1**
	0.2nm,0.5s,baz=252,slow=5.5,SNR=4.3						
ARCES	**ARCESS Array B**	**84.50**	**340**	P	**P**	**01 25 31.6**	**+0.6**
	3.0nm,0.8s,baz=76,slow=6.8,SNR=5.1						
FINES	**FINESS Array B**	**86.24**	**332**	P	**P**	**01 25 39.9**	**+0.1**
	0.6nm,0.4s,baz=84,slow=4.3,SNR=7.5						
NOA	**NORSAR Array B**	**93.10**	**334**	P	**P**	**01 26 13.5**	**+1.4**
	1.1nm,0.9s,baz=38,slow=4.0,SNR=3.2						
YKA	**Yellowknife Ar**	**93.76**	**24**	P	**P**	**01 26 15.4**	**+0.3**
	0.1nm,0.4s,baz=304,slow=5.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**120.71**	**292**	PKP	**PKPdf**	**01 31 50.1**	**-1.2**
	0.2nm,1.0s,baz=70,slow=3.0,SNR=2.4						

*MDD **16** 01:14:11.8±1.5, 36.˚92N×12.˚94W, h0km, mb4.5/10, Error ellipse: s-maj=13.4km s-min=12.2km az=70.0, PRXIMO*
*INMG **16** 01:14:12.9±1.6, 36.˚76N×13.˚36W, h10km, ML2.8, Error ellipse: s-maj=4.7km s-min=2.8km az=121.0*
*IGIL **16** 01:14:13.1, 36.˚96N×12.˚95W, h0km, ML3.1*
*CSEM **16** 01:14:14.9±0.3, 37.˚02N×12.˚66W, h10km, ML3.6/7, Error ellipse: s-maj=5.5km s-min=4.6km az=61.0*
ISC 16 01:14:11.7±3.2, 37.˚00N±0.˚09×12.˚9W±0.˚1, h10km, n125, σ1§60/220, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.34**	**79**	*e*Pn	**Pn**	**01 15 05.1**	**+1.2**
PTEO				*e*Sn	**Sn**	**01 15 43.9**	**+0.3**
PTEO				A	A	01 15 44.8	
	18nm,0.6s						
PTEO	**Sao Teotonio**	**3.34**	**79**	⇑P	**Pn**	**01 15 05.1**	**+1.2**
PTEO				S	**Sn**	**01 15 43.9**	**+0.3**
	9.1nm,0.6s						
PTEO	**Sao Teotonio**	**3.34**	**79**	P	**Pn**	**01 15 05.1**	**+1.2**
PTEO				S	**Sn**	**01 15 43.9**	**+0.3**
	9.1nm,0.6s						
MORF	**Marmelete**	**3.37**	**83**	*e*Pn	**Pn**	**01 15 05.3**	**+0.9**
MORF				*e*Sn	**Sn**	**01 15 45.2**	**+0.7**
	13nm,0.3s						
MORF				A	A	01 15 46.5	
	13nm,0.3s						
MORF	**Marmelete**	**3.37**	**83**	P	**Pn**	**01 15 05.3**	**+0.9**
MORF				S	**Sn**	**01 15 45.2**	**+0.7**
	13nm,0.3s						
MORF	**Marmelete**	**3.37**	**83**	P	**Pn**	**01 15 05.3**	**+0.9**
MORF				S	**Sn**	**01 15 45.2**	**+0.7**
	13nm,0.3s						
PMAFR	**Mafra**	**3.43**	**54**	*e*Pn	**Pn**	**01 15 07.2**	**+2.0**
PMAFR				*e*Sn	**Sn**	**01 15 48.0**	**+2.1**
PMAFR				A	A	01 15 50.7	
	54nm,0.6s						
PMAFR	**Mafra**	**3.43**	**54**	P	**Pn**	**01 15 07.2**	**+2.0**
	282nm,1.3s,SNR=7.9						
PMAFR				S	**Sn**	**01 15 47.6**	**+1.7**
	22nm,0.2s,SNR=10						
PMAFR	**Mafra**	**3.43**	**54**	P	**Pn**	**01 15 07.2**	**+2.0**
	282nm,1.3s,SNR=7.9						
PMAFR				S	**Sn**	**01 15 47.6**	**+1.7**
	22nm,0.2s,SNR=10						
PMAFR				*e*Sn	**Sn**	**01 15 48.0**	**+2.1**
	54nm,0.6s						
PNCL	**Nicolau / Gran**	**3.61**	**71**	*e*Pn	**Pn**	**01 15 08.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**01 15 50.9**	**+0.6**
PNCL				A	A	01 15 57.3	
	6.9nm,0.6s						
PNCL	**Nicolau / Gran**	**3.61**	**71**	*e*Pn	**Pn**	**01 15 08.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**01 15 50.9**	**+0.6**
	6.9nm,0.6s						
PCVE	**Castro Verde**	**3.89**	**79**	*e*Pn	**Pn**	**01 15 12.6**	**+1.1**
PCVE				*e*Sn	**Sn**	**01 15 58.1**	**+0.9**
PCVE				A	A	01 16 01.6	
	4.8nm,0.6s						
PCVE	**Castro Verde**	**3.89**	**79**	P	**Pn**	**01 15 12.6**	**+1.1**
PCVE				S	**Sn**	**01 15 58.1**	**+0.9**
	4.8nm,0.6s						
PCVE	**Castro Verde**	**3.89**	**79**	P	**Pn**	**01 15 12.6**	**+1.1**
PCVE				S	**Sn**	**01 15 58.1**	**+0.9**
	4.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.94**	**85**	*e*Pn	**Pn**	**01 15 13.6**	**+1.4**
PBDV				*e*Sn	**Sn**	**01 15 58.8**	**+0.3**
PBDV				A	A	01 16 05.0	
	4.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.94**	**85**	P	**Pn**	**01 15 13.6**	**+1.4**
PBDV				S	**Sn**	**01 15 58.8**	**+0.3**
	4.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.94**	**85**	P	**Pn**	**01 15 13.6**	**+1.4**
PBDV				S	**Sn**	**01 15 58.8**	**+0.3**
	4.6nm,0.2s						
ALMR	**Almeirim**	**4.00**	**56**	*e*P	**Pn**	**01 15 14.9**	**+1.9**
ALMR				*e*S	**Sn**	**01 16 00.4**	**+0.4**
ALMR				AML	AML	01 16 02.7	
	comp=E,53nm,0.2s						
ALMR	**Almeirim**	**4.00**	**56**	*e*Pn	**Pn**	**01 15 14.9**	**+1.9**
ALMR				*e*Sn	**Sn**	**01 16 00.4**	**+0.4**
ALMR	**Almeirim**	**4.00**	**56**	P	**Pn**	**01 15 14.9**	**+1.9**
ALMR				P	**Pn**	**01 15 14.9**	**+1.9**
ALMR				S	**Sn**	**01 16 00.4**	**+0.4**
ALMR				S	Sb	01 16 00.4	-10
	comp=E,26nm,0.2s						
ALMR	**Almeirim**	**4.00**	**56**	P	**Pn**	**01 15 14.9**	**+1.9**
ALMR				S	**Sn**	**01 16 00.4**	**+0.4**
	comp=E,26nm,0.2s						
PBEJ	**Beja**	**4.09**	**74**	*e*Pn	**Pn**	**01 15 16.4**	**+1.3**
PBEJ				*e*Sn	**Sn**	**01 16 03.2**	**+0.9**
PBEJ				A	A	01 16 15.5	
	comp=E,5.0nm,0.5s						
PBEJ	**Beja**	**4.09**	**74**	P	**Pn**	**01 15 16.4**	**+1.3**
PBEJ				S	**Sn**	**01 16 03.2**	**+0.9**
	comp=E,2.5nm,0.5s						
PBEJ	**Beja**	**4.09**	**74**	P	**Pn**	**01 15 16.4**	**+1.3**
PBEJ				S	**Sn**	**01 16 03.2**	**+0.9**
	comp=E,2.5nm,0.5s						
PVAQ	**Vaqueiros**	**4.12**	**83**	*e*Pn	**Pn**	**01 15 15.9**	**+1.2**
PVAQ				*e*Sn	**Sn**	**01 16 03.6**	**+0.7**
PVAQ				A	A	01 16 12.7	
	comp=E,5.4nm,1.3s						
PVAQ	**Vaqueiros**	**4.12**	**83**	P	**Pn**	**01 15 15.9**	**+1.2**

comp=E,1.2nm,0.1s,SNR=13
EBAD S Sn 01 16 21.2 -2.0
comp=E,2.6nm,0.1s,SNR=6.1
EMIN Mina Concepcio 4.98 79 P Pn 01 15 27.4 +0.9
comp=E,2.8nm,0.1s,SNR=28
EMIN S Sn 01 16 23.0 -1.1
comp=E,1.4nm,0.2s,SNR=7.9
EMIN Mina Concepcio 4.98 79 P Pn 01 15 27.4 +0.9
comp=E,2.8nm,0.1s,SNR=28
EMIN S Sn 01 16 23.0 -1.1
comp=E,1.4nm,0.2s,SNR=7.9
PCBR Castelo Branco 5.08 54 *e*Pn Pn 01 15 29.3 +1.4
PCBR *e*Sn Sn 01 16 26.8 +0.1
PCBR A A 01 16 29.4
comp=E,5.2nm,0.3s
PCBR Castelo Branco 5.08 54 P Pn 01 15 29.3 +1.4
PCBR S Sn 01 16 26.8 +0.1
comp=E,2.6nm,0.3s
PCBR Castelo Branco 5.08 54 P Pn 01 15 29.3 +1.4
PCBR S Sn 01 16 26.8 +0.1
comp=E,2.6nm,0.3s
PVIS Viseu 5.36 45 *e*Pn Pn 01 15 33.0 +1.2
PVIS *e*Sn Sn 01 16 32.9 -0.7
PVIS A A 01 16 36.0
comp=E,16nm,0.3s
PVIS Viseu 5.36 45 P Pn 01 15 33.0 +1.2
PVIS S Sn 01 16 32.9 -0.7
comp=E,8.0nm,0.3s
PVIS Viseu 5.36 45 P Pn 01 15 33.0 +1.2
PVIS S Sn 01 16 32.9 -0.7
comp=E,8.0nm,0.3s
MTE Manteigas 5.36 49 *e*Pn Pn 01 15 33.6 +1.8
MTE *e*Sn Sn 01 16 34.1 +0.4
MTE A A 01 16 36.8
comp=E,12nm,0.2s
MTE Manteigas 5.36 49 P Pn 01 15 33.6 +1.8
MTE S Sn 01 16 34.1 +0.4
comp=E,5.8nm,0.2s
MTE Manteigas 5.36 49 P Pn 01 15 33.6 +1.8
MTE S Sn 01 16 34.1 +0.4
comp=E,5.8nm,0.2s
ESPR Espera 5.60 89 P Pn 01 15 36.4 +1.3
comp=E,4.1nm,0.2s,SNR=10
ESPR S Sn 01 16 38.6 -0.9
comp=E,8.5nm,0.3s,SNR=7.9
ESPR Espera 5.60 89 P Pn 01 15 36.4 +1.3
comp=E,4.1nm,0.2s,SNR=10
ESPR S Sn 01 16 38.6 -0.9
comp=E,8.5nm,0.3s,SNR=7.9
PVRL Vila Real 5.84 41 *e*Sn Sn 01 16 45.2 -0.3
PVRL A A 01 16 48.3
comp=E,9.4nm,0.1s
PVRL Vila Real 5.84 41 S Sn 01 16 45.2 -0.3
comp=E,4.7nm,0.1s
PVRL Vila Real 5.84 41 S Sn 01 16 45.2 -0.3
comp=E,4.7nm,0.1s
POLO Lamas de Olo 5.87 40 *e*Pn Pn 01 15 39.9 +1.0
POLO *e*Sn Sn 01 16 45.1 -1.2
POLO A A 01 16 47.8
comp=E,2.8nm,0.4s
POLO Lamas de Olo 5.87 40 *e*Pn Pn 01 15 39.9 +1.0
POLO *e*Sn Sn 01 16 45.1 -1.2
comp=E,2.8nm,0.4s
PCAB Cabril 6.01 37 *e*Pn Pn 01 15 42.3 +1.6
PCAB *e*Sn Sn 01 16 48.4 -1.1
PCAB A A 01 16 52.5
comp=E,7.9nm,0.3s
PCAB Cabril 6.01 37 P Pn 01 15 42.3 +1.6
PCAB S Sn 01 16 48.4 -1.1
comp=E,4.0nm,0.3s
PCAB Cabril 6.01 37 P Pn 01 15 42.3 +1.6
PCAB S Sn 01 16 48.4 -1.1
comp=E,4.0nm,0.3s
EZAM Zamans 6.06 31 S Sn 01 16 47.2 -3.6
comp=E,4.0nm,0.2s,SNR=7.9
EZAM Zamans 6.06 31 S Sn 01 16 47.2 -3.6
comp=E,4.0nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 6.09 34 *e*Pn Pn 01 15 44.0 +2.1
PGAV *e*Sn Sn 01 16 50.3 -1.5
PGAV A A 01 16 52.3
comp=E,9.6nm,0.1s
PGAV Gavieira, Arco 6.09 34 *e*Pn Pn 01 15 44.0 +2.1
PGAV *e*Sn Sn 01 16 50.3 -1.5
comp=E,9.6nm,0.1s
ELOB Lobios 6.11 36 P Pn 01 15 44.8 +2.6
comp=E,0.4nm,0.2s,SNR=7.9
ELOB S Sn 01 16 50.2 -2.0
comp=E,2.4nm,0.1s,SNR=8.6
ELOB Lobios 6.11 36 P Pn 01 15 44.8 +2.6
comp=E,0.4nm,0.2s,SNR=7.9
ELOB S Sn 01 16 50.2 -2.0
comp=E,2.4nm,0.1s,SNR=8.6
EPLA Plasencia 6.13 58 P Pn 01 15 43.7 +1.4
comp=E,1.3nm,0.1s,SNR=16
EPLA S Sn 01 16 51.6 -0.8
comp=E,2.6nm,0.2s,SNR=8.7
EPLA Plasencia 6.13 58 P Pn 01 15 43.7 +1.4
comp=E,1.3nm,0.1s,SNR=16
EPLA S Sn 01 16 51.6 -0.8
comp=E,2.6nm,0.2s,SNR=8.7
MVO Moncorvo 6.15 46 *e*Pn Pn 01 15 44.2 +1.6
MVO *e*Sn Sn 01 16 51.9 -1.1
MVO A A 01 16 55.3
comp=E,12nm,0.4s
MVO Moncorvo 6.15 46 P Pn 01 15 43.6 +1.0
comp=E,1.0nm,0.1s,SNR=6.8
MVO S Sn 01 16 51.5 -1.5
comp=E,3.5nm,0.1s,SNR=10
MVO Moncorvo 6.15 46 P Pn 01 15 43.6 +1.0
comp=E,1.0nm,0.1s,SNR=6.8
MVO Moncorvo 6.15 46 *e*Pn Pn 01 15 44.2 +1.6
MVO S Sn 01 16 51.5 -1.5
comp=E,3.5nm,0.1s,SNR=10
MVO *e*Sn Sb 01 16 51.9 -21
comp=E,12nm,0.4s
EMIJ Mijas 6.50 91 P Pn 01 15 48.7 +1.3
comp=E,0.4nm,0.2s,SNR=4.0
EMIJ S Sn 01 17 00.1 -1.5
comp=E,0.4nm,0.2s,SNR=7.9
EMIJ Mijas 6.50 91 P Pn 01 15 48.7 +1.3
comp=E,0.4nm,0.2s,SNR=4.0
EMIJ S Sn 01 17 00.1 -1.5
comp=E,0.4nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.64 25 S Sn 01 17 00.5 -4.7
comp=E,7.5nm,0.1s,SNR=13
EMAZ Mazaricos 6.64 25 S Sn 01 17 00.5 -4.7
comp=E,7.5nm,0.1s,SNR=13
EADA Adamuz 6.67 77 P Pn 01 15 51.0 +1.2
comp=E,2.2nm,0.2s,SNR=16
EADA S Sn 01 17 03.8 -2.1
comp=E,0.4nm,0.2s,SNR=4.3
EADA Adamuz 6.67 77 P Pn 01 15 51.0 +1.2
comp=E,2.2nm,0.2s,SNR=16
EADA S Sn 01 17 03.8 -2.1
comp=E,0.4nm,0.2s,SNR=4.3
PBRG Braganca 6.74 43 *e*Pn Pn 01 15 51.9 +1.2
PBRG *e*Sn Sn 01 17 06.5 -1.0
PBRG A A 01 17 09.9
comp=E,3.8nm,0.3s
PBRG Braganca 6.74 43 Pn Pn 01 15 51.9 +1.2
PBRG Sn Sn 01 17 06.5 -1.0
comp=E,1.9nm,0.3s
PBRG Braganca 6.74 43 Pn Pn 01 15 51.9 +1.2
PBRG *e*Sn Sn 01 17 06.5 -1.0
comp=E,3.8nm,0.3s
STS Santiago 6.74 28 S Sn 01 17 04.1 -3.5
comp=E,2.0nm,0.2s,SNR=7.9
STS Santiago 6.74 28 S Sn 01 17 04.1 -3.5
comp=E,2.0nm,0.2s,SNR=7.9
ECAL Calabor 6.83 42 P Pn 01 15 53.6 +1.5
comp=E,2.5nm,0.1s,SNR=18
ECAL S Sn 01 17 08.3 -1.6
comp=E,1.3nm,0.2s,SNR=5.0
ECAL Calabor 6.83 42 P Pn 01 15 53.6 +1.5
comp=E,2.5nm,0.1s,SNR=18
ECAL S Sn 01 17 08.3 -1.6
comp=E,1.3nm,0.2s,SNR=5.0
ECOG Cogollos-Vega 7.42 85 P Pn 01 16 01.5 +1.3
comp=E,0.4nm,0.2s,SNR=4.0
ECOG S Sn 01 17 22.0 -2.4
comp=E,1.4nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 7.42 85 P Pn 01 16 01.5 +1.3
comp=E,0.4nm,0.2s,SNR=4.0
ECOG S Sn 01 17 22.0 -2.4
comp=E,1.4nm,0.4s,SNR=7.9
EGUA Guajares 7.44 88 P Pn 01 16 01.7 +1.4
comp=E,3.6nm,0.4s,SNR=4.0
EGUA S Sn 01 17 21.6 -3.2
comp=E,6.2nm,0.7s,SNR=7.9
EGUA Guajares 7.44 88 P Pn 01 16 01.7 +1.4
comp=E,3.6nm,0.4s,SNR=4.0
EGUA S Sn 01 17 21.6 -3.2
comp=E,6.2nm,0.7s,SNR=7.9
ESDC Sonseca Array 7.48 66 P Pn 01 16 01.9 +1.0
comp=E,0.9nm,0.3s,baz=253,slow=13,SNR=11
ESDC S Sn 01 17 21.9 -3.9
comp=E,0.4nm,0.2s,baz=256,slow=23,SNR=3.9
ESDC Sonseca Array 7.48 66 P Pn 01 16 01.9 +1.0
comp=E,0.9nm,0.3s,baz=253,slow=13,SNR=11
ESDC S Sn 01 17 21.9 -3.9
comp=E,0.4nm,0.2s,slow=23,SNR=3.9
EQUE Quentar 7.52 86 P Pn 01 16 01.2 -0.3
comp=E,0.2nm,0.2s,SNR=7.9
EQUE Quentar 7.52 86 P Pn 01 16 01.2 -0.3
comp=E,0.2nm,0.2s,SNR=7.9
EPON Pontenova 7.68 33 S Sn 01 17 27.4 -3.3
comp=E,1.5nm,0.2s,SNR=7.9
EPON Pontenova 7.68 33 S Sn 01 17 27.4 -3.3
comp=E,1.5nm,0.2s,SNR=7.9
GUD Guadarrama 7.70 59 P Pn 01 16 05.2 +1.2
comp=E,2.1nm,0.2s,SNR=7.9
GUD S Sn 01 17 28.5 -2.9
comp=E,0.3nm,0.3s,SNR=7.9
GUD Guadarrama 7.70 59 P Pn 01 16 05.2 +1.2
comp=E,2.1nm,0.2s,SNR=7.9
GUD S Sn 01 17 28.5 -2.9
comp=E,0.3nm,0.3s,SNR=7.9
EQES Quesada 7.83 81 P Pn 01 16 06.3 +0.6
comp=E,0.6nm,0.1s,SNR=14
EQES S Sn 01 17 32.7 -1.7
comp=E,0.2nm,0.2s,SNR=7.9
EQES Quesada 7.83 81 P Pn 01 16 06.3 +0.6
comp=E,0.6nm,0.1s,SNR=14
EQES S Sn 01 17 32.7 -1.7
comp=E,0.2nm,0.2s,SNR=7.9
EHUE Huescar 8.20 81 P Pn 01 16 10.9 0.0
comp=E,0.4nm,0.2s,SNR=4.0
EHUE S Sn 01 17 41.6 -2.1
comp=E,0.1nm,0.2s,SNR=7.9
EHUE Huescar 8.20 81 P Pn 01 16 10.9 0.0
comp=E,0.4nm,0.2s,SNR=4.0
EHUE S Sn 01 17 41.6 -2.1
comp=E,0.1nm,0.2s,SNR=7.9
ETOB Tobarra 9.09 76 P Pn 01 16 23.3 +0.2
comp=E,0.2nm,0.1s,SNR=4.0
ETOB Tobarra 9.09 76 P Pn 01 16 23.3 +0.2
comp=E,0.2nm,0.1s,SNR=4.0
ETOR Torete 9.24 62 P Pn 01 16 26.4 +1.3
comp=E,7.1nm,0.2s,SNR=16
ETOR S Sn 01 18 05.5 -3.5
comp=E,0.8nm,0.2s,SNR=6.8
ETOR Torete 9.24 62 P Pn 01 16 26.4 +1.3
comp=E,7.1nm,0.2s,SNR=16
ETOR S Sn 01 18 05.5 -3.5
comp=E,0.8nm,0.2s,SNR=6.8
IEPA Eparoz 10.60 53 P Pn 01 16 46.2 +2.5
comp=E,0.8nm,0.3s,SNR=7.9
IEPA Eparoz 10.60 53 P Pn 01 16 46.2 +2.5
comp=E,0.8nm,0.3s,SNR=7.9
IELO Elcoad 10.65 53 P Pn 01 16 45.7 +1.3
comp=E,0.7nm,0.2s,SNR=7.9
IELO S Sn 01 18 39.7 -4.1
comp=E,0.3nm,0.2s,SNR=7.9
IELO Elcoad 10.65 53 P Pn 01 16 45.7 +1.3
comp=E,0.7nm,0.2s,SNR=7.9
IELO S Sn 01 18 39.7 -4.1
comp=E,0.3nm,0.2s,SNR=7.9
EBIE Bielsa 11.48 56 P Pn 01 16 57.6 +1.7
comp=E,0.8nm,0.2s,SNR=5.6
EBIE Bielsa 11.48 56 P Pn 01 16 57.6 +1.7
comp=E,0.8nm,0.2s,SNR=5.6

GUC 16 01:14:25.6±0.9, 22.55S×68.84W, h98km±5km, ML3.5, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.09**	**227**	*e*P	Pn	01 14 39.7	0.0
LVC				*i* S	Sn	01 14 50.7	+0.6
LVC				AML	AML	01 14 51.5	
	comp=E,2μm,0.3s						
PB04	**Plate Boundary**	**0.66**	**295**	⇑*i* P	Pn	01 14 49.1	+6.6
PB04				*i* S	Sn	01 15 07.3	+12
PB04				AML	AML	01 15 10.8	
	comp=N,900nm,0.1s						
SPCH	**San Pedro de A**	**0.69**	**121**	*e*P	Pn	01 14 43.9	+0.8
SPCH				*i* S	Sn	01 14 57.8	+1.4
SPCH				AML	AML	01 14 58.9	
	comp=E,2μm,0.3s						
PB09	**Plate Boundary**	**0.84**	**333**	*e*P	Pn	01 14 45.7	+1.2
PB09				*i* S	Sn	01 15 00.7	+2.1
PB09				AML	AML	01 15 01.9	
	comp=N,6μm,0.5s						
MACH	**Maria Elena**	**0.92**	**292**	⇑*i* P	Pn	01 14 45.9	+0.5
MACH				*i* S	Sn	01 15 01.3	+1.1
PB07	**Plate Boundary**	**1.27**	**310**	⇑*i* P	Pn	01 14 49.9	+0.6
PB07				*i* S	Sn	01 15 08.0	+0.9
PB07				AML	AML	01 15 11.3	
	comp=N,681nm,0.6s						
CEN1	**Los Morros**	**1.51**	**236**	*e*P	Pn	01 14 54.3	+2.3
CEN1				*i* S	Sn	01 15 16.6	+4.5
MECH	**Mejillones**	**1.58**	**249**	*e*P	Pn	01 14 53.3	+0.5
MECH				*e*S	Sn	01 15 14.7	+1.2
MECH				AML	AML	01 15 18.8	
	comp=N,753nm,0.4s						
PB01	**Plate Boundary**	**1.62**	**338**	⇑*i* P	Pn	01 14 53.9	+0.5
PB01				*i* S	Sn	01 15 15.7	+1.3
PB01				AML	AML	01 15 17.1	
	comp=E,977nm,0.2s						
ANCH	**Antofagasta**	**1.83**	**232**	*e*P	Pn	01 14 54.9	-1.1
ANCH				*i* S	Sn	01 15 18.7	-0.4
HMBC	**Humberstone**	**2.46**	**336**	⇑*i* P	Pn	01 15 03.7	-0.7
HMBC				*e*S	Sn	01 15 34.5	+0.4
MNMC	**Minimini**	**3.48**	**348**	*e*P	Pn	01 15 17.2	-0.9

IDC 16 01:21:19.3±28.0, 24.69S×179.58E, h524km±264km, mb3.2/4, mb1 3.4/4, mb1mx3.1/17, mbtmp3.2/4, Error ellipse: s-maj=188.0km s-min=57.5km az=67.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.10**	**272**	P	P	01 26 55.1	+0.2
	3.0nm,0.4s,baz=87,slow=13,SNR=7.3						
ASAR	**Alice Springs**	**41.53**	**262**	P	P	01 28 21.4	+0.4
	1.3nm,0.7s,baz=95,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**41.97**	**267**	P	P	01 28 23.9	-0.7
	1.4nm,0.5s,baz=103,slow=8.3,SNR=8.5						
FITZ	**Fitzroy Crossi**	**50.39**	**266**	P	P	01 29 27.9	-0.6
	2.0nm,0.6s,baz=112,slow=5.4,SNR=4.4						
BRTR	**Keskin Array B**	**147.74**	**306**	PKPbc	PKPbc	01 40 05.1	-0.2
	0.5nm,1.0s,baz=90,slow=3.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**168.34**	**190**	PKPab	PKPab	01 41 38.1	-0.7
	0.5nm,0.9s,baz=174,slow=1.4,SNR=2.9						

*ISCJB **16** 01:21:56.6±0.3, 38.84N±0.01×23.60E±0.02, h9km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=34.1*
*CSEM **16** 01:21:56.4±0.1, 38.83N×23.62E, h8km, ML3.8/8, Error ellipse: s-maj=2.9km s-min=2.1km az=96.0*
*ATH **16** 01:21:56.0, 38.88N×23.64E, h23km, MD3.5/16, ML4.1*
*THE **16** 01:21:56.9, 38.85N×23.59E, h7km, ML3.8/8, Error ellipse: s-maj=0.9km s-min=0.4km az=73.0*
*SKO **16** 01:21:58.8, 39.06N×23.53E, h0km*

ISC 16 01:21:56.8±0.8, 38.85N±0.01×23.61E±0.02, h12km±6km, n153, s0.78/197, 2C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.15**	**187**	P	**Pg**	**01 22 00.1**	**-0.2**
MRKA				S	**Sg**	**01 22 02.8**	**0.0**
MRKA	**Markates**	**0.15**	**187**	P	**Pg**	**01 22 00.1**	**-0.2**
MRKA				S	**Sg**	**01 22 02.8**	**0.0**
SKIA	**Skiathos**	**0.33**	**340**	P	**Pg**	**01 22 03.5**	**0.0**
SKIA				S	**Sg**	**01 22 08.6**	**+0.6**
SKIA	**Skiathos**	**0.33**	**340**	P	**Pg**	**01 22 03.5**	**0.0**
SKIA				S	**Sg**	**01 22 08.6**	**+0.6**
AOS	**Alonnisos**	**0.38**	**33**	P	**Pg**	**01 22 04.2**	**-0.2**
AOS				S	**Sg**	**01 22 10.1**	**+0.6**
AOS	**Alonnisos**	**0.38**	**33**	P	**Pg**	**01 22 04.2**	**-0.2**

AOS S Sg 01 22 10.1 +0.6
ERET Eretria 0.44 160 P Pg 01 22 05.6 +0.2
ERET S Sg 01 22 12.0 +0.7
ERET Eretria 0.44 160 P Pg 01 22 05.6 +0.2
ERET S Sg 01 22 12.0 +0.7
ATAL Atalanti 0.49 251 P Pg 01 22 05.8 -0.6
ATAL S Sg 01 22 13.1 +0.2
ATAL Atalanti 0.49 251 P Pg 01 22 05.8 -0.6
ATAL S Sg 01 22 13.1 +0.2
LKR Lokris 0.52 247 *e*PN Pg 01 22 07.0 0.0
LKR *e*SN Sb 01 22 15.1 -0.3
LKR Lokris 0.52 247 *e*Pn Pg 01 22 07.0 0.0
LKR *e*Sn Sb 01 22 15.1 -0.3
NEO Neokhori 0.55 326 *e*PN Pg 01 22 07.0 -0.5
NEO *e*SN Sg 01 22 14.7 0.0
NEO Neokhori 0.55 326 *e*Pn Pg 01 22 07.0 -0.5
NEO *e*Sn Sg 01 22 14.7 0.0
XOR Xorichti 0.61 328 P Pg 01 22 08.3 -0.3
XOR S Sg 01 22 17.3 +0.6
XOR Xorichti 0.61 328 P Pg 01 22 08.3 -0.3
XOR S Sg 01 22 17.3 +0.6
PTL Penteli 0.83 166 *e*PN Pg 01 22 12.2 -0.6
PTL *e*SN Sg 01 22 23.8 +0.2
PTL Penteli 0.83 166 *e*Pn Pg 01 22 12.2 -0.6
PTL *e*Sn Sg 01 22 23.8 +0.2
ATH Athens Observa 0.88 175 *e*PN Pg 01 22 13.6 -0.2
ATH *e*SN Sb 01 22 26.0 +0.2
ATH Athens Observa 0.88 175 *e*Pn Pg 01 22 13.6 -0.2
ATH *e*Sn Sb 01 22 26.0 +0.2
DESF Desfina 0.95 243 P Pg 01 22 13.6 -1.6
DESF S Sg 01 22 27.6 0.0
DESF Desfina 0.95 243 P Pg 01 22 13.6 -1.6
DESF S Sg 01 22 27.6 0.0
DSF Desfina 0.96 243 P Pg 01 22 13.7 -1.5
DSF S Sb 01 22 28.7 +0.7
DSF Desfina 0.96 243 P Pg 01 22 13.7 -1.5
DSF S Sb 01 22 28.7 +0.7
LTK Loutraki 0.97 212 P Pg 01 22 14.5 -1.0
LTK S Sg 01 22 28.2 0.0
LTK Loutraki 0.97 212 *e*PN Pg 01 22 15.0 -0.5
LTK *e*SN Sb 01 22 29.0 +0.6
LTK Loutraki 0.97 212 P Pg 01 22 14.5 -1.0
LTK Loutraki 0.97 212 *e*Pn Pg 01 22 15.0 -0.5
LTK S Sg 01 22 28.2 0.0
LTK *e*Sn Sb 01 22 29.0 +0.6
MRMA Marmari 1.00 143 P Pg 01 22 15.8 -0.2
MRMA Marmari 1.00 143 P Pg 01 22 15.8 -0.2
VLY Voula,Athens 1.01 172 *e*PN Pg 01 22 15.5 -0.7
VLY *e*SN Sb 01 22 30.0 +0.5
VLY Voula,Athens 1.01 172 *e*Pn Pg 01 22 15.5 -0.7
VLY *e*Sn Sb 01 22 30.0 +0.5
PAIG Paliouri 1.07 3 P Pb 01 22 16.8 -0.5
PAIG S Sn 01 22 32.4 -0.2
PAIG Paliouri 1.07 3 P Pb 01 22 16.8 -0.5
PAIG S Sn 01 22 32.4 -0.2
NAIG Nisos Aigina 1.10 185 *e*PN Pb 01 22 17.3 -0.4
NAIG *e*SN Sn 01 22 33.1 0.0
NAIG Nisos Aigina 1.10 185 *e*Pn Pb 01 22 17.3 -0.4
NAIG *e*Sn Sn 01 22 33.1 0.0
MAKR Makrakomi, Fth 1.17 278 P Pb 01 22 18.0 -0.9
MAKR Makrakomi, Fth 1.17 278 P Pb 01 22 18.0 -0.9
KALE Kalithea 1.24 249 P Pn 01 22 19.6 -0.5
KALE S Sn 01 22 37.5 +0.7
KALE Kalithea 1.24 249 P Pn 01 22 19.6 -0.5
KALE S Sn 01 22 37.5 +0.7
TRIZ Trizonia 1.30 249 P Pn 01 22 20.4 -0.4
TRIZ S Sg 01 22 38.2 -0.1
TRIZ Trizonia 1.30 249 P Pn 01 22 20.4 -0.4
TRIZ S Sg 01 22 38.2 -0.1
GUR Goura 1.35 228 P Pn 01 22 21.3 -0.3
GUR S Sb 01 22 39.8 +0.3
GUR Goura 1.35 228 *e*PN Pn 01 22 22.1 +0.5
GUR *e*SN Sg 01 22 40.8 +0.4
GUR Goura 1.35 228 P Pn 01 22 21.3 -0.3
GUR Goura 1.35 228 *e*Pn Pn 01 22 22.1 +0.5
GUR S Sb 01 22 39.8 +0.3
GUR *e*Sn Sg 01 22 40.8 +0.4
DID Didima 1.38 193 P Pn 01 22 21.6 -0.3
DID S Sn 01 22 40.1 0.0
DID Didima 1.38 193 *e*PN Pn 01 22 22.3 +0.4
DID *e*SN Sg 01 22 41.2 +0.1
DID Didima 1.38 193 P Pn 01 22 21.6 -0.3
DID Didima 1.38 193 *e*Pn Pn 01 22 22.3 +0.4
DID S Sn 01 22 40.1 0.0
DID *e*Sn Sg 01 22 41.2 +0.1
EFP Efpalio 1.40 253 P Pn 01 22 22.2 0.0
EFP S Sb 01 22 41.3 +0.5
EFP Efpalio 1.40 253 *e*PN Pn 01 22 22.5 +0.3
EFP *e*SN Sb 01 22 41.5 +0.7
EFP Efpalio 1.40 253 P Pn 01 22 22.2 0.0
EFP Efpalio 1.40 253 *e*Pn Pn 01 22 22.5 +0.3
EFP *e*Sn Sb 01 22 41.5 +0.7
EVR Evrytania 1.41 273 *e*PN Pn 01 22 22.9 +0.5
EVR Evrytania 1.41 273 *e*Pn Pn 01 22 22.9 +0.5
DIDY Didyma 1.41 193 P Pn 01 22 21.9 -0.5
DIDY S Sn 01 22 41.1 +0.1
DIDY Didyma 1.41 193 P Pn 01 22 21.9 -0.5
DIDY S Sn 01 22 41.1 +0.1
LAKA Lakka 1.42 245 P Pn 01 22 22.4 -0.1
LAKA S Sb 01 22 42.0 +0.7
LAKA Lakka 1.42 245 P Pn 01 22 22.4 -0.1
LAKA S Sb 01 22 42.0 +0.7
THL Klokotos Trika 1.43 300 *e*PN Pn 01 22 22.7 +0.1
THL Klokotos Trika 1.43 300 *e*Pn Pn 01 22 22.7 +0.1
PLG Polygyros 1.52 355 *e*PN Pn 01 22 23.3 -0.6
PLG Polygyros 1.52 355 *e*Pn Pn 01 22 23.3 -0.6
UPR University Cam 1.54 249 *e*PN Pn 01 22 24.6 +0.5
UPR *e*SN Sb 01 22 45.4 +0.7
UPR University Cam 1.54 249 *e*Pn Pn 01 22 24.6 +0.5
UPR *e*Sn Sb 01 22 45.4 +0.7
LIA Limnos Island 1.60 49 *e*PN Pn 01 22 24.3 -0.7
LIA Limnos Island 1.60 49 *e*Pn Pn 01 22 24.3 -0.7
VLX Vlachokerasia 1.77 214 P Pn 01 22 27.5 +0.1
VLX S Sn 01 22 50.2 +0.3
VLX Vlachokerasia 1.77 214 *e*PN Pn 01 22 28.0 +0.6
VLX Vlachokerasia 1.77 214 P Pn 01 22 27.5 +0.1
VLX Vlachokerasia 1.77 214 *e*Pn Pn 01 22 28.0 +0.6
VLX S Sn 01 22 50.2 +0.3
RLS Riolos of Patr 1.86 245 *e*PN Pn 01 22 29.2 +0.7
RLS Riolos of Patr 1.86 245 *e*Pn Pn 01 22 29.2 +0.7
CHOS Chios island 1.97 103 *e*PN Pn 01 22 30.4 +0.3
CHOS Chios island 1.97 103 *e*Pn Pn 01 22 30.4 +0.3
SOH Sokhos 1.98 354 *e*PN Pn 01 22 30.0 -0.2
SOH Sokhos 1.98 354 *e*Pn Pn 01 22 30.0 -0.2
KZN Kozani 2.03 316 *e*PN Pn 01 22 31.3 +0.3
KZN Kozani 2.03 316 *e*Pn Pn 01 22 31.3 +0.3
PRK Paraskevi 2.11 78 *e*PB Pn 01 22 31.6 -0.3
PRK Paraskevi 2.11 78 *e*Pb Pn 01 22 31.6 -0.3
ITM Ithomi 2.14 219 *e*PB Pn 01 22 33.1 +0.8
ITM Ithomi 2.14 219 *e*Pb Pn 01 22 33.1 +0.8
VLI Veliai 2.20 194 *e*PB Pn 01 22 34.0 +0.9
VLI Veliai 2.20 194 *e*Pb Pn 01 22 34.0 +0.9
JAN Janina 2.29 291 *e*PN Pn 01 22 34.9 +0.5
JAN Janina 2.29 291 *e*Pn Pn 01 22 34.9 +0.5
EZN Ezine 2.32 64 *e*PN Pb 01 22 38.2 -0.3
APE Apeiranthos 2.34 139 *e*PN Pn 01 22 33.3 -1.9
APE Apeiranthos 2.34 139 *e*PN Pn 01 22 35.8 +0.7
APE Apeiranthos 2.34 139 *e*Pn Pn 01 22 35.8 +0.7
PYL PYLOS 2.45 218 *e*PN Pn 01 22 37.3 +0.7
PYL PYLOS 2.45 218 *e*Pn Pn 01 22 37.3 +0.7
VLS Valsamata 2.46 255 *e*PN Pn 01 22 37.7 +0.9
VLS Valsamata 2.46 255 *e*Pn Pn 01 22 37.7 +0.9
NVR Nevrokopi 2.50 4 *e*PN Pn 01 22 37.2 -0.2
NVR Nevrokopi 2.50 4 *e*Pn Pn 01 22 37.2 -0.2
VAY Valandovo 2.59 342 *e*PN Pn 01 22 38.7 +0.1
VAY Valandovo 2.59 342 *e*Pn Pn 01 22 39.2 +0.6
KYTH Kithira 2.61 190 *e*PN Pn 01 22 39.5 +0.7
KYTH Kithira 2.61 190 *e*Pn Pn 01 22 39.5 +0.7
GELI Tayfur-Gelibol 2.70 54 *e*PN Pn 01 22 39.7 -0.3
ENEZ Enez 2.71 45 *e*PN Pn 01 22 41.8 +1.5
BLCB Balcova 2.73 99 *e*PN Pn 01 22 40.6 +0.2
ALN Alexandroupoli 2.77 42 *e*PN Pn 01 22 41.0 0.0
ALN Alexandroupoli 2.77 42 *e*Pn Pn 01 22 41.0 0.0
SMG Samos 2.78 113 *e*PN Pn 01 22 41.8 +0.6
SMG Samos 2.78 113 *e*Pn Pn 01 22 41.8 +0.6
BIA Bitola 2.79 322 *e*PN Pn 01 22 42.3 +0.9
BIA Bitola 2.79 322 *e*Pn Pn 01 22 42.2 +0.9
LPK Lapseki 2.87 57 *e*PN Pb 01 22 45.8 -2.1
ERIK Erikli-Kesan 2.88 50 *e*PN Pn 01 22 45.3 +2.8

IZM	Izmir	2.90	98	*e*PN	Pb	01 22 47.4	-1.0		
KEK	Kerkira	3.08	287	*e*PN	Pn	01 22 46.0	+0.7		
KEK	Kerkira	3.08	287	*e*Pn	Pn	01 22 46.0	+0.7		
KRBG	Karabiga-Canak	3.23	60	*e*PN	Pn	01 22 48.1	+0.7		
AKS	Akhisar	3.28	88	*e*PN	Pb	01 22 53.4	-1.6		
RKY	Sarkoy-Tekirda	3.30	55	*e*PN	Pn	01 22 52.0	+3.6		
GONE	Gonen-Balikesi	3.37	68	*e*PN	Pb	01 22 53.4	-3.1		
BALB	Balikesir	3.41	75	*e*PN	Pb	01 22 54.2	-2.8		
MFT	Murefte	3.42	54	*e*PN	Pn	01 22 53.9	+3.8		
VAM	Vamos	3.47	172	*e*PN	Pn	01 22 52.1	+1.4		
VAM	Vamos	3.47	172	*e*Pn	Pn	01 22 52.1	+1.4		
EDC	Edincik	3.61	64	*e*PN	Pb	01 22 56.9	-3.6		
BNT	Bandirma	3.65	64	*e*PN	Pb	01 22 57.5	-3.8		
VTS	Vitosha	3.75	355	⇓*i*P	Pn	01 22 56.5	+1.9		
VTS	Vitosha	3.75	355	*i*Pn	Pn	01 22 55.0	+0.4		
VTS	Vitosha	3.75	355	⇓*i*P	Pn	01 22 56.5	+1.9		
TIR	Tirane	3.80	312	*e*Pn	Pn	01 22 56.6	+1.4		
EDRB	Edirne	3.83	38	*e*PN	Pn	01 22 54.2	-1.3		
CRLT	Corlu	3.90	53	*e*PN	Pn	01 22 57.1	+0.6		
KCTX	Karacabey (Bur	3.93	67	*e*P	Pn	01 23 01.4	+4.4		
KULA	Kula-Manisa	3.96	93	*e*PN	Pn	01 22 58.9	+1.3		
BARS	Barje	4.19	342	*e*Pn	Pn	01 23 01.2	+0.7		
SLVT	Silivri	4.25	55	*e*P	Pn	01 23 05.5	+4.1		
ARMT	Armutlu	4.39	65	*e*P	Pn	01 23 08.1	+4.7		
CTYL	Yal??k??y-??at	4.44	52	*e*P	Pn	01 23 07.2	+3.3		
CTKS	Kestanelik-??a	4.45	56	*e*P	Pn	01 23 08.2	+4.2		
BGKT	Bogazkoy	4.59	58	*e*P	Pn	01 23 10.8	+4.7		
YLV	Yalova	4.76	67	*e*P	Pn	01 23 14.4	+5.9		
PDG	Podgorica	4.87	319	*e*Pn	Pn	01 23 10.7	+0.8		
ALT	Altintas	5.07	86	*e*P	Pn	01 23 17.6	+4.9		
SILT	Sile	5.17	62	*e*P	Pn	01 23 14.6	+0.6		
GULT	Gulveren	5.56	71	*e*P	Pn	01 23 20.6	+1.2		
DIVS	Divibare	5.90	334	*e*Pn	Pn	01 23 22.7	+1.5		
STON	Ston	6.02	314	*e*Pn	Pn	01 23 26.5	+0.9		
STON	Ston	6.02	314	*e*Pn	Pn	01 23 26.5	+0.9		
MLR	Muntele Rosu	6.86	14	⇑*i*P	Pn	01 23 39.7	+2.4		
MLR	Muntele Rosu	6.86	14	⇑*i*P	Pn	01 23 39.7	+2.4		
CFR	Carcaliu	7.16	27	⇓*i*P	Pn	01 23 49.6	+8.3		
NVLJ	Novalja	8.67	314	*e*Pn	Pn	01 24 01.5	-0.6		
NVLJ				Sn	Sn	01 25 38.0	-1.7		
NVLJ	Novalja	8.67	314	*e*Pn	Pn	01 24 01.5	-0.6		

ATH **16** *01:26:59.9, 38.75N×21.03E, h22km±6km, MD3.2/9*
ISCJB **16** *01:27:00.3±0.6, 38.82N±0.03×20.85E±0.04, h33km±6km, Error ellipse: s-maj=6.0km s-min=4.4km az=43.3*
THE **16** *01:27:00.7, 38.79N×20.86E, h28km±1km, ML2.3/4, Error ellipse: s-maj=2.2km s-min=0.9km az=240.0*
CSEM **16** *01:27:00.1±0.2, 38.78N×20.90E, h30km, ML2.3/4, Error ellipse: s-maj=6.8km s-min=5.1km az=45.0*
ISC 16 01:27:00.5±0.9, 38.77N±0.03×20.90E±0.03, h25km±7km, n37, σ1§26/57, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD2	Lefkada island	0.19	277	P	Pb	01 27 05.6	-0.5
LKD2				S	Sb	01 27 11.0	+1.1
LKD2	Lefkada island	0.19	277	P	Pb	01 27 05.6	-0.5
LKD2				S	Sb	01 27 11.0	+1.1
VLS	Valsamata	0.64	203	*e*PB	Pb	01 27 12.4	-0.6
VLS				*e*SN	Sn	01 27 23.7	+0.4
VLS	Valsamata	0.64	203	*e*Pb	Pb	01 27 12.4	-0.6
VLS				*e*Sn	Sn	01 27 23.7	+0.4
KFL	Anninata	0.66	188	P	Pn	01 27 13.8	-0.5
KFL				S	Sn	01 27 23.8	-0.1
KFL	Anninata	0.66	188	P	Pn	01 27 13.8	-0.5
KFL				S	Sn	01 27 23.8	-0.1
RGA	Parga	0.70	323	P	Pn	01 27 14.2	-0.7
RGA				S	Sb	01 27 23.0	-0.4
RGA	Parga	0.70	323	P	Pn	01 27 14.2	-0.7
RGA				S	Sb	01 27 23.0	-0.4
EVR	Evrytania	0.73	78	*e*PN	Pn	01 27 12.6	-2.7
EVR	Evrytania	0.73	78	*e*Pn	Pn	01 27 12.6	-2.7
RLS	Riolos of Patr	0.84	148	⇑*i*PN	Pn	01 27 15.3	-1.4
RLS	Riolos of Patr	0.84	148	⇑*i*Pn	Pn	01 27 15.3	-1.4
EFP	Efpalio	0.86	113	P	Pn	01 27 15.6	-1.4
EFP				S	Sb	01 27 29.2	+1.3
EFP	Efpalio	0.86	113	*e*PN	Pn	01 27 15.1	-1.9
EFP	Efpalio	0.86	113	*e*Pn	Pn	01 27 15.1	-1.9
EFP	Efpalio	0.86	113	P	Pn	01 27 15.6	-1.4
EFP				S	Sb	01 27 29.2	+1.3
JAN	Janina	0.89	358	*e*PN	Pn	01 27 17.2	-0.3
JAN	Janina	0.89	358	*e*Pn	Pn	01 27 17.2	-0.3
MAKR	Makrakomi, Fth	0.99	75	P	Pn	01 27 17.9	-1.0
MAKR				S	Sb	01 27 32.6	+0.8
MAKR	Makrakomi, Fth	0.99	75	P	Pn	01 27 17.9	-1.0
MAKR				S	Sb	01 27 32.6	+0.8
LAKA	Lakka	1.00	121	P	Pn	01 27 13.6	-0.4
LAKA				S	Sb	01 27 33.2	+1.3
LAKA	Lakka	1.00	121	P	Pn	01 27 18.6	-0.4
LAKA				S	Sb	01 27 33.2	+1.3
TRIZ	Trizonia	1.00	113	P	Pn	01 27 17.9	-1.1
TRIZ				S	Sb	01 27 33.4	+1.4
TRIZ	Trizonia	1.00	113	P	Pn	01 27 17.9	-1.1
TRIZ				S	Sb	01 27 33.4	+1.4
KALE	Kalithea	1.04	111	P	Pn	01 27 19.0	-0.6
KALE				S	Sb	01 27 34.3	+1.1
KALE	Kalithea	1.04	111	P	Pn	01 27 19.0	-0.6
KALE				S	Sb	01 27 34.3	+1.1
THL	Klokotos Trika	1.18	47	*e*PN	Pn	01 27 20.6	-0.8
THL	Klokotos Trika	1.18	47	*e*Pb	Pn	01 27 20.6	-0.8
KEK	Kerkira	1.27	318	*e*PN	Pb	01 27 25.9	+2.0
KEK	Kerkira	1.27	318	*e*Pn	Pb	01 27 25.9	+2.0
GUR	Goura	1.41	126	*e*PN	Pn	01 27 24.5	-0.2
LKR	Lokris	1.65	93	*e*PN	Pb	01 27 31.1	+0.9
LKR	Lokris	1.65	93	*e*Pn	Pb	01 27 31.1	+0.9
STON	Ston	4.76	330	*e*Pn	Pn	01 28 11.6	+0.8
STON				Sn	Sn	01 29 02.7	-2.4
STON	Ston	4.76	330	*e*Pn	Pn	01 28 11.5	+0.8
STON				Sn	Sn	01 29 02.7	-2.4
NVLJ	Novalja	7.34	324	Sn	Sn	01 30 07.3	-1.2
NVLJ	Novalja	7.34	324	Sn	Sn	01 30 07.3	-1.2

ISK **16** *02:06:35.7, 42.26N×26.37E, h5km, MD3.0, ML2.5*
ISCJB **16** *02:06:36.6±1.0, 42.30N±0.09×26.34E±0.09, h6km, Error ellipse: s-maj=14.1km s-min=7.9km az=32.9*
CSEM **16** *02:06:36.4±0.2, 42.30N×26.34E, h2km, MD3.0, Error ellipse: s-maj=6.5km s-min=4.0km az=22.0*
ISC 16 02:06:36.4±1.1, 42.26N±0.04×26.34E±0.05, h6km, n33, σ0§87/35, 3C-2D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDRB	Edirne	0.51	144	*e*PG	Pb	02 06 47.1	-0.7
EDRB				*e*SG	Sb	02 06 54.2	-1.2
EDRB	Edirne	0.51	144	*e*Pg	Pb	02 06 47.1	-0.7
EDRB				*e*Sg	Sb	02 06 54.2	-1.2
ENEZ	Enez	1.53	185	*e*PN	Pg	02 07 05.6	-0.1
ENEZ	Enez	1.53	185	*e*Pn	Pg	02 07 05.6	-0.1
CRLT	Corlu	1.54	137	*e*PN	Pb	02 07 05.2	-0.1
CRLT				*e*SN	Sg	02 07 27.0	+1.2
CRLT	Corlu	1.54	137	*e*Pn	Pb	02 07 05.2	-0.1
CRLT				*e*Sn	Sg	02 07 27.0	+1.2
ERIK	Erikli-Kesan	1.59	175	*e*PN	Pn	02 07 05.5	+0.4
ERIK	Erikli-Kesan	1.59	175	*e*Pn	Pn	02 07 05.5	+0.4
MFT	Murefte	1.63	154	*e*PN	Pb	02 07 06.4	-0.6
MFT	Murefte	1.63	154	*e*Pn	Pb	02 07 06.4	-0.6
CTYL	Yal??k??y-??at	1.65	118	*e*PN	Pn	02 07 06.2	+0.3
CTYL	Yal??k??y-??at	1.65	118	*e*Pn	Pn	02 07 06.2	+0.3
RKY	Sarkoy-Tekirda	1.69	158	*e*PN	Pb	02 07 07.3	-0.7
RKY	Sarkoy-Tekirda	1.69	158	*e*Pn	Pb	02 07 07.3	-0.7
SLVT	Silivri	1.74	126	*e*PN	Pb	02 07 07.8	-0.9
SLVT	Silivri	1.74	126	*e*Pn	Pb	02 07 07.8	-0.9
LPK	Lapseki	1.91	170	*e*PN	Pb	02 07 11.2	-0.5
LPK	Lapseki	1.91	170	*e*Pn	Pb	02 07 11.2	-0.5
CTKS	Kestanelik-??a	1.92	122	*e*PN	Pb	02 07 10.4	-1.3
CTKS	Kestanelik-??a	1.92	122	*e*Pn	Pb	02 07 10.4	-1.3
KRBG	Karabiga-Canak	2.00	159	*e*PN	Pn	02 07 11.7	+1.0
KRBG	Karabiga-Canak	2.00	159	*e*Pn	Pn	02 07 11.7	+1.0
BGKT	Bogazkoy	2.12	120	*e*PN	Pn	02 07 13.3	+1.0
BGKT	Bogazkoy	2.12	120	*e*Pn	Pn	02 07 13.3	+1.0
KLYT	Kilyos	2.26	116	*e*PN	Pn	02 07 15.5	+1.2
KLYT	Kilyos	2.26	116	*e*Pn	Pn	02 07 15.5	+1.2
VTS	Vitosha	2.34	279	⇓*i*P	Pn	02 07 16.2	+0.6
VTS	Vitosha	2.34	279	⇓*i*P	Pn	02 07 16.2	+0.6
GONE	Gonen-Balikesi	2.43	155	*e*PN	Pn	02 07 17.6	+1.0
GONE	Gonen-Balikesi	2.43	155	*e*Pn	Pn	02 07 17.7	+1.0
TIRR	Tirgusor	2.67	34	⇑*i*P	Pg	02 07 30.1	+2.6
CFR	Carcaliu	3.19	23	⇑*i*P	Pg	02 07 37.6	0.0
MLR	Muntele Rosu	3.24	355	⇑*i*P	Pg	02 07 42.7	+4.2

IDC **16** *02:07:42.2±5.8, 29.38S×68.63W, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.5/14, mbtmp4.1/1, Error ellipse: s-maj=352.8km s-min=97.7km az=1.0*
GUC **16** *02:07:56.9±0.7, 28.57S×68.87W, h150km, ML3.8*
ISC 16 02:07:56.9±2.8, 28.59S±0.06×68.66W±0.03, h100km±32km, n14, σ0§70/23, 3C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	Las Campanas	1.91	257	⇓*i*P	Pn	02 08 29.5	+0.9
LCO				*i*S	Sn	02 08 53.7	+0.9
LCO				AML	AML	02 08 55.3	
	comp=E,3μm,0.5s						
VACH	Vallenar	1.92	270	*e*P	Pn	02 08 28.7	+0.2
VACH				*i*S	Sn	02 08 52.8	+0.2
CPCH	Copiapo	2.00	307	*i*S	Sn	02 08 53.6	-0.6
CDCH	Caldera	2.50	307	*e*P	Pn	02 08 35.9	-0.1
CDCH				*i*S	Sn	02 09 04.9	-1.2
CDCH				AML	AML	02 09 06.3	
	comp=N,264nm,0.4s						
TLL	Tololo Astrono	2.50	231	⇑*i*P	Pn	02 08 37.1	+0.8
TLL				*i*S	Sn	02 09 07.3	+0.8
TLL				AML	AML	02 09 11.2	
	comp=N,312nm,0.3s						
LSCH	La Serena	2.68	240	*e*P	Pn	02 08 38.3	0.0
LSCH				*i*S	Sn	02 09 09.1	-1.1
OVCH	Ovalle	3.05	228	⇑*i*P	Pn	02 08 42.8	-0.5
OVCH				*e*P	Pn	02 08 42.8	-0.5
OVCH				*i*S	Sn	02 09 17.8	-1.2
CMCH	Combarbala	3.33	219	⇑*i*P	Pn	02 08 46.6	-0.5
CMCH				*i*S	Sn	02 09 25.2	-0.7
PTCH	Petorca	4.19	208	*i*S	Sn	02 09 46.6	0.0
PEL	Peldehue	4.89	201	*i*S	Sn	02 10 03.4	-0.2
TORD	Torodi Ar. Bea	79.53	69	P	P	02 19 53.2	+0.1
	comp=N,1.2nm,0.7s,baz=255,slow=5.0,SNR=14						
KURK	Kurchatov	146.86	39	PKPbc	PKPbc	02 27 27.6	+0.3
	comp=N,0.6nm,0.6s,baz=301,slow=3.4,SNR=7.3						
ZALV	Zalesovo Beam	148.07	30	PKPbc	PKPbc	02 27 30.6	+0.2
	comp=N,1.0nm,0.4s,baz=309,slow=3.7,SNR=6.5						
MKAR	Makanchi Array	150.89	43	PKPbc	PKPbc	02 27 37.5	-0.2
	comp=N,0.9nm,0.7s,baz=294,slow=2.4,SNR=9.3						
MKAR				PKPab	PKPab	02 27 45.8	+0.5
	comp=N,0.3nm,0.7s,baz=288,slow=4.0,SNR=3.0						

DJA **16** *02:12:52, 0.30S×132.70E, h17km, MLv4.2/3*
IDC 16 02:12:48.9±1.2, 0.20S×132.91E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=65.3km s-min=21.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.17	202	P	P	02 17 10.8	-3.4
	0.2nm,0.3s,baz=32,slow=12,SNR=6.6						
FITZ				S	Sn	02 20 30.5	-20
	0.1nm,0.3s,baz=102,slow=20,SNR=2.8						
WRA	Warramunga Arr	19.67	176	P	P	02 17 19.8	+0.1
	0.5nm,0.3s,baz=355,slow=11,SNR=18						
WRA				S	S	02 20 48.6	-14
	0.2nm,0.3s,baz=8.6,slow=22,SNR=3.4						
ASAR	Alice Springs	23.34	178	P	P	02 17 59.1	+0.1
	3.0nm,0.6s,baz=357,slow=11,SNR=19						
SONM	Songino Array	53.11	338	P	P	02 22 09.6	+1.2
	0.7nm,1.0s,baz=142,slow=4.9,SNR=3.2						
MKAR	Makanchi Array	64.32	324	P	P	02 23 26.1	-0.3
	0.3nm,0.4s,baz=114,slow=7.0,SNR=8.6						
KURK	Kurchatov	68.39	326	P	P	02 23 51.9	-0.5
	0.7nm,0.7s,baz=121,slow=5.8,SNR=7.9						
ILAR	Eielson Array	86.00	25	P	P	02 25 30.9	-0.1
	0.7nm,0.9s,baz=251,slow=5.6,SNR=4.6						

IDC 16 02:23:46.7±29.0, 15.95S×176.51W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/18, mbtmp4.3/4, Error ellipse: s-maj=568.9km s-min=144.6km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.17	240	P	P	02 31 33.7	+0.5
	1.5nm,0.4s,baz=104,slow=9.0,SNR=7.6						
WRA	Warramunga Arr	46.80	257	P	P	02 32 17.3	-1.3
	0.8nm,0.3s,baz=96,slow=7.7,SNR=11						
ASAR	Alice Springs	47.09	252	P	P	02 32 20.8	-0.1
	6.3nm,0.4s,baz=89,slow=8.0,SNR=104						
FITZ	Fitzroy Crossi	55.17	259	P	P	02 33 21.9	+0.3
	1.6nm,0.4s,baz=76,slow=7.5,SNR=6.9						

IDC 16 02:43:38.0±3.2, 11.89N×124.63E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.8/4, Error ellipse: s-maj=286.4km s-min=26.1km az=64.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	33.04	163	P	P	02 50 14.8	-0.5
	0.9nm,0.6s,baz=342,slow=9.5,SNR=4.0						
ASAR	Alice Springs	36.48	166	P	P	02 50 45.5	+0.4
	0.8nm,0.4s,baz=344,slow=7.2,SNR=15						
STKA	Stephens Creek	46.45	160	P	P	02 52 06.2	-0.6
	1.8nm,0.8s,baz=338,slow=5.4,SNR=2.6						
MKAR	Makanchi Array	49.77	323	P	P	02 52 32.3	-0.1
	0.5nm,0.8s,baz=106,slow=9.1,SNR=5.6						

NEIC **16** *02:56:50.2, 61.88N×142.82W, h0km, ML3.6(AEIC), After AEIC.*
IDC **16** *02:56:52.7±1.0, 62.05N×142.82W, h0km, mb3.5/3, mb1 3.6/8, mb1mx3.5/28, mbtmp3.4/8, ML3.0/5, Error ellipse: s-maj=17.4km s-min=10.2km az=39.0*
PGC **16** *02:56:54.6±8.4, 61.96N×142.64W, h20km, ML3.7/3, 217km Ene of Valdez, Ak Southern Alaska*
ISC 16 02:56:51.2±0.5, 61.87N±0.02×142.85W±0.02, h10km, n71, σ1§57/82, mb3.5/3, 4D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCARA	McCarthy VSAT	0.49	189	P	Pg	02 57 00.2	-0.6
MCARA				S	Sg	02 57 07.0	-0.2
GLB	Gilahina Butte	0.62	227	P	Pg	02 57 02.3	-1.0
GLB				S	Sg	02 57 10.9	-0.6
BALM	Baldy	0.87	163	P	Pg	02 57 06.4	-1.5
MENT	Mentasta	1.15	340	P	Pb	02 57 11.4	-1.7
HARP	HAARP	1.21	298	P	Pn	02 57 13.0	-1.2
GRNC	Granite Creek	1.26	154	P	Pn	02 57 13.6	-1.4
GRNC				S	Sn	02 57 31.4	-0.6
ISLE	Juniper Island	1.29	169	P	Pn	02 57 14.0	-1.4
BCA3	Beaver Creek A	1.30	22	P	Pg	02 57 14.8	-1.4
BAGL	Bagley Icefiel	1.43	165	P	Pn	02 57 16.3	-0.9
KHIT	Khitrov Hills	1.44	188	P	Pb	02 57 16.9	-1.3
BARK	Barkley Ridge	1.48	173	P	Pb	02 57 17.4	-1.4
KLU	Klutina	1.51	257	P	Pn	02 57 17.8	-0.5
BERG	Berg Lake	1.53	196	P	Pn	02 57 18.1	-0.5
GOAT	Goat Mountain	1.58	216	P	Pn	02 57 18.8	-0.5
GRIN	Grindle Hills	1.61	188	P	Pb	02 57 19.9	-1.0
KULT	Kultieth River	1.62	178	P	Pn	02 57 18.6	-1.3
PAX	Paxson	1.65	314	P	Pn	02 57 19.6	-0.6
NICHA	Nichawak Mount	1.72	199	P	Pb	02 57 21.9	-1.0
RKAV	Rock Avalanche	1.73	154	P	Pb	02 57 21.8	-1.4
MESA	MESA	1.75	165	P	Pb	02 57 22.5	-0.9
SGAM	Sherman Glacie	1.78	221	P	Pb	02 57 22.9	-1.0
VLZ	Valdez	1.82	248	P	Pb	02 57 22.7	-1.9
SUCK	Suckling Hills	1.85	194	P	Pb	02 57 23.7	-1.5
DOT	Dot Lake	1.87	343	*e*Pn	Pn	02 57 22.9	-0.5
DOT				*e*Sg	Sb	02 57 48.5	-0.4
CHX	Chaix Hills	2.00	154	P	Pb	02 57 26.1	-1.5
SAMH	Samovar Hills	2.01	149	P	Pb	02 57 26.3	-1.6
FID	Port Fidalgo	2.08	239	P	Pb	02 57 28.1	-0.8
SCM	Sheep Creek Mo	2.12	271	P	Pb	02 57 27.5	-2.3
DDM	Donnelly Dome	2.37	326	P	Pn	02 57 30.6	+0.4
DHY	Denali Highway	2.42	302	P	Pn	02 57 31.9	+0.9
DAWY	Dawson	2.72	34	P	Pn	02 57 35.0	+0.1
DAWY	Dawson	2.72	34	⇓Pn	Pn	02 57 35.0	+0.1
DAWY				⇓Pg	Pg	02 57 43.1	-0.1
DAWY				⇓Sg	Sg	02 58 15.0	-3.4
HYT	Haines Junctio	2.78	110	⇑Pn	Pb	02 57 38.7	-2.3
PNL	Peninsula	2.78	141	P	Pn	02 57 37.1	+1.3
PMR	Palmer	3.00	268	P	Pn	02 57 40.6	+1.9
EGAK	Eagle	3.02	14	*e*Pg	Pn	02 57 39.4	+0.3
EGAK				*e*Sg	Sg	02 58 25.7	-2.5
MCK	McKinley	3.36	307	P	Pn	02 57 45.4	+1.6
IL1	Eielson Array	3.44	330	P	Pn	02 57 44.0	-0.8
ILAR	Eielson Array	3.44	330	Pn	Pn	02 57 43.9	-0.9
	0.5nm,0.3s,baz=150,slow=12,SNR=59						
ILAR				Pg	Pb	02 57 51.2	-0.9
	5.7nm,0.3s,baz=151,slow=16,SNR=89						
ILAR				Lg	Lg	02 58 37.1	
	7.1nm,0.3s,baz=150,slow=26,SNR=5.8						
ILAR	Eielson Array	3.44	330	Pn	Pn	02 57 43.9	-0.9
ILAR				Pg	Pb	02 57 51.2	-0.9
ILAR				Lg	Lg	02 58 37.1	
SEW	Seward	3.67	244	P	Pn	02 57 49.8	+1.9
COLA	College	3.77	326	*e*Pn	Pn	02 57 50.5	+1.2
COLA				*e*Pg	Pg	02 57 59.6	-3.7
COLA				*e*Sg	Sg	02 58 47.6	-4.4
TRF	Thorofare Moun	3.78	298	P	Pn	02 57 50.4	+0.8
SLKM	Skilak Lake	3.82	252	*e*Pn	Pn	02 57 50.2	+0.2
SLKM				*e*Sg	Sb	02 58 44.1	-0.8
NEA	Nenana	3.92	317	P	Pn	02 57 52.6	+1.3
WHY	Whitehorse	4.04	104	⇑Pn	Pn	02 57 54.4	+1.3
WHY				⇑Pg	Pb	02 58 03.1	+0.8
WHY				⇓Sg	Sg	02 58 55.7	-4.9
SKT	Skwentna	4.10	275	P	Pn	02 57 55.6	+1.7
SKAG	Skagway	4.42	120	*e*Pn	Pn	02 57 57.0	-0.6
SKAG				*e*Pg	Pg	02 58 11.2	+4.5
BRLK	Bradley Lake	4.46	245	P	Pn	02 57 59.6	+0.8
PPLA	Purkeypile	4.47	287	*e*Pn	Pn	02 58 01.6	+2.6
PPLA				*e*Pg	Pg	02 58 12.7	-4.0
PPLA				*e*Sg	Sg	02 59 11.5	-3.0
RSO	Redoubt South	5.00	258	P	Pn	02 58 07.8	+1.5
BM3	Burnt Mountain	5.63	353	P	Pn	02 58 15.7	+0.8
TT01	Tatalina	6.21	285	P	Pn	02 58 23.7	+0.8
COLD	Coldfoot	6.24	333	*e*Pn	Pn	02 58 23.6	+0.4
	9.5nm,0.7s						
COLD				*e*Sg	Sb	02 59 59.4	+4.9
IM3	Indian Mountai	6.33	315	P	Pn	02 58 25.0	+0.6
KDAK	Kodiak Island	6.39	234	Pn	Pn	02 58 27.0	+1.8
	1.9nm,0.3s,baz=31,slow=12,SNR=13						
KDAK				Sn	Sn	02 59 37.0	-1.0
	0.2nm,0.3s,baz=90,slow=20,SNR=2.4						
KDAK	Kodiak Island	6.39	234	Pn	Pn	02 58 27.0	+1.8
KDAK				Sn	Sn	02 59 37.0	-1.0
DLBC	Dease Lake	7.26	113	Pn	Pn	02 58 41.1	+3.8
	0.2nm,0.3s,baz=308,slow=12,SNR=2.8						
DLBC				Lg	Lg	03 00 41.2	
	1.4nm,0.3s,baz=66,slow=19,SNR=6.4						
DLBC	Dease Lake	7.26	113	Pn	Pn	02 58 41.1	+3.8
DLBC				Lg	Lg	03 00 41.2	
INK	Inuvik	7.56	27	Pn	Pn	02 58 39.9	-1.5
	0.2nm,0.3s,baz=244,slow=12,SNR=13						
INK				Lg	Lg	03 00 40.3	
	0.4nm,0.3s,baz=293,slow=22,SNR=3.8						
INK	Inuvik	7.56	27	Pn	Pn	02 58 39.9	-1.5
INK				Lg	Lg	03 00 40.3	
INK	Inuvik	7.56	27	⇑Pn	Pn	02 58 40.0	-1.3
YKA	Yellowknife Ar	13.16	75	Pn	Pn	02 59 59.3	+1.4
	0.1nm,0.3s,baz=278,slow=13,SNR=8.5						
YKA	Yellowknife Ar	13.16	75	Pn	Pn	02 59 59.3	+1.4
PDAR	Pinedale Array	27.44	119	P	P	03 02 40.2	+3.0
	0.3nm,0.8s,baz=347,slow=3.3,SNR=4.0						
PDAR	Pinedale Array	27.44	119	P	P	03 02 40.2	+3.0
MDJ	Mudanjiang	50.89	293	P	P	03 05 51.0	-1.0
MDJ				pmax	pmax		
	comp=Z,11nm,3.6s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.9s						
SONM	Songino Array	57.48	312	P	P	03 06 43.9	+3.7
	comp=Z,0.3nm,0.6s,baz=23,slow=7.8,SNR=3.7						
SONM	Songino Array	57.48	312	P	P	03 06 43.9	+3.7
ZALV	Zalesovo Beam	58.56	329	P	P	03 06 49.3	+1.9
	comp=Z,0.3nm,0.4s,baz=14,slow=6.4,SNR=3.4						

PETK Petropavlovsk- 6.46 12 Pn Pn 03 39 01.5 -3.4
PETK Sn **Sn** **03 40 17.6 +0.3**
PET Petropavlovsk 6.55 17 *e*PN Pn 03 39 01.9 -4.2
PET pmax pmax
comp=Z,31nm,0.7s
PET MLR MLR
comp=Z,100nm,11.0s
PET Petropavlovsk 6.55 17 *e*Pn Pn 03 39 01.1 -5.0
PET eSn Sn 03 40 11.9 -7.5
YUK Yuzh-Kuril'sk 7.28 251 PN Pn 03 39 12.5 -3.6
NEM2 Nemuro 2 7.67 247 P Pn 03 39 17.2 -4.2
NEM2 eS Sn 03 40 37.7 -9.2
JRA Rausu 7.80 252 P **Pn** **03 39 21.8 -1.4**
JNK Nakash 8.22 251 P **Pn** **03 39 26.8 -2.2**
JAK Akkeshi 8.51 247 P Pn 03 39 28.7 -4.3
JAK eS Sn 03 40 58.6 -9.1
JTKR Abashiri--Toko 8.59 255 P **Pn** **03 39 32.3 -1.7**
JAR Ashorobuto 8.96 251 *e*S 03 41 12.7
JOB Onbets 9.11 249 P **Pn** **03 39 38.1 -3.1**
JOB eS Sn 03 41 14.1 -8.2
JKK2 Kamakawa 2 9.40 256 P **Pn** **03 39 44.5 -0.6**
ASAJ Asahikawa 9.41 258 Pn **Pn** **03 39 44.5 -0.8**
comp=Z,2.7nm,0.3s,baz=67,slow=14,SNR=9.3
ASAJ Asahikawa 9.41 258 PN **Pn** **03 39 44.5 -0.8**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ Asahikawa 9.41 258 Pn **Pn** **03 39 44.5 -0.8**
ASAJ Asahikawa 9.41 258 P **Pn** **03 39 46.4 +1.1**
JCH Churui 9.55 248 P Pn 03 39 43.1 -4.2
JCH eS Sn 03 41 23.4 -10
JAB Ashibetsu 9.89 255 P **Pn** **03 39 52.7 +0.8**
ERM Erimo 10.00 246⇑ *e*PN **Pn** **03 39 51.1 -2.2**
JNBK Urakawa-nobuka 10.11 248 P Pn 03 39 50.9 -4.0
JNBK eS Sn 03 41 33.3 -14
JNBK Urakawa-nobuka 10.11 248 *e*S 03 41 33.3
JBT2 Biratori 2 10.12 251 P **Pn** **03 39 52.0 -3.0**
JKB Kayabe 11.41 250 *e*S 03 42 06.4
JSH Shimam 11.70 255 P **Pn** **03 40 14.8 -1.9**
JYM2 Yakumo 2 11.73 252 P Pn 03 40 12.7 -4.4
JANG Nango 11.96 242 P Pn 03 40 13.8 -6.3
JTM Tenmabayashi 11.99 245 P Pn 03 40 15.2 -5.4
JTM eS Sn 03 42 19.1 -14
JTH Tanohata 12.01 240 P Pn 03 40 14.9 -6.0
JTH eS Sn 03 42 18.7 -15
OFUJ Ofunato 12.69 237 P Pn 03 40 24.5 -5.6
OFUJ eS Sn 03 42 37.6 -12
JRG Rokugo 13.09 241 P Pn 03 40 30.4 -5.3
JRG eS Sn 03 42 48.5 -11
JIO Ouri 13.29 236 P Pn 03 40 32.6 -5.8
JIO eS Sn 03 42 51.3 -14
KLR Kul'dur 16.00 287 *e*P **Pn** **03 41 12.2 -2.2**
SEY Seymchan 16.24 355‖ *e*P **Pn** **03 41 14.5 -2.8**
MJAR Matsushiro Arr 16.42 237 Pn **Pn** **03 41 15.9 -3.9**
comp=Z,0.4nm,0.3s,baz=32,slow=12,SNR=7.8
MJAR Matsushiro Arr 16.42 237 P **Pn** **03 41 15.9 -3.9**
MJAR Matsushiro Arr 16.42 237 Pn **Pn** **03 41 15.9 -3.9**
MAJO Matsushiro 16.42 237 *e*P **Pn** **03 41 16.2 -3.7**
MAJO pmax pmax
comp=Z,17nm,0.8s
MAJO Matsushiro 16.42 237 *e*Pn **Pn** **03 41 16.2 -3.7**
comp=Z,17nm,0.8s
MAT Matsushiro 16.42 237 P Pn 03 41 15.2 -4.6
MAT eS **S** **03 44 33.0 +1.0**
USRK Ussuriysk Arra 16.61 269 Pn **Pn** **03 41 20.4 -1.7**
comp=Z,0.7nm,0.3s,baz=69,slow=12,SNR=11
MDJ Mudanjiang 18.14 272 P **Pn** **03 41 40.8 -0.4**
MDJ pP **pP** **03 41 49.4 -1.5**
MDJ sP **sP** **03 41 53.5 -2.2**
MDJ pmax pmax
comp=Z,10.0nm,2.2s
MDJ pmax pmax
comp=Z,200nm,5.0s
YAK Yakutsk 21.14 325 *e*P **P** **03 42 10.2 -3.4**
YAK *e* 03 42 27.9
YAK eS S 03 45 57.6 -8.8
YAK eSS Sn 03 46 19.9 +5.6
YAK eSSS 03 46 38.4
YAK *e* 03 53 40.0
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=E,18nm,1.5s
YAK pmax pmax
comp=N,15nm,1.8s
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,15nm,1.6s
YAK smax smax
comp=E,76nm,2.8s
YAK MLR MLR
comp=Z,192nm,16.0s
YAK MLR MLR
comp=E,99nm,18.0s
YAK MLR MLR
comp=N,119nm,17.0s
YAK Yakutsk 21.14 325 *e*P **P** **03 42 11.7 -2.0**
comp=N,19nm,0.4s
CLNS Chul'man 21.19 309 *e*P **P** **03 42 15.6 +1.3**
CLNS pmax pmax
comp=Z,10.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CN2 Changchun 21.23 273 *e*P **P** **03 42 17.0 +2.2**
CN2 *e*pP **pP** **03 42 26.0 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 22.00 11 *e*P **P** **03 42 21.3 -1.5**
BILL *e* 03 42 43.2
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,100nm,14.0s
BILL Bilibino 22.00 11 *e*P **P** **03 42 20.9 -1.8**
comp=Z,9.5nm,0.8s
KSRS Korea Array 22.34 255 P **P** **03 42 28.4 +1.6**
comp=Z,3.7nm,0.7s,baz=59,slow=9.0,SNR=12
KSRS Korea Array 22.34 255 *e*P **P** **03 42 29.6 +2.9**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSAR Wonju Array Be 22.37 255 P **P** **03 42 28.4 +1.3**
KSAR Wonju Array Be 22.37 255 P **P** **03 42 28.4 +1.3**
BOD Bodaibo 27.17 309 *e*P **P** **03 43 09.3 -2.5**
BOD pmax pmax
comp=Z,4.0nm,1.4s
HHC Hu-ho-hao-te 31.86 275 *e*P **P** **03 43 54.6 +0.8**
HHC pP **pP** **03 44 04.1 -0.4**
HHC sP **sP** **03 44 08.1 -1.0**
HHC PP PP 03 45 00.5 -5.5
HHC S **S** **03 49 01.4 -0.5**
HHC sS **sS** **03 49 16.8 -2.9**
HHC SS SS 03 50 53.3 -26
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.7s
HHC LR LR
comp=N,210nm,9.9s
HHC LR LR
comp=E,230nm,10.7s
HHC LR LR
comp=Z,240nm,9.6s
ULN Ulaanbaatar 32.37 290 *e*P **P** **03 43 56.9 -1.3**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 32.37 290 *e*P **P** **03 43 56.9 -1.3**
comp=Z,1.3nm,0.6s
SONM Songino Array 32.80 290 P **P** **03 44 00.6 -1.3**
comp=Z,1.1nm,0.7s,baz=64,slow=9.0,SNR=12
SONM PcP **PcP** **03 46 45.7 -0.6**
comp=Z,0.7nm,0.9s,baz=71,slow=0.9,SNR=3.8
SONM Songino Array 32.80 290 P **P** **03 44 00.6 -1.3**
SONM 03 46 45.7
SONM Songino Array 32.80 290 P **P** **03 44 00.6 -1.3**
SONM PcP **PcP** **03 46 45.7 -0.6**
ZAK Zakamensk 34.08 296 *e*P **P** **03 44 10.7 -2.3**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
COLA College 35.10 38 *e*P **P** **03 44 20.0 -1.5**
COLA pmax pmax
comp=Z,5.0nm,0.6s
COLA College 35.10 38 *e*P **P** **03 44 20.0 -1.5**
comp=Z,5.2nm,0.6s
WHN Wuhan 35.49 258 P **P** **03 44 25.5 +0.3**
ILAR Eielson Array 35.51 39 P **P** **03 44 23.9 -1.1**
comp=Z,0.9nm,0.6s,baz=254,slow=7.0,SNR=23
ILAR Eielson Array 35.51 39 P **P** **03 44 24.0 -1.1**
ILAR Eielson Array 35.51 39 P **P** **03 44 23.9 -1.1**
XAN Xi'an 37.10 267 P **P** **03 44 41.0 +2.0**
XAN pP **pP** **03 44 49.6 -0.3**
XAN pmax pmax
comp=Z,2.0nm,1.3s
XAN pmax pmax
comp=Z,64nm,6.6s
LZH Lanzhou 39.47 273 *e*P **P** **03 45 01.1 +2.0**
LZH pP **pP** **03 45 11.3 +1.3**
LZH sP **sP** **03 45 16.0 +1.5**
LZH pmax pmax
comp=Z,14nm,1.1s
GTA Gaotai 40.52 280 *e*P **P** **03 45 09.0 +1.3**
GTA pP **pP** **03 45 16.3 -2.4**
GTA sP **sP** **03 45 22.0 -1.2**
GTA pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 40.74 33 P **P** **03 45 09.5 +0.6**
comp=Z,1.8nm,0.7s,baz=281,slow=6.8,SNR=11
INK Inuvik 40.74 33 *e*P **P** **03 45 09.6 +0.6**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 40.74 33 *e*P **P** **03 45 09.6 +0.6**
comp=Z,1.7nm,0.6s
CD2 Chengdu 42.46 267 P **P** **03 45 25.3 +1.7**
CD2 pP **pP** **03 45 35.5 +0.9**
CD2 sP **sP** **03 45 39.8 +0.6**
CD2 PP PP 03 47 07.0 +4.6
CD2 S **S** **03 51 44.5 +1.6**
CD2 sS **sS** **03 52 01.5 +0.4**
CD2 SS SS 03 54 48.5 -4.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,210nm,6.0s
CD2 LR LR
comp=N,310nm,5.9s
CD2 LR LR
comp=Z,280nm,7.7s
GYA Guiyang 43.28 259 *e*P **P** **03 45 31.8 +1.4**
GYA pP **pP** **03 45 41.0 -0.4**
GYA PP **PcP** **03 47 15.5 -3.4**
GYA ScP **ScP** **03 51 08.4 +1.4**
GYA S **S** **03 51 57.0 +1.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 43.85 306 *e*P **P** **03 45 32.5 -1.9**
ZALV Zalesovo Beam 43.85 306 P **P** **03 45 33.0 -1.4**
comp=Z,3.6nm,0.5s,baz=63,slow=7.1,SNR=18
ZALV LR LR 04 04 22.1
comp=Z,52nm,20.1s,baz=194,slow=37
ZALV Zalesovo Beam 43.85 306 *e*P **P** **03 45 33.8 -0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 43.85 306 P **P** **03 45 33.0 -1.4**
NVS Novosibirsk 44.40 308 *i* P P 03 45 46.8 +8.0
QIZ Qiongzhong 46.34 249 P **P** **03 45 55.9 +1.2**
QIZ S **S** **03 52 39.9 +0.6**
QIZ pmax pmax
comp=Z,24nm,1.9s
QIZ pmax pmax
comp=Z,180nm,5.8s
KMI Kunming 46.81 261 P **P** **03 46 00.8 +2.2**
KMI pP **pP** **03 46 09.4 -0.3**
KMI sP **sP** **03 46 14.1 -0.1**
KMI pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 48.31 298 *e*P **P** **03 46 09.0 -0.7**
MK31 Makanchi Array 48.31 298 *e*P **P** **03 46 08.9 -0.7**
MKAR Makanchi Array 48.31 298 P **P** **03 46 08.7 -1.1**
comp=Z,2.6nm,0.8s,baz=69,slow=8.0,SNR=25
MKAR PcP **PcP** **03 47 36.8 +0.8**
comp=Z,0.3nm,0.5s,baz=55,slow=3.8,SNR=2.3
MKAR Makanchi Array 48.31 298 *e*P **P** **03 46 09.3 -0.4**
MKAR 03 47 36.8
MKAR Makanchi Array 48.31 298 *e*P **P** **03 46 09.3 -0.4**
MKAR PcP **PcP** **03 47 36.8 +0.8**
KURK Kurchatov 48.64 304 P **P** **03 46 12.2 +0.1**
comp=Z,8.9nm,0.7s,baz=66,slow=8.2,SNR=27
KURK Kurchatov 48.64 304‖ *e*P **P** **03 46 11.0 -1.1**
KURK pmax pmax
comp=Z,17nm,1.4s
KURK Kurchatov 48.64 304 *e*P **P** **03 46 11.2 -0.9**
comp=Z,9.1nm,0.8s
YKA Yellowknife Ar 49.91 37 P **P** **03 46 21.9 +0.2**
comp=Z,0.4nm,0.6s,baz=295,slow=7.1,SNR=6.4
YKA Yellowknife Ar 49.91 37 P **P** **03 46 21.9 +0.2**
YKA Yellowknife Ar 49.91 37 P **P** **03 46 21.9 +0.2**
RES Resolute Bay 50.26 19 P **P** **03 46 25.8 +1.7**
comp=Z,1.0nm,0.7s,baz=295,slow=7.9,SNR=4.3
RES Resolute Bay 50.26 19 P **P** **03 46 25.8 +1.7**
RES pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 50.26 19 *e*P **P** **03 46 25.5 +1.4**
comp=Z,2.0nm,0.6s
BVA0 Borovoye Array 52.03 310 *i* P **P** **03 46 37.1 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 52.03 310 P **P** **03 46 37.5 -0.3**
comp=Z,9.7nm,0.5s,baz=57,slow=7.5,SNR=80
BVAR Borovoye Array 52.03 310 P **P** **03 46 37.5 -0.3**
BVAR Borovoye Array 52.03 310 P **P** **03 46 37.5 -0.3**
BRVK Borovoye 52.07 310⇑ *e*P **P** **03 46 37.7 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 52.07 310 *e*P **P** **03 46 37.8 -0.3**
comp=Z,13nm,0.6s
CHTO Chiang Mai 53.68 259 *e*P **P** **03 46 52.1 +1.7**
CHTO pmax pmax
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 53.68 259 *e*P **P** **03 46 52.1 +1.7**
comp=Z,2.4nm,0.4s
CMAR Chiang Mai Arr 53.93 258 P **P** **03 46 53.4 +1.2**
comp=Z,0.8nm,0.3s,baz=33,slow=8.5,SNR=5.8
CMAR Chiang Mai Arr 53.93 258 P **P** **03 46 53.4 +1.2**
CMAR Chiang Mai Arr 53.93 258 P **P** **03 46 53.4 +1.2**
SVE Sverdlovsk 54.85 318 *e*P **P** **03 46 59.3 +1.0**
SVE pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 55.22 297‖ *e*P **P** **03 47 02.4 +1.0**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 55.22 297 *e*P **P** **03 47 02.6 +1.2**
comp=Z,11nm,0.6s
EKS2 Erkin-Say 55.63 298 *e*P **P** **03 47 05.9 +1.5**
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 55.63 298 *e*P **P** **03 47 05.9 +1.5**
comp=Z,2.8nm,0.6s
ARU Arti 56.02 318 *d* i P **P** **03 47 06.8 0.0**
ARU S **S** **03 54 51.9 -0.2**
ARU SS **SS** **03 58 36.6 -1.2**
ARU pmax pmax
comp=Z,9.0nm,0.4s
ARU Arti 56.02 318 *e*P **P** **03 47 06.7 -0.1**
comp=Z,92nm,1.9s
KSH Kashi 56.08 294 *e*P P 03 47 11.0 +3.3
KSH *e*pP pP 03 47 21.3 +2.3
KSH *e*sP sP 03 47 25.3 +1.8
KSH *e*PcP **PcP** **03 48 08.1 +2.7**
KSH *e*PP **PP** **03 49 17.9 +5.3**
KSH *e*ScP **ScP** **03 52 03.6 +2.2**
KSH *e*PcS **PcS** **03 52 07.1 +1.1**
KSH *e*S **S** **03 54 55.5 +1.8**
KSH *e*sS sS 03 55 13.3 +0.9
KSH *e*ScS **ScS** **03 56 54.1 +0.4**
KSH *e*SS **SS** **03 58 43.5 +3.7**
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,200nm,5.0s
KSH LR LR
comp=N,220nm,6.7s
KSH LR LR
comp=E,170nm,6.4s
KSH LR LR
comp=Z,260nm,8.3s
KKAR Karatay Array 57.34 300 *e*P **P** **03 47 16.5 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 57.34 300 *e*P **P** **03 47 16.5 +0.1**
comp=Z,2.1nm,0.6s
KEV Kevo 57.80 341 *e*P **P** **03 47 18.8 -0.3**
KEV Kevo 57.80 341 *e*p **P** **03 47 18.8 -0.3**
KEV Kevo 57.80 341 *e*p **P** **03 47 18.8 -0.3**
ARCES ARCESS Array B 58.30 342 P **P** **03 47 22.7 0.0**
comp=Z,9.3nm,1.0s,baz=20,slow=8.2,SNR=7.6
ARCES LR LR 04 12 07.5
comp=Z,110nm,22.0s,baz=263,slow=36
ARCES ARCESS Array B 58.30 342 P **P** **03 47 22.7 0.0**
ARCES ARCESS Array B 58.30 342 P **P** **03 47 22.7 0.0**
AB31 Akbulak array 59.59 311 *i* P **P** **03 47 31.9 0.0**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 59.59 311 *e*P **P** **03 47 32.4 +0.5**
AKTO Aktyubinsk 59.85 313 *i* P **P** **03 47 33.0 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.6s
SUMG Summit 60.51 5 *i* P P 03 47 42.1 +3.7
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 60.51 5 *i* P P 03 47 42.1 +3.7
comp=Z,6.2nm,0.8s
NVAR Mina Array Bea 60.99 64 P **P** **03 47 42.2 +0.2**
comp=Z,0.2nm,0.5s,baz=294,slow=8.8,SNR=2.9
NVAR Mina Array Bea 60.99 64 P **P** **03 47 42.2 +0.2**
COEN Coen 61.49 194 *e*P **P** **03 47 45.2 +0.1**
comp=Z,18nm,0.7s
PDAR Pinedale Array 63.42 55 P **P** **03 47 59.3 +1.1**
comp=Z,0.6nm,0.9s,baz=297,slow=1.0,SNR=4.5
PDAR Pinedale Array 63.42 55 P **P** **03 47 59.3 +1.1**
KBL Kabul 63.51 293 *e*P **P** **03 47 59.1 +0.3**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 63.51 293 *e*P **P** **03 47 59.1 +0.3**
comp=Z,5.0nm,0.8s
KAF Kangasniemi 64.03 336 *e*P **P** **03 48 02.0 +0.4**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 64.03 336 *e*p **P** **03 48 02.0 +0.4**
comp=Z,2.0nm,0.7s
KAF Kangasniemi 64.03 336 *e*p **P** **03 48 02.0 +0.4**
comp=Z,2.0nm,0.7s
FINES FINESS Array B 64.64 336 P **P** **03 48 06.3 +0.8**
comp=Z,3.4nm,0.4s,baz=30,slow=7.2,SNR=34
FINES FINESS Array B 64.64 336 P **P** **03 48 06.4 +0.8**
FINES FINESS Array B 64.64 336 P **P** **03 48 06.3 +0.8**
OBN Obninsk 66.13 327 *e*P **P** **03 48 17.1 +1.8**
OBN *e*S **PnS** **03 57 32.4 +8.2**
OBN pmax pmax
comp=Z,8.0nm,1.2s
VRHR Novokhopersk 67.08 321 *e*P **P** **03 48 19.1 -2.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,4.0nm,0.8s
VRHR pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 68.03 323 *e*P **P** **03 48 26.4 -1.0**
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,4.0nm,0.6s
NB2 NORSAR Subarra 68.66 342 P **P** **03 48 33.1 +1.8**
comp=Z,1.7nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 68.66 342 P **P** **03 48 32.5 +1.2**
comp=Z,0.9nm,0.5s,baz=27,slow=6.4,SNR=11
NOA NORSAR Array B 68.66 342 P **P** **03 48 32.5 +1.2**
NOA NORSAR Array B 68.66 342 P **P** **03 48 32.5 +1.2**
WRA Warramunga Arr 69.12 201 P **P** **03 48 34.1 -0.4**
comp=Z,5.0nm,0.7s,baz=20,slow=6.8,SNR=18
WRA Warramunga Arr 69.12 201 P **P** **03 48 34.1 -0.4**
WRA Warramunga Arr 69.12 201 P **P** **03 48 34.1 -0.4**
AKASG Malin Array Be 72.35 327 P **P** **03 48 53.5 -0.4**
comp=Z,0.7nm,0.3s,baz=36,slow=6.9,SNR=4.2
AKASG Malin Array Be 72.35 327 *e*P **P** **03 48 54.4 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 72.35 327 P **P** **03 48 53.5 -0.4**
KIEV Kiev 72.37 327 *e*P **P** **03 48 54.0 0.0**
KIEV pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 72.37 327 *e*P **P** **03 48 54.0 0.0**
comp=Z,2.5nm,0.5s
AS31 Alice Springs 72.80 201 *e*P **P** **03 48 57.7 +0.9**
ASAR Alice Springs 72.80 201 P **P** **03 48 57.6 +0.8**
comp=Z,4.7nm,0.6s,baz=16,slow=5.6,SNR=67
ASAR Alice Springs 72.80 201 P **P** **03 48 57.7 +0.8**
ASAR Alice Springs 72.80 201 P **P** **03 48 57.6 +0.8**
GNI Garni 73.68 312 LR LR 04 25 50.6
comp=Z,42nm,20.5s,baz=202,slow=39
TXAR Lajitas Array 76.07 62 P **P** **03 49 16.5 +0.4**
comp=Z,1.1nm,0.6s,baz=306,slow=4.2,SNR=14
TXAR Lajitas Array 76.07 62 P **P** **03 49 16.5 +0.4**
TXAR Lajitas Array 76.07 62 P **P** **03 49 16.5 +0.4**
BUR08 Bucovina Ar. S 76.37 328 *e*P **P** **03 49 18.3 +0.9**
BURAR Bucovina Array 76.39 328‖ *i*P **P** **03 49 20.0 +2.4**
TRPA Tarpa 76.90 330‖ *i*P P 03 49 24.3 +4.0
DPC Dobruska-Polom 76.96 334 *e*P P 03 49 24.3 +3.6
DPC Dobruska-Polom 76.96 334 *e*P P 03 49 24.3 +3.6
CLL Collm 77.04 337 *e*P **P** **03 49 21.0 0.0**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 77.04 337 *e*P **P** **03 49 21.0 0.0**
comp=Z,8.0nm,0.9s
CLL *e*pP **PcP** **03 49 31.0 -0.8**
MORC Moravsky Berou 77.10 334 *e*P P 03 49 25.3 +3.9
MORC pmax pmax
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 77.10 334 *e*P P 03 49 25.3 +3.9
comp=Z,1.4nm,0.6s
VRI Vrincioaia 77.29 326⇑ P P 03 49 26.2 +3.6
VRI Vrincioaia 77.29 326⇑ *i*P P 03 49 26.2 +3.6
CFR Carcaliu 77.31 325⇑ P P 03 49 26.4 +3.8
CFR Carcaliu 77.31 325⇑ *i*P P 03 49 26.4 +3.8
PRU Pruhonice 77.80 335 *e*P P 03 49 29.7 +4.4
PRU Pruhonice 77.80 335 *e*P P 03 49 29.7 +4.4
MLR Muntele Rosu 77.90 326‖ P **P** **03 49 28.6 +2.5**
MLR Muntele Rosu 77.90 326‖ *i*P **P** **03 49 28.6 +2.5**
VOIR 78.29 327⇑ P P 03 49 32.9 +4.7
VOIR 78.29 327⇑ *i*P P 03 49 32.9 +4.7
KHC Kasperske Hory 78.85 336 *e*P P 03 49 35.4 +4.2
KHC Kasperske Hory 78.85 336 *e*P **P** **03 49 31.5 +0.3**
KHC *ex* x 03 49 35.4
GERES GERESS Array B 79.07 335 P **P** **03 49 34.0 +1.6**
comp=Z,1.0nm,0.6s,baz=36,slow=5.2,SNR=18
GERES GERESS Array B 79.07 335 P **P** **03 49 34.0 +1.6**
GERES GERESS Array B 79.07 335 P **P** **03 49 34.0 +1.6**
GZR Gura Zlata 79.16 328⇑ P P 03 49 37.1 +4.1
GZR Gura Zlata 79.16 328⇑ *i*P P 03 49 37.1 +4.1
CONA Conrad Observa 79.25 334⇑ *i*PcP **PcP** **03 49 38.7 -2.9**
comp=Z,2.7nm,0.7s
BZS Buzias 79.39 329‖ P **P** **03 49 36.1 +2.0**
BZS Buzias 79.39 329‖ *i*P **P** **03 49 36.1 +2.0**
BR131 Keskin Array S 79.41 318 *e*P **P** **03 49 35.8 +1.2**
comp=Z,1.8nm,0.9s
BRTR Keskin Array B 79.41 318 P **P** **03 49 35.4 +0.8**
comp=Z,1.4nm,0.8s,baz=62,slow=2.9,SNR=7.3
BRTR Keskin Array B 79.41 318 P **P** **03 49 35.4 +0.8**
BRTR Keskin Array B 79.41 318 P **P** **03 49 35.4 +0.8**
BAIF Baives 80.33 342 *e*P P 03 49 44.5 +5.3
comp=Z,3.4nm,0.4s
KBA Koelnbreinsper 80.77 335⇑ *i*P **P** **03 49 44.6 +2.8**
KBA pmax pmax
comp=Z,5.0nm,0.6s
KBA Koelnbreinsper 80.77 335⇑ *i*P P **03 49 44.6 +2.8**
comp=Z,4.9nm,0.6s
KBA Koelnbreinsper 80.77 335⇑ *i*PcP **P** **03 49 44.6 +2.8**
comp=Z,4.9nm,0.6s
MOTA Moosalm 81.16 336⇑ *i*PcP **PcP** **03 49 49.3 -0.8**
comp=Z,9.5nm,1.0s
VTS Vitosha 81.41 326⇑ P P 03 49 49.7 +4.5
VTS Vitosha 81.41 326⇑ *i*P P 03 49 49.7 +4.5
FETA Feichten 81.56 336⇑ *i*PcP **PcP** **03 49 51.7 -0.1**
comp=Z,5.6nm,1.0s
MEZF Maizieres J'vi 81.61 341 *e*P P 03 49 51.5 +5.5
comp=Z,12nm,0.6s
TUE Stuetta 82.44 337 *e*P **P** **03 49 52.5 +1.9**
comp=Z,8.1nm,0.9s
FLN La Foliniere 82.52 344 *e*P P 03 49 56.2 +5.5
LDF La Druitiere 82.61 344 *e*P P 03 49 56.9 +5.7
comp=Z,5.1nm,0.5s
GRR Gorron 82.95 344 *e*P P 03 49 58.8 +5.8

LOR	**Lormes**	**83.05**	**341**	*eP*	P	03 49 58.9	+5.3
	comp=Z,8.0nm,0.6s							
CABF	**La Chapelle**	**83.14**	**339**	*eP*	P	03 50 00.8	+6.6
SGMF	**Saint Gilles**	**83.38**	**345**	*eP*	P	03 50 01.4	+6.2
	comp=Z,12nm,0.6s							
ROSF	**Rostrenen**	**83.42**	**346**	*eP*	P	03 50 01.6	+6.2
	comp=Z,19nm,0.8s							
AVF	**Avril sur Loir**	**83.61**	**341**	*eP*	P	03 50 02.1	+5.7
	comp=Z,14nm,0.8s							
QUIF	**Quistinic**	**83.81**	**346**	*eP*	P	03 50 03.8	+6.4
BGF	**Bois d'Agland**	**83.94**	**341**	*eP*	P	03 50 04.4	+6.2
	comp=Z,14nm,0.7s							
LPL	**La Plagne**	**84.01**	**338**	*eP*	P	03 50 04.9	+6.1
	comp=Z,7.4nm,0.5s							
LPG	**La Plagne**	**84.02**	**338**	*eP*	P	03 50 05.1	+6.2
	comp=Z,11nm,0.5s							
TCF	**Toulx Ste Croi**	**84.34**	**342**	*eP*	P	03 50 06.1	+5.9
	comp=Z,11nm,0.8s							
MFF	**Saint Martin d**	**84.52**	**343**	*eP*	P	03 50 07.3	+6.2
	comp=Z,7.3nm,0.6s							
MBDF	**Montbardon**	**84.73**	**338**	*eP*	P	03 50 08.4	+6.0
	comp=Z,8.0nm,0.6s							
ORIF	**Oris-en-Rattie**	**84.78**	**339**	*eP*	P	03 50 08.9	+6.4
AQU	**L'Aquila**	**85.03**	**333**	*eP*	**P**	**03 50 04.7**	**+0.9**
AQU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AQU	**L'Aquila**	**85.03**	**333**	*eP*	**P**	**03 50 04.7**	**+0.9**
	comp=Z,10nm,0.9s						
SBF	**Sospel**	**85.37**	**337**	*eP*	P	03 50 10.6	+5.1
	comp=Z,26nm,0.7s						
RJF	**Les Rejaudoux**	**85.42**	**342**	*eP*	P	03 50 12.0	+6.3
CAF	**Calviac**	**85.67**	**341**	*eP*	P	03 50 13.6	+6.7
	comp=Z,3.7nm,0.5s							
SMRF	**Simiane la Rot**	**85.74**	**339**	*eP*	P	03 50 13.9	+6.6
LMR	**La Mourre**	**86.10**	**338**	*eP*	P	03 50 14.8	+5.8
MTLF	**Montolieu**	**87.14**	**341**	*eP*	P	03 50 21.0	+6.9
	comp=Z,4.0nm,0.7s							
EPF	**Esparros**	**87.85**	**342**	*eP*	P	03 50 24.1	+6.5
	comp=Z,5.0nm,0.5s							
ETSF	**Etsaut**	**88.16**	**343**	*eP*	P	03 50 26.3	+7.2
LPAZ	**La Paz**	**132.89**	**65**	*e*PKIKP	**PKPdf**	**03 56 44.2**	**-0.1**
LPAZ	**La Paz**	**132.89**	**65**	*e*PKPdf	**PKPdf**	**03 56 44.2**	**-0.1**
PLCA	**Paso Flores**	**146.64**	**97**	PKPbc	**PKPab**	**03 57 10.4**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=289,slow=3.8,SNR=3.8							
PLCA	**Paso Flores**	**146.64**	**97**	PKP2	**PKPab**	**03 57 10.4**	**-0.2**
PLCA	**Paso Flores**	**146.64**	**97**	PKPbc	**PKPab**	**03 57 10.4**	**-0.2**

JMA 16 03:40:24.3±0.4, 41°.11N×140°.11E, h155^{km}±4^{km}, M2.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.23**	**103**	P	Pn	03 40 45.3	+0.1
JSR	**Shiriuchi**	**0.48**	**29**	P	Pn	03 40 45.8	-0.3
JSR				*e*S	Sn	03 41 02.8	0.0
JIW	**Iwasaki**	**0.52**	**189**	P	Pn	03 40 46.3	-0.1
JTM	**Tenmabayashi**	**0.79**	**114**	P	Pn	03 40 47.9	0.0
JTM				S	Sn	03 41 06.2	+0.2
JOM	**Ohasama**	**1.87**	**151**	*e*S	Sn	03 41 24.2	-0.1
JMK	**Ichinoseki**	**2.32**	**158**	*e*S	Sn	03 41 33.7	+0.1

*ISCJB **16** 03:53:24.4±0.6, 50°.26N±0°.04×18°.68E±0°.04, h0^{km}, Error ellipse: s-maj=5.6km s-min=3.1km az=12.3*
*WAR **16** 03:53:26.0, 50°.26N×18°.76E*
*PRU **16** 03:53:26.3, 50°.28N×18°.57E, h0^{km}*
*CSEM **16** 03:53:26.6±0.3, 50°.29N×18°.56E, h2^{km}, ML2.6/6, Error ellipse: s-maj=7.4km s-min=3.8km az=2.0*
*IPEC **16** 03:53:26.6±0.6, 50°.24N×18°.65E, h5^{km}±2^{km}, ML1.6/3, Error ellipse: s-maj=3.1km s-min=2.0km az=49.0*

ISC 16 03:53:25.2±0.9, 50°.30N±0°.05×18°.73E±0°.02, h0^{km}, n24, σ1^{s}21/39, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.60**	**219**	*e*PG	**Pg**	**03 53 36.6**	**-0.1**
OKC				*e*SG	**Sg**	**03 53 44.9**	**+0.5**
	comp=Z,17nm,0.5s						
OKC	**Ostrava-Krasne**	**0.60**	**219**	Pg	**Pg**	**03 53 36.6**	**-0.1**
OKC				Sg	**Sg**	**03 53 44.9**	**+0.5**
	17nm,0.5s						
OJC	**Ojcow**	**0.69**	**96**	*e*Pg	**Pg**	**03 53 37.5**	**-0.9**
OJC				*e*Sg	**Sg**	**03 53 46.7**	**-0.6**
MORC	**Moravsky Berou**	**0.93**	**236**	*e*Pg	**Pg**	**03 53 42.5**	**-0.5**
	baz=56						
MORC				*e*Sg	**Sg**	**03 53 54.4**	**-0.7**
	10nm,0.2s,baz=56						
NIE	**Niedzica**	**1.35**	**130**	*e*Pg	**Pg**	**03 53 50.1**	**-1.0**
NIE				*e*Sg	**Sb**	**03 54 09.1**	**-0.2**
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*PG	**Pn**	**03 53 52.9**	**-1.2**
DPC				*e*SG	**Sn**	**03 54 12.2**	**-2.7**
	comp=Z,5.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*Pn	**Pn**	**03 53 53.1**	**-1.0**
	baz=93						
DPC				Sg	**Sn**	**03 54 12.2**	**-2.7**
	5.8nm,0.3s						
JAVC	**Velka Javorina**	**1.60**	**206**	*e*Pn	**Pn**	**03 53 55.3**	**+0.5**
	baz=24						
KSP	**Ksiaz**	**1.65**	**290**	*e*Pn	**Pn**	**03 53 56.4**	**+0.9**
KSP				*e*Sn	**Sn**	**03 54 18.9**	**+1.7**
KSP	**Ksiaz**	**1.65**	**290**	*e*Pg	**Pn**	**03 53 56.3**	**+0.9**
KSP				*e*Sg	**Sn**	**03 54 18.8**	**+1.5**
VRAC	**Vranov**	**1.71**	**235**	*e*Pn	**Pn**	**03 53 55.9**	**-0.3**
	baz=54						
VRAC				*e*Sg	**Sn**	**03 54 16.9**	**-1.8**
	8.1nm,0.2s,baz=54						
UPC	**Upice**	**1.75**	**278**	*e*SG	**Sn**	**03 54 19.5**	**-0.4**
UPC	**Upice**	**1.75**	**278**	Sg	**Sn**	**03 54 19.5**	**-0.4**
VYHS	**Vyhne**	**1.81**	**178**	*e*PG	**Pb**	**03 53 59.4**	**+0.2**
VYHS				*e*SG	**Sn**	**03 54 20.8**	**-0.5**
VYHS	**Vyhne**	**1.81**	**178**	*e*Pg	**Pb**	**03 53 59.4**	**+0.2**
VYHS				*e*Sg	**Sn**	**03 54 20.8**	**-0.5**
STHS	**Stebnicka Huta**	**1.85**	**118**	*e*PN	**Pn**	**03 53 59.2**	**+1.0**
STHS				*e*SN	**Sg**	**03 54 26.6**	**+1.9**
STHS	**Stebnicka Huta**	**1.85**	**118**	*e*Pn	**Pn**	**03 53 59.2**	**+1.0**
STHS				*e*Sn	**Sg**	**03 54 26.6**	**+1.9**
KRUC	**Moravsky**	**1.96**	**232**	*e*Pn	**Pn**	**03 53 59.7**	**0.0**
	baz=50						
KRUC				*e*Sg	**Sn**	**03 54 24.7**	**-0.3**
	4.1nm,0.2s,baz=50						
CRVS	**Cervenica-Dubn**	**2.26**	**127**	*e*PN	**Pb**	**03 54 06.0**	**-0.9**
CRVS	**Cervenica-Dubn**	**2.26**	**127**	*e*Pn	**Pb**	**03 54 06.0**	**-0.9**
PRU	**Pruhonice**	**2.71**	**265**	*e*SG	**Sb**	**03 54 48.7**	**+0.3**
PRU	**Pruhonice**	**2.71**	**265**	Sg	**Sb**	**03 54 48.7**	**+0.3**
KHC	**Kasperske Hory**	**3.54**	**253**	*e*SG	**Sb**	**03 55 14.6**	**+2.2**
	comp=Z,6.1nm,0.5s						
KHC	**Kasperske Hory**	**3.54**	**253**	Sg	**Sb**	**03 55 14.6**	**+2.2**
	6.1nm,0.5s						

*CSEM **16** 03:54:18.4±0.1, 42°.22N×26°.19E, h2^{km}, ML2.6/2, Error ellipse: s-maj=3.0km s-min=2.2km az=33.0*
*ISK **16** 03:54:19.0, 42°.09N×26°.29E, h5^{km}, MD3.3*
*THE **16** 03:54:19.8, 42°.22N×26°.50E, h23^{km}±19^{km}, ML2.6/2, Error ellipse: s-maj=24.1km s-min=0.6km az=34.0*
*SKO **16** 03:54:22.0, 42°.58N×25°.97E, h0^{km}*
*DDA **16** 03:54:26.3, 41°.60N×26°.11E, h5^{km}, MD3.2*

ISC 16 03:54:17.9±1.1, 42°.21N±0°.02×26°.19E±0°.02, h7^{km}±10^{km}, n75, σ0^{s}98/92, 6C-6D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.39**	**49**	P	**Pg**	**03 54 25.6**	**+0.1**
JMB				S	**Sg**	**03 54 30.6**	**-0.1**
JMB	**Yambol**	**0.39**	**49**	P	**Pg**	**03 54 25.6**	**+0.1**
JMB				S	**Sg**	**03 54 30.6**	**-0.1**
EDRB	**Edirne**	**0.55**	**131**	*e*PG	**Pg**	**03 54 27.9**	**-0.5**
EDRB				*e*SG	**Sg**	**03 54 35.3**	**-0.4**
EDRB	**Edirne**	**0.55**	**131**	*e*Pg	**Pg**	**03 54 28.0**	**-0.5**
EDRB				*e*Sg	**Sg**	**03 54 35.3**	**-0.4**
ALN	**Alexandroupoli**	**1.31**	**185**	P	**Pg**	**03 54 43.4**	**+0.3**
ALN				S	**Sg**	**03 55 00.7**	**+0.6**
ALN	**Alexandroupoli**	**1.31**	**185**	P	**Pg**	**03 54 43.4**	**+0.3**
ALN				S	**Sg**	**03 55 00.7**	**+0.6**
ENEZ	**Enez**	**1.47**	**181**	*e*PN	**Pg**	**03 54 46.1**	**0.0**
ENEZ				*e*SN	**Sg**	**03 55 05.8**	**+0.7**
ENEZ	**Enez**	**1.47**	**181**	*e*Pn	**Pg**	**03 54 46.1**	**0.0**
ENEZ				*e*Sn	**Sg**	**03 55 05.8**	**+0.7**
ERIK	**Erikli-Kesan**	**1.56**	**171**	*e*PN	**Pb**	**03 54 46.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.56**	**171**	*e*Pn	**Pb**	**03 54 46.6**	**-0.4**
TKR	**Tekirdag**	**1.58**	**140**	*e*Pn	**Pb**	**03 54 47.4**	**-0.1**
TKR	**Tekirdag**	**1.58**	**140**	*e*Pn	**Pb**	**03 54 47.4**	**-0.1**
CRLT	**Corlu**	**1.58**	**132**	*e*PN	**Pb**	**03 54 47.5**	**0.0**
CRLT	**Corlu**	**1.58**	**132**	*e*Pn	**Pb**	**03 54 47.5**	**0.0**
MFT	**Murefte**	**1.64**	**150**	*e*PN	**Pb**	**03 54 49.0**	**+0.5**
MFT	**Murefte**	**1.64**	**150**	*e*Pn	**Pb**	**03 54 49.0**	**+0.5**
SART	**Tekirdag**	**1.69**	**153**	*e*P	**Pb**	**03 54 49.1**	**-0.3**
SART				*e*S	**Sb**	**03 55 10.9**	**0.0**
SART	**Tekirdag**	**1.69**	**153**	*e*P	**Pb**	**03 54 49.1**	**-0.3**
SART				*e*S	**Sb**	**03 55 10.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.69**	**154**	*e*PN	**Pb**	**03 54 48.8**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.69**	**154**	*e*Pn	**Pb**	**03 54 48.8**	**-0.6**
CTYL	**Yal??k??y-??at**	**1.73**	**114**	*e*PN	**Pb**	**03 54 49.5**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.73**	**114**	*e*Pn	**Pb**	**03 54 49.6**	**-0.5**
KAVA	**Kavala**	**1.74**	**227**	P	**Pb**	**03 54 50.5**	**+0.3**
KAVA				S	**Sg**	**03 55 14.8**	**+0.9**
KAVA	**Kavala**	**1.74**	**227**	P	**Pb**	**03 54 50.5**	**+0.3**
KAVA				S	**Sg**	**03 55 14.8**	**+0.9**
SLVT	**Silivri**	**1.80**	**122**	*e*PN	**Pb**	**03 54 50.8**	**-0.5**
SLVT	**Silivri**	**1.80**	**122**	*e*Pn	**Pb**	**03 54 50.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.82**	**173**	*e*PN	**Pn**	**03 54 49.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.82**	**173**	*e*Pn	**Pn**	**03 54 49.9**	**+0.2**
LPK	**Lapseki**	**1.88**	**167**	*e*PN	**Pb**	**03 54 51.7**	**-0.9**
LPK	**Lapseki**	**1.88**	**167**	*e*Pn	**Pb**	**03 54 51.7**	**-0.9**
CTKS	**Kestanelik-??a**	**1.99**	**118**	*e*PN	**Pb**	**03 54 53.2**	**-1.2**
CTKS	**Kestanelik-??a**	**1.99**	**118**	*e*Pn	**Pb**	**03 54 53.2**	**-1.2**
KRBG	**Karabiga-Canak**	**2.00**	**155**	*e*PN	**Pb**	**03 54 53.5**	**-1.1**
KRBG	**Karabiga-Canak**	**2.00**	**155**	*e*Pn	**Pb**	**03 54 53.5**	**-1.1**
BGKT	**Bogazkoy**	**2.19**	**117**	*e*PN	**Pn**	**03 54 56.1**	**+1.4**
BGKT	**Bogazkoy**	**2.19**	**117**	*e*Pn	**Pn**	**03 54 56.1**	**+1.4**
VTS	**Vitosha**	**2.24**	**281**	⇑*i*P	**Pn**	**03 54 57.2**	**+1.7**
VTS	**Vitosha**	**2.24**	**281**	*e*Pn	**Pn**	**03 54 55.6**	**+0.1**
VTS	**Vitosha**	**2.24**	**281**	⇑*i*P	**Pn**	**03 54 57.2**	**+1.7**
EDC	**Edincik**	**2.25**	**145**	*e*PN	**Pn**	**03 54 57.0**	**+1.4**
EDC	**Edincik**	**2.25**	**145**	*e*Pn	**Pn**	**03 54 57.0**	**+1.4**
BNT	**Bandirma**	**2.27**	**144**	*e*PN	**Pn**	**03 54 57.0**	**+1.3**
BNT	**Bandirma**	**2.27**	**144**	*e*Pn	**Pn**	**03 54 57.1**	**+1.3**
KLYT	**Kilyos**	**2.34**	**113**	*e*PN	**Pn**	**03 54 58.3**	**+1.5**
KLYT	**Kilyos**	**2.34**	**113**	*e*Pn	**Pn**	**03 54 58.3**	**+1.5**
EZN	**Ezine**	**2.38**	**177**	*e*PN	**Pn**	**03 54 58.6**	**+1.3**
EZN	**Ezine**	**2.38**	**177**	*e*Pn	**Pn**	**03 54 58.6**	**+1.3**
ISK	**Istanbul-Kandi**	**2.44**	**117**	*e*PN	**Pn**	**03 54 59.8**	**+1.7**
ISK	**Istanbul-Kandi**	**2.44**	**117**	*e*Pn	**Pn**	**03 54 59.8**	**+1.7**
GONE	**Gonen-Balikesi**	**2.44**	**152**	*e*PN	**Pn**	**03 54 59.3**	**+1.2**
GONE	**Gonen-Balikesi**	**2.44**	**152**	*e*Pn	**Pn**	**03 54 59.3**	**+1.2**
KCTX	**Karacabey (Bur**	**2.54**	**139**	*e*PN	**Pn**	**03 55 00.9**	**+1.3**
KCTX	**Karacabey (Bur**	**2.54**	**139**	*e*Pn	**Pn**	**03 55 00.9**	**+1.3**
BADT	**Buyukada**	**2.58**	**121**	*e*PN	**Pn**	**03 55 01.8**	**+1.7**
BADT	**Buyukada**	**2.58**	**121**	*e*Pn	**Pn**	**03 55 01.8**	**+1.7**
ARMT	**Armutlu**	**2.60**	**128**	*e*PN	**Pn**	**03 55 01.9**	**+1.5**
ARMT	**Armutlu**	**2.60**	**128**	*e*Pn	**Pn**	**03 55 01.9**	**+1.5**
BALY	**Balya**	**2.69**	**156**	*e*P	**Pn**	**03 55 02.9**	**+1.2**
BALY				*e*S	**Sb**	**03 55 41.1**	**+1.3**
BALY	**Balya**	**2.69**	**156**	*e*P	**Pn**	**03 55 02.9**	**+1.2**
BALY				*e*S	**Sb**	**03 55 41.1**	**+1.3**
TIRR	**Tirgusor**	**2.77**	**35**	⇑*i*P	**Pb**	**03 55 07.4**	**-0.4**
TIRR	**Tirgusor**	**2.77**	**35**	⇑*i*P	**Pb**	**03 55 07.4**	**-0.4**
VAY	**Valandovo**	**2.85**	**253**	*e*Pn	**Pb**	**03 55 09.2**	**+0.2**
VAY				*e*Sn	**Sb**	**03 55 43.1**	**-0.9**
VAY	**Valandovo**	**2.85**	**253**	*e*Pn	**Pn**	**03 55 01.6**	**-2.1**
VAY				*e*Sn	**Sb**	**03 55 43.6**	**-0.4**
AYVA	**Ayvalik**	**2.92**	**172**	*e*P	**Pg**	**03 55 12.9**	**-0.9**
AYVA				*e*S	**Sg**	**03 55 50.7**	**-1.0**
DURS	**Dursunbey**	**3.13**	**146**	*e*P	**Pn**	**03 55 07.1**	**-0.6**
DURS				*e*S	**Sn**	**03 55 44.2**	**-1.2**
DURS	**Dursunbey**	**3.13**	**146**	*e*P	**Pn**	**03 55 07.1**	**-0.6**
DURS				*e*S	**Sn**	**03 55 44.2**	**-1.2**
MLR	**Muntele Rosu**	**3.29**	**357**	⇓*i*P	**Pg**	**03 55 20.0**	**-0.9**
CFR	**Carcaliu**	**3.29**	**25**	⇑*i*P	**Pb**	**03 55 16.0**	**-0.6**
CFR	**Carcaliu**	**3.29**	**25**	⇓*i*P	**Pb**	**03 55 17.7**	**+1.1**
VOIR		**3.33**	**346**	⇑*i*P	**Pg**	**03 55 20.8**	**-0.9**
VRI	**Vrincioaia**	**3.68**	**6**	⇓*i*P	Pn	03 55 19.7	+4.5
VRI	**Vrincioaia**	**3.68**	**6**	⇓*i*P	Pn	03 55 19.7	+4.5
GZR	**Gura Zlata**	**4.03**	**323**	⇓*i*P	**Pn**	**03 55 20.9**	**+0.8**
GZR	**Gura Zlata**	**4.03**	**323**	⇓*i*P	**Pn**	**03 55 20.9**	**+0.8**
GRUS	**Gruza**	**4.35**	**295**	*e*Pn	**Pn**	**03 55 25.8**	**+1.4**

*IDC **16** 04:03:26.2±6.3, 36°.13N×70°.98E, h89^{km}±54^{km}, mb3.6/9, mb1 3.8/13, mb1mx3.5/28, mbtmp3.7/13, ML4.0/4, Error ellipse: s-maj=33.8km s-min=19.8km az=21.0*
*NEIC **16** 04:03:30.2±1.0, 36°.26N×71°.03E, h124^{km}±9^{km}, mb4.4/2, Error ellipse: s-maj=11.7km s-min=4.2km az=62.0*
*ISCJB **16** 04:03:33.8±0.4, 36°.36N±0°.03×71°.33E±0°.07, h188^{km}, mb3.6/8, Error ellipse: s-maj=7.9km s-min=3.3km az=162.7*
*NNC **16** 04:03:34.2±1.5, 36°.83N×71°.04E, h39^{km}±12^{km}, mb4.2, mpv4.8, Error ellipse: s-maj=14.8km s-min=11.9km az=31.0*

ISC 16 04:03:34.5±0.6, 36°.44N±0°.05×71°.52E±0°.08, h188^{km}, n75, σ1^{s}57/81, mb3.6/8, 7C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.63**	**173**	⇓P	**Pn**	**04 04 17.5**	**-1.9**
CEP				S	**Sn**	**04 04 51.0**	**-3.3**
CHCP	**Chirah Chowk**	**3.12**	**152**	P	**Pn**	**04 04 25.4**	**+0.3**
THW	**Thamme Wali**	**3.64**	**177**	⇓P	**Pn**	**04 04 29.7**	**-1.8**
SARP	**Sargodha**	**4.61**	**168**	P	**Pn**	**04 04 42.1**	**-1.6**
DLH	**Dalhousie**	**5.35**	**135**	*e*P	**Pn**	**04 04 53.0**	**-0.4**
DLH				*e*S	**Sn**	**04 05 54.0**	**-1.5**
AML	**Almayashu**	**5.93**	**16**	P	**Pn**	**04 04 60.0**	**-1.0**
	SNR=128						
AML				P	**Pn**	**04 04 60.0**	**-1.0**
	SNR=128						
UCH	**Uchtor**	**6.23**	**21**	P	Pn	04 05 08.9	+4.0
	SNR=7.1						
UCH				P	Pn	04 05 08.9	+4.0
	SNR=7.1						
KZA	**Kyzart**	**6.33**	**26**	P	**Pn**	**04 05 06.5**	**+0.2**
	SNR=16						
KZA				P	**Pn**	**04 05 06.5**	**+0.2**
	SNR=16						
EKS2	**Erkin-Say**	**6.45**	**15**	P	**Pn**	**04 05 07.1**	**-0.5**
	SNR=18						
EKS2				P	**Pn**	**04 05 07.1**	**-0.5**
	SNR=18						
EKS2	**Erkin-Say**	**6.45**	**15**	*e*Pn	**Pn**	**04 05 07.1**	**-0.5**
	22nm,0.5s						
EKS2				*e*Sn	**Sn**	**04 06 18.6**	**-2.5**
AAK	**Ala-Archa**	**6.60**	**19**	P	**Pn**	**04 05 09.5**	**0.0**
	SNR=48						
AAK				P	**Pn**	**04 05 09.5**	**0.0**
	SNR=48						
AAK	**Ala-Archa**	**6.60**	**19**	*e*Pn	**Pn**	**04 05 09.5**	**0.0**
	203nm,0.4s						
AAK				*e*Sn	**Sn**	**04 06 24.6**	**0.0**
KK31	**Karatay Array**	**6.70**	**354**	⇑Pn	Pn	04 05 07.2	-3.5
	24nm,0.5s,baz=185,slow=13,SNR=386						
KK31				Sn	Sn	04 06 19.9	-6.9
	21nm,0.5s,baz=184,slow=16,SNR=15						
KBK	**Karagaybulak**	**6.75**	**22**	P	Pn	04 05 14.9	+3.4
	SNR=7.7						
KBK				P	Pn	04 05 14.9	+3.4
	SNR=7.7						
ULHL	**Ulahol**	**6.86**	**31**	P	**Pn**	**04 05 13.9**	**+0.9**
	SNR=13						
ULHL				P	**Pn**	**04 05 13.9**	**+0.9**
	SNR=13						
CHMS	**Chumysh**	**7.01**	**20**	P	**Pn**	**04 05 15.6**	**+0.9**
	SNR=8.9						
CHMS				P	**Pn**	**04 05 15.6**	**+0.9**
	SNR=8.9						
USP	**Ospenovka**	**7.19**	**18**	P	**Pn**	**04 05 18.6**	**+1.4**
	SNR=10.0						
USP				P	**Pn**	**04 05 18.6**	**+1.4**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.20**	**25**	P	**Pn**	**04 05 18.2**	**+0.8**
	SNR=32						
TKM2				P	**Pn**	**04 05 18.2**	**+0.8**
	SNR=32						
TKM2	**Tokmak 2**	**7.20**	**25**	⇓Pn	**Pn**	**04 05 16.3**	**-1.1**
	61nm,0.6s						
TKM2				⇑Sn	**Sn**	**04 06 33.7**	**-5.1**
	11nm,0.8s						
TKM2	**Tokmak 2**	**7.20**	**25**	*e*Pn	**Pn**	**04 05 17.5**	**+0.1**
	75nm,0.5s						
TKM2				*e*Sn	**Sn**	**04 06 42.1**	**+3.3**
MK31	**Makanchi Array**	**13.10**	**35**	⇓Pn	**P**	**04 06 37.7**	**+0.7**
	0.9nm,0.4s,baz=218,slow=13,SNR=58						
MK31				⇓Lg	Lg	04 10 27.7	
	0.3nm,0.5s						
MK31	**Makanchi Array**	**13.10**	**35**	*e*Pn	**P**	**04 06 35.7**	**-1.3**
MKAR	**Makanchi Array**	**13.10**	**35**	P	**P**	**04 06 35.6**	**-1.4**
	0.5nm,0.3s,baz=206,slow=11,SNR=20						
MKAR	**Makanchi Array**	**13.10**	**35**	P	**P**	**04 06 35.6**	**-1.4**
DANN	**Dangsing**	**13.11**	**125**	*e*P	**Pn**	**04 06 34.4**	**+0.3**
	36nm,0.4s						
DANN	**Dangsing**	**13.11**	**125**	*e*P	**Pn**	**04 06 34.4**	**+0.3**
	36nm,0.4s						
KOLN	**Koldanda**	**13.39**	**127**	*e*P	**Pn**	**04 06 38.0**	**+0.4**
	11nm,0.3s						
KOLN	**Koldanda**	**13.39**	**127**	*e*P	**Pn**	**04 06 38.0**	**+0.4**
	11nm,0.3s						
GKN	**Gorkha**	**13.92**	**123**	*e*P	**Pn**	**04 06 45.2**	**+1.1**
	46nm,0.5s						
GKN	**Gorkha**	**13.92**	**123**	*e*P	**Pn**	**04 06 45.2**	**+1.1**
	46nm,0.5s						
DMN	**Daman**	**14.49**	**124**	*e*P	**P**	**04 06 53.3**	**+0.4**
	36nm,0.6s						
DMN	**Daman**	**14.49**	**124**	*e*P	**P**	**04 06 53.3**	**+0.4**
	36nm,0.6s						
KKN	**Kakani**	**14.49**	**123**	*e*P	**P**	**04 06 53.1**	**+0.3**
	25nm,0.5s						
KKN	**Kakani**	**14.49**	**123**	*e*P	**P**	**04 06 53.1**	**+0.3**
	25nm,0.5s						
PKI	**Pulchoki**	**14.72**	**123**	*e*P	**P**	**04 06 56.1**	**+0.6**
	17nm,0.4s						
PKI	**Pulchoki**	**14.72**	**123**	*e*P	**P**	**04 06 56.1**	**+0.6**
	17nm,0.4s						
GUN	**Gumba**	**14.83**	**121**	*e*P	**P**	**04 06 57.4**	**+0.7**
	23nm,0.4s						
KURBB	**Kurchatov Arra**	**15.05**	**17**	Pn	**P**	**04 07 01.9**	**+3.4**
	1.8nm,0.8s						
KURK	**Kurchatov**	**15.16**	**17**	P	**Pn**	**04 06 57.2**	**-1.7**
	0.2nm,0.3s,baz=206,slow=11,SNR=28						
KURK	**Kurchatov**	**15.16**	**17**	⇑Pn	**P**	**04 07 02.3**	**+2.6**
	9.1nm,1.0s						
KURK	**Kurchatov**	**15.16**	**17**	*e*Pn	**P**	**04 07 00.7**	**+1.0**
	5.7nm,0.8s						
JIRN	**Jiri**	**15.20**	**121**	*e*P	**P**	**04 07 02.1**	**+1.3**
	44nm,0.4s						
AB31	**Akbulak array**	**15.34**	**330**	Pn	**Pn**	**04 07 00.1**	**-1.1**
	1.2nm,0.3s,baz=146,slow=11,SNR=103						
AB31				Sn	S	04 09 41.4	-11
	1.6nm,0.5s,baz=152,slow=24,SNR=5.1						
RAMN	**Ramite**	**15.93**	**122**	*e*P	**Pn**	**04 07 10.5**	**+1.6**
	21nm,0.5s						
RAMN	**Ramite**	**15.93**	**122**	*e*P	**Pn**	**04 07 10.5**	**+1.6**
	21nm,0.5s						
VOSK	**Vostochnaya**	**16.29**	**359**	⇑Pn	**Pn**	**04 07 14.1**	**+1.5**
	3.0nm,0.5s						
VOSK				⇓Sn	**S**	**04 10 09.1**	**-3.4**
	3.1nm,1.1s						
TAPN	**Taplejung**	**16.45**	**119**	*e*P	**Pn**	**04 07 17.9**	**+2.7**
	18nm,0.4s						
BVA0	**Borovoye Array**	**16.60**	**358**	⇓Pn	**Pn**	**04 07 18.3**	**+1.8**
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**16.60**	**358**	P	**Pn**	**04 07 17.3**	**+0.9**
	0.9nm,0.3s,baz=162,slow=11,SNR=16						
BVAR	**Borovoye Array**	**16.60**	**358**	P	**Pn**	**04 07 17.3**	**+0.9**
ZRNK	**Zerenda**	**16.60**	**355**	⇑Pn	**Pn**	**04 07 18.0**	**+1.5**
	4.8nm,0.5s						
ZRNK				⇓Sn	**S**	**04 10 17.1**	**-2.0**
	1.8nm,0.7s						
BRVK	**Borovoye**	**16.64**	**357**	⇑Pn	**Pn**	**04 07 18.5**	**

18nm,0.2s
PBDV Barranco-do-Ve 2.48 81 *e*Pn **Pn 04 07 59.0 +1.4**
PBDV *e*Sn **Sn 04 08 28.0 0.0**
PBDV A A 04 08 31.3
13nm,0.2s
PBDV Barranco-do-Ve 2.48 81 P **Pn 04 07 59.0 +1.4**
PBDV S **Sn 04 08 28.0 0.0**
13nm,0.2s
PBDV Barranco-do-Ve 2.48 81 P **Pn 04 07 59.0 +1.4**
PBDV S **Sn 04 08 28.0 0.0**
13nm,0.2s
PVAQ Vaqueiros 2.67 78 *e*Pn **Pn 04 08 01.7 +1.4**
PVAQ *e*Sn **Sn 04 08 32.4 -0.3**
PVAQ A A 04 08 35.2
19nm,0.1s
PVAQ Vaqueiros 2.67 78 P **Pn 04 08 01.7 +1.4**
PVAQ S **Sn 04 08 32.4 -0.3**
19nm,0.1s
PVAQ Vaqueiros 2.67 78 P **Pn 04 08 01.7 +1.4**
PVAQ S **Sn 04 08 32.4 -0.3**
19nm,0.1s
PBEJ Beja 2.74 65 *e*Pn **Pn 04 08 03.1 +1.9**
PBEJ *e*Sn **Sn 04 08 34.2 -0.1**
PBEJ A A 04 08 38.1
15nm,0.1s
PBEJ Beja 2.74 65 P **Pn 04 08 03.1 +1.9**
PBEJ S **Sn 04 08 34.2 -0.1**
7.5nm,0.1s
PBEJ Beja 2.74 65 P **Pn 04 08 03.1 +1.9**
PBEJ S **Sn 04 08 34.2 -0.1**
7.5nm,0.1s
EGRO El Granado 2.88 76 P **Pn 04 08 04.3 +1.2**
1.5nm,0.1s,SNR=10
EGRO S **Sn 04 08 36.5 -1.3**
9.7nm,0.1s,SNR=7.3
EGRO El Granado 2.88 76 P **Pn 04 08 04.3 +1.2**
1.5nm,0.1s,SNR=10
EGRO S **Sn 04 08 36.5 -1.3**
9.7nm,0.1s,SNR=7.3
EVO Evora 2.88 54 *e*Pn **Pn 04 08 04.7 +1.6**
EVO *e*Sn **Sn 04 08 37.7 -0.1**
EVO A A 04 08 41.0
40nm,0.2s
EVO Evora 2.88 54 P **Pn 04 08 04.7 +1.6**
EVO S **Sn 04 08 37.7 -0.1**
40nm,0.2s
EVO Evora 2.88 54 P **Pn 04 08 04.7 +1.6**
EVO S **Sn 04 08 37.7 -0.1**
40nm,0.2s
ALMR Almeirim 2.96 39 *e*P **Pn 04 08 05.6 +1.3**
ALMR *e*S **Sn 04 08 39.0 -0.9**
ALMR AML AML 04 08 40.0
comp=E,13nm,0.2s
ALMR Almeirim 2.96 39 *e*P **Pn 04 08 05.6 +1.3**
ALMR *e*S **Sn 04 08 39.0 -0.9**
ALMR Almeirim 2.96 39 P **Pn 04 08 05.6 +1.3**
ALMR P **Pn 04 08 05.6 +1.3**
ALMR S **Sn 04 08 39.0 -0.9**
comp=E,6.5nm,0.2s
ALMR S **Sn 04 08 39.0 -0.9**
ALMR Almeirim 2.96 39 P **Pn 04 08 05.6 +1.3**
ALMR S **Sn 04 08 39.0 -0.9**
comp=E,6.5nm,0.2s
PMTG Montargil 3.09 44 *e*Pn **Pn 04 08 07.2 +1.2**
PMTG *e*Sn **Sn 04 08 42.8 -0.2**
PMTG A A 04 08 47.5
comp=E,16nm,0.2s
PMTG Montargil 3.09 44 *e*Pn **Pn 04 08 07.2 +1.2**
PMTG *e*Sn **Sn 04 08 42.8 -0.2**
comp=E,16nm,0.2s
PESTR Estremoz 3.34 53 *e*Pn **Pn 04 08 11.2 +1.7**
PESTR *e*Sn **Sn 04 08 49.1 -0.2**
PESTR A A 04 08 53.9
comp=E,11nm,1.2s
PESTR Estremoz 3.34 53 P **Pn 04 08 11.2 +1.7**
PESTR S **Sn 04 08 49.1 -0.2**
comp=E,5.4nm,1.2s
PESTR Estremoz 3.34 53 P **Pn 04 08 11.2 +1.7**
PESTR S **Sn 04 08 49.1 -0.2**
comp=E,5.4nm,1.2s
PBAR Barrancos 3.40 67 *e*Pn **Pn 04 08 11.9 +1.6**
PBAR *e*Sn **Sn 04 08 49.7 -0.9**
PBAR A A 04 08 53.7
comp=E,7.6nm,0.2s
PBAR Barrancos 3.40 67 P **Pn 04 08 11.9 +1.6**
PBAR S **Sn 04 08 49.7 -0.9**
comp=E,7.6nm,0.2s
PBAR Barrancos 3.40 67 P **Pn 04 08 11.9 +1.6**
PBAR S **Sn 04 08 49.7 -0.9**
comp=E,7.6nm,0.2s
PTOM Tomar 3.40 36 *e*Sn **Sn 04 08 51.7 +1.0**
PTOM A A 04 08 54.0
comp=E,15nm,0.1s
PTOM Tomar 3.40 36 S **Sn 04 08 51.7 +1.0**
comp=E,7.4nm,0.1s
PTOM Tomar 3.40 36 S **Sn 04 08 51.7 +1.0**
comp=E,7.4nm,0.1s
EMIN Mina Concepcio 3.56 74 P **Pn 04 08 13.3 +0.8**
comp=E,2.1nm,0.1s,SNR=35
EMIN S **Sn 04 08 53.3 -1.3**
comp=E,5.5nm,0.2s,SNR=10
EMIN Mina Concepcio 3.56 74 P **Pn 04 08 13.3 +0.8**
comp=E,2.1nm,0.1s,SNR=35
EMIN S **Sn 04 08 53.3 -1.3**
comp=E,5.5nm,0.2s,SNR=10
EBAD Badajoz 3.66 58 P **Pn 04 08 15.2 +1.3**
comp=E,2.4nm,0.2s,SNR=24
EBAD S **Sn 04 08 56.6 -0.6**
comp=E,32nm,0.2s,SNR=11
EBAD Badajoz 3.66 58 P **Pn 04 08 15.2 +1.3**
comp=E,2.4nm,0.2s,SNR=24
EBAD S **Sn 04 08 56.6 -0.6**
comp=E,32nm,0.2s,SNR=11
PMRV Marv??o 3.81 47 *e*Pn **Pn 04 08 16.9 +1.0**
PMRV *e*Sn **Sn 04 08 59.5 -1.3**
PMRV A A 04 09 01.3
comp=E,28nm,0.4s
PMRV Marv??o 3.81 47 P **Pn 04 08 16.9 +1.0**
PMRV S **Sn 04 08 59.5 -1.3**
comp=E,28nm,0.4s
PMRV Marv??o 3.81 47 P **Pn 04 08 16.9 +1.0**
PMRV S **Sn 04 08 59.5 -1.3**
comp=E,28nm,0.4s
PCBR Castelo Branco 4.04 42 *e*Pn **Pn 04 08 20.2 +1.1**
PCBR *e*Sn **Sn 04 09 05.8 -0.7**
PCBR A A 04 09 07.0
comp=E,11nm,0.3s
PCBR Castelo Branco 4.04 42 P **Pn 04 08 20.2 +1.1**
PCBR S **Sn 04 09 05.8 -0.7**
comp=E,5.6nm,0.3s
PCBR Castelo Branco 4.04 42 P **Pn 04 08 20.2 +1.1**
PCBR S **Sn 04 09 05.8 -0.7**
comp=E,5.6nm,0.3s
ESPR Espera 4.12 89 P **Pn 04 08 21.3 +1.1**
comp=E,5.8nm,0.2s,SNR=10
ESPR S **Sn 04 09 07.8 -0.7**
comp=E,21nm,0.2s,SNR=7.9
ESPR Espera 4.12 89 P **Pn 04 08 21.3 +1.1**
comp=E,5.8nm,0.2s,SNR=10
ESPR S **Sn 04 09 07.8 -0.7**
comp=E,21nm,0.2s,SNR=7.9
MTE Manteigas 4.43 37 *e*Pn **Pn 04 08 25.7 +1.2**
MTE *e*Sn **Sn 04 09 15.1 -1.0**
MTE A A 04 09 18.4
comp=E,5.0nm,0.1s
MTE Manteigas 4.43 37 P **Pn 04 08 25.7 +1.2**
MTE S **Sn 04 09 15.1 -1.0**
comp=E,2.5nm,0.1s
MTE Manteigas 4.43 37 P **Pn 04 08 25.7 +1.2**
MTE S **Sn 04 09 15.1 -1.0**
comp=E,2.5nm,0.1s
EJIF Jimena Fronter 4.47 94 P **Pn 04 08 26.8 +1.8**
comp=E,1.7nm,0.2s,SNR=7.9
EJIF S **Sn 04 09 14.5 -2.5**
comp=E,1.0nm,0.1s,SNR=7.9
EJIF Jimena Fronter 4.47 94 P **Pn 04 08 26.8 +1.8**
comp=E,1.7nm,0.2s,SNR=7.9
EJIF S **Sn 04 09 14.5 -2.5**
comp=E,1.0nm,0.1s,SNR=7.9
PVIS Viseu 4.52 31 *e*Pn **Pn 04 08 27.1 +1.3**
PVIS *e*Sn **Sn 04 09 17.3 -1.2**
PVIS A A 04 09 19.8
comp=E,11nm,0.1s
PVIS Viseu 4.52 31 P **Pn 04 08 27.1 +1.3**
PVIS S **Sn 04 09 17.3 -1.2**
comp=E,5.6nm,0.1s
PVIS Viseu 4.52 31 P **Pn 04 08 27.1 +1.3**
PVIS S **Sn 04 09 17.3 -1.2**
comp=E,5.6nm,0.1s
EPLA Plasencia 4.99 49 P **Pn 04 08 33.4 +1.2**
comp=E,1.3nm,0.1s,SNR=18
EPLA S **Sn 04 09 29.1 -0.9**
comp=E,8.8nm,0.2s,SNR=12
EPLA Plasencia 4.99 49 P **Pn 04 08 33.4 +1.2**
comp=E,1.3nm,0.1s,SNR=18
EPLA S **Sn 04 09 29.1 -0.9**
comp=E,8.8nm,0.2s,SNR=12
EMIJ Mijas 5.01 92 P **Pn 04 08 32.6 +0.1**
comp=E,0.3nm,0.1s,SNR=7.9
EMIJ S **Sn 04 09 30.1 -0.4**
comp=E,1.0nm,0.2s,SNR=7.9
EMIJ Mijas 5.01 92 P **Pn 04 08 32.6 +0.1**
comp=E,0.3nm,0.1s,SNR=7.9
EMIJ S **Sn 04 09 30.1 -0.4**
comp=E,1.0nm,0.2s,SNR=7.9
PVRL Vila Real 5.07 29 *e*Sn **Sn 04 09 30.4 -1.5**
PVRL A A 04 09 32.9
comp=E,12nm,0.1s
PVRL Vila Real 5.07 29 S **Sn 04 09 30.4 -1.5**
comp=E,5.8nm,0.1s
PVRL Vila Real 5.07 29 S **Sn 04 09 30.4 -1.5**
comp=E,5.8nm,0.1s
POLO Lamas de Olo 5.12 28 *e*Pn **Pn 04 08 35.0 +0.9**
POLO *e*Sn **Sn 04 09 31.5 -1.8**
POLO A A 04 09 33.9
comp=E,2.2nm,0.7s
POLO Lamas de Olo 5.12 28 *e*Pn **Pn 04 08 35.0 +0.9**
POLO *e*Sn **Sn 04 09 31.5 -1.8**
comp=E,2.2nm,0.7s
EADA Adamuz 5.26 74 P **Pn 04 08 36.7 +0.8**
comp=E,1.1nm,0.1s,SNR=28
EADA S **Sn 04 09 34.9 -1.7**
comp=E,5.6nm,0.1s,SNR=5.1
EADA Adamuz 5.26 74 P **Pn 04 08 36.7 +0.8**
comp=E,1.1nm,0.1s,SNR=28
EADA S **Sn 04 09 34.9 -1.7**
comp=E,5.6nm,0.1s,SNR=5.1
MVO Moncorvo 5.27 35 *e*Pn **Pn 04 08 37.1 +1.0**
MVO *e*Sn **Sn 04 09 34.7 -2.2**
MVO A A 04 09 36.7
comp=E,14nm,0.3s
MVO Moncorvo 5.27 35 P **Pn 04 08 37.1 +1.0**
comp=E,0.9nm,0.1s,SNR=9.0
MVO S Sn 04 09 34.1 -2.8
comp=E,9.0nm,0.2s,SNR=16
MVO Moncorvo 5.27 35 P **Pn 04 08 37.1 +1.0**
comp=E,0.9nm,0.1s,SNR=9.0
MVO S Sn 04 09 34.1 -2.8
comp=E,9.0nm,0.2s,SNR=16
MVO *e*Sn Sb 04 09 34.7 -18
comp=E,14nm,0.3s
PCAB Cabril 5.34 25 *e*Pn **Pn 04 08 37.7 +0.8**
PCAB *e*Sn Sn 04 09 36.1 -2.4
PCAB A A 04 09 40.1
comp=E,3.4nm,0.3s
PCAB Cabril 5.34 25 P **Pn 04 08 37.7 +0.8**
PCAB S Sn 04 09 36.1 -2.4
comp=E,1.7nm,0.3s
PCAB Cabril 5.34 25 P **Pn 04 08 37.7 +0.8**
PCAB S Sn 04 09 36.1 -2.4
comp=E,1.7nm,0.3s
ELOB Lobios 5.47 24 P **Pn 04 08 39.6 +0.8**
comp=E,0.6nm,0.1s,SNR=6.1
ELOB S Sn 04 09 39.3 -2.4
comp=E,5.3nm,0.1s,SNR=6.2
ELOB Lobios 5.47 24 P **Pn 04 08 39.6 +0.8**
comp=E,0.6nm,0.1s,SNR=6.1
ELOB S Sn 04 09 39.3 -2.4
comp=E,5.3nm,0.1s,SNR=6.2
PGAV Gavieira, Arco 5.49 22 *e*Pn **Pn 04 08 40.4 +1.3**
PGAV *e*Sn **Sn 04 09 40.7 -1.7**
PGAV Gavieira, Arco 5.49 22 *e*Pn **Pn 04 08 40.4 +1.3**
PGAV *e*Sn **Sn 04 09 40.7 -1.7**
PBRG Braganca 5.91 33 *e*Pn **Pn 04 08 45.9 +1.0**
PBRG *e*Sn **Sn 04 09 50.4 -2.3**
PBRG A A 04 09 52.5
comp=E,5.1nm,0.4s
PBRG Braganca 5.91 33 P **Pn 04 08 45.9 +1.0**
PBRG S **Sn 04 09 50.4 -2.3**
comp=E,2.6nm,0.4s
PBRG Braganca 5.91 33 P **Pn 04 08 45.9 +1.0**
PBRG S **Sn 04 09 50.4 -2.3**
comp=E,2.6nm,0.4s
ECAL Calabor 6.03 32 S **Sn 04 09 53.2 -2.4**
comp=E,16nm,0.4s,SNR=7.9
ECAL Calabor 6.03 32 S **Sn 04 09 53.2 -2.4**
comp=E,16nm,0.4s,SNR=7.9
EQUE Quentar 6.05 85 P **Pn 04 08 48.6 +1.7**
comp=E,0.2nm,0.1s,SNR=7.9
EQUE S **Sn 04 09 54.7 -1.6**
comp=E,0.4nm,0.1s,SNR=7.9
EQUE Quentar 6.05 85 P **Pn 04 08 48.6 +1.7**
comp=E,0.2nm,0.1s,SNR=7.9
EQUE S **Sn 04 09 54.7 -1.6**
comp=E,0.4nm,0.1s,SNR=7.9
ESDC Sonseca Array 6.19 61 P **Pn 04 08 49.7 +1.0**
comp=E,2.8nm,0.1s,baz=246,slow=13,SNR=11
ESDC S **Sn 04 09 57.4 -2.2**
comp=E,0.7nm,0.2s,baz=246,slow=23,SNR=13
ESDC Sonseca Array 6.19 61 P **Pn 04 08 49.7 +1.0**
comp=E,2.8nm,0.1s,baz=246,slow=13,SNR=11
ESDC S **Sn 04 09 57.4 -2.2**
comp=E,0.7nm,0.2s,baz=246,slow=23,SNR=13
EMAZ Mazaricos 6.25 14 S Sn 04 09 55.3 -5.6
comp=E,3.8nm,0.2s,SNR=7.9
EQES Quesada 6.38 79 P **Pn 04 08 52.2 +0.9**
comp=E,0.3nm,0.2s,SNR=7.9
EQES S **Sn 04 10 01.8 -2.5**
comp=E,1.3nm,0.2s,SNR=7.9
EQES Quesada 6.38 79 P **Pn 04 08 52.2 +0.9**
comp=E,0.3nm,0.2s,SNR=7.9
EQES S **Sn 04 10 01.8 -2.5**
comp=E,1.3nm,0.2s,SNR=7.9
EBER Berja 6.50 88 S **Sn 04 10 05.2 -2.1**
comp=E,1.4nm,0.4s,SNR=7.9
EBER Berja 6.50 88 S **Sn 04 10 05.2 -2.1**
comp=E,1.4nm,0.4s,SNR=7.9
GUD Guadarrama 6.53 53 S Sn 04 10 04.9 -3.1
comp=E,6.5nm,0.4s,SNR=7.9
GUD Guadarrama 6.53 53 S Sn 04 10 04.9 -3.1
comp=E,6.5nm,0.4s,SNR=7.9
EHUE Huescar 6.76 80 P **Pn 04 08 57.7 +1.1**
comp=E,0.1nm,0.1s,SNR=7.9
EHUE S **Sn 04 10 10.8 -2.8**
comp=E,1.2nm,0.2s,SNR=7.9
EHUE Huescar 6.76 80 P **Pn 04 08 57.7 +1.1**
comp=E,0.1nm,0.1s,SNR=7.9
EHUE S **Sn 04 10 10.8 -2.8**
comp=E,1.2nm,0.2s,SNR=7.9
EVIA Vianos 6.95 73 P **Pn 04 08 59.9 +0.7**
comp=E,1.3nm,0.1s,SNR=7.9
EVIA Vianos 6.95 73 P **Pn 04 08 59.9 +0.7**
comp=E,1.3nm,0.1s,SNR=7.9
EPON Pontenova 7.07 23 P **Pn 04 09 01.1 +0.3**
SNR=7.9
EPON S Sn 04 10 18.3 -2.9
comp=E,2.8nm,0.3s,SNR=4.0
EPON Pontenova 7.07 23 P **Pn 04 09 01.1 +0.3**
SNR=7.9
EPON S Sn 04 10 18.3 -2.9
comp=E,2.8nm,0.3s,SNR=4.0
ETOB Tobarra 7.69 74 P **Pn 04 09 09.3 +0.1**
comp=E,0.5nm,0.2s,SNR=7.9
ETOB S Sn 04 10 33.0 -3.4
comp=E,0.7nm,0.3s,SNR=7.9
ETOB Tobarra 7.69 74 P **Pn 04 09 09.3 +0.1**
comp=E,0.5nm,0.2s,SNR=7.9
ETOB S Sn 04 10 33.0 -3.4
comp=E,0.7nm,0.3s,SNR=7.9
ETOR Torete 8.00 58 P **Pn 04 09 15.1 +1.5**
comp=E,6.5nm,0.1s,SNR=11
ETOR S Sn 04 10 39.6 -4.6
comp=E,5.0nm,0.3s,SNR=7.9
ETOR Torete 8.00 58 P **Pn 04 09 15.1 +1.5**
comp=E,6.5nm,0.1s,SNR=11
ETOR S Sn 04 10 39.6 -4.6
comp=E,5.0nm,0.3s,SNR=7.9
EMOS Mosqueruela 8.94 64 P **Pn 04 09 28.2 +1.7**
comp=E,0.8nm,0.3s,SNR=4.0
EMOS S Sn 04 11 03.0 -4.3
comp=E,0.6nm,0.3s,SNR=7.9
EMOS Mosqueruela 8.94 64 P **Pn 04 09 28.2 +1.7**
comp=E,0.8nm,0.3s,SNR=4.0
EMOS S Sn 04 11 03.0 -4.3
comp=E,0.6nm,0.3s,SNR=7.9

*IDC **16** 04:15:34.6±0.7, 43˚.30N×111˚.02W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/27, mbtmp3.8/8, ML3.4/2, MS3.3/1, Ms1 3.2/1, ms1mx2.6/43, Error ellipse: s-maj=13.5km s-min=6.0km az=24.0*
*NEIC **16** 04:15:35.6±0.2, 43˚.22N×110˚.87W, h5km, mb3.8/5, MW4.0(USGS), Error ellipse: s-maj=3.3km s-min=2.4km az=74.0*
NEIC Felt [IV] at Alpine; [III] at Bedford, Etna, Freedom, Jackson and Wilson; [II] at Thayne. Also felt at Afton, Alta, Auburn, Moose and Teton Village. Felt [II] at Blackfoot, Idaho Falls, Irwin and Victor, Idaho. Also felt at Soda Springs and Swan Valley.

ISC 16 04:15:35.0±1.0, 43˚.23N±0˚.01×111˚.01W±0˚.01, h0km±6km, n315, σ1s39/397, mb4.0/9, 107C-121D, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	**0.18**	**40**		*e*Pg		**Pg**	**04 15 38.5**	**0.0**
REDW					*e*Sg		**Sg**	**04 15 41.5**	**+0.7**
J17A	**Brown Place, J**	**0.26**	**58**		⇓P		**Pg**	**04 15 39.9**	**0.0**
J17A	baz=0.2,SNR=1000				⇑S		**Sg**	**04 15 43.8**	**+0.6**
	baz=0.2								
RRI2	**Red Ridge**	**0.26**	**298**		*e*Pg		**Pg**	**04 15 39.7**	**-0.3**
SNOW	**Snow King Moun**	**0.30**	**38**		*e*Pg		**Pg**	**04 15 40.5**	**-0.3**
SNOW					*e*Sg		**Sg**	**04 15 44.3**	**-0.4**
DCID1	**Drake Creek**	**0.39**	**341**		*e*Pg		**Pg**	**04 15 41.9**	**-0.6**
DCID1					*e*Sg		**Sg**	**04 15 48.5**	**+0.9**
AHID	**Auburn Hatcher**	**0.46**	**188**		*e*Pg		**Pg**	**04 15 43.7**	**-0.2**
AHID					*e*Sg		**Sg**	**04 15 50.2**	**+0.3**
K17A	**Gardner Place,**	**0.48**	**172**		⇓P		**Pg**	**04 15 43.7**	**-0.4**
K17A	baz=0.5				⇑S		**Sg**	**04 15 50.6**	**+0.2**
	baz=0.5								
LOHW	**Long Hollow**	**0.49**	**37**		*e*Pg		**Pg**	**04 15 44.0**	**-0.4**
LOHW					*e*Sg		**Sg**	**04 15 49.9**	**-0.7**
MOOW	**Moose Ponds**	**0.56**	**20**		*e*Pg		**Pg**	**04 15 44.9**	**-0.8**
MOOW					*e*Sg		**Sg**	**04 15 51.7**	**-1.2**
K16A	**Soda Springs**	**0.58**	**227**		⇓P		**Pg**	**04 15 45.7**	**-0.4**
J18A	baz=0.7 **Kendall Valley**	**0.72**	**91**		P		**Pg**	**04 15 48.7**	**-0.2**
I16A	baz=0.6,SNR=1000 **Newdale**	**0.74**	**332**		⇓P		**Pg**	**04 15 48.7**	**-0.4**
I17A	baz=0.8 **Pilgrim Ck.**	**0.76**	**24**		⇑P		**Pg**	**04 15 49.6**	**-0.1**
FLWY	baz=0.7 **Flagg Ranch**	**0.89**	**15**		*e*Pg		**Pg**	**04 15 51.2**	**-0.8**
K18A	**Toltan Ranch,**	**0.92**	**129**		⇓P		**Pg**	**04 15 51.8**	**-0.8**
K18A	baz=0.8,SNR=1000				⇑S		**Sg**	**04 16 04.7**	**+0.1**
	baz=0.8								
I18A	**Diamond G Ranc**	**0.99**	**61**		⇑P		**Pg**	**04 15 53.2**	**-0.7**
I18A	baz=0.9,SNR=1000				⇑S		**Sg**	**04 16 06.4**	**-0.4**
	baz=0.9								
J15A	**Blackfoot**	**1.05**	**280**		⇓P		**Pg**	**04 15 54.2**	**-1.0**
J15A	baz=1.2				⇑S		**Sg**	**04 16 08.8**	**0.0**
	baz=1.2								
L17A	**Cokeville**	**1.13**	**175**		⇓P		**Pg**	**04 15 54.8**	**-1.9**
L17A	baz=1.1				⇓S		**Sg**	**04 16 11.0**	**-0.3**
	baz=1.1								
BW06	**Boulder Array**	**1.16**	**113**		*e*Pg		**Pg**	**04 15 56.7**	**-0.5**
BW06	**Boulder Array**	**1.16**	**113**		⇑P		**Pg**	**04 15 55.3**	**-1.9**
BW06	baz=1.1				⇑P		**Pg**	**04 15 55.3**	**-1.9**
	baz=1.1								
PDAR	**Pinedale Array**	**1.16**	**113**		Pg		**Pg**	**04 15 57.1**	**-0.1**
PDAR	578nm,0.3s,baz=291,slow=12				Lg		Lg	04 16 13.2	
	304nm,0.3s,baz=313,slow=20,SNR=14								
PDAR	**Pinedale Array**	**1.16**	**113**		Pg		**Pg**	**04 15 57.1**	**-0.1**
PDAR					Lg		Lg	04 16 13.2	
H17A	**Grant Village**	**1.21**	**15**		⇓P		**Pg**	**04 15 57.3**	**-0.9**
H17A	baz=1.2				⇓S		**Sg**	**04 16 13.7**	**-0.2**
	baz=1.2								
YFT	**Old Faithful**	**1.23**	**6**		*e*Pg		**Pg**	**04 15 58.0**	**-0.6**
K15A	**Arbon**	**1.24**	**245**		⇑P		**Pg**	**04 15 57.6**	**-1.1**
K15A	baz=1.3				⇓S		**Sg**	**04 16 15.1**	**+0.2**
	baz=1.3								
L16A	**Fish Haven**	**1.25**	**195**		⇓P		**Pg**	**04 15 57.6**	**-1.3**
L16A	baz=1.3				⇑S		**Sg**	**04 16 14.8**	**-0.3**
	baz=1.3								
I15A	**Monteview**	**1.32**	**306**		⇑P		**Pg**	**04 15 58.7**	**-1.6**
I15A	baz=1.4				⇓S		**Sg**	**04 16 16.9**	**-0.6**
	baz=1.4								
LKWY	**Lake**	**1.41**	**18**		*e*Pn		**Pn**	**04 16 01.6**	**-0.6**
LKWY					*e*Sg		**Sg**	**04 16 19.3**	**-1.0**
J19A	**Crowheart**	**1.43**	**88**		⇑P		**Pn**	**04 16 01.3**	**-1.1**
J19A	baz=1.3,SNR=1000				⇓S		**Sg**	**04 16 19.8**	**-1.1**
	baz=1.3								
YMR	**Madison River**	**1.44**	**1**		*e*Pn		**Pn**	**04 16 01.0**	**-1.6**
YMR					*e*Sn		**Sg**	**04 16 21.3**	**-0.1**
L18A	**Fontenelle, Gr**	**1.49**	**151**		⇓P		**Pn**	**04 16 02.2**	**-1.0**
L18A	baz=1.4				⇓S		**Sb**	**04 16 22.6**	**-0.5**
	baz=1.4								
H16A	**Russell Place,**	**1.49**	**353**		⇑P		**Pn**	**04 16 01.6**	**-1.6**
H16A	baz=1.5				⇓S		**Sb**	**04 16 22.8**	**-0.4**
	baz=1.5								
YNR	**Norris Junctio**	**1.51**	**9**		*e*Pn		**Pn**	**04 16 02.5**	**-1.0**
L15A	**Malad City**	**1.59**	**220**		⇓P		**Pn**	**04 16 02.9**	**-1.7**
L15A	baz=1.7				⇓S		**Sn**	**04 16 25.4**	**-0.5**
	baz=1.7								
QLMT	**Earthquake Lak**	**1.63**	**349**		*e*Pn		**Pn**	**04 16 04.0**	**-1.2**
QLMT					*e*Sn		**Sn**	**04 16 26.3**	**-0.8**
K19A	**Absolon Red Bu**	**1.64**	**103**		⇑P		**Pn**	**04 16 04.4**	**-0.9**
K19A	baz=1.5				⇓S		**Sn**	**04 16 26.2**	**-0.9**
	baz=1.5								
L19A	**Farson**	**1.66**	**132**		⇑P		**Pn**	**04 16 04.7**	**-0.8**
L19A	baz=1.6,SNR=1000				⇑Sb		**Sg**	**04 16 28.5**	**+0.3**
	baz=1.6								
HWUT	**Hardware Ranch**	**1.67**	**194**		*e*Pn		**Pn**	**04 16 04.7**	**-1.0**
HWUT					*e*Sg		**Sg**	**04 16 30.0**	**+1.4**
I19A	**Meeteetse**	**1.67**	**60**		⇑P		**Pn**	**04 16 05.0**	**-0.8**
I19A	baz=1.6				⇑S		**Sn**	**04 16 26.8**	**-1.2**
	baz=1.6								
K14A	**Jones Ranch, D**	**1.73**	**248**		⇓P		**Pn**	**04 16 05.0**	**-1.5**
K14A	baz=1.8				⇓S		**Sn**	**04 16 29.1**	**-0.3**
	baz=1.8								
H18A	**Shoshone NF, C**	**1.75**	**33**		⇓P		**Pn**	**04 16 05.9**	**-0.9**
H18A	baz=1.7				⇓S		**Sn**	**04 16 29.6**	**-0.3**
	baz=1.7								
M17A	**Scullys Gap (B**	**1.77**	**172**		⇓P		**Pn**	**04 16 06.4**	**-0.7**
M17A	baz=1.8				⇑Sb		**Sb**	**04 16 31.5**	**+0.3**
	baz=1.8								
H15A	**Lima**	**1.82**	**320**		⇑P		**Pn**	**04 16 07.3**	**-0.6**
H15A	baz=1.9				⇑S		**Sn**	**04 16 31.5**	**-0.3**
	baz=1.9								
J14A	**Carey**	**1.83**	**274**		⇓P		**Pn**	**04 16 07.2**	**-0.7**
I14A	baz=1.9 **Mackay**	**1.91**	**292**		⇑P		**Pn**	**04 16 08.4**	**-0.6**
I14A	baz=2.0				⇓S		**Sn**	**04 16 33.6**	**-0.3**
	baz=2.0								
M18A	**Lyman**	**1.93**	**158**		⇑P		**Pn**	**04 16 08.3**	**-0.9**
HVU	baz=1.9 **Hansel Valley**	**1.95**	**223**		*e*Pn		**Pn**	**04 16 08.4**	**-1.1**
HVU					*e*Sn		**Sb**	**04 16 36.2**	**-0.1**
L14A	**Malta**	**2.03**	**235**		⇑P		**Pn**	**04 16 09.8**	**-0.8**
K20A	baz=2.1 **Yellowstone Ra**	**2.04**	**105**		⇑P		**Pn**	**04 16 10.7**	**0.0**
H19A	baz=1.9,SNR=1000 **Powell**	**2.06**	**45**		⇓P		**Pn**	**04 16 10.5**	**-0.5**
M15A	baz=2.0 **Larsen Ranch,**	**2.06**	**212**		⇑P		**Pn**	**04 16 09.9**	**-1.0**

	baz=2.1							
MCMT	**McKenzie Canyo**	2.08	321	⇙Pn		Pn	04 16 11.1	-0.2
MCMT				⇙Sn		Sb	04 16 39.1	-1.1
G16A	**Moss Hill, Enn**	2.08	344	⇓P		Pn	04 16 11.0	-0.3
	baz=2.1							
G16A				⇑S		Sb	04 16 39.2	-1.1
	baz=2.1							
G17A	**Pierce Place,**	2.10	5	⇑P		Pn	04 16 12.4	+0.8
	baz=2.1,SNR=485							
J20A	**Shoshoni**	2.14	86	⇑P		Pn	04 16 13.0	+0.9
	baz=2.0,SNR=1000							
J20A				⇓Sb		Sg	04 16 42.6	-1.1
	baz=2.0							
H14A	**Leadore**	2.20	310	⇓P		Pn	04 16 13.2	+0.2
	baz=2.3							
M19A	**Rock Springs**	2.20	141	⇑P		Pn	04 16 12.7	-0.3
	baz=2.1							
M19A				⇓Sb		Sb	04 16 44.1	+0.4
	baz=2.1							
G15A	**Dillon**	2.21	332	⇑P		Pn	04 16 13.3	+0.1
	baz=2.3,SNR=1000							
I20A	**Worland**	2.21	70	⇓P		Pn	04 16 13.0	-0.1
	baz=2.1,SNR=1000							
RLMT	**Red Lodge**	2.27	33	⇙Pn		Pn	04 16 13.4	-0.6
RLMT				⇙Sg		Sb	04 16 44.4	-1.4
RLMT	**Red Lodge**	2.27	33	⇓P		Pn	04 16 13.5	-0.6
	baz=2.2							
RLMT				⇓P		Pn	04 16 13.5	-0.6
	baz=2.2							
N17A	**Moffit Pass**	2.29	177	⇓P		Pn	04 16 13.4	-0.9
	baz=2.3							
J13A	**Cove Ranch, Pi**	2.32	275	⇓P		Pn	04 16 14.3	-0.3
	baz=2.4							
L20A	**Wamsutter**	2.32	121	⇑P		Pn	04 16 14.5	0.0
	baz=2.2							
G18A	**Lazy EL Ranch,**	2.33	26	⇓P		Pn	04 16 14.7	-0.1
	baz=2.3							
N16A	**Rees Ranch, Co**	2.36	188	⇓P		Pn	04 16 15.2	0.0
	baz=2.4							
I13A	**Wildhorse Cree**	2.36	288	⇓P		Pn	04 16 15.0	-0.2
	baz=2.5							
DLMT	**Dillon**	2.42	332	⇙Pn		Pn	04 16 17.1	+1.1
DLMT				⇙Sg		Sb	04 16 50.7	+0.7
BOZ	**Bozeman (W)**	2.46	350	⇙Pn		Pn	04 16 17.0	+0.5
BOZ				⇙Sg		Sn	04 16 48.7	+1.3
BOZ	**Bozeman (W)**	2.46	350	⇓P		Pn	04 16 17.2	+0.7
	baz=2.5,SNR=1000							
BOZ				⇓P		Pn	04 16 17.2	+0.7
	baz=2.5,SNR=1000							
HLID	**Hailey**	2.50	279	⇙Pn		Pn	04 16 16.8	-0.3
HLID				⇙Sg		Sb	04 16 51.9	-0.5
HLID	**Hailey**	2.50	279	⇑P		Pn	04 16 16.6	-0.5
	baz=2.6							
H20A	**Greybull**	2.52	59	⇓P		Pn	04 16 16.9	-0.4
	baz=2.4,SNR=102							
CTU	**Camp Tracy**	2.59	193	⇙Pn		Pn	04 16 18.8	+0.5
CTU				⇙Sg		Sb	04 16 54.6	-0.2
N15A	**Stansbury Isla**	2.59	206	⇑P		Pn	04 16 17.9	-0.4
	baz=2.6							
F16A	**Kennard Place,**	2.60	350	⇑P		Pn	04 16 19.4	+1.0
	baz=2.6,SNR=447							
J21A	**Lysite**	2.60	86	⇓P		Pn	04 16 19.1	+0.5
	baz=2.5,SNR=242							
JLU	**Jordanelle**	2.64	187	⇙Pn		Pn	04 16 18.8	-0.3
JLU				⇙Sg		Sg	04 16 59.0	-0.8
G14A	**Jackson**	2.68	320	⇑P		Pn	04 16 19.5	-0.1
	baz=2.7							
F17A	**Fitzpatrick Pl**	2.69	5	⇑P		Pn	04 16 19.9	+0.2
	baz=2.7,SNR=121							
N19A	**John Jarvie Ra**	2.70	149	⇓P		Pn	04 16 18.9	-1.0
	baz=2.6							
H13A	**Challis**	2.70	301	⇓P		Pn	04 16 19.9	+0.1
	baz=2.8							
M20A	**Sweetwater, Wa**	2.72	129	⇑P		Pn	04 16 19.8	-0.3
	baz=2.6,SNR=139							
GCMT	**Greycliff**	2.74	20	⇙Pn		Pn	04 16 21.4	+1.1
GCMT				⇙Sg		Sb	04 16 59.4	+0.2
I21A	**Big Trails, Te**	2.77	76	⇑P		Pn	04 16 21.4	+0.7
	baz=2.7,SNR=569							
LRM	**Limekiln Ridge**	2.79	339	⇙Pn		Pn	04 16 22.2	+1.0
DAU	**Daniels Canyon**	2.82	184	⇙Pn		Pn	04 16 21.6	0.0
DAU				⇙Sg		Sb	04 17 02.3	+0.8
F15A	**Butte**	2.82	338	⇓P		Pn	04 16 21.8	+0.2
	baz=2.9,SNR=175							
K21A	**Alcova**	2.82	101	⇑P		Pn	04 16 20.9	-0.7
	baz=2.7,SNR=1000							
G20A	**Bridger**	2.83	44	⇓P		Pn	04 16 21.6	0.0
	baz=2.8,SNR=159							
F18A	**Big Timber**	2.83	19	⇑P		Pn	04 16 22.0	+0.4
	baz=2.8							
L21A	**Rawlins**	2.97	114	⇑P		Pn	04 16 23.2	-0.3
	baz=2.9							
G13A	**Cobalt**	2.98	310	⇑P		Pn	04 16 23.4	-0.2
	baz=3.1							
F19A	**Roth Farm, Mol**	3.02	29	⇓P		Pn	04 16 23.7	-0.4
	baz=3.0							
O17A	**Robinson Place**	3.04	176	⇑P		Pn	04 16 24.2	-0.3
	baz=3.0							
O17A				⇓Sb		Sb	04 17 08.9	+1.2
	baz=3.0							
O16A	**Springville**	3.04	187	⇓P		Pn	04 16 23.8	-0.7
	baz=3.1							
O18A	**Roosevelt**	3.05	165	⇓P		Pn	04 16 24.2	-0.4
	baz=3.0,SNR=5.8							
I12A	**Atlanta**	3.05	282	⇑P		Pn	04 16 25.0	+0.3
	baz=3.1							
H12A	**Diamond D Ranc**	3.08	297	⇓P		Pn	04 16 25.8	+0.7
	baz=3.2,SNR=113							
F14A	**Wisdom**	3.09	328	⇓P		Pn	04 16 25.4	+0.2
	baz=3.1,SNR=55							
F14A				⇑Sb		Sb	04 17 10.5	+1.3
	baz=3.1							
O15A	**The Old Anders**	3.14	201	⇑P		Pn	04 16 25.7	-0.1
	baz=3.2							
N20A	**Spence Gulch,**	3.15	138	⇓P		Pn	04 16 26.6	+0.6
	baz=3.1							
M21A	**Separation Pea**	3.15	120	⇑P		Pn	04 16 25.2	-0.9
	baz=3.1,SNR=387							
H21A	**Big Horn, Sher**	3.19	63	⇓P		Pn	04 16 25.7	-0.9
	baz=3.1,SNR=13							
RWWY	**Rawlins**	3.20	117	⇙Pn		Pn	04 16 26.1	-0.7
RWWY				⇙Pg		Pb	04 16 32.5	-0.4
RWWY				⇙Sg		Sb	04 17 14.9	+2.4
E17A	**Martinsdale**	3.24	2	⇑P		Pn	04 16 27.2	0.0
	baz=3.2,SNR=28							
MPU	**Maple Canyon**	3.24	189	⇙Pn		Pn	04 16 26.8	-0.5
O19A	**Miners Draw (B**	3.25	154	⇓P		Pn	04 16 26.5	-0.8
	baz=3.2							
F20A	**Billings**	3.29	37	⇑P		Pn	04 16 28.3	+0.4
	baz=3.2,SNR=11							
J22A	**Midwest**	3.31	85	⇑P		Pn	04 16 28.6	+0.3
	baz=3.2,SNR=73							
DUG	**Dugway**	3.31	205	⇙Pn		Pn	04 16 27.8	-0.5
DUG				⇙Sg		Sg	04 17 22.1	+0.6
DUG	**Dugway**	3.31	205	⇓P		Pn	04 16 28.0	-0.3
	baz=3.4							
E16A	**East Helena**	3.34	352	⇑P		Pn	04 16 29.0	+0.4
	baz=3.4,SNR=67							
K22A	**Casper**	3.34	98	⇓P		Pn	04 16 29.0	+0.3
	baz=3.2							
I22A	**9 Mile Ranch,**	3.36	77	⇑P		Pn	04 16 29.4	+0.5
	baz=3.2,SNR=70							
G21A	**Lodge Grass**	3.39	53	⇓P		Pn	04 16 29.7	+0.5
	baz=3.3							
E15A	**Deer Lodge**	3.40	341	⇑P		Pn	04 16 30.3	+0.8
	baz=3.4,SNR=75							
E18A	**Harlowton**	3.43	13	⇑P		Pn	04 16 30.7	+0.9
	baz=3.4							
F13A	**Darby**	3.50	318	⇑P		Pn	04 16 31.0	+0.3
	baz=3.6,SNR=20							
MFID	**Camas Ranch**	3.52	275	⇙Pn		Pn	04 16 31.4	+0.4
MFID				⇙Pg		Pb	04 16 40.0	+1.8
MFID				⇙Sg		Sg	04 17 29.1	+1.0
MFID	**Camas Ranch**	3.52	275	⇑P		Pn	04 16 31.2	+0.1
	baz=3.6							
HRY	**Holter Researc**	3.53	351	⇙Pn		Pn	04 16 32.8	+1.5
HRY				⇙Sg		Sb	04 17 23.2	+1.3
L22A	**Ellis Ranch, M**	3.58	108	⇓P		Pn	04 16 32.0	0.0
	baz=3.5,SNR=62							
N21A	**Black Mountain**	3.58	132	⇑P		Pn	04 16 31.3	-0.7
	baz=3.5,SNR=29							
H22A	**Clearmont**	3.63	66	⇓P		Pn	04 16 32.0	-0.6
	baz=3.5,SNR=27							
P18A	**Preston Nutter**	3.64	171	P		Pn	04 16 33.1	+0.3
	baz=3.6,SNR=238							
P16A	**Fountain Green**	3.65	188	⇑P		Pn	04 16 32.5	-0.4
	baz=3.7							
E14A	**Clinton**	3.65	332	⇓P		Pn	04 16 33.2	+0.4
	baz=3.7,SNR=38							
O20A	**White River Ci**	3.72	145	⇑P		Pn	04 16 34.4	+0.6
	baz=3.7							
M22A	**Cedar Creek Ra**	3.75	118	⇑P		Pn	04 16 33.4	-0.9
	baz=3.6,SNR=38							
P17A	**Butcher Ranch,**	3.75	177	⇑P		Pn	04 16 34.3	0.0
	baz=3.8,SNR=46							
P15A	**Leamington**	3.77	195	⇓P		Pn	04 16 34.3	-0.2
	baz=3.8							
D16A	**Dana Ranch, Ca**	3.83	354	⇑P		Pn	04 16 36.1	+0.8
	baz=3.8,SNR=12							
E20A	**Meyer Farm, Mu**	3.87	31	⇑P		Pn	04 16 36.0	+0.3
	baz=3.8							
P19A	**Cripple Cowboy**	3.90	156	⇓P		Pn	04 16 36.3	-0.1
	baz=3.9							
TMUT	**Trail Mountain**	3.93	182	⇙Pn		Pn	04 16 36.8	0.0
TMUT				⇙Sg		Sb	04 17 37.3	+3.8
E13A	**Victor**	3.93	326	⇑P		Pn	04 16 36.9	+0.2
	baz=4.0,SNR=28							
G22A	**Birney**	3.93	58	⇑P		Pn	04 16 36.4	-0.3
	baz=3.8							
D17A	**Six Diamond Ra**	3.93	3	⇓P		Pn	04 16 36.5	-0.3
	baz=3.9							
F12A	**Elk City**	3.95	311	⇓P		Pn	04 16 37.1	0.0
	baz=4.0							
D15A	**Lincoln**	3.96	345	⇓P		Pn	04 16 37.8	+0.6
	baz=4.0,SNR=123							
K23A	**Bowen Ranch, D**	3.98	95	⇓P		Pn	04 16 37.3	-0.1
	baz=3.9,SNR=13							
J23A	**Dilts Ranch, B**	3.99	86	⇓P		Pn	04 16 36.4	-1.1
	baz=3.9							
ELK	**Elko**	4.01	233	⇙Pn		Pn	04 16 38.1	+0.2
ELK				⇙Sg		Sg	04 17 41.6	-2.2
CHMT	**Chamberlain Mo**	4.02	337	⇙Pn		Pn	04 16 39.5	+1.6
CHMT				⇙Sg		Sb	04 17 39.3	+3.4
L23A	**Garrett**	4.07	104	P		Pn	04 16 38.6	0.0
	baz=4.0,SNR=134							
SRU	**San Rafael**	4.13	175	⇙Pn		Pn	04 16 39.3	-0.2
SRU				⇙Sg		Sb	04 17 43.8	+4.7
SRU	**San Rafael**	4.13	175	⇑P		Pn	04 16 39.0	-0.4
	baz=4.1							
MSO	**Missoula**	4.16	331	⇙Pn		Pn	04 16 40.8	+0.9
MSO				⇙Sg		Sg	04 17 44.4	-4.2
MSO	**Missoula**	4.16	331	⇑P		Pn	04 16 40.1	+0.2
	baz=4.2,SNR=37							
N22A	**Wattenberg Ran**	4.17	124	⇓P		Pn	04 16 40.1	0.0
	baz=4.1,SNR=59							
Q18A	**Rafter H Ranch**	4.17	171	⇓P		Pn	04 16 39.5	-0.5
	baz=4.2							
D19A	**Cripps Ranch,**	4.22	20	⇓P		Pn	04 16 41.1	+0.5
	baz=4.2							
D14A	**Greenough**	4.24	336	⇓P		Pn	04 16 41.4	+0.5
	baz=4.3,SNR=90							
F22A	**Rosebud**	4.25	51	⇓P		Pn	04 16 40.2	-0.8
	baz=4.2,SNR=9.9							
H23A	**Clabaugh Cattl**	4.27	70	⇑P		Pn	04 16 41.0	-0.3
	baz=4.2,SNR=11							
M23A	**Laramie**	4.29	112	⇓P		Pn	04 16 41.1	-0.7
	baz=4.2							
Q16A	**Castle Valley**	4.30	182	⇑P		Pn	04 16 41.5	-0.4
	baz=4.3							
E21A	**Keefer Ranch,**	4.34	39	⇓P		Pn	04 16 42.3	+0.1
	baz=4.3							
D20A	**Manuel Ranch,**	4.37	27	⇓P		Pn	04 16 43.0	+0.4
	baz=4.3							
SLMT	**Seeley Lake**	4.38	337	⇙Pn		Pn	04 16 44.4	+1.5
SLMT				⇙Sg		Sg	04 17 51.1	-4.6
C17A	**Wharram Farm,**	4.41	2	⇑P		Pn	04 16 43.9	+0.6
	baz=4.4,SNR=11							
N23A	**Red Feather La**	4.43	120	P		Pn	04 16 44.0	+0.2
	baz=4.3,SNR=252							
Q19A	**Hogan Spring (**	4.46	162	⇓P		Pn	04 16 43.0	-1.1
	baz=4.4							
G23A	**Biddle**	4.50	62	⇑P		Pn	04 16 44.6	+0.2
	baz=4.4,SNR=74							
O22A	**Kremmling**	4.53	131	⇓P		Pn	04 16 44.5	-0.7
	baz=4.4							
PHWY	**Pilot Hill**	4.55	113	⇙Pn		Pn	04 16 44.8	-0.5
PHWY				⇙Sg		Sb	04 17 54.3	+3.1
D13A	**Huson**	4.57	329	⇑P		Pn	04 16 46.3	+0.8
	baz=4.6,SNR=51							
C16A	**Fuhringer Ranc**	4.61	354	⇓P		Pn	04 16 46.1	+0.1
	baz=4.6,SNR=20							
J24A	**Dixon Ranch, L**	4.64	87	⇑P		Pn	04 16 45.6	-0.8
	baz=4.5							
I24A	**Kuemmerle Ranc**	4.68	80	⇑P		Pn	04 16 46.2	-0.8
	baz=4.6,SNR=40							
C15A	**Salmond Ranch,**	4.69	347	⇑P		Pn	04 16 47.7	+0.6
	baz=4.7,SNR=33							
C19A	**Slack Wire Ran**	4.71	16	⇓P		Pn	04 16 48.0	+0.6
	baz=4.7							
F23A	**Volborg**	4.72	56	⇓P		Pn	04 16 47.2	-0.3
	baz=4.6							
Q20A	**Ridgley Place,**	4.73	153	⇓P		Pn	04 16 47.1	-0.7
	baz=4.7,SNR=38							
SWMT	**Swartz Lake**	4.77	335	⇙Pn		Pn	04 16 49.9	+1.7
SWMT				⇙Sg		Sb	04 18 01.1	+3.5
MSU	**Marysvale**	4.79	191	⇙Pn		Pn	04 16 49.1	+0.5
R17A	**Hanksville Air**	4.81	177	⇓P		Pn	04 16 48.3	-0.4
	baz=4.8,SNR=21							
BMO	**Blue Mountains**	4.82	292	⇙Pn		Pn	04 16 49.3	+0.3
BMO				⇙Sg		Sg	04 18 05.7	-4.2
E22A	**Miles City**	4.82	46	⇑P		Pn	04 16 48.6	-0.3
	baz=4.7							
P22A	**Eagle**	4.83	137	⇑P		Pn	04 16 49.3	+0.1
	baz=4.8							
O23A	**Lake Granby, G**	4.86	127	⇓P		Pn	04 16 49.3	-0.3
	baz=4.8,SNR=52							
EGMT	**Eagleton**	4.88	10	⇙Pn		Pn	04 16 51.2	+1.5
EGMT				⇙Pg		Pb	04 17 04.1	+2.7
EGMT				⇙Sg		Sb	04 18 05.2	+4.6
H24A	**Dirks Ranch, A**	4.90	70	⇑P		Pn	04 16 49.7	-0.4
	baz=4.8,SNR=64							
D12A	**Red Ives Fores**	4.91	323	⇑P		Pn	04 16 51.3	+1.2
	baz=5.0							
M24A	**Cheyenne**	4.91	109	⇑P		Pn	04 16 50.0	-0.2
	baz=4.8,SNR=51							
R18A	**Canyonlands Na**	4.91	170	⇑P		Pn	04 16 48.6	-1.6
	baz=4.9							
R16A	**Teasdale**	4.95	184	⇓P		Pn	04 16 51.2	+0.4
	baz=5.0,SNR=18							
SMCO	**Snowmass**	5.06	142	⇙Pn		Pn	04 16 52.4	-0.1
SMCO				⇙Sg		Sb	04 18 07.4	+1.2
B17A	**L&G Farms, Che**	5.07	2	⇓P		Pn	04 16 53.1	+0.8
	baz=5.1							
JTMT	**Jette**	5.07	334	⇙Pn		Pn	04 16 53.4	+1.0
JTMT				⇙Sg		Sb	04 18 11.5	+5.3
PV04	**Paradox Valley**	5.08	161	⇙Pn		Pn	04 16 52.0	-0.6
PV04				⇙Sg		Sg	04 18 13.6	-4.7
YBMT	**Yellow Bay**	5.09	337	⇙Pn		Pn	04 16 54.5	+1.8
Q21A	**Lamborn Mesa,**	5.10	148	⇑P		Pn	04 16 52.8	0.0
	baz=5.0							
R19A	**Curley Farm, L**	5.10	164	⇓P		Pn	04 16 51.7	-1.2
	baz=5.1,SNR=7.2							
C13A	**Hot Springs**	5.11	332	⇑P		Pn	04 16 52.8	0.0
	baz=5.2							
RSSD	**Black Hills**	5.14	78	⇙Pn		Pn	04 16 52.5	-0.9
N24A	**Carr**	5.15	116	⇑P		Pn	04 16 53.0	-0.5
	baz=5.0							
G24A	**Alzada**	5.18	64	⇓P		Pn	04 16 53.5	-0.4
	baz=5.1							
D22A	**Cohagen**	5.20	39	⇓P		Pn	04 16 54.0	0.0
	baz=5.1							
B15A	**Bradely Ranch,**	5.20	348	⇓P		Pn	04 16 55.3	+1.2
	baz=5.2,SNR=15							
E23A	**Ismay**	5.21	49	⇓P		Pn	04 16 54.0	-0.2
	baz=5.1							
B16A	**M & M Farms, S**	5.21	355	⇓P		Pn	04 16 55.3	+1.1
	baz=5.2,SNR=8.1							
K25A	**Mack Ranch, Ha**	5.28	94	⇑P		Pn	04 16 54.4	-0.8
	baz=5.2,SNR=13							
ISCO	**Idaho Springs**	5.30	128	⇙Pn		Pn	04 16 56.5	+0.8
ISCO				⇙Sg		Sb	04 18 16.7	+3.7
ISCO	**Idaho Springs**	5.30	128	⇑P		Pn	04 16 55.6	-0.2
	baz=5.2,SNR=20							
BSMT	**Bassoo Peak**	5.33	331	⇙Pn		Pn	04 16 57.1	+1.0
BSMT				⇙Pg		Pb	04 17 13.0	+3.9
BSMT				⇙Sg		Sg	04 18 23.8	-2.5
Q22A	**Crested Butte,**	5.35	143	⇓P		Pn	04 16 56.1	-0.2
	baz=5.3							
B14A	**Marquette Ranc**	5.37	344	⇑P		Pn	04 16 57.0	+0.5
	baz=5.4,SNR=12							
F24A	**Ekalaka**	5.37	59	⇓P		Pn	04 16 56.6	+0.1
	baz=5.3							
PV01	**Paradox Valley**	5.41	159	⇙Pn		Pn	04 16 56.3	-0.9
PV01				⇙Sg		Sb	04 18 21.8	+5.7
R20A	**Redvale**	5.41	157	⇑P		Pn	04 16 56.4	-0.8
	baz=5.4							
M25A	**Palm-Egli Farm**	5.46	107	⇑P		Pn	04 16 57.4	-0.3
	baz=5.3							
C12B	**Naegeli Ranch,**	5.47	327	⇓P		Pn	04 16 59.2	+1.3
	baz=5.5,SNR=19							
S16A	**Weppner Ranch,**	5.51	185	⇑P		Pn	04 16 59.5	+0.9
	baz=5.5							
R21A	**Cimarron**	5.52	150	⇓P		Pn	04 16 58.3	-0.3
	baz=5.5							
R13A	**O'Grain Ranch,**	5.52	205	⇓P		Pn	04 16 59.5	+0.8
	baz=5.6							
S18A	**Hurst Farm, Bl**	5.58	172	⇑P		Pn	04 16 58.5	-1.1
	baz=5.6							
S17A	**Black Ridge (B**	5.59	178	⇑P		Pn	04 16 59.3	-0.1
	baz=5.6							
S19A	**Harvey Farm, M**	5.66	165	⇑P		Pn	04 16 59.1	-1.4
	baz=5.6							
WVOR	**Wild Horse Val**	5.67	265	⇙Pn		Pn	04 17 03.1	+2.6
WVOR				⇙Pg		Pb	04 17 15.9	+1.1
WVOR				⇙Sg		Sg	04 18 31.1	-5.9
B13A	**Whitefish**	5.69	336	⇓P		Pn	04 17 01.6	+0.8
	baz=5.7,SNR=13							
ARUT	**Antelope Range**	5.74	200	⇙Pn		Pn	04 17 03.5	+1.9
A16A	**West Butte Ran**	5.74	356	⇑P		Pn	04 17 01.9	+0.4
	baz=5.7							
S20A	**Disappointment**	5.75	159	⇓P		Pn	04 17 00.8	-1.1
	baz=5.7							
K26A	**Motz Farm, Whi**	5.77	93	⇓P		Pn	04 17 01.1	-0.8
	baz=5.7							
LNOR	**Lincton Mounta**	5.83	299	⇙Pn		Pn	04 17 05.1	+2.4
LNOR				⇙Pg		Pg	04 17 23.0	-3.8
LNOR				⇙Sg		Sg	04 18 37.1	-5.1
A15A	**Johnson Ranch,**	5.88	349	⇓P		Pn	04 17 04.7	+1.3
	baz=5.9,SNR=9.0							
C11A	**Tepee Creek (N**	5.90	323	⇓P		Pn	04 17 04.8	+1.1
	baz=6.0,SNR=16							
R22A	**Saguache, Gunn**	5.95	146	⇓P		Pn	04 17 04.3	-0.2
	baz=5.9							
CCUT	**Cedar City**	5.95	198	⇙Pn		Pn	04 17 05.9	+1.4
CCUT				⇙Pg		Pb	04 17 23.8	+4.1
CCUT				⇙Sg		Sg	04 18 40.6	-5.4
L26A	**Underwood Farm**	5.97	99	⇓P		Pn	04 17 04.4	-0.3
	baz=5.9,SNR=6.2							
S21A	**Coal Bank Pass**	6.07	155	⇓P		Pn	04 17 05.8	-0.6
	baz=6.0							
T18A	**Mexican Hat**	6.14	171	⇑P		Pn	04 17 06.1	-1.1
	baz=6.1							
WALA	**Waterton Lakes**	6.17	342	⇙Pn		Pn	04 17 08.9	+1.4
WALA				⇙Pg		Pb	04 17 26.4	+3.0
WALA				⇙Sg		Sg	04 18 45.5	-7.6
T17A	**Navajo Res., N**	6.22	178	⇓P		Pn	04 17 08.4	+0.1
	baz=6.2							
MVCO	**Mesa Verde**	6.31	161	⇙Pn		Pn	04 17 09.0	-0.5
MVCO				⇙Sg		Sb	04 18 49.5	+7.7
MVCO	**Mesa Verde**	6.31	161	⇓P		Pn	04 17 09.0	-0.5
	baz=6.3,SNR=23							
S22A	**4UR Ranch, Cre**	6.33	148	⇑P		Pn	04 17 09.3	-0.5
	baz=6.3							
K27A	**Flueckinger Fa**	6.46	92	⇓P		Pn	04 17 10.2	-1.2
	baz=6.3							
O26A	**Horse Wrangler**	6.48	115	⇓P		Pn	04 17 11.2	-0.6
	baz=6.4,SNR=11							
L27A	**T5 Ranch, Ells**	6.51	97	⇓P		Pn	04 17 11.3	-0.8
	baz=6.4,SNR=9.1							
M27A	**Reverse DX Ran**	6.61	102	⇑P		Pn	04 17 12.8	-0.7
	baz=6.5							
NEW	**Newport**	6.61	322	⇙Pn		Pn	04 17 14.6	+1.2
NEW				⇙Sg		Sb	04 18 56.5	+6.2
NEW	**Newport**	6.61	322	⇑P		Pn	04 17 13.9	+0.5
	baz=6.7,SNR=20							
U17A	**Shonto**	6.62	178	⇓P		Pn	04 17 13.7	-0.1
	baz=6.6							
N27A	**Anderson Farm,**	6.76	108	⇓P		Pn	04 17 14.6	-0.9
	baz=6.6							
H2OWA	**Water**	6.77	301	P		Pn	04 17 19.6	+4.1
P26A	**Davis Ranch, A**	6.83	120	⇑P		Pn	04 17 16.0	-0.5
	baz=6.7,SNR=27							
HAWA	**Hanford**	6.84	301	⇙Pn		Pn	04

YKA	**Yellowknife Air**	**19.42**	**355**	P	**P**	**04 20 02.2**	**-0.2**
YKA				PcP	**PcP**	**04 24 21.7**	**-2.0**
TKL	**Tuckaleechee C**	**22.28**	**101**	P	**P**	**04 20 35.8**	**+2.0**
	3.4nm,0.6s,baz=252,slow=3.2,SNR=7.1						
TKL	**Tuckaleechee C**	**22.28**	**101**	P	**P**	**04 20 35.8**	**+2.0**
SADO	**Sadowa**	**22.90**	**75**	P	**P**	**04 20 42.6**	**+2.4**
	6.0nm,0.8s,baz=332,slow=14,SNR=4.2						
SADO	**Sadowa**	**22.90**	**75**	P	**P**	**04 20 42.6**	**+2.4**
INK	**Inuvik**	**27.80**	**342**	P	**P**	**04 21 25.1**	**-0.3**
	1.3nm,1.0s,baz=154,slow=13,SNR=4.2						
INK	**Inuvik**	**27.80**	**342**	P	**P**	**04 21 25.1**	**-0.3**
CMIG	**Matias Romero**	**29.44**	**147**	P	**P**	**04 21 39.6**	**-0.7**
	2.3nm,0.7s,baz=297,slow=8.8,SNR=3.3						
CMIG	**Matias Romero**	**29.44**	**147**	P	**P**	**04 21 39.6**	**-0.7**
ILAR	**Eielson Array**	**29.49**	**329**	P	**P**	**04 21 41.4**	**+0.9**
	0.5nm,0.7s,baz=127,slow=7.5,SNR=10						
ILAR				PcP	**PcP**	**04 24 43.9**	**-1.8**
	0.7nm,0.8s,baz=145,slow=2.0,SNR=8.6						
ILAR	**Eielson Array**	**29.49**	**329**	P	**P**	**04 21 41.4**	**+0.9**
ILAR				PcP	**PcP**	**04 24 43.9**	**-1.8**
AKASG	**Malin Array Be**	**80.25**	**24**	P	**P**	**04 27 46.4**	**-0.8**
	1.6nm,0.7s,baz=331,slow=4.9,SNR=3.4						
AKASG	**Malin Array Be**	**80.25**	**24**	P	**P**	**04 27 46.4**	**-0.8**
SONM	**Songino Array**	**83.51**	**336**	P	**P**	**04 28 03.8**	**-0.8**
	0.3nm,0.6s,baz=40,slow=4.7,SNR=2.8						
SONM	**Songino Array**	**83.51**	**336**	P	**P**	**04 28 03.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**87.92**	**329**	*e*P	**P**	**04 28 26.1**	**-0.6**
HHC				PP	**PP**	**04 31 54.0**	**+2.2**
HHC				SKS	S	04 38 53.9	-17
HHC				S	**SKKSac**	**04 39 08.1**	**+1.8**
HHC				ScS	**ScS**	**04 39 14.1**	**-3.4**
HHC				SS	**SS**	**04 44 55.4**	**-1.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,6.2s						
HHC				LR	LR		
	comp=N,250nm,16.6s						
HHC				LR	LR		
	comp=E,220nm,17.8s						
HHC				LR	LR		
	comp=Z,270nm,16.7s						
MKAR	**Makanchi Array**	**89.59**	**351**	P	**P**	**04 28 32.9**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=343,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**89.59**	**351**	P	**P**	**04 28 32.9**	**-1.4**

IDC **16** *04:24:03.4±0.6,46°.83N×155°.37E,h0km,mb4.2/17, mb1 4.4/20,mb1mx4.3/26,mbtmp4.2/20,ML3.6/3,MS3.7/6, Ms1 3.7/6,ms1mx3.3/40,Error ellipse: s-maj=18.1km s-min=14.1km az=147.0*

MOS **16** *04:24:09.9±2.0,47°.03N×155°.08E,h54km,mb4.7/25,Error ellipse: s-maj=10.2km s-min=7.6km az=105.4*

NEIC **16** *04:24:09.0±0.6,46°.96N×155°.40E,h35km,mb4.8/12,Error ellipse: s-maj=17.0km s-min=9.1km az=155.0*

ISCJB **16** *04:24:11.9±0.8,47°.59N±0°.09×154°.7E±0°.1,h32km, mb4.5/70,MS3.8/11,Error ellipse: s-maj=17.0km s-min=5.3km az=138.1*

ISC 16 04:24:12.0±0.7,47°.32N±0°.07×154°.81E±0°.06,h31km±3km, n214,σt1s67/168,mb4.7/71,MS3.8/11,23C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.47**	**14**	*e*PN	**Pn**		**04 25 03.4**	**-0.5**
SKR				pmax	pmax			
	comp=Z,160nm,1.0s							
SKR				MLR	MLR			
	comp=Z,2μm,10.0s							
PEA0B	**Petropavlovsk-**	**6.08**	**17**	*e*Pn	**Pn**		**04 25 37.8**	**-1.9**
PETK	**Petropavlovsk-**	**6.08**	**17**	Pn	**Pn**		**04 25 37.9**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=184,slow=13,SNR=16							
PETK	**Petropavlovsk-**	**6.08**	**17**	PN	**Pn**		**04 25 37.9**	**-1.9**
PETK	**Petropavlovsk-**	**6.08**	**17**	Pn	**Pn**		**04 25 37.9**	**-1.9**
PET	**Petropavlovsk**	**6.22**	**22**	*e*PN	Pn		04 25 39.0	-2.5
PET				pmax	pmax			
	comp=Z,17nm,0.5s							
PET				MLR	MLR			
	comp=Z,200nm,12.0s							
PET	**Petropavlovsk**	**6.22**	**22**	*e*Pn	**Pn**		**04 25 40.0**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**7.08**	**246**	PN	Pn		04 25 45.2	-8.2
YSS	**Yuzh-Sakhalins**	**8.23**	**272**	*e*PN	**Pn**		**04 26 08.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**8.23**	**272**	*e*Pn	**Pn**		**04 26 08.5**	**-0.7**
ASAJ	**Asahikawa**	**9.12**	**254**	Pn	**Pn**		**04 26 20.1**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=83,slow=20,SNR=5.8							
ASAJ				LR	LR		04 30 58.8	
	comp=Z,120nm,18.1s,baz=129,slow=44							
ASAJ	**Asahikawa**	**9.12**	**254**	PN	**Pn**		**04 26 20.1**	**-1.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,120nm,18.1s							
ASAJ	**Asahikawa**	**9.12**	**254**	Pn	**Pn**		**04 26 20.1**	**-1.4**
ERM	**Erimo**	**9.85**	**242**↑	*e*PN	**Pn**		**04 26 28.7**	**-2.7**
KLR	**Kul'dur**	**15.46**	**286**	*e*P	Pn		04 27 41.0	-6.7
KLR				MLR	MLR			
	comp=Z,1μm,13.0s							
SEY	**Seymchan**	**15.71**	**356**↑	*e*P	**Pn**		**04 27 47.1**	**-3.6**
USRK	**Ussuriysk Arra**	**16.21**	**267**	Pn	**Pn**		**04 27 55.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=71,slow=11,SNR=7.4							
MAJO	**Matsushiro**	**16.35**	**235**	*e*P	Pn		04 27 52.2	-7.0
MAJO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MAJO	**Matsushiro**	**16.35**	**235**	*e*Pn	Pn		04 27 52.2	-7.0
	comp=Z,9.2nm,0.8s							
MAT	**Matsushiro**	**16.35**	**235**	P	Pn		04 27 52.0	-7.2
MAT				*e*S	**Sn**		**04 31 02.0**	**+2.3**
MJAR	**Matsushiro Arr**	**16.35**	**235**	Pn	Pn		04 27 52.0	-7.2
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=6.8							
MJAR	**Matsushiro Arr**	**16.35**	**235**	P	Pn		04 27 52.0	-7.2
MJAR	**Matsushiro Arr**	**16.35**	**235**	Pn	Pn		04 27 52.0	-7.2
MDJ	**Mudanjiang**	**17.72**	**271**	P	**Pn**		**04 28 15.6**	**-0.6**
MDJ				pmax	pmax			
	comp=Z,6.0nm,2.3s							
MDJ				pmax	pmax			
	comp=Z,160nm,5.6s							
YAK	**Yakutsk**	**20.49**	**325**	*e*P	**P**		**04 28 46.2**	**-0.8**
YAK				*e*			04 29 03.8	
YAK				*e*S	**S**		**04 32 34.6**	**+0.2**
YAK				*e*SS	**SnSn**		**04 32 55.3**	**+1.6**
YAK				*e*SSS	SSS		04 33 18.0	
YAK				*e*			04 40 13.2	
YAK				pmax	pmax			
	comp=Z,15nm,1.1s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,12nm,1.2s							
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK				smax	smax			
	comp=E,153nm,3.3s							
YAK				smax	smax			
	comp=N,53nm,2.8s							
YAK				MLR	MLR			
	comp=Z,236nm,13.0s							
YAK				MLR	MLR			
	comp=N,126nm,12.0s							
YAK				MLR	MLR			
	comp=E,135nm,12.0s							
YAK	**Yakutsk**	**20.49**	**325**	*e*P	Pn		04 28 49.5	+0.2
CLNS	**Chul'man**	**20.55**	**309**	*e*P	**P**		**04 28 48.3**	**+0.5**
CLNS				pmax	pmax			
	comp=N,4.0nm,1.2s							
CLNS				pmax	pmax			
	comp=Z,11nm,1.0s							
CLNS				pmax	pmax			
	comp=E,6.0nm,1.0s							
CLNS				MLR	MLR			
	comp=N,173nm,11.0s							
CLNS				MLR	MLR			
	comp=Z,177nm,14.0s							
CLNS				MLR	MLR			
	comp=E,319nm,15.0s							
CN2	**Changchun**	**20.80**	**271**	*e*P	Pn		04 28 53.8	+0.7
CN2				*ep*P	pP		04 29 02.0	+3.2
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
BILL	**Bilibino**	**21.58**	**12**	*e*P	**P**		**04 28 56.6**	**-2.2**
BILL				*e*			04 29 19.6	
BILL				pmax	pmax			
	comp=Z,14nm,1.2s							
BILL				MLR	MLR			
	comp=Z,100nm,16.0s							
BILL	**Bilibino**	**21.58**	**12**	*e*P	**P**		**04 28 57.2**	**-1.5**
	comp=Z,12nm,0.9s							
KSRS	**Korea Array**	**22.07**	**253**	P	**P**		**04 29 05.3**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=58,slow=9.1,SNR=15							
KSRS	**Korea Array**	**22.07**	**253**	P	**P**		**04 29 05.4**	**+1.1**
KSRS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KSAR	**Wonju Array Be**	**22.11**	**253**	P	**P**		**04 29 05.4**	**+0.8**
KSAR	**Wonju Array Be**	**22.11**	**253**	P	**P**		**04 29 05.3**	**+0.8**
BOD	**Bodaibo**	**26.53**	**308**	*e*P	**P**		**04 29 44.8**	**-1.8**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.5s							
NJ2	**Nanjing**	**31.27**	**254**	*e*P	P		04 30 35.1	+6.1
NJ2				pmax	pmax			
	comp=Z,50nm,0.8s							
HHC	**Hu-ho-hao-te**	**31.41**	**274**	*e*P	**P**		**04 30 31.8**	**+1.5**
HHC				pP	**pP**		**04 30 41.8**	**+2.5**
HHC				sP	**sP**		**04 30 45.8**	**+2.8**
HHC				PP	**PnPn**		**04 31 32.9**	**-0.5**
HHC				S	**S**		**04 35 31.9**	**-3.9**
HHC				sS	**sS**		**04 35 47.4**	**-3.3**
HHC				SS	**SnSn**		**04 37 16.6**	**-4.3**
HHC				ScS	**ScS**		**04 41 02.5**	**+1.0**
HHC				pmax	pmax			
	comp=Z,17nm,0.7s							
HHC				pmax	pmax			
	comp=Z,160nm,5.7s							
HHC				LR	LR			
	comp=N,310nm,15.5s							
HHC				LR	LR			
	comp=E,280nm,14.3s							
HHC				LR	LR			
	comp=Z,320nm,15.5s							
ULN	**Ulaanbaatar**	**31.81**	**289**	*e*P	**P**		**04 30 32.8**	**-0.9**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**31.81**	**289**	*e*P	**P**		**04 30 32.8**	**-0.9**
	comp=Z,6.0nm,1.3s							
SONM	**Songino Array**	**32.24**	**289**	P	**P**		**04 30 36.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=61,slow=8.6,SNR=11							
SONM				LR	LR		04 44 06.4	
	comp=Z,170nm,19.9s,baz=2.4,slow=37							
SONM	**Songino Array**	**32.24**	**289**	P	**P**		**04 30 36.6**	**-0.9**
SONM	**Songino Array**	**32.24**	**289**	P	**P**		**04 30 36.6**	**-0.9**
ZAK	**Zakamensk**	**33.49**	**295**	*e*P	**P**		**04 30 48.2**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.3s							
COLA	**College**	**34.97**	**39**	*e*P	P		04 30 57.6	-3.2
COLA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
COLA	**College**	**34.97**	**39**	*e*P	P		04 30 57.6	-3.2
	comp=Z,3.3nm,0.8s							
ILAR	**Eielson Array**	**35.38**	**39**	P	P		04 31 00.8	-3.6
	comp=Z,0.7nm,0.5s,baz=254,slow=7.1,SNR=21							
ILAR	**Eielson Array**	**35.38**	**39**	P	P		04 31 00.8	-3.6
ILAR	**Eielson Array**	**35.38**	**39**	P	P		04 31 00.8	-3.6
XAN	**Xi'an**	**36.72**	**266**	P	**P**		**04 31 18.3**	**+2.0**
XAN				pmax	pmax			
	comp=Z,3.0nm,1.5s							
XAN				pmax	pmax			
	comp=Z,35nm,5.9s							
LZH	**Lanzhou**	**39.03**	**272**	*e*P	**P**		**04 31 36.8**	**+0.9**
LZH				pP	**pP**		**04 31 45.3**	**+0.3**
LZH				sP	**sP**		**04 31 48.5**	**-0.2**
LZH				pmax	pmax			
	comp=Z,21nm,1.3s							
GTA	**Gaotai**	**40.02**	**279**	*e*P	**P**		**04 31 45.3**	**+1.2**
GTA				pP	**pP**		**04 31 55.0**	**+1.7**
GTA				sP	**sP**		**04 31 59.0**	**+2.0**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
INK	**Inuvik**	**40.54**	**33**	P	**P**		**04 31 46.1**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=290,slow=6.5,SNR=12							
INK	**Inuvik**	**40.54**	**33**	P	**P**		**04 31 46.1**	**-1.7**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**40.54**	**33**	*e*P	**P**		**04 31 45.8**	**-2.1**
	comp=Z,4.1nm,0.9s							
CD2	**Chengdu**	**42.08**	**266**	P	P		04 32 04.6	+3.6
CD2				pP	pP		04 32 14.8	+4.6
CD2				sP	sP		04 32 19.1	+5.2
CD2				PP	PP		04 33 44.4	+5.8
CD2				S	**S**		**04 38 18.0**	**-0.4**
CD2				sS	sS		04 38 34.9	+1.4
CD2				SS	SS		04 41 18.5	-7.7
CD2				pmax	pmax			
	comp=Z,20nm,0.7s							
CD2				pmax	pmax			
	comp=Z,280nm,5.9s							
CD2				LR	LR			
	comp=N,320nm,6.5s							
CD2				LR	LR			
	comp=Z,300nm,7.1s							
GYA	**Guiyang**	**42.97**	**258**	*e*P	P		04 32 12.0	+3.6
GYA				pP	pP		04 32 22.3	+4.7
GYA				PP	**PcP**		**04 33 54.6**	**-3.9**
GYA				ScP	**ScP**		**04 37 51.9**	**+4.8**
GYA				S	**S**		**04 38 33.4**	**+1.7**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ZAA0	**Zalesovo Array**	**43.22**	**306**	*e*P	**P**		**04 32 08.9**	**-1.0**
ZALV	**Zalesovo Beam**	**43.22**	**306**	P	**P**		**04 32 09.3**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=65,slow=7.2,SNR=19							
ZALV				LR	LR		04 51 20.4	
	comp=Z,101nm,19.4s,baz=23,slow=37							
ZALV	**Zalesovo Beam**	**43.22**	**306**	P	**P**		**04 32 09.3**	**-0.6**
ZALV	**Zalesovo Beam**	**43.22**	**306**	P	**P**		**04 32 09.3**	**-0.6**
NVS	**Novosibirsk**	**43.76**	**307**	‖ *i*P	**P**		**04 32 13.1**	**-1.1**
NVS				pmax	pmax			
	comp=N,2.0nm,1.7s							
NVS				pmax	pmax			
	comp=Z,21nm,1.7s							
NVS				pmax	pmax			
	comp=E,11nm,1.6s							
WMQ	**Urumqi**	**45.80**	**292**	*e*P	**P**		**04 32 31.0**	**+0.3**
QIZ	**Qiongzhong**	**46.14**	**248**	P	P		04 32 37.5	+3.9
QIZ				S	S		04 39 23.0	+5.4
QIZ				pmax	pmax			
	comp=Z,250nm,3.8s							
KMI	**Kunming**	**46.48**	**260**	P	P		04 32 39.4	+2.9
KMI				pP	pP		04 32 49.0	+3.2
KMI				sP	sP		04 32 53.0	+3.5
KMI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MK31	**Makanchi Array**	**47.71**	**298**	*e*P	**P**		**04 32 45.1**	**-0.5**
MK31	**Makanchi Array**	**47.71**	**298**	*e*P	**P**		**04 32 45.0**	**-0.5**
MKAR	**Makanchi Array**	**47.71**	**298**	P	**P**		**04 32 45.3**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=70,slow=7.8,SNR=21							
MKAR				LR	LR		04 54 47.0	
	comp=Z,99nm,19.5s,baz=352,slow=38							
MKAR	**Makanchi Array**	**47.71**	**298**	P	**P**		**04 32 45.3**	**-0.3**
MKAR	**Makanchi Array**	**47.71**	**298**	P	**P**		**04 32 45.3**	**-0.3**
MKAR	**Makanchi Array**	**47.71**	**298**	*e*P	**P**		**04 32 44.9**	**-0.7**
KURK	**Kurchatov**	**48.01**	**304**	‖ *e*P	**P**		**04 32 47.0**	**-0.8**
KURK				pmax	pmax			
	comp=Z,11nm,1.2s							
KURK	**Kurchatov**	**48.01**	**304**	*e*P	**P**		**04 32 47.6**	**-0.2**
	comp=Z,9.1nm,0.9s							
YKA	**Yellowknife Ar**	**49.77**	**37**	P	P		04 32 56.7	-4.4
	comp=Z,0.6nm,0.8s,baz=296,slow=7.2,SNR=5.1							
YKA				PcP	**PcP**		**04 34 18.4**	**-3.2**
	comp=Z,0.1nm,0.4s,baz=306,slow=3.9,SNR=4.4							
YKA	**Yellowknife Ar**	**49.77**	**37**	P	P		04 32 56.7	-4.4
YKA							04 34 18.4	
YKA	**Yellowknife Ar**	**49.77**	**37**	P	P		04 32 56.7	-4.4
YKA				PcP	**PcP**		**04 34 18.4**	**-3.2**
RES	**Resolute Bay**	**49.92**	**19**	*e*P	**P**		**04 33 02.7**	**+0.6**
RES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
RES	**Resolute Bay**	**49.92**	**19**	*e*P	**P**		**04 33 02.7**	**+0.6**
	comp=Z,2.2nm,0.8s							
LSA	**Lhasa**	**51.40**	**274**	*e*P	P		04 33 17.2	+2.8
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**51.40**	**274**	*e*P	P		04 33 17.2	+2.8
	comp=Z,4.6nm,0.6s							
BRVK	**Borovoye**	**51.43**	**310**	*c i*P	**P**		**04 33 13.8**	**0.0**
BRVK				pmax	pmax			
	comp=Z,24nm,1.4s							
BRVK	**Borovoye**	**51.43**	**310**	*e*P	**P**		**04 33 14.1**	**+0.3**
	comp=Z,12nm,0.6s							
CHTO	**Chiang Mai**	**53.38**	**258**	*e*P	**P**		**04 33 26.8**	**-1.9**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**53.38**	**258**	*e*P	**P**		**04 33 26.8**	**-1.9**
	comp=Z,3.9nm,0.7s							
CMAR	**Chiang Mai Arr**	**53.63**	**257**	P	**P**		**04 33 30.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=38,slow=7.7,SNR=6.9							
CMAR	**Chiang Mai Arr**	**53.63**	**257**	P	**P**		**04 33 30.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**53.63**	**257**	P	**P**		**04 33 30.1**	**-0.4**
TKM2	**Tokmak 2**	**53.78**	**297**	*e*P	**P**		**04 33 32.1**	**+0.4**
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TKM2	**Tokmak 2**	**53.78**	**297**	*e*P	**P**		**04 33 32.1**	**+0.4**
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**54.62**	**297**↑	*e*P	**P**		**04 33 38.2**	**+0.5**
AAK				pmax	pmax			
	comp=Z,28nm,2.5s							
AAK	**Ala-Archa**	**54.62**	**297**	*e*P	**P**		**04 33 38.0**	**+0.4**
	comp=Z,11nm,0.7s							
EKS2	**Erkin-Say**	**55.03**	**297**	*e*P	**P**		**04 33 40.8**	**+0.2**
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**55.03**	**297**	*e*P	**P**		**04 33 40.8**	**+0.2**
	comp=Z,3.6nm,0.8s							
ARU	**Arti**	**55.37**	**318**	*c i*P	**P**		**04 33 42.7**	**+0.1**
ARU							04 35 42.4	
ARU				S	**S**		**04 41 29.6**	**+5.0**
ARU				SS	**SS**		**04 45 08.4**	**-0.2**
ARU				pmax	pmax			
	comp=Z,26nm,1.2s							
ARU	**Arti**	**55.37**	**318**	*e*P	**P**		**04 33 43.0**	**+0.3**
	comp=Z,17nm,0.9s							
KSH	**Kashi**	**55.50**	**293**	*e*P	P		04 33 48.0	+4.0
KSH				*ep*P	pP		04 33 58.1	+4.6
KSH				*es*P	sP		04 34 02.1	+5.0
KSH				*e*PcP	PcP		04 34 49.1	+5.3
KSH				*e*PP	**PP**		**04 35 52.6**	**+4.7**
KSH				*e*ScP	**ScP**		**04 38 44.0**	**+3.8**
KSH				*e*PcS	**PcS**		**04 38 47.8**	**+3.8**
KSH				*e*S	**S**		**04 41 24.8**	**-2.4**
KSH				*es*S	sS		04 41 42.8	+0.1
KSH				*e*ScS	**ScS**		**04 43 31.1**	**+0.2**
KSH				*e*SS	**SS**		**04 45 09.6**	**-2.1**
KSH				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,140nm,4.0s							
KSH				LR	LR			
	comp=N,230nm,7.1s							
KSH				LR	LR			
	comp=E,190nm,5.5s							
KSH				LR	LR			
	comp=Z,340nm,5.8s							
NEW	**Newport**	**55.90**	**54**	*e*P	P		04 33 41.0	-5.7
NEW	**Newport**	**55.90**	**54**	*e*P	P		04 33 41.0	-5.7
JIRN	**Jiri**	**56.05**	**275**	*e*P	**P**		**04 33 50.1**	**+1.7**
	comp=Z,9.8nm,0.5s							
JIRN	**Jiri**	**56.05**	**275**	*e*P	**P**		**04 33 50.1**	**+1.7**
	comp=Z,9.8nm,0.5s							
GUN	**Gumba**	**56.10**	**276**	*e*P	**P**		**04 33 50.1**	**+1.4**
	comp=Z,5.7nm,0.4s							
GUN	**Gumba**	**56.10**	**276**	*e*P	**P**		**04 33 50.1**	**+1.4**
	comp=Z,5.7nm,0.4s							
RAMN	**Ramite**	**56.23**	**274**	*e*P	**P**		**04 33 51.1**	**+1.5**
	comp=Z,17nm,0.8s							
RAMN	**Ramite**	**56.23**	**274**	*e*P	**P**		**04 33 51.1**	**+1.5**
	comp=Z,17nm,0.8s							
DMN	**Daman**	**56.82**	**276**	*e*P	**P**		**04 33 54.6**	**+0.8**
	comp=Z,16nm,0.8s							
DMN	**Daman**	**56.82**	**276**	*e*P	**P**		**04 33 54.6**	**+0.8**
	comp=Z,16nm,0.8s							
GKN	**Gorkha**	**56.88**	**277**	*e*P	**P**		**04 33 54.9**	**+0.8**
	comp=Z,6.2nm,0.3s							
GKN	**Gorkha**	**56.88**	**277**	*e*P	**P**		**04 33 54.9**	**+0.8**
	comp=Z,6.2nm,0.3s							
KEV	**Kevo**	**57.19**	**341**	*e*P	**P**		**04 33 56.1**	**+0.7**
KEV	**Kevo**	**57.19**	**341**	*ep*	**P**		**04 33 56.1**	**+0.7**
KEV	**Kevo**	**57.19**	**341**	*ep*	**P**		**04 33 56.1**	**+0.7**
DANN	**Dangsing**	**57.25**	**278**	*e*P	**P**		**04 33 58.3**	**+1.4**
	comp=Z,20nm,0.8s							
DANN	**Dangsing**	**57.25**	**278**	*e*P	**P**		**04 33 58.3**	**+1.4**
	comp=Z,20nm,0.8s							
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**		**04 33 59.0**	**0.0**
	comp=Z,6.1nm,0.8s,baz=20,slow=8.8,SNR=7.8							
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**		**04 33 59.0**	**0.0**
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**		**04 33 59.0**	**0.0**
KOLN	**Koldanda**	**57.73**	**277**	*e*P	**P**		**04 34 00.6**	**+0.5**
	comp=Z,9.4nm,0.7s							
KOLN	**Koldanda**	**57.73**	**277**	*e*P	**P**		**04 34 00.6**	**+0.5**
	comp=Z,9.4nm,0.7s							
ABKAR	**Akbulak array**	**58.95**	**310**	*e*P	**P**		**04 34 08.3**	**+0.3**
FFC	**Flin Flon**	**59.55**	**41**	*ce*P	**P**		**04 34 12.0**	**-0.1**
NVAR	**Mina Array Bea**	**61.14**	**64**	P	P		04 34 19.1	-4.4
	comp=Z,0.8nm,0.9s,baz=292,slow=7.5,SNR=3.1							
NVAR	**Mina Array Bea**	**61.14**	**64**	P	P		04 34 19.1	-4.4
ELK	**Elko**	**61.51**	**60**	*e*P	P		04 34 21.1	-5.0
ELK	**Elko**	**61.51**	**60**	*e*P	P		04 34 21.1	-5.0
KBL	**Kabul**	**62.93**	**292**	*e*P	**P**		**04 34 35.1**	**-0.5**
KBL				pmax	pmax			
	comp=Z,14nm,1.4s							
KBL	**Kabul**	**62.93**	**292**	*e*P	**P**		**04 34 35.1**	**-0.5**
	comp=Z,14nm,1.4s							
KAF	**Kangasniemi**	**63.41**	**336**	*e*P	**P**		**04 34 40.3**	**+2.3**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KAF	**Kangasniemi**	**63.41**	**336**	*ep*	**P**		**04 34 40.3**	**+2.3**
	comp=Z,1.2nm,0.4s							
KAF	**Kangasniemi**	**63.41**	**336**	*ep*	**P**		**04 34 40.3**	**+2.3**
	comp=Z,1.2nm,0.4s							
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**		**04 34 42.7**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=38,slow=7.5,SNR=28							
FINES	**FINESS Array B**	**64.01**	**335**	P

TXAR	Lajitas Array	76.20	62	P		P		04 35 52.8	-4.6
TXAR	Lajitas Array	76.20	62	P		P		04 35 52.8	-4.6
TRPA	Tarpa	76.26	329	⇑*i*P		P		04 36 00.8	+3.6
DPC	Dobruska-Polom	76.33	334	*e*P		P		04 36 01.5	+3.8
DPC				*e*				04 36 10.8	
DPC	Dobruska-Polom	76.33	334	*e*P		P		04 36 01.5	+3.8
DPC				*ep*P		**PcP**		**04 36 10.8**	**+1.3**
CLL	Collm	76.41	336	*e*P		**P**		**04 35 58.0**	**-0.1**
CLL				pmax	pmax				
	comp=Z,26nm,1.8s								
CLL	Collm	76.41	336	*e*P		**P**		**04 35 58.0**	**-0.1**
	comp=Z,26nm,1.8s								
PRU	Pruhonice	77.17	335	*e*P		P		04 36 05.9	+3.5
PRU	Pruhonice	77.17	335	*e*P		P		04 36 05.9	+3.5
MLR	Muntele Rosu	77.25	326	⇑P		**P**		**04 36 04.6**	**+1.5**
MLR	Muntele Rosu	77.25	326	⇑*i*P		**P**		**04 36 04.6**	**+1.5**
VOIR		77.64	326	⇑P		P		04 36 09.0	+3.8
VOIR		77.64	326	⇑*i*P		P		04 36 09.0	+3.8
KHC	Kasperske Hory	78.22	335	*e*P		P		04 36 11.7	+3.4
KHC				*e*				04 36 19.0	
KHC	Kasperske Hory	78.22	335	*e*P		**P**		**04 36 08.0**	**-0.3**
KHC	Kasperske Hory	78.22	335	*ex*		P		04 36 11.7	+3.4
KHC				*ep*P		pP		04 36 19.0	+0.9
GERES	GERESS Array B	78.44	335	P		**P**		**04 36 10.2**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=41,slow=5.3,SNR=12								
GERES	GERESS Array B	78.44	335	P		**P**		**04 36 10.3**	**+0.7**
GERES	GERESS Array B	78.44	335	P		**P**		**04 36 10.2**	**+0.7**
BZS	Buzias	78.74	329	⇑P		**P**		**04 36 14.1**	**+2.9**
BZS	Buzias	78.74	329	⇑*i*P		**P**		**04 36 14.1**	**+2.9**
BR131	Keskin Array S	78.76	318	*e*P		**P**		**04 36 12.2**	**+0.6**
	comp=Z,1.8nm,0.9s								
BRTR	Keskin Array B	78.76	318	P		**P**		**04 36 12.1**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=64,slow=4.8,SNR=8.4								
BRTR	Keskin Array B	78.76	318	P		**P**		**04 36 12.1**	**+0.5**
BRTR	Keskin Array B	78.76	318	P		**P**		**04 36 12.1**	**+0.5**
PERS	Pernice	80.00	333	*i* P		P		04 36 21.9	+3.7
KBA	Koelnbreinsper	80.14	334	⇑*i*P		**P**		**04 36 20.1**	**+1.1**
KBA				pmax	pmax				
	comp=Z,11nm,0.9s								
KBA	Koelnbreinsper	80.14	334	⇑*i*P		**P**		**04 36 20.1**	**+1.1**
	comp=Z,11nm,0.9s								
KBA	Koelnbreinsper	80.14	334	⇑*i*PcP		**P**		**04 36 20.1**	**+1.1**
	comp=Z,11nm,0.9s								
WTTA	Wattenberg	80.46	336	⇑*i*P		**P**		**04 36 22.5**	**+1.7**
WTTA				pmax	pmax				
	comp=Z,15nm,1.1s								
WTTA	Wattenberg	80.46	336	⇑*i*P		**P**		**04 36 22.5**	**+1.7**
	comp=Z,15nm,1.1s								
WTTA	Wattenberg	80.46	336	⇑*i*PcP		**P**		**04 36 22.5**	**+1.7**
	comp=Z,15nm,1.1s								
CDF	Champ du Feu	80.56	339	*e*P		P		04 36 27.3	+6.2
VTS	Vitosha	80.76	326	⇑P		P		04 36 25.7	+3.3
VTS	Vitosha	80.76	326	⇑*i*P		P		04 36 25.7	+3.3
PAGF	Fort de Pagny	80.80	340	*e*P		P		04 36 26.8	+4.5
VISS	Visnje	80.83	333	*i* P		P		04 36 25.9	+3.4
FETA	Feichten	80.94	336	⇑*i*P		P		04 36 27.3	+4.0
	comp=Z,7.3nm,1.2s								
FETA	Feichten	80.94	336	⇑*i*PcP		P		04 36 27.3	+4.0
	comp=Z,7.3nm,1.2s								
BOJS	Bojanci	80.97	332	*i* P		**P**		**04 36 25.1**	**+1.8**
JAVS	Javornik	80.99	333	*i* P		**P**		**04 36 26.4**	**+2.9**
SFTF	Sexfontaines	81.28	340	*e*P		P		04 36 29.1	+4.2
TUE	Stuetta	81.82	337	*e*P		**P**		**04 36 27.2**	**-0.8**
	comp=Z,194nm,3.0s								
LOR	Lormes	82.44	341	*e*P		P		04 36 35.2	+4.2
	comp=Z,8.1nm,0.7s								
SSF	Saint Saulge	82.71	341	*e*P		P		04 36 36.7	+4.3
	comp=Z,5.7nm,0.6s								
SGMF	Saint Gilles	82.79	345	*e*P		P		04 36 37.6	+4.8
AVF	Avril sur Loir	83.00	341	*e*P		P		04 36 38.4	+4.5
	comp=Z,9.3nm,0.7s								
BGF	Bois d'Agland	83.33	341	*e*P		P		04 36 39.7	+4.1
	comp=Z,7.7nm,0.6s								
LPL	La Plagne	83.39	338	*e*P		P		04 36 41.2	+5.0
	comp=Z,9.3nm,0.6s								
LPG	La Plagne	83.40	338	*e*P		P		04 36 41.4	+5.0
	comp=Z,6.8nm,0.5s								
TCF	Toulx Ste Croi	83.73	341	*e*P		P		04 36 42.4	+4.7
MBDF	Montbardon	84.11	338	*e*P		P		04 36 44.8	+4.9
	comp=Z,6.2nm,0.6s								
ORIF	Oris-en-Rattie	84.16	338	*e*P		P		04 36 45.0	+5.0
VIVF	Saint-Julien-l	84.52	339	*e*P		P		04 36 46.9	+5.2
	comp=Z,5.4nm,0.7s								
CAF	Calviac	85.06	341	*e*P		P		04 36 49.9	+5.4
	comp=Z,7.3nm,0.7s								
LMR	La Mourre	85.48	337	*e*P		P		04 36 51.1	+4.6
ETSF	Etsaut	87.56	342	*e*P		P		04 37 03.1	+6.3
	comp=Z,9.0nm,0.8s								
PLCA	Paso Flores	147.10	95	PKPbc		**PKPdf**		**04 43 46.0**	**-3.2**
	comp=Z,2.4nm,0.8s,baz=21,slow=0.4,SNR=4.4								
PLCA	Paso Flores	147.10	95	PKP2		**PKPdf**		**04 43 46.1**	**-3.2**
PLCA	Paso Flores	147.10	95	PKPbc		**PKPdf**		**04 43 46.0**	**-3.2**
SNAA	Sanae	153.42	196	*e*PKIKP		**PKPbc**		**04 44 05.5**	**-0.3**
SNAA				*e*				04 44 29.0	
SNAA	Sanae	153.42	196	*e*PKPdf		**PKPbc**		**04 44 05.5**	**-0.3**
SNAA				*e*PKPab		PKPab		04 44 29.0	+11

IDC 16 04:27:09.2±0.9, 46°.84N×155°.41E, h0km, mb3.6/8, mb1 3.9/11, mb1mx3.7/26, mbtmp3.7/11, ML2.8/2, Error ellipse: s-maj=25.9km s-min=19.1km az=130.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.44	12	Pn	Pn	04 28 44.3	-1.0
	0.4nm,0.3s,baz=184,slow=16,SNR=3.2						
MJAR	Matsushiro Arr	16.43	237	Pn	Pn	04 30 58.9	-2.2
	baz=295,slow=17,SNR=3.3						
USRK	Ussuriysk Arra	16.61	269	Pn	Pn	04 31 01.9	-1.3
	0.2nm,0.3s,baz=57,slow=11,SNR=4.7						
KSRS	Korea Array	22.34	255	P	P	04 32 10.0	+1.5
	0.7nm,0.5s,baz=62,slow=10,SNR=3.3						
ILAR	Eielson Array	35.49	39	P	P	04 34 06.5	-0.7
	0.3nm,0.5s,baz=249,slow=7.5,SNR=5.7						
ZALV	Zalesovo Beam	43.83	306	P	P	04 35 15.9	-0.8
	0.5nm,0.4s,baz=96,slow=2.9,SNR=2.4						
MKAR	Makanchi Array	48.29	298	P	P	04 35 52.0	0.0
	0.3nm,0.6s,baz=69,slow=7.4,SNR=3.2						
FINES	FINESS Array B	64.62	336	P	P	04 37 49.0	+1.0
	1.8nm,0.8s,baz=176,slow=31,SNR=4.2						
WRA	Warramunga Arr	69.14	201	P	P	04 38 16.9	-0.4
	0.5nm,0.6s,baz=21,slow=6.9,SNR=2.4						
ASAR	Alice Springs	71.82	201	P	P	04 38 39.9	+0.3
	0.8nm,0.6s,baz=16,slow=5.5,SNR=6.6						
TXAR	Lajitas Array	76.06	62	P	P	04 38 59.2	+0.4
	0.3nm,0.6s,baz=309,slow=4.5,SNR=4.7						

*IDC **16** 04:58:02.8±0.7, 46°.93N×155°.35E, h0km, mb4.1/22, mb1 4.3/26, mb1mx4.2/31, mbtmp4.1/26, ML3.8/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/35, Error ellipse: s-maj=18.2km s-min=11.7km az=155.0*

*NEIC **16** 04:58:03.1±2.6, 46°.97N×155°.37E, h2km±16km, mb4.6/15, Error ellipse: s-maj=9.3km s-min=5.1km az=140.0*

*ISCJB **16** 04:58:04.2±0.5, 47°.07N±0°.06×155°.35E±0°.08, h18km, mb4.4/53, MS3.7/4, Error ellipse: s-maj=11.1km s-min=5.1km az=140.6*

*MOS **16** 04:58:08.2±0.9, 46°.95N×155°.25E, h53km, mb4.8/12, Error ellipse: s-maj=12.2km s-min=9.4km az=101.7*

*BJI **16** 04:58:13.3, 48°.15N×154°.57E, h35km, mB5.1/17, mb4.5/26, Ms4.7/11, Ms7 4.5/11*

ISC 16 04:58:06.6±0.6, 47°.12N±0°.08×155°.35E±0°.06, h18km, n152, σ1s57/143, mb4.5/54, MS3.8/4, 12C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	3.60	8	*e*PN	Pn	04 59 02.0	+0.5
SKR				pmax	pmax		
	comp=Z,110nm,0.9s						
PEA0B	Petropavlovsk-	6.18	13	*e*Pn	Pn	04 59 37.3	+0.4
PETK	Petropavlovsk-	6.18	13	Pn	Pn	04 59 37.5	+0.6
	comp=Z,4.1nm,0.3s,baz=184,slow=13,SNR=29						
PETK				LR	LR	05 02 25.9	
	comp=Z,83nm,18.1s,baz=83,slow=41						
PETK	Petropavlovsk-	6.18	13	PN	Pn	04 59 37.5	+0.6
PETK	Petropavlovsk-	6.18	13	Pn	Pn	04 59 37.5	+0.6
PET	Petropavlovsk	6.28	19	*e*PN	Pn	04 59 37.8	-0.4
PET				pmax	pmax		
	comp=Z,41nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,11.0s						
PET	Petropavlovsk	6.28	19	*e*Pn	Pn	04 59 37.5	-0.8
PET				*e*Sn	Sn	05 00 48.3	-1.2
ASAJ	Asahikawa	9.43	256	LR	LR	05 03 56.4	
	comp=Z,149nm,19.8s,baz=16,slow=38						
ASAJ	Asahikawa	9.43	256	*e*Pn	Pn	05 00 20.1	-1.3
ERM	Erimo	10.08	244	*e*PN	Pn	05 00 30.8	+0.4
FX1	Attu Island--F	12.81	57	Pn	Pn	05 01 06.0	-1.7
	comp=Z,3.0nm,0.3s,baz=221,slow=19,SNR=9.1						
FX1				Sn	Sn	05 03 17.6	-12
	comp=Z,1.6nm,0.3s,baz=252,slow=20,SNR=4.6						
FX1	Attu Island--F	12.81	57	PN	Pn	05 01 06.0	-1.7
FX1	Attu Island--F	12.81	57	Pn	Pn	05 01 06.0	-1.7
FX1				Sn	Sn	05 03 17.6	-12
KLR	Kul'dur	15.87	286	*e*P	Pn	05 01 47.2	-1.7
SEY	Seymchan	15.94	355	*e*P	Pn	05 01 45.8	-3.9
MJA0	Matsu Arr-Jizo	16.52	236	*e*P	P	05 01 59.5	-0.3
MJAR	Matsushiro Arr	16.54	236	Pn	Pn	05 01 55.6	-2.0
	comp=Z,0.3nm,0.3s,baz=24,slow=9.4,SNR=6.0						
MJAR				LR	LR	05 08 57.4	
	comp=Z,63nm,18.6s,baz=235,slow=40						
MJAR	Matsushiro Arr	16.54	236	P	Pn	05 01 55.6	-2.0
MJAR	Matsushiro Arr	16.54	236	Pn	Pn	05 01 55.6	-2.0
USRK	Ussuriysk Arra	16.57	268	Pn	Pn	05 01 55.7	-2.1
	comp=Z,0.3nm,0.3s,baz=87,slow=15,SNR=9.0						
MDJ	Mudanjiang	18.09	272	P	Pn	05 02 15.9	-0.9
MDJ				pmax	pmax		
	comp=Z,230nm,4.3s						
KIWB	Kanaga Island	18.43	65	*e*Pn	Pn	05 02 35.6	+15
CN2	Changchun	21.17	272	*e*P	P	05 02 53.8	+3.1
CN2				*es*P	sP	05 03 01.6	+3.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL	Bilibino	21.71	11	*e*P	P	05 02 56.9	+0.6
BILL				*i*		05 03 13.6	
BILL				pmax	pmax		
	comp=Z,20nm,1.2s						
BILL	Bilibino	21.71	11	*e*P	P	05 02 56.7	+0.4
	comp=Z,7.8nm,0.7s						
KSRS	Korea Array	22.37	254	P	P	05 03 02.0	-1.6
	comp=Z,2.5nm,0.6s,baz=56,slow=9.9,SNR=9.2						
KSRS				LR	LR	05 10 50.0	
	comp=Z,51nm,20.5s,baz=63,slow=34						
KSRS	Korea Array	22.37	254	P	P	05 03 02.0	-1.6
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,51nm,20.5s						
KSAR	Wonju Array Be	22.40	254	P	P	05 03 02.0	-2.0
KSAR	Wonju Array Be	22.40	254	P	P	05 03 02.0	-2.0
GAMB	Gambell	24.63	35	*e*P	P	05 03 25.5	0.0
	comp=Z,7.1nm,0.9s						
NJ2	Nanjing	31.57	255	*e*P	P	05 04 35.5	+7.6
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC	Hu-ho-hao-te	31.79	275	*e*P	P	05 04 32.8	+2.8
HHC				pP	pP	05 04 43.5	+8.0
HHC				sP	sP	05 04 47.1	+9.4
HHC				PP	PnPn	05 05 34.8	+0.5
HHC				S	S	05 09 33.8	-5.5
HHC				sS	sS	05 09 49.3	+0.9
HHC				ScS	ScS	05 15 04.3	+3.0
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
HHC				LR	LR		
	comp=N,220nm,16.6s						
HHC				LR	LR		
	comp=E,270nm,17.8s						
HHC				LR	LR		
	comp=Z,270nm,17.8s						
SONM	Songino Array	32.66	290	P	P	05 04 36.6	-0.9
	comp=Z,0.9nm,0.7s,baz=61,slow=9.1,SNR=6.3						
SONM	Songino Array	32.66	290	P	P	05 04 36.6	-0.9
SONM	Songino Array	32.66	290	P	P	05 04 36.6	-0.9
ILAR	Eielson Array	35.30	39	P	P	05 05 00.2	+0.2
	comp=Z,1.2nm,0.5s,baz=254,slow=7.2,SNR=45						
ILAR	Eielson Array	35.30	39	P	P	05 05 00.3	+0.2
ILAR	Eielson Array	35.30	39	P	P	05 05 00.2	+0.2
LZH	Lanzhou	39.41	273	*e*P	P	05 05 35.5	+0.1
LZH				pP	pP	05 05 45.9	+4.9
LZH				sP	sP	05 05 50.1	+6.9
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA	Gaotai	40.42	280	*e*P	P	05 05 37.6	-6.2
GTA				pP	pP	05 05 45.1	-4.3
GTA				sP	sP	05 05 48.8	-2.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	Inuvik	40.52	33	P	P	05 05 43.9	-0.1
	comp=Z,2.6nm,0.6s,baz=298,slow=6.3,SNR=19						
INK	Inuvik	40.52	33	P	P	05 05 43.9	-0.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	40.52	33	*e*P	P	05 05 44.3	+0.4
	comp=Z,2.6nm,0.5s						
CD2	Chengdu	42.44	267	P	P	05 06 04.3	+4.0
CD2				pP	pP	05 06 14.4	+8.5
CD2				sP	sP	05 06 18.8	+11
CD2				PP	PP	05 07 44.1	+5.5
CD2				S	S	05 12 17.8	-3.3
CD2				sS	sS	05 12 34.8	+4.4
CD2				SS	SS	05 15 18.4	-12
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,270nm,7.1s						
CD2				LR	LR		
	comp=N,360nm,5.9s						
CD2				LR	LR		
	comp=Z,310nm,7.1s						
GYA	Guiyang	43.29	259	*e*P	P	05 06 11.8	+4.5
GYA				pP	pP	05 06 21.6	+8.7
GYA				PP	PcP	05 07 54.3	-1.8
GYA				ScP	ScP	05 11 51.0	+4.7
GYA				S	S	05 12 32.8	-1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZAA0	Zalesovo Array	43.64	306	*e*P	P	05 06 08.5	-1.1
ZALV	Zalesovo Beam	43.64	306	P	P	05 06 08.7	-0.9
	comp=Z,1.7nm,0.4s,baz=64,slow=7.2,SNR=6.6						
ZALV	Zalesovo Beam	43.64	306	P	P	05 06 08.7	-0.9
ZALV	Zalesovo Beam	43.64	306	P	P	05 06 08.7	-0.9
QIZ	Qiongzhong	46.41	249	P	P	05 06 38.1	+6.0
QIZ				S	S	05 13 20.8	+1.9
QIZ				pmax	pmax		
	comp=Z,22nm,1.8s						
KMI	Kunming	46.82	261	P	P	05 06 39.8	+4.3
KMI				pP	pP	05 06 50.3	+9.2
KMI				sP	sP	05 06 57.5	+14
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK31	Makanchi Array	48.13	298	*e*P	P	05 06 44.4	-0.8
MK31	Makanchi Array	48.13	298	*e*P	P	05 06 44.4	-0.8
MKAR	Makanchi Array	48.13	298	P	P	05 06 45.0	-0.2
	comp=Z,1.1nm,0.6s,baz=69,slow=7.7,SNR=16						
MKAR	Makanchi Array	48.13	298	P	P	05 06 45.0	-0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	48.13	298	*e*P	P	05 06 45.0	-0.2
KURK	Kurchatov	48.43	304	P	P	05 06 47.9	+0.5
	comp=Z,3.5nm,0.5s,baz=67,slow=8.3,SNR=24						
KURK	Kurchatov	48.43	304	*e*P	P	05 06 46.8	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	Kurchatov	48.43	304	*e*P	P	05 06 46.8	-0.7
	comp=Z,6.8nm,0.8s						
YKA	Yellowknife Ar	49.71	37	P	P	05 06 57.5	+0.5
	comp=Z,0.8nm,0.6s,baz=295,slow=7.3,SNR=11						
YKA	Yellowknife Ar	49.71	37	P	P	05 06 57.5	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	49.71	37	P	P	05 06 57.5	+0.5
RES	Resolute Bay	49.99	19	P	P	05 07 00.3	+1.3
	comp=Z,0.9nm,0.8s,baz=298,slow=7.6,SNR=4.0						
RES	Resolute Bay	49.99	19	P	P	05 07 00.3	+1.3
RES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	Resolute Bay	49.99	19	*e*P	P	05 07 01.3	+2.2
	comp=Z,1.4nm,0.5s						
BVAR	Borovoye Array	51.80	310	P	P	05 07 13.2	+0.2
	comp=Z,6.1nm,0.4s,baz=59,slow=7.4,SNR=44						
BVAR				LR	LR	05 33 02.5	
	comp=Z,79nm,19.4s,baz=267,slow=40						
BVAR	Borovoye Array	51.80	310	P	P	05 07 13.2	+0.2
BVAR	Borovoye Array	51.80	310	P	P	05 07 13.2	+0.2
BRVK	Borovoye	51.84	310	*e*P	P	05 07 13.7	+0.4
BRVK				pmax	pmax		
	comp=Z,23nm,2.5s						
BRVK	Borovoye	51.84	310	*e*P	P	05 07 13.1	-0.1
	comp=Z,8.1nm,0.7s						
CMAR	Chiang Mai Arr	53.95	258	P	P	05 07 29.9	+0.6
	comp=Z,1.4nm,0.4s,baz=28,slow=8.1,SNR=5.2						
CMAR	Chiang Mai Arr	53.95	258	P	P	05 07 29.9	+0.6
CMAR	Chiang Mai Arr	53.95	258	P	P	05 07 29.9	+0.6
TKM2	Tokmak 2	54.21	297	*e*P	P	05 07 31.3	+0.2
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TKM2	Tokmak 2	54.21	297	*e*P	P	05 07 31.3	+0.2
	comp=Z,6.0nm,1.1s						
AAK	Ala-Archa	55.04	297	*e*P	P	05 07 37.3	+0.2
AAK				pmax	pmax		
	comp=Z,14nm,0.7s						
AAK	Ala-Archa	55.04	297	*e*P	P	05 07 37.3	+0.2
	comp=Z,14nm,0.7s						
EKS2	Erkin-Say	55.46	298	*e*P	P	05 07 40.6	+0.5
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKS2	Erkin-Say	55.46	298	*e*P	P	05 07 40.6	+0.5
	comp=Z,2.2nm,0.7s						
ARU	Arti	55.77	318	*d i*P	P	05 07 42.2	+0.3
ARU						05 09 44.4	
ARU				S	S	05 15 27.5	-0.1
ARU				SS	SS	05 19 09.2	-3.2
ARU				pmax	pmax		
	comp=Z,18nm,1.0s						
ARU	Arti	55.77	318	*e*P	P	05 07 42.4	+0.4
	comp=Z,14nm,0.7s						
KSH	Kashi	55.92	293	*e*P	P	05 07 47.1	+3.6
KSH				*ep*P	pP	05 07 57.3	+8.1
KSH				*es*P	sP	05 08 01.3	+10
KSH				*e*PcP	PcP	05 08 48.1	+6.1
KSH				*e*PP	PP	05 09 51.5	+3.6
KSH				*e*ScP	ScP	05 12 42.9	+2.9
KSH				*e*PcS	PcS	05 12 46.6	+4.2
KSH				*e*S	S	05 15 23.3	-7.1
KSH				*es*S	sS	05 15 41.8	+2.0
KSH				*e*ScS	ScS	05 17 30.1	-1.7
KSH				*e*SS	SS	05 19 08.6	-7.2
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,180nm,5.3s						
KSH				LR	LR		
	comp=N,220nm,6.4s						
KSH				LR	LR		
	comp=E,170nm,7.8s						
KSH				LR	LR		
	comp=Z,290nm,8.0s						
ARCES	ARCESS Array B	58.00	341	P	P	05 07 58.1	+0.5
	comp=Z,6.1nm,1.0s,baz=20,slow=7.7,SNR=12						
ARCES				LR	LR	05 40 10.8	
	comp=Z,99nm,19.5s,baz=41,slow=44						
ARCES	ARCESS Array B	58.00	341	P	P	05 07 58.1	+0.5
ARCES	ARCESS Array B	58.00	341	P	P	05 07 58.1	+0.5
ABKAR	Akbulak array	59.36	311	*e*P	P	05 08 07.7	+0.4
	comp=Z,6.4nm,0.6s						
AKTO	Aktyubinsk	59.62	313	P	P	05 08 08.2	-0.8
	comp=Z,1.6nm,0.4s,baz=49,slow=7.4,SNR=9.6						
AKTO	Aktyubinsk	59.62	313	P	P	05 08 08.3	-0.8
AKTO	Aktyubinsk	59.62	313	P	P	05 08 08.2	-0.8
NVAR	Mina Array Bea	60.90	64	P	P	05 08 17.9	-0.4
	comp=Z,0.6nm,0.7s,baz=303,slow=6.4,SNR=4.7						
NVAR	Mina Array Bea	60.90	64	P	P	05 08 17.9	-0.4
PDAR	Pinedale Array	63.28	55	P	P	05 08 34.0	-0.3
	comp=Z,0.9nm,0.9s,baz=325,slow=1.8,SNR=6.1						
PDAR	Pinedale Array	63.28	55	P	P	05 08 34.0	-0.3
FINES	FINESS Array B	64.35	336	P	P	05 08 41.1	+0.5
	comp=Z,3.8nm,0.4s,baz=34,slow=7.8,SNR=33						
FINES	FINESS Array B	64.35	336	P	P	05 08 41.1	+0.5
FINES	FINESS Array B	64.35	336	P	P	05 08 41.1	+0.5
OBN	Obninsk	65.86	327	*e*P	P	05 08 50.8	+0.2
OBN				pmax	pmax		
	comp=Z,36nm,2.5s						
VSR	Storozhevoye	67.77	322	*e*P	P	05 09 02.2	-0.6
VSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.3s						
NB2	NORSAR Subarra	68.36	342	P	P	05 09 08.8	+2.3
	comp=Z,1.1nm,0.4s,baz=31,slow=6.5						
NOA	NORSAR Array B	68.36	342	P	P	05 09 07.2	+0.7
	comp=Z,0.8nm,0.7s,baz=27,slow=6.5,SNR=13						
NOA	NORSAR Array B	68.36	342	P	P	05 09 07.2	+0.7
NOA	NORSAR Array B	68.36	342	P	P	05 09 07.2	+0.7
WRAB	Tennant Creek	69.37	201	*e*P	P	05 09 10.5	-2.6
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRAB	Tennant Creek	69.37	201	*e*P	P	05 09 10.5	-2.6
	comp=Z,9.5nm,1.2s						
WRA	Warramunga Arr	69.38	201	P	P	05 09 10.2	-3.0
	comp=Z,1.4nm,0.7s,baz=19,slow=6.6,SNR=6.0						
WRA	Warramunga Arr	69.38	201	P	P	05 09 10.2	-3.0
WRA	Warramunga Arr	69.38	201	P	P	05 09 10.2	-3.0
KIV	Kislovodsk	71.63	315	*e*P	P	05 09 30.0	+3.1
KIV				*e*		05 09 48.5	
KIV				pmax	pmax		
	comp=

TCF	Toulx Ste Croi	84.04 342	eP	P	05 10 42.4	+6.6
ORIF	Oris-en-Rattie	84.49 339	eP	P	05 10 45.2	+7.0
	comp=Z,9.7nm,0.7s					
LMR	La Mourre	85.81 338	eP	P	05 10 51.8	+7.1

ISCJB ***16*** *05:04:42.1±0.2,7°.35S±0°.04×109°.25E±0°.03, h195km±2km, mb4.2/39, Error ellipse: s-maj=7.3km s-min=4.1km az=22.7*

NEIC ***16*** *05:04:43.0±0.7,7°.12S×109°.24E, h192km±6km, mb4.5/17, Error ellipse: s-maj=9.3km s-min=5.2km az=57.0*

NEIC Felt [II] at Pangandaran.

BJI ***16*** *05:04:43.2,7°.20S×109°.20E, h188km, mB4.9/11, mb4.6/16*

DJA ***16*** *05:04:44,7°.58S×109°.24E, h176km, MLv4.9/27*

IDC ***16*** *05:04:44.4±0.6,7°.08S×109°.40E, h205km±5km, mb3.8/19, mb1 3.9/21, mb1mx3.9/26, mbtmp3.8/21, Error ellipse: s-maj=16.4km s-min=6.4km az=48.0*

ISC 16 05:04:43.4±0.4,**7°.32S**±0°.05×**109°.25E**±0°.04,**h195**km±2km, **h195**km:**pP-P,n136,**σ1§**43**/188,**mb4.3**/39,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**0.46**	**92**	P	**Pn**	**05 05 09.3**	**-0.6**
BJII				S	**Sn**	**05 05 29.7**	**-0.6**
CLJI	**Cilicap**	**0.46**	**211**	P	**Pn**	**05 05 08.9**	**-1.0**
CLJI				S	**Sn**	**05 05 28.4**	**-2.0**
TGJI	**Tegal**	**0.47**	**344**	P	**Pn**	**05 05 07.6**	**-2.3**
YOGI	**Yogyakarta**	**1.15**	**116**	P	**Pn**	**05 05 12.8**	**-1.0**
YOGI				S	**Sn**	**05 05 35.5**	**-1.8**
SMRI	**Semarang**	**1.21**	**77**	P	**Pn**	**05 05 14.2**	**-0.1**
SMRI				S	**Sn**	**05 05 39.6**	**+1.5**
UGM	**Wanagama**	**1.39**	**115**	*e*Pn	**Pn**	**05 05 15.1**	**-0.8**
UGM	**Wanagama**	**1.39**	**115**	P	**Pn**	**05 05 15.0**	**-0.8**
UGM				S	**Sn**	**05 05 38.8**	**-2.1**
CISI	**Cisompet, Garu**	**1.44**	**261**	P	**Pn**	**05 05 15.5**	**-0.8**
CISI				S	**Sn**	**05 05 38.3**	**-3.4**
LEM	**Lembang**	**1.69**	**287**	P	**Pn**	**05 05 19.2**	**+0.5**
LEM				S	**Sn**	**05 05 47.3**	**+1.3**
PCJI	**Pacitan**	**2.10**	**115**	P	**Pn**	**05 05 21.3**	**-1.3**
PCJI				S	**Sn**	**05 05 50.1**	**-3.0**
SJI	**Sawahan**	**2.53**	**100**	P	**Pn**	**05 05 27.0**	**-0.5**
PWJI	**Pagerwojo**	**2.62**	**106**	P	**Pn**	**05 05 27.7**	**-0.8**
PWJI				S	**Sn**	**05 06 01.3**	**-2.3**
SKJI	**Sukabumi**	**2.69**	**276**	P	**Pn**	**05 05 27.9**	**-1.4**
KRKI	**Karangkates**	**3.28**	**105**	P	**Pn**	**05 05 35.6**	**-0.6**
KRKI				S	**Sn**	**05 06 15.9**	**-1.6**
SBJI	**Serang**	**3.32**	**291**	P	**Pn**	**05 05 37.1**	**+0.4**
CGJI	**Cibinong**	**3.60**	**281**	P	**Pn**	**05 05 39.8**	**-0.3**
RBSI	**Rajabasa**	**3.78**	**293**	P	**Pn**	**05 05 42.7**	**+0.3**
BLJI	**Banyuglugur**	**4.33**	**96**	P	**Pn**	**05 05 49.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.99**	**104**	P	**Pn**	**05 05 55.7**	**-1.9**
PBKI	**Pangkalan Bun** 342nm,1.0s,0.9nm	**5.18**	**28**	P	**Pn**	**05 06 00.5**	**+0.4**
LWLI	**Liwa** 177nm,0.6s,10μm1.4nm	**5.65**	**294**	P	Pn	05 06 10.0	+3.8
KHKI	**Kahang-Kahang** 97nm,0.8s,0.6nm	**6.38**	**100**	P	Pn	05 06 19.9	+4.2
BBKI	**Banjar Baru** 186nm,1.1s,0.7nm	**6.76**	**56**	P	**Pn**	**05 06 21.2**	**+0.7**
MTNI	**Mataram** 306nm,0.9s,9μm1.3nm	**6.98**	**101**	P	**Pn**	**05 06 21.6**	**-1.8**
KSI	**Kapahiang** 167nm,0.5s,4μm0.8nm	**7.56**	**298**	P	**Pn**	**05 06 31.5**	**+0.4**
KAPI	**Kappang** baz=253,slow=14,SNR=4.8	**10.69**	**78**	P	**Pn**	**05 07 11.3**	**-0.4**
KAPI	**Kappang**	**10.69**	**78**	P	**Pn**	**05 07 11.3**	**-0.4**
BKSI	**Bulukumba** 72nm,1.1s	**10.99**	**80**	P	**Pn**	**05 07 17.2**	**+1.6**
MNSI	**Mandailing Nat**	**12.57**	**309**	P	**Pn**	**05 07 33.5**	**-2.3**
KDI	**Kendari** 91nm,1.2s	**13.71**	**77**	P	**P**	**05 07 54.7**	**+2.2**
MRSI	**Marisa** 73nm,1.2s,991nm	**14.84**	**59**	P	**P**	**05 08 05.0**	**0.0**
LUWI	**Luwuk** 106nm,1.2s,1μm	**14.85**	**66**	P	**P**	**05 08 07.8**	**+2.7**
KKM	**Kota Kinabalu**	**14.98**	**28**	*e*Pn	**Pn**	**05 08 05.6**	**-0.3**
KULM	**Kulim** 64nm,1.3s	**15.18**	**325**	*e*P	**P**	**05 08 12.0**	**+3.2**
MYLDM	**Lahad Datu** 99nm,1.5s	**15.47**	**37**	P	**P**	**05 08 16.3**	**+4.3**
MBWA	**Marble Bar** 40nm,1.0s	**17.09**	**145**	*e*P	**Pn**	**05 08 31.6**	**+0.5**
NLAI	**Namlea** 125nm,1.2s	**18.23**	**78**	P	**Pn**	**05 08 45.1**	**+0.6**
AAI	**Ambon** 195nm,0.9s,4μm	**19.20**	**80**	P	**P**	**05 08 53.5**	**+0.8**
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=308,slow=7.6,SNR=26	**19.23**	**125**	P	**P**	**05 08 54.5**	**+1.5**
FITZ				S	**S**	**05 12 21.7**	**+1.3**
	0.7nm,0.3s,baz=154,slow=14,SNR=8.0						
FITZ	**Fitzroy Crossi** 23nm,0.9s	**19.23**	**125**	*e*P	**P**	**05 08 54.3**	**+1.3**
FITZ	**Fitzroy Crossi** 16nm,0.9s	**19.23**	**125**	*e*P	**P**	**05 08 54.3**	**+1.3**
FITZ				S	**S**	**05 12 21.7**	**+1.3**
LBMI	**Labuha** 144nm,1.2s	**19.37**	**71**	P	Pn	05 09 03.5	+5.5
FAKI	**Fak Fak** 38nm,0.8s	**23.31**	**80**	P	**P**	**05 09 32.8**	**-1.5**
KLBR	**Kellerberrin** 29nm,1.2s	**25.42**	**163**	*e*P	**P**	**05 09 53.9**	**+0.7**
QIZ	**Qiongzhong**	**26.19**	**1**	P	**P**	**05 10 01.9**	**+1.7**
QIZ				S	**S**	**05 14 19.8**	**+2.1**
QIZ	comp=Z,120nm,4.3s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,24nm,0.9s,baz=341,slow=11,SNR=9.5	**26.54**	**165**	P	**P**	**05 10 04.1**	**+0.9**
NWAO	**Narrogin (SRO)** comp=Z,29nm,1.0s	**26.54**	**165**	*e*P	**P**	**05 10 04.9**	**+1.7**
WRA	**Warramunga Arr** comp=Z,2.4nm,0.7s,baz=309,slow=9.0,SNR=17	**27.37**	**120**	P	**P**	**05 10 11.1**	**+0.3**
WRA				pP	**pP**	**05 10 52.0**	**+1.6**
	comp=Z,1.9nm,0.4s,baz=296,slow=13,SNR=3.9						
WRA				S	**S**	**05 14 33.1**	**-3.3**
	comp=Z,2.0nm,0.8s,baz=291,slow=16,SNR=9.5						
WRA	**Warramunga Arr**	**27.37**	**120**	P	**P**	**05 10 11.1**	**+0.3**
WRA				pP	**pP**	**05 10 52.0**	**+1.6**
WRA				S	**S**	**05 14 33.1**	**-3.3**
WRAB	**Tennant Creek** comp=Z,8.7nm,0.9s	**27.37**	**120**	*e*P	**P**	**05 10 11.5**	**+0.7**
WB2	**Warramunga Arr**	**27.38**	**120**	*e*P	**P**	**05 10 11.3**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,3.7nm,0.7s,baz=174,slow=8.4,SNR=16	**27.56**	**338**	P	**P**	**05 10 12.2**	**-0.2**
CMAR				pP	**pP**	**05 10 53.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=181,slow=7.2,SNR=2.0						
CMAR				ScP	**ScP**	**05 16 47.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=186,slow=4.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**27.56**	**338**	P	**P**	**05 10 12.2**	**-0.2**
CMAR				pP	**pP**	**05 10 53.5**	**+1.4**
CMAR				ScP	**ScP**	**05 16 47.2**	**-0.3**
ASAR	**Alice Springs** comp=Z,1.7nm,0.5s,baz=302,slow=8.2,SNR=16	**28.70**	**127**	P	**P**	**05 10 23.9**	**+1.3**
ASAR				PcP	**PcP**	**05 13 28.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=304,slow=2.1,SNR=5.7						
ASAR				S	**S**	**05 14 56.5**	**-0.8**
	comp=Z,5.7nm,1.0s,baz=293,slow=15,SNR=13						
ASAR				ScP	**ScP**	**05 16 52.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=318,slow=2.5,SNR=6.7						
ASAR	**Alice Springs**	**28.70**	**127**	P	**P**	**05 10 23.9**	**+1.3**
ASAR				PcP	**PcP**	**05 13 28.6**	**+0.4**
ASAR				S	**S**	**05 14 56.5**	**-0.8**
ASAR				ScP	**ScP**	**05 16 52.0**	**+0.8**
FORT	**Forrest** comp=Z,15nm,0.7s	**29.24**	**145**	*e*P	**P**	**05 10 28.5**	**+1.3**
FORT	**Forrest** comp=Z,25nm,0.8s	**29.24**	**145**	*e*P	**P**	**05 10 28.5**	**+1.3**
JAY	**Jayapura**	**31.69**	**83**	P	pP	05 11 32.4	+3.2
KMI	**Kunming**	**32.86**	**349**	P	**P**	**05 11 00.8**	**+1.5**
KMI				pP	**pP**	**05 11 39.9**	**+0.3**
KMI				sP	**sP**	**05 12 02.3**	**+0.3**
KMI	comp=Z,5.0nm,1.1s			pmax	pmax		
GYA	**Guiyang** comp=Z,10.0nm,0.8s	**33.67**	**356**	*e*P	**P**	**05 11 07.8**	**+1.7**
GYA				pmax	pmax		
COEN	**Coen** comp=Z,67nm,0.8s	**33.96**	**104**	*e*P	**P**	**05 11 08.4**	**-0.3**
COEN	**Coen** comp=Z,91nm,0.8s	**33.96**	**104**	*e*P	**P**	**05 11 08.6**	**-0.1**
MTSU	**Mount Surprise** comp=Z,7.5nm,0.3s	**35.78**	**111**	*e*P	**P**	**05 11 25.2**	**+0.9**
PMG	**Port Moresby** comp=Z,31nm,1.0s	**37.55**	**96**	*e*P	**P**	**05 11 39.4**	**+0.1**
CTAO	**Charters Tower**	**38.02**	**113**	*e*P	**P**	**05 11 44.3**	**+1.2**
	comp=Z,9.4nm,0.8s						
CD2	**Chengdu**	**38.37**	**352**	P	**P**	**05 11 47.3**	**+1.4**
CD2				pP	**pP**	**05 12 26.3**	**-0.8**
CD2				sP	**sP**	**05 12 46.8**	**-2.5**
CD2				PP	PP	05 13 23.5	+5.4
CD2				S	**S**	**05 17 28.4**	**+2.4**
CD2				sS	**sS**	**05 18 36.3**	**-2.4**
CD2				SS	SS	05 20 18.8	-5.0
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,230nm,5.3s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,4.3nm,0.3s,baz=304,slow=7.2,SNR=25	**38.78**	**133**	P	**P**	**05 11 50.9**	**+1.6**
STKA				PcP	**PcP**	**05 13 56.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=136,slow=8.9,SNR=2.9						
STKA	**Stephens Creek** comp=Z,2.9nm,0.2s	**38.78**	**133**	*e*P	**P**	**05 11 50.6**	**+1.3**
STKA	**Stephens Creek** comp=Z,2.8nm,0.6s	**38.78**	**133**	*e*P	**P**	**05 11 51.0**	**+1.6**
STKA				PcP	**PcP**	**05 13 56.1**	**-0.6**
NJ2	**Nanjing**	**40.21**	**13**	*e*P	P	05 12 06.3	+5.3
NJ2	comp=Z,20nm,0.6s			pmax	pmax		
LSA	**Lhasa**	**40.72**	**336**	P	**P**	**05 12 05.3**	**-0.4**
LSA	**Lhasa** comp=Z,5.0nm,0.7s	**40.72**	**336**	*e*P	**P**	**05 12 05.5**	**-0.2**
LZH	**Lanzhou**	**43.47**	**354**	*e*P	**P**	**05 12 30.3**	**+2.7**
LZH				pP	**pP**	**05 13 13.6**	**+3.9**
LZH				sP	**sP**	**05 13 34.5**	**+2.8**
LZH	comp=Z,13nm,1.3s			pmax	pmax		
GTA	**Gaotai**	**47.31**	**350**	*e*P	P	05 12 48.4	-9.2
GTA				pP	pP	05 13 29.4	-11
GTA				sP	sP	05 13 51.9	-10
GTA	comp=Z,3.0nm,0.7s			pmax	pmax		
KSAR	**Wonju Array Be**	**47.81**	**20**	P	**P**	**05 12 59.3**	**-2.0**
KSRS	**Korea Array** comp=Z,0.5nm,0.4s,baz=186,slow=10,SNR=4.8	**47.84**	**20**	P	**P**	**05 12 59.3**	**-2.2**
HHC	**Hu-ho-hao-te**	**47.98**	**2**	*e*P	**P**	**05 13 03.3**	**+0.6**
HHC				pP	**pP**	**05 13 45.3**	**-0.3**
HHC				sP	**sP**	**05 14 07.1**	**-0.3**
HHC				PP	PP	05 14 57.8	+1.0
HHC				S	**S**	**05 19 46.1**	**+0.6**
HHC				sS	**sS**	**05 21 00.4**	**-0.3**
HHC				SS	SS	05 23 15.1	-2.3
HHC	comp=Z,13nm,0.9s			pmax	pmax		
HHC	comp=Z,190nm,6.9s			pmax	pmax		
HHC	comp=N,230nm,15.7s			LR	LR		
HHC	comp=E,250nm,14.7s			LR	LR		
HHC	comp=Z,250nm,15.7s			LR	LR		
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.3s,baz=200,slow=8.0,SNR=5.6	**51.39**	**30**	P	**P**	**05 13 25.5**	**-2.9**
MJAR	**Matsushiro Arr**	**51.39**	**30**	P	**P**	**05 13 25.5**	**-2.9**
CN2	**Changchun**	**52.95**	**15**	*e*P	P	05 13 47.0	+7.3
SONM	**Songino Array** comp=Z,1.1nm,0.6s,baz=176,slow=7.7,SNR=8.8	**54.97**	**358**	P	**P**	**05 13 53.6**	**-0.9**
SONM				pP	**pP**	**05 14 38.6**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=172,slow=8.4,SNR=4.4						
SONM				PcP	**PcP**	**05 14 52.8**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=171,slow=3.4,SNR=5.4						
SONM				ScP	**ScP**	**05 18 32.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=202,slow=3.1,SNR=3.2						
SONM	**Songino Array**	**54.97**	**358**	P	**P**	**05 13 53.6**	**-0.9**
SONM				pP	**pP**	**05 14 38.6**	**+0.1**
SONM				PcP	**PcP**	**05 14 52.8**	**-0.9**
SONM				ScP	**ScP**	**05 18 32.7**	**-1.1**
USRK	**Ussuriysk Arra** comp=Z,4.2nm,1.0s,baz=210,slow=6.6,SNR=4.5	**55.25**	**20**	pP	pP	05 14 39.4	-1.0
TKM2	**Tokmak 2** comp=Z,4.3nm,0.5s	**58.62**	**332**	*e*P	**P**	**05 14 18.3**	**-2.0**
MK31	**Makanchi Array**	**58.97**	**339**	*e*P	**P**	**05 14 20.7**	**-1.7**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.5s,baz=152,slow=7.7,SNR=47	**58.97**	**339**	P	**P**	**05 14 20.6**	**-1.7**
MKAR				pP	**pP**	**05 15 07.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=137,slow=6.2,SNR=6.0						
MKAR	**Makanchi Array**	**58.97**	**339**	*e*P	**P**	**05 14 20.7**	**-1.7**
MKAR				pP	**pP**	**05 15 07.7**	**+0.6**
OPO	**Ambohidratompo** comp=Z,1.2nm,0.6s,baz=0.0,slow=6.1,SNR=3.0	**61.26**	**253**	P	**P**	**05 14 39.3**	**+0.6**
OPO	**Ambohidratompo**	**61.26**	**253**	P	**P**	**05 14 39.3**	**+0.6**
KURK	**Kurchatov** comp=Z,0.8nm,0.4s,baz=155,slow=5.4,SNR=8.2	**63.58**	**339**	P	**P**	**05 14 50.9**	**-2.3**
KURK				PcP	**PcP**	**05 15 26.9**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=151,slow=3.4,SNR=16						
KURK				pP	**pP**	**05 15 38.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=147,slow=5.9,SNR=3.0						
KURK	**Kurchatov** comp=Z,7.4nm,1.1s	**63.58**	**339**	*e*P	**P**	**05 14 51.5**	**-1.7**
KURK				PcP	**PcP**	**05 15 26.9**	**-0.9**
KURK				pP	**pP**	**05 15 38.8**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=164,slow=6.8,SNR=4.3	**64.42**	**344**	P	**P**	**05 14 56.9**	**-1.7**
ZALV				pP	**pP**	**05 15 43.7**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=128,slow=4.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**64.42**	**344**	P	**P**	**05 14 56.9**	**-1.7**
ZALV				pP	**pP**	**05 15 43.7**	**-0.3**
BVAR	**Borovoye Array** comp=Z,1.7nm,0.8s,baz=148,slow=8.7,SNR=7.5	**68.55**	**336**	P	**P**	**05 15 22.8**	**-2.0**
BVAR				PcP	**PcP**	**05 15 46.8**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=157,slow=13,SNR=5.2						
BVAR	**Borovoye Array**	**68.55**	**336**	P	**P**	**05 15 22.8**	**-2.0**
BVAR				PcP	**PcP**	**05 15 46.8**	**-1.7**
ABKAR	**Akbulak array** comp=Z,7.1nm,0.9s	**70.84**	**328**	*e*P	**P**	**05 15 36.9**	**-2.0**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.6s,baz=122,slow=6.0,SNR=4.2	**72.55**	**328**	P	**P**	**05 15 47.5**	**-1.6**
AKTO	**Aktyubinsk**	**72.55**	**328**	P	**P**	**05 15 47.5**	**-1.6**
PETK	**Petropavlovsk-** comp=Z,2.6nm,0.8s,baz=207,slow=8.7,SNR=2.6	**72.80**	**28**	P	**P**	**05 15 48.1**	**-2.3**
PETK	**Petropavlovsk-**	**72.80**	**28**	P	**P**	**05 15 48.1**	**-2.3**
VNDA	**Vanda** comp=Z,8.6nm,0.9s	**75.25**	**170**	*e*P	**P**	**05 16 06.2**	**+1.9**
ASF	**Jabal al Asfar** comp=Z,1.7nm,0.6s,baz=263,slow=3.7,SNR=3.5	**79.17**	**305**	P	**P**	**05 16 27.2**	**+0.1**
ASF	**Jabal al Asfar**	**79.17**	**305**	P	**P**	**05 16 27.2**	**+0.1**
EIL	**Elat** comp=Z,9.2nm,1.0s,baz=31,slow=16,SNR=4.8	**80.14**	**302**	P	**P**	**05 16 31.2**	**-1.0**
EIL	**Elat**	**80.14**	**302**	P	**P**	**05 16 31.2**	**-1.0**
MMAI	**Mount Meron Ar** comp=Z,2.4nm,0.7s,baz=106,slow=4.7,SNR=2.8	**80.61**	**305**	P	**P**	**05 16 35.0**	**+0.3**
MMAI	**Mount Meron Ar**	**80.61**	**305**	P	**P**	**05 16 35.0**	**+0.3**
BR131	**Keskin Array S** comp=Z,0.8nm,0.3s	**83.71**	**311**	*e*P	**P**	**05 16 49.4**	**-1.4**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.6s,baz=140,slow=8.1,SNR=13	**83.71**	**311**	P	**P**	**05 16 49.8**	**-1.1**
BRTR	**Keskin Array B**	**83.71**	**311**	P	**P**	**05 16 49.8**	**-1.1**
SNAA	**Sanae**	**89.88**	**197**	*e*	**P**	**05 17 20.3**	**+0.3**
SNAA	**Sanae** comp=Z,7.0nm,1.1s	**89.88**	**197**	*e*P	**P**	**05 17 20.0**	**0.0**
VNA2	**Neumayer--Watz** baz=60,slow=3.9	**91.53**	**197**	*e*	**P**	**05 17 29.5**	**+2.0**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.7s,baz=320,slow=1.8,SNR=14	**116.37**	**21**	PKP	**PKPdf**	**05 23 02.5**	**-0.9**
YKA	**Yellowknife Ar**	**116.37**	**21**	PKP	**PKPdf**	**05 23 02.5**	**-0.9**
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.7s,baz=260,slow=2.1,SNR=7.3	**127.17**	**47**	PKP	**PKPdf**	**05 23 25.4**	**+0.2**
NVAR	**Mina Array Bea**	**127.17**	**47**	PKP	**PKPdf**	**05 23 25.4**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=347,slow=0.6,SNR=4.0	**130.91**	**38**	PKP	**PKPdf**	**05 23 32.1**	**-0.1**
PDAR				SKPbc	**SKPbc**	**05 26 38.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=316,slow=0.8,SNR=9.1						
PDAR	**Pinedale Array**	**130.91**	**38**	PKP	**PKPdf**	**05 23 32.1**	**-0.1**
PDAR				SKPbc	**SKPbc**	**05 26 38.1**	**-0.2**
ULM	**Lac du Bonnet** comp=Z,1.7nm,0.7s,baz=187,slow=20,SNR=3.1	**132.34**	**22**	PKP	**PKPdf**	**05 23 33.8**	**-0.6**
ULM				SKPbc	**SKPbc**	**05 26 41.0**	**-1.9**
	comp=Z,4.2nm,1.0s,baz=220,slow=1.5,SNR=4.4						
ULM	**Lac du Bonnet**	**132.34**	**22**	PKP	**PKPdf**	**05 23 33.8**	**-0.6**
ULM				SKPbc	**SKPbc**	**05 26 41.0**	**-1.9**
TXAR	**Lajitas Array** comp=Z,1.0nm,1.0s,baz=285,slow=4.8,SNR=5.1	**142.07**	**51**	PKhKP	PKPpre	05 23 47.8	
TXAR				SKPbc	**SKPbc**	**05 27 12.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=267,slow=1.0,SNR=6.0						
TXAR	**Lajitas Array**	**142.07**	**51**	PKPpre	PKPpre	05 23 47.8	
TXAR				SKPbc	**SKPbc**	**05 27 12.2**	**-0.2**
FRNY	**Flat Rock**	**142.55**	**3**	*e*PKPdf	**PKPdf**	**05 23 54.5**	**+1.2**
JCT	**Junction City**	**144.34**	**46**	*e*PKPdf	PKPbc	05 23 56.0	+0.2
OLIL	**Olney**	**145.02**	**24**	*e*PKPdf	**PKPbc**	**05 23 56.8**	**-0.8**
ACSO	**Alum Creek Sta**	**145.45**	**17**	*e*PKPdf	**PKPdf**	**05 23 58.5**	**-0.1**
MIAR	**Mount Ida**	**145.70**	**35**	*e*PKPdf	**PKPdf**	**05 23 59.3**	**+0.2**
WCI	**Wyandotte Cave**	**146.16**	**22**	*e*PKPdf	**PKPdf**	**05 24 00.4**	**+0.5**
UALR	**University of**	**146.21**	**33**	*e*PKPdf	**PKPbc**	**05 24 00.7**	**-0.7**
WVT	**Waverly**	**147.34**	**26**	*e*PKPbc	**PKPbc**	**05 24 03.8**	**-0.7**
OXF	**Oxford**	**147.94**	**30**	*e*PKPbc	**PKPbc**	**05 24 05.4**	**-0.7**
BDFB	**Brasilia** comp=Z,2.1nm,0.4s,baz=153,slow=2.6,SNR=10	**147.94**	**225**	PKPbc	**PKPbc**	**05 24 07.7**	**+0.8**
BDFB	**Brasilia**	**147.94**	**225**	PKPbc	**PKPbc**	**05 24 07.7**	**+0.8**
JSC	**Jenkinsville**	**151.47**	**18**	*e*PKPbc	**PKPbc**	**05 24 14.0**	**-0.7**
GOGA	**Godfrey**	**151.49**	**23**	*e*PKPbc	**PKPbc**	**05 24 14.4**	**-0.4**

IDC 16 05:08:34.1±2.6,**47°.11N**×**155°.31E**,**h0**km,**mb3.8**/8, **mb1 3.9**/9,**mb1mx3.6**/27,**mbtmp3.7**/9,**Error ellipse: s-maj=63.8km s-min=27.2km az=173.0,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=181,slow=15,SNR=6.1	**6.20**	**13**	Pn	Pn	05 10 06.0	-0.9
ILAR	**Eielson Array** 0.3nm,0.5s,baz=248,slow=8.1,SNR=7.1	**35.33**	**39**	P	P	05 15 29.3	-1.3
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=69,slow=7.9,SNR=2.4	**48.10**	**298**	P	P	05 17 14.8	-0.6
KURK	**Kurchatov** 1.5nm,0.6s,baz=66,slow=8.5,SNR=7.9	**48.41**	**304**	P	P	05 17 17.1	-0.5
BVAR	**Borovoye Array** 1.2nm,0.4s,baz=49,slow=7.8,SNR=6.1	**51.78**	**310**	P	P	05 17 42.5	-0.8
FINES	**FINESS Array B** 1.6nm,0.8s,baz=64,slow=9.4,SNR=4.0	**64.35**	**336**	P	P	05 19 11.4	+0.4
NOA	**NORSAR Array B** 1.9nm,0.9s,baz=61,slow=5.8,SNR=3.5	**68.36**	**342**	P	P	05 19 37.6	+0.7
HFS	**Hagfors** 0.9nm,0.3s,baz=83,slow=12,SNR=8.0	**68.63**	**341**	P	P	05 19 40.2	+1.6
TXAR	**Lajitas Array** 0.5nm,1.1s,baz=336,slow=2.7,SNR=3.5	**76.00**	**62**	P	P	05 20 23.4	+0.2

IDC ***16*** *05:13:10.7±19.0,6°.89S×129°.61E, h114km±202km, mb3.9/2, mb1 3.9/5, mb1mx3.5/16, mbtmp3.7/5, ML4.3/3, Error ellipse: s-maj=164.0km s-min=61.5km az=39.0*

NEIC ***16*** *05:13:15.2±5.1,6°.96S×129°.83E, h163km±58km, mb4.7/2, Error ellipse: s-maj=36.5km s-min=23.4km az=176.0*

ISC 16 05:13:12.6±1.2,**7°.16S**±0°.08×**129°.8E**±0°.1,**h139**km,**n14,** σ2§**32**/21,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=36,slow=14,SNR=14	**11.61**	**200**	P	**Pn**	**05 15 56.1**	**+2.0**
FITZ				S	**Sn**	**05 17 59.8**	**-2.5**
	2.1nm,0.3s,baz=138,slow=23,SNR=9.4						
FITZ	**Fitzroy Crossi**	**11.61**	**200**	*e*Pn	Pn	05 15 59.4	+5.2
FITZ				*e*Sn	**Sn**	**05 18 01.3**	**-1.0**
WRAB	**Tennant Creek** 5.7nm,0.4s	**13.44**	**161**	*e*Pn	**P**	**05 16 21.1**	**-1.2**
WRAB				*e*Sn	**Sn**	**05 18 45.6**	**-0.8**
WRA	**Warramunga Arr** 2.3nm,0.3s,baz=330,slow=13,SNR=34	**13.44**	**161**	P	**Pn**	**05 16 19.8**	**+1.9**
WRA				S	**Sn**	**05 18 43.2**	**-3.3**
	3.3nm,0.3s,baz=333,slow=21,SNR=10						
WRA	**Warramunga Arr**	**13.44**	**161**	P	**Pn**	**05 16 19.8**	**+1.9**
WRA				S	**Sn**	**05 18 43.2**	**-3.3**
WB2	**Warramunga Arr**	**13.45**	**161**	*e*Pn	**P**	**05 16 20.9**	**-1.6**
WB2				*e*Sn	**Sn**	**05 18 46.6**	**0.0**
COEN	**Coen** 16nm,0.2s	**14.76**	**118**	*e*P	**P**	**05 16 37.9**	**+0.8**
AS31	**Alice Springs**	**16.87**	**167**	*e*P	Pn	05 17 06.5	+5.9
AS31				*e*S	**S**	**05 20 11.1**	**+1.9**
ASAR	**Alice Springs** 0.8nm,0.3s,baz=335,slow=8.7,SNR=30	**16.87**	**167**	P	**Pn**	**05 17 04.3**	**+3.6**
ASAR				S	**Sn**	**05 20 06.5**	**-2.6**
	0.6nm,0.3s,baz=347,slow=26,SNR=7.1						
ASAR	**Alice Springs**	**16.87**	**167**	P	**Pn**	**05 17 04.3**	**+3.6**
ASAR				S	**Sn**	**05 20 06.5**	**-2.6**
MKAR	**Makanchi Array** 2.3nm,0.4s,baz=116,slow=8.1,SNR=61	**68.26**	**327**	P	**P**	**05 23 57.6**	**-0.9**
MKAR	**Makanchi Array**	**68.26**	**327**	P	**P**	**05 23 57.6**	**-0.9**
KURK	**Kurchatov** 0.9nm,0.5s,baz=128,slow=5.0,SNR=9.0	**72.56**	**329**	P	**P**	**05 24 22.9**	**-1.6**
KURK	**Kurchatov**	**72.56**	**329**	P	**P**	**05 24

0.6nm,0.5s,baz=36,slow=6.5,SNR=3.4
AKASG **Malin Array Be 72.23 327** P **P 05 54 07.6 -0.1**
ASAR **Alice Springs 72.90 201** P **P 05 54 11.4 -0.5**
1.2nm,0.7s,baz=17,slow=5.1,SNR=9.9
ASAR **Alice Springs 72.90 201** P **P 05 54 11.4 -0.5**
TXAR **Lajitas Array 76.05 62** P **P 05 54 30.8 +0.3**
0.9nm,0.8s,baz=299,slow=3.7,SNR=8.5
TXAR **Lajitas Array 76.05 62** P **P 05 54 30.8 +0.3**

IDC 16 05:54:01.2±0.8, 46°.95N×155°.37E, h0km, mb3.6/12, mb1 3.8/14, mb1mx3.8/25, mbtmp3.7/14, ML2.9/2, Error ellipse: s-maj=23.8km s-min=18.0km az=129.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.34**	**13**	Pn	Pn	05 55 34.8	-1.1
	1.0nm,0.3s,baz=183,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**16.46**	**237**	Pn	Pn	05 57 49.9	-3.7
	0.3nm,0.3s,baz=22,slow=14,SNR=2.8						
USRK	**Ussuriysk Arra**	**16.58**	**269**	Pn	Pn	05 57 54.5	-0.5
	0.1nm,0.3s,baz=72,slow=12,SNR=3.3						
KSRS	**Korea Array**	**22.34**	**255**	P	P	05 59 02.4	+1.8
	1.2nm,0.6s,baz=59,slow=10.0,SNR=4.2						
SONM	**Songino Array**	**32.73**	**290**	P	P	06 00 34.7	-0.8
	0.3nm,0.7s,baz=63,slow=9.9,SNR=2.5						
ILAR	**Eielson Array**	**35.42**	**39**	P	P	06 00 58.5	-0.1
	0.2nm,0.5s,baz=257,slow=7.3,SNR=7.5						
ZALV	**Zalesovo Beam**	**43.74**	**306**	P	P	06 02 06.4	-1.6
	0.4nm,0.3s,baz=61,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**48.22**	**298**	P	P	06 02 43.4	0.0
	0.6nm,0.6s,baz=70,slow=9.0,SNR=8.4						
YKA	**Yellowknife Ar**	**49.83**	**37**	P	P	06 02 55.2	-0.3
	0.4nm,1.0s,baz=300,slow=5.5,SNR=3.6						
FINES	**FINESS Array B**	**64.50**	**336**	P	P	06 04 40.2	+0.9
	0.8nm,0.4s,baz=35,slow=7.7,SNR=6.1						
WRA	**Warramunga Arr**	**69.24**	**201**	P	P	06 05 09.2	-0.7
	1.1nm,0.7s,baz=20,slow=6.7,SNR=7.6						
AKASG	**Malin Array Be**	**72.22**	**327**	P	P	06 05 28.5	+0.7
	1.1nm,0.5s,baz=33,slow=6.5,SNR=4.2						
ASAR	**Alice Springs**	**72.92**	**201**	P	P	06 05 32.4	+0.2
	0.9nm,0.6s,baz=15,slow=5.9,SNR=11						
TXAR	**Lajitas Array**	**76.03**	**62**	P	P	06 05 50.8	+0.2
	0.2nm,0.7s,baz=264,slow=6.3,SNR=3.0						
GERES	**GERESS Array B**	**78.94**	**335**	P	P	06 06 06.6	+0.1
	0.3nm,0.5s,baz=44,slow=8.5,SNR=2.6						

IDC 16 06:00:37.9±3.8, 1°.98S×102°.48E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=157.3km s-min=23.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.88**	**122**	P	P	06 07 39.5	-0.5
	0.3nm,0.4s,baz=299,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**37.28**	**128**	P	P	06 07 52.0	+0.1
	0.7nm,0.5s,baz=301,slow=7.9,SNR=10						
SONM	**Songino Array**	**49.73**	**3**	P	P	06 09 33.0	+0.9
	0.8nm,0.6s,baz=189,slow=9.2,SNR=8.3						
MKAR	**Makanchi Array**	**51.72**	**342**	P	P	06 09 45.8	-1.2
	0.3nm,0.6s,baz=159,slow=8.5,SNR=4.3						

*ISCJB **16** 06:02:37.1±0.9, 12°.81N±0°.06×91°.08W±0°.07, h33km, mb4.0/5, Error ellipse: s-maj=10.1km s-min=7.4km az=148.9*
*CASC **16** 06:02:38.6±1.9, 13°.82N×91°.18W, h181km±14km, MD3.8, mb4.3(NEIC)*
*IDC **16** 06:02:40.9±2.6, 13°.85N×90°.60W, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, ML3.0/2, Error ellipse: s-maj=65.6km s-min=27.6km az=31.0*
*NEIC **16** 06:02:44.3±1.7, 13°.41N×90°.92W, h43km±16km, mb4.3/2, Error ellipse: s-maj=28.8km s-min=13.4km az=211.0*

ISC 16 06:02:39.4±1.0, 12°.96N±0°.06×91°.07W±0°.06, h33km, n23, σ1s74/27, mb4.1/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.50**	**8**	*e*P	**Pn**	**06 03 04.5**	**+0.4**
FUG				*e*S	**Sb**	**06 03 25.6**	**+0.1**
FG6		**1.60**	**6**	*e*P	**Pn**	**06 03 06.0**	**+0.2**
FG6				*e*S	**Sn**	**06 03 26.7**	**+1.3**
NBG	**Las Nubes**	**1.76**	**23**	*e*P	**Pn**	**06 03 09.3**	**+1.3**
NBG				*e*S	**Sn**	**06 03 31.3**	**+1.9**
TP2	**Tecpan 2**	**1.81**	**1**	*e*P	Pn	06 03 06.0	-2.8
TP2				*e*S	**Sn**	**06 03 30.4**	**-0.4**
MRL	**Marmol**	**2.48**	**32**	*e*P	**Pn**	**06 03 16.5**	**-1.3**
MRL				*e*S	**Sn**	**06 03 43.4**	**-3.7**
TGUH	**Tegucigalpa,Un**	**3.85**	**73**	*e*Pn	**Pn**	**06 03 38.5**	**+2.1**
CMIG	**Matias Romero**	**5.52**	**319**	Pn	**Pn**	**06 03 59.6**	**+0.3**
	0.5nm,0.3s,baz=146,slow=15,SNR=7.8						
CMIG				Sn	**Sn**	**06 04 59.1**	**-2.6**
	0.4nm,0.3s,baz=117,slow=11,SNR=2.5						
CMIG	**Matias Romero**	**5.52**	**319**	Pn	**Pn**	**06 03 59.6**	**+0.3**
CMIG				Sn	**Sn**	**06 04 59.1**	**-2.6**
JTS	**JuntasAbangare**	**6.55**	**113**	Pn	Pn	06 04 18.8	+5.2
	0.3nm,0.3s,baz=306,slow=19,SNR=3.0						
JTS				Sn	**Sn**	**06 05 26.2**	**-1.0**
	0.5nm,0.3s,baz=338,slow=19,SNR=4.7						
JTS	**JuntasAbangare**	**6.55**	**113**	Pn	Pn	06 04 18.8	+5.2
JTS				Sn	**Sn**	**06 05 26.2**	**-1.0**
TEIG	**Tepich**	**7.71**	**20**	Pn	**Pn**	**06 04 28.0**	**-1.4**
	2.1nm,0.3s,baz=68,slow=19,SNR=6.6						
TEIG	**Tepich**	**7.71**	**20**	Pn	**Pn**	**06 04 28.0**	**-1.4**
TXAR	**Lajitas Array**	**20.06**	**326**	P	Pn	06 07 12.7	+0.7
	0.1nm,0.3s,baz=141,slow=12,SNR=8.9						
TXAR	**Lajitas Array**	**20.06**	**326**	P	Pn	06 07 12.7	+0.7
ANMO	**Albuquerque**	**25.95**	**330**	*e*P	**P**	**06 08 11.4**	**+2.3**
	2.8nm,1.0s						
NVAR	**Mina Array Bea**	**35.04**	**321**	P	**P**	**06 09 32.2**	**+2.6**
	2.0nm,0.8s,baz=133,slow=7.6,SNR=15						
NVAR	**Mina Array Bea**	**35.04**	**321**	P	**P**	**06 09 32.2**	**+2.6**
ULM	**Lac du Bonnet**	**37.39**	**351**	P	**P**	**06 09 47.7**	**-1.4**
	2.7nm,1.0s,baz=157,slow=7.7,SNR=3.4						
ULM	**Lac du Bonnet**	**37.39**	**355**	P	**P**	**06 09 47.7**	**-1.4**
SCHQ	**Schefferville**	**45.89**	**19**	P	**P**	**06 10 57.3**	**-1.4**
	5.1nm,0.8s,baz=235,slow=11,SNR=4.5						
SCHQ	**Schefferville**	**45.89**	**19**	*e*P	**P**	**06 10 57.8**	**-0.9**
	21nm,1.3s						
YKA	**Yellowknife Ar**	**52.24**	**346**	P	**P**	**06 11 47.5**	**+0.4**
	0.3nm,0.6s,baz=148,slow=7.7,SNR=7.5						
YKA	**Yellowknife Ar**	**52.24**	**346**	P	**P**	**06 11 47.5**	**+0.4**

*CSEM **16** 06:05:48.2, 36°.74N×24°.09W, h10km, ML3.8, After PDA*
PDA 16 06:05:48.2±1.1, 36°.74N×24°.09W, h10km, MD4.0, ML3.8, Error ellipse: s-maj=8.4km s-min=5.3km az=50.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.82**	**289**	*e*P	Pg	06 06 01.0	-3.1
PSMN				*e*S	Sg	06 06 10.6	-4.3
PSMN				A	A	06 06 12.9	
	1µm,0.2s						
PSMN	**Pico do Norte,**	**0.82**	**289**	*e*P	Pg	06 06 01.0	-3.1
PSMN				*e*S	Sg	06 06 10.6	-4.3
PSMA	**Santa Maria**	**0.87**	**287**	*e*P	Pg	06 06 01.6	-3.4
PSMA				*e*S	Sg	06 06 11.7	-4.6
PSMA				A	A	06 06 14.7	
	1µm,0.3s						
BART	**Pico Bartolome**	**1.34**	**321**	*e*P	Pn	06 06 07.8	-5.4
BART				*e*S	Sb	06 06 23.6	-7.4
BART				A	A	06 06 26.2	
	2µm,0.3s						
BART	**Pico Bartolome**	**1.34**	**321**	*e*P	Pn	06 06 07.8	-5.4
BART				*e*S	Sb	06 06 23.6	-7.4
CMLA	**Cha da Macela**	**1.53**	**312**	*e*P	Pn	06 06 10.8	-4.9
CMLA				*e*S	Sn	06 06 28.7	-7.0
CMLA				A	A	06 06 30.8	
	1µm,0.2s						
CMLA	**Cha da Macela**	**1.53**	**312**	*e*P	Pn	06 06 10.8	-4.9
CMLA				*e*S	Sn	06 06 28.7	-7.0
GRON	**Grota Negra**	**1.54**	**312**	*e*P	Pn	06 06 09.5	-6.3
GRON				*e*S	Sn	06 06 26.3	-10
GRON				A	A	06 06 27.9	
	245nm,0.2s						
PDA	**Ponta Delgada**	**1.61**	**309**	*i* P	Pn	06 06 11.7	-4.9
PDA				*e*S	Sn	06 06 29.6	-7.8
PDA				A	A	06 06 30.1	
	247nm,0.2s						

PSET	**Sete Cidades**	**1.69**	**310**	*e*P	Pn	06 06 13.2	-4.6
PSET				*e*S	Sn	06 06 31.9	-7.7
PSET				A	A	06 06 32.4	
	35nm,0.1s						
PSET	**Sete Cidades**	**1.69**	**310**	*e*P	Pn	06 06 13.2	-4.6
PSET				*e*S	Sn	06 06 31.9	-7.7
ADH	**Angra Heroismo**	**3.14**	**308**	*e*P	Pn	06 06 33.2	-4.5
ADH				*e*S	Sn	06 07 07.2	-8.1
ADH				A	A	06 07 11.1	
	140nm,0.3s						
ADH	**Angra Heroismo**	**3.14**	**308**	*e*P	Pn	06 06 33.2	-4.5
ADH				*e*S	Sn	06 07 07.2	-8.1
PMAN	**Manadas**	**3.69**	**302**	*e*P	Pn	06 06 41.1	-4.2
PMAN				*e*S	Sn	06 07 20.8	-8.1
PMAN				A	A	06 07 23.8	
	63nm,0.4s						
PMAN	**Manadas**	**3.69**	**302**	*e*P	Pn	06 06 41.1	-4.2
PMAN				*e*S	Sn	06 07 20.8	-8.1
ROSA	**Rosais**	**3.84**	**302**	*e*P	Pn	06 06 43.7	-3.6
ROSA				*e*S	Sn	06 07 24.2	-8.3
ROSA				A	A	06 07 26.7	
	37nm,0.3s						
ROSA	**Rosais**	**3.84**	**302**	*e*P	Pn	06 06 43.7	-3.6
ROSA				*e*S	Sn	06 07 24.2	-8.3
PICO	**Pico**	**3.86**	**298**	*e*P	Pn	06 06 43.7	-4.1
PICO	**Pico**	**3.86**	**298**	*e*P	Pn	06 06 43.7	-4.1
PCAN	**Candelaria**	**3.89**	**298**	*e*P	Pn	06 06 43.8	-4.3
PCAN				*e*S	Sn	06 07 25.6	-8.2
PCAN				A	A	06 07 26.6	
	78nm,0.3s						
PCAN	**Candelaria**	**3.89**	**298**	*e*P	Pn	06 06 43.8	-4.3
PCAN				*e*S	Sn	06 07 25.6	-8.2
HOR	**Horta**	**4.02**	**298**	*e*P	Pn	06 06 45.8	-4.0
HOR				*e*S	Sn	06 07 28.4	-8.5
HOR	**Horta**	**4.02**	**298**	*e*P	Pn	06 06 45.8	-4.0
HOR				*e*S	Sn	06 07 28.4	-8.5
CALA	**Caldeira**	**4.09**	**298**	*e*P	Pn	06 06 47.1	-3.9
CALA				*e*S	Sn	06 07 30.3	-8.7
CALA	**Caldeira**	**4.09**	**298**	*e*P	Pn	06 06 47.1	-3.9
CALA				*e*S	Sn	06 07 30.3	-8.7
PCED	**Cedros**	**4.11**	**299**	*e*P	Pn	06 06 47.2	-3.9
PCED	**Cedros**	**4.11**	**299**	*e*P	Pn	06 06 47.2	-3.9

*NEIC **16** 06:12:54.4, 17°.68N×101°.44W, h44km, MD4.0(MEX), After MEX.*
MEX 16 06:12:55.1±0.3, 17°.83N×101°.43W, h20km±14km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.23**	**190**	*e*P	Pb	06 12 59.5	-0.9
ZIIG				*i* S	Sg	06 13 05.1	+0.7
ZIIG	**Zihuatanejo**	**0.23**	**190**	*e*P	Pb	06 12 59.5	-0.9
ZIIG				*i* S	Sb	06 13 03.5	-0.3
CAIG	**El Cayaco**	**1.35**	**125**	*e*P	Pn	06 13 14.0	-4.9
CAIG				*i* S	Sn	06 13 30.1	-6.2
CAIG	**El Cayaco**	**1.35**	**125**	*i* P	Pn	06 13 16.4	-2.5
CAIG				*i* S	Sn	06 13 32.1	-4.2
MEIG	**Mezcala**	**1.72**	**87**	*i* P	Pn	06 13 20.9	-3.2
MEIG				*i* S	Sn	06 13 41.4	-4.2
MEIG	**Mezcala**	**1.72**	**87**	*i* P	Pn	06 13 20.9	-3.2
MEIG				*i* S	Sn	06 13 41.4	-4.2
MMIG	**Aquila**	**1.88**	**284**	*i* P	Pn	06 13 23.5	-2.7
MMIG				*i* S	Sn	06 13 44.9	-4.5
MMIG	**Aquila**	**1.88**	**284**	*i* P	Pn	06 13 23.5	-2.7
MMIG				*i* S	Sn	06 13 44.9	-4.5
PPM	**Popocatepetl**	**2.93**	**65**	*e*P	Pn	06 13 38.1	-3.1
PPM				*i* S	Sn	06 14 12.9	-3.4
PPM	**Popocatepetl**	**2.93**	**65**	*e*P	Pn	06 13 38.1	-3.1
PPM				*i* S	Sn	06 14 12.9	-3.4
UTMO	**Huajuapan**	**3.45**	**89**	*i* P	Pn	06 13 45.2	-2.9
UTMO				*i* S	Sn	06 14 25.0	-3.5
UTMO	**Huajuapan**	**3.45**	**89**	*i* P	Pn	06 13 45.2	-2.9
UTMO				*i* S	Sn	06 14 25.0	-3.5
PNIG	**Pinotepa**	**3.46**	**114**	*e*P	Pn	06 13 43.4	-4.6
PNIG				*i* S	Sn	06 14 23.1	-5.4
PNIG	**Pinotepa**	**3.46**	**114**	*i* P	Pn	06 13 46.0	-2.0
PNIG				*i* S	Sn	06 14 25.5	-3.0

*ISCJB **16** 06:28:07.6±0.6, 6°.22S±0°.05×146°.04E±0°.08, h100km, mb4.0/7, Error ellipse: s-maj=11.7km s-min=7.4km az=9.8*
*IDC **16** 06:28:07.5±3.0, 6°.24S×145°.96E, h88km±27km, mb3.8/7, mb1 4.1/9, mb1mx3.8/17, mbtmp3.9/9, Error ellipse: s-maj=26.3km s-min=13.4km az=126.0*
*NEIC **16** 06:28:09.9±1.9, 6°.21S×146°.01E, h111km±17km, mb4.5/6, Error ellipse: s-maj=19.7km s-min=12.8km az=138.0*

ISC 16 06:28:08.8±0.8, 6°.23S±0°.07×146°.01E±0°.10, h100km, n36, σ1s40/39, mb4.2/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.36**	**160**	P	**Pn**	**06 28 59.7**	**+0.3**
	90nm,0.3s,baz=8.5,slow=4.7,SNR=162						
PMG				S	**Sn**	**06 29 37.0**	**-1.4**
	121nm,0.3s,baz=157,slow=22,SNR=16						
PMG	**Port Moresby**	**3.36**	**160**	P	**Pn**	**06 28 59.7**	**+0.3**
PMG				S	**Sn**	**06 29 37.0**	**-1.4**
COEN	**Coen**	**8.17**	**200**	*e*Pn	**Pn**	**06 30 07.4**	**+2.7**
	582nm,0.6s						
COEN				*e*Sn	**Sn**	**06 31 35.7**	**+0.3**
CTA	**Charters Tower**	**13.78**	**179**	P	**Pn**	**06 31 21.5**	**+1.5**
	1.8nm,0.3s,baz=1.3,slow=14,SNR=14						
CTA	**Charters Tower**	**13.78**	**179**	*e*P	**Pn**	**06 31 22.2**	**+2.2**
	3.7nm,0.3s						
CTA	**Charters Tower**	**13.78**	**179**	P	**Pn**	**06 31 21.5**	**+1.5**
CTAO	**Charters Tower**	**13.78**	**179**	*e*Pn	**P**	**06 31 24.6**	**-0.5**
	15nm,0.8s						
WRAB	**Tennant Creek**	**17.72**	**219**	*e*P	**P**	**06 32 08.8**	**+0.1**
	96nm,1.7s						
WB2	**Warramunga Arr**	**17.72**	**219**	*e*P	**P**	**06 32 09.1**	**+0.3**
WRA	**Warramunga Arr**	**17.73**	**219**	P	**P**	**06 32 09.1**	**+0.2**
	0.4nm,0.3s,baz=42,slow=12,SNR=22						
WRA				S	**Sn**	**06 35 22.9**	**-4.3**
	0.2nm,0.3s,baz=50,slow=21,SNR=3.2						
WRA	**Warramunga Arr**	**17.73**	**219**	P	**P**	**06 32 09.1**	**+0.2**
WRA				S	**Sn**	**06 35 22.9**	**-4.3**
EIDS	**Eidsvold**	**19.64**	**166**	*e*P	**P**	**06 32 31.0**	**+1.2**
	19nm,0.7s						
ASAR	**Alice Springs**	**20.89**	**213**	P	**P**	**06 32 43.4**	**+0.2**
	1.2nm,0.4s,baz=48,slow=8.2,SNR=22						
ASAR				S	**S**	**06 36 31.1**	**+0.4**
	1.8nm,0.8s,baz=33,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**20.89**	**213**	P	**P**	**06 32 43.4**	**+0.2**
ASAR				S	**S**	**06 36 31.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.11**	**237**	P	**P**	**06 33 06.1**	**-0.3**
	3.5nm,0.6s,baz=44,slow=6.7,SNR=12						
FITZ	**Fitzroy Crossi**	**23.11**	**237**	*e*P	**P**	**06 33 06.7**	**+0.3**
	6.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.11**	**237**	*e*P	**P**	**06 33 05.9**	**-0.4**
	32nm,1.4s						
ARMA	**Armidale**	**24.64**	**168**	*e*P	**P**	**06 33 21.7**	**+1.5**
STKA	**Stephens Creek**	**25.85**	**189**	P	**P**	**06 33 31.1**	**0.0**
	4.5nm,0.5s,baz=351,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**25.85**	**189**	*e*P	**P**	**06 33 31.2**	**+0.1**
	4.5nm,0.6s						
STKA	**Stephens Creek**	**25.85**	**189**	*e*P	**P**	**06 33 30.9**	**-0.2**
	3.9nm,1.1s						
MKAR	**Makanchi Array**	**77.05**	**321**	P	**P**	**06 39 51.9**	**+0.8**
	0.2nm,0.4s,baz=96,slow=9.0,SNR=6.7						
MKAR	**Makanchi Array**	**77.05**	**321**	P	**P**	**06 39 51.9**	**+0.8**
KURK	**Kurchatov**	**80.81**	**324**	*e*P	**P**	**06 40 11.2**	**-0.2**
	25nm,1.9s						
ILAR	**Eielson Array**	**86.08**	**23**	P	**P**	**06 40 36.6**	**-1.5**
	2.5nm,0.7s,baz=252,slow=5.0,SNR=47						
ILAR				pP	pP	06 40 54.6	-10
	1.8nm,0.5s,baz=253,slow=5.1,SNR=20						
ILAR	**Eielson Array**	**86.08**	**23**	P	**P**	**06 40 36.6**	**-1.5**
ILAR				pP	pP	06 40 54.6	-10
NVAR	**Mina Array Bea**	**98.28**	**52**	P	Pdif	06 41 36.7	+0.9
	0.2nm,0.5s,baz=266,slow=6.2,SNR=2.7						
NVAR	**Mina Array Bea**	**98.28**	**52**	P	Pdif	06 41 36.7	+0.9
YKA	**Yellowknife Ar**	**99.83**	**28**	P	**Pdif**	**06 41 41.1**	**-0.6**
	0.1nm,0.5s,baz=273,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**99.83**	**28**	P	**Pdif**	**06 41 41.1**	**-0.6**
GERES	**GERESS Array B**	**121.53**	**325**	PKP	**PKPdf**	**06 46 50.5**	**-0.5**
	0.3nm,0.5s,baz=101,slow=1.0,SNR=3.2						
GERES	**GERESS Array B**	**121.53**	**325**	PKP	**PKPdf**	**06 46 50.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.19**	**284**	PKP	PKPbc	06 47 32.9	+0.4
	0.4nm,0.4s,baz=87,slow=2.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.19**	**284**	PKP	PKPbc	06 47 32.9	+0.4
DBIC	**Dimbokro**	**151.05**	**273**	PKPbc	**PKPbc**	**06 47 51.8**	**+0.4**
	2.3nm,0.6s,baz=108,slow=7.0,SNR=5.1						
DBIC	**Dimbokro**	**151.05**	**273**	*e*PKPbc	**PKPbc**	**06 47 51.9**	**+0.6**

MEX 16 06:42:55.2±1.1, 16°.55N×98°.23W, h33km±24km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**149**	*e*P	Pb	06 42 59.9	-1.9
PNIG				*i* S	Sb	06 43 04.9	-1.3
UTMO	**Huajuapan**	**1.33**	**18**	*e*P	Pn	06 43 16.7	-1.1
UTMO				*e*S	Sn	06 43 31.1	-3.5
VHO	**Vista Hermosa**	**1.52**	**70**	*i* P	Pn	06 43 17.9	-2.5
VHO				*i* S	Sn	06 43 36.9	-2.3
MEIG	**Mezcala**	**1.91**	**316**	*i* P	Pn	06 43 23.8	-1.7
MEIG				*i* S	Sn	06 43 45.9	-2.6
CAIG	**El Cayaco**	**2.02**	**284**	*i* P	Pn	06 43 26.2	-0.6
CAIG				*i* S	Sn	06 43 49.3	-1.7
PPM	**Popocatepetl**	**2.53**	**351**	*i* P	Pn	06 43 35.4	+0.8
ZIIG	**Zihuatanejo**	**3.27**	**289**	*i* P	Pn	06 43 38.1	-6.1

*NIED **16** 06:46:00, 44°.70N×149°.20E, h5km, Mw4.2 Best double couple: M0 2.18000×10^15 NP1:φs314.00000°, δ89.00000°, λ55.00000°. NP2:φs223.00000°, δ35.00000°, λ179.00000°.*
*IDC **16** 06:46:27.6±1.0, 44°.44N×149°.02E, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/27, mbtmp4.2/19, ML3.9/2, MS3.4/6, Ms1 3.5/6, ms1mx3.1/48, Error ellipse: s-maj=31.9km s-min=14.9km az=169.0*
*JMA **16** 06:46:31.5±0.8, 44°.69N×149°.16E, h30km, M4.6*
*MOS **16** 06:46:32.2±1.2, 44°.19N×149°.14E, h54km, mb4.6/6, Error ellipse: s-maj=12.1km s-min=9.5km az=64.7*
*ISCJB **16** 06:46:33.5±0.8, 44°.00N±0°.07×149°.16E±0°.06, h75km±8km, mb4.2/24, Error ellipse: s-maj=12.0km s-min=6.4km az=156.1*
*NEIC **16** 06:46:34.2±0.8, 44°.47N×149°.05E, h45km±7km, mb4.5/6, Error ellipse: s-maj=13.8km s-min=5.8km az=153.0*

ISC 16 06:46:34.9±1.1, 44°.08N±0°.07×149°.14E±0°.06, h67km±9km, n122, σ1s22/133, mb4.4/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**2.36**	**270**	*i* PN	**Pn**	**06 47 11.6**	**+0.2**
YUK				*i* S	**Sn**	**06 47 40.3**	**+1.0**
YUK				pmax	pmax		
	comp=E,131nm,0.2s						
YUK				pmax	pmax		
	comp=N,74nm,0.1s						
YUK				pmax	pmax		
	comp=Z,434nm,0.2s						
YUK				smax	smax		
	comp=E,1µm,0.5s						
YUK				smax	smax		
	comp=N,580nm,0.5s						
NEM2	**Nemuro 2**	**2.56**	**255**	P	**Pn**	**06 47 13.4**	**-0.7**
NEM2				*e*S	**Sn**	**06 47 44.4**	**+0.2**
JRA	**Rausu**	**2.90**	**269**	P	**Pn**	**06 47 18.1**	**-0.6**
JRA				*e*S	**Sn**	**06 47 52.3**	**-0.1**
JNK	**Nakash**	**3.24**	**263**	P	**Pn**	**06 47 23.6**	**+0.3**
JNK				*e*S	**Sn**	**06 48 01.8**	**+1.2**
JAK	**Akkeshi**	**3.41**	**253**	P	**Pn**	**06 47 23.6**	**-2.0**
JTKR	**Abashiri--Toko**	**3.77**	**270**	P	**Pn**	**06 47 30.8**	**+0.2**
JAR	**Ashorobuto**	**3.97**	**260**	P	**Pn**	**06 47 34.1**	**+0.8**
JAR				*e*S	**Sn**	**06 48 21.1**	**+3.2**
JOB	**Onbets**	**4.04**	**255**	P	**Pn**	**06 47 34.6**	**+0.4**
JOB				*e*S	**Sn**	**06 48 21.2**	**+1.0**
JCH	**Churui**	**4.46**	**253**	P	**Pn**	**06 47 40.7**	**+0.7**
JCH				*e*S	**Sn**	**06 48 32.0**	**+1.4**
ASAJ	**Asahikawa**	**4.71**	**273**	Pn	**Pn**	**06 47 42.6**	**-0.8**
	comp=N,0.7nm,0.3s,baz=80,slow=11,SNR=2.9						
ASAJ				LR	LR	06 49 41.4	
	comp=N,454nm,19.0s,baz=82,slow=42						
ASAJ	**Asahikawa**	**4.71**	**273**	PN	**Pn**	**06 47 42.6**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,454nm,19.0s						
ASAJ	**Asahikawa**	**4.71**	**273**	*e*Pn	**Pn**	**06 47 43.6**	**+0.1**
JFR	**Furan**	**4.84**	**261**	P	**Pn**	**06 47 45.3**	**+0.1**
JFR				*e*S	**Sn**	**06 48 41.5**	**+1.6**
ERM	**Erimo**	**4.84**	**247**	*e*PN	**Pn**	**06 47 47.3**	**+2.0**
ERM	**Erimo**	**4.84**	**247**	*e*Pn	**Pn**	**06 47 47.3**	**+2.0**
JEM	**Erimo**	**4.84**	**247**	P	**Pn**	**06 47 47.6**	**+2.4**
JEM				*e*S	**Sn**	**06 48 43.5**	**+3.5**
JNBK	**Urakawa-nobuka**	**5.00**	**251**	P	**Pn**	**06 47 49.0**	**+0.5**
JNBK				*e*S	**Sn**	**06 48 44.3**	**+0.4**
JBT2	**Biratori 2**	**5.10**	**258**	P	**Pn**	**06 47 49.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.33**	**305**	*e*PN	**Pn**	**06 47 50.4**	**-1.4**
JNB	**Noboribetsu**	**6.13**	**258**	P	**Pn**	**06 48 03.3**	**+0.5**
JNB				*e*S	**Sn**	**06 49 11.3**	**-0.2**
JKB	**Kayabe**	**6.34**	**253**	P	**Pn**	**06 48 05.7**	**+0.1**
JKB				*e*S	**Sn**	**06 49 14.4**	**-2.2**
JANG	**Nango**	**6.76**	**239**	P	**Pn**	**06 48 10.5**	**-1.0**
JANG				*e*S	Sn	06 49 22.8	-4.3
JTM	**Tenmabayashi**	**6.82**	**244**	P	**Pn**	**06 48 12.6**

comp=Z,0.6nm,0.5s,baz=78,slow=9.6,SNR=13
MKAR PcP **PcP** **06 56 27.4 +1.4**
comp=Z,0.5nm,0.6s,baz=75,slow=4.4,SNR=3.7
MKAR Makanchi Array 45.70 298 P **P** **06 54 48.7 -0.4**
MKAR 06 56 27.4
MKAR Makanchi Array 45.70 298 P **P** **06 54 48.6 -0.4**
MKAR PcP **PcP** **06 56 27.4 +1.4**
KURK Kurchatov 46.53 304 P **P** **06 54 55.3 -0.2**
comp=Z,0.7nm,0.4s,baz=69,slow=8.9,SNR=5.3
KURK PcP **PcP** **06 56 29.5 +0.8**
comp=Z,0.8nm,0.4s,baz=84,slow=3.0,SNR=5.6
KURK Kurchatov 46.53 304 P **P** **06 54 55.3 -0.2**
KURK 06 56 29.5
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 46.53 304 *e*P **P** **06 54 54.6 -0.9**
KURK PcP **PcP** **06 56 29.5 +0.8**
BVAR Borovoye Array 50.40 310 PcP **PcP** **06 56 43.8 +1.1**
comp=Z,0.5nm,0.4s,baz=75,slow=1.6,SNR=3.6
BVAR Borovoye Array 50.40 310 PcP **PcP** **06 56 43.8 +1.1**
RES Resolute Bay 54.23 17 *e*P **P** **06 55 52.0 -1.2**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 54.23 17 *e*P **P** **06 55 52.0 -1.2**
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 54.72 34 P **P** **06 55 57.0 +0.1**
comp=Z,2.6nm,0.7s,baz=298,slow=6.7,SNR=33
YKA Yellowknife Ar 54.72 34 P **P** **06 55 57.0 +0.1**
YKA Yellowknife Ar 54.72 34 P **P** **06 55 57.0 +0.1**
ABKAR Akbulak array 57.97 309 *e*P **P** **06 56 19.7 -0.6**
comp=Z,2.5nm,0.5s
FINES FINESS Array B 65.22 334 P **P** **06 57 07.3 -1.5**
comp=Z,1.2nm,0.6s,baz=52,slow=9.9,SNR=4.2
FINES FINESS Array B 65.22 334 P **P** **06 57 07.3 -1.5**
FINES FINESS Array B 65.22 334 P **P** **06 57 07.3 -1.5**
NVAR Mina Array Bea 66.18 59 P **P** **06 57 17.2 +1.5**
comp=Z,1.9nm,0.7s,baz=299,slow=7.1,SNR=16
NVAR Mina Array Bea 66.18 59 P **P** **06 57 17.2 +1.5**
RRI2 Red Ridge 67.23 51 *e*P **P** **06 57 23.9 +1.5**
comp=Z,3.8nm,0.8s
DUG Dugway 68.38 55 *e*P **P** **06 57 30.5 +1.0**
DUG pmax pmax
comp=Z,1.0nm,0.6s
DUG Dugway 68.38 55 *e*P **P** **06 57 30.4 +1.0**
comp=Z,1.5nm,0.6s
FRB Frobisher Bay 68.45 17 P **P** **06 57 27.9 -1.4**
comp=Z,3.5nm,0.8s,baz=211,slow=15,SNR=5.7
FRB Frobisher Bay 68.45 17 P **P** **06 57 27.9 -1.4**
FRB Frobisher Bay 68.45 17 P **P** **06 57 27.9 -1.4**
PDAR Pinedale Array 68.59 51 P **P** **06 57 31.6 +0.7**
comp=Z,1.6nm,0.7s,baz=279,slow=1.9,SNR=15
PDAR Pinedale Array 68.59 51 P **P** **06 57 31.6 +0.7**
NB2 NORSAR Subarra 69.80 340 P **P** **06 57 36.3 -1.5**
comp=Z,1.1nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 69.80 340 P **P** **06 57 36.6 -1.2**
comp=Z,2.3nm,0.8s,baz=31,slow=6.3,SNR=6.4
NOA LR LR 07 30 51.7
comp=Z,79nm,18.4s,baz=115,slow=38
NOA NORSAR Array B 69.80 340 P **P** **06 57 36.6 -1.2**
NOA NORSAR Array B 69.80 340 P **P** **06 57 36.6 -1.2**
ULM Lac du Bonnet 70.36 38 P **P** **06 57 40.4 -0.9**
comp=Z,3.4nm,0.7s,baz=348,slow=8.3,SNR=6.9
ULM Lac du Bonnet 70.36 38 P **P** **06 57 40.4 -0.9**
ULM Lac du Bonnet 70.36 38 P **P** **06 57 40.4 -0.9**
PV10 Paradox Valley 71.79 54 *e*P **P** **06 57 51.8 +1.3**
comp=Z,134nm,0.8s
AKASG Malin Array Be 72.15 325 P **P** **06 57 50.8 -1.3**
comp=Z,3.4nm,0.6s,baz=37,slow=6.2,SNR=10
AKASG Malin Array Be 72.15 325 P **P** **06 57 50.8 -1.3**
AKASG Malin Array Be 72.15 325 P **P** **06 57 50.8 -1.3**
BUR08 Bucovina Ar. S 76.19 325 *e*P **P** **06 58 15.9 +0.1**
CLL Collm 77.67 334 *e*P **P** **06 58 24.0 +0.1**
CLL Collm 77.67 334 *e*P **P** **06 58 24.0 +0.1**
BRTR Keskin Array B 78.34 315 P **P** **06 58 29.4 +1.3**
comp=Z,0.5nm,0.4s,baz=71,slow=5.4,SNR=4.6
BRTR Keskin Array B 78.34 315 P **P** **06 58 29.4 +1.3**
BRTR Keskin Array B 78.34 315 P **P** **06 58 29.4 +1.3**
KHC Kasperske Hory 79.35 332 *e*P **P** **06 58 32.0 -1.3**
KHC Kasperske Hory 79.35 332 *e*P **P** **06 58 32.0 -1.3**
GERES GERESS Array B 79.56 332 P **P** **06 58 34.5 0.0**
comp=Z,0.7nm,0.4s,baz=32,slow=5.6,SNR=8.8
GERES GERESS Array B 79.56 332 P **P** **06 58 34.5 0.0**
GERES GERESS Array B 79.56 332 P **P** **06 58 34.5 0.0**
TXAR Lajitas Array 81.27 58 P **P** **06 58 45.1 +1.1**
comp=Z,3.3nm,0.6s,baz=303,slow=3.9,SNR=46
TXAR Lajitas Array 81.27 58 P **P** **06 58 45.1 +1.1**
TXAR Lajitas Array 81.27 58 P **P** **06 58 45.1 +1.1**
MMAI Mount Meron Ar 82.40 309 LR LR 07 42 38.4
comp=Z,38nm,19.2s,baz=285,slow=41
TORD Torodi Ar. Bea 115.79 324 PKP **PKiKP** **07 05 10.5 +0.3**
comp=Z,0.3nm,0.4s,baz=355,slow=1.8,SNR=2.8
TORD Torodi Ar. Bea 115.79 324 PKP **PKiKP** **07 05 10.5 +0.3**
BDFB Brasilia 148.12 33 PKPbc **PKPbc** **07 06 14.3 +0.9**
comp=Z,1.8nm,0.6s,baz=262,slow=1.9,SNR=4.5
BDFB Brasilia 148.12 33 PKP2 **PKPbc** **07 06 14.3 +0.9**
BDFB Brasilia 148.12 33 PKPbc **PKPbc** **07 06 14.3 +0.9**
PLCA Paso Flores 150.70 97 PKPbc **PKPbc** **07 06 21.2 +2.1**
comp=Z,2.4nm,1.0s,baz=196,slow=2.4,SNR=4.2
PLCA Paso Flores 150.70 97 PKIKP **PKPbc** **07 06 21.2 +2.1**
PLCA Paso Flores 150.70 97 PKPbc **PKPbc** **07 06 21.2 +2.1**
VNA2 Neumayer--Watz 150.70 196 *e* **PKPbc** **07 06 21.6 +3.5**
baz=93,slow=1.2

MOS **16** *06:47:52.3±1.2, 14.96S×167.96E, h33km, mb5.2/28, Error ellipse: s-maj=9.6km s-min=8.0km az=18.9*
IDC **16** *06:47:55.6±2.0, 15.12S×168.05E, h56km±18km, mb4.6/20, mb1 4.7/22, mb1mx4.7/23, mbtmp4.6/22, ML5.2/1, MS4.2/11, Ms1 4.2/11, ms1mx3.8/30, Error ellipse: s-maj=16.8km s-min=10.4km az=143.0*
NEIC **16** *06:47:56.3±1.0, 15.06S×167.99E, h58km±9km, mb5.0/49, Error ellipse: s-maj=7.5km s-min=5.3km az=167.0*
ISCJB **16** *06:47:56.2±0.1, 15.17S±0.04×167.91E±0.03, h70km, mb4.9/89, Error ellipse: s-maj=5.7km s-min=3.9km az=162.0*
BJI **16** *06:47:59.2, 14.41S×167.93E, h75km, mB5.3/27, mb5.0/44, Ms5.2/20, Ms7 4.8/20*
DJA **16** *06:48:09, 15.31S×167.66E, h163km, mb4.8/12*
ISC 16 06:47:57.3±0.4, 15.14S±0.05×168.05E±0.05, h73km±2km, h72km:pP-P, n418,σ1§17/455, mb5.0/88, 85C-60D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.07**	**192**	*e*Pn		Pn	06 49 33.7	-4.5
	107nm,0.3s							
DZM				*e*Sn		Sn	06 50 50.0	-7.1
	29nm,0.3s							
DZM				*e*LR		LR	06 51 12.8	
	928nm,25.8s							
DZM	**Mont Dzumac**	**7.07**	**192**	P		**Pn**	**06 49 35.3**	**-2.9**
	41nm,0.3s,baz=46,slow=18,SNR=51							
DZM				S		**Sn**	**06 50 55.6**	**-1.5**
	4.6nm,0.3s,baz=332,slow=23,SNR=7.4							
DZM				LR		LR	06 52 02.5	
	comp=Z,662nm,18.0s,baz=27,slow=35							
DZM	**Mont Dzumac**	**7.07**	**192**	*e*P		Pn	06 49 33.6	-4.6
DZM	**Mont Dzumac**	**7.07**	**192**	P		**Pn**	**06 49 35.3**	**-2.9**
DZM				S		**Sn**	**06 50 55.6**	**-1.5**
NOUC	**Port Laguerre**	**7.12**	**193**	*e*P		Pn	06 49 35.1	-3.8
	comp=Z,39nm,5.1s							
NOUC				*e*S		**Sn**	**06 50 54.8**	**-3.6**
HNR	**Honiara**	**9.73**	**305**	*e*P		**Pn**	**06 50 13.1**	**-1.6**
HNR				*e*			06 52 06.2	
HNR	**Honiara**	**9.73**	**305**	*e*Pn		**Pn**	**06 50 13.1**	**-1.6**
HNR				*e*Sn		**Sn**	**06 52 06.2**	**+3.8**
MSVF	**Nonsavu**	**9.94**	**106**	*e*P		**Pn**	**06 50 18.4**	**+0.9**
MSVF	**Nonsavu**	**9.94**	**106**	*e*Pn		**Pn**	**06 50 18.4**	**+0.9**
MSVF	**Nonsavu**	**9.94**	**106**	Pn		**Pn**	**06 50 18.7**	**+1.3**
	comp=Z,332nm,1.3s,SNR=5.5							
EIDS	**Eidsvold**	**18.88**	**235**	*e*P		**Pn**	**06 52 13.4**	**+0.2**
	comp=Z,63nm,0.9s							
AFI	**Afiamalu**	**19.57**	**89**	P		**P**	**06 52 19.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=286,slow=18,SNR=3.1							
AFI	**Afiamalu**	**19.57**	**89**	P		**P**	**06 52 19.6**	**0.0**
AFI	**Afiamalu**	**19.57**	**89**	P		**P**	**06 52 19.6**	**0.0**
OUZ	**Omahuta**	**20.61**	**167**	*e*P		Pn	06 52 32.5	-1.0
	comp=Z,51nm,0.9s							
PMG	**Port Moresby**	**21.18**	**283**	P		**P**	**06 52 37.4**	**+0.4**
	comp=Z,38nm,1.0s,baz=107,slow=8.9,SNR=11							
PMG	**Port Moresby**	**21.18**	**283**	i*P*		**P**	**06 52 37.6**	**+0.7**
PMG				pmax		pmax		
	comp=Z,76nm,1.3s							
PMG	**Port Moresby**	**21.18**	**283**	*e*P		**P**	**06 52 37.7**	**+0.7**
	comp=Z,55nm,1.0s							
CTA	**Charters Tower**	**21.34**	**254**	P		**P**	**06 52 39.5**	**+0.8**
	comp=Z,16nm,0.5s,baz=80,slow=12,SNR=19							
CTA				LR		LR	06 59 37.5	
	comp=Z,955nm,20.9s,baz=91,slow=33							
CTA	**Charters Tower**	**21.34**	**254**	*e*P		**P**	**06 52 39.3**	**+0.6**
	comp=Z,14nm,0.9s							
CTA	**Charters Tower**	**21.34**	**254**	P		**P**	**06 52 39.5**	**+0.8**
CTA	**Charters Tower**	**21.34**	**254**	P		**P**	**06 52 39.5**	**+0.8**
CTAO	**Charters Tower**	**21.34**	**254**	*e*P		**P**	**06 52 39.5**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,228nm,2.0s							
CTAO	**Charters Tower**	**21.34**	**254**	*e*P		**P**	**06 52 39.5**	**+0.8**
	comp=Z,228nm,2.0s							
ARMA	**Armidale**	**21.42**	**222**	*e*P		**P**	**06 52 42.7**	**+3.2**
ARMA	**Armidale**	**21.42**	**222**	*e*P		**P**	**06 52 42.6**	**+3.2**
	comp=Z,47nm,1.2s							
COEN	**Coen**	**24.10**	**270**	*e*P		**P**	**06 53 07.9**	**+1.4**
	comp=Z,189nm,1.3s							
URZ	**Urewera**	**24.39**	**163**	*e*P		**P**	**06 53 09.9**	**+1.1**
	comp=Z,45nm,0.9s							
CNB	**Canberra Magne**	**26.17**	**216**	*e*P		**P**	**06 53 25.2**	**+0.1**
	comp=Z,132nm,0.9s							
STKA	**Stephens Creek**	**29.31**	**231**	P		**P**	**06 53 54.1**	**+0.9**
	comp=Z,10nm,0.6s,baz=61,slow=8.1,SNR=24							
STKA				PcP		**PcP**	**06 56 58.4**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=207,slow=2.3,SNR=2.9							
STKA				LR		LR	07 06 12.6	
	comp=Z,235nm,18.4s,baz=43,slow=37							
STKA	**Stephens Creek**	**29.31**	**231**	*e*P		**P**	**06 53 53.9**	**+0.8**
	comp=Z,9.1nm,0.8s							
STKA	**Stephens Creek**	**29.31**	**231**	P		**P**	**06 53 54.1**	**+0.9**
STKA							06 56 58.4	
STKA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
STKA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
STKA				MLR		MLR		
	comp=Z,235nm,18.4s							
STKA	**Stephens Creek**	**29.31**	**231**	*e*P		**P**	**06 53 54.0**	**+0.9**
	comp=Z,2.7nm,0.8s							
STKA				PcP		**PcP**	**06 56 58.4**	**+0.2**
TOO	**Toolangi**	**29.98**	**218**	*e*P		**P**	**06 53 59.3**	**+0.3**
	comp=Z,100nm,0.9s							
RAR	**Rarotonga**	**31.13**	**106**	LR		LR	07 04 17.9	
	comp=Z,34nm,20.2s,baz=276,slow=32							
SMPI	**Sarmi**	**31.75**	**291**	P		**P**	**06 54 15.1**	**+0.3**
	comp=Z,65nm,1.3s,comp=Z,1μm							
WB2	**Warramunga Arr**	**32.45**	**257**	*e*P		**P**	**06 54 19.7**	**-1.2**
WRAB	**Tennant Creek**	**32.45**	**257**	*e*P		**P**	**06 54 19.8**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,19nm,0.9s							
WRAB	**Tennant Creek**	**32.45**	**257**	*e*P		**P**	**06 54 19.8**	**-1.1**
	comp=Z,19nm,0.9s							
WRAB	**Tennant Creek**	**32.45**	**257**	P		**P**	**06 54 19.8**	**-1.1**
	comp=Z,120nm,0.6s,SNR=18							
WRA	**Warramunga Arr**	**32.46**	**257**	P		**P**	**06 54 20.1**	**-1.0**
	comp=Z,16nm,0.7s,baz=86,slow=8.8,SNR=82							
WRA				PcP		**PcP**	**06 57 07.5**	**+0.7**
	comp=Z,5.9nm,1.1s,baz=76,slow=2.2,SNR=7.0							
WRA				S		**S**	**06 59 30.9**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=93,slow=13,SNR=4.7							
WRA				LR		LR	07 06 53.2	
	comp=Z,776nm,18.3s,baz=80,slow=35							
WRA	**Warramunga Arr**	**32.46**	**257**	P		**P**	**06 54 20.1**	**-1.0**
WRA							06 57 07.5	
WRA				S		**S**	**06 59 30.9**	**+0.1**
WRA	**Warramunga Arr**	**32.46**	**257**	P		**P**	**06 54 20.1**	**-1.0**
WRA				PcP		**PcP**	**06 57 07.5**	**+0.7**
WRA				S		**S**	**06 59 30.9**	**+0.1**
AS31	**Alice Springs**	**33.24**	**250**	*e*P		**P**	**06 54 27.2**	**-0.5**
ASAR	**Alice Springs**	**33.24**	**250**	P		**P**	**06 54 27.4**	**-0.4**
	comp=Z,30nm,0.8s,baz=77,slow=9.4,SNR=141							
ASAR				PcP		**PcP**	**06 57 08.8**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=99,slow=1.3,SNR=4.3							
ASAR				S		**S**	**06 59 45.8**	**+2.9**
	comp=Z,1.2nm,1.0s,baz=83,slow=16,SNR=5.4							
ASAR	**Alice Springs**	**33.24**	**250**	P		**P**	**06 54 27.4**	**-0.4**
ASAR							06 57 08.8	
ASAR				S		**S**	**06 59 45.8**	**+2.9**
ASAR	**Alice Springs**	**33.24**	**250**	P		**P**	**06 54 27.4**	**-0.4**
ASAR				PcP		**PcP**	**06 57 08.8**	**-0.2**
ASAR				S		**S**	**06 59 45.8**	**+2.9**
BBOO	**Buckleboo**	**33.93**	**233**	*e*P		**P**	**06 54 34.7**	**+1.0**
	comp=Z,427nm,0.8s							
GUMO	**Guam**	**36.61**	**320**	LR		LR	07 06 34.5	
	comp=Z,165nm,20.9s,baz=166,slow=31							
FORT	**Forrest**	**39.74**	**240**	*e*P		**P**	**06 55 23.4**	**+0.4**
	comp=Z,69nm,0.8s							
FORT	**Forrest**	**39.74**	**240**	*e*P		**P**	**06 55 23.4**	**+0.4**
	comp=Z,91nm,0.8s							
PPT2	**Papeete2**	**40.67**	**99**	*e*S		S	07 01 35.7	-0.4
	comp=Z,225nm,23.2s							
PPT2				*e*LR		LR	07 06 50.7	
	comp=Z,780nm,29.2s							
FITZ	**Fitzroy Crossi**	**40.68**	**260**	LR		LR	07 11 56.7	
	comp=Z,801nm,18.6s,baz=83,slow=35							
FITZ	**Fitzroy Crossi**	**40.68**	**260**	*e*P		**P**	**06 55 30.2**	**-0.8**
	comp=Z,52nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.68**	**260**	*e*P		**P**	**06 55 30.9**	**-0.1**
	comp=Z,37nm,0.9s							
TBI	**Tubuai**	**40.82**	**108**	*e*S		S	07 01 38.6	+0.6
	comp=Z,344nm,28.2s							
TBI				*e*LR		LR	07 06 57.0	
	comp=Z,521nm,30.0s							
PMOR	**Pomariorio Ree**	**42.49**	**96**	*e*P		**P**	**06 55 46.4**	**+0.7**
	comp=Z,74nm,1.2s							
MBWA	**Marble Bar**	**46.17**	**255**	*e*P		**P**	**06 56 15.4**	**+0.3**
	comp=Z,38nm,0.7s							
KAPI	**Kappang**	**48.50**	**277**	P		**P**	**06 56 33.2**	**-0.1**
	comp=Z,35nm,0.8s,baz=148,slow=7.6,SNR=8.0							
KAPI	**Kappang**	**48.50**	**277**	*e*P		**P**	**06 56 32.9**	**-0.4**
	comp=Z,45nm,0.9s							
KLBR	**Kellerberrin**	**48.57**	**241**	*e*P		**P**	**06 56 33.1**	**-0.5**
	comp=Z,15nm,0.6s							
NWAO	**Narrogin (SRO)**	**49.19**	**239**	LR		LR	07 17 21.4	
	comp=Z,437nm,18.8s,baz=241,slow=36							
NWAO	**Narrogin (SRO)**	**49.19**	**239**	*e*P		**P**	**06 56 36.2**	**-2.1**
NWAO				pmax		pmax		
	comp=Z,169nm,1.8s							
NWAO	**Narrogin (SRO)**	**49.19**	**239**	*e*P		**P**	**06 56 36.2**	**-2.1**
	comp=Z,169nm,1.8s							
KKM	**Kota Kinabalu**	**55.50**	**288**	*e*P		**P**	**06 57 26.0**	**+0.6**
	comp=Z,179nm,1.7s							
KKM	**Kota Kinabalu**	**55.50**	**288**	P		**P**	**06 57 26.8**	**+1.4**
	comp=Z,69nm,1.6s							
MJAR	**Matsushiro Arr**	**58.61**	**332**	P		**P**	**06 57 45.0**	**-1.8**
	comp=Z,7.2nm,0.8s,baz=168,slow=8.0,SNR=10							
MJAR	**Matsushiro Arr**	**58.61**	**332**	P		**P**	**06 57 45.0**	**-1.8**
MJAR	**Matsushiro Arr**	**58.61**	**332**	P		**P**	**06 57 45.0**	**-1.8**
MAJO	**Matsushiro**	**58.61**	**332**	*e*P		**P**	**06 57 46.2**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.5s							
MAJO	**Matsushiro**	**58.61**	**332**	*e*P		**P**	**06 57 46.2**	**-0.7**
	comp=Z,6.6nm,0.5s							
MAT	**Matsushiro**	**58.61**	**332**	P		**P**	**06 57 45.6**	**-1.3**
JNU	**Nakatsue**	**59.69**	**324**	*e*P		**P**	**06 57 53.8**	**-0.6**
	comp=Z,9.5nm,0.9s							
VNDA	**Vanda**	**62.48**	**182**	*e*P		**P**	**06 58 13.1**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,13nm,1.3s							
VNDA	**Vanda**	**62.48**	**182**	*e*P		**P**	**06 58 13.1**	**+0.5**
	comp=Z,13nm,1.3s							
SBA	**Scott Base**	**62.74**	**180**	*e*P		**P**	**06 58 16.2**	**+1.9**
SBA				pmax		pmax		
	comp=Z,189nm,2.2s							
SBA	**Scott Base**	**62.74**	**180**	*e*P		**P**	**06 58 16.2**	**+1.9**
	comp=Z,189nm,2.2s							
ASAJ	**Asahikawa**	**63.38**	**340**	P		**P**	**06 58 18.7**	**-0.2**
	comp=Z,14nm,0.9s,baz=185,slow=15,SNR=5.0							
ASAJ	**Asahikawa**	**63.38**	**340**	P		**P**	**06 58 18.7**	**-0.2**
ASAJ				pmax		pmax		
	comp=Z,14nm,0.9s							
ASAJ	**Asahikawa**	**63.38**	**340**	P		**P**	**06 58 18.7**	**-0.2**
KSRS	**Korea Array**	**64.50**	**325**	P		**P**	**06 58 26.4**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=144,slow=7.0,SNR=9.9							
KSRS	**Korea Array**	**64.50**	**325**	P		**P**	**06 58 26.4**	**-0.1**
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSAR	**Wonju Array Be**	**64.51**	**325**	P		**P**	**06 58 26.4**	**-0.2**
KSAR	**Wonju Array Be**	**64.51**	**325**	P		**P**	**06 58 26.4**	**-0.2**
NJ2	**Nanjing**	**66.49**	**315**	*e*P		P	06 58 43.1	+3.7
NJ2				pmax		pmax		
	comp=Z,30nm,0.5s							
QIZ	**Qiongzhong**	**66.59**	**299**	P		**P**	**06 58 41.6**	**+1.2**
QIZ				pP		**pP**	**06 58 57.6**	**-1.9**
QIZ				S		**S**	**07 07 28.8**	**+2.5**
QIZ				pmax		pmax		
	comp=Z,36nm,1.8s							
QIZ				pmax		pmax		
	comp=Z,180nm,5.5s							
VLA	**Vladivostok**	**66.78**	**332**	i*eP*		**P**	**06 58 40.2**	**-0.8**
VLA				*e*			06 59 09.0	
VLA				*e*S		**S**	**07 07 25.4**	**-2.3**
VLA				pmax		pmax		
	comp=Z,16nm,0.8s							
USRK	**Ussuriysk Arra**	**67.58**	**333**	P		**P**	**06 58 46.8**	**+0.7**
	comp=Z,5.0nm,0.8s,baz=128,slow=5.8,SNR=11							
PETK	**Petropavlovsk-**	**68.55**	**353**	P		**P**	**06 58 52.9**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=144,slow=10.0,SNR=3.8							
PETK	**Petropavlovsk-**	**68.55**	**353**	P		**P**	**06 58 52.9**	**+0.9**
PETK	**Petropavlovsk-**	**68.55**	**353**	P		**P**	**06 58 52.9**	**+0.9**
WHN	**Wuhan**	**68.77**	**312**	P		**P**	**06 58 53.5**	**-0.3**
MDJ	**Mudanjiang**	**68.99**	**332**	P		**P**	**06 58 54.8**	**-0.1**
MDJ				pmax		pmax		
	comp=Z,24nm,1.6s							
MDJ				pmax		pmax		
	comp=Z,230nm,5.8s							
MDJ				LR		LR		
	comp=Z,66nm,23.8s							
MDJ	**Mudanjiang**	**68.99**	**332**	*e*P		**P**	**06 58 55.1**	**+0.2**
	comp=Z,24nm,1.0s							
HABR	**Khabarovsk**	**69.80**	**337**	*e*P		**P**	**06 58 57.9**	**-1.9**
HABR				*e**PP		**pP**	**06 59 16.5**	**-2.5**
HABR							07 01 32.2	
HABR				*e*S		**S**	**07 08 01.1**	**-2.2**
HABR				*e**SS		**sS**	**07 08 33.0**	**-3.1**
HABR				*e*			07 08 52.8	
HABR				*e*SS		**SS**	**07 12 30.8**	**-2.9**
HABR				pmax		pmax		
	comp=Z,14nm,0.8s							
HABR				pmax		pmax		
	comp=E,16nm,1.2s							
HABR				pmax		pmax		
	comp=N,10.0nm,1.0s							
HABR				MLR		MLR		
	comp=Z,118nm,15.0s							
CN2	**Changchun**	**70.38**	**329**	*e*P		**P**	**06 59 03.8**	**+0.3**
CN2				pmax		pmax		
	comp=Z,30nm,1.0s							
PSI	**Prapat**	**70.66**	**278**	P		**P**	**06 59 05.0**	**-1.0**
	comp=Z,32nm,1.0s							
ENH	**Enshi**	**72.20**	**309**	*e*P		**P**	**06 59 14.7**	**-0.2**
	comp=Z,25nm,1.0s							
GYA	**Guiyang**	**72.56**	**304**	i*P*		**P**	**06 59 17.3**	**+0.1**
GYA				pP		**pP**	**06 59 36.8**	**+0.2**
GYA				sP		**sP**	**06 59 46.0**	**+1.4**
GYA				PP		**PP**	**07 02 03.4**	**+3.8**
GYA				S		**S**	**07 08 37.3**	**+0.8**
GYA				sS		**sS**	**07 09 08.9**	**-0.6**
GYA				SKS		**SKSac**	**07 09 13.0**	**-3.2**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.3s							
GYA				LR		LR		
	comp=N,540nm,19.5s							
GYA				LR		LR		
	comp=E,510nm,20.0s							
GYA				LR		LR		
	comp=Z,480nm,18.9s							
BJI	**Beijing**	**73.05**	**321**	P		**P**	**06 59 20.0**	**+0.4**
BJI				S		**SKiKP**	**07 08 45.3**	**-0.2**
BJI				pmax		pmax		
	comp=Z,18nm,0.8s							
BJI				pmax		pmax		
	comp=Z,240nm,4.7s							
BJI				LR		LR		
	comp=N,350nm,26.1s							
BJI				LR		LR		
	comp=E,300nm,26.5s							
BJI				LR		LR		
	comp=Z,90nm,35.4s							
XAN	**Xi'an**	**74.52**	**312**	P		**P**	**06 59 28.4**	**0.0**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,36nm,4.6s							
QSPA	**South Pole Qui**	**74.89**	**180**	*e*P		**P**	**06 59 30.0**	**-0.1**
	comp=Z,15nm,1.1s							
KMI	**Kunming**	**75.16**	**302**	P		**P**	**06 59 33.4**	**+0.9**
KMI				pP		**pP**	**06 59 53.3**	**+1.3**
KMI				sP		**sP**	**07 00 00.3**	**+0.3**
KMI				PP		**PP**	**07 02 25.4**	**+3.6**
KMI				S		**S**	**07 09 06.5**	**+0.5**
KMI				pmax		pmax		
	comp=Z,27nm,0.9s							
KMI				LR		LR		
	comp=N,180nm,20.3s							
KMI				LR		LR		
	comp=E,110nm,20.7s							
KMI				LR		LR		
	comp=Z,160nm,27.5s							
CMAR	**Chiang Mai Arr**	**75.80**	**294**	P		**P**	**06 59 36.9**	**+0.8**
	comp=Z,4.5nm,0.4s,baz=117,slow=4.5,SNR=20							
CMAR	**Chiang Mai Arr**	**75.80**	**294**	P		**P**	**06 59 36.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**75.80**	**294**	P		**P**	**06 59 36.9**	**+0.8**
CHTO	**Chiang Mai**	**75.93**	**294**	*e*P		**P**	**06 59 37.7**	**+0.9**
CHTO				pmax		pmax		
	comp=Z,31nm,1.4s							
CHTO	**Chiang Mai**	**75.93**	**294**	*e*P		**P**	**06 59 37.7**	**+0.9**
	comp=Z,31nm,1.4s							
CHTO	**Chiang Mai**	**75.93**	**294**	P		**P**	**06 59 37.7**	**+0.9**
	comp=Z,19nm,1.4s							
HHC	**Hu-ho-hao-te**	**76.38**	**319**	*e*P		**P**	**06 59 40.0**	**+1.0**
HHC				pP		**pP**	**06 59 57.8**	**-0.7**
HHC				sP		**sP

ULN pmax pmax
comp=Z,31nm,0.9s
ULN Ulaanbaatar 82.91 324 *e*P **P 07 00 14.6 +0.4**
comp=Z,31nm,0.9s
ULN Ulaanbaatar 82.91 324 P **P 07 00 14.6 +0.4**
BILL Bilibino 82.95 359*c i*P **P 07 00 13.1 -0.8**
BILL *i* 07 00 18.1
BILL pmax pmax
comp=Z,33nm,1.1s
BILL Bilibino 82.95 359 *e*P **P 07 00 13.0 -0.8**
comp=Z,32nm,1.1s
SONM Songino Array 83.27 323 P **P 07 00 16.4 +0.3**
comp=Z,18nm,1.0s,baz=139,slow=5.0,SNR=83
SONM Songino Array 83.27 323 P **P 07 00 16.4 +0.3**
SONM Songino Array 83.27 323 P **P 07 00 16.4 +0.3**
GTA Gaotai 83.49 314 *e*P **P 07 00 18.3 +0.9**
GTA pP **pP 07 00 38.5 +1.3**
GTA sP **sP 07 00 46.4 +1.2**
GTA SKS **S 07 10 29.3 -4.2**
GTA S **SKSac 07 10 31.3 -2.5**
GTA sS **sS 07 11 06.8 -0.4**
GTA SS **SS 07 15 59.4 -1.9**
GTA pmax pmax
comp=Z,20nm,1.3s
GTA pmax pmax
comp=Z,150nm,7.4s
GTA LR LR
comp=N,240nm,7.1s
GTA LR LR
comp=E,180nm,7.6s
GTA LR LR
comp=Z,170nm,8.1s
KCPM Cahto Peak 83.70 46 *e*P **P 07 00 19.4 +0.9**
comp=Z,6.3nm,0.9s
HOPS Hopland 83.77 47 *e*P **P 07 00 19.7 +1.0**
comp=Z,41nm,1.4s
KIPM Iron Peak 83.83 46 *e*P **P 07 00 19.9 +0.8**
comp=Z,17nm,1.0s
SAO San Andreas Ge 84.02 50 *e*P **P 07 00 20.9 +0.9**
SAO pmax pmax
comp=Z,5.0nm,0.9s
SAO San Andreas Ge 84.02 50 *e*P **P 07 00 20.9 +0.9**
comp=Z,5.2nm,0.9s
SHL Shillong 84.42 298 *e*P **P 07 00 24.0 +1.5**
PKM Peak Mountain 84.50 52 ⇑P **P 07 00 23.8 +1.1**
baz=85,SNR=7.0
SMMC Simmler 84.52 51 ⇓P **P 07 00 23.5 +0.8**
baz=85
TRF Thorofare Moun 84.70 17 *e*P **P 07 00 21.2 -1.9**
comp=Z,16nm,0.9s
SCI San Clemente I 84.76 54 ⇑P **P 07 00 24.8 +0.9**
baz=85
WDC Whiskeytown Da 84.80 46 *e*P **P 07 00 25.6 +1.7**
WDC Whiskeytown Da 84.80 46 *e*P **P 07 00 25.6 +1.7**
OHCM Honcut 85.03 47 *e*P **P 07 00 26.0 +1.0**
BOD Bodaibo 85.17 334 *e*P **P 07 00 24.1 -1.2**
BOD pmax pmax
comp=Z,17nm,1.5s
FMP Fort Macarthur 85.23 53 ⇑P **P 07 00 27.1 +1.0**
baz=85
CMB Columbia Colle 85.30 49 *e*P **P 07 00 27.3 +0.8**
CMB Columbia Colle 85.30 49 *e*P **P 07 00 27.3 +0.8**
ARVC Arvin 85.34 52 ⇑P **P 07 00 27.9 +1.2**
baz=86
VES Vestal, Richgr 85.42 51 ⇓P **P 07 00 27.8 +0.8**
baz=86
PASC Pasadena Art C 85.48 53 *e*P **P 07 00 27.6 +0.2**
comp=Z,4.2nm,0.5s
MWC Mount Wilson 85.60 53 *e*P **P 07 00 29.1 +0.9**
MWC pmax pmax
comp=Z,26nm,1.3s
MWC Mount Wilson 85.60 53 *e*P **P 07 00 29.1 +0.9**
comp=Z,26nm,1.3s
ISA Isabella 85.81 52 *e*P **P 07 00 29.9 +0.7**
ISA Isabella 85.81 52 *e*P **P 07 00 29.9 +0.7**
ISA Isabella 85.81 52 ⇓P **P 07 00 29.8 +0.7**
baz=86,SNR=13
109C Camp Elliot, M 85.86 55 ⇑P **P 07 00 30.3 +1.0**
baz=86
EDW2 Edwards Air Fo 85.89 52 ⇑P **P 07 00 30.4 +0.8**
baz=86,SNR=8.7
BFSC Mount Baldy Ra 85.91 53 ⇑P **P 07 00 30.6 +0.8**
baz=86
MURC Murrieta 86.04 54 ⇓P **P 07 00 31.2 +1.0**
baz=86
BAR Barrett 86.13 55 *e*P **P 07 00 30.7 0.0**
comp=Z,12nm,1.3s
WCN Washoe City 86.25 48 *e*P **P 07 00 32.3 +0.9**
WCN pmax pmax
comp=Z,8.0nm,1.1s
WCN Washoe City 86.25 48 *e*P **P 07 00 32.2 +0.9**
comp=Z,7.7nm,1.1s
WCN Washoe City 86.25 48 ⇑P **P 07 00 32.0 +0.7**
baz=86
MLAC Mammoth Lakes 86.28 50 ⇑P **P 07 00 32.5 +0.9**
baz=86
ZAK Zakamensk 86.32 325 *e*P **P 07 00 31.3 0.0**
ZAK pmax pmax
comp=Z,14nm,1.2s
LRMC Laurel Mountai 86.34 52 ⇓P **P 07 00 32.7 +0.9**
baz=86
MTUM Tungsten Hills 86.37 50 *e*P **P 07 00 33.0 +1.0**
MONP Monument Peak 86.40 55 ⇓P **P 07 00 33.2 +0.9**
baz=86
LSA Lhasa 86.41 302 P **P 07 00 33.3 +0.6**
LSA Lhasa 86.41 302 *e*P **P 07 00 33.1 +0.4**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 86.41 302 *e*P **P 07 00 33.1 +0.4**
comp=Z,6.9nm,0.6s
COLA College 86.47 17 *e*P **P 07 00 30.7 -0.9**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 86.47 17 *e*P **P 07 00 30.7 -0.9**
comp=Z,4.5nm,0.8s
DVTC Desert V Tower 86.57 55 ⇑P **P 07 00 34.0 +1.1**
baz=87
PFO Pinyon Flat Ob 86.62 54 *e*P **P 07 00 34.4 +1.1**
PFO pmax pmax
comp=Z,6.0nm,1.1s
PFO Pinyon Flat Ob 86.62 54 *e*P **P 07 00 34.4 +1.1**
comp=Z,5.5nm,1.1s
PFO Pinyon Flat Ob 86.62 54 ⇓P **P 07 00 33.9 +0.7**
baz=87,SNR=8.0
ILAR Eielson Array 86.68 18 P **P 07 00 31.1 -1.5**
comp=Z,6.0nm,0.7s,baz=239,slow=5.2,SNR=83
ILAR LR LR 07 34 17.9
comp=Z,164nm,20.0s,baz=100,slow=32
ILAR Eielson Array 86.68 18 P **P 07 00 31.2 -1.5**
ILAR Eielson Array 86.68 18 P **P 07 00 31.1 -1.5**
MPMC Manual Prospec 86.70 51 ⇓P **P 07 00 34.5 +0.9**
baz=87,SNR=9.4
TLY Talaya 86.75 326 *e*P **P 07 00 33.1 -0.2**
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY Talaya 86.75 326 *e*P **P 07 00 33.1 -0.2**
comp=Z,5.1nm,0.7s
MOD Modoc 86.88 45 *e*P **P 07 00 35.9 +1.5**
comp=Z,7.5nm,1.1s
SWSC Sam W. Stewart 86.91 55 ⇑P **P 07 00 35.4 +1.0**
baz=87
GSC Goldstone 86.95 52 *e*P **P 07 00 35.9 +1.1**
GSC Goldstone 86.95 52 *e*P **P 07 00 35.9 +1.1**
GSC Goldstone 86.95 52 ⇓P **P 07 00 35.6 +0.9**
baz=87,SNR=6.6
NVAR Mina Array Bea 86.97 49 P **P 07 00 35.9 +0.9**
comp=Z,5.1nm,0.8s,baz=234,slow=7.4,SNR=24
NVAR LR LR 07 30 59.8
comp=Z,147nm,19.5s,baz=31,slow=30
NVAR Mina Array Bea 86.97 49 P **P 07 00 35.9 +0.9**
BELC Belle Mtn. Jos 87.12 54 ⇑P **P 07 00 36.6 +1.0**
baz=87,SNR=19
GRAC Grapevine Rang 87.13 51 ⇓P **P 07 00 36.4 +0.9**
baz=87
HEC Hector,Ludlow 87.15 53 ⇑P **P 07 00 36.4 +0.7**
baz=87,SNR=14
FURC Furnace Creek, 87.32 51 ⇓P **P 07 00 37.5 +1.1**
baz=87,SNR=12
BC3 Big Chuckawall 87.42 54 ⇑P **P 07 00 38.1 +1.0**
baz=88,SNR=6.5
SHOC Shoshone 87.56 52 ⇑P **P 07 00 38.4 +0.8**
baz=88
GMRC Granite Mounta 87.65 53 ⇓P **P 07 00 39.0 +0.8**
baz=88,SNR=8.7
TUQ Turquoise Moun 87.67 52 ⇑P **P 07 00 38.9 +0.6**
baz=88

GLA Glamis 87.71 55 *e*P **P 07 00 39.8 +1.4**
GLA pmax pmax
comp=Z,21nm,1.2s
GLA Glamis 87.71 55 *e*P **P 07 00 39.8 +1.4**
comp=Z,21nm,1.2s
GLA Glamis 87.71 55 ⇓P **P 07 00 39.6 +1.2**
baz=88
IRM Iron Mountain 87.83 54 ⇓P **P 07 00 40.0 +1.0**
baz=88,SNR=17
Y12C Blythe 88.19 54 ⇑P **P 07 00 41.6 +1.1**
baz=88,SNR=7.8
MOY Mondy 88.20 325 *e*P **P 07 00 41.5 +1.1**
113A Mohawk Valley, 88.46 56 ⇑P **P 07 00 42.9 +1.0**
baz=89,SNR=7.1
PDMCI Parker Dam,Lak 88.67 54 ⇑P **P 07 00 44.0 +1.1**
baz=89,SNR=6.1
Z13A Yuma Proving G 88.69 55 ⇓P **P 07 00 43.9 +0.9**
baz=89
R11A Troy Canyon, C 88.93 50 ⇓P **P 07 00 45.0 +0.8**
baz=89
214A Organ Pipe Nat 88.97 57 ⇑P **P 07 00 45.2 +0.9**
baz=89,SNR=5.4
W13A Hualapai Mount 89.13 53 ⇑P **P 07 00 46.3 +1.1**
baz=89,SNR=9.9
ETW Entiat 89.14 40 *e*P **P 07 00 46.0 +1.1**
comp=Z,15nm,1.4s
114A Black Gap (USA 89.16 56 ⇓P **P 07 00 46.3 +1.1**
baz=89,SNR=5.5
HAWA Hanford 89.16 41 *e*P **P 07 00 46.9 +2.0**
comp=Z,4.6nm,0.8s
Z14A Wintersburg 89.31 55 ⇓P **P 07 00 47.3 +1.4**
baz=89
Y14A Wickenburg 89.44 55 ⇑P **P 07 00 47.6 +1.0**
baz=90
ELK Elko 90.00 48 *e*P **P 07 00 50.3 +1.0**
ELK Elko 90.00 48 *e*P **P 07 00 50.3 +1.0**
R13A O'Grain Ranch, 90.07 50 ⇑P **P 07 00 50.6 +0.9**
baz=90
CCUT Cedar City 90.32 51 *e*P **P 07 00 51.8 +1.0**
comp=Z,23nm,1.5s
ARUT Antelope Range 90.34 51 *e*P **P 07 00 51.8 +1.0**
ARUT pmax pmax
comp=Z,1.0nm,0.7s
ARUT Antelope Range 90.34 51 *e*P **P 07 00 51.8 +1.0**
comp=Z,1.5nm,0.7s
MFID Camas Ranch 90.51 45 ⇑P **P 07 00 52.3 +0.9**
baz=91
TUC Tucson 90.71 57 *e*P **P 07 00 54.1 +1.5**
TUC pmax pmax
comp=Z,10.0nm,1.3s
TUC Tucson 90.71 57 *e*P **P 07 00 54.1 +1.5**
comp=Z,10.0nm,1.3s
U15A North Rim 90.78 53 ⇑P **P 07 00 54.1 +1.1**
baz=91
X16A Lo Mia Camp, P 90.82 55 ⇑P **P 07 00 54.4 +1.2**
baz=91,SNR=14
Y17A Roosevelt 91.08 55 ⇑P **P 07 00 55.6 +1.4**
baz=91,SNR=7.0
318A Bisbee 91.10 58 ⇑P **P 07 00 55.8 +1.3**
baz=91,SNR=5.5
I12A Atlanta 91.11 45 ⇑P **P 07 00 55.3 +1.0**
baz=91
WUAZ Wupatki 91.21 54 *e*P **P 07 00 56.3 +1.4**
comp=Z,15nm,1.2s
WUAZ Wupatki 91.21 54 ⇑P **P 07 00 56.2 +1.4**
baz=91,SNR=9.3
218A Dragoon 91.21 57 ⇑P **P 07 00 56.3 +1.3**
baz=91
Z17A San Carlos Hig 91.26 56 ⇓P **P 07 00 56.5 +1.4**
baz=91
X17A Forest Lakes 91.30 55 ⇓P **P 07 00 56.9 +1.4**
baz=91,SNR=13
R15A Junction 91.34 51 ⇓P **P 07 00 56.7 +1.2**
baz=92
NEW Newport 91.38 40 ⇑P **P 07 00 56.6 +1.3**
baz=92
MSU Marysvale 91.51 51 *e*P **P 07 00 58.0 +1.7**
MSU pmax pmax
comp=Z,21nm,1.8s
MSU Marysvale 91.51 51 *e*P **P 07 00 58.0 +1.7**
comp=Z,21nm,1.8s
HLID Hailey 91.53 45 *e*P **P 07 00 57.4 +1.2**
comp=Z,7.8nm,1.4s
HLID Hailey 91.53 45 ⇑P **P 07 00 57.5 +1.2**
baz=92
H12A Diamond D Ranc 91.56 44 ⇑P **P 07 00 57.2 +0.9**
baz=92
DUG Dugway 91.57 49 *e*P **P 07 00 58.0 +1.5**
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway 91.57 49 *e*P **P 07 00 58.0 +1.5**
comp=Z,4.7nm,1.1s
DUG Dugway 91.57 49 ⇑P **P 07 00 57.6 +1.1**
baz=92
U16A Tule City 91.58 53 ⇓P **P 07 00 57.6 +1.0**
baz=92
J13A Cove Ranch, Pi 91.64 45 ⇑P **P 07 00 57.6 +0.9**
baz=92
319A Douglas 91.66 58 ⇓P **P 07 00 58.3 +1.2**
baz=92,SNR=7.0
V17A Tonalea, Kykot 91.69 54 ⇓P **P 07 00 57.6 +0.4**
baz=92
F12A Elk City 91.70 43 ⇑P **P 07 00 57.1 +0.2**
baz=92
S16A Weppner Ranch, 91.71 51 ⇓P **P 07 00 57.6 +0.4**
baz=92
Y18A Canyon Day Jun 91.75 56 ⇑P **P 07 00 58.8 +1.3**
baz=92,SNR=8.4
C11A Tepee Creek (N 91.78 41 ⇑P **P 07 00 57.7 +0.6**
baz=92
I13A Wildhorse Cree 91.85 45 ⇓P **P 07 00 58.7 +0.9**
baz=92
L14A Malta 91.85 47 ⇓P **P 07 00 58.7 +1.0**
baz=92
219A White Tail Can 91.86 57 ⇑P **P 07 00 59.0 +1.0**
baz=92
R16A Teasdale 91.96 51 ⇑P **P 07 00 59.4 +0.9**
baz=92
H13A Challis 91.97 44 ⇑P **P 07 00 59.1 +0.9**
baz=92
N15A Stansbury Isla 92.00 48 ⇑P **P 07 00 59.1 +0.7**
baz=92
X18A Snowflake 92.03 55 ⇓P **P 07 00 59.5 +0.7**
baz=92
119A Ashpeak Ranch, 92.04 57 ⇑P **P 07 01 00.3 +1.5**
baz=92,SNR=5.1
K14A Jones Ranch, D 92.06 46 ⇓P **P 07 00 59.7 +1.1**
baz=92
D12A Red Ives Fores 92.08 42 ⇓P **P 07 00 59.3 +0.7**
baz=92
T17A Navajo Res., N 92.09 52 ⇑P **P 07 00 59.9 +0.9**
baz=92
G13A Cobalt 92.16 44 ⇑P **P 07 00 59.4 +0.3**
baz=92
M15A Larsen Ranch, 92.23 48 ⇑P **P 07 01 00.2 +0.8**
baz=92
320A Kipp Ranch, An 92.27 58 ⇓P **P 07 01 01.4 +1.5**
baz=92,SNR=7.2
S17A Black Ridge (B 92.28 52 ⇑P **P 07 01 00.4 +0.6**
baz=92
I14A Mackay 92.31 45 ⇓P **P 07 01 00.8 +1.0**
baz=92
F13A Darby 92.32 43 ⇑P **P 07 01 00.1 +0.4**
baz=92
V18A Ganado 92.39 54 ⇑P **P 07 01 01.3 +0.9**
baz=92
Y19A Nutrioso 92.42 56 ⇑P **P 07 01 01.5 +0.8**
baz=92
220A Payas Peak, P 92.43 58 ⇓P **P 07 01 01.7 +1.0**
baz=92
L15A Malad City 92.44 47 ⇑P **P 07 01 01.5 +1.0**
baz=93
120A U Bar Ranch, L 92.52 57 ⇓P **P 07 01 02.0 +1.0**
baz=93
X19A St. Johns 92.52 55 ⇑P **P 07 01 02.3 +1.3**
baz=93
R17A Hanksville Air 92.58 51 ⇓P **P 07 01 02.3 +1.1**
baz=93
U18A Rough Rock, Ch 92.64 53 ⇓P **P 07 01 02.4 +0.8**
baz=93
JLU Jordanelle 92.69 49 *e*P **P 07 01 03.0 +1.2**
comp=Z,7.9nm,1.3s
Z20A Nine Sixteen R 92.71 57 ⇓P **P 07 01 03.0 +1.1**
baz=93
G14A Jackson 92.72 44 ⇓P **P 07 01 02.6 +0.9**
baz=93
N16A Rees Ranch, Co 92.78 48 ⇑P **P 07 01 02.8 +0.7**
baz=93

J15A Blackfoot 92.84 46 ⇑P **P 07 01 03.3 +1.1**
baz=93
T18A Mexican Hat 92.84 52 ⇑P **P 07 01 03.4 +1.0**
baz=93
S18A Hurst Farm, Bl 92.91 52 ⇓P **P 07 01 03.5 +0.6**
baz=93
V19A Window Rock 93.08 54 ⇓P **P 07 01 04.8 +1.2**
baz=93
O17A Robinson Place 93.08 49 ⇑P **P 07 01 04.8 +1.3**
baz=93
Y20A Horse Springs, 93.11 56 ⇓P **P 07 01 05.0 +1.2**
baz=93
U19A Dine' College, 93.12 53 ⇓P **P 07 01 04.7 +0.9**
baz=93
X20A Quemado 93.18 55 ⇓P **P 07 01 05.5 +1.4**
baz=93
R18A Canyonlands Na 93.19 51 ⇓P **P 07 01 04.8 +0.8**
baz=93
121A Cookes Peak, D 93.21 57 ⇑P **P 07 01 05.4 +1.2**
baz=93
Q18A Rafter H Ranch 93.21 50 ⇑P **P 07 01 05.3 +1.2**
baz=93
W20A Ramah 93.34 55 ⇓P **P 07 01 05.9 +1.1**
baz=94
T19A Beclabito 93.41 53 ⇓P **P 07 01 06.1 +1.0**
baz=94
M17A Scullys Gap (B 93.51 48 ⇑P **P 07 01 06.5 +1.1**
baz=94
Z21A St. Cloud Mine 93.51 57 ⇑P **P 07 01 06.5 +0.9**
baz=94
WMQ Urumqi 93.55 314 P **P 07 01 05.5 +0.1**
WMQ pP **pP 07 01 29.5 +4.1**
WMQ pmax pmax
comp=Z,21nm,1.3s
S19A Harvey Farm, M 93.58 52 ⇓P **P 07 01 06.2 +0.3**
baz=94
R19A Curley Farm, L 93.64 51 ⇑P **P 07 01 07.0 +0.8**
baz=94
E15A Deer Lodge 93.64 43 ⇑P **P 07 01 06.7 +0.9**
baz=94
O18A Roosevelt 93.64 49 ⇓P **P 07 01 06.8 +0.8**
baz=94
I16A Newdale 93.64 46 ⇓P **P 07 01 07.0 +1.0**
baz=94
Y21A Point of Rocks 93.69 56 ⇓P **P 07 01 07.4 +0.9**
baz=94
H16A Russell Place, 94.05 45 ⇓P **P 07 01 08.8 +1.0**
baz=94
Z22A Elephant Butte 94.07 57 ⇓P **P 07 01 09.1 +0.9**
baz=94
VNA2 Neumayer--Watz 94.10 182 *e* **P 07 01 06.9 -0.5**
baz=180,slow=4.4
S20A Disappointment 94.19 52 ⇑P **P 07 01 09.1 +0.3**
baz=94
P19A Cripple Cowboy 94.22 50 ⇑P **P 07 01 09.3 +0.5**
baz=94
B15A Bradely Ranch, 94.27 41 ⇑P **P 07 01 09.6 +0.9**
baz=94
R20A Redvale 94.28 52 ⇑P **P 07 01 09.9 +0.8**
baz=94
O19A Miners Draw (B 94.30 50 ⇓P **P 07 01 09.6 +0.5**
baz=94
U21A Nageezi 94.36 54 ⇑P **P 07 01 10.2 +0.7**
baz=94
A15A Johnson Ranch, 94.37 40 ⇑P **P 07 01 10.0 +1.0**
baz=94
J18A Kendall Valley 94.47 47 ⇑P **P 07 01 10.7 +0.9**
baz=95
PDAR Pinedale Array 94.67 47 P **P 07 01 11.0 +0.2**
comp=Z,0.8nm,0.9s,baz=186,slow=4.2,SNR=4.7
PDAR Pinedale Array 94.67 47 P **P 07 01 11.0 +0.2**
O20A White River Ci 94.90 50 ⇑P **P 07 01 12.6 +0.7**
baz=95
224A Cornudas Mount 94.94 58 ⇓P **P 07 01 12.8 +0.6**
baz=95
R21A Cimarron 94.95 52 ⇑P **P 07 01 12.8 +0.6**
baz=95
425A Indio Mountain 95.06 60 ⇑P **P 07 01 13.3 +0.5**
baz=95
A16A West Butte Ran 95.07 41 ⇑P **P 07 01 13.3 +1.0**
baz=95
T22A Edith 95.09 53 ⇑P **P 07 01 13.4 +0.5**
baz=95
325A Bean Ranch, Si 95.21 59 ⇓P **P 07 01 14.3 +0.8**
baz=95
S22A 4UR Ranch, Cre 95.34 52 ⇑P **P 07 01 14.9 +0.9**
baz=95
626A Big Bend Ranch 95.47 61 ⇑P **P 07 01 15.6 +1.0**
baz=96
Q22A Crested Butte, 95.56 51 ⇑P **P 07 01 15.8 +0.7**
baz=96
TXAR Lajitas Array 95.81 61 P **P 07 01 16.3 +0.2**
comp=Z,0.6nm,0.6s,baz=226,slow=4.9,SNR=4.4
TXAR LR LR 07 39 57.7
comp=Z,113nm,19.1s,baz=175,slow=33
TXAR Lajitas Array 95.81 61 P **P 07 01 16.3 +0.2**
TXAR Lajitas Array 95.81 61 P **P 07 01 16.3 +0.2**
W24A Lazy 6 Ranch, 95.81 55 ⇑P **P 07 01 16.3 +0.1**
baz=96
426A McDonald Obser 95.83 60 ⇓P **P 07 01 17.0 +0.6**
baz=96
P22A Eagle 95.86 51 ⇓P **P 07 01 17.0 +0.7**
baz=96
O22A Kremmling 96.16 50 ⇓P **P 07 01 18.4 +0.7**
baz=96
YKA Yellowknife Ar 97.56 27 P **P 07 01 22.3 -0.8**
comp=Z,1.9nm,0.8s,baz=254,slow=4.7,SNR=25
YKA Yellowknife Ar 97.56 27 P **P 07 01 22.3 -0.8**
YKA Yellowknife Ar 97.56 27 P **P 07 01 22.3 -0.8**
MK31 Makanchi Array 98.02 316 *e*P Pdif 07 01 26.0 +0.4
MK31 Makanchi Array 98.02 316 *e*P Pdif 07 01 26.0 +0.4
MKAR Makanchi Array 98.02 316 P Pdif 07 01 26.1 +0.5
comp=Z,6.0nm,0.7s,baz=90,slow=6.5,SNR=51
MKAR PKKPbc **PKKPbc 07 17 58.5 -1.9**
comp=Z,0.5nm,0.8s,baz=354,slow=2.2,SNR=4.7
MKAR Makanchi Array 98.02 316 P Pdif 07 01 26.2 +0.6
MKAR Makanchi Array 98.02 316 P Pdif 07 01 26.1 +0.5
MKAR PKKPbc **PKKPbc 07 17 58.5 -1.9**
ZALV Zalesovo Beam 98.16 324 P **P 07 01 25.3 -0.7**
comp=Z,4.2nm,0.7s,baz=112,slow=4.4,SNR=22
ZALV LR LR 07 46 55.4
comp=Z,51nm,18.7s,baz=308,slow=36
ZALV Zalesovo Beam 98.16 324 P **P 07 01 25.3 -0.7**
ZALV Zalesovo Beam 98.16 324 P **P 07 01 25.3 -0.7**
KURK Kurchatov 101.20 320⇑ *e*P **Pdif 07 01 38.0 -1.6**
KURK pmax pmax
comp=Z,7.0nm,1.7s
BVAR Borovoye Array 106.53 321 Pdiff **Pdif 07 02 02.7 -0.6**
comp=Z,0.8nm,0.8s,baz=68,slow=5.3,SNR=3.6
BVAR Borovoye Array 106.53 321 P **Pdif 07 02 02.7 -0.6**
BVAR Borovoye Array 106.53 321 Pdif **Pdif 07 02 02.7 -0.6**
ARU Arti 113.25 325 PKIKP pPKIKP 07 06 45.1
SPITS Spitsbergen Ar 115.42 354 PKP **PKPdf 07 06 29.7 -0.3**
comp=Z,4.7nm,0.9s,baz=134,slow=2.4,SNR=4.2
SPITS Spitsbergen Ar 115.42 354 PKIKP **PKPdf 07 06 29.7 -0.3**
SPITS Spitsbergen Ar 115.42 354 PKP **PKPdf 07 06 29.7 -0.3**
LPAZ La Paz 116.35 117 PKP **PKPdf 07 06 34.2 -0.1**
comp=Z,0.7nm,0.7s,baz=222,slow=2.9,SNR=4.3
LPAZ La Paz 116.35 117 PKIKP **PKPdf 07 06 34.2 -0.1**
LPAZ La Paz 116.35 117 PKP **PKPdf 07 06 34.2 -0.1**
FRB Frobisher Bay 117.96 25 PKP **PKPdf 07 06 34.6 -0.5**
comp=Z,2.9nm,0.7s,baz=80,slow=1.8,SNR=8.6
FRB Frobisher Bay 117.96 25 PKIKP **PKPdf 07 06 34.6 -0.5**
FRB Frobisher Bay 117.96 25 PKP **PKPdf 07 06 34.6 -0.5**
ARCES ARCESS Array B 120.83 346 PKP **PKPdf 07 06 40.8 +0.2**
comp=Z,3.2nm,0.6s,baz=109,slow=2.1,SNR=20
ARCES ARCESS Array B 120.83 346 PKIKP **PKPdf 07 06 40.8 +0.2**
ARCES ARCESS Array B 120.83 346 PKP **PKPdf 07 06 40.8 +0.2**
SCHQ Schefferville 122.21 34 PKP **PKPdf 07 06 42.8 -0.8**
comp=Z,2.3nm,0.8s,baz=26,slow=18,SNR=3.6
SCHQ Schefferville 122.21 34 PKP **PKPdf 07 06 42.8 -0.8**
VRHR Novokhopersk 124.26 322 *e*PKIKP **PKPdf 07 06 47.8 +0.2**
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax
comp=E,4.0nm,0.4s
VRHR pmax pmax
comp=Z,9.0nm,0.4s
VSR Storozhevoye 125.66 323 *e*PKIKP **PKPdf 07 06 49.9 -0.4**
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 126.38 338 PKP **PKPdf 07 06 50.5 -0.8**
comp=Z,5.1nm,0.9s,baz=130,slow=3.0,SNR=4.2
FINES FINESS Array B 126.38 338 PKIKP **PKPdf 07 06 50.6 -0.8**
FINES FINESS Array B 126.38 338 PKP **PKPdf 07 06 50.5 -0.8**

NB2	**NORSAR Subarra**	**131.21**	**345**	PKPdf	**PKPdf**	**07 07 01.8**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.21**	**345**	PKP	**PKPdf**	**07 07 01.9**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=31,slow=2.0,SNR=4.0						
NOA	**NORSAR Array B**	**131.21**	**345**	PKIKP	**PKPdf**	**07 07 01.9**	**+1.2**
NOA	**NORSAR Array B**	**131.21**	**345**	PKP	**PKPdf**	**07 07 01.9**	**+1.2**
BDFB	**Brasilia**	**133.05**	**129**	PKP	**PKPdf**	**07 07 05.9**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=182,slow=7.5,SNR=4.2						
BDFB	**Brasilia**	**133.05**	**129**	PKIKP	**PKPdf**	**07 07 05.9**	**+0.3**
BDFB	**Brasilia**	**133.05**	**129**	PKP	**PKPdf**	**07 07 05.9**	**+0.9**
BRTR	**Keskin Array B**	**133.34**	**311**	PKP	**PKPdf**	**07 07 06.5**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=132,slow=3.5,SNR=6.5						
BRTR	**Keskin Array B**	**133.34**	**311**	PKIKP	**PKPdf**	**07 07 06.5**	**+0.9**
BRTR	**Keskin Array B**	**133.34**	**311**	PKP	**PKPdf**	**07 07 06.5**	**+0.9**
GERES	**GERESS Array B**	**140.34**	**333**	PKhKP	PKPpre	07 07 11.9	
	comp=Z,0.9nm,0.8s,baz=42,slow=2.2,SNR=5.5						
GERES				PKP	**PKPdf**	**07 07 17.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=69,slow=1.9,SNR=7.2						
GERES	**GERESS Array B**	**140.34**	**333**	PKHKP	PKPpre	07 07 11.9	
GERES						07 07 17.5	
GERES	**GERESS Array B**	**140.34**	**333**	PKPpre	PKPpre	07 07 11.9	
GERES				PKP	**PKPdf**	**07 07 17.5**	**-0.6**
FETA	**Feichten**	**143.02**	**334**	↓*i*P	PKPbc	07 07 20.7	+0.6
FETA	**Feichten**	**143.02**	**334**	↓*i*PKPdf	PKPbc	07 07 20.7	+0.6
	comp=Z,17nm,1.1s						
TUE	**Stuetta**	**144.04**	**335**	*e*PKPdf	PKPbc	07 07 23.7	+0.7
AQU	**L'Aquila**	**145.19**	**326**	*e*PKIKP	**PKPdf**	**07 07 28.2**	**+1.4**
AQU	**L'Aquila**	**145.19**	**326**	*e*PKPdf	**PKPdf**	**07 07 28.2**	**+1.4**
OG01	**Vacheresse**	**145.20**	**337**	PKP	**PKPdf**	**07 07 26.9**	**+0.1**
OG01	**Vacheresse**	**145.20**	**337**	PKP	**PKPdf**	**07 07 26.9**	**+0.1**
CUC	**Castrocucco**	**145.35**	**321**	*e*PKPdf	**PKPbc**	**07 07 26.5**	**-0.7**
RSL	**Roselend**	**145.76**	**337**	PKP2	**PKPab**	**07 07 30.0**	**+1.2**
RSL	**Roselend**	**145.76**	**337**	PKP	**PKPab**	**07 07 30.0**	**+1.2**
RSL	**Roselend**	**145.76**	**337**	PKP	**PKPab**	**07 07 30.0**	**+1.2**
OG35	**Corcelles**	**145.85**	**338**	PKP	**PKPab**	**07 07 29.1**	**0.0**
BNI	**Bardonecchia**	**146.28**	**336**	*e*PKP2	**PKPab**	**07 07 31.0**	**+0.2**
BNI	**Bardonecchia**	**146.28**	**336**	*e*PKPbc	**PKPab**	**07 07 31.0**	**+0.2**
GDM	**Grand'Maison**	**146.37**	**337**	PKP	**PKPab**	**07 07 31.1**	**0.0**
GDM	**Grand'Maison**	**146.37**	**337**	PKP	**PKPab**	**07 07 31.1**	**0.0**
GRN	**Grenoble**	**146.47**	**337**	PKP2	**PKPab**	**07 07 31.5**	**0.0**
GRN	**Grenoble**	**146.47**	**337**	PKP	**PKPab**	**07 07 31.5**	**0.0**
GRN	**Grenoble**	**146.47**	**337**	PKP	**PKPab**	**07 07 31.5**	**0.0**
AGO	**Saint Agoulin**	**146.68**	**341**	PKP	**PKPab**	**07 07 31.8**	**-0.3**
AGO	**Saint Agoulin**	**146.68**	**341**	PKP	**PKPab**	**07 07 31.8**	**-0.3**
SURF	**Saint Ours**	**146.69**	**335**	PKP	**PKPbc**	**07 07 31.4**	**+0.1**
SURF	**Saint Ours**	**146.69**	**335**	PKP	**PKPbc**	**07 07 31.4**	**+0.1**
SAOF	**Saorge**	**146.79**	**334**	PKP2	**PKPbc**	**07 07 31.5**	**+0.2**
SAOF	**Saorge**	**146.79**	**334**	PKP	**PKPbc**	**07 07 31.5**	**+0.2**
SAOF	**Saorge**	**146.79**	**334**	PKP	**PKPbc**	**07 07 31.5**	**+0.2**
AUTN	**L'Aution**	**146.84**	**334**	PKP2	**PKPbc**	**07 07 31.9**	**+0.2**
AUTN	**L'Aution**	**146.84**	**334**	PKP	**PKPbc**	**07 07 31.9**	**+0.2**
AUTN	**L'Aution**	**146.84**	**334**	PKP	**PKPbc**	**07 07 31.9**	**+0.2**
SSB	**Saint Sauveur**	**146.88**	**338**	*e*PKP2	**PKPab**	**07 07 32.6**	**-0.4**
SSB	**Saint Sauveur**	**146.88**	**338**	*e*PKPbc	**PKPab**	**07 07 32.6**	**-0.4**
LBL	**Lubilhac**	**147.37**	**340**	PKP2	**PKPbc**	**07 07 34.0**	**+1.0**
LBL	**Lubilhac**	**147.37**	**340**	PKP	**PKPbc**	**07 07 34.0**	**+1.0**
LBL	**Lubilhac**	**147.37**	**340**	PKP	**PKPbc**	**07 07 34.0**	**+1.0**
KEST	**Kesra**	**152.00**	**321**	PKPbc	**PKPbc**	**07 07 44.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=202,slow=3.3,SNR=10						
KEST	**Kesra**	**152.00**	**321**	*e*PKPbc	**PKPbc**	**07 07 45.0**	**+0.3**
ESDC	**Sonseca Array**	**154.57**	**346**	PKPab	**PKPab**	**07 08 05.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=4.9,slow=4.0,SNR=5.6						
ESDC	**Sonseca Array**	**154.57**	**346**	PKPab	**PKPab**	**07 08 05.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**166.62**	**263**	PKP	**PKPdf**	**07 07 55.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=59,slow=1.0,SNR=7.0						
TORD				PKPab	**PKPab**	**07 08 58.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=93,slow=3.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**166.62**	**263**	PKP	**PKPdf**	**07 07 55.4**	**0.0**
TORD				PKPab	**PKPab**	**07 08 58.0**	**-0.2**
DBIC	**Dimbokro**	**169.08**	**220**	PKPab	**PKPab**	**07 09 09.1**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=158,slow=18,SNR=3.1						
DBIC	**Dimbokro**	**169.08**	**220**	PKP2	**PKPab**	**07 09 09.1**	**+0.3**
DBIC	**Dimbokro**	**169.08**	**220**	PKPab	**PKPab**	**07 09 09.1**	**+0.3**

MAN 16 06:50:18.1±5.9 2N × 119.5 7E, h1 km, mb 4.3, ML 3.1, MS 2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.36**	**114**	*e*P	Pg	06 50 26.5	+1.6
SCZP				*e*S	Sg	06 50 32.6	+3.0
BOLP	**Bolinao**	**0.56**	**36**	*e*P	Pb	06 50 29.8	-0.9
BOLP				*e*S	Sg	06 50 36.3	+0.2
BCPH	**Baguio City Da**	**1.07**	**65**	↑*i*P	Pg	06 50 38.5	-0.4
BALP	**Baler**	**1.94**	**95**	*e*P	Pn	06 50 52.8	+0.7

IDC **16** *07:04:18.4±0.8, 0.7 19S × 124.7 45E, h0 km, mb 3.9/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, MS3.2/2, Ms1 3.2/2, ms1mx3.0/18, Error ellipse: s-maj=72.4km s-min=15.7km az=67.0*

ISCJB **16** *07:04:23.7±0.6, 0.1 S±0.1 × 124.8 E±0.3, h53 km, mb 4.2/11, MS3.6/1, Error ellipse: s-maj=43.8km s-min=9.4km az=159.7*

NEIC **16** *07:04:23.7±0.5, 0.01 N × 125.07 E, h35 km, mb 4.7/5, Error ellipse: s-maj=46.9km s-min=7.6km az=67.0*

DJA **16** *07:04:28, 0.04 N × 124.65 E, h38 km, MLv 4.1/4*

ISC 16 07:04:25.7±0.8, 0.1 S±0.1 × 124.8 E±0.4, h53 km, n23, σ0 s 81/20, mb 4.1/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**7.01**	**226**	LR	LR	07 09 00.3	
	comp=Z,59nm,18.5s,baz=3.3,slow=42						
FITZ	**Fitzroy Crossi**	**17.89**	**177**	*e*P	**Pn**	**07 08 31.0**	**+0.1**
	96nm,2.0s						
WRAB	**Tennant Creek**	**21.80**	**155**	*e*P	**P**	**07 09 13.1**	**-0.4**
	189nm,2.4s						
WRA	**Warramunga Arr**	**21.80**	**155**	P	**P**	**07 09 12.3**	**-1.2**
	1.4nm,0.5s,baz=334,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**21.80**	**155**	P	**P**	**07 09 12.3**	**-1.2**
WB2	**Warramunga Arr**	**21.81**	**155**	*e*P	**P**	**07 09 13.1**	**-0.5**
ASAR	**Alice Springs**	**25.02**	**160**	P	**P**	**07 09 45.0**	**0.0**
	3.4nm,0.9s,baz=330,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**25.02**	**160**	P	**P**	**07 09 45.0**	**0.0**
STKA	**Stephens Creek**	**35.35**	**155**	P	**P**	**07 11 16.9**	**+0.6**
	1.9nm,0.5s,baz=318,slow=8.5,SNR=7.3						
STKA	**Stephens Creek**	**35.35**	**155**	*e*P	**P**	**07 11 16.8**	**+0.6**
	8.6nm,1.7s						
KSRS	**Korea Array**	**37.50**	**4**	LR	LR	07 25 49.8	
	comp=Z,90nm,18.5s,baz=351,slow=34						
USRK	**Ussuriysk Arra**	**44.59**	**7**	P	**P**	**07 12 33.3**	**+0.7**
	0.7nm,0.4s,baz=178,slow=5.7,SNR=6.3						
SONM	**Songino Array**	**50.38**	**344**	P	**P**	**07 13 17.0**	**-0.7**
	0.9nm,0.8s,baz=154,slow=9.9,SNR=7.2						
SONM	**Songino Array**	**50.38**	**344**	P	**P**	**07 13 17.1**	**-0.7**
MKAR	**Makanchi Array**	**59.67**	**327**	P	**P**	**07 14 23.9**	**-0.9**
	0.9nm,0.6s,baz=124,slow=8.7,SNR=8.8						
MKAR	**Makanchi Array**	**59.67**	**327**	P	**P**	**07 14 23.9**	**-0.9**
AAK	**Ala-Archa**	**61.98**	**320**	*e*P	**P**	**07 14 42.6**	**+1.9**
	8.5nm,0.5s						
ZALV	**Zalesovo Beam**	**63.18**	**335**	P	**P**	**07 14 48.0**	**-0.2**
	0.4nm,0.4s,baz=124,slow=8.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**63.18**	**335**	P	**P**	**07 14 48.0**	**-0.2**
KURK	**Kurchatov**	**63.99**	**329**	P	P	07 14 51.9	-1.7
	0.7nm,0.5s,baz=137,slow=6.7,SNR=6.4						
KURK	**Kurchatov**	**63.99**	**329**	*e*P	**P**	**07 14 53.8**	**+0.2**
	2.2nm,0.7s						
AKTO	**Aktyubinsk**	**75.50**	**323**	P	**P**	**07 16 04.4**	**-0.1**
	1.6nm,0.6s,baz=107,slow=4.8,SNR=6.3						
AKTO	**Aktyubinsk**	**75.50**	**323**	P	**P**	**07 16 04.4**	**-0.1**

IDC 16 07:09:47.7±0.8, 46.7 6N × 155.3 8E, h0 km, mb 3.7/12, mb1 3.9/16, mb1mx3.8/30, mbtmp3.8/16, ML 3.3/4, Error ellipse: s-maj=21.5km s-min=16.9km az=156.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.53**	**12**	Pn	Pn	07 11 26.2	+1.2
	0.3nm,0.3s,baz=183,slow=5.6,SNR=2.8						
ASAJ	**Asahikawa**	**9.37**	**258**	Pn	Pn	07 12 03.4	-0.5
	1.0nm,0.3s,baz=109,slow=20,SNR=7.0						
MJAR	**Matsushiro Arr**	**16.36**	**238**	Pn	Pn	07 13 37.1	-1.6
	0.3nm,0.3s,baz=21,slow=13,SNR=3.8						
USRK	**Ussuriysk Arra**	**16.59**	**270**	Pn	Pn	07 13 40.7	-0.8
	0.1nm,0.3s,baz=73,slow=14,SNR=3.3						
SONM	**Songino Array**	**32.80**	**290**	P	P	07 16 22.0	-0.7
	0.5nm,0.7s,baz=63,slow=8.3,SNR=4.4						
ILAR	**Eielson Array**	**35.57**	**39**	P	P	07 16 44.4	-1.9
	0.5nm,1.0s,baz=251,slow=8.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.87**	**306**	P	P	07 17 54.8	-0.6
	0.8nm,0.7s,baz=68,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**48.32**	**298**	P	P	07 18 30.4	-0.2
	0.8nm,0.7s,baz=66,slow=7.6,SNR=10.0						
KURK	**Kurchatov**	**48.65**	**304**	P	P	07 18 34.6	+1.5
	1.9nm,0.8s,baz=67,slow=8.4,SNR=9.5						
YKA	**Yellowknife Ar**	**49.98**	**37**	P	P	07 18 42.7	-0.3
	0.2nm,0.7s,baz=298,slow=7.3,SNR=2.8						
BVAR	**Borovoye Array**	**52.05**	**310**	P	P	07 18 59.1	+0.2
	1.7nm,0.6s,baz=57,slow=7.5,SNR=10						
AKTO	**Aktyubinsk**	**59.88**	**313**	P	P	07 19 55.1	+0.2
	0.7nm,0.5s,baz=42,slow=8.5,SNR=3.3						
NVAR	**Mina Array Bea**	**61.04**	**64**	P	P	07 20 03.7	+0.3
	0.2nm,0.5s,baz=291,slow=8.6,SNR=2.4						
WRA	**Warramunga Arr**	**69.06**	**201**	P	P	07 20 55.0	-0.2
	1.5nm,0.8s,baz=22,slow=6.6,SNR=5.9						
ASAR	**Alice Springs**	**72.74**	**201**	P	P	07 21 17.9	+0.4
	1.2nm,0.7s,baz=17,slow=5.4,SNR=11						
TXAR	**Lajitas Array**	**76.12**	**62**	P	P	07 21 38.0	+0.5
	0.5nm,0.7s,baz=294,slow=4.1,SNR=6.3						

IDC 16 07:13:08.1±30.0, 24.9 5S × 179.3 5W, h463 km ± 105 km, mb 3.3/5, mb1 3.4/5, mb1mx3.1/17, mbtmp3.3/5, Error ellipse: s-maj=392.0km s-min=96.5km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.09**	**272**	P	P	07 18 56.3	+0.4
	4.2nm,0.4s,baz=105,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**34.90**	**250**	P	P	07 19 19.3	-0.4
	0.7nm,0.3s,baz=90,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**42.46**	**262**	P	P	07 20 20.9	-0.6
	0.6nm,0.5s,baz=94,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**42.94**	**267**	P	P	07 20 24.8	-0.4
	2.1nm,0.5s,baz=104,slow=8.1,SNR=20						
WRA				ScP	ScP	07 25 11.8	-0.6
	0.1nm,0.3s,baz=97,slow=4.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**51.35**	**266**	P	P	07 21 29.2	+0.3
	2.7nm,0.9s,baz=131,slow=9.3,SNR=4.0						

IDC **16** *07:43:22.3±40.0, 9.9 0S × 111.03 E, h0 km, mb 3.9/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.9/3, Error ellipse: s-maj=892.8km s-min=196.1km az=157.0*

DJA **16** *07:43:45, 8.88 S × 110.59 E, h26 km, MLv 3.9/11*

ISC 16 07:43:32.8±2.0, 9.4 S±0.2 × 110.1 E±0.1, h35 km, n10, σ2 s 31/9, mb 4.0/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.56**	**14**	P	Pn	07 44 02.8	+4.7
UGM				S	**Sn**	**07 44 16.2**	**-0.9**
PCJI	**Pacitan**	**1.60**	**40**	P	**Pn**	**07 44 01.5**	**+2.9**
PCJI				S	**Sn**	**07 44 15.7**	**-2.4**
YOGI	**Yogyakarta**	**1.61**	**5**	P	Pn	07 44 09.4	+11
YOGI				S	**Sn**	**07 44 18.4**	**0.0**
BJII	**Banjamegara**	**2.13**	**348**	P	pPn	07 44 13.7	+0.1
PWJI	**Pagerwojo**	**2.16**	**50**	P	Pn	07 44 09.7	+3.3
PWJI				S	**Sn**	**07 44 29.7**	**-2.2**
SJI	**Sawahan**	**2.33**	**44**	P	**Pn**	**07 44 11.8**	**+3.0**
KRKI	**Karangkates**	**2.61**	**61**	P	Pn	07 44 16.7	+4.1
SONM	**Songino Array**	**57.11**	**357**	P	**P**	**07 53 14.2**	**-1.6**
	0.5nm,0.5s,baz=183,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**61.24**	**339**	P	**P**	**07 53 44.4**	**0.0**
	0.9nm,0.5s,baz=155,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**66.68**	**344**	P	**P**	**07 54 19.1**	**-0.8**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=3.0						

IDC **16** *07:50:34.3±3.1, 22.0 6S × 170.29 E, h0 km, mb 3.7/4, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML 3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx3.3/15, Error ellipse: s-maj=122.9km s-min=27.9km az=159.0*

ISC 16 07:50:40.5±2.4, 22.0 8S±0.7 × 170.2 E±0.2, h51 km, n10, σ1 s 13/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.52**	**268**	Pn	**Pn**	**07 51 31.1**	**-1.7**
	2.8nm,0.3s,baz=105,slow=16,SNR=250						
DZM				Sn	**Sn**	**07 52 14.8**	**+1.5**
	10nm,0.3s,baz=163,slow=22,SNR=14						
DZM	**Mont Dzumac**	**3.52**	**268**	*e*P	**Pn**	**07 51 32.2**	**-0.6**
DZM				*e*S	**Sn**	**07 52 12.8**	**-0.6**
NOUC	**Port Laguerre**	**3.66**	**267**	*e*P	**Pn**	**07 51 34.5**	**-0.1**
NOUC				*e*S	**Sn**	**07 52 16.8**	**+0.4**
RPZ	**Rata Peaks**	**21.68**	**178**	LR	LR	08 02 42.8	
	comp=Z,138nm,19.8s,baz=194,slow=34						
STKA	**Stephens Creek**	**27.30**	**243**	LR	LR	08 06 51.1	
	comp=Z,132nm,18.9s,baz=30,slow=36						
ASAR	**Alice Springs**	**33.48**	**260**	P	**P**	**07 57 15.7**	**+0.6**
	0.9nm,0.9s,baz=83,slow=9.8,SNR=4.8						
WRA	**Warramunga Arr**	**33.54**	**267**	P	**P**	**07 57 15.7**	**0.0**
	0.4nm,0.7s,baz=97,slow=8.4,SNR=3.1						
SONM	**Songino Array**	**89.97**	**323**	P	**PcP**	**08 03 37.2**	**+1.5**
	0.9nm,0.9s,baz=108,slow=4.7,SNR=5.2						
ILAR	**Eielson Array**	**92.57**	**17**	P	**PcP**	**08 03 46.7**	**+0.1**
	0.3nm,0.9s,baz=216,slow=4.5,SNR=3.4						
GERES	**GERESS Array B**	**147.34**	**331**	PKPbc	**PKPab**	**08 10 19.2**	**-1.3**
	0.5nm,0.6s,baz=111,slow=2.2,SNR=4.9						

CSEM **16** *08:11:03.0±0.3, 39.2 3N × 41.84 E, h5 km, ML 2.1, Error ellipse: s-maj=7.4km s-min=4.1km az=179.0*

ISK **16** *08:11:04.6, 39.3 6N × 41.94 E, h21 km, ML 2.1*

DDA **16** *08:11:05.2, 39.3 5N × 41.95 E, h7 km, MD 2.9*

ISC 16 08:11:05.4±1.1, 39.3 3N±0.0 × 41.9 3E±0.0, h24 km ± 13 km, n19, σ1 s 80/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.40**	**245**	*e*PG	**Pb**	**08 11 13.8**	**-0.3**
TUTA	**Tutak**	**0.69**	**84**	*i*P	**Pb**	**08 11 18.2**	**-0.8**
TUTA				*i*S	**Sb**	**08 11 28.3**	**0.0**
TUTA	**Tutak**	**0.69**	**84**	*i*P	**Pb**	**08 11 18.2**	**-0.8**
TUTA				*i*S	**Sb**	**08 11 28.3**	**0.0**
HOMI	**Horasan**	**0.71**	**359**	*i*P	**Pb**	**08 11 18.7**	**-0.6**
HOMI				*i*S	**Sn**	**08 11 30.3**	**-0.2**
BNGL	**BINGOL**	**0.71**	**238**	*i*P	**Pn**	**08 11 19.8**	**-0.5**
BNGL				*i*S	**Sn**	**08 11 30.9**	**+0.4**
ERZM	**Erzurum**	**0.71**	**323**	*i*P	**Pb**	**08 11 19.0**	**-0.4**
ERZM				*i*S	**Sb**	**08 11 27.5**	**-1.5**
ERZM	**Erzurum**	**0.71**	**323**	*i*P	**Pb**	**08 11 19.0**	**-0.4**
ERZM				*i*S	**Sb**	**08 11 27.5**	**-1.5**
EZM	**Erzurum**	**0.72**	**323**	*e*PG	**Pb**	**08 11 18.7**	**-0.8**
EZM				*e*SG	**Sb**	**08 11 29.6**	**+0.6**
AGRB	**Hanur-Agry**	**0.86**	**73**	*e*PG	**Pb**	**08 11 21.6**	**-0.3**
AGRB				*e*SG	**Sn**	**08 11 33.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.86**	**73**	*e*Pg	**Pb**	**08 11 21.6**	**-0.3**
AGRB				*e*Sg	**Sn**	**08 11 33.9**	**-0.3**
BNGB	**Bing˜¶l**	**1.03**	**251**	*e*PG	**Pb**	**08 11 24.5**	**-0.1**
BNGB				*e*SG	**Sn**	**08 11 39.3**	**+1.1**
BINT	**Bingol**	**1.21**	**248**	*e*Pg	**Pn**	**08 11 24.5**	**-2.4**
BINT				*e*Sg	**Sn**	**08 11 39.3**	**-3.3**
BEST	**Besiri**	**1.53**	**200**	*i*P	**Pb**	**08 11 34.0**	**+0.9**
BEST				*i*S	**Sb**	**08 11 56.2**	**+4.1**
DDEM	**Demirkent**	**1.56**	**355**	*i*P	**Pb**	**08 11 34.1**	**+0.4**
DDEM				*i*S	**Sb**	**08 11 58.1**	**+5.0**
DDEM	**Demirkent**	**1.56**	**355**	*i*P	**Pb**	**08 11 34.1**	**+0.4**
DDEM				*i*S	**Sb**	**08 11 58.1**	**+5.0**
BAYT	**Ayd˜¬ntepe-Bay**	**1.73**	**308**	*e*PN	**Pn**	**08 11 34.2**	**0.0**
BAYT	**Ayd˜¬ntepe-Bay**	**1.73**	**308**	*e*Pn	**Pn**	**08 11 34.2**	**0.0**
BCA	**Borcka**	**2.12**	**354**	*e*PN	**Pn**	**08 11 39.2**	**-0.1**
BCA	**Borcka**	**2.12**	**354**	*e*Pn	**Pn**	**08 11 39.3**	**-0.1**

ISCJB **16** *08:12:33.0±2.0, 50.7 1N±0.0 7 × 130.0 7W±0.1, h6 km ± 16 km, mb 3.3/1, Error ellipse: s-maj=15.5km s-min=7.5km az=140.2*

IDC **16** *08:12:35.1±1.6, 50.6 8N × 129.7 8W, h0 km, mb 3.4/1, mb1 3.5/5, mb1mx3.3/26, mbtmp3.2/5, ML 3.2/4, Error ellipse: s-maj=24.0km s-min=14.7km az=81.0*

PGC **16** *08:12:35.2±2.2, 50.6 2N × 130.09 W, h10 km, ML 2.9/11, Mw 3.5, 188km west of Pt. Hardy, Bc Vancouver Island Region*

ISC 16 08:12:35.5±3.2, 50.7 1N±0.0 6 × 129.8 1W±0.1 0, h6 km ± 19 km, n19, σ1 s 01/25, 4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.07**	**93**	↑P	**Pb**	**08 12 56.6**	**+0.2**
HOLB				↑S	**Sn**	**08 13 13.1**	**+1.0**
BPBC	**Brooks Peninsu**	**1.41**	**112**	↑Pn	**Pn**	**08 12 59.9**	**-1.8**
PHC	**Port Hardy**	**1.51**	**89**	↑Pn	**Pn**	**08 13 03.0**	**0.0**
PHC				↓Sn	**Sg**	**08 13 24.5**	**+0.6**
MAYB	**Maynard**	**1.71**	**99**	↑Pn	**Pn**	**08 13 05.5**	**-0.4**
BBB	**Bella Bella**	**1.82**	**35**	Pn	**Pn**	**08 13 06.5**	**-0.8**
	8.4nm,0.3s,baz=219,slow=15,SNR=104						
BBB				Sn	**Sn**	**08 13 28.4**	**-2.2**
	15nm,0.3s,baz=255,slow=16,SNR=6.2						
BBB	**Bella Bella**	**1.82**	**35**	Pn	**Pn**	**08 13 06.7**	**-0.6**
BBB				↓Sn	**Sn**	**08 13 30.8**	**+0.2**
EDB	**Eliza Dome**	**1.91**	**115**	↓Pn	**Pn**	**08 13 06.8**	**-1.8**
WOSB	**Woss**	**2.14**	**104**	↑Pn	**Pn**	**08 13 11.6**	**-0.2**
NCRB	**Newcastle Ridg**	**2.41**	**96**	↑Pn	**Pn**	**08 13 15.5**	**-0.1**
GDR	**Gold River**	**2.59**	**110**	↑Pn	**Pn**	**08 13 17.1**	**-0.8**
CBB	**Campbell River**	**2.92**	**102**	Pn	**Pn**	**08 13 22.7**	**+0.3**
CBB				↑Sn	**Sn**	**08 13 58.1**	**+0.3**
BTB	**Buttle Lake**	**3.03**	**113**	Pn	**Pn**	**08 13 23.3**	**-0.7**
OZB	**Mount Ozzard**	**3.29**	**120**	↓Pn	**Pn**	**08 13 26.4**	**-1.2**
ALB	**Alberni**	**3.52**	**112**	↑Pn	**Pn**	**08 13 30.2**	**-0.4**
DLBC	**Dease Lake**	**7.75**	**359**	Pn	**Pn**	**08 14 29.1**	**+0.4**
	0.2nm,0.3s,baz=183,slow=13,SNR=5.0						
DLBC				Sn	**Sn**	**08 15 57.9**	**+1.2**
	0.1nm,0.3s,baz=131,slow=8.3,SNR=2.0						
YKA	**Yellowknife Ar**	**14.42**	**29**	Pn	**Pn**	**08 15 58.6**	**-1.3**
	0.1nm,0.3s,baz=223,slow=12,SNR=4.3						
NVAR	**Mina Array Bea**	**14.74**	**142**	Pn	**Pn**	**08 16 05.5**	**+0.9**
	0.0nm,0.3s,baz=331,slow=11,SNR=2.4						
PDAR	**Pinedale Array**	**15.96**	**112**	Pn	**P**	**08 16 24.1**	**-0.3**
	0.1nm,0.3s,baz=306,slow=7.7,SNR=5.9						
MKAR	**Makanchi Array**	**79.00**	**338**	P	**P**	**08 24 40.7**	**+0.8**
	0.3nm,0.8s,baz=27,slow=3.9,SNR=2.6						

ISK **16** *08:16:05.8, 40.3 7N × 25.7 2E, h6 km, MD 2.8*

CSEM **16** *08:16:06.0±0.5, 40.4 0N × 25.6 8E, h5 km, MD 2.8, Error ellipse: s-maj=10.1km s-min=5.2km az=94.0*

DDA **16** *08:16:08.0, 40.3 5N × 25.8 9E, h5 km, MD 3.1*

ISC 16 08:16:07.0±1.8, 40.3 7N±0.0 3 × 25.7 5E±0.0 8, h11 km ± 10 km, n29, σ0 s 74/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.48**	**40**	*e*PG	**Pg**	**08 16 15.4**	**-1.0**
ENEZ				*e*SG	**Sb**	**08 16 23.7**	**+1.0**
ENEZ	**Enez**	**0.48**	**40**	*e*Pg	**Pg**	**08 16 15.4**	**-1.0**
ENEZ				*e*Sg	**Sb**	**08 16 23.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.55**	**87**	*e*PG	**Pg**	**08 16 17.8**	**0.0**
GELI				*

0.3nm,0.8s,baz=332,slow=7.4,SNR=3.1

*ISCJB **16** 08:32:05.9±0.5,38.°74N±0.°03×22.°54E±0.°04, h8km±5km, Error ellipse: s-maj=5.9km s-min=3.5km az=137.9*
*THE **16** 08:32:05.9,38.°72N×22.°56E, h14km±1km, ML2.0/5, Error ellipse: s-maj=1.2km s-min=0.4km az=168.0*
*CSEM **16** 08:32:05.9±0.1,38.°73N×22.°54E, h10km, ML2.0/5, Error ellipse: s-maj=3.0km s-min=1.9km az=134.0*
*ATH **16** 08:32:06.6,38.°73N×22.°56E, h5km, MD2.6/4*

ISC 16 08:32:06.3±1.0, 38.°72N±0.°03×22.°56E±0.°02, h12km±11km, n24, σ0°48/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.31**	**183**	P	**Pg**	**08 32 12.0**	**-0.6**
DSF				S	**Sg**	**08 32 17.4**	**+0.6**
DSF	**Desfina**	**0.31**	**183**	P	**Pg**	**08 32 12.0**	**-0.6**
DSF				S	**Sg**	**08 32 17.4**	**+0.6**
LKR	**Lokris**	**0.36**	**101**	*e*PG	**Pg**	**08 32 13.3**	**-0.1**
LKR				*e*SB	**Sg**	**08 32 18.5**	**+0.3**
LKR	**Lokris**	**0.36**	**101**	*e*Pg	**Pg**	**08 32 13.3**	**-0.1**
LKR				*e*Sg	**Sg**	**08 32 18.5**	**+0.3**
ATAL	**Atalanti**	**0.37**	**94**	P	**Pg**	**08 32 13.2**	**-0.5**
ATAL				S	**Sg**	**08 32 18.5**	**-0.1**
ATAL	**Atalanti**	**0.37**	**94**	P	**Pg**	**08 32 13.2**	**-0.5**
ATAL				S	**Sg**	**08 32 18.5**	**-0.1**
KALE	**Kalithea**	**0.46**	**225**	P	**Pg**	**08 32 14.9**	**-0.5**
KALE				S	**Sg**	**08 32 22.4**	**+0.9**
KALE	**Kalithea**	**0.46**	**225**	P	**Pg**	**08 32 14.9**	**-0.5**
KALE				S	**Sg**	**08 32 22.4**	**+0.9**
TRIZ	**Trizonia**	**0.52**	**227**	P	**Pg**	**08 32 15.7**	**-0.7**
TRIZ				S	**Sb**	**08 32 24.4**	**-0.3**
TRIZ	**Trizonia**	**0.52**	**227**	P	**Pg**	**08 32 15.7**	**-0.7**
TRIZ				S	**Sb**	**08 32 24.4**	**-0.3**
EFP	**Efpalio**	**0.58**	**240**	P	**Pg**	**08 32 17.1**	**-0.6**
EFP				S	**Sg**	**08 32 25.9**	**+0.5**
EFP	**Efpalio**	**0.58**	**240**	P	**Pg**	**08 32 17.1**	**-0.6**
EFP				S	**Sg**	**08 32 25.9**	**+0.5**
LTK	**Loutraki**	**0.77**	**155**	P	**Pg**	**08 32 20.9**	**-0.3**
LTK				S	**Sb**	**08 32 32.2**	**+0.2**
LTK	**Loutraki**	**0.77**	**155**	*e*PB	**Pb**	**08 32 21.7**	**+0.1**
LTK	**Loutraki**	**0.77**	**155**	P	**Pg**	**08 32 20.9**	**-0.3**
LTK	**Loutraki**	**0.77**	**155**	*e*Pb	**Pb**	**08 32 21.7**	**+0.1**
LTK				S	**Sb**	**08 32 32.2**	**+0.2**
NEO	**Neokhori**	**0.79**	**42**	*e*PB	**Pg**	**08 32 21.6**	**+0.1**
NEO				*e*SB	**Sb**	**08 32 32.5**	**0.0**
NEO	**Neokhori**	**0.79**	**42**	*e*Pb	**Pg**	**08 32 21.6**	**+0.1**
NEO				*e*Sg	**Sb**	**08 32 32.5**	**0.0**
GUR	**Goura**	**0.80**	**192**	P	**Pg**	**08 32 21.2**	**-0.6**
GUR				S	**Sg**	**08 32 32.7**	**+0.5**
GUR	**Goura**	**0.80**	**192**	P	**Pg**	**08 32 21.2**	**-0.6**
GUR				S	**Sg**	**08 32 32.7**	**+0.5**
XOR	**Xorichti**	**0.81**	**38**	P	**Pg**	**08 32 21.2**	**-0.8**
XOR				S	**Sb**	**08 32 33.4**	**0.0**
XOR	**Xorichti**	**0.81**	**38**	P	**Pg**	**08 32 21.2**	**-0.8**
XOR				S	**Sb**	**08 32 33.4**	**0.0**
THL	**Klokotos Trika**	**0.94**	**334**	*e*PG	**Pg**	**08 32 24.2**	**-0.2**
THL	**Klokotos Trika**	**0.94**	**334**	*e*Pb	**Pg**	**08 32 24.2**	**-0.2**

IDC 16 08:54:40.9±1.1, 46.°87N×155.°42E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=31.5km s-min=23.7km az=133.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.41**	**12**	Pn	Pn	08 56 15.4	-1.1
	0.6nm,0.3s,baz=179,slow=15,SNR=5.1						
ASAJ	**Asahikawa**	**9.42**	**258**	Pn	Pn	08 56 57.6	-0.1
	0.4nm,0.3s,baz=112,slow=16,SNR=2.8						
MJAR	**Matsushiro Arr**	**16.45**	**237**	Pn	P	08 58 37.4	+1.6
	0.1nm,0.3s,baz=42,slow=10,SNR=4.9						
ILAR	**Eielson Array**	**35.47**	**39**	P	P	09 01 38.2	-0.4
	0.3nm,0.6s,baz=246,slow=7.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**43.82**	**306**	P	P	09 02 48.0	-0.2
	0.6nm,0.5s,baz=56,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**48.29**	**298**	P	P	09 03 23.2	-0.3
	0.4nm,0.7s,baz=67,slow=4.8,SNR=3.0						
FINES	**FINESS Array B**	**64.59**	**336**	P	P	09 05 20.1	+0.6
	1.4nm,0.7s,baz=46,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**72.85**	**201**	P	P	09 06 11.3	-0.1
	0.5nm,0.6s,baz=15,slow=5.4,SNR=8.6						
TXAR	**Lajitas Array**	**76.04**	**62**	P	P	09 06 30.7	+0.4
	0.4nm,1.0s,baz=274,slow=2.5,SNR=2.9						

IDC 16 08:56:26.1±1.2, 46.°83N×155.°32E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/24, mbtmp3.5/8, ML3.1/1, Error ellipse: s-maj=33.0km s-min=26.1km az=141.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.47**	**13**	Pn	Pn	08 58 01.4	-1.1
	0.4nm,0.3s,baz=185,slow=13,SNR=3.8						
MJAR	**Matsushiro Arr**	**16.36**	**237**	P	P	09 00 22.2	+2.0
	0.1nm,0.3s,baz=29,slow=10.0,SNR=4.0						
ILAR	**Eielson Array**	**35.54**	**39**	P	P	09 03 24.1	-0.3
	0.2nm,0.7s,baz=262,slow=7.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**43.79**	**306**	P	P	09 04 32.6	-0.6
	0.4nm,0.5s,baz=48,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**48.24**	**298**	P	P	09 05 08.2	-0.2
	0.5nm,0.8s,baz=73,slow=8.8,SNR=4.3						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	P	09 05 21.1	-0.1
	0.2nm,0.7s,baz=295,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**64.60**	**336**	P	P	09 07 05.4	+0.7
	2.3nm,0.8s,baz=26,slow=5.3,SNR=5.9						
ASAR	**Alice Springs**	**72.79**	**201**	P	P	09 07 56.1	-0.1
	0.4nm,0.7s,baz=14,slow=6.2,SNR=4.4						
TXAR	**Lajitas Array**	**76.13**	**62**	P	P	09 08 16.1	+0.2
	0.3nm,0.6s,baz=289,slow=3.3,SNR=3.5						

*IDC **16** 09:31:49.4±2.5, 19.°96N×95.°18E, h107km±21km, mb3.9/16, mb1 4.0/17, mb1mx3.8/26, mbtmp3.9/17, Error ellipse: s-maj=27.2km s-min=13.6km az=49.0*
*NEIC **16** 09:31:49.7±0.5, 19.°98N×95.°17E, h109km±4km, mb4.4/9, Error ellipse: s-maj=12.0km s-min=3.7km az=215.0*

ISC 16 09:31:46.1±1.3, 19.°9N±0.°1×94.°79E±0.°08, h83km±10km, n74, σ1°43/87, mb4.2/23, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.06**	**104**	*e*Pn	**Pn**	**09 32 46.6**	**+0.7**
CHTO				*e*Sn	Px	09 33 18.9	
CM31	**Chiang Mai Arr**	**4.17**	**109**	*e*Pn	**Pn**	**09 32 48.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**4.17**	**109**	P	**Pn**	**09 32 47.6**	**+0.2**
	3.0nm,0.3s,baz=287,slow=14,SNR=26						
CMAR	**Chiang Mai Arr**	**4.17**	**109**	P	**Pn**	**09 32 47.6**	**+0.2**
SHL	**Shillong**	**6.26**	**335**	⇑*i*PN	Pn	09 33 21.0	+4.9
SHL				*e*SN	**Sn**	**09 34 27.0**	**+0.7**
ODAN	**Odare**	**9.72**	**317**	*e*Pn	Pn	09 34 08.5	+5.3
ODAN				*e*Sn	**Sn**	**09 35 51.3**	**+0.5**
	189nm,0.5s						
ODAN	**Odare**	**9.72**	**317**	*e*Pn	Pn	09 34 08.5	+5.3
ODAN				*e*Sn	**Sn**	**09 35 51.3**	**+0.5**
TAPN	**Taplejung**	**9.87**	**320**	*e*Pn	Pn	09 34 10.0	+4.7
TAPN				*e*Sn	**Sn**	**09 35 55.1**	**+0.6**
	184nm,0.5s						
TAPN	**Taplejung**	**9.87**	**320**	*e*Pn	Pn	09 34 10.0	+4.7
TAPN				*e*Sn	**Sn**	**09 35 55.1**	**+0.6**
RAMN	**Ramite**	**10.29**	**315**	*e*Pn	Pn	09 34 17.3	+6.2
RAMN				*e*Sn	**Sn**	**09 36 04.4**	**-0.5**
	74nm,0.5s						
RAMN	**Ramite**	**10.29**	**315**	*e*Pn	Pn	09 34 17.3	+6.2
RAMN				*e*Sn	**Sn**	**09 36 04.4**	**-0.5**
LSA	**Lhasa**	**10.32**	**342**	*e*Pn	**Pn**	**09 34 14.5**	**+2.8**
	6.8nm,0.4s						
LSA				*e*Sn	**Sn**	**09 36 08.2**	**+2.4**
JIRN	**Jiri**	**11.04**	**316**	*e*Pn	Pn	09 34 26.0	+4.6
JIRN				*e*Sn	**Sn**	**09 36 22.9**	**-0.3**
	73nm,0.4s						
JIRN	**Jiri**	**11.04**	**316**	*e*Pn	Pn	09 34 26.0	+4.6
JIRN				*e*Sn	**Sn**	**09 36 22.9**	**-0.3**
GUN	**Gumba**	**11.41**	**316**	*e*Pn	Pn	09 34 32.0	+5.6
GUN				*e*Sn	**Sn**	**09 36 32.2**	**0.0**
	129nm,0.6s						
GUN	**Gumba**	**11.41**	**316**	*e*Pn	Pn	09 34 32.0	+5.6
GUN				*e*Sn	**Sn**	**09 36 32.2**	**0.0**
PKI	**Pulchoki**	**11.50**	**313**	*e*Pn	Pn	09 34 33.0	+5.3
PKI				*e*Sn	**Sn**	**09 36 33.4**	**-1.1**
	58nm,0.6s						
PKI	**Pulchoki**	**11.50**	**313**	*e*Pn	Pn	09 34 33.0	+5.3
PKI				*e*Sn	**Sn**	**09 36 33.4**	**-1.1**
KKN	**Kakani**	**11.73**	**314**	*e*Pn	Pn	09 34 36.6	+6.0
KKN				*e*Sn	**Sn**	**09 36 39.5**	**-0.3**
	47nm,0.5s						
KKN	**Kakani**	**11.73**	**314**	*e*Pn	Pn	09 34 36.6	+6.0
KKN				*e*Sn	**Sn**	**09 36 39.5**	**-0.3**
DMN	**Daman**	**11.73**	**313**	*e*Pn	Pn	09 34 36.9	+6.2
DMN				*e*Sn	**Sn**	**09 36 38.6**	**-1.4**
	82nm,0.7s						
DMN	**Daman**	**11.73**	**313**	*e*Pn	Pn	09 34 36.9	+6.2
DMN				*e*Sn	**Sn**	**09 36 38.6**	**-1.4**
GKN	**Gorkha**	**12.30**	**313**	*e*Pn	P	09 34 44.1	-3.2
GKN				*e*Sn	**Sn**	**09 36 52.3**	**-1.4**
	24nm,0.2s						
GKN	**Gorkha**	**12.30**	**313**	*e*Pn	P	09 34 44.1	-3.2
GKN				*e*Sn	**Sn**	**09 36 52.3**	**-1.4**
KOLN	**Koldanda**	**12.90**	**310**	*e*Pn	**P**	**09 34 51.5**	**-2.5**
KOLN				*e*Sn	**Sn**	**09 37 06.3**	**-1.9**
	38nm,0.4s						
KOLN	**Koldanda**	**12.90**	**310**	*e*Pn	**P**	**09 34 51.5**	**-2.5**
KOLN				*e*Sn	**Sn**	**09 37 06.3**	**-1.9**
DANN	**Dangsing**	**13.13**	**312**	*e*Pn	**P**	**09 34 54.3**	**-2.3**
DANN				*e*Sn	**Sn**	**09 37 12.8**	**-1.1**
	31nm,0.5s						
DANN	**Dangsing**	**13.13**	**312**	*e*Pn	**P**	**09 34 54.3**	**-2.3**
DANN				*e*Sn	**Sn**	**09 37 12.8**	**-1.1**
TWG	**Pinlang**	**24.64**	**78**	*e*P	**P**	**09 36 56.2**	**-2.9**
	8.6nm,0.3s						
YULB	**Yu-li**	**24.88**	**77**	*e*P	**P**	**09 36 58.3**	**-2.9**
	9.2nm,1.0s						
KBL	**Kabul**	**27.05**	**308**	*e*P	P	09 37 26.1	+5.0
	5.2nm,0.8s						
MK31	**Makanchi Array**	**28.73**	**342**	*e*P	**P**	**09 37 36.5**	**+0.8**
MKAR	**Makanchi Array**	**28.73**	**342**	P	**P**	**09 37 37.1**	**+1.5**
	5.8nm,0.6s,baz=154,slow=9.0,SNR=81						
MKAR				PcP	**PcP**	**09 40 45.0**	**+1.0**
	0.3nm,0.4s,baz=172,slow=2.9,SNR=4.6						
MKAR	**Makanchi Array**	**28.73**	**342**	P	**P**	**09 37 37.1**	**+1.5**
MKAR				PcP	**PcP**	**09 40 45.0**	**+1.0**
EKS2	**Erkin-Say**	**28.80**	**327**	*e*P	P	09 37 40.2	+3.8
	5.3nm,0.8s						
SONM	**Songino Array**	**29.44**	**16**	P	**P**	**09 37 42.1**	**+0.1**
	1.6nm,0.4s,baz=200,slow=9.6,SNR=19						
SONM				PcP	**PcP**	**09 40 46.1**	**+0.2**
	0.3nm,0.7s,baz=177,slow=2.0,SNR=2.6						
SONM	**Songino Array**	**29.44**	**16**	P	**P**	**09 37 42.1**	**+0.1**
SONM				PcP	**PcP**	**09 40 46.1**	**+0.2**
KURK	**Kurchatov**	**33.33**	**341**	P	**P**	**09 38 16.9**	**+0.9**
	10nm,0.6s,baz=152,slow=8.3,SNR=67						
KURK				PcP	**PcP**	**09 40 56.8**	**+0.7**
	1.1nm,0.4s,baz=165,slow=2.3,SNR=12						
KURK				ScP	**ScP**	**09 44 31.1**	**-2.2**
	0.8nm,0.4s,baz=152,slow=3.1,SNR=9.4						
KURK	**Kurchatov**	**33.33**	**341**	*e*P	**P**	**09 38 17.4**	**+1.4**
	8.2nm,0.6s						
KURK				PcP	**PcP**	**09 40 56.8**	**+0.7**
KURK				ScP	**ScP**	**09 44 31.1**	**-2.2**
ZAA0	**Zalesovo Array**	**34.86**	**350**	*e*P	**P**	**09 38 30.3**	**+1.1**
ZALV	**Zalesovo Beam**	**34.86**	**350**	P	**P**	**09 38 30.2**	**+1.1**
	10nm,0.6s,baz=167,slow=8.9,SNR=56						
ZALV	**Zalesovo Beam**	**34.86**	**350**	P	**P**	**09 38 30.2**	**+1.1**
BVAR	**Borovoye Array**	**38.09**	**336**	PcP	**PcP**	**09 41 10.9**	**+0.7**
	1.0nm,0.5s,baz=158,slow=4.2,SNR=3.9						
BVAR	**Borovoye Array**	**38.09**	**336**	PcP	**PcP**	**09 41 10.9**	**+0.7**
USRK	**Ussuriysk Arra**	**39.29**	**43**	P	**P**	**09 39 04.9**	**-1.9**
	1.1nm,0.5s,baz=254,slow=6.4,SNR=7.8						
ABKAR	**Akbulak array**	**40.41**	**325**	*e*P	**P**	**09 39 18.6**	**+2.6**
	3.3nm,0.5s						
MAJO	**Matsushiro**	**41.33**	**57**	*e*P	**P**	**09 39 21.8**	**-2.1**
	2.1nm,0.3s						
AKTO	**Aktyubinsk**	**42.10**	**325**	P	**P**	**09 39 31.9**	**+2.0**
	3.2nm,0.3s,baz=126,slow=7.7,SNR=21						
AKTO				PcP	**PcP**	**09 41 24.4**	**+1.3**
	0.8nm,0.4s,baz=120,slow=8.1,SNR=3.9						
AKTO	**Aktyubinsk**	**42.10**	**325**	P	**P**	**09 39 31.9**	**+2.0**
AKTO				PcP	**PcP**	**09 41 24.4**	**+1.3**
WRA	**Warramunga Arr**	**55.38**	**133**	P	**P**	**09 41 10.9**	**-1.1**
	0.3nm,0.5s,baz=318,slow=7.6,SNR=8.2						
WRA	**Warramunga Arr**	**55.38**	**133**	P	**P**	**09 41 10.9**	**-1.1**
WRAB	**Tennant Creek**	**55.38**	**133**	*e*P	**P**	**09 41 11.0**	**-1.0**
	5.7nm,1.1s						
WB2	**Warramunga Arr**	**55.39**	**133**	*e*P	**P**	**09 41 10.9**	**-1.1**
ASAR	**Alice Springs**	**57.68**	**137**	P	**P**	**09 41 27.3**	**-1.1**
	0.9nm,0.5s,baz=316,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**57.68**	**137**	P	**P**	**09 41 27.3**	**-1.1**
AKASG	**Malin Array Be**	**59.44**	**318**	P	**P**	**09 41 41.0**	**+0.9**
	2.8nm,0.5s,baz=84,slow=6.8,SNR=7.5						
AKASG	**Malin Array Be**	**59.44**	**318**	P	**P**	**09 41 41.0**	**+0.9**
FINES	**FINESS Array B**	**62.57**	**330**	P	**P**	**09 42 01.8**	**+0.7**
	1.6nm,0.6s,baz=103,slow=5.6,SNR=9.5						
FINES	**FINESS Array B**	**62.57**	**330**	P	**P**	**09 42 01.8**	**+0.7**
ARCES	**ARCESS Array B**	**64.31**	**339**	P	**P**	**09 42 13.6**	**+1.1**
	5.1nm,0.7s,baz=94,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**64.31**	**339**	P	**P**	**09 42 13.6**	**+1.1**
GERES	**GERESS Array B**	**69.51**	**316**	P	**P**	**09 42 48.3**	**+2.3**
	3.1nm,0.6s,baz=76,slow=6.3,SNR=24						
GERES	**GERESS Array B**	**69.51**	**316**	P	**P**	**09 42 48.3**	**+2.3**
NB2	**NORSAR Subarra**	**69.72**	**329**	P	**P**	**09 42 47.7**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=85,slow=6.5						
NOA	**NORSAR Array B**	**69.72**	**329**	P	**P**	**09 42 48.0**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=86,slow=6.2,SNR=4.9						
NOA	**NORSAR Array B**	**69.72**	**329**	P	**P**	**09 42 48.0**	**+1.0**
ILAR	**Eielson Array**	**83.45**	**22**	P	**P**	**09 44 02.5**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=291,slow=5.6,SNR=24						
ILAR	**Eielson Array**	**83.45**	**22**	P	**P**	**09 44 02.5**	**-1.8**
ESDC	**Sonseca Array**	**84.01**	**310**	P	**P**	**09 44 09.8**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=49,slow=5.1,SNR=3.2						
ESDC	**Sonseca Array**	**84.01**	**310**	P	**P**	**09 44 09.8**	**+2.1**
YKA	**Yellowknife Ar**	**94.67**	**13**	P	**P**	**09 44 56.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=329,slow=4.3,SNR=8.6						
YKA	**Yellowknife Ar**	**94.67**	**13**	P	**P**	**09 44 56.8**	**-0.9**
TXAR	**Lajitas Array**	**127.94**	**21**	PKP	**PKPdf**	**09 50 43.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=188,slow=0.5,SNR=16						
TXAR	**Lajitas Array**	**127.94**	**21**	PKP	**PKPdf**	**09 50 43.2**	**+0.1**

*ISCJB **16** 09:39:50.9±0.5, 38.°42N±0.°04×21.°43E±0.°04, h27km±5km, Error ellipse: s-maj=7.5km s-min=4.5km az=163.7*
*ATH **16** 09:39:50.7, 38.°41N×21.°44E, h24km±5km, MD2.8/6*
*CSEM **16** 09:39:50.7±0.2, 38.°41N×21.°43E, h20km, MD2.8, Error ellipse: s-maj=6.1km s-min=4.4km az=171.0*
*THE **16** 09:39:51.0, 38.°43N×21.°44E, h26km±2km, ML1.4/2, Error ellipse: s-maj=2.1km s-min=0.5km az=18.0*

ISC 16 09:39:51.0±1.0, 38.°40N±0.°03×21.°44E±0.°03, h23km±10km, n25, σ0°65/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.34**	**176**	*e*PB	**Pb**	**09 39 58.3**	**-0.2**
RLS				*e*SB	**Sb**	**09 40 04.0**	**+0.3**
RLS	**Riolos of Patr**	**0.34**	**176**	*e*Pb	**Pb**	**09 39 58.3**	**-0.2**
RLS				*e*Sb	**Sb**	**09 40 04.0**	**+0.3**
EFP	**Efpalio**	**0.37**	**86**	P	**Pb**	**09 39 58.3**	**-0.7**
EFP				S	**Sb**	**09 40 05.0**	**+0.7**
EFP	**Efpalio**	**0.37**	**86**	*e*PB	**Pb**	**09 39 58.2**	**-0.7**
EFP				*e*SB	**Sb**	**09 40 05.0**	**+0.7**
EFP	**Efpalio**	**0.37**	**86**	*e*Pb	**Pb**	**09 39 58.2**	**-0.7**
EFP				S	**Sb**	**09 40 05.0**	**+0.7**
LAKA	**Lakka**	**0.46**	**111**	P	**Pb**	**09 40 00.1**	**-0.3**
LAKA				S	**Sb**	**09 40 07.8**	**+1.0**
LAKA	**Lakka**	**0.46**	**111**	P	**Pb**	**09 40 00.1**	**-0.3**
LAKA				S	**Sb**	**09 40 07.8**	**+1.0**
TRIZ	**Trizonia**	**0.50**	**94**	P	**Pb**	**09 40 01.0**	**-0.1**
TRIZ				S	**Sb**	**09 40 08.9**	**+0.9**
TRIZ	**Trizonia**	**0.50**	**94**	P	**Pb**	**09 40 01.0**	**-0.1**
TRIZ				S	**Sb**	**09 40 08.9**	**+0.9**
KALE	**Kalithea**	**0.55**	**91**	P	**Pb**	**09 40 01.9**	**-0.1**
KALE				S	**Sn**	**09 40 10.7**	**-1.2**
KALE	**Kalithea**	**0.55**	**91**	P	**Pb**	**09 40 01.9**	**-0.1**
KALE				S	**Sn**	**09 40 10.7**	**-1.2**
EVR	**Evrytania**	**0.59**	**29**	*e*PN	**Pb**	**09 40 01.8**	**-0.9**
EVR				*e*SN	**Sb**	**09 40 11.3**	**+0.6**
EVR	**Evrytania**	**0.59**	**29**	*e*Pn	**Pb**	**09 40 01.8**	**-0.9**
EVR				*e*Sn	**Sb**	**09 40 11.3**	**+0.6**
KFL	**Anninata**	**0.59**	**240**	P	**Pb**	**09 40 02.9**	**+0.2**
KFL				S	**Sn**	**09 40 11.8**	**-1.0**
KFL	**Anninata**	**0.59**	**240**	P	**Pb**	**09 40 02.9**	**+0.2**
KFL				S	**Sn**	**09 40 11.8**	**-1.0**
VLS	**Valsamata**	**0.70**	**252**	*e*PN	**Pb**	**09 40 04.4**	**-0.2**
VLS				*e*SN	**Sn**	**09 40 16.0**	**+0.4**
LKD2	**Lefkada island**	**0.72**	**302**	P	**Pb**	**09 40 04.6**	**-0.3**
LKD2	**Lefkada island**	**0.72**	**302**	P	**Pb**	**09 40 04.6**	**-0.3**
GUR	**Goura**	**0.85**	**123**	*e*PN	**Pn**	**09 40 07.8**	**+0.2**
GUR				*e*SN	**Sn**	**09 40 19.8**	**+0.4**
GUR	**Goura**	**0.85**	**123**	*e*Pn	**Pn**	**09 40 07.8**	**+0.2**
GUR				*e*Sn	**Sn**	**09 40 19.8**	**+0.4**
THL	**Klokotos Trika**	**1.24**	**21**	*e*PN	**Pb**	**09 40 14.5**	**+0.7**
THL	**Klokotos Trika**	**1.24**	**21**	*e*Pn	**Pb**	**09 40 14.5**	**+0.7**
PYL	**PYLOS**	**1.52**	**171**	P	**Pn**	**09 40 16.2**	**-0.5**
PYL	**PYLOS**	**1.52**	**171**	P	**Pn**	**09 40 16.2**	**-0.5**

CASC 16 09:46:28.7±2.0, 10.°32N×84.°21W, h0km±6km, MD3.8, 3C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.41**	**157**	⇓*e*P	Pg	09 46 37.8	+1.1
URSC	**Urasca**	**0.64**	**138**	⇓*e*P	Pg	09 46 42.2	+0.9
URSC				*e*S	Sb	09 46 53.7	+1.0
PTEN	**Parque Tenorio**	**0.86**	**298**	*i* P	Pg	09 46 45.5	+0.3
BUS	**Buena Vista**	**0.88**	**149**	⇑*e*P	Pg	09 46 46.0	+0.2
BUS				*e*S	Sg	09 46 58.0	0.0
QCR	**Quepos**	**0.89**	**177**	⇑*i*P	Pg	09 46 46.0	+0.3
QCR				*e*S	Sb	09 46 59.7	+0.3
CUI	**Cuipilapa**	**0.99**	**290**	*i* P	Pg	09 46 47.5	-0.4
JCR	**Jicaral**	**1.00**	**242**	⇓*e*P	Pg	09 46 48.2	+0.2
MESS	**Mesas**	**1.05**	**294**	*i* P	Pg	09 46 48.4	-0.7
GPS2	**Hotel Rinc˜‡n**	**1.20**	**291**	*i* P	Pb	09 46 52.5	+0.1
GPS1	**Guardaparques**	**1.21**	**292**	*i* P	Pg	09 46 51.2	-0.8
GPS3	**Bodega del ICE**	**1.21**	**291**	*i* P	Pg	09 46 51.6	-0.5
GBS3	**Finca Las Im¯¡**	**1.30**	**291**	*i* P	Pg	09 46 52.7	-1.1
NY14	**Universidad de**	**1.34**	**284**	*i* P	Pg	09 46 54.2	-0.2
ACR	**Cerro Adams**	**1.95**	**148**	*e*P	Pn	09 47 02.7	-0.4
BRU2	**Volcan**	**2.13**	**135**	*i* P	Pn	09 47 07.0	+1.2
BRU2				*i* S	Sb	09 47 36.5	+0.8
PTP	**Ponta Puerca**	**19.65**	**64**	*i* P	x	09 47 15.2	
PTP				*i* S	x	09 47 49.7	

MEX 16 09:47:24.6±0.6, 17.°20N×99.°89W, h35km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.33**	**175**	*i* P	Pn	09 47 31.2	-1.8
ACX				*i* S	Sn	09 47 36.8	-1.9
CAIG	**El Cayaco**	**0.40**	**247**	*e*P	Pn	09 47 32.1	-1.7
CAIG				*i* S	Sn	09 47 38.5	-1.7
MEIG	**Mezcala**	**0.76**	**19**	*e*P	Pn	09 47 37.9	-1.2
MEIG				*i* S	Sn	09 47 46.6	-2.8
ZIIG	**Zihuatanejo**	**1.56**	**285**	*e*P	Pn	09 47 48.2	-1.7
ZIIG				*i* S	Sn	09 48 06.6	-2.3
PNIG	**Pinotepa**	**1.87**	**115**	*e*P	Pn	09 47 52.5	-1.6
PNIG				*i* S	Sn	09 48 14.7	-1.8
UTMO	**Huajuapan**	**2.08**	**72**	*i* P	Pn	09 47 55.9	-1.5
UTMO				*i* S	Sn	09 48 20.5	-1.8

GUC 16 09:54:39.4±0.7, 29.°27S×69.°97W, h2km±2km, ML3.6, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.69**	**292**	⇓*i*P	Pb	09 54 54.0	-0.6
LCO				*i* S	Sb	09 55 04.7	-0.1
LCO				AML	AML	09 55 08.6	
	comp=N,1μm,0.7s						
VACH	**Vallenar**	**0.98**	**315**	⇑*i*P	Pb	09 54 59.1	-0.1
VACH				*i* S	Sb	09 55 13.3	+0.8
**TL

ms1mx3.3/29, Error ellipse: s-maj=38.6km s-min=18.2km az=157.0
*NEIC **16** 10:00:55.5±0.7, 23.94S×175.37W, mb4.9/2, Error ellipse: s-maj=24.0km s-min=17.1km az=171.0*

ISC 16 10:00:55.9±0.7, 23.9S±0.2×175.3W±0.1, h40km±6km, h39km:pP-P, n46, σ1s24/52, mb4.5/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.68**	**313**	*e*Pn	**Pn**	**10 02 59.5**	**+0.3**
	82nm,1.1s						
AFI	**Afiamalu**	**10.45**	**19**	Pn	Pn	10 03 10.5	-13
	2.7nm,0.3s,baz=289,slow=17,SNR=4.5						
AFI				Sn	Sn	10 04 53.6	-26
	3.1nm,0.3s,baz=177,slow=18,SNR=2.9						
AFI	**Afiamalu**	**10.45**	**19**	Pn	Pn	10 03 10.5	-13
AFI				*e*Pn	Pn	10 03 14.0	-9.4
AFI				Sn	Sn	10 04 53.6	-26
RAR	**Rarotonga**	**14.62**	**83**	Pn	Pn	10 04 08.1	-12
	9.1nm,0.3s,baz=220,slow=5.5,SNR=10.0						
RAR				Sn	Sn	10 06 35.1	-26
	1.5nm,0.3s,baz=319,slow=6.4,SNR=3.0						
RAR				LR	LR	10 09 08.6	
	comp=Z,697nm,18.1s,baz=273,slow=34						
RAR	**Rarotonga**	**14.62**	**83**	*e*Pn	Pn	10 04 09.6	-10
RAR				Sn	Sn	10 06 35.1	-26
DZM	**Mont Dzumac**	**16.88**	**272**	*e*LR	LR	10 09 16.1	
	200nm,25.6s						
DZM	**Mont Dzumac**	**16.88**	**272**	Pn	**P**	**10 04 52.6**	**+1.5**
	0.3nm,0.3s,baz=73,slow=19,SNR=4.1						
DZM	**Mont Dzumac**	**16.88**	**272**	Pn	**P**	**10 04 52.6**	**+1.5**
TBI	**Tubuai**	**23.71**	**94**	*e*LR	LR	10 11 21.7	
	270nm,23.8s						
PPT2	**Papeete2**	**24.86**	**80**	*e*LR	LR	10 11 59.1	
	231nm,21.8s						
CTA	**Charters Tower**	**35.75**	**268**	P	**P**	**10 07 50.2**	**-1.1**
	3.0nm,0.3s,baz=94,slow=11,SNR=10						
CTA				LR	LR	10 20 16.4	
	comp=Z,111nm,18.3s,baz=52,slow=32						
CTA	**Charters Tower**	**35.75**	**268**	P	**P**	**10 07 50.2**	**-1.1**
ASAR	**Alice Springs**	**46.25**	**259**	P	**P**	**10 09 16.9**	**-0.8**
	1.4nm,0.7s,baz=93,slow=7.4,SNR=20						
ASAR				pP	**pP**	**10 09 29.0**	**-0.1**
	3.3nm,0.9s,baz=92,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**46.25**	**259**	P	**P**	**10 09 16.9**	**-0.8**
ASAR				pP	**pP**	**10 09 29.0**	**-0.1**
WB2	**Warramunga Arr**	**46.66**	**265**	*e*P	**P**	**10 09 19.3**	**-1.6**
WB2				*e*pP	**pP**	**10 09 31.8**	**-0.5**
WRAB	**Tennant Creek**	**46.66**	**265**	*e*P	**P**	**10 09 19.6**	**-1.3**
	8.6nm,1.1s						
WRAB				*e*pP	**pP**	**10 09 31.7**	**-0.6**
WRA	**Warramunga Arr**	**46.67**	**265**	P	**P**	**10 09 19.0**	**-2.0**
	1.5nm,0.3s,baz=91,slow=8.4,SNR=62						
WRA				pP	**pP**	**10 09 31.7**	**-0.7**
	6.2nm,0.9s,baz=91,slow=8.4,SNR=16						
WRA	**Warramunga Arr**	**46.67**	**265**	P	**P**	**10 09 19.0**	**-2.0**
WRA				pP	**pP**	**10 09 31.7**	**-0.7**
PETK	**Petropavlovsk-**	**80.15**	**344**	pP	pP	10 13 12.4	-1.2
	6.8nm,0.9s,baz=141,slow=9.6,SNR=4.0						
PETK	**Petropavlovsk-**	**80.15**	**344**	pP	pP	10 13 12.4	-1.2
NVAR	**Mina Array Bea**	**81.81**	**42**	P	**P**	**10 13 10.7**	**-0.5**
	0.4nm,0.8s,baz=214,slow=4.4,SNR=3.0						
NVAR				pP	**pP**	**10 13 21.6**	**-1.7**
	1.4nm,0.9s,baz=220,slow=7.0,SNR=5.7						
NVAR	**Mina Array Bea**	**81.81**	**42**	P	**P**	**10 13 10.7**	**-0.5**
NVAR				pP	**pP**	**10 13 21.6**	**-1.7**
USRK	**Ussuriysk Arra**	**83.11**	**325**	P	**P**	**10 13 16.5**	**-0.9**
	4.6nm,0.9s,baz=132,slow=2.9,SNR=9.8						
USRK				pP	**pP**	**10 13 29.9**	**+0.4**
	8.6nm,1.0s,baz=126,slow=5.1,SNR=9.2						
SNAA	**Sanae**	**84.59**	**178**	*e*	P	10 13 37.9	+13
SNAA	**Sanae**	**84.59**	**178**	*e*	P	10 13 37.9	+13
VNA3	**Neumayer Olymp**	**84.63**	**175**	*e*	P	10 13 39.6	+15
VNA3	**Neumayer Olymp**	**84.63**	**175**	*e*	P	10 13 39.6	+15
VNA2	**Neumayer--Watz**	**85.10**	**176**	*e*	P	10 13 31.2	+3.9
	baz=196,slow=1.7						
VNA2	**Neumayer--Watz**	**85.10**	**176**	*e*	P	10 13 31.2	+3.9
	baz=305,slow=3.4						
VNA2	**Neumayer--Watz**	**85.10**	**176**	*e*	P	10 13 42.5	+15
	baz=196,slow=1.7						
VNA2	**Neumayer--Watz**	**85.10**	**176**	*e*	P	10 13 42.5	+15
	baz=305,slow=3.4						
ENH	**Enshi**	**89.95**	**303**	*e*P	**P**	**10 13 51.5**	**+0.2**
	11nm,1.0s						
ENH				*e*pP	**pP**	**10 14 04.5**	**+1.0**
ILAR	**Eielson Array**	**91.05**	**12**	P	**P**	**10 13 56.7**	**+1.1**
	0.5nm,0.9s,baz=202,slow=6.8,SNR=2.6						
ILAR	**Eielson Array**	**91.05**	**12**	P	**P**	**10 13 56.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**10 14 09.6**	**+1.4**
	1.3nm,0.4s,baz=127,slow=2.8,SNR=13						
CMAR				pP	**pP**	**10 14 21.4**	**+0.9**
	5.6nm,0.9s,baz=133,slow=3.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**10 14 09.6**	**+1.4**
CMAR				pP	**pP**	**10 14 21.4**	**+0.9**
AKASG	**Malin Array Be**	**147.13**	**331**	PKPbc	**PKPbc**	**10 20 33.3**	**-1.2**
	0.8nm,0.4s,baz=42,slow=4.1,SNR=4.4						
AKASG				pPKPbc	**pPKPbc**	**10 20 45.9**	**-1.1**
	1.1nm,0.5s,baz=36,slow=4.1,SNR=3.5						
AKASG	**Malin Array Be**	**147.13**	**331**	PKPbc	**PKPbc**	**10 20 33.3**	**-1.2**
AKASG				pPKPbc	**pPKPbc**	**10 20 45.9**	**-1.1**
BR131	**Keskin Array S**	**150.90**	**310**	*e*PKPdf	**PKPdf**	**10 20 39.7**	**+0.7**
BR131				*e*PKPbc	**PKPbc**	**10 20 44.2**	**-0.4**
BRTR	**Keskin Array B**	**150.90**	**310**	PKPbc	**PKPbc**	**10 20 43.3**	**-1.4**
	1.5nm,0.9s,baz=121,slow=4.2,SNR=8.1						
BRTR				pPKPbc	**pPKPbc**	**10 20 56.5**	**-0.7**
	3.1nm,0.9s,baz=131,slow=5.1,SNR=8.8						
BRTR	**Keskin Array B**	**150.90**	**310**	PKPbc	**PKPbc**	**10 20 43.3**	**-1.4**
BRTR				pPKPbc	**pPKPbc**	**10 20 56.5**	**-0.7**
BUR08	**Bucovina Ar. S**	**151.17**	**331**	*e*PKPdf	**PKPdf**	**10 20 39.0**	**-0.1**
CLL	**Collm**	**151.85**	**349**	*e*PKPbc	**PKPbc**	**10 20 46.0**	**-0.2**
BRG	**Berggiesshubel**	**152.09**	**347**	*e*P	**PKPab**	**10 20 59.9**	**+3.6**
	4.4nm,1.1s						
BRG				*e*		10 25 07.2	
	5.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**168.98**	**165**	PKP	**PKPdf**	**10 20 58.9**	**-0.7**
	0.5nm,0.9s,baz=276,slow=2.8,SNR=2.2						
TORD				pPKP	**pPKPdf**	**10 21 11.7**	**-0.6**
	0.9nm,1.0s,baz=251,slow=4.0,SNR=3.4						
TORD				PKPab	**PKPab**	**10 22 11.6**	**+1.0**
	0.2nm,0.7s,baz=232,slow=4.7,SNR=2.2						
TORD				pPKPab	**pPKPab**	**10 22 24.8**	**+2.0**
	0.7nm,1.0s,baz=225,slow=1.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**168.98**	**165**	PKP	**PKPdf**	**10 20 58.9**	**-0.7**
TORD				pPKP	**pPKPdf**	**10 21 11.7**	**-0.6**
TORD				PKPab	**PKPab**	**10 22 11.6**	**+1.0**
TORD				pPKPab	**pPKPab**	**10 22 24.8**	**+2.0**

*IDC **16** 10:09:48.9±7.0, 15.98S×172.96W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/20, mbtmp4.0/3, ML2.6/1, Error ellipse: s-maj=283.2km s-min=27.8km az=136.0, Samoa Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.36**	**29**	Pn	Pn	10 10 27.6	-1.3
	92nm,0.3s,baz=227,slow=19,SNR=72						
AFI				Sn	Sn	10 10 47.8	-11
	164nm,0.3s,baz=210,slow=20,SNR=19						
WRA	**Warramunga Arr**	**50.12**	**257**	P	P	10 18 45.8	-0.6
	0.3nm,0.3s,baz=97,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**50.34**	**252**	P	P	10 18 47.6	-0.3
	1.3nm,0.5s,baz=89,slow=7.6,SNR=19						
BRTR	**Keskin Array B**	**146.87**	**321**	PKPbc	PKPbc	10 29 34.3	+0.6
	0.7nm,0.6s,baz=79,slow=3.3,SNR=5.7						

IDC 16 10:10:50.6±1.2, 46.93N×155.46E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/25, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=46.8km s-min=24.3km az=120.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.35**	**12**	Pn	Pn	10 12 24.7	-0.7
	0.3nm,0.3s,baz=167,slow=15,SNR=10						
USRK	**Ussuriysk Arra**	**16.64**	**269**	Pn	Pn	10 14 43.8	-1.3
	0.1nm,0.3s,baz=71,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**35.40**	**39**	P	P	10 17 48.5	+0.8
	0.3nm,0.6s,baz=255,slow=7.7,SNR=7.1						
YKA	**Yellowknife Ar**	**49.81**	**37**	P	P	10 19 43.0	-1.7
	0.1nm,0.7s,baz=295,slow=7.5,SNR=2.9						
FINES	**FINESS Array B**	**64.56**	**336**	P	P	10 21 29.7	+0.7
	1.0nm,0.6s,baz=22,slow=5.2,SNR=3.8						
ASAR	**Alice Springs**	**72.91**	**201**	P	P	10 22 21.6	+0.1
	0.3nm,0.5s,baz=19,slow=5.7,SNR=8.0						

*IDC **16** 10:28:35.2±1.5, 2.51N×95.29E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/27, mbtmp4.2/11, ML4.7/1, Error ellipse: s-maj=56.9km s-min=15.7km az=56.0*
*ISCJB **16** 10:28:36.1±0.7, 2.52N±0.08×95.30E±0.07, h18km, mb4.2/13, Error ellipse: s-maj=12.9km s-min=8.8km az=28.7*
*DJA **16** 10:28:38, 2.73N×95.31E, h23km, MLv4.2/6*
*NEIC **16** 10:28:40.4±0.7, 2.49N×95.28E, h35km, mb4.3/4, Error ellipse: s-maj=16.3km s-min=8.8km az=49.0*

ISC 16 10:28:37.6±1.1, 2.4N±0.1×95.2E±0.1, h18km, n29, σ0s79/32, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.09**	**62**	*e*Pn	**Pn**	**10 30 09.7**	**+2.8**
	86nm,0.9s						
IPM	**Ipoh**	**6.12**	**70**	*e*Pn	**Pn**	**10 30 05.7**	**-1.5**
	20nm,0.6s						
IPM				*e*Sn	**Sn**	**10 31 16.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.33**	**13**	Pn	**Pn**	**10 32 26.4**	**+0.3**
	1.0nm,0.3s,baz=201,slow=12,SNR=28						
CMAR	**Chiang Mai Arr**	**16.33**	**13**	Pn	**Pn**	**10 32 26.4**	**+0.3**
LSA	**Lhasa**	**27.39**	**352**	*e*P	**P**	**10 34 23.1**	**+0.5**
	5.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**36.23**	**125**	P	**P**	**10 35 39.9**	**0.0**
	1.9nm,0.8s,baz=298,slow=12,SNR=2.5						
FITZ	**Fitzroy Crossi**	**36.23**	**125**	P	**P**	**10 35 39.9**	**0.0**
WRA	**Warramunga Arr**	**44.34**	**122**	P	**P**	**10 36 47.7**	**+0.5**
	0.7nm,0.4s,baz=301,slow=9.0,SNR=8.5						
WRA	**Warramunga Arr**	**44.34**	**122**	P	**P**	**10 36 47.7**	**+0.5**
WRAB	**Tennant Creek**	**44.35**	**122**	*e*P	**P**	**10 36 47.7**	**+0.5**
	1.8nm,0.5s						
WB2	**Warramunga Arr**	**44.36**	**122**	*e*P	**P**	**10 36 47.9**	**+0.6**
MK31	**Makanchi Array**	**45.60**	**348**	*e*P	**P**	**10 36 56.8**	**0.0**
MKAR	**Makanchi Array**	**45.60**	**348**	P	**P**	**10 36 56.6**	**-0.1**
	4.9nm,0.7s,baz=163,slow=8.0,SNR=61						
MKAR	**Makanchi Array**	**45.60**	**348**	P	**P**	**10 36 56.6**	**-0.1**
ASAR	**Alice Springs**	**45.70**	**127**	P	**P**	**10 36 58.6**	**+0.7**
	0.7nm,0.6s,baz=302,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**45.70**	**127**	P	**P**	**10 36 58.6**	**+0.7**
SONM	**Songino Array**	**46.24**	**10**	P	**P**	**10 37 00.5**	**-1.4**
	1.8nm,0.8s,baz=192,slow=8.7,SNR=8.2						
SONM				PcP	**PcP**	**10 38 37.0**	**-0.4**
	0.5nm,0.5s,baz=191,slow=4.4,SNR=3.4						
SONM	**Songino Array**	**46.24**	**10**	P	**P**	**10 37 00.5**	**-1.4**
SONM				PcP	**PcP**	**10 38 37.0**	**-0.4**
KURK	**Kurchatov**	**50.12**	**346**	P	**P**	**10 37 31.7**	**+0.1**
	2.6nm,0.6s,baz=166,slow=7.0,SNR=16						
KURK	**Kurchatov**	**50.12**	**346**	*e*P	**P**	**10 37 31.7**	**+0.1**
	1.9nm,0.6s						
ZAA0	**Zalesovo Array**	**52.05**	**352**	*e*P	**P**	**10 37 46.1**	**-0.1**
ZALV	**Zalesovo Beam**	**52.05**	**352**	P	**P**	**10 37 46.1**	**0.0**
	6.0nm,0.6s,baz=183,slow=6.5,SNR=24						
ZALV	**Zalesovo Beam**	**52.05**	**352**	P	**P**	**10 37 46.1**	**0.0**
USRK	**Ussuriysk Arra**	**52.76**	**33**	P	**P**	**10 37 51.5**	**0.0**
	1.0nm,0.7s,baz=232,slow=9.4,SNR=3.9						
BVAR	**Borovoye Array**	**54.46**	**342**	P	**P**	**10 38 04.0**	**+0.1**
	3.2nm,0.6s,baz=143,slow=9.3,SNR=18						
BVAR	**Borovoye Array**	**54.46**	**342**	P	**P**	**10 38 04.0**	**+0.1**
ABKAR	**Abkulak array**	**55.52**	**333**	*e*P	**P**	**10 38 12.2**	**+0.6**
	3.7nm,0.8s						
AKTO	**Aktyubinsk**	**57.23**	**333**	P	**P**	**10 38 23.7**	**-0.1**
	0.8nm,0.5s,baz=131,slow=11,SNR=4.8						
AKTO	**Aktyubinsk**	**57.23**	**333**	P	**P**	**10 38 23.7**	**-0.1**

*CSEM **16** 10:29:07.9±0.3, 40.14N×27.92E, h8km, ML1.9, Error ellipse: s-maj=12.4km s-min=3.2km az=3.0*
*DDA **16** 10:29:08.4, 40.51N×28.05E, h7km, MD2.6*
*ISK **16** 10:29:08.3, 40.20N×27.89E, h12km, ML1.9*
*ISCJB **16** 10:29:09.1±1.1, 40.3N±0.1×27.89E±0.06, h9km±8km, Error ellipse: s-maj=17.8km s-min=6.9km az=5.6*

ISC 16 10:29:08.6±1.5, 40.2N±0.1×27.91E±0.04, h7km±12km, n14, σ0s38/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.51**	**294**	*e*PG	**Pg**	**10 29 17.8**	**-0.6**
KRBG				*e*SG	**Sg**	**10 29 25.5**	**+0.5**
KRBG	**Karabiga-Canak**	**0.51**	**294**	*e*Pg	**Pg**	**10 29 17.8**	**-0.6**
KRBG				*e*Sg	**Sg**	**10 29 25.5**	**+0.5**
DURS	**Dursunbey**	**0.73**	**143**	*i* P	**Pn**	**10 29 25.6**	**+0.3**
DURS	**Dursunbey**	**0.73**	**143**	*i* P	**Pn**	**10 29 25.6**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.75**	**312**	*e*PG	**Pg**	**10 29 23.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.75**	**312**	*e*Pg	**Pg**	**10 29 23.1**	**+0.1**
LPK	**Lapseki**	**0.90**	**282**	*e*PG	**Pg**	**10 29 25.8**	**0.0**
LPK				*e*SG	**Sb**	**10 29 38.4**	**-0.1**
LPK	**Lapseki**	**0.90**	**282**	*e*Pg	**Pg**	**10 29 25.8**	**0.0**
LPK				*e*Sg	**Sb**	**10 29 38.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.11**	**281**	*e*PN	**Pb**	**10 29 30.1**	**0.0**
GELI				*e*SN	**Sn**	**10 29 45.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.11**	**281**	*e*Pn	**Pb**	**10 29 30.1**	**0.0**
GELI				*e*Sn	**Sn**	**10 29 45.7**	**-0.4**
ERIK	**Erikli-Kesan**	**1.17**	**295**	*e*PN	**Pg**	**10 29 30.6**	**-0.3**
ERIK	**Erikli-Kesan**	**1.17**	**295**	*e*Pn	**Pg**	**10 29 30.7**	**-0.3**
YLV	**Yalova**	**1.18**	**71**	*e*PN	**Pb**	**10 29 30.8**	**-0.5**
YLV				*e*SN	**Sn**	**10 29 48.2**	**+0.3**
YLV	**Yalova**	**1.18**	**71**	*e*Pn	**Pb**	**10 29 30.8**	**-0.5**
YLV				*e*Sn	**Sn**	**10 29 48.2**	**+0.3**

*CSEM **16** 10:30:55.6, 37.56N×25.24W, h9km, ML1.8, After PDA*

PDA 16 10:30:55.6±0.9, 37.56N×25.24W, h9km±8km, MD3.5, ML1.8, Error ellipse: s-maj=4.0km s-min=1.7km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BART	**Pico Bartolome**	**0.23**	**15**	*e*P	Pg	10 30 59.6	-0.7
BART				*e*S	Sg	10 31 03.2	-0.3
BART				A	A	10 31 03.7	
	446nm,0.2s						
BART	**Pico Bartolome**	**0.23**	**15**	*e*P	Pg	10 30 59.6	-0.7
BART				*e*S	Sg	10 31 03.2	-0.3
CMLA	**Cha da Macela**	**0.30**	**313**	*e*S	Sg	10 31 05.2	-0.5
CMLA				A	A	10 31 07.2	
	46nm,0.4s						
CMLA	**Cha da Macela**	**0.30**	**313**	*e*S	Sg	10 31 05.2	-0.5
GRON	**Grota Negra**	**0.31**	**312**	*e*P	Pg	10 31 00.1	-1.8
GRON				*e*S	Sg	10 31 03.6	-2.5
GRON				A	A	10 31 04.0	
	12nm,0.2s						
PDA	**Ponta Delgada**	**0.38**	**300**	*e*P	Pg	10 31 02.0	-1.1
PDA				*e*S	Sg	10 31 07.0	-1.2
PDA				A	A	10 31 07.6	
	163nm,0.1s						
PDA	**Ponta Delgada**	**0.38**	**300**	*e*P	Pg	10 31 02.0	-1.1
PDA				*e*S	Sg	10 31 07.0	-1.2
PSMA	**Santa Maria**	**0.57**	**171**	*e*S	Sg	10 31 12.1	-2.0
PSMA				A	A	10 31 13.7	
	20nm,0.2s						
PSMN	**Pico do Norte,**	**0.57**	**166**	*e*S	Sg	10 31 12.3	-1.9
PSMN				A	A	10 31 12.7	
	19nm,0.2s						
PSMN	**Pico do Norte,**	**0.57**	**166**	*e*S	Sg	10 31 12.3	-1.9

IDC 16 10:36:47.9±20.0, 39.61S×93.20W, h0km, mb3.7/3, mb1 4.2/3, mb1mx4.0/11, mbtmp3.7/3, Error ellipse: s-maj=723.0km s-min=360.2km az=117.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**69.28**	**350**	P	P	10 47 56.8	-0.1
	0.5nm,0.9s,baz=163,slow=6.6,SNR=3.4						
NVAR	**Mina Array Bea**	**81.01**	**340**	P	P	10 49 04.5	0.0
	0.6nm,0.7s,baz=179,slow=6.0,SNR=4.7						
PDAR	**Pinedale Array**	**83.33**	**348**	P	P	10 49 16.6	+0.1
	0.8nm,0.9s,baz=158,slow=5.6,SNR=5.1						

*IDC **16** 10:37:17.9±3.2, 38.78S×92.28W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.2/11, mbtmp3.9/4, Error ellipse: s-maj=93.4km s-min=50.5km az=162.0*
*ISCJB **16** 10:37:18.6±1.2, 38.7S±0.2×92.4W±0.2, h10km, mb4.2/8, Error ellipse: s-maj=33.1km s-min=23.1km az=178.7*

*NEIC **16** 10:37:19.5±0.8, 38.75S×92.32W, h10km, mb4.5/5, Error ellipse: s-maj=21.3km s-min=16.4km az=173.0*

ISC 16 10:37:19.5±1.3, 38.8S±0.3×92.3W±0.2, h10km, n17, σ0s46/18, mb4.1/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**18.36**	**304**	*e*Pn	**Pn**	**10 41 33.8**	**-0.4**
LPAZ	**La Paz**	**30.82**	**50**	P	**P**	**10 43 36.4**	**0.0**
	0.5nm,0.3s,baz=215,slow=12,SNR=3.2						
LPAZ	**La Paz**	**30.82**	**50**	*e*P	**P**	**10 43 35.9**	**-0.4**
	4.3nm,1.1s						
LPAZ				P	**P**	**10 43 36.4**	**0.0**
TXAR	**Lajitas Array**	**68.56**	**349**	P	**P**	**10 48 22.6**	**+0.3**
	0.7nm,0.8s,baz=169,slow=8.2,SNR=6.3						
TXAR	**Lajitas Array**	**68.56**	**349**	P	**P**	**10 48 22.6**	**+0.3**
NVAR	**Mina Array Bea**	**80.44**	**340**	P	**P**	**10 49 32.1**	**+0.8**
	1.0nm,0.7s,baz=147,slow=7.9,SNR=8.5						
NVAR	**Mina Array Bea**	**80.44**	**340**	P	**P**	**10 49 32.1**	**+0.8**
DUG	**Dugway**	**80.78**	**344**	*e*P	**P**	**10 49 33.9**	**+0.8**
	6.5nm,1.2s						
PDAR	**Pinedale Array**	**82.64**	**347**	P	**P**	**10 49 42.7**	**-0.2**
	1.3nm,0.9s,baz=153,slow=7.2,SNR=6.4						
PDAR	**Pinedale Array**	**82.64**	**347**	P	**P**	**10 49 42.7**	**-0.2**
PD02	**Pinedale Array**	**82.65**	**347**	*e*P	**P**	**10 49 42.9**	**-0.1**
PD01	**Pinedale Array**	**82.65**	**347**	*e*P	**P**	**10 49 43.0**	**0.0**
WVOR	**Wild Horse Val**	**84.27**	**341**	*e*P	**P**	**10 49 50.7**	**-0.5**
	2.0nm,0.4s						
HLID	**Hailey**	**84.34**	**344**	*e*P	**P**	**10 49 51.4**	**-0.2**
	3.3nm,0.3s						
STKA	**Stephens Creek**	**93.68**	**224**	*e*P	**P**	**10 50 36.6**	**+0.2**
	1.2nm,1.2s						
KSRS	**Korea Array**	**148.48**	**280**	PKPbc	**PKPbc**	**10 57 05.9**	**-0.3**
	1.3nm,0.9s,baz=146,slow=5.5,SNR=2.9						
KSAR	**Wonju Array Be**	**148.51**	**280**	PKPbc	**PKPbc**	**10 57 05.9**	**-0.4**

*IDC **16** 11:03:20.7±1.0, 21.24S×169.59E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=37.2km s-min=23.9km az=159.0*
*ISCJB **16** 11:03:23.8±0.9, 21.3S±0.2×169.6E±0.1, h30km, mb4.0/7, MS3.5/1, Error ellipse: s-maj=33.5km s-min=9.3km az=159.9*
*NOU **16** 11:03:24.1±0.5, 20.44S×169.28E, h10km, MD3.1, ML2.5*
*NEIC **16** 11:03:26.0±0.7, 21.24S×169.57E, h35km, mb4.3/3, Error ellipse: s-maj=28.1km s-min=14.0km az=160.0*

ISC 16 11:03:25.1±0.9, 21.2S±0.2×169.6E±0.1, h30km, n23, σ0s70/25, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.67**	**250**	*e*P	**Pn**	**11 04 05.7**	**-0.4**
BAYA				*e*S	**Sn**	**11 04 36.9**	**-0.5**
LASL	**Noumea**	**3.00**	**250**	*e*P	**Pn**	**11 04 10.5**	**-0.1**
DZM	**Mont Dzumac**	**3.04**	**254**	Pn	**Pn**	**11 04 12.2**	**+1.0**
	5.9nm,0.3s,baz=62,slow=18,SNR=86						
DZM				Sn	**Sn**	**11 04 47.0**	**+0.4**
	8.3nm,0.3s,baz=86,slow=19,SNR=5.0						
DZM				LR	LR	11 05 03.6	
	comp=Z,189nm,20.3s,baz=25,slow=34						
DZM	**Mont Dzumac**	**3.04**	**254**	*e*Pn	**Pn**	**11 04 11.7**	**+0.5**
DZM				Sn	**Sn**	**11 04 47.0**	**+0.4**
DZM				*e*Sn	Sb	11 04 47.1	-8.1
NOUC	**Port Laguerre**	**3.17**	**254**	*e*P	**Pn**	**11 04 12.7**	**-0.3**
NOUC				AMP		11 04 58.8	
	comp=Z,30nm,3.2s						
STKA	**Stephens Creek**	**27.11**	**241**	LR	LR	11 19 42.0	
	comp=Z,135nm,19.4s,baz=25,slow=36						
WRAB	**Tennant Creek**	**32.97**	**266**	*e*P	**P**	**11 09 57.5**	**0.0**
	comp=Z,2.4nm,0.9s						
WRA	**Warramunga Arr**	**32.98**	**266**	P	**P**	**11 09 57.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=100,slow=8.4,SNR=6.2						
WRA	**Warramunga Arr**	**32.98**	**266**	P	**P**	**11 09 57.1**	**-0.5**
ASAR	**Alice Springs**	**33.01**	**259**	P	**P**	**11 09 57.0**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=84,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**33.01**	**259**	P	**P**	**11 09 57.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.40**	**266**	*e*P	**P**	**11 11 10.2**	**+1.1**
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**68.82**	**180**	P	**P**	**11 14 27.0**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=80,slow=2.0,SNR=8.0						
QSPA	**South Pole Qui**	**68.82**	**180**	*e*P	**P**	**11 14 27.0**	**+0.5**
	comp=Z,4.4nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.73**	**290**	P	**P**	**11 12 14.8**	**-1.8**
SONM	**Songino Array**	**32.73**	**290**	P	**P**	**11 12 14.8**	**-1.8**
ZAK	**Zakamensk**	**33.99**	**295**	*e*P	**P**	**11 12 25.1**	**-2.4**
ZAK	comp=Z,1.0nm,1.9s			pmax	pmax		
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**11 12 39.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=252,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**11 12 39.0**	**+0.2**
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**11 12 39.0**	**+0.2**
INK	**Inuvik**	**40.55**	**33**	*e*P	**P**	**11 13 24.4**	**+1.7**
INK	comp=Z,5.0nm,1.0s			pmax	pmax		
INK	**Inuvik**	**40.55**	**33**	*e*P	**P**	**11 13 24.4**	**+1.7**
	comp=Z,4.9nm,1.0s						
ZALV	**Zalesovo Beam**	**43.72**	**306**	P	**P**	**11 13 48.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=72,slow=5.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.72**	**306**	P	**P**	**11 13 48.3**	**-0.5**
ZALV	**Zalesovo Beam**	**43.72**	**306**	P	**P**	**11 13 48.3**	**-0.5**
MK31	**Makanchi Array**	**48.21**	**298**	*e*P	**P**	**11 14 24.8**	**+0.5**
MK31	**Makanchi Array**	**48.21**	**298**	*e*P	**P**	**11 14 24.8**	**+0.5**
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**11 14 24.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=61,slow=9.9,SNR=6.2						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**11 14 24.2**	**-0.1**
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**11 14 24.2**	**-0.1**
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**11 14 36.6**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=295,slow=7.5,SNR=14						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**11 14 36.6**	**+0.9**
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**11 14 36.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**53.98**	**258**	P	**P**	**11 15 09.8**	**+1.9**
	comp=Z,1.0nm,0.4s,baz=37,slow=7.6,SNR=7.6						
CMAR	**Chiang Mai Arr**	**53.98**	**258**	P	**P**	**11 15 09.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**53.98**	**258**	P	**P**	**11 15 09.8**	**+1.9**
ABKAR	**Akbulak array**	**59.45**	**311**	*e*P	**P**	**11 15 47.5**	**+1.1**
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**11 15 57.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=287,slow=4.6,SNR=3.1						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**11 15 57.4**	**+0.7**
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**11 16 50.5**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=19,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**11 16 50.5**	**-0.8**
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**11 16 50.5**	**-0.8**
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**11 17 14.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=14,slow=5.2,SNR=12						
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**11 17 14.1**	**+0.5**
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**11 17 14.1**	**+0.5**
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**11 17 31.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=287,slow=3.7,SNR=4.9						
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**11 17 31.1**	**+0.1**
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**11 17 31.1**	**+0.1**

IDC 16 11:12:10.0±3.3, 31°56S×66°54W, h139km±44km, mb3.2/1, mb1 3.5/2, mb1mx3.2/13, mbtmp3.3/2, Error ellipse: s-maj=69.7km s-min=50.5km az=99.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.45**	**268**	P	Pn	11 12 38.2	-0.1
	9.3nm,0.3s,baz=81,slow=11,SNR=553						
CFAA				S	Sn	11 12 59.9	0.0
	4.0nm,0.3s,baz=58,slow=19,SNR=12						
LPAZ	**La Paz**	**15.28**	**354**	P	Pn	11 15 40.0	+0.7
	0.5nm,0.3s,baz=165,slow=8.1,SNR=8.7						
TORD	**Torodi Ar. Bea**	**79.01**	**67**	P	P	11 23 58.8	-0.2
	0.4nm,0.4s,baz=251,slow=4.3,SNR=7.8						
MKAR	**Makanchi Array**	**151.68**	**49**	PKPbc	PKPbc	11 31 47.8	0.0
	0.7nm,1.0s,baz=270,slow=2.9,SNR=3.5						

*NIED **16** 11:16:00, 45.°40N×151.°00E, h32km, Mw4.0 Best double couple: Mo1.25000×10¹⁵ NP1:φs234.00000°, δ77.00000°, λ-148.00000°. NP2:φs136.00000°, δ59.00000°, λ-15.00000°.*

*JMA **16** 11:16:00.9±0.5, 45.°37N×151.°00E, h30km, M4.4*

*ISCJB **16** 11:16:01.4±0.6, 45.°02N±0.°09×150.°90E±0.°08, h42km, mb3.7/10, Error ellipse: s-maj=15.2km s-min=5.0km az=151.5*

*IDC **16** 11:16:04.3±0.7, 45.°28N×150.°89E, h50km±7km, mb3.6/10, mb1 3.8/14, mb1mx3.6/27, mbtmp3.6/14, Error ellipse: s-maj=21.9km s-min=16.1km az=125.0*

ISC 16 11:16:03.1±0.7, 45.°1N±0.°1×150.°95E±0.°08, h42km, n36, σ1§38/49, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.11**	**247**	P	**Pn**	**11 17 02.9**	**-0.4**
NEM2				*e*S	**Sn**	**11 17 49.0**	**-1.2**
JRA	**Rausu**	**4.32**	**257**	P	**Pn**	**11 17 08.2**	**+2.0**
JNK	**Nakash**	**4.71**	**254**	P	**Pn**	**11 17 12.2**	**+0.6**
JNK				*e*S	**Sn**	**11 18 05.4**	**+0.5**
JAK	**Akkeshi**	**4.96**	**248**	P	**Pn**	**11 17 14.6**	**-0.4**
JAK				*e*S	**Sn**	**11 18 09.9**	**-1.2**
JTKR	**Abashiri--Toko**	**5.16**	**260**	P	**Pn**	**11 17 19.5**	**+1.8**
JAR	**Ashorobuto**	**5.46**	**254**	P	**Pn**	**11 17 23.0**	**+1.1**
JAR				*e*S	**Sn**	**11 18 23.9**	**+0.5**
JMP	**Maruseppu**	**5.53**	**262**	P	**Pn**	**11 17 24.9**	**+2.0**
JOB	**Onbets**	**5.57**	**250**	P	**Pn**	**11 17 23.9**	**+0.5**
JOB				*e*S	**Sn**	**11 18 26.4**	**+0.3**
JKK2	**Kamakawa 2**	**5.99**	**261**	P	**Pn**	**11 17 31.4**	**+2.2**
JCH	**Churui**	**6.01**	**249**	P	**Pn**	**11 17 29.2**	**-0.2**
JCH				*e*S	**Sn**	**11 18 35.9**	**-1.0**
ASAJ	**Asahikawa**	**6.04**	**264**	P	**Pn**	**11 17 31.4**	**+1.5**
	1.4nm,0.3s,baz=125,slow=18,SNR=7.9						
JFR	**Furan**	**6.31**	**255**	P	**Pn**	**11 17 35.2**	**+1.6**
JEM	**Erimo**	**6.43**	**244**	P	**Pn**	**11 17 36.6**	**+1.4**
JNBK	**Urakawa-nobuka**	**6.56**	**248**	P	**Pn**	**11 17 36.7**	**-0.3**
JNBK				*e*S	**Sn**	**11 18 49.1**	**-1.4**
JBT2	**Biratori 2**	**6.61**	**253**	P	**Pn**	**11 17 37.8**	**+0.2**
JBT2				*e*S	**Sn**	**11 18 50.9**	**-0.8**
JNB	**Noboribetsu**	**7.63**	**254**	P	**Pn**	**11 17 52.3**	**+0.7**
JNB				*e*S	**Sn**	**11 19 15.4**	**-1.4**
JKB	**Kayabe**	**7.88**	**250**	P	**Pn**	**11 17 55.0**	**-0.1**
JYM2	**Yakumo 2**	**8.23**	**253**	P	**Pn**	**11 18 00.2**	**+0.4**
JANG	**Nango**	**8.38**	**239**	P	**Pn**	**11 17 59.8**	**-2.1**
JANG				*e*S	Sn	11 19 28.1	-7.1
OFUJ	**Ofunato**	**9.13**	**232**	P	**Pn**	**11 18 11.1**	**-1.1**
PETK	**Petropavlovsk-**	**9.18**	**26**	P	**Pn**	**11 18 11.6**	**-1.2**
	0.2nm,0.3s,baz=219,slow=16,SNR=4.9						
JRG	**Rokugo**	**9.52**	**237**	P	**Pn**	**11 18 16.5**	**-1.0**
JIO	**Ouri**	**9.75**	**231**	P	**Pn**	**11 18 19.8**	**-0.8**
USRK	**Ussuriysk Arra**	**13.53**	**273**	P	**Pn**	**11 19 13.1**	**+0.8**
	0.2nm,0.3s,baz=82,slow=14,SNR=5.0						
KSRS	**Korea Array**	**18.87**	**254**	P	**Pn**	**11 20 20.2**	**-0.3**
	0.1nm,0.3s,baz=59,slow=10,SNR=4.5						
SONM	**Songino Array**	**30.50**	**291**	P	**P**	**11 22 12.4**	**+0.2**
	0.4nm,0.7s,baz=82,slow=7.3,SNR=3.0						
INK	**Inuvik**	**43.88**	**31**	P	**P**	**11 24 04.8**	**-0.1**
	0.5nm,0.6s,baz=315,slow=2.9,SNR=4.4						
MKAR	**Makanchi Array**	**46.38**	**298**	P	**P**	**11 24 24.1**	**-1.0**
	1.2nm,0.7s,baz=70,slow=7.5,SNR=14						
MKAR				PcP	**PcP**	**11 25 59.4**	**-0.1**
	0.3nm,0.6s,baz=57,slow=4.1,SNR=3.6						
FINES	**FINESS Array B**	**64.91**	**334**	P	**P**	**11 26 35.4**	**-2.2**
	1.6nm,0.5s,baz=31,slow=8.9,SNR=7.5						
WRA	**Warramunga Arr**	**66.44**	**197**	P	**P**	**11 26 49.3**	**+1.3**
	0.7nm,0.8s,baz=16,slow=6.8,SNR=5.0						
WRA				pP	**pP**	**11 27 03.8**	**+3.5**
	0.6nm,0.7s,baz=16,slow=6.7,SNR=6.2						
NB2	**NORSAR Subarra**	**69.32**	**340**	P	**P**	**11 27 04.6**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.32**	**340**	P	**P**	**11 27 04.8**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=28,slow=6.3,SNR=8.7						
ASAR	**Alice Springs**	**70.15**	**197**	P	**P**	**11 27 12.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=13,slow=5.9,SNR=6.9						
ASAR				pP	**pP**	**11 27 27.6**	**+4.1**
	comp=Z,0.9nm,0.9s,baz=12,slow=6.6,SNR=5.1						
AKASG	**Malin Array Be**	**72.09**	**325**	P	**P**	**11 27 21.6**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=37,slow=6.5,SNR=6.0						
GERES	**GERESS Array B**	**79.29**	**333**	P	**P**	**11 28 03.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**79.64**	**59**	P	**P**	**11 28 06.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=305,slow=8.4,SNR=2.7						
TXAR				pP	**pP**	**11 28 19.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=309,slow=4.6,SNR=6.8						

IDC 16 11:17:40.1±2.1, 47.°00N×155.°01E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=52.9km s-min=33.1km az=86.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.36**	**15**	Pn	Pn	11 19 15.9	+0.9
	0.2nm,0.3s,baz=177,slow=14,SNR=3.1						
SONM	**Songino Array**	**32.48**	**290**	P	P	11 24 13.8	+1.6
	0.3nm,0.6s,baz=79,slow=7.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**43.52**	**306**	P	P	11 25 43.2	-1.8
	1.0nm,0.5s,baz=74,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**72.87**	**200**	P	P	11 29 10.7	0.0
	0.4nm,0.6s,baz=16,slow=6.0,SNR=4.9						

IDC 16 11:42:29.9±2.5, 7.°75S×130.°67E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/13, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=134.6km s-min=34.4km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.64**	**164**	Pn	Pn	11 45 30.9	-0.2
	0.1nm,0.3s,baz=347,slow=13,SNR=2.6						
WRA				Sn	Sn	11 47 43.8	-8.9
	0.3nm,0.3s,baz=336,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**16.13**	**169**	Pn	Pn	11 46 18.4	+0.2
	0.2nm,0.3s,baz=347,slow=11,SNR=3.3						
ASAR				Sn	Sn	11 49 09.9	-8.1
	0.1nm,0.3s,baz=336,slow=23,SNR=3.7						
MKAR	**Makanchi Array**	**69.21**	**327**	P	P	11 53 38.6	0.0
	0.1nm,0.5s,baz=125,slow=7.2,SNR=3.4						

CASC 16 11:48:17.1±2.4, 10.°22N×84.°14W, h0km±4km, MD4.2, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.29**	**164**	*i*P	Pg	11 48 23.9	+1.1
SJS				*e*S	Sb	11 48 29.1	-1.8
URSC	**Urasca**	**0.52**	**137**	*i*P	Pb	11 48 28.5	-0.9
BUS	**Buena Vista**	**0.76**	**151**	*i*P	Pg	11 48 32.2	0.0
QCR	**Quepos**	**0.79**	**182**	*i*P	Pg	11 48 32.5	+0.2
JCR	**Jicaral**	**1.03**	**249**	*e*P	Pg	11 48 36.3	-0.6
JCR				*e*S	Sb	11 48 52.2	+0.2
CUI	**Cuipilapa**	**1.10**	**293**	*i*P	Pg	11 48 37.9	-0.5
CUI				*i*S	Sn	11 48 55.8	-0.1
COLC	**Colonia**	**1.14**	**293**	*i*P	Pg	11 48 38.3	-0.8
LIM1	**Limonal**	**1.20**	**293**	*i*P	Pg	11 48 39.4	-0.8
LAPC	**Finca la Perla**	**1.39**	**293**	*i*P	Pg	11 48 42.3	-1.5
LAPC				*i*S	Sn	11 49 03.5	+0.7
GBS3	**Finca Las Im¯¡**	**1.41**	**293**	*i*P	Pn	11 48 42.8	-1.4
GBS2	**Las Lilas**	**1.43**	**295**	*i*P	Pn	11 48 43.1	-1.3
NY14	**Universidad de**	**1.44**	**287**	*i*P	Pn	11 48 43.6	-0.9
ACR	**Cerro Adams**	**1.83**	**148**	*e*P	Pn	11 48 49.2	-0.6
BRI2	**Volcan**	**2.01**	**135**	*i*P	Pb	11 48 54.2	-0.5
BRU2				*i*S	Sg	11 49 21.8	-0.3
TBS2		**2.03**	**134**	*i*P	Pb	11 48 55.0	-0.2
TBS2				*i*S	Sg	11 49 22.5	-0.4
BCIP	**Isla Barro Col**	**4.36**	**104**	*e*P	Pn	11 49 23.8	-1.0
BCIP				*i*S	Sn	11 50 14.1	-2.2
PTP	**Ponta Puerca**	**19.62**	**64**	*i*P	x	11 48 57.3	
PTP				*i*S	x	11 49 27.3	

HEL 16 11:53:49.0±0.0, 65.°04N×21.°36E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**2.09**	**163**	*e*PG	Pn	11 54 26.3	+1.1
VAF				*e*S	Sn	11 54 50.1	-1.7
VAF				MSG		11 54 50.1	
	comp=Z,0.4nm,0.1s						
KU6	**Riekki**	**3.69**	**71**	*e*SG	Sb	11 55 42.2	+2.1
KU6				MSG		11 55 42.2	
	comp=Z,0.4nm,0.1s						
VRF	**Varrio**	**4.29**	**47**	*e*SG	Sb	11 56 00.7	+3.3
VRF				MSG		11 56 00.7	
	comp=Z,0.9nm,0.1s						

HEL 16 11:54:59.7±0.7, 59.°26N×27.°23E, h0km, ML1.6, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**1.46**	**332**	PG	Pn	11 55 25.8	-1.5
PVF				SG	Sg	11 55 43.6	-2.9
MEF	**Metsahovi**	**1.72**	**305**	PG	Pn	11 55 30.4	-0.4
MEF				SG	Sn	11 55 52.3	-1.3
MEF				MSG		11 55 52.3	
	comp=Z,3.5nm,0.2s						
MTSE	**Matsula**	**1.85**	**254**	SG	Sn	11 55 56.8	+0.1
FIA0	**FINESS Array S**	**2.26**	**346**	PN	Pn	11 55 37.7	-0.6
	baz=166						
FIA0				SG	Sn	11 56 08.0	+1.1
FIA0				MSG		11 56 08.0	
	comp=Z,1.8nm,0.2s						
KEF	**Keuruu**	**3.14**	**339**	SG	Sb	11 56 35.4	+0.4
KEF				MSG		11 56 35.4	
	comp=Z,1.4nm,0.4s						
RAF	**Rauma**	**3.25**	**305**	PN	Pn	11 55 53.0	+1.1
	baz=119						
SUF	**Sumiainen**	**3.51**	**352**	SG	Sb	11 56 46.0	+0.3
SUF				MSG		11 56 46.0	
	comp=Z,1.2nm,0.4s						

*IDC **16** 12:00:23.9±0.6, 46.°87N×155.°37E, h0km, mb4.2/25, mb1 4.4/29, mb1mx4.4/34, mbtmp4.3/29, ML3.8/4, MS3.9/8, Ms1 3.9/8, ms1mx3.3/50, Error ellipse: s-maj=16.8km s-min=11.2km az=156.0*

*ISCJB **16** 12:00:24.9±0.4, 46.°75N±0.°05×155.°12E±0.°06, h18km, mb4.5/76, MS3.9/14, Error ellipse: s-maj=8.1km s-min=3.9km az=140.4*

*NEIC **16** 12:00:28.7±0.3, 46.°94N×155.°35E, h30km, mb4.9/16, Error ellipse: s-maj=8.7km s-min=5.9km az=144.0*

*BJI **16** 12:00:29.8, 46.°95N×154.°68E, h26km, mB4.9/23, mb4.5/35, Ms4.6/20, Ms7 4.2/19*

*MOS **16** 12:00:30.8±1.4, 46.°97N×155.°12E, h60km, mb4.8/18, Error ellipse: s-maj=11.0km s-min=7.4km az=111.4*

ISC 16 12:00:28.0±0.5, 46.°92N±0.°06×155.°18E±0.°06, h18km, h18km:pP-P, n227, σ1§95/194, mb4.7/75, MS3.9/14, 10C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.82**	**9**	*e*PN	Pn	12 01 29.6	+3.9
SKR				*e*S	**Sn**	**12 02 11.9**	**+1.8**
SKR				pmax	pmax		
	comp=Z,90nm,0.6s						
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				smax	smax		
	comp=N,390nm,0.9s						
SKR				smax	smax		
	comp=E,200nm,0.9s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
SKR				MLR	MLR		
	comp=E,4μm,16.0s						
PEA0B	**Petropavlovsk-**	**6.40**	**14**	*e*Pn	Pn	12 01 58.3	-3.0
PETK	**Petropavlovsk-**	**6.40**	**14**	Pn	Pn	12 01 58.1	-3.1
	comp=E,2.5nm,0.3s,baz=182,slow=13,SNR=44						
PETK				Sn	**Sn**	**12 03 11.8**	**-2.1**
	comp=E,0.4nm,0.3s,baz=172,slow=16,SNR=2.0						
PETK	**Petropavlovsk-**	**6.40**	**14**	PN	Pn	12 01 58.2	-3.1
PETK	**Petropavlovsk-**	**6.40**	**14**	Pn	Pn	12 01 58.1	-3.1
PETK				Sn	**Sn**	**12 03 11.8**	**-2.1**
PET	**Petropavlovsk**	**6.51**	**19**	*e*PN	Pn	12 01 58.8	-3.9
PET				pmax	pmax		
	comp=Z,27nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
NEM2	**Nemuro 2**	**7.56**	**245**	P	Pn	12 02 14.0	-3.1
NEM2				*e*S	Sn	12 03 35.9	-6.4
JNK	**Nakash**	**8.10**	**249**	P	**Pn**	**12 02 23.2**	**-1.4**
JAK	**Akkeshi**	**8.40**	**246**	P	Pn	12 02 25.7	-3.0
JAK				*e*S	Sn	12 03 55.1	-8.0
YSS	**Yuzh-Sakhalins**	**8.50**	**275**	*e*PN		12 02 44.3	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
JAR	**Ashorobuto**	**8.84**	**250**	P	**Pn**	**12 02 33.3**	**-1.5**
JAR				*e*S	**Sn**	**12 04 09.0**	**-4.9**
JOB	**Onbets**	**8.99**	**248**	P	Pn	12 02 34.5	-2.3
JOB				*e*S	Sn	12 04 11.1	-6.5
JKK2	**Kamakawa 2**	**9.26**	**255**	P	**Pn**	**12 02 40.5**	**0.0**
ASAJ	**Asahikawa**	**9.27**	**257**	Pn	**Pn**	**12 02 41.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=106,slow=12,SNR=11						
ASAJ	**Asahikawa**	**9.27**	**257**	PN	**Pn**	**12 02 41.2**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.27**	**257**	*e*Pn	**Pn**	**12 02 41.3**	**+0.6**
ASAJ	**Asahikawa**	**9.27**	**257**	P	**Pn**	**12 02 41.5**	**+0.9**
JCH	**Churui**	**9.44**	**247**	P	Pn	12 02 40.4	-2.6
JCH				*e*S	Sn	12 04 21.1	-7.5
JFR	**Furan**	**9.67**	**252**	P	**Pn**	**12 02 45.3**	**-0.8**
ERM	**Erimo**	**9.89**	**245**	*de*PN	**Pn**	**12 02 47.4**	**-1.7**
JBT2	**Biratori 2**	**10.00**	**250**	P	**Pn**	**12 02 49.1**	**-1.5**
JNBK	**Urakawa-nobuka**	**10.00**	**247**	P	Pn	12 02 48.2	-2.4
JEW	**Eniwo**	**10.56**	**252**	P	**Pn**	**12 02 57.2**	**-1.1**
JKB	**Kayabe**	**11.30**	**249**	P	Pn	12 03 04.7	-3.7
JKB				*e*S	Sn	12 05 04.7	-9.4
JYM2	**Yakumo 2**	**11.61**	**251**	P	Pn	12 03 09.8	-2.8
JANG	**Nango**	**11.86**	**241**	P	Pn	12 03 10.7	-5.4
JANG				*e*S	Sn	12 05 14.8	-13
JTM	**Tenmabayashi**	**11.88**	**244**	P	Pn	12 03 11.8	-4.6
JTM				*e*S	Sn	12 05 17.1	-11
OFUJ	**Ofunato**	**12.61**	**236**	P	Pn	12 03 21.1	-5.2
FX1	**Attu Island--F**	**13.02**	**56**	Pn	Pn	12 03 26.7	-5.2
	comp=Z,2.4nm,0.3s,baz=187,slow=23,SNR=7.5						
FX1	**Attu Island--F**	**13.02**	**56**	PN	Pn	12 03 26.7	-5.2
FX1	**Attu Island--F**	**13.02**	**56**	Pn	Pn	12 03 26.7	-5.2
JIO	**Ouri**	**13.22**	**235**	P	Pn	12 03 29.3	-5.3
HABR	**Khabarovsk**	**13.64**	**284**	*e*P	**Pn**	**12 03 40.1**	**-0.3**
HABR				*e*		12 06 12.1	
HABR				pmax	pmax		
	comp=Z,41nm,2.1s						
HABR				pmax	pmax		
	comp=E,41nm,2.1s						
HABR				pmax	pmax		
	comp=N,31nm,2.1s						
HABR				MLR	MLR		
	comp=Z,286nm,18.0s						
KLR	**Kul'dur**	**15.82**	**287**	*e*P	**Pn**	**12 04 08.8**	**-0.7**
SEY	**Seymchan**	**16.12**	**355**	*e*P	Pn	12 04 09.5	-3.9
MAJO	**Matsushiro**	**16.34**	**237**	*e*P	**Pn**	**12 04 12.7**	**-3.6**
MAJO				pmax	pmax		
	comp=Z,60nm,0.9s						
MAJO	**Matsushiro**	**16.34**	**237**	*e*Pn	**Pn**	**12 04 12.7**	**-3.6**
	comp=Z,60nm,0.9s						
MAT	**Matsushiro**	**16.34**	**237**	P	Pn	12 04 12.4	-3.9
MJAR	**Matsushiro Arr**	**16.34**	**237**	Pn	**Pn**	**12 04 12.8**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=17						
MJAR	**Matsushiro Arr**	**16.34**	**237**	P	**Pn**	**12 04 12.8**	**-3.5**
MJAR	**Matsushiro Arr**	**16.34**	**237**	Pn	**Pn**	**12 04 12.8**	**-3.5**
USRK	**Ussuriysk Arra**	**16.45**	**269**	Pn	**Pn**	**12 04 16.6**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=71,slow=12,SNR=25						
MDJ	**Mudanjiang**	**17.98**	**272**	P	**Pn**	**12 04 35.5**	**-1.3**
MDJ				pP	**pP**	**12 04 44.0**	**+1.7**
MDJ				sP	**sP**	**12 04 48.1**	**+3.5**
MDJ				S	**Sn**	**12 07 51.8**	**-4.9**
MDJ				PcS	**PcS**	**12 12 49.3**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,200nm,6.9s						
YAK	**Yakutsk**	**20.96**	**325**	*e*P	**P**	**12 05 08.4**	**-1.3**
YAK				*e*		12 05 26.0	
YAK				*e*S	**S**	**12 08 56.1**	**-6.2**
YAK				*e*SS	Sn	12 09 16.0	+7.6
YAK				*e*SSS	SSS	12 09 30.8	
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				smax	smax		
	comp=N,93nm,2.5s						
YAK				smax	smax		
	comp=E,59nm,2.5s						
YAK				MLR	MLR		
	comp=Z,203nm,12.0s						
YAK				MLR	MLR		
	comp=N,123nm,12.0s						
YAK				MLR	MLR		
	comp=E,91nm,12.0s						
YAK	**Yakutsk**	**20.96**	**325**	*e*P	**P**	**12 05 09.0**	**-0.7**
	comp=E,25nm,0.6s						
CN2	**Changchun**	**21.06**	**272**	*e*P	**P**	**12 05 10.0**	**-0.9**
CN2				*e*pP	**pP**	**12 05 19.1**	**+3.1**
CN2				*e*S	S	12 08 55.3	-9.2
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
BILL	**Bilibino**	**21.93**	**11**	*e*P	**P**	**12 05 17.4**	**-2.6**
BILL				*i*		12 05 43.0	
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL				MLR	MLR		
	comp=Z,100nm,13.0s						
BILL	**Bilibino**	**21.93**	**11**	*e*P

comp=Z,1.0nm,0.6s
ILAR Eielson Array 35.53 39 P P 12 07 21.6 -1.8
EGAK Eagle 37.98 39 *e*P P 12 07 51.4 +7.1
comp=Z,167nm,2.9s
LZH Lanzhou 39.30 273 *e*P **P** **12 07 54.4 -1.5**
LZH pP **pP** **12 08 04.1 +2.7**
LZH sP **sP** **12 08 08.0 +4.3**
LZH PcP **PcP** **12 10 05.0 +0.6**
LZH pmax pmax
comp=Z,10.0nm,1.2s
GTA Gaotai 40.34 280 *e*P **P** **12 08 05.6 +1.1**
GTA pP **pP** **12 08 14.8 +4.8**
GTA sP sP 12 08 19.1 +6.8
GTA S **S** **12 14 06.8 -4.6**
GTA sS **sS** **12 14 23.9 +3.3**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,170nm,4.8s
GTA LR LR
comp=N,140nm,8.3s
GTA LR LR
comp=E,190nm,7.6s
GTA LR LR
comp=Z,130nm,6.2s
INK Inuvik 40.74 33 P **P** **12 08 06.7 -0.6**
comp=Z,3.4nm,0.8s,baz=296,slow=7.1,SNR=14
INK Inuvik 40.74 33 P **P** **12 08 06.7 -0.6**
INK Inuvik 40.74 33 P **P** **12 08 06.7 -0.6**
CD2 Chengdu 42.30 267 P **P** **12 08 20.3 -0.3**
CD2 pP **pP** **12 08 30.4 +4.2**
CD2 sP sP 12 08 34.8 +6.4
CD2 PP PP 12 10 01.0 +2.4
CD2 S **S** **12 14 36.3 -4.3**
CD2 sS **sS** **12 14 53.3 +3.5**
CD2 SS SS 12 17 38.3 -11
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,170nm,6.9s
CD2 LR LR
comp=N,320nm,4.7s
CD2 LR LR
comp=Z,210nm,7.1s
GYA Guiyang 43.14 259⇑ *i*P **P** **12 08 27.9 +0.4**
GYA pP **pP** **12 08 36.8 +3.7**
GYA PP PP 12 10 09.6 +1.9
GYA ScP **ScP** **12 14 05.3 -1.8**
GYA S **S** **12 14 48.0 -5.0**
GYA sS **sS** **12 15 05.3 +3.0**
GYA SS SS 12 17 53.0 -13
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,560nm,17.5s
GYA LR LR
comp=E,520nm,18.0s
GYA LR LR
comp=Z,540nm,17.9s
ZAA0 Zalesovo Array 43.66 306 *e*P **P** **12 08 30.6 -0.5**
ZAA0 *ep*P **pP** **12 08 41.1 +4.3**
ZAA0 *es*P sP 12 08 45.5 +6.5
ZALV Zalesovo Beam 43.66 306 P **P** **12 08 30.1 -1.0**
comp=Z,3.0nm,0.6s,baz=62,slow=7.2,SNR=15
ZALV PcP **PcP** **12 10 17.2 -0.8**
comp=Z,1.7nm,0.8s,baz=113,slow=3.4,SNR=4.5
ZALV LR LR 12 27 39.3
comp=Z,85nm,21.2s,baz=60,slow=37
ZALV Zalesovo Beam 43.66 306 P **P** **12 08 30.1 -1.0**
ZALV 12 10 17.3
ZALV Zalesovo Beam 43.66 306 P **P** **12 08 30.1 -1.0**
ZALV PcP **PcP** **12 10 17.2 -0.8**
NVS Novosibirsk 44.21 308⇑ *i*P **P** **12 08 34.2 -1.4**
NVS *e*S S 12 15 02.2 -5.6
NVS pmax pmax
comp=Z,38nm,2.1s
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,23nm,2.1s
NVS smax smax
comp=N,30nm,3.1s
QIZ Qiongzhong 46.23 249 P **P** **12 08 50.8 -1.2**
QIZ S **S** **12 15 35.0 -2.7**
QIZ pmax pmax
comp=Z,15nm,1.2s
QIZ pmax pmax
comp=Z,210nm,3.9s
KMI Kunming 46.67 261 P **P** **12 08 55.8 +0.1**
KMI pP **pP** **12 09 04.9 +3.5**
KMI sP sP 12 09 09.8 +6.2
KMI PP PP 12 10 44.8 -0.6
KMI S **S** **12 15 40.0 -4.4**
KMI sS **sS** **12 15 57.1 +3.4**
KMI pmax pmax
comp=Z,14nm,1.4s
KMI pmax pmax
comp=Z,110nm,3.8s
KMI LR LR
comp=N,100nm,16.7s
KMI LR LR
comp=E,100nm,16.7s
KMI LR LR
comp=Z,72nm,15.3s
MK31 Makanchi Array 48.12 298 *i*P **P** **12 09 06.0 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 48.12 298 *e*P **P** **12 09 06.4 -0.1**
MKAR Makanchi Array 48.12 298 P **P** **12 09 06.0 -0.5**
comp=Z,1.4nm,0.6s,baz=72,slow=8.0,SNR=20
MKAR PcP **PcP** **12 10 33.0 -0.9**
comp=Z,0.8nm,0.7s,baz=22,slow=2.4,SNR=2.5
MKAR Makanchi Array 48.12 298 *e*P **P** **12 09 06.5 0.0**
MKAR 12 10 33.0
MKAR Makanchi Array 48.12 298 *e*P **P** **12 09 06.5 0.0**
MKAR PcP **PcP** **12 10 33.0 -0.9**
KURK Kurchatov 48.45 304 P **P** **12 09 09.3 +0.4**
comp=Z,6.5nm,0.7s,baz=68,slow=8.3,SNR=36
KURK Kurchatov 48.45 304 *e*P **P** **12 09 08.4 -0.5**
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 48.45 304 *e*P **P** **12 09 08.4 -0.5**
comp=Z,9.9nm,0.9s
YKA Yellowknife Ar 49.93 37 P **P** **12 09 18.6 -1.5**
comp=Z,0.4nm,0.6s,baz=295,slow=7.1,SNR=10
YKA Yellowknife Ar 49.93 37 P **P** **12 09 18.6 -1.5**
YKA Yellowknife Ar 49.93 37 P **P** **12 09 18.6 -1.5**
VOSK Vostochnaya 51.68 310 P **P** **12 09 33.4 0.0**
BVA0 Borovoye Array 51.84 310 *i*P **P** **12 09 34.5 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 51.84 310 P **P** **12 09 34.4 -0.3**
comp=Z,7.1nm,0.5s,baz=56,slow=7.5,SNR=58
BVAR LR LR 12 32 48.5
comp=Z,171nm,19.0s,baz=254,slow=37
BVAR Borovoye Array 51.84 310 P **P** **12 09 34.4 -0.3**
BVAR Borovoye Array 51.84 310 P **P** **12 09 34.4 -0.3**
BRVK Borovoye 51.88 310 *de*P **P** **12 09 35.3 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 51.88 310 *e*P **P** **12 09 34.8 -0.1**
comp=Z,11nm,0.6s
BRVK *ep*P **pP** **12 09 44.2 +3.6**
ZRNK Zerenda 52.60 311 *i*P **P** **12 09 39.9 -0.4**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s
SPITS Spitsbergen Ar 52.69 350 P **P** **12 09 39.5 -1.2**
comp=Z,5.3nm,0.8s,baz=254,slow=12,SNR=5.0
SPITS Spitsbergen Ar 52.69 350 P **P** **12 09 39.5 -1.2**
SPITS Spitsbergen Ar 52.69 350 P **P** **12 09 39.5 -1.2**
CHTO Chiang Mai 53.54 258 *e*P **P** **12 09 48.8 +1.1**
CHTO pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 53.54 258 *e*P **P** **12 09 48.8 +1.1**
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 53.79 258 P **P** **12 09 50.2 +0.7**
comp=Z,3.3nm,0.8s,baz=34,slow=7.7,SNR=17
CMAR Chiang Mai Arr 53.79 258 P **P** **12 09 50.2 +0.7**
CMAR Chiang Mai Arr 53.79 258 P **P** **12 09 50.2 +0.7**
AAK Ala-Archa 55.02 297 *e*P **P** **12 09 58.2 -0.2**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 55.02 297 *e*P **P** **12 09 58.2 -0.2**
comp=Z,17nm,0.9s
AAK *ep*P **pP** **12 10 08.6 +4.4**
EKS2 Erkin-Say 55.44 298 *e*P **P** **12 10 02.0 +0.6**
EKS2 pmax pmax
comp=Z,71nm,2.9s
EKS2 Erkin-Say 55.44 298 *e*P **P** **12 10 01.9 +0.6**
comp=Z,71nm,2.9s
ARU Arti 55.84 318 *e*P **P** **12 10 03.5 -0.3**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 55.84 318 *e*P **P** **12 10 03.5 -0.3**
comp=Z,15nm,0.9s
ARU *ep*P **pP** **12 10 12.8 +3.3**
KSH Kashi 55.89 293 *e*P P 12 10 08.1 +3.5
KSH *ep*P pP 12 10 18.3 +7.9
KSH *es*P sP 12 10 22.3 +10
KSH *e*PcP **PcP** **12 11 06.1 +2.9**
KSH *e*PP PP 12 12 14.6 +5.6
KSH *e*ScP **ScP** **12 15 01.1 -0.1**
KSH *e*PcS **PcS** **12 15 05.1 +1.5**
KSH *e*S **S** **12 17 50.9 -0.5**
KSH *es*S sS 12 18 09.3 +8.5
KSH *e*ScS **ScS** **12 19 51.1 -1.9**
KSH *e*SS SS 12 21 38.5 +1.8
KSH pmax pmax
comp=Z,1.0nm,0.4s
KSH LR LR
comp=N,230nm,5.2s
KSH LR LR
comp=E,230nm,6.2s
KSH LR LR
comp=Z,370nm,6.1s
ARCES ARCESS Array B 58.15 341 P **P** **12 10 19.8 -0.2**
comp=Z,4.8nm,0.8s,baz=35,slow=4.4,SNR=4.1
ARCES LR LR 12 38 17.7
comp=Z,140nm,18.3s,baz=177,slow=39
ARCES ARCESS Array B 58.15 341 P **P** **12 10 19.8 -0.2**
ARCES ARCESS Array B 58.15 341 P **P** **12 10 19.8 -0.2**
AB31 Akbulak array 59.40 311 *i*P **P** **12 10 28.6 -0.4**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 59.40 311 *e*P **P** **12 10 28.6 -0.4**
comp=Z,3.9nm,0.5s
ABKAR *ep*P **pP** **12 10 38.2 +3.5**
AKTO Aktyubinsk 59.66 313 P **P** **12 10 30.6 -0.2**
comp=Z,2.3nm,0.6s,baz=54,slow=7.2,SNR=13
AKTO Aktyubinsk 59.66 313 P **P** **12 10 30.6 -0.2**
AKTO Aktyubinsk 59.66 313 P **P** **12 10 30.6 -0.2**
NVAR Mina Array Bea 61.09 64 P **P** **12 10 39.9 -1.2**
comp=Z,0.3nm,0.7s,baz=320,slow=2.7,SNR=2.5
NVAR Mina Array Bea 61.09 64 P **P** **12 10 39.9 -1.2**
JOF Joensuu 61.80 334 *e*P **P** **12 10 45.2 +0.1**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 61.80 334 *ep* **P** **12 10 45.2 +0.1**
comp=Z,2.9nm,0.6s
JOF Joensuu 61.80 334 *ep* **P** **12 10 45.2 +0.1**
comp=Z,2.9nm,0.6s
PDAR Pinedale Array 63.49 55 P P 12 10 55.4 -1.7
comp=Z,0.8nm,0.9s,baz=243,slow=1.7,SNR=5.5
PDAR Pinedale Array 63.49 55 P P 12 10 55.4 -1.7
KAF Kangasniemi 63.87 336 *e*P **P** **12 10 57.4 -1.5**
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 63.87 336 *ep* **P** **12 10 57.4 -1.5**
comp=Z,3.6nm,0.8s
KAF Kangasniemi 63.87 336 *ep* **P** **12 10 57.4 -1.5**
comp=Z,3.6nm,0.8s
FINES FINESS Array B 64.48 336 P **P** **12 11 03.0 +0.1**
comp=Z,3.9nm,0.6s,baz=39,slow=7.0,SNR=21
FINES FINESS Array B 64.48 336 P **P** **12 11 03.0 +0.1**
FINES FINESS Array B 64.48 336 P **P** **12 11 03.0 +0.1**
VRHR Novokhopersk 66.90 321 *e*P **P** **12 11 16.9 -1.8**
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=E,6.0nm,0.4s
VRHR pmax pmax
comp=Z,6.0nm,0.4s
NB2 NORSAR Subarra 68.51 342 P **P** **12 11 29.3 +0.5**
comp=Z,8.2nm,1.2s,baz=28,slow=6.2
NOA NORSAR Array B 68.51 342 P **P** **12 11 27.9 -0.8**
comp=Z,1.0nm,0.6s,baz=26,slow=6.4,SNR=4.6
NOA NORSAR Array B 68.51 342 P **P** **12 11 27.9 -0.8**
NOA NORSAR Array B 68.51 342 P **P** **12 11 27.9 -0.8**
WRAB Tennant Creek 69.15 201 *e*P **P** **12 11 31.5 -1.6**
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 69.15 201 *e*P **P** **12 11 31.5 -1.6**
comp=Z,3.7nm,0.8s
WB2 Warramunga Arr 69.16 201 *e*P **P** **12 11 31.6 -1.5**
WRA Warramunga Arr 69.16 201 P P 12 11 31.3 -1.9
comp=Z,6.8nm,0.8s,baz=20,slow=6.8,SNR=22
WRA Warramunga Arr 69.16 201 P P 12 11 31.3 -1.9
WRA Warramunga Arr 69.16 201 P P 12 11 31.3 -1.9
DZM Mont Dzumac 69.42 169 *e*LR LR 12 11 17.8
comp=Z,172nm,24.4s
KIV Kislovodsk 71.69 315 *e*P **P** **12 11 49.6 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 72.18 327 P **P** **12 11 49.9 -1.4**
comp=Z,1.2nm,0.5s,baz=41,slow=6.6,SNR=5.1
AKASG Malin Array Be 72.18 327 P **P** **12 11 49.9 -1.4**
AKASG Malin Array Be 72.18 327 P **P** **12 11 49.9 -1.4**
ASAR Alice Springs 72.84 200 P **P** **12 11 54.4 -1.0**
comp=Z,6.2nm,0.7s,baz=16,slow=5.6,SNR=33
ASAR Alice Springs 72.84 200 P **P** **12 11 54.4 -1.0**
ASAR Alice Springs 72.84 200 P **P** **12 11 54.4 -1.0**
GNI Garni 73.49 311 P **P** **12 11 59.7 +0.2**
comp=Z,1.4nm,0.3s,baz=143,slow=5.1,SNR=3.4
GNI LR LR 12 49 44.1
comp=Z,76nm,18.2s,baz=219,slow=40
GNI Garni 73.49 311 P **P** **12 11 59.7 +0.2**
GNI pmax pmax
comp=Z,1.0nm,0.4s
GNI MLR MLR
comp=Z,77nm,18.2s
GNI Garni 73.49 311 P **P** **12 11 59.8 +0.2**
KWP Kalwaria Pacla 75.39 330⇓ *i*P P 12 12 07.8 -2.4
TXAR Lajitas Array 76.17 62 P P 12 12 13.4 -1.6
comp=Z,1.3nm,0.6s,baz=306,slow=4.3,SNR=12
TXAR Lajitas Array 76.17 62 P P 12 12 13.4 -1.6
TXAR Lajitas Array 76.17 62 P P 12 12 13.4 -1.6
BUR08 Bucovina Ar. S 76.19 328 *e*P **P** **12 12 17.6 +2.7**
TRPA Tarpa 76.73 330⇑ *i*P **P** **12 12 20.7 +2.9**
DPC Dobruska-Polom 76.80 334 *e*P P 12 12 23.1 +4.9
DPC *e* 12 12 31.5
DPC Dobruska-Polom 76.80 334 *e*P P 12 12 23.1 +4.9
DPC *ex* x 12 12 31.5
CLL Collm 76.88 337 *e*P **P** **12 12 19.0 +0.4**
CLL Collm 76.88 337 *e*P **P** **12 12 19.0 +0.4**
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 76.94 333⇓ *i*P P 12 12 23.6 +4.6
MORC Moravsky Berou 76.94 333⇓ *i*P P 12 12 23.6 +4.6
MLR Muntele Rosu 77.73 326⇓ *i*P **P** **12 12 24.2 +0.6**
MLR Muntele Rosu 77.73 326⇓ *i*P **P** **12 12 24.2 +0.6**
DRGR 77.82 329⇑ *i*P **P** **12 12 27.0 +3.0**
DRGR 77.82 329⇑ *i*P **P** **12 12 27.0 +3.0**
VOIR 78.11 327⇑ *i*P **P** **12 12 25.9 +0.2**
VOIR 78.11 327⇑ *i*P **P** **12 12 25.9 +0.2**
KHC Kasperske Hory 78.69 335 *e*P P 12 12 32.9 +4.1
KHC *e* 12 12 39.2
KHC Kasperske Hory 78.69 335 *e*P P 12 12 32.9 +4.1
KHC *ep*P **PcP** **12 12 39.2 +1.6**
GERES GERESS Array B 78.91 335 P **P** **12 12 31.1 +1.0**
comp=Z,0.9nm,0.6s,baz=33,slow=5.1,SNR=9.6
GERES LR LR 12 54 15.6
comp=Z,156nm,18.6s,baz=276,slow=41
GERES GERESS Array B 78.91 335 P **P** **12 12 31.1 +1.0**
GERES GERESS Array B 78.91 335 P **P** **12 12 31.1 +1.0**
GZR Gura Zlata 78.99 328⇑ *i*P **P** **12 12 33.5 +3.0**
GZR Gura Zlata 78.99 328⇑ *i*P **P** **12 12 33.5 +3.0**
BRTR Keskin Array B 79.22 318 P P 12 12 31.8 -0.2
comp=Z,1.0nm,0.9s,baz=46,slow=3.6,SNR=4.9
BRTR Keskin Array B 79.22 318 P **P** **12 12 31.8 -0.2**
BRTR Keskin Array B 79.22 318 P **P** **12 12 31.8 -0.2**
CDF Champ du Feu 81.02 339 *e*P P 12 12 46.6 +5.1
PPT2 Papeete2 81.14 128 *e*LR LR 12 11 38.1
comp=Z,179nm,24.5s
PAGF Fort de Pagny 81.26 340 *e*P P 12 12 47.9 +5.3
comp=Z,5.2nm,0.7s
MEZF Maizieres J'vi 81.47 340 *e*P P 12 12 48.7 +5.0
HAU Haudompre 81.62 339 *e*P P 12 12 49.7 +5.1
QUA2 Belchertown 81.69 34 *e*P **P** **12 12 43.4 -1.6**
comp=Z,38nm,0.3s
SFTF Sexfontaines 81.75 340 *e*P P 12 12 50.7 +5.5
comp=Z,21nm,0.8s
TUE Stuetta 82.28 337 *e*P **P** **12 12 49.9 +1.6**
comp=Z,6.4nm,0.8s
FLN La Foliniere 82.38 344 *e*P P 12 12 53.6 +5.1
LDF La Druitiere 82.47 344 *e*P P 12 12 54.3 +5.3
comp=Z,3.8nm,0.5s
GRR Gorron 82.81 344 *e*P P 12 12 56.1 +5.4
LOR Lormes 82.90 341 *e*P P 12 12 56.2 +4.9
comp=Z,16nm,0.9s
CABF La Chapelle 82.99 339 *e*P P 12 12 57.7 +5.8
SSF Saint Saulge 83.17 341 *e*P P 12 12 57.7 +5.0
comp=Z,11nm,0.8s
SGMF Saint Gilles 83.24 345 *e*P P 12 12 58.6 +5.6
ROSF Rostrenen 83.28 346 *e*P P 12 12 58.9 +5.7
comp=Z,25nm,0.8s
AVF Avril sur Loir 83.46 341 *e*P P 12 12 59.3 +5.2
ASF Jabal al Asfar 83.66 311 LR LR 12 52 31.3
comp=Z,44nm,19.1s,baz=65,slow=37
QUIF Quistinic 83.67 346 *e*P P 12 13 01.2 +6.0
comp=Z,19nm,0.8s
MMAI Mount Meron Ar 83.75 313 LR LR 12 57 21.8
comp=Z,42nm,21.4s,baz=30,slow=41
BGF Bois d'Agland 83.80 341 *e*P P 12 13 01.2 +5.3
comp=Z,5.5nm,0.4s
LPL La Plagne 83.85 338 *e*P P 12 13 01.5 +5.0
comp=Z,11nm,0.7s
LPG La Plagne 83.87 338 *e*P P 12 13 01.6 +5.0
comp=Z,8.7nm,0.6s
TCF Toulx Ste Croi 84.19 342 *e*P P 12 13 02.9 +5.0
MFF Saint Martin d 84.38 343 *e*P P 12 13 04.6 +5.8
MBDF Montbardon 84.58 338 *e*P P 12 13 05.4 +5.3
comp=Z,5.7nm,0.7s
ORIF Oris-en-Rattie 84.63 339 *e*P P 12 13 05.3 +5.0
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 84.98 339 *e*P P 12 13 07.1 +5.1
comp=Z,5.0nm,0.7s
CAF Calviac 85.52 341 *e*P P 12 13 10.8 +6.1
comp=Z,9.2nm,0.8s
LFF La Frestale 85.79 342 *e*P P 12 13 11.8 +5.9
MTLF Montolieu 86.99 341 *e*P P 12 13 17.1 +5.2
EPF Esparros 87.70 342 *e*P P 12 13 21.2 +5.8
ETSF Etsaut 88.02 342 *e*P P 12 13 22.6 +5.7
MAW Mawson 133.09 212 *e*PKIKP **PKPdf** **12 19 40.3 -0.6**
MAW Mawson 133.09 212 *e*PKPdf **PKPdf** **12 19 40.3 -0.6**
PLCA Paso Flores 146.81 96 PKPbc **PKPdf** **12 20 06.7 0.0**
comp=Z,3.7nm,0.9s,baz=270,slow=5.1,SNR=4.2
PLCA Paso Flores 146.81 96 PKP2 **PKPdf** **12 20 06.7 0.0**
PLCA Paso Flores 146.81 96 PKPbc **PKPdf** **12 20 06.7 0.0**

IDC ***16*** *12:01:39.3±0.8, 20.93S×173.88W, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.4/18, mbtmp4.3/10, MS3.8/3, Ms1 3.9/3, ms1mx3.3/26, Error ellipse: s-maj=38.3km s-min=19.0km az=150.0*
NEIC ***16*** *12:01:41.0±0.6, 20.83S×173.80W, h10km, mb4.7/7, Error ellipse: s-maj=22.9km s-min=13.2km az=147.0*
SZGRF ***16*** *12:01:42.5, 22.07S×173.35W, h33km, Tonga Islands region*

ISC 16 12:01:43.4±0.5, 20.54S±0.08×173.35W±0.09, h21km, n71, σ1s50/57, mb4.5/18, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**6.77**	**13**	Pn	**Pn**	**12 03 21.9**	**+0.2**
	6.5nm,0.3s,baz=198,slow=6.6,SNR=12						
AFI				Sn	**Sn**	**12 04 34.4**	**-3.7**
	14nm,0.3s,baz=94,slow=19,SNR=2.9						
AFI				T	T	12 11 03.1	
	3.6nm,0.3s,baz=224,slow=22,SNR=3.6						
AFI	**Afiamalu**	**6.77**	**13**	*e*Pn	**Pn**	**12 03 21.8**	**+0.2**
	38nm,0.5s						
AFI				Sn	**Sn**	**12 04 34.4**	**-3.7**
AFI				*e*Sn	**Sn**	**12 04 36.9**	**-1.2**
AFI				TT		12 11 03.1	
MSVF	**Nonsavu**	**8.60**	**288**	*e*Pn	**Pn**	**12 03 45.1**	**-1.6**
	162nm,1.3s						
RAR	**Rarotonga**	**12.71**	**95**	Pn	**Pn**	**12 04 39.9**	**-3.1**
	6.5nm,0.3s,baz=240,slow=6.4,SNR=21						
RAR				Sn	Sn	12 06 51.0	-13
	1.6nm,0.3s,baz=117,slow=20,SNR=1.5						
RAR				LR	LR	12 08 29.8	
	comp=Z,308nm,20.6s,baz=21,slow=31						
RAR	**Rarotonga**	**12.71**	**95**	Pn	**Pn**	**12 04 39.9**	**-3.1**
RAR				Sn	Sn	12 06 51.0	-13
DZM	**Mont Dzumac**	**18.89**	**262**	*e*P	**P**	**12 06 01.1**	**-1.7**
	10nm,0.8s						
CMSA	**Cobar Meteorol**	**38.20**	**245**	*e*P	P	12 08 56.5	-5.3
	26nm,0.6s						
QLP	**Quilpie**	**39.21**	**253**	*e*P	P	12 09 04.5	-5.8
STKA	**Stephens Creek**	**41.70**	**245**	P	P	12 09 25.5	-5.4
	2.8nm,0.6s,baz=92,slow=12,SNR=8.4						
STKA	**Stephens Creek**	**41.70**	**245**	*e*P	P	12 09 25.4	-5.6
	2.4nm,0.6s						
STKA	**Stephens Creek**	**41.70**	**245**	*e*P	P	12 09 25.4	-5.6
	0.6nm,0.7s						
COEN	**Coen**	**41.94**	**272**	*e*P	P	12 09 27.5	-5.5
	17nm,0.6s						
AS31	**Alice Springs**	**48.74**	**256**	*e*P	P	12 10 21.8	-5.3
ASAR	**Alice Springs**	**48.74**	**256**	P	P	12 10 21.2	-5.9
	3.4nm,0.7s,baz=100,slow=7.7,SNR=63						
ASAR	**Alice Springs**	**48.74**	**256**	P	P	12 10 21.2	-5.9
WB2	**Warramunga Arr**	**48.89**	**261**	*e*P	P	12 10 22.6	-5.6
WRAB	**Tennant Creek**	**48.90**	**261**	*e*P	P	12 10 22.6	-5.6
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**48.91**	**261**	P	P	12 10 22.2	-6.1
	1.7nm,0.5s,baz=96,slow=7.8,SNR=28						
WRA	**Warramunga Arr**	**48.91**	**261**	P	P	12 10 22.2	-6.1
QSPA	**South Pole Qui**	**69.53**	**180**	*e*P	**P**	**12 12 49.7**	**-0.8**
	4.5nm,0.7s						
MJAR	**Matsushiro Arr**	**72.91**	**321**	P	**P**	**12 13 10.5**	**-0.6**
	3.1nm,0.8s,baz=161,slow=6.2,SNR=8.2						
MJAR	**Matsushiro Arr**	**72.91**	**321**	P	**P**	**12 13 10.5**	**-0.6**
FX1	**Attu Island--F**	**74.05**	**352**	LR	LR	12 41 49.2	
	comp=Z,58nm,19.3s,baz=296,slow=32						
PETK	**Petropavlovsk-**	**77.52**	**343**	P	**P**	**12 13 38.1**	**+0.8**
	4.0nm,0.7s,baz=122,slow=7.0,SNR=5.9						
PETK	**Petropavlovsk-**	**77.52**	**343**	P	**P**	**12 13 38.1**	**+0.8**
NVAR	**Mina Array Bea**	**78.13**	**41**	P	P	12 13 44.4	+3.1
	4.0nm,0.7s,baz=225,slow=8.0,SNR=30						
NVAR	**Mina Array Bea**	**78.13**	**41**	P	P	12 13 44.4	+3.1
ARUT	**Antelope Range**	**80.83**	**44**	*e*P	P	12 14 00.1	+4.1
	2.9nm,0.9s						
ETW	**Entiat**	**82.84**	**33**	*e*P	**P**	**12 14 09.0**	**+2.7**
	6.8nm,0.8s						
TXAR	**Lajitas Array**	**83.45**	**56**	P	**P**	**12 14 12.1**	**+2.3**
	1.2nm,1.0s,baz=209,slow=6.9,SNR=4.2						
TXAR	**Lajitas Array**	**83.45**	**56**	P	**P**	**12 14 12.1**	**+2.3**
GAMB	**Gambell**	**84.05**	**1**	*e*P	**P**	**12 14 14.1**	**+2.2**
	3.5nm,0.6s						
PDAR	**Pinedale Array**	**86.06**	**41**	P	**P**	**12 14 24.6**	**+1.7**
	1.1nm,0.8s,baz=200,slow=2.4,SNR=7.3						
PDAR	**Pinedale Array**	**86.06**	**41**	P	**P**	**12 14 24.6**	**+1.7**
ILAR	**Eielson Array**	**87.46**	**11**	P	**P**	**12 14 30.0**	**+1.1**
	0.8nm,0.7s,baz=225,slow=5.5,SNR=18						
ILAR	**Eielson Array**	**87.46**	**11**	P	**P**	**12 14 30.0**	**+1.1**
CHTO	**Chiang Mai**	**94.38**	**288**	*e*P	**P**	**12 15 01.7**	**-0.5**
	6.3nm,0.7s						
YKA	**Yellowknife Ar**	**94.77**	**23**	P	**P**	**12 15 04.2**	**+1.3**
	0.7nm,0.6s,baz=241,slow=4.4,SNR=18						
YKA	**Yellowknife Ar**	**94.77**	**23**	P	**P**	**12 15 04.2**	**+1.3**
LPAZ	**La Paz**	**97.99**	**111**	LR	LR	12 51 29.0	
	comp=Z,71nm,18.1s,baz=232,slow=30						
MK31	**Makanchi Array**	**114.40**	**313**	*e*PKPdf	PKPdf	12 20 20.6	-1.1
MKAR	**Makanchi Array**	**114.40**	**313**	PKP	PKPdf	12 20 20.3	-1.4
	0.5nm,0.5s,baz=189,slow=0.9,SNR=12						
MKAR	**Makanchi Array**	**114.40**	**313**	PKP	PKPdf	12 20 20.3	-1.4
BVAR	**Borovoye Array**	**121.90**	**320**	PKP	**PKPdf**	**12 20 35.3**	**-0.6**
	1.1nm,0.5s,baz=100,slow=1.7,SNR=9.4						
BVAR	**Borovoye Array**	**121.90**	**320**	PKP	**PKPdf**	**12 20 35.3**	**-0.6**
ARCES	**ARCESS Array B**	**129.68**	**352**	PKP	**PKPdf**	**12 20 49.1**	**-1.2**
	3.1nm,0.8s,baz=131,slow=5.5,SNR=8.5						
ARCES	**ARCESS Array B**	**129.68**	**352**	PKP	**PKPdf**	**12 20 49.1**	**-1.2**
AKASG	**Malin Array Be**	**145.04**	**335**	PKPbc	**PKPbc**	**12 21 18.2**	**-0.2**
	4.0nm,0.5s,baz=40,slow=4.2,SNR=10						
AKASG	**Malin Array Be**	**145.04**	**335**	PKPbc	**PKPbc**	**12 21 18.2**	**-0.2**
KIEV	**Kiev**	**145.05**	**335**	*e*PKPbc	**PKPbc**	**12 21 17.9**	**-0.6**
CLZ	**Clausthal**	**148.63**	**356**	*e*PKPbc	**PKPbc**	**12 21 29.5**	**+0.7**
CLL	**Collm**	**148.89**	**352**	*e*PKPbc	**PKPbc**	**12 21 30.3**	**+0.9**
CLL	**Collm**	**148.89**	**352**	*e*PKPbc	**PKPbc**	**12 21 30.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**149.07**	**335**	*e*PKPbc	**PKPbc**	**12 21 31.2**	**+1.1**
BRG	**Berggiesshubel**	**149.19**	**351**	*e*P	**P**	**12 21 31.2**	**+1.1**
	7.1nm,0.9s						
BRG	**Berggiesshubel**	**149.19**	**351**	*e*PKPbc	**PKPbc**	**12 21 31.3**	**+1.1**

CRVS	**Cervenica-Dubn**	**149.31**	**341**	*e*PKP	**PKPbc**	**12 21 31.9**	**+1.3**
MOX	**Moxa**	**149.71**	**354**	*e*PKPbc	**PKPbc**	**12 21 32.5**	**+1.0**
GUNZ	**Gunzen**	**149.90**	**353**	*e*PKPbc	**PKPbc**	**12 21 33.1**	**+1.1**
WERN	**Wernitzgruen**	**149.97**	**353**	*e*PKPbc	**PKPbc**	**12 21 32.9**	**+0.7**
BR131	**Keskin Array S**	**150.01**	**316**	*e*PKPdf	**PKPdf**	**12 21 27.2**	**-0.6**
BR131				*e*PKPbc	**PKPbc**	**12 21 32.3**	**-0.5**
BR131				*e*PKPab	**PKiKP**	**12 21 35.5**	**+1.8**
BRTR	**Keskin Array B**	**150.01**	**316**	PKPbc	**PKPbc**	**12 21 32.4**	**-0.5**
	2.9nm,0.9s,baz=95,slow=2.7,SNR=12						
BRTR	**Keskin Array B**	**150.01**	**316**	PKPbc	**PKPbc**	**12 21 32.4**	**-0.5**
VYHS	**Vyhne**	**150.44**	**343**	*e*PKP	**PKPbc**	**12 21 34.5**	**+1.1**
GRF	**Grafenberg Arr**	**150.69**	**354**	*e*PKPbc	**PKPbc**	**12 21 34.8**	**+0.9**
KHC	**Kasperske Hory**	**150.94**	**351**⇑	*e*PKP	**PKPbc**	**12 21 35.0**	**+0.4**
GEC2	**GERESS Array S**	**151.20**	**350**	*e*PKPbc	**PKPbc**	**12 21 35.6**	**+0.3**
GERES	**GERESS Array B**	**151.20**	**350**	PKPbc	**PKPbc**	**12 21 35.8**	**+0.6**
	1.5nm,0.7s,baz=3.8,slow=2.0,SNR=10						
GERES	**GERESS Array B**	**151.20**	**350**	PKPbc	**PKPbc**	**12 21 35.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**171.25**	**146**	PKP	**PKPdf**	**12 21 49.0**	**-2.2**
	1.0nm,1.0s,baz=320,slow=3.4,SNR=3.8						
TORD				PKPab	**PKPab**	**12 23 10.1**	**-0.8**
	0.5nm,0.6s,baz=202,slow=4.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**171.25**	**146**	PKP	**PKPdf**	**12 21 49.0**	**-2.2**
TORD				PKPab	**PKPab**	**12 23 10.1**	**-0.8**

NIED **16** *12:07:00,43˚.60N×147˚.70E,h35km,Mw4.3 Best double couple: M₀2.93000×10¹⁵ NP1:φ₀s45.00000°,δ73.00000°, λ91.00000°. NP2:φ₀s220.00000°,δ18.00000°,λ86.00000°.*
BJI **16** *12:07:25.4,43˚.63N×148˚.59E,h40km,mB5.0/5,mb4.7/10*
JMA **16** *12:07:29.0±0.3,43˚.59N×147˚.65E,h0km,M4.5*
ISCJB **16** *12:07:32.2±0.7,43˚.76N±0˚.04×147˚.72E±0˚.06,h48km±5km, mb4.5/63, Error ellipse: s-maj=8.7km s-min=5.6km az=139.2*
MOS **16** *12:07:32.7±0.9,43˚.87N×147˚.70E,h51km,mb4.9/18, Error ellipse: s-maj=9.6km s-min=7.1km az=117.3*
IDC **16** *12:07:33.2±0.6,43˚.83N×147˚.66E,h40km±4km,mb3.9/22, mb1 4.1/25,mb1mx4.0/29,mbtmp3.9/25,ML3.6/3,MS3.3/4, Ms1 3.3/4,ms1mx3.0/45,Error ellipse: s-maj=16.2km s-min=12.1km az=151.0*
SKHL **16** *12:07:33.8±0.8,43˚.65N×147˚.62E,h35km±5km,mb4.9/3*
NEIC **16** *12:07:34.5±0.7,43˚.81N×147˚.70E,h51km±6km,mb4.7/18, Error ellipse: s-maj=7.7km s-min=4.7km az=146.0*
ISC 16 12:07:33.2±0.5,43.76N±0˚05×147.71E±0˚05,h42km±4km, h41km:pP-P,n207,σ0≈98/248,mb4.6/63,5C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.36**	**282**	*i* PN		**Pn**	**12 07 54.7**	**-1.0**
YUK				*i* S		**Sn**	**12 08 10.9**	**-1.6**
YUK				pmax	pmax			
	comp=E,287nm,0.2s							
YUK				pmax	pmax			
	comp=Z,2μm,0.2s							
YUK				pmax	pmax			
	comp=N,262nm,0.1s							
YUK				smax	smax			
	comp=N,1μm,0.2s							
YUK				smax	smax			
	comp=E,5μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.36**	**282**	*i* P		**Pn**	**12 07 54.7**	**-1.0**
YUK				AMB	AMB		12 07 56.6	
	comp=E,1μm,0.3s							
YUK				AMB	AMB		12 07 56.6	
	comp=E,650nm,0.3s							
YUK				AMB	AMB		12 07 56.6	
	comp=E,2μm,0.3s							
YUK				*i* S		**Sn**	**12 08 11.0**	**-1.6**
YUK				A	A		12 08 18.1	
	comp=E,1μm,0.5s							
YUK				A	A		12 08 18.1	
	comp=E,5μm,0.5s							
KUR	**Kuril'sk**	**1.48**	**4**	*e*P		**Pn**	**12 08 00.5**	**+3.2**
KUR				*e*S		**Sn**	**12 08 17.5**	**+2.0**
KUR				A	A		12 08 21.5	
	comp=E,2μm,0.6s							
KUR				A	A		12 08 21.5	
	comp=E,1μm,0.6s							
NEM2	**Nemuro 2**	**1.48**	**255**	P		**Pn**	**12 07 55.7**	**-1.6**
NEM2				*e*S		**Sn**	**12 08 15.2**	**-0.3**
JRA	**Rausu**	**1.88**	**276**	P		**Pn**	**12 08 02.4**	**-0.4**
JNK	**Nakash**	**2.17**	**266**	P		**Pn**	**12 08 06.0**	**-0.9**
JAK	**Akkeshi**	**2.32**	**252**	P		**Pn**	**12 08 07.8**	**-1.1**
JTKR	**Abashiri--Toko**	**2.75**	**276**	P		**Pn**	**12 08 15.3**	**+0.5**
JTKR				*e*S		**Sn**	**12 08 49.7**	**+2.8**
JAR	**Ashorobuto**	**2.90**	**262**	P		**Pn**	**12 08 16.8**	**-0.1**
JAR				*e*S		**Sn**	**12 08 52.1**	**+1.6**
JOB	**Onbets**	**2.95**	**255**	P		**Pn**	**12 08 17.3**	**-0.2**
JMP	**Maruseppu**	**3.15**	**276**	P		**Pn**	**12 08 21.0**	**+0.7**
JCH	**Churui**	**3.38**	**252**	P		**Pn**	**12 08 23.1**	**-0.3**
JKK2	**Kamakawa 2**	**3.59**	**274**	P		**Pn**	**12 08 28.0**	**+1.6**
ASAJ	**Asahikawa**	**3.71**	**277**	Pn		**Pn**	**12 08 30.4**	**+2.5**
	comp=E,7.3nm,0.3s,baz=87,slow=13,SNR=34							
ASAJ				Sn		Sn	12 09 17.6	+7.2
	comp=E,2.4nm,0.3s,baz=196,slow=33,SNR=2.0							
ASAJ				LR		LR	12 10 06.1	
	comp=E,744nm,18.2s,baz=335,slow=42							
ASAJ	**Asahikawa**	**3.71**	**277**	PN		**Pn**	**12 08 30.4**	**+2.5**
ASAJ							12 09 17.6	
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,2.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,744nm,18.3s							
ASAJ	**Asahikawa**	**3.71**	**277**	Pn		**Pn**	**12 08 30.4**	**+2.5**
ASAJ				*e*Pn		Pn	12 08 31.2	+3.2
ASAJ				*e*Sn		**Sn**	**12 09 11.0**	**+0.6**
ASAJ				Sn		Sn	12 09 17.6	+7.2
ERM	**Erimo**	**3.77**	**244**	*e*PN		**Pn**	**12 08 31.3**	**+2.5**
ERM				*e*			12 09 11.2	
ERM	**Erimo**	**3.77**	**244**	*e*Pn		**Pn**	**12 08 31.3**	**+2.5**
ERM				*e*Sn		**Sn**	**12 09 11.2**	**-0.6**
ERM	**Erimo**	**3.77**	**244**	*e*P		**Pn**	**12 08 31.3**	**+2.5**
JFR	**Furan**	**3.77**	**263**	P		**Pn**	**12 08 30.0**	**+1.2**
JFR				*e*S		**Sn**	**12 09 14.7**	**+2.8**
JSE	**Soyaes**	**3.87**	**290**	P		**Pn**	**12 08 31.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.92**	**250**	P		**Pn**	**12 08 31.0**	**+0.1**
JHR	**Hokuryu**	**4.33**	**272**	P		**Pn**	**12 08 38.8**	**+2.3**
JWK2	**Keihoku**	**4.44**	**293**	P		**Pn**	**12 08 40.7**	**+2.8**
JEW	**Eniwo**	**4.66**	**261**	P		**Pn**	**12 08 42.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.73**	**314**	*e*PN		**Pn**	**12 08 43.5**	**+1.5**
YSS				*e*S		**Sn**	**12 09 35.2**	**-0.3**
YSS				pmax	pmax			
	comp=Z,30nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.73**	**314**	*e*Pn		**Pn**	**12 08 42.9**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.73**	**314**	*e*P		**Pn**	**12 08 43.5**	**+1.5**
YSS				AMB	AMB		12 08 45.3	
	comp=Z,30nm,0.6s							
YSS				*e*sP		Px	12 08 59.0	
YSS				*e*S		**Sn**	**12 09 35.2**	**-0.3**
MJAR	**Matsushiro Arr**	**10.23**	**228**	Pn		**Pn**	**12 09 56.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=27,slow=14,SNR=6.9							
MJAR				LR		LR	12 13 45.7	
	comp=Z,105nm,18.0s,baz=40,slow=36							
MJAR	**Matsushiro Arr**	**10.23**	**228**	PN		**Pn**	**12 09 56.8**	**-0.7**
MJAR	**Matsushiro Arr**	**10.23**	**228**	Pn		**Pn**	**12 09 56.8**	**-0.7**
USRK	**Ussuriysk Arra**	**11.33**	**278**	Pn		Pn	12 10 16.2	+3.8
	comp=Z,0.3nm,0.3s,baz=83,slow=15,SNR=4.9							
USRK				LR		LR	12 14 51.0	
	comp=Z,127nm,19.9s,baz=162,slow=39							
PETK	**Petropavlovsk-**	**11.46**	**32**	Pn		**Pn**	**12 10 14.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=204,slow=13,SNR=14							
PETK	**Petropavlovsk-**	**11.46**	**32**	PN		**Pn**	**12 10 14.4**	**+0.2**
PETK	**Petropavlovsk-**	**11.46**	**32**	Pn		**Pn**	**12 10 14.3**	**+0.2**
KLR	**Kul'dur**	**12.28**	**302**	*e*PN		**Pn**	**12 10 25.9**	**+0.6**
KSRS	**Korea Array**	**16.27**	**254**	Pn		**Pn**	**12 11 19.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=62,slow=11,SNR=10.0							
KSRS				LR		LR	12 16 55.9	
	comp=Z,108nm,19.7s,baz=356,slow=34							
KSRS	**Korea Array**	**16.27**	**254**	P		**Pn**	**12 11 19.2**	**+0.5**
KSRS				MLR	MLR			
	comp=Z,108nm,19.7s							
KSAR	**Wonju Array Be**	**16.31**	**254**	P		**Pn**	**12 11 19.2**	**+0.1**
KSAR	**Wonju Array Be**	**16.31**	**254**	Pn		**Pn**	**12 11 19.2**	**+0.1**
ZEA	**Zeya**	**16.73**	**314**	*e*P		**Pn**	**12 11 24.4**	**+0.2**
ZEA				AMB	AMB		12 11 34.3	
	comp=Z,37nm,1.4s							
SEY	**Seymchan**	**19.40**	**6**‖	*e*P		**P**	**12 11 54.5**	**-0.9**
SONM	**Songino Array**	**28.84**	**293**	P		**P**	**12 13 27.7**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=80,slow=8.2,SNR=10.0							
SONM				PcP		**PcP**	**12 16 35.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=102,slow=2.4,SNR=3.1							
SONM	**Songino Array**	**28.84**	**293**	P		**P**	**12 13 27.7**	**+0.2**
SONM							12 16 35.3	
SONM	**Songino Array**	**28.84**	**293**	P		**P**	**12 13 27.7**	**+0.2**
SONM				PcP		**PcP**	**12 16 35.3**	**-0.9**
ZAK	**Zakamensk**	**30.60**	**298**	*e*P		**P**	**12 13 42.3**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.8s							
LZH	**Lanzhou**	**34.17**	**272**	*e*P		**P**	**12 14 15.5**	**+0.9**
LZH				pP		**pP**	**12 14 24.6**	**-1.4**
LZH				sP		sP	12 14 27.6	-3.4
LZH				pmax	pmax			
	comp=Z,22nm,1.0s							
RSO	**Redoubt South**	**38.68**	**43**	*e*P		P	12 14 43.6	-9.2
	comp=Z,39nm,0.6s							
COLD	**Coldfoot**	**39.93**	**32**	*e*P		**P**	**12 15 03.7**	**+0.9**
	comp=Z,4.0nm,0.6s							
COLA	**College**	**40.83**	**36**	*e*P		**P**	**12 15 11.3**	**+1.1**
COLA				pmax	pmax			
	comp=Z,8.0nm,0.9s							
COLA	**College**	**40.83**	**36**	*e*P		**P**	**12 15 11.3**	**+1.1**
	comp=Z,7.7nm,0.9s							
ILAR	**Eielson Array**	**41.24**	**36**	P		**P**	**12 15 13.5**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=274,slow=7.9,SNR=27							
ILAR	**Eielson Array**	**41.24**	**36**	P		**P**	**12 15 13.5**	**-0.2**
ILAR	**Eielson Array**	**41.24**	**36**	P		**P**	**12 15 13.5**	**-0.2**
ZALV	**Zalesovo Beam**	**41.32**	**307**	P		**P**	**12 15 14.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=72,slow=4.7,SNR=2.8							
ZALV				PcP		**PcP**	**12 17 12.5**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=77,slow=2.7,SNR=14							
ZALV				pPcP			12 17 23.5	
	comp=Z,1.8nm,0.6s,baz=73,slow=3.3,SNR=6.4							
ZALV	**Zalesovo Beam**	**41.32**	**307**	P		**P**	**12 15 14.0**	**-0.4**
ZALV							12 17 12.5	
ZALV							12 17 23.5	
ZALV	**Zalesovo Beam**	**41.32**	**307**	P		**P**	**12 15 14.0**	**-0.4**
ZALV				PcP		**PcP**	**12 17 12.5**	**+0.3**
ZALV				pPcP			12 17 23.5	
MK31	**Makanchi Array**	**44.94**	**298**	*e*P		**P**	**12 15 43.6**	**-0.2**
MK31	**Makanchi Array**	**44.94**	**298**	*e*P		**P**	**12 15 43.6**	**-0.2**
MKAR	**Makanchi Array**	**44.94**	**298**	P		**P**	**12 15 43.5**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=80,slow=8.5,SNR=20							
MKAR				PcP		**PcP**	**12 17 25.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=54,slow=4.9,SNR=4.6							
MKAR	**Makanchi Array**	**44.94**	**298**	*e*P		**P**	**12 15 44.1**	**+0.2**
MKAR							12 17 25.1	
MKAR	**Makanchi Array**	**44.94**	**298**	*e*P		**P**	**12 15 44.1**	**+0.2**
MKAR				PcP		**PcP**	**12 17 25.1**	**+0.5**
KURK	**Kurchatov**	**45.86**	**304**‖	*e*P		**P**	**12 15 50.4**	**-0.6**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**45.86**	**304**	*e*P		**P**	**12 15 50.7**	**-0.3**
	comp=Z,3.1nm,0.8s							
INK	**Inuvik**	**46.19**	**30**	P		**P**	**12 15 54.2**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=277,slow=6.3,SNR=16							
INK	**Inuvik**	**46.19**	**30**	P		**P**	**12 15 54.2**	**+0.8**
INK	**Inuvik**	**46.19**	**30**	P		**P**	**12 15 54.2**	**+0.8**
CHTO	**Chiang Mai**	**47.67**	**254**	*e*P		**P**	**12 16 06.8**	**+1.2**
CHTO				pmax	pmax			
	comp=Z,39nm,0.9s							
CHTO	**Chiang Mai**	**47.67**	**254**	*e*P		**P**	**12 16 06.8**	**+1.2**
	comp=Z,39nm,0.9s							
BVAR	**Borovoye Array**	**49.81**	**310**	P		**P**	**12 16 22.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=89,slow=10,SNR=4.6							
BVAR				PcP		**PcP**	**12 17 42.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=97,slow=3.3,SNR=4.8							
BVAR	**Borovoye Array**	**49.81**	**310**	P		**P**	**12 16 22.1**	**+0.6**
BVAR							12 17 42.0	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**49.81**	**310**	P		**P**	**12 16 22.2**	**+0.6**
BVAR							12 17 42.0	
BVAR	**Borovoye Array**	**49.81**	**310**	P		**P**	**12 16 22.1**	**+0.6**
BVAR				PcP		**PcP**	**12 17 42.0**	**+0.2**
TAPN	**Taplejung**	**50.41**	**272**	*e*P		**P**	**12 16 27.8**	**+0.9**
	comp=Z,10nm,0.8s							
TAPN	**Taplejung**	**50.41**	**272**	*e*P		**P**	**12 16 27.8**	**+0.9**
	comp=Z,10nm,0.8s							
ULHL	**Ulahol**	**50.75**	**295**	P		**P**	**12 16 28.5**	**-0.7**
	SNR=6.0							
ULHL				P		**P**	**12 16 28.5**	**-0.7**
	SNR=6.0							
TKM2	**Tokmak 2**	**50.87**	**296**	P		**P**	**12 16 30.6**	**+0.6**
	SNR=7.2							
TKM2				P		**P**	**12 16 30.6**	**+0.6**
	SNR=7.2							
TKM2	**Tokmak 2**	**50.87**	**296**	*e*P		**P**	**12 16 30.8**	**+0.8**
TKM2				pmax	pmax			
	comp=Z,6.0nm,0.8s							
TKM2	**Tokmak 2**	**50.87**	**296**	*e*P		**P**	**12 16 30.8**	**+0.8**
	comp=Z,6.1nm,0.8s							
JIRN	**Jiri**	**51.34**	**273**	*e*P		**P**	**12 16 34.7**	**+0.8**
JIRN	**Jiri**	**51.34**	**273**	*e*P		**P**	**12 16 34.7**	**+0.8**
KBK	**Karagaybulak**	**51.41**	**296**	P		**P**	**12 16 34.8**	**+0.7**
	SNR=7.3							
KBK				P		**P**	**12 16 34.8**	**+0.7**
	SNR=7.3							
GUN	**Gumba**	**51.42**	**274**	*e*P		**P**	**12 16 34.8**	**+0.4**
	comp=Z,19nm,0.8s							
GUN	**Gumba**	**51.42**	**274**	*e*P		**P**	**12 16 34.8**	**+0.4**
	comp=Z,19nm,0.8s							
USP	**Ospenovka**	**51.42**	**297**	P		**P**	**12 16 34.4**	**+0.5**
	SNR=8.0							
USP				P		**P**	**12 16 34.4**	**+0.5**
	SNR=8.0							
RAMN	**Ramite**	**51.45**	**272**	*e*P		**P**	**12 16 34.6**	**0.0**
	comp=Z,29nm,0.8s							
RAMN	**Ramite**	**51.45**	**272**	*e*P		**P**	**12 16 34.6**	**0.0**
	comp=Z,29nm,0.8s							
KZA	**Kyzart**	**51.48**	**295**	P		**P**	**12 16 36.1**	**+1.3**
	SNR=11							
KZA				P		**P**	**12 16 36.1**	**+1.3**
	SNR=11							
KKN	**Kakani**	**51.92**	**274**	*e*P		**P**	**12 16 38.5**	**+0.5**
KKN	**Kakani**	**51.92**	**274**	*e*P		**P**	**12 16 38.5**	**+0.5**
KKN	**Kakani**	**51.92**	**274**	*e*P		**P**	**12 16 38.5**	**+0.5**
DMN	**Daman**	**52.15**	**274**	*e*P		**P**	**12 16 40.0**	**+0.2**
	comp=Z,30nm,1.0s							
DMN	**Daman**	**52.15**	**274**	*e*P		**P**	**12 16 40.0**	**+0.2**
	comp=Z,30nm,1.0s							
EKS2	**Erkin-Say**	**52.17**	**296**	P		**P**	**12 16 40.0**	**+0.3**
	SNR=6.7							
EKS2				P		**P**	**12 16 40.0**	**+0.3**
	SNR=6.7							
EKS2	**Erkin-Say**	**52.17**	**296**	*e*P		**P**	**12 16 39.9**	**+0.3**
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**52.17**	**296**	*e*P		**P**	**12 16 39.9**	**+0.2**
	comp=Z,4.4nm,0.8s							
GKN	**Gorkha**	**52.26**	**275**	*e*P		**P**	**12 16 40.6**	**+0.1**
	comp=Z,4.7nm,0.3s							
GKN	**Gorkha**	**52.26**	**275**	*e*P		**P**	**12 16 40.6**	**+0.1**
	comp=Z,4.7nm,0.3s							
AML	**Almayashu**	**52.48**	**296**	P		**P**	**12 16 43.2**	**+0.9**
	SNR=5.9							
AML				P		**P**	**12 16 43.2**	**+0.9**
	SNR=5.9							
DANN	**Dangsing**	**52.70**	**275**	*e*P		**P**	**12 16 44.4**	**+0.5**
	comp=Z,30nm,0.7s							
DANN	**Dangsing**	**52.70**	**275**	*e*P		**P**	**12 16 44.4**	**+0.5**
	comp=Z,30nm,0.7s							
KOLN	**Koldanda**	**53.14**	**275**	*e*P		**P**	**12 16 47.6**	**+0.5**
	comp=Z,15nm,0.7s							
KOLN	**Koldanda**	**53.14**	**275**	*e*P		**P**	**12 16 47.6**	**+0.5**
	comp=Z,15nm,0.7s							
KKAR	**Karatay Array**	**54.07**	**298**	*e*P		**P**	**12 16 53.4**	**0.0**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**54.07**	**298**	*e*P		**P**	**12 16 53.4**	**0.0**
	comp=Z,2.3nm,0.5s							
ARU	**Arti**	**54.62**	**317**	*d i* P		**P**	**12 16 56.5**	**-0.7**
ARU				S		**S**	**12 24 33.4**	**-0.2**
ARU				pmax	pmax			
	comp=Z,12nm,1.7s							
RES	**Resolute Bay**	**54.84**	**17**	P		**P**	**12 16 56.8**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=334,slow=8.0,SNR=11							
RES	**Resolute Bay**	**54.84**	**17**	P		**P**	**12 16 56.8**	**-1.8**
RES	**Resolute Bay**	**54.84**	**17**	P		**P**	**12 16 56.8**	**-1.8**
YKA	**Yellowknife Ar**	**55.57**	**34**	P		**P**	**12 17 04.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=300,slow=6.8,SNR=13							
YKA				pP		**pP**	**12 17 16.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=299,slow=6.8,SNR=7.7							
YKA	**Yellowknife Ar**	**55.57**	**34**	P		**P**	**12 17 04.0**	**0.0**
YKA				*PP		**pP**	**12 17 16.1**	**+0.1**
YKA	**Yellowknife Ar**	**55.57**	**34**	P		**P**	**12 17 04.0**	**0.0**
YKA				pP		**pP**	**12 17 16.1**	**+0.1**
ABKAR	**Akbulak array**	**57.37**	**309**	*e*P		**P**	**12 17 16.8**	**-0.2**
	comp=Z,1.6nm,0.4s							
ARCES	**ARCESS Array B**	**59.38**	**340**	P		**P**	**12 17 29.7**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=32,slow=6.9,SNR=3.7							
ARCES	**ARCESS Array B**	**59.38**	**340**	P		**P**	**12 17 29.7**	**-1.0**
ARCES	**ARCESS Array B**	**59.38**	**340**	P		**P**	**12 17 29.7**	**-1.0**
KBL	**Kabul**	**59.56**	**290**	*e*P		**P**	**12 17 32.1**	**-0.7**
KBL				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KBL	**Kabul**	**59.56**	**290**	*e*P		**P**	**12 17 32.1**	**-0.7**
	comp=Z,4.6nm,0.8s							
JOF	**Joensuu**	**62.27**	**332**	*e*P		**P**	**12 17 49.3**	**-1.1**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**62.27**	**332**	*e*p		**P**	**12 17 49.3**	**-1.1**
	comp=Z,2.9nm,0.6s							
JOF	**Joensuu**	**62.27**	**332**	*e*p		**P**	**12 17 49.3**	**-1.1**
	comp=Z,2.9nm,0.6s							
KAF	**Kangasniemi**	**64.48**	**334**	*e*P		**P**	**12 18 02.9**	**-2.1**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**64.48**	**334**	*e*p		**P**	**12 18 02.9**	**-2.1**
	comp=Z,2.2nm,0.6s							
KAF	**Kangasniemi**	**64.48**	**334**	*e*p		**P**	**12 18 02.9**	**-2.1**
	comp=Z,2.2nm,0.6s							
WRAB	**Tennant Creek**	**64.55**	**194**	*e*P		**P**	**12 18 07.6**	**+1.7**
WRAB				pmax	pmax			
	comp=Z,10.0nm,1.5s							
WRAB	**Tennant Creek**	**64.55**	**194**	*e*P		**P**	**12 18 07.6**	**+1.7**
	comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**64.56**	**194**	P		**P**	**12 18 06.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=12,slow=6.8,SNR=3.7							
WRA				pP		**pP**	**12 18 18.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=11,slow=6.9,SNR=4.8							
WRA	**Warramunga Arr**	**64.56**	**194**	P		**P**	**12 18 06.1**	**+0.1**
WRA				*PP		**pP**	**12 18 18.7**	**+0.4**
WRA	**Warramunga Arr**	**64.56**	**194**	P		**P**	**12 18 06.1**	**+0.1**
WRA				pP		**pP**	**12 18 18.6**	**+0.4**
FINES	**FINESS Array B**	**65.05**	**333**	P		**P**	**12 18 07.5**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=40,slow=8.2,SNR=17							
FINES				pP		**pP**	**12 18 19.7**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=44,slow=8.5,SNR=2.3							
FINES	**FINESS Array B**	**65.05**	**333**	P		**P**	**12 18 07.5**	**-1.2**
FINES				*PP		**pP**	**12 18 19.7**	**-1.3**
FINES	**FINESS Array B**	**65.05**	**333**	P		**P**	**12 18 07.5**	**-1.2**
FINES				pP		**pP**	**12 18 19.7**	**-1.3**
OBN	**Obninsk**	**65.55**	**324**⇑	*i* P		**P**	**12 18 11.7**	**-0.3**
OBN				pmax	pmax			
	comp=Z,26nm,2.5s							
NVAR	**Mina Array Bea**	**67.23**	**58**	P		**P**	**12 18 24.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=287,slow=7.3,SNR=12							
NVAR				pP		**pP**	**12 18 35.2**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=301,slow=7.3,SNR=5.6							
NVAR	**Mina Array Bea**	**67.23**	**58**	P		**P**	**12 18 24.1**	**+0.6**
NVAR				pP		**pP**	**12 18 35.2**	**-0.5**
RRI2	**Red Ridge**	**68.24**	**50**	*e*P		P	12 18 37.4	+7.7
	comp=Z,26nm,1.9s							
ASAR	**Alice Springs**	**68.28**	**194**	P		**P**	**12 18 30.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=11,slow=6.0,SNR=6.1							
ASAR	**Alice Springs**	**68.28**	**194**	P		**P**	**12 18 30.1**	**+0.4**
ASAR	**Alice Springs**	**68.28**	**194**	P		**P**	**12 18 30.1**	**+0.4**
PDAR	**Pinedale Array**	**69.60**	**50**	P		**P**	**12 18 38.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=271,slow=4.7,SNR=5.7							
PDAR				pP		**pP**	**12 18 50.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=278,slow=1.8,SNR=4.3							
PDAR	**Pinedale Array**	**69.60**	**50**	P		**P**	**12 18 38.3**

TXAR	**Lajitas Array**	**82.31**	**57**	P	**P**	**12 19 51.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=304,slow=4.1,SNR=12						
TXAR				pP	pP	12 20 01.6	-1.7
	comp=Z,0.8nm,0.7s,baz=305,slow=3.8,SNR=4.8						
TXAR	**Lajitas Array**	**82.31**	**57**	P	**P**	**12 19 51.2**	**+0.6**
TXAR				*PP	pP	12 20 01.6	-1.7
TXAR	**Lajitas Array**	**82.31**	**57**	P	**P**	**12 19 51.2**	**+0.6**
TXAR				pP	pP	12 20 01.6	-1.7
SFTF	**Sexfontaines**	**82.71**	**336**	*e*P	**P**	**12 19 52.0**	**-0.3**
	comp=Z,15nm,0.8s						
LOR	**Lormes**	**83.90**	**336**	*e*P	**P**	**12 19 58.3**	**-0.1**
	comp=Z,5.3nm,0.7s						
AVF	**Avril sur Loir**	**84.48**	**336**	*e*P	**P**	**12 20 00.8**	**-0.6**
LPG	**La Plagne**	**84.60**	**334**	*e*P	**P**	**12 20 02.7**	**+0.3**
	comp=Z,6.1nm,0.6s						
LMR	**La Mourre**	**86.60**	**333**	*e*P	**P**	**12 20 11.1**	**-0.9**
	comp=Z,7.7nm,0.7s						
TKL	**Tuckaleechee C**	**88.14**	**40**	P	**P**	**12 20 19.7**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=214,slow=3.6,SNR=3.5						
TKL	**Tuckaleechee C**	**88.14**	**40**	P	**P**	**12 20 19.7**	**+0.2**
TKL	**Tuckaleechee C**	**88.14**	**40**	P	**P**	**12 20 19.7**	**+0.2**
SNAA	**Sanae**	**148.58**	**197**	*e*	**PKPbc**	**12 27 12.0**	**-2.3**
VNA2	**Neumayer--Watz**	**150.11**	**196**	*e*	**PKPbc**	**12 27 19.0**	**+1.0**
VNA2				*e*		12 27 29.8	
VNA3	**Neumayer Olymp**	**150.28**	**195**	*e*	**PKPbc**	**12 27 19.7**	**+1.3**
VNA3				*e*		12 27 29.8	
PLCA	**Paso Flores**	**151.69**	**97**	PKPbc	**PKPbc**	**12 27 22.9**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=225,slow=2.9,SNR=3.1						
PLCA	**Paso Flores**	**151.69**	**97**	PKIKP	**PKPbc**	**12 27 22.9**	**+0.2**
PLCA	**Paso Flores**	**151.69**	**97**	PKPbc	**PKPbc**	**12 27 22.9**	**+0.2**

CSEM 16 12:30:24.2, 38.67N×4.13W, h0km, ML1.7, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EADA	**Adamuz**	**0.61**	**215**	Pg	Pg	12 30 34.5	-1.5
	4.7nm,0.3s,SNR=12						
EADA				Lg	Lg	12 30 44.0	
	SNR=7.9						
ESDC	**Sonseca Array**	**1.01**	**7**	P	Pg	12 30 42.7	-1.0
	2.0nm,0.2s,SNR=21						
ESDC				Lg	Lg	12 30 57.1	
	4.9nm,0.2s,SNR=34						
ELUQ	**Luque**	**1.11**	**186**	Pg	Pg	12 30 45.8	+0.1
	SNR=7.9						
ELUQ				Lg	Lg	12 31 02.6	
	SNR=7.9						
EQES	**Quesada**	**1.20**	**136**	Pg	Pg	12 30 46.5	-0.9
	SNR=7.9						
EQES				Lg	Lg	12 31 03.9	
	SNR=7.9						
EVIA	**Vianos**	**1.27**	**91**	P	Pg	12 30 47.4	-1.4
	16nm,0.8s,SNR=8.2						
EVIA				Lg	Lg	12 31 05.6	
	16nm,0.4s,SNR=9.6						
EHUE	**Huescar**	**1.48**	**125**	Pg	Pn	12 30 50.8	-1.4
	SNR=7.9						
EHUE				Lg	Lg	12 31 12.3	
	SNR=7.9						
EQUE	**Quentar**	**1.56**	**159**	Pg	Pn	12 30 53.1	-0.3
	SNR=7.9						
EQUE				Lg	Lg	12 31 14.1	
	SNR=7.9						
ERON	**Agron**	**1.67**	**171**	Pg	Pn	12 30 54.8	-0.1
	SNR=7.9						
ERON				Lg	Lg	12 31 15.8	
	SNR=7.9						
GUD	**Guadarrama**	**1.97**	**359**	Lg	Lg	12 31 25.8	
	SNR=7.9						
ETOB	**Tobarra**	**2.02**	**90**	Pg	Pn	12 30 59.4	-0.3
	SNR=7.9						
ETOB				Lg	Lg	12 31 26.6	
	SNR=7.9						
EBER	**Berja**	**2.02**	**151**	Pg	Pb	12 31 01.8	-0.3
	SNR=7.9						
EBER				Lg	Lg	12 31 29.6	
	SNR=7.9						
EPLA	**Plasencia**	**2.06**	**313**	P	Pn	12 31 00.7	+0.6
	2.1nm,0.2s,SNR=10						
EPLA				Lg	Lg	12 31 29.1	
	3.2nm,0.3s,SNR=5.8						
EMIN	**Mina Concepcio**	**2.20**	**247**	Pg	Pn	12 31 02.8	+0.8
	SNR=7.9						
EMIN				Lg	Lg	12 31 32.6	
	SNR=7.9						
EBAD	**Badajoz**	**2.26**	**273**	Lg	Lg	12 31 36.4	
	SNR=7.9						

CSEM 16 12:31:19.0, 42.91N×6.35W, h0km, ML1.7, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.72**	**306**	Pg	Pg	12 31 32.0	-0.8
	SNR=7.9						
EPON				Lg	Lg	12 31 43.8	
	7.5nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**0.93**	**65**	P	Pg	12 31 36.6	-0.2
	5.5nm,0.3s,SNR=43						
EARI	**Arriondas**	**0.93**	**65**	Pg	Pg	12 31 36.3	-0.5
	SNR=7.9						
EARI				Lg	Lg	12 31 50.5	
	2.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**1.01**	**197**	Pg	Pg	12 31 38.2	-0.3
	SNR=7.9						
ECAL				Lg	Lg	12 31 54.2	
	13nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**1.64**	**231**	Pg	Pn	12 31 48.0	-1.2
	SNR=7.9						
ELOB				Lg	Lg	12 32 12.6	
	SNR=7.9						
MVO	**Moncorvo**	**1.81**	**196**	Pg	Pn	12 31 50.9	-0.7
	SNR=7.9						
MVO				Lg	Lg	12 32 16.9	
	SNR=7.9						
EMAZ	**Mazaricos**	**1.93**	**272**	Pg	Pn	12 31 53.3	+0.2
	SNR=7.9						
EMAZ				Lg	Lg	12 32 19.3	
	SNR=7.9						
ELAN	**Lanestosa**	**2.16**	**80**	Pg	Pn	12 31 57.0	+0.7
	SNR=7.9						
ELAN				Lg	Lg	12 32 26.8	
	SNR=7.9						

IDC 16 12:32:21.2±15.0, 0.40S×133.13E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=226.0km s-min=97.4km az=167.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.07**	**202**	P	Pn	12 36 45.9	-0.3
	0.1nm,0.3s,baz=28,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**19.46**	**177**	P	P	12 36 50.1	+0.4
	0.5nm,0.3s,baz=354,slow=11,SNR=31						
ASAR	**Alice Springs**	**23.14**	**178**	P	P	12 37 29.2	-0.2
	1.7nm,0.4s,baz=359,slow=11,SNR=70						
STKA	**Stephens Creek**	**32.32**	**166**	P	P	12 38 51.8	-0.4
	1.1nm,0.4s,baz=353,slow=9.5,SNR=2.8						

IDC 16 12:33:16.5±14.0, 0.51S×132.72E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.8/19, mbtmp4.1/5, ML4.3/2, Error ellipse: s-maj=211.5km s-min=63.2km az=163.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.81**	**201**	P	Pn	12 37 39.0	+0.7
	0.3nm,0.3s,baz=35,slow=12,SNR=4.5						
FITZ				S	Sn	12 40 56.5	-13
	0.1nm,0.3s,baz=214,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**19.38**	**175**	P	P	12 37 44.1	0.0
	1.5nm,0.3s,baz=354,slow=11,SNR=27						
WRA				S	Sn	12 41 14.3	-8.9
	0.3nm,0.3s,baz=0.4,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**23.05**	**177**	P	P	12 38 23.6	-0.1
	5.6nm,0.5s,baz=355,slow=11,SNR=44						
CTA	**Charters Tower**	**23.54**	**147**	P	P	12 38 29.6	+0.9
	1.2nm,0.5s,baz=330,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**32.31**	**166**	P	P	12 39 45.9	-1.4
	1.8nm,0.4s,baz=2.8,slow=10.0,SNR=6.1						

IDC 16 12:35:14.7±18.0, 0.42S×132.64E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=333.9km s-min=180.9km az=129.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.47**	**175**	P	P	12 39 43.7	+0.4
	0.3nm,0.3s,baz=354,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**23.14**	**177**	P	P	12 40 23.2	+0.4
	1.4nm,0.4s,baz=355,slow=12,SNR=8.7						
STKA	**Stephens Creek**	**32.41**	**166**	P	P	12 41 45.6	-0.8
	1.2nm,0.6s,baz=2.0,slow=13,SNR=2.2						

NNC ***16*** *12:35:49.1±1.2, 39.37N×73.21E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=11.1km s-min=5.2km az=18.0*
IDC ***16*** *12:35:49.5±0.6, 39.37N×73.41E, h0km, mb4.3/23, mb1 4.4/28, mb1mx4.3/36, mbtmp4.3/28, ML3.8/5, MS3.4/8, Ms1 3.5/8, ms1mx3.2/34, Error ellipse: s-maj=12.3km s-min=10.3km az=2.0*
BJI ***16*** *12:35:50.5, 39.40N×73.30E, h20km, mB4.4/3, mb4.5/18, ML4.2/6, Ms4.0/6, Ms7 3.9/6*
MOS ***16*** *12:35:53.7±1.2, 39.52N×73.40E, h33km, mb4.6/21, Error ellipse: s-maj=7.6km s-min=5.0km az=113.7*
ISCJB ***16*** *12:35:54.8±0.4, 39.45N±0.02×73.43E±0.04, h48km±4km, mb4.4/53, MS3.5/5, Error ellipse: s-maj=4.8km s-min=3.6km az=3.6*
NEIC ***16*** *12:35:56.9±1.0, 39.59N×73.38E, h49km±9km, mb4.5/9, Error ellipse: s-maj=10.3km s-min=7.2km az=175.0*
SZGRF ***16*** *12:35:57.3, 40.23N×74.03E, h33km, mb4.3, Kyrgyzstan-Xinjiang border region*
ISC 16 12:35:54.4±0.7, 39.52N±0.03×73.39E±0.04, h30km±5km, n249, σ1°65/259, mb4.4/53, MS3.6/6, 44C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.00**	**89**	Pn	Pn	12 36 20.3	-6.0
KSH				Sn	Sn	12 36 41.5	-8.9
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,0.9s						
AML	**Almayashu**	**2.62**	**5**	P	**Pn**	**12 36 36.5**	**+1.5**
	SNR=166						
AML				P	**Pn**	**12 36 36.5**	**+1.5**
	SNR=166						
UCH	**Uchtor**	**2.83**	**17**	P	**Pb**	**12 36 42.4**	**-2.2**
	SNR=55						
UCH				P	**Pb**	**12 36 42.4**	**-2.2**
	SNR=55						
KZA	**Kyzart**	**2.92**	**28**	P	Pn	12 36 41.9	+2.8
	SNR=30						
KZA				P	Pn	12 36 41.9	+2.8
	SNR=30						
EKS2	**Erkin-Say**	**3.15**	**5**	P	**Pn**	**12 36 44.2**	**+2.1**
	SNR=59						
EKS2				P	**Pn**	**12 36 44.2**	**+2.1**
	SNR=59						
EKS2	**Erkin-Say**	**3.15**	**5**	*e*PN	**Pn**	**12 36 44.2**	**+2.1**
EKS2				*e*		12 37 21.3	
EKS2	**Erkin-Say**	**3.15**	**5**	*e*Pn	**Pn**	**12 36 44.2**	**+2.1**
EKS2				*e*Sn	**Sn**	**12 37 21.3**	**+2.6**
AAK	**Ala-Archa**	**3.22**	**15**	P	Pn	12 36 45.8	+2.8
	SNR=304						
AAK				P	Pn	12 36 45.8	+2.8
	SNR=304						
AAK	**Ala-Archa**	**3.22**	**15**	*e*PN	**Pn**	**12 36 45.7**	**+2.6**
AAK				*e*		12 37 21.5	
AAK	**Ala-Archa**	**3.22**	**15**	*e*Pn	**Pn**	**12 36 45.7**	**+2.6**
AAK				*e*Sn	**Sn**	**12 37 21.5**	**+1.0**
KBK	**Karagaybulak**	**3.34**	**20**	P	Pn	12 36 48.1	+3.3
	SNR=58						
KBK				P	Pn	12 36 48.1	+3.3
	SNR=58						
FRU	**Bishkek**	**3.44**	**15**	*e*PN	Pn	12 36 50.0	+4.1
FRU				*i*		12 36 55.0	
FRU				*i*		12 37 41.0	
FRU				pmax	pmax		
	comp=Z,530nm,1.6s						
ULHL	**Ulahol**	**3.48**	**38**	P	Pn	12 36 49.9	+3.2
	SNR=132						
ULHL				P	Pn	12 36 49.9	+3.2
	SNR=132						
CHMS	**Chumysh**	**3.62**	**16**	P	**Pn**	**12 36 51.1**	**+2.7**
	SNR=24						
CHMS				P	**Pn**	**12 36 51.1**	**+2.7**
	SNR=24						
TKM2	**Tokmak 2**	**3.78**	**25**	P	Pn	12 36 55.4	+4.5
	SNR=12						
TKM2				P	Pn	12 36 55.4	+4.5
	SNR=12						
TKM2	**Tokmak 2**	**3.78**	**25**	⇓Pn	**Pn**	**12 36 52.8**	**+2.0**
	comp=Z,38nm,0.3s						
TKM2				⇑Pg	**Pb**	**12 37 02.4**	**+1.8**
	comp=Z,228nm,1.1s						
TKM2				⇑Lg	Lg	12 37 53.6	
	comp=Z,790nm,1.2s						
TKM2	**Tokmak 2**	**3.78**	**25**	*i* PN	Pn	12 36 55.3	+4.5
TKM2	**Tokmak 2**	**3.78**	**25**	*e*Pn	**Pn**	**12 36 53.0**	**+2.1**
TKM2				*e*Sn	**Sn**	**12 37 32.4**	**-2.0**
USP	**Ospenovka**	**3.83**	**12**	P	**Pn**	**12 36 53.4**	**+2.0**
	SNR=42						
USP				P	**Pn**	**12 36 53.4**	**+2.0**
	SNR=42						
KK31	**Karatay Array**	**4.18**	**330**	Pn	**Pn**	**12 36 58.0**	**+1.8**
	comp=Z,33nm,0.5s,baz=138,slow=12,SNR=440						
KK31				⇑Pg	**Pb**	**12 37 06.9**	**-0.4**
	comp=Z,281nm,1.0s,baz=143,slow=15,SNR=18						
KK31				⇓Sn	**Sb**	**12 37 52.1**	**-5.2**
	comp=Z,53nm,0.5s,baz=146,slow=26,SNR=4.1						
KK31				⇑Lg	Lg	12 38 04.0	
	comp=Z,60nm,0.3s						
KK31	**Karatay Array**	**4.18**	**330**	*i* PN	**Pn**	**12 36 58.0**	**+1.8**
KK31				pmax	pmax		
	comp=Z,33nm,0.4s						
KKAR	**Karatay Array**	**4.18**	**330**	*e*PN	**Pn**	**12 36 57.8**	**+1.6**
KKAR	**Karatay Array**	**4.18**	**330**	*e*Pn	**Pn**	**12 36 57.8**	**+1.6**
KNDC	**Almaty**	**4.57**	**35**	⇓Pn	**Pn**	**12 37 02.8**	**+1.3**
	comp=Z,69nm,0.8s						
KNDC				⇓Pg	Pb	12 37 16.7	+2.9
	comp=Z,326nm,1.1s						
KNDC				⇑Lg	Lg	12 38 18.8	
	comp=Z,1μm,0.8s						
AAA	**Alma-Ata**	**4.60**	**34**	*i* PN	**Pb**	**12 37 14.2**	**-0.3**
AAA				pmax	pmax		
	comp=Z,203nm,0.4s						
CEP	**Cherat**	**5.81**	**192**	P	**Pn**	**12 37 21.0**	**+2.3**
CEP				S	Sn	12 38 34.0	+10
CHCP	**Chirah Chowk**	**5.85**	**181**	P	**Pn**	**12 37 21.1**	**+1.9**
KBL	**Kabul**	**6.07**	**216**	*e*PN	Pn	12 37 25.8	+3.5
KBL				*e*		12 38 32.8	
KBL	**Kabul**	**6.07**	**216**	*e*Pn	Pn	12 37 25.8	+3.5
KBL				*e*Sn	**Sn**	**12 38 32.8**	**+2.1**
THW	**Thamme Wali**	**6.84**	**192**	P	**Pn**	**12 37 34.1**	**+1.3**
THW				S	Sn	12 38 59.0	+9.3
DLH	**Dalhousie**	**7.27**	**163**	*e*P	**Pn**	**12 37 39.0**	**+0.2**
DLH				*ex*	x	12 39 05.0	
SARP	**Sargodha**	**7.61**	**185**	P	**Pn**	**12 37 43.3**	**+0.1**
MK31	**Makanchi Array**	**9.75**	**39**	⇓Pn	Pn	12 38 15.6	+3.1
	comp=Z,16nm,1.0s,baz=211,slow=11,SNR=34						
MK31				⇑Lg	Lg	12 41 01.7	
	comp=Z,29nm,1.0s,baz=224,slow=24,SNR=6.0						
MK31	**Makanchi Array**	**9.75**	**39**	*e*P	Pn	12 38 15.7	+3.1
MK31	**Makanchi Array**	**9.75**	**39**	*e*Pn	Pn	12 38 15.7	+3.1
MKAR	**Makanchi Array**	**9.75**	**39**	Pn	**Pn**	**12 38 14.9**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=215,slow=10,SNR=26						
MKAR				Lg	Lg	12 40 54.6	
	comp=Z,0.3nm,0.3s,baz=12,slow=24,SNR=1.5						
MKAR	**Makanchi Array**	**9.75**	**39**	P	**Pn**	**12 38 15.0**	**+2.4**
MKAR	**Makanchi Array**	**9.75**	**39**	Pn	**Pn**	**12 38 14.9**	**+2.4**
MKAR				*e*Pn	Pn	12 38 15.7	+3.1
MKAR				Lg	Lg	12 40 54.6	
DDI	**Dehra Dun**	**9.94**	**156**	*e*P	**Pn**	**12 38 16.0**	**+0.7**
DDI				*ex*	x	12 40 07.0	
KKR	**Kurukshetra**	**9.95**	**162**	*e*P	**Pn**	**12 38 15.8**	**+0.5**
KKR				*e*S	Sn	12 40 00.4	-5.5
KKR				AML	AML	12 40 12.8	
	comp=Z,217nm,0.3s						
NDI	**New Delhi**	**11.27**	**163**	*e*P	**Pn**	**12 38 32.4**	**-1.0**
NDI				*e*S	Sn	12 40 31.4	-6.8
NDI				AML	AML	12 40 44.2	
	comp=N,58nm,0.5s						
NDI				AML	AML	12 40 48.6	
	comp=E,54nm,0.7s						
AYAN	**Aya Nagar**	**11.44**	**163**	*e*P	**Pn**	**12 38 35.4**	**-0.4**
AYAN				*e*S	Sn	12 40 34.8	-7.7
WMQ	**Urumqi**	**11.53**	**64**	P	**Pn**	**12 38 38.1**	**+1.1**
WMQ				pP		12 38 46.1	
WMQ				sP		12 38 50.1	
WMQ				pmax	pmax		
	comp=Z,14nm,0.8s						
WMQ				LR	LR		
	comp=N,210nm,24.0s						
WMQ				LR	LR		
	comp=E,180nm,22.6s						
WMQ				LR	LR		
	comp=Z,200nm,16.8s						
KHET	**Khetri**	**11.60**	**169**	*ex*	Pn	12 38 34.2	-3.7
KHET				*e*S	Sn	12 40 37.0	-9.3
KHET				AML	AML	12 40 37.7	
	comp=E,36nm,0.8s						
KHET				AML	AML	12 40 47.0	
	comp=N,56nm,0.5s						
KURK	**Kurchatov**	**11.78**	**16**	Pn	**Pn**	**12 38 38.1**	**-2.2**
	comp=N,0.2nm,0.3s,baz=209,slow=12,SNR=12						
KURK				Sn	**Sn**	**12 40 45.0**	**-5.7**
	comp=N,0.1nm,0.3s,baz=193,slow=5.4,SNR=1.5						
KURK				Lg	Lg	12 41 56.7	
	comp=N,0.2nm,0.3s,baz=204,slow=31,SNR=8.1						
KURK				LR	LR	12 43 24.6	
	comp=N,246nm,18.7s,baz=210,slow=38						
KURK	**Kurchatov**	**11.78**	**16**	⇑Pn	**Pn**	**12 38 41.1**	**+0.8**
	comp=N,9.8nm,1.3s						
KURK				⇓Lg	Lg	12 42 09.7	
	comp=N,100nm,1.0s						
KURK	**Kurchatov**	**11.78**	**16**	*e*P	**Pn**	**12 38 41.8**	**+1.5**
KURK				*e*		12 40 58.0	
KURK	**Kurchatov**	**11.78**	**16**	*e*Pn	**Pn**	**12 38 41.8**	**+1.5**
KURK				Sn	**Sn**	**12 40 45.0**	**-5.7**
KURK				*e*Sn	Sn	12 40 58.0	+7.3
KURK				Lg	Lg	12 41 56.7	
VOSK	**Vostochnaya**	**13.31**	**354**	⇓Pn	**Pn**	**12 38 58.7**	**-2.4**
	comp=N,10nm,0.9s						
VOSK				⇓Lg	Lg	12 42 56.4	
	comp=N,65nm,0.9s						
AB31	**Akbulak array**	**13.66**	**320**	⇑Pn	**Pn**	**12 39 04.0**	**-2.0**
	comp=N,5.5nm,0.5s,baz=132,slow=12,SNR=116						
AB31				⇑Sn	**Sn**	**12 41 37.3**	**+0.8**
	comp=N,7.0nm,0.6s,baz=134,slow=26,SNR=6.4						
AB31	**Akbulak array**	**13.66**	**320**	*i* P	**Pn**	**12 39 03.9**	**-2.0**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ABKAR	**Akbulak array**	**13.66**	**320**	*e*Pn	**Pn**	**12 39 04.9**	**-1.0**
BVA0	**Borovoye Array**	**13.66**	**352**	⇓Pn	**Pn**	**12 39 03.8**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=168,slow=14,SNR=53						
BVA0				⇓Sn	**Sn**	**12 41 41.4**	**+4.8**
	comp=Z,1.5nm,1.0s						
BVA0				⇓Lg	Lg	12 43 07.9	
	comp=Z,7.5nm,1.1s						
BVA0	**Borovoye Array**	**13.66**	**352**	*i* P	**Pn**	**12 39 03.7**	**-2.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVA0				pmax	pmax		
	comp=N,10.0nm,1.2s						
BVAR	**Borovoye Array**	**13.66**	**352**	Pn	**Pn**	**12 39 03.5**	**-2.4**
	comp=N,0.7nm,0.3s,baz=163,slow=13,SNR=68						
BVAR				Lg	Lg	12 42 58.8	
	comp=N,0.6nm,0.3s,baz=154,slow=24,SNR=3.4						
BVAR				LR	LR	12 44 02.6	
	comp=N,77nm,21.3s,baz=168,slow=36						
BVAR	**Borovoye Array**	**13.66**	**352**	P	**Pn**	**12 39 03.5**	**-2.4**
BVAR	**Borovoye Array**	**13.66**	**352**	Pn	**Pn**	**12 39 03.5**	**-2.4**
BVAR				Lg	Lg	12 42 58.8	
BRVK	**Borovoye**	**13.71**	**352**	⇑Pn	**Pn**	**12 39 04.6**	**-2.0**
	comp=N,50nm,1.0s						
BRVK				⇑Sn	**Sn**	**12 41 42.2**	**+4.6**
	comp=N,12nm,1.1s						
BRVK				⇑Lg	Lg	12 43 09.3	
	comp=N,74nm,1.0s						
BRVK	**Borovoye**	**13.71**	**352**	*c i* P	**Pn**	**12 39 04.9**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**13.71**	**352**	*e*Pn	**Pn**	**12 39 05.2**	**-1.4**
BRVK				*e*Sn	**Sn**	**12 41 35.4**	**-2.3**
ZRNK	**Zerenda**	**13.77**	**349**	⇓Pn	**Pn**	**12 39 04.5**	**-2.8**
	comp=Z,7.0nm,0.7s						
ZRNK				⇑Lg	Lg	12 43 10.1	
	comp=Z,66nm,1.4s						
AKTO	**Aktyubinsk**	**15.37**	**320**	Pn	**Pn**	**12 39 27.4**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=136,slow=14,SNR=21						
AKTO				Sn	**Sn**	**12 42 13.9**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=18,SNR=1.9						
AKTO				LR	LR	12 46 25.3	
	comp=Z,80nm,18.4s,baz=17,slow=41						
AKTO	**Aktyubinsk**	**15.37**	**320**	⇑Pn	**Pn**	**12 39 26.7**	**-2.3**
	comp=Z,4.2nm,0.8s						
AKTO				⇑Sn	**Sn**	**12 42 18.8**	**+0.6**
	comp=Z,1.8nm,1.2s						
AKTO	**Aktyubinsk**	**15.37**	**320**	P	**Pn**	**12 39 27.4**	**-1.7**
AKTO						12 42 13.9	
AKTO	**Aktyubinsk**	**15.37**	**320**	Pn	**Pn**	**12 39 27.4**	**-1.7**
AKTO				Sn	**Sn**	**12 42 13.9**	**-4.4**
ZAA0	**Zalesovo Array**	**16.39**	**25**	*e*Pn	**Pn**	**12 39 42.5**	**+0.5**
ZAA0				*e*Sn	**Sn**	**12 42 45.8**	**+3.0**
ZALV	**Zalesovo Beam**	**16.39**	**25**	Pn	**Pn**	**12 39 41.7**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=213,slow=11,SNR=28						
ZALV				Lg	Lg	12 44 25.3	
	comp=Z,0.1nm,0.3s,baz=239,slow=43,SNR=1.4						
ZALV				LR	LR	12 46 07.1	
	comp=Z,106nm,18.4s,baz=239,slow=37						
ZALV	**Zalesovo Beam**	**16.39**	**25**	P	**Pn**	**12 39 41.7**	**-0.4**
ZALV	**Zalesovo Beam**	**16.39**	**25**	Pn	**Pn**	**12 39 41.7**	**-0.4**
ZALV				Lg	Lg	12 44 25.3	
NVS	**Novosibirsk**	**16.69**	**20**	*e*P	**Pn**	**12 39 44.6**	**-1.3**
NVS				*e*		12 42 55.8	
LSA	**Lhasa**	**17.57**	**118**	P	**Pn**	**12 39 56.5**	**-1.1**
SVE	**Sverdlovsk**	**19.23**	**338**	*e*P	**P**	**12 40 15.8**	**-0.2**
SVE				*e*S	**Sn**	**12 43 48.5**	**-3.1**
SVE				pmax	pmax		
	comp=Z,15nm,1.0s						
ARU	**Arti**	**19.54**	**335**	*e*P	**P**	**12 40 19.9**	**+0.6**
ARU				pmax	pmax		
	comp=Z,23nm,0.8s						
ARU	**Arti**	**19.54**	**335**	*e*P	**P**	**12 40 19.9**	**+0.6**
	comp=Z,22nm,0.8s						
GTA	**Gaotai**	**20.38**	**82**	*e*P	Pn	12 40 29.8	-1.3
GTA				pP	pP	12 40 34.0	-2.9
GTA				sP	sP	12 40 37.5	-3.2
GTA				pmax	pmax		
	comp=Z,16nm,0.8s						
DGRG	**David-gareji**	**21.36**	**284**	P	**P**	**12 40 35.8**	**-3.4**
**GNI

LZH pmax pmax
comp=Z,90nm,5.8s
VRHR Novokhopersk 24.96 308 *eP* **P 12 41 14.8 -0.2**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 25.12 60 P **P 12 41 17.2 +0.5**
comp=Z,2.7nm,0.9s,baz=268,slow=9.0,SNR=15
SONM Songino Array 25.12 60 P **P 12 41 17.2 +0.5**
SONM Songino Array 25.12 60 P **P 12 41 17.2 +0.5**
ULN Ulaanbaatar 25.57 60 *eP* **P 12 41 22.0 +1.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 25.57 60 *eP* **P 12 41 22.0 +1.2**
comp=Z,3.8nm,0.8s
VSR Storozhevoye 26.49 308 *eP* **P 12 41 28.3 -0.6**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 29.01 315 *eP* **P 12 41 51.6 +0.3**
OBN *i* 12 44 58.3
OBN pmax pmax
comp=Z,9.0nm,1.2s
HHC Hu-ho-hao-te 29.05 75 *eP* **P 12 41 52.3 +0.3**
HHC PP PP 12 42 43.8 -14
HHC S **S 12 46 37.8 -3.7**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC LR LR
comp=N,170nm,8.1s
HHC LR LR
comp=E,240nm,10.1s
HHC LR LR
comp=Z,260nm,9.5s
BR131 Keskin Array S 30.45 283 *eP* **P 12 42 05.6 +1.2**
comp=Z,3.3nm,0.6s
BRTR Keskin Array B 30.45 283 P **P 12 42 05.2 +0.7**
comp=Z,5.0nm,0.8s,baz=89,slow=7.6,SNR=29
BRTR Keskin Array B 30.45 283 P **P 12 42 05.2 +0.7**
BRTR Keskin Array B 30.45 283 P **P 12 42 05.2 +0.7**
CMAR Chiang Mai Arr 30.48 126 LR LR 12 55 01.1
comp=Z,52nm,20.4s,baz=300,slow=38
BOD Bodaibo 31.83 41 *eP* **P 12 42 13.2 -3.0**
BOD pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 32.65 305 P **P 12 42 23.0 -0.5**
comp=Z,6.9nm,0.5s,baz=82,slow=7.3,SNR=33
AKASG Malin Array Be 32.65 305*ceP* **P 12 42 23.7 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 32.65 305 P **P 12 42 23.0 -0.5**
AKBB Malin Array Si 32.65 305 *eP* **P 12 42 23.5 0.0**
AKBB Malin Array Si 32.65 305 *eP* **P 12 42 23.5 0.0**
KIEV Kiev 32.66 305 *eP* **P 12 42 23.1 -0.4**
KIEV pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 32.66 305 *eP* **P 12 42 23.1 -0.4**
comp=Z,10nm,0.6s
EIL Elat 32.92 265 LR LR 12 57 04.5
comp=Z,58nm,20.6s,baz=273,slow=39
JOF Joensuu 34.28 327 *eP* **P 12 42 38.3 +0.8**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 34.28 327 *ep* **P 12 42 38.3 +0.8**
comp=Z,3.4nm,0.6s
JOF Joensuu 34.28 327 *ep* **P 12 42 38.3 +0.8**
comp=Z,3.4nm,0.6s
TESR 34.46 297⇑*iP* **P 12 42 41.5 +2.1**
VRI Vrincioaia 34.48 296⇑P **P 12 42 41.2 +1.7**
VRI Vrincioaia 34.48 296⇑*iP* **P 12 42 41.2 +1.7**
PLOR Plostina 34.53 296⇑P **P 12 42 41.9 +1.9**
PLOR Plostina 34.53 296⇑*iP* **P 12 42 41.9 +1.9**
ISR Istrita 34.70 295⇑P **P 12 42 43.8 +2.4**
ISR Istrita 34.70 295⇑*iP* **P 12 42 43.8 +2.4**
MLR Muntele Rosu 35.07 296 P **P 12 42 46.5 +1.8**
comp=Z,4.9nm,0.8s,baz=156,slow=6.6,SNR=26
MLR Muntele Rosu 35.07 296⇑P **P 12 42 47.2 +2.5**
MLR Muntele Rosu 35.07 296 P **P 12 42 46.5 +1.8**
MLR Muntele Rosu 35.07 296⇑*iP* **P 12 42 47.2 +2.5**
BUR08 Bucovina Ar. S 35.35 299 *eP* **P 12 42 47.9 +0.8**
DOPR Dopca 35.39 297⇑*iP* **P 12 42 49.3 +1.9**
VOIR 35.70 296⇑P **P 12 42 51.4 +1.3**
VOIR 35.70 296⇑*iP* **P 12 42 51.4 +1.3**
LVV L'vov 35.98 303 *eP* **P 12 42 52.2 -0.2**
FINES FINESS Array B 36.11 323 P **P 12 42 53.2 -0.1**
comp=Z,3.7nm,0.4s,baz=112,slow=9.1,SNR=22
FINES FINESS Array B 36.11 323 P **P 12 42 53.2 -0.1**
FINES FINESS Array B 36.11 323 P **P 12 42 53.2 -0.1**
KAF Kangasniemi 36.19 324 *eP* **P 12 42 54.6 +0.6**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 36.19 324 *ep* **P 12 42 54.6 +0.6**
comp=Z,1.8nm,0.7s
KAF Kangasniemi 36.19 324 *ep* **P 12 42 54.6 +0.6**
comp=Z,1.8nm,0.7s
KWP Kalwaria Pacla 36.85 303⇑P **P 12 43 01.0 +1.2**
KWP Kalwaria Pacla 36.85 303⇑*iP* **P 12 43 01.0 +1.2**
TRPA Tarpa 37.09 301⇑*iP* **P 12 43 03.5 +1.7**
DRGR 37.13 298⇑P **P 12 43 03.8 +1.5**
DRGR 37.13 298⇑*iP* **P 12 43 03.8 +1.5**
KOLS Kolonicke sedl 37.19 302 *eP* **P 12 43 02.6 -0.1**
KOLS Kolonicke sedl 37.19 302 *eP* **P 12 43 02.6 -0.1**
GZR Gura Zlata 37.29 296⇓P **P 12 43 04.9 +1.3**
GZR Gura Zlata 37.29 296⇓*iP* **P 12 43 04.8 +1.2**
VTS Vitosha 37.52 291⇑P **P 12 43 07.5 +1.8**
VTS Vitosha 37.52 291⇑*iP* **P 12 43 07.5 +1.8**
CRVS Cervenica-Dubn 37.72 302 *eP* **P 12 43 07.1 -0.1**
CRVS Cervenica-Dubn 37.72 302 *eP* **P 12 43 07.1 -0.1**
STHS Stebnicka Huta 37.81 303 *eP* **P 12 43 08.6 +0.6**
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 37.81 303 *eP* **P 12 43 08.6 +0.6**
NIE Niedzica 38.42 303 *eP* **P 12 43 15.0 +1.9**
NIE Niedzica 38.42 303 *eP* **P 12 43 15.0 +1.9**
OJC Ojcow 38.68 304 *eP* **P 12 43 15.5 +0.3**
OJC Ojcow 38.68 304 *eP* **P 12 43 15.5 +0.3**
KEV Kevo 38.74 336 *eP* **P 12 43 15.1 -0.4**
KEV Kevo 38.74 336 *ep* **P 12 43 15.1 -0.4**
KEV Kevo 38.74 336 *ep* **P 12 43 15.1 -0.4**
ARCES ARCESS Array B 39.12 336 P **P 12 43 19.2 +0.5**
comp=Z,5.1nm,0.8s,baz=108,slow=7.8,SNR=25
ARCES ARCESS Array B 39.12 336 P **P 12 43 19.2 +0.5**
ARCES ARCESS Array B 39.12 336 P **P 12 43 19.2 +0.5**
VYHS Vyhne 39.50 302 *eP* **P 12 43 21.9 -0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.3s
VYHS Vyhne 39.50 302 *eP* **P 12 43 21.9 -0.2**
PKSM Moragy 39.99 298⇑P **P 12 43 27.4 +1.2**
PKSM Moragy 39.99 298⇑*iP* **P 12 43 27.4 +1.2**
MORC Moravsky Berou 40.17 304⇑P **P 12 43 28.7 +1.0**
MORC Moravsky Berou 40.17 304⇑*iP* **P 12 43 28.7 +1.0**
VRAC Vranov 40.85 303 P **P 12 43 34.9 +1.6**
comp=Z,3.5nm,0.7s,baz=58,slow=1.9,SNR=4.0
VRAC Vranov 40.85 303⇑P **P 12 43 35.2 +1.9**
VRAC Vranov 40.85 303 P **P 12 43 34.9 +1.6**
VRAC Vranov 40.85 303⇑*iP* **P 12 43 35.2 +1.9**
DPC Dobruska-Polom 40.88 305 *eP* **P 12 43 34.7 +1.1**
DPC Dobruska-Polom 40.88 305 *eP* **P 12 43 34.7 +1.1**
HFS Hagfors 41.92 320 P **P 12 43 41.8 -0.1**
comp=Z,4.0nm,0.4s,baz=106,slow=11,SNR=16
HFS Hagfors 41.92 320 P **P 12 43 41.8 -0.1**
HFS Hagfors 41.92 320 P **P 12 43 41.8 -0.1**
PRU Pruhonice 42.06 304 *eP* **P 12 43 44.2 +1.0**
PRU Pruhonice 42.06 304 *eP* **P 12 43 44.2 +1.0**
KSAR Wonju Array Be 42.16 75 P **P 12 43 44.9 +0.7**
KSAR Wonju Array Be 42.16 75 P **P 12 43 44.9 +0.7**
KSRS Korea Array 42.19 75 P **P 12 43 44.9 +0.5**
comp=Z,1.2nm,0.8s,baz=286,slow=6.2,SNR=3.1
KSRS Korea Array 42.19 75 P **P 12 43 44.9 +0.5**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 42.80 303 P **P 12 43 50.3 +1.0**
comp=Z,2.3nm,0.5s,baz=64,slow=8.3,SNR=16
GERES LR LR 13 06 57.6
comp=Z,114nm,18.1s,baz=92,slow=44
GERES GERESS Array B 42.80 303 P **P 12 43 50.3 +1.0**
GERES GERESS Array B 42.80 303 P **P 12 43 50.3 +1.0**
KHC Kasperske Hory 42.83 303 *eP* **P 12 43 51.0 +1.5**
KHC Kasperske Hory 42.83 303⇓*eP* **P 12 43 50.3 +0.9**
CLL Collm 42.83 307⇓P **P 12 43 50.3 +0.9**
CLL Collm 42.83 307⇓*iP* **P 12 43 50.3 +0.9**
NB2 NORSAR Subarra 43.16 321 P **P 12 43 52.0 0.0**
comp=Z,2.7nm,0.6s,baz=92,slow=8.6
NOA NORSAR Array B 43.16 321 P **P 12 43 51.5 -0.5**
comp=Z,5.9nm,0.8s,baz=92,slow=8.0,SNR=9.3
NOA LR LR 13 02 54.1
comp=Z,102nm,18.2s,baz=15,slow=38
NOA NORSAR Array B 43.16 321 P **P 12 43 51.6 -0.5**
NOA NORSAR Array B 43.16 321 P **P 12 43 51.5 -0.5**
CUC Castrocucco 43.58 290 *eP* **P 12 43 58.1 +2.4**
comp=Z,4.7nm,0.8s
GRF Grafenberg Arr 44.23 305 *eP* **P 12 44 02.6 +1.8**
comp=Z,5.0nm,0.8s
GRF Grafenberg Arr 44.23 305 *eP* **P 12 44 02.6 +1.8**
GRF pmax pmax
comp=Z,5.0nm,0.8s
SPITS Spitsbergen Ar 45.01 346 P **P 12 44 07.7 +1.1**
comp=Z,5.3nm,0.8s,baz=104,slow=16,SNR=6.1
SPITS Spitsbergen Ar 45.01 346 P **P 12 44 07.7 +1.1**
SPITS Spitsbergen Ar 45.01 346 P **P 12 44 07.7 +1.1**
DAVOX Davos/Dischmat 45.77 301 P **P 12 44 13.9 +0.6**
comp=Z,3.5nm,0.5s,baz=135,slow=5.2,SNR=8.1
DAVOX Davos/Dischmat 45.77 301 P **P 12 44 13.9 +0.6**
DAVOX Davos/Dischmat 45.77 301 P **P 12 44 13.9 +0.6**
CDF Champ du Feu 47.05 304 *eP* **P 12 44 23.3 +0.1**
HINF Hinteralfeld 47.48 303 *eP* **P 12 44 27.1 +0.6**
PGF Pioggiola 47.61 296 *eP* **P 12 44 27.3 -0.4**
LPG La Plagne 48.22 300 *eP* **P 12 44 33.5 +1.0**
LPL La Plagne 48.22 300 *eP* **P 12 44 33.4 +0.9**
comp=Z,6.4nm,0.5s
MBDF Montbardon 48.44 299 *eP* **P 12 44 34.9 +0.8**
comp=Z,8.1nm,0.7s
SMRF Simiane la Rot 49.50 298 *eP* **P 12 44 42.5 +0.4**
comp=Z,45nm,1.3s
AVF Avril sur Loir 50.06 303 *eP* **P 12 44 45.8 -0.4**
comp=Z,7.4nm,0.6s
MJAR Matsushiro Arr 50.15 72 P **P 12 44 47.1 0.0**
comp=Z,3.2nm,0.8s,baz=281,slow=11,SNR=6.9
MJAR Matsushiro Arr 50.15 72 P **P 12 44 47.1 0.0**
MJAR Matsushiro Arr 50.15 72 P **P 12 44 47.1 0.0**
LASF Ste Croix 50.63 299 *eP* **P 12 44 50.9 +0.3**
LDF La Druitiere 51.70 306 *eP* **P 12 44 57.4 -1.1**
comp=Z,7.3nm,0.4s
MTLF Montolieu 52.00 299 *eP* **P 12 45 01.5 +0.6**
GRR Gorron 52.23 306 *eP* **P 12 45 02.7 +0.2**
SGMF Saint Gilles 53.34 306 *eP* **P 12 45 10.1 -0.6**
ETSF Etsaut 54.05 299 *eP* **P 12 45 16.5 +0.4**
comp=Z,6.4nm,0.6s
BILL Bilibino 55.06 27 *eP* **P 12 45 24.5 +1.6**
BILL *e* 12 47 27.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 57.74 297 P **P 12 45 42.1 -0.4**
comp=Z,1.0nm,0.5s,baz=62,slow=7.5,SNR=5.6
ESDC Sonseca Array 57.74 297 P **P 12 45 42.1 -0.4**
SUMG Summit 58.82 341 *i* P **P 12 45 50.9 +0.9**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 58.82 341 *i* P **P 12 45 50.9 +0.9**
comp=Z,8.6nm,0.8s
TORD Torodi Ar. Bea 67.67 269 P **P 12 46 47.7 -1.2**
comp=Z,2.1nm,0.5s,baz=49,slow=5.3,SNR=25
TORD Torodi Ar. Bea 67.67 269 P **P 12 46 47.7 -1.2**
INK Inuvik 70.61 10 *eP* **P 12 47 06.4 +0.1**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 70.61 10 *eP* **P 12 47 06.4 +0.1**
comp=Z,4.8nm,0.7s
ILAR Eielson Array 71.35 17 P **P 12 47 10.1 -0.8**
comp=Z,2.2nm,0.9s,baz=314,slow=5.0,SNR=20
ILAR Eielson Array 71.35 17 P **P 12 47 10.1 -0.8**
ILAR Eielson Array 71.35 17 P **P 12 47 10.1 -0.8**
FITZ Fitzroy Crossi 75.25 129 P **P 12 47 35.2 +0.7**
comp=Z,3.2nm,1.0s,baz=352,slow=7.1,SNR=3.9
FITZ Fitzroy Crossi 75.25 129 P **P 12 47 35.2 +0.7**
DBIC Dimbokro 76.72 268 P **P 12 47 43.3 +0.2**
comp=Z,1.9nm,0.6s,baz=59,slow=4.1,SNR=3.7
DBIC Dimbokro 76.72 268 P **P 12 47 43.3 +0.2**
DBIC Dimbokro 76.72 268 P **P 12 47 43.3 +0.2**
YKA Yellowknife Ar 78.13 4 P **P 12 47 49.7 -0.5**
comp=Z,1.7nm,0.6s,baz=349,slow=5.8,SNR=35
YKA Yellowknife Ar 78.13 4 P **P 12 47 49.7 -0.5**
YKA Yellowknife Ar 78.13 4 P **P 12 47 49.7 -0.5**
WRA Warramunga Arr 82.05 124 P **P 12 48 10.1 -1.8**
comp=Z,2.6nm,0.5s,baz=326,slow=5.1,SNR=23
WRA Warramunga Arr 82.05 124 P **P 12 48 10.1 -1.8**
WRA Warramunga Arr 82.05 124 P **P 12 48 10.1 -1.8**
WRAB Tennant Creek 82.05 124 *eP* **P 12 48 10.9 -1.0**
WRAB pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 82.05 124 *eP* **P 12 48 10.9 -1.0**
comp=Z,3.5nm,0.5s
WB2 Warramunga Arr 82.05 124 *eP* **P 12 48 11.0 -0.9**
ASAR Alice Springs 84.49 127 P **P 12 48 22.8 -1.6**
comp=Z,1.3nm,0.8s,baz=319,slow=5.2,SNR=9.7
ASAR Alice Springs 84.49 127 P **P 12 48 22.8 -1.6**
ASAR Alice Springs 84.49 127 P **P 12 48 22.8 -1.6**
BSMT Bassoo Peak 92.70 6 *eP* **P 12 49 05.3 +1.6**
comp=Z,3.2nm,0.9s

CSEM ***16*** *13:48:30.2±0.1, 43.°00N×21.°90E, h19km, ML1.2, Error ellipse: s-maj=2.3km s-min=1.5km az=16.0*
BEO 16 13:48:31.5±0.3, 43.°01N×21.°91E, h0km, ML1.2/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARS	**Barje**	**0.21**	**200**	*e*Pg	Pg	13 48 35.2	-0.3
BARS				*i* Sg	Sg	13 48 38.4	+0.2
BARS	**Barje**	**0.21**	**200**	*e*Pg	Pg	13 48 35.2	-0.3
BARS				*i* Sg	Sg	13 48 38.4	+0.2
ZAPS	**Zavoj**	**0.59**	**63**	*e*Pg	Pg	13 48 42.4	-0.5
ZAPS				*e*Sg	Sg	13 48 49.7	-1.0
ZAPS	**Zavoj**	**0.59**	**63**	*e*Pg	Pg	13 48 42.4	-0.5
ZAPS				*e*Sg	Sg	13 48 49.7	-1.0
SELS	**Selova**	**0.62**	**290**	*e*Pg	Pg	13 48 42.0	-1.4
SELS				*e*Sg	Sg	13 48 50.4	-1.0
SELS	**Selova**	**0.62**	**290**	*e*Pg	Pg	13 48 42.0	-1.4
SELS				*e*Sg	Sg	13 48 50.4	-1.0
VTS	**Vitosha**	**1.04**	**113**	*e*Pg	Pg	13 48 50.8	-0.9
VTS				*i* Sg	Sg	13 49 04.5	-0.9
VTS	**Vitosha**	**1.04**	**113**	*e*Pg	Pg	13 48 50.8	-0.9
VTS				*i* Sg	Sg	13 49 04.5	-0.9
GRUS	**Gruza**	**1.24**	**316**	*e*Pg	Pg	13 48 54.3	-0.9
GRUS				*e*Sg	Sg	13 49 11.3	0.0
GRUS	**Gruza**	**1.24**	**316**	*e*Pg	Pg	13 48 54.3	-0.9
GRUS				*e*Sg	Sg	13 49 11.3	0.0

ISCJB ***16*** *13:49:38.1±0.7, 32.°14N±0.°02×115.°65W±0.°02, h12km±5km, Error ellipse: s-maj=4.1km s-min=3.4km az=177.2*
NEIC ***16*** *13:49:39.3, 32.°10N×115.°77W, h16km, ML3.5(ECX), ML3.3(PAS), After PAS.*
ECX ***16*** *13:49:39.7±0.7, 32.°14N×115.°70W, h6km, MD3.4, ML3.5*
ISC 16 13:49:38.1±1.0, 32.°14N±0.°02×115.°67W±0.°03, h12km±8km, n39, σ0°79/58, 26C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.31**	**228**⇑	*e*P	**Pg**	**13 49 44.6**	**0.0**
RDX				*e*S	**Sg**	**13 49 49.0**	**+0.2**
RDX	**Rancho Dawling**	**0.31**	**228**⇑	*e*P	**Pg**	**13 49 44.6**	**0.0**
RDX				⇑*e*S	**Sg**	**13 49 49.0**	**+0.2**
RDX				⇓*e*		13 49 49.1	
	comp=E,6μm,0.3s						
RDX				⇓*e*		13 49 49.5	
	comp=N,4μm,0.6s						
SGL	**Mount Signal**	**0.51**	**355**⇑	*i*P	**Pb**	**13 49 49.0**	**-0.1**
SGL	**Mount Signal**	**0.51**	**355**⇑	*i*P	**Pb**	**13 49 49.0**	**-0.1**
YUH	**Yuha Desert**	**0.55**	**338**⇑	*i*P	**Pg**	**13 49 49.2**	**+0.3**
YUH	**Yuha Desert**	**0.55**	**338**⇑	*i*P	**Pg**	**13 49 49.2**	**+0.3**
RMX	**La Rumorosa**	**0.58**	**324**⇑	*e*P	**Pg**	**13 49 49.6**	**+0.1**
RMX				*e*S	**Sg**	**13 49 57.3**	**+0.1**
RMX	**La Rumorosa**	**0.58**	**324**⇑	*e*P	**Pg**	**13 49 49.6**	**+0.1**
RMX				*e*S	**Sg**	**13 49 57.3**	**+0.1**
DVTC	**Desert V Tower**	**0.64**	**325**⇑	*i*P	**Pb**	**13 49 50.9**	**-0.4**
DVTC	**Desert V Tower**	**0.64**	**325**	⇓S	**Pg**	**13 49 50.7**	**+0.1**
	baz=0.6						
DVTC				⇑S	**Sg**	**13 49 58.8**	**-0.2**
SWSC	**Sam W. Stewart**	**0.81**	**353**	⇑P	**Pb**	**13 49 54.2**	**0.0**
	baz=0.8						
CBX	**Cerro Bola**	**0.86**	**282**⇑	*e*P	**Pg**	**13 49 54.6**	**-0.2**
CBX				*e*S	**Sg**	**13 50 06.0**	**-0.1**
CBX				⇑*e*		13 50 13.8	
	comp=E,3μm,0.6s						
CBX				⇓*e*		13 50 14.4	
	comp=N,3μm,0.6s						
ECNX	**Esteban Cantu**	**0.92**	**239**⇑	*e*P	**Pb**	**13 49 55.7**	**-0.4**
ECNX				⇑*e*P	**Pg**	**13 49 55.1**	**-0.8**
ECNX				*e*S	**Sg**	**13 50 06.7**	**-1.3**
ECNX				*e*S	**Sb**	**13 50 07.9**	**-0.4**
PBX	**Punta Banda**	**0.98**	**247**⇑	*e*P	**Pg**	**13 49 56.7**	**-0.3**
PBX				*e*S	**Sg**	**13 50 09.4**	**-0.4**
PBX				⇓*e*		13 50 10.2	
	comp=N,1μm,0.8s						
PBX				⇓*e*		13 50 13.2	
	comp=E,966nm,0.7s						
MONP	**Monument Peak**	**0.98**	**320**	⇑P	**Pg**	**13 49 56.9**	**-0.2**
	baz=1.0						
MONP				⇓S	**Sg**	**13 50 09.2**	**-0.8**
	baz=1.0						
BAR	**Barrett**	**1.00**	**303**	*e*P	**Pg**	**13 49 56.9**	**-0.7**
SPX	**San Pedro Mart**	**1.10**	**171**	*e*PN	**Pb**	**13 49 59.4**	**+0.1**
SPX				*e*S	**Sg**	**13 50 14.4**	**+0.6**
SPX				*e*		13 50 16.2	
	comp=N,662nm,0.6s						
SPX				⇑*e*		13 50 16.6	
	comp=E,1μm,0.6s						
GLA	**Glamis**	**1.16**	**38**	*e*Pn	**Pb**	**13 49 59.4**	**-0.7**
GLA				*e*Sn	**Sb**	**13 50 14.1**	**-1.1**
GLA	**Glamis**	**1.16**	**38**	⇓P	**Pb**	**13 49 59.3**	**-0.8**
	baz=1.2						
GLA				⇑S	**Sb**	**13 50 13.7**	**-1.4**
	baz=1.2						
109C	**Camp Elliot, M**	**1.43**	**302**	⇑P	**Pn**	**13 50 03.8**	**0.0**
	baz=1.4						
109C				⇓S	**Sn**	**13 50 21.6**	**-0.8**
	baz=1.4						
BC3	**Big Chuckawall**	**1.53**	**7**	⇑Pb	**Pn**	**13 50 04.8**	**-0.5**
	baz=1.6						
PFO	**Pinyon Flat Ob**	**1.61**	**336**	*e*Pn	**Pn**	**13 50 05.9**	**-0.6**
PFO	**Pinyon Flat Ob**	**1.61**	**336**	⇑P	**Pn**	**13 50 05.9**	**-0.6**
	baz=1.6						
PFO				⇓Sb	**Sb**	**13 50 28.8**	**+0.6**
	baz=1.6						
113A	**Mohawk Valley,**	**1.73**	**68**	⇓P	**Pn**	**13 50 07.8**	**-0.2**
	baz=1.8						
113A				⇓Sn	**Sn**	**13 50 29.1**	**-0.9**
	baz=1.8						
MURC	**Murrieta**	**1.95**	**319**	⇓Pb	**Pb**	**13 50 12.9**	**-0.6**
	baz=1.9						
MURC				⇓Sb	**Sb**	**13 50 37.8**	**0.0**
	baz=1.9						
214A	**Organ Pipe Nat**	**2.44**	**93**	⇑Pb	**Pb**	**13 50 22.1**	**+0.2**
	baz=2.5						
114A	**Black Gap (USA**	**2.44**	**75**	⇑Pb	**Pb**	**13 50 21.9**	**0.0**
	baz=2.5						
CIS	**Catalina Islan**	**2.63**	**300**	⇓Pn	**Pn**	**13 50 20.4**	**0.0**
	baz=2.6						
CIS				⇑Sn	**Sn**	**13 50 53.2**	**+1.0**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.68**	**322**	⇓Pb	**Pb**	**13 50 25.5**	**-0.5**
	baz=2.7						
BFSC				⇓Sb	**Sb**	**13 50 59.3**	**+0.3**
	baz=2.7						
FMP	**Fort Macarthur**	**2.71**	**306**	⇓Sb	**Sb**	**13 51 01.3**	**+1.7**
	baz=2.7						
MWC	**Mount Wilson**	**2.89**	**317**	*e*Pn	**Pn**	**13 50 23.0**	**-1.1**
PASC	**Pasadena Art C**	**2.93**	**315**	*e*Pn	**Pn**	**13 50 26.1**	**+1.7**
DECC	**Green Verdugo**	**3.07**	**314**	⇓Sb	**Sb**	**13 51 11.6**	**+1.6**
	baz=3.0						
GSC	**Goldstone**	**3.30**	**344**	*e*Pn	**Pn**	**13 50 30.7**	**+1.1**
TUC	**Tucson**	**4.15**	**86**	*e*Pn	**Pn**	**13 50 42.7**	**+1.4**
ISA	**Isabella**	**4.22**	**327**	*e*Pb	**Pb**	**13 50 52.3**	**0.0**
WUAZ	**Wupatki**	**4.92**	**46**	*e*Pn	**Pn**	**13 50 51.7**	**-0.2**
CCUT	**Cedar City**	**5.73**	**19**	*e*Pn	**Pn**	**13 51 05.8**	**+2.7**
MSU	**Marysvale**	**6.97**	**23**	*e*Pn	Pn	13 51 24.8	+4.5

CSEM ***16*** *13:50:12.3±0.1, 38.°41N×21.°92E, h8km, ML2.3/5, Error ellipse: s-maj=2.8km s-min=2.5km az=5.0*
ATH ***16*** *13:50:12.6, 38.°39N×21.°94E, h6km±1km, MD2.5/6*
THE 16 13:50:12.9, 38.°41N×21.°91E, h7km, ML2.3/5, Error ellipse: s-maj=1.0km s-min=0.6km az=15.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.01**	**334**	P	Pg	13 50 13.9	-0.3
EFP				S	Sg	13 50 15.2	0.0
EFP	**Efpalio**	**0.01**	**334**	*e*PG	Pg	13 50 14.0	-0.2
EFP				*e*SG	Sg	13 50 15.2	0.0
EFP	**Efpalio**	**0.01**	**334**	P	Pg	13 50 13.9	-0.3
EFP				S	Sg	13 50 15.2	0.0
TRIZ	**Trizonia**	**0.13**	**111**	P	Pg	13 50 15.5	-0.2
TRIZ	**Trizonia**	**0.13**	**111**	P	Pg	13 50 15.5	-0.2
UPR	**University Cam**	**0.16**	**218**	*e*PG	Pg	13 50 15.7	-0.8
UPR	**University Cam**	**0.16**	**218**	*e*Pg	Pg	13 50 15.5	-0.8
KALE	**Kalithea**	**0.18**	**97**	P	Pg	13 50 16.3	-0.4
KALE				S	Sg	13 50 19.5	+0.3
KALE	**Kalithea**	**0.18**	**97**	P	Pg	13 50 16.3	-0.4
KALE				S	Sg	13 50 19.5	+0.3
LAKA	**Lakka**	**0.18**	**164**	P	Pg	13 50 16.4	-0.2
LAKA	**Lakka**	**0.18**	**164**	P	Pg	13 50 16.4	-0.2
DSF	**Desfina**	**0.48**	**90**	P	Pg	13 50 21.9	-0.4
DSF				S	Sg	13 50 28.9	+0.2
DSF	**Desfina**	**0.48**	**90**	P	Pg	13 50 21.9	-0.4
DSF				S	Sg	13 50 28.9	+0.2
RLS	**Riolos of Patr**	**0.50**	**225**	*e*PB	Pg	13 50 22.3	-0.3
RLS				*e*SB	Sg	13 50 29.6	+0.5
RLS	**Riolos of Patr**	**0.50**	**225**	*e*Pb	Pg	13 50 22.3	-0.3
RLS				*e*Sb	Sg	13 50 29.6	+0.5
EVR	**Evrytania**	**0.51**	**351**	*e*PB	Pg	13 50 22.5	-0.4
EVR				*e*SB	Sg	13 50 30.4	+0.7
EVR	**Evrytania**	**0.51**	**351**	*e*Pb	Pg	13 50 22.5	-0.4
GUR	**Goura**	**0.58**	**145**	P	Pg	13 50 23.2	-1.1
GUR				S	Sg	13 50 32.9	+0.8
GUR	**Goura**	**0.58**	**145**	*e*PG	Pg	13 50 23.1	-1.2
GUR	**Goura**	**0.58**	**145**	P	Pg	13 50 23.2	-1.1
GUR				S	Sg	13 50 32.9	+0.8
MAKR	**Makrakomi, Fth**	**0.62**	**16**	P	Pg	13 50 24.6	-0.4
MAKR	**Makrakomi, Fth**	**0.62**	**16**	P	Pg	13 50 24.6	-0.4
LKR	**Lokris**	**0.88**	**74**	*e*PB	Pg	13 50 29.1	-0.8
LKR	**Lokris**	**0.88**	**74**	*e*Pb	Pg	13 50 29.1	-0.8
ATAL	**Atalanti**	**0.91**	**72**	P	Pg	13 50 30.0	-0.5
ATAL	**Atalanti**	**0.91**	**72**	P	Pg	13 50 30.0	-0.5
LTK	**Loutraki**	**0.92**	**115**	P	Pg	13 50 30.5	-0.1
LTK	**Loutraki**	**0.92**	**115**	*e*PB	Pg	13 50 29.9	-0.7
LTK	**Loutraki**	**0.92**	**115**	*e*Pb	Pg	13 50 29.9	-0.7
LTK	**Loutraki**	**0.92**	**115**	P	Pg	13 50 30.5	-0.1
LKD2	**Lefkada island**	**1.05**	**291**	P	Pg	13 50 32.6	-0.6
LKD2	**Lefkada island**	**1.05**	**291**	P	Pg	13 50 32.6	-0.6
VLS	**Valsamata**	**1.07**	**258**	*e*PN	Pg	13 50 33.1	-0.4
VLS				*e*SB	Sb	13 50 48.6	+0.7
VLS	**Valsamata**	**1.07**	**258**	*e*Pn	Pg	13 50 33.1	-0.4
VLS				*e*Sb	Sb	13 50 48.6	+0.7
VLX	**Vlachokerasia**	**1.10**	**160**	*e*PG	Pg	13 50 32.6	-1.7

1.4nm,0.8s,baz=238,slow=8.2,SNR=9.6
NOA NORSAR Array B 52.14 324 P P 14 00 06.6 +0.3
1.3nm,0.8s,baz=88,slow=7.4,SNR=3.1
WRA Warramunga Arr 72.58 130 P P 14 02 23.2 -0.4
0.8nm,1.1s,baz=329,slow=6.9,SNR=3.0

*MAN **16** 14:06:55, 17°.38N×119°.78E, h28km, mb5.4, ML4.3, MS4.6*
*ISCJB **16** 14:06:56.8±1.7, 17°.35N±0°.08×119°.8E±0°.1, h33km, mb3.1/2, Error ellipse: s-maj=21.1km s-min=7.0km az=26.0*
*IDC **16** 14:06:59.2±10.0, 15°.90N×119°.84E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=327.1km s-min=33.3km az=35.0*
ISC 16 14:06:57.3±2.2, 17°.36N±0°.08×119°.8E±0°.2, h33km, n11, σ1§24/11, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.87**	**49**	*i*P	**Pb**	**14 07 15.5**	**+1.6**
ABRA	**Dolores**	**0.95**	**72**	*e*P	**Pn**	**14 07 12.3**	**-1.9**
ABRA				*e*S	**Sn**	**14 07 25.8**	**-0.8**
BOLP	**Bolinao**	**0.98**	**172**	*e*P	**Pn**	**14 07 14.2**	**-0.5**
BOLP				*e*S	**Sn**	**14 07 27.0**	**-0.5**
BCPH	**Baguio City Da**	**1.24**	**141**	*i*P	**Pn**	**14 07 16.9**	**-1.6**
PIP	**Pasuquin**	**1.26**	**40**	*i*P	**Pn**	**14 07 17.9**	**-0.7**
SCZP	**Santa Cruz**	**1.58**	**175**	*e*P	**Pn**	**14 07 21.7**	**-1.3**
SCZP				*e*S	**Sb**	**14 07 45.4**	**0.0**
CAUP	**Cauayan**	**2.01**	**101**	*e*P	**Pn**	**14 07 29.3**	**+0.4**
BALP	**Baler**	**2.36**	**133**	*e*P	**Pn**	**14 07 34.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.85**	**276**	P	Pn	14 11 34.9	+7.5
	0.5nm,0.4s,baz=97,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**39.73**	**158**	P	P	14 14 21.5	-5.4
	0.4nm,0.9s,baz=339,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**43.05**	**161**	P	P	14 14 50.4	-3.7
	0.3nm,0.8s,baz=338,slow=6.8,SNR=5.3						

*IDC **16** 14:12:34.3±1.2, 7°.00S×143°.87E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.2/13, mbtmp4.1/11, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/25, Error ellipse: s-maj=41.6km s-min=19.7km az=100.0*
*ISCJB **16** 14:12:39.1±0.4, 6°.91S±0°.05×143°.41E±0°.06, h33km, mb4.1/11, MS3.3/3, Error ellipse: s-maj=8.5km s-min=6.8km az=177.4*
*NEIC **16** 14:12:40.9±0.7, 6°.93S×143°.45E, h35km, mb4.6/4, Error ellipse: s-maj=19.0km s-min=11.3km az=99.0*
ISC 16 14:12:40.7±0.6, 6°.95S±0°.06×143°.33E±0°.08, h35km, n38, σ1§86/40, mb4.1/11, MS3.3/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.51**	**123**	Pn	**Pn**	**14 13 46.5**	**+0.1**
	1.7nm,0.3s,baz=319,slow=13,SNR=14						
PMG				Sn	**Sn**	**14 14 37.4**	**-0.3**
	1.5nm,0.3s,baz=270,slow=14,SNR=3.5						
PMG	**Port Moresby**	**4.51**	**123**	Pn	**Pn**	**14 13 46.5**	**+0.1**
PMG				Sn	**Sn**	**14 14 37.4**	**-0.3**
WRAB	**Tennant Creek**	**15.58**	**213**	*e*Pn	**Pn**	**14 16 17.5**	**-0.2**
	17nm,1.0s						
WRAB				*e*Sn	**Sn**	**14 19 11.2**	**+1.9**
WB2	**Warramunga Arr**	**15.58**	**213**	*e*Pn	**Pn**	**14 16 17.3**	**-0.6**
WB2				*e*Sn	**Sn**	**14 19 04.9**	**-4.5**
WRA	**Warramunga Arr**	**15.59**	**213**	Pn	**Pn**	**14 16 17.7**	**-0.3**
	0.2nm,0.3s,baz=32,slow=13,SNR=27						
WRA				Sn	**S**	**14 19 21.6**	**-2.5**
	0.1nm,0.3s,baz=30,slow=25,SNR=4.6						
WRA				Lg	Lg	14 21 00.6	
	0.2nm,0.3s,baz=31,slow=26,SNR=8.0						
WRA				LR	LR	14 23 01.2	
	comp=Z,363nm,20.1s,baz=40,slow=40						
WRA	**Warramunga Arr**	**15.59**	**213**	Pn	**Pn**	**14 16 17.7**	**-0.3**
WRA				Sn	**S**	**14 19 21.6**	**-2.5**
WRA				Lg	Lg	14 21 00.6	
AS31	**Alice Springs**	**18.93**	**208**	*e*P	**Pn**	**14 17 02.0**	**+2.5**
ASAR	**Alice Springs**	**18.93**	**208**	P	**Pn**	**14 17 02.1**	**+2.6**
	0.9nm,0.3s,baz=36,slow=8.8,SNR=155						
ASAR	**Alice Springs**	**18.93**	**208**	P	**Pn**	**14 17 02.1**	**+2.6**
QLP	**Quilpie**	**19.54**	**178**	*e*P	**Pn**	**14 17 10.0**	**+3.2**
FITZ	**Fitzroy Crossi**	**20.50**	**236**	P	Pn	14 17 18.7	+0.5
	11nm,0.8s,baz=78,slow=9.5,SNR=19						
FITZ				LR	LR	14 26 21.0	
	comp=Z,129nm,18.6s,baz=68,slow=40						
FITZ	**Fitzroy Crossi**	**20.50**	**236**	*e*P	Pn	14 17 18.6	+0.4
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.50**	**236**	*e*P	Pn	14 17 18.3	+0.1
	20nm,1.1s						
KAPI	**Kappang**	**23.53**	**273**	LR	LR	14 28 16.5	
	comp=Z,45nm,21.3s,baz=256,slow=39						
STKA	**Stephens Creek**	**24.86**	**184**	P	**P**	**14 17 58.1**	**-1.8**
	2.8nm,0.7s,baz=352,slow=7.1,SNR=7.2						
STKA				LR	LR	14 29 05.5	
	comp=Z,249nm,20.6s,baz=26,slow=40						
STKA	**Stephens Creek**	**24.86**	**184**	*e*P	**P**	**14 18 03.1**	**+3.1**
	4.9nm,0.9s						
STKA	**Stephens Creek**	**24.86**	**184**	P	**P**	**14 17 58.1**	**-1.8**
MJAR	**Matsushiro Arr**	**43.53**	**354**	P	**P**	**14 20 40.2**	**-0.8**
	3.7nm,0.9s,baz=189,slow=10,SNR=6.0						
MJAR	**Matsushiro Arr**	**43.53**	**354**	P	**P**	**14 20 40.2**	**-0.8**
KSAR	**Wonju Array Be**	**46.46**	**343**	P	**P**	**14 21 05.2**	**+1.0**
KSRS	**Korea Array**	**46.46**	**343**	P	**P**	**14 21 05.2**	**+1.0**
	1.9nm,0.8s,baz=160,slow=10,SNR=6.2						
CMAR	**Chiang Mai Arr**	**50.54**	**301**	P	**P**	**14 21 38.6**	**+2.6**
	0.5nm,0.3s,baz=131,slow=6.0,SNR=6.8						
CMAR	**Chiang Mai Arr**	**50.54**	**301**	P	**P**	**14 21 38.6**	**+2.6**
USRK	**Ussuriysk Arra**	**51.93**	**350**	P	**P**	**14 21 46.2**	**+0.2**
	3.1nm,0.8s,baz=168,slow=9.4,SNR=6.9						
SONM	**Songino Array**	**63.53**	**333**	P	**P**	**14 23 07.3**	**-0.4**
	0.5nm,0.7s,baz=134,slow=4.2,SNR=3.3						
SONM	**Songino Array**	**63.53**	**333**	P	**P**	**14 23 07.3**	**-0.4**
MK31	**Makanchi Array**	**75.94**	**322**	*e*P	**P**	**14 24 25.0**	**+1.0**
MKAR	**Makanchi Array**	**75.94**	**322**	P	**P**	**14 24 25.5**	**+1.5**
	2.1nm,0.8s,baz=117,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**75.94**	**322**	P	**P**	**14 24 25.5**	**+1.5**
ZALV	**Zalesovo Beam**	**77.90**	**329**	P	**P**	**14 24 35.3**	**+0.5**
	0.9nm,0.7s,baz=122,slow=5.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**77.90**	**329**	P	**P**	**14 24 35.3**	**+0.5**
QSPA	**South Pole Qui**	**83.03**	**180**	*e*P	**P**	**14 25 03.6**	**+1.3**
	5.5nm,0.8s						
BRVK	**Borovoye**	**85.48**	**325**	*e*P	**P**	**14 25 14.0**	**-0.8**
	4.1nm,0.6s						
ILAR	**Eielson Array**	**87.80**	**24**	P	**P**	**14 25 24.3**	**-1.6**
	1.2nm,1.0s,baz=269,slow=5.0,SNR=7.7						
ILAR	**Eielson Array**	**87.80**	**24**	P	**P**	**14 25 24.3**	**-1.6**
TORD	**Torodi Ar. Bea**	**141.76**	**282**	PKP	**PKPdf**	**14 32 07.3**	**-2.4**
	0.6nm,0.9s,baz=76,slow=1.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**141.76**	**282**	PKP	**PKPdf**	**14 32 07.3**	**-2.4**
DBIC	**Dimbokro**	**148.42**	**271**	PKPbc	**PKPab**	**14 32 26.5**	**-1.4**
	3.9nm,0.8s,baz=315,slow=5.3,SNR=4.8						

IDC 16 14:15:43.9±1.3, 12°.55N×143°.38E, h0km, mb4.0/4, mb1 4.4/4, mb1mx3.8/22, mbtmp4.0/4, Error ellipse: s-maj=67.7km s-min=22.3km az=127.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.78**	**54**	Pn	Pn	14 16 16.7	+0.7
	15nm,0.3s,baz=206,slow=13,SNR=9.9						
GUMO				Sn	Sn	14 16 38.4	-0.8
	62nm,0.3s,baz=47,slow=20,SNR=13						
WRA	**Warramunga Arr**	**33.50**	**196**	P	P	14 22 24.9	-0.3
	7.6nm,1.2s,baz=21,slow=10.0,SNR=1.9						
ILAR	**Eielson Array**	**70.12**	**25**	P	P	14 26 57.0	-1.0
	0.7nm,0.8s,baz=245,slow=5.8,SNR=6.8						
YKA	**Yellowknife Ar**	**84.44**	**27**	P	P	14 28 18.4	+0.1
	0.3nm,0.4s,baz=287,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**88.69**	**51**	P	P	14 28 41.0	+1.1
	0.9nm,0.7s,baz=259,slow=5.4,SNR=9.4						

IDC 16 14:23:42.2±1.0, 12°.52N×143°.45E, h26km±5km, mb3.5/5, mb1 3.8/5, mb1mx3.4/21, mbtmp3.5/5, Error ellipse: s-maj=56.9km s-min=14.0km az=119.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.74**	**52**	Pn	Pn	14 24 10.6	-0.1
	54nm,0.3s,baz=172,slow=4.7,SNR=12						
GUMO				Sn	Sn	14 24 32.4	+0.4
	93nm,0.3s,baz=50,slow=21,SNR=13						
WRA	**Warramunga Arr**	**33.48**	**196**	P	P	14 30 19.2	-0.3
	1.4nm,0.6s,baz=19,slow=9.6,SNR=22						
WRA				pP	pP	14 30 26.7	-0.6
	2.5nm,0.5s,baz=19,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**37.16**	**195**	P	P	14 30 51.2	+0.1
	0.6nm,0.6s,baz=20,slow=12,SNR=14						
ASAR				pP	pP	14 30 59.2	+0.2
	1.1nm,0.5s,baz=21,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**43.22**	**284**	pP	pP	14 31 48.3	-1.2
	0.9nm,0.4s,baz=90,slow=5.5,SNR=3.7						
ILAR	**Eielson Array**	**70.12**	**25**	P	P	14 34 51.0	-1.0
	0.2nm,0.6s,baz=267,slow=5.8,SNR=2.6						
ILAR				pP	pP	14 35 00.3	0.0
	0.3nm,0.7s,baz=257,slow=5.5,SNR=2.3						
YKA	**Yellowknife Ar**	**84.44**	**27**	P	P	14 36 12.1	-0.1
	0.1nm,0.5s,baz=287,slow=4.7,SNR=2.9						
NVAR	**Mina Array Bea**	**88.66**	**51**	P	P	14 36 34.9	+1.2
	0.8nm,0.7s,baz=262,slow=6.6,SNR=5.9						
NVAR				pP	pP	14 36 42.9	+0.5
	0.6nm,0.7s,baz=254,slow=7.3,SNR=4.4						

*NOU **16** 14:28:31.4±1.4, 11°.42S×165°.25E, h30km, MD4.5, ML3.7*
*IDC **16** 14:28:37.5±3.6, 12°.00S×166°.68E, h41km±29km, mb4.4/13, mb1 4.6/14, mb1mx4.3/21, mbtmp4.4/14, ML3.5/1, MS3.8/7, Ms1 3.9/7, ms1mx3.5/27, Error ellipse: s-maj=23.3km s-min=18.3km az=100.0*
*ISCJB **16** 14:28:38.5±1.7, 12°.10S±0°.05×166°.46E±0°.09, h56km±14km, mb4.8/32, MS3.9/9, Error ellipse: s-maj=15.3km s-min=8.0km az=160.7*
*NEIC **16** 14:28:41.6±1.7, 11°.99S×166°.47E, h74km±14km, mb4.8/10, Error ellipse: s-maj=13.3km s-min=10.8km az=76.0*
*BJI **16** 14:28:46.4, 12°.09S×165°.59E, h90km, mB5.0/15, mb4.7/23*
ISC 16 14:28:42.4±1.2, 12°.06S±0°.07×166°.41E±0°.10, h79km±8km, n100, σ1§71/119, mb4.9/32, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.87**	**292**	*e*Pn	**Pn**	**14 30 19.4**	**-1.1**
DZM	**Mont Dzumac**	**9.95**	**180**	*e*Pn	**Pn**	**14 31 02.6**	**-0.1**
	28nm,0.3s						
DZM				*e*LR	LR	14 33 12.5	
	1µm,25.1s						
DZM	**Mont Dzumac**	**9.95**	**180**	P	**Pn**	**14 31 03.7**	**+1.0**
	11nm,0.3s,baz=24,slow=19,SNR=126						
DZM				S	**Sn**	**14 32 51.6**	**-1.1**
	0.7nm,0.3s,baz=287,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**9.95**	**180**	*e*P	**Pn**	**14 31 00.4**	**-2.3**
DZM				*e*S	**Sn**	**14 32 51.2**	**-1.5**
DZM				AMP		14 33 12.3	
	comp=Z,150nm,1.7s						
DZM	**Mont Dzumac**	**9.95**	**180**	P	**Pn**	**14 31 03.7**	**+1.0**
DZM				S	**Sn**	**14 32 51.6**	**-1.1**
NOUC	**Port Laguerre**	**9.98**	**181**	*e*P	**Pn**	**14 30 59.9**	**-3.1**
NOUC				*e*S	**Sn**	**14 32 51.5**	**-1.8**
NOUC				AMP		14 32 58.6	
	comp=Z,7.7nm,0.0s						
LASL	**Noumea**	**10.11**	**179**	*e*P	**Pn**	**14 31 03.8**	**-0.9**
PLUM	**Mont Dore**	**10.15**	**179**	*e*P	**Pn**	**14 31 04.8**	**-0.5**
PMG	**Port Moresby**	**19.10**	**276**	P	**Pn**	**14 33 00.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=88,slow=7.1,SNR=16						
PMG	**Port Moresby**	**19.10**	**276**	P	**Pn**	**14 33 00.8**	**+0.1**
	comp=Z,4.1nm,1.2s						
EIDS	**Eidsvold**	**19.62**	**225**	*e*Pn	**Pn**	**14 33 06.0**	**-0.7**
	comp=Z,23nm,0.8s						
CTA	**Charters Tower**	**20.93**	**245**	P	**P**	**14 33 20.4**	**+1.5**
	comp=Z,33nm,0.8s,baz=78,slow=16						
CTA	**Charters Tower**	**20.93**	**245**	*e*P	**P**	**14 33 20.2**	**+1.3**
	comp=Z,25nm,0.8s						
CTA	**Charters Tower**	**20.93**	**245**	P	**P**	**14 33 20.4**	**+1.5**
CTAO	**Charters Tower**	**20.93**	**245**	*e*P	**P**	**14 33 19.6**	**+0.7**
	comp=Z,41nm,0.9s						
AFI	**Afiamalu**	**21.34**	**97**	LR	LR	14 39 52.8	
	comp=Z,93nm,20.7s,baz=82,slow=32						
COEN	**Coen**	**22.71**	**263**	*e*P	**P**	**14 33 36.6**	**-1.4**
	comp=Z,160nm,0.8s						
ARMA	**Armidale**	**22.83**	**215**	*e*P	**P**	**14 33 40.5**	**+1.3**
ARMA	**Armidale**	**22.83**	**215**	*e*P	**P**	**14 33 41.1**	**+1.9**
	comp=Z,96nm,1.3s						
STKA	**Stephens Creek**	**30.17**	**225**	P	**P**	**14 34 46.6**	**+1.4**
	comp=Z,37nm,0.7s,baz=39,slow=8.1,SNR=100						
STKA				LR	LR	14 46 07.3	
	comp=Z,225nm,21.1s,baz=26,slow=34						
STKA	**Stephens Creek**	**30.17**	**225**	*e*P	**P**	**14 34 46.7**	**+1.4**
	comp=Z,33nm,0.7s						
STKA	**Stephens Creek**	**30.17**	**225**	*e*P	**P**	**14 34 46.3**	**+1.1**
	comp=Z,8.3nm,0.8s						
TOO	**Toolangi**	**31.56**	**213**	*e*P	**P**	**14 34 58.9**	**+1.5**
	comp=Z,83nm,0.6s						
WB2	**Warramunga Arr**	**31.75**	**252**	*e*P	**P**	**14 34 57.6**	**-1.8**
WRAB	**Tennant Creek**	**31.75**	**252**	*e*P	**P**	**14 34 58.2**	**-1.1**
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**31.76**	**252**	P	**P**	**14 34 59.6**	**+0.2**
	comp=Z,17nm,0.7s,baz=83,slow=9.1,SNR=108						
WRA				PcP	**PcP**	**14 37 49.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=81,slow=3.6,SNR=6.5						
WRA	**Warramunga Arr**	**31.76**	**252**	P	**P**	**14 34 59.6**	**+0.2**
WRA				PcP	**PcP**	**14 37 49.7**	**+0.4**
RPZ	**Rata Peaks**	**31.79**	**174**	P	**P**	**14 34 59.0**	**-0.4**
	comp=Z,7.8nm,0.7s,baz=153,slow=2.3,SNR=4.1						
RPZ	**Rata Peaks**	**31.79**	**174**	P	**P**	**14 34 59.0**	**-0.4**
AS31	**Alice Springs**	**32.93**	**245**	*e*P	**P**	**14 35 08.1**	**-1.6**
ASAR	**Alice Springs**	**32.94**	**245**	P	**P**	**14 35 09.2**	**-0.5**
	comp=Z,23nm,0.7s,baz=70,slow=9.5,SNR=346						
ASAR				PcP	**PcP**	**14 37 52.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=106,slow=2.3,SNR=6.5						
ASAR				ScP	**ScP**	**14 41 33.6**	**+3.8**
	comp=Z,1.7nm,0.9s,baz=81,slow=3.4,SNR=8.0						
ASAR	**Alice Springs**	**32.94**	**245**	P	**P**	**14 35 09.2**	**-0.5**
ASAR				PcP	**PcP**	**14 37 52.5**	**+0.1**
ASAR				ScP	**ScP**	**14 41 33.6**	**+3.8**
GUMO	**Guam**	**33.25**	**319**	LR	LR	14 46 41.5	
	comp=Z,134nm,19.4s,baz=154,slow=32						
BBOO	**Buckleboo**	**34.63**	**228**	*e*P	**P**	**14 35 25.4**	**+1.2**
	comp=Z,28nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	**P**	**14 36 08.1**	**+0.2**
	comp=Z,11nm,0.7s,baz=85,slow=7.0,SNR=35						
FITZ				PcP	**PcP**	**14 38 13.6**	**+0.7**
	comp=Z,4.8nm,1.1s,baz=180,slow=6.1,SNR=3.5						
FITZ				LR	LR	14 50 40.9	
	comp=Z,76nm,21.4s,baz=91,slow=33						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	*e*P	**P**	**14 36 08.0**	**+0.2**
	comp=Z,20nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	**P**	**14 36 08.1**	**+0.2**
FITZ				PcP	**PcP**	**14 38 13.6**	**+0.7**
FORT	**Forrest**	**40.01**	**236**	*e*P	**P**	**14 36 10.3**	**+0.6**
	comp=Z,64nm,0.7s						
FORT	**Forrest**	**40.01**	**236**	*e*P	**P**	**14 36 10.4**	**+0.6**
PPT2	**Papeete2**	**42.83**	**103**	*e*LR	LR	14 48 51.6	
	comp=Z,208nm,29.5s						
TBI	**Tubuai**	**43.35**	**111**	*e*LR	LR	14 49 23.8	
	comp=Z,152nm,30.5s						
MBWA	**Marble Bar**	**45.49**	**252**	*e*P	**P**	**14 36 54.9**	**+0.6**
	comp=Z,22nm,1.1s						
KLBR	**Kellerberrin**	**48.72**	**238**	*e*P	**P**	**14 37 19.4**	**+0.1**
	comp=Z,24nm,0.5s						
KSRS	**Korea Array**	**61.08**	**326**	P	**P**	**14 38 48.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=132,slow=7.4,SNR=4.9						
KSAR	**Wonju Array Be**	**61.09**	**326**	P	**P**	**14 38 48.5**	**+0.1**
NJ2	**Nanjing**	**63.20**	**315**	*e*P	**P**	**14 39 04.1**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,40nm,0.6s						
QIZ	**Qiongzhong**	**63.73**	**298**	P	**P**	**14 39 05.6**	**-0.7**
QIZ				S	**S**	**14 47 31.5**	**-3.8**
MDJ	**Mudanjiang**	**65.55**	**332**	P	P	14 39 20.3	+2.7
MDJ				PP	**PP**	**14 41 45.9**	**+2.9**
MDJ				S	**S**	**14 47 55.9**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.2s						
MDJ				LR	LR		
	comp=N,29nm,28.9s						
MDJ				LR	LR		
	comp=Z,48nm,33.8s						
CN2	**Changchun**	**66.94**	**329**	*e*P	P	14 39 29.4	+2.8
GYA	**Guiyang**	**69.53**	**304**	P	**P**	**14 39 45.0**	**+1.7**
GYA				pP	PcP	14 40 11.4	+5.4
GYA				sP	sP	14 40 22.8	+10
GYA				PP	**PP**	**14 42 20.6**	**+2.6**
GYA				ScP		14 44 01.3	
GYA				PcS		14 44 12.4	
GYA				S	**S**	**14 48 41.0**	**-4.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
XAN	**Xi'an**	**71.28**	**312**	P	**P**	**14 39 54.3**	**+0.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,26nm,5.8s						
KMI	**Kunming**	**72.20**	**301**	P	**P**	**14 40 00.8**	**+1.1**
KMI				pP	pP	14 40 27.9	+7.6
KMI				sP	sP	14 40 37.3	+8.4
KMI				S	**S**	**14 49 12.6**	**-4.1**
KMI				SS	**SS**	**14 53 52.3**	**-3.8**
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				pmax	pmax		
	comp=Z,100nm,5.5s						
KMI				LR	LR		
	comp=N,140nm,9.9s						
KMI				LR	LR		
	comp=E,130nm,11.1s						
KMI				LR	LR		
	comp=Z,91nm,18.7s						
HHC	**Hu-ho-hao-te**	**73.02**	**320**	*e*P	P	14 40 06.3	+2.2
HHC				pP	pP	14 40 32.3	+7.6
HHC				sP	sP	14 40 44.1	+11
HHC				PP	**PP**	**14 42 51.4**	**+3.6**
HHC				S	**S**	**14 49 23.9**	**-1.3**
HHC				SKS	**SKSac**	**14 49 57.3**	**-5.6**
HHC				sS	**ScS**	**14 50 07.9**	**+2.5**
HHC				SS	**SS**	**14 54 06.1**	**-1.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.9s						
HHC				LR	LR		
	comp=N,240nm,14.3s						
HHC				LR	LR		
	comp=E,200nm,16.6s						
HHC				LR	LR		
	comp=Z,190nm,17.8s						
CM31	**Chiang Mai Arr**	**73.11**	**294**	*e*P	**P**	**14 40 05.7**	**+0.8**
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.11**	**294**	P	**P**	**14 40 06.7**	**+1.8**
	comp=Z,8.8nm,0.8s,baz=125,slow=4.5,SNR=58						
CMAR				LR	LR	15 08 27.3	
	comp=Z,32nm,21.0s,baz=335,slow=33						
CMAR	**Chiang Mai Arr**	**73.11**	**294**	P	**P**	**14 40 06.7**	**+1.8**
CHTO	**Chiang Mai**	**73.23**	**294**	*e*P	**P**	**14 40 06.4**	**+0.9**
	comp=Z,21nm,1.4s						
CD2	**Chengdu**	**73.73**	**307**	P	**P**	**14 40 09.8**	**+1.4**
CD2				pP	pP	14 40 36.0	+6.9
CD2				sP	sP	14 40 47.4	+10
CD2				PP	**PP**	**14 42 56.8**	**+2.8**
CD2				S	**SKiKP**	**14 49 29.3**	**-1.5**
CD2				sS	**ScS**	**14 50 14.8**	**+3.5**
CD2				SS	**SS**	**14 54 15.8**	**-3.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.9s						
CD2				LR	LR		
	comp=N,30nm,5.3s						
CD2				LR	LR		
	comp=Z,330nm,4.8s						
LZH	**Lanzhou**	**75.92**	**312**	*e*P	**P**	**14 40 23.0**	**+2.0**
LZH				pP	pP	14 40 49.0	+7.2
LZH				sP	sP	14 40 58.3	+7.9
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
QSPA	**South Pole Qui**	**77.95**	**180**	P	**P**	**14 40 31.6**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=18,slow=1.2,SNR=12						
QSPA	**South Pole Qui**	**77.95**	**180**	P	**P**	**14 40 31.6**	**-0.2**
SONM	**Songino Array**	**79.87**	**324**	P	**P**	**14 40 42.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=148,slow=6.2,SNR=4.6						
SONM	**Songino Array**	**79.87**	**324**	P	**P**	**14 40 42.7**	**0.0**
GTA	**Gaotai**	**80.23**	**314**	*e*P	**P**	**14 40 46.0**	**+1.2**
GTA				pP	pP	14 41 11.3	+5.6
GTA				sP	sP	14 41 22.6	+8.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ILAR	**Eielson Array**	**84.27**	**18**	P	**P**	**14 41 03.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=243,slow=4.4,SNR=14						
ILAR				LR	LR	15 10 37.2	
	comp=Z,136nm,21.4s,baz=332,slow=30						
ILAR	**Eielson Array**	**84.27**	**18**	P	**P**	**14 41 03.8**	**-1.4**
TAPN	**Taplejung**	**85.66**	**299**	*e*P	**P**	**14 41 12.5**	**-0.8**
	comp=Z,25nm,1.3s						
TAPN	**Taplejung**	**85.66**	**299**	*e*P	**P**	**14 41 12.5**	**-0.8**
ODAN	**Odare**	**85.81**	**298**	*e*P	**P**	**14 41 13.8**	**-0.2**
	comp=Z,18nm,1.0s						
RAMN	**Ramite**	**86.51**	**298**	*e*P	**P**	**14 41 18.0**	**+0.5**
	comp=Z,24nm,1.4s						
RAMN	**Ramite**	**86.51**	**298**	*e*P	**P**	**14 41 18.0**	**+0.5**
DLBC	**Dease Lake**	**86.99**	**28**	LR	LR	15 15 46.7	
	comp=Z,288nm,21.2s,baz=9.5,slow=33						
JIRN	**Jiri**	**87.05**	**299**	*e*P	**P**	**14 41 20.4**	**+0.2**
	comp=Z,8.9nm,0.9s						
GUN	**Gumba**	**87.38**	**299**	*e*P	**P**	**14 41 21.4**	**-0.4**
PKI	**Pulchoki**	**87.69**	**299**

ARG	**Arkhangelos**	**0.65**	**272**	*e*PN	**Pb**	14 31 46.2	**-0.3**
ARG				*e*SN	**Sb**	14 31 57.3	**+1.6**
ARG	**Arkhangelos**	**0.65**	**272**	*e*Pn	**Pb**	14 31 46.2	**-0.3**
ARG				*e*Sn	**Sb**	14 31 57.3	**+1.6**
ELL	**Elmali**	**0.96**	**55**	*e*PG	**Pg**	14 31 51.2	**-0.4**
ELL				*e*SG	**Sb**	14 32 05.3	**+0.3**
ELL	**Elmali**	**0.96**	**55**	*e*Pg	**Pg**	14 31 51.2	**-0.4**
ELL				*e*Sg	**Sb**	14 32 05.3	**+0.3**
YER	**Yerkesik**	**1.07**	**331**	*e*PG	**Pg**	14 31 53.1	**-0.5**
YER	**Yerkesik**	**1.07**	**331**	*e*Pg	**Pg**	14 31 53.1	**-0.5**
GOLH	**Golhisar**	**1.16**	**26**	*i* P	**Pg**	14 31 54.3	**-1.0**
GOLH				*i* S	**Sn**	14 32 12.7	**+1.0**
GOLH	**Golhisar**	**1.16**	**26**	*i* Pg	**Pg**	14 31 54.3	**-1.0**
GOLH				*i* Sg	**Sn**	14 32 12.7	**+1.0**
KORT	**Korkueli**	**1.40**	**55**	*i* P	**Pn**	14 31 59.0	**0.0**
KORT				*i* S	**Sg**	14 32 18.7	**+0.6**
KORT	**Korkueli**	**1.40**	**55**	*i* P	**Pn**	14 31 59.0	**0.0**
KORT				*i* S	**Sg**	14 32 18.7	**+0.6**
DNZL	**Cakiroluk**	**1.49**	**4**	*i* P	**Pn**	14 31 59.5	**-0.8**
DNZL				*i* S	**Sn**	14 32 20.2	**+0.1**
DNZL	**Cakiroluk**	**1.49**	**4**	*i* P	**Pn**	14 31 59.5	**-0.8**
DNZL				*i* S	**Sn**	14 32 20.2	**+0.1**
BODT	**Bodrum**	**1.56**	**304**	*e*PN	**Pn**	14 31 59.4	**-1.6**
BODT	**Bodrum**	**1.56**	**304**	*e*Pn	**Pn**	14 31 59.4	**-1.6**
KARP	**Karpathos**	**1.57**	**246**	*e*PB	**Pn**	14 32 00.7	**-0.5**
KARP				*e*SN	**Sn**	14 32 21.6	**-0.2**
KARP	**Karpathos**	**1.57**	**246**	*e*Pb	**Pn**	14 32 00.7	**-0.5**
KARP				*e*Sn	**Sn**	14 32 21.6	**-0.2**
BCK	**Bucak**	**1.84**	**46**	*e*PN	**Pn**	14 32 04.5	**-0.4**
BCK	**Bucak**	**1.84**	**46**	*e*Pn	**Pn**	14 32 04.5	**-0.4**
KHL	**Karahalli**	**2.18**	**12**	*e*PN	**Pn**	14 32 09.4	**-0.2**
KHL	**Karahalli**	**2.18**	**12**	*e*Pn	**Pn**	14 32 09.4	**-0.2**
SMG	**Samos**	**2.25**	**313**	*e*PN	**Pn**	14 32 10.7	**+0.1**
SMG	**Samos**	**2.25**	**313**	*e*Pn	**Pn**	14 32 10.7	**+0.1**
KULA	**Kula-Manisa**	**2.32**	**355**	*e*PN	**Pn**	14 32 11.3	**-0.2**
KULA	**Kula-Manisa**	**2.32**	**355**	*e*Pn	**Pn**	14 32 11.4	**-0.2**
ZKR	**Zakros**	**2.46**	**245**	*e*PN	**Pn**	14 32 13.1	**-0.2**
ZKR	**Zakros**	**2.46**	**245**	*e*Pn	**Pn**	14 32 13.1	**-0.2**
NPS	**Neapolis**	**2.85**	**252**	*e*PN	**Pn**	14 32 18.1	**-0.7**
NPS	**Neapolis**	**2.85**	**252**	*e*Pn	**Pn**	14 32 18.1	**-0.7**
ALT	**Altintas**	**3.00**	**18**	*e*PN	**Pn**	14 32 21.1	**+0.1**
ALT	**Altintas**	**3.00**	**18**	*e*Pn	**Pn**	14 32 21.1	**+0.1**

*IDC **16** 14:33:20.7±11.0, 36°.80S×178°.34E, h151km±107km, mb3.7/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.2/21, Error ellipse: s-maj=93.7km s-min=49.2km az=20.0*

*WEL **16** 14:33:25.5±0.3, 36°.46S×177°.98E, h178km±3km, ML4.3/15, Error ellipse: s-maj=2.8km s-min=2.5km az=0.0*

*NEIC **16** 14:33:26.2, 36°.49S×177°.96E, h172km, MG4.2(WEL), After WEL.*

ISC 16 14:33:26.5±1.2, 36°.71S±0°.10×177°.95E±0°.09, h200km±7km, n119, σ1§15/118, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**162**	PN	**Pn**	14 33 54.0	**-1.4**
MXZ				SN	**S**	14 34 15.9	**-2.2**
MXZ	**Matakaoa Point**	**0.90**	**162**	Pn	**Pn**	14 33 54.0	**-1.4**
PUZ	**Puketiti**	**1.38**	**170**	PN	**Pn**	14 33 58.5	**-0.6**
PUZ				SN	**S**	14 34 24.0	**-0.3**
PUZ	**Puketiti**	**1.38**	**170**	Pn	**Pn**	14 33 58.5	**-0.6**
OPRZ	**Ohinepanea**	**1.59**	**224**	PN	**Pn**	14 34 00.3	**-0.6**
OPRZ				SN	**S**	14 34 27.4	**+0.1**
OPRZ	**Ohinepanea**	**1.59**	**224**	Pn	**Pn**	14 34 00.3	**-0.6**
MARZ	**Manawahe**	**1.63**	**218**	PN	**Pn**	14 34 01.2	**-0.1**
MARZ	**Manawahe**	**1.63**	**218**	Pn	**Pn**	14 34 01.2	**-0.1**
MARZ				Sn	S	14 34 06.3	-22
MWZ	**Matawai**	**1.65**	**192**	PN	**Pn**	14 34 01.4	**-0.2**
MWZ				SN	**S**	14 34 28.9	**+0.4**
MWZ	**Matawai**	**1.65**	**192**	Pn	**Pn**	14 34 01.4	**-0.2**
MWZ				Sn	**S**	14 34 28.9	**+0.4**
URZ	**Urewera**	**1.68**	**203**	PN	**Pn**	14 34 01.1	**-0.7**
URZ				SN	**S**	14 34 28.5	**-0.4**
URZ	**Urewera**	**1.68**	**203**	*e*Pn	**Pn**	14 34 01.6	**-0.2**
URZ				*e*Sn	**S**	14 34 29.0	**+0.1**
EDRZ	**Edgecumbe**	**1.69**	**214**	PN	**Pn**	14 34 02.3	**+0.3**
EDRZ	**Edgecumbe**	**1.69**	**214**	Pn	**Pn**	14 34 02.3	**+0.3**
CNGZ	**Carnagh Statio**	**1.78**	**173**	PN	**Pn**	14 34 03.3	**+0.6**
CNGZ	**Carnagh Statio**	**1.78**	**173**	Pn	**Pn**	14 34 03.3	**+0.6**
KUZ	**Kuaotunu**	**1.79**	**268**	PN	**Pn**	14 34 00.8	**-2.0**
KUZ	**Kuaotunu**	**1.79**	**268**	Pn	**Pn**	14 34 00.8	**-2.0**
TARZ	**Mount Tarawera**	**1.90**	**217**	PN	**Pn**	14 34 05.0	**+0.9**
TARZ	**Mount Tarawera**	**1.90**	**217**	Pn	**Pn**	14 34 05.0	**+0.9**
RRRZ	**Republican Roa**	**1.98**	**215**	PN	**Pn**	14 34 05.2	**+0.4**
RRRZ	**Republican Roa**	**1.98**	**215**	Pn	**Pn**	14 34 05.2	**+0.4**
PRRZ	**Plateau Road**	**2.17**	**214**	PN	**Pn**	14 34 07.1	**+0.4**
PRRZ	**Plateau Road**	**2.17**	**214**	Pn	**Pn**	14 34 07.1	**+0.4**
PRGZ	**Paritu Road**	**2.21**	**181**	PN	**Pn**	14 34 07.3	**+0.2**
PRGZ	**Paritu Road**	**2.21**	**181**	Pn	**Pn**	14 34 07.3	**+0.2**
ALRZ	**Allen Road**	**2.24**	**214**	PN	**Pn**	14 34 08.0	**+0.5**
ALRZ	**Allen Road**	**2.24**	**214**	Pn	**Pn**	14 34 08.0	**+0.5**
RAHZ	**Arahi**	**2.30**	**197**	PN	**Pn**	14 34 08.6	**+0.4**
RAHZ	**Arahi**	**2.30**	**197**	Pn	**Pn**	14 34 08.6	**+0.4**
KNZ	**Kokohu**	**2.31**	**185**	PN	**Pn**	14 34 08.2	**0.0**
KNZ	**Kokohu**	**2.31**	**185**	Pn	**Pn**	14 34 08.2	**0.0**
MHGZ	**Mahia Peninsul**	**2.44**	**181**	PN	**Pn**	14 34 10.1	**+0.5**
MHGZ	**Mahia Peninsul**	**2.44**	**181**	Pn	**Pn**	14 34 10.1	**+0.5**
NMHZ	**Naumai**	**2.55**	**200**	PN	**Pn**	14 34 11.6	**+0.7**
NMHZ	**Naumai**	**2.55**	**200**	Pn	**Pn**	14 34 11.6	**+0.7**
BKZ	**Black Stump Fm**	**2.71**	**205**	PN	**Pn**	14 34 12.5	**-0.2**
BKZ	**Black Stump Fm**	**2.71**	**205**	Pn	**Pn**	14 34 12.4	**-0.2**
MCHZ	**McNeill Hill**	**2.90**	**200**	PN	**Pn**	14 34 15.4	**+0.5**
MCHZ	**McNeill Hill**	**2.90**	**200**	Pn	**Pn**	14 34 15.4	**+0.5**
NGZ	**Ngauruhoe**	**3.08**	**216**	PN	**Pn**	14 34 17.9	**+0.7**
NGZ	**Ngauruhoe**	**3.08**	**216**	Pn	**Pn**	14 34 17.9	**+0.7**
TUVZ	**Tukino**	**3.13**	**215**	PN	**Pn**	14 34 17.9	**+0.2**
TUVZ	**Tukino**	**3.13**	**215**	Pn	**Pn**	14 34 17.9	**+0.2**
WPVZ	**Whakapapa**	**3.13**	**217**	PN	**Pn**	14 34 18.1	**+0.4**
WPVZ	**Whakapapa**	**3.13**	**217**	Pn	**Pn**	14 34 18.1	**+0.4**
BHHZ	**Black Hill Sta**	**3.15**	**208**	PN	**Pn**	14 34 17.4	**-0.4**
BHHZ	**Black Hill Sta**	**3.15**	**208**	Pn	**Pn**	14 34 17.4	**-0.4**
FWVZ	**Far West T-bar**	**3.17**	**216**	PN	**Pn**	14 34 18.5	**+0.3**
FWVZ	**Far West T-bar**	**3.17**	**216**	Pn	**Pn**	14 34 18.5	**+0.3**
KAHZ	**Kahuranaki**	**3.19**	**195**	PN	**Pn**	14 34 18.5	**+0.2**
KAHZ	**Kahuranaki**	**3.19**	**195**	Pn	**Pn**	14 34 18.5	**+0.2**
MOVZ	**Moawhango**	**3.20**	**212**	PN	**Pn**	14 34 18.0	**-0.5**
MOVZ	**Moawhango**	**3.20**	**212**	Pn	**Pn**	14 34 18.0	**-0.5**
WNVZ	**Wahianoa**	**3.20**	**215**	PN	**Pn**	14 34 18.6	**0.0**
WNVZ	**Wahianoa**	**3.20**	**215**	Pn	**Pn**	14 34 18.6	**0.0**
MTVZ	**Mangateitei**	**3.31**	**215**	PN	**Pn**	14 34 19.9	**+0.1**
MTVZ	**Mangateitei**	**3.31**	**215**	Pn	**Pn**	14 34 19.9	**+0.1**
PXZ	**Pawanui**	**3.42**	**194**	PN	**Pn**	14 34 20.7	**-0.3**
PXZ	**Pawanui**	**3.42**	**194**	Pn	**Pn**	14 34 20.7	**-0.3**
PNHZ	**Pukenui**	**3.48**	**203**	PN	**Pn**	14 34 21.0	**-0.8**
PNHZ	**Pukenui**	**3.48**	**203**	Pn	**Pn**	14 34 21.0	**-0.8**
WPHZ	**Waipukurau**	**3.55**	**199**	PN	**Pn**	14 34 22.1	**-0.5**
WPHZ	**Waipukurau**	**3.55**	**199**	Pn	**Pn**	14 34 22.1	**-0.5**
PRHZ	**Porangahau**	**3.70**	**196**	PN	**Pn**	14 34 24.0	**-0.4**
PRHZ	**Porangahau**	**3.70**	**196**	Pn	**Pn**	14 34 24.0	**-0.4**
WAZ	**Wanganui**	**3.83**	**217**	PN	**Pn**	14 34 26.2	**+0.2**
WAZ	**Wanganui**	**3.83**	**217**	Pn	**Pn**	14 34 26.2	**+0.2**
DVHZ	**Dannevirke**	**3.84**	**201**	PN	**Pn**	14 34 25.2	**-1.0**
DVHZ	**Dannevirke**	**3.84**	**201**	Pn	**Pn**	14 34 25.2	**-1.0**
BFZ	**Birch Farm**	**4.18**	**198**	Pn	**Pn**	14 34 29.7	**-0.7**
MRZ	**Mangatainoka R**	**4.36**	**204**	PN	**Pn**	14 34 31.2	**-1.4**
MRZ	**Mangatainoka R**	**4.36**	**204**	Pn	**Pn**	14 34 31.2	**-1.4**
TIWZ	**Tintock**	**4.37**	**201**	PN	**Pn**	14 34 31.9	**-0.9**
TIWZ	**Tintock**	**4.37**	**201**	Pn	**Pn**	14 34 31.9	**-0.9**
HOWZ	**Holdsworth Sta**	**4.59**	**204**	PN	**Pn**	14 34 34.0	**-1.6**
HOWZ	**Holdsworth Sta**	**4.59**	**204**	Pn	**Pn**	14 34 34.0	**-1.6**
OGWZ	**Otaki Gorge**	**4.64**	**207**	PN	**Pn**	14 34 34.9	**-1.3**
OGWZ	**Otaki Gorge**	**4.64**	**207**	Pn	**Pn**	14 34 34.9	**-1.3**
TMWZ	**Te Maipa**	**4.67**	**199**	PN	**Pn**	14 34 35.5	**-1.1**
TMWZ	**Te Maipa**	**4.67**	**199**	Pn	**Pn**	14 34 35.5	**-1.1**
KIW	**Kapiti Island**	**4.78**	**209**	PN	**Pn**	14 34 36.3	**-1.6**
KIW	**Kapiti Island**	**4.78**	**209**	Pn	**Pn**	14 34 36.3	**-1.6**
MTW	**Mount Morrison**	**4.83**	**202**	PN	**Pn**	14 34 36.6	**-2.1**
MTW	**Mount Morrison**	**4.83**	**202**	Pn	**Pn**	14 34 36.6	**-2.1**
CAW	**Cannon Point**	**4.93**	**206**	PN	**Pn**	14 34 38.0	**-1.9**
CAW	**Cannon Point**	**4.93**	**206**	Pn	**Pn**	14 34 38.0	**-1.9**
TRWZ	**Traveller**	**5.00**	**200**	PN	**Pn**	14 34 39.3	**-1.4**
TRWZ	**Traveller**	**5.00**	**200**	Pn	**Pn**	14 34 39.3	**-1.4**
MSWZ	**Moikau Station**	**5.14**	**203**	PN	**Pn**	14 34 40.9	**-1.7**
MSWZ	**Moikau Station**	**5.14**	**203**	Pn	**Pn**	14 34 40.9	**-1.7**
WEL	**Wellington**	**5.19**	**208**	PN	**Pn**	14 34 41.7	**-1.6**
WEL	**Wellington**	**5.19**	**208**	Pn	**Pn**	14 34 41.7	**-1.6**
PLWZ	**Palliser**	**5.28**	**203**	Pn	Pn	14 34 40.2	-4.3
TCW	**Tory Channel**	**5.33**	**211**	PN	**Pn**	14 34 42.8	**-2.2**
TCW	**Tory Channel**	**5.33**	**211**	Pn	**Pn**	14 34 42.8	**-2.2**
TUWZ	**Tuamarina**	**5.65**	**212**	PN	**Pn**	14 34 46.6	**-2.5**
TUWZ	**Tuamarina**	**5.65**	**212**	Pn	**Pn**	14 34 46.6	**-2.5**
NNZ	**Nelson**	**5.74**	**217**	PN	Pn	14 34 47.1	-3.1
NNZ	**Nelson**	**5.74**	**217**	Pn	Pn	14 34 47.1	-3.1
THZ	**Tophouse**	**6.38**	**216**	PN	**Pn**	14 34 57.2	**-1.4**
THZ	**Tophouse**	**6.38**	**216**	Pn	**Pn**	14 34 57.2	**-1.4**
KHZ	**Kahutara**	**6.64**	**210**	PN	**Pn**	14 35 00.1	**-1.7**
KHZ	**Kahutara**	**6.64**	**210**	Pn	**Pn**	14 35 00.1	**-1.7**
LTZ	**Lake Taylor**	**7.47**	**214**	PN	**Pn**	14 35 10.4	**-2.4**
LTZ	**Lake Taylor**	**7.47**	**214**	Pn	**Pn**	14 35 10.4	**-2.4**
MQZ	**McQueen's Vall**	**8.07**	**208**	Pn	Pn	14 35 17.4	-3.1
RPZ	**Rata Peaks**	**8.76**	**215**	P	**Pn**	14 35 27.3	**-2.1**
	0.4nm,0.3s,baz=306,slow=4.2,SNR=4.1						
RPZ				S	S	14 37 01.4	-6.4
	1.1nm,0.3s,baz=186,slow=23,SNR=12						
RPZ	**Rata Peaks**	**8.76**	**215**	P	**Pn**	14 35 27.3	**-2.1**
RPZ				S	S	14 37 01.4	-6.4
RAR	**Rarotonga**	**24.78**	**58**	LR	LR	14 45 19.4	
	comp=Z,157nm,19.1s,baz=64,slow=29						
ASAR	**Alice Springs**	**39.90**	**276**	P	**P**	**14 40 42.9**	**+1.8**
	2.0nm,0.5s,baz=120,slow=8.0,SNR=28						
ASAR	**Alice Springs**	**39.90**	**276**	P	**P**	**14 40 42.9**	**+1.8**
WRA	**Warramunga Arr**	**41.48**	**282**	P	**P**	**14 40 55.4**	**+1.4**
	1.8nm,0.5s,baz=120,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**41.48**	**282**	P	**P**	**14 40 55.4**	**+1.4**
PETK	**Petropavlovsk-**	**91.17**	**348**	LR	LR	15 19 08.6	
	comp=Z,271nm,20.4s,baz=80,slow=30						
ARCES	**ARCESS Array B**	**143.88**	**344**	PKP	PKPbc	14 52 36.0	+0.9
	4.1nm,0.9s,baz=56,slow=1.6,SNR=2.9						
ARCES	**ARCESS Array B**	**143.88**	**344**	PKP	PKPbc	14 52 36.0	+0.9
FINES	**FINESS Array B**	**149.60**	**333**	PKPbc	**PKPbc**	**14 52 51.4**	**+0.1**
	3.2nm,1.0s,baz=34,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**149.60**	**333**	PKPbc	**PKPbc**	**14 52 51.4**	**+0.1**

IDC 16 14:33:55.2±2.6, 0°.07S×132°.83E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=134.6km s-min=26.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**176**	P	P	14 38 27.6	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**23.48**	**178**	P	P	14 39 06.7	-0.1
	0.5nm,0.6s,baz=355,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	14 44 31.7	0.0
	0.2nm,0.7s,baz=123,slow=5.3,SNR=3.0						

*NNC **16** 14:46:23.5±1.8, 41°.73N×79°.00E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=15.4km s-min=5.3km az=160.0*

ISC 16 14:46:22.5±2.0, 41°.88N±0°.09×79°.3E±0°.1, h15km, n7, σ1§55/7, 7C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.20**	**308**	⇑Pg	**Pb**	**14 47 01.4**	**-0.8**
	64nm,0.7s						
KNDC				⇓Lg	Lg	14 47 30.6	
	301nm,0.8s						
TKM2	**Tokmak 2**	**2.96**	**292**	⇑Pn	**Pn**	**14 47 09.0**	**-0.2**
	3.8nm,0.4s						
TKM2				⇑Pg	**Pb**	**14 47 15.1**	**0.0**
	13nm,0.4s						
TKM2				⇓Sn	**Sn**	**14 47 45.9**	**+1.4**
	49nm,0.4s						
KSH	**Kashi**	**3.48**	**228**	*e*Pn	**Pn**	**14 47 17.8**	**+1.5**
KSH				Sn	**Sn**	**14 47 55.1**	**-2.2**
KSH				smax	smax		
	comp=N,28nm,0.6s						
KSH				smax	smax		
	comp=E,33nm,0.6s						
MK31	**Makanchi Array**	**5.35**	**22**	⇑Pn	Pb	14 47 51.1	-4.5
	comp=E,0.2nm,0.2s,baz=206,slow=12,SNR=29						
MK31				⇓Sn	**Sb**	**14 48 59.5**	**-0.1**
	comp=E,1.2nm,0.4s						
MK31				⇑Lg	Lg	14 49 19.2	
	comp=E,4.2nm,0.7s						
KK31	**Karatay Array**	**6.64**	**284**	⇓Pg	Pb	14 48 20.7	+3.1
	comp=E,2.9nm,0.8s,baz=98,slow=14,SNR=8.6						
KK31				⇑Lg	Lg	14 49 44.6	
	comp=E,1.7nm,0.5s,baz=89,slow=27,SNR=4.6						
KURBB	**Kurchatov Arra**	**8.76**	**357**	⇑Lg	Lg	14 51 06.9	
	comp=E,1.3nm,0.7s						
KURK	**Kurchatov**	**8.85**	**357**	⇓Lg	Lg	14 51 09.8	
	comp=E,7.2nm,1.1s						

*ISCJB **16** 14:49:11.9±0.9, 10°.11N±0°.04×60°.55W±0°.07, h104km±9km, Error ellipse: s-maj=11.5km s-min=6.3km az=15.5*
*TRN **16** 14:49:13.3, 10°.19N×60°.38W, h68km, MD3.6*
*FUNV **16** 14:49:13.2, 10°.09N×60°.45W, h24km, MW3.5*

ISC 16 14:49:12.5±1.8, 10°.10N±0°.05×60°.52W±0°.09, h97km±13km, n18, σ1§06/26, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.67**	**306**	*e*P	**Pn**	**14 49 30.1**	**+0.8**
TBH				*e*S	**Sn**	**14 49 41.0**	**-0.9**
TOSP	**Speyside**	**1.20**	**359**	*e*P	**Pn**	**14 49 34.9**	**0.0**
GUIV	**Guiria**	**1.77**	**288**	*e*P	**Pn**	**14 49 42.2**	**+0.3**
GUIV				*e*S	**Sn**	**14 50 04.0**	**-0.3**
GRW	**Mount Saint Ca**	**2.34**	**331**	*e*P	**Pn**	**14 49 50.0**	**+0.6**
GRW				*e*S	**Sn**	**14 50 18.8**	**+1.0**
RIOV	**Rio Grande**	**2.39**	**213**	*e*P	**Pn**	**14 49 50.1**	**+0.1**
RIOV				*e*S	**Sn**	**14 50 18.0**	**-0.8**
GUNV	**Guanoco**	**2.39**	**272**	⇓*i*P	**Pn**	**14 49 52.0**	**+1.9**
GUNV				*e*S	**Sn**	**14 50 19.3**	**+0.5**
CRUV	**Carupano**	**2.74**	**282**	*e*P	**Pn**	**14 49 54.4**	**-0.3**
SVB	**Belmont**	**3.24**	**347**	*e*P	**Pn**	**14 50 03.3**	**+1.9**
SVB				*e*S	**Sn**	**14 50 38.8**	**-0.3**
GURV	**El Guri**	**3.44**	**228**	*e*P	**Pn**	**14 50 05.2**	**+1.2**
MCLT	**Moule a Chique**	**3.62**	**353**	*e*P	**Pn**	**14 50 06.3**	**-0.1**
MCLT				*e*S	**Sn**	**14 50 46.2**	**-2.0**
PCRV	**Puerto La Cruz**	**4.06**	**271**	*e*P	**Pn**	**14 50 13.2**	**+0.8**
LUEV	**Luepa**	**4.33**	**193**	*e*P	**Pn**	**14 50 17.0**	**+0.7**
CUPV	**Cœpira**	**5.19**	**270**	*e*P	**Pn**	**14 50 28.2**	**+0.4**
CUPV				*e*S	**Sn**	**14 51 24.7**	**-1.9**
BIRV	**Birongo**	**5.67**	**274**	*e*P	**Pn**	**14 50 35.6**	**+1.3**
TURV	**Turiamo**	**7.22**	**273**	*e*P	**Pn**	**14 50 56.0**	**+0.7**
BAUV	**El Baul**	**7.51**	**262**	*e*P	**Pn**	**14 50 59.7**	**+0.3**
MAPV	**Macapo**	**7.83**	**269**	*e*P	**Pn**	**14 51 03.0**	**-0.7**
CURV	**Curarigua**	**9.30**	**270**	*e*P	**Pn**	**14 51 23.4**	**-0.4**

IDC 16 14:52:19.7±3.9, 21°.18S×177°.51W, h342km±29km, mb3.5/6, mb1 3.7/7, mb1mx3.4/18, mbtmp3.5/7, Error ellipse: s-maj=95.5km s-min=17.6km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.06**	**38**	P	Pn	14 54 26.6	0.0
	6.2nm,0.3s,baz=347,slow=4.0,SNR=13						
AFI				S	S	14 56 02.8	-7.5
	4.0nm,0.3s,baz=16,slow=20,SNR=4.5						
CTA	**Charters Tower**	**33.89**	**265**	P	P	14 58 31.9	+0.2
	3.7nm,0.4s,baz=92,slow=12,SNR=13						
STKA	**Stephens Creek**	**37.92**	**245**	P	P	14 59 06.2	+0.8
	1.1nm,0.5s,baz=89,slow=15,SNR=4.3						
ASAR	**Alice Springs**	**44.82**	**257**	P	P	15 00 00.7	-0.5
	3.6nm,0.5s,baz=86,slow=8.5,SNR=78						
ASAR				PcP	PcP	15 01 37.0	+0.4
	0.5nm,0.6s,baz=104,slow=3.9,SNR=5.9						
WRA	**Warramunga Arr**	**44.97**	**263**	P	P	15 00 01.3	-1.1
	1.7nm,0.3s,baz=96,slow=7.9,SNR=100						
ILAR	**Eielson Array**	**88.87**	**13**	P	P	15 04 35.5	+0.3
	0.2nm,0.5s,baz=217,slow=6.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**90.77**	**289**	P	P	15 04 46.5	+1.4
	0.7nm,0.8s,baz=153,slow=2.8,SNR=4.8						
AKASG	**Malin Array Be**	**143.82**	**331**	PKP	PKPab	15 11 11.3	-1.1
	1.3nm,0.4s,baz=43,slow=4.1,SNR=15						
BRTR	**Keskin Array B**	**147.63**	**312**	PKPbc	PKPbc	15 11 24.3	-0.3
	0.8nm,0.7s,baz=146,slow=4.6,SNR=4.7						
GERES	**GERESS Array B**	**150.97**	**345**	PKPbc	PKPbc	15 11 31.9	-0.4
	0.4nm,0.5s,baz=0.0,slow=1.3,SNR=4.4						

IDC 16 15:11:04.2±10.0, 22°.19N×143°.21E, h264km±83km, mb3.0/7, mb1 3.1/7, mb1mx2.9/23, mbtmp3.0/7, Error ellipse: s-maj=147.3km s-min=15.0km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.14**	**322**	P	P	15 15 19.2	+0.5
	0.7nm,0.4s,baz=147,slow=9.4,SNR=6.4						
SONM	**Songino Array**	**38.98**	**320**	P	P	15 18 05.2	-0.1
	0.4nm,0.4s,baz=120,slow=8.7,SNR=6.8						
WRA	**Warramunga Arr**	**42.76**	**192**	P	P	15 18 36.0	-0.2
	0.3nm,0.4s,baz=12,slow=8.6,SNR=9.4						
ASAR	**Alice Springs**	**46.47**	**192**	P	P	15 19 05.2	-0.2
	0.2nm,0.7s,baz=12,slow=8.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**53.84**	**321**	P	P	15 19 59.4	-0.7
	1.0nm,0.3s,baz=103,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**54.39**	**312**	P	P	15 20 04.0	-0.2
	0.4nm,0.7s,baz=92,slow=9.5,SNR=4.6						
MKAR				PcP	PcP	15 21 05.2	+0.8
	0.2nm,0.4s,baz=110,slow=1.9,SNR=5.2						
FINES	**FINESS Array B**	**82.75**	**334**	P	P	15 22 58.3	-0.2
	0.9nm,0.4s,baz=61,slow=6.1,SNR=7.0						

*NIED **16** 15:14:00, 47°.60N×154°.90E, h32km, Mw4.4 Best double couple: M0 5.16000×10^15 NP1:φs48.00000°, δ81.00000°, λ57.00000°. NP2:φs304.00000°, δ35.00000°, λ164.00000°.*
*IDC **16** 15:14:17.8±0.5, 46°.89N×155°.34E, h0km, mb4.3/24, mb1 4.5/29, mb1mx4.5/30, mbtmp4.3/29, ML4.0/4, MS3.8/13, Ms1 3.8/13, ms1mx3.5/44, Error ellipse: s-maj=16.7km s-min=10.8km az=149.0*
*BJI **16** 15:14:21.2, 47°.09N×155°.08E, h20km, mB5.0/30, mb4.6/39, Ms4.5/23, Ms7 4.3/25*
*ISCJB **16** 15:14:21.4±0.3, 46°.78N±0°.04×155°.12E±0°.05, h34km, mb4.6/101, MS3.9/20, Error ellipse: s-maj=6.9km s-min=3.5km az=138.3*
*NEIC **16** 15:14:23.1±0.3, 47°.01N×155°.33E, h35km, mb4.9/34, Error ellipse: s-maj=9.2km s-min=5.0km az=144.0*
*MOS **16** 15:14:23.4±1.2, 46°.93N×155°.24E, h53km, mb5.0/36, Error ellipse: s-maj=9.5km s-min=6.6km az=112.4*

ISC 16 15:14:23.4±0.5, 46°.84N±0°.06×155°.21E±0°.05, h35km±2km, n280, σ1§41/303, mb4.7/101, MS3.9/21, 11C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.89**	**9**	*e*PN	**Pn**	**15 15 23.

YAK e 15 19 16.6
YAK eS **S** **15 22 52.6 -3.3**
YAK e 15 23 07.5
YAK eSSS SSS 15 23 24.1
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=E,118nm,2.8s
YAK smax smax
comp=N,57nm,2.2s
YAK MLR MLR
comp=Z,365nm,14.0s
YAK MLR MLR
comp=E,244nm,14.0s
YAK MLR MLR
comp=N,246nm,13.0s
YAK Yakutsk 21.04 326 eP **P** **15 19 00.1 -3.8**
comp=N,30nm,0.9s
CLNS Chul'man 21.06 309 eP **P** **15 19 03.0 -1.2**
CLNS e 15 19 21.1
CLNS eS **S** **15 22 52.6 -4.0**
CLNS e 15 23 10.7
CLNS eSS **SnSn** **15 23 23.1 +4.3**
CLNS pmax pmax
comp=N,2.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=E,153nm,11.8s
CLNS smax smax
comp=N,88nm,11.8s
CLNS MLR MLR
comp=E,287nm,13.0s
CLNS MLR MLR
comp=N,432nm,14.0s
CLNS MLR MLR
comp=Z,208nm,13.0s
CN2 Changchun 21.09 273 eP **P** **15 19 04.1 -0.5**
CN2 esP **sP** **15 19 17.1 -1.2**
CN2 eS **S** **15 22 54.6 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
BILL Bilibino 22.00 11 eP **P** **15 19 11.9 -2.2**
BILL i 15 19 32.9
BILL i 15 19 42.0
BILL pmax pmax
comp=Z,52nm,1.2s
BILL MLR MLR
comp=Z,200nm,14.0s
BILL Bilibino 22.00 11 eP **P** **15 19 11.4 -2.7**
comp=Z,37nm,1.0s
KSRS Korea Array 22.21 255 P **P** **15 19 18.1 +1.6**
comp=Z,7.2nm,0.8s,baz=59,slow=9.3,SNR=19
KSRS LR LR 15 27 23.1
comp=Z,92nm,19.3s,baz=70,slow=35
KSRS Korea Array 22.21 255 P **P** **15 19 18.2 +1.6**
KSRS pmax pmax
comp=Z,7.0nm,0.9s
KSRS MLR MLR
comp=Z,92nm,19.3s
KSAR Wonju Array Be 22.24 255 P **P** **15 19 18.2 +1.2**
KSAR Wonju Array Be 22.24 255 P **P** **15 19 18.1 +1.2**
BOD Bodaibo 27.04 309 eP **P** **15 19 58.4 -3.6**
BOD pmax pmax
comp=Z,6.0nm,1.5s
TNA Tin City 27.16 33 eP **P** **15 20 01.5 -1.4**
comp=Z,8.4nm,0.9s
BJI Beijing 28.92 271 P **P** **15 20 19.3 +0.4**
BJI S **S** **15 25 08.6 +1.6**
BJI pmax pmax
comp=Z,5.0nm,0.6s
BJI pmax pmax
comp=Z,130nm,4.9s
BJI LR LR
comp=N,280nm,15.2s
BJI LR LR
comp=E,230nm,13.9s
BJI LR LR
comp=Z,88nm,13.9s
NJ2 Nanjing 31.41 255 eP P 15 20 44.5 +3.5
NJ2 pmax pmax
comp=Z,60nm,0.6s
HHC Hu-ho-hao-te 31.72 275 eP **P** **15 20 44.8 +0.9**
HHC pP **pP** **15 20 54.9 +1.0**
HHC sP **sP** **15 20 59.3 +1.1**
HHC PP PP 15 21 51.5 -4.2
HHC S **S** **15 25 51.8 +0.6**
HHC sS **sS** **15 26 08.4 +0.5**
HHC SS SS 15 27 43.5 -24
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,230nm,5.4s
HHC LR LR
comp=N,200nm,13.1s
HHC LR LR
comp=E,220nm,13.1s
HHC LR LR
comp=Z,190nm,16.7s
ULN Ulaanbaatar 32.23 290 eP **P** **15 20 47.8 -0.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 32.23 290 eP **P** **15 20 47.8 -0.5**
comp=Z,3.0nm,1.0s
SONM Songino Array 32.66 290 P **P** **15 20 51.2 -0.8**
comp=Z,2.0nm,0.9s,baz=65,slow=8.4,SNR=14
SONM LR LR 15 35 46.1
comp=Z,135nm,18.3s,baz=2.7,slow=39
SONM Songino Array 32.66 290 P **P** **15 20 51.2 -0.8**
SONM Songino Array 32.66 290 P **P** **15 20 51.2 -0.8**
TLY Talaya 33.42 298 eP **P** **15 20 56.6 -1.9**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY MLR MLR
comp=Z,120nm,15.0s
ZAK Zakamensk 33.94 295 eP **P** **15 21 01.2 -2.0**
GUMO Guam 34.27 198 LR LR 15 33 26.0
comp=Z,74nm,21.2s,baz=48,slow=33
COLD Coldfoot 34.44 34 eP **P** **15 21 06.2 -1.0**
comp=Z,9.9nm,1.1s
MCK McKinley 34.65 40 eP **P** **15 21 07.4 -1.6**
MCK pmax pmax
comp=Z,23nm,1.2s
MCK McKinley 34.65 40 eP **P** **15 21 07.4 -1.6**
comp=Z,23nm,1.2s
SML Sawmill 34.90 44 eP **P** **15 21 09.6 -1.7**
SML pmax pmax
comp=Z,13nm,1.1s
SML Sawmill 34.90 44 eP **P** **15 21 09.6 -1.7**
comp=Z,13nm,1.1s
COLA College 35.17 38 eP **P** **15 21 10.3 -3.1**
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 35.17 38 eP **P** **15 21 10.3 -3.1**
comp=Z,26nm,1.0s
ILAR Eielson Array 35.58 39 P **P** **15 21 15.2 -1.8**
comp=Z,2.2nm,0.5s,baz=254,slow=7.6,SNR=65
ILAR Eielson Array 35.58 39 P **P** **15 21 15.2 -1.8**
ILAR Eielson Array 35.58 39 P **P** **15 21 15.2 -1.8**
DOT Dot Lake 36.82 41 eP **P** **15 21 25.5 -2.1**
comp=Z,78nm,2.2s
EGAK Eagle 38.03 39 eP **P** **15 21 36.4 -1.4**
comp=Z,20nm,0.8s
LZH Lanzhou 39.33 273 eP **P** **15 21 51.1 +1.9**
LZH pP **pP** **15 22 01.4 +2.0**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,63nm,4.3s
GTA Gaotai 40.38 280 eP **P** **15 21 59.3 +1.4**
GTA pP **pP** **15 22 08.4 +0.3**
GTA sP **sP** **15 22 12.8 +0.5**
GTA S **S** **15 28 04.6 +1.0**
GTA sS **sS** **15 28 20.8 +0.3**
GTA SS SS 15 30 58.9 -4.1
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,5.0s
GTA LR LR
comp=N,250nm,7.6s
GTA LR LR
comp=E,160nm,7.6s
GTA LR LR
comp=Z,180nm,8.1s
INK Inuvik 40.80 33 P **P** **15 22 00.2 -0.6**
comp=Z,8.9nm,0.8s,baz=289,slow=6.9,SNR=35
INK Inuvik 40.80 33 P **P** **15 22 00.2 -0.6**
INK Inuvik 40.80 33 P **P** **15 22 00.2 -0.6**
CD2 Chengdu 42.33 267 P **P** **15 22 14.1 +0.2**
CD2 pP **pP** **15 22 24.3 +0.2**
CD2 sP **sP** **15 22 28.6 +0.3**
CD2 PP PP 15 23 55.5 +3.4
CD2 S **S** **15 28 32.4 -0.1**
CD2 sS **sS** **15 28 49.4 0.0**
CD2 SS SS 15 31 35.8 -5.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,6.7s
CD2 LR LR
comp=N,310nm,4.8s
CD2 LR LR
comp=Z,280nm,7.1s
GYA Guiyang 43.15 259⇑ iP **P** **15 22 21.3 +0.7**
GYA pP **pP** **15 22 32.0 +1.1**
GYA PP PP 15 24 04.8 +3.7
GYA ScP **ScP** **15 27 58.6 +0.4**
GYA S **S** **15 28 45.5 +0.7**
GYA sS **sS** **15 29 03.1 +1.4**
GYA SS SS 15 31 52.8 -5.3
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,530nm,17.6s
GYA LR LR
comp=E,490nm,18.2s
GYA LR LR
comp=Z,500nm,17.8s
ZAA0 Zalesovo Array 43.72 306 eP **P** **15 22 22.7 -2.1**
ZALV Zalesovo Beam 43.72 306 P **P** **15 22 23.9 -0.9**
comp=Z,2.4nm,0.7s,baz=60,slow=7.3,SNR=11
ZALV PcP **PcP** **15 24 11.5 +0.3**
comp=Z,2.7nm,0.8s,baz=96,slow=3.0,SNR=6.2
ZALV LR LR 15 40 36.2
comp=Z,125nm,20.2s,baz=216,slow=36
ZALV Zalesovo Beam 43.72 306 P **P** **15 22 23.9 -0.9**
ZALV 15 24 11.5
ZALV Zalesovo Beam 43.72 306 P **P** **15 22 23.9 -0.9**
ZALV PcP **PcP** **15 24 11.5 +0.3**
NVS Novosibirsk 44.27 308 eP **P** **15 22 27.7 -1.5**
NVS pmax pmax
comp=Z,22nm,1.8s
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,12nm,1.7s
DLBC Dease Lake 44.49 46 P **P** **15 22 30.9 -0.1**
comp=E,2.5nm,0.6s,baz=315,slow=13,SNR=4.8
DLBC Dease Lake 44.49 46 P **P** **15 22 30.9 -0.1**
QIZ Qiongzhong 46.22 249 P **P** **15 22 44.8 -0.3**
QIZ S **S** **15 29 31.5 +2.3**
QIZ pmax pmax
comp=Z,170nm,3.5s
WMQ Urumqi 46.23 292 eP **P** **15 22 45.6 +0.6**
WMQ pP **pP** **15 22 55.6 +0.2**
WMQ sP **sP** **15 22 59.6 +0.1**
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ LR LR
comp=N,220nm,22.5s
WMQ LR LR
comp=Z,110nm,14.0s
KMI Kunming 46.68 261 P **P** **15 22 50.3 +1.4**
KMI pP **pP** **15 23 01.0 +1.7**
KMI sP **sP** **15 23 05.0 +1.6**
KMI S **S** **15 29 36.3 +0.1**
KMI sS **sS** **15 29 51.3 -1.9**
KMI SS SS 15 32 57.3 -5.2
KMI pmax pmax
comp=Z,9.0nm,1.4s
KMI pmax pmax
comp=Z,110nm,3.9s
KMI LR LR
comp=N,96nm,18.9s
KMI LR LR
comp=E,160nm,17.6s
KMI LR LR
comp=Z,130nm,21.5s
MK31 Makanchi Array 48.17 298 eP **P** **15 22 58.8 -1.2**
MK31 e 15 23 08.6
MK31 Makanchi Array 48.17 298 eP **P** **15 22 58.8 -1.2**
MK31 e 15 23 08.6
MKAR Makanchi Array 48.17 298 P **P** **15 23 00.0 -0.1**
comp=Z,2.6nm,0.7s,baz=64,slow=7.7,SNR=32
MKAR PcP **PcP** **15 24 27.3 +0.3**
comp=Z,1.2nm,0.9s,baz=75,slow=3.2,SNR=3.2
MKAR LR LR 15 45 03.6
comp=Z,86nm,18.2s,baz=260,slow=38
MKAR Makanchi Array 48.17 298 eP **P** **15 22 59.9 -0.1**
MKAR 15 24 27.3
MKAR Makanchi Array 48.17 298 eP **P** **15 22 59.9 -0.1**
MKAR PcP **PcP** **15 24 27.3 +0.3**
KURK Kurchatov 48.51 304⇑ iP **P** **15 23 01.5 -1.0**
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 48.51 304 eP **P** **15 23 01.9 -0.6**
comp=Z,14nm,0.9s
YKA Yellowknife Ar 49.98 37 P **P** **15 23 12.8 -0.7**
comp=Z,1.6nm,0.7s,baz=295,slow=7.5,SNR=20
YKA Yellowknife Ar 49.98 37 P **P** **15 23 12.8 -0.7**
YKA Yellowknife Ar 49.98 37 P **P** **15 23 12.8 -0.7**
LSA Lhasa 51.71 275 P **P** **15 23 29.4 +1.8**
LSA Lhasa 51.71 275 eP **P** **15 23 28.4 +0.8**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 51.71 275 eP **P** **15 23 28.4 +0.8**
comp=Z,3.6nm,0.6s
VOSK Vostochnaya 51.74 310 P **P** **15 23 25.7 -1.3**
VOSK pmax pmax
comp=Z,19nm,1.0s
BVA0 Borovoye Array 51.91 310 *i* P **P** **15 23 27.5 -0.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.6s
BRVK Borovoye 51.95 310*c i*P **P** **15 23 28.9 +0.4**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 51.95 310 eP **P** **15 23 28.4 0.0**
comp=Z,18nm,0.8s
ZRNK Zerenda 52.67 311 P **P** **15 23 32.7 -1.1**
ZRNK pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 53.55 258 eP **P** **15 23 42.4 +1.7**
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 53.55 258 eP **P** **15 23 42.4 +1.7**
comp=Z,12nm,1.2s
CM31 Chiang Mai Arr 53.80 258 eP **P** **15 23 41.9 -0.7**
CMAR Chiang Mai Arr 53.80 258 P **P** **15 23 44.6 +2.1**
comp=Z,3.2nm,0.9s,baz=34,slow=7.7,SNR=22
CMAR LR LR 15 47 13.5
comp=Z,34nm,20.7s,baz=345,slow=37
CMAR Chiang Mai Arr 53.80 258 P **P** **15 23 44.7 +2.1**
CMAR Chiang Mai Arr 53.80 258 P **P** **15 23 44.6 +2.1**
TKM2 Tokmak 2 54.25 297 eP **P** **15 23 47.0 +1.1**
TKM2 Tokmak 2 54.25 297 eP **P** **15 23 47.0 +1.1**
SVE Sverdlovsk 54.74 316⇓ iP **P** **15 23 49.6 +0.7**
SVE pmax pmax
comp=Z,21nm,0.9s
SOKR Solikamsk 54.92 322⇑ *i*P **P** **15 23 49.4 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.2s
AAK Ala-Archa 55.08 297 eP **P** **15 23 51.8 0.0**
AAK pmax pmax
comp=Z,26nm,0.9s
AAK Ala-Archa 55.08 297 eP **P** **15 23 51.8 0.0**
comp=Z,26nm,0.9s
EKS2 Erkin-Say 55.50 298 eP **P** **15 23 55.8 +1.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 55.50 298 eP **P** **15 23 55.8 +1.0**
comp=Z,5.4nm,0.9s
TAPN Taplejung 55.53 275 eP **P** **15 23 56.2 +0.8**
comp=Z,8.8nm,0.8s
TAPN Taplejung 55.53 275 eP **P** **15 23 56.2 +0.8**
comp=Z,8.8nm,0.8s
ARU Arti 55.91 318*d i*P **P** **15 23 57.2 -0.2**
ARU S **S** **15 31 42.1 -0.2**
ARU SS SS 15 35 20.5 -7.2
ARU pmax pmax
comp=Z,45nm,1.2s
ARU Arti 55.91 318 eP **P** **15 23 57.1 -0.2**
comp=Z,29nm,0.9s
KSH Kashi 55.95 293 eP P 15 24 03.0 +5.0
KSH epP pP 15 24 13.1 +4.5
KSH eS **S** 15 31 49.0 +5.5
KSH eS sS 15 32 07.8 +6.9
KSH eScS **ScS** **15 33 46.1 +1.6**
KSH eSS SS 15 35 39.3 +10
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,170nm,5.2s
KSH LR LR
comp=N,190nm,5.4s
KSH LR LR
comp=E,230nm,8.1s
KSH LR LR
comp=Z,150nm,8.3s
JIRN Jiri 56.37 276 eP **P** **15 24 02.5 +1.0**
comp=Z,11nm,0.7s
JIRN Jiri 56.37 276 eP **P** **15 24 02.5 +1.0**
comp=Z,11nm,0.7s
RAMN Ramite 56.55 275 eP **P** **15 24 02.8 +0.2**
comp=Z,18nm,0.9s
RAMN Ramite 56.55 275 eP **P** **15 24 02.8 +0.2**
comp=Z,18nm,0.9s
KKN Kakani 56.91 277 eP **P** **15 24 06.1 +0.9**
KKN Kakani 56.91 277 eP **P** **15 24 06.1 +0.9**
KKN Kakani 56.91 277 eP **P** **15 24 06.1 +0.9**
KKAR Karatay Array 57.21 300 eP **P** **15 24 06.5 -0.3**
KKAR Karatay Array 57.21 300 eP **P** **15 24 06.5 -0.3**
GKN Gorkha 57.22 277 eP **P** **15 24 08.2 +0.9**
comp=Z,23nm,1.1s
GKN Gorkha 57.22 277 eP **P** **15 24 08.2 +0.9**
comp=Z,23nm,1.1s
DANN Dangsing 57.59 278 eP **P** **15 24 10.8 +0.7**
comp=Z,11nm,0.7s
DANN Dangsing 57.59 278 eP **P** **15 24 10.8 +0.7**
comp=Z,11nm,0.7s
KOLN Koldanda 58.07 278 eP **P** **15 24 13.8 +0.5**
KOLN Koldanda 58.07 278 eP **P** **15 24 13.8 +0.5**
ARCES ARCESS Array B 58.23 341 P **P** **15 24 13.7 +0.1**
comp=Z,8.0nm,0.9s,baz=33,slow=6.5,SNR=7.0
ARCES ARCESS Array B 58.23 341 P **P** **15 24 13.7 +0.1**
ARCES ARCESS Array B 58.23 341 P **P** **15 24 13.7 +0.1**
AB31 Akbulak array 59.47 311 P **P** **15 24 22.1 -0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 59.47 311 eP **P** **15 24 22.3 -0.1**
AKTO Aktyubinsk 59.73 313 P **P** **15 24 23.5 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,1.9s
SUMG Summit 60.50 5 eP P 15 24 34.0 +4.3
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 60.50 5 *i* P P 15 24 34.0 +4.3
comp=Z,5.3nm,0.9s
NVAR Mina Array Bea 61.10 64 P **P** **15 24 33.8 -0.3**
comp=Z,1.0nm,0.8s,baz=287,slow=7.7,SNR=7.3
NVAR Mina Array Bea 61.10 64 P **P** **15 24 33.8 -0.3**
JOF Joensuu 61.88 334 eP **P** **15 24 38.1 -0.5**
JOF pmax pmax
comp=Z,8.0nm,0.8s
JOF Joensuu 61.88 334 ep **P** **15 24 38.1 -0.5**
comp=Z,8.0nm,0.8s
JOF Joensuu 61.88 334 ep **P** **15 24 38.1 -0.5**
comp=Z,8.0nm,0.8s
KBL Kabul 63.37 293 eP **P** **15 24 48.7 -0.6**
KBL pmax pmax
comp=Z,10.0nm,1.3s
KBL Kabul 63.37 293 eP **P** **15 24 48.7 -0.6**
comp=Z,9.7nm,1.3s
PDAR Pinedale Array 63.52 55 P **P** **15 24 49.5 -0.7**
comp=Z,1.9nm,1.0s,baz=301,slow=1.9,SNR=9.6
PDAR Pinedale Array 63.52 55 P **P** **15 24 49.5 -0.7**
KAF Kangasniemi 63.95 336 eP **P** **15 24 50.2 -2.2**
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 63.95 336 ep **P** **15 24 50.2 -2.2**
comp=Z,3.6nm,0.8s
KAF Kangasniemi 63.95 336 ep **P** **15 24 50.2 -2.2**
comp=Z,3.6nm,0.8s
FINES FINESS Array B 64.56 336 P **P** **15 24 56.1 -0.3**
comp=Z,7.1nm,0.8s,baz=47,slow=7.7,SNR=15
FINES FINESS Array B 64.56 336 P **P** **15 24 56.1 -0.3**
FINES FINESS Array B 64.56 336 P **P** **15 24 56.1 -0.3**
PUL Pulkovo 64.63 333‖ *e*P **P** **15 24 58.4 +1.5**
SFJD Kangerlussuaq 64.80 11 eP P 15 25 02.9 +5.1
SFJD pmax pmax
comp=Z,9.0nm,0.9s
SFJD Kangerlussuaq 64.80 11 *i* P P 15 25 02.9 +5.1
comp=Z,8.6nm,1.0s
ULM Lac du Bonnet 65.50 42 P **P** **15 25 01.6 -1.1**
comp=Z,0.7nm,0.6s,baz=326,slow=7.3,SNR=3.0
ULM Lac du Bonnet 65.50 42 P **P** **15 25 01.6 -1.1**
ULM Lac du Bonnet 65.50 42 P **P** **15 25 01.6 -1.1**
OBN Obninsk 66.04 327 eP **P** **15 25 06.0 -0.1**
OBN e 15 25 36.2
OBN e 15 27 34.8
OBN pmax pmax
comp=Z,31nm,1.6s
VSR Storozhevoye 67.93 322 eP **P** **15 25 17.4 -0.8**
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,2.0nm,0.4s
NB2 NORSAR Subarra 68.59 342 P **P** **15 25 21.9 -0.3**
comp=Z,18nm,1.2s,baz=30,slow=6.5
NOA NORSAR Array B 68.59 342 P **P** **15 25 21.8 -0.5**
comp=Z,3.5nm,0.9s,baz=25,slow=6.7,SNR=7.3
NOA LR LR 15 57 33.3
comp=Z,94nm,18.1s,baz=85,slow=38
NOA NORSAR Array B 68.59 342 P **P** **15 25 21.8 -0.5**
NOA NORSAR Array B 68.59 342 P **P** **15 25 21.8 -0.5**
WRAB Tennant Creek 69.08 201 eP **P** **15 25 25.5 -0.2**
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WRAB Tennant Creek 69.08 201 eP **P** **15 25 25.4 -0.2**
comp=Z,9.9nm,1.1s
WB2 Warramunga Arr 69.09 201 eP **P** **15 25 25.7 0.0**
WRA Warramunga Arr 69.09 201 P **P** **15 25 25.3 -0.4**
comp=Z,5.1nm,0.9s,baz=20,slow=6.6,SNR=20
WRA Warramunga Arr 69.09 201 P **P** **15 25 25.3 -0.4**
WRA Warramunga Arr 69.09 201 P **P** **15 25 25.3 -0.4**
DZM Mont Dzumac 69.34 169 LR LR 15 53 53.0
comp=Z,115nm,20.2s,baz=46,slow=34
KIV Kislovodsk 71.76 315 eP **P** **15 25 43.9 +1.9**
KIV e 15 26 00.1
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 71.76 315 eP **P** **15 25 39.6 -2.3**
comp=Z,19nm,1.3s
ZEI Tsey 72.04 314 eP **P** **15 25 42.7 -1.2**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 72.26 327 P **P** **15 25 44.0 -0.7**
comp=Z,1.6nm,0.5s,baz=33,slow=6.3,SNR=7.9
AKASG Malin Array Be 72.26 327 P **P** **15 25 44.0 -0.7**
AKASG Malin Array Be 72.26 327 P **P** **15 25 44.0 -0.7**
KIEV Kiev 72.27 327 eP **P** **15 25 43.6 -1.2**
KIEV pmax pmax
comp=Z,19nm,1.5s
KIEV Kiev 72.27 327 eP **P** **15 25 43.6 -1.2**
comp=Z,19nm,1.5s

AS31	**Alice Springs**	**72.78 200**	*e*P		**P**	15 25 48.6	+0.6
AS31			*e*			15 28 31.9	
ASAR	**Alice Springs**	**72.78 200**	P		**P**	15 25 48.5	+0.5
	comp=Z,3.9nm,0.9s,baz=16,slow=5.6,SNR=30						
ASAR	**Alice Springs**	**72.78 200**	P		**P**	15 25 48.6	+0.5
ASAR	**Alice Springs**	**72.78 200**	P		**P**	15 25 48.5	+0.5
SOC	**Sochi**	**73.45 317**	*e*P		**P**	15 25 50.6	-1.3
SOC			*e*S		**SKiKP**	15 35 19.9	+0.4
SOC			*e*			15 35 57.1	
SOC			pmax	pmax			
	comp=Z,11nm,0.8s						
GNI	**Garni**	**73.56 312**	LR	LR		16 03 21.9	
	comp=Z,116nm,18.5s,baz=83,slow=40						
GNI	**Garni**	**73.56 312**⇑	*e*P		**P**	15 25 54.7	+1.9
GNI			pmax	pmax			
	comp=Z,10.0nm,1.2s						
KWP	**Kalwaria Pacla**	**75.47 330**	*e*P		**P**	15 26 04.3	+0.7
KWP	**Kalwaria Pacla**	**75.47 330** ⇓P			**P**	15 26 03.1	-0.5
KWP	**Kalwaria Pacla**	**75.47 330** ⇓*i*P			**P**	15 26 03.1	-0.5
STHS	**Stebnicka Huta**	**76.14 331**	*e*P		**P**	15 26 08.5	+1.1
STHS			pmax	pmax			
	comp=Z,5.0nm,0.8s						
STHS	**Stebnicka Huta**	**76.14 331**	*e*P		**P**	15 26 08.5	+1.1
TXAR	**Lajitas Array**	**76.18 62**	P		**P**	15 26 07.5	-0.6
	comp=Z,4.6nm,0.8s,baz=298,slow=4.1,SNR=38						
TXAR	**Lajitas Array**	**76.18 62**	P		**P**	15 26 07.5	-0.6
TXAR	**Lajitas Array**	**76.18 62**	P		**P**	15 26 07.5	-0.6
BUR08	**Bucovina Ar. S**	**76.27 328**	*e*P		**P**	15 26 07.7	-0.6
BURAR	**Bucovina Array**	**76.29 328**⇑	*i*P		**P**	15 26 08.6	+0.2
CRVS	**Cervenica-Dubn**	**76.52 331**	*e*P		**P**	15 26 12.1	+2.6
CRVS	**Cervenica-Dubn**	**76.52 331**	*e*P		**P**	15 26 12.1	+2.6
TESR		**76.68 326** ⇓	*i*P		**P**	15 26 10.8	+0.3
TRPA	**Tarpa**	**76.81 330**⇑	*i*P		**P**	15 26 11.9	+0.7
DPC	**Dobruska-Polom**	**76.88 334**	*e*P		**P**	15 26 10.6	-1.0
DPC			pmax	pmax			
	comp=Z,25nm,1.3s						
DPC	**Dobruska-Polom**	**76.88 334**	*e*P		**P**	15 26 10.6	-1.0
	comp=Z,25nm,1.3s						
CLL	**Collm**	**76.96 337**	*i* P		**P**	15 26 11.5	-0.5
CLL			pmax	pmax			
	comp=Z,12nm,1.0s						
CLL	**Collm**	**76.96 337**	*i* P		**P**	15 26 11.5	-0.5
	comp=Z,12nm,1.0s						
KRLC	**Kraliky**	**76.98 334**	*e*P		**P**	15 26 12.4	+0.2
MORC	**Moravsky Berou**	**77.02 333**	*e*P		**P**	15 26 12.0	-0.4
MORC			pmax	pmax			
	comp=Z,5.0nm,0.8s						
MORC	**Moravsky Berou**	**77.02 333**	*e*P		**P**	15 26 12.0	-0.4
	comp=Z,4.6nm,0.8s						
MORC	**Moravsky Berou**	**77.02 333** ⇓*i*P			**P**	15 26 13.1	+0.7
VYHS	**Vyhne**	**77.73 332**	*e*P		**P**	15 26 16.9	+0.5
VYHS			pmax	pmax			
	comp=Z,3.0nm,1.3s						
VYHS	**Vyhne**	**77.73 332**	*e*P		**P**	15 26 16.8	+0.4
VOIR		**78.19 327**⇑	P		**P**	15 26 19.9	+0.8
VOIR		**78.19 327**⇑	*i*P		**P**	15 26 19.9	+0.8
KHC	**Kasperske Hory**	**78.77 335**	*e*P		**P**	15 26 22.4	+0.3
KHC			pmax	pmax			
	comp=Z,9.0nm,1.1s						
KHC	**Kasperske Hory**	**78.77 335**	*e*P		**P**	15 26 22.4	+0.3
	comp=Z,9.2nm,1.1s						
KHC	**Kasperske Hory**	**78.77 335**	*e*P		**P**	15 26 22.5	+0.3
GERES	**GERESS Array B**	**78.99 335**	P		**P**	15 26 23.4	0.0
	comp=Z,0.8nm,0.6s,baz=21,slow=4.4,SNR=7.3						
GERES			LR	LR		16 03 07.4	
	comp=Z,166nm,18.8s,baz=196,slow=37						
GERES	**GERESS Array B**	**78.99 335**	P		**P**	15 26 23.5	0.0
GERES	**GERESS Array B**	**78.99 335**	P		**P**	15 26 23.4	0.0
BR131	**Keskin Array S**	**79.30 318**	*e*P		**P**	15 26 23.3	-2.0
	comp=Z,3.1nm,0.9s						
BRTR	**Keskin Array B**	**79.30 318**	P		**P**	15 26 25.9	+0.6
	comp=Z,2.5nm,0.9s,baz=57,slow=4.6,SNR=12						
BRTR	**Keskin Array B**	**79.30 318**	P		**P**	15 26 26.0	+0.6
BRTR	**Keskin Array B**	**79.30 318**	P		**P**	15 26 25.9	+0.6
STKA	**Stephens Creek**	**79.32 192**	P		**P**	15 26 24.7	-0.3
	comp=Z,2.6nm,0.8s,baz=0.0,slow=5.1,SNR=3.6						
STKA			LR	LR		16 02 44.6	
	comp=Z,94nm,18.8s,baz=25,slow=37						
STKA	**Stephens Creek**	**79.32 192**	P		**P**	15 26 24.7	-0.3
STKA	**Stephens Creek**	**79.32 192**	P		**P**	15 26 24.7	-0.3
BFO	**Black Forest**	**80.91 338**	*e*P		**P**	15 26 34.1	+0.3
BFO			pmax	pmax			
	comp=Z,11nm,1.2s						
BFO	**Black Forest**	**80.91 338**	*e*P		**P**	15 26 34.0	+0.3
	comp=Z,10nm,1.2s						
CDF	**Champ du Feu**	**81.10 339**	*e*P		**P**	15 26 35.2	+0.4
	comp=Z,17nm,1.0s						
PAGF	**Fort de Pagny**	**81.34 340**	*e*P		**P**	15 26 36.7	+0.7
	comp=Z,8.1nm,0.9s						
HAU	**Haudompre**	**81.70 339**	*e*P		**P**	15 26 38.1	+0.2
	comp=Z,20nm,1.1s						
HAU			*e*R				
	comp=Z,286nm,20.5s						
HINF	**Hinteralfeld**	**81.76 339**	*e*P		**P**	15 26 38.3	0.0
SFTF	**Sexfontaines**	**81.83 340**	*e*P		**P**	15 26 38.8	+0.2
FUORN	**Ofenpass-Fuorn**	**81.98 336**	*e*P		**P**	15 26 40.8	+1.0
	comp=Z,10nm,0.9s						
TUE	**Stuetta**	**82.36 337**	*e*P		**P**	15 26 41.0	-0.7
	comp=Z,14nm,0.9s						
GRR	**Gorron**	**82.89 344**	*e*P		**P**	15 26 44.5	+0.5
LOR	**Lormes**	**82.98 341**	*e*P		**P**	15 26 44.7	+0.1
	comp=Z,29nm,1.2s						
LOR			*e*R				
	comp=Z,262nm,22.2s						
CABF	**La Chapelle**	**83.07 339**	*e*P		**P**	15 26 45.9	+0.7
SSF	**Saint Saulge**	**83.25 341**	*e*P		**P**	15 26 46.3	+0.3
	comp=Z,23nm,1.2s						
ROSF	**Rostrenen**	**83.36 346**	*e*P		**P**	15 26 47.0	+0.5
AVF	**Avril sur Loir**	**83.54 341**	*e*P		**P**	15 26 47.9	+0.4
	comp=Z,23nm,1.0s						
BGF	**Bois d'Agland**	**83.88 341**	*e*P		**P**	15 26 49.8	+0.6
	comp=Z,41nm,1.3s						
LPL	**La Plagne**	**83.93 338**	*e*P		**P**	15 26 50.9	+1.1
	comp=Z,25nm,1.0s						
LPG	**La Plagne**	**83.95 338**	*e*P		**P**	15 26 51.2	+1.2
	comp=Z,41nm,1.1s						
TCF	**Toulx Ste Croi**	**84.27 342**	*e*P		**P**	15 26 51.7	+0.4
MBDF	**Montbardon**	**84.66 338**	*e*P		**P**	15 26 54.0	+0.6
LHS	**Liberty Hill**	**84.67 43**	*e*P		**P**	15 26 55.7	+2.2
LHS	**Liberty Hill**	**84.67 43**	*e*P		**P**	15 26 55.7	+2.2
ORIF	**Oris-en-Rattie**	**84.71 339**	*e*P		**P**	15 26 54.6	+1.0
	comp=Z,14nm,0.9s						
ORIF			*e*R				
	comp=Z,240nm,18.0s						
VIVF	**Saint-Julien-l**	**85.06 339**	*e*P		**P**	15 26 56.1	+0.8
SBF	**Sospel**	**85.29 337**	*e*P		**P**	15 26 56.6	+0.1
	comp=Z,67nm,1.3s						
RJF	**Les Rejaudoux**	**85.36 342**	*e*P		**P**	15 26 57.2	+0.5
RJF			*e*R				
	comp=Z,250nm,20.5s						
LMR	**La Mourre**	**86.03 338**	*e*P		**P**	15 27 00.6	+0.6
	comp=Z,32nm,1.2s						
SJPF	**Ste Jean**	**88.03 343**	*e*P		**P**	15 27 09.5	-0.3
ESDC	**Sonseca Array**	**91.88 344**	P		**P**	15 27 26.6	-1.3
	comp=Z,0.4nm,0.3s,baz=6.0,slow=4.8,SNR=6.3						
ESDC	**Sonseca Array**	**91.88 344**	P		**P**	15 27 26.6	-1.3
KEST	**Kesra**	**92.26 333**	P		**P**	15 27 29.2	-0.6
	comp=Z,2.0nm,0.9s,baz=331,slow=4.0,SNR=4.6						
KEST	**Kesra**	**92.26 333**	P		**P**	15 27 29.2	-0.6
PLCA	**Paso Flores**	**146.78 96**	PKPbc		**PKPdf**	15 33 59.5	0.0
	comp=Z,5.4nm,0.9s,baz=268,slow=2.9,SNR=4.4						
PLCA	**Paso Flores**	**146.78 96**	PKP2		**PKPdf**	15 33 59.5	0.0
PLCA	**Paso Flores**	**146.78 96**	PKPbc		**PKPdf**	15 33 59.5	0.0

IDC 16 15:17:23.7±2.1,2°45N×127°53E,h0km,mb3.0/3, mb1 3.2/3,mb1mx3.1/17,mbtmp3.0/3,Error ellipse: s-maj=151.5km s-min=25.2km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.24**	**164**	P	P	15 22 32.9	0.0
	0.3nm,0.8s,baz=343,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**26.69**	**167**	P	P	15 23 04.5	-0.3
	0.2nm,0.5s,baz=351,slow=7.6,SNR=7.4						
MKAR	**Makanchi Array**	**59.05**	**325**	P	P	15 27 25.8	+0.1
	0.1nm,0.4s,baz=125,slow=6.3,SNR=2.9						

*ISCJB **16** 15:19:05.5±0.5,36°.76N×0°.03×35°.99E±0°.04,h9km±12km, Error ellipse: s-maj=5.1km s-min=4.7km az=177.9*
*ISK **16** 15:19:05.0,36°.76N×36°.00E,h11km,ML2.0*
*CSEM **16** 15:19:05.4±0.1,36°.75N×35°.95E,h10km,ML2.0,Error ellipse: s-maj=3.1km s-min=2.7km az=78.0*
*DDA **16** 15:19:06.6,36°.71N×36°.04E,h7km,ML3.1*

ISC 16 15:19:05.8±0.9,36°.76N±0°.03×35°.97E±0°.03,h13km±8km, n20,σ0°60/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.31**	**325**	*e*PG	**Pg**	15 19 11.5	-0.6
CEYT				*e*SG	**Sg**	15 19 17.2	+0.8
CEYT	**Ceyhan**	**0.31**	**325**	*e*Pg	**Pg**	15 19 11.5	-0.6
CEYT				*e*Sg	**Sg**	15 19 17.2	+0.8
COBT	**Iskenderun**	**0.33**	**136**	*i* P	**Pg**	15 19 11.9	-0.6
COBT	**Iskenderun**	**0.33**	**136**	*i* P	**Pg**	15 19 11.9	-0.6
KRTS	**Karatas**	**0.51**	**249**	*e*Pg	**Pg**	15 19 14.9	-0.9
KRTS				*e*SG	**Sb**	15 19 25.1	+1.2
KRTS	**Karatas**	**0.51**	**249**	*e*Pg	**Pg**	15 19 14.9	-0.9
HTY	**Hatay**	**0.65**	**168**	*e*PG	**Pg**	15 19 17.9	-0.5
HTY				*e*SG	**Sg**	15 19 27.3	+0.3
HTY	**Hatay**	**0.65**	**168**	*e*Pg	**Pg**	15 19 17.9	-0.5
HTY				*e*Sg	**Sg**	15 19 27.3	+0.3
YAYL	**Yayladag**	**0.73**	**171**	*e*P	**Pg**	15 19 19.8	-0.1
YAYL				*i* S	**Sg**	15 19 29.6	+0.1
YAYL	**Yayladag**	**0.73**	**171**	*e*P	**Pg**	15 19 19.8	-0.1
YAYL				*i* S	**Sg**	15 19 29.6	+0.1
KOZT	**Kozan**	**0.73**	**351**	*e*PG	**Pg**	15 19 19.2	-0.8
KOZT	**Kozan**	**0.73**	**351**	*e*Pg	**Pg**	15 19 19.2	-0.8
KUZU	**Kuzuini**	**0.89**	**89**	*e*P	**Pg**	15 19 22.8	-0.1
KUZU				*i* S	**Sn**	15 19 35.9	-0.9
KUZU	**Kuzuini**	**0.89**	**89**	*e*P	**Pg**	15 19 22.8	-0.1
KUZU				*i* S	**Sn**	15 19 35.9	-0.9
KMRS	**Kahramanmaras**	**1.05**	**45**	*e*PG	**Pb**	15 19 25.9	0.0
KMRS				*e*SG	**Sn**	15 19 40.7	-0.2
KMRS	**Kahramanmaras**	**1.05**	**45**	*e*Pg	**Pb**	15 19 25.9	0.0
KMRS				*e*Sg	**Sn**	15 19 40.7	-0.2
GAZ	**Gaziantep**	**1.08**	**67**	*e*PG	**Pb**	15 19 26.4	+0.1
GAZ	**Gaziantep**	**1.08**	**67**	*e*Pg	**Pb**	15 19 26.4	+0.1
MERS	**Mersin**	**1.17**	**276**	*e*PN	**Pn**	15 19 28.1	+0.2
MERS	**Mersin**	**1.17**	**276**	*e*Pn	**Pn**	15 19 28.1	+0.2

IDC 16 15:23:20.6±2.8,0°.11S×133°.37E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/17,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=140.9km s-min=25.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.73**	**177**	P	P	15 27 52.2	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.42**	**179**	P	P	15 28 31.6	0.0
	0.6nm,0.4s,baz=355,slow=12,SNR=22						
MKAR	**Makanchi Array**	**64.51**	**324**	P	P	15 33 59.3	-0.1
	0.1nm,0.5s,baz=106,slow=7.5,SNR=4.0						

*MOS **16** 15:40:34.1±1.4,35°.09N×23°.53E,h33km,mb4.7/10,Error ellipse: s-maj=8.8km s-min=5.8km az=85.7*
*HLW **16** 15:40:35.9,35°.49N×23°.37E,h33km±23km,Md0.0,Ml4.1*
*IDC **16** 15:40:35.5±4.5,35°.33N×23°.53E,h29km±32km,mb3.9/19, mb1 4.0/26,mb1mx4.0/32,mbtmp3.9/26,ML3.8/7,MS3.3/4, Ms1 3.3/4,ms1mx2.8/43,Error ellipse: s-maj=15.6km s-min=13.6km az=1.0*
*ISCJB **16** 15:40:36.2±0.3,35°.21N±0°.02×23°.46E±0°.03,h55km±3km, mb4.3/38,MS3.5/2,Error ellipse: s-maj=4.9km s-min=2.5km az=141.8*
*NEIC **16** 15:40:36.4±0.3,35°.26N×23°.53E,h35km,mb4.7/15,Error ellipse: s-maj=8.5km s-min=4.5km az=207.0*
*ATH **16** 15:40:38.6,35°.42N×23°.43E,h43km±2km,ML3.6*
*CSEM **16** 15:40:38.1±0.1,35°.24N×23°.40E,h57km±1km,mb4.6/18, Error ellipse: s-maj=4.1km s-min=1.9km az=53.0*
*THE **16** 15:40:39.7,35°.34N×23°.37E,h41km±10km,ML3.9/6,Error ellipse: s-maj=10.0km s-min=0.8km az=178.0*

ISC 16 15:40:38.5±0.6,35°.30N±0°.03×23°.40E±0°.04,h58km±6km, n362,σ1s00/391,mb4.4/39,5C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.66**	**81**	*e*P	**Pn**	15 40 52.4	+0.3
VAM				*e*S	**Sn**	15 41 03.8	+1.7
VAM	**Vamos**	**0.66**	**81**	*e*P	**Pn**	15 40 52.4	+0.3
VAM				*e*S	**Sn**	15 41 03.8	+1.7
GVD	**Gavdhos**	**0.73**	**129**	P	**Pn**	15 40 53.9	+1.0
GVD				S	**Sn**	15 41 04.7	+1.2
GVD	**Gavdhos**	**0.73**	**129**	*e*P	**Pn**	15 40 54.0	+1.0
GVD				*e*S	**Sn**	15 41 06.4	+2.9
GVD	**Gavdhos**	**0.73**	**129**	*e*P	**Pn**	15 40 54.0	+1.0
GVD				*e*S	**Sn**	15 41 06.4	+2.9
KYTH	**Kithira**	**1.02**	**343**	*e*P	**Pn**	15 40 57.1	+0.4
KYTH	**Kithira**	**1.02**	**343**	*e*P	**Pn**	15 40 57.1	+0.4
VLI	**Veliai**	**1.46**	**345**	*e*P	**Pn**	15 41 03.1	+0.5
VLI				*e*S	**Sn**	15 41 20.7	0.0
VLI	**Veliai**	**1.46**	**345**	*e*P	**Pn**	15 41 03.1	+0.5
VLI				*e*S	**Sn**	15 41 20.7	0.0
NPS	**Neapolis**	**1.81**	**91**	*e*P	**Pn**	15 41 08.3	+1.0
NPS				*e*S	**Sn**	15 41 29.0	-0.2
NPS	**Neapolis**	**1.81**	**91**	*e*P	**Pn**	15 41 08.3	+1.0
NPS				*e*S	**Sn**	15 41 29.0	-0.2
THR1	**Thera Island**	**1.98**	**57**	P	**Pn**	15 41 10.4	+0.7
THR1	**Thera Island**	**1.98**	**57**	P	**Pn**	15 41 10.4	+0.7
THR2	**Thira island,**	**2.01**	**55**	P	**Pn**	15 41 10.3	+0.3
THR2	**Thira island,**	**2.01**	**55**	P	**Pn**	15 41 10.3	+0.3
PYL	**PYLOS**	**2.08**	**320**	P	**Pn**	15 41 10.9	-0.1
PYL				S	**Sn**	15 41 37.0	+1.2
PYL	**PYLOS**	**2.08**	**320**	*e*P	**Pn**	15 41 11.2	+0.2
PYL				*e*S	**Sn**	15 41 36.1	+0.3
PYL	**PYLOS**	**2.08**	**320**	*e*P	**Pn**	15 41 11.2	+0.2
PYL				S	**Sn**	15 41 37.0	+1.2
DIDY	**Didyma**	**2.18**	**356**	P	**Pn**	15 41 13.1	+0.7
DIDY				S	**Sn**	15 41 38.5	+0.2
DIDY	**Didyma**	**2.18**	**356**	P	**Pn**	15 41 13.1	+0.7
DID	**Didima**	**2.20**	**357**	P	**Pn**	15 41 13.2	+0.5
DID				S	**Sn**	15 41 39.0	+0.2
DID	**Didima**	**2.20**	**357**	*e*P	**Pn**	15 41 12.4	-0.3
DID				*e*S	**Sn**	15 41 38.2	-0.6
DID	**Didima**	**2.20**	**357**	P	**Pn**	15 41 13.2	+0.5
DID				*e*S	**Sn**	15 41 38.2	-0.6
ITM	**Ithomi**	**2.22**	**328**	*e*P	**Pn**	15 41 13.5	+0.6
ITM	**Ithomi**	**2.22**	**328**	*e*P	**Pn**	15 41 13.5	+0.6
VLX	**Vlachokerasia**	**2.22**	**339**	*e*P	**Pn**	15 41 13.0	0.0
VLX				*e*S	**Sn**	15 41 38.6	-0.8
VLX	**Vlachokerasia**	**2.22**	**339**	*e*P	**Pn**	15 41 13.0	0.0
VLX				*e*S	**Sn**	15 41 38.6	-0.8
ZKR	**Zakros**	**2.31**	**94**	*e*P	**Pn**	15 41 15.4	+1.2
ZKR	**Zakros**	**2.31**	**94**	*e*P	**Pn**	15 41 15.4	+1.2
NAIG	**Nisos Aigina**	**2.45**	**2**	*e*P	**Pn**	15 41 16.9	+0.8
NAIG	**Nisos Aigina**	**2.45**	**2**	*e*P	**Pn**	15 41 16.9	+0.8
APE	**Apeiranthos**	**2.47**	**44**	*e*P	**Pn**	15 41 15.8	-0.5
APE	**Apeiranthos**	**2.47**	**44**	*e*P	**Pn**	15 41 16.1	-0.2
APE	**Apeiranthos**	**2.47**	**44**	*e*P	**Pn**	15 41 16.1	-0.2
VLY	**Voula,Athens**	**2.56**	**7**	*e*P	**Pn**	15 41 17.8	+0.2
VLY	**Voula,Athens**	**2.56**	**7**	*e*P	**Pn**	15 41 17.8	+0.2
ATH	**Athens Observa**	**2.68**	**5**	*e*P	**Pn**	15 41 19.8	+0.7
ATH	**Athens Observa**	**2.68**	**5**	*e*P	**Pn**	15 41 19.8	+0.7
LTK	**Loutraki**	**2.74**	**353**	P	**Pn**	15 41 20.6	+0.6
LTK				S	**Sn**	15 41 52.0	+0.1
LTK	**Loutraki**	**2.74**	**353**	*e*P	**Pn**	15 41 20.3	+0.3
LTK	**Loutraki**	**2.74**	**353**	*e*P	**Pn**	15 41 20.3	+0.3
LTK				S	**Sn**	15 41 52.0	+0.1
GUR	**Goura**	**2.76**	**342**	P	**Pn**	15 41 21.3	+0.9
GUR				S	**Sn**	15 41 52.8	+0.2
GUR	**Goura**	**2.76**	**342**	*e*P	**Pn**	15 41 21.0	+0.6
GUR	**Goura**	**2.76**	**342**	*e*P	**Pn**	15 41 21.0	+0.6
GUR				S	**Sn**	15 41 52.8	+0.2
PTL	**Penteli**	**2.77**	**8**	*e*P	**Pn**	15 41 20.3	-0.1
PTL	**Penteli**	**2.77**	**8**	*e*P	**Pn**	15 41 20.3	-0.1
MRMA	**Marmari**	**2.86**	**16**	P	**Pn**	15 41 22.1	+0.4
MRMA				S	**Sn**	15 41 55.6	+0.7
MRMA	**Marmari**	**2.86**	**16**	P	**Pn**	15 41 22.1	+0.4
MRMA				S	**Sn**	15 41 55.6	+0.7
KARP	**Karpathos**	**3.08**	**84**	*e*P	**Pn**	15 41 25.9	+1.2
KARP	**Karpathos**	**3.08**	**84**	*e*P	**Pn**	15 41 25.9	+1.2
LAKA	**Lakka**	**3.15**	**339**	P	**Pn**	15 41 26.3	+0.7
LAKA				S	**Sn**	15 42 02.5	+0.6
LAKA	**Lakka**	**3.15**	**339**	P	**Pn**	15 41 26.3	+0.7
LAKA				S	**Sn**	15 42 02.5	+0.6
RLS	**Riolos of Patr**	**3.16**	**331**	*e*P	**Pn**	15 41 26.2	+0.5
RLS	**Riolos of Patr**	**3.16**	**331**	*e*P	**Pn**	15 41 26.2	+0.5
DSF	**Desfina**	**3.18**	**348**	P	**Pn**	15 41 26.6	+0.5
DSF				S	**Sn**	15 42 03.4	+0.6
DSF	**Desfina**	**3.18**	**348**	P	**Pn**	15 41 26.6	+0.5
DSF				S	**Sn**	15 42 03.4	+0.6
TRIZ	**Trizonia**	**3.24**	**341**	P	**Pn**	15 41 27.6	+0.8
TRIZ	**Trizonia**	**3.24**	**341**	P	**Pn**	15 41 27.6	+0.8
KALE	**Kalithea**	**3.25**	**342**	P	**Pn**	15 41 27.2	+0.2
KALE				S	**Sn**	15 42 04.8	+0.4
KALE	**Kalithea**	**3.25**	**342**	P	**Pn**	15 41 27.2	+0.2
KALE				S	**Sn**	15 42 04.8	+0.4
NIS1	**Nisyros Isl.**	**3.33**	**66**	P	**Pn**	15 41 29.7	+1.6
NIS1	**Nisyros Isl.**	**3.33**	**66**	P	**Pn**	15 41 29.7	+1.6
EFP	**Efpalio**	**3.34**	**339**	*e*P	**Pn**	15 41 29.4	+1.2
EFP	**Efpalio**	**3.34**	**339**	*e*P	**Pn**	15 41 29.4	+1.2
LKR	**Lokris**	**3.36**	**355**	*e*P	**Pn**	15 41 29.4	+1.0
LKR	**Lokris**	**3.36**	**355**	*e*P	**Pn**	15 41 29.4	+1.0
ATAL	**Atalanti**	**3.40**	**355**	P	**Pn**	15 41 30.0	+1.0
ATAL	**Atalanti**	**3.40**	**355**	P	**Pn**	15 41 30.0	+1.0
MRKA	**Markates**	**3.40**	**2**	P	**Pn**	15 41 29.5	+0.4
MRKA	**Markates**	**3.40**	**2**	P	**Pn**	15 41 29.5	+0.4
BODT	**Bodrum**	**3.62**	**60**	*e*P	**Pn**	15 41 30.8	-1.2
VLS	**Valsamata**	**3.65**	**323**	*e*P	**Pn**	15 41 33.3	+0.8
VLS	**Valsamata**	**3.65**	**323**	*e*P	**Pn**	15 41 33.3	+0.8
SMG	**Samos**	**3.67**	**48**	*e*P	**Pn**	15 41 33.3	+0.6
SMG	**Samos**	**3.67**	**48**	*e*P	**Pn**	15 41 33.3	+0.6
CHOS	**Chios island**	**3.74**	**34**	P	**Pn**	15 41 35.2	+1.4
CHOS				S	**Sn**	15 42 19.0	+2.4
CHOS	**Chios island**	**3.74**	**34**	*e*P	**Pn**	15 41 33.9	+0.1
CHOS	**Chios island**	**3.74**	**34**	*e*P	**Pn**	15 41 33.9	+0.1
CHOS				S	**Sn**	15 42 19.0	+2.4
EVR	**Evrytania**	**3.83**	**341**	*e*P	**Pn**	15 41 36.1	+1.2
EVR	**Evrytania**	**3.83**	**341**	*e*P	**Pn**	15 41 36.1	+1.2
MAKR	**Makrakomi, Fth**	**3.84**	**345**	P	**Pn**	15 41 36.5	+1.4
MAKR				S	**Sn**	15 42 20.5	+1.8
MAKR	**Makrakomi, Fth**	**3.84**	**345**	P	**Pn**	15 41 36.5	+1.4
MAKR				S	**Sn**	15 42 20.8	+1.8
ARG	**Arkhangelos**	**3.95**	**75**	*e*P	**Pn**	15 41 37.6	+1.0
ARG	**Arkhangelos**	**3.95**	**75**	*e*P	**Pn**	15 41 37.6	+1.0
NEO	**Neokhori**	**4.00**	**358**	*e*P	**Pn**	15 41 37.4	+0.1
NEO	**Neokhori**	**4.00**	**358**	*e*P	**Pn**	15 41 37.4	+0.1
LKD2	**Lefkada island**	**4.11**	**329**	P	**Pn**	15 41 39.1	+0.3
LKD2	**Lefkada island**	**4.11**	**329**	*e*P	**Pn**	15 41 39.2	+0.4
LKD2	**Lefkada island**	**4.11**	**329**	*e*P	**Pn**	15 41 39.3	+0.4
BLCB	**Balcova**	**4.24**	**42**	*e*P	**Pn**	15 41 40.3	-0.3
YER	**Yerkesik**	**4.35**	**64**	*e*P	**Pn**	15 41 40.8	-1.3
IZM	**Izmir**	**4.38**	**44**	*e*P	**Pn**	15 41 42.1	-0.4
THL	**Klokotos Trika**	**4.40**	**346**	*e*P	**Pn**	15 41 42.5	-0.1
THL	**Klokotos Trika**	**4.40**	**346**	*e*P	**Pn**	15 41 42.5	-0.1
PRK	**Paraskevi**	**4.55**	**29**	*e*P	**Pn**	15 41 45.0	+0.2
PRK	**Paraskevi**	**4.55**	**29**	*e*P	**Pn**	15 41 45.0	+0.2
JAN	**Janina**	**4.80**	**336**	*e*P	**Pn**	15 41 48.2	0.0
JAN	**Janina**	**4.80**	**336**	*e*P	**Pn**	15 41 48.2	0.0
LIT	**Litokhoron**	**4.84**	**352**	*e*P	**Pn**	15 41 49.6	+0.8
LIT	**Litokhoron**	**4.84**	**352**	*e*P	**Pn**	15 41 49.6	+0.8
PLG	**Polygyros**	**5.06**	**0**	*e*P	**Pn**	15 41 51.2	-0.6
PLG	**Polygyros**	**5.06**	**0**	*e*P	**Pn**	15 41 51.2	-0.6

	comp=Z,7.5nm,0.8s							
KHC	**Kasperske Hory**	**15.60**	**335**	*e*P		**P**	**15 44 18.1**	**+0.3**
KHC				*ep*P		**pP**	**15 44 27.7**	**-2.5**
KHC				*ex*		x	15 44 49.0	
KHC	**Kasperske Hory**	**15.60**	**335**	*e*Pn		**Pn**	**15 44 15.8**	**+1.2**
	comp=Z,7.5nm,0.8s							
KHC	**Kasperske Hory**	**15.60**	**335**	*e*P		**P**	**15 44 18.1**	**+0.3**
MBDF	**Montbardon**	**15.81**	**312**	*e*P		**Pn**	**15 44 15.8**	**-1.7**
	comp=Z,29nm,1.2s							
DPC	**Dobruska-Polom**	**15.90**	**343**	*e*P		**P**	**15 44 21.3**	**+0.2**
DPC	**Dobruska-Polom**	**15.90**	**343**	*e*P		**P**	**15 44 21.3**	**+0.2**
DPC				*ep*P		**pP**	**15 44 33.9**	**+0.3**
DPC	**Dobruska-Polom**	**15.90**	**343**	*e*P		**P**	**15 44 21.3**	**+0.2**
AKASG	**Malin Array Be**	**15.96**	**14**	Pn		**Pn**	**15 44 15.5**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=5.0							
AKASG	**Malin Array Be**	**15.96**	**14**	P		**Pn**	**15 44 15.5**	**-3.6**
AKASG	**Malin Array Be**	**15.96**	**14**	Pn		**Pn**	**15 44 15.5**	**-3.6**
PRU	**Pruhonice**	**16.04**	**339**	*e*P		**P**	**15 44 22.5**	**-0.1**
PRU	**Pruhonice**	**16.04**	**339**	*e*P		**P**	**15 44 22.5**	**-0.1**
PRU	**Pruhonice**	**16.04**	**339**	*e*P		**P**	**15 44 22.5**	**-0.1**
UPC	**Upice**	**16.12**	**343**	*e*P		**P**	**15 44 23.9**	**+0.4**
UPC	**Upice**	**16.12**	**343**	*e*P		**P**	**15 44 23.9**	**+0.4**
UPC	**Upice**	**16.12**	**343**	*e*P		**P**	**15 44 23.9**	**+0.4**
GRA1	**Grafenberg Arr**	**16.92**	**332**	*e*P		**P**	**15 44 33.0**	**+0.6**
	comp=Z,500nm,18.1s							
GRF	**Grafenberg Arr**	**16.92**	**332**	*e*P		**P**	**15 44 33.0**	**+0.6**
	comp=Z,12nm,1.1s							
GRF	**Grafenberg Arr**	**16.92**	**332**	*e*P		**P**	**15 44 33.0**	**+0.6**
GRF					pmax	pmax		
	comp=Z,12nm,1.1s							
GRF					MLR	MLR		
	comp=Z,500nm,18.1s							
GRFO	**Grafenberg**	**16.92**	**332**	*e*P		**P**	**15 44 33.2**	**+0.8**
GRFO					pmax	pmax		
	comp=Z,32nm,1.2s							
GRFO	**Grafenberg**	**16.92**	**332**	*e*Pn		**P**	**15 44 33.2**	**+0.8**
	comp=Z,32nm,1.2s							
GRFO	**Grafenberg**	**16.92**	**332**	*e*P		**P**	**15 44 33.2**	**+0.8**
	comp=Z,32nm,1.2s							
BRG	**Berggiesshubel**	**17.00**	**339**	*e*P		**P**	**15 44 33.3**	**0.0**
	comp=Z,8.4nm,1.3s							
BRG	**Berggiesshubel**	**17.00**	**339**	*e*P		**P**	**15 44 33.3**	**0.0**
BRG					pmax	pmax		
	comp=Z,8.0nm,1.3s							
BRG	**Berggiesshubel**	**17.00**	**339**	*e*P		**P**	**15 44 33.3**	**0.0**
	comp=Z,8.0nm,1.3s							
KIV	**Kislovodsk**	**17.16**	**54**	*e*P		**P**	**15 44 36.0**	**+0.8**
KIV					pmax	pmax		
	comp=Z,11nm,1.2s							
KIV	**Kislovodsk**	**17.16**	**54**	*e*P		**P**	**15 44 36.0**	**+0.8**
	comp=Z,11nm,1.2s							
GNI	**Garni**	**17.55**	**68**	LR		LR	15 52 46.8	
	comp=Z,145nm,19.1s,baz=89,slow=42							
GNI	**Garni**	**17.55**	**68**⇑	*e*P		**Pn**	**15 44 37.6**	**-1.6**
GNI					pmax	pmax		
	comp=Z,9.0nm,1.2s							
GNI	**Garni**	**17.55**	**68**	*e*P		**Pn**	**15 44 37.6**	**-1.6**
	comp=Z,9.0nm,1.2s							
ZEI	**Tsey**	**17.56**	**59**	*e*P		**Pn**	**15 44 39.4**	**0.0**
ZEI					pmax	pmax		
	comp=Z,3.0nm,0.6s							
ZEI	**Tsey**	**17.56**	**59**	*e*P		**Pn**	**15 44 39.4**	**0.0**
	comp=Z,3.0nm,0.6s							
CLL	**Collm**	**17.67**	**338**	*e*(sPP)		sP	15 45 03.0	+2.6
VSR	**Storozhevoye**	**19.55**	**31**	*e*P		**Pn**	**15 45 02.2**	**-0.8**
VSR					pmax	pmax		
	comp=N,7.0nm,0.6s							
VSR					pmax	pmax		
	comp=E,2.0nm,0.6s							
VSR					pmax	pmax		
	comp=Z,7.0nm,0.6s							
VSR	**Storozhevoye**	**19.55**	**31**	*e*P		**Pn**	**15 45 02.2**	**-0.8**
NACGM	**Naroch**	**19.74**	**6**	*e*		**P**	**15 45 00.0**	**-3.2**
MIB	**Mutribah**	**20.89**	**98**	*e*P		**P**	**15 45 15.8**	**-0.1**
MIB					AMb	AMB	15 45 16.7	
	comp=Z,39nm,0.8s							
MIB	**Mutribah**	**20.89**	**98**	*e*P		**P**	**15 45 15.8**	**-0.1**
	comp=Z,39nm,0.8s							
NAY	**Al-Naaiem**	**21.02**	**100**	*e*P		**P**	**15 45 17.4**	**0.0**
NAY					AMb	AMB	15 45 18.2	
	comp=Z,15nm,0.8s							
NAY	**Al-Naaiem**	**21.02**	**100**	*e*P		**P**	**15 45 17.4**	**0.0**
	comp=Z,15nm,0.8s							
UMR	**Umm Al-Rimmam**	**21.29**	**99**	*e*P		**P**	**15 45 20.3**	**+0.1**
UMR					AMb	AMB	15 45 21.1	
	comp=Z,55nm,0.9s							
UMR	**Umm Al-Rimmam**	**21.29**	**99**	*e*P		**P**	**15 45 20.3**	**+0.1**
	comp=Z,55nm,0.9s							
OBN	**Obninsk**	**21.81**	**21**	*e*P		**P**	**15 45 25.9**	**+0.4**
OBN				*i*			15 45 38.3	
OBN					pmax	pmax		
	comp=Z,33nm,1.6s							
OBN					MLR	MLR		
	comp=Z,100nm,18.0s							
OBN	**Obninsk**	**21.81**	**21**	*e*P		**P**	**15 45 25.9**	**+0.4**
	comp=Z,33nm,1.6s							
LDF	**La Druitiere**	**21.86**	**315**	*e*P		**P**	**15 45 25.9**	**-0.2**
	comp=Z,9.7nm,0.7s							
ESDC	**Sonseca Array**	**22.11**	**290**	P		**P**	**15 45 30.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=89,slow=11,SNR=4.2							
ESDC	**Sonseca Array**	**22.11**	**290**	P		**P**	**15 45 30.0**	**+1.0**
ESDC	**Sonseca Array**	**22.11**	**290**	P		**P**	**15 45 30.0**	**+1.0**
VSU	**Vasula**	**23.28**	**4**⇑	*e*P		**P**	**15 45 41.3**	**+0.5**
VSU					pmax	pmax		
	comp=Z,16nm,0.8s							
VSU	**Vasula**	**23.28**	**4**	*e*P		**P**	**15 45 41.3**	**+0.5**
	comp=Z,16nm,0.8s							
HFS	**Hagfors**	**25.63**	**349**	P		**P**	**15 46 02.0**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=152,slow=11,SNR=8.8							
HFS	**Hagfors**	**25.63**	**349**	P		**P**	**15 46 02.0**	**-0.4**
HFS	**Hagfors**	**25.63**	**349**	P		**P**	**15 46 02.0**	**-0.4**
HFS	**Hagfors**	**25.63**	**349**	P		**P**	**15 46 02.0**	**-0.4**
FINES	**FINESS Array B**	**26.22**	**3**	P		**P**	**15 46 05.5**	**-2.1**
	comp=Z,3.9nm,0.9s,baz=173,slow=16,SNR=4.1							
FINES					LR	LR	15 56 58.2	
	comp=Z,191nm,18.9s,baz=313,slow=38							
FINES	**FINESS Array B**	**26.22**	**3**	P		**P**	**15 46 05.5**	**-2.1**
FINES	**FINESS Array B**	**26.22**	**3**	P		**P**	**15 46 05.5**	**-2.1**
NB2	**NORSAR Subarra**	**26.91**	**347**	P		**P**	**15 46 13.3**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**26.91**	**347**	P		**P**	**15 46 13.3**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=156,slow=9.0,SNR=3.7							
NOA	**NORSAR Array B**	**26.91**	**347**	P		**P**	**15 46 13.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=152,slow=12,SNR=3.9							
NOA	**NORSAR Array B**	**26.91**	**347**	P		**P**	**15 46 13.4**	**-0.6**
NOA	**NORSAR Array B**	**26.91**	**347**	P		**P**	**15 46 13.3**	**-0.6**
NOA	**NORSAR Array B**	**26.91**	**347**	P		**P**	**15 46 13.4**	**-0.6**
AKTK	**Aktyubinsk**	**29.22**	**48**	P		**P**	**15 46 33.2**	**-1.4**
AKTO	**Aktyubinsk**	**29.22**	**48**	P		**P**	**15 46 33.1**	**-1.4**
	comp=Z,12nm,0.6s,baz=256,slow=9.5,SNR=5.2							
AKTO	**Aktyubinsk**	**29.22**	**48**	P		**P**	**15 46 33.2**	**-1.4**
AKTO	**Aktyubinsk**	**29.22**	**48**	P		**P**	**15 46 33.1**	**-1.4**
AKTO	**Aktyubinsk**	**29.22**	**48**	P		**P**	**15 46 33.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**29.50**	**227**	P		**P**	**15 46 38.2**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=33,slow=9.5,SNR=25							
TORD	**Torodi Ar. Bea**	**29.50**	**227**	P		**P**	**15 46 38.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**29.50**	**227**	P		**P**	**15 46 38.2**	**+0.8**
ARU	**Arti**	**31.81**	**37**	*d* iP		**P**	**15 46 56.3**	**-1.0**
ARU							15 47 59.9	
ARU					S	**S**	**15 52 04.9**	**+1.6**
ARU					SS	SS	15 53 54.0	-27
ARU					pmax	pmax		
	comp=Z,17nm,1.7s							
ARU	**Arti**	**31.81**	**37**	*i* P		**P**	**15 46 56.3**	**-1.0**
	comp=Z,17nm,1.7s							
ARU					S	**S**	**15 52 04.9**	**+1.6**
SVE	**Sverdlovsk**	**33.01**	**38**⇑	*i* P		**P**	**15 47 07.0**	**-0.8**
SVE					pmax	pmax		
	comp=Z,16nm,1.0s							
SVE	**Sverdlovsk**	**33.01**	**38**	*i* P		**P**	**15 47 07.0**	**-0.8**
	comp=Z,16nm,1.0s							
ARCES	**ARCESS Array B**	**34.31**	**1**	P		**P**	**15 47 19.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=189,slow=10,SNR=2.9							
ARCES	**ARCESS Array B**	**34.31**	**1**	P		**P**	**15 47 19.4**	**+0.4**
ARCES	**ARCESS Array B**	**34.31**	**1**	P		**P**	**15 47 19.4**	**+0.4**
ARCES	**ARCESS Array B**	**34.31**	**1**	P		**P**	**15 47 19.4**	**+0.4**
BRVK	**Borovoye**	**37.24**	**47**⇑	*e*P		**P**	**15 47 43.6**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,11nm,2.3s							
BRVK	**Borovoye**	**37.24**	**47**	*e*P		**P**	**15 47 43.4**	**-0.9**
	comp=Z,81nm,3.0s							
BRVK	**Borovoye**	**37.24**	**47**	*e*P		**P**	**15 47 43.4**	**-0.9**
	comp=Z,81nm,3.0s							
DBIC	**Dimbokro**	**38.55**	**229**	P		**P**	**15 47 56.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=19,slow=12,SNR=8.2							
DBIC	**Dimbokro**	**38.55**	**229**	P		**P**	**15 47 56.2**	**+0.5**
DBIC	**Dimbokro**	**38.55**	**229**	P		**P**	**15 47 56.1**	**+0.5**
DBIC	**Dimbokro**	**38.55**	**229**	P		**P**	**15 47 56.2**	**+0.5**
LIC	**Lamto**	**39.01**	**229**	*e*P		**P**	**15 47 58.3**	**-1.2**
	comp=Z,5.9nm,0.5s							
EKS2	**Erkin-Say**	**39.36**	**64**	*e*P		**P**	**15 48 03.1**	**+0.7**
EKS2					pmax	pmax		
	comp=Z,5.0nm,0.9s							
EKS2	**Erkin-Say**	**39.36**	**64**	*e*P		**P**	**15 48 03.0**	**+0.7**
	comp=Z,5.3nm,0.9s							
EKS2	**Erkin-Say**	**39.36**	**64**	*e*P		**P**	**15 48 03.1**	**+0.7**
	comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**39.89**	**64**	*e*P		**P**	**15 48 07.2**	**+0.4**
AAK					pmax	pmax		
	comp=Z,9.0nm,0.8s							
AAK	**Ala-Archa**	**39.89**	**64**	*e*P		**P**	**15 48 07.2**	**+0.4**
	comp=Z,9.4nm,0.8s							
AAK	**Ala-Archa**	**39.89**	**64**	*e*P		**P**	**15 48 07.2**	**+0.4**
	comp=Z,9.4nm,0.8s							
KURK	**Kurchatov**	**42.21**	**51**⇓	*e*P		**P**	**15 48 24.9**	**-0.6**
KURK					pmax	pmax		
	comp=E,6.0nm,1.0s							
KURK	**Kurchatov**	**42.21**	**51**	*e*P		**P**	**15 48 24.8**	**-0.8**
	comp=Z,5.9nm,1.0s							
KURK	**Kurchatov**	**42.21**	**51**	*e*P		**P**	**15 48 24.8**	**-0.8**
	comp=Z,5.9nm,1.0s							
MK31	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 46.8**	**-0.5**
MK31	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 46.8**	**-0.5**
MK31	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 46.8**	**-0.5**
MKAR	**Makanchi Array**	**44.90**	**56**	P		**P**	**15 48 46.8**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=282,slow=6.6,SNR=37							
MKAR	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 47.0**	**-0.3**
MKAR	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 47.0**	**-0.3**
MKAR	**Makanchi Array**	**44.90**	**56**	*e*P		**P**	**15 48 47.0**	**-0.3**
NVS	**Novosibirsk**	**45.01**	**45**	*e*P		**P**	**15 48 46.6**	**-1.3**
NVS				*e*			15 49 00.5	
NVS					pmax	pmax		
	comp=Z,6.0nm,0.7s							
NVS					pmax	pmax		
	comp=E,6.0nm,0.9s							
ZALV	**Zalesovo Beam**	**45.95**	**46**	P		**P**	**15 48 54.2**	**-1.2**
	comp=E,2.8nm,0.8s,baz=269,slow=9.0,SNR=13							
ZALV	**Zalesovo Beam**	**45.95**	**46**	P		**P**	**15 48 54.2**	**-1.2**
ZALV	**Zalesovo Beam**	**45.95**	**46**	P		**P**	**15 48 54.2**	**-1.2**
ZALV	**Zalesovo Beam**	**45.95**	**46**	P		**P**	**15 48 54.2**	**-1.2**
DANN	**Dangsing**	**51.08**	**80**	*e*P		**P**	**15 49 36.1**	**+0.5**
	comp=E,16nm,0.7s							
DANN	**Dangsing**	**51.08**	**80**	*e*P		**P**	**15 49 36.1**	**+0.5**
	comp=E,16nm,0.7s							
DANN	**Dangsing**	**51.08**	**80**	*e*P		**P**	**15 49 36.1**	**+0.5**
	comp=E,16nm,0.7s							
GKN	**Gorkha**	**51.92**	**80**	*e*P		**P**	**15 49 41.9**	**+0.2**
	comp=E,10nm,0.7s							
GKN	**Gorkha**	**51.92**	**80**	*e*P		**P**	**15 49 41.9**	**+0.2**
	comp=E,10nm,0.7s							
GKN	**Gorkha**	**51.92**	**80**	*e*P		**P**	**15 49 41.9**	**+0.2**
	comp=E,10nm,0.7s							
DMN	**Daman**	**52.46**	**80**	*e*P		**P**	**15 49 45.9**	**0.0**
	comp=E,10nm,0.7s							
DMN	**Daman**	**52.46**	**80**	*e*P		**P**	**15 49 45.9**	**0.0**
	comp=E,10nm,0.7s							
DMN	**Daman**	**52.46**	**80**	*e*P		**P**	**15 49 45.9**	**0.0**
	comp=E,10nm,0.7s							
KKN	**Kakani**	**52.53**	**80**	*e*P		**P**	**15 49 46.5**	**+0.2**
	comp=E,6.2nm,0.6s							
KKN	**Kakani**	**52.53**	**80**	*e*P		**P**	**15 49 46.5**	**+0.2**
KKN					pmax	pmax		
	comp=Z,6.0nm,0.6s							
KKN	**Kakani**	**52.53**	**80**	*e*P		**P**	**15 49 46.5**	**+0.2**
	comp=Z,6.2nm,0.6s							
KKN	**Kakani**	**52.53**	**80**	*e*P		**P**	**15 49 46.5**	**+0.2**
	comp=Z,6.2nm,0.6s							
PKI	**Pulchoki**	**52.72**	**80**	*e*P		**P**	**15 49 48.2**	**+0.3**
PKI	**Pulchoki**	**52.72**	**80**	*e*P		**P**	**15 49 48.2**	**+0.3**
PKI	**Pulchoki**	**52.72**	**80**	*e*P		**P**	**15 49 48.2**	**+0.3**
PKI	**Pulchoki**	**52.72**	**80**	*e*P		**P**	**15 49 48.2**	**+0.3**
GUN	**Gumba**	**52.96**	**79**	*e*P		**P**	**15 49 49.7**	**0.0**
	comp=Z,18nm,1.0s							
GUN	**Gumba**	**52.96**	**79**	*e*P		**P**	**15 49 49.7**	**0.0**
	comp=Z,18nm,1.0s							
GUN	**Gumba**	**52.96**	**79**	*e*P		**P**	**15 49 49.7**	**0.0**
	comp=Z,18nm,1.0s							
JIRN	**Jiri**	**53.32**	**80**	*e*P		**P**	**15 49 52.4**	**+0.1**
	comp=Z,8.0nm,0.7s							
JIRN	**Jiri**	**53.32**	**80**	*e*P		**P**	**15 49 52.4**	**+0.1**
	comp=Z,8.0nm,0.7s							
JIRN	**Jiri**	**53.32**	**80**	*e*P		**P**	**15 49 52.4**	**+0.1**
	comp=Z,8.0nm,0.7s							
RAMN	**Ramite**	**53.95**	**80**	*e*P		**P**	**15 49 56.0**	**-0.8**
	comp=Z,8.7nm,0.9s							
RAMN	**Ramite**	**53.95**	**80**	*e*P		**P**	**15 49 56.0**	**-0.8**
	comp=Z,8.7nm,0.9s							
RAMN	**Ramite**	**53.95**	**80**	*e*P		**P**	**15 49 56.0**	**-0.8**
	comp=Z,8.7nm,0.9s							
SONM	**Songino Array**	**60.51**	**50**	P		**P**	**15 50 42.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=288,slow=6.1,SNR=5.0							
SONM	**Songino Array**	**60.51**	**50**	P		**P**	**15 50 42.6**	**0.0**
SONM	**Songino Array**	**60.51**	**50**	P		**P**	**15 50 42.6**	**0.0**
SONM	**Songino Array**	**60.51**	**50**	P		**P**	**15 50 42.6**	**0.0**
SCHQ	**Schefferville**	**62.14**	**319**	P		**P**	**15 50 54.4**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=111,slow=8.6,SNR=5.0							
SCHQ	**Schefferville**	**62.14**	**319**	P		**P**	**15 50 54.4**	**+1.0**
SCHQ	**Schefferville**	**62.14**	**319**	P		**P**	**15 50 54.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**67.98**	**82**	P		**P**	**15 51 31.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=295,slow=7.2,SNR=9.4							
CMAR	**Chiang Mai Arr**	**67.98**	**82**	P		**P**	**15 51 31.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**67.98**	**82**	P		**P**	**15 51 31.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**67.98**	**82**	P		**P**	**15 51 31.6**	**-0.2**
SEY	**Seymchan**	**73.97**	**22**⇑	*e*P		**P**	**15 52 08.4**	**+1.1**
SEY	**Seymchan**	**73.97**	**22**	*e*P		**P**	**15 52 08.4**	**+1.1**
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**	**15 52 24.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=33,slow=5.3,SNR=18							
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**	**15 52 24.2**	**+0.3**
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**	**15 52 24.2**	**+0.3**
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**	**15 52 24.2**	**+0.3**
USRK	**Ussuriysk Arra**	**77.76**	**44**	P		**P**	**15 52 28.9**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=301,slow=5.3,SNR=9.5							
KSAR	**Wonju Array Be**	**79.31**	**52**	P		**P**	**15 52 38.2**	**+0.2**
KSAR	**Wonju Array Be**	**79.31**	**52**	P		**P**	**15 52 38.1**	**+0.2**
KSAR	**Wonju Array Be**	**79.31**	**52**	P		**P**	**15 52 38.2**	**+0.2**
KSRS	**Korea Array**	**79.33**	**52**	P		**P**	**15 52 38.1**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=309,slow=4.9,SNR=14							
KSRS	**Korea Array**	**79.33**	**52**	P		**P**	**15 52 38.2**	**+0.1**
KSRS					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KSRS	**Korea Array**	**79.33**	**52**	P		**P**	**15 52 38.2**	**+0.1**
	comp=Z,3.0nm,0.7s							
ULM	**Lac du Bonnet**	**79.38**	**325**	P		**P**	**15 52 37.9**	**-0.2**
	comp=Z,4.0nm,1.1s,baz=50,slow=3.5,SNR=4.9							
ULM	**Lac du Bonnet**	**79.38**	**325**	P		**P**	**15 52 37.9**	**-0.2**
ULM	**Lac du Bonnet**	**79.38**	**325**	P		**P**	**15 52 37.9**	**-0.2**
ULM	**Lac du Bonnet**	**79.38**	**325**	P		**P**	**15 52 37.9**	**-0.2**
ILAR	**Eielson Array**	**79.97**	**356**	P		**P**	**15 52 42.0**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=336,slow=3.0,SNR=6.4							
ILAR	**Eielson Array**	**79.97**	**356**	P		**P**	**15 52 42.0**	**+1.0**
ILAR	**Eielson Array**	**79.97**	**356**	P		**P**	**15 52 42.0**	**+1.0**
ILAR	**Eielson Array**	**79.97**	**356**	P		**P**	**15 52 42.0**	**+1.0**
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**	**15 53 15.3**	**+1.2**
	comp=Z,2.1nm,1.1s,baz=294,slow=5.9,SNR=5.0							
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**	**15 53 15.4**	**+1.2**
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**	**15 53 15.3**	**+1.2**
MJAR	**Matsushiro Arr**	**86.29**	**47**	P		**P**	**15 53 15.4**	**+1.2**
WRA	**Warramunga Arr**	**118.04**	**95**	PKP		**PKPdf**	**15 59 19.5**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=324,slow=1.6,SNR=4.7							
WRA	**Warramunga Arr**	**118.04**	**95**	PKIKP		**PKPdf**	**15 59 19.5**	**+0.3**
WRA	**Warramunga Arr**	**118.04**	**95**	PKP		**PKPdf**	**15 59 19.5**	**+0.3**
WRA	**Warramunga Arr**	**118.04**	**95**	PKIKP		**PKPdf**	**15 59 19.5**	**+0.3**
ASAR	**Alice Springs**	**119.49**	**99**	PKP		**PKPdf**	**15 59 22.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=331,slow=1.5,SNR=7.8							
ASAR	**Alice Springs**	**119.49**	**99**	PKP		**PKPdf**	**15 59 22.5**	**+0.6**
ASAR	**Alice Springs**	**119.49**	**99**	PKIKP		**PKPdf**	**15 59 22.5**	**+0.6**

NIED ***16*** *16:03:00.33°.30N×129°.10E, h8km, Mw3.3 Best double couple: M₀1.03000×10¹⁴ NP1:φs202.00000°, δ84.00000°, λ-168.00000°. NP2:φs111.00000°, δ78.00000°, λ-6.00000°.*

JMA 16 16:03:57.3, 33°.27N×129°.08E, h13km±1km, M3.5, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFU	**Fukue jima 2**	**0.67**	**204**	⇓P	Pg	16 04 10.1	-0.3
JFU				*e*S	Sg	16 04 18.9	-0.4
JUR	**Ureshino**	**0.75**	**103**	⇑P	Pg	16 04 11.7	-0.2
JUR				S	Sg	16 04 21.2	-0.5
JII	**Iki**	**0.76**	**46**	⇓P	Pg	16 04 11.5	-0.5
JII				S	Sg	16 04 21.2	-0.7
NGSJ	**Nagasakinomoza**	**0.88**	**136**	⇑P	Pg	16 04 13.8	-0.5
NGSJ				S	Sg	16 04 25.4	-0.3
JFI	**Itaya**	**1.11**	**81**	⇓P	Pb	16 04 17.4	-1.0
JFI				S	Sb	16 04 31.7	-1.1
JHD	**Hondo**	**1.20**	**132**	P	Pn	16 04 19.5	-0.2
JHD				S	Sb	16 04 35.0	-0.2
JTA	**Tamana**	**1.26**	**104**	P	Pn	16 04 20.4	-0.2
JTA				S	Sb	16 04 36.8	-0.2
JTU	**Tsushima**	**1.28**	**12**	⇑P	Pn	16 04 20.1	-0.8
JTU				S	Sb	16 04 36.5	-1.1

IDC 16 16:06:25.6±3.2, 46.79N×155.51E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.4/26, mbtmp3.7/7, ML3.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/37, Error ellipse: s-maj=66.8km s-min=25.8km az=149.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.48**	**12**	Pn	Pn	16 08 00.7	-1.5
	0.4nm,0.3s,baz=186,slow=15,SNR=12						
PETK				Sn	Sn	16 09 20.2	+3.4
	0.1nm,0.3s,baz=231,slow=29,SNR=2.2						
ASAJ	**Asahikawa**	**9.46**	**258**	Pn	Pn	16 08 43.4	+0.3
	0.2nm,0.3s,baz=87,slow=19,SNR=3.3						
JOW	**Kunigami**	**29.30**	**237**	LR	LR	16 23 12.3	
	comp=Z,82nm,20.6s,baz=301,slow=34						
ILAR	**Eielson Array**	**35.49**	**39**	P	P	16 13 23.4	-0.1
	0.2nm,0.7s,baz=248,slow=7.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.92**	**306**	P	P	16 14 33.0	-0.8
	0.3nm,0.4s,baz=57,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**48.38**	**298**	P	P	16 15 08.6	-0.4
	0.2nm,0.5s,baz=71,slow=7.9,SNR=2.9						
BVAR	**Borovoye Array**	**52.10**	**310**	P	P	16 15 37.3	+0.3
	1.3nm,0.5s,baz=57,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**64.70**	**336**	P	P	16 17 05.5	+0.7
	2.2nm,0.9s,baz=35,slow=5.1,SNR=4.5						

NIED ***16*** *16:15:00, 31°.70N×141°.80E, h5km, Mw4.0 Best double couple: M₀1.16000×10¹⁵ NP1:φs346.00000°, δ63.00000°, λ78.00000°. NP2:φs191.00000°, δ29.00000°, λ112.00000°.*
JMA ***16*** *16:15:12.8±0.4, 31°.74N×141°.77E, h0km, M4.0*
ISCJB ***16*** *16:15:14.7±0.9, 31°.70N±0°.06×142°.1E±0°.2, h71km, mb3.7/6, Error ellipse: s-maj=21.8km s-min=6.3km az=162.7*
IDC ***16*** *16:15:16.0±1.1, 30°.75N×139°.86E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/35, Error ellipse: s-maj=41.7km s-min=18.0km az=

SKR eS Sn 16 50 03.5 +1.3
SKR smax smax
comp=E,140nm,0.2s
SKR smax smax
comp=N,270nm,0.4s
SKR MLR MLR
comp=Z,3µm,14.0s
PEA0B Petropavlovsk- 6.35 13 ePn Pn 16 49 50.4 -3.9
PETK Petropavlovsk- 6.35 13 Pn Pn 16 49 50.8 -3.5
comp=Z,3.8nm,0.3s,baz=182,slow=12,SNR=91
PETK Sn Sn 16 51 07.5 +1.7
comp=Z,0.3nm,0.3s,baz=157,slow=19,SNR=1.9
PETK Petropavlovsk- 6.35 13 PN Pn 16 49 50.8 -3.5
PETK Petropavlovsk- 6.35 13 Pn Pn 16 49 50.8 -3.5
PETK Sn Sn 16 51 07.5 +1.7
PET Petropavlovsk 6.45 18 ePN Pn 16 49 51.4 -4.2
PET pmax pmax
comp=Z,25nm,0.6s
PET MLR MLR
comp=Z,300nm,12.0s
PET Petropavlovsk 6.45 18 ePn Pn 16 49 50.7 -4.9
PET eSn Sn 16 50 57.5 -11
YUK Yuzh-Kuril'sk 7.25 250 *i* PN **Pn 16 50 07.4 +0.7**
YUK pmax pmax
comp=Z,62nm,0.2s
YUK pmax pmax
comp=N,14nm,0.2s
YUK pmax pmax
comp=Z,166nm,0.2s
YUK pmax pmax
comp=Z,20µm,0.2s
YUK MLR MLR
comp=Z,590nm,20.0s
NEM2 Nemuro 2 7.66 246 P **Pn 16 50 10.2 -2.0**
NEM2 eS **Sn 16 51 32.6 -5.2**
JRA Rausu 7.77 251 P **Pn 16 50 14.8 +1.0**
JNK Nakash 8.20 250 P **Pn 16 50 19.7 +0.1**
JAK Akkeshi 8.50 246 P **Pn 16 50 22.3 -1.5**
JAK eS **Sn 16 51 53.2 -5.4**
JTKR Abashiri--Toko 8.55 254 P **Pn 16 50 25.6 +1.1**
YSS Yuzh-Sakhalins 8.60 275 ePN Pn 16 50 29.3 +4.3
YSS MLR MLR
comp=Z,300nm,14.0s
JAR Ashorobuto 8.94 250 P **Pn 16 50 30.3 +0.5**
JOB Onbets 9.09 248 P **Pn 16 50 31.0 -0.9**
JKK2 Kamakawa 2 9.36 255 P **Pn 16 50 36.6 +1.0**
ASAJ Asahikawa 9.37 257 Pn **Pn 16 50 36.8 +1.2**
comp=Z,1.8nm,0.3s,baz=68,slow=21,SNR=14
ASAJ LR LR 16 53 53.3
comp=Z,202nm,20.4s,baz=72,slow=35
ASAJ Asahikawa 9.37 257 PN **Pn 16 50 36.8 +1.2**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,202nm,20.4s
ASAJ Asahikawa 9.37 257 Pn **Pn 16 50 36.8 +1.2**
ASAJ Asahikawa 9.37 257 P **Pn 16 50 37.8 +2.2**
JCH Churui 9.54 247 P **Pn 16 50 36.5 -1.5**
JCH eS Sn 16 52 17.8 -6.3
JFR Furan 9.76 252 P **Pn 16 50 42.4 +1.3**
ERM Erimo 9.99 245⇑ ePN **Pn 16 50 44.8 +0.7**
JBT2 Biratori 2 10.09 250 P **Pn 16 50 45.2 -0.4**
JNBK Urakawa-nobuka 10.10 247 P **Pn 16 50 43.7 -2.0**
JNBK eS Sn 16 52 31.0 -6.8
JNB Noboribetsu 11.10 251 P **Pn 16 50 58.6 -0.8**
JKB Kayabe 11.39 249 P **Pn 16 51 01.4 -2.0**
JKB eS Sn 16 53 00.7 -8.9
JYM2 Yakumo 2 11.70 251 P **Pn 16 51 06.1 -1.5**
JANG Nango 11.95 242 P Pn 16 51 07.0 -4.1
JANG eS Sn 16 53 11.1 -12
JTM Tenmabayashi 11.98 244 P **Pn 16 51 08.4 -3.0**
JTH Tanohata 12.02 239 P Pn 16 51 08.2 -3.8
JTH eS Sn 16 53 13.5 -11
OFUJ Ofunato 12.70 237 P Pn 16 51 17.5 -3.7
OFUJ eS Sn 16 53 31.7 -10
FX1 Attu Island--F 12.93 56 Pn Pn 16 51 18.5 -5.8
comp=Z,5.3nm,0.3s,baz=100,slow=15,SNR=15
FX1 Sn Sn 16 53 30.3 -17
comp=Z,5.7nm,0.3s,baz=90,slow=20,SNR=10
FX1 Attu Island--F 12.93 56 PN Pn 16 51 18.5 -5.8
FX1 Attu Island--F 12.93 56 Pn Pn 16 51 18.5 -5.8
FX1 Sn Sn 16 53 30.3 -17
JRG Rokugo 13.09 240 eS S 16 53 43.9 -32
SEY Seymchan 16.10 355 *ce*P **Pn 16 52 02.5 -4.2**
MAJO Matsushiro 16.43 237 eP **Pn 16 52 09.4 -1.7**
MAJO pmax pmax
comp=Z,28nm,0.8s
MAJO Matsushiro 16.43 237 ePn **Pn 16 52 09.4 -1.7**
comp=Z,28nm,0.8s
MAT Matsushiro 16.43 237 P **Pn 16 52 08.8 -2.3**
MJAR Matsushiro Arr 16.43 237 Pn **Pn 16 52 09.6 -1.5**
comp=Z,0.7nm,0.3s,baz=30,slow=13,SNR=26
MJAR LR LR 16 58 22.1
comp=Z,70nm,20.0s,baz=325,slow=36
MJAR Matsushiro Arr 16.43 237 P **Pn 16 52 09.6 -1.5**
MJAR Matsushiro Arr 16.43 237 Pn **Pn 16 52 09.6 -1.5**
USRK Ussuriysk Arra 16.54 269 Pn **Pn 16 52 11.7 -0.7**
comp=Z,0.7nm,0.3s,baz=72,slow=13,SNR=15
USRK LR LR 16 58 03.5
comp=Z,95nm,21.2s,baz=205,slow=35
MDJ Mudanjiang 18.07 272 P **Pn 16 52 30.1 -1.3**
MDJ sP **sP 16 52 42.1 -1.1**
MDJ S **Sn 16 55 48.8 -3.2**
MDJ pmax pmax
comp=Z,10.0nm,2.4s
MDJ pmax pmax
comp=Z,130nm,6.2s
YAK Yakutsk 20.99 325 eP **P 16 52 59.8 -3.6**
YAK *e* 16 53 16.9
YAK eS S 16 56 48.4 -7.0
YAK *e* 16 57 06.2
YAK eSS Sn 16 57 09.3 +7.1
YAK eSSS 16 57 25.4
YAK *e* 17 04 29.1
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=Z,20nm,0.9s
YAK smax smax
comp=E,157nm,3.8s
YAK MLR MLR
comp=Z,146nm,14.0s
YAK MLR MLR
comp=N,75nm,12.0s
YAK MLR MLR
comp=E,91nm,12.0s
YAK Yakutsk 20.99 325 eP **P 16 53 01.5 -1.9**
comp=E,16nm,0.6s
CN2 Changchun 21.15 272 eP **P 16 53 05.9 +0.6**
CN2 *es*P **sP 16 53 18.8 +1.8**
CN2 eS **S 16 56 54.8 -4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 21.88 11⇑ *i*P **P 16 53 15.3 +2.4**
BILL *i* 16 53 30.4
BILL pmax pmax
comp=Z,14nm,0.9s
BILL MLR MLR
comp=Z,2µm,14.0s
BILL Bilibino 21.88 11 eP **P 16 53 09.9 -3.0**
comp=Z,17nm,0.8s
KSRS Korea Array 22.30 255 P **P 16 53 20.1 +2.5**
comp=Z,4.8nm,0.8s,baz=55,slow=9.9,SNR=16
KSRS LR LR 17 01 46.1
comp=Z,51nm,18.1s,baz=70,slow=36
KSRS Korea Array 22.30 255 P **P 16 53 20.1 +2.5**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
KSRS MLR MLR
comp=Z,51nm,18.1s
KSAR Wonju Array Be 22.34 255 P **P 16 53 20.1 +2.1**
KSAR Wonju Array Be 22.34 255 P **P 16 53 20.1 +2.1**
CBIJ Chichi jima 22.36 212 LR LR 17 00 28.4
comp=Z,65nm,20.7s,baz=339,slow=32
BOD Bodaibo 27.03 309 eP **P 16 53 59.9 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.1s
BJI Beijing 28.99 271 P **P 16 54 18.5 -1.1**
BJI S **S 16 59 08.8 +0.1**
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI pmax pmax
comp=Z,250nm,5.0s
BJI LR LR
comp=N,200nm,19.6s
BJI LR LR
comp=E,280nm,19.6s
BJI LR LR
comp=Z,100nm,16.0s
NJ2 Nanjing 31.50 255 eP **P 16 54 43.1 +1.2**
NJ2 pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 31.78 275 eP **P 16 54 44.8 +0.3**
HHC pP **pP 16 54 53.6 +0.5**
HHC sP **sP 16 54 57.6 +0.9**
HHC PP PP 16 55 50.4 -6.0
HHC S **S 16 59 51.9 -0.8**
HHC sS **sS 17 00 07.3 +0.4**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,270nm,5.7s
HHC LR LR
comp=N,180nm,14.3s
HHC LR LR
comp=E,180nm,13.1s
HHC LR LR
comp=Z,190nm,14.3s
SONM Songino Array 32.69 290 P **P 16 54 51.5 -0.9**
comp=Z,0.4nm,0.7s,baz=62,slow=9.1,SNR=5.9
SONM PcP **PcP 16 57 38.2 +0.7**
comp=Z,1.2nm,0.9s,baz=57,slow=2.3,SNR=5.8
SONM Songino Array 32.69 290 P **P 16 54 51.5 -0.9**
SONM 16 57 38.2
SONM Songino Array 32.69 290 P **P 16 54 51.5 -0.9**
SONM PcP **PcP 16 57 38.2 +0.7**
ZAK Zakamensk 33.96 295 eP P 16 54 58.8 -4.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s
MCK McKinley 34.52 40 eP **P 16 55 06.5 -1.5**
MCK pmax pmax
comp=Z,105nm,2.3s
MCK McKinley 34.52 40 eP **P 16 55 06.5 -1.5**
comp=Z,105nm,2.3s
SML Sawmill 34.78 44 eP **P 16 55 08.7 -1.6**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 34.78 44 eP **P 16 55 08.7 -1.6**
comp=Z,7.1nm,0.8s
COLA College 35.04 38 eP **P 16 55 11.5 -0.9**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 35.04 38 eP **P 16 55 11.5 -0.9**
comp=Z,13nm,0.9s
ILAR Eielson Array 35.45 39 P **P 16 55 14.3 -1.7**
comp=Z,1.8nm,0.6s,baz=251,slow=8.0,SNR=40
ILAR Eielson Array 35.45 39 P **P 16 55 14.3 -1.7**
ILAR Eielson Array 35.45 39 P **P 16 55 14.3 -1.7**
DOT Dot Lake 36.69 41 eP **P 16 55 24.8 -1.8**
comp=Z,142nm,2.9s
EGAK Eagle 37.90 39 eP **P 16 55 35.5 -1.4**
comp=Z,18nm,0.9s
LZH Lanzhou 39.39 273 eP **P 16 55 52.6 +2.8**
LZH pP **pP 16 56 01.0 +2.4**
LZH pmax pmax
comp=Z,14nm,1.0s
GTA Gaotai 40.43 280 eP **P 16 56 01.0 +2.6**
GTA pP **pP 16 56 05.8 -1.3**
GTA sP **sP 16 56 08.5 -2.2**
GTA pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 40.67 33 P **P 16 55 59.5 -0.3**
comp=Z,11nm,0.9s,baz=277,slow=9.4,SNR=32
INK Inuvik 40.67 33 eP **P 16 55 58.9 -1.0**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 40.67 33 eP **P 16 55 58.9 -1.0**
comp=Z,12nm,0.9s
CD2 Chengdu 42.40 267 P **P 16 56 14.8 +0.2**
CD2 pP **pP 16 56 23.8 +0.4**
CD2 sP **sP 16 56 27.5 +0.6**
CD2 PP PP 16 57 56.4 +3.4
CD2 S **S 17 02 34.4 +0.2**
CD2 sS **sS 17 02 49.3 +0.7**
CD2 SS SS 17 05 38.3 -5.3
CD2 pmax pmax
comp=Z,180nm,6.0s
CD2 LR LR
comp=N,400nm,6.5s
CD2 LR LR
comp=Z,270nm,7.1s
GYA Guiyang 43.23 259 P **P 16 56 21.3 -0.2**
GYA pP **pP 16 56 30.5 +0.2**
GYA PP PP 16 58 04.9 +2.8
GYA S **S 17 02 45.6 -1.0**
GYA sS **sS 17 03 01.0 -0.1**
GYA SS SS 17 05 52.8 -7.4
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,490nm,17.3s
GYA LR LR
comp=E,470nm,18.4s
GYA LR LR
comp=Z,500nm,17.9s
ZAA0 Zalesovo Array 43.72 306 eP **P 16 56 23.7 -1.1**
ZALV Zalesovo Beam 43.72 306 P **P 16 56 24.5 -0.4**
comp=Z,4.5nm,0.5s,baz=61,slow=7.0,SNR=29
ZALV PcP **PcP 16 58 11.9 +0.6**
comp=Z,3.9nm,0.9s,baz=90,slow=3.0,SNR=7.0
ZALV LR LR 17 15 43.4
comp=Z,82nm,18.2s,baz=34,slow=38
ZALV Zalesovo Beam 43.72 306 P **P 16 56 24.5 -0.4**
ZALV 16 58 11.9
ZALV Zalesovo Beam 43.72 306 P **P 16 56 24.5 -0.4**
ZALV PcP **PcP 16 58 11.9 +0.6**
NVS Novosibirsk 44.26 308⇓ *i*P **P 16 56 28.1 -1.1**
NVS *e* 16 58 12.9
NVS eS **S 17 02 57.5 -3.2**
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s
NVS smax smax
comp=N,53nm,3.7s
NVS smax smax
comp=E,43nm,3.7s
WMQ Urumqi 46.26 292 eP **P 16 56 46.5 +1.2**
WMQ pP **pP 16 56 56.5 +2.4**
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ LR LR
comp=N,130nm,19.5s
WMQ LR LR
comp=Z,91nm,13.0s
KMI Kunming 46.76 261 P **P 16 56 48.3 -1.4**
KMI pP **pP 16 56 56.8 -1.7**
KMI sP **sP 16 57 01.8 -0.3**
KMI pmax pmax
comp=Z,6.0nm,1.3s
KMI pmax pmax
comp=Z,160nm,4.4s
MK31 Makanchi Array 48.19 298 *i* P **P 16 57 00.4 +0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 48.19 298 eP **P 16 57 00.2 0.0**
MKAR Makanchi Array 48.19 298 P **P 16 57 00.3 +0.1**
comp=Z,4.0nm,0.6s,baz=69,slow=8.1,SNR=48
MKAR PcP **PcP 16 58 27.8 +0.6**
comp=Z,1.2nm,0.7s,baz=46,slow=4.6,SNR=3.0
MKAR LR LR 17 18 34.7
comp=Z,98nm,18.3s,baz=26,slow=38
MKAR Makanchi Array 48.19 298 P **P 16 57 00.4 +0.1**
MKAR 16 58 27.8
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,99nm,18.3s
MKAR Makanchi Array 48.19 298 eP **P 16 57 00.3 +0.1**
MKAR PcP **PcP 16 58 27.8 +0.6**
KURK Kurchatov 48.51 304 P **P 16 57 03.1 +0.5**
comp=Z,14nm,0.7s,baz=67,slow=8.4,SNR=62
KURK PcP **PcP 16 58 28.8 +0.7**
comp=Z,3.7nm,0.8s,baz=67,slow=3.4,SNR=7.0
KURK Kurchatov 48.51 304 *c i*P **P 16 57 02.2 -0.4**
KURK pmax pmax
comp=Z,17nm,0.6s
KURK Kurchatov 48.51 304 P **P 16 57 03.1 +0.5**
comp=Z,2.3nm,0.7s
KURK PcP **PcP 16 58 28.8 +0.7**
YKA Yellowknife Ar 49.85 37 P **P 16 57 11.9 -0.8**
comp=Z,7.1nm,1.0s,baz=295,slow=7.4,SNR=35
YKA Yellowknife Ar 49.85 37 P **P 16 57 11.9 -0.8**
YKA Yellowknife Ar 49.85 37 P **P 16 57 11.9 -0.8**
VOSK Vostochnaya 51.73 310 P **P 16 57 26.9 -0.1**
VOSK pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 51.77 274 P P 16 57 31.9 +3.7
LSA Lhasa 51.77 274 eP **P 16 57 28.7 +0.5**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 51.77 274 eP **P 16 57 28.7 +0.5**
comp=Z,2.8nm,0.6s
BVA0 Borovoye Array 51.89 310 *i* P **P 16 57 27.9 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 51.89 310 P **P 16 57 28.5 +0.3**
comp=Z,8.5nm,0.5s,baz=60,slow=7.9,SNR=44
BVAR PcP **PcP 16 58 41.3 +0.7**
comp=Z,2.0nm,0.8s,baz=27,slow=3.5,SNR=2.6
BVAR LR LR 17 22 41.9
comp=Z,90nm,19.2s,baz=300,slow=40
BVAR Borovoye Array 51.89 310 P **P 16 57 28.5 +0.3**
BVAR 16 58 41.3
BVAR Borovoye Array 51.89 310 P **P 16 57 28.5 +0.3**
BVAR PcP **PcP 16 58 41.3 +0.7**
BRVK Borovoye 51.93 310⇑ eP **P 16 57 28.6 +0.1**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 51.93 310 eP **P 16 57 28.3 -0.2**
comp=Z,13nm,0.6s
ZRNK Zerenda 52.65 311 *i* P **P 16 57 33.3 -0.6**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s
CHTO Chiang Mai 53.64 258 eP **P 16 57 41.5 0.0**
CHTO Chiang Mai 53.64 258 eP **P 16 57 41.5 0.0**
CMAR Chiang Mai Arr 53.89 258 P **P 16 57 45.7 +2.3**
comp=Z,2.6nm,0.7s,baz=36,slow=7.3,SNR=27
CMAR PcP **PcP 16 58 51.2 +2.5**
comp=Z,1.1nm,1.0s,baz=20,slow=3.8,SNR=3.4
CMAR Chiang Mai Arr 53.89 258 P **P 16 57 45.7 +2.3**
CMAR 16 58 51.2
CMAR Chiang Mai Arr 53.89 258 P **P 16 57 45.7 +2.3**
CMAR PcP **PcP 16 58 51.1 +2.5**
TKM2 Tokmak 2 54.26 297 eP **P 16 57 46.7 +0.6**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 54.26 297 eP **P 16 57 46.6 +0.6**
comp=Z,4.0nm,0.9s
SVE Sverdlovsk 54.70 318⇑ eP **P 16 57 50.4 +1.6**
SVE pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 55.09 297 eP **P 16 57 52.1 0.0**
AAK pmax pmax
comp=Z,33nm,1.0s
AAK Ala-Archa 55.09 297 eP **P 16 57 52.1 0.0**
comp=Z,33nm,1.0s
EKS2 Erkin-Say 55.51 298 eP **P 16 57 54.8 -0.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 55.51 298 eP **P 16 57 54.8 -0.2**
comp=Z,4.2nm,0.8s
TAPN Taplejung 55.59 275 eP P 16 58 01.6 +5.6
comp=Z,6.8nm,0.8s
TAPN Taplejung 55.59 275 eP P 16 58 01.6 +5.6
comp=Z,6.6nm,0.8s
ARU Arti 55.88 318 *d i*P **P 16 57 58.3 +1.1**
ARU S **S 17 05 43.5 +1.0**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 55.88 318 eP **P 16 57 57.3 0.0**
comp=Z,17nm,0.6s
KSH Kashi 55.97 293 eP P 16 58 04.3 +6.0
KSH e*p*P pP 16 58 14.3 +7.0
KSH e*Pc*P **PcP 16 58 59.3 +2.7**
KSH e*PP* PP 17 00 12.1 +9.1
KSH e*Sc*P **ScP 17 02 55.0 +1.6**
KSH e*Pc*S **PcS 17 02 58.9 +1.9**
KSH e*S* S 17 05 52.3 +7.9
KSH e*Sc*S **ScS 17 07 47.3 +1.9**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,290nm,5.9s
KSH LR LR
comp=N,200nm,5.3s
KSH LR LR
comp=E,210nm,5.6s
KSH LR LR
comp=Z,220nm,6.4s
ODAN Odare 56.12 274 eP P 16 58 04.7 +5.0
comp=Z,15nm,1.1s
ODAN Odare 56.12 274 eP P 16 58 04.7 +5.0
comp=Z,15nm,1.1s
JIRN Jiri 56.43 276 eP P 16 58 06.4 +4.3
comp=Z,13nm,0.7s
JIRN Jiri 56.43 276 eP P 16 58 06.4 +4.3
comp=Z,13nm,0.7s
GUN Gumba 56.48 276 eP P 16 58 06.4 +4.0
comp=Z,8.5nm,0.6s
GUN Gumba 56.48 276 eP P 16 58 06.4 +4.0
comp=Z,8.5nm,0.6s
PMG Port Moresby 56.57 190⇑ eP **P 16 58 03.2 +0.6**
PMG pmax pmax
comp=Z,10.0nm,1.2s
RAMN Ramite 56.61 275 eP P 16 58 06.6 +3.4
comp=Z,18nm,0.8s
RAMN Ramite 56.61 275 eP P 16 58 06.6 +3.4
comp=Z,18nm,0.8s
KKN Kakani 56.97 277 eP P 16 58 09.5 +3.8
comp=Z,6.7nm,0.5s
KKN Kakani 56.97 277 eP P 16 58 09.5 +3.8
KKN pmax pmax
comp=Z,7.0nm,0.5s
KKN Kakani 56.97 277 eP P 16 58 09.5 +3.8
comp=Z,6.7nm,0.5s
PKI Pulchoki 57.02 276 eP **P 16 58 09.3 +3.1**
PKI Pulchoki 57.02 276 eP **P 16 58 09.3 +3.1**
PKI Pulchoki 57.02 276 eP **P 16 58 09.3 +3.1**
DMN Daman 57.20 277 eP P 16 58 10.9 +3.5
comp=Z,24nm,1.0s
DMN Daman 57.20 277 eP P 16 58 10.9 +3.5
comp=Z,24nm,1.0s
KKAR Karatay Array 57.22 300 eP **P 16 58 08.4 +1.3**
KKAR Karatay Array 57.22 300 eP **P 16 58 08.3 +1.3**
GKN Gorkha 57.27 277 eP P 16 58 11.1 +3.3
comp=Z,7.4nm,0.5s
GKN Gorkha 57.27 277 eP P 16 58 11.1 +3.3
comp=Z,7.4nm,0.5s
DANN Dangsing 57.64 278 eP P 16 58 13.7 +3.1
comp=Z,15nm,0.6s
DANN Dangsing 57.64 278 eP P 16 58 13.7 +3.1
comp=Z,15nm,0.6s
APA Apatity 57.74 337⇓ eP P 16 58 16.8 +6.5
APA MLR MLR
comp=Z,1µm,18.0s
KOLN Koldanda 58.12 278 eP **P 16 58 16.7 +2.9**
comp=Z,7.3nm,0.6s
KOLN Koldanda 58.12 278 eP **P 16 58 16.7 +2.9**
comp=Z,7.3nm,0.6s
ARCES ARCESS Array B 58.15 341 P **P 16 58 14.5 +1.3**
comp=Z,3.7nm,0.8s,baz=54,slow=8.2,SNR=5.8
ARCES LR LR 17 27 40.2
comp=Z,154nm,19.5s,baz=228,slow=41
ARCES ARCESS Array B 58.15 341 P **P 16 58 14.5 +1.3**
ARCES ARCESS Array B 58.15 341 P **P 16 58 14.5 +1.3**
AB31 Akbulak array 59.45 311 *i* P **P 16 58 23.0 +0.5**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 59.45 311 eP **P 16 58 22.8 +0.4**
comp=Z,5.2nm,0.4s
FFC Flin Flon 59.61 41 *i* P **P 16 58 23.7 +0.2**
FFC Flin Flon 59.61 41 eP **P 16 58 22.6 -0.9**
comp=Z,8.3nm,1.2s
AKTO Aktyubinsk 59.71 313 P **P 16 58 23.9 -0.4**

comp=Z,3.9nm,0.6s,baz=57,slow=8.1,SNR=9.9
AKTO Aktyubinsk 59.71 313 *i* P **P 16 58 24.9 +0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.8s
AKTO Aktyubinsk 59.71 313 P **P 16 58 23.9 -0.4**
SUMG Summit 60.39 5 *i* P **P 16 58 28.9 -0.1**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 60.39 5 *i* P **P 16 58 28.9 -0.1**
comp=Z,7.7nm,0.9s
NVAR Mina Array Bea 61.00 64 P **P 16 58 32.9 -0.6**
comp=Z,0.9nm,0.8s,baz=303,slow=6.4,SNR=6.0
NVAR Mina Array Bea 61.00 64 P **P 16 58 32.9 -0.6**
JOF Joensuu 61.81 335 *eP* **P 16 58 39.5 +1.2**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 61.81 335 *ep* **P 16 58 39.5 +1.2**
comp=Z,2.6nm,0.6s
JOF Joensuu 61.81 335 *ep* **P 16 58 39.5 +1.2**
comp=Z,2.6nm,0.6s
KBL Kabul 63.39 293 *eP* **P 16 58 50.5 +0.9**
KBL pmax pmax
comp=Z,16nm,1.3s
KBL Kabul 63.39 293 *eP* **P 16 58 50.5 +0.9**
comp=Z,16nm,1.3s
PDAR Pinedale Array 63.40 55 P **P 16 58 48.0 -1.6**
comp=Z,2.1nm,1.0s,baz=339,slow=1.7,SNR=11
PDAR Pinedale Array 63.40 55 P **P 16 58 48.0 -1.6**
FINES FINESS Array B 64.49 336 P **P 16 58 56.5 +0.4**
comp=Z,4.6nm,0.5s,baz=39,slow=7.5,SNR=22
FINES LR LR 17 29 42.4
comp=Z,173nm,19.3s,baz=312,slow=38
FINES FINESS Array B 64.49 336 P **P 16 58 56.5 +0.4**
FINES FINESS Array B 64.49 336 P **P 16 58 56.5 +0.4**
VRHR Novokhopersk 66.93 321 *eP* **P 16 59 09.7 -2.3**
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VSR Storozhevoye 67.89 322 *eP* **P 16 59 17.5 -0.5**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 68.51 342 P **P 16 59 24.2 +2.3**
comp=Z,2.7nm,0.8s,baz=26,slow=6.5
NOA NORSAR Array B 68.51 342 P **P 16 59 23.2 +1.3**
comp=Z,4.8nm,0.8s,baz=26,slow=6.3,SNR=10
NOA LR LR 17 35 11.0
comp=Z,81nm,18.0s,baz=155,slow=41
NOA NORSAR Array B 68.51 342 P **P 16 59 23.2 +1.3**
NOA NORSAR Array B 68.51 342 P **P 16 59 23.2 +1.3**
WB2 Warramunga Arr 69.22 201 *eP* **P 16 59 24.9 -1.7**
WRA Warramunga Arr 69.22 201 P **P 16 59 26.8 +0.2**
comp=Z,5.2nm,0.8s,baz=19,slow=6.7,SNR=26
WRA Warramunga Arr 69.22 201 P **P 16 59 26.8 +0.2**
WRA Warramunga Arr 69.22 201 P **P 16 59 26.8 +0.2**
KIV Kislovodsk 71.73 315 *eP* **P 16 59 45.0 +3.0**
KIV *i* 17 00 01.0
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 71.73 315 *eP* **P 16 59 41.7 -0.3**
comp=Z,6.0nm,0.8s
ZEI Tsey 72.02 314 *eP* **P 16 59 43.5 -0.4**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 72.21 327 P **P 16 59 45.1 +0.6**
comp=Z,3.6nm,0.6s,baz=34,slow=6.1,SNR=13
AKASG Malin Array Be 72.21 327 *i* P **P 16 59 47.0 +2.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 72.21 327 P **P 16 59 45.1 +0.6**
KIEV Kiev 72.22 327 *eP* **P 16 59 44.3 -0.3**
KIEV pmax pmax
comp=Z,31nm,2.0s
KIEV Kiev 72.22 327 *eP* **P 16 59 44.3 -0.3**
comp=Z,31nm,2.0s
AS31 Alice Springs 72.90 200 *eP* **P 16 59 49.3 +0.4**
ASAR Alice Springs 72.90 200 P **P 16 59 50.0 +1.1**
comp=Z,3.1nm,0.8s,baz=15,slow=5.9,SNR=28
ASAR Alice Springs 72.90 200 P **P 16 59 50.0 +1.1**
ASAR Alice Springs 72.90 200 P **P 16 59 50.0 +1.1**
SOC Sochi 73.42 317 *eP* **P 16 59 52.4 +0.5**
SOC *e* 17 00 05.4
SOC *e* 17 02 37.3
SOC *eS* **S 17 09 18.4 -0.6**
SOC *e* 17 09 56.4
SOC *eSS* **SS 17 14 04.7 +4.1**
SOC pmax pmax
comp=Z,7.0nm,0.4s
KWP Kalwaria Pacla 75.41 330⇑ *iP* **P 17 00 05.2 +1.8**
TXAR Lajitas Array 76.07 62 P **P 17 00 06.9 -0.7**
comp=Z,1.6nm,0.7s,baz=297,slow=4.2,SNR=16
TXAR Lajitas Array 76.07 62 P **P 17 00 06.9 -0.7**
TXAR Lajitas Array 76.07 62 P **P 17 00 06.9 -0.7**
BUR08 Bucovina Ar. S 76.22 328 *eP* **P 17 00 08.4 +0.2**
BURAR Bucovina Array 76.24 328⇑ *iP* P 17 00 11.6 +3.3
TESR 76.63 326⇓ *iP* P 17 00 13.8 +3.4
TRPA Tarpa 76.75 330⇓ *iP* P 17 00 15.0 +4.0
UPC Upice 76.76 335 *eP* P 17 00 16.9 +5.8
UPC Upice 76.76 335 *eP* P 17 00 16.9 +5.8
DPC Dobruska-Polom 76.81 334 *eP* P 17 00 15.5 +4.1
DPC Dobruska-Polom 76.81 334 *eP* P 17 00 15.5 +4.1
CLL Collm 76.89 337 *i* P **P 17 00 12.6 +0.9**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 76.89 337 *i* P **P 17 00 12.6 +0.9**
comp=Z,7.0nm,1.2s
CLL *e*(sP) **sP 17 00 25.0 +0.5**
VRI Vrincioaia 77.14 326⇓ *iP* P 17 00 18.0 +4.7
VRI Vrincioaia 77.14 326⇓ *iP* P 17 00 18.0 +4.7
CFR Carcaliu 77.16 325⇑ *iP* P 17 00 17.3 +3.9
CFR Carcaliu 77.16 325⇑ *iP* P 17 00 17.3 +3.9
PLOR Plostina 77.18 326⇓ *iP* P 17 00 17.8 +4.2
PLOR Plostina 77.18 326⇓ *iP* P 17 00 17.8 +4.2
PRU Pruhonice 77.65 335 *eP* **P 17 00 17.4 +1.4**
PRU Pruhonice 77.65 335 *eP* **P 17 00 17.4 +1.4**
VRAC Vranov 77.66 334⇓ *iP* **P 17 00 19.0 +2.9**
VRAC Vranov 77.66 334⇓ *iP* **P 17 00 19.0 +2.9**
MLR Muntele Rosu 77.75 326 LR LR 17 39 04.3
comp=Z,28nm,18.1s,baz=128,slow=39
MLR Muntele Rosu 77.75 326⇑ *iP* P 17 00 20.9 +4.0
MLR Muntele Rosu 77.75 326⇑ *iP* P 17 00 20.9 +4.0
DRGR 77.84 329⇓ *iP* P 17 00 20.8 +3.5
DRGR 77.84 329⇓ *iP* P 17 00 20.8 +3.5
VOIR 78.14 327⇓ *iP* P 17 00 23.1 +4.2
VOIR 78.14 327⇓ *iP* P 17 00 23.1 +4.2
KHC Kasperske Hory 78.70 335 *eP* **P 17 00 22.6 +0.7**
KHC *e* 17 00 26.2
KHC Kasperske Hory 78.70 335 *eP* **P 17 00 22.6 +0.7**
KHC *ex* x 17 00 26.2
GERES GERESS Array B 78.92 335 P **P 17 00 23.4 +0.2**
comp=Z,1.4nm,0.6s,baz=32,slow=5.7,SNR=13
GERES LR LR 17 36 17.1
comp=Z,118nm,19.4s,baz=76,slow=36
GERES GERESS Array B 78.92 335 P **P 17 00 23.5 +0.2**
GERES GERESS Array B 78.92 335 P **P 17 00 23.4 +0.2**
GZR Gura Zlata 79.02 328⇓ *iP* P 17 00 27.3 +3.5
GZR Gura Zlata 79.02 328⇓ *iP* P 17 00 27.3 +3.5
BZS Buzias 79.24 329⇑ *iP* P 17 00 28.7 +3.8
BZS Buzias 79.24 329⇑ *iP* P 17 00 28.7 +3.8
BR131 Keskin Array S 79.27 318 *eP* **P 17 00 25.8 +0.5**
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 79.27 318 P **P 17 00 26.4 +1.0**
comp=Z,2.2nm,0.8s,baz=68,slow=3.3,SNR=13
BRTR Keskin Array B 79.27 318 P **P 17 00 26.4 +1.0**
BRTR Keskin Array B 79.27 318 P **P 17 00 26.4 +1.0**
PKSM Moragy 79.74 331⇑ P P 17 00 31.0 +3.4
PKSM Moragy 79.74 331⇑ *iP* P 17 00 31.0 +3.4
MIB Mutribah 79.84 303 *eP* **P 17 00 28.8 +0.4**
MIB AMb AMB 17 00 34.2
comp=Z,21nm,0.7s
BAIF Baives 80.19 342 *eP* P 17 00 33.9 +4.0
NAY Al-Naaiem 80.31 303 *eP* **P 17 00 30.7 -0.3**
NAY AMb AMB 17 00 36.1
comp=Z,10nm,1.1s
RDF Al-Radifah 80.37 302 *eP* **P 17 00 31.0 -0.3**
RDF AMb AMB 17 00 37.2
comp=Z,37nm,1.2s
CDF Champ du Feu 81.03 339 *eP* P 17 00 38.5 +3.9
VTS Vitosha 81.26 326⇓ *iP* P 17 00 40.1 +4.1
VTS Vitosha 81.26 326⇓ *iP* P 17 00 40.1 +4.1
PAGF Fort de Pagny 81.26 340 *eP* P 17 00 40.2 +4.5
comp=Z,5.3nm,0.8s
MEZF Maizieres J'vi 81.47 341 *eP* P 17 00 40.8 +4.0
HAU Haudompre 81.63 340 *eP* P 17 00 41.1 +3.4
HAU *eR*
comp=Z,202nm,18.8s
HINF Hinteralfeld 81.69 339 *eP* P 17 00 41.2 +3.2
SFTF Sexfontaines 81.75 340 *eP* P 17 00 42.5 +4.2
TUE Stuetta 82.29 337 *eP* **P 17 00 39.5 -1.9**
comp=Z,6.2nm,0.6s
FLN La Foliniere 82.37 344 *eP* P 17 00 45.7 +4.1
FLN *eR*
comp=Z,184nm,20.2s
LDF La Druitiere 82.47 344 *eP* P 17 00 46.1 +4.0
LOR Lormes 82.90 341 *eP* P 17 00 48.1 +3.7
comp=Z,9.0nm,0.8s
LOR *eR*
comp=Z,244nm,17.0s
SSF Saint Saulge 83.18 341 *eP* P 17 00 50.2 +4.4
comp=Z,7.9nm,0.7s
AVF Avril sur Loir 83.47 341 *eP* P 17 00 51.9 +4.6
comp=Z,5.8nm,0.6s
BGF Bois d'Agland 83.80 341 *eP* P 17 00 52.9 +3.9
LPL La Plagne 83.86 338 *eP* P 17 00 54.7 +5.1
comp=Z,6.2nm,0.5s
LPG La Plagne 83.87 338 *eP* P 17 00 54.9 +5.1
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 84.19 342 *eP* P 17 00 54.9 +3.9
comp=Z,6.3nm,0.7s
MBDF Montbardon 84.59 338 *eP* P 17 00 56.9 +3.7
comp=Z,5.2nm,0.6s
ORIF Oris-en-Rattie 84.63 339 *eP* P 17 00 58.6 +5.2
comp=Z,11nm,0.8s
ORIF *eR*
comp=Z,226nm,17.5s
VIVF Saint-Julien-l 84.99 340 *eP* P 17 01 00.2 +5.1
SBF Sospel 85.22 337 *eP* P 17 00 59.5 +3.2
RJF Les Rejaudoux 85.28 342 *eP* P 17 01 00.5 +4.0
RJF *eR*
comp=Z,245nm,17.0s
LMR La Mourre 85.96 338 *eP* P 17 01 03.9 +4.0
PGF Pioggiola 86.01 336 *eP* P 17 01 03.7 +3.4
TORD Torodi Ar. Bea 115.67 331 PKP **PKPdf 17 07 01.8 -0.6**
comp=Z,0.3nm,0.7s,baz=11,slow=1.5,SNR=2.5
TORD Torodi Ar. Bea 115.67 331 PKP **PKPdf 17 07 01.8 -0.6**
PLCA Paso Flores 146.72 96 *e*PKPdf **PKPdf 17 07 58.2 -1.4**

TAP 16 16:48:37.6, 23.23N×120.35E, h12km, ML3.9, 20C-7D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.13**	**74**	⇑ *iP*		Pb		16 48 41.9	-0.2
baz=77									
CHN3	**Shinhua**	**0.16**	**176**	⇓ *iP*		Pb		16 48 42.4	0.0
baz=176									
CHN3				S		Sg		16 48 46.1	+2.3
baz=176									
SCLT	**Jiali**	**0.16**	**249**	*i* P		Pb		16 48 42.0	-0.4
baz=248									
SCLT				S		Sg		16 48 46.2	+2.3
baz=248									
CHN1	**Nanshi**	**0.17**	**106**	⇑ *iP*		Pb		16 48 42.2	-0.5
baz=98									
CHN1				*eS*		Sg		16 48 45.5	+1.3
baz=98									
CHN8	**Yiju**	**0.17**	**311**	⇓ *iP*		Pb		16 48 42.1	-0.6
baz=314									
CHN8				*i* S		Sg		16 48 46.6	+2.3
baz=314									
TAI1	**Yung-k'ang**	**0.22**	**211**	⇓ *iP*		Pb		16 48 43.8	+0.2
baz=215									
TAI1				S		Sg		16 48 48.5	+2.9
baz=215									
WTP	**Ta-pu**	**0.24**	**87**	⇑ *iP*		Pb		16 48 43.8	-0.2
baz=87									
CHN4	**Tsaushan**	**0.25**	**62**	⇑ *iP*		Pb		16 48 43.9	-0.2
baz=62									
CHN4				*i* S		Sb		16 48 48.8	+0.4
baz=62									
SGST	**Jiashian**	**0.26**	**125**	⇑ *iP*		Pb		16 48 44.3	+0.1
baz=114									
SGST				S		Sb		16 48 49.9	+1.2
baz=114									
CHY	**Chiayi**	**0.27**	**14**	P		Pb		16 48 44.3	-0.2
baz=16									
CHY				S		Sb		16 48 49.6	+0.6
baz=16									
CHN2	**Minshiung**	**0.32**	**21**	*i* P		Pb		16 48 45.3	+0.1
baz=21									
CHN2				*i* S		Sb		16 48 51.3	+0.9
baz=21									
STYT	**Tauyuan**	**0.38**	**100**	⇑ *iP*		Pb		16 48 46.2	-0.1
baz=89									
STYT				S		Sb		16 48 52.6	+0.4
baz=89									
TWM1	**Shoushan**	**0.41**	**171**	⇑ *eP*		Pn		16 48 48.5	-0.9
baz=171									
WSF	**Szhu**	**0.42**	**343**	⇓ *iP*		Pb		16 48 46.7	-0.2
baz=346									
WSF				S		Sb		16 48 54.3	+1.0
baz=346									
CHN5	**Tsauling**	**0.47**	**39**	⇑ *iP*		Pb		16 48 47.8	-0.2
baz=40									
CHN5				S		Sb		16 48 55.4	+0.5
baz=40									
WGK	**Gukeng**	**0.49**	**23**	P		Pb		16 48 48.4	+0.3
baz=25									
WGK				*eS*		Sb		16 48 57.2	+1.8
baz=25									
ALS	**Alishan**	**0.50**	**56**	⇑ *iP*		Pb		16 48 49.1	+0.4
baz=56									
ALS				*eS*		Sb		16 48 56.8	+0.5
baz=56									
SSD	**Sandimen**	**0.55**	**152**	⇑ *iP*		Pb		16 48 49.6	+0.4
baz=138									
SSD				*i* S		Sn		16 48 58.8	-1.5
baz=138									
YUS	**Yu-Shan**	**0.61**	**65**	⇑ *iP*		Pb		16 48 51.2	+0.4
baz=65									
YUS				S		Sb		16 49 00.7	+0.9
baz=65									
ELDTW	**Lidau**	**0.61**	**94**	⇑ *iP*		Pb		16 48 50.3	-0.1
baz=93									
WTCT	**Ta-ch'eng**	**0.63**	**354**	P		Pg		16 48 50.2	+0.2
baz=355									
WTCT				*eS*		Sb		16 49 00.2	+0.8
baz=355									
KAU	**Kaohsiung**	**0.66**	**184**	*eP*		Pn		16 48 52.2	-0.6
baz=198									
WNT	**Mingjian**	**0.71**	**25**	⇓ *iP*		Pb		16 48 52.2	+0.3
baz=26									
WNT				S		Sn		16 49 03.4	-1.0
baz=26									
TWG	**Pinlang**	**0.78**	**122**	⇑ *iP*		Pb		16 48 53.7	+0.6
baz=107									
TWG				S		Sn		16 49 05.6	-0.4
baz=107									
PNG	**Penghu**	**0.81**	**295**	⇓ *iP*		Pg		16 48 52.7	-0.5
baz=295									
PNG				S		Sg		16 49 03.8	0.0
baz=295									
TYC	**Yuchr**	**0.81**	**35**	⇑ *iP*		Pb		16 48 53.9	+0.3
baz=36									
TYC				S		Sn		16 49 05.9	-0.9
baz=36									
SMLT	**Sun Moon Lake**	**0.82**	**38**	⇑ *iP*		Pb		16 48 54.1	+0.1
baz=39									
SMLT				S		Sn		16 49 06.4	-0.9
baz=39									
ECL	**Taimali**	**0.84**	**139**	⇑ *iP*		Pn		16 48 54.8	-0.5
baz=137									
ECL				*eS*		Sn		16 49 07.7	+0.1
baz=137									
TTN	**Taitung**	**0.87**	**123**	*eP*		Pn		16 48 55.6	-0.1
baz=111									
TTN				*eS*		Sn		16 49 11.0	+2.7
baz=111									
TWF1	**Yuli**	**0.88**	**82**	⇑ *iP*		Pb		16 48 55.0	+0.2
baz=81									
TWF1				S		Sn		16 49 08.0	-0.4
baz=81									
TWP	**Hsiaoliuchiu**	**0.88**	**179**	*eP*		Pn		16 48 56.0	+0.2
baz=193									
EHY	**Hungye**	**0.93**	**73**	⇑ *iP*		Pb		16 48 56.1	+0.4
baz=80									
EHY				*i* S		Sb		16 49 08.8	+0.7
baz=80									
TCU	**Taichung**	**0.96**	**18**	*eP*		Pb		16 48 56.2	+0.1
baz=20									
TCU				*eS*		Sn		16 49 10.1	-0.4
baz=20									
EAST	**Anshuo**	**0.96**	**152**	⇑ P		Pn		16 48 57.2	+0.2
baz=142									
EAST				*eS*		Sn		16 49 11.3	+0.7
baz=142									
TAW	**Tawu**	**1.00**	**150**	*eP*		Pn		16 48 57.3	-0.2
baz=140									
TAW				*eS*		Sn		16 49 12.2	+0.7
baz=140									
ESL	**Shilin**	**1.15**	**59**	P		Pn		16 48 59.6	+0.1
baz=65									
ESL				*eS*		Sn		16 49 15.6	+0.4
baz=65									
TWQ1	**Liyutan**	**1.18**	**19**	⇓ *iP*		Pn		16 49 00.1	+0.2
baz=21									
TWQ1				*eS*		Sn		16 49 17.1	+1.2
baz=21									
WHF	**Hehuan Shan**	**1.23**	**42**	*eP*		Pn		16 49 01.2	0.0
baz=43									
WHF				*eS*		Sg		16 49 19.2	+0.8
baz=43									
NSY	**Sanyi**	**1.24**	**18**	*eP*		Pn		16 49 00.6	-0.1
baz=19									
NSY				*eS*		Sg		16 49 19.1	+1.5
baz=19									
TWT	**Tachien**	**1.27**	**36**	*eP*		Pn		16 49 01.1	-0.2
baz=45									
TWT				*eS*		Sn		16 49 18.4	0.0
baz=45									
HEN	**Hengchun**	**1.27**	**164**	*eP*		Pg		16 49 02.7	+0.7
baz=164									
TWK1	**Hengchun**	**1.35**	**162**	*eP*		Pb		16 49 02.6	-0.2
baz=162									
HWA	**Hwalien**	**1.37**	**57**	*eP*		Pg		16 49 03.6	-0.3
baz=55									
NSTT	**Nanjuang**	**1.51**	**23**	*eP*		Pn		16 49 03.5	-1.0
baz=25									
NSTT				*eS*		Sb		16 49 25.4	+0.6
baz=25									
NNS	**Nan Shan**	**1.52**	**38**	*eP*		Pb		16 49 05.7	-0.3
baz=28									
NNS				*eS*		Sg		16 49 26.4	-0.6
baz=28									
LAY	**Lan-yu**	**1.62**	**137**	*eP*		Pn		16 49 05.6	-0.5
baz=137									
NSK	**Sanguang**	**1.71**	**32**	⇑ P		Pn		16 49 08.1	+0.8
baz=34									
NSK				*eS*		Sg		16 49 31.9	-0.8
baz=34									
ENA	**Nanau**	**1.74**	**47**	*eP*		Pn		16 49 08.4	+0.8
baz=64									
ENTT	**Nioudou**	**1.79**	**38**	*eP*		Pb		16 49 09.5	-0.8
baz=31									
ENTT				*eS*		Sg		16 49 34.2	-1.0
baz=31									
TWE	**Neicheng**	**1.91**	**39**	*eP*		Pb		16 49 11.3	-1.0
baz=20									
TWC	**Suao**	**1.94**	**45**	*eP*		Pn		16 49 11.3	+0.9
baz=46									
TWC				*eS*		Sb		16 49 37.9	+0.9
baz=46									
TWA	**Mucha**	**2.07**	**33**	*eP*		Pn		16 49 12.6	+0.4
baz=16									
TWS1	**Kuangyinshan**	**2.10**	**27**	*eP*		Pb		16 49 14.1	-1.5
baz=27									
KNM	**Kinmen**	**2.12**	**304**	*eP*		Pn		16 49 13.0	+0.2
baz=302									
NWF	**Wu-fen Shan**	**2.25**	**35**	*eP*		Pn		16 49 14.5	-0.3
baz=17									
QZH	**Quanzhou**	**2.34**	**317**			Pn	Pn	16 49 15.3	-0.6
QZH						Pg	Pg	16 49 22.4	-0.2
QZH						Sn	Sb	16 49 48.8	+0.1
QZH						smax	smax		
comp=N,450nm,0.5s									
QZH						smax	smax		
comp=E,480nm,0.6s									
YOJ	**Yonaguni jima**	**2.72**	**63**	*eP*		Pn		16 49 22.4	+1.3
baz=60									

IDC 16 16:53:18.2±2.8, 19.83S×179.62E, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=291.5km s-min=33.8km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.48**	**262**	P		P	P	17 01 16.4	+0.9
0.7nm,0.3s,baz=91,slow=8.4,SNR=50									
ASAR	**Alice Springs**	**42.50**	**256**	P		P	P	17 01 14.4	-1.3
1.6nm,0.8s,baz=103,slow=6.8,SNR=13									
TXAR	**Lajitas Array**	**88.59**	**58**	P		P	P	17 06 13.6	0.0
0.4nm,0.7s,baz=206,slow=7.6,SNR=4.5									

ISCJB ***16*** *16:57:37.5±0.6, 46.98N±0.07×155.6E±0.1, h18km, mb3.7/17, Error ellipse: s-maj=13.6km s-min=6.2km az=42.3*

IDC ***16*** *16:57:37.2±0.8, 46.98N×155.62E, h0km, mb3.7/16, mb1 3.9/20, mb1mx3.8/31, mbtmp3.8/20, ML3.2/4, Error ellipse: s-maj=20.5km s-min=12.9km az=149.0*

MOS ***16*** *16:57:39.5±1.6, 46.96N×155.59E, h33km, mb4.1/11, Error ellipse: s-maj=14.9km s-min=9.3km az=65.8*

ISC 16 16:57:39.8±0.7, 46.95N±0.10×155.65E±0.10, h18km, n45, σ1°24/47, mb3.7/17, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.30**	**11**	P		n	**Pn**	**16 59 10.1**	**-1.6**
0.8nm,0.3s,baz=168,slow=15,SNR=21									
PETK				S		n	**Sn**	**17 00 22.9**	**-0.2**
0.3nm,0.3s,baz=128,slow=19,SNR=2.7									
PETK	**Petropavlovsk-**	**6.30**	**11**	PN			**Pn**	**16 59 10.1**	**-1.6**
PETK				pmax	pmax				
comp=Z,1.0nm,0.3s									
PET	**Petropavlovsk**	**6.38**	**17**	*e*PN			**Pn**	**16 59 11.8**	**-0.9**
ASAJ	**Asahikawa**	**9.59**	**258**	Pn			**Pn**	**16 59 56.4**	**-0.5**
comp=Z,0.4nm,0.3s,baz=115,slow=9.2,SNR=6.8									
ASAJ	**Asahikawa**	**9.59**	**258**				**Pn**	**16 59 56.4**	**-0.5**
ERM	**Erimo**	**10.20**	**246**⇑	*e*PN			**Pn**	**17 00 04.2**	**-0.9**
FX1	**Attu Island--F**	**12.73**	**56**	Pn			**Pn**	**17 00 38.8**	**-1.0**
comp=Z,0.6nm,0.3s,baz=219,slow=13,SNR=2.1									
FX1				S			n	17 02 49.6	-11
comp=Z,1.1nm,0.3s,baz=60,slow=20,SNR=2.8									
FX1	**Attu Island--F**	**12.73**	**56**	PN			**Pn**	**17 00 38.8**	**-1.0**
FX1				pmax	pmax				
comp=Z,1.0nm,0.3s									
MJA0	**Matsu Arr-Jizo**	**16.60**	**237**	*e*P			**Pn**	**17 01 28.6**	**-2.9**
MJAR	**Matsushiro Arr**	**16.63**	**238**	Pn			**Pn**	**17 01 28.6**	**-3.2**
comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=7.3									
MJAR	**Matsushiro Arr**	**16.63**	**238**	P			**Pn**	**17 01 28.6**	**-3.2**
USRK	**Ussuriysk Arra**	**16.77**	**269**	Pn			**Pn**	**17 01 32.0**	**-1.5**
comp=Z,0.2nm,0.3s,baz=78,slow=18,SNR=4.0									
BILL	**Bilibino**	**21.83**	**11**	*e*P			**P**	**17 02 31.1**	**+0.3**
BILL				pmax	pmax				
comp=Z,5.0nm,1.6s									
KSRS	**Korea Array**	**22.53**	**255**	P			**P**	**17 02 40.0**	**+1.6**
comp=Z,1.0nm,0.7s,baz=54,slow=9.3,SNR=4.2									
KSRS	**Korea Array**	**22.53**	**255**	P			**P**	**17 02 40.0**	**+1.6**
KSRS				pmax	pmax				
comp=Z,1.0nm,0.7s									
SONM	**Songino Array**	**32.91**	**290**	P			**P**	**17 04 12.4**	**-0.4**
comp=Z,0.2nm,0.7s,baz=56,slow=8.8,SNR=2.4									
SONM	**Songino Array**	**32.91**	**290**	P			**P**	**17 04 12.4**	**-0.4**
ILAR	**Eielson Array**	**35.30**	**39**	P			**P**	**17 04 33.6**	**+0.4**
comp=Z,0.4nm,0.6s,baz=239,slow=7.2,SNR=6.4									
ILAR	**Eielson Array**	**35.30**	**39**	P			**P**	**17 04 33.7**	**+0.4**
INK	**Inuvik**	**40.54**	**33**	P			**P**	**17 05 17.0**	**-0.4**
comp=Z,1.5nm,0.9s,baz=283,slow=9.8,SNR=4.7									
INK	**Inuvik**	**40.54**	**33**	P			**P**	**17 05 17.0**	**-0.4**
INK				pmax	pmax				
comp=Z,2.0nm,0.9s									
ZALV	**Zalesovo Beam**	**43.90**	**306**	P			**P**	**17 05 43.8**	**-1.1**
comp=Z,0.9nm,0.5s,baz=62,slow=6.9,SNR=6.3									
ZALV	**Zalesovo Beam**	**43.90**	**306**	P			**P**	**17 05 43.8**	**-1.1**
ZALV				pmax	pmax				
comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**48.39**	**298**	P			**P**	**17 06 19.4**	**-1.0**
comp=Z,0.6nm,0.7s,baz=71,slow=7.7,SNR=7.1									
MKAR				PcP			**PcP**	**17 07 46.2**	**-0.4**

	comp=Z,0.3nm,0.7s,baz=48,slow=2.1,SNR=2.9							
MKAR	**Makanchi Array**	**48.39**	**298**	P	**P**	**17 06 19.4**	**-1.0**
MKAR						17 07 46.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**48.70**	**304**	P	**P**	**17 06 22.9**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=66,slow=8.4,SNR=11						
KURK	**Kurchatov**	**48.70**	**304**	*eP*	**P**	**17 06 22.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
YKA	**Yellowknife Ar**	**49.71**	**37**	P	**P**	**17 06 31.5**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=295,slow=7.4,SNR=5.3						
YKA	**Yellowknife Ar**	**49.71**	**37**	P	**P**	**17 06 31.5**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**17 06 47.9**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=60,slow=7.0,SNR=10						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**17 06 47.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.12**	**258**	P	**P**	**17 07 05.2**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=38,slow=7.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**54.12**	**258**	P	**P**	**17 07 05.2**	**+1.5**
ARU	**Arti**	**56.03**	**318**	P	**P**	**17 07 16.9**	**-0.1**
AKTO	**Aktyubinsk**	**59.88**	**313**	P	**P**	**17 07 45.0**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.2,SNR=3.8						
AKTO	**Aktyubinsk**	**59.88**	**313**	P	**P**	**17 07 45.0**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**63.21**	**55**	P	**P**	**17 08 06.5**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=273,slow=3.2,SNR=2.8						
FINES	**FINESS Array B**	**64.58**	**336**	P	**P**	**17 08 16.1**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=45,slow=8.6,SNR=7.0						
FINES	**FINESS Array B**	**64.58**	**336**	P	**P**	**17 08 16.1**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**69.31**	**201**	P	**P**	**17 08 45.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=21,slow=6.5,SNR=3.8						
WRA	**Warramunga Arr**	**69.31**	**201**	P	**P**	**17 08 45.6**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.99**	**201**	P	**P**	**17 09 08.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=15,slow=6.5,SNR=7.3						
ASAR	**Alice Springs**	**72.99**	**201**	P	**P**	**17 09 08.7**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**79.42**	**318**	P	**P**	**17 09 46.4**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=8.9,slow=10,SNR=3.2						
BRTR	**Keskin Array B**	**79.42**	**318**	P	**P**	**17 09 46.4**	**+1.5**

IDC 16 16:59:12.5±4.8, 2°.49S×139°.47E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/14, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=191.1km s-min=29.0km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.06**	**196**	P	Pn	17 03 24.8	-0.2
	0.2nm,0.3s,baz=19,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**21.73**	**194**	P	P	17 04 06.0	+0.4
	0.3nm,0.6s,baz=20,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**70.08**	**322**	P	P	17 10 26.5	-0.1
	0.1nm,0.4s,baz=112,slow=6.3,SNR=2.8						

IDC 16 17:03:56.9±8.5, 22°.51S×66°.25W, h294km±62km, mb3.4/1, mb1 3.5/3, mb1mx3.1/14, mbtmp3.4/3, Error ellipse: s-maj=105.7km s-min=34.8km az=21.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.44**	**344**	P	Pn	17 05 31.6	-0.7
	1.5nm,0.3s,baz=175,slow=7.2,SNR=23						
LPAZ				S	S	17 06 49.6	+0.5
	baz=229,slow=9.3,SNR=1.1						
BDFB	**Brasilia**	**18.53**	**72**	P	P	17 07 53.4	+0.6
	0.6nm,0.3s,baz=250,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**75.39**	**69**	P	P	17 15 08.5	-0.5
	0.8nm,0.6s,baz=256,slow=6.4,SNR=9.9						
MKAR	**Makanchi Array**	**144.94**	**39**	PKP	PKPab	17 22 59.7	+0.4
	0.5nm,0.5s,baz=301,slow=3.4,SNR=9.0						

*IDC **16** 17:23:08.7±1.6, 22°.06S×170°.21E, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.2/16, mbtmp4.0/10, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/22, Error ellipse: s-maj=50.8km s-min=21.0km az=153.0*

*NOU **16** 17:23:09.8±0.7, 20°.48S×170°.02E, h10km, ML3.3*

*NEIC **16** 17:23:12.2±0.8, 22°.21S×170°.48E, h35km, mb4.5/6, Error ellipse: s-maj=26.1km s-min=11.9km az=157.0*

ISC 16 17:23:08.9±4.6, 22°.2S±0°.2×170°.32E±0°.07, h8km±28km, n47, σ1°.56/54, mb4.1/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.18**	**270**	*e*S	**Sn**	**17 24 35.7**	**-1.7**
PLUM	**Mont Dore**	**3.41**	**268**	*e*P	**Pn**	**17 24 02.6**	**+0.3**
PLUM				*e*S	**Sn**	**17 24 42.1**	**-0.9**
NORM	**Noumea**	**3.55**	**269**	*e*P	**Pn**	**17 24 03.8**	**-0.5**
NORM				*e*S	**Sn**	**17 24 43.8**	**-2.7**
DZM	**Mont Dzumac**	**3.59**	**271**	Pn	**Pn**	**17 24 06.0**	**+1.0**
	7.2nm,0.3s,baz=114,slow=13,SNR=280						
DZM				LR	LR	17 24 35.3	
	comp=Z,460nm,19.4s,baz=276,slow=25						
DZM				Sn	**Sn**	**17 24 46.7**	**-1.0**
	9.2nm,0.3s,baz=89,slow=16,SNR=12						
DZM	**Mont Dzumac**	**3.59**	**271**	*e*P	**Pn**	**17 24 04.3**	**-0.7**
DZM				*e*S	**Sn**	**17 24 44.0**	**-3.7**
DZM				AMP		17 25 06.3	
	comp=Z,789nm,0.0s						
DZM	**Mont Dzumac**	**3.59**	**271**	*e*Pn	**Pn**	**17 24 04.7**	**-0.2**
DZM				*e*Sn	**Sn**	**17 24 45.0**	**-2.6**
DZM				Sn	**Sn**	**17 24 46.7**	**-1.0**
NOUC	**Port Laguerre**	**3.72**	**271**	*e*P	**Pn**	**17 24 06.4**	**-0.3**
NOUC				*e*S	**Sn**	**17 24 48.7**	**-2.0**
NOUC				AMP		17 25 06.5	
	comp=Z,36nm,1.7s						
MSVF	**Nonsavu**	**8.51**	**60**	Pn	**Pn**	**17 25 10.3**	**-2.4**
	comp=Z,87nm,1.3s						
MSVF				*e*Sn	Sn	17 27 02.9	+14
EIDS	**Eidsvold**	**17.89**	**256**	Pn	**P**	**17 27 20.9**	**+2.1**
CTA	**Charters Tower**	**22.54**	**271**	P	**P**	**17 28 11.9**	**+2.5**
	comp=Z,2.2nm,0.7s,baz=112,slow=13,SNR=3.6						
CTA	**Charters Tower**	**22.54**	**271**	P	**P**	**17 28 11.9**	**+2.5**
CTAO	**Charters Tower**	**22.54**	**271**	P	**P**	**17 28 12.3**	**+2.8**
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**27.27**	**243**	P	**P**	**17 28 54.9**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=58,slow=6.0,SNR=6.1						
STKA	**Stephens Creek**	**27.27**	**243**	P	**P**	**17 28 54.2**	**+0.4**
	comp=Z,2.3nm,1.2s						
ASAR	**Alice Springs**	**33.51**	**260**	P	**P**	**17 29 49.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=79,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**33.51**	**260**	P	**P**	**17 29 49.0**	**-0.2**
WRA	**Warramunga Arr**	**33.60**	**267**	P	**P**	**17 29 48.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=92,slow=8.5,SNR=9.0						
WRA	**Warramunga Arr**	**33.60**	**267**	P	**P**	**17 29 48.6**	**-1.3**
MJAR	**Matsushiro Arr**	**65.81**	**332**	P	**P**	**17 33 54.0**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=176,slow=6.9,SNR=9.5						
MJAR	**Matsushiro Arr**	**65.81**	**332**	P	**P**	**17 33 54.0**	**-0.7**
MAJO	**Matsushiro**	**65.81**	**332**	P	**P**	**17 33 55.0**	**+0.2**
	comp=Z,5.6nm,0.7s						
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**17 34 07.3**	**-0.5**
	comp=Z,18nm,1.6s						
QSPA				*e*PcP	**PcP**	**17 34 31.3**	**-3.0**
ASAJ	**Asahikawa**	**70.70**	**339**	LR	LR	18 02 04.1	
	comp=Z,102nm,18.1s,baz=256,slow=33						
KSRS	**Korea Array**	**71.49**	**326**	P	**P**	**17 34 31.1**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=141,slow=8.0,SNR=6.5						
KSAR	**Wonju Array Be**	**71.50**	**326**	P	**P**	**17 34 31.1**	**+0.9**
ENH	**Enshi**	**78.31**	**310**	P	**P**	**17 35 09.0**	**-0.8**
	comp=Z,5.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**80.63**	**294**	P	**P**	**17 35 24.5**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=136,slow=4.5,SNR=10						
CMAR	**Chiang Mai Arr**	**80.63**	**294**	P	**P**	**17 35 24.5**	**+1.8**
CHTO	**Chiang Mai**	**80.79**	**295**	P	**P**	**17 35 24.1**	**+0.6**
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**90.00**	**48**	P	**P**	**17 36 11.4**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=233,slow=8.9,SNR=3.2						
NVAR	**Mina Array Bea**	**90.00**	**48**	P	**P**	**17 36 11.4**	**+2.0**
SONM	**Songino Array**	**90.17**	**323**	P	**P**	**17 36 10.7**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=125,slow=5.3,SNR=5.9						
SONM	**Songino Array**	**90.17**	**323**	P	**P**	**17 36 10.7**	**+0.9**
ILAR	**Eielson Array**	**92.73**	**17**	P	**P**	**17 36 19.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=236,slow=5.0,SNR=8.1						
ILAR	**Eielson Array**	**92.73**	**17**	P	**P**	**17 36 19.8**	**-1.3**
KRLC	**Kraliky**	**145.26**	**330**	*e*PKP	**PKPab**	**17 42 47.0**	**+0.1**
DPC	**Dobruska-Polom**	**145.28**	**330**	*e*PKP	**PKPdf**	**17 42 47.2**	**0.0**
VYHS	**Vyhne**	**145.29**	**326**	*e*PKP	**PKPbc**	**17 42 46.6**	**-0.3**
UPC	**Upice**	**145.31**	**331**	*e*PKP	**PKPbc**	**17 42 46.8**	**-0.1**
KOLL	**Kolacno**	**145.46**	**327**	*e*PKP	**PKPdf**	**17 42 48.5**	**+1.0**
PVCC	**Panska Ves**	**145.93**	**332**	*e*PKP	**PKPab**	**17 42 49.3**	**0.0**
BRG	**Berggiesshubel**	**145.94**	**333**	*e*P	**PKPab**	**17 42 49.6**	**+0.2**
	comp=Z,4.2nm,0.6s						
BRG				*i*		17 44 33.4	
	comp=Z,9.1nm,0.9s						
CLL	**Collm**	**146.00**	**334**	*i* PKiKP	**PKiKP**	**17 42 52.0**	**-0.4**
	comp=Z,10.0nm,1.0s						
CLL				*ep*PKPbc	PKPab	17 43 00.0	+10
PRU	**Pruhonice**	**146.34**	**331**	*e*PKP	**PKPab**	**17 42 54.6**	**+3.7**
KHC	**Kasperske Hory**	**147.39**	**331**	*e*PKP	**PKPbc**	**17 42 53.8**	**+0.6**
GERES	**GERESS Array B**	**147.55**	**331**	PKPbc	**PKPbc**	**17 42 53.5**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=35,slow=3.1,SNR=14						
GERES	**GERESS Array B**	**147.55**	**331**	PKPbc	**PKPbc**	**17 42 53.5**	**-0.2**

*IDC **16** 17:24:51.6±1.1, 22°.23S×170°.35E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/18, mbtmp4.2/12, ML3.9/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/22, Error ellipse: s-maj=31.0km s-min=21.3km az=144.0*

*ISCJB **16** 17:24:54.9±0.4, 22°.24S±0°.08×170°.32E±0°.06, h33km, mb4.4/23, MS3.8/4, Error ellipse: s-maj=11.8km s-min=7.9km az=178.5*

*NEIC **16** 17:24:57.0±0.5, 22°.27S×170°.28E, h35km, mb4.5/11, Error ellipse: s-maj=14.6km s-min=11.2km az=172.0*

ISC 16 17:24:56.6±0.5, 22°.3S±0°.1×170°.31E±0°.07, h33km, n56, σ1°.13/55, mb4.3/23, MS3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.59**	**273**	Pn	**Pn**	**17 25 49.6**	**-0.6**
	9.5nm,0.3s,baz=96,slow=19,SNR=4.0						
DZM				Sn	**Sn**	**17 26 31.3**	**-0.2**
	12nm,0.3s,baz=128,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**3.59**	**273**	Pn	**Pn**	**17 25 49.6**	**-0.6**
DZM				Sn	**Sn**	**17 26 31.3**	**-0.2**
AFI	**Afiamalu**	**18.94**	**67**	LR	LR	17 35 00.7	
	comp=Z,177nm,21.8s,baz=81,slow=32						
AFI	**Afiamalu**	**18.94**	**67**	P	**Pn**	**17 29 15.5**	**-0.5**
	37nm,1.0s						
RPZ	**Rata Peaks**	**21.38**	**179**	P	**P**	**17 29 40.8**	**-0.5**
	20nm,1.0s,baz=45,slow=1.4,SNR=3.7						
RPZ				LR	LR	17 36 12.0	
	comp=Z,426nm,19.4s,baz=125,slow=32						
RPZ	**Rata Peaks**	**21.38**	**179**	P	**P**	**17 29 40.8**	**-0.5**
CTA	**Charters Tower**	**22.53**	**271**	P	**P**	**17 29 55.3**	**+1.4**
	5.2nm,0.8s,baz=96,slow=14,SNR=6.7						
CTA				LR	LR	17 37 15.7	
	comp=Z,202nm,20.0s,baz=97,slow=33						
CTA	**Charters Tower**	**22.53**	**271**	P	**P**	**17 29 55.3**	**+1.4**
CTAO	**Charters Tower**	**22.53**	**271**	*e*P	**P**	**17 29 55.0**	**+1.0**
	8.8nm,0.9s						
YNG	**Young**	**22.65**	**233**	*e*P	**P**	**17 29 55.2**	**+0.1**
	8.7nm,1.0s						
CMSA	**Cobar Meteorol**	**23.76**	**242**	*e*P	**P**	**17 30 06.5**	**+0.3**
	95nm,0.8s						
QLP	**Quilpie**	**24.11**	**255**	*e*P	**P**	**17 30 09.7**	**+0.3**
PMG	**Port Moresby**	**25.64**	**296**	P	**P**	**17 30 25.9**	**+2.4**
	9.3nm,0.9s						
COEN	**Coen**	**27.05**	**283**	*e*P	**P**	**17 30 37.7**	**+1.4**
	20nm,0.8s						
STKA	**Stephens Creek**	**27.22**	**243**	P	**P**	**17 30 37.9**	**+0.3**
	7.8nm,0.9s,baz=74,slow=12,SNR=11						
STKA				LR	LR	17 40 55.7	
	comp=Z,272nm,19.2s,baz=43,slow=35						
STKA	**Stephens Creek**	**27.22**	**243**	*e*P	**P**	**17 30 37.5**	**-0.1**
	5.3nm,0.8s						
STKA	**Stephens Creek**	**27.22**	**243**	*e*P	**P**	**17 30 37.5**	**-0.1**
	1.6nm,0.7s						
ASAR	**Alice Springs**	**33.49**	**260**	P	**P**	**17 31 32.6**	**-0.6**
	2.5nm,0.7s,baz=81,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**33.49**	**260**	P	**P**	**17 31 32.6**	**-0.6**
WRAB	**Tennant Creek**	**33.58**	**267**	*e*P	**P**	**17 31 32.2**	**-1.8**
	4.1nm,1.0s						
WRA	**Warramunga Arr**	**33.59**	**267**	P	**P**	**17 31 32.6**	**-1.4**
	1.8nm,0.8s,baz=99,slow=8.4,SNR=9.2						
WRA	**Warramunga Arr**	**33.59**	**267**	P	**P**	**17 31 32.6**	**-1.4**
MBWA	**Marble Bar**	**46.82**	**261**	*e*P	**P**	**17 33 22.9**	**-0.7**
	16nm,1.0s						
VNDA	**Vanda**	**55.43**	**182**	P	P	17 34 31.4	+4.0
	2.4nm,1.1s						
CBIJ	**Chichi jima**	**56.13**	**330**	LR	LR	17 57 22.5	
	comp=Z,101nm,18.2s,baz=75,slow=35						
MJAR	**Matsushiro Arr**	**65.91**	**332**	P	**P**	**17 35 38.5**	**-0.9**
	2.2nm,0.7s,baz=171,slow=7.1,SNR=5.9						
MJAR	**Matsushiro Arr**	**65.91**	**332**	P	**P**	**17 35 38.5**	**-0.9**
QSPA	**South Pole Qui**	**67.78**	**180**	*e*P	**P**	**17 35 49.9**	**-1.2**
	9.0nm,1.2s						
KSRS	**Korea Array**	**71.58**	**326**	P	**P**	**17 36 13.7**	**-0.9**
	1.2nm,0.8s,baz=139,slow=6.7,SNR=4.3						
KSAR	**Wonju Array Be**	**71.59**	**326**	P	**P**	**17 36 13.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**73.28**	**341**	P	**P**	**17 36 23.2**	**-1.2**
ENH	**Enshi**	**78.38**	**310**	P	**P**	**17 36 53.5**	**-0.6**
	19nm,1.3s						
CMAR	**Chiang Mai Arr**	**80.67**	**294**	P	**P**	**17 37 08.8**	**+2.0**
	1.3nm,0.7s,baz=135,slow=4.3,SNR=10						
CMAR	**Chiang Mai Arr**	**80.67**	**294**	P	**P**	**17 37 08.8**	**+2.0**
CHTO	**Chiang Mai**	**80.83**	**295**	*e*P	**P**	**17 37 08.7**	**+1.1**
	3.3nm,0.8s						
PMSA	**Palmer Station**	**83.71**	**159**	P	**P**	**17 37 23.7**	**+1.8**
	107nm,1.5s						
SNAA	**Sanae**	**86.17**	**182**	*e*	P	17 37 30.9	-3.4
SNAA	**Sanae**	**86.17**	**182**	P	**P**	**17 37 35.4**	**+1.1**
	5.7nm,1.1s						
VNA3	**Neumayer Olymp**	**86.72**	**180**	*e*	**P**	**17 37 35.7**	**-1.2**
VNA3				*e*		17 37 41.7	
VNA2	**Neumayer--Watz**	**87.02**	**181**	*e*	**P**	**17 37 37.6**	**-0.8**
	baz=177,slow=2.9						
VNA2				*e*		17 37 43.0	
NVAR	**Mina Array Bea**	**90.07**	**48**	P	**P**	**17 37 55.0**	**+1.4**
	0.4nm,0.7s,baz=222,slow=10,SNR=4.3						
NVAR	**Mina Array Bea**	**90.07**	**48**	P	**P**	**17 37 55.0**	**+1.4**
SONM	**Songino Array**	**90.25**	**323**	P	**P**	**17 37 54.4**	**+0.4**
	0.9nm,0.7s,baz=144,slow=4.8,SNR=5.1						
SONM	**Songino Array**	**90.25**	**323**	P	**P**	**17 37 54.4**	**+0.4**
ILAR	**Eielson Array**	**92.84**	**17**	P	**P**	**17 38 03.5**	**-1.9**
	0.7nm,0.6s,baz=235,slow=5.0,SNR=9.8						
ILAR	**Eielson Array**	**92.84**	**17**	P	**P**	**17 38 03.5**	**-1.9**
KRLC	**Kraliky**	**145.35**	**330**	*e*PKP	**PKPab**	**17 44 33.7**	**+2.6**
DPC	**Dobruska-Polom**	**145.37**	**330**	*e*PKP	**PKPab**	**17 44 31.3**	**+0.2**
VYHS	**Vyhne**	**145.38**	**326**	*e*PKP	**PKPab**	**17 44 31.0**	**-0.2**
UPC	**Upice**	**145.40**	**331**	*e*PKP	**PKPab**	**17 44 30.8**	**-0.4**
KOLL	**Kolacno**	**145.55**	**326**	*e*PKP	**PKPab**	**17 44 32.2**	**+0.4**
PVCC	**Panska Ves**	**146.02**	**332**	*e*PKP	**PKPab**	**17 44 33.8**	**+0.3**
CLL	**Collm**	**146.09**	**334**	*e*PKPbc	**PKPab**	**17 44 35.0**	**+1.3**
CLL				*i* PKiKP	**PKiKP**	**17 44 37.2**	**+0.8**
CLL				*ep*PKPbc	pPKPbc	17 44 44.0	+0.2
KHC	**Kasperske Hory**	**147.49**	**331**	*e*PKP	**PKPbc**	**17 44 37.6**	**+0.4**
GERES	**GERESS Array B**	**147.64**	**331**	PKPbc	**PKPbc**	**17 44 37.8**	**0.0**
	1.8nm,0.6s,baz=40,slow=3.0,SNR=11						
GERES	**GERESS Array B**	**147.64**	**331**	PKPbc	**PKPbc**	**17 44 37.8**	**0.0**

*ISK **16** 17:27:18.9, 40°.04N×29°.10E, h5km, ML1.7*

*ISCJB **16** 17:27:19.1±0.8, 40°.05N±0°.05×29°.11E±0°.04, h1km±11km, Error ellipse: s-maj=7.8km s-min=5.3km az=174.0*

*DDA **16** 17:27:19.4, 40°.09N×29°.05E, h7km, MD2.8*

*CSEM **16** 17:27:19.3±0.1, 40°.04N×29°.09E, h10km, ML1.7, Error ellipse: s-maj=2.1km s-min=2.0km az=63.0*

ISC 16 17:27:19.4±1.2, 40°.03N±0°.03×29°.09E±0°.03, h4km±12km, n28, σ0°.43/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEMT	**Gemlik**	**0.41**	**11**	*e*PG	**Pg**	**17 27 27.1**	**-0.2**
GEMT	**Gemlik**	**0.41**	**11**	*e*Pg	**Pg**	**17 27 27.1**	**-0.2**
ARMT	**Armutlu**	**0.56**	**342**	*e*PG	**Pg**	**17 27 30.1**	**0.0**
ARMT				*e*SG	**Sg**	**17 27 38.2**	**+0.8**
ARMT	**Armutlu**	**0.56**	**342**	*e*Pg	**Pg**	**17 27 30.2**	**0.0**
ARMT				*e*Sg	**Sg**	**17 27 38.2**	**+0.8**
CAVI	**Cavuskoy**	**0.60**	**74**	*e*PG	**Pg**	**17 27 31.1**	**+0.1**
CAVI				*e*SG	**Sg**	**17 27 39.0**	**+0.2**
CAVI	**Cavuskoy**	**0.60**	**74**	*e*Pg	**Pg**	**17 27 31.1**	**+0.1**
CAVI				*e*Sg	**Sg**	**17 27 39.0**	**+0.2**
KCTX	**Karacabey (Bur**	**0.61**	**293**	*e*PG	**Pg**	**17 27 31.0**	**-0.1**
KCTX				*e*SG	**Sb**	**17 27 40.7**	**-0.9**
KCTX	**Karacabey (Bur**	**0.61**	**293**	*e*Pg	**Pg**	**17 27 31.0**	**-0.1**
KCTX				*e*Sg	**Sb**	**17 27 40.7**	**-0.9**
DURS	**Dursunbey**	**0.64**	**228**	*i* P	**Pg**	**17 27 31.6**	**-0.1**
DURS	**Dursunbey**	**0.64**	**228**	*i* P	**Pg**	**17 27 31.6**	**-0.1**
HRT	**Hereke**	**0.90**	**29**	*e*PG	**Pg**	**17 27 36.7**	**-0.1**
HRT	**Hereke**	**0.90**	**29**	*e*Pg	**Pg**	**17 27 36.7**	**-0.1**
EDC	**Edincik**	**0.99**	**289**	*e*PG	**Pg**	**17 27 38.3**	**-0.1**
EDC	**Edincik**	**0.99**	**289**	*e*Pg	**Pg**	**17 27 38.3**	**-0.1**
GDZ	**Gediz**	**0.99**	**162**	*i* P	**Pg**	**17 27 38.7**	**+0.3**
GDZ				*i* S	**Sn**	**17 27 55.5**	**+0.6**
GDZ	**Gediz**	**0.99**	**162**	*i* P	**Pg**	**17 27 38.7**	**+0.3**
GDZ				*i* S	**Sn**	**17 27 55.5**	**+0.6**
ISK	**Istanbul-Kandi**	**1.03**	**359**	*e*PG	**Pg**	**17 27 38.9**	**-0.3**
ISK	**Istanbul-Kandi**	**1.03**	**359**	*e*Pg	**Pg**	**17 27 38.9**	**-0.3**
DEMI	**Demirci**	**1.03**	**196**	*i* P	**Pg**	**17 27 39.1**	**-0.1**
DEMI				*i* S	**Sn**	**17 27 56.4**	**+0.6**
DEMI	**Demirci**	**1.03**	**196**	*i* P	**Pg**	**17 27 39.1**	**-0.1**
DEMI				*i* S	**Sn**	**17 27 56.4**	**+0.6**
GONE	**Gonen-Balikesi**	**1.08**	**271**	*e*PN	**Pb**	**17 27 40.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.08**	**271**	*e*Pn	**Pb**	**17 27 40.6**	**0.0**
GULT	**Gulveren**	**1.16**	**70**	*e*PN	**Pg**	**17 27 41.6**	**-0.1**
GULT	**Gulveren**	**1.16**	**70**	*e*Pn	**Pg**	**17 27 41.6**	**-0.1**
ALT	**Altintas**	**1.26**	**141**	*e*PN	**Pg**	**17 27 42.8**	**-0.8**
ALT	**Altintas**	**1.26**	**141**	*e*Pn	**Pg**	**17 27 42.8**	**-0.8**
ESKT	**Eskisehir**	**1.45**	**110**	*e*PN	**Pn**	**17 27 46.5**	**-0.2**
ESKT	**Eskisehir**	**1.45**	**110**	*e*Pn	**Pn**	**17 27 46.5**	**-0.2**

IDC 16 17:35:13.3±1.5, 60°.64S×28°.17W, h0km, mb4.0/3, mb1 4.1/3, mb1mx4.0/10, mbtmp4.0/3, MS3.8/2, Ms1 3.8/2, ms1mx3.4/13, Error ellipse: s-maj=73.6km s-min=30.4km az=17.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**32.62**	**288**	P	P	17 41 45.7	-0.9
	2.8nm,0.8s,baz=167,slow=14,SNR=3.4						
SUR	**Sutherland**	**42.49**	**71**	LR	LR	17 58 09.6	
	comp=Z,77nm,19.0s,baz=30,slow=32						
LPAZ	**La Paz**	**52.75**	**309**	P	P	17 44 30.8	+0.2
	0.9nm,0.5s,baz=108,slow=3.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.31**	**30**	P	P	17 47 09.4	0.0
	0.9nm,0.5s,baz=205,slow=6.7,SNR=5.7						
CMIG	**Matias Romero**	**93.89**	**298**	LR	LR	18 28 48.1	
	comp=Z,65nm,18.2s,baz=188,slow=34						
ZALV	**Zalesovo Beam**	**144.65**	**70**	PKP	PKPbc	17 54 49.7	+0.4
	0.7nm,0.5s,baz=221,slow=2.1,SNR=3.6						
SONM	**Songino Array**	**151.16**	**96**	PKPbc	PKPbc	17 55 09.2	+1.8
	0.5nm,0.4s,baz=220,slow=1.8,SNR=8.0						
SONM				PKPab	PKPab	17 55 13.0	-2.4
	0.5nm,0.4s,baz=214,slow=3.5,SNR=14						

*NIED **16** 17:39:00.36°.30N×141°.10E, h32km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1: φs 68.00000°, δ 59.00000°, λ -84.00000°. NP2: φs 236.00000°, δ 31.00000°, λ -100.00000°.*

*ISCJB **16** 17:39:28.7±0.6, 36°.28N±0°.03×141°.12E±0°.06, h44km±5km, mb3.7/14, Error ellipse: s-maj=8.0km s-min=5.7km az=7.6*

*JMA **16** 17:39:29.3±0.1, 36°.29N×141°.03E, h48km±1km, M3.5*

JMA Felt I J1.

*IDC **16** 17:39:30.7±2.3, 36°.24N×141°.07E, h47km±20km, mb3.5/14, mb1 3.7/16, mb1mx3.6/28, mbtmp3.5

CTA	**Charters Tower**	**22.57 271**	P	**P**	**17 46 13.7**	**+1.4**
	comp=Z,3.4nm,0.8s,baz=108,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**27.19 244**	P	**P**	**17 46 55.3**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=93,slow=8.8,SNR=10.0						
ASAR	**Alice Springs**	**33.50 261**	P	**P**	**17 47 50.8**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=80,slow=9.4,SNR=23						
WRA	**Warramunga Arr**	**33.61 267**	P	**P**	**17 47 51.3**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=93,slow=8.6,SNR=12						
WRA			LR	LR	18 02 03.0		
	comp=Z,135nm,18.8s,baz=95,slow=37						
MJAR	**Matsushiro Arr**	**66.03 332**	P	**P**	**17 51 57.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=148,slow=4.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**80.75 294**	P	**P**	**17 53 27.2**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=134,slow=4.8,SNR=8.7						
SONM	**Songino Array**	**90.37 323**	P	**P**	**17 54 13.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=140,slow=4.9,SNR=3.3						
ILAR	**Eielson Array**	**92.96 17**	P	**P**	**17 54 23.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=213,slow=6.5,SNR=4.2						
GERES	**GERESS Array B**	**147.77 331**	PKPbc	**PKPbc**	**18 00 55.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=46,slow=3.9,SNR=5.8						

KRSC 16 17:41:55.9±0.6, 54.41N×162.11E, h30km±15km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.27**	**304**	*i* P		Pn	17 42 03.8	+0.1
MKZ				*e*S		Sb	17 42 09.2	+1.6
TUMR	**Tumrok**	**1.43**	**308**	*e*P		Pn	17 42 20.3	+0.3
TUMR				S		Sn	17 42 38.2	+0.3
KMNR	**Kamenistaya**	**1.73**	**322**	*i* P		Pn	17 42 25.0	+1.0
KMNR				*e*S		Sn	17 42 46.4	+1.3
BZGR	**Bezymyannyi-Gr**	**1.73**	**333**	P		Pn	17 42 25.0	+0.9
BZGR				S		Sn	17 42 46.0	+0.7
ZLN	**Zelenaya**	**1.78**	**336**	P		Pn	17 42 26.0	+1.3
SPN	**Mys Shipunski**	**1.81**	**224**	*e*P		Pn	17 42 24.5	-0.4
SPN				*e*S		Sn	17 42 44.9	-1.9
KBTR	**Krutoberegovo**	**1.85**	**12**	*i* P		Pn	17 42 25.2	-0.3
KBTR				*e*S		Sn	17 42 46.2	-1.6
KPT	**Kopyto**	**1.90**	**326**	S		Sn	17 42 50.4	+1.1
KRSR	**Krestovskiy**	**2.02**	**335**	S		Sn	17 42 52.6	+0.4
NLC	**Nalytchevo**	**2.06**	**234**	P		Pn	17 42 28.9	+0.5
KLY	**Klyuchi**	**2.08**	**337**	*e*P		Pn	17 42 29.1	+0.4
KLY				*e*S		Sn	17 42 53.6	0.0
KOZ	**Kozyrevsk**	**2.09**	**323**	*e*P		Pn	17 42 30.8	+1.9
KOZ				*e*S		Sn	17 42 55.7	+1.8
SMKR	**Semkarok**	**2.21**	**351**	*e*P		Pn	17 42 31.8	+1.2
SMKR				*e*S		Sn	17 42 58.0	+1.1
SDLR	**Sedlovina**	**2.22**	**241**	*i* P		Pn	17 42 32.1	+1.3
SDLR				S		Sn	17 42 58.2	+0.8
BDR	**Baidarnaya**	**2.22**	**347**	*e*P		Pn	17 42 32.4	+1.6
BDR				*e*S		Sn	17 42 58.5	+1.2
SMAR	**Somma**	**2.27**	**241**	*e*P		Pn	17 42 32.9	+1.2
UGLR	**Uglovaya**	**2.29**	**240**	*e*P		Pn	17 42 33.2	+1.4
AVH	**Avacha**	**2.30**	**242**	*i* P		Pn	17 42 33.7	+1.8
AVH				S		Sn	17 43 00.6	+1.3
SRKR	**Sorokina**	**2.31**	**347**	P		Pn	17 42 32.7	+0.7
KOK	**Koryaka**	**2.34**	**243**	*i* P		Pn	17 42 34.0	+1.5
SRDR	**Sredinnyy**	**2.35**	**325**	*e*P		Pn	17 42 33.3	+0.8
SRDR				*e*S		Sn	17 43 01.3	+0.9
PET	**Petropavlovsk**	**2.48**	**237**	*i* P		Pn	17 42 35.6	+1.4
PET				S		Sn	17 43 04.9	+1.5

IDC 16 17:42:36.6±3.1, 22.39S×170.17E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/23, Error ellipse: s-maj=73.6km s-min=49.7km az=174.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.46**	**275**	Pn		Pn	17 43 33.3	+1.5
	4.4nm,0.3s,baz=142,slow=19,SNR=10						
DZM				LR		LR	17 44 05.9	
	comp=Z,259nm,18.1s,baz=193,slow=26						
DZM				Sn		Sn	17 44 14.4	+0.7
	0.8nm,0.3s,baz=61,slow=19,SNR=4.6						
CTA	**Charters Tower**	**22.40**	**271**	P		P	17 47 38.0	+1.1
	3.2nm,0.7s,baz=93,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**27.06**	**243**	P		P	17 48 21.6	+0.7
	3.5nm,0.9s,baz=92,slow=14,SNR=5.4						
ASAR	**Alice Springs**	**33.34**	**261**	P		P	17 49 15.1	-1.5
	1.5nm,0.7s,baz=78,slow=9.0,SNR=7.1						
WRA	**Warramunga Arr**	**33.45**	**267**	P		P	17 49 16.3	-1.3
	0.9nm,0.5s,baz=100,slow=8.2,SNR=6.7						
CMAR	**Chiang Mai Arr**	**80.58**	**294**	P		P	17 54 52.2	+0.7
	0.9nm,0.7s,baz=149,slow=4.5,SNR=5.4						

*ISK **16** 18:01:54.1,36°.26N×40°.91E, h5km, MD3.4*
*DDA **16** 18:01:55.1,36°.38N×40°.98E, h8km, MD3.3*
*NSSC **16** 18:01:56.7±0.4, 36°.40N×40°.86E, h0km±2km, MD2.2, ML2.8*
*CSEM **16** 18:01:56.6±0.3, 36°.38N×40°.92E, h2km, ML2.8, Error ellipse: s-maj=6.3km s-min=4.3km az=137.0*

ISC 16 18:01:56.5±1.3, 36.38N±0.03×40.92E±0.03, h4km±10km, n56, σ0.983/74, 4C-1D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZRK	**Al-Mazaregh**	**0.59**	**202**	*e*P	**Pg**	**18 02 08.3**	**+0.4**
MZRK				*e*S	**Sb**	**18 02 17.7**	**-0.4**
MZRK				AML	AML	18 02 29.4	
	comp=Z,321nm,0.4s						
MZRK	**Al-Mazaregh**	**0.59**	**202**	⇓*e*P	**Pg**	**18 02 08.3**	**+0.4**
	SNR=75						
MZRK				*e*S	**Sb**	**18 02 17.7**	**-0.4**
	comp=Z,321nm,0.4s,SNR=59						
SFNV	**Sufian**	**0.65**	**274**	*i* P	**Pg**	**18 02 08.8**	**-0.2**
SFNV				*i* S	**Sg**	**18 02 18.7**	**+1.2**
SFNV				AML	AML	18 02 29.0	
	comp=Z,332nm,0.3s						
SFNV	**Sufian**	**0.65**	**274**	⇑*i* P	**Pg**	**18 02 08.9**	**-0.2**
	SNR=75						
SFNV				*i* S	**Sg**	**18 02 18.7**	**+1.2**
	comp=Z,332nm,0.3s,SNR=59						
KBSD	**Kabsdagh**	**0.69**	**334**	*e*P	**Pg**	**18 02 09.4**	**-0.4**
KBSD				*e*S	**Sg**	**18 02 19.2**	**+0.5**
KBSD				AML	AML	18 02 19.6	
	comp=Z,661nm,0.4s						
KBSD	**Kabsdagh**	**0.69**	**334**	⇑*i* P	**Pg**	**18 02 09.4**	**-0.4**
	SNR=75						
KBSD				*e*S	**Sg**	**18 02 19.2**	**+0.5**
	comp=Z,611nm,0.4s,SNR=59						
MARD	**Mardin**	**0.94**	**353**	*i* P	**Pg**	**18 02 13.6**	**-0.9**
MARD				*i* S	**Sg**	**18 02 23.9**	**+0.2**
MNKR	**ALMNKUR**	**1.41**	**252**	*e*P	**Pn**	**18 02 22.4**	**-0.4**
MNKR				*e*S	**Sn**	**18 02 42.1**	**+0.3**
MNKR				AML	AML	18 02 50.4	
	comp=Z,989nm,0.2s						
MNKR	**ALMNKUR**	**1.41**	**252**	⇑*e*P	**Pn**	**18 02 22.4**	**-0.4**
	SNR=57						
MNKR				*e*S	**Sn**	**18 02 42.1**	**+0.3**
	comp=Z,989nm,0.2s,SNR=49						
BEST	**Besiri**	**1.53**	**10**	*i* P	**Pn**	**18 02 24.2**	**-0.5**
BEST				*i* S	**Sn**	**18 02 45.8**	**+0.7**
SIRN	**S¯–rnak**	**1.63**	**47**	*i* P	**Pn**	**18 02 25.3**	**-0.7**
SIRN				*i* S	**Sn**	**18 02 47.9**	**+0.3**
SIRN	**S¯–rnak**	**1.63**	**47**	*i* P	**Pn**	**18 02 25.3**	**-0.7**
SIRN				*i* S	**Sn**	**18 02 47.9**	**+0.3**
KSRV	**Kasrt alli**	**1.64**	**252**	⇑*e*P	**Pn**	**18 02 26.0**	**0.0**
	SNR=45						
DIYA	**Diyarbakir**	**1.67**	**338**	*i* P	**Pn**	**18 02 26.6**	**+0.1**
DIYA				*i* S	**Sb**	**18 02 49.4**	**+0.2**
DIYA	**Diyarbakir**	**1.67**	**338**	*i* P	**Pn**	**18 02 26.6**	**+0.1**
DIYA				*i* S	**Sb**	**18 02 49.4**	**+0.2**
URFA	**Urfa**	**1.99**	**303**	*e*PN	**Pn**	**18 02 30.1**	**-0.8**
URFA				*e*SN	**Sb**	**18 02 57.9**	**-0.5**
URFA	**Urfa**	**1.99**	**303**	*e*Pn	**Pn**	**18 02 30.1**	**-0.8**
URFA				*e*Sn	**Sb**	**18 02 57.9**	**-0.5**
JHLN	**Al Jahlan**	**2.13**	**251**	*e*P	**Pn**	**18 02 33.2**	**+0.3**
JHLN				*e*S	**Sb**	**18 03 01.6**	**-0.8**
JHLN				AML	AML	18 03 13.1	
	comp=Z,52nm,0.3s						
JHLN	**Al Jahlan**	**2.13**	**251**	*e*P	**Pn**	**18 02 33.1**	**+0.3**
	SNR=45						
JHLN				*e*S	**Sb**	**18 03 01.6**	**-0.8**
	comp=Z,52nm,0.3s,SNR=40						
CUKT	**Cukurca**	**2.32**	**67**	*e*PN	**Pn**	**18 02 35.8**	**+0.2**
CUKT	**Cukurca**	**2.32**	**67**	*e*Pn	**Pn**	**18 02 35.8**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.37**	**328**	*e*PN	**Pn**	**18 02 37.2**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.37**	**328**	*e*Pn	**Pn**	**18 02 37.2**	**+0.9**
BINT	**Bingol**	**2.52**	**352**	*e*Pn	**Pb**	**18 02 40.8**	**-1.5**
HKR	**Hakkari**	**2.56**	**61**	*e*PN	**Pn**	**18 02 38.6**	**-0.2**
HKR	**Hakkari**	**2.56**	**61**	*e*PN	**Pn**	**18 02 38.6**	**-0.2**
BNGB	**Bing¯||**	**2.61**	**356**	*e*PN	**Pn**	**18 02 40.8**	**+1.2**
MALT	**Malatya**	**2.77**	**315**	*e*PN	**Pn**	**18 02 41.6**	**-0.1**
MALT	**Malatya**	**2.77**	**315**	*e*Pn	**Pn**	**18 02 41.6**	**-0.1**
MYA	**Malataya**	**2.78**	**315**	*e*PN	**Pn**	**18 02 42.4**	**+0.6**
MYA	**Malataya**	**2.78**	**315**	*e*Pn	**Pn**	**18 02 42.4**	**+0.6**
PTK	**Pertek**	**2.79**	**335**	*e*PN	**Pn**	**18 02 42.7**	**+0.7**
PTK	**Pertek**	**2.79**	**335**	*e*Pn	**Pn**	**18 02 42.7**	**+0.7**
VRTB	**Varto-Mus**	**2.81**	**9**	*e*PN	**Pn**	**18 02 43.6**	**+1.3**
VRTB	**Varto-Mus**	**2.81**	**9**	*e*Pn	**Pn**	**18 02 43.6**	**+1.3**
AKCD	**Akcadag**	**3.06**	**310**	*i* P	**Pn**	**18 02 45.6**	**-0.1**
AKCD	**Akcadag**	**3.06**	**310**	*i* P	**Pn**	**18 02 45.6**	**-0.1**
GAZ	**Gaziantep**	**3.08**	**286**	*e*PN	**Pn**	**18 02 46.0**	**+0.1**
GAZ	**Gaziantep**	**3.08**	**286**	*e*Pn	**Pn**	**18 02 46.0**	**+0.1**
AGRB	**Hanur-Agry**	**3.59**	**27**	*e*PN	**Pn**	**18 02 54.8**	**+1.8**
AGRB	**Hanur-Agry**	**3.59**	**27**	*e*Pn	**Pn**	**18 02 54.8**	**+1.8**
EZC	**Erzincan**	**3.59**	**340**	*e*Pn	**Pn**	**18 02 51.2**	**-1.8**
ILIC	**ilic-Erzincan**	**3.59**	**329**	*e*PN	**Pn**	**18 02 54.3**	**+1.3**
ILIC	**ilic-Erzincan**	**3.59**	**329**	*e*Pn	**Pn**	**18 02 54.3**	**+1.3**
HTY	**Hatay**	**3.87**	**268**	*e*PN	**Pn**	**18 02 57.0**	**+0.3**
HTY	**Hatay**	**3.87**	**268**	*e*Pn	**Pn**	**18 02 57.0**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**4.05**	**352**	*e*PN	**Pn**	**18 03 01.3**	**+1.9**
BAYT	**Ayd¯–ntepe-Bay**	**4.05**	**352**	*e*Pn	**Pn**	**18 03 01.3**	**+1.9**
KOZT	**Kozan**	**4.23**	**287**	*e*PN	**Pn**	**18 03 02.2**	**+0.6**
KOZT	**Kozan**	**4.23**	**287**	*e*Pn	**Pn**	**18 03 02.2**	**+0.6**

IDC 16 18:18:33.7±1.9, 0.92N×125.82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=181.1km s-min=23.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.36**	**158**	P	P	18 23 32.8	-0.8
	0.3nm,0.4s,baz=337,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.68**	**163**	P	P	18 24 06.1	+0.5
	0.3nm,0.3s,baz=344,slow=9.6,SNR=20						
MKAR	**Makanchi Array**	**59.35**	**327**	P	P	18 28 37.7	-0.1
	0.3nm,0.4s,baz=124,slow=8.2,SNR=14						

IDC 16 18:26:50.7±1.7, 0.68S×133.37E, h0km, mb4.0/4, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/25, Error ellipse: s-maj=81.2km s-min=20.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P	P	18 31 12.8	-0.3
	0.1nm,0.3s,baz=5.2,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**19.17**	**177**	P	Pn	18 31 16.8	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.86**	**179**	P	P	18 31 56.2	+0.4
	0.6nm,0.3s,baz=358,slow=12,SNR=27						
STKA	**Stephens Creek**	**31.99**	**167**	P	P	18 33 17.9	-0.9
	1.2nm,0.8s,baz=355,slow=5.4,SNR=3.1						
DZM	**Mont Dzumac**	**38.59**	**126**	LR	LR	18 49 44.3	
	comp=Z,194nm,18.5s,baz=19,slow=36						
MKAR	**Makanchi Array**	**64.97**	**324**	P	P	18 37 32.6	+0.1
	0.4nm,0.4s,baz=111,slow=7.5,SNR=6.5						
KURK	**Kurchatov**	**69.04**	**326**	P	P	18 37 58.2	0.0
	0.9nm,0.2s,baz=117,slow=5.3,SNR=4.4						

*IDC **16** 18:29:27.5±0.9, 22.48S×170.46E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=25.0km s-min=18.4km az=150.0*
*NOU **16** 18:29:28.8±1.2, 20.12S×170.08E, h10km, MD3.3, ML2.9*
*ISCJB **16** 18:29:30.7±0.4, 22.45S±0.08×170.44E±0.04, h33km, mb4.5/27, MS3.8/6, Error ellipse: s-maj=11.2km s-min=5.4km az=178.8*
*NEIC **16** 18:29:33.3±0.4, 22.53S×170.31E, h35km, mb4.7/14, Error ellipse: s-maj=11.5km s-min=8.5km az=161.0*

ISC 16 18:29:32.3±0.5, 22.48S±0.1×170.47E±0.06, h33km, n86, σ0.99/92, mb4.6/27, MS3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.33**	**274**	*e*S	**Sn**	**18 31 00.2**	**-0.4**
MVNO	**Noumea**	**3.73**	**272**	*e*S	**Sn**	**18 31 10.3**	**-0.2**
DZM	**Mont Dzumac**	**3.75**	**275**	Pn	**Pn**	**18 30 28.0**	**+0.1**
	38nm,0.3s,baz=144,slow=13,SNR=298						
DZM				Sn	**Sn**	**18 31 12.0**	**+1.1**
	24nm,0.3s,baz=76,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**3.75**	**275**	*e*P	**Pn**	**18 30 26.1**	**-1.8**
DZM				*e*S	**Sn**	**18 31 09.3**	**-1.7**
DZM				AMP		18 31 16.5	
	comp=Z,1μm,5.1s						
DZM	**Mont Dzumac**	**3.75**	**275**	*e*Pn	**Pn**	**18 30 26.7**	**-1.2**
DZM				*e*Sn	**Sn**	**18 31 10.5**	**-0.5**
DZM				Sn	**Sn**	**18 31 12.0**	**+1.1**
NOUC	**Port Laguerre**	**3.88**	**274**	*e*P	**Pn**	**18 30 28.4**	**-1.1**
NOUC				*e*S	**Sn**	**18 31 12.1**	**-1.9**
NOUC				AMP		18 31 22.6	
	comp=Z,60nm,3.6s						
MSVF	**Nonsavu**	**8.51**	**58**	*e*Pn	Pn	18 31 39.6	+6.3
	comp=Z,114nm,1.1s						
HNR	**Honiara**	**16.39**	**320**	*e*Pn	**Pn**	**18 33 20.6**	**+0.6**
	comp=Z,237nm,1.2s						
EIDS	**Eidsvold**	**17.97**	**257**	*e*P	**P**	**18 33 42.2**	**+2.2**
	comp=Z,25nm,1.2s						
AFI	**Afiamalu**	**18.86**	**66**	LR	LR	18 39 10.9	
	comp=Z,262nm,19.6s,baz=244,slow=31						
AFI	**Afiamalu**	**18.86**	**66**	P	**P**	**18 33 48.4**	**-1.4**
	comp=Z,13nm,0.7s						
RPZ	**Rata Peaks**	**21.24**	**179**	P	**P**	**18 34 14.8**	**-0.7**
	comp=Z,14nm,1.1s,baz=5.7,slow=10,SNR=3.6						
RPZ				LR	LR	18 41 03.6	
	comp=Z,409nm,18.4s,baz=342,slow=33						
RPZ	**Rata Peaks**	**21.24**	**179**	P	**P**	**18 34 14.8**	**-0.7**
CTA	**Charters Tower**	**22.69**	**271**	P	**P**	**18 34 31.0**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=75,slow=12,SNR=3.9						
CTA				LR	LR	18 42 22.7	
	comp=Z,138nm,20.9s,baz=95,slow=34						
CTA	**Charters Tower**	**22.69**	**271**	P	**P**	**18 34 31.0**	**-0.2**
CTAO	**Charters Tower**	**22.69**	**271**	*e*P	**P**	**18 34 30.7**	**-0.5**
	comp=Z,7.6nm,0.9s						
CMSA	**Cobar Meteorol**	**23.84**	**242**	*e*P	**P**	**18 34 43.3**	**+0.8**
	comp=Z,90nm,1.4s						
QLP	**Quilpie**	**24.22**	**255**	*e*P	**P**	**18 34 46.6**	**+0.5**
PMG	**Port Moresby**	**25.84**	**296**	P	**P**	**18 35 00.8**	**0.0**
	comp=Z,5.1nm,0.9s,baz=99,slow=12,SNR=1.9						
PMG	**Port Moresby**	**25.84**	**296**	P	**P**	**18 35 00.8**	**0.0**
TOO	**Toolangi**	**26.27**	**229**	*e*P	**P**	**18 35 07.0**	**+2.3**
	comp=Z,94nm,1.2s						
COEN	**Coen**	**27.23**	**283**	*e*P	**P**	**18 35 14.6**	**+1.1**
	comp=Z,27nm,0.9s						
COEN	**Coen**	**27.23**	**283**	*e*P	**P**	**18 35 14.8**	**+1.3**
	comp=Z,52nm,1.0s						
STKA	**Stephens Creek**	**27.30**	**244**	P	**P**	**18 35 14.0**	**0.0**
	comp=Z,7.2nm,1.0s,baz=72,slow=6.7,SNR=7.8						
STKA				LR	LR	18 45 30.4	
	comp=Z,230nm,20.0s,baz=202,slow=35						
STKA	**Stephens Creek**	**27.30**	**244**	*e*P	**P**	**18 35 14.4**	**+0.4**
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**27.30**	**244**	P	**P**	**18 35 14.0**	**0.0**
AS31	**Alice Springs**	**33.62**	**261**	*e*P	**P**	**18 36 08.9**	**-1.0**
ASAR	**Alice Springs**	**33.62**	**261**	P	**P**	**18 36 08.9**	**-1.0**
	comp=Z,8.0nm,0.9s,baz=90,slow=8.6,SNR=24						
ASAR	**Alice Springs**	**33.62**	**261**	P	**P**	**18 36 08.9**	**-1.0**
WRAB	**Tennant Creek**	**33.73**	**267**	*e*P	**P**	**18 36 09.5**	**-1.3**
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**33.73**	**267**	P	**P**	**18 36 10.2**	**-0.8**
	comp=Z,4.0nm,1.0s,baz=96,slow=8.5,SNR=17						
WRA				LR	LR	18 49 21.2	
	comp=Z,160nm,21.7s,baz=115,slow=35						
WRA	**Warramunga Arr**	**33.73**	**267**	P	**P**	**18 36 10.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**42.16**	**267**	P	**P**	**18 37 21.1**	**-0.9**
	comp=Z,10nm,1.0s,baz=119,slow=6.3,SNR=7.9						
FITZ				LR	LR	18 53 37.3	
	comp=Z,152nm,18.6s,baz=104,slow=34						
FITZ	**Fitzroy Crossi**	**42.16**	**267**	*e*P	**P**	**18 37 21.8**	**-0.2**
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.16**	**267**	P	**P**	**18 37 21.1**	**-0.9**

MBWA	**Marble Bar**	**46.95**	**261**	*e*P	**P**	**18 38 00.1**	**-0.2**
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.86**	**245**	P	**P**	**18 38 07.8**	**+0.6**
	comp=Z,32nm,1.2s						
JOW	**Kunigami**	**63.75**	**318**	P	**P**	**18 40 01.9**	**+0.8**
	comp=Z,8.7nm,0.9s,baz=126,slow=14,SNR=3.3						
JOW				LR	LR	19 03 22.8	
	comp=Z,79nm,18.2s,baz=20,slow=32						
JOW	**Kunigami**	**63.75**	**318**	P	**P**	**18 40 01.9**	**+0.8**
MJAR	**Matsushiro Arr**	**66.09**	**332**	P	**P**	**18 40 16.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=166,slow=7.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**66.09**	**332**	P	**P**	**18 40 16.2**	**+0.1**
QSPA	**South Pole Qui**	**67.65**	**180**	*e*P	**P**	**18 40 25.6**	**-0.3**
	comp=Z,9.6nm,1.1s						
KSRS	**Korea Array**	**71.77**	**325**	P	**P**	**18 40 52.5**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=148,slow=6.3,SNR=8.4						
KSAR	**Wonju Array Be**	**71.78**	**325**	P	**P**	**18 40 52.5**	**+1.0**
PETK	**Petropavlovsk-**	**76.03**	**352**	P	**P**	**18 41 16.9**	**+1.0**
	comp=Z,5.7nm,0.9s,baz=150,slow=8.5,SNR=5.0						
PETK	**Petropavlovsk-**	**76.03**	**352**	P	**P**	**18 41 16.9**	**+1.0**
ENH	**Enshi**	**78.58**	**309**	*e*P	**P**	**18 41 29.7**	**-1.1**
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**80.86**	**294**	P	**P**	**18 41 45.0**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=138,slow=4.5,SNR=16						
CMAR	**Chiang Mai Arr**	**80.86**	**294**	P	**P**	**18 41 45.0**	**+1.6**
CHTO	**Chiang Mai**	**81.02**	**295**	*e*P	**P**	**18 41 44.9**	**+0.6**
	comp=Z,5.2nm,1.0s						
SNAA	**Sanae**	**86.05**	**182**	P	P	18 42 05.5	-3.8
ISA	**Isabella**	**88.59**	**50**	P	P	18 42 18.3	-3.8
NVAR	**Mina Array Bea**	**90.05**	**48**	P	**P**	**18 42 29.4**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=231,slow=7.7,SNR=4.3						
NVAR	**Mina Array Bea**	**90.05**	**48**	P	**P**	**18 42 29.4**	**+0.4**
ULN	**Ulaanbaatar**	**90.09**	**323**	*e*P	**P**	**18 42 29.7**	**+0.7**
	comp=Z,3.4nm,0.9s						
BILL	**Bilibino**	**90.24**	**358**	P	**P**	**18 42 26.8**	**-2.2**
	comp=Z,4.6nm,1.1s						
SONM	**Songino Array**	**90.44**	**323**	P	**P**	**18 42 31.3**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=136,slow=4.1,SNR=12						
SONM	**Songino Array**	**90.44**	**323**	P	**P**	**18 42 31.3**	**+0.8**
LSA	**Lhasa**	**92.17**	**301**	*e*P	**P**	**18 42 40.1**	**+0.7**
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**92.92**	**17**	P	**P**	**18 42 40.4**	**-1.1**
	comp=Z,1.3nm,1.1s,baz=224,slow=3.8,SNR=3.2						
ILAR	**Eielson Array**	**92.92**	**17**	P	**P**	**18 42 40.4**	**-1.1**
MKAR	**Makanchi Array**	**104.80**	**315**	PP	**PP**	**18 47 56.0**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=112,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**104.80**	**315**	PP	**PP**	**18 47 56.0**	**+0.2**
BRTR	**Keskin Array B**	**139.63**	**305**	PKP	**PKPdf**	**18 48 56.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=3.0						
BRTR	**Keskin Array B**	**139.63**	**305**	PKP	**PKPdf**	**18 48 56.4**	**-0.6**
STHS	**Stebnicka Huta**	**143.75**	**326**	*e*PKP	**PKPdf**	**18 49 02.7**	**-1.1**
KRLC	**Kraliky**	**145.53**	**330**	*e*PKP	**PKPab**	**18 49 08.2**	**+0.8**
DPC	**Dobruska-Polom**	**145.55**	**330**	*e*PKP	**PKPab**	**18 49 07.5**	**+0.1**
DPC				*ex*	x	18 49 11.1	
VYHS	**Vyhne**	**145.56**	**326**	*e*PKP	**PKPab**	**18 49 08.4**	**+0.9**
UPC	**Upice**	**145.58**	**331**	*e*PKP	**PKPab**	**18 49 08.9**	**+1.4**
VRAC	**Vranov**	**146.15**	**329**	PKPbc	**PKPab**	**18 49 10.5**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=13,slow=6.6,SNR=4.7						
VRAC	**Vranov**	**146.15**	**329**	PKPbc	**PKPab**	**18 49 10.5**	**+0.9**
PVCC	**Panska Ves**	**146.21**	**332**	*e*PKP	**PKPab**	**18 49 10.6**	**+0.8**
BRG	**Berggiesshubel**	**146.22**	**333**	*e*P	**PKPab**	**

s-min=16.1km az=148.0
NOU ***16*** *19:10:58.8±1.0,20.48S×170.09E,h10km,MD3.4,ML3.4*
ISCJB ***16*** *19:11:00.3±1.8,22.36S±0.05×170.31E±0.03,h33km±12km, mb4.9/55,MS4.4/18,Error ellipse: s-maj=8.2km s-min=5.1km az=11.1*
SZGRF ***16*** *19:11:01.2,22.59S×170.97E,h33km,mb5.4,Southeast of Loyalty Islands*
MOS ***16*** *19:11:01.8±1.9,22.23S×170.19E,h33km,mb4.9/14,Error ellipse: s-maj=11.4km s-min=9.5km az=33.7*
NEIC ***16*** *19:11:01.5±0.2,22.28S×170.44E,h35km,mb5.0/29,Error ellipse: s-maj=7.3km s-min=6.3km az=55.0*
BJI ***16*** *19:11:07.5,21.53S×170.33E,h68km,mB5.3/25,mb4.8/38, Ms5.2/16,Ms7 4.7/18*

ISC 16 19:11:04.6±0.4, 22.42S±0.06×170.29E±0.04, h62km±2km, h61km:pP-P,n317,σ1§36/343, mb4.8/55, 32C-17D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.16**	**274**	*e*P		**Pn**	**19 11 49.4**	**-2.6**
BAYA				*e*S		**Sn**	**19 12 25.5**	**-3.0**
BAYA				AMP			19 12 37.3	
	comp=Z,30nm,2.1s							
PLUM	**Mont Dore**	**3.38**	**272**	*e*P		Pn	19 11 51.8	-3.1
PLUM				*e*S		**Sn**	**19 12 32.9**	**-0.9**
LASL	**Noumea**	**3.47**	**272**	*e*S		**Sn**	**19 12 33.7**	**-2.5**
LASL				AMP			19 12 39.3	
	comp=Z,456nm,8.5s							
NORM	**Noumea**	**3.52**	**272**	*e*P		Pn	19 11 53.9	-3.1
NORM				*e*S		**Sn**	**19 12 34.4**	**-3.1**
DZM	**Mont Dzumac**	**3.58**	**275**	*e*Pn		Pn	19 11 54.8	-2.9
	comp=Z,200nm,0.2s							
DZM				*e*Sn		**Sn**	**19 12 36.2**	**-2.6**
	comp=Z,238nm,0.2s							
DZM				*e*LR		LR	19 12 44.4	
	comp=Z,4μm,22.3s							
DZM	**Mont Dzumac**	**3.58**	**275**	Pn		**Pn**	**19 11 55.7**	**-2.1**
	comp=Z,39nm,0.3s,baz=99,slow=17,SNR=546							
DZM				Sn		**Sn**	**19 12 38.2**	**-0.6**
	comp=Z,46nm,0.3s,baz=123,slow=23,SNR=6.1							
DZM				LR		LR	19 13 15.2	
	comp=Z,2μm,21.2s,baz=82,slow=37							
DZM	**Mont Dzumac**	**3.58**	**275**	*e*P		Pn	19 11 54.0	-3.7
DZM				AMP			19 13 01.9	
	comp=Z,3μm,0.9s							
DZM	**Mont Dzumac**	**3.58**	**275**	Pn		**Pn**	**19 11 55.7**	**-2.1**
DZM				Sn		**Sn**	**19 12 38.2**	**-0.6**
NOUC	**Port Laguerre**	**3.70**	**274**	*e*P		Pn	19 11 56.3	-3.1
NOUC				*e*S		**Sn**	**19 12 39.2**	**-2.6**
NOUC				AMP			19 12 42.6	
	comp=Z,163nm,1.7s							
MSVF	**Nonsavu**	**8.66**	**59**	*e*P		**Pn**	**19 13 07.3**	**0.0**
MSVF				pmax	pmax			
	comp=Z,366nm,1.4s							
MSVF	**Nonsavu**	**8.66**	**59**	*e*Pn		**Pn**	**19 13 07.3**	**0.0**
	comp=Z,366nm,1.4s							
OUZ	**Omahuta**	**13.08**	**168**	*e*Pn		**Pn**	**19 14 06.4**	**-1.2**
	comp=Z,102nm,1.5s							
HNR	**Honiara**	**16.29**	**321**	*e*P		**P**	**19 14 50.0**	**-1.5**
HNR				pmax	pmax			
	comp=Z,452nm,1.4s							
HNR	**Honiara**	**16.29**	**321**	*e*Pn		**P**	**19 14 50.0**	**-1.5**
	comp=Z,452nm,1.4s							
URZ	**Urewera**	**16.84**	**161**	*e*Pn		**P**	**19 14 56.1**	**-1.3**
	comp=Z,219nm,1.8s							
EIDS	**Eidsvold**	**17.80**	**257**	*e*Pn		**Pn**	**19 15 10.4**	**+2.2**
	comp=Z,49nm,1.4s							
AFI	**Afiamalu**	**19.02**	**67**	P		**P**	**19 15 17.9**	**-3.7**
	baz=49,slow=9.3,SNR=9.5							
AFI				LR		LR	19 21 00.8	
	comp=Z,960nm,18.3s,baz=78,slow=32							
AFI	**Afiamalu**	**19.02**	**67**	P		**P**	**19 15 17.9**	**-3.7**
AFI	**Afiamalu**	**19.02**	**67**	P		**P**	**19 15 17.9**	**-3.7**
SNZO	**South Karori**	**19.20**	**170**	P		**Pn**	**19 15 24.9**	**+0.1**
KHZ	**Kahutara**	**20.13**	**173**	*e*P		Pn	19 15 35.0	-0.7
	comp=Z,213nm,1.5s							
RPZ	**Rata Peaks**	**21.25**	**178**	P		**P**	**19 15 47.1**	**+1.5**
	comp=Z,19nm,1.0s,baz=126,slow=4.1,SNR=3.9							
RPZ				LR		LR	19 22 57.0	
	comp=Z,2μm,20.1s,baz=358,slow=34							
RPZ	**Rata Peaks**	**21.25**	**178**	*e*P		**P**	**19 15 46.8**	**+1.3**
	comp=Z,40nm,0.9s							
CNB	**Canberra Magne**	**22.32**	**230**	*e*P		**P**	**19 16 00.2**	**+3.0**
	comp=Z,89nm,0.9s							
CTA	**Charters Tower**	**22.51**	**271**	P		**P**	**19 16 00.6**	**+1.2**
	comp=Z,12nm,0.7s,baz=101,slow=11,SNR=19							
CTA				LR		LR	19 23 47.4	
	comp=Z,682nm,21.9s,baz=96,slow=34							
CTA	**Charters Tower**	**22.51**	**271**	*e*P		**P**	**19 16 00.5**	**+1.2**
	comp=Z,9.6nm,0.6s							
CTA	**Charters Tower**	**22.51**	**271**	P		**P**	**19 16 00.6**	**+1.2**
CTA	**Charters Tower**	**22.51**	**271**	P		**P**	**19 16 00.6**	**+1.2**
CTAO	**Charters Tower**	**22.51**	**271**	*e*P		**P**	**19 15 59.8**	**+0.5**
CTAO				pmax	pmax			
	comp=Z,13nm,0.8s							
CTAO	**Charters Tower**	**22.51**	**271**	*e*P		**P**	**19 15 59.8**	**+0.5**
	comp=Z,13nm,0.8s							
CMSA	**Cobar Meteorol**	**23.68**	**242**	*e*P		**P**	**19 16 12.8**	**+2.1**
	comp=Z,94nm,0.6s							
QLP	**Quilpie**	**24.05**	**255**	*e*P		**P**	**19 16 16.2**	**+2.1**
PMG	**Port Moresby**	**25.68**	**297**	P		**P**	**19 16 30.0**	**+1.0**
	comp=Z,7.3nm,0.7s,baz=118,slow=11,SNR=4.9							
PMG	**Port Moresby**	**25.68**	**297**	*e*P		**P**	**19 16 31.6**	**+2.6**
PMG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
PMG	**Port Moresby**	**25.68**	**297**	*e*P		**P**	**19 16 28.1**	**-0.9**
	comp=Z,19nm,0.8s							
COEN	**Coen**	**27.06**	**283**	*e*P		**P**	**19 16 42.8**	**+1.3**
	comp=Z,70nm,0.7s							
COEN	**Coen**	**27.06**	**283**	*e*P		**P**	**19 16 42.6**	**+1.1**
	comp=Z,97nm,0.8s							
STKA	**Stephens Creek**	**27.14**	**244**	P		**P**	**19 16 43.1**	**+1.0**
	comp=Z,7.7nm,0.8s,baz=88,slow=10.0,SNR=13							
STKA				LR		LR	19 27 03.8	
	comp=Z,2μm,18.1s,baz=71,slow=35							
STKA	**Stephens Creek**	**27.14**	**244**	*e*P		**P**	**19 16 44.1**	**+2.0**
	comp=Z,10nm,0.9s							
STKA	**Stephens Creek**	**27.14**	**244**	P		**P**	**19 16 43.1**	**+1.0**
STKA	**Stephens Creek**	**27.14**	**244**	P		**P**	**19 16 43.1**	**+1.0**
AS31	**Alice Springs**	**33.45**	**261**	*e*P		**P**	**19 17 38.1**	**+0.1**
AS31				*e*			19 17 50.5	
ASAR	**Alice Springs**	**33.45**	**261**	P		**P**	**19 17 38.2**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=80,slow=9.5,SNR=66							
ASAR				PcP		**PcP**	**19 20 16.9**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=119,slow=3.7,SNR=7.0							
ASAR	**Alice Springs**	**33.45**	**261**	P		**P**	**19 17 38.2**	**+0.3**
ASAR							19 20 16.9	
ASAR	**Alice Springs**	**33.45**	**261**	P		**P**	**19 17 38.2**	**+0.3**
ASAR				PcP		**PcP**	**19 20 16.9**	**-1.2**
WB2	**Warramunga Arr**	**33.55**	**267**	*e*P		**P**	**19 17 38.0**	**-0.9**
WRAB	**Tennant Creek**	**33.55**	**267**	*e*P		**P**	**19 17 38.4**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WRAB	**Tennant Creek**	**33.55**	**267**	*e*P		**P**	**19 17 38.4**	**-0.4**
	comp=Z,5.3nm,0.8s							
WRA	**Warramunga Arr**	**33.56**	**267**	P		**P**	**19 17 38.3**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=91,slow=8.6,SNR=42							
WRA				PcP		**PcP**	**19 20 19.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=98,slow=3.1,SNR=4.1							
WRA				LR		LR	19 31 36.6	
	comp=Z,1μm,18.7s,baz=95,slow=37							
WRA	**Warramunga Arr**	**33.56**	**267**	P		**P**	**19 17 38.3**	**-0.6**
WRA							19 20 19.1	
WRA	**Warramunga Arr**	**33.56**	**267**	P		**P**	**19 17 38.3**	**-0.6**
WRA				PcP		**PcP**	**19 20 19.1**	**+0.7**
TBI	**Tubuai**	**37.01**	**99**	*e*S		**S**	**19 23 52.1**	**+2.2**
	comp=Z,138nm,25.5s							
TBI				*e*LQ		LQ	19 26 16.9	
	comp=Z,458nm,28.0s							
TBI				*e*LR		LR	19 28 11.4	
	comp=Z,528nm,26.0s							
PPT2	**Papeete2**	**37.94**	**90**	*e*S		**S**	**19 24 01.1**	**-3.1**
	comp=Z,167nm,25.8s							
PPT2				*e*LQ		LQ	19 27 07.2	
	comp=Z,788nm,27.0s							
PPT2				*e*LR		LR	19 28 39.5	
	comp=Z,374nm,26.5s							
FITZ	**Fitzroy Crossi**	**41.99**	**268**	LR		LR	19 35 17.4	
	comp=Z,637nm,19.4s,baz=94,slow=35							
FITZ	**Fitzroy Crossi**	**41.99**	**268**	*e*P		**P**	**19 18 51.1**	**+1.1**
	comp=Z,18nm,0.8s							
FITZ	**Fitzroy Crossi**	**41.99**	**268**	*e*P		**P**	**19 18 49.8**	**-0.2**
	comp=Z,9.3nm,0.8s							
GUMO	**Guam**	**43.60**	**323**	LR		LR	19 35 26.2	
	comp=Z,263nm,21.0s,baz=331,slow=34							
MBWA	**Marble Bar**	**46.78**	**262**	*e*P		**P**	**19 19 29.1**	**+0.9**
MBWA	**Marble Bar**	**46.78**	**262**	*e*P		**P**	**19 19 28.5**	**+0.3**
	comp=Z,15nm,0.7s							
MEEK	**Meekatharra**	**46.94**	**254**	*e*P		**P**	**19 19 30.2**	**+0.7**
	comp=Z,72nm,0.9s							
KLBR	**Kellerberrin**	**47.31**	**247**	*e*P		**P**	**19 19 33.1**	**+0.9**
	comp=Z,14nm,0.6s							
NWAO	**Narrogin (SRO)**	**47.71**	**245**	*e*P		**P**	**19 19 35.3**	**0.0**
NWAO				pmax	pmax			
	comp=Z,46nm,1.3s							
NWAO	**Narrogin (SRO)**	**47.71**	**245**	*e*P		**P**	**19 19 35.3**	**0.0**
	comp=Z,46nm,1.3s							
RKT	**Rikitea**	**50.22**	**102**	*e*LR		LR	19 34 12.2	
	comp=Z,466nm,26.5s							
KAPI	**Kappang**	**51.77**	**282**	LR		LR	19 41 32.8	
	comp=Z,324nm,19.7s,baz=292,slow=35							
VNDA	**Vanda**	**55.30**	**182**	*e*P		**P**	**19 20 31.7**	**+0.4**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**55.30**	**182**	*e*P		**P**	**19 20 31.7**	**+0.4**
	comp=Z,3.4nm,0.9s							
SBA	**Scott Base**	**55.51**	**181**	*e*P		**P**	**19 20 34.3**	**+1.5**
SBA				pmax	pmax			
	comp=Z,16nm,1.0s							
SBA	**Scott Base**	**55.51**	**181**	*e*P		**P**	**19 20 34.3**	**+1.5**
	comp=Z,16nm,1.0s							
CBIJ	**Chichi Jima**	**56.23**	**330**	LR		LR	19 41 34.2	
	comp=Z,295nm,19.3s,baz=128,slow=33							
TGY	**Tagaytay City**	**60.46**	**302**	LR		LR	19 43 05.8	
	comp=Z,3.7nm,21.7s,baz=284,slow=32							
MJAR	**Matsushiro Arr**	**66.01**	**332**	P		**P**	**19 21 43.9**	**-0.8**
	comp=Z,9.9nm,0.6s,baz=168,slow=7.2,SNR=48							
MJAR	**Matsushiro Arr**	**66.01**	**332**	P		**P**	**19 21 43.9**	**-0.8**
MJAR	**Matsushiro Arr**	**66.01**	**332**	P		**P**	**19 21 43.9**	**-0.8**
MAJO	**Matsushiro**	**66.01**	**332**	*e*P		**P**	**19 21 43.4**	**-1.2**
MAJO				pmax	pmax			
	comp=Z,36nm,0.8s							
MAJO	**Matsushiro**	**66.01**	**332**	*e*P		**P**	**19 21 43.4**	**-1.2**
	comp=Z,36nm,0.8s							
MAT	**Matsushiro**	**66.01**	**332**	P		**P**	**19 21 43.5**	**-1.2**
MAT				*e*S		**S**	**19 30 29.0**	**+1.2**
JNU	**Nakatsue**	**66.81**	**325**	*e*P		**P**	**19 21 49.1**	**-0.8**
	comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**67.65**	**180**	P		**P**	**19 21 55.8**	**+0.9**
	comp=Z,9.0nm,0.9s,baz=25,slow=1.1,SNR=18							
QSPA				LR		LR	19 49 26.5	
	comp=Z,398nm,18.6s,baz=41,slow=34							
QSPA	**South Pole Qui**	**67.65**	**180**	P		**P**	**19 21 55.8**	**+0.9**
	comp=Z,6.1nm,1.0s							
KSRS	**Korea Array**	**71.67**	**326**	P		**P**	**19 22 19.5**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=145,slow=5.8,SNR=30							
KSAR	**Wonju Array Be**	**71.68**	**326**	P		**P**	**19 22 19.5**	**-0.4**
KSAR	**Wonju Array Be**	**71.68**	**326**	P		**P**	**19 22 19.5**	**-0.4**
QIZ	**Qiongzhong**	**72.01**	**300**	P		**P**	**19 22 23.6**	**+1.4**
QIZ				S		**S**	**19 31 41.4**	**+2.1**
YSS	**Yuzh-Sakhalins**	**73.39**	**341**	*e*P		**P**	**19 22 31.0**	**+1.2**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**73.39**	**341**	*e*P		**P**	**19 22 30.7**	**+0.9**
	comp=Z,37nm,0.7s							
USRK	**Ussuriysk Arra**	**74.99**	**333**	P		**P**	**19 22 39.4**	**+0.2**
	comp=Z,5.5nm,0.9s,baz=122,slow=6.0,SNR=7.5							
PETK	**Petropavlovsk-**	**76.00**	**352**	P		**P**	**19 22 44.5**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=138,slow=5.4,SNR=7.9							
PETK	**Petropavlovsk-**	**76.00**	**352**	P		**P**	**19 22 44.5**	**-0.3**
PETK	**Petropavlovsk-**	**76.00**	**352**	P		**P**	**19 22 44.5**	**-0.3**
MDJ	**Mudanjiang**	**76.37**	**331**	P		**P**	**19 22 48.3**	**+1.2**
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,190nm,4.8s							
HABR	**Khabarovsk**	**77.30**	**337**	*e*P		**P**	**19 22 51.5**	**-0.7**
HABR				*e*			19 23 01.4	
HABR				*e*S		**S**	**19 32 37.7**	**+0.6**
HABR				pmax	pmax			
	comp=Z,9.0nm,1.4s							
HABR				pmax	pmax			
	comp=N,6.0nm,1.4s							
HABR				pmax	pmax			
	comp=E,9.0nm,1.4s							
HABR				MLR	MLR			
	comp=Z,101nm,19.0s							
CN2	**Changchun**	**77.67**	**328**	*e*P		**P**	**19 22 54.5**	**+0.1**
CN2				*ep*P		**pP**	**19 23 12.0**	**+0.5**
CN2				*e*S		**S**	**19 32 41.5**	**+0.1**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
CN2				LR	LR			
	comp=Z,300nm,20.0s							
GYA	**Guiyang**	**78.44**	**305**	P		**P**	**19 23 01.3**	**+2.1**
GYA				PP		**PP**	**19 26 01.3**	**+3.8**
GYA				S		**S**	**19 32 50.8**	**+0.1**
GYA				SKS		**SKSac**	**19 33 03.3**	**-5.7**
GYA				sS		**sS**	**19 33 23.1**	**+3.4**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.7s							
GYA				LR	LR			
	comp=N,490nm,18.3s							
GYA				LR	LR			
	comp=E,470nm,19.4s							
GYA				LR	LR			
	comp=Z,500nm,18.9s							
ENH	**Enshi**	**78.44**	**310**	*e*P		**P**	**19 22 58.6**	**-0.5**
	comp=Z,24nm,1.0s							
BJI	**Beijing**	**80.01**	**321**	P		**P**	**19 23 09.1**	**+1.8**
BJI				S		**S**	**19 33 10.0**	**+3.5**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,100nm,3.5s							
BJI				LR	LR			
	comp=N,220nm,19.1s							
BJI				LR	LR			
	comp=E,310nm,26.4s							
BJI				LR	LR			
	comp=Z,200nm,22.6s							
CM31	**Chiang Mai Arr**	**80.70**	**294**	*e*P		**P**	**19 23 12.5**	**+1.0**
	comp=Z,12nm,0.9s							
CMAR	**Chiang Mai Arr**	**80.70**	**294**	P		**P**	**19 23 13.3**	**+1.9**
	comp=Z,6.0nm,0.7s,baz=135,slow=4.3,SNR=49							
CMAR	**Chiang Mai Arr**	**80.70**	**294**	P		**P**	**19 23 13.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**80.70**	**294**	P		**P**	**19 23 13.3**	**+1.9**
KMI	**Kunming**	**80.78**	**302**	P		**P**	**19 23 14.6**	**+2.5**
KMI				pP		**pP**	**19 23 31.8**	**+2.5**
KMI				sP		**sP**	**19 23 39.1**	**+2.9**
KMI				S		**S**	**19 33 16.3**	**+0.6**
KMI				sS		**sS**	**19 33 48.3**	**+3.4**
KMI				pmax	pmax			
	comp=Z,22nm,1.6s							
KMI				pmax	pmax			
	comp=Z,160nm,3.6s							
KMI				LR	LR			
	comp=N,110nm,14.1s							
KMI				LR	LR			
	comp=E,120nm,13.7s							
KMI				LR	LR			
	comp=Z,150nm,17.1s							
CHTO	**Chiang Mai**	**80.86**	**295**	*e*P		**P**	**19 23 14.1**	**+1.8**
CHTO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CHTO	**Chiang Mai**	**80.86**	**295**	*e*P		**P**	**19 23 14.1**	**+1.8**
	comp=Z,9.8nm,0.8s							
XAN	**Xi'an**	**80.97**	**312**	P		**P**	**19 23 13.8**	**+1.1**
XAN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,45nm,7.1s							
CD2	**Chengdu**	**82.94**	**307**	P		**P**	**19 23 24.9**	**+1.8**
CD2				pP		**pP**	**19 23 41.8**	**+1.4**
CD2				sP		**sP**	**19 23 48.0**	**+0.8**
CD2				PP		**PP**	**19 26 38.5**	**+3.8**
CD2				SKS		**S**	**19 33 37.6**	**+0.2**
CD2				S		**SKSac**	**19 33 38.6**	**-1.1**
CD2				sS		**sS**	**19 34 06.9**	**+0.2**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,190nm,6.5s							
CD2				LR	LR			
	comp=N,300nm,5.3s							
CD2				LR	LR			
	comp=Z,350nm,6.5s							
HHC	**Hu-ho-hao-te**	**83.26**	**319**	*e*P		**P**	**19 23 26.5**	**+1.9**
HHC				pP		**pP**	**19 23 42.3**	**+0.4**
HHC				sP		**sP**	**19 23 49.4**	**+0.7**
HHC				PP		**PP**	**19 26 41.9**	**+4.7**
HHC				S		**SKSac**	**19 33 42.9**	**+1.4**
HHC				sS		**sS**	**19 34 11.4**	**+1.7**
HHC				pmax	pmax			
	comp=Z,18nm,0.5s							
HHC				pmax	pmax			
	comp=Z,280nm,5.6s							
HHC				LR	LR			
	comp=N,250nm,16.7s							
HHC				LR	LR			
	comp=E,200nm,15.5s							
HHC				LR	LR			
	comp=Z,220nm,14.3s							
LZH	**Lanzhou**	**85.57**	**312**	*e*P		P	19 23 39.1	+2.6
LZH				pP		pP	19 24 00.8	+6.9
LZH				sP		sP	19 24 09.6	+8.9
LZH				PP		**PP**	**19 26 57.1**	**+0.9**
LZH				*e*S		**S**	**19 34 04.0**	**+0.3**
LZH				pmax	pmax			
	comp=Z,34nm,1.1s							
LZH				pmax	pmax			
	comp=Z,180nm,4.2s							
NVL	**N'lazarevskaya**	**85.84**	**187**	*e*P		P	19 23 43.0	+6.0
NVL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SNAA	**Sanae**	**86.04**	**182**	*e*		**P**	**19 23 36.4**	**-1.7**
SNAA	**Sanae**	**86.04**	**182**	*e*P		**P**	**19 23 35.6**	**-2.6**
SNAA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SNAA	**Sanae**	**86.04**	**182**	*e*P		**P**	**19 23 35.6**	**-2.6**
	comp=Z,5.6nm,0.8s							
SEY	**Seymchan**	**86.24**	**352**	*e*P		**P**	**19 23 39.0**	**+0.1**
VNA3	**Neumayer Olymp**	**86.59**	**180**	*e*		**P**	**19 23 41.3**	**+0.5**
VNA2	**Neumayer--Watz**	**86.89**	**181**	*e*		**P**	**19 23 43.1**	**+0.8**
CMB	**Columbia Colle**	**88.55**	**48**	P		**P**	**19 23 49.5**	**-1.2**
CMB				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CMB	**Columbia Colle**	**88.55**	**48**	P		**P**	**19 23 49.5**	**-1.2**
	comp=Z,1.8nm,0.8s							
ISA	**Isabella**	**88.73**	**50**	P		**P**	**19 23 52.6**	**+1.0**
ISA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ISA	**Isabella**	**88.73**	**50**	P		**P**	**19 23 52.6**	**+1.0**
	comp=Z,2.3nm,0.8s							
ULN	**Ulaanbaatar**	**89.99**	**323**	*e*P		**P**	**19 23 57.8**	**+0.5**
ULN				pmax	pmax			
	comp=Z,20nm,1.4s							
ULN	**Ulaanbaatar**	**89.99**	**323**	*e*P		**P**	**19 23 57.8**	**+0.5**
	comp=Z,20nm,1.4s							
GTA	**Gaotai**	**90.01**	**313**	*e*P		**P**	**19 23 59.5**	**+1.9**
GTA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
NVAR	**Mina Array Bea**	**90.17**	**48**	P		**P**	**19 23 57.5**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=228,slow=7.1,SNR=10							
NVAR	**Mina Array Bea**	**90.17**	**48**	P		**P**	**19 23 57.5**	**-1.0**
YAK	**Yakutsk**	**90.19**	**342**	*e*P		**P**	**19 23 56.8**	**-0.8**
YAK				pmax	pmax			
	comp=Z,12nm,0.6s							
YAK	**Yakutsk**	**90.19**	**342**	*e*P		**P**	**19 23 56.8**	**-0.8**
	comp=Z,12nm,0.6s							
BILL	**Bilibino**	**90.24**	**358**	*e*P		**P**	**19 23 58.0**	**+0.2**
BILL				*i*			19 24 16.6	
BILL				pmax	pmax			
	comp=Z,30nm,1.8s							
BILL	**Bilibino**	**90.24**	**358**	*e*P		**P**	**19 23 57.5**	**-0.3**
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**90.34**	**323**	P		**P**	**19 23 59.3**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=146,slow=5.6,SNR=27							
SONM	**Songino Array**	**90.34**	**323**	P		**P**	**19 23 59.3**	**+0.4**
SONM	**Songino Array**	**90.34**	**323**	P		**P**	**19 23 59.3**	**+0.4**
LSA	**Lhasa**	**92.02**	**301**	P		**P**	**19 24 09.3**	**+1.7**
BOD	**Bodaibo**	**92.61**	**334**	*e*P		**P**	**19 24 08.4**	**-0.6**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.7s							
ILAR	**Eielson Array**	**92.97**	**17**	P		**P**	**19 24 08.6**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=236,slow=5.1,SNR=22							
ILAR	**Eielson Array**	**92.97**	**17**	P		**P**	**19 24 08.6**	**-2.0**
ILAR	**Eielson Array**	**92.97**	**17**	P		**P**	**19 24 08.6**	**-2.0**
ZAK	**Zakamensk**	**93.43**	**324**	*e*P		**P**	**19 24 10.8**	**-2.4**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
TAPN	**Taplejung**	**93.84**	**298**	*e*P		**P**	**19 24 17.3**	**+1.5**
TAPN	**Taplejung**	**93.84**	**298**	*e*P		**P**	**19 24 17.3**	**+1.5**
ODAN	**Odare**	**93.91**	**297**	*e*P		**P**	**19 24 17.3**	**+1.2**
ODAN	**Odare**	**93.91**	**297**	*e*P		**P**	**19 24 17.3**	**+1.2**
TLY	**Talaya**	**93.92**	**325**	*e*P		**P**	**19 24 15.5**	**+0.2**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,162nm,19.0s							
RAMN	**Ramite**	**94.59**	**297**	*e*P		**P**	**19 24 20.6**	**+1.3**
RAMN	**Ramite**	**94.59**	**297**	*e*P		**P**	**19 24 20.6**	**+1.3**
JIRN	**Jiri**	**95.20**	**298**	*e*P		**P**	**19 24 23.2**	**+1.0**
	comp=Z,4.8nm,0.7s							
JIRN	**Jiri**	**95.20**	**298**	*e*P		**P**	**19 24 23.2**	**+1.0**
	comp=Z,4.8nm,0.7s							
GUN	**Gumba**	**95.55**	**298**	*e*P		**P**	**19 24 25.1**	**+1.3**
GUN	**Gumba**	**95.55**	**298**	*e*P		**P**	**19 24 25.1**	**+1.3**
PKI	**Pulchoki**	**95.81**	**297**	*e*P		**P**	**19 24 25.9**	**+1.0**
PKI	**Pulchoki**	**95.81**	**297**	*e*P		**P**	**19 24 25.9**	**+1.0**
PKI	**Pulch

AKASG	Malin Array Be	138.62	323	SKPbc	SKPab	19 33 59.2	-2.4
NB2	NORSAR Subarra	138.76	345	PKPdf	PKPpre	19 30 14.5	
	comp=Z,9.1nm,1.4s,baz=27,slow=1.8						
NB2	NORSAR Subarra	138.76	345	PKPdf	PKPpre	19 30 14.5	
	baz=27,slow=1.8						
NOA	NORSAR Array B	138.76	345	PKhKP	PKPpre	19 30 14.8	
	comp=Z,0.7nm,0.7s,baz=115,slow=0.9,SNR=3.2						
NOA	NORSAR Array B	138.76	345	PKHKP	PKPpre	19 30 14.8	
NOA	NORSAR Array B	138.76	345	PKPpre	PKPpre	19 30 14.8	
BR131	Keskin Array S	139.49	305	ePKPdf	PKPdf	19 30 24.8	-0.6
BRTR	Keskin Array B	139.49	305	PKP	PKPdf	19 30 23.4	-1.9
	comp=Z,0.8nm,0.7s,baz=129,slow=3.3,SNR=4.9						
BRTR	Keskin Array B	139.49	305	*c* iPKIKP	PKPdf	19 30 25.7	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	139.49	305	PKP	PKPdf	19 30 23.4	-1.9
KWP	Kalwaria Pacla	142.75	325	⇑PKIKP	PKPdf	19 30 31.4	+0.6
KWP	Kalwaria Pacla	142.75	325	⇑*i*P	PKPdf	19 30 31.4	+0.6
MLR	Muntele Rosu	142.97	317	⇑PKIKP	PKPdf	19 30 31.1	-0.4
MLR	Muntele Rosu	142.97	317	⇑*i*P	PKPdf	19 30 31.1	-0.4
KOLS	Kolonicke sedl	143.38	324	*e*PKIKP	PKPdf	19 30 32.4	+0.5
KOLS	Kolonicke sedl	143.38	324	*e*PKP	PKPdf	19 30 32.4	+0.5
UZH	Uzhgorod	143.54	324	*e*PKIKP	PKPdf	19 30 31.6	-0.5
VOIR		143.56	317	⇓PKIKP	PKPdf	19 30 33.4	+1.0
VOIR		143.56	317	⇓*i*P	PKPdf	19 30 33.4	+1.0
STHS	Stebnicka Huta	143.65	325	*e*PKIKP	PKPdf	19 30 32.0	-0.4
STHS	Stebnicka Huta	143.65	325	*e*PKP	PKPdf	19 30 32.0	-0.4
TRPA	Tarpa	143.69	323	⇑*i*P	PKPdf	19 30 31.4	-1.0
TRPA	Tarpa	143.69	323	⇓*e*PKPdf	PKPdf	19 30 31.2	-1.2
CRVS	Cervenica-Dubn	143.84	325	*e*PKIKP	PKPdf	19 30 32.7	0.0
CRVS	Cervenica-Dubn	143.84	325	*e*PKP	PKPdf	19 30 32.7	0.0
HUMR	Humele	144.02	316	⇑*i*P	PKPbc	19 30 31.2	0.0
DRGR		144.31	321	⇑PKIKP	PKPdf	19 30 33.3	-0.4
DRGR		144.31	321	⇑*i*P	PKPdf	19 30 33.3	-0.4
LOT	Lotru	144.35	318	⇓*i*P	PKPdf	19 30 33.6	-0.3
OKC	Ostrava-Krasne	144.95	328	*e*PKIKP	PKPdf	19 30 34.2	-0.4
OKC				*e*		19 30 38.5	
OKC	Ostrava-Krasne	144.95	328	*e*PKP	PKPdf	19 30 34.2	-0.4
OKC				*ex*	x	19 30 38.5	
GZR	Gura Zlata	144.99	319	⇑PKIKP	PKPdf	19 30 35.3	+0.4
GZR	Gura Zlata	144.99	319	⇑*i*P	PKPdf	19 30 35.3	+0.4
RUE	Ruedersdorf	144.99	335	*e*PKPdf	PKPdf	19 30 33.6	-0.9
KSP	Ksiaz	145.13	331	*e*PKP	PKPdf	19 30 35.4	+0.6
KSP	Ksiaz	145.13	331	*e*PKIKP	PKPdf	19 30 35.2	+0.3
PSZ	Piszkesteto	145.26	324	⇑PKIKP	PKPab	19 30 36.0	+0.7
PSZ	Piszkesteto	145.26	324	*e*PKPdf	PKPab	19 30 34.6	-0.6
PSZ	Piszkesteto	145.26	324	⇑*i*P	PKPab	19 30 36.0	+0.7
PSZ	Piszkesteto	145.26	324	⇓*e*PKPbc	PKPab	19 30 36.5	+1.2
MORC	Moravsky Berou	145.28	329	⇑PKIKP	PKPab	19 30 35.7	+0.4
MORC	Moravsky Berou	145.28	329	*e*PKPdf	PKPab	19 30 34.9	-0.3
MORC	Moravsky Berou	145.28	329	⇑*i*P	PKPab	19 30 35.7	+0.4
KRLC	Kraliky	145.44	330	*e*PKP	PKPab	19 30 36.0	+0.2
DPC	Dobruska-Polom	145.47	330	*e*PKIKP	PKPab	19 30 35.8	-0.1
DPC	Dobruska-Polom	145.47	330	*e*PKP	PKPab	19 30 35.8	-0.1
VYHS	Vyhne	145.47	326	*e*PKIKP	PKPab	19 30 36.2	+0.3
VYHS	Vyhne	145.47	326	*e*PKP	PKPab	19 30 36.2	+0.3
VYHS				*e*		19 34 21.3	
VYHS				*e*		19 36 19.9	
UPC	Upice	145.50	331	*e*PKIKP	PKPab	19 30 36.4	+0.4
UPC	Upice	145.50	331	*e*PKP	PKPab	19 30 36.4	+0.4
UPC				*ex*	x	19 30 39.8	
BZS	Buzias	145.57	320	⇑PKIKP	PKPab	19 30 36.6	+0.2
BZS	Buzias	145.57	320	⇑*i*P	PKPab	19 30 36.6	+0.2
KOLL	Kolacno	145.64	326	*e*PKP2	PKPab	19 30 36.2	-0.3
KOLL				*e*		19 30 36.7	
KOLL	Kolacno	145.64	326	*e*PKP	PKPab	19 30 36.2	-0.3
BUD	Budapest	145.99	324	⇓*e*PKPdf	PKPab	19 30 38.9	+1.0
VTS	Vitosha	146.02	314	⇑PKP2	PKPab	19 30 40.1	+1.7
VTS	Vitosha	146.02	314	⇑*i*P	PKPab	19 30 40.1	+1.7
VRAC	Vranov	146.06	329	⇓PKP2	PKPab	19 30 38.6	+0.5
VRAC	Vranov	146.06	329	⇓*i*P	PKPab	19 30 38.6	+0.5
PVCC	Panska Ves	146.12	332	*e*PKP2	PKPab	19 30 38.7	+0.4
PVCC	Panska Ves	146.12	332	*e*PKP	PKPab	19 30 38.7	+0.4
BRG	Berggiesshubel	146.14	333	*i* PKP	PKPab	19 30 39.0	+0.6
	comp=Z,31nm,1.1s						
BRG				*e*		19 34 19.2	
	comp=Z,28nm,1.9s						
BRG				*e*		19 36 20.4	
	comp=Z,18nm,1.8s						
BRG	Berggiesshubel	146.14	333	*e*PKPbc	PKPab	19 30 38.9	+0.6
BRG	Berggiesshubel	146.14	333	*i* PKP2	PKPab	19 30 39.0	+0.6
BRG				pmax	pmax		
	comp=Z,31nm,1.1s						
BRG				pmax	pmax		
	comp=Z,28nm,1.9s						
BRG				pmax	pmax		
	comp=Z,18nm,1.8s						
SMOL	Smolenice	146.18	327	*e*PKP2	PKPab	19 30 40.4	+1.8
SMOL	Smolenice	146.18	327	*e*PKP	PKPab	19 30 40.4	+1.8
CLL	Collm	146.20	334	*e*PKPbc	PKPab	19 30 38.8	+0.3
CLL	Collm	146.20	334	⇓*i*PKP2	PKPab	19 30 38.6	+0.1
CLL				pmax	pmax		
	comp=Z,25nm,0.9s						
CLL	Collm	146.20	334	⇓*i*PKPdf	PKPab	19 30 38.6	+0.1
CLL				*i* PKPbc	PKiKP	19 30 39.5	-1.4
	comp=Z,25nm,0.9s						
CLL				*i* PKiKP	PKPbc	19 30 42.5	+4.7
CLL				*i* pPKPbc	pPKPbc	19 30 46.3	-9.4
CLL				L	L	20 35 00.0	
	comp=Z,200nm,20.5s						
NRDL	Niedersach Rie	146.34	338	*e*PKPbc	PKPab	19 30 38.9	0.0
PRU	Pruhonice	146.53	331	*e*PKP2	PKPab	19 30 39.8	-0.1
PRU	Pruhonice	146.53	331	*e*PKP	PKPab	19 30 39.8	-0.1
PRU				*ex*	x	19 30 43.9	
TREC	Trest	146.59	330	*e*PKP2	PKPab	19 30 40.4	+0.2
TREC	Trest	146.59	330	*e*PKP	PKPab	19 30 40.4	+0.2
CLZ	Clausthal	146.78	337	*e*PKPbc	PKPab	19 30 40.8	0.0
CLZ	Clausthal	146.78	337	*e*PKP2	PKPab	19 30 40.8	0.0
PKSM	Moragy	146.96	323	⇓PKP2	PKPab	19 30 40.7	-1.0
PKSM	Moragy	146.96	323	⇓*i*P	PKPab	19 30 40.7	-1.0
PKSM	Moragy	146.96	323	⇓*e*PKPdf	PKPab	19 30 40.4	-1.3
SOP	Sopron	147.16	327	⇓*e*PKPdf	PKPab	19 30 41.9	-0.5
IBBN	Ibbenburen	147.27	340	*e*PKPbc	PKPab	19 30 41.8	-0.9
CONA	Conrad Observa	147.35	327	⇑*i*P	PKPab	19 30 42.3	-1.0
CONA	Conrad Observa	147.35	327	⇑*i*PKPab	PKPab	19 30 42.3	-1.0
	comp=Z,9.0nm,0.8s,SNR=8.2						
KHC	Kasperske Hory	147.59	331	*e*PKP2	PKPab	19 30 42.6	-1.5
KHC	Kasperske Hory	147.59	331	*e*PKPbc	PKPbc	19 30 41.9	0.0
KHC	Kasperske Hory	147.59	331	*e*PKP	PKPab	19 30 42.6	-1.5
KHC				*ex*	x	19 30 46.1	
KHC				*e*pPKP	pPKPdf	19 30 52.0	-5.3
GEC2	GERESS Array S	147.74	331	*e*PKPbc	PKPab	19 30 43.1	-1.7
GEC2	GERESS Array S	147.74	331	*e*PKP2	PKPab	19 30 43.1	-1.7
GERES	GERESS Array B	147.74	331	PKPbc	PKPab	19 30 43.1	-1.7
	comp=Z,12nm,0.8s,baz=34,slow=2.6,SNR=37						
GERES	GERESS Array B	147.74	331	PKP2	PKPab	19 30 43.1	-1.7
GERES	GERESS Array B	147.74	331	PKPbc	PKPab	19 30 43.1	-1.7
GRF	Grafenberg Arr	148.17	334	*e*L	L	20 15 26.4	
	comp=Z,517nm,18.1s						
GRFO	Grafenberg	148.17	334	*e*PKP2	PKPbc	19 30 43.3	0.0
GRFO	Grafenberg	148.17	334	*e*PKPbc	PKPbc	19 30 43.3	0.0
PERS	Pernice	148.59	326	*i* PKPdf	PKPbc	19 30 45.2	+0.5
SOKA	Soboth	148.61	326	⇓*i*P	PKPbc	19 30 45.0	+0.3
SOKA	Soboth	148.61	326	⇓*i*PKPbc	PKPbc	19 30 45.0	+0.3
	comp=Z,6.1nm,0.6s						
TNS	Taunus Mts	148.80	337	*e*PKPbc	PKPbc	19 30 46.2	+1.2
TNS	Taunus Mts	148.80	337	*e*PKP2	PKPbc	19 30 46.2	+1.2
KBA	Koelnbreinsper	149.17	329	⇑*i*PKP2	PKPbc	19 30 46.1	-0.1
KBA	Koelnbreinsper	149.17	329	⇑*i*P	PKPbc	19 30 46.1	-0.1
KBA	Koelnbreinsper	149.17	329	⇑*i*PKPbc	PKPbc	19 30 46.1	-0.1
	comp=Z,13nm,0.7s						
BOJS	Bojanci	149.26	324	*i* PKPdf	PKPbc	19 30 46.0	-0.3
VISS	Visnje	149.29	325	*i* PKPdf	PKPbc	19 30 46.1	-0.2
LJU	Ljubljana	149.29	326	*e*PKPdf	PKPbc	19 30 47.5	+1.2
MEM	Membach	149.29	340	PKPbc	PKPbc	19 30 46.8	+0.7
MEM				PKPab	PKPab	19 30 51.4	+0.5
MYKA	Terra Mystica	149.34	328	⇑*i*P	PKPbc	19 30 46.3	-0.2
MYKA	Terra Mystica	149.34	328	⇑*i*PKPbc	PKPbc	19 30 46.3	-0.2
	comp=Z,13nm,0.6s						
VOY	Vojsko	149.62	327	*e*PKPdf	PKPbc	19 30 47.2	-0.1
VOY				*e*		19 30 55.8	
JAVS	Javornik	149.63	326	*i* PKPdf	PKPbc	19 30 47.7	+0.4
WTTA	Wattenberg	149.84	330	⇑*i*PKP2	PKPbc	19 30 48.2	+0.3
WTTA	Wattenberg	149.84	330	⇑*i*P	PKPbc	19 30 48.2	+0.3
WTTA	Wattenberg	149.84	330	⇑*i*PKiKP	PKPbc	19 30 48.2	+0.3
	comp=Z,13nm,0.8s,SNR=10						
SNF	Seneffe	149.90	342	PKPbc	PKPbc	19 30 47.5	-0.1
MOTA	Moosalm	150.02	331	⇑*i*PKiKP	PKiKP	19 30 48.4	-0.7
	comp=Z,11nm,0.8s,SNR=8.2						
WLF	Walferdange	150.06	339	PKPbc	PKPbc	19 30 49.6	+1.6
WLF	Walferdange	150.06	339	*e*PKPbc	PKPbc	19 30 49.7	+1.6
WLF	Walferdange	150.06	339	*e*PKHKP	PKPbc	19 30 48.3	+0.2
WLF	Walferdange	150.06	339	*e*PKPbc	PKPbc	19 30 48.3	+0.2
DOU	Dourbes	150.17	341	PKPbc	PKPbc	19 30 49.3	+0.9
BFO	Black Forest	150.41	335	*e*PKPbc	PKPbc	19 30 50.0	+1.0
BFO	Black Forest	150.41	335	*e*PKIKP	PKPbc	19 30 46.9	-2.1
BFO	Black Forest	150.41	335	*e*P	PKPbc	19 30 46.9	-2.1
FETA	Feichten	150.43	331	*i* PKPbc	PKPbc	19 30 49.0	-0.3
	comp=Z,18nm,1.0s,SNR=9.8						
DAVA	Damuels	150.60	332	⇑*i*PKiKP	PKiKP	19 30 50.0	-0.4
	comp=Z,12nm,0.7s						
BNI	Bardonecchia	153.73	333	PKIKP	PKPbc	19 30 55.7	-1.1
BNI	Bardonecchia	153.73	333	PKPbc	PKPbc	19 30 55.7	-1.1
DBIC	Dimbokro	163.65	197	PKP	PKPdf	19 31 03.4	+2.0
	comp=Z,3.1nm,0.9s,baz=218,slow=10.0,SNR=1.9						
DBIC				PKPab	PKPab	19 31 53.0	-0.2
	comp=Z,3.9nm,0.7s,baz=130,slow=8.9,SNR=5.7						
DBIC	Dimbokro	163.65	197	PKIKP	PKPdf	19 31 03.4	+2.0
DBIC						19 31 53.0	
DBIC	Dimbokro	163.65	197	PKP	PKPdf	19 31 03.4	+2.0
DBIC				PKPab	PKPab	19 31 53.0	-0.2
TORD	Torodi Ar. Bea	165.76	232	PKP	PKPdf	19 31 03.5	+0.4
	comp=Z,1.5nm,0.9s,baz=7.2,slow=0.7,SNR=6.4						
TORD				PKPab	PKPab	19 32 03.8	+1.1
	comp=Z,0.9nm,1.0s,baz=137,slow=3.1,SNR=2.6						
TORD	Torodi Ar. Bea	165.76	232	PKP	PKPdf	19 31 03.5	+0.4
TORD				PKPab	PKPab	19 32 03.8	+1.1

IDC 16 19:14:42.0±2.3, 22°17'S×170°37'E, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.1/17, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=62.8km s-min=26.6km az=146.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.64	271	Pn	Pn		Pn	19 15 41.5	+1.7
	10.0nm,0.3s,baz=107,slow=18,SNR=18								
DZM				Sn	Sn		Sn	19 16 24.0	+0.5
	13nm,0.3s,baz=307,slow=23,SNR=6.7								
CTA	Charters Tower	22.58	271	P	P		P	19 19 45.3	+1.0
	2.4nm,0.7s,baz=93,slow=13,SNR=4.2								
STKA	Stephens Creek	27.32	243	P	P		P	19 20 28.8	+0.1
	1.5nm,0.8s,baz=103,slow=7.8,SNR=2.8								
ASAR	Alice Springs	33.56	260	P	P		P	19 21 23.3	-0.7
	0.8nm,0.6s,baz=83,slow=9.0,SNR=4.8								
WRA	Warramunga Arr	33.65	267	P	P		P	19 21 23.2	-1.5
	0.7nm,0.7s,baz=101,slow=8.3,SNR=3.2								
MJAR	Matsushiro Arr	65.82	332	P	P		P	19 25 28.9	-0.3
	1.6nm,0.6s,baz=164,slow=7.3,SNR=6.0								
KSRS	Korea Array	71.50	326	P	P		P	19 26 04.2	-0.5
	1.7nm,0.9s,baz=143,slow=5.9,SNR=5.1								
CMAR	Chiang Mai Arr	80.66	294	P	P		P	19 26 58.0	+0.7
	1.1nm,0.7s,baz=131,slow=4.3,SNR=6.6								
SONM	Songino Array	90.18	323	P	P		P	19 27 44.1	-0.2
	1.1nm,0.9s,baz=134,slow=4.5,SNR=4.5								
GERES	GERESS Array B	147.55	331	PKPbc	PKPbc			19 34 28.4	+0.2
	1.0nm,0.6s,baz=26,slow=3.4,SNR=5.7								

IDC 16 19:16:38.2±3.2, 22°80'S×170°48'E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=116.2km s-min=41.1km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NORM	Noumea	3.73	278	*e*P			Pn	19 17 36.3	-0.9
NORM				*e*S			Sn	19 18 17.8	-4.1
DZM	Mont Dzumac	3.80	280	Pn	Pn		Pn	19 17 38.5	+0.3
	8.1nm,0.3s,baz=22,slow=20,SNR=8.3								
DZM				Sn	Sn		Sn	19 18 20.1	-3.7
	3.5nm,0.3s,baz=307,slow=20,SNR=3.1								
ASAR	Alice Springs	33.56	261	P	P		P	19 23 21.3	+1.1
	1.5nm,1.0s,baz=79,slow=8.3,SNR=4.3								
WRA	Warramunga Arr	33.72	268	P	P		P	19 23 20.2	-1.4
	0.4nm,0.7s,baz=105,slow=8.9,SNR=3.1								
CMAR	Chiang Mai Arr	81.01	294	P	P		P	19 28 55.9	+0.4
	0.7nm,0.7s,baz=124,slow=4.4,SNR=4.3								
SONM	Songino Array	90.74	323	P	P		P	19 29 43.0	-0.1
	0.5nm,0.9s,baz=130,slow=5.1,SNR=3.0								
GERES	GERESS Array B	148.15	330	PKPbc	PKPbc			19 36 25.3	-0.8
	0.9nm,0.9s,baz=41,slow=3.1,SNR=4.1								

*ISCJB **16** 19:24:14.6±0.4, 61°.14S±0°.08×22°.5W±0°.2, h10km, mb4.3/19, MS3.6/1, Error ellipse: s-maj=16.0km s-min=7.6km az=143.3*

*IDC **16** 19:24:15.5±0.6, 61°.02S×22°.65W, h0km, mb4.3/12, mb1 4.3/12, mb1mx4.3/15, mbtmp4.2/12, MS3.6/1, Ms1 3.6/1, ms1mx3.3/17, Error ellipse: s-maj=23.1km s-min=18.5km az=42.0*

*NEIC **16** 19:24:20.4±0.5, 61°.08S×22°.46W, h35km, mb4.6/9, Error ellipse: s-maj=18.4km s-min=11.9km az=51.0*

ISC 16 19:24:16.3±0.5, 61°.2S±0°.1×22°.5W±0°.1, h10km, n54, σ0°79/50, mb4.5/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	11.13	155	*e*			Pn	19 26 56.3	+1.1
VNA1				*e*				19 28 53.3	
VNA3	Neumayer Olymp	11.34	159	*e*			Pn	19 26 58.9	+0.7
VNA3				*e*				19 28 54.9	
VNA2	Neumayer--Watz	11.52	155	*e*			Pn	19 27 01.2	+0.5
VNA2				*e*				19 28 58.2	
SNAA	Sanae	13.07	152	*e*			Pn	19 27 20.1	-1.7
SNAA				*e*				19 29 32.9	
SNAA	Sanae	13.07	152	*e*Pn			Pn	19 27 19.5	-2.3
SNAA				*e*Sn			Sn	19 29 31.4	-16
MAIT	Maitri	16.68	139	*e*P			Pn	19 28 09.8	+0.2
PMSA	Palmer Station	18.96	241	*e*P			pP	19 28 43.3	+3.3
QSPA	South Pole Qui	29.08	180	P			pP	19 30 20.2	+0.5
	1.6nm,0.9s,baz=185,slow=4.5,SNR=3.1								
QSPA	South Pole Qui	29.08	180	P			pP	19 30 20.2	+0.5
TRQA	Tornquist	33.65	295	P			P	19 30 56.6	-0.3
	6.5nm,0.8s								
PLCA	Paso Flores	35.42	283	P			P	19 31 11.8	-0.5
	2.3nm,0.7s,baz=154,slow=8.2,SNR=4.7								
PLCA				LR			LR	19 43 49.9	
	comp=Z,103nm,20.6s,baz=120,slow=33								
PLCA	Paso Flores	35.42	283	P			P	19 31 11.8	-0.5
VNDA	Vanda	41.55	181	P			pP	19 32 06.6	+0.2
	4.8nm,1.2s								
CFAA	Coronel Fontan	41.84	294	P			P	19 32 05.6	-0.6
	0.4nm,0.6s,baz=161,slow=7.8,SNR=8.1								
CFAA	Coronel Fontan	41.84	294	P			P	19 32 05.6	-0.6
LBTB	Lobatse	48.58	64	P			P	19 33 00.3	+0.5
	3.6nm,1.0s,baz=232,slow=12,SNR=3.5								
LBTB	Lobatse	48.58	64	*e*P			P	19 32 59.8	-0.1
	16nm,1.4s								
BDFB	Brasilia	49.00	327	P			P	19 33 04.4	+1.2
	1.4nm,0.5s,baz=155,slow=11,SNR=3.3								
BDFB	Brasilia	49.00	327	P			P	19 33 04.4	+1.2
LVC	Limon Verde	49.95	299	*e*P			P	19 33 11.2	+0.7
	16nm,1.5s								
TSUM	Tsumeb	50.47	52	P			P	19 33 12.9	-1.4
	3.0nm,1.0s								
SIV	San Ignacio	52.83	311	P			P	19 33 30.6	-1.3
	2.2nm,0.8s,baz=179,slow=9.4,SNR=8.0								
SIV	San Ignacio	52.83	311	P			P	19 33 30.6	-1.3
LPAZ	La Paz	55.28	303	P			P	19 33 50.1	-0.3
	4.4nm,1.1s,baz=151,slow=5.9,SNR=6.1								
LPAZ	La Paz	55.28	303	*e*P			P	19 33 49.9	-0.5
	5.0nm,1.1s								
SAML	Samuel	60.09	312	*e*P			P	19 34 22.5	-1.1
	5.6nm,1.1s								
DBIC	Dimbokro	69.02	19	P			P	19 35 21.7	0.0
	2.6nm,0.5s,baz=181,slow=7.0,SNR=11								
DBIC	Dimbokro	69.02	19	P			P	19 35 21.7	0.0
OTAV	Otavalo	74.45	301	*e*P			P	19 35 55.4	+0.2
	10nm,1.0s								
TORD	Torodi Ar. Bea	76.51	24	P			P	19 36 06.8	+0.5
	6.6nm,0.9s,baz=191,slow=6.7,SNR=28								
TORD	Torodi Ar. Bea	76.51	24	P			P	19 36 06.8	+0.5
SDV	Santo Domingo	79.30	312	*e*P			P	19 36 22.7	+0.6
	5.6nm,0.7s								
STKA	Stephens Creek	86.40	167	P			PcP	19 37 00.5	-0.6
	3.3nm,1.1s,baz=356,slow=15,SNR=2.9								
STKA	Stephens Creek	86.40	167	P			PcP	19 37 00.5	-0.6
ASAR	Alice Springs	93.35	158	P			P	19 37 31.6	+0.2
	1.0nm,0.7s,baz=184,slow=3.9,SNR=16								
ASAR	Alice Springs	93.35	158	P			P	19 37 31.6	+0.2
WRA	Warramunga Arr	97.06	158	P			P	19 37 48.7	+0.2
	1.3nm,1.1s,baz=201,slow=4.6,SNR=3.4								
WRA	Warramunga Arr	97.06	158	P			P	19 37 48.7	+0.2
NOA	NORSAR Array B	124.59	19	PKP		PKiKP	P	19 43 14.8	+0.2
	1.1nm,0.8s,baz=171,slow=1.8,SNR=3.9								
NOA	NORSAR Array B	124.59	19	PKP		PKiKP	P	19 43 14.8	+0.2
NVAR	Mina Array Bea	125.43	286	PKP		PKiKP	P	19 43 18.1	+0.8
	0.3nm,0.5s,baz=149,slow=3.5,SNR=3.6								
NVAR	Mina Array Bea	125.43	286	PKP		PKiKP	P	19 43 18.1	+0.8
FINES	FINESS Array B	127.80	27	PKP		PKPdf	P	19 43 20.2	-0.1
	3.4nm,0.7s,baz=107,slow=2.0,SNR=6.1								
FINES	FINESS Array B	127.80	27	PKP		PKPdf	P	19 43 20.2	-0.1
ARCES	ARCESS Array B	134.79	22	PKP		PKiKP	P	19 43 34.8	0.0
	5.7nm,0.9s,baz=180,slow=2.1,SNR=6.9								
ARCES	ARCESS Array B	134.79	22	PKP		PKiKP	P	19 43 34.8	0.0
YKA	Yellowknife Ar	141.51	312	PKhKP		PKPpre		19 43 36.7	
	0.4nm,0.8s,baz=136,slow=2.9,SNR=3.9								
YKA				PKP		PKPdf	P	19 43 45.7	-0.2
	0.6nm,0.7s,baz=124,slow=2.4,SNR=11								
YKA				PP		PP	P	19 46 49.7	-0.7
	0.4nm,0.8s,baz=124,slow=6.0,SNR=4.5								
YKA	Yellowknife Ar	141.51	312	PKPpre		PKPpre		19 43 36.8	
YKA				PKP		PKPdf	P	19 43 45.7	-0.2
YKA				PP		PP	P	19 46 49.8	-0.7
ZALV	Zalesovo Beam	142.26	67	PKhKP		PKPpre		19 43 42.5	
	0.4nm,0.4s,baz=222,slow=1.9,SNR=2.9								
ZALV	Zalesovo Beam	142.26	67	PKPpre		PKPpre		19 43 42.5	
SONM	Songino Array	148.37	91	PKPbc		PKPbc	P	19 44 02.5	+0.6
	4.2nm,0.7s,baz=225,slow=2.9,SNR=39								
SONM	Songino Array	148.37	91	PKPbc		PKPbc	P	19 44 02.5	+0.6
KSAR	Wonju Array Be	149.89	128	PKPbc		PKPbc	P	19 44 06.8	+0.9
KSRS	Korea Array	149.91	128	PKPbc		PKPbc	P	19 44 06.8	+0.9
	1.1nm,0.8s,baz=185,slow=2.8,SNR=6.2								

IDC 16 19:29:09.6±2.3, 1.78S×133°47E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/2, MS4.1/3, Ms1 4.1/3, ms1mx3.4/25, Error ellipse: s-maj=91.3km s-min=25.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.95	205	P			P	19 33 21.1	-0.3
	0.2nm,0.3s,baz=31,slow=12,SNR=6.9								
WRA	Warramunga Arr	18.07	177	P			P	19 33 22.6	-0.2
	0.2nm,0.3s,baz=357,slow=11,SNR=16								
ASAR	Alice Springs	21.76	179	P			P	19 34 02.6	-0

NOUC Port Laguerre 3.74 272 *e*P Pn 19 56 17.3 -2.9
NOUC *e*S **Sn** **19 57 01.4 -1.6**
NOUC AMP 19 57 07.1
comp=Z,301nm,6.8s
MSVF Nonsavu 8.55 59 *e*P **Pn** **19 57 27.2 +0.7**
MSVF *e* 19 59 10.6
MSVF pmax pmax
comp=Z,785nm,1.5s
MSVF Nonsavu 8.55 59 *e*Pn **Pn** **19 57 27.2 +0.7**
comp=Z,785nm,1.5s
MSVF *e*Sn Sn 19 59 10.6 +8.8
MSVF Nonsavu 8.55 59 Pn Pn 19 57 30.9 +4.4
comp=Z,2µm,1.8s,SNR=24
OUZ Omahuta 13.20 168⇑ *e*Pn **Pn** **19 58 27.4 -2.4**
comp=Z,196nm,1.5s
FUNA Funafuti 16.12 33 Pn **Pn** **19 59 07.3 -1.5**
comp=Z,236nm,1.4s
HNR Honiara 16.21 320 *e*P **Pn** **19 59 09.8 -0.1**
HNR pmax pmax
comp=Z,528nm,1.1s
HNR Honiara 16.21 320 *e*Pn **Pn** **19 59 09.8 -0.1**
comp=Z,528nm,1.1s
URZ Urewera 16.95 161⇓ *e*Pn **Pn** **19 59 18.2 -0.9**
comp=Z,200nm,1.4s
EIDS Eidsvold 17.88 256⇓ *e*Pn **P** **19 59 30.6 -0.3**
comp=Z,33nm,0.9s
ARMA Armidale 18.59 240 *e*P **Pn** **19 59 43.3 +3.8**
ARMA *e*S **Sn** **20 03 06.9 +0.3**
AFI Afiamalu 18.93 67 P **P** **19 59 41.6 -1.0**
comp=Z,24nm,0.3s,baz=229,slow=23,SNR=14
AFI LR LR 20 05 24.7
comp=Z,4µm,21.2s,baz=245,slow=32
AFI Afiamalu 18.93 67 P **P** **19 59 41.6 -1.0**
AFI Afiamalu 18.93 67 P **P** **19 59 41.6 -1.0**
SNZO South Karori 19.32 170 P **P** **19 59 45.1 -1.5**
comp=Z,339nm,1.5s
KHZ Kahutara 20.25 173 *e*P **P** **19 59 56.1 -0.7**
comp=Z,250nm,1.2s
RPZ Rata Peaks 21.38 179 P **P** **20 00 08.7 -0.2**
comp=Z,48nm,1.1s,baz=9.9,slow=6.3,SNR=6.5
RPZ LR LR 20 07 18.9
comp=Z,7µm,20.5s,baz=352,slow=34
RPZ Rata Peaks 21.38 179 P **P** **20 00 08.7 -0.2**
CNB Canberra Magne 22.44 230 *e*P **P** **20 00 22.0 +1.5**
comp=Z,149nm,0.8s
CNB *e*S **S** **20 04 28.1 +3.8**
CTA Charters Tower 22.55 271 P **P** **20 00 21.2 -0.6**
comp=Z,28nm,0.7s,baz=98,slow=12,SNR=36
CTA Charters Tower 22.55 271 *e*P **P** **20 00 22.4 +0.6**
comp=Z,26nm,0.8s
CTA *e*S **S** **20 04 25.8 -0.6**
CTA Charters Tower 22.55 271 P **P** **20 00 21.2 -0.6**
CTA Charters Tower 22.55 271 P **P** **20 00 21.2 -0.6**
CTAO Charters Tower 22.55 271 *e*P **P** **20 00 21.0 -0.8**
CTAO pmax pmax
comp=Z,30nm,0.8s
CTAO MLR MLR
comp=Z,6µm,19.0s
CTAO Charters Tower 22.55 271 *e*P **P** **20 00 21.0 -0.8**
comp=Z,30nm,0.8s
CTAO LR LR
comp=Z,6µm,19.0s
CAN Canberra 22.70 230 *e*P **P** **20 00 22.9 -0.4**
CAN *e* 20 00 36.6
CAN pmax pmax
comp=Z,92nm,1.3s
CAN MLR MLR
comp=Z,7µm,19.0s
CAN Canberra 22.70 230 *e*P **P** **20 00 22.9 -0.4**
comp=Z,92nm,1.3s
CAN *e* 20 00 36.6
CAN LR LR
comp=Z,7µm,19.0s
TARA Tarawa 23.64 6 PFAKE 20 00 40.0 +7.4
TARA LR LR
comp=Z,3.0nm,20.0s
PMG Port Moresby 25.66 296 P **P** **20 00 49.6 -1.6**
comp=Z,14nm,0.8s,baz=109,slow=6.5,SNR=9.5
PMG Port Moresby 25.66 296⇑ *e*P **P** **20 00 49.7 -1.4**
PMG pmax pmax
comp=Z,21nm,0.9s
PMG Port Moresby 25.66 296 *e*P **P** **20 00 47.7 -3.4**
comp=Z,32nm,0.8s
PMG LR LR
comp=Z,8µm,20.0s
TOO Toolangi 26.26 229 *e*P **P** **20 00 59.2 +2.8**
comp=Z,133nm,1.2s
TOO *e*S **S** **20 05 31.0 +4.9**
COEN Coen 27.07 283 *e*P **P** **20 01 04.1 +0.2**
comp=Z,95nm,0.8s
COEN *e*S **S** **20 05 41.1 +1.9**
COEN Coen 27.07 283 *e*P **P** **20 01 03.3 -0.6**
comp=Z,174nm,0.9s
STKA Stephens Creek 27.24 243 P **P** **20 01 04.2 -1.1**
comp=Z,17nm,1.0s,baz=88,slow=7.7,SNR=15
STKA LR LR 20 11 25.1
comp=Z,8µm,18.2s,baz=73,slow=36
STKA Stephens Creek 27.24 243 *e*P **P** **20 01 05.2 -0.1**
comp=Z,13nm,0.8s
STKA *e*S **S** **20 05 46.1 +4.5**
STKA Stephens Creek 27.24 243 *e*P **P** **20 01 04.2 -1.1**
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 27.24 243 *e*P **P** **20 01 04.2 -1.1**
comp=Z,5.1nm,1.0s
RAR Rarotonga 27.77 93 LR LR 20 09 02.3
comp=Z,1µm,19.0s,baz=262,slow=30
BBOO Buckleboo 32.02 243 *e*P **P** **20 01 49.8 +2.2**
comp=Z,141nm,1.0s
BBOO *e*S **S** **20 06 58.0 +1.4**
BBOO Buckleboo 32.02 243 *e*P **P** **20 01 49.6 +2.0**
comp=Z,418nm,0.9s
AS31 Alice Springs 33.51 260 *e*P **P** **20 01 59.4 -1.4**
ASAR Alice Springs 33.51 260 P **P** **20 01 59.2 -1.6**
comp=Z,11nm,0.8s,baz=81,slow=9.3,SNR=79
ASAR Alice Springs 33.51 260 P **P** **20 01 59.3 -1.6**
ASAR Alice Springs 33.51 260 P **P** **20 01 59.2 -1.6**
WB2 Warramunga Arr 33.60 267 *e*P **P** **20 01 59.6 -2.0**
WRAB Tennant Creek 33.60 267 *e*P **P** **20 01 59.7 -1.9**
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB Tennant Creek 33.60 267 *e*P **P** **20 01 59.7 -1.9**
comp=Z,22nm,1.0s
WRAB Tennant Creek 33.60 267 P **P** **20 02 00.0 -1.6**
comp=Z,90nm,0.7s,SNR=8.1
WRA Warramunga Arr 33.61 267 P **P** **20 01 59.5 -2.2**
comp=Z,7.9nm,0.8s,baz=99,slow=8.7,SNR=60
WRA S **S** **20 07 22.4 +0.7**
comp=Z,1.0nm,1.1s,baz=97,slow=24,SNR=5.6
WRA ScP ScP 20 08 28.5 +5.7
comp=Z,2.3nm,1.2s,baz=104,slow=3.4,SNR=4.6
WRA LR LR 20 15 57.5
comp=Z,6µm,19.4s,baz=100,slow=37
WRA Warramunga Arr 33.61 267 P **P** **20 01 59.5 -2.2**
WRA S **S** **20 07 22.4 +0.7**
WRA Warramunga Arr 33.61 267 P **P** **20 01 59.5 -2.2**
WRA S **S** **20 07 22.4 +0.7**
WRA ScP ScP 20 08 28.5 +5.7
TBI Tubuai 36.99 100 *e*S **S** **20 08 12.5 -1.0**
comp=Z,661nm,27.2s
TBI *e*LQ LQ 20 10 49.4
comp=Z,3µm,29.5s
TBI *e*LR LR 20 12 20.1
comp=Z,2µm,28.8s,baz=265
PPT2 Papeete2 37.90 90 *e*S **S** **20 08 25.6 -1.9**
comp=Z,744nm,23.7s
PPT2 *e*LQ LQ 20 11 10.5
comp=Z,4µm,29.2s
PPT2 *e*LR LR 20 12 51.8
comp=Z,1µm,26.2s
XMAS Kiritimati 39.68 57 PFAKE 20 03 10.0 +17
XMAS LR LR
comp=Z,5µm,19.0s
WAKE Wake Island 41.48 355 PFAKE 20 03 20.0 +12
WAKE LR LR
comp=Z,5µm,20.0s
FITZ Fitzroy Crossi 42.04 267 *e*P **P** **20 03 12.0 -0.8**
comp=Z,34nm,0.8s
FITZ *e*S **S** **20 09 30.2 +0.9**
FITZ Fitzroy Crossi 42.04 267 *e*P **P** **20 03 11.6 -1.3**
comp=Z,35nm,0.9s
JOHN Johnston Islan 43.51 29 PFAKE 20 03 40.0 +15
JOHN LR LR
comp=Z,3.0nm,21.0s
GUMO Guam 43.53 323 P **P** **20 03 25.1 +0.3**
GUMO pmax pmax
comp=Z,115nm,0.9s
GUMO Guam 43.53 323 P **P** **20 03 25.1 +0.3**
comp=Z,115nm,0.9s
MBWA Marble Bar 46.84 261 *e*P **P** **20 03 50.8 -0.4**
MBWA *e*S S 20 10 32.6 -6.5
MBWA Marble Bar 46.84 261 *e*P **P** **20 03 51.0 -0.1**
comp=Z,38nm,0.8s
MBWA LR LR
comp=Z,4µm,19.0s
MEEK Meekatharra 47.02 254 *e*P **P** **20 03 52.5 -0.1**
comp=Z,108nm,0.7s
MEEK *e*S **S** **20 10 39.0 -2.6**
KLBR Kellerberrin 47.40 247 *e*P **P** **20 03 55.8 +0.4**
comp=Z,86nm,1.5s
NWAO Narrogin (SRO) 47.80 245 *e*P **P** **20 03 59.0 +0.5**
NWAO pmax pmax
comp=Z,37nm,1.1s
NWAO MLR MLR
comp=Z,6µm,21.0s
NWAO Narrogin (SRO) 47.80 245 *e*P **P** **20 03 59.0 +0.5**
comp=Z,37nm,1.1s
NWAO LR LR
comp=Z,6µm,21.0s
DRV Dumont d'Urvil 48.37 196 P P 20 03 59.0 -3.3
DRV S S 20 10 48.0 -11
DRV SS SS 20 14 25.0 -4.2
DRV L L 20 15 00.0
DRV R 20 18 00.0
RKT Rikitea 50.21 102 *e*S **S** **20 11 26.0 -0.5**
comp=Z,575nm,27.0s
RKT *e*LQ LQ 20 16 01.5
comp=Z,2µm,29.8s
RKT *e*LR LR 20 18 26.1
comp=Z,1µm,27.0s,baz=266
MIDW Midway 51.60 14 PFAKE 20 04 40.0 +13
MIDW LR LR
comp=Z,3µm,20.0s
KAPI Kappang 51.78 282 LR LR 20 24 57.8
comp=Z,2µm,21.9s,baz=285,slow=34
DAV Davao City (W) 52.65 298 PFAKE 20 04 50.0 +15
DAV LR LR
comp=Z,1µm,19.0s
VNDA Vanda 55.43 182 *e*P **P** **20 04 54.8 -0.1**
VNDA pmax pmax
comp=Z,40nm,1.8s
VNDA MLR MLR
comp=Z,4µm,19.0s
VNDA Vanda 55.43 182 *e*P **P** **20 04 54.8 -0.1**
comp=Z,40nm,1.8s
VNDA LR LR
comp=Z,4µm,19.0s
SBA Scott Base 55.64 181 *e*P **P** **20 04 55.4 -0.9**
SBA pmax pmax
comp=Z,90nm,1.7s
SBA MLR MLR
comp=Z,3µm,19.0s
SBA Scott Base 55.64 181 *e*P **P** **20 04 55.4 -0.9**
comp=Z,90nm,1.7s
SBA LR LR
comp=Z,3µm,19.0s
CBIJ Chichi jima 56.14 330 LR LR 20 25 24.2
comp=Z,1µm,19.3s,baz=308,slow=32
CASY Casey 57.77 204 PFAKE 20 05 20.0 +8.5
CASY LR LR
comp=Z,2µm,20.0s
JOW Kunigami 63.57 318 LR LR 20 30 21.0
comp=Z,791nm,21.8s,baz=128,slow=33
JOW Kunigami 63.57 318 *e*P **P** **20 05 53.2 +1.7**
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 65.91 332 P **P** **20 06 05.2 -1.5**
comp=Z,28nm,1.0s,baz=169,slow=7.9,SNR=25
MJAR Matsushiro Arr 65.91 332 P **P** **20 06 05.2 -1.5**
MJAR Matsushiro Arr 65.91 332 P **P** **20 06 05.2 -1.5**
MAJO Matsushiro 65.92 332 *e*P **P** **20 06 05.9 -0.8**
MAJO pmax pmax
comp=Z,42nm,0.9s
MAJO MLR MLR
comp=Z,1µm,20.0s
MAJO Matsushiro 65.92 332 *e*P **P** **20 06 05.9 -0.8**
comp=Z,42nm,0.9s
MAJO LR LR
comp=Z,1µm,20.0s
MAT Matsushiro 65.92 332 P **P** **20 06 04.7 -2.0**
MAT S **S** **20 14 52.0 +1.0**
TPUB Ta-pu 66.27 310 *e*P **P** **20 06 10.6 +1.3**
comp=Z,46nm,0.9s
SSLB Suanglung 66.35 311 *e*P **P** **20 06 08.6 -1.2**
comp=Z,36nm,0.8s
YHNB Yeheng 66.62 312 *e*P P 20 06 14.2 +2.6
comp=Z,83nm,1.0s
YHNB LR LR
comp=Z,855nm,20.0s
JNU Nakatsue 66.73 325 *e*P **P** **20 06 10.7 -1.3**
comp=Z,21nm,0.9s
TATO Taipei 66.74 312 *e*P **P** **20 06 11.9 -0.3**
comp=Z,70nm,1.0s
TATO LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 67.78 180 P **P** **20 06 18.3 -0.1**
comp=Z,13nm,0.9s,baz=34,slow=2.7,SNR=17
QSPA South Pole Qui 67.78 180 *e*P **P** **20 06 17.7 -0.7**
comp=Z,23nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
QZH Quanzhou 68.75 310⇑ *i*P **P** **20 06 25.6 +0.8**
QZH S **S** **20 15 24.0 -1.4**
QZH pmax pmax
comp=Z,1µm,8.7s
QZH LR LR
comp=N,1µm,17.4s
QZH LR LR
comp=E,2µm,18.4s
QZH LR LR
comp=Z,1µm,15.2s
YUK Yuzh-Kuril'sk 69.71 341 *d i*P **P** **20 06 30.0 -0.4**
YUK *i* 20 09 07.0
YUK *i* PPP PPP 20 10 49.3
YUK *i* S **S** **20 15 36.2 +0.2**
YUK *e*SS **SS** **20 20 01.9 -3.6**
YUK pmax pmax
comp=Z,308nm,5.9s
COCO West Island 70.34 265 PFAKE 20 06 50.0 +15
COCO LR LR
comp=Z,2µm,21.0s
ASAJ Asahikawa 70.80 339 LR LR 20 32 29.8
comp=Z,2µm,21.8s,baz=164,slow=32
SSE Sheshan 70.98 317 P **P** **20 06 37.8 -0.6**
SSE pP **pP** **20 06 50.5 -0.3**
SSE S **S** **20 15 54.5 +3.1**
SSE pmax pmax
comp=Z,19nm,1.4s
SSE pmax pmax
comp=Z,340nm,7.5s
SSE LR LR
comp=N,440nm,18.5s
SSE LR LR
comp=E,300nm,18.9s
SSE LR LR
comp=Z,690nm,18.8s
KSRS Korea Array 71.59 326 P **P** **20 06 41.4 -0.6**
comp=Z,13nm,0.8s,baz=141,slow=6.1,SNR=37
KSRS LR LR 20 37 46.6
comp=Z,679nm,18.6s,baz=135,slow=36
KSAR Wonju Array Be 71.60 326 P **P** **20 06 41.4 -0.6**
KSAR Wonju Array Be 71.60 326 P **P** **20 06 41.4 -0.6**
RPN Rapa Nui 71.96 112 PFAKE 20 07 00.0 +15
RPN LR LR
comp=Z,1µm,21.0s
QIZ Qiongzhong 71.98 300 P **P** **20 06 45.5 +0.8**
QIZ S **S** **20 16 06.0 +2.6**
QIZ pmax pmax
comp=Z,15nm,1.7s
QIZ Qiongzhong 71.98 300 PFAKE 20 07 00.0 +15
QIZ LR LR
comp=Z,549nm,20.0s
INCN Inchon 72.29 325 *e*P **P** **20 06 47.4 +1.1**
comp=Z,98nm,1.3s
INCN LR LR
comp=Z,757nm,21.0s
NJ2 Nanjing 73.10 316 *e*P **P** **20 06 49.1 -2.0**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 Nanjing 73.10 316 *e*P **P** **20 06 52.3 +1.2**
NJ2 pP **pP** **20 07 01.4 -2.2**
NJ2 sP **sP** **20 07 06.4 -2.0**
NJ2 PP **PP** **20 09 37.0 +2.4**
NJ2 S **SKiKP** **20 16 17.5 -2.7**
NJ2 sS **sS** **20 16 34.5 -2.0**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,600nm,9.6s
NJ2 LR LR
comp=N,370nm,11.0s
NJ2 LR LR
comp=E,330nm,12.7s
NJ2 LR LR
comp=Z,650nm,13.9s
YSS Yuzh-Sakhalins 73.28 341 *e*P **P** **20 06 53.5 +1.7**
YSS *e*S **SKiKP** **20 16 21.0 +1.0**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 73.28 341 *e*P **P** **20 06 52.3 +0.5**
comp=Z,24nm,0.9s
YSS LR LR
comp=Z,779nm,20.0s
PSI Prapat 73.94 280 P P 20 07 05.3 +8.6
comp=Z,25nm,1.1s
VLA Vladivostok 74.08 332⇑ *e*P **P** **20 06 55.8 -0.8**
VLA *e* 20 07 09.6
VLA S **S** **20 16 24.2 -2.1**
VLA pmax pmax
comp=Z,16nm,1.5s
USRK Ussuriysk Arra 74.90 332 P **P** **20 07 02.1 +0.8**
comp=Z,12nm,1.0s,baz=155,slow=4.8,SNR=12
USRK LR LR 20 39 06.5
comp=Z,498nm,18.6s,baz=316,slow=35
WHN Wuhan 75.15 312 P **P** **20 07 02.8 -0.3**
WHN S **S** **20 16 42.3 +3.5**
WHN pmax pmax
comp=Z,180nm,2.0s
WHN pmax pmax
comp=Z,1µm,9.8s
WHN LR LR
comp=N,1µm,16.2s
WHN LR LR
comp=E,640nm,11.4s
WHN LR LR
comp=Z,1µm,19.7s
PET Petropavlovsk 75.68 353 *e*P P 20 07 08.2 +2.6
PET *e*S S 20 16 48.4 +4.7
PET pmax pmax
comp=Z,600nm,15.5s
PET smax smax
comp=E,500nm,17.3s
PET MLR MLR
comp=Z,1µm,18.0s
PET Petropavlovsk 75.68 353 PFAKE 20 07 20.0 +14
PET LR LR
comp=Z,2µm,21.0s
PETK Petropavlovsk- 75.88 352 P **P** **20 07 07.3 +0.6**
comp=Z,20nm,0.9s,baz=133,slow=6.3,SNR=9.9
PETK LR LR 20 34 49.5
comp=Z,1µm,20.6s,baz=152,slow=31
PETK Petropavlovsk- 75.88 352 P **P** **20 07 07.4 +0.6**
PETK Petropavlovsk- 75.88 352 P **P** **20 07 07.3 +0.6**
MAW Mawson 76.00 202 P **P** **20 07 08.0 +0.6**
comp=Z,12nm,1.0s,baz=180,slow=5.1,SNR=2.5
MAW LR LR 20 35 36.7
comp=Z,1µm,20.4s,baz=88,slow=32
MAW Mawson 76.00 202 P **P** **20 07 07.7 +0.2**
MAW pmax pmax
comp=Z,8.0nm,1.1s
MAW Mawson 76.00 202 P **P** **20 07 07.7 +0.2**
comp=Z,8.2nm,1.1s
DL2 Dalian 76.05 323⇑ *i*P **P** **20 07 08.4 +0.3**
DL2 S **S** **20 16 50.4 +1.9**
DL2 SS **SS** **20 21 42.5 -0.2**
DL2 pmax pmax
comp=Z,30nm,1.0s
DL2 pmax pmax
comp=Z,290nm,7.1s
DL2 LR LR
comp=N,260nm,16.5s
DL2 LR LR
comp=Z,370nm,19.8s
TIA Tai'an 76.89 318 P **P** **20 07 12.5 -0.4**
TIA pmax pmax
comp=Z,50nm,1.1s
TIA pmax pmax
comp=Z,900nm,7.8s
TIA LR LR
comp=N,1µm,17.6s
TIA LR LR
comp=E,1µm,16.6s
TIA LR LR
comp=Z,1µm,15.7s
SNY Shenyang 77.07 326⇓ P P 20 07 15.8 +2.0
SNY LR LR
comp=N,400nm,22.7s
SNY LR LR
comp=E,410nm,23.2s
SNY LR LR
comp=Z,550nm,26.4s
HABR Khabarovsk 77.19 337 *e*P **P** **20 07 12.9 -1.4**
HABR *e* 20 07 23.0
HABR *e**PP **pP** **20 07 29.5 +2.7**
HABR 20 10 07.7
HABR *e*PPP PPP 20 11 54.6
HABR *e*S **S** **20 16 58.7 -1.8**
HABR *e* 20 17 25.1
HABR SS **SS** **20 21 58.6 -1.0**
HABR pmax pmax
comp=Z,144nm,2.2s
HABR pmax pmax
comp=N,65nm,2.9s
HABR pmax pmax
comp=E,82nm,2.9s
HABR MLR MLR
comp=Z,540nm,19.0s
CN2 Changchun 77.58 328 *e*P **P** **20 07 16.9 +0.3**
CN2 *e*pP **PcP** **20 07 26.8 +0.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,18.0s
CN2 LR LR
comp=E,800nm,18.0s
CN2 LR LR
comp=Z,900nm,19.0s
ENH Enshi 78.39 310 *e*P **P** **20 07 20.4 -1.1**
comp=Z,48nm,0.9s
ENH *e* 20 07 32.2
ENH LR LR
comp=Z,695nm,20.0s
GYA Guiyang 78.39 305⇓ *i*P **P** **20 07 22.8 +1.1**
GYA pP **PcP** **20 07 32.0 +1.2**
GYA PP **PP** **20 10 22.9 +3.3**
GYA S **S** **20 17 15.3 +0.6**
GYA SKS **SKSac** **20 17 30.0 -3.5**
GYA SS **SS** **20 22 21.8 +3.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,590nm,19.3s
GYA LR LR
comp=E,510nm,20.4s
GYA LR LR
comp=Z,540nm,18.7s
KLR Kul'dur 79.06 335 *e*P P 20 07 20.0 -4.6
KLR *e* 20 07 30.2
KLR *e*S **S** **20 17 23.5 +2.9**
KLR *e*SS **SS** **20 22 27.5 -0.2**
KLR pmax pmax
comp=Z,140nm,2.0s
PAF Port-aux-Franc 79.69 221 PFAKE 20 07 40.0 +12
PAF LR LR
comp=Z,2µm,20.0s
BJT Baijiatuao 79.93 321 *e*P **P** **20 07 28.7 -0.9**
BJT pmax pmax
comp=Z,41nm,1.3s
BJT MLR MLR
comp=Z,886nm,21.0s
BJT Baijiatuau 79.93 321 *e*P **P** **20 07 28.7 -0.9**
comp=Z,41nm,1.3s
BJT LR LR

comp=Z,886nm,21.0s
BJI Beijing 79.94 321 P **P** **20 07 30.8 +1.2**
BJI S S 20 17 34.6 +4.3
BJI pmax pmax
comp=Z,22nm,1.6s
BJI pmax pmax
comp=Z,580nm,6.0s
BJI LR LR
comp=N,620nm,22.4s
BJI LR LR
comp=E,520nm,22.1s
BJI LR LR
comp=Z,670nm,24.0s
CM31 Chiang Mai Arr 80.68 294 *e*P **P** **20 07 34.4 +0.2**
comp=Z,21nm,1.0s
CM31 LR LR
comp=Z,721nm,20.0s
CMAR Chiang Mai Arr 80.68 294 P **P** **20 07 34.4 +0.2**
comp=Z,6.0nm,0.8s,baz=134,slow=4.0,SNR=25
CMAR PKKPbc **PKKPbc** **20 26 13.5 -0.2**
comp=Z,1.1nm,0.9s,baz=286,slow=4.3,SNR=6.2
CMAR LR LR 20 39 16.2
comp=Z,324nm,20.2s,baz=170,slow=33
CMAR Chiang Mai Arr 80.68 294 P **P** **20 07 34.4 +0.2**
CMAR 20 26 13.5
CMAR Chiang Mai Arr 80.68 294 P **P** **20 07 34.4 +0.2**
CMAR PKKPbc **PKKPbc** **20 26 13.5 -0.2**
KMI Kunming 80.75 302 P **P** **20 07 35.8 +1.2**
KMI pP **pP** **20 07 47.4 +0.2**
KMI sP **sP** **20 07 51.8 -0.2**
KMI PP **PP** **20 10 42.4 +3.1**
KMI S **S** **20 17 40.1 +0.2**
KMI sS **ScS** **20 17 59.3 +0.5**
KMI SS **SS** **20 22 53.8 -0.5**
KMI pmax pmax
comp=Z,42nm,1.5s
KMI LR LR
comp=N,96nm,16.6s
KMI LR LR
comp=E,270nm,18.6s
KMI LR LR
comp=Z,510nm,17.9s
CHTO Chiang Mai 80.84 295 *e*P **P** **20 07 33.3 -1.7**
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO MLR MLR
comp=Z,738nm,19.0s
CHTO Chiang Mai 80.84 295 *e*P **P** **20 07 33.3 -1.7**
comp=Z,31nm,1.0s
CHTO LR LR
comp=Z,738nm,19.0s
CHTO Chiang Mai 80.84 295 P **P** **20 07 36.7 +1.7**
comp=Z,24nm,1.9s,comp=Z,796nm
XAN Xi'an 80.91 312 P **P** **20 07 35.9 +0.8**
XAN pP **pP** **20 07 45.8 -1.9**
XAN sP sP 20 07 49.8 -2.7
XAN PP **PP** **20 10 39.6 -0.8**
XAN S **S** **20 17 42.9 +2.0**
XAN SS **SS** **20 22 56.0 -0.2**
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,190nm,8.3s
XAN LR LR
comp=N,340nm,18.0s
XAN LR LR
comp=E,36nm,14.5s
XAN LR LR
comp=Z,190nm,17.4s
SYO Syowa Base 82.30 196 *e*P **P** **20 07 40.0 -1.8**
CD2 Chengdu 82.89 307 P **P** **20 07 46.8 +1.2**
CD2 pP **pP** **20 08 00.6 +2.4**
CD2 PP **PP** **20 10 59.9 +3.2**
CD2 S **S** **20 18 01.1 -0.3**
CD2 SS **SS** **20 23 29.0 +3.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=N,990nm,17.8s
CD2 LR LR
comp=Z,660nm,17.8s
HHC Hu-ho-hao-te 83.19 319 *e*P **P** **20 07 47.1 +0.1**
HHC pP **pP** **20 08 01.3 +1.7**
HHC sP **sP** **20 08 07.3 +2.9**
HHC PP **PP** **20 11 02.1 +3.1**
HHC S **SKSac** **20 18 03.1 -2.7**
HHC sS **sS** **20 18 25.1 -0.1**
HHC SS **SS** **20 23 32.6 +2.7**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,530nm,6.1s
HHC LR LR
comp=N,600nm,17.8s
HHC LR LR
comp=E,500nm,16.6s
HHC LR LR
comp=Z,730nm,17.8s
PMSA Palmer Station 83.71 159 P **P** **20 07 48.7 -0.5**
HIA Hailar 84.25 329 PFAKE 20 08 00.0 +7.9
HIA LR LR
comp=Z,1μm,20.0s
LZH Lanzhou 85.52 312 *e*P P 20 08 01.6 +2.6
LZH pP pP 20 08 10.8 -0.9
LZH sP sP 20 08 15.4 -1.0
LZH PP **PP** **20 11 23.1 +4.9**
LZH *e*S **ScS** **20 18 31.4 -6.0**
LZH sS sS 20 18 49.1 +0.2
LZH pmax pmax
comp=Z,45nm,1.2s
LZH pmax pmax
comp=Z,230nm,4.1s
NVL N'lazarevskaya 85.97 187 *e*P **pP** **20 08 13.9 +0.7**
NVL *e**PP sP 20 08 20.9 +3.0
NVL *e**SP x 20 08 27.9
NVL *e* 20 11 30.4
NVL *e*S **S** **20 18 29.8 -1.0**
NVL *e*SSS SSS 20 27 50.8
NVL pmax pmax
comp=Z,13nm,1.3s
NVL MLR MLR
comp=Z,776nm,17.0s
MAIT Maitri 85.97 187 *e*P **P** **20 08 01.1 +0.7**
SEY Seymchan 86.12 352 *e*P **P** **20 08 01.3 +0.3**
SNAA Sanae 86.17 182 *e* **P** **20 07 59.2 -2.4**
SNAA Sanae 86.17 182 *e*P P 20 07 57.5 -4.0
SNAA pmax pmax
comp=Z,16nm,1.3s
SNAA Sanae 86.17 182 *e*P P 20 07 57.5 -4.0
comp=Z,16nm,1.3s
VNA3 Neumayer Olymp 86.72 180 *e* **P** **20 08 02.8 -1.4**
VNA3 *e* 20 08 06.4
VNA3 *e* 20 08 15.2
VNA2 Neumayer--Watz 87.03 181 *e* **P** **20 08 05.8 +0.1**
VNA2 *e* 20 08 08.1
VNA2 *e* 20 08 16.4
CLNS Chul'man 87.59 337 *e*P **P** **20 08 07.7 -0.7**
CLNS pmax pmax
comp=Z,27nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.3s
CMB Columbia Colle 88.43 48 *e*P P 20 08 17.9 +4.9
CMB pmax pmax
comp=Z,7.0nm,1.2s
CMB Columbia Colle 88.43 48 *e*P P 20 08 17.9 +4.9
comp=Z,6.8nm,1.2s
ISA Isabella 88.61 50 *e*P **P** **20 08 14.1 +0.2**
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella 88.61 50 *e*P **P** **20 08 14.1 +0.2**
comp=Z,7.1nm,1.1s
DAC Darwin (Calif) 89.53 50 PFAKE 20 08 30.0 +12
DAC LR LR
comp=Z,2μm,19.0s
SHL Shillong 89.68 298 *e*P **P** **20 08 21.0 +1.8**
ULN Ulaanbaatar 89.91 323 *e*P **P** **20 08 18.8 -0.9**
ULN *e* 20 08 30.0
ULN pmax pmax
comp=Z,29nm,1.2s
ULN MLR MLR
comp=Z,845nm,20.0s
ULN Ulaanbaatar 89.91 323 *e*P **P** **20 08 18.8 -0.9**
comp=Z,29nm,1.2s
ULN *e* 20 08 30.0
ULN LR LR
comp=Z,845nm,20.0s
GTA Gaotai 89.95 313 *e*P **P** **20 08 20.9 +0.8**
GTA pP **pP** **20 08 31.6 -1.3**
GTA sP sP 20 08 35.1 -2.5
GTA SKS **SKSac** **20 18 48.0 +0.2**
GTA S **ScS** **20 19 09.9 -4.1**
GTA sS **sS** **20 19 29.8 -1.4**
GTA SS **SS** **20 25 12.6 +3.5**
GTA pmax pmax
comp=Z,9.0nm,2.0s
GTA pmax pmax
comp=Z,460nm,7.1s
GTA LR LR
comp=N,430nm,16.2s
GTA LR LR
comp=E,590nm,18.3s
GTA LR LR
comp=Z,610nm,20.4s
NVAR Mina Array Bea 90.06 48 P **P** **20 08 20.1 -0.7**
comp=Z,0.7nm,0.6s,baz=229,slow=7.6,SNR=8.3
NVAR LR LR 20 46 05.4
comp=Z,2μm,18.2s,baz=95,slow=34
NVAR Mina Array Bea 90.06 48 P **P** **20 08 20.1 -0.7**
YAK Yakutsk 90.07 342 *e*P **P** **20 08 18.2 -1.7**
YAK *e* 20 08 29.7
YAK *e* 20 19 01.4
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=E,548nm,21.0s
YAK MLR MLR
comp=N,863nm,17.0s
YAK Yakutsk 90.07 342 *e*P **P** **20 08 20.0 +0.1**
YAK LR LR
comp=Z,1μm,19.0s
BILL Bilibino 90.11 358 *d*P **P** **20 08 19.9 -0.1**
BILL pmax pmax
comp=Z,48nm,1.8s
BILL Bilibino 90.11 358 *e*P **P** **20 08 19.4 -0.6**
comp=Z,33nm,1.4s
BILL LR LR
comp=Z,684nm,19.0s
SONM Songino Array 90.26 323 P **P** **20 08 20.6 -0.8**
comp=Z,11nm,1.0s,baz=142,slow=4.2,SNR=31
SONM PKKPbc **PKKPbc** **20 25 55.1 +2.6**
comp=Z,0.5nm,0.8s,baz=262,slow=2.1,SNR=4.2
SONM LR LR 20 51 14.0
comp=Z,782nm,18.3s,baz=343,slow=37
SONM Songino Array 90.26 323 P **P** **20 08 20.6 -0.8**
SONM Songino Array 90.26 323 P **P** **20 08 20.6 -0.8**
SONM PKKPbc **PKKPbc** **20 25 55.1 +2.6**
TPH Tonopah 90.64 49 PFAKE 20 08 30.0 +6.5
TPH LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 91.07 38 PFAKE 20 08 40.0 +15
NLWA LR LR
comp=Z,2μm,20.0s
BMN Battle Mountai 91.74 47 PFAKE 20 08 40.0 +12
BMN LR LR
comp=Z,2μm,19.0s
WVOR Wild Horse Val 91.76 44 PFAKE 20 08 40.0 +12
WVOR LR LR
comp=Z,1μm,20.0s
LSA Lhasa 91.98 301 P **P** **20 08 28.0 -2.2**
LSA S **S** **20 19 32.6 +3.0**
LSA LR LR
comp=E,360nm,19.0s
LSA LR LR
comp=Z,510nm,19.0s
LSA Lhasa 91.98 301 *e*P **P** **20 08 29.1 -1.1**
LSA pmax pmax
comp=Z,12nm,1.1s
LSA MLR MLR
comp=Z,545nm,20.0s
LSA Lhasa 91.98 301 *e*P **P** **20 08 29.1 -1.1**
comp=Z,12nm,1.1s
LSA LR LR
comp=Z,545nm,20.0s
WRAK Wrangell Islan 92.04 28 PFAKE 20 08 40.0 +11
WRAK LR LR
comp=Z,1μm,19.0s
BOD Bodaibo 92.51 334 *e*P **P** **20 08 31.0 -0.3**
BOD pmax pmax
comp=Z,9.0nm,1.6s
COLA College 92.66 17 *e*P **P** **20 08 30.6 -1.3**
COLA MLR MLR
comp=Z,1μm,19.0s
COLA College 92.66 17 *e*P **P** **20 08 30.6 -1.3**
COLA LR LR
comp=Z,1μm,19.0s
ILAR Eielson Array 92.83 17 P **P** **20 08 32.1 -0.6**
comp=Z,1.9nm,0.7s,baz=234,slow=6.4,SNR=5.0
ILAR LR LR 20 48 01.6
comp=Z,1μm,18.4s,baz=48,slow=34
ILAR Eielson Array 92.83 17 P **P** **20 08 32.1 -0.6**
ILAR Eielson Array 92.83 17 P **P** **20 08 32.1 -0.6**
TUC Tucson 92.83 56 PFAKE 20 08 50.0 +16
TUC LR LR
comp=Z,2μm,19.0s
HAWA Hanford 93.12 41 PFAKE 20 08 50.0 +16
HAWA LR LR
comp=Z,3μm,20.0s
WUAZ Wupatki 93.72 53 PFAKE 20 08 50.0 +12
WUAZ LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 93.75 43 PFAKE 20 08 50.0 +12
BMO LR LR
comp=Z,2μm,22.0s
TLY Talaya 93.84 325 *e*P **P** **20 08 37.3 -0.4**
TLY *e*S S 20 19 35.6 -8.5
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,270nm,20.0s
TLY Talaya 93.84 325 *e*P P 20 08 31.9 -5.8
comp=Z,22nm,1.5s
TLY LR LR
comp=Z,629nm,21.0s
DLBC Dease Lake 94.27 27 LR LR 20 42 19.1
comp=Z,1μm,20.9s,baz=166,slow=30
MVU Marysvale 94.36 50 PFAKE 20 08 50.0 +9.3
MVU LR LR
comp=Z,3μm,21.0s
EGAK Eagle 94.47 19 PFAKE 20 08 50.0 +10
EGAK LR LR
comp=Z,1μm,19.0s
DUG Dugway 94.65 48 PFAKE 20 08 50.0 +8.1
DUG LR LR
comp=Z,3μm,19.0s
HLID Hailey 95.03 45 PFAKE 20 08 50.0 +6.4
HLID LR LR
comp=Z,2μm,20.0s
MOY Mondy 95.25 324 *e*P **P** **20 08 45.3 +1.0**
NEW Newport 95.45 40 PFAKE 20 09 00.0 +15
NEW LR LR
comp=Z,2μm,19.0s
PLCA Paso Flores 95.59 138 P P 20 08 48.8 +2.5
comp=Z,4.1nm,1.0s,baz=184,slow=2.8,SNR=3.1
PLCA Paso Flores 95.59 138 P P 20 08 48.8 +2.5
PLCA Paso Flores 95.59 138 P P 20 08 48.8 +2.5
HWUT Hardware Ranch 96.10 48 PFAKE 20 09 00.0 +11
HWUT LR LR
comp=Z,3μm,19.0s
MVCO Mesa Verde 96.52 53 PFAKE 20 09 00.0 +9.4
MVCO LR LR
comp=Z,2μm,20.0s
MSO Missoula 96.74 42 PFAKE 20 09 00.0 +8.8
MSO LR LR
comp=Z,2μm,19.0s
AHID Auburn Hatcher 96.89 47 PFAKE 20 09 00.0 +7.9
AHID LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 97.19 55 PFAKE 20 09 10.0 +16
ANMO LR LR
comp=Z,2μm,21.0s
TXAR Lajitas Array 97.32 61 LR LR 20 43 55.1
comp=Z,2μm,21.3s,baz=50,slow=30
BOZ Bozeman (W) 97.71 44 PFAKE 20 09 10.0 +14
BOZ LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 97.93 47 PFAKE 20 09 10.0 +13
BW06 LR LR
comp=Z,3μm,19.0s
PDAR Pinedale Array 97.93 47 LR LR 20 45 58.2
comp=Z,829nm,20.0s,baz=229,slow=31
LKWY Lake 98.08 45 PFAKE 20 09 10.0 +12
LKWY LR LR
comp=Z,3μm,19.0s
SDCO Great Sand Dun 98.93 53 PFAKE 20 09 10.0 +8.5
SDCO LR LR
comp=Z,2μm,19.0s
RLMT Red Lodge 99.03 45 PFAKE 20 09 10.0 +8.3
RLMT LR LR
comp=Z,2μm,19.0s
INK Inuvik 99.11 18 LR LR 20 47 59.6
comp=Z,1μm,19.9s,baz=295,slow=32
ISCO Idaho Springs 99.59 51 PFAKE 20 09 20.0 +16
ISCO LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 99.83 42 PFAKE 20 09 20.0 +15
EGMT LR LR
comp=Z,2μm,20.0s
WMQ Urumqi 100.04 313 *e*P **Pdif** **20 09 04.1 -1.9**
WMQ *e*S 20 20 31.6
WMQ SS **SS** **20 27 29.1 -3.2**
WMQ pmax pmax
comp=Z,7.0nm,1.4s
WMQ LR LR
comp=N,300nm,20.1s
WMQ LR LR
comp=E,270nm,22.7s
WMQ LR LR
comp=Z,340nm,22.7s
AMTX Amarillo 100.83 57 PFAKE 20 09 20.0 +10
AMTX LR LR
comp=Z,2μm,19.0s
JCT Junction City 100.86 62 PFAKE 20 09 20.0 +10
JCT LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 102.18 128 PFAKE 20 09 30.0 +14
LCO LR LR
comp=Z,801nm,20.0s
TRQA Tornquist 102.44 140 PFAKE 20 09 30.0 +13
TRQA LR LR
comp=Z,613nm,19.0s
OGNE Ogallala 102.55 51 PFAKE 20 09 30.0 +13
OGNE LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 102.90 27 P **Pdif** **20 09 19.5 +1.4**
comp=Z,0.3nm,0.6s,baz=254,slow=4.7,SNR=3.8
YKA PKiKP **PKiKP** **20 13 40.4 +2.3**
comp=Z,0.2nm,0.7s,baz=262,slow=1.5,SNR=3.6
YKA Yellowknife Ar 102.90 27 P **Pdif** **20 09 19.6 +1.4**
YKA *i* 20 13 40.5
YKA Yellowknife Ar 102.90 27 P **Pdif** **20 09 19.6 +1.4**
YKA PKiKP **PKiKP** **20 13 40.5 +2.3**
RER Riviere de l'E 102.96 241 PFAKE 20 09 30.0 +10
RER LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 103.05 58 PFAKE 20 09 30.0 +10
WMOK LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 103.46 43 PFAKE 20 09 30.0 +8.9
DGMT LR LR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 103.56 53 PFAKE 20 09 30.0 +8.2
CBKS LR LR
comp=Z,1μm,19.0s
MKAR Makanchi Array 104.61 315 Pdiff **Pdif** **20 09 27.1 +0.9**
comp=Z,0.6nm,0.7s,baz=94,slow=3.3,SNR=6.2
MKAR PP **PP** **20 13 46.1 -0.1**
comp=Z,1.5nm,1.0s,baz=106,slow=8.9,SNR=5.8
MKAR PKKPbc **PKKPbc** **20 25 13.3 +1.0**
comp=Z,0.8nm,0.8s,baz=279,slow=4.6,SNR=7.5
MKAR Makanchi Array 104.61 315 P **Pdif** **20 09 27.1 +0.9**
MKAR 20 13 46.1
MKAR Makanchi Array 104.61 315 Pdif **Pdif** **20 09 27.1 +0.9**
MKAR PP **PP** **20 13 46.1 -0.1**
MKAR PKKPbc **PKKPbc** **20 25 13.3 +1.0**
ZALV Zalesovo Beam 105.15 322 Pdiff **Pdif** **20 09 30.2 +1.9**
comp=Z,0.3nm,0.4s,baz=95,slow=3.2,SNR=2.8
ZALV Zalesovo Beam 105.15 322 P **Pdif** **20 09 30.2 +1.9**
ZALV Zalesovo Beam 105.15 322 Pdif **Pdif** **20 09 30.2 +1.9**
NATX Nacogdoches 105.45 62 PFAKE 20 14 00.0
NATX LR LR
comp=Z,3μm,20.0s
NNA Nana 105.89 110 PFAKE 20 14 00.0
NNA LR LR
comp=Z,479nm,20.0s
KSU1 Kansas State U 105.98 54 PFAKE 20 14 00.0
KSU1 LR LR
comp=Z,2μm,19.0s
TGUH Tegucigalpa,Un 106.50 81 PFAKE 20 14 00.0
TGUH LR LR
comp=Z,444nm,20.0s
FFC Flin Flon 106.59 37 PFAKE 20 14 00.0
FFC LR LR
comp=Z,2μm,19.0s
MIAR Mount Ida 107.10 59 PFAKE 20 14 00.0
MIAR LR LR
comp=Z,3μm,19.0s
ECSD EROS Data Cent 107.19 49 PFAKE 20 14 00.0
ECSD LR LR
comp=Z,2μm,20.0s
JTS JuntasAbangare 107.37 86 PFAKE 20 14 00.0
JTS LR LR
comp=Z,443nm,19.0s
TEIG Tepich 107.54 75 PFAKE 20 14 00.0
TEIG LR LR
comp=Z,616nm,19.0s
NIL Nilore 107.65 300 PFAKE 20 14 00.0
NIL LR LR
comp=Z,217nm,19.0s
KURK Kurchatov 107.98 318 PP **PP** **20 14 11.1 +0.2**
comp=Z,1.4nm,0.9s,baz=102,slow=7.5,SNR=6.0
KURK PKKPbc **PKKPbc** **20 25 02.4 +0.4**
comp=Z,0.5nm,0.5s,baz=291,slow=4.0,SNR=6.7
KURK Kurchatov 107.98 318 PP **PP** **20 14 11.1 +0.2**
KURK PKKPbc **PKKPbc** **20 25 02.4 +0.4**
TKM2 Tokmak 2 108.18 310 PFAKE 20 14 00.0
TKM2 LR LR
comp=Z,556nm,20.0s
AGMN Agassiz Nation 108.77 45 PFAKE 20 14 00.0
AGMN LR LR
comp=Z,2μm,21.0s
VBMS Vicksburg 108.96 62 PFAKE 20 14 00.0
VBMS LR LR
comp=Z,2μm,19.0s
ULM Lac du Bonnet 109.18 43 PFAKE 20 14 00.0
ULM LR LR
comp=Z,2μm,19.0s
SCIA State Center 109.19 52 PFAKE 20 14 00.0
SCIA LR LR
comp=Z,2μm,19.0s
EKS2 Erkin-Say 109.43 309 PFAKE 20 14 00.0
EKS2 LR LR
comp=Z,597nm,21.0s
OTAV Otavalo 109.68 98 PFAKE 20 14 00.0
OTAV LR LR
comp=Z,270nm,21.0s
OXF Oxford 110.42 60 PFAKE 20 14 00.0
OXF LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 110.88 238 PFAKE 20 14 10.0
ABPO LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 110.94 256 PFAKE 20 14 10.0
MSEY LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 111.11 119 PFAKE 20 14 10.0
LPAZ LR LR
comp=Z,328nm,22.0s
JFWS Jewell Farm 111.55 51 PFAKE 20 14 10.0
JFWS LR LR
comp=Z,2μm,19.0s
EYMN Ely 111.57 46 PFAKE 20 14 10.0
EYMN LR LR
comp=Z,2μm,20.0s
PLAL Pickwick Lake 111.60 60 PFAKE 20 14 10.0
PLAL LR LR
comp=Z,3μm,20.0s
BCIP Isla Barro Col 111.71 89 PFAKE 20 14 10.0
BCIP LR LR

comp=Z,511nm,19.0s
HDIL Hopedale 111.80 54 PFAKE 20 14 10.0
HDIL LR LR
comp=Z,2µm,20.0s
LRAL Lakeview Retre 112.04 62 PFAKE 20 14 10.0
LRAL LR LR
comp=Z,1µm,20.0s
COWI Conover 112.87 48 PFAKE 20 14 10.0
COWI LR LR
comp=Z,2µm,19.0s
BVAR Borovoye Array 113.40 320 PKiKP **PKiKP 20 14 00.0 +1.9**
comp=Z,0.5nm,0.4s,baz=205,slow=3.5,SNR=5.8
BVAR Borovoye Array 113.40 320 PKiKP **PKiKP 20 14 00.0 +1.9**
BVAR Borovoye Array 113.40 320 PKiKP **PKiKP 20 14 00.0 +1.9**
GOGA Godfrey 115.02 62 PFAKE 20 14 10.0 +8.2
GOGA LR LR
comp=Z,2µm,22.0s
GLMI Grayling 115.86 50 PFAKE 20 14 20.0 +17
GLMI LR LR
comp=Z,3µm,21.0s
AAM Ann Arbor 116.26 53 PFAKE 20 14 20.0 +16
AAM LR LR
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 116.50 55 PFAKE 20 14 20.0 +16
ACSO LR LR
comp=Z,3µm,19.0s
BLA Blacksburg 118.09 59 PFAKE 20 14 20.0 +12
BLA LR LR
comp=Z,2µm,20.0s
SUR Sutherland 118.32 209 PFAKE 20 14 20.0 +11
SUR LR LR
comp=Z,1µm,19.0s
SAML Samuel 119.07 115 PFAKE 20 14 20.0 +10
SAML LR LR
comp=Z,769nm,20.0s
CNNC Cliffs of the 119.86 61 PFAKE 20 14 20.0 +8.9
CNNC LR LR
comp=Z,3µm,22.0s
SDV Santo Domingo 120.14 93 PFAKE 20 14 20.0 +7.5
SDV LR LR
comp=Z,222nm,20.0s
CBN Corbin 120.60 58 PFAKE 20 14 20.0 +7.6
CBN LR LR
comp=Z,2µm,19.0s
AKTO Aktyubinsk 120.98 316 PKP **PKPdf 20 14 13.5 +0.7**
comp=Z,1.4nm,0.6s,baz=164,slow=5.0,SNR=7.6
AKTO Aktyubinsk 120.98 316 PKiKP **PKPdf 20 14 13.5 +0.7**
AKTO Aktyubinsk 120.98 316 PKP **PKPdf 20 14 13.5 +0.7**
SPB Sao Paulo 121.44 139 PFAKE 20 14 30.0 +15
SPB LR LR
comp=Z,504nm,19.0s
LBTB Lobatse 121.84 218 PFAKE 20 14 30.0 +15
LBTB LR LR
comp=Z,1µm,21.0s
BINY Binghamton 121.92 53 PFAKE 20 14 30.0 +15
BINY LR LR
comp=Z,2µm,19.0s
KBS Kingsbay 122.44 355 *c i* PKiKP **PKPdf 20 14 15.0 +0.2**
KBS pmax pmax
comp=Z,26nm,2.5s
KBS Kingsbay 122.44 355 PFAKE 20 14 30.0 +15
KBS LR LR
comp=Z,553nm,19.0s
SDDR Presa de Saban 122.58 81 PFAKE 20 14 30.0 +13
SDDR LR LR
comp=Z,696nm,21.0s
LONY Lake Ozonia 122.98 50 PFAKE 20 14 30.0 +13
LONY LR LR
comp=Z,3µm,20.0s
LBNH Lisbon 124.90 51 PFAKE 20 14 30.0 +9.5
LBNH LR LR
comp=Z,3µm,19.0s
SCHQ Schefferville 126.74 37 PFAKE 20 14 40.0 +16
SCHQ LR LR
comp=Z,3µm,20.0s
BDFB Brasilia 126.78 132 PKP **PKPdf 20 14 25.9 +0.8**
comp=Z,2.3nm,0.6s,baz=224,slow=4.6,SNR=3.5
BDFB Brasilia 126.78 132 PKiKP **PKPdf 20 14 25.9 +0.8**
BDFB Brasilia 126.78 132 PKP **PKPdf 20 14 25.9 +0.8**
LVZ Lovozero 126.86 341 PFAKE 20 14 40.0 +16
LVZ LR LR
comp=Z,1µm,20.0s
SJG San Juan 127.08 84 *e*PKiKP **PKPdf 20 14 23.7 -1.7**
SJG MLR MLR
comp=Z,219nm,20.0s
SJG San Juan 127.08 84 *e*PKPdf **PKPdf 20 14 23.7 -1.7**
SJG LR LR
comp=Z,219nm,20.0s
SUMG Summit 127.17 10 *i* PKiKP **PKPdf 20 14 24.2 -0.3**
SUMG pmax pmax
comp=Z,8.0nm,1.2s
SUMG Summit 127.17 10 *i* P **PKPdf 20 14 24.2 -0.3**
comp=Z,7.5nm,1.2s
APA Apatity 127.44 341 ⇑ *i* PKiKP PKPdf 20 14 29.0 +4.4
APA MLR MLR
comp=Z,2µm,15.0s
ARCES ARCESS Array B 128.26 345 PKhKP PKPpre 20 14 17.4
comp=Z,4.5nm,1.0s,baz=63,slow=5.6,SNR=3.6
ARCES PKP **PKiKP 20 14 26.4 -0.4**
comp=Z,1.8nm,0.5s,baz=78,slow=2.2,SNR=17
ARCES ARCESS Array B 128.26 345 PKiKP PKPpre 20 14 17.4
ARCES 20 14 26.4
ARCES ARCESS Array B 128.26 345 PKPpre PKPpre 20 14 17.4
ARCES PKP **PKiKP 20 14 26.4 -0.4**
KMBO Kilima Mbogo 128.69 249 PFAKE 20 14 40.0 +11
KMBO LR LR
comp=Z,1µm,19.0s
TSUM Tsumeb 130.91 215 PFAKE 20 14 40.0 +7.1
TSUM LR LR
comp=Z,2µm,20.0s
GNI Garni 130.95 304 PFAKE 20 14 40.0 +7.6
GNI LR LR
comp=Z,399nm,19.0s
SCO Scoresbysund 131.25 5 *i* PKiKP **PKPdf 20 14 29.6 -2.2**
SCO pmax pmax
comp=Z,6.0nm,1.1s
SCO Scoresbysund 131.25 5 *i* P **PKPdf 20 14 29.6 -2.2**
comp=Z,6.4nm,1.1s
KIV Kislovodsk 132.02 310 PFAKE 20 14 50.0 +16
KIV LR LR
comp=Z,505nm,19.0s
FINES FINESS Array B 133.78 337 PKhKP PKPpre 20 14 25.4
comp=Z,2.1nm,0.8s,baz=46,slow=5.5,SNR=3.5
FINES PKP **PKPdf 20 14 35.1 -1.7**
comp=Z,5.1nm,1.0s,baz=308,slow=2.0,SNR=5.2
FINES FINESS Array B 133.78 337 PKHKP PKPpre 20 14 25.4
FINES 20 14 35.1
FINES FINESS Array B 133.78 337 PKPpre PKPpre 20 14 25.4
FINES PKP **PKPdf 20 14 35.1 -1.7**
MBAR Mbarara 134.53 245 PFAKE 20 14 50.0 +10
MBAR LR LR
comp=Z,424nm,20.0s
MALT Malatya 136.01 303 PFAKE 20 14 50.0 +8.1
MALT LR LR
comp=Z,30nm,19.0s
AKASG Malin Array Be 138.54 323 PKP **PKPdf 20 14 45.8 -0.2**
comp=Z,0.7nm,0.5s,baz=64,slow=1.3,SNR=5.1
AKASG SKPbc **SKiKP 20 18 20.9 -0.1**
comp=Z,0.8nm,0.6s,baz=50,slow=4.0,SNR=6.1
AKASG Malin Array Be 138.54 323 PKiKP **PKPdf 20 14 45.8 -0.2**
AKASG Malin Array Be 138.54 323 PKP **PKPdf 20 14 45.8 -0.2**
AKASG SKPbc **SKiKP 20 18 20.9 -0.1**
KIEV Kiev 138.55 323 PFAKE 20 15 00.0 +14
KIEV LR LR
comp=Z,1µm,20.0s
NB2 NORSAR Subarra 138.64 345 PKPdf PKPpre 20 14 37.1
comp=Z,0.6nm,0.7s,baz=27,slow=1.8
NOA NORSAR Array B 138.64 345 PKP **PKPdf 20 14 47.7 +1.7**
comp=Z,2.0nm,0.9s,baz=49,slow=6.1,SNR=3.7
NOA NORSAR Array B 138.64 345 PKiKP **PKPdf 20 14 47.7 +1.7**
NOA NORSAR Array B 138.64 345 PKP **PKPdf 20 14 47.7 +1.7**
HFS Hagfors 138.77 342 PKhKP PKPpre 20 14 34.4
comp=Z,5.2nm,1.0s,baz=91,slow=7.2,SNR=4.7
HFS Hagfors 138.77 342 PKHKP PKPpre 20 14 34.4
HFS Hagfors 138.77 342 PKPpre PKPpre 20 14 34.4
EIL Elat 139.42 290 PKP **PKPdf 20 14 49.0 +0.7**
comp=Z,2.9nm,0.7s,baz=360,slow=7.4,SNR=4.0
EIL Elat 139.42 290 PKP **PKPdf 20 14 49.0 +0.7**
BRTR Keskin Array B 139.45 306 PKP **PKPdf 20 14 48.9 +0.6**
comp=Z,1.4nm,0.9s,baz=149,slow=2.6,SNR=5.6
BRTR PP **PP 20 17 46.2 +3.1**
comp=Z,1.0nm,1.0s,baz=95,slow=2.6,SNR=3.8
BRTR Keskin Array B 139.45 306 PKiKP **PKPdf 20 14 48.9 +0.6**
BRTR 20 17 46.2
BRTR Keskin Array B 139.45 306 PKP **PKPdf 20 14 48.9 +0.6**
BRTR PP **PP 20 17 46.2 +3.1**
CSS Prodhromos 140.49 298 PFAKE 20 15 00.0 +10
CSS LR LR
comp=Z,682nm,22.0s
RCBR Riachuelo 142.05 134 PFAKE 20 15 10.0 +16
RCBR LR LR
comp=Z,664nm,20.0s
ISP Isparta 142.24 303 PFAKE 20 15 10.0 +17
ISP LR LR
comp=Z,756nm,20.0s
VRI Vrincioaia 142.25 317 ⇑ PKiKP **PKPdf 20 14 56.7 +3.8**
VRI Vrincioaia 142.25 317 ⇑ *i* P **PKPdf 20 14 56.7 +3.8**
KWP Kalwaria Pacla 142.67 325 PFAKE 20 15 10.0 +16
KWP LR LR
comp=Z,1µm,19.0s
MLR Muntele Rosu 142.91 317 PKP **PKPdf 20 14 54.8 +0.6**
comp=Z,0.5nm,0.5s,baz=115,slow=16,SNR=3.2
MLR Muntele Rosu 142.91 317 ⇓ PKiKP **PKPdf 20 14 55.8 +1.5**
MLR Muntele Rosu 142.91 317 PKP **PKPdf 20 14 54.8 +0.6**
MLR Muntele Rosu 142.91 317 ⇓ *i* P **PKPdf 20 14 55.8 +1.5**
KOLS Kolonicke sedl 143.30 324 *e*PKiKP **PKPdf 20 14 54.7 0.0**
KOLS Kolonicke sedl 143.30 324 *e*PKP **PKPdf 20 14 54.7 0.0**
UZH Uzhgorod 143.46 324 *e*PKHKP **PKPdf 20 14 51.8 -3.1**
VOIR 143.49 318 ⇑ PKiKP **PKPdf 20 14 53.0 -2.2**
VOIR 143.49 318 ⇑ *i* P **PKPdf 20 14 53.0 -2.2**
TRPA Tarpa 143.61 323 ⇓ *i* P **PKPdf 20 14 54.2 -1.0**
TRPA Tarpa 143.61 323 ⇑ *e*PKPdf **PKPdf 20 14 53.8 -1.4**
CRVS Cervenica-Dubn 143.75 325 *e*PKiKP **PKPdf 20 14 54.8 -0.7**
CRVS Cervenica-Dubn 143.75 325 *e*PKP **PKPdf 20 14 54.8 -0.7**
HUMR Humele 143.95 316 ⇓ *i* P **PKPdf 20 14 55.2 -0.7**
NIE Niedzica 144.05 326 *e*PKP **PKPdf 20 14 56.3 +0.3**
NIE Niedzica 144.05 326 *e*PKiKP **PKPdf 20 14 56.3 +0.3**
MCD Coleburn Disti 144.44 354 *e*P PKPbc 20 14 54.3 -0.6
MCD Coleburn Disti 144.44 354 P PKPbc 20 14 54.3 -0.6
MDO Dochfour 144.68 355 *e*P PKPbc 20 14 54.5 -1.2
MDO Dochfour 144.68 355 P PKPbc 20 14 54.5 -1.2
ALN Alexandroupoli 144.69 310 *e*P **PKPab 20 14 53.6 -2.5**
KAC Achnashellach 144.69 356 *e*P **PKPdf 20 14 55.2 -1.6**
KAC Achnashellach 144.69 356 P **PKPdf 20 14 55.2 -1.6**
CRAIR CRAIOVA 144.80 317 PKiKP **PKPdf 20 14 58.8 +1.4**
KDZ Kurdzhali 144.85 312 *i* P **PKPdf 20 14 56.3 -1.3**
OKC Ostrava-Krasne 144.86 328 *e*PKiKP **PKPdf 20 14 57.2 -0.1**
OKC Ostrava-Krasne 144.86 328 *e*PKP **PKPdf 20 14 57.2 -0.1**
KPL Plockton 144.87 356 *e*P PKPbc 20 14 55.2 -1.0
KPL AMB AMB 20 15 01.0
comp=Z,154nm,3.2s
KPL Plockton 144.87 356 P PKPbc 20 14 55.2 -1.0
KPL AMB AMB 20 15 01.0
comp=Z,154nm,3.2s
RUE Ruedersdorf 144.89 335 *e*PKPbc **PKPdf 20 14 56.3 -1.0**
RUE Ruedersdorf 144.89 335 *e*PKPdf **PKPdf 20 14 57.0 -0.3**
GZR Gura Zlata 144.92 319 ⇑ PKHKP **PKPdf 20 14 57.9 +0.2**
GZR Gura Zlata 144.92 319 ⇑ *i* P **PKPdf 20 14 57.9 +0.2**
KSP Ksiaz 145.04 331 *e*PKP **PKPdf 20 14 57.9 +0.3**
KSP Ksiaz 145.04 331 *e*PKiKP **PKPdf 20 14 56.4 -1.2**
KSP MLR MLR
comp=Z,2µm,21.0s
PRK Paraskevi 145.07 307 *e*P **PKPdf 20 14 57.7 -0.3**
SMG Samos 145.10 304 *e*P **PKPdf 20 14 58.4 +0.2**
PSZ Piszkesteto 145.18 324 ⇑ PKiKP **PKPdf 20 14 57.2 -0.9**
PSZ Piszkesteto 145.18 324 PFAKE 20 15 10.0 +12
PSZ LR LR
comp=Z,999nm,19.0s
PSZ Piszkesteto 145.18 324 ⇑ *i* P **PKPdf 20 14 57.2 -0.9**
PSZ Piszkesteto 145.18 324 ⇓ *e*PKPbc **PKPdf 20 14 58.0 -0.1**
MORC Moravsky Berou 145.20 329 ⇓ PKiKP **PKPdf 20 14 58.7 +0.7**
MORC Moravsky Berou 145.20 329 ⇓ *i* P **PKPdf 20 14 58.7 +0.7**
RZN Rozhen 145.32 312 *i* P **PKPbc 20 14 56.7 -1.8**
KRLC Kraliky 145.35 330 *e*PKP **PKPab 20 14 57.6 -0.7**
KRLC *ex* x 20 16 08.5
KARP Karpathos 145.37 301 *e*P **PKPab 20 14 58.2 -0.7**
DPC Dobruska-Polom 145.38 330 *e*PKiKP **PKPab 20 14 58.1 -0.3**
DPC Dobruska-Polom 145.38 330 *e*PKP **PKPab 20 14 58.1 -0.3**
DPC *ex* x 20 16 15.9
VYHS Vyhne 145.38 326 *e*PKiKP **PKPab 20 14 57.8 -0.7**
VYHS Vyhne 145.38 326 *e*PKP **PKPab 20 14 57.8 -0.7**
UPC Upice 145.41 331 *e*PKP2 **PKPab 20 14 57.8 -0.7**
UPC Upice 145.41 331 *e*PKP **PKPab 20 14 57.8 -0.7**
UPC *ex* x 20 16 15.3
CHOS Chios island 145.50 306 *e*P **PKPbc 20 14 57.8 -1.2**
BZS Buzias 145.50 320 ⇑ PKiKP **PKPab 20 14 58.8 -0.2**
BZS Buzias 145.50 320 ⇑ *i* P **PKPab 20 14 58.8 -0.2**
LIA Limnos Island 145.65 309 *e*P **PKPab 20 14 59.0 -0.7**
BUD Budapest 145.91 324 ⇓ *e*PKPdf **PKPab 20 15 00.7 +0.3**
EAB Aberfoyle 145.92 355 *e*P **PKPab 20 14 58.7 -1.4**
EAB Aberfoyle 145.92 355 P **PKPab 20 14 58.7 -1.4**
VTS Vitosha 145.96 314 *i* P **PKPab 20 15 00.5 -0.5**
VRAC Vranov 145.97 329 PKPbc **PKPab 20 15 00.9 +0.3**
comp=Z,44nm,1.1s,baz=49,slow=3.5,SNR=25
VRAC Vranov 145.97 329 ⇑ PKP2 **PKPab 20 15 00.8 +0.2**
VRAC Vranov 145.97 329 PKPbc **PKPab 20 15 00.9 +0.3**
VRAC Vranov 145.97 329 ⇑ *i* P **PKPab 20 15 00.8 +0.2**
ESY Stoneypath 146.01 353 *e*P **PKPbc 20 14 58.8 -1.1**
ESY Stoneypath 146.01 353 P **PKPbc 20 14 58.8 -1.1**
PVCC Panska Ves 146.03 332 *e*PKP2 **PKPab 20 15 01.1 +0.3**
PVCC Panska Ves 146.03 332 *e*PKP **PKPab 20 15 01.1 +0.3**
MMB Musomiste 146.04 312 *i* P **PKPab 20 14 59.9 -1.3**
BRG Berggiesshubel 146.04 333 *i* PKP **PKPab 20 15 01.0 +0.2**
comp=Z,99nm,1.2s
BRG *i* 20 16 17.6
comp=Z,44nm,1.5s
BRG Berggiesshubel 146.04 333 *e*PKPbc **PKPab 20 15 00.2 -0.6**
BRG Berggiesshubel 146.04 333 *i* PKP2 **PKPab 20 15 01.0 +0.2**
BRG pmax pmax
comp=Z,99nm,1.2s
BRG pmax pmax
comp=Z,44nm,1.5s
NVR Nevrokopi 146.04 312 *e*P **PKPab 20 14 59.8 -1.4**
SMOL Smolenice 146.09 327 *e*PKP2 **PKPab 20 15 02.2 +1.1**
SMOL Smolenice 146.09 327 *e*PKP **PKPab 20 15 02.2 +1.1**
CLL Collm 146.10 334 ⇓ *i* PKP2 **PKPab 20 15 00.8 -0.2**
CLL pmax pmax
comp=Z,199nm,1.8s
CLL MLR MLR
comp=Z,500nm,24.2s
CLL Collm 146.10 334 *e*PKPdf **PKPbc 20 14 59.0 -1.4**
CLL ⇓ *i* PKPbc **PKPab 20 15 00.8 -0.2**
comp=Z,199nm,1.8s
CLL *e*PKPlp 20 15 04.0
comp=Z,600nm,17.1s
CLL *e*pPKPbc pPKPbc 20 15 09.0 -4.4
CLL *e*PP **PP 20 18 26.0 +4.0**
EBL Broad Law 146.20 353 *e*P **PKPbc 20 14 59.5 -1.1**
EBL Broad Law 146.20 353 P **PKPbc 20 14 59.5 -1.1**
ZKR Zakros 146.21 300 *e*P **PKPab 20 15 00.8 -1.2**
NRDL Niedersach Rie 146.23 338 *e*PKPbc **PKPab 20 15 00.6 -0.8**
FBE Freiberg 146.25 334 *e*PKPbc **PKPab 20 15 01.2 -0.4**
PRU Pruhonice 146.44 331 *e*PKP2 **PKPab 20 15 01.7 -0.7**
PRU Pruhonice 146.44 331 *e*PKP **PKPab 20 15 01.7 -0.7**
PRU *ex* x 20 16 18.3
ZST Bratislava 146.46 327 *e*PKP2 **PKPab 20 15 04.2 +1.7**
ZST Bratislava 146.46 327 *e*PKP **PKPab 20 15 04.2 +1.7**
TREC Trest 146.50 330 *e*PKP2 **PKPab 20 15 01.8 -0.9**
TREC Trest 146.50 330 *e*PKP **PKPab 20 15 01.8 -0.9**
SOH Sokhos 146.61 311 *e*P **PKPab 20 15 02.5 -0.9**
NEUB Neuenburg 146.66 335 *e*PKPbc **PKPab 20 15 01.9 -1.3**
NPS Neapolis 146.66 301 *e*P **PKPab 20 15 03.6 -0.2**
ESK Eskdalemuir 146.67 353 *e*P **PKPbc 20 15 00.4 -1.5**
ESK AMB AMB 20 15 11.9
comp=Z,114nm,3.2s
ESK Eskdalemuir 146.67 353 P **PKPbc 20 15 00.4 -1.5**
ESK AMB AMB 20 15 11.9
comp=Z,114nm,3.2s
CLZ Clausthal 146.68 337 *e*PKPbc **PKPab 20 15 02.2 -1.1**
CLZ Clausthal 146.68 337 *e*PKP2 **PKPab 20 15 02.2 -1.1**
PLG Polygyros 146.72 310 *e*P **PKPab 20 15 02.7 -1.1**
PKSM Moragy 146.89 323 ⇑ PKP2 **PKPab 20 15 03.9 -0.3**
PKSM Moragy 146.89 323 ⇑ *i* P **PKPab 20 15 03.9 -0.3**
PKSM Moragy 146.89 323 ⇓ *e*PKPdf **PKPab 20 15 03.6 -0.6**
TANN Tannenbergstha 147.00 334 *e*PKPbc **PKPab 20 15 03.2 -1.4**
WERD Werda 147.04 334 *e*PKPbc **PKPab 20 15 03.2 -1.5**
PLN Plauen 147.07 334 *e*PKPbc **PKPab 20 15 04.5 -0.3**
SOP Sopron 147.07 327 ⇓ *e*PKPdf **PKPab 20 15 04.1 -0.8**
MSKU Masuku 147.10 227 PFAKE 20 15 10.0 +4.0
MSKU LR LR
comp=Z,2.0nm,21.0s
GUNZ Gunzen 147.10 334 *e*PKPbc **PKPab 20 15 03.5 -1.5**
WERN Wernitzgruen 147.14 334 *e*PKPbc **PKPab 20 15 05.0 -0.1**
NKC Novy Kostel 147.15 334 *e*PKP2 **PKPab 20 15 04.2 -1.0**
NKC Novy Kostel 147.15 334 *e*PKP **PKPab 20 15 04.2 -1.0**
IBBN Ibbenburen 147.16 340 *e*PKPbc **PKPab 20 15 03.1 -2.0**
MOX Moxa 147.17 335 *e*PKPbc **PKPab 20 15 04.6 -0.6**
MOX Moxa 147.17 335 *e*PKP2 **PKPab 20 15 04.6 -0.6**
PTL Penteli 147.24 306 *e*P **PKPab 20 15 04.0 -2.0**
GAL1 Galloway 147.26 355 *e*P **PKPbc 20 15 03.0 -0.6**
GAL1 AMB AMB 20 15 04.1
comp=Z,148nm,4.4s
GAL1 Galloway 147.26 355 P **PKPbc 20 15 03.0 -0.6**
GAL1 AMB AMB 20 15 04.1
comp=Z,148nm,4.4s
CONA Conrad Observa 147.26 328 ⇑ *i* P **PKPab 20 15 05.3 -0.5**
CONA Conrad Observa 147.26 328 ⇑ *i* PKPab **PKPab 20 15 05.3 -0.5**
comp=Z,21nm,1.0s
VLY Voula,Athens 147.36 306 *e*P **PKPbc 20 15 02.3 -2.1**
SIVA Sivas 147.36 301 *e*P PKPdf 20 14 56.6 -5.4
ATH Athens Observa 147.38 306 *e*P **PKPbc 20 15 04.0 -0.5**
KHC Kasperske Hory 147.49 331 *e*PKP2 **PKPab 20 15 04.5 -2.1**
KHC Kasperske Hory 147.49 331 *e*PKP **PKPab 20 15 04.5 -2.1**
KHC *ex* x 20 15 20.0
KHC *ex* x 20 16 07.5
KHC *ex* x 20 16 21.4
LIT Litokhoron 147.50 311 *e*P **PKPbc 20 15 04.5 -0.3**
ROTZ Rotzenmuhle 147.61 333 *e*PKPbc **PKPab 20 15 05.4 -1.6**
GEC2 GERESS Array S 147.65 331 *e*PKPbc **PKPab 20 15 04.9 -2.4**
GEC2 GERESS Array S 147.65 331 *e*PKP2 **PKPab 20 15 04.9 -2.4**
GERES GERESS Array B 147.65 331 PKPbc **PKPab 20 15 05.4 -1.9**
comp=Z,12nm,0.8s,baz=36,slow=3.1,SNR=39
GERES GERESS Array B 147.65 331 PKP2 **PKPab 20 15 05.4 -1.9**
GERES GERESS Array B 147.65 331 PKPbc **PKPab 20 15 05.4 -1.9**
UBBA Unterbreizbach 147.65 336 *e*PKPbc **PKPab 20 15 05.6 -1.3**
LKR Lokris 147.68 308 *e*P **PKPbc 20 15 03.3 -2.0**
VAM Vamos 147.75 301 *e*P **PKPab 20 15 07.0 -1.0**
WTSB Winterswijk 147.76 341 *e*PKP **PKPdf 20 15 01.2 -0.9**
WET Wettzell 147.79 332 *e*PKPbc **PKPbc 20 15 05.5 +0.2**
WET *e*PKPab **PKPab 20 15 09.6 +1.8**
WET Wettzell 147.79 332 *e*PKP2 **PKPbc 20 15 05.5 +0.2**
DID Didima 147.89 306 *e*P **PKPbc 20 15 05.1 -0.8**
LTK Loutraki 147.92 307 *e*P **PKPbc 20 15 04.3 -1.7**
KARN Karanos 147.97 302 *e*P PKPdf 20 14 54.5 -8.6
THL Klokotos Trika 148.05 310 *e*P **PKPdf 20 15 00.5 -2.5**
BUG Bochum--Univer 148.06 340 *e*PKPbc **PKPbc 20 15 05.5 -0.4**
GRF Grafenberg Arr 148.07 334 *e*PKPbc **PKPbc 20 15 06.8 +0.8**
GRF *e*PKPab **PKPab 20 15 10.4 +1.6**
GRF *e*L L 21 31 13.8
comp=Z,401nm,21.4s
GRF Grafenberg Arr 148.07 334 *e*PKP2 **PKPbc 20 15 06.8 +0.8**
GRF MLR MLR
comp=Z,400nm,21.4s
MOA Molln 148.09 329 ⇑ *i* P **PKPab 20 15 06.4 -2.6**
MOA Molln 148.09 329 ⇑ *i* PKPbc **PKPab 20 15 06.4 -2.6**
comp=Z,21nm,1.1s,SNR=8.1
VLI Veliai 148.36 304 *e*P **PKPab 20 15 08.1 -2.3**
GUR Goura 148.41 307 *e*P **PKPab 20 15 06.9 -0.5**
KYTH Kithira 148.42 304 *e*P **PKPab 20 15 08.1 -2.6**
EVR Evrytania 148.44 309 *e*P **PKPab 20 15 08.5 -2.3**
KBI1 Birley Grange 148.47 351 *e*P **PKPbc 20 15 06.8 -0.1**
KBI1 Birley Grange 148.47 351 P **PKPbc 20 15 06.8 -0.1**
PERS Pernice 148.51 326 *i* P **PKPbc 20 15 07.5 +0.2**
SOKA Soboth 148.52 327 ⇑ P **PKPbc 20 15 07.8 +0.4**
SOKA Soboth 148.52 327 ⇑ *i* PKiKP **PKPbc 20 15 07.8 +0.4**
comp=Z,26nm,1.3s
EFP Efpalio 148.56 308 *e*P **PKPab 20 15 08.9 -2.2**
VLX Vlachokerasia 148.58 306 *e*P **PKPdf 20 15 03.5 -0.6**
TNS Taunus Mts 148.70 337 *e*PKPbc **PKPbc 20 15 07.6 -0.1**
TNS Taunus Mts 148.70 337 *e*PKP2 **PKPbc 20 15 07.6 -0.1**
KWE Weaver Farm 148.74 351 *e*P **PKPbc 20 15 07.8 +0.1**
KWE Weaver Farm 148.74 351 P **PKPbc 20 15 07.8 +0.1**
TIR Tirane 148.75 314 PFAKE 20 15 20.0 +8.2
TIR LR LR
comp=Z,1µm,22.0s
JAN Janina 148.83 311 *e*P **PKPab 20 15 09.3 -3.0**
RJOB Jochberg 148.87 330 *e*PKPbc **PKPbc 20 15 08.1 -0.1**
DLF Lyons Farm 148.95 356 *e*P **PKPbc 20 15 07.3 -0.8**
ITM Ithomi 148.98 306 *e*P **PKPbc 20 15 08.6 -0.2**
RLS Riolos of Patr 149.01 308 *e*P **PKPdf 20 15 03.7 -1.0**
FOEL Foel Wylfa 149.05 352 *e*P **PKPbc 20 15 06.8 -1.6**
FOEL AMB AMB 20 15 19.6
comp=Z,111nm,5.8s
FOEL Foel Wylfa 149.05 352 P **PKPbc 20 15 06.8 -1.6**
FOEL AMB AMB 20 15 19.6
comp=Z,111nm,5.8s
HGN Heimansgroeve 149.07 341 *e*PKP **PKPbc 20 15 08.7 +0.2**
HGN *e*PKP 20 25 06.0
TOD Tromm 149.08 336 PKIKP **PKPbc 20 15 07.2 -1.4**
TOD Tromm 149.08 336 PKP **PKPbc 20 15 07.2 -1.4**
KBA Koelnbreinsper 149.08 329 ⇑ *i* PKP2 **PKPbc 20 15 08.9 0.0**
KBA Koelnbreinsper 149.08 329 ⇑ *i* P **PKPbc 20 15 08.9 0.0**
KBA Koelnbreinsper 149.08 329 ⇑ *i* PKPbc **PKPbc 20 15 08.9 0.0**
comp=Z,23nm,0.8s
BEBN Eben Emael 149.12 341 PKPbc **PKPbc 20 15 09.2 +0.6**
BEBN PKPab **PKPab 20 15 13.4 +0.5**
BOJS Bojanci 149.18 325 *i* P **PKPbc 20 15 07.4 -1.6**
BOJS *i* 20 15 10.9
MEM Membach 149.18 340 PKPbc **PKPbc 20 15 07.5 -1.2**
VISS Visnje 149.20 325 *i* P **PKPbc 20 15 07.6 -1.5**
VISS *i* 20 15 10.7
LJU Ljubljana 149.21 326 *e*P **PKPbc 20 15 09.0 0.0**
PYL PYLOS 149.22 305 *e*P **PKPbc 20 15 07.1 -2.2**
FUR Furstenfeldbru 149.23 332 *e*PKPbc **PKPbc 20 15 09.2 +0.2**
FUR *e*PKPab **PKPab 20 15 14.7 +1.1**
FUR Furstenfeldbru 149.23 332 *e*PKP2 **PKPbc 20 15 09.2 +0.2**
MYKA Terra Mystica 149.25 328 ⇑ P **PKPbc 20 15 08.6 -0.6**
MYKA Terra Mystica 149.25 328 ⇑ *i* PKPbc **PKPbc 20 15 08.6 -0.6**
comp=Z,10nm,0.6s
ABH Alteburg 149.30 338 PKP **PKPbc 20 15 08.9 -0.3**
HLM1 Long Mynd 149.37 352 *e*P **PKPbc 20 15 06.0 -3.2**
HLM1 AMB AMB 20 15 09.1
comp=Z,65nm,2.3s
HLM1 Long Mynd 149.37 352 P **PKPbc 20 15 06.0 -3.2**
HLM1 AMB AMB 20 15 09.1
comp=Z,65nm,2.3s
VOY Vojsko 149.54 327 *e*P **PKPbc 20 15 10.2 +0.2**
VOY *e* 20 15 17.4
VOY *e* 20 15 27.0
JAVS Javornik 149.55 326 *i* P **PKPbc 20 15 10.1 +0.1**
STU Stuttgart 149.61 335 *e*PKPbc **PKPbc 20 15 09.7 -0.2**
STU *e*PKPab **PKPab 20 15 16.1 +1.0**
WTTA Wattenberg 149.75 331 ⇑ *i* PKP2 **PKPbc 20 15 10.6 +0.1**
WTTA Wattenberg 149.75 331 ⇑ *i* P **PKPbc 20 15 10.6 +0.1**
WTTA Wattenberg 149.75 331 ⇑ *i* PKiKP **PKPbc 20 15 10.6 +0.1**
comp=Z,19nm,0.7s,SNR=7.9
SNF Seneffe 149.79 342 PKPbc **PKPbc 20 15 10.6 +0.3**
MCH1 Michaelchurch 149.90 352 *e*P **PKPbc 20 15 09.7 -0.8**
MCH1 AMB AMB 20 15 16.7
comp=Z,119nm,2.3s
MCH1 Michaelchurch 149.90 352 P **PKPbc 20 15 09.7 -0.8**
MCH1 AMB AMB 20 15 16.7
comp=Z,119nm,2.3s
MOTA Moosalm 149.93 331 ⇑ *i* PKHKP **PKPbc 20 15 10.3 -0.7**
MOTA Moosalm 149.93 331 ⇑ *i* P **PKPbc 20 15 10.3 -0.7**
MOTA Moosalm 149.93 331 ⇑ *i* PKPbc **PKPbc 20 15 10.3 -0.7**
comp=Z,18nm,0.9s,SNR=8.5
WLF Walferdange 149.96 339 PKPbc **PKPbc 20 15 11.8 +1.0**
WLF PKPab **PKPab 20 15 15.1 -1.3**
WLF Walferdange 149.96 339 *e*PKPbc **PKPbc 20 15 11.0 +0.3**
WLF *e*PKPab **PKPab 20 15 17.4 +1.0**
WLF Walferdange 149.96 339 PFAKE 20 15 20.0 +3.6
WLF LR LR
comp=Z,667nm,19.0s
LANF Langenberg 149.97 337 PKHKP **PKPbc 20 15 10.5 -0.3**
LANF Langenberg 149.97 337 PKP **PKPbc 20 15 10.5 -0.3**
LANF Langenberg 149.97 337 PKP **PKPbc 20 15 10.5 -0.3**
RETA Reutte 149.97 332 ⇑ *i* P **PKPbc 20 15 11.5 +0.6**
RETA Reutte 149.97 332 ⇑ *i* PKiKP **PKPbc 20 15 11.5 +0.6**
comp=Z,27nm,1.4s
DOU Dourbes 150.06 341 PKPbc **PKPbc 20 15 11.3 +0.4**
DOU APKPbc 20 15 21.5
BFO Black Forest 150.31 335 *e*PKPbc **PKPbc 20 15 11.3 -0.4**
BFO Black Forest 150.31 335 *e*PKHKP PKPpre 20 15 11.3
BFO Black Forest 150.31 335 PFAKE 20 15 20.0 +2.0
BFO LR LR
comp=Z,712nm,20.0s
SPAK Spaichingen-Ko 150.31 335 PKP **PKPbc 20 15 10.9 -0.9**
FETA Feichten 150.34 331 ⇓ *i* P **PKPbc 20 15 12.2 +0.2**
FETA Feichten 150.34 331 ⇓ *i* PKiKP **PKPbc 20 15 12.2 +0.2**
comp=Z,16nm,0.9s,SNR=6.0
FELD Feldberg im Sc 150.80 335 PKP **PKPbc 20 15 11.3 -1.7**
DAVOX Davos/Dischmat 150.90 332 PKPbc **PKPbc 20 15 13.8 +0.5**
comp=Z,11nm,0.3s,baz=144,slow=2.7,SNR=34
DAVOX Davos/Dischmat 150.90 332 PKIKP **PKPbc 20 15 13.8 +0.5**
DAVOX Davos/Dischmat 150.90 332 PKPbc **PKPbc 20 15 13.8 +0.5**
BBS Basel-Blauen 151.33 335 PKIKP **PKPbc 20 15 10.5 -3.6**
BBS Basel-Blauen 151.33 335 PKP **PKPbc 20 15 10.5 -3.6**

TUE	**Stuetta**	**151.37**	**332**	PFAKE			20 15 20.0	-2.7
TUE				LR	LR				
	comp=Z,1μm,20.0s								
CUC	**Castrocucco**	**152.09**	**315**	PFAKE			20 15 20.0	+3.9
CUC				LR	LR				
	comp=Z,457nm,19.0s								
AQU	**L'Aquila**	**152.22**	**321**	PFAKE			20 15 20.0	+3.7
AQU				LR	LR				
	comp=Z,977nm,20.0s								
CEL	**Celeste**	**152.91**	**312**	PFAKE			20 15 20.0	+2.0
CEL				LR	LR				
	comp=Z,597nm,20.0s								
BNI	**Bardonecchia**	**153.63**	**333**	PFAKE			20 15 20.0	+0.5
BNI				LR	LR				
	comp=Z,746nm,19.0s								
SSB	**Saint Sauveur**	**154.28**	**336**	PFAKE			20 15 20.0	-0.7
SSB				LR	LR				
	comp=Z,807nm,19.0s								
LBL	**Lubilhac**	**154.79**	**338**	PKIKP	**PKPdf**		**20 15 13.9**	**+0.7**
LBL	**Lubilhac**	**154.79**	**338**	PKP	**PKPdf**		**20 15 13.9**	**+0.7**
LBL	**Lubilhac**	**154.79**	**338**	PKP	**PKPdf**		**20 15 13.9**	**+0.7**
WDD	**Wield Dalam**	**154.98**	**308**	PFAKE			20 15 20.0	-2.4
WDD				LR	LR				
	comp=Z,686nm,20.0s								
MTE	**Manteigas**	**161.86**	**355**	PFAKE			20 15 30.0	+8.1
MTE				LR	LR				
	comp=Z,843nm,20.0s								
ESDC	**Sonseca Array**	**162.00**	**346**	PKPab	**PKPab**		**20 16 06.4**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=14,slow=4.9,SNR=6.0								
ESDC	**Sonseca Array**	**162.00**	**346**	PKPab	**PKPab**		**20 16 06.4**	**-1.8**
ESLA	**Sonseca Array**	**162.00**	**346**	PFAKE			20 15 30.0	+7.9
ESLA				LR	LR				
	comp=Z,6μm,22.0s								
PAB	**San Pablo**	**162.21**	**346**	PFAKE			20 15 30.0	+7.7
PAB				LR	LR				
	comp=Z,900nm,21.0s								
DBIC	**Dimbokro**	**163.79**	**197**	PKPab	**PKPab**		**20 16 16.9**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=207,slow=7.5,SNR=3.3								
DBIC	**Dimbokro**	**163.79**	**197**	PKPab	**PKPab**		**20 16 16.9**	**+0.3**
DBIC				LR	LR				
	comp=Z,999nm,20.0s								
SACV	**Santiago Islan**	**164.92**	**116**	PFAKE			20 15 40.0	+15
SACV				LR	LR				
	comp=Z,807nm,19.0s								
TORD	**Torodi Ar. Bea**	**165.87**	**232**	PKP	**PKPdf**		**20 15 25.7**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=75,slow=1.6,SNR=8.4								
TORD				PKPab	**PKPab**		**20 16 28.3**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=124,slow=3.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**165.87**	**232**	PKP	**PKPdf**		**20 15 25.7**	**-0.5**
TORD				PKPab	**PKPab**		**20 16 28.3**	**+2.4**
TAM	**Tamanrasset**	**165.95**	**275**	PFAKE			20 15 40.0	+14
TAM				LR	LR				
	comp=Z,1μm,19.0s								
RTC	**Rabat Centre**	**168.09**	**349**	PFAKE			20 15 40.0	+13
RTC				LR	LR				
	comp=Z,2μm,21.0s								

IDC ***16*** *20:02:53.1±2.0,21.˚92S×170.˚10E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.9/16,mbtmp3.8/8,ML3.9/1,Error ellipse: s-maj=61.1km s-min=25.9km az=147.0*

NEIC ***16*** *20:02:58.5±1.1,21.˚95S×170.˚05E,h35km,mb4.4/1,Error ellipse: s-maj=34.4km s-min=13.5km az=149.0*

ISC 16 20:02:58.3±1.4,21.˚7S±0.˚3×169.˚9E±0.˚1,h25km,n25, σ0s99/27,mb3.9/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.19**	**264**	Pn		**Pn**	**20 03 49.6**	**+2.5**
	12nm,0.3s,baz=199,slow=22,SNR=17							
DZM				Sn		**Sb**	**20 04 31.5**	**-1.4**
	32nm,0.3s,baz=121,slow=22,SNR=13							
DZM	**Mont Dzumac**	**3.19**	**264**	Pn		**Pn**	**20 03 49.6**	**+2.5**
DZM				Sn		**Sb**	**20 04 31.5**	**-1.4**
CTAO	**Charters Tower**	**22.11**	**270**	P		**P**	**20 07 52.2**	**+0.1**
STKA	**Stephens Creek**	**27.10**	**242**	P		**P**	**20 08 39.0**	**-0.3**
	2.0nm,0.7s,baz=110,slow=12,SNR=3.0							
STKA	**Stephens Creek**	**27.10**	**242**	P		**P**	**20 08 39.0**	**-0.3**
ASAR	**Alice Springs**	**33.18**	**260**	P		**P**	**20 09 32.8**	**-0.4**
	0.7nm,0.7s,baz=75,slow=8.4,SNR=5.6							
ASAR	**Alice Springs**	**33.18**	**260**	P		**P**	**20 09 32.8**	**-0.4**
WRA	**Warramunga Arr**	**33.21**	**267**	P		**P**	**20 09 32.9**	**-0.6**
	0.3nm,0.5s,baz=91,slow=8.4,SNR=5.6							
WRA	**Warramunga Arr**	**33.21**	**267**	P		**P**	**20 09 32.9**	**-0.6**
MJAR	**Matsushiro Arr**	**65.23**	**332**	P		**P**	**20 13 38.3**	**+0.5**
	2.8nm,0.8s,baz=163,slow=6.7,SNR=5.3							
MJAR	**Matsushiro Arr**	**65.23**	**332**	P		**P**	**20 13 38.3**	**+0.5**
KSRS	**Korea Array**	**70.90**	**326**	P		**P**	**20 14 13.0**	**-0.3**
	1.1nm,0.8s,baz=136,slow=7.0,SNR=5.1							
KSAR	**Wonju Array Be**	**70.91**	**326**	P		**P**	**20 14 13.0**	**-0.3**
ENH	**Enshi**	**77.71**	**310**	P		**P**	**20 14 54.3**	**+1.0**
	3.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**80.07**	**294**	P		**P**	**20 15 06.0**	**-0.4**
	0.5nm,0.7s,baz=132,slow=4.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**80.07**	**294**	P		**P**	**20 15 06.0**	**-0.4**
SONM	**Songino Array**	**89.56**	**323**	P		**PcP**	**20 15 54.0**	**-1.0**
	0.7nm,0.8s,baz=144,slow=4.9,SNR=3.7							
SONM	**Songino Array**	**89.56**	**323**	P		**PcP**	**20 15 54.0**	**-1.0**
VRAC	**Vranov**	**145.28**	**329**	PKPbc		**PKPab**	**20 22 33.3**	**-0.4**
	3.5nm,0.7s,baz=105,slow=2.7,SNR=3.3							
VRAC	**Vranov**	**145.28**	**329**	PKPbc		**PKPab**	**20 22 33.3**	**-0.4**
CLL	**Collm**	**145.42**	**334**	ePKPbc		**PKPab**	**20 22 34.0**	**-0.1**
GERES	**GERESS Array B**	**146.96**	**331**	PKPbc		**PKPbc**	**20 22 38.5**	**-0.2**
	1.2nm,0.7s,baz=29,slow=3.0,SNR=10							
GERES	**GERESS Array B**	**146.96**	**331**	PKPbc		**PKPbc**	**20 22 38.5**	**-0.2**
DAVOX	**Davos/Dischmat**	**150.22**	**332**	PKPbc		**PKPbc**	**20 22 46.7**	**-0.7**
	1.9nm,0.3s,baz=234,slow=1.0,SNR=8.2							
DAVOX	**Davos/Dischmat**	**150.22**	**332**	PKPbc		**PKPbc**	**20 22 46.7**	**-0.7**

IDC ***16*** *20:05:17.4±0.6,22.˚21S×170.˚46E,h0km,mb4.5/16, mb1 4.6/18,mb1mx4.6/22,mbtmp4.6/18,ML4.7/1,MS4.8/3, Ms1 4.8/3,ms1mx4.1/32,Error ellipse: s-maj=18.6km s-min=16.8km az=144.0*

NEIC ***16*** *20:05:22.5±0.3,22.˚29S×170.˚38E,h35km,mb5.0/17,Error ellipse: s-maj=10.3km s-min=8.9km az=163.0*

SZGRF ***16*** *20:05:22.0,22.˚23S×171.˚21E,h33km,Southeast of Loyalty Islands*

MOS ***16*** *20:05:23.7±1.6,21.˚77S×170.˚05E,h33km,mb5.2/10,Error ellipse: s-maj=13.3km s-min=10.4km az=6.7*

ISCJB ***16*** *20:05:23.1±0.3,22.˚30S±0.˚05×170.˚28E±0.˚04,h51km, mb4.8/43,MS4.7/10,Error ellipse: s-maj=7.5km s-min=5.1km az=178.1*

BJI ***16*** *20:05:27.0,21.˚45S×170.˚45E,h63km,mB5.2/21,mb4.8/31, Ms5.3/20,Ms7 4.9/22*

ISC 16 20:05:24.3±0.4,22.˚27S±0.˚07×170.˚36E±0.˚06,h51km,n254, σ1s42/259,mb4.8/41,MS5.0/11,14C-19D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.22**	**271**	*e*P		**Pn**	**20 06 10.6**	**-1.8**
BAYA				*e*S		**Sn**	**20 06 47.3**	**-2.2**
DZM	**Mont Dzumac**	**3.63**	**272**	Pn		**Pn**	**20 06 17.0**	**-1.1**
	60nm,0.3s,baz=101,slow=15,SNR=24							
DZM				Sn		**Sn**	**20 06 59.1**	**-0.7**
	74nm,0.3s,baz=280,slow=22,SNR=8.2							
DZM	**Mont Dzumac**	**3.63**	**272**	Pn		**Pn**	**20 06 17.0**	**-1.1**
DZM				Sn		**Sn**	**20 06 59.1**	**-0.7**
NOUC	**Port Laguerre**	**3.76**	**272**	*e*P		**Pn**	**20 06 16.9**	**-2.9**
NOUC				*e*S		**Sn**	**20 07 00.4**	**-2.4**
MSVF	**Nonsavu**	**8.52**	**59**	*e*P		Pn	20 07 27.5	+2.3
MSVF				pmax	pmax			
	comp=Z,686nm,1.5s							
MSVF	**Nonsavu**	**8.52**	**59**	*e*Pn		Pn	20 07 27.4	+2.3
	comp=Z,686nm,1.5s							
OUZ	**Omahuta**	**13.22**	**168**	*e*Pn		**Pn**	**20 08 27.1**	**-2.2**
	comp=Z,65nm,1.3s							
URZ	**Urewera**	**16.97**	**162**	*e*Pn		**P**	**20 09 18.0**	**-1.3**
	comp=Z,34nm,1.0s							
EIDS	**Eidsvold**	**17.90**	**256**	*e*P		**P**	**20 09 30.8**	**+0.9**
	comp=Z,103nm,1.9s							
AFI	**Afiamalu**	**18.89**	**67**	P		**P**	**20 09 38.1**	**-2.7**
	baz=30,slow=20,SNR=3.7							
AFI				LR		LR	20 15 08.9	
	comp=Z,1μm,18.4s,baz=244,slow=32							
AFI	**Afiamalu**	**18.89**	**67**	*e*P		**P**	**20 09 38.0**	**-2.8**
AFI	**Afiamalu**	**18.89**	**67**	*e*P		**P**	**20 09 38.0**	**-2.8**
KHZ	**Kahutara**	**20.27**	**173**	*e*P		Pn	20 09 56.7	-1.1
	comp=Z,204nm,1.6s							
RPZ	**Rata Peaks**	**21.40**	**179**	P		**P**	**20 10 07.9**	**+0.2**
	comp=Z,31nm,0.9s,baz=42,slow=7.3,SNR=4.2							
RPZ				LR		LR	20 15 48.9	
	comp=Z,49nm,21.3s,baz=337,slow=29							
RPZ	**Rata Peaks**	**21.40**	**179**	P		**P**	**20 10 07.9**	**+0.2**
CNB	**Canberra Magne**	**22.47**	**230**	*e*P		**P**	**20 10 22.1**	**+2.7**
	comp=Z,92nm,0.9s							
CTA	**Charters Tower**	**22.57**	**271**	P		**P**	**20 10 20.8**	**+0.2**
	comp=Z,7.5nm,1.0s,baz=98,slow=12,SNR=7.1							
CTA	**Charters Tower**	**22.57**	**271**	*e*P		**P**	**20 10 20.8**	**+0.2**
	comp=Z,1.6nm,0.3s							
CTA	**Charters Tower**	**22.57**	**271**	P		**P**	**20 10 20.8**	**+0.2**
CTA	**Charters Tower**	**22.57**	**271**	P		**P**	**20 10 20.8**	**+0.2**
CTAO	**Charters Tower**	**22.57**	**271**	*e*P		**P**	**20 10 20.6**	**+0.1**
CTAO					pmax	pmax		
	comp=Z,138nm,1.9s							
CTAO	**Charters Tower**	**22.57**	**271**	*e*P		**P**	**20 10 20.6**	**+0.1**
	comp=Z,138nm,1.9s							
QLP	**Quilpie**	**24.15**	**254**	*e*P		**P**	**20 10 36.7**	**+0.9**
PMG	**Port Moresby**	**25.67**	**296**	P		**P**	**20 10 48.8**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=113,slow=4.8,SNR=4.7							
PMG	**Port Moresby**	**25.67**	**296**	||*e*P		**P**	**20 10 50.2**	**+0.6**
PMG					pmax	pmax		
	comp=Z,20nm,1.6s							
PMG	**Port Moresby**	**25.67**	**296**	P		**P**	**20 10 48.8**	**-0.8**
COEN	**Coen**	**27.09**	**283**	*e*P		**P**	**20 11 03.8**	**+1.3**
	comp=Z,33nm,1.0s							
STKA	**Stephens Creek**	**27.27**	**243**	P		**P**	**20 11 04.6**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=96,slow=11,SNR=9.3							
STKA					LR	LR	20 21 06.8	
	comp=Z,2μm,18.6s,baz=66,slow=35							
STKA	**Stephens Creek**	**27.27**	**243**	*e*P		**P**	**20 11 04.9**	**+0.9**
	comp=Z,14nm,1.8s							
STKA	**Stephens Creek**	**27.27**	**243**	*e*P		**P**	**20 11 04.6**	**+0.7**
STKA					pmax	pmax		
	comp=Z,5.0nm,1.3s							
STKA	**Stephens Creek**	**27.27**	**243**	*e*P		**P**	**20 11 04.6**	**+0.7**
	comp=Z,4.8nm,1.3s							
AS31	**Alice Springs**	**33.54**	**260**	*e*P		**P**	**20 11 58.0**	**-1.4**
ASAR	**Alice Springs**	**33.54**	**260**	P		**P**	**20 11 59.5**	**0.0**
	comp=Z,2.0nm,0.7s,baz=109,slow=9.0,SNR=17							
ASAR	**Alice Springs**	**33.54**	**260**	P		**P**	**20 11 59.5**	**0.0**
ASAR	**Alice Springs**	**33.54**	**260**	P		**P**	**20 11 59.5**	**0.0**
WRAB	**Tennant Creek**	**33.62**	**267**	*e*P		**P**	**20 11 58.7**	**-1.5**
WRAB	**Tennant Creek**	**33.62**	**267**	*e*P		**P**	**20 11 58.7**	**-1.5**
WRA	**Warramunga Arr**	**33.63**	**267**	P		**P**	**20 11 58.9**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=93,slow=8.4,SNR=26							
WRA	**Warramunga Arr**	**33.63**	**267**	P		**P**	**20 11 58.9**	**-1.4**
WRA	**Warramunga Arr**	**33.63**	**267**	P		**P**	**20 11 58.9**	**-1.4**
FORT	**Forrest**	**38.60**	**248**	*e*P		pP	20 12 53.9	-2.1
	comp=Z,25nm,0.8s							
FITZ	**Fitzroy Crossi**	**42.06**	**267**	*e*P		**P**	**20 13 12.4**	**+1.0**
	comp=Z,20nm,0.9s							
FITZ	**Fitzroy Crossi**	**42.06**	**267**	*e*P		**P**	**20 13 12.1**	**+0.7**
	comp=Z,12nm,1.3s							
MBWA	**Marble Bar**	**46.87**	**261**	*e*P		**P**	**20 13 48.0**	**-1.7**
MEEK	**Meekatharra**	**47.05**	**254**	*e*P		**P**	**20 13 51.2**	**+0.1**
	comp=Z,94nm,0.8s							
NWAO	**Narrogin (SRO)**	**47.83**	**245**	*e*P		**P**	**20 13 58.4**	**+1.3**
NWAO	**Narrogin (SRO)**	**47.83**	**245**	*e*P		**P**	**20 13 58.4**	**+1.3**
VNDA	**Vanda**	**55.46**	**182**	*e*P		**P**	**20 14 51.9**	**-1.4**
VNDA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
VNDA	**Vanda**	**55.46**	**182**	*e*P		**P**	**20 14 51.9**	**-1.4**
	comp=Z,3.5nm,1.1s							
JOW	**Kunigami**	**63.56**	**318**	P		**P**	**20 15 50.8**	**+1.0**
	comp=Z,17nm,0.9s,baz=175,slow=7.2,SNR=5.8							
JOW	**Kunigami**	**63.56**	**318**	P		**P**	**20 15 50.8**	**+1.0**
MJAR	**Matsushiro Arr**	**65.90**	**332**	P		**P**	**20 16 04.8**	**-0.1**
	comp=Z,6.1nm,0.6s,baz=165,slow=6.4,SNR=22							
MJAR	**Matsushiro Arr**	**65.90**	**332**	P		**P**	**20 16 04.8**	**-0.1**
MJAR	**Matsushiro Arr**	**65.90**	**332**	P		**P**	**20 16 04.8**	**-0.1**
MAJO	**Matsushiro**	**65.90**	**332**	*e*P		**P**	**20 16 04.5**	**-0.4**
MAJO					pmax	pmax		
	comp=Z,12nm,0.6s							
MAJO	**Matsushiro**	**65.90**	**332**	*e*P		**P**	**20 16 04.5**	**-0.4**
	comp=Z,12nm,0.6s							
MAT	**Matsushiro**	**65.90**	**332**	P		**P**	**20 16 04.5**	**-0.4**
TATO	**Taipei**	**66.75**	**312**	*e*P		**P**	**20 16 10.5**	**0.0**
QSPA	**South Pole Qui**	**67.80**	**180**	P		**P**	**20 16 16.3**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=25,slow=2.9,SNR=12							
QSPA	**South Pole Qui**	**67.80**	**180**	P		**P**	**20 16 16.3**	**-0.5**
SSE	**Sheshan**	**70.98**	**317**	P		**P**	**20 16 37.5**	**+0.9**
SSE					pmax	pmax		
	comp=Z,15nm,1.2s							
SSE					pmax	pmax		
	comp=Z,240nm,9.2s							
KSRS	**Korea Array**	**71.58**	**326**	P		**P**	**20 16 40.0**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=144,slow=6.2,SNR=23							
KSAR	**Wonju Array Be**	**71.59**	**325**	P		**P**	**20 16 40.0**	**-0.2**
KSAR	**Wonju Array Be**	**71.59**	**325**	P		**P**	**20 16 40.0**	**-0.2**
QIZ	**Qiongzhong**	**71.99**	**300**	P		**P**	**20 16 43.8**	**+0.8**
QIZ				S		**S**	**20 26 01.6**	**+0.6**
QIZ				LR		LR		
	comp=Z,460nm,24.3s							
NJ2	**Nanjing**	**73.10**	**316**	*e*P		**P**	**20 16 50.3**	**+1.0**
NJ2					pmax	pmax		
	comp=Z,40nm,0.6s							
FX1	**Attu Island--F**	**74.87**	**2**	LR		LR	20 44 28.7	
	comp=Z,994nm,19.4s,baz=200,slow=31							
USRK	**Ussuriysk Arra**	**74.89**	**332**	P		**P**	**20 17 00.3**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=165,slow=7.9,SNR=6.8							
PETK	**Petropavlovsk-**	**75.86**	**352**	P		**P**	**20 17 05.6**	**+0.7**
	comp=Z,10nm,0.9s,baz=148,slow=8.7,SNR=4.4							
PETK	**Petropavlovsk-**	**75.86**	**352**	P		**P**	**20 17 05.6**	**+0.7**
PETK	**Petropavlovsk-**	**75.86**	**352**	P		**P**	**20 17 05.6**	**+0.7**
CN2	**Changchun**	**77.57**	**328**	*e*P		**P**	**20 17 15.1**	**+0.3**
CN2					*e*pP	**pP**	**20 17 31.8**	**+2.4**
CN2					*e*S	**S**	**20 27 02.6**	**+0.3**
CN2					pmax	pmax		
	comp=Z,20nm,1.0s							
CN2					LR	LR		
	comp=N,200nm,18.0s							
CN2					LR	LR		
	comp=E,200nm,18.0s							
CN2					LR	LR		
	comp=Z,300nm,19.0s							
ENH	**Enshi**	**78.39**	**310**	*e*P		**P**	**20 17 19.7**	**0.0**
	comp=Z,18nm,0.9s							
GYA	**Guiyang**	**78.40**	**305**	||*e*P		**P**	**20 17 21.0**	**+1.1**
GYA					PP	PP	**20 20 21.3**	**+3.3**
GYA					S	**S**	**20 27 13.8**	**+1.6**
GYA					SKS	**SKSac**	**20 27 25.6**	**-5.2**
GYA					SS	**SS**	**20 32 10.0**	**-6.5**
GYA					pmax	pmax		
	comp=Z,20nm,1.0s							
GYA					pmax	pmax		
	comp=Z,120nm,5.3s							
GYA					LR	LR		
	comp=N,560nm,19.0s							
GYA					LR	LR		
	comp=E,490nm,20.2s							
GYA					LR	LR		
	comp=Z,540nm,18.9s							
KLR	**Kul'dur**	**79.04**	**335**	*e*P		P	20 17 19.0	-3.8
BJI	**Beijing**	**79.93**	**321**	P		**P**	**20 17 29.4**	**+1.6**
BJI				S		**S**	**20 27 30.3**	**+2.7**
BJI					pmax	pmax		
	comp=Z,12nm,0.9s							
BJI					pmax	pmax		
	comp=Z,240nm,6.6s							
BJI					LR	LR		
	comp=N,820nm,21.0s							
BJI					LR	LR		
	comp=E,520nm,22.4s							
BJI					LR	LR		
	comp=Z,670nm,25.6s							
CM31	**Chiang Mai Arr**	**80.69**	**294**	*e*P		P	20 17 35.0	+2.5
	comp=Z,13nm,1.1s							
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P		P	20 17 34.8	+2.4
	comp=Z,7.9nm,1.1s,baz=135,slow=4.0,SNR=27							
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P		P	20 17 34.8	+2.4
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P		P	20 17 34.8	+2.4
KMI	**Kunming**	**80.75**	**302**	P		P	20 17 35.3	+2.4
KMI					pP	pP	20 17 52.3	+4.7
KMI					PP	**PP**	**20 20 41.5**	**+3.8**
KMI					S	**S**	**20 27 36.9**	**-0.5**
KMI					sS	sS	20 28 07.3	+5.3
KMI					pmax	pmax		
	comp=Z,24nm,1.6s							
KMI					pmax	pmax		
	comp=Z,140nm,5.5s							
KMI					LR	LR		
	comp=N,280nm,17.4s							
KMI					LR	LR		
	comp=E,590nm,17.4s							
KMI					LR	LR		
	comp=Z,360nm,17.4s							

CHTO	**Chiang Mai**	**80.86**	**295**	*e*P		**P**	**20 17 35.1**	**+1.8**
CHTO					pmax	pmax		
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**80.86**	**295**	*e*P		**P**	**20 17 35.1**	**+1.8**
	comp=Z,12nm,1.1s							
CD2	**Chengdu**	**82.90**	**307**	P		**P**	**20 17 45.6**	**+1.8**
CD2				pP		pP	20 18 03.3	+4.7
CD2				sP		sP	20 18 10.4	+6.2
CD2				PP		**PP**	**20 20 59.4**	**+4.3**
CD2				SKS		**S**	**20 27 57.9**	**-1.0**
CD2				S		**SKSac**	**20 27 59.1**	**-2.4**
CD2				sS		sS	20 28 29.5	+5.9
CD2				pmax	pmax			
	comp=Z,240nm,6.4s							
CD2				LR		LR		
	comp=N,650nm,14.9s							
CD2				LR		LR		
	comp=Z,490nm,15.5s							
HHC	**Hu-ho-hao-te**	**83.19**	**319**	*e*P		**P**	**20 17 46.3**	**+1.1**
HHC				pP		**pP**	**20 17 57.3**	**-2.6**
HHC				PP		**PP**	**20 21 00.3**	**+3.0**
HHC				S		**S**	**20 28 03.8**	**+2.3**
HHC				sS		**sS**	**20 28 21.1**	**-5.2**
HHC				pmax	pmax			
	comp=Z,23nm,1.1s							
HHC				pmax	pmax			
	comp=Z,150nm,4.5s							
HHC				LR		LR		
	comp=N,600nm,16.6s							
HHC				LR		LR		
	comp=E,500nm,15.5s							
HHC				LR		LR		
	comp=Z,730nm,17.8s							
LZH	**Lanzhou**	**85.52**	**312**	*e*P		P	20 17 59.8	+2.6
LZH				pP		pP	20 18 16.5	+4.5
LZH				sP		sP	20 18 23.9	+6.3
LZH				pmax	pmax			
	comp=Z,30nm,1.2s							
LZH				pmax	pmax			
	comp=Z,170nm,5.0s							
LZH				LR		LR		
	comp=N,140nm,8.2s							
LZH				LR		LR		
	comp=E,280nm,10.2s							
LZH				LR		LR		
	comp=Z,620nm,15.6s							
SEY	**Seymchan**	**86.09**	**352**	||*e*P		**P**	**20 17 58.8**	**-0.3**
SNAA	**Sanae**	**86.20**	**182**	*e*		**P**	**20 17 58.2**	**-1.7**
SNAA	**Sanae**	**86.20**	**182**	*e*P		P	20 17 56.3	-3.6
SNAA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SNAA	**Sanae**	**86.20**	**182**	*e*P		P	20 17 56.3	-3.6
	comp=Z,5.8nm,0.9s							
VNA3	**Neumayer Olymp**	**86.75**	**180**	*e*		**P**	**20 18 02.6**	**+0.1**
VNA2	**Neumayer--Watz**	**87.05**	**181**	*e*		**P**	**20 18 04.6**	**+0.6**
	baz=176,slow=4.9							
VNA1	**Neumayer--Stat**	**87.33**	**180**	*e*		**P**	**20 18 07.1**	**+1.8**
CMB	**Columbia Colle**	**88.40**	**48**	P		**P**	**20 18 10.4**	**-0.6**
CMB	**Columbia Colle**	**88.40**	**48**	P		**P**	**20 18 10.4**	**-0.6**
ISA	**Isabella**	**88.58**	**50**	*e*P		**P**	**20 18 13.8**	**+1.9**
ISA	**Isabella**	**88.58**	**50**	*e*P		**P**	**20 18 13.8**	**+1.9**
SHL	**Shillong**	**89.69**	**298**	*e*P		P	20 18 20.0	+2.6
ULN	**Ulaanbaatar**	**89.90**	**323**	*e*P		**P**	**20 18 18.5**	**+0.6**
ULN				pmax	pmax			
	comp=Z,37nm,1.7s							
ULN	**Ulaanbaatar**	**89.90**	**323**	*e*P		**P**	**20 18 18.5**	**+0.6**
	comp=Z,37nm,1.7s							
GTA	**Gaotai**	**89.95**	**313**	*e*P		**P**	**20 18 19.9**	**+1.6**
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
NVAR	**Mina Array Bea**	**90.02**	**48**	P		**P**	**20 18 18.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=228,slow=6.1,SNR=5.8							
NVAR	**Mina Array Bea**	**90.02**	**48**	P		**P**	**20 18 18.1**	**-0.7**
YAK	**Yakutsk**	**90.06**	**342**	*e*P		**P**	**20 18 17.2**	**-0.8**
YAK				pmax	pmax			
	comp=Z,22nm,1.1s							
YAK	**Yakutsk**	**90.06**	**342**	*e*P		**P**	**20 18 17.2**	**-0.8**
	comp=Z,22nm,1.1s							
BILL	**Bilibino**	**90.09**	**358**	*c* P		**P**	**20 18 17.8**	**-0.3**
BILL				pmax	pmax			
	comp=Z,22nm,1.6s							
BILL	**Bilibino**	**90.09**	**358**	*e*P		**P**	**20 18 17.7**	**-0.4**
	comp=Z,30nm,1.5s							
SONM	**Songino Array**	**90.25**	**323**	P		**P**	**20 18 19.7**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=140,slow=4.9,SNR=29							
SONM	**Songino Array**	**90.25**	**323**	P		**P**	**20 18 19.7**	**+0.2**
SONM	**Songino Array**	**90.25**	**323**	P		**P**	**20 18 19.7**	**+0.2**
LSA	**Lhasa**	**91.99**	**301**	P		**P**	**20 18 28.6**	**+0.1**
LSA	**Lhasa**	**91.99**	**301**	*e*P		**P**	**20 18 29.4**	**+0.9**
LSA				pmax	pmax

BUD	**Budapest**	**145.90 325**	ǁ	*e*PKPdf	**PKPab**	**20 24 59.4**	**+0.9**
VRAC	**Vranov**	**145.96 329**		PKPbc	**PKPab**	**20 24 59.0**	**+0.3**
	comp=Z,18nm,0.9s,baz=60,slow=3.7,SNR=16						
VRAC	**Vranov**	**145.96 329**	⇑	PKIKP	**PKPab**	**20 24 59.6**	**+0.9**
VRAC	**Vranov**	**145.96 329**		PKPbc	**PKPab**	**20 24 59.0**	**+0.3**
VRAC	**Vranov**	**145.96 329**	⇑	*i*P	**PKPab**	**20 24 59.6**	**+0.9**
PVCC	**Panska Ves**	**146.02 332**		*i* PKIKP	**PKPab**	**20 24 59.1**	**+0.2**
PVCC	**Panska Ves**	**146.02 332**		*i* PKP	**PKPab**	**20 24 59.1**	**+0.2**
BRG	**Berggiesshubel**	**146.03 333**		*i* PKP	**PKPab**	**20 24 58.4**	**-0.5**
	comp=Z,59nm,1.4s						
BRG	**Berggiesshubel**	**146.03 333**		*e*PKPbc	**PKPab**	**20 24 58.8**	**-0.1**
BRG	**Berggiesshubel**	**146.03 333**		*i* PKIKP	**PKPab**	**20 24 58.4**	**-0.5**
BRG				pmax	pmax		
	comp=Z,59nm,1.4s						
SMOL	**Smolenice**	**146.08 327**		*e*PKP2	**PKPab**	**20 25 00.5**	**+1.3**
SMOL	**Smolenice**	**146.08 327**		*e*PKP	**PKPab**	**20 25 00.5**	**+1.3**
CLL	**Collm**	**146.09 334**		*e*PKPbc	**PKPab**	**20 24 58.7**	**-0.4**
CLL	**Collm**	**146.09 334**	⇑	*i*PKP2	**PKPab**	**20 24 58.6**	**-0.5**
CLL				pmax	pmax		
	comp=Z,49nm,1.4s						
CLL	**Collm**	**146.09 334**	⇑	*i*PKPbc	**PKPab**	**20 24 58.6**	**-0.5**
	comp=Z,49nm,1.4s						
CLL				*i* PKiKP	**PKiKP**	**20 25 02.7**	**+1.0**
NRDL	**Niedersach Rie**	**146.22 338**		*e*PKPbc	**PKPab**	**20 24 59.2**	**-0.3**
FBE	**Freiberg**	**146.24 334**		*e*PKPbc	**PKPab**	**20 24 59.6**	**-0.1**
PRU	**Pruhonice**	**146.43 331**		*e*PKP2	**PKPab**	**20 24 59.9**	**-0.6**
PRU	**Pruhonice**	**146.43 331**		*e*PKP	**PKPab**	**20 24 59.9**	**-0.6**
ZST	**Bratislava**	**146.45 327**		*e*PKIKP	**PKPab**	**20 24 59.1**	**-1.5**
ZST	**Bratislava**	**146.45 327**		*e*PKP	**PKPab**	**20 24 59.1**	**-1.5**
TREC	**Trest**	**146.49 330**		*i* PKP2	**PKPab**	**20 25 00.6**	**-0.2**
TREC	**Trest**	**146.49 330**		*i* PKP	**PKPab**	**20 25 00.6**	**-0.2**
CLZ	**Clausthal**	**146.66 337**		*e*PKPbc	**PKPab**	**20 25 00.9**	**-0.5**
CLZ	**Clausthal**	**146.66 337**		*e*PKP2	**PKPab**	**20 25 00.9**	**-0.5**
PKSM	**Moragy**	**146.88 323**	⇑	PKP2	**PKPab**	**20 25 01.4**	**-1.0**
PKSM	**Moragy**	**146.88 323**	⇑	*i*P	**PKPab**	**20 25 01.4**	**-1.0**
PKSM	**Moragy**	**146.88 323**	⇑	*e*PKPdf	**PKPab**	**20 25 01.2**	**-1.2**
TANN	**Tannenbergstha**	**146.99 334**		*e*PKPbc	**PKPab**	**20 25 01.7**	**-1.1**
WERD	**Werda**	**147.03 334**		*e*PKPbc	**PKPab**	**20 25 01.6**	**-1.3**
PLN	**Plauen**	**147.06 334**		*e*PKPbc	**PKPab**	**20 25 02.1**	**-0.9**
SOP	**Sopron**	**147.07 327**	ǁ	*e*PKPdf	**PKPab**	**20 25 02.7**	**-0.3**
GUNZ	**Gunzen**	**147.09 334**		*e*PKPbc	**PKPab**	**20 25 01.9**	**-1.2**
WERN	**Wernitzgruen**	**147.13 334**		*e*PKPbc	**PKPab**	**20 25 02.3**	**-1.0**
NKC	**Novy Kostel**	**147.14 334**		*i* PKP2	**PKPab**	**20 25 02.1**	**-1.2**
NKC	**Novy Kostel**	**147.14 334**		*i* PKP	**PKPab**	**20 25 02.1**	**-1.2**
IBBN	**Ibbenburen**	**147.15 340**		*e*PKPbc	**PKPab**	**20 25 01.6**	**-1.6**
MOX	**Moxa**	**147.15 335**		*e*PKPbc	**PKPab**	**20 25 02.0**	**-1.3**
MOX	**Moxa**	**147.15 335**		*e*PKP2	**PKPab**	**20 25 02.0**	**-1.3**
CONA	**Conrad Observa**	**147.25 328**	⇑	*i*P	**PKPab**	**20 25 02.8**	**-1.1**
CONA	**Conrad Observa**	**147.25 328**	⇑	*i*PKPab	**PKPab**	**20 25 02.8**	**-1.1**
	comp=Z,12nm,0.9s						
KHC	**Kasperske Hory**	**147.48 331**		*e*PKIKP	**PKPbc**	**20 25 00.9**	**-1.7**
KHC	**Kasperske Hory**	**147.48 331**		*e*PKPdf	**PKPbc**	**20 25 00.4**	**-2.2**
KHC	**Kasperske Hory**	**147.48 331**		*e*PKP	**PKPbc**	**20 25 00.9**	**-1.7**
KHC				ex	x	20 25 52.0	
ROTZ	**Rotzenmuhle**	**147.60 333**		*e*PKPbc	**PKPab**	**20 25 03.5**	**-1.6**
GEC2	**GERESS Array S**	**147.63 331**		*e*PKPbc	**PKPab**	**20 25 03.5**	**-1.9**
GEC2	**GERESS Array S**	**147.63 331**		*e*PKP2	**PKPab**	**20 25 03.5**	**-1.9**
GERES	**GERESS Array B**	**147.63 331**		PKPbc	**PKPab**	**20 25 03.8**	**-1.6**
	comp=Z,8.9nm,1.0s,baz=37,slow=2.2,SNR=24						
GERES	**GERESS Array B**	**147.63 331**		PKP2	**PKPab**	**20 25 03.8**	**-1.6**
GERES	**GERESS Array B**	**147.63 331**		PKPbc	**PKPab**	**20 25 03.8**	**-1.6**
WTSB	**Winterswijk**	**147.74 341**		*e*PKP	**PKPab**	**20 25 03.6**	**-1.9**
WET	**Wettzell**	**147.78 332**		*e*PKPbc	**PKPab**	**20 25 03.8**	**-2.1**
WET	**Wettzell**	**147.78 332**		*e*PKP2	**PKPab**	**20 25 03.8**	**-2.1**
GRF	**Grafenberg Arr**	**148.06 334**		*e*PKPbc	**PKPab**	**20 25 04.4**	**-2.5**
GRF	**Grafenberg Arr**	**148.06 334**		*e*PKP2	**PKPab**	**20 25 04.4**	**-2.5**
SOKA	**Soboth**	**148.51 327**	ǁ	*i*P	**PKPbc**	**20 25 05.3**	**-0.1**
SOKA	**Soboth**	**148.51 327**	ǁ	*i*PKPbc	**PKPbc**	**20 25 05.3**	**-0.1**
	comp=Z,9.9nm,1.2s						
TOD	**Tromm**	**149.07 336**		PKP2	**PKPbc**	**20 25 06.6**	**-0.1**
TOD	**Tromm**	**149.07 336**		PKP	**PKPbc**	**20 25 06.6**	**-0.1**
MEM	**Membach**	**149.17 340**		PKPbc	**PKPbc**	**20 25 07.3**	**+0.4**
MEM				PKPab	**PKPab**	**20 25 12.0**	**+0.7**
FUR	**Furstenfeldbru**	**149.22 332**		*e*PKPbc	**PKPbc**	**20 25 07.8**	**+0.7**
FUR	**Furstenfeldbru**	**149.22 332**		*e*PKP2	**PKPbc**	**20 25 07.8**	**+0.7**
ABH	**Alteburg**	**149.29 338**		PKP	**PKPbc**	**20 25 07.6**	**+0.3**
STU	**Stuttgart**	**149.60 335**		*e*PKPbc	**PKPbc**	**20 25 08.4**	**+0.4**
RUP	**Ruppelstein**	**149.61 338**		PKP2	**PKPbc**	**20 25 08.5**	**+0.4**
RUP	**Ruppelstein**	**149.61 338**		PKP	**PKPbc**	**20 25 08.5**	**+0.4**
WATA	**Walderalm**	**149.71 331**	ǁ	*i*PKP2	**PKPbc**	**20 25 08.9**	**+0.3**
WATA	**Walderalm**	**149.71 331**	ǁ	*i*P	**PKPbc**	**20 25 08.9**	**+0.3**
WATA	**Walderalm**	**149.71 331**	ǁ	*i*PKiKP	**PKPbc**	**20 25 08.9**	**+0.3**
	comp=Z,3.9nm,0.5s						
MOTA	**Moosalm**	**149.92 331**	ǁ	*i*PKiKP	**PKiKP**	**20 25 09.6**	**-0.4**
	comp=Z,6.6nm,0.7s,SNR=5.9						
WLF	**Walferdange**	**149.94 339**		PKPbc	**PKPbc**	**20 25 10.2**	**+1.3**
WLF	**Walferdange**	**149.94 339**		*e*PKPbc	**PKPbc**	**20 25 09.5**	**+0.7**
DOU	**Dourbes**	**150.05 342**		PKPbc	**PKPbc**	**20 25 09.1**	**+0.1**
BFO	**Black Forest**	**150.29 335**		*e*PKPbc	**PKPbc**	**20 25 10.4**	**+0.6**
BFO	**Black Forest**	**150.29 335**		*e*PKHKP	**PKPbc**	**20 25 07.1**	**-2.6**
BFO	**Black Forest**	**150.29 335**		*e*PKPbc	**PKPbc**	**20 25 07.1**	**-2.6**
FETA	**Feichten**	**150.33 331**		*i* PKiKP	**PKiKP**	**20 25 10.9**	**+0.1**
	comp=Z,16nm,1.1s,SNR=9.8						
DAVOX	**Davos/Dischmat**	**150.89 332**		PKPbc	**PKPbc**	**20 25 12.4**	**+1.0**
	comp=Z,11nm,0.6s,baz=136,slow=1.2,SNR=16						
DAVOX	**Davos/Dischmat**	**150.89 332**		PKIKP	**PKPbc**	**20 25 12.4**	**+1.0**
DAVOX	**Davos/Dischmat**	**150.89 332**		PKPbc	**PKPbc**	**20 25 12.4**	**+1.0**
TUE	**Stuetta**	**151.36 332**		*e*PKPbc	**PKPbc**	**20 25 12.7**	**+0.1**
ESDC	**Sonseca Array**	**161.98 346**		PKPab	**PKPab**	**20 26 05.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=42,slow=2.4,SNR=4.4						
ESDC	**Sonseca Array**	**161.98 346**		PKPab	**PKPab**	**20 26 05.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**165.91 232**		PKP	**PKPdf**	**20 25 24.6**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=199,slow=2.5,SNR=7.3						
TORD				PKPab	**PKPab**	**20 26 27.4**	**+3.1**
	comp=Z,1.3nm,0.9s,baz=176,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.91 232**		PKP	**PKPdf**	**20 25 24.6**	**+0.3**
TORD				PKPab	**PKPab**	**20 26 27.4**	**+3.1**

JMA 16 20:08:20.7±0.3, 34°01.0N×142°26.6E, h0km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.53**	**295**	P		Pg	20 08 49.4	0.0
BSO1				*e*S		Sg	20 09 09.9	+1.1
BSO2	**Boso 2**	**1.74**	**296**	S		Sg	20 09 16.6	+0.6
BSO3	**Boso 3**	**1.94**	**295**	P		Pn	20 08 55.3	+0.7
BSO3				*e*S		Sb	20 09 21.0	-0.3
BSO4	**Boso 4**	**2.15**	**298**	*e*S		Sb	20 09 26.9	-0.7
JHO	**Hitachi**	**3.11**	**327**	P		Pn	20 09 12.2	+1.2
JHO				S		Sn	20 09 48.5	-0.4
JOD2	**Odawara 2**	**3.20**	**294**	*e*S		Sn	20 09 49.9	-1.3
JFK	**Kawauchi**	**3.65**	**337**	*e*S		Sn	20 10 01.8	-0.5
JYN	**Shimob**	**3.70**	**295**	P		Pn	20 09 20.9	+1.7
JYN				*e*S		Sn	20 10 04.2	+0.6
JMM	**Marumori**	**4.13**	**339**	P		Pn	20 09 27.1	+2.0
JMM				*e*S		Sn	20 10 14.2	0.0

IDC 16 20:18:44.8±3.4, 22°82S×170°27E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=109.1km s-min=53.6km az=5.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.62**	**281**	Pn		Pn	20 19 43.6	+1.3
	4.8nm,0.3s,baz=118,slow=14,SNR=16							
DZM				Sn		Sn	20 20 26.2	+0.4
	6.2nm,0.3s,baz=140,slow=22,SNR=4.4							
DZM	**Mont Dzumac**	**3.62**	**281**	*e*P		Pn	20 19 42.8	+0.5
DZM				*e*S		Sn	20 20 25.0	-0.7
NOUC	**Port Laguerre**	**3.74**	**280**	*e*P		Pn	20 19 44.2	+0.4
NOUC				*e*S		Sn	20 20 27.8	-0.9
ASAR	**Alice Springs**	**33.37**	**261**	P		P	20 25 25.2	+0.1
	0.9nm,0.9s,baz=90,slow=8.5,SNR=5.3							
WRA	**Warramunga Arr**	**33.53**	**268**	P		P	20 25 25.4	-1.1
	0.1nm,0.4s,baz=96,slow=8.7,SNR=3.8							
CMAR	**Chiang Mai Arr**	**80.85**	**294**	P		P	20 31 01.6	+0.4
	0.5nm,0.9s,baz=134,slow=3.9,SNR=4.2							

DJA 16 20:25:40.2, 20.20S×131.02E, h10km, MLv3.8/3
IDC 16 20:25:20.6±2.0, 0.50S×133.12E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=81.0km s-min=24.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		P	20 29 43.7	0.0
	0.2nm,0.3s,baz=38,slow=14,SNR=7.2							
WRA	**Warramunga Arr**	**19.36**	**177**	P		P	20 29 47.6	-0.4
	0.2nm,0.3s,baz=357,slow=11,SNR=12							
ASAR	**Alice Springs**	**23.04**	**178**	P		P	20 30 26.9	-0.8
	2.2nm,0.8s,baz=356,slow=11,SNR=27							
STKA	**Stephens Creek**	**32.22**	**166**	P		P	20 31 52.0	+1.3
	1.7nm,0.8s,baz=328,slow=9.7,SNR=4.0							
MKAR	**Makanchi Array**	**64.68**	**324**	P		P	20 36 00.3	-0.2
	0.3nm,0.6s,baz=110,slow=6.9,SNR=6.0							

IDC 16 20:32:56.8±2.9, 0.75S×133.46E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=117.5km s-min=26.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**204**	P		P	20 37 19.0	+0.2
	0.1nm,0.3s,baz=23,slow=15,SNR=3.9							
WRA	**Warramunga Arr**	**19.09**	**177**	P		P	20 37 21.4	+0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**22.78**	**179**	P		P	20 38 00.9	-0.2
	0.4nm,0.4s,baz=357,slow=10,SNR=9.0							
MKAR	**Makanchi Array**	**65.08**	**324**	P		P	20 43 39.2	0.0
	0.1nm,0.6s,baz=120,slow=7.2,SNR=4.4							

IDC 16 20:34:36.3±2.3, 0.80S×133.36E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=92.3km s-min=23.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.79**	**203**	P		Pn	20 38 58.4	+0.7
	0.4nm,0.3s,baz=21,slow=11,SNR=8.0							
WRA	**Warramunga Arr**	**19.05**	**177**	P		P	20 39 00.1	-0.1
	0.2nm,0.3s,baz=356,slow=12,SNR=12							
ASAR	**Alice Springs**	**22.73**	**179**	P		P	20 39 39.6	-0.6
	1.0nm,0.7s,baz=359,slow=8.6,SNR=5.0							
MKAR	**Makanchi Array**	**65.06**	**324**	P		P	20 45 18.7	0.0
	0.5nm,0.5s,baz=112,slow=8.1,SNR=16							

NEIC 16 20:40:17.1±0.7, 7.66S×108.13E, h10km, mb4.3/4, Error ellipse: s-maj=39.1km s-min=7.6km az=49.0
NEIC Felt [III] at Cianjur.
DJA 16 20:40:30, 7.65S×106.94E, h29km, MLv4.5/6
IDC 16 20:40:36.7±1.3, 7.43S×108.61E, h176km±8km, mb3.4/11, mb1 3.6/11, mb1mx3.4/20, mbtmp3.4/11, Error ellipse: s-maj=50.1km s-min=9.7km az=47.0
ISC 16 20:40:28.6±0.9, 7.9S±0.1×108.0E±0.1, h108km±7km, n43, σ1°81/40, mb4.0/15, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.38**	**329**	P		**Pn**	**20 40 46.1**	**+1.5**
CISI				S		**Sn**	**20 40 57.1**	**+0.6**
LEM	**Lembang**	**1.12**	**340**	P		**Pn**	**20 40 49.9**	**-1.2**
LEM				S		**Sn**	**20 41 08.0**	**0.0**
SKJI	**Sukabumi**	**1.68**	**301**	P		Pn	20 40 43.7	-14
SKJI				S		Sn	20 40 54.5	-25
BJII	**Banjamegara**	**1.77**	**72**	P		Pn	20 41 13.8	+15
TNG	**Tangerang**	**2.17**	**321**	P		Pn	20 40 55.6	-8.1
UGM	**Wanagama**	**2.49**	**91**	P		Pn	20 41 22.9	+15
SBJI	**Serang**	**2.56**	**313**	P		Pn	20 40 58.4	-10
SBJI				S		Sn	20 41 21.4	-18
RBSI	**Rajabasa**	**3.03**	**312**	P		Pn	20 41 06.0	-8.9
KLJ	**Kotabumi**	**4.34**	**314**	P		Pn	20 41 26.5	-6.0
LWLI	**Liwa**	**4.85**	**306**	P		Pn	20 41 31.5	-8.0
KSI	**Kapahiang**	**6.83**	**308**	P		Pn	20 41 57.5	-8.8
BBKI	**Banjar Baru**	**8.09**	**58**	P		**Pn**	**20 42 24.9**	**+1.5**
MBWA	**Marble Bar**	**17.39**	**141**	*e*P		**P**	**20 44 20.6**	**-3.6**
	8.2nm,0.6s							
MBWA				*e*Sn		Sn	20 46 47.8	-51
CMAR	**Chiang Mai Arr**	**27.66**	**341**	P		**P**	**20 46 04.5**	**-2.0**
	0.9nm,0.7s,baz=177,slow=8.5,SNR=11							
CMAR	**Chiang Mai Arr**	**27.66**	**341**	P		**P**	**20 46 04.5**	**-2.0**
WRA	**Warramunga Arr**	**28.18**	**118**	P		**P**	**20 46 09.7**	**-1.5**
	2.7nm,0.7s,baz=297,slow=11,SNR=15							
WRA				S		S	20 50 40.1	-8.9
	0.6nm,0.6s,baz=293,slow=25,SNR=4.3							
WRA	**Warramunga Arr**	**28.18**	**118**	P		**P**	**20 46 09.7**	**-1.5**
WRA				S		S	20 50 40.1	-8.9
	0.6nm,0.6s,baz=293,slow=25,SNR=4.3							
WRAB	**Tennant Creek**	**28.18**	**118**	*e*P		**P**	**20 46 08.7**	**-2.5**
	3.6nm,0.6s							
WB2	**Warramunga Arr**	**28.19**	**118**	*e*P		**P**	**20 46 09.3**	**-2.0**
AS31	**Alice Springs**	**29.36**	**125**	*e*P		**P**	**20 46 22.5**	**+0.8**
ASAR	**Alice Springs**	**29.36**	**125**	P		**P**	**20 46 23.0**	**+1.3**
	3.1nm,0.6s,baz=305,slow=8.6,SNR=41							
ASAR	**Alice Springs**	**29.36**	**125**	P		**P**	**20 46 23.0**	**+1.3**
STKA	**Stephens Creek**	**39.31**	**132**	P		**P**	**20 47 47.2**	**-0.1**
	1.8nm,0.9s,baz=290,slow=17,SNR=2.0							
STKA	**Stephens Creek**	**39.31**	**132**	P		**P**	**20 47 47.2**	**-0.1**
HNR	**Honiara**	**51.33**	**96**	P		**P**	**20 49 21.2**	**-1.2**
	79nm,1.0s							
SONM	**Songino Array**	**55.49**	**359**	P		**P**	**20 49 51.4**	**-1.0**
	0.1nm,0.4s,baz=176,slow=8.0,SNR=2.8							
SONM				PcP		**PcP**	**20 50 54.2**	**+3.1**
	1.7nm,0.5s,baz=177,slow=3.7,SNR=24							
SONM	**Songino Array**	**55.49**	**359**	P		**P**	**20 49 51.4**	**-1.0**
SONM				PcP		**PcP**	**20 50 54.2**	**+3.1**
TKM2	**Tokmak 2**	**58.54**	**333**	*e*P		**P**	**20 50 11.9**	**-2.2**
	1.4nm,0.5s							
MK31	**Makanchi Array**	**59.05**	**340**	*e*P		**P**	**20 50 15.3**	**-2.0**
MKAR	**Makanchi Array**	**59.05**	**340**	P		**P**	**20 50 16.0**	**-1.3**
	0.7nm,0.5s,baz=150,slow=8.4,SNR=19							
MKAR				pP		PcP	20 50 58.2	-6.9
	0.2nm,0.4s,baz=157,slow=7.8,SNR=1.9							
MKAR	**Makanchi Array**	**59.05**	**340**	P		**P**	**20 50 16.0**	**-1.3**
MKAR				pP		PcP	20 50 58.2	-6.9
KURK	**Kurchatov**	**63.67**	**340**	P		**P**	**20 50 47.4**	**-0.9**
	0.7nm,0.5s,baz=150,slow=6.0,SNR=17							
KURK				pP		**PcP**	**20 51 26.9**	**+3.3**
	0.4nm,0.5s,baz=151,slow=3.8,SNR=3.1							
KURK	**Kurchatov**	**63.67**	**340**	P		**P**	**20 50 47.4**	**-0.9**
KURK				pP		**PcP**	**20 51 26.9**	**+3.3**
ZALV	**Zalesovo Beam**	**64.63**	**345**	P		**P**	**20 50 54.4**	**-0.1**
	0.4nm,0.3s,baz=154,slow=6.2,SNR=3.5							
ZALV	**Zalesovo Beam**	**64.63**	**345**	P		**P**	**20 50 54.4**	**-0.1**
BVAR	**Borovoye Array**	**68.57**	**337**	P		**P**	**20 51 19.2**	**-0.3**
	1.2nm,0.4s,baz=136,slow=8.3,SNR=13							
BVAR	**Borovoye Array**	**68.57**	**337**	P		**P**	**20 51 19.2**	**-0.3**
ABKAR	**Akbulak array**	**70.68**	**329**	*e*P		**P**	**20 51 32.0**	**-0.6**
	5.1nm,0.7s							
AKTO	**Aktyubinsk**	**72.39**	**329**	P		**P**	**20 51 43.4**	**+0.5**
	0.8nm,0.3s,baz=106,slow=4.9,SNR=10							
AKTO	**Aktyubinsk**	**72.39**	**329**	P		**P**	**20 51 43.4**	**+0.5**
BRTR	**Keskin Array B**	**83.16**	**312**	P		**P**	**20 52 43.6**	**+0.6**
	0.6nm,0.7s,baz=137,slow=6.0,SNR=4.6							
BRTR	**Keskin Array B**	**83.16**	**312**	P		**P**	**20 52 43.6**	**+0.6**
TXAR	**Lajitas Array**	**143.38**	**50**	PKP		**PKPdf**	**20 59 54.6**	**+3.4**
	0.3nm,0.5s,baz=245,slow=1.9,SNR=4.7							

ISCJB 16 20:41:03.1±0.8, 8.3S±0.2×112.38E±0.08, h121km±5km, Error ellipse: s-maj=29.4km s-min=10.1km az=19.6
DJA 16 20:41:06, 8.27S×112.40E, h90km, MLv4.2/10
ISC 16 20:41:03.7±1.1, 8.3S±0.2×112.40E±0.07, h110km±10km, n26, σ0°98/24, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KRKI	**Karangkates**	**0.11**	**30**	P		**Pn**	**20 41 19.5**	**+0.6**
PWJI	**Pagerwojo**	**0.63**	**292**	P		**Pn**	**20 41 22.0**	**+0.5**
PWJI	**Pagerwojo**	**0.63**	**292**	P		**Pn**	**20 41 22.0**	**+0.5**
SJI	**Sawahan**	**0.81**	**310**	P		**Pn**	**20 41 24.2**	**+1.1**
SJI	**Sawahan**	**0.81**	**310**	P		**Pn**	**20 41 24.2**	**+1.1**
GMJI	**Gumukmas**	**1.04**	**91**	P		**Pn**	**20 41 25.0**	**-0.3**
PCJI	**Pacitan**	**1.21**	**273**	P		**Pn**	**20 41 28.4**	**+1.3**
BLJI	**Banyuglugur**	**1.29**	**67**	P		**Pn**	**20 41 28.5**	**+0.4**
KMMI	**Kalianget**	**1.97**	**53**	P		Pn	20 41 47.5	+11
NBBI	**Negara**	**2.21**	**93**	P		Pn	20 41 44.9	+5.6
KHKI	**Kahang-Kahang**	**3.18**	**92**	P		**Pn**	**20 41 54.1**	**+2.0**
MTNI	**Mataram**	**3.75**	**96**	P		**Pn**	**20 42 01.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**16.18**	**129**	P		**Pn**	**20 44 43.5**	**-1.2**
	1.1nm,0.3s,baz=296,slow=8.5,SNR=21							
FITZ	**Fitzroy Crossi**	**16.18**	**129**	P		**Pn**	**20 44 43.5**	**-1.2**
ODAN	**Odare**	**42.51**	**326**	*e*P		**P**	**20 48 48.4**	**-0.2**
	4.8nm,0.5s							
TAPN	**Taplejung**	**42.72**	**327**	*e*P		**P**	**20 48 49.5**	**-0.9**
RAMN	**Ramite**	**43.02**	**325**	*e*P		**P**	**20 48 53.3**	**+0.6**
	3.1nm,0.5s							
JIRN	**Jiri**	**43.80**	**326**	*e*P		**P**	**20 48 58.7**	**-0.4**
	4.9nm,0.4s							
GUN	**Gumba**	**44.16**	**325**	*e*P		**P**	**20 49 01.7**	**-0.3**
	11nm,0.7s							
PKI	**Pulchoki**	**44.17**	**325**	*e*P		**P**	**20 49 02.3**	**+0.2**
	1.7nm,0.3s							
DMN	**Daman**	**44.37**	**324**	*e*P		**P**	**20 49 03.8**	**+0.2**
	3.4nm,0.4s							
KKN	**Kakani**	**44.41**	**325**	*e*P		**P**	**20 49 04.5**	**+0.6**
	2.0nm,0.4s							
GKN	**Gorkha**	**44.94**	**324**	*e*P		**P**	**20 49 08.1**	**+0.1**
	2.8nm,0.3s							
DANN	**Dangsing**	**45.71**	**324**	*e*P		**P**	**20 49 14.8**	**+0.6**
	3.2nm,0.4s							
SONM	**Songino Array**	**56.10**	**355**	pP		**P**	**20 50 31.0**	**-0.6**
	0.5nm,0.5s,baz=176,slow=8.5,SNR=4.4							
SONM	**Songino Array**	**56.10**	**355**	pP		**P**	**20 50 31.0**	**-0.6**

ISCJB 16 20:42:49.2±0.6, 50.26N±0.04×18.82E±0.03, h0km, Error ellipse: s-maj=6.2km s-min=2.9km az=9.6
WAR 16 20:42:49.4, 50.24N×18.94E
PRU 16 20:42:50.9, 50.25N×18.82E, h0km
CSEM 16 20:42:52.3±0.7, 50.23N×18.70E, h2km, ML2.5/4, Error ellipse: s-maj=9.9km s-min=8.9km az=29.0
IPEC 16 20:42:52.2±0.6, 50.33N×18.64E, h2km±3km, ML1.5/3, Error ellipse: s-maj=5.2km s-min=3.0km az=161.0
ISC 16 20:42:49.6±0.9, 50°23N±0°05×18°87E±0°03, h0km, n20, σ0°78/34, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.60**	**90**	*e*Pg		**Pg**	**20 43 00.5**	**-0.6**
OJC				*e*Sg		**Sg**	**20 43 08.5**	**-0.3**
OKC	**Ostrava-Krasne**	**0.61**	**230**	*e*PG		**Pb**	**20 43 02.5**	**-0.6**
OKC				*e*SG		**Sg**	**20 43 09.9**	**+0.8**
OKC	**Ostrava-Krasne**	**0.61**	**230**	Pg		**Pb**	**20 43 02.5**	**-0.6**
OKC				Sg		**Sg**	**20 43 09.9**	**+0.8**
MORC	**Moravsky Berou**	**0.97**	**243**	*e*Pg		**Pb**	**20 43 09.0**	**-0.3**
MORC				*e*Sg		**Sg**	**20 43 21.4**	**+0.8**
	6.6nm,0.2s							
NIE	**Niedzica**	**1.23**	**130**	*e*Pg		**Pn**	**20 43 13.7**	**-0.5**
NIE				*e*S

KURK **Kurchatov** **44.58 299** P **P** **20 59 30.3 +1.1**
KURK pmax pmax
comp=Z,1.0nm,0.4s
MKAR **Makanchi Array** **44.73 292** P **P** **20 59 30.6 +0.1**
comp=Z,0.3nm,0.4s,baz=60,slow=6.7,SNR=12
MKAR **Makanchi Array** **44.73 292** P **P** **20 59 30.7 +0.1**
YKA **Yellowknife Ar** **46.27 40** P P 20 59 46.5 +4.4
comp=Z,0.3nm,0.5s,baz=303,slow=7.1,SNR=3.6
YKA **Yellowknife Ar** **46.27 40** P P 20 59 46.5 +4.4
BVAR **Borovoye Array** **47.55 306** P **P** **20 59 52.6 +0.7**
comp=Z,0.6nm,0.4s,baz=59,slow=7.9,SNR=8.8
BVAR PcP **PcP** **21 01 13.5 +0.7**
comp=Z,0.3nm,0.4s,baz=47,slow=2.1,SNR=5.7
BVAR **Borovoye Array** **47.55 306** P **P** **20 59 52.6 +0.7**
BVAR 21 01 13.5
BVAR pmax pmax
comp=Z,1.0nm,0.4s
TAPN **Taplejung** **54.21 269** *e*P **P** **21 00 41.7 +0.4**
comp=Z,2.6nm,0.4s
ODAN **Odare** **54.76 269** *e*P **P** **21 00 45.3 +0.2**
JIRN **Jiri** **54.91 271** *e*P **P** **21 00 46.6 +0.2**
GUN **Gumba** **54.92 271** *e*P **P** **21 00 46.2 -0.2**
AKTO **Aktyubinsk** **55.18 309** P **P** **21 00 47.9 +0.5**
comp=Z,0.4nm,0.4s,baz=74,slow=9.6,SNR=4.4
AKTO **Aktyubinsk** **55.18 309** P **P** **21 00 47.9 +0.5**
RAMN **Ramite** **55.18 270** *e*P **P** **21 00 47.7 -0.4**
comp=Z,11nm,0.6s
KKN **Kakani** **55.38 272** *e*P **P** **21 00 49.5 +0.1**
comp=Z,6.6nm,0.5s
PKI **Pulchoki** **55.46 271** *e*P **P** **21 00 50.1 0.0**
DMN **Daman** **55.61 272** *e*P **P** **21 00 51.3 +0.2**
comp=Z,7.1nm,0.6s
GKN **Gorkha** **55.62 272** *e*P **P** **21 00 51.0 0.0**
comp=Z,3.3nm,0.5s
DANN **Dangsing** **55.90 273** *e*P **P** **21 00 52.8 -0.4**
comp=Z,5.0nm,0.6s
KOLN **Koldanda** **56.42 273** *e*P **P** **21 00 56.6 0.0**
comp=Z,2.7nm,0.3s
WRA **Warramunga Arr** **74.02 199** P **P** **21 02 47.9 +0.6**
comp=Z,0.5nm,0.5s,baz=17,slow=6.2,SNR=3.7
WRA **Warramunga Arr** **74.02 199** P **P** **21 02 47.9 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR **Alice Springs** **77.73 198** P **P** **21 03 09.6 +1.7**
comp=Z,0.4nm,0.5s,baz=12,slow=4.9,SNR=8.4
ASAR **Alice Springs** **77.73 198** P **P** **21 03 09.6 +1.7**

IDC 16 21:04:51.5±3.4, 22.48S×170.42E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=121.3km s-min=40.3km az=157.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.70 276**		Pn	Pn	21 05 51.0	+0.9
	8.2nm,0.3s,baz=127,slow=12,SNR=39						
DZM				Sn	Sn	21 06 31.7	-2.9
	11nm,0.3s,baz=299,slow=23,SNR=12						
DZM	**Mont Dzumac**	**3.70 276**		*e*P	Pn	21 05 49.8	-0.4
DZM				*e*S	Sn	21 06 30.7	-3.9
ASAR	**Alice Springs**	**33.55 261**		P	P	21 11 33.0	-0.5
	0.5nm,0.9s,baz=102,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**33.68 267**		P	P	21 11 33.4	-1.1
	0.2nm,0.4s,baz=95,slow=8.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**80.83 294**		P	P	21 17 09.1	+1.3
	0.9nm,0.8s,baz=138,slow=4.0,SNR=6.7						
SONM	**Songino Array**	**90.46 323**		P	P	21 17 54.6	-0.5
	0.7nm,0.9s,baz=133,slow=3.7,SNR=5.7						
GERES	**GERESS Array B**	**147.85 331**		PKPbc	PKPbc	21 24 37.6	-0.9
	0.8nm,0.6s,baz=46,slow=4.2,SNR=7.3						

IDC 16 21:11:13.5±2.3, 5.51N×126.22E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=181.6km s-min=27.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.52 163**		P	P	21 16 53.8	+0.7
	0.4nm,0.4s,baz=343,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**29.95 166**		P	P	21 17 23.1	-0.7
	0.5nm,0.9s,baz=334,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**55.81 325**		P	P	21 20 52.6	-0.1
	0.1nm,0.4s,baz=110,slow=7.5,SNR=5.3						

*IDC **16** 21:37:27.8±1.4, 22.26S×170.36E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.2/16, mbtmp4.0/10, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/21, Error ellipse: s-maj=47.0km s-min=23.7km az=153.0*
*ISCJB **16** 21:37:33.8±1.0, 22.2S±0.2×170.20E±0.09, h51km, mb3.9/10, Error ellipse: s-maj=33.8km s-min=11.0km az=169.5*

ISC 16 21:37:35.2±1.2, 22.1S±0.3×170.2E±0.1, h51km, n20, σ1s20/18, mb4.0/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.52 270**		Pn	**Pn**	**21 38 26.9**	**-0.6**
	15nm,0.3s,baz=201,slow=22,SNR=17						
DZM				Sn	**Sn**	**21 39 07.4**	**-0.5**
	17nm,0.3s,baz=94,slow=14,SNR=15						
DZM				LR	LR	21 39 29.3	
	comp=Z,284nm,19.0s,baz=22,slow=33						
CTA	**Charters Tower**	**22.46 271**		P	**P**	**21 42 33.0**	**+2.7**
	2.9nm,0.8s,baz=92,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**27.23 243**		P	**P**	**21 43 15.0**	**+0.4**
	2.0nm,0.7s,baz=95,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**33.45 260**		P	**P**	**21 44 09.1**	**-0.6**
	1.4nm,0.9s,baz=83,slow=9.3,SNR=7.5						
WRA	**Warramunga Arr**	**33.53 267**		P	**P**	**21 44 08.5**	**-1.8**
	0.5nm,0.4s,baz=101,slow=8.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**65.73 332**		P	**P**	**21 48 15.2**	**+0.5**
	1.8nm,0.6s,baz=162,slow=6.1,SNR=7.9						
KSRS	**Korea Array**	**71.40 326**		P	P	21 48 51.6	+1.6
	1.6nm,0.8s,baz=144,slow=5.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**80.54 294**		P	P	21 49 44.1	+1.6
	1.5nm,0.7s,baz=134,slow=4.4,SNR=12						
SONM	**Songino Array**	**90.08 323**		P	**P**	**21 50 30.6**	**+1.0**
	0.9nm,0.8s,baz=139,slow=4.9,SNR=5.6						
ILAR	**Eielson Array**	**92.70 17**		P	**P**	**21 50 39.6**	**-1.6**
	0.5nm,0.7s,baz=236,slow=4.4,SNR=6.3						
TXAR	**Lajitas Array**	**97.32 61**		P	Pdif	21 51 03.9	+0.5
	0.1nm,0.5s,baz=82,slow=2.7,SNR=3.6						
ARCES	**ARCESS Array B**	**128.08 345**		PKP	**PKPdf**	**21 56 35.3**	**+0.4**
	12nm,1.2s,baz=43,slow=5.5,SNR=4.0						
KRLC	**Kraliky**	**145.17 330**		*e*P	**PKPdf**	**21 57 07.3**	**+0.3**
DPC	**Dobruska-Polom**	**145.19 330**		*e*P	**PKPab**	**21 57 07.7**	**+0.9**
VYHS	**Vyhne**	**145.20 326**		*e*	**PKPab**	**21 57 07.6**	**+0.7**
UPC	**Upice**	**145.22 331**		*e*P	**PKPab**	**21 57 07.6**	**+0.7**
BRG	**Berggiesshubel**	**145.86 333**		*e*PKP	**PKPab**	**21 57 09.9**	**+0.7**
	11nm,1.5s						
KHC	**Kasperske Hory**	**147.31 331**		*e*P	**PKPab**	**21 57 14.2**	**-0.7**
GERES	**GERESS Array B**	**147.46 331**		PKPbc	**PKPab**	**21 57 14.0**	**-1.6**
	1.7nm,0.7s,baz=34,slow=2.6,SNR=12						
TORD	**Torodi Ar. Bea**	**165.90 233**		PKP	**PKPdf**	**21 57 34.8**	**-0.5**
	1.0nm,1.1s,baz=113,slow=0.7,SNR=3.0						

IDC 16 21:39:11.2±1.8, 24.04S×175.25W, h46km±6km, mb3.9/7, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=77.1km s-min=20.5km az=158.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.57 82**		P	Pn	21 42 25.4	-9.2
	3.7nm,0.3s,baz=270,slow=8.0,SNR=5.7						
DZM	**Mont Dzumac**	**16.96 273**		P	Pn	21 43 00.5	-5.0
	0.8nm,0.3s,baz=105,slow=19,SNR=5.3						
CTA	**Charters Tower**	**35.82 269**		P	P	21 46 06.2	-0.4
	2.0nm,0.3s,baz=96,slow=10,SNR=5.6						
CTA				pP	pP	21 46 18.8	-0.1
	2.2nm,0.4s,baz=101,slow=11,SNR=3.1						
PMG	**Port Moresby**	**38.68 286**		P	P	21 46 29.5	-1.4
	2.4nm,0.4s,baz=87,slow=4.9,SNR=5.8						
PMG				pP	pP	21 46 43.0	-0.3
	7.1nm,0.7s,baz=308,slow=3.2,SNR=3.0						
ASAR	**Alice Springs**	**46.29 260**		P	P	21 47 32.9	+0.2
	0.7nm,0.5s,baz=94,slow=6.9,SNR=12						
ASAR				pP	pP	21 47 45.6	+0.3
	1.4nm,0.7s,baz=92,slow=7.5,SNR=7.1						
WRA	**Warramunga Arr**	**46.73 265**		P	P	21 47 35.0	-1.1
	0.9nm,0.3s,baz=92,slow=8.4,SNR=12						
WRA				pP	pP	21 47 47.7	-1.0
	2.3nm,0.6s,baz=102,slow=8.2,SNR=8.7						
NVAR	**Mina Array Bea**	**81.90 42**		P	P	21 51 25.3	-0.9
	0.2nm,0.4s,baz=212,slow=5.0,SNR=2.5						
NVAR				pP	pP	21 51 39.1	-0.6
	0.4nm,0.7s,baz=226,slow=8.6,SNR=3.1						
USRK	**Ussuriysk Arra**	**83.31 325**		P	P	21 51 34.0	+1.0
	3.4nm,0.9s,baz=143,slow=5.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**93.67 288**		P	P	21 52 25.2	+1.8
	1.8nm,0.8s,baz=140,slow=3.5,SNR=9.3						
CMAR				pP	pP	21 52 38.9	+1.8
	1.7nm,0.8s,baz=133,slow=3.4,SNR=6.4						
BRTR	**Keskin Array B**	**151.07 310**		PKPbc	PKPbc	21 58 59.7	+0.1
	0.9nm,0.8s,baz=162,slow=4.7,SNR=5.2						

*IDC **16** 21:47:13.3±2.8, 22.13S×170.25E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=80.2km s-min=30.1km az=151.0*
ISC 16 21:47:17.8±2.0, 22.2S±0.5×170.3E±0.1, h25km, n10, σ0s97/10, mb3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.53 272**		Pn	**Pn**	**21 48 11.5**	**+0.4**
	11nm,0.3s,baz=84,slow=3.4,SNR=50						
DZM				Sn	**Sn**	**21 48 51.9**	**-0.3**
	7.5nm,0.3s,baz=72,slow=17,SNR=4.7						
DZM	**Mont Dzumac**	**3.53 272**		*e*P	**Pn**	**21 48 10.5**	**-0.7**
NOUC	**Port Laguerre**	**3.66 271**		*e*P	**Pn**	**21 48 12.4**	**-0.4**
NOUC				*e*S	**Sn**	**21 48 56.3**	**+1.1**
ASAR	**Alice Springs**	**33.44 260**		P	**P**	**21 53 54.1**	**-0.8**
	0.5nm,0.8s,baz=79,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**33.53 267**		P	P	21 53 53.5	-2.3
	0.3nm,0.3s,baz=101,slow=8.7,SNR=3.8						
MJAR	**Matsushiro Arr**	**65.83 332**		P	P	21 57 58.5	-2.6
	1.0nm,0.5s,baz=161,slow=3.9,SNR=4.5						
KSRS	**Korea Array**	**71.50 326**		P	**P**	**21 58 35.9**	**-0.5**
	1.1nm,0.8s,baz=151,slow=6.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**80.59 294**		P	**P**	**21 59 30.0**	**+1.3**
	0.4nm,0.4s,baz=128,slow=6.0,SNR=4.9						
SONM	**Songino Array**	**90.17 323**		P	**P**	**22 00 15.2**	**-0.8**
	0.6nm,1.0s,baz=137,slow=6.1,SNR=2.9						
GERES	**GERESS Array B**	**147.57 331**		PKPbc	**PKPdf**	**22 06 58.4**	**+1.1**
	0.5nm,0.6s,baz=64,slow=4.6,SNR=6.8						

IDC 16 21:49:34.7±1.1, 46.83N×155.35E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=39.2km s-min=29.0km az=93.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.26 298**		P	P	21 58 17.1	-0.2
	0.4nm,0.7s,baz=60,slow=7.2,SNR=4.9						
FINES	**FINESS Array B**	**64.61 336**		P	P	22 00 13.3	-0.1
	1.0nm,0.5s,baz=46,slow=8.2,SNR=5.6						
WRA	**Warramunga Arr**	**69.12 201**		P	P	22 00 42.9	+0.4
	0.3nm,0.9s,baz=27,slow=7.6,SNR=2.7						
ASAR	**Alice Springs**	**72.80 201**		P	P	22 01 04.5	-0.4
	0.3nm,0.6s,baz=19,slow=5.1,SNR=4.0						
TXAR	**Lajitas Array**	**76.11 62**		P	P	22 01 24.6	+0.1
	0.4nm,0.5s,baz=298,slow=3.9,SNR=5.2						

*SZGRF **16** 22:13:56.1, 12.78N×44.47W, h33km, mb5.3, MS4.6, Northern Mid-Atlantic Ridge*
*MOS **16** 22:13:57.9±1.1, 14.56N×45.04W, h10km, mb5.3/70, MS4.8/4, Error ellipse: s-maj=6.6km s-min=4.6km az=49.5*
*IDC **16** 22:13:57.9±0.4, 14.57N×45.02W, h0km, mb4.6/32, mb1 4.7/32, mb1mx4.7/33, mbtmp4.6/32, MS4.7/38, Ms1 4.7/38, ms1mx4.7/47, Error ellipse: s-maj=12.4km s-min=10.5km az=121.0*
*ISCJB **16** 22:13:58.9±0.2, 14.50N±0.04×45.02W±0.02, h18km, mb5.1/226, MS4.8/47, Error ellipse: s-maj=5.8km s-min=2.3km az=172.4*
*NEIC **16** 22:13:59.6±0.2, 14.49N×45.06W, h10km, mb5.2/118, Error ellipse: s-maj=6.4km s-min=3.7km az=171.0*
*TEH **16** 22:14:01.0, 14.52N×45.11W, h10km, ML5.2*
ISC 16 22:14:00.4±0.7, 14.45N±0.06×45.05W±0.05, h15km±3km, h15km:pP-P, n770, σ1s37/797, mb5.2/226, MS4.8/47, 148C-117D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIM	**Bigot**	**15.52 272**		*e*P	**Pn**	**22 17 38.7**	**-0.1**
FDF	**Fort de France**	**15.59 273**		*e*P	**Pn**	**22 17 39.6**	**-0.1**
FDF				pmax	pmax		
	comp=Z,317nm,1.4s						
FDF	**Fort de France**	**15.59 273**		*e*Pn	**Pn**	**22 17 39.6**	**-0.1**
	comp=Z,317nm,1.4s						
FDF	**Fort de France**	**15.59 273**		*e*P	**Pn**	**22 17 39.7**	**0.0**
GRGR	**Grenville**	**16.32 264**		*e*Pn	**Pn**	**22 17 48.5**	**-0.6**
	comp=Z,475nm,1.4s						
CDVI	**St. Croix**	**19.23 282**		*e*Pn	Pn	22 18 30.1	+5.0
STVI	**Saint Thomas**	**19.48 284**		*e*Pn	**P**	**22 18 27.3**	**+0.5**
MTP	**Monte Pirata**	**20.01 283**		*e*Pn	**P**	**22 18 33.2**	**+0.5**
	comp=Z,166nm,1.4s						
CBYP	**Canovanas**	**20.32 284**		*e*Pn	Pn	22 18 39.9	+1.7
	comp=Z,145nm,1.6s						
SJG	**San Juan**	**20.58 283**		P	**P**	**22 18 38.5**	**-0.3**
	comp=Z,70nm,1.0s,baz=90,slow=8.7,SNR=8.1						
SJG	**San Juan**	**20.58 283**		*e*P	**P**	**22 18 38.9**	**+0.1**
SJG	**San Juan**	**20.58 283**		*e*Pn	**P**	**22 18 38.9**	**+0.1**
ICM	**Isla Caja Muer**	**20.90 282**		*e*Pn	Pn	22 18 44.5	-0.4
CELP	**Cerrillos**	**20.98 283**		*e*Pn	**P**	**22 18 41.7**	**-1.5**
OBIP	**Obispado Ponce**	**21.00 283**		*e*Pn	**P**	**22 18 45.2**	**+1.9**
AOPR	**Arecibo Observ**	**21.18 283**		*e*P	**P**	**22 18 44.0**	**-1.3**
	comp=Z,47nm,1.2s						
LRS	**Lares**	**21.25 283**		*e*P	**P**	**22 18 46.1**	**0.0**
LSP	**Las Mesas**	**21.47 283**		*e*P	**P**	**22 18 51.9**	**+3.4**
AGPR	**Aguadilla, PR**	**21.53 284**		*e*P	**P**	**22 18 51.3**	**+2.2**
RCBR	**Riachuelo**	**22.10 155**		P	**P**	**22 18 56.0**	**+0.8**
	comp=Z,13nm,1.0s,baz=319,slow=9.0,SNR=5.2						
RCBR				LR	LR	22 25 32.4	
	comp=Z,2μm,18.7s,baz=320,slow=31						
RCBR	**Riachuelo**	**22.10 155**		*e*P	**P**	**22 18 55.6**	**+0.4**
	comp=Z,53nm,1.3s						
SDDR	**Presa de Saban**	**25.52 284**		*e*P	**P**	**22 19 29.3**	**+0.7**
	comp=Z,36nm,1.1s						
SDV	**Santo Domingo**	**25.65 260**		*e*P	**P**	**22 19 29.8**	**-0.1**
	comp=Z,58nm,1.3s						
BBTS	**Bate**	**27.59 86**		LR	LR	22 28 01.9	
	comp=Z,4μm,19.8s,baz=188,slow=31						
SAML	**Samuel**	**29.39 219**		*e*P	**P**	**22 20 01.9**	**-1.4**
	comp=Z,23nm,1.3s						
BDFB	**Brasilia**	**30.04 186**		P	**P**	**22 20 10.7**	**+1.6**
	comp=Z,24nm,1.0s,baz=2.4,slow=12,SNR=19						
BDFB				LR	LR	22 31 40.8	
	comp=Z,2μm,19.2s,baz=348,slow=35						
BDFB	**Brasilia**	**30.04 186**		P	**P**	**22 20 10.7**	**+1.6**
BDFB	**Brasilia**	**30.04 186**		P	**P**	**22 20 10.7**	**+1.6**
SIV	**San Ignacio**	**34.14 208**		P	**P**	**22 20 46.9**	**+1.9**
	comp=Z,8.7nm,1.1s,baz=61,slow=9.8,SNR=11						
SIV	**San Ignacio**	**34.14 208**		P	**P**	**22 20 46.9**	**+1.9**
OTAV	**Otavalo**	**35.93 250**		*e*P	**P**	**22 21 02.8**	**+1.8**
	comp=Z,86nm,1.4s						
SDMD	**Soldier's Deli**	**37.37 318**		*e*P	**P**	**22 21 12.9**	**+0.4**
	comp=Z,66nm,1.7s						
MVL	**Millersville**	**37.38 319**		*e*P	**P**	**22 21 12.7**	**+0.2**
	comp=Z,127nm,1.8s						
SPB	**Sao Paulo**	**37.88 184**		*e*P	**P**	**22 21 18.2**	**+1.4**
	comp=Z,59nm,1.3s						
LPAZ	**La Paz**	**38.12 218**		P	**P**	**22 21 21.0**	**+1.3**
	comp=Z,11nm,0.9s,baz=26,slow=10.0,SNR=22						
LPAZ				LR	LR	22 37 00.2	
	comp=Z,2μm,19.8s,baz=38,slow=36						
LPAZ	**La Paz**	**38.12 218**		*e*P	**P**	**22 21 20.7**	**+1.0**
LPAZ				*e*		22 22 48.3	
LPAZ				pmax	pmax		
	comp=Z,26nm,1.1s						
LPAZ	**La Paz**	**38.12 218**		*e*P	**P**	**22 21 20.7**	**+1.0**
	comp=Z,26nm,1.1s						
LPAZ				*e*PP	PP	22 22 48.3	+1.3
JTS	**JuntasAbangare**	**39.16 269**		LR	LR	22 36 41.2	
	comp=Z,513nm,20.9s,baz=111,slow=35						
ATAH	**Atahualpa**	**39.42 239**		LR	LR	22 38 29.0	
	comp=Z,2μm,18.7s,baz=51,slow=37						
GOGA	**Godfrey**	**39.58 305**		*e*P	**P**	**22 21 31.6**	**+0.5**
GOGA				pmax	pmax		
	comp=Z,31nm,1.3s						
GOGA	**Godfrey**	**39.58 305**		*e*P	**P**	**22 21 31.6**	**+0.5**
	comp=Z,31nm,1.3s						
PBDV	**Barranco-do-Ve**	**40.01 49**		*e*P	**P**	**22 21 34.0**	**-0.7**
	comp=Z,100nm,2.0s						
PCVE	**Castro Verde**	**40.10 48**		*e*P	**P**	**22 21 37.6**	**+2.2**
	comp=Z,123nm,1.6s						
LIC	**Lamto**	**40.16 98**		*e*P	**P**	**22 21 34.0**	**-2.2**
	comp=Z,136nm,1.6s,baz=272						
LIC				*e*R			
	comp=Z,3μm,18.0s						
DBIC	**Dimbokro**	**40.21 97**		P	**P**	**22 21 36.5**	**-0.1**
	comp=Z,10nm,1.0s,baz=287,slow=9.7,SNR=5.3						
DBIC				LR	LR	22 35 45.2	
	comp=Z,1μm,19.0s,baz=248,slow=32						
DBIC	**Dimbokro**	**40.21 97**		*e*P	**P**	**22 21 36.3**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,28nm,1.3s						
DBIC	**Dimbokro**	**40.21 97**		*e*P	**P**	**22 21 36.3**	**-0.3**
	comp=Z,28nm,1.3s						
PBEJ	**Beja**	**40.39 47**		*e*P	**P**	**22 21 39.0**	**+1.2**
	comp=Z,60nm,1.9s						
EVO	**Evora**	**40.50 47**		*e*P	**P**	**22 21 39.1**	**+0.3**
	comp=Z,102nm,1.8s						
EVO	**Evora**	**40.50 47**		*e*P	**P**	**22 21 36.2**	**-2.6**
	comp=Z,126nm,1.2s						
EVO				*e*R			
	comp=Z,2μm,22.0s						
TKL	**Tuckaleechee C**	**40.59 308**		P	**P**	**22 21 40.1**	**+0.6**
	comp=Z,10nm,1.1s,baz=103,slow=7.1,SNR=4.5						
TKL				LR	LR	22 36 46.3	
	comp=Z,2μm,18.8s,baz=108,slow=34						
TKL	**Tuckaleechee C**	**40.59 308**		P	**P**	**22 21 40.1**	**+0.6**
TKL	**Tuckaleechee C**	**40.59 308**		P	**P**	**22 21 40.1**	**+0.6**
PMTG	**Montargil**	**40.59 46**		*e*P	**P**	**22 21 40.6**	**+1.1**
	comp=Z,87nm,1.8s						
PTOM	**Tomar**	**40.72 45**		*e*P	**P**	**22 21 42.2**	**+1.7**
	comp=Z,114nm,1.5s						
TZTN	**Tazewell**	**40.75 310**		*e*P	**P**	**22 21 41.6**	**+0.7**
	comp=Z,67nm,1.4s						
TGUH	**Tegucigalpa,Un**	**40.88 275**		*e*P	**P**	**22 21 44.2**	**+2.0**
	comp=Z,211nm,1.5s						
NNA	**Nana**	**41.02 232**		LR	LR	22 38 07.5	
	comp=Z,2μm,21.8s,baz=19,slow=35						
NNA	**Nana**	**41.02 232**		*e*P	**P**	**22 21 44.9**	**+1.6**
NNA				pmax	pmax		
	comp=Z,32nm,1.2s						
NNA	**Nana**	**41.02 232**		*e*P	**P**	**22 21 44.9**	**+1.6**
	comp=Z,32nm,1.2s						
PBAR	**Barrancos**	**41.04 48**		*e*P	**P**	**22 21 44.6**	**+1.4**
	comp=Z,74nm,1.4s						
PMRV	**Marv??o**	**41.33 46**		*e*P	**P**	**22 21 47.3**	**+1.7**
	comp=Z,45nm,1.5s						
PCBR	**Castelo Branco**	**41.46 45**		*e*P	**P**	**22 21 47.7**	**+1.1**
	comp=Z,84nm,1.5s						
TEIG	**Tepich**	**41.57 284**		LR	LR	22 36 28.5	
	comp=Z,988nm,21.6s,baz=244,slow=32						
TEIG	**Tepich**	**41.57 284**		*e*P	**P**	**22 21 48.1**	**+0.3**
PVIS	**Viseu**	**41.58 44**		*e*P	**P**	**22 21 48.7**	**+1.0**
	comp=Z,112nm,1.8s						
MTE	**Manteigas**	**41.67 44**		*e*P	**P**	**22 21 49.6**	**+1.2**
	comp=Z,120nm,1.7s						
MTE	**Manteigas**	**41.67 44**		*e*P	**P**	**22 21 49.5**	**+1.1**
	comp=Z,60nm,1.2s						
MTE				*e*PcP	**PcP**	**22 23 47.6**	**+2.5**
SADO	**Sadowa**	**41.80 323**		P	**P**	**22 21 49.8**	**+0.5**
	comp=Z,12nm,1.2s,baz=151,slow=3.9,SNR=3.5						
SADO	**Sadowa**	**41.80 323**		P	**P**	**22 21 49.8**	**+0.5**
ACSO	**Alum Creek Sta**	**41.88 315**		*e*P	**P**	**22 21 50.5**	**+0.4**
	comp=Z,66nm,1.4s						
PGAV	**Gavieira, Arco**	**41.94 42**		*e*P	**P**	**22 21 49.6**	**-1.0**
	comp=Z,104nm,1.5s						
POLO	**Lamas de Olo**	**41.96 43**		*e*P	**P**	**22 21 51.7**	**+0.9**
	comp=Z,37nm,1.6s						
PCAB	**Cabril**	**41.97 42**		*e*P	**P**	**22 21 51.8**	**+1.0**
	comp=Z,95nm,1.7s						
SWET	**Sewanee**	**42.09 307**		*e*P	**P**	**22 21 52.4**	**+0.5**
	comp=Z,61nm,1.6s						
LRAL	**Lakeview Retre**	**42.29 303**		*e*P	**P**	**22 21 54.0**	**+0.6**
	comp=Z,30nm,1.4s						
LRAL				*e*PP	PP	22 23 29.9	-1.6
MVO	**Moncorvo**	**42.37 44**		*e*P	**P**	**22 21 55.6**	**+1.5**
	comp=Z,71nm,1.5s						
PBRG	**Braganca**	**42.86 43**		*e*P	**P**	**22 21 59.6**	**+1.5**
	comp=Z,69nm,1.9s						
LVC	**Limon Verde**	**43.63 213**		*e*P	**P**	**22 22 02.9**	**-1.7**
PLAL	**Pickwick Lake**	**43.69 306**		*e*P	**P**	**22 22 05.1**	**+0.3**
	comp=Z,70nm,1.5s						
SCHQ	**Schefferville**	**43.72 342**		P	**P**	**22 22 04.4**	**-0.4**
	comp=Z,8.3nm,0.8s,baz=158,slow=9.4,SNR=4.8						
SCHQ				LR	LR	22 38 04.2	
	comp=Z,786nm,20.4s,baz=262,slow=33						
SCHQ	**Schefferville**	**43.72 342**		*e*P	**P**	**22 22 03.0**	**-1.7**
ESDC	**Sonseca Array**	**43.84 47**		P	**P**	**22 22 05.4**	**-0.7**
	comp=Z,8.0nm,1.0s,baz=244,slow=7.8,SNR=15						
ESDC				LR	LR	22 37 20.0	
	comp=Z,1μm,19.6s,baz=245,slow=32						
ESDC	**Sonseca Array**	**43.84 47**		P	**P**	**22 22 05.4**	**-0.7**
ESLA	**Sonseca Array**	**43.84 47**		*e*P	**P**	**22 22 06.4**	**+0.3**
	comp=Z,41nm,1.9s						
ESLA				*e*PcP	**PcP**	**22 23 54.7**	**+2.4**

MFF Saint Martin d 49.25 40 *e*P P 22 22 47.6 -0.7
comp=Z,294nm,1.5s
MTLF Montolieu 49.52 45 *e*P P 22 22 49.4 -1.0
comp=Z,116nm,1.4s
GRR Gorron 49.62 38 *e*P P 22 22 50.0 -1.1
comp=Z,82nm,1.2s
RJF Les Rejaudoux 49.78 42 *e*P P 22 22 51.1 -1.3
comp=Z,157nm,1.6s
RJF *e*R
comp=Z,2µm,22.2s
LCO Las Campanas 49.81 210 *e*P P 22 22 52.5 -0.6
CAF Calviac 49.99 43 *e*P P 22 22 53.0 -1.1
comp=Z,182nm,1.4s
FLN La Foliniere 50.01 37 *e*P P 22 22 52.8 -1.3
comp=Z,200nm,1.7s
FLN *e*R
comp=Z,893nm,21.8s
TUL1 Tulsa 50.02 305 ⇑P P 22 22 54.6 +0.2
baz=50
LDF La Druitiere 50.15 38 *e*P P 22 22 53.6 -1.5
comp=Z,14nm,0.8s
SPMN St. Paul 50.53 317 ⇑P P 22 22 58.4 +0.3
baz=50
TCF Toulx Ste Croi 50.61 41 *e*P P 22 22 58.0 -0.7
comp=Z,209nm,1.4s
LBL Lubilhac 50.88 43 *e*P P 22 22 58.2 -2.6
LBL Lubilhac 50.88 43 *e*P P 22 22 58.2 -2.6
LBL Lubilhac 50.88 43 *e*P P 22 22 58.2 -2.6
LASF Ste Croix 50.89 44 *e*P P 22 23 00.4 -0.4
comp=Z,71nm,1.3s
CFAA Coronel Fontan 50.91 206 P P 22 23 01.6 +0.5
comp=Z,0.8nm,1.0s,baz=34,slow=6.8,SNR=6.0
CFAA LR LR 22 46 59.8
comp=Z,128nm,20.8s,baz=14,slow=39
CFAA Coronel Fontan 50.91 206 P P 22 23 01.6 +0.5
AGO Saint Agoulin 51.11 42 *e*P P 22 22 59.1 -3.4
AGO Saint Agoulin 51.11 42 *e*P P 22 22 59.1 -3.4
BGF Bois d'Agland 51.12 41 *e*P P 22 23 01.7 -0.8
comp=Z,198nm,1.5s
KSU1 Kansas State U 51.36 309 *e*P P 22 23 04.1 -0.4
AVF Avril sur Loir 51.53 41 *e*P P 22 23 04.5 -1.1
comp=Z,154nm,1.5s
VIVF Saint-Julien-l 51.70 44 *e*P P 22 23 06.7 -0.2
comp=Z,101nm,1.5s
SSF Saint Saulge 51.73 41 *e*P P 22 23 05.9 -1.2
comp=Z,74nm,1.4s
SSB Saint Sauveur 51.76 43 *e*P P 22 23 05.0 -2.3
SSB pmax pmax
comp=Z,68nm,1.8s
SSB Saint Sauveur 51.76 43 *e*P P 22 23 05.0 -2.3
comp=Z,68nm,1.8s
FRB Frobisher Bay 51.89 347 P P 22 23 06.3 -1.5
comp=Z,6.0nm,0.7s,baz=163,slow=10.0,SNR=8.7
FRB Frobisher Bay 51.89 347 P P 22 23 06.4 -1.5
FRB Frobisher Bay 51.89 347 P P 22 23 06.3 -1.5
ESK Eskdalemuir 51.97 29 *e*P P 22 23 09.0 +0.3
ESK Eskdalemuir 51.97 29 *e*P P 22 23 09.0 +0.3
SMRF Simiane la Rot 52.03 45 *e*P P 22 23 09.3 -0.1
comp=Z,70nm,1.6s
LOR Lormes 52.03 41 *e*P P 22 23 08.2 -1.1
comp=Z,116nm,1.5s,baz=239
LOR *e*R
comp=Z,805nm,18.0s
WMOK Wichita Mounta 52.22 303 *e*P P 22 23 08.5 -2.5
WMOK pmax pmax
comp=Z,26nm,1.5s
WMOK Wichita Mounta 52.22 303 *e*P P 22 23 08.5 -2.5
comp=Z,26nm,1.5s
LMR La Mourre 52.48 46 *e*P P 22 23 11.6 -1.1
comp=Z,55nm,1.3s
ORIF Oris-en-Rattie 52.53 44 *e*P P 22 23 13.1 -0.1
comp=Z,70nm,1.6s
ORIF *e*R
comp=Z,2µm,20.0s
JCT Junction City 52.57 297 *e*P P 22 23 13.0 -0.6
JCT *e* 22 24 28.1
JCT pmax pmax
comp=Z,31nm,1.3s
JCT Junction City 52.57 297 *e*P P 22 23 13.0 -0.6
comp=Z,31nm,1.3s
JCT *e*PcP PcP 22 24 28.1 +4.3
JCT Junction City 52.57 297 ⇓P P 22 23 13.8 +0.1
baz=52
ECSD EROS Data Cent 52.60 314 *e*P P 22 23 12.6 -1.0
comp=Z,29nm,1.8s
BORG Borgarnes 52.81 13 LR LR 22 40 02.8
comp=Z,260nm,20.7s,baz=52,slow=30
KEST Kesra 52.91 56 P P 22 23 14.6 -1.5
comp=Z,5.5nm,1.1s,baz=205,slow=4.1,SNR=8.5
KEST LR LR 22 43 23.9
comp=Z,569nm,20.0s,baz=8.2,slow=33
KEST Kesra 52.91 56 *e*P P 22 23 16.1 -0.1
BGNE Belgrade 53.06 311 ⇓P P 22 23 17.9 +0.8
baz=53
MBDF Montbardon 53.07 45 *e*P P 22 23 16.9 -0.4
comp=Z,66nm,1.3s
BNI Bardonecchia 53.11 44 *e*P P 22 23 19.4 +1.9
BNI pmax pmax
comp=Z,69nm,1.4s
BNI Bardonecchia 53.11 44 *e*P P 22 23 19.4 +1.9
comp=Z,69nm,1.4s
SFTF Sexfontaines 53.12 40 *e*P P 22 23 16.1 -1.3
comp=Z,209nm,1.4s
CABF La Chapelle 53.22 42 *e*P P 22 23 17.5 -0.8
comp=Z,127nm,1.5s
MEZF Maizieres J'vi 53.24 40 *e*P P 22 23 17.2 -1.0
comp=Z,307nm,1.5s,baz=244
SBF Sospel 53.28 46 *e*P P 22 23 17.7 -1.0
comp=Z,104nm,1.5s
LPL La Plagne 53.29 44 *e*P P 22 23 18.8 -0.1
comp=Z,96nm,1.7s
LPG La Plagne 53.30 44 *e*P P 22 23 18.9 -0.2
comp=Z,140nm,1.6s
BAIF Baives 53.34 38 *e*P P 22 23 17.5 -1.4
comp=Z,72nm,1.1s
SNF Seneffe 53.56 37 P P 22 23 20.9 +0.4
DOU Dourbes 53.58 38 P P 22 23 20.2 -0.4
AGMN Agassiz Nation 53.61 320 *e*P P 22 23 18.4 -2.5
comp=Z,5.5nm,1.1s
PAGF Fort de Pagny 53.67 40 *e*P P 22 23 20.1 -1.3
comp=Z,27nm,1.3s,baz=242
CBKS Cedar Bluff 53.68 308 *e*P P 22 23 22.4 +0.7
CBKS Cedar Bluff 53.68 308 *e*P P 22 23 22.4 +0.7
CBKS Cedar Bluff 53.68 308 ⇓P P 22 23 21.9 +0.2
baz=54
CBKS ⇓P P 22 23 21.9 +0.2
baz=54
THEF They Montfort 53.72 40 *e*P P 22 23 23.9 +2.1
THEF They Montfort 53.72 40 *e*P P 22 23 23.9 +2.1
THEF They Montfort 53.72 40 *e*P P 22 23 23.9 +2.1
HAU Haudompre 53.87 41 *e*P P 22 23 21.3 -1.6
comp=Z,98nm,1.5s
HAU *e*R
comp=Z,1µm,21.5s
SENIN Lac Senin/Sane 53.93 43 *e*P P 22 23 26.2 +2.6
comp=Z,51nm,1.6s
LOMF Lomont 53.95 41 *e*P P 22 23 25.6 +2.0
LOMF Lomont 53.95 41 *e*P P 22 23 25.6 +2.0
LOMF Lomont 53.95 41 *e*P P 22 23 25.6 +2.0
PGF Pioggiola 54.03 48 *e*P P 22 23 22.7 -1.6
comp=Z,50nm,1.3s
HINF Hinteralfeld 54.12 41 *e*P P 22 23 23.1 -1.7
comp=Z,74nm,1.5s
ULM Lac du Bonnet 54.34 322 P P 22 23 23.7 -2.5
comp=Z,4.1nm,0.8s,baz=135,slow=5.8,SNR=7.0
ULM LR LR 22 42 56.2
comp=Z,1µm,21.4s,baz=347,slow=32
ULM Lac du Bonnet 54.34 322 *e*P P 22 23 24.3 -1.9
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 54.34 322 *e*P P 22 23 24.3 -1.9
comp=Z,4.0nm,0.8s
WLF Walferdange 54.34 39 P P 22 23 26.9 +0.6
comp=Z,25nm,1.1s
WLF Walferdange 54.34 39 *e*P P 22 23 26.8 +0.6
comp=Z,52nm,1.1s
WLF *e*S S 22 31 08.9 +5.1
WLF Walferdange 54.34 39 *e*P P 22 23 27.3 +1.0
WLF pmax pmax
comp=Z,44nm,1.1s
WLF Walferdange 54.34 39 *e*P P 22 23 27.2 +1.0
comp=Z,44nm,1.1s
BEBN Eben Emael 54.49 37 P P 22 23 27.3 0.0
CDF Champ du Feu 54.59 40 *e*P P 22 23 26.5 -1.7
comp=Z,94nm,1.6s
AMTX Amarillo 54.60 303 *e*P P 22 23 29.0 +0.4
comp=Z,59nm,1.5s
AMTX Amarillo 54.60 303 ⇑P P 22 23 28.6 0.0
baz=54
AMTX ⇑P P 22 23 28.6 0.0
baz=54
MEM Membach 54.61 37 P P 22 23 28.3 +0.1
comp=Z,39nm,1.5s
HGN Heimansgroeve 54.63 37 *e*P P 22 23 27.5 -0.8
HGN *e*S S 22 31 19.5 +12
HGN *e*L L 22 39 31.3
comp=Z,721nm,28.7s
FELD Feldberg im Sc 54.87 41 *e*P P 22 23 29.9 -0.5
RUP Ruppelstein 54.91 39 *e*P P 22 23 29.9 -0.5
RUP Ruppelstein 54.91 39 *e*P P 22 23 29.9 -0.5
428A Kincaid Ranch, 55.07 297 ⇓P P 22 23 32.0 0.0
baz=55,SNR=10
LANF Langenberg 55.11 40 *e*P P 22 23 31.9 0.0
LANF Langenberg 55.11 40 *e*P P 22 23 31.9 0.0
LANF Langenberg 55.11 40 *e*P P 22 23 31.9 0.0
528A Cox Ranch, San 55.12 297 ⇑P P 22 23 32.2 -0.2
baz=55
628A Black Gap, Mar 55.18 296 ⇓P P 22 23 32.3 -0.4
baz=55,SNR=13
328A Wristen Ranch, 55.22 298 ⇓P P 22 23 32.5 -0.5
baz=55
BFO Black Forest 55.23 41 *e*P P 22 23 33.1 +0.3
comp=Z,56nm,1.6s
BFO *e*S S 22 31 18.4 +2.6
BFO Black Forest 55.23 41 *e*P P 22 23 33.1 +0.3
BFO pmax pmax
comp=Z,35nm,1.3s
BFO Black Forest 55.23 41 *e*P P 22 23 33.1 +0.3
comp=Z,35nm,1.3s
BFO Black Forest 55.23 41 P P 22 23 31.9 -0.9
comp=Z,104nm,1.1s,SNR=6.0
T28A Walsh 55.25 305 ⇓P P 22 23 32.9 -0.4
baz=55
ABH Alteburg 55.27 39 *e*P P 22 23 34.0 +1.0
TUE Stuetta 55.32 43 *e*P P 22 23 34.5 +0.9
comp=Z,48nm,1.5s
MSTX Muleshoe 55.40 301 ⇑P P 22 23 33.8 -0.5
baz=55,SNR=9.4
SPAK Spaichingen-Ko 55.44 41 *e*P P 22 23 34.0 -0.4
WTSB Winterswijk 55.59 36 *e*P P 22 23 34.6 -0.6
WTSB *e*S S 22 31 33.5 +13
627A Terlingua Ranc 55.61 296 ⇑P P 22 23 34.6 -1.4
baz=56,SNR=8.6
BUG Bochum--Univer 55.66 37 *e*P P 22 23 36.4 +0.6
comp=Z,91nm,1.4s
427A Hayter Ranch, 55.69 298 ⇑P P 22 23 35.3 -1.2
baz=56,SNR=5.9
Z27A Tatum 55.71 301 ⇑P P 22 23 35.6 -0.9
baz=56,SNR=6.4
X27A F and S Farms, 55.73 302 ⇑P P 22 23 36.1 -0.7
baz=56
W27A Bowe Ranch, En 55.75 303 ⇑P P 22 23 36.4 -0.5
baz=56
DAVOX Davos/Dischmat 55.76 43 P P 22 23 35.4 -1.4
comp=Z,11nm,1.0s,baz=205,slow=8.3,SNR=12
DAVOX LR LR 22 43 14.3
comp=Z,660nm,18.0s,baz=82,slow=32
DAVOX Davos/Dischmat 55.76 43 P P 22 23 35.4 -1.4
DAVOX Davos/Dischmat 55.76 43 P P 22 23 35.4 -1.4
527A Woodward Ranch 55.84 297 ⇓P P 22 23 36.9 -0.7
baz=56,SNR=19
TXAR Lajitas Array 55.85 296 P P 22 23 36.7 -0.9
comp=Z,3.7nm,1.1s,baz=90,slow=5.0,SNR=11
TXAR PcP PcP 22 24 38.1 +1.6
comp=Z,3.8nm,1.2s,baz=111,slow=6.9,SNR=3.8
TXAR LR LR 22 48 27.6
comp=Z,636nm,18.1s,baz=10.0,slow=37
TXAR Lajitas Array 55.85 296 P P 22 23 36.7 -0.9
TXAR 22 24 38.1
TXAR Lajitas Array 55.85 296 P P 22 23 36.7 -0.9
TXAR PcP PcP 22 24 38.1 +1.6
STU Stuttgart 55.91 40 *e*P P 22 23 37.3 -0.3
comp=Z,41nm,1.2s
STU *e*S S 22 31 28.9 +4.1
STU Stuttgart 55.91 40 *e*P P 22 23 36.3 -1.4
STU pmax pmax
comp=Z,32nm,1.2s
STU Stuttgart 55.91 40 *e*P P 22 23 36.3 -1.4
comp=Z,32nm,1.2s
TNS Taunus Mts 55.93 39 *e*P P 22 23 37.0 -0.8
comp=Z,60nm,1.6s
TNS *e*S S 22 31 30.0 +4.9
TNS Taunus Mts 55.93 39 *e*P P 22 23 37.0 -0.8
TNS *e*S S 22 31 30.0 +4.9
TNS pmax pmax
comp=Z,60nm,1.6s
TOD Tromm 55.94 39 *e*P P 22 23 37.1 -0.7
TOD Tromm 55.94 39 *e*P P 22 23 37.1 -0.7
R27A Eads 55.96 307 ⇑P P 22 23 38.6 +0.3
baz=56
FUORN Ofenpass-Fuorn 55.97 43 *e*P P 22 23 39.9 +1.6
comp=Z,59nm,1.4s
326A Caldwell Ranch 56.21 298 ⇑P P 22 23 40.0 -0.2
baz=56
426A McDonald Obser 56.22 297 ⇑P P 22 23 40.2 -0.2
baz=56,SNR=28
CPRX Cap Rock 56.23 300 *e*P P 22 23 39.9 -0.4
comp=Z,17nm,1.3s
526A Mary Lane Ranc 56.24 297 ⇑P P 22 23 40.1 -0.4
baz=56,SNR=20
626A Big Bend Ranch 56.26 296 ⇓P P 22 23 40.5 -0.1
baz=56
IBBN Ibbenburen 56.27 36 *e*P P 22 23 40.8 +0.7
comp=Z,76nm,1.2s
X26A CR and CF Fran 56.31 302 ⇓P P 22 23 40.7 -0.2
baz=56
W26A Owens Ranch, T 56.33 303 ⇑P P 22 23 40.6 -0.4
baz=56
Z26A Caprock 56.34 300 ⇑P P 22 23 40.7 -0.4
baz=56,SNR=7.7
FETA Feichten 56.38 43⇓*i*P P 22 23 40.2 -1.1
comp=Z,34nm,1.2s
FETA Feichten 56.38 43⇓*i*P P 22 23 40.2 -1.1
comp=Z,34nm,1.2s,SNR=6.8
S26A Kim 56.39 306 ⇑P P 22 23 41.2 -0.3
baz=56
U26A Atchley Ranch, 56.45 304 ⇓P P 22 23 41.9 -0.1
baz=56,SNR=6.9
R26A Arlington 56.46 306 ⇑P P 22 23 41.8 -0.1
baz=56
RETA Reutte 56.53 42⇑*i*P P 22 23 42.0 -0.3
comp=Z,52nm,1.6s
RETA Reutte 56.53 42⇑*i*P P 22 23 41.9 -0.3
comp=Z,52nm,1.6s,SNR=10
P26A Davis Ranch, A 56.57 308 ⇑P P 22 23 42.7 0.0
baz=56
GDL2 Guadalupe Moun 56.59 299 *e*P P 22 23 43.3 +0.4
MOTA Moosalm 56.72 43⇑*i*P P 22 23 42.9 -0.7
MOTA pmax pmax
comp=Z,120nm,1.9s
MOTA Moosalm 56.72 43⇑*i*P P 22 23 42.9 -0.7
comp=Z,120nm,1.9s
MOTA Moosalm 56.72 43⇑*i*P P 22 23 42.9 -0.7
comp=Z,120nm,1.9s,SNR=14
W25A X Bar L Ranch, 56.91 303 ⇓P P 22 23 44.7 -0.4
baz=57
Z25A Roswell 56.96 300 ⇓P P 22 23 45.7 +0.2
baz=57,SNR=6.0
225A Deer Hill, Car 56.97 299 ⇑P P 22 23 45.6 -0.2
baz=57,SNR=13
U25A Circle Dot Ran 56.98 304 ⇓P P 22 23 45.6 -0.1
baz=57,SNR=6.1
Y25A Mesa, Roswell 56.98 301 ⇓P P 22 23 45.8 0.0
baz=57,SNR=11
X25A Clemmons Ranch 57.01 302 ⇑P P 22 23 45.9 0.0
baz=57
WTTA Wattenberg 57.05 43⇑*i*P P 22 23 45.1 -0.9
WTTA pmax pmax
comp=Z,51nm,1.4s
WTTA Wattenberg 57.05 43⇑*i*P P 22 23 45.1 -0.9
comp=Z,50nm,1.4s
WTTA Wattenberg 57.05 43⇑*i*P P 22 23 45.1 -0.9
comp=Z,50nm,1.4s,SNR=9.4
425A Indio Mountain 57.05 297 ⇓P P 22 23 46.2 0.0
baz=57,SNR=20
FUR Furstenfeldbru 57.06 42 *e*P P 22 23 44.5 -1.3
comp=Z,65nm,1.3s
FUR *e*S S 22 31 45.8 +5.7
FUR Furstenfeldbru 57.06 42 *e*P P 22 23 44.5 -1.3
FUR *e*S S 22 31 45.8 +5.7
FUR pmax pmax
comp=Z,65nm,1.3s
325A Bean Ranch, Si 57.06 298 ⇑P P 22 23 46.3 -0.1
baz=57,SNR=30
UBBA Unterbreizbach 57.06 38 *e*P P 22 23 47.2 +1.6
comp=Z,26nm,1.4s
UBBA *e*S S 22 31 46.8 +7.0
T25A Trinidad 57.07 305 ⇓P P 22 23 46.4 0.0
baz=57
V25A Rancho No Teng 57.09 303 ⇑P P 22 23 45.9 -0.6
baz=57
S25A Robets Cordova 57.15 306 ⇑P P 22 23 47.0 0.0
baz=57
AQU L'Aquila 57.17 49 ⇑P P 22 23 46.8 0.0
AQU L'Aquila 57.17 49 *e*P P 22 23 49.0 +2.2
comp=Z,69nm,1.1s
AQU L'Aquila 57.17 49⇑*i*P P 22 23 46.8 0.0
Q25A Bedland, Calha 57.17 307 ⇓P P 22 23 47.1 0.0
baz=57
GRFO Grafenberg 57.46 40 *e*P P 22 23 49.6 +1.0
GRFO pmax pmax
comp=Z,67nm,1.8s
GRFO Grafenberg 57.46 40 *e*P P 22 23 49.6 +1.0
comp=Z,67nm,1.8s
GRF Grafenberg Arr 57.46 40 *e*P P 22 23 48.7 +0.1
comp=Z,37nm,1.4s
GRF *e*S S 22 31 48.9 +3.6
GRF *e*L L 22 44 09.9
comp=Z,427nm,19.3s
GRF Grafenberg Arr 57.46 40 *e*P P 22 23 48.7 +0.1
GRF *e*S S 22 31 48.9 +3.6
GRF pmax pmax
comp=Z,37nm,1.4s
324A Moseley Ranch, 57.50 298 ⇓P P 22 23 48.9 -0.5
baz=57,SNR=13
Z24A Sheeppen Canyo 57.50 300 ⇓P P 22 23 49.2 -0.3
baz=57
124A Stringfield Ra 57.54 300 ⇓P P 22 23 49.2 -0.6
baz=58
224A Cornudas Mount 57.56 299 ⇑P P 22 23 49.5 -0.4
baz=58,SNR=7.0
T24A Torres, Weston 57.57 305 ⇓P P 22 23 50.2 +0.2
baz=58,SNR=12
CLZ Clausthal 57.62 37 *e*P P 22 23 51.6 +1.9
comp=Z,83nm,1.6s
CLZ Clausthal 57.62 37 *e*P P 22 23 51.6 +1.9
CLZ pmax pmax
comp=Z,83nm,1.6s
W24A Lazy 6 Ranch, 57.68 303 ⇑P P 22 23 50.4 -0.3
baz=58,SNR=6.3
NRDL Niedersach Rie 57.68 36 *e*P P 22 23 50.9 +0.9
comp=Z,86nm,1.3s
NRDL *e*S S 22 31 54.2 +6.3
R24A Sanders Place, 57.75 306 ⇓P P 22 23 51.6 +0.4
baz=58
S24A Houchin Ranch, 57.76 306 ⇑P P 22 23 51.9 +0.5
baz=58
RJOB Jochberg 57.93 42 *e*S S 22 31 54.2 +2.6
MOX Moxa 57.98 39 *e*P P 22 23 52.7 +0.4
comp=Z,35nm,1.3s
MOX *e*S S 22 31 57.3 +5.2
MOX Moxa 57.98 39 *e*P P 22 23 52.7 +0.4
MOX *e*S S 22 31 57.3 +5.2
MOX pmax pmax
comp=Z,35nm,1.3s
SDCO Great Sand Dun 58.00 306 *e*P P 22 23 53.6 +0.6
comp=Z,18nm,1.5s
SDCO Great Sand Dun 58.00 306 ⇓P P 22 23 53.0 -0.1
baz=58,SNR=12
SDCO ⇓P P 22 23 53.0 -0.1
baz=58,SNR=12
ROTZ Rotzenmuhle 58.09 40 *e*P P 22 23 52.9 -0.2
comp=Z,26nm,1.6s
ROTZ *e*S S 22 31 57.3 +3.7
KBA Koelnbreinsper 58.13 43⇑*i*P P 22 23 52.6 -1.0
KBA pmax pmax
comp=Z,41nm,1.2s
KBA Koelnbreinsper 58.13 43⇑*i*P P 22 23 52.6 -1.0
comp=Z,41nm,1.2s
KBA Koelnbreinsper 58.13 43⇑*i*P P 22 23 52.6 -1.0
comp=Z,41nm,1.2s,SNR=9.0
MYKA Terra Mystica 58.22 44⇑*i*P P 22 23 53.5 -0.6
comp=Z,89nm,1.2s
MYKA Terra Mystica 58.22 44⇑*i*P P 22 23 53.5 -0.6
comp=Z,89nm,1.2s
SUMG Summit 58.24 2 *i*P P P 22 23 53.9 -0.3
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 58.24 2 *i*P P P 22 23 53.9 -0.3
comp=Z,7.9nm,0.9s
R23A Moffat 58.31 306 ⇓P P 22 23 55.3 +0.2
baz=58
ISCO Idaho Springs 58.34 308 *e*P P 22 23 55.4 0.0
ISCO pmax pmax
comp=Z,26nm,1.4s
ISCO Idaho Springs 58.34 308 *e*P P 22 23 55.4 0.0
comp=Z,26nm,1.4s
ISCO Idaho Springs 58.34 308 ⇑P P 22 23 55.6 +0.2
baz=58,SNR=6.1
WET Wettzell 58.34 41 *e*P P 22 23 54.8 -0.1
comp=Z,29nm,1.4s
WET *e*S S 22 32 00.5 +3.6
WET Wettzell 58.34 41 *e*P P 22 23 54.8 -0.1
WET *e*S S 22 32 00.5 +3.6
WET pmax pmax
comp=Z,29nm,1.4s
JAVS Javornik 58.34 45 *i*P P P 22 23 55.4 +0.4
T23A Casias Ranch, 58.35 305 ⇑P P P 22 23 56.0 +0.5
baz=58
NKC Novy Kostel 58.37 40 *e*P P P 22 23 54.6 -0.5
NKC *e* 22 24 00.3
NKC Novy Kostel 58.37 40 *e*P P P 22 23 54.6 -0.5
NKC *e*pP pP 22 24 00.3 +0.3
U23A El Rito 58.41 304 ⇑P P P 22 23 56.1 +0.3
baz=58,SNR=7.5
TANN Tannenbergstha 58.43 39 *e*S S 22 32 03.7 +5.6
P23A Jefferson 58.46 307 ⇓P P P 22 23 56.6 +0.4
baz=58
ANMO Albuquerque 58.52 302 *e*P P P 22 23 57.0 +0.5
ANMO pmax pmax
comp=Z,26nm,1.9s
ANMO Albuquerque 58.52 302 *e*P P P 22 23 57.0 +0.5
comp=Z,26nm,1.9s
CUC Castrocucco 58.59 52 *e*P P P 22 23 57.9 +1.1
comp=Z,37nm,1.2s
BNM Barren Site 58.60 301 *e*P P P 22 23 56.7 -0.6
comp=Z,8.9nm,1.3s
BNM *e*PP PP 22 26 08.0 +1.1
LPM Los Pinos Moun 58.62 301 *e*P P P 22 23 58.0 +0.7
MUD Monsted U'grnd 58.62 32 *e*P P P 22 23 57.8 +1.2
MUD pmax pmax
comp=Z,21nm,1.3s
MUD Monsted U'grnd 58.62 32 *i*P P P 22 23 57.8 +1.2
comp=Z,21nm,1.3s
M23A Laramie 58.66 310 ⇓P P P 22 23 57.9 +0.4
baz=59
LJU Ljubljana 58.69 45 *e*P P P 22 23 59.0 +1.7
N23A Red Feather La 58.74 309 ⇑P P P 22 23 58.5 +0.4
baz=59
KHC Kasperske Hory 58.78 41 *e*P P P 22 23 56.9 -1.1
KHC *e* 22 24 02.6
KHC Kasperske Hory 58.78 41 *e*P P P 22 23 57.1 -0.9
comp=Z,48nm,1.7s
KHC *e*ScP ScP 22 28 46.6 -1.1
KHC Kasperske Hory 58.78 41 *e*P P P 22 23 56.9 -1.1
KHC *e*pP pP 22 24 02.6 -0.3
GEC2 GERESS Array S 58.79 41 *e*P P P 22 23 57.9 -0.2
comp=Z,26nm,1.4s
GEC2 *e*S S 22 32 08.9 +6.0
GEC2 GERESS Array S 58.79 41 *e*P P P 22 23 57.9 -0.2
GEC2 *e*S S 22 32 08.9 +6.0
GEC2 pmax pmax
comp=Z,26nm,1.4s
GERES GERESS Array B 58.79 41 P P P 22 23 56.4 -1.7
comp=Z,0.9nm,0.7s,baz=245,slow=5.7,SNR=12
GERES LR LR 22 44 48.7
comp=Z,598nm,21.7s,baz=248,slow=32
GERES GERESS Array B 58.79 41 P P P 22 23 56.4 -1.7
GERES GERESS Array B 58.79 41 P P P 22 23 56.4 -1.7
Z22A Elephant Butte 58.84 300 ⇓P P P 22 23 58.9 +0.1
baz=59
VISS Visnje 58.86 45 *i*P P P 22 23 58.2 -0.3
222A Williams Famil 58.90 299 ⇑P P P 22 23 60.0 +0.8
baz=59
V22A San Miguel Ran 58.95 303 ⇑P P P 22 24 00.6 +0.9
baz=59,SNR=8.0
CLL Collm 59.01 38 *e*P P P 22 23 59.8 +0.3
comp=Z,33nm,1.1s
CLL *e*S S 22 32 12.1 +6.6
CLL Collm 59.01 38 *e*P P P 22 23 59.0 -0.5

CLL pmax pmax
comp=Z,29nm,1.2s
CLL MLR MLR
comp=Z,800nm,20.5s
CLL Collm 59.01 38 *eP* P 22 23 59.0 -0.5
comp=Z,29nm,1.2s
CLL *epP* **pP** 22 24 03.0 -1.4
CLL *esP* **sP** 22 24 05.0 -1.3
CLL *eS* S 22 32 12.0 +6.6
CLL *eSS* **SS** 22 36 06.0 +6.7
CLL *eSSS* 22 38 42.0
CLL L L 22 45 00.0
comp=Z,800nm,20.5s
T22A Edith 59.04 305 ⇓P P 22 24 00.4 +0.2
baz=59,SNR=9.1
LAZ Ladron 59.04 302 *eP* P 22 23 59.6 -0.6
comp=Z,15nm,1.7s
S22A 4UR Ranch, Cre 59.05 305 ⇑P P 22 24 00.6 +0.3
baz=59,SNR=7.2
BOJS Bojanci 59.08 45 *i* P P 22 24 00.6 +0.5
SOKA Soboth 59.17 44⇑*i*P P 22 24 01.6 +0.9
comp=Z,19nm,1.3s
SOKA Soboth 59.17 44⇑*i*P P 22 24 01.6 +0.9
comp=Z,19nm,1.3s
PERS Pernice 59.22 44 *i* P P 22 24 00.2 -0.8
Q22A Crested Butte, 59.23 307 ⇑P P 22 24 02.1 +0.5
baz=59
FFC Flin Flon 59.43 326 *eP* P 22 24 01.4 -0.8
FFC *e* 22 24 47.6
FFC pmax pmax
comp=Z,56nm,2.0s
FFC Flin Flon 59.43 326 *eP* P 22 24 01.4 -0.8
comp=Z,56nm,2.0s
FFC *eP*cP **PcP** 22 24 47.5 -2.4
Z21A St. Cloud Mine 59.43 300 ⇓P P 22 24 03.6 +0.7
baz=59
C23A Lambert 59.45 317 ⇓P P 22 24 03.8 +1.2
baz=59
BRG Berggiesshubel 59.47 39 *eP* P 22 24 02.2 -0.4
comp=Z,30nm,1.7s
BRG Berggiesshubel 59.47 39 *eP* P 22 24 02.3 -0.3
comp=Z,29nm,1.7s
BRG Berggiesshubel 59.47 39 *eP* P 22 24 02.2 -0.4
BRG pmax pmax
comp=Z,30nm,1.7s
121A Cookes Peak, D 59.50 299 ⇑P P 22 24 03.7 +0.3
baz=59
W21A San Fidel 59.50 302 ⇑P P 22 24 03.9 +0.5
baz=59
X21A Alamocita Cree 59.58 302 ⇑P P 22 24 04.4 +0.4
baz=60,SNR=9.6
U21A Nageezi 59.60 304 ⇓P P 22 24 04.5 +0.5
baz=60,SNR=6.0
PRU Pruhonice 59.61 40 *eP* P 22 24 03.9 +0.3
PRU Pruhonice 59.61 40 *eP* P 22 24 03.9 +0.3
ARSA Arzberg 59.62 43⇑*i*P P 22 24 02.8 -1.0
comp=Z,61nm,1.8s
ARSA Arzberg 59.62 43⇑*i*P P 22 24 02.8 -1.0
comp=Z,61nm,1.8s,SNR=19
E22A Miles City 59.67 316 ⇑P P 22 24 05.1 +0.9
baz=60
R21A Cimarron 59.67 306 ⇓P P 22 24 04.1 -0.5
baz=60,SNR=9.2
Q21A Lamborn Mesa, 59.74 307 ⇑P P 22 24 05.8 +0.8
baz=60
PVCC Panska Ves 59.76 40 *eP* P 22 24 03.8 -0.8
PVCC *e* 22 24 10.4
PVCC Panska Ves 59.76 40 *eP* P 22 24 03.8 -0.8
PVCC *epP* **pP** 22 24 10.4 +0.8
PLCA Paso Flores 59.78 202 P P 22 24 05.7 +0.8
comp=Z,27nm,1.3s,baz=26,slow=13,SNR=6.1
PLCA LR LR 22 50 46.5
comp=Z,706nm,20.8s,baz=22,slow=37
PLCA Paso Flores 59.78 202 *eP* P 22 24 05.3 +0.4
PLCA pmax pmax
comp=Z,52nm,1.4s
PLCA Paso Flores 59.78 202 *eP* P 22 24 05.3 +0.4
comp=Z,52nm,1.4s
S21A Coal Bank Pass 59.80 305 ⇓P P 22 24 05.9 +0.4
baz=60
RUE Ruedersdorf 59.81 37 *eP* P 22 24 04.2 -0.7
RUE Ruedersdorf 59.81 37 *eP* P 22 24 04.4 -0.5
comp=Z,90nm,1.1s
N21A Black Mountain 59.91 309 ⇓P P 22 24 06.1 -0.1
baz=60
L21A Rawlins 59.95 310 ⇑P P 22 24 06.2 -0.2
baz=60
D22A Cohagen 59.97 316 ⇓P P 22 24 06.4 +0.2
baz=60
CONA Conrad Observa 59.98 43⇑*i*P P 22 24 05.6 -0.7
comp=Z,71nm,1.5s
CONA Conrad Observa 59.98 43⇑*i*P P 22 24 05.6 -0.7
comp=Z,71nm,1.5s,SNR=19
TREC Trest 60.04 41 *eP* P 22 24 07.8 +1.2
TREC Trest 60.04 41 *eP* P 22 24 07.8 +1.2
Y20A Horse Springs, 60.04 301 ⇑P P 22 24 07.4 +0.1
baz=60,SNR=6.1
220A Playas Peak, P 60.11 299 ⇑P P 22 24 07.9 +0.4
baz=60,SNR=19
I21A Big Trails, Te 60.15 312 ⇓P P 22 24 08.3 +0.6
baz=60
X20A Quemado 60.17 302 ⇓P P 22 24 08.2 +0.2
baz=60,SNR=7.1
Z20A Nine Sixteen R 60.19 300 ⇓P P 22 24 08.5 +0.4
baz=60
W20A Ramah 60.20 302 ⇑P P 22 24 08.7 +0.4
baz=60,SNR=6.6
120A U Bar Ranch, L 60.21 299 ⇓P P 22 24 08.6 +0.4
baz=60,SNR=19
MSKU Masuku 60.23 100 LR LR 22 46 07.4
comp=Z,988nm,20.3s,baz=304,slow=32
S20A Disappointment 60.27 305 ⇑P P 22 24 09.0 +0.3
baz=60
U20A Newcomb 60.29 304 ⇑P P 22 24 09.5 +0.8
baz=60
BEHE Becsehely 60.30 45 *eP* P 22 24 05.5 -3.0
R20A Redvale 60.31 306 ⇑P P 22 24 09.4 +0.5
baz=60
Q20A Ridgley Place, 60.31 307 ⇓P P 22 24 09.6 +0.7
baz=60
MVCO Mesa Verde 60.33 305 *eP* P 22 24 09.3 +0.3
comp=Z,24nm,1.5s
MVCO Mesa Verde 60.33 305 ⇑P P 22 24 09.9 +0.8
baz=60
O20A White River Ci 60.38 308 ⇓P P 22 24 10.2 +0.8
baz=60
SOP Sopron 60.39 43⇓*eP* P 22 24 07.9 -1.1
P20A De Beque 60.44 307 ⇑P P 22 24 10.3 +0.6
baz=60
PV01 Paradox Valley 60.45 306 *eP* P 22 24 09.5 -0.4
comp=Z,1μm,1.5s
N20A Spence Gulch, 60.48 309 ⇓P P 22 24 10.5 +0.4
baz=60
M20A Sweetwater, Wa 60.49 310 ⇑P P 22 24 10.5 +0.3
baz=60
UPC Upice 60.65 40 *eP* P 22 24 10.8 +0.1
UPC *e* 22 24 16.5
UPC Upice 60.65 40 *eP* P 22 24 10.8 +0.1
UPC *epP* **pP** 22 24 16.5 +0.8
219A White Tail Can 60.73 299 ⇑P P 22 24 12.3 +0.5
baz=61,SNR=11
319A Douglas 60.74 298 ⇑P P 22 24 12.7 +0.8
baz=61
VRAC Vranov 60.75 41 P P 22 24 10.4 -1.1
comp=Z,5.7nm,0.8s,baz=258,slow=8.3,SNR=10
VRAC Vranov 60.75 41 ⇑P P 22 24 10.7 -0.8
VRAC Vranov 60.75 41 P P 22 24 10.4 -1.1
VRAC Vranov 60.75 41⇑*i*P P 22 24 10.7 -0.8
DPC Dobruska-Polom 60.80 40 *eP* P 22 24 11.5 -0.4
DPC pmax pmax
comp=Z,69nm,1.5s
DPC Dobruska-Polom 60.80 40 *eP* P 22 24 11.5 -0.4
comp=Z,69nm,1.5s
DPC Dobruska-Polom 60.80 40 *eP* P 22 24 11.3 -0.6
DPC *epP* **pP** 22 24 17.6 +0.7
X19A St. Johns 60.82 301 ⇑P P 22 24 12.8 +0.3
baz=61
A21A Bergtoll Ranch 60.83 318 ⇑P P 22 24 12.4 +0.4
baz=61
PV10 Paradox Valley 60.84 306 *eP* P 22 24 13.4 +0.8
comp=Z,156nm,1.1s
ZST Bratislava 60.85 43 *eP* P 22 24 13.2 +1.1
ZST pmax pmax
comp=Z,80nm,1.7s
ZST Bratislava 60.85 43 *eP* P 22 24 13.2 +1.1
S19A Harvey Farm, M 60.87 305 ⇑P P 22 24 12.8 0.0
baz=61
KSP Ksiaz 60.90 40 *eP* P 22 24 12.8 +0.4
KSP *eS* S 22 32 42.0 +12
P19A Cripple Cowboy 60.90 307 ⇓P P 22 24 13.2 +0.3
baz=61,SNR=7.3
R19A Curley Farm, L 61.01 306 ⇑P P 22 24 14.0 +0.3
baz=61,SNR=5.2
G20A Bridger 61.02 314 ⇓P P 22 24 13.8 +0.3
baz=61
KRLC Kraliky 61.03 40 *eP* P 22 24 13.1 -0.3
Q19A Hogan Spring (61.06 307 ⇑P P 22 24 14.2 +0.3
baz=61
F20A Billings 61.06 315 ⇑P P 22 24 14.4 +0.6
baz=61
SMOL Smolenice 61.13 42 *eP* P 22 24 15.3 +1.3
SMOL Smolenice 61.13 42 *eP* P 22 24 15.3 +1.3
E20A Meyer Farm, Mu 61.17 315 ⇓P P 22 24 14.8 +0.4
baz=61
N19A John Jarvie Ra 61.17 309 ⇓P P 22 24 15.2 +0.5
baz=61
D20A Manuel Ranch, 61.27 316 ⇑P P 22 24 15.6 +0.5
baz=61
318A Bisbee 61.35 298 ⇓P P 22 24 16.4 +0.3
baz=61,SNR=7.9
X18A Snowflake 61.37 302 ⇓P P 22 24 16.6 +0.5
baz=61
218A Dragoon 61.40 299 ⇑P P 22 24 16.6 +0.2
baz=61
NB2 NORSAR Subarra 61.41 27 P P 22 24 15.1 -0.7
comp=Z,107nm,1.7s,baz=247,slow=6.5
NOA NORSAR Array B 61.41 27 P P 22 24 15.5 -0.3
comp=Z,9.2nm,0.8s,baz=246,slow=6.4,SNR=21
NOA LR LR 22 45 01.6
comp=Z,462nm,19.9s,baz=235,slow=30
NOA NORSAR Array B 61.41 27 P P 22 24 15.5 -0.3
NOA NORSAR Array B 61.41 27 P P 22 24 15.5 -0.3
L19A Farson 61.43 310 ⇓P P 22 24 17.0 +0.5
baz=61
MORC Moravsky Berou 61.45 41 *eP* P 22 24 16.1 -0.1
MORC pmax pmax
comp=Z,37nm,1.4s
MORC Moravsky Berou 61.45 41 *eP* P 22 24 16.1 -0.1
comp=Z,37nm,1.4s
R18A Canyonlands Na 61.51 306 ⇓P P 22 24 17.0 -0.1
baz=61,SNR=8.8
PKSM Moragy 61.54 45 ⇓P P 22 24 17.7 +0.9
PKSM Moragy 61.54 45⇓*i*P P 22 24 17.7 +0.9
PKSM Moragy 61.54 45⇓*eP* P 22 24 18.0 +1.2
S18A Hurst Farm, Bl 61.55 305 ⇓P P 22 24 17.1 -0.3
baz=62
E19A Rath Farm, Rou 61.61 315 ⇓P P 22 24 17.7 +0.2
baz=62
F19A Roth Farm, Mol 61.62 314 ⇑P P 22 24 17.9 +0.3
baz=62
BW06 Boulder Array 61.65 311 *eP* P 22 24 16.8 -1.2
comp=Z,2.7nm,0.5s
BW06 Boulder Array 61.65 311 ⇑P P 22 24 18.0 0.0
baz=62
BW06 ⇑P P 22 24 18.0 0.0
baz=62
PDAR Pinedale Array 61.65 311 P P 22 24 16.2 -1.8
comp=Z,4.0nm,1.1s,baz=96,slow=5.5,SNR=11
PDAR LR LR 22 47 18.3
comp=Z,1μm,21.4s,baz=117,slow=32
PDAR Pinedale Array 61.65 311 P P 22 24 16.2 -1.8
RLMT Red Lodge 61.74 314 *eP* P 22 24 17.6 -1.0
comp=Z,14nm,1.2s
RLMT Red Lodge 61.74 314 ⇓P P 22 24 18.8 +0.3
baz=62
RLMT ⇓P P 22 24 18.8 +0.3
baz=62
Q18A Rafter H Ranch 61.75 307 ⇑P P 22 24 19.0 +0.4
baz=62
OKC Ostrava-Krasne 61.85 41 *eP* P 22 24 18.0 -0.8
OKC Ostrava-Krasne 61.85 41 *eP* P 22 24 18.0 -0.8
P18A Preston Nutter 61.88 307 ⇑P P 22 24 19.9 +0.3
baz=62
I18A Diamond G Ranc 61.95 312 ⇓P P 22 24 20.2 +0.2
baz=62
H18A Shoshone NF, C 61.96 313 ⇑P P 22 24 20.5 +0.5
baz=62
G18A Lazy EL Ranch, 61.98 314 ⇑P P 22 24 20.9 +0.8
baz=62
C19A Slack Wire Ran 61.99 317 ⇓P P 22 24 20.9 +0.9
baz=62
K18A Toltan Ranch, 61.99 311 ⇑P P 22 24 20.6 +0.3
baz=62
A19A Klindworth Far 61.99 318 ⇑P P 22 24 20.4 +0.4
baz=62
BUD Budapest 62.00 44⇓*eP* P 22 24 19.2 -0.7
TUC Tucson 62.03 299 *eP* P 22 24 20.3 -0.2
TUC pmax pmax
comp=Z,32nm,1.8s
TUC Tucson 62.03 299 *eP* P 22 24 20.2 -0.2
comp=Z,32nm,1.8s
J18A Kendall Valley 62.04 311 ⇓P P 22 24 20.7 +0.1
baz=62
VYHS Vyhne 62.04 43 *eP* P 22 24 19.6 -0.6
VYHS pmax pmax
comp=Z,35nm,1.7s
VYHS Vyhne 62.04 43 *eP* P 22 24 19.6 -0.6
SRU San Rafael 62.05 307 *eP* P 22 24 21.5 +0.8
SRU pmax pmax
comp=Z,6.0nm,1.0s
SRU San Rafael 62.05 307 *eP* P 22 24 21.5 +0.8
comp=Z,6.4nm,1.0s
SRU San Rafael 62.05 307 ⇓P P 22 24 20.8 +0.1
baz=62
V17A Tonalea, Kykot 62.09 303 ⇑P P 22 24 21.3 +0.3
baz=62,SNR=18
T17A Navajo Res., N 62.16 304 ⇑P P 22 24 22.1 +0.6
baz=62,SNR=13
F18A Big Timber 62.16 314 ⇑P P 22 24 22.1 +0.9
baz=62
S17A Black Ridge (B 62.18 305 ⇑P P 22 24 22.3 +0.7
baz=62,SNR=17
HFS Hagfors 62.21 29 P P 22 24 20.9 -0.2
comp=Z,22nm,0.8s,baz=235,slow=5.2,SNR=18
HFS Hagfors 62.21 29 P P 22 24 20.9 -0.2
HFS Hagfors 62.21 29 P P 22 24 20.9 -0.2
O17A Robinson Place 62.30 308 ⇑P P 22 24 22.5 +0.2
baz=62
LIKS Likavka 62.31 42 *eP* P 22 24 31.8 +10
LIKS Likavka 62.31 42 *epP* P 22 24 31.8 +10
M17A Scullys Gap (B 62.34 309 ⇓P P 22 24 23.2 +0.6
baz=62
U16A Tuba City 62.38 303 ⇑P P 22 24 23.6 +0.7
baz=62
D18A Linhart Farms, 62.41 316 ⇑P P 22 24 23.2 +0.3
baz=62
LKWY Lake 62.47 313 *eP* P 22 24 22.9 -0.6
LKWY pmax pmax
comp=Z,40nm,1.9s
LKWY Lake 62.47 313 *eP* P 22 24 22.9 -0.6
comp=Z,40nm,1.9s
LOHW Long Hollow 62.51 312 *eP* P 22 24 22.7 -1.0
comp=Z,17nm,1.6s
I17A Pilgrim Ck. 62.52 312 ⇑P P 22 24 24.0 +0.2
baz=62
WUAZ Wupatki 62.56 303 *eP* P 22 24 24.9 +0.7
comp=Z,28nm,1.5s
WUAZ Wupatki 62.56 303 ⇑P P 22 24 24.4 +0.3
baz=62,SNR=6.5
MOOW Moose Ponds 62.62 312 *eP* P 22 24 23.2 -1.3
comp=Z,12nm,1.5s
FLWY Flagg Ranch 62.63 312 *eP* P 22 24 24.5 0.0
comp=Z,51nm,1.6s
PSZ Piszkesteto 62.65 43 *eP* P 22 24 26.3 +1.9
PSZ pmax pmax
comp=Z,26nm,1.4s
PSZ Piszkesteto 62.65 43 *eP* P 22 24 26.3 +1.9
comp=Z,26nm,1.4s
PSZ Piszkesteto 62.65 43⇓*eP* P 22 24 25.9 +1.5
DAU Daniels Canyon 62.71 308 *eP* P 22 24 25.3 +0.1
DAU pmax pmax
comp=Z,13nm,1.3s
DAU Daniels Canyon 62.71 308 *eP* P 22 24 25.3 +0.1
comp=Z,13nm,1.3s
A18A Metzger Ranch, 62.71 318 ⇑P P 22 24 25.4 +0.7
baz=63
F17A Fitzpatrick Pl 62.82 314 ⇓P P 22 24 25.9 +0.3
baz=63
S16A Weppner Ranch, 62.82 305 ⇑P P 22 24 25.9 0.0
baz=63
JLU Jordanelle 62.87 308 *eP* P 22 24 25.9 -0.3
comp=Z,22nm,1.5s
O16A Springville 62.88 308 ⇓P P 22 24 26.7 +0.5
baz=63
L16A Fish Haven 62.96 310 ⇑P P 22 24 26.8 +0.1
baz=63,SNR=5.5
OJC Ojcow 62.96 41 *eP* P 22 24 27.5 +1.2
OJC Ojcow 62.96 41 *eP* P 22 24 27.5 +1.2
OJC Ojcow 62.96 41 *eP* P 22 24 28.1 +1.8
comp=Z,53nm,1.3s
RRI2 Red Ridge 63.00 311 *eP* P 22 24 25.4 -1.7
comp=Z,18nm,1.2s
D17A Six Diamond Ra 63.00 316 ⇓P P 22 24 27.2 +0.4
baz=63
HWUT Hardware Ranch 63.03 309 *eP* P 22 24 26.4 -0.8
comp=Z,13nm,1.1s
H16A Russell Place, 63.09 313 ⇓P P 22 24 28.1 +0.5
baz=63
C17A Wharram Farm, 63.12 316 ⇑P P 22 24 28.4 +0.9
baz=63
K16A Soda Springs 63.15 311 ⇓P P 22 24 28.4 +0.5
baz=63
NIE Niedzica 63.16 42 *eP* P 22 24 27.9 +0.2
NIE Niedzica 63.16 42 *eP* P 22 24 27.9 +0.2
I16A Newdale 63.17 312 ⇑P P 22 24 28.5 +0.4
baz=63
B17A L&G Farms, Che 63.24 317 ⇓P P 22 24 29.1 +0.8
baz=63
A17A Triple J Farms 63.27 318 ⇓P P 22 24 29.3 +0.8
baz=63
MSU Marysvale 63.31 306 *eP* P 22 24 30.7 +1.5
MSU pmax pmax
comp=Z,4.0nm,1.4s
MSU Marysvale 63.31 306 *eP* P 22 24 30.7 +1.5
comp=Z,3.9nm,1.4s
U15A North Rim 63.33 304 ⇓P P 22 24 29.9 +0.5
baz=63,SNR=7.1
BOZ Bozeman (W) 63.46 314 ⇓P P 22 24 30.3 +0.4
baz=63
BOZ ⇓P P 22 24 30.3 +0.4
baz=63
BZS Buzias 63.52 46 ⇑P P 22 24 30.3 +0.2
BZS Buzias 63.52 46⇑*i*P P 22 24 30.3 +0.2
G16A Moss Hill, Enn 63.54 314 ⇑P P 22 24 30.9 +0.4
baz=64
E16A East Helena 63.59 315 ⇑P P 22 24 30.7 -0.1
baz=64
L15A Malad City 63.67 310 ⇓P P 22 24 31.3 -0.1
baz=64,SNR=10
M15A Larsen Ranch, 63.68 309 ⇓P P 22 24 31.2 -0.2
baz=64,SNR=12
HRY Holter Researc 63.72 315 *eP* P 22 24 32.6 +1.1
214A Organ Pipe Nat 63.75 299 ⇓P P 22 24 32.3 +0.4
baz=64
STHS Stebnicka Huta 63.76 42 *eP* P 22 24 32.9 +1.3
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 63.76 42 *eP* P 22 24 32.9 +1.3
C16A Fuhringer Ranc 63.80 316 ⇑P P 22 24 32.4 +0.3
baz=64
CRVS Cervenica-Dubn 63.82 42 *eP* P 22 24 32.6 +0.5
CRVS pmax pmax
comp=Z,35nm,1.6s
CRVS Cervenica-Dubn 63.82 42 *eP* P 22 24 32.6 +0.5
K15A Arbon 63.83 311 ⇑P P 22 24 32.8 +0.4
baz=64
B16A M & M Farms, S 63.85 317 ⇑P P 22 24 33.0 +0.6
baz=64
DUG Dugway 63.88 308 *eP* P 22 24 33.2 +0.4
DUG pmax pmax
comp=Z,13nm,1.5s
DUG Dugway 63.88 308 *eP* P 22 24 33.2 +0.4
comp=Z,14nm,1.5s
DUG Dugway 63.88 308 ⇓P P 22 24 33.2 +0.4
baz=64
G15A Dillon 64.01 313 ⇑P P 22 24 33.8 +0.2
baz=64
CCUT Cedar City 64.21 305 *eP* P 22 24 35.6 +0.4
comp=Z,14nm,1.3s
D15A Lincoln 64.23 315 ⇓P P 22 24 35.4 +0.4
baz=64
ARUT Antelope Range 64.28 305 *eP* P 22 24 36.2 +0.7
ARUT pmax pmax
comp=Z,22nm,1.5s
ARUT Antelope Range 64.28 305 *eP* P 22 24 36.2 +0.7
comp=Z,22nm,1.5s
GZR Gura Zlata 64.30 46 ⇑P P 22 24 35.2 -0.2
GZR Gura Zlata 64.30 46⇑*i*P P 22 24 35.2 -0.2
UZH Uzhgorod 64.33 43 *eP* P 22 24 35.0 -0.4
UZH *e* 22 24 40.4
KOLS Kolonicke sedl 64.36 42 *eP* P 22 24 38.9 +3.3
KOLS pmax pmax
comp=Z,24nm,1.8s
KOLS Kolonicke sedl 64.36 42 *eP* P 22 24 38.9 +3.3
C15A Salmond Ranch, 64.37 316 ⇓P P 22 24 35.5 -0.3
baz=64
DRGR 64.40 45 ⇓P P 22 24 35.9 -0.1
DRGR 64.40 45⇓*i*P P 22 24 35.8 -0.2
B15A Bradely Ranch, 64.41 317 ⇓P P 22 24 36.3 +0.2
baz=64
TRPA Tarpa 64.43 43⇓*i*P P 22 24 35.3 -0.7
TRPA Tarpa 64.43 43⇓*eP* P 22 24 35.0 -1.0
I14A Mackay 64.59 312 ⇓P P 22 24 37.6 +0.1
baz=64
A15A Johnson Ranch, 64.60 318 ⇑P P 22 24 37.7 +0.4
baz=64
W13A Hualapai Mount 64.61 302 ⇑P P 22 24 38.0 +0.2
baz=64
F14A Wisdom 64.69 314 ⇑P P 22 24 38.5 +0.4
baz=65
R13A O'Grain Ranch, 64.71 306 ⇑P P 22 24 38.7 +0.4
baz=65
KWP Kalwaria Pacla 64.73 42 *eP* P 22 24 40.2 +2.2
KWP Kalwaria Pacla 64.73 42 ⇓P P 22 24 39.1 +1.1
KWP Kalwaria Pacla 64.73 42 *eP* P 22 24 38.1 +0.1
comp=Z,98nm,1.5s
KWP Kalwaria Pacla 64.73 42⇓*i*P P 22 24 39.1 +1.1
D14A Greenough 64.90 315 ⇓P P 22 24 39.0 -0.3
baz=65
SLMT Seeley Lake 64.91 316 *eP* P 22 24 40.5 +1.1
A14A Double T Ranch 65.05 318 ⇑P P 22 24 40.6 +0.3
baz=65
I13A Wildhorse Cree 65.07 312 ⇑P P 22 24 40.8 +0.2
baz=65
J13A Cove Ranch, Pi 65.08 311 ⇓P P 22 24 40.9 +0.3
baz=65
H13A Challis 65.21 313 ⇓P P 22 24 42.1 +0.7
baz=65
G13A Cobalt 65.23 313 ⇑P P 22 24 42.3 +0.7
baz=65
HLID Hailey 65.26 311 *eP* P 22 24 41.3 -0.5
comp=Z,7.2nm,1.2s
HLID Hailey 65.26 311 ⇓P P 22 24 42.3 +0.5
baz=65
SWMT Swartz Lake 65.28 316 *eP* P 22 24 43.6 +1.9
E13A Victor 65.31 315 ⇓P P 22 24 43.0 +1.0
baz=65
YBMT Yellow Bay 65.32 316 *eP* P 22 24 42.0 0.0
comp=Z,8.8nm,1.3s
F13A Darby 65.36 314 ⇑P P 22 24 43.1 +0.7
baz=65
JTMT Jette 65.49 316 *eP* P 22 24 42.5 -0.7
comp=Z,8.2nm,1.3s
D13A Huson 65.55 315 ⇓P P 22 24 43.7 +0.2
baz=66
LVV L'vov 65.61 42⇓*i*P P 22 24 44.9 +1.2
H12A Diamond D Ranc 65.64 313 ⇓P P 22 24 44.0 -0.2
baz=66
SUW Suwalki 65.65 37 *eP* P 22 24 45.0 +1.1
SUW Suwalki 65.65 37 *eP* P 22 24 45.0 +1.1
IRM Iron Mountain 65.67 301 ⇑P P 22 24 44.3 -0.1
baz=66
B13A Whitefish 65.68 317 ⇑P P 22 24 44.8 +0.5
baz=66
ELK Elko 65.75 308 *eP* P 22 24 44.1 -1.0
ELK Elko 65.75 308 *eP* P 22 24 44.1 -1.0
I12A Atlanta 65.80 312 ⇑P P 22 24 45.5 +0.3
baz=66
BSMT Bassoo Peak 65.84 316 *eP* P 22 24 45.3 -0.2
comp=Z,11nm,1.4s
VOIR 65.90 46 ⇑P P 22 24 45.3 -0.5
VOIR 65.90 46⇑*i*P P 22 24 45.3 -0.5
R11A Troy Canyon, C 65.98 306 ⇓P P 22 24 46.7 +0.2
baz=66
F12A Elk City 66.00 314 ⇑P P 22 24 47.1 +0.6
baz=66
GMRC Granite Mounta 66.08 302 ⇑P P 22 24 47.5 +0.3
baz=66
RES Resolute Bay 66.11 347 P P 22 24 46.5 +0.1

comp=Z,5.8nm,1.1s,baz=147,slow=8.3,SNR=7.5
RES Resolute Bay 66.11 347 *e*P **P 22 24 46.5 +0.1**
RES pmax pmax
comp=Z,13nm,1.4s
RES Resolute Bay 66.11 347 *e*P **P 22 24 46.5 +0.1**
comp=Z,13nm,1.4s
BURAR Bucovina Array 66.18 44⇓*i*P **P 22 24 47.0 -0.5**
E12A Beaver Dam Sad 66.26 315⇑P **P 22 24 48.9 +0.7**
baz=66
MFID Camas Ranch 66.28 311⇓P **P 22 24 48.6 +0.3**
baz=66
C12B Naegeli Ranch, 66.29 316⇑P **P 22 24 49.0 +0.8**
baz=66
BELC Belle Mtn. Jos 66.38 301⇑P **P 22 24 49.3 +0.2**
baz=66
B12A Libby 66.43 317⇓P **P 22 24 49.2 +0.2**
baz=66
A12A Yaak River Ran 66.51 317⇓P **P 22 24 50.2 +0.6**
baz=66
DVTC Desert V Tower 66.51 300⇑P **P 22 24 50.0 +0.1**
baz=66
MLR Muntele Rosu 66.53 46 P **P 22 24 49.9 0.0**
comp=Z,14nm,1.2s,baz=323,slow=3.2,SNR=20
MLR Muntele Rosu 66.53 46⇑P **P 22 24 51.0 +1.1**
MLR Muntele Rosu 66.53 46 P **P 22 24 49.9 0.0**
MLR Muntele Rosu 66.53 46⇑*i*P **P 22 24 51.0 +1.1**
MONP Monument Peak 66.77 300⇓P **P 22 24 52.3 +0.6**
baz=67
BAR Barrett 66.99 300 *e*P **P 22 24 49.8 -3.1**
comp=Z,12nm,1.4s
GSC Goldstone 67.00 302⇑P **P 22 24 54.0 +1.0**
baz=67
PLOR Plostina 67.05 46⇓P **P 22 24 54.1 +1.1**
PLOR Plostina 67.05 46⇓*i*P **P 22 24 54.1 +1.1**
VRI Vrincioaia 67.10 46⇑P **P 22 24 53.6 +0.2**
VRI Vrincioaia 67.10 46⇑*i*P **P 22 24 53.5 +0.2**
BMO Blue Mountains 67.40 313 *e*P **P 22 24 55.8 +0.4**
BMO pmax pmax
comp=Z,6.0nm,1.5s
BMO Blue Mountains 67.40 313 *e*P **P 22 24 55.8 +0.4**
comp=Z,6.2nm,1.5s
NEW Newport 67.44 316 *e*P **P 22 24 54.8 -0.7**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 67.44 316 *e*P **P 22 24 54.8 -0.7**
comp=Z,10nm,1.0s
NEW Newport 67.44 316⇓P **P 22 24 56.4 +0.9**
baz=67
MPMC Manual Prospec 67.53 303⇓P **P 22 24 56.6 +0.1**
baz=67
BFSC Mount Baldy Ra 67.74 301⇑P **P 22 24 58.1 +0.3**
baz=68
NACGM Naroch 67.86 36 *e* **P 22 24 55.0 -2.9**
YKA Yellowknife Ar 67.87 332 P **P 22 24 55.5 -2.3**
comp=Z,3.0nm,1.1s,baz=101,slow=6.3,SNR=14
YKA LR LR 22 52 11.0
comp=Z,109nm,20.5s,baz=110,slow=34
YKA Yellowknife Ar 67.87 332 P **P 22 24 55.5 -2.3**
YKA Yellowknife Ar 67.87 332 P **P 22 24 55.5 -2.3**
EDW2 Edwards Air Fo 67.99 302⇓P **P 22 25 00.0 +0.8**
baz=68
NVAR Mina Array Bea 68.12 306 P **P 22 25 01.3 +1.1**
comp=Z,0.4nm,0.6s,baz=92,slow=10,SNR=4.1
NVAR LR LR 22 55 19.5
comp=Z,662nm,19.6s,baz=258,slow=36
NVAR Mina Array Bea 68.12 306 P **P 22 25 01.3 +1.1**
LNOR Lincton Mounta 68.12 314 *e*P P 22 24 55.8 -4.1
LNOR Lincton Mounta 68.12 314 *e*P P 22 24 55.8 -4.1
WVOR Wild Horse Val 68.33 310 *e*P **P 22 25 01.5 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 68.33 310 *e*P **P 22 25 01.4 +0.2**
comp=Z,9.2nm,1.3s
ISA Isabella 68.35 303 *e*P **P 22 25 02.0 +0.5**
ISA pmax pmax
comp=Z,17nm,1.3s
ISA Isabella 68.35 303 *e*P **P 22 25 02.0 +0.5**
comp=Z,17nm,1.3s
FINES FINESS Array B 68.40 29 P **P 22 25 01.4 +0.2**
comp=Z,12nm,1.0s,baz=211,slow=6.7,SNR=8.7
FINES LR LR 22 50 03.2
comp=Z,668nm,20.3s,baz=123,slow=32
FINES FINESS Array B 68.40 29 P **P 22 25 01.4 +0.2**
FINES FINESS Array B 68.40 29 P **P 22 25 01.4 +0.2**
CIS Catalina Islan 68.41 300⇑P **P 22 25 02.6 +0.7**
baz=68
MNK Minsk 68.42 37⇑*e*P **P 22 25 01.0 -0.5**
MNK pmax pmax
comp=Z,110nm,1.0s
ALE Alert 68.45 358 P **P 22 24 59.3 -1.9**
comp=Z,133nm,1.3s,SNR=7.1
MICGM Minsk 68.45 37⇑*e*P **P 22 25 01.0 -0.6**
OD2 Odessa Site #2 68.46 315 *e*P **P 22 25 00.5 -1.4**
KIS Kishinev 68.59 45 *e*P **P 22 25 03.0 +0.3**
KIS pmax pmax
comp=Z,500nm,17.0s
KIS Kishinev 68.59 45 *e*P **P 22 25 03.0 +0.3**
KIS LRM MLR 22 54 40.0
comp=Z,500nm,17.0s
KAF Kangasniemi 68.62 29 *e*P **P 22 25 01.7 -0.9**
KAF pmax pmax
comp=Z,23nm,1.0s
KAF Kangasniemi 68.62 29 *e*p **P 22 25 01.7 -0.9**
comp=Z,23nm,1.0s
KAF Kangasniemi 68.62 29 *e*p **P 22 25 01.7 -0.9**
comp=Z,23nm,1.0s
KIEV Kiev 68.99 41 *e*P **P 22 25 03.3 -1.8**
KIEV pmax pmax
comp=Z,44nm,1.7s
KIEV Kiev 68.99 41 *e*P **P 22 25 03.3 -1.8**
comp=Z,44nm,1.7s
AKASG Malin Array Be 69.00 41 P **P 22 25 04.8 -0.4**
comp=Z,4.0nm,0.8s,baz=269,slow=5.7,SNR=16
AKASG LR LR 22 53 33.5
comp=Z,428nm,20.3s,baz=275,slow=34
AKASG Malin Array Be 69.00 41*c**e*P **P 22 25 06.1 +1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 69.00 41 P **P 22 25 04.8 -0.4**
HAWA Hanford 69.00 314 *e*P **P 22 25 03.6 -1.6**
comp=Z,15nm,1.4s
RSW Rattlesnake Hi 69.04 314 *e*P **P 22 25 07.1 +1.5**
MOD Modoc 69.57 310 *e*P **P 22 25 06.3 -2.8**
comp=Z,8.3nm,1.3s
ARCES ARCESS Array B 69.78 21 P **P 22 25 09.4 -0.3**
comp=Z,8.8nm,0.8s,baz=245,slow=5.6,SNR=21
ARCES LR LR 22 49 13.8
comp=Z,438nm,20.8s,baz=250,slow=30
ARCES ARCESS Array B 69.78 21 P **P 22 25 09.4 -0.3**
ARCES ARCESS Array B 69.78 21 P **P 22 25 09.4 -0.3**
KBS Kingsbay 69.80 10⇓*i*P **P 22 25 10.8 +1.2**
KBS pmax pmax
comp=Z,85nm,2.5s
KBS Kingsbay 69.80 10 *e*P **P 22 25 12.1 +2.5**
comp=Z,68nm,1.5s
TSUM Tsumeb 70.14 117 *e*P **P 22 25 13.1 +0.3**
comp=Z,36nm,1.4s
SPITS Spitsbergen Ar 70.23 11 P **P 22 25 13.5 +1.2**
comp=Z,13nm,1.0s,baz=202,slow=19,SNR=4.7
SPITS Spitsbergen Ar 70.23 11 P **P 22 25 13.5 +1.2**
SPITS Spitsbergen Ar 70.23 11 P **P 22 25 13.5 +1.2**
JOF Joensuu 71.03 28 *e*P **P 22 25 14.6 -2.8**
JOF Joensuu 71.03 28 *e*p **P 22 25 14.6 -2.8**
JOF Joensuu 71.03 28 *e*p **P 22 25 14.6 -2.8**
USHA Ushuaia 71.81 194 LR LR 22 57 54.3
comp=Z,744nm,19.1s,baz=357,slow=37
KHMM Horse Mountain 72.19 309 *e*P **P 22 25 25.1 0.0**
comp=Z,31nm,1.3s
BR131 Keskin Array S 72.28 53 *e*P **P 22 25 24.7 -0.9**
comp=Z,21nm,1.0s
BRTR Keskin Array B 72.28 53 P **P 22 25 25.1 -0.5**
comp=Z,11nm,1.0s,baz=256,slow=5.5,SNR=31
BRTR LR LR 22 55 37.0
comp=Z,365nm,21.2s,baz=74,slow=35
BRTR Keskin Array B 72.28 53 P **P 22 25 25.1 -0.5**
BRTR Keskin Array B 72.28 53 P **P 22 25 25.1 -0.5**
SIM Simferopol' 72.31 47 P **P 22 25 24.8 -0.6**
SIM pmax pmax
comp=Z,16nm,1.4s
SIM MLR MLR
comp=Z,740nm,18.0s
OBN Obninsk 73.49 36 *e*P **P 22 25 33.6 +1.4**
OBN *i* 22 25 38.6
OBN pmax pmax
comp=Z,58nm,1.6s
OBN MLR MLR
comp=Z,500nm,16.0s
OBN Obninsk 73.49 36 *e*P **P 22 25 32.9 +0.6**
comp=Z,60nm,1.4s
MOS Moscow 74.08 36 *e*P **P 22 25 33.5 -2.1**
MOS pmax pmax
comp=Z,57nm,1.4s
ANN Anapa 74.67 47 *e*P **P 22 25 37.7 -1.6**
ANN pmax pmax
comp=Z,46nm,1.6s
VSR Storozhevoye 75.27 40 *e*P **P 22 25 42.5 -0.2**
VSR pmax pmax
comp=N,7.0nm,1.2s
VSR pmax pmax
comp=E,40nm,1.2s
VSR pmax pmax
comp=Z,40nm,1.2s
INK Inuvik 76.12 337 P **P 22 25 46.6 -0.6**
comp=Z,13nm,1.2s,baz=72,slow=5.9,SNR=8.8
INK Inuvik 76.12 337 *e*P **P 22 25 47.5 +0.3**
INK pmax pmax
comp=Z,28nm,1.4s
INK Inuvik 76.12 337 *e*P **P 22 25 47.5 +0.3**
comp=Z,28nm,1.4s
SOC Sochi 76.43 48*d**i*P **P 22 25 48.9 -0.6**
SOC *e* 22 26 00.2
SOC *e*S **S 22 35 31.8 -2.7**
SOC *e*S **S 22 35 36.9 +2.4**
SOC *e* 22 36 08.5
SOC *e*SS **SS 22 40 29.6 +0.8**
SOC pmax pmax
comp=Z,64nm,1.4s
VRHR Novokhopersk 76.83 40 *e*P **P 22 25 51.4 -0.1**
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
SKAG Skagway 77.83 329 *e*P **P 22 25 59.5 +2.5**
comp=Z,40nm,1.3s
SUR Sutherland 78.28 128 LR LR 22 52 06.4
comp=Z,2μm,21.2s,baz=301,slow=29
KIV Kislovodsk 78.51 47*c**e*P **P 22 26 01.9 +0.7**
KIV *i* 22 26 12.5
KIV pmax pmax
comp=Z,38nm,1.6s
KIV Kislovodsk 78.51 47 *e*P **P 22 26 03.6 +2.4**
comp=Z,34nm,1.3s
KIV Kislovodsk 78.51 47 P **P 22 26 01.1 -0.1**
comp=Z,103nm,1.2s,SNR=5.9
LBTB Lobatse 79.22 119 LR LR 22 54 42.3
comp=Z,1μm,19.7s,baz=293,slow=31
LBTB Lobatse 79.22 119 *e*P **P 22 26 05.5 +0.1**
LBTB pmax pmax
comp=Z,29nm,1.4s
LBTB Lobatse 79.22 119 *e*P **P 22 26 05.5 +0.1**
comp=Z,29nm,1.4s
ZEI Tsey 79.58 48 *e*P **P 22 26 07.5 +0.2**
ZEI pmax pmax
comp=Z,28nm,1.7s
PMSA Palmer Station 80.30 188 LR LR 23 00 18.6
comp=Z,296nm,20.3s,baz=248,slow=35
GNI Garni 80.68 51 *e*P **P 22 26 13.3 +0.1**
GNI pmax pmax
comp=Z,85nm,1.5s
GNI Garni 80.68 51 *e*P **P 22 26 13.2 +0.1**
comp=Z,85nm,1.5s
ILAR Eielson Array 82.02 335 P **P 22 26 18.6 -1.0**
comp=Z,7.0nm,1.0s,baz=73,slow=4.2,SNR=26
ILAR LR LR 22 59 57.1
comp=Z,297nm,21.8s,baz=228,slow=34
ILAR Eielson Array 82.02 335 P **P 22 26 18.6 -1.0**
ILAR Eielson Array 82.02 335 P **P 22 26 18.6 -1.0**
KMBO Kilima Mbogo 82.82 93 *e*P **P 22 26 24.8 -0.3**
KMBO pmax pmax
comp=Z,41nm,1.9s
KMBO Kilima Mbogo 82.82 93 *e*P **P 22 26 24.8 -0.3**
comp=Z,40nm,1.9s
IDHR Dehrash 83.08 56 *e*P **P 22 26 25.4 -0.6**
IGHG Ghaleghazi 83.31 56 *e*P **P 22 26 26.1 -1.1**
IVIS Veis 83.49 56 *e*P **P 22 26 27.4 -0.6**
IKOM Komasi 84.10 56 *e*P P 22 26 27.9 -3.3
ARU Arti 85.44 33*c**i*P **P 22 26 38.3 +1.0**
ARU 22 29 57.0
ARU S **S 22 37 03.0 -4.9**
ARU SS **SS 22 42 41.8 -0.6**
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 85.44 33 *e*P **P 22 26 39.3 +2.0**
comp=Z,38nm,1.6s
SVE Sverdlovsk 86.38 32 *e*P **P 22 26 40.1 -1.8**
SVE pmax pmax
comp=Z,23nm,1.5s
KDAK Kodiak Island 86.96 329 LR LR 23 03 43.1
comp=Z,990nm,19.1s,baz=291,slow=34
IPIR Pirpir 87.21 57 *e*P **P 22 26 45.2 -1.7**
IZEF Zefreh 88.32 57 *e*P **P 22 26 51.5 -0.6**
ABKAR Akbulak array 88.67 39 *e*P **P 22 26 53.3 +0.2**
IANJ Anjilo 88.85 54 *e*P **P 22 26 53.8 -0.8**
IPAR Pars 89.76 59 *e*P **P 22 26 58.2 -0.8**
ISRV Sarvestan 89.94 60 *e*P **P 22 26 57.2 -2.7**
SNAA Sanae 90.47 168 *e*P **P 22 26 58.9 -2.1**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
SNAA Sanae 90.47 168 *e*P **P 22 26 58.9 -2.1**
comp=Z,8.6nm,1.2s
IMEH Mehriz 90.60 57 *e*P P 22 26 52.6 -10
IKRD Kardeh 91.98 51 *e*P **P 22 27 11.0 +1.8**
IMOG Moghan 92.83 52 *e*P **P 22 27 13.5 +0.3**
IMYA Miami 93.33 51 *e*P **P 22 27 14.7 -0.6**
BILL Bilibino 94.68 349 *e*P **P 22 27 21.2 +0.6**
BILL pmax pmax
comp=Z,19nm,2.5s
RKT Rikitea 95.49 248 *e*LR LR 22 58 06.8
comp=Z,615nm,33.0s
ZALV Zalesovo Beam 99.62 27 PP PP 22 31 44.8 -1.6
comp=Z,3.0nm,1.0s,baz=310,slow=6.7,SNR=4.6
ZALV LR LR 23 11 33.6
comp=Z,268nm,19.1s,baz=149,slow=35
ZALV Zalesovo Beam 99.62 27 PP PP 22 31 44.8 -1.6
QSPA South Pole Qui 104.43 180 PP PP 22 32 28.4 +5.3
comp=Z,2.1nm,1.0s,baz=230,slow=2.0,SNR=3.9
QSPA South Pole Qui 104.43 180 PP PP 22 32 28.4 +5.3
PPT2 Papeete2 107.83 256 *e*SS SS 22 48 05.0 +3.2
comp=Z,379nm,28.8s
PPT2 *e*LR LR 23 04 01.5
comp=Z,2μm,32.0s
TBI Tubuai 108.62 250 *e*LR LR 23 04 25.9
comp=Z,473nm,33.5s
SONM Songino Array 112.96 20 PP **PP 22 33 30.7 +6.0**
comp=Z,0.2nm,0.6s,baz=0.7,slow=0.8,SNR=4.1
SONM Songino Array 112.96 20 PP **PP 22 33 30.7 +6.0**
HABR Khabarovsk 117.36 360 *e*P **Pdif 22 29 00.7 -1.5**
HABR *i* 22 32 45.0
HABR *e*PS **PKKPdf 22 43 38.3 +1.5**
HABR *e*SS SS 22 50 04.6 +0.6
HABR *e*SSS 22 54 24.8
HABR pmax pmax
comp=N,5.0nm,1.0s
HABR pmax pmax
comp=E,7.0nm,0.8s
HABR pmax pmax
comp=Z,9.0nm,0.8s
HABR MLR MLR
comp=Z,195nm,18.0s
HHC Hu-ho-hao-te 120.86 21 *e*PKP **PKPdf 22 32 48.6 -3.9**
HHC PP **PP 22 34 20.0 +0.1**
HHC PKS PKSdf 22 36 23.8 -5.5
HHC SKS **SKSdf 22 39 57.8 -6.6**
HHC SKKS SKKSac 22 41 12.8 -7.7
HHC SS **SS 22 50 47.8 -2.2**
HHC AMB AMB
comp=Z,170nm,10.7s
HHC LR LR
comp=N,290nm,19.0s
HHC LR LR
comp=E,230nm,20.2s
HHC LR LR
comp=Z,370nm,17.8s
CN2 Changchun 121.38 8 *e*PKP **PKPdf 22 32 50.3 -3.0**
CN2 *e*PP **PP 22 34 24.0 +0.9**
CN2 LR LR
comp=Z,3μm,20.0s
LZH Lanzhou 121.77 29 *e*PKP PKPdf 22 32 49.0 -5.5
LZH sPKP 22 33 02.0
CD2 Chengdu 125.84 33 PKP **PKPdf 22 33 01.9 -0.4**
CD2 PP **PP 22 34 57.8 +4.0**
CD2 PKS **PKSdf 22 36 37.3 -1.8**
CD2 SKS **SKSdf 22 40 11.3 -2.7**
CD2 SKKS **SKKSac 22 41 48.5 -4.3**
CD2 SS **SS 22 51 53.8 0.0**
CD2 LR LR
comp=N,290nm,8.3s
CD2 LR LR
comp=Z,260nm,11.3s
KMI Kunming 129.66 39 PKP **PKPdf 22 33 09.5 -0.5**
KMI sPKP 22 33 15.0
KMI PP **PP 22 35 23.6 +4.1**
KMI SS SS 22 52 44.8 +2.7
KMI LR LR
comp=N,190nm,19.6s
KMI LR LR
comp=E,190nm,23.1s
KMI LR LR
comp=Z,290nm,23.8s
GYA Guiyang 130.91 34 Pdif **Pdif 22 30 02.0 -1.1**
GYA PKP **PKPdf 22 33 11.6 -0.6**
GYA PP **PP 22 35 30.8 +3.6**
GYA PKS **PKSdf 22 36 46.6 -2.3**
GYA SKKS 22 42 21.4
GYA SS **SS 22 52 57.0 +0.2**
GYA AMB AMB
comp=Z,130nm,7.8s
GYA LR LR
comp=N,120nm,22.0s
GYA LR LR
comp=E,110nm,23.2s
GYA LR LR
comp=Z,130nm,21.9s
CMAR Chiang Mai Arr 131.74 48 PKP **PKPdf 22 33 13.2 -0.6**
comp=Z,0.8nm,0.4s,baz=295,slow=4.0,SNR=4.1
CMAR Chiang Mai Arr 131.74 48 PKIKP **PKPdf 22 33 13.2 -0.6**
CMAR Chiang Mai Arr 131.74 48 PKP **PKPdf 22 33 13.2 -0.6**
DZM Mont Dzumac 149.19 251 *e*LR LR 23 23 14.3
comp=Z,440nm,23.3s
ASAR Alice Springs 170.78 174 PKP **PKPdf 22 34 08.2 -0.6**
comp=Z,0.5nm,0.9s,baz=270,slow=0.9,SNR=4.3
ASAR PKPab **PKPab 22 35 25.1 -1.3**
comp=Z,1.0nm,0.8s,baz=175,slow=3.6,SNR=7.6
ASAR Alice Springs 170.78 174 PKIKP **PKPdf 22 34 08.2 -0.6**
ASAR 22 35 25.2
ASAR Alice Springs 170.78 174 PKP **PKPdf 22 34 08.2 -0.6**
ASAR PKPab **PKPab 22 35 25.1 -1.3**
WRA Warramunga Arr 174.51 174 PKP **PKPdf 22 34 12.0 +1.7**
comp=Z,0.2nm,0.3s,baz=183,slow=2.5,SNR=7.8
WRA PKPab **PKPab 22 35 41.6 -1.5**
comp=Z,1.0nm,0.8s,baz=193,slow=4.0,SNR=4.9
WRA Warramunga Arr 174.51 174 PKIKP **PKPdf 22 34 12.1 +1.7**
WRA 22 35 41.6
WRA Warramunga Arr 174.51 174 PKP **PKPdf 22 34 12.1 +1.7**
WRA PKPab **PKPab 22 35 41.6 -1.5**

IDC ***16*** *22:15:17.8±1.1, 19°.97N×147°.24E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, Error ellipse: s-maj=31.7km s-min=22.3km az=96.0*
ISCJB ***16*** *22:15:21.3±0.9, 19°.9N±0°.1×147°.3E±0°.2, h33km, mb3.7/8, Error ellipse: s-maj=20.7km s-min=17.8km az=173.4*
ISC 16 22:15:23.3±3.2, 20°.0N±0°.2×147°.2E±0°.6, h35km, n17, σ0s 91/15, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.22**	**320**	P	**P**	**22 20 36.8**	**+0.1**
	2.3nm,0.8s,baz=142,slow=9.4,SNR=10						
WRA	**Warramunga Arr**	**41.60**	**198**	P	**P**	**22 23 08.2**	**+0.1**
	0.5nm,0.4s,baz=16,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**43.09**	**320**	P	**P**	**22 23 20.0**	**-0.1**
	0.4nm,0.5s,baz=128,slow=6.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**43.34**	**211**	P	**P**	**22 23 22.1**	**-0.1**
	4.1nm,1.0s,baz=49,slow=9.3,SNR=6.1						
CMAR	**Chiang Mai Arr**	**45.48**	**277**	P	**P**	**22 23 38.6**	**-0.9**
	0.4nm,0.3s,baz=62,slow=6.9,SNR=4.0						
TAPN	**Taplejung**	**54.57**	**290**	*e*P	**P**	**22 24 49.9**	**+1.1**
	3.4nm,0.4s						
ODAN	**Odare**	**54.91**	**289**	*e*P	**P**	**22 24 51.9**	**+0.8**
	5.3nm,0.5s						
RAMN	**Ramite**	**55.60**	**290**	*e*P	**P**	**22 24 56.2**	**+0.1**
	4.9nm,0.6s						
JIRN	**Jiri**	**55.88**	**290**	*e*P	**P**	**22 24 58.9**	**+0.6**
	8.0nm,0.5s						
GUN	**Gumba**	**56.13**	**291**	*e*P	**P**	**22 25 01.5**	**+1.5**
PKI	**Pulchoki**	**56.58**	**290**	*e*P	**P**	**22 25 04.2**	**+1.0**
DMN	**Daman**	**56.84**	**290**	*e*P	**P**	**22 25 06.2**	**+1.2**
	4.8nm,0.5s						
GKN	**Gorkha**	**57.21**	**291**	*e*P	**P**	**22 25 08.8**	**+1.3**
	3.5nm,0.4s						
ZALV	**Zalesovo Beam**	**57.91**	**322**	P	**P**	**22 25 11.2**	**-0.5**
	2.1nm,0.8s,baz=106,slow=9.6,SNR=3.8						
DANN	**Dangsing**	**57.94**	**292**	*e*P	**P**	**22 25 13.4**	**+0.6**
	30nm,0.5s						
YKA	**Yellowknife Ar**	**76.22**	**28**	P	P	22 27 08.3	+0.5
	0.4nm,0.6s,baz=284,slow=5.7,SNR=4.2						
NVAR	**Mina Array Bea**	**81.25**	**52**	P	P	22 27 35.4	-0.8
	0.5nm,0.8s,baz=260,slow=5.4,SNR=4.2						

IDC 16 22:17:28.6±1.2, 0°.61S×133°.23E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=55.3km s-min=20.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P	P	22 21 50.6	-0.4
	0.3nm,0.3s,baz=34,slow=12,SNR=8.3						
WRA	**Warramunga Arr**	**19.24**	**177**	P	P	22 21 54.5	-0.2
	0.4nm,0.3s,baz=355,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	22 22 35.3	+0.9
	3.2nm,0.6s,baz=356,slow=9.4,SNR=36						
STKA	**Stephens Creek**	**32.09**	**167**	P	P	22 23 56.9	-0.6
	1.0nm,0.4s,baz=330,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**64.84**	**324**	P	P	22 28 10.0	+0.5
	1.3nm,0.5s,baz=111,slow=8.2,SNR=15						
ILAR	**Eielson Array**	**86.23**	**25**	P	P	22 30 11.0	-0.9
	0.3nm,0.6s,baz=241,slow=5.0,SNR=4.6						

NNC 16 22:18:29.4±0.3, 47°.87N×67°.53E, h0km, mb3.8, mpv3.4, 18C-14D, Error ellipse: s-maj=2.7km s-min=2.0km az=32.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRNK	**Zerenda**	**5.18**	**10**	⇓Pn	Pn	22 19 48.8	+0.7
	4.3nm,0.6s						
ZRNK				⇓Pg	Pb	22 20 04.0	+3.2
	5.0nm,0.6s						
ZRNK				⇑Sn	Sn	22 20 50.1	+1.5
	5.2nm,0.5s						
ZRNK				⇑Lg	Lg	22 21 13.0	
	30nm,0.6s						
KK31	**Karatay Array**	**5.21**	**155**	⇓Pg	Pb	22 20 04.8	+3.5
	4.7nm,0.7s,baz=332,slow=16,SNR=9.1						
KK31				⇑Lg	Lg	22 21 12.5	
	14nm,0.7s,baz=331,slow=31,SNR=4.6						
AB31	**Akbulak array**	**5.22**	**288**	⇑Pn	Pn	22 19 48.5	-0.3
	1.7nm,0.6s,baz=102,slow=12,SNR=20						
AB31				⇓Pg	Pb	22 20 04.9	+3.3
	6.2nm,0.6s,baz=104,slow=18,SNR=4.4						
AB31				Lg	Lg	22 21 14.6	
	10nm,0.6s,baz=102,slow=28,SNR=3.9						
VOSK	**Vostochnaya**	**5.34**	**23**	⇑Pn	Pn	22 19 51.1	+0.7
	5.2nm,0.7s						
VOSK				⇓Pg	Pb	22 20 06.8	+3.1
	9.6nm,0.8s						
VOSK				⇓Sn	Sn	22 20 54.2	+1.6
	4.0nm,0.6s						
VOSK				⇑Lg	Lg	22 21 18.4	
	35nm,0.7s						
BVA0	**Borovoye Array**	**5.48**	**18**	⇓Pn	Pn	22 19 52.2	0.0
	0.7nm,0.7s,baz=204,slow=14,SNR=75						
BVA0				⇑Pg	Pb	22 20 08.6	+2.7
	0.8nm,0.6s,baz=190,slow=15,SNR=4.3						
BVA0				⇑Sn	Sn	22 20 56.3	+0.4
	1.0nm,0.7s						
BVA0				⇑Lg	Lg	22 21 22.3	
	7.4nm,1.1s,baz=196,slow=29,SNR=6.0						
BRVK	**Borovoye**	**5.49**	**18**	⇑Pn	Pn	22 19 52.4	0.0
	7.7nm,0.5s						
BRVK				⇑Pg	Pb	22 20 09.9	+3.8

	23nm,1.3s							
BRVK				⇑Sn	Sn	22 20 57.0	+0.8	
	14nm,0.8s							
BRVK				⇓Lg	Lg	22 21 22.6		
	69nm,0.8s							
AKTO	**Aktyubinsk**	**6.75**	**296**	⇑Pn	Pn	22 20 10.5	+0.8	
	0.8nm,1.0s							
AKTO				⇑Pg	Pb	22 20 32.6	+5.0	
	1.3nm,1.2s							
AKTO				⇑Sn	Sn	22 21 27.7	+0.5	
	0.9nm,0.6s							
AKTO				⇓Lg	Lg	22 22 02.4		
	2.7nm,0.9s							
TKM2	**Tokmak 2**	**7.53**	**128**	⇑Pg	Pb	22 20 46.9	+5.7	
	0.3nm,0.3s							
TKM2				⇓Lg	Lg	22 22 28.9		
	35nm,1.4s							
KURBB	**Kurchatov Arra**	**7.71**	**65**	⇓Pn	Pn	22 20 23.6	+0.7	
	0.4nm,0.6s							
KURBB				⇑Lg	Lg	22 22 34.3		
	6.9nm,0.9s							
KURK	**Kurchatov**	**7.79**	**64**	⇑Pn	Pn	22 20 24.8	+0.7	
	3.4nm,0.7s							
KURK				⇓Lg	Lg	22 22 37.6		
	19nm,0.8s							
MK31	**Makanchi Array**	**10.09**	**91**	Pn	Pn	22 20 57.4	+1.9	
	1.3nm,0.6s,baz=277,slow=12,SNR=22							
MK31				⇓Sn	Sn	22 22 55.7	+6.4	
	0.8nm,0.5s							
MK31				⇓Lg	Lg	22 23 45.0		
	11nm,0.9s,baz=294,slow=25,SNR=6.2							

ISCJB ***16*** *22:26:53.9±0.6, 50°.35N±0°.04×18°.75E±0°.03, h0km, Error ellipse: s-maj=6.2km s-min=2.8km az=11.0*
WAR ***16*** *22:26:54.4, 50°.36N×18°.88E*
CSEM ***16*** *22:26:54.7±0.3, 50°.37N×18°.77E, h2km, ML2.6/4, Error ellipse: s-maj=7.2km s-min=2.9km az=5.0*
PRU ***16*** *22:26:55.2, 50°.37N×18°.77E, h0km*
IPEC ***16*** *22:26:55.4±0.6, 50°.35N×18°.81E, h3km±2km, ML1.6/3, Error ellipse: s-maj=3.4km s-min=2.2km az=41.0*

ISC 16 22:26:54.2±0.9, 50°.35N±0°.04×18°.82E±0°.02, h0km, n27, σ0s89/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**101**	*e*Pg	**Pb**	**22 27 06.6**	**-1.7**
OJC				*e*Sg	**Sg**	**22 27 14.9**	**+0.2**
OJC				e		22 27 15.8	
OJC	**Ojcow**	**0.64**	**101**	*e*Pg	**Pb**	**22 27 06.6**	**-1.7**
OJC				*e*Sg	**Sg**	**22 27 14.9**	**+0.2**
OKC	**Ostrava-Krasne**	**0.67**	**221**	*e*PG	**Pg**	**22 27 07.0**	**-0.1**
OKC				*e*SG	**Sb**	**22 27 18.3**	**-0.3**
	comp=Z,6.8nm,0.5s						
OKC	**Ostrava-Krasne**	**0.67**	**221**	*e*Pg	**Pg**	**22 27 07.4**	**+0.3**
	baz=39						
OKC				*e*Sg	**Sb**	**22 27 17.9**	**-0.7**
	baz=39						
MORC	**Moravsky Berou**	**1.00**	**236**	*e*Pg	**Pg**	**22 27 13.9**	**+0.4**
	baz=54						
MORC				*e*Sg	**Sg**	**22 27 27.2**	**+0.8**
	12nm,0.3s,baz=54						
NIE	**Niedzica**	**1.34**	**133**	*e*Pg	**Pn**	**22 27 20.9**	**+0.7**
NIE				*e*Sg	**Sn**	**22 27 38.0**	**-0.7**
NIE	**Niedzica**	**1.34**	**133**	*e*Pg	**Pn**	**22 27 20.9**	**+0.7**
NIE				*e*Sg	**Sn**	**22 27 38.0**	**-0.7**
KRLC	**Kraliky**	**1.34**	**259**	*e*PG	**Pg**	**22 27 19.1**	**-0.8**
KRLC				*e*SG	**Sg**	**22 27 36.6**	**-0.6**
KRLC	**Kraliky**	**1.34**	**259**	Pg	**Pg**	**22 27 19.1**	**-0.8**
KRLC				Sg	**Sg**	**22 27 36.6**	**-0.6**
DPC	**Dobruska-Polom**	**1.60**	**271**	*e*PG	**Pn**	**22 27 23.9**	**0.0**
DPC				*e*SG	**Sn**	**22 27 45.5**	**+0.2**
	comp=Z,6.1nm,0.4s						
DPC	**Dobruska-Polom**	**1.60**	**271**	Pg	**Pn**	**22 27 23.9**	**0.0**
DPC	**Dobruska-Polom**	**1.60**	**271**	*e*Pn	**Pn**	**22 27 24.5**	**+0.6**
	baz=89						
DPC				*e*Sg	**Sn**	**22 27 45.4**	**+0.2**
	baz=89						
KSP	**Ksiaz**	**1.69**	**288**	*e*Pg	**Pg**	**22 27 27.1**	**+0.6**
KSP				*e*Sg	**Sb**	**22 27 48.8**	**+0.9**
VRAC	**Vranov**	**1.78**	**235**	*e*Pn	**Pn**	**22 27 27.1**	**+0.8**
	baz=53						
VRAC				*e*Sg	**Sn**	**22 27 50.5**	**+0.9**
	4.1nm,0.3s,baz=53						
UPC	**Upice**	**1.81**	**276**	*e*SG	**Sb**	**22 27 52.0**	**+0.7**
UPC	**Upice**	**1.81**	**276**	Sg	**Sb**	**22 27 52.0**	**+0.7**
STHS	**Stebnicka Huta**	**1.82**	**120**	*e*PN	**Pg**	**22 27 29.1**	**0.0**
STHS				*e*SN	**Sg**	**22 27 54.1**	**+1.4**
STHS	**Stebnicka Huta**	**1.82**	**120**	*e*Pn	**Pg**	**22 27 29.1**	**0.0**
STHS				*e*Sn	**Sg**	**22 27 54.1**	**+1.4**
VYHS	**Vyhne**	**1.86**	**180**	*e*PN	**Pb**	**22 27 28.5**	**-0.5**
VYHS				*e*SN	**Sn**	**22 27 50.9**	**-0.5**
VYHS	**Vyhne**	**1.86**	**180**	*e*Pn	**Pb**	**22 27 28.5**	**-0.5**
VYHS				*e*Sn	**Sn**	**22 27 50.9**	**-0.5**
KRUC	**Moravsky**	**2.04**	**232**	*e*Pn	**Pn**	**22 27 30.9**	**+1.2**
	baz=50						
KRUC				*e*Sg	**Sb**	**22 27 58.2**	**+0.3**
	2.8nm,0.4s,baz=50						
PVCC	**Panska Ves**	**2.73**	**275**	*e*SG	**Sg**	**22 28 21.7**	**-0.1**
	comp=Z,6.5nm,0.4s						
PVCC	**Panska Ves**	**2.73**	**275**	Sg	**Sg**	**22 28 21.7**	**-0.1**
	6.5nm,0.4s						
PRU	**Pruhonice**	**2.78**	**264**	*e*SG	**Sb**	**22 28 21.1**	**+1.9**
PRU	**Pruhonice**	**2.78**	**264**	Sg	**Sb**	**22 28 21.1**	**+1.9**
KHC	**Kasperske Hory**	**3.61**	**252**	*e*SG	**Sg**	**22 28 48.8**	**-1.5**
KHC	**Kasperske Hory**	**3.61**	**252**	Sg	**Sg**	**22 28 48.8**	**-1.5**

IDC ***16*** *22:29:24.2±3.2, 22°.86S×170°.49E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=120.0km s-min=47.8km az=164.0*
NOU ***16*** *22:29:26.1±1.0, 20°.25S×170°.12E, h10km, MD3.6, ML3.1*

ISC 16 22:29:30.6±2.5, 22°.0S±0°.8×170°.3E±0°.2, h51km, n8, σ0s91/11, mb3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.21**	**266**	*e*P	**Pn**	**22 30 18.0**	**-0.7**
BAYA				*e*S	**Sn**	**22 30 56.7**	**+1.0**
DZM	**Mont Dzumac**	**3.62**	**267**	Pn	**Pn**	**22 30 24.6**	**+0.3**
	14nm,0.3s,baz=172,slow=22,SNR=107						
DZM				Sn	**Sn**	**22 31 07.1**	**+1.2**
	6.5nm,0.3s,baz=107,slow=24,SNR=7.6						
DZM	**Mont Dzumac**	**3.62**	**267**	*e*P	**Pn**	**22 30 23.5**	**-0.8**
DZM				*e*S	**Sn**	**22 31 04.9**	**-1.0**
DZM				AMP		22 31 08.3	
	comp=Z,394nm,2.6s						
NOUC	**Port Laguerre**	**3.75**	**267**	*e*P	**Pn**	**22 30 24.8**	**-1.2**
NOUC				*e*S	**Sn**	**22 31 09.2**	**+0.3**
NOUC				AMP		22 31 23.7	
	comp=Z,24nm,0.0s						
ASAR	**Alice Springs**	**33.58**	**260**	P	**P**	**22 36 06.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=82,slow=8.9,SNR=8.8						
WRA	**Warramunga Ar**	**33.64**	**267**	P	**P**	**22 36 06.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=8.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**80.55**	**294**	P	P	22 41 42.4	+4.4
	comp=Z,1.0nm,0.4s,baz=134,slow=5.2,SNR=7.1						
GERES	**GERESS Array B**	**147.35**	**331**	PKPbc	**PKPab**	**22 49 11.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=37,slow=6.9,SNR=3.9						

ISCJB ***16*** *22:40:03.2±0.5, 59°.73S±0°.09×26°.6W±0°.2, h26km, mb4.4/11, Error ellipse: s-maj=18.3km s-min=8.1km az=144.5*
NEIC ***16*** *22:40:05.4±0.4, 59°.78S×26°.52W, h35km, mb4.6/7, Error ellipse: s-maj=17.7km s-min=10.9km az=224.0*
IDC ***16*** *22:40:12.6±8.8, 59°.80S×26°.71W, h94km±77km, mb4.0/9, mb1 4.1/9, mb1mx4.0/14, mbtmp4.0/9, Error ellipse: s-maj=28.5km s-min=20.9km az=69.0*

ISC 16 22:40:04.9±0.5, 59°.7S±0°.1×26°.6W±0°.1, h26km, n40, σ1s05/38, mb4.5/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.32**	**153**	*e*P	**Pn**	**22 43 13.4**	**+1.5**
VNA1				*e*		22 45 31.5	
VNA3	**Neumayer Olymp**	**13.46**	**156**	*e*P	**Pn**	**22 43 15.3**	**+1.4**
VNA3				*e*		22 45 30.1	
VNA2	**Neumayer--Watz**	**13.72**	**153**	*e*P	**Pn**	**22 43 18.0**	**+0.6**
	baz=306,slow=16						
VNA2				*e*		22 45 33.5	
SNAA	**Sanae**	**15.31**	**151**	*e*P	**Pn**	**22 43 38.0**	**-0.9**
SNAA				*e*		22 46 14.1	
SNAA	**Sanae**	**15.31**	**151**	*e*Pn	**Pn**	**22 43 37.3**	**-1.6**
	11nm,0.5s						
SNAA				*e*Sn	Sn	22 46 13.5	-14
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**22 46 16.3**	**+0.5**
	0.5nm,0.4s,baz=82,slow=2.2,SNR=3.7						
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**22 46 16.3**	**+0.5**
TRQA	**Tornquist**	**31.20**	**298**	*e*P	**P**	**22 46 22.5**	**+0.8**
	5.4nm,0.7s						
PLCA	**Paso Flores**	**33.12**	**285**	P	**P**	**22 46 38.2**	**-0.3**
	1.8nm,0.7s,baz=172,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**33.12**	**285**	*e*P	**P**	**22 46 37.9**	**-0.6**
	10nm,1.3s						
CFAA	**Coronel Fontan**	**39.40**	**297**	P	**P**	**22 47 32.3**	**0.0**
	0.3nm,0.3s,baz=172,slow=7.2,SNR=8.5						
CFAA	**Coronel Fontan**	**39.40**	**297**	P	**P**	**22 47 32.3**	**0.0**
LCO	**Las Campanas**	**42.72**	**296**	*e*P	**P**	**22 48 00.1**	**+0.3**
	5.0nm,0.7s						
BDFB	**Brasilia**	**46.72**	**331**	P	**P**	**22 48 31.5**	**-0.1**
	3.4nm,0.5s,baz=170,slow=6.2,SNR=6.5						
BDFB	**Brasilia**	**46.72**	**331**	P	**P**	**22 48 31.5**	**-0.1**
LBTB	**Lobatse**	**49.87**	**70**	*e*P	**P**	**22 48 56.4**	**+0.6**
LPAZ	**La Paz**	**52.80**	**307**	P	**P**	**22 49 19.2**	**+0.8**
	3.5nm,0.4s,baz=116,slow=5.3,SNR=21						
LPAZ	**La Paz**	**52.80**	**307**	*e*P	**P**	**22 49 18.4**	**0.0**
	3.8nm,0.5s						
NNA	**Nana**	**60.33**	**300**	P	**P**	**22 50 12.5**	**+1.1**
	4.7nm,0.5s,baz=119,slow=19,SNR=3.4						
NNA	**Nana**	**60.33**	**300**	*e*P	**P**	**22 50 11.3**	**-0.1**
	4.5nm,0.5s						
DBIC	**Dimbokro**	**68.39**	**23**	P	**P**	**22 51 04.5**	**+0.6**
	0.9nm,0.3s,baz=199,slow=8.3,SNR=8.3						
DBIC	**Dimbokro**	**68.39**	**23**	*e*P	**P**	**22 51 04.4**	**+0.4**
	7.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.11**	**28**	P	**P**	**22 51 50.8**	**+0.8**
	7.8nm,0.3s,baz=199,slow=6.3,SNR=341						
TORD	**Torodi Ar. Bea**	**76.11**	**28**	P	**P**	**22 51 50.8**	**+0.8**
ASAR	**Alice Springs**	**95.40**	**162**	P	**P**	**22 53 25.6**	**-1.3**
	0.6nm,0.7s,baz=183,slow=4.4,SNR=9.7						
ASAR	**Alice Springs**	**95.40**	**162**	P	**P**	**22 53 25.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**123.43**	**112**	PKP	**PKPdf**	**22 58 58.5**	**-0.9**
	0.7nm,0.3s,baz=225,slow=3.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**123.43**	**112**	PKP	**PKPdf**	**22 58 58.5**	**-0.9**
FINES	**FINESS Array B**	**127.46**	**29**	PKP	**PKPdf**	**22 59 04.0**	**-1.6**
	1.3nm,0.5s,baz=128,slow=3.1,SNR=5.7						
FINES	**FINESS Array B**	**127.46**	**29**	PKP	**PKPdf**	**22 59 04.0**	**-1.6**
ARCES	**ARCESS Array B**	**134.22**	**23**	PKP	**PKPdf**	**22 59 17.0**	**-1.3**
	2.0nm,0.8s,baz=223,slow=2.1,SNR=12						
ARCES	**ARCESS Array B**	**134.22**	**23**	PKP	**PKPdf**	**22 59 17.0**	**-1.3**
YKA	**Yellowknife Ar**	**139.05**	**315**	PKP	**PKPdf**	**22 59 26.1**	**-1.3**
	0.3nm,0.3s,baz=127,slow=2.5,SNR=6.1						
YKA	**Yellowknife Ar**	**139.05**	**315**	PKP	**PKPdf**	**22 59 26.1**	**-1.3**
ZALV	**Zalesovo Beam**	**143.57**	**68**	PKP	PKPab	22 59 31.9	-0.4
	3.1nm,0.4s,baz=228,slow=4.0,SNR=24						
ZALV	**Zalesovo Beam**	**143.57**	**68**	PKP	PKPab	22 59 31.9	-0.4
INK	**Inuvik**	**148.77**	**317**	PKPbc	**PKPdf**	**22 59 46.0**	**+1.8**
	3.1nm,0.8s,baz=125,slow=3.5,SNR=8.3						
INK	**Inuvik**	**148.77**	**317**	PKPbc	**PKPdf**	**22 59 46.0**	**+1.8**
SONM	**Songino Array**	**150.44**	**92**	PKPbc	**PKPbc**	**22 59 52.3**	**-0.7**
	5.1nm,0.7s,baz=219,slow=3.4,SNR=43						
SONM	**Songino Array**	**150.44**	**92**	PKPbc	**PKPbc**	**22 59 52.3**	**-0.7**

SKO ***16*** *23:00:45.3, 38°.88N×20°.59E, h62km, M2.7, ML3.3*
ATH ***16*** *23:00:46.5, 39°.38N×20°.77E, h19km, ML3.3*
IDC ***16*** *23:00:47.4±1.0, 39°.44N×20°.94E, h19km±6km, mb3.6/3, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, ML3.8/3, Error ellipse: s-maj=21.4km s-min=17.6km az=153.0*
THE ***16*** *23:00:47.1, 39°.36N×20°.80E, h10km±1km, ML3.3/9, Error ellipse: s-maj=1.7km s-min=0.6km az=261.0*
CSEM ***16*** *23:00:47.2±0.1, 39°.34N×20°.74E, h10km, ML3.3, Error ellipse: s-maj=4.2km s-min=2.9km az=65.0*
ISCJB ***16*** *23:00:47.2±0.4, 39°.36N±0°.02×20°.70E±0°.03, h19km±4km, mb3.6/3, Error ellipse: s-maj=3.6km s-min=2.6km az=156.1*
BEO ***16*** *23:00:49.6±1.0, 39°.51N×20°.75E, h0km, ML3.2/4*

ISC 16 23:00:47.2±0.7, 39°.38N±0°.1×20°.77E±0°.02, h18km±4km, n139, σ1s25/185, mb3.6/3, 3C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.29**	**13**	*e*PB	**Pg**	**23 00 52.7**	**-0.8**
RGA	**Parga**	**0.33**	**260**	P	**Pg**	**23 00 54.1**	**-0.1**
RGA				S	**Sg**	**23 00 59.1**	**+0.2**
RGA	**Parga**	**0.33**	**260**	P	**Pg**	**23 00 54.1**	**-0.1**
RGA				S	**Sg**	**23 00 59.1**	**+0.2**
IGT	**Igoumenitsa**	**0.37**	**295**	P	**Pg**	**23 00 54.5**	**-0.5**
IGT				S	**Sb**	**23 01 01.2**	**+0.4**
IGT	**Igoumenitsa**	**0.37**	**295**	P	**Pg**	**23 00 54.5**	**-0.5**
IGT				S	**Sb**	**23 01 01.2**	**+0.4**
MEV	**Metsovon**	**0.54**	**41**	P	**Pg**	**23 00 57.5**	**-0.6**
MEV	**Metsovon**	**0.54**	**41**	P	**Pg**	**23 00 57.5**	**-0.6**
LKD2	**Lefkada island**	**0.59**	**189**	P	**Pg**	**23 00 58.0**	**-1.0**
LKD2				S	**Sg**	**23 01 06.6**	**-0.3**
LKD2	**Lefkada island**	**0.59**	**189**	*e*PN	**Pg**	**23 00 58.2**	**-0.8**
LKD2				*e*SN	**Sg**	**23 01 07.1**	**+0.2**
LKD2	**Lefkada island**	**0.59**	**189**	P	**Pg**	**23 00 58.0**	**-1.0**
LKD2				S	**Sg**	**23 01 06.6**	**-0.3**
LKD2				*e*Sn	**Sg**	**23 01 07.1**	**+0.2**
KEK	**Kerkira**	**0.82**	**294**	*e*PN	**Pb**	**23 01 02.3**	**-0.7**
KEK	**Kerkira**	**0.82**	**294**	*e*Pn	**Pb**	**23 01 02.3**	**-0.7**
EVR	**Evrytania**	**0.93**	**119**	*e*PB	**Pb**	**23 01 03.8**	**-1.0**
EVR				*e*SN	**Sg**	**23 01 17.8**	**+0.3**
THL	**Klokotos Trika**	**0.98**	**79**	*e*PB	**Pb**	**23 01 04.6**	**-1.0**
NEST	**Nestorio**	**1.06**	**12**	P	**Pb**	**23 01 06.2**	**-0.9**
NEST				S	**Sg**	**23 01 23.4**	**+1.7**
NEST	**Nestorio**	**1.06**	**12**	P	**Pb**	**23 01 06.2**	**-0.9**
NEST				S	**Sg**	**23 01 23.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.12**	**108**	P	**Pn**	**23 01 07.0**	**-1.0**
MAKR				S	**Sg**	**23 01 24.3**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.12**	**108**	P	**Pn**	**23 01 07.0**	**-1.0**
MAKR				S	**Sg**	**23 01 24.3**	**+0.8**
VLS	**Valsamata**	**1.21**	**187**	*e*PN	**Pn**	**23 01 09.4**	**+0.2**
VLS	**Valsamata**	**1.21**	**187**	*e*Pn	**Pn**	**23 01 09.4**	**+0.2**
KZN	**Kozani**	**1.21**	**39**	*e*PN	**Pn**	**23 01 09.1**	**-0.2**
KZN	**Kozani**	**1.21**	**39**	*e*Pn	**Pn**	**23 01 09.1**	**-0.2**
KFL	**Anninata**	**1.27**	**179**	P	**Pn**	**23 01 10.2**	**+0.2**
KFL				S	**Sg**	**23 01 29.3**	**+1.2**
KFL	**Anninata**	**1.27**	**179**	P	**Pn**	**23 01 10.2**	**+0.2**
KFL				S	**Sg**	**23 01 29.3**	**+1.2**
EFP	**Efpalio**	**1.30**	**137**	P	**Pn**	**23 01 10.6**	**+0.2**
EFP				S	**Sg**	**23 01 29.6**	**+0.5**
EFP	**Efpalio**	**1.30**	**137**	*e*PN	**Pb**	**23 01 11.2**	**+0.2**
EFP				*e*SN	**Sg**	**23 01 29.4**	**+0.3**
EFP	**Efpalio**	**1.30**	**137**	P	**Pn**	**23 01 10.6**	**+0.2**
EFP	**Efpalio**	**1.30**	**137**	*e*Pn	**Pb**	**23 01 11.2**	**+0.2**
EFP				*e*Sn	**Sg**	**23 01 29.4**	**+0.3**
UPR	**University Cam**	**1.35**	**144**	*e*PN	**Pb**	**23 01 12.2**	**+0.3**
UPR				*e*SN	**Sg**	**23 01 31.0**	**+0.2**
UPR	**University Cam**	**1.35**	**144**	*e*Pn	**Pb**	**23 01 12.2**	**+0.3**
UPR				*e*Sn	**Sg**	**23 01 31.0**	**+0.2**
RLS	**Riolos of Patr**	**1.43**	**157**	*e*PN	**Pb**	**23 01 13.3**	**+0.1**
RLS	**Riolos of Patr**	**1.43**	**157**	*e*Pn	**Pb**	**23 01 13.3**	**+0.1**
TRIZ	**Trizonia**	**1.43**	**134**	P	**Pn**	**23 01 13.0**	**+0.7**
TRIZ	**Trizonia**	**1.43**	**134**	P	**Pn**	**23 01 13.0**	**+0.7**
KALE	**Kalithea**	**1.45**	**132**	P	**Pn**	**23 01 12.8**	**+0.2**
KALE	**Kalithea**	**1.45**	**132**	P	**Pn**	**23 01 12.8**	**+0.2**
LAKA	**Lakka**	**1.48**	**140**	P	**Pb**	**23 01 14.2**	**+0.1**
LAKA	**Lakka**	**1.48**	**140**	P	**Pb**	**23 01 14.2**	**+0.1**
FNA	**Florina**	**1.48**	**18**	P	**Pb**	**23 01 14.7**	**+0.5**
FNA				S	**Sg**	**23 01 35.2**	**+0.2**
FNA	**Florina**	**1.48**	**18**	P	**Pb**	**23 01 14.7**	**+0.5**
FNA				S	**Sg**	**23 01 35.2**	**+0.2**
LIT	**Litokhoron**	**1.51**	**61**	P	**Pn**	**23 01 14.0**	**+0.6**
LIT				S	**Sg**	**23 01 35.3**	**-0.7**
LIT	**Litokhoron**	**1.51**	**61**	*e*PN	**Pn**	**23 01 14.0**	**+0.6**
LIT				*e*SN	**Sg**	**23 01 35.4**	**-0.6**
LIT	**Litokhoron**	**1.51**	**61**	P	**Pn**	**23 01 14.0**	**+0.6**
LIT				*e*Sn	**Sg**	**23 01 35.4**	**-0.6**
DSF	**Desfina**	**1.68**	**125**	P	**Pn**	**23 01 16.0**	**+0.3**
DSF	**Desfina**	**1.68**	**125**	P	**Pn**	**23 01 16.0**	**+0.3**
BIA	**Bitola**	**1.69**	**14**	*e*Pn	**Pg**	**23 01 19.3**	**-0.5**
BIA				*i* Sn	**Sg**	**23 01 43.0**	**+1.2**
BIA	**Bitola**	**1.69**	**14**	*e*Pn	**Pg**	**23 01 19.2**	**-0.5**
BIA				*i* Sn	**Sg**	**23 01 43.0**	**+1.2**
XOR	**Xorichti**	**1.88**	**90**	P	**Pb**	**23 01 20.1**	**-0.8**
XOR				S	**Sb**	**23 01 45.0**	**+0.9**
XOR	**Xorichti**	**1.88**	**90**	P	**Pb**	**23 01 20.1**	**-0.8**
XOR				S	**Sb**	**23 01 45.0**	**+0.9**
ATAL	**Atalanti**	**1.88**	**111**	P	**Pb**	**23 01 20.0**	**-1.0**
ATAL				S	**Sb**	**23 01 44.0**	**-0.2**
ATAL	**Atalanti**	**1.88**	**111**	P	**Pb**	**23 01 20.0**	**-1.0**
ATAL				S	**Sb**	**23 01 44.0**	**-0.2**
LKR	**Lokris**	**1.88**	**112**	*e*PN	**Pb**	**23 01 20.0**	**-1.0**
LKR	**Lokris**	**1.88**	**112**	*e*Pn	**Pb**	**23 01 20.0**	**-1.0**
GUR	**Goura**	**1.89**	**139**	*e*PN	**Pb**	**23 01 21.0**	**-0.3**
GUR	**Goura**	**1.89**	**139**	*e*Pn	**Pb**	**23 01 21.0**	**-0.3**
GRG	**Griva**	**2.01**	**38**	P	**Pb**	**23 01 22.1**	**-1.2**
GRG	**Griva**	**2.01**	**38**	P	**Pb**	**23 01 22.1**	**-1.2**
THE	**Thessaloniki**	**2.10**	**53**	P	**Pb**	**23 01 23.3**	**-1.4**
THE	**Thessaloniki**	**2.10**	**53**	P	**Pb**	**23 01 23.3**	**-1.4**
LTK	**Loutraki**	**2.19**	**127**	P	**Pn**	**23 01 24.3**	**+1.6**
LTK	**Loutraki**	**2.19**	**127**	*e*PN	**Pn**	**23 01 24.2**	**+1.6**
LTK	**Loutraki**	**2.19**	**127**	*e*Pn	**Pn**	**23 01 24.2**	**+1.6**
PLG	**Polygyros**	**2.29**	**63**	*e*PN	**Pn**	**23 01 24.4**	**+0.3**
PLG	**Polygyros**	**2.29**	**63**	*e*Pn	**Pn**	**23 01 24.4**	**+0.3**
MRKA	**Markates**	**2.29**	**106**	P	**Pn**	**23 01 25.2**	**+1.1**
MRKA	**Markates**	**2.29**	**106**	P	**Pn**	**23 01 25.2**	**+1.1**
VLX	**Vlachokerasia**	**2.37**	**147**	*e*PB	**Pn**	**23 01 27.0**	**+1.8**
VLX	**Vlachokerasia**	**2.37**	**147**	*e*Pb	**Pn**	**23 01 27.0**	**+1.8**
ITM	**Ithomi**	**2.37**	**157**	*e*PB	**Pn**	**23 01 27.0**	**+1.8**
ITM	**Ithomi**	**2.37**	**157**	*e*Pb	**Pn**	**23 01 27.0**	**+1.8**
VAY	**Valandovo**	**2.38**	**35**	*e*Pn	**Pn**	**23 01 26.9**	**+1.6**
VAY				*i* Sn	**Sb**	**23 01 57.2**	**-1.3**
VAY				eLg	Lg	23 01 58.6	
	comp=E,50nm,0.5s						
VAY				eLg	Lg	23 02 01.8	
	comp=N,46nm,0.7s						
VAY	**Valandovo**	**2.38**	**35**	*e*Pn	**Pb**	**23 01 28.1**	**-1.4**
VAY	**Valandovo**	**2.38**	**35**	*e*Pn	**Pn**	**23 01 27.4**	**+2.1**
VAY				*i* Sn	**Sb**	**23 01 57.7**	**-0.8**
VAY				eLg	Lg	23 02 01.3	
	comp=N,46nm,0.7s						
SOH	**Sokhos**	**2.45**	**53**	P	**Pn**	**23 01 28.0**	**+1.7**
SOH	**Sokhos**	**2.45**	**53**	*e*PB	**Pn**	**23 01 28.6**	**+2.3**
SOH	**Sokhos**	**2.45**	**53**	P	**Pn**	**23 01 28.0**	**+1.7**
SOH	**Sokhos**	**2.45**	**53**	*e*Pb	**Pn**	**23 01 28.6**	**+2.3**
ERET	**Eretria**	**2.54**	**111**	P	**Pn**	**23 01 29.4**	**+1.7**
ERET	**Eretria**	**2.54**	**111**	P	**Pn**	**23 01 29.4**	**+1.7**
PYL	**PYLOS**	**2.59**	**163**	P	**Pn**	**23 01 29.3**	**+1.1**
PYL	**PYLOS**	**2.59**	**163**	P	**Pn**	**23 01 29.3**	**+1.1**
SKO	**Skopje**	**2.64**	**11**	*e*Pn	**Pb**	**23 01 32.7**	**-1.3**
SKO				*e*Sn	**Sn**	**23 02 03.4**	**+2.9**
SKO				eLg	Lg	23 02 12.1	
	comp=E,62nm,0.6s						
SKO				eLg	Lg	23 02 12.1	
	comp=N,63nm,0.5s						
SKO	**Skopje**	**2.64**	**11**	*e*Pn	**Pb**	**23 01 33.1**	**-0.9**
SKO				*e*Sn	**Sn**	**23 02 01.9**	**+1.4**
SKO				eLg	Lg	23 02 12.5	
	comp=N,63nm,0.5s						
OUR	**Ouranopolis**	**2.65**	**68**	P	**Pn**	**23 01 29.7**	**+0.7**
OUR	**Ouranopolis**	**2.65**	**68**	P	**Pn**	**23 01 29.7**	**+0.7**
NAIG	**Nisos Aigina**	**2.67**	**126**	*e*PN	**Pn**	**23 01 31.0**	**+1.7**
NAIG	**Nisos Aigina**	**2.67**	**126**	*e*Pn	**Pn**	**23 01 31.0**	**+1.7**
DID	**Didima**	**2.69**	**133**	P	**Pn**	**23 01 30.7**	**+1.2**
DID				S	**Sb**	**23 02 05.1**	**-2.4**
DID	**Didima**	**2.69**	**133**	*e*PN	**Pn**	**23 01 30.8**	**+1.2**
DID				*e*SN	**Sn**	**23 02 03.7**	**+2.0**
DID	**Didima**	**2.69**	**133**	*e*Pn	**Pn**	**23 01

comp=Z,31nm,0.7s
PLUM Mont Dore 3.49 273 *e*P **Pn** **23 03 49.7 -2.6**
PLUM *e*S **Sn** **23 04 32.0 -0.4**
PLUM AMP 23 04 33.8
comp=Z,305nm,4.0s
NORM Noumea 3.64 274 *e*P **Pn** **23 03 51.9 -2.5**
NORM *e*S **Sn** **23 04 33.7 -2.3**
NORM AMP 23 04 45.1
comp=Z,240nm,2.4s
DZM Mont Dzumac 3.69 276 Pn **Pn** **23 03 53.9 -1.3**
comp=Z,25nm,0.3s,baz=124,slow=13,SNR=199
DZM Sn **Sn** **23 04 36.9 -0.6**
comp=Z,17nm,0.3s,baz=72,slow=21,SNR=8.0
DZM Mont Dzumac 3.69 276 *e*P Pn 23 03 51.9 -3.3
DZM *e*S **Sn** **23 04 35.8 -1.7**
DZM AMP 23 04 44.0
comp=Z,3µm,4.8s
DZM Mont Dzumac 3.69 276 *e*Pn **Pn** **23 03 52.7 -2.6**
DZM *e*Sn **Sn** **23 04 36.2 -1.3**
NOUC Port Laguerre 3.82 275 *e*P **Pn** **23 03 53.9 -2.9**
NOUC *e*S **Sn** **23 04 38.9 -1.5**
NOUC AMP 23 04 47.0
comp=Z,160nm,5.9s
MSVF Nonsavu 8.61 58 *e*P **Pn** **23 05 04.6 +1.9**
MSVF Nonsavu 8.61 58 *e*Pn **Pn** **23 05 04.6 +1.9**
HNR Honiara 16.41 321 *e*P **P** **23 06 50.8 +0.9**
HNR pmax pmax
comp=Z,572nm,1.2s
HNR Honiara 16.41 321 *e*P **P** **23 06 50.8 +0.9**
comp=Z,572nm,1.2s
HNR *e*S **S** **23 10 00.9 +1.7**
URZ Urewera 16.73 161 P **Pn** **23 06 51.7 +0.1**
comp=Z,25nm,1.1s
EIDS Eidsvold 17.89 257 *e*P **P** **23 07 08.0 +1.8**
comp=Z,50nm,1.2s
AFI Afiamalu 18.95 66 P **P** **23 07 16.6 -1.4**
comp=Z,2.2nm,0.3s,baz=141,slow=6.5,SNR=2.6
AFI Afiamalu 18.95 66 P **P** **23 07 16.6 -1.4**
AFI Afiamalu 18.95 66 P **P** **23 07 16.6 -1.4**
RPZ Rata Peaks 21.17 179 LR LR 23 14 59.6
comp=Z,548nm,19.0s,baz=19,slow=34
CTA Charters Tower 22.62 272 P **P** **23 07 58.3 +0.7**
comp=Z,3.2nm,0.6s,baz=95,slow=11,SNR=3.6
CTA LR LR 23 15 29.2
comp=Z,416nm,19.8s,baz=281,slow=33
CTA Charters Tower 22.62 272 *e*P **P** **23 07 58.2 +0.6**
comp=Z,11nm,1.0s
CTA *e*S **S** **23 12 08.2 +5.9**
CTA Charters Tower 22.62 272 P **P** **23 07 58.3 +0.7**
CTA Charters Tower 22.62 272 P **P** **23 07 58.3 +0.7**
CTAO Charters Tower 22.62 272 *e*P **P** **23 07 57.9 +0.3**
CTAO *e*S **S** **23 12 03.4 +1.1**
CTAO pmax pmax
comp=Z,29nm,1.3s
CTAO Charters Tower 22.62 272 *e*P **P** **23 07 57.9 +0.3**
comp=Z,29nm,1.3s
CTAO *e*S **S** **23 12 03.4 +1.1**
PMG Port Moresby 25.81 297 P **P** **23 08 27.9 +0.4**
comp=Z,11nm,0.9s,baz=114,slow=7.2,SNR=5.7
PMG Port Moresby 25.81 297 *e*P **P** **23 08 27.9 +0.4**
PMG pmax pmax
comp=Z,32nm,1.0s
PMG Port Moresby 25.81 297 *d iP* **P** **23 08 28.0 +0.4**
PMG pmax pmax
comp=Z,24nm,1.7s
PMG Port Moresby 25.81 297 *e*P **P** **23 08 27.9 +0.4**
comp=Z,32nm,1.0s
COEN Coen 27.18 284 *e*P **P** **23 08 41.2 +1.3**
comp=Z,159nm,1.3s
STKA Stephens Creek 27.20 244 P **P** **23 08 40.4 +0.5**
comp=Z,5.8nm,0.8s,baz=82,slow=7.9,SNR=7.4
STKA LR LR 23 18 48.1
comp=Z,378nm,18.9s,baz=204,slow=35
STKA Stephens Creek 27.20 244 *e*P **P** **23 08 40.5 +0.5**
comp=Z,4.9nm,0.8s
STKA Stephens Creek 27.20 244 *e*P **P** **23 08 39.8 -0.2**
STKA pmax pmax
comp=Z,4.0nm,1.1s
STKA Stephens Creek 27.20 244 *e*P **P** **23 08 39.8 -0.2**
comp=Z,3.7nm,1.1s
BBOO Buckleboo 31.98 244 *e*P **P** **23 09 24.1 +1.7**
comp=Z,253nm,0.9s
AS31 Alice Springs 33.54 261 *e*P **P** **23 09 35.1 -0.9**
ASAR Alice Springs 33.54 261 P **P** **23 09 35.5 -0.6**
comp=Z,5.9nm,1.0s,baz=88,slow=8.3,SNR=32
ASAR Alice Springs 33.54 261 P **P** **23 09 35.5 -0.6**
ASAR Alice Springs 33.54 261 P **P** **23 09 35.5 -0.6**
WRAB Tennant Creek 33.66 268 *e*P **P** **23 09 35.5 -1.6**
WRAB pmax pmax
comp=Z,16nm,1.4s
WRAB Tennant Creek 33.66 268 *e*P **P** **23 09 35.5 -1.6**
comp=Z,16nm,1.4s
WRA Warramunga Arr 33.66 267 P **P** **23 09 35.7 -1.4**
comp=Z,1.2nm,0.5s,baz=98,slow=8.3,SNR=17
WRA LR LR 23 22 38.5
comp=Z,331nm,20.9s,baz=95,slow=35
WRA Warramunga Arr 33.66 267 P **P** **23 09 35.7 -1.4**
WRA Warramunga Arr 33.66 267 P **P** **23 09 35.7 -1.4**
FITZ Fitzroy Crossi 42.09 268 *e*P **P** **23 10 48.5 +0.2**
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 42.09 268 *e*P **P** **23 10 48.2 -0.1**
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 66.13 332 P **P** **23 13 41.6 -1.4**
comp=Z,5.5nm,0.9s,baz=171,slow=7.2,SNR=9.3
MJAR Matsushiro Arr 66.13 332 P **P** **23 13 41.6 -1.4**
MJAR Matsushiro Arr 66.13 332 P **P** **23 13 41.6 -1.4**
QSPA South Pole Qui 67.57 180 P **P** **23 13 52.0 0.0**
comp=Z,4.3nm,0.9s,baz=347,slow=3.7,SNR=7.9
QSPA South Pole Qui 67.57 180 P **P** **23 13 52.0 0.0**
KSRS Korea Array 71.80 326 P **P** **23 14 18.6 +0.5**
comp=Z,4.7nm,0.8s,baz=143,slow=6.1,SNR=19
KSAR Wonju Array Be 71.81 326 P **P** **23 14 18.7 +0.5**
KSAR Wonju Array Be 71.81 326 P **P** **23 14 18.6 +0.5**
QIZ Qiongzhong 72.14 300 P **P** **23 14 21.3 +0.7**
QIZ pP pP 23 14 42.4 +8.1
QIZ S **S** **23 23 39.4 -0.3**
QIZ pmax pmax
comp=Z,26nm,1.9s
USRK Ussuriysk Arra 75.11 332 P **P** **23 14 38.5 +1.1**
comp=Z,4.2nm,0.8s,baz=139,slow=4.0,SNR=6.6
MAW Mawson 75.84 202 LR LR 23 45 32.9
comp=Z,97nm,19.2s,baz=338,slow=34
PETK Petropavlovsk- 76.09 352 P **P** **23 14 43.2 +0.4**
comp=Z,6.4nm,0.9s,baz=179,slow=5.9,SNR=4.1
PETK LR LR 23 41 49.7
comp=Z,194nm,20.4s,baz=134,slow=31
PETK Petropavlovsk- 76.09 352 P **P** **23 14 43.3 +0.4**
PETK Petropavlovsk- 76.09 352 P **P** **23 14 43.2 +0.4**
CN2 Changchun 77.79 328 *e*P **P** **23 14 52.8 +0.1**
CN2 *ep*P pP 23 15 13.0 +6.5
CN2 *e*S **S** **23 24 40.5 -1.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,20.0s
GYA Guiyang 78.57 305 P **P** **23 14 59.0 +1.5**
GYA pP **pP** **23 15 13.8 +2.4**
GYA PP **PP** **23 17 59.4 +3.4**
GYA S **S** **23 24 50.0 -0.9**
GYA SKS **SKSac** **23 25 04.3 -4.7**
GYA SS **SS** **23 29 57.3 +1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,500nm,19.0s
GYA LR LR
comp=E,460nm,20.2s
GYA LR LR
comp=Z,490nm,18.9s
ENH Enshi 78.58 310 *e*P **P** **23 14 57.5 +0.1**
comp=Z,5.9nm,0.3s
KLR Kul'dur 79.27 335 *e*P P 23 14 56.8 -3.9
BJI Beijing 80.14 321 P **P** **23 15 07.3 +1.7**
BJI S **S** **23 25 08.0 +1.2**
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJI pmax pmax
comp=Z,160nm,6.5s
BJI LR LR
comp=N,370nm,16.9s
BJI LR LR
comp=E,290nm,13.1s
BJI LR LR
comp=Z,160nm,17.9s
CMAR Chiang Mai Arr 80.83 294 P **P** **23 15 11.6 +1.8**
comp=Z,7.4nm,1.0s,baz=138,slow=3.9,SNR=33
CMAR Chiang Mai Arr 80.83 294 P **P** **23 15 11.6 +1.8**
CMAR Chiang Mai Arr 80.83 294 P **P** **23 15 11.6 +1.8**
KMI Kunming 80.91 302 P **P** **23 15 12.3 +1.9**
KMI PP **PP** **23 18 19.8 +4.1**
KMI S **S** **23 25 13.0 -3.0**
KMI SS **SS** **23 30 33.0 +1.8**
KMI pmax pmax
comp=Z,23nm,1.2s
KMI pmax pmax
comp=Z,230nm,5.2s
KMI LR LR
comp=N,120nm,20.0s
KMI LR LR
comp=E,280nm,21.6s
KMI LR LR
comp=Z,190nm,17.6s
CHTO Chiang Mai 80.99 295 *e*P **P** **23 15 11.9 +1.2**
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO Chiang Mai 80.99 295 *e*P **P** **23 15 11.9 +1.2**
comp=Z,19nm,1.1s
XAN Xi'an 81.10 312 P **P** **23 15 11.8 +0.8**
XAN pmax pmax
comp=Z,3.0nm,1.5s
XAN pmax pmax
comp=Z,35nm,6.6s
SYO Syowa Base 82.12 196⇑ *ep*P pP 23 15 31.4 +1.7
CD2 Chengdu 83.07 307 P **P** **23 15 22.8 +1.4**
CD2 PP **PP** **23 18 37.8 +4.6**
CD2 S **S** **23 25 35.0 -2.6**
CD2 SS **SS** **23 31 05.1 +2.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,210nm,4.8s
CD2 LR LR
comp=N,350nm,6.5s
CD2 LR LR
comp=Z,250nm,6.6s
HHC Hu-ho-hao-te 83.39 319 *e*P **P** **23 15 23.4 +0.5**
HHC pP pP 23 15 44.1 +7.2
HHC PP **PP** **23 18 40.1 +4.5**
HHC S **S** **23 25 38.8 -1.7**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,340nm,5.8s
HHC LR LR
comp=N,220nm,17.8s
HHC LR LR
comp=E,190nm,15.5s
HHC LR LR
comp=Z,320nm,15.5s
LZH Lanzhou 85.70 312 *e*P **P** **23 15 36.9 +2.1**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,90nm,4.2s
SNAA Sanae 85.96 182 *e* P 23 15 31.1 -4.3
SNAA Sanae 85.96 182 *e*P P 23 15 31.8 -3.6
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 85.96 182 *e*P P 23 15 31.8 -3.6
comp=Z,5.6nm,1.0s
SEY Seymchan 86.33 352‖ *e*P **P** **23 15 36.1 -0.9**
VNA3 Neumayer Olymp 86.51 180 *e* **P** **23 15 37.9 -0.2**
VNA2 Neumayer--Watz 86.82 181 *e* **P** **23 15 37.9 -1.6**
CLNS Chul'man 87.80 337 *e*P **P** **23 15 44.0 -0.3**
CLNS *e**PP **PcP** **23 15 49.7 +3.5**
CLNS *e* 23 19 07.4
CLNS *e*S **SKSac** **23 26 06.8 -1.5**
CLNS *e* 23 27 47.0
CLNS pmax pmax
comp=Z,13nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.5s
CLNS pmax pmax
comp=Z,2.0nm,0.5s
CLNS smax smax
comp=N,262nm,13.0s
CLNS smax smax
comp=E,145nm,18.2s
GTA Gaotai 90.14 313 *e*P **P** **23 15 56.9 +1.0**
GTA pP pP 23 16 17.6 +7.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 90.15 48 P **P** **23 15 55.1 -0.9**
comp=Z,1.5nm,0.8s,baz=227,slow=7.9,SNR=9.5
NVAR LR LR 23 50 47.2
comp=Z,270nm,18.1s,baz=116,slow=32
NVAR Mina Array Bea 90.15 48 P **P** **23 15 55.1 -0.9**
YAK Yakutsk 90.29 342 *e*P **P** **23 15 53.5 -2.3**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=N,2.0nm,1.4s
BILL Bilibino 90.32 358 *e*P **P** **23 15 53.9 -2.0**
BILL pmax pmax
comp=Z,22nm,1.7s
SONM Songino Array 90.46 323 P **P** **23 15 56.7 -0.5**
comp=Z,5.7nm,1.0s,baz=136,slow=4.6,SNR=25
SONM Songino Array 90.46 323 P **P** **23 15 56.7 -0.5**
SONM Songino Array 90.46 323 P **P** **23 15 56.7 -0.5**
LSA Lhasa 92.15 301 P **P** **23 16 03.8 -2.1**
LSA Lhasa 92.15 301 *e*P **P** **23 16 05.1 -0.7**
LSA pmax pmax
comp=Z,7.0nm,1.1s
LSA Lhasa 92.15 301 *e*P **P** **23 16 05.1 -0.7**
comp=Z,6.5nm,1.1s
BOD Bodaibo 92.72 333 *e*P **P** **23 16 06.1 -1.1**
BOD pmax pmax
comp=Z,4.0nm,1.4s
ILAR Eielson Array 93.01 17 P **P** **23 16 06.5 -1.9**
comp=Z,2.3nm,1.1s,baz=237,slow=5.6,SNR=6.4
ILAR LR LR 23 54 34.6
comp=Z,207nm,20.3s,baz=148,slow=33
ILAR Eielson Array 93.01 17 P **P** **23 16 06.5 -1.9**
ILAR Eielson Array 93.01 17 P **P** **23 16 06.5 -1.9**
ZAK Zakamensk 93.56 324 *e*P P 23 16 08.0 -3.4
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 94.04 325 *e*P **P** **23 16 12.5 -1.0**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 97.36 61 LR LR 23 50 22.0
comp=Z,164nm,19.4s,baz=180,slow=29
PDAR Pinedale Array 98.03 47 LR LR 23 51 19.4
comp=Z,134nm,21.5s,baz=126,slow=30
AKTO Aktyubinsk 121.18 316 PKP **PKPdf** **23 21 47.5 -0.5**
comp=Z,1.9nm,0.7s,baz=121,slow=7.3,SNR=4.5
AKTO Aktyubinsk 121.18 316 PKIKP **PKPdf** **23 21 47.5 -0.5**
AKTO Aktyubinsk 121.18 316 PKP **PKPdf** **23 21 47.5 -0.5**
FRB Frobisher Bay 123.57 27 PKP **PKPdf** **23 21 50.9 -1.2**
comp=Z,6.6nm,1.0s,baz=293,slow=4.1,SNR=5.9
FRB Frobisher Bay 123.57 27 PKIKP **PKPdf** **23 21 50.9 -1.2**
FRB Frobisher Bay 123.57 27 PKP **PKPdf** **23 21 50.9 -1.2**
ARCES ARCESS Array B 128.48 345 PKP **PKPdf** **23 22 01.2 -0.3**
comp=Z,2.7nm,0.8s,baz=107,slow=2.9,SNR=3.8
ARCES ARCESS Array B 128.48 345 PKIKP **PKPdf** **23 22 01.2 -0.3**
ARCES ARCESS Array B 128.48 345 PKP **PKPdf** **23 22 01.2 -0.3**
EIL Elat 139.55 290 PKP **PKPdf** **23 22 25.4 +2.1**
comp=Z,4.2nm,1.1s,baz=104,slow=4.8,SNR=3.5
EIL Elat 139.55 290 PKP **PKPdf** **23 22 25.4 +2.1**
BRTR Keskin Array B 139.62 305 PKP **PKPdf** **23 22 25.1 +1.8**
comp=Z,1.7nm,1.1s,baz=108,slow=4.0,SNR=4.2
BRTR Keskin Array B 139.62 305 PKIKP **PKPdf** **23 22 25.2 +1.8**
BRTR Keskin Array B 139.62 305 PKP **PKPdf** **23 22 25.1 +1.8**
KOLS Kolonicke sedl 143.51 324 *e*PKIKP **PKPdf** **23 22 29.9 0.0**
KOLS Kolonicke sedl 143.51 324 *e*PKP **PKPdf** **23 22 29.9 0.0**
UZH Uzhgorod 143.67 324 *e*PKIKP PKPbc 23 22 27.6 -0.1
UZH *e* 23 22 33.2
UZH *e* 23 22 42.4
VOIR 143.69 317 ‖PKIKP **PKPdf** **23 22 33.9 +3.5**
VOIR 143.69 317 ‖*iP* **PKPdf** **23 22 33.9 +3.5**
VOIR 143.69 317 ‖*iP* **PKPdf** **23 22 35.5 +5.1**
TRPA Tarpa 143.81 323⇑ *iP* **PKPdf** **23 22 29.6 -0.8**
TRPA Tarpa 143.81 323‖ *e*PKPdf PKPbc 23 22 28.1 0.0
CRVS Cervenica-Dubn 143.96 325 *e*PKIKP PKPbc 23 22 29.2 +0.6
CRVS Cervenica-Dubn 143.96 325 *e*PKP PKPbc 23 22 29.2 +0.6
DRGR 144.44 321 ‖PKIKP PKPbc 23 22 30.7 +0.5
DRGR 144.44 321 ‖*iP* PKPbc 23 22 30.7 +0.5
OKC Ostrava-Krasne 145.07 328 *e*PKIKP **PKPab** **23 22 32.1 0.0**
OKC Ostrava-Krasne 145.07 328 *e*PKP **PKPab** **23 22 32.1 0.0**
GZR Gura Zlata 145.12 319 ‖PKHKP **PKPbc** **23 22 32.6 +0.2**
GZR Gura Zlata 145.12 319 ‖*iP* **PKPbc** **23 22 32.6 +0.2**
KSP Ksiaz 145.25 331 *e*PKP **PKPab** **23 22 32.7 0.0**
KSP Ksiaz 145.25 331 *e*PKIKP **PKPab** **23 22 32.8 0.0**
KSP *i* 23 22 38.2
PSZ Piszkesteto 145.39 324 ‖PKIKP **PKPab** **23 22 34.0 +0.6**
PSZ Piszkesteto 145.39 324 *e*PKPbc **PKPdf** **23 22 33.3 +0.1**
PSZ Piszkesteto 145.39 324 ‖*iP* **PKPab** **23 22 34.0 +0.6**
PSZ Piszkesteto 145.39 324‖ *e*PKPbc **PKPab** **23 22 33.8 +0.4**
MORC Moravsky Berou 145.41 329⇑ PKIKP **PKPab** **23 22 33.8 +0.4**
MORC Moravsky Berou 145.41 329 *e*PKPbc **PKPab** **23 22 33.7 +0.3**
MORC Moravsky Berou 145.41 329⇑ *iP* **PKPab** **23 22 33.8 +0.4**
KRLC Kraliky 145.57 330 *e*PKP **PKPbc** **23 22 33.7 0.0**
DPC Dobruska-Polom 145.59 330 *e*PKIKP **PKPab** **23 22 34.2 +0.1**
DPC *e* 23 22 40.1
DPC Dobruska-Polom 145.59 330 *e*PKP **PKPab** **23 22 34.2 +0.1**
DPC *ex* x 23 22 40.1
VYHS Vyhne 145.59 326 *e*PKIKP **PKPdf** **23 22 33.6 +0.1**
VYHS Vyhne 145.59 326 *e*PKP **PKPdf** **23 22 33.6 +0.1**
UPC Upice 145.62 331 *e*PKIKP **PKPab** **23 22 34.0 -0.1**
UPC *e* 23 22 39.0
UPC Upice 145.62 331 *e*PKP **PKPab** **23 22 34.0 -0.1**
UPC *ex* x 23 22 39.0
BZS Buzias 145.70 320 ‖PKIKP **PKPab** **23 22 34.6 0.0**
BZS Buzias 145.70 320 ‖*iP* **PKPab** **23 22 34.6 0.0**
BUD Budapest 146.12 324‖ *e*PKPdf **PKPab** **23 22 35.9 -0.2**
VRAC Vranov 146.18 329 PKPbc **PKPab** **23 22 36.2 -0.1**
comp=Z,12nm,1.1s,baz=49,slow=5.2,SNR=9.3
VRAC Vranov 146.18 329⇑ PKIKP **PKPab** **23 22 37.1 +0.8**
VRAC Vranov 146.18 329 PKPbc **PKPab** **23 22 36.2 -0.1**
VRAC Vranov 146.18 329⇑ *iP* **PKPab** **23 22 37.1 +0.8**
PVCC Panska Ves 146.24 332 *e*PKP2 **PKPbc** **23 22 35.9 +0.2**
PVCC Panska Ves 146.24 332 *e*PKP **PKPbc** **23 22 35.9 +0.2**
BRG Berggiesshubel 146.26 333 *e*PKP **PKPbc** **23 22 36.0 +0.3**
comp=Z,27nm,1.1s
BRG Berggiesshubel 146.26 333 *e*PKPbc **PKPbc** **23 22 36.0 +0.3**
BRG Berggiesshubel 146.26 333 *e*PKP2 **PKPbc** **23 22 36.0 +0.3**
BRG pmax pmax
comp=Z,27nm,1.1s
SMOL Smolenice 146.30 327 *e*PKP2 **PKPab** **23 22 38.4 +1.7**
SMOL Smolenice 146.30 327 *e*PKP **PKPab** **23 22 38.4 +1.7**
CLL Collm 146.31 334⇑ *i*PKIKP **PKPdf** **23 22 34.3 -0.3**
CLL *i* 23 22 37.0
CLL pmax pmax
comp=Z,20nm,1.0s
CLL Collm 146.31 334 *i* PKPdf **PKPdf** **23 22 34.3 -0.3**
CLL ⇑*i*PKPbc **PKPab** **23 22 37.0 +0.3**
comp=Z,20nm,1.0s
CLL *e*(pPKPbc) 23 22 44.0
CLL *e*PP **PP** **23 25 57.0 -1.2**
NRDL Niedersach Rie 146.45 338 *e*PKPbc **PKPbc** **23 22 36.6 +0.5**
NRDL *e*PKPab **PKiKP** **23 22 38.2 -0.8**
PRU Pruhonice 146.65 331 *e*PKP2 **PKPbc** **23 22 36.5 -0.4**
PRU Pruhonice 146.65 331 *e*PKP **PKPbc** **23 22 36.5 -0.4**
PRU *ex* x 23 22 41.9
ZST Bratislava 146.67 327 *e*PKP2 **PKPab** **23 22 39.4 +1.2**
ZST Bratislava 146.67 327 *e*PKP **PKPab** **23 22 39.4 +1.2**
TREC Trest 146.71 330 *e*PKP2 **PKPbc** **23 22 36.7 -0.4**
TREC Trest 146.71 330 *e*PKP **PKPbc** **23 22 36.7 -0.4**
CLZ Clausthal 146.89 337 *e*PKPbc **PKPab** **23 22 38.5 -0.5**
CLZ Clausthal 146.89 337 *e*PKP2 **PKPab** **23 22 38.5 -0.5**
PKSM Moragy 147.09 323⇑ PKP2 **PKPbc** **23 22 38.7 +0.5**
PKSM Moragy 147.09 323⇑ *iP* **PKPbc** **23 22 38.7 +0.5**
TANN Tannenbergstha 147.22 334 *e*PKPbc **PKPbc** **23 22 38.6 0.0**
NKC Novy Kostel 147.37 333 *e*PKP2 **PKPbc** **23 22 39.7 +0.8**
NKC Novy Kostel 147.37 333 *e*PKP **PKPbc** **23 22 39.7 +0.8**
NKC *ep*PKP **pPKPdf** **23 22 47.0 -4.1**
IBBN Ibbenburen 147.38 340 *e*PKPbc **PKPbc** **23 22 39.3 +0.5**
IBBN *e*PKPab **PKPab** **23 22 41.6 +0.8**
MOX Moxa 147.38 335 *e*PKPbc **PKPbc** **23 22 40.0 +1.1**
MOX *e*PKPab **PKPab** **23 22 41.6 +0.7**
MOX Moxa 147.38 335 *e*PKP2 **PKPbc** **23 22 40.0 +1.1**
CONA Conrad Observa 147.47 327 P PKPdf 23 22 30.1 -6.7
comp=Z,10nm,1.7s
KHC Kasperske Hory 147.71 331 *e*PKP2 **PKPbc** **23 22 39.7 -0.2**
KHC Kasperske Hory 147.71 331 *e*PKPbc **PKPbc** **23 22 39.7 -0.2**
KHC Kasperske Hory 147.71 331 *e*PKP **PKPbc** **23 22 40.0 +0.1**
ROTZ Rotzenmuhle 147.82 333 *e*PKPbc **PKPbc** **23 22 40.5 +0.3**
GEC2 GERESS Array S 147.86 331 *e*PKPbc **PKPbc** **23 22 40.7 +0.3**
GEC2 *e*PKPab **PKPab** **23 22 44.4 +1.2**
GEC2 GERESS Array S 147.86 331 *e*PKP2 **PKPbc** **23 22 40.7 +0.3**
GERES GERESS Array B 147.86 331 PKPbc **PKPbc** **23 22 40.1 -0.3**
comp=Z,4.5nm,0.8s,baz=36,slow=1.3,SNR=20
GERES GERESS Array B 147.86 331 PKP2 **PKPbc** **23 22 40.1 -0.3**
GERES GERESS Array B 147.86 331 PKPbc **PKPbc** **23 22 40.1 -0.3**
UBBA Unterbreizbach 147.86 336 *e*PKPbc **PKPbc** **23 22 40.9 +0.8**
WET Wettzell 148.00 332 *e*PKPbc **PKPbc** **23 22 40.8 +0.1**
WET Wettzell 148.00 332 *e*PKP2 **PKPbc** **23 22 40.8 +0.1**
BUG Bochum--Univer 148.28 340 *e*PKPbc **PKPbc** **23 22 40.9 -0.4**
BUG *e*PKPab **PKPab** **23 22 45.1 +0.7**
GRF Grafenberg Arr 148.29 334 *e*PKPbc **PKPab** **23 22 43.4 -1.1**
GRF Grafenberg Arr 148.29 334 *e*PKP2 **PKPab** **23 22 43.4 -1.1**
GRFO Grafenberg 148.29 334 *e*PKP2 **PKPab** **23 22 44.2 -0.3**
GRFO Grafenberg 148.29 334 *e*PKPab **PKPab** **23 22 44.2 -0.3**
RJOB Jochberg 149.08 330 *e*PKPbc **PKPbc** **23 22 45.3 +1.7**
KBA Koelnbreinsper 149.29 329⇑ *i*PKPbc **PKPbc** **23 22 44.2 -0.1**
comp=Z,14nm,1.0s
LJU Ljubljana 149.41 326 *e*PKPdf **PKPbc** **23 22 44.0 -0.4**
STU Stuttgart 149.83 335 *e*PKPbc **PKPbc** **23 22 46.5 +1.2**
ABTA Abfaltersbach 149.93 329⇑ *i*PKPbc **PKPbc** **23 22 44.4 -1.3**
WLF Walferdange 150.18 339 PKPbc **PKPbc** **23 22 46.5 +0.4**
WLF Walferdange 150.18 339 *e*PKPbc **PKPbc** **23 22 47.7 +1.6**
WLF *e*PKPab **PKPab** **23 22 52.0 -0.2**
DOU Dourbes 150.28 341 PKPbc **PKPbc** **23 22 45.6 -0.7**
BFO Black Forest 150.52 335 *e*PKPbc **PKPbc** **23 22 47.7 +0.7**
BFO Black Forest 150.52 335 *e*PKP2 **PKPbc** **23 22 47.7 +0.7**
BFO Black Forest 150.52 335 *e*PKPab **PKPab** **23 22 53.9 +0.2**
FETA Feichten 150.55 331 ‖ *i*PKPbc **PKPbc** **23 22 46.6 -0.7**
comp=Z,16nm,1.3s
DAVOX Davos/Dischmat 151.11 332 PKPbc **PKPbc** **23 22 48.1 -0.5**
comp=Z,9.0nm,1.0s,baz=7.0,slow=6.2,SNR=3.0
DAVOX Davos/Dischmat 151.11 332 PKIKP **PKPbc** **23 22 48.1 -0.5**
DAVOX Davos/Dischmat 151.11 332 PKPbc **PKPbc** **23 22 48.1 -0.5**
TUE Stuetta 151.58 332 *e*PKPbc **PKPbc** **23 22 48.9 -0.9**
TUE *e*PKPab **PKPab** **23 22 58.9 +0.5**
BNI Bardonecchia 153.85 333 *e*PKP2 **PKPab** **23 23 07.4 -0.5**
BNI Bardonecchia 153.85 333 *e*PKPab **PKPab** **23 23 07.4 -0.5**
ESDC Sonseca Array 162.22 346 PKPab **PKPab** **23 23 43.6 -0.4**
comp=Z,0.1nm,0.3s,baz=14,slow=5.5,SNR=4.0
ESDC Sonseca Array 162.22 346 PKPab **PKPab** **23 23 43.6 -0.4**
TORD Torodi Ar. Bea 165.79 231 PKP **PKPdf** **23 23 02.6 +1.6**
comp=Z,1.0nm,1.1s,baz=174,slow=1.6,SNR=2.7
TORD PKPab **PKPab** **23 24 01.4 +0.9**
comp=Z,1.6nm,1.1s,baz=162,slow=4.3,SNR=3.9
TORD Torodi Ar. Bea 165.79 231 PKP **PKPdf** **23 23 02.6 +1.6**
TORD PKPab **PKPab** **23 24 01.4 +0.9**

MEX 16 23:15:41.2±0.9, 15.13N×97.77W, h24km±20km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.30**	**345**	*i* P			Pn	23 16 01.7	-2.2
PNIG				*i* S			Sn	23 16 16.3	-4.3
HUIG	**Huatulco**	**1.73**	**68**	*i* P			Pn	23 16 06.8	-2.9
HUIG				*i* S			Sn	23 16 27.3	-3.7
VHO	**Vista Hermosa**	**2.17**	**27**	*e*P			Pn	23 16 14.6	-1.6
VHO				*e*S			Sn	23 16 39.4	-3.2
UTMO	**Huajuapan**	**2.69**	**359**	*e*P			Pn	23 16 22.4	-0.8
UTMO				*i* S			Sn	23 16 53.0	-2.2
CAIG	**El Cayaco**	**3.06**	**309**	*i* P			Pn	23 16 26.3	-1.8
CAIG				*i* S			Sn	23 17 00.2	-3.9
CMIG	**Matias Romero**	**3.39**	**55**	*e*P			Pn	23 16 29.9	-2.8
CMIG				*i* S			Sn	23 17 09.3	-2.9

*IDC **16** 23:17:30.6±5.8, 37.79N×73.10E, h86km±46km, mb3.5/6, mb1 3.5/11, mb1mx3.3/30, mbtmp3.4/11, Error ellipse: s-maj=46.6km s-min=24.4km az=176.0*

*ISCJB **16** 23:17:34.0±0.5, 37°.86N±0'.04×72°.91E±0'.10, h127km, mb3.8/6, Error ellipse: s-maj=11.7km s-min=4.4km az=154.8*

*NNC **16** 23:17:49.9±2.5, 39°.14N×72°.76E, h177km±40km, mb2.4, mpv3.6, Error ellipse: s-maj=29.8km s-min=11.7km az=10.0*

ISC 16 23:17:35.6±1.0, **37°.96N**±0'.06×**73°.2E**±0'.1, **h127**km, **n36, σ1§48/41, mb3.8/6, 3C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=34	**4.19**	**6**	P	**Pn**	**23 18 39.8**	**+1.6**
AML	SNR=34			P	**Pn**	**23 18 39.8**	**+1.6**
UCH	**Uchtor** SNR=8.0	**4.39**	**13**	P	**Sn**	**23 19 31.3**	**-0.3**
UCH	SNR=8.0			P	**Sn**	**23 19 31.3**	**-0.3**
KZA	**Kyzart** SNR=43	**4.42**	**21**	P	**Pn**	**23 18 43.0**	**+1.8**
KZA	SNR=43			P	**Pn**	**23 18 43.0**	**+1.8**
EKS2	**Erkin-Say** SNR=51	**4.72**	**6**	P	**Pn**	**23 18 46.9**	**+1.9**
EKS2	SNR=51			P	**Pn**	**23 18 46.9**	**+1.9**
AAK	**Ala-Archa** SNR=21	**4.78**	**12**	P	**Pn**	**23 18 48.1**	**+2.2**
AAK	SNR=21			P	**Pn**	**23 18 48.1**	**+2.2**
ULHL	**Ulahol** SNR=13	**4.90**	**28**	P	**Pn**	**23 18 49.4**	**+2.0**
ULHL	SNR=13			P	**Pn**	**23 18 49.4**	**+2.0**
CHMS	**Chumysh** SNR=7.3	**5.18**	**13**	P	**Pn**	**23 18 53.2**	**+2.2**
CHMS	SNR=7.3			P	**Pn**	**23 18 53.2**	**+2.2**
TKM2	**Tokmak 2** SNR=11	**5.30**	**20**	P	**Pn**	**23 18 54.8**	**+2.0**
TKM2	SNR=11			P	**Pn**	**23 18 54.8**	**+2.0**
TKM2	**Tokmak 2** 5.8nm,0.7s	**5.30**	**20**	⇓Pn	**Pn**	**23 18 54.7**	**+2.0**
TKM2	2.8nm,0.5s			⇓Sn	Sn	23 19 47.7	-5.2
USP	**Ospenovka** SNR=14	**5.40**	**11**	P	**Pn**	**23 18 55.6**	**+1.6**
USP	SNR=14			P	**Pn**	**23 18 55.6**	**+1.6**
KK31	**Karatay Array** 5.0nm,0.3s,baz=160,slow=17,SNR=85	**5.52**	**339**	Pn	**Pn**	**23 18 55.8**	**+0.2**
KK31	39nm,0.3s,baz=159,slow=26,SNR=47			⇑Sn	Sn	23 19 49.2	-8.8
DLH	**Dalhousie**	**5.87**	**156**	*e*P	Pn	23 19 04.0	+3.4
DLH				*e*S	**Sn**	**23 20 06.0**	**-0.9**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=222,slow=13,SNR=11	**11.11**	**34**	P	**Pn**	**23 20 09.0**	**-1.8**
DANN	**Dangsing** 29nm,0.3s	**13.06**	**134**	*e*P	**Pn**	**23 20 36.6**	**0.0**
KURK	**Kurchatov** 0.0nm,0.3s,baz=205,slow=12,SNR=5.7	**13.34**	**15**	P	Pn	23 20 36.4	-3.4
KOLN	**Koldanda** 12nm,0.3s	**13.42**	**136**	*e*P	**Pn**	**23 20 41.6**	**+0.4**
GKN	**Gorkha** 10nm,0.3s	**13.83**	**133**	*e*P	**Pn**	**23 20 46.2**	**-0.2**
KKN	**Kakani** 6.6nm,0.2s	**14.36**	**131**	*e*P	**Pn**	**23 20 53.3**	**0.0**
DMN	**Daman** 7.6nm,0.4s	**14.39**	**132**	*e*P	**Pn**	**23 20 53.7**	**0.0**
PKI	**Pulchoki** 11nm,0.4s	**14.60**	**132**	*e*P	**Pn**	**23 20 56.3**	**-0.1**
GUN	**Gumba** 17nm,0.6s	**14.63**	**129**	*e*P	**Pn**	**23 20 56.3**	**-0.5**
AB31	**Akbulak array** 0.3nm,0.2s,baz=131,slow=14,SNR=46	**14.78**	**324**	Pn	P	23 20 56.3	-4.4
AB31	5.4nm,0.8s,baz=133,slow=26,SNR=7.4			⇓Sn	Sn	23 23 26.4	-15
JIRN	**Jiri** 27nm,0.4s	**15.01**	**129**	*e*P	**P**	**23 21 02.0**	**-1.9**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=160,slow=10,SNR=6.5	**15.19**	**354**	P	**Pn**	**23 21 00.7**	**-2.6**
RAMN	**Ramite** 22nm,0.8s	**15.77**	**130**	*e*P	**P**	**23 21 11.1**	**-1.1**
TAPN	**Taplejung** 8.2nm,0.5s	**16.17**	**127**	*e*P	**P**	**23 21 16.0**	**-0.7**
ODAN	**Odare** 16nm,0.4s	**16.32**	**129**	*e*P	**P**	**23 21 18.8**	**+0.5**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=118,slow=8.2,SNR=6.6	**16.49**	**324**	P	**P**	**23 21 18.6**	**-1.1**
AKTO	0.4nm,0.3s,baz=43,slow=23,SNR=7.1			S	Sn	23 24 07.4	-15
AKTO	**Aktyubinsk** 0.2nm,0.9s	**16.49**	**324**	⇑Pn	**P**	**23 21 18.9**	**-0.8**
AKTO	0.3nm,0.7s			⇑Sn	Sn	23 24 08.8	-14
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=215,slow=11,SNR=33	**17.89**	**23**	P	**P**	**23 21 35.3**	**+0.2**
SONM	**Songino Array** 2.1nm,1.4s,baz=251,slow=7.5,SNR=2.7	**26.10**	**57**	P	**P**	**23 22 57.4**	**-0.1**
FINES	**FINESS Array B** 2.3nm,0.9s,baz=113,slow=11,SNR=5.9	**37.27**	**324**	P	**P**	**23 24 34.3**	**-0.4**
ARCES	**ARCESS Array B** 6.9nm,1.1s,baz=107,slow=6.7,SNR=12	**40.48**	**336**	P	**P**	**23 25 01.3**	**0.0**
HFS	**Hagfors** 3.9nm,1.1s,baz=89,slow=12,SNR=4.8	**43.00**	**321**	P	P	23 25 22.1	+0.1
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=49,slow=5.9,SNR=3.1	**67.46**	**269**	P	P	23 28 17.0	-1.0
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=349,slow=5.5,SNR=7.5	**79.70**	**4**	P	**P**	**23 29 29.2**	**+0.5**

*ISK **16** 23:18:57.1, 39°.01N×41°.92E, h5km, ML2.0*

*ISCJB **16** 23:18:58.6±0.7, 39°.03N±0'.04×41°.94E±0'.04, h4km±8km, Error ellipse: s-maj=7.4km s-min=4.8km az=172.6*

*DDA **16** 23:18:58.3, 39°.02N×41°.85E, h46km, MD3.2*

*CSEM **16** 23:18:58.6±0.2, 39°.07N×41°.93E, h2km, ML2.0, Error ellipse: s-maj=6.1km s-min=4.4km az=21.0*

ISC 16 23:18:58.1±1.3, **39°.02N**±0'.04×**41°.93E**±0'.03, **h0**km±14km, **n24, σ1§02/31, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.40**	**291**	*e*PG	**Pg**	**23 19 05.8**	**0.0**
VRTB				*e*SG	**Sg**	**23 19 13.0**	**+2.0**
VRTB	**Varto-Mus**	**0.40**	**291**	*e*Pg	**Pg**	**23 19 05.8**	**0.0**
VRTB				*e*Sg	**Sg**	**23 19 13.0**	**+2.0**
TATV	**Tatvan**	**0.57**	**153**	*i* P	**Pb**	**23 19 10.7**	**-0.4**
TATV	**Tatvan**	**0.57**	**153**	*i* P	**Pb**	**23 19 10.7**	**-0.4**
BNGL	**BINGOL**	**0.61**	**264**	*e*P	**Pg**	**23 19 10.1**	**+0.2**
BNGL				*i* S	**Sb**	**23 19 21.0**	**-0.2**
BNGB	**Bing˜¶l**	**0.98**	**269**	*e*PG	**Pg**	**23 19 16.6**	**-0.3**
BNGB				*e*SG	**Sb**	**23 19 31.0**	**-0.6**
ERZM	**Erzurum**	**0.99**	**334**	*i* P	**Pg**	**23 19 17.1**	**-0.1**
ERZM	**Erzurum**	**0.99**	**334**	*i* P	**Pg**	**23 19 17.1**	**-0.1**
EZM	**Erzurum**	**0.99**	**334**	*e*PG	**Pg**	**23 19 17.1**	**-0.1**
EZM				*e*SG	**Sb**	**23 19 32.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.99**	**55**	*e*PG	**Pg**	**23 19 16.7**	**-0.5**
AGRB				*e*SG	**Sb**	**23 19 32.7**	**+0.6**
AGRB	**Hanur-Agry**	**0.99**	**55**	*e*Pg	**Pg**	**23 19 16.7**	**-0.5**
AGRB				*e*Sg	**Sb**	**23 19 32.7**	**+0.6**
BINT	**Bingol**	**1.14**	**263**	*e*Pg	Pg	23 19 16.6	-3.3
BINT				*e*Sg	**Sg**	**23 19 31.0**	**-3.6**
CLDR	**Caldiran**	**1.55**	**85**	*e*PN	**Pn**	**23 19 27.1**	**-0.1**
CLDR	**Caldiran**	**1.55**	**85**	*e*Pn	**Pn**	**23 19 27.1**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.95**	**315**	*e*PN	**Pn**	**23 19 32.0**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.95**	**315**	*e*Pn	**Pn**	**23 19 32.0**	**-0.7**
PTK	**Pertek**	**1.98**	**267**	*e*PN	**Pn**	**23 19 33.6**	**+0.4**
PTK	**Pertek**	**1.98**	**267**	*e*Pn	**Pn**	**23 19 33.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.15**	**254**	*e*PN	**Pn**	**23 19 36.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.15**	**254**	*e*Pn	**Pn**	**23 19 36.3**	**+0.9**
CUKT	**Cukurca**	**2.20**	**143**	*e*PN	**Pn**	**23 19 37.0**	**+0.9**
CUKT	**Cukurca**	**2.20**	**143**	*e*Pn	**Pn**	**23 19 37.0**	**+0.9**
GNI	**Garni**	**2.45**	**62**	*e*PN	**Pn**	**23 19 39.8**	**+0.3**
GNI	**Garni**	**2.45**	**62**	*e*Pn	**Pn**	**23 19 39.8**	**+0.3**

*CSEM **16** 23:21:07.9, 39°.41N×20°.89E, h17km±3km, **MD2.9**, After ATH*

ATH 16 23:21:07.9, 39°.41N×20°.89E, h17km±3km, **MD2.9**/9, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.25**	**353**	*e*PB	Pg	23 21 12.6	-1.0
JAN				*e*SB	Sg	23 21 17.6	+0.1
JAN	**Janina**	**0.25**	**353**	*e*Pb	Pg	23 21 12.6	-1.0
JAN				*e*Sb	Sg	23 21 17.6	+0.1
LKD2	**Lefkada island**	**0.65**	**196**	*e*PB	Pg	23 21 20.0	-0.7
LKD2				*e*SN	Sb	23 21 29.7	+0.2
LKD2	**Lefkada island**	**0.65**	**196**	*e*Pb	Pg	23 21 20.0	-0.7
LKD2				*e*Sn	Sb	23 21 29.7	+0.2
EVR	**Evrytania**	**0.87**	**124**	*e*PN	Pb	23 21 24.2	-0.5
EVR				*e*SN	Sn	23 21 37.3	-0.5
EVR	**Evrytania**	**0.87**	**124**	*e*Pn	Pb	23 21 24.3	-0.4
EVR				*e*Sn	Sn	23 21 37.3	-0.5
THL	**Klokotos Trika**	**0.88**	**80**	*e*PN	Pb	23 21 24.9	+0.1
THL				*e*SN	Sn	23 21 37.4	-0.6
THL	**Klokotos Trika**	**0.88**	**80**	*e*Pn	Pb	23 21 24.9	+0.1
THL				*e*Sn	Sn	23 21 37.4	-0.6
KEK	**Kerkira**	**0.90**	**290**	*e*PN	Pg	23 21 25.4	0.0
KEK				*e*SN	Sg	23 21 37.1	-0.1
KEK	**Kerkira**	**0.90**	**290**	*e*Pn	Pg	23 21 25.4	0.0
KEK				*e*Sn	Sg	23 21 37.1	-0.1
VLS	**Valsamata**	**1.25**	**191**	*e*PN	Pg	23 21 32.1	0.0
VLS				*e*SN	Sg	23 21 49.8	+1.3
VLS	**Valsamata**	**1.25**	**191**	*e*Pn	Pg	23 21 32.1	0.0
VLS				*e*Sn	Sg	23 21 49.8	+1.3
EFP	**Efpalio**	**1.26**	**141**	*e*PN	Pg	23 21 32.1	-0.2
EFP				*e*SN	Sg	23 21 48.5	-0.2
EFP	**Efpalio**	**1.26**	**141**	*e*Pn	Pg	23 21 32.1	-0.2
EFP				*e*Sn	Sg	23 21 48.5	-0.2
LIT	**Litokhoron**	**1.41**	**60**	*e*PN	Pb	23 21 34.5	+0.6
LIT	**Litokhoron**	**1.41**	**60**	*e*Pn	Pb	23 21 34.5	+0.6
RLS	**Riolos of Patr**	**1.42**	**161**	*e*PN	Pg	23 21 35.0	-0.3
RLS	**Riolos of Patr**	**1.42**	**161**	*e*Pn	Pg	23 21 35.0	-0.3

*ISCJB **16** 23:21:17.6±0.7, 12°.23N±0'.07×46°.47E±0'.05, h10km, mb3.9/9, Error ellipse: s-maj=10.9km s-min=6.1km az=27.3*

*IDC **16** 23:21:17.3±1.3, 12°.02N×46°.65E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/38, Error ellipse: s-maj=32.8km s-min=20.0km az=175.0*

*DHMR **16** 23:21:20.4±1.5, 12°.39N×46°.23E, h8km±13km, ML3.6*

*CSEM **16** 23:21:20.4, 12°.39N×46°.23E, h8km, ML3.6, After DHMR*

ISC 16 23:21:16.9±1.0, **12°.15N**±0'.07×**46°.27E**±0'.06, **h10**km, **n21, σ1§59/25, mb4.0/9, 4D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.40**	**297**	*i* P	**Pg**	**23 21 43.1**	**-0.7**
ADEN				*i* S	**Sg**	**23 22 02.8**	**+0.8**
ADEN	comp=N,902nm,0.6s			AML	AML	23 22 05.4	
ADEN	**Aden**	**1.40**	**297**	*i* P	**Pg**	**23 21 43.1**	**-0.7**
ADEN	comp=N,451nm,0.6s			*i* S	**Sg**	**23 22 02.8**	**+0.8**
BDHA	**Al Bayda'**	**1.94**	**340**	⇓*i*P	**Pb**	**23 21 51.2**	**-1.3**
BDHA				*i* S	**Sb**	**23 22 14.9**	**-2.0**
BDHA	comp=E,3μm,0.5s			AML	AML	23 22 16.3	
BDHA	**Al Bayda'**	**1.94**	**340**	⇓*i*P	**Pb**	**23 21 51.2**	**-1.3**
BDHA	comp=E,1μm,0.5s			*i* S	**Sb**	**23 22 14.9**	**-2.0**
LBOS		**1.98**	**330**	⇓*i*P	**Pb**	**23 21 52.3**	**-0.9**
LBOS				*i* S	**Sb**	**23 22 16.7**	**-1.4**
TRBA	**At Turbah**	**2.36**	**297**	⇓*i*P	**Pb**	**23 21 59.7**	**0.0**
TRBA	comp=Z,179nm,0.3s			AML	AML	23 22 08.5	
TRBA				*i* S	**Sb**	**23 22 29.4**	**+0.4**
DHBB	**Dhamar BB**	**3.02**	**323**	*i* P	**Pb**	**23 22 09.1**	**-1.9**
DHBB				*i* S	**Sb**	**23 22 47.1**	**-1.1**
DHBB	**Dhamar BB**	**3.02**	**323**	*i* P	**Pb**	**23 22 09.1**	**-1.9**
DHBB				*i* S	**Sb**	**23 22 47.1**	**-1.1**
ATD	**Arta Tunnel** comp=Z,2.5nm,0.3s,baz=57,slow=21,SNR=9.1	**3.40**	**260**	Pn	**Pb**	**23 22 15.1**	**-2.3**
ATD	comp=Z,135nm,18.2s,baz=349,slow=30			LR	LR	23 23 11.1	
HAJJ	**Hajjah**	**4.38**	**324**	*i* S	**Sn**	**23 23 18.1**	**+3.2**
HAJJ	comp=Z,136nm,0.3s			AML	AML	23 23 42.7	
HAJJ	**Hajjah** comp=Z,68nm,0.3s	**4.38**	**324**	*i* S	**Sn**	**23 23 18.1**	**+3.2**
EIL	**Elat** comp=Z,2.2nm,0.7s,baz=198,slow=14,SNR=3.2	**20.36**	**331**	P	Pn	23 25 59.6	+3.9
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.9s,baz=101,slow=8.0,SNR=5.8	**43.46**	**276**	P	P	23 29 26.3	+5.7
BVAR	**Borovoye Array** comp=Z,0.5nm,0.6s,baz=203,slow=7.2,SNR=4.4	**45.11**	**20**	P	P	23 29 35.4	+2.1
GERES	**GERESS Array B** comp=Z,1.4nm,0.8s,baz=131,slow=4.1,SNR=11	**45.46**	**330**	P	P	23 29 40.4	+4.1
MKAR	**Makanchi Array** comp=Z,2.4nm,0.9s,baz=224,slow=7.2,SNR=16	**45.95**	**34**	P	**P**	**23 29 41.5**	**+1.4**
KURK	**Kurchatov** comp=Z,0.9nm,0.3s,baz=229,slow=8.0,SNR=3.6	**46.64**	**28**	P	**P**	**23 29 46.4**	**+0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=275,slow=8.7,SNR=11	**51.05**	**76**	P	**P**	**23 30 19.9**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.6s,baz=241,slow=7.7,SNR=7.7	**51.63**	**28**	P	**P**	**23 30 23.6**	**0.0**
SONM	**Songino Array** comp=Z,0.9nm,0.9s,baz=262,slow=7.1,SNR=6.4	**61.14**	**42**	P	**P**	**23 31 32.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.9s,baz=288,slow=9.5,SNR=3.1	**92.29**	**110**	P	**P**	**23 34 28.1**	**+0.1**

*ISK **16** 23:40:24.7, 36°.93N×36°.76E, h8km, ML1.8*

*ISCJB **16** 23:40:25.6±0.7, 36°.96N±0'.04×36°.71E±0'.05, h10km±7km, Error ellipse: s-maj=7.4km s-min=5.8km az=26.8*

*DDA **16** 23:40:25.0, 36°.98N×36°.64E, h7km, ML2.9*

*CSEM **16** 23:40:25.7±0.3, 36°.95N×36°.73E, h10km, ML1.8, Error ellipse: s-maj=5.8km s-min=5.6km az=172.0*

ISC 16 23:40:24.7±1.4, **37°.03N**±0'.05×**36°.64E**±0'.04, **h0**km±15km, **n21, σ0§53/28, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.43**	**126**	*i* P	**Pg**	**23 40 33.4**	**+0.4**
KUZU				*i* S	**Sg**	**23 40 39.2**	**+0.5**
KUZU	**Kuzuini**	**0.43**	**126**	*i* P	**Pg**	**23 40 33.4**	**+0.4**
KUZU				*i* S	**Sg**	**23 40 39.2**	**+0.5**
GAZ	**Gaziantep**	**0.48**	**73**	*e*PG	**Pg**	**23 40 33.7**	**-0.3**
GAZ				*e*SG	**Sg**	**23 40 40.3**	**+0.1**
GAZ	**Gaziantep**	**0.48**	**73**	*e*Pg	**Pg**	**23 40 33.7**	**-0.3**
GAZ				*e*Sg	**Sg**	**23 40 40.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.52**	**24**	*e*PG	**Pb**	**23 40 36.5**	**-0.2**
KMRS				*e*SG	**Sb**	**23 40 45.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.52**	**24**	*e*Pg	**Pb**	**23 40 36.6**	**-0.2**
KMRS				*e*Sg	**Sb**	**23 40 45.0**	**+0.1**
KOZT	**Kozan**	**0.79**	**305**	*e*PG	**Pn**	**23 40 43.0**	**-0.1**
KOZT				*e*SG	**Sn**	**23 40 56.4**	**+0.8**
KOZT	**Kozan**	**0.79**	**305**	*e*Pg	**Pn**	**23 40 43.0**	**-0.1**
KOZT				*e*Sg	**Sn**	**23 40 56.4**	**+0.8**
GZT	**Gaziantep**	**0.81**	**66**	*i* P	**Pb**	**23 40 41.6**	**-0.2**
GZT				*i* S	**Sn**	**23 40 55.3**	**-1.1**
HTY	**Hatay**	**0.99**	**204**	*e*PG	**Pg**	**23 40 43.2**	**-0.5**
HTY	**Hatay**	**0.99**	**204**	*e*Pg	**Pg**	**23 40 43.2**	**-0.5**
MALT	**Malatya**	**1.92**	**47**	*e*PN	**Pn**	**23 40 58.9**	**+0.2**
MALT	**Malatya**	**1.92**	**47**	*e*Pn	**Pn**	**23 40 58.9**	**+0.2**
BNN	**Bunyan**	**1.93**	**341**	*e*PN	**Pb**	**23 41 00.4**	**-0.4**
BNN	**Bunyan**	**1.93**	**341**	*e*Pn	**Pb**	**23 41 00.4**	**-0.4**
DARE	**Darende-Malaty**	**2.13**	**25**	*e*PN	Pn	23 40 56.0	-5.7
DARE	**Darende-Malaty**	**2.13**	**25**	*e*Pn	Pn	23 40 56.0	-5.7
SVRC	**Sivrice-ELAZID**	**2.51**	**57**	*e*PN	**Pn**	**23 41 06.3**	**-0.6**
SVRC	**Sivrice-ELAZID**	**2.51**	**57**	*e*Pn	**Pn**	**23 41 06.3**	**-0.6**
ILIC	**ilic-Erzincan**	**2.86**	**32**	*e*PN	**Pn**	**23 41 12.5**	**+0.8**
ILIC	**ilic-Erzincan**	**2.86**	**32**	*e*Pn	**Pn**	**23 41 12.5**	**+0.8**

*BJI **16** 23:45:47.9, 6°.50N×72°.60W, h172km, mB4.9/3*

*ISCJB **16** 23:45:49.2±0.4, 6°.74N±0'.05×72°.88W±0'.04, h169km±3km, mb4.3/22, Error ellipse: s-maj=8.7km s-min=4.8km az=145.4*

*IDC **16** 23:45:49.7±1.4, 6°.74N×72°.92W, h161km±15km, mb3.8/11, mb1 4.0/13, mb1mx3.7/22, mbtmp3.8/13, MS3.2/1, Ms1 3.2/1, ms1mx2.6/33, Error ellipse: s-maj=18.9km s-min=15.0km az=55.0*

*FUNV **16** 23:45:49.6, 6°.77N×73°.16W, h169km, MW4.1*

*NEIC **16** 23:45:50.2±0.4, 6°.72N×72°.84W, h172km±4km, mb4.4/13, Error ellipse: s-maj=8.3km s-min=5.1km az=125.0*

ISC 16 23:45:49.9±0.7, **6°.79N**±0'.05×**72°.93W**±0'.05, **h166**km±6km, **n297, σ1§19/309, mb4.2/22, 108C-117D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**30**	⇑*i*P	**Pn**	**23 46 19.0**	**+0.6**
CAPV				*e*S	**Sn**	**23 46 40.1**	**-0.2**
ROSC	**El Rosal** 158nm,0.3s,baz=90,slow=16,SNR=177	**2.38**	**216**	P	**Pn**	**23 46 31.0**	**+0.2**
ROSC	117nm,0.3s,baz=85,slow=20,SNR=6.5			S	**Sn**	**23 47 00.9**	**-1.4**
ROSC	**El Rosal**	**2.38**	**216**	*e*Pn	**Pn**	**23 46 30.9**	**+0.1**
ROSC				*e*Sn	**Sn**	**23 47 00.0**	**-2.3**
SOCV	**Socops**	**2.53**	**54**	⇑*i*P	**Pn**	**23 46 33.7**	**+1.4**
SOCV				*e*S	**Sn**	**23 47 05.8**	**+0.8**
VIGV	**El Vigia**	**2.56**	**37**	⇑*i*P	**Pn**	**23 46 33.5**	**+1.0**
VIGV				*e*S	**Sn**	**23 47 05.8**	**+0.1**
SDV	**Santo Domingo**	**3.08**	**47**	*e*Pn	**Pn**	**23 46 40.4**	**+1.3**
SDV				*e*Sn	**Sn**	**23 47 15.6**	**-1.7**
ELOV	**Elorza**	**3.42**	**86**	⇑*i*P	**Pn**	**23 46 45.3**	**+2.0**
ELOV				*e*S	**Sn**	**23 47 25.3**	**+0.6**
VIRV	**Villa del Rosa**	**3.73**	**8**	⇑*i*P	**Pn**	**23 46 45.7**	**-1.4**
VIRV				*e*S	**Sn**	**23 47 28.3**	**-3.5**
SANV	**Sanarito**	**4.30**	**51**	⇑*i*P	**Pn**	**23 46 55.2**	**+0.6**
CURV	**Curarigua**	**4.34**	**42**	⇑*i*P	**Pn**	**23 46 55.7**	**+0.5**
DABV	**Dabajuro**	**4.69**	**29**	⇑*i*P	**Pn**	**23 46 59.9**	**+0.4**
TEPV	**Terepaima**	**4.86**	**49**	⇑*i*P	**Pn**	**23 47 02.8**	**+1.0**
SIQV	**Siquisique**	**4.92**	**39**	⇑*i*P	**Pn**	**23 47 02.9**	**+0.3**
BAUV	**El Baul**	**5.29**	**66**	⇑*i*P	**Pn**	**23 47 07.3**	**-0.2**
BAUV				*e*S	**Sn**	**23 48 06.4**	**-1.7**
MAPV	**Macapo**	**5.36**	**55**	⇑*i*P	**Pn**	**23 47 09.2**	**+0.8**
IMOV	**Isla Los Monje**	**5.88**	**20**	*e*P	**Pn**	**23 47 14.3**	**-1.0**
JACV	**Jacura**	**5.88**	**43**	*e*P	**Pn**	**23 47 14.7**	**-0.6**
MONV	**Montecano**	**5.90**	**29**	⇑*i*P	**Pn**	**23 47 14.6**	**-0.9**
TURV	**Turiamo**	**6.21**	**54**	⇑*i*P	**Pn**	**23 47 19.7**	**+0.2**
MERV	**Las Mercedes**	**7.00**	**69**	⇑*i*P	**Pn**	**23 47 29.9**	**-0.2**
BCIP	**Isla Barro Col**	**7.24**	**289**	*e*Pn	Pn	23 47 29.2	-4.0
BIRV	**Birongo**	**7.53**	**60**	⇑*i*P	**Pn**	**23 47 36.8**	**-0.3**
OTAV	**Otavalo**	**8.53**	**220**	*e*Pn	**Pn**	**23 47 49.4**	**-1.4**
OTAV				*e*Sn	**Sn**	**23 49 21.8**	**-4.4**
PCRV	**Puerto La Cruz**	**8.86**	**67**	*e*P	**Pn**	**23 47 55.4**	**+0.6**
SDDR	**Presa de Saban** 16nm,0.7s	**12.22**	**7**	*e*Pn	**Pn**	**23 48 41.1**	**+2.4**
JTS	**JuntasAbangare** 1.0nm,0.3s,baz=85,slow=22,SNR=5.3	**12.39**	**287**	P	**P**	**23 48 47.0**	**+0.8**
JTS	**JuntasAbangare** 8.1nm,0.4s	**12.39**	**287**	*e*Pn	**Pn**	**23 48 42.7**	**+1.8**
CRPR	**Cabo Rojo, PR**	**12.51**	**26**	*e*Pn	**Pn**	**23 48 41.3**	**-1.1**
CRPR				*e*S	**S**	**23 51 11.5**	**0.0**
MPR	**Mayaguez**	**12.68**	**26**	*e*Pn	**Pn**	**23 48 43.5**	**-0.9**
ICM	**Isla Caja Muer**	**12.68**	**29**	*e*Pn	**Pn**	**23 48 43.8**	**-0.8**
CELP	**Cerrillos**	**12.81**	**28**	*e*Pn	**Pn**	**23 48 45.0**	**-1.2**
AGP	**Aguadilla**	**12.85**	**25**	*e*Pn	**Pn**	**23 48 47.2**	**+0.5**
SJG	**San Juan** 1.7nm,0.3s,baz=270,slow=18,SNR=3.7	**13.05**	**30**	P	**Pn**	**23 48 49.4**	**+0.2**
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**23 48 49.5**	**+0.2**
CPD	**Cerro la Pandu**	**13.10**	**31**	*e*Pn	**Pn**	**23 48 50.6**	**+0.6**
HUMP	**Col San Antoni**	**13.22**	**31**	*e*Pn	**Pn**	**23 48 51.9**	**+0.4**
GTBY	**Guantanamo Bay**	**13.23**	**351**	*e*Pn	**P**	**23 48 54.1**	**-1.4**
CBYP	**Canovanas**	**13.33**	**30**	*e*Pn	**Pn**	**23 48 52.4**	**-0.5**
MTP	**Monte Pirata**	**13.34**	**32**	*e*Pn	**Pn**	**23 48 53.1**	**+0.1**
MTP				*e*S	**S**	**23 51 26.1**	**-3.2**
STVI	**Saint Thomas**	**13.87**	**33**	*e*Pn	**Pn**	**23 48 59.3**	**-0.4**
ATAH	**Atahualpa** comp=Z,96nm,21.1s,baz=1.8,slow=36	**14.87**	**202**	LR	LR	23 54 40.8	
TEIG	**Tepich** 12nm,0.5s,baz=138,slow=11,SNR=7.0	**20.00**	**313**	P	**P**	**23 50 11.1**	**+1.2**
TEIG	**Tepich**	**20.00**	**313**	P	**P**	**23 50 11.1**	**+1.2**
LPAZ	**La Paz** 2.4nm,0.7s,baz=348,slow=14,SNR=10	**23.41**	**168**	pP	pP	23 51 17.3	+1.0
LPAZ	**La Paz**	**23.41**	**168**	pP	pP	23 51 17.3	+1.0
SIV	**San Ignacio** 1.5nm,0.8s,baz=317,slow=11,SNR=6.0	**25.50**	**153**	pP	pP	23 51 38.1	+0.8
SIV	**San Ignacio**	**25.50**	**153**	pP	pP	23 51 38.1	+0.8
KMSC	**Kings Mountain** baz=30	**29.26**	**346**	⇑P	**P**	**23 51 37.9**	**+1.4**
SIUC	**Southern Illin** 14nm,0.6s	**34.16**	**337**	*e*P	**P**	**23 52 19.8**	**+0.5**
FVM	**French Village** 6.1nm,0.5s	**34.88**	**335**	*e*P	**P**	**23 52 26.3**	**+0.8**
SFIN	**Scholer Farm** baz=36,SNR=5.9	**35.77**	**341**	⇑P	**P**	**23 52 34.3**	**+1.2**
628A	**Black Gap, Mar** baz=36	**36.13**	**312**	⇑P	**P**	**23 52 37.0**	**+0.6**
528A	**Cox Ranch, San** baz=37	**36.43**	**313**	⇓P	**P**	**23 52 39.2**	**+0.2**
627A	**Terlingua Ranc** baz=37,SNR=5.5	**36.48**	**312**

	baz=42					
Z21A	St. Cloud Mine	41.62	314	⇓P	P	23 53 23.7 +1.5
	baz=42					
T25A	Trinidad	41.64	321	⇓P	P	23 53 23.7 +1.5
	baz=42					
U24A	Moreno Valley	41.74	320	⇓P	P	23 53 24.8 +1.6
	baz=42					
R26A	Arlington	41.79	323	⇑P	P	23 53 24.5 +1.1
	baz=42					
319A	Douglas	41.85	311	⇓P	P	23 53 25.2 +1.3
	baz=42					
V23A	Ortiz Mt. (NFS	41.94	318	⇑P	P	23 53 26.5 +1.8
	baz=42					
S25A	Robets Cordova	41.98	322	⇓P	P	23 53 26.4 +1.4
	baz=42					
Y21A	Point of Rocks	41.99	315	⇑P	P	23 53 26.9 +1.6
	baz=42					
T24A	Torres, Weston	42.00	321	⇑P	P	23 53 27.0 +1.7
	baz=42					
SPMN	St. Paul	42.00	339	⇑P	P	23 53 26.6 +1.8
	baz=42					
219A	White Tail Can	42.13	311	⇑P	P	23 53 27.2 +1.0
	baz=42					
Z20A	Nine Sixteen R	42.19	313	⇑P	P	23 53 28.0 +1.3
	baz=42					
R25A	Fountain Ranch	42.20	322	⇓P	P	23 53 28.0 +1.3
	baz=42					
Q26A	Hugo	42.24	324	⇑P	P	23 53 28.7 +1.6
	baz=42					
U23A	El Rito	42.29	319	⇓P	P	23 53 29.0 +1.5
	baz=42					
X21A	Alamocita Cree	42.31	315	⇑P	P	23 53 29.0 +1.3
	baz=42					
Y20A	Horse Springs,	42.44	314	⇑P	P	23 53 30.4 +1.6
	baz=43					
S24A	Houchin Ranch,	42.45	321	⇓P	P	23 53 30.8 +1.8
	baz=43					
V22A	San Miguel Ran	42.52	318	⇑P	P	23 53 31.0 +1.6
	baz=43					
119A	Ashpeak Ranch,	42.53	312	⇓P	P	23 53 31.4 +1.9
	baz=43					
P26A	Davis Ranch, A	42.56	325	⇑P	P	23 53 30.6 +1.0
	baz=43					
SDCO	Great Sand Dun	42.70	321	*eP*	P	23 53 32.0 +1.1
	2.1nm,0.7s					
SDCO	Great Sand Dun	42.70	321	⇓P	P	23 53 32.0 +1.1
	baz=43,SNR=6.2					
SDCO				⇓P	P	23 53 32.0 +1.1
	baz=43,SNR=6.2					
R24A	Sanders Place,	42.75	322	⇑P	P	23 53 32.7 +1.5
	baz=43					
P25A	Willow Gulch B	43.01	324	⇓P	P	23 53 35.0 +1.8
	baz=43					
Y19A	Nutrioso	43.09	314	⇓P	P	23 53 35.5 +1.4
	baz=43					
W20A	Ramah	43.17	316	⇓P	P	23 53 35.3 +0.6
	baz=43					
R23A	Moffat	43.17	321	⇑P	P	23 53 35.9 +1.2
	baz=43					
S22A	4UR Ranch, Cre	43.53	320	⇓P	P	23 53 39.0 +1.4
	baz=44					
T21A	Navajo Lake	43.55	319	⇓P	P	23 53 39.0 +1.3
	baz=44					
Y18A	Canyon Day Jun	43.56	313	⇓P	P	23 53 38.9 +1.1
	baz=44					
ISCO	Idaho Springs	44.05	323	*eP*	P	23 53 43.1 +1.4
	65nm,2.8s					
ISCO	Idaho Springs	44.05	323	⇑P	P	23 53 43.3 +1.6
	baz=44					
S21A	Coal Bank Pass	44.10	319	⇑P	P	23 53 43.3 +1.1
	baz=44					
Q22A	Crested Butte,	44.25	321	⇓P	P	23 53 44.9 +1.5
	baz=44					
MVCO	Mesa Verde	44.31	318	⇑P	P	23 53 45.0 +1.3
	baz=44					
T19A	Beclabito	44.45	318	⇑P	P	23 53 45.7 +0.9
	baz=45					
S20A	Disappointment	44.57	319	⇓P	P	23 53 46.9 +1.0
	baz=45,SNR=6.5					
P22A	Eagle	44.61	322	⇑P	P	23 53 47.2 +1.1
	baz=45					
R20A	Redvale	44.78	320	⇓P	P	23 53 48.9 +1.4
	baz=45					
U18A	Rough Rock, Ch	44.80	317	⇓P	P	23 53 48.5 +0.9
	baz=45					
O22A	Kremmling	44.83	323	⇓P	P	23 53 49.2 +1.3
	baz=45					
PV01	Paradox Valley	44.88	319	*eP*	P	23 53 48.7 +0.5
	199nm,0.8s					
N23A	Red Feather La	44.94	324	⇓P	P	23 53 50.5 +1.7
	baz=45					
P21A	Newcastle	44.99	322	⇓P	P	23 53 50.7 +1.6
	baz=45					
S19A	Harvey Farm, M	45.03	319	⇓P	P	23 53 50.2 +0.8
	baz=45					
Q20A	Ridgley Place,	45.18	320	⇓P	P	23 53 52.4 +1.9
	baz=45					
N22A	Wattenberg Ran	45.18	324	⇑P	P	23 53 52.5 +1.8
	baz=45					
114A	Black Gap (USA	45.20	310	⇓P	P	23 53 51.9 +1.4
	baz=45,SNR=5.7					
WUAZ	Wupatki	45.38	315	*eP*	P	23 53 53.0 +0.8
	9.1nm,1.0s					
WUAZ	Wupatki	45.38	315	⇓P	P	23 53 53.2 +1.0
	baz=46,SNR=6.1					
Z14A	Wintersburg	45.51	311	⇓P	P	23 53 54.4 +1.4
	baz=46					
U16A	Tuba City	45.52	315	⇑P	P	23 53 54.6 +1.4
	baz=46					
S18A	Hurst Farm, Bl	45.56	318	⇑P	P	23 53 55.4 +1.7
	baz=46					
L23A	Garrett	45.59	326	⇑P	P	23 53 54.7 +0.9
	baz=46					
Q19A	Hogan Spring (	45.79	320	⇓P	P	23 53 56.7 +1.4
	baz=46					
Y14A	Wickenburg	45.81	312	⇓P	P	23 53 56.4 +1.0
	baz=46					
R18A	Canyonlands Na	45.88	319	⇓P	P	23 53 56.9 +0.8
	baz=46					
Z13A	Yuma Proving G	45.98	310	⇓P	P	23 53 57.7 +1.0
	baz=46					
P19A	Cripple Cowboy	46.00	321	⇓P	P	23 53 58.2 +1.2
	baz=46					
S17A	Black Ridge (B	46.07	317	⇓P	P	23 53 59.0 +1.4
	baz=46					
N20A	Spence Gulch,	46.27	323	⇓P	P	23 54 01.0 +1.8
	baz=46					
Q18A	Rafter H Ranch	46.43	320	⇑P	P	23 54 01.5 +1.3
	baz=47					
R17A	Hanksville Air	46.43	318	⇓P	P	23 54 01.6 +1.3
	baz=47					
U15A	North Rim	46.48	315	⇓P	P	23 54 02.0 +1.2
	baz=47					
O19A	Miners Draw (B	46.48	321	⇑P	P	23 54 02.1 +1.4
	baz=47					
S16A	Weppner Ranch,	46.66	317	⇑P	P	23 54 03.2 +1.1
	baz=47					
SRU	San Rafael	46.69	319	⇓P	P	23 54 03.4 +1.0
	baz=47					
P18A	Preston Nutter	46.80	320	⇓P	P	23 54 04.6 +1.3
	baz=47					
MDND	Maddock	46.80	335	⇑P	P	23 54 04.1 +1.2
	baz=47					
N19A	John Jarvie Ra	46.87	322	⇓P	P	23 54 04.3 +0.6
	baz=47					
R16A	Teasdale	46.87	318	⇓P	P	23 54 05.3 +1.4
	baz=47					
J22A	Midwest	46.88	327	⇓P	P	23 54 04.5 +0.7
	baz=47					
I22A	9 Mile Ranch,	47.20	327	⇓P	P	23 54 07.1 +0.9
	baz=47					
J21A	Lysite	47.37	326	⇓P	P	23 54 08.7 +1.2
	baz=48					
ULM	Lac du Bonnet	47.38	340	P	P	23 54 07.1 -0.2
	5.9nm,0.4s,baz=150,slow=7.6,SNR=19					
ULM	Lac du Bonnet	47.38	340	*eP*	P	23 54 07.1 -0.2
	10nm,1.1s					
O17A	Robinson Place	47.43	320	⇑P	P	23 54 09.5 +1.4
	baz=48					
K20A	Yellowstone Ra	47.44	325	⇓P	P	23 54 09.0 +0.9
	baz=48					
IRM	Iron Mountain	47.51	311	⇓P	P	23 54 09.5 +0.9
	baz=48					
I21A	Big Trails, Te	47.59	326	⇑P	P	23 54 10.0 +0.8
	baz=48					
L19A	Farson	47.70	323	⇓P	P	23 54 11.1 +0.9
	baz=48					
M18A	Lyman	47.72	322	⇑P	P	23 54 11.3 +0.9
	baz=48					
J20A	Shoshoni	47.73	325	⇑P	P	23 54 11.5 +1.2
	baz=48					
K19A	Absolon Red Bu	47.84	324	⇓P	P	23 54 12.1 +0.9
	baz=48					
F23A	Volborg	47.88	330	⇓P	P	23 54 11.6 +0.2
	baz=48					
O16A	Springville	47.92	320	⇓P	P	23 54 12.9 +1.0
	baz=48					
G22A	Birney	47.99	328	⇑P	P	23 54 13.0 +0.8
	baz=48					
L18A	Fontenelle, Gr	48.00	323	⇑P	P	23 54 13.1 +0.7
	baz=48,SNR=5.8					
I20A	Worland	48.14	326	⇑P	P	23 54 14.1 +0.7
	baz=48					
SCHQ	Schefferville	48.16	5	P	P	23 54 14.1 +0.9
	3.0nm,0.5s,baz=270,slow=8.1,SNR=11					
SCHQ	Schefferville	48.16	5	P	P	23 54 14.1 +0.9
BW06	Boulder Array	48.22	324	⇓P	P	23 54 14.6 +0.4
	baz=48					
BW06				⇓P	P	23 54 14.6 +0.4
	baz=48					
PDAR	Pinedale Array	48.22	324	P	P	23 54 14.5 +0.4
	1.2nm,0.5s,baz=125,slow=9.4,SNR=12					
PDAR	Pinedale Array	48.22	324	P	P	23 54 14.5 +0.4
D24A	Glendive	48.34	332	⇓P	P	23 54 15.8 +1.0
	baz=48					
F22A	Rosebud	48.35	329	⇓P	P	23 54 15.6 +0.7
	baz=48					
H20A	Greybull	48.41	327	⇑P	P	23 54 16.1 +0.6
	baz=49					
G21A	Lodge Grass	48.47	328	⇓P	P	23 54 16.4 +0.5
	baz=49					
L17A	Cokeville	48.60	322	⇑P	P	23 54 17.6 +0.5
	baz=49					
HEC	Hector,Ludlow	48.68	311	⇑P	P	23 54 18.8 +1.2
	baz=49					
J18A	Kendall Valley	48.76	324	⇑P	P	23 54 18.8 +0.5
	baz=49,SNR=5.6					
L16A	Fish Haven	48.90	322	⇑P	P	23 54 19.8 +0.5
	baz=49,SNR=5.2					
I18A	Diamond G Ranc	48.94	325	⇑P	P	23 54 20.4 +0.8
	baz=49					
G20A	Bridger	49.01	327	⇓P	P	23 54 20.5 +0.5
	baz=49					
GSC	Goldstone	49.23	312	⇑P	P	23 54 22.5 +0.7
	baz=49					
C23A	Lambert	49.24	332	⇑P	P	23 54 22.5 +0.9
	baz=49					
J17A	Brown Place, J	49.25	324	⇓P	P	23 54 22.8 +0.8
	baz=49,SNR=5.7					
D22A	Cohagen	49.26	330	⇑P	P	23 54 23.0 +1.3
	baz=50,SNR=6.7					
DGMT	Dagmar	49.27	333	*eP*	P	23 54 23.2 +1.4
	18nm,0.6s					
DGMT	Dagmar	49.27	333	⇑P	P	23 54 23.3 +1.5
	baz=50					
REDW	Red Top Meadow	49.33	324	*eP*	P	23 54 23.2 +0.6
	2.6nm,0.5s					
LOHW	Long Hollow	49.34	324	*eP*	P	23 54 23.4 +0.7
	2.5nm,0.5s					
F20A	Billings	49.35	328	⇑P	P	23 54 23.7 +1.1
	baz=50					
H18A	Shoshone NF, C	49.45	326	⇑P	P	23 54 24.4 +0.9
	baz=50					
L15A	Malad City	49.48	321	⇓P	P	23 54 24.2 +0.5
	baz=50					
A24A	Westby	49.51	333	⇑P	P	23 54 25.3 +1.7
	baz=50					
RLMT	Red Lodge	49.51	327	⇑P	P	23 54 24.8 +0.8
	baz=50					
RLMT				⇑P	P	23 54 24.8 +0.8
	baz=50					
C22A	Vida	49.53	331	⇓P	P	23 54 25.3 +1.5
	baz=50					
D21A	La Casta Ranch	49.60	330	⇓P	P	23 54 25.5 +1.1
	baz=50					
B23A	Brockton	49.62	332	⇑P	P	23 54 26.3 +1.8
	baz=50					
G18A	Lazy EL Ranch,	49.80	327	⇓P	P	23 54 26.5 +0.5
	baz=50					
E20A	Meyer Farm, Mu	49.80	329	⇓P	P	23 54 27.2 +1.3
	baz=50,SNR=5.8					
F19A	Roth Farm, Mol	49.81	327	⇓P	P	23 54 26.4 +0.3
	baz=50					
I16A	Newdale	50.01	324	⇓P	P	23 54 29.1 +1.4
	baz=50					
E19A	Rath Farm, Rou	50.12	328	⇓P	P	23 54 29.3 +1.0
	baz=50					
C21A	Desert Coulee	50.17	330	⇑P	P	23 54 30.1 +1.5
	baz=50					
D20A	Manuel Ranch,	50.20	329	⇑P	P	23 54 30.2 +1.3
	baz=50					
F18A	Big Timber	50.25	327	⇑P	P	23 54 30.6 +1.2
	baz=50					
H16A	Russell Place,	50.36	325	⇓P	P	23 54 31.7 +1.4
	baz=50					
A22A	Carney Farms,	50.43	332	⇑P	P	23 54 32.3 +1.7
	baz=51					
G17A	Pierce Place,	50.45	326	⇓P	P	23 54 32.4 +1.5
	baz=51					
B21A	Ellsworth Farm	50.55	331	⇑P	P	23 54 33.2 +1.7
	baz=51					
ISA	Isabella	50.62	311	*eP*	P	23 54 31.3 -1.0
D19A	Cripps Ranch,	50.63	329	⇑P	P	23 54 33.5 +1.4
	baz=51					
I15A	Monteview	50.67	324	⇓P	P	23 54 34.9 +2.3
	baz=51					
E18A	Harlowton	50.78	328	⇑P	P	23 54 34.7 +1.4
	baz=51					
A21A	Bergtoll Ranch	50.90	332	⇓P	P	23 54 35.7 +1.6
	baz=51					
G16A	Moss Hill, Enn	50.99	325	⇑P	P	23 54 36.2 +1.2
	baz=51					
B20A	Solberg Farm,	51.05	331	⇑P	P	23 54 36.9 +1.7
	baz=51					
C19A	Slack Wire Ran	51.09	329	⇑P	P	23 54 36.9 +1.4
	baz=51					
H15A	Lima	51.12	324	⇓P	P	23 54 37.7 +1.7
	baz=51					
BOZ	Bozeman (W)	51.15	326	⇓P	P	23 54 37.1 +0.9
	baz=51					
BOZ				⇓P	P	23 54 37.1 +0.9
	baz=51					
I14A	Mackay	51.20	323	⇓P	P	23 54 37.9 +1.3
	baz=51					
G15A	Dillon	51.35	325	⇓P	P	23 54 38.5 +0.9
	baz=52					
H14A	Leadore	51.54	324	⇓P	P	23 54 40.2 +1.1
	baz=52					
D17A	Six Diamond Ra	51.56	328	⇓P	P	23 54 40.2 +1.0
	baz=52					
HLID	Hailey	51.58	322	⇓P	P	23 54 40.6 +1.2
	baz=52					
I13A	Wildhorse Cree	51.59	323	⇓P	P	23 54 40.7 +1.1
	baz=52					
NVAR	Mina Array Bea	51.64	315	P	P	23 54 41.2 +1.2
	1.0nm,0.7s,baz=125,slow=6.9,SNR=2.2					
NVAR	Mina Array Bea	51.64	315	P	P	23 54 41.2 +1.2
A19A	Klindworth Far	51.73	331	⇑P	P	23 54 41.9 +1.6
	baz=52					
F15A	Butte	51.75	325	⇓P	P	23 54 41.6 +1.0
	baz=52					
B18A	Beardsley Farm	51.89	329	⇑P	P	23 54 42.8 +1.3
	baz=52					
D16A	Dana Ranch, Ca	51.95	327	⇓P	P	23 54 43.1 +1.1
	baz=52					
G14A	Jackson	51.95	324	⇓P	P	23 54 43.1 +0.9
	baz=52					
I12A	Atlanta	52.15	322	⇓P	P	23 54 44.5 +0.9
	baz=52					
E15A	Deer Lodge	52.18	326	⇑P	P	23 54 44.8 +1.1
	baz=52					
F14A	Wisdom	52.23	325	⇓P	P	23 54 45.0 +0.8
	baz=52					
A18A	Metzger Ranch,	52.27	330	⇓P	P	23 54 45.2 +1.0
	baz=52					
G13A	Cobalt	52.32	324	⇓P	P	23 54 45.5 +0.7
	baz=52					
B17A	L&G Farms, Che	52.34	329	⇑P	P	23 54 45.8 +1.0
	baz=52					
MFID	Camas Ranch	52.37	321	⇑P	P	23 54 46.2 +1.0
	baz=52					
H12A	Diamond D Ranc	52.38	323	⇓P	P	23 54 46.2 +0.8
	baz=53					
D15A	Lincoln	52.48	327	⇑P	P	23 54 47.1 +1.2
	baz=53					
C16A	Fuhringer Ranc	52.53	328	⇓P	P	23 54 47.1 +0.9
	baz=53					
E14A	Clinton	52.65	326	⇑P	P	23 54 48.0 +0.7
	baz=53					
A17A	Triple J Farms	52.71	329	⇓P	P	23 54 48.6 +1.1
	baz=53					
F13A	Darby	52.77	324	⇑P	P	23 54 48.7 +0.6
	baz=53					
B16A	M & M Farms, S	52.89	328	⇑P	P	23 54 49.4 +0.5
	baz=53					
D14A	Greenough	53.05	326	⇓P	P	23 54 51.1 +1.0
	baz=53					
MSO	Missoula	53.14	326	⇓P	P	23 54 51.4 +0.7
	baz=53					
B15A	Bradely Ranch,	53.27	328	⇓P	P	23 54 52.4 +0.7
	baz=54					
F12A	Elk City	53.28	324	⇑P	P	23 54 52.8 +1.0
	baz=54					
A15A	Johnson Ranch,	53.77	328	⇓P	P	23 54 56.2 +0.8
	baz=54					
C13A	Hot Springs	53.98	326	⇑P	P	23 54 57.8 +0.9
	baz=54					
C12B	Naegeli Ranch,	54.50	326	⇓P	P	23 55 01.6 +1.1
	baz=55					
A12A	Yaak River Ran	55.30	327	⇓P	P	23 55 07.5 +1.3
	baz=56					
YKA	Yellowknife Ar	63.36	340	P	P	23 56 01.5 +0.3
	3.2nm,0.5s,baz=132,slow=6.7,SNR=63					
YKA	Yellowknife Ar	63.36	340	P	P	23 56 01.5 +0.3
DBIC	Dimbokro	67.54	86	P	P	23 56 29.5 +0.5
	2.1nm,0.9s,baz=302,slow=9.5,SNR=3.7					
DBIC	Dimbokro	67.54	86	P	P	23 56 29.5 +0.5
INK	Inuvik	73.12	340	*eP*	P	23 57 02.2 +0.4
	1.3nm,0.6s					
TORD	Torodi Ar. Bea	73.55	78	P	P	23 57 05.6 +0.2
	0.3nm,0.7s,baz=284,slow=6.8,SNR=6.7					
TORD	Torodi Ar. Bea	73.55	78	P	P	23 57 05.6 +0.2
ILAR	Eielson Array	77.07	335	P	P	23 57 24.9 +0.3
	2.6nm,0.9s,baz=90,slow=5.7,SNR=4.2					
ILAR	Eielson Array	77.07	335	P	P	23 57 24.9 +0.3
FALS	False Pass	84.78	325	*eP*	P	23 58 06.3 +0.8
	1μm,0.7s					
ARCES	ARCESS Array B	86.63	20	P	P	23 58 14.9 +0.5
	4.4nm,1.0s,baz=222,slow=1.6,SNR=5.1					
ARCES	ARCESS Array B	86.63	20	P	P	23 58 14.9 +0.5
ZALV	Zalesovo Beam	116.65	15	PKP	PKPdf	00 04 14.2 -0.1
	0.6nm,0.3s,baz=301,slow=2.8,SNR=5.6					
ZALV	Zalesovo Beam	116.65	15	PKP	PKPdf	00 04 14.2 -0.1
MKAR	Makanchi Array	122.28	20	PKP	PKPdf	00 04 26.0 +0.5
	0.2nm,0.3s,baz=298,slow=2.8,SNR=12					
MKAR	Makanchi Array	122.28	20	PKP	PKPdf	00 04 26.0 +0.5
CN2	Changchun	126.97	343	*e*PKP	PKPdf	00 04 32.1 -2.4
HHC	Hu-ho-hao-te	132.42	355	*e*PKP	PKPdf	00 04 43.5 -1.6
HHC				sPKP		00 05 44.5
HHC				PKS	PKSdf	00 08 14.3 -7.3
HHC				AMB	AMB	
	comp=Z,130nm,10.7s					
CD2	Chengdu	142.38	5	PKP	PKPdf	00 05 00.1 -3.5
ASAR	Alice Springs	149.25	234	PKPbc	PKPbc	00 05 19.7 -0.2
	comp=Z,0.5nm,0.5s,baz=119,slow=3.4,SNR=6.8					
ASAR	Alice Springs	149.25	234	PKPbc	PKPbc	00 05 19.7 -0.2
WB2	Warramunga Arr	150.48	241	*e*PKPdf	PKPdf	00 05 14.4 -3.0
WB2				*e*PKPbc	PKPbc	00 05 22.7 -0.2
WRAB	Tennant Creek	150.49	241	*e*PKPbc	PKPbc	00 05 21.3 -1.6
WRA	Warramunga Arr	150.49	241	PKPbc	PKPbc	00 05 22.9 0.0
	comp=Z,0.5nm,0.3s,baz=106,slow=3.0,SNR=25					
WRA	Warramunga Arr	150.49	241	PKPbc	PKPbc	00 05 22.9 0.0

IDC 16 23:56:57.3±1.9, 12°.94N×145°.03E, h42km±17km, mb3.5/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=43.1km s-min=17.9km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.66	346	P	Pn	23 57 11.5	+1.2
	326nm,0.3s,baz=168,slow=9.1,SNR=127						
GUMO				S	Sn	23 57 21.1	+1.5
	baz=351,slow=19						
WRA	Warramunga Arr	34.33	198	P	P	00 03 39.4	-0.7
	1.7nm,0.7s,baz=21,slow=9.7,SNR=19						
ASAR	Alice Springs	37.98	197	P	P	00 04 10.9	-0.4
	0.6nm,0.7s,baz=26,slow=10,SNR=6.6						
MKAR	Makanchi Array	62.06	316	P	P	00 07 14.1	+0.4
	0.5nm,0.6s,baz=89,slow=8.2,SNR=11						
ILAR	Eielson Array	69.08	25	P	P	00 07 57.5	-1.1
	0.6nm,0.4s,baz=256,slow=5.5,SNR=6.9						
YKA	Yellowknife Ar	83.36	27	P	P	00 09 19.6	-0.1
	0.4nm,0.5s,baz=287,slow=4.9,SNR=6.3						
LPAZ	La Paz	147.76	100	PKPbc	PKPbc	00 16 40.2	+0.9
	0.5nm,0.5s,baz=306,slow=2.7,SNR=5.4						

*BJI **17** 00:09:29.7, 52°.70N×169°.50W, h61km, mb4.7/5, Ms4.6/1, Ms7 4.2/1*

*ISCJB **17** 00:09:32.1±0.4, 52°.98N±0°.09×169°.69W±0°.06, h87km±4km, mb4.1/17, Error ellipse: s-maj=15.7km s-min=4.1km az=162.4*

*NEIC **17** 00:09:32.2, 52°.73N×169°.50W, h61km, mb4.2/5, ML4.2(AEIC), After AEIC.*

NEIC Felt at Nikolski.

*IDC **17** 00:09:33.4±2.0, 52°.96N×169°.73W, h86km±16km, mb3.9/11, mb1 4.1/15, mb1mx3.8/30, mbtmp3.9/15, Error ellipse: s-maj=22.6km s-min=11.2km az=176.0*

ISC 17 00:09:31.5±0.7, 52°.8N±0°.1×169°.63W±0°.05, h70km±4km, n73, σ1°45/97, mb4.3/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	0.49	72	*e*Pn	Pn	00 09 44.2	-0.1
NIKO				*e*Sn	Sn	00 09 52.9	-0.7
OKSP	Okmok Steeple	0.92	62	P	Pn	00 09 50.1	+1.1
OKWE	Okmok W'ng Wal	1.06	52	P	Pn	00 09 52.2	+1.5
OKCE	Okmok Cone E	1.07	55	P	Pn	00 09 51.7	+0.8
OKCE				S	Sn	00 10 07.6	+2.3
OKFG	Magazine Ridge	1.19	60	P	Pn	00 09 53.1	+0.7
OKFG				S	Sn	00 10 09.4	+1.4
MSOM	Makushin Julie	1.89	57	P	Pn	00 10 02.6	+1.0
MCIR	Makushin Cirqu	1.99	54	P	Pn	00 10 04.2	+1.1
MREP	Makushin Rep't	1.99	59	P	Pn	00 10 04.5	+1.4
MSW	Makushin Swito	2.03	56	P	Pn	00 10 04.5	+1.0
UNV	Unalaska Valle	2.14	60	*e*Pn	Pn	00 10 05.8	+0.9
UNV				*e*Sn	Sn	00 10 31.9	+1.5
ZRO	Akutan Zero	2.53	58	P	Pn	00 10 12.1	+1.9
AKLV	Akutan Long Va	2.57	57	P	Pn	00 10 12.2	+1.4
AHB	Akutan Harbor	2.62	59	P	Pn	00 10 13.4	+1.9
AKUT	Akutan	2.65	59	*e*Pn	Pn	00 10 13.6	+1.7
AKUT				*e*Sn	Sn	00 10 45.5	+2.6
KOFP	Korovin Flat P	2.78	260	P	Pn	00 10 16.3	+2.5
BRPK	Brown Peak	3.94	60	P	Pn	00 10 31.9	+2.4
GSMY	Great Sitkin M	4.01	261	P	Pn	00 10 32.6	+2.2
GSTD	Great Sitkin T	4.06	262	P	Pn	00 10 33.1	+2.0
GSCK	Great Sitkin C	4.08	261	P	Pn	00 10 33.2	+1.9
FALS	False Pass	4.21	59	*e*Pn	Pn	00 10 35.9	+2.8
FALS				*e*Sn	Sn	00 11 22.0	+1.2
KIMD	Kanaga Island	4.79	260	P	Pn	00 10 43.0	+2.0
DRIA	Deer Island	4.86	61	P	Pn	00 10 43.5	+1.5
SDPT	Sand Point	5.95	61	*e*Pn	Pn	00 10 58.0	+1.2
SDPT				*e*Sn	Sn	00 12 05.6	+2.1
FX1	Attu Island--F	10.41	277	P	Pn	00 12 00.2	+2.5
	1.0nm,0.3s,baz=104,slow=8.3,SNR=3.2						
FX1				S	Sn	00 13 53.6	+1.1
	0.3nm,0.3s,baz=114,slow=20,SNR=1.9						
FX1	Attu Island--F	10.41	277	P	Pn	00 12 00.2	+2.5
FX1				S	Sn	00 13 53.6	+1.1
KDAK	Kodiak Island	10.90	56	P	Pn	00 12 04.4	0.0
	4.0nm,0.3s,baz

DAWY	**Dawson**	19.20	42	*e*Pn		**P**		00 13 49.3	0.0
PETK	**Petropavlovsk-**	19.59	284	P		**P**		00 13 54.5	+0.9
	0.3nm,0.3s,baz=92,slow=13,SNR=6.2								
PETK	**Petropavlovsk-**	19.59	284	P		**P**		00 13 54.5	+0.9
SKAG	**Skagway**	20.05	57	*e*Pn		**P**		00 13 54.9	-3.7
	17nm,0.7s								
DLBC	**Dease Lake**	22.79	60	P		**P**		00 14 29.8	+1.8
	4.2nm,0.6s,baz=285,slow=8.3,SNR=4.2								
DLBC	**Dease Lake**	22.79	60	*e*P		**P**		00 14 30.4	+2.4
INK	**Inuvik**	23.05	34	P		**P**		00 14 28.8	-1.6
	2.0nm,0.3s,baz=249,slow=9.1,SNR=39								
INK				PcP		**PcP**		00 18 16.5	-0.4
	0.6nm,0.5s,baz=354,slow=3.0,SNR=4.3								
INK	**Inuvik**	23.05	34	*e*P		**P**		00 14 28.6	-1.8
	3.0nm,0.5s								
INK				PcP		**PcP**		00 18 16.5	-0.4
YKA	**Yellowknife Ar**	30.06	49	P		**P**		00 15 32.8	-0.7
	0.5nm,0.5s,baz=271,slow=8.1,SNR=11								
YKA				PcP		**PcP**		00 18 33.8	+0.3
	0.2nm,0.5s,baz=283,slow=2.6,SNR=5.5								
YKA				ScP		**ScP**		00 22 06.9	-2.2
	0.2nm,0.6s,baz=289,slow=3.2,SNR=5.0								
YKA	**Yellowknife Ar**	30.06	49	P		**P**		00 15 32.8	-0.7
YKA				PcP		**PcP**		00 18 33.8	+0.3
YKA				ScP		**ScP**		00 22 07.0	-2.2
MCMT	**McKenzie Canyo**	37.34	79	*e*P		**P**		00 16 37.1	0.0
	1.8nm,0.5s								
NVAR	**Mina Array Bea**	37.83	91	P		**P**		00 16 42.9	+1.6
	4.0nm,0.7s,baz=302,slow=7.6,SNR=29								
NVAR				PcP		**PcP**		00 18 56.3	0.0
	0.4nm,0.6s,baz=299,slow=4.0,SNR=3.8								
NVAR	**Mina Array Bea**	37.83	91	P		**P**		00 16 42.9	+1.6
NVAR				PcP		**PcP**		00 18 56.3	0.0
PDAR	**Pinedale Array**	40.48	79	P		**P**		00 17 03.9	+0.6
	1.7nm,0.6s,baz=297,slow=4.2,SNR=18								
PDAR	**Pinedale Array**	40.48	79	P		**P**		00 17 03.9	+0.6
MSU	**Marysvale**	41.50	86	*e*P		**P**		00 17 13.0	+1.3
CN2	**Changchun**	42.74	285	*e*P		**P**		00 17 21.3	-0.1
ULM	**Lac du Bonnet**	44.08	62	P		**P**		00 17 33.4	+1.3
	1.0nm,0.4s,baz=303,slow=6.1,SNR=5.4								
ULM	**Lac du Bonnet**	44.08	62	P		**P**		00 17 33.4	+1.3
SONM	**Songino Array**	50.93	300	P		**P**		00 18 25.2	-0.2
	0.1nm,0.5s,baz=60,slow=6.8,SNR=3.3								
SONM				PcP		**PcP**		00 19 40.1	-0.7
	0.6nm,0.6s,baz=51,slow=2.0,SNR=5.7								
SONM				ScP		**ScP**		00 23 28.5	-2.1
	0.4nm,0.6s,baz=61,slow=4.3,SNR=3.8								
SONM	**Songino Array**	50.93	300	P		**P**		00 18 25.2	-0.2
SONM				PcP		**PcP**		00 19 40.1	-0.7
SONM				ScP		**ScP**		00 23 28.5	-2.1
HHC	**Hu-ho-hao-te**	52.61	291	*e*P		**P**		00 18 39.8	+1.8
HHC				pP		**pP**		00 18 55.8	-0.1
HHC				sP		**sP**		00 19 02.6	-1.3
HHC				PcP		**PcP**		00 19 49.0	+1.8
HHC				PP		PP		00 20 40.6	+3.3
HHC				S		**S**		00 26 01.5	+1.7
HHC				sS		**sS**		00 26 28.3	-1.9
HHC				SS		SS		00 29 38.6	+0.2
HHC				pmax		pmax			
	comp=Z,9.0nm,0.9s								
HHC				LR		LR			
	comp=N,190nm,17.3s								
HHC				LR		LR			
	comp=E,240nm,16.7s								
HHC				LR		LR			
	comp=Z,190nm,16.3s								
TXAR	**Lajitas Array**	52.90	89	P		**P**		00 18 40.6	+0.4
	comp=Z,3.1nm,0.7s,baz=305,slow=5.3,SNR=29								
TXAR	**Lajitas Array**	52.90	89	P		**P**		00 18 40.6	+0.4
MKAR	**Makanchi Array**	63.37	313	P		**P**		00 19 51.4	-1.6
	comp=Z,0.1nm,0.3s,baz=49,slow=9.8,SNR=3.1								
MKAR	**Makanchi Array**	63.37	313	P		**P**		00 19 51.4	-1.6
GYA	**Guiyang**	65.67	282	*e*P		P		00 20 12.0	+3.5
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
HFS	**Hagfors**	67.36	358	P		**P**		00 20 18.4	-0.1
	comp=Z,6.6nm,1.1s,baz=28,slow=4.0,SNR=10								
HFS	**Hagfors**	67.36	358	P		**P**		00 20 18.4	-0.1
KMI	**Kunming**	69.00	284	P		P		00 20 33.6	+4.0
KMI				pP		pP		00 20 49.0	+0.7
KMI				sP		sP		00 20 55.4	-0.6
KMI				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ABKAR	**Akbulak array**	69.96	328	*e*P		**P**		00 20 35.3	+0.4
AKASG	**Malin Array Be**	75.62	348	P		**P**		00 21 07.9	-0.5
	comp=Z,0.6nm,0.4s,baz=16,slow=6.5,SNR=3.1								
AKASG	**Malin Array Be**	75.62	348	P		**P**		00 21 07.8	-0.5
WRA	**Warramunga Arr**	87.16	231	P		**P**		00 22 08.7	-1.0
	comp=Z,2.4nm,0.9s,baz=32,slow=5.7,SNR=11								
WRA	**Warramunga Arr**	87.16	231	P		**P**		00 22 08.7	-1.0
ASAR	**Alice Springs**	90.57	230	P		**P**		00 22 25.3	-0.3
	comp=Z,2.1nm,0.7s,baz=30,slow=4.8,SNR=9.9								
ASAR	**Alice Springs**	90.57	230	P		**P**		00 22 25.3	-0.3

IDC 17 00:14:56.6±2.4, 1°09′S×133°76′E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=130.5km s-min=22.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	18.75	178	P		P	00 19 16.2	-1.0
	0.2nm,0.3s,baz=357,slow=12,SNR=27							
ASAR	**Alice Springs**	22.45	180	P		P	00 19 58.1	+0.7
	4.9nm,0.8s,baz=1.9,slow=11,SNR=29							
MKAR	**Makanchi Array**	65.53	324	P		P	00 25 41.8	-0.1
	0.6nm,0.6s,baz=113,slow=7.2,SNR=11							
KURK	**Kurchatov**	69.59	326	P		P	00 26 07.7	+0.1
	0.6nm,0.2s,baz=117,slow=5.4,SNR=4.0							

*NEIC **17** 00:18:33.6, 27°46S×69°95W, h84km, MG4.3(GUC), After GUC.*

GUC 17 00:18:33.6±0.6, 27°46S×69°95W, h84km±6km, ML4.3, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPCH	**Copiapo**	0.37	285↑	*i*P		Pn	00 18 46.7	0.0
CPCH				*i*S		Sn	00 18 57.0	+0.5
CPCH	**Copiapo**	0.37	285↑	*i*P		Pn	00 18 46.7	0.0
CPCH				*i*S		Sn	00 18 57.0	+0.5
CPCH				AML		AML	00 18 58.2	
	comp=N,47μm,0.1s							
CDCH	**Caldera**	0.86	296↑	*i*P		Pn	00 18 51.6	+0.3
CDCH				*i*S		Sn	00 19 04.9	+0.3
CDCH	**Caldera**	0.86	296↑	*i*P		Pn	00 18 51.6	+0.3
CDCH				*i*S		Sn	00 19 04.9	+0.3
VACH	**Vallenar**	1.32	212↑	*i*P		Pn	00 18 57.4	+0.6
VACH				*i*S		Sn	00 19 15.0	+0.7
VACH	**Vallenar**	1.32	212↑	*i*P		Pn	00 18 57.4	+0.6
VACH				*i*S		Sn	00 19 15.0	+0.7
VACH				AML		AML	00 19 16.2	
	comp=E,4μm,0.1s							
LCO	**Las Campanas**	1.68	203	*e*Pn		Pn	00 19 02.1	+0.3
LCO				*e*Sn		Sn	00 19 21.6	-1.6
LCO	**Las Campanas**	1.68	203↑	*i*P		Pn	00 19 02.1	+0.2
LCO				*i*S		Sn	00 19 24.2	+1.0
LVC	**Limon Verde**	4.92	11	*e*Pn		Pn	00 19 44.3	-1.1

IDC 17 00:26:13.1±2.3, 5°08S×151°44E, h108km±20km, mb3.5/8, mb1 3.6/10, mb1mx3.5/20, mbtmp3.5/10, Error ellipse: s-maj=24.9km s-min=13.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	6.04	224	P		Pn	00 27 40.8	+0.7
	5.1nm,0.3s,baz=30,slow=14,SNR=9.8							
PMG				S		Sn	00 28 48.1	+0.2
	9.5nm,0.3s,baz=139,slow=22,SNR=14							
CTA	**Charters Tower**	15.75	198	P		Pn	00 29 49.4	+0.4
	0.6nm,0.3s,baz=20,slow=15,SNR=7.8							
WRA	**Warramunga Arr**	22.25	227	P		P	00 31 01.3	-0.1
	1.6nm,0.3s,baz=51,slow=10.0,SNR=47							
WRA				S		S	00 35 00.3	+1.0
	1.0nm,0.9s,baz=49,slow=18,SNR=3.8							
DZM	**Mont Dzumac**	22.28	141	P		P	00 31 01.3	-0.5
	3.7nm,0.6s,baz=324,slow=14,SNR=5.2							
ASAR	**Alice Springs**	25.04	221	P		P	00 31 28.1	+0.6
	1.4nm,0.3s,baz=54,slow=9.0,SNR=28							
FITZ	**Fitzroy Crossi**	28.34	241	P		P	00 31 56.8	-0.3
	2.4nm,0.9s,baz=57,slow=6.9,SNR=8.4							
SONM	**Songino Array**	65.84	328	P		P	00 36 47.9	+0.7
	0.4nm,0.6s,baz=142,slow=6.5,SNR=5.4							
MKAR	**Makanchi Array**	79.64	319	P		P	00 38 10.1	+1.4
	0.2nm,0.8s,baz=104,slow=6.1,SNR=2.1							
ZALV	**Zalesovo Beam**	80.63	327	P		P	00 38 13.0	-0.8
	0.3nm,0.4s,baz=116,slow=3.4,SNR=2.7							
BVAR	**Borovoye Array**	88.65	323	P		P	00 38 52.6	-1.6
	0.4nm,0.7s,baz=106,slow=4.8,SNR=2.4							

IDC 17 00:47:46.4±1.1, 0°45S×132°21E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, ML3.7/2, MS3.2/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=62.4km s-min=18.8km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	18.70	200	P		P	00 52 04.8	-1.7
	0.1nm,0.3s,baz=52,slow=13,SNR=6.6							
WRA	**Warramunga Arr**	19.49	174	P		P	00 52 15.8	+0.6
	0.3nm,0.3s,baz=351,slow=11,SNR=15							
ASAR	**Alice Springs**	23.14	176	P		P	00 52 55.2	+0.7
	1.9nm,0.6s,baz=354,slow=9.3,SNR=17							
CMAR	**Chiang Mai Arr**	37.71	302	LR		LR	01 12 25.9	
	comp=Z,29nm,18.1s,baz=175,slow=39							
SONM	**Songino Array**	53.08	338	P		P	00 57 07.2	+1.5
	0.4nm,0.9s,baz=152,slow=9.6,SNR=3.0							
MKAR	**Makanchi Array**	64.11	324	P		P	00 58 22.2	-0.3
	0.5nm,0.7s,baz=112,slow=7.5,SNR=9.0							
ZALV	**Zalesovo Beam**	66.80	332	P		P	00 58 39.3	-0.5
	0.4nm,0.5s,baz=106,slow=5.1,SNR=3.2							
ILAR	**Eielson Array**	86.52	25	P		P	01 00 30.2	-0.8
	0.3nm,0.8s,baz=241,slow=6.8,SNR=2.8							

IDC 17 00:51:50.4±48.0, 17°27S×176°19W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=895.3km s-min=162.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	40.79	241	P		P	00 59 34.4	+0.8
	0.9nm,0.5s,baz=55,slow=9.9,SNR=4.4							
WRA	**Warramunga Arr**	46.83	259	P		P	01 00 21.9	-0.5
	0.4nm,0.3s,baz=97,slow=7.2,SNR=27							
ASAR	**Alice Springs**	47.00	254	P		P	01 00 23.4	-0.4
	7.3nm,0.5s,baz=88,slow=8.6,SNR=153							

*IDC **17** 01:15:33.5±1.6, 50°97N×171°19W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/30, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=46.6km s-min=19.6km az=6.0*
*ISCJB **17** 01:15:35.8±1.3, 51°1N±0°2×171°1W±0°2, h23km, mb3.7/10, Error ellipse: s-maj=33.7km s-min=15.4km az=179.2*
*NEIC **17** 01:15:39.3±1.2, 51°10N×171°08W, h35km, mb3.9/3, Error ellipse: s-maj=32.1km s-min=13.8km az=181.0*

ISC 17 01:15:37.6±1.4, 51°1N±0°3×171°1W±0°1, h23km, n21, σ0°79/23, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	18.65	33	P		**P**	01 19 51.9	-1.5
	0.1nm,0.3s,baz=225,slow=11,SNR=4.0							
ILAR	**Eielson Array**	18.65	33	P		**P**	01 19 52.0	-1.5
INK	**Inuvik**	25.04	32	P		**P**	01 20 60.0	+0.5
	1.4nm,0.8s,baz=249,slow=8.4,SNR=6.9							
INK	**Inuvik**	25.04	32	*e*P		**P**	01 20 59.7	+0.2
	1.6nm,0.7s							
YKA	**Yellowknife Ar**	31.93	47	P		**P**	01 22 02.0	+1.1
	0.2nm,0.5s,baz=271,slow=7.9,SNR=9.4							
YKA				PcP		**PcP**	01 24 50.4	-0.2
	0.2nm,0.7s,baz=279,slow=3.2,SNR=5.1							
YKA	**Yellowknife Ar**	31.93	47	P		**P**	01 22 02.0	+1.1
YKA				PcP		**PcP**	01 24 50.4	-0.2
PDAR	**Pinedale Array**	41.73	77	P		**P**	01 23 24.4	-0.4
	0.3nm,0.7s,baz=316,slow=4.1,SNR=4.9							
PDAR	**Pinedale Array**	41.73	77	P		**P**	01 23 24.4	-0.4
SONM	**Songino Array**	51.05	301	P		**P**	01 24 37.9	+0.2
	0.2nm,0.6s,baz=48,slow=7.0,SNR=4.0							
SONM	**Songino Array**	51.05	301	P		**P**	01 24 37.9	+0.2
TXAR	**Lajitas Array**	53.87	87	P		**P**	01 24 58.8	0.0
	0.7nm,0.6s,baz=300,slow=5.2,SNR=11							
TXAR	**Lajitas Array**	53.87	87	P		**P**	01 24 58.8	0.0
KURK	**Kurchatov**	62.64	318	P		**P**	01 25 59.0	-0.7
	0.8nm,0.5s,baz=46,slow=6.5,SNR=6.7							
KURK	**Kurchatov**	62.64	318	*e*P		**P**	01 25 58.6	-1.1
	1.0nm,0.5s							
MKAR	**Makanchi Array**	63.92	313	P		**P**	01 26 07.4	-0.9
	0.5nm,0.7s,baz=48,slow=5.7,SNR=5.2							
MKAR	**Makanchi Array**	63.92	313	P		**P**	01 26 07.4	-0.9
BVAR	**Borovoye Array**	64.15	324	P		**P**	01 26 10.4	+0.7
	1.3nm,0.6s,baz=64,slow=6.8,SNR=9.5							
BVAR	**Borovoye Array**	64.15	324	P		**P**	01 26 10.4	+0.7
HFS	**Hagfors**	69.11	357	P		**P**	01 26 41.5	+0.4
	1.9nm,0.8s,baz=1.9,slow=4.3,SNR=4.8							
HFS	**Hagfors**	69.11	357	P		**P**	01 26 41.5	+0.4
ABKAR	**Akbulak array**	70.98	327	*e*P		**P**	01 26 53.2	+0.4
	0.4nm,0.4s							

IDC 17 01:24:30.9±3.8, 0°61S×131°45E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=252.4km s-min=25.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	19.42	172	P		P	01 28 58.6	-0.4
	0.2nm,0.3s,baz=351,slow=11,SNR=14							
ASAR	**Alice Springs**	23.04	174	P		P	01 29 38.0	-0.1
	1.0nm,0.6s,baz=358,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	63.79	325	P		P	01 35 05.2	+0.2
	0.2nm,0.6s,baz=142,slow=7.0,SNR=3.3							

IDC 17 01:27:24.5±57.0, 17°21S×179°46E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=1020.0km s-min=149.1km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	37.20	240	P		P	01 34 38.2	+0.5
	1.4nm,0.8s,baz=81,slow=12,SNR=1.9							
WRA	**Warramunga Arr**	42.76	259	P		P	01 35 24.1	-0.1
	0.1nm,0.3s,baz=93,slow=8.4,SNR=5.3							
ASAR	**Alice Springs**	43.03	254	P		P	01 35 25.6	-0.7
	0.7nm,0.4s,baz=89,slow=8.6,SNR=15							

IDC 17 01:41:46.1±5.2, 17°27S×64°30W, h43km±28km, mb3.7/2, mb1 3.9/4, mb1mx3.5/17, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=155.0km s-min=26.5km az=1.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIV	**San Ignacio**	3.35	68	P		Pn	01 42 36.4	+0.3
	11nm,0.3s,baz=263,slow=12,SNR=119							
SIV				S		Sn	01 43 29.0	+14
	27nm,0.3s,baz=164,slow=23,SNR=8.2							
LPAZ	**La Paz**	3.79	284	P		Pn	01 42 42.2	-0.7
	1.5nm,0.3s,baz=94,slow=14,SNR=12							
LPAZ				S		Sn	01 43 40.0	+13
	12nm,0.3s,baz=222,slow=22,SNR=7.5							
TORD	**Torodi Ar. Bea**	71.83	69	P		P	01 53 04.6	-0.4
	0.7nm,0.5s,baz=257,slow=5.2,SNR=18							
YKA	**Yellowknife Ar**	88.73	339	P		P	01 54 34.7	-0.1
	0.5nm,0.6s,baz=122,slow=4.7,SNR=4.8							
SONM	**Songino Array**	148.57	12	PKPbc		PKPbc	02 01 28.8	+0.1
	0.6nm,0.7s,baz=336,slow=1.6,SNR=4.1							

*IDC **17** 01:52:52.8±1.2, 46°84N×155°33E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/27, mbtmp3.8/12, ML2.8/2, Error ellipse: s-maj=29.3km s-min=21.1km az=164.0*
*ISCJB **17** 01:52:54.0±0.9, 47°0N±0°1×155°3E±0°2, h18km, mb3.8/11, Error ellipse: s-maj=21.8km s-min=12.8km az=155.2*
*NEIC **17** 01:52:58.3±0.8, 46°97N×155°28E, h35km, mb4.4/2, Error ellipse: s-maj=19.0km s-min=12.8km az=155.0*

ISC 17 01:52:55.8±1.0, 46°9N±0°2×155°3E±0°1, h18km, n26, σ0°74/25, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	6.37	13	Pn		**Pn**	01 54 27.6	-1.1
	0.4nm,0.3s,baz=184,slow=14,SNR=4.9							
PETK	**Petropavlovsk-**	6.37	13	Pn		**Pn**	01 54 27.6	-1.1
USRK	**Ussuriysk Arra**	16.52	269	Pn		**Pn**	01 56 46.6	+0.1
	0.2nm,0.3s,baz=81,slow=14,SNR=4.2							
SONM	**Songino Array**	32.68	290	P		**P**	01 59 26.4	-0.5
	0.4nm,0.7s,baz=60,slow=9.4,SNR=4.7							
SONM	**Songino Array**	32.68	290	P		**P**	01 59 26.4	-0.5
WHN	**Wuhan**	35.42	257	P		P	01 59 56.0	+5.3
ILAR	**Eielson Array**	35.47	39	P		**P**	01 59 50.9	+0.1
	0.2nm,0.5s,baz=269,slow=9.7,SNR=4.1							
ILAR	**Eielson Array**	35.47	39	P		**P**	01 59 50.9	+0.1
ZALV	**Zalesovo Beam**	43.71	306	P		**P**	02 00 59.1	-0.3
	0.8nm,0.6s,baz=62,slow=6.4,SNR=5.7							
ZALV	**Zalesovo Beam**	43.71	306	P		**P**	02 00 59.1	-0.3
MK31	**Makanchi Array**	48.17	298	*e*P		**P**	02 01 33.8	-1.1
MKAR	**Makanchi Array**	48.17	298	P		**P**	02 01 35.1	+0.3
	0.7nm,0.7s,baz=67,slow=8.4,SNR=7.4							
MKAR	**Makanchi Array**	48.17	298	P		**P**	02 01 35.1	+0.3
KURK	**Kurchatov**	48.50	304	P		**P**	02 01 38.2	+1.0
	2.6nm,0.7s,baz=65,slow=8.2,SNR=14							
KURK	**Kurchatov**	48.50	304	*e*P		**P**	02 01 37.4	+0.2
	2.4nm,0.9s							
YKA	**Yellowknife Ar**	49.88	37	P		**P**	02 01 48.2	+0.6
	0.1nm,0.6s,baz=294,slow=7.3,SNR=2.4							
YKA	**Yellowknife Ar**	49.88	37	P		**P**	02 01 48.2	+0.6
BVAR	**Borovoye Array**	51.89	310	P		**P**	02 02 04.1	+1.2
	2.5nm,0.5s,baz=56,slow=8.0,SNR=23							
BVAR	**Borovoye Array**	51.89	310	P		**P**	02 02 04.1	+1.2
BRVK	**Borovoye**	51.92	310	*e*P		**P**	02 02 03.2	0.0
	3.2nm,0.6s							
FINES	**FINESS Array B**	64.50	336	P		**P**	02 03 31.9	+1.0
	4.7nm,1.0s,baz=38,slow=9.6,SNR=5.8							
FINES	**FINESS Array B**	64.50	336	P		**P**	02 03 31.9	+1.0
ASAR	**Alice Springs**	72.88	200	P		**P**	02 04 22.9	-0.7
	1.1nm,0.7s,baz=20,slow=5.9,SNR=5.1							
ASAR	**Alice Springs**	72.88	200	P		**P**	02 04 22.9	-0.7
TXAR	**Lajitas Array**	76.09	62	P		**P**	02 04 42.5	0.0
	0.2nm,0.4s,baz=297,slow=4.0,SNR=3.0							
TXAR	**Lajitas Array**	76.09	62	P		**P**	02 04 42.5	0.0

*BJI **17** 01:54:42.0, 5°07N×93°95E, h58km, mB5.0/14, mb4.7/20, Ms4.4/10, Ms7 4.2/10*
*NEIC **17** 01:54:42.9±0.5, 5°11N×94°14E, mb4.6/12, Error ellipse: s-maj=13.6km s-min=7.3km az=54.0*
*DJA **17** 01:54:44, 5°13N×94°41E, h15km, MLv4.5/5*
*IDC **17** 01:54:46.8±7.2, 5°27N×94°36E, h75km±64km, mb4.0/16, mb1 4.1/17, mb1mx3.9/27, mbtmp4.0/17, ML5.0/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/35, Error ellipse: s-maj=34.1km s-min=12.3km az=53.0*

ISC 17 01:54:42.7±0.7, 5°00N±0°08×94°01E±0°09, h48km±3km, h48km:pP-P, n83, σ1°71/105, mb4.4/35, MS3.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	14.22	19	*e*Pn		**Pn**	01 58 01.7	+0.2
	9.5nm,0.5s							
CMAR	**Chiang Mai Arr**	14.22	19	P		**Pn**	01 58 00.1	-1.4
	2.6nm,0.3s,baz=207,slow=14,SNR=17							
CMAR	**Chiang Mai Arr**	14.22	19	P		**Pn**	01 58 00.1	-1.4
CHTO	**Chiang Mai**	14.55	19	*e*Pn		**Pn**	01 58 06.9	+1.0
QIZ	**Qiongzhong**	20.81	47	P		**P**	01 59 21.3	+1.1
QIZ				S		**S**	02 03 10.3	+0.4
QIZ				pmax		pmax		
	comp=Z,100nm,4.2s							
KMI	**Kunming**	21.70	22	P		**P**	01 59 28.8	-1.1
KMI				pP		**pP**	01 59 41.8	+0.4
KMI				sP		**sP**	01 59 48.8	+1.3
KMI				PP		**PnPn**	01 59 58.9	+6.4
KMI				S		**S**	02 03 23.3	-4.4
KMI				pmax		pmax		
	comp=Z,11nm,0.6s							
KMI				pmax		pmax		
	comp=Z,120nm,4.4s							
KMI				LR		LR		
	comp=N,140nm,16.5s							
KMI				LR		LR		
	comp=E,120nm,15.1s							
KMI				LR		LR		
	comp=Z,170nm,18.7s							
ODAN	**Odare**	22.64	344	*e*P		**P**	01 59 38.2	-1.9
ODAN	**Odare**	22.64	344	*e*P		**P**	01 59 38.2	-1.9
RAMN	**Ramite**	22.95	343	*e*P		**P**	01 59 41.7	-1.6
RAMN	**Ramite**	22.95	343	*e*P		**P**	01 59 41.7	-1.6
TAPN	**Taplejung**	23.03	346	*e*P		**P**	01 59 41.6	-2.6
TAPN	**Taplejung**	23.03	346	*e*P		**P**	01 59 41.6	-2.6
JIRN	**Jiri**	23.74	343	*e*P		**P**	01 59 48.6	-2.5
	comp=Z,11nm,0.3s							
PKI	**Pulchoki**	23.90	341	*e*P		**P**	01 59 51.2	-1.3
	comp=Z,11nm,0.4s							
DMN

HHC				LR	LR			
	comp=E,210nm,15.5s							
HHC				LR	LR			
	comp=Z,180nm,16.6s							
WMQ	**Urumqi**	**39.07**	**353**	*eP*	**P**	**02 02 04.6**	**-0.5**
WMQ				pP	**pP**	**02 02 16.9**	**-1.1**
WMQ				sP	**sP**	**02 02 21.6**	**-2.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.6s							
JOW	**Kunigami**	**39.23**	**53**	P	**P**	**02 02 04.7**	**-2.0**
	comp=Z,4.4nm,0.4s,baz=245,slow=14,SNR=5.1							
JOW				LR	LR	02 17 31.2		
	comp=Z,96nm,20.0s,baz=324,slow=35							
JOW	**Kunigami**	**39.23**	**53**	P	**P**	**02 02 04.7**	**-2.0**
TKM2	**Tokmak 2**	**41.15**	**339**	*eP*	**P**	**02 02 24.1**	**+1.5**
	comp=Z,3.4nm,0.4s							
EKS2	**Erkin-Say**	**41.59**	**337**	*eP*	**P**	**02 02 27.5**	**+1.4**
	comp=Z,4.5nm,0.8s							
EKS2				*ep*P	**pP**	**02 02 40.6**	**+1.5**
MK31	**Makanchi Array**	**42.86**	**348**	*eP*	**P**	**02 02 35.9**	**-0.3**
MKAR	**Makanchi Array**	**42.86**	**348**	P	**P**	**02 02 36.0**	**-0.2**
	comp=Z,10nm,0.5s,baz=161,slow=7.3,SNR=215							
MKAR				LR	LR	02 22 47.4		
	comp=Z,43nm,20.4s,baz=270,slow=39							
MKAR	**Makanchi Array**	**42.86**	**348**	*eP*	**P**	**02 02 36.2**	**0.0**
KKAR	**Karatay Array**	**43.28**	**335**	*eP*	**P**	**02 02 40.8**	**+1.1**
SONM	**Songino Array**	**43.98**	**12**	P	**P**	**02 02 43.2**	**-2.2**
	comp=Z,1.3nm,0.4s,baz=194,slow=8.7,SNR=16							
SONM				PcP	**PcP**	**02 04 30.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=202,slow=4.0,SNR=8.9							
SONM	**Songino Array**	**43.98**	**12**	P	**P**	**02 02 43.2**	**-2.2**
SONM				PcP	**PcP**	**02 04 30.3**	**-0.2**
ULN	**Ulaanbaatar**	**44.15**	**13**	*eP*	**P**	**02 02 44.4**	**-2.4**
	comp=Z,5.0nm,1.2s							
ULN				*ep*P	**pP**	**02 02 56.4**	**-3.4**
KSAR	**Wonju Array Be**	**44.70**	**39**	P	**P**	**02 02 48.6**	**-2.5**
KSRS	**Korea Array**	**44.74**	**39**	P	**P**	**02 02 48.6**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=226,slow=9.2,SNR=4.7							
KSRS				LR	LR	02 22 17.3		
	comp=Z,47nm,18.8s,baz=25,slow=37							
WRA	**Warramunga Arr**	**46.75**	**123**	P	**P**	**02 03 07.8**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=304,slow=9.3,SNR=18							
WRA	**Warramunga Arr**	**46.75**	**123**	P	**P**	**02 03 07.8**	**+0.2**
WRAB	**Tennant Creek**	**46.75**	**123**	*eP*	**P**	**02 03 08.2**	**+0.6**
	comp=Z,6.9nm,0.6s							
WB2	**Warramunga Arr**	**46.76**	**123**	*eP*	**P**	**02 03 07.6**	**-0.1**
KURK	**Kurchatov**	**47.36**	**347**	P	**P**	**02 03 11.8**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=172,slow=7.0,SNR=151							
KURK	**Kurchatov**	**47.36**	**347**	*eP*	**P**	**02 03 12.1**	**+0.3**
KURK				*ep*P	**pP**	**02 03 24.5**	**-0.5**
CN2	**Changchun**	**47.53**	**31**	*eP*	**P**	**02 03 14.8**	**+1.5**
ASAR	**Alice Springs**	**48.21**	**128**	P	**P**	**02 03 19.4**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=302,slow=7.9,SNR=18							
ASAR	**Alice Springs**	**48.21**	**128**	P	**P**	**02 03 19.4**	**+0.5**
ZAA0	**Zalesovo Array**	**49.38**	**353**	*eP*	**P**	**02 03 26.7**	**-0.6**
ZALV	**Zalesovo Beam**	**49.38**	**353**	P	**P**	**02 03 27.1**	**-0.3**
	comp=Z,6.1nm,0.4s,baz=169,slow=7.5,SNR=55							
ZALV	**Zalesovo Beam**	**49.38**	**353**	P	**P**	**02 03 27.1**	**-0.3**
MAJO	**Matsushiro**	**51.21**	**46**	*eP*	**P**	**02 03 40.9**	**-0.6**
	comp=Z,9.3nm,0.8s							
MJAR	**Matsushiro Arr**	**51.21**	**46**	LR	LR	02 26 57.5		
	comp=Z,65nm,18.8s,baz=270,slow=38							
BVAR	**Borovoye Array**	**51.66**	**342**	P	**P**	**02 03 44.6**	**0.0**
	comp=Z,1.9nm,0.5s,baz=146,slow=9.8,SNR=19							
BVAR	**Borovoye Array**	**51.66**	**342**	P	**P**	**02 03 44.6**	**0.0**
BRVK	**Borovoye**	**51.73**	**342**	*eP*	**P**	**02 03 45.1**	**0.0**
	comp=Z,4.2nm,0.8s							
COEN	**Coen**	**52.28**	**112**	*eP*	**P**	**02 03 49.2**	**-0.7**
ABKAR	**Akbulak array**	**52.70**	**333**	*eP*	**P**	**02 03 52.5**	**+0.2**
	comp=Z,2.0nm,0.3s							
STKA	**Stephens Creek**	**58.24**	**132**	P	**P**	**02 04 33.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=302,slow=9.5,SNR=2.2							
STKA	**Stephens Creek**	**58.24**	**132**	P	**P**	**02 04 33.4**	**+0.8**
BR131	**Keskin Array S**	**64.22**	**312**	*eP*	**P**	**02 05 13.3**	**+0.2**
	comp=Z,1.4nm,0.7s							
BRTR	**Keskin Array B**	**64.22**	**312**	P	**P**	**02 05 14.5**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=138,slow=7.4,SNR=7.2							
BRTR	**Keskin Array B**	**64.22**	**312**	P	**P**	**02 05 14.5**	**+1.4**
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**02 05 51.4**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=93,slow=5.4,SNR=4.1							
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**02 05 51.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**72.11**	**319**	*eP*	**P**	**02 06 04.0**	**+1.7**
FINES	**FINESS Array B**	**75.19**	**333**	P	**P**	**02 06 20.2**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=104,slow=10,SNR=5.9							
FINES	**FINESS Array B**	**75.19**	**333**	P	**P**	**02 06 20.2**	**+0.3**
ARCES	**ARCESS Array B**	**77.92**	**340**	P	**P**	**02 06 35.6**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=103,slow=6.6,SNR=10							
ARCES	**ARCESS Array B**	**77.92**	**340**	P	**P**	**02 06 35.6**	**+0.4**
GERES	**GERESS Array B**	**79.88**	**319**	P	**P**	**02 06 48.2**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=92,slow=4.4,SNR=16							
GERES	**GERESS Array B**	**79.88**	**319**	P	**P**	**02 06 48.2**	**+1.6**
TXAR	**Lajitas Array**	**141.87**	**25**	PKhKP	PKPpre	02 14 04.0		
	comp=Z,0.2nm,0.5s,baz=246,slow=3.6,SNR=6.4							
TXAR				PKP	**PKPdf**	**02 14 07.6**	**-2.5**	
	comp=Z,0.2nm,0.4s,baz=279,slow=1.0,SNR=7.9							
TXAR	**Lajitas Array**	**141.87**	**25**	PKPpre	PKPpre	02 14 04.0		
TXAR				PKP	**PKPdf**	**02 14 07.6**	**-2.5**	

*IDC **17** 01:59:44.3±0.8, 46°.84N×155°.37E, h0km, mb3.8/14, mb1 3.9/16, mb1mx3.8/27, mbtmp3.8/16, ML2.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/36, Error ellipse: s-maj=20.5km s-min=16.1km az=140.0*

*ISCJB **17** 01:59:45.4±0.6, 46°.94N±0°.09×155°.4E±0°.1, h18km, mb3.8/18, Error ellipse: s-maj=15.7km s-min=8.8km az=141.4*

*NEIC **17** 01:59:50.0±1.5, 46°.95N×155°.42E, h39km±13km, mb4.1/5, Error ellipse: s-maj=15.6km s-min=8.6km az=135.0*

ISC 17 01:59:47.4±0.8, 46°.9N±0°.1×155°.4E±0°.1, h18km, n41, σ0s96/39, mb3.8/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PETK	**Petropavlovsk-**	**6.36**	**12**	Pn		**Pn**	**Pn**	**02 01 19.4**	**-0.7**
	0.5nm,0.3s,baz=182,slow=14,SNR=6.8								
PETK	**Petropavlovsk-**	**6.36**	**12**	Pn		**Pn**	**Pn**	**02 01 19.4**	**-0.7**
ASAJ	**Asahikawa**	**9.43**	**257**	Pn		**Pn**	**Pn**	**02 02 03.8**	**+1.6**
	0.5nm,0.3s,baz=95,slow=12,SNR=3.3								
ASAJ				LR		LR	LR	02 05 25.9	
	comp=Z,54nm,21.8s,baz=18,slow=36								
ASAJ	**Asahikawa**	**9.43**	**257**	Pn		**Pn**	**Pn**	**02 02 03.8**	**+1.6**
MJAR	**Matsushiro Arr**	**16.48**	**237**	Pn		**P**	**P**	**02 03 40.0**	**-0.2**
	0.5nm,0.3s,baz=38,slow=9.9,SNR=5.0								
MJAR	**Matsushiro Arr**	**16.48**	**237**	Pn		**P**	**P**	**02 03 40.0**	**-0.2**
USRK	**Ussuriysk Arra**	**16.62**	**269**	Pn		**Pn**	**Pn**	**02 03 38.1**	**-1.1**
	0.2nm,0.3s,baz=74,slow=14,SNR=4.7								
KSRS	**Korea Array**	**22.37**	**255**	P		**P**	**P**	**02 04 45.4**	**+1.0**
	1.4nm,0.7s,baz=58,slow=9.9,SNR=5.4								
KSAR	**Wonju Array Be**	**22.40**	**255**	P		**P**	**P**	**02 04 45.4**	**+0.7**
SONM	**Songino Array**	**32.77**	**290**	P		**P**	**P**	**02 06 18.3**	**-0.9**
	0.4nm,0.6s,baz=80,slow=11,SNR=3.0								
SONM	**Songino Array**	**32.77**	**290**	P		**P**	**P**	**02 06 18.3**	**-0.9**
ILAR	**Eielson Array**	**35.42**	**39**	P		**P**	**P**	**02 06 42.4**	**+0.5**
	0.4nm,0.5s,baz=247,slow=8.1,SNR=6.0								
ILAR	**Eielson Array**	**35.42**	**39**	P		**P**	**P**	**02 06 42.4**	**+0.5**
INK	**Inuvik**	**40.65**	**33**	P		**P**	**P**	**02 07 27.2**	**+1.3**
	0.8nm,0.6s,baz=261,slow=4.8,SNR=5.5								
INK	**Inuvik**	**40.65**	**33**	*eP*		**P**	**P**	**02 07 26.1**	**+0.2**
	1.2nm,0.8s								
ZALV	**Zalesovo Beam**	**43.79**	**306**	P		**P**	**P**	**02 07 49.9**	**-1.8**
	1.1nm,0.7s,baz=58,slow=6.0,SNR=5.8								
ZALV	**Zalesovo Beam**	**43.79**	**306**	P		**P**	**P**	**02 07 49.9**	**-1.8**
MKAR	**Makanchi Array**	**48.26**	**298**	P		**P**	**P**	**02 08 26.3**	**-0.7**
	0.9nm,0.7s,baz=70,slow=8.7,SNR=9.2								
MKAR	**Makanchi Array**	**48.26**	**298**	P		**P**	**P**	**02 08 26.3**	**-0.7**
KURK	**Kurchatov**	**48.58**	**304**	P		**P**	**P**	**02 08 29.7**	**+0.3**
	3.7nm,0.8s,baz=65,slow=8.0,SNR=12								
KURK	**Kurchatov**	**48.58**	**304**	*eP*		**P**	**P**	**02 08 28.6**	**-0.7**
	3.9nm,0.9s								
YKA	**Yellowknife Ar**	**49.83**	**37**	P		**P**	**P**	**02 08 38.2**	**-0.6**
	0.1nm,0.6s,baz=296,slow=7.3,SNR=2.8								
YKA	**Yellowknife Ar**	**49.83**	**37**	P		**P**	**P**	**02 08 38.2**	**-0.6**
RES	**Resolute Bay**	**50.16**	**19**	P		**P**	**P**	**02 08 41.7**	**+0.6**
BVAR	**Borovoye Array**	**51.96**	**310**	P		**P**	**P**	**02 08 55.3**	**+0.3**
	2.3nm,0.5s,baz=56,slow=7.3,SNR=21								
BVAR	**Borovoye Array**	**51.96**	**310**	P		**P**	**P**	**02 08 55.3**	**+0.3**
KKAR	**Karatay Array**	**57.30**	**300**	*eP*		**P**	**P**	**02 09 33.7**	**-0.2**
	0.6nm,0.6s								
ABKAR	**Akbulak array**	**59.52**	**311**	*eP*		**P**	**P**	**02 09 48.7**	**-0.5**
	1.2nm,0.5s								
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**P**	**02 10 24.3**	**+1.6**
	0.8nm,0.4s,baz=38,slow=9.6,SNR=5.4								
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**P**	**02 10 24.3**	**+1.6**
WRAB	**Tennant Creek**	**69.21**	**201**	*eP*		**P**	**P**	**02 10 51.5**	**-1.4**
	1.8nm,0.6s								
WRA	**Warramunga Arr**	**69.22**	**201**	P		**P**	**P**	**02 10 51.8**	**-1.2**
	1.7nm,0.8s,baz=22,slow=6.7,SNR=11								
WRA	**Warramunga Arr**	**69.22**	**201**	P		**P**	**P**	**02 10 51.8**	**-1.2**
AKASG	**Malin Array Be**	**72.27**	**327**	P		**P**	**P**	**02 11 11.3**	**+0.1**
	0.4nm,0.4s,baz=40,slow=7.0,SNR=2.7								
AKASG	**Malin Array Be**	**72.27**	**327**	P		**P**	**P**	**02 11 11.3**	**+0.1**
ASAR	**Alice Springs**	**72.91**	**201**	P		**P**	**P**	**02 11 14.6**	**-0.7**
	1.6nm,0.7s,baz=16,slow=5.5,SNR=18								
ASAR	**Alice Springs**	**72.91**	**201**	P		**P**	**P**	**02 11 14.6**	**-0.7**
TXAR	**Lajitas Array**	**76.02**	**62**	P		**P**	**P**	**02 11 34.2**	**+0.5**
	0.4nm,0.7s,baz=301,slow=4.5,SNR=5.4								
TXAR	**Lajitas Array**	**76.02**	**62**	P		**P**	**P**	**02 11 34.2**	**+0.5**
GERES	**GERESS Array B**	**78.97**	**335**	P		**P**	**P**	02 11 53.5	+3.7
	0.2nm,0.3s,baz=23,slow=5.5,SNR=4.0								
GERES	**GERESS Array B**	**78.97**	**335**	P		**P**	P	02 11 53.5	+3.7

IDC 17 02:44:37.3±1.6, 56°.41S×27°.71W, h0km, mb4.4/1, mb1 4.4/1, mb1mx3.8/11, mbtmp4.4/1, Error ellipse: s-maj=87.5km s-min=58.8km az=149.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TORD	**Torodi Ar. Bea**	**73.51**	**30**	P		P	P	02 56 11.6	-0.1
	2.3nm,0.6s,baz=199,slow=6.7,SNR=30								
YKA	**Yellowknife Ar**	**136.24**	**318**	PKP	PKPdf			03 03 58.4	-0.6
	0.2nm,0.6s,baz=130,slow=2.5,SNR=3.8								
INK	**Inuvik**	**145.89**	**320**	PKPbc	PKPdf			03 04 16.3	+0.1
	1.9nm,1.0s,baz=125,slow=2.5,SNR=7.7								
ILAR	**Eielson Array**	**150.13**	**311**	PKPbc	PKPbc			03 04 27.9	-0.5
	1.3nm,0.8s,baz=132,slow=4.0,SNR=12								
SONM	**Songino Array**	**151.04**	**88**	PKPbc	PKPbc			03 04 31.1	-0.2
	1.0nm,0.5s,baz=219,slow=4.0,SNR=12								

*CASC **17** 02:57:26.0±2.0, 16°.80N×92°.11W, h169km±71km, MD4.9, ML4.6, mb5.4(NEIC)*

*MEX **17** 02:57:31.6±0.8, 15°.72N×92°.76W, h171km±7km, MD5.2*

*BJI **17** 02:57:31.9, 16°.08N×92°.24W, h176km, mB5.5/14*

*NEIC **17** 02:57:31.9, 15°.74N×92°.74W, h169km, mb5.4/176, MW5.7, MW5.7, MD5.2(MEX), Moment Tensor Solution. s22 Moment tensor: Scale 10^17 Nm; Mrr 1.73; Mθθ -1.95; Mφφ 0.22; Mrθ 1.81; Mrφ 0.66; Mθφ -4.31; Best double couple: M₀5.10000×10^17 NP1:φs267.00000°, δ17.00000°, λ28.00000°. NP2:φs150.00000°, δ82.00000°, λ106.00000°. Principal axes: T 5.4800, Plg50.0000°, Azm277.0000°; N -0.9500, Plg15.0000°, Azm328.0000°; P -4.5200, Plg35.0000°, Azm227.0000°; After MEX.*

NEIC Felt [IV] at San Cristobal de las Casas. Also felt at Coatzacoalcos, Jalapa, Mitla, Tuxtla Gutierrez and Yajalon. Felt at Antigua Guatemala, Guatemala.

*SZGRF **17** 02:57:32.4, 14°.94N×91°.62W, h185km, mb4.7, Guatemala*

*ISCJB **17** 02:57:32.3±0.2, 15°.83N±0°.02×92°.40W±0°.02, h192km±2km, mb5.0/254, Error ellipse: s-maj=4.6km s-min=2.1km az=34.6*

*IDC **17** 02:57:32.6±0.3, 15°.98N×92°.20W, h177km±2km, mb4.6/32, mb1 4.7/34, mb1mx4.7/34, mbtmp4.6/34, MS4.5/13, Ms1 4.5/13, ms1mx4.3/29, Error ellipse: s-maj=11.0km s-min=6.3km az=60.0*

*MOS **17** 02:57:32.1±0.9, 15°.89N×92°.42W, h187km, mb5.3/42, Error ellipse: s-maj=7.4km s-min=4.0km az=108.1*

*NEIC **17** 02:57:50.2±0.0, 16°.05N×92°.13W, h176km, Moment Tensor Solution. s179 Moment tensor: Scale 10^17 Nm; Mrr 0.95; Mθθ -2.74; Mφφ 1.79; Mrθ 2.23; Mrφ 0.40; Mθφ -3.74; Best double couple: M₀4.90000×10^17 NP1:φs 140.00000°, δ85.00000°, λ118.00000°. NP2:φs240.00000°, δ29.00000°, λ11.00000°. Principal axes: T 5.3200, Plg43.0000°, Azm77.0000°; N -0.7400, Plg28.0000°, Azm317.0000°; P -4.5900, Plg33.0000°, Azm206.0000°;*

ISC 17 02:57:31.6±0.2, 15.77N±0.03×92.58W±0.03, h175km±1km, h174km:pP-P, n1127, σ1s49/1892, mb5.1/254, 419C-412D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PCIG		**0.62**	**264**	P		**Pn**	**Pn**	**02 57 53.5**	**-2.8**
PCIG				S		**Sn**	**Sn**	**02 58 11.2**	**-4.1**
PCIG		**0.62**	**264**	*i* P		**Pn**	**Pn**	**02 57 53.5**	**-2.8**
PCIG				*i* S		**Sn**	**Sn**	**02 58 11.2**	**-4.1**
CCIG	**Comitan**	**0.66**	**40**	P		**Pn**	**Pn**	**02 57 55.7**	**-1.1**
CCIG				S		**Sn**	**Sn**	**02 58 15.0**	**-1.2**
CCIG	**Comitan**	**0.66**	**40**	*i* P		**Pn**	**Pn**	**02 57 55.7**	**-1.1**
CCIG				*i* S		**Sn**	**Sn**	**02 58 15.0**	**-1.2**
THIG		**0.91**	**161**	P		**Pn**	**Pn**	**02 57 56.5**	**-1.6**
THIG				S		**Sn**	**Sn**	**02 58 16.5**	**-2.1**
THIG		**0.91**	**161**	*i* P		**Pn**	**Pn**	**02 57 56.5**	**-1.6**
THIG				*i* S		**Sn**	**Sn**	**02 58 16.5**	**-2.1**
TP2	**Tecpan 2**	**1.79**	**123**	*eP*		Pn	02 58 09.8	+3.2	
FG6		**2.03**	**126**	*eP*		**Pn**	**Pn**	**02 58 09.8**	**+0.8**
FUG	**Fuego 3**	**2.13**	**128**	*eP*		**Pn**	**Pn**	**02 58 10.8**	**+0.8**
GCG	**Guatemala City**	**2.30**	**121**	*eP*		**Pn**	**Pn**	**02 58 11.9**	**+0.1**
GCG				*eS*		**Sn**	**Sn**	**02 58 44.9**	**+1.8**
GCG				*eS*				02 58 46.6	
PCG	**Pacaya**	**2.34**	**126**	*eP*		**Pn**	**Pn**	**02 58 13.4**	**+0.9**
PCG				*eS*		**Sn**	**Sn**	**02 58 49.3**	**+5.2**
NBG	**Las Nubes**	**2.45**	**118**	*eP*		**Pn**	**Pn**	**02 58 14.1**	**+0.3**
NBG				*eS*		**Sn**	**Sn**	**02 58 47.3**	**+0.8**
CMIG	**Matias Romero**	**2.57**	**301**	P		**Pn**	**Pn**	**02 58 12.8**	**-2.1**
	5μm,0.3s,baz=129,slow=11								
CMIG				S		**Sn**	**Sn**	**02 58 42.7**	**-5.9**
	13μm,0.3s,baz=5.3,slow=23,SNR=38								
CMIG	**Matias Romero**	**2.57**	**301**	P		**Pn**	**Pn**	**02 58 12.2**	**-2.7**
CMIG				S		**Sn**	**Sn**	**02 58 43.0**	**-5.5**
CMIG	**Matias Romero**	**2.57**	**301**	*i* P		**Pn**	**Pn**	**02 58 12.2**	**-2.7**
CMIG				*i* S		**Sn**	**Sn**	**02 58 43.0**	**-5.5**
MRL	**Marmol**	**2.87**	**104**	*eP*		**Pn**	**Pn**	**02 58 18.4**	**-0.2**
MRL				*eS*		**Sn**	**Sn**	**02 58 54.3**	**-0.8**
RTR	**El Retiro**	**3.39**	**123**	*eP*		**Pn**	**Pn**	**02 58 25.3**	**+0.2**
HUIG	**Huatulco**	**3.40**	**270**	P		Pn	02 58 20.7	-4.3	
HUIG				S		Sn	02 58 59.6	-6.9	
HUIG	**Huatulco**	**3.40**	**270**	*eP*		Pn	02 58 20.7	-4.3	
HUIG				*eS*		Sn	02 58 59.6	-6.9	
SNJE	**San Jose**	**3.44**	**123**	*eP*		**Pn**	**Pn**	**02 58 25.5**	**-0.2**
SBLS	**San Blas**	**3.44**	**124**	*eP*		**Pn**	**Pn**	**02 58 25.2**	**-0.6**
SBLS				*eS*		Sn	02 59 13.9	+6.0	
SNET	**Serv Nac Est T**	**3.84**	**122**	*eP*		**Pn**	**Pn**	**02 58 30.4**	**-0.3**
SNET				*eS*		Sn	02 59 23.2	+6.5	
SNET				AML	AML		02 59 32.8		
	comp=Z,2μm,0.4s								
LFRS	**El Faro**	**4.02**	**122**	*eP*		**Pn**	**Pn**	**02 58 32.5**	**-0.4**
VHO	**Vista Hermosa**	**4.19**	**289**	P		**Pn**	**Pn**	**02 58 33.8**	**-1.5**
VHO				S		**Sn**	**Sn**	**02 59 20.0**	**-5.0**
VHO	**Vista Hermosa**	**4.19**	**289**	*eP*		**Pn**	**Pn**	**02 58 33.8**	**-1.5**
VHO				*i* S		**Sn**	**Sn**	**02 59 20.0**	**-5.0**
SNVI	**San Vicente**	**4.21**	**120**	*eP*		**Pn**	**Pn**	**02 58 34.8**	**-0.6**
TPIG	**Tehuac#an**	**5.28**	**301**	P		Pn	02 58 47.5	-1.9	
TPIG				S		Sn	02 59 44.3	-6.0	
TPIG	**Tehuac#an**	**5.28**	**301**	*eP*		**Pn**	**Pn**	**02 58 47.5**	**-1.9**
TPIG				*i* S		**Sn**	**Sn**	**02 59 46.1**	**-4.1**
PNIG	**Pinotepa**	**5.37**	**277**	P		**Pn**	**Pn**	**02 58 47.4**	**-3.0**
PNIG				S		Sn	02 59 45.7	-6.5	
PNIG	**Pinotepa**	**5.37**	**277**	*eP*		**Pn**	**Pn**	**02 58 47.4**	**-3.0**
PNIG				*i* S		Sn	02 59 45.7	-6.5	
TGUH	**Tegucigalpa,Un**	**5.40**	**108**	*eP*		**Pn**	**Pn**	**02 58 51.6**	**+0.8**
UTMO	**Huajuapan**	**5.41**	**293**	P		**Pn**	**Pn**	**02 58 50.1**	**-0.9**
UTMO				S		Sn	02 59 47.4	-5.9	
UTMO	**Huajuapan**	**5.41**	**293**	*eP*		**Pn**	**Pn**	**02 58 50.3**	**-0.8**
UTMO				*i* S		Sn	02 59 47.4	-5.9	
TEIG	**Tepich**	**6.03**	**42**	P		**Pn**	**Pn**	**02 58 58.1**	**-0.9**
	comp=Z,468nm,0.3s,baz=238,slow=6.7,SNR=695								
TEIG				S		**Sn**	**Sn**	**03 00 06.0**	**-1.7**
	comp=Z,102nm,0.3s,baz=40,slow=22,SNR=12								
TEIG	**Tepich**	**6.03**	**42**	*eP*	n	**Pn**	**Pn**	**02 58 57.5**	**-1.5**
TEIG				*eS*	n	**Sn**	**Sn**	**03 00 06.8**	**-0.9**
PPM	**Popocatepetl**	**6.64**	**300**	P		**Pn**	**Pn**	**02 59 07.7**	**+0.2**
PPM				S		**Sn**	**Sn**	**03 00 17.9**	**-5.0**
PPM	**Popocatepetl**	**6.64**	**300**	P		**Pn**	**Pn**	**02 59 07.7**	**+0.2**
PPM				S		**Sn**	**Sn**	**03 00 17.9**	**-5.0**
PPM	**Popocatepetl**	**6.64**	**300**	*i* P		**Pn**	**Pn**	**02 59 07.7**	**+0.2**
PPM				*i* S		**Sn**	**Sn**	**03 00 17.9**	**-5.0**
YAIG	**Yautepec**	**6.92**	**297**	P		**Pn**	**Pn**	**02 59 11.1**	**+0.3**
YAIG				S		**Sn**	**Sn**	**03 00 24.2**	**-4.9**
YAIG	**Yautepec**	**6.92**	**297**	*eP*		**Pn**	**Pn**	**02 59 11.1**	**+0.3**
YAIG				*i* S		**Sn**	**Sn**	**03 00 24.2**	**-4.9**
MEIG	**Mezcala**	**7.08**	**289**	P		Pn	02 59 09.7	-3.2	
MEIG				S		**Sn**	**Sn**	**03 00 26.9**	**-5.8**
MEIG	**Mezcala**	**7.08**	**289**	*eP*		Pn	02 59 09.7	-3.2	
MEIG				*i* S		**Sn**	**Sn**	**03 00 26.9**	**-5.8**
PLIG	**Platanillo**	**7.12**	**292**	P		**Pn**	**Pn**	**02 59 13.2**	**-0.2**
PLIG				S		**Sn**	**Sn**	**03 00 28.1**	**-5.6**
PLIG	**Platanillo**	**7.12**	**292**	*i* P		**Pn**	**Pn**	**02 59 13.2**	**-0.2**
PLIG				*i* S		**Sn**	**Sn**	**03 00 28.1**	**-5.6**
UNM	**Universidad Na**	**7.22**	**300**	P		**Pn**	**Pn**	**02 59 15.3**	**+0.3**
UNM				S		**Sn**	**Sn**	**03 00 30.8**	**-5.7**
UNM	**Universidad Na**	**7.22**	**300**	P		**Pn**	**Pn**	**02 59 15.3**	**+0.3**
UNM				S		**Sn**	**Sn**	**03 00 30.8**	**-5.7**
UNM	**Universidad Na**	**7.22**	**300**	*i* P		**Pn**	**Pn**	**02 59 15.3**	**+0.3**
UNM				*eS*		**Sn**	**Sn**	**03 00 30.8**	**-5.7**
CAIG	**El Cayaco**	**7.49**	**281**	P		**Pn**	**Pn**	**02 59 16.7**	**-1.6**
CAIG				S		Sn	03 00 35.6	-6.8	
CAIG	**El Cayaco**	**7.49**	**281**	*i* P		**Pn**	**Pn**	**02 59 16.7**	**-1.6**
CAIG				*i* S		Sn	03 00 35.6	-6.8	
GBS2	**Las Lilas**	**8.49**	**124**	*i* P		**Pn**	**Pn**	**02 59 32.3**	**+0.8**
GBS3	**Finca Las Im˜¡**	**8.52**	**125**	*i* P		**Pn**	**Pn**	**02 59 32.8**	**+0.9**
NY14	**Universidad de**	**8.54**	**126**	*i* P		**Pn**	**Pn**	**02 59 34.0**	**+1.9**
LAPC	**Finca la Perla**	**8.55**	**125**	*i* P		**Pn**	**Pn**	**02 59 33.3**	**+1.0**
LAPC				*i* S		**Sn**	**Sn**	**03 01 02.5**	**-5.3**
ZIIG	**Zihuatanejo**	**8.71**	**283**	P		**Pn**	**Pn**	**02 59 33.7**	**-0.7**
ZIIG				S		**Sn**	**Sn**	**03 01 05.8**	**-5.8**
ZIIG	**Zihuatanejo**	**8.71**	**283**	*i* P		**Pn**	**Pn**	**02 59 33.7**	**-0.7**
ZIIG				*eS*		**Sn**	**Sn**	**03 01 05.8**	**-5.8**
CUI	**Cuipilapa**	**8.83**	**124**	*i* P		**Pn**	**Pn**	**02 59 36.6**	**+0.6**
MOIG	**Morelia**	**9.08**	**297**	P		**Pn**	**Pn**	**02 59 39.2**	**-0.3**
MOIG				S		Sn	03 01 14.5	-6.4	
MOIG	**Morelia**	**9.08**	**297**	*i* P		**Pn**	**Pn**	**02 59 39.2**	**-0.3**
MOIG				*eS*		Sn	03 01 14.5	-6.4	
JTS	**JuntasAbangare**	**9.21**	**125**	P		**Pn**	**Pn**	**02 59 41.6**	**+0.6**
	comp=Z,

baz=19,SNR=148
325A ⇓P P 03 01 43.8 +1.3
baz=19,SNR=148
226A Malaga, Loving 19.31 329 ⇓P Pn 03 01 45.4 -1.1
baz=19,SNR=74
226A ⇓P Pn 03 01 45.4 -1.1
baz=19,SNR=74
CLNB Carlsbad 19.37 330 eP P 03 01 45.5 +1.3
comp=Z,60nm,1.0s
GOGA Godfrey 19.40 23 eP P 03 01 45.0 +0.7
GOGA pmax pmax
comp=Z,438nm,0.8s
GOGA Godfrey 19.40 23 eP P 03 01 45.0 +0.7
comp=Z,438nm,0.8s
127A Arkansas Junct 19.47 332 ⇓P P 03 01 45.7 +0.5
baz=20,SNR=58
127A ⇓P P 03 01 45.7 +0.5
baz=20,SNR=58
324A Moseley Ranch, 19.55 325 ⇑P P 03 01 47.2 +1.1
baz=20,SNR=217
324A ⇑P P 03 01 47.2 +1.1
baz=20,SNR=217
PLAL Pickwick Lake 19.55 11 eP P 03 01 45.6 -0.4
comp=Z,177nm,0.8s
PLAL eS S 03 05 18.4 +1.1
GDL2 Guadalupe Moun 19.55 329 eP P 03 01 47.8 +1.6
WMOK Wichita Mounta 19.69 345 eP P 03 01 46.8 -0.7
WMOK pmax pmax
comp=Z,386nm,1.0s
WMOK Wichita Mounta 19.69 345 eP P 03 01 46.8 -0.7
comp=Z,386nm,1.0s
WMOK eS S 03 05 25.6 +5.5
225A Deer Hill, Car 19.71 328 ⇓P P 03 01 49.5 +1.5
baz=20,SNR=344
225A ⇓P P 03 01 49.5 +1.5
baz=20,SNR=344
126A Clayton Basin, 19.75 330 ⇑P P 03 01 48.9 +0.7
baz=20,SNR=68
126A ⇑P P 03 01 48.9 +0.7
baz=20,SNR=68
HBAR Harrisburg 19.78 5 eP P 03 01 49.0 +0.7
Z27A Tatum 19.94 333 ⇓P P 03 01 50.5 +0.1
baz=20,SNR=183
Z27A ⇓P P 03 01 50.5 +0.1
baz=20,SNR=183
CPRX Cap Rock 20.00 331 eP P 03 01 51.6 +0.7
comp=Z,146nm,0.9s
224A Cornudas Mount 20.05 326 ⇑P P 03 01 52.5 +0.9
baz=20,SNR=226
224A ⇑P P 03 01 52.5 +0.9
baz=20,SNR=226
GNAR Gosnell 20.24 6 eP P 03 01 53.9 +0.6
comp=Z,6μm,1.3s
Z26A Caprock 20.25 331 ⇑P P 03 01 54.0 +0.4
baz=20,SNR=107
Z26A ⇑P P 03 01 54.0 +0.4
baz=20,SNR=107
SWET Sewanee 20.26 16 eP P 03 01 53.5 0.0
comp=Z,220nm,1.0s
TUL1 Tulsa 20.26 352 ⇑P P 03 01 52.6 -1.0
baz=20,SNR=47
TUL1 ⇑P P 03 01 52.6 -1.0
baz=20,SNR=47
HALT Halls 20.26 8 eP P 03 01 53.9 +0.4
MSTX Muleshoe 20.32 335 ⇓P P 03 01 54.1 -0.2
baz=20,SNR=79
MSTX ⇓P P 03 01 54.1 -0.2
baz=20,SNR=79
Y27A Causey 20.41 334 ⇓P P 03 01 55.0 -0.3
baz=20,SNR=103
Y27A ⇓P P 03 01 55.0 -0.3
baz=20,SNR=103
223A Chaparral, Ant 20.50 324 ⇓P P 03 01 56.7 +0.5
baz=20
223A ⇓P P 03 01 56.7 +0.5
baz=20
124A Stringfield Ra 20.51 328 ⇑P P 03 01 57.9 +1.4
baz=20,SNR=462
124A ⇑P P 03 01 57.9 +1.4
baz=20,SNR=462
SDDR Presa de Saban 20.56 78 eP P 03 01 58.3 +1.2
comp=Z,206nm,0.8s
Z25A Roswell 20.60 330 ⇓P P 03 01 57.9 +0.6
baz=21,SNR=91
Z25A ⇓P P 03 01 57.9 +0.6
baz=21,SNR=91
GLAT Glass 20.62 8 eP P 03 01 57.0 -0.4
AMTX Amarillo 20.71 338 eP P 03 01 58.7 +0.1
comp=Z,312nm,0.6s
AMTX Amarillo 20.71 338 ⇓P P 03 01 58.6 +0.1
baz=21,SNR=196
AMTX ⇓P P 03 01 58.6 +0.1
baz=21,SNR=196
AMTX ⇓P P 03 01 58.6 +0.1
baz=21,SNR=196
AMTX ⇓P P 03 01 58.6 +0.1
baz=21,SNR=196
WVT Waverly 20.71 11 eP P 03 01 57.3 -1.0
WVT pmax pmax
comp=Z,88nm,0.7s
WVT Waverly 20.71 11 eP P 03 01 57.3 -1.0
comp=Z,88nm,0.7s
Y26A Elida 20.73 333 ⇓P P 03 01 58.9 +0.2
baz=21,SNR=66
Y26A ⇓P P 03 01 58.9 +0.2
baz=21,SNR=66
UTMT University of 20.75 8 eP P 03 01 58.2 -0.6
comp=Z,271nm,0.9s
OTAV Otavalo 20.80 137 eP P 03 02 01.8 +1.8
comp=Z,245nm,1.0s
CPCT Cooper Cave 20.88 19 eP P 03 02 00.5 +0.3
123A Bell Site, Whi 20.88 326 ⇓P P 03 02 01.4 +1.0
baz=21,SNR=12
123A ⇓P P 03 02 01.4 +1.0
baz=21,SNR=12
ROSC El Rosal 20.95 119 P P 03 02 02.7 +1.2
comp=Z,94nm,0.7s,baz=108,slow=3.9,SNR=31
ROSC El Rosal 20.95 119 eP P 03 02 02.4 +0.9
222A Williams Famil 20.95 323 ⇑P P 03 02 01.8 +0.7
baz=21,SNR=67
222A ⇑P P 03 02 01.8 +0.7
baz=21,SNR=67
PARMO Parma 20.96 6 eP P 03 02 01.2 +0.3
Z24A Sheeppen Canyo 20.96 329 ⇑P P 03 02 02.6 +1.3
baz=21,SNR=326
Z24A ⇑P P 03 02 02.6 +1.3
baz=21,SNR=326
X27A F and S Farms, 21.04 335 ⇑P P 03 02 01.8 -0.2
baz=21,SNR=104
X27A ⇑P P 03 02 01.8 -0.2
baz=21,SNR=104
JSC Jenkinsville 21.06 27 eP P 03 02 02.7 +0.6
JSC Jenkinsville 21.06 27 eP P 03 02 02.7 +0.6
Y25A Mesa, Roswell 21.12 331 ⇑P P 03 02 04.0 +1.1
baz=21,SNR=252
Y25A ⇑P P 03 02 04.0 +1.1
baz=21,SNR=252
X26A CR and CF Fran 21.25 334 ⇑P P 03 02 04.2 -0.1
baz=21,SNR=76
X26A ⇑P P 03 02 04.2 -0.1
baz=21,SNR=76
320A Kipp Ranch, An 21.26 320 ⇑P P 03 02 06.4 +1.9
baz=21,SNR=43
320A ⇑P P 03 02 06.4 +1.9
baz=21,SNR=43
221A Mesquite Ranch 21.28 322 ⇓P P 03 02 06.2 +1.6
baz=21,SNR=46
221A ⇓P P 03 02 06.2 +1.6
baz=21,SNR=46
TKL Tuckaleechee C 21.31 20 P P 03 02 06.2 +1.4
comp=Z,55nm,0.6s,baz=192,slow=12,SNR=48
TKL LR LR 03 12 35.6
comp=Z,815nm,18.7s,baz=199,slow=43
TKL Tuckaleechee C 21.31 20 eP P 03 02 05.2 +0.4
TKL Tuckaleechee C 21.31 20 eP P 03 02 05.2 +0.4
Z23A Rita Site, Whi 21.35 327 ⇓P P 03 02 06.8 +1.4
baz=21,SNR=245
Z23A ⇓P P 03 02 06.8 +1.4
baz=21,SNR=245
W27A Bowe Ranch, En 21.39 336 ⇓P P 03 02 05.4 -0.3
baz=21
W27A ⇓P P 03 02 05.4 -0.3
baz=21
Y24A Capitan 21.48 330 ⇓P P 03 02 07.7 +1.0
baz=22
Y24A ⇓P P 03 02 07.7 +1.0
baz=22
X25A Clemmons Ranch 21.61 332 ⇓P P 03 02 08.5 +0.4
baz=22,SNR=101
X25A ⇓P P 03 02 08.5 +0.4
baz=22,SNR=101
220A Playas Peak, P 21.65 321 ⇑P P 03 02 10.0 +1.5
baz=22,SNR=64
220A ⇑P P 03 02 10.0 +1.5
baz=22,SNR=64
121A Cookes Peak, D 21.66 323 ⇓P P 03 02 10.2 +1.5
baz=22,SNR=103
121A ⇓P P 03 02 10.2 +1.5
baz=22,SNR=103
W26A Owens Ranch, T 21.70 335 ⇑P P 03 02 08.9 -0.1
baz=22,SNR=20
W26A ⇑P P 03 02 08.9 -0.1
baz=22,SNR=20
Z22A Elephant Butte 21.74 326 ⇑P P 03 02 10.5 +1.1
baz=22,SNR=121
Z22A ⇑P P 03 02 10.5 +1.1
baz=22,SNR=121
319A Douglas 21.76 318 ⇑P P 03 02 11.4 +1.7
baz=22,SNR=23
319A ⇑P P 03 02 11.4 +1.7
baz=22,SNR=23
KMSC Kings Mountain 21.76 26 ⇑P P 03 02 09.8 +0.3
baz=22
KMSC ⇑P P 03 02 09.8 +0.3
baz=22
X24A Lazy VL Ranch, 22.00 331 ⇑P P 03 02 12.8 +0.7
baz=22,SNR=32
X24A ⇑P P 03 02 12.8 +0.7
baz=22,SNR=32
SIUC Southern Illin 22.06 7 eP P 03 02 11.3 -1.1
comp=Z,2μm,2.1s
W25A X Bar L Ranch, 22.10 333 ⇑P P 03 02 13.4 +0.4
baz=22,SNR=146
W25A ⇑P P 03 02 13.4 +0.4
baz=22,SNR=146
Z21A St. Cloud Mine 22.16 325 ⇑P P 03 02 15.5 +1.7
baz=22,SNR=47
Z21A ⇑P P 03 02 15.5 +1.7
baz=22,SNR=47
120A U Bar Ranch, L 22.17 322 ⇑P P 03 02 15.4 +1.7
baz=22,SNR=51
120A ⇑P P 03 02 15.4 +1.7
baz=22,SNR=51
219A White Tail Can 22.17 320 ⇓P P 03 02 15.2 +1.5
baz=22,SNR=95
219A ⇓P P 03 02 15.2 +1.5
baz=22,SNR=95
TZTN Tazewell 22.19 20 eP P 03 02 13.3 -0.5
comp=Z,247nm,0.8s
TZTN e 03 02 39.3
FVM French Village 22.21 4 eP P 03 02 11.8 -2.1
FVM pmax pmax
comp=Z,1μm,2.4s
FVM French Village 22.21 4 eP P 03 02 11.8 -2.1
comp=Z,1μm,2.4s
CCM Cathedral Cave 22.23 3 eP P
CCM pmax pmax
comp=Z,152nm,0.9s
CCM Cathedral Cave 22.23 3 eP P 03 02 12.2 -1.8
comp=Z,152nm,0.9s
BNM Barren Site 22.25 328 eP P 03 02 15.9 +1.3
comp=Z,610nm,1.8s
Y22A Socorro 22.26 327 ⇑P P 03 02 16.1 +1.4
baz=22,SNR=111
Y22A ⇑P P 03 02 16.1 +1.4
baz=22,SNR=111
318A Bisbee 22.26 318 ⇑P P 03 02 16.3 +1.6
baz=22,SNR=193
318A ⇑P P 03 02 16.3 +1.6
baz=22,SNR=193
Y22D IRIS PASSCAL I 22.34 327 ⇑P P 03 02 17.3 +1.9
baz=22,SNR=15
Y22D ⇑P P 03 02 17.3 +1.9
baz=22,SNR=15
X23A Hourglass Bar 22.37 329 ⇓P P 03 02 16.6 +0.8
baz=22,SNR=21
X23A ⇓P P 03 02 16.6 +0.8
baz=22,SNR=21
LPM Los Pinos Moun 22.38 328 eP P 03 02 17.1 +1.3
LENM Lemitar 22.44 327 eP P 03 02 17.9 +1.6
SDV Santo Domingo 22.49 105 eP P 03 02 15.2 -1.7
comp=Z,208nm,1.1s
SDV eScP ScP 03 09 27.9 +1.6
W24A Lazy 6 Ranch, 22.52 332 ⇓P P 03 02 18.3 +1.3
baz=22,SNR=196
W24A ⇓P P 03 02 18.3 +1.3
baz=22,SNR=196
USIN University of 22.53 10 eP P 03 02 16.3 -0.5
comp=Z,203nm,0.9s
USIN epP pP 03 02 49.6 +1.4
Z20A Nine Sixteen R 22.55 323 ⇑P P 03 02 19.3 +2.1
baz=22,SNR=66
Z20A ⇑P P 03 02 19.3 +2.1
baz=22,SNR=66
218A Dragoon 22.65 318 ⇑P P 03 02 20.1 +1.9
baz=23,SNR=69
218A ⇑P P 03 02 20.1 +1.9
baz=23,SNR=69
Y21A Point of Rocks 22.69 326 ⇓P P 03 02 20.8 +2.1
baz=23,SNR=133
Y21A ⇓P P 03 02 20.8 +2.1
baz=23,SNR=133
V25A Rancho No Teng 22.69 334 ⇑P P 03 02 19.5 +0.9
baz=23,SNR=189
V25A ⇑P P 03 02 19.5 +0.9
baz=23,SNR=189
LAZ Ladron 22.71 327 eP P 03 02 20.7 +1.9
comp=Z,555nm,1.2s
119A Ashpeak Ranch, 22.72 321 ⇓P P 03 02 20.8 +2.0
baz=23,SNR=83
119A ⇓P P 03 02 20.8 +2.0
baz=23,SNR=83
X22A Bernardo 22.73 328 ⇓P P 03 02 21.2 +2.3
baz=23,SNR=48
X22A ⇓P P 03 02 21.2 +2.3
baz=23,SNR=48
ANMO Albuquerque 22.80 329 eP P 03 02 20.6 +1.0
ANMO pmax pmax
comp=Z,45nm,0.8s
ANMO Albuquerque 22.80 329 eP P 03 02 20.6 +1.0
comp=Z,45nm,0.8s
U26A Atchley Ranch, 22.82 336 ⇓P P 03 02 20.4 +0.6
baz=23,SNR=268
U26A ⇓P P 03 02 20.4 +0.6
baz=23,SNR=268
W23A Werner Place, 22.82 330 ⇓P P 03 02 21.1 +1.3
baz=23,SNR=61
W23A ⇓P P 03 02 21.1 +1.3
baz=23,SNR=61
SLM Saint Louis 22.87 5 eP P 03 02 19.5 -0.5
SLM pmax pmax
comp=Z,122nm,0.7s
SLM Saint Louis 22.87 5 eP P 03 02 19.5 -0.5
comp=Z,122nm,0.7s
V24A Rampart Ranch, 22.88 333 ⇓P P 03 02 21.6 +1.2
baz=23,SNR=104
V24A ⇓P P 03 02 21.6 +1.2
baz=23,SNR=104
Y20A Horse Springs, 23.00 325 ⇑P P 03 02 23.7 +2.2
baz=23,SNR=141
Y20A ⇑P P 03 02 23.7 +2.2
baz=23,SNR=141
T27A Campo 23.04 339 ⇓P P 03 02 21.4 -0.3
baz=23,SNR=44
T27A ⇓P P 03 02 21.4 -0.3
baz=23,SNR=44
WCI Wyandotte Cave 23.05 13 eP P 03 02 20.7 -0.9
WCI pmax pmax
comp=Z,239nm,0.9s
WCI Wyandotte Cave 23.05 13 eP P 03 02 20.7 -0.9
comp=Z,239nm,0.9s
Z19A T-Link Ranch, 23.07 322 ⇑P P 03 02 23.9 +1.9
baz=23,SNR=8.4
Z19A ⇑P P 03 02 23.9 +1.9
baz=23,SNR=8.4
X21A Alamocita Cree 23.08 326 ⇑P P 03 02 24.5 +2.3
baz=23,SNR=190
X21A ⇑P P 03 02 24.5 +2.3
baz=23,SNR=190
U25A Circle Dot Ran 23.09 335 ⇑P P 03 02 23.4 +1.2
baz=23,SNR=115
U25A ⇑P P 03 02 23.4 +1.2
baz=23,SNR=115
W22A Albuquerque 23.10 329 ⇓P P 03 02 24.2 +1.9
baz=23,SNR=34
W22A ⇓P P 03 02 24.2 +1.9
baz=23,SNR=34
OLIL Olney 23.21 9 eP P 03 02 22.5 -0.5
comp=Z,289nm,0.8s
V23A Ortiz Mt. (NFS 23.31 331 ⇑P P 03 02 26.1 +1.8
baz=23,SNR=192
V23A ⇑P P 03 02 26.1 +1.8
baz=23,SNR=192
TUC Tucson 23.34 318 eP P 03 02 25.3 +0.9
TUC pmax pmax
comp=Z,95nm,0.9s
TUC Tucson 23.34 318 eP P 03 02 25.3 +0.9
comp=Z,95nm,0.9s
Z18A Geronimo 23.39 321 ⇓P P 03 02 27.0 +2.2
baz=23,SNR=18
Z18A ⇓P P 03 02 27.0 +2.2
baz=23,SNR=18
CNNC Cliffs of the 23.43 31 eP P 03 02 26.2 +1.1
comp=Z,207nm,1.0s
T26A Comanche Natio 23.45 337 ⇑P P 03 02 27.0 +1.5
baz=24
T26A ⇑P P 03 02 27.0 +1.5
baz=24
U24A Moreno Valley 23.46 334 ⇓P P 03 02 27.2 +1.4
baz=24,SNR=36
U24A ⇓P P 03 02 27.2 +1.4
baz=24,SNR=36
KSU1 Kansas State U 23.51 352 eP P 03 02 24.7 -1.1
comp=Z,419nm,0.6s
W21A San Fidel 23.53 328 ⇓P P 03 02 28.3 +2.0
baz=24,SNR=8.0
W21A ⇓P P 03 02 28.3 +2.0
baz=24,SNR=8.0
Y19A Nutrioso 23.54 323 ⇓P P 03 02 28.6 +2.1
baz=24,SNR=40
Y19A ⇓P P 03 02 28.6 +2.1
baz=24,SNR=40
X20A Quemado 23.54 325 ⇓P P 03 02 28.6 +2.2
baz=24,SNR=66
X20A ⇓P P 03 02 28.6 +2.2
baz=24,SNR=66
S27A Las Animas 23.66 339 ⇓P P 03 02 27.5 +0.2
baz=24,SNR=12
S27A ⇓P P 03 02 27.5 +0.2
baz=24,SNR=12
T25A Trinidad 23.73 336 ⇑P P 03 02 29.5 +1.4
baz=24,SNR=123
T25A ⇑P P 03 02 29.5 +1.4
baz=24,SNR=123
V22A San Miguel Ran 23.79 330 ⇓P P 03 02 30.4 +1.7
baz=24
V22A ⇓P P 03 02 30.4 +1.7
baz=24
U23A El Rito 23.80 332 ⇓P P 03 02 30.3 +1.6
baz=24,SNR=188
U23A ⇓P P 03 02 30.3 +1.6
baz=24,SNR=188
Z17A San Carlos Hig 23.80 320 ⇓P P 03 02 30.4 +1.8
baz=24,SNR=26
Z17A ⇓P P 03 02 30.4 +1.8
baz=24,SNR=26
CBKS Cedar Bluff 23.80 346 eP P 03 02 28.1 -0.4
CBKS pmax pmax
comp=Z,154nm,0.8s
CBKS Cedar Bluff 23.80 346 eP P 03 02 28.1 -0.4
comp=Z,154nm,0.8s
CBKS Cedar Bluff 23.80 346 ⇑P P 03 02 27.9 -0.6
baz=24,SNR=48
CBKS ⇑P P 03 02 27.9 -0.6
baz=24,SNR=48
CBKS ⇑P P 03 02 27.9 -0.6
baz=24,SNR=48
CBKS ⇑P P 03 02 27.9 -0.6
baz=24,SNR=48
S26A Kim 23.80 338 ⇓P P 03 02 29.2 +0.5
baz=24,SNR=28
S26A ⇓P P 03 02 29.2 +0.5
baz=24,SNR=28
ELN Prospectdale 23.80 24 eP P 03 02 28.7 +0.1
Y18A Canyon Day Jun 23.86 322 ⇓P P 03 02 31.5 +2.2
baz=24,SNR=54
Y18A ⇓P P 03 02 31.5 +2.2
baz=24,SNR=54
X19A St. Johns 23.90 324 ⇓P P 03 02 31.8 +2.2
baz=24,SNR=34
X19A ⇓P P 03 02 31.8 +2.2
baz=24,SNR=34
BLO Bloomington 23.91 12 eP P 03 02 27.9 -1.5
BLO pmax pmax
comp=Z,77nm,0.7s
BLO Bloomington 23.91 12 eP P 03 02 27.9 -1.5
comp=Z,76nm,0.7s
BLA Blacksburg 23.92 24 eP P 03 02 30.3 +0.7
BLA pmax pmax
comp=Z,605nm,1.4s
BLA Blacksburg 23.92 24 eP P 03 02 30.2 +0.7
comp=Z,605nm,1.4s
T24A Torres, Weston 23.93 335 ⇓P P 03 02 31.7 +1.7
baz=24,SNR=82
T24A ⇓P P 03 02 31.7 +1.7
baz=24,SNR=82
W20A Ramah 23.98 326 ⇓P P 03 02 32.7 +2.3
baz=24,SNR=149
W20A ⇓P P 03 02 32.7 +2.3
baz=24,SNR=149
V21A Milan 24.06 329 ⇓P P 03 02 33.1 +2.0
baz=24,SNR=14
V21A ⇓P P 03 02 33.1 +2.0
baz=24,SNR=14
R27A Eads 24.17 340 ⇓P P 03 02 31.8 -0.2
baz=24,SNR=49
R27A ⇓P P 03 02 31.8 -0.2
baz=24,SNR=49
S25A Robets Cordova 24.19 337 ⇓P P 03 02 33.5 +1.3
baz=24,SNR=93
S25A ⇓P P 03 02 33.5 +1.3
baz=24,SNR=93
Y17A Roosevelt 24.30 321 ⇓P P 03 02 35.1 +2.0
baz=24,SNR=20
Y17A ⇓P P 03 02 35.1 +2.0
baz=24,SNR=20
T23A Casias Ranch, 24.32 333 ⇓P P 03 02 34.8 +1.3
baz=24,SNR=28
T23A ⇓P P 03 02 34.8 +1.3
baz=24,SNR=28
X18A Snowflake 24.35 323 ⇓P P 03 02 35.7 +2.0
baz=24,SNR=25
X18A ⇓P P 03 02 35.7 +2.0
baz=24,SNR=25
R26A Arlington 24.40 339 ⇑P P 03 02 34.8 +0.7
baz=24,SNR=32
R26A ⇑P P 03 02 34.8 +0.7
baz=24,SNR=32
MPR Mayaguez 24.44 81 eP P 03 02 36.9 +2.5
comp=Z,298nm,0.9s
AGP Aguadilla 24.45 80 eP P 03 02 37.4 +2.8
comp=Z,684nm,1.0s
W19A Sanders 24.45 325 ⇓P P 03 02 36.5 +1.8
baz=24,SNR=20
W19A ⇓P P 03 02 36.5 +1.8
baz=24,SNR=20
CRPR Cabo Rojo, PR 24.46 81 eP P 03 02 36.8 +2.1
comp=Z,65nm,0.8s
214A Organ Pipe Nat 24.47 315 ⇑P P 03 02 36.3 +1.7
baz=24,SNR=31
214A ⇑P P 03 02 36.3 +1.7
baz=24,SNR=31
AGPR Aguadilla, PR 24.48 80 eP P 03 02 37.2 +2.4
comp=Z,600nm,0.9s
V20A Brimhall 24.48 328 ⇑P P 03 02 36.7 +1.8
baz=24,SNR=43
V20A ⇑P P 03 02 36.7 +1.8
baz=24,SNR=43
S24A Houchin Ranch, 24.48 335 ⇓P P 03 02 36.3 +1.3
baz=24,SNR=30
S24A ⇓P P 03 02 36.3 +1.3
baz=24,SNR=30
LSP Las Mesas 24.49 81 eP P 03 02 37.0 +2.0
R25A Fountain Ranch 24.57 337 ⇑P P 03 02 36.5 +1.0
baz=25,SNR=26
R25A ⇑P P 03 02 36.5 +1.0
baz=25,SNR=26
U21A Nageezi 24.57 330 ⇓P P 03 02 37.5 +1.8
baz=25,SNR=74
U21A ⇓P P 03 02 37.5 +1.8
baz=25,SNR=74
GVA Apache Junctio 24.57 319 P P 03 02 37.2 +1.7
GVA pP pP 03 03 11.3 +1.0
W18A Petrified Fore 24.65 325 ⇑P P 03 02 38.4 +1.9

baz=25,SNR=5.9
W18A ⇑P P 03 02 38.4 +1.9
baz=25,SNR=5.9
T22A Edith 24.68 332 ⇑P P 03 02 38.3 +1.5
baz=25,SNR=73
T22A ⇑P P 03 02 38.3 +1.5
baz=25,SNR=73
SDCO Great Sand Dun 24.69 335 *e*P P 03 02 38.1 +1.2
comp=Z,84nm,1.4s
SDCO Great Sand Dun 24.69 335 ⇑P P 03 02 38.0 +1.2
baz=25,SNR=55
SDCO ⇑P P 03 02 38.0 +1.2
baz=25,SNR=55
SDCO ⇑P P 03 02 38.0 +1.2
baz=25,SNR=55
SDCO ⇑P P 03 02 38.0 +1.2
baz=25,SNR=55
X17A Forest Lakes 24.71 322 ⇑P P 03 02 39.2 +2.2
baz=25,SNR=27
X17A ⇑P P 03 02 39.2 +2.2
baz=25,SNR=27
V19A Window Rock 24.72 327 ⇑P P 03 02 38.9 +1.9
baz=25,SNR=20
V19A ⇑P P 03 02 38.9 +1.9
baz=25,SNR=20
LRS Lares 24.72 80 *e*P P 03 02 38.4 +1.3
KSCO Kaye Shedlock' 24.77 341 ⇑P P 03 02 37.6 +0.1
baz=25,SNR=55
KSCO ⇑P P 03 02 37.6 +0.1
baz=25,SNR=55
AOPR Arecibo Observ 24.81 80 *e*P P 03 02 40.4 +2.5
comp=Z,88nm,0.7s
S23A Nye Farm, Mont 24.86 334 ⇓P P 03 02 39.8 +1.4
baz=25,SNR=20
S23A ⇓P P 03 02 39.8 +1.4
baz=25,SNR=20
OBIP Obispado Ponce 24.94 81 *e*P P 03 02 40.6 +1.6
comp=Z,136nm,0.7s
R24A Sanders Place, 24.95 336 ⇓P P 03 02 40.3 +1.1
baz=25,SNR=28
R24A ⇓P P 03 02 40.3 +1.1
baz=25,SNR=28
U20A Newcomb 24.95 328 ⇓P P 03 02 40.9 +1.8
baz=25,SNR=50
U20A ⇓P P 03 02 40.9 +1.8
baz=25,SNR=50
T21A Navajo Lake 24.96 331 ⇑P P 03 02 40.9 +1.7
baz=25,SNR=42
T21A ⇑P P 03 02 40.9 +1.7
baz=25,SNR=42
CELP Cerrillos 24.97 81 *e*P P 03 02 41.4 +2.1
SFIN Scholer Farm 24.98 10 ⇓P P 03 02 37.4 -1.7
baz=25,SNR=19
SFIN ⇓P P 03 02 37.4 -1.7
baz=25,SNR=19
Q26A Hugo 24.99 339 ⇑P P 03 02 40.0 +0.6
baz=25,SNR=28
Q26A ⇑P P 03 02 40.0 +0.6
baz=25,SNR=28
114A Black Gap (USA 24.99 316 ⇑P P 03 02 41.0 +1.7
baz=25,SNR=21
114A ⇑P P 03 02 41.0 +1.7
baz=25,SNR=21
ICM Isla Caja Muer 25.02 81 *e*P P 03 02 39.1 -0.6
X16A Lo Mia Camp, P 25.15 321 ⇓P P 03 02 42.9 +1.9
baz=25,SNR=22
X16A ⇓P P 03 02 42.9 +1.9
baz=25,SNR=22
W17A Winslow 25.18 323 ⇑P P 03 02 43.0 +1.8
baz=25
W17A ⇑P P 03 02 43.0 +1.8
baz=25
V18A Ganado 25.20 325 ⇑P P 03 02 42.9 +1.6
baz=25,SNR=33
V18A ⇑P P 03 02 42.9 +1.6
baz=25,SNR=33
R23A Moffat 25.20 335 ⇓P P 03 02 42.7 +1.2
baz=25,SNR=46
R23A ⇓P P 03 02 42.7 +1.2
baz=25,SNR=46
Q25A Bedland, Calha 25.23 338 ⇓P P 03 02 42.3 +0.6
baz=25,SNR=15
Q25A ⇓P P 03 02 42.3 +0.6
baz=25,SNR=15
U19A Dine' College, 25.24 327 ⇓P P 03 02 43.0 +1.2
baz=25,SNR=51
U19A ⇓P P 03 02 43.0 +1.2
baz=25,SNR=51
S22A 4UR Ranch, Cre 25.25 333 ⇓P P 03 02 43.4 +1.4
baz=25,SNR=102
S22A ⇓P P 03 02 43.4 +1.4
baz=25,SNR=102
SJG San Juan 25.38 81 P P 03 02 41.5 -1.5
comp=Z,59nm,0.8s,baz=360,slow=24,SNR=42
SJG San Juan 25.38 81 *e*P P 03 02 41.8 -1.2
SJG pmax pmax
comp=Z,143nm,1.0s
SJG San Juan 25.38 81 *e*P P 03 02 41.8 -1.2
comp=Z,143nm,1.0s
Z14A Wintersburg 25.41 317 ⇑P P 03 02 45.0 +1.9
baz=25,SNR=8.9
Z14A ⇑P P 03 02 45.0 +1.9
baz=25,SNR=8.9
P26A Davis Ranch, A 25.50 340 ⇓P P 03 02 45.0 +0.9
baz=26,SNR=32
P26A ⇓P P 03 02 45.0 +0.9
baz=26,SNR=32
T19A Beclabito 25.56 328 ⇑P P 03 02 45.9 +1.2
baz=26,SNR=49
T19A ⇑P P 03 02 45.9 +1.2
baz=26,SNR=49
MVCO Mesa Verde 25.60 330 *e*P P 03 02 46.6 +1.5
comp=Z,159nm,1.0s
MVCO Mesa Verde 25.60 330 ⇓P P 03 02 46.3 +1.2
baz=26,SNR=82
MVCO ⇓P P 03 02 46.3 +1.2
baz=26,SNR=82
113A Mohawk Valley, 25.60 315 ⇓P P 03 02 46.2 +1.5
baz=26,SNR=12
113A ⇓P P 03 02 46.2 +1.5
baz=26,SNR=12
Q24A Divide 25.61 337 ⇓P P 03 02 46.0 +0.9
baz=26,SNR=7.2
Q24A ⇓P P 03 02 46.0 +0.9
baz=26,SNR=7.2
V17A Tonalea, Kykot 25.61 324 ⇑P P 03 02 46.8 +1.7
baz=26,SNR=31
V17A ⇑P P 03 02 46.8 +1.7
baz=26,SNR=31
S21A Coal Bank Pass 25.62 331 ⇑P P 03 02 46.6 +1.3
baz=26,SNR=28
S21A ⇑P P 03 02 46.6 +1.3
baz=26,SNR=28
R22A Saguache, Gunn 25.62 334 ⇑P P 03 02 46.7 +1.4
baz=26,SNR=24
R22A ⇑P P 03 02 46.7 +1.4
baz=26,SNR=24
CBYP Canovanas 25.66 81 *e*P P 03 02 43.8 -1.8
comp=Z,60nm,0.7s
HUMP Col San Antoni 25.66 81 *e*P P 03 02 44.3 -1.2
comp=Z,81nm,0.8s
U18A Rough Rock, Ch 25.69 326 ⇑P P 03 02 47.3 +1.5
baz=26,SNR=20
U18A ⇑P P 03 02 47.3 +1.5
baz=26,SNR=20
P25A Willow Gulch B 25.73 339 ⇓P P 03 02 46.7 +0.6
baz=26,SNR=8.1
P25A ⇓P P 03 02 46.7 +0.6
baz=26,SNR=8.1
ACSO Alum Creek Sta 25.76 17 *e*P P 03 02 44.5 -1.7
comp=Z,728nm,1.3s
Z13A Yuma Proving G 25.78 316 ⇓P P 03 02 48.0 +1.5
baz=26,SNR=30
Z13A ⇓P P 03 02 48.0 +1.5
baz=26,SNR=30
Y14A Wickenburg 25.81 318 ⇓P P 03 02 48.3 +1.5
baz=26,SNR=20
Y14A ⇓P P 03 02 48.3 +1.5
baz=26,SNR=20
O27A Beecher Island 25.81 342 ⇓P P 03 02 47.1 +0.3
baz=26,SNR=26
O27A ⇓P P 03 02 47.1 +0.3
baz=26,SNR=26
Q23A Hartsel 25.82 336 ⇑P P 03 02 47.8 +0.8
baz=26
Q23A ⇑P P 03 02 47.8 +0.8
baz=26
WUAZ Wupatki 25.87 323 *e*P P 03 02 49.3 +1.9
comp=Z,134nm,1.0s
WUAZ *e*pP pP 03 03 24.4 +1.2
WUAZ Wupatki 25.87 323 ⇓P P 03 02 49.3 +1.9
baz=26,SNR=15
WUAZ ⇓P P 03 02 49.3 +1.9
baz=26,SNR=15
MTP Monte Pirata 25.95 81 *e*P P 03 02 46.5 -1.5
comp=Z,203nm,0.8s
BGNE Belgrade 26.00 350 ⇑P P 03 02 47.9 -0.4
baz=26
BGNE ⇑P P 03 02 47.9 -0.4
baz=26
P24A Kohler Place, 26.00 338 ⇓P P 03 02 49.0 +0.4
baz=26
P24A ⇓P P 03 02 49.0 +0.4
baz=26
S20A Disappointment 26.02 331 ⇑P P 03 02 50.4 +1.5
baz=26,SNR=28
S20A ⇑P P 03 02 50.4 +1.5
baz=26,SNR=28
SCIA State Center 26.05 359 *e*P P 03 02 48.5 -0.2
CBN Corbin 26.06 28 *e*P P 03 02 50.7 +1.8
comp=Z,154nm,0.9s
R21A Cimarron 26.09 332 ⇓P P 03 02 50.7 +1.2
baz=26,SNR=14
R21A ⇓P P 03 02 50.7 +1.2
baz=26,SNR=14
O26A Horse Wrangler 26.11 341 ⇑P P 03 02 50.0 +0.5
baz=26,SNR=13
O26A ⇑P P 03 02 50.0 +0.5
baz=26,SNR=13
U16A Tuba City 26.17 324 ⇓P P 03 02 51.9 +1.7
baz=26,SNR=35
U16A ⇓P P 03 02 51.9 +1.7
baz=26,SNR=35
Q22A Crested Butte, 26.22 334 ⇑P P 03 02 51.8 +1.1
baz=26,SNR=16
Q22A ⇑P P 03 02 51.8 +1.1
baz=26,SNR=16
P23A Jefferson 26.23 336 ⇑P P 03 02 52.2 +1.4
baz=26,SNR=27
P23A ⇑P P 03 02 52.2 +1.4
baz=26,SNR=27
T18A Mexican Hat 26.23 327 ⇑P P 03 02 51.8 +1.2
baz=26
T18A ⇑P P 03 02 51.8 +1.2
baz=26
U17A Shonto 26.25 326 ⇓P P 03 02 52.5 +1.6
baz=26,SNR=31
U17A ⇓P P 03 02 52.5 +1.6
baz=26,SNR=31
O25A Wiggins 26.26 340 ⇑P P 03 02 51.9 +1.1
baz=26
O25A ⇑P P 03 02 51.9 +1.1
baz=26
R20A Redvale 26.32 331 ⇓P P 03 02 52.9 +1.5
baz=26,SNR=19
R20A ⇓P P 03 02 52.9 +1.5
baz=26,SNR=19
S19A Harvey Farm, M 26.33 329 ⇑P P 03 02 52.9 +1.3
baz=26,SNR=91
S19A ⇑P P 03 02 52.9 +1.3
baz=26,SNR=91
PV01 Paradox Valley 26.36 331 *e*P P 03 02 53.4 +1.5
comp=Z,5µm,0.9s
PV01 *e*pP pP 03 03 29.7 +2.0
OGNE Ogallala 26.39 344 *e*P P 03 02 52.3 +0.3
comp=Z,292nm,1.2s
OGNE *e*PcP PcP 03 06 13.8 +0.9
OGNE Ogallala 26.39 344 ⇓P P 03 02 52.1 +0.2
baz=26,SNR=10
OGNE ⇓P P 03 02 52.1 +0.2
baz=26,SNR=10
N27A Anderson Farm, 26.40 343 ⇓P P 03 02 52.5 +0.5
baz=26,SNR=24
N27A ⇓P P 03 02 52.5 +0.5
baz=26,SNR=24
Q21A Lamborn Mesa, 26.48 333 ⇓P P 03 02 54.1 +1.2
baz=26,SNR=16
Q21A ⇓P P 03 02 54.1 +1.2
baz=26,SNR=16
GLA Glamis 26.49 315 *e*P P 03 02 54.8 +2.0
GLA *e**PP pP 03 03 31.0 +2.4
GLA pmax pmax
comp=Z,233nm,1.3s
GLA Glamis 26.49 315 *e*P P 03 02 54.8 +2.0
comp=Z,233nm,1.3s
GLA *e*pP pP 03 03 31.0 +2.4
GLA Glamis 26.49 315 ⇓P P 03 02 54.6 +1.8
baz=26,SNR=9.3
GLA ⇓P P 03 02 54.6 +1.8
baz=26,SNR=9.3
ISCO Idaho Springs 26.51 337 *e*P P 03 02 54.4 +1.1
ISCO pmax pmax
comp=Z,78nm,1.0s
ISCO Idaho Springs 26.51 337 *e*P P 03 02 54.4 +1.1
comp=Z,78nm,1.0s
ISCO Idaho Springs 26.51 337 ⇓P P 03 02 54.0 +0.7
baz=27,SNR=17
ISCO ⇓P P 03 02 54.0 +0.7
baz=27,SNR=17
SMCO Snowmass 26.51 334 *e*P P 03 02 54.3 +0.9
SMCO *e*pP pP 03 03 31.2 +2.0
STVI Saint Thomas 26.52 80 *e*P P 03 02 52.1 -1.1
comp=Z,140nm,0.8s
O24A Longmont 26.59 338 ⇑P P 03 02 54.8 +0.9
baz=27,SNR=6.9
O24A ⇑P P 03 02 54.8 +0.9
baz=27,SNR=6.9
T17A Navajo Res., N 26.62 326 ⇓P P 03 02 56.1 +1.9
baz=27,SNR=57
T17A ⇓P P 03 02 56.1 +1.9
baz=27,SNR=57
Y12C Blythe 26.69 316 ⇑P P 03 02 56.3 +1.7
baz=27,SNR=9.8
Y12C ⇑P P 03 02 56.3 +1.7
baz=27,SNR=9.8
CDVI St. Croix 26.69 82 *e*P P 03 02 53.2 -1.6
comp=Z,108nm,0.7s
S18A Hurst Farm, Bl 26.71 328 ⇓P P 03 02 56.4 +1.3
baz=27,SNR=72
S18A ⇓P P 03 02 56.4 +1.3
baz=27,SNR=72
PV04 Paradox Valley 26.73 331 *e*P P 03 02 56.8 +1.6
PV04 *e*pP pP 03 03 31.5 +0.6
ATAH Atahualpa 26.75 147 P P 03 02 57.7 +2.0
comp=Z,28nm,0.7s,baz=342,slow=5.8,SNR=20
ATAH PcP PcP 03 06 15.8 +1.2
comp=Z,23nm,0.8s,baz=342,slow=6.4,SNR=6.7
ATAH ScP ScP 03 09 42.1 +3.8
comp=Z,8.7nm,0.8s,baz=347,slow=2.7,SNR=4.7
ATAH Atahualpa 26.75 147 P P 03 02 57.7 +2.0
ATAH PcP PcP 03 06 15.8 +1.2
ATAH ScP ScP 03 09 42.1 +3.8
PDMCI Parker Dam,Lak 26.77 318 ⇓P P 03 02 56.9 +1.6
baz=27,SNR=20
PDMCI ⇓P P 03 02 56.9 +1.6
baz=27,SNR=20
P22A Eagle 26.78 335 ⇑P P 03 02 56.5 +0.8
baz=27,SNR=9.6
P22A ⇑P P 03 02 56.5 +0.8
baz=27,SNR=9.6
R19A Curley Farm, L 26.82 330 ⇓P P 03 02 57.0 +1.0
baz=27,SNR=45
R19A ⇓P P 03 02 57.0 +1.0
baz=27,SNR=45
N25A Grover 26.88 340 ⇑P P 03 02 57.2 +0.8
baz=27
N25A ⇑P P 03 02 57.2 +0.8
baz=27
Q20A Ridgley Place, 26.90 332 ⇓P P 03 02 57.7 +1.0
baz=27,SNR=9.1
Q20A ⇓P P 03 02 57.7 +1.0
baz=27,SNR=9.1
O23A Lake Granby, G 26.98 337 ⇓P P 03 02 58.4 +0.9
baz=27
O23A ⇓P P 03 02 58.4 +0.9
baz=27
P21A Newcastle 27.00 334 ⇑P P 03 02 59.1 +1.5
baz=27,SNR=18
P21A ⇑P P 03 02 59.1 +1.5
baz=27,SNR=18
M27A Reverse DX Ran 27.03 344 ⇑P P 03 02 58.1 +0.5
baz=27
M27A ⇑P P 03 02 58.1 +0.5
baz=27
U15A North Rim 27.04 323 ⇓P P 03 03 00.0 +2.0
baz=27,SNR=28
U15A ⇓P P 03 03 00.0 +2.0
baz=27,SNR=28
S17A Black Ridge (B 27.09 327 ⇓P P 03 03 00.0 +1.7
baz=27,SNR=45
S17A ⇓P P 03 03 00.0 +1.7
baz=27,SNR=45
SWSC Sam W. Stewart 27.10 313 ⇑P P 03 02 59.8 +1.5
baz=27,SNR=18
SWSC ⇑P P 03 02 59.8 +1.5
baz=27,SNR=18
W13A Hualapai Mount 27.11 319 ⇓P P 03 03 00.6 +2.0
baz=27,SNR=27
W13A ⇓P P 03 03 00.6 +2.0
baz=27,SNR=27
JFWS Jewell Farm 27.12 4 *e*P P 03 02 56.7 -1.7
JFWS *e**PP pP 03 03 35.0 +0.8
JFWS pmax pmax
comp=Z,236nm,0.8s
JFWS Jewell Farm 27.12 4 *e*P P 03 02 56.7 -1.7
comp=Z,236nm,0.8s
JFWS *e*pP pP 03 03 35.0 +0.8
N24A Carr 27.16 339 ⇑P P 03 02 59.8 +0.9
baz=27,SNR=7.4
N24A ⇑P P 03 02 59.8 +0.9
baz=27,SNR=7.4
DVTC Desert V Tower 27.16 312 ⇑P P 03 03 01.1 +2.3
baz=27,SNR=16
DVTC ⇑P P 03 03 01.1 +2.3
baz=27,SNR=16
O22A Kremmling 27.18 336 ⇓P P 03 02 59.8 +0.5
baz=27,SNR=11
O22A ⇓P P 03 02 59.8 +0.5
baz=27,SNR=11
R18A Canyonlands Na 27.20 329 ⇓P P 03 03 00.3 +0.9
baz=27,SNR=44
R18A ⇓P P 03 03 00.3 +0.9
baz=27,SNR=44
BC3 Big Chuckawall 27.26 315 ⇓P P 03 03 01.5 +1.7
baz=27,SNR=56
BC3 ⇓P P 03 03 01.5 +1.7
baz=27,SNR=56
SDMD Soldier's Deli 27.28 27 *e*P P 03 03 01.4 +1.6
comp=Z,41nm,0.9s
Q19A Hogan Spring (27.35 331 ⇑P P 03 03 01.7 +1.1
baz=27,SNR=30
Q19A ⇑P P 03 03 01.7 +1.1
baz=27,SNR=30
IRM Iron Mountain 27.35 316 ⇓P P 03 02 59.5 +1.9
baz=27,SNR=20
IRM ⇓P P 03 02 59.5 +1.9
baz=27,SNR=20
P20A De Beque 27.39 333 ⇓P P 03 03 02.0 +1.0
baz=27,SNR=14
P20A ⇓P P 03 03 02.0 +1.0
baz=27,SNR=14
M25A Palm-Egli Farm 27.43 341 ⇑P P 03 03 02.1 +0.8
baz=28,SNR=5.1
M25A ⇑P P 03 03 02.1 +0.8
baz=28,SNR=5.1
MONP Monument Peak 27.51 313 ⇑P P 03 03 04.0 +1.9
baz=27,SNR=19
MONP ⇑P P 03 03 04.0 +1.9
baz=27,SNR=19
AAM Ann Arbor 27.53 14 *e*P P 03 03 02.5 +0.6
AAM *e**PP pP 03 03 37.6 -0.3
AAM Ann Arbor 27.53 14 *e*P P 03 03 02.5 +0.6
AAM *e*pP pP 03 03 37.6 -0.3
BAR Barrett 27.58 312 *e*P P 03 03 04.7 +2.1
comp=Z,153nm,2.2s
BAR *e*pP pP 03 03 40.2 +1.7
S16A Weppner Ranch, 27.58 326 ⇑P P 03 03 04.3 +1.6
baz=28,SNR=85
S16A ⇑P P 03 03 04.3 +1.6
baz=28,SNR=85
N23A Red Feather La 27.59 338 ⇓P P 03 03 03.9 +1.1
baz=28
N23A ⇓P P 03 03 03.9 +1.1
baz=28
O21A Pagoda 27.59 335 ⇑P P 03 03 04.2 +1.3
baz=28
O21A ⇑P P 03 03 04.2 +1.3
baz=28
R17A Hanksville Air 27.64 328 ⇓P P 03 03 04.7 +1.5
baz=28
R17A ⇓P P 03 03 04.7 +1.5
baz=28
L26A Underwood Farm 27.69 343 ⇑P P 03 03 03.8 +0.2
baz=28
L26A ⇑P P 03 03 03.8 +0.2
baz=28
N22A Wattenberg Ran 27.70 337 ⇓P P 03 03 04.9 +1.1
baz=28,SNR=13
N22A ⇓P P 03 03 04.9 +1.1
baz=28,SNR=13
M24A Cheyenne 27.71 340 ⇓P P 03 03 05.0 +1.2
baz=28
M24A ⇓P P 03 03 05.0 +1.2
baz=28
PHWY Pilot Hill 27.77 339 *e*P P 03 03 05.0 +0.5
PHWY *e*pP pP 03 03 41.6 +1.1
BELC Belle Mtn. Jos 27.83 315 ⇑P P 03 03 06.8 +1.9
baz=28,SNR=15
BELC ⇑P P 03 03 06.8 +1.9
baz=28,SNR=15
O20A White River Ci 27.85 334 ⇑P P 03 03 06.2 +1.1
baz=28,SNR=17
O20A ⇑P P 03 03 06.2 +1.1
baz=28,SNR=17
SSPA Standing Stone 27.87 24 *e*P P 03 03 05.4 +0.4
comp=Z,37nm,1.0s
SSPA *e*pP pP 03 03 42.9 +1.9
LDFC Landfair 27.88 318 *e*P P 03 03 08.4 +3.1
Q18A Rafter H Ranch 27.88 330 ⇓P P 03 03 06.6 +1.3
baz=28,SNR=52
Q18A ⇓P P 03 03 06.6 +1.3
baz=28,SNR=52
PFO Pinyon Flat Ob 27.93 314 *e*P P 03 03 07.9 +2.1
PFO *e**PP pP 03 03 43.9 +2.1
PFO pmax pmax
comp=Z,30nm,1.1s
PFO Pinyon Flat Ob 27.93 314 *e*P P 03 03 07.9 +2.1
comp=Z,30nm,1.1s
PFO *e*pP pP 03 03 43.9 +2.1
PFO Pinyon Flat Ob 27.93 314 P P 03 03 07.2 +1.4
comp=Z,116nm,1.4s,SNR=7.2
PFO Pinyon Flat Ob 27.93 314 ⇓P P 03 03 07.7 +1.9
baz=28,SNR=12
PFO ⇓P P 03 03 07.7 +1.9
baz=28,SNR=12
ALLY Alegheny Colle 27.93 20 *e*P P 03 03 05.3 -0.3
comp=Z,26nm,0.9s
ALLY *e*pP pP 03 03 43.3 +1.7
R16A Teasdale 27.93 327 ⇓P P 03 03 07.7 +1.8
baz=28,SNR=71
R16A ⇓P P 03 03 07.7 +1.8
baz=28,SNR=71
MVL Millersville 27.98 27 *e*P P 03 03 07.2 +1.2
109C Camp Elliot, M 28.00 312 ⇑P P 03 03 07.9 +1.6
baz=28
109C ⇑P P 03 03 07.9 +1.6
baz=28
M23A Laramie 28.01 339 ⇑P P 03 03 07.1 +0.6
baz=28,SNR=13
M23A ⇑P P 03 03 07.1 +0.6
baz=28,SNR=13
GMRC Granite Mounta 28.06 317 ⇓P P 03 03 09.0 +2.1
baz=28,SNR=23
GMRC ⇓P P 03 03 09.0 +2.1
baz=28,SNR=23
L25A Engebretsen Ra 28.06 342 ⇑P P 03 03 07.3 +0.5
baz=28,SNR=6.8
L25A ⇑P P 03 03 07.3 +0.5
baz=28,SNR=6.8
SRU San Rafael 28.07 329 *e*P P 03 03 08.9 +1.8
SRU pmax pmax
comp=Z,201nm,1.7s
SRU San Rafael 28.07 329 *e*P P 03 03 08.9 +1.8
comp=Z,201nm,1.7s
SRU San Rafael 28.07 329 ⇓P P 03 03 08.3 +1.2
baz=28,SNR=33
SRU ⇓P P 03 03 08.3 +1.2
baz=28,SNR=33
N21A Black Mountain 28.08 335 ⇓P P 03 03 08.4 +1.3
baz=28,SNR=13
N21A ⇓P P 03 03 08.4 +1.3
baz=28,SNR=13
ECSD EROS Data Cent 28.08 354 *e*P P 03 03 04.8 -2.1

comp=Z,636nm,2.0s
K27A Flueckinger Fa 28.09 345 ⇑P **P** **03 03 06.9 -0.2**
baz=28,SNR=6.6
K27A ⇑P **P** **03 03 06.9 -0.2**
baz=28,SNR=6.6
Q16A Castle Valley 28.25 328 ⇑P **P** **03 03 10.6 +1.9**
baz=28,SNR=25
Q16A ⇑P **P** **03 03 10.6 +1.9**
baz=28,SNR=25
L24A Wheatland 28.26 340 ⇑P **P** **03 03 09.0 +0.4**
baz=28
L24A ⇑P **P** **03 03 09.0 +0.4**
baz=28
M22A Cedar Creek Ra 28.27 337 ⇑P **P** **03 03 09.9 +1.0**
baz=28
M22A ⇑P **P** **03 03 09.9 +1.0**
baz=28
R15A Junction 28.30 326 ⇑P **P** **03 03 11.0 +1.9**
baz=28,SNR=19
R15A ⇑P **P** **03 03 11.0 +1.9**
baz=28,SNR=19
K26A Motz Farm, Whi 28.34 343 ⇑P **P** **03 03 09.3 +0.1**
baz=28
K26A ⇑P **P** **03 03 09.3 +0.1**
baz=28
P18A Preston Nutter 28.34 330 ⇑P **P** **03 03 11.2 +1.6**
baz=28,SNR=20
P18A ⇑P **P** **03 03 11.2 +1.6**
baz=28,SNR=20
O19A Miners Draw (B 28.37 333 ⇓P **P** **03 03 11.0 +1.4**
baz=28,SNR=5.9
O19A ⇓P **P** **03 03 11.0 +1.4**
baz=28,SNR=5.9
CCUT Cedar City 28.43 324 *e*P **P** **03 03 12.8 +2.5**
comp=Z,43nm,1.2s
CCUT *e*PcP **PcP** **03 06 19.4 +1.2**
CCUT *e*ScP **ScP** **03 09 46.3 +3.3**
MURC Murrieta 28.44 313 ⇑P **P** **03 03 12.0 +1.8**
baz=28,SNR=8.0
MURC ⇑P **P** **03 03 12.0 +1.8**
baz=28,SNR=8.0
N20A Spence Gulch, 28.44 334 ⇓P **P** **03 03 11.5 +1.2**
baz=28,SNR=45
N20A ⇓P **P** **03 03 11.5 +1.2**
baz=28,SNR=45
P17A Butcher Ranch, 28.46 330 ⇑P **P** **03 03 11.9 +1.4**
baz=28,SNR=19
P17A ⇑P **P** **03 03 11.9 +1.4**
baz=28,SNR=19
MSU Marysvale 28.47 326 *e*P **P** **03 03 12.6 +2.0**
MSU *e* 03 06 19.2
MSU Marysvale 28.47 326 *e*P **P** **03 03 12.6 +2.0**
MSU *e*PcP **PcP** **03 06 19.2 +1.0**
MSU *e*ScP **ScP** **03 09 46.0 +2.9**
TMUT Trail Mountain 28.56 329 *e*P **P** **03 03 13.7 +2.2**
comp=Z,48nm,1.3s
TMUT *e*PcP **PcP** **03 06 19.2 +0.7**
TMUT *e*ScP **ScP** **03 09 46.6 +3.2**
L23A Garrett 28.58 339 ⇓P **P** **03 03 12.0 +0.4**
baz=29,SNR=30
L23A ⇓P **P** **03 03 12.0 +0.4**
baz=29,SNR=30
ARUT Antelope Range 28.64 324 *e*P **P** **03 03 14.1 +2.0**
ARUT pmax pmax
comp=Z,95nm,1.0s
ARUT Antelope Range 28.64 324 *e*P **P** **03 03 14.1 +2.0**
comp=Z,95nm,1.0s
M21A Separation Pea 28.74 337 ⇑P **P** **03 03 14.0 +1.0**
baz=29,SNR=20
M21A ⇑P **P** **03 03 14.0 +1.0**
baz=29,SNR=20
O18A Roosevelt 28.74 332 ⇑P **P** **03 03 14.4 +1.5**
baz=29,SNR=17
O18A ⇑P **P** **03 03 14.4 +1.5**
baz=29,SNR=17
L22A Ellis Ranch, M 28.76 338 ⇑P **P** **03 03 14.3 +1.1**
baz=29,SNR=7.7
L22A ⇑P **P** **03 03 14.3 +1.1**
baz=29,SNR=7.7
N19A John Jarvie Ra 28.88 333 ⇓P **P** **03 03 14.7 +0.5**
baz=29,SNR=16
N19A ⇓P **P** **03 03 14.7 +0.5**
baz=29,SNR=16
M20A Sweetwater, Wa 28.96 335 ⇓P **P** **03 03 15.8 +0.9**
baz=29,SNR=11
M20A ⇓P **P** **03 03 15.8 +0.9**
baz=29,SNR=11
P16A Fountain Green 29.02 329 ⇑P **P** **03 03 17.4 +1.9**
baz=29,SNR=15
P16A ⇑P **P** **03 03 17.4 +1.9**
baz=29,SNR=15
O17A Robinson Place 29.02 331 ⇑P **P** **03 03 17.2 +1.7**
baz=29,SNR=17
O17A ⇑P **P** **03 03 17.2 +1.7**
baz=29,SNR=17
L21A Rawlins 29.05 337 ⇑P **P** **03 03 16.1 +0.4**
baz=29,SNR=32
L21A ⇑P **P** **03 03 16.1 +0.4**
baz=29,SNR=32
BRSD Miller 29.09 351 ⇓P **P** **03 03 14.7 -1.0**
baz=29,SNR=6.4
BRSD ⇓P **P** **03 03 14.7 -1.0**
baz=29,SNR=6.4
BFSC Mount Baldy Ra 29.11 314 ⇑P **P** **03 03 18.0 +1.8**
baz=29,SNR=11
BFSC ⇑P **P** **03 03 18.0 +1.8**
baz=29,SNR=11
GSC Goldstone 29.12 316 *e*P **P** **03 03 18.4 +2.1**
GSC *e**PP **pP** **03 03 54.7 +2.2**
GSC Goldstone 29.12 316 *e*P **P** **03 03 18.4 +2.1**
GSC *e*pP **pP** **03 03 54.7 +2.2**
GSC Goldstone 29.12 316 ⇑P **P** **03 03 18.0 +1.7**
baz=29,SNR=9.5
GSC ⇑P **P** **03 03 18.0 +1.7**
baz=29,SNR=9.5
K23A Bowen Ranch, D 29.12 340 ⇓P **P** **03 03 16.8 +0.5**
baz=29,SNR=9.9
K23A ⇓P **P** **03 03 16.8 +0.5**
baz=29,SNR=9.9
SHOC Shoshone 29.14 318 ⇓P **P** **03 03 18.2 +1.9**
baz=29,SNR=6.3
SHOC ⇓P **P** **03 03 18.2 +1.9**
baz=29,SNR=6.3
CIS Catalina Islan 29.20 312 ⇑P **P** **03 03 18.7 +1.8**
baz=29,SNR=16
CIS ⇑P **P** **03 03 18.7 +1.8**
baz=29,SNR=16
R13A O'Grain Ranch, 29.22 324 ⇑P **P** **03 03 19.9 +2.6**
baz=29,SNR=43
R13A ⇑P **P** **03 03 19.9 +2.6**
baz=29,SNR=43
P15A Leamington 29.30 328 ⇓P **P** **03 03 19.6 +1.7**
baz=29,SNR=40
P15A ⇓P **P** **03 03 19.6 +1.7**
baz=29,SNR=40
MPU Maple Canyon 29.32 329 *e*P **P** **03 03 20.0 +1.9**
MPU *e*PcP **PcP** **03 06 20.8 +0.6**
BRNJ Basking Ridge 29.34 29 *e*P **P** **03 03 19.0 +1.1**
comp=Z,17μm,0.8s
K22A Casper 29.34 339 ⇑P **P** **03 03 18.5 +0.3**
baz=29,SNR=19
K22A ⇑P **P** **03 03 18.5 +0.3**
baz=29,SNR=19
J24A Dixon Ranch, L 29.34 342 ⇑P **P** **03 03 18.6 +0.4**
baz=29
J24A ⇑P **P** **03 03 18.6 +0.4**
baz=29
MWC Mount Wilson 29.38 313 *e*P **P** **03 03 20.8 +2.1**
MWC *e**PP **pP** **03 03 56.9 +2.0**
MWC pmax pmax
comp=Z,37nm,1.1s
MWC Mount Wilson 29.38 313 *e*P **P** **03 03 20.8 +2.1**
comp=Z,37nm,1.1s
MWC *e*pP **pP** **03 03 56.9 +2.0**
MWC *e*sP **sP** **03 04 14.9 -0.2**
O16A Springville 29.40 330 ⇓P **P** **03 03 20.2 +1.4**
baz=29,SNR=45
O16A ⇓P **P** **03 03 20.2 +1.4**
baz=29,SNR=45
PASC Pasadena Art C 29.44 313 *e*P **P** **03 03 21.5 +2.5**
comp=Z,56nm,1.3s
PASC *e*pP **pP** **03 03 57.2 +2.0**
PASC *e*sP **sP** **03 04 16.5 +1.1**
PASC *e*PcP **PcP** **03 06 21.7 +1.3**
DAU Daniels Canyon 29.44 330 *e*P **P** **03 03 20.9 +1.6**
DAU *e* 03 06 21.2
DAU Daniels Canyon 29.44 330 *e*P **P** **03 03 20.9 +1.6**
DAU *e*PcP **PcP** **03 06 21.2 +0.5**
L20A Wamsutter 29.46 336 ⇑P **P** **03 03 20.0 +0.7**
baz=30,SNR=7.9
L20A ⇑P **P** **03 03 20.0 +0.7**
baz=30,SNR=7.9
K21A Alcova 29.58 338 ⇑P **P** **03 03 20.6 +0.2**
baz=30,SNR=6.6
K21A ⇑P **P** **03 03 20.6 +0.2**
baz=30,SNR=6.6
LZG Guadaloupe-1 29.60 85 *e*P **P** **03 03 18.6 -2.1**
N17A Moffit Pass 29.66 331 ⇓P **P** **03 03 22.6 +1.4**
baz=30,SNR=18
N17A ⇓P **P** **03 03 22.6 +1.4**
baz=30,SNR=18
JLU Jordanelle 29.68 330 *e*P **P** **03 03 23.3 +2.0**
comp=Z,80nm,1.5s
J23A Dilts Ranch, B 29.68 341 ⇑P **P** **03 03 22.1 +0.9**
baz=30
J23A ⇑P **P** **03 03 22.1 +0.9**
baz=30
EDW2 Edwards Air Fo 29.68 315 ⇓P **P** **03 03 22.6 +1.3**
baz=30,SNR=19
EDW2 ⇓P **P** **03 03 22.6 +1.3**
baz=30,SNR=19
M18A Lyman 29.70 333 ⇑P **P** **03 03 22.0 +0.5**
baz=30,SNR=6.2
M18A ⇑P **P** **03 03 22.0 +0.5**
baz=30,SNR=6.2
GLMI Grayling 29.73 11 *e*P **P** **03 03 22.8 +1.3**
comp=Z,66nm,0.8s
GLMI *e*pP **pP** **03 03 58.0 +0.4**
PHG Guadaloupe-2 29.74 85 *e*P **P** **03 03 22.7 +0.7**
I24A Kuemmerle Ranc 29.81 342 ⇑P **P** **03 03 22.5 +0.2**
baz=30,SNR=7.1
I24A ⇑P **P** **03 03 22.5 +0.2**
baz=30,SNR=7.1
LRMC Laurel Mountai 29.82 316 ⇓P **P** **03 03 24.3 +1.8**
baz=30,SNR=7.3
LRMC ⇓P **P** **03 03 24.3 +1.8**
baz=30,SNR=7.3
FURC Furnace Creek, 29.85 318 ⇑P **P** **03 03 25.2 +2.6**
baz=30,SNR=17
FURC ⇑P **P** **03 03 25.2 +2.6**
baz=30,SNR=17
RSSD Black Hills 29.89 343 *e*P **P** **03 03 23.3 +0.2**
RSSD Black Hills 29.89 343 *e*P **P** **03 03 23.2 +0.2**
N16A Rees Ranch, Co 29.90 331 ⇓P **P** **03 03 24.8 +1.6**
baz=30,SNR=13
N16A ⇓P **P** **03 03 24.8 +1.6**
baz=30,SNR=13
PAL Palisades 29.90 29 *e*P **P** **03 03 23.8 +0.9**
PAL *e**PP **pP** **03 04 00.0 +0.8**
PAL pmax pmax
comp=Z,91nm,0.9s
PAL Palisades 29.90 29 *e*P **P** **03 03 23.8 +0.9**
comp=Z,90nm,0.9s
PAL *e*pP **pP** **03 04 00.0 +0.8**
O15A The Old Anders 29.93 329 ⇑P **P** **03 03 25.2 +1.7**
baz=30,SNR=17
O15A ⇑P **P** **03 03 25.2 +1.7**
baz=30,SNR=17
L19A Farson 29.95 335 ⇑P **P** **03 03 24.2 +0.5**
baz=30,SNR=8.2
L19A ⇑P **P** **03 03 24.2 +0.5**
baz=30,SNR=8.2
BINY Binghamton 29.95 25 *e*P **P** **03 03 24.4 +1.0**
comp=Z,69nm,0.9s
BINY *e*pP **pP** **03 04 01.4 +1.7**
J22A Midwest 30.00 339 ⇓P **P** **03 03 24.3 +0.3**
baz=30,SNR=17
J22A ⇓P **P** **03 03 24.3 +0.3**
baz=30,SNR=17
M17A Scullys Gap (B 30.00 332 ⇓P **P** **03 03 24.5 +0.4**
baz=30,SNR=14
M17A ⇓P **P** **03 03 24.5 +0.4**
baz=30,SNR=14
K20A Yellowstone Ra 30.01 336 ⇓P **P** **03 03 24.2 +0.1**
baz=30,SNR=11
K20A ⇓P **P** **03 03 24.2 +0.1**
baz=30,SNR=11
MPMC Manual Prospec 30.02 317 ⇑P **P** **03 03 26.0 +1.6**
baz=30,SNR=52
MPMC ⇑P **P** **03 03 26.0 +1.6**
baz=30,SNR=52
DUG Dugway 30.04 328 *e*P **P** **03 03 26.2 +1.8**
DUG Dugway 30.04 328 *e*P **P** **03 03 26.2 +1.8**
DUG Dugway 30.04 328 ⇓P **P** **03 03 26.3 +1.9**
baz=30,SNR=25
DUG ⇓P **P** **03 03 26.3 +1.9**
baz=30,SNR=25
L18A Fontenelle, Gr 30.09 333 ⇑P **P** **03 03 25.5 +0.6**
baz=30,SNR=14
L18A ⇑P **P** **03 03 25.5 +0.6**
baz=30,SNR=14
GRGR Grenville 30.21 93 *e*P **P** **03 03 26.4 +0.4**
comp=Z,140nm,0.9s
BBSR BB Ston 30.22 52 *e*P **P** **03 03 26.4 +0.5**
comp=Z,137nm,0.8s
R11A Troy Canyon, C 30.26 322 ⇑P **P** **03 03 28.6 +2.1**
baz=30,SNR=35
R11A ⇑P **P** **03 03 28.6 +2.1**
baz=30,SNR=35
J21A Lysite 30.27 338 ⇓P **P** **03 03 27.2 +0.7**
baz=30,SNR=35
J21A ⇓P **P** **03 03 27.2 +0.7**
baz=30,SNR=35
FDF Fort de France 30.32 88 *e*P **P** **03 03 26.7 -0.3**
FDF pmax pmax
comp=Z,151nm,0.9s
FDF Fort de France 30.32 88 *e*P **P** **03 03 26.9 -0.2**
comp=Z,151nm,0.9s
FDF Fort de France 30.32 88 *e*P **P** **03 03 26.9 -0.2**
K19A Absolon Red Bu 30.35 336 ⇑P **P** **03 03 27.6 +0.4**
baz=30
K19A ⇑P **P** **03 03 27.6 +0.4**
baz=30
ARVC Arvin 30.40 314 ⇓P **P** **03 03 29.6 +2.2**
baz=30,SNR=16
ARVC ⇓P **P** **03 03 29.6 +2.2**
baz=30,SNR=16
N15A Stansbury Isla 30.42 329 ⇓P **P** **03 03 28.9 +1.2**
baz=30,SNR=9.1
N15A ⇓P **P** **03 03 28.9 +1.2**
baz=30,SNR=9.1
BIM Bigot 30.42 88 *e*P **P** **03 03 28.9 +1.0**
I22A 9 Mile Ranch, 30.42 340 ⇓P **P** **03 03 28.0 +0.2**
baz=30,SNR=20
I22A ⇓P **P** **03 03 28.0 +0.2**
baz=30,SNR=20
ISA Isabella 30.45 315 *e*P **P** **03 03 30.2 +2.2**
ISA *e* 03 06 24.3
ISA pmax pmax
comp=Z,27nm,1.1s
ISA Isabella 30.45 315 *e*P **P** **03 03 30.2 +2.2**
comp=Z,27nm,1.1s
ISA *e*PcP **PcP** **03 06 24.3 +1.2**
ISA *e*ScP **ScP** **03 09 52.0 +2.7**
ISA Isabella 30.45 315 ⇓P **P** **03 03 30.2 +2.2**
baz=30,SNR=26
ISA ⇓P **P** **03 03 30.2 +2.2**
baz=30,SNR=26
GRAC Grapevine Rang 30.50 319 ⇓P **P** **03 03 30.9 +2.5**
baz=30,SNR=11
GRAC ⇓P **P** **03 03 30.9 +2.5**
baz=30,SNR=11
J20A Shoshoni 30.51 337 ⇓P **P** **03 03 29.5 +1.0**
baz=31,SNR=19
J20A ⇓P **P** **03 03 29.5 +1.0**
baz=31,SNR=19
HWUT Hardware Ranch 30.52 331 *e*P **P** **03 03 29.3 +0.7**
comp=Z,124nm,1.6s
HWUT *e*PcP **PcP** **03 06 23.6 +0.3**
HWUT *e*ScP **ScP** **03 09 51.4 +1.8**
BW06 Boulder Array 30.59 335 ⇓P **P** **03 03 29.7 +0.4**
baz=31,SNR=8.4
BW06 ⇓P **P** **03 03 29.7 +0.4**
baz=31,SNR=8.4
BW06 ⇓P **P** **03 03 29.7 +0.4**
baz=31,SNR=8.4
BW06 ⇓P **P** **03 03 29.7 +0.4**
baz=31,SNR=8.4
PDAR Pinedale Array 30.59 335 P **P** **03 03 29.6 +0.3**
PDAR pP **pP** **03 04 07.0 +1.4**
comp=Z,4.4nm,0.8s,baz=134,slow=9.9,SNR=22
PDAR PcP **PcP** **03 06 23.4 -0.1**
comp=Z,12nm,1.0s,baz=145,slow=8.1,SNR=4.1
PDAR PcP **PcP** **03 06 23.4 -0.1**
comp=Z,6.3nm,0.4s,baz=127,slow=5.3,SNR=28
PDAR ScP **ScP** **03 09 50.8 +1.0**
comp=Z,3.9nm,1.0s,baz=134,slow=3.9,SNR=5.9
PDAR PKiKP **PKiKP** **03 13 53.6 -0.7**
comp=Z,1.0nm,0.7s,baz=94,slow=3.6,SNR=5.8
PDAR P3KPbc 03 35 16.1
comp=Z,1.2nm,0.9s,baz=311,slow=3.5,SNR=7.7
PDAR Pinedale Array 30.59 335 P **P** **03 03 29.6 +0.3**
PDAR pP **pP** **03 04 07.0 +1.4**
PDAR PcP **PcP** **03 06 23.4 -0.1**
PDAR ScP **ScP** **03 09 50.8 +1.0**
PDAR PKiKP **PKiKP** **03 13 53.6 -0.7**
PDAR *e* 03 35 16.1
MVM Montagne Vaucl 30.59 88 *e*P **P** **03 03 28.2 -1.2**
L17A Cokeville 30.60 333 ⇓P **P** **03 03 29.7 +0.3**
baz=31,SNR=16
L17A ⇓P **P** **03 03 29.7 +0.3**
baz=31,SNR=16
PD02 Pinedale Array 30.60 335 *e*P **P** **03 03 30.1 +0.6**
PD02 *e*PcP **PcP** **03 06 23.1 -0.5**
PD01 Pinedale Array 30.61 335 *e*P **P** **03 03 29.4 -0.1**
PD01 *e*PcP **PcP** **03 06 23.2 -0.4**
PD01 *e*ScP **ScP** **03 09 52.0 +2.2**
H24A Dirks Ranch, A 30.61 343 ⇑P **P** **03 03 29.6 +0.3**
baz=31,SNR=24
H24A ⇑P **P** **03 03 29.6 +0.3**
baz=31,SNR=24
I21A Big Trails, Te 30.63 339 ⇑P **P** **03 03 30.0 +0.4**
baz=31,SNR=9.3
I21A ⇑P **P** **03 03 30.0 +0.4**
baz=31,SNR=9.3
K18A Toltan Ranch, 30.68 334 ⇓P **P** **03 03 31.2 +1.1**
baz=31,SNR=31
K18A ⇓P **P** **03 03 31.2 +1.1**
baz=31,SNR=31
L16A Fish Haven 30.78 332 ⇓P **P** **03 03 31.5 +0.5**
baz=31,SNR=41
L16A ⇓P **P** **03 03 31.5 +0.5**
baz=31,SNR=41
J19A Crowheart 30.80 336 ⇑P **P** **03 03 31.3 +0.2**
baz=31,SNR=8.1
J19A ⇑P **P** **03 03 31.3 +0.2**
baz=31,SNR=8.1
M15A Larsen Ranch, 30.82 330 ⇑P **P** **03 03 32.7 +1.5**
baz=31,SNR=42
M15A ⇑P **P** **03 03 32.7 +1.5**
baz=31,SNR=42
VES Vestal, Richgr 30.96 315 ⇓P **P** **03 03 34.8 +2.4**
baz=31,SNR=42
VES ⇓P **P** **03 03 34.8 +2.4**
baz=31,SNR=42
PKM Peak Mountain 30.96 313 ⇓P **P** **03 03 34.5 +1.8**
baz=31,SNR=18
PKM ⇓P **P** **03 03 34.5 +1.8**
baz=31,SNR=18
H22A Clearmont 31.01 341 ⇑P **P** **03 03 32.7 -0.1**
baz=31,SNR=17
H22A ⇑P **P** **03 03 32.7 -0.1**
baz=31,SNR=17
I20A Worland 31.04 338 ⇑P **P** **03 03 33.9 +0.8**
baz=31,SNR=30
I20A ⇑P **P** **03 03 33.9 +0.8**
baz=31,SNR=30
SADO Sadowa 31.06 19 P **P** **03 03 31.9 -1.2**
comp=Z,18nm,0.7s,baz=217,slow=7.1,SNR=8.7
SADO pP **pP** **03 04 08.5 -0.9**
comp=Z,33nm,1.0s,baz=231,slow=6.5,SNR=4.3
SADO Sadowa 31.06 19 P **P** **03 03 31.9 -1.2**
SADO pP **pP** **03 04 08.5 -0.9**
J18A Kendall Valley 31.14 335 ⇓P **P** **03 03 34.7 +0.5**
baz=31,SNR=23
J18A ⇓P **P** **03 03 34.7 +0.5**
baz=31,SNR=23
K17A Gardner Place, 31.14 333 ⇓P **P** **03 03 34.9 +0.7**
baz=31,SNR=15
K17A ⇓P **P** **03 03 34.9 +0.7**
baz=31,SNR=15
L15A Malad City 31.21 331 ⇑P **P** **03 03 35.5 +0.8**
baz=31,SNR=35
L15A ⇑P **P** **03 03 35.5 +0.8**
baz=31,SNR=35
HVU Hansel Valley 31.22 330 *e*P **P** **03 03 36.7 +1.9**
HVU *e* 03 06 25.3
HVU pmax pmax
comp=Z,234nm,1.6s
HVU Hansel Valley 31.22 330 *e*P **P** **03 03 36.7 +1.9**
comp=Z,234nm,1.6s
HVU *e*PcP **PcP** **03 06 25.3 +0.1**
AHID Auburn Hatcher 31.23 333 *e*P **P** **03 03 35.3 +0.4**
comp=Z,158nm,1.6s
AHID *e*PcP **PcP** **03 06 25.8 +0.6**
H21A Big Horn, Sher 31.26 340 ⇑P **P** **03 03 34.7 -0.3**
baz=31,SNR=16
H21A ⇑P **P** **03 03 34.7 -0.3**
baz=31,SNR=16
G23A Biddle 31.26 342 ⇑P **P** **03 03 34.7 -0.3**
baz=31,SNR=13
G23A ⇑P **P** **03 03 34.7 -0.3**
baz=31,SNR=13
SMMC Simmler 31.31 314 ⇓P **P** **03 03 37.8 +2.4**
baz=31,SNR=9.4
SMMC ⇓P **P** **03 03 37.8 +2.4**
baz=31,SNR=9.4
RCTC Rector, Farmer 31.32 316 ⇑P **P** **03 03 38.0 +2.5**
baz=31,SNR=16
RCTC ⇑P **P** **03 03 38.0 +2.5**
baz=31,SNR=16
TRY Troy 31.38 27 *e*P **P** **03 03 37.1 +1.2**
comp=Z,68nm,0.9s
I19A Meeteetse 31.44 337 ⇓P **P** **03 03 37.6 +0.9**
baz=32,SNR=39
I19A ⇓P **P** **03 03 37.6 +0.9**
baz=32,SNR=39
H20A Greybull 31.46 339 ⇓P **P** **03 03 36.7 -0.1**
baz=32,SNR=19
H20A ⇓P **P** **03 03 36.7 -0.1**
baz=32,SNR=19
I18A Diamond G Ranc 31.47 336 ⇓P **P** **03 03 37.7 +0.7**
baz=32,SNR=17
I18A ⇓P **P** **03 03 37.7 +0.7**
baz=32,SNR=17
MTUM Tungsten Hills 31.48 318 *e*P **P** **03 03 39.3 +2.2**
K16A Soda Springs 31.50 333 ⇑P **P** **03 03 38.3 +1.0**
baz=32,SNR=8.3
K16A ⇑P **P** **03 03 38.3 +1.0**
baz=32,SNR=8.3
G22A Birney 31.55 341 ⇑P **P** **03 03 37.3 -0.3**
baz=32,SNR=15
G22A ⇑P **P** **03 03 37.3 -0.3**
baz=32,SNR=15
J17A Brown Place, J 31.55 334 ⇓P **P** **03 03 38.6 +0.9**
baz=32,SNR=77
J17A ⇓P **P** **03 03 38.6 +0.9**
baz=32,SNR=77
REDW Red Top Meadow 31.61 334 *e*P **P** **03 03 39.2 +0.9**
comp=Z,223nm,1.4s
QUA2 Belchertown 31.62 29 *e*P **P** **03 03 39.2 +1.2**
comp=Z,53nm,0.8s
PTRM Twissleman Ran 31.63 314 *e*P **P** **03 03 40.7 +2.4**
L14A Malta 31.64 330 ⇑P **P** **03 03 39.6 +1.2**
baz=32,SNR=86
L14A ⇑P **P** **03 03 39.6 +1.2**
baz=32,SNR=86
SNOW Snow King Moun 31.66 334 *e*P **P** **03 03 39.6 +1.0**
comp=Z,201nm,1.1s
NNA Nana 31.67 150 P **P** **03 03 40.4 +1.5**
comp=Z,23nm,1.0s,baz=324,slow=7.9,SNR=11
NNA PcP **PcP** **03 06 28.4 +1.8**
comp=Z,25nm,0.8s,baz=337,slow=5.3,SNR=9.1
NNA Nana 31.67 150 *e*P **P** **03 03 39.7 +0.8**
NNA *e* 03 06 27.1
NNA pmax pmax
comp=Z,33nm,1.1s
NNA Nana 31.67 150 *e*P **P** **03 03 39.7 +0.8**
comp=Z,33nm,1.1s
NNA *e*PcP **PcP** **03 06 27.1 +0.4**
NNA PcP PcP 03 06 28.4 +1.8
ELK Elko 31.71 326 *e*P **P** **03 03 40.8 +1.6**
ELK *e* 03 06 27.3
ELK Elko 31.71 326 *e*P **P** **03 03 40.8 +1.6**
ELK *e*PcP **PcP** **03 06 27.3 +0.6**
ELK *e*ScP **ScP** **03 09 56.3 +2.7**
LOHW Long Hollow 31.71 335 *e*P **P** **03 03 39.7 +0.5**
comp=Z,108nm,1.4s
LOHW *e*PcP **PcP** **03 06 27.5 +1.0**
F23A Volborg 31.74 343 ⇑P **P** **03 03 39.2 0.0**
baz=32,SNR=7.0
F23A ⇑P **P** **03 03 39.2 0.0**

baz=32,SNR=7.0
RRI2 Red Ridge 31.80 334 *e*P **P 03 03 40.9 +1.0**
comp=Z,163nm,1.4s
RRI2 *e*PcP **PcP 03 06 27.7 +0.8**
K15A Arbon 31.81 331 ⇑P **P 03 03 41.0 +1.1**
baz=32,SNR=21
K15A ⇑P **P 03 03 41.0 +1.1**
baz=32,SNR=21
MLAC Mammoth Lakes 31.81 318 ⇑P **P 03 03 42.2 +2.1**
baz=32,SNR=6.0
MLAC ⇑P **P 03 03 42.2 +2.1**
baz=32,SNR=6.0
G21A Lodge Grass 31.84 340 ⇓P **P 03 03 39.8 -0.3**
baz=32,SNR=14
G21A ⇓P **P 03 03 39.8 -0.3**
baz=32,SNR=14
J16A Bone 31.87 333 ⇓P **P 03 03 41.6 +1.1**
baz=32
J16A ⇓P **P 03 03 41.6 +1.1**
baz=32
MOOW Moose Ponds 31.89 335 *e*P **P 03 03 40.9 +0.3**
comp=Z,53nm,1.1s
MOOW *e*PcP **PcP 03 06 27.2 +0.2**
MOOW *e*ScP **ScP 03 09 56.8 +2.7**
ACCN Adirondack Com 31.90 27 *e*P **P 03 03 40.6 +0.1**
comp=Z,29nm,1.1s
DCID1 Drake Creek 31.94 334 *e*P **P 03 03 42.4 +1.3**
comp=Z,167nm,1.4s
DCID1 *e*PcP **PcP 03 06 28.8 +1.7**
NVAR Mina Array Bea 31.96 320 P **P 03 03 43.8 +2.4**
comp=Z,62nm,0.8s,baz=134,slow=8.5,SNR=311
NVAR pP **pP 03 04 19.3 +1.5**
comp=Z,62nm,0.7s,baz=135,slow=7.7,SNR=12
NVAR sP **sP 03 04 38.7 +0.8**
comp=Z,80nm,0.8s,baz=134,slow=8.7,SNR=9.1
NVAR PcP **PcP 03 06 29.0 +1.6**
comp=Z,3.7nm,0.9s,baz=120,slow=5.4,SNR=6.8
NVAR ScP **ScP 03 09 55.3 +0.8**
comp=Z,2.7nm,0.7s,baz=134,slow=2.6,SNR=6.5
NVAR PKiKP **PKiKP 03 13 56.4 +0.9**
comp=Z,0.4nm,0.5s,baz=119,slow=1.1,SNR=4.4
NVAR P3KPbc 03 35 11.9
comp=Z,1.6nm,0.9s,baz=289,slow=5.0,SNR=8.1
NVAR Mina Array Bea 31.96 320 P **P 03 03 43.8 +2.4**
NVAR pP **pP 03 04 19.2 +1.5**
NVAR sP **sP 03 04 38.7 +0.8**
NVAR PcP **PcP 03 06 29.0 +1.6**
NVAR ScP **ScP 03 09 55.3 +0.8**
NVAR PKiKP **PKiKP 03 13 56.4 +0.9**
NVAR *e* 03 35 11.9
I17A Pilgrim Ck. 31.96 335 ⇓P **P 03 03 42.6 +1.3**
baz=32,SNR=36
I17A ⇓P **P 03 03 42.6 +1.3**
baz=32,SNR=36
H19A Powell 31.98 338 ⇑P **P 03 03 41.9 +0.6**
baz=32,SNR=25
H19A ⇑P **P 03 03 41.9 +0.6**
baz=32,SNR=25
K14A Jones Ranch, D 32.00 331 ⇑P **P 03 03 42.4 +0.8**
baz=32,SNR=41
K14A ⇑P **P 03 03 42.4 +0.8**
baz=32,SNR=41
F22A Rosebud 32.04 342 ⇓P **P 03 03 41.2 -0.6**
baz=32,SNR=7.6
F22A ⇓P **P 03 03 41.2 -0.6**
baz=32,SNR=7.6
EYMN Ely 32.09 1 *e*P **P 03 03 40.0 -2.1**
comp=Z,21nm,0.8s
FLWY Flagg Ranch 32.14 335 *e*P **P 03 03 43.6 +0.8**
comp=Z,107nm,1.5s
FLWY *e*PcP **PcP 03 06 28.6 +0.9**
HRV Adam Dziewonsk 32.17 30 *e*P **P 03 03 43.7 +0.8**
HRV *e**PP **pP 03 04 20.2 +0.9**
HRV pmax pmax
comp=Z,24nm,0.8s
HRV Adam Dziewonsk 32.17 30 *e*P **P 03 03 43.7 +0.8**
comp=Z,24nm,0.8s
HRV *e*pP **pP 03 04 20.2 +0.9**
HRV *e*sP **sP 03 04 38.5 -1.0**
G20A Bridger 32.18 339 ⇑P **P 03 03 42.7 -0.3**
baz=32,SNR=19
G20A ⇑P **P 03 03 42.7 -0.3**
baz=32,SNR=19
E24A Baker 32.22 345 ⇓P **P 03 03 43.3 -0.1**
baz=32,SNR=14
E24A ⇓P **P 03 03 43.3 -0.1**
baz=32,SNR=14
H18A Shoshone NF, C 32.23 337 ⇓P **P 03 03 43.8 +0.1**
baz=32,SNR=41
H18A ⇓P **P 03 03 43.8 +0.1**
baz=32,SNR=41
I16A Newdale 32.30 334 ⇓P **P 03 03 45.2 +1.0**
baz=32,SNR=19
I16A ⇓P **P 03 03 45.2 +1.0**
baz=32,SNR=19
J15A Blackfoot 32.33 332 ⇓P **P 03 03 45.5 +1.1**
baz=32
J15A ⇓P **P 03 03 45.5 +1.1**
baz=32
F21A Absaloka Mine, 32.35 341 ⇑P **P 03 03 43.6 -0.9**
baz=32,SNR=5.9
F21A ⇑P **P 03 03 43.6 -0.9**
baz=32,SNR=5.9
H17A Grant Village 32.35 336 ⇑P **P 03 03 46.2 +1.5**
baz=32
H17A ⇑P **P 03 03 46.2 +1.5**
baz=32
LKWY Lake 32.42 336 *e*P **P 03 03 47.2 +1.8**
LKWY pmax pmax
comp=Z,107nm,1.5s
LKWY Lake 32.42 336 *e*P **P 03 03 47.1 +1.8**
comp=Z,107nm,1.5s
E23A Ismay 32.42 344 ⇑P **P 03 03 44.6 -0.5**
baz=32,SNR=9.4
E23A ⇑P **P 03 03 44.6 -0.5**
baz=32,SNR=9.4
RLMT Red Lodge 32.47 338 *e*P **P 03 03 45.2 -0.5**
comp=Z,63nm,1.1s
RLMT Red Lodge 32.47 338 ⇓P **P 03 03 46.0 +0.3**
baz=32,SNR=15
RLMT ⇓P **P 03 03 46.0 +0.3**
baz=32,SNR=15
RLMT ⇓P **P 03 03 46.0 +0.3**
baz=32,SNR=15
RLMT ⇓P **P 03 03 46.0 +0.3**
baz=32,SNR=15
YFT Old Faithful 32.50 335 *e*P **P 03 03 47.9 +1.9**
comp=Z,110nm,1.5s
YFT *e*pP **pP 03 04 25.2 +2.6**
YFT *e*PcP **PcP 03 06 30.5 +1.8**
YFT *e*ScP **ScP 03 09 59.7 +3.5**
MDND Maddock 32.51 351 ⇓P **P 03 03 44.9 -0.9**
baz=33,SNR=26
MDND ⇓P **P 03 03 44.9 -0.9**
baz=33,SNR=26
LONY Lake Ozonia 32.54 24 *e*P **P 03 03 46.5 +0.5**
comp=Z,23nm,1.0s
LONY *e*pP **pP 03 04 22.2 -0.3**
LONY *e*PP PP 03 05 06.3 +3.1
AGMN Agassiz Nation 32.55 356 *e*P **P 03 03 44.4 -1.7**
AGMN *e*PcP **PcP 03 06 28.5 +0.1**
AGMN *e*ScP **ScP 03 09 58.2 +2.2**
E22A Miles City 32.55 343 ⇓P **P 03 03 45.7 -0.5**
baz=33
E22A ⇓P **P 03 03 45.7 -0.5**
baz=33
BMN Battle Mountai 32.59 324 *e*P **P 03 03 48.5 +1.7**
BMN *e**PP **pP 03 04 25.6 +2.3**
BMN *e*SP **sP 03 04 44.4 +1.0**
BMN pmax pmax
comp=Z,194nm,1.7s
BMN Battle Mountai 32.59 324 *e*P **P 03 03 48.5 +1.7**
comp=Z,194nm,1.7s
BMN *e*pP **pP 03 04 25.6 +2.3**
BMN *e*sP **sP 03 04 44.4 +1.0**
MDV Middlebury 32.60 26 *e*P **P 03 03 47.2 +0.6**
comp=Z,2μm,0.5s
MDV *e*pP **pP 03 04 24.1 +1.0**
MDV *e*PP PP 03 05 07.3 +3.4
YNR Norris Junctio 32.66 336 *e*P **P 03 03 49.0 +1.6**
comp=Z,45nm,1.5s
YNR *e*pP pP 03 04 30.2 +6.3
F20A Billings 32.66 340 ⇑P **P 03 03 47.3 +0.1**
baz=33,SNR=14
F20A ⇑P **P 03 03 47.3 +0.1**
baz=33,SNR=14
YMR Madison River 32.73 335 *e*P **P 03 03 49.3 +1.3**
comp=Z,58nm,1.0s
YMR *e*PcP **PcP 03 06 30.3 +1.0**
D24A Glendive 32.74 345 ⇑P **P 03 03 48.3 +0.4**
baz=33,SNR=16
D24A ⇑P **P 03 03 48.3 +0.4**
baz=33,SNR=16
G18A Lazy EL Ranch, 32.74 338 ⇓P **P 03 03 48.0 0.0**
baz=33,SNR=17
G18A ⇓P **P 03 03 48.0 0.0**
baz=33,SNR=17
J14A Carey 32.76 331 ⇑P **P 03 03 49.4 +1.1**
baz=33
J14A ⇑P **P 03 03 49.4 +1.1**
baz=33
I15A Monteview 32.83 333 ⇑P **P 03 03 50.0 +1.2**
baz=33,SNR=12
I15A ⇑P **P 03 03 50.0 +1.2**
baz=33,SNR=12
H16A Russell Place, 32.88 335 ⇑P **P 03 03 50.7 +1.4**
baz=33,SNR=23
H16A ⇑P **P 03 03 50.7 +1.4**
baz=33,SNR=23
E21A Keefer Ranch, 32.98 341 ⇑P **P 03 03 49.5 -0.4**
baz=33,SNR=8.4
E21A ⇑P **P 03 03 49.5 -0.4**
baz=33,SNR=8.4
F19A Roth Farm, Mol 32.98 339 ⇑P **P 03 03 50.2 +0.2**
baz=33,SNR=12
F19A ⇑P **P 03 03 50.2 +0.2**
baz=33,SNR=12
D23A Lindsay 33.02 344 ⇑P **P 03 03 50.6 +0.3**
baz=33
D23A ⇑P **P 03 03 50.6 +0.3**
baz=33
CMB Columbia Colle 33.05 318 *e*P **P 03 03 51.9 +1.2**
CMB *e* 03 06 30.4
CMB pmax pmax
comp=Z,18nm,0.8s
CMB Columbia Colle 33.05 318 *e*P **P 03 03 51.9 +1.2**
comp=Z,18nm,0.8s
CMB *e*PcP **PcP 03 06 30.4 +0.2**
QLMT Earthquake Lak 33.05 335 *e*P **P 03 03 52.6 +1.8**
comp=Z,9.0nm,1.5s
QLMT *e*pP **pP 03 04 28.8 +1.5**
QLMT *e*PcP **PcP 03 06 31.3 +1.0**
SAO San Andreas Ge 33.06 315 *e*P **P 03 03 51.7 +0.9**
SAO pmax pmax
comp=Z,47nm,1.3s
SAO San Andreas Ge 33.06 315 *e*P **P 03 03 51.7 +0.9**
comp=Z,47nm,1.3s
FRNY Flat Rock 33.11 25 *e*P **P 03 03 51.6 +0.6**
comp=Z,25nm,1.1s
FRNY *e*pP **pP 03 04 28.9 +1.3**
FRNY *e*PP PP 03 05 07.8 -1.7
J13A Cove Ranch, Pi 33.13 331 ⇑P **P 03 03 52.2 +0.8**
baz=33,SNR=24
J13A ⇑P **P 03 03 52.2 +0.8**
baz=33,SNR=24
C24A Savage 33.15 345 ⇑P **P 03 03 51.6 +0.2**
baz=33,SNR=10
C24A ⇑P **P 03 03 51.6 +0.2**
baz=33,SNR=10
GCMT Greycliff 33.18 338 *e*P **P 03 03 51.7 -0.1**
comp=Z,19nm,0.9s
G17A Pierce Place, 33.19 336 ⇓P **P 03 03 53.4 +1.5**
baz=33,SNR=16
G17A ⇓P **P 03 03 53.4 +1.5**
baz=33,SNR=16
I14A Mackay 33.20 332 ⇓P **P 03 03 53.5 +1.5**
baz=33,SNR=28
I14A ⇓P **P 03 03 53.5 +1.5**
baz=33,SNR=28
D22A Cohagen 33.26 343 ⇓P **P 03 03 52.6 +0.2**
baz=33,SNR=50
D22A ⇓P **P 03 03 52.6 +0.2**
baz=33,SNR=50
E20A Meyer Farm, Mu 33.28 340 ⇓P **P 03 03 52.9 +0.3**
baz=33,SNR=32
E20A ⇓P **P 03 03 52.9 +0.3**
baz=33,SNR=32
F18A Big Timber 33.30 338 ⇓P **P 03 03 52.9 +0.1**
baz=33,SNR=17
F18A ⇓P **P 03 03 52.9 +0.1**
baz=33,SNR=17
HLID Hailey 33.37 331 *e*P **P 03 03 54.5 +1.0**
comp=Z,61nm,1.0s
HLID Hailey 33.37 331 ⇑P **P 03 03 54.6 +1.2**
baz=33,SNR=39
HLID ⇑P **P 03 03 54.6 +1.2**
baz=33,SNR=39
WCN Washoe City 33.39 320 *e*P **P 03 03 55.8 +2.1**
WCN pmax pmax
comp=Z,33nm,1.2s
WCN Washoe City 33.39 320 *e*P **P 03 03 55.8 +2.1**
comp=Z,33nm,1.2s
WCN Washoe City 33.39 320 ⇓P **P 03 03 56.1 +2.4**
baz=33,SNR=18
WCN ⇓P **P 03 03 56.1 +2.4**
baz=33,SNR=18
H15A Lima 33.39 334 ⇓P **P 03 03 55.4 +1.7**
baz=33,SNR=27
H15A ⇓P **P 03 03 55.4 +1.7**
baz=33,SNR=27
D21A La Casta Ranch 33.42 342 ⇓P **P 03 03 53.9 +0.1**
baz=34,SNR=14
D21A ⇓P **P 03 03 53.9 +0.1**
baz=34,SNR=14
E19A Rath Farm, Rou 33.46 340 ⇑P **P 03 03 54.4 +0.3**
baz=34,SNR=22
E19A ⇑P **P 03 03 54.4 +0.3**
baz=34,SNR=22
I13A Wildhorse Cree 33.49 331 ⇓P **P 03 03 55.9 +1.2**
baz=34,SNR=45
I13A ⇓P **P 03 03 55.9 +1.2**
baz=34,SNR=45
G16A Moss Hill, Enn 33.53 335 ⇓P **P 03 03 56.4 +1.5**
baz=34,SNR=17
G16A ⇓P **P 03 03 56.4 +1.5**
baz=34,SNR=17
C23A Lambert 33.60 345 ⇓P **P 03 03 55.4 +0.1**
baz=34,SNR=12
C23A ⇓P **P 03 03 55.4 +0.1**
baz=34,SNR=12
MCMT McKenzie Canyo 33.65 334 *e*P **P 03 03 57.4 +1.4**
comp=Z,57nm,1.4s
F17A Fitzpatrick Pl 33.65 337 ⇑P **P 03 03 56.9 +1.1**
baz=34,SNR=38
F17A ⇑P **P 03 03 56.9 +1.1**
baz=34,SNR=38
H14A Leadore 33.70 333 ⇓P **P 03 03 57.8 +1.4**
baz=34,SNR=45
H14A ⇓P **P 03 03 57.8 +1.4**
baz=34,SNR=45
C22A Vida 33.73 344 ⇑P **P 03 03 56.7 +0.3**
baz=34,SNR=12
C22A ⇑P **P 03 03 56.7 +0.3**
baz=34,SNR=12
G15A Dillon 33.76 334 ⇑P **P 03 03 58.1 +1.2**
baz=34,SNR=26
G15A ⇑P **P 03 03 58.1 +1.2**
baz=34,SNR=26
D20A Manuel Ranch, 33.80 341 ⇑P **P 03 03 57.5 +0.5**
baz=34,SNR=18
D20A ⇑P **P 03 03 57.5 +0.5**
baz=34,SNR=18
BOZ Bozeman (W) 33.81 336 *e*P **P 03 03 57.9 +0.7**
BOZ *e* 03 06 33.0
BOZ pmax pmax
comp=Z,34nm,1.2s
BOZ Bozeman (W) 33.81 336 *e*P **P 03 03 57.9 +0.7**
comp=Z,34nm,1.2s
BOZ *e*PcP **PcP 03 06 33.0 +0.8**
BOZ Bozeman (W) 33.81 336 ⇓P **P 03 03 58.0 +0.8**
baz=34,SNR=15
BOZ ⇓P **P 03 03 58.0 +0.8**
baz=34,SNR=15
BOZ ⇓P **P 03 03 58.0 +0.8**
baz=34,SNR=15
BOZ ⇓P **P 03 03 58.0 +0.8**
baz=34,SNR=15
I12A Atlanta 33.88 330 ⇑P **P 03 03 59.1 +1.1**
baz=34,SNR=68
I12A ⇑P **P 03 03 59.1 +1.1**
baz=34,SNR=68
F16A Kennard Place, 33.92 336 ⇓P **P 03 03 59.3 +1.1**
baz=34,SNR=22
F16A ⇓P **P 03 03 59.3 +1.1**
baz=34,SNR=22
E18A Harlowton 33.94 338 ⇓P **P 03 03 58.6 +0.3**
baz=34,SNR=16
E18A ⇓P **P 03 03 58.6 +0.3**
baz=34,SNR=16
MFID Camas Ranch 33.94 329 *e*P **P 03 03 59.8 +1.4**
comp=Z,121nm,1.5s
MFID *e*PcP **PcP 03 06 33.4 +0.8**
MFID Camas Ranch 33.94 329 ⇑P **P 03 03 59.4 +1.0**
baz=34,SNR=40
MFID ⇑P **P 03 03 59.4 +1.0**
baz=34,SNR=40
DLMT Dillon 33.97 334 *e*P **P 03 03 59.8 +1.1**
comp=Z,153nm,1.1s
DLMT *e*PcP **PcP 03 06 34.0 +1.3**
DLMT *e*ScP **ScP 03 10 00.4 -0.8**
DGMT Dagmar 33.98 346 *e*P **P 03 03 58.0 -0.5**
comp=Z,17nm,0.6s
DGMT Dagmar 33.98 346 ⇓P **P 03 03 58.4 -0.1**
baz=34,SNR=6.8
DGMT ⇓P **P 03 03 58.4 -0.1**
baz=34,SNR=6.8
H13A Challis 34.06 332 ⇓P **P 03 04 00.5 +1.1**
baz=34,SNR=69
H13A ⇓P **P 03 04 00.5 +1.1**
baz=34,SNR=69
D19A Cripps Ranch, 34.10 340 ⇑P **P 03 03 59.7 0.0**
baz=34,SNR=15
D19A ⇑P **P 03 03 59.7 0.0**
baz=34,SNR=15
C21A Desert Coulee 34.14 342 ⇑P **P 03 04 00.2 +0.3**
baz=34,SNR=6.5
C21A ⇑P **P 03 04 00.2 +0.3**
baz=34,SNR=6.5
B23A Brockton 34.16 345 ⇓P **P 03 04 00.6 +0.5**
baz=34,SNR=11
B23A ⇓P **P 03 04 00.6 +0.5**
baz=34,SNR=11
E17A Martinsdale 34.19 337 ⇑P **P 03 04 00.8 +0.3**
baz=34
E17A ⇑P **P 03 04 00.8 +0.3**
baz=34
G14A Jackson 34.24 333 ⇓P **P 03 04 02.0 +1.0**
baz=34,SNR=38
G14A ⇓P **P 03 04 02.0 +1.0**
baz=34,SNR=38
B22A Reddig Ranch S 34.27 344 ⇑P **P 03 04 01.5 +0.4**
baz=34
B22A ⇑P **P 03 04 01.5 +0.4**
baz=34
LRM Limekiln Ridge 34.28 335 *e*P **P 03 04 01.7 +0.3**
comp=Z,56nm,1.1s
LRM *e*PP PP 03 05 27.1 +4.4
C20A Veseth Ranch, 34.31 341 ⇓P **P 03 04 01.7 +0.3**
baz=34,SNR=15
C20A ⇓P **P 03 04 01.7 +0.3**
baz=34,SNR=15
F15A Butte 34.31 335 ⇑P **P 03 04 02.4 +0.8**
baz=34,SNR=32
F15A ⇑P **P 03 04 02.4 +0.8**
baz=34,SNR=32
H12A Diamond D Ranc 34.32 331 ⇑P **P 03 04 02.9 +1.2**
baz=34,SNR=79
H12A ⇑P **P 03 04 02.9 +1.2**
baz=34,SNR=79
A24A Westby 34.36 347 ⇑P **P 03 04 02.0 +0.2**
baz=34
A24A ⇑P **P 03 04 02.0 +0.2**
baz=34
D18A Linhart Farms, 34.44 339 ⇑P **P 03 04 02.9 +0.3**
baz=34,SNR=16
D18A ⇑P **P 03 04 02.9 +0.3**
baz=34,SNR=16
G13A Cobalt 34.46 332 ⇓P **P 03 04 03.4 +0.6**
baz=34,SNR=21
G13A ⇓P **P 03 04 03.4 +0.6**
baz=34,SNR=21
ULM Lac du Bonnet 34.49 356 P **P 03 04 00.6 -2.3**
comp=Z,15nm,0.5s,baz=173,slow=9.4,SNR=41
ULM pP **pP 03 04 38.8 -0.8**
comp=Z,31nm,1.1s,baz=188,slow=9.1,SNR=3.3
ULM ScP **ScP 03 10 03.6 +0.9**
comp=Z,7.2nm,0.7s,baz=180,slow=6.1,SNR=4.8
ULM LR LR 03 18 58.2
comp=Z,1μm,20.7s,baz=3.9,slow=38
ULM Lac du Bonnet 34.49 356 *e*P **P 03 04 00.3 -2.5**
ULM *PP **pP 03 04 38.8 -0.8**
ULM pmax pmax
comp=Z,83nm,1.4s
ULM Lac du Bonnet 34.49 356 *e*P **P 03 04 00.3 -2.5**
comp=Z,83nm,1.4s
ULM pP **pP 03 04 38.8 -0.8**
ULM ScP **ScP 03 10 03.6 +0.9**
ULM *e*ScP **ScP 03 10 04.8 +2.1**
E16A East Helena 34.56 337 ⇑P **P 03 04 03.9 +0.3**
baz=35,SNR=23
E16A ⇑P **P 03 04 03.9 +0.3**
baz=35,SNR=23
F14A Wisdom 34.65 334 ⇑P **P 03 04 05.0 +0.5**
baz=35,SNR=11
F14A ⇑P **P 03 04 05.0 +0.5**
baz=35,SNR=11
C19A Slack Wire Ran 34.66 340 ⇑P **P 03 04 04.7 +0.3**
baz=35
C19A ⇑P **P 03 04 04.7 +0.3**
baz=35
D17A Six Diamond Ra 34.71 338 ⇓P **P 03 04 05.0 0.0**
baz=35,SNR=21
D17A ⇓P **P 03 04 05.0 0.0**
baz=35,SNR=21
WVOR Wild Horse Val 34.72 325 *e*P **P 03 04 06.3 +1.2**
WVOR *e* 03 06 36.0
WVOR pmax pmax
comp=Z,73nm,1.0s
WVOR Wild Horse Val 34.72 325 *e*P **P 03 04 06.3 +1.2**
comp=Z,73nm,1.0s
WVOR *e*PcP **PcP 03 06 36.0 +1.1**
WVOR *e*ScP **ScP 03 10 05.3 +1.3**
HRY Holter Researc 34.77 337 *e*P **P 03 04 06.1 +0.6**
comp=Z,63nm,1.0s
E15A Deer Lodge 34.85 335 ⇑P **P 03 04 06.6 +0.4**
baz=35,SNR=10
E15A ⇑P **P 03 04 06.6 +0.4**
baz=35,SNR=10
A22A Carney Farms, 34.88 345 ⇑P **P 03 04 06.5 +0.2**
baz=35,SNR=6.0
A22A ⇑P **P 03 04 06.5 +0.2**
baz=35,SNR=6.0
D16A Dana Ranch, Ca 34.93 337 ⇑P **P 03 04 07.4 +0.6**
baz=35,SNR=14
D16A ⇑P **P 03 04 07.4 +0.6**
baz=35,SNR=14
B20A Solberg Farm, 34.96 342 ⇓P **P 03 04 07.1 +0.1**
baz=35
B20A ⇓P **P 03 04 07.1 +0.1**
baz=35
F13A Darby 35.05 333 ⇑P **P 03 04 08.1 +0.2**
baz=35,SNR=30
F13A ⇑P **P 03 04 08.1 +0.2**
baz=35,SNR=30
EGMT Eagleton 35.14 340 *e*P **P 03 04 08.7 +0.1**
comp=Z,24nm,0.6s
EGMT Eagleton 35.14 340 ⇑P **P 03 04 08.9 +0.3**
baz=35,SNR=16
EGMT ⇑P **P 03 04 08.9 +0.3**
baz=35,SNR=16
A21A Bergtoll Ranch 35.15 344 ⇓P **P 03 04 08.8 +0.2**
baz=35,SNR=13
A21A ⇓P **P 03 04 08.8 +0.2**
baz=35,SNR=13
C17A Wharram Farm, 35.15 338 ⇑P **P 03 04 09.0 +0.4**
baz=35,SNR=28
C17A ⇑P **P 03 04 09.0 +0.4**
baz=35,SNR=28
E14A Clinton 35.19 335 ⇓P **P 03 04 09.8 +0.7**
baz=35,SNR=26
E14A ⇓P **P 03 04 09.8 +0.7**
baz=35,SNR=26
B19A Brinkman Farms 35.26 341 ⇓P **P 03 04 09.9 +0.4**
baz=35,SNR=12
B19A ⇓P **P 03 04 09.9 +0.4**
baz=35,SNR=12
LBCM Butte Creek Ri 35.28 321 P **P 03 04 11.6 +1.6**
D15A Lincoln 35.31 336 ⇑P **P 03 04 10.9 +0.8**
baz=35,SNR=13
D15A ⇑P **P 03 04 10.9 +0.8**
baz=35,SNR=13
MOD Modoc 35.32 323 *e*P **P 03 04 11.1 +0.8**
comp=Z,48nm,0.9s

MOD ePcP PcP 03 06 37.5 +0.8
HOPS Hopland 35.33 317 eP P 03 04 12.3 +2.1
comp=Z,28nm,1.3s
F12A Elk City 35.43 332 ⇑P P 03 04 11.8 +0.6
baz=35,SNR=75
F12A ⇑P P 03 04 11.8 +0.6
baz=35,SNR=75
B18A Beardsley Farm 35.47 340 ⇓P P 03 04 11.9 +0.5
baz=36,SNR=13
B18A ⇓P P 03 04 11.9 +0.5
baz=36,SNR=13
CHMT Chamberlain Mo 35.49 335 eP P 03 04 11.7 -0.1
comp=Z,25nm,0.8s
E13A Victor 35.50 334 ⇑P P 03 04 11.9 +0.2
baz=36,SNR=28
E13A ⇑P P 03 04 11.9 +0.2
baz=36,SNR=28
A19A Klindworth Far 35.62 342 ⇑P P 03 04 12.6 0.0
baz=36,SNR=5.4
A19A ⇑P P 03 04 12.6 0.0
baz=36,SNR=5.4
C16A Fuhringer Ranc 35.65 338 ⇑P P 03 04 13.3 +0.4
baz=36,SNR=32
C16A ⇑P P 03 04 13.3 +0.4
baz=36,SNR=32
MSO Missoula 35.70 335 eP P 03 04 13.7 +0.2
comp=Z,60nm,1.1s
MSO ePcP PcP 03 06 38.8 +1.1
MSO eScP ScP 03 10 09.9 +2.5
MSO Missoula 35.70 335 ⇑P P 03 04 14.0 +0.6
baz=36,SNR=24
MSO ⇑P P 03 04 14.0 +0.6
baz=36,SNR=24
BMO Blue Mountains 35.72 329 eP P 03 04 13.2 -0.3
comp=Z,86nm,1.6s
BMO ePcP PcP 03 06 38.5 +0.7
B17A L&G Farms, Che 35.73 339 ⇓P P 03 04 13.8 +0.2
baz=36,SNR=5.8
B17A ⇓P P 03 04 13.8 +0.2
baz=36,SNR=5.8
D14A Greenough 35.73 335 ⇓P P 03 04 14.0 +0.4
baz=36,SNR=9.7
D14A ⇓P P 03 04 14.0 +0.4
baz=36,SNR=9.7
SLMT Seeley Lake 35.85 335 eP P 03 04 14.6 -0.2
comp=Z,25nm,0.9s
WDC Whiskeytown Da 35.87 320 eP P 03 04 14.1 -0.7
WDC e 03 06 38.5
WDC pmax pmax
comp=Z,20nm,1.1s
WDC Whiskeytown Da 35.87 320 eP P 03 04 14.1 -0.7
comp=Z,20nm,1.1s
WDC ePcP PcP 03 06 38.5 +0.3
WDC eScP ScP 03 10 09.1 +1.1
C15A Salmond Ranch, 35.95 337 ⇑P P 03 04 15.6 +0.1
baz=36,SNR=14
C15A ⇑P P 03 04 15.6 +0.1
baz=36,SNR=14
A18A Metzger Ranch, 35.95 341 ⇑P P 03 04 15.4 -0.1
baz=36,SNR=22
A18A ⇑P P 03 04 15.4 -0.1
baz=36,SNR=22
KCPM Cahto Peak 36.04 317 eP P 03 04 18.8 +2.4
comp=Z,58nm,1.4s
KCPM ePcP PcP 03 06 40.2 +1.3
KIPM Iron Peak 36.04 318 eP P 03 04 18.4 +2.0
comp=Z,104nm,1.2s
E12A Beaver Dam Sad 36.08 333 ⇓P P 03 04 16.5 -0.1
baz=36
E12A ⇓P P 03 04 16.5 -0.1
baz=36
D13A Huson 36.13 334 ⇑P P 03 04 17.2 +0.2
baz=36,SNR=23
D13A ⇑P P 03 04 17.2 +0.2
baz=36,SNR=23
B16A M & M Farms, S 36.15 338 ⇑P P 03 04 17.2 0.0
baz=36,SNR=10
B16A ⇑P P 03 04 17.2 0.0
baz=36,SNR=10
A17A Triple J Farms 36.26 340 ⇓P P 03 04 17.8 -0.2
baz=36,SNR=27
A17A ⇓P P 03 04 17.8 -0.2
baz=36,SNR=27
SWMT Swartz Lake 36.27 335 eP P 03 04 18.5 +0.3
comp=Z,42nm,1.0s
SWMT ePcP PcP 03 06 39.8 +0.4
B15A Bradely Ranch, 36.38 337 ⇓P P 03 04 19.2 +0.1
baz=36
B15A ⇓P P 03 04 19.2 +0.1
baz=36
C14A Swan Lake 36.38 336 ⇑P P 03 04 19.4 +0.2
baz=36
C14A ⇑P P 03 04 19.4 +0.2
baz=36
D12A Red Ives Fores 36.47 334 ⇑P P 03 04 19.8 -0.1
baz=36
D12A ⇑P P 03 04 19.8 -0.1
baz=36
A16A West Butte Ran 36.56 339 ⇑P P 03 04 20.8 +0.1
baz=37,SNR=7.9
A16A ⇑P P 03 04 20.8 +0.1
baz=37,SNR=7.9
YBMT Yellow Bay 36.56 336 eP P 03 04 21.2 +0.5
comp=Z,77nm,1.1s
YBMT ePcP PcP 03 06 40.8 +0.5
YBMT eScP ScP 03 10 13.3 +2.7
JTMT Jette 36.58 335 eP P 03 04 21.2 +0.4
comp=Z,66nm,1.0s
JTMT ePcP PcP 03 06 40.5 +0.1
JTMT eScP ScP 03 10 13.6 +3.0
YBH Yreka Blue Hor 36.64 321 eP P 03 04 20.8 -0.6
YBH pmax pmax
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 36.64 321 eP P 03 04 20.8 -0.6
comp=Z,18nm,0.9s
C13A Hot Springs 36.64 335 ⇓P P 03 04 21.4 0.0
baz=37,SNR=12
C13A ⇓P P 03 04 21.4 0.0
baz=37,SNR=12
B14A Marquette Ranc 36.68 337 ⇑P P 03 04 21.8 0.0
baz=37
B14A ⇑P P 03 04 21.8 0.0
baz=37
KHMM Horse Mountain 36.78 319 eP P 03 04 23.9 +1.2
comp=Z,69nm,0.9s
KHMM ePcP PcP 03 06 41.7 +0.5
BSMT Bassoo Peak 36.87 335 eP P 03 04 23.8 +0.5
comp=Z,21nm,1.0s
LNOR Lincton Mounta 36.93 330 eP P 03 04 24.0 +0.2
LNOR pmax pmax
comp=Z,22nm,1.0s
LNOR Lincton Mounta 36.93 330 eP P 03 04 24.0 +0.2
comp=Z,22nm,1.0s
A15A Johnson Ranch, 36.99 338 ⇓P P 03 04 24.3 0.0
baz=37,SNR=15
A15A ⇓P P 03 04 24.3 0.0
baz=37,SNR=15
C12B Naegeli Ranch, 37.04 334 ⇓P P 03 04 25.3 +0.6
baz=37,SNR=15
C12B ⇓P P 03 04 25.3 +0.6
baz=37,SNR=15
B13A Whitefish 37.16 336 ⇓P P 03 04 26.2 +0.6
baz=37,SNR=11
B13A ⇓P P 03 04 26.2 +0.6
baz=37,SNR=11
VIPM Ingram Point 37.18 326 P P 03 04 26.7 +0.7
VIPM Ingram Point 37.18 326 P P 03 04 26.7 +0.7
A14A Double T Ranch 37.24 337 ⇓P P 03 04 26.5 +0.1
baz=37,SNR=16
A14A ⇓P P 03 04 26.5 +0.1
baz=37,SNR=16
HUMO Hull Mountain 37.30 322 eP P 03 04 27.1 +0.2
comp=Z,9.2nm,0.9s
HUMO ePcP PcP 03 06 43.0 +0.4
C11A Tepee Creek (N 37.47 334 ⇓P P 03 04 28.7 +0.3
baz=38
C11A ⇓P P 03 04 28.7 +0.3
baz=38
WALA Waterton Lakes 37.50 337 eP P 03 04 28.7 +0.1
comp=Z,2.5nm,1.2s
A13A Flathead Natio 37.59 336 ⇓P P 03 04 29.9 +0.6
baz=38
A13A ⇓P P 03 04 29.9 +0.6
baz=38
B12A Libby 37.68 335 ⇓P P 03 04 30.9 +0.8
baz=38,SNR=5.2
B12A ⇓P P 03 04 30.9 +0.8
baz=38,SNR=5.2
KBO Bosley Butte 37.84 321 eP P 03 04 33.2 +1.7
comp=Z,271nm,1.4s
KBO epP pP 03 05 11.0 +2.3
HAWA Hanford 37.91 329 eP P 03 04 31.8 -0.2
comp=Z,29nm,1.1s
RSW Rattlesnake Hi 37.94 329 eP P 03 04 32.7 +0.4
comp=Z,4.6nm,0.3s
A12A Yaak River Ran 38.08 335 ⇑P P 03 04 34.0 +0.6
baz=38,SNR=9.1
A12A ⇑P P 03 04 34.0 +0.6
baz=38,SNR=9.1
SAML Samuel 38.09 128 eP P 03 04 31.4 -2.4
comp=Z,55nm,0.8s
SAML ePcP PcP 03 06 45.5 +0.2
SAML eScP ScP 03 10 18.4 +1.7
NEW Newport 38.17 333 eP P 03 04 33.8 -0.3
NEW e 03 06 45.0
NEW pmax pmax
comp=Z,57nm,1.0s
NEW Newport 38.17 333 eP P 03 04 33.8 -0.3
comp=Z,57nm,1.0s
NEW ePcP PcP 03 06 45.0 -0.1
NEW Newport 38.17 333 ⇑P P 03 04 34.3 +0.1
baz=38,SNR=11
NEW ⇑P P 03 04 34.3 +0.1
baz=38,SNR=11
OD2 Odessa Site #2 38.23 331 eP P 03 04 34.9 +0.2
comp=Z,83nm,1.1s
KEBM Edson Butte 38.28 321 eP P 03 04 37.2 +2.0
comp=Z,324nm,1.2s
KEBM epP pP 03 05 15.5 +3.0
KEBM esP sP 03 05 34.1 +1.7
VLL Laurance Lake 38.38 327 P P 03 04 38.4 +2.5
COR Corvallis 38.70 324 eP P 03 04 39.7 +1.1
COR pmax pmax
comp=Z,237nm,1.4s
COR Corvallis 38.70 324 eP P 03 04 39.7 +1.1
comp=Z,237nm,1.4s
EBG Ellensburg 38.78 329 P P 03 04 40.6 +1.4
TBM Table Mountain 38.98 329 P P 03 04 42.7 +1.8
WTV Waterville 39.04 330 P P 03 04 43.4 +2.0
WPW White Pass 39.13 328 P P 03 04 44.3 +2.0
ETW Entiat 39.15 330 eP P 03 04 43.5 +1.0
comp=Z,122nm,1.1s
LON Longmire 39.30 328 eP P 03 04 44.0 +0.4
LON e 03 06 49.2
LON pmax pmax
comp=Z,23nm,0.7s
LON Longmire 39.30 328 eP P 03 04 44.0 +0.4
comp=Z,23nm,0.7s
LON ePcP PcP 03 06 49.2 +0.5
FFC Flin Flon 39.55 351 eP P 03 04 44.7 -0.7
FFC e 03 10 23.8
FFC pmax pmax
comp=Z,42nm,0.7s
FFC Flin Flon 39.55 351 eP P 03 04 44.7 -0.7
comp=Z,42nm,0.7s
FFC eScP ScP 03 10 23.8 +2.2
FFC Flin Flon 39.55 351 P P 03 04 44.9 -0.5
comp=Z,367nm,0.6s,SNR=44
LPAZ La Paz 39.96 142 P P 03 04 50.5 +0.5
comp=Z,34nm,0.5s,baz=328,slow=6.8,SNR=109
LPAZ PcP PcP 03 06 53.0 +1.0
comp=Z,17nm,0.7s,baz=360,slow=4.7,SNR=7.4
LPAZ ScP ScP 03 10 25.9 +1.3
comp=Z,3.3nm,0.8s,baz=294,slow=1.9,SNR=3.6
LPAZ LR LR 03 19 32.8
comp=Z,727nm,21.5s,baz=146,slow=33
LPAZ La Paz 39.96 142 eP P 03 04 50.2 +0.2
LPAZ e 03 06 53.0
LPAZ pmax pmax
comp=Z,41nm,0.6s
LPAZ La Paz 39.96 142 eP P 03 04 50.2 +0.2
comp=Z,41nm,0.6s
LPAZ ePcP PcP 03 06 53.0 +1.0
LPAZ ScP ScP 03 10 25.9 +1.3
LPAZ eScP ScP 03 10 26.5 +1.9
JCW Jim Creek 40.34 330 eP P 03 04 51.7 -0.4
comp=Z,50nm,1.0s
JCW ePcP PcP 03 06 51.9 0.0
NLWA Neilton Lookou 40.78 327 eP P 03 04 56.9 +1.2
comp=Z,227nm,1.6s
NLWA epP pP 03 05 35.7 +2.3
PGC Sidney 41.39 329 eP P 03 05 01.6 +1.0
comp=Z,18nm,1.6s
PGC epP pP 03 05 39.4 +1.0
SCHQ Schefferville 43.77 21 P P 03 05 17.9 -1.9
comp=Z,8.3nm,0.8s,baz=212,slow=13,SNR=11
SCHQ pP pP 03 05 57.4 -0.5
comp=Z,12nm,0.8s,baz=201,slow=8.2,SNR=2.6
SCHQ ScP ScP 03 10 38.0 -0.5
comp=Z,8.5nm,0.9s,baz=216,slow=12,SNR=4.7
SCHQ LR LR 03 25 19.6
comp=Z,1μm,18.8s,baz=232,slow=38
SCHQ Schefferville 43.77 21 P P 03 05 17.9 -1.9
SCHQ pP pP 03 05 57.4 -0.5
SCHQ ScP ScP 03 10 38.0 -0.5
SIV San Ignacio 44.31 134 P P 03 05 23.7 -0.8
comp=Z,101nm,0.9s,baz=309,slow=7.7,SNR=288
SIV PcP PcP 03 07 06.2 +0.5
comp=Z,35nm,0.8s,baz=326,slow=2.9,SNR=6.0
SIV San Ignacio 44.31 134 P P 03 05 23.7 -0.8
SIV PcP PcP 03 07 06.2 +0.5
LVC Limon Verde 44.63 148 eP P 03 05 28.6 +1.3
comp=Z,36nm,0.9s
LVC ePcP PcP 03 07 08.5 +1.5
RPN Rapa Nui 45.64 201 P P 03 05 37.5 +2.7
comp=Z,123nm,0.9s,baz=20,slow=6.4,SNR=6.3
RPN LR LR 03 21 12.9
comp=Z,379nm,18.2s,baz=281,slow=31
RPN Rapa Nui 45.64 201 eP P 03 05 37.3 +2.5
RPN pmax pmax
comp=Z,254nm,1.1s
RPN Rapa Nui 45.64 201 eP P 03 05 37.3 +2.5
comp=Z,254nm,1.1s
BBB Bella Bella 45.95 330 P P 03 05 39.0 +2.1
comp=Z,11nm,0.6s,baz=130,slow=4.9,SNR=7.9
BBB pP pP 03 06 18.1 +2.6
comp=Z,29nm,0.9s,baz=129,slow=7.7,SNR=4.3
BBB Bella Bella 45.95 330 P P 03 05 39.0 +2.1
BBB pP pP 03 06 18.1 +2.6
YKA Yellowknife Ar 49.18 347 P P 03 06 01.5 -0.2
comp=Z,39nm,0.6s,baz=147,slow=7.5,SNR=422
YKA pP pP 03 06 41.7 +1.0
comp=Z,59nm,1.0s,baz=146,slow=7.8,SNR=6.4
YKA ScP ScP 03 11 02.8 +1.9
comp=Z,2.8nm,0.8s,baz=146,slow=3.9,SNR=5.5
YKA Yellowknife Ar 49.18 347 P P 03 06 01.5 -0.2
YKA *PP pP 03 06 41.7 +1.0
YKA Yellowknife Ar 49.18 347 P P 03 06 01.5 -0.2
YKA pP pP 03 06 41.7 +1.0
YKA ScP ScP 03 11 02.8 +1.9
LCO Las Campanas 49.29 154 eP P 03 06 04.1 +0.9
comp=Z,38nm,0.9s
FRB Frobisher Bay 50.73 14 P P 03 06 11.4 -1.8
comp=Z,9.0nm,0.6s,baz=220,slow=7.9,SNR=23
FRB pP pP 03 06 52.2 -0.3
comp=Z,26nm,0.8s,baz=219,slow=8.9,SNR=5.4
FRB Frobisher Bay 50.73 14 P P 03 06 11.4 -1.8
FRB *PP pP 03 06 52.2 -0.3
FRB Frobisher Bay 50.73 14 P P 03 06 11.4 -1.8
FRB pP pP 03 06 52.2 -0.3
DLBC Dease Lake 50.82 336 P P 03 06 16.1 +1.9
comp=Z,37nm,1.0s,baz=135,slow=5.5,SNR=43
DLBC pP pP 03 06 54.4 +1.0
comp=Z,65nm,1.1s,baz=124,slow=12,SNR=10
DLBC Dease Lake 50.82 336 eP P 03 06 15.9 +1.8
DLBC pP pP 03 06 54.4 +1.0
DLBC epP pwP 03 06 55.7 +2.3
BDFB Brasilia 53.95 123 P P 03 06 36.4 -1.4
comp=Z,107nm,0.9s,baz=287,slow=8.8,SNR=69
BDFB LR LR 03 30 28.5
comp=Z,488nm,19.0s,baz=110,slow=37
BDFB Brasilia 53.95 123 P P 03 06 36.4 -1.4
BDFB Brasilia 53.95 123 P P 03 06 36.4 -1.4
RKT Rikitea 56.69 228 eS S 03 14 36.1 -0.1
comp=Z,1μm,27.2s
RKT eLQ LQ 03 21 16.9
comp=Z,2μm,31.0s
RKT eLR LR 03 23 45.0
comp=Z,996nm,36.0s
DAWY Dawson 57.84 338 eP P 03 07 04.1 -0.6
DAWY epP pP 03 07 46.2 +1.3
BMRM Bremner River 58.35 333 eP P 03 07 09.8 +1.5
comp=Z,21nm,0.7s
INK Inuvik 58.59 343 P P 03 07 09.8 0.0
comp=Z,18nm,0.4s,baz=133,slow=6.2,SNR=177
INK pP pP 03 07 50.0 0.0
comp=Z,28nm,0.9s,baz=129,slow=6.2,SNR=5.1
INK Inuvik 58.59 343 eP P 03 07 09.6 -0.1
INK e*PP pP 03 07 51.6 +1.5
INK e 03 07 57.2
INK pmax pmax
comp=Z,80nm,0.8s
INK Inuvik 58.59 343 eP P 03 07 09.6 -0.1
comp=Z,80nm,0.8s
INK pP pP 03 07 50.0 0.0
INK epP pP 03 07 51.5 +1.5
INK ePcP PcP 03 07 57.2 -0.8
EGAK Eagle 58.87 338 eP P 03 07 11.7 0.0
comp=Z,144nm,1.8s
EGAK epP pP 03 07 53.4 +1.3
MENT Mentasta 58.90 335 eP P 03 07 12.8 +0.7
RES Resolute Bay 58.93 359 P P 03 07 10.8 -1.2
comp=Z,6.0nm,0.5s,baz=181,slow=6.8,SNR=34
RES pP pP 03 07 51.6 -0.8
comp=Z,14nm,0.8s,baz=186,slow=8.4,SNR=4.5
RES PKP2bc 03 36 55.0
comp=Z,2.0nm,1.0s,baz=24,slow=7.1,SNR=4.9
RES Resolute Bay 58.93 359 eP P 03 07 10.2 -1.8
RES *PP pP 03 07 51.6 -0.8
RES pmax pmax
comp=Z,15nm,0.9s
RES Resolute Bay 58.93 359 eP P 03 07 10.2 -1.8
comp=Z,15nm,0.9s
RES pP pP 03 07 51.6 -0.8
RES ⇑e 03 36 55.0
SPB Sao Paulo 58.97 131 eP P 03 07 11.7 -1.3
comp=Z,34nm,0.9s
DOT Dot Lake 59.38 336 eP P 03 07 15.9 +0.5
comp=Z,6.6nm,0.8s
DOT epP pP 03 07 57.3 +1.5
PAX Paxson 59.62 335 eP P 03 07 17.4 +0.3
PAX e*PP pP 03 07 56.4 -1.1
PAX pmax pmax
comp=Z,124nm,1.4s
PAX Paxson 59.62 335 eP P 03 07 17.4 +0.3
comp=Z,124nm,1.4s
PAX epP pP 03 07 56.4 -1.1
PLCA Paso Flores 59.82 161 P P 03 07 19.5 +0.8
comp=Z,44nm,1.0s,baz=336,slow=7.8,SNR=11
PLCA Paso Flores 59.82 161 eP P 03 07 19.7 +1.0
PLCA e*PP pP 03 07 59.4 +0.2
PLCA Paso Flores 59.82 161 eP P 03 07 19.7 +1.0
PLCA epP pP 03 07 59.4 +0.2
RCBR Riachuelo 60.06 106 eP P 03 07 19.2 -1.6
comp=Z,40nm,1.0s
PMR Palmer 60.59 333 eP P 03 07 24.2 +0.6
PMR pmax pmax
comp=Z,354nm,1.8s
PMR Palmer 60.59 333 eP P 03 07 24.2 +0.6
comp=Z,354nm,1.8s
SLKM Skilak Lake 60.68 331 eP P 03 07 24.7 +0.5
SLKM Skilak Lake 60.68 331 eP P 03 07 24.7 +0.5
TRQA Tornquist 60.76 153 eP P 03 07 24.9 -0.1
comp=Z,24nm,0.9s
KDAK Kodiak Island 60.93 328 P P 03 07 26.9 +1.1
comp=Z,26nm,0.6s,baz=116,slow=4.3,SNR=19
KDAK Kodiak Island 60.93 328 P P 03 07 27.0 +1.1
KDAK Kodiak Island 60.93 328 P P 03 07 26.9 +1.1
ILAR Eielson Array 61.00 337 P P 03 07 26.4 +0.1
comp=Z,21nm,0.9s,baz=113,slow=4.5,SNR=96
ILAR pP PcP 03 08 08.2 +0.5
comp=Z,17nm,0.8s,baz=116,slow=4.9,SNR=8.7
ILAR PKPPKP P'P'df 03 36 39.9 -2.3
comp=Z,0.9nm,1.0s,baz=180,slow=16,SNR=5.4
ILAR PKP2bc 03 36 48.6
comp=Z,1.1nm,0.9s,baz=310,slow=4.2,SNR=7.0
ILAR Eielson Array 61.00 337 P P 03 07 26.4 +0.1
ILAR *PP PcP 03 08 08.3 +0.5
ILAR Eielson Array 61.00 337 P P 03 07 26.4 +0.1
ILAR pP PcP 03 08 08.2 +0.5
ILAR P'P' 03 36 39.9
ILAR ⇑e 03 36 48.6
MCK McKinley 61.36 335 eP P 03 07 28.9 +0.1
MCK e*PP pP 03 08 10.2 +0.8
MCK pmax pmax
comp=Z,210nm,1.7s
MCK McKinley 61.36 335 eP P 03 07 28.9 +0.1
comp=Z,210nm,1.7s
MCK epP pP 03 08 10.2 +0.8
COLA College 61.42 336 eP P 03 07 28.9 -0.1
COLA e*PP PcP 03 08 09.0 -0.4
COLA pmax pmax
comp=Z,41nm,0.8s
COLA College 61.42 336 eP P 03 07 28.9 -0.1
comp=Z,41nm,0.8s
COLA epP PcP 03 08 09.0 -0.4
TRF Thorofare Moun 61.81 334 eP P 03 07 32.2 +0.3
comp=Z,110nm,1.0s
RSO Redoubt South 61.84 331 eP P 03 07 32.5 +0.3
comp=Z,188nm,0.7s
CAM4 Nova Friburgo 61.92 127 ⇑P P 03 07 34.1 +0.6
CAM4 i 03 07 36.7
CAM4 i 03 07 42.8
CAM4 i 03 07 50.8
PPLA Purkeypile 62.41 334 eP P 03 07 35.7 -0.1
comp=Z,349nm,1.9s
COLD Coldfoot 63.29 338 eP P 03 07 42.1 +0.7
comp=Z,135nm,1.8s
SUMG Summit 64.69 16 i P pP 03 08 32.3 +0.3
comp=Z,63nm,1.0s
PPT2 Papeete2 65.23 242 eS S 03 16 23.0 -1.6
comp=Z,316nm,23.9s
PPT2 eLR LR 03 27 48.5
comp=Z,737nm,26.8s
TBI Tubuai 67.85 236 eS S 03 16 58.2 +2.3
comp=Z,594nm,26.8s
TBI eLQ LQ 03 25 59.9
comp=Z,1μm,43.2s
TBI eLR LR 03 29 04.2
comp=Z,607nm,28.2s
SCO Scoresbysund 68.79 20 i P pP 03 09 01.0 +3.0
comp=Z,14nm,0.9s
PMOZ Porto Moniz, M 69.49 60 eP P 03 08 19.8 -1.8
comp=Z,206nm,2.0s
PMPST Porto Santo, M 70.19 60 eP P 03 08 27.2 +1.5
PMPS Porto Santo 70.19 60 eP P 03 08 26.4 +0.7
comp=Z,289nm,1.8s
DAG Danmarks Havn 71.08 14 i P pP 03 09 12.1 0.0
comp=Z,473nm,0.9s
PTO Porto 75.32 51 eP P 03 08 54.9 -0.9
PTO epP pP 03 09 38.8 +0.7
PGAV Gavieira, Arco 75.45 50 eP P 03 08 54.4 -2.3
comp=Z,81nm,1.8s
PGAV epP pP 03 09 39.5 +0.5
RAR Rarotonga 75.46 243 P P 03 08 59.7 +2.8
comp=Z,15nm,0.7s,baz=295,slow=2.3,SNR=5.2
RAR Rarotonga 75.46 243 P P 03 08 59.7 +2.8
RAR Rarotonga 75.46 243 P P 03 08 59.7 +2.8
PCAB Cabril 75.67 50 eP P 03 08 57.3 -0.6
comp=Z,58nm,1.9s
PTOM Tomar 75.69 52 eP P 03 08 57.7 -0.3
comp=Z,60nm,1.6s
PTOM epP pP 03 09 40.0 -0.3
PNCL Nicolau / Gran 75.83 54 epP pP 03 09 39.4 -1.7
MORF Marmelete 75.86 55 eP P 03 08 58.0 -1.1
comp=Z,102nm,1.8s
MORF epP pP 03 09 42.6 +1.2
POLO Lamas de Olo 75.89 51 eP P 03 08 57.0 -2.2
comp=Z,17nm,2.3s
POLO epP pP 03 09 43.3 +1.8
PVIS Viseu 75.92 51 eP P 03 08 57.2 -2.1
comp=Z,52nm,1.4s
PVIS epP pP 03 09 41.6 0.0
PVIS esP sP 03 10 00.5 +0.3
PMTG Montargil 75.92 53 eP P 03 08 57.8 -1.5
comp=Z,42nm,2.0s
PMTG epP pP 03 09 40.8 -0.8
PVRL Vila Real 75.96 51 eP P 03 08 58.0 -1.6
comp=Z,42nm,1.7s
PVRL epP pP 03 09 42.7 +0.8
PVRL esP sP 03 10 00.3 -0.2
EVO Evora 76.16 54 eP P 03 08 59.3 -1.4
comp=Z,29nm,1.7s
EVO epP pP 03 09 42.7 -0.3
EVO Evora 76.16 54 eP P 03 08 58.1 -2.6
comp=Z,18nm,0.6s
EVO epP pP 03 09 39.9 -3.1

EVO eR
comp=Z,770nm,22.0s
MTE Manteigas 76.23 52 eP **P 03 08 59.2 -1.9**
comp=Z,49nm,1.8s
MTE epP **pP 03 09 43.4 0.0**
MTE esP **sP 03 10 01.9 -0.1**
PCVE Castro Verde 76.29 54 eP **P 03 09 02.4 +1.0**
comp=Z,44nm,1.8s
PCVE epP **pP 03 09 44.0 +0.2**
PBEJ Beja 76.36 54 eP **P 03 09 00.0 -1.8**
comp=Z,24nm,1.6s
PBEJ epP **pP 03 09 44.0 -0.2**
PCBR Castelo Branco 76.37 52 eP **P 03 09 00.9 -0.9**
comp=Z,39nm,1.8s
PCBR epP **pP 03 09 44.1 -0.1**
PCBR esP **sP 03 10 03.5 +0.8**
PESTR Estremoz 76.44 53 eP **P 03 08 59.9 -2.3**
comp=Z,33nm,1.8s
PESTR epP **pP 03 09 45.4 +0.8**
PBDV Barranco-do-Ve 76.44 55 eP **P 03 08 59.9 -2.4**
comp=Z,100nm,1.9s
PBDV epP **pP 03 09 45.5 +0.8**
MVO Moncorvo 76.49 51 eP **P 03 09 01.4 -1.2**
comp=Z,38nm,1.6s
MVO epP **pP 03 09 45.1 +0.1**
MVO esP **sP 03 10 03.8 +0.3**
PMRV Marv??o 76.50 53 eP **P 03 09 00.4 -2.2**
comp=Z,36nm,1.9s
PMRV epP **pP 03 09 45.0 0.0**
PVAQ Vaqueiros 76.58 55 eP **P 03 09 00.4 -2.6**
comp=Z,70nm,1.5s
PVAQ epP **pP 03 09 45.5 +0.1**
PBRG Braganca 76.60 50 eP **P 03 09 01.7 -1.5**
comp=Z,34nm,2.1s
PBRG epP **pP 03 09 46.7 +1.1**
ESK Eskdalemuir 76.84 36 eP **P 03 09 03.0 -1.1**
ESK pmax pmax
comp=Z,18nm,0.8s
ESK Eskdalemuir 76.84 36 eP **P 03 09 03.0 -1.1**
comp=Z,18nm,0.8s
PBAR Barrancos 76.98 54 eP **P 03 09 03.6 -1.7**
comp=Z,25nm,2.1s
PBAR epP **pP 03 09 46.7 -1.0**
QUIF Quistinic 78.08 43 eP **P 03 09 08.9 -2.2**
comp=Z,18nm,0.6s
QUIF epP **pP 03 09 52.8 -0.9**
SPITS Spitsbergen Ar 78.47 11 P **P 03 09 12.2 -0.6**
comp=Z,1.1nm,0.4s,baz=247,slow=4.0,SNR=5.1
SPITS Spitsbergen Ar 78.47 11 P **P 03 09 12.2 -0.6**
SPITS Spitsbergen Ar 78.47 11 P **P 03 09 12.2 -0.6**
ESDC Sonseca Array 79.06 52 P **P 03 09 14.7 -2.1**
comp=Z,7.1nm,0.7s,baz=287,slow=5.7,SNR=35
ESDC pP **pP 03 09 58.9 -0.5**
comp=Z,5.7nm,0.7s,baz=289,slow=5.7,SNR=5.7
ESDC Sonseca Array 79.06 52 P **P 03 09 14.7 -2.1**
ESDC pP **pP 03 09 58.9 -0.5**
GRR Gorron 79.51 43 eP **P 03 09 17.1 -1.8**
comp=Z,19nm,0.5s
GRR epP **pP 03 10 00.9 -0.7**
BILL Bilibino 79.62 338⇑ eP **P 03 09 19.4 +0.2**
BILL *i* *PP **pP 03 10 02.9 +1.1**
BILL *e* 03 12 21.3
BILL eS S 03 19 13.4 +7.1
BILL pmax pmax
comp=Z,147nm,1.6s
BILL Bilibino 79.62 338 eP **P 03 09 19.4 +0.2**
comp=Z,80nm,1.2s
FLN La Foliniere 79.67 42 eP **P 03 09 18.0 -1.8**
comp=Z,12nm,0.5s
FLN epP **pP 03 10 00.4 -2.1**
FLN eR
comp=Z,515nm,20.5s
LDF La Druitiere 79.94 42 eP **P 03 09 19.2 -2.1**
comp=Z,6.9nm,0.4s
LDF epP **pP 03 10 02.8 -1.2**
FX1 Attu Island--F 80.12 322 P **P 03 09 22.4 +0.2**
comp=Z,15nm,0.6s,baz=109,slow=4.4,SNR=12
FX1 pP **pP 03 10 06.9 +2.0**
comp=Z,32nm,0.9s,baz=229,slow=9.3,SNR=2.2
FX1 Attu Island--F 80.12 322 P **P 03 09 22.4 +0.2**
FX1 *PP **pP 03 10 06.9 +2.0**
FX1 Attu Island--F 80.12 322 P **P 03 09 22.4 +0.2**
FX1 pP **pP 03 10 06.9 +2.0**
MFF Saint Martin d 80.36 44 eP **P 03 09 21.5 -2.0**
comp=Z,10.0nm,0.7s
MFF epP **pP 03 10 05.5 -0.8**
SJPF Ste Jean 80.37 48 eP **P 03 09 21.9 -1.8**
comp=Z,26nm,0.9s
SJPF epP **pP 03 10 07.5 +1.0**
ETSF Etsaut 80.89 48 eP **P 03 09 24.6 -2.0**
comp=Z,10nm,0.6s
ETSF epP **pP 03 10 08.9 -0.5**
EPF Esparros 81.50 48 eP **P 03 09 28.3 -1.5**
comp=Z,13nm,0.8s
EPF epP **pP 03 10 12.6 0.0**
RJF Les Rejaudoux 81.78 45 eP **P 03 09 28.8 -2.3**
comp=Z,8.2nm,0.6s
RJF epP **pP 03 10 13.7 -0.3**
RJF eR
comp=Z,663nm,22.2s
TCF Toulx Ste Croi 82.01 44 eP **P 03 09 29.4 -3.0**
comp=Z,10.0nm,0.7s
TCF epP **pP 03 10 13.0 -2.3**
CAF Calviac 82.25 46 eP **P 03 09 30.9 -2.7**
comp=Z,4.5nm,0.5s
CAF epP **pP 03 10 17.4 +0.8**
SNF Seneffe 82.27 40 AP pP 03 10 18.4 +2.0
BAIF Baives 82.34 40 eP **P 03 09 31.1 -2.8**
BAIF epP **pP 03 10 16.9 0.0**
BGF Bois d'Agland 82.37 44 eP **P 03 09 32.0 -2.2**
comp=Z,29nm,0.8s
BGF epP **pP 03 10 15.2 -1.9**
DOU Dourbes 82.57 40 P **P 03 09 33.4 -1.7**
DOU AP **pP 03 10 20.1 +2.0**
AVF Avril sur Loir 82.65 44 eP **P 03 09 33.1 -2.5**
comp=Z,16nm,0.7s
AVF epP **pP 03 10 17.9 -0.7**
SSF Saint Saulge 82.68 43 eP **P 03 09 33.4 -2.3**
comp=Z,26nm,0.9s
SSF epP **pP 03 10 16.3 -2.4**
MTLF Montolieu 82.76 47 eP **P 03 09 34.1 -2.1**
comp=Z,16nm,0.9s
MTLF epP **pP 03 10 17.4 -1.8**
LOR Lormes 82.86 43 eP **P 03 09 35.2 -1.5**
comp=Z,9.0nm,0.5s
LOR epP **pP 03 10 19.3 -0.4**
LOR eR
comp=Z,556nm,20.5s
NB2 NORSAR Subarra 82.86 28 P **P 03 09 35.5 -0.9**
comp=Z,45nm,1.2s,baz=290,slow=5.3
NOA NORSAR Array B 82.86 28 P **P 03 09 35.7 -0.7**
comp=Z,2.3nm,0.7s,baz=291,slow=5.2,SNR=8.9
NOA pP **pP 03 10 18.9 -0.5**
comp=Z,20nm,1.0s,baz=290,slow=5.1,SNR=9.9
NOA LR LR 03 43 43.8
comp=Z,374nm,20.1s,baz=285,slow=34
NOA NORSAR Array B 82.86 28 P **P 03 09 35.7 -0.7**
NOA *PP **pP 03 10 18.9 -0.5**
NOA NORSAR Array B 82.86 28 P **P 03 09 35.7 -0.7**
NOA pP **pP 03 10 18.9 -0.5**
LBL Lubilhac 82.98 45 eP pP 03 10 17.6 -2.9
HGN Heimansgroeve 83.21 39 eP **pP 03 10 19.6 -1.8**
HGN eS **ScS 03 19 56.5 -0.2**
MEZF Maizieres J'vi 83.30 42 eP **P 03 09 37.1 -1.8**
comp=Z,16nm,0.6s
MEZF epP **pP 03 10 21.0 -0.9**
MEM Membach 83.30 39 P **P 03 09 37.1 -1.8**
MEM AP **pP 03 10 23.0 +1.1**
SFTF Sexfontaines 83.37 42 eP **P 03 09 36.8 -2.5**
comp=Z,11nm,0.4s
SFTF epP **pP 03 10 21.7 -0.6**
WTSB Winterswijk 83.39 38 eP pP 03 10 25.5 +3.3
WLF Walferdange 83.66 40 P **P 03 09 40.1 -0.6**
WLF AP **pP 03 10 26.2 +2.5**
WLF Walferdange 83.66 40 eP **P 03 09 39.8 -0.9**
comp=Z,8.0nm,0.7s
WLF Walferdange 83.66 40 eP **P 03 09 39.5 -1.2**
WLF pmax pmax
comp=Z,12nm,0.8s
WLF Walferdange 83.66 40 eP **P 03 09 39.5 -1.2**
comp=Z,12nm,0.8s
PAGF Fort de Pagny 83.71 41 eP **P 03 09 39.4 -1.6**
comp=Z,3.4nm,0.5s
PAGF epP **pP 03 10 24.0 -0.1**
LASF Ste Croix 83.71 46 eP **P 03 09 39.5 -1.6**
comp=Z,4.1nm,0.5s
LASF epP **pP 03 10 22.3 -1.9**
SSB Saint Sauveur 83.85 45 eP pP 03 10 25.8 +0.9
THEF They Montfort 83.97 42 eP pP 03 10 27.5 +2.1
VIVF Saint-Julien-l 84.06 45 eP **P 03 09 41.6 -1.3**
comp=Z,12nm,0.8s
VIVF epP **pP 03 10 23.4 -2.6**
RUP Ruppelstein 84.21 40 eP pP 03 10 29.3 +2.6
HAU Haudompre 84.27 42 eP **P 03 09 42.0 -1.9**
comp=Z,16nm,0.6s
HAU epP **pP 03 10 25.9 -1.1**
HAU eR
comp=Z,537nm,17.6s
CABF La Chapelle 84.51 43 eP P 03 09 41.7 -3.5
CABF epP pP 03 10 24.8 -3.5
ARCES ARCESS Array B 84.64 18 P **P 03 09 43.3 -2.0**
comp=Z,2.4nm,0.3s,baz=295,slow=2.1,SNR=43
ARCES pP **pP 03 10 28.3 -0.1**
comp=Z,55nm,1.0s,baz=318,slow=3.4,SNR=14
ARCES LR LR 03 48 03.1
comp=Z,368nm,21.3s,baz=309,slow=36
ARCES ARCESS Array B 84.64 18 P **P 03 09 43.3 -2.0**
ARCES *PP **pP 03 10 28.3 -0.1**
ARCES ARCESS Array B 84.64 18 P **P 03 09 43.3 -2.0**
ARCES pP **pP 03 10 28.3 -0.1**
HINF Hinteralfeld 84.65 42 eP **P 03 09 43.5 -2.3**
comp=Z,5.1nm,0.6s
HINF epP **pP 03 10 28.5 -0.5**
ECH Echery 84.72 41 eP pP 03 10 31.0 +1.7
ECH Echery 84.72 41 eP pP 03 10 31.0 +1.7
CDF Champ du Feu 84.74 41 eP **P 03 09 45.0 -1.3**
comp=Z,7.6nm,0.7s
CDF epP **pP 03 10 30.0 +0.5**
ORIF Oris-en-Rattie 84.86 45 eP **P 03 09 45.3 -1.7**
comp=Z,15nm,0.9s
ORIF epP **pP 03 10 28.8 -1.4**
ORIF eR
comp=Z,367nm,19.4s
TNS Taunus Mts 84.91 39 eP **P 03 09 45.9 -1.1**
comp=Z,12nm,0.8s
TNS epP **pP 03 10 31.7 +1.5**
TNS Taunus Mts 84.91 39 eP **P 03 09 45.9 -1.1**
TNS *PP **pP 03 10 31.7 +1.5**
TNS pmax pmax
comp=Z,12nm,0.8s
SMRF Simiane la Rot 84.93 46 eP **P 03 09 45.9 -1.4**
comp=Z,15nm,0.9s
SMRF epP **pP 03 10 30.4 -0.1**
KEV Kevo 84.96 18 eP **P 03 09 43.9 -2.9**
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 84.96 18 *ep* **P 03 09 43.9 -2.9**
comp=Z,4.1nm,0.6s
KEV Kevo 84.96 18 *ep* **P 03 09 43.9 -2.9**
comp=Z,4.1nm,0.6s
RSL Roselend 85.14 44 eP pP 03 10 33.8 +2.1
RSL Roselend 85.14 44 eP pP 03 10 33.8 +2.1
NRDL Niedersach Rie 85.15 37 eP **P 03 09 47.1 -0.9**
comp=Z,7.0nm,0.8s
NRDL epP **pP 03 10 32.8 +1.6**
LPL La Plagne 85.26 44 eP **P 03 09 47.7 -1.4**
comp=Z,5.2nm,0.5s
LPL epP **pP 03 10 33.4 +1.0**
LPG La Plagne 85.28 44 eP **P 03 09 46.8 -2.5**
comp=Z,6.5nm,0.6s
LPG epP **pP 03 10 29.3 -3.2**
BNI Bardonecchia 85.37 45 eP **P 03 09 48.8 -0.7**
BNI *PP **pP 03 10 34.2 +1.4**
BNI Bardonecchia 85.37 45 eP **P 03 09 48.8 -0.7**
BNI epP **pP 03 10 34.2 +1.4**
FELD Feldberg im Sc 85.37 42 eP pP 03 10 33.4 +0.7
BFO Black Forest 85.43 41 eP **P 03 09 48.7 -1.0**
comp=Z,2.0nm,0.7s
BFO Black Forest 85.43 41 eP **P 03 09 48.7 -1.0**
BFO pmax pmax
comp=Z,2.0nm,0.7s
CLZ Clausthal 85.53 37 eP **P 03 09 49.5 -0.6**
comp=Z,7.0nm,0.8s
CLZ Clausthal 85.53 37 eP **P 03 09 49.5 -0.6**
CLZ pmax pmax
comp=Z,7.0nm,0.8s
MBDF Montbardon 85.53 45 eP **P 03 09 48.9 -1.5**
comp=Z,17nm,0.8s
MBDF epP **pP 03 10 33.1 -0.5**
UBBA Unterbreizbach 85.65 38 eP **P 03 09 50.5 0.0**
comp=Z,2.0nm,0.6s
LMR La Mourre 85.77 46 eP **P 03 09 49.5 -1.9**
comp=Z,21nm,0.9s
LMR epP **pP 03 10 33.5 -1.1**
SPAK Spaichingen-Ko 85.80 41 eP pP 03 10 35.1 +0.3
STU Stuttgart 85.83 40 eP **P 03 09 50.2 -1.4**
comp=Z,10.0nm,0.6s
STU Stuttgart 85.83 40 eP **P 03 09 49.8 -1.8**
STU *PP **pP 03 10 35.7 +0.8**
STU pmax pmax
comp=Z,10.0nm,0.6s
STU Stuttgart 85.83 40 eP **P 03 09 49.8 -1.8**
comp=Z,10nm,0.6s
STU epP **pP 03 10 35.7 +0.8**
CALN Calern 85.91 46 eP pP 03 10 36.2 +0.7
CALN Calern 85.91 46 eP pP 03 10 36.2 +0.7
LIC Lamto 85.98 85 eP **P 03 09 50.6 -2.4**
comp=Z,53nm,0.9s,baz=292
LIC epP **pP 03 10 34.3 -2.0**
LIC eR
comp=Z,390nm,22.1s
DBIC Dimbokro 86.03 84 P **P 03 09 50.8 -2.5**
comp=Z,12nm,0.8s,baz=278,slow=3.7,SNR=11
DBIC pP **pP 03 10 36.6 +0.1**
comp=Z,7.8nm,0.9s,baz=259,slow=8.3,SNR=2.6
DBIC LR LR 03 42 48.9
comp=Z,338nm,20.5s,baz=272,slow=32
DBIC Dimbokro 86.03 84 eP **P 03 09 50.7 -2.5**
DBIC *PP **pP 03 10 36.6 +0.1**
DBIC Dimbokro 86.03 84 eP **P 03 09 50.7 -2.5**
DBIC epP **pP 03 10 32.2 -4.3**
DBIC pP **pP 03 10 36.6 +0.1**
MVIF Mont Vial 86.04 46 eP pP 03 10 36.7 +0.5
MVIF Mont Vial 86.04 46 eP pP 03 10 36.7 +0.5
TOUF Mont Tournerai 86.07 45 eP pP 03 10 37.0 +0.6
TOUF Mont Tournerai 86.07 45 eP pP 03 10 37.0 +0.6
SBF Sospel 86.25 46 eP **P 03 09 52.4 -1.4**
comp=Z,21nm,0.9s
SBF epP **pP 03 10 37.3 +0.2**
MOX Moxa 86.67 38 eP **P 03 09 54.8 -0.9**
comp=Z,2.0nm,0.8s
MOX epP **pP 03 10 39.5 +0.5**
MOX Moxa 86.67 38 eP **P 03 09 54.8 -0.9**
MOX *PP **pP 03 10 39.5 +0.5**
MOX pmax pmax
comp=Z,2.0nm,0.8s
TUE Stuetta 86.69 43 eP **P 03 09 54.6 -1.5**
comp=Z,9.5nm,1.0s
TUE epP **pP 03 10 40.7 +1.2**
GRF Grafenberg Arr 86.77 39 eP **P 03 09 56.3 +0.1**
comp=Z,6.0nm,0.9s
GRF Grafenberg Arr 86.77 39 eP **P 03 09 56.3 +0.1**
GRF pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 86.92 335⇑ eP **P 03 09 56.7 +0.1**
CLL Collm 87.25 37 eP **P 03 09 58.4 0.0**
comp=Z,2.0nm,0.7s
CLL Collm 87.25 37 *i* P **P 03 09 58.4 0.0**
CLL *i* *PP **pP 03 10 40.6 -1.2**
CLL eS **S 03 20 24.0 +0.5**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 87.25 37 *i* P **P 03 09 58.4 0.0**
comp=Z,4.0nm,0.8s
CLL *i* pP **pP 03 10 40.6 -1.2**
comp=Z,22nm,1.2s
CLL epPP 03 14 03.0
CLL eSKSac **SKSac 03 20 13.0 +3.6**
CLL eS **S 03 20 24.0 +0.5**
CLL eSP SP 03 21 39.0 +14
CLL eSS **SS 03 26 18.0 +7.0**
CLL L L 03 44 00.0
comp=Z,300nm,20.3s
RETA Reutte 87.26 41⇑ *i*pP pP 03 10 41.4 -0.6
comp=Z,25nm,1.0s
NKC Novy Kostel 87.32 38 eP **P 03 09 59.0 +0.2**
NKC *PP **pP 03 10 43.4 +1.2**
NKC Novy Kostel 87.32 38 eP **P 03 09 59.0 +0.2**
NKC epP **pP 03 10 43.4 +1.2**
FETA Feichten 87.40 42⇑ *i*pP pP 03 10 41.9 -0.9
comp=Z,23nm,1.2s
PGF Pioggiola 87.75 46 eP P 03 09 57.9 -3.2
comp=Z,14nm,0.9s
PGF epP pP 03 10 44.3 -0.3
BRG Berggiesshubel 87.96 37 eP **pP 03 10 47.0 +1.7**
comp=Z,3.4nm,0.8s
BRG *i* 03 10 49.8
comp=Z,36nm,1.4s
BRG ePP PP 03 14 09.3 +39
comp=Z,30nm,1.7s
BRG Berggiesshubel 87.96 37 eP **P 03 10 00.6 -1.2**
comp=Z,2.0nm,0.7s
WET Wettzell 87.98 39 eP **P 03 10 00.7 -1.3**
comp=Z,2.0nm,0.7s
WET Wettzell 87.98 39 eP **P 03 10 00.7 -1.3**
WET pmax pmax
comp=Z,2.0nm,0.7s
PET Petropavlovsk 88.39 325 eP P 03 10 10.3 +6.6
PET *e* 03 20 23.3
PET pmax pmax
comp=Z,100nm,10.9s
KHC Kasperske Hory 88.41 39 eP **P 03 10 02.8 -1.2**
KHC *e*PP **pP 03 10 50.1 +2.5**
KHC Kasperske Hory 88.41 39 eP **P 03 10 02.8 -1.2**
KHC epP **pP 03 10 50.1 +2.5**
PVCC Panska Ves 88.46 38 epP pP 03 10 47.2 -0.5
GEC2 GERESS Array S 88.59 39 eP **P 03 10 03.7 -1.3**
comp=Z,1.0nm,0.8s
GEC2 epP **pP 03 10 49.3 +0.8**
GEC2 GERESS Array S 88.59 39 eP **P 03 10 03.7 -1.3**
GEC2 *e*PP **pP 03 10 49.3 +0.8**
GEC2 pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 88.59 39 P **P 03 10 03.5 -1.5**
comp=Z,1.2nm,0.7s,baz=302,slow=3.0,SNR=11
GERES pP **pP 03 10 48.3 -0.2**
comp=Z,6.1nm,1.0s,baz=305,slow=3.5,SNR=5.2
GERES PKKPbc **PKKPbc 03 27 45.5 -1.1**
comp=Z,0.5nm,0.7s,baz=132,slow=1.5,SNR=4.5
GERES GERESS Array B 88.59 39 P **P 03 10 03.5 -1.5**
GERES *PP **pP 03 10 48.3 -0.2**
GERES GERESS Array B 88.59 39 P **P 03 10 03.5 -1.5**
GERES pP **pP 03 10 48.3 -0.2**
GERES PKKPbc **PKKPbc 03 27 45.5 -1.1**
ABTA Abfaltersbach 88.64 42⇑ *i*pP pP 03 10 49.4 +0.6
comp=Z,24nm,1.1s
PRU Pruhonice 88.66 38 eP **P 03 10 04.5 -0.6**
PRU *e*PP **pP 03 10 48.8 +0.1**
PRU Pruhonice 88.66 38 eP **P 03 10 04.5 -0.6**
PRU epP **pP 03 10 48.8 +0.1**
PETK Petropavlovsk- 88.88 325 P **P 03 10 06.6 +0.5**
comp=Z,6.2nm,0.7s,baz=80,slow=11,SNR=4.6
PETK pP **pP 03 10 50.8 +1.1**
comp=Z,10.0nm,1.0s,baz=79,slow=7.6,SNR=3.1
PETK Petropavlovsk- 88.88 325 P **P 03 10 06.6 +0.5**
PETK *PP **pP 03 10 50.8 +1.1**
PETK Petropavlovsk- 88.88 325 P **P 03 10 06.6 +0.5**
PETK pP **pP 03 10 50.8 +1.1**
FINES FINESS Array B 89.14 25 P **P 03 10 05.3 -1.7**
comp=Z,1.5nm,0.3s,baz=269,slow=3.5,SNR=18
FINES pP **pP 03 10 49.8 -0.8**
comp=Z,17nm,0.8s,baz=266,slow=5.2,SNR=11
FINES LR LR 03 48 33.6
comp=Z,335nm,21.9s,baz=304,slow=34
FINES FINESS Array B 89.14 25 P **P 03 10 05.4 -1.7**
FINES *PP **pP 03 10 49.8 -0.8**
FINES FINESS Array B 89.14 25 P **P 03 10 05.3 -1.7**
FINES pP **pP 03 10 49.8 -0.8**
TREC Trest 89.50 38 eP **P 03 10 07.7 -1.4**
TREC Trest 89.50 38 eP **P 03 10 07.7 -1.4**
DPC Dobruska-Polom 89.56 37 eP **P 03 10 08.3 -1.1**
DPC *e*PP **pP 03 10 53.1 +0.1**
DPC Dobruska-Polom 89.56 37 eP **P 03 10 08.3 -1.1**
DPC epP **pP 03 10 53.1 +0.1**
CADS Cadrg 89.62 42 eP **P 03 10 07.6 -2.2**
VOJS Vojsko 89.79 42 eP **P 03 10 08.9 -1.7**
VOJS epP **pP 03 10 53.7 -0.5**
VRAC Vranov 90.15 38⇓ *i*P pP 03 10 54.6 -1.1
KEST Kesra 90.27 53 P **P 03 10 11.4 -1.7**
comp=Z,1.2nm,0.4s,baz=229,slow=3.9,SNR=26
KEST pP **pP 03 10 56.8 +0.1**
comp=Z,7.5nm,1.0s,baz=212,slow=2.7,SNR=7.5
KEST LR LR 03 44 32.9
comp=Z,158nm,20.0s,baz=238,slow=31
KEST Kesra 90.27 53 eP **P 03 10 11.5 -1.5**
KEST pP **pP 03 10 56.8 +0.1**
KEST epP **pwP 03 10 57.4 +0.7**
TORD Torodi Ar. Bea 90.50 76 P **P 03 10 11.4 -3.0**
comp=Z,1.2nm,0.7s,baz=292,slow=3.7,SNR=23
TORD pP **pP 03 10 56.1 -1.9**
comp=Z,1.9nm,1.1s,baz=289,slow=5.0,SNR=2.6
TORD PKKPbc **PKKPbc 03 27 42.9 +2.2**
comp=Z,1.0nm,0.8s,baz=101,slow=3.3,SNR=5.4
TORD PKPPKP **P'P'df 03 35 51.4 -0.8**
comp=Z,1.2nm,1.0s,baz=110,slow=0.6,SNR=4.4
TORD LR LR 03 44 43.5
comp=Z,363nm,22.0s,baz=285,slow=31
TORD Torodi Ar. Bea 90.50 76 P **P 03 10 11.4 -3.0**
TORD pP **pP 03 10 56.1 -1.9**
TORD PKKPbc **PKKPbc 03 27 42.9 +2.2**
TORD P'P' 03 35 51.4
MORC Moravsky Berou 90.52 38⇑ *i*P pP 03 10 57.9 +0.4
ZST Bratislava 90.93 39 epP pP 03 11 01.9 +2.6
TAM Tamanrasset 91.21 66 eP **P 03 10 16.5 -1.3**
TAM *e*PP **pP 03 11 00.7 -0.7**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 91.21 66 eP **P 03 10 16.5 -1.3**
comp=Z,3.0nm,1.0s
TAM epP **pP 03 11 00.7 -0.7**
KOLL Kolacno 91.54 38 epP pP 03 11 03.6 +1.4
VYHS Vyhne 91.84 38 eP **P 03 10 19.8 -0.2**
VYHS *e* 03 11 04.2
VYHS Vyhne 91.84 38 eP **P 03 10 19.8 -0.2**
VYHS epP **pP 03 11 04.2 +0.6**
PKSM Moragy 92.73 40⇑ *i*P pP 03 11 08.2 +0.5
CRVS Cervenica-Dubn 93.20 37 eP **P 03 10 26.7 +0.5**
CRVS pmax pmax
comp=Z,58nm,2.8s
CRVS Cervenica-Dubn 93.20 37 eP **P 03 10 26.7 +0.5**
CRVS epP **pP 03 11 10.7 +0.8**
KWP Kalwaria Pacla 93.56 36⇑ *i*P pP 03 11 12.1 +0.5
GZR Gura Zlata 95.67 40⇑ *i*P pP 03 11 24.0 +2.6
AKASG Malin Array Be 96.56 33 PKKPbc PKKPbc 03 27 25.4 -0.8
comp=Z,0.7nm,0.4s,baz=72,slow=4.3,SNR=4.1
AKASG Malin Array Be 96.56 33*ce*P **P 03 10 41.4 0.0**
AKASG Malin Array Be 96.56 33 PKKPbc PKKPbc 03 27 25.4 -0.8
VOIR 97.04 39⇑ *i*P pP 03 11 30.9 +3.2
MLR Muntele Rosu 97.55 39⇓ *i*P pP 03 11 32.2 +2.2
HABR Khabarovsk 103.31 330 eP **Pdif 03 11 10.8 -0.8**
HABR *i* 03 15 29.0
HABR S 03 22 42.5
HABR ePS PS 03 24 42.2 +0.5
HABR eSSS SSS 03 33 55.1
HABR pmax pmax
comp=Z,29nm,1.5s
HABR pmax pmax
comp=N,29nm,1.9s
HABR pmax pmax
comp=E,30nm,1.9s
HABR MLR MLR
comp=Z,217nm,19.0s
BRTR Keskin Array B 105.47 40 PKKPbc PKKPbc 03 26 59.5 -1.0
comp=Z,1.5nm,0.9s,baz=139,slow=3.5,SNR=7.4
BRTR Keskin Array B 105.47 40 PKKPbc PKKPbc 03 26 59.5 -1.0
DZM Mont Dzumac 105.72 251 eLR LR 03 46 40.4
comp=Z,532nm,23.8s
USRK Ussuriysk Arra 107.80 328 PKKPab PKKPab 03 27 07.3 -1.6
comp=Z,1.3nm,0.7s,baz=343,slow=6.0,SNR=4.1
AKTO Aktyubinsk 109.19 19 PKKPbc PKKPbc 03 26 47.9 -1.3
comp=Z,1.0nm,0.7s,baz=170,slow=1.5,SNR=4.2
AKTO PKKPab **PKKPab 03 27 01.9 -1.0**
comp=Z,1.0nm,0.8s,baz=310,slow=13,SNR=3.7
AKTO Aktyubinsk 109.19 19 PKKPbc PKKPbc 03 26 47.9 -1.3
AKTO PKKPab **PKKPab 03 27 01.9 -1.0**
MJAR Matsushiro Arr 109.27 319 PKKPbc PKKPbc 03 26 48.0 -0.5
comp=Z,3.8nm,0.8s,baz=222,slow=3.5,SNR=9.8
MJAR PKKPab **PKKPab 03 27 00.3 -1.9**
comp=Z,4.5nm,0.9s,baz=225,slow=5.6,SNR=8.3
MJAR Matsushiro Arr 109.27 319 PKKPbc PKKPbc 03 26 48.0 -0.5
MJAR PKKPab **PKKPab 03 27 00.3 -1.9**
BVAR Borovoye Array 109.92 11 PKiKP **PKiKP 03 15 42.4 +0.3**
comp=Z,0.5nm,0.6s,baz=336,slow=3.2,SNR=3.3

BVAR	**Borovoye Array**	**109.92**	**11**	PKiKP	**PKiKP**	**03 15 42.5**	**+0.3**		
ZALV	**Zalesovo Beam**	**110.53**	**2**	PKiKP	**PKiKP**	**03 15 43.5**	**+0.2**		
	comp=Z,0.9nm,0.5s,baz=256,slow=2.5,SNR=5.2								
ZALV				PKKPab	**PKKPab**	**03 26 53.8**	**-3.2**		
	comp=Z,1.0nm,0.8s,baz=196,slow=4.2,SNR=4.3								
ZALV	**Zalesovo Beam**	**110.53**	**2**	PKiKP	**PKiKP**	**03 15 43.5**	**+0.2**		
ZALV				PKKPab	**PKKPab**	**03 26 53.8**	**-3.2**		
ABKAR	**Akbulak array**	**110.83**	**19**	*e*PKP		03 15 44.2			
KURK	**Kurchatov**	**113.35**	**6**	PKiKP	**PKiKP**	**03 15 48.1**	**-0.6**		
	comp=Z,0.5nm,0.4s,baz=348,slow=1.8,SNR=8.6								
KURK				PKKPbc	**PKKPbc**	**03 26 32.2**	**-3.5**		
	comp=Z,0.9nm,0.7s,baz=187,slow=3.2,SNR=8.9								
KURK				PKKPab	**PKKPab**	**03 26 42.9**	**-1.5**		
	comp=Z,1.2nm,0.8s,baz=180,slow=3.8,SNR=6.3								
KURK	**Kurchatov**	**113.35**	**6**	PKiKP	**PKiKP**	**03 15 48.1**	**-0.6**		
KURK				PKKPbc	**PKKPbc**	**03 26 32.2**	**-3.5**		
KURK				PKKPab	**PKKPab**	**03 26 42.9**	**-1.5**		
ULN	**Ulaanbaatar**	**114.26 346**		*e*PKiKP	PKPdf	03 15 50.5	-0.3		
ULN	**Ulaanbaatar**	**114.26 346**		*e*PKP	PKPdf	03 15 50.5	-0.3		
SONM	**Songino Array**	**114.45 346**		PKP	PKPdf	03 15 50.5	-0.6		
	comp=Z,1.0nm,0.4s,baz=264,slow=0.4,SNR=20								
SONM				PKKPbc	**PKKPbc**	**03 26 30.1**	**-2.0**		
	comp=Z,2.1nm,0.9s,baz=200,slow=2.6,SNR=11								
SONM				PKKPab	**PKKPab**	**03 26 38.4**	**-1.4**		
	comp=Z,0.8nm,0.7s,baz=193,slow=4.4,SNR=4.5								
SONM	**Songino Array**	**114.45 346**		PKiKP	PKPdf	03 15 50.5	-0.6		
SONM						03 26 30.1			
SONM	**Songino Array**	**114.45 346**		PKP	PKPdf	03 15 50.5	-0.6		
SONM				PKKPbc	**PKKPbc**	**03 26 30.1**	**-2.0**		
SONM				PKKPab	**PKKPab**	**03 26 38.4**	**-1.4**		
KSRS	**Korea Array**	**114.78 325**		PKP	PKPdf	03 15 51.9	+0.1		
	comp=Z,2.9nm,0.7s,baz=359,slow=1.5,SNR=15								
KSRS				pPKP	pPKiKP	03 16 36.3	-1.2		
	comp=Z,1.6nm,0.9s,baz=320,slow=1.7,SNR=3.2								
KSRS				PKKPbc	**PKKPbc**	**03 26 29.6**	**-0.8**		
	comp=Z,1.8nm,0.8s,baz=249,slow=3.5,SNR=5.9								
KSRS				PKKPab	**PKKPab**	**03 26 35.5**	**-2.4**		
	comp=Z,2.0nm,0.9s,baz=206,slow=2.1,SNR=5.2								
KSAR	**Wonju Array Be**	**114.81 325**		PKiKP	PKPdf	03 15 51.9	0.0		
KSAR						03 16 36.3			
KSAR						03 26 35.5			
KSAR	**Wonju Array Be**	**114.81 325**		PKP	PKPdf	03 15 51.9	0.0		
KSAR				pPKP	pPKiKP	03 16 36.2	-1.3		
KSAR				PKKPbc	**PKKPbc**	**03 26 29.6**	**-0.8**		
KSAR				PKKPab	**PKKPab**	**03 26 35.5**	**-2.3**		
MK31	**Makanchi Array**	**117.56**	**4**	*e*PKiKP	**PKPdf**	**03 15 55.8**	**-1.1**		
MK31	**Makanchi Array**	**117.56**	**4**	*e*PKPdf	**PKPdf**	**03 15 55.8**	**-1.1**		
MKAR	**Makanchi Array**	**117.56**	**4**	PKP	**PKPdf**	**03 15 55.6**	**-1.4**		
	comp=Z,0.6nm,0.5s,baz=343,slow=3.0,SNR=12								
MKAR				pPKP	**pPKPdf**	**03 16 41.8**	**-0.9**		
	comp=Z,1.4nm,0.7s,baz=351,slow=1.9,SNR=3.9								
MKAR				PKKPbc	**PKKPbc**	**03 26 19.2**	**-2.0**		
	comp=Z,0.9nm,0.8s,baz=158,slow=3.9,SNR=4.2								
MKAR	**Makanchi Array**	**117.56**	**4**	*c i*PKiKP	**PKPdf**	**03 15 55.7**	**-1.2**		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**117.56**	**4**	PKP	**PKPdf**	**03 15 55.6**	**-1.4**		
MKAR				pPKP	**pPKPdf**	**03 16 41.8**	**-0.9**		
MKAR				PKKPbc	**PKKPbc**	**03 26 19.2**	**-2.0**		
SUR	**Sutherland**	**117.86 119**		*e*PKPdf	**PKPdf**	**03 15 58.2**	**+0.1**		
BJI	**Beijing**	**118.36 335**		PKP	**PKPdf**	**03 15 59.3**	**+0.7**		
BJI				SS	SS	03 33 18.9	+1.0		
BJI				LR	LR				
	comp=N,330nm,17.8s								
BJI				LR	LR				
	comp=E,280nm,16.8s								
BJI				LR	LR				
	comp=Z,140nm,29.9s								
DRV	**Dumont d'Urvil**	**118.74 201**		SP	SP	03 26 48.0	+0.9		
HHC	**Hu-ho-hao-te**	**119.38 339**		*e*PKP	**PKPdf**	**03 16 02.0**	**+1.3**		
HHC				sPKP		03 17 05.1			
HHC				PP	**PP**	**03 17 28.9**	**+5.7**		
HHC				PKS	**PKSdf**	**03 19 37.3**	**-0.2**		
HHC				SKS	**SKSdf**	**03 22 58.3**	**+1.7**		
HHC				SKKS	**SKKSac**	**03 24 04.9**	**-2.1**		
HHC				SS	**SS**	**03 33 34.0**	**+2.9**		
HHC				AMB	AMB				
	comp=Z,140nm,10.7s								
EKS2	**Erkin-Say**	**120.52**	**12**	*e*PKiKP	**PKPdf**	**03 16 02.5**	**-0.4**		
EKS2	**Erkin-Say**	**120.52**	**12**	*e*PKPdf	**PKPdf**	**03 16 02.5**	**-0.4**		
AAK	**Ala-Archa**	**120.68**	**11**	*e*PKiKP	**PKPdf**	**03 16 02.2**	**-1.1**		
AAK	**Ala-Archa**	**120.68**	**11**	*e*PKPdf	**PKPdf**	**03 16 02.2**	**-1.1**		
LBTB	**Lobatse**	**121.74 110**		PKPbc	PKKPbc	03 26 06.3	+1.3		
	comp=Z,1.9nm,0.6s,baz=149,slow=22,SNR=4.0								
LBTB	**Lobatse**	**121.74 110**		*e*PKiKP	**PKPdf**	**03 16 05.0**	**-0.6**		
LBTB	**Lobatse**	**121.74 110**		*e*PKPdf	**PKPdf**	**03 16 05.0**	**-0.6**		
LBTB				PKKPbc	**PKKPab**	**03 26 06.3**	**+0.9**		
NJ2	**Nanjing**	**123.71 328**		*e*Pdif	**Pdif**	**03 12 51.6**	**+8.9**		
NJ2				pPKP	**pPKPdf**	**03 16 53.0**	**-1.8**		
NJ2				sPKP		03 17 09.3			
NJ2				PP	**PP**	**03 17 53.0**	**+0.2**		
NJ2				AMB	AMB				
	comp=Z,240nm,7.0s								
NJ2				LR	LR				
	comp=N,390nm,16.9s								
NJ2				LR	LR				
	comp=E,330nm,15.6s								
NJ2				LR	LR				
	comp=Z,200nm,10.0s								
GTA	**Gaotai**	**123.90 348**		PKP	**PKPdf**	**03 16 09.5**	**0.0**		
GTA				sPKP		03 17 09.4			
GTA				PP	**PP**	**03 17 55.8**	**+2.1**		
GTA				PKS	**PKSdf**	**03 19 45.8**	**-0.5**		
GTA				SKS	**SKSdf**	**03 23 04.5**	**-0.8**		
GTA				SKKS	**SKKSac**	**03 24 31.8**	**-4.6**		
GTA				SS	**SS**	**03 34 27.4**	**-1.0**		
GTA				AMB	AMB				
	comp=Z,280nm,8.1s								
GTA				LR	LR				
	comp=N,270nm,9.3s								
GTA				LR	LR				
	comp=E,130nm,9.3s								
GTA				LR	LR				
	comp=Z,200nm,9.5s								
CTA	**Charters Tower**	**124.10 256**		PKP	**PKPdf**	**03 16 10.1**	**-0.1**		
	comp=Z,3.7nm,0.7s,baz=52,slow=2.2,SNR=6.0								
CTA	**Charters Tower**	**124.10 256**		PKiKP	**PKPdf**	**03 16 10.1**	**-0.1**		
CTA	**Charters Tower**	**124.10 256**		PKP	**PKPdf**	**03 16 10.1**	**-0.1**		
CTAO	**Charters Tower**	**124.10 256**		*e*PKiKP	**PKPdf**	**03 16 09.8**	**-0.4**		
CTAO	**Charters Tower**	**124.10 256**		*e*PKPdf	**PKPdf**	**03 16 09.8**	**-0.4**		
TOO	**Toolangi**	**124.66 235**		*e*P	**PKPdf**	**03 16 10.9**	**+0.1**		
	comp=Z,40nm,0.8s								
CMSA	**Cobar Meteorol**	**124.96 242**		*e*PKP	**PKPdf**	**03 16 10.1**	**-1.4**		
	comp=Z,47nm,0.8s								
MAW	**Mawson**	**125.81 169**		PKP	**PKPdf**	**03 16 12.1**	**+0.2**		
	comp=Z,14nm,0.9s,baz=231,slow=3.9,SNR=5.1								
MAW	**Mawson**	**125.81 169**		PKiKP	**PKPdf**	**03 16 12.1**	**+0.2**		
MAW	**Mawson**	**125.81 169**		PKP	**PKPdf**	**03 16 12.1**	**+0.2**		
LZH	**Lanzhou**	**126.13 344**		*e*PKP	**PKPdf**	**03 16 14.5**	**+0.6**		
LZH				PP	**PP**	**03 18 09.5**	**+0.8**		
LZH				SKKS		03 24 46.1			
LZH				SS	**SS**	**03 35 00.0**	**+3.4**		
LZH				AMB	AMB				
	comp=Z,170nm,5.4s								
COEN	**Coen**	**126.22 264**		*e*PKP	**PKPdf**	**03 16 14.5**	**+0.2**		
	comp=Z,28nm,0.8s								
COEN	**Coen**	**126.22 264**		*e*PKPdf	**PKPdf**	**03 16 14.6**	**+0.2**		
XAN	**Xi'an**	**126.40 338**		PKP	**PKPdf**	**03 16 13.9**	**-0.4**		
KBL	**Kabul**	**127.00 19**		*e*PKiKP	**PKPdf**	**03 16 15.3**	**-0.4**		
KBL	**Kabul**	**127.00 19**		*e*PKPdf	**PKPdf**	**03 16 15.3**	**-0.4**		
WHN	**Wuhan**	**127.16 331**		PKP	**PKPdf**	**03 16 16.5**	**+0.7**		
STKA	**Stephens Creek**	**128.42 242**		PKP	**PKPdf**	**03 16 18.9**	**+0.8**		
	comp=Z,16nm,0.9s,baz=70,slow=2.8,SNR=18								
STKA				pPKP	**pPKPdf**	**03 17 06.1**	**+2.3**		
	comp=Z,9.0nm,0.9s,baz=101,slow=1.3,SNR=4.8								
STKA	**Stephens Creek**	**128.42 242**		*e*PKP	**PKPdf**	**03 16 18.3**	**+0.2**		
	comp=Z,11nm,0.9s								
STKA	**Stephens Creek**	**128.42 242**		*e*PKiKP	**PKPdf**	**03 16 18.4**	**+0.3**		
STKA				*e*		03 17 06.5			
STKA	**Stephens Creek**	**128.42 242**		*e*PKPdf	**PKPdf**	**03 16 18.4**	**+0.3**		
STKA				PKP	**PKPdf**	**03 16 18.9**	**+0.8**		
STKA				pPKP	**pPKPdf**	**03 17 06.1**	**+2.3**		
STKA				*e*pPKPdf	pPKPdf	03 17 06.5	+2.6		
ENH	**Enshi**	**129.53 335**		*e*PKPdf	**PKPdf**	**03 16 20.2**	**-0.2**		
CD2	**Chengdu**	**131.00 341**		PKP	**PKPdf**	**03 16 22.5**	**-0.3**		
CD2				sPKP		03 17 28.4			
CD2				PP	**PP**	**03 18 44.9**	**+4.5**		
CD2				PKS	**PKSdf**	**03 19 57.9**	**-1.9**		
CD2				SKS	**SKSdf**	**03 23 14.8**	**-3.8**		
CD2				SKKS	**SKKSac**	**03 25 16.6**	**-4.5**		
CD2				SS	**SS**	**03 35 55.8**	**-0.7**		
CD2				AMB	AMB				
	comp=Z,200nm,6.5s								
GYA	**Guiyang**	**134.04 336**		Pdif	**Pdif**	**03 13 27.0**	**-2.0**		
GYA				PKP	**PKPdf**	**03 16 27.6**	**-1.5**		
GYA				sPKP		03 17 33.3			
GYA				PP	**PP**	**03 19 03.8**	**+3.7**		
GYA				PKS	**PKSdf**	**03 20 02.4**	**-3.4**		
GYA				SKKS		03 25 35.0			
GYA				SS	**SS**	**03 36 33.8**	**0.0**		
GYA				AMB	AMB				
	comp=Z,140nm,7.7s								
GYA				LR	LR				
	comp=N,180nm,21.0s								
GYA				LR	LR				
	comp=E,140nm,22.2s								
GYA				LR	LR				
	comp=Z,160nm,20.9s								
LSA	**Lhasa**	**134.65 355**		PKP	**PKPdf**	**03 16 31.0**	**+0.4**		
LSA	**Lhasa**	**134.65 355**		*e*PKiKP	**PKPdf**	**03 16 31.5**	**+0.9**		
LSA	**Lhasa**	**134.65 355**		*e*PKPdf	**PKPdf**	**03 16 31.5**	**+0.9**		
LSA				*e*SKP		03 19 46.8			
WB2	**Warramunga Arr**	**135.25 257**		*e*PKPdf	**PKPdf**	**03 16 31.5**	**+0.2**		
WB2				*e*SKP		03 19 46.9			
WRAB	**Tennant Creek**	**135.25 257**		*e*PKiKP	**PKPdf**	**03 16 31.6**	**+0.3**		
WRAB	**Tennant Creek**	**135.25 257**		*e*PKPdf	**PKPdf**	**03 16 31.6**	**+0.3**		
WRAB				*e*SKP		03 19 48.4			
WRA	**Warramunga Arr**	**135.26 257**		PKHKP	PKPpre	03 16 10.2			
	comp=Z,0.5nm,0.3s,baz=89,slow=3.8,SNR=6.3								
WRA				PKP	**PKPdf**	**03 16 32.0**	**+0.7**		
	comp=Z,5.9nm,0.6s,baz=87,slow=2.5,SNR=20								
WRA				pPKP	pPKPdf	03 17 17.4	+0.3		
	comp=Z,2.8nm,0.8s,baz=88,slow=1.2,SNR=2.2								
WRA				SKPbc	**SKPbc**	**03 19 47.2**	**+1.1**		
	comp=Z,4.8nm,0.9s,baz=82,slow=2.5,SNR=7.4								
WRA	**Warramunga Arr**	**135.26 257**		PKHKP	PKPpre	03 16 10.2			
WRA						03 16 32.0			
WRA						03 17 17.4			
WRA	**Warramunga Arr**	**135.26 257**		PKPpre	PKPpre	03 16 10.2			
WRA				PKP	**PKPdf**	**03 16 32.0**	**+0.7**		
WRA				pPKP	pPKPdf	03 17 17.4	+0.3		
WRA				SKPbc	**SKPbc**	**03 19 47.2**	**+1.1**		
AS31	**Alice Springs**	**135.70 252**		*e*PKPdf	**PKPdf**	**03 16 32.8**	**+0.7**		
AS31				*e*SKP		03 19 49.6			
ASAR	**Alice Springs**	**135.70 252**		PKHKP	PKPpre	03 16 19.1			
	comp=Z,0.9nm,0.5s,baz=105,slow=3.1,SNR=9.7								
ASAR				PKP	**PKPdf**	**03 16 32.6**	**+0.5**		
	comp=Z,5.6nm,0.8s,baz=102,slow=2.1,SNR=19								
ASAR				PP	**PP**	**03 19 12.1**	**-0.2**		
	comp=Z,1.2nm,0.9s,baz=80,slow=5.7,SNR=4.2								
ASAR				SKPbc	**SKPbc**	**03 19 48.4**	**+1.0**		
	comp=Z,4.1nm,0.8s,baz=103,slow=3.1,SNR=8.2								
ASAR				SKKPbc	**SKKPbc**	**03 28 48.6**	**+0.1**		
	comp=Z,1.1nm,0.8s,baz=299,slow=2.9,SNR=4.7								
ASAR	**Alice Springs**	**135.70 252**		PKHKP	PKPpre	03 16 19.2			
ASAR						03 16 32.6			
ASAR						03 19 12.1			
ASAR	**Alice Springs**	**135.70 252**		PKPpre	PKPpre	03 16 19.1			
ASAR				PKP	**PKPdf**	**03 16 32.6**	**+0.5**		
ASAR				PP	**PP**	**03 19 12.1**	**-0.2**		
ASAR				SKPbc	**SKPbc**	**03 19 48.4**	**+1.0**		
ASAR				SKKPbc	**SKKPbc**	**03 28 48.6**	**+0.1**		
DANN	**Dangsing**	**136.00**	**5**	*e*P	**SKPbc**	**03 19 50.6**	**+2.1**		
	comp=Z,107nm,1.2s								
GKN	**Gorkha**	**136.40**	**4**	*e*P	**SKPbc**	**03 19 51.0**	**+1.4**		
	comp=Z,136nm,1.4s								
GUN	**Gumba**	**136.55**	**2**	*e*P	**SKPbc**	**03 19 52.5**	**+2.2**		
	comp=Z,59nm,0.8s								
KOLN	**Koldanda**	**136.56**	**5**	*e*P	**SKPbc**	**03 19 51.2**	**+1.1**		
	comp=Z,13nm,0.9s								
KKN	**Kakani**	**136.65**	**3**	*e*P	**SKPbc**	**03 19 52.3**	**+1.9**		
	comp=Z,136nm,1.5s								
KMI	**Kunming**	**136.70 340**		PKP	**PKPdf**	**03 16 34.4**	**+0.2**		
KMI				sPKP		03 17 38.9			
KMI				PP	**PP**	**03 19 18.3**	**+1.5**		
KMI				SS	SS	03 37 05.3	-0.3		
KMI				AMB	AMB				
	comp=Z,190nm,5.5s								
KMI				LR	LR				
	comp=N,210nm,22.6s								
KMI				LR	LR				
	comp=E,160nm,30.1s								
KMI				LR	LR				
	comp=Z,240nm,23.4s								
JIRN	**Jiri**	**136.81**	**2**	*e*P	**SKPbc**	**03 19 51.9**	**+0.8**		
	comp=Z,142nm,1.5s								
DMN	**Daman**	**136.82**	**3**	*e*P	**SKPbc**	**03 19 52.9**	**+1.9**		
	comp=Z,167nm,1.8s								
PKI	**Pulchoki**	**136.87**	**3**	*e*P	**SKPbc**	**03 19 52.6**	**+1.4**		
	comp=Z,152nm,1.8s								
TAPN	**Taplejung**	**137.13 360**		*e*P	**SKPbc**	**03 19 53.1**	**+1.1**		
	comp=Z,75nm,1.0s								
RAMN	**Ramite**	**137.53**	**1**	*e*P	**SKPbc**	**03 19 53.8**	**+0.7**		
	comp=Z,108nm,1.7s								
ODAN	**Odare**	**137.62**	**0**	*e*P	**SKPbc**	**03 19 54.7**	**+1.4**		
	comp=Z,69nm,1.5s								
SHL	**Shillong**	**138.68 354**		*e*P	**PKPdf**	**03 16 37.5**	**-0.3**		
QIZ	**Qiongzhong**	**138.98 327**		PKP	**PKPdf**	**03 16 38.6**	**+0.3**		
QIZ				sPKP		03 17 40.6			
QIZ				PP	**PP**	**03 19 31.9**	**+0.8**		
QIZ				SS	SS	03 37 35.5	+2.7		
QIZ				AMB	AMB				
	comp=Z,140nm,3.4s								
FORT	**Forrest**	**140.03 241**		*e*P	PKPdf	03 16 33.1	-6.7		
	comp=Z,19nm,0.7s								
OPO	**Ambohidratompo**	**141.51 100**		PKP	**PKPdf**	**03 16 40.8**	**-2.2**		
	comp=Z,2.7nm,0.8s,baz=270,slow=9.1,SNR=2.6								
OPO				SKPbc	**SKPbc**	**03 20 04.1**	**+0.2**		
	comp=Z,8.8nm,1.0s,baz=238,slow=4.7,SNR=5.4								
OPO	**Ambohidratompo**	**141.51 100**		PKP	**PKPdf**	**03 16 40.8**	**-2.2**		
OPO				SKPbc	**SKPbc**	**03 20 04.1**	**+0.2**		
ABPO	**Ambohimpanom**	**141.56 101**		*e*PKiKP	**PKPdf**	**03 16 44.1**	**+1.0**		
ABPO	**Ambohimpanom**	**141.56 101**		*e*PKPdf	**PKPdf**	**03 16 44.1**	**+1.0**		
FITZ	**Fitzroy Crossi**	**143.41 261**		PKP	PKPbc	03 16 45.0	+1.1		
	comp=Z,15nm,0.6s,baz=117,slow=2.6,SNR=47								
FITZ				pPKP	pPKPdf	03 17 30.2	-1.7		
	comp=Z,7.3nm,0.8s,baz=15,slow=2.3,SNR=3.7								
FITZ	**Fitzroy Crossi**	**143.41 261**		*e*PKP	PKPbc	03 16 44.2	+0.3		
	comp=Z,29nm,0.6s								
FITZ	**Fitzroy Crossi**	**143.41 261**		*e*PKPdf	PKPbc	03 16 44.2	+0.4		
FITZ				PKP	**PKPdf**	**03 16 45.0**	**-1.2**		
FITZ				pPKP	pPKPdf	03 17 30.2	-1.7		
FITZ				*e*SKPbc	**SKiKP**	**03 20 08.9**	**-0.4**		
CHTO	**Chiang Mai**	**143.81 341**		*e*PKiKP	PKPab	03 16 44.2	0.0		
CHTO	**Chiang Mai**	**143.81 341**		*e*PKPdf	PKPab	03 16 44.2	-0.1		
CHTO				*e*SKPbc	**SKiKP**	**03 20 10.9**	**+0.6**		
CM31	**Chiang Mai Arr**	**144.14 341**		*e*PKPdf	PKPbc	03 16 46.2	+0.2		
CMAR	**Chiang Mai Arr**	**144.14 341**		PKP	PKPbc	03 16 46.5	+0.5		
	comp=Z,15nm,0.7s,baz=334,slow=3.6,SNR=25								
CMAR				pPKP	pPKPdf	03 17 30.1	-3.2		
	comp=Z,8.2nm,0.8s,baz=337,slow=3.3,SNR=5.7								
CMAR				SKPbc	**SKiKP**	**03 20 10.9**	**0.0**		
	comp=Z,2.7nm,0.4s,baz=2.5,slow=2.1,SNR=11								
CMAR	**Chiang Mai Arr**	**144.14 341**		PKiKP	PKPbc	03 16 46.5	+0.5		
CMAR						03 20 11.0			
CMAR	**Chiang Mai Arr**	**144.14 341**		PKP	PKPbc	03 16 46.5	+0.5		
CMAR				pPKP	pPKPdf	03 17 30.1	-3.2		
CMAR				SKPbc	**SKiKP**	**03 20 10.9**	**0.0**		
KAPI	**Kappang**	**146.51 285**		PKPbc	**PKPbc**	**03 16 52.6**	**-0.8**		
	comp=Z,18nm,0.8s,baz=78,slow=12,SNR=4.7								
KAPI	**Kappang**	**146.51 285**		PKPbc	**PKPbc**	**03 16 52.6**	**-0.8**		
NWAO	**Narrogin (SRO)**	**148.08 232**		PKPbc	**PKPbc**	**03 16 57.7**	**+0.6**		
	comp=Z,46nm,0.9s,baz=125,slow=5.0,SNR=12								
NWAO	**Narrogin (SRO)**	**148.08 232**		*e*PKP2	**PKPbc**	**03 16 57.4**	**+0.3**		
NWAO	**Narrogin (SRO)**	**148.08 232**		*e*PKPbc	**PKPbc**	**03 16 57.4**	**+0.3**		
KLBR	**Kellerberrin**	**148.21 235**		*e*P	**PKPdf**	**03 16 54.5**	**+0.5**		
	comp=Z,96nm,1.6s								
MBWA	**Marble Bar**	**148.93 255**		*e*PKPbc	**PKPbc**	**03 16 57.8**	**-1.9**		
BLDU	**Ballidu**	**149.41 236**		*e*PKP	**PKPbc**	**03 17 00.6**	**0.0**		
RER	**Riviere de l'E**	**149.51 105**		*e*PKPbc	**PKPbc**	**03 17 00.8**	**-0.4**		

IDC 17 02:59:51.0±4.4, 6.85S×155.49E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/27, Error ellipse: s-maj=129.7km s-min=33.7km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**24.30**	**236**	P		P		03 05 10.7	+0.2
	4.0nm,0.7s,baz=62,slow=9.8,SNR=21								
FITZ	**Fitzroy Crossi**	**31.16**	**246**	P		P		03 06 12.4	+0.4
	1.4nm,0.6s,baz=80,slow=9.7,SNR=5.0								
FITZ				LR		LR		03 17 39.7	
	comp=Z,145nm,18.3s,baz=185,slow=34								
MKAR	**Makanchi Array**	**83.62**	**319**	P		P		03 12 21.8	+0.2
	0.5nm,0.6s,baz=105,slow=5.9,SNR=7.2								
ZALV	**Zalesovo Beam**	**84.33**	**326**	P		P		03 12 24.2	-0.7
	0.3nm,0.4s,baz=98,slow=5.0,SNR=2.4								

IDC 17 03:01:48.9±3.1, 5.18S×148.35E, h199km±30km, mb3.4/3, mb1 3.6/4, mb1mx3.2/16, mbtmp3.4/4, Error ellipse: s-maj=35.8km s-min=23.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**4.37**	**196**	P		P	Pn	03 02 56.0	+0.8
	1.6nm,0.3s,baz=27,slow=14,SNR=10								
PMG				S			Sn	03 03 40.5	-7.0
	2.5nm,0.3s,baz=344,slow=6.6,SNR=6.1								
WRA	**Warramunga Arr**	**20.03**	**222**	P		P		03 06 05.9	-0.9
	1.1nm,0.5s,baz=48,slow=11,SNR=10.0								
ASAR	**Alice Springs**	**23.06**	**216**	P		P		03 06 36.6	-0.4
	0.4nm,0.5s,baz=50,slow=8.8,SNR=5.0								
FITZ	**Fitzroy Crossi**	**25.64**	**238**	P		P		03 07 00.5	+0.2
	2.3nm,0.6s,baz=61,slow=8.7,SNR=11								
TGY	**Tagaytay City**	**33.27**	**305**	P		P		03 08 07.3	-0.4
	164nm,0.3s,baz=135,slow=10.0,SNR=3.1								
ILAR	**Eielson Array**	**84.20**	**23**	P		P		03 13 57.1	-0.4
	0.9nm,0.6s,baz=252,slow=5.0,SNR=9.7								
TORD	**Torodi Ar. Bea**	**146.18**	**286**	PKPbc		PKPbc		03 21 07.2	+0.4
	0.2nm,0.7s,baz=78,slow=2.8,SNR=7.9								

IDC 17 03:04:31.7±4.2, 19.84S×169.19E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/13, Error ellipse: s-maj=125.3km s-min=35.5km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BAYA	**Yate Dam**	**3.15**	**223**	*e*S			Sn	03 05 59.3	-1.7
DZM	**Mont Dzumac**	**3.39**	**229**	Pn			Pn	03 05 26.1	0.0
	6.5nm,0.3s,baz=121,slow=15,SNR=49								
DZM							Sn	03 06 08.7	+1.5
	10nm,0.3s,baz=54,slow=17,SNR=11								
NOUC	**Port Laguerre**	**3.51**	**230**	*e*P			Pn	03 05 26.6	-1.0
NOUC				*e*S			Sn	03 06 13.3	+3.4
STKA	**Stephens Creek**	**27.49**	**239**	LR		LR		03 19 41.8	
	comp=Z,332nm,19.5s,baz=202,slow=33								
WRA	**Warramunga Arr**	**32.74**	**264**	P		P		03 11 07.0	+0.5
	0.4nm,1.0s,baz=93,slow=8.2,SNR=3.2								
ASAR	**Alice Springs**	**32.94**	**257**	P		P		03 11 07.2	-1.1
	0.6nm,0.8s,baz=86,slow=8.9,SNR=5.3								
GERES	**GERESS Array B**	**145.00**	**

CMAR	Chiang Mai Arr	13.90	12	P		Pn	04 42 15.0	+0.5
CHTO	Chiang Mai	14.25	12	*e*Pn		Pn	04 42 18.0	-0.8
	13nm,0.8s							
KMI	Kunming	21.26	17	P		P	04 43 38.0	+0.5
KMI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ODAN	Odare	23.38	341	*e*P		P	04 43 57.4	-0.6
ODAN	Odare	23.38	341	*e*P		P	04 43 57.4	-0.6
TAPN	Taplejung	23.73	342	*e*P		P	04 44 00.9	-0.3
	comp=Z,7.1nm,0.4s							
TAPN	Taplejung	23.73	342	*e*P		P	04 44 00.9	-0.3
	comp=Z,7.1nm,0.4s							
RAMN	Ramite	23.73	339	*e*P		P	04 44 01.3	+0.1
	comp=Z,13nm,0.5s							
RAMN	Ramite	23.73	339	*e*P		P	04 44 01.3	+0.1
	comp=Z,13nm,0.5s							
GYA	Guiyang	23.89	25	*e*P		P	04 44 01.3	-1.1
GYA				pP		pP	04 44 36.9	+0.5
GYA				sP		sP	04 44 58.0	-0.3
GYA				S		S	04 48 02.3	-3.6
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
JIRN	Jiri	24.53	339	*e*P		P	04 44 08.0	-0.6
	comp=Z,28nm,0.6s							
JIRN	Jiri	24.53	339	*e*P		P	04 44 08.0	-0.6
	comp=Z,28nm,0.6s							
PKI	Pulchoki	24.74	337	*e*P		P	04 44 09.6	-0.8
	comp=Z,9.5nm,0.5s							
PKI	Pulchoki	24.74	337	*e*P		P	04 44 09.6	-0.8
	comp=Z,9.5nm,0.5s							
GUN	Gumba	24.87	339	*e*P		P	04 44 11.1	-0.5
	comp=Z,26nm,0.4s							
GUN	Gumba	24.87	339	*e*P		P	04 44 11.1	-0.5
	comp=Z,26nm,0.4s							
DMN	Daman	24.89	337	*e*P		P	04 44 11.1	-0.6
	comp=Z,9.9nm,0.5s							
DMN	Daman	24.89	337	*e*P		P	04 44 11.1	-0.6
	comp=Z,9.9nm,0.5s							
KKN	Kakani	24.98	337	*e*P		P	04 44 11.4	-1.1
KKN	Kakani	24.98	337	*e*P		P	04 44 11.4	-1.1
LSA	Lhasa	25.16	350	*e*P		P	04 44 14.1	-0.3
	comp=Z,13nm,0.6s							
GKN	Gorkha	25.43	336	*e*P		P	04 44 15.8	-0.6
	comp=Z,13nm,0.3s							
GKN	Gorkha	25.43	336	*e*P		P	04 44 15.8	-0.6
	comp=Z,13nm,0.3s							
KOLN	Koldanda	25.65	334	*e*P		P	04 44 18.1	-0.4
	comp=Z,33nm,0.5s							
KOLN	Koldanda	25.65	334	*e*P		P	04 44 18.1	-0.4
	comp=Z,33nm,0.5s							
KAPI	Kappang	25.78	112	P		P	04 44 18.2	-1.3
	comp=Z,9.7nm,0.8s,baz=257,slow=15,SNR=2.6							
KAPI	Kappang	25.78	112	P		P	04 44 18.2	-1.3
DANN	Dangsing	26.09	335	*e*P		P	04 44 21.9	-0.7
	comp=Z,21nm,0.5s							
DANN	Dangsing	26.09	335	*e*P		P	04 44 21.9	-0.7
	comp=Z,21nm,0.5s							
CD2	Chengdu	27.02	15	P		P	04 44 32.3	+1.8
CD2				pP		pP	04 45 08.1	+1.4
CD2				PP		PP	04 45 26.9	-8.4
CD2				sP		sP	04 45 28.6	+1.4
CD2				S		S	04 48 55.8	+0.7
CD2				sS		sS	04 49 58.9	-0.7
CD2				SS		SS	04 50 27.3	-29
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,130nm,5.4s							
XAN	Xi'an	31.52	21	P		P	04 45 10.3	0.0
XAN				pP		pP	04 45 49.1	+2.1
XAN				sP		sP	04 46 13.4	+6.1
XAN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
XAN				pmax	pmax			
	comp=Z,29nm,7.1s							
LZH	Lanzhou	31.99	12	*e*P		P	04 45 14.0	-0.5
LZH				pP		pP	04 45 51.0	-0.3
LZH				sP		sP	04 46 13.3	+1.7
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
FITZ	Fitzroy Crossi	37.16	129	P		P	04 45 56.4	-2.5
	comp=Z,3.7nm,0.8s,baz=315,slow=5.0,SNR=7.7							
FITZ	Fitzroy Crossi	37.16	129	P		P	04 45 56.4	-2.5
HHC	Hu-ho-hao-te	38.56	19	*e*P		P	04 46 11.5	+1.0
HHC				pP		pP	04 46 48.9	+0.7
HHC				sP		sP	04 47 09.1	+0.8
HHC				PP		PP	04 47 48.4	+5.7
HHC				PcP		PcP	04 48 20.5	+1.0
HHC				S		S	04 51 54.5	+1.1
HHC				sS		sS	04 53 00.0	+0.4
HHC				SS		SS	04 54 45.8	-5.2
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,250nm,6.4s							
KBL	Kabul	38.64	323	*e*P		P	04 46 11.5	+0.1
	comp=Z,2.9nm,0.4s							
KSH	Kashi	38.96	335	*e*P		P	04 46 12.4	-1.5
KSH				*e*pP		pP	04 46 50.3	-1.3
KSH				*e*sP		sP	04 47 10.0	-1.7
KSH				*e*PP		PP	04 47 49.6	+2.6
KSH				*e*PcP		PcP	04 48 20.4	-0.4
KSH				*e*ScP		ScP	04 51 50.8	-1.8
KSH				*e*S		S	04 51 54.4	-5.0
KSH				*e*sS		sS	04 53 02.6	-3.1
KSH				*e*SS		SS	04 54 48.6	-10
KSH				*e*ScS		ScS	04 56 00.8	-3.5
KSH				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,270nm,5.9s							
KSH				LR	LR			
	comp=N,320nm,6.8s							
KSH				LR	LR			
	comp=E,290nm,6.5s							
KSH				LR	LR			
	comp=Z,370nm,7.1s							
TKM2	Tokmak 2	42.00	338	*e*P		P	04 46 39.1	+0.2
	comp=Z,2.7nm,0.9s							
AAK	Ala-Archa	42.19	336	*e*P		P	04 46 41.6	+1.3
	comp=Z,12nm,0.9s							
EKS2	Erkin-Say	42.50	336	*e*P		P	04 46 42.9	+0.1
	comp=Z,3.6nm,0.8s							
NWAO	Narrogin (SRO)	42.65	153	P		P	04 46 42.6	-1.4
	comp=Z,17nm,1.2s,baz=335,slow=11,SNR=3.8							
NWAO	Narrogin (SRO)	42.65	153	P		P	04 46 42.6	-1.4
MK31	Makanchi Array	43.45	346	*e*P		P	04 46 49.4	-0.9
MKAR	Makanchi Array	43.45	346	P		P	04 46 49.6	-0.6
	comp=Z,2.2nm,0.4s,baz=160,slow=8.4,SNR=46							
MKAR	Makanchi Array	43.45	346	*e*P		P	04 46 49.8	-0.5
KSAR	Wonju Array Be	43.71	38	P		P	04 46 54.0	+1.5
KSRS	Korea Array	43.74	38	P		P	04 46 54.0	+1.3
	comp=Z,1.0nm,0.5s,baz=218,slow=8.6,SNR=7.0							
SONM	Songino Array	43.82	10	P		P	04 46 53.6	+0.3
	comp=Z,2.9nm,0.6s,baz=189,slow=9.5,SNR=36							
SONM				PcP	PP		04 48 38.3	-0.8
	comp=Z,1.1nm,0.5s,baz=193,slow=3.7,SNR=13							
SONM	Songino Array	43.82	10	P		P	04 46 53.6	+0.3
SONM				PcP	PP		04 48 38.3	-0.8
ULN	Ulaanbaatar	43.97	11	*e*P		P	04 46 54.3	-0.2
	comp=Z,2.0nm,0.5s							
KKAR	Karatay Array	44.26	333	*e*P		P	04 46 57.2	+0.5
WRA	Warramunga Arr	45.11	124	P		P	04 47 02.5	-1.4
	comp=Z,3.1nm,0.6s,baz=301,slow=9.3,SNR=44							
WRA	Warramunga Arr	45.11	124	P		P	04 47 02.5	-1.4
WB2	Warramunga Arr	45.12	124	*e*P		P	04 47 02.3	-1.6
ASAR	Alice Springs	46.65	129	P		P	04 47 14.8	-1.1
	comp=Z,2.8nm,0.4s,baz=298,slow=7.3,SNR=51							
ASAR	Alice Springs	46.65	129	P		P	04 47 14.8	-1.1
AS31	Alice Springs	46.65	129	*e*P		P	04 47 14.7	-1.2
KURK	Kurchatov	47.99	345	P		P	04 47 25.1	-0.6
	comp=Z,2.7nm,0.6s,baz=163,slow=6.9,SNR=16							
KURK	Kurchatov	47.99	345	*e*P		P	04 47 25.3	-0.4
	comp=Z,2.7nm,0.5s							
ZAA0	Zalesovo Array	49.82	351	*e*P		P	04 47 39.0	-0.5
ZALV	Zalesovo Beam	49.82	351	P		P	04 47 39.4	-0.2
	comp=Z,4.2nm,0.3s,baz=166,slow=8.2,SNR=34							
ZALV				PcP		PcP	04 48 57.4	-0.2
	comp=Z,0.7nm,0.4s,baz=162,slow=5.7,SNR=2.6							
ZALV	Zalesovo Beam	49.82	351	P		P	04 47 39.4	-0.2
ZALV				PcP		PcP	04 48 57.4	-0.2
USRK	Ussuriysk Arra	50.46	33	P		P	04 47 45.8	+1.3
	comp=Z,1.7nm,0.8s,baz=225,slow=8.0,SNR=4.4							
NAY	Al-Naaiem	51.97	304	*e*P		P	04 47 56.1	0.0
NAY				AMb		AMB	04 47 57.2	
	comp=Z,18nm,0.8s							
BVAR	Borovoye Array	52.43	341	P		P	04 47 58.7	-0.4
	comp=Z,2.1nm,0.6s,baz=146,slow=8.8,SNR=17							
BVAR	Borovoye Array	52.43	341	P		P	04 47 58.7	-0.4
BRVK	Borovoye	52.50	341	*e*P		P	04 47 58.8	-0.7
	comp=Z,2.9nm,0.6s							
ABKAR	Akbulak array	53.73	332	*e*P		P	04 48 08.8	+0.2
	comp=Z,2.8nm,0.3s							
AKTO	Aktyubinsk	55.45	332	P		P	04 48 20.9	-0.1
	comp=Z,2.0nm,0.5s,baz=117,slow=5.2,SNR=11							
AKTO	Aktyubinsk	55.45	332	P		P	04 48 20.9	-0.1
BR131	Keskin Array S	65.73	312	*e*P		P	04 49 30.4	-0.6
	comp=Z,2.1nm,0.6s							
BRTR	Keskin Array B	65.73	312	P		P	04 49 30.6	-0.3
	comp=Z,2.6nm,0.6s,baz=134,slow=5.8,SNR=17							
BRTR	Keskin Array B	65.73	312	P		P	04 49 30.6	-0.3
TIRR	Tirgusor	70.63	315	*i*P		P	04 50 01.5	+0.4
CFR	Carcaliu	70.98	316	*i*P		P	04 50 02.8	-0.4
AKASG	Malin Array Be	71.61	322	P		P	04 50 06.3	-0.6
	comp=Z,2.3nm,0.5s,baz=95,slow=5.1,SNR=8.7							
AKASG	Malin Array Be	71.61	322	P		P	04 50 06.3	-0.6
VRI	Vrincioaia	72.09	317	*i*P		P	04 50 11.3	+1.4
PLOR	Plostina	72.14	317	*i*P		P	04 50 11.8	+1.6
TESR		72.28	317	*i*P		P	04 50 12.6	+1.6
MLR	Muntele Rosu	72.55	316	P		P	04 50 13.9	+1.1
	comp=Z,0.6nm,0.5s,baz=122,slow=5.7,SNR=5.0							
MLR	Muntele Rosu	72.55	316	P		P	04 50 13.9	+1.1
MLR	Muntele Rosu	72.55	316	*i*P		P	04 50 14.4	+1.6
VOIR		73.16	316	*i*P		P	04 50 16.4	+0.1
BURAR	Bucovina Array	73.46	318	*i*P		P	04 50 19.2	+1.2
BUR08	Bucovina Ar. S	73.48	318	*e*P		P	04 50 18.8	+0.7
VTS	Vitosha	74.01	313	*i*P		P	04 50 21.5	+0.1
DRGR		75.00	317	*i*P		P	04 50 28.0	+1.1
TRPA	Tarpa	75.33	318	*i*P		P	04 50 29.6	+1.0
KWP	Kalwaria Pacla	75.47	320	*i*P		P	04 50 30.5	+1.1
BZS	Buzias	75.57	316	*i*P		P	04 50 30.8	+0.7
CRVS	Cervenica-Dubn	76.16	319	*e*P		P	04 50 34.6	+1.2
FINES	FINESS Array B	76.21	332	P		P	04 50 33.9	+0.5
	comp=Z,1.6nm,0.4s,baz=101,slow=6.3,SNR=16							
FINES	FINESS Array B	76.21	332	P		P	04 50 33.9	+0.5
STHS	Stebnicka Huta	76.37	320	*e*P		P	04 50 36.4	+1.8
PSZ	Piszkesteto	77.05	318	*e*P		P	04 50 39.2	+0.7
	comp=Z,4.8nm,0.6s							
PSZ	Piszkesteto	77.05	318	*i*P		P	04 50 39.7	+1.2
PKSM	Moragy	77.71	316	*i*P		P	04 50 42.6	+0.5
VYHS	Vyhne	77.83	318	*e*P		P	04 50 43.7	+1.0
ARCES	ARCESS Array B	78.72	340	P		P	04 50 48.4	+1.2
	comp=Z,1.8nm,0.5s,baz=99,slow=6.4,SNR=29							
ARCES	ARCESS Array B	78.72	340	P		P	04 50 48.4	+1.2
MORC	Moravsky Berou	78.81	320	*e*P		P	04 50 49.1	+0.9
	comp=Z,2.0nm,0.7s							
ZST	Bratislava	78.94	318	*e*P		P	04 50 50.5	+1.7
VRAC	Vranov	79.38	319	P		P	04 50 52.6	+1.4
	comp=Z,1.1nm,0.5s,baz=84,slow=9.2,SNR=2.2							
VRAC	Vranov	79.38	319	P		P	04 50 52.6	+1.4
GERES	GERESS Array B	81.25	319	P		P	04 51 02.6	+1.3
	comp=Z,1.7nm,0.6s,baz=102,slow=4.9,SNR=22							
GERES	GERESS Array B	81.25	319	P		P	04 51 02.6	+1.3
HFS	Hagfors	81.95	330	P		P	04 51 05.5	+0.9
	comp=Z,1.2nm,0.3s,baz=100,slow=4.6,SNR=37							
HFS	Hagfors	81.95	330	P		P	04 51 05.5	+0.9
SPITS	Spitsbergen Ar	83.18	348	P		P	04 51 11.8	+1.2
	comp=Z,1.8nm,0.4s,baz=103,slow=5.6,SNR=16							
SPITS	Spitsbergen Ar	83.18	348	P		P	04 51 11.8	+1.2
DAVOX	Davos/Dischmat	83.78	316	P		P	04 51 16.0	+1.4
	comp=Z,4.7nm,0.6s,baz=82,slow=1.3,SNR=17							
DAVOX	Davos/Dischmat	83.78	316	P		P	04 51 16.0	+1.4
CDF	Champ du Feu	85.50	318	*e*P		P	04 51 24.2	+1.2
HINF	Hinteralfeld	85.81	317	*e*P		P	04 51 25.9	+1.4
LPG	La Plagne	85.99	315	*e*P		P	04 51 26.7	+1.0
	comp=Z,11nm,1.0s							
LPL	La Plagne	86.00	315	*e*P		P	04 51 26.7	+1.0
	comp=Z,9.9nm,0.9s							
MBDF	Montbardon	86.01	314	*e*P		P	04 51 25.8	+0.1
HAU	Haudompre	86.14	318	*e*P		P	04 51 26.5	+0.4
	comp=Z,7.7nm,0.7s							
CABF	La Chapelle	86.39	316	*e*P		P	04 51 28.2	+0.8
	comp=Z,37nm,1.3s							
ORIF	Oris-en-Rattie	86.63	315	*e*P		P	04 51 29.3	+0.7
SFTF	Sexfontaines	87.01	318	*e*P		P	04 51 31.0	+0.7
BAIF	Baives	87.42	320	*e*P		P	04 51 33.4	+1.2
	comp=Z,13nm,0.8s							
LOR	Lormes	87.87	317	*e*P		P	04 51 35.5	+1.1
	comp=Z,3.9nm,0.7s							
TCF	Toulx Ste Croi	89.09	316	*e*P		P	04 51 40.9	+0.7
RJF	Les Rejaudoux	89.68	315	*e*P		P	04 51 44.0	+1.1
FLN	La Foliniere	90.60	319	*e*P		P	04 51 48.3	+1.2
TORD	Torodi Ar. Bea	92.97	283	P		P	04 52 00.4	+1.7
	comp=Z,0.3nm,0.6s,baz=82,slow=4.2,SNR=7.1							
TORD	Torodi Ar. Bea	92.97	283	P		P	04 52 00.4	+1.7
ULM	Lac du Bonnet	124.24	9	PKP		PKPdf	04 57 43.8	+1.2
	comp=Z,0.9nm,0.5s,baz=326,slow=3.6,SNR=2.8							
ULM	Lac du Bonnet	124.24	9	PKP		PKPdf	04 57 43.8	+1.2
NVAR	Mina Array Bea	126.60	33	PKP		PKPdf	04 57 48.9	+1.1
	comp=Z,0.1nm,0.6s,baz=286,slow=1.6,SNR=3.5							
NVAR	Mina Array Bea	126.60	33	PKP		PKPdf	04 57 48.9	+1.1
PDAR	Pinedale Array	127.34	23	PKP		PKPdf	04 57 50.8	+1.7
	comp=Z,0.2nm,0.5s,baz=339,slow=2.2,SNR=3.8							
PDAR	Pinedale Array	127.34	23	PKP		PKPdf	04 57 50.8	+1.7

MAN 17 04:40:46, 11.55N×122.16E, h9km, mb4.4, ML3.3, MS3.1, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCP	Roxas	0.58	89	*e*P		Pb		04 40 58.0	-0.3
RCP				*e*S		Sb		04 41 08.3	+1.7
OTRP	Odiongan	0.81	351	*e*P		Pn		04 41 03.5	-0.2
OTRP				*e*S		Sn		04 41 17.0	+1.1
GUIM	Jordan	1.01	155	*e*P		Pg		04 41 04.6	-0.9
GUIM				*e*S		Sn		04 41 20.4	-0.5
CUYO	Cuyo Island	1.32	238	*e*P		Pn		04 41 09.7	-1.0
BOAC	Boac	1.92	351	*e*P		Pb		04 41 20.2	-1.0
BUSP	Coron	1.97	283	*e*P		Pn		04 41 20.7	+1.1
TBP	Tagbilaran	2.50	138	*e*P		Pb		04 41 29.7	-1.4
TBP				*e*S		Sb		04 42 02.6	+0.6
ENPP	El Nido	2.70	263	*e*P		Pn		04 41 30.4	+0.8
MSLP	Maasin	3.01	118	*e*P		Pn		04 41 36.0	+2.1
IPIL	Ipil	3.76	174	*e*P		Pn		04 41 44.7	+0.5
PAGZ	Pagadian	3.88	162	*e*P		Pn		04 41 48.0	+2.2

IDC 17 05:09:21.2±5.5, 21.96S×170.63E, h86km±41km, mb4.0/5, mb1 4.1/6, mb1mx3.8/18, mbtmp4.1/6, Error ellipse: s-maj=42.5km s-min=30.5km az=42.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.88	268	P		Pn		05 10 20.2	+1.5
	26nm,0.3s,baz=100,slow=6.1,SNR=882								
DZM				S		Sn		05 11 02.9	-0.4
	145nm,0.3s,baz=334,slow=22,SNR=37								
CTA	Charters Tower	22.82	270	P		P		05 14 18.1	+0.9
	1.8nm,0.4s,baz=94,slow=9.5,SNR=8.2								
STKA	Stephens Creek	27.63	243	P		P		05 15 00.6	-0.2
	1.9nm,0.4s,baz=67,slow=9.3,SNR=6.8								
ASAR	Alice Springs	33.84	260	P		P		05 15 56.0	+0.4
	5.1nm,0.7s,baz=85,slow=8.9,SNR=46								
WRA	Warramunga Arr	33.90	267	P		P		05 15 56.0	-0.2
	2.5nm,0.7s,baz=98,slow=8.4,SNR=25								
QSPA	South Pole Qui	68.11	180	P		P		05 20 11.5	-0.2
	3.8nm,0.7s,baz=27,slow=6.8,SNR=14								
ARCES	ARCESS Array B	128.02	345	PKP		PKPdf		05 28 15.5	-1.0
	2.2nm,0.8s,baz=50,slow=1.4,SNR=5.4								
GERES	GERESS Array B	147.49	331	PKPbc		PKPbc		05 28 54.9	-0.6
	0.9nm,0.7s,baz=35,slow=3.6,SNR=7.7								

*BJI **17** 05:17:03.5, 59.90S×26.80W, h10km, mB5.5/16, Ms5.6/16, Ms7 5.3/17*
*ISCJB **17** 05:17:08.7±1.7, 59.74S±0.06×26.6W±0.1, h44km±15km, mb5.2/43, MS4.4/20, Error ellipse: s-maj=12.0km s-min=7.6km az=140.5*
*NEIC **17** 05:17:13.6±0.2, 59.74S×26.70W, mb5.2/32, Error ellipse: s-maj=7.7km s-min=6.3km az=213.0*
*IDC **17** 05:17:14.5±1.9, 59.75S×26.79W, h82km±15km, mb4.9/18, mb1 5.0/18, mb1mx4.9/19, mbtmp4.9/18, MS4.1/14, Ms1 4.1/14, ms1mx4.1/17, Error ellipse: s-maj=13.6km s-min=11.2km az=46.0*
*MOS **17** 05:17:19.1±1.2, 59.77S×26.84W, h131km, mb5.1/12,*

Error ellipse: s-maj=27.0km s-min=12.4km az=103.4
ISC 17 05:17:12.8±0.6, 59.77S±0.06×26.78W±0.06, h68km±5km, n444, σ1s43/511, mb5.2/42, 84C-79D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.31	153	*e*P		Pn		05 20 16.2	-2.2
VNA1				*e*				05 22 29.7	
VNA3	Neumayer Olymp	13.44	156	*e*P		Pn		05 20 17.7	-2.5
VNA3				*e*				05 22 32.8	
VNA2	Neumayer--Watz	13.71	153	*e*P		P		05 20 21.5	-2.2
	baz=309,slow=12								
VNA2				*e*				05 22 38.6	
SNAA	Sanae	15.30	151	*e*P		Pn		05 20 39.9	-4.5
SNAA				*e*				05 23 16.2	
SNAA	Sanae	15.30	151	*e*P		Pn		05 20 40.0	-4.5
SNAA				pmax	pmax				
	comp=Z,90nm,0.5s								
SNAA	Sanae	15.30	151	*e*Pn		Pn		05 20 40.0	-4.5
	comp=Z,90nm,0.5s								
SNAA				*e*Sn		Sn		05 23 16.1	-17
PMSA	Palmer Station	17.85	238	P		Pn		05 21 26.4	+10
	comp=Z,7.3nm,0.3s,baz=77,slow=13,SNR=41								
PMSA				LR		LR		05 27 04.6	
	comp=Z,825nm,20.4s,baz=74,slow=33								
PMSA	Palmer Station	17.85	238	Pn		Pn		05 21 17.2	+1.2
	comp=Z,69nm,0.8s								
MAIT	Maitri	19.09	141	*e*P		Pn		05 21 30.6	-0.4
MAIT				*e*				05 21 47.6	
MAIT				*e*				05 24 48.2	
NVL	N'lazarevskaya	19.12	141	*i*P		Pn		05 21 34.8	+3.5
NVL				*e*				05 24 55.2	
NVL				pmax	pmax				
	comp=Z,22nm,0.4s								
EFI	East Falkland	19.23	281	*i*P		Pn		05 21 33.6	+0.8
EFI	East Falkland	19.23	281	*e*P		Pn		05 21 33.7	+0.9
	comp=Z,204nm,0.9s								
USHA	Ushuaia	22.74	264	P		P		05 22 10.6	+1.7
	comp=Z,56nm,0.9s,baz=90,slow=10.0,SNR=13								
USHA				LR		LR		05 28 32.6	
	comp=Z,494nm,20.2s,baz=67,slow=30								
USHA	Ushuaia	22.74	264	P		P		05 22 10.6	+1.7
SYO	Syowa Base	28.64	136	*es*P		P		05 23 00.0	-2.3
SYO	Syowa Base	28.64	136	*e*PcP		PcP		05 26 10.2	-1.0
QSPA	South Pole Qui	30.47	180	P		P		05 23 20.0	+1.2
	comp=Z,16nm,0.6s,baz=208,slow=3.4,SNR=86								
QSPA				PcP		PcP		05 26 16.4	+0.2
	comp=Z,18nm,1.0s,baz=71,slow=1.2,SNR=4.2								
QSPA	South Pole Qui	30.47	180	*i*eP		P		05 23 19.8	+1.0
	comp=Z,18nm,0.6s								
QSPA				*e*				05 23 33.7	
QSPA				*e*PcP		PcP		05 26 15.8	-0.4
TRQA	Tornquist	31.14	298	*e*P		P		05 23 26.1	+1.3
	comp=Z,13nm,0.8s								
TRQA				*e*pP		pP		05 23 45.0	+3.9
PLCA	Paso Flores	33.04	285	P		P		05 23 41.6	+0.1
	comp=Z,28nm,0.9s,baz=145,slow=8.4,SNR=43								
PLCA				LR		LR		05 35 27.1	
	comp=Z,291nm,21.1s,baz=119,slow=33								
PLCA	Paso Flores	33.04	285	*e*P		P		05 23 41.4	-0.1
PLCA				pmax	pmax				
	comp=Z,39nm,1.0s								
PLCA	Paso Flores	33.04	285	*e*P		P		05 23 41.4	-0.1
	comp=Z,39nm,1.0s								
MAW	Mawson	37.07	141	P		P		05 24 15.8	+0.1
	comp=Z,24nm,1.1s,baz=256,slow=11,SNR=4.4								
MAW				PcP		PcP		05 26 35.4	+0.7
	comp=Z,16nm,0.8s,baz=356,slow=4.6,SNR=3.7								
MAW				LR		LR		05 37 34.3	
	comp=Z,468nm,21.0s,baz=241,slow=33								
MAW	Mawson	37.07	141	P		P		05 24 15.8	+0.1
MAW								05 26 35.4	
MAW	Mawson	37.07	141	P		P		05 24 15.8	+0.1
MAW				PcP		PcP		05 26 35.4	+0.7
SPB	Sao Paulo	38.96	329	*e*P		P		05 24 32.9	+0.9
	comp=Z,70nm,1.1s								
CAM4	Nova Friburgo	39.02	336	*i*P		P		05 24 36.6	+3.8
CAM4				*i*				05 24 41.8	
CAM4				*i*				05 24 44.3	
CAM4				*i*				05 24 50.3	
CAM4				*i*				05 25 04.6	
CAM4				*i*				05 25 26.8	
CFAA	Coronel Fontan	39.34	297	P		P		05 24 35.4	+0.1
	comp=Z,5.1nm,0.5s,baz=155,slow=7.0,SNR=149								
CFAA				PcP		PcP		05 26 41.8	-0.7
	comp=Z,1.1nm,0.6s,baz=148,slow=3.8,SNR=5.0								
CFAA	Coronel Fontan	39.34	297	P

DBIC pmax pmax
comp=Z,44nm,0.9s
DBIC Dimbokro 68.48 23 *e*P **P 05 28 07.7 +0.1**
comp=Z,44nm,0.9s
OTAV Otavalo 71.93 304 *e*P **P 05 28 29.4 +0.1**
comp=Z,11nm,1.0s
ROSC El Rosal 74.47 310 P **P 05 28 44.1 -0.1**
comp=Z,19nm,0.8s,baz=138,slow=3.9,SNR=24
ROSC LR LR 06 01 17.3
comp=Z,95nm,19.6s,baz=7.1,slow=36
ROSC El Rosal 74.47 310 *e*P **P 05 28 43.9 -0.3**
BBTS Babate 74.63 10 P **P 05 28 45.1 +0.7**
comp=Z,24nm,0.8s,baz=300,slow=3.6,SNR=4.8
BBTS Babate 74.63 10 P **P 05 28 45.1 +0.7**
RPZ Rata Peaks 75.83 193 P **P 05 28 52.1 +0.8**
comp=Z,16nm,0.8s,baz=0.4,slow=10,SNR=4.4
RPZ Rata Peaks 75.83 193 P **P 05 28 52.1 +0.8**
KMBO Kilima Mbogo 76.21 68 *e*P P 05 28 58.3 +4.3
KMBO Kilima Mbogo 76.21 68 *e*P **P 05 28 56.8 +2.8**
comp=Z,12nm,1.3s
TORD Torodi Ar. Bea 76.21 29 P **P 05 28 54.1 +0.5**
comp=Z,65nm,0.3s,baz=198,slow=6.3,SNR=2242
TORD LR LR 05 54 19.9
comp=Z,156nm,20.4s,baz=165,slow=29
TORD Torodi Ar. Bea 76.21 29 P **P 05 28 54.1 +0.5**
SDV Santo Domingo 76.81 315 *e*P **P 05 28 56.2 -1.1**
comp=Z,41nm,0.8s
SNZO South Karori 77.73 196 *e*P **P 05 29 02.6 +0.7**
comp=Z,48nm,0.6s
RKT Rikitea 78.97 243 *e*LR LR 05 53 37.3
comp=Z,784nm,32.2s
URZ Urewera 80.35 199 *e*P **P 05 29 16.7 +0.5**
comp=Z,18nm,0.7s
TOO Toolangi 82.80 174 *e*P **P 05 29 28.7 -0.6**
comp=Z,60nm,0.8s
NWAO Narrogin (SRO) 82.98 150 *e*P **P 05 29 29.3 -0.9**
NWAO pmax pmax
comp=Z,19nm,0.9s
NWAO Narrogin (SRO) 82.98 150 *e*P **P 05 29 29.3 -0.9**
comp=Z,18nm,0.9s
JTS JuntasAbangare 83.71 303 *e*P **P 05 29 33.2 -0.9**
JTS pmax pmax
comp=Z,20nm,1.0s
JTS JuntasAbangare 83.71 303 *e*P **P 05 29 33.2 -0.9**
comp=Z,20nm,1.0s
STVI Saint Thomas 83.81 324 *e*P **P 05 29 32.8 -1.6**
comp=Z,46nm,0.8s
OUZ Omahuta 83.87 197 *e*P **P 05 29 34.7 0.0**
comp=Z,41nm,1.0s
KLBR Kellerberrin 84.38 150 *e*P **P 05 29 36.7 -0.7**
comp=Z,22nm,0.9s
TBI Tubuai 84.91 231 *e*LR LR 05 56 23.6
comp=Z,94nm,35.0s
BLDU Ballidu 85.04 149 *e*P **P 05 29 40.0 -0.8**
CNB Canberra Magne 85.21 177 *e*P **P 05 29 41.4 -0.2**
comp=Z,42nm,0.7s
YNG Young 86.19 176 *e*P **P 05 29 46.3 -0.1**
comp=Z,6.5nm,0.7s
TAM Tamanrasset 86.42 30 *e*P **P 05 29 49.3 +1.7**
TAM pmax pmax
comp=Z,28nm,1.4s
TAM Tamanrasset 86.42 30 *e*P **P 05 29 49.3 +1.7**
comp=Z,28nm,1.4s
FORT Forrest 87.42 159 *e*P **P 05 29 52.4 0.0**
comp=Z,52nm,0.7s
FORT Forrest 87.42 159 *e*P **P 05 29 52.1 -0.3**
comp=Z,56nm,0.7s
STKA Stephens Creek 88.19 170 P **P 05 29 56.0 -0.1**
comp=Z,22nm,1.0s,baz=161,slow=5.7,SNR=34
STKA LR LR 06 08 29.8
comp=Z,258nm,18.1s,baz=202,slow=35
STKA Stephens Creek 88.19 170 *e*P **P 05 29 55.7 -0.4**
comp=Z,13nm,0.8s
STKA Stephens Creek 88.19 170 *e*P **P 05 29 55.6 -0.4**
STKA pmax pmax
comp=Z,6.0nm,1.1s
STKA Stephens Creek 88.19 170 *e*P **P 05 29 55.6 -0.4**
comp=Z,5.7nm,1.1s
PPT2 Papeete2 90.14 233 *e*LR LR 05 58 50.5
comp=Z,261nm,24.0s
QLP Quilpie 93.65 172 *e*P **P 05 30 21.1 -0.4**
TAOE Nuku Hiva Isla 93.81 245 *e*LR LR 06 00 31.6
comp=Z,502nm,30.1s
TEIG Tepich 94.00 304 LR LR 06 13 06.5
comp=Z,83nm,19.8s,baz=76,slow=36
ASAR Alice Springs 95.37 162 P **P 05 30 28.6 -0.8**
comp=Z,12nm,0.7s,baz=182,slow=4.0,SNR=132
ASAR PP **PP 05 34 20.9 +1.3**
comp=Z,1.3nm,0.8s,baz=186,slow=7.5,SNR=7.0
ASAR PKKP **PKKPbc 05 47 19.4 +0.8**
comp=Z,0.7nm,0.6s,baz=6.1,slow=2.5,SNR=9.3
ASAR Alice Springs 95.37 162 P **P 05 30 28.7 -0.8**
ASAR 05 34 21.0
ASAR Alice Springs 95.37 162 P **P 05 30 28.6 -0.8**
ASAR PP **PP 05 34 20.9 +1.3**
ASAR PKKP **PKKPbc 05 47 19.4 +0.8**
AS31 Alice Springs 95.37 162 *e*P **P 05 30 28.3 -1.2**
WRA Warramunga Arr 99.09 162 P **Pdif 05 30 45.0 -1.3**
comp=Z,2.3nm,0.8s,baz=195,slow=4.2,SNR=17
WRA PP **PP 05 34 47.5 -0.8**
comp=Z,1.7nm,1.1s,baz=194,slow=6.3,SNR=4.5
WRA PKiKP **PKiKP 05 35 15.8 -0.5**
comp=Z,0.6nm,0.7s,baz=226,slow=1.3,SNR=4.7
WRA PKKP **PKKPdf 05 47 09.7 -1.1**
comp=Z,0.9nm,0.5s,baz=353,slow=2.8,SNR=14
WRA LR LR 06 13 21.2
comp=Z,251nm,20.5s,baz=195,slow=34
WRA Warramunga Arr 99.09 162 P **Pdif 05 30 45.0 -1.3**
WRA 05 34 47.5
WRA Warramunga Arr 99.09 162 P **Pdif 05 30 45.0 -1.3**
WRA PP **PP 05 34 47.5 -0.8**
WRA PKiKP **PKiKP 05 35 15.8 -0.5**
WRA PKKP **PKKPdf 05 47 09.7 -1.1**
WRAB Tennant Creek 99.10 162 *e*P **Pdif 05 30 45.0 -1.3**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WRAB Tennant Creek 99.10 162 *e*P **Pdif 05 30 45.0 -1.3**
comp=Z,5.1nm,1.0s
FITZ Fitzroy Crossi 99.22 154 LR LR 06 10 28.8
comp=Z,72nm,19.1s,baz=175,slow=32
KEST Kesra 99.73 29 LR LR 06 08 04.9
comp=Z,58nm,21.7s,baz=297,slow=31
ESDC Sonseca Array 100.86 18 P **Pdif 05 30 54.0 +0.4**
comp=Z,2.2nm,0.9s,baz=193,slow=4.6,SNR=5.2
ESDC Sonseca Array 100.86 18 P **Pdif 05 30 54.0 +0.4**
TXAR Lajitas Array 108.67 296 PKiKP **PKiKP 05 35 33.0 -0.4**
comp=Z,0.3nm,0.6s,baz=144,slow=3.2,SNR=3.9
TXAR PKKPbc **PKKPbc 05 46 40.0 -0.6**
comp=Z,0.8nm,0.7s,baz=271,slow=1.7,SNR=9.1
TXAR Lajitas Array 108.67 296 PKiKP **PKiKP 05 35 33.0 -0.4**
TXAR PKKPbc **PKKPbc 05 46 40.0 -0.6**
GERES GERESS Array B 113.16 28 PKiKP **PKiKP 05 35 40.5 -0.8**
comp=Z,0.8nm,0.8s,baz=207,slow=2.4,SNR=7.7
GERES GERESS Array B 113.16 28 PKiKP **PKiKP 05 35 40.5 -0.8**
GERES GERESS Array B 113.16 28 PKiKP **PKiKP 05 35 40.5 -0.8**
121A Cookes Peak, D 113.25 295 ⇑P **PKiKP 05 35 41.5 -0.7**
baz=113
W27A Bowe Ranch, En 113.26 300 ⇑P **PKiKP 05 35 41.2 -0.8**
baz=114
Y24A Capitan 113.36 297 ⇓P **PKiKP 05 35 41.4 -0.9**
baz=114
W24A Lazy 6 Ranch, 114.42 298 ⇓P PKPdf 05 35 43.6 -0.8
baz=115
Y20A Horse Springs, 114.67 295 ⇑P PKPdf 05 35 44.2 -0.7
baz=115
U25A Circle Dot Ran 114.97 300 ⇑P PKPdf 05 35 43.9 -1.5
baz=115
CLL Collm 115.30 26 *i* PKiKP **PKPdf 05 35 43.7 -1.5**
T25A Trinidad 115.59 300 ⇑P **PKPdf 05 35 45.3 -1.2**
baz=116
V22A San Miguel Ran 115.68 297 ⇓P **PKPdf 05 35 45.4 -1.4**
baz=116
R27A Eads 115.85 302 ⇓P **PKPdf 05 35 45.2 -1.7**
baz=116
S25A Robets Cordova 116.04 300 ⇑P **PKPdf 05 35 45.5 -1.9**
baz=116
SOC Sochi 116.48 48 *i* PKiKP **PKPdf 05 35 48.6 +0.9**
SOC *e* 05 36 57.1
SOC *e*PS PS 05 46 34.7 -3.5
R24A Sanders Place, 116.80 300 ⇓P **PKPdf 05 35 48.1 -0.7**
baz=117
Y14A Wickenburg 116.85 292 ⇓P **PKPdf 05 35 47.8 -1.0**
baz=117
V18A Ganado 116.88 295 ⇓P **PKPdf 05 35 48.6 -0.5**
baz=117
Q25A Bedland, Calha 117.00 301 ⇑P **PKPdf 05 35 48.1 -1.1**
baz=117
U19A Dine' College, 117.03 296 ⇑P **PKPdf 05 35 48.6 -0.8**
baz=117
R23A Moffat 117.09 300 ⇓P **PKPdf 05 35 49.0 -0.5**
baz=117
V17A Tonalea, Kykot 117.20 294 ⇑P **PKPdf 05 35 48.6 -1.0**
baz=117
T19A Beclabito 117.39 296 ⇓P **PKPdf 05 35 49.2 -0.8**
baz=118
U18A Rough Rock, Ch 117.44 296 ⇑P **PKPdf 05 35 49.3 -0.8**
baz=118
MVCO Mesa Verde 117.47 297 ⇑P **PKPdf 05 35 49.2 -1.0**
baz=118
S21A Coal Bank Pass 117.52 298 ⇓P **PKPdf 05 35 49.7 -0.7**
baz=118
PDMCI Parker Dam,Lak 117.68 291 ⇑P **PKPdf 05 35 49.0 -1.3**
baz=118
U16A Tuba City 117.79 294 ⇑P **PKPdf 05 35 49.9 -0.8**
baz=118
T18A Mexican Hat 118.03 296 ⇓P **PKPdf 05 35 50.5 -0.6**
baz=118
Q22A Crested Butte, 118.12 299 ⇑P **PKPdf 05 35 50.8 -0.7**
baz=118
S19A Harvey Farm, M 118.19 297 ⇑P **PKPdf 05 35 50.6 -0.9**
baz=118
W13A Hualapai Mount 118.22 292 ⇓P **PKPdf 05 35 50.8 -0.9**
baz=118
T17A Navajo Res., N 118.34 295 ⇓P **PKPdf 05 35 51.7 -0.1**
baz=118,SNR=14
Q21A Lamborn Mesa, 118.39 299 ⇓P **PKPdf 05 35 51.4 -0.4**
baz=119
S18A Hurst Farm, Bl 118.54 296 ⇓P **PKPdf 05 35 50.6 -1.7**
baz=119
SCHQ Schefferville 118.65 335 PKP **PKPdf 05 35 50.4 -1.2**
comp=Z,2.2nm,0.4s,baz=145,slow=3.4,SNR=16
SCHQ Schefferville 118.65 335 PKP **PKPdf 05 35 50.4 -1.2**
R19A Curley Farm, L 118.70 297 ⇓P **PKPdf 05 35 51.6 -0.8**
baz=119,SNR=7.5
R18A Canyonlands Na 119.06 297 ⇑P **PKPdf 05 35 51.7 -1.5**
baz=119
AKASG Malin Array Be 119.06 37 PKP **PKPdf 05 35 50.8 -1.6**
comp=Z,1.9nm,0.5s,baz=232,slow=2.0,SNR=9.4
AKASG PP **PP 05 37 09.7 -4.4**
comp=Z,0.9nm,0.6s,baz=210,slow=7.4,SNR=4.7
AKASG Malin Array Be 119.06 37 PKIKP **PKPdf 05 35 50.8 -1.6**
AKASG Malin Array Be 119.06 37 PKP **PKPdf 05 35 50.8 -1.6**
AKASG PP **PP 05 37 09.7 -4.4**
L26A Underwood Farm 119.09 304 ⇓P **PKPdf 05 35 52.3 -0.7**
baz=119
Q19A Hogan Spring (119.24 298 ⇓P **PKPdf 05 35 52.6 -0.8**
baz=119,SNR=7.3
P20A De Beque 119.30 299 ⇓P **PKPdf 05 35 52.9 -0.7**
baz=120
R17A Hanksville Air 119.46 296 ⇑P **PKPdf 05 35 52.7 -1.1**
baz=120,SNR=5.4
N22A Wattenberg Ran 119.51 301 ⇑P **PKPdf 05 35 53.2 -0.8**
baz=120
P19A Cripple Cowboy 119.67 298 ⇑P **PKPdf 05 35 53.3 -1.0**
baz=120
R16A Teasdale 119.70 296 ⇑P **PKPdf 05 35 53.8 -0.6**
baz=120,SNR=12
O20A White River Ci 119.75 299 ⇓P **PKPdf 05 35 53.3 -1.1**
baz=120,SNR=5.5
SRU San Rafael 119.94 297 ⇓P **PKPdf 05 35 53.6 -1.2**
baz=120,SNR=5.1
N21A Black Mountain 119.94 300 ⇑P **PKPdf 05 35 54.5 -0.4**
baz=120
EDW2 Edwards Air Fo 119.99 288 ⇓P **PKPdf 05 35 54.4 -0.4**
baz=120
Q16A Castle Valley 120.07 296 ⇑P **PKPdf 05 35 54.7 -0.4**
baz=120
MSU Marysvale 120.20 295 *e*PKIKP **PKPdf 05 35 55.1 -0.3**
MSU Marysvale 120.20 295 *e*PKPdf **PKPdf 05 35 55.1 -0.3**
P18A Preston Nutter 120.23 297 ⇑P **PKPdf 05 35 54.9 -0.6**
baz=120,SNR=5.6
O19A Miners Draw (B 120.27 299 ⇓P **PKPdf 05 35 54.4 -0.9**
baz=120,SNR=5.4
N20A Spence Gulch, 120.33 300 ⇓P **PKPdf 05 35 54.8 -0.7**
baz=120
M21A Separation Pea 120.56 301 ⇓P **PKPdf 05 35 54.7 -1.3**
baz=121
O18A Roosevelt 120.64 298 ⇑P **PKPdf 05 35 55.6 -0.5**
baz=121
MPMC Manual Prospec 120.70 290 ⇓P **PKPdf 05 35 55.8 -0.6**
baz=121
R13A O'Grain Ranch, 120.76 294 ⇓P **PKPdf 05 35 56.3 -0.1**
baz=121
ISA Isabella 120.85 289 ⇓P **PKPdf 05 35 56.5 0.0**
baz=121
L21A Rawlins 120.86 301 ⇑P **PKPdf 05 35 55.3 -1.2**
baz=121
PKM Peak Mountain 120.88 287 ⇑P **PKPdf 05 35 56.7 0.0**
baz=121
O17A Robinson Place 120.91 297 ⇓P **PKPdf 05 35 56.3 -0.4**
baz=121,SNR=11
K22A Casper 121.05 302 ⇓P **PKPdf 05 35 55.8 -1.0**
baz=121
P15A Leamington 121.10 296 ⇑P **PKPdf 05 35 56.3 -0.6**
baz=121
VES Vestal, Richgr 121.29 288 ⇑P **PKPdf 05 35 56.8 -0.4**
baz=122
L20A Wamsutter 121.31 300 ⇑P **PKPdf 05 35 56.5 -0.9**
baz=122
K21A Accova 121.35 302 ⇓P **PKPdf 05 35 56.5 -0.9**
baz=122
R11A Troy Canyon, C 121.65 293 ⇓P **PKPdf 05 35 57.2 -0.9**
baz=122
J22A Midwest 121.65 303 ⇑P **PKPdf 05 35 56.0 -1.9**
baz=122
K20A Yellowstone Ra 121.84 301 ⇓P **PKPdf 05 35 56.5 -1.9**
baz=122
DUG Dugway 121.85 296 *e*PKIKP **PKPdf 05 35 57.4 -1.0**
DUG Dugway 121.85 296 *e*PKPdf **PKPdf 05 35 57.4 -1.0**
DUG Dugway 121.85 296 ⇓P **PKPdf 05 35 57.8 -0.6**
baz=122,SNR=6.9
H24A Dirks Ranch, A 121.92 305 ⇓P **PKPdf 05 35 56.6 -1.7**
baz=122,SNR=9.1
J21A Lysite 122.01 302 ⇓P **PKPdf 05 35 57.1 -1.6**
baz=122
K19A Absolon Red Bu 122.20 301 ⇓P **PKPdf 05 35 57.3 -1.7**
baz=122,SNR=5.9
J20A Shoshoni 122.29 301 ⇑P **PKPdf 05 35 57.9 -1.2**
baz=122,SNR=7.2
I21A Big Trails, Te 122.32 302 ⇓P **PKPdf 05 35 57.3 -1.9**
baz=122
HWUT Hardware Ranch 122.42 298 *e*PKPdf **PKPdf 05 35 58.4 -1.1**
PDAR Pinedale Array 122.46 300 PKP **PKPdf 05 35 58.0 -1.6**
comp=Z,1.7nm,0.6s,baz=123,slow=5.4,SNR=17
PDAR SKKP 05 49 53.7
comp=Z,1.2nm,1.1s,baz=218,slow=3.6,SNR=4.2
PDAR Pinedale Array 122.46 300 PKP **PKPdf 05 35 58.0 -1.6**
PDAR SKKP 05 49 53.7
BW06 Boulder Array 122.46 300 ⇑P **PKPdf 05 35 57.8 -1.8**
baz=123
BW06 ⇑P **PKPdf 05 35 57.8 -1.8**
baz=123
L17A Cokeville 122.50 299 ⇓P **PKPdf 05 35 58.2 -1.4**
baz=123
K18A Toltan Ranch, 122.57 300 ⇓P **PKPdf 05 35 58.2 -1.6**
baz=123
J19A Crowheart 122.64 301 ⇑P **PKPdf 05 35 58.3 -1.5**
baz=123,SNR=5.4
L16A Fish Haven 122.69 298 ⇑P **PKPdf 05 35 58.9 -1.2**
baz=123,SNR=7.1
VSR Storozhevoye 122.74 43 *e*PKIKP **PKPdf 05 35 58.2 -1.3**
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.4s
VSR pmax pmax
comp=Z,8.0nm,0.4s
I20A Worland 122.79 302 ⇑P **PKPdf 05 35 58.6 -1.4**
baz=123
NVAR Mina Array Bea 122.99 291 PKP **PKPdf 05 36 00.8 0.0**
comp=Z,2.7nm,0.7s,baz=138,slow=3.2,SNR=25
NVAR PKKPab **PKKPab 05 45 53.5 +2.5**
comp=Z,0.3nm,0.6s,baz=227,slow=3.5,SNR=3.9
NVAR Mina Array Bea 122.99 291 PKP **PKPdf 05 36 00.8 0.0**
NVAR PKKPab **PKKPab 05 45 53.5 +2.5**
J18A Kendall Valley 123.02 300 ⇑P **PKPdf 05 35 59.4 -1.3**
baz=123,SNR=5.3
G22A Birney 123.03 304 ⇓P **PKPdf 05 35 59.3 -1.2**
baz=123
K17A Gardner Place, 123.05 299 ⇑P **PKPdf 05 35 59.9 -0.8**
baz=123,SNR=7.6
ULM Lac du Bonnet 123.05 314 PKP **PKPdf 05 35 58.4 -1.8**
comp=Z,7.9nm,0.7s,baz=141,slow=1.6,SNR=18
ULM PKKPbc **PKKPbc 05 45 51.5 +0.9**
comp=Z,0.6nm,0.5s,baz=8.1,slow=2.8,SNR=3.5
ULM Lac du Bonnet 123.05 314 PKIKP **PKPdf 05 35 58.4 -1.8**
ULM Lac du Bonnet 123.05 314 PKP **PKPdf 05 35 58.4 -1.8**
ULM PKKPbc **PKKPbc 05 45 51.5 +0.9**
L15A Malad City 123.10 297 ⇓P **PKPdf 05 36 00.1 -0.7**
baz=123,SNR=7.8
H20A Greybull 123.17 302 ⇓P **PKPdf 05 35 58.9 -1.8**
baz=123
I18A Diamond G Ranc 123.32 301 ⇑P **PKPdf 05 35 59.7 -1.6**
baz=124,SNR=9.8
J17A Brown Place, J 123.44 300 ⇓P **PKPdf 05 36 00.6 -0.9**
baz=124
CM31 Chiang Mai Arr 123.49 112 *e*PKPdf **PKPdf 05 36 01.7 -0.3**
CMAR Chiang Mai Arr 123.49 112 PKP **PKPdf 05 36 01.9 -0.1**
comp=Z,17nm,0.8s,baz=232,slow=3.8,SNR=63
CMAR Chiang Mai Arr 123.49 112 PKIKP **PKPdf 05 36 01.9 -0.1**
CMAR Chiang Mai Arr 123.49 112 PKP **PKPdf 05 36 01.9 -0.1**
VRHR Novokhopersk 123.50 45 *e*PKIKP **PKPdf 05 36 00.4 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,3.0nm,0.3s
VRHR pmax pmax
comp=E,7.0nm,0.6s
L14A Malta 123.51 297 ⇑P **PKPdf 05 36 01.1 -0.5**
baz=124
K15A Arbon 123.71 298 ⇑P **PKPdf 05 36 01.6 -0.3**
baz=124,SNR=7.2
H19A Powell 123.74 302 ⇓P **PKPdf 05 36 00.8 -1.0**
baz=124
D24A Glendive 123.75 307 ⇑P **PKPdf 05 36 01.1 -0.6**
baz=124
J16A Bone 123.77 299 ⇓P **PKPdf 05 36 01.0 -1.0**
baz=124
KOLN Koldanda 123.77 92 *e*P **PKPdf 05 36 01.6 -1.0**
comp=E,27nm,0.6s
KOLN Koldanda 123.77 92 *e*P **PKPdf 05 36 01.6 -1.0**
CHTO Chiang Mai 123.80 112 *e*PKIKP **PKPdf 05 36 02.3 -0.3**
CHTO Chiang Mai 123.80 112 *e*PKPdf **PKPdf 05 36 02.3 -0.3**
I17A Pilgrim Ck. 123.83 300 ⇑P **PKPdf 05 36 01.9 -0.2**
baz=124,SNR=6.3
G20A Bridger 123.84 303 ⇓P **PKPdf 05 36 00.9 -1.2**
baz=124
K14A Jones Ranch, D 123.89 297 ⇑P **PKPdf 05 36 02.1 -0.1**
baz=124,SNR=7.1
FLWY Flagg Ranch 124.01 300 *e*PKPdf **PKPdf 05 36 01.9 -0.6**
NB2 NORSAR Subarra 124.01 21 PKPdf **PKPdf 05 36 00.8 -0.9**
comp=Z,11nm,1.0s,baz=202,slow=1.9
NB2 NORSAR Subarra 124.01 21 PKPdf **PKPdf 05 36 00.8 -0.9**
baz=202,slow=1.9
NOA NORSAR Array B 124.01 21 PKP **PKPdf 05 36 01.3 -0.4**
comp=Z,11nm,0.8s,baz=193,slow=1.7,SNR=27
NOA NORSAR Array B 124.01 21 PKIKP **PKPdf 05 36 01.3 -0.4**
NOA NORSAR Array B 124.01 21 PKP **PKPdf 05 36 01.3 -0.4**
H18A Shoshone NF, C 124.03 301 ⇑P **PKPdf 05 36 00.8 -1.8**
baz=124
C24A Savage 124.12 307 ⇓P **PKPdf 05 36 01.3 -1.1**
baz=124
RLMT Red Lodge 124.22 302 ⇓P **PKPdf 05 36 01.5 -1.4**
baz=124
RLMT ⇓P **PKPdf 05 36 01.5 -1.4**
baz=124
J15A Blackfoot 124.23 298 ⇑P **PKPdf 05 36 02.0 -0.8**
baz=124
DANN Dangsing 124.33 92 *e*P **PKPdf 05 36 02.7 -1.0**
comp=Z,61nm,0.7s
DANN Dangsing 124.33 92 *e*P **PKPdf 05 36 02.7 -1.0**
DMN Daman 124.40 94 *e*P **PKPdf 05 36 03.1 -0.7**
comp=Z,40nm,0.8s
DMN Daman 124.40 94 *e*P **PKPdf 05 36 03.1 -0.7**
GKN Gorkha 124.49 93 *e*P **PKPdf 05 36 02.9 -1.0**
comp=Z,36nm,0.6s
GKN Gorkha 124.49 93 *e*P **PKPdf 05 36 02.9 -1.0**
PKI Pulchoki 124.52 94 *e*P **PKPdf 05 36 03.2 -1.0**
comp=Z,42nm,0.7s
PKI Pulchoki 124.52 94 *e*PKIKP **PKPdf 05 36 03.2 -1.0**
PKI Pulchoki 124.52 94 *e*P **PKPdf 05 36 03.2 -1.0**
D22A Cohagen 124.53 305 ⇓P **PKPdf 05 36 02.4 -0.8**
baz=125
YMR Madison River 124.59 300 *e*PKPdf **PKPdf 05 36 03.1 -0.5**
RAMN Ramite 124.61 95 *e*P **PKPdf 05 36 04.1 -0.1**
comp=Z,74nm,0.6s
RAMN Ramite 124.61 95 *e*P **PKPdf 05 36 04.1 -0.1**
KKN Kakani 124.64 94 *e*P **PKPdf 05 36 03.5 -0.7**
comp=Z,29nm,0.6s
KKN Kakani 124.64 94 *e*PKIKP **PKPdf 05 36 03.5 -0.7**
KKN Kakani 124.64 94 *e*P **PKPdf 05 36 03.5 -0.7**
J14A Carey 124.66 298 ⇑P **PKPdf 05 36 03.1 -0.6**
baz=125
I15A Monteview 124.73 299 ⇑P **PKPdf 05 36 04.0 +0.2**
baz=125,SNR=5.0
D21A La Casta Ranch 124.80 305 ⇑P **PKPdf 05 36 03.0 -0.7**
baz=125
E20A Meyer Farm, Mu 124.83 304 ⇑P **PKPdf 05 36 02.9 -0.9**
baz=125,SNR=5.7
C22A Vida 124.89 306 ⇓P **PKPdf 05 36 02.8 -1.0**
baz=125
ODAN Odare 124.94 96 *e*P **PKPdf 05 36 04.7 -0.2**
comp=Z,46nm,0.6s
ODAN Odare 124.94 96 *e*P **PKPdf 05 36 04.7 -0.2**
JIRN Jiri 124.99 95 *e*P **PKPdf 05 36 04.7 -0.4**
comp=Z,88nm,0.6s
JIRN Jiri 124.99 95 *e*P **PKPdf 05 36 04.7 -0.4**
J13A Cove Ranch, Pi 125.01 297 ⇑P **PKPdf 05 36 04.5 +0.2**
baz=125,SNR=5.9
F18A Big Timber 125.03 302 ⇑P **PKPdf 05 36 03.6 -0.7**
baz=125,SNR=8.0
GUN Gumba 125.04 94 *e*P **PKPdf 05 36 04.6 -0.6**
comp=Z,50nm,0.7s
GUN Gumba 125.04 94 *e*P **PKPdf 05 36 04.6 -0.6**
E19A Rath Farm, Rou 125.07 303 ⇑P **PKPdf 05 36 02.7 -1.5**
baz=125
I14A Mackay 125.11 298 ⇑P **PKPdf 05 36 04.9 +0.3**
baz=125,SNR=11
HLID Hailey 125.25 297 ⇑P **PKPdf 05 36 04.9 +0.1**
baz=125
H15A Lima 125.29 299 ⇑P **PKPdf 05 36 04.8 -0.1**
baz=126
D20A Manuel Ranch, 125.30 304 ⇑P **PKPdf 05 36 03.9 -0.8**
baz=126
G16A Moss Hill, Enn 125.40 300 ⇑P **PKPdf 05 36 04.7 -0.4**
baz=126,SNR=13
F17A Fitzpatrick Pl 125.44 302 ⇑P **PKPdf 05 36 05.0 0.0**
baz=126,SNR=5.2
TAPN Taplejung 125.50 96 *e*P **PKPdf 05 36 05.6 -0.4**
comp=Z,22nm,0.7s
TAPN Taplejung 125.50 96 *e*P **PKPdf 05 36 05.6 -0.4**
H14A Leadore 125.61 299 ⇑P **PKPdf 05 36 05.5 0.0**
baz=126,SNR=15
E18A Harlowton 125.64 303 ⇓P **PKPdf 05 36 05.0 -0.4**
baz=126
G15A Dillon 125.65 300 ⇓P **PKPdf 05 36 05.4 -0.2**
baz=126
BOZ Bozeman (W) 125.65 301 ⇓P **PKPdf 05 36 05.0 -0.5**
baz=126
BOZ ⇓P **PKPdf 05 36 05.0 -0.5**
baz=126
D19A Cripps Ranch, 125.67 304 ⇓P **PKPdf 05 36 04.6 -0.8**
baz=126,SNR=5.6
C20A Veseth Ranch, 125.73 305 ⇑P **PKPdf 05 36 04.5 -0.9**
baz=126
I12A Atlanta 125.75 297 ⇑P **PKPdf 05 36 05.7 -0.1**
baz=126
F16A Kennard Place, 125.76 301 ⇓P **PKPdf 05 36 05.8 +0.1**
baz=126,SNR=6.3
B21A Ellsworth Farm 125.89 306 ⇑P **PKPdf 05 36 05.4 -0.3**
baz=126
E17A Martinsdale 125.96 302 ⇓P **PKPdf 05 36 05.6 -0.5**
baz=126
H13A Challis 125.96 298 ⇓P **PKPdf 05 36 06.1 -0.1**
baz=126,SNR=7.3
SHL Shillong 126.11 101 *e*P **PKPdf 05 36 06.5 -0.6**
G14A Jackson 126.14 299 ⇓P **PKPdf 05 36 06.7 +0.1**
baz=126,SNR=14
LRM Limekiln Ridge 126.15 300 *e*PKPdf **PKPdf 05 36 06.4 -0.2**
F15A Butte 126.18 300 ⇓P **PKPdf 05 36 06.6 0.0**
baz=126,SNR=6.1
C19A Slack Wire Ran 126.19 304 ⇓P **PKPdf 05 36 05.9 -0.4**
baz=126
H12A Diamond D Ranc 126.22 298 ⇓P **PKPdf 05 36 06.6 0.0**
baz=126
A21A Bergtoll Ranch 126.30 306 ⇑P **PKPdf 05 36 05.8 -0.6**
baz=126,SNR=5.4
G13A Cobalt 126.36 299 ⇓P **PKPdf 05 36 06.2 -0.7**
baz=127
D17A Six Diamond Ra 126.42 302 ⇓P **PKPdf 05 36 06.2 -0.7**
baz=127
HRY Holter Researc 126.57 301 *e*PKPdf **PKPdf 05 36 07.0 -0.2**

D16A	**Dana Ranch, Ca**	**126.70**	**302**	⇑P		**PKPdf**	**05 36 07.2**	**-0.2**
	baz=127,SNR=7.3								
B19A	**Brinkman Farms**	**126.71**	**305**	⇑P		**PKPdf**	**05 36 07.1**	**-0.2**
	baz=127								
C17A	**Wharram Farm,**	**126.83**	**303**	⇓P		**PKPdf**	**05 36 06.8**	**-0.8**
	baz=127,SNR=8.3								
F13A	**Darby**	**126.95**	**299**	⇑P		**PKPdf**	**05 36 07.2**	**-0.8**
	baz=127								
A19A	**Klindworth Far**	**126.99**	**305**	⇑P		**PKPdf**	**05 36 07.5**	**-0.3**
	baz=127								
B18A	**Beardsley Farm**	**127.01**	**304**	⇓P		**PKPdf**	**05 36 06.9**	**-1.0**
	baz=127								
D15A	**Lincoln**	**127.13**	**301**	⇓P		**PKPdf**	**05 36 07.8**	**-0.4**
	baz=127,SNR=5.3								
CHMT	**Chamberlain Mo**	**127.35**	**301**	*e*PKPdf		**PKPdf**	**05 36 08.3**	**-0.5**
B17A	**L&G Farms, Che**	**127.36**	**303**	⇓P		**PKPdf**	**05 36 07.8**	**-0.8**
	baz=128,SNR=5.7								
C16A	**Fuhringer Ranc**	**127.38**	**302**	⇑P		**PKPdf**	**05 36 07.8**	**-0.9**
	baz=128,SNR=13								
FINES	**FINESS Array B**	**127.56**	**29**	PKP		**PKPdf**	**05 36 07.8**	**-0.6**
	comp=Z,15nm,0.7s,baz=242,slow=0.2,SNR=38								
FINES	**FINESS Array B**	**127.56**	**29**	PKIKP		**PKPdf**	**05 36 07.8**	**-0.6**
FINES	**FINESS Array B**	**127.56**	**29**	PKP		**PKPdf**	**05 36 07.8**	**-0.6**
MSO	**Missoula**	**127.58**	**300**	⇑P		**PKPdf**	**05 36 08.6**	**-0.5**
	baz=128								
D14A	**Greenough**	**127.58**	**301**	⇑P		**PKPdf**	**05 36 08.3**	**-0.8**
	baz=128								
C15A	**Salmond Ranch,**	**127.73**	**302**	⇑P		**PKPdf**	**05 36 08.2**	**-1.2**
	baz=128								
A17A	**Triple J Farms**	**127.82**	**304**	⇑P		**PKPdf**	**05 36 08.9**	**-0.5**
	baz=128,SNR=7.3								
SWMT	**Swartz Lake**	**128.13**	**301**	*e*PKPdf		**PKPdf**	**05 36 09.0**	**-1.1**
KAF	**Kangasniemi**	**128.19**	**29**	*e*PKIKP		**PKPdf**	**05 36 07.5**	**-2.1**
KAF	**Kangasniemi**	**128.19**	**29**	*e*pkp		**PKPdf**	**05 36 07.5**	**-2.1**
KAF	**Kangasniemi**	**128.19**	**29**	*e*pkp		**PKPdf**	**05 36 07.5**	**-2.1**
A16A	**West Butte Ran**	**128.20**	**303**	⇓P		**PKPdf**	**05 36 09.1**	**-1.2**
	baz=128,SNR=5.9								
C14A	**Swan Lake**	**128.22**	**301**	⇑P		**PKPdf**	**05 36 09.1**	**-1.2**
	baz=128								
D12A	**Red Ives Fores**	**128.37**	**299**	⇑P		**PKPdf**	**05 36 09.3**	**-1.3**
	baz=129								
JTMT	**Jette**	**128.43**	**301**	*e*PKPdf		**PKPdf**	**05 36 10.0**	**-0.7**
C13A	**Hot Springs**	**128.51**	**300**	⇑P		**PKPdf**	**05 36 09.1**	**-1.7**
	baz=129								
A15A	**Johnson Ranch,**	**128.71**	**303**	⇓P		**PKPdf**	**05 36 09.7**	**-1.5**
	baz=129								
BSMT	**Bassoo Peak**	**128.73**	**300**	*e*PKPdf		**PKPdf**	**05 36 10.5**	**-0.8**
QIZ	**Qiongzhong**	**128.86**	**123**	PKP		**PKPdf**	**05 36 14.4**	**+2.1**
QIZ				PP		**PP**	**05 38 19.3**	**-0.4**
QIZ				SS		SS	05 55 37.6	+4.9
QIZ				AMB		AMB		
	comp=Z,130nm,4.7s								
C12B	**Naegeli Ranch,**	**128.93**	**300**	⇓P		**PKPdf**	**05 36 10.2**	**-1.3**
	baz=129								
B13A	**Whitefish**	**128.99**	**301**	⇑P		**PKPdf**	**05 36 10.5**	**-1.2**
	baz=129								
A14A	**Double T Ranch**	**129.00**	**302**	⇓P		**PKPdf**	**05 36 10.7**	**-1.0**
	baz=129,SNR=5.1								
ABKAR	**Akbulak array**	**129.25**	**58**	*e*PKPdf		**PKPdf**	**05 36 11.2**	**-0.8**
KSH	**Kashi**	**129.27**	**77**	*e*PKP		**PKPdf**	**05 36 11.6**	**-1.0**
KSH				*e*PKS		**PKSdf**	**05 39 46.8**	**-2.3**
KSH				*e*SKS		**SKSdf**	**05 43 17.9**	**0.0**
KSH				AMB		AMB		
	comp=Z,180nm,6.7s								
KSH				LR		LR		
	comp=N,250nm,6.9s								
KSH				LR		LR		
	comp=E,240nm,6.2s								
KSH				LR		LR		
	comp=Z,210nm,6.6s								
AKTO	**Aktyubinsk**	**129.33**	**55**	PKP		**PKPdf**	**05 36 11.6**	**-0.5**
	comp=Z,14nm,0.9s,baz=186,slow=2.6,SNR=37								
AKTO	**Aktyubinsk**	**129.33**	**55**	PKIKP		**PKPdf**	**05 36 11.6**	**-0.5**
AKTO	**Aktyubinsk**	**129.33**	**55**	PKP		**PKPdf**	**05 36 11.6**	**-0.5**
KKAR	**Karatay Array**	**129.37**	**70**	*e*PKIKP		**PKPdf**	**05 36 11.4**	**-1.1**
KKAR	**Karatay Array**	**129.37**	**70**	*e*PKPdf		**PKPdf**	**05 36 11.4**	**-1.1**
C11A	**Tepee Creek (N**	**129.37**	**299**	⇓P		**PKPdf**	**05 36 10.8**	**-1.6**
	baz=130								
JOF	**Joensuu**	**130.13**	**31**	*e*PKIKP		**PKPdf**	**05 36 10.8**	**-2.4**
JOF	**Joensuu**	**130.13**	**31**	*e*pkp		**PKPdf**	**05 36 10.8**	**-2.4**
JOF	**Joensuu**	**130.13**	**31**	*e*pkp		**PKPdf**	**05 36 10.8**	**-2.4**
AML	**Almayashu**	**130.16**	**73**	P		**PKPdf**	**05 36 14.2**	**-0.3**
	SNR=9.5								
AML				P		**PKPdf**	**05 36 14.2**	**-0.3**
	SNR=9.5								
EKS2	**Erkin-Say**	**130.60**	**73**	P		**PKPdf**	**05 36 14.8**	**-0.2**
	SNR=8.7								
EKS2				P		**PKPdf**	**05 36 14.8**	**-0.2**
	SNR=8.7								
EKS2	**Erkin-Say**	**130.60**	**73**	*e*PKIKP		**PKPdf**	**05 36 14.6**	**-0.4**
EKS2	**Erkin-Say**	**130.60**	**73**	*e*PKPdf		**PKPdf**	**05 36 14.6**	**-0.4**
KZA	**Kyzart**	**130.87**	**74**	P		**PKPdf**	**05 36 15.8**	**-0.1**
	SNR=9.1								
KZA				P		**PKPdf**	**05 36 15.8**	**-0.1**
	SNR=9.1								
AAK	**Ala-Archa**	**130.92**	**73**	P		**PKPdf**	**05 36 15.4**	**-0.2**
	SNR=10								
AAK				P		**PKPdf**	**05 36 15.4**	**-0.2**
	SNR=10								
AAK	**Ala-Archa**	**130.92**	**73**	*c i*PKIKP		**PKPdf**	**05 36 14.8**	**-0.9**
AAK	**Ala-Archa**	**130.92**	**73**	*e*PKPdf		**PKPdf**	**05 36 15.1**	**-0.6**
KMI	**Kunming**	**131.00**	**112**	PKP		**PKPdf**	**05 36 16.3**	**-0.1**
ETW	**Entiat**	**131.01**	**296**	*e*PKPdf		**PKPdf**	**05 36 14.9**	**-0.7**
USP	**Ospenovka**	**131.40**	**73**	P		**PKPdf**	**05 36 15.8**	**-0.6**
	SNR=6.6								
USP				P		**PKPdf**	**05 36 15.8**	**-0.6**
	SNR=6.6								
TKM2	**Tokmak 2**	**131.68**	**74**	P		**PKPdf**	**05 36 15.9**	**-1.2**
	SNR=5.4								
TKM2				P		**PKPdf**	**05 36 15.9**	**-1.2**
	SNR=5.4								
SUMG	**Summit**	**132.31**	**355**	*i* PKIKP		**PKPdf**	**05 36 16.7**	**-1.0**
SUMG				pmax		pmax		
	comp=Z,14nm,0.9s								
SUMG	**Summit**	**132.31**	**355**	*i* P		**PKPdf**	**05 36 16.7**	**-1.0**
	comp=Z,14nm,0.9s								
GYA	**Guiyang**	**133.96**	**115**	Pdif		**Pdif**	**05 33 21.0**	**-0.2**
GYA				PKP		**PKPdf**	**05 36 22.4**	**+0.5**
GYA				PP		**PP**	**05 38 56.9**	**+4.1**
GYA				PKS		**PKSdf**	**05 39 57.3**	**-1.1**
GYA				SKKS			05 45 46.0	
GYA				SS		**SS**	**05 56 41.8**	**+6.5**
GYA				AMB		AMB		
	comp=Z,130nm,7.9s								
GYA				LR		LR		
	comp=N,150nm,20.0s								
GYA				LR		LR		
	comp=E,120nm,21.2s								
GYA				LR		LR		
	comp=Z,130nm,20.9s								
ARCES	**ARCESS Array B**	**134.31**	**23**	PKhKP		PKPpre	05 36 04.9		
	comp=Z,7.5nm,1.1s,baz=218,slow=3.1,SNR=9.7								
ARCES				PKP		**PKPdf**	**05 36 20.8**	**-0.2**
	comp=Z,20nm,0.7s,baz=238,slow=1.4,SNR=31								
ARCES				SKPab		**SKPbc**	**05 39 43.3**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=213,slow=4.3,SNR=9.6								
ARCES	**ARCESS Array B**	**134.31**	**23**	PKHKP		PKPpre	05 36 04.9		
ARCES							05 36 20.8		
ARCES	**ARCESS Array B**	**134.31**	**23**	PKPpre		PKPpre	05 36 04.9		
ARCES				PKP		**PKPdf**	**05 36 20.8**	**-0.2**
ARCES				SKPab		**SKPbc**	**05 39 43.3**	**-1.0**
APA	**Apatity**	**134.42**	**28**	⇓*i*PKIKP		**PKPdf**	**05 36 20.0**	**-1.2**
SVE	**Sverdlovsk**	**135.07**	**51**	*e*PKIKP		**PKPdf**	**05 36 21.8**	**-1.0**
SVE				pmax		pmax		
	comp=Z,11nm,0.8s								
CD2	**Chengdu**	**136.35**	**109**	PKP		**PKPdf**	**05 36 26.3**	**+0.2**
CD2				PP		**PP**	**05 39 11.0**	**+3.2**
CD2				PKS		**PKSdf**	**05 40 01.3**	**-1.1**
CD2				SKS		**SKSdf**	**05 43 34.4**	**+3.6**
CD2				SKKS		**SKKSac**	**05 46 00.8**	**+4.8**
CD2				SS		**SS**	**05 57 10.4**	**+6.5**
CD2				AMB		AMB		
	comp=Z,310nm,7.1s								
CD2				LR		LR		
	comp=N,280nm,7.1s								
CD2				LR		LR		
	comp=Z,250nm,10.1s								
DAG	**Danmarks Havn**	**136.38**	**3**	*i* PKIKP		**PKPdf**	**05 36 23.2**	**-1.5**
DAG				pmax		pmax		
	comp=Z,11nm,0.8s								
DAG	**Danmarks Havn**	**136.38**	**3**	*i* P		**PKPdf**	**05 36 23.2**	**-1.5**
	comp=Z,111nm,0.8s								
BRVK	**Borovoye**	**136.49**	**60**	⇓*i*PKIKP		**PKPdf**	**05 36 25.1**	**-0.4**
BVAR	**Borovoye Array**	**136.51**	**61**	PKhKP		PKPpre	05 36 13.7		
	comp=Z,1.3nm,0.6s,baz=235,slow=3.7,SNR=10								
BVAR				PKP		**PKPdf**	**05 36 25.3**	**-0.3**
	comp=Z,8.1nm,0.7s,baz=209,slow=2.4,SNR=19								
BVAR	**Borovoye Array**	**136.51**	**61**	PKHKP		PKPpre	05 36 13.7		
BVAR							05 36 25.3		
BVAR	**Borovoye Array**	**136.51**	**61**	PKPpre		PKPpre	05 36 13.7		
BVAR				PKP		**PKPdf**	**05 36 25.3**	**-0.3**
MKAR	**Makanchi Array**	**137.76**	**75**	PKhKP		PKPpre	05 36 16.1		
	comp=Z,1.3nm,0.7s,baz=235,slow=3.9,SNR=14								
MKAR				PKP		**PKPdf**	**05 36 28.1**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=225,slow=1.4,SNR=15								
MKAR				SKPbc		**SKPbc**	**05 39 54.1**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=191,slow=1.5,SNR=2.5								
MKAR	**Makanchi Array**	**137.76**	**75**	PKHKP		PKPpre	05 36 16.1		
MKAR							05 36 28.1		
MKAR	**Makanchi Array**	**137.76**	**75**	PKPpre		PKPpre	05 36 16.1		
MKAR				PKP		**PKPdf**	**05 36 28.1**	**-0.1**
MKAR				SKPbc		**SKPbc**	**05 39 54.1**	**-1.6**
WMQ	**Urumqi**	**138.32**	**82**	*e*PKP		**PKPdf**	**05 36 30.9**	**+1.6**
WMQ				LR		LR		
	comp=N,92nm,18.5s								
WMQ				LR		LR		
	comp=Z,94nm,18.5s								
ENH	**Enshi**	**138.50**	**116**	*e*PKPdf		**PKPdf**	**05 36 30.6**	**+0.5**
KURK	**Kurchatov**	**138.70**	**68**	⇑*i*PKIKP		**PKPdf**	**05 36 31.8**	**+2.1**
YKA	**Yellowknife Ar**	**139.03**	**315**	PKhKP		PKPpre	05 36 18.5		
	comp=Z,0.4nm,0.5s,baz=133,slow=3.4,SNR=12								
YKA				PKP		**PKPdf**	**05 36 29.2**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=127,slow=2.4,SNR=80								
YKA				PP		**PP**	**05 39 20.1**	**-4.2**
	comp=Z,2.0nm,0.8s,baz=131,slow=5.7,SNR=11								
YKA				SKPbc		**SKPbc**	**05 39 56.3**	**-2.3**
	comp=Z,2.2nm,0.7s,baz=129,slow=3.0,SNR=8.8								
YKA				SKPab		**SKPab**	**05 40 05.8**	**-2.9**
	comp=Z,1.1nm,0.7s,baz=118,slow=4.8,SNR=4.3								
YKA	**Yellowknife Ar**	**139.03**	**315**	PKHKP		PKPpre	05 36 18.6		
YKA							05 36 29.2		
YKA	**Yellowknife Ar**	**139.03**	**315**	PKPpre		PKPpre	05 36 18.6		
YKA				PKP		**PKPdf**	**05 36 29.2**	**-0.7**
YKA				PP		**PP**	**05 39 20.1**	**-4.2**
YKA				SKPbc		**SKPbc**	**05 39 56.3**	**-2.3**
YKA				SKPab		**SKPab**	**05 40 05.8**	**-2.9**
LZH	**Lanzhou**	**140.59**	**104**	*e*PKP		**PKPdf**	**05 36 33.5**	**-0.4**
LZH				sPKP			05 36 41.0	
LZH				*e*PP		**PP**	**05 39 37.0**	**+2.7**
LZH				SKKS			05 46 27.0	
LZH				SS		**SS**	**05 58 00.0**	**+5.7**
LZH				AMB		AMB		
	comp=Z,130nm,7.9s								
LZH				LR		LR		
	comp=N,290nm,18.6s								
LZH				LR		LR		
	comp=E,200nm,17.8s								
LZH				LR		LR		
	comp=Z,240nm,20.3s								
GTA	**Gaotai**	**141.18**	**97**	PKP		PKPdf	05 36 28.8	-6.0	
GTA				PP		**PP**	**05 39 34.5**	**-3.4**	
GTA				SKKS			05 46 25.6		
GTA				SS		**SS**	**05 58 00.6**	**-0.5**	
GTA				AMB		AMB			
	comp=Z,150nm,6.4s								
GTA				LR		LR			
	comp=N,300nm,7.1s								
GTA				LR		LR			
	comp=E,170nm,7.1s								
GTA				LR		LR			
	comp=Z,220nm,7.6s								
DLBC	**Dease Lake**	**142.62**	**303**	PKhKP		PKPpre	05 36 31.6		
	comp=Z,4.9nm,1.1s,baz=254,slow=4.5,SNR=3.1								
DLBC				PKP		**PKPdf**	**05 36 37.5**	**+0.9**	
	comp=Z,1.0nm,0.4s,baz=211,slow=5.9,SNR=5.1								
DLBC	**Dease Lake**	**142.62**	**303**	PKPpre		PKPpre	05 36 31.6		
DLBC				PKP		**PKPdf**	**05 36 37.5**	**+0.9**	
JOW	**Kunigami**	**142.86**	**141**	PKhKP		PKPpre	05 36 34.7		
	comp=Z,10nm,0.7s,baz=280,slow=6.1,SNR=5.2								
JOW	**Kunigami**	**142.86**	**141**	PKPpre		PKPpre	05 36 34.7		
NVS	**Novosibirsk**	**143.49**	**66**	*i* PKIKP		PKPab	05 36 34.8	+0.2	
NVS				*e*			05 39 52.4		
NVS				pmax		pmax			
	comp=N,56nm,1.2s								
NVS				pmax		pmax			
	comp=E,41nm,1.2s								
NVS				pmax		pmax			
	comp=Z,170nm,1.2s								
ZAA0	**Zalesovo Array**	**143.69**	**68**	*e*PKPdf		PKPab	05 36 34.9	-0.6	
ZALV	**Zalesovo Beam**	**143.69**	**68**	PKhKP		PKPpre	05 36 35.2		
	comp=Z,44nm,0.5s,baz=233,slow=3.8,SNR=285								
ZALV				PP		**PP**	**05 39 56.7**	**+3.9**	
	comp=Z,2.5nm,1.0s,baz=249,slow=6.2,SNR=3.9								
ZALV	**Zalesovo Beam**	**143.69**	**68**	PKIKP		PKPab	05 36 35.3	-0.2	
ZALV							05 39 56.7		
ZALV	**Zalesovo Beam**	**143.69**	**68**	PKPpre		PKPpre	05 36 35.2		
ZALV				PP		**PP**	**05 39 56.7**	**+3.9**	
SSE	**Sheshan**	**144.22**	**129**	PKP		**PKPab**	**05 36 38.3**	**+0.1**	
BTO	**Baotou**	**147.14**	**106**	*e*PKPbc		**PKPbc**	**05 36 47.0**	**-0.4**	
HHC	**Hu-ho-hao-te**	**148.08**	**108**	*e*PKPbc		**PKPbc**	**05 36 49.9**	**0.0**	
HHC				PKS		**PKSdf**	**05 40 23.8**	**+2.1**	
HHC				PP		**PP**	**05 40 26.1**	**+7.2**	
HHC				SKS		**SKSdf**	**05 43 53.0**	**+4.2**	
HHC				SKKS		**SKKSac**	**05 47 10.5**	**+7.0**	
HHC				SS		**SS**	**05 59 26.4**	**+6.5**	
HHC				AMB		AMB			
	comp=Z,120nm,10.7s								
HHC				LR		LR			
	comp=N,170nm,19.0s								
HHC				LR		LR			
	comp=E,210nm,20.2s								
HHC				LR		LR			
	comp=Z,180nm,20.2s								
INK	**Inuvik**	**148.75**	**317**	PKPbc		**PKPbc**	**05 36 49.7**	**-0.9**	
	baz=184,slow=1.2								
INK	**Inuvik**	**148.75**	**317**	*e*PKIKP		**PKPdf**	**05 36 47.7**	**+1.0**	
INK							05 36 49.7		
INK	**Inuvik**	**148.75**	**317**	*e*PKPdf		**PKPdf**	**05 36 47.6**	**+1.0**	
INK				*e*PKPbc		**PKPbc**	**05 36 49.2**	**-1.4**	
INK				PKPbc		**PKPbc**	**05 36 49.7**	**-0.9**	
DAWY	**Dawson**	**149.34**	**307**	*e*PKPbc		**PKPbc**	**05 36 50.9**	**-1.4**	
JNU	**Nakatsue**	**149.52**	**141**	*e*PKPbc		**PKPbc**	**05 36 53.1**	**-0.6**	
BJT	**Baijiatuan**	**149.61**	**114**	*e*PKP2		**PKPbc**	**05 36 52.8**	**-0.8**	
BJT	**Baijiatuan**	**149.61**	**114**	*e*PKPbc		**PKPbc**	**05 36 52.8**	**-0.8**	
BJI	**Beijing**	**149.63**	**114**	PKPbc		**PKPdf**	**05 36 49.6**	**+0.6**	
BJI				SS		SS	05 59 43.6	+6.8	
BJI				LR		LR			
	comp=N,220nm,27.9s								
BJI				LR		LR			
	comp=E,230nm,27.2s								
BJI				LR		LR			
	comp=Z,55nm,24.4s								
MOY	**Mondy**	**150.21**	**82**	*e*PKIKP		**PKPbc**	**05 36 54.9**	**0.0**	
MOY				pmax		pmax			
	comp=Z,77nm,1.3s								
EGAK	**Eagle**	**150.32**	**308**	*e*PKPbc		**PKPbc**	**05 36 53.2**	**-1.4**	
EGAK				*e*PKPab		**PKPab**	**05 37 01.0**	**-0.3**	
SONM	**Songino Array**	**150.53**	**93**	PKPbc		**PKPbc**	**05 36 55.4**	**-0.4**	
	comp=Z,70nm,0.7s,baz=195,slow=1.4,SNR=12								
SONM				PKPab		**PKPab**	**05 37 02.2**	**-0.6**	
	comp=Z,14nm,0.7s,baz=234,slow=3.6,SNR=9.8								
SONM	**Songino Array**	**150.53**	**93**	PKIKP		**PKPbc**	**05 36 55.4**	**-0.4**	
SONM							05 37 02.2		
SONM	**Songino Array**	**150.53**	**93**	PKPbc		**PKPbc**	**05 36 55.4**	**-0.4**	
SONM				PKPab		**PKPab**	**05 37 02.2**	**-0.6**	
ZAK	**Zakamensk**	**150.59**	**86**	*e*PKIKP		**PKPdf**	**05 36 49.3**	**-1.0**	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZAK				pmax		pmax			
	comp=Z,51nm,1.1s								
MENT	**Mentasta**	**150.68**	**304**	*e*PKPbc		**PKPbc**	**05 36 55.0**	**-0.5**	
ULN	**Ulaanbaatar**	**150.88**	**93**	*e*PKIKP		**PKPbc**	**05 36 55.9**	**-0.7**	
ULN	**Ulaanbaatar**	**150.88**	**93**	*e*PKPbc		**PKPbc**	**05 36 55.9**	**-0.7**	
DOT	**Dot Lake**	**151.09**	**305**	*e*PKPbc		**PKPbc**	**05 36 56.2**	**-0.3**	
TLY	**Talaya**	**151.55**	**84**	*c i*PKIKP		**PKPbc**	**05 36 57.8**	**-0.1**	
TLY				pmax		pmax			
	comp=Z,35nm,1.0s								
TLY	**Talaya**	**151.55**	**84**	*e*PKPbc		**PKPbc**	**05 36 57.7**	**-0.2**	
IRK	**Irkutsk**	**152.19**	**84**	*e*PKIKP		**PKPbc**	**05 36 57.7**	**-1.6**	
IRK				pmax		pmax			
	comp=Z,41nm,1.0s								
SML	**Sawmill**	**152.23**	**300**	*e*PKIKP		**PKPbc**	**05 36 58.0**	**-1.1**	
SML	**Sawmill**	**152.23**	**300**	*e*PKPbc		**PKPbc**	**05 36 58.0**	**-1.1**	
KSAR	**Wonju Array Be**	**152.40**	**133**	PKIKP		**PKPdf**	**05 36 52.9**	**-0.4**	
KSAR							05 37 11.2		
KSAR	**Wonju Array Be**	**152.40**	**133**	PKP		**PKPdf**	**05 36 52.9**	**-0.4**	
KSAR				PKPbc		**PKPbc**	**05 37 00.1**	**-0.1**	
KSAR				PKPab		**PKPab**	**05 37 11.2**	**+0.5**	
KSRS	**Korea Array**	**152.42**	**133**	PKP		**PKPdf**	**05 36 52.9**	**-0.5**	
	comp=Z,1.1nm,0.7s,baz=191,slow=0.7,SNR=5.7								
KSRS				PKPbc		**PKPbc**	**05 37 00.1**	**-0.1**	
	comp=Z,15nm,0.9s,baz=193,slow=2.2,SNR=44								
KSRS				PKPab		**PKPab**	**05 37 11.2**	**+0.4**	
	comp=Z,11nm,0.8s,baz=206,slow=4.3,SNR=13								
KDAK	**Kodiak Island**	**152.49**	**290**	*i* PKIKP		**PKPbc**	**05 36 59.0**	**-0.7**	
RC01	**Rabbit Creek A**	**152.57**	**298**	*e*PKPbc		**PKPbc**	**05 36 59.7**	**-0.1**	
ILAR	**Eielson Array**	**152.63**	**306**	PKPbc		**PKPbc**	**05 36 59.0**	**-0.9**	
	comp=Z,20nm,0.9s,baz=291,slow=0.3,SNR=93								
ILAR	**Eielson Array**	**152.63**	**306**	PKIKP		**PKPbc**	**05 36 59.0**	**-0.9**	
ILAR	**Eielson Array**	**152.63**	**306**	PKPbc		**PKPbc**	**05 36 59.0**	**-0.9**	
COLA	**College**	**153.06**	**306**	*e*PKIKP		**PKPbc**	**05 36 59.1**	**-1.7**	
COLA				*e*			05 37 11.7		
COLA	**College**	**153.06**	**306**	*e*PKPbc		**PKPbc**	**05 36 59.1**	**-1.7**	
COLA				*e*PKPab		**PKPab**	**05 37 11.7**	**-0.9**	
MCK	**McKinley**	**153.16**	**303**	*e*PKIKP		**PKPbc**	**05 37 00.2**	**-0.9**	
MCK	**McKinley**	**153.16**	**303**	*e*PKPbc		**PKPbc**	**05 37 00.2**	**-0.9**	
COLD	**Coldfoot**	**154.55**	**311**	*e*PKPbc		**PKPbc**	**05 37 03.6**	**-0.4**	
COLD				*e*PKPab		**PKPab**	**05 37 18.4**	**-0.6**	
MAT	**Matsushiro**	**154.81**	**151**	PKP		**PKPbc**	**05 37 04.8**	**-0.7**	
MJAR	**Matsushiro Arr**	**154.81**	**151**	PKPbc		**PKPbc**	**05 37 05.1**	**-0.4**	
	comp=Z,4.8nm,0.8s,baz=194,slow=2.9,SNR=7.6								
MJAR				PKPab		**PKPab**	**05 37 20.4**	**-0.5**	
	comp=Z,4.1nm,0.7s,baz=190,slow=5.1,SNR=5.5								
MJAR	**Matsushiro Arr**	**154.81**	**151**	PKIKP		**PKPbc**	**05 37 05.1**	**-0.4**	
MJAR							05 37 20.4		
MJAR	**Matsushiro Arr**	**154.81**	**151**	PKPbc		**PKPbc**	**05 37 05.1**	**-0.4**	
MJAR				PKPab		**PKPab**	**05 37 20.4**	**-0.5**	
CN2	**Changchun**	**156.79**	**121**	*e*PKP		**PKPdf**	**05 36 58.5**	**-0.7**	
CN2				PKPab		**PKPab**	**05 37 28.6**	**-0.6**	
CN2				PP		PP	05 41 09.8	+1.7	
CN2				SKS		**SKSdf**	**05 44 02.6**	**+3.7**	
CN2				SS		SS	06 00 59.6	+4.6	
CN2				AMB		AMB			
	comp=Z,300nm,6.0s								
CN2				LR		LR			
	comp=N,500nm,20.0s								
CN2				LR		LR			
	comp=E,400nm,20.0s								
CN2				LR		LR			
	comp=Z,500nm,21.0s								
MDJ	**Mudanjiang**	**159.20**	**126**	PKP		**PKPdf**	**05 37 03.3**	**+1.2**	
BOD	**Bodaibo**	**159.79**	**78**	*e*PKIKP		**PKPdf**	**05 36 59.3**	**-3.0**	
BOD				*e*			05 37 39.7		
BOD				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BOD				pmax		pmax			
	comp=Z,11nm,1.2s								
USRK	**Ussuriysk Arra**	**159.80**	**131**	PKPab		**PKPab**	**05 37 41.3**	**-0.9**	
	comp=Z,2.5nm,0.7s,baz=150,slow=4.2,SNR=5.0								
KLR	**Kul'dur**	**163.75**	**121**	*e*PKP2		**PKPab**	**05 37 54.8**	**-4.6**	
YAK	**Yakutsk**	**168.34**	**69**	*e*PKP2		**PKPab**	**05 38 16.2**	**-3.2**	
YAK				pmax		pmax			
	comp=Z,18nm,0.8s								
PETK	**Petropavlovsk-**	**172.88**	**202**	PKP		**PKPdf**	**05 37 13.2**	**+0.5**	
	comp=Z,8.7nm,1.0s,baz=150,slow=3.2,SNR=3.8								
PETK				PKPab		**PKPab**	**05 38 39.5**	**-0.1**	
	comp=Z,10nm,0.7s,baz=150,slow=8.0,SNR=7.2								
PETK	**Petropavlovsk-**	**172.88**	**202**	PKIKP		**PKPdf**	**05 37 13.2**	**+0.5**	
PETK

	SNR=6.3							
CHMS				P		Pn	05 58 57.5	+1.2
	SNR=6.3							
USP	**Ospenovka**	**7.33**	**22**	P		Pn	05 58 58.6	+0.2
	SNR=16							
USP				P		Pn	05 58 58.6	+0.2
	SNR=16							
TKM2	**Tokmak 2**	**7.40**	**29**	P		Pn	05 59 00.4	+0.9
	SNR=39							
TKM2				P		Pn	05 59 00.4	+0.9
	SNR=39							
TKM2	**Tokmak 2**	**7.40**	**29**	⇓P		Pn	05 59 00.1	+0.7
	12nm,0.4s							
TKM2				⇑S		Sn	06 00 22.6	-0.5
	6.5nm,0.6s							
MKAR	**Makanchi Array**	**13.39**	**36**	P		Pn	06 00 17.1	+0.5
	0.1nm,0.3s,baz=217,slow=7.0,SNR=4.9							
DANN	**Dangsing**	**13.65**	**123**	*eP*		Pn	06 00 20.5	+0.2
	7.3nm,0.2s							
KOLN	**Koldanda**	**13.92**	**125**	*eP*		Pn	06 00 23.6	0.0
	8.2nm,0.4s							
GKN	**Gorkha**	**14.47**	**122**	*eP*		Pn	06 00 30.3	0.0
	22nm,0.4s							
AB31	**Akbulak array**	**14.98**	**332**	⇓P		Pn	06 00 35.5	-0.8
	1.1nm,0.3s,baz=145,slow=12,SNR=61							
PKI	**Pulchoki**	**15.27**	**122**	*eP*		Pn	06 00 39.9	-0.4
	34nm,0.6s							
KURK	**Kurchatov**	**15.28**	**19**	P		Pn	06 00 38.1	-1.8
	0.1nm,0.3s,baz=205,slow=11,SNR=8.1							
GUN	**Gumba**	**15.38**	**120**	*eP*		Pn	06 00 41.8	+0.1
	13nm,0.3s							
JIRN	**Jiri**	**15.76**	**120**	*eP*		Pn	06 00 46.4	+0.1
	40nm,0.4s							
VOSK	**Vostochnaya**	**16.21**	**0**	⇓P		Pn	06 00 52.4	+1.3
	1.1nm,0.6s							
RAMN	**Ramite**	**16.48**	**121**	*eP*		P	06 00 54.4	+0.2
	14nm,0.5s							
ZRNK	**Zerenda**	**16.49**	**356**	⇑P		P	06 00 55.0	+1.3
	1.4nm,0.5s							
BVA0	**Borovoye Array**	**16.52**	**359**	⇓P		Pn	06 00 55.7	+0.9
	0.2nm,0.5s,baz=176,slow=10,SNR=10							
BVAR	**Borovoye Array**	**16.52**	**359**	P		P	06 00 55.0	+0.9
	0.7nm,0.3s,baz=165,slow=11,SNR=12							
BVAR				S		S	06 03 55.4	-1.3
	0.2nm,0.3s,baz=217,slow=30,SNR=3.8							
AKTO	**Aktyubinsk**	**16.68**	**331**	P		Pn	06 00 57.8	+1.0
	1.6nm,0.3s,baz=143,slow=9.7,SNR=34							
AKTO				S		S	06 03 59.5	-0.7
	0.1nm,0.3s,baz=210,slow=20,SNR=4.2							
AKTO	**Aktyubinsk**	**16.68**	**331**	⇑P		P	06 00 57.0	+1.1
	0.9nm,0.6s							
TAPN	**Taplejung**	**17.02**	**118**	*eP*		P	06 01 00.8	+0.7
	7.2nm,0.4s							
ODAN	**Odare**	**17.09**	**120**	*eP*		P	06 01 01.2	+0.3
	13nm,0.6s							
ZALV	**Zalesovo Beam**	**19.98**	**25**	P		P	06 01 32.9	+1.2
	1.6nm,0.5s,baz=222,slow=11,SNR=9.4							
FINES	**FINESS Array B**	**37.37**	**326**	P		P	06 04 08.9	+0.8
	1.7nm,0.9s,baz=111,slow=10,SNR=7.3							
HFS	**Hagfors**	**42.94**	**322**	P		P	06 04 54.6	+0.7
	1.0nm,0.6s,baz=91,slow=13,SNR=6.6							
NOA	**NORSAR Array B**	**44.26**	**323**	P		P	06 05 04.8	+0.4
	1.1nm,0.8s,baz=98,slow=8.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P		P	06 07 35.7	-1.8
	0.7nm,0.5s,baz=51,slow=6.1,SNR=15							
YKA	**Yellowknife Ar**	**81.24**	**3**	P		P	06 09 09.0	+0.6
	0.2nm,0.3s,baz=350,slow=5.4,SNR=8.2							
WRA	**Warramunga Arr**	**82.16**	**122**	P		P	06 09 12.2	-1.7
	0.4nm,0.7s,baz=324,slow=4.8,SNR=3.9							
ASAR	**Alice Springs**	**84.41**	**125**	P		P	06 09 23.7	-1.7
	0.1nm,0.3s,baz=314,slow=5.1,SNR=5.9							

ISCJB ***17*** *06:10:53.1±0.5, 17°.31N±0°.04×92°.04W±0°.04, h10km, mb3.8/5, Error ellipse: s-maj=6.6km s-min=4.7km az=35.5*
MEX ***17*** *06:10:53.2±0.3, 17°.45N×91°.84W, h10km, MD4.0*
NEIC ***17*** *06:10:53.2, 17°.45N×91°.84W, h10km, MD4.0(MEX), After MEX.*
IDC ***17*** *06:10:55.3±1.9, 17°.47N×91°.91W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, ML3.6/3, Error ellipse: s-maj=41.8km s-min=21.5km az=166.0*
ISC 17 06:10:55.1±0.7, 17°.26N±0°.04×91°.98W±0°.05, h10km, n29, σ1§64/35, mb3.8/5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.98**	**189**	*eP*	**Pb**	**06 11 12.1**	**-2.2**
CCIG				*eS*	**Sb**	**06 11 27.4**	**0.0**
CCIG	**Comitan**	**0.98**	**189**	*eP*	**Pb**	**06 11 12.1**	**-2.2**
CCIG				*eS*	**Sb**	**06 11 27.4**	**0.0**
PCIG		**1.95**	**218**	*eP*	Pn	06 11 26.3	-2.0
PCIG				*i* S	**Sn**	**06 11 51.9**	**-1.0**
PCIG		**1.95**	**218**	*eP*	Pn	06 11 26.3	-2.0
PCIG				*i* S	**Sn**	**06 11 51.9**	**-1.0**
THIG		**2.35**	**187**	*eP*	**Sn**	**06 12 32.5**	**-1.3**
THIG				*eS*	**Sn**	**06 12 02.7**	**-0.1**
THIG		**2.35**	**187**	*eP*	**Pn**	**06 11 32.5**	**-1.3**
THIG				*eS*	**Sn**	**06 12 02.7**	**-0.1**
CMIG	**Matias Romero**	**2.79**	**267**	Pn	Pn	06 11 42.5	+2.6
	3.0nm,0.3s,baz=75,slow=14,SNR=26						
CMIG				Sn	**Sn**	**06 12 17.1**	**+3.5**
	27nm,0.3s,baz=349,slow=23,SNR=16						
CMIG	**Matias Romero**	**2.79**	**267**	*eP*	**Pn**	**06 11 37.9**	**-1.9**
CMIG				*i* S	**Sn**	**06 12 11.5**	**-2.1**
CMIG	**Matias Romero**	**2.79**	**267**	*eP*	**Pn**	**06 11 37.9**	**-1.9**
CMIG				*i* S	**Sn**	**06 12 11.5**	**-2.1**
HUIG	**Huatulco**	**4.23**	**250**	*eP*	**Pn**	**06 11 57.6**	**-2.1**
HUIG				*i* S	**Sn**	**06 12 48.2**	**-1.0**
HUIG	**Huatulco**	**4.23**	**250**	*eP*	**Pn**	**06 11 57.6**	**-2.1**
HUIG				*i* S	**Sn**	**06 12 48.2**	**-1.0**
VHO	**Vista Hermosa**	**4.55**	**268**	*eP*	**Pn**	**06 12 02.6**	**-1.7**
VHO				*i* S	**Sn**	**06 12 55.3**	**-2.1**
VHO	**Vista Hermosa**	**4.55**	**268**	*eP*	**Pn**	**06 12 02.6**	**-1.7**
VHO				*i* S	**Sn**	**06 12 55.3**	**-2.1**
TEIG	**Tepich**	**4.58**	**49**	Pn	Pn	06 12 04.4	-0.1
	19nm,0.3s,baz=281,slow=2.4,SNR=73						
TEIG				Sn	Sb	06 12 57.3	-14
	24nm,0.3s,baz=52,slow=19,SNR=7.6						
TEIG	**Tepich**	**4.58**	**49**	Pn	Pn	06 12 04.4	-0.1
TEIG				Sn	Sb	06 12 57.3	-14
TXAR	**Lajitas Array**	**16.11**	**320**	Pn	**P**	**06 14 45.8**	**+0.7**
	0.0nm,0.3s,baz=138,slow=13,SNR=5.5						
TXAR	**Lajitas Array**	**16.11**	**320**	Pn	**P**	**06 14 45.8**	**+0.7**
PDAR	**Pinedale Array**	**29.51**	**333**	P	P	06 17 01.0	+1.1
	0.2nm,0.4s,baz=140,slow=7.6,SNR=2.4						
PDAR	**Pinedale Array**	**29.51**	**333**	P	P	06 17 01.0	+1.1
NVAR	**Mina Array Bea**	**31.23**	**318**	P	**P**	**06 17 15.8**	**+0.7**
	0.9nm,0.7s,baz=134,slow=9.2,SNR=6.1						
NVAR	**Mina Array Bea**	**31.23**	**318**	P	**P**	**06 17 15.8**	**+0.7**
ULM	**Lac du Bonnet**	**33.06**	**355**	P	**P**	**06 17 30.2**	**-0.6**
	0.7nm,0.5s,baz=166,slow=4.2,SNR=2.5						
ULM	**Lac du Bonnet**	**33.06**	**355**	P	**P**	**06 17 30.2**	**-0.6**
YKA	**Yellowknife Ar**	**47.88**	**346**	P	**P**	**06 19 32.2**	**-0.9**
	0.6nm,0.6s,baz=146,slow=7.6,SNR=11						
YKA	**Yellowknife Ar**	**47.88**	**346**	P	**P**	**06 19 32.2**	**-0.9**
KEST	**Kesra**	**88.92**	**53**	P	**P**	**06 23 50.4**	**0.0**
	0.7nm,0.5s,baz=297,slow=6.8,SNR=6.9						
KEST	**Kesra**	**88.92**	**53**	P	**P**	**06 23 50.4**	**0.0**
MKAR	**Makanchi Array**	**116.04**	**4**	PKP	**PKPdf**	**06 29 41.2**	**+2.6**
	0.1nm,0.5s,baz=338,slow=1.6,SNR=2.9						
MKAR	**Makanchi Array**	**116.04**	**4**	PKP	**PKPdf**	**06 29 41.2**	**+2.6**

ISCJB ***17*** *06:46:28.6±0.7, 38°.46N±0°.04×39°.12E±0°.05, h13km±5km, Error ellipse: s-maj=7.8km s-min=5.6km az=153.9*
ISK ***17*** *06:46:28.4, 38°.47N×39°.10E, h5km, MD2.5*
CSEM ***17*** *06:46:28.4±0.1, 38°.46N×39°.11E, h12km, MD2.6, Error ellipse: s-maj=2.8km s-min=2.2km az=156.0*
DDA ***17*** *06:46:30.5, 38°.49N×38°.91E, h8km, MD2.6*
ISC 17 06:46:28.4±1.1, 38°.44N±0°.04×39°.12E±0°.03, h15km±7km, n16, σ0§34/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.12**	**297**	*i* P	**Pg**	**06 46 32.3**	**+0.1**
ELZG				*i* S	**Sg**	**06 46 34.4**	**-0.2**
ELZG	**Elazig**	**0.12**	**297**	*i* P	**Pg**	**06 46 32.3**	**+0.1**
ELZG				*i* S	**Sg**	**06 46 34.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.16**	**114**	*e*PG	**Pg**	**06 46 32.6**	**0.0**
SVRC				*e*SG	**Sg**	**06 46 35.8**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.16**	**114**	*e*Pg	**Pg**	**06 46 32.7**	**0.0**
SVRC				*e*Sg	**Sg**	**06 46 35.8**	**+0.3**
PTK	**Pertek**	**0.50**	**25**	*e*PG	**Pg**	**06 46 38.3**	**-0.1**
PTK				*e*SG	**Sg**	**06 46 45.5**	**+0.4**
PTK	**Pertek**	**0.50**	**25**	*e*Pg	**Pg**	**06 46 38.3**	**-0.1**
PTK				*e*Sg	**Sg**	**06 46 45.5**	**+0.4**
MYA	**Malataya**	**0.56**	**258**	*e*PG	**Pg**	**06 46 39.5**	**0.0**
MYA				*e*SG	**Sg**	**06 46 47.4**	**+0.5**
MYA	**Malataya**	**0.56**	**258**	*e*Pg	**Pg**	**06 46 39.5**	**0.0**
MYA				*e*Sg	**Sg**	**06 46 47.4**	**+0.5**
MALT	**Malatya**	**0.56**	**257**	*e*PG	**Pg**	**06 46 39.6**	**+0.1**
MALT	**Malatya**	**0.56**	**257**	*e*Pg	**Pg**	**06 46 39.6**	**+0.1**
AKCD	**Akcadag**	**0.95**	**261**	*i* P	**Pb**	**06 46 46.2**	**-0.5**
AKCD				*i* S	**Sg**	**06 46 59.7**	**+0.3**
AKCD	**Akcadag**	**0.95**	**261**	*i* P	**Pb**	**06 46 46.2**	**-0.5**
AKCD				*i* S	**Sg**	**06 46 59.7**	**+0.3**
KEMA	**Kemaliye**	**0.96**	**330**	*i* P	**Pb**	**06 46 46.1**	**-0.6**
KEMA				*i* S	**Sb**	**06 46 59.3**	**+0.1**
KEMA	**Kemaliye**	**0.96**	**330**	*i* P	**Pb**	**06 46 46.1**	**-0.6**
KEMA				*i* S	**Sb**	**06 46 59.3**	**+0.1**
ILIC	**ilic-Erzincan**	**1.09**	**337**	*e*PG	**Pb**	**06 46 49.2**	**+0.1**
ILIC	**ilic-Erzincan**	**1.09**	**337**	*e*Pg	**Pb**	**06 46 49.2**	**+0.1**

IDC 17 07:00:20.8±4.2, 19°.98N×147°.09E, h60km±40km, mb3.5/12, mb1 3.7/12, mb1mx3.6/25, mbtmp3.5/12, ML4.6/1, Error ellipse: s-maj=25.1km s-min=16.6km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.70**	**199**	P	Pn	07 01 57.2	+0.4
	13nm,0.3s,baz=12,slow=9.3,SNR=4.2						
GUMO				S	Sn	07 03 11.8	0.0
	6.9nm,0.3s,baz=73,slow=11,SNR=3.7						
KSRS	**Korea Array**	**24.12**	**320**	P	P	07 05 32.3	+1.3
	2.0nm,0.7s,baz=147,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**41.60**	**198**	P	P	07 08 03.2	+0.1
	0.3nm,0.4s,baz=22,slow=8.6,SNR=7.6						
SONM	**Songino Array**	**42.99**	**320**	P	P	07 08 14.6	+0.2
	0.5nm,0.4s,baz=125,slow=6.6,SNR=8.9						
FITZ	**Fitzroy Crossi**	**43.31**	**210**	P	P	07 08 16.4	-0.6
	1.5nm,0.5s,baz=34,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**45.25**	**197**	P	P	07 08 32.8	+0.3
	0.5nm,0.7s,baz=18,slow=11,SNR=5.5						
ZALV	**Zalesovo Beam**	**57.82**	**322**	P	P	07 10 05.1	-0.9
	0.7nm,0.5s,baz=101,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.54**	**313**	P	P	07 10 10.2	-1.0
	0.6nm,0.8s,baz=89,slow=7.9,SNR=6.2						
KURK	**Kurchatov**	**61.21**	**318**	P	P	07 10 29.8	+0.4
	0.7nm,0.4s,baz=92,slow=7.5,SNR=7.3						
ILAR	**Eielson Array**	**61.92**	**26**	P	P	07 10 32.8	-1.1
	0.5nm,0.8s,baz=260,slow=5.3,SNR=3.5						
BVAR	**Borovoye Array**	**66.34**	**320**	P	P	07 11 03.5	+0.4
	1.0nm,0.5s,baz=89,slow=7.4,SNR=10						
YKA	**Yellowknife Ar**	**76.24**	**28**	P	P	07 12 02.7	+0.1
	0.6nm,0.6s,baz=287,slow=5.8,SNR=15						
NVAR	**Mina Array Bea**	**81.31**	**52**	P	P	07 12 32.2	+0.9
	0.8nm,0.6s,baz=263,slow=6.3,SNR=8.5						

MEX 17 07:05:14.1±0.4, 15°.47N×96°.34W, h6km±4km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.37**	**36**	*i* P	Pg	07 05 21.0	-0.4
HUIG				*i* S	Sg	07 05 26.4	0.0
VHO	**Vista Hermosa**	**1.64**	**347**	*eP*	Pn	07 05 40.5	-3.3
VHO				*eS*	Sn	07 06 00.3	-5.1
PNIG	**Pinotepa**	**1.95**	**298**	*eP*	Pn	07 05 43.7	-4.1
PNIG				*eS*	Sn	07 06 07.1	-5.5
CMIG	**Matias Romero**	**2.13**	**41**	*eP*	Pn	07 05 46.8	-3.5
CMIG				*eS*	Sn	07 06 12.4	-4.7
PCIG		**3.02**	**85**	*eP*	Pn	07 06 00.3	-2.1
PCIG				*i* S	Sn	07 06 34.6	-4.2
TPIG	**Tehuac#an**	**3.10**	**342**	*eP*	Pn	07 06 00.9	-2.8
TPIG				*eS*	Sn	07 06 37.5	-3.7
CAIG	**El Cayaco**	**4.09**	**293**	*eP*	Pn	07 06 14.9	-2.3
CAIG				*i* S	Sn	07 07 01.3	-4.0
PLIG	**Platanillo**	**4.20**	**314**	*eP*	Pn	07 06 16.8	-2.0
PLIG				*eS*	Sn	07 07 05.2	-3.1

CSEM ***17*** *07:07:36.9±0.5, 42°.33N×13°.29E, h2km, MD1.3/2, Error ellipse: s-maj=9.2km s-min=3.3km az=40.0*
ROM 17 07:07:36.9±0.1, 42°.36N×13°.38E, h9km, Md1.3/2, Ml1.0/1, Error ellipse: s-maj=1.1km s-min=0.4km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.02**	**118**	Pg	Pg	07 07 39.0	+0.3
AQU				Sg	Sg	07 07 40.2	+0.3
AQU	**L'Aquila**	**0.02**	**118**	Pg	Pg	07 07 39.0	+0.3
AQU				Sg	Sg	07 07 40.2	+0.3
CAMP	**Campotosto**	**0.17**	**7**	Pg	Pg	07 07 41.2	+0.4
CAMP				Sg	Sg	07 07 44.4	+0.9
CAMP	**Campotosto**	**0.17**	**7**	Pg	Pg	07 07 41.2	+0.4
CAMP				Sg	Sg	07 07 44.4	+0.9
FAGN	**Fagnano**	**0.18**	**122**	Pg	Pg	07 07 41.3	+0.5
FAGN				Sg	Sg	07 07 44.7	+1.2
FAGN	**Fagnano**	**0.18**	**122**	Pg	Pg	07 07 41.3	+0.5
FAGN				Sg	Sg	07 07 44.7	+1.2
NRCA	**Norcia**	**0.51**	**338**	Pg	Pg	07 07 47.3	+0.3
NRCA				Sg	Sb	07 07 54.9	-0.9
	324nm,4.8s						
NRCA	**Norcia**	**0.51**	**338**	Pg	Pg	07 07 47.3	+0.3
NRCA				Sg	Sb	07 07 54.9	-0.9
	324nm,4.8s						

GEN ***17*** *07:09:57.3, 47°.51N×9°.66E, h28km, ML2.9*
CSEM ***17*** *07:09:57.8±0.1, 47°.17N×9°.54E, h5km, ML3.2/23, Error ellipse: s-maj=1.9km s-min=1.7km az=14.0*
VIE ***17*** *07:09:57.4±0.2, 47°.15N×9°.52E, h11km±1km, mb2.4/9, ML3.4/11, Error ellipse: s-maj=0.9km s-min=0.6km az=120.0 2 km NNW of Vaduz felt 4 ems98 in Vorarlberg*
ZUR ***17*** *07:09:57.8, 47°.14N×9°.53E, h5km, ML3.0/27*
ISCJB ***17*** *07:09:57.1±0.2, 47°.153N±0°.009×9°.53E±0°.01, h8km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=37.6*
LDG ***17*** *07:09:58.0±0.1, 47°.29N×9°.58E, h5km, Ml3.0/21, Error ellipse: s-maj=2.4km s-min=2.0km az=17.0*
PRU ***17*** *07:09:58.5, 47°.38N×9°.48E, h3km*
LEDBW ***17*** *07:09:58.0±0.2, 47°.10N±0°.01×9°.55E±0°.01, h5km, ML3.1, Error ellipse: s-maj=5.4km s-min=3.2km az=122.0*
BGR ***17*** *07:09:59.0±0.5, 47°.23N×9°.49E, h10km, ML3.0/16, Error ellipse: s-maj=8.9km s-min=5.6km az=31.0*
ROM ***17*** *07:09:59.4±0.4, 47°.02N×9°.52E, h4km±3km, Md2.7/13, Ml2.5/7, Error ellipse: s-maj=4.9km s-min=2.2km az=7.0*
ISC 17 07:09:57.9±0.8, 47°.17N±0°.01×9°.513E±0°.009, h9km±5km, n314, σ1§20/478, 26C-54D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIENZ	**Kamor/St.Gall**	**0.12**	**354**	⇑P*	**Pg**	**07 10 00.9**	**0.0**
LIENZ				S*	**Sg**	**07 10 03.3**	**+0.3**
LIENZ	**Kamor/St.Gall**	**0.12**	**354**	⇑*i*Pg	**Pg**	**07 10 00.9**	**0.0**
	4µm,0.2s						
LIENZ				*i* Sg	**Sg**	**07 10 03.5**	**+0.5**
	4µm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.12**	**354**	⇑Px	**Pg**	**07 10 00.9**	**0.0**
LIENZ				x	**Sg**	**07 10 03.3**	**+0.3**
PLONS	**Plons/SG**	**0.15**	**217**	⇑P*	**Pg**	**07 10 00.9**	**-0.3**
PLONS				S*	**Sg**	**07 10 03.5**	**-0.1**
PLONS	**Plons/SG**	**0.15**	**217**	⇑*i*Pg	**Pg**	**07 10 00.8**	**-0.4**
	11µm,0.2s						
PLONS				*i* Sg	**Sg**	**07 10 03.4**	**-0.1**
	11µm,0.2s						
PLONS	**Plons/SG**	**0.15**	**217**	⇑Pg	**Pg**	**07 10 00.9**	**-0.3**
DAVA	**Damuels**	**0.28**	**65**	*e*Pg	**Pg**	**07 10 02.9**	**-0.6**
DAVA				*e*Sg	**Sg**	**07 10 08.0**	**+0.8**
DAVA	**Damuels**	**0.28**	**65**	*e*Pg	**Pg**	**07 10 03.2**	**-0.2**
	156nm,0.1s,SNR=475						
DAVA				⇓*i*Sg	**Sg**	**07 10 07.6**	**+0.4**
	1µm,0.2s						
DAVA	**Damuels**	**0.28**	**65**	Pg	**Pg**	**07 10 02.9**	**-0.6**
DAVA				Sg	**Sg**	**07 10 07.6**	**+0.4**
	1µm,0.2s						
DAVOS	**Davos**	**0.38**	**150**	Sx	**Sb**	**07 10 13.3**	**+0.1**
DAVOS	**Davos**	**0.38**	**150**	⇓Px	**Pb**	**07 10 06.6**	**-0.4**
DAVOX	**Davos/Dischmat**	**0.46**	**147**	Pg	**Pg**	**07 10 06.6**	**-0.3**
DAVOX				Sg	**Sg**	**07 10 13.2**	**+0.2**
DAVOX	**Davos/Dischmat**	**0.46**	**147**	⇓P*	**Pg**	**07 10 06.6**	**-0.3**
DAVOX				S*	**Sg**	**07 10 13.3**	**+0.2**
DAVOX	**Davos/Dischmat**	**0.46**	**147**	⇓*i*Pg	**Pg**	**07 10 06.6**	**-0.3**
	2µm,0.4s						
DAVOX				*i* Sg	**Sg**	**07 10 13.2**	**+0.2**
	2µm,0.4s						
DAVOX	**Davos/Dischmat**	**0.46**	**147**	Pg	**Pg**	**07 10 06.6**	**-0.3**
DAVOX				Sg	**Sg**	**07 10 13.2**	**+0.2**
LLS	**Linth-Limmern**	**0.47**	**227**	⇑P*	**Pg**	**07 10 06.7**	**-0.4**
LLS				*i* S*	**Sg**	**07 10 13.4**	**+0.1**
LLS	**Linth-Limmern**	**0.47**	**227**	⇑*i*Pg	**Pg**	**07 10 06.7**	**-0.4**
	2µm,0.2s						
LLS				*e*Sg	**Sg**	**07 10 13.3**	**-0.1**
	2µm,0.2s						
LLS	**Linth-Limmern**	**0.47**	**227**	⇑Pg	**Pg**	**07 10 06.7**	**-0.4**
WILA	**Wila**	**0.48**	**301**	⇓*i*P*	**Pg**	**07 10 08.3**	**+1.1**
WILA				S*	**Sb**	**07 10 16.1**	**+0.4**
WILA	**Wila**	**0.48**	**301**	⇓*i*Pg	**Pg**	**07 10 08.3**	**+1.1**
	3µm,0.4s						
WILA				*i* Sg	**Sb**	**07 10 16.2**	**+0.5**
	3µm,0.4s						
WILA	**Wila**	**0.48**	**301**	⇓*i*Pg	**Pg**	**07 10 08.3**	**+1.1**
WILA	**Wila**	**0.48**	**301**	Pb	**Pg**	**07 10 08.3**	**+1.1**
WILA				Sb	**Sb**	**07 10 16.1**	**+0.4**
WEIN	**Weingarten**	**0.51**	**315**	⇓*i*Pg	**Pb**	**07 10 08.9**	**0.0**
	1µm,0.3s						
WEIN				*i* Sg	**Sb**	**07 10 17.0**	**+0.6**
	1µm,0.3s						
OBER	**Oberstdorf**	**0.58**	**66**	P*	**Pg**	**07 10 09.6**	**+0.5**
OBER				S*	**Sg**	**07 10 17.6**	**+0.8**
OBER				SmS		07 10 18.9	
OBER	**Oberstdorf**	**0.58**	**66**	Pg	**Pg**	**07 10 09.6**	**+0.5**
OBER				Sx	**Sg**	**07 10 17.6**	**+0.8**
OBER	**Oberstdorf**	**0.58**	**66**	Pb	**Pg**	**07 10 09.6**	**+0.5**
OBER				Sb	**Sg**	**07 10 17.6**	**+0.8**
MUO	**Muotathal**	**0.63**	**252**	⇑*i*Pg	**Pg**	**07 10 10.2**	**+0.1**
	1µm,0.6s						
MUO	**Muotathal**	**0.63**	**252**	⇑*i*Pg	**Pg**	**07 10 10.2**	**+0.1**
	1µm,0.6s						
SISB	**Singen-Schiene**	**0.64**	**324**	⇓P*	**Pb**	**07 10 11.3**	**+0.1**
SISB				S*	**Sb**	**07 10 21.2**	**+1.0**
SISB	**Singen-Schiene**	**0.64**	**324**	⇓Pg	**Pb**	**07 10 11.3**	**+0.1**
SISB				Sg	**Sb**	**07 10 21.2**	**+1.0**
SISB	**Singen-Schiene**	**0.64**	**324**	Pb	**Pb**	**07 10 11.3**	**+0.1**
SISB				Sb	**Sb**	**07 10 21.2**	**+1.0**
UBR	**Ueberruh**	**0.65**	**38**	⇑*i*P*	**Pb**	**07 10 11.3**	**-0.1**
UBR	**Ueberruh**	**0.65**	**38**	⇑*i*Pg	**Pb**	**07 10 11.3**	**-0.1**
UBR	**Ueberruh**	**0.65**	**38**	Pb	**Pb**	**07 10 11.3**	**-0.1**
STEIN	**Stein am Rhein**	**0.66**	**319**	⇓*i*Pg	**Pb**	**07 10 11.8**	**+0.2**
	373nm,0.6s						
STEIN				*i* Sg	**Sg**	**07 10 14.2**	**-5.2**
	373nm,0.6s						
STEIN	**Stein am Rhein**	**0.66**	**319**	⇓*i*Pg	**Pb**	**07 10 11.8**	**+0.2**
	373nm,0.6s						
ZUR	**Degenried**	**0.67**	**288**	⇓*i*Pg	**Pg**	**07 10 11.6**	**+0.9**
	1µm,0.4s						
ZUR				*e*Sg	**Sb**	**07 10 21.7**	**+0.7**
	1µm,0.4s						
ZUR	**Degenried**	**0.67**	**288**	⇓*i*Pg	**Pg**	**07 10 11.6**	**+0.9**
	1µm,0.4s						
ZUR				*e*Sg	**Sb**	**07 10 21.7**	**+0.7**
	1µm,0.4s						
VDL	**Val di Lei**	**0.69**	**184**	⇑*i*Pg	**Pg**	**07 10 10.6**	**-0.6**
	294nm,0.3s						
VDL				*i* Sg	**Sg**	**07 10 19.6**	**-0.6**
	294nm,0.3s						
VDL	**Val di Lei**	**0.69**	**184**	⇑*i*Pg	**Pg**	**07 10 10.6**	**-0.6**
	294nm,0.3s						
VDL				*i* Sg	**Sg**	**07 10 19.6**	**-0.6**
	294nm,0.3s						
TUE	**Stuetta**	**0.71**	**189**	Pg	**Pg**	**07 10 11.0**	**-0.5**
TUE				Sg	**Sg**	**07 10 19.8**	**-1.0**
	58nm,0.3s						
TUE	**Stuetta**	**0.71**	**189**	Pg	**Pg**	**07 10 11.0**	**-0.5**
TUE				Sg	**Sg**	**07 10 19.8**	**-1.0**
	58nm,0.3s						
TRULL	**Truellikon**	**0.74**	**311**	*e*Sg	**Pg**	**07 10 13.2**	**+1.1**
	966nm,0.2s						
TRULL	**Truellik

SPAK Spaichingen-Ko 1.05 332 Pg Pn 07 10 19.6 +0.7
SPAK Sg **Sn 07 10 34.1 +0.4**
MSS Messtetten 1.07 340⇑ePx Sn 07 10 34.2 0.0
MSS x x 07 10 49.1
MSS Messtetten 1.07 340 Px Sn 07 10 35.1 +0.9
MOTA Moosalm 1.10 80⇑ePg Pg 07 10 18.4 -0.6
34nm,0.1s,SNR=140
MOTA ⇑*i*Sg **Sb 07 10 34.2 +0.7**
177nm,0.2s
MOTA Moosalm 1.10 80 Pg Pg 07 10 18.4 -0.6
34nm,0.1s,SNR=140
MOTA Sg **Sb 07 10 34.2 +0.7**
177nm,0.2s
BHBD Braunhartsberg 1.13 342 ⇓Pg Pb 07 10 20.4 +0.8
BHBD Sg **Sb 07 10 36.0 +1.5**
BHBD Sx 07 10 37.4
PART Garmisch-Parte 1.14 73⇓ePg Pb 07 10 19.9 +0.2
PART Garmisch-Parte 1.14 73 Pg Pb 07 10 19.9 +0.2
ENGD Engstlatt 1.22 340 Sn Sg 07 10 37.6 +0.4
FELD Feldberg im Sc 1.24 305⇓*i*P Pg 07 10 21.9 +0.1
FELD Feldberg im Sc 1.24 305⇓*i*Pn Pg 07 10 21.9 +0.1
FELD Feldberg im Sc 1.24 305 Pn Pg 07 10 21.8 +0.1
FELD Feldberg im Sc 1.24 305 Pg Pn 07 10 22.9 +1.4
FELD Sg **Sn 07 10 39.7 +1.2**
BALST Balsthal 1.25 278⇓*i*Pn Pg 07 10 13.4 -8.4
437nm,0.2s
BALST Balsthal 1.25 278 *i* P2 Pg 07 10 15.2 -6.6
437nm,0.2s
BUCH Bad Urach 1.28 355 ⇑P Pn 07 10 22.1 +0.1
BUCH Pg **Pn 07 10 23.5 +1.5**
BUCH Sg **Sn 07 10 41.5 +2.2**
BUCH Bad Urach 1.28 355 ⇑Pn Pn 07 10 22.1 +0.1
BUCH S **Sn 07 10 41.5 +2.2**
BUCH Bad Urach 1.28 355 Px Pn 07 10 23.5 +1.5
BUCH Bad Urach 1.28 355 P Pn 07 10 22.1 +0.1
MUGIO Muggio 1.29 195 Pg Pn 07 10 22.0 -0.1
MUGIO Muggio 1.29 195 *e*Pg Pg 07 10 27.3 +4.7
290nm,0.5s
MUGIO Muggio 1.29 195 Pg Pn 07 10 22.0 -0.1
MABI Malga Bissina 1.31 148 Pg Pn 07 10 22.4 -0.1
MABI Sg **Sg 07 10 39.3 -0.8**
MABI Malga Bissina 1.31 148 Pg Pn 07 10 22.4 -0.1
MABI Sg **Sg 07 10 39.3 -0.8**
ABSI Aberstueckl 1.31 109⇓ePg Pn 07 10 22.2 -0.3
ROSI Rosskopf 1.32 100⇓ePg Pn 07 10 22.5 -0.1
ENDD Endenburg 1.32 295 ⇑Pn Pn 07 10 22.8 +0.3
ENDD Endenburg 1.32 295 ⇑P Pg 07 10 23.9 +0.7
ENDD Sx **Sn 07 10 42.2 +1.9**
KIZ Kirchzarten 1.34 307 ⇓P Pn 07 10 22.9 +0.2
KIZ Pg **Pg 07 10 24.2 +0.7**
KIZ Sg **Sn 07 10 42.4 +1.8**
KIZ Kirchzarten 1.34 307 ⇓Pn Pn 07 10 22.9 +0.2
KIZ S **Sn 07 10 42.4 +1.8**
KIZ Kirchzarten 1.34 307 P Pg 07 10 24.2 +0.7
KIZ Kirchzarten 1.34 307 P Pn 07 10 22.9 +0.2
APPI Appiano 1.37 120 Pg Pn 07 10 23.3 +0.1
130nm,0.6s
APPI Appiano 1.37 120 Pg Pn 07 10 23.3 +0.1
130nm,0.6s
TUBL Tuebingen-Lenn 1.38 348 S Sb 07 10 41.3 -0.3
TUBL Sg **Sn 07 10 44.1 +2.4**
TUBL Tuebingen-Lenn 1.38 348 Sn Sb 07 10 41.3 -0.3
TUBL S **Sn 07 10 44.1 +2.4**
TUBL Tuebingen-Lenn 1.38 348 S Sb 07 10 41.3 -0.3
TUBL Sg **Sn 07 10 44.1 +2.4**
WIMIS Wimmis 1.39 249 *e*Pn Pn 07 10 16.1 -7.4
192nm,0.5s
BBS Basel-Blauen 1.40 283 ⇓P Pn 07 10 24.1 +0.6
BBS Pg **Pg 07 10 25.5 +0.9**
BBS Basel-Blauen 1.40 283 ⇓Pn Pn 07 10 24.1 +0.6
BBS Basel-Blauen 1.40 283 P Pg 07 10 25.5 +0.9
BBS Basel-Blauen 1.40 283 P Pn 07 10 24.1 +0.6
BBS Basel-Blauen 1.40 283 Pg Pg 07 10 25.5 +0.9
BBS Sg **Sg 07 10 44.5 +1.8**
MDI Monti di Nese 1.40 174 Pg Pn 07 10 24.1 +0.5
124nm,0.4s
MDI Monti di Nese 1.40 174 Pg Pn 07 10 24.1 +0.5
124nm,0.4s
BFO Black Forest 1.41 326 P Pn 07 10 24.1 +0.4
BFO Pg **Pg 07 10 25.6 +0.7**
BFO S **Sb 07 10 41.8 -0.6**
BFO Sg **Sg 07 10 44.6 +1.4**
BFO Black Forest 1.41 326 Pn Pn 07 10 24.1 +0.4
BFO Sn **Sb 07 10 41.8 -0.6**
BFO Black Forest 1.41 326 Px Pg 07 10 25.6 +0.7
BFO Sx **Sg 07 10 44.6 +1.4**
BFO Black Forest 1.41 326 S Sb 07 10 41.8 -0.6
BFO Black Forest 1.41 326 P Pn 07 10 24.1 +0.4
WATA Walderalm 1.42 83⇓ePg Pn 07 10 24.6 +0.7
9.8nm,0.1s,SNR=15
WATA ⇓*i*Sg **Sg 07 10 44.2 +0.8**
36nm,0.1s
WATA Walderalm 1.42 83 Pg Pn 07 10 24.6 +0.7
9.8nm,0.1s,SNR=15
WATA Sg **Sg 07 10 44.2 +0.8**
36nm,0.1s
RNI Roncone 1.42 146⇓ePg Pn 07 10 24.4 +0.4
RNI Roncone 1.42 146 *e*Pg **Pn 07 10 24.4 +0.4**
WTTA Wattenberg 1.45 86 *e*Pn **Pg 07 10 26.6 +0.9**
WTTA *e*Sg **Sg 07 10 46.8 +2.3**
WTTA Wattenberg 1.45 86⇑*i*Pn Pn 07 10 23.9 -0.5
WTTA ⇑*e*Pg **Pb 07 10 25.4 +0.3**
12nm,0.2s,SNR=20
WTTA ⇓*i*Sg **Sg 07 10 45.7 +1.2**
57nm,0.2s
WTTA Wattenberg 1.45 86 Pn Pn 07 10 23.9 -0.5
KOSI Kohlern 1.46 118⇓ePg Pg 07 10 27.1 +1.2
HDH Heidenheim-Cha 1.49 18⇑*i*P Pn 07 10 24.3 -0.5
HDH Pg **Pg 07 10 26.4 0.0**
HDH Sg **Sg 07 10 47.2 +1.5**
HDH Heidenheim-Cha 1.49 18⇑*i*Pn Pn 07 10 24.3 -0.5
HDH Sx Sx 07 10 47.2
HDH Heidenheim-Cha 1.49 18 P Pg 07 10 26.4 0.0
HDH Heidenheim-Cha 1.49 18 P Pn 07 10 24.3 -0.5
SCE Schlegeis 1.51 94⇑*i*Pn Pn 07 10 25.8 +0.6
SCE Schlegeis 1.51 94 Pn Pn 07 10 25.8 +0.6
LKBD Leukerbad 1.52 240⇑*i*Pn Pn 07 10 17.6 -7.7
161nm,0.3s
MMK Mattmark 1.55 224 Pg Pn 07 10 26.3 +0.5
MMK Sg **Sn 07 10 46.5 +0.4**
MMK Mattmark 1.55 224⇑*i*Pn Pg 07 10 28.9 +1.3
214nm,0.3s
MMK Mattmark 1.55 224 Pg Pn 07 10 26.3 +0.5
MMK *e*Sg **Sn 07 10 46.5 +0.4**
FUR Furstenfeldbru 1.55 49 *e*Pn **Pg 07 10 27.7 +0.1**
FUR *e*Sg **Sg 07 10 48.8 +1.0**
FUR Furstenfeldbru 1.55 49 Sg Sg 07 10 48.8 +1.0
FUR Furstenfeldbru 1.55 49 Pn Pg 07 10 27.7 +0.1
BOURR Bourrignon 1.57 279⇓*i*Pn Pn 07 10 17.2 -8.7
366nm,0.6s
BOURR Bourrignon 1.57 279 *i* P2 Pn 07 10 18.1 -7.8
366nm,0.6s
LBG Lerchenberg 1.57 342 ⇑P Pn 07 10 26.1 +0.2
LBG Pg **Pg 07 10 28.6 +0.6**
LBG S **Sn 07 10 45.4 -1.0**
LBG Sg **Sg 07 10 49.4 +1.1**
LBG Lerchenberg 1.57 342 ⇑Pn Pn 07 10 26.1 +0.2
LBG Sn **Sn 07 10 45.4 -1.0**
LBG Lerchenberg 1.57 342 Px Pg 07 10 28.6 +0.6
LBG S **Sg 07 10 49.4 +1.1**
LBG Lerchenberg 1.57 342 S Sn 07 10 45.4 -1.0
LBG Lerchenberg 1.57 342 P Pn 07 10 26.1 +0.2
STU Stuttgart 1.62 353 P Pg 07 10 29.0 +0.1
STU S **Sn 07 10 46.4 -1.0**
STU Stuttgart 1.62 353 Px Pg 07 10 29.0 +0.1
STU Sn **Sn 07 10 46.4 -1.0**
STU Stuttgart 1.62 353 P Pg 07 10 29.0 +0.1
STU S **Sn 07 10 46.4 -1.0**
NORI Noerdlinger Ri 1.72 25⇑*i*Pn Pn 07 10 27.4 -0.6
NORI Noerdlinger Ri 1.72 25 Pn Pn 07 10 27.4 -0.6
SENIN Lac Senin/Sane 1.72 243⇓*i*Pn Pn 07 10 21.8 -6.4
170nm,0.2s
SENIN Lac Senin/Sane 1.72 243 *i* P2 Pn 07 10 22.1 -6.1
170nm,0.2s
MOF Molkenrain 1.75 294 ⇓P Pn 07 10 29.0 +0.5
MOF Molkenrain 1.75 294 ⇓Pn Pn 07 10 29.0 +0.5
MOF Molkenrain 1.75 294 Pn Pn 07 10 28.7 +0.2
MOF Molkenrain 1.75 294 P Pn 07 10 29.0 +0.5
RISI Rein 1.77 96⇓ePn Pb 07 10 31.0 +0.5
TORNY Torny/Romont 1.79 258 *e*Pn Pn 07 10 23.2 -5.8
794nm,0.4s
TORNY Torny/Romont 1.79 258 *e*P2 Pn 07 10 24.4 -4.6
794nm,0.4s
LOMF Lomont 1.84 277 ⇓P Pn 07 10 30.3 +0.7
LOMF Sg **Sg 07 10 58.1 +1.2**
LOMF Lomont 1.84 277 ⇓P Pn 07 10 30.3 +0.7
LOMF S **Sg 07 10 58.1 +1.2**
LOMF Lomont 1.84 277 P Pn 07 10 30.3 +0.7
LOMF Sg **Sg 07 10 58.1 +1.2**
CTI Castel Tesino 1.85 127 Pg Pb 07 10 32.5 +0.6
47nm,0.5s
CTI Castel Tesino 1.85 127 Pg Pb 07 10 32.5 +0.6
47nm,0.5s
ECH Echery 1.90 304 P Pn 07 10 30.9 +0.4
ECH Echery 1.90 304 P Pn 07 10 30.9 +0.4
ECH Echery 1.90 304 P Pn 07 10 30.9 +0.4
HINF Hinteralfeld 1.92 291 *e*Pn **Pn 07 10 30.9 +0.2**
SNR=1.0
HINF *e*Sn **Sn 07 10 53.9 -1.0**
HINF *e*Sg **Sg 07 10 59.7 +0.3**
29nm,0.3s
HINF Hinteralfeld 1.92 291 *e*Pn **Pn 07 10 30.9 +0.2**
SNR=1.0
HINF *e*Sg **Sg 07 10 59.7 +0.3**
14nm,0.3s
CDF Champ du Feu 1.95 310 *e*Pn **Pn 07 10 31.4 +0.2**
SNR=1.0
CDF *e*Sn **Sn 07 10 55.0 -0.9**
SNR=1.0
CDF *e*Sg **Sn 07 10 58.0 +2.1**
54nm,0.3s,SNR=1.0
CDF Champ du Feu 1.95 310 *e*Sn **Sn 07 10 55.0 -0.9**
SNR=1.0
CDF Champ du Feu 1.95 310 *e*Pn **Pn 07 10 31.4 +0.2**
SNR=1.0
CDF *e*Sg **Sn 07 10 58.0 +2.1**
27nm,0.3s,SNR=1.0
CGRP Cima Grappa 2.04 128 *e*Pg **Pb 07 10 35.7 +0.5**
CGRP Cima Grappa 2.04 128 *e*Pg **Pb 07 10 35.7 +0.5**
TRAV Traversella 2.06 217 Pg Pb 07 10 35.6 +0.1
69nm,0.4s
TRAV Traversella 2.06 217 P Pn 07 10 33.9 +1.2
TRAV Traversella 2.06 217 Pg Pb 07 10 35.6 +0.1
69nm,0.4s
TRAV S **Sn 07 10 59.0 +0.5**
ABTA Abfaltersbach 2.10 101⇓ePg Pg 07 10 37.4 -0.7
12nm,0.3s,SNR=26
ABTA ⇓*i*Sg **Sg 07 11 06.2 +1.0**
13nm,0.3s
ABTA Abfaltersbach 2.10 101 Pg Pg 07 10 37.4 -0.7
12nm,0.3s,SNR=26
ABTA Sg **Sg 07 11 06.2 +1.0**
13nm,0.3s
OG01 Vacheresse 2.12 248 Pn Pn 07 10 34.2 +0.7
OG01 Vacheresse 2.12 248 Pg Pg 07 10 38.6 +0.1
SIND Sindeldorf 2.18 2 ⇓P Pn 07 10 33.6 -0.7
SIND Pg **Pg 07 10 40.1 +0.5**
SIND S **Sn 07 11 00.8 -0.6**
SIND Sindeldorf 2.18 2 ⇓P Pn 07 10 33.6 -0.7
SIND S **Sn 07 11 00.8 -0.6**
SIND Sindeldorf 2.18 2 Px Pg 07 10 40.1 +0.5
SIND Sindeldorf 2.18 2 P Pn 07 10 33.6 -0.7
CIMO Cimolais 2.19 112⇓ePg Pb 07 10 38.7 +1.1
CIMO *e*Sg **Sg 07 11 08.3 +0.2**
CIMO Cimolais 2.19 112 *e*Pg **Pb 07 10 38.7 +1.1**
CIMO *e*Sg **Sg 07 11 08.3 +0.2**
RJOB Jochberg 2.30 75 *e*Pn **Pb 07 10 38.7 -0.8**
RJOB Jochberg 2.30 75 Pn Pb 07 10 38.7 -0.8
HAU Haudompre 2.30 292 *e*Pn **Pn 07 10 35.6 -0.3**
SNR=1.0
HAU Haudompre 2.30 292 *e*Pg **Pb 07 10 41.1 +1.6**
SNR=1.0
HAU *e*Sg **Sg 07 11 11.5 -0.2**
38nm,0.3s,SNR=1.0
HAU Haudompre 2.30 292 *e*Pn **Pn 07 10 35.6 -0.3**
SNR=1.0
HAU Haudompre 2.30 292 *e*Pg **Pb 07 10 41.1 +1.6**
SNR=1.0
HAU *e*Sg **Sg 07 11 11.5 -0.2**
19nm,0.3s,SNR=1.0
FVI Forni Avoltri 2.31 103 Pg Pb 07 10 40.6 +0.8
27nm,0.5s
FVI Forni Avoltri 2.31 103 Pg Pb 07 10 40.6 +0.8
27nm,0.5s
CABF La Chapelle 2.42 258 *e*Pn **Pn 07 10 38.0 +0.4**
SNR=1.0
CABF La Chapelle 2.42 258 *e*Pg **Pg 07 10 44.4 +0.3**
CABF *e*Sg **Sg 07 11 16.5 +1.1**
44nm,0.4s,SNR=1.0
CABF La Chapelle 2.42 258 *e*Sg **Sg 07 11 16.5 +1.1**
22nm,0.4s,SNR=1.0
CABF La Chapelle 2.42 258 *e*Pn **Pn 07 10 38.0 +0.4**
SNR=1.0
CABF La Chapelle 2.42 258 *e*Pg **Pg 07 10 44.4 +0.3**
RSL Roselend 2.49 234 Pn Pn 07 10 40.8 +2.2
RSL Roselend 2.49 234 Pg Pg 07 10 46.2 +0.7
LPL La Plagne 2.54 230 *e*P **Pb 07 10 43.5 -0.2**
SNR=1.0
LPL *e*Sg **Sg 07 11 20.9 +1.5**
20nm,0.4s
LPL La Plagne 2.54 230 *e*P **Pb 07 10 43.5 -0.2**
SNR=1.0
LPL *e*Sg **Sg 07 11 20.9 +1.5**
9.9nm,0.4s
LPG La Plagne 2.54 230 *e*Pn **Pn 07 10 41.0 +1.5**
SNR=1.0
LPG La Plagne 2.54 230 *e*P **Pb 07 10 43.7 -0.1**
LPG *e*Sg **Sg 07 11 21.5 +2.0**
15nm,0.4s,SNR=1.0
LPG La Plagne 2.54 230 *e*Pn **Pn 07 10 41.0 +1.5**
SNR=1.0
LPG La Plagne 2.54 230 *e*P **Pb 07 10 43.7 -0.1**
LPG *e*Sg **Sg 07 11 21.5 +2.0**
7.5nm,0.4s,SNR=1.0
RSP Reno Superiore 2.56 218 P Pn 07 10 41.1 +1.6
THEF They Montfort 2.61 295 P Pn 07 10 41.4 +1.2
THEF They Montfort 2.61 295 Pn Pn 07 10 40.8 +0.7
KBA Koelnbreinsper 2.62 91 *e*Pn **Pn 07 10 43.1 +2.7**
KBA *e*Sg **Sg 07 11 21.9 -0.1**
PCP Piancastagn 2.72 195 P Pn 07 10 44.1 +2.4
PTCC Patocco-Chiusa 2.75 105 Pg Pb 07 10 45.2 -1.9
10.0nm,0.5s
PTCC Patocco-Chiusa 2.75 105 Pg Pb 07 10 45.2 -1.9
10.0nm,0.5s
SC2M Scurtabo 2.77 180 P Pn 07 10 44.6 +2.2
GRA1 Grafenberg Arr 2.77 24 Pn Pn 07 10 40.9 -1.5
GRA1 Sg **Sg 07 11 26.9 +0.2**
GRF Grafenberg Arr 2.77 24 *e*Pn **Pn 07 10 40.9 -1.5**
GRF *e*Sg **Sg 07 11 26.9 +0.2**
PAGF Fort de Pagny 2.90 300 *e*Pn **Pn 07 10 45.0 +0.8**
PAGF *e*Sg **Sg 07 11 29.6 -1.4**
3.7nm,0.5s
PAGF Fort de Pagny 2.90 300 *e*Pn **Pn 07 10 45.0 +0.8**
PAGF *e*Sg **Sg 07 11 29.6 -1.4**
1.9nm,0.5s
WET Wettzell 3.00 48 *e*Pn **Pn 07 10 45.3 -0.2**
WET *e*Sn **Sn 07 11 20.8 -0.7**
WET Wettzell 3.00 48 Pn Pn 07 10 45.3 -0.2
WET Sn **Sn 07 11 20.8 -0.7**
MBDF Montbardon 3.10 219 *e*Pn **Pn 07 10 49.0 +1.9**
SNR=1.0
MBDF Montbardon 3.10 219 *e*Pn **Pn 07 10 49.0 +1.9**
SNR=1.0
TNS Taunus Mts 3.13 347 *e*Pn **Pn 07 10 48.5 +1.0**
TNS *e*Sn **Sn 07 11 23.5 -1.5**
TNS Taunus Mts 3.13 347 Pn Pn 07 10 48.5 +1.0
TNS Sn **Sn 07 11 23.5 -1.5**
PZZ Stroppo 3.15 213 P Pn 07 10 48.3 +0.6
ROTZ Rotzenmuhle 3.16 34 *e*Pn **Pn 07 10 46.4 -1.3**
ROTZ *e*Sg **Sg 07 11 38.3 -0.9**
ROTZ Rotzenmuhle 3.16 34 Sg Sg 07 11 38.3 -0.9
ROTZ Rotzenmuhle 3.16 34 Pn Pn 07 10 46.4 -1.3
SFTF Sexfontaines 3.19 291 *e*Pn **Pn 07 10 48.5 +0.3**
baz=114
SFTF *e*Sn **Sn 07 11 24.0 -2.4**
SFTF *e*Sg **Sg 07 11 39.3 -1.1**
7.6nm,0.3s
SFTF Sexfontaines 3.19 291 *e*Pn **Pn 07 10 48.5 +0.3**
baz=114
SFTF *e*Sn **Sn 07 11 24.0 -2.4**
SFTF *e*Sg **Sg 07 11 39.3 -1.1**
3.8nm,0.3s
RORO Rocca Rossa 3.22 199 P Pn 07 10 49.7 +1.1
GEC2 GERESS Array S 3.27 58 *e*Pn **Pn 07 10 49.6 +0.2**
GEC2 *e*Sn **Sn 07 11 27.8 -0.7**
GEC2 GERESS Array S 3.27 58 Pn Pn 07 10 49.6 +0.2
GEC2 Sn **Sn 07 11 27.8 -0.7**
MEZF Maizieres J'vi 3.29 296 *e*Pg **Pg 07 10 59.3 -1.5**
MEZF *e*Sn **Sn 07 11 28.6 0.0**
SNR=1.0
MEZF *e*Sg **Sg 07 11 44.6 +1.2**
13nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 3.29 296 *e*Pg **Pg 07 10 59.3 -1.5**
MEZF *e*Sn **Sn 07 11 28.6 0.0**
SNR=1.0
MEZF *e*Sg **Sg 07 11 44.6 +1.2**
6.3nm,0.4s,SNR=1.0
MOA Molln 3.29 76 *e*Pn **Pn 07 10 50.9 +1.3**
MOA *e*Sn **Sn 07 11 29.7 +0.9**
MOA Molln 3.29 76 Pn Pn 07 10 50.9 +1.3
MOA Sn **Sn 07 11 29.7 +0.9**
KHC Kasperske Hory 3.35 53 *e*PN **Pn 07 10 50.6 +0.2**
KHC *e*PG **Pb 07 10 59.0 +1.5**
KHC *e*SN **Sn 07 11 28.1 -2.3**
KHC *e*SG **Sb 07 11 41.6 +3.2**
comp=Z,19nm,0.4s
KHC Kasperske Hory 3.35 53 Pn Pn 07 10 50.6 +0.2
KHC Sn **Sn 07 11 28.1 -2.3**
KHC Sg **Sb 07 11 41.6 +3.2**
19nm,0.4s
ORIF Oris-en-Rattie 3.39 230 *e*Pn **Pn 07 10 54.0 +3.1**
SNR=1.0
ORIF Oris-en-Rattie 3.39 230 *e*Pn **Pn 07 10 54.0 +3.1**
SNR=1.0
SAOF Saorge 3.47 204 Pn Pn 07 10 54.6 +2.6
AUTN L'Aution 3.50 206 Pn Pn 07 10 54.5 +1.9
TOUF Mont Tournerai 3.54 208 Pn Pn 07 10 54.6 +1.5
SBF Sospel 3.62 205 *e*Pn **Pn 07 10 56.6 +2.5**
SNR=1.0
SBF *e*Sn **Sn 07 11 38.6 +1.7**
21nm,0.5s,SNR=1.0
SBF Sospel 3.62 205 *e*Pn **Pn 07 10 56.6 +2.5**
SNR=1.0
SBF *e*Sn **Sn 07 11 38.6 +1.7**
10nm,0.5s,SNR=1.0
NKC Novy Kostel 3.63 31 *e*PG **Pb 07 11 01.1 -1.0**
NKC *e*SG **Sb 07 11 48.9 +2.7**
comp=Z,9.7nm,0.3s
NKC Novy Kostel 3.63 31 Sg Sb 07 11 48.9 +2.7
9.7nm,0.3s
NKC Novy Kostel 3.63 31 Pg Pb 07 11 01.1 -1.0
WERN Wernitzgruen 3.65 30 *e*Pn **Pn 07 10 53.8 -0.7**
WERN Wernitzgruen 3.65 30 Pn Pn 07 10 53.8 -0.7
UBBA Unterbreizbach 3.67 5 *e*Sg **Sg 07 11 54.4 -1.1**
UBBA Unterbreizbach 3.67 5 Sg Sg 07 11 54.4 -1.1
MVIF Mont Vial 3.67 208 Pn Pn 07 10 57.0 +2.1
MOX Moxa 3.74 21 *e*Pn **Pn 07 10 53.6 -2.1**
MOX Moxa 3.74 21 Pn Pn 07 10 53.6 -2.1
REVF Revere 3.75 205 Pn Pn 07 10 57.8 +1.9
WERD Werda 3.76 28 *e*Pn **Pn 07 10 53.7 -2.4**
WERD Werda 3.76 28 Pn Pn 07 10 53.7 -2.4
LOR Lormes 3.85 274 *e*Pn **Pn 07 10 58.2 +0.9**
baz=88,SNR=1.0
LOR Lormes 3.85 274 *e*Pg **Pg 07 11 10.3 -1.4**
LOR *e*Sn **Sn 07 11 40.4 -2.3**
SNR=1.0
LOR *e*Sg **Sg 07 12 00.9 -0.7**
12nm,0.4s
LOR Lormes 3.85 274 *e*Pn **Pn 07 10 58.2 +0.9**
baz=88,SNR=1.0
LOR Lormes 3.85 274 *e*Pg **Pg 07 11 10.3 -1.4**
LOR *e*Sn **Sn 07 11 40.4 -2.3**
SNR=1.0
LOR *e*Sg **Sg 07 12 00.9 -0.7**
6.2nm,0.4s
SMF Signal de Mont 3.92 264 *e*Pn **Pn 07 10 58.4 +0.2**
SNR=1.0
SMF Signal de Mont 3.92 264 *e*Pg **Pg 07 11 12.1 -0.9**
SMF *e*Sn **Sn 07 11 41.6 -2.8**
SNR=1.0
SMF *e*Sg **Sg 07 12 01.7 -2.1**
11nm,0.2s,SNR=1.0
SMF Signal de Mont 3.92 264 *e*Pn **Pn 07 10 58.4 +0.2**
SNR=1.0
SMF Signal de Mont 3.92 264 *e*Pg **Pg 07 11 12.1 -0.9**
SMF *e*Sn **Sn 07 11 41.6 -2.8**
SNR=1.0
SMF *e*Sg **Sg 07 12 01.7 -2.1**
5.5nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 4.09 237 *e*Pn **Pn 07 11 01.0 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 07 11 46.5 -2.0**
SNR=1.0
VIVF *e*Sg **Sg 07 12 08.4 -0.7**
7.6nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 4.09 237 *e*Pn **Pn 07 11 01.0 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 07 11 46.5 -2.0**
SNR=1.0
VIVF *e*Sg **Sg 07 12 08.4 -0.7**
3.8nm,0.3s,SNR=1.0
SSF Saint Saulge 4.10 271 *e*Pn **Pn 07 11 01.3 +0.6**
SNR=1.0
SSF *e*Sn **Sn 07 11 44.1 -4.7**
SNR=1.0
SSF *e*Sg **Sg 07 12 08.4 -1.1**
7.4nm,0.4s,SNR=1.0
SSF Saint Saulge 4.10 271 *e*Sg **Sg 07 12 08.4 -1.1**
3.7nm,0.4s,SNR=1.0
SSF Saint Saulge 4.10 271 *e*Pn **Pn 07 11 01.3 +0.6**
SNR=1.0
SMRF Simiane la Rot 4.22 222 *e*Pn **Pn 07 11 04.0 +1.6**
SNR=1.0
SMRF *e*Sn **Sn 07 11 53.2 +1.3**
3.5nm,0.6s,SNR=1.0
SMRF Simiane la Rot 4.22 222 *e*Pn **Pn 07 11 04.0 +1.6**
SNR=1.0
SMRF *e*Sn **Sn 07 11 53.2 +1.3**
1.8nm,0.6s,SNR=1.0
AVF Avril sur Loir 4.23 267 *e*Pn **Pn 07 11 03.1 +0.6**
SNR=1.0
AVF *e*Sg **Sg 07 12 10.7 -3.0**
5.1nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.23 267 *e*Sg **Sg 07 12 10.7 -3.0**
2.5nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.23 267 *e*Pn **Pn 07 11 03.1 +0.6**
SNR=1.0
PRU Pruhonice 4.37 48 *e*PN **Pn 07 11 03.0 -1.3**
PRU *e*PG **Pb 07 11 13.8 -0.9**
PRU *e*SG **Sg 07 12 13.8 -4.3**
PRU Pruhonice 4.37 48 Pn Pn 07 11 03.0 -1.3
PRU Sg **Sg 07 12 13.8 -4.3**
LMR La Mourre 4.38 210 *e*Pn **Pn 07 11 06.1 +1.6**
SNR=1.0
LMR *e*Sn **Sn 07 11 55.7 0.0**
2.1nm,0.3s
LMR La Mourre 4.38 210 *e*Pn **Pn 07 11 06.1 +1.6**
SNR=1.0
LMR *e*Sn **Sn 07 11 55.7 0.0**
1.0nm,0.3s
BAIF Baives 4.55 311 *e*P **Pn 07 11 08.7 +1.8**
SNR=1.0
BAIF Baives 4.55 311 *e*P **Pn 07 11 08.7 +1.8**
SNR=1.0
BGF Bois d'Agland 4.61 265 *e*Pn **Pn 07 11 07.5 -0.2**
SNR=1.0
BGF Bois d'Agland 4.61 265 *e*Pg **Pg 07 11 25.0 -1.2**
BGF *e*Sn **Sn 07 11 59.7 -1.7**
10.0nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.61 265 *e*Pn **Pn 07 11 07.5 -0.2**
SNR=1.0
BGF Bois d'Agland 4.61 265 *e*Pg **Pg 07 11 25.0 -1.2**
BGF *e*Sn **Sn 07 11 59.7 -1.7**
5.0nm,0.4s,SNR=1.0
PGF Pioggiola 4.64 185 *e*Pn **Pn 07 11 09.8 +1.7**
PGF Pioggiola 4.64 185 *e*Pn **Pn 07 11 09.8 +1.7**
BRG Berggiesshubel 4.71 37 PG **Pg 07 11 26.0 -2.1**
BRG SG **Sg 07 12 26.1 -3.0**
6.1nm,0.6s
CLL Collm 4.73 28 *e*Sg **Sg 07 12 30.0 +0.4**
LASF Ste Croix 5.03 234 *e*Pn **Pn 07 11 14.7 +1.2**
SNR=1.0
LASF *e*Sn **Sn 07 12 10.1 -1.6**
2.5nm,0.4s,SNR=1.0
LASF Ste Croix 5.03 234 *e*Pn **Pn 07 11 14.7 +1.2**
SNR=1.0
LASF *e*Sn **Sn 07 12 10.1 -1.6**
1.2nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 5.10 263 *e*Pn **Pn 07 11 14.1 -0.3**
SNR=1.0
TCF *e*Sn **Sn 07 12 11.2 -2.2**
1.4nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 5.10 263 *e*Pn **Pn 07 11 14.1 -0.3**

SNR=1.0
TCF eSn **Sn** 07 12 11.2 -2.2
0.7nm,0.2s,SNR=1.0
LDF La Druitiere 6.63 286 ePn **Pn** 07 11 36.1 +0.7
SNR=1.0
MFF Saint Martin d 6.64 269 ePn **Pn** 07 11 35.1 -0.5
SNR=1.0
FLN La Foliniere 6.90 287 ePn **Pn** 07 11 39.2 +0.2
GRR Gorron 7.09 284 ePn **Pn** 07 11 42.1 +0.4

IDC ***17*** *07:14:46.1±0.6,22°.26S×170°.51E,h0km,mb4.6/18, mb1 4.7/20,mb1mx4.6/24,mbtmp4.6/20,ML3.6/2,MS4.2/9, Ms1 4.3/9,ms1mx4.0/22,Error ellipse: s-maj=18.6km s-min=15.2km az=139.0*

SZGRF ***17*** *07:14:48.3,21°.50S×170°.58E,h33km, Southeast of Loyalty Islands*

ISCJB ***17*** *07:14:50.4±0.3,22°.25S±0°.05×170°.45E±0°.05,h38km, mb4.8/46,MS4.4/11,Error ellipse: s-maj=7.2km s-min=6.8km az=148.2*

NEIC ***17*** *07:14:51.5±0.3,22°.18S×170°.49E,h35km,mb4.8/20,Error ellipse: s-maj=7.7km s-min=7.2km az=159.0*

MOS ***17*** *07:14:51.7±1.6,21°.88S×170°.28E,h33km,mb5.1/12,Error ellipse: s-maj=14.1km s-min=11.4km az=12.1*

BJI ***17*** *07:14:54.0,21°.63S×170°.33E,h45km,mB5.2/15,mb4.8/28, Ms5.2/11,Ms7 4.8/12*

ISC 17 07:14:52.2±0.4,22°.29S±0°.07×170°.52E±0°.05,h41km±2km, h40km:pP-P,n252,σ1$46/287,mb4.8/46,MS4.4/11,33C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.78**	**273**		ePn		**Pn**	**07 15 45.6**	**-2.5**
	144nm,0.2s								
DZM					eSn		**Sn**	**07 16 27.2**	**-4.2**
	367nm,0.2s								
DZM	**Mont Dzumac**	**3.78**	**273**	Pn			**Pn**	**07 15 46.8**	**-1.3**
	40nm,0.3s,baz=102,slow=14,SNR=766								
DZM				Sn			**Sn**	**07 16 29.0**	**-2.5**
	48nm,0.3s,baz=132,slow=23,SNR=14								
DZM				LR			LR	07 17 05.2	
	comp=Z,1μm,21.9s,baz=87,slow=37								
DZM	**Mont Dzumac**	**3.78**	**273**	Pn			**Pn**	**07 15 46.8**	**-1.3**
DZM				Sn			**Sn**	**07 16 29.0**	**-2.5**
MSVF	**Nonsavu**	**8.40**	**59**	ePn			Pn	07 16 43.8	-7.8
MSVF				pmax			pmax		
	comp=Z,567nm,0.6s								
MSVF	**Nonsavu**	**8.40**	**59**	ePn			Pn	07 16 43.8	-7.8
	comp=Z,567nm,0.6s								
OUZ	**Omahuta**	**13.16**	**169**	ePn			**Pn**	**07 17 57.2**	**+0.7**
URZ	**Urewera**	**16.90**	**162**	ePn			**P**	**07 18 46.7**	**-0.4**
	comp=Z,31nm,1.0s								
EIDS	**Eidsvold**	**18.05**	**256**	eP			**P**	**07 19 01.2**	**+1.2**
	comp=Z,60nm,0.9s								
EIDS	**Eidsvold**	**18.05**	**256**	eP			**P**	**07 19 01.1**	**+1.1**
	comp=Z,26nm,1.1s								
ARMA	**Armidale**	**18.75**	**240**	eP			**Pn**	**07 19 11.1**	**+2.6**
ARMA	**Armidale**	**18.75**	**240**	eP			**Pn**	**07 19 10.6**	**+2.1**
	comp=Z,28nm,1.0s								
AFI	**Afiamalu**	**18.76**	**67**	P			**Pn**	**07 19 08.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=256,slow=8.3,SNR=6.1								
AFI				LR			LR	07 24 51.1	
	comp=Z,629nm,21.4s,baz=71,slow=32								
AFI	**Afiamalu**	**18.76**	**67**	eP			**P**	**07 19 07.9**	**-0.1**
AFI				pmax			pmax		
	comp=Z,80nm,0.9s								
AFI	**Afiamalu**	**18.76**	**67**	eP			**P**	**07 19 07.9**	**-0.1**
	comp=Z,80nm,0.9s								
KHZ	**Kahutara**	**20.23**	**174**	eP			Pn	07 19 26.6	+0.7
	comp=Z,74nm,0.9s								
RPZ	**Rata Peaks**	**21.38**	**179**	P			**P**	**07 19 36.9**	**+0.8**
	comp=Z,19nm,0.8s,baz=184,slow=5.7,SNR=4.9								
RPZ	**Rata Peaks**	**21.38**	**179**	eP			**P**	**07 19 36.7**	**+0.6**
	comp=Z,66nm,1.0s								
CNB	**Canberra Magne**	**22.57**	**230**	eP			**P**	**07 19 50.2**	**+1.1**
	comp=Z,150nm,0.8s								
CTA	**Charters Tower**	**22.73**	**271**	P			**P**	**07 19 50.3**	**-0.5**
	comp=Z,9.4nm,0.7s,baz=103,slow=11,SNR=16								
CTA				LR			LR	07 27 49.2	
	comp=Z,487nm,20.1s,baz=92,slow=34								
CTA	**Charters Tower**	**22.73**	**271**	eP			**P**	**07 19 50.9**	**+0.1**
	comp=Z,7.3nm,0.7s								
CTA				eS			**S**	**07 23 59.7**	**+2.9**
CTA	**Charters Tower**	**22.73**	**271**	P			**P**	**07 19 50.3**	**-0.5**
CTA	**Charters Tower**	**22.73**	**271**	P			**P**	**07 19 50.3**	**-0.5**
CTAO	**Charters Tower**	**22.73**	**271**	eP			**P**	**07 19 50.7**	**-0.1**
CTAO				pmax			pmax		
	comp=Z,108nm,2.0s								
CTAO	**Charters Tower**	**22.73**	**271**	eP			**P**	**07 19 50.7**	**-0.1**
	comp=Z,108nm,2.0s								
YNG	**Young**	**22.81**	**234**	eP			**P**	**07 19 52.4**	**+0.9**
	comp=Z,24nm,0.8s								
PMG	**Port Moresby**	**25.82**	**296**	P			**P**	**07 20 19.9**	**+0.1**
	comp=Z,8.2nm,0.6s,baz=127,slow=6.5,SNR=6.8								
PMG	**Port Moresby**	**25.82**	**296**	||i	P		**P**	**07 20 22.5**	**+2.7**
PMG				pmax			pmax		
	comp=Z,17nm,1.0s								
PMG	**Port Moresby**	**25.82**	**296**	eP			**P**	**07 20 19.8**	**0.0**
	comp=Z,20nm,0.9s								
TOO	**Toolangi**	**26.39**	**229**	eP			**P**	**07 20 25.4**	**+0.5**
	comp=Z,42nm,0.9s								
COEN	**Coen**	**27.24**	**283**	eP			**P**	**07 20 33.3**	**+0.6**
	comp=Z,75nm,0.9s								
STKA	**Stephens Creek**	**27.40**	**243**	P			**P**	**07 20 34.3**	**+0.4**
	comp=Z,11nm,0.8s,baz=84,slow=9.7,SNR=24								
STKA				LR			LR	07 30 55.2	
	comp=Z,798nm,18.1s,baz=166,slow=35								
STKA	**Stephens Creek**	**27.40**	**243**	eP			**P**	**07 20 33.3**	**-0.6**
	comp=Z,10nm,0.8s								
STKA	**Stephens Creek**	**27.40**	**243**	eP			**P**	**07 20 34.3**	**+0.4**
STKA				pmax			pmax		
	comp=Z,4.0nm,0.9s								
STKA	**Stephens Creek**	**27.40**	**243**	eP			**P**	**07 20 34.2**	**+0.4**
	comp=Z,3.7nm,0.9s								
ARPS	**Mount Arapiles**	**28.69**	**233**	eP			**P**	**07 20 44.9**	**-0.5**
	comp=Z,39nm,1.0s								
BBOO	**Buckleboo**	**32.17**	**243**	eP			**P**	**07 21 15.7**	**-0.5**
	comp=Z,104nm,1.0s								
BBOO	**Buckleboo**	**32.17**	**243**	eP			**P**	**07 21 15.9**	**-0.3**
	comp=Z,530nm,1.1s								
AS31	**Alice Springs**	**33.68**	**260**	eP			**P**	**07 21 28.3**	**-1.2**
ASAR	**Alice Springs**	**33.68**	**260**	P			**P**	**07 21 28.2**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=84,slow=9.1,SNR=40								
ASAR				PcP			**PcP**	**07 24 09.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=95,slow=3.3,SNR=3.5								
ASAR				ScP			**ScP**	**07 27 56.0**	**+5.6**
	comp=Z,0.9nm,1.0s,baz=103,slow=4.0,SNR=4.2								
ASAR	**Alice Springs**	**33.68**	**260**	P			**P**	**07 21 28.2**	**-1.4**
ASAR								07 24 09.2	
ASAR	**Alice Springs**	**33.68**	**260**	P			**P**	**07 21 28.2**	**-1.4**
ASAR				PcP			**PcP**	**07 24 09.2**	**+0.3**
ASAR				ScP			**ScP**	**07 27 56.0**	**+5.6**
WB2	**Warramunga Arr**	**33.77**	**267**	eP			**P**	**07 21 28.0**	**-2.3**
WRAB	**Tennant Creek**	**33.77**	**267**	eP			**P**	**07 21 28.8**	**-1.6**
WRAB				pmax			pmax		
	comp=Z,18nm,1.4s								
WRAB	**Tennant Creek**	**33.77**	**267**	eP			**P**	**07 21 28.8**	**-1.6**
	comp=Z,18nm,1.4s								
WRA	**Warramunga Arr**	**33.78**	**267**	P			**P**	**07 21 28.3**	**-2.2**
	comp=Z,2.9nm,0.8s,baz=98,slow=8.4,SNR=17								
WRA				PcP			**PcP**	**07 24 09.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=93,slow=3.2,SNR=5.6								
WRA				ScP			**ScP**	**07 27 56.4**	**+5.6**
	comp=Z,3.5nm,1.3s,baz=98,slow=3.6,SNR=5.7								
WRA				LR			LR	07 35 27.4	
	comp=Z,696nm,20.1s,baz=85,slow=37								
WRA	**Warramunga Arr**	**33.78**	**267**	P			**P**	**07 21 28.3**	**-2.2**
WRA								07 24 09.2	
WRA	**Warramunga Arr**	**33.78**	**267**	P			**P**	**07 21 28.3**	**-2.2**
WRA				PcP			**PcP**	**07 24 09.2**	**0.0**
WRA				ScP			**ScP**	**07 27 56.4**	**+5.6**
TBI	**Tubuai**	**36.82**	**100**	eLR			LR	07 31 47.3	
	comp=Z,240nm,23.0s								
PPT2	**Papeete2**	**37.73**	**90**	eLR			LR	07 32 22.3	
	comp=Z,119nm,23.2s								
FITZ	**Fitzroy Crossi**	**42.21**	**267**	P			**P**	**07 22 41.4**	**-0.1**
	comp=Z,8.6nm,0.9s,baz=100,slow=10,SNR=8.8								
FITZ	**Fitzroy Crossi**	**42.21**	**267**	eP			**P**	**07 22 41.0**	**-0.5**
	comp=Z,19nm,0.9s								
FITZ	**Fitzroy Crossi**	**42.21**	**267**	eP			**P**	**07 22 40.7**	**-0.8**
	comp=Z,10nm,0.8s								
MBWA	**Marble Bar**	**47.01**	**261**	eP			**P**	**07 23 19.2**	**-0.6**
MBWA	**Marble Bar**	**47.01**	**261**	eP			**P**	**07 23 19.4**	**-0.3**
	comp=Z,15nm,0.8s								
MEEK	**Meekatharra**	**47.19**	**254**	eP			**P**	**07 23 19.8**	**-1.3**
	comp=Z,74nm,0.6s								
NWAO	**Narrogin (SRO)**	**47.96**	**245**	P			**P**	**07 23 25.1**	**-1.9**
	comp=Z,15nm,0.8s,baz=89,slow=8.7,SNR=5.5								
NWAO	**Narrogin (SRO)**	**47.96**	**245**	P			**P**	**07 23 25.1**	**-1.9**
NWAO	**Narrogin (SRO)**	**47.96**	**245**	P			**P**	**07 23 25.1**	**-1.9**
RKT	**Rikitea**	**50.04**	**102**	eLR			LR	07 37 58.3	
	comp=Z,212nm,29.2s								
MJAR	**Matsushiro Arr**	**65.99**	**332**	P			**P**	**07 25 33.2**	**-1.2**
	comp=Z,6.3nm,0.6s,baz=163,slow=6.7,SNR=16								
MJAR	**Matsushiro Arr**	**65.99**	**332**	P			**P**	**07 25 33.2**	**-1.2**
MJAR	**Matsushiro Arr**	**65.99**	**332**	P			**P**	**07 25 33.2**	**-1.2**
MAJO	**Matsushiro**	**66.00**	**332**	eP			**P**	**07 25 33.5**	**-1.0**
MAJO				pmax			pmax		
	comp=Z,33nm,1.3s								
MAJO	**Matsushiro**	**66.00**	**332**	eP			**P**	**07 25 33.5**	**-1.0**
	comp=Z,34nm,1.3s								
MAT	**Matsushiro**	**66.00**	**332**	P			**P**	**07 25 33.5**	**-1.0**
JNU	**Nakatsue**	**66.83**	**324**	eP			**P**	**07 25 39.1**	**-0.8**
	comp=Z,9.4nm,1.2s								
QSPA	**South Pole Qui**	**67.78**	**180**	P			**P**	**07 25 45.3**	**-0.4**
	comp=Z,8.6nm,1.1s,baz=8.3,slow=4.9,SNR=14								
QSPA	**South Pole Qui**	**67.78**	**180**	P			**P**	**07 25 45.3**	**-0.4**
ASAJ	**Asahikawa**	**70.86**	**339**	P			**P**	**07 26 04.9**	**+0.2**
	comp=Z,24nm,1.2s,baz=187,slow=8.1,SNR=4.4								
ASAJ	**Asahikawa**	**70.86**	**339**	P			**P**	**07 26 04.9**	**+0.2**
KSRS	**Korea Array**	**71.69**	**325**	P			**P**	**07 26 10.1**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=144,slow=6.5,SNR=22								
KSRS				LR			LR	07 56 27.7	
	comp=Z,81nm,18.1s,baz=318,slow=35								
KSAR	**Wonju Array Be**	**71.70**	**325**	P			**P**	**07 26 10.1**	**+0.2**
KSAR	**Wonju Array Be**	**71.70**	**325**	P			**P**	**07 26 10.1**	**+0.2**
QIZ	**Qiongzhong**	**72.13**	**300**	P			**P**	**07 26 12.3**	**-0.6**
QIZ				S			**S**	**07 35 35.3**	**+2.8**
YSS	**Yuzh-Sakhalins**	**73.34**	**341**	||eP		**P**	**07 26 20.5**	**+1.1**
YSS				pmax			pmax		
	comp=Z,20nm,0.7s								
USRK	**Ussuriysk Arra**	**74.98**	**332**	P			**P**	**07 26 29.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=151,slow=4.6,SNR=7.0								
WHN	**Wuhan**	**75.28**	**312**	P			**P**	**07 26 32.3**	**+1.2**
PETK	**Petropavlovsk-**	**75.90**	**352**	P			**P**	**07 26 34.0**	**-0.1**
	comp=Z,7.3nm,0.9s,baz=147,slow=7.8,SNR=7.4								
PETK				LR			LR	07 53 31.6	
	comp=Z,200nm,20.3s,baz=121,slow=31								
PETK	**Petropavlovsk-**	**75.90**	**352**	P			**P**	**07 26 34.1**	**-0.1**
PETK	**Petropavlovsk-**	**75.90**	**352**	P			**P**	**07 26 34.0**	**-0.1**
ENH	**Enshi**	**78.53**	**309**	eP			**P**	**07 26 49.4**	**0.0**
	comp=Z,25nm,1.1s								
GYA	**Guiyang**	**78.54**	**305**	P			**P**	**07 26 51.0**	**+1.3**
GYA				pP			**pP**	**07 27 04.6**	**+2.5**
GYA				sP			**sP**	**07 27 11.4**	**+4.7**
GYA				PP			**PP**	**07 29 51.3**	**+3.3**
GYA				SKS			**SKSac**	**07 36 56.0**	**-5.8**
GYA				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA				pmax			pmax		
	comp=Z,120nm,5.0s								
GYA				LR			LR		
	comp=N,550nm,18.0s								
GYA				LR			LR		
	comp=E,480nm,19.2s								
GYA				LR			LR		
	comp=Z,510nm,17.9s								
KLR	**Kul'dur**	**79.13**	**335**	eP			P	07 26 46.6	-5.7
BJI	**Beijing**	**80.05**	**321**	P			**P**	**07 26 59.3**	**+1.8**
BJI				S			**S**	**07 37 01.6**	**+2.9**
BJI				pmax			pmax		
	comp=Z,7.0nm,0.9s								
BJI				pmax			pmax		
	comp=Z,130nm,4.7s								
BJI				LR			LR		
	comp=N,230nm,25.9s								
BJI				LR			LR		
	comp=E,210nm,25.6s								
BJI				LR			LR		
	comp=Z,110nm,22.9s								
CMAR	**Chiang Mai Arr**	**80.84**	**294**	P			**P**	**07 27 03.8**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=134,slow=4.0,SNR=12								
CMAR	**Chiang Mai Arr**	**80.84**	**294**	P			**P**	**07 27 03.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**80.84**	**294**	P			**P**	**07 27 03.8**	**+1.5**
KMI	**Kunming**	**80.89**	**302**	P			**P**	**07 27 03.8**	**+1.1**
KMI				pP			**pP**	**07 27 16.5**	**+1.5**
KMI				sP			**sP**	**07 27 23.3**	**+3.6**
KMI				S			**S**	**07 37 09.3**	**+0.6**
KMI				sS			**sS**	**07 37 29.8**	**+0.4**
KMI				pmax			pmax		
	comp=Z,16nm,1.0s								
KMI				pmax			pmax		
	comp=Z,47nm,3.1s								
KMI				LR			LR		
	comp=Z,83nm,18.7s								
CHTO	**Chiang Mai**	**81.00**	**295**	eP			**P**	**07 27 04.4**	**+1.3**
CHTO				pmax			pmax		
	comp=Z,6.0nm,1.0s								
CHTO	**Chiang Mai**	**81.00**	**295**	eP			**P**	**07 27 04.4**	**+1.3**
	comp=Z,5.9nm,1.0s								
XAN	**Xi'an**	**81.04**	**312**	P			**P**	**07 27 02.9**	**-0.1**
XAN				pP			**pP**	**07 27 12.5**	**-2.9**
XAN				pmax			pmax		
	comp=Z,3.0nm,1.2s								
XAN				pmax			pmax		
	comp=Z,40nm,9.0s								
SYO	**Syowa Base**	**82.35**	**196**	||eX		pP	07 27 19.8	-1.9
CD2	**Chengdu**	**83.03**	**307**	P			**P**	**07 27 14.3**	**+0.7**
CD2				pP			**pP**	**07 27 27.9**	**+1.9**
CD2				sP			**sP**	**07 27 33.3**	**+2.7**
CD2				PP			**PP**	**07 30 27.8**	**+2.7**
CD2				S			**S**	**07 37 29.1**	**-1.1**
CD2				sS			**sS**	**07 37 52.3**	**+1.4**
CD2				pmax			pmax		
	comp=Z,20nm,0.5s								
CD2				pmax			pmax		
	comp=Z,220nm,7.7s								
CD2				LR			LR		
	comp=N,360nm,7.1s								
CD2				LR			LR		
	comp=Z,300nm,6.5s								
HHC	**Hu-ho-hao-te**	**83.30**	**319**	eP			**P**	**07 27 15.4**	**+0.6**
HHC				pP			**pP**	**07 27 25.9**	**-1.3**
HHC				sP			**sP**	**07 27 29.5**	**-2.3**
HHC				PP			**PP**	**07 30 30.3**	**+3.1**
HHC				S			**SKSac**	**07 37 33.6**	**-0.3**
HHC				sS			**sS**	**07 37 52.8**	**-0.5**
HHC				pmax			pmax		
	comp=Z,10.0nm,0.5s								
HHC				pmax			pmax		
	comp=Z,130nm,5.6s								
HHC				LR			LR		
	comp=N,190nm,15.5s								
HHC				LR			LR		
	comp=E,190nm,15.5s								
HHC				LR			LR		
	comp=Z,230nm,15.5s								
LZH	**Lanzhou**	**85.65**	**312**	eP			**P**	**07 27 27.5**	**+0.6**
LZH				pP			**pP**	**07 27 37.5**	**-1.8**
LZH				sP			**sP**	**07 27 46.0**	**+2.1**
LZH				pmax			pmax		
	comp=Z,16nm,1.0s								
NVL	**N'lazarevskaya**	**85.99**	**187**	eP			P	07 27 31.9	+4.1
NVL				pmax			pmax		
	comp=Z,12nm,1.0s								
SEY	**Seymchan**	**86.14**	**352**	eP			**P**	**07 27 27.5**	**-0.9**
SNAA	**Sanae**	**86.18**	**182**	e			P	07 27 25.3	-3.5
VNA3	**Neumayer Olymp**	**86.72**	**180**	e			**P**	**07 27 31.0**	**-0.5**
VNA3				e				07 27 43.6	
VNA2	**Neumayer--Watz**	**87.03**	**181**	e			**P**	**07 27 32.9**	**0.0**
VNA2				e				07 27 45.3	
VNA2				e				07 32 38.1	
ISA	**Isabella**	**88.48**	**50**	eP			**P**	**07 27 41.4**	**+0.9**
ISA				pmax			pmax		
	comp=Z,6.0nm,1.5s								
ISA	**Isabella**	**88.48**	**50**	eP			**P**	**07 27 41.4**	**+0.9**
	comp=Z,5.9nm,1.5s								
NVAR	**Mina Array Bea**	**89.93**	**48**	P			**P**	**07 27 47.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=226,slow=8.5,SNR=9.6								
NVAR				LR			LR	08 01 47.9	
	comp=Z,328nm,18.1s,baz=178,slow=31								
NVAR	**Mina Array Bea**	**89.93**	**48**	P			**P**	**07 27 47.4**	**0.0**
ULN	**Ulaanbaatar**	**90.01**	**323**	eP			**P**	**07 27 47.1**	**-0.4**
ULN				pmax			pmax		
	comp=Z,16nm,1.4s								
ULN	**Ulaanbaatar**	**90.01**	**323**	eP			**P**	**07 27 47.1**	**-0.4**
	comp=Z,16nm,1.4s								
GTA	**Gaotai**	**90.08**	**313**	eP			**P**	**07 27 48.8**	**+0.8**
GTA				pmax			pmax		
	comp=Z,4.0nm,1.4s								
BILL	**Bilibino**	**90.11**	**358**	eP			**P**	**07 27 46.6**	**-0.6**
BILL				pmax			pmax		
	comp=Z,25nm,1.5s								
BILL	**Bilibino**	**90.11**	**358**	eP			**P**	**07 27 46.6**	**-0.6**
	comp=Z,25nm,1.5s								
SONM	**Songino Array**	**90.36**	**323**	P			**P**	**07 27 48.9**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=133,slow=4.4,SNR=24								
SONM	**Songino Array**	**90.36**	**323**	P			**P**	**07 27 48.9**	**-0.2**
SONM	**Songino Array**	**90.36**	**323**	P			**P**	**07 27 48.9**	**-0.2**
ILAR	**Eielson Array**	**92.78**	**17**	P			**P**	**07 27 58.1**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=241,slow=5.1,SNR=10								
ILAR	**Eielson Array**	**92.78**	**17**	P			**P**	**07 27 58.1**	**-1.6**
ILAR	**Eielson Array**	**92.78**	**17**	P			**P**	**07 27 58.1**	**-1.6**
ZAK	**Zakamensk**	**93.46**	**324**	eP			**P**	**07 28 02.2**	**-1.1**
ZAK				pmax			pmax		
	comp=Z,5.0nm,1.4s								
TLY	**Talaya**	**93.94**	**325**	eP			**P**	**07 28 03.4**	**-2.0**
TLY				e				07 28 13.3	
TLY				pmax			pmax		
	comp=Z,3.0nm,0.8s								
PDAR	**Pinedale Array**	**97.80**	**47**	LR			LR	08 03 16.4	
	comp=Z,185nm,21.0s,baz=36,slow=30								
YKA	**Yellowknife Ar**	**102.81**	**27**	Pdiff			**Pdif**	**07 28 45.3**	**+0.4**
	comp=Z,0.2nm,0.9s,baz=254,slow=5.0,SNR=4.0								
YKA				PKiKP			**PKiKP**	**07 33 04.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=250,slow=1.5,SNR=8.5								
YKA	**Yellowknife Ar**	**102.81**	**27**	P			**Pdif**	**07 28 45.4**	**+0.4**
YKA				*i*				07 33 04.5	
YKA	**Yellowknife Ar**	**102.81**	**27**	Pdif			**Pdif**	**07 28 45.4**	**+0.4**
YKA				PKiKP			**PKiKP**	**07 33 04.5**	**-0.8**
MKAR	**Makanchi Array**	**104.73**	**315**	Pdiff			**Pdif**	**07 28 56.6**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=104,slow=4.6,SNR=3.3								
MKAR				PKKPbc			**PKKPbc**	**07 44 36.4**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=283,slow=2.5,SNR=4.5								
MKAR	**Makanchi Array**	**104.73**	**315**	P			**Pdif**	**07 28 56.6**	**+2.6**
MKAR	**Makanchi Array**	**104.73**	**315**	Pdif			**Pdif**	**07 28 56.6**	**+2.6**
MKAR				PKKPbc			**PKKPbc**	**07 44 36.4**	**-2.8**
RES	**Resolute Bay**	**112.53**	**17**	ePKiKP			**PKiKP**	**07 33 21.7**	**-1.4**
RES	**Resolute Bay**	**112.53**	**17**	ePKPdf			**PKiKP**	**07 33 21.7**	**-1.4**
ARCES	**ARCESS Array B**	**128.31**	**345**	PKP			**PKPdf**	**07 33 53.4**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=92,slow=2.0,SNR=18								
ARCES	**ARCESS Array B**	**128.31**	**345**	PKiKP			**PKPdf**	**07 33 53.4**	**-0.1**
ARCES	**ARCESS Array B**	**128.31**	**345**	PKP			**PKPdf**	**07 33 53.4**	**-0.1**
FINES	**FINESS Array B**	**133.85**	**337**	PKP			**PKPdf**	**07 34 02.2**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=47,slow=2.7,SNR=4.3								
FINES	**FINESS Array B**	**133.85**	**337**	PKiKP			**PKPdf**	**07 34 02.2**	**-2.0**
FINES	**FINESS Array B**	**133.85**	**337**	PKP			**PKPdf**	**07 34 02.2**	**-2.0**
AKASG	**Malin Array Be**	**138.65**	**323**	PKiKP			**PKPdf**	**07 34 12.6**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.9,SNR=3.8								
AKASG	**Malin Array Be**	**138.65**	**323**	PKiKP			**PKPdf**	**07 34 12.6**	**-0.8**
AKASG	**Malin Array Be**	**138.65**	**323**	PKP			**PKPdf**	**07 34 12.6**	**-0.8**
BRTR	**Keskin Array B**	**139.59**	**306**	*ei*	PKiKP		**PKPdf**	**07 34 15.1**	**-0.6**
BRTR				pmax			pmax		
	comp=Z,1.0nm,0.8s								
MLR	**Muntele Rosu**	**143.03**	**317**	⇑	PKiKP		**PKPdf**	**07 34 21.1**	**-0.6**
MLR	**Muntele Rosu**	**143.03**	**317**	⇑	iP		**PKPdf**	**07 34 21.1**	**-0.6**
SECR		**143.15**	**317**	⇑	iP		**PKPdf**	**07 34 25.4**	**+3.6**
KOLS	**Kolonicke sedl**	**143.40**	**324**	e	PKiKP		**PKPdf**	**07 34 22.2**	**+0.1**
KOLS	**Kolonicke sedl**	**143.40**	**324**	e	PKP		**PKPdf**	**07 34 22.2**	**+0.1**
UZH	**Uzhgorod**	**143.56**	**324**	⇑	iPKiKP		PKPbc	07 34 20.4	+0.6
UZH				*e*				07 34 25.4	
VOIR		**143.61**	**318**	⇑	PKiKP		PKPbc	07 34 19.8	-0.4
VOIR		**143.61**	**318**	⇑	iP		PKPbc	07 34 19.8	-0.4
STHS	**Stebnicka Huta**	**143.66**	**326**	e	PKiKP		**PKPdf**	**07 34 22.6**	**0.0**
STHS	**Stebnicka Huta**	**143.66**	**326**	e	PKP		**PKPdf**	**07 34 22.6**	**0.0**
TRPA	**Tarpa**	**143.71**	**323**	||i	iP	PKPab	07 34 19.1	-0.3
CRVS	**Cervenica-Dubn**	**143.85**	**325**	e	PKiKP		**PKPdf**	**07 34 22.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**143.85**	**325**	e	PKP		**PKPdf**	**07 34 22.1**	**-0.8**
OKC	**Ostrava-Krasne**	**144.95**	**328**	e	PKiKP		**PKPab**	**07 34 24.0**	**0.0**
OKC				*e*				07 34 33.7	
OKC	**Ostrava-Krasne**	**144.95**	**328**	e	PKP		**PKPab**	**07 34 24

GEC2	**GERESS Array S**	**147.73**	**331**	*e*PKPbc	**PKPbc**	**07 34 32.3**	**-0.2**
GEC2	**GERESS Array S**	**147.73**	**331**	*e*PKP2	**PKPbc**	**07 34 32.3**	**-0.2**
GERES	**GERESS Array B**	**147.73**	**331**	PKPbc	**PKPbc**	**07 34 33.0**	**+0.5**
	comp=Z,7.9nm,0.7s,baz=36,slow=2.8,SNR=35						
GERES	**GERESS Array B**	**147.73**	**331**	PKP2	**PKPbc**	**07 34 33.0**	**+0.5**
GERES	**GERESS Array B**	**147.73**	**331**	PKPbc	**PKPbc**	**07 34 33.0**	**+0.5**
WET	**Wettzell**	**147.87**	**332**	*e*PKPbc	**PKPbc**	**07 34 32.6**	**-0.2**
WET	**Wettzell**	**147.87**	**332**	*e*PKP2	**PKPbc**	**07 34 32.6**	**-0.2**
KOGS	**Kog**	**148.14**	**325**	*i* PKPbc	**PKPbc**	**07 34 33.5**	**0.0**
GRF	**Grafenberg Arr**	**148.15**	**334**	*e*PKPbc	**PKPbc**	**07 34 33.2**	**-0.2**
GRF	**Grafenberg Arr**	**148.15**	**334**	*e*PKP2	**PKPbc**	**07 34 33.2**	**-0.2**
GRFO	**Grafenberg**	**148.15**	**334**	*e*PKPab	**PKPab**	**07 34 35.1**	**-1.2**
GRFO	**Grafenberg**	**148.15**	**334**	*e*PKPab	**PKPab**	**07 34 35.1**	**-1.2**
TNS	**Taunus Mts**	**148.76**	**338**	*e*PKPbc	**PKPbc**	**07 34 35.0**	**-0.1**
TNS	**Taunus Mts**	**148.76**	**338**	*e*PKP2	**PKPbc**	**07 34 35.0**	**-0.1**
CRES	**Cresnjev**	**148.96**	**325**	*i* PKPbc	**PKPbc**	**07 34 36.1**	**+0.5**
KBA	**Koelnbreinsper**	**149.17**	**329**	⇑*i*PKP2	**PKPbc**	**07 34 36.1**	**-0.3**
KBA	**Koelnbreinsper**	**149.17**	**329**	⇑*i*P	**PKPbc**	**07 34 36.1**	**-0.3**
KBA	**Koelnbreinsper**	**149.17**	**329**	⇑*i*PKPbc	**PKPbc**	**07 34 36.1**	**-0.3**
	comp=Z,7.1nm,0.6s						
MEM	**Membach**	**149.24**	**341**	PKPbc	**PKPbc**	**07 34 36.2**	**0.0**
BOJS	**Bojanci**	**149.28**	**325**	*i* PKPbc	**PKPbc**	**07 34 37.2**	**+0.8**
VOY	**Vojsko**	**149.63**	**327**	*e*PKPbc	**PKPbc**	**07 34 37.5**	**+0.1**
VOY				*e*		07 34 41.2	
WATA	**Walderalm**	**149.81**	**331**	⇑*i*PKPbc	**PKPbc**	**07 34 37.2**	**-0.7**
	comp=Z,5.4nm,0.4s,SNR=5.4						
WTTA	**Wattenberg**	**149.83**	**331**	⇑*i*PKP2	**PKPbc**	**07 34 37.6**	**-0.4**
WTTA	**Wattenberg**	**149.83**	**331**	⇑*i*P	**PKPbc**	**07 34 37.6**	**-0.4**
WTTA	**Wattenberg**	**149.83**	**331**	⇑*i*PKPbc	**PKPbc**	**07 34 37.6**	**-0.4**
	comp=Z,7.5nm,0.6s,SNR=5.6						
MOTA	**Moosalm**	**150.01**	**331**	⇑*i*PKHKP	**PKPbc**	**07 34 37.6**	**-0.8**
MOTA	**Moosalm**	**150.01**	**331**	⇑*i*P	**PKPbc**	**07 34 37.6**	**-0.8**
MOTA	**Moosalm**	**150.01**	**331**	⇑*i*PKPbc	**PKPbc**	**07 34 37.6**	**-0.8**
	comp=Z,6.4nm,0.6s,SNR=7.8						
WLF	**Walferdange**	**150.02**	**339**	PKPbc	**PKPbc**	**07 34 39.1**	**+0.9**
DOU	**Dourbes**	**150.12**	**342**	PKPbc	**PKPbc**	**07 34 38.0**	**-0.3**
BFO	**Black Forest**	**150.38**	**336**	*e*PKP2	**PKPbc**	**07 34 38.9**	**-0.2**
BFO	**Black Forest**	**150.38**	**336**	*e*PKPbc	**PKPbc**	**07 34 38.9**	**-0.2**
FETA	**Feichten**	**150.42**	**331**	⇓*i*PKIKP	**PKPbc**	**07 34 39.4**	**0.0**
	comp=Z,21nm,1.1s,SNR=3.8						
DAVOX	**Davos/Dischmat**	**150.98**	**332**	PKPbc	**PKPbc**	**07 34 40.7**	**-0.1**
	comp=Z,9.6nm,0.5s,baz=45,slow=4.3,SNR=18						
DAVOX	**Davos/Dischmat**	**150.98**	**332**	PKIKP	**PKPbc**	**07 34 40.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**150.98**	**332**	PKPbc	**PKPbc**	**07 34 40.7**	**-0.1**
TUE	**Stuetta**	**151.45**	**332**	*e*PKPbc	**PKPbc**	**07 34 41.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**166.01**	**231**	PKP	**PKPdf**	**07 34 53.5**	**-0.1**
	comp=Z,1.3nm,1.1s,baz=105,slow=0.1,SNR=4.1						
TORD				PKPab	**PKPab**	**07 35 54.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=127,slow=3.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**166.01**	**231**	PKP	**PKPdf**	**07 34 53.5**	**-0.1**
TORD				PKPab	**PKPab**	**07 35 54.1**	**+0.3**

BJI **17** *07:45:23.9, 37.°13N×36.°15E, h11 km, mB5.1/14, mb4.7/26, Ms4.8/9, Ms7 4.4/8*

MOS **17** *07:45:25.8±1.0, 37.°21N×36.°36E, h10 km, mb4.5/33, Error ellipse: s-maj=6.8km s-min=4.5km az=98.2*

DDA **17** *07:45:26.0, 37.°17N×36.°31E, h8 km, ML4.6*

IDC **17** *07:45:25.3±0.6, 37.°12N×36.°36E, h0 km, mb4.1/19, mb1 4.2/27, mb1mx4.1/34, mbtmp4.1/27, ML3.7/5, MS3.9/20, Ms1 3.9/20, ms1mx3.7/46, Error ellipse: s-maj=11.1km s-min=10.2km az=52.0*

ISK **17** *07:45:25.4, 37.°09N×36.°36E, h14 km, ML4.5*

NEIC **17** *07:45:26.8, 37.°10N×36.°31E, h6 km, mb4.6/24, ML4.5(ISK), After ISK.*

NEIC Felt at Adana, Gaziantep and Osmaniye. Felt at Aleppo, Syria.

ISCJB **17** *07:45:26.1±0.4, 37.°13N±0.°01×36.°32E±0.°01, h15 km±2 km, mb4.5/81, MS4.0/20, Error ellipse: s-maj=2.0km s-min=1.9km az=166.9*

NIC **17** *07:45:27.9±0.3, 37.°60N×35.°68E, h86 km, mb4.7, ML4.5, MW4.1*

CSEM **17** *07:45:27.2±0.1, 37.°13N×36.°36E, h10 km, mb4.7/49, Ms5.0, Mw4.1, Error ellipse: s-maj=2.1km s-min=2.0km az=120.0*

NSSC **17** *07:45:25.8±2.4, 37.°18N×36.°35E, h21 km±16 km, ML4.3*

HLW **17** *07:45:30.6, 37.°26N×36.°10E, h33 km±26 km, Md0.0, Ml4.2*

ISC 17 07:45:27.7±0.4**, 37°14N**±0.°02×**36°36E**±0.°02, **h14**km±2km, **n612**, σ1§**19**/658, **mb4.5**/81, **MS3.8**/20, **22C-24D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CEYT	**Ceyhan**	**0.50**	**255**	*e*PG	**Pg**	**07 45 36.1**	**-1.6**
CEYT	**Ceyhan**	**0.50**	**255**	*e*Pg	**Pg**	**07 45 36.1**	**-1.6**
KOZT	**Kozan**	**0.54**	**309**	*e*PG	**Pg**	**07 45 37.3**	**-1.1**
KOZT				*e*SG	**Sg**	**07 45 45.1**	**-0.5**
KOZT	**Kozan**	**0.54**	**309**	*e*Pg	**Pg**	**07 45 37.3**	**-1.1**
KOZT				*e*Sg	**Sg**	**07 45 45.1**	**-0.5**
KMRS	**Kahramanmaras**	**0.56**	**50**	*e*PG	**Pg**	**07 45 37.0**	**-1.9**
KMRS				*e*SG	**Sg**	**07 45 45.1**	**-1.2**
KMRS	**Kahramanmaras**	**0.56**	**50**	*e*Pg	**Pg**	**07 45 37.0**	**-1.9**
KMRS				*e*Sg	**Sg**	**07 45 45.2**	**-1.2**
COBT	**Iskenderun**	**0.63**	**187**	*i* P	**Pg**	**07 45 38.9**	**-1.2**
COBT	**Iskenderun**	**0.63**	**187**	*i* P	**Pg**	**07 45 38.9**	**-1.2**
GAZ	**Gaziantep**	**0.69**	**87**	*e*PG	**Pg**	**07 45 39.7**	**-1.4**
GAZ				*e*SG	**Sg**	**07 45 50.0**	**-0.2**
GAZ	**Gaziantep**	**0.69**	**87**	*e*Pg	**Pg**	**07 45 39.7**	**-1.4**
GAZ				*e*Sg	**Sg**	**07 45 50.0**	**-0.2**
KUZU	**Kuzuini**	**0.69**	**122**	*i* P	**Pg**	**07 45 40.6**	**-0.5**
KUZU				*i* S	**Sb**	**07 45 50.6**	**-0.2**
KUZU	**Kuzuini**	**0.69**	**122**	*i* P	**Pg**	**07 45 40.6**	**-0.5**
KUZU				*i* S	**Sb**	**07 45 50.6**	**-0.2**
KRTS	**Karatas**	**0.97**	**234**	*e*PG	**Pb**	**07 45 44.9**	**-1.4**
KRTS	**Karatas**	**0.97**	**234**	*e*Pg	**Pb**	**07 45 44.9**	**-1.4**
GZT	**Gaziantep**	**0.99**	**77**	*i* P	**Pb**	**07 45 45.5**	**-1.2**
HTY	**Hatay**	**1.04**	**190**	*e*PG	**Pb**	**07 45 45.0**	**-2.3**
HTY	**Hatay**	**1.04**	**190**	*e*Pg	**Pb**	**07 45 45.1**	**-2.3**
YAYL	**Yayladag**	**1.12**	**190**	*i* P	**Pb**	**07 45 48.6**	**-0.4**
YAYL				*i* S	**Sn**	**07 46 05.5**	**+1.1**
YAYL	**Yayladag**	**1.12**	**190**	*i* P	**Pb**	**07 45 48.6**	**-0.4**
YAYL				*i* S	**Sn**	**07 46 05.5**	**+1.1**
GULE	**Gulek**	**1.27**	**277**	*i* P	**Pn**	**07 45 48.3**	**-2.8**
GULE				*i* S	**Sn**	**07 46 07.9**	**-0.2**
GULE	**Gulek**	**1.27**	**277**	*i* P	**Pn**	**07 45 48.3**	**-2.8**
GULE				*i* S	**Sn**	**07 46 07.9**	**-0.2**
ARNB	**Al Arnab**	**1.32**	**194**	*e*P	**Pn**	**07 45 50.7**	**-1.0**
ARNB				*e*S	**Sg**	**07 46 10.5**	**+0.3**
ARNB				AML	AML	07 46 12.6	
	comp=E,40μm,0.6s						
ARNB				AML	AML	07 46 12.8	
	comp=N,27μm,0.4s						
ARNB	**Al Arnab**	**1.32**	**194**	*e*P	**Pn**	**07 45 50.7**	**-1.0**
	SNR=57						
ARNB				*e*S	**Sg**	**07 46 10.5**	**+0.3**
	comp=N,27μm,0.4s,SNR=49						
MERS	**Mersin**	**1.49**	**260**	*e*PN	**Pn**	**07 45 52.1**	**-2.0**
MERS	**Mersin**	**1.49**	**260**	*e*Pn	**Pn**	**07 45 52.1**	**-2.0**
PINB	**Pinarbasi**	**1.53**	**1**	*i* P	**Pn**	**07 45 53.5**	**-1.3**
PINB				*i* S	**Sn**	**07 46 14.7**	**0.0**
PINB	**Pinarbasi**	**1.53**	**1**	*i* P	**Pn**	**07 45 53.5**	**-1.3**
PINB				*i* S	**Sn**	**07 46 14.7**	**0.0**
SLMH	**Al Salmeh**	**1.57**	**126**	*e*P	**Pn**	**07 45 55.2**	**0.0**
SLMH				*e*S	**Sb**	**07 46 16.0**	**-0.2**
SLMH				AML	AML	07 46 32.5	
	comp=Z,20μm,0.4s						
NIG	**Nigde**	**1.69**	**305**	*e*PN	**Pn**	**07 45 55.5**	**-1.5**
NIG	**Nigde**	**1.69**	**305**	*e*Pn	**Pn**	**07 45 55.5**	**-1.5**
AKCD	**Akcadag**	**1.69**	**47**	*i* P	**Pn**	**07 45 55.7**	**-1.3**
AKCD				*i* S	**Sg**	**07 46 21.4**	**-0.9**
AKCD	**Akcadag**	**1.69**	**47**	*i* P	**Pn**	**07 45 55.7**	**-1.3**
AKCD				*i* S	**Sg**	**07 46 21.4**	**-0.9**
BNN	**Bunyan**	**1.75**	**347**	*e*PN	**Pn**	**07 45 57.0**	**-0.8**
BNN	**Bunyan**	**1.75**	**347**	*e*Pn	**Pn**	**07 45 57.0**	**-0.8**
BSTP	**Nigde**	**1.96**	**295**	*i* P	**Pn**	**07 46 01.6**	**+1.0**
URFA	**Urfa**	**1.99**	**81**	*e*PN	**Pn**	**07 45 59.4**	**-1.6**
URFA	**Urfa**	**1.99**	**81**	*e*Pn	**Pn**	**07 45 59.4**	**-1.6**
AVNT	**Avonos**	**2.02**	**324**	*i* P	**Pn**	**07 46 01.2**	**-0.3**
AVNT	**Avonos**	**2.02**	**324**	*i* P	**Pn**	**07 46 01.2**	**-0.3**
MYA	**Malataya**	**2.02**	**54**	*e*PN	**Pn**	**07 46 00.3**	**-1.1**
MYA	**Malataya**	**2.02**	**54**	*e*Pn	**Pn**	**07 46 00.3**	**-1.1**
DARE	**Darende-Malaty**	**2.14**	**32**	*e*PN	Pn	07 45 53.1	-10
EREN	**Erenkoy**	**2.39**	**228**	*e*PN	**Pn**	**07 46 04.6**	**-1.8**
EREN	**Erenkoy**	**2.39**	**228**	*e*Pn	**Pn**	**07 46 04.6**	**-1.8**
ELZG	**Elazig**	**2.48**	**56**	*i* P	**Pn**	**07 46 06.6**	**-1.3**
ELZG				*e*S	**Sb**	**07 46 41.4**	**-1.3**
ELZG	**Elazig**	**2.48**	**56**	*i* P	**Pn**	**07 46 06.6**	**-1.3**
ELZG				*e*S	**Sb**	**07 46 41.4**	**-1.3**
SULT	**Sultanhani-AKS**	**2.49**	**296**	*e*PN	**Pn**	**07 46 07.4**	**-0.4**
SULT	**Sultanhani-AKS**	**2.49**	**296**	*e*Pn	**Pn**	**07 46 07.4**	**-0.4**
HAWK	**Haweek**	**2.62**	**179**	*e*P	**Pn**	**07 46 09.4**	**-0.2**
HAWK				*e*S	**Sn**	**07 46 42.4**	**+1.2**
HAWK				AML	AML	07 46 55.6	
	comp=E,3μm,0.3s						
HAWK				AML	AML	07 46 58.5	
	comp=N,6μm,0.5s						
HAWK	**Haweek**	**2.62**	**179**	*e*P	**Pn**	**07 46 09.4**	**-0.2**
	SNR=45						
HAWK				*e*S	**Sn**	**07 46 42.4**	**+1.2**
	comp=N,6μm,0.5s,SNR=40						
YOZ	**Yozgat**	**2.62**	**342**	*e*PN	**Pn**	**07 46 09.7**	**-0.1**
YOZ	**Yozgat**	**2.62**	**342**	*e*Pn	**Pn**	**07 46 09.7**	**-0.1**
MNKR	**ALMNKUR**	**2.64**	**116**	*e*P	**Pn**	**07 46 09.5**	**-0.3**
MNKR				*e*S	**Sn**	**07 46 41.1**	**-0.5**
MNKR				AML	AML	07 46 59.2	
	comp=Z,18μm,0.6s						
MNKR	**ALMNKUR**	**2.64**	**116**	*e*P	**Pn**	**07 46 09.5**	**-0.3**
	SNR=45						
MNKR				*e*S	**Sn**	**07 46 41.1**	**-0.5**
	comp=Z,18μm,0.6s,SNR=40						
SVRC	**Sivrice-ELAZID**	**2.64**	**61**	*e*PN	**Pn**	**07 46 08.8**	**-1.3**
SVRC	**Sivrice-ELAZID**	**2.64**	**61**	*e*Pn	**Pn**	**07 46 08.8**	**-1.3**
KEMA	**Kemaliye**	**2.71**	**38**	*i* P	**Pn**	**07 46 09.8**	**-1.1**
KEMA				*i* S	**Sb**	**07 46 51.0**	**+1.9**
KEMA	**Kemaliye**	**2.71**	**38**	*i* P	**Pn**	**07 46 09.8**	**-1.1**
ERMK	**Ermenek**	**2.80**	**261**	*i* P	**Pn**	**07 46 12.2**	**-0.1**
ERMK	**Ermenek**	**2.80**	**261**	*i* P	**Pn**	**07 46 12.2**	**-0.1**
PHNC	**Paralimni**	**2.85**	**222**	P	**Pn**	**07 46 13.4**	**+0.7**
	comp=Z,101nm,1.1s						
PHNC				S	**Sb**	**07 46 51.9**	**-1.1**
PHNC	**Paralimni**	**2.85**	**222**	P	**Pn**	**07 46 13.4**	**+0.7**
	comp=Z,101nm,1.1s						
HWQ	**Hawqa**	**2.88**	**187**	*e*P	**Pn**	**07 46 13.2**	**-0.1**
HWQ	**Hawqa**	**2.88**	**187**	*e*P	**Pn**	**07 46 13.1**	**-0.1**
ILIC	**ilic-Erzincan**	**2.89**	**36**	*e*PN	**Pn**	**07 46 13.3**	**-0.1**
ILIC	**ilic-Erzincan**	**2.89**	**36**	*e*Pn	**Pn**	**07 46 13.3**	**-0.1**
FKH	**Fakeheh**	**2.89**	**179**	*e*P	**Pn**	**07 46 13.2**	**-0.3**
FKH	**Fakeheh**	**2.89**	**179**	*e*P	**Pn**	**07 46 13.2**	**-0.3**
CDAG	**Cicekdag**	**2.92**	**328**	*i* P	**Pn**	**07 46 14.0**	**+0.1**
CDAG	**Cicekdag**	**2.92**	**328**	*i* P	**Pn**	**07 46 14.0**	**+0.1**
LFK	**Lefkose**	**2.94**	**232**	*e*PN	**Pn**	**07 46 11.9**	**-2.2**
LFK	**Lefkose**	**2.94**	**232**	*e*Pn	**Pn**	**07 46 11.9**	**-2.2**
PTK	**Pertek**	**2.97**	**53**	*e*PN	**Pn**	**07 46 13.6**	**-0.9**
PTK	**Pertek**	**2.97**	**53**	*e*Pn	**Pn**	**07 46 13.6**	**-0.9**
KAMT	**Kaman**	**3.04**	**318**	*e*PN	**Pn**	**07 46 15.1**	**-0.4**
KAMT	**Kaman**	**3.04**	**318**	*e*Pn	**Pn**	**07 46 15.1**	**-0.4**
ROOS	**tl_alroos**	**3.06**	**165**	*e*P	**Pn**	**07 46 16.2**	**+0.5**
ROOS				*e*S	**Sn**	**07 46 54.1**	**+1.9**
ROOS				AML	AML	07 47 10.9	
	comp=E,63nm,0.4s						
ROOS				AML	AML	07 47 16.7	
	comp=N,49nm,0.5s						
ROOS	**tl_alroos**	**3.06**	**165**	*e*P	**Pn**	**07 46 16.2**	**+0.5**
	SNR=45						
DIYA	**Diyarbakir**	**3.09**	**74**	*e*P	**Pn**	**07 46 16.0**	**-0.2**
DIYA				*i* S	**Sb**	**07 47 02.7**	**+2.5**
DIYA	**Diyarbakir**	**3.09**	**74**	*e*P	**Pn**	**07 46 16.0**	**-0.2**
SFNV	**Sufian**	**3.10**	**102**	*e*P	**Pn**	**07 46 14.6**	**-1.7**
SFNV				*e*S	**Sn**	**07 46 55.5**	**+2.3**
SFNV				AML	AML	07 47 26.6	
	comp=Z,2μm,0.6s						
SFNV	**Sufian**	**3.10**	**102**	*e*P	**Pn**	**07 46 14.6**	**-1.7**
	SNR=45						
SFNV				*e*S	**Sn**	**07 46 55.5**	**+2.3**
	comp=Z,2μm,0.6s,SNR=40						
TOKT	**Tokat**	**3.17**	**3**	*e*PN	**Pn**	**07 46 17.4**	**+0.1**
TOKT	**Tokat**	**3.17**	**3**	*e*Pn	**Pn**	**07 46 17.4**	**+0.1**
TOKA	**Tokat**	**3.18**	**2**	*i* P	**Pn**	**07 46 16.9**	**-0.4**
TOKA	**Tokat**	**3.18**	**2**	*i* P	**Pn**	**07 46 16.9**	**-0.4**
MAMC	**Mammari**	**3.21**	**233**	P	**Pn**	**07 46 16.0**	**-1.7**
MAMC	**Mammari**	**3.21**	**233**	P	**Pn**	**07 46 16.0**	**-1.7**
KONT	**Konya--Tatoy**	**3.27**	**285**	*e*PN	**Pn**	**07 46 18.4**	**-0.2**
KONT	**Konya--Tatoy**	**3.27**	**285**	*e*Pn	**Pn**	**07 46 18.4**	**-0.2**
CSS	**Prodhromos**	**3.28**	**229**	P	**Pn**	**07 46 17.1**	**-1.6**
CSS				S	**Sn**	**07 46 55.7**	**-1.7**
CSS	**Prodhromos**	**3.28**	**229**	*e*PN	**Pn**	**07 46 15.7**	**-3.0**
CSS	**Prodhromos**	**3.28**	**229**	*e*Pn	Pn	07 46 15.4	-3.3
CSS	**Prodhromos**	**3.28**	**229**	*e*Pn	Pn	07 46 15.4	-3.3
CSS	**Prodhromos**	**3.28**	**229**	P	**Pn**	**07 46 17.1**	**-1.6**
CSS				S	**Sn**	**07 46 55.7**	**-1.7**
BHL	**Bhannes**	**3.28**	**190**	*e*P	**Pn**	**07 46 18.6**	**-0.2**
BHL	**Bhannes**	**3.28**	**190**	*e*P	**Pn**	**07 46 18.6**	**-0.2**
CORM	**Corum**	**3.32**	**337**	*e*PN	**Pn**	**07 46 19.6**	**+0.3**
CORM	**Corum**	**3.32**	**337**	*e*Pn	**Pn**	**07 46 19.6**	**+0.3**
RSDY	**Resadiye-TOKAT**	**3.34**	**13**	*e*PN	**Pn**	**07 46 20.0**	**+0.5**
RSDY	**Resadiye-TOKAT**	**3.34**	**13**	*e*Pn	**Pn**	**07 46 20.0**	**+0.5**
LADK	**Ladik-KONYA**	**3.34**	**290**	*e*PN	**Pn**	**07 46 19.3**	**-0.2**
LADK	**Ladik-KONYA**	**3.34**	**290**	*e*Pn	**Pn**	**07 46 19.3**	**-0.2**
BEYL	**Beirut**	**3.34**	**192**	*e*P	**Pn**	**07 46 20.8**	**+1.3**
BEYL	**Beirut**	**3.34**	**192**	*e*P	**Pn**	**07 46 20.8**	**+1.3**
BR131	**Keskin Array S**	**3.34**	**321**	*e*Pn	**Pn**	**07 46 20.0**	**+0.3**
BR131	**Keskin Array S**	**3.34**	**321**	*e*Pn	**Pn**	**07 46 20.0**	**+0.2**
BRTR	**Keskin Array B**	**3.34**	**321**	Pn	**Pn**	**07 46 19.9**	**+0.2**
	comp=Z,6.8nm,0.3s,baz=150,slow=14,SNR=152						
BRTR				Lg	Lg	07 47 15.0	
	comp=Z,9.8nm,0.3s,baz=142,slow=33,SNR=7.0						
BRTR	**Keskin Array B**	**3.34**	**321**	P	**Pn**	**07 46 19.9**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BRTR	**Keskin Array B**	**3.34**	**321**	Pn	**Pn**	**07 46 19.9**	**+0.2**
BRTR				Lg	Lg	07 47 15.0	
BRTR	**Keskin Array B**	**3.34**	**321**	P	**Pn**	**07 46 19.9**	**+0.2**
	comp=Z,7.0nm,0.3s						
BRTR				Lg	Lg	07 47 15.0	
KBSD	**Kabsdagh**	**3.35**	**91**	*e*P	**Pn**	**07 46 18.2**	**-1.5**
KBSD				*e*S	**Sn**	**07 46 59.5**	**+0.2**
KBSD				AML	AML	07 47 24.4	
	comp=Z,4μm,0.9s						
SUSE	**Susehri**	**3.38**	**25**	*i* P	**Pn**	**07 46 20.6**	**+0.4**
SUSE	**Susehri**	**3.38**	**25**	*i* P	**Pn**	**07 46 20.6**	**+0.4**
LEF	**Lefka**	**3.46**	**235**	*e*PN	**Pn**	**07 46 18.7**	**-2.4**
LEF	**Lefka**	**3.46**	**235**	*e*Pn	**Pn**	**07 46 18.7**	**-2.4**
AFSR	**Af˙ar-Bala (A**	**3.46**	**313**	*e*PN	**Pn**	**07 46 21.4**	**+0.2**
AFSR	**Af˙ar-Bala (A**	**3.46**	**313**	*e*Pn	**Pn**	**07 46 21.4**	**+0.2**
BBAL	**Bala**	**3.49**	**314**	*i* P	**Pn**	**07 46 21.2**	**-0.5**
BBAL				*e*S	**Sb**	**07 47 14.4**	**+2.7**
BBAL	**Bala**	**3.49**	**314**	*i* P	**Pn**	**07 46 21.2**	**-0.5**
EZC	**Erzincan**	**3.51**	**41**	*e*Pn	**Pn**	**07 46 23.7**	**+1.7**
MARD	**Mardin**	**3.54**	**86**	*i* P	**Pn**	**07 46 20.3**	**-2.0**
MARD				*e*S	**Sg**	**07 47 19.0**	**-2.3**
ERZN	**Erzincan**	**3.60**	**46**	*e*PN	**Pn**	**07 46 23.7**	**+0.6**
QASN	**Qassioun**	**3.60**	**181**	*e*P	**Pn**	**07 46 25.5**	**+2.3**
QASN				*e*S	**Sn**	**07 47 08.1**	**+2.5**
QASN				AML	AML	07 47 26.6	
	comp=E,5μm,0.5s						
QASN				AML	AML	07 47 31.0	
	comp=N,3μm,0.5s						
ALFC	**Alevga**	**3.63**	**238**	⇓P	**Pn**	**07 46 20.7**	**-2.8**
	comp=N,28nm,0.4s						
ALFC				S	**Sn**	**07 47 02.4**	**-3.7**
ALFC	**Alevga**	**3.63**	**238**	⇓P	**Pn**	**07 46 20.7**	**-2.8**
	comp=N,28nm,0.4s						
ALFC				S	**Sn**	**07 47 02.4**	**-3.7**
RCY	**Rachaya**	**3.66**	**187**	*e*P	**Pn**	**07 46 23.0**	**-1.1**
CTKT	**Corum**	**3.68**	**341**	*i* P	**Pn**	**07 46 25.0**	**+0.7**
CTKT	**Corum**	**3.68**	**341**	*i* P	**Pn**	**07 46 25.0**	**+0.7**
SZAC	**Souni-Zanaja**	**3.69**	**231**	P	**Pn**	**07 46 24.2**	**-0.1**
SZAC				S	**Sn**	**07 47 09.0**	**+1.4**
SZAC	**Souni-Zanaja**	**3.69**	**231**	P	**Pn**	**07 46 24.2**	**-0.1**
SZAC				S	**Sn**	**07 47 09.0**	**+1.4**
BINT	**Bingol**	**3.69**	**61**	*e*Pn	**Pn**	**07 46 26.8**	**+2.3**
BRBR	**Barbar**	**3.74**	**185**	*e*P	**Pn**	**07 46 25.4**	**+0.3**
BRBR				*e*S	**Sn**	**07 47 08.3**	**-0.7**
BRBR				AML	AML	07 47 30.2	
	comp=E,2μm,0.5s						
BRBR				AML	AML	07 47 34.8	
	comp=N,1μm,0.7s						
MATL	**Matarih**	**3.74**	**193**	*e*P	**Pn**	**07 46 26.0**	**+1.0**
MATL	**Matarih**	**3.74**	**193**	*e*P	**Pn**	**07 46 26.0**	**+1.0**
KELT	**Kelkit**	**3.76**	**36**	*i* P	**Pn**	**07 46 25.4**	**-0.1**
KELT	**Kelkit**	**3.76**	**36**	*i* P	**Pn**	**07 46 25.4**	**-0.1**
BNGB	**Bing¨¶l**	**3.88**	**60**	*e*PN	**Pn**	**07 46 26.8**	**-0.2**
LOD	**Lodumlu**	**3.93**	**315**	*e*PN	**Pn**	**07 46 28.4**	**+0.8**
LOD	**Lodumlu**	**3.93**	**315**	*e*Pn	**Pn**	**07 46 28.4**	**+0.8**
KVT	**Kavak**	**3.94**	**357**	*e*PN	**Pn**	**07 46 28.7**	**+0.9**
KVT	**Kavak**	**3.94**	**357**	*e*Pn	**Pn**	**07 46 28.7**	**+0.9**
PPCY	**Paphos**	**3.96**	**236**	P	**Pn**	**07 46 29.0**	**+1.1**
PPCY				S	**Sn**	**07 47 17.5**	**+3.4**
PPCY	**Paphos**	**3.96**	**236**	P	**Pn**	**07 46 29.0**	**+1.1**
PPCY				S	**Sn**	**07 47 17.5**	**+3.4**
CANT	**Cankiri**	**4.06**	**329**	*e*PN	**Pn**	**07 46 30.1**	**+0.6**
GUMT	**Gumushane**	**4.11**	**35**	*e*PN	**Pn**	**07 46 30.3**	**+0.1**
GUMT	**Gumushane**	**4.11**	**35**	*e*Pn	**Pn**	**07 46 30.3**	**+0.1**
MMAI	**Mount Meron Ar**	**4.19**	**191**	Pn	**Pn**	**07 46 30.9**	**-0.4**
	comp=N,61nm,0.3s,baz=15,slow=13,SNR=124						
MMAI				Sn	**Sn**	**07 47 20.7**	**+0.6**
	comp=N,73nm,0.3s,baz=7.0,slow=25,SNR=2.9						
MMAI	**Mount Meron Ar**	**4.19**	**191**	Pn	**Pn**	**07 46 30.9**	**-0.4**
MMAI				Sn	**Sn**	**07 47 20.7**	**+0.6**
MMAI	**Mount Meron Ar**	**4.19**	**191**	Pn	**Pn**	**07 46 30.9**	**-0.4**
MMAI				Sn	**Sn**	**07 47 20.7**	**+0.6**
BNGL	**BINGOL**	**4.19**	**63**	*i* P	**Pg**	**07 46 46.7**	**-1.3**
ZALF	**Zalf**	**4.29**	**169**	*e*P	**Pn**	**07 46 32.1**	**-0.5**
ZALF				*e*S	**Sn**	**07 47 22.5**	**+0.1**
ZALF				AML	AML	07 47 52.3	
	comp=N,1μm,0.6s						
ZALF				AML	AML	07 47 55.3	
	comp=E,2μm,0.7s						
TOS	**Tosya**	**4.29**	**336**	*e*PN	**Pn**	**07 46 33.5**	**+0.9**
TOS	**Tosya**	**4.29**	**336**	*e*Pn	**Pn**	**07 46 33.5**	**+0.9**
BAYT	**Ayd¨¬ntepe-Bay**	**4.39**	**41**	*e*PN	**Pn**	**07 46 35.1**	**+1.0**
BAYT	**Ayd¨¬ntepe-Bay**	**4.39**	**41**	*e*Pn	**Pn**	**07 46 35.1**	**+1.0**
SALA	**Sala**	**4.43**	**176**	*e*P	**Pn**	**07 46 34.9**	**+0.1**
SALA				*e*S	**Sn**	**07 47 28.0**	**+1.8**
SALA				AML	AML	07 47 56.9	
	comp=N,2μm,0.8s						

KIV Kislovodsk 8.34 33 *e*P **Pn** 07 47 28.7 +0.5
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,700nm,17.0s
KIV Kislovodsk 8.34 33 *e*P **Pn** 07 47 28.7 +0.5
comp=Z,700nm,17.0s
GELI Tayfur-Gelibol 8.37 296 *e*PN **Pn** 07 47 29.6 +1.0
GELI Tayfur-Gelibol 8.37 296 *e*Pn **Pn** 07 47 29.6 +1.0
GLL Jalalah 8.49 209 P **Pn** 07 47 30.1 -0.1
FYM Al Fayyum 8.65 212 P **Pn** 07 47 32.3 -0.2
HKAT Jabal Katrina 8.82 194 P **Pn** 07 47 35.7 +0.7
NPS Neapolis 8.88 261 *e*PB **Pn** 07 47 34.8 -0.8
NPS Neapolis 8.88 261 *e*Pb **Pn** 07 47 34.8 -0.8
HNAT Natroun 8.89 214 P **Pn** 07 47 35.7 -0.1
TR2 9.01 195 P **Pn** 07 47 37.2 -0.2
TR1 9.33 193 P **Pn** 07 47 42.7 +0.9
GRB Gharib 9.34 200 P **Pn** 07 47 42.2 +0.2
IDI Anoyia 9.45 262 *e*Pn **Pn** 07 47 41.1 -2.3
IDI *e*Sn **Sn** 07 49 26.3 -3.2
IDI Anoyia 9.45 262 *e*PN **Pn** 07 47 41.2 -2.2
IDI Anoyia 9.45 262 *e*Pn **Pn** 07 47 41.2 -2.2
TIRR Tirgusor 9.46 323⇑*i*P Pn 07 47 47.5 +4.0
VAM Vamos 9.97 264 *e*PN **Pn** 07 47 49.8 -0.7
VAM Vamos 9.97 264 *e*Pn **Pn** 07 47 49.8 -0.7
HHRG Al Ghardaqah 10.17 194 P **Pn** 07 47 53.5 +0.2
KARN Karanos 10.19 264 *e*PN **Pn** 07 47 52.6 -1.0
KARN Karanos 10.19 264 *e*Pn **Pn** 07 47 52.6 -1.0
MAK Makhachkala 10.33 52 *e*P **Pn** 07 47 57.2 +1.8
MAK MLR MLR
comp=Z,1µm,11.0s
MAK Makhachkala 10.33 52 *e*P **Pn** 07 47 57.2 +1.8
comp=Z,1µm,11.0s
SULR 10.72 318⇑*i*P Pn 07 47 54.0 -6.7
KYTH Kithira 10.73 269 *e*PN **Pn** 07 47 59.6 -1.3
KYTH Kithira 10.73 269 *e*Pn **Pn** 07 47 59.6 -1.3
VLI Veliai 10.75 272 *e*PN **Pn** 07 48 01.6 +0.4
VLI Veliai 10.75 272 *e*Pn **Pn** 07 48 01.6 +0.4
ISR Istrita 10.87 320⇓P Pn 07 48 08.0 +5.2
ISR Istrita 10.87 320⇓*i*P Pn 07 48 08.0 +5.2
GUR Goura 11.16 278 *e*PN **Pn** 07 48 09.9 +3.1
GUR Goura 11.16 278 *e*Pn **Pn** 07 48 09.9 +3.1
VRI Vrincioaia 11.31 323⇓P Pn 07 48 13.7 +4.9
VRI Vrincioaia 11.31 323⇓*i*P Pn 07 48 13.7 +4.9
PLOR Plostina 11.33 323⇑P Px 07 48 23.4
PLOR Plostina 11.33 323⇑*i*P Px 07 48 23.4
MLR Muntele Rosu 11.43 320 Pn **Pn** 07 48 12.0 +1.5
comp=Z,0.1nm,0.3s,baz=127,slow=15,SNR=2.8
MLR LR LR 07 53 33.2
comp=Z,265nm,18.3s,baz=331,slow=43
MLR Muntele Rosu 11.43 320 P **Pn** 07 48 12.0 +1.5
MLR MLR MLR
comp=Z,265nm,18.3s
MLR Muntele Rosu 11.43 320 Pn **Pn** 07 48 12.0 +1.5
MLR Muntele Rosu 11.43 320 P **Pn** 07 48 12.0 +1.5
comp=Z,265nm,18.3s
VTS Vitosha 11.47 302⇓P **Pn** 07 48 13.0 +1.8
VTS Vitosha 11.47 302⇓*i*P **Pn** 07 48 13.0 +1.8
VTS Vitosha 11.47 302 P **Pn** 07 48 13.0 +1.8
MIB Mutribah 11.73 125 *e*P Pn 07 48 09.9 -4.7
VOIR 11.86 318⇓P Pn 07 48 21.3 +4.9
VOIR 11.86 318⇓*i*P Pn 07 48 21.3 +4.9
SWA2 12.05 232 P **Pn** 07 48 18.3 -0.7
HFRF Wahat Farafira 12.07 217 P **Pn** 07 48 18.8 -0.4
GZR Gura Zlata 13.11 313⇑P **Pn** 07 48 34.6 +1.1
GZR Gura Zlata 13.11 313⇑*i*P **Pn** 07 48 34.6 +1.1
GZR Gura Zlata 13.11 313 P **Pn** 07 48 34.6 +1.1
BURAR Bucovina Array 13.30 325⇓P **Pn** 07 48 36.1 0.0
BURAR Bucovina Array 13.30 325⇓*i*P **Pn** 07 48 36.1 0.0
BUR08 Bucovina Ar. S 13.33 325 *e*Pn **Pn** 07 48 36.8 +0.3
BUR08 Bucovina Ar. S 13.33 325 *e*Pn **Pn** 07 48 36.8 +0.3
DRGR 13.98 318⇓P P 07 48 49.7 -3.6
DRGR 13.98 318⇓*i*P P 07 48 49.7 -3.6
VSR Storozhevoye 14.21 7 *e*P **Pn** 07 48 48.9 +0.5
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.4s
VSR pmax pmax
comp=Z,3.0nm,0.4s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 14.45 13 *e*P **P** 07 48 59.4 +1.0
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR Novokhopersk 14.45 13 *e*P **P** 07 48 59.4 +1.0
KIEV Kiev 14.48 342 *e*P **Pn** 07 48 51.7 -0.4
KIEV Kiev 14.48 342 *e*Pn **Pn** 07 48 53.6 +1.5
KIEV *e*P **P** 07 48 59.2 +0.4
AKASG Malin Array Be 14.48 342 Pn **Pn** 07 48 51.6 -0.5
comp=Z,0.6nm,0.3s,baz=162,slow=12,SNR=4.3
AKASG Malin Array Be 14.48 342 P **Pn** 07 48 51.6 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 14.48 342 Pn **Pn** 07 48 51.6 -0.5
TRPA Tarpa 14.94 322⇑*i*P **P** 07 49 05.7 +1.8
TRPA Tarpa 14.94 322⇑*i*P **P** 07 49 05.7 +1.8
UZH Uzhgorod 15.40 323⇓*e*P P 07 49 14.8 +5.8
LVV L'vov 15.48 329 *e*P **P** 07 49 10.1 +0.2
LVV L'vov 15.48 329 *e*P **P** 07 49 10.1 +0.2
KWP Kalwaria Pacla 15.91 326 *e*P **P** 07 49 16.6 +1.9
KWP Kalwaria Pacla 15.91 326⇑P **P** 07 49 16.3 +1.6
KWP Kalwaria Pacla 15.91 326⇑*i*P **P** 07 49 16.3 +1.6
KWP Kalwaria Pacla 15.91 326 P **P** 07 49 16.3 +1.6
PSZ Piszkesteto 16.19 317⇓P **P** 07 49 17.3 -0.5
PSZ Piszkesteto 16.19 317 *e*P **P** 07 49 17.1 -0.7
comp=Z,5.7nm,0.9s
PSZ Piszkesteto 16.19 317⇓*i*P **P** 07 49 17.3 -0.5
PSZ Piszkesteto 16.19 317 P **P** 07 49 17.3 -0.5
OJC Ojcow 17.67 323 *e*P **P** 07 49 34.9 +0.7
OJC Ojcow 17.67 323 *e*P **P** 07 49 34.9 +0.7
OJC Ojcow 17.67 323 *e*P **P** 07 49 34.9 +0.7
OBN Obninsk 17.98 0 *e*P **Pn** 07 49 36.0 -0.9
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,100nm,12.0s
MOS Moscow 18.62 2 *e*P **P** 07 49 42.2 -2.3
MOS pmax pmax
comp=Z,67nm,1.4s
VRAC Vranov 18.78 317 P **Pn** 07 49 47.8 +0.9
comp=Z,1.6nm,0.3s,baz=115,slow=7.6,SNR=4.7
VRAC LR LR 07 56 34.2
comp=Z,33nm,18.7s,baz=129,slow=36
VRAC Vranov 18.78 317 P **Pn** 07 49 47.8 +0.9
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC MLR MLR
comp=Z,33nm,18.7s
VRAC Vranov 18.78 317 P **Pn** 07 49 47.8 +0.9
VRAC Vranov 18.78 317 P **Pn** 07 49 47.8 +0.9
comp=Z,33nm,18.7s
KRLC Kraliky 19.11 319 *e*P **P** 07 49 47.5 -2.5
SUW Suwalki 19.17 336 *e*P **Pn** 07 49 52.1 +0.6
SUW Suwalki 19.17 336 *e*P **Pn** 07 49 52.1 +0.6
SUW Suwalki 19.17 336 *e*P **Pn** 07 49 52.1 +0.6
MYKA Terra Mystica 19.33 306⇑*i*P **Pn** 07 49 53.2 -0.4
comp=Z,16nm,0.5s
MYKA Terra Mystica 19.33 306⇑*i*Pn **Pn** 07 49 53.2 -0.4
comp=Z,16nm,0.5s
MYKA Terra Mystica 19.33 306⇑*i*P **Pn** 07 49 53.2 -0.4
comp=Z,16nm,0.5s
MOA Molln 19.42 310⇑*i*P **Pn** 07 49 54.4 -0.2
comp=Z,8.3nm,0.8s
MOA Molln 19.42 310⇑*i*Pn **Pn** 07 49 54.4 -0.2
comp=Z,8.3nm,0.8s,SNR=11
MOA Molln 19.42 310⇑*i*P **Pn** 07 49 54.4 -0.2
comp=Z,8.3nm,0.8s
KBA Koelnbreinsper 19.68 308 *i* P **Pn** 07 49 57.3 -0.6
KBA pmax pmax
comp=Z,8.0nm,0.6s
KBA Koelnbreinsper 19.68 308 *i* P **Pn** 07 49 57.3 -0.6
comp=Z,8.3nm,0.6s
KBA Koelnbreinsper 19.68 308 *i* Pn **Pn** 07 49 57.3 -0.6
comp=Z,8.3nm,0.6s,SNR=11
KBA Koelnbreinsper 19.68 308 *i* P **Pn** 07 49 57.3 -0.6
comp=Z,8.3nm,0.6s
UPC Upice 19.76 319 *e*P **Pn** 07 50 01.5 +2.9
UPC Upice 19.76 319 *e*P **Pn** 07 50 01.5 +2.9
UPC *ex* x 07 50 17.8
KSP Ksiaz 19.81 320 *e*P **Pn** 07 50 00.1 +0.9
KSP Ksiaz 19.81 320 *e*P **Pn** 07 50 00.1 +0.9
ABTA Abfaltersbach 20.10 306⇓*i*P **P** 07 50 01.0 +0.1
comp=Z,6.6nm,0.6s
ABTA Abfaltersbach 20.10 306⇓*i*P **P** 07 50 01.0 +0.1
comp=Z,6.6nm,0.6s
ABTA Abfaltersbach 20.10 306⇓*i*P **P** 07 50 01.0 +0.1
comp=Z,6.6nm,0.6s
GERES GERESS Array B 20.20 313 P Pn 07 50 02.9 -1.1
comp=Z,2.5nm,0.6s,baz=114,slow=9.8,SNR=29
GERES LR LR 07 58 41.7
comp=Z,256nm,18.2s,baz=20,slow=39
GERES GERESS Array B 20.20 313 P Pn 07 50 02.9 -1.0
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,256nm,18.2s
GERES GERESS Array B 20.20 313 P Pn 07 50 02.9 -1.1
GERES GERESS Array B 20.20 313 P Pn 07 50 02.8 -1.1
PRU Pruhonice 20.27 316 *e*P Pn 07 50 04.1 -0.6
PRU Pruhonice 20.27 316 *e*P Pn 07 50 04.1 -0.6
PRU Pruhonice 20.27 316 *e*P Pn 07 50 04.1 -0.6
BANOM Banah 20.31 118 P **P** 07 50 03.9 +0.6
SNR=7.8
KHC Kasperske Hory 20.40 313 *e*P **P** 07 50 03.7 -0.4
KHC Kasperske Hory 20.40 313 *e*P **P** 07 50 04.1 0.0
comp=Z,36nm,1.9s
KHC Kasperske Hory 20.40 313 *e*P **P** 07 50 03.7 -0.4
KHC *ex* x 07 50 16.1
KHC Kasperske Hory 20.40 313 *e*P **P** 07 50 04.1 0.0
comp=Z,36nm,1.9s
AKTK Aktyubinsk 20.42 43 P **P** 07 50 02.5 -1.8
comp=Z,343nm,18.0s
AKTO Aktyubinsk 20.42 43 P **P** 07 50 02.5 -1.8
comp=Z,6.4nm,0.7s,baz=244,slow=8.3,SNR=24
AKTO LR LR 08 00 06.7
comp=Z,343nm,18.0s,baz=60,slow=43
AKTO Aktyubinsk 20.42 43 P **P** 07 50 02.5 -1.8
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO MLR MLR
comp=Z,343nm,18.0s
AKTO Aktyubinsk 20.42 43 P **P** 07 50 02.5 -1.8
AKTO Aktyubinsk 20.42 43 P **P** 07 50 02.5 -1.8
NAZ Nazwa, Dubai 20.46 121 P Pn 07 50 06.0 -1.0
ASUD Al Ashush, Dub 20.47 122 P **P** 07 50 05.7 +0.7
PVCC Panska Ves 20.54 318 *e*P Pn 07 50 07.0 -0.8
PVCC Panska Ves 20.54 318 *e*P Pn 07 50 07.0 -0.8
PVCC Panska Ves 20.54 318 *e*P Pn 07 50 07.0 -0.8
FAQ Al Faqa, Dubai 20.57 121 P **P** 07 50 06.6 +0.5
ASHO Ashiyah 20.93 121 P **P** 07 50 10.1 +0.1
SNR=9.5
ABKAR Akbulak array 20.93 47 *e*P **P** 07 50 09.4 -0.4
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 20.93 47 *e*P **P** 07 50 09.4 -0.4
comp=Z,3.0nm,0.7s
MOTA Moosalm 21.20 307⇑*i*P **P** 07 50 12.2 -0.8
MOTA pmax pmax
comp=Z,9.0nm,0.5s
MOTA Moosalm 21.20 307⇑*i*P **P** 07 50 12.2 -0.8
comp=Z,8.9nm,0.5s
MOTA Moosalm 21.20 307⇑*i*P **P** 07 50 12.2 -0.8
comp=Z,8.9nm,0.5s,SNR=8.4
MOTA Moosalm 21.20 307⇑*i*P **P** 07 50 12.2 -0.8
comp=Z,8.9nm,0.5s
RETA Reutte 21.47 307⇓*i*P **P** 07 50 14.7 -1.0
RETA Reutte 21.47 307⇓*i*P **P** 07 50 14.7 -1.0
SNR=6.3
RETA Reutte 21.47 307⇓*i*P **P** 07 50 14.7 -1.0
FUORN Ofenpass-Fuorn 21.53 304 *e*P **P** 07 50 18.2 +1.6
comp=Z,63nm,2.0s
FUORN Ofenpass-Fuorn 21.53 304 *e*P **P** 07 50 18.2 +1.6
comp=Z,63nm,2.0s
PGF Pioggiola 21.64 293 *e*P **P** 07 50 16.4 -1.2
comp=Z,8.8nm,0.6s
KEST Kesra 21.75 274 P **P** 07 50 17.1 -1.8
comp=Z,6.5nm,0.9s,baz=79,slow=6.1,SNR=11
KEST Kesra 21.75 274 *e*P **P** 07 50 20.6 +1.7
KEST Kesra 21.75 274 *e*P **P** 07 50 20.6 +1.7
CLL Collm 21.79 318 *e*P **P** 07 50 21.0 +1.9
CLL Collm 21.79 318 *e*P **P** 07 50 21.0 +1.9
CLL LmV 07 59 00.0
comp=Z,200nm,19.8s
CLL Collm 21.79 318 *e*P **P** 07 50 21.0 +1.9
DAVOX Davos/Dischmat 21.83 305 P **P** 07 50 19.6 0.0
comp=Z,3.6nm,0.5s,baz=90,slow=10,SNR=12
DAVOX LR LR 08 00 12.5
comp=Z,345nm,21.3s,baz=3.7,slow=41
DAVOX Davos/Dischmat 21.83 305 P **P** 07 50 19.7 0.0
DAVOX Davos/Dischmat 21.83 305 P **P** 07 50 19.6 0.0
DAVOX Davos/Dischmat 21.83 305 P **P** 07 50 19.7 0.0
GRA1 Grafenberg Arr 22.03 313 *e*P **P** 07 50 20.4 -1.2
comp=Z,30nm,2.3s
GRF Grafenberg Arr 22.03 313 *e*P **P** 07 50 20.4 -1.2
comp=Z,30nm,2.3s
GRF Grafenberg Arr 22.03 313 *e*P **P** 07 50 20.4 -1.2
GRF pmax pmax
comp=Z,30nm,2.3s
VSU Vasula 22.24 347 *e*P **P** 07 50 24.2 +0.4
VSU Vasula 22.24 347 *e*P **P** 07 50 24.2 +0.4
BFO Black Forest 23.29 308 *e*P **P** 07 50 33.5 -1.5
BFO pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 23.29 308 *e*P **P** 07 50 33.5 -1.5
comp=Z,16nm,1.0s
BFO Black Forest 23.29 308 *e*P **P** 07 50 33.5 -1.5
comp=Z,16nm,1.0s
SENIN Lac Senin/Sane 23.44 302 *e*P **P** 07 50 35.0 -1.7
comp=Z,128nm,2.7s
SENIN Lac Senin/Sane 23.44 302 *e*P **P** 07 50 35.0 -1.7
comp=Z,128nm,2.7s
MBDF Montbardon 23.51 298 *e*P **P** 07 50 36.1 -1.2
comp=Z,24nm,0.8s
BNI Bardonecchia 23.62 299 *e*P **P** 07 50 38.5 +0.1
BNI pmax pmax
comp=Z,21nm,1.1s
BNI Bardonecchia 23.62 299 *e*P **P** 07 50 38.5 +0.1
comp=Z,21nm,1.1s
BNI Bardonecchia 23.62 299 *e*P **P** 07 50 38.5 +0.1
comp=Z,21nm,1.1s
LPG La Plagne 23.64 300 *e*P **P** 07 50 38.3 -0.5
comp=Z,16nm,0.6s
LPL La Plagne 23.66 300 *e*P **P** 07 50 38.4 -0.5
comp=Z,14nm,0.6s
CDF Champ du Feu 23.99 307 *e*P **P** 07 50 39.9 -1.9
comp=Z,42nm,1.3s
ECH Echery 24.00 307 *e*P **P** 07 50 40.8 -1.1
ECH pmax pmax
comp=Z,32nm,1.2s
ECH Echery 24.00 307 *e*P **P** 07 50 40.8 -1.1
comp=Z,32nm,1.2s
ECH Echery 24.00 307 *e*P **P** 07 50 40.8 -1.1
comp=Z,32nm,1.2s
HINF Hinteralfeld 24.09 306 *e*P **P** 07 50 41.0 -1.7
comp=Z,44nm,1.3s
ORIF Oris-en-Rattie 24.16 298 *e*P **P** 07 50 41.6 -1.9
comp=Z,17nm,0.8s
ORIF *e*R
comp=Z,601nm,22.8s
SMRF Simiane la Rot 24.27 296 *e*P **P** 07 50 42.5 -1.9
comp=Z,4.9nm,0.6s
CABF La Chapelle 24.31 302 *e*P **P** 07 50 42.8 -2.0
ARU Arti 24.37 31 *d*iP **P** 07 50 45.9 +0.8
ARU S **S** 07 55 05.7 +1.8
ARU pmax pmax
comp=Z,17nm,2.5s
ARU Arti 24.37 31 *i* P **P** 07 50 45.9 +0.8
comp=Z,17nm,2.5s
ARU S **S** 07 55 05.7 +1.8
HAU Haudompre 24.47 306 *e*P **P** 07 50 44.6 -1.6
comp=Z,16nm,0.7s
HAU *e*R
comp=Z,383nm,18.2s
VIVF Saint-Julien-l 25.00 298 *e*P **P** 07 50 50.0 -1.0
comp=Z,30nm,0.9s
PAGF Fort de Pagny 25.02 307 *e*P **P** 07 50 49.4 -1.7
comp=Z,3.0nm,0.6s
FINES FINESS Array B 25.17 348 P **P** 07 50 52.2 0.0
comp=Z,4.0nm,0.6s,baz=146,slow=10,SNR=9.1
FINES LR LR 08 02 24.6
comp=Z,277nm,18.3s,baz=325,slow=40
FINES FINESS Array B 25.17 348 P **P** 07 50 52.2 0.0
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES MLR MLR
comp=Z,277nm,18.3s
FINES FINESS Array B 25.17 348 P **P** 07 50 52.2 0.0
FINES FINESS Array B 25.17 348 P **P** 07 50 52.2 0.0
comp=Z,277nm,18.3s
MEZF Maizieres J'vi 25.43 306 *e*P **P** 07 50 53.7 -1.1
comp=Z,17nm,0.5s
SVE Sverdlovsk 25.49 32⇑*i*P **P** 07 50 55.9 +0.7
SVE pmax pmax
comp=Z,24nm,0.9s
SVE Sverdlovsk 25.49 32 *i* P **P** 07 50 55.9 +0.7
comp=Z,24nm,0.9s
LASF Ste Croix 25.51 296 *e*P **P** 07 50 53.4 -2.2
comp=Z,15nm,1.0s
KAF Kangasniemi 25.77 349 *e*P **P** 07 50 57.1 -0.6
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 25.77 349 *ep* **P** 07 50 57.1 -0.6
comp=Z,3.5nm,0.7s
KAF Kangasniemi 25.77 349 *ep* **P** 07 50 57.1 -0.6
comp=Z,3.5nm,0.7s
KAF Kangasniemi 25.77 349 *e*P **P** 07 50 57.1 -0.6
comp=Z,4.0nm,0.7s
LOR Lormes 25.94 303 *e*P **P** 07 50 58.0 -1.5
comp=Z,17nm,0.6s,baz=108
LOR *e*R
comp=Z,378nm,19.2s
JOF Joensuu 25.99 355 *e*P **P** 07 50 59.0 -0.7
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 25.99 355 *ep* **P** 07 50 59.0 -0.7
comp=Z,5.6nm,0.6s
JOF Joensuu 25.99 355 *ep* **P** 07 50 59.0 -0.7
comp=Z,5.6nm,0.6s
JOF Joensuu 25.99 355 *e*P **P** 07 50 59.0 -0.7
comp=Z,6.0nm,0.6s
SSF Saint Saulge 26.14 303 *e*P **P** 07 50 59.8 -1.5
comp=Z,17nm,0.8s
ATD Arta Tunnel 26.16 165 LR LR 08 00 08.6
comp=Z,261nm,18.6s,baz=345,slow=34
AVF Avril sur Loir 26.20 302 *e*P **P** 07 51 00.4 -1.4
comp=Z,26nm,0.6s
BAIF Baives 26.39 310 *e*P **P** 07 51 03.3 -0.2
BGF Bois d'Agland 26.50 301 *e*P **P** 07 51 03.4 -1.2
KBL Kabul 26.56 86 *e*P **P** 07 51 07.5 +2.1
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 26.56 86 *e*P **P** 07 51 07.5 +2.1
comp=Z,11nm,0.9s
KBL Kabul 26.56 86 *e*P **P** 07 51 07.5 +2.1
comp=Z,11nm,0.9s
KKAR Karatay Array 26.66 66 *e*P **P** 07 51 06.6 +0.5
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 26.66 66 *e*P **P** 07 51 06.6 +0.5
comp=Z,7.2nm,0.8s
KKAR Karatay Array 26.66 66 *e*P **P** 07 51 06.6 +0.5
comp=Z,7.2nm,0.8s
TCF Toulx Ste Croi 26.90 301 *e*P **P** 07 51 07.3 -0.9
HFS Hagfors 27.18 335 P **P** 07 51 10.1 -0.4
comp=Z,4.1nm,0.6s,baz=144,slow=10,SNR=13
HFS LR LR 08 03 53.1
comp=Z,415nm,21.4s,baz=356,slow=41
HFS Hagfors 27.18 335 P **P** 07 51 10.1 -0.4
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS MLR MLR
comp=Z,415nm,21.4s
HFS Hagfors 27.18 335 P **P** 07 51 10.1 -0.4
HFS Hagfors 27.18 335 P **P** 07 51 10.1 -0.4
comp=Z,415nm,21.4s
BRVK Borovoye 28.41 45 *e*P **P** 07 51 21.8 +0.2
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 28.41 45 *e*P **P** 07 51 21.8 +0.2
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 28.46 45 P **P** 07 51 22.0 0.0
comp=Z,0.6nm,0.5s,baz=243,slow=6.3,SNR=6.4
BVAR LR LR 08 03 53.8
comp=Z,166nm,20.2s,baz=252,slow=39
BVAR Borovoye Array 28.46 45 P **P** 07 51 22.0 0.0
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR MLR MLR
comp=Z,166nm,20.2s
BVAR Borovoye Array 28.46 45 P **P** 07 51 22.0 0.0
BVAR Borovoye Array 28.46 45 P **P** 07 51 22.0 0.0
comp=Z,166nm,20.2s
MFF Saint Martin d 28.55 301 *e*P **P** 07 51 21.4 -1.5
NB2 NORSAR Subarra 28.68 334 P **P** 07 51 23.1 -0.9
comp=Z,2.6nm,0.7s,baz=131,slow=10
NOA NORSAR Array B 28.68 334 P **P** 07 51 23.0 -1.0
comp=Z,1.7nm,0.6s,baz=129,slow=9.6,SNR=7.6
NOA LR LR 08 05 04.1
comp=Z,251nm,18.6s,baz=190,slow=41
NOA NORSAR Array B 28.68 334 P **P** 07 51 23.0 -1.0
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,251nm,18.6s
NOA NORSAR Array B 28.68 334 P **P** 07 51 23.0 -1.0
NOA NORSAR Array B 28.68 334 P **P** 07 51 23.0 -1.0
comp=Z,251nm,18.6s
GRR Gorron 29.26 304 *e*P **P** 07 51 26.5 -2.7
AAK Ala-Archa 29.60 67 *e*P **P** 07 51 32.9 +0.5
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 29.60 67 *e*P **P** 07 51 33.6 +1.2
comp=Z,20nm,1.0s
AAK Ala-Archa 29.60 67 *e*P **P** 07 51 32.9 +0.5
comp=Z,7.0nm,0.8s
TAM Tamanrasset 30.14 250 *e*P **P** 07 51 38.7 +1.3
TAM pmax pmax
comp=Z,10.0nm,1.2s
TAM Tamanrasset 30.14 250 *e*P **P** 07 51 38.7 +1.3
comp=Z,9.8nm,1.2s
TAM Tamanrasset 30.14 250 *e*P **P** 07 51 38.7 +1.3
comp=Z,9.8nm,1.2s
SGMF Saint Gilles 30.37 304 *e*P **P** 07 51 36.6 -2.4
TKM2 Tokmak 2 30.39 67 *e*P **P** 07 51 40.5 +0.9
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 30.39 67 *e*P **P** 07 51 40.5 +0.9
comp=Z,4.5nm,0.9s
TKM2 Tokmak 2 30.39 67 *e*P **P** 07 51 40.5 +0.9
comp=Z,4.5nm,0.9s
APA Apatity 30.52 358⇑*e*P P 07 51 34.2 -5.9
APA MLR MLR
comp=Z,1µm,13.0s
QUIF Quistinic 30.74 303 *e*P **P** 07 51 40.9 -1.3
ROSF Rostrenen 30.85 304 *e*P **P** 07 51 41.3 -2.0
KSH Kashi 31.00 73 *e*P **P** 07 51 44.4 -0.4
KSH *ep*P **pP** 07 51 48.8 -0.4
KSH *es*P **sP** 07 51 51.4 +0.4
KSH *e*PP PP 07 52 45.6 -9.1
KSH *e*PcP **PcP** 07 54 41.5 +0.9
KSH *e*S **S** 07 56 46.5 -2.7
KSH *es*S **sS** 07 56 53.5 -2.9
KSH *e*ScP **ScP** 07 58 22.5 -0.5
KSH *e*PcS **PcS** 07 58 24.1 -0.7
KSH *e*SS SS 07 58 28.6 -33
KSH *e*ScS **ScS** **08 02 17.6 -2.4**
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,330nm,6.7s
KSH LR LR
comp=N,300nm,6.8s
KSH LR LR
comp=E,230nm,6.1s
KSH LR LR
comp=Z,240nm,7.0s
ESDC Sonseca Array 31.51 287 P **P** 07 51 47.5 -1.7
comp=Z,1.3nm,0.7s,baz=72,slow=9.5,SNR=6.5
ESDC Sonseca Array 31.51 287 P **P** 07 51 47.5 -1.7
ESDC Sonseca Array 31.51 287 P **P** 07 51 47.5 -1.7
KURK Kurchatov 32.86 52 *e*P **P** 07 52 01.6 +0.8
KURK pmax pmax
comp=Z,59nm,2.6s
KURK Kurchatov 32.86 52 *e*P **P** 07 52 01.6 +0.8
comp=Z,59nm,2.6s
KURK Kurchatov 32.86 52 *e*P **P** 07 52 01.6 +0.8
comp=Z,59nm,2.6s

ARCES	**ARCES Array B**	**32.98**	**353**	P	**P**	**07 52 01.5**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=165,slow=7.5,SNR=9.3						
ARCES				LR	LR	08 06 04.4	
	comp=Z,261nm,19.6s,baz=95,slow=38						
ARCES	**ARCES Array B**	**32.98**	**353**	P	**P**	**07 52 01.5**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,261nm,19.6s						
ARCES	**ARCES Array B**	**32.98**	**353**	P	**P**	**07 52 01.5**	**-0.2**
ARCES	**ARCES Array B**	**32.98**	**353**	P	**P**	**07 52 01.5**	**-0.2**
	comp=Z,261nm,19.6s						
EVO	**Evora**	**34.81**	**286**	*e*P	P	07 52 14.7	-3.3
	comp=Z,50nm,1.4s						
EVO				*e*R			
	comp=Z,270nm,20.6s						
MK31	**Makanchi Array**	**35.05**	**59**	*e*P	**P**	**07 52 20.7**	**+0.7**
MK31	**Makanchi Array**	**35.05**	**59**	*e*P	**P**	**07 52 20.7**	**+0.7**
MK31	**Makanchi Array**	**35.05**	**59**	*e*P	**P**	**07 52 20.7**	**+0.7**
MKAR	**Makanchi Array**	**35.05**	**59**	P	**P**	**07 52 20.7**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=269,slow=7.1,SNR=28						
MKAR				LR	LR	08 08 34.9	
	comp=Z,173nm,19.0s,baz=94,slow=40						
MKAR	**Makanchi Array**	**35.05**	**59**	P	**P**	**07 52 20.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,173nm,19.0s						
MKAR	**Makanchi Array**	**35.05**	**59**	*e*P	**P**	**07 52 20.7**	**+0.7**
MKAR	**Makanchi Array**	**35.05**	**59**	P	**P**	**07 52 20.7**	**+0.7**
	comp=Z,173nm,19.0s						
NVS	**Novosibirsk**	**36.26**	**46**	*e*P	**P**	**07 52 30.0**	**-0.2**
NVS				pmax	pmax		
	comp=Z,14nm,1.5s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.8s						
NVS	**Novosibirsk**	**36.26**	**46**	*e*P	**P**	**07 52 30.0**	**-0.2**
	comp=E,14nm,1.5s						
ZAA0	**Zalesovo Array**	**37.05**	**47**	*e*P	**P**	**07 52 36.5**	**-0.4**
ZAA0	**Zalesovo Array**	**37.05**	**47**	*e*P	**P**	**07 52 36.5**	**-0.4**
ZALV	**Zalesovo Beam**	**37.05**	**47**	P	**P**	**07 52 36.5**	**-0.4**
	comp=E,2.3nm,0.5s,baz=265,slow=9.4,SNR=17						
ZALV				LR	LR	08 09 16.3	
	comp=E,86nm,20.9s,baz=74,slow=39						
ZALV	**Zalesovo Beam**	**37.05**	**47**	P	**P**	**07 52 36.5**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,86nm,20.9s						
ZALV	**Zalesovo Beam**	**37.05**	**47**	P	**P**	**07 52 36.5**	**-0.4**
ZALV	**Zalesovo Beam**	**37.05**	**47**	P	**P**	**07 52 36.5**	**-0.4**
	comp=Z,86nm,20.9s						
WMQ	**Urumqi**	**39.09**	**64**	P	**P**	**07 52 54.8**	**+0.4**
WMQ				pP	**pP**	**07 52 59.3**	**+0.5**
WMQ				sP	**sP**	**07 53 01.8**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				LR	LR		
	comp=N,410nm,23.1s						
WMQ				LR	LR		
	comp=E,220nm,22.0s						
WMQ				LR	LR		
	comp=Z,110nm,21.0s						
TORD	**Torodi Ar. Bea**	**39.09**	**241**	P	**P**	**07 52 53.6**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=40,slow=8.8,SNR=28						
TORD	**Torodi Ar. Bea**	**39.09**	**241**	P	**P**	**07 52 53.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**39.09**	**241**	P	**P**	**07 52 53.6**	**-1.0**
DANN	**Dangsing**	**40.48**	**88**	*e*P	**P**	**07 53 06.9**	**+0.5**
	comp=Z,101nm,0.7s						
DANN	**Dangsing**	**40.48**	**88**	*e*P	**P**	**07 53 06.9**	**+0.5**
	comp=Z,101nm,0.7s						
DANN	**Dangsing**	**40.48**	**88**	*e*P	**P**	**07 53 06.9**	**+0.5**
	comp=Z,101nm,0.7s						
KOLN	**Koldanda**	**40.59**	**89**	*e*P	**P**	**07 53 06.8**	**-0.5**
	comp=Z,15nm,0.6s						
KOLN	**Koldanda**	**40.59**	**89**	*e*P	**P**	**07 53 06.8**	**-0.5**
	comp=Z,15nm,0.6s						
KOLN	**Koldanda**	**40.59**	**89**	*e*P	**P**	**07 53 06.8**	**-0.5**
	comp=Z,15nm,0.6s						
GKN	**Gorkha**	**41.32**	**88**	*e*P	**P**	**07 53 13.3**	**+0.1**
	comp=Z,99nm,0.6s						
GKN	**Gorkha**	**41.32**	**88**	*e*P	**P**	**07 53 13.3**	**+0.1**
	comp=Z,99nm,0.6s						
GKN	**Gorkha**	**41.32**	**88**	*e*P	**P**	**07 53 13.3**	**+0.1**
	comp=Z,99nm,0.6s						
DMN	**Daman**	**41.87**	**89**	*e*P	**P**	**07 53 18.1**	**+0.3**
	comp=Z,66nm,0.7s						
DMN	**Daman**	**41.87**	**89**	*e*P	**P**	**07 53 18.1**	**+0.3**
	comp=Z,66nm,0.7s						
DMN	**Daman**	**41.87**	**89**	*e*P	**P**	**07 53 18.1**	**+0.3**
	comp=Z,66nm,0.7s						
HYB	**Hyderabad**	**41.92**	**106**	*i* P	**P**	**07 53 17.0**	**-1.1**
HYB				*e*S	**S**	**07 59 40.0**	**+3.9**
KKN	**Kakani**	**41.93**	**88**	*e*P	**P**	**07 53 18.4**	**+0.2**
	comp=Z,49nm,0.7s						
KKN	**Kakani**	**41.93**	**88**	*e*P	**P**	**07 53 18.4**	**+0.2**
KKN				pmax	pmax		
	comp=Z,49nm,0.7s						
KKN	**Kakani**	**41.93**	**88**	*e*P	**P**	**07 53 18.4**	**+0.2**
	comp=Z,49nm,0.7s						
KKN	**Kakani**	**41.93**	**88**	*e*P	**P**	**07 53 18.4**	**+0.2**
	comp=Z,49nm,0.7s						
SPITS	**Spitsbergen Ar**	**42.00**	**354**	LR	LR	08 13 20.8	
	comp=Z,156nm,20.2s,baz=195,slow=40						
PKI	**Pulchoki**	**42.13**	**88**	*e*P	**P**	**07 53 19.8**	**-0.2**
	comp=Z,46nm,0.7s						
PKI	**Pulchoki**	**42.13**	**88**	*e*P	**P**	**07 53 19.8**	**-0.2**
PKI				pmax	pmax		
	comp=Z,46nm,0.7s						
PKI	**Pulchoki**	**42.13**	**88**	*e*P	**P**	**07 53 19.8**	**-0.2**
	comp=Z,46nm,0.7s						
PKI	**Pulchoki**	**42.13**	**88**	*e*P	**P**	**07 53 19.8**	**-0.2**
	comp=Z,46nm,0.7s						
GUN	**Gumba**	**42.35**	**88**	*e*P	**P**	**07 53 21.9**	**0.0**
	comp=Z,52nm,0.8s						
GUN	**Gumba**	**42.35**	**88**	*e*P	**P**	**07 53 21.9**	**0.0**
	comp=Z,52nm,0.8s						
GUN	**Gumba**	**42.35**	**88**	*e*P	**P**	**07 53 21.9**	**0.0**
	comp=Z,52nm,0.8s						
JIRN	**Jiri**	**42.71**	**88**	*e*P	**P**	**07 53 24.8**	**0.0**
	comp=Z,57nm,0.7s						
JIRN	**Jiri**	**42.71**	**88**	*e*P	**P**	**07 53 24.8**	**0.0**
	comp=Z,57nm,0.7s						
JIRN	**Jiri**	**42.71**	**88**	*e*P	**P**	**07 53 24.8**	**0.0**
	comp=Z,57nm,0.7s						
RAMN	**Ramite**	**43.35**	**89**	*e*P	**P**	**07 53 29.5**	**-0.3**
	comp=Z,96nm,0.7s						
RAMN	**Ramite**	**43.35**	**89**	*e*P	**P**	**07 53 29.5**	**-0.3**
	comp=Z,96nm,0.7s						
RAMN	**Ramite**	**43.35**	**89**	*e*P	**P**	**07 53 29.5**	**-0.3**
	comp=Z,96nm,0.7s						
ODAN	**Odare**	**44.02**	**88**	*e*P	**P**	**07 53 35.2**	**0.0**
	comp=Z,31nm,0.8s						
ODAN	**Odare**	**44.02**	**88**	*e*P	**P**	**07 53 35.2**	**0.0**
	comp=Z,31nm,0.8s						
ODAN	**Odare**	**44.02**	**88**	*e*P	**P**	**07 53 35.2**	**0.0**
	comp=Z,31nm,0.8s						
TAPN	**Taplejung**	**44.06**	**87**	*e*P	**P**	**07 53 35.4**	**-0.2**
	comp=Z,26nm,0.7s						
TAPN	**Taplejung**	**44.06**	**87**	*e*P	**P**	**07 53 35.4**	**-0.2**
	comp=Z,26nm,0.7s						
TAPN	**Taplejung**	**44.06**	**87**	*e*P	**P**	**07 53 35.4**	**-0.2**
	comp=Z,26nm,0.7s						
LSA	**Lhasa**	**45.80**	**83**	P	**P**	**07 53 49.6**	**0.0**
LSA	**Lhasa**	**45.80**	**83**	*e*P	**P**	**07 53 50.0**	**+0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**45.80**	**83**	*e*P	**P**	**07 53 50.0**	**+0.4**
	comp=Z,6.7nm,0.6s						
LSA	**Lhasa**	**45.80**	**83**	*e*P	**P**	**07 53 50.0**	**+0.4**
	comp=Z,6.7nm,0.6s						
DBIC	**Dimbokro**	**48.20**	**241**	P	**P**	**07 54 07.3**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=9.2,slow=9.0,SNR=4.4						
DBIC				LR	LR	08 14 02.3	
	comp=Z,85nm,20.9s,baz=117,slow=36						
DBIC	**Dimbokro**	**48.20**	**241**	*e*P	**P**	**07 54 07.1**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DBIC	**Dimbokro**	**48.20**	**241**	*e*P	**P**	**07 54 07.1**	**-0.9**
	comp=Z,9.9nm,1.1s						
DBIC	**Dimbokro**	**48.20**	**241**	*e*P	**P**	**07 54 07.1**	**-0.9**
	comp=Z,9.9nm,1.1s						
TLY	**Talaya**	**48.50**	**50**	*e*P	**P**	**07 54 10.9**	**+1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TLY				MLR	MLR		
	comp=Z,75nm,13.0s						
TLY	**Talaya**	**48.50**	**50**	*e*P	**P**	**07 54 10.9**	**+1.0**
	comp=Z,75nm,13.0s						
ZAK	**Zakamensk**	**48.52**	**52**	*e*P	**P**	**07 54 10.6**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZAK	**Zakamensk**	**48.52**	**52**	*e*P	**P**	**07 54 10.6**	**+0.5**
	comp=Z,2.0nm,1.2s						
LIC	**Lamto**	**48.64**	**241**	*e*P	**P**	**07 54 10.2**	**-1.1**
	comp=Z,40nm,1.2s						
GTA	**Gaotai**	**48.95**	**67**	*e*P	**P**	**07 54 14.1**	**+0.5**
GTA				pP	**pP**	**07 54 19.0**	**+0.9**
GTA				sP	**sP**	**07 54 21.5**	**+1.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**51.09**	**54**	P	**P**	**07 54 30.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=281,slow=7.4,SNR=10						
SONM				LR	LR	08 18 43.9	
	comp=Z,595nm,18.7s,baz=266,slow=39						
SONM	**Songino Array**	**51.09**	**54**	P	**P**	**07 54 30.3**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,595nm,18.7s						
SONM	**Songino Array**	**51.09**	**54**	P	**P**	**07 54 30.3**	**+0.5**
SONM	**Songino Array**	**51.09**	**54**	P	**P**	**07 54 30.3**	**+0.5**
	comp=Z,595nm,18.7s						
ULN	**Ulaanbaatar**	**51.51**	**54**	*e*P	**P**	**07 54 33.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ULN	**Ulaanbaatar**	**51.51**	**54**	*e*P	**P**	**07 54 33.7**	**+0.7**
	comp=Z,6.1nm,1.1s						
ULN	**Ulaanbaatar**	**51.51**	**54**	*e*P	**P**	**07 54 33.7**	**+0.7**
	comp=Z,6.1nm,1.1s						
LZH	**Lanzhou**	**53.10**	**69**	*e*P	**P**	**07 54 45.0**	**0.0**
LZH				pP	**pP**	**07 54 48.0**	**-1.5**
LZH				sP	**sP**	**07 54 50.0**	**-1.3**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
BOD	**Bodaibo**	**53.17**	**41**	*e*P	**P**	**07 54 43.1**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
BOD	**Bodaibo**	**53.17**	**41**	*e*P	**P**	**07 54 43.1**	**-1.8**
	comp=Z,5.0nm,1.5s						
CD2	**Chengdu**	**55.16**	**75**	P	**P**	**07 55 00.8**	**+0.9**
CD2				pP	**pP**	**07 55 05.4**	**+0.9**
CD2				sP	**sP**	**07 55 07.8**	**+1.6**
CD2				PP	PP	07 57 05.8	+2.6
CD2				S	**S**	**08 02 42.0**	**-0.7**
CD2				sS	**sS**	**08 02 49.1**	**-1.1**
CD2				SS	SS	08 06 25.6	-1.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,250nm,6.0s						
CD2				LR	LR		
	comp=N,340nm,5.9s						
CD2				LR	LR		
	comp=Z,250nm,6.5s						
HHC	**Hu-ho-hao-te**	**56.87**	**61**	*e*P	**P**	**07 55 12.1**	**0.0**
HHC				sP	**sP**	**07 55 18.4**	**0.0**
HHC				PcP	**PcP**	**07 56 07.3**	**-0.3**
HHC				PP	**PP**	**07 57 19.8**	**+1.5**
HHC				S	**S**	**08 03 02.3**	**-3.0**
HHC				ScS	**ScS**	**08 04 57.6**	**-3.5**
HHC				SS	**SS**	**08 06 51.5**	**-1.7**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,230nm,4.4s						
HHC				LR	LR		
	comp=N,190nm,15.5s						
HHC				LR	LR		
	comp=E,270nm,15.5s						
HHC				LR	LR		
	comp=Z,250nm,16.6s						
KMI	**Kunming**	**57.04**	**82**	P	**P**	**07 55 14.9**	**+1.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.43**	**91**	P	**P**	**07 55 15.2**	**-1.0**
	comp=Z,3.7nm,0.8s,baz=294,slow=8.4,SNR=13						
CMAR				LR	LR	08 25 11.1	
	comp=Z,67nm,20.7s,baz=180,slow=42						
CMAR	**Chiang Mai Arr**	**57.43**	**91**	P	**P**	**07 55 15.2**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,67nm,20.7s						
CMAR	**Chiang Mai Arr**	**57.43**	**91**	P	**P**	**07 55 15.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**57.43**	**91**	P	**P**	**07 55 15.2**	**-1.0**
	comp=Z,67nm,20.7s						
XAN	**Xi'an**	**57.74**	**70**	P	**P**	**07 55 18.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,49nm,7.6s						
GYA	**Guiyang**	**59.48**	**78**	*e*P	**P**	**07 55 32.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**59.86**	**73**	*e*P	**P**	**07 55 33.1**	**+0.1**
	comp=Z,5.5nm,0.5s						
ENH	**Enshi**	**59.86**	**73**	*e*P	**P**	**07 55 33.1**	**+0.1**
	comp=Z,5.5nm,0.5s						
SCHQ	**Schefferville**	**67.36**	**322**	P	**P**	**07 56 23.5**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=55,slow=12,SNR=2.9						
SCHQ	**Schefferville**	**67.36**	**322**	P	**P**	**07 56 23.5**	**+1.4**
SCHQ	**Schefferville**	**67.36**	**322**	P	**P**	**07 56 23.5**	**+1.4**
SEY	**Seymchan**	**68.02**	**26**	*e*P	**P**	**07 56 26.4**	**+0.3**
SEY	**Seymchan**	**68.02**	**26**	*e*P	**P**	**07 56 26.4**	**+0.3**
BILL	**Bilibino**	**68.64**	**18**	*e*P	**P**	**07 56 30.3**	**+0.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	**Bilibino**	**68.64**	**18**	*e*P	**P**	**07 56 30.3**	**+0.4**
	comp=Z,3.0nm,1.2s						
KSAR	**Wonju Array Be**	**69.70**	**58**	P	**P**	**07 56 36.8**	**-0.2**
KSAR	**Wonju Array Be**	**69.70**	**58**	P	**P**	**07 56 36.8**	**-0.2**
KSAR	**Wonju Array Be**	**69.70**	**58**	P	**P**	**07 56 36.8**	**-0.2**
KSRS	**Korea Array**	**69.72**	**58**	P	**P**	**07 56 36.8**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=293,slow=6.5,SNR=8.0						
KSRS	**Korea Array**	**69.72**	**58**	P	**P**	**07 56 36.8**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**69.72**	**58**	P	**P**	**07 56 36.8**	**-0.3**
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**77.99**	**347**	P	**P**	**07 57 24.6**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=27,slow=5.9,SNR=9.1						
YKA	**Yellowknife Ar**	**77.99**	**347**	P	**P**	**07 57 24.6**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**77.99**	**347**	P	**P**	**07 57 24.6**	**-0.5**
YKA	**Yellowknife Ar**	**77.99**	**347**	P	**P**	**07 57 24.6**	**-0.5**
	comp=Z,1.0nm,1.0s						
PDAR	**Pinedale Array**	**94.62**	**336**	LR	LR	08 42 33.3	
	comp=Z,226nm,20.6s,baz=233,slow=36						

IDC ***17*** *07:50:23.6±1.2, 0.°38S×132.°57E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=58.6km s-min=16.1km az=76.0*

IDC 17 07:48:48.6±3.3, 26.°98N×111.°40W, h0km, mb3.1/2, mb1 3.6/5, mb1mx3.5/24, mbtmp3.2/5, ML3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/12, Error ellipse: s-maj=48.0km s-min=20.2km az=9.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**7.22**	**69**	Pn	Pn	07 50 36.3	+0.8
	0.3nm,0.3s,baz=244,slow=13,SNR=18						
TXAR				Lg	Lg	07 52 36.0	
	1.5nm,0.3s,baz=157,slow=32,SNR=5.5						
NVAR	**Mina Array Bea**	**12.81**	**335**	Pn	Pn	07 51 54.4	+2.1
	0.1nm,0.3s,baz=159,slow=15,SNR=8.6						
PDAR	**Pinedale Array**	**15.83**	**5**	Pn	P	07 52 36.5	-0.5
	0.0nm,0.3s,baz=166,slow=13,SNR=2.6						
PDAR				Lg	Lg	07 57 06.6	
	0.0nm,0.3s,baz=169,slow=26,SNR=6.6						
TEIG	**Tepich**	**22.21**	**103**	LR	LR	08 04 05.7	
	comp=Z,133nm,18.1s,baz=7.8,slow=41						
YKA	**Yellowknife Ar**	**35.58**	**357**	P	P	07 55 47.4	0.0
	0.1nm,0.6s,baz=189,slow=7.5,SNR=3.7						
ILAR	**Eielson Array**	**44.02**	**339**	P	P	07 56 57.2	-0.4
	0.4nm,0.9s,baz=145,slow=9.8,SNR=3.0						

DJA ***17*** *07:50:25.6±0.9, 0.°3S×6.°13E±.°, h10km, M4.7/6, mB5.8/2, mb4.8/6, MLv4.6/5, Mw(mB)5.3/2*

ISC 17 07:50:28.6±1.1, 0.°54S×0.°07×132.°8E±0.°1, h33km, n11, σ2s20/10, mb3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.44**	**194**	P	Pb	07 51 07.9	-3.9
FAKI				S	**Sb**	**07 51 39.9**	**-1.5**
MSAI	**Masohi**	**4.80**	**235**	P	Pn	07 51 41.2	+2.5
MSAI				S	Sb	07 52 42.1	-7.4
TLE	**Tual**	**5.06**	**181**	P	Pn	07 51 46.0	+3.8
	177nm,0.8s,0.7nm						
TLE				S	Sb	07 52 47.8	-9.2
	177nm,0.8s,0.7nm						
AAI	**Ambon**	**5.60**	**236**	P	**Pn**	**07 51 50.7**	**+1.1**
	168nm,0.7s,5µm0.7nm						
FITZ	**Fitzroy Crossi**	**18.83**	**202**	P	**Pn**	**07 54 46.2**	**-0.3**
	0.3nm,0.3s,baz=29,slow=12,SNR=7.5						
FITZ				S	Sn	07 58 07.8	-8.6
	0.1nm,0.3s,baz=226,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**19.34**	**176**	P	**Pn**	**07 54 52.4**	**-0.2**
	0.6nm,0.3s,baz=353,slow=11,SNR=20						
WRA				S	**Sn**	**07 58 24.9**	**-3.7**
	0.1nm,0.3s,baz=4.3,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**23.01**	**178**	P	**P**	**07 55 31.9**	**+1.0**
	5.0nm,0.6s,baz=354,slow=10,SNR=67						
ASAR				S	Sn	07 59 47.1	-10
	0.3nm,0.7s,baz=355,slow=28,SNR=2.4						
CTA	**Charters Tower**	**23.44**	**147**	P	**P**	**07 55 38.1**	**+2.9**
	1.3nm,0.6s,baz=325,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**32.25**	**166**	P	**P**	**07 56 54.8**	**+0.7**
	0.8nm,0.4s,baz=348,slow=9.3,SNR=3.4						
SONM	**Songino Array**	**53.40**	**338**	P	**P**	**07 59 43.2**	**-2.0**
	0.2nm,0.6s,baz=146,slow=8.0,SNR=2.9						
MKAR	**Makanchi Array**	**64.55**	**324**	P	**P**	**08 01 01.1**	**-1.5**
	0.3nm,0.7s,baz=108,slow=7.8,SNR=4.0						

IDC ***17*** *08:03:46.5±0.5, 60.°78N×165.°73E, h0km, mb4.0/20, mb1 4.1/21, mb1mx4.0/30, mbtmp4.0/21, ML3.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/43, Error ellipse: s-maj=15.1km s-min=11.6km az=34.0*
KRSC ***17*** *08:03:46.6±0.7, 60.69N×165.96E, h20km±20km, ML4.6*
MOS ***17*** *08:03:46.8±1.1, 60.73N×165.78E, h17km, mb4.2/16, Error ellipse: s-maj=16.9km s-min=7.9km az=94.2*
ISCJB ***17*** *08:03:47.3±1.0, 60.72N±0.04×165.78E±0.08, h20km±8km, mb4.1/28, MS3.9/2, Error ellipse: s-maj=8.1km s-min=5.8km az=136.9*
NEIC ***17*** *08:03:51.2±2.1, 60.71N×165.79E, h34km±15km, mb4.5/8, Error ellipse: s-maj=7.0km s-min=5.6km az=188.0*

ISC 17 08:03:47.6±1.4, 60.75N±0.04×165.79E±0.06, h9km±9km, n102, σ0s79/108, mb4.1/28, 2C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**0.35**	**150**	*i* P	**Pg**	**08 03 54.1**	**-0.4**
TILK				*i* S	**Sg**	**08 03 59.2**	**+0.1**
PALN	**Palana**	**3.37**	**243**	*e*P	**Pn**	**08 04 39.7**	**-0.7**
PALN				*i* S	**Sn**	**08 05 19.6**	**-0.8**
SMKR	**Semkarok**	**4.75**	**210**	P	**Pn**	**08 04 58.4**	**-1.0**
SRKR	**Sorokina**	**4.76**	**212**	P	**Pn**	**08 04 59.4**	**-0.1**
KBTR	**Krutoberegovo**	**4.81**	**200**	PN	**Pn**	**08 05 00.7**	**+0.5**
KBTR	**Krutoberegovo**	**4.81**	**200**	*i* P	**Pn**	**08 05 00.7**	**+0.5**
KBTR				*i* S	**Sn**	**08 05 53.7**	**-2.3**
BDR	**Baidarnaya**	**4.82**	**212**	P	**Pn**	**08 04 59.7**	**-0.7**
SRDR	**Sredinnyy**	**5.46**	**218**	P	**Pn**	**08 05 11.2**	**+2.0**
BKI	**Bering**	**5.56**	**179**	PN	**Pn**	**08 05 10.8**	**+0.4**
BKI	**Bering**	**5.56**	**179**	*e*P	**Pn**	**08 05 10.8**	**+0.4**
KMNR	**Kamenistaya**	**5.80**	**213**	P	**Pn**	**08 05 15.5**	**+1.7**
TUMR	**Tumrok**	**6.24**	**211**	P	**Pn**	**08 05 22.2**	**+2.3**
MKZ	**Mys Kozlova**	**6.58**	**201**	PN	**Pn**	**08 05 26.0**	**+1.6**
MKZ	**Mys Kozlova**	**6.58**	**201**	P	**Pn**	**08 05 26.0**	**+1.6**
SEY	**Seymchan**	**6.71**	**295**	*e*PN	**Pn**	**08 05 26.4**	**+0.2**
BILL	**Bilibino**	**7.33**	**1**	*e*PN	**Pn**	**08 05 36.9**	**+2.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BILL				pmax	pmax		
	comp=E,253nm,1.5s						
BILL	**Bilibino**	**7.33**	**1**	*e*Pn	**Pn**	**08 05 35.5**	**+0.8**
	comp=E,9.0nm,0.6s						
BILL				*e*S	**Sg**	**08 07 40.2**	**-2.2**
BILL	**Bilibino**	**7.33**	**1**	*e*P	Pn	08 05 37.6	+3.0
PETK	**Petropavlovsk-**	**8.84**	**214**	LR	LR	08 10 04.8	
	comp=E,144nm,19.3s,baz=247,slow=43						
FX1	**Attu Island--F**	**8.86**	**150**	Pn	**Pn**	**08 05 55.0**	**-0.6**
	comp=E,3.1nm,0.3s,baz=325,slow=12,SNR=12						
FX1	**Attu Island--F**	**8.86**	**150**	PN	**Pn**	**08 05 55.0**	**-0.6**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**8.86**	**150**	Pn	**Pn**	**08 05 55.0**	**-0.6**
YAK	**Yakutsk**	**17.20**	**290**	*e*P	**P**	**08 07 50.3**	**+0.9**
YAK				pmax	pmax		
	comp=Z,43nm,0.8s						
YAK	**Yakutsk**	**17.20**	**290**	*e*P	**P**	**08 07 50.3**	**+0.9**
	comp=Z,43nm,0.8s						
MCK	**McKinley**	**20.95**	**62**	*e*P	Pn	08 08 32.2	-0.9
MCK				pmax	pmax		
	comp=Z,20nm,1.3s						
MCK	**McKinley**	**20.95**	**62**	*e*P	Pn	08 08 32.2	-0.9
	comp=Z,20nm,1.3s						
COLA	**College**	**21.19**	**59**	*e*P	**P**	**08 08 33.7**	**+0.7**
COLA				pmax	pmax		

	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**46.54**	**299**	P	**P**	**08 12 16.0**	**+0.9**
	comp=Z,11nm,0.6s,baz=42,slow=7.8,SNR=75						
KURK	**Kurchatov**	**46.54**	**299**	P	**P**	**08 12 16.0**	**+0.9**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s						
KURK	**Kurchatov**	**46.54**	**299**	*e*P	**P**	**08 12 14.9**	**-0.1**
	comp=Z,16nm,1.0s						
ARCES	**ARCESS Array B**	**46.96**	**342**	P	**P**	**08 12 17.8**	**-0.3**
	comp=Z,7.9nm,1.1s,baz=28,slow=8.4,SNR=4.1						
ARCES				PcP	**PcP**	**08 13 50.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=38,slow=4.6,SNR=3.9						
ARCES	**ARCESS Array B**	**46.96**	**342**	P	**P**	**08 12 17.8**	**-0.3**
ARCES						08 13 50.4	
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**46.96**	**342**	P	**P**	**08 12 17.8**	**-0.3**
ARCES				PcP	**PcP**	**08 13 50.4**	**+0.1**
MK31	**Makanchi Array**	**47.85**	**293**	*e*P	**P**	**08 12 24.7**	**-0.6**
MK31	**Makanchi Array**	**47.85**	**293**	*e*P	**P**	**08 12 24.7**	**-0.6**
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**08 12 25.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=45,slow=7.5,SNR=19						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**08 12 25.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**08 12 25.0**	**-0.3**
BVAR	**Borovoye Array**	**48.22**	**306**	P	**P**	**08 12 28.5**	**+0.4**
	comp=Z,9.4nm,0.6s,baz=51,slow=7.7,SNR=45						
BVAR	**Borovoye Array**	**48.22**	**306**	P	**P**	**08 12 28.5**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BVAR	**Borovoye Array**	**48.22**	**306**	P	**P**	**08 12 28.5**	**+0.4**
BRVK	**Borovoye**	**48.24**	**306**	*c iP*	**P**	**08 12 28.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**48.24**	**306**	*e*P	**P**	**08 12 28.7**	**+0.5**
	comp=Z,13nm,1.1s						
NVAR	**Mina Array Bea**	**50.72**	**80**	P	**P**	**08 12 48.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=291,slow=7.6,SNR=2.8						
NVAR	**Mina Array Bea**	**50.72**	**80**	P	**P**	**08 12 48.5**	**+0.8**
PDAR	**Pinedale Array**	**51.46**	**70**	P	**P**	**08 12 53.7**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=335,slow=3.9,SNR=6.9						
PDAR	**Pinedale Array**	**51.46**	**70**	P	**P**	**08 12 53.7**	**+0.5**
ULM	**Lac du Bonnet**	**51.53**	**54**	LR	LR	08 38 26.2	
	comp=Z,105nm,19.6s,baz=298,slow=40						
FINES	**FINESS Array B**	**54.27**	**337**	P	**P**	**08 13 12.7**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=28,slow=8.6,SNR=3.3						
FINES	**FINESS Array B**	**54.27**	**337**	P	**P**	**08 13 12.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**54.27**	**337**	P	**P**	**08 13 12.7**	**-0.6**
AAK	**Ala-Archa**	**54.57**	**295**	*e*P	**P**	**08 13 16.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,17nm,0.8s						
ABKAR	**Akbulak array**	**55.24**	**310**	*e*P	**P**	**08 13 20.3**	**-0.2**
	comp=Z,3.6nm,0.7s						
NB2	**NORSAR Subarra**	**56.97**	**346**	P	**P**	**08 13 32.3**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=15,slow=7.4						
NOA	**NORSAR Array B**	**56.97**	**346**	P	**P**	**08 13 32.4**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=14,slow=7.3,SNR=4.3						
NOA	**NORSAR Array B**	**56.97**	**346**	P	**P**	**08 13 32.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**56.97**	**346**	P	**P**	**08 13 32.4**	**-0.4**
SCHQ	**Schefferville**	**57.45**	**33**	P	**P**	**08 13 36.0**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=325,slow=5.4,SNR=1.9						
SCHQ	**Schefferville**	**57.45**	**33**	P	**P**	**08 13 36.0**	**-0.3**
AKASG	**Malin Array Be**	**63.55**	**331**	P	**P**	**08 14 17.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=24,slow=6.8,SNR=4.2						
AKASG	**Malin Array Be**	**63.55**	**331**	P	**P**	**08 14 17.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**63.55**	**331**	P	**P**	**08 14 17.2**	**-0.7**
TXAR	**Lajitas Array**	**65.14**	**74**	P	**P**	**08 14 28.8**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=303,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	**65.14**	**74**	P	**P**	**08 14 28.8**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**65.14**	**74**	P	**P**	**08 14 28.8**	**+0.1**
GERES	**GERESS Array B**	**68.46**	**341**	P	**P**	**08 14 49.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=28,slow=6.0,SNR=5.4						
GERES	**GERESS Array B**	**68.46**	**341**	P	**P**	**08 14 49.7**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**68.46**	**341**	P	**P**	**08 14 49.7**	**+0.1**
BRTR	**Keskin Array B**	**72.53**	**323**	P	**P**	**08 15 14.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=29,slow=3.2,SNR=4.1						
BRTR	**Keskin Array B**	**72.53**	**323**	*c*e P	**P**	**08 15 15.3**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**72.53**	**323**	P	**P**	**08 15 14.8**	**+0.2**
WRAB	**Tennant Creek**	**84.31**	**210**	*e*P	**P**	**08 16 19.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRAB	**Tennant Creek**	**84.31**	**210**	*e*P	**P**	**08 16 19.1**	**-0.5**
	comp=Z,3.4nm,1.0s						
WB2	**Warramunga Arr**	**84.32**	**210**	*e*P	**P**	**08 16 19.0**	**-0.7**
WRA	**Warramunga Arr**	**84.33**	**210**	P	**P**	**08 16 19.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=14,slow=5.3,SNR=8.1						
WRA	**Warramunga Arr**	**84.33**	**210**	P	**P**	**08 16 19.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**84.33**	**210**	P	**P**	**08 16 19.3**	**-0.3**
ASAR	**Alice Springs**	**88.01**	**209**	P	**P**	**08 16 37.6**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=12,slow=4.1,SNR=6.3						
ASAR	**Alice Springs**	**88.01**	**209**	P	**P**	**08 16 37.7**	**-0.1**
ASAR	**Alice Springs**	**88.01**	**209**	P	**P**	**08 16 37.6**	**-0.1**
QSPA	**South Pole Qui**	**150.51**	**180**	*e*PKPbc	**PKPbc**	**08 23 37.1**	**-0.9**

*CRAAG **17** 08:08:52.3, 36˚.50N×3˚.30E, Ml3.0*
*ISCJB **17** 08:08:54.7±0.8, 36˚.72N±0˚.05×3˚.28E±0˚.07, h18km, Error ellipse: s-maj=7.7km s-min=6.6km az=168.9*
*MDD **17** 08:08:54.7±0.8, 36˚.63N×3˚.35E, h0km, mb3.6/5, Error ellipse: s-maj=10.1km s-min=7.2km az=19.0, PRXIMO*
*CSEM **17** 08:08:55.0±0.5, 36˚.61N×3˚.34E, h20km, mb3.6/5, Error ellipse: s-maj=10.3km s-min=9.6km az=109.0*

ISC 17 08:08:53.8±1.0, 36˚58N±0˚05×3˚35E±0˚04, h18km, n28, σ1s 26/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.34**	**312**	P	**Pg**	**08 09 00.9**	**0.0**
ABA	**Alger-Bouzarea**	**0.34**	**312**	P	**Pg**	**08 09 00.9**	**0.0**
ABA	**Alger-Bouzarea**	**0.34**	**312**	P	**Pg**	**08 09 00.9**	**0.0**
AKF	**Akfadou**	**0.98**	**86**	P	**Pg**	**08 09 12.9**	**0.0**
AKF	**Akfadou**	**0.98**	**86**	P	**Pg**	**08 09 12.9**	**0.0**
AKF	**Akfadou**	**0.98**	**86**	P	**Pg**	**08 09 12.9**	**0.0**
EBNR	**Beni Rached**	**1.49**	**259**	P	**Pn**	**08 09 19.4**	**-0.3**
EBNR	**Beni Rached**	**1.49**	**259**	P	**Pn**	**08 09 19.4**	**-0.3**
EANR	**'Ain N'Sour**	**1.92**	**252**	P	**Pb**	**08 09 28.5**	**+0.2**
EANR	**'Ain N'Sour**	**1.92**	**252**	P	**Pb**	**08 09 28.5**	**+0.2**
EANR	**'Ain N'Sour**	**1.92**	**252**	P	**Pb**	**08 09 28.5**	**+0.2**
ETRT	**Tiaret**	**2.04**	**235**	P	**Pn**	**08 09 27.8**	**+0.5**
ETRT	**Tiaret**	**2.04**	**235**	P	**Pn**	**08 09 27.8**	**+0.5**
ETRT	**Tiaret**	**2.04**	**235**	P	**Pn**	**08 09 27.8**	**+0.5**
EIBI	**Ibiza**	**2.92**	**328**	P	**Pn**	**08 09 40.1**	**+0.9**
	5.9nm,0.2s,SNR=12						
EIBI				S	**Sn**	**08 10 13.3**	**-0.5**
	6.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.92**	**328**	P	**Pn**	**08 09 40.1**	**+0.9**
	5.9nm,0.2s,SNR=12						
EIBI				S	**Sn**	**08 10 13.3**	**-0.5**
	6.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.21**	**353**	P	**Pn**	**08 09 43.8**	**+0.4**
	1.4nm,0.1s,SNR=15						
ETOS				S	**Sn**	**08 10 20.0**	**-1.2**
	2.4nm,0.2s,SNR=5.8						
ETOS	**Mallorca**	**3.21**	**353**	P	**Pn**	**08 09 43.8**	**+0.4**
	1.4nm,0.1s,SNR=15						
ETOS				S	**Sn**	**08 10 20.0**	**-1.2**
	2.4nm,0.2s,SNR=5.8						
EBEN	**Beniarda**	**3.54**	**308**	P	**Pn**	**08 09 49.2**	**+1.3**
	0.0nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**08 10 27.6**	**-1.8**
	0.9nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.54**	**308**	P	**Pn**	**08 09 49.2**	**+1.3**
	SNR=7.9						
EBEN				S	**Sn**	**08 10 27.6**	**-1.8**
	0.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.40**	**299**	P	**Pn**	**08 10 01.3**	**+1.6**
	0.7nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**08 10 50.3**	**-0.3**
	1.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.40**	**299**	P	**Pn**	**08 10 01.3**	**+1.6**
	0.7nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**08 10 50.3**	**-0.3**
	1.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.82**	**323**	P	**Pn**	**08 10 06.7**	**+1.0**
	0.2nm,0.1s,SNR=6.0						
EMOS				S	**Sn**	**08 11 00.3**	**-0.9**
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.82**	**323**	P	**Pn**	**08 10 06.7**	**+1.0**
	0.2nm,0.1s,SNR=6.0						
EMOS				S	**Sn**	**08 11 00.3**	**-0.9**
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.09**	**340**	P	**Pn**	**08 10 10.5**	**+1.4**
	0.4nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**08 11 04.2**	**-3.2**
	0.4nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.09**	**340**	P	**Pn**	**08 10 10.5**	**+1.4**
	0.4nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**08 11 04.2**	**-3.2**
	0.4nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.51**	**346**	P	**Pn**	**08 10 17.2**	**+2.2**
	7.4nm,0.2s,SNR=11						
EMIR				S	**Sn**	**08 11 16.6**	**-1.4**
	4.6nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.51**	**346**	P	**Pn**	**08 10 17.2**	**+2.2**
	7.4nm,0.2s,SNR=11						
EMIR				S	**Sn**	**08 11 16.6**	**-1.4**
	4.6nm,0.3s,SNR=7.9						

*ISCJB **17** 08:13:16.9±0.6, 15˚.24N±0˚.10×120˚.7E±0˚.2, h150km, mb3.8/9, Error ellipse: s-maj=25.0km s-min=11.2km az=158.1*
*MAN **17** 08:13:23, 15˚.30N×120˚.44E, h60km, mb4.5, ML3.4, MS3.3*
*IDC **17** 08:13:30.8±1.3, 15˚.03N×120˚.38E, h279km±13km, mb3.4/9, mb1 3.6/9, mb1mx3.3/23, mbtmp3.4/9, Error ellipse: s-maj=41.5km s-min=11.7km az=60.0*

ISC 17 08:13:18.6±0.8, 15˚31N±0˚08×120˚6E±0˚1, h150km, n15, σ1s 63/13, mb3.9/8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.79**	**306**	*e*P	Pn	08 13 40.6	-1.2
BALP	**Baler**	**1.06**	**66**	*e*P	**Pn**	**08 13 45.8**	**+1.9**
BCPH	**Baguio City Da**	**1.07**	**0**	⇑*i*P	**Pn**	**08 13 44.4**	**+0.2**
BOLP	**Bolinao**	**1.24**	**329**	*e*P	Pn	08 13 45.6	0.0
TGY	**Tagaytay City**	**1.25**	**164**	P	**Sn**	**08 14 09.5**	**+3.0**
	48nm,0.3s,baz=155,slow=22,SNR=8.6						
LUBP	**Lubang**	**1.60**	**191**	*e*P	**Pn**	**08 13 50.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.93**	**282**	P	**P**	**08 17 51.6**	**+1.9**
	1.0nm,0.3s,baz=97,slow=7.6,SNR=5.1						
WRA	**Warramunga Arr**	**37.55**	**158**	P	**P**	**08 20 16.7**	**-1.9**
	2.3nm,0.3s,baz=341,slow=8.4,SNR=66						
ASAR	**Alice Springs**	**40.87**	**161**	P	**P**	**08 20 44.5**	**-1.6**
	2.1nm,0.5s,baz=340,slow=6.9,SNR=49						
MKAR	**Makanchi Array**	**44.68**	**323**	P	**P**	**08 21 17.1**	**+0.6**
	0.1nm,0.2s,baz=118,slow=9.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**47.58**	**332**	P	**P**	**08 21 39.1**	**0.0**
	0.7nm,0.3s,baz=19,slow=19,SNR=4.4						
KURK	**Kurchatov**	**48.80**	**326**	P	**P**	**08 21 48.9**	**+0.5**
	0.7nm,0.3s,baz=124,slow=8.1,SNR=4.7						
STKA	**Stephens Creek**	**51.06**	**157**	P	**P**	**08 22 04.1**	**-1.6**
	0.5nm,0.4s,baz=340,slow=10.0,SNR=4.4						
ARCES	**ARCESS Array B**	**77.55**	**339**	P	**P**	**08 24 57.3**	**-0.2**
	7.3nm,1.1s,baz=79,slow=6.3,SNR=3.7						
NOA	**NORSAR Array B**	**85.78**	**333**	P	**P**	**08 25 40.3**	**-0.7**
	1.4nm,0.8s,baz=66,slow=5.1,SNR=3.5						

*PGC **17** 08:21:07.0±0.6, 52˚.26N×132˚.51W, h20km, ML4.0/9*
PGC 119km southwest of Sandspit, Bc Queen Charlotte Islands Region Felt (I-II) at Queen Charlotte City and Skidegate, British Columbia.
*NEIC **17** 08:21:07.0, 52˚.26N×132˚.51W, h20km, mb4.0/10, ML4.0(PGC), After PGC.*
NEIC Felt [II] at Queen Charlotte City and Skidegate.
*IDC **17** 08:21:12.6±1.0, 52˚.20N×131˚.49W, h0km, mb4.0/9, mb1 4.2/14, mb1mx4.0/28, mbtmp4.0/14, ML3.7/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/40, Error ellipse: s-maj=22.8km s-min=11.8km az=25.0*

ISC 17 08:21:07.9±1.6, 52˚32N±0˚05×132˚17W±0˚06, h5km±10km, n76, σ1s 91/69, mb4.1/14, 9D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.37**	**44**	P	**Pb**	**08 21 17.8**	**+0.9**
BNB				S	**Sb**	**08 21 24.8**	**+1.9**
BNB	**Barry Inlet**	**0.37**	**44**	⇓P	**Pb**	**08 21 17.8**	**+0.9**
BNB				⇓S	**Sb**	**08 21 24.8**	**+1.9**
MOBC	**Moresby Island**	**0.84**	**8**	P	**Pb**	**08 21 24.6**	**-0.4**
MOBC				S	**Sn**	**08 21 36.4**	**-2.7**
MOBC	**Moresby Island**	**0.84**	**8**	⇑P	**Pb**	**08 21 24.6**	**-0.4**
MOBC				⇓S	**Sn**	**08 21 36.4**	**-2.7**
DIB	**Dawson Inlet,**	**0.91**	**348**	Pn	**Pg**	**08 21 24.5**	**-0.8**
DIB				Sn	**Sg**	**08 21 35.8**	**-1.2**
	SNR=1926						
DIB	**Dawson Inlet,**	**0.91**	**348**	P	**Pg**	**08 21 24.4**	**-0.9**
DIB				S	**Sg**	**08 21 35.9**	**-1.2**
DIB	**Dawson Inlet,**	**0.91**	**348**	⇑P	**Pg**	**08 21 24.4**	**-0.9**
DIB				⇓S	**Sg**	**08 21 35.9**	**-1.2**
NDB	**Naden**	**1.71**	**345**	P	**Pn**	**08 21 35.9**	**-2.4**
NDB				S	**Sn**	**08 21 56.1**	**-4.4**
NDB	**Naden**	**1.71**	**345**	⇑P	**Pn**	**08 21 35.9**	**-2.4**
NDB				⇑S	**Sn**	**08 21 56.1**	**-4.4**
BBB	**Bella Bella**	**2.50**	**91**	Pn	**Pn**	**08 21 47.8**	**-1.3**
	17nm,0.3s,baz=278,slow=13,SNR=26						
BBB				Sn	**Sn**	**08 22 16.6**	**-3.3**
	88nm,0.3s,baz=306,slow=22,SNR=14						
BBB	**Bella Bella**	**2.50**	**91**	Pn	**Pn**	**08 21 47.8**	**-1.3**
BBB				Sn	**Sn**	**08 22 16.6**	**-3.3**
HOLB	**Holberg**	**3.03**	**122**	P	Pn	08 21 53.5	-3.0
HOLB	**Holberg**	**3.03**	**122**	⇓P	Pn	08 21 53.5	-3.0
CRAG	**Craig**	**3.21**	**350**	*e*Pn	**Pn**	**08 21 57.8**	**-1.1**
PHC	**Port Hardy**	**3.37**	**117**	P	Pn	08 21 58.0	-3.0
PHC	**Port Hardy**	**3.37**	**117**	⇓P	Pn	08 21 58.0	-3.0
BPBC	**Brooks Peninsu**	**3.51**	**126**	P	**Pn**	**08 22 01.9**	**-1.2**
BPBC	**Brooks Peninsu**	**3.51**	**126**	⇑P	**Pn**	**08 22 01.9**	**-1.2**
MAYB	**Maynard**	**3.67**	**119**	P	**Pn**	**08 22 04.1**	**-1.2**
MAYB	**Maynard**	**3.67**	**119**	⇓P	**Pn**	**08 22 04.1**	**-1.2**
EDB	**Eliza Dome**	**4.01**	**126**	P	**Pn**	**08 22 08.9**	**-1.0**
EDB	**Eliza Dome**	**4.01**	**126**	⇓P	**Pn**	**08 22 08.9**	**-1.0**
WRAK	**Wrangell Islan**	**4.11**	**359**	*e*Pn	**Pn**	**08 22 10.7**	**-0.6**
WRAK				*e*Sn	**Sn**	**08 22 56.6**	**-3.0**
WOSB	**Woss**	**4.13**	**119**	P	**Pn**	**08 22 10.3**	**-1.3**
WOSB	**Woss**	**4.13**	**119**	⇓P	**Pn**	**08 22 10.3**	**-1.3**
DLBC	**Dease Lake**	**6.26**	**10**	Pn	**Pn**	**08 22 43.8**	**+3.0**
	3.1nm,0.3s,baz=183,slow=14,SNR=30						
DLBC				Sn	Sn	08 23 58.4	+5.8
	2.1nm,0.3s,baz=306,slow=25,SNR=4.2						
DLBC				LR	LR	08 25 18.2	
	comp=Z,609nm,21.2s,baz=90,slow=39						
DLBC	**Dease Lake**	**6.26**	**10**	*e*Pn	**Pn**	**08 22 43.5**	**+2.8**
NLWA	**Neilton Lookou**	**7.29**	**129**	*e*Pn	**Pn**	**08 22 55.6**	**+0.7**
JCW	**Jim Creek**	**7.75**	**118**	*e*Pn	**Pn**	**08 23 03.3**	**+2.0**
	6.4nm,0.4s						
LON	**Longmire**	**8.74**	**126**	*e*Pn	**Pn**	**08 23 17.3**	**+2.4**
	4.7nm,0.6s						
DAWY	**Dawson**	**12.37**	**345**	*e*Pn	**Pn**	**08 24 02.0**	**-2.4**
JTMT	**Jette**	**12.37**	**105**	*e*Pn	Pn	08 24 08.0	+3.4
	8.9nm,1.4s						
YKA	**Yellowknife Ar**	**13.86**	**36**	Pn	**Pn**	**08 24 24.0**	**-0.6**
	0.6nm,0.3s,baz=228,slow=12,SNR=58						
YKA	**Yellowknife Ar**	**13.86**	**36**	Pn	**Pn**	**08 24 24.1**	**-0.6**
ILAR	**Eielson Array**	**14.60**	**334**	Pn	**Pn**	**08 24 36.7**	**+1.8**
	0.1nm,0.3s,baz=151,slow=13,SNR=8.3						
ILAR	**Eielson Array**	**14.60**	**334**	Pn	**Pn**	**08 24 36.7**	**+1.8**
QLMT	**Earthquake Lak**	**15.60**	**110**	P	**Pn**	**08 24 49.8**	**+1.2**
	0.3nm,0.5s						
INK	**Inuvik**	**16.06**	**358**	Pn	**P**	**08 24 59.0**	**+1.5**
	0.1nm,0.3s,baz=169,slow=13,SNR=15						
INK				LR	LR	08 31 23.4	
	comp=Z,192nm,19.9s,baz=117,slow=38						
INK	**Inuvik**	**16.06**	**358**	*e*P	**P**	**08 24 59.2**	**+1.7**
	7.6nm,1.1s						
LOHW	**Long Hollow**	**16.81**	**113**	*e*P	**P**	**08 25 08.9**	**+2.6**
	5.0nm,1.3s						
NVAR	**Mina Array Bea**	**16.92**	**140**	Pn	Pn	**08 25 07.5**	**+2.1**
	0.1nm,0.3s,baz=318,slow=9.9,SNR=15						
NVAR	**Mina Array Bea**	**16.92**	**140**	Pn	**Pn**	**08 25 07.5**	**+2.1**
PD01	**Pinedale Array**	**17.92**	**113**	*e*P	**P**	**08 25 21.3**	**+2.7**
PD02	**Pinedale Array**	**17.93**	**113**	*e*P	**P**	**08 25 22.1**	**+3.4**
PDAR	**Pinedale Array**	**17.94**	**113**	P	**Pn**	**08 25 19.3**	**+1.1**
	0.1nm,0.3s,baz=305,slow=8.7,SNR=17						
PDAR	**Pinedale Array**	**17.94**	**113**	P	**Pn**	**08 25 19.3**	**+1.1**
FFC	**Flin Flon**	**18.05**	**70**	*e*P	**Pn**	**08 25 18.5**	**-0.7**
	3.7nm,0.6s						
DGMT	**Dagmar**	**18.20**	**91**	*e*P	**Pn**	**08 25 22.0**	**+1.0**
	16nm,1.0s						
ARUT	**Antelope Range**	**19.57**	**131**	*e*P	**P**	**08 25 37.2**	**+0.7**
	9.7nm,1.1s						
MSU	**Marysvale**	**19.59**	**127**	*e*P	**P**	**08 25 38.9**	**+2.0**
	11nm,1.4s						
MWC	**Mount Wilson**	**20.73**	**145**	*e*P	**P**	**08 25 50.6**	**+1.3**
	7.5nm,1.0s						
LDFC	**Landfair**	**21.10**	**138**	*e*P	**P**	**08 25 54.4**	**+1.2**
	24nm,1.2s						
PV01	**Paradox Valley**	**21.72**	**121**	*e*P	**P**	**08 26 01.2**	**+1.3**
	560nm,0.9s						
SMCO	**Snowmass**	**21.81**	**117**	*e*P	**P**	**08 26 02.4**	**+1.3**
	6.9nm,1.1s						
ULM	**Lac du Bonnet**	**22.65**	**81**	P	**P**	**08 26 10.0**	**+0.5**
	3.7nm,0.9s,baz=306,slow=8.9,SNR=6.1						
ULM	**Lac du Bonnet**	**22.65**	**81**	*e*P	**P**	**08 26 08.1**	**-1.5**
	4.7nm,0.9s						
TXAR	**Lajitas Array**	**31.15**	**126**	P	**P**	**08 27 28.6**	**+1.1**
	3.4nm,1.0s,baz=331,slow=7.5,SNR=26						
TXAR	**Lajitas Array**	**31.15**	**126**	P	**P**	**08 27 28.6**	**+1.1**
FINES	**FINESS Array B**	**65.27**	**11**	P	P	08 31 57.5	+7.5
	2.3nm,0.8s,baz=347,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**65.27**	**11**	P	P	08 31 57.5	+7.5
SONM	**Songino Array**	**68.43**	**322**	P	P	08 32 18.5	+8.0
	0.3nm,0.7s,baz=38,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**68.43**	**322**	P	P	08 32 18.5	+8.0
ZALV	**Zalesovo Beam**	**69.70**	**338**	P	P	08 32 25.1	+7.0
	1.1nm,0.7s,baz=14,slow=5.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**69.70**	**338**	P	P	08 32 25.1	+7.0
BVAR	**Borovoye Array**	**73.34**	**346**	P	P	08 32 47.6	+7.5
	0.3nm,0.4s,baz=45,slow=6.3,SNR=3.8						
BVAR	**Borovoye Array**	**73.34**	**346**	P	P	08 32 47.6	+7.5
KURK	**Kurchatov**	**74.09**	**340**	P	P	08 32 52.0	+7.5
	0.7nm,0.4s,baz=20,slow=5.5,SNR=6.2						
KURK	**Kurchatov**	**74.09**	**340**	P	P	08 32 52.0	+7.5
AKASG	**Malin Array Be**	**76.16**	**12**	P	P	08 33 02.9	+6.5
	0.4nm,0.4s,baz=351,slow=5.5,SNR=4.9						
AKASG	**Malin Array Be**	**76.16**	**12**	P	P	08 33 02.9	+6.5
MKAR	**Makanchi Array**	**76.95**	**336**	P	**P**	**08 33 00.1**	**-0.9**
	0.5nm,0.7s,baz=16,slow=5.5,SNR=6.8						
MKAR	**Makanchi Array**	**76.95**	**336**	P	**P**	**08 33 00.1**	**-0.9**
AKTO	**Aktyubinsk**	**77.26**	**353**	P	P	08 33 09.2	+6.5
	1.4nm,0.7s,baz=35,slow=5.5,SNR=5.7						
AKTO	**Aktyubinsk**	**77.26**	**353**	P	P	08 33 09.2	+6.5
LPAZ	**La Paz**	**87.82**	**120**	P	**P**	**08 33 57.0**	**-1.7**
	0.7nm,0.4s,baz=348,slow=4.6,SNR=7.0						
LPAZ	**La Paz**	**87.82**	**120**	P	**P**	**08 33 57.0**	**-1.7**

IDC 17 08:27:32.8±13.0, 5˚55N×126˚12E, h83km±125km, mb3.3/5, mb1 3.4/5, mb1mx3.2/20, mbtmp3.3/5, Error ellipse: s-maj=122.2km s-min=26.4km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.51**	**181**	P	P	08 32 35.7	+0.2
	0.7nm,0.5s,baz=3.6,slow=12,SNR=3.4						
WRA

comp=E,38μm,2.7s
YUK smax smax
comp=N,45μm,2.6s
YUK MLR MLR
comp=N,9μm,12.0s
YUK MLR MLR
comp=E,8μm,12.0s
YUK MLR MLR
comp=Z,11μm,12.0s
YUK Yuzh-Kuril'sk 3.38 272⇑ *i*P Pn 08 39 09.3 -2.3
YUK AMB AMB 08 39 15.8
comp=Z,5μm,2.2s
YUK AMB AMB 08 39 16.2
comp=Z,360nm,0.5s
YUK AMB AMB 08 39 16.2
comp=Z,540nm,0.5s
YUK AMB AMB 08 39 16.2
comp=Z,550nm,0.5s
YUK *i*S **Sn 08 39 49.2 -1.1**
YUK A A 08 39 56.0
comp=Z,11μm,0.6s
YUK A A 08 39 56.0
comp=Z,6μm,0.6s
YUK A A 08 39 59.3
comp=Z,39μm,1.9s
YUK A A 08 39 59.3
comp=Z,32μm,1.9s
YUK AMS AMS 08 41 55.8
comp=Z,32μm,13.0s
YUK AMS AMS 08 41 55.8
comp=Z,34μm,13.0s
YUK AMS AMS 08 41 55.8
comp=Z,31μm,17.0s
NEM2 Nemuro 2 3.55 261 P Pn 08 39 10.7 -3.1
NEM2 *e*S **Sn 08 39 50.3 -4.1**
JRA Rausu 3.92 271 P **Pn 08 39 17.2 -1.7**
JRA *e*S **Sn 08 40 02.9 -0.7**
JNK Nakash 4.24 266 P **Pn 08 39 21.1 -2.3**
JNK *e*S **Sn 08 40 09.7 -1.9**
JAK Akkeshi 4.38 258 P **Pn 08 39 22.2 -3.0**
JAK *e*S **Sn 08 40 12.0 -2.9**
JTKR Abashiri--Toko 4.79 272 P **Pn 08 39 29.8 -1.1**
JTKR *e*S **Sn 08 40 25.3 +0.2**
JAR Ashorobuto 4.97 264 P **Pn 08 39 31.7 -1.7**
JAR *e*S **Sn 08 40 28.7 -0.9**
JOB Onbets 5.01 259 P **Pn 08 39 31.7 -2.2**
JMP Maruseppu 5.18 272 P **Pn 08 39 35.4 -0.9**
JCH Churui 5.43 257 P **Pn 08 39 37.2 -2.5**
JKK2 Kamakawa 2 5.63 271 P **Pn 08 39 43.5 +1.0**
JKK2 *e*S **Sn 08 40 48.5 +2.6**
ASAJ Asahikawa 5.73 274 Pn **Pn 08 39 44.0 +0.2**
comp=Z,12nm,0.3s,baz=90,slow=14,SNR=37
ASAJ Sn **Sn 08 40 51.2 +3.0**
comp=Z,13nm,0.3s,baz=329,slow=19,SNR=2.5
ASAJ Asahikawa 5.73 274 PN **Pn 08 39 44.0 +0.2**
ASAJ 08 40 51.2
ASAJ pmax pmax
comp=Z,12nm,0.3s
ASAJ smax smax
comp=N,13nm,0.3s
ASAJ Asahikawa 5.73 274 *e*Pn **Pn 08 39 44.5 +0.7**
ASAJ Asahikawa 5.73 274 P **Pn 08 39 45.1 +1.3**
JSE Soyaes 5.77 282 P **Pn 08 39 45.1 +0.7**
ERM Erimo 5.78 252 *c i*PN **Pn 08 39 44.0 -0.4**
ERM Erimo 5.78 252 *e*Pn **Pn 08 39 44.1 -0.4**
ERM *e*Sn **Sn 08 40 49.6 +0.2**
ERM Erimo 5.78 252 Pn **Pn 08 39 44.4 0.0**
comp=N,3μm,0.5s,SNR=75
JEM Erimo 5.78 252 P **Pn 08 39 43.7 -0.7**
JFR Furan 5.84 264 P **Pn 08 39 44.2 -1.1**
JFR *e*S **Sn 08 40 51.2 +0.2**
JNBK Urakawa-nobuka 5.96 256 P **Pn 08 39 44.7 -2.3**
JAB Ashibetsu 6.05 268 P **Pn 08 39 48.7 +0.5**
JBT2 Biratori 2 6.09 261 P **Pn 08 39 46.7 -2.1**
YSS Yuzh-Sakhalins 6.21 301 *c i*PN **Pn 08 39 51.8 +1.4**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS pmax pmax
comp=Z,2μm,7.0s
YSS MLR MLR
comp=E,17μm,15.0s
YSS MLR MLR
comp=Z,20μm,15.0s
YSS MLR MLR
comp=N,10μm,12.0s
YSS Yuzh-Sakhalins 6.21 301⇑ *i*P Pn 08 39 51.8 +1.4
YSS AMB AMB 08 39 58.0
comp=N,130nm,0.9s
YSS AMB AMB 08 39 59.0
comp=N,2μm,7.0s
YSS *e*S **Sn 08 40 59.5 -0.5**
YSS A A 08 41 06.0
comp=N,170nm,0.7s
YSS A A 08 41 06.0
comp=N,230nm,0.7s
YSS *e*LQ LQ 08 41 26.0
YSS *e*LR LR 08 42 10.0
YSS AMS AMS 08 43 42.0
comp=N,10μm,14.0s
YSS AMS AMS 08 43 42.0
comp=N,7μm,14.0s
YSS AMS AMS 08 43 42.0
comp=N,20μm,15.0s
JSS Shosan 6.26 276 P **Pn 08 39 53.6 +2.5**
JWK2 Keihoku 6.30 285 P **Pn 08 39 53.3 +1.7**
JHR Hokuryu 6.38 271 P **Pn 08 39 54.6 +1.8**
JEW Eniwo 6.73 263 P **Pn 08 39 57.0 -0.5**
JEW *e*S **Sn 08 41 13.4 +0.6**
JNB Noboribetsu 7.12 261 P **Pn 08 40 00.9 -1.9**
JNB *e*S **Sn 08 41 19.5 -2.8**
JKB Kayabe 7.30 256 P **Pn 08 40 03.5 -1.8**
JKB *e*S **Sn 08 41 22.1 -4.7**
JSK Shakotan 7.33 268 *e*S **Sn 08 41 29.8 +2.2**
JANG Nango 7.63 245 P Pn 08 40 05.6 -4.3
JANG *e*S Sn 08 41 27.1 -8.0
JTH Tanohata 7.65 241 P Pn 08 40 06.3 -3.8
JTH *e*S Sn 08 41 26.5 -8.9
SKR Severo-Kuril's 7.66 28 *e*PN Pn 08 40 15.4 +5.2
SKR pmax pmax
comp=Z,350nm,0.6s
SKR MLR MLR
comp=N,11μm,16.0s
SKR MLR MLR
comp=E,12μm,16.0s
SKR MLR MLR
comp=Z,11μm,16.0s
SKR Severo-Kuril's 7.66 28 *e*P Pn 08 40 15.4 +5.2
SKR AMB AMB 08 40 19.2
comp=Z,350nm,0.6s
SKR *e*S **Sn 08 41 38.0 +2.4**
SKR A A 08 41 41.0
comp=Z,150nm,0.5s
SKR A A 08 41 41.0
comp=Z,180nm,0.5s
SKR A A 08 41 41.0
comp=Z,80nm,0.5s
SKR AMS AMS 08 43 16.0
comp=Z,10μm,16.0s
SKR AMS AMS 08 43 16.0
comp=Z,12μm,16.0s
SKR AMS AMS 08 43 16.0
comp=Z,10μm,16.0s
SKR AMS AMS 08 43 16.0
comp=Z,11μm,16.0s
SKR AMS AMS 08 43 16.0
comp=Z,12μm,16.0s
SKR AMS AMS 08 43 16.0
comp=Z,11μm,16.0s
JYM2 Yakumo 2 7.69 259 P **Pn 08 40 08.8 -1.9**
JTM Tenmabayashi 7.72 248 P **Pn 08 40 08.1 -3.1**
JTM *e*S Sn 08 41 29.3 -8.0
UGL Uglegorsk 7.72 314 *e*PN **Pn 08 40 14.0 +2.9**
UGL pmax pmax
comp=Z,134nm,1.0s
UGL pmax pmax
comp=N,3μm,6.0s
UGL pmax pmax
comp=E,2μm,6.0s
UGL MLR MLR
comp=N,23μm,14.0s
UGL MLR MLR
comp=E,13μm,14.0s
UGL Uglegorsk 7.72 314 *e*P **Pn 08 40 14.0 +2.9**
UGL AMB AMB 08 40 15.5
comp=E,134nm,1.0s
UGL AMB AMB 08 40 18.0
comp=E,3μm,6.0s
UGL AMB AMB 08 40 18.0
comp=E,2μm,6.0s
UGL *e*L L 08 42 40.0
UGL *e*L L 08 44 21.0
UGL AMS AMS 08 44 41.0
comp=E,23μm,14.0s
UGL AMS AMS 08 44 41.0
comp=E,13μm,14.0s
JSH Shimam 7.78 263 P **Pn 08 40 11.0 -0.9**
JSR Shiriuchi 7.86 255 P **Pn 08 40 10.9 -2.1**
JSR *e*S **Sn 08 41 35.8 -4.8**
JKZ Kuzumaki 7.96 243 P Pn 08 40 10.4 -4.1
OFUJ Ofunato 8.29 236 P Pn 08 40 14.2 -4.7
JOSM Okushiri--Mats 8.34 260 P **Pn 08 40 17.6 -2.0**
JOSM *e*S **Sn 08 41 47.7 -4.6**
TYV Tymovskoe 8.68 325 *e*P **Pn 08 40 23.0 -1.2**
TYV AMB AMB 08 40 31.0
comp=E,440nm,2.0s
TYV AMB AMB 08 40 31.0
comp=E,100nm,1.4s
TYV AMB AMB 08 40 31.0
comp=E,48nm,1.4s
TYV AMB AMB 08 40 32.0
comp=E,4μm,8.0s
TYV AMB AMB 08 40 32.0
comp=E,2μm,10.0s
TYV AMS AMS 08 45 06.0
comp=E,16μm,14.0s
TYV AMS AMS 08 45 06.0
comp=E,22μm,14.0s
JRG Rokugo 8.74 241 P **Pn 08 40 21.9 -3.1**
JRG *e*S Sn 08 41 55.0 -7.2
JIO Ouri 8.88 234 P Pn 08 40 21.9 -5.2
JIO *e*S Sn 08 41 55.3 -10
JOG2 Oga 2 9.00 247 P **Pn 08 40 27.8 -0.9**
JYA Atsumi 9.79 240 P Pn 08 40 36.1 -3.4
JFK Kawauchi 9.90 231 P Pn 08 40 36.0 -5.1
JFK *e*S Sn 08 42 19.7 -11
TEY Ternei 10.01 281 *e*P Pn 08 40 46.7 +4.2
TEY AMB AMB 08 40 47.0
comp=E,2μm,4.0s
TEY AMB AMB 08 40 47.0
comp=E,52nm,0.8s
TEY AMB AMB 08 40 47.0
comp=E,2μm,4.0s
TEY *e*LQ LQ 08 43 32.0
TEY *e*LR LR 08 45 20.0
TEY AMS AMS 08 45 26.0
comp=E,18μm,15.0s
TEY AMS AMS 08 45 26.0
comp=E,6μm,15.0s
TEY AMS AMS 08 45 26.0
comp=E,7μm,15.0s
PEA0B Petropavlovsk- 10.24 25 *e*Pn **Pn 08 40 44.1 -1.6**
PETK Petropavlovsk- 10.24 25 Pn Pn 08 40 42.5 -3.2
comp=E,3.7nm,0.3s,baz=204,slow=12,SNR=51
PETK Sn **Sn 08 42 39.4 +0.4**
comp=E,0.6nm,0.3s,baz=193,slow=19,SNR=2.5
PETK Petropavlovsk- 10.24 25 PN Pn 08 40 42.5 -3.2
PETK pmax pmax
comp=Z,4.0nm,0.3s
PETK Petropavlovsk- 10.24 25 Pn Pn 08 40 42.5 -3.2
PETK Sn **Sn 08 42 39.4 +0.4**
PET Petropavlovsk 10.48 28 *e*PN **Pn 08 40 50.0 +1.2**
PET pmax pmax
comp=Z,200nm,13.0s
PET MLR MLR
comp=Z,6μm,18.0s
PET Petropavlovsk 10.48 28 *e*Pn Pn 08 40 44.7 -4.1
JFY Yanaizu 10.55 235 P Pn 08 40 46.1 -3.8
OKH Okha 10.77 335 *e*PN Pn 08 40 57.8 +5.1
OKH *e*S Sn 08 43 06.0 +14
OKH pmax pmax
comp=Z,4μm,8.0s
OKH smax smax
comp=N,4μm,16.0s
OKH MLR MLR
comp=Z,11μm,12.0s
OKH Okha 10.77 335 *e*P **Pn 08 40 54.9 +2.2**
OKH *e*P 08 40 57.8
OKH AMB AMB 08 41 02.0
comp=Z,4μm,8.0s
OKH *e*LQ LQ 08 44 22.0
OKH AMS AMS 08 46 31.4
comp=Z,11μm,12.0s
OKH AMS AMS 08 46 31.4
comp=Z,10μm,12.0s
OKH AMS AMS 08 46 31.4
comp=Z,2μm,12.0s
NKL Nikolayevsk 11.22 328 *i*P **Pn 08 40 56.0 -2.9**
NKL AMB AMB 08 40 59.5
comp=Z,560nm,2.5s
NKL AMB AMB 08 40 59.5
comp=Z,840nm,2.5s
NKL AMB AMB 08 40 59.5
comp=Z,950nm,3.0s
NKL AMB AMB 08 41 03.5
comp=Z,2μm,6.0s
NKL AMB AMB 08 41 03.5
comp=Z,2μm,7.0s
NKL *e*L L 08 43 56.0
NKL AMS AMS 08 46 52.0
comp=Z,6μm,15.0s
NKL AMS AMS 08 46 52.0
comp=Z,7μm,16.0s
HABR Khabarovsk 11.61 298 *de*PN **Pn 08 41 02.5 -1.8**
HABR pmax pmax
comp=N,31nm,2.3s
HABR pmax pmax
comp=Z,57nm,2.3s
HABR pmax pmax
comp=E,55nm,3.7s
MJAR Matsushiro Arr 12.02 236 Pn **Pn 08 41 07.0 -3.0**
comp=E,5.8nm,0.3s,baz=31,slow=13,SNR=148
MJAR Sn **Sn 08 43 24.1 +1.4**
comp=E,3.4nm,0.3s,baz=74,slow=18,SNR=4.8
MJAR Matsushiro Arr 12.02 236 PN **Pn 08 41 07.0 -3.0**
MJAR pmax pmax
comp=Z,6.0nm,0.3s
MJAR Matsushiro Arr 12.02 236 Pn **Pn 08 41 07.0 -3.0**
MJAR Sn **Sn 08 43 24.1 +1.4**
MAJO Matsushiro 12.02 236 *e*PN Pn 08 41 06.4 -3.6
MAJO Matsushiro 12.02 236 *e*Pn Pn 08 41 06.4 -3.6
MAT Matsushiro 12.02 236 P Pn 08 41 06.5 -3.5
MAT S **Sn 08 43 23.0 +0.4**
USRK Ussuriysk Arra 13.33 277 Pn **Pn 08 41 27.0 -0.8**
comp=Z,1.7nm,0.3s,baz=82,slow=16,SNR=50
USRK LR LR 08 46 58.6
comp=Z,2μm,18.9s,baz=70,slow=39
VLA Vladivostok 13.56 273⇑ *e*P **Pn 08 41 30.7 -0.2**
VLA *e*S **Sn 08 44 02.1 +2.0**
VLA pmax pmax
comp=Z,86nm,0.8s
KLR Kul'dur 13.91 299 *e*P **Pn 08 41 32.8 -3.0**
KLR *e*S **Sn 08 44 10.5 +1.8**
KLR pmax pmax
comp=E,2μm,10.0s
KLR pmax pmax
comp=Z,5μm,10.0s
KLR smax smax
comp=N,2μm,11.0s
KLR smax smax
comp=E,500nm,11.0s
KLR MLR MLR
comp=Z,20μm,13.0s
MDJ Mudanjiang 15.01 280 P **Pn 08 41 49.6 -0.9**
MDJ S **Sn 08 44 36.4 +0.9**
MDJ PcP **PcP 08 46 57.3 +0.5**
MDJ ScP **ScP 08 50 28.1 +0.8**
MDJ PcS **PcS 08 50 32.3 +0.4**
MDJ ScS **ScS 08 54 06.3 +1.2**
MDJ pmax pmax
comp=Z,51nm,1.2s
MDJ pmax pmax
comp=Z,800nm,8.7s
MDJ LR LR
comp=N,8μm,16.6s
MDJ LR LR
comp=E,1μm,17.2s
MDJ LR LR
comp=Z,6μm,13.9s
MDJ Mudanjiang 15.01 280 *e*P **Pn 08 41 49.8 -0.7**
comp=Z,58nm,1.0s
FX1 Attu Island--F 17.36 51 P **Pn 08 42 18.8 -1.5**
comp=Z,1.2nm,0.3s,baz=255,slow=5.4,SNR=13
FX1 S Sn 08 45 15.0 -17
comp=Z,2.0nm,0.3s,baz=45,slow=18,SNR=6.0
FX1 LR LR 08 49 01.3
comp=Z,1μm,18.6s,baz=276,slow=37
FX1 Attu Island--F 17.36 51 *e*P **Pn 08 42 21.0 +0.7**
FX1 Attu Island--F 17.36 51 *e*P **Pn 08 42 21.0 +0.7**
FX1 S Sn 08 45 15.0 -17
ZEA Zeya 18.07 311 *e*P **Pn 08 42 24.2 -4.7**
ZEA AMB AMB 08 42 27.9
comp=Z,39nm,0.5s
ZEA AMB AMB 08 42 27.9
comp=Z,47nm,1.0s
ZEA AMB AMB 08 42 27.9
comp=Z,52nm,1.0s
ZEA AMB AMB 08 42 30.0
comp=Z,1μm,7.0s
ZEA AMB AMB 08 42 30.0
comp=Z,2μm,7.0s
ZEA AMB AMB 08 42 30.0
comp=Z,2μm,7.0s
ZEA *e*S **Sn 08 45 46.0 -3.3**
ZEA A A 08 45 52.0
comp=Z,1μm,7.0s
CN2 Changchun 18.07 278 ⇓P **Pn 08 42 28.5 -0.6**
CN2 *e*S **Sn 08 45 44.4 -5.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,7μm,17.0s
CN2 LR LR
comp=E,5μm,17.0s
CN2 LR LR
comp=Z,6μm,17.0s
CBIJ Chichi jima 18.19 205 P **Pn 08 42 30.6 0.0**
comp=Z,4.4nm,0.3s,baz=79,slow=15,SNR=3.8
CBIJ S Sn 08 45 33.3 -19
comp=Z,19nm,0.3s,baz=298,slow=22,SNR=8.6
CBIJ LR LR 08 48 51.5
comp=Z,527nm,19.7s,baz=344,slow=35
CBIJ Chichi jima 18.19 205 P **Pn 08 42 30.6 0.0**
CBIJ S Sn 08 45 33.3 -19
KSRS Korea Array 18.33 257 P **Pn 08 42 32.0 -0.2**
comp=Z,0.3nm,0.3s,baz=62,slow=12,SNR=21
KSRS PcP **PcP 08 47 03.2 +1.1**
comp=Z,0.2nm,0.3s,baz=52,slow=0.8,SNR=17
KSRS LR LR 08 50 15.7
comp=Z,1μm,18.5s,baz=62,slow=39
KSRS Korea Array 18.33 257 P **Pn 08 42 32.0 -0.2**
KSRS MLR MLR
comp=Z,1μm,18.5s
KSAR Wonju Array Be 18.36 257 P **P 08 42 32.0 -0.3**
KSAR Wonju Array Be 18.36 257 P **P 08 42 32.0 -0.3**
KSAR PcP **PcP 08 47 03.2 +1.0**
JNU Nakatsue 18.79 241 *e*P **Pn 08 42 39.0 +1.0**
comp=Z,25nm,1.0s
SEY Seymchan 18.97 3⇑ *i*P **P 08 42 36.1 -2.8**
INCN Inchon 19.22 258 *e*P **Pn 08 42 42.7 -0.3**
comp=Z,26nm,0.7s
SNY Shenyang 19.84 273 ⇓P **Pn 08 42 50.3 0.0**
SNY S **S 08 46 29.3 -0.3**
SNY pmax pmax
comp=Z,100nm,0.8s
SNY pmax pmax
comp=Z,2μm,4.3s
SNY LR LR
comp=N,2μm,12.5s
SNY LR LR
comp=E,4μm,14.7s
SNY LR LR
comp=Z,3μm,16.2s
CLNS Chul'man 20.62 317 *e*P **P 08 42 55.7 -1.1**
CLNS *e* 08 43 14.4
CLNS *e*S **S 08 46 43.9 -0.9**
CLNS *e*SS SS 08 47 03.9
CLNS pmax pmax
comp=Z,91nm,0.9s
CLNS pmax pmax
comp=E,80nm,1.1s
CLNS pmax pmax
comp=N,83nm,1.1s
CLNS pmax pmax
comp=Z,75nm,1.7s
CLNS pmax pmax
comp=E,46nm,1.3s
CLNS pmax pmax
comp=N,59nm,1.4s
CLNS smax smax
comp=N,89nm,1.3s
CLNS smax smax
comp=E,95nm,1.0s
CLNS MLR MLR
comp=Z,8μm,14.0s
CLNS MLR MLR
comp=N,5μm,14.0s
CLNS MLR MLR
comp=E,4μm,14.0s
HIA Hailar 21.70 295 *e*P **P 08 43 05.5 -3.0**
HIA pmax pmax
comp=Z,35nm,0.6s
HIA Hailar 21.70 295 *e*P **P 08 43 05.5 -3.0**
comp=Z,35nm,0.6s
YAK Yakutsk 21.79 333 *e*P **P 08 43 06.4 -3.0**
YAK *e* 08 43 21.1
YAK *e*S **S 08 47 01.3 -6.5**
YAK *e* 08 47 09.4
YAK *e*SSS SSS 08 47 41.1
YAK *e* 08 54 28.1
YAK pmax pmax
comp=Z,230nm,0.9s
YAK pmax pmax
comp=N,68nm,1.0s
YAK pmax pmax
comp=E,83nm,1.2s
YAK smax smax
comp=N,621nm,2.2s
YAK smax smax
comp=E,430nm,1.7s
YAK MLR MLR
comp=N,5μm,17.0s
YAK MLR MLR
comp=Z,7μm,17.0s
YAK MLR MLR
comp=E,4μm,16.0s
YAK Yakutsk 21.79 333 *e*P **P 08 43 06.3 -3.0**
comp=E,308nm,0.8s
DL2 Dalian 22.20 267 P **P 08 43 14.5 +0.5**
DL2 S **S 08 47 15.3 -0.6**
DL2 pmax pmax
comp=Z,70nm,1.1s
DL2 pmax pmax
comp=Z,820nm,6.5s
DL2 LR LR
comp=N,700nm,15.5s
DL2 LR LR
comp=E,1μm,17.7s
DL2 LR LR
comp=Z,1μm,16.5s
JOW Kunigami 24.85 234 P **P 08 43 40.6 +0.8**
comp=Z,144nm,1.0s,baz=45,slow=9.8,SNR=27
JOW S S 08 48 12.6 +13
comp=Z,7.7nm,0.9s,baz=54,slow=19,SNR=2.7
JOW Kunigami 24.85 234 *e*P **P 08 43 40.8 +1.0**
comp=Z,79nm,1.1s
BILL Bilibino 25.46 14 *c i*P **P 08 43 44.1 -0.9**
BILL *i* 08 44 01.2
BILL *e* 08 47 16.5
BILL *e*S **S 08 48 08.6 -0.3**
BILL pmax pmax
comp=Z,36nm,1.0s
BILL MLR MLR
comp=Z,4μm,17.0s
BILL Bilibino 25.46 14 *e*P **P 08 43 43.5 -1.4**
comp=Z,36nm,0.8s
BJI Beijing 25.73 273 P **P 08 43 48.3 +0.7**
BJI S **S 08 48 15.1 +1.6**
BJI pmax pmax
comp=Z,59nm,0.7s
BJI pmax pmax
comp=Z,1μm,5.7s
BJI LR LR
comp=N,2μm,13.9s
BJI LR LR

comp=E,3μm,17.0s
BJI LR LR
comp=Z,2μm,17.4s
BJT Baijiatuau 25.74 273 *e*P **P 08 43 48.9 +1.1**
BJT pmax pmax
comp=Z,65nm,0.6s
BJT Baijiatuau 25.74 273 *e*P **P 08 43 48.9 +1.1**
comp=Z,65nm,0.6s
CIT Chita 25.77 301 *e*P **P 08 43 47.5 -0.6**
CIT *e*S **S 08 48 07.9 -6.3**
CIT pmax pmax
comp=Z,472nm,2.4s
SSE Sheshan 26.46 251 P **P 08 43 56.3 +2.0**
SSE S **S 08 48 29.4 +4.1**
SSE pmax pmax
comp=Z,100nm,1.1s
SSE pmax pmax
comp=Z,750nm,5.3s
SSE LR LR
comp=N,750nm,14.5s
SSE LR LR
comp=E,2μm,14.3s
SSE LR LR
comp=Z,2μm,15.8s
BOD Bodaibo 26.47 314⇓ *i*P **P 08 43 50.7 -3.5**
BOD pmax pmax
comp=Z,47nm,1.1s
TIA Tai'an 26.59 264 *e*P **P 08 43 56.0 +0.5**
TIA S **S 08 48 33.1 +5.8**
TIA pmax pmax
comp=Z,80nm,1.0s
TIA pmax pmax
comp=Z,1μm,8.3s
TIA LR LR
comp=N,1μm,16.2s
TIA LR LR
comp=E,3μm,16.2s
TIA LR LR
comp=Z,2μm,16.2s
NJ2 Nanjing 27.50 255 *e*P **P 08 44 05.3 +1.6**
NJ2 pP **pP 08 44 15.3 +0.3**
NJ2 sP **sP 08 44 19.6 -0.4**
NJ2 S **S 08 48 47.0 +5.2**
NJ2 pmax pmax
comp=Z,160nm,1.1s
NJ2 pmax pmax
comp=Z,750nm,6.4s
NJ2 LR LR
comp=N,3μm,15.8s
NJ2 LR LR
comp=E,4μm,16.1s
NJ2 LR LR
comp=Z,5μm,16.0s
HHC Hu-ho-hao-te 28.76 277 *e*P **P 08 44 16.3 +1.3**
HHC pP **pP 08 44 27.8 +1.5**
HHC sP **sP 08 44 33.0 +1.7**
HHC PP **PnPn 08 45 10.6 +3.6**
HHC S **S 08 49 01.3 -0.4**
HHC sS **sS 08 49 21.5 +0.9**
HHC ScS **ScS 08 54 53.3 -2.4**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,1μm,8.2s
HHC LR LR
comp=N,2μm,13.1s
HHC LR LR
comp=E,3μm,15.5s
HHC LR LR
comp=Z,4μm,13.1s
BTO Baotou 29.95 278 *e*P **P 08 44 27.4 +1.8**
ULN Ulaanbaatar 30.19 293 *e*P **P 08 44 27.8 +0.2**
ULN pmax pmax
comp=Z,61nm,1.0s
ULN Ulaanbaatar 30.19 293 *e*P **P 08 44 27.8 +0.2**
comp=Z,61nm,1.0s
ULN Ulaanbaatar 30.19 293 P **P 08 44 28.0 +0.4**
comp=Z,70nm,1.0s,comp=Z,1μm
SONM Songino Array 30.63 293 P **P 08 44 32.1 +0.6**
comp=Z,42nm,0.9s,baz=78,slow=7.6,SNR=203
SONM PcP **PcP 08 47 29.4 +0.5**
comp=Z,4.9nm,0.8s,baz=76,slow=2.4,SNR=4.5
SONM LR LR 08 58 08.6
comp=Z,3μm,18.7s,baz=88,slow=39
SONM Songino Array 30.63 293 P **P 08 44 32.1 +0.6**
SONM 08 47 29.4
SONM pmax pmax
comp=Z,42nm,0.9s
SONM MLR MLR
comp=Z,3μm,18.7s
SONM Songino Array 30.63 293 P **P 08 44 32.1 +0.6**
SONM PcP **PcP 08 47 29.4 +0.5**
IRK Irkutsk 31.49 302 *e*P **P 08 44 40.1 +1.2**
IRK pmax pmax
comp=Z,75nm,2.1s
WHN Wuhan 31.52 257⇑ P **P 08 44 40.5 +1.1**
WHN PcP **PcP 08 47 33.5 +2.1**
WHN S **S 08 49 49.8 +5.0**
WHN pmax pmax
comp=Z,130nm,0.8s
WHN LR LR
comp=N,4μm,16.1s
WHN LR LR
comp=E,4μm,15.8s
WHN LR LR
comp=Z,6μm,17.4s
TLY Talaya 31.92 301 *c i*P **P 08 44 44.4 +1.7**
TLY *e* 08 44 58.8
TLY *e* 08 45 58.0
TLY *e*SSS SSS 08 51 45.7
TLY pmax pmax
comp=Z,27nm,1.2s
TLY MLR MLR
comp=Z,4μm,16.0s
TLY Talaya 31.92 301 *e*P **P 08 44 44.3 +1.7**
comp=Z,26nm,1.1s
TPUB Ta-pu 32.09 240 *e*P **P 08 44 45.5 +1.1**
comp=Z,25nm,0.6s
QZH Quanzhou 32.21 244 P **P 08 44 48.0 +2.5**
QZH S **S 08 49 59.1 +3.4**
QZH LR LR
comp=N,1μm,11.6s
QZH LR LR
comp=E,2μm,17.7s
QZH LR LR
comp=Z,3μm,14.6s
ZAK Zakamensk 32.28 298 *e*P **P 08 44 45.4 -0.6**
ZAK *e* 08 50 01.7
ZAK pmax pmax
comp=Z,16nm,1.4s
XAN Xi'an 33.52 267 P **P 08 44 57.8 +0.8**
XAN pP **pP 08 45 09.3 +1.0**
XAN sP **sP 08 45 15.1 +1.8**
XAN PP **PnPn 08 46 10.4 +1.3**
XAN PcP **PcP 08 47 38.0 +1.0**
XAN S **S 08 50 14.4 -1.7**
XAN SS **SnSn 08 52 18.3 -2.6**
XAN pmax pmax
comp=Z,12nm,1.2s
XAN pmax pmax
comp=Z,70nm,6.8s
XAN LR LR
comp=N,970nm,15.6s
XAN LR LR
comp=E,480nm,15.9s
MOY Mondy 33.56 301 *e*P **P 08 44 59.0 +1.8**
ENH Enshi 35.12 261 *e*P **P 08 45 11.0 +0.3**
comp=E,37nm,0.7s
ENH *e*PcP **PcP 08 47 41.4 -0.2**
LZH Lanzhou 36.21 274 *e*P **P 08 45 20.9 +0.7**
LZH pP **pP 08 45 29.0 -2.7**
LZH sP **sP 08 45 35.0 -1.6**
LZH S **S 08 50 58.0 +0.4**
LZH sS **sS 08 51 16.0 -0.7**
LZH SS **SnSn 08 53 18.3 -7.8**
LZH pmax pmax
comp=Z,100nm,1.0s
LZH pmax pmax
comp=Z,940nm,6.0s
LZH LR LR
comp=N,3μm,14.9s
LZH LR LR
comp=E,3μm,16.2s
LZH LR LR
comp=Z,3μm,17.2s

KDAK Kodiak Island 37.25 48 P **P 08 45 26.9 -1.7**
comp=Z,60nm,0.7s,baz=262,slow=2.5,SNR=25
KDAK Kodiak Island 37.25 48 *e*P **P 08 45 27.5 -1.1**
KDAK pmax pmax
comp=Z,76nm,0.8s
KDAK Kodiak Island 37.25 48 *e*P **P 08 45 27.5 -1.1**
comp=Z,76nm,0.8s
KDAK Kodiak Island 37.25 48 P P 08 45 24.3 -4.3
comp=Z,536nm,0.8s,SNR=9.3
PPLA Purkeypile 37.41 39 *e*P **P 08 45 30.9 +0.9**
comp=Z,66nm,1.2s
GTA Gaotai 37.66 281 *e*P **P 08 45 33.1 +0.6**
GTA pP **pP 08 45 45.6 +1.6**
GTA sP **sP 08 45 51.0 +2.1**
GTA PP **PnPn 08 47 01.8 +1.7**
GTA S **S 08 51 24.8 +5.2**
GTA pmax pmax
comp=Z,21nm,0.8s
GTA pmax pmax
comp=Z,860nm,6.4s
GTA LR LR
comp=N,1μm,19.9s
GTA LR LR
comp=E,1μm,21.1s
GTA LR LR
comp=Z,1μm,18.5s
COLD Coldfoot 38.60 32 *e*P **P 08 45 40.4 +0.5**
comp=Z,29nm,0.8s
PMR Palmer 38.83 42 *e*P **P 08 45 41.2 -0.6**
PMR *e* 08 45 53.8
PMR pmax pmax
comp=Z,49nm,1.1s
PMR Palmer 38.83 42 *e*P **P 08 45 41.2 -0.6**
comp=Z,49nm,1.1s
PMR *e* 08 45 53.8
CD2 Chengdu 38.88 266 P **P 08 45 43.6 +0.9**
CD2 pP **pP 08 45 55.5 +1.3**
CD2 sP **sP 08 46 00.8 +1.7**
CD2 PP **PnPn 08 47 17.8 +3.1**
CD2 S **ScP 08 51 38.3 +0.6**
CD2 sS **sS 08 51 58.3 +1.2**
CD2 SS **SS 08 54 22.5 -7.6**
CD2 pmax pmax
comp=Z,90nm,0.7s
CD2 pmax pmax
comp=Z,810nm,6.3s
CD2 LR LR
comp=N,1μm,15.5s
CD2 LR LR
comp=Z,1μm,16.1s
MCK McKinley 38.91 38 *e*P **P 08 45 42.4 -0.1**
MCK pmax pmax
comp=Z,44nm,1.3s
MCK McKinley 38.91 38 *e*P **P 08 45 42.4 -0.1**
comp=Z,44nm,1.3s
SML Sawmill 39.20 41 *e*P **P 08 45 44.7 -0.3**
SML *e* 08 45 57.4
SML pmax pmax
comp=Z,23nm,1.0s
SML Sawmill 39.20 41 *e*P **P 08 45 44.7 -0.3**
comp=Z,23nm,1.0s
SML *e* 08 45 57.4
GYA Guiyang 39.38 258⇑ *i*P **P 08 45 46.8 -0.2**
GYA pP **pP 08 45 56.4 -2.1**
GYA sP **sP 08 46 02.6 -0.8**
GYA PP **PnPn 08 47 21.9 +1.1**
GYA PcP **PcP 08 47 56.3 +1.6**
GYA S **S 08 51 45.5 -0.1**
GYA SS **SS 08 54 33.8 -6.8**
GYA pmax pmax
comp=Z,110nm,0.9s
GYA pmax pmax
comp=Z,420nm,5.0s
GYA LR LR
comp=N,650nm,19.0s
GYA LR LR
comp=E,580nm,20.2s
GYA LR LR
comp=Z,710nm,18.9s
COLA College 39.40 36 *e*P **P 08 45 45.9 -0.6**
COLA pmax pmax
comp=Z,32nm,1.1s
COLA College 39.40 36 *e*P **P 08 45 45.9 -0.6**
comp=Z,32nm,1.1s
ILAR Eielson Array 39.81 36 P **P 08 45 48.8 -1.3**
comp=Z,18nm,1.1s,baz=256,slow=6.2,SNR=32
ILAR PcP **PcP 08 47 54.9 -0.4**
comp=Z,7.5nm,1.0s,baz=291,slow=3.4,SNR=4.6
ILAR LR LR 09 00 36.0
comp=Z,493nm,20.1s,baz=293,slow=34
ILAR Eielson Array 39.81 36 P **P 08 45 48.8 -1.3**
ILAR 08 47 54.9
ILAR pmax pmax
comp=Z,18nm,1.1s
ILAR Eielson Array 39.81 36 P **P 08 45 48.8 -1.3**
ILAR PcP **PcP 08 47 54.9 -0.4**
DOT Dot Lake 41.08 38 *e*P **P 08 45 59.3 -1.2**
comp=Z,4.0nm,0.8s
QIZ Qiongzhong 42.12 247 P **P 08 46 10.3 +0.8**
QIZ S **S 08 52 26.8 +0.5**
QIZ pmax pmax
comp=Z,470nm,6.6s
QIZ LR LR
comp=N,1μm,17.1s
QIZ LR LR
comp=Z,1μm,17.6s
EGAK Eagle 42.26 36 *e*P **P 08 46 09.5 -0.7**
comp=Z,28nm,1.0s
ZAA0 Zalesovo Array 42.79 308 *e*P **P 08 46 14.0 -0.6**
ZAA0 *e*PcP **PcP 08 48 05.2 0.0**
ZALV Zalesovo Beam 42.79 308 P **P 08 46 13.6 -0.9**
comp=Z,6.0nm,0.4s,baz=53,slow=6.7,SNR=46
ZALV PcP **PcP 08 48 05.2 0.0**
comp=Z,27nm,0.9s,baz=82,slow=3.1,SNR=15
ZALV LR LR 09 04 13.2
comp=Z,1μm,21.7s,baz=72,slow=36
ZALV Zalesovo Beam 42.79 308 P **P 08 46 13.6 -0.9**
ZALV 08 48 05.2
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV MLR MLR
comp=Z,1μm,21.7s
ZALV Zalesovo Beam 42.79 308 P **P 08 46 13.6 -0.9**
ZALV PcP **PcP 08 48 05.2 0.0**
KMI Kunming 42.98 260 P **P 08 46 17.3 +0.6**
KMI pP **pP 08 46 29.8 +1.4**
KMI sP **sP 08 46 35.5 +2.2**
KMI PP **PP 08 48 00.4 +3.5**
KMI S **S 08 52 40.3 +1.0**
KMI sS **sS 08 53 01.3 +2.6**
KMI SS **SS 08 55 45.9 -6.2**
KMI pmax pmax
comp=Z,67nm,1.1s
KMI pmax pmax
comp=Z,860nm,6.5s
KMI LR LR
comp=N,950nm,16.3s
KMI LR LR
comp=E,1μm,15.3s
KMI LR LR
comp=Z,2μm,17.0s
NVS Novosibirsk 43.46 309⇓ *i*P **P 08 46 19.0 -0.9**
NVS *e* 08 46 32.3
NVS *i* 08 48 05.0
NVS *i*S **S 08 52 45.5 +0.3**
NVS *e* 08 56 12.0
NVS pmax pmax
comp=Z,85nm,1.4s
NVS pmax pmax
comp=N,22nm,0.9s
NVS pmax pmax
comp=E,46nm,1.2s
NVS smax smax
comp=N,114nm,3.3s
NVS smax smax
comp=E,166nm,3.2s
WMQ Urumqi 44.27 293 P **P 08 46 28.1 +1.4**
WMQ pP **pP 08 46 38.1 -0.3**
WMQ sP **sP 08 46 42.1 -1.2**
WMQ S **S 08 52 59.3 +1.8**
WMQ SS **SS 08 56 09.3 -7.1**
WMQ pmax pmax
comp=Z,100nm,0.8s
WMQ pmax pmax
comp=Z,2μm,5.4s

WMQ LR LR
comp=N,2μm,17.0s
WMQ LR LR
comp=E,1μm,18.4s
WMQ LR LR
comp=Z,1μm,18.0s
INK Inuvik 44.92 31 P **P 08 46 31.2 -0.2**
comp=Z,27nm,1.0s,baz=276,slow=8.1,SNR=51
INK Inuvik 44.92 31 P **P 08 46 31.3 -0.2**
INK pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 44.92 31 *e*P **P 08 46 31.6 +0.1**
comp=Z,37nm,1.0s
SKAG Skagway 45.88 43 *e*P **P 08 46 40.1 +1.0**
comp=Z,20nm,1.1s
MK31 Makanchi Array 46.62 299 *e*P **P 08 46 45.4 +0.2**
MK31 Makanchi Array 46.62 299 *e*P **P 08 46 45.4 +0.2**
MKAR Makanchi Array 46.62 299 P **P 08 46 45.5 +0.3**
comp=Z,54nm,0.7s,baz=78,slow=7.1,SNR=250
MKAR PcP **PcP 08 48 18.8 +0.2**
comp=Z,6.3nm,0.8s,baz=76,slow=2.6,SNR=2.3
MKAR LR LR 09 08 02.8
comp=Z,3μm,18.3s,baz=67,slow=38
MKAR Makanchi Array 46.62 299 *e*P **P 08 46 45.7 +0.4**
MKAR 08 48 18.8
MKAR Makanchi Array 46.62 299 *e*P **P 08 46 45.6 +0.4**
MKAR PcP **PcP 08 48 18.8 +0.2**
KURK Kurchatov 47.40 305 LR LR 09 08 15.0
comp=Z,838nm,18.7s,baz=60,slow=38
KURK Kurchatov 47.40 305 *e*P **P 08 46 51.3 +0.1**
KURK *e*S **S 08 53 42.5 +0.3**
KURK pmax pmax
comp=Z,91nm,0.9s
KURK Kurchatov 47.40 305 *c i*P **P 08 46 51.4 +0.2**
KURK pmax pmax
comp=Z,98nm,1.0s
KURK Kurchatov 47.40 305 *e*P **P 08 46 51.3 +0.1**
comp=Z,91nm,0.9s
KURK *e*S **S 08 53 42.5 +0.3**
KURK Kurchatov 47.40 305 P **P 08 46 51.6 +0.4**
comp=Z,614nm,0.8s,SNR=19
LSA Lhasa 48.63 274 P **P 08 47 02.4 +0.8**
LSA LR LR
comp=Z,1μm,18.4s
LSA Lhasa 48.63 274 *e*P **P 08 47 02.8 +1.2**
LSA pmax pmax
comp=Z,44nm,0.9s
LSA Lhasa 48.63 274 *e*P **P 08 47 02.8 +1.2**
comp=Z,44nm,0.9s
DLBC Dease Lake 48.80 43 P **P 08 47 02.4 +0.4**
comp=Z,18nm,1.0s,baz=280,slow=8.6,SNR=12
DLBC Dease Lake 48.80 43 *e*P **P 08 47 02.9 +0.8**
CHTO Chiang Mai 49.73 257 *e*P **P 08 47 10.5 +1.0**
CHTO pmax pmax
comp=Z,56nm,1.4s
CHTO Chiang Mai 49.73 257 *e*P **P 08 47 10.5 +1.0**
comp=Z,56nm,1.4s
CHTO Chiang Mai 49.73 257 P **P 08 47 11.0 +1.5**
comp=Z,31nm,1.5s,comp=Z,1μm
CMAR Chiang Mai Arr 49.97 256 P **P 08 47 12.5 +1.1**
comp=Z,7.6nm,0.8s,baz=40,slow=7.3,SNR=35
CMAR PcP **PcP 08 48 32.6 +1.7**
comp=Z,9.5nm,0.8s,baz=12,slow=3.7,SNR=12
CMAR LR LR 09 11 50.4
comp=Z,1μm,18.4s,baz=53,slow=40
CMAR Chiang Mai Arr 49.97 256 P **P 08 47 12.5 +1.1**
CMAR 08 48 32.7
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR MLR MLR
comp=Z,1μm,18.4s
CMAR Chiang Mai Arr 49.97 256 P **P 08 47 12.5 +1.1**
CMAR PcP **PcP 08 48 32.6 +1.7**
BVA0 Borovoye Array 51.21 310 *i* P **P 08 47 21.0 +0.7**
BVA0 pmax pmax
comp=Z,15nm,1.3s
BVAR Borovoye Array 51.21 310 LR LR 09 10 47.7
comp=Z,977nm,18.2s,baz=64,slow=38
BRVK Borovoye 51.26 310 *c i*P **P 08 47 21.0 +0.4**
BRVK pmax pmax
comp=Z,76nm,1.0s
BRVK Borovoye 51.26 310 *e*P **P 08 47 21.2 +0.6**
comp=Z,58nm,0.8s
BRVK Borovoye 51.26 310 P **P 08 47 21.7 +1.1**
comp=Z,444nm,0.9s,SNR=44
TAPN Taplejung 52.45 274 *e*P **P 08 47 30.5 +0.3**
comp=Z,115nm,0.9s
TAPN Taplejung 52.45 274 *e*P **P 08 47 30.5 +0.3**
comp=Z,115nm,0.9s
ULHL Ulahol 52.50 296 P **P 08 47 32.0 +1.7**
SNR=24
ULHL P **P 08 47 32.0 +1.7**
SNR=24
TKM2 Tokmak 2 52.59 297 P **P 08 47 32.0 +1.0**
SNR=53
TKM2 P **P 08 47 32.0 +1.0**
SNR=53
TKM2 Tokmak 2 52.59 297 *e*P **P 08 47 31.9 +1.0**
TKM2 pmax pmax
comp=Z,58nm,1.1s
TKM2 Tokmak 2 52.59 297 *e*P **P 08 47 31.9 +1.0**
comp=Z,58nm,1.1s
ODAN Odare 52.97 273 *e*P **P 08 47 35.0 +1.0**
comp=Z,37nm,0.6s
ODAN Odare 52.97 273 *e*P **P 08 47 35.0 +1.0**
comp=Z,37nm,0.6s
CHMS Chumysh 53.10 297 P **P 08 47 36.2 +1.7**
SNR=7.2
CHMS P **P 08 47 36.2 +1.7**
SNR=7.2
USP Ospenovka 53.13 298 P **P 08 47 35.3 +0.6**
SNR=78
USP P **P 08 47 35.3 +0.6**
SNR=78
KBK Karagaybulak 53.14 297 P **P 08 47 36.5 +1.5**
SNR=28
KBK P **P 08 47 36.5 +1.5**
SNR=28
KZA Kyzart 53.22 296 P **P 08 47 37.2 +1.3**
SNR=51
KZA P **P 08 47 37.2 +1.3**
SNR=51
FRU Bishkek 53.26 297 *e*P **P 08 47 37.0 +1.3**
FRU *e* 08 55 11.0
FRU pmax pmax
comp=Z,280nm,2.2s
PMG Port Moresby 53.27 184 P **P 08 47 36.0 +0.2**
comp=Z,7.4nm,0.8s,baz=356,slow=11,SNR=4.3
PMG Port Moresby 53.27 184 P **P 08 47 36.0 +0.2**
PMG pmax pmax
comp=Z,7.0nm,0.8s
PMG Port Moresby 53.27 184 P **P 08 47 36.0 +0.2**
JIRN Jiri 53.37 275 *e*P **P 08 47 37.4 +0.4**
comp=Z,155nm,0.8s
JIRN Jiri 53.37 275 *e*P **P 08 47 37.4 +0.4**
comp=Z,155nm,0.8s
AAK Ala-Archa 53.44 297 P **P 08 47 38.4 +1.3**
SNR=32
AAK P **P 08 47 38.4 +1.3**
SNR=32
AAK Ala-Archa 53.44 297 *e*P **P 08 47 37.3 +0.1**
AAK pmax pmax
comp=Z,143nm,0.8s
AAK Ala-Archa 53.44 297 *e*P **P 08 47 37.2 +0.1**
comp=Z,143nm,0.8s
AAK Ala-Archa 53.44 297 P **P 08 47 38.0 +0.8**
comp=Z,245nm,1.0s,SNR=27
GUN Gumba 53.44 275 *e*P **P 08 47 37.7 +0.1**
comp=Z,317nm,1.0s
GUN Gumba 53.44 275 *e*P **P 08 47 37.7 +0.1**
comp=Z,317nm,1.0s
RAMN Ramite 53.49 274 *e*P **P 08 47 37.8 0.0**
comp=Z,335nm,0.9s
RAMN Ramite 53.49 274 *e*P **P 08 47 37.8 0.0**
comp=Z,335nm,0.9s
EKS2 Erkin-Say 53.89 297 P **P 08 47 40.7 +0.3**
SNR=38
EKS2 P **P 08 47 40.7 +0.3**
SNR=38
KKN Kakani 53.94 276 *e*P **P 08 47 42.1 +1.0**
comp=Z,190nm,0.9s
KKN Kakani 53.94 276 *e*P **P 08 47 42.1 +1.0**
KKN pmax pmax
comp=Z,190nm,0.9s
KKN Kakani 53.94 276 *e*P **P 08 47 42.1 +1.0**
comp=Z,190nm,0.9s
PKI Pulchoki 53.98 275 *e*P **P 08 47 42.3 +0.8**

comp=Z,120nm,1.1s
PKI Pulchoki 53.98 275 *e*P P **08 47 42.3 +0.8**
PKI pmax pmax
comp=Z,120nm,1.1s
PKI Pulchoki 53.98 275 *e*P P **08 47 42.3 +0.8**
comp=Z,120nm,1.1s
RES Resolute Bay 53.99 17 P P **08 47 40.1 -0.4**
comp=Z,23nm,0.8s,baz=322,slow=8.3,SNR=37
RES Resolute Bay 53.99 17 P P **08 47 40.1 -0.4**
RES pmax pmax
comp=Z,23nm,0.8s
RES Resolute Bay 53.99 17 *e*P P **08 47 40.0 -0.4**
comp=Z,48nm,1.1s
KSH Kashi 54.03 293 *e*P P 08 47 46.3 +4.8
KSH *e*pP pP 08 47 59.3 +5.9
KSH *e*sP sP 08 48 04.3 +6.0
KSH *e*PcP **PcP 08 48 48.9 +2.8**
KSH PP PP 08 49 50.6 +7.7
KSH *e*ScP **ScP 08 52 41.8 +1.1**
KSH *e*PcS **PcS 08 52 46.5 +0.9**
KSH *e*S **S 08 55 19.4 +4.7**
KSH *e*ScS **ScS 08 57 28.1 +0.7**
KSH pmax pmax
comp=Z,9.0nm,0.4s
KSH pmax pmax
comp=Z,750nm,3.5s
KSH LR LR
comp=N,430nm,6.9s
KSH LR LR
comp=E,970nm,13.8s
KSH LR LR
comp=Z,610nm,14.0s
DMN Daman 54.17 275 *e*P P **08 47 43.1 +0.3**
comp=Z,169nm,0.8s
DMN Daman 54.17 275 *e*P P **08 47 43.1 +0.3**
comp=Z,169nm,0.8s
YKA Yellowknife Ar 54.19 35 P P **08 47 41.0 -1.1**
comp=Z,18nm,1.0s,baz=298,slow=7.1,SNR=62
YKA PcP **PcP 08 48 45.9 -0.2**
comp=Z,6.1nm,0.9s,baz=297,slow=3.7,SNR=8.7
YKA LR LR 09 12 14.4
comp=Z,46nm,20.6s,baz=35,slow=38
YKA Yellowknife Ar 54.19 35 P P **08 47 41.0 -1.1**
YKA 08 48 45.9
YKA pmax pmax
comp=Z,18nm,1.0s
YKA Yellowknife Ar 54.19 35 P P **08 47 41.0 -1.1**
YKA PcP **PcP 08 48 45.9 -0.2**
AML Almayashu 54.20 297 P P **08 47 44.0 +0.9**
SNR=36
AML P P **08 47 44.0 +0.9**
SNR=36
GKN Gorkha 54.28 276 *e*P P **08 47 43.6 +0.1**
comp=Z,212nm,0.8s
GKN Gorkha 54.28 276 *e*P P **08 47 43.6 +0.1**
comp=Z,212nm,0.8s
SVE Sverdlovsk 54.61 318⇑ *i*P P **08 47 46.1 +0.8**
SVE *e*S S 08 55 29.7 +8.0
SVE pmax pmax
comp=Z,84nm,1.0s
SVE MLR MLR
comp=Z,3μm,18.0s
DANN Dangsing 54.71 277 *e*P P **08 47 47.4 +0.7**
comp=Z,290nm,0.9s
DANN Dangsing 54.71 277 *e*P P **08 47 47.4 +0.7**
comp=Z,290nm,0.9s
KBS Kingsbay 54.91 351 *e*P P **08 47 47.2 +0.1**
KBS pmax pmax
comp=Z,48nm,1.0s
KBS Kingsbay 54.91 351 *e*P P **08 47 47.1 +0.1**
comp=Z,48nm,1.0s
SPB4 Spitsbergen Ar 54.97 350 *e*P P **08 47 48.2 +0.6**
SOKR Solikamsk 55.11 322 *c i*P P **08 47 49.7 +1.0**
SOKR S S 08 55 34.6 +6.5
SOKR SS **SS 08 59 15.6 +3.9**
SOKR pmax pmax
comp=Z,50nm,0.9s
SOKR MLR MLR
comp=Z,2μm,15.0s
KOLN Koldanda 55.16 277 *e*P P **08 47 50.3 +0.4**
comp=Z,128nm,0.8s
KOLN Koldanda 55.16 277 *e*P P **08 47 50.3 +0.4**
comp=Z,128nm,0.8s
KK31 Karatay Array 55.74 299 *e*P P **08 47 53.6 -0.1**
KK31 pmax pmax
comp=Z,25nm,0.8s
KKAR Karatay Array 55.74 299 *e*P P **08 47 53.9 +0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 55.74 299 *e*P P **08 47 53.9 +0.2**
comp=Z,10nm,0.6s
ARU Arti 55.81 318 *d i*P P **08 47 54.4 +0.5**
ARU 08 48 53.4
ARU 08 49 57.0
ARU S **S 08 55 41.7 +4.0**
ARU SS SS 08 59 33.5 +11
ARU pmax pmax
comp=Z,95nm,0.8s
ARU MLR MLR
comp=Z,3μm,16.0s
ARU Arti 55.81 318 *e*P P **08 47 54.4 +0.5**
comp=Z,90nm,0.7s
ARU Arti 55.81 318 P P **08 47 54.3 +0.4**
comp=Z,759nm,0.7s,SNR=6.1
KAPI Kappang 56.14 218 *e*P P **08 47 57.5 +0.8**
comp=Z,97nm,1.5s
NLWA Neilton Lookou 56.91 54 *e*P P **08 48 02.2 +0.2**
comp=Z,49nm,1.1s
NLWA *e* 08 48 14.5
JCW Jim Creek 57.62 52 *e*P P **08 48 06.6 -0.3**
comp=Z,57nm,0.9s
RPW Rockport 57.72 52 *e*P P **08 48 07.5 -0.2**
BMW Boistfort Moun 57.77 55 *e*P P **08 48 08.7 +0.7**
BMW Boistfort Moun 57.77 55 *e*P P **08 48 08.7 +0.7**
DLH Dalhousie 57.81 286 *e*P P **08 48 09.0 +0.3**
COEN Coen 58.09 188 *e*P P **08 48 09.9 -0.5**
comp=Z,82nm,0.9s
COEN *e*pP pP 08 48 33.5 +11
COEN Coen 58.09 188 *e*P P **08 48 10.1 -0.3**
comp=Z,129nm,1.0s
COEN *e* 08 48 32.8
HEBO Mount Hebo 58.12 56 *e*P P **08 48 12.6 +2.1**
comp=Z,72nm,1.1s
LON Longmire 58.45 54 *e*P P **08 48 12.5 -0.3**
LON pmax pmax
comp=Z,12nm,1.1s
LON Longmire 58.45 54 *e*P P **08 48 12.5 -0.3**
comp=Z,12nm,1.1s
LVZ Lovozero 58.55 336 *e*P P **08 48 12.0 -1.1**
LVZ pmax pmax
comp=Z,30nm,0.9s
NLW Nelson Butte 58.59 52 P P **08 48 13.9 +0.1**
COR Corvallis 58.73 57 *e*P P **08 48 16.0 +1.3**
COR *e* 08 48 28.7
COR pmax pmax
comp=Z,81nm,1.2s
COR Corvallis 58.73 57 *e*P P **08 48 16.0 +1.3**
comp=Z,81nm,1.2s
COR *e* 08 48 28.7
AB31 Akbulak array 58.79 310 *i*P P **08 48 15.2 +0.2**
AB31 pmax pmax
comp=Z,18nm,0.4s
ABKAR Akbulak array 58.79 310 *e*P P **08 48 15.3 +0.3**
comp=Z,25nm,0.5s
ETW Entiat 58.84 52 *e*P P **08 48 15.2 -0.4**
ETW *e* 08 48 27.7
ASR Mount Adams--S 58.90 54 P P **08 48 15.6 -0.4**
KEBM Edson Butte 59.03 59 *e*P P **08 48 17.7 +0.8**
comp=Z,76nm,1.1s
KEBM *e* 08 48 30.0
EBG Ellensburg 59.08 53 P P **08 48 17.4 +0.2**
APA Apatity 59.12 337⇓ *i*P P **08 48 18.0 +1.0**
APA *i* PPP PPP 08 51 58.0
APA *e*S **S 08 56 22.0 +1.2**
APA *i* PS **PnS 08 56 38.0 +0.9**
APA pmax pmax
comp=Z,42nm,0.9s
AKTO Aktyubinsk 59.20 312 LR LR 09 16 25.0
comp=Z,2μm,18.0s,baz=220,slow=39
AKTO Aktyubinsk 59.20 312 P P **08 48 18.1 +0.2**
AKTO pmax pmax
comp=Z,8.0nm,1.2s
DAG Danmarks Havn 59.29 357 *i* P P **08 48 17.2 -0.8**
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 59.29 357 *i* P P **08 48 17.2 -0.8**
comp=Z,121nm,0.9s
KEV Kevo 59.30 340 *e*P P **08 48 18.9 +0.7**
KEV Kevo 59.30 340 *e*P P **08 48 18.9 +0.7**
comp=Z,739nm,2.8s
KEV Kevo 59.30 340 *ep* P **08 48 16.1 -2.1**
comp=Z,25nm,0.8s
KEV Kevo 59.30 340 *ep* P **08 48 16.1 -2.1**
comp=Z,25nm,0.8s
BROR Big Rock Looko 59.41 56 P P **08 48 20.1 +0.7**
VFP Flag Point 59.43 55 P P **08 48 20.0 +0.3**
FRIS Frissel Point 59.65 56 P P **08 48 22.0 +0.7**
ARCES ARCESS Array B 59.83 341 P P **08 48 22.0 +0.1**
comp=Z,27nm,0.8s,baz=41,slow=9.3,SNR=36
ARCES PcP **PcP 08 49 09.0 +0.9**
comp=Z,13nm,0.8s,baz=38,slow=4.6,SNR=4.7
ARCES LR LR 09 19 18.5
comp=Z,686nm,18.1s,baz=30,slow=41
ARCES ARCESS Array B 59.83 341 P P **08 48 22.0 +0.1**
ARCES 08 49 09.0
ARCES pmax pmax
comp=Z,27nm,0.9s
ARCES MLR MLR
comp=Z,686nm,18.2s
ARCES ARCESS Array B 59.83 341 P P **08 48 22.0 +0.1**
ARCES PcP **PcP 08 49 09.0 +0.9**
ARE0 ARCESS Array S 59.83 341 *e*P P **08 48 22.9 +1.0**
OD2 Odessa Site #2 59.88 52 *e*P P **08 48 21.6 -1.0**
OD2 *e* 08 48 34.6
RSW Rattlesnake Hi 59.93 53 *e*P P **08 48 23.2 +0.2**
RSW *e* 08 48 35.8
WRD Warden 59.96 53 P P **08 48 22.5 -0.6**
HAWA Hanford 59.96 53 *e*P P **08 48 22.9 -0.3**
comp=Z,41nm,1.0s
HAWA *e* 08 48 35.0
HUMO Hull Mountain 60.02 58 *e*P P **08 48 23.9 +0.2**
comp=Z,18nm,1.2s
NEW Newport 60.29 50 *e*P P **08 48 24.6 -0.9**
NEW *e* 08 48 37.6
NEW pmax pmax
comp=Z,38nm,1.0s
NEW Newport 60.29 50 *e*P P **08 48 24.6 -0.9**
comp=Z,38nm,1.0s
NEW *e* 08 48 37.6
NEW Newport 60.29 50⇓ P P **08 48 25.1 -0.3**
baz=60,SNR=40
VIPM Ingram Point 60.38 55 P P **08 48 26.1 -0.2**
VIPM Ingram Point 60.38 55 P P **08 48 26.1 -0.2**
KHMM Horse Mountain 60.51 60 *e*P P **08 48 27.9 +0.7**
comp=Z,56nm,1.1s
YBH Yreka Blue Hor 60.66 59 *e*P P **08 48 28.3 +0.1**
YBH pmax pmax
comp=Z,39nm,1.1s
YBH Yreka Blue Hor 60.66 59 *e*P P **08 48 28.3 +0.1**
comp=Z,39nm,1.1s
A12A Yaak River Ran 60.72 49⇑P P **08 48 28.1 -0.3**
baz=60,SNR=25
LNOR Lincton Mounta 60.98 53 *e*P P **08 48 30.8 +0.6**
LNOR Lincton Mounta 60.98 53 *e*P P **08 48 30.8 +0.6**
C11A Tepee Creek (N 61.01 50⇓P P **08 48 29.7 -0.7**
baz=61
KIPM Iron Peak 61.27 61 *e*P P **08 48 32.9 +0.5**
comp=Z,38nm,1.1s
KCPM Cahto Peak 61.28 61 *e*P P **08 48 32.9 +0.5**
comp=Z,26nm,1.2s
KBL Kabul 61.39 292 *e*P P **08 48 32.7 -0.6**
KBL pmax pmax
comp=Z,41nm,0.8s
KBL Kabul 61.39 292 *e*P P **08 48 32.7 -0.6**
comp=Z,41nm,0.8s
A13A Flathead Natio 61.39 48⇓P P **08 48 32.3 -0.7**
baz=61
WDC Whiskeytown Da 61.42 60 *e*P P **08 48 32.7 -0.5**
WDC pmax pmax
comp=Z,44nm,1.1s
WDC Whiskeytown Da 61.42 60 *e*P P **08 48 32.7 -0.5**
comp=Z,44nm,1.1s
C12B Naegeli Ranch, 61.51 50⇓P P **08 48 33.2 -0.6**
baz=61,SNR=22
WALA Waterton Lakes 61.59 48 *e*P P **08 48 33.3 -1.0**
comp=Z,1.2nm,0.9s
WALA *e* 08 48 47.1
B13A Whitefish 61.68 49⇑P P **08 48 34.3 -0.6**
baz=61,SNR=75
BSMT Beacon Peak 61.81 50 *e*P P **08 48 35.8 -0.2**
A14A Double T Ranch 61.90 48⇑P P **08 48 35.6 -0.8**
baz=62,SNR=24
BLMT Blacktail Moun 61.95 49 *e*P P **08 48 37.0 +0.1**
comp=Z,44nm,1.0s
D12A Red Ives Fores 61.96 51⇑P P **08 48 36.1 -0.8**
baz=62,SNR=14
HOPS Hopland 62.00 62 *e*P P **08 48 37.5 +0.4**
comp=Z,25nm,1.1s
C13A Hot Springs 62.03 50⇓P P **08 48 36.9 -0.4**
baz=62,SNR=21
MOD Modoc 62.04 58 *e*P P **08 48 37.2 -0.3**
comp=Z,54nm,1.0s
MOD *e* 08 48 49.4
BMO Blue Mountains 62.12 54 *e*P P **08 48 37.6 -0.4**
BMO pmax pmax
comp=Z,12nm,0.8s
BMO Blue Mountains 62.12 54 *e*P P **08 48 37.6 -0.4**
comp=Z,12nm,0.8s
JTMT Jette 62.15 49 *e*P P **08 48 37.7 -0.4**
E12A Beaver Dam Sad 62.21 51⇓P P **08 48 37.7 -0.9**
baz=62,SNR=78
YBMT Yellow Bay 62.23 49 *e*P P **08 48 38.8 +0.1**
comp=Z,16nm,1.0s
A15A Johnson Ranch, 62.27 48⇓P P **08 48 37.6 -1.2**
baz=62,SNR=26
B14A Marquette Ranc 62.34 48⇑P P **08 48 38.3 -1.1**
baz=62,SNR=34
C14A Swan Lake 62.43 49⇓P P **08 48 39.5 -0.5**
baz=62,SNR=29
D13A Huson 62.43 50⇑P P **08 48 38.6 -1.3**
baz=62,SNR=41
SWMT Swartz Lake 62.44 50 *e*P P **08 48 39.6 -0.5**
WVOR Wild Horse Val 62.74 56 *e*P P **08 48 41.5 -0.7**
WVOR pmax pmax
comp=Z,46nm,1.0s
WVOR Wild Horse Val 62.74 56 *e*P P **08 48 41.5 -0.7**
comp=Z,46nm,1.0s
B15A Bradely Ranch, 62.75 48⇓P P **08 48 41.5 -0.6**
baz=62
F12A Elk City 62.77 52⇓P P **08 48 42.1 -0.2**
baz=62,SNR=33
OHCM Honcut 62.80 61 *e*P P **08 48 42.1 -0.4**
MSO Missoula 62.88 50 *e*P P **08 48 42.4 -0.6**
comp=Z,38nm,0.9s
MSO *e* 08 48 55.1
MSO Missoula 62.88 50⇓P P **08 48 42.2 -0.8**
baz=63,SNR=47
SLMT Seeley Lake 62.88 50 *e*P P **08 48 42.4 -0.7**
A16A West Butte Ran 62.89 47⇓P P **08 48 42.1 -1.0**
baz=63
D14A Greenough 62.97 50⇓P P **08 48 42.6 -1.0**
baz=63,SNR=65
E13A Victor 62.97 51⇓P P **08 48 42.9 -0.7**
baz=63,SNR=24
JOF Joensuu 62.97 333 *e*P P **08 48 41.3 -1.9**
JOF pmax pmax
comp=Z,37nm,0.8s
JOF Joensuu 62.97 333 *ep* P **08 48 41.3 -1.9**
comp=Z,36nm,0.8s
JOF Joensuu 62.97 333 *ep* P **08 48 41.3 -1.9**
comp=Z,36nm,0.8s
C15A Salmond Ranch, 63.05 49⇑P P **08 48 44.0 -0.2**
baz=63,SNR=44
B16A M & M Farms, S 63.15 48⇑P P **08 48 43.8 -1.0**
baz=63,SNR=51
CHMT Chamberlain Mo 63.21 50 *e*P P **08 48 44.2 -1.1**
F13A Darby 63.27 51⇑P P **08 48 44.9 -0.8**
baz=63,SNR=40
A17A Triple J Farms 63.36 47⇓P P **08 48 45.0 -1.1**
baz=63,SNR=26
E14A Clinton 63.37 50⇑P P **08 48 45.3 -1.0**
baz=63,SNR=29
C16A Fuhringer Ranc 63.49 48⇑P P **08 48 46.6 -0.5**
baz=63,SNR=86
SUMG Summit 63.53 3 *i* P P **08 48 47.4 +0.1**
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG Summit 63.53 3 *e*P P **08 48 47.6 +0.4**
comp=Z,110nm,0.9s
SUMG Summit 63.53 3 *i* P P **08 48 47.4 +0.1**
comp=Z,107nm,0.9s
D15A Lincoln 63.53 49⇑P P **08 48 46.9 -0.5**
baz=63,SNR=11
B17A L&G Farms, Che 63.70 47⇑P P **08 48 47.7 -0.7**
baz=63,SNR=21
H12A Diamond D Ranc 63.72 53⇓P P **08 48 47.7 -1.0**
baz=63
G13A Cobalt 63.74 52⇑P P **08 48 47.4 -1.4**
baz=63,SNR=73
F14A Wisdom 63.80 51⇑P P **08 48 48.0 -1.2**
baz=64,SNR=21
A18A Metzger Ranch, 63.83 46⇑P P **08 48 48.0 -1.2**
baz=64,SNR=22
MFID Camas Ranch 63.83 54 *e*P P **08 48 48.8 -0.6**
comp=Z,15nm,0.8s
MFID *e* 08 49 01.5
MFID Camas Ranch 63.83 54⇓P P **08 48 48.7 -0.7**
baz=64,SNR=27
E15A Deer Lodge 63.84 50⇑P P **08 48 48.6 -0.8**
baz=64,SNR=39
WCN Washoe City 63.91 60 *e*P P **08 48 50.0 0.0**
WCN pmax pmax
comp=Z,30nm,1.0s
WCN Washoe City 63.91 60 *e*P P **08 48 50.0 0.0**
comp=Z,30nm,1.0s
WCN Washoe City 63.91 60⇑P P **08 48 49.7 -0.3**
baz=64,SNR=28
CTA Charters Tower 63.92 184 *e*P P **08 48 48.8 -1.1**
comp=Z,8.0nm,0.8s
CTAO Charters Tower 63.92 184 *e*P P **08 48 49.1 -0.8**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 63.92 184 *e*P P **08 48 49.1 -0.8**
comp=Z,10.0nm,0.8s
FFC Flin Flon 63.99 38 *e*P P **08 48 49.2 -0.9**
FFC *e* 08 49 02.7
FFC pmax pmax
comp=Z,31nm,0.9s
FFC Flin Flon 63.99 38 *e*P P **08 48 49.2 -0.9**
comp=Z,31nm,0.9s
FFC *e* 08 49 02.7
FFC Flin Flon 63.99 38 P P **08 48 49.4 -0.7**
comp=Z,208nm,0.8s,SNR=20
I12A Atlanta 64.01 53⇑P P **08 48 50.4 -0.2**
baz=64
H13A Challis 64.05 52⇑P P **08 48 50.0 -0.9**
baz=64,SNR=63
D16A Dana Ranch, Ca 64.07 49⇑P P **08 48 50.2 -0.7**
baz=64,SNR=38
G14A Jackson 64.09 51⇓P P **08 48 49.8 -1.4**
baz=64,SNR=9.3
HRY Holter Researc 64.11 49 *e*P P **08 48 50.6 -0.6**
C17A Wharram Farm, 64.13 48⇓P P **08 48 50.2 -1.0**
baz=64,SNR=44
B18A Beardsley Farm 64.18 47⇑P P **08 48 51.0 -0.6**
baz=64,SNR=42
CMB Columbia Colle 64.27 61 *e*P P **08 48 51.7 -0.5**
CMB pmax pmax
comp=Z,40nm,1.1s
CMB Columbia Colle 64.27 61 *e*P P **08 48 51.7 -0.5**
comp=Z,40nm,1.1s
F15A Butte 64.27 50⇓P P **08 48 51.6 -0.7**
baz=64,SNR=42
E16A East Helena 64.30 49⇓P P **08 48 52.0 -0.4**
baz=64,SNR=26
LRM Limekiln Ridge 64.31 50 *e*P P **08 48 52.0 -0.6**
LRM *e* 08 49 05.0
SAO San Andreas Ge 64.35 63 *e*P P **08 48 52.7 -0.1**
SAO pmax pmax
comp=Z,17nm,1.1s
SAO San Andreas Ge 64.35 63 *e*P P **08 48 52.6 -0.1**
comp=Z,18nm,1.1s
A19A Klindworth Far 64.39 46⇓P P **08 48 52.3 -0.7**
baz=64,SNR=31
EGMT Eagleton 64.42 47 *e*P P **08 48 52.5 -0.7**
comp=Z,60nm,0.9s
EGMT *e* 08 49 05.5
EGMT Eagleton 64.42 47⇑P P **08 48 52.5 -0.7**
baz=64,SNR=35
D17A Six Diamond Ra 64.46 48⇓P P **08 48 52.7 -0.7**
baz=64,SNR=21
DLMT Dillon 64.50 51 *e*P P **08 48 53.7 -0.1**
comp=Z,25nm,0.9s
I13A Wildhorse Cree 64.52 53⇑P P **08 48 53.7 -0.4**
baz=64,SNR=46
H14A Leadore 64.52 52⇑P P **08 48 52.8 -1.2**
baz=64,SNR=21
HLID Hailey 64.56 53 *e*P P **08 48 53.4 -0.8**
comp=Z,22nm,0.9s
HLID *e* 08 49 06.8
HLID Hailey 64.56 53⇑P P **08 48 53.7 -0.5**
baz=64,SNR=43
B19A Brinkman Farms 64.58 46⇓P P **08 48 53.3 -0.9**
baz=64,SNR=45
G15A Dillon 64.68 51⇓P P **08 48 54.5 -0.6**
baz=64,SNR=34
MCMT McKenzie Canyo 64.69 51 *e*P P **08 48 54.3 -0.9**
comp=Z,8.4nm,1.0s
MCMT *e* 08 49 06.8
F16A Kennard Place, 64.79 50⇑P P **08 48 55.0 -0.6**
baz=64,SNR=23
BMN Battle Mountai 64.79 57 *e*P P **08 48 55.7 0.0**
BMN *e* 08 49 07.8
BMN pmax pmax
comp=Z,39nm,0.8s
BMN Battle Mountai 64.79 57 *e*P P **08 48 55.7 0.0**
comp=Z,39nm,0.8s
BMN *e* 08 49 07.8
E17A Martinsdale 64.79 49⇓P P **08 48 55.1 -0.6**
baz=64,SNR=30
J13A Cove Ranch, Pi 64.80 53⇓P P **08 48 55.3 -0.4**
baz=64,SNR=41
A20A Cobblestone Ra 64.85 46⇓P P **08 48 55.3 -0.6**
baz=64,SNR=28
BOZ Bozeman (W) 64.87 50 *e*P P **08 48 55.6 -0.6**
BOZ pmax pmax
comp=Z,26nm,0.9s
BOZ Bozeman (W) 64.87 50 *e*P P **08 48 55.6 -0.6**
comp=Z,26nm,0.9s
BOZ Bozeman (W) 64.87 50⇑P P **08 48 55.6 -0.6**
baz=65,SNR=39
BOZ ⇑P P **08 48 55.6 -0.6**
baz=65,SNR=39
I14A Mackay 64.89 53⇓P P **08 48 55.9 -0.5**
baz=65,SNR=70
D18A Linhart Farms, 64.91 48⇓P P **08 48 56.0 -0.3**
baz=65,SNR=25
H15A Lima 64.93 52⇑P P **08 48 55.8 -0.9**
baz=65,SNR=13
C19A Slack Wire Ran 64.97 47⇓P P **08 48 56.2 -0.6**
baz=65,SNR=41
G16A Moss Hill, Enn 65.03 51⇑P P **08 48 56.6 -0.7**
baz=65,SNR=58
B20A Solberg Farm, 65.07 46⇑P P **08 48 57.1 -0.3**
baz=65,SNR=35
KAF Kangasniemi 65.14 335 *e*P P **08 48 56.3 -1.1**
KAF pmax pmax
comp=Z,39nm,0.8s
KAF Kangasniemi 65.14 335 *ep* P **08 48 56.3 -1.1**
comp=Z,39nm,0.8s
KAF Kangasniemi 65.14 335 *ep* P **08 48 56.3 -1.1**
comp=Z,39nm,0.8s
J14A Carey 65.23 53⇑P P **08 48 58.8 +0.2**
baz=65
HYB Hyderabad 65.23 271 *i* P P **08 48 58.0 -0.8**
HYB *e*S S **08 57 40.0 +0.7**
E18A Harlowton 65.24 49⇑P P **08 48 58.7 +0.2**
baz=65,SNR=11
F17A Fitzpatrick Pl 65.24 49⇓P P **08 48 58.3 -0.3**
baz=65,SNR=22
A21A Bergtoll Ranch 65.29 45⇑P P **08 48 58.5 -0.2**
baz=65,SNR=24
NVAR Mina Array Bea 65.33 60 P P **08 48 58.7 -0.7**
comp=Z,22nm,0.8s,baz=288,slow=5.7,SNR=93
NVAR PcP **PcP 08 49 31.8 +0.4**
comp=Z,14nm,1.0s,baz=282,slow=4.5,SNR=5.5
NVAR PKP2bc 09 17 43.2
comp=Z,0.8nm,1.0s,baz=120,slow=5.5,SNR=5.0
NVAR Mina Array Bea 65.33 60 P P **08 48 58.7 -0.7**
NVAR PcP **PcP 08 49 31.8 +0.4**
NVAR ⇑*e* 09 17 43.2
WRAB Tennant Creek 65.35 197 *e*P P **08 48 57.9 -1.4**
WRAB pmax pmax
comp=Z,33nm,0.7s
WRAB Tennant Creek 65.35 197 *e*P P **08 48 57.9 -1.4**
comp=Z,33nm,0.7s
WRAB Tennant Creek 65.35 197 P P **08 48 58.1 -1.2**
comp=Z,266nm,0.7s,SNR=17

WB2 **Warramunga Arr** 65.36 197 *e*P P 08 48 57.8 -1.5
WRA **Warramunga Arr** 65.36 197 P P 08 48 57.9 -1.4
comp=Z,28nm,0.7s,baz=17,slow=6.9,SNR=53
WRA LR LR 09 12 50.1
comp=Z,539nm,21.8s,baz=60,slow=32
WRA PKP2bc 09 17 43.8
comp=Z,2.0nm,0.9s,baz=207,slow=2.7,SNR=8.7
WRA **Warramunga Arr** 65.36 197 P P 08 48 57.9 -1.4
WRA pmax pmax
comp=Z,28nm,0.7s
WRA **Warramunga Arr** 65.36 197 P P 08 48 57.9 -1.4
WRA ⇑*e* 09 17 43.8
I15A **Monteview** 65.40 52 ⇑P P 08 48 59.9 +0.3
baz=65,SNR=7.0
D19A **Cripps Ranch,** 65.42 48 ⇑P P 08 48 59.7 +0.1
baz=65,SNR=21
QLMT **Earthquake Lak** 65.48 51 *e*P P 08 49 00.3 +0.1
MLAC **Mammoth Lakes** 65.49 61 ⇑P P 08 49 00.8 +0.4
baz=65,SNR=7.2
C20A **Veseth Ranch,** 65.54 47 ⇑P P 08 49 00.2 -0.2
baz=65,SNR=10
G17A **Pierce Place,** 65.56 50 ⇑P P 08 49 00.6 -0.1
baz=65,SNR=16
PUL **Pulkovo** 65.57 331 ⇓*i*P P 08 49 00.6 +0.4
PUL pmax pmax
comp=Z,175nm,1.0s
B21A **Ellsworth Farm** 65.60 46 ⇓P P 08 49 00.4 -0.3
baz=65,SNR=12
MOS **Moscow** 65.65 325 *e*P P 08 49 01.1 +0.3
MOS *e* 08 49 13.3
MOS *e*S S 08 57 46.5 +3.2
MOS pmax pmax
comp=Z,62nm,0.8s
MOS MLR MLR
comp=Z,1μm,18.0s
H16A **Russell Place,** 65.66 51 ⇑P P 08 49 00.9 -0.5
baz=65,SNR=32
SCO **Scoresbysund** 65.67 357 *i*P P 08 49 00.9 +0.2
SCO pmax pmax
comp=Z,17nm,0.9s
SCO **Scoresbysund** 65.67 357 *i*P P 08 49 00.9 +0.2
comp=Z,17nm,0.9s
FINES **FINESS Array B** 65.72 334 P P 08 49 00.7 -0.5
comp=Z,60nm,0.8s,baz=39,slow=7.3,SNR=75
FINES LR LR 09 21 09.0
comp=Z,2μm,19.2s,baz=235,slow=39
FINES **FINESS Array B** 65.72 334 P P 08 49 00.7 -0.5
FINES pmax pmax
comp=Z,60nm,0.8s
FINES MLR MLR
comp=Z,2μm,19.2s
FINES **FINESS Array B** 65.72 334 P P 08 49 00.7 -0.5
F18A **Big Timber** 65.76 49 ⇑P P 08 49 01.5 -0.4
baz=66,SNR=21
ELK **Elko** 65.80 56 *e*P P 08 49 02.1 -0.3
ELK *e* 08 49 15.4
ELK **Elko** 65.80 56 *e*P P 08 49 02.0 -0.3
ELK *e* 08 49 15.4
J15A **Blackfoot** 65.80 52 ⇑P P 08 49 02.1 -0.2
baz=66,SNR=45
A22A **Carney Farms,** 65.80 45 ⇓P P 08 49 01.3 -0.7
baz=66,SNR=26
PTRM **Twissleman Ran** 65.82 63 *e*P P 08 49 02.3 0.0
MTUM **Tungsten Hills** 65.83 61 *e*P P 08 49 02.8 +0.3
YMR **Madison River** 65.84 51 *e*P P 08 49 02.2 -0.4
comp=Z,67nm,1.4s
D20A **Manuel Ranch,** 65.86 47 ⇓P P 08 49 02.0 -0.5
baz=66,SNR=50
FITZ **Fitzroy Crossi** 65.89 206 P P 08 49 02.6 -0.2
comp=Z,22nm,0.8s,baz=10,slow=7.3,SNR=32
FITZ **Fitzroy Crossi** 65.89 206 *e*P P 08 49 02.5 -0.2
comp=Z,39nm,0.8s
FITZ *e* 08 49 17.6
FITZ *e*pP PcP 08 49 26.3 -7.1
FITZ **Fitzroy Crossi** 65.89 206 *e*P P 08 49 03.2 +0.4
comp=Z,22nm,0.8s
K14A **Jones Ranch, D** 65.90 54 ⇓P P 08 49 02.8 -0.1
baz=66,SNR=30
E19A **Rath Farm, Rou** 65.91 48 ⇑P P 08 49 02.5 -0.3
baz=66,SNR=28
RCTC **Rector, Farmer** 66.04 62 ⇓P P 08 49 02.6 -1.1
baz=66,SNR=7.3
I16A **Newdale** 66.05 52 ⇑P P 08 49 04.2 +0.4
baz=66,SNR=21
YFT **Old Faithful** 66.05 51 *e*P P 08 49 05.3 +1.4
comp=Z,35nm,1.0s
YFT *e* 08 49 17.3
SMMC **Simmler** 66.16 63 ⇑P P 08 49 04.5 -0.1
baz=66,SNR=6.8
L14A **Malta** 66.18 54 ⇓P P 08 49 04.2 -0.6
baz=66,SNR=14
K15A **Arbon** 66.19 53 ⇓P P 08 49 04.8 0.0
baz=66,SNR=31
B22A **Reddig Ranch S** 66.20 45 ⇓P P 08 49 04.0 -0.6
baz=66,SNR=5.6
F19A **Roth Farm, Mol** 66.21 49 ⇑P P 08 49 04.3 -0.5
baz=66,SNR=47
G18A **Lazy EL Ranch,** 66.21 49 ⇓P P 08 49 03.7 -1.1
baz=66,SNR=9.2
LKWY **Lake** 66.22 50 *e*P P 08 49 06.2 +1.1
LKWY *e* 08 49 18.6
LKWY pmax pmax
comp=Z,24nm,1.0s
LKWY **Lake** 66.22 50 *e*P P 08 49 06.2 +1.1
comp=Z,24nm,1.0s
LKWY *e* 08 49 18.6
H17A **Grant Village** 66.23 51 ⇓P P 08 49 06.4 +1.2
baz=66
E20A **Meyer Farm, Mu** 66.24 48 ⇓P P 08 49 04.9 0.0
baz=66,SNR=19
J16A **Bone** 66.35 52 ⇓P P 08 49 05.8 0.0
baz=66
FLWY **Flagg Ranch** 66.36 51 *e*P P 08 49 06.1 +0.2
comp=Z,28nm,1.1s
DCID1 **Drake Creek** 66.39 52 *e*P P 08 49 06.8 +0.7
comp=Z,64nm,1.0s
DCID1 *e* 08 49 19.3
IEMG **Emamgholi** 66.42 300 *e*P P 08 49 06.5 0.0
VES **Vestal, Richgr** 66.42 62 ⇑P P 08 49 05.4 -0.8
baz=66,SNR=18
ABKT **Ailbek** 66.44 300 P P 08 49 07.2 +0.9
comp=Z,344nm,0.7s,SNR=10
RRI2 **Red Ridge** 66.47 52 *e*P P 08 49 06.4 -0.3
comp=Z,38nm,0.9s
RRI2 *e* 08 49 20.0
D21A **La Casta Ranch** 66.48 47 ⇑P P 08 49 05.9 -0.6
baz=66,SNR=20
RLMT **Red Lodge** 66.50 49 *e*P P 08 49 06.4 -0.4
comp=Z,51nm,1.3s
RLMT *e* 08 49 19.3
RLMT **Red Lodge** 66.50 49 ⇑P P 08 49 06.6 -0.1
baz=66,SNR=23
RLMT ⇑P P 08 49 06.6 -0.1
baz=66,SNR=23
OBN **Obninsk** 66.52 325 ⇑*i*P P 08 49 05.9 -0.5
OBN *i* 08 49 20.1
OBN *i* 08 49 32.7
OBN *e*S S 08 57 53.3 -0.5
OBN *e*SS SS 09 02 11.4 +1.1
OBN pmax pmax
comp=Z,61nm,1.2s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN **Obninsk** 66.52 325 *e*P P 08 49 07.2 +0.8
comp=Z,42nm,0.7s
I17A **Pilgrim Ck.** 66.53 51 ⇓P P 08 49 07.5 +0.5
baz=66,SNR=28
PKM **Peak Mountain** 66.53 64 ⇑P P 08 49 06.8 -0.4
baz=66,SNR=29
MOOW **Moose Ponds** 66.54 51 *e*P P 08 49 06.8 -0.3
comp=Z,30nm,1.0s
MOOW *e* 08 49 19.1
H18A **Shoshone NF, C** 66.56 50 ⇑P P 08 49 07.0 -0.2
baz=66,SNR=29
B23A **Brockton** 66.61 45 ⇑P P 08 49 06.7 -0.5
baz=66,SNR=26
HVU **Hansel Valley** 66.61 54 *e*P P 08 49 07.5 0.0
HVU *e* 08 49 20.2
HVU pmax pmax
comp=Z,31nm,0.9s
HVU **Hansel Valley** 66.61 54 *e*P P 08 49 07.5 0.0
comp=Z,31nm,0.9s
HVU *e* 08 49 20.2
C22A **Vida** 66.62 46 ⇓P P 08 49 06.6 -0.7
baz=66
K16A **Soda Springs** 66.64 53 ⇓P P 08 49 08.0 +0.3
baz=66,SNR=25
F20A **Billings** 66.67 48 ⇓P P 08 49 07.3 -0.4
baz=66,SNR=15
CWC **Cottonwood Cre** 66.69 61 ⇑P P 08 49 07.8 -0.3
baz=66,SNR=7.2
L15A **Malad City** 66.70 54 ⇑P P 08 49 07.2 -0.8
baz=66,SNR=14
LOHW **Long Hollow** 66.71 51 *e*P P 08 49 08.1 -0.1
comp=Z,66nm,1.7s
LOHW *e* 08 49 21.0
SNOW **Snow King Moun** 66.72 52 *e*P P 08 49 08.8 +0.5
comp=Z,46nm,1.1s
SNOW *e* 08 49 21.0
REDW **Red Top Meadow** 66.72 52 *e*P P 08 49 08.2 0.0
comp=Z,74nm,1.4s
E21A **Keefer Ranch,** 66.77 47 ⇑P P 08 49 08.2 -0.1
baz=66,SNR=5.6
J17A **Brown Place, J** 66.80 52 ⇓P P 08 49 08.6 -0.1
baz=66,SNR=31
A24A **Westby** 66.81 44 ⇑P P 08 49 07.8 -0.7
baz=66,SNR=9.4
D22A **Cohagen** 66.85 46 ⇑P P 08 49 08.8 +0.1
baz=66,SNR=28
IAKL **Akhelmad** 66.86 299 *e*P P 08 49 10.3 +1.0
SBC **Santa Barbara** 66.88 64 ⇑P P 08 49 09.4 +0.3
baz=67
ISA **Isabella** 66.92 62 *e*P P 08 49 08.2 -1.2
ISA pmax pmax
comp=Z,18nm,1.0s
ISA **Isabella** 66.92 62 *e*P P 08 49 08.2 -1.2
comp=Z,18nm,1.0s
ISA **Isabella** 66.92 62 ⇓P P 08 49 08.3 -1.2
baz=67,SNR=24
H19A **Powell** 66.94 50 ⇓P P 08 49 09.2 -0.3
baz=67,SNR=19
C23A **Lambert** 66.94 45 ⇓P P 08 49 08.7 -0.6
baz=67,SNR=14
AHID **Auburn Hatcher** 66.96 52 *e*P P 08 49 09.9 +0.2
comp=Z,24nm,1.0s
AHID *e* 08 49 22.6
M15A **Larsen Ranch,** 67.00 54 ⇓P P 08 49 09.4 -0.5
baz=67,SNR=56
DGMT **Dagmar** 67.01 44 *e*P P 08 49 08.8 -0.9
comp=Z,53nm,0.8s
DGMT *e* 08 49 21.7
DGMT **Dagmar** 67.01 44 ⇑P P 08 49 09.0 -0.7
baz=67,SNR=15
G20A **Bridger** 67.01 49 ⇑P P 08 49 09.3 -0.6
baz=67,SNR=20
ARVC **Arvin** 67.03 63 ⇓P P 08 49 09.4 -0.6
baz=67,SNR=9.6
VRHR **Novokhopersk** 67.05 320 *e*P P 08 49 09.2 -0.6
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR MLR MLR
comp=N,560nm,16.0s
VRHR MLR MLR
comp=E,780nm,16.0s
VRHR MLR MLR
comp=Z,2μm,16.0s
ISFR **Sfrayin** 67.05 300 *e*P P 08 49 11.4 +0.9
R11A **Troy Canyon, C** 67.07 58 ⇓P P 08 49 09.8 -0.7
baz=67,SNR=85
K17A **Gardner Place,** 67.07 52 ⇓P P 08 49 10.1 -0.4
baz=67,SNR=9.8
I18A **Diamond G Ranc** 67.09 51 ⇓P P 08 49 10.0 -0.6
baz=67,SNR=13
AFI **Afiamalu** 67.11 140 LR LR 09 11 36.5
comp=Z,841nm,21.6s,baz=345,slow=30
F21A **Absaloka Mine,** 67.21 48 ⇓P P 08 49 10.6 -0.5
baz=67
L16A **Fish Haven** 67.24 53 ⇑P P 08 49 11.5 0.0
baz=67,SNR=19
J18A **Kendall Valley** 67.29 51 ⇓P P 08 49 11.3 -0.5
baz=67,SNR=10
MPMC **Manual Prospec** 67.30 61 ⇓P P 08 49 11.1 -0.9
baz=67,SNR=44
N15A **Stansbury Isla** 67.32 55 ⇓P P 08 49 11.6 -0.4
baz=67,SNR=11
I19A **Meeteetse** 67.34 50 ⇓P P 08 49 12.0 -0.1
baz=67,SNR=18
D23A **Lindsay** 67.34 46 ⇑P P 08 49 11.7 -0.2
baz=67,SNR=22
DZM **Mont Dzumac** 67.37 164 *e*S S 08 58 02.1 -2.7
comp=Z,1μm,27.9s
DZM *e*LR LR 09 09 24.7
comp=Z,1μm,30.8s
DZM **Mont Dzumac** 67.37 164 LR LR 09 11 54.9
comp=Z,461nm,21.1s,baz=19,slow=30
OSI **Osito Adit** 67.42 63 *e*P P 08 49 12.9 +0.3
comp=Z,34nm,0.8s
OSI *e* 08 49 24.1
HWUT **Hardware Ranch** 67.42 54 *e*P P 08 49 12.1 -0.6
comp=Z,23nm,0.8s
HWUT *e* 08 49 24.4
E22A **Miles City** 67.43 47 ⇑P P 08 49 12.0 -0.5
baz=67,SNR=18
FURC **Furnace Creek,** 67.45 61 ⇑P P 08 49 11.8 -0.7
baz=67,SNR=46
L17A **Cokeville** 67.51 53 ⇓P P 08 49 12.2 -1.1
baz=67,SNR=29
LRMC **Laurel Mountai** 67.54 62 ⇑P P 08 49 12.4 -1.0
baz=67,SNR=18
G21A **Lodge Grass** 67.55 48 ⇓P P 08 49 12.8 -0.5
baz=67,SNR=9.9
M16A **Huntsville** 67.57 54 ⇓P P 08 49 13.0 -0.7
baz=67
DUG **Dugway** 67.58 55 *e*P P 08 49 13.3 -0.3
DUG pmax pmax
comp=Z,48nm,0.9s
DUG **Dugway** 67.58 55 *e*P P 08 49 13.3 -0.3
comp=Z,48nm,0.9s
DUG **Dugway** 67.58 55 ⇓P P 08 49 13.0 -0.7
baz=67,SNR=72
K18A **Toltan Ranch,** 67.64 52 ⇓P P 08 49 13.8 -0.3
baz=67,SNR=28
F22A **Rosebud** 67.70 47 ⇓P P 08 49 13.4 -0.8
baz=67,SNR=19
EDW2 **Edwds Air Fo** 67.72 63 ⇓P P 08 49 13.9 -0.6
baz=67,SNR=37
E23A **Ismay** 67.73 46 ⇑P P 08 49 14.1 -0.3
baz=67,SNR=23
VSU **Vasula** 67.78 332*d i*P P 08 49 14.5 +0.2
VSU pmax pmax
comp=Z,58nm,1.2s
J19A **Crowheart** 67.80 51 ⇑P P 08 49 14.9 -0.1
baz=68,SNR=30
PD01 **Pinedale Array** 67.81 52 *e*P P 08 49 14.0 -1.2
PD01 *e* 08 49 27.2
PD02 **Pinedale Array** 67.82 52 *e*P P 08 49 14.3 -0.9
PD02 *e* 08 49 27.2
D24A **Glendive** 67.83 45 ⇑P P 08 49 14.8 -0.2
baz=68,SNR=25
BW06 **Boulder Array** 67.84 52 *e*P P 08 49 14.1 -1.2
comp=Z,20nm,1.0s
BW06 *e* 08 49 25.9
BW06 **Boulder Array** 67.84 52 ⇑P P 08 49 14.1 -1.2
baz=68,SNR=27
BW06 ⇑P P 08 49 14.1 -1.2
baz=68,SNR=27
PDAR **Pinedale Array** 67.84 52 P P 08 49 14.2 -1.1
comp=Z,18nm,1.0s,baz=263,slow=1.9,SNR=61
PDAR **Pinedale Array** 67.84 52 P P 08 49 14.2 -1.1
I20A **Worland** 67.87 50 ⇑P P 08 49 15.3 -0.1
baz=68,SNR=29
DECC **Green Verdugo** 67.90 63 ⇑P P 08 49 14.8 -0.8
baz=68,SNR=10
N16A **Rees Ranch, Co** 67.96 54 ⇓P P 08 49 15.8 -0.2
baz=68,SNR=12
H21A **Big Horn, Sher** 68.03 49 ⇑P P 08 49 15.5 -0.8
baz=68,SNR=30
M17A **Scullys Gap (B** 68.03 53 ⇑P P 08 49 15.9 -0.6
baz=68,SNR=15
PASC **Pasadena Art C** 68.04 63 *e*P P 08 49 16.2 -0.2
comp=Z,25nm,1.1s
PASC *e* 08 49 27.9
G22A **Birney** 68.05 48 ⇓P P 08 49 15.7 -0.7
baz=68,SNR=12
MWC **Mount Wilson** 68.09 63 *e*P P 08 49 16.4 -0.6
MWC *e* 08 49 28.9
MWC pmax pmax
comp=Z,40nm,1.2s
MWC *e* 08 49 28.9
VSR **Storozhevoye** 68.10 321 *e*P P 08 49 17.0 +0.5
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,30nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR MLR MLR
comp=Z,2μm,14.0s
VSR MLR MLR
comp=N,580nm,14.0s
VSR MLR MLR
comp=E,1μm,14.0s
L18A **Fontenelle, Gr** 68.10 53 ⇑P P 08 49 16.4 -0.6
baz=68,SNR=16
JLU **Jordanelle** 68.13 54 *e*P P 08 49 17.3 +0.1
comp=E,18nm,1.0s
JLU *e* 08 49 30.3
SFJD **Kangerlussuaq** 68.13 9 *e*P P 08 49 16.7 +0.3
SFJD pmax pmax
comp=Z,28nm,0.9s
SFJD **Kangerlussuaq** 68.13 9 *e*P P 08 49 16.7 +0.3
comp=Z,28nm,0.9s
SFJD **Kangerlussuaq** 68.13 9 *i*P P 08 49 15.8 -0.6
comp=Z,24nm,1.0s
R13A **O'Grain Ranch,** 68.16 58 ⇓P P 08 49 17.1 -0.3
baz=68,SNR=16
F23A **Volborg** 68.19 47 ⇑P P 08 49 16.6 -0.6
baz=68,SNR=36
K19A **Absolon Red Bu** 68.20 51 ⇑P P 08 49 16.4 -1.1
baz=68,SNR=23
E24A **Baker** 68.21 46 ⇓P P 08 49 16.8 -0.6
baz=68,SNR=5.4
GSC **Goldstone** 68.21 62 *e*P P 08 49 16.9 -0.7
GSC *e* 08 49 29.7
GSC pmax pmax
comp=Z,14nm,0.9s
GSC **Goldstone** 68.21 62 *e*P P 08 49 16.9 -0.7
comp=Z,14nm,0.9s
GSC *e* 08 49 29.7
GSC **Goldstone** 68.21 62 ⇑P P 08 49 16.9 -0.7
baz=68,SNR=20
N17A **Moffit Pass** 68.27 54 ⇓P P 08 49 17.4 -0.8
baz=68,SNR=41
J20A **Shoshoni** 68.28 50 ⇓P P 08 49 17.3 -0.7
baz=68,SNR=30
P15A **Leamington** 68.30 56 ⇑P P 08 49 17.9 -0.3
baz=68,SNR=15
BFSC **Mount Baldy Ra** 68.34 63 ⇓P P 08 49 17.5 -1.0
baz=68,SNR=23
O16A **Springville** 68.35 55 ⇓P P 08 49 18.0 -0.6
baz=68,SNR=59
DAU **Daniels Canyon** 68.36 54 *e*P P 08 49 18.7 0.0
DAU **Daniels Canyon** 68.36 54 *e*P P 08 49 18.7 0.0
L19A **Farson** 68.38 52 ⇑P P 08 49 18.0 -0.7
baz=68,SNR=14
CIS **Catalina Islan** 68.38 64 ⇑P P 08 49 17.6 -1.0
baz=68,SNR=25
MPU **Maple Canyon** 68.40 55 *e*P P 08 49 18.4 -0.5
comp=Z,34nm,0.9s
MPU *e* 08 49 30.2
M18A **Lyman** 68.41 53 ⇑P P 08 49 18.1 -0.8
baz=68,SNR=5.6
H22A **Clearmont** 68.42 48 ⇓P P 08 49 18.1 -0.7
baz=68,SNR=6.2
I21A **Big Trails, Te** 68.42 50 ⇑P P 08 49 18.1 -0.8
baz=68,SNR=41
G23A **Biddle** 68.54 47 ⇑P P 08 49 18.6 -0.9
baz=68,SNR=17
SCI **San Clemente I** 68.55 65 ⇓P P 08 49 19.2 -0.4
baz=68
IDAH **Dahanechah** 68.56 295 *e*P P 08 49 21.2 +1.2
K20A **Yellowstone Ra** 68.59 51 ⇓P P 08 49 18.3 -1.7
baz=68,SNR=12
F24A **Ekalaka** 68.61 46 ⇓P P 08 49 18.8 -1.2
baz=68,SNR=15
P16A **Fountain Green** 68.64 55 ⇓P P 08 49 20.1 -0.3
baz=68,SNR=7.7
J21A **Lysite** 68.64 50 ⇑P P 08 49 20.1 -0.2
baz=68,SNR=17
TUQ **Turquoise Moun** 68.69 61 ⇑P P 08 49 20.1 -0.5
baz=68,SNR=7.9
ARUT **Antelope Range** 68.73 58 *e*P P 08 49 20.4 -0.5
ARUT pmax pmax
comp=Z,41nm,1.0s
ARUT **Antelope Range** 68.73 58 *e*P P 08 49 20.4 -0.5
comp=Z,41nm,1.0s
BBRC **Big Bear Solar** 68.80 63 ⇑P P 08 49 20.5 -1.0
baz=68,SNR=9.6
O17A **Robinson Place** 68.81 54 ⇓P P 08 49 21.1 -0.3
baz=68,SNR=18
HEC **Hector,Ludlow** 68.81 62 ⇑P P 08 49 20.7 -0.7
baz=68,SNR=28
I22A **9 Mile Ranch,** 68.81 49 ⇓P P 08 49 20.8 -0.5
baz=68,SNR=20
M19A **Rock Springs** 68.88 52 ⇓P P 08 49 20.9 -0.9
baz=69,SNR=6.0
CCUT **Cedar City** 68.93 58 *e*P P 08 49 22.0 -0.2
comp=Z,43nm,1.0s
CCUT *e* 08 49 34.0
L20A **Wamsutter** 69.02 52 ⇓P P 08 49 21.7 -1.0
baz=69,SNR=16
MSU **Marysvale** 69.03 56 *e*P P 08 49 22.7 -0.2
MSU **Marysvale** 69.03 56 *e*P P 08 49 22.7 -0.2
MURC **Murrieta** 69.03 63 ⇓P P 08 49 21.7 -1.0
baz=69,SNR=16
EIDS **Eidsvold** 69.06 179 *e*P P 08 49 23.1 +0.5
comp=Z,7.7nm,0.9s
AS31 **Alice Springs** 69.07 196 *e*P P 08 49 22.4 -0.4
ASAR **Alice Springs** 69.07 196 P P 08 49 22.2 -0.6
comp=Z,17nm,0.7s,baz=16,slow=5.4,SNR=94
ASAR PKP2bc 09 17 34.2
comp=Z,4.5nm,1.1s,baz=185,slow=4.2,SNR=15
ASAR **Alice Springs** 69.07 196 P P 08 49 22.2 -0.6
ASAR pmax pmax
comp=Z,17nm,0.7s
ASAR **Alice Springs** 69.07 196 P P 08 49 22.2 -0.6
ASAR ⇑*e* 09 17 34.2
TMUT **Trail Mountain** 69.11 55 *e*P P 08 49 22.9 -0.5
comp=Z,64nm,0.4s
TMUT *e* 08 49 35.9
J22A **Midwest** 69.13 49 ⇑P P 08 49 22.3 -0.9
baz=69,SNR=31
R15A **Junction** 69.17 57 ⇓P P 08 49 23.5 -0.2
baz=69,SNR=27
O18A **Roosevelt** 69.19 54 ⇓P P 08 49 23.6 -0.1
baz=69,SNR=27
K21A **Alcova** 69.22 50 ⇑P P 08 49 22.7 -1.1
baz=69,SNR=19
N19A **John Jarvie Ra** 69.26 53 ⇑P P 08 49 23.5 -0.7
baz=69,SNR=11
GMRC **Granite Mounta** 69.27 61 ⇑P P 08 49 23.4 -0.9
baz=69,SNR=18
P17A **Butcher Ranch,** 69.27 55 ⇑P P 08 49 23.6 -0.7
baz=69,SNR=12
H24A **Dirks Ranch, A** 69.29 47 ⇑P P 08 49 22.8 -1.3
baz=69,SNR=22
Q16A **Castle Valley** 69.38 56 ⇑P P 08 49 24.4 -0.6
baz=69,SNR=17
M20A **Sweetwater, Wa** 69.44 52 ⇑P P 08 49 25.1 -0.2
baz=69,SNR=13
P18A **Preston Nutter** 69.46 54 ⇑P P 08 49 25.6 0.0
baz=69,SNR=17
MAK **Makhachkala** 69.47 310 *e*P P 08 49 22.7 -2.4
MAK *e* 08 52 02.3
MAK *e*S S 08 58 32.7 +3.3
MAK *e*SS SS 09 02 57.8 +1.4
MAK pmax pmax
comp=Z,87nm,0.9s
MAK MLR MLR
comp=Z,2μm,16.0s
PFO **Pinyon Flat Ob** 69.51 63 *e*P P 08 49 24.9 -0.9
PFO pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flat Ob** 69.51 63 *e*P P 08 49 24.9 -0.9
comp=Z,17nm,1.1s
PFO **Pinyon Flat Ob** 69.51 63 P P 08 49 25.6 -0.1
comp=Z,73nm,0.9s,SNR=12
PFO **Pinyon Flat Ob** 69.51 63 ⇑P P 08 49 24.9 -0.9
baz=69,SNR=21
109C **Camp Elliot, M** 69.55 64 ⇑P P 08 49 25.0 -0.8
baz=69,SNR=12
BELC **Belle Mtn. Jos** 69.55 62 ⇓P P 08 49 24.9 -1.2
baz=69,SNR=12
L21A **Rawlins** 69.59 51 ⇑P P 08 49 25.4 -0.8

	baz=69,SNR=19								
R16A	**Teasdale**	**69.60**	**56**	⇓	P		**P**	**08 49 26.2**	**-0.2**
	baz=69,SNR=68								
K22A	**Casper**	**69.61**	**50**	⇓	P		**P**	**08 49 25.5**	**-0.7**
	baz=69,SNR=18								
SRU	**San Rafael**	**69.64**	**55**	*e*	P		**P**	**08 49 25.6**	**-0.9**
SRU				*e*				08 49 38.8	
SRU					pmax		pmax		
	comp=Z,57nm,0.9s								
SRU	**San Rafael**	**69.64**	**55**	*e*	P		**P**	**08 49 25.6**	**-0.9**
	comp=Z,57nm,0.9s								
SRU				*e*				08 49 38.8	
SRU	**San Rafael**	**69.64**	**55**	⇓	P		**P**	**08 49 25.7**	**-0.9**
	baz=69,SNR=57								
J23A	**Dilts Ranch, B**	**69.64**	**49**	⇑	P		**P**	**08 49 25.7**	**-0.8**
	baz=69								
O19A	**Miners Draw (B**	**69.68**	**53**	⇑	P		**P**	**08 49 26.1**	**-0.6**
	baz=69,SNR=14								
MDND	**Maddock**	**69.70**	**42**	⇓	P		**P**	**08 49 25.9**	**-0.6**
	baz=69,SNR=6.4								
ULM	**Lac du Bonnet**	**69.77**	**39**		P		**P**	**08 49 25.3**	**-1.6**
	comp=Z,15nm,1.0s,baz=296,slow=7.1,SNR=14								
ULM					LR		LR	09 18 21.1	
	comp=Z,397nm,20.5s,baz=324,slow=34								
ULM	**Lac du Bonnet**	**69.77**	**39**		P		**P**	**08 49 25.3**	**-1.6**
ULM					pmax		pmax		
	comp=Z,15nm,1.0s								
ULM	**Lac du Bonnet**	**69.77**	**39**	*e*	P		**P**	**08 49 25.2**	**-1.6**
	comp=Z,17nm,1.1s								
ULM				*e*				08 49 37.9	
N20A	**Spence Gulch,**	**69.83**	**52**	⇓	P		**P**	**08 49 27.3**	**-0.4**
	baz=70,SNR=28								
M21A	**Separation Pea**	**69.83**	**51**	⇑	P		**P**	**08 49 26.8**	**-1.0**
	baz=70,SNR=13								
I24A	**Kuemmerle Ranc**	**69.84**	**48**	⇓	P		**P**	**08 49 26.9**	**-0.7**
	baz=70,SNR=7.2								
RWWY	**Rawlins**	**69.86**	**51**	*e*	P		**P**	**08 49 27.1**	**-0.9**
	comp=Z,26nm,0.9s								
RWWY				*e*				08 49 39.6	
Q18A	**Rafter H Ranch**	**69.87**	**55**	⇓	P		**P**	**08 49 27.4**	**-0.5**
	baz=70,SNR=16								
S16A	**Weppner Ranch,**	**69.89**	**57**	⇑	P		**P**	**08 49 27.9**	**-0.2**
	baz=70,SNR=71								
BAR	**Barrett**	**69.96**	**64**	*e*	P		**P**	**08 49 27.7**	**-0.7**
	comp=Z,19nm,1.0s								
BAR				*e*				08 49 40.1	
R17A	**Hanksville Air**	**69.97**	**56**	⇓	P		**P**	**08 49 27.7**	**-0.8**
	baz=70,SNR=38								
RSSD	**Black Hills**	**69.98**	**48**	*e*	P		**P**	**08 49 27.4**	**-1.2**
RSSD				*e*				08 49 41.1	
RSSD					pmax		pmax		
	comp=Z,29nm,1.0s								
RSSD	**Black Hills**	**69.98**	**48**	*e*	P		**P**	**08 49 27.4**	**-1.2**
	comp=Z,29nm,1.0s								
RSSD				*e*				08 49 41.0	
IRM	**Iron Mountain**	**69.99**	**62**	⇓	P		**P**	**08 49 27.8**	**-0.8**
	baz=70,SNR=21								
MONP	**Monument Peak**	**69.99**	**63**	⇑	P		**P**	**08 49 27.8**	**-1.0**
	baz=70,SNR=18								
IZAR	**Zarasai**	**70.04**	**330**	*e*	P		**P**	**08 49 29.2**	**+0.7**
IZAR					AMB		AMB	08 49 33.6	
	comp=Z,11nm,1.1s								
L22A	**Ellis Ranch, M**	**70.07**	**51**	⇓	P		**P**	**08 49 28.5**	**-0.7**
	baz=70,SNR=20								
BC3	**Big Chuckawall**	**70.12**	**62**	⇓	P		**P**	**08 49 28.6**	**-0.9**
	baz=70,SNR=18								
J24A	**Dixon Ranch, L**	**70.17**	**49**	⇓	P		**P**	**08 49 28.3**	**-1.3**
	baz=70,SNR=5.2								
W13A	**Hualapai Mount**	**70.18**	**60**	⇓	P		**P**	**08 49 29.3**	**-0.7**
	baz=70,SNR=22								
RMQ	**Roma**	**70.18**	**182**	*e*	P		**P**	**08 49 30.8**	**+1.2**
	comp=Z,36nm,1.0s								
RMQ				*e*	pP		**PcP**	**08 49 53.3**	**+2.1**
IDID	**Didziasalis**	**70.20**	**330**	*e*	P		**P**	**08 49 30.1**	**+0.7**
IDID					AMB		AMB	08 49 31.3	
	comp=Z,19nm,0.9s								
P19A	**Cripple Cowboy**	**70.20**	**54**	⇑	P		**P**	**08 49 29.3**	**-0.8**
	baz=70,SNR=27								
NB2	**NORSAR Subarra**	**70.20**	**340**		P		**P**	**08 49 28.8**	**-0.6**
	comp=Z,30nm,0.8s,baz=29,slow=6.2								
NOA	**NORSAR Array B**	**70.20**	**340**		P		**P**	**08 49 28.9**	**-0.5**
	comp=Z,32nm,0.9s,baz=31,slow=6.0,SNR=54								
NOA					LR		LR	09 25 57.1	
	comp=Z,844nm,19.2s,baz=30,slow=41								
NOA	**NORSAR Array B**	**70.20**	**340**		P		**P**	**08 49 28.9**	**-0.5**
NOA					pmax		pmax		
	comp=Z,32nm,0.9s								
NOA					MLR		MLR		
	comp=Z,844nm,19.2s								
NOA	**NORSAR Array B**	**70.20**	**340**		P		**P**	**08 49 28.9**	**-0.5**
ISAL	**Salakas**	**70.22**	**330**	*e*	P		**P**	**08 49 30.2**	**+0.7**
ISAL					AMB		AMB	08 49 31.5	
	comp=Z,22nm,1.0s								
O20A	**White River Ci**	**70.30**	**53**	⇓	P		**P**	**08 49 30.6**	**0.0**
	baz=70,SNR=15								
N21A	**Black Mountain**	**70.30**	**52**	⇑	P		**P**	**08 49 29.7**	**-0.9**
	baz=70,SNR=12								
U15A	**North Rim**	**70.31**	**58**	⇑	P		**P**	**08 49 30.8**	**0.0**
	baz=70,SNR=71								
DVTC	**Desert V Tower**	**70.34**	**63**	⇓	P		**P**	**08 49 30.6**	**-0.2**
	baz=70,SNR=15								
IIGN	**Ignalina**	**70.36**	**330**	*e*	P		**P**	**08 49 31.1**	**+0.7**
IIGN					AMB		AMB	08 49 33.2	
	comp=Z,22nm,0.7s								
SWSC	**Sam W. Stewart**	**70.36**	**63**	⇑	P		**P**	**08 49 29.9**	**-0.9**
	baz=70								
M22A	**Cedar Creek Ra**	**70.39**	**51**	⇓	P		**P**	**08 49 30.0**	**-1.2**
	baz=70								
MICGM	**Minsk**	**70.40**	**329**	*e*	P		**P**	**08 49 29.0**	**-1.7**
MNK	**Minsk**	**70.42**	**329**	*e*	P		**P**	**08 49 29.0**	**-1.8**
L23A	**Garrett**	**70.42**	**50**	⇑	P		**P**	**08 49 29.7**	**-1.6**
	baz=70,SNR=9.7								
S17A	**Black Ridge (B**	**70.43**	**56**	⇑	P		**P**	**08 49 30.1**	**-1.2**
	baz=70,SNR=86								
NAO01	**NORSAR Array S**	**70.45**	**340**	*e*	P		**P**	**08 49 30.6**	**-0.3**
	comp=Z,32nm,0.9s								
Q19A	**Hogan Spring (**	**70.48**	**55**	⇑	P		**P**	**08 49 30.6**	**-1.0**
	baz=70,SNR=48								
R18A	**Canyonlands Na**	**70.48**	**55**	⇓	P		**P**	**08 49 30.7**	**-1.0**
	baz=70,SNR=33								
NACGM	**Naroch**	**70.50**	**329**	*e*	P		**P**	**08 49 29.0**	**-2.3**
PDMCI	**Parker Dam,Lak**	**70.54**	**61**	⇓	P		**P**	**08 49 30.9**	**-1.0**
	baz=70,SNR=9.9								
IANJ	**Anjilo**	**70.61**	**301**	*e*	P		**P**	**08 49 33.5**	**+0.9**
P20A	**De Beque**	**70.63**	**54**	⇑	P		**P**	**08 49 31.3**	**-1.3**
	baz=70,SNR=13								
Y12C	**Blythe**	**70.65**	**62**	⇑	P		**P**	**08 49 32.1**	**-0.5**
	baz=70,SNR=8.6								
O21A	**Pagoda**	**70.69**	**53**	⇑	P		**P**	**08 49 32.2**	**-0.9**
	baz=70,SNR=5.5								
M23A	**Laramie**	**70.84**	**51**	⇓	P		**P**	**08 49 32.9**	**-1.0**
	baz=70,SNR=9.7								
T17A	**Navajo Res., N**	**70.84**	**57**	⇓	P		**P**	**08 49 32.8**	**-1.1**
	baz=71,SNR=14								
N22A	**Wattenberg Ran**	**70.88**	**52**	⇓	P		**P**	**08 49 33.6**	**-0.6**
	baz=71,SNR=9.6								
S18A	**Hurst Farm, BI**	**70.88**	**56**	⇑	P		**P**	**08 49 32.9**	**-1.4**
	baz=71,SNR=44								
IALA	**Alasht**	**70.89**	**302**	*e*	P		**P**	**08 49 34.9**	**+0.5**
GLA	**Glamis**	**70.91**	**62**	*e*	P		**P**	**08 49 34.0**	**-0.2**
GLA				*e*				08 49 46.9	
GLA					pmax		pmax		
	comp=Z,16nm,0.8s								
GLA	**Glamis**	**70.91**	**62**	*e*	P		**P**	**08 49 34.0**	**-0.2**
	comp=Z,16nm,0.8s								
GLA				*e*				08 49 46.9	
GLA	**Glamis**	**70.91**	**62**	⇓	P		**P**	**08 49 33.7**	**-0.5**
	baz=71,SNR=5.4								
R19A	**Curley Farm, L**	**70.92**	**55**	⇑	P		**P**	**08 49 33.3**	**-1.1**
	baz=71,SNR=28								
PV10	**Paradox Valley**	**70.99**	**55**	*e*	P		**P**	**08 49 34.4**	**-0.5**
	comp=Z,2μm,0.9s								
PV10				*e*				08 49 47.1	
Q20A	**Ridgley Place,**	**71.05**	**54**	⇓	P		**P**	**08 49 34.3**	**-0.8**
	baz=71,SNR=20								
PV04	**Paradox Valley**	**71.06**	**55**	*e*	P		**P**	**08 49 34.9**	**-0.3**
PHWY	**Pilot Hill**	**71.10**	**51**	*e*	P		**P**	**08 49 34.5**	**-1.1**
	comp=Z,9.0nm,1.1s								
N23A	**Red Feather La**	**71.10**	**51**	⇑	P		**P**	**08 49 35.0**	**-0.5**
	baz=71,SNR=22								
P21A	**Newcastle**	**71.16**	**53**	⇑	P		**P**	**08 49 35.0**	**-0.8**
	baz=71								
AGMN	**Agassiz Nation**	**71.17**	**40**	*e*	P		**P**	**08 49 34.0**	**-1.5**
	comp=Z,38nm,1.0s								
AGMN				*e*				08 49 47.7	
U17A	**Shonto**	**71.19**	**57**	⇓	P		**P**	**08 49 35.6**	**-0.5**
	baz=71,SNR=18								
U16A	**Tuba City**	**71.21**	**58**	⇓	P		**P**	**08 49 36.0**	**-0.1**
	baz=71,SNR=106								
IFIR	**Firoozkooh**	**71.21**	**302**	*e*	P		P	08 49 40.2	+3.9
O22A	**Kremmling**	**71.25**	**52**	⇓	P		**P**	**08 49 35.6**	**-0.9**
	baz=71,SNR=9.3								
T18A	**Mexican Hat**	**71.31**	**56**	⇓	P		**P**	**08 49 35.4**	**-1.3**
	baz=71,SNR=32								
M24A	**Cheyenne**	**71.34**	**50**	⇓	P		**P**	**08 49 36.8**	**-0.1**
	baz=71,SNR=13								
S19A	**Harvey Farm, M**	**71.35**	**55**	⇓	P		**P**	**08 49 35.9**	**-1.2**
	baz=71,SNR=63								
KIV	**Kislovodsk**	**71.38**	**314**	*d*	P		**P**	**08 49 37.4**	**+0.4**
KIV				*e*				08 49 53.7	
KIV				*e*				08 52 13.1	
KIV				*e*	S		**S**	**08 58 57.4**	**+5.4**
KIV					pmax		pmax		
	comp=Z,121nm,1.0s								
KIV					MLR		MLR		
	comp=Z,3μm,20.0s								
KIV	**Kislovodsk**	**71.38**	**314**	*e*	P		**P**	**08 49 38.6**	**+1.7**
	comp=Z,130nm,1.0s								
KIV	**Kislovodsk**	**71.38**	**314**		P		**P**	**08 49 39.5**	**+2.5**
	comp=Z,750nm,0.7s,SNR=15								
K26A	**Motz Farm, Whi**	**71.40**	**48**	⇑	P		**P**	**08 49 36.0**	**-1.1**
	baz=71,SNR=5.5								
PV01	**Paradox Valley**	**71.43**	**55**	*e*	P		**P**	**08 49 36.4**	**-1.2**
	comp=Z,2μm,1.0s								
PV01				*e*				08 49 50.4	
WUAZ	**Wupatki**	**71.47**	**58**	*e*	P		**P**	**08 49 37.8**	**+0.1**
	comp=Z,38nm,1.0s								
WUAZ				*e*				08 49 50.0	
WUAZ	**Wupatki**	**71.47**	**58**	⇓	P		**P**	**08 49 37.6**	**-0.2**
	baz=71,SNR=36								
Y14A	**Wickenburg**	**71.49**	**61**	⇑	P		**P**	**08 49 37.1**	**-0.6**
	baz=71,SNR=18								
R20A	**Redvale**	**71.51**	**55**	⇓	P		**P**	**08 49 37.4**	**-0.6**
	baz=71,SNR=25								
P22A	**Eagle**	**71.51**	**53**	⇑	P		**P**	**08 49 37.4**	**-0.6**
	baz=71,SNR=25								
Q21A	**Lamborn Mesa,**	**71.55**	**54**	⇓	P		**P**	**08 49 37.4**	**-0.8**
	baz=71,SNR=25								
ZEI	**Tsey**	**71.56**	**312**	*e*	P		**P**	**08 49 37.8**	**-0.4**
ZEI					pmax		pmax		
	comp=Z,56nm,0.8s								
Z13A	**Yuma Proving G**	**71.56**	**62**	⇓	P		**P**	**08 49 37.4**	**-0.7**
	baz=71,SNR=19								
O23A	**Lake Granby, G**	**71.58**	**52**	⇑	P		**P**	**08 49 36.6**	**-1.8**
	baz=71,SNR=15								
DGRG	**David-gareji**	**71.65**	**310**		P		**P**	**08 49 38.8**	**+0.2**
SMCO	**Snowmass**	**71.67**	**53**	*e*	P		**P**	**08 49 38.3**	**-0.8**
	comp=Z,20nm,0.9s								
SMCO				*e*				08 49 51.4	
N24A	**Carr**	**71.74**	**51**	⇓	P		**P**	**08 49 38.4**	**-0.9**
	baz=71								
S20A	**Disappointment**	**71.75**	**55**	⇓	P		**P**	**08 49 38.5**	**-1.0**
	baz=72,SNR=24								
V17A	**Tonalea, Kykot**	**71.75**	**58**	⇓	P		**P**	**08 49 38.8**	**-0.6**
	baz=72,SNR=73								
113A	**Mohawk Valley,**	**71.77**	**62**	⇑	P		**P**	**08 49 38.4**	**-0.9**
	baz=72,SNR=13								
M25A	**Palm-Egli Farm**	**71.79**	**50**	⇑	P		**P**	**08 49 39.1**	**-0.4**
	baz=72,SNR=9.3								
U18A	**Rough Rock, Ch**	**71.79**	**57**	⇑	P		**P**	**08 49 39.2**	**-0.5**
	baz=72,SNR=31								
TBLG	**Delisi**	**71.81**	**311**	*e*	P		**P**	**08 49 40.4**	**+0.9**
TBLG	**Delisi**	**71.81**	**311**		P		**P**	**08 49 40.4**	**+0.9**
R21A	**Cimarron**	**71.87**	**54**	⇓	P		**P**	**08 49 39.8**	**-0.4**
	baz=72,SNR=34								
Z14A	**Wintersburg**	**71.90**	**61**	⇓	P		**P**	**08 49 39.7**	**-0.4**
	baz=72								
K27A	**Flueckinger Fa**	**71.91**	**48**	⇓	P		**P**	**08 49 38.8**	**-1.3**
	baz=72,SNR=7.3								
Q22A	**Crested Butte,**	**71.91**	**53**	⇑	P		**P**	**08 49 39.8**	**-0.7**
	baz=72,SNR=30								
ISCO	**Idaho Springs**	**72.03**	**52**	*e*	P		**P**	**08 49 40.7**	**-0.5**
ISCO				*e*				08 49 53.0	
ISCO					pmax		pmax		
	comp=Z,19nm,0.9s								
ISCO	**Idaho Springs**	**72.03**	**52**	*e*	P		**P**	**08 49 40.7**	**-0.5**
	comp=Z,19nm,0.9s								
ISCO				*e*				08 49 53.0	
ISCO	**Idaho Springs**	**72.03**	**52**	⇓	P		**P**	**08 49 40.5**	**-0.6**
	baz=72,SNR=25								
T19A	**Beclabito**	**72.03**	**56**	⇓	P		**P**	**08 49 40.0**	**-1.1**
	baz=72,SNR=16								
IBAF	**Bafgh**	**72.09**	**297**	*e*	P		**P**	**08 49 40.7**	**-0.8**
MVCO	**Mesa Verde**	**72.09**	**55**	*e*	P		**P**	**08 49 40.7**	**-0.8**
	comp=Z,24nm,0.9s								
MVCO	**Mesa Verde**	**72.09**	**55**	⇑	P		**P**	**08 49 39.9**	**-1.6**
	baz=72,SNR=22								
O24A	**Longmont**	**72.11**	**51**	⇑	P		**P**	**08 49 40.5**	**-1.0**
	baz=72,SNR=13								
X16A	**Lo Mia Camp, P**	**72.15**	**59**	⇓	P		**P**	**08 49 41.6**	**-0.2**
	baz=72,SNR=40								
W17A	**Winslow**	**72.16**	**58**	⇓	P		**P**	**08 49 41.4**	**-0.4**
	baz=72								
P23A	**Jefferson**	**72.18**	**52**	⇑	P		**P**	**08 49 42.0**	**-0.1**
	baz=72,SNR=7.9								
S21A	**Coal Bank Pass**	**72.20**	**55**	⇓	P		**P**	**08 49 42.1**	**-0.1**
	baz=72,SNR=32								
V18A	**Ganado**	**72.22**	**57**	⇑	P		**P**	**08 49 41.9**	**-0.4**
	baz=72,SNR=41								
M26A	**McRoberts Ranc**	**72.27**	**49**	⇑	P		**P**	**08 49 42.0**	**-0.3**
	baz=72,SNR=6.9								
U19A	**Dine' College,**	**72.27**	**57**	⇑	P		**P**	**08 49 41.8**	**-0.9**
	baz=72,SNR=42								
114A	**Black Gap (USA**	**72.34**	**61**	⇑	P		**P**	**08 49 42.6**	**-0.2**
	baz=72								
R22A	**Saguache, Gunn**	**72.43**	**54**	⇑	P		**P**	**08 49 43.5**	**-0.1**
	baz=72,SNR=22								
SUW	**Suwalki**	**72.50**	**331**	*e*	P		**P**	**08 49 43.5**	**+0.1**
SUW	**Suwalki**	**72.50**	**331**	*e*	P		**P**	**08 49 43.5**	**+0.1**
SUW	**Suwalki**	**72.50**	**331**	*e*	P		**P**	**08 49 43.8**	**+0.4**
	comp=Z,86nm,1.1s								
Q23A	**Hartsel**	**72.50**	**53**	⇑	P		**P**	**08 49 43.7**	**-0.3**
	baz=72								
X17A	**Forest Lakes**	**72.60**	**59**	⇑	P		**P**	**08 49 44.3**	**-0.3**
	baz=72,SNR=31								
P24A	**Kohler Place,**	**72.62**	**52**	⇑	P		**P**	**08 49 44.5**	**-0.1**
	baz=72,SNR=9.1								
U20A	**Newcomb**	**72.63**	**56**	⇓	P		**P**	**08 49 43.7**	**-1.0**
	baz=72,SNR=7.2								
AKH	**Akhalkalaki**	**72.71**	**311**		P		**P**	**08 49 47.1**	**+2.1**
S22A	**4UR Ranch, Cre**	**72.71**	**54**	⇑	P		**P**	**08 49 44.9**	**-0.4**
	baz=72,SNR=25								
W18A	**Petrified Fore**	**72.73**	**58**	⇓	P		**P**	**08 49 45.0**	**-0.3**
	baz=72,SNR=5.4								
V19A	**Window Rock**	**72.76**	**57**	⇓	P		**P**	**08 49 45.3**	**-0.2**
	baz=72,SNR=14								
AKASG	**Malin Array Be**	**72.78**	**325**		P		**P**	**08 49 44.5**	**-0.5**
	comp=Z,52nm,0.9s,baz=35,slow=5.8,SNR=67								
AKASG					LR		LR	09 24 25.5	
	comp=Z,756nm,19.1s,baz=45,slow=38								
AKASG	**Malin Array Be**	**72.78**	**325**	*ce*	P		**P**	**08 49 44.5**	**-0.5**
AKASG					pmax		pmax		
	comp=Z,52nm,0.9s								
AKASG	**Malin Array Be**	**72.78**	**325**		P		**P**	**08 49 44.5**	**-0.5**
AKBB	**Malin Array Si**	**72.78**	**325**	*e*	P		**P**	**08 49 45.1**	**0.0**
AKBB	**Malin Array Si**	**72.78**	**325**	*e*	P		**P**	**08 49 45.1**	**0.0**
KIEV	**Kiev**	**72.79**	**325**	*d*	P		**P**	**08 49 44.4**	**-0.7**
KIEV	**Kiev**	**72.79**	**325**	*e*	P		**P**	**08 49 44.5**	**-0.6**
	comp=Z,48nm,0.9s								
T21A	**Navajo Lake**	**72.81**	**55**	⇓	P		**P**	**08 49 45.4**	**-0.4**
	baz=72,SNR=8.1								
Q24A	**Divide**	**72.86**	**52**	⇑	P		**P**	**08 49 45.5**	**-0.6**
	baz=72,SNR=12								
GNI	**Garni**	**72.89**	**309**	*d*	P		**P**	**08 49 46.6**	**+0.5**
GNI					pmax		pmax		
	comp=Z,38nm,1.3s								
GNI	**Garni**	**72.89**	**309**	*e*	P		**P**	**08 49 48.5**	**+2.4**
	comp=Z,228nm,1.8s								
214A	**Organ Pipe Nat**	**72.91**	**62**	⇑	P		**P**	**08 49 45.5**	**-0.7**
	baz=73,SNR=9.8								
W19A	**Sanders**	**72.95**	**58**	⇓	P		**P**	**08 49 46.0**	**-0.6**
	baz=73,SNR=5.9								
R23A	**Moffat**	**72.99**	**53**	⇓	P		**P**	**08 49 46.7**	**-0.3**
	baz=73,SNR=31								
X18A	**Snowlake**	**73.00**	**58**	⇓	P		**P**	**08 49 46.3**	**-0.5**
	baz=73,SNR=10								
Y17A	**Roosevelt**	**73.00**	**60**	⇑	P		**P**	**08 49 46.3**	**-0.5**
	baz=73,SNR=22								
O26A	**Horse Wrangler**	**73.01**	**50**	⇑	P		**P**	**08 49 46.1**	**-0.7**
	baz=73,SNR=6.7								
P25A	**Willow Gulch B**	**73.04**	**51**	⇓	P		**P**	**08 49 46.7**	**-0.4**
	baz=73,SNR=17								
V20A	**Brimhall**	**73.05**	**57**	⇓	P		**P**	**08 49 46.7**	**-0.5**
	baz=73,SNR=12								
N27A	**Anderson Farm,**	**73.05**	**49**	⇓	P		**P**	**08 49 46.3**	**-0.7**
	baz=73,SNR=6.4								
U21A	**Nageezi**	**73.11**	**56**	⇑	P		**P**	**08 49 47.2**	**-0.4**
	baz=73,SNR=14								
T22A	**Edith**	**73.16**	**55**	⇓	P		**P**	**08 49 47.6**	**-0.3**
	baz=73,SNR=20								
SOC	**Sochi**	**73.18**	**315**	*e*	P		**P**	**08 49 47.8**	**+0.2**
SOC				*e*	S		**S**	**08 59 13.3**	**+1.0**
SOC				*e*				09 00 01.5	
SOC				*e*	SS		**SS**	**09 03 55.4**	**+2.1**
SOC				*e*	SSS		SSS	09 07 08.3	
SOC					pmax		pmax		
	comp=Z,51nm,0.8s								
S23A	**Nye Farm, Mont**	**73.22**	**54**	⇑	P		**P**	**08 49 47.9**	**-0.4**
	baz=73,SNR=10								
OGNE	**Ogallala**	**73.23**	**49**	*e*	P		**P**	**08 49 46.8**	**-1.2**
	comp=Z,111nm,1.0s								
OGNE				*e*				08 49 59.7	
OGNE	**Ogallala**	**73.23**	**49**	⇑	P		**P**	**08 49 47.2**	**-0.9**
	baz=73,SNR=9.9								
R24A	**Sanders Place,**	**73.38**	**53**	⇑	P		**P**	**08 49 48.8**	**-0.3**
	baz=73,SNR=19								
Q25A	**Bedland, Calha**	**73.40**	**52**	⇓	P		**P**	**08 49 48.6**	**-0.6**
	baz=73,SNR=21								
EYMN	**Ely**	**73.42**	**38**	*e*	P		**P**	**08 49 47.8**	**-1.2**
	comp=Z,45nm,0.9s								
EYMN				*e*				08 50 00.6	
Y18A	**Canyon Day Jun**	**73.45**	**59**	⇑	P		**P**	**08 49 49.4**	**-0.1**
	baz=73,SNR=31								
ANN	**Anapa**	**73.46**	**317**	*e*	P		**P**	**08 49 49.2**	**+0.1**
ANN				*e*	S		**S**	**08 59 14.1**	**-1.2**
ANN					pmax		pmax		
	comp=Z,73nm,1.2s								
P26A	**Davis Ranch, A**	**73.47**	**51**	⇑	P		**P**	**08 49 48.7**	**-0.8**
	baz=73,SNR=8.1								
X19A	**St. Johns**	**73.47**	**58**	⇓	P		**P**	**08 49 49.4**	**-0.3**
	baz=73,SNR=39								
W20A	**Ramah**	**73.48**	**57**	⇑	P		**P**	**08 49 49.0**	**-0.8**
	baz=73,SNR=16								
SDCO	**Great Sand Dun**	**73.48**	**53**	*e*	P		**P**	**08 49 49.0**	**-0.8**
	comp=Z,9.6nm,1.0s								
SDCO				*e*				08 50 02.1	
SDCO	**Great Sand Dun**	**73.48**	**53**	⇓	P		**P**	**08 49 49.3**	**-0.5**
	baz=73,SNR=14								
SDCO				⇓	P		**P**	**08 49 49.3**	**-0.5**
	baz=73,SNR=14								
Z17A	**San Carlos Hig**	**73.50**	**60**	⇓	P		**P**	**08 49 49.6**	**-0.1**
	baz=73,SNR=10								
O27A	**Beecher Island**	**73.51**	**50**	⇓	P		**P**	**08 49 49.1**	**-0.6**
	baz=73								
V21A	**Milan**	**73.54**	**56**	⇑	P		**P**	**08 49 49.7**	**-0.5**
	baz=73								
T23A	**Casias Ranch,**	**73.66**	**54**	⇑	P		**P**	**08 49 50.3**	**-0.5**
	baz=73,SNR=12								
S24A	**Houchin Ranch,**	**73.72**	**53**	⇓	P		**P**	**08 49 51.0**	**-0.3**
	baz=73,SNR=8.8								
Y19A	**Nutrioso**	**73.81**	**58**	⇓	P		**P**	**08 49 51.8**	**0.0**
	baz=74,SNR=16								
Q26A	**Hugo**	**73.81**	**51**	⇑	P		**P**	**08 49 50.3**	**-1.2**
	baz=74,SNR=6.7								
X20A	**Quemado**	**73.88**	**58**	⇓	P		**P**	**08 49 51.7**	**-0.4**
	baz=74,SNR=42								
V22A	**San Miguel Ran**	**73.90**	**56**	⇑	P		**P**	**08 49 51.7**	**-0.5**
	baz=74,SNR=17								
Z18A	**Geronimo**	**73.91**	**60**	⇑	P		**P**	**08 49 51.8**	**-0.4**
	baz=74,SNR=5.4								
R25A	**Fountain Ranch**	**73.91**	**52**	⇑	P		**P**	**08 49 50.8**	**-1.3**
	baz=74,SNR=14								
TUC	**Tucson**	**73.96**	**61**	*e*	P		**P

W24A	**Lazy 6 Ranch,** baz=75,SNR=27	**75.28**	**55**	⇑P		**P**	**08 50 00.0**	**-0.2**
V25A	**Rancho No Teng** baz=75,SNR=10.0	**75.31**	**54**	⇑P		**P**	**08 49 59.7**	**-0.6**
IKOM	**Komasi**	**75.39**	**303**	*e*P		**P**	**08 50 01.7**	**+0.9**
U26A	**Atchley Ranch,** baz=75,SNR=7.9	**75.43**	**53**	⇑P		**P**	**08 50 00.7**	**-0.3**
319A	**Douglas** baz=75,SNR=18	**75.53**	**60**	⇓P		**P**	**08 50 01.0**	**-0.6**
LVV	**L'vov**	**75.55**	**327**	*e*P		**P**	**08 50 01.5**	**+0.3**
LVV	comp=N,900nm,17.0s			MLR	MLR			
LVV	comp=E,800nm,17.0s			MLR	MLR			
LVV	comp=Z,1μm,17.0s			MLR	MLR			
T27A	**Campo** baz=75	**75.55**	**52**	⇓P		**P**	**08 50 01.0**	**-0.7**
220A	**Playas Peak, P** baz=75,SNR=16	**75.64**	**60**	⇑P		**P**	**08 50 01.8**	**-0.5**
121A	**Cookes Peak, D** baz=75,SNR=17	**75.67**	**59**	⇓P		**P**	**08 50 02.3**	**-0.2**
Z22A	**Elephant Butte** baz=75,SNR=23	**75.68**	**58**	⇑P		**P**	**08 50 02.3**	**-0.2**
IDHR	**Dehrash**	**75.70**	**304**	*e*P		**P**	**08 50 02.4**	**-0.2**
X24A	**Lazy VL Ranch,** baz=75,SNR=15	**75.70**	**56**	⇑P		**P**	**08 50 02.9**	**+0.2**
KIS	**Kishinev**	**75.80**	**323**	*e*P		P	08 50 10.0	+7.3
KIS				*e*			08 50 25.0	
KIS				*e*			08 54 38.0	
KIS				*e*			08 59 31.0	
KIS	comp=Z,1μm,20.0s			MLR	MLR			
KIS	**Kishinev**	**75.80**	**323**	*e*P		P	08 50 10.0	+7.3
KIS	comp=Z,1μm,20.0s			LRM	MLR		09 25 30.0	
W25A	**X Bar L Ranch,** baz=76,SNR=31	**75.83**	**55**	⇓P		**P**	**08 50 03.0**	**-0.3**
IGHG	**Ghaleghazi**	**75.84**	**304**	*e*P		**P**	**08 50 03.4**	**-0.1**
STKA	**Stephens Creek** comp=Z,15nm,0.8s,baz=355,slow=8.3,SNR=31	**75.98**	**188**	P		**P**	**08 50 04.2**	**+0.6**
STKA	comp=Z,385nm,19.6s,baz=13,slow=36			LR	LR		09 23 50.9	
STKA	**Stephens Creek** comp=Z,12nm,0.8s	**75.98**	**188**	*e*P		**P**	**08 50 04.4**	**+0.7**
STKA				*e*pP		pP	08 50 27.9	+12
STKA	**Stephens Creek**	**75.98**	**188**	P		**P**	**08 50 04.3**	**+0.6**
STKA	comp=Z,15nm,0.9s			pmax	pmax			
STKA	comp=Z,385nm,19.6s			MLR	MLR			
STKA	**Stephens Creek** comp=Z,4.3nm,0.9s	**75.98**	**188**	*e*P		**P**	**08 50 04.6**	**+0.9**
CBKS	**Cedar Bluff**	**75.98**	**49**	*e*P		**P**	**08 50 02.1**	**-1.9**
CBKS	comp=Z,38nm,1.3s			pmax	pmax			
CBKS	**Cedar Bluff** comp=Z,38nm,1.3s	**75.98**	**49**	*e*P		**P**	**08 50 02.1**	**-1.9**
CBKS	**Cedar Bluff** baz=76,SNR=5.4	**75.98**	**49**	⇓P		**P**	**08 50 02.2**	**-1.8**
CBKS	baz=76,SNR=5.4			⇓P		**P**	**08 50 02.2**	**-1.8**
320A	**Kipp Ranch, An** baz=76,SNR=7.5	**76.03**	**60**	⇑P		**P**	**08 50 04.2**	**-0.3**
Z23A	**Rita Site, Whi** baz=76,SNR=9.5	**76.12**	**57**	⇓P		**P**	**08 50 04.8**	**-0.2**
Y24A	**Capitan** baz=76	**76.15**	**56**	⇑P		**P**	**08 50 04.3**	**-0.8**
X25A	**Clemmons Ranch** baz=76	**76.19**	**55**	⇑P		**P**	**08 50 05.1**	**-0.3**
KWP	**Kalwaria Pacla**	**76.21**	**328**	*e*P		**P**	**08 50 05.8**	**+0.8**
KWP	**Kalwaria Pacla**	**76.21**	**328**	⇑P		**P**	**08 50 05.7**	**+0.7**
KWP	**Kalwaria Pacla** comp=Z,142nm,0.9s	**76.21**	**328**	*e*P		**P**	**08 50 05.5**	**+0.5**
KWP	**Kalwaria Pacla**	**76.21**	**328**	⇑*i*P		**P**	**08 50 05.7**	**+0.7**
W26A	**Owens Ranch, T** baz=76	**76.33**	**54**	⇑P		**P**	**08 50 05.9**	**-0.2**
SCHQ	**Schefferville** comp=Z,6.7nm,0.5s,baz=347,slow=5.6,SNR=26	**76.51**	**21**	P		**P**	**08 50 05.8**	**-0.8**
SCHQ	comp=Z,513nm,19.5s,baz=355,slow=40			LR	LR		09 29 39.6	
SCHQ	**Schefferville** comp=Z,12nm,0.8s	**76.51**	**21**	*e*P		**P**	**08 50 05.8**	**-0.8**
123A	**Bell Site, Whi** baz=76	**76.54**	**58**	⇑P		**P**	**08 50 07.4**	**+0.1**
Y25A	**Mesa, Roswell** baz=76,SNR=19	**76.59**	**56**	⇑P		**P**	**08 50 07.0**	**-0.6**
Z24A	**Sheeppen Canyo** baz=76,SNR=16	**76.60**	**57**	⇓P		**P**	**08 50 07.1**	**-0.7**
X26A	**CR and CF Fran** baz=76,SNR=5.5	**76.68**	**55**	⇓P		**P**	**08 50 07.5**	**-0.6**
W27A	**Bowe Ranch, En** baz=76	**76.76**	**54**	⇓P		**P**	**08 50 08.4**	**-0.1**
OJC	**Ojcow**	**76.80**	**330**	*e*P		**P**	**08 50 08.7**	**+0.3**
OJC	**Ojcow**	**76.80**	**330**	*e*P		**P**	**08 50 08.0**	**-0.4**
OJC	comp=Z,40nm,1.1s			pmax	pmax			
OJC	**Ojcow** comp=Z,40nm,1.1s	**76.80**	**330**	*e*P		**P**	**08 50 08.0**	**-0.4**
BUR08	**Bucovina Ar. S**	**76.82**	**325**	*e*P		**P**	**08 50 08.6**	**0.0**
BURAR	**Bucovina Array**	**76.84**	**325**	P		**P**	**08 50 09.2**	**+0.5**
BURAR	**Bucovina Array**	**76.84**	**325**	⇑*i*P		**P**	**08 50 09.0**	**+0.3**
RUE	**Ruedersdorf** comp=Z,32nm,0.8s	**76.91**	**335**	*e*P		**P**	**08 50 09.0**	**+0.1**
STHS	**Stebnicka Huta**	**76.94**	**329**	*e*P		**P**	**08 50 08.2**	**-0.9**
STHS	comp=Z,28nm,0.9s			pmax	pmax			
STHS	**Stebnicka Huta**	**76.94**	**329**	*e*P		**P**	**08 50 08.2**	**-0.9**
KOLS	**Kolonicke sedl**	**76.94**	**328**	*e*P		**P**	**08 50 09.3**	**+0.1**
KOLS	comp=Z,11nm,1.1s			pmax	pmax			
KOLS	**Kolonicke sedl**	**76.94**	**328**	*e*P		**P**	**08 50 09.3**	**+0.1**
124A	**Stringfield Ra** baz=77,SNR=7.6	**76.98**	**57**	⇓P		**P**	**08 50 09.4**	**-0.6**
Z25A	**Roswell** baz=77	**77.03**	**56**	⇑P		**P**	**08 50 09.6**	**-0.5**
X27A	**F and S Farms,** baz=77,SNR=5.2	**77.03**	**54**	⇑P		**P**	**08 50 09.9**	**-0.1**
Y26A	**Elida** baz=77	**77.11**	**55**	⇑P		**P**	**08 50 09.7**	**-0.8**
TESR		**77.11**	**324**	⇓*i*P		**P**	**08 50 11.5**	**+1.3**
SCIA	**State Center** comp=Z,97nm,0.8s	**77.13**	**43**	*e*P		**P**	**08 50 09.7**	**-0.7**
SCIA				*e*			08 50 22.6	
UZH	**Uzhgorod**	**77.18**	**328**	⇓*i*P		**P**	**08 50 11.2**	**+0.7**
UZH				*e*			08 50 23.6	
UZH				*e*			08 53 12.2	
UZH				*e*S		**S**	**08 59 54.6**	**-1.9**
UZH				*e*PS		**PnS**	**09 00 47.8**	**+8.5**
UZH	comp=N,2μm,18.0s			MLR	MLR			
UZH	comp=E,1μm,18.0s			MLR	MLR			
UZH	comp=Z,1μm,18.0s			MLR	MLR			
TLCR		**77.21**	**322**	⇑P		**P**	**08 50 11.4**	**+0.7**
TLCR		**77.21**	**322**	⇑*i*P		**P**	**08 50 11.4**	**+0.7**
FORT	**Forrest** comp=Z,27nm,0.6s	**77.23**	**200**	*e*P		**P**	**08 50 11.2**	**+0.4**
FORT	**Forrest** comp=Z,36nm,0.9s	**77.23**	**200**	*e*P		**P**	**08 50 11.6**	**+0.8**
CRVS	**Cervenica-Dubn**	**77.28**	**328**	*e*P		**P**	**08 50 11.5**	**+0.5**
CRVS	comp=Z,12nm,1.0s			pmax	pmax			
CRVS	**Cervenica-Dubn**	**77.28**	**328**	*e*P		**P**	**08 50 11.5**	**+0.5**
NIE	**Niedzica**	**77.28**	**329**	*e*P		**P**	**08 50 12.4**	**+1.3**
NIE	**Niedzica**	**77.28**	**329**	*e*P		**P**	**08 50 12.4**	**+1.3**
224A	**Cornudas Mount** baz=77,SNR=14	**77.38**	**58**	⇑P		**P**	**08 50 11.3**	**-0.7**
KSU1	**Kansas State U** comp=Z,39nm,0.8s	**77.46**	**47**	*e*P		**P**	**08 50 10.2**	**-2.0**
Z26A	**Caprock** baz=77,SNR=32	**77.47**	**56**	⇑P		**P**	**08 50 11.9**	**-0.6**
TRPA	**Tarpa**	**77.49**	**327**	⇓*i*P		**P**	**08 50 12.8**	**+0.6**
TRPA	**Tarpa**	**77.49**	**327**	⇓*e*P		**P**	**08 50 13.6**	**+1.4**
KSP	**Ksiaz**	**77.50**	**332**	*e*P		**P**	**08 50 13.8**	**+1.6**
KSP	**Ksiaz**	**77.50**	**332**	*e*P		**P**	**08 50 13.0**	**+0.8**
CFR	**Carcaliu**	**77.52**	**322**	⇑P		**P**	**08 50 12.5**	**+0.1**
CFR	**Carcaliu**	**77.52**	**322**	⇑*i*P		**P**	**08 50 12.5**	**+0.1**
Y27A	**Causey** baz=77,SNR=26	**77.53**	**55**	⇓P		**P**	**08 50 12.1**	**-0.7**
VRI	**Vrincioaia**	**77.59**	**324**	⇑P		**P**	**08 50 14.4**	**+1.5**
VRI	**Vrincioaia**	**77.59**	**324**	⇑*i*P		**P**	**08 50 14.4**	**+1.5**
BBOO	**Buckleboo** comp=Z,79nm,0.8s	**77.60**	**192**	*e*P		**P**	**08 50 13.5**	**+0.7**
BBOO				*e*pP		pP	08 50 36.0	+11
BBOO	**Buckleboo** comp=Z,2μm,1.8s	**77.60**	**192**	*e*P		**P**	**08 50 13.9**	**+1.1**
PLOR	**Plostina**	**77.64**	**324**	⇑P		**P**	**08 50 14.4**	**+1.2**
PLOR	**Plostina**	**77.64**	**324**	⇑*i*P		**P**	**08 50 14.4**	**+1.2**
AMTX	**Amarillo** comp=Z,35nm,1.0s	**77.69**	**53**	*e*P		**P**	**08 50 13.8**	**+0.1**
AMTX	**Amarillo** baz=77,SNR=9.4	**77.69**	**53**	⇑P		**P**	**08 50 13.1**	**-0.6**
AMTX	baz=77,SNR=9.4			⇑P		**P**	**08 50 13.1**	**-0.6**
MSTX	**Muleshoe** baz=77,SNR=15	**77.70**	**55**	⇑P		**P**	**08 50 13.0**	**-0.8**
CPRX	**Cap Rock** comp=Z,26nm,1.0s	**77.71**	**56**	*e*P		**P**	**08 50 13.2**	**-0.7**
CPRX				*e*			08 50 25.8	
OKC	**Ostrava-Krasne**	**77.71**	**331**	*i*P		**P**	**08 50 13.7**	**+0.3**
OKC				*e*			08 50 20.2	
OKC	comp=Z,2μm,18.5s			MLR	MLR			
OKC	**Ostrava-Krasne**	**77.71**	**331**	*i*P		**P**	**08 50 13.7**	**+0.3**
OKC				*e*pP		**PcP**	**08 50 20.2**	**-3.2**
OKC	comp=Z,2μm,18.5s			AMS	AMS		09 29 10.0	
225A	**Deer Hill, Car** baz=78,SNR=13	**77.78**	**57**	⇑P		**P**	**08 50 14.3**	**0.0**
JFWS	**Jewell Farm**	**77.80**	**41**	*e*P		**P**	**08 50 12.5**	**-1.6**
JFWS	comp=Z,72nm,1.4s			pmax	pmax			
JFWS	**Jewell Farm** comp=Z,72nm,1.4s	**77.80**	**41**	*e*P		**P**	**08 50 12.4**	**-1.6**
324A	**Moseley Ranch,** baz=78,SNR=6.4	**77.84**	**58**	⇓P		**P**	**08 50 14.3**	**-0.4**
UPC	**Upice**	**77.88**	**332**	*i*P		**P**	**08 50 15.1**	**+0.7**
UPC				*e*			08 50 20.0	
UPC	**Upice**	**77.88**	**332**	*i*P		**P**	**08 50 15.1**	**+0.7**
UPC				*e*pP		**PcP**	**08 50 20.0**	**-4.1**
126A	**Clayton Basin,** baz=78,SNR=6.6	**77.89**	**56**	⇓P		**P**	**08 50 13.9**	**-1.0**
BHD	**Baghdad**	**77.89**	**305**	*i*P		**P**	**08 50 13.0**	**-1.7**
BHD				*i*S		**S**	**09 00 02.0**	**-2.6**
BHD				*i*PS		**PnS**	**09 00 49.0**	**+0.2**
Z27A	**Tatum** baz=78	**77.90**	**55**	⇑P		**P**	**08 50 14.0**	**-0.9**
DPC	**Dobruska-Polom** comp=Z,87nm,1.5s	**77.91**	**332**	*e*P		**P**	**08 50 15.0**	**+0.4**
DPC				pmax	pmax			
DPC	**Dobruska-Polom** comp=Z,87nm,1.5s	**77.91**	**332**	*e*P		**P**	**08 50 15.0**	**+0.4**
DPC	**Dobruska-Polom** comp=Z,1μm,18.8s	**77.91**	**332**	*i*P		**P**	**08 50 15.2**	**+0.6**
DPC				AMS	AMS		09 29 50.0	
TIRR	**Tirgusor**	**77.96**	**322**	⇓P		**P**	**08 50 16.6**	**+1.7**
TIRR	**Tirgusor**	**77.96**	**322**	⇓*i*P		**P**	**08 50 16.6**	**+1.7**
MORC	**Moravsky Berou**	**77.97**	**331**	⇑P		**P**	**08 50 15.3**	**+0.3**
MORC	**Moravsky Berou** comp=Z,29nm,0.9s	**77.97**	**331**	*e*P		**P**	**08 50 15.3**	**+0.3**
MORC	**Moravsky Berou**	**77.97**	**331**	⇑*i*P		**P**	**08 50 15.3**	**+0.3**
KRLC	**Kraliky**	**77.99**	**332**	*i*P		**P**	**08 50 15.7**	**+0.7**
GDL2	**Guadalupe Moun**	**77.99**	**57**	*e*P		**P**	**08 50 15.2**	**-0.3**
GDL2				*e*			08 50 28.0	
NRDL	**Niedersach Rie** comp=Z,23nm,1.3s	**78.00**	**337**	*e*P		**P**	**08 50 14.4**	**-0.5**
LIKS	**Likavka**	**78.03**	**330**	*e*P		**P**	**08 50 16.8**	**+1.6**
LIKS	comp=Z,28nm,0.8s			pmax	pmax			
LIKS	**Likavka**	**78.03**	**330**	*e*P		**P**	**08 50 16.8**	**+1.6**
DOPR	**Dopca**	**78.08**	**324**	⇑*i*P		**P**	**08 50 17.5**	**+1.9**
CLL	**Collm** comp=Z,39nm,0.9s	**78.17**	**334**	*e*P		**P**	**08 50 16.0**	**+0.1**
CLL	**Collm**	**78.17**	**334**	*i*P		**P**	**08 50 15.6**	**-0.3**
CLL				*i*			08 50 22.2	
CLL	comp=Z,39nm,0.9s			pmax	pmax			
CLL	comp=Z,2μm,17.1s			MLR	MLR			
CLL	**Collm** comp=Z,39nm,0.9s	**78.17**	**334**	*i*P		**P**	**08 50 15.6**	**-0.3**
CLL	comp=Z,38nm,1.0s			*i*pP		**PcP**	**08 50 22.2**	**-3.1**
CLL				*e*PS		**PnS**	**09 00 54.0**	**+2.3**
CLL				*e*SS		SS	09 05 30.0	+22
325A	**Bean Ranch, Si** baz=78,SNR=11	**78.20**	**58**	⇑P		**P**	**08 50 16.1**	**-0.6**
MLR	**Muntele Rosu**	**78.22**	**324**	⇑P		**P**	**08 50 17.4**	**+0.9**
MLR	**Muntele Rosu**	**78.22**	**324**	⇑*i*P		**P**	**08 50 17.4**	**+0.9**
CLNB	**Carlsbad** comp=Z,4.5nm,1.0s	**78.24**	**56**	*e*P		**P**	**08 50 16.4**	**-0.4**
CLNB				*e*			08 50 28.6	
BRG	**Berggiesshubel** comp=Z,19nm,1.2s	**78.25**	**334**	*i*P		**P**	**08 50 16.9**	**+0.5**
BRG	comp=Z,18nm,1.2s			*i*			08 50 22.5	
BRG	comp=N,1μm,20.0s							
BRG	comp=E,1μm,15.1s							
BRG	comp=Z,2μm,16.3s							
BRG	**Berggiesshubel** comp=Z,19nm,1.2s	**78.25**	**334**	*e*P		**P**	**08 50 16.6**	**+0.2**
BRG	**Berggiesshubel**	**78.25**	**334**	*i*P		**P**	**08 50 16.9**	**+0.5**
BRG				*i*			08 50 22.5	
BRG	comp=Z,19nm,1.2s			pmax	pmax			
BRG	comp=N,1μm,20.0s			MLR	MLR			
BRG	comp=E,1μm,15.1s			MLR	MLR			
BRG	comp=Z,2μm,16.3s			MLR	MLR			
226A	**Malaga, Loving** baz=78,SNR=16	**78.25**	**57**	⇓P		**P**	**08 50 16.2**	**-0.6**
ISR	**Istrita**	**78.26**	**323**	⇑P		**P**	**08 50 17.3**	**+0.6**
ISR	**Istrita**	**78.26**	**323**	⇑*i*P		**P**	**08 50 17.3**	**+0.6**
PVCC	**Panska Ves**	**78.34**	**333**	*i*P		**P**	**08 50 17.1**	**+0.2**
PVCC				*e*			08 50 23.3	
PVCC	comp=Z,2μm,10.9s			MLR	MLR			
PVCC	**Panska Ves**	**78.34**	**333**	*i*P		**P**	**08 50 17.1**	**+0.2**
PVCC				*e*pP		**PcP**	**08 50 23.3**	**-2.8**
PVCC	comp=Z,2μm,10.9s			AMS	AMS		09 30 10.0	
CLZ	**Clausthal** comp=Z,43nm,1.2s	**78.50**	**336**	*e*P		**P**	**08 50 18.7**	**+0.9**
CLZ	**Clausthal**	**78.50**	**336**	*e*P		**P**	**08 50 18.7**	**+0.9**
CLZ	comp=Z,43nm,1.2s			pmax	pmax			
MIB	**Mutribah**	**78.51**	**300**	*e*P		**P**	**08 50 18.2**	**0.0**
MIB	comp=Z,127nm,0.9s			AMb	AMB		08 50 20.6	
DRGR		**78.51**	**326**	⇓P		**P**	**08 50 17.8**	**-0.2**
DRGR		**78.51**	**326**	⇓*i*P		**P**	**08 50 17.8**	**-0.2**
VYHS	**Vyhne**	**78.59**	**330**	*e*P		**P**	**08 50 18.8**	**+0.4**
VYHS	comp=Z,8.0nm,0.9s			pmax	pmax			
VYHS	**Vyhne**	**78.59**	**330**	*e*P		**P**	**08 50 18.8**	**+0.4**
425A	**Indio Mountain** baz=78,SNR=14	**78.60**	**58**	⇑P		**P**	**08 50 18.1**	**-0.8**
VOIR		**78.65**	**324**	⇑P		**P**	**08 50 19.5**	**+0.7**
VOIR		**78.65**	**324**	⇑*i*P		**P**	**08 50 19.5**	**+0.7**
PSZ	**Piszkesteto**	**78.68**	**329**	⇑P		**P**	**08 50 18.8**	**-0.1**
PSZ	**Piszkesteto** comp=Z,182nm,2.1s	**78.68**	**329**	*e*P		**P**	**08 50 19.9**	**+1.0**
PSZ	**Piszkesteto**	**78.68**	**329**	⇑*i*P		**P**	**08 50 18.8**	**-0.1**
PSZ	**Piszkesteto**	**78.68**	**329**	⇓*e*P		**P**	**08 50 20.1**	**+1.2**
VRAC	**Vranov**	**78.70**	**331**	⇑P		**P**	**08 50 18.8**	**-0.2**
VRAC	**Vranov**	**78.70**	**331**	⇑*i*P		**P**	**08 50 18.8**	**-0.2**
KBD	**Kabd**	**78.72**	**300**	*e*P		**P**	**08 50 20.0**	**+0.6**
KBD	comp=Z,61nm,0.9s			AMb	AMB		08 50 21.9	
PRU	**Pruhonice**	**78.81**	**333**	*i*P		**P**	**08 50 20.2**	**+0.7**
PRU				*e*			08 50 24.9	
PRU	**Pruhonice**	**78.81**	**333**	*i*P		**P**	**08 50 20.2**	**+0.7**
PRU				*e*pP		**PcP**	**08 50 24.9**	**-3.3**
IBBN	**Ibbenburen** comp=Z,34nm,1.1s	**78.82**	**338**	*e*P		**P**	**08 50 20.3**	**+0.8**
326A	**Caldwell Ranch** baz=79,SNR=24	**78.84**	**57**	⇑P		**P**	**08 50 19.2**	**-0.9**
GLMI	**Grayling** comp=Z,119nm,0.8s	**78.85**	**37**	*e*P		**P**	**08 50 19.3**	**-0.6**
QRN	**Al-Qurain** comp=Z,120nm,0.9s	**78.88**	**299**	*e*P		**P**	**08 50 20.6**	**+0.3**
QRN				AMb	AMB		08 50 22.6	
NAY	**Al-Naaiem**	**78.95**	**300**	*e*P		**P**	**08 50 20.5**	**-0.2**
NAY				AMb	AMB		08 50 22.6	
CAN	**Canberra** comp=Z,11nm,0.9s	**78.98**	**181**	*e*P		**P**	**08 50 22.1**	**+1.7**
SMOL	**Smolenice**	**79.08**	**330**	*e*P		**P**	**08 50 22.7**	**+1.7**
SMOL	**Smolenice**	**79.08**	**330**	*e*P		**P**	**08 50 22.7**	**+1.7**
TREC	**Trest**	**79.09**	**332**	*i*P		**P**	**08 50 21.6**	**+0.5**
TREC	**Trest**	**79.09**	**332**	*i*P		**P**	**08 50 21.6**	**+0.5**
BR131	**Keskin Array S** comp=Z,12nm,0.8s	**79.10**	**316**	*e*P		**P**	**08 50 22.1**	**+0.6**
BRTR	**Keskin Array B** comp=Z,13nm,0.8s,baz=47,slow=3.7,SNR=36	**79.10**	**316**	P		**P**	**08 50 22.2**	**+0.7**
BRTR	comp=Z,5.5nm,1.0s,baz=48,slow=5.5,SNR=4.7			PP		**PP**	**08 53 21.6**	**+1.1**
BRTR	comp=Z,521nm,18.1s,baz=224,slow=42			LR	LR		09 33 45.6	
BRTR	**Keskin Array B**	**79.10**	**316**	*e*P		**P**	**08 50 22.7**	**+1.2**
BRTR	comp=Z,13nm,0.8s			pmax	pmax			
BRTR	**Keskin Array B**	**79.10**	**316**	P		**P**	**08 50 22.2**	**+0.7**
BRTR				PP		**PP**	**08 53 21.6**	**+1.1**
LOT	**Lotru**	**79.17**	**325**	⇓*i*P		**P**	**08 50 21.9**	**+0.2**
MOX	**Moxa** comp=Z,35nm,1.5s	**79.18**	**335**	*e*P		**P**	**08 50 22.0**	**+0.5**
MOX	**Moxa**	**79.18**	**335**	*e*P		**P**	**08 50 22.0**	**+0.5**
MOX	comp=Z,35nm,1.5s			pmax	pmax			
RAR	**Rarotonga** comp=Z,662nm,21.9s,baz=252,slow=28	**79.26**	**134**	LR	LR		09 15 42.5	
426A	**McDonald Obser** baz=79,SNR=7.8	**79.27**	**58**	⇑P		**P**	**08 50 21.9**	**-0.7**
NKC	**Novy Kostel**	**79.28**	**334**	*i*P		**P**	**08 50 22.4**	**+0.3**
NKC	**Novy Kostel**	**79.28**	**334**	*i*P		**P**	**08 50 22.4**	**+0.3**
BUD	**Budapest**	**79.36**	**329**	⇓*e*P		**P**	**08 50 23.7**	**+1.1**
WMOK	**Wichita Mounta**	**79.45**	**52**	*e*P		**P**	**08 50 22.1**	**-1.2**
WMOK	comp=Z,20nm,0.8s			pmax	pmax			
WMOK	**Wichita Mounta** comp=Z,20nm,0.8s	**79.45**	**52**	*e*P		**P**	**08 50 22.1**	**-1.2**
ZST	**Bratislava**	**79.47**	**330**	*e*P		**P**	**08 50 24.8**	**+1.7**
ZST	comp=Z,14nm,1.0s			pmax	pmax			
ZST	**Bratislava**	**79.47**	**330**	*e*P		**P**	**08 50 24.8**	**+1.7**
328A	**Wristen Ranch,** baz=79,SNR=27	**79.50**	**56**	⇓P		**P**	**08 50 22.5**	**-1.2**
427A	**Hayter Ranch,** baz=79,SNR=13	**79.52**	**57**	⇑P		**P**	**08 50 23.2**	**-0.7**
GZR	**Gura Zlata**	**79.62**	**326**	⇑P		**P**	**08 50 23.9**	**-0.2**
GZR	**Gura Zlata**	**79.62**	**326**	⇑*i*P		**P**	**08 50 23.9**	**-0.2**
526A	**Mary Lane Ranc** baz=79,SNR=14	**79.66**	**58**	⇑P		**P**	**08 50 23.9**	**-0.8**
BUG	**Bochum--Univer** comp=Z,18nm,1.0s	**79.73**	**338**	*e*P		**P**	**08 50 24.8**	**+0.3**
ROTZ	**Rotzenmuhle** comp=Z,18nm,1.2s	**79.76**	**334**	*e*P		**P**	**08 50 25.7**	**+1.0**
KHC	**Kasperske Hory**	**79.87**	**333**	*i*P		**P**	**08 50 25.6**	**+0.2**
KHC	**Kasperske Hory** comp=Z,34nm,1.0s	**79.87**	**333**	*e*P		**P**	**08 50 25.7**	**+0.4**
KHC	**Kasperske Hory**	**79.87**	**333**	*i*P		**P**	**08 50 25.6**	**+0.2**
527A	**Woodward Ranch** baz=80,SNR=11	**79.89**	**58**	⇓P		**P**	**08 50 25.6**	**-0.3**
BZS	**Buzias**	**79.91**	**326**	⇓P		**P**	**08 50 25.9**	**+0.3**
BZS	**Buzias**	**79.91**	**326**	⇓*i*P		**P**	**08 50 25.9**	**+0.3**
626A	**Big Bend Ranch** baz=80,SNR=15	**79.99**	**59**	⇓P		**P**	**08 50 25.7**	**-0.7**
SZH	**Strazhica**	**80.00**	**322**	*e*P		**P**	**08 50 26.0**	**-0.1**
428A	**Kincaid Ranch,** baz=80,SNR=10	**80.05**	**57**	⇓P		**P**	**08 50 26.1**	**-0.6**
GEC2	**GERESS Array S** comp=Z,14nm,1.0s	**80.08**	**333**	*e*P		**P**	**08 50 26.7**	**+0.1**
GEC2	**GERESS Array S** comp=Z,14nm,1.0s	**80.08**	**333**	*e*P		**P**	**08 50 26.7**	**+0.1**
GEC2				pmax	pmax			
GERES	**GERESS Array B** comp=Z,8.3nm,0.9s,baz=34,slow=5.0,SNR=38	**80.08**	**333**	P		**P**	**08 50 26.3**	**-0.3**
GERES	comp=Z,870nm,18.8s,baz=25,slow=40			LR	LR		09 31 47.3	
GERES	**GERESS Array B**	**80.08**	**333**	P		**P**	**08 50 26.3**	**-0.3**
GERES	comp=Z,8.0nm,0.9s			pmax	pmax			
GERES	**GERESS Array B**	**80.08**	**333**	P		**P**	**08 50 26.3**	**-0.3**
WET	**Wettzell** comp=Z,28nm,1.0s	**80.09**	**333**	*e*P		**P**	**08 50 27.4**	**+0.9**
WET	**Wettzell** comp=Z,28nm,1.0s	**80.09**	**333**	*e*P		**P**	**08 50 27.4**	**+0.9**
WET				pmax	pmax			
SOP	**Sopron**	**80.09**	**330**	⇓*e*P		**P**	**08 50 28.0**	**+1.5**
CONA	**Conrad Observa** comp=Z,18nm,0.9s	**80.13**	**331**	⇑*i*P		**P**	**08 50 26.9**	**0.0**
CONA	**Conrad Observa** comp=Z,18nm,0.9s,SNR=15	**80.13**	**331**	⇑*i*P		**P**	**08 50 26.9**	**0.0**
GRF	**Grafenberg Arr** comp=Z,35nm,1.0s	**80.14**	**335**	*e*P		**P**	**08 50 27.6**	**+0.9**
GRF	comp=Z,962nm,19.0s			*e*L		L	09 30 19.8	
GRF	**Grafenberg Arr**	**80.14**	**335**	*e*P		**P**	**08 50 27.6**	**+0.9**
GRF	comp=Z,35nm,1.0s			pmax	pmax			
GRF	comp=Z,1μm,19.0s			MLR	MLR			
GRFO	**Grafenberg** comp=Z,27nm,0.9s	**80.14**	**335**	*e*P		**P**	**08 50 28.1**	**+1.4**
GRFO				pmax	pmax			
GRFO	**Grafenberg** comp=Z,27nm,0.9s	**80.14**	**335**	*e*P		**P**	**08 50 28.1**	**+1.4**
TUL1	**Tulsa** baz=80	**80.25**	**49**	⇑P		**P**	**08 50 26.3**	**-1.3**
528A	**Cox Ranch, San** baz=80,SNR=14	**80.38**	**57**	⇓P		**P**	**08 50 27.7**	**-0.9**
TXAR	**Lajitas Array** comp=Z,8.8nm,0.7s,baz=303,slow=4.1,SNR=126	**80.43**	**58**	P		**P**	**08 50 27.8**	**-1.0**
TXAR	**Lajitas Array**	**80.43**	**58**	P		**P**	**08 50 27.8**	**-1.0**
TXAR	comp=Z,9.0nm,0.7s			pmax	pmax			
TXAR	**Lajitas Array**	**80.43**	**58**	P		**P**	**08 50 27.8**	**-1.0**
TNS	**Taunus Mts** comp=Z,15nm,0.9s	**80.49**	**336**	*e*P		**P**	**08 50 29.0**	**+0.3**
TNS	**Taunus Mts**	**80.49**	**336**	*e*P		**P**	**08 50 29.0**	**+0.3**
TNS	comp=Z,15nm,0.9s			pmax	pmax			
627A	**Terlingua Ranc** baz=80,SNR=13	**80.52**	**58**	⇑P		**P**	**08 50 28

FUR	**Furstenfeldbru**	**81.46**	**334**	*e*P		**P**	**08 50 34.5**	**+0.6**
FUR					pmax	pmax		
	comp=Z,26nm,1.0s							
SOKA	**Soboth**	**81.50**	**331**	⇑*i*P		**P**	**08 50 34.3**	**+0.1**
	comp=Z,29nm,1.1s							
SOKA	**Soboth**	**81.50**	**331**	⇑*i*P		**P**	**08 50 34.3**	**+0.1**
	comp=Z,29nm,1.1s							
FVM	**French Village**	**81.50**	**44**	*e*P		**P**	**08 50 32.9**	**-1.3**
FVM					pmax	pmax		
	comp=Z,49nm,1.0s							
FVM	**French Village**	**81.50**	**44**	*e*P		**P**	**08 50 32.9**	**-1.3**
	comp=Z,49nm,1.0s							
PERS	**Pernice**	**81.50**	**331**	*e*P		**P**	**08 50 34.2**	**0.0**
STU	**Stuttgart**	**81.57**	**335**	*e*P		**P**	**08 50 34.9**	**+0.5**
	comp=Z,16nm,0.7s							
STU	**Stuttgart**	**81.57**	**335**	*e*P		**P**	**08 50 35.3**	**+0.9**
STU					pmax	pmax		
	comp=Z,39nm,1.3s							
STU	**Stuttgart**	**81.57**	**335**	*e*P		**P**	**08 50 35.3**	**+0.9**
	comp=Z,39nm,1.3s							
DOU	**Dourbes**	**81.67**	**339**	P		**P**	**08 50 36.1**	**+1.2**
VTS	**Vitosha**	**81.73**	**324**	⇑P		**P**	**08 50 36.1**	**+0.6**
VTS	**Vitosha**	**81.73**	**324**	⇑*i*P		**P**	**08 50 36.1**	**+0.6**
VTS	**Vitosha**	**81.73**	**324**	*e*P		**P**	**08 50 36.2**	**+0.7**
KBA	**Koelnbreinsper**	**81.73**	**332**	⇑*i*P		**P**	**08 50 36.0**	**+0.5**
KBA					pmax	pmax		
	comp=Z,33nm,0.9s							
KBA	**Koelnbreinsper**	**81.73**	**332**	⇑*i*P		**P**	**08 50 36.0**	**+0.5**
	comp=Z,33nm,0.9s							
KBA	**Koelnbreinsper**	**81.73**	**332**	⇑*i*P		**P**	**08 50 36.0**	**+0.5**
	comp=Z,33nm,0.9s,SNR=26							
BAIF	**Baives**	**81.81**	**339**	*e*P		**P**	**08 50 35.8**	**+0.2**
	comp=Z,29nm,1.0s							
RFTA	**Plano**	**81.89**	**51**	*e*P		**P**	**08 50 35.8**	**-0.6**
JCT	**Junction City**	**81.95**	**55**	*e*P		**P**	**08 50 36.0**	**-0.8**
JCT					pmax	pmax		
	comp=Z,36nm,0.9s							
JCT	**Junction City**	**81.95**	**55**	*e*P		**P**	**08 50 36.0**	**-0.8**
	comp=Z,36nm,0.9s							
JCT	**Junction City**	**81.95**	**55**	⇑P		**P**	**08 50 35.7**	**-1.0**
	baz=82							
OLIL	**Olney**	**82.07**	**42**	*e*P		**P**	**08 50 36.4**	**-0.7**
	comp=Z,44nm,0.8s							
WATA	**Walderalm**	**82.09**	**333**	⇓*i*P		**P**	**08 50 37.8**	**+0.4**
WATA					pmax	pmax		
	comp=Z,17nm,0.7s							
WATA	**Walderalm**	**82.09**	**333**	⇓*i*P		**P**	**08 50 37.8**	**+0.4**
	comp=Z,17nm,0.7s							
WATA	**Walderalm**	**82.09**	**333**	⇓*i*P		**P**	**08 50 37.8**	**+0.4**
	comp=Z,17nm,0.7s,SNR=9.7							
PPT2	**Papeete2**	**82.11**	**124**	*e*LR		LR	09 15 53.6	
	comp=Z,2µm,30.0s,baz=312							
WTTA	**Wattenberg**	**82.14**	**333**	⇑*i*P		**P**	**08 50 38.0**	**+0.3**
WTTA					pmax	pmax		
	comp=Z,30nm,0.8s							
WTTA	**Wattenberg**	**82.14**	**333**	⇑*i*P		**P**	**08 50 38.0**	**+0.3**
	comp=Z,30nm,0.8s							
WTTA	**Wattenberg**	**82.14**	**333**	⇑*i*P		**P**	**08 50 38.0**	**+0.3**
	comp=Z,30nm,0.8s,SNR=19							
BFO	**Black Forest**	**82.22**	**336**	*e*P		**P**	**08 50 39.7**	**+1.8**
	comp=Z,29nm,0.9s							
BFO	**Black Forest**	**82.22**	**336**	*e*P		**P**	**08 50 38.3**	**+0.4**
BFO					pmax	pmax		
	comp=Z,25nm,0.9s							
BFO	**Black Forest**	**82.22**	**336**	*e*P		**P**	**08 50 38.2**	**+0.4**
	comp=Z,25nm,0.9s							
BFO	**Black Forest**	**82.22**	**336**	P		**P**	**08 50 38.5**	**+0.6**
	comp=Z,172nm,0.9s,SNR=9.2							
RETA	**Reutte**	**82.22**	**334**	⇑*i*P		**P**	**08 50 38.3**	**+0.4**
	comp=Z,18nm,0.9s							
RETA	**Reutte**	**82.22**	**334**	⇑*i*P		**P**	**08 50 38.3**	**+0.4**
	comp=Z,18nm,0.9s,SNR=11							
MOTA	**Moosalm**	**82.24**	**333**	⇑*i*P		**P**	**08 50 38.2**	**0.0**
MOTA					pmax	pmax		
	comp=Z,37nm,0.9s							
MOTA	**Moosalm**	**82.24**	**333**	⇑*i*P		**P**	**08 50 38.2**	**0.0**
	comp=Z,37nm,0.9s							
MOTA	**Moosalm**	**82.24**	**333**	⇑*i*P		**P**	**08 50 38.2**	**0.0**
	comp=Z,37nm,0.9s,SNR=22							
SPAK	**Spaichingen-Ko**	**82.29**	**335**	*e*P		**P**	**08 50 40.6**	**+2.3**
ABTA	**Abfaltersbach**	**82.30**	**332**	*i* P		**P**	**08 50 38.7**	**+0.3**
	comp=Z,14nm,1.2s							
ABTA	**Abfaltersbach**	**82.30**	**332**	*i* P		**P**	**08 50 38.7**	**+0.3**
	comp=Z,14nm,1.2s,SNR=6.1							
SIUC	**Southern Illin**	**82.31**	**44**	*e*P		**P**	**08 50 37.6**	**-0.9**
	comp=Z,150nm,0.9s							
SIUC				*e*			08 50 50.4	
MMB	**Musomiste**	**82.32**	**323**	*e*P		**P**	**08 50 38.8**	**+0.3**
CADS	**Cadrg**	**82.34**	**331**	*i* P		**P**	**08 50 38.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**82.40**	**208**	*e*P		**P**	**08 50 39.3**	**+0.6**
NWAO					pmax	pmax		
	comp=Z,18nm,0.8s							
NWAO	**Narrogin (SRO)**	**82.40**	**208**	*e*P		**P**	**08 50 39.3**	**+0.6**
	comp=Z,18nm,0.8s							
BOJS	**Bojanci**	**82.43**	**330**	*e*P		**P**	**08 50 39.3**	**+0.4**
CDF	**Champ du Feu**	**82.46**	**336**	*e*P		**P**	**08 50 40.4**	**+1.2**
	comp=Z,57nm,1.0s							
MIAR	**Mount Ida**	**82.47**	**49**	*e*P		**P**	**08 50 38.3**	**-1.1**
MIAR				*e*			08 50 51.0	
MIAR					pmax	pmax		
	comp=Z,65nm,0.9s							
MIAR	**Mount Ida**	**82.47**	**49**	*e*P		**P**	**08 50 38.3**	**-1.1**
	comp=Z,65nm,0.9s							
MIAR				*e*			08 50 51.0	
BLO	**Bloomington**	**82.48**	**41**	*e*P		**P**	**08 50 39.0**	**-0.4**
BLO					pmax	pmax		
	comp=Z,51nm,1.2s							
BLO	**Bloomington**	**82.48**	**41**	*e*P		**P**	**08 50 39.0**	**-0.4**
	comp=Z,51nm,1.2s							
FETA	**Feichten**	**82.64**	**334**	⇓*i*P		**P**	**08 50 41.0**	**+0.7**
	comp=Z,18nm,1.0s							
FETA	**Feichten**	**82.64**	**334**	⇓*i*P		**P**	**08 50 41.0**	**+0.7**
	comp=Z,18nm,1.0s,SNR=15							
ECH	**Echery**	**82.67**	**336**	*e*P		**P**	**08 50 40.3**	**+0.1**
ECH					pmax	pmax		
	comp=Z,25nm,0.9s							
ECH	**Echery**	**82.67**	**336**	*e*P		**P**	**08 50 40.3**	**+0.1**
	comp=Z,25nm,0.9s							
ECH	**Echery**	**82.67**	**336**	*e*P		**P**	**08 50 41.0**	**+0.8**
DAVA	**Damuels**	**82.68**	**334**	⇑*i*P		**P**	**08 50 40.6**	**+0.1**
	comp=Z,17nm,0.8s							
DAVA	**Damuels**	**82.68**	**334**	⇑*i*P		**P**	**08 50 40.6**	**+0.1**
	comp=Z,17nm,0.8s							
FELD	**Feldberg im Sc**	**82.73**	**336**	*e*P		**P**	**08 50 40.8**	**+0.1**
PAGF	**Fort de Pagny**	**82.77**	**337**	*e*P		**P**	**08 50 41.3**	**+0.6**
	comp=Z,26nm,1.0s							
PARMO	**Parma**	**82.86**	**45**	*e*P		**P**	**08 50 41.0**	**-0.4**
PARMO				*e*			08 50 53.9	
CSS	**Prodhromos**	**82.87**	**313**	*e*P		**P**	**08 50 41.5**	**0.0**
	comp=Z,41nm,0.9s							
USIN	**University of**	**82.88**	**43**	*e*P		**P**	**08 50 40.9**	**-0.5**
	comp=Z,114nm,1.1s							
USIN				*e*			08 50 53.1	
UALR	**University of**	**82.96**	**48**	*e*P		**P**	**08 50 40.8**	**-1.1**
	comp=Z,18nm,0.7s							
SKO	**Skopje**	**82.98**	**324**	*i* P		**P**	**08 50 43.0**	**+1.0**
THEF	**They Montfort**	**83.00**	**337**	*e*P		**P**	**08 50 42.8**	**+0.9**
THEF	**They Montfort**	**83.00**	**337**	*e*P		**P**	**08 50 42.8**	**+0.9**
THEF	**They Montfort**	**83.00**	**337**	*e*P		**P**	**08 50 42.8**	**+0.9**
MEZF	**Maizieres J'vi**	**83.00**	**338**	*e*P		**P**	**08 50 43.1**	**+1.2**
	comp=Z,31nm,0.8s							
MOF	**Molkenrain**	**83.00**	**336**	*e*P		**P**	**08 50 42.8**	**+0.8**
MOF	**Molkenrain**	**83.00**	**336**	*e*P		**P**	**08 50 42.8**	**+0.8**
MOF	**Molkenrain**	**83.00**	**336**	*e*P		**P**	**08 50 42.8**	**+0.8**
VAY	**Valandovo**	**83.04**	**323**	*i* P		**P**	**08 50 42.6**	**+0.4**
HAU	**Haudompre**	**83.09**	**337**	*e*P		**P**	**08 50 43.3**	**+0.9**
	comp=Z,40nm,1.0s							
HAU				*e*R				
	comp=Z,1µm,17.5s							
HINF	**Hinteralfeld**	**83.12**	**336**	*e*P		**P**	**08 50 43.3**	**+0.7**
	comp=Z,34nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**83.15**	**334**	*e*P		**P**	**08 50 43.2**	**+0.2**
	comp=Z,42nm,1.1s							
HBAR	**Harrisburg**	**83.25**	**46**	*e*P		**P**	**08 50 43.5**	**+0.1**
HBAR				*e*			08 50 55.3	
GNAR	**Gosnell**	**83.26**	**45**	*e*P		**P**	**08 50 43.9**	**+0.4**
	comp=Z,1µm,0.8s							
GNAR				*e*			08 50 55.9	
ACSO	**Alum Creek Sta**	**83.27**	**38**	*e*P		**P**	**08 50 42.2**	**-1.2**
	comp=Z,46nm,0.9s							
ACSO				*e*			08 50 55.8	
SFTF	**Sexfontaines**	**83.28**	**338**	*e*P		**P**	**08 50 43.4**	**+0.1**
	comp=Z,54nm,1.0s							
ALLY	**Alegheny Colle**	**83.34**	**36**	*e*P		**P**	**08 50 43.6**	**-0.2**
	comp=Z,66nm,1.0s							
ALLY				*e*			08 50 55.8	

WCI	**Wyandotte Cave**	**83.34**	**42**	*e*P		**P**	**08 50 42.6**	**-1.3**
WCI				*e*			08 50 55.7	
WCI					pmax	pmax		
	comp=Z,61nm,1.0s							
WCI	**Wyandotte Cave**	**83.34**	**42**	*e*P		**P**	**08 50 42.6**	**-1.3**
	comp=Z,61nm,1.0s							
WCI				*e*			08 50 55.7	
UTMT	**University of**	**83.56**	**44**	*e*P		**P**	**08 50 44.3**	**-0.7**
	comp=Z,238nm,1.1s							
UTMT				*e*			08 50 57.5	
TUE	**Stuetta**	**83.57**	**334**	*e*P		**P**	**08 50 45.4**	**+0.3**
	comp=Z,29nm,1.0s							
HALT	**Halls**	**83.65**	**45**	*e*P		**P**	**08 50 45.6**	**+0.2**
HALT				*e*			08 50 58.9	
BIA	**Bitola**	**83.82**	**324**	*i* P		**P**	**08 50 45.8**	**-0.5**
NATX	**Nacogdoches**	**83.97**	**51**	*e*P		**P**	**08 50 47.0**	**-0.2**
	comp=Z,80nm,1.0s							
NATX				*e*			08 51 00.2	
RAYN	**Ar Rayn**	**84.09**	**297**	P		**P**	**08 50 49.2**	**+1.2**
	comp=Z,243nm,0.9s,SNR=12							
FLN	**La Foliniere**	**84.16**	**341**	*e*P		**P**	**08 50 47.0**	**-0.8**
	comp=Z,69nm,0.8s							
FLN				*e*R				
	comp=Z,1µm,18.5s							
LDF	**La Druitiere**	**84.24**	**341**	*e*P		**P**	**08 50 47.6**	**-0.6**
	comp=Z,18nm,0.6s							
WVT	**Waverly**	**84.24**	**44**	*e*P		**P**	**08 50 47.3**	**-1.1**
WVT				*e*			08 51 01.0	
WVT					pmax	pmax		
	comp=Z,39nm,0.9s							
WVT	**Waverly**	**84.24**	**44**	*e*P		**P**	**08 50 47.3**	**-1.1**
	comp=Z,40nm,0.9s							
WVT				*e*			08 51 01.0	
SENIN	**Lac Senin/Sane**	**84.30**	**335**	*e*P		**P**	**08 50 49.6**	**+0.8**
	comp=Z,74nm,1.8s							
CABF	**La Chapelle**	**84.43**	**336**	*e*P		**P**	**08 50 50.3**	**+0.9**
LOR	**Lormes**	**84.46**	**338**	*e*P		**P**	**08 50 49.6**	**+0.2**
	comp=Z,41nm,1.0s							
LOR				*e*R				
	comp=Z,1µm,17.8s							
GRR	**Gorron**	**84.60**	**341**	*e*P		**P**	**08 50 50.4**	**+0.3**
	comp=Z,85nm,0.9s							
HKT	**Hockley**	**84.66**	**53**	*e*P		**P**	**08 50 50.3**	**-0.3**
HKT					pmax	pmax		
	comp=Z,19nm,1.3s							
HKT	**Hockley**	**84.66**	**53**	*e*P		**P**	**08 50 50.3**	**-0.3**
	comp=Z,19nm,1.3s							
OXF	**Oxford**	**84.70**	**46**	*e*P		**P**	**08 50 50.0**	**-0.8**
OXF				*e*			08 51 03.0	
OXF					pmax	pmax		
	comp=Z,150nm,1.0s							
OXF	**Oxford**	**84.70**	**46**	*e*P		**P**	**08 50 50.0**	**-0.8**
	comp=Z,150nm,1.0s							
OXF				*e*			08 51 03.0	
SSF	**Saint Saulge**	**84.74**	**338**	*e*P		**P**	**08 50 51.1**	**+0.3**
	comp=Z,34nm,0.9s							
PLAL	**Pickwick Lake**	**85.02**	**45**	*e*P		**P**	**08 50 51.5**	**-0.9**
	comp=Z,40nm,1.1s							
AVF	**Avril sur Loir**	**85.03**	**338**	*e*P		**P**	**08 50 52.8**	**+0.5**
	comp=Z,124nm,1.1s							
RSL	**Roseland**	**85.11**	**336**	*e*P		**P**	**08 50 54.5**	**+1.6**
RSL	**Roseland**	**85.11**	**336**	*e*P		**P**	**08 50 54.5**	**+1.6**
RSL	**Roseland**	**85.11**	**336**	*e*P		**P**	**08 50 54.5**	**+1.6**
SGMF	**Saint Gilles**	**85.11**	**342**	*e*P		**P**	**08 50 52.2**	**-0.4**
	comp=Z,18nm,0.6s							
SSPA	**Standing Stone**	**85.12**	**35**	*e*P		**P**	**08 50 52.8**	**0.0**
	comp=Z,36nm,1.2s							
ROSF	**Rostrenen**	**85.19**	**343**	*e*P		**P**	**08 50 52.5**	**-0.5**
	comp=Z,73nm,1.1s							
LPL	**La Plagne**	**85.23**	**335**	*e*P		**P**	**08 50 54.4**	**+0.8**
	comp=Z,63nm,1.1s							
LPG	**La Plagne**	**85.24**	**335**	*e*P		**P**	**08 50 54.6**	**+0.9**
	comp=Z,96nm,1.2s							
BGF	**Bois d'Agland**	**85.38**	**338**	*e*P		**P**	**08 50 55.0**	**+1.0**
	comp=Z,30nm,0.8s							
QUIF	**Quistinic**	**85.56**	**343**	*e*P		**P**	**08 50 54.1**	**-0.8**
	comp=Z,51nm,1.1s							
BNI	**Bardonecchia**	**85.67**	**335**	*e*P		**P**	**08 50 55.6**	**-0.1**
BNI					pmax	pmax		
	comp=Z,25nm,1.0s							
BNI	**Bardonecchia**	**85.67**	**335**	*e*P		**P**	**08 50 55.6**	**-0.1**
	comp=Z,25nm,1.0s							
AGO	**Saint Agoulin**	**85.77**	**338**	*e*P		**P**	**08 50 57.2**	**+1.2**
AGO	**Saint Agoulin**	**85.77**	**338**	*e*P		**P**	**08 50 57.2**	**+1.2**
OG22	**Abries**	**85.80**	**335**	*e*P		**P**	**08 50 57.5**	**+1.1**
OG22	**Abries**	**85.80**	**335**	*e*P		**P**	**08 50 57.5**	**+1.1**
TCF	**Toulx Ste Croi**	**85.80**	**339**	*e*P		**P**	**08 50 56.8**	**+0.7**
	comp=Z,72nm,1.0s							
AQU	**L'Aquila**	**85.82**	**330**	⇑P		**P**	**08 50 58.4**	**+2.1**
AQU	**L'Aquila**	**85.82**	**330**	*e*P		**P**	**08 50 57.5**	**+1.1**
	comp=Z,78nm,1.1s							
AQU	**L'Aquila**	**85.82**	**330**	⇑*i*P		**P**	**08 50 58.3**	**+2.0**
VBMS	**Vicksburg**	**85.89**	**48**	*e*P		**P**	**08 50 57.0**	**+0.3**
	comp=Z,91nm,1.0s							
SWET	**Sewanee**	**85.91**	**43**	*e*P		**P**	**08 50 55.6**	**-1.3**
	comp=Z,85nm,0.8s							
SWET				*e*			08 51 08.6	
MBDF	**Montbardon**	**85.94**	**335**	*e*P		**P**	**08 50 57.3**	**+0.3**
	comp=Z,72nm,1.0s							
TZTN	**Tazewell**	**85.99**	**41**	*e*P		**P**	**08 50 56.8**	**-0.5**
	comp=Z,41nm,0.8s							
ORIF	**Oris-en-Rattie**	**86.03**	**336**	*e*P		**P**	**08 50 58.2**	**+0.8**
	comp=Z,52nm,0.9s							
ORIF				*e*R				
	comp=Z,666nm,19.0s							
PYM	**Petit Puy Mans**	**86.08**	**338**	*e*P		**P**	**08 50 58.6**	**+1.0**
PYM	**Petit Puy Mans**	**86.08**	**338**	*e*P		**P**	**08 50 58.6**	**+1.0**
PYM	**Petit Puy Mans**	**86.08**	**338**	*e*P		**P**	**08 50 58.6**	**+1.0**
SSB	**Saint Sauveur**	**86.09**	**337**	*e*P		**P**	**08 50 58.0**	**+0.4**
SSB					pmax	pmax		
	comp=Z,25nm,1.2s							
SSB	**Saint Sauveur**	**86.09**	**337**	*e*P		**P**	**08 50 58.0**	**+0.4**
	comp=Z,25nm,1.2s							
MFF	**Saint Martin d**	**86.11**	**340**	*e*P		**P**	**08 50 57.2**	**-0.4**
	comp=Z,78nm,0.8s							
MVL	**Millersville**	**86.29**	**34**	*e*P		**P**	**08 50 58.5**	**0.0**
	comp=Z,26nm,0.8s							
SAOF	**Saorge**	**86.36**	**334**	*e*P		**P**	**08 50 59.0**	**0.0**
SAOF	**Saorge**	**86.36**	**334**	*e*P		**P**	**08 50 59.0**	**0.0**
SAOF	**Saorge**	**86.36**	**334**	*e*P		**P**	**08 50 59.0**	**0.0**
PAL	**Palisades**	**86.39**	**32**	*e*P		**P**	**08 50 59.3**	**+0.2**
PAL					pmax	pmax		
	comp=Z,33nm,1.1s							
PAL	**Palisades**	**86.39**	**32**	*e*P		**P**	**08 50 59.3**	**+0.2**
	comp=Z,34nm,1.1s							
AUTN	**L'Aution**	**86.39**	**334**	*e*P		**P**	**08 50 59.3**	**-0.1**
AUTN	**L'Aution**	**86.39**	**334**	*e*P		**P**	**08 50 59.3**	**-0.1**
AUTN	**L'Aution**	**86.39**	**334**	*e*P		**P**	**08 50 59.3**	**-0.1**
CPCT	**Cooper Cave**	**86.41**	**42**	*e*P		**P**	**08 50 58.6**	**-0.7**
CPCT				*e*			08 51 11.5	
TOUF	**Mont Tournerai**	**86.43**	**334**	*e*P		**P**	**08 50 59.8**	**+0.3**
TOUF	**Mont Tournerai**	**86.43**	**334**	*e*P		**P**	**08 50 59.8**	**+0.3**
TOUF	**Mont Tournerai**	**86.43**	**334**	*e*P		**P**	**08 50 59.8**	**+0.3**
VIVF	**Saint-Julien-l**	**86.44**	**336**	*e*P		**P**	**08 51 00.2**	**+0.9**
	comp=Z,42nm,1.0s							
OG25	**Le Caire**	**86.47**	**335**	*e*P		**P**	**08 50 59.4**	**-0.2**
OG25	**Le Caire**	**86.47**	**335**	*e*P		**P**	**08 50 59.4**	**-0.2**
FRNF	**Fournols**	**86.54**	**338**	*e*P		**P**	**08 51 00.4**	**+0.6**
FRNF	**Fournols**	**86.54**	**338**	*e*P		**P**	**08 51 00.4**	**+0.6**
MVIF	**Mont Vial**	**86.57**	**334**	*e*P		**P**	**08 51 00.5**	**+0.4**
MVIF	**Mont Vial**	**86.57**	**334**	*e*P		**P**	**08 51 00.5**	**+0.4**
MVIF	**Mont Vial**	**86.57**	**334**	*e*P		**P**	**08 51 00.5**	**+0.4**
SDMD	**Soldier's Deli**	**86.59**	**35**	*e*P		**P**	**08 50 59.4**	**-0.7**
	comp=Z,32nm,1.0s							
TKL	**Tuckaleechee C**	**86.60**	**42**	P		**P**	**08 50 59.2**	**-1.0**
	comp=Z,58nm,0.9s,baz=304,slow=1.3,SNR=40							
TKL	**Tuckaleechee C**	**86.60**	**42**	P		**P**	**08 50 59.3**	**-1.0**
TKL					pmax	pmax		
	comp=Z,58nm,0.9s							
TKL	**Tuckaleechee C**	**86.60**	**42**	*e*P		**P**	**08 50 59.3**	**-1.0**
TKL				*e*			08 51 11.7	
TBI	**Tubuai**	**86.64**	**127**	*e*LR		LR	09 17 44.9	
	comp=Z,1µm,33.8s,baz=317							
REVF	**Revere**	**86.64**	**334**	*e*P		**P**	**08 51 00.6**	**+0.2**
REVF	**Revere**	**86.64**	**334**	*e*P		**P**	**08 51 00.6**	**+0.2**
REVF	**Revere**	**86.64**	**334**	*e*P		**P**	**08 51 00.6**	**+0.2**
ELN	**Prospectdale**	**86.72**	**39**	*e*P		**P**	**08 50 59.8**	**-1.1**
ELN				*e*			08 51 12.4	
CALN	**Calern**	**86.78**	**335**	*e*P		**P**	**08 51 01.3**	**+0.1**
CALN	**Calern**	**86.78**	**335**	*e*P		**P**	**08 51 01.3**	**+0.1**
CALN	**Calern**	**86.78**	**335**	*e*P		**P**	**08 51 01.3**	**+0.1**
BLA	**Blacksburg**	**86.88**	**38**	*e*P		**P**	**08 51 01.2**	**-0.5**
BLA					pmax	pmax		
	comp=Z,60nm,1.0s							
BLA	**Blacksburg**	**86.88**	**38**	*e*P		**P**	**08 51 01.1**	**-0.5**
	comp=Z,60nm,1.0s							
IDI	**Anoyia**	**86.89**	**318**	*e*P		**P**	**08 51 00.6**	**-1.1**
	comp=Z,66nm,1.6s							
RJF	**Les Rejaudoux**	**86.90**	**339**	*e*P		**P**	**08 51 02.2**	**+0.7**
	comp=Z,69nm,1.2s							
RJF				*e*R				
	comp=Z,2µm,22.0s							
SMRF	**Simiane la Rot**	**86.98**	**335**	*e*P		**P**	**08 51 02.4**	**+0.4**
	comp=Z,51nm,1.3s							
CAF	**Calviac**	**87.10**	**338**	*e*P		**P**	**08 51 03.5**	**+0.9**
	comp=Z,59nm,1.0s							
PGF	**Pioggiola**	**87.18**	**333**	*e*P		**P**	**08 51 02.8**	**-0.3**
	comp=Z,42nm,1.0s							
LMR	**La Mourre**	**87.28**	**335**	*e*P		**P**	**08 51 03.6**	**+0.2**
	comp=Z,97nm,1.0s							
CBN	**Corbin**	**87.38**	**36**	*e*P		**P**	**08 51 04.0**	**+0.1**
	comp=Z,50nm,1.0s							
CBN				*e*			08 51 15.7	
LASF	**Ste Croix**	**87.39**	**337**	*e*P		**P**	**08 51 05.1**	**+1.2**
	comp=Z,39nm,1.2s							
KMSC	**Kings Mountain**	**88.17**	**40**	⇓P		**P**	**08 51 07.0**	**-0.8**
	baz=88							
GOGA	**Godfrey**	**88.57**	**43**	*e*P		**P**	**08 51 09.2**	**-0.5**
GOGA				*e*			08 51 21.8	
GOGA					pmax	pmax		
	comp=Z,32nm,0.9s							
GOGA	**Godfrey**	**88.57**	**43**	*e*P		**P**	**08 51 09.2**	**-0.5**
	comp=Z,32nm,0.9s							
GOGA				*e*			08 51 21.8	
RPZ	**Rata Peaks**	**89.26**	**165**	LR		LR	09 28 53.5	
	comp=Z,474nm,18.4s,baz=314,slow=34							
EPF	**Esparros**	**89.32**	**339**	*e*P		**P**	**08 51 13.2**	**0.0**
CNNC	**Cliffs of the**	**89.65**	**38**	*e*P		**P**	**08 51 14.9**	**+0.2**
	comp=Z,41nm,0.9s							
CNNC				*e*			08 51 27.1	
ETSF	**Etsaut**	**89.68**	**339**	*e*P		**P**	**08 51 15.0**	**+0.1**
	comp=Z,7.2nm,0.6s							
NHSC	**New Hope**	**90.39**	**41**	*e*P		**P**	**08 51 18.1**	**-0.2**
	comp=Z,91nm,1.1s							
KEST	**Kesra**	**93.14**	**329**	P		**P**	**08 51 30.6**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=317,slow=2.9,SNR=8.6							
KEST					LR	LR	09 38 17.1	
	comp=Z,436nm,19.3s,baz=191,slow=39							
KEST	**Kesra**	**93.14**	**329**	*e*P		**P**	**08 51 30.2**	**-0.8**
ESDC	**Sonseca Array**	**93.56**	**341**	P		**P**	**08 51 32.3**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=8.5,slow=3.5,SNR=4.9							
ESDC					PP	**PP**	**08 55 14.6**	**-2.2**
	comp=Z,1.8nm,0.9s,baz=14,slow=8.2,SNR=3.2							
ESDC					LR	LR	09 40 51.0	
	comp=Z,502nm,18.8s,baz=10.0,slow=40							
ESDC	**Sonseca Array**	**93.56**	**341**	P		**P**	**08 51 32.3**	**-0.6**
ESDC					PP	**PP**	**08 55 14.6**	**-2.2**
RKT	**Rikitea**	**95.32**	**117**	*e*LR		LR	09 21 51.8	
	comp=Z,999nm,33.8s,baz=310							
EVO	**Evora**	**95.56**	**343**	*e*P		**P**	**08 51 39.9**	**-2.1**
	comp=Z,40nm,1.4s							
EVO				*e*R				
	comp=Z,2µm,18.8s							
DRV	**Dumont d'Urvil**	**110.65**	**184**	SS		SS	09 13 16.0	+24
TORD	**Torodi Ar. Bea**	**116.42**	**326**	PKP		**PKPdf**	**08 56 59.6**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=16,slow=2.0,SNR=24							
TORD					PP	**PP**	**08 58 05.4**	**-1.1**
	comp=Z,4.9nm,0.9s,baz=15,slow=7.6,SNR=12							
TORD					PKKPab	**PKKPab**	**09 07 33.0**	**-3.0**
	comp=Z,0.3nm,0.6s,baz=203,slow=4.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**116.42**	**326**	PKP		**PKPdf**	**08 56 59.6**	**-1.2**
TORD					PP	**PP**

9.6nm,0.6s,baz=90,slow=7.9,SNR=194
NVAR Mina Array Bea 79.51 44 P P 09 13 10.1 0.0
0.5nm,0.7s,baz=226,slow=8.4,SNR=4.4
ILAR Eielson Array 85.69 13 P P 09 13 39.2 -1.0
0.2nm,0.5s,baz=225,slow=5.9,SNR=3.3
TXAR Lajitas Array 86.20 58 P P 09 13 43.2 -0.3
0.4nm,0.8s,baz=206,slow=5.0,SNR=4.5
GERES GERESS Array B 147.21 345 PKPbc PKPbc 09 20 41.5 +0.3
0.3nm,0.5s,baz=8.5,slow=2.0,SNR=2.8

ASRS **17** *09:06:27.6±1.9, 50.˙24N×97.˙66E, h15km, Ms3.5/5*
IDC **17** *09:06:30.9±1.9, 50.˙51N×98.˙29E, h0km, mb1 3.2/5, mb1mx3.1/30, mbtmp3.2/5, ML3.1/4, Error ellipse: s-maj=54.3km s-min=15.5km az=15.0*
MOS **17** *09:06:30.4±2.8, 49.˙88N×97.˙79E, h11km, mb4.4/1, Error ellipse: s-maj=14.7km s-min=12.2km az=155.2*
ISC 17 09:06:32.0±0.9, 50.˙05N±0.˙10×97.˙82E±0.˙05, h10km, n25, σ1s92/17, 2C, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MOY	**Mondy**	**2.58**	**50**	⇑*i*	P	**Pn**	**09 07 12.0**	**-1.9**
MOY				*e*			09 07 45.8	
MOY	comp=Z,486nm,0.5s				pmax	pmax		
MOY	comp=N,986nm,0.8s				smax	smax		
ORL	**Orlik**	**2.79**	**26**	*e*	P	**Pn**	**09 07 14.8**	**-2.0**
ORL	comp=Z,187nm,0.5s				pmax	pmax		
ARS	**Arshan**	**3.46**	**56**	*e*	P	**Pn**	**09 07 28.7**	**+2.7**
ARS				*e*			09 08 14.8	
ARS	comp=Z,50nm,0.1s				pmax	pmax		
ARS	comp=E,508nm,0.8s				smax	smax		
ZAK	**Zakamensk**	**3.52**	**83**	*e*	P	**Pn**	**09 07 24.9**	**-2.0**
ZAK				*e*	S	**Sb**	**09 08 17.9**	**+0.5**
ZAK	comp=Z,51nm,0.6s				pmax	pmax		
ZAK	comp=E,394nm,1.1s				smax	smax		
TLY	**Talaya**	**4.04**	**64**	⇑*i*	P	Pn	09 07 38.3	+4.5
TLY				*e*			09 08 31.6	
TLY	comp=Z,62nm,1.0s				pmax	pmax		
TLY	comp=N,442nm,1.4s				smax	smax		
IRK	**Irkutsk**	**4.62**	**59**	*e*	P	Pb	09 07 49.0	-4.0
IRK				*e*			09 08 48.1	
IRK	comp=Z,253nm,0.2s				pmax	pmax		
IRK	comp=N,884nm,0.9s				smax	smax		
CERR	**Cheremushki**	**4.89**	**307**	*i*	Pg	Pn	09 07 51.3	+5.8
CERR				*i*	Sg	**Sb**	**09 08 54.1**	**-2.3**
CERR	**Cheremushki**	**4.89**	**307**	*i*	PN	Pn	09 07 51.3	+5.8
SONM	**Songino Array**	**6.07**	**108**		Pn	**Pn**	**09 08 00.4**	**-1.5**
	comp=N,0.4nm,0.3s,baz=297,slow=15,SNR=13							
SONM					Pg	**Pb**	**09 08 18.7**	**+0.8**
	comp=N,3.1nm,0.3s,baz=299,slow=18,SNR=71							
SONM					Lg	Lg	09 09 40.7	
	comp=N,8.1nm,0.3s,baz=298,slow=28,SNR=9.6							
SONM	**Songino Array**	**6.07**	**108**		PN	**Pn**	**09 08 00.4**	**-1.5**
SONM							09 08 18.7	
SONM	comp=Z,3.0nm,0.3s				pmax	pmax		
AKAR	**Aktash**	**6.55**	**276**	*i*	Pn	Pn	09 08 03.6	-4.9
AKAR				*e*	Pg	**Pb**	**09 08 25.2**	**-0.9**
AKAR				*e*	Sn	Sn	09 09 13.8	-10
AKAR				*e*	Sg	**Sb**	**09 09 45.8**	**+1.3**
AKAR	**Aktash**	**6.55**	**276**	*i*	PN	Pn	09 08 03.6	-4.9
AKAR				*e*			09 09 45.8	
TASR	**Tashtagol**	**6.78**	**297**	*e*	Sg	**Sb**	**09 09 54.7**	**+3.8**
ELT	**Yel'tsovka**	**7.88**	**298**	*e*	Sg	Sb	09 10 29.2	+6.7
UKR	**Ust'-Kan**	**8.37**	**281**	*e*	Pg	**Pb**	**09 08 58.5**	**+1.6**
UKR				*e*	Sg	Sb	09 10 43.3	+6.6
ZALV	**Zalesovo Beam**	**8.91**	**301**		Pn	**Pn**	**09 08 39.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=105,slow=16,SNR=3.7							
ZALV					Sn	Sg	09 10 52.9	-25
	comp=Z,0.6nm,0.3s,baz=111,slow=20,SNR=7.0							
ZALV	**Zalesovo Beam**	**8.91**	**301**		P	**Pn**	**09 08 39.8**	**-0.9**
NVS	**Novosibirsk**	**10.11**	**304**	*e*	Sn	Sn	09 10 41.3	-9.0
NVS				*e*	Sg	Sn	09 11 34.9	+45
MKAR	**Makanchi Array**	**10.82**	**258**		Pn	Pn	09 09 12.5	+5.6
	comp=Z,0.0nm,0.3s,baz=75,slow=12,SNR=3.1							
MKAR					Lg	Lg	09 12 07.1	
	comp=Z,0.1nm,0.3s,baz=72,slow=33,SNR=7.8							
MKAR	**Makanchi Array**	**10.82**	**258**		P	Pn	09 09 12.5	+5.6
KURK	**Kurchatov**	**12.27**	**280**		Pn	Pn	09 09 30.7	+4.0
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.8							
KURK					Lg	Lg	09 13 07.0	
	comp=Z,0.1nm,0.3s,baz=72,slow=31,SNR=8.7							
KURK	**Kurchatov**	**12.27**	**280**		P	Pn	09 09 30.7	+4.0
BOD	**Bodaibo**	**12.28**	**45**	*e*	P	Pn	09 09 19.9	-6.9
BVAR	**Borovoye Array**	**17.28**	**290**		P	**P**	**09 10 34.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=82,slow=10,SNR=2.7							
BVAR	**Borovoye Array**	**17.28**	**290**		P	**P**	**09 10 34.6**	**0.0**

BJI **17** *09:22:57.4, 54.˙44N×160.˙82E, h39km, mB5.0/21, mb4.8/30, Ms4.6/18, Ms7 4.3/19*
ISCJB **17** *09:22:58.5±0.2, 53.˙82N±0.˙02×161.˙09E±0.˙04, h44km, mb4.8/152, MS4.1/20, Error ellipse: s-maj=3.4km s-min=2.0km az=32.4*
MOS **17** *09:22:58.8±1.2, 53.˙95N×160.˙85E, h45km, mb4.9/62, Error ellipse: s-maj=8.5km s-min=4.8km az=88.3*
SZGRF **17** *09:23:00.9, 54.˙66N×160.˙76E, h33km, mb4.8, Near east coast of Kamchatka Peninsula, Russia*
NEIC **17** *09:23:00.3±0.6, 53.˙97N×160.˙87E, h43km±5km, mb4.9/56, Error ellipse: s-maj=5.9km s-min=3.4km az=158.0*
KRSC **17** *09:23:01.2±0.1, 53.˙91N×160.˙94E, h43km±22km, ML4.8*
IDC **17** *09:23:04.4±1.3, 54.˙06N×160.˙72E, h78km±12km, mb4.1/30, mb1 4.3/32, mb1mx4.3/32, mbtmp4.2/32, MS3.9/18, Ms1 3.9/18, ms1mx3.8/40, Error ellipse: s-maj=14.1km s-min=8.8km az=147.0*
ISC 17 09:22:59.6±0.3, 53.˙86N±0.˙03×161.˙06E±0.˙03, h44km, h43km:pP-P, n443, σ1s34/510, mb4.8/153, MS4.1/20, 39C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MKZ	**Mys Kozlova**	**0.80**	**29**		P	**Pn**	**09 23 14.0**	**-0.4**
MKZ					S	**Sn**	**09 23 22.4**	**-2.8**
MKZ	**Mys Kozlova**	**0.80**	**29**	*e*	P	**Pn**	**09 23 14.0**	**-0.4**
MKZ				*e*	S	**Sn**	**09 23 22.4**	**-2.8**
KII	**Karymskiy**	**0.97**	**281**	*i*	P	**Pn**	**09 23 17.6**	**+0.8**
SPN	**Mys Shipunski**	**0.99**	**219**		PN	**Pn**	**09 23 16.9**	**-0.1**
SPN	**Mys Shipunski**	**0.99**	**219**	*i*	P	**Pn**	**09 23 16.9**	**-0.1**
SDLR	**Sedlovina**	**1.42**	**246**	*i*	P	**Pn**	**09 23 24.1**	**+1.0**
SMAR	**Somma**	**1.48**	**247**	*i*	P	**Pn**	**09 23 24.8**	**+0.9**
SMAR				*e*	S	**Sn**	**09 23 42.5**	**+0.4**
UGLR	**Uglovaya**	**1.49**	**245**	*i*	P	**Pn**	**09 23 25.2**	**+1.2**
AVH	**Avacha**	**1.51**	**247**	*i*	P	**Pn**	**09 23 25.7**	**+1.5**
TUMR	**Tumrok**	**1.52**	**340**	*i*	P	**Pn**	**09 23 26.3**	**+1.9**
TUMR				*e*	S	**Sn**	**09 23 43.5**	**+0.5**
KOK	**Koryaka**	**1.55**	**249**	*i*	P	**Pn**	**09 23 26.3**	**+1.4**
PET	**Petropavlovsk**	**1.67**	**241**	⇓*i*	PN	**Pn**	**09 23 27.4**	**+1.1**
PET				*e*	S	**Sn**	**09 23 47.6**	**+1.2**
PET	comp=Z,773nm,0.5s				pmax	pmax		
PET	comp=N,10μm,0.6s				smax	smax		
PET	comp=E,6μm,0.5s				smax	smax		
PET	**Petropavlovsk**	**1.67**	**241**	*e*	Pn	**Pn**	**09 23 27.4**	**+1.1**
PET				*e*	Sn	**Sn**	**09 23 51.0**	**+4.6**
PET	**Petropavlovsk**	**1.67**	**241**	*i*	P	**Pn**	**09 23 27.3**	**+1.1**
PET				*i*	S	**Sn**	**09 23 46.7**	**+0.3**
INSR	**Institute**	**1.67**	**242**		P	**Pn**	**09 23 27.5**	**+1.1**
KMNR	**Kamenistaya**	**1.95**	**346**	*i*	P	**Pn**	**09 23 33.1**	**+2.7**
KMNR				*e*	S	**Sn**	**09 23 56.2**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**2.09**	**354**	*i*	P	**Pn**	**09 23 34.7**	**+2.5**
BZGR				*i*	S	**Sn**	**09 23 58.6**	**+1.5**
RUS	**Russkaya**	**2.10**	**228**		PN	**Pn**	**09 23 32.8**	**+0.6**
RUS					S	**Sn**	**09 23 55.3**	**-1.8**
RUS	**Russkaya**	**2.10**	**228**	*e*	P	**Pn**	**09 23 32.8**	**+0.6**
RUS				*i*	S	**Sn**	**09 23 55.3**	**-1.8**
BZMR	**Bezymyannaya**	**2.10**	**351**	*i*	P	**Pn**	**09 23 34.8**	**+2.4**
BZMR				*i*	S	**Sn**	**09 23 59.9**	**+2.5**
BZWR	**Bezymyannyi-We**	**2.13**	**351**	*i*	P	**Pn**	**09 23 35.3**	**+2.5**
BZWR				*e*	S	**Sn**	**09 23 59.7**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.15**	**251**	*e*	Pn	**Pn**	**09 23 34.9**	**+2.0**
PEA0B				*e*	Sn	**Sn**	**09 24 02.5**	**+4.3**
PETK	**Petropavlovsk-**	**2.15**	**251**		P	**Pn**	**09 23 34.8**	**+1.9**
	comp=E,82nm,0.3s,baz=70,slow=18,SNR=1684							
PETK					S	**Sn**	**09 24 02.9**	**+4.6**
	comp=E,290nm,0.3s,baz=77,slow=39,SNR=13							
PETK					LR	LR	09 24 45.5	
	comp=E,1μm,21.1s,baz=340,slow=50							
PETK	**Petropavlovsk-**	**2.15**	**251**		PN	**Pn**	**09 23 34.8**	**+1.9**
PETK					S	**Sn**	**09 24 02.9**	**+4.6**
PETK	comp=Z,82nm,0.3s				pmax	pmax		
PETK	comp=N,290nm,0.3s				smax	smax		
PETK	comp=Z,1μm,21.1s				MLR	MLR		
PETK	**Petropavlovsk-**	**2.15**	**251**		P	**Pn**	**09 23 34.8**	**+1.9**
PETK					S	**Sn**	**09 24 02.9**	**+4.6**
KPT	**Kopyto**	**2.16**	**347**	*i*	P	**Pn**	**09 23 35.5**	**+2.3**
KPT				*e*	S	**Sn**	**09 24 00.6**	**+1.8**
ZLN	**Zelenaya**	**2.16**	**356**	*i*	P	Pn	09 23 36.4	+3.2
MTVR	**Mutnovka**	**2.22**	**233**	*e*	P	**Pn**	**09 23 35.4**	**+1.4**
MTVR				*e*	S	**Sn**	**09 24 00.5**	**+0.3**
GRL	**Gorelyy**	**2.23**	**235**	*e*	P	**Pn**	**09 23 35.8**	**+1.7**
GRL				*i*	S	**Sn**	**09 24 01.7**	**+1.3**
CIRR	**Tsirk**	**2.26**	**356**	*i*	P	**Pn**	**09 23 36.9**	**+2.3**
KOZ	**Kozyrevsk**	**2.30**	**343**	*i*	P	**Pn**	**09 23 37.3**	**+2.2**
KOZR	**Kozyr**	**2.31**	**344**		PN	**Pn**	**09 23 37.3**	**+2.2**
KRSR	**Krestovskiy**	**2.38**	**353**	*i*	P	**Pn**	**09 23 38.4**	**+2.3**
KRSR				*e*	S	**Sn**	**09 24 06.0**	**+1.9**
ASAK	**Asacha**	**2.41**	**233**	*i*	P	**Pn**	**09 23 38.5**	**+1.9**
ASAK				*i*	S	**Sn**	**09 24 06.7**	**+1.7**
KLY	**Klyuchi**	**2.46**	**355**		PN	**Pn**	**09 23 39.2**	**+1.9**
KLY					S	**Sn**	**09 24 07.2**	**+1.1**
KLY	**Klyuchi**	**2.46**	**355**	*e*	P	**Pn**	**09 23 39.2**	**+1.9**
KLY				*i*	S	**Sn**	**09 24 07.2**	**+1.1**
ESO	**Esso**	**2.47**	**328**		PN	**Pn**	**09 23 39.4**	**+2.0**
ESO					S	**Sn**	**09 24 06.5**	**+0.1**
ESO	**Esso**	**2.47**	**328**	*i*	P	**Pn**	**09 23 39.4**	**+2.0**
ESO				*e*	S	**Sn**	**09 24 06.5**	**+0.1**
KBTR	**Krutoberegovo**	**2.56**	**23**		PN	**Pn**	**09 23 40.6**	**+2.1**
KBTR					S	**Sn**	**09 24 09.5**	**+1.1**
KBTR	**Krutoberegovo**	**2.56**	**23**	*e*	P	**Pn**	**09 23 40.6**	**+2.1**
KBTR				*i*	S	**Sn**	**09 24 09.5**	**+1.1**
SRDR	**Sredinnyy**	**2.58**	**343**	*i*	P	**Pn**	**09 23 40.4**	**+1.5**
SRDR				*e*	S	**Sn**	**09 24 09.5**	**+0.6**
BDR	**Baidarnaya**	**2.71**	**2**	*e*	P	**Pn**	**09 23 43.3**	**+2.6**
BDR				*i*	S	**Sn**	**09 24 15.0**	**+2.7**
SMKR	**Semkarok**	**2.73**	**5**	*i*	P	**Pn**	**09 23 43.4**	**+2.4**
SMKR				*i*	S	**Sn**	**09 24 14.9**	**+2.0**
SRKR	**Sorokina**	**2.80**	**1**	*i*	P	**Pn**	**09 23 44.3**	**+2.4**
BKI	**Bering**	**3.16**	**63**		PN	**Pn**	**09 23 47.2**	**+0.4**
BKI	**Bering**	**3.16**	**63**	*i*	P	**Pn**	**09 23 47.2**	**+0.4**
BKI				*i*	S	**Sn**	**09 24 20.2**	**-3.0**
SKR	**Severo-Kuril's**	**4.40**	**226**	*e*	PN	**sPn**	**09 24 15.5**	**-2.4**
SKR				*e*	S	Sn	09 25 03.5	+10
SKR	comp=Z,80nm,0.6s				pmax	pmax		
SKR	comp=E,310nm,0.5s				smax	smax		
SKR	comp=N,1μm,0.9s				smax	smax		
TILK	**Tilichiki**	**7.15**	**21**		P	Pn	09 24 44.5	+3.0
TILK				*i*	S	**Sn**	**09 26 00.9**	**-0.4**
FX1	**Attu Island--F**	**7.31**	**93**		P	**Pn**	**09 24 43.8**	**0.0**
	comp=N,227nm,0.3s,baz=330,slow=6.7,SNR=272							
FX1					S	**Sn**	**09 26 01.6**	**-3.7**
	comp=N,136nm,0.3s,baz=332,slow=22,SNR=12							
FX1					LR	LR	09 27 38.8	
	comp=N,612nm,20.5s,baz=295,slow=36							
FX1	**Attu Island--F**	**7.31**	**93**		PN	**Pn**	**09 24 43.8**	**0.0**
FX1	comp=Z,227nm,0.3s				pmax	pmax		
FX1	comp=Z,612nm,20.5s				MLR	MLR		
FX1	**Attu Island--F**	**7.31**	**93**	*e*	Pn	**Pn**	**09 24 43.8**	**0.0**
FX1					S	**Sn**	**09 26 01.6**	**-3.7**
SMY	**Shemya**	**7.90**	**93**	*e*	PN	**Pn**	**09 24 52.9**	**+1.2**
SMY	**Shemya**	**7.90**	**93**	*e*	Pn	**Pn**	**09 24 52.9**	**+1.2**
SEY	**Seymchan**	**10.16**	**337**	*e*	PN	**Pn**	**09 25 25.3**	**+2.7**
YSS	**Yuzh-Sakhalins**	**13.54**	**247**	⇓*e*	PN	**P**	**09 26 16.0**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**13.99**	**231**	*i*	P	**Pn**	**09 26 16.8**	**+1.8**
YUK					S	**Sn**	**09 28 50.7**	**+2.1**
YUK	comp=E,95nm,0.6s				pmax	pmax		
YUK	comp=Z,141nm,0.8s				pmax	pmax		
YUK	comp=N,93nm,0.8s				pmax	pmax		
BILL	**Bilibino**	**14.44**	**8**	*i*	P	**Pn**	**09 26 23.0**	**+2.1**
BILL					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BILL	**Bilibino**	**14.44**	**8**	*e*	Pn	**Pn**	**09 26 19.9**	**-1.0**
	comp=Z,13nm,0.8s							
ASAJ	**Asahikawa**	**15.51**	**239**		P	**Pn**	**09 26 36.0**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=60,slow=11,SNR=13							
ASAJ					LR	LR	09 33 06.8	
	comp=Z,265nm,19.0s,baz=353,slow=39							
ASAJ	**Asahikawa**	**15.51**	**239**		P	**Pn**	**09 26 36.0**	**+0.9**
ASAJ	comp=Z,1.0nm,0.3s				pmax	pmax		
ASAJ	comp=Z,265nm,19.0s				MLR	MLR		
ASAJ	**Asahikawa**	**15.51**	**239**	*e*	Pn	**Pn**	**09 26 36.1**	**+0.9**
	comp=Z,12nm,0.9s							
ERM	**Erimo**	**16.80**	**232**	*e*	P	**Pn**	**09 26 51.4**	**-0.1**
ERM	**Erimo**	**16.80**	**232**	*e*	Pn	**Pn**	**09 26 51.1**	**-0.5**
HABR	**Khabarovsk**	**17.13**	**262**		P	**Pn**	**09 26 53.2**	**-2.3**
HABR				*e*	S	**Sn**	**09 30 01.6**	**-3.2**
HABR	comp=N,14nm,2.2s				pmax	pmax		
HABR	comp=Z,28nm,2.2s				pmax	pmax		
HABR	comp=E,26nm,2.2s				pmax	pmax		
HABR	comp=Z,402nm,18.0s				MLR	MLR		
YAK	**Yakutsk**	**18.38**	**309**	*e*	P	**P**	**09 27 09.8**	**-0.6**
YAK	comp=Z,58nm,0.8s				pmax	pmax		
YAK	**Yakutsk**	**18.38**	**309**	*e*	P	**P**	**09 27 09.8**	**-0.6**
	comp=Z,58nm,0.8s							
KLR	**Kul'dur**	**18.73**	**268**	*e*	P	**P**	**09 27 12.3**	**-2.1**
KLR	comp=E,24nm,1.4s				pmax	pmax		
KLR	comp=Z,43nm,1.4s				pmax	pmax		
CLNS	**Chul'man**	**20.62**	**293**	*e*	P	**P**	**09 27 31.8**	**-3.2**
CLNS					pmax	pmax		
CLNS	comp=Z,22nm,0.8s				pmax	pmax		
CLNS	comp=E,19nm,1.0s				pmax	pmax		
CLNS	comp=N,18nm,1.0s				pmax	pmax		
USRK	**Ussuriysk Arra**	**21.23**	**255**		P	**P**	**09 27 40.6**	**-0.8**
	comp=N,7.3nm,0.8s,baz=56,slow=11,SNR=21							
USRK					LR	LR	09 35 49.6	
	comp=N,191nm,21.2s,baz=49,slow=36							
VLA	**Vladivostok**	**21.96**	**253**	⇑*e*	P	**P**	**09 27 50.1**	**+0.8**
VLA				*e*			09 28 11.8	
VLA					S	**S**	**09 31 48.8**	**-0.3**
VLA				*e*			09 31 49.9	
VLA	comp=Z,20nm,0.7s				pmax	pmax		
MDJ	**Mudanjiang**	**22.36**	**258**		P	**P**	**09 27 52.8**	**-0.9**
MDJ	comp=Z,10.0nm,1.1s				pmax	pmax		
MDJ	comp=Z,240nm,6.7s				pmax	pmax		
MDJ	**Mudanjiang**	**22.36**	**258**	*e*	P	**P**	**09 27 53.2**	**-0.5**
	comp=Z,9.5nm,1.0s							
MAJO	**Matsushiro**	**23.48**	**232**	*e*	P	**P**	**09 28 06.1**	**+0.9**
MAJO	comp=Z,75nm,0.9s				pmax	pmax		
MAJO	**Matsushiro**	**23.48**	**232**	*e*	P	**P**	**09 28 06.1**	**+0.9**
	comp=Z,75nm,0.9s							
MAT	**Matsushiro**	**23.48**	**232**		P	**P**	**09 28 05.6**	**+0.4**
MJAR	**Matsushiro Arr**	**23.48**	**232**		P	**P**	**09 28 05.5**	**+0.3**
	comp=Z,45nm,0.8s,baz=19,slow=9.7,SNR=105							
MJAR					LR	LR	09 38 02.5	
	comp=Z,145nm,20.6s,baz=55,slow=38							
MJAR	**Matsushiro Arr**	**23.48**	**232**		P	**P**	**09 28 05.5**	**+0.3**
MJAR	comp=Z,45nm,0.8s				pmax	pmax		
MJAR	comp=Z,145nm,20.6s				MLR	MLR		
MJAR	**Matsushiro Arr**	**23.48**	**232**		P	**P**	**09 28 05.5**	**+0.3**
CN2	**Changchun**	**25.26**	**261**	*e*	P	**P**	**09 28 20.5**	**-0.9**
CN2					pmax	pmax		
CN2	comp=Z,20nm,0.9s				pmax	pmax		
	comp=Z,300nm,6.0s							
RSO	**Redoubt South**	**25.44**	**56**	*e*	P	**P**	**09 28 22.3**	**-0.8**
PPLA	**Purkeypile**	**25.56**	**51**	*e*	P	**P**	**09 28 25.2**	**+1.0**
	comp=Z,143nm,2.0s							
HIA	**Hailar**	**25.82**	**277**	*e*	P	**P**	**09 28 24.9**	**-1.5**
HIA	comp=Z,21nm,0.8s				pmax	pmax		
HIA	**Hailar**	**25.82**	**277**	*e*	P	**P**	**09 28 24.9**	**-1.5**
	comp=Z,21nm,0.8s							
KDAK	**Kodiak Island**	**25.93**	**62**	*e*	P	**P**	**09 28 29.5**	**+2.2**
	comp=Z,13nm,1.0s,baz=308,slow=18,SNR=1.8							
KDAK	**Kodiak Island**	**25.93**	**62**	*e*	P	**P**	**09 28 29.5**	**+2.2**
KDAK	comp=Z,13nm,1.0s				pmax	pmax		
KDAK	**Kodiak Island**	**25.93**	**62**		P	**P**	**09 28 29.5**	**+2.2**
BOD	**Bodaibo**	**26.29**	**298**	⇑*i*	P	**P**	**09 28 28.4**	**-2.2**
BOD	comp=Z,11nm,1.1s				pmax	pmax		
COLD	**Coldfoot**	**26.59**	**41**	*e*	P	**P**	**09 28 33.9**	**+0.6**
	comp=Z,8.3nm,1.2s							
ILAR	**Eielson Array**	**27.86**	**46**		P	**P**	**09 28 45.0**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=262,slow=7.7,SNR=20							
ILAR					LR	LR	09 40 01.0	
	comp=Z,228nm,19.3s,baz=278,slow=36							
ILAR	**Eielson Array**	**27.86**	**46**		P	**P**	**09 28 45.0**	**+0.3**
ILAR	comp=Z,3.0nm,0.9s				pmax	pmax		
ILAR	comp=Z,228nm,19.3s				MLR	MLR		
ILAR	**Eielson Array**	**27.86**	**46**		P	**P**	**09 28 45.0**	**+0.3**
KSRS	**Korea Array**	**28.04**	**248**		P	**P**	**09 28 46.2**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=43,slow=9.1,SNR=15							
KSRS					PcP	**PcP**	**09 32 01.2**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=17,slow=4.5,SNR=5.4							
KSRS					LR	LR	09 41 59.2	
	comp=Z,119nm,18.3s,baz=26,slow=41							
KSRS	**Korea Array**	**28.04**	**248**		P	**P**	**09 28 46.2**	**-0.3**
KSRS							09 32 01.3	
KSRS	comp=Z,5.0nm,0.8s				pmax	pmax		
KSRS	comp=Z,2.0nm,0.9s				pmax	pmax		
KSRS	comp=Z,119nm,18.3s				MLR	MLR		
KSAR	**Wonju Array Be**	**28.07**	**248**		P	**P**	**09 28 46.2**	**-0.5**
KSAR							09 32 01.3	
KSAR	**Wonju Array Be**	**28.07**	**248**		P	**P**	**09 28 46.2**	**-0.5**
KSAR					PcP	**PcP**	**09 32 01.2**	**+1.0**
JNU	**Nakatsue**	**29.79**	**238**	*e*	P	**P**	**09 29 02.7**	**+0.6**
	comp=Z,7.1nm,0.9s							
INK	**Inuvik**	**32.91**	**38**		P	**P**	**09 29 30.4**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=291,slow=7.4,SNR=26							
INK					PcP	**PcP**	**09 32 13.3**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=256,slow=2.6,SNR=6.2							
INK	**Inuvik**	**32.91**	**38**		P	**P**	**09 29 30.4**	**+1.3**
INK							09 32 13.4	
INK	comp=Z,2.0nm,0.6s				pmax	pmax		
INK	comp=Z,2.0nm,0.8s				pmax	pmax		
INK	**Inuvik**	**32.91**	**38**		P	**P**	**09 29 30.4**	**+1.3**
INK					PcP	**PcP**	**09 32 13.3**	**+1.0**
BJI	**Beijing**	**33.02**	**264**		P	**P**	**09 29 30.8**	**+0.4**
BJI	comp=Z,7.0nm,0.6s				pmax	pmax		
TLY	**Talaya**	**33.99**	**290**	*e*	P	**P**	**09 29 38.7**	**-0.1**
TLY				*e**PP		**pP**	**09 29 49.2**	**-1.4**
TLY				*e*			09 32 16.4	
TLY	comp=Z,4.0nm,0.9s				pmax	pmax		
TLY	**Talaya**	**33.99**	**290**	*e*	P	**P**	**09 29 38.7**	**-0.1**
	comp=Z,3.5nm,0.9s							
TLY				*e*	pP	**pP**	**09 29 49.2**	**-1.4**
TLY				*e*	PcP	**PcP**	**09 32 16.4**	**+0.6**
SONM	**Songino Array**	**34.29**	**283**		P	**P**	**09 29 40.6**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=58,slow=8.9,SNR=13							
SONM					PcP	**PcP**	**09 32 17.5**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=84,slow=2.0,SNR=13							
SONM					LR	LR	09 44 28.9	
	comp=Z,255nm,18.6s,baz=87,slow=38							
SONM	**Songino Array**	**34.29**	**283**		P	**P**	**09 29 40.6**	**-0.9**
SONM							09 32 17.5	
SONM	comp=Z,2.0nm,0.7s				pmax	pmax		
SONM	comp=Z,3.0nm,0.7s				pmax	pmax		
SONM	comp=Z,255nm,18.6s				MLR	MLR		
SONM	**Songino Array**	**34.29**	**283**		P	**P**	**09 29 40.6**	**-0.9**
SONM					PcP	**PcP**	**09 32 17.5**	**+0.7**
ZAK	**Zakamensk**	**34.80**	**288**	*e*	P	**P**	**09 29 44.6**	**-1.3**
ZAK				*e*			09 32 19.5	
ZAK	comp=Z,3.0nm,1.3s				pmax	pmax		
HHC	**Hu-ho-hao-te**	**35.23**	**269**	*e*	P	**P**	**09 29 49.1**	**-0.6**
HHC					pP	**pP**	**09 29 59.5**	**-2.1**
HHC					sP	**sP**	**09 30 04.3**	**-2.5**
HHC					PP	PP	09 31 07.3	-2.7
HHC					PcP	**PcP**	**09 32 21.1**	**+1.4**
HHC					S	**S**	**09 35 18.3**	**-1.8**
HHC					sS	**sS**	**09 35 34.9**	**-5.0**
HHC					SS	SS	09 37 33.8	-20
HHC					ScS	**ScS**	**09 40 04.9**	**-0.8**
HHC	comp=Z,17nm,0.6s				pmax	pmax		
HHC	comp=Z,240nm,9.4s				pmax	pmax		
HHC	comp=N,290nm,17.8s				LR	LR		
HHC	comp=E,580nm,17.8s				LR	LR		
HHC	comp=Z,310nm,19.0s				LR	LR		
JOW	**Kunigami**	**36.23**	**235**	*e*	P	**P**	**09 29 58.6**	**+0.4**
	comp=Z,12nm,0.6s							
NJ2	**Nanjing**	**37.05**	**251**	*e*	P	**P**	**09 30 07.3**	**+2.1**
NJ

LZH sP **sP** **09 31 11.6 +0.3**
LZH pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 43.09 276 *e*P **P** **09 30 55.3 0.0**
GTA pmax pmax
comp=Z,11nm,0.9s
SPB4 Spitsbergen Ar 46.47 351 *e*P **P** **09 31 21.7 +0.1**
CD2 Chengdu 46.62 264 P **P** **09 31 23.8 +0.5**
CD2 pP **pP** **09 31 34.9 -0.7**
CD2 sP **sP** **09 31 39.5 -1.2**
CD2 PP PP 09 33 12.8 -0.5
CD2 S **S** **09 38 08.0 -1.2**
CD2 sS **sS** **09 38 26.8 -2.8**
CD2 SS SS 09 41 26.3 -9.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,360nm,7.7s
CD2 LR LR
comp=N,290nm,7.1s
CD2 LR LR
comp=Z,370nm,13.1s
WMQ Urumqi 47.26 289 P **P** **09 31 27.8 -0.4**
WMQ pP **pP** **09 31 38.9 -1.6**
WMQ sP **sP** **09 31 43.8 -1.8**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ LR LR
comp=N,220nm,20.2s
WMQ LR LR
comp=E,180nm,18.0s
WMQ LR LR
comp=Z,220nm,16.2s
KURK Kurchatov 47.82 302 LR LR 09 52 30.3
comp=Z,196nm,20.3s,baz=5.0,slow=37
KURK Kurchatov 47.82 302 *e*P P 09 31 27.2 -5.1
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 47.82 302 *e*P P 09 31 20.9 -11
GYA Guiyang 48.23 258 P **P** **09 31 36.8 +0.8**
GYA pP **pP** **09 31 48.6 +0.4**
GYA sP **sP** **09 31 54.3 +0.9**
GYA PP PP 09 33 30.0 +1.5
GYA ScP **ScP** **09 36 54.5 +1.3**
GYA S **S** **09 38 31.9 -0.4**
GYA sS **sS** **09 38 50.8 -1.9**
GYA SS SS 09 41 55.0 -6.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,550nm,17.0s
GYA LR LR
comp=E,480nm,18.2s
GYA LR LR
comp=Z,510nm,17.9s
MK31 Makanchi Array 48.34 296 *e*P **P** **09 31 33.7 -2.8**
MK31 Makanchi Array 48.34 296 *e*P **P** **09 31 33.7 -2.8**
MKAR Makanchi Array 48.34 296 P **P** **09 31 34.1 -2.4**
comp=Z,3.9nm,0.7s,baz=55,slow=6.3,SNR=47
MKAR PcP **PcP** **09 33 02.2 -0.3**
comp=Z,0.8nm,0.7s,baz=46,slow=4.2,SNR=2.5
MKAR Makanchi Array 48.34 296 P **P** **09 31 34.1 -2.4**
MKAR 09 33 02.2
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 48.34 296 P **P** **09 31 34.1 -2.4**
MKAR PcP **PcP** **09 33 02.2 -0.3**
DAG Danmarks Havn 49.63 360 *i* P **P** **09 31 45.9 0.0**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 49.63 360 *i* P **P** **09 31 45.9 0.0**
comp=Z,50nm,0.8s
BVAR Borovoye Array 50.36 308 LR LR 09 53 33.2
comp=Z,212nm,19.3s,baz=330,slow=36
BRVK Borovoye 50.39 308 *e*P **P** **09 31 50.5 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 50.39 308 *e*P **P** **09 31 50.5 -1.5**
comp=Z,3.6nm,0.8s
KMI Kunming 51.52 260 P **P** **09 32 02.6 +1.5**
KMI pP **pP** **09 32 12.4 -1.1**
KMI sP **sP** **09 32 17.5 -1.1**
KMI pmax pmax
comp=Z,12nm,1.0s
KMI pmax pmax
comp=Z,210nm,8.2s
KMI LR LR
comp=N,190nm,18.2s
KMI LR LR
comp=E,200nm,16.4s
KMI LR LR
comp=Z,210nm,15.5s
CHMT Chamberlain Mo 51.89 60 *e*P **P** **09 32 03.2 -0.4**
SVE Sverdlovsk 52.11 317 *e*P **P** **09 32 04.1 -0.7**
KEV Kevo 52.27 342 *e*P **P** **09 32 04.3 -1.5**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 52.27 342 *ep* **P** **09 32 04.3 -1.5**
comp=Z,4.9nm,0.8s
KEV Kevo 52.27 342 *ep* **P** **09 32 04.3 -1.5**
comp=Z,4.9nm,0.8s
ARCES ARCESS Array B 52.73 342 P **P** **09 32 08.2 -1.1**
comp=Z,4.9nm,0.8s,baz=43,slow=8.4,SNR=21
ARCES ARCESS Array B 52.73 342 P **P** **09 32 08.2 -1.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 52.73 342 P **P** **09 32 08.2 -1.1**
HRY Holter Researc 52.76 60 *e*P **P** **09 32 11.3 +1.4**
comp=Z,3.2nm,0.7s
SUMG Summit 53.12 7 *e*P **P** **09 32 13.5 +0.9**
SUMG pmax pmax
comp=Z,46nm,1.0s
SUMG Summit 53.12 7 *e*P **P** **09 32 13.5 +0.9**
comp=Z,46nm,1.0s
SUMG Summit 53.12 7 *i* P **P** **09 32 13.0 +0.4**
comp=Z,30nm,1.1s
ARU Arti 53.22 317*c i*P **P** **09 32 12.1 -0.9**
ARU S **S** **09 39 39.5 -1.0**
ARU SS SS 09 43 11.6 -8.1
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 53.22 317 *e*P **P** **09 32 12.3 -0.7**
comp=Z,9.7nm,0.8s
TKM2 Tokmak 2 54.47 296 *e*P **P** **09 32 21.3 -1.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 54.47 296 *e*P **P** **09 32 21.3 -1.3**
comp=Z,2.8nm,0.8s
NVAR Mina Array Bea 54.94 71 P **P** **09 32 28.2 +2.1**
comp=Z,0.8nm,0.6s,baz=325,slow=7.7,SNR=8.6
NVAR Mina Array Bea 54.94 71 P **P** **09 32 28.2 +2.1**
AAK Ala-Archa 55.25 296*d i*P **P** **09 32 26.8 -1.5**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 55.25 296 *e*P **P** **09 32 26.5 -1.8**
comp=Z,15nm,0.8s
HWUT Hardware Ranch 56.40 64 *e*P **P** **09 32 37.6 +1.1**
comp=Z,7.1nm,1.0s
FRB Frobisher Bay 56.57 24 P **P** **09 32 36.9 -0.2**
comp=Z,8.8nm,0.9s,baz=335,slow=8.2,SNR=10
FRB Frobisher Bay 56.57 24 P **P** **09 32 36.9 -0.2**
FRB pmax pmax
comp=Z,9.0nm,0.9s
FRB Frobisher Bay 56.57 24 P **P** **09 32 36.9 -0.2**
PD01 Pinedale Array 56.63 62 *e*P **P** **09 32 40.1 +2.0**
PD02 Pinedale Array 56.63 62 *e*P **P** **09 32 38.8 +0.6**
BW06 Boulder Array 56.65 62 *e*P P 09 32 41.1 +2.8
comp=Z,6.8nm,1.3s
PDAR Pinedale Array 56.65 62 P **P** **09 32 40.1 +1.8**
comp=Z,1.3nm,0.7s,baz=292,slow=2.6,SNR=12
PDAR Pinedale Array 56.65 62 P **P** **09 32 40.1 +1.8**
JOF Joensuu 57.11 335 *e*P **P** **09 32 40.3 -0.6**
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 57.11 335 *ep* **P** **09 32 40.3 -0.6**
comp=Z,7.6nm,0.6s
JOF Joensuu 57.11 335 *ep* **P** **09 32 40.3 -0.6**
comp=Z,7.6nm,0.6s
AKTO Aktyubinsk 57.73 313 P **P** **09 32 44.0 -1.5**
comp=Z,3.0nm,0.6s,baz=40,slow=3.8,SNR=15
AKTO PcP **PcP** **09 33 38.0 +0.1**
comp=Z,1.8nm,0.6s,baz=68,slow=4.2,SNR=4.6
AKTO Aktyubinsk 57.73 313 P **P** **09 32 44.0 -1.5**
AKTO 09 33 38.0
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 57.73 313 P **P** **09 32 44.0 -1.5**
AKTO PcP **PcP** **09 33 38.0 +0.1**
ABKAR Akbulak array 57.73 311 *e*P **P** **09 32 43.9 -1.7**
comp=Z,2.8nm,0.7s
ABKAR *ep*P **pP** **09 32 55.9 -2.1**
ABKAR *e*PcP **PcP** **09 33 38.5 +0.6**
ULM Lac du Bonnet 57.87 48 P **P** **09 32 48.0 +1.5**
comp=Z,1.6nm,0.5s,baz=304,slow=7.1,SNR=4.5
ULM Lac du Bonnet 57.87 48 P **P** **09 32 48.0 +1.5**
ULM pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 57.87 48 P **P** **09 32 48.0 +1.5**
RSSD Black Hills 58.50 57 *e*P **P** **09 32 53.1 +1.8**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 58.50 57 *e*P **P** **09 32 53.0 +1.8**
comp=Z,4.5nm,0.8s
TAPN Taplejung 58.72 274 *e*P **P** **09 32 52.8 -0.3**
comp=Z,26nm,0.6s
TAPN Taplejung 58.72 274 *e*P **P** **09 32 52.8 -0.3**
comp=Z,26nm,0.6s
SRU San Rafael 58.74 65 *e*P **P** **09 32 54.8 +1.8**
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 58.74 65 *e*P **P** **09 32 54.8 +1.8**
comp=Z,9.5nm,0.9s
CMAR Chiang Mai Arr 58.90 258 P **P** **09 32 54.4 +0.3**
comp=Z,5.2nm,0.7s,baz=20,slow=6.8,SNR=6.9
CMAR LR LR 10 01 00.8
comp=Z,74nm,18.6s,baz=225,slow=39
CMAR Chiang Mai Arr 58.90 258 P **P** **09 32 54.4 +0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,74nm,18.6s
CMAR Chiang Mai Arr 58.90 258 P **P** **09 32 54.4 +0.3**
KAF Kangasniemi 59.00 337 *e*P **P** **09 32 52.6 -1.6**
KAF pmax pmax
comp=Z,9.0nm,0.7s
KAF Kangasniemi 59.00 337 *ep* **P** **09 32 52.6 -1.6**
comp=Z,9.3nm,0.7s
KAF Kangasniemi 59.00 337 *ep* **P** **09 32 52.6 -1.6**
comp=Z,9.3nm,0.7s
JIRN Jiri 59.39 276 *e*P **P** **09 32 57.3 -0.5**
comp=Z,13nm,0.6s
JIRN Jiri 59.39 276 *e*P **P** **09 32 57.3 -0.5**
comp=Z,13nm,0.6s
FINES FINESS Array B 59.64 337 P **P** **09 32 58.4 -0.1**
comp=Z,10nm,0.5s,baz=35,slow=8.5,SNR=31
FINES LR LR 10 03 07.2
comp=Z,305nm,18.5s,baz=146,slow=40
FINES FINESS Array B 59.64 337 P **P** **09 32 58.5 -0.1**
FINES FINESS Array B 59.64 337 P **P** **09 32 58.5 -0.1**
RAMN Ramite 59.68 275 *e*P **P** **09 32 59.0 -0.7**
comp=Z,26nm,0.6s
RAMN Ramite 59.68 275 *e*P **P** **09 32 59.0 -0.7**
comp=Z,26nm,0.6s
KKN Kakani 59.83 277 *e*P **P** **09 33 00.7 0.0**
KKN Kakani 59.83 277 *e*P **P** **09 33 00.7 0.0**
KKN Kakani 59.83 277 *e*P **P** **09 33 00.7 0.0**
PKI Pulchoki 59.91 276 *e*P **P** **09 33 00.9 -0.5**
PKI Pulchoki 59.91 276 *e*P **P** **09 33 00.9 -0.5**
PKI Pulchoki 59.91 276 *e*P **P** **09 33 00.9 -0.5**
GKN Gorkha 60.05 277 *e*P **P** **09 33 01.8 -0.3**
GKN Gorkha 60.05 277 *e*P **P** **09 33 01.8 -0.3**
DMN Daman 60.06 277 *e*P **P** **09 33 02.3 -0.1**
DMN Daman 60.06 277 *e*P **P** **09 33 02.3 -0.1**
DANN Dangsing 60.30 278 *e*P **P** **09 33 03.9 -0.1**
DANN Dangsing 60.30 278 *e*P **P** **09 33 03.9 -0.1**
PV01 Paradox Valley 60.50 65 *e*P **P** **09 33 05.8 +0.7**
SMCO Snowmass 60.59 63 *e*P **P** **09 33 07.0 +1.0**
comp=Z,107nm,3.0s
KOLN Koldanda 60.83 278 *e*P **P** **09 33 07.1 -0.4**
comp=Z,6.0nm,0.4s
KOLN Koldanda 60.83 278 *e*P **P** **09 33 07.1 -0.4**
comp=Z,6.0nm,0.4s
VSU Vasula 62.10 335 *e*P **P** **09 33 14.6 -0.7**
VSU pmax pmax
comp=Z,19nm,1.1s
OBN Obninsk 62.17 328*c i*P **P** **09 33 16.0 +0.1**
OBN *e* 09 33 55.0
OBN pmax pmax
comp=Z,44nm,2.5s
NB2 NORSAR Subarra 62.96 344 P **P** **09 33 20.9 -0.2**
comp=Z,15nm,0.8s,baz=22,slow=6.9
NOA NORSAR Array B 62.96 344 P **P** **09 33 21.1 +0.1**
comp=Z,14nm,0.9s,baz=21,slow=6.6,SNR=35
NOA NORSAR Array B 62.96 344 P **P** **09 33 21.2 +0.1**
NOA pmax pmax
comp=Z,14nm,0.9s
NOA NORSAR Array B 62.96 344 P **P** **09 33 21.1 +0.1**
NAO01 NORSAR Array S 63.20 344 *e*P **P** **09 33 22.2 -0.5**
comp=Z,1.5nm,0.3s
VRHR Novokhopersk 63.78 322 *e*P **P** **09 33 24.5 -2.1**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.3s
LAZ Ladron 64.04 67 *e*P **P** **09 33 30.2 +1.3**
PMG Port Moresby 64.12 195*c i*P **P** **09 33 30.1 +0.9**
PMG pmax pmax
comp=Z,8.0nm,1.2s
PMG Port Moresby 64.12 195 *e*P **P** **09 33 30.5 +1.4**
comp=Z,8.5nm,0.7s
VSR Storozhevoye 64.56 324 *e*P **P** **09 33 31.0 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.4s
SCHQ Schefferville 64.70 28 P **P** **09 33 33.3 +0.7**
comp=E,5.3nm,0.7s,baz=350,slow=6.5,SNR=7.4
SCHQ Schefferville 64.70 28 P **P** **09 33 33.3 +0.7**
WMOK Wichita Mounta 68.22 61 *e*P **P** **09 33 56.6 +1.1**
WMOK pmax pmax
comp=Z,76nm,2.8s
WMOK Wichita Mounta 68.22 61 *e*P **P** **09 33 56.6 +1.1**
comp=Z,76nm,2.8s
AKASG Malin Array Be 68.25 329 P **P** **09 33 54.8 -0.5**
comp=Z,5.2nm,0.5s,baz=29,slow=5.9,SNR=17
AKASG Malin Array Be 68.25 329 P **P** **09 33 54.8 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 68.25 329 P **P** **09 33 54.8 -0.5**
KIEV Kiev 68.26 329*c i*P **P** **09 33 55.0 -0.3**
KIEV Kiev 68.26 329 *e*P **P** **09 33 55.3 -0.1**
comp=Z,10nm,0.9s
KIEV *ep*P **pP** **09 34 06.8 -1.3**
COEN Coen 69.26 199 *e*P **P** **09 34 02.8 +0.9**
comp=Z,44nm,0.6s
COEN Coen 69.26 199 *e*P **P** **09 34 03.2 +1.3**
comp=Z,62nm,0.7s
KIV Kislovodsk 69.27 317*c i*P **P** **09 34 02.4 +0.5**
KIV pmax pmax
comp=Z,6.0nm,0.8s
FVM French Village 69.81 53 *e*P **P** **09 34 05.6 +0.4**
FVM pmax pmax
comp=Z,11nm,1.1s
FVM French Village 69.81 53 *e*P **P** **09 34 05.6 +0.4**
comp=Z,11nm,1.1s
TXAR Lajitas Array 69.81 68 P **P** **09 34 07.1 +1.7**
comp=Z,1.9nm,0.7s,baz=298,slow=4.4,SNR=25
TXAR Lajitas Array 69.81 68 P **P** **09 34 07.1 +1.7**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 69.81 68 P **P** **09 34 07.1 +1.7**
SIUC Southern Illin 70.59 52 *e*P **P** **09 34 11.2 +1.2**
comp=Z,16nm,1.0s
MIAR Mount Ida 71.02 57 *e*P **P** **09 34 13.8 +1.2**
MIAR pmax pmax
comp=Z,120nm,2.8s
MIAR Mount Ida 71.02 57 *e*P **P** **09 34 13.8 +1.2**
comp=Z,120nm,2.8s
KWP Kalwaria Pacla 71.07 333 *e*P **P** **09 34 14.0 +1.2**
KWP Kalwaria Pacla 71.07 333 ⇓P **P** **09 34 13.6 +0.9**
KWP Kalwaria Pacla 71.07 333 ⇓*i*P **P** **09 34 13.6 +0.9**
NRDL Niedersach Rie 71.28 342 *e*P **P** **09 34 14.6 +0.8**
comp=Z,5.0nm,0.9s
OJC Ojcow 71.29 335 *e*P **P** **09 34 13.8 -0.3**
OJC Ojcow 71.29 335 *e*P **P** **09 34 14.1 +0.1**
OJC pmax pmax
comp=Z,139nm,2.8s
OJC Ojcow 71.29 335 *e*P **P** **09 34 14.1 +0.1**
comp=Z,139nm,2.8s
KSP Ksiaz 71.56 337 *e*P **P** **09 34 16.7 +1.1**
KSP Ksiaz 71.56 337 *e*P **P** **09 34 16.2 +0.6**
GNI Garni 71.57 314 ⇑*i*P **P** **09 34 16.0 -0.1**
GNI pmax pmax
comp=Z,16nm,1.2s
GNI Garni 71.57 314 *e*P **P** **09 34 16.2 +0.1**
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 71.83 333 *e*P **P** **09 34 16.8 -0.5**
KOLS pmax pmax
comp=Z,10.0nm,1.4s
KOLS Kolonicke sedl 71.83 333 *e*P **P** **09 34 16.8 -0.5**
CLL Collm 71.83 340 *e*P **P** **09 34 17.9 +0.6**
comp=Z,13nm,0.9s
CLL Collm 71.83 340 *i* P **P** **09 34 17.5 +0.2**
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 71.83 340 *i* P **P** **09 34 17.5 +0.2**
comp=Z,24nm,1.1s
CLZ Clausthal 71.85 341 *e*P **P** **09 34 18.7 +1.3**
comp=Z,15nm,0.9s
CLZ Clausthal 71.85 341 *e*P **P** **09 34 18.7 +1.3**
CLZ pmax pmax
comp=Z,15nm,0.9s
IBBN Ibbenburen 71.88 343 *e*P **P** **09 34 18.6 +1.1**
comp=Z,10.0nm,0.8s
UPC Upice 71.93 337 *i* P **P** **09 34 18.8 +0.9**
UPC Upice 71.93 337 *i* P **P** **09 34 18.8 +0.9**
DPC Dobruska-Polom 72.01 337 *e*P **P** **09 34 19.7 +1.3**
DPC pmax pmax
comp=Z,38nm,1.4s
DPC Dobruska-Polom 72.01 337 *e*P **P** **09 34 19.7 +1.3**
comp=Z,38nm,1.4s
DPC Dobruska-Polom 72.01 337 *i* P **P** **09 34 19.3 +0.9**
BRG Berggiesshubel 72.05 339 *e*P **P** **09 34 19.0 +0.4**
comp=Z,13nm,1.3s
BRG Berggiesshubel 72.05 339 *e*P **P** **09 34 19.3 +0.7**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 72.05 339 *e*P **P** **09 34 19.0 +0.4**
BRG pmax pmax
comp=Z,13nm,1.3s
OKC Ostrava-Krasne 72.05 336 *i* P **P** **09 34 19.7 +1.1**
OKC Ostrava-Krasne 72.05 336 *i* P **P** **09 34 19.7 +1.1**
CRVS Cervenica-Dubn 72.07 333 *e*P **P** **09 34 19.1 +0.3**
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn 72.07 333 *e*P **P** **09 34 19.1 +0.3**
KRLC Kraliky 72.16 337 *i* P **P** **09 34 20.4 +1.1**
BUR08 Bucovina Ar. S 72.17 330 *e*P **P** **09 34 19.5 -0.1**
BURAR Bucovina Array 72.19 330 ⇑*i*P **P** **09 34 18.7 -0.9**
MORC Moravsky Berou 72.26 336 ⇑P **P** **09 34 20.9 +1.0**
MORC Moravsky Berou 72.26 336 *e*P **P** **09 34 20.5 +0.6**
comp=Z,15nm,1.1s
MORC Moravsky Berou 72.26 336 ⇑*i*P **P** **09 34 20.9 +1.0**
TRPA Tarpa 72.49 332 ⇑*i*P **P** **09 34 22.1 +0.9**
MOX Moxa 72.75 340 *e*P **P** **09 34 23.5 +0.7**
comp=Z,10.0nm,1.0s
MOX Moxa 72.75 340 *e*P **P** **09 34 23.5 +0.7**
MOX pmax pmax
comp=Z,10.0nm,1.0s
PRU Pruhonice 72.75 338 *i* P **P** **09 34 23.7 +0.9**
PRU Pruhonice 72.75 338 *i* P **P** **09 34 23.7 +0.9**
TESR 72.75 329 ⇑*i*P **P** **09 34 22.7 -0.2**
TANN Tannenbergstha 72.79 340 *e*P **P** **09 34 24.1 +1.0**
comp=Z,12nm,1.3s
UBBA Unterbreizbach 72.90 341 *e*P **P** **09 34 25.5 +2.0**
comp=Z,2.0nm,0.8s
VRAC Vranov 72.92 337 LR LR 10 08 33.5
comp=Z,190nm,21.5s,baz=304,slow=38
NKC Novy Kostel 72.97 340 *i* P **P** **09 34 24.9 +0.8**
NKC Novy Kostel 72.97 340 *i* P **P** **09 34 24.9 +0.8**
VYHS Vyhne 73.13 335 *e*P **P** **09 34 25.8 +0.7**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 73.13 335 *e*P **P** **09 34 25.8 +0.7**
TREC Trest 73.19 337 *i* P **P** **09 34 26.4 +1.0**
TREC *e* 09 34 34.5
TREC Trest 73.19 337 *i* P **P** **09 34 26.4 +1.0**
TREC *ex* x 09 34 34.5
TLCR 73.26 327 ⇑P **P** **09 34 25.6 -0.2**
TLCR 73.26 327 ⇑*i*P **P** **09 34 25.6 -0.2**
VRI Vrincioaia 73.31 329 ⇑*i*P P 09 34 18.8 -7.4
PLAL Pickwick Lake 73.34 53 *e*P **P** **09 34 27.6 +1.1**
comp=Z,9.9nm,0.8s
ROTZ Rotzenmuhle 73.46 340 *e*P **P** **09 34 28.3 +1.3**
comp=Z,4.0nm,0.9s
DRGR 73.66 332 ⇑P **P** **09 34 27.4 -0.9**
DRGR 73.66 332 ⇑*i*P **P** **09 34 27.4 -0.9**
GRF Grafenberg Arr 73.73 340 *e*P **P** **09 34 29.9 +1.3**
comp=Z,16nm,0.9s
GRF Grafenberg Arr 73.73 340 *e*P **P** **09 34 29.9 +1.3**
GRF pmax pmax
comp=Z,16nm,0.9s
GRFO Grafenberg 73.73 340 *e*P **P** **09 34 29.7 +1.1**
GRFO pmax pmax
comp=Z,24nm,1.0s
GRFO Grafenberg 73.73 340 *e*P **P** **09 34 29.7 +1.1**
comp=Z,24nm,1.0s
TNS Taunus Mts 73.76 342 *e*P **P** **09 34 29.8 +1.0**
comp=Z,5.0nm,0.9s
TNS Taunus Mts 73.76 342 *e*P **P** **09 34 29.8 +1.0**
TNS pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 73.77 338 *e*P **P** **09 34 30.0 +1.2**
KHC pmax pmax
comp=Z,21nm,1.2s
KHC Kasperske Hory 73.77 338 *e*P **P** **09 34 30.0 +1.2**
comp=Z,22nm,1.2s
KHC Kasperske Hory 73.77 338 *i* P **P** **09 34 29.1 +0.2**
KHC *ep*P **pP** **09 34 41.6 -0.2**
MEM Membach 73.81 344 P **P** **09 34 29.7 +0.7**
comp=Z,25nm,1.1s
ZST Bratislava 73.83 336 *e*P **P** **09 34 27.7 -1.5**
ZST pmax pmax
comp=Z,10.0nm,0.9s
ZST Bratislava 73.83 336 *e*P **P** **09 34 27.7 -1.5**
MLR Muntele Rosu 73.89 329 LR LR 10 10 32.8
comp=Z,61nm,19.1s,baz=124,slow=39
MLR Muntele Rosu 73.89 329 ⇑P **P** **09 34 30.8 +1.1**
MLR Muntele Rosu 73.89 329 ⇑*i*P **P** **09 34 30.8 +1.1**
WET Wettzell 73.91 339 *e*P **P** **09 34 31.0 +1.3**
comp=Z,7.0nm,0.8s
WET Wettzell 73.91 339 *e*P **P** **09 34 31.0 +1.3**
WET pmax pmax
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 74.01 338 *e*P **P** **09 34 31.2 +0.8**
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 74.01 338 *e*P **P** **09 34 31.2 +0.8**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 74.01 338 P **P** **09 34 30.5 +0.2**
comp=Z,3.9nm,0.6s,baz=34,slow=5.2,SNR=38
GERES GERESS Array B 74.01 338 P **P** **09 34 30.5 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 74.01 338 P **P** **09 34 30.5 +0.2**
TIRR Tirgusor 74.03 327 ⇓P **P** **09 34 30.4 0.0**
TIRR Tirgusor 74.03 327 ⇓*i*P **P** **09 34 30.4 0.0**
SWET Sewanee 74.16 52 *e*P **P** **09 34 32.3 +0.9**
comp=Z,13nm,0.7s
VOIR 74.21 329 ⇓P **P** **09 34 31.1 -0.5**
VOIR 74.21 329 ⇓*i*P **P** **09 34 31.0 -0.5**
CONA Conrad Observa 74.38 337 ⇑*i*P **P** **09 34 33.7 +1.2**
comp=Z,15nm,1.3s
CONA Conrad Observa 74.38 337 ⇑*i*P **P** **09 34 33.7 +1.2**
comp=Z,15nm,1.3s,SNR=9.6
DOU Dourbes 74.53 345 P **P** **09 34 33.5 +0.3**
BAIF Baives 74.63 345 *e*P **P** **09 34 34.1 +0.3**
comp=Z,36nm,1.0s
CTA Charters Tower 74.75 194 *e*P **P** **09 34 35.6 +0.9**
comp=Z,6.0nm,0.8s
CTAO Charters Tower 74.75 194 *e*P **P** **09 34 35.5 +0.9**

CTAO				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**74.75**	**194**	*e*P	**P**	**09 34 35.5**	**+0.9**
	comp=Z,11nm,0.9s						
GZR	**Gura Zlata**	**74.92**	**331**	⇑P	**P**	**09 34 35.2**	**-0.4**
GZR	**Gura Zlata**	**74.92**	**331**	⇑*i*P	**P**	**09 34 35.2**	**-0.4**
BZS	**Buzias**	**75.04**	**332**	⇑P	**P**	**09 34 35.9**	**-0.3**
BZS	**Buzias**	**75.04**	**332**	⇑*i*P	**P**	**09 34 35.9**	**-0.3**
FUR	**Furstenfeldbru**	**75.17**	**340**	*e*P	**P**	**09 34 38.3**	**+1.3**
	comp=Z,9.0nm,0.8s						
FUR	**Furstenfeldbru**	**75.17**	**340**	*e*P	**P**	**09 34 38.3**	**+1.3**
FUR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RJOB	**Jochberg**	**75.26**	**338**	*e*P	**P**	**09 34 38.9**	**+1.4**
	comp=Z,7.0nm,0.8s						
PKSM	**Moragy**	**75.29**	**334**	⇑P	**P**	**09 34 35.5**	**-2.2**
PKSM	**Moragy**	**75.29**	**334**	⇑*i*P	**P**	**09 34 35.5**	**-2.2**
LRAL	**Lakeview Retre**	**75.45**	**54**	*e*P	**P**	**09 34 39.3**	**+0.5**
BFO	**Black Forest**	**75.59**	**342**	*e*P	**P**	**09 34 40.1**	**+0.7**
	comp=Z,4.0nm,0.9s						
BFO	**Black Forest**	**75.59**	**342**	*e*P	**P**	**09 34 40.1**	**+0.7**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BFO	**Black Forest**	**75.59**	**342**	*e*P	**P**	**09 34 39.4**	**-0.1**
	comp=Z,49nm,1.8s						
CDF	**Champ du Feu**	**75.71**	**342**	*e*P	**P**	**09 34 40.5**	**+0.3**
	comp=Z,39nm,1.0s						
SOKA	**Soboth**	**75.75**	**337**	⇑*i*P	**P**	**09 34 41.5**	**+1.1**
	comp=Z,11nm,0.8s						
SOKA	**Soboth**	**75.75**	**337**	⇑*i*P	**P**	**09 34 41.5**	**+1.1**
	comp=Z,11nm,0.8s						
KBA	**Koelnbreinsper**	**75.76**	**338**	*i* P	**P**	**09 34 42.1**	**+1.5**
KBA				pmax	pmax		
	comp=Z,40nm,0.9s						
KBA	**Koelnbreinsper**	**75.76**	**338**	*i* P	**P**	**09 34 42.1**	**+1.5**
	comp=Z,40nm,0.9s						
KBA	**Koelnbreinsper**	**75.76**	**338**	*i* P	**P**	**09 34 42.1**	**+1.5**
	comp=Z,40nm,0.9s,SNR=14						
PERS	**Pernice**	**75.77**	**337**	*i* P	**P**	**09 34 41.4**	**+0.9**
PAGF	**Fort de Pagny**	**75.84**	**343**	*e*P	**P**	**09 34 41.6**	**+0.8**
	comp=Z,17nm,1.0s						
GROS	**Grobnik**	**75.84**	**336**	*i* P	**P**	**09 34 41.6**	**+0.7**
WTTA	**Wattenberg**	**75.96**	**339**	⇑*i*P	**P**	**09 34 42.8**	**+1.1**
WTTA				pmax	pmax		
	comp=Z,13nm,0.8s						
WTTA	**Wattenberg**	**75.96**	**339**	⇑*i*P	**P**	**09 34 42.8**	**+1.1**
	comp=Z,13nm,0.8s						
WTTA	**Wattenberg**	**75.96**	**339**	⇑*i*P	**P**	**09 34 42.8**	**+1.1**
	comp=Z,13nm,0.8s						
MOTA	**Moosalm**	**75.99**	**339**	⇓*i*P	**P**	**09 34 42.9**	**+1.0**
MOTA				pmax	pmax		
	comp=Z,14nm,0.9s						
MOTA	**Moosalm**	**75.99**	**339**	⇓*i*P	**P**	**09 34 42.9**	**+1.0**
	comp=Z,14nm,0.9s						
MOTA	**Moosalm**	**75.99**	**339**	⇓*i*P	**P**	**09 34 42.9**	**+1.0**
	comp=Z,14nm,0.9s						
MEZF	**Maizieres J'vi**	**76.01**	**344**	*e*P	**P**	**09 34 42.2**	**+0.5**
OBKA	**Obir**	**76.02**	**337**	⇑*i*P	**P**	**09 34 42.9**	**+0.9**
	comp=Z,30nm,1.1s						
OBKA	**Obir**	**76.02**	**337**	⇑*i*P	**P**	**09 34 42.9**	**+0.9**
	comp=Z,30nm,1.1s						
ABTA	**Abfaltersbach**	**76.26**	**338**	⇓*i*P	**P**	**09 34 44.2**	**+0.9**
	comp=Z,22nm,1.0s						
ABTA	**Abfaltersbach**	**76.26**	**338**	⇓*i*P	**P**	**09 34 44.2**	**+0.9**
	comp=Z,22nm,1.0s,SNR=8.7						
HAU	**Haudompre**	**76.27**	**343**	*e*P	**P**	**09 34 43.5**	**+0.2**
	comp=Z,42nm,1.1s						
SFTF	**Sexfontaines**	**76.30**	**344**	*e*P	**P**	**09 34 43.8**	**+0.4**
	comp=Z,43nm,0.8s						
HINF	**Hinteralfeld**	**76.36**	**342**	*e*P	**P**	**09 34 43.7**	**-0.1**
FETA	**Feichten**	**76.38**	**340**	*i* P	**P**	**09 34 45.1**	**+1.0**
	comp=Z,17nm,0.9s						
FETA	**Feichten**	**76.38**	**340**	*i* P	**P**	**09 34 45.1**	**+1.0**
	comp=Z,17nm,0.9s,SNR=12						
BR131	**Keskin Array S**	**76.39**	**321**	*e*P	**P**	**09 34 44.1**	**-0.2**
	comp=Z,3.8nm,0.6s						
BRTR	**Keskin Array B**	**76.39**	**321**	P	**P**	**09 34 44.0**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=45,slow=3.8,SNR=19						
BRTR	**Keskin Array B**	**76.39**	**321**	*ce*P	**P**	**09 34 44.5**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**76.39**	**321**	P	**P**	**09 34 44.0**	**-0.2**
CADS	**Cadrg**	**76.48**	**337**	*i* P	**P**	**09 34 45.4**	**+0.9**
FLN	**La Foliniere**	**76.56**	**348**	*e*P	**P**	**09 34 44.9**	**0.0**
LDF	**La Druitiere**	**76.68**	**347**	*e*P	**P**	**09 34 45.3**	**-0.2**
DAVOX	**Davos/Dischmat**	**76.78**	**340**	LR	LR	10 16 58.3	
	comp=Z,229nm,20.3s,baz=208,slow=42						
BOJS	**Bojanci**	**76.80**	**336**	*i* P	**P**	**09 34 46.8**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**76.86**	**340**	*e*P	**P**	**09 34 48.4**	**+1.5**
GRR	**Gorron**	**76.98**	**348**	*e*P	**P**	**09 34 47.4**	**+0.2**
	comp=Z,46nm,0.8s						
WRAB	**Tennant Creek**	**77.01**	**206**	*e*P	**P**	**09 34 48.6**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**77.01**	**206**	*e*P	**P**	**09 34 48.5**	**+1.0**
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**77.03**	**206**	P	**P**	**09 34 48.6**	**+0.9**
	comp=Z,8.8nm,0.8s,baz=21,slow=6.1,SNR=38						
WRA	**Warramunga Arr**	**77.03**	**206**	P	**P**	**09 34 48.6**	**+0.9**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**77.03**	**206**	P	**P**	**09 34 48.6**	**+0.9**
TUE	**Stuetta**	**77.18**	**340**	*e*P	**P**	**09 34 49.5**	**+0.8**
	comp=Z,14nm,0.8s						
VTS	**Vitosha**	**77.35**	**329**	⇑P	**P**	**09 34 49.8**	**+0.2**
VTS	**Vitosha**	**77.35**	**329**	⇑*i*P	**P**	**09 34 49.8**	**+0.2**
LOR	**Lormes**	**77.40**	**344**	*e*P	**P**	**09 34 49.8**	**+0.2**
	comp=Z,33nm,0.9s,baz=26						
SSF	**Saint Saulge**	**77.66**	**344**	⇑*i*P	**P**	**09 34 51.3**	**+0.3**
	comp=Z,19nm,0.9s						
CABF	**La Chapelle**	**77.66**	**343**	*e*P	**P**	**09 34 51.8**	**+0.6**
	comp=Z,28nm,1.1s						
QUIF	**Quistinic**	**77.72**	**349**	*e*P	**P**	**09 34 51.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**77.86**	**214**	*e*P	**P**	**09 34 53.6**	**+1.2**
	comp=Z,8.0nm,0.8s						
AVF	**Avril sur Loir**	**77.94**	**345**	*e*P	**P**	**09 34 53.0**	**+0.4**
	comp=Z,36nm,1.1s						
BGF	**Bois d'Agland**	**78.25**	**345**	*e*P	**P**	**09 34 54.8**	**+0.4**
LPL	**La Plagne**	**78.60**	**342**	*e*P	**P**	**09 34 57.9**	**+1.3**
	comp=Z,43nm,0.9s						
TCF	**Toulx Ste Croi**	**78.61**	**345**	*e*P	**P**	**09 34 56.8**	**+0.4**
	comp=Z,16nm,0.9s						
LPG	**La Plagne**	**78.62**	**342**	*e*P	**P**	**09 34 58.2**	**+1.4**
	comp=Z,76nm,1.0s						
MIB	**Mutribah**	**78.97**	**306**	*e*P	**P**	**09 34 57.2**	**-1.4**
MIB				AMb	AMB	09 34 59.0	
	comp=Z,55nm,0.7s						
BNI	**Bardonecchia**	**79.06**	**342**	*e*P	**P**	**09 35 00.8**	**+1.8**
BNI	**Bardonecchia**	**79.06**	**342**	*e*P	**P**	**09 35 00.8**	**+1.8**
ORIF	**Oris-en-Rattie**	**79.33**	**342**	*e*P	**P**	**09 35 01.8**	**+1.3**
	comp=Z,33nm,1.0s						
MBDF	**Montbardon**	**79.36**	**342**	*e*P	**P**	**09 35 01.6**	**+1.0**
	comp=Z,14nm,0.8s						
NAY	**Al-Naaiem**	**79.47**	**306**	*e*P	**P**	**09 34 59.6**	**-1.8**
NAY				AMb	AMB	09 35 03.1	
	comp=Z,11nm,0.8s						
QRN	**Al-Qurain**	**79.57**	**305**	*e*P	**P**	**09 34 59.9**	**-1.9**
QRN				AMb	AMB	09 35 02.1	
	comp=Z,30nm,0.6s						
VIVF	**Saint-Julien-l**	**79.61**	**343**	*e*P	**P**	**09 35 03.0**	**+1.1**
	comp=Z,40nm,1.2s						
CAF	**Calviac**	**79.96**	**345**	*e*P	**P**	**09 35 05.0**	**+1.2**
	comp=Z,16nm,0.8s						
SBF	**Sospel**	**80.06**	**341**	*e*P	**P**	**09 35 06.2**	**+1.8**
	comp=Z,81nm,1.1s						
SMRF	**Simiane la Rot**	**80.30**	**342**	*e*P	**P**	**09 35 07.0**	**+1.4**
	comp=Z,19nm,1.1s						
AS31	**Alice Springs**	**80.70**	**205**	*e*P	**P**	**09 35 09.1**	**+1.3**
ASAR	**Alice Springs**	**80.70**	**205**	P	**P**	**09 35 09.3**	**+1.5**
	comp=Z,8.6nm,0.7s,baz=17,slow=5.6,SNR=104						
ASAR	**Alice Springs**	**80.70**	**205**	P	**P**	**09 35 09.3**	**+1.5**
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ASAR	**Alice Springs**	**80.70**	**205**	P	**P**	**09 35 09.3**	**+1.5**
LMR	**La Mourre**	**80.75**	**341**	*e*P	**P**	**09 35 08.8**	**+0.8**
	comp=Z,64nm,1.2s						
PGF	**Pioggiola**	**81.01**	**339**	*e*P	**P**	**09 35 09.9**	**+0.3**
	comp=Z,14nm,0.7s						
QLP	**Quilpie**	**81.43**	**195**	*e*P	**P**	**09 35 13.1**	**+1.6**
MTLF	**Montolieu**	**81.49**	**345**	*e*P	**P**	**09 35 13.4**	**+1.5**
	comp=Z,22nm,1.0s						
ASF	**Jabal al Asfar**	**81.67**	**315**	LR	LR	10 15 05.9	
	comp=Z,89nm,19.0s,baz=195,slow=38						
ETSF	**Etsaut**	**82.33**	**346**	*e*P	**P**	**09 35 17.8**	**+1.4**
	comp=Z,6.6nm,0.6s						
MBWA	**Marble Bar**	**82.76**	**218**	*e*P	**P**	**09 35 18.5**	**-0.1**

ESDC	**Sonseca Array**	**85.94**	**348**	P	**P**	**09 35 35.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=1.3,slow=5.1,SNR=8.6						
ESDC	**Sonseca Array**	**85.94**	**348**	P	**P**	**09 35 35.2**	**+0.4**
STKA	**Stephens Creek**	**87.04**	**196**	P	**P**	**09 35 41.2**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=20,slow=1.4,SNR=11						
STKA	**Stephens Creek**	**87.04**	**196**	*e*P	**P**	**09 35 41.1**	**+1.2**
	comp=Z,3.7nm,0.7s						
STKA	**Stephens Creek**	**87.04**	**196**	P	**P**	**09 35 41.2**	**+1.3**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**87.04**	**196**	P	**P**	**09 35 41.2**	**+1.3**
KEST	**Kesra**	**87.47**	**337**	P	**P**	**09 35 42.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=16,slow=5.6,SNR=4.1						
KEST	**Kesra**	**87.47**	**337**	P	**P**	**09 35 42.2**	**-0.2**
EVO	**Evora**	**87.49**	**351**	*e*P	**P**	**09 35 43.1**	**+0.8**
	comp=Z,57nm,1.6s						
QSPA	**South Pole Qui**	**143.61**	**180**	*e*PKPdf	PKPbc	09 42 25.0	-0.7
TRQA	**Tornquist**	**146.76**	**79**	*e*PKPbc	**PKPab**	**09 42 37.4**	**-0.1**
SYO	**Syowa Base**	**149.66**	**217**	⇓*e*P	**PKPbc**	**09 42 42.0**	**-0.7**

ISK ***17*** *09:34:26.1,37.˝14N×36.˝36E,h9km,ML2.1*
DDA ***17*** *09:34:26.6,37.˝14N×36.˝36E,h7km,MD2.8*
CSEM ***17*** *09:34:26.7±0.1,37.˝14N×36.˝34E,h5km,ML2.1,Error ellipse: s-maj=3.5km s-min=2.8km az=157.0*

ISC 17 09:34:26.8±1.0,37.˝14N±0.˝02×36.˝35E±0.˝02,h9km±9km, n31,σ0.950/48,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.50**	**255**	*e*PG		**Pg**		**09 34 36.3**	**-0.2**
CEYT	**Ceyhan**	**0.50**	**255**	*e*Pg		**Pg**		**09 34 36.3**	**-0.2**
KOZT	**Kozan**	**0.54**	**309**	*e*PG		**Pg**		**09 34 37.1**	**-0.2**
KOZT				*e*SG		**Sg**		**09 34 45.5**	**+1.1**
KOZT	**Kozan**	**0.54**	**309**	*e*Pg		**Pg**		**09 34 37.1**	**-0.2**
KOZT				*e*Sg		**Sg**		**09 34 45.5**	**+1.1**
KMRS	**Kahramanmaras**	**0.57**	**50**	*e*PG		**Pg**		**09 34 37.6**	**-0.3**
KMRS				*e*SG		**Sg**		**09 34 44.7**	**-0.7**
KMRS	**Kahramanmaras**	**0.57**	**50**	*e*Pg		**Pg**		**09 34 37.6**	**-0.3**
KMRS				*e*Sg		**Sg**		**09 34 44.7**	**-0.7**
COBT	**Iskenderun**	**0.62**	**187**	*i* P		**Pg**		**09 34 39.0**	**+0.2**
COBT				*i* S		**Sg**		**09 34 47.1**	**+0.1**
COBT	**Iskenderun**	**0.62**	**187**	*i* P		**Pg**		**09 34 39.0**	**+0.2**
COBT				*i* S		**Sg**		**09 34 47.1**	**+0.1**
KUZU	**Kuzuini**	**0.68**	**122**	*i* P		**Pg**		**09 34 40.6**	**+0.6**
KUZU				*i* S		**Sg**		**09 34 49.2**	**+0.2**
KUZU	**Kuzuini**	**0.68**	**122**	*i* P		**Pg**		**09 34 40.6**	**+0.6**
KUZU				*i* S		**Sg**		**09 34 49.2**	**+0.2**
GAZ	**Gaziantep**	**0.69**	**87**	*e*PG		**Pg**		**09 34 39.9**	**-0.2**
GAZ				*e*SG		**Sb**		**09 34 50.5**	**-0.2**
GAZ	**Gaziantep**	**0.69**	**87**	*e*Pg		**Pg**		**09 34 39.9**	**-0.2**
GAZ				*e*Sg		**Sb**		**09 34 50.5**	**-0.2**
KRTS	**Karatas**	**0.96**	**235**	*e*PG		**Pg**		**09 34 45.0**	**-0.3**
KRTS	**Karatas**	**0.96**	**235**	*e*Pg		**Pg**		**09 34 45.0**	**-0.3**
GZT	**Gaziantep**	**0.99**	**77**	*i* P		**Pg**		**09 34 45.9**	**0.0**
GZT				*i* S		**Sb**		**09 34 59.8**	**+0.3**
HTY	**Hatay**	**1.03**	**190**	*e*PG		**Pg**		**09 34 45.4**	**-1.1**
HTY	**Hatay**	**1.03**	**190**	*e*Pg		**Pg**		**09 34 45.4**	**-1.1**
YAYL	**Yayladag**	**1.12**	**190**	*i* P		**Pn**		**09 34 48.7**	**-0.1**
YAYL				*i* S		**Sn**		**09 35 04.9**	**+0.5**
YAYL	**Yayladag**	**1.12**	**190**	*i* P		**Pn**		**09 34 48.7**	**-0.1**
YAYL				*i* S		**Sn**		**09 35 04.9**	**+0.5**
GULE	**Gulek**	**1.27**	**277**	*i* P		**Pn**		**09 34 50.0**	**-0.8**
GULE				*i* S		**Sb**		**09 35 07.1**	**-0.3**
GULE	**Gulek**	**1.27**	**277**	*i* P		**Pn**		**09 34 50.0**	**-0.8**
GULE				*i* S		**Sb**		**09 35 07.1**	**-0.3**
MERS	**Mersin**	**1.49**	**260**	*e*PN		**Pn**		**09 34 54.0**	**+0.2**
MERS	**Mersin**	**1.49**	**260**	*e*Pn		**Pn**		**09 34 54.0**	**+0.2**
AKCD	**Akcadag**	**1.70**	**47**	*i* P		**Pb**		**09 34 58.5**	**+0.2**
AKCD				*i* S		**Sg**		**09 35 20.9**	**-0.5**
AKCD	**Akcadag**	**1.70**	**47**	*i* P		**Pb**		**09 34 58.5**	**+0.2**
AKCD				*i* S		**Sg**		**09 35 20.9**	**-0.5**
BNN	**Bunyan**	**1.76**	**347**	*e*PN		**Pn**		**09 34 57.9**	**+0.3**
BNN	**Bunyan**	**1.76**	**347**	*e*Pn		**Pn**		**09 34 57.9**	**+0.3**
URFA	**Urfa**	**1.99**	**81**	*e*PN		**Pn**		**09 35 00.5**	**-0.3**
URFA	**Urfa**	**1.99**	**81**	*e*Pn		**Pn**		**09 35 00.5**	**-0.3**
MYA	**Malataya**	**2.03**	**54**	*e*PN		**Pn**		**09 35 01.3**	**0.0**
MYA	**Malataya**	**2.03**	**54**	*e*Pn		**Pn**		**09 35 01.3**	**0.0**

IDC 17 09:47:51.4±1.9,46.˝83N×155.˝46E,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.5/26,mbtmp3.5/10,ML3.3/1, MS3.8/1,Ms1 3.8/1,ms1mx2.8/39,Error ellipse: s-maj=46.2km s-min=21.7km az=170.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.45**	**12**	P		Pn		09 49 26.9	-0.7
	0.7nm,0.3s,baz=168,slow=15,SNR=14								
PETK				Sn		Sn		09 50 44.8	+3.0
	0.1nm,0.3s,baz=128,slow=26,SNR=2.5								
SONM	**Songino Array**	**32.82**	**290**	P		P		09 54 25.7	-0.9
	0.3nm,0.9s,baz=65,slow=9.8,SNR=2.5								
ILAR	**Eielson Array**	**35.48**	**39**	P		P		09 54 48.8	-0.4
	0.3nm,0.5s,baz=254,slow=8.3,SNR=5.4								
ZALV	**Zalesovo Beam**	**43.87**	**306**	P		P		09 55 59.0	-0.1
	0.3nm,0.3s,baz=71,slow=9.4,SNR=2.0								
MKAR	**Makanchi Array**	**48.33**	**298**	P		P		09 56 34.2	-0.2
	0.3nm,0.6s,baz=63,slow=6.3,SNR=3.4								
KURK	**Kurchatov**	**48.66**	**304**	P		P		09 56 37.7	+0.9
	0.7nm,0.6s,baz=69,slow=8.3,SNR=8.5								
YKA	**Yellowknife Ar**	**49.89**	**37**	P		P		09 56 45.7	-0.4
	0.2nm,0.9s,baz=295,slow=7.3,SNR=2.9								
BVAR	**Borovoye Array**	**52.05**	**310**	P		P		09 57 02.9	+0.4
	1.1nm,0.5s,baz=50,slow=7.9,SNR=6.8								
BVAR				LR		LR		10 18 44.2	
	comp=Z,90nm,18.6s,baz=317,slow=36								
FINES	**FINESS Array B**	**64.64**	**336**	P		P		09 58 30.3	0.0
	0.7nm,0.4s,baz=36,slow=7.3,SNR=3.3								
TXAR	**Lajitas Array**	**76.04**	**62**	P		P		09 59 41.1	+0.4
	0.3nm,0.6s,baz=303,slow=4.7,SNR=5.9								

LDG ***17*** *10:12:17.0±0.2,40.˝93N×10.˝24E,h20km,Ml3.8/17,Error ellipse: s-maj=5.6km s-min=2.5km az=6.0*
IDC ***17*** *10:12:18.0±0.9,41.˝32N×10.˝14E,h0km,mb3.7/7, mb1 3.9/12,mb1mx3.8/27,mbtmp3.8/12,ML3.7/5,Error ellipse: s-maj=26.5km s-min=13.0km az=110.0*
CSEM ***17*** *10:12:18.9±0.1,41.˝14N×10.˝17E,h40km,ML3.8/14,Error ellipse: s-maj=4.6km s-min=2.1km az=14.0*
ROM ***17*** *10:12:18.4±0.6,41.˝18N×10.˝23E,h31km±10km,Ml3.3/24, Error ellipse: s-maj=3.8km s-min=2.9km az=123.0*
GEN ***17*** *10:12:22.3,41.˝60N×10.˝19E,h7km,ML3.5*

ISC 17 10:12:18.7±0.6,41.˝22N±0.˝04×10.˝20E±0.˝03,h13km,n196, σ1.859/189,mb3.7/7,1C,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OSPF	**L'Ospedale**	**0.88**	**300**	Pg		**Pg**		**10 12 34.6**	**-1.0**
DGI	**Dorgali Grotta**	**1.01**	**207**	Pg		**Pb**		**10 12 36.5**	**-1.5**
DGI				Sg		**Sb**		**10 12 51.4**	**+0.2**
DGI	**Dorgali Grotta**	**1.01**	**207**	Pg		**Pb**		**10 12 36.5**	**-1.5**
DGI				Sg		**Sb**		**10 12 51.4**	**+0.2**
MAON	**Monte Argentar**	**1.39**	**30**	Pg		**Pn**		**10 12 42.1**	**-1.7**
MAON				Sg		**Sn**		**10 12 58.5**	**-3.5**
MAON	**Monte Argentar**	**1.39**	**30**	Pg		**Pn**		**10 12 42.1**	**-1.7**
MAON				Sg		**Sn**		**10 12 58.5**	**-3.5**
TOLF	**Tolfa**	**1.59**	**57**	Pg		**Pn**		**10 12 44.4**	**-2.1**
TOLF				Sg		**Sn**		**10 13 02.8**	**-4.1**
	1μm,0.4s								
TOLF	**Tolfa**	**1.59**	**57**	Pg		**Pn**		**10 12 44.4**	**-2.1**
TOLF				Sg		**Sn**		**10 13 02.8**	**-4.1**
	1μm,0.4s								
PGF	**Pioggiola**	**1.60**	**326**	*e*Pn		**Pn**		**10 12 46.1**	**-0.6**
	SNR=1.0								
PGF				*e*Sn		**Sn**		**10 13 08.0**	**+0.7**
	703nm,0.5s								
PGF	**Pioggiola**	**1.60**	**326**	*e*Pn		**Pn**		**10 12 46.1**	**-0.6**
	SNR=1.0								
PGF				*e*Sn		**Sn**		**10 13 08.0**	**+0.7**
	351nm,0.5s								
LATE	**Laterza**	**1.83**	**40**	Pg		**Pn**		**10 12 48.6**	**-1.3**
LATE	**Laterza**	**1.83**	**40**	Pg		**Pn**		**10 12 48.6**	**-1.3**
ARCI	**Arcidosso**	**1.89**	**30**	Pg		**Pn**		**10 12 49.6**	**-1.1**
ARCI	**Arcidosso**	**1.89**	**30**	Pg		**Pn**		**10 12 49.6**	**-1.1**
RDP	**Rocca di Papa**	**1.96**	**73**	Pg		**Pn**		**10 12 51.2**	**-0.5**
	522nm,0.5s								
RDP	**Rocca di Papa**	**1.96**	**73**	Pg		**Pn**		**10 12 51.2**	**-0.5**
	522nm,0.5s								
SACS	**San Casciano d**	**2.06**	**38**	Pg		**Pn**		**10 12 52.2**	**-0.9**
	203nm,0.5s								

MTCE	**Montecelio**	**2.07**	**66**	Pg		**Pn**	**10 12 51.5**	**-1.6**
	209nm,0.5s							
MTCE	**Montecelio**	**2.07**	**66**	Pg		**Pn**	**10 12 51.5**	**-1.6**
	209nm,0.5s							
MGAB	**Montegabbione**	**2.21**	**40**	Pg		**Pn**	**10 12 54.2**	**-0.9**
MGAB				Sg		**Sn**	**10 13 20.7**	**-1.5**
	159nm,0.4s							
MGAB	**Montegabbione**	**2.21**	**40**	Pg		**Pn**	**10 12 54.2**	**-0.9**
MGAB				Sg		**Sn**	**10 13 20.7**	**-1.5**
	159nm,0.4s							
CERT	**Cerreto**	**2.21**	**70**	Pg		Pn	10 12 53.2	-1.9
	743nm,0.7s							
CERT	**Cerreto**	**2.21**	**70**	Pg		Pn	10 12 53.2	-1.9
	743nm,0.7s							
GROG	**Isola di Gorgo**	**2.21**	**354**	Pg		**Pn**	**10 12 54.1**	**-1.0**
GROG	**Isola di Gorgo**	**2.21**	**354**	Pg		**Pn**	**10 12 54.1**	**-1.0**
CSNT	**Castellina Chi**	**2.39**	**19**	Pg		**Pn**	**10 12 56.9**	**-0.6**
	36nm,0.4s							
CSNT	**Castellina Chi**	**2.39**	**19**	Pg		**Pn**	**10 12 56.9**	**-0.6**
	36nm,0.4s							
GUAR	**Guarcino**	**2.41**	**75**	Pg		Pn	10 12 55.6	-2.2
	152nm,0.6s							
GUAR	**Guarcino**	**2.41**	**75**	Pg		Pn	10 12 55.6	-2.2
	152nm,0.6s							
FIAM	**Fiamignano**	**2.42**	**63**	Pg		**Pn**	**10 12 57.0**	**-1.0**
	159nm,0.5s							
FIAM	**Fiamignano**	**2.42**	**63**	Pg		**Pn**	**10 12 57.0**	**-1.0**
	159nm,0.5s							
VENT	**Ventotene**	**2.48**	**99**	Pg		Pn	10 12 55.8	-2.9
VENT				Sg		**Sn**	**10 13 25.3**	**-3.4**
VENT	**Ventotene**	**2.48**	**99**	Pg		Pn	10 12 55.8	-2.9
VENT				Sg		**Sn**	**10 13 25.3**	**-3.4**
CAFI	**Castiglion Fio**	**2.48**	**31**	Pg		**Pn**	**10 12 58.5**	**-0.3**
CAFI	**Castiglion Fio**	**2.48**	**31**	Pg		**Pn**	**10 12 58.5**	**-0.3**
LNSS	**Leonessa**	**2.53**	**56**	Pg		**Pn**	**10 12 59.1**	**-0.4**
	253nm,0.4s							
LNSS	**Leonessa**	**2.53**	**56**	Pg		**Pn**	**10 12 59.1**	**-0.4**
	253nm,0.4s							
PTQR	**Pietraquaria**	**2.53**	**71**	Pg		**Pn**	**10 12 58.4**	**-1.1**
	16nm,0.3s							
PTQR	**Pietraquaria**	**2.53**	**71**	Pg		**Pn**	**10 12 58.4**	**-1.1**
	16nm,0.3s							
ASS	**Assisi**	**2.59**	**44**	Pg		**Pn**	**10 12 59.8**	**-0.5**
	26nm,0.3s							
ASS	**Assisi**	**2.59**	**44**	Pg		**Pn**	**10 12 59.8**	**-0.5**
	26nm,0.3s							
MURB	**Monte Urbino**	**2.67**	**39**	Pg		**Pn**	**10 13 01.2**	**-0.2**
MURB				Sg		**Sn**	**10 13 31.6**	**-2.1**
	247nm,0.3s							
MURB	**Monte Urbino**	**2.67**	**39**	Pg		**Pn**	**10 13 01.2**	**-0.2**
MURB				Sg		**Sn**	**10 13 31.6**	**-2.1**
	247nm,0.3s							
POFI	**Posta Fibreno**	**2.69**	**78**	Pg		Pn	10 12 59.5	-2.1
	71nm,0.5s							
POFI	**Posta

PZZ	**Stroppo**	**3.99**	**326**	Pg	**Pn**	**10 13 19.1**	**-0.5**
PZZ	**Stroppo**	**3.99**	**326**	P	**Pn**	**10 13 18.8**	**-0.8**
PZZ	**Stroppo**	**3.99**	**326**	Pg	**Pn**	**10 13 19.1**	**-0.5**
SURF	**Saint Ours**	**4.10**	**324**	Pn	**Pn**	**10 13 22.0**	**+0.8**
BULG	**Bulgheria - Ca**	**4.10**	**104**	Pg	Pn	10 13 18.0	-3.1
BULG	**Bulgheria - Ca**	**4.10**	**104**	Pg	Pn	10 13 18.0	-3.1
MBDF	**Montbardon**	**4.31**	**325**	*e*Pn	**Pn**	**10 13 23.8**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**10 14 12.3**	**-2.0**
	51nm,0.4s						
MBDF	**Montbardon**	**4.31**	**325**	*e*Pn	**Pn**	**10 13 23.8**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**10 14 12.3**	**-2.0**
	26nm,0.4s						
OG22	**Abries**	**4.32**	**328**	Pn	**Pn**	**10 13 24.1**	**-0.1**
OG25	**Le Caire**	**4.37**	**317**	Pn	**Pn**	**10 13 24.7**	**-0.1**
GIB	**Gibilmanna**	**4.38**	**136**	Pg	**Pn**	**10 13 24.2**	**-0.7**
GIB	**Gibilmanna**	**4.38**	**136**	Pg	**Pn**	**10 13 24.2**	**-0.7**
SMRF	**Simiane la Rot**	**4.38**	**310**	*e*Pn	**Pn**	**10 13 24.3**	**-0.7**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**10 14 13.5**	**-2.4**
	23nm,0.5s						
SMRF	**Simiane la Rot**	**4.38**	**310**	*e*Pn	**Pn**	**10 13 24.3**	**-0.7**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**10 14 13.5**	**-2.4**
	12nm,0.5s						
ALJA	**Alia**	**4.43**	**140**	Pg	**Pn**	**10 13 26.5**	**+0.9**
ALJA	**Alia**	**4.43**	**140**	Pg	**Pn**	**10 13 26.5**	**+0.9**
SIRI	**Monte Sirino -**	**4.43**	**102**	Pg	Pn	10 13 23.1	-2.6
	33nm,0.4s						
SIRI	**Monte Sirino -**	**4.43**	**102**	Pg	Pn	10 13 23.1	-2.6
	33nm,0.4s						
RSP	**Reno Superiore**	**4.47**	**332**	P	Pn	10 13 24.5	-1.7
LSD	**Lago del Serru**	**4.79**	**333**	P	**Pn**	**10 13 29.1**	**-1.6**
NVLJ	**Novalja**	**4.79**	**44**	*e*Pn	**Pn**	**10 13 30.3**	**-0.2**
NVLJ				Sn	**Sn**	**10 14 22.8**	**-2.9**
NVLJ	**Novalja**	**4.79**	**44**	*e*Pn	**Pn**	**10 13 30.2**	**-0.2**
NVLJ				Sn	**Sn**	**10 14 22.8**	**-2.9**
ORIF	**Oris-en-Rattie**	**4.86**	**321**	*e*Pn	**Pn**	**10 13 31.6**	**0.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**10 14 24.1**	**-3.7**
	16nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.86**	**321**	*e*Pn	**Pn**	**10 13 31.6**	**0.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**10 14 24.1**	**-3.7**
	8.2nm,0.5s						
LPG	**La Plagne**	**4.96**	**331**	*e*Pn	**Pn**	**10 13 32.6**	**-0.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**10 14 27.0**	**-3.4**
	21nm,0.6s						
LPG	**La Plagne**	**4.96**	**331**	*e*Pn	**Pn**	**10 13 32.6**	**-0.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**10 14 27.0**	**-3.4**
	10nm,0.6s						
LPL	**La Plagne**	**4.98**	**331**	*e*Pn	**Pn**	**10 13 33.7**	**+0.4**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**10 14 28.3**	**-2.5**
	21nm,0.6s						
LPL	**La Plagne**	**4.98**	**331**	*e*Pn	**Pn**	**10 13 33.7**	**+0.4**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**10 14 28.3**	**-2.5**
	10nm,0.6s						
VIVF	**Saint-Julien-l**	**5.44**	**314**	*e*Pn	**Pn**	**10 13 38.0**	**-1.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**10 14 38.3**	**-3.6**
	6.6nm,0.4s						
VIVF	**Saint-Julien-l**	**5.44**	**314**	*e*Pn	**Pn**	**10 13 38.0**	**-1.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**10 14 38.3**	**-3.6**
	3.3nm,0.4s						
LASF	**Ste Croix**	**5.48**	**303**	*e*Pn	Pn	10 13 37.6	-2.4
	SNR=1.0						
LASF				*e*Sn	**Sn**	**10 14 38.7**	**-4.1**
	25nm,0.4s						
LASF	**Ste Croix**	**5.48**	**303**	*e*Pn	Pn	10 13 37.6	-2.4
	SNR=1.0						
LASF				*e*Sn	**Sn**	**10 14 38.7**	**-4.1**
	12nm,0.4s						
KEST	**Kesra**	**5.52**	**187**	Pn	**Pn**	**10 13 43.8**	**+3.1**
	0.9nm,0.3s,baz=312,slow=5.0,SNR=15						
KEST				Sn	**Sn**	**10 14 44.1**	**+0.1**
	0.1nm,0.3s,baz=350,slow=21,SNR=3.9						
DAVOX	**Davos/Dischmat**	**5.56**	**358**	Pn	**Pn**	**10 13 41.8**	**+0.6**
	0.8nm,0.3s,baz=159,slow=17,SNR=11						
DAVOX				Sn	**Sn**	**10 14 46.2**	**+1.1**
	0.7nm,0.3s,baz=177,slow=24,SNR=2.6						
SJAF	**Saint Jean de**	**5.61**	**285**	Pn	Pn	10 13 38.7	-3.0
STON	**Ston**	**5.82**	**71**	*e*Pn	**Pn**	**10 13 44.6**	**-0.1**
STON				Sn	**Sn**	**10 14 48.9**	**-2.3**
STON	**Ston**	**5.82**	**71**	*e*Pn	**Pn**	**10 13 44.5**	**-0.1**
STON				Sn	**Sn**	**10 14 48.9**	**-2.3**
FILF	**Fillols**	**5.86**	**286**	Pn	**Pn**	**10 13 43.7**	**-1.5**
CABF	**La Chapelle**	**6.15**	**333**	*e*Pn	**Pn**	**10 13 49.0**	**-0.2**
	SNR=1.0						
CABF	**La Chapelle**	**6.15**	**333**	*e*Pn	**Pn**	**10 13 49.0**	**-0.2**
	SNR=1.0						
VALF	**Valcebollere**	**6.23**	**284**	Pn	**Pn**	**10 13 48.6**	**-1.8**
MTLF	**Montolieu**	**6.29**	**292**	*e*Pn	Pn	10 13 48.2	-2.9
	SNR=1.0						
MTLF				*e*Sn	Sn	10 14 57.2	-5.5
	42nm,0.4s						
MTLF	**Montolieu**	**6.29**	**292**	*e*Pn	Pn	10 13 48.2	-2.9
	SNR=1.0						
MTLF				*e*Sn	Sn	10 14 57.2	-5.5
	21nm,0.4s						
LBL	**Lubilhac**	**6.47**	**311**	Pn	**Pn**	**10 13 52.9**	**-0.7**
PYM	**Petit Puy Mans**	**6.91**	**313**	Pn	**Pn**	**10 13 58.8**	**-0.9**
CAF	**Calviac**	**7.01**	**305**	*e*Pn	Pn	10 13 58.5	-2.5
	SNR=1.0						
CAF				*e*Sn	Sn	10 15 15.3	-5.3
	9.9nm,0.4s						
CAF	**Calviac**	**7.01**	**305**	*e*Pn	Pn	10 13 58.5	-2.5
	SNR=1.0						
CAF				*e*Sn	Sn	10 15 15.3	-5.3
	4.9nm,0.4s						
HINF	**Hinteralfeld**	**7.01**	**341**	*e*Pn	**Pn**	**10 14 00.3**	**-0.7**
	SNR=1.0						
HINF	**Hinteralfeld**	**7.01**	**341**	*e*Pn	**Pn**	**10 14 00.3**	**-0.7**
	SNR=1.0						
AGO	**Saint Agoulin**	**7.04**	**316**	Pn	**Pn**	**10 14 01.4**	**0.0**
SMF	**Signal de Mont**	**7.10**	**322**	*e*Pn	**Pn**	**10 14 02.5**	**+0.3**
	SNR=1.0						
SMF	**Signal de Mont**	**7.10**	**322**	*e*Pn	**Pn**	**10 14 02.5**	**+0.3**
	SNR=1.0						
ARSA	**Arzberg**	**7.13**	**31**	⇑*i*Pn	**Pn**	**10 14 04.5**	**+1.8**
	7.7nm,0.6s						
AVF	**Avril sur Loir**	**7.44**	**321**	*e*Pn	**Pn**	**10 14 06.0**	**-0.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**7.44**	**321**	*e*Pn	**Pn**	**10 14 06.0**	**-0.8**
	SNR=1.0						
CDF	**Champ du Feu**	**7.48**	**345**	*e*Pn	**Pn**	**10 14 07.0**	**-0.5**
	SNR=1.0						
CDF	**Champ du Feu**	**7.48**	**345**	*e*Pn	**Pn**	**10 14 07.0**	**-0.5**
	SNR=1.0						
BGF	**Bois d'Agland**	**7.52**	**318**	*e*Pn	Pn	10 14 06.1	-1.9
BGF	**Bois d'Agland**	**7.52**	**318**	*e*Pn	Pn	10 14 06.1	-1.9
RJF	**Les Rejaudoux**	**7.54**	**306**	*e*Pn	**Pn**	**10 14 06.5**	**-1.7**
	SNR=1.0						
RJF				*e*Sn	Sn	10 15 28.3	-5.1
	9.8nm,0.4s						
RJF	**Les Rejaudoux**	**7.54**	**306**	*e*Pn	**Pn**	**10 14 06.5**	**-1.7**
	SNR=1.0						
RJF				*e*Sn	Sn	10 15 28.3	-5.1
	4.9nm,0.4s						
EPF	**Esparros**	**7.55**	**287**	*e*Pn	Pn	10 14 06.1	-2.3
	SNR=1.0						
EPF				*e*Sn	Sn	10 15 26.7	-7.2
	14nm,0.6s						
EPF	**Esparros**	**7.55**	**287**	*e*Pn	Pn	10 14 06.1	-2.3
	SNR=1.0						
SSF	**Saint Saulge**	**7.56**	**323**	*e*Pn	**Pn**	**10 14 07.0**	**-1.6**
	SNR=1.0						
SSF	**Saint Saulge**	**7.56**	**323**	*e*Pn	**Pn**	**10 14 07.0**	**-1.6**
	SNR=1.0						
LOR	**Lormes**	**7.56**	**325**	*e*Pn	**Pn**	**10 14 07.7**	**-0.9**
	baz=155						
LOR	**Lormes**	**7.56**	**325**	*e*Pn	**Pn**	**10 14 07.7**	**-0.9**
	baz=155						
LFF	**La Frestale**	**7.86**	**301**	*e*Pn	Pn	10 14 09.9	-2.7
LFF	**La Frestale**	**7.86**	**301**	*e*Pn	Pn	10 14 09.9	-2.7
GERES	**GERESS Array B**	**8.01**	**17**	Pn	**Pn**	**10 14 14.0**	**-0.9**
	0.2nm,0.3s,baz=192,slow=13,SNR=8.1						
GERES				Sn	**Sn**	**10 15 45.1**	**-0.3**
	0.1nm,0.3s,baz=207,slow=23,SNR=2.3						
ETSF	**Etsaut**	**8.18**	**285**	*e*Pn	**Pn**	**10 14 16.2**	**-0.9**
	SNR=1.0						
ETSF				*e*Sn	Sn	10 15 41.6	-7.8
	15nm,0.6s						
ETSF	**Etsaut**	**8.18**	**285**	*e*Pn	**Pn**	**10 14 16.2**	**-0.9**
	SNR=1.0						
KHC	**Kasperske Hory**	**8.26**	**16**	*e*P	**Pn**	**10 14 18.0**	**-0.1**
KHC				*ex*	x	10 14 22.0	
KHC				*ex*	x	10 16 06.5	
SJPF	**Ste Jean**	**8.69**	**286**	*e*Pn	Pn	10 14 22.1	-2.0
SJPF				*e*Sn	Sn	10 15 53.9	-8.0
	4.1nm,0.2s						
SJPF	**Ste Jean**	**8.69**	**286**	*e*Pn	Pn	10 14 22.1	-2.0
MFF	**Saint Martin d**	**9.20**	**309**	*e*Pn	Pn	10 14 28.9	-2.1
	SNR=1.0						
MFF	**Saint Martin d**	**9.20**	**309**	*e*Pn	Pn	10 14 28.9	-2.1
	SNR=1.0						
ESDC	**Sonseca Array**	**10.90**	**266**	Pn	**Pn**	**10 14 54.3**	**-0.1**
	0.6nm,0.3s,baz=73,slow=14,SNR=32						
AKASG	**Malin Array Be**	**16.23**	**48**	Pn	**Pn**	**10 16 08.0**	**+1.8**
	0.7nm,0.3s,baz=241,slow=11,SNR=4.1						
FINES	**FINESS Array B**	**22.43**	**20**	P	**P**	**10 17 17.1**	**+0.2**
	2.3nm,0.7s,baz=213,slow=6.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**28.94**	**197**	P	**P**	**10 18 20.6**	**+2.9**
	0.3nm,0.6s,baz=16,slow=9.8,SNR=2.5						
ARCES	**ARCESS Array B**	**29.49**	**11**	P	**P**	**10 18 22.8**	**+0.7**
	1.9nm,0.8s,baz=201,slow=4.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**49.63**	**48**	P	**P**	**10 21 09.5**	**0.0**
	0.3nm,0.3s,baz=298,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**50.48**	**58**	P	**P**	**10 21 16.3**	**+0.1**
	1.4nm,0.6s,baz=290,slow=6.0,SNR=18						
SONM	**Songino Array**	**64.52**	**48**	P	**P**	**10 22 56.5**	**+1.3**
	0.3nm,0.6s,baz=305,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**67.57**	**336**	P	**P**	**10 23 15.1**	**+0.8**
	0.6nm,0.7s,baz=43,slow=6.1,SNR=15						

IDC 17 10:52:51.5±42.0, 15°51S×169°84W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/26, Error ellipse: s-maj=829.0km s-min=195.5km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.97**	**241**	P	P	11 01 25.1	+0.6
	0.7nm,0.4s,baz=78,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**53.16**	**257**	P	P	11 02 11.3	-0.5
	0.3nm,0.5s,baz=96,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**53.34**	**252**	P	P	11 02 12.9	-0.2
	3.5nm,0.6s,baz=89,slow=8.1,SNR=75						
RPN	**Rapa Nui**	**57.08**	**112**	LR	LR	11 21 16.2	
	comp=Z,74nm,18.9s,baz=28,slow=30						

WEL 17 10:54:18.8±0.5, 38°50S×175°91E, h149km±3km, ML3.6/16, 1C, Error ellipse: s-maj=2.9km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.64**	**199**	PN	Pn	10 54 41.1	+0.1
KRVZ				SN	Sn	10 54 57.6	-0.3
TWVZ	**Taurewa**	**0.68**	**213**	PN	Pn	10 54 41.2	0.0
WPVZ	**Whakapapa**	**0.76**	**202**	PN	Pn	10 54 41.8	+0.1
WPVZ				SN	Sn	10 54 58.4	-1.0
BKZ	**Black Stump Fm**	**0.81**	**146**	PN	Pn	10 54 42.0	-0.1
BKZ				SN	Sn	10 54 59.8	-0.1
FWVZ	**Far West T-bar**	**0.81**	**200**	PN	Pn	10 54 42.2	0.0
HIZ	**Hauiti**	**0.83**	**268**	PN	Pn	10 54 41.8	-0.2
HIZ				SN	Sn	10 54 60.0	+0.1
WNVZ	**Wahianoa**	**0.87**	**196**	PN	Pn	10 54 42.6	0.0
MOVZ	**Moawhango**	**0.92**	**188**	⇑PN	Pn	10 54 42.6	-0.3
MOVZ				SN	Sn	10 55 00.2	-1.1
NMHZ	**Naumai**	**0.92**	**131**	PN	Pn	10 54 43.7	+0.8
URZ	**Urewera**	**0.97**	**76**	PN	Pn	10 54 42.5	-0.7
URZ				SN	Sn	10 55 00.9	-0.9
BHHZ	**Black Hill Sta**	**1.00**	**173**	PN	Pn	10 54 43.3	-0.3
BHHZ				SN	Sn	10 55 01.6	-1.0
RAHZ	**Arahi**	**1.01**	**115**	PN	Pn	10 54 44.1	+0.5
MCHZ	**McNeill Hill**	**1.13**	**147**	PN	Pn	10 54 45.4	+0.8
MWZ	**Matawai**	**1.28**	**83**	PN	Pn	10 54 45.6	-0.5
PNHZ	**Pukenui**	**1.43**	**171**	PN	Pn	10 54 47.2	-0.4
WAZ	**Wanganui**	**1.45**	**209**	PN	Pn	10 54 47.3	-0.4
KNZ	**Kokohu**	**1.47**	**111**	PN	Pn	10 54 47.9	0.0
KAHZ	**Kahuranaki**	**1.50**	**150**	PN	Pn	10 54 48.5	+0.2
WPHZ	**Waipukurau**	**1.62**	**165**	PN	Pn	10 54 49.1	-0.4
MHGZ	**Mahia Peninsul**	**1.69**	**113**	PN	Pn	10 54 50.4	+0.1
PXZ	**Pawanui**	**1.70**	**155**	PN	Pn	10 54 50.2	-0.2
DVHZ	**Dannevirke**	**1.81**	**174**	PN	Pn	10 54 50.7	-1.0
PRHZ	**Porangahau**	**1.86**	**163**	PN	Pn	10 54 51.6	-0.6
PUZ	**Puketiti**	**1.89**	**78**	PN	Pn	10 54 51.5	-1.1
POWZ	**Post Office Ro**	**1.90**	**183**	PN	Pn	10 54 51.5	-1.1
MRZ	**Mangatainoka R**	**2.18**	**187**	PN	Pn	10 54 53.1	-1.6
BFZ	**Birch Farm**	**2.20**	**173**	PN	Pn	10 54 54.8	-1.4
TIWZ	**Tintock**	**2.28**	**180**	PN	Pn	10 54 55.6	-1.5
OGWZ	**Otaki Gorge**	**2.39**	**194**	PN	Pn	10 54 56.6	-1.8
HOWZ	**Holdsworth Sta**	**2.42**	**187**	PN	Pn	10 54 56.8	-2.1
KIW	**Kapiti Island**	**2.49**	**198**	PN	Pn	10 54 57.4	-2.2
TMWZ	**Te Maipa**	**2.61**	**180**	PN	Pn	10 54 59.1	-2.1
MTW	**Mount Morrison**	**2.68**	**187**	PN	Pn	10 54 59.5	-2.5
CAW	**Cannon Point**	**2.69**	**194**	PN	Pn	10 54 59.8	-2.4
DUWZ	**D'Urville Isla**	**2.77**	**213**	PN	Pn	10 55 00.5	-2.6
TRWZ	**Traveller**	**2.91**	**183**	PN	Pn	10 55 02.4	-2.4
WEL	**Wellington**	**2.92**	**197**	PN	Pn	10 55 02.3	-2.8
SNZO	**South Karori**	**2.96**	**198**	PN	Pn	10 55 02.5	-3.0
MSWZ	**Moikau Station**	**2.96**	**190**	PN	Pn	10 55 02.7	-2.9
TCW	**Tory Channel**	**2.99**	**204**	PN	Pn	10 55 03.1	-2.8
BHW	**Baring Head**	**3.02**	**195**	PN	Pn	10 55 03.2	-3.0
PLWZ	**Palliser**	**3.11**	**189**	PN	Pn	10 55 04.4	-3.2
TUWZ	**Tuamarina**	**3.30**	**207**	PN	Pn	10 55 06.7	-3.1
NNZ	**Nelson**	**3.34**	**215**	PN	Pn	10 55 07.2	-3.2
QRZ	**Quartz Range**	**3.50**	**227**	PN	Pn	10 55 08.5	-3.9
THZ	**Tophouse**	**4.00**	**214**	PN	Pn	10 55 15.3	-3.6

IDC 17 11:11:01.0±1.8, 22°01S×175°10W, h0km, mb3.9/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.0/6, ML2.4/1, Error ellipse: s-maj=87.2km s-min=23.2km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.65**	**22**	Pn	Pn	11 13 06.5	-1.1
	2.5nm,0.3s,baz=303,slow=18,SNR=4.2						
AFI				Sn	Sn	11 14 39.5	-6.5
	2.7nm,0.3s,baz=226,slow=23,SNR=2.6						
ASAR	**Alice Springs**	**46.83**	**258**	P	P	11 19 32.8	-0.3
	2.0nm,1.0s,baz=92,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.09**	**263**	P	P	11 19 34.7	-0.4
	0.8nm,0.9s,baz=94,slow=8.3,SNR=20						
NVAR	**Mina Array Bea**	**80.30**	**42**	P	P	11 23 14.8	+0.6
	0.8nm,0.9s,baz=241,slow=9.2,SNR=4.1						
TXAR	**Lajitas Array**	**85.61**	**56**	P	P	11 23 41.0	-0.9
	0.8nm,1.0s,baz=212,slow=6.8,SNR=5.3						
YKA	**Yellowknife Ar**	**96.76**	**24**	P	P	11 24 33.1	+0.1
	0.4nm,0.8s,baz=236,slow=3.7,SNR=6.4						
AKASG	**Malin Array Be**	**145.62**	**332**	PKPbc	PKPbc	11 30 41.3	-0.1
	2.4nm,0.7s,baz=42,slow=4.1,SNR=7.9						

IDC 17 11:19:21.8±3.5, 3°46S×136°00E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=157.5km s-min=30.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.46**	**186**	Pn	Pn	11 23 13.7	-0.8
	0.1nm,0.3s,baz=4.6,slow=13,SNR=8.2						
WRA				Sn	Sn	11 26 13.2	-4.7
	0.1nm,0.3s,baz=6.6,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**20.19**	**186**	P	P	11 23 58.6	+0.3
	0.9nm,0.7s,baz=10,slow=12,SNR=11						
MKAR	**Makanchi Array**	**68.75**	**324**	P	P	11 30 27.7	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.8						

*ISCJB **17** 11:21:47.0±2.4, 50.62N±0.06×73.49E±0.09, h12km±17km, mb3.6/4, Error ellipse: s-maj=12.7km s-min=6.7km az=38.6*
*IDC **17** 11:21:47.6±0.7, 50.86N×73.61E, h0km, mb3.5/4, mb1 3.7/9, mb1mx3.4/29, mbtmp3.4/9, ML3.3/5, Error ellipse: s-maj=15.8km s-min=6.9km az=21.0*
*NNC **17** 11:21:48.5±1.8, 50.57N×73.34E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=26.1km s-min=10.8km az=26.0*
ISC 17 11:21:49.9±1.8, 50.77N±0.07×73.49E±0.04, h24km±15km, n19, σ1822/27, mb3.7/4, 13C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.50**	**322**	⇑Pn	**Pn**	**11 22 30.6**	**+1.6**
	10nm,0.4s						
VOSK				⇑Sn	**Sb**	**11 23 03.0**	**-1.3**
	20nm,0.5s						
BVA0	**Borovoye Array**	**2.96**	**321**	⇓Pn	**Pn**	**11 22 36.9**	**+1.6**
	1.0nm,0.3s,baz=132,slow=16,SNR=11						
BVA0				⇑Sn	**Sb**	**11 23 16.5**	**-1.2**
	3.2nm,0.5s,baz=124,slow=27,SNR=12						
BVAR	**Borovoye Array**	**2.96**	**321**	Pn	**Pn**	**11 22 36.4**	**+1.1**
	3.1nm,0.3s,baz=126,slow=16,SNR=49						
BVAR				Sn	**Sn**	**11 23 11.8**	**+1.7**
	6.1nm,0.3s,baz=122,slow=25,SNR=4.7						
BVAR				Lg	Lg	11 23 20.2	
	9.2nm,0.3s,baz=126,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**3.21**	**91**	⇑Pn	**Pn**	**11 22 39.0**	**+0.3**
	4.4nm,0.5s						
KURBB				⇓Sn	**Sb**	**11 23 24.7**	**0.0**
	7.3nm,0.5s						
KURK	**Kurchatov**	**3.26**	**89**	Pn	**Pn**	**11 22 38.8**	**-0.5**
	0.9nm,0.3s,baz=277,slow=13,SNR=103						
KURK				Lg	Lg	11 23 25.1	
	1.7nm,0.3s,baz=326,slow=40,SNR=11						
KURK	**Kurchatov**	**3.26**	**89**	⇑Pn	**Pn**	**11 22 37.9**	**-1.5**
	5.7nm,0.5s						
KURK				⇑Sn	**Sb**	**11 23 26.7**	**+0.5**
	25nm,0.5s						
ZRNK	**Zerenda**	**3.53**	**310**	⇑Pn	**Pn**	**11 22 44.5**	**+1.4**
	3.1nm,0.3s						
ZRNK				⇑Sn	**Sb**	**11 23 35.5**	**+1.5**
	20nm,0.5s						
MK31	**Makanchi Array**	**7.05**	**121**	Pn	**Pn**	**11 23 32.1**	**+0.7**
	0.8nm,0.3s,baz=303,slow=11,SNR=16						
MK31				⇑Lg	Lg	11 25 27.7	
	3.7nm,0.5s,baz=317,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**7.05**	**121**	Pn	**Pn**	**11 23 31.7**	**+0.3**
	0.2nm,0.3s,baz=298,slow=12,SNR=14						
MKAR				Lg	Lg	11 25 30.6	
	1.1nm,0.3s,baz=318,slow=29,SNR=9.0						
ZALV	**Zalesovo Beam**	**7.63**	**61**	Pn	**Pn**	**11 23 38.0**	**-1.3**
	0.6nm,0.3s,baz=248,slow=14,SNR=14						
ZALV				Sn	**Sn**	**11 25 04.2**	**-0.7**
	0.4nm,0.3s,baz=253,slow=26,SNR=4.5						
ZALV				Lg	Lg	11 25 49.0	
	0.2nm,0.3s,baz=254,slow=26,SNR=3.0						
KK31	**Karatay Array**	**7.94**	**196**	⇓Pn	**Pn**	**11 23 43.4**	**-0.3**
	0.3nm,0.2s,baz=0.0,slow=0.1,SNR=7.8						
KK31				⇑Lg	Lg	11 25 53.7	
	4.6nm,0.7s,baz=17,slow=27,SNR=5.2						
TKM2	**Tokmak 2**	**7.99**	**169**	⇑Pn	**Pn**	**11 23 43.9**	**-0.7**
	0.9nm,0.5s						
TKM2				⇑Lg	Lg	11 25 59.3	
	14nm,0.6s						
AB31	**Akbulak array**	**8.86**	**265**	P	**Pn**	**11 23 57.3**	**+1.1**
	0.4nm,0.4s,baz=83,slow=9.2,SNR=27						
AKTO	**Aktyubinsk**	**9.85**	**274**	Pn	**Pn**	**11 24 10.3**	**+0.5**
	0.7nm,0.3s,baz=83,slow=12,SNR=9.3						
AKTO				Sn	**Sn**	**11 25 56.4**	**-3.0**
	0.1nm,0.3s,baz=27,slow=18,SNR=2.4						
AKTO				Lg	Lg	11 27 06.8	
	0.1nm,0.3s,baz=189,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**9.85**	**274**	⇑P	**Pn**	**11 24 09.8**	**0.0**
	0.2nm,0.4s						
ILAR	**Eielson Array**	**60.61**	**19**	P	**P**	**11 31 57.9**	**-0.1**
	0.5nm,0.5s,baz=329,slow=5.3,SNR=13						
YKA	**Yellowknife Ar**	**66.90**	**4**	P	**P**	**11 32 39.3**	**-0.1**
	0.1nm,0.4s,baz=353,slow=6.7,SNR=5.6						
WRA	**Warramunga Arr**	**88.34**	**125**	P	**P**	**11 34 40.0**	**+0.7**
	0.2nm,0.4s,baz=340,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**91.20**	**127**	P	**P**	**11 34 52.8**	**+0.1**
	0.2nm,0.7s,baz=331,slow=5.0,SNR=2.7						

*BJI **17** 11:22:22.0, 36.20N×1.60E, h10km, mB5.3/11, mb4.8/11, Ms5.2/8, Ms7 4.7/8*
*IDC **17** 11:22:23.8±0.7, 36.41N×1.62E, h0km, mb4.0/19, mb1 4.1/22, mb1mx4.1/31, mbtmp4.0/22, ML4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/42,

EMUR La Murta 2.69 303 P Pn 11 23 08.1 -0.7
30nm,0.3s,SNR=18
EMUR S Sn 11 23 39.0 -2.1
152nm,0.5s
OLHC Oulhaca 2.72 246 P Pn 11 22 44.4 -25
OLHC Oulhaca 2.72 246 P Pn 11 22 44.4 -25
OLHC Oulhaca 2.72 246 P Pn 11 22 44.4 -25
EBEN Beniarda 2.72 328 P Pn 11 23 09.1 -0.1
22nm,0.3s,SNR=14
EBEN S Sn 11 23 40.2 -1.6
113nm,0.3s
EBEN T T 11 25 05.3
EBEN Beniarda 2.72 328 P Pn 11 23 09.1 -0.1
22nm,0.3s,SNR=14
EBEN S Sn 11 23 40.2 -1.6
113nm,0.3s
SET Setif 3.07 93 P Pb 11 23 20.0 -0.4
SET Setif 3.07 93 P Pb 11 23 20.0 -0.4
SET Setif 3.07 93 P Pb 11 23 20.0 -0.4
ENIJ Nijar 3.12 282 P Pn 11 23 13.5 -1.2
40nm,0.3s,SNR=7.9
ENIJ S Sn 11 23 50.1 -1.5
49nm,0.4s,SNR=7.9
ENIJ T T 11 25 38.5
SNR=7.9
ENIJ Nijar 3.12 282 P Pn 11 23 13.5 -1.2
40nm,0.3s,SNR=7.9
ENIJ S Sn 11 23 50.1 -1.5
49nm,0.4s,SNR=7.9
CKHR Kef el Ahmar 3.18 96 P Pg 11 23 25.6 -1.5
CKHR Kef el Ahmar 3.18 96 P Pg 11 23 25.6 -1.5
CKHR Kef el Ahmar 3.18 96 P Pg 11 23 25.6 -1.5
ETOB Tobarra 3.36 313 P Pn 11 23 18.7 +0.6
32nm,0.3s,SNR=28
ETOB S Sn 11 23 58.5 +0.8
142nm,0.6s,SNR=7.4
ETOB Tobarra 3.36 313 P Pn 11 23 18.7 +0.6
32nm,0.3s,SNR=28
ETOB S Sn 11 23 58.5 +0.8
142nm,0.6s,SNR=7.4
DFRA Djebel Bou Aff 3.44 86 P Pb 11 23 24.5 -2.3
DFRA Djebel Bou Aff 3.44 86 P Pb 11 23 24.5 -2.3
DFRA Djebel Bou Aff 3.44 86 P Pb 11 23 24.5 -2.3
ETOS Mallorca 3.49 15 P Pn 11 23 18.2 -1.6
40nm,0.3s,SNR=41
ETOS S Sn 11 23 57.1 -3.7
127nm,0.6s,SNR=5.8
ETOS Mallorca 3.49 15 P Pn 11 23 18.2 -1.6
40nm,0.3s,SNR=41
EHUE Huescar 3.64 294 P Pn 11 23 24.2 +2.3
14nm,0.4s,SNR=7.9
EHUE S Sn 11 24 00.3 -4.3
53nm,0.4s,SNR=7.9
EHUE Huescar 3.64 294 P Pn 11 23 24.2 +2.3
14nm,0.4s,SNR=7.9
EHUE S Sn 11 24 00.3 -4.3
53nm,0.4s,SNR=7.9
EBER Berja 3.65 279 ⇑P Pn 11 23 22.1 0.0
41nm,0.3s,SNR=18
EBER S Sn 11 24 04.8 -0.2
214nm,0.7s,SNR=5.2
EBER Berja 3.65 279 P Pn 11 23 22.1 0.0
41nm,0.3s,SNR=18
EBER S Sn 11 24 04.8 -0.2
214nm,0.7s,SNR=5.2
ECHE Chera 3.78 328 P Pn 11 23 25.1 +1.4
56nm,0.4s,SNR=31
ECHE S Sn 11 24 06.4 -1.5
112nm,0.6s,SNR=7.5
ECHE Chera 3.78 328 P Pn 11 23 25.1 +1.4
56nm,0.4s,SNR=31
ECHE S Sn 11 24 06.4 -1.5
112nm,0.6s,SNR=7.5
EALB Alboran 3.78 264 S Sn 11 24 07.0 -1.0
152nm,0.5s,SNR=7.9
EALB Alboran 3.78 264 S Sn 11 24 06.9 -1.0
152nm,0.5s,SNR=7.9
ZAI Zaio 3.82 249 P Pn 11 23 26.0 +1.6
ZAI S Sn 11 24 08.0 -1.0
ZAI Zaio 3.82 249 *e*P Pn 11 23 26.0 +1.6
ZAI *e*S Sn 11 24 08.0 -1.0
CTEI Djebel Teioual 3.89 94 P Pn 11 23 28.4 +3.0
CTEI Djebel Teioual 3.89 94 P Pn 11 23 28.4 +3.0
CTEI Djebel Teioual 3.89 94 P Pn 11 23 28.4 +3.0
CASM Ain Smara 3.94 91 P Pn 11 23 28.7 +2.6
CASM Ain Smara 3.94 91 P Pn 11 23 28.7 +2.6
CASM Ain Smara 3.94 91 P Pn 11 23 28.7 +2.6
EVIA Vianos 3.96 306 ⇓P Pn 11 23 26.8 +0.5
73nm,0.6s,SNR=18
EVIA S Sn 11 24 12.1 -0.3
97nm,0.3s,SNR=8.5
EVIA Vianos 3.96 306 P Pn 11 23 26.8 +0.5
73nm,0.6s,SNR=18
EVIA S Sn 11 24 12.1 -0.3
97nm,0.3s,SNR=8.5
EQES Quesada 3.99 292 P Pn 11 23 27.8 +1.0
90nm,0.6s,SNR=44
EQES S Sn 11 24 14.4 +1.1
140nm,0.3s,SNR=7.0
EQES Quesada 3.99 292 P Pn 11 23 27.8 +1.0
90nm,0.6s,SNR=44
EQES S Sn 11 24 14.4 +1.1
140nm,0.3s,SNR=7.0
CKFL Kef-Lekhel 4.12 89 P Pn 11 23 28.9 +0.3
CKFL Kef-Lekhel 4.12 89 P Pn 11 23 28.9 +0.3
CKFL Kef-Lekhel 4.12 89 P Pn 11 23 28.9 +0.3
EQUE Quentar 4.13 283 P Pn 11 23 28.9 +0.3
43nm,0.4s,SNR=94
EQUE S Sn 11 24 16.7 0.0
67nm,0.7s,SNR=7.9
EQUE Quentar 4.13 283 P Pn 11 23 28.9 +0.3
43nm,0.4s,SNR=94
EQUE S Sn 11 24 16.7 0.0
67nm,0.7s,SNR=7.9
EGUA Guajares 4.18 277 P Pn 11 23 29.3 0.0
56nm,0.3s,SNR=7.9
EGUA S Sn 11 24 17.2 -0.7
296nm,0.7s,SNR=7.9
EGUA Guajares 4.18 277 P Pn 11 23 29.3 0.0
56nm,0.3s,SNR=7.9
EGUA S Sn 11 24 17.2 -0.7
296nm,0.7s,SNR=7.9
ECOG Cogollos-Vega 4.24 283 P Pn 11 23 31.7 +1.5
41nm,0.3s,SNR=18
ECOG S Sn 11 24 20.8 +1.3
123nm,0.6s,SNR=6.6
ECOG Cogollos-Vega 4.24 283 P Pn 11 23 31.7 +1.5
41nm,0.3s,SNR=18
ECOG S Sn 11 24 20.8 +1.3
123nm,0.6s,SNR=6.6
EMOS Mosqueruela 4.28 338 P Pn 11 23 31.5 +0.7
73nm,0.4s,SNR=106
EMOS S Sn 11 24 17.7 -2.7
200nm,1.1s,SNR=5.1
EMOS Mosqueruela 4.28 338 P Pn 11 23 31.5 +0.7
73nm,0.4s,SNR=106
EMOS S Sn 11 24 17.7 -2.7
200nm,1.1s,SNR=5.1
ERON Agron 4.39 280 P Pn 11 23 32.9 +0.6
26nm,0.3s,SNR=7.9
ERON S Sn 11 24 23.8 +0.6
25nm,0.4s,SNR=7.9
ERON Agron 4.39 280 P Pn 11 23 32.9 +0.6
26nm,0.3s,SNR=7.9
ERON S Sn 11 24 23.8 +0.6
25nm,0.4s,SNR=7.9
ERTA Horta de San J 4.65 348 P Pn 11 23 35.8 0.0
79nm,0.7s,SNR=13
ERTA S Sn 11 24 26.0 -3.5
24nm,0.4s,SNR=7.9
ERTA Horta de San J 4.65 348 P Pn 11 23 35.8 0.0
79nm,0.7s,SNR=13
ERTA S Sn 11 24 26.0 -3.5
24nm,0.4s,SNR=7.9
ELOJ Sierra Loja 4.68 281 P Pn 11 23 38.3 +2.0
35nm,0.5s,SNR=40
ELOJ S Sn 11 24 28.5 -1.8
64nm,0.7s,SNR=14
ELOJ Sierra Loja 4.68 281 P Pn 11 23 38.3 +2.0
35nm,0.5s,SNR=40
ELOJ S Sn 11 24 28.5 -1.8
64nm,0.7s,SNR=14
CMAH Djebel Manchou 4.69 86 P Pn 11 23 34.6 -1.7
CMAH Djebel Manchou 4.69 86 P Pn 11 23 34.6 -1.7
CMAH Djebel Manchou 4.69 86 P Pn 11 23 34.6 -1.7
ABSA Djebel Ababsia 4.74 90 P Pn 11 23 36.6 -0.4
ABSA Djebel Ababsia 4.74 90 P Pn 11 23 36.6 -0.4
CABS Djebel Ababsia 4.74 90 P Pn 11 23 36.6 -0.4
CABS Djebel Ababsia 4.74 90 P Pn 11 23 36.6 -0.4
ELUQ Luque 4.84 286 P Pn 11 23 39.7 +1.3
9.9nm,0.3s,SNR=7.9
ELUQ S Sn 11 24 35.4 +1.2
30nm,0.4s,SNR=7.9
ELUQ Luque 4.84 286 P Pn 11 23 39.7 +1.3
9.9nm,0.3s,SNR=7.9
ELUQ S Sn 11 24 35.4 +1.2
30nm,0.4s,SNR=7.9
EMAL Malaga-Limoner 4.87 276 P Pn 11 23 39.4 +0.6
EMAL S Sn 11 24 26.2 -8.6
EMAL Malaga-Limoner 4.87 276 P Pn 11 23 39.3 +0.6
EPOB Poblet 4.96 355 P Pn 11 23 39.6 -0.3
31nm,0.5s,SNR=22
EPOB S Sn 11 24 33.1 -3.9
22nm,0.5s,SNR=7.9
EPOB Poblet 4.96 355 P Pn 11 23 39.7 -0.3
31nm,0.5s,SNR=22
EMIJ Mijas 5.14 274 P Pn 11 23 40.9 -1.6
10nm,0.2s,SNR=20
EMIJ S Sn 11 24 37.9 -3.7
31nm,0.4s,SNR=7.9
EMIJ Mijas 5.14 274 P Pn 11 23 40.9 -1.6
10nm,0.2s,SNR=20
EMIJ S Sn 11 24 37.9 -3.7
31nm,0.4s,SNR=7.9
EADA Adamuz 5.24 291 P Pn 11 23 43.7 -0.1
1.5nm,0.3s,SNR=10
EADA S Sn 11 24 41.4 -2.5
134nm,0.9s,SNR=4.5
EADA Adamuz 5.24 291 P Pn 11 23 43.7 -0.1
1.5nm,0.3s,SNR=10
EADA S Sn 11 24 41.4 -2.5
134nm,0.9s,SNR=4.5
ETOR Torete 5.26 328 P Pn 11 23 46.5 +2.4
67nm,0.6s,SNR=16
ETOR S Sn 11 24 42.2 -2.3
66nm,0.6s,SNR=7.9
ETOR Torete 5.26 328 P Pn 11 23 46.5 +2.4
67nm,0.6s,SNR=16
ETOR S Sn 11 24 42.2 -2.3
66nm,0.6s,SNR=7.9
TZK Tazeka 5.27 246 P Pn 11 23 45.0 +0.5
TZK S Sn 11 24 44.0 -1.0
TZK Tazeka 5.27 246 *e*P Pn 11 23 45.0 +0.5
TZK *e*S Sn 11 24 44.0 -1.0
CFON Fontmartina 5.39 7 P Pn 11 23 45.6 -0.3
7.5nm,0.2s,SNR=19
CFON S Sn 11 24 43.4 -4.3
20nm,0.3s,SNR=7.9
CFON Fontmartina 5.39 7 P Pn 11 23 45.6 -0.3
7.5nm,0.2s,SNR=19
ESDC Sonseca Array 5.48 308 Pn Pn 11 23 47.0 -0.1
5.7nm,0.3s,baz=124,slow=14,SNR=47
ESDC Sn Sn 11 24 49.5 -0.3
8.8nm,0.3s,baz=125,slow=24,SNR=11
ESDC Lg Lg 11 25 16.1
3.7nm,0.3s,baz=321,slow=30,SNR=5.4
ESDC Sonseca Array 5.48 308 Pn Pn 11 23 47.0 -0.1
ESDC Sn Sn 11 24 49.5 -0.3
ESDC Lg Lg 11 25 16.1
ESDC Sonseca Array 5.48 308 P Pn 11 23 46.9 -0.2
17nm,0.4s,baz=122,slow=14,SNR=30
ESDC S Sn 11 24 47.3 -2.5
24nm,0.5s,baz=124,slow=24,SNR=12
ESDC Sonseca Array 5.48 308 Pn Pn 11 23 47.0 -0.1
ESDC Sn Sn 11 24 49.5 -0.3
ESLA Sonseca Array 5.48 308 *e*Pn Pn 11 23 46.9 -0.2
ESLA *e*Sn Sn 11 24 49.3 -0.5
ESLA Sonseca Array 5.48 308 *e*Pn Pn 11 23 46.9 -0.2
ESLA *e*Sn Sn 11 24 49.3 -0.5
EMIR Miracle 5.50 359 P Pn 11 23 47.8 +0.3
36nm,0.4s,SNR=27
EMIR S Sn 11 24 47.6 -2.9
118nm,0.5s,SNR=5.7
EMIR Miracle 5.50 359 P Pn 11 23 47.8 +0.3
36nm,0.4s,SNR=27
ESAC San Caprasio 5.55 344 P Pn 11 23 50.9 +2.8
42nm,0.3s,SNR=19
ESAC S Sn 11 24 48.9 -2.7
109nm,0.4s,SNR=7.9
ESAC San Caprasio 5.55 344 P Pn 11 23 50.9 +2.8
42nm,0.3s,SNR=19
PAB San Pablo 5.66 305 *e*P Pn 11 23 49.8 +0.2
PAB *e* 11 24 52.6
PAB San Pablo 5.66 305 *e*Pn Pn 11 23 49.8 +0.2
PAB *e*Sn Sn 11 24 52.6 -1.6
PAB San Pablo 5.66 305 *e*P Pn 11 23 49.8 +0.2
PAB *e*S Sn 11 24 52.6 -1.6
LIJA Lijar 5.66 277 P Pn 11 23 50.5 +0.8
LIJA Lijar 5.66 277 P Pn 11 23 50.5 +0.8
EJIF Jimena Fronter 5.71 273 P Pn 11 23 51.6 +1.4
32nm,0.4s,SNR=7.9
EJIF S Sn 11 24 55.1 -0.3
10nm,0.3s,SNR=7.9
EJIF Jimena Fronter 5.71 273 P Pn 11 23 51.6 +1.4
32nm,0.4s,SNR=7.9
EJIF S Sn 11 24 55.1 -0.3
10nm,0.3s,SNR=7.9
CSOR Sort 5.97 357 P Pn 11 23 54.6 +0.6
20nm,0.3s,SNR=36
CSOR S Sn 11 24 59.3 -2.9
49nm,0.6s,SNR=7.9
CSOR Sort 5.97 357 P Pn 11 23 54.6 +0.6
20nm,0.3s,SNR=36
VALF Valcebollere 6.00 3 P Pn 11 23 55.0 +0.6
VALF S Sn 11 25 02.1 -0.7
VALF Valcebollere 6.00 3 P Pn 11 23 55.0 +0.6
VALF S Sn 11 25 05.0 +2.2
ESPR Espera 6.02 277 P Pn 11 23 55.1 +0.6
3.8nm,0.3s,SNR=7.9
ESPR Espera 6.02 277 P Pn 11 23 55.1 +0.6
3.8nm,0.3s,SNR=7.9
CLLI Llivia 6.07 3 P Pn 11 23 56.0 +0.6
7.4nm,0.3s,SNR=27
CLLI S Sn 11 25 01.8 -2.8
28nm,0.6s,SNR=7.9
CLLI Llivia 6.07 3 P Pn 11 23 56.0 +0.6
7.4nm,0.3s,SNR=27
EJON La Jonquera 6.12 9 P Pn 11 23 56.8 +0.9
2.6nm,0.3s,SNR=7.9
EJON S Sn 11 25 01.2 -4.3
10nm,0.4s,SNR=7.9
EJON La Jonquera 6.12 9 P Pn 11 23 56.8 +0.9
2.6nm,0.3s,SNR=7.9
GUD Guadarrama 6.19 315 P Pn 11 23 58.5 +1.5
27nm,0.7s,SNR=17
GUD S Sn 11 25 05.8 -1.7
7.7nm,0.4s,SNR=5.5
GUD Guadarrama 6.19 315 P Pn 11 23 58.5 +1.5
27nm,0.7s,SNR=17
GUD S Sn 11 25 05.8 -1.7
7.7nm,0.4s,SNR=5.5
KEST Kesra 6.30 94 Pn Pn 11 23 59.1 +0.6
1.4nm,0.3s,baz=198,slow=3.4,SNR=23
KEST Sn Sn 11 25 11.4 +1.2
0.1nm,0.3s,baz=116,slow=23,SNR=2.1
KEST Kesra 6.30 94 *e*Pn Pn 11 23 58.8 +0.3
KEST *e*Sn Sn 11 25 10.0 -0.2
KEST Sn Sb 11 25 11.4 -19
KEST Kesra 6.30 94 *e*Pn Pn 11 23 58.8 +0.3
KEST *e*Sn Sn 11 25 10.0 -0.2
SALF Salau 6.36 357 P Pn 11 23 57.5 -1.7
SALF S Sn 11 25 07.7 -4.4
SALF Salau 6.36 357 S Sn 11 25 10.6 -0.9
EBIE Bielsa 6.38 350 P Pn 11 24 00.6 +1.0
14nm,0.5s,SNR=16
EBIE S Sn 11 25 08.5 -3.7
3.0nm,0.3s,SNR=7.9
EBIE Bielsa 6.38 350 P Pn 11 24 00.6 +1.0
14nm,0.5s,SNR=16
CZD Col de Zad 6.43 240 P Pn 11 24 02.0 +1.6
CZD S Sn 11 25 12.0 -1.5
CZD Col de Zad 6.43 240 *i*P Pn 11 24 02.0 +1.6
CZD *i*S Sn 11 25 12.0 -1.5
MLS Moulis 6.56 357 P Pn 11 24 03.0 +1.1
MLS S Sn 11 25 14.8 -1.6
MLS Moulis 6.56 357 P Pn 11 24 03.0 +1.1
MLS S Sn 11 25 18.8 +2.4
EPF Esparros 6.69 352 *e*P Pn 11 24 05.1 +1.3
EPF *e*Sn Sn 11 25 10.2 -9.5
14nm,0.5s
EPF Esparros 6.69 352 P Pn 11 24 05.1 +1.3
ETSF Etsaut 6.70 346 *e*P Pn 11 24 05.1 +1.2
ETSF Etsaut 6.70 346 P Pn 11 24 05.1 +1.2
IEPA Eparoz 6.74 342 P Pn 11 24 07.5 +3.0
14nm,0.4s,SNR=7.9
IEPA Eparoz 6.74 342 P Pn 11 24 07.5 +3.0
14nm,0.4s,SNR=7.9
EMIN Mina Concepcio 6.76 284 P Pn 11 24 03.7 -1.0
5.3nm,0.3s,SNR=19
EMIN S Sn 11 25 17.7 -3.6
8.8nm,0.6s,SNR=5.6
EMIN Mina Concepcio 6.76 284 P Pn 11 24 03.7 -1.0
5.3nm,0.3s,SNR=19
IUNC Unciti 6.78 340 P Pn 11 24 07.7 +2.7
15nm,0.4s,SNR=7.9
IUNC Unciti 6.78 340 P Pn 11 24 07.7 +2.7
15nm,0.4s,SNR=7.9
IPRE Itoiz 6.79 341 P Pn 11 24 06.5 +1.4
8.8nm,0.3s,SNR=15
IPRE Itoiz 6.79 341 P Pn 11 24 06.5 +1.4
8.8nm,0.3s,SNR=15
IELO Elcoad 6.79 342 P Pn 11 24 07.2 +2.0
5.0nm,0.3s,SNR=7.9
IELO Elcoad 6.79 342 P Pn 11 24 07.2 +2.0
5.0nm,0.3s,SNR=7.9
EORO Oroz-Betelu 6.86 342 P Pn 11 24 08.1 +2.0
14nm,0.4s,SNR=13
EORO Oroz-Betelu 6.86 342 P Pn 11 24 08.1 +2.0
14nm,0.4s,SNR=13
MTLF Montolieu 6.95 4 *e*P Pn 11 24 08.3 +1.1
MTLF *e*Sn Sn 11 25 17.3 -8.6
9.7nm,0.6s
MTLF Montolieu 6.95 4 P Pn 11 24 08.3 +1.1
SJPF Ste Jean 7.05 343 *e*P Pn 11 24 09.6 +1.0
SJPF *e*Sn Sn 11 25 19.1 -9.3
11nm,0.7s
SJPF Ste Jean 7.05 343 P Pn 11 24 09.6 +1.0
EPLA Plasencia 7.07 303 P Pn 11 24 09.8 +0.8
3.8nm,0.3s,SNR=6.7
EPLA S Sn 11 25 25.8 -3.2
4.3nm,0.3s,SNR=7.9
EPLA Plasencia 7.07 303 P Pn 11 24 09.8 +0.8
3.8nm,0.3s,SNR=6.7
PBAR Barrancos 7.12 287 *e*Pn Pn 11 24 09.9 +0.3
PBAR *e*Sn Sn 11 25 27.4 -2.7
PBAR A A 11 26 12.9
7.2nm,0.5s
PBAR Barrancos 7.12 287 P Pn 11 24 09.9 +0.3
PBAR S Sn 11 25 27.4 -2.7
7.2nm,0.5s
PBAR Barrancos 7.12 287 P Pn 11 24 09.9 +0.3
EALK Alkurruntz 7.22 342 P Pn 11 24 12.3 +1.4
41nm,0.8s,SNR=18
EALK S Sn 11 25 29.3 -3.2
27nm,0.5s,SNR=7.9
EALK Alkurruntz 7.22 342 P Pn 11 24 12.3 +1.4
41nm,0.8s,SNR=18
EBAD Badajoz 7.24 292 P Pn 11 24 11.9 +0.7
6.1nm,0.4s,SNR=5.5
EBAD S Sn 11 25 30.4 -2.7
8.6nm,0.3s,SNR=7.9
EBAD Badajoz 7.24 292 P Pn 11 24 11.9 +0.7
6.1nm,0.4s,SNR=5.5
EGRO El Granado 7.37 282 P Pn 11 24 12.7 -0.3
7.7nm,0.4s,SNR=9.2
EGRO S Sn 11 25 32.3 -3.9
2.3nm,0.2s,SNR=5.8
EGRO El Granado 7.37 282 P Pn 11 24 12.7 -0.3
7.7nm,0.4s,SNR=9.2
KIB El Ksiba 7.38 241 P Pn 11 24 15.0 +1.7
KIB S Sn 11 25 35.0 -1.7
KIB El Ksiba 7.38 241 *i*P Pn 11 24 15.0 +1.7
KIB S Sn 11 25 35.0 -1.7
PVAQ Vaqueiros 7.54 280 *e*Pn Pn 11 24 14.9 -0.5
PVAQ *e*Sn Sn 11 25 36.7 -3.8
PVAQ A A 11 25 41.7
10nm,0.7s
PVAQ Vaqueiros 7.54 280 P Pn 11 24 14.9 -0.5
PVAQ S Sn 11 25 36.7 -3.8
10nm,0.7s
PVAQ Vaqueiros 7.54 280 P Pn 11 24 14.9 -0.5
PBDV Barranco-do-Ve 7.70 279 *e*Pn Pn 11 24 17.5 -0.1
PBDV *e*Sn Sn 11 25 39.3 -5.1
PBDV A A 11 25 48.7
6.3nm,0.9s
PBDV Barranco-do-Ve 7.70 279 P Pn 11 24 17.5 -0.1
PBDV S Sn 11 25 39.3 -5.1
6.3nm,0.9s
PBDV Barranco-do-Ve 7.70 279 P Pn 11 24 17.5 -0.1
PESTR Estremoz 7.70 291 *e*Sn Sn 11 25 43.8 -0.7
PESTR A A 11 26 25.0
12nm,0.6s
PESTR Estremoz 7.70 291 S Sn 11 25 43.8 -0.7
12nm,0.6s
PESTR Estremoz 7.70 291 S Sn 11 25 43.8 -0.7
12nm,0.6s
PMRV Marv??o 7.73 296 *e*Pn Pn 11 24 18.8 +0.8
PMRV *e*Sn Sn 11 25 42.4 -2.8
PMRV A A 11 26 24.1
11nm,0.6s
PMRV Marv??o 7.73 296 P Pn 11 24 18.8 +0.8
PMRV S Sn 11 25 42.4 -2.8
11nm,0.6s
PMRV Marv??o 7.73 296 P Pn 11 24 18.8 +0.8
PBEJ Beja 7.73 285 *e*Pn Pn 11 24 17.7 -0.3
PBEJ *e*Sn Sn 11 25 41.5 -3.7
PBEJ Beja 7.73 285 P Pn 11 24 17.7 -0.3
PBEJ S Sn 11 25 41.5 -3.7
PBEJ Beja 7.73 285 P Pn 11 24 17.7 -0.3
PCVE Castro Verde 7.81 282 *e*Pn Pn 11 24 18.8 -0.4
PCVE *e*Sn Sn 11 25 44.9 -2.4
PCVE A A 11 26 30.3
4.9nm,0.5s
PCVE Castro Verde 7.81 282 P Pn 11 24 18.8 -0.4
PCVE S Sn 11 25 44.9 -2.4
4.9nm,0.5s
PCVE Castro Verde 7.81 282 P Pn 11 24 18.8 -0.4
PCVE S Sn 11 25 44.9 -2.4
4.9nm,0.5s
ELAN Lanestosa 7.84 332 P Pn 11 24 21.4 +1.9
8.8nm,0.2s,SNR=32
ELAN S Sn 11 25 45.1 -2.8
26nm,0.6s,SNR=7.9
ELAN Lanestosa 7.84 332 P Pn 11 24 21.4 +1.9
8.8nm,0.2s,SNR=32
LASF Ste Croix 7.85 12 *e*Pn Pn 11 24 16.0 -3.7
LMR La Mourre 7.88 27 *e*Pn Pn 11 24 18.4 -1.6
LMR *e*Sn Sn 11 25 40.7 -8.1
4.7nm,0.3s
TZC Tazercounte 7.93 240 P Pn 11 24 23.0 +2.0
TZC S Sn 11 25 47.0 -3.5
TZC Tazercounte 7.93 240 *e*P Pn 11 24 23.0 +2.0
TZC *e*S Sn 11 25 47.0 -3.5
PCBR Castelo Branco 7.94 298 *e*Pn Pn 11 24 21.8 +0.9
PCBR *e*Sn Sn 11 25 48.2 -2.1
PCBR A A 11 26 27.7
6.9nm,0.7s
PCBR Castelo Branco 7.94 298 P Pn 11 24 21.8 +0.9
PCBR S Sn 11 25 48.2 -2.1
3.5nm,0.7s
PCBR Castelo Branco 7.94 298 P Pn 11 24 21.8 +0.9
PCBR S Sn 11 25 48.2 -2.1
3.5nm,0.7s
EVO Evora 7.94 288 *e*P Pn 11 24 21.5 +0.6
EVO *e*Sn Sn 11 25 44.0 -6.4
19nm,0.5s
EVO Evora 7.94 288 *e*Pn Pn 11 24 21.2 +0.3
EVO *e*Sn Sn 11 25 46.8 -3.6
EVO A A 11 26 30.2
9.0nm,0.5s
EVO Evora 7.94 288 P Pn 11 24 21.2 +0.3
EVO S Sn 11 25 46.8 -3.6
9.0nm,0.5s
EVO Evora 7.94 288 P Pn 11 24 21.2 +0.3
MESJ Messejana 7.98 283 *e*P Pn 11 24 20.9 -0.5
MESJ Messejana 7.98 283 P Pn 11 24 20.9 -0.5
MESJ Messejana 7.98 283 P Pn 11 24 20.9 -0.5
EVOP Sao Brissos 8.02 288 *e*P Pn 11 24 21.5 -0.5
SMRF Simiane la Rot 8.15 21 *e*P Pn 11 24 25.6 +1.8
SMRF Simiane la Rot 8.15 21 P Pn 11 24 25.6 +1.8
MOE Montemor 8.20 288 *e*Sn Sn 11 25 53.1 -3.6
MOE Montemor 8.20 288 S Sn 11 25 53.1 -3.6
MTE Manteigas 8.22 302 *e*Pn Pn 11 24 26.6 +1.9
MTE Manteigas 8.22 302 *e*Pn Pn 11 24 26.6 +1.9
PMTG Montargil 8.23 292 *e*Sn Sn 11 25 54.2 -3.3
PMTG A A 11 26 42.5
9.2nm,0.5s
MVO Moncorvo 8.25 308 *e*Pn Pn 11 24 25.5 +0.3

MVO				*e*Sn		**Sn**	11 25 56.9	-1.2	
MVO				A		A	11 26 42.5		
	6.5nm,0.5s								
MVO	**Moncorvo**	**8.25**	**308**	P		**Pn**	**11 24 25.9**	**+0.7**	
	9.7nm,0.3s,SNR=7.2								
MVO				S		Sn	11 25 52.2	-5.9	
	15nm,0.4s,SNR=7.9								
MVO	**Moncorvo**	**8.25**	**308**	*e*Pn		**Pn**	**11 24 25.5**	**+0.3**	
MVO	**Moncorvo**	**8.25**	**308**	P		**Pn**	**11 24 25.9**	**+0.7**	
	9.7nm,0.3s,SNR=7.2								
MVO				*e*Sn		**Sn**	**11 25 56.9**	**-1.2**	
	6.5nm,0.5s								
PNCL	**Nicolau / Gran**	**8.26**	**285**	*e*Pn		**Pn**	**11 24 24.9**	**-0.4**	
PNCL				*e*Sn		**Sn**	**11 25 55.0**	**-3.2**	
PNCL				A		A	11 26 43.5		
	4.6nm,0.5s								
PNCL	**Nicolau / Gran**	**8.26**	**285**	*e*Pn		**Pn**	**11 24 24.9**	**-0.4**	
MORF	**Marmelete**	**8.27**	**279**	*e*Pn		**Pn**	**11 24 25.7**	**+0.2**	
MORF				*e*Sn		**Sn**	**11 25 57.3**	**-1.4**	
MORF	**Marmelete**	**8.27**	**279**	P		**Pn**	**11 24 25.7**	**+0.2**	
MORF				S		**Sn**	**11 25 57.3**	**-1.4**	
MORF	**Marmelete**	**8.27**	**279**	P		**Pn**	**11 24 25.7**	**+0.2**	
MORF				S		**Sn**	**11 25 57.3**	**-1.4**	
PTEO	**Sao Teotonio**	**8.35**	**281**	*e*Pn		**Pn**	**11 24 26.7**	**+0.2**	
PTEO				*e*Sn		**Sn**	**11 25 56.9**	**-3.5**	
PTEO				A		A	11 26 54.3		
	10.0nm,0.7s								
PTEO	**Sao Teotonio**	**8.35**	**281**	P		**Pn**	**11 24 26.7**	**+0.2**	
PTEO				S		**Sn**	**11 25 56.9**	**-3.5**	
	5.0nm,0.7s								
PTEO	**Sao Teotonio**	**8.35**	**281**	P		**Pn**	**11 24 26.7**	**+0.2**	
PGF	**Pioggiola**	**8.38**	**41**	*e*Pn		**Pn**	**11 24 25.5**	**-1.5**	
PGF				*e*Sn		Sn	11 25 52.9	-8.5	
	5.7nm,0.4s								
PBRG	**Braganca**	**8.44**	**312**	*e*Pn		**Pn**	**11 24 28.0**	**+0.3**	
PBRG				*e*Sn		**Sn**	**11 25 58.7**	**-3.9**	
PBRG				A		A	11 26 41.9		
	5.4nm,0.6s								
PBRG	**Braganca**	**8.44**	**312**	P		**Pn**	**11 24 28.0**	**+0.3**	
PBRG				S		**Sn**	**11 25 58.7**	**-3.9**	
	2.7nm,0.6s								
PBRG	**Braganca**	**8.44**	**312**	P		**Pn**	**11 24 28.0**	**+0.3**	
ECAL	**Calabor**	**8.52**	**313**	P		**Pn**	**11 24 29.4**	**+0.6**	
	34nm,0.6s,SNR=25								
ECAL				S		**Sn**	**11 26 00.9**	**-3.7**	
	12nm,0.4s,SNR=7.9								
ECAL	**Calabor**	**8.52**	**313**	P		**Pn**	**11 24 29.4**	**+0.6**	
	34nm,0.6s,SNR=25								
CAF	**Calviac**	**8.52**	**2**	*e*P		**Pn**	**11 24 30.0**	**+1.1**	
CAF	**Calviac**	**8.52**	**2**	P		**Pn**	**11 24 30.0**	**+1.1**	
PVIS	**Viseu**	**8.60**	**303**	*e*Pn		**Pn**	**11 24 31.4**	**+1.5**	
PVIS				*e*Sn		**Sn**	**11 26 03.2**	**-3.4**	
PVIS				A		A	11 26 56.1		
	7.1nm,0.6s								
PVIS	**Viseu**	**8.60**	**303**	P		**Pn**	**11 24 31.4**	**+1.5**	
PVIS				S		**Sn**	**11 26 03.2**	**-3.4**	
	3.6nm,0.6s								
PVIS	**Viseu**	**8.60**	**303**	P		**Pn**	**11 24 31.4**	**+1.5**	
EARI	**Arriondas**	**8.65**	**325**	P		**Pn**	**11 24 32.3**	**+1.6**	
	38nm,0.6s,SNR=31								
EARI				S		**Sn**	**11 26 04.4**	**-3.5**	
	2.4nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**8.65**	**325**	P		**Pn**	**11 24 32.3**	**+1.6**	
	38nm,0.6s,SNR=31								
SBF	**Sospel**	**8.68**	**29**	*e*Pn		Pn	11 24 27.3	-3.8	
VIVF	**Saint-Julien-l**	**8.76**	**14**	*e*Pn		**Pn**	**11 24 29.3**	**-2.8**	
POLO	**Lamas de Olo**	**8.85**	**307**	*e*Pn		**Pn**	**11 24 34.4**	**+1.0**	
POLO				*e*Sn		**Sn**	**11 26 07.3**	**-5.6**	
POLO				A		A	11 27 05.6		
	3.1nm,0.5s								
POLO	**Lamas de Olo**	**8.85**	**307**	*e*Pn		**Pn**	**11 24 34.4**	**+1.0**	
ALAS	**Alassa**	**8.98**	**110**	*i* P		**Pn**	**11 24 33.5**	**-1.6**	
	31nm,0.3s,SNR=22								
PMAFR	**Mafra**	**9.00**	**290**	S		**Sn**	**11 26 15.0**	**-1.5**	
	22nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**9.00**	**290**	S		**Sn**	**11 26 15.0**	**-1.5**	
	22nm,0.3s,SNR=7.9								
ERUA	**La Rua**	**9.03**	**314**	P		**Pn**	**11 24 35.7**	**-0.1**	
	9.9nm,0.3s,SNR=4.0								
ERUA	**La Rua**	**9.03**	**314**	P		**Pn**	**11 24 35.7**	**-0.1**	
	9.9nm,0.3s,SNR=4.0								
ORIF	**Oris-en-Rattie**	**9.10**	**20**	*e*P		**Pn**	**11 24 38.3**	**+1.4**	
ORIF	**Oris-en-Rattie**	**9.10**	**20**	P		**Pn**	**11 24 38.3**	**+1.4**	
LGHD	**Ghdames**	**9.14**	**132**	*i* P		**Pn**	**11 24 35.2**	**-2.2**	
	55nm,1.1s,SNR=22								
ELOB	**Lobios**	**9.28**	**309**	P		**Pn**	**11 24 40.0**	**+0.7**	
	11nm,0.5s,SNR=8.1								
ELOB				S		Sn	11 26 17.7	-5.7	
	3.7nm,0.5s,SNR=7.9								
ELOB	**Lobios**	**9.28**	**309**	P		**Pn**	**11 24 40.0**	**+0.7**	
	11nm,0.5s,SNR=8.1								
BNI	**Bardonecchia**	**9.46**	**22**	*e*P		**Pn**	**11 24 44.6**	**+2.8**	
BNI				pmax		pmax			
	comp=Z,11nm,1.0s								
BNI	**Bardonecchia**	**9.46**	**22**	*e*Pn		**Pn**	**11 24 44.6**	**+2.8**	
	comp=Z,11nm,1.0s								
BNI	**Bardonecchia**	**9.46**	**22**	*e*P		**Pn**	**11 24 44.6**	**+2.8**	
	comp=Z,11nm,1.0s								
EPON	**Pontenova**	**9.65**	**318**	P		**Pn**	**11 24 45.6**	**+1.3**	
	comp=Z,18nm,0.5s,SNR=9.4								
EPON				S		**Sn**	**11 26 27.1**	**-5.2**	
	comp=Z,2.0nm,0.4s,SNR=7.9								
EPON	**Pontenova**	**9.65**	**318**	P		**Pn**	**11 24 45.6**	**+1.3**	
	comp=Z,18nm,0.5s,SNR=9.4								
SENIN	**Lac Senin/Sane**	**10.83**	**21**	*e*Pn		**Pn**	**11 25 02.9**	**+2.2**	
SENIN	**Lac Senin/Sane**	**10.83**	**21**	*e*Pn		**Pn**	**11 25 02.8**	**+2.2**	
TUE	**Stuetta**	**11.61**	**28**	*e*Pn		**Pn**	**11 25 12.8**	**+1.5**	
TUE	**Stuetta**	**11.61**	**28**	*e*Pn		**Pn**	**11 25 12.8**	**+1.5**	
QUIF	**Quistinic**	**12.03**	**344**	*e*P		**Pn**	**11 25 18.1**	**+1.2**	
QUIF	**Quistinic**	**12.03**	**344**	P		**Pn**	**11 25 18.1**	**+1.2**	
DAVOX	**Davos/Dischmat**	**12.07**	**28**	Pn		Pn	11 25 21.0	+3.4	
	comp=Z,0.2nm,0.3s,baz=267,slow=21,SNR=2.7								
DAVOX	**Davos/Dischmat**	**12.07**	**28**	P		Pn	11 25 21.0	+3.4	
DAVOX	**Davos/Dischmat**	**12.07**	**28**	Pn		Pn	11 25 21.0	+3.4	
DAVOX	**Davos/Dischmat**	**12.07**	**28**	P		Pn	11 25 21.0	+3.4	
FUORN	**Ofenpass-Fuorn**	**12.09**	**30**	*e*Pn		Pn	11 25 22.2	+4.3	
SGMF	**Saint Gilles**	**12.23**	**347**	*e*P		**Pn**	**11 25 20.8**	**+1.2**	
SGMF	**Saint Gilles**	**12.23**	**347**	P		**Pn**	**11 25 20.8**	**+1.2**	
LDF	**La Druitiere**	**12.25**	**355**	*e*P		**Pn**	**11 25 20.6**	**+0.8**	
LDF	**La Druitiere**	**12.25**	**355**	*e*P		**Pn**	**11 25 20.6**	**+0.8**	
DOU	**Dourbes**	**13.86**	**8**	P		**Pn**	**11 25 44.5**	**+2.7**	
TAM	**Tamanrasset**	**13.98**	**165**	*e*P		**Pn**	**11 25 42.4**	**-1.4**	
TAM				*e*			11 28 13.3		
TAM	**Tamanrasset**	**13.98**	**165**	*e*Pn		**Pn**	**11 25 42.4**	**-1.4**	
TAM				*e*Sn		**Sn**	**11 28 13.3**	**-5.5**	
TAM	**Tamanrasset**	**13.98**	**165**	*e*Pn		**Pn**	**11 25 42.4**	**-1.4**	
GRF	**Grafenberg Arr**	**15.01**	**25**	*e*P		**P**	**11 26 06.7**	**+3.9**	
	comp=Z,5.0nm,0.8s								
GRF	**Grafenberg Arr**	**15.01**	**25**	*e*P		**P**	**11 26 06.7**	**+3.9**	
GRF				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GERES	**GERESS Array B**	**15.27**	**32**	Pn		**Pn**	**11 26 02.2**	**+1.2**	
	comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=9.4								
GERES	**GERESS Array B**	**15.27**	**32**	P		**Pn**	**11 26 02.2**	**+1.2**	
GERES	**GERESS Array B**	**15.27**	**32**	Pn		**Pn**	**11 26 02.2**	**+1.2**	
GERES	**GERESS Array B**	**15.27**	**32**	Pn		**Pn**	**11 26 02.2**	**+1.2**	
BZS	**Buzias**	**17.65**	**52**	⇑P		**P**	**11 26 34.0**	**+1.9**	
BZS	**Buzias**	**17.65**	**52**	⇑*i*P		**P**	**11 26 34.0**	**+1.9**	
BZS	**Buzias**	**17.65**	**52**	P		**P**	**11 26 34.0**	**+1.9**	
GZR	**Gura Zlata**	**18.31**	**54**	⇓P		**P**	**11 26 39.8**	**+0.3**	
GZR	**Gura Zlata**	**18.31**	**54**	⇓*i*P		**P**	**11 26 39.8**	**+0.3**	
GZR	**Gura Zlata**	**18.31**	**54**	P		**P**	**11 26 39.8**	**+0.3**	
DRGR		**18.83**	**50**	⇓P		**Pn**	**11 26 47.0**	**+1.2**	
DRGR		**18.83**	**50**	⇓*i*P		**Pn**	**11 26 47.0**	**+1.2**	
DRGR		**18.83**	**50**	P		**Pn**	**11 26 47.0**	**+1.2**	
TRPA	**Tarpa**	**19.35**	**46**	⇑*i*P		**Pn**	**11 26 52.0**	**+0.1**	
VOIR		**19.82**	**56**	⇑P		**Pn**	**11 27 02.0**	**+4.3**	
VOIR		**19.82**	**56**	⇑*i*P		**Pn**	**11 27 02.0**	**+4.3**	
KWP	**Kalwaria Pacla**	**20.23**	**43**	⇓P		**P**	**11 27 00.7**	**+0.3**	
KWP	**Kalwaria Pacla**	**20.23**	**43**	⇓*i*P		**P**	**11 27 00.7**	**+0.3**	
KWP	**Kalwaria Pacla**	**20.23**	**43**	P		**P**	**11 27 00.7**	**+0.3**	
MLR	**Muntele Rosu**	**20.44**	**56**	P		Pn	11 27 07.2	+2.1	
	comp=Z,2.6nm,0.9s,baz=201,slow=6.3,SNR=9.3								
MLR	**Muntele Rosu**	**20.44**	**56**	⇓P		Pn	11 27 07.0	+2.0	
MLR	**Muntele Rosu**	**20.44**	**56**	P		Pn	11 27 07.2	+2.1	
MLR	**Muntele Rosu**	**20.44**	**56**	⇓*i*P		Pn	11 27 07.0	+2.0	
BURAR	**Bucovina Array**	**20.73**	**50**	⇑*i*P		Pn	11 27 08.0	-0.4	
BUR08	**Bucovina Ar. S**	**20.73**	**50**	*e*P		Pn	11 27 07.5	-0.9	
BUR08	**Bucovina Ar. S**	**20.73**	**50**	*e*P		Pn	11 27 07.5	-0.9	
PLOR	**Plostina**	**21.02**	**56**	⇑P		**P**	**11 27 11.5**	**+2.5**	
PLOR	**Plostina**	**21.02**	**56**	⇑*i*P		**P**	**11 27 11.5**	**+2.5**	
PLOR	**Plostina**	**21.02**	**56**	P		**P**	**11 27 11.5**	**+2.5**	
VRI	**Vrincioaia**	**21.08**	**56**	⇓P		**P**	**11 27 14.4**	**+4.8**	
VRI	**Vrincioaia**	**21.08**	**56**	⇓*i*P		**P**	**11 27 14.4**	**+4.8**	
TORD	**Torodi Ar. Bea**	**23.16**	**180**	P		**P**	**11 27 31.1**	**-0.8**	
	comp=Z,2.5nm,0.9s,baz=360,slow=8.8,SNR=11								
TORD				LR		LR	11 37 19.9		
	comp=Z,100nm,19.8s,baz=335,slow=39								
TORD	**Torodi Ar. Bea**	**23.16**	**180**	P		**P**	**11 27 31.1**	**-0.8**	
TORD	**Torodi Ar. Bea**	**23.16**	**180**	P		**P**	**11 27 31.1**	**-0.8**	
AKASG	**Malin Array Be**	**24.41**	**45**	P		**P**	**11 27 42.1**	**-1.6**	
	comp=Z,2.3nm,0.8s,baz=240,slow=11,SNR=3.3								
AKASG	**Malin Array Be**	**24.41**	**45**	P		**P**	**11 27 42.1**	**-1.6**	
AKASG	**Malin Array Be**	**24.41**	**45**	P		**P**	**11 27 42.1**	**-1.6**	
AKASG	**Malin Array Be**	**24.41**	**45**	P		**P**	**11 27 42.1**	**-1.6**	
HFS	**Hagfors**	**24.99**	**14**	P		**P**	**11 27 47.5**	**-1.4**	
	comp=Z,2.0nm,0.7s,baz=202,slow=15,SNR=3.9								
HFS	**Hagfors**	**24.99**	**14**	P		**P**	**11 27 47.5**	**-1.4**	
HFS	**Hagfors**	**24.99**	**14**	P		**P**	**11 27 47.5**	**-1.4**	
HFS	**Hagfors**	**24.99**	**14**	P		**P**	**11 27 47.5**	**-1.4**	
BRTR	**Keskin Array B**	**25.36**	**73**	P		**P**	**11 27 53.3**	**+0.7**	
	comp=Z,1.5nm,1.0s,baz=297,slow=8.1,SNR=3.7								
BRTR	**Keskin Array B**	**25.36**	**73**	P		**P**	**11 27 53.3**	**+0.7**	
BRTR	**Keskin Array B**	**25.36**	**73**	P		**P**	**11 27 53.3**	**+0.7**	
BRTR	**Keskin Array B**	**25.36**	**73**	P		**P**	**11 27 53.3**	**+0.7**	
FINES	**FINESS Array B**	**29.42**	**24**	P		**P**	**11 28 28.8**	**+0.2**	
	comp=Z,3.2nm,1.0s,baz=205,slow=8.4,SNR=4.5								
FINES	**FINESS Array B**	**29.42**	**24**	P		**P**	**11 28 28.8**	**+0.2**	
FINES	**FINESS Array B**	**29.42**	**24**	P		**P**	**11 28 28.8**	**+0.2**	
FINES	**FINESS Array B**	**29.42**	**24**	P		**P**	**11 28 28.8**	**+0.2**	
ARCES	**ARCESS Array B**	**35.65**	**14**	P		**P**	**11 29 23.6**	**+0.6**	
	comp=Z,5.8nm,0.9s,baz=265,slow=8.4,SNR=4.5								
ARCES	**ARCESS Array B**	**35.65**	**14**	P		**P**	**11 29 23.6**	**+0.6**	
ARCES	**ARCESS Array B**	**35.65**	**14**	P		**P**	**11 29 23.6**	**+0.6**	
ARCES	**ARCESS Array B**	**35.65**	**14**	P		**P**	**11 29 23.6**	**+0.6**	
ARU	**Arti**	**42.63**	**43**	*e*P		**P**	**11 30 21.2**	**-0.3**	
ARU				pmax		pmax			
	comp=Z,12nm,0.8s								
ARU	**Arti**	**42.63**	**43**	*e*P		**P**	**11 30 21.2**	**-0.3**	
	comp=Z,12nm,0.8s								
ARU	**Arti**	**42.63**	**43**	*e*P		**P**	**11 30 21.2**	**-0.3**	
	comp=Z,12nm,0.8s								
SCHQ	**Schefferville**	**49.20**	**315**	P		**P**	**11 31 13.8**	**+0.5**	
	comp=Z,2.8nm,0.7s,baz=80,slow=6.1,SNR=4.2								
SCHQ	**Schefferville**	**49.20**	**315**	P		**P**	**11 31 13.8**	**+0.5**	
SCHQ	**Schefferville**	**49.20**	**315**	P		**P**	**11 31 13.8**	**+0.5**	
BRVK	**Borovoye**	**49.59**	**48**	*e*P		**P**	**11 31 15.4**	**-1.0**	
BRVK	**Borovoye**	**49.59**	**48**	*e*P		**P**	**11 31 16.9**	**+0.5**	
	comp=Z,24nm,2.0s								
BRVK	**Borovoye**	**49.59**	**48**	*e*P		**P**	**11 31 16.9**	**+0.5**	
	comp=Z,24nm,2.0s								
BVAR	**Borovoye Array**	**49.66**	**48**	P		**P**	**11 31 17.4**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=297,slow=6.5,SNR=7.2								
BVAR	**Borovoye Array**	**49.66**	**48**	P		**P**	**11 31 17.4**	**+0.5**	
BVAR	**Borovoye Array**	**49.66**	**48**	P		**P**	**11 31 17.4**	**+0.5**	
BVAR	**Borovoye Array**	**49.66**	**48**	P		**P**	**11 31 17.4**	**+0.5**	
EKS2	**Erkin-Say**	**54.47**	**60**	*e*P		**P**	**11 31 53.8**	**+0.8**	
EKS2				pmax		pmax			
	comp=Z,4.0nm,0.8s								
EKS2	**Erkin-Say**	**54.47**	**60**	*e*P		**P**	**11 31 53.8**	**+0.8**	
	comp=Z,4.0nm,0.8s								
EKS2	**Erkin-Say**	**54.47**	**60**	*e*P		**P**	**11 31 53.8**	**+0.8**	
	comp=Z,4.4nm,0.8s								
AAK	**Ala-Archa**	**54.97**	**59**	*e*P		**P**	**11 31 56.8**	**+0.1**	
AAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
AAK	**Ala-Archa**	**54.97**	**59**	*e*P		**P**	**11 31 56.8**	**+0.1**	
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**	**55.15**	**49**	P		**P**	**11 31 57.4**	**-0.2**	
	comp=Z,4.2nm,0.7s,baz=287,slow=8.1,SNR=36								
KURK	**Kurchatov**	**55.15**	**49**	*e*P		**P**	**11 31 57.0**	**-0.6**	
KURK	**Kurchatov**	**55.15**	**49**	P		**P**	**11 31 57.4**	**-0.2**	
	comp=Z,0.6nm,0.8s								
KURK	**Kurchatov**	**55.15**	**49**	P		**P**	**11 31 57.4**	**-0.2**	
	comp=Z,0.6nm,0.8s								
NVS	**Novosibirsk**	**56.64**	**43**	*e*P		**P**	**11 32 07.6**	**-0.6**	
NVS	**Novosibirsk**	**56.64**	**43**	*e*P		**P**	**11 32 07.6**	**-0.6**	
KSH	**Kashi**	**57.13**	**62**	*e*P		**P**	**11 32 12.5**	**+0.3**	
KSH				*e*pP		**pP**	**11 32 17.3**	**+0.1**	
KSH				*e*sP		**sP**	**11 32 19.6**	**+0.5**	
KSH				*e*PcP		**PcP**	**11 33 07.5**	**+0.7**	
KSH				*e*PP		**PP**	**11 34 20.8**	**+2.0**	
KSH				*e*ScP		**ScP**	**11 37 05.3**	**-0.6**	
KSH				*e*PcS		**PcS**	**11 37 06.8**	**-1.1**	
KSH				*e*S		**S**	**11 40 04.4**	**-2.5**	
KSH				*e*sS		**sS**	**11 40 12.5**	**-2.7**	
KSH				*e*ScS		**ScS**	**11 41 55.8**	**-5.3**	
KSH				*e*SS		**SS**	**11 43 54.1**	**-1.3**	
KSH				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KSH				pmax		pmax			
	comp=Z,310nm,7.8s								
KSH				LR		LR			
	comp=N,260nm,6.4s								
KSH				LR		LR			
	comp=E,450nm,10.6s								
KSH				LR		LR			
	comp=Z,470nm,7.6s								
NIL	**Nilore**	**57.46**	**70**	*e*P		P	11 32 07.3	-7.1	
NIL				pmax		pmax			
	comp=Z,28nm,0.8s								
NIL	**Nilore**	**57.46**	**70**	*e*P		P	11 32 07.3	-7.1	
	comp=Z,28nm,0.8s								
ZALV	**Zalesovo Beam**	**57.79**	**44**	P		**P**	**11 32 15.7**	**-0.7**	
	comp=Z,2.0nm,0.7s,baz=290,slow=6.7,SNR=8.8								
ZALV	**Zalesovo Beam**	**57.79**	**44**	P		**P**	**11 32 15.7**	**-0.7**	
ZALV	**Zalesovo Beam**	**57.79**	**44**	P		**P**	**11 32 15.7**	**-0.7**	
ZALV	**Zalesovo Beam**	**57.79**	**44**	P		**P**	**11 32 15.7**	**-0.7**	
MK31	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 22.8**	**-0.3**	
MK31	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 22.8**	**-0.3**	
MK31	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 22.8**	**-0.3**	
MKAR	**Makanchi Array**	**58.73**	**52**	P		**P**	**11 32 23.1**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=280,slow=6.5,SNR=19								
MKAR	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 23.2**	**+0.1**	
MKAR	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 23.1**	**+0.1**	
MKAR	**Makanchi Array**	**58.73**	**52**	*e*P		**P**	**11 32 23.2**	**+0.1**	
ULM	**Lac du Bonnet**	**67.32**	**316**	P		**P**	**11 33 19.9**	**-0.2**	
	comp=Z,1.8nm,0.5s,baz=63,slow=4.5,SNR=7.5								
ULM	**Lac du Bonnet**	**67.32**	**316**	P		**P**	**11 33 19.9**	**-0.2**	
ULM	**Lac du Bonnet**	**67.32**	**316**	P		**P**	**11 33 19.9**	**-0.2**	
ULM	**Lac du Bonnet**	**67.32**	**316**	P		**P**	**11 33 19.9**	**-0.2**	
YKA	**Yellowknife Ar**	**69.03**	**334**	P		**P**	**11 33 30.9**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=53,slow=6.2,SNR=22								
YKA	**Yellowknife Ar**	**69.03**	**334**	P		**P**	**11 33 30.9**	**+0.3**	
YKA	**Yellowknife Ar**	**69.03**	**334**	P		**P**	**11 33 30.9**	**+0.3**	
YKA	**Yellowknife Ar**	**69.03**	**334**	P		**P**	**11 33 30.9**	**+0.3**	
ZAK	**Zakamensk**	**69.55**	**42**	*e*P		**P**	**11 33 34.4**	**+0.2**	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ZAK	**Zakamensk**	**69.55**	**42**	*e*P		**P**	**11 33 34.4**	**+0.2**	
	comp=Z,2.0nm,1.4s								
SONM	**Songino Array**	**72.67**	**43**	P		**P**	**11 33 53.4**	**+0.3**	
	comp=Z,0.8nm,0.7s,baz=276,slow=9.2,SNR=7.5								
SONM	**Songino Array**	**72.67**	**43**	P		**P**	**11 33 53.4**	**+0.3**	
SONM	**Songino Array**	**72.67**	**43**	P		**P**	**11 33 53.4**	**+0.3**	
SONM	**Songino Array**	**72.67**	**43**	P		**P**	**11 33 53.4**	**+0.3**	
ILAR	**Eielson Array**	**76.17**	**347**	P		**P**	**11 34 14.2**	**+1.2**	
	comp=Z,0.5nm,0.8s,baz=346,slow=2.2,SNR=4.4								
ILAR	**Eielson Array**	**76.17**	**347**	P		**P**	**11 34 14.2**	**+1.2**	
ILAR	**Eielson Array**	**76.17**	**347**	P		**P**	**11 34 14.2**	**+1.2**	
ILAR	**Eielson Array**	**76.17**	**347**	P		**P**	**11 34 14.2**	**+1.2**	
PHWY	**Pilot Hill**	**77.87**	**313**	*e*P		**P**	**11 34 24.7**	**+1.3**	
	comp=Z,9.9nm,0.7s								
PHWY	**Pilot Hill**	**77.87**	**313**	*e*P		**P**	**11 34 24.7**	**+1.3**	
	comp=Z,9.9nm,0.7s								
RWWY	**Rawlins**	**78.66**	**314**	*e*P		**P**	**11 34 29.1**	**+1.4**	
	comp=Z,11nm,1.0s								
RWWY	**Rawlins**	**78.66**	**314**	*e*P		**P**	**11 34 29.1**	**+1.4**	
	comp=Z,11nm,1.0s								
BSMT	**Bassoo Peak**	**78.74**	**322**	*e*P		**P**	**11 34 28.9**	**+0.9**	
	comp=Z,7.8nm,1.4s								
BSMT	**Bassoo Peak**	**78.74**	**322**	*e*P		**P**	**11 34 28.9**	**+0.9**	
	comp=Z,7.8nm,1.4s								
ISCO	**Idaho Springs**	**78.89**	**311**	*e*P		**P**	**11 34 30.7**	**+1.6**	
ISCO				pmax		pmax			
	comp=Z,69nm,3.0s								
ISCO	**Idaho Springs**	**78.89**	**311**	*e*P		**P**	**11 34 30.7**	**+1.6**	
	comp=Z,69nm,3.0s								
ISCO	**Idaho Springs**	**78.89**	**311**	*e*P		**P**	**11 34 30.7**	**+1.6**	
	comp=Z,69nm,3.0s								
DLMT	**Dillon**	**79.29**	**319**	*e*P		**P**	**11 34 33.1**	**+2.1**	
	comp=Z,4.5nm,1.0s								
DLMT	**Dillon**	**79.29**	**319**	*e*P		**P**	**11 34 33.1**	**+2.1**	
	comp=Z,4.5nm,1.0s								
PD02	**Pinedale Array**	**79.32**	**316**	*e*P		**P**	**11 34 30.1**	**-1.2**	
PD02	**Pinedale Array**	**79.32**	**316**	*e*P		**P**	**11 34 30.1**	**-1.2**	
PDAR	**Pinedale Array**	**79.32**	**316**	P		**P**	**11 34 31.9**	**+0.5**	
	comp=Z,3.3nm,0.9s,baz=63,slow=6.0,SNR=21								
PDAR	**Pinedale Array**	**79.32**	**316**	P		**P**	**11 34 31.9**	**+0.5**	
PDAR	**Pinedale Array**	**79.32**	**316**	P		**P**	**11 34 31.9**	**+0.5**	
PD01	**Pinedale Array**	**79.33**	**316**	*e*P		**P**	**11 34 31.7**	**+0.3**	
PD01	**Pinedale Array**	**79.33**	**316**	*e*P		**P**	**11 34 31.7**	**+0.3**	
HHC	**Hu-ho-hao-te**	**79.86**	**46**	*e*P		**P**	**11 34 34.3**	**+0.2**	
HHC				sP		**sP**	**11 34 40.0**	**-1.2**	
HHC				PP		**PP**	**11 37 37.3**	**+2.3**	
HHC				S		**S**	**11 44 35.8**	**-1.1**	
HHC				ScS		**SKKSac**	**11 44 54.8**	**+2.3**	
HHC				SS		**SS**	**11 49 47.4**	**+2.2**	
HHC				pmax		pmax			
	comp=Z,6.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,200nm,8.3s								
HHC				LR		LR			
	comp=N,270nm,16.6s								
HHC				LR		LR			
	comp=E,230nm,17.8s								
HHC				LR		LR			
	comp=Z,240nm,16.6s								
RRI2	**Red Ridge**	**79.93**	**317**	*e*P		**P**	**11 34 36.0**	**+1.3**	
	comp=Z,38nm,2.1s								
RRI2	**Red Ridge**	**79.93**	**317**	*e*P		**P**	**11 34 36.0**	**+1.3**	
	comp=Z,38nm,2.1s								
CD2	**Chengdu**	**81.02**	**58**	P		**P**	**11 34 41.1**	**+0.6**	
CD2				pP		**pP**	**11 34 45.8**	**+0.1**	
CD2				sP		**sP**	**11 34 48.1**	**+0.5**	
CD

IDC **17** *11:49:51.7±0.6,51˙01N×179˙17E,h0km,mb4.1/20, mb1 4.3/23,mb1mx4.2/31,mbtmp4.1/23,ML4.2/3,MS3.2/2, Ms1 3.2/2,ms1mx2.8/40,Error ellipse: s-maj=19.5km s-min=10.6km az=173.0*

MOS **17** *11:49:55.3±1.2,51˙10N×179˙02E,h33km,mb4.5/27,Error ellipse: s-maj=11.8km s-min=8.6km az=118.1*

BJI **17** *11:49:56.3,51˙20N×179˙00E,h49km,mB5.1/12,mb4.6/19, Ms4.6/11,MsT 4.5/11*

ISCJB **17** *11:49:57.8±0.7,51˙19N±0˙08×178˙95E±0˙03,h50km±4km, mb4.5/68,MS4.2/4,Error ellipse: s-maj=12.8km s-min=3.5km az=0.9*

NEIC **17** *11:49:59.0±0.5,51˙17N×178˙99E,h46km±3km,mb4.6/29, ML4.0(AEIC),Error ellipse: s-maj=8.7km s-min=3.0km az=179.0*

ISC 17 11:49:59.3±0.6,51˚15N±0˙10×178˚96E±0˙04,h49km±3km, n273,σ0s87/406,mb4.6/68,MS4.1/4,122C-82D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.55**	**66**	P	**Pn**	**11 50 23.4**	**-1.0**
GANE	**Gareloi Northe**	**1.57**	**64**	P	**Pn**	**11 50 23.6**	**-1.0**
GAEA	**Gareloi East**	**1.57**	**65**	P	**Pn**	**11 50 23.8**	**-0.8**
TASE	**Tanaga Southea**	**2.00**	**69**	P	**Pn**	**11 50 29.9**	**-0.7**
TASE				S	**Sn**	**11 50 55.0**	**+0.6**
TAFP	**Tanaga Falls P**	**2.05**	**67**	P	**Pn**	**11 50 30.8**	**-0.5**
TAFP				S	**Sn**	**11 50 58.4**	**+2.6**
KIMD	**Kanaga Island**	**2.46**	**74**	P	**Pn**	**11 50 36.0**	**-0.8**
KIKV	**Kanaga Island**	**2.53**	**72**	P	**Pn**	**11 50 37.3**	**-0.5**
KIKV				S	**Sn**	**11 51 09.5**	**+2.2**
ADAG	**Mount Adagdak**	**2.89**	**71**	P	**Pn**	**11 50 42.0**	**-0.8**
ADAG				S	**Sn**	**11 51 15.2**	**-1.1**
ETKA	**Kagalaska Isla**	**2.98**	**74**	P	**Pn**	**11 50 43.1**	**-0.9**
GSCK	**Great Sitkin C**	**3.16**	**72**	P	**Pn**	**11 50 46.0**	**-0.6**
GSTD	**Great Sitkin T**	**3.19**	**71**	P	**Pn**	**11 50 46.2**	**-0.6**
GSTD				S	**Sn**	**11 51 25.3**	**+1.7**
GSMY	**Great Sitkin M**	**3.23**	**72**	P	**Pn**	**11 50 46.5**	**-1.0**
GSTR	**Great Sitkin T**	**3.25**	**71**	*e*Pn	**Pn**	**11 50 47.7**	**+0.1**
SMY	**Shemya**	**3.40**	**300**	P	**Pn**	**11 50 49.6**	**-0.1**
SMY	**Shemya**	**3.40**	**300**	P	**Pn**	**11 50 49.6**	**-0.1**
FX1	**Attu Island--F**	**3.98**	**298**	Pn	**Pn**	**11 50 56.7**	**-1.0**
	66nm,0.3s,baz=158,slow=1.8,SNR=64						
FX1				Sn	Sn	11 51 51.4	+8.3
	74nm,0.3s,baz=111,slow=23,SNR=8.3						
FX1				LR	LR	11 52 27.6	
	comp=Z,574nm,19.3s,baz=331,slow=38						
FX1	**Attu Island--F**	**3.98**	**298**	*e*P	**Pn**	**11 50 57.7**	**0.0**
FX1						11 51 51.4	
FX1	**Attu Island--F**	**3.98**	**298**	*e*Pn	**Pn**	**11 50 57.7**	**0.0**
FX1				Sn	Sn	11 51 51.4	+8.3
UNV	**Unalaska Valle**	**9.27**	**67**	*e*Pn	**Pn**	**11 52 10.5**	**+0.3**
AKUT	**Akutan**	**9.75**	**66**	*e*Pn	**Pn**	**11 52 16.9**	**+0.3**
SDPT	**Sand Point**	**13.00**	**63**	*e*Pn	**Pn**	**11 52 60.0**	**-1.0**
PETK	**Petropavlovsk-**	**13.21**	**287**	Pn	**Pn**	**11 53 03.6**	**-0.2**
	0.3nm,0.3s,baz=90,slow=18,SNR=10						
PETK				LR	LR	11 56 32.5	
	comp=Z,45nm,20.6s,baz=282,slow=30						
PETK	**Petropavlovsk-**	**13.21**	**287**	P	**Pn**	**11 53 03.6**	**-0.2**
PETK				MLR	MLR		
	comp=Z,45nm,20.6s						
PETK	**Petropavlovsk-**	**13.21**	**287**	Pn	**Pn**	**11 53 03.6**	**-0.2**
KDAK	**Kodiak Island**	**17.73**	**57**	P	**Pn**	**11 53 59.3**	**-2.9**
	comp=Z,1.9nm,0.3s,baz=54,slow=18,SNR=12						
KDAK	**Kodiak Island**	**17.73**	**57**	*i* P	**Pn**	**11 53 59.9**	**-2.3**
KDAK	**Kodiak Island**	**17.73**	**57**	P	**Pn**	**11 53 59.3**	**-2.9**
BILL	**Bilibino**	**18.05**	**345**	⇓*e*P	**Pn**	**11 54 07.5**	**+1.4**
BILL				pmax	pmax		
	comp=Z,22nm,1.2s						
BILL	**Bilibino**	**18.05**	**345**	*e*P	**Pn**	**11 54 06.9**	**+0.8**
	comp=Z,16nm,0.9s						
BILL				*e*S	**S**	**11 57 29.6**	**-0.6**
RSO	**Redoubt South**	**18.29**	**48**	*e*P	**P**	**11 54 08.6**	**-0.4**
	comp=Z,39nm,0.8s						
SEY	**Seymchan**	**18.50**	**320**	*e*P	**Pn**	**11 54 12.4**	**+0.9**
COLA	**College**	**21.97**	**39**	*e*P	**P**	**11 54 48.4**	**-0.1**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
COLA	**College**	**21.97**	**39**	*e*P	**P**	**11 54 48.4**	**-0.1**
	comp=Z,5.8nm,0.8s						
COLD	**Coldfoot**	**22.19**	**32**	*e*P	**P**	**11 54 51.0**	**+0.1**
	comp=Z,57nm,2.4s						
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**11 54 49.5**	**-2.7**
	comp=Z,1.7nm,0.5s,baz=234,slow=7.9,SNR=26						
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**11 54 49.5**	**-2.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**11 54 49.5**	**-2.7**
EGAK	**Eagle**	**24.65**	**41**	*e*P	**P**	**11 55 14.5**	**-0.3**
	comp=Z,74nm,1.9s						
DAWY	**Dawson**	**25.24**	**43**	*e*P	**P**	**11 55 19.6**	**-0.6**
ASAJ	**Asahikawa**	**25.29**	**268**	P	**P**	**11 55 20.2**	**-0.7**
	comp=Z,15nm,0.8s,baz=93,slow=4.5,SNR=7.0						
ASAJ	**Asahikawa**	**25.29**	**268**	P	**P**	**11 55 20.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAJ	**Asahikawa**	**25.29**	**268**	P	**P**	**11 55 20.2**	**-0.7**
INK	**Inuvik**	**28.46**	**35**	P	**P**	**11 55 48.6**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=250,slow=8.1,SNR=16						
INK				PcP	**PcP**	**11 58 59.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=313,slow=7.0,SNR=4.4						
INK	**Inuvik**	**28.46**	**35**	P	**P**	**11 55 48.6**	**-0.5**
INK						11 58 59.9	
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**28.46**	**35**	*e*P	**P**	**11 55 48.5**	**-0.5**
	comp=Z,5.5nm,0.9s						
INK				PcP	**PcP**	**11 58 59.9**	**+0.2**
MJAR	**Matsushiro Arr**	**32.36**	**259**	P	**P**	**11 56 23.4**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=58,slow=6.5,SNR=4.7						
MJAR	**Matsushiro Arr**	**32.36**	**259**	P	**P**	**11 56 23.4**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**32.36**	**259**	P	**P**	**11 56 23.4**	**-0.4**
CN2	**Changchun**	**36.20**	**280**	*e*P	**P**	**11 56 55.8**	**-1.2**
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**11 56 57.5**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=281,slow=8.0,SNR=46						
YKA				PcP	**PcP**	**11 59 21.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=290,slow=3.2,SNR=6.1						
YKA				ScP	**ScP**	**12 03 07.1**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=289,slow=3.6,SNR=8.6						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**11 56 57.6**	**-0.9**
YKA						11 59 21.9	
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**11 56 57.5**	**-0.9**
YKA				PcP	**PcP**	**11 59 21.9**	**+0.3**
YKA				ScP	**ScP**	**12 03 07.1**	**+3.3**
BOD	**Bodaibo**	**36.99**	**306**	*e*P	**P**	**11 57 00.9**	**-2.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS	**Korea Array**	**38.23**	**269**	P	**P**	**11 57 15.1**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=59,slow=8.5,SNR=9.5						
KSRS	**Korea Array**	**38.23**	**269**	P	**P**	**11 57 15.1**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LON	**Longmire**	**38.23**	**73**	*e*P	**P**	**11 57 14.9**	**+0.7**
LON				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LON	**Longmire**	**38.23**	**73**	*e*P	**P**	**11 57 14.9**	**+0.7**
	comp=Z,3.7nm,0.7s						
KSAR	**Wonju Array Be**	**38.26**	**269**	P	**P**	**11 57 15.1**	**+0.6**
KSAR	**Wonju Array Be**	**38.26**	**269**	P	**P**	**11 57 15.1**	**+0.6**
HAWA	**Hanford**	**39.77**	**72**	*e*P	**P**	**11 57 27.5**	**+0.5**
	comp=Z,3.6nm,0.6s						
NEW	**Newport**	**40.28**	**68**	*e*P	**P**	**11 57 30.7**	**-0.6**
NEW				pmax	pmax		
	comp=Z,60nm,2.8s						
NEW	**Newport**	**40.28**	**68**	*e*P	**P**	**11 57 30.7**	**-0.6**
	comp=Z,60nm,2.8s						
NEW	**Newport**	**40.28**	**68**	⇑P	**P**	**11 57 30.6**	**-0.7**
	baz=40						
NEW				⇑P	**P**	**11 57 30.6**	**-0.7**
	baz=40						
C11A	**Tepee Creek (N**	**40.99**	**68**	⇓P	**P**	**11 57 37.0**	**-0.1**
	baz=41						
C11A				⇓P	**P**	**11 57 37.0**	**-0.1**
	baz=41						
C12B	**Naegeli Ranch,**	**41.52**	**68**	⇓P	**P**	**11 57 41.2**	**-0.2**
	baz=41,SNR=6.2						
C12B				⇓P	**P**	**11 57 41.2**	**-0.2**
	baz=41,SNR=6.2						
BSMT	**Bassoo Peak**	**41.85**	**68**	*e*P	**P**	**11 57 44.1**	**-0.3**
D12A	**Red Ives Fores**	**41.92**	**69**	⇑P	**P**	**11 57 44.2**	**-0.6**
	baz=42						
D12A				⇑P	**P**	**11 57 44.2**	**-0.6**
	baz=42						
C13A	**Hot Springs**	**42.06**	**68**	⇑P	**P**	**11 57 45.5**	**-0.4**
	baz=42						
C13A				⇑P	**P**	**11 57 45.5**	**-0.4**
	baz=42						
A14A	**Double T Ranch**	**42.08**	**65**	⇓P	**P**	**11 57 45.4**	**-0.7**
	baz=42						
A14A				⇓P	**P**	**11 57 45.4**	**-0.7**
	baz=42						
E12A	**Beaver Dam Sad**	**42.12**	**70**	⇑P	**P**	**11 57 46.8**	**+0.3**
	baz=42						
E12A				⇑P	**P**	**11 57 46.8**	**+0.3**
	baz=42						
C14A	**Swan Lake**	**42.49**	**67**	⇓P	**P**	**11 57 49.6**	**+0.1**
	baz=42						
C14A				⇓P	**P**	**11 57 49.6**	**+0.1**
	baz=42						
F12A	**Elk City**	**42.65**	**70**	⇓P	**P**	**11 57 51.2**	**+0.3**
	baz=42,SNR=7.2						
F12A				⇓P	**P**	**11 57 51.2**	**+0.3**
	baz=42,SNR=7.2						
MSO	**Missoula**	**42.86**	**68**	*e*P	**P**	**11 57 52.0**	**-0.6**
	comp=Z,36nm,2.6s						
MSO	**Missoula**	**42.86**	**68**	⇑P	**P**	**11 57 52.4**	**-0.1**
	baz=43						
MSO				⇑P	**P**	**11 57 52.4**	**-0.1**
	baz=43						
D14A	**Greenough**	**42.99**	**68**	⇑P	**P**	**11 57 52.5**	**-1.0**
	baz=43						
D14A				⇑P	**P**	**11 57 52.5**	**-1.0**
	baz=43						
C15A	**Salmond Ranch,**	**43.15**	**67**	⇓P	**P**	**11 57 54.5**	**-0.3**
	baz=43,SNR=5.0						
C15A				⇓P	**P**	**11 57 54.5**	**-0.3**
	baz=43,SNR=5.0						
H12A	**Diamond D Ranc**	**43.54**	**72**	⇓P	**P**	**11 57 57.5**	**-0.6**
	baz=43						
H12A				⇓P	**P**	**11 57 57.5**	**-0.6**
	baz=43						
G13A	**Cobalt**	**43.62**	**71**	⇑P	**P**	**11 57 58.1**	**-0.6**
	baz=43,SNR=6.8						
G13A				⇑P	**P**	**11 57 58.1**	**-0.6**
	baz=43,SNR=6.8						
I12A	**Atlanta**	**43.79**	**73**	⇑P	**P**	**11 58 00.3**	**+0.2**
	baz=44						
I12A				⇑P	**P**	**11 58 00.3**	**+0.2**
	baz=44						
B17A	**L&G Farms, Che**	**43.92**	**65**	⇑P	**P**	**11 58 00.7**	**-0.2**
	baz=44						
B17A				⇑P	**P**	**11 58 00.7**	**-0.2**
	baz=44						
BJI	**Beijing**	**44.04**	**281**	P	**P**	**11 58 01.5**	**-0.4**
BJI				S	**S**	**12 04 30.6**	**+0.1**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,300nm,5.8s						
BJI				LR	LR		
	comp=N,270nm,16.6s						
BJI				LR	LR		
	comp=E,230nm,18.5s						
BJI				LR	LR		
	comp=Z,56nm,17.1s						
HRY	**Holter Researc**	**44.16**	**67**	*e*P	**P**	**11 58 01.9**	**-1.1**
C17A	**Wharram Farm,**	**44.29**	**66**	⇑P	**P**	**11 58 02.8**	**-1.1**
	baz=44						
C17A				⇑P	**P**	**11 58 02.8**	**-1.1**
	baz=44						
I13A	**Wildhorse Cree**	**44.34**	**72**	⇑P	**P**	**11 58 04.5**	**0.0**
	baz=44,SNR=7.2						
I13A				⇑P	**P**	**11 58 04.5**	**0.0**
	baz=44,SNR=7.2						
HLID	**Hailey**	**44.35**	**73**	*e*P	**P**	**11 58 05.1**	**+0.4**
	comp=Z,4.0nm,0.8s						
HLID	**Hailey**	**44.35**	**73**	⇑P	**P**	**11 58 04.8**	**+0.2**
	baz=44,SNR=5.5						
HLID				⇑P	**P**	**11 58 04.8**	**+0.2**
	baz=44,SNR=5.5						
H14A	**Leadore**	**44.39**	**71**	⇓P	**P**	**11 58 04.5**	**-0.4**
	baz=44						
H14A				⇓P	**P**	**11 58 04.5**	**-0.4**
	baz=44						
MCMT	**McKenzie Canyo**	**44.58**	**70**	*e*P	**P**	**11 58 06.5**	**0.0**
	comp=Z,1.5nm,0.6s						
J13A	**Cove Ranch, Pi**	**44.59**	**73**	⇓P	**P**	**11 58 06.8**	**+0.4**
	baz=44,SNR=12						
J13A				⇓P	**P**	**11 58 06.8**	**+0.4**
	baz=44,SNR=12						
G15A	**Dillon**	**44.61**	**70**	⇓P	**P**	**11 58 05.7**	**-0.9**
	baz=44						
G15A				⇓P	**P**	**11 58 05.7**	**-0.9**
	baz=44						
I14A	**Mackay**	**44.73**	**72**	⇑P	**P**	**11 58 07.9**	**+0.3**
	baz=44,SNR=5.5						
I14A				⇑P	**P**	**11 58 07.9**	**+0.3**
	baz=44,SNR=5.5						
F16A	**Kennard Place,**	**44.78**	**68**	⇑P	**P**	**11 58 07.7**	**-0.2**
	baz=45						
F16A				⇑P	**P**	**11 58 07.7**	**-0.2**
	baz=45						
H15A	**Lima**	**44.82**	**70**	⇓P	**P**	**11 58 08.3**	**-0.1**
	baz=45						
H15A				⇓P	**P**	**11 58 08.3**	**-0.1**
	baz=45						
BOZ	**Bozeman (W)**	**44.85**	**69**	*e*P	**P**	**11 58 08.3**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOZ	**Bozeman (W)**	**44.85**	**69**	*e*P	**P**	**11 58 08.3**	**-0.2**
	comp=Z,3.0nm,0.7s						
BOZ	**Bozeman (W)**	**44.85**	**69**	⇓P	**P**	**11 58 08.0**	**-0.5**
	baz=45,SNR=7.5						
BOZ				⇓P	**P**	**11 58 08.0**	**-0.5**
	baz=45,SNR=7.5						
BOZ				⇓P	**P**	**11 58 08.0**	**-0.5**
	baz=45,SNR=7.5						
NVAR	**Mina Array Bea**	**44.98**	**81**	P	**P**	**11 58 08.4**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=302,slow=7.4,SNR=7.5						
NVAR	**Mina Array Bea**	**44.98**	**81**	P	**P**	**11 58 08.4**	**-1.3**
G16A	**Moss Hill, Enn**	**44.98**	**69**	⇓P	**P**	**11 58 09.0**	**-0.5**
	baz=45						
G16A				⇓P	**P**	**11 58 09.0**	**-0.5**
	baz=45						
TLY	**Talaya**	**44.99**	**302**	*e*P	**P**	**11 58 08.8**	**-0.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,92nm,18.0s						
J14A	**Carey**	**45.03**	**72**	⇑P	**P**	**11 58 10.3**	**+0.3**
	baz=45						
J14A				⇑P	**P**	**11 58 10.3**	**+0.3**
	baz=45						
D18A	**Linhart Farms,**	**45.07**	**66**	⇑P	**P**	**11 58 10.3**	**+0.1**
	baz=45						
D18A				⇑P	**P**	**11 58 10.3**	**+0.1**
	baz=45						
ULN	**Ulaanbaatar**	**45.10**	**295**	*e*P	**P**	**11 58 10.0**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**45.10**	**295**	*e*P	**P**	**11 58 10.0**	**-0.4**
	comp=Z,4.5nm,1.0s						
C19A	**Slack Wire Ran**	**45.21**	**65**	⇑P	**P**	**11 58 10.7**	**-0.6**
	baz=45						
C19A				⇑P	**P**	**11 58 10.7**	**-0.6**
	baz=45						
SONM	**Songino Array**	**45.49**	**296**	P	**P**	**11 58 13.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=58,slow=7.4,SNR=20						
SONM				PcP	**PcP**	**11 59 51.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=110,slow=2.1,SNR=5.6						
SONM	**Songino Array**	**45.49**	**296**	P	**P**	**11 58 13.9**	**+0.4**
SONM						11 59 51.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**45.49**	**296**	P	**P**	**11 58 13.9**	**+0.4**
SONM				PcP	**PcP**	**11 59 51.4**	**-0.2**
H16A	**Russell Place,**	**45.60**	**69**	⇑P	**P**	**11 58 13.9**	**-0.6**
	baz=45,SNR=6.2						
H16A				⇑P	**P**	**11 58 13.9**	**-0.6**
	baz=45,SNR=6.2						
D19A	**Cripps Ranch,**	**45.62**	**65**	⇓P	**P**	**11 58 14.1**	**-0.4**
	baz=45						
D19A				⇓P	**P**	**11 58 14.1**	**-0.4**
	baz=45						
ZAK	**Zakamensk**	**45.86**	**300**	*e*P	**P**	**11 58 15.6**	**-0.8**
ZAK				*e*		11 59 53.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
L14A	**Malta**	**45.94**	**74**	⇑P	**P**	**11 58 17.8**	**+0.6**
	baz=46,SNR=7.3						
L14A				⇑P	**P**	**11 58 17.8**	**+0.6**
	baz=46,SNR=7.3						
K15A	**Arbon**	**45.99**	**73**	⇓P	**P**	**11 58 18.5**	**+1.0**
	baz=46,SNR=10.0						
K15A				⇓P	**P**	**11 58 18.5**	**+1.0**
	baz=46,SNR=10.0						
LKWY	**Lake**	**46.18**	**69**	*e*P	**P**	**11 58 20.9**	**+1.7**
LKWY				pmax	pmax		
	comp=Z,82nm,2.8s						
LKWY	**Lake**	**46.18**	**69**	*e*P	**P**	**11 58 20.9**	**+1.7**
	comp=Z,82nm,2.8s						
J16A	**Bone**	**46.20**	**71**	⇑P	**P**	**11 58 19.8**	**+0.6**
	baz=46,SNR=5.2						
J16A				⇑P	**P**	**11 58 19.8**	**+0.6**
	baz=46,SNR=5.2						
FLWY	**Flagg Ranch**	**46.28**	**70**	*e*P	**P**	**11 58 19.8**	**-0.1**
	comp=Z,30nm,1.8s						
RRI2	**Red Ridge**	**46.33**	**71**	*e*P	**P**	**11 58 20.3**	**-0.1**
	comp=Z,3.9nm,0.6s						
HVU	**Hansel Valley**	**46.37**	**74**	*e*P	**P**	**11 58 20.4**	**-0.2**
HVU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HVU	**Hansel Valley**	**46.37**	**74**	*e*P	**P**	**11 58 20.4**	**-0.2**
	comp=Z,4.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**46.39**	**285**	*e*P	**P**	**11 58 21.3**	**+0.6**
HHC				pP	**pP**	**11 58 34.5**	**+0.6**
HHC				sP	**sP**	**11 58 39.3**	**-0.4**
HHC				PcP	**PcP**	**11 59 56.6**	**+1.7**
HHC				PP	PP	12 00 10.9	+0.9
HHC				S	**S**	**12 05 03.4**	**-1.3**
HHC				sS	**sS**	**12 05 24.8**	**-2.1**
HHC				ScS	**ScS**	**12 08 10.3**	**-1.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,5.4s						
HHC				LR	LR		
	comp=N,370nm,17.8s						
HHC				LR	LR		
	comp=E,240nm,16.7s						
HHC				LR	LR		
	comp=Z,190nm,16.7s						
RLMT	**Red Lodge**	**46.53**	**68**	*e*P	**P**	**11 58 22.8**	**+0.9**
	comp=Z,102nm,2.8s						
HWUT	**Hardware Ranch**	**47.20**	**73**	*e*P	**P**	**11 58 27.1**	**0.0**
	comp=Z,59nm,2.8s						
DUG	**Dugway**	**47.29**	**75**	*e*P	**P**	**11 58 27.6**	**-0.1**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DUG	**Dugway**	**47.29**	**75**	*e*P	**P**	**11 58 27.6**	**-0.1**
	comp=Z,8.2nm,1.3s						
DUG	**Dugway**	**47.29**	**75**	⇑P	**P**	**11 58 28.5**	**+0.7**
	baz=47						
DUG				⇑P	**P**	**11 58 28.5**	**+0.7**
	baz=47						
M16A	**Huntsville**	**47.34**	**74**	⇑P	**P**	**11 58 28.5**	**+0.3**
	baz=47						
M16A				⇑P	**P**	**11 58 28.5**	**+0.3**
	baz=47						
C23A	**Lambert**	**47.36**	**63**	⇑P	**P**	**11 58 28.1**	**0.0**
	baz=47						
C23A				⇑P	**P**	**11 58 28.1**	**0.0**
	baz=47						
K18A	**Toltan Ranch,**	**47.51**	**71**	⇓P	**P**	**11 58 30.1**	**+0.6**
	baz=47,SNR=5.4						
K18A				⇓P	**P**	**11 58 30.1**	**+0.6**
	baz=47,SNR=5.4						
BW06	**Boulder Array**	**47.72**	**71**	*e*P	**P**	**11 58 31.1**	**0.0**
	comp=Z,4.8nm,0.6s						
BW06	**Boulder Array**	**47.72**	**71**	⇑P	**P**	**11 58 31.2**	**+0.1**
	baz=48,SNR=8.4						
BW06				⇑P	**P**	**11 58 31.2**	**+0.1**
	baz=48,SNR=8.4						
BW06				⇑P	**P**	**11 58 31.2**	**+0.1**
	baz=48,SNR=8.4						
BW06				⇑P	**P**	**11 58 31.2**	**+0.1**
	baz=48,SNR=8.4						
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**11 58 30.9**	**-0.2**
	comp=Z,5.4nm,0.6s,baz=321,slow=2.9,SNR=49						
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**11 58 30.9**	**-0.2**
J19A	**Crowheart**	**47.72**	**70**	⇓P	**P**	**11 58 31.4**	**+0.3**
	baz=48						
J19A				⇓P	**P**	**11 58 31.4**	**+0.3**
	baz=48						
M17A	**Scullys Gap (B**	**47.82**	**73**	⇑P	**P**	**11 58 32.0**	**+0.1**
	baz=48						
M17A				⇑P	**P**	**11 58 32.0**	**+0.1**
	baz=48						
I20A	**Worland**	**47.87**	**69**	⇑P	**P**	**11 58 31.8**	**-0.3**
	baz=48						
I20A				⇑P	**P**	**11 58 31.8**	**-0.3**
	baz=48						
L18A	**Fontenelle, Gr**	**47.93**	**72**	⇓P	**P**	**11 58 32.9**	**+0.1**
	baz=48,SNR=5.5						
L18A				⇓P	**P**	**11 58 32.9**	**+0.1**
	baz=48,SNR=5.5						
K19A	**Absolon Red Bu**	**48.10**	**70**	⇑P	**P**	**11 58 33.2**	**-0.9**
	baz=48,SNR=7.4						
K19A				⇑P	**P**	**11 58 33.2**	**-0.9**
	baz=48,SNR=7.4						
M18A	**Lyman**	**48.21**	**72**	⇑P	**P**	**11 58 34.9**	**-0.1**
	baz=48						
M18A				⇑P	**P**	**11 58 34.9**	**-0.1**
	baz=48						
L19A	**Farson**	**48.23**	**71**	⇓P	**P**	**11 58 34.9**	**-0.3**
	baz=48						
L19A				⇓P	**P**	**11 58 34.9**	**-0.3**
	baz=48						
F23A	**Volborg**	**48.41**	**65**	⇑P	**P**	**11 58 36.0**	**-0.3**
	baz=48						
F23A				⇑P	**P**	**11 58 36.0**	**-0.3**
	baz=48						
I21A	**Big Trails, Te**	**48.44**	**68**	⇑P	**P**	**11 58 36.3**	**-0.3**
	baz=48						
I21A				⇑P	**P**	**11 58 36.3**	**-0.3**
	baz=48						
SRU	**San Rafael**	**49.35**	**75**	*e*P	**P**	**11 58 45.0**	**+1.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SRU	**San Rafael**	**49.35**	**75**	*e*P	**P**	**11 58 45.0**	**+1.3**
	comp=Z,4.2nm,0.6s						
SRU	**San Rafael**	**49.35**	**75**	⇑P	**P**	**11 58 45.2**	**+1.6**
	baz=49,SNR=5.2						
SRU				⇑P	**P**	**11 58 45.2**	**+1.6**
	baz=49,SNR=5.2						
O19A	**Miners Draw (B**	**49.47**	**73**	⇓P	**P**	**11 58 44.8**	**+0.3**
	baz=49,SNR=14						
O19A				⇓P	**P**	**11 58 44.8**	**+0.3**
	baz=49,SNR=14						
L21A	**Rawlins**	**49.50**	**70**	⇑P	**P**	**11 58 44.6**	**-0.2**
	baz=49						
L21A				⇑P	**P**	**11 58 44.6**	**-0.2

S17A	**Black Ridge (B**	**50.11**	**77**	⇓P		**P**		**11 58 49.4**	**0.0**
	baz=50,SNR=7.3									
S17A				⇓P		**P**		**11 58 49.4**	**0.0**
	baz=50,SNR=7.3									
N21A	**Black Mountain**	**50.14**	**72**	⇓P		**P**		**11 58 49.4**	**-0.3**
	baz=50									
N21A				⇓P		**P**		**11 58 49.4**	**-0.3**
	baz=50									
Q19A	**Hogan Spring (**	**50.22**	**75**	⇓P		**P**		**11 58 49.9**	**-0.3**
	baz=50									
Q19A				⇓P		**P**		**11 58 49.9**	**-0.3**
	baz=50									
L23A	**Garrett**	**50.39**	**69**	⇑P		**P**		**11 58 50.7**	**-0.9**
	baz=50									
L23A				⇑P		**P**		**11 58 50.7**	**-0.9**
	baz=50									
P20A	**De Beque**	**50.40**	**73**	⇓P		**P**		**11 58 51.4**	**-0.2**
	baz=50									
P20A				⇓P		**P**		**11 58 51.4**	**-0.2**
	baz=50									
SPB4	**Spitsbergen Ar**	**50.50**	**355**	*e*P		**P**		**11 58 51.0**	**-0.7**
T17A	**Navajo Res., N**	**50.51**	**77**	⇑P		**P**		**11 58 52.9**	**+0.4**
	baz=50									
T17A				⇑P		**P**		**11 58 52.9**	**+0.4**
	baz=50									
S18A	**Hurst Farm, Bl**	**50.57**	**76**	⇓P		**P**		**11 58 52.8**	**-0.2**
	baz=50									
S18A				⇓P		**P**		**11 58 52.8**	**-0.2**
	baz=50									
R19A	**Curley Farm, L**	**50.63**	**75**	⇑P		**P**		**11 58 53.9**	**+0.5**
	baz=50									
R19A				⇑P		**P**		**11 58 53.9**	**+0.5**
	baz=50									
N22A	**Wattenberg Ran**	**50.75**	**71**	⇓P		**P**		**11 58 54.6**	**+0.3**
	baz=50									
N22A				⇓P		**P**		**11 58 54.6**	**+0.3**
	baz=50									
PV04	**Paradox Valley**	**50.79**	**75**	*e*P		**P**		**11 58 55.0**	**+0.4**
Q20A	**Ridgley Place,**	**50.80**	**74**	⇑P		**P**		**11 58 54.0**	**-0.7**
	baz=51									
Q20A				⇑P		**P**		**11 58 54.0**	**-0.7**
	baz=51									
P21A	**Newcastle**	**50.95**	**73**	⇓P		**P**		**11 58 55.5**	**-0.3**
	baz=51									
P21A				⇓P		**P**		**11 58 55.5**	**-0.3**
	baz=51									
T18A	**Mexican Hat**	**50.99**	**77**	⇑P		**P**		**11 58 55.8**	**-0.3**
	baz=51									
T18A				⇑P		**P**		**11 58 55.8**	**-0.3**
	baz=51									
S19A	**Harvey Farm, M**	**51.06**	**76**	⇑P		**P**		**11 58 56.8**	**+0.2**
	baz=51									
S19A				⇑P		**P**		**11 58 56.8**	**+0.2**
	baz=51									
R20A	**Redvale**	**51.23**	**75**	⇓P		**P**		**11 58 58.0**	**0.0**
	baz=51									
R20A				⇓P		**P**		**11 58 58.0**	**0.0**
	baz=51									
Q21A	**Lamborn Mesa,**	**51.31**	**74**	⇑P		**P**		**11 58 58.7**	**+0.2**
	baz=51									
Q21A				⇑P		**P**		**11 58 58.7**	**+0.2**
	baz=51									
O23A	**Lake Granby, G**	**51.44**	**71**	⇑P		**P**		**11 59 00.2**	**+0.6**
	baz=51									
O23A				⇑P		**P**		**11 59 00.2**	**+0.6**
	baz=51									
SMCO	**Snowmass**	**51.46**	**73**	*e*P		**P**		**11 58 59.4**	**-0.4**
	comp=Z,46nm,2.8s									
S20A	**Disappointment**	**51.48**	**75**	⇑P		**P**		**11 58 59.9**	**+0.1**
	baz=51									
S20A				⇑P		**P**		**11 58 59.9**	**+0.1**
	baz=51									
R21A	**Cimarron**	**51.62**	**74**	⇑P		**P**		**11 59 01.3**	**+0.3**
	baz=51									
R21A				⇑P		**P**		**11 59 01.3**	**+0.3**
	baz=51									
Q22A	**Crested Butte,**	**51.70**	**73**	⇑P		**P**		**11 59 01.2**	**-0.3**
	baz=52									
Q22A				⇑P		**P**		**11 59 01.2**	**-0.3**
	baz=52									
T19A	**Beclabito**	**51.71**	**76**	⇓P		**P**		**11 59 02.1**	**+0.6**
	baz=52,SNR=6.5									
T19A				⇓P		**P**		**11 59 02.1**	**+0.6**
	baz=52,SNR=6.5									
V18A	**Ganado**	**51.88**	**78**	⇓P		**P**		**11 59 03.5**	**+0.7**
	baz=52									
V18A				⇓P		**P**		**11 59 03.5**	**+0.7**
	baz=52									
ISCO	**Idaho Springs**	**51.88**	**71**	⇑P		**P**		**11 59 03.5**	**+0.6**
	baz=52									
ISCO				⇑P		**P**		**11 59 03.5**	**+0.6**
	baz=52									
ZALV	**Zalesovo Beam**	**53.16**	**313**	P		**P**		**11 59 11.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=43,slow=8.5,SNR=4.2									
ZALV	**Zalesovo Beam**	**53.16**	**313**	P		**P**		**11 59 11.2**	**-0.6**
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.4s									
ZALV	**Zalesovo Beam**	**53.16**	**313**	P		**P**		**11 59 11.2**	**-0.6**
Q25A	**Bedland, Calha**	**53.26**	**71**	⇑P		**P**		**11 59 13.4**	**+0.4**
	baz=53									
Q25A				⇑P		**P**		**11 59 13.4**	**+0.4**
	baz=53									
SDCO	**Great Sand Dun**	**53.26**	**73**	*e*P		**P**		**11 59 13.7**	**+0.6**
	comp=Z,77nm,2.9s									
SDCO	**Great Sand Dun**	**53.26**	**73**	⇑P		**P**		**11 59 13.4**	**+0.3**
	baz=53									
SDCO				⇑P		**P**		**11 59 13.4**	**+0.3**
	baz=53									
SDCO				⇑P		**P**		**11 59 13.4**	**+0.3**
	baz=53									
SDCO				⇑P		**P**		**11 59 13.4**	**+0.3**
	baz=53									
NVS	**Novosibirsk**	**53.33**	**314**	*e*P		**P**		**11 59 11.4**	**-1.6**
NVS				pmax	pmax					
	comp=N,2.0nm,0.9s									
NVS				pmax	pmax					
	comp=E,2.0nm,0.9s									
NVS				pmax	pmax					
	comp=Z,4.0nm,0.9s									
P26A	**Davis Ranch, A**	**53.38**	**70**	⇑P		**P**		**11 59 14.5**	**+0.7**
	baz=53									
P26A				⇑P		**P**		**11 59 14.5**	**+0.7**
	baz=53									
X20A	**Quemado**	**53.53**	**78**	⇓P		**P**		**11 59 16.0**	**+1.0**
	baz=53									
X20A				⇓P		**P**		**11 59 16.0**	**+1.0**
	baz=53									
R25A	**Fountain Ranch**	**53.73**	**72**	⇓P		**P**		**11 59 16.7**	**+0.3**
	baz=54,SNR=5.1									
R25A				⇓P		**P**		**11 59 16.7**	**+0.3**
	baz=54,SNR=5.1									
S25A	**Robets Cordova**	**53.96**	**73**	⇑P		**P**		**11 59 18.6**	**+0.5**
	baz=54									
S25A				⇑P		**P**		**11 59 18.6**	**+0.5**
	baz=54									
T24A	**Torres, Weston**	**53.97**	**74**	⇓P		**P**		**11 59 19.4**	**+1.1**
	baz=54									
T24A				⇓P		**P**		**11 59 19.4**	**+1.1**
	baz=54									
R26A	**Arlington**	**54.13**	**71**	⇓P		**P**		**11 59 19.4**	**+0.1**
	baz=54									
R26A				⇓P		**P**		**11 59 19.4**	**+0.1**
	baz=54									
T25A	**Trinidad**	**54.31**	**73**	⇓P		**P**		**11 59 20.9**	**+0.2**
	baz=54									
T25A				⇓P		**P**		**11 59 20.9**	**+0.2**
	baz=54									
GTA	**Gaotai**	**54.34**	**291**	*e*P		**P**		**11 59 20.9**	**+0.1**
GTA				pmax	pmax					
	comp=Z,7.0nm,1.0s									
LAZ	**Ladron**	**54.46**	**77**	*e*P		**P**		**11 59 19.7**	**-2.1**
R27A	**Eads**	**54.53**	**71**	⇑P		**P**		**11 59 22.6**	**+0.4**
	baz=54									
R27A				⇑P		**P**		**11 59 22.6**	**+0.4**
	baz=54									
S26A	**Kim**	**54.56**	**72**	⇓P		**P**		**11 59 22.5**	**+0.1**
	baz=54									
S26A				⇓P		**P**		**11 59 22.5**	**+0.1**
	baz=54									
T26A	**Comanche Natio**	**54.78**	**73**	⇑P		**P**		**11 59 24.1**	**0.0**
	baz=55									
T26A				⇑P		**P**		**11 59 24.1**	**0.0**
	baz=55									
U25A	**Circle Dot Ran**	**54.80**	**74**	⇑P		**P**		**11 59 24.4**	**+0.2**
	baz=55									
U25A				⇑P		**P**		**11 59 24.4**	**+0.2**
	baz=55									
V25A	**Rancho No Teng**	**55.05**	**74**	⇓P		**P**		**11 59 26.7**	**+0.7**
	baz=55									
V25A				⇓P		**P**		**11 59 26.7**	**+0.7**
	baz=55									
U26A	**Atchley Ranch,**	**55.21**	**73**	⇓P		**P**		**11 59 28.0**	**+0.8**
	baz=55									
U26A				⇓P		**P**		**11 59 28.0**	**+0.8**
	baz=55									
W25A	**X Bar L Ranch,**	**55.56**	**75**	⇑P		**P**		**11 59 30.0**	**+0.4**
	baz=55									
W25A				⇑P		**P**		**11 59 30.0**	**+0.4**
	baz=55									
CD2	**Chengdu**	**57.64**	**280**	P		**P**		**11 59 45.6**	**+1.3**
CD2				pP		**pP**		**11 59 59.0**	**+1.1**
CD2				sP		**sP**		**12 00 04.8**	**+1.2**
CD2				PP		**PP**		**12 01 55.1**	**+2.8**
CD2				S		**S**		**12 07 37.6**	**-1.4**
CD2				sS		**sS**		**12 08 00.3**	**-1.5**
CD2				SS		**SS**		**12 11 28.3**	**-1.0**
CD2				pmax	pmax					
	comp=Z,20nm,0.5s									
CD2				pmax	pmax					
	comp=Z,290nm,6.3s									
CD2				LR	LR					
	comp=N,290nm,6.5s									
CD2				LR	LR					
	comp=Z,310nm,8.3s									
ARCES	**ARCESS Array B**	**58.07**	**349**	P		**P**		**11 59 45.5**	**-1.3**
	comp=Z,3.7nm,0.9s,baz=14,slow=5.6,SNR=3.5									
ARCES	**ARCESS Array B**	**58.07**	**349**	P		**P**		**11 59 45.5**	**-1.3**
ARCES				pmax	pmax					
	comp=Z,4.0nm,0.9s									
ARCES	**ARCESS Array B**	**58.07**	**349**	P		**P**		**11 59 45.5**	**-1.3**
KURK	**Kurchatov**	**58.15**	**313**	*ce*P		**P**		**11 59 47.8**	**+0.2**
KURK				pmax	pmax					
	comp=Z,12nm,2.5s									
KURK	**Kurchatov**	**58.15**	**313**	*e*P		**P**		**11 59 47.4**	**-0.1**
	comp=Z,4.5nm,0.7s									
WMQ	**Urumqi**	**58.28**	**302**	*e*P		**P**		**11 59 51.6**	**+2.9**
WMQ				pP		**pP**		**12 00 04.6**	**+2.3**
WMQ				sP		**sP**		**12 00 09.6**	**+1.7**
WMQ				pmax	pmax					
	comp=Z,6.0nm,0.6s									
WMQ				LR	LR					
	comp=N,600nm,18.5s									
WMQ				LR	LR					
	comp=E,460nm,22.7s									
WMQ				LR	LR					
	comp=Z,820nm,19.3s									
GYA	**Guiyang**	**58.94**	**275**	*e*P		**P**		**11 59 54.0**	**+0.4**
GYA				pmax	pmax					
	comp=Z,10.0nm,1.0s									
MK31	**Makanchi Array**	**59.07**	**307**	*e*P		**P**		**11 59 53.4**	**-0.7**
MK31	**Makanchi Array**	**59.07**	**307**	*e*P		**P**		**11 59 53.4**	**-0.7**
MKAR	**Makanchi Array**	**59.07**	**307**	P		**P**		**11 59 53.2**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=49,slow=6.4,SNR=14									
MKAR	**Makanchi Array**	**59.07**	**307**	*e*P		**P**		**11 59 53.5**	**-0.6**
MKAR	**Makanchi Array**	**59.07**	**307**	*e*P		**P**		**11 59 53.5**	**-0.6**
TXAR	**Lajitas Array**	**60.08**	**79**	P		**P**		**12 00 01.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=304,slow=5.2,SNR=11									
TXAR	**Lajitas Array**	**60.08**	**79**	P		**P**		**12 00 01.1**	**-0.3**
TXAR	**Lajitas Array**	**60.08**	**79**	P		**P**		**12 00 01.1**	**-0.3**
BRVK	**Borovoye**	**60.17**	**319**	*ce*P		**P**		**12 00 02.0**	**+0.5**
BRVK				pmax	pmax					
	comp=Z,2.0nm,0.5s									
BRVK	**Borovoye**	**60.17**	**319**	*e*P		**P**		**12 00 01.9**	**+0.4**
	comp=Z,4.7nm,0.8s									
SCHQ	**Schefferville**	**61.05**	**37**	P		**P**		**12 00 06.6**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=307,slow=10,SNR=3.6									
SCHQ	**Schefferville**	**61.05**	**37**	P		**P**		**12 00 06.6**	**-0.9**
ARU	**Arti**	**62.05**	**327**	*d* iP		**P**		**12 00 14.9**	**+0.8**
ARU				S		**S**		**12 08 40.8**	**+6.0**
ARU				SS		SS		12 12 47.8	+11
ARU				pmax	pmax					
	comp=Z,12nm,1.0s									
ARU	**Arti**	**62.05**	**327**	*e*P		**P**		**12 00 15.0**	**+0.9**
	comp=Z,8.4nm,0.8s									
KMI	**Kunming**	**62.36**	**276**	P		**P**		**12 00 19.3**	**+2.3**
KMI				pmax	pmax					
	comp=Z,7.0nm,1.2s									
MIAR	**Mount Ida**	**62.52**	**68**	*e*P		**P**		**12 00 17.8**	**+0.1**
MIAR				pmax	pmax					
	comp=Z,8.0nm,1.1s									
MIAR	**Mount Ida**	**62.52**	**68**	*e*P		**P**		**12 00 17.8**	**+0.1**
	comp=Z,8.3nm,1.1s									
AAK	**Ala-Archa**	**65.92**	**308**	*e*P		**P**		**12 00 40.2**	**+0.2**
AAK				pmax	pmax					
	comp=Z,5.0nm,1.2s									
ABKAR	**Akbulak array**	**67.26**	**322**	*e*P		**P**		**12 00 49.0**	**+0.7**
KKAR	**Karatay Array**	**67.49**	**311**	*e*P		**P**		**12 00 50.3**	**+0.5**
KKAR	**Karatay Array**	**67.49**	**311**	*e*P		**P**		**12 00 50.3**	**+0.5**
NOA	**NORSAR Array B**	**67.73**	**354**	P		**P**		**12 00 50.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=10,slow=6.7,SNR=3.7									
NOA	**NORSAR Array B**	**67.73**	**354**	P		**P**		**12 00 50.4**	**-0.7**
NOA				pmax	pmax					
	comp=Z,1.0nm,0.7s									
NOA	**NORSAR Array B**	**67.73**	**354**	P		**P**		**12 00 50.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**69.63**	**274**	P		**P**		**12 01 03.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=25,slow=7.0,SNR=4.9									
CMAR	**Chiang Mai Arr**	**69.63**	**274**	P		**P**		**12 01 03.4**	**-0.1**
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**69.63**	**274**	P		**P**		**12 01 03.4**	**-0.1**
TAPN	**Taplejung**	**69.96**	**289**	*e*P		**P**		**12 01 06.2**	**+0.4**
	comp=Z,19nm,0.8s									
TAPN	**Taplejung**	**69.96**	**289**	*e*P		**P**		**12 01 06.2**	**+0.4**
	comp=Z,19nm,0.8s									
GUN	**Gumba**	**70.63**	**290**	*e*P		**P**		**12 01 10.5**	**+0.6**
	comp=Z,41nm,0.8s									
GUN	**Gumba**	**70.63**	**290**	*e*P		**P**		**12 01 10.5**	**+0.6**
	comp=Z,41nm,0.8s									
JIRN	**Jiri**	**70.63**	**290**	*e*P		**P**		**12 01 10.5**	**+0.5**
	comp=Z,47nm,0.9s									
JIRN	**Jiri**	**70.63**	**290**	*e*P		**P**		**12 01 10.5**	**+0.5**
	comp=Z,47nm,0.9s									
RAMN	**Ramite**	**70.92**	**289**	*e*P		**P**		**12 01 11.7**	**+0.2**
	comp=Z,50nm,0.8s									
RAMN	**Ramite**	**70.92**	**289**	*e*P		**P**		**12 01 11.7**	**+0.2**
	comp=Z,50nm,0.8s									
KKN	**Kakani**	**71.07**	**291**	*e*P		**P**		**12 01 13.1**	**+0.7**
	comp=Z,21nm,0.6s									
KKN	**Kakani**	**71.07**	**291**	*e*P		**P**		**12 01 13.1**	**+0.7**
KKN				pmax	pmax					
	comp=Z,21nm,0.6s									
KKN	**Kakani**	**71.07**	**291**	*e*P		**P**		**12 01 13.1**	**+0.7**
	comp=Z,21nm,0.6s									
PKI	**Pulchoki**	**71.16**	**291**	*e*P		**P**		**12 01 13.2**	**+0.1**
	comp=Z,17nm,0.7s									
PKI	**Pulchoki**	**71.16**	**291**	*e*P		**P**		**12 01 13.2**	**+0.1**
PKI				pmax	pmax					
	comp=Z,17nm,0.7s									
PKI	**Pulchoki**	**71.16**	**291**	*e*P		**P**		**12 01 13.2**	**+0.1**
	comp=Z,17nm,0.7s									
GKN	**Gorkha**	**71.29**	**291**	*e*P		**P**		**12 01 14.2**	**+0.5**
	comp=Z,34nm,0.8s									
GKN	**Gorkha**	**71.29**	**291**	*e*P		**P**		**12 01 14.2**	**+0.5**
	comp=Z,34nm,0.8s									
DMN	**Daman**	**71.31**	**291**	*e*P		**P**		**12 01 14.6**	**+0.7**
	comp=Z,20nm,0.9s									
DMN	**Daman**	**71.31**	**291**	*e*P		**P**		**12 01 14.6**	**+0.7**
	comp=Z,20nm,0.9s									
DANN	**Dangsing**	**71.55**	**292**	*e*P		**P**		**12 01 16.0**	**+0.6**
	comp=Z,31nm,0.7s									
DANN	**Dangsing**	**71.55**	**292**	*e*P		**P**		**12 01 16.0**	**+0.6**
	comp=Z,31nm,0.7s									
KOLN	**Koldanda**	**72.07**	**292**	*e*P		**P**		**12 01 18.7**	**+0.2**
	comp=Z,13nm,0.7s									
KOLN	**Koldanda**	**72.07**	**292**	*e*P		**P**		**12 01 18.7**	**+0.2**
	comp=Z,13nm,0.7s									
AKASG	**Malin Array Be**	**75.32**	**341**	P		**P**		**12 01 36.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=21,slow=6.4,SNR=4.1									
AKASG	**Malin Array Be**	**75.32**	**341**	P		**P**		**12 01 36.1**	**-0.7**
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.4s									
AKASG	**Malin Array Be**	**75.32**	**341**	P		**P**		**12 01 36.1**	**-0.7**
WRA	**Warramunga Arr**	**80.88**	**222**	P		**P**		**12 02 06.6**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=31,slow=5.6,SNR=19									
WRA	**Warramunga Arr**	**80.88**	**222**	P		**P**		**12 02 06.6**	**-1.3**
WRA				pmax	pmax					
	comp=Z,1.0nm,0.5s									
WRA	**Warramunga Arr**	**80.88**	**222**	P		**P**		**12 02 06.6**	**-1.3**
ASAR	**Alice Springs**	**84.38**	**221**	P		**P**		**12 02 25.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=26,slow=5.5,SNR=17									
ASAR	**Alice Springs**	**84.38**	**221**	P		**P**		**12 02 25.9**	**-0.1**
ASAR				pmax	pmax					
	comp=Z,1.0nm,0.6s									
ASAR	**Alice Springs**	**84.38**	**221**	P		**P**		**12 02 25.9**	**-0.1**
BRTR	**Keskin Array B**	**84.56**	**334**	P		**P**		**12 02 27.6**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=41,slow=3.1,SNR=9.0									
BRTR	**Keskin Array B**	**84.56**	**334**	P		**P**		**12 02 27.7**	**+0.6**
BRTR				pmax	pmax					
	comp=Z,2.0nm,0.7s									
BRTR	**Keskin Array B**	**84.56**	**334**	P		**P**		**12 02 27.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**115.94**	**357**	PKP		**PKPdf**		**12 08 35.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=342,slow=4.2,SNR=2.4									
TORD	**Torodi Ar. Bea**	**115.94**	**357**	PKP		**PKPdf**		**12 08 35.9**	**-0.8**

MDD ***17*** *11:56:11.4±3.5, 32°.76N×6°.48W, h0km, mb3.6/3, Error ellipse: s-maj=95.6km s-min=30.9km az=79.0, PRXIMO SOLUCIN POBRE*

CSEM ***17*** *11:56:14.3±0.7, 32°.97N×6°.53W, h10km, ML2.0, Error ellipse: s-maj=34.1km s-min=13.8km az=80.0*

INMG 17 11:56:12.5±0.6, 32°.80N×6°.85W, h0km, ML2.0, Error ellipse: s-maj=6.0km s-min=2.7km az=34.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**4.52**	**349**	*e*Pn		Pn	Pn	11 57 21.2	-1.1
PBDV				*e*Sn		Sn	Sn	11 58 13.3	-2.3
PBDV				A		A	A	11 58 15.0	
	2.2nm,0.8s								
PBDV	**Barranco-do-Ve**	**4.52**	**349**	P		Pn	Pn	11 57 21.2	-1.1
PBDV				S		Sn	Sn	11 58 13.3	-2.3
	2.2nm,0.8s								
PBDV	**Barranco-do-Ve**	**4.52**	**349**	P		Pn	Pn	11 57 21.2	-1.1
PBDV				S		Sn	Sn	11 58 13.3	-2.3
	2.2nm,0.8s								
PVAQ	**Vaqueiros**	**4.65**	**351**	*e*Pn		Pn	Pn	11 57 22.8	-1.2
PVAQ				*e*Sn		Sn	Sn	11 58 15.7	-3.0
PVAQ	**Vaqueiros**	**4.65**	**351**	P		Pn	Pn	11 57 22.8	-1.2
PVAQ				S		Sn	Sn	11 58 15.7	-3.0
PVAQ	**Vaqueiros**	**4.65**	**351**	P		Pn	Pn	11 57 22.8	-1.2
PVAQ				S		Sn	Sn	11 58 15.7	-3.0
EGRO	**El Granado**	**4.75**	**354**	P		Pn	Pn	11 57 24.6	-0.9
	0.4nm,0.1s,SNR=7.9								
EGRO				S		Sn	Sn	11 58 17.0	-4.2
	1.1nm,0.3s,SNR=7.9								
EGRO	**El Granado**	**4.75**	**354**	P		Pn	Pn	11 57 24.5	-0.9
	0.4nm,0.1s,SNR=7.9								
PCVE	**Castro Verde**	**4.92**	**349**	*e*Pn		Pn	Pn	11 57 27.1	-0.6
PCVE				*e*Sn		Sn	Sn	11 58 22.1	-3.3
PCVE				A		A	A	11 58 25.1	
	1.7nm,0.4s								
PCVE	**Castro Verde**	**4.92**	**349**	P		Pn	Pn	11 57 27.1	-0.6
PCVE				S		Sn	Sn	11 58 22.1	-3.3
	1.7nm,0.4s								
PCVE	**Castro Verde**	**4.92**	**349**	P		Pn	Pn	11 57 27.1	-0.6
PCVE				*e*Sn		Sn	Sn	11 58 22.1	-3.3
	1.7nm,0.4s								
EMIN	**Mina Concepcio**	**4.96**	**2**	P		Pn	Pn	11 57 26.4	-1.9
	0.1nm,0.1s,SNR=7.9								
EMIN				S		Sn	Sn	11 58 21.0	-5.3
	0.2nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.96**	**2**	P		Pn	Pn	11 57 26.4	-1.9
	0.1nm,0.1s,SNR=7.9								
EMIN				S		Sn	Sn	11 58 21.0	-5.4
	0.2nm,0.2s,SNR=7.9								
PBAR	**Barrancos**	**5.37**	**358**	*e*Pn		Pn	Pn	11 57 33.0	-0.9
PBAR				*e*Sn		Sn	Sn	11 58 33.3	-3.1
PBAR	**Barrancos**	**5.37**	**358**	P		Pn	Pn	11 57 33.0	-0.9
PBAR				S		Sn	Sn	11 58 33.3	-3.1
PBAR	**Barrancos**	**5.37**	**358**	P		Pn	Pn	11 57 33.0	-0.9
PBAR				S		Sn	Sn	11 58 33.3	-3.1
PNCL	**Nicolau / Gran**	**5.47**	**346**	*e*Pn		Pn	Pn	11 57 34.2	-1.1
PNCL	**Nicolau / Gran**	**5.47**	**346**	*e*Pn		Pn	Pn	11 57 34.2	-1.1
EBAD	**Badajoz**	**5.95**	**359**	P		Pn	Pn	11 57 39.2	-2.6
	0.6nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**5.95**	**359**	P		Pn	Pn	11 57 39.2	-2.6
	0.6nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**6.63**	**356**	*e*Pn		Pn	Pn	11 57 50.5	-0.7
PMRV	**Marv??o**	**6.63**	**356**	P		Pn	Pn	11 57 50.5	-0.7
PMRV	**Marv??o**	**6.63**	**356**	P		Pn	Pn	11 57 50.5	-0.7

IDC 17 12:00:48.0±13.0, 0°.83S×133°.05E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.6/17, mbtmp4.0/3, ML3.8/1, MS5.0/1, Ms1 5.0/1, ms1mx3.0/26, Error ellipse: s-maj=195.6km s-min=118.2km az=156.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.04**	**176**	P		P	Pn	12 05 12.3	-0.2
	0.3nm,0.3s,baz=355,slow=11,SNR=18								
ASAR	**Alice Springs**	**22.71**	**178**	P		P		12 05 52.0	+0.4
	2.3nm,0.4s,baz=354,slow=10.0,SNR=32								
STKA	**Stephens Creek**	**31.92**	**166**	P		P		12 07 14.8	-0.7
	1.8nm,0.7s,baz=342,slow=9.7,SNR=5.1								
BVAR	**Borovo

PET pmax pmax
comp=Z,100nm,9.8s
PET pmax pmax
comp=Z,19nm,0.8s
PET smax smax
comp=E,40nm,0.7s
PET smax smax
comp=N,44nm,0.8s
PET MLR MLR
comp=Z,1µm,19.0s
SDPT Sand Point 13.03 63 *e*Pn **Pn** **12 10 33.9 -1.5**
PEA0B Petropavlovsk- 13.19 287 *e*Pn **Pn** **12 10 37.9 +0.2**
PEA0B *e*Sn **Sn** **12 12 58.6 -4.2**
PETK Petropavlovsk- 13.19 287 Pn **Pn** **12 10 37.7 0.0**
comp=Z,0.5nm,0.3s,baz=94,slow=7.2,SNR=19
PETK Sn **Sn** **12 13 00.2 -2.7**
comp=Z,0.7nm,0.3s,baz=92,slow=24,SNR=4.5
PETK Petropavlovsk- 13.19 287 P **Pn** **12 10 37.7 0.0**
PETK 12 13 00.2
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK smax smax
comp=N,1.0nm,0.3s
PETK Petropavlovsk- 13.19 287 Pn **Pn** **12 10 37.7 0.0**
PETK Sn **Sn** **12 13 00.2 -2.7**
GAMB Gambell 13.63 18 *e*Pn **Pn** **12 10 45.4 +1.8**
comp=N,25nm,0.8s
TNA Tin City 15.98 20 *e*Pn **Pn** **12 11 13.7 -0.9**
comp=N,152nm,1.5s
KDAK Kodiak Island 17.76 57 P **Pn** **12 11 33.9 -3.0**
comp=N,5.2nm,0.3s,baz=263,slow=6.3,SNR=20
KDAK S Sn 12 14 43.7 -10
comp=N,0.2nm,0.3s,baz=290,slow=12,SNR=2.6
KDAK Kodiak Island 17.76 57 P **Pn** **12 11 33.9 -3.0**
KDAK S Sn 12 14 43.7 -10
KDAK pmax pmax
comp=Z,5.0nm,0.3s
KDAK Kodiak Island 17.76 57 P **Pn** **12 11 33.9 -3.0**
KDAK S Sn 12 14 43.7 -10
BILL Bilibino 18.07 345 *c i*P **P** **12 11 41.4 +0.7**
BILL *e*S **Sn** **12 14 53.9 -7.1**
BILL pmax pmax
comp=Z,158nm,1.2s
BILL MLR MLR
comp=Z,2µm,17.0s
BILL Bilibino 18.07 345 *e*Pn **P** **12 11 41.7 +1.0**
comp=Z,134nm,1.0s
RSO Redoubt South 18.32 48 *e*Pn **Pn** **12 11 44.1 +0.1**
SEY Seymchan 18.50 320 *e*P **Pn** **12 11 46.0 +0.1**
SPU Mount Spurr 18.88 47 *e*Pn **Pn** **12 11 50.3 -0.2**
PPLA Purkeypile 19.45 42 *e*Pn **Pn** **12 11 58.0 +0.6**
comp=Z,206nm,1.7s
SEW Seward 19.81 51 *e*P **Pn** **12 12 01.4 -0.2**
comp=Z,12nm,0.6s
TRF Thorofare Moun 20.46 41 *e*P **P** **12 12 07.1 +0.1**
comp=Z,52nm,1.0s
SML Sawmill 20.77 46 *e*P **P** **12 12 09.3 -0.9**
SML pmax pmax
comp=Z,46nm,1.8s
SML Sawmill 20.77 46 *e*P **P** **12 12 09.3 -0.9**
comp=Z,46nm,1.8s
MCK McKinley 21.13 41 *e*P **P** **12 12 15.3 +1.3**
MCK pmax pmax
comp=Z,30nm,0.9s
MCK McKinley 21.13 41 *e*P **P** **12 12 15.3 +1.3**
comp=Z,30nm,0.9s
DIV Divide 21.80 49 *e*P **P** **12 12 20.5 -0.8**
comp=Z,171nm,2.0s
COLA College 22.00 39 *e*P **P** **12 12 22.8 -0.5**
COLA pmax pmax
comp=Z,42nm,1.0s
COLA College 22.00 39 *e*P **P** **12 12 22.8 -0.5**
comp=Z,42nm,1.0s
COLD Coldfoot 22.22 32 *e*P **P** **12 12 25.6 -0.1**
comp=Z,24nm,1.0s
BMRM Bremner River 22.33 50 *e*P **P** **12 12 26.8 -0.2**
comp=Z,95nm,1.3s
ILAR Eielson Array 22.34 39 P **P** **12 12 24.4 -2.6**
comp=Z,4.0nm,0.6s,baz=242,slow=7.9,SNR=31
ILAR Eielson Array 22.34 39 P **P** **12 12 24.4 -2.6**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 22.34 39 P **P** **12 12 24.4 -2.6**
MENT Mentasta 23.14 45 *e*P **P** **12 12 34.8 -0.5**
DOT Dot Lake 23.16 43 *e*P **P** **12 12 34.1 -1.4**
comp=Z,18nm,0.7s
YUK Yuzh-Kuril'sk 23.26 265 *i* P **P** **12 12 34.9 -1.7**
YUK *i* *SP **sP** **12 12 51.5 -1.1**
YUK *i* PPP **PnPn** **12 13 09.1 +5.7**
YUK S **S** **12 16 42.4 -3.2**
YUK *i* SSS SSS 12 17 29.2
YUK pmax pmax
comp=N,152nm,1.4s
YUK pmax pmax
comp=E,203nm,1.4s
YUK pmax pmax
comp=Z,502nm,1.4s
YUK pmax pmax
comp=Z,1µm,2.3s
YUK MLR MLR
comp=E,1µm,22.0s
YUK MLR MLR
comp=Z,838nm,22.0s
YSS Yuzh-Sakhalins 23.92 274 *α i*P **P** **12 12 44.0 +1.1**
YSS *e* 12 12 55.0
YSS pmax pmax
comp=Z,110nm,1.1s
YSS MLR MLR
comp=Z,1µm,19.0s
EGAK Eagle 24.68 41 *e*P **P** **12 12 48.8 -0.9**
comp=Z,285nm,1.8s
DAWY Dawson 25.27 43 *e*P **P** **12 12 54.0 -1.1**
ASAJ Asahikawa 25.27 268 P **P** **12 12 56.0 +0.8**
comp=Z,108nm,0.9s,baz=77,slow=5.5,SNR=30
ASAJ LR LR 12 22 29.7
comp=Z,436nm,18.6s,baz=52,slow=36
ASAJ Asahikawa 25.27 268 P **P** **12 12 56.0 +0.8**
ASAJ pmax pmax
comp=Z,108nm,0.9s
ASAJ MLR MLR
comp=Z,436nm,18.6s
ASAJ Asahikawa 25.27 268 P **P** **12 12 56.0 +0.8**
ERM Erimo 26.00 264 *e*P **P** **12 13 03.6 +1.8**
ERM pmax pmax
comp=Z,56nm,1.3s
HABR Khabarovsk 28.14 282 *e*P **P** **12 13 19.9 -1.0**
HABR *e**SP **sP** **12 13 35.9 -1.5**
HABR *e* 12 14 08.8
HABR *e*S **S** **12 18 03.1 +0.1**
HABR *e**SS **sS** **12 18 22.0 -0.1**
HABR SS **SnSn** **12 19 22.4 +1.3**
HABR *e* 12 24 03.0
HABR pmax pmax
comp=E,37nm,1.6s
HABR pmax pmax
comp=Z,59nm,2.1s
HABR pmax pmax
comp=N,14nm,1.4s
HABR MLR MLR
comp=Z,691nm,21.0s
INK Inuvik 28.49 35 P **P** **12 13 23.1 -0.7**
comp=Z,2.5nm,0.5s,baz=252,slow=8.7,SNR=18
INK PcP **PcP** **12 16 34.5 +0.1**
comp=Z,2.4nm,0.6s,baz=296,slow=5.5,SNR=3.9
INK Inuvik 28.49 35 P **P** **12 13 23.1 -0.7**
INK 12 16 34.6
INK pmax pmax
comp=Z,3.0nm,0.5s
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 28.49 35 P **P** **12 13 23.1 -0.7**
comp=Z,9.0nm,1.2s
INK PcP **PcP** **12 16 34.5 +0.1**
INK *e*PcP PcP 12 16 34.9 +0.4
YAK Yakutsk 28.52 312 *c i*P **P** **12 13 23.0 -1.2**
YAK *e**PP **pP** **12 13 31.8 -3.8**
YAK *e*PPP PPP 12 14 18.6
YAK *e* 12 16 30.9
YAK *e*S **S** **12 18 10.4 +1.7**
YAK *e* 12 24 03.9
YAK pmax pmax
comp=Z,56nm,1.0s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,43nm,1.3s
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,20nm,0.9s
YAK smax smax
comp=E,365nm,19.3s
YAK smax smax
comp=N,65nm,8.1s
YAK MLR MLR
comp=E,676nm,19.0s
YAK MLR MLR
comp=Z,958nm,20.0s
YAK MLR MLR
comp=N,511nm,15.0s
YAK Yakutsk 28.52 312 *e*P **P** **12 13 23.2 -1.0**
comp=N,44nm,0.9s
KLR Kul'dur 29.87 285 *e*P P 12 13 32.7 -3.7
KLR pmax pmax
comp=E,47nm,1.2s
KLR pmax pmax
comp=Z,100nm,1.2s
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,1µm,12.0s
USRK Ussuriysk Arra 31.90 276 P **P** **12 13 53.3 -0.9**
comp=Z,12nm,1.1s,baz=59,slow=11,SNR=12
USRK PcP **PcP** **12 16 44.7 +0.9**
comp=Z,5.8nm,0.8s,baz=102,slow=0.2,SNR=7.8
MJAR Matsushiro Arr 32.33 259 P **P** **12 13 58.6 +0.4**
comp=Z,5.8nm,0.8s,baz=56,slow=7.0,SNR=21
MJAR PcP **PcP** **12 16 45.0 -0.1**
comp=Z,2.8nm,1.0s,baz=140,slow=1.0,SNR=4.4
MJAR ScP **ScP** **12 20 28.4 +3.2**
comp=Z,3.7nm,1.1s,baz=36,slow=3.4,SNR=6.2
MJAR LR LR 12 25 05.0
comp=Z,455nm,21.1s,baz=70,slow=33
MJAR Matsushiro Arr 32.33 259 P **P** **12 13 58.6 +0.4**
MJAR 12 16 45.0
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR pmax pmax
comp=N,4.0nm,1.1s
MJAR Matsushiro Arr 32.33 259 P **P** **12 13 58.6 +0.4**
MJAR PcP **PcP** **12 16 45.0 -0.1**
MJAR ScP **ScP** **12 20 28.4 +3.2**
MAJO Matsushiro 32.34 259 *e*P **P** **12 13 58.8 +0.6**
MAJO pmax pmax
comp=Z,28nm,0.5s
MAJO Matsushiro 32.34 259 *e*P **P** **12 13 58.8 +0.6**
comp=Z,28nm,0.5s
MAT Matsushiro 32.34 259 P **P** **12 13 58.6 +0.4**
MAT eS **S** **12 19 09.0 0.0**
VLA Vladivostok 32.51 274 ⇑ *i*P **P** **12 13 59.8 +0.2**
VLA *e* 12 16 45.9
VLA S **S** **12 19 13.1 +1.5**
VLA pmax pmax
comp=Z,45nm,1.3s
MDJ Mudanjiang 33.20 278 P **P** **12 14 05.0 -0.7**
MDJ pP **pP** **12 14 16.3 -0.9**
MDJ sP **sP** **12 14 21.3 -1.0**
MDJ PcP **PcP** **12 16 47.3 -0.1**
MDJ sS **sS** **12 19 41.5 -0.1**
MDJ ScP **ScP** **12 20 28.0 0.0**
MDJ PcS **PcS** **12 20 33.3 +0.4**
MDJ ScS **ScS** **12 24 29.0 +0.5**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,120nm,6.1s
MDJ LR LR
comp=N,410nm,12.5s
MDJ LR LR
comp=E,430nm,17.6s
MDJ LR LR
comp=Z,800nm,21.3s
CN2 Changchun 36.19 280 *e*P **P** **12 14 30.9 -0.5**
CN2 epP **pP** **12 14 43.3 +0.3**
CN2 eS **S** **12 20 03.1 -5.2**
CN2 SS SS 12 22 30.8 -16
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,20.0s
CN2 LR LR
comp=E,700nm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
YKA Yellowknife Ar 36.44 46 P **P** **12 14 32.3 -1.0**
comp=Z,5.9nm,0.8s,baz=281,slow=8.1,SNR=88
YKA PcP **PcP** **12 16 56.9 +0.4**
comp=Z,1.4nm,0.6s,baz=288,slow=3.3,SNR=6.0
YKA ScP **ScP** **12 20 42.1 +2.8**
comp=Z,1.2nm,0.7s,baz=292,slow=3.2,SNR=12
YKA LR LR 12 30 55.6
comp=Z,120nm,20.4s,baz=285,slow=39
YKA Yellowknife Ar 36.44 46 P **P** **12 14 32.3 -1.0**
YKA 12 16 56.9
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=N,1.0nm,0.7s
YKA MLR MLR
comp=Z,120nm,20.5s
YKA Yellowknife Ar 36.44 46 P **P** **12 14 32.4 -1.0**
YKA PcP **PcP** **12 16 56.9 +0.4**
YKA ScP **ScP** **12 20 42.1 +2.8**
NLWA Neilton Lookou 36.71 73 *e*P **P** **12 14 36.2 +0.3**
comp=Z,13nm,0.8s
BOD Bodaibo 36.98 306 ⇓ *i*P **P** **12 14 36.8 -1.2**
BOD *e* 12 20 21.7
BOD pmax pmax
comp=Z,45nm,1.5s
HIA Hailar 37.05 291 *e*P **P** **12 14 38.1 -0.7**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 37.05 291 *e*P **P** **12 14 38.1 -0.7**
comp=Z,17nm,0.9s
JCW Jim Creek 37.51 71 *e*P **P** **12 14 42.4 -0.2**
comp=Z,28nm,1.2s
JCW *e*PcP **PcP** **12 16 58.4 -1.7**
FL2 Flat Top 2 38.20 74 P **P** **12 14 49.7 +1.0**
TDL Tradedollar La 38.21 73 P **P** **12 14 49.5 +0.8**
KSRS Korea Array 38.21 269 P **P** **12 14 49.8 +1.2**
comp=Z,16nm,0.9s,baz=59,slow=8.3,SNR=58
KSRS PcP **PcP** **12 17 03.3 +1.0**
comp=Z,3.3nm,0.8s,baz=38,slow=2.6,SNR=7.6
KSRS LR LR 12 28 03.3
comp=Z,261nm,21.7s,baz=48,slow=32
KSRS Korea Array 38.21 269 P **P** **12 14 49.8 +1.2**
KSRS 12 17 03.3
KSRS pmax pmax
comp=Z,16nm,0.9s
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSAR Wonju Array Be 38.24 269 P **P** **12 14 49.8 +0.9**
KSAR 12 17 03.3
KSAR Wonju Array Be 38.24 269 P **P** **12 14 49.8 +0.9**
KSAR PcP **PcP** **12 17 03.3 +0.9**
LON Longmire 38.26 73 *e*P **P** **12 14 48.9 -0.1**
LON pmax pmax
comp=Z,54nm,1.9s
LON Longmire 38.26 73 *e*P **P** **12 14 48.9 -0.1**
comp=Z,54nm,1.9s
RCM Mount Rainier- 38.26 72 P **P** **12 14 50.6 +1.2**
SNY Shenyang 38.41 278 ⇑ P **P** **12 14 50.9 +0.7**
SNY pmax pmax
comp=Z,31nm,0.9s
SNY LR LR
comp=N,560nm,17.2s
SNY LR LR
comp=E,320nm,9.2s
SNY LR LR
comp=Z,570nm,22.1s
ASR Mount Adams--S 38.68 73 P **P** **12 14 53.4 +0.7**
ETW Entiat 38.73 71 *e*P **P** **12 14 53.5 +0.4**
EBG Ellensburg 38.93 72 P **P** **12 14 55.2 +0.6**
VLL Laurance Lake 38.98 74 P **P** **12 14 56.2 +1.1**
INCN Inchon 39.01 270 *e*P **P** **12 14 55.8 +0.5**
comp=Z,51nm,0.9s
JNU Nakatsue 39.12 262 *e*P **P** **12 14 57.2 +0.8**
comp=Z,23nm,1.2s
VFP Flag Point 39.18 74 P **P** **12 14 57.7 +0.8**
SNIWA Snively Ranch 39.69 72 P **P** **12 15 01.7 +0.8**
HUMO Hull Mountain 39.69 79 *e*P **P** **12 15 02.0 +1.0**
comp=Z,9.4nm,1.3s
RSW Rattlesnake Hi 39.77 72 *e*P **P** **12 15 02.4 +0.7**
OD2 Odessa Site #2 39.80 70 *e*P **P** **12 15 01.1 -0.7**
HAWA Hanford 39.80 72 *e*P **P** **12 15 02.2 +0.4**
comp=Z,73nm,1.8s
REDWA Red Mountain 39.91 72 P **P** **12 15 03.5 +0.8**
VIPM Ingram Point 40.11 75 P **P** **12 15 05.4 +0.7**
VIPM Ingram Point 40.11 75 P **P** **12 15 05.4 +0.7**
NEW Newport 40.31 68 *e*P **P** **12 15 05.5 -0.6**
NEW Newport 40.31 68 *e*P **P** **12 15 05.5 -0.6**
NEW Newport 40.31 68 ⇓ P **P** **12 15 05.4 -0.7**
baz=40,SNR=13
NEW ⇓ P **P** **12 15 05.4 -0.7**
baz=40,SNR=13
RES Resolute Bay 40.56 24 P **P** **12 15 07.2 -0.5**
comp=Z,8.6nm,1.1s,baz=255,slow=11,SNR=4.9
RES PcP **PcP** **12 17 09.4 +0.3**
comp=Z,6.1nm,0.8s,baz=212,slow=3.0,SNR=6.6
RES LR LR 12 33 44.2
comp=Z,484nm,19.1s,baz=249,slow=39
RES Resolute Bay 40.56 24 P **P** **12 15 07.3 -0.5**
RES 12 17 09.5
RES pmax pmax
comp=Z,9.0nm,1.1s
RES pmax pmax
comp=Z,6.0nm,0.8s
RES MLR MLR
comp=Z,484nm,19.1s
RES Resolute Bay 40.56 24 P **P** **12 15 07.2 -0.5**
RES PcP **PcP** **12 17 09.4 +0.3**
C11A Tepee Creek (N 41.02 68 ⇑ P **P** **12 15 11.3 -0.8**
baz=41
C11A ⇑ P **P** **12 15 11.3 -0.8**
baz=41
WDC Whiskeytown Da 41.09 81 *e*P **P** **12 15 13.8 +1.2**
WDC pmax pmax
comp=Z,7.0nm,0.9s
WDC Whiskeytown Da 41.09 81 *e*P **P** **12 15 13.8 +1.2**
comp=Z,7.1nm,0.9s
C12B Naegeli Ranch, 41.54 68 ⇓ P **P** **12 15 15.7 -0.6**
baz=41,SNR=16
C12B ⇓ P **P** **12 15 15.7 -0.6**
baz=41,SNR=16
A13A Flathead Natio 41.55 66 ⇑ P **P** **12 15 15.7 -0.7**
baz=41
A13A ⇑ P **P** **12 15 15.7 -0.7**
baz=41
MOD Modoc 41.72 78 *e*P **P** **12 15 18.4 +0.5**
comp=Z,8.3nm,0.8s
B13A Whitefish 41.80 67 ⇓ P **P** **12 15 17.6 -0.8**
baz=42
B13A ⇓ P **P** **12 15 17.6 -0.8**
baz=42
BSMT Bassoo Peak 41.87 67 *e*P **P** **12 15 18.9 -0.2**
BMO Blue Mountains 41.94 73 *e*P **P** **12 15 19.8 +0.3**
comp=Z,34nm,1.7s
BLMT Blacktail Moun 42.04 67 *e*P **P** **12 15 20.3 -0.3**
C13A Hot Springs 42.09 68 ⇓ P **P** **12 15 20.1 -0.6**
baz=42
C13A ⇓ P **P** **12 15 20.1 -0.6**
baz=42
A14A Double T Ranch 42.10 65 ⇓ P **P** **12 15 20.1 -0.8**
baz=42,SNR=14
A14A ⇓ P **P** **12 15 20.1 -0.8**
baz=42,SNR=14
E12A Beaver Dam Sad 42.15 70 ⇓ P **P** **12 15 21.0 -0.3**
baz=42
E12A ⇓ P **P** **12 15 21.0 -0.3**
baz=42
JTMT Jette 42.22 67 *e*P **P** **12 15 21.2 -0.7**
YBMT Yellow Bay 42.32 67 *e*P **P** **12 15 22.3 -0.4**
comp=Z,5.9nm,0.9s
WVOR Wild Horse Val 42.45 76 *e*P **P** **12 15 24.6 +0.8**
WVOR pmax pmax
comp=Z,8.0nm,0.8s
WVOR Wild Horse Val 42.45 76 *e*P **P** **12 15 24.6 +0.8**
comp=Z,8.5nm,0.8s
OHCM Honcut 42.47 82 *e*P **P** **12 15 24.2 +0.3**
B14A Marquette Ranc 42.49 66 ⇑ P **P** **12 15 23.5 -0.6**
baz=42,SNR=8.6
B14A ⇑ P **P** **12 15 23.5 -0.6**
baz=42,SNR=8.6
A15A Johnson Ranch, 42.49 65 ⇑ P **P** **12 15 22.6 -1.5**
baz=42,SNR=7.9
A15A ⇑ P **P** **12 15 22.6 -1.5**
baz=42,SNR=7.9
SWMT Swartz Lake 42.51 68 *e*P **P** **12 15 23.6 -0.5**
C14A Swan Lake 42.52 67 ⇓ P **P** **12 15 23.7 -0.6**
baz=42
C14A ⇓ P **P** **12 15 23.7 -0.6**
baz=42
F12A Elk City 42.68 70 ⇓ P **P** **12 15 25.6 -0.1**
baz=42,SNR=24
F12A ⇓ P **P** **12 15 25.6 -0.1**
baz=42,SNR=24
MSO Missoula 42.89 68 *e*P **P** **12 15 26.6 -0.8**
comp=Z,12nm,1.2s
MSO Missoula 42.89 68 ⇑ P **P** **12 15 26.7 -0.6**
baz=43,SNR=16
MSO ⇑ P **P** **12 15 26.7 -0.6**
baz=43,SNR=16
B15A Bradely Ranch, 42.93 66 ⇑ P **P** **12 15 26.4 -1.2**
baz=43
B15A ⇑ P **P** **12 15 26.4 -1.2**
baz=43
SLMT Seeley Lake 42.94 68 *e*P **P** **12 15 27.1 -0.6**
E13A Victor 42.95 69 ⇑ P **P** **12 15 27.0 -0.8**
baz=43
E13A ⇑ P **P** **12 15 27.0 -0.8**
baz=43
D14A Greenough 43.01 68 ⇓ P **P** **12 15 27.7 -0.6**
baz=43,SNR=12
D14A ⇓ P **P** **12 15 27.7 -0.6**
baz=43,SNR=12
ALE Alert 43.12 10 P P 12 15 23.4 -5.2
comp=Z,179nm,1.1s,SNR=5.2
A16A West Butte Ran 43.16 65 ⇑ P **P** **12 15 28.0 -1.4**
baz=43
A16A ⇑ P **P** **12 15 28.0 -1.4**
baz=43
C15A Salmond Ranch, 43.18 66 ⇓ P **P** **12 15 29.1 -0.6**
baz=43,SNR=17
C15A ⇓ P **P** **12 15 29.1 -0.6**
baz=43,SNR=17
F13A Darby 43.21 70 ⇑ P **P** **12 15 29.9 0.0**
baz=43,SNR=8.2
F13A ⇑ P **P** **12 15 29.9 0.0**
baz=43,SNR=8.2
CHMT Chamberlain Mo 43.25 68 *e*P **P** **12 15 30.1 -0.2**
E14A Clinton 43.37 69 ⇑ P **P** **12 15 30.6 -0.7**
baz=43,SNR=9.6
E14A ⇑ P **P** **12 15 30.6 -0.7**
baz=43,SNR=9.6
H12A Diamond D Ranc 43.57 72 ⇓ P **P** **12 15 32.2 -0.7**
baz=43
H12A ⇓ P **P** **12 15 32.2 -0.7**
baz=43
WCN Washoe City 43.57 81 *e*P **P** **12 15 33.6 +0.6**
WCN pmax pmax
comp=Z,8.0nm,0.9s
WCN Washoe City 43.57 81 *e*P **P** **12 15 33.6 +0.6**
comp=Z,8.1nm,0.9s
WCN Washoe City 43.57 81 ⇑ P **P** **12 15 33.2 +0.3**
baz=43,SNR=6.8
WCN ⇑ P **P** **12 15 33.2 +0.3**
baz=43,SNR=6.8
D15A Lincoln 43.61 67 ⇑ P **P** **12 15 32.4 -0.8**
baz=43,SNR=11
D15A ⇑ P **P** **12 15 32.4 -0.8**
baz=43,SNR=11
MFID Camas Ranch 43.61 74 *e*P **P** **12 15 33.1 -0.1**
comp=Z,26nm,1.5s
MFID Camas Ranch 43.61 74 ⇑ P **P** **12 15 33.4 +0.2**
baz=43,SNR=8.8
MFID ⇑ P **P** **12 15 33.4 +0.2**
baz=43,SNR=8.8
G13A Cobalt 43.64 71 ⇑ P **P** **12 15 33.2 -0.3**
baz=43,SNR=25
G13A ⇑ P **P** **12 15 33.2 -0.3**
baz=43,SNR=25

C16A **Fuhringer Ranc** **43.66** **66** ⇑P **P** **12 15 32.5 -1.0**
baz=43,SNR=11
C16A ⇑P **P** **12 15 32.5 -1.0**
baz=43,SNR=11
A17A **Triple J Farms** **43.67** **64** ⇓P **P** **12 15 31.9 -1.7**
baz=43,SNR=10
A17A ⇓P **P** **12 15 31.9 -1.7**
baz=43,SNR=10
F14A **Wisdom** **43.77** **69** ⇓P **P** **12 15 33.9 -0.5**
baz=44,SNR=9.6
F14A ⇓P **P** **12 15 33.9 -0.5**
baz=44,SNR=9.6
I12A **Atlanta** **43.82** **73** ⇓P **P** **12 15 34.8 -0.1**
baz=44
I12A ⇓P **P** **12 15 34.8 -0.1**
baz=44
E15A **Deer Lodge** **43.87** **68** ⇓P **P** **12 15 34.6 -0.6**
baz=44,SNR=7.6
E15A ⇓P **P** **12 15 34.6 -0.6**
baz=44,SNR=7.6
H13A **Challis** **43.92** **71** ⇑P **P** **12 15 35.3 -0.4**
baz=44,SNR=8.1
H13A ⇑P **P** **12 15 35.3 -0.4**
baz=44,SNR=8.1
CMB **Columbia Colle** **43.94** **83** *e*P **P** **12 15 35.9 +0.1**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB **Columbia Colle** **43.94** **83** *e*P **P** **12 15 35.9 +0.1**
comp=Z,8.2nm,1.0s
B17A **L&G Farms, Che** **43.95** **65** ⇑P **P** **12 15 34.3 -1.5**
baz=44,SNR=10
B17A ⇑P **P** **12 15 34.3 -1.5**
baz=44,SNR=10
G14A **Jackson** **44.02** **70** ⇓P **P** **12 15 35.7 -0.8**
baz=44,SNR=8.7
G14A ⇓P **P** **12 15 35.7 -0.8**
baz=44,SNR=8.7
BJI **Beijing** **44.03** **281** P **P** **12 15 36.1 -0.3**
BJI S **S** **12 22 03.3 -2.1**
BJI pmax pmax
comp=Z,18nm,1.2s
BJI pmax pmax
comp=Z,210nm,3.8s
BJI LR LR
comp=N,510nm,17.5s
BJI LR LR
comp=E,530nm,17.5s
BJI LR LR
comp=Z,400nm,21.4s
BJT **Baijiatuau** **44.04** **281** *e*P **P** **12 15 37.1 +0.6**
BJT pmax pmax
comp=Z,13nm,0.7s
BJT **Baijiatuau** **44.04** **281** *e*P **P** **12 15 37.1 +0.6**
comp=Z,13nm,0.7s
SAO **San Andreas Ge** **44.06** **85** *e*P **P** **12 15 37.8 +1.1**
SAO pmax pmax
comp=Z,16nm,1.3s
SAO **San Andreas Ge** **44.06** **85** *e*P **P** **12 15 37.8 +1.1**
comp=Z,16nm,1.3s
A18A **Metzger Ranch,** **44.16** **64** ⇑P **P** **12 15 36.0 -1.4**
baz=44
A18A ⇑P **P** **12 15 36.0 -1.4**
baz=44
HRY **Holter Researc** **44.19** **67** *e*P **P** **12 15 37.2 -0.6**
F15A **Butte** **44.27** **69** ⇑P **P** **12 15 37.7 -0.8**
baz=44
F15A ⇑P **P** **12 15 37.7 -0.8**
baz=44
LRM **Limekiln Ridge** **44.30** **69** *e*P **P** **12 15 38.8 -0.1**
C17A **Wharram Farm,** **44.31** **66** ⇓P **P** **12 15 37.4 -1.3**
baz=44,SNR=7.3
C17A ⇓P **P** **12 15 37.4 -1.3**
baz=44,SNR=7.3
I13A **Wildhorse Cree** **44.36** **72** ⇓P **P** **12 15 39.2 -0.1**
baz=44,SNR=26
I13A ⇓P **P** **12 15 39.2 -0.1**
baz=44,SNR=26
IRK **Irkutsk** **44.37** **302** *e*P **P** **12 15 38.2 -0.8**
IRK *e* 12 17 28.6
IRK pmax pmax
comp=Z,42nm,1.4s
HLID **Hailey** **44.38** **73** *e*P **P** **12 15 39.5 +0.1**
comp=Z,19nm,1.0s
HLID **Hailey** **44.38** **73** ⇓P **P** **12 15 39.7 +0.2**
baz=44,SNR=24
HLID ⇓P **P** **12 15 39.7 +0.2**
baz=44,SNR=24
H14A **Leadore** **44.42** **71** ⇑P **P** **12 15 39.3 -0.5**
baz=44,SNR=16
H14A ⇑P **P** **12 15 39.3 -0.5**
baz=44,SNR=16
DLMT **Dillon** **44.47** **69** *e*P **P** **12 15 39.7 -0.3**
comp=Z,41nm,2.1s
BMN **Battle Mountai** **44.47** **78** *e*P **P** **12 15 42.6 +2.4**
BMN pmax pmax
comp=Z,29nm,1.5s
BMN **Battle Mountai** **44.47** **78** *e*P **P** **12 15 42.6 +2.4**
comp=Z,29nm,1.5s
B18A **Beardsley Farm** **44.48** **64** ⇑P **P** **12 15 38.6 -1.4**
baz=44,SNR=9.9
B18A ⇑P **P** **12 15 38.6 -1.4**
baz=44,SNR=9.9
MCMT **McKenzie Canyo** **44.61** **70** *e*P **P** **12 15 40.9 -0.4**
comp=Z,6.1nm,0.8s
J13A **Cove Ranch, Pi** **44.62** **73** ⇑P **P** **12 15 41.6 +0.3**
baz=44,SNR=27
J13A ⇑P **P** **12 15 41.6 +0.3**
baz=44,SNR=27
G15A **Dillon** **44.64** **70** ⇑P **P** **12 15 40.6 -0.9**
baz=44,SNR=7.9
G15A ⇑P **P** **12 15 40.6 -0.9**
baz=44,SNR=7.9
EGMT **Eagleton** **44.68** **65** *e*P **P** **12 15 41.8 +0.1**
comp=Z,10nm,0.9s
EGMT **Eagleton** **44.68** **65** ⇑P **P** **12 15 40.5 -1.2**
baz=44
EGMT ⇑P **P** **12 15 40.5 -1.2**
baz=44
I14A **Mackay** **44.75** **72** ⇑P **P** **12 15 42.5 +0.1**
baz=45,SNR=18
I14A ⇑P **P** **12 15 42.5 +0.1**
baz=45,SNR=18
A19A **Klindworth Far** **44.78** **63** ⇑P **P** **12 15 41.0 -1.4**
baz=45
A19A ⇑P **P** **12 15 41.0 -1.4**
baz=45
F16A **Kennard Place,** **44.81** **68** ⇑P **P** **12 15 42.1 -0.6**
baz=45,SNR=14
F16A ⇑P **P** **12 15 42.1 -0.6**
baz=45,SNR=14
H15A **Lima** **44.85** **70** ⇓P **P** **12 15 42.9 -0.3**
baz=45,SNR=8.2
H15A ⇓P **P** **12 15 42.9 -0.3**
baz=45,SNR=8.2
BOZ **Bozeman (W)** **44.88** **69** *e*P **P** **12 15 42.8 -0.6**
BOZ pmax pmax
comp=Z,59nm,1.8s
BOZ **Bozeman (W)** **44.88** **69** *e*P **P** **12 15 42.8 -0.6**
comp=Z,58nm,1.8s
BOZ **Bozeman (W)** **44.88** **69** ⇓P **P** **12 15 43.1 -0.3**
baz=45,SNR=24
BOZ ⇓P **P** **12 15 43.1 -0.3**
baz=45,SNR=24
BOZ ⇓P **P** **12 15 43.1 -0.3**
baz=45,SNR=24
BOZ ⇓P **P** **12 15 43.1 -0.3**
baz=45,SNR=24
E17A **Martinsdale** **44.89** **67** ⇑P **P** **12 15 43.0 -0.4**
baz=45,SNR=11
E17A ⇑P **P** **12 15 43.0 -0.4**
baz=45,SNR=11
B19A **Brinkman Farms** **44.92** **64** ⇓P **P** **12 15 42.1 -1.3**
baz=45,SNR=5.9
B19A ⇓P **P** **12 15 42.1 -1.3**
baz=45,SNR=5.9
TLY **Talaya** **44.99** **302** *e*P **P** **12 15 43.0 -1.0**
TLY *e*S S **12 22 33.4 +14**
TLY pmax pmax
comp=Z,16nm,1.0s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY **Talaya** **44.99** **302** *e*P **P** **12 15 44.6 +0.6**
comp=Z,24nm,1.2s
NVAR **Mina Array Bea** **45.00** **81** P **P** **12 15 44.3 -0.1**
comp=Z,3.4nm,0.8s,baz=291,slow=7.2,SNR=24
NVAR **Mina Array Bea** **45.00** **81** P **P** **12 15 44.3 -0.1**
G16A **Moss Hill, Enn** **45.01** **69** ⇑P **P** **12 15 43.3 -1.1**
baz=45,SNR=16
G16A ⇑P **P** **12 15 43.3 -1.1**
baz=45,SNR=16
J14A **Carey** **45.05** **72** ⇑P **P** **12 15 45.1 +0.4**
baz=45
J14A ⇑P **P** **12 15 45.1 +0.4**
baz=45
ULN **Ulaanbaatar** **45.09** **295** *e*P **P** **12 15 45.3 +0.3**
ULN pmax pmax
comp=Z,25nm,0.9s
ULN **Ulaanbaatar** **45.09** **295** *e*P **P** **12 15 45.3 +0.3**
comp=Z,25nm,0.9s
D18A **Linhart Farms,** **45.10** **66** ⇑P **P** **12 15 44.7 -0.3**
baz=45,SNR=6.5
D18A ⇑P **P** **12 15 44.7 -0.3**
baz=45,SNR=6.5
JOW **Kunigami** **45.12** **257** *e*P **P** **12 15 45.6 +0.4**
comp=Z,10nm,0.9s
C19A **Slack Wire Ran** **45.24** **65** ⇓P **P** **12 15 45.3 -0.8**
baz=45,SNR=9.3
C19A ⇓P **P** **12 15 45.3 -0.8**
baz=45,SNR=9.3
A20A **Cobblestone Ra** **45.27** **63** ⇑P **P** **12 15 44.8 -1.5**
baz=45,SNR=8.4
A20A ⇑P **P** **12 15 44.8 -1.5**
baz=45,SNR=8.4
I15A **Monteview** **45.29** **71** ⇓P **P** **12 15 47.0 +0.4**
baz=45,SNR=7.8
I15A ⇓P **P** **12 15 47.0 +0.4**
baz=45,SNR=7.8
F17A **Fitzpatrick Pl** **45.30** **68** ⇑P **P** **12 15 46.0 -0.7**
baz=45,SNR=6.5
F17A ⇑P **P** **12 15 46.0 -0.7**
baz=45,SNR=6.5
B20A **Solberg Farm,** **45.45** **63** ⇑P **P** **12 15 46.7 -1.0**
baz=45
B20A ⇑P **P** **12 15 46.7 -1.0**
baz=45
QLMT **Earthquake Lak** **45.45** **69** *e*P **P** **12 15 47.9 0.0**
SONM **Songino Array** **45.48** **296** P **P** **12 15 48.8 +0.8**
comp=Z,14nm,0.9s,baz=59,slow=9.2,SNR=103
SONM PcP **PcP** **12 17 26.7 +0.3**
comp=Z,4.1nm,0.7s,baz=97,slow=2.3,SNR=5.2
SONM LR LR 12 36 39.2
comp=Z,937nm,18.1s,baz=184,slow=38
SONM **Songino Array** **45.48** **296** P **P** **12 15 48.8 +0.8**
SONM 12 17 26.7
SONM pmax pmax
comp=Z,14nm,0.9s
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,937nm,18.1s
SONM **Songino Array** **45.48** **296** P **P** **12 15 48.8 +0.8**
SONM PcP **PcP** **12 17 26.7 +0.3**
MTUM **Tungsten Hills** **45.50** **82** *e*P **P** **12 15 49.4 +1.0**
ELK **Elko** **45.51** **76** *e*P **P** **12 15 49.3 +0.8**
ELK **Elko** **45.51** **76** *e*P **P** **12 15 49.3 +0.8**
PTRM **Twissleman Ran** **45.53** **85** *e*P P 12 15 53.0 +4.5
G17A **Pierce Place,** **45.58** **68** ⇑P **P** **12 15 48.9 0.0**
baz=45
G17A ⇑P **P** **12 15 48.9 0.0**
baz=45
H16A **Russell Place,** **45.63** **69** ⇓P **P** **12 15 48.8 -0.6**
baz=45,SNR=22
H16A ⇓P **P** **12 15 48.8 -0.6**
baz=45,SNR=22
D19A **Cripps Ranch,** **45.65** **65** ⇑P **P** **12 15 48.5 -0.8**
baz=45,SNR=5.4
D19A ⇑P **P** **12 15 48.5 -0.8**
baz=45,SNR=5.4
J15A **Blackfoot** **45.66** **72** ⇑P **P** **12 15 49.8 +0.2**
baz=46,SNR=12
J15A ⇑P **P** **12 15 49.8 +0.2**
baz=46,SNR=12
A21A **Bergtoll Ranch** **45.77** **62** ⇑P **P** **12 15 49.7 -0.5**
baz=46
A21A ⇑P **P** **12 15 49.7 -0.5**
baz=46
TIA **Tai'an** **45.77** **276** ⇓P **P** **12 15 50.6 +0.2**
YMR **Madison River** **45.81** **69** *e*P **P** **12 15 50.8 -0.1**
comp=Z,30nm,1.1s
C20A **Veseth Ranch,** **45.85** **64** ⇑P **P** **12 15 49.9 -0.9**
baz=46,SNR=5.9
C20A ⇑P **P** **12 15 49.9 -0.9**
baz=46,SNR=5.9
ZAK **Zakamensk** **45.86** **300** ⇓*i*P **P** **12 15 51.2 +0.2**
ZAK *e* 12 17 28.1
ZAK pmax pmax
comp=Z,19nm,1.4s
I16A **Newdale** **45.95** **71** ⇑P **P** **12 15 51.8 -0.1**
baz=46,SNR=6.8
I16A ⇑P **P** **12 15 51.8 -0.1**
baz=46,SNR=6.8
L14A **Malta** **45.97** **74** ⇑P **P** **12 15 52.5 +0.5**
baz=46,SNR=16
L14A ⇑P **P** **12 15 52.5 +0.5**
baz=46,SNR=16
YFT **Old Faithful** **46.01** **70** *e*P **P** **12 15 53.2 +0.8**
comp=Z,12nm,0.8s
K15A **Arbon** **46.01** **73** ⇓P **P** **12 15 53.1 +0.8**
baz=46,SNR=23
K15A ⇓P **P** **12 15 53.1 +0.8**
baz=46,SNR=23
E19A **Rath Farm, Rou** **46.09** **66** ⇑P **P** **12 15 52.1 -0.6**
baz=46
E19A ⇑P **P** **12 15 52.1 -0.6**
baz=46
VES **Vestal, Richgr** **46.12** **84** ⇓P **P** **12 15 52.6 -0.5**
baz=46,SNR=6.9
VES ⇓P **P** **12 15 52.6 -0.5**
baz=46,SNR=6.9
H17A **Grant Village** **46.20** **69** ⇓P **P** **12 15 55.0 +1.1**
baz=46
H17A ⇓P **P** **12 15 55.0 +1.1**
baz=46
LKWY **Lake** **46.21** **69** *e*P **P** **12 15 55.5 +1.6**
LKWY pmax pmax
comp=Z,12nm,0.8s
LKWY **Lake** **46.21** **69** *e*P **P** **12 15 55.5 +1.6**
comp=Z,12nm,0.8s
J16A **Bone** **46.23** **71** ⇑P **P** **12 15 54.5 +0.5**
baz=46,SNR=16
J16A ⇑P **P** **12 15 54.5 +0.5**
baz=46,SNR=16
FLWY **Flagg Ranch** **46.30** **70** *e*P **P** **12 15 55.3 +0.6**
comp=Z,31nm,1.3s
RRI2 **Red Ridge** **46.36** **71** *e*P **P** **12 15 55.9 +0.7**
comp=Z,60nm,1.8s
HHC **Hu-ho-hao-te** **46.38** **285** *e*P **P** **12 15 56.3 +1.1**
HHC pP **pP** **12 16 09.5 +2.4**
HHC sP **sP** **12 16 15.4 +3.3**
HHC PcP **PcP** **12 17 31.5 +1.9**
HHC PP PP 12 17 45.8 +1.4
HHC S **S** **12 22 38.4 -1.2**
HHC sS **sS** **12 22 59.8 +0.4**
HHC ScS **ScS** **12 25 45.1 -1.4**
HHC pmax pmax
comp=Z,43nm,0.9s
HHC pmax pmax
comp=Z,380nm,6.4s
HHC LR LR
comp=N,520nm,19.0s
HHC LR LR
comp=E,400nm,20.2s
HHC LR LR
comp=Z,340nm,20.2s
HVU **Hansel Valley** **46.40** **74** *e*P **P** **12 15 56.2 +0.8**
HVU pmax pmax
comp=Z,15nm,0.9s
HVU **Hansel Valley** **46.40** **74** *e*P **P** **12 15 56.2 +0.8**
comp=Z,16nm,0.9s
MOY **Mondy** **46.41** **303** *e*P **P** **12 15 55.6 +0.3**
MOY pmax pmax
comp=Z,34nm,2.7s
E20A **Meyer Farm, Mu** **46.44** **66** ⇑P **P** **12 15 55.4 -0.1**
baz=46
E20A ⇑P **P** **12 15 55.4 -0.1**
baz=46
MOOW **Moose Ponds** **46.47** **70** *e*P **P** **12 15 56.1 +0.1**
comp=Z,19nm,1.9s
I17A **Pilgrim Ck.** **46.47** **70** ⇑P **P** **12 15 56.2 +0.2**
baz=46,SNR=6.4
I17A ⇑P **P** **12 15 56.2 +0.2**
baz=46,SNR=6.4
K16A **Soda Springs** **46.49** **72** ⇓P **P** **12 15 57.0 +0.8**
baz=46,SNR=29
K16A ⇓P **P** **12 15 57.0 +0.8**
baz=46,SNR=29
L15A **Malad City** **46.50** **73** ⇑P **P** **12 15 56.3 +0.1**
baz=46,SNR=10
L15A ⇑P **P** **12 15 56.3 +0.1**
baz=46,SNR=10
RLMT **Red Lodge** **46.55** **68** *e*P **P** **12 15 56.5 -0.1**
comp=Z,26nm,1.1s
RLMT **Red Lodge** **46.55** **68** ⇑P **P** **12 15 56.6 0.0**
baz=46,SNR=13
RLMT ⇑P **P** **12 15 56.6 0.0**
baz=46,SNR=13
RLMT ⇑P **P** **12 15 56.6 0.0**
baz=46,SNR=13
RLMT ⇑P **P** **12 15 56.6 0.0**
baz=46,SNR=13
SSE **Sheshan** **46.56** **268** P **P** **12 15 57.5 +0.9**
SSE S **S** **12 22 43.8 +1.6**
SSE pmax pmax
comp=Z,43nm,0.9s
SSE pmax pmax
comp=Z,190nm,5.6s
SSE LR LR
comp=N,120nm,19.1s
SSE LR LR
comp=E,88nm,19.1s
SSE LR LR
comp=Z,170nm,22.1s
H18A **Shoshone NF, C** **46.58** **69** ⇓P **P** **12 15 56.6 -0.3**
baz=46,SNR=5.2
H18A ⇓P **P** **12 15 56.6 -0.3**
baz=46,SNR=5.2
ISA **Isabella** **46.62** **84** *e*P **P** **12 15 56.4 -0.7**
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA **Isabella** **46.62** **84** *e*P **P** **12 15 56.4 -0.7**
comp=Z,6.7nm,1.1s
ISA **Isabella** **46.62** **84** ⇑P **P** **12 15 56.5 -0.6**
baz=46
ISA ⇑P **P** **12 15 56.5 -0.6**
baz=46
REDW **Red Top Meadow** **46.63** **71** *e*P **P** **12 15 57.8 +0.5**
comp=Z,68nm,2.2s
SNOW **Snow King Moun** **46.63** **71** *e*P **P** **12 15 58.6 +1.4**
comp=Z,54nm,2.0s
LOHW **Long Hollow** **46.63** **70** *e*P **P** **12 15 57.5 +0.2**
comp=Z,37nm,1.9s
R11A **Troy Canyon, C** **46.74** **79** ⇑P **P** **12 15 57.9 -0.3**
baz=47,SNR=17
R11A ⇑P **P** **12 15 57.9 -0.3**
baz=47,SNR=17
D21A **La Casta Ranch** **46.77** **64** ⇑P **P** **12 15 57.6 -0.6**
baz=46
D21A ⇑P **P** **12 15 57.6 -0.6**
baz=46
M15A **Larsen Ranch,** **46.78** **74** ⇓P **P** **12 15 58.6 +0.2**
baz=47,SNR=16
M15A ⇓P **P** **12 15 58.6 +0.2**
baz=47,SNR=16
F20A **Billings** **46.82** **66** ⇓P **P** **12 15 57.7 -0.9**
baz=47
F20A ⇓P **P** **12 15 57.7 -0.9**
baz=47
AHID **Auburn Hatcher** **46.83** **72** *e*P **P** **12 15 58.8 +0.1**
comp=Z,15nm,1.1s
K17A **Gardner Place,** **46.94** **71** ⇓P **P** **12 15 59.5 -0.2**
baz=47,SNR=8.0
K17A ⇓P **P** **12 15 59.5 -0.2**
baz=47,SNR=8.0
H19A **Powell** **46.98** **68** ⇓P **P** **12 16 00.1 +0.2**
baz=47,SNR=8.3
H19A ⇓P **P** **12 16 00.1 +0.2**
baz=47,SNR=8.3
MPMC **Manual Prospec** **46.98** **83** ⇑P **P** **12 16 00.3 +0.2**
baz=47
MPMC ⇑P **P** **12 16 00.3 +0.2**
baz=47
I18A **Diamond G Ranc** **47.04** **70** ⇓P **P** **12 16 00.9 +0.3**
baz=47,SNR=6.8
I18A ⇓P **P** **12 16 00.9 +0.3**
baz=47,SNR=6.8
L16A **Fish Haven** **47.07** **73** ⇑P **P** **12 16 00.9 +0.2**
baz=47,SNR=8.8
L16A ⇑P **P** **12 16 00.9 +0.2**
baz=47,SNR=8.8
N15A **Stansbury Isla** **47.08** **74** ⇓P **P** **12 16 00.7 0.0**
baz=47
N15A ⇓P **P** **12 16 00.7 0.0**
baz=47
G20A **Bridger** **47.11** **67** ⇑P **P** **12 15 59.8 -1.1**
baz=47,SNR=12
G20A ⇑P **P** **12 15 59.8 -1.1**
baz=47,SNR=12
FURC **Furnace Creek,** **47.12** **82** ⇓P **P** **12 16 01.0 +0.2**
baz=47
FURC ⇓P **P** **12 16 01.0 +0.2**
baz=47
B23A **Brockton** **47.13** **62** ⇑P **P** **12 15 59.6 -1.2**
baz=47
B23A ⇑P **P** **12 15 59.6 -1.2**
baz=47
D22A **Cohagen** **47.19** **64** ⇓P **P** **12 16 00.7 -0.7**
baz=47,SNR=7.3
D22A ⇓P **P** **12 16 00.7 -0.7**
baz=47,SNR=7.3
J18A **Kendall Valley** **47.21** **70** ⇓P **P** **12 16 01.8 -0.1**
baz=47,SNR=12
J18A ⇓P **P** **12 16 01.8 -0.1**
baz=47,SNR=12
DUG **Dugway** **47.32** **75** *e*P **P** **12 16 02.8 +0.2**
DUG pmax pmax
comp=Z,34nm,1.3s
DUG **Dugway** **47.32** **75** *e*P **P** **12 16 02.8 +0.2**
comp=Z,34nm,1.3s
DUG **Dugway** **47.32** **75** ⇓P **P** **12 16 02.8 +0.2**
baz=47,SNR=23
DUG ⇓P **P** **12 16 02.8 +0.2**
baz=47,SNR=23
I19A **Meeteetse** **47.34** **69** ⇓P **P** **12 16 02.4 -0.4**
baz=47
I19A ⇓P **P** **12 16 02.4 -0.4**
baz=47
L17A **Cokeville** **47.35** **72** ⇑P **P** **12 16 02.8 -0.1**
baz=47,SNR=10
L17A ⇑P **P** **12 16 02.8 -0.1**
baz=47,SNR=10
M16A **Huntsville** **47.36** **73** ⇑P **P** **12 16 02.9 0.0**
baz=47
M16A ⇑P **P** **12 16 02.9 0.0**
baz=47
C23A **Lambert** **47.39** **63** ⇓P **P** **12 16 03.4 +0.5**
baz=47,SNR=8.0
C23A ⇓P **P** **12 16 03.4 +0.5**
baz=47,SNR=8.0
NJ2 **Nanjing** **47.39** **270** *e*P **P** **12 16 03.8 +0.8**
NJ2 pP **pP** **12 16 15.1 +0.2**
NJ2 sP **sP** **12 16 19.4 -0.5**
NJ2 S **S** **12 22 48.5 -5.4**
NJ2 sS **sS** **12 23 13.5 -0.3**
NJ2 pmax pmax
comp=Z,70nm,1.2s
NJ2 pmax pmax
comp=Z,240nm,9.8s
NJ2 LR LR
comp=N,330nm,21.3s
NJ2 LR LR
comp=E,240nm,22.2s
NJ2 LR LR
comp=Z,370nm,21.6s
EDW2 **Edwards Air Fo** **47.42** **85** ⇓P **P** **12 16 03.4 +0.1**
baz=47
EDW2 ⇓P **P** **12 16 03.4 +0.1**
baz=47
BTO **Baotou** **47.47** **285** *e*P **P** **12 16 03.9 +0.2**
BTO pmax pmax
comp=Z,17nm,1.1s
K18A **Toltan Ranch,** **47.53** **71** ⇑P **P** **12 16 04.7 +0.4**
baz=47,SNR=20
K18A ⇑P **P** **12 16 04.7 +0.4**
baz=47,SNR=20
E22A **Miles City** **47.72** **65** ⇑P **P** **12 16 04.7 -0.8**
baz=48,SNR=6.3
E22A ⇑P **P** **12 16 04.7 -0.8**
baz=48,SNR=6.3
PD01 **Pinedale Array** **47.72** **71** *e*P **P** **12 16 05.5 -0.3**
D23A **Lindsay** **47.73** **63** ⇓P **P** **12 16 05.1 -0.5**
baz=48
D23A ⇓P **P** **12 16 05.1 -0.5**
baz=48

PD02 Pinedale Array 47.73 71 *e*P **P 12 16 05.6 -0.3**
N16A Rees Ranch, Co 47.74 74 ⇑P **P 12 16 06.2 +0.3**
baz=48,SNR=5.3
N16A ⇑P **P 12 16 06.2 +0.3**
baz=48,SNR=5.3
BW06 Boulder Array 47.74 71 *e*P **P 12 16 05.7 -0.2**
comp=Z,21nm,0.9s
BW06 Boulder Array 47.74 71 ⇓P **P 12 16 05.7 -0.2**
baz=48,SNR=32
BW06 ⇓P **P 12 16 05.7 -0.2**
baz=48,SNR=32
BW06 ⇓P **P 12 16 05.7 -0.2**
baz=48,SNR=32
BW06 ⇓P **P 12 16 05.7 -0.2**
baz=48,SNR=32
PDAR Pinedale Array 47.74 71 P **P 12 16 05.5 -0.4**
comp=Z,16nm,0.8s,baz=303,slow=3.7,SNR=128
PDAR LR LR 12 36 12.4
comp=Z,274nm,19.3s,baz=133,slow=36
PDAR Pinedale Array 47.74 71 P **P 12 16 05.5 -0.4**
J19A Crowheart 47.75 70 ⇑P **P 12 16 06.2 +0.3**
baz=48,SNR=7.4
J19A ⇑P **P 12 16 06.2 +0.3**
baz=48,SNR=7.4
MWC Mount Wilson 47.81 85 *e*P **P 12 16 06.8 +0.3**
MWC pmax pmax
comp=Z,38nm,1.6s
MWC Mount Wilson 47.81 85 *e*P **P 12 16 06.8 +0.3**
comp=Z,38nm,1.6s
R13A O'Grain Ranch, 47.84 78 ⇑P **P 12 16 06.9 +0.2**
baz=48
R13A ⇑P **P 12 16 06.9 +0.2**
baz=48
M17A Scullys Gap (B 47.85 73 ⇑P **P 12 16 06.4 -0.4**
baz=48,SNR=9.7
M17A ⇑P **P 12 16 06.4 -0.4**
baz=48,SNR=9.7
GSC Goldstone 47.89 83 *e*P **P 12 16 07.1 0.0**
GSC pmax pmax
comp=Z,32nm,1.6s
GSC Goldstone 47.89 83 *e*P **P 12 16 07.1 0.0**
comp=Z,32nm,1.6s
GSC Goldstone 47.89 83 ⇑P **P 12 16 07.3 +0.3**
baz=48
GSC ⇑P **P 12 16 07.3 +0.3**
baz=48
I20A Worland 47.90 69 ⇑P **P 12 16 06.7 -0.3**
baz=48,SNR=5.8
I20A ⇑P **P 12 16 06.7 -0.3**
baz=48,SNR=5.8
JLU Jordanelle 47.90 74 *e*P **P 12 16 07.9 +0.7**
comp=Z,14nm,1.0s
F22A Rosebud 47.92 65 ⇓P **P 12 16 06.5 -0.6**
baz=48
F22A ⇓P **P 12 16 06.5 -0.6**
baz=48
L18A Fontenelle, Gr 47.96 72 ⇑P **P 12 16 07.4 -0.2**
baz=48,SNR=16
L18A ⇑P **P 12 16 07.4 -0.2**
baz=48,SNR=16
BFSC Mount Baldy Ra 48.05 85 ⇑P **P 12 16 08.2 -0.1**
baz=48
BFSC ⇑P **P 12 16 08.2 -0.1**
baz=48
N17A Moffit Pass 48.07 73 ⇓P **P 12 16 08.3 -0.3**
baz=48,SNR=8.4
N17A ⇓P **P 12 16 08.3 -0.3**
baz=48,SNR=8.4
O16A Springville 48.11 75 ⇓P **P 12 16 09.3 +0.5**
baz=48,SNR=11
O16A ⇓P **P 12 16 09.3 +0.5**
baz=48,SNR=11
DAU Daniels Canyon 48.13 74 *e*P **P 12 16 09.9 +0.8**
DAU Daniels Canyon 48.13 74 *e*P **P 12 16 09.9 +0.8**
K19A Absolon Red Bu 48.13 70 ⇑P **P 12 16 08.1 -0.8**
baz=48,SNR=20
K19A ⇑P **P 12 16 08.1 -0.8**
baz=48,SNR=20
H21A Big Horn, Sher 48.13 67 ⇑P **P 12 16 08.7 -0.2**
baz=48
H21A ⇑P **P 12 16 08.7 -0.2**
baz=48
MPU Maple Canyon 48.14 75 *e*P **P 12 16 09.9 +0.8**
comp=Z,72nm,2.3s
M18A Lyman 48.24 72 ⇓P **P 12 16 09.5 -0.2**
baz=48,SNR=7.3
M18A ⇓P **P 12 16 09.5 -0.2**
baz=48,SNR=7.3
L19A Farson 48.26 71 ⇑P **P 12 16 09.3 -0.6**
baz=48,SNR=7.7
L19A ⇑P **P 12 16 09.3 -0.6**
baz=48,SNR=7.7
J20A Shoshoni 48.27 69 ⇑P **P 12 16 09.7 -0.2**
baz=48,SNR=6.2
J20A ⇑P **P 12 16 09.7 -0.2**
baz=48,SNR=6.2
ARUT Antelope Range 48.41 78 *e*P **P 12 16 11.1 0.0**
ARUT pmax pmax
comp=Z,5.0nm,0.7s
ARUT Antelope Range 48.41 78 *e*P **P 12 16 11.1 0.0**
comp=Z,5.2nm,0.7s
F23A Volborg 48.44 65 ⇑P **P 12 16 10.7 -0.5**
baz=48,SNR=6.3
F23A ⇑P **P 12 16 10.7 -0.5**
baz=48,SNR=6.3
I21A Big Trails, Te 48.47 68 ⇓P **P 12 16 10.7 -0.7**
baz=48,SNR=6.7
I21A ⇓P **P 12 16 10.7 -0.7**
baz=48,SNR=6.7
K20A Yellowstone Ra 48.53 70 ⇓P **P 12 16 11.1 -0.9**
baz=48,SNR=8.7
K20A ⇓P **P 12 16 11.1 -0.9**
baz=48,SNR=8.7
O17A Robinson Place 48.58 74 ⇑P **P 12 16 13.0 +0.6**
baz=48,SNR=7.1
O17A ⇑P **P 12 16 13.0 +0.6**
baz=48,SNR=7.1
CCUT Cedar City 48.61 79 *e*P **P 12 16 13.3 +0.7**
comp=Z,5.6nm,0.9s
MSU Marysvale 48.74 77 *e*P **P 12 16 14.7 +1.0**
MSU Marysvale 48.74 77 *e*P **P 12 16 14.7 +1.0**
TMUT Trail Mountain 48.84 75 *e*P **P 12 16 15.8 +1.2**
comp=Z,16nm,0.8s
R15A Junction 48.86 77 ⇑P **P 12 16 15.4 +0.8**
baz=49,SNR=9.8
R15A ⇑P **P 12 16 15.4 +0.8**
baz=49,SNR=9.8
I22A 9 Mile Ranch, 48.89 68 ⇓P **P 12 16 14.5 -0.2**
baz=49,SNR=6.8
I22A ⇓P **P 12 16 14.5 -0.2**
baz=49,SNR=6.8
L20A Wamsutter 48.92 71 ⇑P **P 12 16 14.4 -0.6**
baz=49
L20A ⇑P **P 12 16 14.4 -0.6**
baz=49
GMRC Granite Mounta 48.95 83 ⇓P **P 12 16 15.3 +0.1**
baz=49
GMRC ⇓P **P 12 16 15.3 +0.1**
baz=49
O18A Roosevelt 48.98 74 ⇑P **P 12 16 16.0 +0.6**
baz=49,SNR=9.3
O18A ⇑P **P 12 16 16.0 +0.6**
baz=49,SNR=9.3
N19A John Jarvie Ra 49.09 72 ⇓P **P 12 16 15.9 -0.4**
baz=49,SNR=12
N19A ⇓P **P 12 16 15.9 -0.4**
baz=49,SNR=12
J22A Midwest 49.18 68 ⇑P **P 12 16 16.6 -0.3**
baz=49,SNR=9.5
J22A ⇑P **P 12 16 16.6 -0.3**
baz=49,SNR=9.5
K21A Alcova 49.19 69 ⇑P **P 12 16 16.1 -0.9**
baz=49,SNR=5.7
K21A ⇑P **P 12 16 16.1 -0.9**
baz=49,SNR=5.7
PFO Pinyon Flat Ob 49.22 85 ⇑P **P 12 16 17.2 -0.1**
baz=49
PFO ⇑P **P 12 16 17.2 -0.1**
baz=49
P18A Preston Nutter 49.23 74 ⇓P **P 12 16 17.8 +0.4**
baz=49,SNR=18
P18A ⇓P **P 12 16 17.8 +0.4**
baz=49,SNR=18
R16A Teasdale 49.31 77 ⇑P **P 12 16 18.7 +0.7**
baz=49,SNR=15
R16A ⇑P **P 12 16 18.7 +0.7**
baz=49,SNR=15
M20A Sweetwater, Wa 49.33 71 ⇑P **P 12 16 18.1 0.0**
baz=49,SNR=5.2
M20A ⇑P **P 12 16 18.1 0.0**
baz=49,SNR=5.2
SRU San Rafael 49.38 75 *e*P **P 12 16 19.1 +0.6**
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael 49.38 75 *e*P **P 12 16 19.1 +0.6**
comp=Z,14nm,1.0s
SRU San Rafael 49.38 75 ⇑P **P 12 16 18.5 0.0**
baz=49,SNR=17
SRU ⇑P **P 12 16 18.5 0.0**
baz=49,SNR=17
O19A Miners Draw (B 49.49 73 ⇑P **P 12 16 19.3 0.0**
baz=49,SNR=28
O19A ⇑P **P 12 16 19.3 0.0**
baz=49,SNR=28
L21A Rawlins 49.52 70 ⇑P **P 12 16 19.1 -0.5**
baz=49,SNR=17
L21A ⇑P **P 12 16 19.1 -0.5**
baz=49,SNR=17
S16A Weppner Ranch, 49.59 77 ⇑P **P 12 16 20.3 +0.2**
baz=49,SNR=12
S16A ⇑P **P 12 16 20.3 +0.2**
baz=49,SNR=12
K22A Casper 49.61 69 ⇓P **P 12 16 19.6 -0.6**
baz=49,SNR=6.2
K22A ⇓P **P 12 16 19.6 -0.6**
baz=49,SNR=6.2
Q18A Rafter H Ranch 49.62 75 ⇓P **P 12 16 20.0 -0.2**
baz=49,SNR=12
Q18A ⇓P **P 12 16 20.0 -0.2**
baz=49,SNR=12
N20A Spence Gulch, 49.68 72 ⇓P **P 12 16 21.2 +0.3**
baz=50,SNR=9.1
N20A ⇓P **P 12 16 21.2 +0.3**
baz=50,SNR=9.1
BAR Barrett 49.69 86 *e*P **P 12 16 21.1 +0.3**
comp=Z,7.1nm,0.9s
R17A Hanksville Air 49.69 76 ⇓P **P 12 16 21.0 +0.2**
baz=50,SNR=15
R17A ⇓P **P 12 16 21.0 +0.2**
baz=50,SNR=15
M21A Separation Pea 49.74 71 ⇑P **P 12 16 20.5 -0.8**
baz=50,SNR=6.7
M21A ⇑P **P 12 16 20.5 -0.8**
baz=50,SNR=6.7
RWWY Rawlins 49.78 70 *e*P **P 12 16 21.3 -0.4**
comp=Z,24nm,1.4s
W13A Hualapai Mount 49.85 81 ⇓P **P 12 16 22.1 0.0**
baz=50,SNR=5.9
W13A ⇓P **P 12 16 22.1 0.0**
baz=50,SNR=5.9
KBS Kingsbay 49.98 357 *e*P **P 12 16 22.8 +0.5**
U15A North Rim 49.98 79 ⇓P **P 12 16 23.4 +0.1**
baz=50,SNR=13
U15A ⇓P **P 12 16 23.4 +0.1**
baz=50,SNR=13
P19A Cripple Cowboy 49.99 74 ⇑P **P 12 16 23.1 -0.1**
baz=50,SNR=25
P19A ⇑P **P 12 16 23.1 -0.1**
baz=50,SNR=25
L22A Ellis Ranch, M 50.04 70 ⇑P **P 12 16 23.4 -0.1**
baz=50
L22A ⇑P **P 12 16 23.4 -0.1**
baz=50
DVTC Desert V Tower 50.06 85 ⇑P **P 12 16 23.4 -0.3**
baz=50
DVTC ⇑P **P 12 16 23.4 -0.3**
baz=50
O20A White River Ci 50.12 73 ⇓P **P 12 16 24.0 -0.1**
baz=50,SNR=23
O20A ⇓P **P 12 16 24.0 -0.1**
baz=50,SNR=23
S17A Black Ridge (B 50.13 77 ⇑P **P 12 16 24.3 +0.1**
baz=50,SNR=22
S17A ⇑P **P 12 16 24.3 +0.1**
baz=50,SNR=22
N21A Black Mountain 50.17 72 ⇓P **P 12 16 24.1 -0.5**
baz=50,SNR=8.7
N21A ⇓P **P 12 16 24.1 -0.5**
baz=50,SNR=8.7
R18A Canyonlands Na 50.21 75 ⇓P **P 12 16 24.0 -0.9**
baz=50,SNR=9.3
R18A ⇓P **P 12 16 24.0 -0.9**
baz=50,SNR=9.3
Q19A Hogan Spring (50.24 74 ⇓P **P 12 16 24.5 -0.5**
baz=50,SNR=17
Q19A ⇓P **P 12 16 24.5 -0.5**
baz=50,SNR=17
M22A Cedar Creek Ra 50.33 70 ⇑P **P 12 16 25.4 -0.4**
baz=50
M22A ⇑P **P 12 16 25.4 -0.4**
baz=50
L23A Garrett 50.42 69 ⇓P **P 12 16 25.8 -0.6**
baz=50,SNR=12
L23A ⇓P **P 12 16 25.8 -0.6**
baz=50,SNR=12
P20A De Beque 50.43 73 ⇑P **P 12 16 26.0 -0.4**
baz=50,SNR=13
P20A ⇑P **P 12 16 26.0 -0.4**
baz=50,SNR=13
SPB4 Spitsbergen Ar 50.52 355 *e*P **P 12 16 25.8 -0.7**
SPITS Spitsbergen Ar 50.52 355 P **P 12 16 25.6 -0.9**
comp=Z,2.6nm,0.3s,baz=57,slow=7.2,SNR=34
SPITS Spitsbergen Ar 50.52 355 P **P 12 16 25.6 -0.9**
SPITS pmax pmax
comp=Z,3.0nm,0.3s
SPITS Spitsbergen Ar 50.52 355 P **P 12 16 25.6 -0.9**
O21A Pagoda 50.54 72 ⇑P **P 12 16 27.1 -0.3**
baz=50,SNR=11
O21A ⇑P **P 12 16 27.1 -0.3**
baz=50,SNR=11
S18A Hurst Farm, Bl 50.59 76 ⇓P **P 12 16 27.3 -0.5**
baz=50,SNR=15
S18A ⇓P **P 12 16 27.3 -0.5**
baz=50,SNR=15
R19A Curley Farm, L 50.66 75 ⇑P **P 12 16 28.1 -0.2**
baz=50,SNR=9.1
R19A ⇑P **P 12 16 28.1 -0.2**
baz=50,SNR=9.1
N22A Wattenberg Ran 50.78 71 ⇓P **P 12 16 29.1 -0.1**
baz=51,SNR=7.5
N22A ⇓P **P 12 16 29.1 -0.1**
baz=51,SNR=7.5
M23A Laramie 50.80 70 ⇑P **P 12 16 28.9 -0.4**
baz=51
M23A ⇑P **P 12 16 28.9 -0.4**
baz=51
PV04 Paradox Valley 50.81 75 *e*P **P 12 16 29.6 +0.2**
Q20A Ridgley Place, 50.83 74 ⇓P **P 12 16 29.1 -0.3**
baz=51,SNR=10
Q20A ⇓P **P 12 16 29.1 -0.3**
baz=51,SNR=10
U16A Tuba City 50.88 79 ⇑P **P 12 16 29.7 -0.2**
baz=51
U16A ⇑P **P 12 16 29.7 -0.2**
baz=51
P21A Newcastle 50.98 73 ⇑P **P 12 16 30.2 -0.5**
baz=51
P21A ⇑P **P 12 16 30.2 -0.5**
baz=51
ULM Lac du Bonnet 51.01 55 P **P 12 16 29.0 -1.5**
comp=Z,0.9nm,0.4s,baz=313,slow=9.9,SNR=3.9
ULM PcP **PcP 12 17 46.4 +0.5**
comp=Z,2.5nm,0.8s,baz=2.5,slow=5.9,SNR=4.3
ULM LR LR 12 37 53.0
comp=Z,642nm,20.8s,baz=311,slow=36
ULM Lac du Bonnet 51.01 55 P **P 12 16 29.0 -1.5**
ULM 12 17 46.4
ULM pmax pmax
comp=Z,1.0nm,0.4s
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM MLR MLR
comp=Z,642nm,20.8s
ULM Lac du Bonnet 51.01 55 P **P 12 16 29.0 -1.5**
ULM PcP **PcP 12 17 46.4 +0.5**
T18A Mexican Hat 51.02 77 ⇑P **P 12 16 30.5 -0.4**
baz=51,SNR=10
T18A ⇑P **P 12 16 30.5 -0.4**
baz=51,SNR=10
N23A Red Feather La 51.03 70 ⇑P **P 12 16 31.2 +0.1**
baz=51,SNR=7.7
N23A ⇑P **P 12 16 31.2 +0.1**
baz=51,SNR=7.7
S19A Harvey Farm, M 51.08 76 ⇑P **P 12 16 31.0 -0.4**
baz=51,SNR=8.5
S19A ⇑P **P 12 16 31.0 -0.4**
baz=51,SNR=8.5
O22A Kremmling 51.12 72 ⇑P **P 12 16 31.7 -0.2**
baz=51,SNR=8.7
O22A ⇑P **P 12 16 31.7 -0.2**
baz=51,SNR=8.7
WUAZ Wupatki 51.14 79 *e*P **P 12 16 32.4 +0.5**
comp=Z,11nm,0.9s
WUAZ Wupatki 51.14 79 ⇑P **P 12 16 32.3 +0.5**
baz=51,SNR=12
WUAZ ⇑P **P 12 16 32.3 +0.5**
baz=51,SNR=12
PV01 Paradox Valley 51.18 75 *e*P **P 12 16 31.7 -0.5**
comp=Z,703nm,0.7s
WHN Wuhan 51.24 272 P **P 12 16 32.3 -0.1**
R20A Redvale 51.26 75 ⇑P **P 12 16 32.6 -0.2**
baz=51
R20A ⇑P **P 12 16 32.6 -0.2**
baz=51
Q21A Lamborn Mesa, 51.34 74 ⇓P **P 12 16 33.2 -0.2**
baz=51,SNR=15
Q21A ⇓P **P 12 16 33.2 -0.2**
baz=51,SNR=15
P22A Eagle 51.35 72 ⇑P **P 12 16 33.2 -0.3**
baz=51,SNR=7.3
P22A ⇑P **P 12 16 33.2 -0.3**
baz=51,SNR=7.3
V17A Tonalea, Kykot 51.43 79 ⇑P **P 12 16 34.4 +0.4**
baz=51,SNR=9.4
V17A ⇑P **P 12 16 34.4 +0.4**
baz=51,SNR=9.4
O23A Lake Granby, G 51.47 71 ⇑P **P 12 16 34.6 +0.2**
baz=51,SNR=5.7
O23A ⇑P **P 12 16 34.6 +0.2**
baz=51,SNR=5.7
SMCO Snowmass 51.48 73 *e*P **P 12 16 34.7 0.0**
comp=Z,4.7nm,0.6s
S20A Disappointment 51.50 75 ⇑P **P 12 16 34.6 -0.1**
baz=51,SNR=9.6
S20A ⇑P **P 12 16 34.6 -0.1**
baz=51,SNR=9.6
R21A Cimarron 51.65 74 ⇓P **P 12 16 35.8 +0.1**
baz=52,SNR=11
R21A ⇓P **P 12 16 35.8 +0.1**
baz=52,SNR=11
Q22A Crested Butte, 51.72 73 ⇑P **P 12 16 36.5 +0.2**
baz=52,SNR=9.2
Q22A ⇑P **P 12 16 36.5 +0.2**
baz=52,SNR=9.2
T19A Beclabito 51.74 76 ⇓P **P 12 16 36.0 -0.3**
baz=52,SNR=16
T19A ⇓P **P 12 16 36.0 -0.3**
baz=52,SNR=16
MVCO Mesa Verde 51.81 76 *e*P **P 12 16 37.2 +0.2**
comp=Z,39nm,1.8s
MVCO Mesa Verde 51.81 76 ⇑P **P 12 16 37.2 +0.2**
baz=52,SNR=7.3
MVCO ⇑P **P 12 16 37.2 +0.2**
baz=52,SNR=7.3
X16A Lo Mia Camp, P 51.81 80 ⇓P **P 12 16 37.3 +0.4**
baz=52,SNR=7.7
X16A ⇓P **P 12 16 37.3 +0.4**
baz=52,SNR=7.7
SSLB Suanglung 51.86 261 *e*P **P 12 16 37.5 +0.3**
comp=Z,72nm,1.2s
DAG Danmarks Havn 51.89 5 *i*P **P 12 16 35.6 -1.1**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 51.89 5 *i*P **P 12 16 35.6 -1.1**
comp=Z,43nm,0.8s
V18A Ganado 51.90 78 ⇑P **P 12 16 37.7 +0.1**
baz=52
V18A ⇑P **P 12 16 37.7 +0.1**
baz=52
ISCO Idaho Springs 51.91 71 *e*P **P 12 16 37.9 +0.2**
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO Idaho Springs 51.91 71 *e*P **P 12 16 37.9 +0.2**
comp=Z,11nm,1.0s
ISCO Idaho Springs 51.91 71 ⇑P **P 12 16 37.9 +0.2**
baz=52,SNR=9.8
ISCO ⇑P **P 12 16 37.9 +0.2**
baz=52,SNR=9.8
S21A Coal Bank Pass 51.95 75 ⇑P **P 12 16 38.1 0.0**
baz=52,SNR=9.9
S21A ⇑P **P 12 16 38.1 0.0**
baz=52,SNR=9.9
O24A Longmont 52.03 71 ⇓P **P 12 16 39.0 +0.6**
baz=52
O24A ⇓P **P 12 16 39.0 +0.6**
baz=52
P23A Jefferson 52.04 72 ⇓P **P 12 16 39.6 +0.8**
baz=52,SNR=6.8
P23A ⇓P **P 12 16 39.6 +0.8**
baz=52,SNR=6.8
R22A Saguache, Gunn 52.22 74 ⇑P **P 12 16 40.8 +0.8**
baz=52,SNR=11
R22A ⇑P **P 12 16 40.8 +0.8**
baz=52,SNR=11
XAN Xi'an 52.30 280 P **P 12 16 40.3 -0.1**
XAN pP **pP 12 16 53.1 +0.7**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN pmax pmax
comp=Z,51nm,9.0s
W18A Petrified Fore 52.41 79 ⇓P **P 12 16 41.7 +0.4**
baz=52
W18A ⇓P **P 12 16 41.7 +0.4**
baz=52
S22A 4UR Ranch, Cre 52.48 74 ⇓P **P 12 16 42.8 +0.8**
baz=52,SNR=13
S22A ⇓P **P 12 16 42.8 +0.8**
baz=52,SNR=13
P24A Kohler Place, 52.51 71 ⇓P **P 12 16 42.8 +0.8**
baz=52
P24A ⇓P **P 12 16 42.8 +0.8**
baz=52
T21A Navajo Lake 52.54 75 ⇓P **P 12 16 42.5 +0.2**
baz=52
T21A ⇓P **P 12 16 42.5 +0.2**
baz=52
W19A Sanders 52.63 78 ⇑P **P 12 16 43.4 +0.4**
baz=52
W19A ⇑P **P 12 16 43.4 +0.4**
baz=52
Y17A Roosevelt 52.66 81 ⇓P **P 12 16 43.3 +0.2**
baz=52,SNR=6.2
Y17A ⇓P **P 12 16 43.3 +0.2**
baz=52,SNR=6.2
X18A Snowflake 52.67 79 ⇑P **P 12 16 43.2 -0.1**
baz=52
X18A ⇑P **P 12 16 43.2 -0.1**
baz=52
Q24A Divide 52.72 72 ⇑P **P 12 16 43.6 -0.2**
baz=52
Q24A ⇑P **P 12 16 43.6 -0.2**
baz=52
R23A Moffat 52.80 73 ⇑P **P 12 16 44.7 +0.4**
baz=53,SNR=5.8
R23A ⇑P **P 12 16 44.7 +0.4**
baz=53,SNR=5.8
U21A Nageezi 52.83 76 ⇓P **P 12 16 44.7 +0.2**
baz=53,SNR=12
U21A ⇓P **P 12 16 44.7 +0.2**
baz=53,SNR=12
T22A Edith 52.91 75 ⇓P **P 12 16 45.9 +0.8**
baz=53,SNR=7.4
T22A ⇓P **P 12 16 45.9 +0.8**
baz=53,SNR=7.4
P25A Willow Gulch B 52.95 71 ⇑P **P 12 16 46.0 +0.7**
baz=53,SNR=9.6
P25A ⇑P **P 12 16 46.0 +0.7**
baz=53,SNR=9.6
Y18A Canyon Day Jun 53.11 80 ⇑P **P 12 16 46.8 +0.3**
baz=53,SNR=6.5
Y18A ⇑P **P 12 16 46.8 +0.3**
baz=53,SNR=6.5
X19A St. Johns 53.14 79 ⇑P **P 12 16 47.1 +0.3**
baz=53,SNR=5.3
X19A ⇑P **P 12 16 47.1 +0.3**
baz=53,SNR=5.3
ZAA0 Zalesovo Array 53.16 313 *e*P **P 12 16 45.5 -0.9**
ZAA0 *e*PcP **PcP 12 17 52.9 -1.0**
ZALV Zalesovo Beam 53.16 313 P **P 12 16 45.6 -0.7**
comp=Z,3.9nm,0.8s,baz=50,slow=6.9,SNR=18
ZALV PcP **PcP 12 17 54.6 +0.7**
comp=Z,9.5nm,1.1s,baz=43,slow=6.7,SNR=4.0
ZALV Zalesovo Beam 53.16 313 P **P 12 16 45.7 -0.7**
ZALV 12 17 54.6

ZALV					pmax	pmax				
	comp=Z,4.0nm,0.8s									
ZALV					pmax	pmax				
	comp=Z,10.0nm,1.1s									
ZALV	**Zalesovo Beam**	**53.16**	**313**		P	**P**	**12**	**16**	**45.6**	**-0.7**
ZALV					PcP	**PcP**	**12**	**17**	**54.6**	**+0.7**
W20A	**Ramah**	**53.17**	**78**	⇑	P	**P**	**12**	**16**	**47.3**	**+0.3**
	baz=53									
W20A				⇑	P	**P**	**12**	**16**	**47.3**	**+0.3**
	baz=53									
R24A	**Sanders Place,**	**53.21**	**73**	⇑	P	**P**	**12**	**16**	**47.6**	**+0.4**
	baz=53,SNR=8.6									
R24A				⇑	P	**P**	**12**	**16**	**47.6**	**+0.4**
	baz=53,SNR=8.6									
V21A	**Milan**	**53.25**	**76**	⇓	P	**P**	**12**	**16**	**47.7**	**+0.1**
	baz=53									
V21A				⇓	P	**P**	**12**	**16**	**47.7**	**+0.1**
	baz=53									
Q25A	**Bedland, Calha**	**53.29**	**71**	⇓	P	**P**	**12**	**16**	**47.8**	**0.0**
	baz=53,SNR=14									
Q25A				⇓	P	**P**	**12**	**16**	**47.8**	**0.0**
	baz=53,SNR=14									
SDCO	**Great Sand Dun**	**53.29**	**73**	*e*	P	**P**	**12**	**16**	**48.3**	**+0.4**
	comp=Z,20nm,1.3s									
SDCO	**Great Sand Dun**	**53.29**	**73**	⇑	P	**P**	**12**	**16**	**47.9**	**0.0**
	baz=53,SNR=20									
SDCO				⇑	P	**P**	**12**	**16**	**47.9**	**0.0**
	baz=53,SNR=20									
SDCO				⇑	P	**P**	**12**	**16**	**47.9**	**0.0**
	baz=53,SNR=20									
SDCO				⇑	P	**P**	**12**	**16**	**47.9**	**0.0**
	baz=53,SNR=20									
NVS	**Novosibirsk**	**53.33**	**314**	*e*	P	**P**	**12**	**16**	**45.5**	**-2.1**
NVS				*e*	S	**S**	**12**	**24**	**18.1**	**+2.1**
NVS				*e*			12	26	38.0	
NVS					pmax	pmax				
	comp=N,7.0nm,0.9s									
NVS					pmax	pmax				
	comp=E,12nm,0.9s									
NVS					pmax	pmax				
	comp=Z,25nm,0.9s									
NVS					smax	smax				
	comp=N,19nm,2.2s									
NVS					smax	smax				
	comp=E,12nm,1.9s									
T23A	**Casias Ranch,**	**53.42**	**74**	⇑	P	**P**	**12**	**16**	**49.4**	**+0.5**
	baz=53,SNR=10.0									
T23A				⇑	P	**P**	**12**	**16**	**49.4**	**+0.5**
	baz=53,SNR=10.0									
S24A	**Houchin Ranch,**	**53.53**	**73**	⇓	P	**P**	**12**	**16**	**50.2**	**+0.5**
	baz=53,SNR=12									
S24A				⇓	P	**P**	**12**	**16**	**50.2**	**+0.5**
	baz=53,SNR=12									
X20A	**Quemado**	**53.56**	**78**	⇑	P	**P**	**12**	**16**	**50.1**	**+0.3**
	baz=53									
X20A				⇑	P	**P**	**12**	**16**	**50.1**	**+0.3**
	baz=53									
TUC	**Tucson**	**53.63**	**82**	*e*	P	**P**	**12**	**16**	**50.2**	**0.0**
TUC					pmax	pmax				
	comp=Z,10.0nm,1.3s									
TUC	**Tucson**	**53.63**	**82**	*e*	P	**P**	**12**	**16**	**50.2**	**0.0**
	comp=Z,9.9nm,1.3s									
Q26A	**Hugo**	**53.72**	**71**	⇑	P	**P**	**12**	**16**	**51.0**	**+0.1**
	baz=54,SNR=5.3									
Q26A				⇑	P	**P**	**12**	**16**	**51.0**	**+0.1**
	baz=54,SNR=5.3									
R25A	**Fountain Ranch**	**53.76**	**72**	⇓	P	**P**	**12**	**16**	**51.5**	**+0.3**
	baz=54,SNR=12									
R25A				⇓	P	**P**	**12**	**16**	**51.5**	**+0.3**
	baz=54,SNR=12									
U23A	**El Rito**	**53.79**	**75**	⇑	P	**P**	**12**	**16**	**52.0**	**+0.5**
	baz=54,SNR=12									
U23A				⇑	P	**P**	**12**	**16**	**52.0**	**+0.5**
	baz=54,SNR=12									
SUMG	**Summit**	**53.88**	**13**	*e*	P	**P**	**12**	**16**	**51.9**	**0.0**
SUMG					pmax	pmax				
	comp=Z,424nm,3.0s									
SUMG	**Summit**	**53.88**	**13**	*e*	P	**P**	**12**	**16**	**51.9**	**0.0**
	comp=Z,424nm,3.0s									
SUMG	**Summit**	**53.88**	**13**	*i*	P	**P**	**12**	**16**	**51.8**	**-0.1**
	comp=Z,15nm,0.9s									
FRB	**Frobisher Bay**	**53.98**	**31**		P	**P**	**12**	**16**	**51.4**	**-0.8**
	comp=Z,9.1nm,0.9s,baz=325,slow=10,SNR=12									
FRB	**Frobisher Bay**	**53.98**	**31**		P	**P**	**12**	**16**	**51.4**	**-0.8**
FRB					pmax	pmax				
	comp=Z,9.0nm,0.9s									
FRB	**Frobisher Bay**	**53.98**	**31**		P	**P**	**12**	**16**	**51.4**	**-0.8**
S25A	**Robets Cordova**	**53.99**	**73**	⇓	P	**P**	**12**	**16**	**52.9**	**0.0**
	baz=54,SNR=12									
S25A				⇓	P	**P**	**12**	**16**	**52.9**	**0.0**
	baz=54,SNR=12									
T24A	**Torres, Weston**	**54.00**	**74**	⇑	P	**P**	**12**	**16**	**53.9**	**+0.8**
	baz=54,SNR=13									
T24A				⇑	P	**P**	**12**	**16**	**53.9**	**+0.8**
	baz=54,SNR=13									
X21A	**Alamocita Cree**	**54.06**	**78**	⇓	P	**P**	**12**	**16**	**54.1**	**+0.6**
	baz=54,SNR=13									
X21A				⇓	P	**P**	**12**	**16**	**54.1**	**+0.6**
	baz=54,SNR=13									
LZH	**Lanzhou**	**54.08**	**285**	*e*	P	**P**	**12**	**16**	**54.5**	**+0.9**
LZH					pP	**pP**	**12**	**17**	**05.0**	**-0.7**
LZH					sP	**sP**	**12**	**17**	**11.0**	**+0.4**
LZH				*e*	S	**S**	**12**	**24**	**29.3**	**+2.4**
LZH					sS	**sS**	**12**	**24**	**49.0**	**+2.0**
LZH					SS	**SKiKP**	**12**	**28**	**02.0**	**+0.4**
LZH					pmax	pmax				
	comp=Z,55nm,1.1s									
LZH					pmax	pmax				
	comp=Z,160nm,5.4s									
LZH					LR	LR				
	comp=N,500nm,12.8s									
LZH					LR	LR				
	comp=E,620nm,14.8s									
LZH					LR	LR				
	comp=Z,650nm,16.2s									
R26A	**Arlington**	**54.16**	**71**	⇓	P	**P**	**12**	**16**	**54.3**	**+0.2**
	baz=54,SNR=14									
R26A				⇓	P	**P**	**12**	**16**	**54.3**	**+0.2**
	baz=54,SNR=14									
V23A	**Ortiz Mt. (NFS**	**54.18**	**76**	⇓	P	**P**	**12**	**16**	**55.4**	**+1.0**
	baz=54									
V23A				⇓	P	**P**	**12**	**16**	**55.4**	**+1.0**
	baz=54									
KSCO	**Kaye Shedlock'**	**54.19**	**70**	⇓	P	**P**	**12**	**16**	**54.2**	**-0.1**
	baz=54,SNR=8.4									
KSCO				⇓	P	**P**	**12**	**16**	**54.2**	**-0.1**
	baz=54,SNR=8.4									
119A	**Ashpeak Ranch,**	**54.24**	**80**	⇑	P	**P**	**12**	**16**	**56.2**	**+1.4**
	baz=54									
119A				⇑	P	**P**	**12**	**16**	**56.2**	**+1.4**
	baz=54									
U24A	**Moreno Valley**	**54.30**	**74**	⇓	P	**P**	**12**	**16**	**55.8**	**+0.5**
	baz=54									
U24A				⇓	P	**P**	**12**	**16**	**55.8**	**+0.5**
	baz=54									
GTA	**Gaotai**	**54.33**	**291**	*e*	P	**P**	**12**	**16**	**55.8**	**+0.5**
GTA					pP	**pP**	**12**	**17**	**08.3**	**+0.9**
GTA					sP	**sP**	**12**	**17**	**13.4**	**+1.0**
GTA					S	**S**	**12**	**24**	**30.9**	**+0.7**
GTA					sS	**sS**	**12**	**24**	**52.0**	**+1.7**
GTA					pmax	pmax				
	comp=Z,37nm,1.1s									
GTA					pmax	pmax				
	comp=Z,250nm,7.4s									
GTA					LR	LR				
	comp=N,530nm,17.3s									
GTA					LR	LR				
	comp=E,640nm,17.3s									
GTA					LR	LR				
	comp=Z,870nm,15.7s									
T25A	**Trinidad**	**54.34**	**73**	⇑	P	**P**	**12**	**16**	**55.9**	**+0.4**
	baz=54,SNR=19									
T25A				⇑	P	**P**	**12**	**16**	**55.9**	**+0.4**
	baz=54,SNR=19									
LAZ	**Ladron**	**54.49**	**77**	*e*	P	**P**	**12**	**16**	**56.9**	**+0.3**
	comp=Z,5.1nm,1.1s									
ENH	**Enshi**	**54.49**	**276**	*e*	P	**P**	**12**	**16**	**56.4**	**-0.1**
	comp=Z,63nm,1.4s									
ANMO	**Albuquerque**	**54.54**	**76**	*e*	P	**P**	**12**	**16**	**57.9**	**+0.9**
ANMO					pmax	pmax				
	comp=Z,40nm,2.4s									
ANMO	**Albuquerque**	**54.54**	**76**	*e*	P	**P**	**12**	**16**	**57.9**	**+0.9**
	comp=Z,40nm,2.4s									
R27A	**Eads**	**54.56**	**71**	⇑	P	**P**	**12**	**16**	**57.2**	**+0.2**
	baz=54,SNR=14									
R27A				⇑	P	**P**	**12**	**16**	**57.2**	**+0.2**
	baz=54,SNR=14									
S26A	**Kim**	**54.59**	**72**	⇑	P	**P**	**12**	**16**	**57.0**	**-0.3**
	baz=54,SNR=15									
S26A				⇑	P	**P**	**12**	**16**	**57.0**	**-0.3**
	baz=54,SNR=15									
V24A	**Rampart Ranch,**	**54.75**	**75**	⇑	P	**P**	**12**	**16**	**59.6**	**+1.0**
	baz=55,SNR=9.8									
V24A				⇑	P	**P**	**12**	**16**	**59.6**	**+1.0**
	baz=55,SNR=9.8									
120A	**U Bar Ranch, L**	**54.81**	**80**	⇓	P	**P**	**12**	**16**	**59.3**	**+0.4**
	baz=55									
120A				⇓	P	**P**	**12**	**16**	**59.3**	**+0.4**
	baz=55									
T26A	**Comanche Natio**	**54.81**	**73**	⇓	P	**P**	**12**	**16**	**58.5**	**-0.4**
	baz=55									
T26A				⇓	P	**P**	**12**	**16**	**58.5**	**-0.4**
	baz=55									
U25A	**Circle Dot Ran**	**54.83**	**74**	⇓	P	**P**	**12**	**16**	**59.4**	**+0.4**
	baz=55,SNR=11									
U25A				⇓	P	**P**	**12**	**16**	**59.4**	**+0.4**
	baz=55,SNR=11									
LPM	**Los Pinos Moun**	**54.86**	**77**	*e*	P	**P**	**12**	**16**	**58.8**	**-0.5**
Z21A	**St. Cloud Mine**	**54.89**	**79**	⇓	P	**P**	**12**	**17**	**00.1**	**+0.5**
	baz=55									
Z21A				⇓	P	**P**	**12**	**17**	**00.1**	**+0.5**
	baz=55									
Y22A	**Socorro**	**54.90**	**78**	⇑	P	**P**	**12**	**16**	**59.9**	**+0.3**
	baz=55									
Y22A				⇑	P	**P**	**12**	**16**	**59.9**	**+0.3**
	baz=55									
BNM	**Barren Site**	**54.97**	**77**	*e*	P	**P**	**12**	**17**	**00.6**	**+0.4**
	comp=Z,7.1nm,1.1s									
V25A	**Rancho No Teng**	**55.07**	**74**	⇑	P	**P**	**12**	**17**	**01.2**	**+0.3**
	baz=55,SNR=7.9									
V25A				⇑	P	**P**	**12**	**17**	**01.2**	**+0.3**
	baz=55,SNR=7.9									
U26A	**Atchley Ranch,**	**55.23**	**73**	⇑	P	**P**	**12**	**17**	**02.2**	**+0.2**
	baz=55,SNR=10.0									
U26A				⇑	P	**P**	**12**	**17**	**02.2**	**+0.2**
	baz=55,SNR=10.0									
220A	**Playas Peak, P**	**55.31**	**81**	⇑	P	**P**	**12**	**17**	**02.4**	**-0.1**
	baz=55,SNR=6.9									
220A				⇑	P	**P**	**12**	**17**	**02.4**	**-0.1**
	baz=55,SNR=6.9									
T27A	**Campo**	**55.41**	**72**	⇓	P	**P**	**12**	**17**	**03.2**	**+0.1**
	baz=55									
T27A				⇓	P	**P**	**12**	**17**	**03.2**	**+0.1**
	baz=55									
W25A	**X Bar L Ranch,**	**55.58**	**75**	⇓	P	**P**	**12**	**17**	**04.6**	**+0.1**
	baz=55,SNR=12									
W25A				⇓	P	**P**	**12**	**17**	**04.6**	**+0.1**
	baz=55,SNR=12									
320A	**Kipp Ranch, An**	**55.70**	**81**	⇓	P	**P**	**12**	**17**	**05.4**	**+0.1**
	baz=56									
320A				⇓	P	**P**	**12**	**17**	**05.4**	**+0.1**
	baz=56									
Z23A	**Rita Site, Whi**	**55.81**	**78**	⇑	P	**P**	**12**	**17**	**06.5**	**+0.4**
	baz=56									
Z23A				⇑	P	**P**	**12**	**17**	**06.5**	**+0.4**
	baz=56									
Y24A	**Capitan**	**55.85**	**77**	⇑	P	**P**	**12**	**17**	**06.4**	**-0.1**
	baz=56									
Y24A				⇑	P	**P**	**12**	**17**	**06.4**	**-0.1**
	baz=56									
CBKS	**Cedar Bluff**	**56.02**	**69**	*e*	P	**P**	**12**	**17**	**07.9**	**+0.5**
CBKS					pmax	pmax				
	comp=Z,27nm,0.9s									
CBKS	**Cedar Bluff**	**56.02**	**69**	*e*	P	**P**	**12**	**17**	**07.9**	**+0.5**
	comp=Z,27nm,0.9s									
CBKS	**Cedar Bluff**	**56.02**	**69**	⇓	P	**P**	**12**	**17**	**07.2**	**-0.2**
	baz=56									
CBKS				⇓	P	**P**	**12**	**17**	**07.2**	**-0.2**
	baz=56									
CBKS				⇓	P	**P**	**12**	**17**	**07.2**	**-0.2**
	baz=56									
CBKS				⇓	P	**P**	**12**	**17**	**07.2**	**-0.2**
	baz=56									
W26A	**Owens Ranch, T**	**56.09**	**75**	⇑	P	**P**	**12**	**17**	**08.4**	**+0.3**
	baz=56									
W26A				⇑	P	**P**	**12**	**17**	**08.4**	**+0.3**
	baz=56									
123A	**Bell Site, Whi**	**56.22**	**78**	⇑	P	**P**	**12**	**17**	**09.7**	**+0.7**
	baz=56									
123A				⇑	P	**P**	**12**	**17**	**09.7**	**+0.7**
	baz=56									
Y25A	**Mesa, Roswell**	**56.31**	**76**	⇓	P	**P**	**12**	**17**	**09.7**	**+0.1**
	baz=56,SNR=5.4									
Y25A				⇓	P	**P**	**12**	**17**	**09.7**	**+0.1**
	baz=56,SNR=5.4									
X26A	**CR and CF Fran**	**56.42**	**75**	⇓	P	**P**	**12**	**17**	**10.4**	**-0.1**
	baz=56									
X26A				⇓	P	**P**	**12**	**17**	**10.4**	**-0.1**
	baz=56									
W27A	**Bowe Ranch, En**	**56.53**	**74**	⇓	P	**P**	**12**	**17**	**11.8**	**+0.5**
	baz=56									
W27A				⇓	P	**P**	**12**	**17**	**11.8**	**+0.5**
	baz=56									
224A	**Cornudas Mount**	**57.05**	**78**	⇑	P	**P**	**12**	**17**	**15.2**	**+0.2**
	baz=57									
224A				⇑	P	**P**	**12**	**17**	**15.2**	**+0.2**
	baz=57									
Y27A	**Causey**	**57.27**	**75**	⇑	P	**P**	**12**	**17**	**16.4**	**-0.1**
	baz=57,SNR=12									
Y27A				⇑	P	**P**	**12**	**17**	**16.4**	**-0.1**
	baz=57,SNR=12									
MSTX	**Muleshoe**	**57.45**	**75**	⇓	P	**P**	**12**	**17**	**17.8**	**+0.1**
	baz=57,SNR=7.9									
MSTX				⇓	P	**P**	**12**	**17**	**17.8**	**+0.1**
	baz=57,SNR=7.9									
225A	**Deer Hill, Car**	**57.46**	**78**	⇓	P	**P**	**12**	**17**	**17.9**	**0.0**
	baz=57									
225A				⇓	P	**P**	**12**	**17**	**17.9**	**0.0**
	baz=57									
AMTX	**Amarillo**	**57.49**	**73**	*e*	P	**P**	**12**	**17**	**18.5**	**+0.6**
	comp=Z,14nm,1.0s									
CD2	**Chengdu**	**57.62**	**280**		P	**P**	**12**	**17**	**18.6**	**-0.3**
CD2					pP	**pP**	**12**	**17**	**30.8**	**-0.3**
CD2					sP	**sP**	**12**	**17**	**36.0**	**0.0**
CD2					PP	**PP**	**12**	**19**	**27.9**	**+1.2**
CD2					S	**S**	**12**	**25**	**10.8**	**-3.2**
CD2					sS	**sS**	**12**	**25**	**31.5**	**-2.7**
CD2					SS	**SS**	**12**	**29**	**02.3**	**-1.8**
CD2					pmax	pmax				
	comp=Z,30nm,0.9s									
CD2					pmax	pmax				
	comp=Z,230nm,7.5s									
CD2					LR	LR				
	comp=N,390nm,7.1s									
CD2					LR	LR				
	comp=Z,400nm,14.3s									
KSU1	**Kansas State U**	**57.66**	**66**	*e*	P	**P**	**12**	**17**	**19.1**	**+0.1**
	comp=Z,11nm,0.8s									
GDL2	**Guadalupe Moun**	**57.68**	**78**	*e*	P	**P**	**12**	**17**	**19.5**	**+0.1**
	comp=Z,12nm,1.3s									
325A	**Bean Ranch, Si**	**57.88**	**79**	⇑	P	**P**	**12**	**17**	**20.7**	**-0.1**
	baz=58									
325A				⇑	P	**P**	**12**	**17**	**20.7**	**-0.1**
	baz=58									
ARCES	**ARCESS Array B**	**58.09**	**349**		P	**P**	**12**	**17**	**20.7**	**-0.8**
	comp=Z,7.3nm,0.9s,baz=24,slow=8.3,SNR=8.7									
ARCES					LR	LR	12	46	14.8	
	comp=Z,437nm,18.5s,baz=185,slow=40									
ARCES	**ARCESS Array B**	**58.09**	**349**		P	**P**	**12**	**17**	**20.7**	**-0.8**
ARCES					pmax	pmax				
	comp=Z,7.0nm,0.9s									
ARCES					MLR	MLR				
	comp=Z,437nm,18.5s									
ARCES	**ARCESS Array B**	**58.09**	**349**		P	**P**	**12**	**17**	**20.7**	**-0.8**
KURK	**Kurchatov**	**58.16**	**313**		P	**P**	**12**	**17**	**23.0**	**+0.8**
	comp=Z,19nm,0.7s,baz=44,slow=6.4,SNR=126									
KURK					PcP	**PcP**	**12**	**18**	**15.6**	**+2.2**
	comp=Z,4.3nm,0.8s,baz=53,slow=6.0,SNR=4.5									
KURK	**Kurchatov**	**58.16**	**313**	*c*	*i*P	**P**	**12**	**17**	**22.1**	**-0.1**
KURK					pmax	pmax				
	comp=Z,54nm,1.2s									
KURK	**Kurchatov**	**58.16**	**313**	*e*	P	**P**	**12**	**17**	**21.9**	**-0.3**
	comp=Z,45nm,1.1s									
KURK					PcP	**PcP**	**12**	**18**	**15.6**	**+2.2**
KURK				*e*	ScP	**ScP**	**12**	**22**	**09.2**	**-0.6**
WMQ	**Urumqi**	**58.27**	**302**		P	**P**	**12**	**17**	**23.8**	**+0.5**
WMQ					pP	**pP**	**12**	**17**	**36.8**	**+1.3**
WMQ					sP	**sP**	**12**	**17**	**41.8**	**+1.4**
WMQ					pmax	pmax				
	comp=Z,27nm,1.1s									
WMQ					pmax	pmax				
	comp=Z,610nm,6.6s									
WMQ					LR	LR				
	comp=N,600nm,19.0s									
WMQ					LR	LR				
	comp=E,470nm,23.0s									
WMQ					LR	LR				
	comp=Z,820nm,20.0s									
425A	**Indio Mountain**	**58.27**	**79**	⇓	P	**P**	**12**	**17**	**23.9**	**+0.3**
	baz=58,SNR=5.4									
425A				⇓	P	**P**	**12**	**17**	**23.9**	**+0.3**
	baz=58,SNR=5.4									
326A	**Caldwell Ranch**	**58.53**	**78**	⇑	P	**P**	**12**	**17**	**25.1**	**-0.2**
	baz=58									
326A				⇑	P	**P**	**12**	**17**	**25.1**	**-0.2**
	baz=58									
GYA	**Guiyang**	**58.92**	**275**	*e*	P	**P**	**12**	**17**	**28.9**	**+0.8**
GYA					pP	**pP**	**12**	**17**	**42.8**	**+2.5**
GYA					sP	**sP**	**12**	**17**	**49.5**	**+4.3**
GYA					PP	**PP**	**12**	**19**	**41.0**	**+2.6**
GYA					ScP	**ScP**	**12**	**22**	**12.8**	**-1.0**
GYA					S	**S**	**12**	**25**	**29.3**	**-1.9**
GYA					sS	**sS**	**12**	**25**	**49.4**	**-2.1**
GYA					SS	**SS**	**12**	**29**	**23.0**	**-1.9**
GYA					pmax	pmax				
	comp=Z,20nm,1.0s									
GYA					pmax	pmax				
	comp=Z,120nm,5.0s									
GYA					LR	LR				
	comp=N,480nm,19.0s									
GYA					LR	LR				
	comp=E,460nm,20.2s									
GYA					LR	LR				
	comp=Z,490nm,20.4s									
426A	**McDonald Obser**	**58.95**	**79**	⇓	P	**P**	**12**	**17**	**27.8**	**-0.6**
	baz=59									
426A				⇓	P	**P**	**12**	**17**	**27.8**	**-0.6**
	baz=59									
MK31	**Makanchi Array**	**59.06**	**307**	*e*	P	**P**	**12**	**17**	**27.9**	**-0.8**
MK31				*e*			12	19	37.6	
MK31	**Makanchi Array**	**59.06**	**307**	*e*	P	**P**	**12**	**17**	**27.9**	**-0.8**
MK31				*e*	PP	**PP**	**12**	**19**	**37.6**	**-1.5**
MKAR	**Makanchi Array**	**59.06**	**307**		P	**P**	**12**	**17**	**28.1**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=54,slow=6.9,SNR=54									
MKAR					LR	LR	12	43	41.0	
	comp=Z,604nm,18.5s,baz=35,slow=37									
MKAR	**Makanchi Array**	**59.06**	**307**		P	**P**	**12**	**17**	**28.1**	**-0.6**
MKAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
MKAR					MLR	MLR				
	comp=Z,604nm,18.5s									
MKAR	**Makanchi Array**	**59.06**	**307**	*e*	P	**P**	**12**	**17**	**28.1**	**-0.6**
328A	**Wristen Ranch,**	**59.20**	**77**	⇓	P	**P**	**12**	**17**	**29.7**	**-0.2**
	baz=59									
328A				⇓	P	**P**	**12**	**17**	**29.7**	**-0.2**
	baz=59									
526A	**Mary Lane Ranc**	**59.33**	**79**	⇓	P	**P**	**12**	**17**	**30.4**	**-0.5**
	baz=59									
526A				⇓	P	**P**	**12**	**17**	**30.4**	**-0.5**
	baz=59									
WMOK	**Wichita Mounta**	**59.33**	**72**	*e*	P	**P**	**12**	**17**	**30.8**	**+0.1**
WMOK					pmax	pmax				
	comp=Z,55nm,1.8s									
WMOK	**Wichita Mounta**	**59.33**	**72**	*e*	P	**P**	**12**	**17**	**30.8**	**+0.1**
	comp=Z,55nm,1.8s									
626A	**Big Bend Ranch**	**59.66**	**80**	⇓	P	**P**	**12**	**17**	**32.7**	**-0.4**
	baz=60,SNR=5.1									
626A				⇓	P	**P**	**12**	**17**	**32.7**	**-0.4**
	baz=60,SNR=5.1									
TXAR	**Lajitas Array**	**60.10**	**79**		P	**P**	**12**	**17**	**35.8**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=300,slow=4.7,SNR=22									
TXAR					LR	LR	12	44	01.4	
	comp=Z,376nm,18.3s,baz=325,slow=37									
TXAR	**Lajitas Array**	**60.10**	**79**		P	**P**	**12**	**17**	**35.8**	**-0.4**
TXAR					pmax	pmax				
	comp=Z,2.0nm,0.6s									
TXAR					MLR	MLR				
	comp=Z,376nm,18.3s									
TXAR	**Lajitas Array**	**60.10**	**79**		P	**P**	**12**	**17**	**35.8**	**-0.4**
BVA0	**Borovoye Array**	**60.15**	**319**	*i*	P	**P**	**12**	**17**	**35.8**	**-0.2**
BVA0					pmax	pmax				
	comp=Z,4.0nm,0.8s									
BVAR	**Borovoye Array**	**60.15**	**319**		P	**P**	**12**	**17**	**36.5**	**+0.4**
	comp=Z,18nm,0.7s,baz=52,slow=7.7,SNR=81									
BVAR	**Borovoye Array**	**60.15**	**319**		P	**P**	**12**	**17**	**36.5**	**+0.4**
BVAR					pmax	pmax				
	comp=Z,18nm,0.7s									
BVAR	**Borovoye Array**	**60.15**	**319**		P	**P**	**12**	**17**	**36.5**	**+0.4**
SOKR	**Solikamsk**	**60.16**	**330**	*c*	*i*P	**P**	**12**	**17**	**36.6**	**+0.7**
SOKR					pmax	pmax				
	comp=Z,50nm,1.4s									
SOKR					MLR	MLR				
	comp=Z,450nm,17.0s									
BRVK	**Borovoye**	**60.17**	**319**	*c*	*i*P	**P**	**12**	**17**	**36.7**	**+0.6**
BRVK					pmax	pmax				
	comp=Z,50nm,1.7s									
BRVK	**Borovoye**	**60.17**	**319**	*e*	P	**P**	**12**	**17**	**36.6**	**+0.4**
	comp=Z,42nm,1.2s									
627A	**Terlingua Ranc**	**60.19**	**79**	⇑	P	**P**	**12**	**17**	**36.5**	**-0.3**
	baz=60									
627A				⇑	P	**P**	**12**	**17**	**36.5**	**-0.3**
	baz=60									
TUL1	**Tulsa**	**60.30**	**69**	⇓	P	**P**	**12**	**17**	**36.9**	**-0.4**
	baz=60									
TUL1				⇓	P	**P**	**12**	**17**	**36.9**	**-0.4**
	baz=60									
628A	**Black Gap, Mar**	**60.48**	**79**	⇓	P	**P**	**12**	**17**	**38.7**	**+0.1**
	baz=60									
628A				⇓	P	**P**	**12

MIAR pmax pmax
comp=Z,45nm,1.3s
MIAR Mount Ida 62.55 68 *e*P **P 12 17 52.7 +0.2**
comp=Z,45nm,1.3s
HKT Hockley 64.46 73 *e*P **P 12 18 05.6 +0.5**
HKT pmax pmax
comp=Z,23nm,1.2s
HKT Hockley 64.46 73 *e*P **P 12 18 05.6 +0.5**
comp=Z,23nm,1.2s
WVT Waverly 64.73 63 *e*P **P 12 18 06.1 -0.7**
WVT pmax pmax
comp=Z,5.0nm,0.7s
WVT Waverly 64.73 63 *e*P **P 12 18 06.1 -0.7**
comp=Z,4.6nm,0.7s
OXF Oxford 64.99 66 *e*P **P 12 18 07.9 -0.6**
OXF pmax pmax
comp=Z,76nm,1.0s
OXF Oxford 64.99 66 *e*P **P 12 18 07.9 -0.6**
comp=Z,76nm,1.0s
TKM2 Tokmak 2 65.16 308 P **P 12 18 10.4 +0.5**
SNR=15
TKM2 P **P 12 18 10.4 +0.5**
SNR=15
TKM2 Tokmak 2 65.16 308 *e*P **P 12 18 10.3 +0.5**
TKM2 pmax pmax
comp=Z,36nm,1.6s
TKM2 Tokmak 2 65.16 308 *e*P **P 12 18 10.2 +0.4**
comp=Z,36nm,1.6s
ULHL Ulahol 65.34 307 P **P 12 18 11.7 +0.7**
SNR=10
ULHL P **P 12 18 11.7 +0.7**
SNR=10
PLAL Pickwick Lake 65.41 64 *e*P **P 12 18 11.2 -0.1**
comp=Z,10.0nm,0.7s
USP Ospenovka 65.45 309 P **P 12 18 12.1 +0.6**
SNR=19
USP P **P 12 18 12.1 +0.6**
SNR=19
CHMS Chumysh 65.52 309 P **P 12 18 12.8 +0.9**
SNR=5.7
CHMS P **P 12 18 12.8 +0.9**
SNR=5.7
KBK Karagaybulak 65.68 308 P **P 12 18 13.8 +0.7**
SNR=10
KBK P **P 12 18 13.8 +0.7**
SNR=10
FINES FINESS Array B 65.70 346 P **P 12 18 10.9 -1.8**
comp=Z,3.7nm,0.7s,baz=17,slow=7.3,SNR=7.9
FINES LR LR 12 50 54.8
comp=Z,327nm,18.7s,baz=313,slow=40
FINES FINESS Array B 65.70 346 P **P 12 18 10.9 -1.8**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,327nm,18.7s
FINES FINESS Array B 65.70 346 P **P 12 18 10.9 -1.8**
FRU Bishkek 65.71 309 *e*P **P 12 18 14.0 +0.8**
FRU pmax pmax
comp=Z,68nm,1.8s
AAK Ala-Archa 65.92 308 P **P 12 18 15.4 +0.7**
SNR=9.9
AAK P **P 12 18 15.4 +0.7**
SNR=9.9
AAK Ala-Archa 65.92 308*c i*P **P 12 18 15.3 +0.7**
AAK pmax pmax
comp=Z,69nm,1.7s
AAK Ala-Archa 65.92 308 *e*P **P 12 18 15.1 +0.4**
comp=Z,111nm,1.3s
AAK *e*PP **PP 12 20 36.6 -3.0**
KZA Kyzart 65.96 308 P **P 12 18 16.1 +0.9**
SNR=6.9
KZA P **P 12 18 16.1 +0.9**
SNR=6.9
VBMS Vicksburg 66.00 68 *e*P **P 12 18 15.1 0.0**
comp=Z,69nm,1.4s
LSA Lhasa 66.17 288 P **P 12 18 17.6 +0.8**
LSA Lhasa 66.17 288 *e*P **P 12 18 17.9 +1.1**
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 66.17 288 *e*P **P 12 18 17.9 +1.1**
comp=Z,17nm,0.8s
EKS2 Erkin-Say 66.25 309 P **P 12 18 17.8 +1.0**
SNR=9.9
EKS2 P **P 12 18 17.8 +1.0**
SNR=9.9
EKS2 Erkin-Say 66.25 309 *e*P **P 12 18 17.6 +0.9**
EKS2 pmax pmax
comp=Z,19nm,1.1s
EKS2 Erkin-Say 66.25 309 *e*P **P 12 18 17.6 +0.9**
comp=Z,19nm,1.1s
AML Almayashu 66.69 309 P **P 12 18 21.0 +1.1**
SNR=13
AML P **P 12 18 21.0 +1.1**
SNR=13
AKTO Aktyubinsk 67.06 323 P **P 12 18 22.1 +0.5**
AKTO pmax pmax
comp=Z,16nm,1.1s
AB31 Akbulak array 67.27 322 *i*P **P 12 18 23.6 +0.7**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
KK31 Karatay Array 67.49 311 *i*P **P 12 18 24.7 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 67.49 311 *e*P **P 12 18 24.8 +0.3**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 67.49 311 *e*P **P 12 18 24.8 +0.3**
comp=Z,7.1nm,0.6s
KSH Kashi 67.50 305 *e*P P 12 18 29.1 +4.4
KSH *e*pP PcP 12 18 45.4 -6.4
KSH *e*PP **PP 12 21 01.6 +8.3**
KSH *e*ScP 12 22 51.9
KSH *e*PcS 12 22 58.4
KSH *e*S **S 12 27 20.5 +2.6**
KSH *e*ScS **SKSac 12 28 18.9 0.0**
KSH *e*SS **SS 12 31 46.6 +8.7**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,170nm,6.2s
KSH LR LR
comp=N,280nm,7.3s
KSH LR LR
comp=E,290nm,8.6s
KSH LR LR
comp=Z,320nm,7.5s
NB2 NORSAR Subarra 67.76 354 P **P 12 18 24.9 -1.0**
comp=Z,13nm,1.0s,baz=7.8,slow=6.2
NOA NORSAR Array B 67.76 354 P **P 12 18 25.2 -0.6**
comp=Z,5.1nm,0.8s,baz=8.4,slow=6.3,SNR=13
NOA LR LR 12 50 00.3
comp=Z,167nm,18.6s,baz=295,slow=38
NOA NORSAR Array B 67.76 354 P **P 12 18 25.3 -0.6**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,167nm,18.6s
NOA NORSAR Array B 67.76 354 P **P 12 18 25.2 -0.6**
VSU Vasula 68.44 345 *e*P **P 12 18 29.1 -1.0**
VSU pmax pmax
comp=Z,9.0nm,0.9s
HFS Hagfors 68.46 352 P **P 12 18 29.1 -1.1**
comp=Z,3.1nm,0.7s,baz=29,slow=3.4,SNR=14
HFS Hagfors 68.46 352 P **P 12 18 29.1 -1.1**
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 68.46 352 P **P 12 18 29.1 -1.1**
SHL Shillong 68.74 285⇑*i*P **P 12 18 33.0 +0.2**
BRAL Brewton 68.89 67 P **P 12 18 31.4 -2.0**
comp=Z,30nm,0.8s
CHTO Chiang Mai 69.35 275 *e*P **P 12 18 36.3 -0.1**
CHTO *e**PP **pP 12 18 48.4 -0.5**
CHTO pmax pmax
comp=Z,19nm,1.4s
CHTO Chiang Mai 69.35 275 *e*P **P 12 18 36.3 -0.1**
comp=Z,19nm,1.4s
CHTO *e*pP **pP 12 18 48.4 -0.5**
TAOE Nuku Hiva Isla 69.40 136 *e*LR LR 12 39 43.4
comp=Z,1μm,22.9s
OBN Obninsk 69.59 338*d i*P **P 12 18 37.1 -0.2**
OBN *e* 12 19 00.6
OBN *e*S **S 12 27 43.8 +2.0**
OBN *e*SS **SS 12 32 17.5 +8.5**
OBN pmax pmax
comp=Z,20nm,1.0s
OBN MLR MLR
comp=Z,700nm,16.0s
CM31 Chiang Mai Arr 69.61 274 *e*P **P 12 18 38.2 +0.2**
comp=Z,3.8nm,0.7s
CMAR Chiang Mai Arr 69.61 274 P **P 12 18 38.0 -0.1**
comp=Z,4.4nm,0.7s,baz=28,slow=7.1,SNR=25
CMAR Chiang Mai Arr 69.61 274 P **P 12 18 38.0 -0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 69.61 274 P **P 12 18 38.0 -0.1**
JSC Jenkinsville 69.73 60 *e*P **P 12 18 37.3 -1.3**
JSC Jenkinsville 69.73 60 *e*P **P 12 18 37.3 -1.3**
TAPN Taplejung 69.95 289 *e*P **P 12 18 40.9 +0.5**
comp=Z,141nm,0.9s
TAPN Taplejung 69.95 289 *e*P **P 12 18 40.9 +0.5**
comp=Z,141nm,0.9s
ODAN Odare 70.50 289 *e*P **P 12 18 44.0 +0.3**
comp=Z,75nm,1.0s
ODAN Odare 70.50 289 *e*P **P 12 18 44.0 +0.3**
comp=Z,75nm,1.0s
GUN Gumba 70.62 290 *e*P **P 12 18 45.3 +0.8**
comp=Z,267nm,0.9s
GUN Gumba 70.62 290 *e*P **P 12 18 45.3 +0.8**
comp=Z,267nm,0.9s
JIRN Jiri 70.62 290 *e*P **P 12 18 45.3 +0.7**
comp=Z,231nm,1.0s
JIRN Jiri 70.62 290 *e*P **P 12 18 45.3 +0.7**
comp=Z,231nm,1.0s
RAMN Ramite 70.91 289 *e*P **P 12 18 46.7 +0.6**
comp=Z,279nm,0.9s
RAMN Ramite 70.91 289 *e*P **P 12 18 46.7 +0.6**
comp=Z,279nm,0.9s
KKN Kakani 71.06 291 *e*P **P 12 18 47.9 +0.8**
comp=Z,127nm,0.9s
KKN Kakani 71.06 291 *e*P **P 12 18 47.9 +0.8**
KKN pmax pmax
comp=Z,127nm,0.9s
KKN Kakani 71.06 291 *e*P **P 12 18 47.9 +0.8**
comp=Z,127nm,0.9s
PKI Pulchoki 71.15 291 *e*P **P 12 18 48.3 +0.6**
comp=Z,164nm,1.1s
PKI Pulchoki 71.15 291 *e*P **P 12 18 48.3 +0.6**
PKI pmax pmax
comp=Z,164nm,1.1s
PKI Pulchoki 71.15 291 *e*P **P 12 18 48.3 +0.6**
comp=Z,164nm,1.1s
GKN Gorkha 71.28 291 *e*P **P 12 18 48.8 +0.5**
comp=Z,190nm,1.0s
GKN Gorkha 71.28 291 *e*P **P 12 18 48.8 +0.5**
comp=Z,190nm,1.0s
DMN Daman 71.30 291 *e*P **P 12 18 49.3 +0.8**
comp=Z,112nm,0.9s
DMN Daman 71.30 291 *e*P **P 12 18 49.3 +0.8**
comp=Z,112nm,0.9s
DANN Dangsing 71.53 292 *e*P **P 12 18 50.9 +0.9**
comp=Z,188nm,0.9s
DANN Dangsing 71.53 292 *e*P **P 12 18 50.9 +0.9**
comp=Z,188nm,0.9s
VRHR Novokhopersk 71.91 333 *e*P **P 12 18 49.9 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,3.0nm,0.4s
KOLN Koldanda 72.06 292 *e*P **P 12 18 53.5 +0.4**
comp=E,61nm,0.8s
KOLN Koldanda 72.06 292 *e*P **P 12 18 53.5 +0.4**
comp=E,61nm,0.8s
VSR Storozhevoye 72.48 335 *e*P **P 12 18 54.2 -0.7**
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,1.0nm,0.5s
VSR pmax pmax
comp=Z,6.0nm,0.5s
DZM Mont Dzumac 73.70 192 *e*LR LR 12 41 47.3
comp=Z,596nm,24.1s
PPT2 Papeete2 73.78 149 *e*LR LR 12 41 42.6
comp=Z,440nm,21.8s,baz=336
KBL Kabul 74.86 306 *e*P **P 12 19 09.1 -0.3**
KBL pmax pmax
comp=Z,27nm,1.0s
KBL Kabul 74.86 306 *e*P **P 12 19 09.1 -0.3**
comp=Z,27nm,1.0s
AKASG Malin Array Be 75.33 341 P **P 12 19 10.8 -0.8**
comp=Z,4.7nm,0.5s,baz=24,slow=5.8,SNR=13
AKASG LR LR 12 57 35.4
comp=Z,479nm,18.1s,baz=20,slow=40
AKASG Malin Array Be 75.33 341 P **P 12 19 10.8 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,479nm,18.1s
AKASG Malin Array Be 75.33 341 P **P 12 19 10.8 -0.8**
AKBB Malin Array Si 75.33 341 *e*P **P 12 19 11.1 -0.5**
AKBB Malin Array Si 75.33 341 *e*P **P 12 19 11.1 -0.5**
KIEV Kiev 75.34 341 *e*P **P 12 19 10.8 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 75.34 341 *e*P **P 12 19 10.8 -0.8**
comp=Z,7.7nm,0.8s
CTA Charters Tower 76.50 211 P **P 12 19 17.9 -0.5**
comp=Z,7.8nm,1.1s,baz=47,slow=8.9,SNR=4.5
CTA Charters Tower 76.50 211 P **P 12 19 18.0 -0.5**
CTA pmax pmax
comp=Z,8.0nm,1.1s
CTA Charters Tower 76.50 211 P **P 12 19 17.9 -0.5**
CTAO Charters Tower 76.50 211 *e*P **P 12 19 18.6 +0.1**
CTAO pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 76.50 211 *e*P **P 12 19 18.6 +0.1**
comp=Z,7.7nm,1.0s
IEMG Emamgholi 77.48 315 *e*P **P 12 19 25.7 +1.3**
OJC Ojcow 77.48 346 *e*P **P 12 19 23.5 -0.3**
OJC Ojcow 77.48 346 *e*P **P 12 19 23.5 -0.3**
KWP Kalwaria Pacla 77.59 344 *e*P **P 12 19 25.9 +1.4**
KWP Kalwaria Pacla 77.59 344 ⇓*e*P **P 12 19 24.6 +0.1**
KWP Kalwaria Pacla 77.59 344 ⇓*i*P **P 12 19 24.5 +0.1**
IMYA Miami 77.72 314 *e*P **P 12 19 27.0 +1.4**
DPC Dobruska-Polom 77.83 349 *e*P **P 12 19 25.6 -0.2**
DPC Dobruska-Polom 77.83 349 *e*P **P 12 19 25.6 -0.2**
KIV Kislovodsk 77.98 329⇑*e*P **P 12 19 27.7 +0.9**
KIV *e* 12 19 36.3
KIV *e* 12 22 23.2
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,300nm,18.0s
KRLC Kraliky 78.04 348 *e*P **P 12 19 26.5 -0.4**
KRLC *e*pP **pP 12 19 41.4 +1.8**
STHS Stebnicka Huta 78.04 345 *e*P **P 12 19 28.0 +1.1**
STHS pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 78.04 345 *e*P **P 12 19 28.0 +1.1**
ISFR Sfrayin 78.07 315 *e*P **P 12 19 28.3 +0.6**
OKC Ostrava-Krasne 78.09 347 *e*P **P 12 19 27.0 -0.2**
OKC Ostrava-Krasne 78.09 347 *e*P **P 12 19 27.0 -0.2**
MORC Moravsky Berou 78.23 348⇑*e*P **P 12 19 28.1 +0.1**
MORC Moravsky Berou 78.23 348⇑*i*P **P 12 19 28.1 +0.1**
IMOG Moghan 78.26 314 *e*P **P 12 19 30.0 +1.3**
KOLS Kolonicke sedl 78.34 345 *e*P **P 12 19 28.7 +0.1**
KOLS pmax pmax
comp=Z,12nm,1.7s
KOLS Kolonicke sedl 78.34 345 *e*P **P 12 19 28.7 +0.1**
MEM Membach 78.47 355 P **P 12 19 29.4 +0.2**
CRVS Cervenica-Dubn 78.50 345 *e*P **P 12 19 30.0 +0.5**
CRVS pmax pmax
comp=Z,12nm,1.6s
CRVS Cervenica-Dubn 78.50 345 *e*P **P 12 19 30.0 +0.5**
ZEI Tsey 78.64 328 *e*P **P 12 19 29.0 -1.6**
ZEI pmax pmax
comp=Z,37nm,1.2s
ANN Anapa 78.81 333 *e*P P 12 19 26.6 -4.6
ANN pmax pmax
comp=Z,81nm,1.0s
VRAC Vranov 78.81 348⇑*e*P **P 12 19 30.1 -1.1**
VRAC Vranov 78.81 348⇑*i*P **P 12 19 30.0 -1.1**
GRF Grafenberg Arr 79.02 352 *e*P **P 12 19 34.5 +2.2**
comp=Z,12nm,1.4s
GRF Grafenberg Arr 79.02 352 *e*P **P 12 19 34.5 +2.2**
GRF pmax pmax
comp=Z,12nm,1.4s
DOU Dourbes 79.05 356 P **P 12 19 31.8 -0.6**
BUR08 Bucovina Ar. S 79.06 342 *e*P **P 12 19 33.0 +0.3**
TRPA Tarpa 79.07 344⇑*i*P **P 12 19 33.7 +1.1**
BURAR Bucovina Array 79.08 342⇓*i*P **P 12 19 33.0 +0.2**
TBI Tubuai 79.20 151 *e*LR LR 12 44 17.8
comp=Z,576nm,22.0s,baz=333
VYHS Vyhne 79.31 347 *e*P **P 12 19 30.9 -3.0**
VYHS pmax pmax
comp=Z,70nm,3.2s
VYHS Vyhne 79.31 347 *e*P **P 12 19 30.9 -3.0**
KHC Kasperske Hory 79.34 350 *e*P **P 12 19 34.1 0.0**
KHC Kasperske Hory 79.34 350 *e*P **P 12 19 34.1 0.0**
KHC Kasperske Hory 79.34 350 *e*P **P 12 19 34.1 0.0**
WLF Walferdange 79.40 355 P **P 12 19 35.7 +1.3**
comp=Z,14nm,1.5s
SMOL Smolenice 79.48 348 *e*P **P 12 19 35.8 +0.9**
SMOL Smolenice 79.48 348 *e*P **P 12 19 35.8 +0.9**
GERES GERESS Array B 79.61 350 P **P 12 19 34.3 -1.4**
comp=Z,1.1nm,0.8s,baz=5.7,slow=1.3,SNR=5.5
GERES GERESS Array B 79.61 350 P **P 12 19 34.3 -1.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 79.61 350 P **P 12 19 34.3 -1.4**
PSZ Piszkesteto 79.71 346 *e*P **P 12 19 36.4 +0.2**
PSZ Piszkesteto 79.71 346 *e*P **P 12 19 36.4 +0.2**
ZST Bratislava 79.84 348 *e*P **P 12 19 36.1 -0.7**
ZST pmax pmax
comp=Z,7.0nm,0.9s
ZST Bratislava 79.84 348 *e*P **P 12 19 36.1 -0.7**
IGLO Ghaloghah 80.34 318 *e*P **P 12 19 40.8 +0.9**
DRGR 80.34 344⇑*e*P **P 12 19 39.2 -0.4**
DRGR 80.34 344⇑*i*P **P 12 19 39.2 -0.4**
PLOR Plostina 80.48 341⇑*e*P **P 12 19 38.6 -1.7**
PLOR Plostina 80.48 341⇑*i*P **P 12 19 38.6 -1.7**
TLCR 80.65 339⇑*e*P **P 12 19 42.0 +0.9**
TLCR 80.65 339⇑*i*P **P 12 19 42.0 +0.9**
IKIA Kiasar 80.65 318 *e*P **P 12 19 42.9 +1.2**
GNI Garni 80.68 326⇑*i*P **P 12 19 42.1 +0.4**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI Garni 80.68 326 *e*P **P 12 19 42.8 +1.1**
comp=Z,35nm,1.1s
CFR Carcaliu 80.81 340⇑*i*P **P 12 19 42.0 0.0**
WRA Warramunga Arr 80.85 222 P **P 12 19 41.4 -1.1**
comp=Z,4.4nm,0.6s,baz=30,slow=5.7,SNR=12
WRA Warramunga Arr 80.85 222 P **P 12 19 41.4 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 80.85 222 P **P 12 19 41.4 -1.1**
MLR Muntele Rosu 80.97 341 P **P 12 19 44.4 +1.3**
comp=Z,1.1nm,0.6s,baz=103,slow=13,SNR=6.0
MLR Muntele Rosu 80.97 341⇑*e*P **P 12 19 43.3 +0.2**
MLR Muntele Rosu 80.97 341 P **P 12 19 44.4 +1.3**
MLR Muntele Rosu 80.97 341⇑*i*P **P 12 19 43.3 +0.2**
ISHM Shahmirzad 81.16 318 *e*P **P 12 19 46.0 +1.6**
IANJ Anjilo 81.18 317 *e*P **P 12 19 45.5 +1.0**
VOIR 81.20 342⇑*e*P **P 12 19 44.5 +0.3**
VOIR 81.20 342⇑*i*P **P 12 19 44.5 +0.3**
ISR Istrita 81.20 341⇑*i*P P 12 19 53.9 +10
WTTA Wattenberg 81.39 351⇑*i*P **P 12 19 45.2 -0.1**
WTTA pmax pmax
comp=Z,12nm,1.1s
WTTA Wattenberg 81.39 351⇑*i*P **P 12 19 45.2 -0.1**
comp=Z,12nm,1.1s
WTTA Wattenberg 81.39 351⇑*i*P **P 12 19 45.2 -0.1**
comp=Z,12nm,1.1s
KBA Koelnbreinsper 81.40 350⇑*i*P **P 12 19 45.6 +0.2**
KBA pmax pmax
comp=Z,20nm,0.9s
KBA Koelnbreinsper 81.40 350⇑*i*P **P 12 19 45.5 +0.2**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 81.40 350⇑*i*P **P 12 19 45.6 +0.2**
comp=Z,20nm,0.9s
TIRR Tirgusor 81.43 339⇓*i*P P 12 19 33.9 -11
SOKA Soboth 81.60 349⇑*i*P **P 12 19 46.3 0.0**
comp=Z,20nm,1.1s
SOKA Soboth 81.60 349⇑*i*P **P 12 19 46.3 0.0**
comp=Z,20nm,1.1s
BZS Buzias 81.67 344 ⇓*e*P **P 12 19 47.2 +0.6**
BZS Buzias 81.67 344 ⇓*i*P **P 12 19 47.2 +0.6**
GZR Gura Zlata 81.68 343⇑*e*P **P 12 19 46.1 -0.7**
GZR Gura Zlata 81.68 343⇑*i*P **P 12 19 46.0 -0.7**
RMQ Roma 81.72 207 *e*P **P 12 19 47.3 +0.4**
comp=Z,33nm,1.4s
ABTA Abfaltersbach 81.81 351⇑*i*P **P 12 19 47.7 +0.3**
comp=Z,13nm,1.1s
ABTA Abfaltersbach 81.81 351⇑*i*P **P 12 19 47.7 +0.3**
comp=Z,13nm,1.1s
HYB Hyderabad 82.96 289 *i*P **P 12 19 52.0 -1.8**
QLP Quilpie 83.20 211 *e*P **P 12 19 54.8 +0.2**
LPL La Plagne 83.51 354 *e*P **P 12 19 56.2 -0.3**
LPG La Plagne 83.52 354 *e*P **P 12 19 55.5 -1.1**
IBAF Bafgh 83.74 314 *e*P **P 12 19 57.7 -0.1**
IZEF Zefreh 84.06 317 *e*P **P 12 20 00.0 +0.5**
ORIF Oris-en-Rattie 84.15 355 *e*P **P 12 19 58.4 -1.2**
comp=Z,25nm,1.2s
ASAR Alice Springs 84.35 221 P **P 12 20 00.6 0.0**
comp=Z,3.0nm,0.6s,baz=29,slow=5.2,SNR=12
ASAR Alice Springs 84.35 221 P **P 12 20 00.6 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 84.35 221 P **P 12 20 00.6 0.0**
BR131 Keskin Array S 84.57 334 *e*P **P 12 20 02.6 +0.7**
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 84.57 334 P **P 12 20 02.5 +0.7**
comp=Z,7.9nm,0.8s,baz=51,slow=3.1,SNR=28
BRTR Keskin Array B 84.57 334 P **P 12 20 02.5 +0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 84.57 334 P **P 12 20 02.5 +0.7**
IPIR Pirpir 84.85 318 *e*P **P 12 20 04.6 +1.0**
POO Poona 84.86 293⇑*i*P **P 12 20 02.5 -1.0**
comp=Z,50nm,1.0s
IDHR Dehrash 84.90 322 *e*P **P 12 20 03.4 -0.3**
IPAR Pars 86.36 315 *e*P **P 12 20 11.3 +0.1**
ISRV Sarvestan 86.73 315 *e*P **P 12 20 12.6 -0.4**
CMSA Cobar Meteorol 87.36 208 *e*P **P 12 20 15.8 +0.5**
comp=Z,19nm,0.8s
MIB Mutribah 88.83 319 *e*P **P 12 20 22.6 0.0**
STKA Stephens Creek 88.95 211 P **P 12 20 23.4 +0.6**
comp=Z,5.0nm,1.1s,baz=3.7,slow=2.4,SNR=5.4
STKA LR LR 12 55 23.3
comp=Z,258nm,20.0s,baz=26,slow=32
STKA Stephens Creek 88.95 211 *e*P **P 12 20 23.2 +0.4**
comp=Z,5.7nm,1.5s
STKA Stephens Creek 88.95 211 P **P 12 20 23.4 +0.6**
STKA pmax pmax
comp=Z,5.0nm,1.1s
STKA Stephens Creek 88.95 211 P **P 12 20 23.4 +0.6**
MTP Monte Pirata 91.06 59 *e*P **P 12 20 33.4 +0.3**
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 115.96 357 PKP **PKPdf 12 26 10.6 -0.8**
comp=Z,0.4nm,0.5s,baz=351,slow=1.8,SNR=7.3
TORD Torodi Ar. Bea 115.96 357 PKP **PKPdf 12 26 10.6 -0.8**
PLCA Paso Flores 132.26 106 PKP **PKPdf 12 26 42.6 +0.8**
comp=Z,3.6nm,1.0s,baz=25,slow=6.5,SNR=3.8
PLCA Paso Flores 132.26 106 PKIKP **PKPdf 12 26 42.7 +0.8**
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 132.26 106 PKP **PKPdf 12 26 42.6 +0.8**
TSUM Tsumeb 144.90 328 *e*PKPdf **PKPab 12 27 04.8 -0.1**
LBTB Lobatse 146.87 312 *e*PKP2 **PKPab 12 27 11.6 -0.6**
LBTB Lobatse 146.87 312 *e*PKPbc **PKPab 12 27 11.6 -0.6**

IDC ***17*** *12:10:28.8±0.9, 2.°58S×138.°37E, h0km, mb4.0/6, mb1 4.1/9, mb1mx4.0/15, mbtmp4.0/9, ML4.0/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/29, Error ellipse: s-maj=42.7km s-min=17.2km az=83.0*
DJA ***17*** *12:10:28, 2.°63S×138.°42E, h10km, MLv4.3/6*
ISCJB ***17*** *12:10:31.8±0.7, 2.°67S±0.°06×138.°27E±0.°09, h33km, mb4.0/6, MS3.7/3, Error ellipse: s-maj=13.5km s-min=8.2km az=7.4*
NEIC ***17*** *12:10:34.7±0.6, 2.°71S×138.°18E, h35km, mb4.0/2, Error ellipse: s-maj=15.6km s-min=9.5km az=76.0*
ISC 17 12:10:33.9±0.8, 2.°83S±0.°06×138.°11E±0.°10, h35km, n28, σ2s11/34, mb4.0/6, MS3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.12**	**126**	*e*Pn		**Pn**	**12 13 12.1**	**+1.7**
	16nm,1.0s							
COEN	**Coen**	**12.14**	**156**	*e*Pn		**Pn**	**12 13 25.4**	**+1.0**
	40nm,0.4s							
COEN				*e*Sn		**Sn**	**12 15 35.6**	**-3.0**
WRAB	**Tennant Creek**	**17.40**	**192**	*e*Pn		**P**	**12 14 36.8**	**+1.8**

	11nm,0.7s								
WRAB					*e*Sn		**Sn**	**12 17 42.4**	**-4.3**
WB2	**Warramunga Arr**	**17.41**	**192**	*e*Pn			**P**	**12 14 36.5**	**+1.4**
WB2					*e*Sn		**Sn**	**12 17 40.7**	**-6.3**
WRA	**Warramunga Arr**	**17.41**	**192**	P			**P**	**12 14 35.2**	**0.0**
	0.8nm,0.3s,baz=13,slow=13,SNR=32								
WRA					S		**Sn**	**12 17 47.6**	**+0.6**
	0.1nm,0.3s,baz=11,slow=22,SNR=4.7								
WRA	**Warramunga Arr**	**17.41**	**192**	P			**P**	**12 14 35.2**	**0.0**
WRA					S		**Sn**	**12 17 47.6**	**+0.6**
GUMO	**Guam**	**17.63**	**22**	LR			LR	12 21 10.3	
	comp=Z,88nm,18.1s,baz=258,slow=37								
CTA	**Charters Tower**	**18.91**	**156**	P			**Pn**	**12 14 54.0**	**+1.5**
	0.1nm,0.3s,baz=309,slow=13,SNR=2.6								
CTA	**Charters Tower**	**18.91**	**156**	P			**Pn**	**12 14 54.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.50**	**218**	P			**Pn**	**12 15 02.0**	**+2.5**
	0.5nm,0.3s,baz=356,slow=7.4,SNR=8.7								
FITZ					S		**Sn**	**12 18 37.1**	**-0.3**
	0.2nm,0.3s,baz=120,slow=16,SNR=3.6								
FITZ					LR		LR	12 23 28.8	
	comp=Z,150nm,18.4s,baz=156,slow=39								
FITZ	**Fitzroy Crossi**	**19.50**	**218**	P			**Pn**	**12 15 02.0**	**+2.5**
	3.5nm,0.9s								
FITZ					*e*S		**S**	**12 18 33.8**	**-2.8**
FITZ					S		**Sn**	**12 18 37.1**	**-0.3**
AS31	**Alice Springs**	**21.11**	**191**	*e*P			**P**	**12 15 18.0**	**+2.3**
AS31					*e*S		**S**	**12 19 09.3**	**+0.4**
ASAR	**Alice Springs**	**21.12**	**191**	P			**P**	**12 15 18.1**	**+2.4**
	8.7nm,0.8s,baz=23,slow=10,SNR=88								
ASAR					S		Sn	12 19 14.4	-2.1
	1.6nm,0.8s,baz=14,slow=24,SNR=6.5								
ASAR	**Alice Springs**	**21.12**	**191**	P			**P**	**12 15 18.1**	**+2.4**
ASAR					S		Sn	12 19 14.4	-2.1
STKA	**Stephens Creek**	**29.08**	**174**	P			**P**	**12 16 31.7**	**+0.5**
	1.0nm,0.5s,baz=316,slow=7.6,SNR=3.7								
STKA					LR		LR	12 28 54.8	
	comp=Z,151nm,18.5s,baz=331,slow=38								
STKA	**Stephens Creek**	**29.08**	**174**	P			**P**	**12 16 31.7**	**+0.5**
JOW	**Kunigami**	**30.98**	**343**	LR			LR	12 27 14.4	
	comp=Z,121nm,18.2s,baz=147,slow=33								
SONM	**Songino Array**	**57.57**	**335**	P			**P**	**12 20 19.9**	**-0.3**
	0.8nm,1.1s,baz=150,slow=8.6,SNR=3.3								
SONM	**Songino Array**	**57.57**	**335**	P			**P**	**12 20 19.9**	**-0.3**
PETK	**Petropavlovsk-**	**58.11**	**14**	LR			LR	12 42 41.9	
	comp=Z,71nm,18.5s,baz=183,slow=33								
MKAR	**Makanchi Array**	**69.52**	**323**	P			**P**	**12 21 39.1**	**+0.1**
	2.4nm,0.7s,baz=121,slow=7.0,SNR=10								
MKAR	**Makanchi Array**	**69.52**	**323**	P			**P**	**12 21 39.1**	**+0.1**
ZALV	**Zalesovo Beam**	**71.74**	**330**	P			**P**	**12 21 52.8**	**+0.4**
	0.6nm,0.5s,baz=121,slow=6.8,SNR=3.2								
ZALV	**Zalesovo Beam**	**71.74**	**330**	P			**P**	**12 21 52.8**	**+0.4**
ILAR	**Eielson Array**	**86.18**	**25**	P			**P**	**12 23 08.3**	**-3.0**
	1.3nm,1.0s,baz=265,slow=4.8,SNR=4.6								
ILAR	**Eielson Array**	**86.18**	**25**	P			**P**	**12 23 08.3**	**-3.0**
LPAZ	**La Paz**	**147.85**	**127**	PKPbc			**PKPab**	**12 30 19.1**	**-0.5**
	1.2nm,0.7s,baz=259,slow=1.8,SNR=3.9								
LPAZ	**La Paz**	**147.85**	**127**	PKPbc			**PKPab**	**12 30 19.1**	**-0.5**

PRE **17** *12:15:33.4±0.7,27°.01S×26°.80E,h2km,ML3.5,South Africa*

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.02**	**3**	*e*P		Pg	12 15 33.8	-0.4
MOAB				*e*S		Sg	12 15 34.2	-0.5
MOAB				AML		AML	12 15 38.5	
	comp=Z,11μm,0.2s							
TLEK	**Tau Lekoa**	**0.12**	**291**	*e*P		Pg	12 15 36.1	+0.1
TLEK				*e*S		Sg	12 15 37.1	-0.6
BFSD	**Buffelsfontein**	**0.14**	**356**	*e*P		Pg	12 15 36.0	-0.3
BFSD				*e*S		Sg	12 15 37.8	-0.6
BFSD				AML		AML	12 15 38.5	
	comp=Z,11μm,0.2s							
PRYS	**Parys**	**0.51**	**81**	*e*P		Pg	12 15 43.4	0.0
PRYS				*e*S		Sg	12 15 50.4	+0.3
PRYS				AML		AML	12 15 56.4	
	comp=Z,1μm,0.8s							
SEK	**Senekal**	**1.50**	**151**	*e*P		Pb	12 16 02.2	-0.1
SEK				*e*S		Sg	12 16 22.3	+0.2
SEK				AML		AML	12 16 26.2	
	comp=Z,919nm,0.5s							
SLR	**Silverton**	**1.84**	**47**	*e*P		Pn	12 16 06.9	+0.7
SLR				*e*S		Sn	12 16 30.5	+0.3
SLR				AML		AML	12 16 32.8	
	comp=Z,1μm,0.3s							
LBTB	**Lobatse**	**2.26**	**331**	*e*P		Pn	12 16 12.9	+0.9
LBTB				*e*S		Sn	12 16 41.1	+0.6
LBTB				AML		AML	12 16 53.9	
	comp=Z,133nm,0.3s							
GRM	**Grahamstown**	**6.29**	**182**	*e*P		Pn	12 17 07.9	+0.6
GRM				*e*S		Sn	12 18 17.9	-1.9
GRM				AML		AML	12 19 00.0	
	comp=Z,28nm,0.7s							
CVNA	**Calvinia**	**7.59**	**232**	*e*P		Pn	12 17 25.8	+0.6
CVNA				*e*S		Sn	12 18 48.6	-3.4
CVNA				AML		AML	12 19 34.2	
	comp=Z,63nm,0.6s							

VIE **17** *12:25:00.1±0.5,47°.88N×15°.89E,h6km±4km,mb1.8/2, ML2.1/5,Error ellipse: s-maj=4.6km s-min=2.3km az=120.0 11 km E of Rohr im Gebirge*
CSEM **17** *12:25:00.7±0.1,47°.94N×15°.82E,h2km,ML2.7/7,Error ellipse: s-maj=3.1km s-min=2.4km az=121.0*
PRU **17** *12:25:01.3,47°.92N×15°.80E,h0km*
IPEC **17** *12:25:01.1±0.1,47°.90N×15°.84E,h0km,ML1.9/2,Error ellipse: s-maj=0.7km s-min=0.6km az=118.0*

ISC 17 12:25:01.0±0.8,47°.92N±0°.03×15°.83E±0°.03,h6km±5km, n23,σ0°66/42,4C-4D,Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.03**	**63**	⇓*i*Pg		**Pg**	**12 25 02.2**	**-0.1**
	123nm,0.1s							
CONA				⇓*i*Sg		**Sg**	**12 25 03.0**	**-0.2**
	209nm,0.1s							
CONA	**Conrad Observa**	**0.03**	**63**	Pg		**Pg**	**12 25 02.2**	**-0.1**
	123nm,0.1s							
CONA				Sg		**Sg**	**12 25 03.0**	**-0.2**
	209nm,0.1s							
SOP	**Sopron**	**0.55**	**115**	*e*Pg		**Pg**	**12 25 11.8**	**+0.2**
	baz=294							
ARSA	**Arzberg**	**0.70**	**197**	⇓*i*Pg		**Pg**	**12 25 13.3**	**-1.1**
	0.4nm,0.1s							
ARSA				⇑*i*Sg		**Sg**	**12 25 22.8**	**-0.7**
	3.5nm,0.1s							
ARSA	**Arzberg**	**0.70**	**197**	*e*Pg		**Pg**	**12 25 13.7**	**-0.7**
	baz=18							
ARSA				*e*Sg		**Sg**	**12 25 23.0**	**-0.4**
	baz=18							
MOA	**Molln**	**1.05**	**267**	⇑*i*Pg		**Pb**	**12 25 21.8**	**+0.1**
	1.4nm,0.1s							
MOA				⇑*i*Sg		**Sn**	**12 25 37.1**	**-0.3**
	3.1nm,0.1s							
MOA	**Molln**	**1.05**	**267**	*e*Pg		**Pb**	**12 25 21.7**	**+0.1**
	baz=87							
MOA				*e*Sg		**Sg**	**12 25 34.5**	**-0.3**
	baz=87							
KRUC	**Moravsky**	**1.21**	**18**	*e*Pg		**Pg**	**12 25 24.0**	**-0.2**
	baz=198							
KRUC				*e*Sg		**Sg**	**12 25 39.7**	**-0.2**
	15nm,0.2s,baz=198							
TREC	**Trest**	**1.40**	**351**	*e*PG		**Pn**	**12 25 25.7**	**-1.5**
TREC				*e*SG		**Sg**	**12 25 46.2**	**+0.2**
TREC	**Trest**	**1.40**	**351**	Pg		**Pn**	**12 25 25.7**	**-1.5**
TREC				*e*Sg		**Sb**	**12 25 45.6**	**-0.1**
	baz=170							
VRAC	**Vranov**	**1.48**	**20**	*e*Pn		**Pn**	**12 25 28.6**	**+0.3**
	baz=200							
VRAC				*e*Sg		**Sn**	**12 25 48.2**	**+0.1**
	12nm,0.2s,baz=200							
KBA	**Koelnbreinsper**	**1.88**	**244**	⇑*i*Pg		**Pb**	**12 25 36.0**	**+0.1**
	0.8nm,0.2s							
KBA				⇓*i*Sg		**Sg**	**12 26 01.9**	**+0.5**
	3.4nm,0.3s							
KBA	**Koelnbreinsper**	**1.88**	**244**	*e*Pn		**Pn**	**12 25 34.8**	**+0.9**
	baz=63							
KBA	**Koelnbreinsper**	**1.88**	**244**	Pg		**Pb**	**12 25 36.0**	**+0.1**
	0.8nm,0.2s							
KBA				*e*Sn		**Sb**	**12 25 59.9**	**+0.2**
	baz=63							
KBA				Sg		**Sg**	**12 26 01.9**	**+0.5**
	3.4nm,0.3s							
KHC	**Kasperske Hory**	**1.93**	**310**	*e*PG		**Pb**	**12 25 37.1**	**+0.5**
KHC					*e*SG	**Sb**	**12 26 01.7**	**+0.8**
	comp=Z,4.4nm,0.3s							
KHC	**Kasperske Hory**	**1.93**	**310**	*e*Pn		**Pn**	**12 25 35.4**	**+1.0**
	baz=128							
KHC	**Kasperske Hory**	**1.93**	**310**	Pg		**Pb**	**12 25 37.1**	**+0.5**
KHC				Sg		**Sb**	**12 26 01.7**	**+0.8**
	4.4nm,0.3s							
VYHS	**Vyhne**	**2.10**	**73**	*e*PN		**Pn**	**12 25 36.8**	**+0.1**
VYHS				*e*SN		**Sn**	**12 26 02.9**	**-0.3**
VYHS	**Vyhne**	**2.10**	**73**	*e*Pn		**Pn**	**12 25 36.8**	**+0.1**
VYHS				*e*Sn		**Sn**	**12 26 02.9**	**-0.3**
PRU	**Pruhonice**	**2.24**	**338**	*e*SG		**Sg**	**12 26 12.2**	**-0.8**
	comp=Z,2.8nm,0.2s							
PRU	**Pruhonice**	**2.24**	**338**	Sg		**Sg**	**12 26 12.2**	**-0.8**
	2.8nm,0.2s							
DPC	**Dobruska-Polom**	**2.46**	**7**	*e*PG		**Pb**	**12 25 46.6**	**+0.9**
DPC				*e*SG		**Sg**	**12 26 19.0**	**-1.0**
	comp=Z,7.7nm,0.7s							
DPC	**Dobruska-Polom**	**2.46**	**7**	Pg		**Pb**	**12 25 46.6**	**+0.9**
DPC				Sg		**Sg**	**12 26 19.0**	**-1.0**
	7.7nm,0.7s							

DDA **17** *12:37:15.1,37°.16N×36°.17E,h7km,MD2.8*
CSEM **17** *12:37:15.4±0.2,37°.16N×36°.17E,h2km,ML2.1,Error ellipse: s-maj=3.7km s-min=3.3km az=64.0*
ISK **17** *12:37:16.5,37°.28N×36°.25E,h8km,ML2.1*

ISC 17 12:37:15.7±1.1,37°.17N±0°.02×36°.20E±0°.03,h7km±12km, n25,σ0°56/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.43**	**317**	*e*PG		**Pg**	**12 37 24.3**	**+0.2**
KOZT				*e*SG		**Sg**	**12 37 30.7**	**+0.9**
KOZT	**Kozan**	**0.43**	**317**	*e*Pg		**Pg**	**12 37 24.3**	**+0.2**
KOZT				*e*Sg		**Sg**	**12 37 30.7**	**+0.9**
COBT	**Iskenderun**	**0.65**	**176**	*i*P		**Pg**	**12 37 28.2**	**-0.1**
COBT				*i*S		**Sg**	**12 37 37.2**	**+0.4**
COBT	**Iskenderun**	**0.65**	**176**	*i*P		**Pg**	**12 37 28.2**	**-0.1**
COBT				*i*S		**Sg**	**12 37 37.2**	**+0.4**
KMRS	**Kahramanmaras**	**0.65**	**59**	*e*PG		**Pg**	**12 37 27.8**	**-0.6**
KMRS				*e*SG		**Sg**	**12 37 36.3**	**-0.6**
KMRS	**Kahramanmaras**	**0.65**	**59**	*e*Pg		**Pg**	**12 37 27.8**	**-0.6**
KMRS				*e*Sg		**Sg**	**12 37 36.3**	**-0.6**
KUZU	**Kuzuini**	**0.81**	**119**	*i*P		**Pg**	**12 37 31.1**	**-0.2**
KUZU				*i*S		**Sg**	**12 37 41.6**	**-0.1**
KUZU	**Kuzuini**	**0.81**	**119**	*i*P		**Pg**	**12 37 31.1**	**-0.2**
KUZU				*i*S		**Sg**	**12 37 41.6**	**-0.1**
GAZ	**Gaziantep**	**0.81**	**89**	*e*PG		**Pb**	**12 37 32.1**	**-0.1**
GAZ				*e*SG		**Sb**	**12 37 43.0**	**-0.3**
GAZ	**Gaziantep**	**0.81**	**89**	*e*Pg		**Pb**	**12 37 32.1**	**-0.1**
GAZ				*e*Sg		**Sb**	**12 37 43.0**	**-0.3**
GZT	**Gaziantep**	**1.11**	**80**	*i*P		**Pg**	**12 37 36.7**	**-0.3**
GZT				*i*S		**Sb**	**12 37 52.9**	**+0.9**
YAYL	**Yayladag**	**1.13**	**184**	*i*P		**Pg**	**12 37 37.1**	**-0.4**
YAYL				*i*S		**Sb**	**12 37 52.8**	**+0.1**
YAYL	**Yayladag**	**1.13**	**184**	*i*P		**Pg**	**12 37 37.1**	**-0.4**
YAYL				*i*S		**Sb**	**12 37 52.8**	**+0.1**
GULE	**Gulek**	**1.14**	**276**	*i*P		**Pg**	**12 37 36.1**	**-1.5**
GULE	**Gulek**	**1.14**	**276**	*i*P		**Pg**	**12 37 36.1**	**-1.5**
PINB	**Pinarbasi**	**1.52**	**6**	*i*P		**Pn**	**12 37 43.6**	**+0.1**
PINB				*i*S		**Sg**	**12 38 05.1**	**+0.6**
PINB	**Pinarbasi**	**1.52**	**6**	*i*P		**Pn**	**12 37 43.6**	**+0.1**
PINB				*i*S		**Sg**	**12 38 05.1**	**+0.6**
BNN	**Bunyan**	**1.70**	**351**	*e*PN		**Pn**	**12 37 45.9**	**-0.1**
BNN	**Bunyan**	**1.70**	**351**	*e*Pn		**Pn**	**12 37 45.9**	**-0.1**
AKCD	**Akcadag**	**1.77**	**50**	*i*P		**Pb**	**12 37 48.6**	**0.0**
AKCD				*i*S		**Sb**	**12 38 11.0**	**-0.1**
AKCD	**Akcadag**	**1.77**	**50**	*i*P		**Pb**	**12 37 48.6**	**0.0**
AKCD				*i*S		**Sb**	**12 38 11.0**	**-0.1**
MYA	**Malataya**	**2.11**	**56**	*e*PN		**Pn**	**12 37 51.7**	**+0.2**
MYA	**Malataya**	**2.11**	**56**	*e*Pn		**Pn**	**12 37 51.7**	**+0.2**
URFA	**Urfa**	**2.11**	**82**	*e*PN		**Pn**	**12 37 52.2**	**+0.7**
URFA	**Urfa**	**2.11**	**82**	*e*Pn		**Pn**	**12 37 52.2**	**+0.7**

IDC **17** *12:41:50.9±0.7,26°.93N×104°.16E,h0km,mb4.2/18, mb1 4.3/19,mb1mx4.2/28,mbtmp4.2/19,ML3.7/1,MS3.8/8, Ms1 3.8/8,ms1mx3.5/32,Error ellipse: s-maj=21.6km s-min=14.7km az=53.0*
BJI **17** *12:41:51.5±0.3,26°.87N×104°.07E,h10km,mB4.9/18,mb4.4/25, ML4.3/18,Ms4.5/32,Ms7 4.2/28*
NEIC **17** *12:41:52.5±0.3,26°.87N×104°.06E,h10km,mb4.4/17,Error ellipse: s-maj=6.1km s-min=4.7km az=184.0*
MOS **17** *12:41:53.7±0.9,26°.86N×104°.07E,h33km,mb4.6/29,Error ellipse: s-maj=10.5km s-min=6.8km az=114.5*

ISC 17 12:41:52.8±0.7,26°.84N±0°.04×104°.14E±0°.04,h13km±3km, n140,σ1§45/150,mb4.3/41,MS3.7/8,4C-3D,Southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.12**	**217**	⇑Pg		**Pb**	**12 42 30.0**	**-1.3**
KMI				Sg		**Sg**	**12 42 59.9**	**-1.1**
KMI				smax		smax		
	comp=N,590nm,1.5s							
KMI				smax		smax		
	comp=E,590nm,1.2s							
GYA	**Guiyang**	**2.29**	**99**	Pg		**Pn**	**12 42 32.1**	**+1.6**
GYA				Sg		**Sb**	**12 43 01.9**	**-0.6**
GYA				smax		smax		
	comp=N,9μm,1.0s							
GYA				smax		smax		
	comp=E,3μm,0.7s							
CD2	**Chengdu**	**4.07**	**355**	Pn		**Pn**	**12 42 55.9**	**+1.1**
CD2				Sg		**Sg**	**12 44 03.4**	**-0.1**
CD2				smax		smax		
	comp=N,2μm,0.8s							
CD2				smax		smax		
	comp=E,3μm,0.7s							
CD2				LR		LR		
	comp=N,16μm,6.0s							
CD2				LR		LR		
	comp=Z,3μm,3.5s							
ENH	**Enshi**	**5.82**	**53**	*e*Pn		**Pn**	**12 43 20.4**	**+1.6**
ENH				*e*Sn		**Sn**	**12 44 27.8**	**+2.3**
XAN	**Xi'an**	**8.28**	**29**	P		**Pn**	**12 43 51.8**	**-0.9**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.6s							
XAN				pmax		pmax		
	comp=Z,61nm,12.2s							
XAN				LR		LR		
	comp=N,1μm,12.6s							
XAN				LR		LR		
	comp=E,700nm,12.6s							
XAN				LR		LR		
	comp=Z,330nm,10.9s							
GZH	**Guangzhou**	**9.15**	**112**	P		**Pn**	**12 44 06.0**	**+1.4**
GZH				S		**Sn**	**12 45 44.6**	**-2.9**
GZH				smax		smax		
	comp=N,320nm,1.4s							
GZH				smax		smax		
	comp=E,250nm,1.1s							
LZH	**Lanzhou**	**9.22**	**359**	*e*P		**Pn**	**12 44 07.9**	**+2.2**
LZH				pP			12 44 11.1	
LZH				sP			12 44 14.0	
LZH				S		**Sn**	**12 45 53.3**	**+3.8**
LZH				pmax		pmax		
	comp=Z,49nm,1.0s							
LZH				pmax		pmax		
	comp=Z,250nm,6.0s							
LZH				smax		smax		
	comp=N,160nm,1.1s							
LZH				smax		smax		
	comp=E,200nm,1.1s							
LZH				LR		LR		
	comp=N,2μm,9.4s							
LZH				LR		LR		
	comp=E,6μm,7.6s							
LZH				LR		LR		
	comp=Z,3μm,7.5s							
CHTO	**Chiang Mai**	**9.31**	**212**	P		Pn	12 44 01.8	-5.0
CHTO	**Chiang Mai**	**9.31**	**212**	Pn		Pn	12 44 01.8	-5.0
QIZ	**Qiongzhong**	**9.38**	**145**	P		**Pn**	**12 44 09.1**	**+1.3**
QIZ				S		**Sn**	**12 45 55.4**	**+2.1**
QIZ				LR		LR		
	comp=Z,2μm,9.4s							
QIZ	**Qiongzhong**	**9.38**	**145**	*e*Pn		**Pn**	**12 44 08.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**9.62**	**211**	Pn		**Pn**	**12 44 13.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=28,slow=11,SNR=5.3							
CMAR				LR		LR	12 48 22.2	
	comp=Z,544nm,21.4s,baz=183,slow=40							
CMAR	**Chiang Mai Arr**	**9.62**	**211**	P		**Pn**	**12 44 13.0**	**+1.9**
CMAR				MLR		MLR		
	comp=Z,544nm,21.4s							
CMAR	**Chiang Mai Arr**	**9.62**	**211**	Pn		**Pn**	**12 44 13.0**	**+1.9**
WHN	**Wuhan**	**9.70**	**65**	⇑P		**Pn**	**12 44 13.8**	**+1.7**
WHN				S		**Sn**	**12 45 55.6**	**-5.3**
WHN				LR		LR		
	comp=N,5μm,5.5s							
WHN				LR		LR		
	comp=E,3μm,4.8s							
WHN				LR		LR		
	comp=Z,3μm,6.8s							
LSA	**Lhasa**	**11.80**	**287**	P		**Pn**	**12 44 42.9**	**+1.6**
LSA	**Lhasa**	**11.80**	**287**	P		**Pn**	**12 44 41.4**	**+0.1**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
LSA	**Lhasa**	**11.80**	**287**	Pn		**Pn**	**12 44 41.4**	**+0.1**
	comp=Z,10nm,0.9s							
GTA	**Gaotai**	**13.05**	**345**	*e*P		P	12 45 03.3	-5.1
GTA				pP		Pn	12 45 07.4	+9.4
GTA				sP			12 45 11.3	
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,410nm,5.7s							
GTA				LR		LR		
	comp=N,730nm,12.1s							
GTA				LR		LR		
	comp=E,1μm,12.1s							
GTA				LR		LR		
	comp=Z,380nm,10.7s							
TIA	**Tai'an**	**14.48**	**47**	*e*P		**Pn**	**12 45 18.8**	**+1.3**
BTO	**Baotou**	**14.57**	**18**	*e*P		Pn	12 45 14.8	-4.0
TAPN	**Taplejung**	**14.64**	**276**	*e*P		**Pn**	**12 45 19.2**	**-0.8**
TAPN	**Taplejung**	**14.64**	**276**	*e*P		**Pn**	**12 45 19.2**	**-0.8**
ODAN	**Odare**	**14.95**	**274**	*e*P		**Pn**	**12 45 22.9**	**-1.2**
	comp=Z,20nm,0.8s							
ODAN	**Odare**	**14.95**	**274**	*e*P		**Pn**	**12 45 22.9**	**-1.2**
	comp=Z,20nm,0.8s							
HHC	**Hu-ho-hao-te**	**15.27**	**22**	*e*P		**Pn**	**12 45 29.5**	**+1.3**
HHC				sP		**sP**	**12 45 35.4**	**-2.9**
HHC				PP		pP	12 45 42.0	+5.4
HHC				S		**Sn**	**12 48 20.8**	**+3.6**
HHC				sS		S	12 48 23.8	-10
HHC				SS			12 48 38.6	
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,220nm,8.0s							
HHC				LR		LR		
	comp=N,900nm,11.3s							
HHC				LR		LR		
	comp=E,690nm,8.9s							
HHC				LR		LR		
	comp=Z,570nm,10.1s							
RAMN	**Ramite**	**15.65**	**274**	*e*P		**Pn**	**12 45 32.1**	**-1.3**
	comp=Z,24nm,0.9s							
RAMN	**Ramite**	**15.65**	**274**	*e*P		**Pn**	**12 45 32.1**	**-1.3**
	comp=Z,24nm,0.9s							
JIRN	**Jiri**	**15.98**	**277**	*e*P		**Pn**	**12 45 36.3**	**-1.5**
	comp=Z,33nm,1.0s							
JIRN	**Jiri**	**15.98**	**277**	*e*P		**Pn**	**12 45 36.3**	**-1.5**
	comp=Z,33nm,1.0s							
GUN	**Gumba**	**16.25**	**278**	*e*P		**Pn**	**12 45 39.6**	**-1.7**
	comp=Z,41nm,1.0s							
GUN	**Gumba**	**16.25**	**278**	*e*P		**Pn**	**12 45 39.6**	**-1.7**
	comp=Z,41nm,1.0s							
BJI	**Beijing**	**16.54**	**34**	P		**Pn**	**12 45 45.0**	**+0.5**
BJI				S		**Sn**	**12 48 50.5**	**+2.6**
BJI				pmax		pmax		
	comp=Z,13nm,1.1s							
BJI				pmax		pmax		
	comp=Z,420nm,7.2s							
BJI				LR		LR		
	comp=N,810nm,10.0s							
BJI				LR		LR		
	comp=E,540nm,10.0s							
BJI				LR		LR		
	comp=Z,330nm,19.3s							
PKI	**Pulchoki**	**16.68**	**277**	*e*P		**Pn**	**12 45 45.2**	**-1.5**
	comp=Z,29nm,1.0s							
PKI	**Pulchoki**	**16.68**	**277**	*e*P		**Pn**	**12 45 45.2**	**-1.5**
PKI				pmax		pmax		
	comp=Z,29nm,1.0s							
PKI	**Pulchoki**	**16.68**	**277**	*e*P		**Pn**	**12 45 45.2**	**-1.5**
	comp=Z,29nm,1.0s							
KKN	**Kakani**	**16.79**	**278**	*e*P		**Pn**	**12 45 46.8**	**-1.1**
	comp=Z,25nm,0.8s							
KKN	**Kakani**	**16.79**	**278**	*e*P		**Pn**	**12 45 46.8**	**-1.1**
KKN				pmax		pmax		
	comp=Z,25nm,0.8s							
KKN	**Kakani**	**16.79**	**278**	*e*P		**Pn**	**12 45 46.8**	**-1.1**
	comp=Z,25nm,0.8s							
DMN	**Daman**	**16.95**	**277**	*e*P		**Pn**	**12 45 48.8**	**-1.2**
	comp=Z,24nm,0.8s							
DMN	**Daman**	**16.95**	**277**	*e*P		**Pn**	**12 45 48.8**	**-1.2**
	comp=Z,24nm,0.8s							
DANN	**Dangsing**	**18.12**	**279**	*e*P		**Pn**	**12 46 04.2**	**-0.5**
	comp=Z,12nm,0.5s							
DANN	**Dangsing**	**18.12**	**279**	*e*P		**Pn**	**12 46 04.2**	**-0.5**
	comp=Z,12nm,0.5s							
KOLN	**Koldanda**	**18.28**	**278**	*e*P		**Pn**	**12 46 05.9**	**-0.5**
	comp=Z,14nm,0.9s							
KOLN	**Koldanda**	**18.28**	**278**	*e*P		**Pn**	**12 46 05.9**	**-0.5**
	comp=Z,14nm,0.9s							
SONM	**Songino Array**	**21.03**	**4**	P		**P**	**12 46 37.0**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=180,slow=11,SNR=30							
SONM	**Songino Array**	**21.03**	**4**	P		**P**	**12 46 37.0**	**+0.6**
SONM				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SONM	**Songino Array**	**21.03**	**4**	P		**P**	**12 46 37.0**	**+0.6**
ULN	**Ulaanbaatar**	**21.11**	**5**	*e*P		**P**	**12 46 37.5**	**+0.2**
ULN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ULN	**Ulaanbaatar**	**21.11**	**5**	*e*

MKAR	**Makanchi Array**	**26.35**	**325**	P	**P**	**12 47 28.7**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=128,slow=8.4,SNR=51						
MKAR				LR	LR	12 58 27.8	
	comp=Z,93nm,21.9s,baz=60,slow=38						
MKAR	**Makanchi Array**	**26.35**	**325**	P	**P**	**12 47 28.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,93nm,21.9s						
MKAR	**Makanchi Array**	**26.35**	**325**	*e*P	**P**	**12 47 28.7**	**+0.1**
KSH	**Kashi**	**26.63**	**305**	*e*P	P	12 47 37.8	+6.5
KSH				*e*pP	pP	12 47 42.3	+7.1
KSH				*e*sP	sP	12 47 44.8	+8.0
KSH				*e*PcP	**PcP**	**12 50 58.3**	**+3.1**
KSH				*e*S	S	12 52 14.6	+8.5
KSH				*e*sS	sS	12 52 21.6	+9.1
KSH				*e*ScP	**ScP**	**12 54 36.8**	**+1.8**
KSH				*e*PcS	**PcS**	**12 54 38.6**	**+2.1**
KSH				*e*ScS	**ScS**	**12 58 26.8**	**+1.2**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.1s						
KSH				pmax	pmax		
	comp=Z,330nm,6.1s						
KSH				LR	LR		
	comp=N,450nm,7.2s						
KSH				LR	LR		
	comp=E,320nm,8.6s						
KSH				LR	LR		
	comp=Z,500nm,7.4s						
DAV	**Davao City (W)**	**28.32**	**130**	LR	LR	12 58 34.4	
	comp=Z,297nm,18.3s,baz=251,slow=35						
USRK	**Ussuriysk Arra**	**28.34**	**45**	P	**P**	**12 47 45.7**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=248,slow=7.4,SNR=7.9						
USRK				LR	LR	13 00 09.1	
	comp=Z,173nm,20.1s,baz=27,slow=39						
AAK	**Ala-Archa**	**28.82**	**311**	*e*P	**P**	**12 47 51.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
EKS2	**Erkin-Say**	**29.32**	**310**	*e*P	**P**	**12 47 56.4**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,64nm,2.7s						
EKS2	**Erkin-Say**	**29.32**	**310**	*e*P	**P**	**12 47 56.4**	**+1.1**
	comp=Z,64nm,2.7s						
MJAR	**Matsushiro Arr**	**30.43**	**63**	LR	LR	13 01 18.8	
	comp=Z,194nm,18.5s,baz=260,slow=38						
ZAA0	**Zalesovo Array**	**30.61**	**337**	*e*P	**P**	**12 48 06.0**	**-0.4**
ZALV	**Zalesovo Beam**	**30.61**	**337**	P	**P**	**12 48 06.2**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=141,slow=9.2,SNR=30						
ZALV	**Zalesovo Beam**	**30.61**	**337**	P	**P**	**12 48 06.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**30.61**	**337**	P	**P**	**12 48 06.2**	**-0.2**
KURK	**Kurchatov**	**30.77**	**328**	P	**P**	**12 48 07.8**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=132,slow=9.6,SNR=96						
KURK				LR	LR	13 01 35.6	
	comp=Z,135nm,20.1s,baz=300,slow=39						
KURK	**Kurchatov**	**30.77**	**328**	*d* iP	**P**	**12 48 07.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	**Kurchatov**	**30.77**	**328**	P	**P**	**12 48 07.8**	**-0.1**
	comp=Z,1.3nm,0.8s						
KURK				*e*PcP	**PcP**	**12 51 07.1**	**+2.0**
KLR	**Kul'dur**	**30.89**	**36**	*e*P	**P**	**12 48 06.0**	**-3.0**
KKAR	**Karatay Array**	**31.71**	**310**	*e*P	**P**	**12 48 15.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**31.71**	**310**	*e*P	**P**	**12 48 15.3**	**-1.0**
	comp=Z,3.1nm,1.1s						
BVA0	**Borovoye Array**	**36.23**	**325**	*i* P	**P**	**12 48 55.3**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BVAR	**Borovoye Array**	**36.23**	**325**	P	**P**	**12 48 55.3**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=119,slow=9.6,SNR=18						
BVAR	**Borovoye Array**	**36.23**	**325**	P	**P**	**12 48 55.3**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**36.23**	**325**	P	**P**	**12 48 55.3**	**-0.1**
BRVK	**Borovoye**	**36.30**	**325**	*c i*P	**P**	**12 48 56.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**36.30**	**325**	*e*P	**P**	**12 48 56.0**	**0.0**
	comp=Z,6.2nm,0.8s						
YAK	**Yakutsk**	**39.10**	**19**	*e*P	**P**	**12 49 18.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AB31	**Akbulak array**	**40.62**	**315**	*i* P	**P**	**12 49 32.5**	**+0.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**40.62**	**315**	*e*P	**P**	**12 49 32.8**	**+0.4**
	comp=Z,3.4nm,0.8s						
AKTO	**Aktyubinsk**	**42.16**	**317**	P	**P**	**12 49 45.5**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=98,slow=14,SNR=8.4						
AKTO	**Aktyubinsk**	**42.16**	**317**	P	**P**	**12 49 44.9**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKTO	**Aktyubinsk**	**42.16**	**317**	P	**P**	**12 49 45.5**	**+0.5**
SVE	**Sverdlovsk**	**42.99**	**326**	*e*P	**P**	**12 49 52.7**	**+1.1**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARU	**Arti**	**43.88**	**325**	*d* iP	**P**	**12 49 58.5**	**-0.3**
ARU						12 51 38.0	
ARU				S	**S**	**12 56 30.1**	**+0.6**
ARU				SS	SS	12 59 40.4	-5.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**43.88**	**325**	*e*P	**P**	**12 49 58.8**	**+0.1**
	comp=Z,7.4nm,0.9s						
PETK	**Petropavlovsk-**	**47.30**	**41**	LR	LR	13 09 44.3	
	comp=Z,84nm,20.8s,baz=162,slow=35						
GNI	**Garni**	**50.42**	**301**	*e*P	**P**	**12 50 49.7**	**-0.6**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRAB	**Tennant Creek**	**54.95**	**145**	*e*P	**P**	**12 51 24.7**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**54.95**	**145**	*e*P	**P**	**12 51 24.7**	**+0.9**
	comp=Z,8.6nm,0.9s						
WRA	**Warramunga Arr**	**54.96**	**145**	P	**P**	**12 51 24.2**	**+0.5**
	comp=Z,6.2nm,0.9s,baz=332,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**54.96**	**145**	P	**P**	**12 51 24.3**	**+0.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**54.96**	**145**	P	**P**	**12 51 24.2**	**+0.5**
WB2	**Warramunga Arr**	**54.96**	**145**	*e*P	**P**	**12 51 24.4**	**+0.6**
BILL	**Bilibino**	**55.03**	**24**	*e*P	**P**	**12 51 22.8**	**-0.9**
BILL				pmax	pmax		
	comp=Z,11nm,1.6s						
ASAR	**Alice Springs**	**57.87**	**147**	P	**P**	**12 51 45.5**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=328,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**57.87**	**147**	P	**P**	**12 51 45.6**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**57.87**	**147**	P	**P**	**12 51 45.5**	**+1.0**
AKASG	**Malin Array Be**	**60.36**	**315**	P	**P**	**12 51 59.9**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=69,slow=6.4,SNR=3.8						
AKASG	**Malin Array Be**	**60.36**	**315**	P	**P**	**12 51 59.9**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**60.36**	**315**	P	**P**	**12 51 59.9**	**-1.6**
FINES	**FINESS Array B**	**61.14**	**328**	P	**P**	**12 52 06.2**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=100,slow=8.1,SNR=6.3						
FINES	**FINESS Array B**	**61.14**	**328**	P	**P**	**12 52 06.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**61.14**	**328**	P	**P**	**12 52 06.2**	**-0.5**
ARCES	**ARCESS Array B**	**61.16**	**337**	P	**P**	**12 52 05.8**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=92,slow=7.2,SNR=9.2						
ARCES	**ARCESS Array B**	**61.16**	**337**	P	**P**	**12 52 05.9**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**61.16**	**337**	P	**P**	**12 52 05.8**	**-0.8**
NB2	**NORSAR Subarra**	**68.28**	**328**	P	**P**	**12 52 52.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=74,slow=6.5						
NOA	**NORSAR Array B**	**68.28**	**328**	P	**P**	**12 52 51.8**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=76,slow=6.1,SNR=3.8						
NOA	**NORSAR Array B**	**68.28**	**328**	P	**P**	**12 52 51.8**	**-1.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**68.28**	**328**	P	**P**	**12 52 51.8**	**-1.5**
GERES	**GERESS Array B**	**70.57**	**316**	P	**P**	**12 53 07.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=72,slow=4.3,SNR=4.7						
GERES	**GERESS Array B**	**70.57**	**316**	P	**P**	**12 53 07.4**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**70.57**	**316**	P	**P**	**12 53 07.4**	**-0.3**

ILAR	**Eielson Array**	**73.67**	**25**	P	**P**	**12 53 24.9**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=281,slow=4.4,SNR=15						
ILAR	**Eielson Array**	**73.67**	**25**	P	**P**	**12 53 24.9**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**73.67**	**25**	P	**P**	**12 53 24.9**	**-1.0**
INK	**Inuvik**	**76.16**	**19**	P	**P**	**12 53 40.0**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=315,slow=7.3,SNR=5.8						
INK	**Inuvik**	**76.16**	**19**	P	**P**	**12 53 40.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**76.16**	**19**	P	**P**	**12 53 40.0**	**-0.1**
LPG	**La Plagne**	**76.20**	**314**	*e*P	P	12 53 37.2	-4.1
	comp=Z,5.3nm,0.7s						
LPL	**La Plagne**	**76.21**	**314**	*e*P	P	12 53 36.8	-4.4
YKA	**Yellowknife Ar**	**85.75**	**17**	P	**P**	**12 54 31.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=326,slow=4.7,SNR=9.3						
YKA	**Yellowknife Ar**	**85.75**	**17**	P	**P**	**12 54 31.5**	**+0.1**
YKA	**Yellowknife Ar**	**85.75**	**17**	P	**P**	**12 54 31.5**	**+0.1**
GNW	**Green Mountain**	**94.74**	**30**	*e*P	**P**	**12 55 13.9**	**-0.1**
	comp=Z,39nm,1.9s						
GNW				*e*PKKPbc	PKKPbc	13 12 16.8	+5.3
SDV	**Santo Domingo**	**144.13**	**351**	*e*PKPdf	PKPbc	13 01 27.4	0.0

IDC 17 12:42:07.6±1.5, 2.98N×93.87E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/25, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=61.3km s-min=18.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.16**	**18**	Pn	Pn	12 45 57.1	+0.8
	0.4nm,0.3s,baz=214,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**44.79**	**349**	P	P	12 50 23.3	+0.2
	2.2nm,0.6s,baz=171,slow=8.3,SNR=9.9						
WRA	**Warramunga Arr**	**45.80**	**122**	P	P	12 50 31.4	-0.1
	3.4nm,0.8s,baz=301,slow=8.9,SNR=21						
SONM	**Songino Array**	**45.97**	**12**	P	P	12 50 32.8	+0.2
	0.5nm,0.7s,baz=199,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**47.12**	**126**	P	P	12 50 41.7	-0.2
	2.0nm,0.7s,baz=294,slow=7.9,SNR=36						
KURK	**Kurchatov**	**49.28**	**347**	P	P	12 50 56.4	-1.6
	1.6nm,0.7s,baz=168,slow=6.9,SNR=9.0						
ZALV	**Zalesovo Beam**	**51.34**	**353**	P	P	12 51 13.8	+0.2
	1.3nm,0.6s,baz=186,slow=7.4,SNR=4.1						
BVAR	**Borovoye Array**	**53.52**	**343**	P	P	12 51 29.2	-0.7
	0.9nm,0.6s,baz=142,slow=6.9,SNR=5.7						
GERES	**GERESS Array B**	**81.29**	**319**	P	P	12 54 26.8	+0.8
	0.7nm,0.6s,baz=123,slow=4.9,SNR=4.4						

ISCJB ***17*** *12:42:16.6±0.5, 37.13N±0.02×36.34E±0.03, h1km±4km, Error ellipse: s-maj=3.5km s-min=3.2km az=18.3*
DDA ***17*** *12:42:16.4, 37.16N×36.33E, h9km, MD3.0*
CSEM ***17*** *12:42:16.9±0.1, 37.14N×36.32E, h2km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.2km az=119.0*
ISK ***17*** *12:42:16.4, 37.14N×36.33E, h5km, MD3.0*
NSSC ***17*** *12:42:19.6±1.0, 37.05N×36.38E, h20km±8km, ML2.6*

ISC 17 12:42:17.1±1.1, 37.13N±0.02×36.33E±0.02, h6km±9km, n45, σ0°61/70, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.48**	**255**	*e*PG	**Pg**	**12 42 26.0**	**-0.4**
CEYT	**Ceyhan**	**0.48**	**255**	*e*Pg	**Pg**	**12 42 26.0**	**-0.4**
KOZT	**Kozan**	**0.53**	**311**	*e*PG	**Pg**	**12 42 27.5**	**+0.1**
KOZT				*e*SG	**Sg**	**12 42 35.2**	**+0.9**
KOZT	**Kozan**	**0.53**	**311**	*e*Pg	**Pg**	**12 42 27.5**	**+0.1**
KOZT				*e*Sg	**Sg**	**12 42 35.2**	**+0.9**
KMRS	**Kahramanmaras**	**0.59**	**51**	*e*PG	**Pg**	**12 42 27.5**	**-1.0**
KMRS				*e*SG	**Sg**	**12 42 35.0**	**-1.2**
KMRS	**Kahramanmaras**	**0.59**	**51**	*e*Pg	**Pg**	**12 42 27.5**	**-1.0**
KMRS				*e*Sg	**Sg**	**12 42 35.0**	**-1.2**
COBT	**Iskenderun**	**0.61**	**185**	*i* P	**Pg**	**12 42 29.0**	**0.0**
COBT				*i* S	**Sg**	**12 42 37.0**	**0.0**
COBT	**Iskenderun**	**0.61**	**185**	*i* P	**Pg**	**12 42 29.0**	**0.0**
COBT				*i* S	**Sg**	**12 42 37.0**	**0.0**
KUZU	**Kuzuini**	**0.70**	**121**	*i* P	**Pg**	**12 42 30.4**	**-0.1**
KUZU				*i* S	**Sg**	**12 42 40.1**	**+0.5**
KUZU	**Kuzuini**	**0.70**	**121**	*i* P	**Pg**	**12 42 30.4**	**-0.1**
KUZU				*i* S	**Sg**	**12 42 40.1**	**+0.5**
GAZ	**Gaziantep**	**0.71**	**87**	*e*PG	**Pg**	**12 42 30.6**	**-0.2**
GAZ				*e*SG	**Sg**	**12 42 40.8**	**+0.8**
GAZ	**Gaziantep**	**0.71**	**87**	*e*Pg	**Pg**	**12 42 30.6**	**-0.2**
GAZ				*e*Sg	**Sg**	**12 42 40.8**	**+0.8**
GZT	**Gaziantep**	**1.01**	**77**	*i* P	**Pg**	**12 42 35.9**	**-0.6**
GZT				*i* S	**Sb**	**12 42 51.3**	**+0.6**
HTY	**Hatay**	**1.02**	**189**	*e*PG	**Pg**	**12 42 36.3**	**-0.4**
HTY	**Hatay**	**1.02**	**189**	*e*Pg	**Pg**	**12 42 36.3**	**-0.4**
BTCH	**Batrach**	**1.10**	**174**	*e*P	**Pg**	**12 42 38.3**	**+0.1**
BTCH				*e*S	**Sg**	**12 42 52.6**	**+0.2**
BTCH				AML	AML	12 42 57.2	
	comp=N,359nm,0.5s						
BTCH				AML	AML	12 42 57.4	
	comp=E,183nm,0.3s						
BTCH	**Batrach**	**1.10**	**174**	*e*P	**Pg**	**12 42 38.3**	**+0.1**
	SNR=67						
BTCH				*e*S	**Sg**	**12 42 52.7**	**+0.2**
	comp=E,183nm,0.3s,SNR=59						
YAYL	**Yayladag**	**1.11**	**189**	*i* P	**Pg**	**12 42 38.7**	**+0.2**
YAYL				*i* S	**Sn**	**12 42 55.0**	**+0.1**
YAYL	**Yayladag**	**1.11**	**189**	*i* P	**Pg**	**12 42 38.7**	**+0.2**
YAYL				*i* S	**Sn**	**12 42 55.0**	**+0.1**
GULE	**Gulek**	**1.25**	**277**	*i* P	**Pn**	**12 42 40.6**	**-0.6**
GULE				*i* S	**Sb**	**12 42 57.6**	**0.0**
GULE	**Gulek**	**1.25**	**277**	*i* P	**Pn**	**12 42 40.6**	**-0.6**
GULE				*i* S	**Sb**	**12 42 57.6**	**0.0**
ARNB	**Al Arnab**	**1.30**	**193**	*e*P	**Pn**	**12 42 41.5**	**-0.4**
ARNB				*e*S	**Sb**	**12 42 57.9**	**-1.1**
ARNB				AML	AML	12 43 02.5	
	comp=E,13nm,0.2s						
ARNB				AML	AML	12 43 03.4	
	comp=N,189nm,0.8s						
ARNB	**Al Arnab**	**1.30**	**193**	*e*P	**Pn**	**12 42 41.5**	**-0.4**
	SNR=57						
ARNB				*e*S	**Sn**	**12 43 00.0**	**+0.4**
	comp=N,189nm,0.8s,SNR=49						
MERS	**Mersin**	**1.47**	**260**	*e*PN	**Pn**	**12 42 43.9**	**-0.3**
MERS	**Mersin**	**1.47**	**260**	*e*Pn	**Pn**	**12 42 43.9**	**-0.3**
PINB	**Pinarbasi**	**1.54**	**2**	*i* P	**Pn**	**12 42 44.6**	**-0.8**
PINB				*i* S	**Sb**	**12 43 06.5**	**+0.4**
PINB	**Pinarbasi**	**1.54**	**2**	*i* P	**Pn**	**12 42 44.6**	**-0.8**
PINB				*i* S	**Sb**	**12 43 06.5**	**+0.4**
SLMH	**Al Salmeh**	**1.58**	**125**	*e*P	**Pn**	**12 42 45.5**	**-0.2**
SLMH				*e*S	**Sn**	**12 43 06.5**	**+0.1**
SLMH				AML	AML	12 43 12.5	
	comp=Z,179nm,0.7s						
NIG	**Nigde**	**1.68**	**306**	*e*PN	**Pn**	**12 42 47.2**	**+0.1**
NIG	**Nigde**	**1.68**	**306**	*e*Pn	**Pn**	**12 42 47.3**	**+0.1**
AKCD	**Akcadag**	**1.72**	**47**	*i* P	**Pn**	**12 42 47.1**	**-0.6**
AKCD				*i* S	**Sb**	**12 43 10.9**	**-0.1**
AKCD	**Akcadag**	**1.72**	**47**	*i* P	**Pn**	**12 42 47.1**	**-0.6**
AKCD				*i* S	**Sb**	**12 43 10.9**	**-0.1**
BNN	**Bunyan**	**1.76**	**348**	*e*PN	**Pn**	**12 42 48.5**	**+0.2**
BNN	**Bunyan**	**1.76**	**348**	*e*Pn	**Pn**	**12 42 48.5**	**+0.2**
KFRA	**Kufra**	**1.95**	**169**	*e*P	**Pn**	**12 42 51.0**	**+0.1**
KFRA				*e*S	**Sn**	**12 43 15.5**	**-0.2**
KFRA				AML	AML	12 43 24.3	
	comp=N,121nm,0.7s						
KFRA				AML	AML	12 43 27.9	
	comp=E,283nm,0.6s						
URFA	**Urfa**	**2.01**	**80**	*e*PN	**Pn**	**12 42 52.5**	**+0.8**
URFA	**Urfa**	**2.01**	**80**	*e*Pn	**Pn**	**12 42 52.5**	**+0.8**
MYA	**Malataya**	**2.05**	**54**	*e*PN	**Pn**	**12 42 52.9**	**+0.7**
MYA	**Malataya**	**2.05**	**54**	*e*Pn	**Pn**	**12 42 52.9**	**+0.7**
DARE	**Darende-Malaty**	**2.16**	**32**	*e*PN	Pn	12 42 47.5	-6.2
JHLN	**Al Jahlan**	**2.24**	**130**	*e*P	**Pn**	**12 42 54.5**	**-0.2**
JHLN				*e*S	**Sn**	**12 43 21.3**	**-1.5**
JHLN				AML	AML	12 43 29.1	
	comp=Z,57nm,0.6s						
SVRC	**Sivrice-ELAZID**	**2.67**	**61**	*e*PN	**Pn**	**12 43 01.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.67**	**61**	*e*Pn	**Pn**	**12 43 01.8**	**+1.0**
PTK	**Pertek**	**2.99**	**53**	*e*PN	**Pn**	**12 43 06.5**	**+1.3**
PTK	**Pertek**	**2.99**	**53**	*e*Pn	**Pn**	**12 43 06.5**	**+1.3**

IDC 17 12:50:24.6±1.2, 47.00N×155.59E, h0km, mb3.7/12, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, ML3.2/5, Error ellipse: s-maj=32.7km s-min=13.1km az=157.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.26**	**12**	Pn	Pn	12 51 56.8	-1.4
	0.7nm,0.3s,baz=171,slow=15,SNR=20						
PETK				Sn	Sn	12 53 12.0	+1.6
	0.2nm,0.3s,baz=104,slow=19,SNR=2.2						
ASAJ	**Asahikawa**	**9.56**	**257**	Pn	Pn	12 52 44.1	+0.8
	0.4nm,0.3s,baz=299,slow=29,SNR=4.9						
FX1	**Attu Island--F**	**12.74**	**56**	Pn	Pn	12 53 24.7	-2.2
	0.6nm,0.3s,baz=107,slow=18,SNR=5.9						
FX1				Sn	Sn	12 55 35.8	-14
	2.1nm,0.3s,baz=75,slow=21,SNR=7.4						
MJAR	**Matsushiro Arr**	**16.61**	**237**	Pn	Pn	12 54 16.6	-2.2
	0.1nm,0.3s,baz=27,slow=12,SNR=4.6						
USRK	**Ussuriysk Arra**	**16.73**	**269**	Pn	P	12 54 21.6	-0.9
	0.2nm,0.3s,baz=79,slow=13,SNR=4.1						
KSRS	**Korea Array**	**22.50**	**255**	P	P	12 55 24.8	-0.7
	0.8nm,0.8s,baz=55,slow=9.8,SNR=2.6						
SONM	**Songino Array**	**32.85**	**290**	P	P	12 56 59.0	-0.9
	0.4nm,0.7s,baz=69,slow=7.9,SNR=3.3						
ILAR	**Eielson Array**	**35.29**	**39**	P	P	12 57 20.4	-0.3
	0.5nm,0.6s,baz=251,slow=8.0,SNR=11						
INK	**Inuvik**	**40.52**	**33**	P	P	12 58 05.8	+0.9
	2.0nm,0.8s,baz=286,slow=7.1,SNR=8.5						
ZALV	**Zalesovo Beam**	**43.83**	**306**	P	P	12 58 32.3	+0.2
	0.6nm,0.4s,baz=52,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	**48.32**	**298**	P	P	12 59 07.2	-0.4
	0.5nm,0.8s,baz=68,slow=9.4,SNR=6.2						
KURK	**Kurchatov**	**48.63**	**304**	P	P	12 59 10.8	+1.0
	1.1nm,0.2s,baz=65,slow=8.5,SNR=6.8						
YKA	**Yellowknife Ar**	**49.70**	**38**	P	P	12 59 18.0	+0.2
	0.6nm,0.7s,baz=294,slow=7.1,SNR=7.0						
BVAR	**Borovoye Array**	**52.00**	**310**	P	P	12 59 35.6	+0.3
	1.6nm,0.5s,baz=53,slow=7.6,SNR=17						
CMAR	**Chiang Mai Arr**	**54.08**	**258**	P	P	12 59 51.9	+0.8
	0.4nm,0.4s,baz=31,slow=7.6,SNR=4.5						
ARCES	**ARCESS Array B**	**58.16**	**342**	P	P	13 00 19.5	-0.1
	6.2nm,1.0s,baz=27,slow=8.3,SNR=2.9						
FINES	**FINESS Array B**	**64.52**	**336**	P	P	13 01 02.1	-0.5
	1.8nm,0.8s,baz=32,slow=8.3,SNR=7.7						
TXAR	**Lajitas Array**	**75.88**	**62**	P	P	13 02 13.2	+0.1
	0.3nm,0.5s,baz=301,slow=3.8,SNR=6.1						

IDC 17 12:51:20.4±2.2, 3.71N×123.92E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=315.0km s-min=25.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.64**	**157**	P	P	12 56 52.3	+0.3
	0.4nm,0.3s,baz=336,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**28.90**	**161**	P	P	12 57 21.3	0.0
	0.1nm,0.3s,baz=341,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**39.18**	**156**	P	P	12 58 49.7	-0.6
	1.3nm,0.6s,baz=333,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**56.00**	**327**	P	P	13 01 00.8	-0.1
	0.1nm,0.3s,baz=128,slow=6.8,SNR=5.0						

NEIC 17 12:55:09.0, 19.29N×155.01W, h38km, MD4.0(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.15**	**310**	*e*Pg	Pn	12 55 15.5	-3.6
STCH				*e*Sg	Sn	12 55 20.0	-8.5
PUH	**Pauahi**	**0.22**	**293**	*e*Pg	Pn	12 55 16.0	-1.7
HON	**Honolulu**	**3.46**	**306**	*e*Pn	Pn	12 55 57.0	-3.4
HON				*e*Sn	Sn	12 56 36.2	-4.0
KIP	**Kipapa**	**3.53**	**307**	*e*Pn	Pn	12 55 59.8	-1.5
KIP				*e*Sn	Sn	12 56 36.7	-5.1

IDC 17 12:59:39.5±3.3, 6.39S×147.08E, h70km±36km, mb3.6/10, mb1 3.7/12, mb1mx3.7/17, mbtmp3.6/12, ML3.5/2, Error ellipse: s-maj=34.8km s-min=20.7km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.00**	**178**	P	Pn	13 00 25.4	+0.7
	7.1nm,0.3s,baz=62,slow=4.9,SNR=29						
PMG				S	Sn	13 01 00.1	+0.6
	15nm,0.3s,baz=227,slow=21,SNR=4.8	

DJA ***17*** *13:01:39.0 ± 0.7, 18S × 132.46E, h23 km, MLv4.6/9*
IDC *17* 13:01:36.6 ± 1.0, 0.31S × 132.64E, h0 km, mb4.0/6, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML4.2/2, Error ellipse: s-maj=59.6km s-min=13.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.97**	**201**	P	P	13 05 57.9	-1.8
	0.4nm,0.3s,baz=22,slow=12,SNR=4.1						
FITZ				S	Sn	13 09 18.1	-15
	0.2nm,0.3s,baz=131,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**19.58**	**175**	P	P	13 06 06.9	+0.5
	0.9nm,0.3s,baz=354,slow=10,SNR=18						
WRA				S	Sn	13 09 39.5	-8.7
	0.4nm,0.3s,baz=357,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**23.25**	**177**	P	P	13 06 46.2	+0.4
	17nm,0.9s,baz=358,slow=10.0,SNR=56						
ASAR				S	S	13 10 60.0	+0.7
	1.1nm,1.0s,baz=4.8,slow=23,SNR=3.7						
STKA	**Stephens Creek**	**32.52**	**166**	P	P	13 08 10.9	+1.6
	1.2nm,0.5s,baz=342,slow=6.3,SNR=4.3						
SONM	**Songino Array**	**53.11**	**338**	P	P	13 10 56.8	+0.7
	0.6nm,0.8s,baz=150,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**64.24**	**324**	P	P	13 12 13.2	-0.4
	1.4nm,0.6s,baz=115,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	P	13 12 31.2	+0.8
	0.5nm,0.3s,baz=116,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	**86.21**	**25**	P	P	13 14 18.2	-1.5
	0.8nm,0.8s,baz=264,slow=4.4,SNR=6.0						

MEX *17* 13:36:07.7 ± 1.2, 20.38N × 99.04W, h12 km ± 3 km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEIG	**Demacu**	**0.08**	**180**	*i* P	Pg	13 36 09.6	-1.1
DEIG				*i* S	Sg	13 36 12.0	-0.8
IIO	**Organos**	**0.84**	**159**	*e*P	Pg	13 36 21.4	-3.0
IIO				*i* S	Sg	13 36 32.7	-3.0
PBIG	**Penon de los B**	**0.93**	**183**	*e*P	Pg	13 36 24.0	-1.7
PBIG				*i* S	Sg	13 36 33.7	-4.3
PBVM	**Pinon**	**0.93**	**183**	*e*P	Pg	13 36 24.0	-1.8
PBVM				*i* S	Sg	13 36 33.4	-4.6
SZVM	**Salazar**	**1.10**	**197**	*e*P	Pb	13 36 25.4	-3.9
SZVM				*i* S	Sb	13 36 38.5	-5.4
MZVM		**1.20**	**189**	*i* P	Pn	13 36 27.7	-2.5
MZVM				*i* S	Sb	13 36 41.8	-3.9
PPM	**Popocatepetl**	**1.36**	**163**	*i* P	Pn	13 36 29.8	-3.4
PPM				*i* S	Sn	13 36 46.1	-5.5
YAIG	**Yautepec**	**1.51**	**181**	*e*P	Pn	13 36 32.4	-2.3
YAIG				*i* S	Sn	13 36 50.8	-3.7
PLIG	**Platanillo**	**2.02**	**193**	*e*P	Pn	13 36 39.6	-2.1
PLIG				*e*S	Sn	13 37 04.2	-2.9
MEIG	**Mezcala**	**2.50**	**193**	*e*P	Pn	13 36 46.7	-1.6
MEIG				*e*S	Sn	13 37 15.7	-3.1
CAIG	**El Cayaco**	**3.51**	**200**	*e*P	Pn	13 37 00.6	-1.5
CAIG				*e*S	Sn	13 37 41.2	-2.4

MAN *17* 13:55:02, 8.47N × 123.03E, h32 km, mb3.7, ML2.4, MS1.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.34**	**71**	*e*P	Pn	13 55 12.3	+1.6
DCPH				*e*S	Sn	13 55 18.6	+2.2
PAGZ	**Pagadian**	**0.71**	**151**	*e*P	Pb	13 55 16.6	+0.5
PAGZ				*e*S	Sb	13 55 23.0	-2.6
IPIL	**Ipil**	**0.82**	**214**	*e*P	Pb	13 55 17.9	+0.1
IPIL				*e*S	Sn	13 55 21.1	-7.2

ISCJB ***17*** *13:56:40.0 ± 0.7, 63.61N ± 0.02 × 151.08W ± 0.04, h10 km ± 4 km, mb4.4/55, MS3.8/5, Error ellipse: s-maj=3.1km s-min=2.8km az=37.8*
IDC ***17*** *13:56:40.9 ± 0.5, 63.65N × 151.18W, h0 km, mb4.2/20, mb1 4.3/25, mb1mx4.3/28, mbtmp4.2/25, ML3.8/5, MS3.5/7, Ms1 3.5/7, ms1mx3.2/37, Error ellipse: s-maj=12.5km s-min=7.3km az=162.0*
NEIC ***17*** *13:56:40.5, 63.57N × 151.02W, h9 km, mb4.4/26, ML4.4(AEIC), MW4.2(USGS), After AEIC.*
BJI ***17*** *13:56:43.2, 64.33N × 151.98W, h8 km, mB5.2/14, mb4.7/29, Ms5.0/12, Ms7 4.7/13*
ISC *17* 13:56:42.0 ± 0.4, 63.60N ± 0.02 × 151.04W ± 0.02, h13 km ± 2 km, n177, σ1 s11/211, mb4.4/55, MS4.0/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.37**	**113**	P	**Pg**	**13 56 46.5**	**-2.9**
TRF				S	**Sg**	**13 56 52.2**	**-2.1**
CHUM	**Lake Minchumin**	**0.64**	**297**	P	**Pg**	**13 56 52.8**	**-1.5**
CHUM				S	**Sb**	**13 57 02.4**	**-1.4**
PPLA	**Purkeypile**	**0.88**	**217**	P	**Pg**	**13 56 56.3**	**-2.6**
PPLA				S	**Sg**	**13 57 08.1**	**-2.2**
MCK	**McKinley**	**0.95**	**81**	P	**Pg**	**13 56 58.4**	**-1.8**
MCK				S	**Sg**	**13 57 11.6**	**-0.9**
RND	**Reindeer**	**1.00**	**100**	P	**Pg**	**13 56 59.4**	**-1.8**
RND				S	**Sg**	**13 57 12.2**	**-2.0**
NEA	**Nenana**	**1.31**	**40**	P	**Pn**	**13 57 04.9**	**-1.0**
TRAP	**Trapper Creek**	**1.32**	**164**	P	**Pn**	**13 57 04.6**	**-1.5**
TRAP				S	**Sb**	**13 57 23.1**	**-0.2**
MLY	**Manley**	**1.44**	**5**	P	**Pb**	**13 57 07.8**	**-0.9**
SKT	**Skwentna**	**1.64**	**188**	P	**Pn**	**13 57 09.6**	**-0.9**
SKT				S	**Sn**	**13 57 31.6**	**+0.1**
DHY	**Denali Highway**	**1.73**	**106**	P	**Pn**	**13 57 11.6**	**-0.3**
CCB	**Clear Creek Bu**	**1.77**	**52**	P	**Pn**	**13 57 11.3**	**-0.9**
MDM	**Murphy Dome**	**1.83**	**41**	P	**Pn**	**13 57 12.5**	**-0.7**
COLA	**College**	**1.89**	**46**	P	**Pn**	**13 57 13.2**	**-0.8**
HDA	**Harding Lake**	**1.97**	**64**	P	**Pb**	**13 57 16.1**	**-1.6**
GLM	**Gilmore Dome**	**2.12**	**47**	P	**Pn**	**13 57 16.4**	**-0.6**
SUA	**Susitna One**	**2.15**	**176**	P	**Pn**	**13 57 16.9**	**-0.7**
ILAR	**Eielson Array**	**2.16**	**55**	Pn	**Pn**	**13 57 16.8**	**-0.9**
	8.3nm,0.3s,baz=236,slow=14,SNR=168						
ILAR				Pg	**Pb**	**13 57 21.0**	**+0.1**
	100nm,0.3s,baz=233,slow=18,SNR=267						
ILAR				Sn	**Sn**	**13 57 45.5**	**+1.1**
	85nm,0.3s,baz=248,slow=16,SNR=16						
ILAR				Lg	Lg	13 57 50.0	
	192nm,0.3s,baz=243,slow=29,SNR=14						
ILAR	**Eielson Array**	**2.16**	**55**	Pn	**Pn**	**13 57 16.8**	**-0.9**
ILAR				Pg	**Pb**	**13 57 21.0**	**+0.1**
ILAR				Sn	**Sn**	**13 57 45.5**	**+1.1**
ILAR				Lg	Lg	13 57 50.0	
IL1	**Eielson Array**	**2.17**	**55**	P	**Pn**	**13 57 16.8**	**-0.9**
SML	**Sawmill**	**2.19**	**144**	P	**Pn**	**13 57 16.9**	**-1.1**
PMR	**Palmer**	**2.20**	**156**	P	**Pn**	**13 57 17.3**	**-0.9**
DDM	**Donnelly Dome**	**2.31**	**83**	P	**Pn**	**13 57 19.9**	**+0.1**
SPCG	**Spurr Capps Gl**	**2.36**	**192**	P	**Pn**	**13 57 19.7**	**-0.8**
TT01	**Tatalina**	**2.36**	**255**	P	**Pn**	**13 57 18.4**	**-2.0**
SPBG	**Spurr Blockage**	**2.43**	**195**	P	**Pn**	**13 57 21.6**	**+0.2**
SCM	**Sheep Creek Mo**	**2.46**	**134**	P	**Pn**	**13 57 20.8**	**-1.1**
FIB	**Fire Island**	**2.47**	**170**	P	**Pn**	**13 57 22.7**	**+0.8**
CKL	**Chakachamna La**	**2.49**	**195**	P	**Pn**	**13 57 21.3**	**-0.9**
RC01	**Rabbit Creek A**	**2.59**	**166**	P	**Pn**	**13 57 23.4**	**-0.2**
PAX	**Paxson**	**2.59**	**102**	P	**Pn**	**13 57 24.6**	**+0.9**
BKG	**Blockade Glaci**	**2.60**	**193**	P	**Pn**	**13 57 23.3**	**-0.4**
IM3	**Indian Mountai**	**2.66**	**335**	P	**Pn**	**13 57 24.6**	**0.0**
IMA2	**Indian Mountai**	**2.73**	**337**	*e*Pn	**Pn**	**13 57 26.8**	**+1.2**
GCSA	**Galena City Sc**	**2.81**	**297**	P	**Pn**	**13 57 26.1**	**-0.4**
HARP	**HAARP**	**2.94**	**111**	P	**Pn**	**13 57 29.6**	**+1.2**
PRP	**Porcupine Dome**	**3.06**	**49**	P	**Pn**	**13 57 30.2**	**+0.1**
DOT	**Dot Lake**	**3.11**	**86**	*e*Pn	**Pn**	**13 57 31.7**	**+1.0**
SLKM	**Skilak Lake**	**3.13**	**173**	*e*Pn	**Pn**	**13 57 31.6**	**+0.7**
KLU	**Klutina**	**3.17**	**129**	P	**Pn**	**13 57 32.4**	**+0.7**
RDN	**Redoubt North**	**3.20**	**195**	P	**Pn**	**13 57 32.0**	**-0.1**
RSO	**Redoubt South**	**3.25**	**195**	*e*Pn	**Pn**	**13 57 32.6**	**-0.2**
VLZ	**Valdez**	**3.31**	**136**	P	**Pn**	**13 57 33.7**	**+0.4**
MENT	**Mentasta**	**3.37**	**98**	*e*Pn	**Pn**	**13 57 35.5**	**+1.2**
DIV	**Divide**	**3.49**	**133**	*e*Pn	**Pn**	**13 57 36.2**	**+0.3**
FID	**Port Fidalgo**	**3.57**	**141**	P	**Pn**	**13 57 37.6**	**+0.6**
SEW	**Seward**	**3.59**	**167**	*e*Pn	**Pn**	**13 57 37.9**	**+0.7**
COLD	**Coldfoot**	**3.66**	**5**	*e*Pn	**Pn**	**13 57 38.9**	**+0.6**
COLD				*e*Sn	**Sn**	**13 58 20.3**	**-1.0**
INE	**Iliamna NE**	**3.68**	**196**	P	**Pn**	**13 57 39.4**	**+0.8**
ILW	**Iliamna West**	**3.69**	**197**	P	**Pn**	**13 57 39.4**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.94**	**139**	P	**Pn**	**13 57 42.8**	**+0.7**
BMRM	**Bremner River**	**4.00**	**128**	P	**Pn**	**13 57 43.1**	**+0.2**
OPT	**Oil Point**	**4.10**	**196**	P	**Pn**	**13 57 45.1**	**+0.9**
SGAM	**Sherman Glacie**	**4.14**	**136**	P	**Pn**	**13 57 45.5**	**+0.6**
BCA3	**Beaver Creek A**	**4.20**	**93**	P	**Pn**	**13 57 45.5**	**-0.2**
GOAT	**Goat Mountain**	**4.24**	**133**	P	**Pn**	**13 57 45.8**	**-0.4**
MCARA	**McCarthy VSAT**	**4.33**	**117**	P	**Pn**	**13 57 49.4**	**+2.0**
EGAK	**Eagle**	**4.48**	**70**	*e*Pn	**Pn**	**13 57 49.6**	**+0.2**
BM3	**Burnt Mountain**	**4.68**	**32**	P	**Pn**	**13 57 51.6**	**-0.6**
BALM	**Baldy**	**4.80**	**118**	P	**Pn**	**13 57 54.3**	**+0.3**
KHIT	**Khitrov Hills**	**4.84**	**127**	P	**Pn**	**13 57 54.7**	**+0.1**
ISLE	**Juniper Island**	**5.07**	**122**	P	**Pn**	**13 57 57.6**	**-0.1**
KULT	**Kultieth River**	**5.17**	**127**	P	**Pn**	**13 57 59.2**	**+0.2**
DAWY	**Dawson**	**5.18**	**80**	*e*Pn	**Pn**	**13 57 58.6**	**-0.5**
BAGL	**Bagley Icefiel**	**5.24**	**122**	P	**Pn**	**13 57 59.8**	**0.0**
TABL	**Table Mountain**	**5.63**	**120**	P	**Pn**	**13 58 05.8**	**+0.3**
RKAV	**Rock Avalanche**	**5.64**	**122**	P	**Pn**	**13 58 06.3**	**+0.7**
KELA	**Mount Kelaz**	**5.66**	**206**	P	**Pn**	**13 58 05.1**	**-0.7**
KAKN	**Katmai Knife C**	**5.67**	**202**	P	**Pn**	**13 58 05.6**	**-0.3**
KABU	**Katmai Buttres**	**5.73**	**203**	P	**Pn**	**13 58 07.1**	**+0.3**
KCE	**Katmai Mt Cerb**	**5.74**	**202**	P	**Pn**	**13 58 07.4**	**+0.5**
MGLS	**Mageik Landsli**	**5.84**	**202**	P	**Pn**	**13 58 08.2**	**0.0**
KDAK	**Kodiak Island**	**5.88**	**188**	Pn	**Pn**	**13 58 08.2**	**-0.6**
	4.6nm,0.3s,baz=30,slow=12,SNR=8.2						
KDAK				Pg	**Pb**	**13 58 24.7**	**+0.4**
	12nm,0.3s,baz=46,slow=6.5,SNR=14						
KDAK				Sn	**Sn**	**13 59 16.6**	**+0.6**
	6.8nm,0.3s,baz=96,slow=19,SNR=3.8						
KDAK				Lg	Lg	13 59 46.9	
	8.1nm,0.3s,baz=179,slow=20,SNR=2.9						
KDAK	**Kodiak Island**	**5.88**	**188**	Pn	**Pn**	**13 58 08.2**	**-0.6**
KDAK				Sn	**Sn**	**13 59 16.6**	**+0.6**
KDAK				Lg	Lg	13 59 46.9	
CAHL	**Cahill**	**5.94**	**202**	P	**Pn**	**13 58 10.1**	**+0.5**
SAMH	**Samovar Hills**	**5.97**	**121**	P	**Pn**	**13 58 11.1**	**+1.1**
PLK4	**Peulik 4**	**6.53**	**206**	P	**Pn**	**13 58 18.1**	**+0.3**
PNL	**Peninsula**	**6.80**	**120**	*e*Pn	**Pn**	**13 58 21.2**	**-0.1**
TNA	**Tin City**	**7.53**	**293**	*e*Pn	**Pn**	**13 58 29.8**	**-1.4**
INK	**Inuvik**	**8.55**	**49**	Pn	**Pn**	**13 58 45.3**	**+0.1**
	2.4nm,0.3s,baz=238,slow=17,SNR=54						
INK				Sn	**Sn**	**14 00 21.3**	**-0.1**
	0.5nm,0.3s,baz=265,slow=11,SNR=1.8						
INK				Lg	Lg	14 01 14.3	
	0.4nm,0.3s,baz=126,slow=32,SNR=6.5						
INK	**Inuvik**	**8.55**	**49**	Pn	**Pn**	**13 58 45.3**	**+0.1**
INK				Sn	**Sn**	**14 00 21.3**	**-0.1**
INK				Lg	Lg	14 01 14.3	
SKAG	**Skagway**	**8.56**	**112**	*e*Pn	**Pn**	**13 58 44.2**	**-1.2**
	27nm,0.8s						
SIT	**Sitka**	**10.16**	**123**	*e*Pn	Pn	13 59 03.2	-4.1
	81nm,0.8s						
DLBC	**Dease Lake**	**11.39**	**107**	Pn	**Pn**	**13 59 25.7**	**+1.4**
	0.4nm,0.3s,baz=296,slow=15,SNR=9.0						
DLBC				Lg	Lg	14 02 40.3	
	0.2nm,0.3s,baz=206,slow=18,SNR=5.8						
DLBC				LR	LR	14 04 04.8	
	comp=Z,430nm,19.5s,baz=63,slow=39						
DLBC	**Dease Lake**	**11.39**	**107**	Pn	**Pn**	**13 59 25.7**	**+1.4**
DLBC				Lg	Lg	14 02 40.3	
YKA	**Yellowknife Ar**	**16.41**	**77**	Pn	**Pn**	**14 00 31.6**	**-0.1**
	0.2nm,0.3s,baz=295,slow=13,SNR=23						
YKA				Lg	Lg	14 05 21.6	
	0.1nm,0.3s,baz=284,slow=27,SNR=3.9						
YKA				LR	LR	14 07 16.3	
	comp=Z,37nm,20.2s,baz=135,slow=39						
YKA	**Yellowknife Ar**	**16.41**	**77**	Pn	**Pn**	**14 00 31.6**	**-0.1**
YKA				Lg	Lg	14 05 21.6	
BBB	**Bella Bella**	**16.59**	**123**	LR	LR	14 06 30.1	
	comp=Z,176nm,21.5s,baz=13,slow=35						
BILL	**Bilibino**	**17.75**	**303**	*e*Pn	**Pn**	**14 00 47.2**	**-1.2**
	9.6nm,1.0s						
FX1	**Attu Island--F**	**21.37**	**257**	P	**P**	**14 01 30.4**	**+1.7**
	17nm,0.6s,baz=237,slow=12,SNR=8.9						
FX1	**Attu Island--F**	**21.37**	**257**	P	**P**	**14 01 30.4**	**+1.7**
RES	**Resolute Bay**	**21.79**	**36**	P	**P**	**14 01 34.7**	**+1.6**
	3.3nm,0.8s,baz=266,slow=12,SNR=9.9						
RES	**Resolute Bay**	**21.79**	**36**	P	**P**	**14 01 34.7**	**+1.6**
ETW	**Entiat**	**23.26**	**119**	*e*P	**P**	**14 01 49.1**	**+0.1**
	9.1nm,0.7s						
NEW	**Newport**	**24.02**	**114**	*e*P	**P**	**14 01 55.4**	**-0.9**
	4.2nm,0.8s						
OD2	**Odessa Site #2**	**24.08**	**117**	*e*P	**P**	**14 01 55.1**	**-1.7**
	8.9nm,0.9s						
BSMT	**Bassoo Peak**	**25.31**	**111**	*e*P	**P**	**14 02 07.4**	**-0.8**
	2.8nm,0.9s						
JTMT	**Jette**	**25.60**	**111**	*e*P	**P**	**14 02 10.5**	**-0.2**
	2.8nm,0.7s						
YBMT	**Yellow Bay**	**25.62**	**110**	*e*P	**P**	**14 02 09.9**	**-1.0**
	6.4nm,1.0s						
SWMT	**Swartz Lake**	**25.91**	**111**	*e*P	**P**	**14 02 13.4**	**-0.1**
	5.7nm,1.0s						
FFC	**Flin Flon**	**26.03**	**87**	*e*P	**P**	**14 02 14.0**	**-0.4**
	8.6nm,0.9s						
SLMT	**Seeley Lake**	**26.33**	**111**	*e*P	**P**	**14 02 16.5**	**-0.9**
	4.5nm,0.8s						
LRM	**Limekiln Ridge**	**27.89**	**111**	*e*P	**P**	**14 02 30.0**	**-1.6**
PETK	**Petropavlovsk-**	**28.08**	**272**	P	**P**	**14 02 33.3**	**+0.5**
	2.1nm,0.8s,baz=78,slow=7.7,SNR=4.7						
PETK				LR	LR	14 14 09.8	
	comp=Z,72nm,20.3s,baz=172,slow=37						
PETK	**Petropavlovsk-**	**28.08**	**272**	P	**P**	**14 02 33.3**	**+0.5**
MCMT	**McKenzie Canyo**	**28.54**	**113**	*e*P	**P**	**14 02 35.7**	**-1.6**
	1.9nm,1.1s						
RRI2	**Red Ridge**	**30.38**	**113**	*e*P	**P**	**14 02 52.6**	**-1.0**
	4.1nm,0.6s						
PD01	**Pinedale Array**	**31.57**	**111**	*e*P	**P**	**14 03 04.6**	**+0.5**
PD02	**Pinedale Array**	**31.57**	**111**	*e*P	**P**	**14 03 04.8**	**+0.7**
PDAR	**Pinedale Array**	**31.59**	**111**	P	**P**	**14 03 05.5**	**+1.2**
	1.9nm,0.8s,baz=314,slow=5.0,SNR=12						
PDAR				PcP	**PcP**	**14 05 55.9**	**-0.5**
	0.6nm,0.5s,baz=128,slow=3.0,SNR=5.0						
PDAR	**Pinedale Array**	**31.59**	**111**	P	**P**	**14 03 05.5**	**+1.2**
PDAR				PcP	**PcP**	**14 05 55.9**	**-0.5**
ULM	**Lac du Bonnet**	**31.81**	**88**	P	**P**	**14 03 07.0**	**+1.2**
	10nm,0.8s,baz=316,slow=9.4,SNR=12						
ULM				PcP	**PcP**	**14 05 55.7**	**-0.7**
	2.4nm,0.5s,baz=346,slow=2.4,SNR=5.3						
ULM	**Lac du Bonnet**	**31.81**	**88**	P	**P**	**14 03 07.0**	**+1.2**
ULM				PcP	**PcP**	**14 05 55.7**	**-0.7**
NVAR	**Mina Array Bea**	**31.89**	**127**	P	**P**	**14 03 08.2**	**+1.3**
	1.0nm,0.7s,baz=322,slow=8.0,SNR=8.9						
NVAR				PcP	**PcP**	**14 05 57.9**	**+0.7**
	1.1nm,0.7s,baz=316,slow=1.3,SNR=5.9						
NVAR	**Mina Array Bea**	**31.89**	**127**	P	**P**	**14 03 08.2**	**+1.3**
NVAR				PcP	**PcP**	**14 05 57.9**	**+0.7**
MSU	**Marysvale**	**34.13**	**119**	*e*P	**P**	**14 03 28.1**	**+1.6**
	9.8nm,1.4s						
ARUT	**Antelope Range**	**34.27**	**121**	*e*P	**P**	**14 03 28.6**	**+0.9**
	8.2nm,1.1s						
EYMN	**Ely**	**35.46**	**87**	*e*P	**P**	**14 03 38.4**	**+0.8**
	30nm,0.7s						
PV01	**Paradox Valley**	**35.89**	**115**	*e*P	**P**	**14 03 40.1**	**-1.6**
	248nm,0.8s						
WUAZ	**Wupatki**	**37.05**	**120**	*e*P	**P**	**14 03 51.4**	**-0.2**
	13nm,1.1s						
BNM	**Barren Site**	**40.12**	**116**	*e*P	**P**	**14 04 18.7**	**+1.3**
	3.7nm,0.9s						
KSU1	**Kansas State U**	**40.16**	**101**	*e*P	**P**	**14 04 17.7**	**+0.3**
	11nm,0.4s						
SCHQ	**Schefferville**	**40.91**	**62**	P	**P**	**14 04 23.9**	**+0.4**
	4.0nm,0.8s,baz=293,slow=9.4,SNR=5.2						
SCHQ	**Schefferville**	**40.91**	**62**	P	**P**	**14 04 23.9**	**+0.4**
SADO	**Sadowa**	**43.38**	**80**	LR	LR	14 24 46.7	
	comp=Z,200nm,20.8s,baz=26,slow=39						
MSNY	**Massena**	**45.08**	**77**	*e*P	**P**	**14 04 56.2**	**-1.0**
	82nm,0.8s						
TXAR	**Lajitas Array**	**45.54**	**116**	P	**P**	**14 05 02.2**	**+1.0**
	2.2nm,0.6s,baz=330,slow=6.0,SNR=44						
TXAR	**Lajitas Array**	**45.54**	**116**	P	**P**	**14 05 02.2**	**+1.0**
USRK	**Ussuriysk Arra**	**46.05**	**283**	P	**P**	**14 05 04.2**	**-0.8**
	0.9nm,0.6s,baz=60,slow=12,SNR=3.1						
JCT	**Junction City**	**46.12**	**111**	*e*P	**P**	**14 05 06.4**	**+0.6**
	12nm,0.8s						
ARCES	**ARCESS Array B**	**47.12**	**2**	PcP	**PcP**	**14 06 44.0**	**-0.5**
	4.6nm,0.8s,baz=2.9,slow=4.9,SNR=4.7						
ARCES	**ARCESS Array B**	**47.12**	**2**	PcP	**PcP**	**14 06 44.0**	**-0.5**
TKL	**Tuckaleechee C**	**48.71**	**92**	LR	LR	14 28 16.2	
	comp=Z,166nm,18.2s,baz=22,slow=39						
CN2	**Changchun**	**49.19**	**288**	*e*P	**P**	**14 05 29.4**	**0.0**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
MAT	**Matsushiro**	**49.54**	**272**	P	**P**	**14 05 31.8**	**-0.3**
MJAR	**Matsushiro Arr**	**49.54**	**272**	P	**P**	**14 05 32.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=11,slow=6.8,SNR=9.4						
MJAR	**Matsushiro Arr**	**49.54**	**272**	P	**P**	**14 05 32.4**	**+0.3**
ULN	**Ulaanbaatar**	**53.19**	**305**	*e*P	**P**	**14 05 59.9**	**+0.4**
	comp=Z,4.1nm,1.0s						
KSRS	**Korea Array**	**53.34**	**281**	P	**P**	**14 06 01.4**	**+0.8**
	comp=Z,5.9nm,0.7s,baz=26,slow=6.9,SNR=34						
KSRS				LR	LR	14 29 19.8	
	comp=Z,27nm,18.9s,baz=155,slow=37						
KSAR	**Wonju Array Be**	**53.37**	**282**	P	**P**	**14 06 01.4**	**+0.6**
SONM	**Songino Array**	**53.45**	**305**	P	**P**	**14 06 02.7**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=23,slow=6.1,SNR=20						
SONM	**Songino Array**	**53.45**	**305**	P	**P**	**14 06 02.7**	**+1.3**
NOA	**NORSAR Array B**	**54.96**	**10**	P	**P**	**14 06 12.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=23,slow=12,SNR=2.7						
NOA	**NORSAR Array B**	**54.96**	**10**	P	**P**	**14 06 12.1**	**+0.1**
ZAA0	**Zalesovo Array**	**55.03**	**323**	*e*P	**P**	**14 06 12.8**	**+0.2**
ZALV	**Zalesovo Beam**	**55.03**	**323**	P	**P**	**14 06 12.5**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=38,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**55.03**	**323**	P	**P**	**14 06 12.5**	**-0.1**
FINES	**FINESS Array B**	**55.26**	**2**	P	**P**	**14 06 14.2**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=298,slow=4.1,SNR=9.8						
FINES	**FINESS Array B**	**55.26**	**2**	P	**P**	**14 06 14.2**	**+0.1**
HHC	**Hu-ho-hao-te**	**57.38**	**297**	*e*P	**P**	**14 06 29.1**	**-0.6**
HHC				sP	**sP**	**14 06 35.8**	**+0.5**
HHC				PcP	**PcP**	**14 07 22.9**	**-0.6**
HHC				PP	**PP**	**14 08 37.8**	**+1.2**
HHC				S	**S**	**14 14 22.8**	**-3.0**
HHC				sS	**sS**	**14 14 28.8**	**-3.7**
HHC				ScS	**ScS**	**14 16 14.5**	**-4.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.6s						
HHC				LR	LR		
	comp=N,340nm,17.8s						
HHC				LR	LR		
	comp=E,340nm,19.0s						
HHC				LR	LR		
	comp=Z,280nm,17.8s						
ARU	**Arti**	**58.14**	**341**	*e*P	**P**	**14 06 34.6**	**-0.1**
	comp=Z,7.5nm,0.6s						
BRVK	**Borovoye**	**59.30**	**332**	*e*P	**P**	**14 06 42.5**	**-0.3**
	comp=Z,6.7nm,0.8s						
MK31	**Makanchi Array**	**62.19**	**321**	*e*P	**P**	**14 07 00.9**	**-1.7**
MKAR	**Makanchi Array**	**62.19**	**321**	P	**P**	**14 07 01.9**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=46,slow=6.9,SNR=25						
MKAR	**Makanchi Array**	**62.19**	**321**	P	**P**	**14 07 01.9**	**-0.8**
GTA	**Gaotai**	**63.13**	**305**	*e*P	**P**	**14 07 09.8**	**+0.7**
GTA				pP	**pP**	**14 07 14.3**	**+1.1**
GTA				sP	**sP**	**14 07 17.3**	**+2.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LZH	**Lanzhou**	**64.53**	**300**	*e*P	**P**	**14 07 19.8**	**+1.4**
LZH				pP	**pP**	**14 07 26.0**	**+3.5**
LZH				sP	sP	14 07 28.5	+4.4
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ABKAR	**Akbulak array**	**64.87**	**338**	*e*P	**P**	**14 07 19.8**	**-0.4**
	comp=Z,6.0nm,0.6s						
LDF	**La Druitiere**	**65.82**	**21**	*e*P	**P**	**14 07 26.2**	**-0.2**
GRR	**Gorron**	**65.90**	**21**	*e*P	**P**	**14 07 26.4**	**-0.5**
AKASG	**Malin Array Be**	**66.04**	**360**	P	**P**	**14 07 29.0**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=2.3,slow=6.8,SNR=6.3						
AKASG	**Malin Array Be**	**66.04**	**360**	P	**P

JSJ				S	Sn	14 26 52.2	-0.8
JZO	**Okuchi**	**2.12**	**343**	P	Pn	14 26 29.7	+1.2
JZO				S	Sn	14 26 54.9	+1.1

*ISK **17** 14:32:58.9, 39.52N×29.12E, h5km, MD2.8, ML2.3*
*ISCJB **17** 14:32:59.3±0.4, 39.53N±0.02×29.12E±0.03, h1km±6km, Error ellipse: s-maj=4.3km s-min=3.3km az=1.6*
*DDA **17** 14:32:59.1, 39.54N×29.14E, h7km, MD2.9*
*CSEM **17** 14:32:59.6±0.1, 39.54N×29.12E, h5km, MD2.9, Error ellipse: s-maj=2.5km s-min=1.8km az=92.0*
ISC 17 14:32:59.5±1.0, 39.53N±0.02×29.12E±0.02, h11km±9km, n38, σ0.34/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.50**	**278**	*i* P	**Pg**	**14 33 09.6**	**+0.3**
DURS				*i* S	**Sg**	**14 33 16.2**	**+0.3**
DURS	**Dursunbey**	**0.50**	**278**	*i* P	**Pg**	**14 33 09.6**	**+0.3**
DURS				*i* S	**Sg**	**14 33 16.2**	**+0.3**
GDZ	**Gediz**	**0.53**	**147**	*i* P	**Pg**	**14 33 09.9**	**+0.2**
GDZ				*i* S	**Sg**	**14 33 17.2**	**+0.5**
GDZ	**Gediz**	**0.53**	**147**	*i* P	**Pg**	**14 33 09.9**	**+0.2**
GDZ				*i* S	**Sg**	**14 33 17.2**	**+0.5**
DEMI	**Demirci**	**0.58**	**213**	*i* P	**Pb**	**14 33 11.4**	**-0.3**
DEMI				*i* S	**Sb**	**14 33 19.3**	**-0.7**
DEMI	**Demirci**	**0.58**	**213**	*i* P	**Pb**	**14 33 11.4**	**-0.3**
DEMI				*i* S	**Sb**	**14 33 19.3**	**-0.7**
ULDT	**Uludag**	**0.61**	**1**	*i* P	**Pg**	**14 33 11.0**	**-0.3**
ULDT				*i* S	**Sg**	**14 33 18.8**	**-0.6**
ULDT	**Uludag**	**0.61**	**1**	*i* P	**Pg**	**14 33 11.0**	**-0.3**
ULDT				*i* S	**Sg**	**14 33 18.8**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.85**	**348**	*e*PG	**Pg**	**14 33 15.3**	**-0.6**
MDNY				*e*SG	**Sb**	**14 33 28.3**	**+0.5**
MDNY	**Mudanya-Bursa**	**0.85**	**348**	*e*Pg	**Pg**	**14 33 15.3**	**-0.6**
MDNY				*e*Sg	**Sb**	**14 33 28.3**	**+0.5**
CAVI	**Cavuskoy**	**0.87**	**40**	*e*PG	**Pg**	**14 33 16.1**	**-0.2**
CAVI				*e*SG	**Sb**	**14 33 28.9**	**+0.6**
CAVI	**Cavuskoy**	**0.87**	**40**	*e*Pg	**Pg**	**14 33 16.1**	**-0.2**
CAVI				*e*Sg	**Sb**	**14 33 28.9**	**+0.6**
GEMT	**Gemlik**	**0.90**	**3**	*e*PG	**Pb**	**14 33 17.6**	**+0.5**
GEMT				*e*SG	**Sn**	**14 33 31.2**	**+0.1**
GEMT	**Gemlik**	**0.90**	**3**	*e*Pg	**Pb**	**14 33 17.7**	**+0.5**
GEMT				*e*Sg	**Sn**	**14 33 31.2**	**+0.1**
ALT	**Altintas**	**0.91**	**121**	*e*PG	**Pb**	**14 33 17.3**	**+0.1**
ALT				*e*SG	**Sb**	**14 33 29.0**	**-0.4**
ALT	**Altintas**	**0.91**	**121**	*e*Pg	**Pb**	**14 33 17.3**	**+0.1**
ALT				*e*Sg	**Sb**	**14 33 29.0**	**-0.4**
ADVT	**Abdulvahap**	**1.02**	**28**	*e*PG	**Pg**	**14 33 18.9**	**-0.2**
ADVT	**Abdulvahap**	**1.02**	**28**	*e*Pg	**Pg**	**14 33 18.9**	**-0.2**
ARMT	**Armutlu**	**1.05**	**349**	*e*PG	**Pg**	**14 33 19.5**	**-0.2**
ARMT	**Armutlu**	**1.05**	**349**	*e*Pg	**Pg**	**14 33 19.5**	**-0.2**
YLV	**Yalova**	**1.05**	**11**	*e*PG	**Pb**	**14 33 19.8**	**+0.1**
YLV	**Yalova**	**1.05**	**11**	*e*Pg	**Pb**	**14 33 19.8**	**+0.1**
KULA	**Kula-Manisa**	**1.08**	**199**	*e*PG	**Pg**	**14 33 20.2**	**0.0**
KULA	**Kula-Manisa**	**1.08**	**199**	*e*Pg	**Pg**	**14 33 20.2**	**0.0**
MANT	**Manisa**	**1.13**	**203**	*i* P	**Pn**	**14 33 21.5**	**+0.1**
MANT				*i* S	**Sg**	**14 33 35.9**	**0.0**
MANT	**Manisa**	**1.13**	**203**	*i* P	**Pn**	**14 33 21.5**	**+0.1**
MANT				*i* S	**Sg**	**14 33 35.9**	**0.0**
KHAL	**Karahalli**	**1.20**	**166**	*i* P	**Pg**	**14 33 22.5**	**0.0**
KHAL				*i* S	**Sn**	**14 33 38.6**	**0.0**
KHAL	**Karahalli**	**1.20**	**166**	*i* P	**Pg**	**14 33 22.5**	**0.0**
KHAL				*i* S	**Sn**	**14 33 38.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.22**	**295**	*e*PN	**Pn**	**14 33 22.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.22**	**295**	*e*Pn	**Pn**	**14 33 22.5**	**+0.1**
SEYT	**Eskypehyr**	**1.34**	**90**	*i* P	**Pn**	**14 33 24.1**	**-0.1**
SEYT				*i* S	**Sg**	**14 33 42.5**	**-0.1**
SEYT	**Eskypehyr**	**1.34**	**90**	*i* P	**Pn**	**14 33 24.1**	**-0.1**
SEYT				*i* S	**Sg**	**14 33 42.5**	**-0.1**
HRT	**Hereke**	**1.35**	**18**	*e*PN	**Pg**	**14 33 25.6**	**+0.1**
HRT	**Hereke**	**1.35**	**18**	*e*Pn	**Pg**	**14 33 25.6**	**+0.1**
GULT	**Gulveren**	**1.40**	**50**	*e*PN	**Pg**	**14 33 26.1**	**-0.2**
GULT	**Gulveren**	**1.40**	**50**	*e*Pn	**Pg**	**14 33 26.1**	**-0.2**
MFT	**Murefte**	**1.88**	**312**	*e*PN	**Pb**	**14 33 33.6**	**-0.3**
MFT	**Murefte**	**1.88**	**312**	*e*Pn	**Pb**	**14 33 33.6**	**-0.3**

*NIED **17** 14:36:00, 25.00N×141.20E, h119km, Mw4.2 Best double couple: M0 1.89000×10^15 NP1:φs37.00000°, δ65.00000°, λ,64.00000°. NP2:φs265.00000°, δ36.00000°, λ,132.00000°.*
*ISCJB **17** 14:36:22.0±0.8, 25.01N±0.05×141.54E±0.09, h156km±7km, mb4.2/32, Error ellipse: s-maj=13.0km s-min=7.7km az=167.3*
*IDC **17** 14:36:22.4±0.7, 24.87N×141.28E, h142km±6km, mb3.7/15, mb1 3.9/16, mb1mx3.7/24, mbtmpg3.7/16, Error ellipse: s-maj=17.2km s-min=10.8km az=98.0*
*NEIC **17** 14:36:22.3±0.4, 24.83N×141.51E, mb4.8/15, MW4.1(NIED), Error ellipse: s-maj=10.3km s-min=8.9km az=88.0*
*JMA **17** 14:36:23.9±0.2, 25.03N×141.19E, h131km, M4.6*
ISC 17 14:36:22.7±0.7, 24.95N±0.07×141.38E±0.10, h144km±5km, h144km:pP-P, n88, σ1.52/110, mb4.3/32, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.82**	**23**	P	**Pn**	**14 36 56.0**	**+0.7**
JHHJ				*e*S	**Sn**	**14 37 20.8**	**+0.4**
CBIJ	**Chichi jima**	**2.25**	**19**	P	**Pn**	**14 37 00.8**	**+0.3**
	96nm,0.3s,baz=205,slow=1.4,SNR=208						
CBIJ				S	**Sn**	**14 37 28.7**	**-0.9**
	396nm,0.3s,baz=249,slow=22,SNR=28						
CBIJ	**Chichi jima**	**2.25**	**19**	P	**Pn**	**14 37 00.8**	**+0.3**
CBIJ				S	**Sn**	**14 37 28.7**	**-0.9**
CBIJ	**Chichi jima**	**2.25**	**19**	P	**Pn**	**14 37 01.5**	**+1.0**
CBIJ				*e*S	**Sn**	**14 37 29.5**	**-0.1**
JHJ2	**Mitsune**	**8.24**	**351**	P	**Pn**	**14 38 19.3**	**0.0**
JHJ2				*e*S	**Sn**	**14 39 47.5**	**-3.5**
BSO1	**Boso 1**	**9.67**	**358**	P	**Pn**	**14 38 36.2**	**-1.7**
BSO4	**Boso 4**	**10.04**	**355**	P	**Pn**	**14 38 41.9**	**-1.3**
BSO4				*e*S	**Sn**	**14 40 30.5**	**-3.7**
HMMJ	**Hamamatsu 2**	**10.37**	**343**	P	**Pn**	**14 38 48.4**	**+0.8**
HMMJ				*e*S	**Sn**	**14 40 42.6**	**+0.4**
JOD2	**Odawara 2**	**10.46**	**350**	P	**Pn**	**14 38 47.8**	**-1.1**
JOD2				*e*S	**Sn**	**14 40 41.6**	**-3.0**
JRY	**Ryogami san**	**11.23**	**350**	P	**Pn**	**14 38 57.2**	**-1.9**
MJAR	**Matsushiro Arr**	**11.87**	**347**	P	**Pn**	**14 39 05.1**	**-2.3**
	2.1nm,0.3s,baz=160,slow=11,SNR=32						
MJAR				S	**Sn**	**14 41 14.4**	**-4.1**
	0.3nm,0.3s,baz=188,slow=28,SNR=3.7						
MJAR	**Matsushiro Arr**	**11.87**	**347**	P	**Pn**	**14 39 05.1**	**-2.3**
MJAR				S	**Sn**	**14 41 14.4**	**-4.1**
MAJO	**Matsushiro**	**11.87**	**347**	*e*Pn	Pn	14 39 03.0	-4.4
	6.0nm,0.3s						
MAT	**Matsushiro**	**11.87**	**347**	P	**Pn**	**14 39 05.1**	**-2.3**
MAT				*e*S	**Sn**	**14 41 21.3**	**+2.9**
MAT	**Matsushiro**	**11.87**	**347**	P	**Pn**	**14 39 07.0**	**-0.4**
JMK	**Ichinoseki**	**13.96**	**359**	P	**Pn**	**14 39 31.5**	**-2.7**
KSRS	**Korea Array**	**16.94**	**321**	P	**Pn**	**14 40 13.3**	**+2.2**
	0.2nm,0.3s,baz=137,slow=12,SNR=18						
KSAR	**Wonju Array Be**	**16.95**	**320**	P	**Pn**	**14 40 13.3**	**+2.0**
ASAJ	**Asahikawa**	**19.14**	**3**	P	**Pn**	**14 40 39.5**	**+2.3**
	1.6nm,0.3s,baz=232,slow=4.3,SNR=18						
ASAJ	**Asahikawa**	**19.14**	**3**	P	**Pn**	**14 40 39.5**	**+2.3**
CMAR	**Chiang Mai Arr**	**39.83**	**269**	P	**P**	**14 43 42.8**	**+0.6**
	0.7nm,0.7s,baz=62,slow=6.9,SNR=6.0						
CMAR	**Chiang Mai Arr**	**39.83**	**269**	P	**P**	**14 43 42.8**	**+0.6**
WRAB	**Tennant Creek**	**45.14**	**189**	*e*P	**P**	**14 44 23.6**	**-1.3**
	22nm,0.5s						
WB2	**Warramunga Arr**	**45.15**	**189**	*e*P	**P**	**14 44 24.0**	**-1.0**
WRA	**Warramunga Arr**	**45.15**	**189**	P	**P**	**14 44 24.0**	**-1.1**
	16nm,0.3s,baz=7.5,slow=8.7,SNR=490						
WRA				PcP	**PcP**	**14 46 03.0**	**-0.1**
	1.4nm,0.6s,baz=0.6,slow=3.5,SNR=6.6						
WRA	**Warramunga Arr**	**45.15**	**189**	P	**P**	**14 44 24.0**	**-1.1**
WRA				PcP	**PcP**	**14 46 03.0**	**-0.1**
TAPN	**Taplejung**	**47.93**	**285**	*e*P	**P**	**14 44 49.5**	**+2.4**
	3.7nm,0.3s						
TAPN	**Taplejung**	**47.93**	**285**	*e*P	**P**	**14 44 49.5**	**+2.4**
	3.7nm,0.3s						
ODAN	**Odare**	**48.29**	**285**	*e*P	**P**	**14 44 51.3**	**+1.4**
	13nm,0.3s						
ODAN	**Odare**	**48.29**	**285**	*e*P	**P**	**14 44 51.3**	**+1.4**
	13nm,0.3s						
AS31	**Alice Springs**	**48.87**	**189**	*e*P	**P**	**14 44 51.7**	**-2.2**
ASAR	**Alice Springs**	**48.87**	**189**	P	**P**	**14 44 52.4**	**-1.6**
	1.7nm,0.6s,baz=0.6,slow=5.7,SNR=38						
ASAR				PcP	**PcP**	**14 46 15.7**	**-0.6**
	0.9nm,0.8s,baz=22,slow=3.3,SNR=6.3						
ASAR	**Alice Springs**	**48.87**	**189**	P	**P**	**14 44 52.4**	**-1.6**
ASAR				PcP	**PcP**	**14 46 15.7**	**-0.6**
RAMN	**Ramite**	**48.97**	**285**	*e*P	**P**	**14 44 56.5**	**+1.4**
	5.9nm,0.4s						
RAMN	**Ramite**	**48.97**	**285**	*e*P	**P**	**14 44 56.5**	**+1.4**
	5.9nm,0.4s						
JIRN	**Jiri**	**49.20**	**286**	*e*P	**P**	**14 44 58.7**	**+1.7**
	27nm,0.4s						
JIRN	**Jiri**	**49.20**	**286**	*e*P	**P**	**14 44 58.7**	**+1.7**
	27nm,0.4s						
GUN	**Gumba**	**49.43**	**286**	*e*P	**P**	**14 45 00.5**	**+1.8**
	22nm,0.4s						
GUN	**Gumba**	**49.43**	**286**	*e*P	**P**	**14 45 00.5**	**+1.8**
	22nm,0.4s						
KKN	**Kakani**	**49.98**	**286**	*e*P	**P**	**14 45 04.0**	**+1.4**
	4.2nm,0.3s						
KKN	**Kakani**	**49.98**	**286**	*e*P	**P**	**14 45 04.0**	**+1.4**
	4.2nm,0.3s						
DMN	**Daman**	**50.16**	**286**	*e*P	**P**	**14 45 05.7**	**+1.6**
	5.9nm,0.3s						
DMN	**Daman**	**50.16**	**286**	*e*P	**P**	**14 45 05.7**	**+1.6**
	5.9nm,0.3s						
GKN	**Gorkha**	**50.50**	**287**	*e*P	**P**	**14 45 08.2**	**+1.7**
	4.6nm,0.3s						
GKN	**Gorkha**	**50.50**	**287**	*e*P	**P**	**14 45 08.2**	**+1.7**
	4.6nm,0.3s						
ZALV	**Zalesovo Beam**	**50.65**	**320**	P	**P**	**14 45 06.6**	**-0.3**
	0.5nm,0.3s,baz=109,slow=7.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**50.65**	**320**	P	**P**	**14 45 06.7**	**-0.3**
DANN	**Dangsing**	**51.20**	**287**	*e*P	**P**	**14 45 13.7**	**+1.8**
	38nm,0.4s						
DANN	**Dangsing**	**51.20**	**287**	*e*P	**P**	**14 45 13.7**	**+1.8**
	38nm,0.4s						
MK31	**Makanchi Array**	**51.30**	**311**	*e*P	**P**	**14 45 10.3**	**-1.8**
MKAR	**Makanchi Array**	**51.30**	**311**	P	**P**	**14 45 12.5**	**+0.4**
	0.9nm,0.5s,baz=85,slow=8.0,SNR=27						
MKAR	**Makanchi Array**	**51.30**	**311**	P	**P**	**14 45 12.5**	**+0.4**
KOLN	**Koldanda**	**51.44**	**287**	*e*P	**P**	**14 45 14.9**	**+1.3**
	15nm,0.7s						
KOLN	**Koldanda**	**51.44**	**287**	*e*P	**P**	**14 45 14.9**	**+1.3**
	15nm,0.7s						
STKA	**Stephens Creek**	**56.51**	**180**	P	**P**	**14 45 48.5**	**-1.4**
	5.5nm,0.5s,baz=354,slow=7.0,SNR=37						
STKA	**Stephens Creek**	**56.51**	**180**	P	**P**	**14 45 48.5**	**-1.4**
KKAR	**Karatay Array**	**59.77**	**307**	*e*P	**P**	**14 46 12.0**	**-0.5**
	2.3nm,0.5s						
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**14 46 13.6**	**+0.3**
	1.7nm,0.7s,baz=254,slow=5.9,SNR=23						
ILAR				pP	**pP**	**14 46 47.9**	**+0.5**
	1.4nm,0.8s,baz=258,slow=5.9,SNR=5.7						
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**14 46 13.6**	**+0.3**
ILAR				pP	**pP**	**14 46 47.9**	**+0.5**
INK	**Inuvik**	**65.27**	**24**	P	**P**	**14 46 49.5**	**+0.9**
	1.2nm,0.4s,baz=292,slow=7.1,SNR=16						
INK	**Inuvik**	**65.27**	**24**	P	**P**	**14 46 49.5**	**+0.9**
ABKAR	**Akbulak array**	**66.08**	**315**	*e*P	**P**	**14 46 53.5**	**-0.6**
	1.1nm,0.7s						
RES	**Resolute Bay**	**74.30**	**13**	P	**P**	**14 47 44.8**	**+1.0**
	2.7nm,0.7s,baz=337,slow=6.3,SNR=12						
RES	**Resolute Bay**	**74.30**	**13**	P	**P**	**14 47 44.8**	**+1.0**
YKA	**Yellowknife Ar**	**74.36**	**28**	P	**P**	**14 47 45.1**	**+0.8**
	1.1nm,0.4s,baz=294,slow=6.0,SNR=32						
YKA				pP	**pP**	**14 48 19.7**	**0.0**
	0.1nm,0.4s,baz=234,slow=24,SNR=2.1						
YKA	**Yellowknife Ar**	**74.36**	**28**	P	**P**	**14 47 45.1**	**+0.8**
YKA				pP	**pP**	**14 48 19.7**	**0.0**
ARCES	**ARCESS Array B**	**75.32**	**341**	P	**P**	**14 47 49.5**	**-0.2**
	5.5nm,0.9s,baz=74,slow=8.6,SNR=11						
ARCES	**ARCESS Array B**	**75.32**	**341**	P	**P**	**14 47 49.5**	**-0.2**
JOF	**Joensuu**	**76.67**	**334**	*e*p	**P**	**14 47 55.9**	**-1.5**
	2.4nm,0.6s						
JOF	**Joensuu**	**76.67**	**334**	*e*p	**P**	**14 47 55.9**	**-1.5**
	2.4nm,0.6s						
KAF	**Kangasniemi**	**79.08**	**334**	*e*p	**P**	**14 48 09.4**	**-1.4**
	1.4nm,0.5s						
KAF	**Kangasniemi**	**79.08**	**334**	*e*p	**P**	**14 48 09.4**	**-1.4**
	1.4nm,0.5s						
FINES	**FINESS Array B**	**79.54**	**334**	P	**P**	**14 48 12.2**	**-1.1**
	1.2nm,0.3s,baz=64,slow=5.7,SNR=30						
FINES				pP	**pP**	**14 48 48.6**	**-0.5**
	3.3nm,0.9s,baz=85,slow=6.1,SNR=2.3						
FINES	**FINESS Array B**	**79.54**	**334**	P	**P**	**14 48 12.2**	**-1.1**
FINES				pP	**pP**	**14 48 48.6**	**-0.5**
CMB	**Columbia Colle**	**81.10**	**52**	*e*P	**P**	**14 48 21.1**	**-1.1**
	1.9nm,0.3s						
NVAR	**Mina Array Bea**	**82.41**	**51**	P	**P**	**14 48 30.4**	**+1.1**
	0.8nm,0.8s,baz=297,slow=5.0,SNR=7.0						
NVAR				pP	**pP**	**14 49 05.8**	**+0.5**
	0.5nm,0.6s,baz=289,slow=7.1,SNR=3.4						
NVAR	**Mina Array Bea**	**82.41**	**51**	P	**P**	**14 48 30.4**	**+1.1**
NVAR				pP	**pP**	**14 49 05.8**	**+0.5**
AKASG	**Malin Array Be**	**83.91**	**324**	P	**P**	**14 48 35.1**	**-1.2**
	0.7nm,0.5s,baz=53,slow=5.0,SNR=3.2						
AKASG	**Malin Array Be**	**83.91**	**324**	P	**P**	**14 48 35.1**	**-1.2**
NB2	**NORSAR Subarra**	**85.32**	**338**	P	**P**	**14 48 41.5**	**-1.8**
	comp=Z,2.3nm,1.1s,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**85.32**	**338**	P	**P**	**14 48 42.6**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=30,slow=3.5,SNR=4.9						
NOA	**NORSAR Array B**	**85.32**	**338**	P	**P**	**14 48 42.6**	**-0.7**
PDAR	**Pinedale Array**	**86.24**	**44**	P	**P**	**14 48 49.4**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=20,slow=2.2,SNR=4.4						
PDAR	**Pinedale Array**	**86.24**	**44**	P	**P**	**14 48 49.4**	**+0.9**
PLCA	**Paso Flores**	**149.11**	**128**	PKPbc	**PKPbc**	**14 55 54.1**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=237,slow=8.4,SNR=5.0						
PLCA	**Paso Flores**	**149.11**	**128**	PKPbc	**PKPbc**	**14 55 54.1**	**-0.1**
LPAZ	**La Paz**	**151.12**	**78**	PKPbc	**PKPbc**	**14 56 00.5**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=5.6,slow=4.2,SNR=8.9						
LPAZ	**La Paz**	**151.12**	**78**	PKPbc	**PKPbc**	**14 56 00.5**	**+0.2**

*ISK **17** 15:03:55.5, 37.29N×28.12E, h5km, ML1.9*
*DDA **17** 15:03:56.9, 37.21N×28.20E, h7km, MD2.5*
*ISCJB **17** 15:03:57.2±0.6, 37.20N±0.04×28.19E±0.05, h11km±6km, Error ellipse: s-maj=8.0km s-min=5.4km az=39.0*
*CSEM **17** 15:03:57.3±0.3, 37.23N×28.21E, h10km, MD2.5, Error ellipse: s-maj=8.6km s-min=5.5km az=53.0*
ISC 17 15:03:56.9±0.9, 37.21N±0.03×28.22E±0.04, h16km±6km, n16, σ0.63/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.09**	**146**	*e*PG	**Pg**	**15 04 00.0**	**-0.3**
YER				*e*SG	**Sg**	**15 04 03.2**	**+0.6**
YER	**Yerkesik**	**0.09**	**146**	*e*Pg	**Pg**	**15 04 00.0**	**-0.3**
YER				*e*Sg	**Sg**	**15 04 03.2**	**+0.6**
TURN	**Turunc**	**0.46**	**138**	*i* P	**Pg**	**15 04 05.6**	**-0.5**
TURN				*e*S	**Sg**	**15 04 11.2**	**-1.1**
TURN	**Turunc**	**0.46**	**138**	*i* P	**Pg**	**15 04 05.6**	**-0.5**
TURN				*e*S	**Sg**	**15 04 11.2**	**-1.1**
AYDN	**Tasoluk**	**0.52**	**329**	*i* P	**Pg**	**15 04 07.3**	**0.0**
AYDN				*i* S	**Sg**	**15 04 14.1**	**-0.3**
AYDN	**Tasoluk**	**0.52**	**329**	*i* P	**Pg**	**15 04 07.3**	**0.0**
AYDN				*i* S	**Sg**	**15 04 14.1**	**-0.3**
BDRM	**Kayabasi**	**0.63**	**257**	*i* P	**Pb**	**15 04 09.6**	**0.0**
BDRM				*i* S	**Sb**	**15 04 18.1**	**-0.1**
BDRM	**Kayabasi**	**0.63**	**257**	*i* P	**Pb**	**15 04 09.6**	**0.0**
BDRM				*i* S	**Sb**	**15 04 18.1**	**-0.1**
FETY	**Fethiye**	**0.90**	**129**	*e*PG	**Pn**	**15 04 16.2**	**+1.3**
FETY	**Fethiye**	**0.90**	**129**	*e*Pg	**Pn**	**15 04 16.2**	**+1.3**
MANT	**Manisa**	**1.30**	**12**	*i* P	**Pg**	**15 04 22.4**	**+0.3**
MANT				*i* S	**Sg**	**15 04 39.2**	**+0.1**
MANT	**Manisa**	**1.30**	**12**	*i* P	**Pg**	**15 04 22.4**	**+0.3**
MANT				*i* S	**Sg**	**15 04 39.2**	**+0.1**
KULA	**Kula-Manisa**	**1.35**	**15**	*e*PN	**Pn**	**15 04 20.4**	**-0.7**
KULA	**Kula-Manisa**	**1.35**	**15**	*e*Pn	**Pn**	**15 04 20.4**	**-0.7**
ELL	**Elmali**	**1.43**	**108**	*e*PN	**Pg**	**15 04 24.4**	**-0.1**
ELL	**Elmali**	**1.43**	**108**	*e*Pn	**Pg**	**15 04 24.4**	**-0.1**

*ISCJB **17** 15:16:12.3±1.3, 24.00N±0.05×122.87E±0.03, h5km±9km, Error ellipse: s-maj=9.0km s-min=3.9km az=4.7*
*TAP **17** 15:16:13.5, 23.99N×122.81E, h13km±2km, ML2.9, D*
*JMA **17** 15:16:13.0±0.2, 24.05N×122.85E, h15km*
ISC 17 15:16:12.6±1.3, 24.02N±0.06×122.88E±0.02, h11km±11km, n20, σ0.57/31, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.46**	**16**	P	**Pg**	**15 16 21.7**	**+0.1**
YOJ				*e*S	**Sg**	**15 16 27.7**	**0.0**
IRIF	**Iriomote-Funau**	**0.84**	**68**	P	**Pg**	**15 16 28.8**	**0.0**
IRIF				S	**Sb**	**15 16 40.4**	**0.0**
HATJ	**Hateruma jima**	**0.85**	**87**	P	**Pg**	**15 16 29.2**	**+0.2**
HATJ				*e*S	**Sb**	**15 16 41.6**	**+0.9**
JKRS	**Kuro-shima**	**1.06**	**78**	P	**Pb**	**15 16 33.0**	**+0.1**
TWC	**Suao**	**1.11**	**302**	P	**Pb**	**15 16 33.2**	**-0.5**
	baz=308						
TWC				*e*S	**Sg**	**15 16 48.1**	**-0.2**
	baz=308						
ENA	**Nanau**	**1.11**	**292**	*e*P	**Pb**	**15 16 33.2**	**-0.7**
	baz=308						
ENA				*e*S	**Sg**	**15 16 48.2**	**-0.3**
	baz=308						
HWA	**Hwalien**	**1.16**	**268**	*e*P	**Pg**	**15 16 35.4**	**+0.4**
	baz=270						
TWD	**Chiawan**	**1.17**	**273**	*e*P	**Pb**	**15 16 34.3**	**-0.5**
	baz=277						
JIJ	**Ishigaki jima**	**1.21**	**73**	P	**Pn**	**15 16 34.9**	**-0.4**
TWB1	**Santiao Chiao**	**1.27**	**321**	*e*P	**Pg**	**15 16 37.1**	**0.0**
	baz=326						
TWE	**Neicheng**	**1.31**	**303**	*e*P	**Pb**	**15 16 36.9**	**-0.2**
	baz=307						
TWE				*e*S	**Sg**	**15 16 54.4**	**-0.2**
	baz=307						
ENTT	**Nioudou**	**1.35**	**298**	*e*P	**Pb**	**15 16 37.9**	**+0.1**
	baz=311						
ENTT				*e*S	**Sb**	**15 16 54.9**	**-0.1**
	baz=311						
NNS	**Nan Shan**	**1.44**	**287**	*e*P	**Pb**	**15 16 39.5**	**+0.1**
	baz=291						
NNS				*e*S	**Sb**	**15 16 57.7**	**0.0**
	baz=291						
NWF	**Wu-fen Shan**	**1.45**	**317**	*e*P	**Pb**	**15 16 39.4**	**-0.2**
	baz=321						
WHF	**Hehuan Shan**	**1.48**	**275**	*e*P	**Pn**	**15 16 38.9**	**-0.6**
	baz=278						
TWA	**Mucha**	**1.52**	**309**	*e*P	**Pg**	**15 16 43.6**	**+1.8**
	baz=330						
NSK	**Sanguang**	**1.53**	**296**	*e*P	**Pb**	**15 16 40.7**	**-0.3**
	baz=283						
NSK				*e*S	**Sn**	**15 16 59.6**	**-0.2**
	baz=283						
TWF1	**Yuli**	**1.59**	**246**	*e*P	**Pn**	**15 16 40.4**	**-0.3**
	baz=246						
TYC	**Yuchr**	**1.85**	**267**	*e*P	**Pb**	**15 16 45.4**	**-1.0**
	baz=269						
TYC				*e*S	**Sn**	**15 17 07.5**	**-0.1**
	baz=269						
CHN5	**Tsauling**	**2.06**	**259**	*e*P	**Pn**	**15 16 47.6**	**+0.4**
	baz=260						
CHN5				*e*S	**Sn**	**15 17 13.8**	**+0.9**
	baz=260						

*NNC **17** 15:36:12.0±12.0, 39.24N×73.60E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=111.7km s-min=51.0km az=154.0*
ISC 17 15:36:06.7±2.8, 38.7N±0.2×73.52E±0.10, h38km, n11, σ1.8/10/16, 3C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.10**	**65**	Pg	**Pn**	**15 36 39.0**	**-0.4**
KSH				Sg	Sn	15 36 54.6	-10
KSH				smax	smax		
	comp=N,130nm,0.5s						
KSH				smax	smax		
	comp=E,120nm,0.5s						
AML	**Almayashu**	**3.48**	**2**	P	**Pn**	**15 36 57.7**	**-1.0**
	SNR=40						
AML				P	**Pn**	**15 36 57.7**	**-1.0**
	SNR=40						
KZA	**Kyzart**	**3.67**	**21**	P	**Pn**	**15 37 01.5**	**+0.2**
	SNR=13						
KZA				P	**Pn**	**15 37 01.5**	**+0.2**
	SNR=13						
EKS2	**Erkin-Say**	**4.01**	**3**	P	**Pn**	**15 37 05.7**	**0.0**
	SNR=12						
EKS2				P	**Pn**	**15 37 05.7**	**0.0**
	SNR=12						
AAK	**Ala-Archa**	**4.05**	**10**	P	**Pn**	**15

LSP				*e*S	Sg	15 44 42.8	-1.5
CRPR	**Cabo Rojo, PR**	**0.90**	**196**⇑	*e*P	Pb	15 44 35.0	-2.4
CRPR	**Cabo Rojo, PR**	**0.90**	**196**	*e*S	Sb	15 44 46.9	-2.3
CRPR	**Cabo Rojo, PR**	**0.90**	**196**⇑	*e*P	Pb	15 44 35.0	-2.4
CRPR				*e*S	Sb	15 44 46.9	-2.3
SJG	**San Juan**	**1.00**	**139**	*e*Pn	Pb	15 44 35.6	-3.5
SJG				*e*Sn	Sb	15 44 49.7	-2.4
CBYP	**Canovanas**	**1.11**	**123**	*e*S	Sb	15 44 51.5	-3.9
CBYP	**Canovanas**	**1.11**	**123**	*e*Pn	Pb	15 44 40.2	-0.8
CBYP				*e*Sn	Sb	15 44 51.0	-4.4
HUMP	**Col San Antoni**	**1.19**	**128**⇑	*e*P	Pn	15 44 40.0	-2.2
HUMP	**Col San Antoni**	**1.19**	**128**	*e*S	Sb	15 44 53.7	-3.9
MTP	**Monte Pirata**	**1.45**	**122**⇑	*e*P	Pn	15 44 43.1	-2.6
MTP				*e*S	Sn	15 45 00.2	-4.2
MTP	**Monte Pirata**	**1.45**	**122**⇑	*e*P	Pn	15 44 43.2	-2.5
MTP	**Monte Pirata**	**1.45**	**122**	*e*S	Sn	15 44 59.8	-4.6
MTP	**Monte Pirata**	**1.45**	**122**	*e*Pn	Pn	15 44 44.9	-0.8
MTP				*e*Sn	Sn	15 45 00.1	-4.2
BBGH	**Gun Hill**	**9.03**	**128**	*e*Pn	Pn	15 46 27.5	-2.4
ROSC	**El Rosal**	**15.74**	**209**	*e*Pn	Pn	15 47 59.0	-2.8

*ISCJB **17** 16:03:33.1±0.2,43˙.95N±0˙.02×105˙.28W±0˙.03, h0km, Error ellipse: s-maj=2.9km s-min=2.3km az=152.5*
*NEIC **17** 16:03:33.9±0.3,43˙.98N×105˙.18W, h0km, ML3.0, Error ellipse: s-maj=4.5km s-min=4.0km az=198.0, Suspected Mining explosion.*
NEIC 45 km [25 miles] SE of Gillette.
*IDC **17** 16:03:33.4±1.3,44˙.00N×105˙.48W, h0km, mb1 3.5/4, mb1mx3.3/27, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=30.0km s-min=9.3km az=147.0*

ISC 17 16:03:33.4±0.6, 43˙.96N±0˙.02×105˙.26W±0˙.02, h0km, n81, σ1§07/91, 18C-15D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.14**	**272**	⇑P			**Pg**	**16 03 37.4**	**+1.2**
	baz=0.2,SNR=1000								
I24A	**Kuemmerle Ranc**	**0.47**	**102**	P			**Pb**	**16 03 43.5**	**-1.1**
	baz=0.4,SNR=153								
J23A	**Dilts Ranch, B**	**0.59**	**201**	⇑P			**Pg**	**16 03 45.1**	**+0.4**
	baz=0.6,SNR=93								
H23A	**Clabaugh Cattl**	**0.61**	**351**	⇑P			**Pg**	**16 03 46.0**	**+0.8**
	baz=0.6,SNR=23								
J24A	**Dixon Ranch, L**	**0.76**	**145**	⇓P			**Pg**	**16 03 48.7**	**+0.7**
	baz=0.7,SNR=268								
J24A				⇓S			**Sg**	**16 03 59.1**	**+1.3**
	baz=0.7								
I22A	**9 Mile Ranch,**	**0.89**	**266**	P			**Pg**	**16 03 50.5**	**+0.2**
	baz=0.9,SNR=259								
RSSD	**Black Hills**	**0.90**	**79**	*e*Pg			**Pg**	**16 03 50.6**	**0.0**
H24A	**Dirks Ranch, A**	**0.94**	**33**	P			**Pg**	**16 03 51.8**	**+0.4**
	baz=0.9,SNR=283								
H22A	**Clearmont**	**1.01**	**310**	⇑P			**Pg**	**16 03 53.2**	**+0.4**
	baz=1.0,SNR=254								
J22A	**Midwest**	**1.04**	**239**	⇑P			**Pg**	**16 03 52.6**	**-0.6**
	baz=1.1								
K23A	**Bowen Ranch, D**	**1.23**	**193**	⇑P			**Pg**	**16 03 56.7**	**-0.2**
	baz=1.3								
G23A	**Biddle**	**1.25**	**356**	⇓Pn			**Pg**	**16 03 57.4**	**0.0**
	baz=1.2,SNR=136								
K24A	**Anderson Ranch**	**1.28**	**165**	⇓P			**Pg**	**16 03 57.4**	**-0.4**
	baz=1.3								
K24A				⇑S			**Sg**	**16 04 15.0**	**+0.6**
	baz=1.3								
H21A	**Big Horn, Sher**	**1.44**	**298**	⇓Pb			**Pn**	**16 04 00.7**	**-0.2**
	baz=1.5,SNR=91								
G22A	**Birney**	**1.46**	**330**	Pb			**Pn**	**16 04 01.0**	**-0.1**
	baz=1.5,SNR=195								
I21A	**Big Trails, Te**	**1.47**	**265**	⇑Pn			**Pn**	**16 03 60.0**	**-1.4**
	baz=1.5								
I21A				⇓Sn			**Sn**	**16 04 19.7**	**-1.0**
	baz=1.5								
G24A	**Alzada**	**1.50**	**23**	⇓Pb			**Pg**	**16 04 02.1**	**0.0**
	baz=1.5,SNR=14								
K22A	**Casper**	**1.60**	**216**	⇓Pb			**Pn**	**16 04 02.9**	**-0.2**
	baz=1.6,SNR=46								
K25A	**Mack Ranch, Ha**	**1.69**	**142**	⇑Pb			**Pb**	**16 04 05.1**	**-0.3**
	baz=1.7,SNR=60								
K25A				⇓Sb			**Sg**	**16 04 27.3**	**-0.2**
	baz=1.7								
J21A	**Lysite**	**1.70**	**250**	Pb			**Pn**	**16 04 04.0**	**-0.4**
	baz=1.8,SNR=322								
J21A				⇓Sn			**Sn**	**16 04 25.4**	**-1.6**
	baz=1.8								
F23A	**Volborg**	**1.77**	**357**	Pb			**Pb**	**16 04 06.3**	**-0.5**
	baz=1.8,SNR=274								
F23A				⇓Sb			**Sg**	**16 04 30.8**	**+0.6**
	baz=1.8								
L23A	**Garrett**	**1.87**	**190**	⇑Pb			**Pn**	**16 04 07.5**	**+0.7**
	baz=1.9,SNR=308								
L23A				⇓Sb			**Sn**	**16 04 31.9**	**+0.6**
	baz=1.9								
G21A	**Lodge Grass**	**1.88**	**313**	Pb			**Pn**	**16 04 07.6**	**+0.7**
	baz=1.9,SNR=197								
L24A	**Wheatland**	**1.93**	**173**	⇑Pb			**Pb**	**16 04 08.7**	**-0.8**
	baz=1.9								
F22A	**Rosebud**	**1.96**	**339**	⇓Pb			**Pb**	**16 04 09.1**	**-0.8**
	baz=2.0,SNR=134								
F22A				⇑Sb			**Sg**	**16 04 35.9**	**-0.3**
	baz=2.0								
K21A	**Alcova**	**1.96**	**228**	⇑Pb			**Pn**	**16 04 08.9**	**+0.8**
	baz=2.0,SNR=650								
K21A				⇑Sb			**Sn**	**16 04 34.6**	**+1.0**
	baz=2.0								
K26A	**Motz Farm, Whi**	**1.97**	**129**	Pb			**Pb**	**16 04 09.3**	**-0.9**
	baz=1.9,SNR=36								
K26A				⇓Sb			**Sg**	**16 04 36.4**	**-0.3**
	baz=1.9								
F24A	**Ekalaka**	**1.98**	**17**	⇓Pb			**Pb**	**16 04 09.9**	**-0.4**
	baz=1.9,SNR=27								
L25A	**Engebretsen Ra**	**2.04**	**152**	⇑Pb			**Pb**	**16 04 10.7**	**-0.7**
	baz=2.0,SNR=10.0								
I20A	**Worland**	**2.07**	**271**	⇑Sb			**Sb**	**16 04 38.1**	**-0.1**
	baz=2.1								
L22A	**Ellis Ranch, M**	**2.11**	**204**	⇑Sb			**Sb**	**16 04 39.0**	**-0.4**
	baz=2.1								
J20A	**Shoshoni**	**2.13**	**255**	⇑Pb			**Pb**	**16 04 12.3**	**-0.8**
	baz=2.2,SNR=50								
PHWY	**Pilot Hill**	**2.66**	**183**	*e*Pn			**Pn**	**16 04 18.2**	**+0.4**
RWWY	**Rawlins**	**2.68**	**213**	*e*Pn			**Pn**	**16 04 19.5**	**+1.5**
RLMT	**Red Lodge**	**3.09**	**294**	*e*Pn			**Pn**	**16 04 23.9**	**+0.2**
BW06	**Boulder Array**	**3.35**	**251**	*e*Pn			**Pn**	**16 04 27.8**	**+0.6**
PDAR	**Pinedale Array**	**3.35**	**251**	Pn			**Pn**	**16 04 28.5**	**+1.3**
	2.7nm,0.3s,baz=72,slow=14,SNR=52								
PDAR				Pg			**Pb**	**16 04 33.2**	**-0.6**
	4.3nm,0.3s,baz=70,slow=20,SNR=54								
PDAR				Lg			Lg	16 05 15.5	
	7.4nm,0.3s,baz=70,slow=31,SNR=27								
PDAR	**Pinedale Array**	**3.35**	**251**	Pn			**Pn**	**16 04 28.5**	**+1.3**
PDAR				Pg			**Pb**	**16 04 33.2**	**-0.6**
PDAR				Lg			Lg	16 05 15.5	
PD02	**Pinedale Array**	**3.35**	**251**	*e*Pn			**Pn**	**16 04 28.3**	**+1.1**
PD01	**Pinedale Array**	**3.36**	**251**	*e*Pn			**Pn**	**16 04 28.1**	**+0.7**
GCMT	**Greycliff**	**3.63**	**302**	*e*Pn			**Pn**	**16 04 31.7**	**+0.7**
OGNE	**Ogallala**	**3.84**	**140**	*e*Pn			**Pn**	**16 04 34.2**	**+0.4**
LOHW	**Long Hollow**	**3.88**	**267**	*e*Pn			**Pn**	**16 04 37.3**	**+2.8**
FLWY	**Flagg Ranch**	**3.92**	**274**	*e*Pn			**Pn**	**16 04 36.1**	**+1.0**
YNR	**Norris Junctio**	**3.96**	**283**	*e*Pn			**Pn**	**16 04 38.1**	**+2.5**
MOOW	**Moose Ponds**	**3.97**	**269**	*e*Pn			Pn	16 04 40.0	+4.2
SNOW	**Snow King Moun**	**4.01**	**265**	*e*Pn			**Pn**	**16 04 37.5**	**+1.1**
YFT	**Old Faithful**	**4.04**	**279**	*e*Pn			**Pn**	**16 04 38.0**	**+1.4**
REDW	**Red Top Meadow**	**4.10**	**264**	*e*Pn			**Pn**	**16 04 39.7**	**+2.2**
YMR	**Madison River**	**4.15**	**282**	*e*Pn			**Pn**	**16 04 37.8**	**-0.5**
ISCO	**Idaho Springs**	**4.16**	**184**	*e*Pn			**Pn**	**16 04 39.8**	**+1.4**
RRI2	**Red Ridge**	**4.44**	**264**	*e*Pn			**Pn**	**16 04 43.4**	**+1.2**
DGMT	**Dagmar**	**4.58**	**9**	*e*Pn			**Pn**	**16 04 45.7**	**+1.8**
BOZ	**Bozeman (W)**	**4.84**	**293**	*e*Pn			**Pn**	**16 04 47.4**	**-0.2**
SMCO	**Snowmass**	**4.94**	**196**	*e*Pn			**Pn**	**16 04 49.6**	**+0.4**
EGMT	**Eagleton**	**5.13**	**324**	*e*Pn			**Pn**	**16 04 52.7**	**+1.1**
	15nm,0.5s								
HRY	**Holter Researc**	**5.39**	**303**	*e*Pn			**Pn**	**16 04 54.6**	**-0.5**
	14nm,0.4s								
MCMT	**McKenzie Canyo**	**5.51**	**282**	*e*Pn			Pb	16 05 05.9	-4.6
	1.3nm,0.4s								
DAU	**Daniels Canyon**	**5.69**	**234**	*e*Pn			**Pn**	**16 04 59.0**	**-0.4**
	5.5nm,0.4s								
HVU	**Hansel Valley**	**5.93**	**251**	Pn			**Pn**	**16 05 05.1**	**+2.4**
PV04	**Paradox Valley**	**6.20**	**208**	*e*Pn			**Pn**	**16 05 08.3**	**+2.0**
SDCO	**Great Sand Dun**	**6.21**	**182**	*e*Pn			**Pn**	**16 05 07.0**	**+0.4**
	1.2nm,0.8s								
SRU	**San Rafael**	**6.25**	**221**	*e*Pn			**Pn**	**16 05 07.0**	**0.0**
	12nm,0.3s								
ECSD	**EROS Data Cent**	**6.26**	**89**	*e*Pn			**Pn**	**16 05 07.0**	**0.0**
	8.8nm,0.4s								
PV01	**Paradox Valley**	**6.33**	**204**	*e*Pn			**Pn**	**16 05 09.9**	**+1.7**
	316nm,0.7s								
CHMT	**Chamberlain Mo**	**6.35**	**301**	*e*Pn			**Pn**	**16 05 08.9**	**+0.5**
	2.6nm,0.4s								
TMUT	**Trail Mountain**	**6.44**	**226**	*e*Pn			**Pn**	**16 05 10.9**	**+1.1**
	8.9nm,0.6s								
CBKS	**Cedar Bluff**	**6.61**	**139**	*e*Pn			**Pn**	**16 05 12.0**	**+0.2**
	9.4nm,0.6s								
DUG	**Dugway**	**6.76**	**239**	*e*Pn			**Pn**	**16 05 14.4**	**+0.5**
	1.6nm,0.4s								
YBMT	**Yellow Bay**	**7.24**	**306**	*e*Pn			**Pn**	**16 05 21.6**	**+1.0**
	6.3nm,0.7s								
MSU	**Marysvale**	**7.53**	**226**	*e*Pn			**Pn**	**16 05 26.0**	**+1.3**
	2.4nm,0.5s								
CCUT	**Cedar City**	**8.87**	**227**	*e*Pn			**Pn**	**16 05 44.5**	**+1.5**
	1.4nm,0.5s								
ULM	**Lac du Bonnet**	**8.97**	**42**	Pn			**Pn**	**16 05 43.1**	**-1.0**
	0.6nm,0.3s,baz=228,slow=10,SNR=6.3								
ULM				Pg			Pg	16 06 17.5	-7.7
	0.5nm,0.3s,baz=231,slow=16,SNR=4.1								
ULM				Lg			Lg	16 08 08.8	
	0.1nm,0.3s,baz=322,slow=19,SNR=2.1								
ULM	**Lac du Bonnet**	**8.97**	**42**	Pn			**Pn**	**16 05 43.1**	**-1.0**
ULM				Pg			Pg	16 06 17.5	-7.7
ULM				Lg			Lg	16 08 08.8	
NVAR	**Mina Array Bea**	**11.27**	**245**	Pn			**Pn**	**16 06 17.8**	**+2.0**
	0.0nm,0.3s,baz=62,slow=11,SNR=3.8								
NVAR	**Mina Array Bea**	**11.27**	**245**	Pn			**Pn**	**16 06 17.8**	**+2.0**
TXAR	**Lajitas Array**	**14.65**	**174**	Pn			**P**	**16 07 09.6**	**+1.1**
	0.0nm,0.3s,baz=0.0,slow=11,SNR=4.5								
TXAR				Pg			Pn	16 07 59.7	+58
	0.0nm,0.3s,baz=5.7,slow=13,SNR=2.6								
TXAR				Lg			Lg	16 11 12.1	
	0.0nm,0.3s,baz=353,slow=22,SNR=3.9								
TXAR	**Lajitas Array**	**14.65**	**174**	Pn			**P**	**16 07 09.6**	**+1.1**
TXAR				Pg			Pn	16 07 59.7	+58
TXAR				Lg			Lg	16 11 12.1	
MET	**Memphis--Engin**	**14.74**	**122**	Pn			**Pn**	**16 07 00.4**	**-2.6**
YKA	**Yellowknife Ar**	**19.36**	**347**	P			**P**	**16 07 60.0**	**-0.2**
	0.1nm,0.3s,baz=163,slow=10,SNR=4.0								
YKA	**Yellowknife Ar**	**19.36**	**347**	P			**P**	**16 08 00.0**	**-0.2**

*IDC **17** 16:07:19.8±0.7,12˙.96N×122˙.62E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, MS4.2/19, Ms1 4.2/19, ms1mx4.1/33, Error ellipse: s-maj=21.1km s-min=11.4km az=52.0*
*ISCJB **17** 16:07:21.1±0.3,13˙.07N±0˙.03×122˙.60E±0˙.04, h16km, mb4.2/24, MS4.2/16, Error ellipse: s-maj=6.1km s-min=4.2km az=158.6*
*MAN **17** 16:07:21, 13˙.07N×122˙.59E, h7km, mb4.8, ML3.8, MS3.8*
*NEIC **17** 16:07:21.0±0.4, 12˙.94N×122˙.51E, h10km, mb4.4/15, Error ellipse: s-maj=14.4km s-min=7.8km az=60.0*

ISC 17 16:07:22.4±0.5, 13˙.03N±0˙.03×122˙.62E±0˙.04, h16km, n78, σ1§34/63, mb4.2/25, MS4.1/16, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.30**	**11**	*e*P			**Pg**	**16 07 27.2**	**-1.6**
OTRP	**Odiongan**	**0.88**	**221**	*e*P			**Pg**	**16 07 38.7**	**-0.8**
GQP	**Guinayangan**	**0.89**	**349**⇑	*i*P			**Pb**	**16 07 36.8**	**-2.6**
GQP				*i*S			**Sn**	**16 07 53.7**	**+0.9**
MMPH	**Masbate**	**1.19**	**124**⇑	*e*P			**Pn**	**16 07 43.6**	**-0.8**
MMPH				*e*S			**Sg**	**16 08 01.4**	**+0.5**
RCP	**Roxas**	**1.46**	**175**⇓	*e*P			**Pb**	**16 07 48.3**	**-0.9**
LQP	**Lukban**	**1.50**	**316**	*e*P			**Pn**	**16 07 47.4**	**-1.5**
PVCP	**Virac**	**1.60**	**69**	*e*P			**Pn**	**16 07 50.6**	**+0.6**
TGY	**Tagaytay City**	**1.95**	**303**	Pn			**Pn**	**16 07 54.1**	**-0.8**
	158nm,0.3s,baz=342,slow=2.0,SNR=28								
TGY				Lg			Lg	16 08 21.9	
	208nm,0.3s,baz=133,slow=23,SNR=8.6								
TGY	**Tagaytay City**	**1.95**	**303**	Pn			**Pn**	**16 07 54.1**	**-0.8**
TGY				Lg			Lg	16 08 21.9	
GUIM	**Jordan**	**2.39**	**181**	*e*P			**Pn**	**16 08 01.8**	**+0.9**
LUBP	**Lubang**	**2.41**	**287**	*e*P			**Pn**	**16 08 01.2**	**0.0**
BUSP	**Coron**	**2.57**	**247**	*e*P			**Pn**	**16 08 03.6**	**+0.2**
CUYO	**Cuyo Island**	**2.67**	**216**	*e*P			**Pn**	**16 08 05.0**	**+0.2**
OCLP	**Ormoc**	**2.77**	**135**	*e*P			**Pb**	**16 08 11.1**	**-0.5**
BALP	**Baler**	**2.88**	**340**	*e*P			**Pn**	**16 08 07.8**	**+0.1**
ENPP	**El Nido**	**3.61**	**240**	*e*P			**Pn**	**16 08 18.6**	**+0.9**
MSLP	**Maasin**	**3.62**	**142**	*e*P			**Pn**	**16 08 19.9**	**+2.1**
BCPH	**Baguio City Da**	**3.87**	**330**⇑	*i*P			**Pb**	**16 08 32.9**	**+2.4**
CAUP	**Cauayan**	**3.97**	**349**	*e*P			**Pn**	**16 08 22.0**	**-0.7**
ABRA	**Dolores**	**4.95**	**338**	*e*P			**Pn**	**16 08 36.4**	**+0.3**
PIP	**Pasuquin**	**5.61**	**340**⇑	*e*P			**Pb**	**16 09 01.9**	**+1.9**
BUKP	**Musuan**	**5.65**	**155**	*e*P			Pn	16 08 48.8	+2.9
DAV	**Davao City (W)**	**6.60**	**153**	LR			LR	16 12 05.1	
	comp=Z,2µm,20.9s,baz=183,slow=44								
JOW	**Kunigami**	**14.72**	**20**	LR			LR	16 16 20.8	
	comp=Z,1µm,18.8s,baz=169,slow=37								
KAPI	**Kappang**	**18.15**	**189**	LR			LR	16 18 45.8	
	comp=Z,652nm,20.6s,baz=276,slow=38								
ENH	**Enshi**	**21.02**	**327**	P			**P**	**16 12 08.2**	**+2.6**
	7.3nm,0.9s								
GUMO	**Guam**	**21.66**	**86**	LR			LR	16 18 41.0	
	comp=Z,409nm,20.7s,baz=0.7,slow=31								
CM31	**Chiang Mai Arr**	**23.41**	**286**	P			**P**	**16 12 28.2**	**-2.7**
	3.1nm,0.9s								
CMAR	**Chiang Mai Arr**	**23.41**	**286**	P			**P**	**16 12 30.1**	**-0.8**
	1.5nm,0.9s,baz=100,slow=6.9,SNR=12								
CMAR				LR			LR	16 23 13.2	
	comp=Z,288nm,18.9s,baz=100,slow=41								
CMAR	**Chiang Mai Arr**	**23.41**	**286**	P			**P**	**16 12 30.1**	**-0.8**
KSAR	**Wonju Array Be**	**24.77**	**10**	P			**P**	**16 12 42.4**	**-1.0**
KSRS	**Korea Array**	**24.78**	**10**	P			**P**	**16 12 42.4**	**-1.1**
	2.6nm,0.9s,baz=183,slow=10,SNR=8.9								
KSRS				LR			LR	16 22 18.5	
	comp=Z,389nm,19.4s,baz=186,slow=36								
MJAR	**Matsushiro Arr**	**27.28**	**28**	P			**P**	**16 13 08.2**	**+2.0**
	1.6nm,1.0s,baz=187,slow=11,SNR=3.0								
MJAR				LR			LR	16 22 05.7	
	comp=Z,482nm,21.4s,baz=195,slow=32								
MJAR	**Matsushiro Arr**	**27.28**	**28**	P			**P**	**16 13 08.2**	**+2.0**
MDJ	**Mudanjiang**	**32.04**	**9**	*e*P			**P**	**16 13 47.7**	**-0.6**
	4.9nm,0.8s								
USRK	**Ussuriysk Arra**	**32.09**	**13**	P			**P**	**16 13 48.8**	**+0.1**
	5.6nm,0.9s,baz=210,slow=8.2,SNR=9.7								
USRK				LR			LR	16 25 44.3	
	comp=Z,253nm,19.9s,baz=332,slow=34								
PMG	**Port Moresby**	**33.03**	**131**	P			**P**	**16 13 55.5**	**-1.8**
	8.4nm,1.0s,baz=287,slow=8.9,SNR=2.8								
PMG	**Port Moresby**	**33.03**	**131**	*e*P			**P**	**16 13 54.3**	**-3.0**
	13nm,1.1s								
MBWA	**Marble Bar**	**34.09**	**185**	P			P	16 14 00.4	-6.0
	28nm,1.2s								
WRAB	**Tennant Creek**	**34.73**	**160**	*e*P			**P**	**16 14 11.3**	**-0.6**
	6.0nm,1.0s								
WRA	**Warramunga Arr**	**34.73**	**160**	P			**P**	**16 14 10.8**	**-1.2**
	1.7nm,0.5s,baz=341,slow=9.2,SNR=32								
WRA	**Warramunga Arr**	**34.73**	**160**	P			**P**	**16 14 10.8**	**-1.2**
WB2	**Warramunga Arr**	**34.74**	**160**	*e*P			**P**	**16 14 11.2**	**-0.8**
ASAJ	**Asahikawa**	**35.41**	**25**	LR			LR	16 29 11.7	
	comp=Z,507nm,18.4s,baz=84,slow=37								
SONM	**Songino Array**	**37.25**	**342**	P			**P**	**16 14 34.6**	**+1.1**
	0.6nm,0.8s,baz=161,slow=9.8,SNR=2.7								
SONM				LR			LR	16 30 40.8	
	comp=Z,420nm,21.1s,baz=342,slow=38								
SONM	**Songino Array**	**37.25**	**342**	P			**P**	**16 14 34.6**	**+1.1**
AS31	**Alice Springs**	**38.10**	**163**	*e*P			**P**	**16 14 40.3**	**-0.5**
ASAR	**Alice Springs**	**38.10**	**163**	P			**P**	**16 14 40.5**	**-0.3**
	1.6nm,0.5s,baz=349,slow=7.2,SNR=68								
ASAR	**Alice Springs**	**38.10**	**163**	P			**P**	**16 14 40.5**	**-0.3**
CTAO	**Charters Tower**	**40.30**	**144**	P			**P**	**16 14 59.6**	**+0.4**
	6.3nm,1.0s								
NWAO	**Narrogin (SRO)**	**45.98**	**186**	LR			LR	16 38 42.5	
	comp=Z,208nm,18.6s,baz=325,slow=41								
MK31	**Makanchi Array**	**47.68**	**323**	*e*P			**P**	**16 15 57.7**	**-0.5**
MKAR	**Makanchi Array**	**47.68**	**323**	P			**P**	**16 16 00.4**	**+2.2**
	1.1nm,0.9s,baz=114,slow=8.1,SNR=8.6								
MKAR				LR			LR	16 35 04.9	
	comp=Z,330nm,20.4s,baz=105,slow=35								
MKAR	**Makanchi Array**	**47.68**	**323**	P			**P**	**16 16 00.4**	**+2.2**
STKA	**Stephens Creek**	**48.21**	**158**	P			**P**	**16 16 02.9**	**+0.5**
	1.9nm,0.7s,baz=337,slow=8.4,SNR=3.4								
STKA	**Stephens Creek**	**48.21**	**158**	*e*P			**P**	**16 16 02.7**	**+0.3**
	1.6nm,1.2s								
PETK	**Petropavlovsk-**	**48.74**	**27**	LR			LR	16 39 52.9	
	comp=Z,103nm,18.2s,baz=107,slow=40								
YAK	**Yakutsk**	**49.19**	**4**	P			**P**	**16 16 10.2**	**+0.6**
	7.0nm,0.7s								
TKM2	**Tokmak 2**	**50.20**	**316**	*e*P			**P**	**16 16 16.0**	**-1.9**
	1.3nm,0.8s								
ZALV	**Zalesovo Beam**	**50.52**	**332**	P			**P**	**16 16 20.9**	**+1.1**
	0.3nm,0.3s,baz=101,slow=2.9,SNR=2.5								
ZALV				LR			LR	16 40 32.0	
	comp=Z,168nm,19.0s,baz=84,slow=39								
ZALV	**Zalesovo Beam**	**50.52**	**332**	P			**P**	**16 16 20.9**	**+1.1**
AAK	**Ala-Archa**	**50.86**	**315**	P			**P**	**16 16 21.5**	**-1.3**
	10nm,1.1s								
KURK	**Kurchatov**	**51.78**	**326**	*e*P			**P**	**16 16 29.8**	**+0.4**
	7.8nm,1.0s								
KKAR	**Karatay Array**	**53.78**	**314**	*e*P			**P**	**16 16 45.1**	**+0.8**
	1.9nm,0.8s								
DZM	**Mont Dzumac**	**55.35**	**129**	*e*LR			LR	16 33 01.3	
	172nm,22.1s								
BRVK	**Borovoye**	**57.45**	**325**	P			**P**	**16 17 11.3**	**+0.9**
	8.5nm,1.2s								
BILL	**Bilibino**	**61.79**	**17**	*e*P			**P**	**16 17 40.1**	**+0.1**
	3.0nm,1.1s								
UNV	**Unalaska Valle**	**68.31**	**37**	P			**P**	**16 18 24.4**	**+1.7**
ILAR	**Eielson Array**	**78.54**	**26**	P			**P**	**16 19 21.7**	**-1.1**
	0.4nm,1.0s,baz=248,slow=4.7,SNR=3.3								
ILAR	**Eielson Array**	**78.54**	**26**	P			**P**	**16 19 21.8**	**-1.1**
ARCES	**ARCESS Array B**	**80.37**	**339**	LR			LR	16 57 40.8	
	comp=Z,262nm,18.3s,baz=122,slow=38								
BRTR	**Keskin Array B**	**81.03**	**309**	LR			LR	16 59 14.6	
	comp=Z,120nm,20.9s,baz=168,slow=38								
FINES	**FINESS Array B**	**81.77**	**331**	LR			LR	16 56 39.0	
	comp=Z,445nm,18.3s,baz=121,slow=36								
BUR08	**Bucovina Ar. S**	**85.41**	**318**	P			**P**	**16 19 57.0**	**-2.4**
NOA	**NORSAR Array B**	**88.71**	**333**	LR			LR	17 02 44.0	
	comp=Z,346nm,19.7s,baz=265,slow=37								
PPT2	**Papeete2**	**91.82**	**108**	*e*LR			LR	16 49 54.0	
	224nm,24.2s								
YKA	**Yellowknife Ar**	**92.67**	**23**	LR			LR	17 04 42.8	
	comp=Z,220nm,19.9s,baz=25,slow=37								
TBI	**Tubuai**	**93.20**	**113**	*e*LR			LR	16 50 32.5	
	135nm,33.2s								

TAP 17 16:25:08.8, 24˙.31N×121˙.94E, h31km, ML3.5, 1C-6D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.18**	**271**	*e*P			Pb	16 25 14.3	-0.6
	baz=270								
EHP				*e*S			Sb	16 25 19.8	+0.7
	baz=270								
ENA	**Nanau**	**0.22**	**304**⇑	*i*P			Pb	16 25 15.5	+0.2
	baz=310								
ENA				S			Sb	16 25 20.4	+0.7
	baz=310							

CHN5				S	Sb	16 25 52.0	+1.2	
	baz=224							
ELDTW	**Lidau**	**1.40**	**217**	*eP*	Pn	16 25 33.3	+1.0	
	baz=205							
WGK	**Gukeng**	**1.40**	**244**	*eP*	Pb	16 25 33.6	-0.7	
	baz=242							
WGK				*eS*	Sb	16 25 53.9	+2.0	
	baz=242							
CHN2	**Minshiung**	**1.55**	**240**	*eP*	Pb	16 25 36.9	+0.1	
	baz=227							
CHN2				*eS*	Sb	16 25 57.7	+1.7	
	baz=227							
CHN4	**Tsaushan**	**1.56**	**233**	P	Pb	16 25 36.9	-0.1	
	baz=217							
CHN4				*eS*	Sb	16 25 57.1	+0.7	
	baz=217							
WTCT	**Ta-ch'eng**	**1.58**	**254**	*eP*	Pb	16 25 37.3	0.0	
	baz=252							
WTCT				*eS*	Sb	16 25 57.3	+0.4	
	baz=252							
CHY	**Chiayi**	**1.60**	**240**	*eP*	Pb	16 25 38.2	+0.4	
	baz=228							
CHY				*eS*	Sb	16 25 58.8	+1.1	
	baz=228							
WTP	**Ta-pu**	**1.61**	**229**	P	Pb	16 25 37.3	-0.6	
	baz=219							
WTP				*eS*	Sb	16 25 59.0	+1.0	
	baz=219							
TWG	**Pinlang**	**1.68**	**208**	*eP*	Pn	16 25 37.4	+1.3	
	baz=196							
TWK	**Hsinying**	**1.69**	**232**	*eP*	Pb	16 25 38.4	-0.8	
	baz=230							
TWK				*eS*	Sb	16 26 00.4	+0.3	
	baz=230							
WSF	**Szhu**	**1.71**	**247**	*eS*	Sb	16 26 01.4	+0.8	
	baz=245							
CHN1	**Nanshi**	**1.71**	**229**	*eP*	Pb	16 25 38.7	-0.9	
	baz=227							
CHN1				*eS*	Sb	16 26 01.2	+0.4	
	baz=227							
SGST	**Jiashian**	**1.74**	**226**	*eP*	Pb	16 25 39.1	-1.0	
	baz=211							
SGST				*eS*	Sb	16 26 02.2	+0.6	
	baz=211							
CHN8	**Yiju**	**1.85**	**239**	*eP*	Pn	16 25 39.4	+1.1	
	baz=223							
CHN8				*eS*	Sb	16 26 05.0	+0.4	
	baz=223							
SSD	**Sandimen**	**1.96**	**218**	P	Pb	16 25 42.5	-1.3	
	baz=214							
SSD				*eS*	Sb	16 26 06.6	-1.4	
	baz=214							
TWM1	**Shoushan**	**2.03**	**224**	*eP*	Pb	16 25 44.4	-0.7	
	baz=222							
EAST	**Anshuo**	**2.16**	**208**	*eP*	Pn	16 25 44.8	+2.0	
	baz=197							
PNG	**Penghu**	**2.30**	**252**	*eP*	Pn	16 25 46.2	+1.6	
	baz=250							
PNG				*eS*	Sn	16 26 13.3	+1.4	
	baz=250							

IDC 17 16:30:58.5±1.1, 0°32S×132°42E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/18, mbtmp3.7/7, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=61.1km s-min=18.7km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**10.02**	**317**	LR	LR	16 36 26.5	
	comp=Z,273nm,19.8s,baz=24,slow=33						
FITZ	**Fitzroy Crossi**	**18.89**	**200**	P	P	16 35 19.2	-1.4
	0.1nm,0.3s,baz=28,slow=15,SNR=3.4						
FITZ				S	Sn	16 38 40.1	-13
	0.1nm,0.3s,baz=135,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**19.59**	**175**	P	P	16 35 29.0	+0.5
	0.2nm,0.3s,baz=355,slow=11,SNR=11						
WRA				S	Sn	16 38 57.5	-13
	0.0nm,0.3s,baz=357,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**23.25**	**177**	P	P	16 36 08.3	+0.5
	1.5nm,0.8s,baz=358,slow=11,SNR=19						
SONM	**Songino Array**	**53.03**	**338**	P	P	16 40 18.3	+0.8
	1.0nm,1.0s,baz=142,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**64.12**	**324**	P	P	16 41 35.1	+0.3
	1.1nm,0.6s,baz=113,slow=8.4,SNR=18						
ZALV	**Zalesovo Beam**	**66.79**	**332**	P	P	16 41 51.1	-0.7
	0.4nm,0.4s,baz=111,slow=7.9,SNR=2.8						
ILAR	**Eielson Array**	**86.31**	**25**	P	P	16 43 41.6	-0.5
	0.2nm,0.6s,baz=276,slow=5.0,SNR=4.2						

IDC 17 17:06:16.3±2.5, 30°22S×178°22W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, MS3.6/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=68.6km s-min=32.7km az=35.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**15.95**	**209**	LR	LR	17 15 23.4	
	comp=Z,217nm,19.1s,baz=3.1,slow=34						
STKA	**Stephens Creek**	**34.33**	**257**	P	P	17 13 05.3	+0.6
	3.1nm,0.8s,baz=106,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**42.93**	**267**	P	P	17 14 16.6	-0.5
	1.1nm,0.7s,baz=102,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**43.90**	**272**	P	P	17 14 24.6	-0.3
	2.0nm,0.6s,baz=112,slow=7.8,SNR=28						
FITZ	**Fitzroy Crossi**	**52.17**	**270**	P	P	17 15 28.8	-0.1
	2.6nm,0.7s,baz=183,slow=7.6,SNR=6.2						
QSPA	**South Pole Qui**	**59.89**	**180**	P	P	17 16 23.5	-0.3
	0.8nm,0.5s,baz=47,slow=19,SNR=9.2						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	17 25 54.5	-0.1
	2.7nm,0.7s,baz=29,slow=3.2,SNR=12						

IDC 17 17:07:52.4±6.7, 29°94S×178°02W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=176.0km s-min=34.4km az=40.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.56**	**256**	P	P	17 14 42.6	-0.3
	3.1nm,0.9s,baz=107,slow=8.3,SNR=4.6						
ASAR	**Alice Springs**	**43.12**	**266**	P	P	17 15 54.2	-0.5
	0.6nm,0.7s,baz=108,slow=7.3,SNR=5.7						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	17 16 02.2	-0.1
	0.8nm,0.7s,baz=111,slow=7.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**52.34**	**270**	P	P	17 17 06.8	+0.4
	2.7nm,1.0s,baz=121,slow=10,SNR=3.1						
QSPA	**South Pole Qui**	**60.17**	**180**	P	P	17 18 01.7	-0.1
	1.3nm,0.9s,baz=14,slow=12,SNR=4.6						

NIED **17** *17:11:00, 31°.80N×141°.90E, h5km, Mw3.7 Best double couple: M₀4.59000×10¹⁴ NP1:φs352.00000°, δ58.00000°, λ98.00000°. NP2:φs157.00000°, δ33.00000°, λ77.00000°.*

IDC **17** *17:11:35.4±2.1, 31°.73N×142°.21E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/25, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=81.5km s-min=17.7km az=74.0*

ISCJB **17** *17:11:37.9±0.7, 31°.80N±0°.05×142°.1E±0°.1, h29km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=5.4km az=161.3*

JMA **17** *17:11:37.7±0.3, 31°.79N×141°.94E, h15km, M3.6*

ISC 17 17:11:39.7±0.9, 31°76N±0°.06×142°.1E±0°.1, h29km, n19, σ1s57/31, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.35**	**306**	P	**Pn**	**17 12 14.7**	**-1.6**
JHJ2				*eS*	**Sn**	**17 12 43.6**	**-0.6**
BSO1	**Boso 1**	**3.03**	**342**	P	**Pn**	**17 12 25.9**	**+0.7**
BSO1				*eS*	**Sn**	**17 13 02.3**	**+2.0**
JOD2	**Odawara 2**	**4.30**	**325**	P	**Pn**	**17 12 43.1**	**-0.1**
JOD2				*eS*	**Sn**	**17 13 31.0**	**-1.4**
CBIJ	**Chichi jima**	**4.65**	**179**	Pn	**Pn**	**17 12 48.1**	**+0.1**
	6.0nm,0.3s,baz=313,slow=16,SNR=10						
CBIJ				Sn	**Sn**	**17 13 37.5**	**-3.6**
	4.6nm,0.3s,baz=190,slow=12,SNR=2.6						
CBIJ	**Chichi jima**	**4.65**	**179**	P	**Pn**	**17 12 49.2**	**+1.1**
JHU	**Hanno**	**4.70**	**331**	P	**Pn**	**17 12 48.9**	**+0.2**
JHU				*eS*	**Sn**	**17 13 40.2**	**-2.1**
JYT	**Yasato**	**4.72**	**341**	P	**Pn**	**17 12 50.3**	**+1.3**
JYT				*eS*	**Sn**	**17 13 42.4**	**-0.4**
JHO	**Hitachi**	**5.00**	**346**	P	**Pn**	**17 12 52.4**	**-0.4**
JHO				*eS*	**Sn**	**17 13 48.0**	**-1.6**
JRY	**Ryogami san**	**5.00**	**329**	P	**Pn**	**17 12 53.6**	**+0.7**
JRY				*eS*	**Sn**	**17 13 50.1**	**+0.3**
JAG	**Ashikaga**	**5.14**	**336**	P	**Pn**	**17 12 55.5**	**+0.8**
JAG				*eS*	**Sn**	**17 13 52.4**	**-0.7**
JFK	**Kawauchi**	**5.68**	**350**	*eS*	**Sn**	**17 14 02.5**	**-3.9**
MJAR	**Matsushiro Arr**	**5.75**	**327**	Pn	**Pn**	**17 13 03.9**	**+0.7**
	0.7nm,0.3s,baz=202,slow=9.9,SNR=14						
MJAR				Sn	**Sn**	**17 14 09.5**	**+1.3**
	0.3nm,0.3s,baz=148,slow=25,SNR=2.9						
JMK	**Ichinoseki**	**7.21**	**355**	P	**Pn**	**17 13 23.1**	**0.0**
JMK				*eS*	**Sn**	**17 14 40.2**	**-3.8**
ASAJ	**Asahikawa**	**12.34**	**2**	Pn	**Pn**	**17 14 33.7**	**+0.3**
	0.2nm,0.3s,baz=226,slow=10,SNR=4.4						
SONM	**Songino Array**	**31.44**	**311**	P	**P**	**17 17 60.0**	**+1.3**
	0.2nm,0.5s,baz=120,slow=8.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**45.99**	**316**	P	**P**	**17 20 00.7**	**+0.5**
	0.2nm,0.3s,baz=104,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**47.54**	**306**	P	**P**	**17 20 12.8**	**+0.2**
	0.3nm,0.4s,baz=88,slow=10.0,SNR=7.4						
MKAR				PcP	**PcP**	**17 21 41.8**	**-0.4**
	0.2nm,0.7s,baz=98,slow=4.4,SNR=2.4						
WRA	**Warramunga Arr**	**51.95**	**189**	P	**P**	**17 20 45.8**	**-0.4**
	1.0nm,0.6s,baz=5.9,slow=7.6,SNR=27						
ASAR	**Alice Springs**	**55.67**	**189**	P	**P**	**17 21 13.2**	**-0.2**
	0.3nm,0.5s,baz=357,slow=5.8,SNR=7.1						

MOS **17** *17:14:02.9±1.0, 51°.08N×179°.04E, h33km, mb4.6/33, Error ellipse: s-maj=10.3km s-min=8.2km az=105.7*

BJI **17** *17:14:06.6, 51°.86N×178°.10E, h27km, mB5.2/12, mb4.6/22, Ms4.5/8, Ms7 4.4/8*

IDC **17** *17:14:06.1±0.8, 51°.12N×178°.88E, h41km±6km, mb4.0/20, mb1 4.2/22, mb1mx4.0/31, mbtmp4.0/22, ML3.8/2, Error ellipse: s-maj=19.2km s-min=11.5km az=163.0*

NEIC **17** *17:14:07.2±0.5, 51°.22N×178°.96E, h49km±4km, mb4.6/31, Error ellipse: s-maj=8.7km s-min=3.3km az=175.0*

ISC 17 17:14:05.5±0.5, 51°21N±0°.09×178°.85E±0°.03, h30km±2km, h30km:pP-P,n288,σ1§18/334, mb4.5/62, 65C-51D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.58**	**69**	P	**Pn**	**17 14 32.5**	**+1.0**
GANE	**Gareloi Northe**	**1.60**	**67**	P	**Pn**	**17 14 32.6**	**+0.9**
GANE				S	**Sb**	**17 14 54.9**	**+0.7**
GAEA	**Gareloi East**	**1.60**	**68**	P	**Pn**	**17 14 32.3**	**+0.6**
TASE	**Tanaga Southea**	**2.04**	**71**	P	**Pn**	**17 14 38.7**	**+0.9**
TAFP	**Tanaga Falls P**	**2.09**	**70**	P	**Pn**	**17 14 39.4**	**+0.9**
TAFP				S	**Sb**	**17 15 06.7**	**-1.6**
TAPA	**Tanaga Point A**	**2.17**	**73**	P	**Pn**	**17 14 40.3**	**+0.7**
KIMD	**Kanaga Island**	**2.51**	**76**	P	**Pn**	**17 14 44.8**	**+0.7**
KIMD				S	**Sn**	**17 15 16.1**	**+2.5**
KIKV	**Kanaga Island**	**2.57**	**73**	P	**Pn**	**17 14 45.9**	**+0.9**
ETKA	**Kagalaska Isla**	**3.03**	**76**	P	**Pn**	**17 14 52.1**	**+0.8**
GSCK	**Great Sitkin C**	**3.21**	**74**	P	**Pn**	**17 14 54.8**	**+1.0**
GSCK				S	**Sn**	**17 15 33.9**	**+2.9**
GSMY	**Great Sitkin M**	**3.28**	**73**	P	**Pn**	**17 14 55.4**	**+0.6**
GSTR	**Great Sitkin T**	**3.29**	**72**	Pn	**Pn**	**17 14 52.4**	**-2.5**
SMY	**Shemya**	**3.31**	**299**	P	**Pn**	**17 14 58.2**	**+3.1**
SMY				S	**Sb**	**17 15 39.8**	**-3.4**
SMY	**Shemya**	**3.31**	**299**	P	**Pn**	**17 14 58.2**	**+3.1**
SMY				S	**Sb**	**17 15 39.8**	**-3.4**
FX1	**Attu Island--F**	**3.89**	**298**	P	**Pn**	**17 15 04.8**	**+1.7**
	35nm,0.3s,baz=200,slow=4.2,SNR=41						
FX1				S	**Sb**	**17 15 58.9**	**-1.0**
	80nm,0.3s,baz=2.8,slow=19,SNR=11						
FX1	**Attu Island--F**	**3.89**	**298**	P	**Pn**	**17 15 04.8**	**+1.7**
FX1				S	**Sb**	**17 15 58.9**	**-1.0**
FX1				pmax	pmax		
	comp=Z,35nm,0.3s						
FX1				smax	smax		
	comp=N,80nm,0.3s						
FX1	**Attu Island--F**	**3.89**	**298**	P	**Pn**	**17 15 04.8**	**+1.7**
FX1				S	**Sb**	**17 15 58.9**	**-1.0**
UNV	**Unalaska Valle**	**9.31**	**68**	*e*Pn	**Pn**	**17 16 17.6**	**+0.2**
SDPT	**Sand Point**	**13.03**	**63**	Pn	**Pn**	**17 17 07.4**	**-0.8**
PETK	**Petropavlovsk-**	**13.12**	**287**	P	**Pn**	**17 17 11.9**	**+2.4**
	comp=N,0.2nm,0.3s,baz=104,slow=15,SNR=6.4						
PETK				S	Sn	17 19 27.5	-6.8
	comp=N,0.2nm,0.3s,baz=94,slow=20,SNR=3.7						
PETK	**Petropavlovsk-**	**13.12**	**287**	P	**Pn**	**17 17 12.0**	**+2.4**
PETK	**Petropavlovsk-**	**13.12**	**287**	P	**Pn**	**17 17 11.9**	**+2.4**
PETK				S	Sn	17 19 27.5	-6.8
KDAK	**Kodiak Island**	**17.75**	**57**	P	**Pn**	**17 18 07.8**	**-2.1**
	comp=N,1.0nm,0.3s,baz=22,slow=22,SNR=7.7						
KDAK	**Kodiak Island**	**17.75**	**57**	*i* P	**Pn**	**17 18 09.6**	**-0.4**
KDAK	**Kodiak Island**	**17.75**	**57**	P	**Pn**	**17 18 07.8**	**-2.1**
RSO	**Redoubt South**	**18.30**	**49**	*e*P	P	17 18 11.7	-5.1
	comp=N,50nm,1.0s						
SEY	**Seymchan**	**18.40**	**320**	*e*P	**Pn**	**17 18 20.5**	**+2.6**
PPLA	**Purkeypile**	**19.41**	**42**	*e*P	**Pn**	**17 18 30.9**	**+0.6**
	comp=N,14nm,0.7s						
RC01	**Rabbit Creek A**	**19.89**	**48**	P	**P**	**17 18 33.3**	**-0.8**
PMR	**Palmer**	**20.31**	**47**	*e*P	**P**	**17 18 37.5**	**-1.1**
PMR	**Palmer**	**20.31**	**47**	*e*P	**P**	**17 18 37.5**	**-1.1**
TRF	**Thorofare Moun**	**20.42**	**41**	*e*P	**P**	**17 18 40.0**	**-0.1**
	comp=N,20nm,1.0s						
SML	**Sawmill**	**20.74**	**47**	*e*P	**P**	**17 18 42.1**	**-1.2**
SML	**Sawmill**	**20.74**	**47**	*e*P	**P**	**17 18 42.1**	**-1.2**
MCK	**McKinley**	**21.09**	**41**	*e*P	**P**	**17 18 46.5**	**-0.6**
MCK				pmax	pmax		
	comp=Z,18nm,1.2s						
MCK	**McKinley**	**21.09**	**41**	*e*P	**P**	**17 18 46.5**	**-0.6**
	comp=Z,18nm,1.2s						
DIV	**Divide**	**21.78**	**49**	*e*P	**P**	**17 18 54.8**	**+0.3**
COLA	**College**	**21.96**	**39**	*e*P	**P**	**17 18 55.8**	**-0.5**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	**College**	**21.96**	**39**	*e*P	**P**	**17 18 55.8**	**-0.5**
	comp=Z,9.7nm,0.8s						
ILAR	**Eielson Array**	**22.30**	**39**	P	**P**	**17 18 57.1**	**-2.8**
	comp=Z,1.7nm,0.5s,baz=232,slow=7.9,SNR=38						
ILAR	**Eielson Array**	**22.30**	**39**	P	**P**	**17 18 57.2**	**-2.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**22.30**	**39**	P	**P**	**17 18 57.1**	**-2.8**
PAX	**Paxson**	**22.34**	**45**	P	**P**	**17 18 59.7**	**-0.8**
PAX	**Paxson**	**22.34**	**45**	P	**P**	**17 18 59.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**23.86**	**274**	*e*P	**P**	**17 19 17.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
EGAK	**Eagle**	**24.64**	**41**	*e*P	**P**	**17 19 22.5**	**-0.5**
	comp=Z,15nm,0.8s						
ASAJ	**Asahikawa**	**25.23**	**268**	P	**P**	**17 19 28.9**	**+0.5**
	comp=Z,16nm,0.8s,baz=32,slow=12,SNR=7.8						
ASAJ	**Asahikawa**	**25.23**	**268**	P	**P**	**17 19 29.0**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.8s						
ASAJ	**Asahikawa**	**25.23**	**268**	P	**P**	**17 19 28.9**	**+0.5**
DAWY	**Dawson**	**25.24**	**43**	*e*P	**P**	**17 19 27.4**	**-1.0**
ERM	**Erimo**	**25.96**	**263**	*e*P	**P**	**17 19 34.6**	**-0.5**
ERM				pmax	pmax		
	comp=Z,38nm,1.4s						
YAK	**Yakutsk**	**28.42**	**311**	*e*P	**P**	**17 19 55.8**	**-1.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**28.42**	**311**	*e*P	**P**	**17 19 55.8**	**-1.2**
	comp=Z,9.6nm,0.8s						
INK	**Inuvik**	**28.44**	**35**	P	**P**	**17 19 57.0**	**0.0**
	comp=Z,4.6nm,0.7s,baz=255,slow=9.8,SNR=11						
INK	**Inuvik**	**28.44**	**35**	P	**P**	**17 19 57.1**	**0.0**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**28.44**	**35**	*e*P	**P**	**17 19 56.7**	**-0.3**
	comp=Z,6.2nm,0.8s						
MJAR	**Matsushiro Arr**	**32.30**	**259**	P	**P**	**17 20 31.4**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=42,slow=7.6,SNR=4.1						
MJAR				pP	**pP**	**17 20 42.8**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=59,slow=6.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**32.30**	**259**	P	**P**	**17 20 31.4**	**-0.2**
MJAR				*PP	**pP**	**17 20 42.8**	**+2.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**32.30**	**259**	P	**P**	**17 20 31.4**	**-0.2**
MJAR				pP	**pP**	**17 20 42.8**	**+2.4**
VLA	**Vladivostok**	**32.45**	**274**	*e*P	**P**	**17 20 31.7**	**-1.1**
VLA				pmax	pmax		
	comp=Z,17nm,1.3s						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**17 21 06.2**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=282,slow=8.3,SNR=30						
YKA				pPcP		17 23 42.4	
	comp=Z,0.3nm,0.6s,baz=296,slow=3.5,SNR=3.9						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**17 21 06.2**	**-0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**17 21 06.2**	**-0.5**
YKA				pPcP		17 23 42.5	
BOD	**Bodaibo**	**36.89**	**306**	*e*P	**P**	**17 21 10.0**	**-0.9**
BOD				*e*		17 21 21.0	
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BOD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	**Korea Array**	**38.16**	**269**	P	**P**	**17 21 21.1**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=58,slow=7.1,SNR=12						
KSRS	**Korea Array**	**38.16**	**269**	P	**P**	**17 21 21.1**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSAR	**Wonju Array Be**	**38.20**	**269**	P	**P**	**17 21 21.1**	**-1.1**
KSAR	**Wonju Array Be**	**38.20**	**269**	P	**P**	**17 21 21.1**	**-1.1**
NEW	**Newport**	**40.32**	**68**	⇑P	**P**	**17 21 39.3**	**-0.5**
	baz=40,SNR=5.3						
RES	**Resolute Bay**	**40.50**	**24**	*e*P	**P**	**17 21 40.6**	**-0.4**
RES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
RES	**Resolute Bay**	**40.50**	**24**	*e*P	**P**	**17 21 40.5**	**-0.4**
	comp=Z,1.9nm,0.9s						
C12B	**Naegeli Ranch,**	**41.55**	**68**	⇓P	**P**	**17 21 50.1**	**+0.1**
	baz=41						
B13A	**Whitefish**	**41.80**	**67**	⇑P	**P**	**17 21 51.8**	**-0.3**
	baz=42						
BSMT	**Bassoo Peak**	**41.88**	**68**	*e*P	**P**	**17 21 52.0**	**-0.9**
	comp=Z,5.2nm,0.7s						
C13A	**Hot Springs**	**42.09**	**68**	⇑P	**P**	**17 21 53.8**	**-0.6**
	baz=42						
A14A	**Double T Ranch**	**42.11**	**65**	⇑P	**P**	**17 21 53.8**	**-0.8**
	baz=42,SNR=6.1						
E12A	**Beaver Dam Sad**	**42.16**	**70**	⇓P	**P**	**17 21 54.7**	**-0.4**
	baz=42						
B14A	**Marquette Ranc**	**42.50**	**66**	⇑P	**P**	**17 21 57.8**	**-0.1**
	baz=42						
C14A	**Swan Lake**	**42.53**	**67**	⇓P	**P**	**17 21 57.7**	**-0.4**
	baz=42						
F12A	**Elk City**	**42.69**	**70**	⇑P	**P**	**17 21 59.3**	**-0.1**
	baz=42,SNR=8.9						
MSO	**Missoula**	**42.90**	**68**	⇓P	**P**	**17 22 00.6**	**-0.5**
	baz=43						
B15A	**Bradely Ranch,**	**42.93**	**66**	⇑P	**P**	**17 22 01.0**	**-0.3**
	baz=43,SNR=6.3						
D14A	**Greenough**	**43.02**	**68**	⇑P	**P**	**17 22 01.1**	**-1.0**
	baz=43,SNR=5.7						
C15A	**Salmond Ranch,**	**43.18**	**67**	⇑P	**P**	**17 22 02.4**	**-1.0**
	baz=43,SNR=7.0						
H12A	**Diamond D Ranc**	**43.59**	**72**	⇓P	**P**	**17 22 06.4**	**-0.4**
	baz=43						
D15A	**Lincoln**	**43.62**	**67**	⇑P	**P**	**17 22 06.4**	**-0.5**
	baz=43						
MFID	**Camas Ranch**	**43.63**	**74**	⇓P	**P**	**17 22 06.7**	**-0.3**
	baz=43						
G13A	**Cobalt**	**43.66**	**71**	⇓P	**P**	**17 22 07.0**	**-0.3**
	baz=43,SNR=7.1						
C16A	**Fuhringer Ranc**	**43.67**	**66**	⇑P	**P**	**17 22 06.5**	**-0.7**
	baz=43						
I12A	**Atlanta**	**43.84**	**73**	⇓P	**P**	**17 22 08.6**	**-0.2**
	baz=44						
B17A	**L&G Farms, Che**	**43.95**	**65**	⇓P	**P**	**17 22 09.0**	**-0.4**
	baz=44						
BJI	**Beijing**	**43.96**	**281**	P	**P**	**17 22 09.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
G14A	**Jackson**	**44.03**	**70**	⇓P	**P**	**17 22 09.4**	**-0.9**
	baz=44						
HRY	**Holter Researc**	**44.19**	**67**	*e*P	**P**	**17 22 09.5**	**-2.0**
	comp=Z,4.4nm,0.6s						
C17A	**Wharram Farm,**	**44.32**	**66**	⇑P	**P**	**17 22 11.5**	**-1.0**
	baz=44						
I13A	**Wildhorse Cree**	**44.38**	**72**	⇓P	**P**	**17 22 12.7**	**-0.4**
	baz=44,SNR=11						
HLID	**Hailey**	**44.40**	**73**	⇓P	**P**	**17 22 12.9**	**-0.3**
	baz=44,SNR=8.8						
H14A	**Leadore**	**44.43**	**71**	⇓P	**P**	**17 22 12.7**	**-0.8**
	baz=44						
D17A	**Six Diamond Ra**	**44.62**	**66**	⇓P	**P**	**17 22 14.0**	**-1.0**
	baz=44						
J13A	**Cove Ranch, Pi**	**44.64**	**73**	⇑P	**P**	**17 22 14.9**	**-0.2**
	baz=44,SNR=11						
G15A	**Dillon**	**44.65**	**70**	⇑P	**P**	**17 22 14.6**	**-0.6**
	baz=44						
I14A	**Mackay**	**44.77**	**72**	⇓P	**P**	**17 22 16.0**	**-0.2**
	baz=44,SNR=7.9						
F16A	**Kennard Place,**	**44.82**	**68**	⇑P	**P**	**17 22 16.1**	**-0.4**
	baz=45						
BOZ	**Bozeman (W)**	**44.89**	**69**	⇑P	**P**	**17 22 16.1**	**-1.0**
	baz=45,SNR=6.9						
BOZ				⇑P	**P**	**17 22 16.1**	**-1.0**
	baz=45,SNR=6.9						
E17A	**Martinsdale**	**44.89**	**67**	⇑P	**P**	**17 22 16.4**	**-0.8**
	baz=45						
ULN	**Ulaanbaatar**	**45.01**	**295**	*e*P	**P**	**17 22 17.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**45.01**	**295**	*e*P	**P**

RLMT					⇑P		P		17 22 29.7	-0.7
	baz=46									
R11A	Troy Canyon, C	46.77	79	⇑	P		P		17 22 31.3	-0.7
	baz=46									
M15A	Larsen Ranch,	46.80	74	⇑	P		P		17 22 32.4	+0.2
	baz=47,SNR=5.8									
L16A	Fish Haven	47.08	73	⇓	P		P		17 22 34.5	0.0
	baz=47									
N15A	Stansbury Isla	47.10	75	⇑	P		P		17 22 34.7	+0.2
	baz=47									
G20A	Bridger	47.12	67	⇓	P		P		17 22 34.2	-0.5
	baz=47									
D22A	Cohagen	47.19	64	⇓	P		P		17 22 35.4	+0.3
	baz=47									
J18A	Kendall Valley	47.22	70	⇑	P		P		17 22 35.2	-0.4
	baz=47									
DUG	Dugway	47.34	75	*e*P			P		17 22 35.8	-0.7
DUG					pmax		pmax			
	comp=Z,5.0nm,1.0s									
DUG	Dugway	47.34	75	*e*P			P		17 22 35.8	-0.7
	comp=Z,5.3nm,1.0s									
DUG	Dugway	47.34	75	⇑	P		P		17 22 36.8	+0.3
	baz=47,SNR=5.6									
M16A	Huntsville	47.38	74	⇓	P		P		17 22 37.1	+0.2
	baz=47									
K18A	Toltan Ranch,	47.55	71	⇑	P		P		17 22 38.9	+0.7
	baz=47									
PD01	Pinedale Array	47.74	71	*e*P			P		17 22 39.2	-0.4
PD02	Pinedale Array	47.75	71	*e*P			P		17 22 38.9	-0.8
BW06	Boulder Array	47.76	71	⇓	P		P		17 22 39.5	-0.3
	baz=48,SNR=11									
BW06				⇓	P		P		17 22 39.5	-0.3
	baz=48,SNR=11									
PDAR	Pinedale Array	47.76	71	P			P		17 22 39.6	-0.1
	comp=Z,7.4nm,0.7s,baz=305,slow=3.6,SNR=58									
PDAR	Pinedale Array	47.76	71	P			P		17 22 39.6	-0.1
M17A	Scullys Gap (B	47.87	73	⇓	P		P		17 22 40.4	-0.3
	baz=48									
I20A	Worland	47.91	69	⇓	P		P		17 22 40.1	-0.7
	baz=48									
F22A	Rosebud	47.93	66	⇑	P		P		17 22 40.2	-0.6
	baz=48									
GSC	Goldstone	47.93	83	⇓	P		P		17 22 40.9	-0.2
	baz=48									
L18A	Fontenelle, Gr	47.97	72	⇓	P		P		17 22 41.2	-0.2
	baz=48									
N17A	Moffit Pass	48.09	73	⇑	P		P		17 22 42.4	0.0
	baz=48									
K19A	Absolon Red Bu	48.15	70	⇑	P		P		17 22 41.7	-1.1
	baz=48,SNR=7.8									
M18A	Lyman	48.25	72	⇑	P		P		17 22 42.9	-0.7
	baz=48									
L19A	Farson	48.27	71	⇓	P		P		17 22 43.3	-0.4
	baz=48									
J20A	Shoshoni	48.28	69	⇑	P		P		17 22 42.9	-0.8
	baz=48									
I21A	Big Trails, Te	48.48	68	⇑	P		P		17 22 44.5	-0.7
	baz=48									
TMUT	Trail Mountain	48.87	75	*e*P			P		17 22 48.9	+0.4
	comp=Z,4.5nm,0.7s									
N19A	John Jarvie Ra	49.11	72	⇓	P		P		17 22 49.4	-0.7
	baz=49									
P18A	Preston Nutter	49.25	74	⇑	P		P		17 22 51.2	-0.2
	baz=49									
M20A	Sweetwater, Wa	49.34	71	⇑	P		P		17 22 51.4	-0.6
	baz=49									
SRU	San Rafael	49.40	75	⇓	P		P		17 22 53.3	+0.9
	baz=49,SNR=7.2									
O19A	Miners Draw (B	49.51	73	⇑	P		P		17 22 52.9	-0.3
	baz=49,SNR=9.6									
Q18A	Rafter H Ranch	49.64	75	⇑	P		P		17 22 54.0	-0.2
	baz=49									
N20A	Spence Gulch,	49.70	72	⇑	P		P		17 22 54.1	-0.6
	baz=50									
P19A	Cripple Cowboy	50.01	74	⇑	P		P		17 22 56.8	-0.2
	baz=50,SNR=9.5									
U15A	North Rim	50.01	79	⇓	P		P		17 22 57.2	0.0
	baz=50									
O20A	White River Ci	50.14	73	⇑	P		P		17 22 57.6	-0.4
	baz=50									
S17A	Black Ridge (B	50.16	77	⇑	P		P		17 22 58.0	-0.1
	baz=50,SNR=8.5									
N21A	Black Mountain	50.19	72	⇑	P		P		17 22 57.3	-1.1
	baz=50									
R18A	Canyonlands Na	50.24	75	⇓	P		P		17 22 57.6	-1.2
	baz=50									
Q19A	Hogan Spring (	50.26	75	⇓	P		P		17 22 58.3	-0.6
	baz=50									
M22A	Cedar Creek Ra	50.34	70	⇑	P		P		17 22 59.1	-0.5
	baz=50									
SPITS	Spitsbergen Ar	50.43	355		P		P		17 22 58.8	-0.6
	comp=Z,5.3nm,0.8s,baz=98,slow=14,SNR=4.5									
SPITS	Spitsbergen Ar	50.43	355		P		P		17 22 58.8	-0.6
SPITS					pmax		pmax			
	comp=Z,5.0nm,0.9s									
SPITS	Spitsbergen Ar	50.43	355		P		P		17 22 58.8	-0.6
L23A	Garrett	50.43	69	⇑	P		P		17 22 59.2	-1.1
	baz=50									
P20A	De Beque	50.45	73	⇓	P		P		17 22 59.7	-0.6
	baz=50									
O21A	Pagoda	50.55	72	⇑	P		P		17 23 00.9	-0.3
	baz=50									
S18A	Hurst Farm, Bl	50.62	76	⇓	P		P		17 23 01.0	-0.7
	baz=50									
N22A	Wattenberg Ran	50.79	71	⇓	P		P		17 23 02.1	-0.9
	baz=50									
T18A	Mexican Hat	51.04	77	⇑	P		P		17 23 04.0	-0.8
	baz=51									
O22A	Kremmling	51.14	72	⇓	P		P		17 23 05.2	-0.4
	baz=51									
PV01	Paradox Valley	51.20	75	*e*P			P		17 23 05.7	-0.4
R20A	Redvale	51.28	75	⇓	P		P		17 23 06.3	-0.4
	baz=51									
Q21A	Lamborn Mesa,	51.36	74	⇓	P		P		17 23 07.2	-0.1
	baz=51									
V17A	Tonalea, Kykot	51.46	79	⇑	P		P		17 23 07.6	-0.3
	baz=51									
S20A	Disappointment	51.52	75	⇓	P		P		17 23 07.9	-0.6
	baz=51									
R21A	Cimarron	51.67	74	⇓	P		P		17 23 09.3	-0.3
	baz=51									
Q22A	Crested Butte,	51.74	73	⇓	P		P		17 23 09.8	-0.4
	baz=52									
T19A	Beclabito	51.76	76	⇓	P		P		17 23 10.0	-0.3
	baz=52									
S21A	Coal Bank Pass	51.98	75	⇑	P		P		17 23 11.4	-0.6
	baz=52									
S22A	4UR Ranch, Cre	52.51	74	⇑	P		P		17 23 15.7	-0.2
	baz=52									
U21A	Nageezi	52.86	76	⇓	P		P		17 23 18.5	0.0
	baz=53									
P25A	Willow Gulch B	52.97	71	⇑	P		P		17 23 19.6	+0.5
	baz=53,SNR=5.6									
ZAA0	Zalesovo Array	53.06	312		P		P		17 23 18.4	-1.0
ZALV	Zalesovo Beam	53.06	312		P		P		17 23 18.9	-0.5
	comp=Z,0.9nm,0.5s,baz=358,slow=4.5,SNR=4.5									
ZALV	Zalesovo Beam	53.06	312		P		P		17 23 18.9	-0.5
ZALV					pmax		pmax			
	comp=Z,1.0nm,0.5s									
ZALV	Zalesovo Beam	53.06	312		P		P		17 23 18.9	-0.5
NVS	Novosibirsk	53.23	314	*e*P			P		17 23 17.6	-3.0
NVS					pmax		pmax			
	comp=N,3.0nm,1.5s									
NVS					pmax		pmax			
	comp=E,5.0nm,1.5s									
NVS					pmax		pmax			
	comp=Z,8.0nm,1.5s									
SDCO	Great Sand Dun	53.31	73	⇑	P		P		17 23 21.9	+0.1
	baz=53,SNR=5.5									
SDCO					⇑P		P		17 23 21.9	+0.1
	baz=53,SNR=5.5									
R25A	Fountain Ranch	53.78	72	⇓	P		P		17 23 25.0	-0.1
	baz=54									
S25A	Robets Cordova	54.00	73	⇓	P		P		17 23 26.7	-0.1
	baz=54									
LZH	Lanzhou	54.01	285	*e*P			P		17 23 28.0	+1.2
LZH					pP		pP		17 23 36.0	0.0
LZH					sP		sP		17 23 38.5	-1.1
LZH					pmax		pmax			
	comp=Z,13nm,1.0s									
T24A	Torres, Weston	54.02	74	⇑	P		P		17 23 27.6	+0.6
	baz=54									
R26A	Arlington	54.18	71	⇑	P		P		17 23 27.7	-0.3
	baz=54,SNR=5.2									
GTA	Gaotai	54.25	290	*e*P			P		17 23 28.8	+0.3
GTA					pP		pP		17 23 36.0	-1.7
GTA					sP		sP		17 23 40.5	-0.8
	comp=Z,6.0nm,1.0s									
T25A	Trinidad	54.36	73	⇑	P		P		17 23 29.6	+0.2
	baz=54,SNR=5.9									
R27A	Eads	54.57	71	⇓	P		P		17 23 30.3	-0.5
	baz=54									
S26A	Kim	54.61	72	⇓	P		P		17 23 30.5	-0.6
	baz=54									
U25A	Circle Dot Ran	54.85	74	⇑	P		P		17 23 32.9	-0.1
	baz=55									
Z21A	St. Cloud Mine	54.92	79	⇑	P		P		17 23 30.8	-2.7
	baz=55,SNR=5.6									
U26A	Atchley Ranch,	55.25	73	⇑	P		P		17 23 35.8	0.0
	baz=55									
220A	Playas Peak, P	55.34	81	⇑	P		P		17 23 35.8	-0.7
	baz=55									
W25A	X Bar L Ranch,	55.60	75	⇑	P		P		17 23 38.1	-0.2
	baz=55									
CD2	Chengdu	57.56	280		P		P		17 23 52.6	+0.4
CD2					pP		pP		17 24 01.0	-0.5
CD2					sP		sP		17 24 04.4	-0.7
CD2					PP		PP		17 26 01.6	+1.9
CD2					S		S		17 31 46.0	-1.9
CD2					sS		sS		17 31 59.9	-3.3
CD2					SS		SS		17 35 37.1	-0.6
CD2					pmax		pmax			
	comp=Z,10.0nm,0.5s									
CD2					pmax		pmax			
	comp=Z,280nm,6.9s									
CD2					LR		LR			
	comp=N,340nm,7.1s									
CD2					LR		LR			
	comp=Z,280nm,7.7s									
KURK	Kurchatov	58.06	313	*e*P			P		17 23 54.8	-0.5
KURK					pmax		pmax			
	comp=Z,8.0nm,1.1s									
KURK	Kurchatov	58.06	313	*c i*P			P		17 23 55.3	0.0
KURK					pmax		pmax			
	comp=Z,6.0nm,1.2s									
KURK	Kurchatov	58.06	313	*e*P			P		17 23 54.8	-0.5
	comp=Z,7.5nm,1.1s									
GYA	Guiyang	58.87	274	*e*P			P		17 24 03.0	+1.5
GYA					pmax		pmax			
	comp=Z,10.0nm,1.0s									
MK31	Makanchi Array	58.97	307	*e*P			P		17 24 01.0	-0.8
MK31	Makanchi Array	58.97	307	*e*P			P		17 24 01.0	-0.8
MKAR	Makanchi Array	58.97	307		P		P		17 24 01.3	-0.5
	comp=Z,0.7nm,0.5s,baz=53,slow=6.8,SNR=8.3									
MKAR	Makanchi Array	58.97	307		P		P		17 24 01.3	-0.5
MKAR					pmax		pmax			
	comp=Z,1.0nm,0.5s									
MKAR	Makanchi Array	58.97	307		P		P		17 24 01.3	-0.5
BRVK	Borovoye	60.07	319	*e*P			P		17 24 09.7	+0.5
BRVK					pmax		pmax			
	comp=Z,4.0nm,0.6s									
BRVK	Borovoye	60.07	319	*e*P			P		17 24 09.7	+0.5
	comp=Z,3.7nm,0.6s									
TXAR	Lajitas Array	60.13	79		P		P		17 24 09.4	-0.8
	comp=Z,0.9nm,0.7s,baz=310,slow=5.3,SNR=11									
TXAR	Lajitas Array	60.13	79		P		P		17 24 09.4	-0.8
TXAR					pmax		pmax			
	comp=Z,1.0nm,0.7s									
TXAR	Lajitas Array	60.13	79		P		P		17 24 09.4	-0.8
SVE	Sverdlovsk	60.93	326	*e*P			P		17 24 16.4	+1.4
ARU	Arti	61.95	327	*e*P			P		17 24 22.5	+0.6
ARU					pmax		pmax			
	comp=Z,4.0nm,0.6s									
ARU	Arti	61.95	327	*e*P			P		17 24 22.5	+0.6
	comp=Z,4.3nm,0.6s									
KMI	Kunming	62.28	276		P		P		17 24 25.3	+0.4
KMI					pP		pP		17 24 33.8	-0.5
KMI					sP		sP		17 24 38.0	+0.2
KMI					pmax		pmax			
	comp=Z,4.0nm,1.1s									
TKM2	Tokmak 2	65.07	308	*e*P			P		17 24 43.1	+0.1
TKM2					pmax		pmax			
	comp=Z,3.0nm,1.1s									
TKM2	Tokmak 2	65.07	308	*e*P			P		17 24 43.1	+0.1
	comp=Z,3.2nm,1.1s									
FINES	FINESS Array B	65.60	346		P		P		17 24 45.6	-0.3
	comp=Z,1.8nm,0.8s,baz=17,slow=9.0,SNR=5.2									
FINES	FINESS Array B	65.60	346		P		P		17 24 45.6	-0.3
FINES					pmax		pmax			
	comp=Z,2.0nm,0.8s									
FINES	FINESS Array B	65.60	346		P		P		17 24 45.6	-0.3
AAK	Ala-Archa	65.82	308	*e*P			P		17 24 47.9	0.0
AAK					pmax		pmax			
	comp=Z,8.0nm,0.8s									
AAK	Ala-Archa	65.82	308	*e*P			P		17 24 47.9	0.0
	comp=Z,8.0nm,0.8s									
ABKAR	Akbulak array	67.16	322	*e*P			P		17 24 56.5	+0.4
	comp=Z,1.0nm,0.4s									
ABKAR				*e*					17 25 08.3	
KKAR	Karatay Array	67.40	311	*e*P			P		17 24 57.7	0.0
KKAR				*e*					17 25 08.2	
KKAR					pmax		pmax			
	comp=Z,2.0nm,0.5s									
KKAR	Karatay Array	67.40	311	*e*P			P		17 24 57.7	0.0
	comp=Z,1.6nm,0.5s									
KKAR				*e*					17 25 08.2	
KSH	Kashi	67.40	305	*e*P			P		17 25 02.0	+4.1
KSH				*e*pP			pP		17 25 09.8	+2.4
KSH				*e*sP			sP		17 25 12.8	+1.9
KSH				*e*PcP			PcP		17 25 28.5	+3.2
KSH				*e*PP			PP		17 27 33.5	+7.3
KSH				*e*ScP					17 29 29.3	
KSH				*e*PcS					17 29 32.3	
KSH				*e*S			S		17 33 56.0	+4.4
KSH				*e*sS			sS		17 34 09.9	+2.7
KSH				*e*ScS			SKSac		17 34 51.4	-1.9
KSH					pmax		pmax			
	comp=Z,2.0nm,0.6s									
KSH					pmax		pmax			
	comp=Z,190nm,6.5s									
KSH					LR		LR			
	comp=N,300nm,7.2s									
KSH					LR		LR			
	comp=E,460nm,7.7s									
KSH					LR		LR			
	comp=Z,680nm,7.1s									
NB2	NORSAR Subarra	67.66	354		P		P		17 24 58.1	-1.0
	comp=Z,1.1nm,0.7s,baz=9.2,slow=6.5									
NOA	NORSAR Array B	67.66	354		P		P		17 24 58.1	-1.0
	comp=Z,1.4nm,0.7s,baz=8.8,slow=6.3,SNR=4.5									
NOA	NORSAR Array B	67.66	354		P		P		17 24 58.1	-1.0
NOA					pmax		pmax			
	comp=Z,1.0nm,0.7s									
NOA	NORSAR Array B	67.66	354		P		P		17 24 58.1	-1.0
CMAR	Chiang Mai Arr	69.56	274		P		P		17 25 10.8	-0.6
	comp=Z,1.1nm,0.6s,baz=32,slow=7.0,SNR=13									
CMAR					pP		pP		17 25 22.8	+1.8
	comp=Z,1.5nm,0.7s,baz=31,slow=6.6,SNR=9.6									
CMAR	Chiang Mai Arr	69.56	274		P		P		17 25 10.9	-0.6
CMAR					*PP		pP		17 25 22.8	+1.8
CMAR					pmax		pmax			
	comp=Z,1.0nm,0.6s									
CMAR					pmax		pmax			
	comp=Z,2.0nm,0.7s									
CMAR	Chiang Mai Arr	69.56	274		P		P		17 25 10.8	-0.6
CMAR					pP		pP		17 25 22.8	+1.8
TAPN	Taplejung	69.87	289	*e*P			P		17 25 14.0	+0.3
	comp=Z,16nm,0.9s									
TAPN	Taplejung	69.87	289	*e*P			P		17 25 14.0	+0.3
	comp=Z,16nm,0.9s									
ODAN	Odare	70.43	289	*e*P			P		17 25 17.2	+0.2
ODAN	Odare	70.43	289	*e*P			P		17 25 17.2	+0.2
GUN	Gumba	70.54	290	*e*P			P		17 25 18.3	+0.4
	comp=Z,39nm,0.9s									
GUN	Gumba	70.54	290	*e*P			P		17 25 18.3	+0.4
	comp=Z,39nm,0.9s									
JIRN	Jiri	70.54	290	*e*P			P		17 25 18.5	+0.6
	comp=Z,42nm,0.9s									
JIRN	Jiri	70.54	290	*e*P			P		17 25 18.5	+0.6
	comp=Z,42nm,0.9s									
RAMN	Ramite	70.83	289	*e*P			P		17 25 19.7	+0.2
	comp=Z,41nm,0.8s									
RAMN	Ramite	70.83	289	*e*P			P		17 25 19.7	+0.2
	comp=Z,41nm,0.8s									
KKN	Kakani	70.98	291	*e*P			P		17 25 20.8	+0.4
	comp=Z,17nm,0.6s									
KKN	Kakani	70.98	291	*e*P			P		17 25 20.8	+0.4
KKN					pmax		pmax			
	comp=Z,17nm,0.6s									
KKN	Kakani	70.98	291	*e*P			P		17 25 20.8	+0.4
	comp=Z,17nm,0.6s									
PKI	Pulchoki	71.07	290	*e*P			P		17 25 21.2	+0.1
	comp=Z,24nm,0.8s									
PKI	Pulchoki	71.07	290	*e*P			P		17 25 21.2	+0.1
PKI					pmax		pmax			
	comp=Z,24nm,0.8s									
PKI	Pulchoki	71.07	290	*e*P			P		17 25 21.2	+0.1
	comp=Z,24nm,0.8s									
GKN	Gorkha	71.20	291	*e*P			P		17 25 22.0	+0.4
	comp=Z,22nm,0.7s									
GKN	Gorkha	71.20	291	*e*P			P		17 25 22.0	+0.4
	comp=Z,22nm,0.7s									
DMN	Daman	71.22	291	*e*P			P		17 25 22.4	+0.5
	comp=Z,17nm,0.9s									
DMN	Daman	71.22	291	*e*P			P		17 25 22.4	+0.5
	comp=Z,17nm,0.9s									
DANN	Dangsing	71.46	292	*e*P			P		17 25 23.7	+0.4
	comp=Z,32nm,0.8s									
DANN	Dangsing	71.46	292	*e*P			P		17 25 23.7	+0.4
	comp=Z,32nm,0.8s									
KOLN	Koldanda	71.98	292	*e*P			P		17 25 26.4	0.0
	comp=Z,11nm,0.7s									
AKASG	Malin Array Be	75.23	341		P		P		17 25 44.5	-0.3
	comp=Z,1.5nm,0.6s,baz=23,slow=5.7,SNR=4.3									
AKASG	Malin Array Be	75.23	341		P		P		17 25 44.5	-0.3
AKASG					pmax		pmax			
	comp=Z,2.0nm,0.6s									
AKASG	Malin Array Be	75.23	341		P		P		17 25 44.5	-0.3
BUR08	Bucovina Ar. S	78.95	342	*e*P			P		17 26 05.4	-0.6
WRA	Warramunga Arr	80.89	222		P		P		17 26 14.6	-1.9
	comp=Z,3.4nm,0.7s,baz=32,slow=6.2,SNR=32									
WRA	Warramunga Arr	80.89	222		P		P		17 26 14.6	-1.9
WRA					pmax		pmax			
	comp=Z,3.0nm,0.7s									
WRA	Warramunga Arr	80.89	222		P		P		17 26 14.6	-1.9
HYB	Hyderabad	82.88	289	*i*	P		P		17 26 26.0	-1.3
FITZ	Fitzroy Crossi	83.22	230		P		P		17 26 27.5	-1.2
	comp=Z,2.4nm,0.7s,baz=74,slow=9.2,SNR=3.7									
FITZ	Fitzroy Crossi	83.22	230		P		P		17 26 27.5	-1.2
ASAR	Alice Springs	84.39	221		P		P		17 26 33.4	-1.3
	comp=Z,2.3nm,0.7s,baz=23,slow=5.3,SNR=34									
ASAR	Alice Springs	84.39	221		P		P		17 26 33.4	-1.3
ASAR					pmax		pmax			
	comp=Z,2.0nm,0.7s									
ASAR	Alice Springs	84.39	221		P		P		17 26 33.4	-1.3
BRTR	Keskin Array B	84.46	334		P		P		17 26 35.8	+0.6
	comp=Z,2.5nm,0.8s,baz=37,slow=2.5,SNR=9.1									
BRTR					pP		pP		17 26 47.5	+2.7
	comp=Z,1.0nm,0.7s,baz=66,slow=3.7,SNR=2.9									
BRTR	Keskin Array B	84.46	334		P		P		17 26 35.8	+0.6
BRTR					*PP		pP		17 26 47.6	+2.7
BRTR					pmax		pmax			
	comp=Z,3.0nm,0.8s									
BRTR					pmax		pmax			
	comp=Z,1.0nm,0.7s									
BRTR	Keskin Array B	84.46	334		P		P		17 26 35.8	+0.6
BRTR					pP		pP		17 26 47.5	+2.7

IDC **17** 17:16:17.4±0.9,22°.53S×167°.42E,*h*0*km*,*mb*4.2/10, *mb*1 4.4/11,*mb*1*mx*4.2/17,*mbtmp*4.2/11,*ML*3.9/1,*MS*3.6/2, *Ms*1 3.6/2,*ms*1*mx*3.2/22,Error ellipse: s-maj=23.9km s-min=17.1km az=12.0

NEIC **17** 17:16:19.6±0.7,22°.43S×167°.28E,*h*10*km*,*mb*4.5/9,Error ellipse: s-maj=18.9km s-min=11.9km az=171.0

ISCJB **17** 17:16:21.6±0.7,22°.5S±0°.1×167°.21E±0°.10,*h*33*km*, *mb*4.2/15,*MS*3.5/2,Error ellipse: s-maj=19.5km s-min=12.2km az=162.1

ISC 17 17:16:23.3±0.8,22°.4S±0°.2×167°.2E±0°.1,*h*35*km*,*n*37, σ1°22/35,*mb*4.2/15,New Caledonia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	0.77	294	Pg		Pn		17 16 37.0	-0.8
	96nm,0.3s,baz=95,slow=18,SNR=271								
DZM				Lg		Lg		17 16 52.9	
	192nm,0.3s,baz=166,slow=22,SNR=13								
DZM	Mont Dzumac	0.77	294	*e*Pg		Pn		17 16 34.9	-2.9
DZM				Lg		Lg		17 16 52.9	
EIDS	Eidsvold	15.04	255	P		Pn		17 19 53.4	+0.1
CTA	Charters Tower	19.66	273	P		Pn		17 20 52.3	+1.4
	0.2nm,0.3s,baz=96,slow=11,SNR=11								
CTA	Charters Tower	19.66	273	P		Pn		17 20 52.3	+1.4
CTAO	Charters Tower	19.66	273	*e*P		Pn		17 20 52.0	+1.1
	6.5nm,0.8s								
RPZ	Rata Peaks	21.50	172	LR		LR		17 27 10.2	
	comp=Z,136nm,19.0s,baz=252,slow=31								
COEN	Coen	24.29	286	*e*P		P		17 21 35.7	-1.9
	58nm,0.9s								
STKA	Stephens Creek	24.62	242	P		P		17 21 41.6	+1.1
	7.4nm,0.8s,baz=86,slow=8.4,SNR=15								
STKA				LR		LR		17 31 24.8	
	comp=Z,170nm,19.7s,baz=117,slow=37								
STKA	Stephens Creek	24.62	242	*e*P		P		17 21 41.3	+0.9
	2.2nm,0.9s								
AS31	Alice Springs	30.63	261	P		P		17 22 34.7	+0.2
ASAR	Alice Springs	30.63	261	P		P		17 22 34.5	+0.1
	3.5nm,0.8s,baz=88,slow=9.0,SNR=40								
ASAR	Alice Springs	30.63	261	P		P		17 22 34.5	+0.1
WRAB	Tennant Creek	30.70	268	P		P		17 22 35.4	+0.3
	4.7nm,1.1s								
WRA	Warramunga Arr	30.71	268	P		P		17 22 34.8	-0.4
	1.3nm,0.8s,baz=98,slow=8.5,SNR=12								
WRA	Warramunga Arr	30.71	268	P		P		17

IDC ***17*** *17:31:08.3±2.5, 6°.86N×72°.46W, h150km±24km, mb3.3/7, mb1 3.6/9, mb1mx3.4/22, mbtmp3.5/9, Error ellipse: s-maj=28.3km s-min=16.3km az=73.0*

ISCJB ***17*** *17:31:10.8±0.5, 6°.95N±0°.05×72°.98W±0°.06, h169km±5km, mb3.5/7, Error ellipse: s-maj=11.4km s-min=5.8km az=37.0*

FUNV ***17*** *17:31:12.0, 6°.83N×73°.12W, h153km, MW3.8*

ISC 17 17:31:11.3±0.8, 6°.92N±0°.06×72°.98W±0°.07, h166km±7km, n29, σ1°11/37, mb3.3/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**35**	*e*P		**Pn**		**17 31 40.2**	**+1.1**
CAPV				*e*S		**Sn**		**17 31 59.1**	**-1.5**
ROSC	**El Rosal**	**2.45**	**213**	P		**Pn**		**17 31 52.1**	**-1.0**
	28nm,0.3s,baz=94,slow=18,SNR=40								
ROSC				S		**Sn**		**17 32 24.3**	**-1.2**
	54nm,0.3s,baz=103,slow=16,SNR=13								
VIGV	**El Vigia**	**2.49**	**40**	*e*P		**Pn**		**17 31 54.5**	**+1.4**
VIGV				*e*S		**Sn**		**17 32 25.4**	**-0.3**
SOCV	**Socops**	**2.50**	**57**	*e*P		**Pn**		**17 31 54.8**	**+1.5**
SOCV				*e*S		**Sn**		**17 32 25.6**	**-0.2**
ELOV	**Elorza**	**3.47**	**88**	*e*P		**Pn**		**17 32 06.2**	**+0.9**
VIRV	**Villa del Rosa**	**3.60**	**9**	*e*P		**Pn**		**17 32 07.0**	**0.0**
VIRV				*e*S		**Sn**		**17 32 49.2**	**-1.2**
QARV	**Quebrada Arrib**	**4.07**	**36**	*e*P		**Pn**		**17 32 14.5**	**+1.5**
QARV				*e*S		**Sn**		**17 32 59.3**	**-1.8**
SANV	**Sanarito**	**4.26**	**53**	*e*P		**Pn**		**17 32 16.5**	**+1.0**
SANV				*e*S		**Sn**		**17 33 04.8**	**-0.9**
CURV	**Curarigua**	**4.28**	**44**	*e*P		**Pn**		**17 32 16.7**	**+1.0**
CURV				*e*S		**Sn**		**17 33 04.6**	**-1.5**
DABV	**Dabajuro**	**4.60**	**30**	*e*P		**Pn**		**17 32 21.0**	**+1.2**
TEPV	**Terepaima**	**4.81**	**51**	*e*P		**Pn**		**17 32 24.0**	**+1.3**
SIQV	**Siquisique**	**4.85**	**40**	*e*P		**Pn**		**17 32 23.8**	**+0.7**
SIQV				*e*S		**Sn**		**17 33 17.4**	**-1.9**
BAUV	**El Baul**	**5.29**	**67**	*e*S		**Sn**		**17 33 27.8**	**-1.7**
MAPV	**Macapo**	**5.33**	**57**	*e*P		**Pn**		**17 32 30.1**	**+0.7**
IMOV	**Isla Los Monje**	**5.78**	**21**	*e*P		**Pn**		**17 32 35.1**	**-0.1**
MONV	**Montecano**	**5.81**	**30**	*e*P		**Pn**		**17 32 36.1**	**+0.4**
TURV	**Turiamo**	**6.17**	**55**	*e*P		**Pn**		**17 32 40.9**	**+0.4**
CUPV	**Cœpira**	**7.76**	**66**	*e*P		**Pn**		**17 33 01.4**	**-0.3**
ATAH	**Atahualpa**	**14.97**	**201**	P		**Pn**		**17 34 36.0**	**+0.7**
	6.3nm,0.3s,baz=360,slow=5.1,SNR=70								
LPAZ	**La Paz**	**23.55**	**168**	P		**P**		**17 36 06.1**	**-1.4**
	0.4nm,0.4s,baz=16,slow=15,SNR=3.0								
TXAR	**Lajitas Array**	**36.50**	**311**	P		**P**		**17 38 01.6**	**+0.7**
	0.3nm,0.4s,baz=122,slow=8.8,SNR=6.1								
ULM	**Lac du Bonnet**	**47.24**	**340**	P		**P**		**17 39 28.0**	**+0.4**
	1.6nm,0.5s,baz=166,slow=8.5,SNR=4.1								
SCHQ	**Schefferville**	**48.03**	**5**	P		**P**		**17 39 34.1**	**+0.6**
	5.5nm,0.9s,baz=212,slow=9.5,SNR=3.2								
PDAR	**Pinedale Array**	**48.08**	**324**	P		**P**		**17 39 34.5**	**0.0**
	0.4nm,0.7s,baz=116,slow=7.1,SNR=3.5								
YKA	**Yellowknife Ar**	**63.22**	**340**	P		**P**		**17 41 22.4**	**+0.8**
	0.8nm,0.6s,baz=132,slow=6.7,SNR=17								
TORD	**Torodi Ar. Bea**	**73.58**	**78**	P		P		17 42 21.0	-5.9
	0.4nm,0.9s,baz=259,slow=3.0,SNR=2.8								
MKAR	**Makanchi Array**	**122.18**	**20**	PKP		**PKPdf**		**17 49 45.4**	**-1.2**
	0.2nm,0.6s,baz=315,slow=0.2,SNR=4.5								
ASAR	**Alice Springs**	**149.28**	**234**	PKPbc		**PKPbc**		**17 50 40.5**	**-0.9**
	0.5nm,0.7s,baz=124,slow=3.6,SNR=6.7								
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc		**PKPbc**		**17 50 43.8**	**-0.6**
	0.3nm,0.8s,baz=110,slow=2.4,SNR=10								

IDC 17 17:39:58.8±0.8, 53°.95S×137°.26W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/13, mbtmp3.9/5, Error ellipse: s-maj=41.7km s-min=22.3km az=174.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**36.22**	**180**	P		P		17 47 03.2	+0.1
	1.0nm,1.0s,baz=70,slow=5.6,SNR=3.1								
LPAZ	**La Paz**	**64.72**	**83**	P		P		17 50 39.8	+0.3
	1.0nm,0.8s,baz=220,slow=4.9,SNR=5.9								
SIV	**San Ignacio**	**69.11**	**89**	P		P		17 51 05.9	-0.8
	2.1nm,0.9s,baz=234,slow=6.0,SNR=8.2								
ASAR	**Alice Springs**	**70.55**	**256**	P		P		17 51 15.1	-0.5
	0.9nm,0.9s,baz=140,slow=6.8,SNR=9.7								
WRA	**Warramunga Arr**	**73.20**	**259**	P		P		17 51 31.4	-0.1
	0.9nm,0.8s,baz=143,slow=5.3,SNR=6.2								
ESDC	**Sonseca Array**	**145.67**	**95**	PKPbc		PKPbc		17 59 38.8	0.0
	0.6nm,0.6s,baz=242,slow=2.9,SNR=7.6								
MKAR	**Makanchi Array**	**154.06**	**270**	PKPab		PKPab		18 00 13.3	+0.2
	0.6nm,0.8s,baz=110,slow=4.9,SNR=5.6								
ZALV	**Zalesovo Beam**	**155.50**	**287**	PKPab		PKPab		18 00 18.9	0.0
	0.2nm,0.3s,baz=63,slow=3.5,SNR=2.1								

IDC 17 17:53:08.8±2.5, 0°.42S×131°.71E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=119.6km s-min=24.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.56**	**198**	P		Pn		17 57 28.8	+1.4
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=3.3								
WRA	**Warramunga Arr**	**19.57**	**173**	P		P		17 57 37.8	-0.7
	0.1nm,0.3s,baz=351,slow=11,SNR=9.7								
WRA				S		Sn		18 01 02.5	-18
	0.0nm,0.3s,baz=354,slow=23,SNR=2.8								
ASAR	**Alice Springs**	**23.21**	**175**	P		P		17 58 17.1	-0.5
	0.7nm,0.6s,baz=354,slow=9.1,SNR=19								
MKAR	**Makanchi Array**	**63.79**	**324**	P		P		18 03 42.9	0.0
	2.2nm,0.8s,baz=114,slow=7.7,SNR=21								

MOS ***17*** *17:53:48.1±1.2, 51°.18N×178°.95E, h33km, mb4.9/71, Error ellipse: s-maj=7.8km s-min=5.7km az=100.0*

ISCJB ***17*** *17:53:50.2±0.5, 51°.21N±0°.05×178°.85E±0°.03, h49km±3km, mb4.7/141, MS3.9/16, Error ellipse: s-maj=7.8km s-min=2.7km az=2.0*

IDC ***17*** *17:53:50.6±0.7, 51°.13N×178°.97E, h40km±5km, mb4.2/30, mb1 4.4/32, mb1mx4.4/34, mbtmp4.2/32, ML3.9/2, MS3.8/13, Ms1 3.8/13, ms1mx3.7/36, Error ellipse: s-maj=13.8km s-min=9.3km az=162.0*

NEIC ***17*** *17:53:51.6±0.4, 51°.21N×178°.89E, h48km±3km, mb4.8/84, ML4.6(AEIC), Error ellipse: s-maj=6.5km s-min=2.9km az=177.0*

BJI ***17*** *17:53:51.4, 51°.45N×178°.28E, h41km, mB5.2/26, mb4.8/41, Ms4.8/18, Ms7 4.6/18*

ISC 17 17:53:51.1±0.4, 51°.09N±0°.07×178°.89E±0°.03, h44km±2km, h43km:pP-P, n588, σ0.97/887, mb4.8/141, MS3.9/16, 251C-246D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.61**	**65**	P		**Pn**		**17 54 17.0**	**0.0**
GANE	**Gareloi Northe**	**1.63**	**63**	P		**Pn**		**17 54 17.1**	**-0.3**
GAEA	**Gareloi East**	**1.63**	**64**	P		**Pn**		**17 54 17.2**	**-0.2**
TANO	**Tanaga North**	**2.04**	**65**	P		**Pn**		**17 54 23.1**	**+0.1**
TANO				S		**Sn**		**17 54 50.6**	**+3.4**
TASE	**Tanaga Southea**	**2.06**	**68**	P		**Pn**		**17 54 23.5**	**+0.2**
TAFP	**Tanaga Falls P**	**2.12**	**66**	P		**Pn**		**17 54 24.3**	**+0.3**
TAFP				S		**Sn**		**17 54 52.3**	**+3.2**
KIMD	**Kanaga Island**	**2.52**	**73**	P		**Pn**		**17 54 29.4**	**-0.1**
KIKV	**Kanaga Island**	**2.59**	**71**	P		**Pn**		**17 54 30.8**	**+0.3**
KIKV				S		**Sn**		**17 55 01.3**	**+0.7**
ADAG	**Mount Adagdak**	**2.95**	**71**	P		**Pn**		**17 54 36.4**	**+0.9**
ETKA	**Kagalaska Isla**	**3.04**	**74**	P		**Pn**		**17 54 36.7**	**0.0**
GSCK	**Great Sitkin C**	**3.23**	**72**	P		**Pn**		**17 54 39.4**	**+0.2**
GSCK				S		**Sn**		**17 55 16.8**	**+0.5**
GSTD	**Great Sitkin T**	**3.25**	**71**	P		**Pn**		**17 54 39.5**	**-0.1**
GSTD				S		**Sn**		**17 55 20.4**	**+3.4**
GSMY	**Great Sitkin M**	**3.30**	**71**	P		**Pn**		**17 54 40.1**	**-0.1**
GSTR	**Great Sitkin T**	**3.31**	**70**	*e*Pn		**Pn**		**17 54 40.4**	**+0.1**
GSTR				*e*Sn		**Sn**		**17 55 21.2**	**+2.8**
SMY	**Shemya**	**3.39**	**301**	P		**Pn**		**17 54 39.5**	**-1.9**
SMY				*e*				17 55 29.1	
SMY	**Shemya**	**3.39**	**301**	P		**Pn**		**17 54 39.5**	**-1.9**
SMY				*e*Sn		Sn		17 55 29.1	+8.8
FX1	**Attu Island--F**	**3.96**	**299**	Pn		**Pn**		**17 54 48.9**	**-0.4**
	44nm,0.3s,baz=192,slow=4.3,SNR=66								
FX1				Sn		Sn		17 55 42.8	+8.3
	176nm,0.3s,baz=8.0,slow=20,SNR=11								
FX1				LR		LR		17 56 18.9	
	comp=Z,2μm,20.4s,baz=122,slow=37								
FX1	**Attu Island--F**	**3.96**	**299**	P		**Pn**		**17 54 48.9**	**-0.4**
FX1								17 55 42.8	
FX1	comp=Z,44nm,0.3s					pmax	pmax		
FX1	comp=N,176nm,0.3s					smax	smax		
FX1	comp=Z,2μm,20.4s					MLR	MLR		
FX1	**Attu Island--F**	**3.96**	**299**	Pn		**Pn**		**17 54 48.9**	**-0.4**
FX1				Sn		Sn		17 55 42.8	+8.3
KOKL	**Mount Kliuchef**	**4.47**	**71**	P		**Pn**		**17 54 57.0**	**+0.6**
KOKL				S		**Sn**		**17 55 50.9**	**+3.8**
KOFP	**Korovin Flat P**	**4.52**	**72**	P		**Pn**		**17 54 58.4**	**+1.4**
KOSE	**Korovin Southe**	**4.57**	**71**	P		**Pn**		**17 54 58.6**	**+0.9**
NIKO	**Nikolski**	**7.79**	**71**	*e*Pn		**Pn**		**17 55 41.2**	**-0.6**
UNV	**Unalaska Valle**	**9.34**	**67**	*e*Pn		**Pn**		**17 56 03.2**	**+0.3**
	comp=Z,56nm,0.5s								
AKUT	**Akutan**	**9.81**	**66**	*e*Pn		**Pn**		**17 56 09.7**	**+0.3**
FALS	**False Pass**	**11.31**	**64**	*e*Pn		**Pn**		**17 56 28.9**	**-1.0**
SDPT	**Sand Point**	**13.06**	**63**	*e*Pn		**Pn**		**17 56 52.9**	**-0.9**
PETK	**Petropavlovsk-**	**13.17**	**287**	Pn		**Pn**		**17 56 56.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=3.6								
PETK				Sn		Sn		17 59 11.5	-8.8
	comp=Z,0.1nm,0.3s,baz=73,slow=19,SNR=2.8								
PETK	**Petropavlovsk-**	**13.17**	**287**	P		**Pn**		**17 56 56.3**	**+0.9**
PETK	**Petropavlovsk-**	**13.17**	**287**	Pn		**Pn**		**17 56 56.2**	**+0.9**
PETK				Sn		Sn		17 59 11.5	-8.8
GAMB	**Gambell**	**13.66**	**18**	*e*Pn		**Pn**		**17 57 01.5**	**-0.4**
	comp=Z,14nm,0.6s								
CHGN	**Chignik**	**14.39**	**60**	*e*Pn		**Pn**		**17 57 09.1**	**-2.7**
TNA	**Tin City**	**16.02**	**20**	*e*Pn		**P**		**17 57 37.0**	**+1.2**
	comp=Z,32nm,1.2s								
KDAK	**Kodiak Island**	**17.80**	**57**	P		**Pn**		**17 57 51.8**	**-3.4**
	comp=Z,4.3nm,0.3s,baz=260,slow=4.7,SNR=20								
KDAK				S		Sn		18 01 02.4	-10
	comp=Z,0.2nm,0.3s,baz=353,slow=17,SNR=2.6								
KDAK	**Kodiak Island**	**17.80**	**57**	P		**Pn**		**17 57 51.8**	**-3.4**
KDAK				S		Sn		18 01 02.4	-10
KDAK				pmax		pmax			
	comp=Z,4.0nm,0.3s								
KDAK	**Kodiak Island**	**17.80**	**57**	P		**Pn**		**17 57 51.8**	**-3.4**
KDAK				S		Sn		18 01 02.4	-10
BILL	**Bilibino**	**18.09**	**345**	*ei*P		**Pn**		**17 57 59.2**	**+0.5**
BILL				pmax		pmax			
	comp=Z,59nm,1.2s								
BILL	**Bilibino**	**18.09**	**345**	*e*P		**Pn**		**17 57 59.2**	**+0.5**
	comp=Z,40nm,0.9s								
RSO	**Reoubt South**	**18.36**	**48**	*e*P		**P**		**17 58 02.2**	**+0.2**
	comp=Z,164nm,0.9s								
SEY	**Seymchan**	**18.50**	**320**	*e*P		**Pn**		**17 58 04.3**	**+0.5**
PPLA	**Purkeypile**	**19.49**	**42**	*e*P		**Pn**		**17 58 15.1**	**-0.6**
	comp=Z,30nm,0.6s								
SLKM	**Skilak Lake**	**19.58**	**49**	*e*P		**P**		**17 58 12.8**	**-2.3**
SLKM	**Skilak Lake**	**19.58**	**49**	*e*P		**P**		**17 58 12.8**	**-2.3**
RC01	**Rabbit Creek A**	**19.96**	**48**	*e*P		**P**		**17 58 18.1**	**-1.1**
	comp=Z,12nm,0.5s								
PMR	**Palmer**	**20.38**	**47**	*e*P		**P**		**17 58 22.0**	**-1.7**
PMR				pmax		pmax			
	comp=Z,12nm,0.7s								
PMR	**Palmer**	**20.38**	**47**	*e*P		**P**		**17 58 22.0**	**-1.7**
	comp=Z,12nm,0.7s								
TRF	**Thorofare Moun**	**20.50**	**41**	*e*P		**P**		**17 58 24.8**	**-0.4**
	comp=Z,31nm,0.8s								
SML	**Sawmill**	**20.81**	**46**	P		**P**		**17 58 26.7**	**-1.7**
SML				pmax		pmax			
	comp=Z,10.0nm,0.8s								
SML	**Sawmill**	**20.81**	**46**	P		**P**		**17 58 26.7**	**-1.7**
	comp=Z,9.7nm,0.8s								
MCK	**McKinley**	**21.17**	**41**	*e*P		**P**		**17 58 30.5**	**-1.8**
MCK				pmax		pmax			
	comp=Z,27nm,0.9s								
MCK	**McKinley**	**21.17**	**41**	*e*P		**P**		**17 58 30.5**	**-1.8**
	comp=Z,27nm,0.9s								
DIV	**Divide**	**21.84**	**49**	*e*P		**P**		**17 58 38.7**	**-0.8**
	comp=Z,28nm,0.7s								
COLA	**College**	**22.04**	**39**	*e*P		**P**		**17 58 40.3**	**-1.2**
COLA				pmax		pmax			
	comp=Z,32nm,0.9s								
COLA	**College**	**22.04**	**39**	*e*P		**P**		**17 58 40.3**	**-1.2**
	comp=Z,32nm,0.9s								
COLD	**Coldfoot**	**22.26**	**32**	*e*P		**P**		**17 58 43.9**	**0.0**
	comp=Z,19nm,1.0s								
BMRM	**Bremner River**	**22.37**	**50**	*e*P		**P**		**17 58 43.8**	**-1.5**
	comp=Z,32nm,0.8s								
ILAR	**Eielson Array**	**22.38**	**39**	P		**P**		**17 58 42.5**	**-2.7**
	comp=Z,5.1nm,0.5s,baz=231,slow=7.9,SNR=60								
ILAR				PcP		**PcP**		**18 02 38.4**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=281,slow=2.7,SNR=4.4								
ILAR	**Eielson Array**	**22.38**	**39**	P		**P**		**17 58 42.5**	**-2.7**
ILAR				PcP		**PcP**		**18 02 38.4**	**-0.1**
ILAR				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**22.38**	**39**	P		**P**		**17 58 42.5**	**-2.7**
ILAR				PcP		**PcP**		**18 02 38.4**	**-0.1**
PAX	**Paxson**	**22.41**	**44**	*e*P		**P**		**17 58 43.1**	**-2.5**
PAX				pmax		pmax			
	comp=Z,15nm,0.7s								
PAX	**Paxson**	**22.41**	**44**	*e*P		**P**		**17 58 43.1**	**-2.5**
	comp=Z,15nm,0.7s								
MENT	**Mentasta**	**23.17**	**45**	*e*P		**P**		**17 58 52.3**	**-1.2**
DOT	**Dot Lake**	**23.20**	**43**	*e*P		**P**		**17 58 51.4**	**-2.4**
	comp=Z,5.8nm,0.7s								
YSS	**Yuzh-Sakhalins**	**23.89**	**274**	⇓*e*P		**P**		**17 59 02.2**	**+1.8**
YSS				pmax		pmax			
	comp=Z,30nm,1.0s								
EGAK	**Eagle**	**24.72**	**41**	*e*P		**P**		**17 59 06.4**	**-1.4**
	comp=Z,46nm,0.8s								
ASAJ	**Asahikawa**	**25.25**	**268**	P		**P**		**17 59 13.5**	**+0.7**
	comp=Z,26nm,0.8s,baz=78,slow=8.1,SNR=11								
ASAJ				LR		LR		18 07 19.7	
	comp=Z,163nm,20.9s,baz=247,slow=32								
ASAJ	**Asahikawa**	**25.25**	**268**	P		**P**		**17 59 13.5**	**+0.7**
ASAJ				pmax		pmax			
	comp=Z,27nm,0.8s								
ASAJ				MLR		MLR			
	comp=Z,163nm,20.9s								
ASAJ	**Asahikawa**	**25.25**	**268**	*e*P		**P**		**17 59 13.3**	**+0.5**
	comp=Z,15nm,0.9s								
DAWY	**Dawson**	**25.31**	**43**	*e*P		**P**		**17 59 12.1**	**-1.1**
SIT	**Sitka**	**27.09**	**59**	P		**P**		**17 59 28.9**	**-0.4**
SIT	**Sitka**	**27.09**	**59**	P		**P**		**17 59 28.9**	**-0.4**
HABR	**Khabarovsk**	**28.11**	**282**	*e*P		**P**		**17 59 37.1**	**-1.4**
HABR				*e*PP		**pP**		**17 59 52.0**	**+1.7**
HABR								18 00 28.3	
HABR				*e*				18 02 49.0	
HABR				S		**S**		**18 04 19.3**	**-1.0**
HABR				*e*SS		**SnSn**		**18 05 41.6**	**+3.1**
HABR				*e*				18 10 17.3	
HABR				pmax		pmax			
	comp=E,18nm,1.6s								
HABR				pmax		pmax			
	comp=N,18nm,2.8s								
HABR				pmax		pmax			
	comp=Z,25nm,1.6s								
HABR				MLR		MLR			
	comp=Z,189nm,19.0s								
YAK	**Yakutsk**	**28.52**	**312**	*e*P		**P**		**17 59 39.8**	**-2.1**
YAK				pmax		pmax			
	comp=Z,31nm,1.0s								
YAK	**Yakutsk**	**28.52**	**312**	*e*P		**P**		**17 59 39.8**	**-2.1**
	comp=Z,31nm,1.0s								
INK	**Inuvik**	**28.53**	**35**	P		**P**		**17 59 41.0**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=251,slow=9.1,SNR=16								
INK				PcP		**PcP**		**18 02 52.1**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=213,slow=4.7,SNR=4.5								
INK	**Inuvik**	**28.53**	**35**	P		**P**		**17 59 41.0**	**-1.0**
INK								18 02 52.1	
INK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
INK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**28.53**	**35**	P		**P**		**17 59 41.0**	**-1.0**
INK				*e*				17 59 46.4	
INK				PcP		**PcP**		**18 02 52.1**	**-0.2**
KLR	**Kul'dur**	**29.85**	**285**	*e*P		P		17 59 50.2	-3.8
KLR				pmax		pmax			
	comp=Z,45nm,1.6s								
USRK	**Ussuriysk Arra**	**31.88**	**276**	P		**P**		**18 00 11.5**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=355,slow=6.7,SNR=4.9								
USRK				pP		**pP**		**18 00 22.6**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=69,slow=11,SNR=6.0								
USRK				PcP		**PcP**		**18 03 02.5**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=85,slow=2.0,SNR=5.4								
USRK				pPcP				18 03 13.8	
	comp=Z,2.0nm,0.7s,baz=62,slow=2.2,SNR=4.3								
USRK				LR		LR		18 11 40.1	
	comp=Z,110nm,20.3s,baz=151,slow=34								
MJAR	**Matsushiro Arr**	**32.30**	**259**	P		**P**		**18 00 16.1**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=56,slow=7.3,SNR=6.8								
MJAR				pP		**pP**		**18 00 27.2**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=55,slow=7.2,SNR=6.7								
MJAR				LR		LR		18 10 47.6	
	comp=Z,143nm,21.6s,baz=65,slow=31								
MJAR	**Matsushiro Arr**	**32.30**	**259**	P		**P**		**18 00 16.1**	**+0.4**
MJAR				*PP		**pP**		**18 00 27.2**	**-0.3**
MJAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MJAR				MLR		MLR			
	comp=Z,143nm,21.6s								
MJAR	**Matsushiro Arr**	**32.30**	**259**	P		**P**		**18 00 16.1**	**+0.4**
MJAR				pP		**pP**		**18 00 27.2**	**-0.3**
MAJO	**Matsushiro**	**32.30**	**259**	P		**P**		**18 00 16.0**	**+0.3**
MAJO				pmax		pmax			
	comp=Z,16nm,1.2s								
MAJO	**Matsushiro**	**32.30**	**259**	P		**P**		**18 00 15.9**	**+0.3**
	comp=Z,16nm,1.2s								
MAT	**Matsushiro**	**32.30**	**259**	P		**P**		**18 00 16.2**	**+0.5**
CN2	**Changchun**	**36.17**	**280**	*e*P		**P**		**18 00 48.1**	**-0.9**
YKA	**Yellowknife Ar**	**36.48**	**46**	P		**P**		**18 00 50.7**	**-0.7**
	comp=Z,7.4nm,0.8s,baz=282,slow=8.3,SNR=82								
YKA				PcP		**PcP**		**18 03 14.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=290,slow=3.3,SNR=4.5								
YKA				LR		LR		18 17 12.6	
	comp=Z,33nm,21.0s,baz=235,slow=38								
YKA	**Yellowknife Ar**	**36.48**	**46**	P		**P**		**18 00 50.8**	**-0.7**
YKA								18 03 14.7	
YKA	**Yellowknife Ar**	**36.48**	**46**	P		**P**		**18 00 50.8**	**-0.7**
YKA				PcP		**PcP**		**18 03 14.7**	**+0.4**
BOD	**Bodaibo**	**36.98**	**306**	⇓*i*P		**P**		**18 00 54.7**	**-1.1**
BOD				pmax		pmax			
	comp=Z,18nm,1.0s								
JCW	**Jim Creek**	**37.54**	**71**	*e*P		**P**		**18 01 00.1**	**-0.6**
	comp=Z,6.5nm,0.6s								
JCW				*e*PcP		**PcP**		**18 03 19.0**	**+1.1**
KSRS	**Korea Array**	**38.18**	**269**	P		**P**		**18 01 07.2**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=58,slow=8.5,SNR=21								
KSRS				PcP		**PcP**		**18 03 20.4**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=55,slow=4.1,SNR=4.4								
KSRS				LR		LR		18 16 56.7	
	comp=Z,78nm,18.4s,baz=215,slow=36								
KSRS	**Korea Array**	**38.18**	**269**	P		**P**		**18 01 07.3**	**+1.1**
KSRS								18 03 20.4	
KSRS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KSRS				MLR		MLR			
	comp=Z,79nm,18.5s								
KSAR	**Wonju Array Be**	**38.21**	**269**	P		**P**		**18 01 07.3**	**+0.8**
KSAR								18 03 20.4	
KSAR	**Wonju Array Be**	**38.21**	**269**	P		**P**		**18 01 07.2**	**+0.8**
KSAR				PcP		**PcP**		**18 03 20.4**	**+0.3**
FL2	**Flat Top 2**	**38.24**	**74**	P		**P**		**18 01 08.1**	**+1.4**
TDL	**Tradedollar La**	**38.24**	**73**	P		**P**		**18 01 08.2**	**+1.4**
LON	**Longmire**	**38.29**	**73**	*e*P		**P**		**18 01 07.5**	**+0.4**
LON				pmax		pmax			
	comp=Z,10.0nm,0.7s								
LON	**Longmire**	**38.29**	**73**	*e*P		**P**		**18 01 07.5**	**+0.4**
	comp=Z,9.8nm,0.7s								
WPW	**White Pass**	**38.48**	**73**	P		**P**		**18 01 09.8**	**+1.1**
ASR	**Mount Adams--S**	**38.72**	**73**	P		**P**		**18 01 11.8**	**+1.1**
ETW	**Entiat**	**38.77**	**71**	*e*P		**P**		**18 01 11.3**	**+0.1**
	comp=Z,15nm,0.8s								
INCN	**Inchon**	**38.98**	**270**	P		**P**		**18 01 13.5**	**+0.6**
	comp=Z,24nm,0.9s								
VLL	**Laurance Lake**	**39.01**	**74**	P		**

SLMT	**Seeley Lake**	**42.97**	**68**	*e*P		**P**	**18 01 45.4**	**-0.5**
	comp=Z,6.2nm,0.7s							
D14A	**Greenough**	**43.05**	**68**	⇑P		**P**	**18 01 45.6**	**-0.9**
	baz=43,SNR=14							
D14A				⇑P		**P**	**18 01 45.6**	**-0.9**
	baz=43,SNR=14							
A16A	**West Butte Ran**	**43.19**	**64**	⇑P		**P**	**18 01 46.3**	**-1.2**
	baz=43							
A16A				⇑P		**P**	**18 01 46.3**	**-1.2**
	baz=43							
C15A	**Salmond Ranch,**	**43.21**	**66**	⇑P		**P**	**18 01 47.6**	**-0.1**
	baz=43,SNR=22							
C15A				⇑P		**P**	**18 01 47.6**	**-0.1**
	baz=43,SNR=22							
F13A	**Darby**	**43.25**	**70**	⇓P		**P**	**18 01 48.1**	**+0.1**
	baz=43,SNR=6.7							
F13A				⇓P		**P**	**18 01 48.1**	**+0.1**
	baz=43,SNR=6.7							
CHMT	**Chamberlain Mo**	**43.29**	**68**	*e*P		**P**	**18 01 47.1**	**-1.3**
	comp=Z,1.9nm,0.5s							
E14A	**Clinton**	**43.41**	**69**	⇓P		**P**	**18 01 49.9**	**+0.6**
	baz=43,SNR=9.3							
E14A				⇓P		**P**	**18 01 49.9**	**+0.6**
	baz=43,SNR=9.3							
H12A	**Diamond D Ranc**	**43.60**	**72**	⇓P		**P**	**18 01 50.6**	**-0.4**
	baz=43,SNR=10							
H12A				⇓P		**P**	**18 01 50.6**	**-0.4**
	baz=43,SNR=10							
D15A	**Lincoln**	**43.65**	**67**	⇑P		**P**	**18 01 50.5**	**-0.7**
	baz=43,SNR=13							
D15A				⇑P		**P**	**18 01 50.5**	**-0.7**
	baz=43,SNR=13							
MFID	**Camas Ranch**	**43.65**	**74**	⇑P		**P**	**18 01 51.4**	**+0.2**
	baz=44							
MFID				⇑P		**P**	**18 01 51.4**	**+0.2**
	baz=44							
G13A	**Cobalt**	**43.68**	**71**	⇑P		**P**	**18 01 51.4**	**-0.1**
	baz=44,SNR=21							
G13A				⇑P		**P**	**18 01 51.4**	**-0.1**
	baz=44,SNR=21							
C16A	**Fuhringer Ranc**	**43.70**	**66**	⇓P		**P**	**18 01 51.0**	**-0.5**
	baz=44,SNR=11							
C16A				⇓P		**P**	**18 01 51.0**	**-0.5**
	baz=44,SNR=11							
A17A	**Triple J Farms**	**43.70**	**64**	⇓P		**P**	**18 01 50.4**	**-1.2**
	baz=44,SNR=7.6							
A17A				⇓P		**P**	**18 01 50.4**	**-1.2**
	baz=44,SNR=7.6							
F14A	**Wisdom**	**43.80**	**69**	⇓P		**P**	**18 01 52.5**	**0.0**
	baz=44,SNR=6.0							
F14A				⇓P		**P**	**18 01 52.5**	**0.0**
	baz=44,SNR=6.0							
I12A	**Atlanta**	**43.85**	**73**	⇓P		**P**	**18 01 53.5**	**+0.5**
	baz=44							
I12A				⇓P		**P**	**18 01 53.5**	**+0.5**
	baz=44							
E15A	**Deer Lodge**	**43.90**	**68**	⇓P		**P**	**18 01 53.0**	**-0.3**
	baz=44							
E15A				⇓P		**P**	**18 01 53.0**	**-0.3**
	baz=44							
H13A	**Challis**	**43.95**	**71**	⇑P		**P**	**18 01 53.8**	**0.0**
	baz=44							
H13A				⇑P		**P**	**18 01 53.8**	**0.0**
	baz=44							
CMB	**Columbia Colle**	**43.97**	**83**	P		P	18 01 50.6	-3.2
CMB				pmax		pmax		
	comp=Z,35nm,0.3s							
CMB	**Columbia Colle**	**43.97**	**83**	P		P	18 01 50.6	-3.2
	comp=Z,34nm,0.3s							
B17A	**L&G Farms, Che**	**43.98**	**65**	⇓P		**P**	**18 01 53.5**	**-0.3**
	baz=44,SNR=6.3							
B17A				⇓P		**P**	**18 01 53.5**	**-0.3**
	baz=44,SNR=6.3							
G14A	**Jackson**	**44.06**	**70**	⇓P		**P**	**18 01 54.4**	**-0.2**
	baz=44,SNR=12							
G14A				⇓P		**P**	**18 01 54.4**	**-0.2**
	baz=44,SNR=12							
D16A	**Dana Ranch, Ca**	**44.22**	**67**	⇑P		**P**	**18 01 55.4**	**-0.4**
	baz=44,SNR=5.4							
D16A				⇑P		**P**	**18 01 55.4**	**-0.4**
	baz=44,SNR=5.4							
HRY	**Holter Researc**	**44.22**	**67**	*e*P		**P**	**18 01 54.9**	**-0.9**
	comp=Z,11nm,0.7s							
C17A	**Wharram Farm,**	**44.35**	**66**	⇑P		**P**	**18 01 55.9**	**-0.8**
	baz=44,SNR=8.5							
C17A				⇑P		**P**	**18 01 55.9**	**-0.8**
	baz=44,SNR=8.5							
I13A	**Wildhorse Cree**	**44.40**	**72**	⇑P		**P**	**18 01 57.7**	**+0.3**
	baz=44,SNR=35							
I13A				⇑P		**P**	**18 01 57.7**	**+0.3**
	baz=44,SNR=35							
HLID	**Hailey**	**44.42**	**73**	*e*P		**P**	**18 01 57.6**	**+0.1**
	comp=Z,20nm,1.0s							
HLID	**Hailey**	**44.42**	**73**	⇑P		**P**	**18 01 57.9**	**+0.4**
	baz=44,SNR=26							
HLID				⇑P		**P**	**18 01 57.9**	**+0.4**
	baz=44,SNR=26							
H14A	**Leadore**	**44.45**	**71**	⇑P		**P**	**18 01 57.9**	**+0.1**
	baz=44,SNR=14							
H14A				⇑P		**P**	**18 01 57.9**	**+0.1**
	baz=44,SNR=14							
B18A	**Beardsley Farm**	**44.51**	**64**	⇓P		**P**	**18 01 57.7**	**-0.3**
	baz=44							
B18A				⇓P		**P**	**18 01 57.7**	**-0.3**
	baz=44							
MCMT	**McKenzie Canyo**	**44.65**	**70**	*e*P		**P**	**18 01 59.0**	**-0.4**
	comp=Z,5.7nm,0.7s							
D17A	**Six Diamond Ra**	**44.65**	**66**	⇑P		**P**	**18 01 59.4**	**+0.2**
	baz=44,SNR=6.3							
D17A				⇑P		**P**	**18 01 59.4**	**+0.2**
	baz=44,SNR=6.3							
J13A	**Cove Ranch, Pi**	**44.65**	**73**	⇑P		**P**	**18 01 59.9**	**+0.6**
	baz=44,SNR=30							
J13A				⇑P		**P**	**18 01 59.9**	**+0.6**
	baz=44,SNR=30							
G15A	**Dillon**	**44.67**	**70**	⇓P		**P**	**18 01 59.4**	**-0.1**
	baz=44,SNR=9.4							
G15A				⇓P		**P**	**18 01 59.4**	**-0.1**
	baz=44,SNR=9.4							
I14A	**Mackay**	**44.79**	**72**	⇑P		**P**	**18 02 00.7**	**+0.3**
	baz=45,SNR=21							
I14A				⇑P		**P**	**18 02 00.7**	**+0.3**
	baz=45,SNR=21							
A19A	**Klindworth Far**	**44.82**	**63**	⇓P		**P**	**18 01 59.5**	**-1.0**
	baz=45							
A19A				⇓P		**P**	**18 01 59.5**	**-1.0**
	baz=45							
F16A	**Kennard Place,**	**44.84**	**68**	⇑P		**P**	**18 02 00.4**	**-0.4**
	baz=45,SNR=10							
F16A				⇑P		**P**	**18 02 00.4**	**-0.4**
	baz=45,SNR=10							
H15A	**Lima**	**44.88**	**70**	⇓P		**P**	**18 02 01.0**	**-0.2**
	baz=45							
H15A				⇓P		**P**	**18 02 01.0**	**-0.2**
	baz=45							
BOZ	**Bozeman (W)**	**44.91**	**69**	*e*P		**P**	**18 02 00.8**	**-0.6**
BOZ				pmax		pmax		
	comp=Z,11nm,0.6s							
BOZ	**Bozeman (W)**	**44.91**	**69**	*e*P		**P**	**18 02 00.8**	**-0.6**
	comp=Z,11nm,0.6s							
BOZ	**Bozeman (W)**	**44.91**	**69**	⇓P		**P**	**18 02 01.1**	**-0.2**
	baz=45,SNR=20							
BOZ				⇓P		**P**	**18 02 01.1**	**-0.2**
	baz=45,SNR=20							
BOZ				⇓P		**P**	**18 02 01.1**	**-0.2**
	baz=45,SNR=20							
E17A	**Martinsdale**	**44.92**	**67**	⇑P		**P**	**18 02 02.0**	**+0.5**
	baz=45,SNR=6.6							
E17A				⇑P		**P**	**18 02 02.0**	**+0.5**
	baz=45,SNR=6.6							
TLY	**Talaya**	**44.98**	**302**	*e*P		**P**	**18 02 01.1**	**-0.6**
TLY				*e*			18 02 12.1	
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s							
TLY				MLR		MLR		
	comp=Z,277nm,18.0s							
TLY	**Talaya**	**44.98**	**302**	*e*P		**P**	**18 02 01.6**	**0.0**
NVAR	**Mina Array Bea**	**45.03**	**81**	P		**P**	**18 02 03.5**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=293,slow=7.5,SNR=32							
NVAR	**Mina Array Bea**	**45.03**	**81**	P		**P**	**18 02 03.5**	**+1.0**
G16A	**Moss Hill, Enn**	**45.04**	**69**	⇑P		**P**	**18 02 02.1**	**-0.4**
	baz=45,SNR=18							
G16A				⇑P		**P**	**18 02 02.1**	**-0.4**
	baz=45,SNR=18							
ULN	**Ulaanbaatar**	**45.07**	**295**	*e*P		**P**	**18 02 02.7**	**+0.1**
ULN				*e*			18 03 42.5	
ULN				pmax		pmax		
	comp=Z,8.0nm,0.9s							
ULN	**Ulaanbaatar**	**45.07**	**295**	*e*P		**P**	**18 02 02.7**	**+0.1**
	comp=Z,7.9nm,0.9s							
ULN				*e*PcP		**PcP**	**18 03 42.5**	**-0.2**
J14A	**Carey**	**45.09**	**72**	⇓P		**P**	**18 02 03.6**	**+0.8**
	baz=45							
J14A				⇓P		**P**	**18 02 03.6**	**+0.8**
	baz=45							
D18A	**Linhart Farms,**	**45.13**	**66**	⇓P		**P**	**18 02 03.5**	**+0.4**
	baz=45,SNR=5.9							
D18A				⇓P		**P**	**18 02 03.5**	**+0.4**
	baz=45,SNR=5.9							
C19A	**Slack Wire Ran**	**45.28**	**65**	⇓P		**P**	**18 02 03.7**	**-0.5**
	baz=45,SNR=11							
C19A				⇓P		**P**	**18 02 03.7**	**-0.5**
	baz=45,SNR=11							
A20A	**Cobblestone Ra**	**45.30**	**63**	⇑P		**P**	**18 02 03.1**	**-1.2**
	baz=45,SNR=7.8							
A20A				⇑P		**P**	**18 02 03.1**	**-1.2**
	baz=45,SNR=7.8							
F17A	**Fitzpatrick Pl**	**45.34**	**68**	⇑P		**P**	**18 02 05.0**	**+0.2**
	baz=45,SNR=8.0							
F17A				⇑P		**P**	**18 02 05.0**	**+0.2**
	baz=45,SNR=8.0							
SONM	**Songino Array**	**45.47**	**296**	P		**P**	**18 02 06.3**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=58,slow=8.3,SNR=45							
SONM				PcP		**PcP**	**18 03 44.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=79,slow=2.8,SNR=6.0							
SONM				pScP			18 07 43.3	
	comp=Z,0.8nm,1.0s,baz=90,slow=2.9,SNR=3.2							
SONM				LR		LR	18 22 55.6	
	comp=Z,222nm,19.2s,baz=356,slow=38							
SONM	**Songino Array**	**45.47**	**296**	P		**P**	**18 02 06.3**	**+0.6**
SONM							18 03 44.3	
SONM				pmax		pmax		
	comp=Z,5.0nm,0.9s							
SONM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONM				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SONM				MLR		MLR		
	comp=Z,222nm,19.2s							
SONM	**Songino Array**	**45.47**	**296**	P		**P**	**18 02 06.3**	**+0.6**
SONM				PcP		**PcP**	**18 03 44.3**	**+0.3**
SONM				pScP			18 07 43.3	
B20A	**Solberg Farm,**	**45.48**	**63**	⇑P		**P**	**18 02 05.5**	**-0.2**
	baz=45							
B20A				⇑P		**P**	**18 02 05.5**	**-0.2**
	baz=45							
QLMT	**Earthquake Lak**	**45.48**	**69**	*e*P		**P**	**18 02 06.0**	**0.0**
	comp=Z,0.7nm,0.7s							
ELK	**Elko**	**45.54**	**76**	*e*P		**P**	**18 02 07.1**	**+0.6**
ELK	**Elko**	**45.54**	**76**	*e*P		**P**	**18 02 07.1**	**+0.6**
H16A	**Russell Place,**	**45.66**	**69**	⇓P		**P**	**18 02 07.7**	**+0.3**
	baz=45,SNR=14							
H16A				⇓P		**P**	**18 02 07.7**	**+0.3**
	baz=45,SNR=14							
D19A	**Cripps Ranch,**	**45.68**	**65**	⇑P		**P**	**18 02 07.6**	**+0.2**
	baz=45,SNR=5.3							
D19A				⇑P		**P**	**18 02 07.6**	**+0.2**
	baz=45,SNR=5.3							
J15A	**Blackfoot**	**45.70**	**72**	⇑P		**P**	**18 02 08.7**	**+1.1**
	baz=46,SNR=5.6							
J15A				⇑P		**P**	**18 02 08.7**	**+1.1**
	baz=46,SNR=5.6							
A21A	**Bergtoll Ranch**	**45.80**	**62**	⇑P		**P**	**18 02 07.9**	**-0.3**
	baz=46,SNR=6.3							
A21A				⇑P		**P**	**18 02 07.9**	**-0.3**
	baz=46,SNR=6.3							
ZAK	**Zakamensk**	**45.85**	**300**	⇑*i*P		**P**	**18 02 09.1**	**+0.5**
ZAK				*e*			18 03 45.4	
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.3s							
F18A	**Big Timber**	**45.89**	**67**	⇑P		**P**	**18 02 08.9**	**-0.2**
	baz=46							
F18A				⇑P		**P**	**18 02 08.9**	**-0.2**
	baz=46							
I16A	**Newdale**	**45.99**	**70**	⇓P		**P**	**18 02 10.6**	**+0.7**
	baz=46,SNR=7.7							
I16A				⇓P		**P**	**18 02 10.6**	**+0.7**
	baz=46,SNR=7.7							
YNR	**Norris Junctio**	**45.99**	**69**	*e*P		**P**	**18 02 10.5**	**+0.5**
	comp=Z,12nm,0.9s							
L14A	**Malta**	**46.00**	**74**	⇓P		**P**	**18 02 10.9**	**+0.9**
	baz=46,SNR=18							
L14A				⇓P		**P**	**18 02 10.9**	**+0.9**
	baz=46,SNR=18							
YFT	**Old Faithful**	**46.05**	**69**	*e*P		**P**	**18 02 11.4**	**+0.9**
	comp=Z,13nm,0.7s							
K15A	**Arbon**	**46.05**	**72**	⇓P		**P**	**18 02 11.5**	**+1.1**
	baz=46,SNR=24							
K15A				⇓P		**P**	**18 02 11.5**	**+1.1**
	baz=46,SNR=24							
E19A	**Rath Farm, Rou**	**46.12**	**66**	⇑P		**P**	**18 02 10.7**	**-0.1**
	baz=46							
E19A				⇑P		**P**	**18 02 10.7**	**-0.1**
	baz=46							
VES	**Vestal, Richgr**	**46.15**	**84**	⇓P		**P**	**18 02 10.9**	**-0.2**
	baz=46							
VES				⇓P		**P**	**18 02 10.9**	**-0.2**
	baz=46							
H17A	**Grant Village**	**46.23**	**69**	⇓P		**P**	**18 02 13.2**	**+1.3**
	baz=46,SNR=17							
H17A				⇓P		**P**	**18 02 13.2**	**+1.3**
	baz=46,SNR=17							
LKWY	**Lake**	**46.24**	**69**	*e*P		**P**	**18 02 12.8**	**+0.8**
LKWY				pmax		pmax		
	comp=Z,12nm,0.7s							
LKWY	**Lake**	**46.24**	**69**	*e*P		**P**	**18 02 12.8**	**+0.8**
	comp=Z,12nm,0.7s							
J16A	**Bone**	**46.26**	**71**	⇑P		**P**	**18 02 13.0**	**+0.9**
	baz=46,SNR=14							
J16A				⇑P		**P**	**18 02 13.0**	**+0.9**
	baz=46,SNR=14							
PKM	**Peak Mountain**	**46.29**	**86**	⇓P		**P**	**18 02 12.6**	**+0.2**
	baz=46							
PKM				⇓P		**P**	**18 02 12.6**	**+0.2**
	baz=46							
G18A	**Lazy EL Ranch,**	**46.31**	**68**	⇓P		**P**	**18 02 11.8**	**-0.7**
	baz=46							
G18A				⇓P		**P**	**18 02 11.8**	**-0.7**
	baz=46							
FLWY	**Flagg Ranch**	**46.34**	**70**	*e*P		**P**	**18 02 13.2**	**+0.5**
	comp=Z,10nm,0.8s							
HHC	**Hu-ho-hao-te**	**46.36**	**285**	*e*P		**P**	**18 02 13.3**	**+0.5**
HHC				pP		**pP**	**18 02 25.5**	**+0.5**
HHC				sP		**sP**	**18 02 30.3**	**+0.1**
HHC				PP		PP	18 04 03.1	+1.1
HHC				S		**S**	**18 08 55.6**	**-1.4**
HHC				sS		**sS**	**18 09 15.8**	**-1.6**
HHC				ScS		**ScS**	**18 12 02.3**	**-1.7**
HHC				pmax		pmax		
	comp=Z,20nm,0.6s							
HHC				pmax		pmax		
	comp=Z,440nm,9.2s							
HHC				LR		LR		
	comp=N,340nm,17.8s							
HHC				LR		LR		
	comp=E,280nm,17.8s							
HHC				LR		LR		
	comp=Z,310nm,16.7s							
RRI2	**Red Ridge**	**46.39**	**71**	*e*P		**P**	**18 02 13.9**	**+0.7**
	comp=Z,18nm,0.9s							
MOY	**Mondy**	**46.40**	**303**	*e*P		**P**	**18 02 13.6**	**+0.6**
HVU	**Hansel Valley**	**46.43**	**74**	*e*P		**P**	**18 02 13.9**	**+0.5**
HVU				pmax		pmax		
	comp=Z,25nm,0.9s							
HVU	**Hansel Valley**	**46.43**	**74**	*e*P		**P**	**18 02 13.9**	**+0.5**
	comp=Z,25nm,0.9s							
E20A	**Meyer Farm, Mu**	**46.48**	**66**	⇑P		**P**	**18 02 13.4**	**-0.2**
	baz=46							
E20A				⇑P		**P**	**18 02 13.4**	**-0.2**
	baz=46							
K16A	**Soda Springs**	**46.53**	**72**	⇑P		**P**	**18 02 15.6**	**+1.4**
	baz=46,SNR=16							
K16A				⇑P		**P**	**18 02 15.6**	**+1.4**
	baz=46,SNR=16							
L15A	**Malad City**	**46.53**	**73**	⇑P		**P**	**18 02 14.8**	**+0.6**
	baz=46,SNR=9.9							
L15A				⇑P		**P**	**18 02 14.8**	**+0.6**
	baz=46,SNR=9.9							
RLMT	**Red Lodge**	**46.59**	**68**	⇓P		**P**	**18 02 14.7**	**0.0**
	baz=46,SNR=13							
RLMT				⇓P		**P**	**18 02 14.7**	**0.0**
	baz=46,SNR=13							
RLMT				⇓P		**P**	**18 02 14.7**	**0.0**
	baz=46,SNR=13							
H18A	**Shoshone NF, C**	**46.61**	**69**	⇑P		**P**	**18 02 14.5**	**-0.4**
	baz=46							
H18A				⇑P		**P**	**18 02 14.5**	**-0.4**
	baz=46							
ISA	**Isabella**	**46.65**	**84**	⇑P		**P**	**18 02 15.0**	**-0.1**
	baz=46							
ISA				⇑P		**P**	**18 02 15.0**	**-0.1**
	baz=46							
R11A	**Troy Canyon, C**	**46.77**	**79**	⇓P		**P**	**18 02 16.3**	**+0.1**
	baz=47,SNR=12							
R11A				⇓P		**P**	**18 02 16.3**	**+0.1**
	baz=47,SNR=12							
M15A	**Larsen Ranch,**	**46.81**	**74**	⇓P		**P**	**18 02 16.8**	**+0.5**
	baz=47,SNR=17							
M15A				⇓P		**P**	**18 02 16.8**	**+0.5**
	baz=47,SNR=17							
K17A	**Gardner Place,**	**46.98**	**71**	⇑P		**P**	**18 02 17.9**	**+0.2**
	baz=47							
K17A				⇑P		**P**	**18 02 17.9**	**+0.2**
	baz=47							
H19A	**Powell**	**47.01**	**68**	⇓P		**P**	**18 02 18.4**	**+0.5**
	baz=47							
H19A				⇓P		**P**	**18 02 18.4**	**+0.5**
	baz=47							
MPMC	**Manual Prospec**	**47.01**	**83**	⇓P		**P**	**18 02 18.4**	**+0.3**
	baz=47							
MPMC				⇓P		**P**	**18 02 18.4**	**+0.3**
	baz=47							
I18A	**Diamond G Ranc**	**47.08**	**70**	⇓P		**P**	**18 02 19.2**	**+0.6**
	baz=47,SNR=6.6							
I18A				⇓P		**P**	**18 02 19.2**	**+0.6**
	baz=47,SNR=6.6							
L16A	**Fish Haven**	**47.10**	**73**	⇑P		**P**	**18 02 19.4**	**+0.7**
	baz=47,SNR=16							
L16A				⇑P		**P**	**18 02 19.4**	**+0.7**
	baz=47,SNR=16							
N15A	**Stansbury Isla**	**47.11**	**74**	⇓P		**P**	**18 02 19.4**	**+0.7**
	baz=47,SNR=16							
N15A				⇓P		**P**	**18 02 19.4**	**+0.7**
	baz=47,SNR=16							
G20A	**Bridger**	**47.15**	**67**	⇓P		**P**	**18 02 18.2**	**-0.8**
	baz=47,SNR=13							
G20A				⇓P		**P**	**18 02 18.2**	**-0.8**
	baz=47,SNR=13							
D22A	**Cohagen**	**47.23**	**64**	⇓P		**P**	**18 02 20.3**	**+0.9**
	baz=47,SNR=6.4							
D22A				⇓P		**P**	**18 02 20.3**	**+0.9**
	baz=47,SNR=6.4							
J18A	**Kendall Valley**	**47.24**	**70**	⇓P		**P**	**18 02 20.1**	**+0.2**
	baz=47,SNR=14							
J18A				⇓P		**P**	**18 02 20.1**	**+0.2**
	baz=47,SNR=14							
HWUT	**Hardware Ranch**	**47.26**	**73**	*e*P		**P**	**18 02 20.3**	**+0.3**
	comp=Z,14nm,1.0s							
DUG	**Dugway**	**47.35**	**75**	*e*P		**P**	**18 02 20.8**	**+0.2**
DUG				pmax		pmax		
	comp=Z,27nm,1.2s							
DUG	**Dugway**	**47.35**	**75**	*e*P		**P**	**18 02 20.8**	**+0.2**
	comp=Z,27nm,1.2s							
DUG	**Dugway**	**47.35**	**75**	⇓P		**P**	**18 02 21.4**	**+0.8**
	baz=47,SNR=19							
DUG				⇓P		**P**	**18 02 21.4**	**+0.8**
	baz=47,SNR=19							
I19A	**Meeteetse**	**47.37**	**69**	⇑P		**P**	**18 02 20.6**	**-0.2**
	baz=47							
I19A				⇑P		**P**	**18 02 20.6**	**-0.2**
	baz=47							
L17A	**Cokeville**	**47.39**	**72**	⇑P		**P**	**18 02 21.3**	**+0.3**
	baz=47							
L17A				⇑P		**P**	**18 02 21.3**	**+0.3**
	baz=47							
M16A	**Huntsville**	**47.40**	**73**	⇑P		**P**	**18 02 21.5**	**+0.5**
	baz=47							
M16A				⇑P		**P**	**18 02 21.5**	**+0.5**
	baz=47							
C23A	**Lambert**	**47.42**	**63**	⇓P		**P**	**18 02 20.4**	**-0.5**
	baz=47							
C23A				⇓P		**P**	**18 02 20.4**	**-0.5**
	baz=47							
K18A	**Toltan Ranch,**	**47.57**	**71**	⇑P		**P**	**18 02 23.3**	**+0.9**
	baz=47,SNR=9.3							
K18A				⇑P		**P**	**18 02 23.3**	**+0.9**
	baz=47,SNR=9.3							
DGMT	**Dagmar**	**47.60**	**61**	⇓P		**P**	**18 02 23.5**	**+1.2**
	baz=47							
DGMT				⇓P		**P**	**18 02 23.5**	**+1.2**
	baz=47							
PD01	**Pinedale Array**	**47.76**	**71**	*e*P		**P**	**18 02 23.4**	**-0.5**
E22A	**Miles City**	**47.76**	**65**	⇓P		**P**	**18 02 24.3**	**+0.7**
	baz=48							
E22A				⇓P		**P**	**18 02 24.3**	**+0.7**
	baz=48							
PD02	**Pinedale Array**	**47.77**	**71**	*e*P		**P**	**18 02 23.6**	**-0.3**
BW06	**Boulder Array**	**47.78**	**71**	⇓P		**P**	**18 02 24.2**	**+0.2**
	baz=48,SNR=34							
BW06				⇓P		**P**	**18 02 24.2**	**+0.2**
	baz=48,SNR=34							
BW06				⇓P		**P**	**18 02 24.2**	**+0.2**
	baz=48,SNR=34							
BW06				⇓P		**P**	**18 02 24.2**	**+0.2**
	baz=48,SNR=34							
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**18 02 23.9**	**-0.1**
	comp=Z,22nm,0.8s,baz=301,slow=3.5,SNR=168							
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**18 02 23.9**	**-0.1**
J19A	**Crowheart**	**47.79**	**70**	⇑P		**P**	**18 02 24.7**	**+0.7**
	baz=48,SNR=6.0							
J19A				⇑P		**P**	**18 02 24.7**	**+0.7**
	baz=48,SNR=6.0							
R13A	**O'Grain Ranch,**	**47.87**	**78**	⇓P		**P**	**18 02 25.6**	**+0.8**
	baz=48							
R13A				⇓P		**P**	**18 02 25.6**	**+0.8**
	baz=48							
M17A	**Scullys Gap (B**	**47.88**	**73**	⇓P		**P**	**18 02 24.9**	**+0.1**
	baz=48,SNR=15							
M17A				⇓P		**P**	**18 02 24.9**	**+0.1**
	baz=48,SNR=15							
GSC	**Goldstone**	**47.92**	**83**	*e*P		**P**	**18 02 25.0**	**-0.1**
GSC				*e*			18 03 52.0	
GSC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
GSC	**Goldstone**	**47.92**	**83**	*e*P		**P**	**18 02 25.0**	**-0.1**
	comp=Z,5.8nm,0.6s							
GSC				*e*PcP		**PcP**	**18 03 52.0**	**-0.8**
GSC	**Goldstone**	**47.92**	**83**	⇓P		**P**	**18 02 25.5**	**+0.4**
	baz=48,SNR=6.9							
GSC				⇓P		**P**	**18 02 25.5**	**+0.4**
	baz=48,SNR=6.9							
I20A	**Worland**	**47.93**	**68**	⇑P		**P**	**18 02 25.4**	**+0.4**
	baz=48,SNR=7.5							
I20A				⇑P		**P**	**18 02 25.4**	**+0.4**
	baz=48,SNR=7.5							
F22A	**Rosebud**	**47.96**	**65**	⇓P		**P**	**18 02 25.4**	**+0.2**
	baz=48							
F22

baz=48
G22A ⇓P P 18 02 27.1 -0.4
baz=48
M18A Lyman 48.27 72 ⇑P P 18 02 27.8 0.0
baz=48,SNR=7.6
M18A ⇑P P 18 02 27.8 0.0
baz=48,SNR=7.6
L19A Farson 48.29 71 ⇓P P 18 02 27.8 -0.1
baz=48
L19A ⇓P P 18 02 27.8 -0.1
baz=48
F23A Volborg 48.48 65 ⇑P P 18 02 28.7 -0.4
baz=48,SNR=6.6
F23A ⇑P P 18 02 28.7 -0.4
baz=48,SNR=6.6
I21A Big Trails, Te 48.50 68 ⇓P P 18 02 28.9 -0.6
baz=48,SNR=6.5
I21A ⇓P P 18 02 28.9 -0.6
baz=48,SNR=6.5
K20A Yellowstone Ra 48.56 70 ⇑P P 18 02 29.4 -0.6
baz=48,SNR=8.9
K20A ⇑P P 18 02 29.4 -0.6
baz=48,SNR=8.9
O17A Robinson Place 48.61 74 ⇑P P 18 02 30.6 +0.1
baz=48
O17A ⇑P P 18 02 30.6 +0.1
baz=48
J21A Lysite 48.69 69 ⇑P P 18 02 30.5 -0.5
baz=48
J21A ⇑P P 18 02 30.5 -0.5
baz=48
TMUT Trail Mountain 48.88 75 *eP* P 18 02 33.1 +0.5
comp=Z,11nm,0.7s
I22A 9 Mile Ranch, 48.93 68 ⇑P P 18 02 32.8 +0.1
baz=49,SNR=7.2
I22A ⇑P P 18 02 32.8 +0.1
baz=49,SNR=7.2
L20A Wamsutter 48.96 71 ⇓P P 18 02 33.0 -0.1
baz=49
L20A ⇓P P 18 02 33.0 -0.1
baz=49
GMRC Granite Mounta 48.98 83 ⇓P P 18 02 33.4 +0.2
baz=49
GMRC ⇓P P 18 02 33.4 +0.2
baz=49
O18A Roosevelt 49.01 74 ⇓P P 18 02 34.3 +0.9
baz=49,SNR=5.4
O18A ⇓P P 18 02 34.3 +0.9
baz=49,SNR=5.4
N19A John Jarvie Ra 49.13 72 ⇑P P 18 02 34.1 -0.2
baz=49,SNR=7.6
N19A ⇑P P 18 02 34.1 -0.2
baz=49,SNR=7.6
Q16A Castle Valley 49.13 76 ⇓P P 18 02 35.2 +0.8
baz=49,SNR=6.8
Q16A ⇓P P 18 02 35.2 +0.8
baz=49,SNR=6.8
J22A Midwest 49.21 68 ⇓P P 18 02 35.2 +0.3
baz=49,SNR=6.7
J22A ⇓P P 18 02 35.2 +0.3
baz=49,SNR=6.7
K21A Alcova 49.23 69 ⇓P P 18 02 34.4 -0.7
baz=49
K21A ⇓P P 18 02 34.4 -0.7
baz=49
P18A Preston Nutter 49.26 74 ⇑P P 18 02 36.3 +0.8
baz=49,SNR=10
P18A ⇑P P 18 02 36.3 +0.8
baz=49,SNR=10
R16A Teasdale 49.34 77 ⇓P P 18 02 37.1 +1.0
baz=49,SNR=9.9
R16A ⇓P P 18 02 37.1 +1.0
baz=49,SNR=9.9
M20A Sweetwater, Wa 49.36 71 ⇓P P 18 02 36.6 +0.5
baz=49,SNR=8.2
M20A ⇓P P 18 02 36.6 +0.5
baz=49,SNR=8.2
SRU San Rafael 49.41 75 *eP* P 18 02 37.2 +0.7
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael 49.41 75 *eP* P 18 02 37.2 +0.7
comp=Z,15nm,0.7s
SRU San Rafael 49.41 75 ⇓P P 18 02 37.5 +1.0
baz=49,SNR=20
SRU ⇓P P 18 02 37.5 +1.0
baz=49,SNR=20
O19A Miners Draw (B 49.52 73 ⇓P P 18 02 37.5 +0.2
baz=49,SNR=39
O19A ⇓P P 18 02 37.5 +0.2
baz=49,SNR=39
L21A Rawlins 49.56 70 ⇓P P 18 02 37.5 -0.2
baz=49,SNR=13
L21A ⇓P P 18 02 37.5 -0.2
baz=49,SNR=13
S16A Weppner Ranch, 49.62 77 ⇑P P 18 02 39.2 +1.0
baz=49,SNR=8.4
S16A ⇑P P 18 02 39.2 +1.0
baz=49,SNR=8.4
K22A Casper 49.64 69 ⇓P P 18 02 38.3 0.0
baz=49
K22A ⇓P P 18 02 38.3 0.0
baz=49
Q18A Rafter H Ranch 49.65 75 ⇓P P 18 02 38.5 +0.2
baz=50,SNR=9.7
Q18A ⇓P P 18 02 38.5 +0.2
baz=50,SNR=9.7
N20A Spence Gulch, 49.71 72 ⇓P P 18 02 39.3 +0.4
baz=50,SNR=6.2
N20A ⇓P P 18 02 39.3 +0.4
baz=50,SNR=6.2
BAR Barrett 49.72 86 *eP* P 18 02 38.4 -0.4
comp=Z,5.5nm,0.8s
R17A Hanksville Air 49.73 76 ⇑P P 18 02 39.1 +0.2
baz=50,SNR=8.5
R17A ⇑P P 18 02 39.1 +0.2
baz=50,SNR=8.5
MONP Monument Peak 49.74 85 ⇓P P 18 02 39.3 +0.2
baz=50
MONP ⇓P P 18 02 39.3 +0.2
baz=50
M21A Separation Pea 49.78 71 ⇓P P 18 02 39.0 -0.3
baz=50,SNR=6.0
M21A ⇓P P 18 02 39.0 -0.3
baz=50,SNR=6.0
W13A Hualapai Mount 49.88 81 ⇓P P 18 02 40.3 +0.1
baz=50,SNR=5.1
W13A ⇓P P 18 02 40.3 +0.1
baz=50,SNR=5.1
U15A North Rim 50.02 79 ⇑P P 18 02 41.9 +0.6
baz=50,SNR=17
U15A ⇑P P 18 02 41.9 +0.6
baz=50,SNR=17
P19A Cripple Cowboy 50.02 74 ⇓P P 18 02 41.6 +0.3
baz=50,SNR=27
P19A ⇓P P 18 02 41.6 +0.3
baz=50,SNR=27
O20A White River Ci 50.16 73 ⇑P P 18 02 42.3 +0.1
baz=50,SNR=10
O20A ⇑P P 18 02 42.3 +0.1
baz=50,SNR=10
S17A Black Ridge (B 50.16 77 ⇑P P 18 02 42.6 +0.4
baz=50,SNR=18
S17A ⇑P P 18 02 42.6 +0.4
baz=50,SNR=18
N21A Black Mountain 50.20 72 ⇓P P 18 02 42.4 -0.2
baz=50,SNR=8.1
N21A ⇓P P 18 02 42.4 -0.2
baz=50,SNR=8.1
PDMCI Parker Dam,Lak 50.24 82 ⇓P P 18 02 43.0 +0.3
baz=50
PDMCI ⇓P P 18 02 43.0 +0.3
baz=50
R18A Canyonlands Na 50.25 75 ⇑P P 18 02 42.5 -0.4
baz=50,SNR=7.2
R18A ⇑P P 18 02 42.5 -0.4
baz=50,SNR=7.2
Q19A Hogan Spring (50.27 74 ⇑P P 18 02 42.9 -0.1
baz=50,SNR=9.6
Q19A ⇑P P 18 02 42.9 -0.1
baz=50,SNR=9.6
M22A Cedar Creek Ra 50.36 70 ⇓P P 18 02 43.6 -0.2
baz=50,SNR=6.6
M22A ⇓P P 18 02 43.6 -0.2
baz=50,SNR=6.6
L23A Garrett 50.45 69 ⇑P P 18 02 44.2 -0.3
baz=50,SNR=12
L23A ⇑P P 18 02 44.2 -0.3
baz=50,SNR=12
P20A De Beque 50.46 73 ⇑P P 18 02 44.5 0.0
baz=50,SNR=11
P20A ⇑P P 18 02 44.5 0.0
baz=50,SNR=11
SPB4 Spitsbergen Ar 50.55 355 *eP* P 18 02 44.4 0.0
SPITS Spitsbergen Ar 50.55 355 P P 18 02 43.7 -0.8
comp=Z,16nm,0.9s,baz=39,slow=7.5,SNR=11
SPITS Spitsbergen Ar 50.55 355 P P 18 02 43.7 -0.8
SPITS pmax pmax
comp=Z,16nm,1.0s
SPITS Spitsbergen Ar 50.55 355 P P 18 02 43.7 -0.8
T17A Navajo Res., N 50.57 77 ⇑P P 18 02 46.1 +0.7
baz=50,SNR=5.6
T17A ⇑P P 18 02 46.1 +0.7
baz=50,SNR=5.6
O21A Pagoda 50.57 72 ⇓P P 18 02 45.3 -0.1
baz=50,SNR=8.6
O21A ⇓P P 18 02 45.3 -0.1
baz=50,SNR=8.6
S18A Hurst Farm, Bl 50.62 76 ⇑P P 18 02 45.7 -0.1
baz=50,SNR=11
S18A ⇑P P 18 02 45.7 -0.1
baz=50,SNR=11
R19A Curley Farm, L 50.69 75 ⇑P P 18 02 46.1 -0.1
baz=50,SNR=9.3
R19A ⇑P P 18 02 46.1 -0.1
baz=50,SNR=9.3
N22A Wattenberg Ran 50.81 71 ⇑P P 18 02 47.7 +0.5
baz=51,SNR=8.4
N22A ⇑P P 18 02 47.7 +0.5
baz=51,SNR=8.4
PV04 Paradox Valley 50.84 75 *eP* P 18 02 47.0 -0.4
Q20A Ridgley Place, 50.86 74 ⇑P P 18 02 47.4 -0.1
baz=51,SNR=8.6
Q20A ⇑P P 18 02 47.4 -0.1
baz=51,SNR=8.6
U16A Tuba City 50.92 78 ⇑P P 18 02 48.9 +1.0
baz=51
U16A ⇑P P 18 02 48.9 +1.0
baz=51
P21A Newcastle 51.02 73 ⇓P P 18 02 49.0 +0.3
baz=51
P21A ⇓P P 18 02 49.0 +0.3
baz=51
ULM Lac du Bonnet 51.05 55 P P 18 02 47.5 -1.0
comp=Z,1.9nm,0.5s,baz=292,slow=10,SNR=4.5
ULM PcP PcP 18 04 03.7 -0.1
comp=Z,1.3nm,0.4s,baz=249,slow=5.6,SNR=4.3
ULM LR LR 18 24 22.8
comp=Z,214nm,20.1s,baz=4.0,slow=36
ULM Lac du Bonnet 51.05 55 P P 18 02 47.5 -1.0
ULM 18 04 03.7
ULM pmax pmax
comp=Z,2.0nm,0.5s
ULM pmax pmax
comp=Z,1.0nm,0.4s
ULM MLR MLR
comp=Z,214nm,20.1s
ULM Lac du Bonnet 51.05 55 P P 18 02 47.5 -1.0
ULM PcP PcP 18 04 03.7 -0.1
T18A Mexican Hat 51.05 77 ⇑P P 18 02 48.3 -0.6
baz=51,SNR=7.1
T18A ⇑P P 18 02 48.3 -0.6
baz=51,SNR=7.1
N23A Red Feather La 51.06 70 ⇓P P 18 02 49.0 -0.1
baz=51
N23A ⇓P P 18 02 49.0 -0.1
baz=51
S19A Harvey Farm, M 51.12 76 ⇑P P 18 02 49.4 0.0
baz=51,SNR=6.9
S19A ⇑P P 18 02 49.4 0.0
baz=51,SNR=6.9
O22A Kremmling 51.16 72 ⇑P P 18 02 50.2 +0.3
baz=51,SNR=7.2
O22A ⇑P P 18 02 50.2 +0.3
baz=51,SNR=7.2
WUAZ Wupatki 51.17 79 ⇑P P 18 02 50.4 +0.6
baz=51,SNR=7.8
WUAZ ⇑P P 18 02 50.4 +0.6
baz=51,SNR=7.8
PV01 Paradox Valley 51.21 75 *eP* P 18 02 49.9 -0.3
comp=Z,938nm,0.9s
WHN Wuhan 51.22 272 P P 18 02 50.0 0.0
Z13A Yuma Proving G 51.27 83 ⇓P P 18 02 50.6 +0.2
baz=51
Z13A ⇓P P 18 02 50.6 +0.2
baz=51
R20A Redvale 51.30 75 ⇓P P 18 02 50.8 0.0
baz=51,SNR=11
R20A ⇓P P 18 02 50.8 0.0
baz=51,SNR=11
Q21A Lamborn Mesa, 51.37 73 ⇓P P 18 02 51.9 +0.5
baz=51,SNR=6.4
Q21A ⇓P P 18 02 51.9 +0.5
baz=51,SNR=6.4
P22A Eagle 51.38 72 ⇑P P 18 02 51.8 +0.3
baz=51
P22A ⇑P P 18 02 51.8 +0.3
baz=51
V17A Tonalea, Kykot 51.46 79 ⇑P P 18 02 52.8 +0.8
baz=51,SNR=7.3
V17A ⇑P P 18 02 52.8 +0.8
baz=51,SNR=7.3
O23A Lake Granby, G 51.50 71 ⇓P P 18 02 53.1 +0.7
baz=51,SNR=14
O23A ⇓P P 18 02 53.1 +0.7
baz=51,SNR=14
S20A Disappointment 51.53 75 ⇓P P 18 02 52.6 -0.1
baz=51,SNR=11
S20A ⇓P P 18 02 52.6 -0.1
baz=51,SNR=11
R21A Cimarron 51.68 74 ⇓P P 18 02 54.3 +0.6
baz=52,SNR=12
R21A ⇓P P 18 02 54.3 +0.6
baz=52,SNR=12
Q22A Crested Butte, 51.76 73 ⇓P P 18 02 54.8 +0.4
baz=52,SNR=12
Q22A ⇓P P 18 02 54.8 +0.4
baz=52,SNR=12
T19A Beclabito 51.77 76 ⇓P P 18 02 54.5 +0.2
baz=52,SNR=16
T19A ⇓P P 18 02 54.5 +0.2
baz=52,SNR=16
MVCO Mesa Verde 51.85 76 *eP* P 18 02 53.6 -1.3
comp=Z,7.8nm,1.0s
X16A Lo Mia Camp, P 51.85 80 ⇓P P 18 02 55.8 +0.8
baz=52,SNR=6.1
X16A ⇓P P 18 02 55.8 +0.8
baz=52,SNR=6.1
ISCO Idaho Springs 51.94 71 ⇑P P 18 02 56.2 +0.5
baz=52,SNR=11
ISCO ⇑P P 18 02 56.2 +0.5
baz=52,SNR=11
S21A Coal Bank Pass 51.99 75 ⇑P P 18 02 57.0 +0.9
baz=52,SNR=9.8
S21A ⇑P P 18 02 57.0 +0.9
baz=52,SNR=9.8
R22A Saguache, Gunn 52.25 74 ⇑P P 18 02 59.1 +1.0
baz=52,SNR=9.3
R22A ⇑P P 18 02 59.1 +1.0
baz=52,SNR=9.3
XAN Xi'an 52.28 280 P P 18 02 57.8 -0.2
XAN pP pP 18 03 11.4 +1.0
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,27nm,9.1s
S22A 4UR Ranch, Cre 52.52 74 ⇑P P 18 03 00.9 +0.9
baz=52,SNR=11
S22A ⇑P P 18 03 00.9 +0.9
baz=52,SNR=11
P24A Kohler Place, 52.54 71 ⇓P P 18 03 01.0 +0.9
baz=52
P24A ⇓P P 18 03 01.0 +0.9
baz=52
Y17A Roosevelt 52.70 81 ⇓P P 18 03 01.9 +0.8
baz=52,SNR=5.9
Y17A ⇓P P 18 03 01.9 +0.8
baz=52,SNR=5.9
X18A Snowflake 52.70 79 ⇑P P 18 03 02.0 +0.8
baz=52
X18A ⇑P P 18 03 02.0 +0.8
baz=52
R23A Moffat 52.84 73 ⇓P P 18 03 03.1 +0.7
baz=53
R23A ⇓P P 18 03 03.1 +0.7
baz=53
U21A Nageezi 52.87 76 ⇑P P 18 03 03.4 +0.8
baz=53,SNR=6.0
U21A ⇑P P 18 03 03.4 +0.8
baz=53,SNR=6.0
T22A Edith 52.95 75 ⇑P P 18 03 03.7 +0.5
baz=53,SNR=7.7
T22A ⇑P P 18 03 03.7 +0.5
baz=53,SNR=7.7
P25A Willow Gulch B 52.99 71 ⇑P P 18 03 04.5 +1.2
baz=53,SNR=13
P25A ⇑P P 18 03 04.5 +1.2
baz=53,SNR=13
O26A Horse Wrangler 53.03 69 ⇑P P 18 03 04.1 +0.6
baz=53
O26A ⇑P P 18 03 04.1 +0.6
baz=53
S23A Nye Farm, Mont 53.05 74 ⇓P P 18 03 04.7 +0.8
baz=53
S23A ⇓P P 18 03 04.7 +0.8
baz=53
ZAA0 Zalesovo Array 53.16 313 *eP* P 18 03 03.1 -1.0
ZALV Zalesovo Beam 53.16 313 P P 18 03 03.5 -0.6
comp=Z,3.0nm,0.8s,baz=51,slow=6.3,SNR=9.6
ZALV PcP PcP 18 04 11.9 +0.2
comp=Z,2.2nm,0.8s,baz=20,slow=4.7,SNR=3.6
ZALV LR LR 18 27 34.0
comp=Z,109nm,18.8s,baz=52,slow=38
ZALV Zalesovo Beam 53.16 313 P P 18 03 03.5 -0.6
ZALV 18 04 11.9
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,109nm,18.8s
ZALV Zalesovo Beam 53.16 313 P P 18 03 03.5 -0.6
ZALV PcP PcP 18 04 11.9 +0.2
R24A Sanders Place, 53.25 73 ⇑P P 18 03 06.0 +0.8
baz=53,SNR=8.0
R24A ⇑P P 18 03 06.0 +0.8
baz=53,SNR=8.0
Q25A Bedland, Calha 53.32 71 ⇓P P 18 03 06.2 +0.4
baz=53,SNR=7.6
Q25A ⇓P P 18 03 06.2 +0.4
baz=53,SNR=7.6
SDCO Great Sand Dun 53.32 73 ⇓P P 18 03 06.7 +0.7
baz=53,SNR=15
SDCO ⇓P P 18 03 06.7 +0.7
baz=53,SNR=15
SDCO ⇓P P 18 03 06.7 +0.7
baz=53,SNR=15
SDCO ⇓P P 18 03 06.7 +0.7
baz=53,SNR=15
NVS Novosibirsk 53.33 314 *eP* P 18 03 03.0 -2.4
NVS *e* 18 04 11.5
NVS *eS* S 18 10 35.8 +2.2
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS smax smax
comp=E,8.0nm,2.0s
NVS smax smax
comp=N,3.0nm,1.5s
P26A Davis Ranch, A 53.44 70 ⇑P P 18 03 07.5 +0.8
baz=53,SNR=7.7
P26A ⇑P P 18 03 07.5 +0.8
baz=53,SNR=7.7
S24A Houchin Ranch, 53.56 73 ⇑P P 18 03 08.8 +1.0
baz=53,SNR=9.6
S24A ⇑P P 18 03 08.8 +1.0
baz=53,SNR=9.6
X20A Quemado 53.59 78 ⇑P P 18 03 08.8 +0.9
baz=53
X20A ⇑P P 18 03 08.8 +0.9
baz=53
R25A Fountain Ranch 53.80 72 ⇓P P 18 03 10.0 +0.7
baz=54,SNR=11
R25A ⇓P P 18 03 10.0 +0.7
baz=54,SNR=11
SUMG Summit 53.91 13 *i* P P 18 03 09.2 -0.7
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 53.91 13 *i* P P 18 03 09.2 -0.7
comp=Z,11nm,0.9s
S25A Robets Cordova 54.02 73 ⇑P P 18 03 11.4 +0.5
baz=54,SNR=9.9
S25A ⇑P P 18 03 11.4 +0.5
baz=54,SNR=9.9
T24A Torres, Weston 54.03 74 ⇓P P 18 03 12.3 +1.2
baz=54,SNR=12
T24A ⇓P P 18 03 12.3 +1.2
baz=54,SNR=12
LZH Lanzhou 54.06 285 *eP* P 18 03 12.3 +1.1
LZH pP pP 18 03 25.3 +1.7
LZH sP sP 18 03 30.0 +1.3
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,250nm,4.4s
Y20A Horse Springs, 54.08 79 ⇑P P 18 03 12.3 +0.8
baz=54,SNR=6.4
Y20A ⇑P P 18 03 12.3 +0.8
baz=54,SNR=6.4
X21A Alamocita Cree 54.09 78 ⇓P P 18 03 12.4 +0.8
baz=54
X21A ⇓P P 18 03 12.4 +0.8
baz=54
R26A Arlington 54.20 71 ⇑P P 18 03 12.2 +0.1
baz=54,SNR=7.8
R26A ⇑P P 18 03 12.2 +0.1
baz=54,SNR=7.8
GTA Gaotai 54.31 291 *eP* P 18 03 13.3 +0.3
GTA pP pP 18 03 20.8 -4.6
GTA sP sP 18 03 25.3 -5.2
GTA pmax pmax
comp=Z,13nm,1.0s
218A Dragoon 54.35 82 ⇑P P 18 03 13.7 +0.4
baz=54
218A ⇑P P 18 03 13.7 +0.4
baz=54
T25A Trinidad 54.38 73 ⇓P P 18 03 14.4 +0.9
baz=54,SNR=14
T25A ⇓P P 18 03 14.4 +0.9
baz=54,SNR=14
ENH Enshi 54.46 276 *eP* P 18 03 13.3 -0.7
comp=Z,7.4nm,0.8s
R27A Eads 54.59 71 ⇓P P 18 03 15.6 +0.7
baz=54,SNR=7.6
R27A ⇓P P 18 03 15.6 +0.7
baz=54,SNR=7.6
S26A Kim 54.62 72 ⇑P P 18 03 15.4 +0.1
baz=54,SNR=14
S26A ⇑P P 18 03 15.4 +0.1
baz=54,SNR=14
V24A Rampart Ranch, 54.78 75 ⇓P P 18 03 17.4 +0.9
baz=55,SNR=7.0
V24A ⇓P P 18 03 17.4 +0.9
baz=55,SNR=7.0
120A U Bar Ranch, L 54.84 80 ⇑P P 18 03 17.5 +0.6
baz=55
120A ⇑P P 18 03 17.5 +0.6
baz=55
T26A Comanche Natio 54.84 73 ⇓P P 18 03 17.0 +0.1
baz=55
T26A ⇓P P 18 03 17.0 +0.1
baz=55
U25A Circle Dot Ran 54.86 74 ⇓P P 18 03 17.5 +0.5
baz=55,SNR=11
U25A ⇓P P 18 03 17.5 +0.5
baz=55,SNR=11
LPM Los Pinos Moun 54.89 77 *eP* P 18 03 18.0 +0.7
BNM Barren Site 55.00 77 *eP* P 18 03 18.3 +0.2
comp=Z,20nm,1.6s
W24A Lazy 6 Ranch, 55.04 76 ⇓P P 18 03 19.3 +0.9
baz=55,SNR=5.9
W24A ⇓P P 18 03 19.3 +0.9
baz=55,SNR=5.9
V25A Rancho No Teng 55.11 74 ⇑P P 18 03 19.8 +1.0
baz=55,SNR=7.6
V25A ⇑P P 18 03 19.8 +1.0
baz=55,SNR=7.6
U26A Atchley Ranch, 55.27 73 ⇑P P 18 03 20.4 +0.5
baz=55,SNR=9.7
U26A ⇑P P 18 03 20.4 +0.5
baz=55,SNR=9.7
220A Playas Peak, P 55.34 81 ⇓P P 18 03 20.7 +0.2

baz=55,SNR=8.1
220A ⇓P P 18 03 20.7 +0.2
baz=55,SNR=8.1
121A Cookes Peak, D 55.38 80 ⇓P P 18 03 21.3 +0.5
baz=55
121A ⇓P P 18 03 21.3 +0.5
baz=55
T27A Campo 55.44 72 ⇑P P 18 03 21.4 +0.2
baz=55
T27A ⇑P P 18 03 21.4 +0.2
baz=55
X24A Lazy VL Ranch, 55.46 76 ⇑P P 18 03 22.3 +0.9
baz=55
X24A ⇑P P 18 03 22.3 +0.9
baz=55
W25A X Bar L Ranch, 55.62 75 ⇑P P 18 03 22.9 +0.5
baz=55,SNR=9.0
W25A ⇑P P 18 03 22.9 +0.5
baz=55,SNR=9.0
320A Kipp Ranch, An 55.73 81 ⇓P P 18 03 23.8 +0.5
baz=56
320A ⇓P P 18 03 23.8 +0.5
baz=56
CBKS Cedar Bluff 56.06 69 ⇓P P 18 03 25.7 +0.3
baz=56
CBKS ⇓P P 18 03 25.7 +0.3
baz=56
CBKS ⇓P P 18 03 25.7 +0.3
baz=56
CBKS ⇓P P 18 03 25.7 +0.3
baz=56
Z24A Sheeppen Canyo 56.33 77 ⇑P P 18 03 27.8 +0.2
baz=56
Z24A ⇑P P 18 03 27.8 +0.2
baz=56
Z26A Caprock 57.22 76 ⇑P P 18 03 33.3 -0.6
baz=57
Z26A ⇑P P 18 03 33.3 -0.6
baz=57
CD2 Chengdu 57.60 280 P P 18 03 37.8 +1.3
CD2 pP **pP** 18 03 50.1 +1.1
CD2 sP **sP** 18 03 55.3 +1.2
CD2 PP **PP** 18 05 46.9 +2.6
CD2 S **S** 18 11 29.8 -1.5
CD2 sS **sS** 18 11 50.6 -1.6
CD2 SS **SS** 18 15 21.1 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,230nm,8.9s
CD2 LR LR
comp=N,340nm,6.5s
CD2 LR LR
comp=Z,350nm,6.5s
325A Bean Ranch, Si 57.91 79 ⇑P P 18 03 39.0 +0.2
baz=58,SNR=5.5
325A ⇑P P 18 03 39.0 +0.2
baz=58,SNR=5.5
ARCES ARCESS Array B 58.11 349 P P 18 03 40.2 +0.8
comp=Z,3.7nm,0.9s,baz=17,slow=5.6,SNR=5.0
ARCES PcP **PcP** 18 04 30.1 -0.5
comp=Z,5.0nm,0.8s,baz=15,slow=3.7,SNR=5.1
ARCES LR LR 18 30 52.1
comp=Z,106nm,21.8s,baz=39,slow=38
ARCES ARCESS Array B 58.11 349 P P 18 03 40.3 +0.8
ARCES 18 04 30.1
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,106nm,21.8s
ARCES ARCESS Array B 58.11 349 P P 18 03 40.2 +0.8
ARCES PcP **PcP** 18 04 30.1 -0.5
KURK Kurchatov 58.15 313*c* *i*P P 18 03 39.9 -0.1
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 58.15 313 *e*P P 18 03 39.3 -0.7
comp=Z,22nm,1.1s
WMQ Urumqi 58.26 302 P P 18 03 40.9 -0.1
WMQ pP **pP** 18 03 53.9 +0.4
WMQ sP **sP** 18 03 58.9 +0.3
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,260nm,5.2s
WMQ LR LR
comp=N,210nm,16.0s
WMQ LR LR
comp=E,190nm,14.8s
WMQ LR LR
comp=Z,240nm,17.5s
425A Indio Mountain 58.31 79 ⇓P P 18 03 41.8 +0.3
baz=58,SNR=5.2
425A ⇓P P 18 03 41.8 +0.3
baz=58,SNR=5.2
326A Caldwell Ranch 58.56 78 ⇑P P 18 03 43.3 0.0
baz=58
326A ⇑P P 18 03 43.3 0.0
baz=58
GYA Guiyang 58.90 274 *e*P P 18 03 46.0 +0.3
GYA pP **pP** 18 04 01.3 +3.0
GYA sP **sP** 18 04 06.5 +3.2
GYA PP **PP** 18 05 58.9 +2.9
GYA S **S** 18 11 45.0 -3.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.9s
426A McDonald Obser 58.98 79 ⇑P P 18 03 45.8 -0.5
baz=59
426A ⇑P P 18 03 45.8 -0.5
baz=59
MK31 Makanchi Array 59.06 307 *e*P P 18 03 45.5 -0.9
MK31 Makanchi Array 59.06 307 *e*P P 18 03 45.5 -0.9
MKAR Makanchi Array 59.06 307 P P 18 03 45.9 -0.5
comp=Z,2.4nm,0.7s,baz=53,slow=6.2,SNR=25
MKAR LR LR 18 30 49.8
comp=Z,108nm,21.4s,baz=328,slow=38
MKAR Makanchi Array 59.06 307 P P 18 03 45.9 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,108nm,21.4s
MKAR Makanchi Array 59.06 307 P P 18 03 45.9 -0.5
328A Wristen Ranch, 59.24 77 ⇑P P 18 03 47.7 -0.2
baz=59,SNR=5.2
328A ⇑P P 18 03 47.7 -0.2
baz=59,SNR=5.2
526A Mary Lane Ranc 59.37 79 ⇑P P 18 03 49.0 +0.1
baz=59
526A ⇑P P 18 03 49.0 +0.1
baz=59
626A Big Bend Ranch 59.69 80 ⇑P P 18 03 51.0 -0.1
baz=60,SNR=6.2
626A ⇑P P 18 03 51.0 -0.1
baz=60,SNR=6.2
428A Kincaid Ranch, 59.77 78 ⇑P P 18 03 51.4 -0.2
baz=60
428A ⇑P P 18 03 51.4 -0.2
baz=60
TXAR Lajitas Array 60.14 79 P P 18 03 54.2 +0.1
comp=Z,2.6nm,0.7s,baz=302,slow=4.8,SNR=25
TXAR PcP **PcP** 18 04 40.5 +1.0
comp=Z,2.0nm,0.8s,baz=273,slow=2.4,SNR=4.4
TXAR Lajitas Array 60.14 79 P P 18 03 54.2 +0.1
TXAR 18 04 40.5
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 60.14 79 P P 18 03 54.2 +0.1
TXAR PcP **PcP** 18 04 40.5 +1.0
BVA0 Borovoye Array 60.15 319 *i*P P 18 03 54.4 +0.6
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
SOKR Solikamsk 60.17 330⇑ *i*P P 18 03 54.2 +0.5
SOKR pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 60.17 319*c* *i*P P 18 03 54.5 +0.6
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 60.17 319 *e*P P 18 03 54.0 +0.1
comp=Z,10nm,0.7s
627A Terlingua Ranc 60.23 79 ⇑P P 18 03 54.9 +0.1
baz=60
627A ⇑P P 18 03 54.9 +0.1
baz=60
628A Black Gap, Mar 60.51 79 ⇑P P 18 03 56.9 +0.2
baz=60
628A ⇑P P 18 03 56.9 +0.2
baz=60
ZRNK Zerenda 60.78 319 *i*P P 18 03 58.1 0.0
ZRNK pmax pmax
comp=Z,18nm,0.9s
SVE Sverdlovsk 61.04 326⇓ *i*P P 18 04 01.0 +1.3
SVE pmax pmax
comp=Z,26nm,1.1s
SCHQ Schefferville 61.12 37 P P 18 03 59.3 -1.0
comp=Z,3.2nm,0.7s,baz=330,slow=6.9,SNR=5.5
SCHQ LR LR 18 31 40.2
comp=Z,245nm,19.4s,baz=18,slow=37
SCHQ Schefferville 61.12 37 P P 18 03 59.3 -1.0
ARU Arti 62.06 327*c* *i*P P 18 04 07.5 +0.8
ARU *PP **pP** 18 04 21.1 +1.8
ARU *e* 18 06 25.5
ARU S **S** 18 12 30.9 +3.0
ARU SS **SS** 18 16 27.6 -2.4
ARU pmax pmax
comp=Z,33nm,1.0s
ARU Arti 62.06 327 *e*P P 18 04 07.1 +0.5
comp=Z,32nm,1.1s
ARU *e* 18 04 20.6
SFIN Scholer Farm 62.16 60 ⇑P P 18 04 07.0 -0.5
baz=62
SFIN ⇑P P 18 04 07.0 -0.5
baz=62
KMI Kunming 62.32 276 P P 18 04 09.0 -0.1
KMI pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 63.48 344 *e*P P 18 04 16.3 +0.3
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 63.48 344 *e*p P 18 04 16.3 +0.3
comp=Z,3.8nm,0.7s
JOF Joensuu 63.48 344 *e*p P 18 04 16.3 +0.3
comp=Z,3.8nm,0.7s
ALLY Alegheny Colle 64.92 54 *e*P P 18 04 30.8 +5.1
comp=Z,26nm,1.2s
KAF Kangasniemi 65.05 346 *e*P P 18 04 24.5 -1.8
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 65.05 346 *e*p P 18 04 24.5 -1.8
comp=Z,2.0nm,0.5s
KAF Kangasniemi 65.05 346 *e*p P 18 04 24.5 -1.8
comp=Z,2.0nm,0.5s
TKM2 Tokmak 2 65.16 308 *e*P P 18 04 27.6 +0.1
TKM2 pmax pmax
comp=Z,5.0nm,1.1s
TKM2 Tokmak 2 65.16 308 *e*P P 18 04 27.6 +0.1
comp=Z,5.4nm,1.1s
PLAL Pickwick Lake 65.45 64 *e*P P 18 04 28.2 -1.1
comp=Z,5.7nm,0.6s
FINES FINESS Array B 65.72 346 P P 18 04 28.7 -1.9
comp=Z,2.5nm,0.8s,baz=19,slow=12,SNR=8.7
FINES FINESS Array B 65.72 346 P P 18 04 28.7 -1.9
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 65.72 346 P P 18 04 28.7 -1.9
AAK Ala-Archa 65.92 308*c* *i*P P 18 04 33.0 +0.6
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa 65.92 308 *e*P P 18 04 32.5 +0.1
comp=Z,14nm,0.6s
LSA Lhasa 66.16 288 P P 18 04 34.5 0.0
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 66.16 288 *e*P P 18 04 35.5 +1.0
LSA *e* 18 04 47.3
LSA pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 66.16 288 *e*P P 18 04 35.5 +1.0
comp=Z,10nm,1.0s
LSA *e* 18 04 47.3
EKS2 Erkin-Say 66.25 309 *e*P P 18 04 34.3 -0.2
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 66.25 309 *e*P P 18 04 34.3 -0.2
comp=Z,6.9nm,0.9s
AKTO Aktyubinsk 67.06 323 *i*P P 18 04 39.7 +0.3
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AB31 Akbulak array 67.27 322 *i*P P 18 04 41.5 +0.8
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 67.27 322 *e*P P 18 04 41.1 +0.4
comp=Z,2.4nm,0.4s
KSH Kashi 67.49 305 *e*P P 18 04 46.6 +4.2
KSH *e*pP pP 18 04 59.5 +4.3
KSH *e*sP sP 18 05 04.8 +4.5
KSH *e*PcP **PcP** **18 05 13.1 +3.6**
KSH *e*PP **PP** **18 07 18.4 +7.3**
KSH *e*ScP 18 09 11.4
KSH *e*PcS 18 09 16.6
KSH *e*S **S** **18 13 38.4 +3.0**
KSH *e*sS sS 18 14 01.6 +4.9
KSH *e*SS **SS** **18 18 03.3 +7.9**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,190nm,5.8s
KSH LR LR
comp=N,490nm,6.4s
KSH LR LR
comp=E,280nm,7.7s
KSH LR LR
comp=Z,410nm,8.7s
KK31 Karatay Array 67.49 311 *i*P P 18 04 41.8 -0.4
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 67.49 311 *e*P P 18 04 42.2 0.0
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 67.49 311 *e*P P 18 04 42.2 0.0
comp=Z,3.1nm,0.6s
NB2 NORSAR Subarra 67.78 354 P P 18 04 42.9 -0.9
comp=Z,3.1nm,0.7s,baz=9.2,slow=6.5
NOA NORSAR Array B 67.78 354 P P 18 04 43.2 -0.5
comp=Z,4.2nm,0.8s,baz=9.1,slow=6.4,SNR=11
NOA NORSAR Array B 67.78 354 P P 18 04 43.3 -0.5
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 67.78 354 P P 18 04 43.2 -0.5
NAO01 NORSAR Array S 68.00 354 *e*P P 18 04 43.4 -1.8
SHL Shillong 68.72 285 *e*P P 18 04 51.0 +0.6
CHTO Chiang Mai 69.32 275 P P 18 04 52.5 -1.5
CHTO pmax pmax
comp=Z,2.0nm,0.7s
CHTO Chiang Mai 69.32 275 P P 18 04 52.5 -1.5
comp=Z,1.8nm,0.7s
CM31 Chiang Mai Arr 69.59 274 *e*P P 18 04 54.8 -0.9
comp=Z,2.0nm,0.6s
CM31 *e* 18 05 06.9
CMAR Chiang Mai Arr 69.59 274 P P 18 04 55.6 0.0
comp=Z,2.0nm,0.7s,baz=29,slow=7.2,SNR=22
CMAR pP **pP** 18 05 07.3 -1.1
comp=Z,2.9nm,0.7s,baz=26,slow=6.4,SNR=15
CMAR LR LR 18 35 48.3
comp=Z,47nm,18.9s,baz=102,slow=36
CMAR Chiang Mai Arr 69.59 274 P P 18 04 55.7 0.0
CMAR *PP **pP** 18 05 07.4 -1.1
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR MLR MLR
comp=Z,47nm,18.9s
CMAR Chiang Mai Arr 69.59 274 P P 18 04 55.6 0.0
CMAR pP **pP** 18 05 07.3 -1.1
OBN Obninsk 69.60 338 *e*P P 18 04 54.5 -0.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
TAPN Taplejung 69.93 289 *e*P P 18 04 58.7 +0.7
comp=Z,77nm,1.2s
TAPN Taplejung 69.93 289 *e*P P 18 04 58.7 +0.7
comp=Z,77nm,1.2s
ODAN Odare 70.48 289 *e*P P 18 05 01.7 +0.4
comp=Z,34nm,1.1s
ODAN Odare 70.48 289 *e*P P 18 05 01.7 +0.4
comp=Z,34nm,1.1s
GUN Gumba 70.60 290 *e*P P 18 05 03.1 +0.9
comp=Z,92nm,0.9s
GUN Gumba 70.60 290 *e*P P 18 05 03.1 +0.9
comp=Z,92nm,0.9s
JIRN Jiri 70.60 290 *e*P P 18 05 03.1 +0.9
comp=Z,93nm,1.0s
JIRN Jiri 70.60 290 *e*P P 18 05 03.1 +0.9
comp=Z,93nm,1.0s
RAMN Ramite 70.89 289 *e*P P 18 05 04.4 +0.6
comp=Z,92nm,0.9s
RAMN Ramite 70.89 289 *e*P P 18 05 04.4 +0.6
comp=Z,92nm,0.9s
KKN Kakani 71.05 291 *e*P P 18 05 05.6 +0.9
comp=Z,40nm,0.8s
KKN Kakani 71.05 291 *e*P P 18 05 05.6 +0.9
KKN pmax pmax
comp=Z,40nm,0.8s
KKN Kakani 71.05 291 *e*P P 18 05 05.6 +0.9
comp=Z,40nm,0.8s
PKI Pulchoki 71.13 291 *e*P P 18 05 05.9 +0.5
comp=Z,64nm,1.1s
PKI Pulchoki 71.13 291 *e*P P 18 05 05.9 +0.5
PKI pmax pmax
comp=Z,64nm,1.1s
PKI Pulchoki 71.13 291 *e*P P 18 05 05.9 +0.5
comp=Z,64nm,1.1s
GKN Gorkha 71.27 291 *e*P P 18 05 06.5 +0.5
comp=Z,79nm,1.0s
GKN Gorkha 71.27 291 *e*P P 18 05 06.5 +0.5
comp=Z,79nm,1.0s
DMN Daman 71.28 291 *e*P P 18 05 07.1 +0.9
comp=Z,44nm,1.0s
DMN Daman 71.28 291 *e*P P 18 05 07.1 +0.9
comp=Z,44nm,1.0s
DANN Dangsing 71.52 292 *e*P P 18 05 08.4 +0.7
comp=Z,72nm,0.8s
DANN Dangsing 71.52 292 *e*P P 18 05 08.4 +0.7
comp=Z,72nm,0.8s
VRHR Novokhopersk 71.92 333 *e*P P 18 05 06.7 -2.6
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.6s
VRHR pmax pmax
comp=Z,8.0nm,0.6s
KOLN Koldanda 72.05 292 *e*P P 18 05 11.3 +0.6
comp=Z,26nm,0.8s
KOLN Koldanda 72.05 292 *e*P P 18 05 11.3 +0.6
comp=Z,26nm,0.8s
VSR Storozhevoye 72.49 335 *e*P P 18 05 10.9 -1.8
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 74.85 306 *e*P P 18 05 25.2 -1.9
KBL pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 74.85 306 *e*P P 18 05 25.2 -1.9
comp=Z,17nm,1.1s
AKASG Malin Array Be 75.35 341 P P 18 05 28.8 -0.6
comp=Z,4.6nm,0.6s,baz=24,slow=5.9,SNR=12
AKASG Malin Array Be 75.35 341 P P 18 05 28.8 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 75.35 341 P P 18 05 28.8 -0.6
KIEV Kiev 75.36 341*c* *i*P P 18 05 30.0 +0.5
KIEV Kiev 75.36 341 *e*P P 18 05 28.0 -1.5
comp=Z,7.4nm,0.9s
CTA Charters Tower 76.46 211 P P 18 05 36.0 0.0
comp=Z,3.5nm,0.9s,baz=25,slow=5.3,SNR=3.6
CTA Charters Tower 76.46 211 P P 18 05 36.0 0.0
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTA Charters Tower 76.46 211 P P 18 05 36.0 0.0
CLL Collm 77.27 351 *e*P pP 18 05 55.0 +1.7
KWP Kalwaria Pacla 77.61 344 ⇓P P 18 05 43.1 +0.8
KWP Kalwaria Pacla 77.61 344 *e*P P 18 05 41.9 -0.4
comp=Z,24nm,1.0s
KWP Kalwaria Pacla 77.61 344⇓ *i*P P 18 05 43.1 +0.8
KOLS Kolonicke sedl 78.36 344 *e*P P 18 05 46.3 -0.1
KOLS pmax pmax
comp=Z,10.0nm,1.6s
KOLS Kolonicke sedl 78.36 344 *e*P P 18 05 46.3 -0.1
CRVS Cervenica-Dubn 78.52 345 *e*P P 18 05 47.0 -0.4
CRVS pmax pmax
comp=Z,39nm,2.4s
CRVS Cervenica-Dubn 78.52 345 *e*P P 18 05 47.0 -0.4
ZEI Tsey 78.65 328 *e*P P 18 05 48.3 -0.1
ZEI pmax pmax
comp=Z,23nm,1.2s
VRAC Vranov 78.84 348 ⇑P P 18 05 49.9 +0.8
VRAC Vranov 78.84 348⇑ *i*P P 18 05 49.9 +0.8
BUR08 Bucovina Ar. S 79.07 342 *e*P P 18 05 50.1 -0.5
TRPA Tarpa 79.09 344⇓ *i*P P 18 05 51.4 +1.0
BURAR Bucovina Array 79.10 342⇑ *i*P P 18 05 51.6 +1.0
VYHS Vyhne 79.33 347 *e*P P 18 05 52.5 +0.7
VYHS pmax pmax
comp=Z,16nm,2.3s
VYHS Vyhne 79.33 347 *e*P P 18 05 52.5 +0.7
GERES GERESS Array B 79.63 350 P P 18 05 52.7 -0.8
comp=Z,0.4nm,0.7s,baz=339,slow=5.2,SNR=3.1
GERES GERESS Array B 79.63 350 P P 18 05 52.7 -0.8
GERES GERESS Array B 79.63 350 P P 18 05 52.7 -0.8
ZST Bratislava 79.86 348 *e*P P 18 05 55.6 +0.9
ZST pmax pmax
comp=Z,4.0nm,0.8s
ZST Bratislava 79.86 348 *e*P P 18 05 55.5 +0.9
DRGR 80.36 344 ⇑P P 18 05 58.1 +0.7
DRGR 80.36 344⇑ *i*P P 18 05 58.1 +0.7
VRI Vrincioaia 80.47 341 ⇑P P 18 05 54.6 -3.4
VRI Vrincioaia 80.47 341⇑ *i*P P 18 05 54.6 -3.4
PLOR Plostina 80.50 341 ⇑P P 18 05 58.9 +0.7
PLOR Plostina 80.50 341⇑ *i*P P 18 05 58.9 +0.7
GNI Garni 80.69 326 *e*P P 18 05 59.5 0.0
GNI pmax pmax
comp=Z,13nm,1.2s
WRAB Tennant Creek 80.80 222 *e*P P 18 05 58.6 -1.3
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 80.80 222 *e*P P 18 05 58.6 -1.3
comp=Z,7.2nm,1.0s
WB2 Warramunga Arr 80.81 222 *e*P P 18 05 58.6 -1.3
WRA Warramunga Arr 80.81 222 P P 18 05 59.2 -0.7
comp=Z,5.1nm,0.7s,baz=32,slow=6.1,SNR=51
WRA Warramunga Arr 80.81 222 P P 18 05 59.3 -0.7
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 80.81 222 P P 18 05 59.2 -0.7
CFR Carcaliu 80.82 340 ⇓P P 18 05 53.5 -6.3
CFR Carcaliu 80.82 340⇓ *i*P P 18 05 53.5 -6.3
MLR Muntele Rosu 80.99 341 ⇑P P 18 05 56.3 -4.6
MLR Muntele Rosu 80.99 341⇑ *i*P P 18 05 56.3 -4.6
VOIR 81.22 342 ⇓P P 18 06 01.3 -0.8
VOIR 81.22 342⇓ *i*P P 18 06 01.3 -0.8
BZS Buzias 81.68 344 ⇓P P 18 06 03.6 -0.8
BZS Buzias 81.68 344⇓ *i*P P 18 06 03.6 -0.8
GZR Gura Zlata 81.69 343 ⇓P P 18 06 03.8 -0.8
GZR Gura Zlata 81.69 343⇓ *i*P P 18 06 03.8 -0.8
HYB Hyderabad 82.94 289 *i*P P 18 06 10.5 -1.0
FITZ Fitzroy Crossi 83.15 230 P P 18 06 12.4 +0.2
comp=Z,6.5nm,0.9s,baz=26,slow=2.6,SNR=7.2
FITZ Fitzroy Crossi 83.15 230 P P 18 06 12.4 +0.2
AS31 Alice Springs 84.31 221 *e*P P 18 06 16.6 -1.6
ASAR Alice Springs 84.31 221 P P 18 06 18.1 -0.1
comp=Z,3.7nm,0.7s,baz=23,slow=5.3,SNR=56
ASAR pP **pP** 18 06 30.3 -1.0
comp=Z,1.2nm,0.7s,baz=26,slow=4.4,SNR=3.3
ASAR Alice Springs 84.31 221 P P 18 06 18.1 -0.1
ASAR *PP **pP** 18 06 30.3 -1.0
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.31 221 P P 18 06 18.1 -0.1
ASAR pP **pP** 18 06 30.3 -1.0
VTS Vitosha 84.32 342 ⇓P P 18 06 15.6 -2.7
VTS Vitosha 84.32 342⇓ *i*P P 18 06 15.6 -2.7
BR131 Keskin Array S 84.58 334 *e*P P 18 06 19.5 -0.1
comp=Z,3.8nm,0.7s
BRTR Keskin Array B 84.58 334 P P 18 06 20.4 +0.7
comp=Z,5.3nm,0.7s,baz=56,slow=2.3,SNR=22
BRTR Keskin Array B 84.58 334 P P 18 06 20.4 +0.7
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 84.58 334 P P 18 06 20.4 +0.7
MIB Mutribah 88.84 319 *e*P P 18 06 40.0 -0.4

MIB						AMb	AMB	18 06 41.3					
	comp=Z,16nm,0.8s												
STKA	**Stephens Creek**	**88.92**	**211**	P		**P**		**18 06 40.6**	**+0.2**				
	comp=Z,2.2nm,0.8s,baz=5.7,slow=6.1,SNR=5.5												
STKA	**Stephens Creek**	**88.92**	**211**	P		**P**		**18 06 40.6**	**+0.2**				
STKA				pmax		pmax							
	comp=Z,2.0nm,0.8s												
STKA	**Stephens Creek**	**88.92**	**211**	P		**P**		**18 06 40.6**	**+0.2**				
NAY	**Al-Naaiem**	**89.36**	**319**	*e*P		**P**		**18 06 42.0**	**-0.9**				
NAY				AMb		AMB		18 06 43.1					
	comp=Z,6.8nm,0.9s												
ESDC	**Sonseca Array**	**89.57**	**2**	P		**P**		**18 06 42.9**	**-0.8**				
	comp=Z,0.2nm,0.4s,baz=339,slow=6.3,SNR=4.7												
ESDC	**Sonseca Array**	**89.57**	**2**	P		**P**		**18 06 42.9**	**-0.8**				
LRS	**Lares**	**90.24**	**60**	*e*P		**P**		**18 06 47.6**	**+0.4**				
TORD	**Torodi Ar. Bea**	**115.98**	**357**	PKP		**PKPdf**		**18 12 28.4**	**-0.9**				
	comp=Z,0.5nm,0.6s,baz=355,slow=2.4,SNR=5.4												
TORD	**Torodi Ar. Bea**	**115.98**	**357**	PKP		**PKPdf**		**18 12 28.4**	**-0.9**				
LBTB	**Lobatse**	**146.87**	**312**	*e*PKP2		**PKPbc**		**18 13 28.8**	**+0.3**				
LBTB	**Lobatse**	**146.87**	**312**	*e*PKPbc		**PKPbc**		**18 13 28.8**	**+0.3**				

IDC 17 18:18:45.2±0.7, 46°.92N×155°.50E, h0km, mb3.5/10, mb1 3.8/13, mb1mx3.7/26, mbtmp3.6/13, ML3.4/3, Error ellipse: s-maj=23.9km s-min=14.4km az=147.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.35**	**12**	Pn	Pn	18 20 18.4	-1.6
	0.6nm,0.3s,baz=163,slow=15,SNR=21						
PETK				Sn	Sn	18 21 32.8	-0.4
	0.1nm,0.3s,baz=158,slow=16,SNR=2.8						
ASAJ	**Asahikawa**	**9.48**	**257**	Pn	Pn	18 21 03.4	+0.5
	0.3nm,0.3s,baz=72,slow=13,SNR=4.4						
FX1	**Attu Island--F**	**12.84**	**56**	Pn	Pn	18 21 47.7	-1.1
	1.5nm,0.3s,baz=288,slow=20,SNR=4.0						
FX1				Sn	Sn	18 23 59.0	-13
	0.6nm,0.3s,baz=285,slow=20,SNR=2.8						
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn	Pn	18 22 35.5	-2.7
	0.1nm,0.3s,baz=33,slow=13,SNR=5.0						
KSRS	**Korea Array**	**22.42**	**255**	P	P	18 23 47.5	+2.2
	1.2nm,0.9s,baz=56,slow=9.8,SNR=3.2						
ILAR	**Eielson Array**	**35.39**	**39**	P	P	18 25 41.5	-0.7
	0.4nm,0.5s,baz=256,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**43.84**	**306**	P	P	18 26 52.1	-0.5
	0.5nm,0.4s,baz=79,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**48.31**	**298**	P	P	18 27 27.2	-0.9
	0.3nm,0.7s,baz=75,slow=5.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**54.01**	**258**	P	P	18 28 11.8	+0.7
	0.3nm,0.5s,baz=34,slow=7.3,SNR=5.1						
NVAR	**Mina Array Bea**	**60.89**	**64**	P	P	18 29 01.3	+1.5
	0.2nm,0.6s,baz=316,slow=9.0,SNR=2.6						
FINES	**FINESS Array B**	**64.57**	**336**	P	P	18 29 23.9	+0.3
	1.1nm,0.7s,baz=38,slow=9.6,SNR=5.7						
WRA	**Warramunga Arr**	**69.24**	**201**	P	P	18 29 52.3	-1.5
	0.5nm,0.8s,baz=22,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**72.92**	**201**	P	P	18 30 15.9	-0.1
	0.4nm,0.5s,baz=15,slow=5.3,SNR=3.9						
TXAR	**Lajitas Array**	**75.97**	**62**	P	P	18 30 34.0	-0.2
	0.1nm,0.5s,baz=282,slow=3.9,SNR=4.5						

IDC 17 18:31:44.6±4.1, 51°.16N×178°.80E, h48km±38km, mb3.2/8, mb1 3.5/9, mb1mx3.3/27, mbtmp3.2/9, ML3.4/1, Error ellipse: s-maj=33.5km s-min=17.7km az=173.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**3.89**	**299**	P	Pn	18 32 41.3	-0.4
	10nm,0.3s,baz=256,slow=18,SNR=41						
FX1				S	Sn	18 33 37.0	+11
	5.6nm,0.3s,baz=307,slow=20,SNR=6.1						
KDAK	**Kodiak Island**	**17.80**	**57**	P	Pn	18 35 45.4	-3.1
	0.5nm,0.3s,baz=270,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**22.36**	**39**	P	P	18 36 35.0	-3.2
	0.3nm,0.5s,baz=233,slow=9.3,SNR=5.1						
YKA	**Yellowknife Ar**	**36.47**	**46**	P	P	18 38 44.0	-0.4
	0.3nm,0.3s,baz=282,slow=8.3,SNR=4.3						
NVAR	**Mina Array Bea**	**45.07**	**81**	P	P	18 39 55.7	-0.2
	0.3nm,0.6s,baz=285,slow=7.4,SNR=3.2						
SONM	**Songino Array**	**45.39**	**296**	P	P	18 39 59.5	+1.3
	0.2nm,0.7s,baz=60,slow=8.5,SNR=2.5						
SONM				pP	pP	18 40 09.7	-1.4
	0.2nm,0.5s,baz=67,slow=6.5,SNR=2.7						
PDAR	**Pinedale Array**	**47.80**	**71**	P	P	18 40 17.7	+0.4
	0.7nm,0.6s,baz=314,slow=4.2,SNR=6.7						
KURK	**Kurchatov**	**58.07**	**313**	P	P	18 41 31.4	-1.0
	0.2nm,0.3s,baz=42,slow=6.5,SNR=5.2						
MKAR	**Makanchi Array**	**58.98**	**307**	P	P	18 41 39.1	+0.3
	0.1nm,0.5s,baz=53,slow=6.6,SNR=3.6						
WRA	**Warramunga Arr**	**80.83**	**222**	P	P	18 43 52.5	-0.6
	0.5nm,0.5s,baz=32,slow=5.9,SNR=9.6						
ASAR	**Alice Springs**	**84.33**	**221**	P	P	18 44 11.6	+0.3
	0.2nm,0.6s,baz=28,slow=6.1,SNR=5.9						

IDC 17 18:43:56.1±2.2, 22°.26S×170°.08E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/28, Error ellipse: s-maj=70.8km s-min=35.5km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.37**	**272**	Pn	Pn	18 44 52.0	+1.9
	11nm,0.3s,baz=90,slow=17,SNR=122						
DZM				Sn	Sn	18 45 32.3	+1.3
	13nm,0.3s,baz=134,slow=23,SNR=6.7						
CTA	**Charters Tower**	**22.31**	**271**	LR	LR	18 56 11.4	
	comp=Z,102nm,21.0s,baz=317,slow=33						
STKA	**Stephens Creek**	**27.04**	**243**	P	P	18 49 40.8	+0.5
	0.8nm,0.6s,baz=83,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**33.28**	**260**	P	P	18 50 34.5	-1.1
	0.9nm,0.8s,baz=87,slow=9.5,SNR=6.7						
WRA	**Warramunga Arr**	**33.37**	**267**	P	P	18 50 35.0	-1.4
	0.5nm,0.6s,baz=99,slow=8.4,SNR=8.5						
CMAR	**Chiang Mai Arr**	**80.45**	**294**	P	P	18 56 11.0	+0.7
	0.4nm,0.8s,baz=135,slow=4.1,SNR=3.8						
GERES	**GERESS Array B**	**147.50**	**330**	PKPbc	PKPbc	19 03 41.5	-0.7
	0.5nm,0.7s,baz=18,slow=3.4,SNR=3.3						

IDC 17 18:52:30.9±7.6, 23°.37S×179°.98W, h632km±143km, mb3.6/6, mb1 3.7/6, mb1mx3.2/19, mbtmp3.6/6, Error ellipse: s-maj=122.8km s-min=33.4km az=68.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**21.60**	**198**	P	P	18 56 37.4	+0.1
	6.4nm,0.5s,baz=8.1,slow=8.3,SNR=6.4						
CTA	**Charters Tower**	**31.49**	**269**	P	P	18 58 04.2	+0.4
	16nm,0.4s,baz=95,slow=11,SNR=39						
PMG	**Port Moresby**	**34.34**	**288**	P	P	18 58 28.3	+0.6
	12nm,0.9s,baz=170,slow=6.1,SNR=6.2						
STKA	**Stephens Creek**	**34.94**	**247**	P	P	18 58 32.1	-0.4
	3.4nm,0.6s,baz=83,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**42.14**	**260**	P	P	18 59 30.6	+0.1
	4.6nm,0.6s,baz=95,slow=7.4,SNR=119						
WRA	**Warramunga Arr**	**42.46**	**266**	P	P	18 59 32.7	-0.2
	4.6nm,0.3s,baz=92,slow=8.5,SNR=346						

IDC 17 19:08:11.0±7.2, 21°.95N×142°.65E, h330km±73km, mb2.7/7, mb1 2.8/7, mb1mx2.7/24, mbtmp2.7/7, Error ellipse: s-maj=41.0km s-min=19.0km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.02**	**324**	P	P	19 12 19.9	-0.3
	0.8nm,0.6s,baz=144,slow=8.9,SNR=6.2						
SONM	**Songino Array**	**38.83**	**321**	P	P	19 15 05.4	+0.2
	0.1nm,0.3s,baz=116,slow=6.2,SNR=2.4						
WRA	**Warramunga Arr**	**42.42**	**192**	P	P	19 15 34.3	-0.1
	0.4nm,0.8s,baz=16,slow=8.9,SNR=7.1						
MKAR	**Makanchi Array**	**54.16**	**313**	P	P	19 17 02.6	-0.5
	0.1nm,0.3s,baz=94,slow=7.9,SNR=3.0						
BVAR	**Borovoye Array**	**62.16**	**319**	P	P	19 17 58.3	+0.4
	0.7nm,0.4s,baz=98,slow=8.1,SNR=10						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	P	19 19 24.7	+0.1
	0.1nm,0.6s,baz=294,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**82.74**	**334**	P	P	19 19 57.7	-0.5
	1.0nm,0.7s,baz=104,slow=5.9,SNR=4.7						

IDC ***17*** *19:08:03.2±1.6, 17°.16S×177°.60W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.0/17, mbtmp4.2/6, Error ellipse: s-maj=103.1km s-min=21.3km az=148.0*

NEIC 17 19:09:03.0±1.1, 18°.76S×177°.84W, h620km±11km, mb4.2/6, Error ellipse: s-maj=26.3km s-min=13.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.04**	**284**	*e*P	P	19 10 30.2	-0.2
CTAO	**Charters Tower**	**33.85**	**262**	*e*P	P	19 14 56.5	+0.2
	8.6nm,0.6s						
PMG	**Port Moresby**	**35.14**	**280**	*e*P	P	19 15 07.8	+0.7
	12nm,0.8s						
STKA	**Stephens Creek**	**38.70**	**242**	P	P	19 15 37.2	+1.2
	7.4nm,1.0s,baz=96,slow=9.1,SNR=23						
STKA	**Stephens Creek**	**38.70**	**242**	*e*P	P	19 15 36.9	+1.0
	1.1nm,0.8s						
WB2	**Warramunga Arr**	**45.01**	**260**	*e*P	P	19 16 25.1	-0.3
WRAB	**Tennant Creek**	**45.01**	**260**	*e*P	P	19 16 25.0	-0.4
	4.5nm,0.3s						
WRA	**Warramunga Arr**	**45.02**	**260**	P	P	19 16 25.1	-0.3
	5.2nm,0.4s,baz=98,slow=7.1,SNR=266						
WRA	**Warramunga Arr**	**45.02**	**260**	P	P	19 16 25.1	-0.3
AS31	**Alice Springs**	**45.09**	**255**	*e*P	P	19 16 26.1	+0.1
ASAR	**Alice Springs**	**45.09**	**255**	P	P	19 16 26.4	+0.3
	8.1nm,0.5s,baz=91,slow=7.7,SNR=228						
ASAR	**Alice Springs**	**45.09**	**255**	P	P	19 16 26.4	+0.3
MBWA	**Marble Bar**	**58.40**	**256**	*e*P	P	19 18 00.9	-0.3
	4.8nm,0.6s						
SBA	**Scott Base**	**59.60**	**184**	P	P	19 18 07.6	-0.6
	6.8nm,0.9s						
TXAR	**Lajitas Array**	**85.99**	**57**	P	P	19 20 40.9	+1.3
	0.3nm,0.7s,baz=216,slow=6.2,SNR=4.5						
TXAR	**Lajitas Array**	**85.99**	**57**	P	P	19 20 40.9	+1.3
ILAR	**Eielson Array**	**86.59**	**13**	P	P	19 20 40.1	-1.4
	0.8nm,1.0s,baz=224,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**86.59**	**13**	P	P	19 20 40.1	-1.4
PDAR	**Pinedale Array**	**87.60**	**43**	P	P	19 20 47.2	+0.2
	0.3nm,0.6s,baz=217,slow=4.4,SNR=2.8						
PDAR	**Pinedale Array**	**87.60**	**43**	P	P	19 20 47.2	+0.2

IDC 17 19:16:09.5±5.3, 0°.33S×132°.07E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=348.1km s-min=25.8km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.62**	**174**	P	P	19 20 39.7	-0.1
	0.0nm,0.3s,baz=354,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.26**	**176**	P	P	19 21 18.9	0.0
	0.6nm,0.6s,baz=0.0,slow=11,SNR=14						
MKAR	**Makanchi Array**	**63.93**	**324**	P	P	19 26 44.5	0.0
	0.1nm,0.5s,baz=105,slow=8.1,SNR=2.8						

IDC 17 19:18:58.4±3.4, 0°.18S×132°.76E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=191.8km s-min=28.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.70**	**176**	P	P	19 23 30.0	+0.5
	0.0nm,0.3s,baz=355,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**23.38**	**177**	P	P	19 24 08.6	-0.3
	0.5nm,0.6s,baz=354,slow=10,SNR=8.3						
MKAR	**Makanchi Array**	**64.21**	**324**	P	P	19 29 35.1	0.0
	0.1nm,0.5s,baz=111,slow=6.4,SNR=4.2						

IDC 17 19:39:40.0±4.8, 22°.89S×70°.20W, h34km±36km, mb3.7/5, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=27.9km s-min=24.6km az=66.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.85**	**17**	Pn	Pn	19 41 19.8	+0.9
	1.0nm,0.3s,baz=216,slow=7.0,SNR=24						
LPAZ				LR	LR	19 44 10.7	
	comp=Z,168nm,20.4s,baz=222,slow=40						
CFAA	**Coronel Fontan**	**8.86**	**169**	Pn	Pn	19 41 46.1	+0.4
	0.0nm,0.3s,baz=321,slow=6.5,SNR=1.9						
CFAA				Sn	Sn	19 43 25.2	+0.8
	0.1nm,0.3s,baz=335,slow=17,SNR=1.6						
SIV	**San Ignacio**	**11.01**	**53**	Pn	Pn	19 42 14.5	-0.7
	0.6nm,0.3s,baz=258,slow=14,SNR=9.3						
SIV				Sn	Sn	19 44 17.9	+0.6
	baz=320,slow=19,SNR=5.0						
PLCA	**Paso Flores**	**17.80**	**181**	LR	LR	19 50 04.9	
	comp=Z,116nm,18.5s,baz=302,slow=35						
BDFB	**Brasilia**	**22.14**	**75**	P	P	19 44 32.0	-1.1
	1.1nm,0.4s,baz=218,slow=15,SNR=2.3						
TXAR	**Lajitas Array**	**61.10**	**327**	P	P	19 49 50.3	-0.6
	0.2nm,0.7s,baz=165,slow=7.5,SNR=2.7						
DBIC	**Dimbokro**	**70.28**	**74**	P	P	19 50 50.7	+0.4
	2.8nm,1.0s,baz=260,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.95**	**71**	P	P	19 51 41.0	+0.3
	1.8nm,0.5s,baz=255,slow=5.5,SNR=12						
TORD				pP	pP	19 51 52.5	+1.1
	1.6nm,0.6s,baz=252,slow=5.1,SNR=6.3						
YKA	**Yellowknife Ar**	**92.10**	**341**	P	P	19 52 44.9	-0.3
	0.4nm,0.7s,baz=137,slow=4.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**143.71**	**25**	PKP	PKPbc	19 59 09.4	+0.7
	0.5nm,0.4s,baz=349,slow=1.5,SNR=3.6						
MKAR	**Makanchi Array**	**147.46**	**36**	PKPbc	PKPdf	19 59 18.9	+1.0
	1.2nm,0.7s,baz=328,slow=2.5,SNR=14						
SONM	**Songino Array**	**154.96**	**5**	PKPab	PKPab	19 59 54.7	+1.2
	0.3nm,0.5s,baz=336,slow=3.2,SNR=2.6						

IDC 17 19:43:58.6±2.1, 18°.89N×39°.18E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.8/6, Error ellipse: s-maj=63.7km s-min=25.4km az=156.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.31**	**348**	P	P	19 48 47.0	-0.1
	2.0nm,0.7s,baz=169,slow=14,SNR=9.6						
TORD	**Torodi Ar. Bea**	**36.43**	**267**	P	P	19 51 05.3	-0.1
	1.5nm,0.9s,baz=76,slow=7.0,SNR=8.6						
KURK	**Kurchatov**	**44.50**	**35**	P	P	19 52 11.7	0.0
	1.1nm,0.8s,baz=240,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**44.87**	**42**	P	P	19 52 14.3	-0.5
	1.4nm,0.8s,baz=240,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**49.39**	**34**	P	P	19 52 49.4	-0.5
	1.3nm,0.7s,baz=256,slow=5.8,SNR=7.8						
SONM	**Songino Array**	**60.99**	**45**	P	P	19 54 13.9	-0.1
	0.6nm,0.8s,baz=262,slow=7.2,SNR=4.8						

NEIC ***17*** *20:08:16.6±2.6, 39°.48N×73°.54E, h1km±17km, mb4.8/32, Error ellipse: s-maj=7.7km s-min=4.9km az=56.0*
IDC ***17*** *20:08:17.4±0.6, 39°.59N×73°.45E, h0km, mb4.3/23, mb1 4.4/28, mb1mx4.3/33, mbtmp4.3/28, ML3.8/5, MS4.0/20, Ms1 4.0/20, ms1mx3.8/45, Error ellipse: s-maj=12.8km s-min=10.1km az=4.0*
BJI ***17*** *20:08:19.3, 39°.68N×73°.54E, h12km, mB4.9/9, mb4.2/14, ML4.6/6, Ms4.6/13, Ms7 4.3/10*
ISCJB ***17*** *20:08:20.3±0.2, 39°.56N±0°.02×73°.60E±0°.03, h29km, mb4.5/66, MS4.0/22, Error ellipse: s-maj=3.5km s-min=2.9km az=145.6*
MOS ***17*** *20:08:21.6±1.7, 39°.69N×73°.55E, h33km, mb4.7/42, Error ellipse: s-maj=6.9km s-min=4.6km az=105.1*
NNC ***17*** *20:08:22.4±3.4, 39°.85N×73°.44E, h0km, mb4.8, mpv4.9, Error ellipse: s-maj=30.4km s-min=16.8km az=3.0*
SZGRF ***17*** *20:08:32.0, 40°.76N×73°.49E, h33km, mb4.5, Kyrgyzstan*
ISC 17 20:08:21.9±0.3, 39°.63N±0°.03×73°.72E±0°.04, h29km, n299, σ1s87/279, mb4.5/66, MS4.0/22, 26C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.75**	**93**	↑*i*Pg	**Pn**	**20 08 49.6**	**-0.8**
KSH				Sg	**Sb**	**20 09 13.5**	**-1.4**
KSH				smax	smax		
	comp=N,9μm,0.9s						
KSH				smax	smax		
	comp=E,6μm,0.8s						
AML	**Almayashu**	**2.50**	**360**	P	**Pn**	**20 09 02.3**	**+1.4**
	SNR=369						
AML				P	**Pn**	**20 09 02.3**	**+1.4**
	SNR=369						
UCH	**Uchtor**	**2.66**	**13**	P	**Pn**	**20 09 05.8**	**+2.6**
	SNR=66						
UCH				P	**Pn**	**20 09 05.8**	**+2.6**
	SNR=66						
KZA	**Kyzart**	**2.71**	**25**	P	**Pb**	**20 09 06.8**	**-3.0**
	SNR=86						
KZA				P	**Pb**	**20 09 06.8**	**-3.0**
	SNR=86						
EKS2	**Erkin-Say**	**3.03**	**1**	P	**Pn**	**20 09 09.9**	**+2.0**
	SNR=275						
EKS2				P	**Pn**	**20 09 09.9**	**+2.0**
	SNR=275						
EKS2	**Erkin-Say**	**3.03**	**1**	*e*PN	**Pn**	**20 09 09.8**	**+1.9**
EKS2				*e*		20 09 50.2	
EKS2	**Erkin-Say**	**3.03**	**1**	*e*Pn	**Pn**	**20 09 09.8**	**+1.9**
EKS2				*e*Sn	**Sb**	**20 09 50.1**	**-1.5**
AAK	**Ala-Archa**	**3.06**	**11**	P	Pn	20 09 11.4	+3.1
	SNR=331						
AAK				P	Pn	20 09 11.4	+3.1
	SNR=331						
AAK	**Ala-Archa**	**3.06**	**11**	*e*PN	**Pn**	**20 09 10.9**	**+2.5**
AAK				*e*		20 09 53.0	
AAK	**Ala-Archa**	**3.06**	**11**	*e*Pn	**Pn**	**20 09 10.8**	**+2.5**
AAK				*e*Sn	**Sb**	**20 09 53.0**	**+0.4**
KBK	**Karagaybulak**	**3.16**	**17**	P	Pn	20 09 12.8	+3.0
	SNR=89						
KBK				P	Pn	20 09 12.8	+3.0
	SNR=89						
ULHL	**Ulahol**	**3.24**	**35**	P	Pn	20 09 14.3	+3.4
	SNR=56						
ULHL				P	Pn	20 09 14.3	+3.4
	SNR=56						
FRU	**Bishkek**	**3.27**	**12**	⇓*i*PN	**Pn**	**20 09 14.0**	**+2.8**
FRU				*e*S	**Sb**	**20 09 57.0**	**-1.5**
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
CHMS	**Chumysh**	**3.45**	**13**	P	Pn	20 09 16.6	+2.9
	SNR=155						
CHMS				P	Pn	20 09 16.6	+2.9
	SNR=155						
TKM2	**Tokmak 2**	**3.58**	**23**	P	Pn	20 09 18.9	+3.3
	SNR=22						
TKM2				P	Pn	20 09 18.9	+3.3
	SNR=22						
TKM2	**Tokmak 2**	**3.58**	**23**	⇓Pn	Pn	20 09 18.8	+3.3
	comp=Z,247nm,0.6s						
TKM2				⇓Lg	Lg	20 10 15.0	
	comp=Z,970nm,0.8s						
TKM2	**Tokmak 2**	**3.58**	**23**	*e*PN	**Pn**	**20 09 18.4**	**+2.8**
TKM2				*e*		20 10 14.3	
TKM2	**Tokmak 2**	**3.58**	**23**	*e*Pn	**Pn**	**20 09 18.4**	**+2.8**
TKM2				*e*Sg	Sb	20 10 14.3	+6.7
USP	**Ospenovka**	**3.68**	**9**	P	**Pn**	**20 09 19.1**	**+2.2**
	SNR=97						
USP				P	**Pn**	**20 09 19.1**	**+2.2**
	SNR=97						
KK31	**Karatay Array**	**4.22**	**326**	⇓Pn	**Pn**	**20 09 24.6**	**+0.3**
	comp=Z,102nm,0.5s,baz=148,slow=13						
KK31				⇓Sn	**Sn**	**20 10 12.7**	**+0.1**
	comp=Z,121nm,0.5s,baz=139,slow=23						
KK31				⇓Lg	Lg	20 10 26.2	
	comp=Z,1μm,0.9s,baz=141,slow=26						
KK31	**Karatay Array**	**4.22**	**326**	*i* PN	**Pn**	**20 09 25.3**	**+1.0**
KK31				pmax	pmax		
	comp=Z,122nm,0.4s						
KKAR	**Karatay Array**	**4.22**	**326**	*e*PN	**Pn**	**20 09 23.6**	**-0.7**
KKAR				*e*		20 10 14.2	
KKAR	**Karatay Array**	**4.22**	**326**	*e*Pn	**Pn**	**20 09 23.6**	**-0.7**
KKAR				*e*Sn	**Sn**	**20 10 14.2**	**+1.5**
KNDC	**Almaty**	**4.33**	**33**	⇓Pn	Pn	20 09 30.1	+4.3
KNDC				⇑Lg	Lg	20 10 40.2	
CHCP	**Chirah Chowk**	**5.97**	**184**	P	Pn	20 09 52.4	+4.0
CEP	**Cherat**	**5.98**	**195**	⇑P	Pn	20 09 51.5	+3.0
CEP				S	**Sn**	**20 11 01.0**	**+4.9**
KBL	**Kabul**	**6.31**	**218**	*e*PN	**Pn**	**20 09 53.7**	**+0.6**
KBL				*e*		20 11 05.6	
KBL				pmax	pmax		
	comp=Z,157nm,0.9s						
KBL	**Kabul**	**6.31**	**218**	*e*Pn	**Pn**	**20 09 53.7**	**+0.6**
	comp=Z,157nm,0.9s						
KBL				*e*Sn	**Sn**	**20 11 05.6**	**+1.3**
THW	**Thamme Wali**	**7.01**	**194**	P	Pn	**20 10 04.5**	**+1.9**
DLH	**Dalhousie**	**7.31**	**165**	*e*P	**Pn**	**20 10 09.0**	**+2.2**
DLH				*ex*	**Sn**	**20 11 30.0**	**+1.1**
SARP	**Sargodha**	**7.74**	**187**	P	Pn	**20 10 14.2**	**+1.6**
PONG	**Pong**	**7.87**	**166**	*e*P	**Pn**	**20 10 15.0**	**+0.6**
PONG				*ex*	**Sn**	**20 11 45.0**	**+2.5**
BHK	**Bhakra**	**8.49**	**164**	*e*P	**Pn**	**20 10 24.4**	**+1.5**
BHK				*ex*	**Sn**	**20 12 01.8**	**+4.1**
MK31	**Makanchi Array**	**9.50**	**38**	P	Pn	20 10 41.3	+4.6
	comp=Z,8.7nm,0.6s,baz=219,slow=14,SNR=40						
MK31	**Makanchi Array**	**9.50**	**38**	*e*P	**Pn**	**20 10 39.2**	**+2.5**
MK31	**Makanchi Array**	**9.50**	**38**	*e*Pn	**Pn**	**20 10 39.2**	**+2.5**
MKAR	**Makanchi Array**	**9.50**	**38**	Pn	**Pn**	**20 10 39.5**	**+2.7**
	comp

DANN Dangsing 13.99 141 *e*P Pn 20 11 35.4 -3.0
comp=N,55nm,0.4s
KOLN Koldanda 14.40 142 *e*P **Pn** **20 11 41.1 -2.8**
comp=N,80nm,0.4s
KOLN Koldanda 14.40 142 *e*P **Pn** **20 11 41.1 -2.8**
comp=N,80nm,0.4s
GKN Gorkha 14.71 139 *e*P Pn 20 11 45.1 -3.0
comp=N,50nm,0.4s
GKN Gorkha 14.71 139 *e*P Pn 20 11 45.1 -3.0
comp=N,50nm,0.4s
KKN Kakani 15.22 137 *e*P **Pn** **20 11 51.6 -3.3**
comp=N,46nm,0.5s
KKN Kakani 15.22 137 *e*P **Pn** **20 11 51.6 -3.3**
KKN pmax pmax
comp=Z,46nm,0.5s
KKN Kakani 15.22 137 *e*P **Pn** **20 11 51.6 -3.3**
comp=Z,46nm,0.5s
DMN Daman 15.27 138 *e*P **Pn** **20 11 52.7 -3.0**
comp=Z,52nm,0.6s
DMN Daman 15.27 138 *e*P **Pn** **20 11 52.7 -3.0**
comp=Z,52nm,0.6s
GUN Gumba 15.44 136 *e*P **Pn** **20 11 55.5 -2.5**
comp=Z,36nm,0.5s
GUN Gumba 15.44 136 *e*P **Pn** **20 11 55.5 -2.5**
comp=Z,36nm,0.5s
AKTO Aktyubinsk 15.45 319 Pn **Pn** **20 11 53.9 -3.7**
comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=34
AKTO Sn Sn 20 14 38.3 -9.5
comp=Z,0.7nm,0.3s,baz=323,slow=20,SNR=2.8
AKTO LR LR 20 18 12.6
comp=Z,466nm,19.4s,baz=136,slow=39
AKTO Aktyubinsk 15.45 319 ⇓P **Pn** **20 11 54.8 -2.8**
comp=Z,5.3nm,0.9s
AKTO Aktyubinsk 15.45 319 P **Pn** **20 11 53.9 -3.7**
AKTO 20 14 38.3
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,466nm,19.4s
AKTO Aktyubinsk 15.45 319 Pn **Pn** **20 11 53.9 -3.7**
AKTO Sn Sn 20 14 38.3 -9.5
PKI Pulchoki 15.46 138 *e*P **Pn** **20 11 55.9 -2.3**
comp=Z,33nm,0.5s
PKI Pulchoki 15.46 138 *e*P **Pn** **20 11 55.9 -2.3**
PKI pmax pmax
comp=Z,33nm,0.5s
PKI Pulchoki 15.46 138 *e*P **Pn** **20 11 55.9 -2.3**
comp=Z,33nm,0.5s
JIRN Jiri 15.81 135 *e*P **Pn** **20 12 00.0 -2.7**
comp=Z,76nm,0.5s
JIRN Jiri 15.81 135 *e*P **Pn** **20 12 00.0 -2.7**
comp=Z,76nm,0.5s
ZAA0 Zalesovo Array 16.18 24 *e*Pn **Pn** **20 12 06.5 -0.4**
ZALV Zalesovo Beam 16.18 24 Pn **Pn** **20 12 07.0 0.0**
comp=Z,1.4nm,0.3s,baz=220,slow=12,SNR=28
ZALV Lg Lg 20 16 49.5
comp=Z,0.2nm,0.3s,baz=216,slow=24,SNR=2.4
ZALV Zalesovo Beam 16.18 24 P **Pn** **20 12 07.0 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 16.18 24 Pn **Pn** **20 12 07.0 0.0**
ZALV Lg Lg 20 16 49.5
NVS Novosibirsk 16.50 20 ⇑*i*P **Pn** **20 12 10.0 -1.1**
NVS pmax pmax
comp=N,63nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,67nm,1.6s
RAMN Ramite 16.59 136 *e*P **Pn** **20 12 10.1 -2.5**
comp=Z,98nm,0.9s
RAMN Ramite 16.59 136 *e*P **Pn** **20 12 10.1 -2.5**
comp=Z,98nm,0.9s
TAPN Taplejung 16.89 132 *e*P **Pn** **20 12 14.7 -1.8**
comp=Z,25nm,0.5s
TAPN Taplejung 16.89 132 *e*P **Pn** **20 12 14.7 -1.8**
comp=Z,25nm,0.5s
ODAN Odare 17.09 134 *e*P **Pn** **20 12 16.2 -2.7**
comp=Z,54nm,0.5s
ODAN Odare 17.09 134 *e*P **Pn** **20 12 16.2 -2.7**
comp=Z,54nm,0.5s
LSA Lhasa 17.40 119 P **P** **20 12 25.1 +1.0**
LSA LR LR
comp=N,440nm,23.8s
LSA LR LR
comp=E,580nm,27.8s
LSA Lhasa 17.40 119 *e*P **P** **20 12 26.9 +2.8**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 17.40 119 *e*Pn **P** **20 12 26.9 +2.8**
comp=Z,12nm,0.9s
NGP Nagpur 18.98 165 *e*P **Pn** **20 12 43.5 +1.7**
NGP AMb AMB 20 12 44.6
comp=Z,26nm,1.4s
NGP *ex* x 20 16 01.4
SVE Sverdlovsk 19.23 338 ⇑*i*P **P** **20 12 42.0 -1.4**
SVE pmax pmax
comp=Z,32nm,1.1s
SVE MLR MLR
comp=Z,779nm,11.0s
ARU Arti 19.55 334 *d i*P **P** **20 12 46.3 -0.7**
ARU S **S** **20 16 22.2 -3.7**
ARU pmax pmax
comp=Z,42nm,1.2s
ARU Arti 19.55 334 *e*Pn **P** **20 12 45.3 -1.7**
comp=Z,31nm,0.8s
GTA Gaotai 20.12 82 *e*P Pn 20 12 56.8 +1.3
GTA pP pP 20 13 00.8 -0.5
GTA sP sP 20 13 04.1 -0.9
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,790nm,15.4s
GTA LR LR
comp=E,610nm,13.3s
GTA LR LR
comp=Z,620nm,10.5s
TBLG Delisi 22.03 285 *e*P **P** **20 13 15.8 +1.8**
TBLG Delisi 22.03 285 P **P** **20 13 15.8 +1.8**
GNI Garni 22.20 281 P **P** **20 13 14.3 -1.7**
comp=Z,15nm,0.7s,baz=33,slow=4.0,SNR=6.6
GNI LR LR 20 23 11.5
comp=Z,293nm,19.9s,baz=322,slow=41
GNI Garni 22.20 281 *c i*P **P** **20 13 14.2 -1.7**
GNI pmax pmax
comp=Z,73nm,1.7s
GNI Garni 22.20 281 P **P** **20 13 14.3 -1.7**
MOY Mondy 22.40 48 *e*P P 20 13 24.0 +6.0
HYB Hyderabad 22.53 168 *i* P **P** **20 13 18.0 -1.5**
HYB *e*S S 20 17 18.0 -6.9
ZEI Tsey 22.60 288 *e*P **P** **20 13 21.0 +0.7**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
SOKR Solikamsk 22.64 337 ⇑*i*P **P** **20 13 21.2 +0.9**
SOKR pmax pmax
comp=Z,30nm,0.8s
SOKR MLR MLR
comp=Z,440nm,16.0s
AKH Akhalkalaki 22.99 284 P **P** **20 13 23.6 -0.7**
ZAK Zakamensk 23.35 53 *e*P **P** **20 13 28.8 +1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KIV Kislovodsk 23.46 291 *e*P **P** **20 13 28.0 -0.9**
KIV pmax pmax
comp=Z,42nm,0.9s
KIV Kislovodsk 23.46 291 *e*P **P** **20 13 28.0 -0.9**
comp=Z,42nm,0.9s
UMR Umm Al-Rimmam 23.58 253 *e*P **P** **20 13 27.6 -2.4**
UMR AMb AMB 20 13 31.1
comp=Z,105nm,1.0s
MIB Mutribah 23.72 254 *e*P **P** **20 13 29.4 -2.1**
MIB AMb AMB 20 13 32.2
comp=Z,86nm,1.3s
TLY Talaya 23.96 50 *e*P **P** **20 13 36.4 +2.9**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 23.96 50 *e*P **P** **20 13 36.4 +2.9**
comp=Z,2.8nm,0.8s
LZH Lanzhou 23.99 89 *e*P P 20 13 40.5 +6.4
LZH sP sP 20 13 47.8 +1.7
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=N,1μm,15.7s
LZH LR LR
comp=E,580nm,11.4s
LZH LR LR
comp=Z,710nm,13.6s
RDF Al-Radifah 24.04 252 *e*P **P** **20 13 32.1 -2.3**
RDF AMb AMB 20 13 37.6
comp=Z,42nm,2.1s
NAY Al-Naaiem 24.09 253 *e*P **P** **20 13 32.9 -1.9**
NAY AMb AMB 20 13 36.9
comp=Z,25nm,1.0s
SONM Songino Array 24.85 60 P **P** **20 13 43.7 +1.9**
comp=Z,8.5nm,1.0s,baz=262,slow=9.1,SNR=17
SONM LR LR 20 25 01.1
comp=Z,142nm,21.7s,baz=91,slow=40
SONM Songino Array 24.85 60 P **P** **20 13 43.7 +1.9**
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM MLR MLR
comp=Z,142nm,21.7s
SONM Songino Array 24.85 60 P **P** **20 13 43.7 +1.9**
VRHR Novokhopersk 25.09 308 *e*P **P** **20 13 42.0 -1.8**
VRHR *e*PP **pP** **20 13 55.9 +3.7**
VRHR *e*S **S** **20 18 09.9 +3.6**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,3.0nm,0.3s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR smax smax
comp=N,70nm,1.6s
VRHR smax smax
comp=E,50nm,1.6s
VRHR smax smax
comp=Z,50nm,1.6s
ULN Ulaanbaatar 25.29 60 *e*P **P** **20 13 47.9 +2.0**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 25.29 60 *e*P **P** **20 13 47.9 +2.0**
comp=Z,6.1nm,0.9s
VSR Storozhevoye 26.62 307 *e*P **P** **20 13 55.8 -1.9**
VSR *e*PP **pP** **20 14 10.6 +4.5**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 29.11 315 *e*P **P** **20 14 19.1 -0.7**
OBN *e* 20 15 10.8
OBN pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 30.34 127 P **P** **20 14 33.9 +2.8**
comp=Z,0.6nm,0.8s,baz=311,slow=9.1,SNR=4.6
CMAR Chiang Mai Arr 30.34 127 P **P** **20 14 33.9 +2.8**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 30.34 127 P **P** **20 14 33.9 +2.8**
BR131 Keskin Array S 30.67 283 *e*P **P** **20 14 32.3 -1.7**
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 30.67 283 P **P** **20 14 33.1 -0.8**
comp=Z,5.5nm,0.6s,baz=86,slow=7.7,SNR=20
BRTR Keskin Array B 30.67 283 P **P** **20 14 33.2 -0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BRTR Keskin Array B 30.67 283 P **P** **20 14 33.1 -0.8**
MMAI Mount Meron Ar 31.39 270 P **P** **20 14 40.1 -0.2**
comp=Z,2.2nm,0.8s,baz=55,slow=11,SNR=3.4
MMAI Mount Meron Ar 31.39 270 P **P** **20 14 40.1 -0.2**
BOD Bodaibo 31.58 41 *e*P **P** **20 14 41.8 +0.2**
BOD *e* 20 25 12.5
BOD pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 32.79 305 P **P** **20 14 51.2 -1.1**
comp=Z,3.2nm,0.5s,baz=81,slow=7.3,SNR=14
AKASG LR LR 20 28 43.1
comp=Z,495nm,18.8s,baz=335,slow=38
AKASG Malin Array Be 32.79 305 *i* P **P** **20 14 51.2 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 32.79 305 P **P** **20 14 51.2 -1.1**
KIEV Kiev 32.80 305 *e*P P 20 14 48.8 -3.6
KIEV pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 32.80 305 *e*P P 20 14 48.8 -3.6
comp=Z,3.8nm,0.6s
CFR Carcaliu 33.76 295 ⇑P **P** **20 15 02.5 +1.7**
CFR Carcaliu 33.76 295 ⇑*i*P **P** **20 15 02.5 +1.7**
JOF Joensuu 34.32 327 *e*P **P** **20 15 05.1 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 34.32 327 *ep* **P** **20 15 05.1 -0.4**
comp=Z,5.9nm,0.7s
JOF Joensuu 34.32 327 *ep* **P** **20 15 05.1 -0.4**
comp=Z,5.9nm,0.7s
NACGM Naroch 34.59 312 *e* **P** **20 15 07.0 -0.9**
TESR 34.64 297 ⇑*i*P **P** **20 15 10.7 +2.2**
VRI Vrincioaia 34.66 296 ⇓*i*P **P** **20 15 10.9 +2.3**
IDID Didziasalis 34.67 313 *e*P **P** **20 15 07.7 -0.8**
PLOR Plostina 34.71 296 ⇑P **P** **20 15 11.6 +2.5**
PLOR Plostina 34.71 296 ⇑*i*P **P** **20 15 11.6 +2.5**
IIGN Ignalina 34.96 313 *e*P **P** **20 15 10.2 -0.9**
IZAR Zarasai 35.00 313 *e*P **P** **20 15 10.5 -0.9**
ISAL Salakas 35.04 313 *e*P **P** **20 15 10.8 -1.0**
MLR Muntele Rosu 35.25 296 ⇑P P 20 15 16.5 +2.6
MLR Muntele Rosu 35.25 296 ⇑*i*P P 20 15 16.5 +2.6
BUR08 Bucovina Ar. S 35.52 299 *e*P **P** **20 15 14.1 -2.0**
VOIR 35.88 296 ⇑P **P** **20 15 19.8 +0.6**
VOIR 35.88 296 ⇑*i*P **P** **20 15 19.8 +0.6**
FINES FINESS Array B 36.18 323 P **P** **20 15 20.5 -0.9**
comp=Z,2.7nm,0.4s,baz=107,slow=9.7,SNR=29
FINES FINESS Array B 36.18 323 P **P** **20 15 20.5 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 36.18 323 P **P** **20 15 20.5 -0.9**
KAF Kangasniemi 36.25 324 *e*P **P** **20 15 20.8 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 36.25 324 *ep* **P** **20 15 20.8 -1.3**
comp=Z,2.0nm,0.7s
KAF Kangasniemi 36.25 324 *ep* **P** **20 15 20.8 -1.3**
comp=Z,2.0nm,0.7s
KWP Kalwaria Pacla 37.00 303 *e*P **P** **20 15 28.3 -0.4**
KWP pmax pmax
comp=Z,72nm,1.8s
KWP Kalwaria Pacla 37.00 303 *e*P **P** **20 15 28.3 -0.4**
comp=Z,72nm,1.8s
KWP Kalwaria Pacla 37.00 303 ⇑*i*P **P** **20 15 30.7 +2.0**
TRPA Tarpa 37.25 300 ⇑*i*P **P** **20 15 33.1 +2.4**
DRGR 37.30 298 ⇓P **P** **20 15 33.1 +1.8**
DRGR 37.30 298 ⇓*i*P **P** **20 15 33.1 +1.8**
GZR Gura Zlata 37.47 296 ⇓P **P** **20 15 35.2 +2.5**
GZR Gura Zlata 37.47 296 ⇓*i*P **P** **20 15 35.2 +2.5**
VTS Vitosha 37.71 291 ⇑P **P** **20 15 34.3 -0.7**
VTS Vitosha 37.71 291 ⇑*i*P **P** **20 15 34.3 -0.7**
CRVS Cervenica-Dubn 37.88 302 *e*P **P** **20 15 36.1 0.0**
CRVS *e* 20 17 07.1
CRVS Cervenica-Dubn 37.88 302 *e*P **P** **20 15 36.1 0.0**
CRVS *e*PP **PnPn** **20 17 07.1 +3.0**
STHS Stebnicka Huta 37.97 303 *e*P **P** **20 15 38.7 +1.8**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 37.97 303 *e*P **P** **20 15 38.7 +1.8**
BZS Buzias 38.23 297 ⇑P **P** **20 15 41.4 +2.3**
BZS Buzias 38.23 297 ⇑*i*P **P** **20 15 41.4 +2.3**
NIE Niedzica 38.57 303 *e*P **P** **20 15 41.6 -0.4**
NIE Niedzica 38.57 303 *e*P **P** **20 15 41.6 -0.4**
KEV Kevo 38.75 336 *e*P **P** **20 15 40.0 -3.1**
KEV pmax pmax
comp=Z,20nm,1.0s
KEV Kevo 38.75 336 *e*P **P** **20 15 40.0 -3.1**
comp=Z,20nm,1.0s
KEV Kevo 38.75 336 *ep* **P** **20 15 42.6 -0.5**
KEV Kevo 38.75 336 *ep* **P** **20 15 42.6 -0.5**
OJC Ojcow 38.83 304 *e*P **P** **20 15 43.1 -0.9**
OJC Ojcow 38.83 304 *e*P **P** **20 15 43.1 -0.9**
ARCES ARCESS Array B 39.13 335 P **P** **20 15 45.5 -0.9**
comp=Z,2.9nm,0.6s,baz=104,slow=9.2,SNR=23
ARCES LR LR 20 33 00.5
comp=Z,206nm,20.5s,baz=100,slow=38
ARCES ARCESS Array B 39.13 335 P **P** **20 15 45.5 -0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,206nm,20.5s
ARCES ARCESS Array B 39.13 335 P **P** **20 15 45.5 -0.9**
VYHS Vyhne 39.66 302 *e*P **P** **20 15 51.0 0.0**
VYHS pmax pmax
comp=Z,74nm,3.3s
VYHS Vyhne 39.66 302 *e*P **P** **20 15 51.0 0.0**
VYHS *e*PP **PP** **20 17 22.1 -0.1**
PKSM Moragy 40.17 298 ⇑P **P** **20 15 55.7 +0.5**
PKSM Moragy 40.17 298 ⇑*i*P **P** **20 15 55.7 +0.5**
YAK Yakutsk 40.18 37 *e*P **P** **20 15 54.4 -0.7**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK MLR MLR
comp=E,158nm,12.0s
YAK MLR MLR
comp=Z,243nm,12.0s
YAK MLR MLR
comp=N,101nm,10.0s
YAK Yakutsk 40.18 37 P **P** **20 15 55.2 +0.1**
comp=N,16nm,0.8s
MORC Moravsky Berou 40.32 304 P **P** **20 15 56.2 -0.4**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 40.32 304 P **P** **20 15 56.1 -0.4**
comp=Z,4.2nm,0.9s
DPC Dobruska-Polom 41.03 305 *e*P **P** **20 16 04.2 +1.8**
DPC Dobruska-Polom 41.03 305 *e*P **P** **20 16 04.2 +1.8**
KSAR Wonju Array Be 41.89 75 P P 20 16 12.8 +3.3
KSAR Wonju Array Be 41.89 75 P P 20 16 12.8 +3.3
KSRS Korea Array 41.91 75 P P 20 16 12.8 +3.1
comp=Z,1.5nm,0.8s,baz=283,slow=7.7,SNR=6.3
KSRS LR LR 20 36 44.5
comp=Z,103nm,18.5s,baz=126,slow=40
KSRS Korea Array 41.91 75 P P 20 16 12.8 +3.1
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,103nm,18.5s
HFS Hagfors 42.00 320 P **P** **20 16 09.5 -0.7**
comp=Z,6.1nm,0.5s,baz=116,slow=12,SNR=20
HFS Hagfors 42.00 320 P **P** **20 16 09.5 -0.7**
HFS pmax pmax
comp=Z,6.0nm,0.5s
HFS Hagfors 42.00 320 P **P** **20 16 09.5 -0.7**
USRK Ussuriysk Arra 42.83 64 LR LR 20 36 34.3
comp=Z,157nm,19.7s,baz=96,slow=39
GERES GERESS Array B 42.95 303 P **P** **20 16 18.0 -0.2**
comp=Z,1.8nm,0.6s,baz=56,slow=7.2,SNR=14
GERES GERESS Array B 42.95 303 P **P** **20 16 18.0 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 42.95 303 P **P** **20 16 18.0 -0.2**
CLL Collm 42.97 307 *e*P P 20 16 21.0 +2.8
CLL Collm 42.97 307 *e*(P) **P** **20 16 18.0 -0.2**
CLL *e*PP **PP** **20 17 55.0 -3.0**
KHC Kasperske Hory 42.98 303 *e*P P 20 16 12.5 -5.8
KHC *e* 20 16 17.5
KHC Kasperske Hory 42.98 303 *e*P P 20 16 12.5 -5.8
KHC *ex* x 20 16 17.5
NB2 NORSAR Subarra 43.24 321 P **P** **20 16 18.6 -1.6**
comp=Z,4.7nm,0.8s,baz=92,slow=8.6
NOA NORSAR Array B 43.24 321 P **P** **20 16 18.7 -1.5**
comp=Z,2.4nm,0.7s,baz=91,slow=8.0,SNR=7.2
NOA LR LR 20 34 30.4
comp=Z,214nm,21.9s,baz=270,slow=36
NOA NORSAR Array B 43.24 321 P **P** **20 16 18.7 -1.5**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,214nm,21.9s
NOA NORSAR Array B 43.24 321 P **P** **20 16 18.7 -1.5**
CUC Castrocucco 43.78 290 *e*P **P** **20 16 24.2 -0.7**
comp=Z,8.0nm,0.9s
GRF Grafenberg Arr 44.38 305 *e*P P 20 16 32.2 +2.7
comp=Z,21nm,2.0s
GRF Grafenberg Arr 44.38 305 *e*P P 20 16 32.2 +2.7
GRF pmax pmax
comp=Z,21nm,2.0s
DAVOX Davos/Dischmat 45.93 301 P **P** **20 16 40.2 -1.9**
comp=Z,3.6nm,0.5s,baz=104,slow=6.8,SNR=16
DAVOX Davos/Dischmat 45.93 301 P **P** **20 16 40.2 -1.9**
DAVOX Davos/Dischmat 45.93 301 P **P** **20 16 40.2 -1.9**
JOW Kunigami 46.73 89 LR LR 20 37 50.4
comp=Z,218nm,18.5s,baz=257,slow=38
PGF Pioggiola 47.80 296 *e*P **P** **20 16 56.0 -0.7**
comp=Z,15nm,0.8s
LPG La Plagne 48.38 300 *e*P **P** **20 17 01.7 +0.3**
comp=Z,9.5nm,0.8s
LPL La Plagne 48.39 300 *e*P **P** **20 17 01.8 +0.5**
comp=Z,8.5nm,0.6s
SBF Sospel 48.44 298 *e*P **P** **20 17 01.5 -0.1**
MBDF Montbardon 48.61 299 *e*P P 20 16 58.1 -4.9
comp=Z,24nm,1.1s
MAJO Matsushiro 49.87 72 *e*P **P** **20 17 13.1 +0.5**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO Matsushiro 49.87 72 *e*P **P** **20 17 13.1 +0.5**
comp=Z,7.7nm,0.8s
MAT Matsushiro 49.87 72 P **P** **20 17 13.3 +0.7**
MJAR Matsushiro Arr 49.88 72 P **P** **20 17 13.2 +0.6**
comp=Z,5.2nm,0.8s,baz=286,slow=9.7,SNR=16
MJAR LR LR 20 39 47.1
comp=Z,101nm,18.5s,baz=290,slow=38
MJAR Matsushiro Arr 49.88 72 P **P** **20 17 13.2 +0.6**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR MLR MLR
comp=Z,101nm,18.5s
MJAR Matsushiro Arr 49.88 72 P **P** **20 17 13.2 +0.6**
VIVF Saint-Julien-l 49.98 300 *e*P **P** **20 17 13.2 -0.1**
KEST Kesra 50.12 287 LR LR 20 39 09.4
comp=Z,85nm,20.3s,baz=177,slow=37
ASAJ Asahikawa 50.12 61 LR LR 20 38 52.4
comp=Z,189nm,20.3s,baz=294,slow=36
AVF Avril sur Loir 50.22 303 *e*P **P** **20 17 15.4 +0.4**
BGF Bois d'Agland 50.62 302 *e*P **P** **20 17 18.6 +0.5**
comp=Z,24nm,1.0s
SEY Seymchan 50.63 35 *e*P **P** **20 17 18.9 +1.1**
LDF La Druitiere 51.84 306 *e*P **P** **20 17 24.2 -3.0**
DAG Danmarks Havn 52.35 343 *i* P **P** **20 17 33.2 +2.7**
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 52.35 343 *i* P **P** **20 17 33.2 +2.7**
comp=Z,63nm,0.7s
KMBO Kilima Mbogo 52.52 228 *e*P **P** **20 17 31.8 -1.0**
KMBO pmax pmax
comp=Z,9.0nm,1.3s
KMBO Kilima Mbogo 52.52 228 *e*P **P** **20 17 31.8 -1.0**
comp=Z,8.8nm,1.3s
EPF Esparros 53.56 299 *e*P **P** **20 17 40.2 +0.2**
CBIJ Chichi jima 57.28 80 LR LR 20 44 08.7
comp=Z,125nm,19.0s,baz=112,slow=37
ESDC Sonseca Array 57.92 297 P **P** **20 18 08.3 -3.1**
comp=Z,1.2nm,0.5s,baz=58,slow=7.1,SNR=11
ESDC Sonseca Array 57.92 297 P **P** **20 18 08.3 -3.1**
ESLA Sonseca Array 57.92 297 *e*P **P** **20 18 09.9 -1.4**
comp=Z,9.9nm,1.6s
SUMG Summit 58.80 341 *i* P **P** **20 18 19.5 +2.1**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 58.80 341 *i* P **P** **20 18 19.5 +2.1**
comp=Z,9.8nm,0.9s
TAM Tamanrasset 59.37 275 P **P** **20 18 21.2 -0.6**
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 59.37 275 P **P** **20 18 21.2 -0.6**
comp=Z,2.7nm,0.8s
KAPI Kappang 61.38 125 LR LR 20 50 51.3
comp=Z,87nm,18.8s,baz=164,slow=42
RES Resolute Bay 65.71 357 LR LR 20 50 06.9
comp=Z,232nm,21.4s,baz=21,slow=38
RES Resolute Bay 65.71 357 *e*P **P** **20 19 02.6 -0.5**
RES pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay 65.71 357 *e*P **P** **20 19 02.6 -0.5**
comp=Z,1.8nm,0.7s
TORD Torodi Ar. Bea 67.93 269 P **P** **20 19 15.8 -2.3**
comp=Z,4.1nm,0.5s,baz=49,slow=5.3,SNR=62
TORD Torodi Ar. Bea 67.93 269 P **P** **20 19 15.8 -2.3**
COLD Coldfoot 68.37 17 *e*P **P** **20 19 20.2 +0.1**
comp=Z,10nm,0.8s
INK Inuvik 70.46 10 *e*P **P** **20 19 32.3 -0.7**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 70.46 10 *e*P **P** **20 19 32.3 -0.7**
comp=Z,12nm,0.9s
COLA College 70.86 17 *e*P **P** **20 19 33.6 -1.9**

COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 70.86 17 *eP* **P 20 19 33.6 -1.9**
comp=Z,8.1nm,0.8s
ILAR Eielson Array 71.17 17 P **P 20 19 36.9 -0.5**
comp=Z,2.0nm,0.7s,baz=326,slow=4.7,SNR=22
ILAR LR LR 20 56 18.4
comp=Z,127nm,21.2s,baz=325,slow=40
ILAR Eielson Array 71.17 17 P **P 20 19 36.9 -0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR MLR MLR
comp=Z,127nm,21.3s
ILAR Eielson Array 71.17 17 P **P 20 19 36.9 -0.5**
FRB Frobisher Bay 72.70 343 LR LR 20 54 52.6
comp=Z,336nm,20.6s,baz=28,slow=38
DBIC Dimbokro 76.98 268 P **P 20 20 10.4 -1.8**
comp=Z,2.1nm,0.6s,baz=356,slow=6.6,SNR=4.8
DBIC Dimbokro 76.98 268 *eP* **P 20 20 10.3 -1.8**
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC Dimbokro 76.98 268 *eP* **P 20 20 10.3 -1.8**
comp=Z,7.7nm,0.8s
LIC Lamto 77.39 268 *eP* **P 20 20 14.5 +0.1**
YKA Yellowknife Ar 78.00 4 P **P 20 20 16.9 -0.1**
comp=Z,3.4nm,0.6s,baz=348,slow=5.4,SNR=22
YKA LR LR 20 56 55.0
comp=Z,23nm,21.8s,baz=270,slow=37
YKA Yellowknife Ar 78.00 4 P **P 20 20 16.9 -0.1**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA MLR MLR
comp=Z,23nm,21.8s
YKA Yellowknife Ar 78.00 4 P **P 20 20 16.9 -0.1**
LBTB Lobatse 78.43 224 LR LR 20 56 26.2
comp=Z,108nm,18.7s,baz=310,slow=37
LBTB Lobatse 78.43 224 *eP* **P 20 20 19.4 -0.6**
LBTB pmax pmax
comp=Z,8.0nm,0.8s
LBTB Lobatse 78.43 224 *eP* **P 20 20 19.4 -0.6**
comp=Z,7.6nm,0.8s
TSUM Tsumeb 78.52 233 P **P 20 20 19.6 -1.1**
comp=Z,8.2nm,1.1s
SCHQ Schefferville 80.03 338 P **P 20 20 27.4 -0.9**
comp=Z,3.0nm,0.8s,baz=22,slow=5.4,SNR=2.9
SCHQ Schefferville 80.03 338 P **P 20 20 27.4 -0.9**
WRA Warramunga Arr 81.89 124 P **P 20 20 39.6 +0.9**
comp=Z,3.5nm,0.7s,baz=327,slow=4.9,SNR=21
WRA Warramunga Arr 81.89 124 P **P 20 20 39.6 +0.9**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 81.89 124 P **P 20 20 39.6 +0.9**
WRAB Tennant Creek 81.89 124 *eP* **P 20 20 39.4 +0.7**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB Tennant Creek 81.89 124 *eP* **P 20 20 39.4 +0.7**
comp=Z,6.1nm,0.9s
WB2 Warramunga Arr 81.90 124 *eP* **P 20 20 38.7 0.0**
ASAR Alice Springs 84.35 127 P **P 20 20 51.7 +0.4**
comp=Z,1.8nm,0.7s,baz=314,slow=4.8,SNR=25
ASAR Alice Springs 84.35 127 P **P 20 20 51.7 +0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 84.35 127 P **P 20 20 51.7 +0.4**
STKA Stephens Creek 94.96 128 P **P 20 21 42.8 +1.4**
comp=Z,0.9nm,0.7s,baz=304,slow=3.6,SNR=3.3
STKA Stephens Creek 94.96 128 P **P 20 21 42.8 +1.4**

BJI 17 20:10:53.0, 34°.57N × 112°.96E, h14 km, ML3.8/11, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**3.38**	**262**	Pn		Pn	20 11 44.8	-0.7
XAN				Pg		Pb	20 11 55.1	+2.2
XAN				Sg		Sb	20 12 37.3	+3.4
XAN				smax		smax		
	comp=N,160nm,0.7s							
XAN				smax		smax		
	comp=E,44nm,0.5s							
TIA	**Tai'an**	**3.77**	**63**	Pn		Pn	20 11 53.3	+2.5
TIA				Pg		Pg	20 12 03.4	-2.0
TIA				Sg		Sg	20 12 53.3	-1.0
TIA				smax		smax		
	comp=N,50nm,0.6s							
TIA				smax		smax		
	comp=E,60nm,0.6s							
WHN	**Wuhan**	**4.18**	**163**	Pn		Pn	20 11 57.5	+1.1
WHN				Pg		Pg	20 12 10.5	-2.6
WHN				Sg		Sg	20 13 06.0	-1.3
WHN				smax		smax		
	comp=N,350nm,0.7s							
WHN				smax		smax		
	comp=E,290nm,0.5s							
HHC	**Hu-ho-hao-te**	**6.37**	**350**	*ePn*		Pn	20 12 29.4	+2.9

IDC 17 20:17:51.4±1.9, 15°.19S × 173°.38W, h0 km, mb3.7/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=111.0km s-min=20.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**51**	Pn		Pn	20 18 26.3	-0.4
	270nm,0.3s,baz=315,slow=4.3,SNR=50							
AFI				Sn		Sn	20 18 45.5	-7.1
	535nm,0.3s,baz=37,slow=20,SNR=24							
WRA	**Warramunga Arr**	**49.91**	**257**	P		P	20 26 46.9	-0.5
	0.4nm,0.7s,baz=98,slow=6.1,SNR=15							
WRA				PcP		PcP	20 28 07.6	-0.2
	0.3nm,0.7s,baz=93,slow=3.2,SNR=5.9							
ASAR	**Alice Springs**	**50.20**	**252**	P		P	20 26 49.0	-0.5
	1.7nm,0.7s,baz=92,slow=7.3,SNR=25							
TXAR	**Lajitas Array**	**80.48**	**56**	P		P	20 30 05.7	-0.1
	0.6nm,0.8s,baz=215,slow=4.6,SNR=5.3							
ILAR	**Eielson Array**	**82.24**	**11**	P		P	20 30 13.0	-1.2
	0.3nm,0.7s,baz=224,slow=6.2,SNR=5.8							
YKA	**Yellowknife Ar**	**89.90**	**23**	P		P	20 30 52.4	+0.4
	0.2nm,0.6s,baz=236,slow=4.5,SNR=4.3							
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc		PKPab	20 37 34.7	+0.5
	2.8nm,0.8s,baz=111,slow=2.6,SNR=11							

*IDC **17** 20:25:00.8±0.8, 0°.57S × 132°.11E, h0 km, mb4.0/9, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=42.1km s-min=15.0km az=78.0*
*NEIC **17** 20:25:05.5±0.3, 0°.53S × 132°.09E, h35 km, mb4.3/15, Error ellipse: s-maj=16.2km s-min=6.1km az=66.0*
*DJA **17** 20:25:06, 0°.50S × 131°.66E, h10 km, MLv3.9/3*
ISC 17 20:25:05.1±0.6, 0°.88S±0°.06 × 131°.8E±0°.1, h35 km, n42, σ 2°.75/42, mb4.2/21, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**10.03**	**322**	LR		LR	20 31 40.8	
	comp=Z,193nm,18.5s,baz=258,slow=40							
COEN	**Coen**	**17.20**	**140**	*ePn*		**P**	**20 29 05.6**	**+1.4**
	20nm,0.6s							
PMG	**Port Moresby**	**17.49**	**119**	P		**Pn**	**20 29 05.7**	**-0.7**
	11nm,1.0s							
FITZ	**Fitzroy Crossi**	**18.15**	**199**	P		P	20 29 18.6	+4.1
	0.2nm,0.3s,baz=40,slow=16,SNR=5.8							
FITZ				S		**Sn**	**20 32 32.1**	**-4.0**
	0.1nm,0.3s,baz=61,slow=19,SNR=2.3							
FITZ	**Fitzroy Crossi**	**18.15**	**199**	P		P	20 29 18.6	+4.1
FITZ				S		**Sn**	**20 32 32.1**	**-4.0**
WRAB	**Tennant Creek**	**19.11**	**173**	*ePn*		**Pn**	**20 29 29.6**	**+3.6**
	4.1nm,0.6s							
WRAB				*eSn*		**Sn**	**20 32 52.8**	**-6.5**
WRA	**Warramunga Arr**	**19.11**	**173**	P		**Pn**	**20 29 28.7**	**+2.5**
	0.5nm,0.3s,baz=352,slow=11,SNR=22							
WRA				S		**Sn**	**20 32 53.9**	**-5.5**
	0.1nm,0.3s,baz=355,slow=23,SNR=3.9							
WRA	**Warramunga Arr**	**19.11**	**173**	P		**Pn**	**20 29 28.7**	**+2.5**
WRA				S		**Sn**	**20 32 53.9**	**-5.5**
WB2	**Warramunga Arr**	**19.11**	**173**	*eP*		**Pn**	**20 29 29.9**	**+3.7**
WB2				*eSn*		**Sn**	**20 32 53.6**	**-5.8**
GUMO	**Guam**	**19.36**	**42**	LR		LR	20 36 32.2	
	comp=Z,59nm,18.4s,baz=97,slow=36							
AS31	**Alice Springs**	**22.75**	**175**	*eP*		**P**	**20 30 08.6**	**+4.2**
ASAR	**Alice Springs**	**22.75**	**175**	P		**P**	**20 30 07.8**	**+3.4**
	4.4nm,0.6s,baz=352,slow=7.5,SNR=35							
ASAR	**Alice Springs**	**22.75**	**175**	P		**P**	**20 30 07.8**	**+3.4**
CTAO	**Charters Tower**	**23.77**	**144**	P		**P**	**20 30 14.0**	**-0.6**
	9.5nm,1.3s							
STKA	**Stephens Creek**	**32.20**	**164**	P		**P**	**20 31 32.4**	**+2.4**
	1.4nm,0.8s,baz=328,slow=13,SNR=2.2							
STKA	**Stephens Creek**	**32.20**	**164**	P		**P**	**20 31 32.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**37.57**	**302**	P		P	20 32 19.2	+2.8
	0.9nm,0.9s,baz=128,slow=8.2,SNR=6.2							
CMAR	**Chiang Mai Arr**	**37.57**	**302**	P		P	20 32 19.2	+2.8
CHTO	**Chiang Mai**	**37.73**	**303**	P		**P**	**20 32 19.2**	**+1.4**
	3.3nm,1.1s							
USRK	**Ussuriysk Arra**	**44.88**	**0**	P		**P**	**20 33 16.0**	**-0.1**
	2.5nm,0.6s,baz=189,slow=11,SNR=6.8							
ULN	**Ulaanbaatar**	**53.11**	**339**	*eP*		**P**	**20 34 19.1**	**-0.3**
	1.6nm,0.8s							
SONM	**Songino Array**	**53.32**	**339**	P		P	**20 34 20.4**	**-0.4**
	0.7nm,0.7s,baz=154,slow=7.3,SNR=6.5							
SONM				PcP		**PcP**	**20 35 28.0**	**-0.1**
	0.5nm,0.8s,baz=126,slow=4.1,SNR=2.6							
SONM	**Songino Array**	**53.32**	**339**	P		**P**	**20 34 20.4**	**-0.4**
SONM				PcP		**PcP**	**20 35 28.0**	**-0.1**
YAK	**Yakutsk**	**62.76**	**359**	P		**P**	**20 35 23.6**	**-2.9**
	11nm,0.8s							
MK31	**Makanchi Array**	**64.20**	**325**	*eP*		**P**	**20 35 35.5**	**-1.0**
MKAR	**Makanchi Array**	**64.20**	**325**	P		**P**	**20 35 36.9**	**+0.4**
	1.6nm,0.7s,baz=116,slow=7.5,SNR=13							
MKAR	**Makanchi Array**	**64.20**	**325**	P		**P**	**20 35 36.9**	**+0.4**
TKM2	**Tokmak 2**	**66.52**	**318**	*eP*		**P**	**20 35 49.7**	**-2.1**
	2.1nm,0.7s							
ZAA0	**Zalesovo Array**	**66.98**	**332**	*eP*		**P**	**20 35 52.1**	**-2.0**
ZALV	**Zalesovo Beam**	**66.98**	**332**	P		**P**	**20 35 53.1**	**-1.1**
	0.5nm,0.4s,baz=106,slow=4.8,SNR=4.6							
ZALV	**Zalesovo Beam**	**66.98**	**332**	P		**P**	**20 35 53.1**	**-1.1**
EKS2	**Erkin-Say**	**67.63**	**317**	*eP*		**P**	**20 35 59.1**	**+0.4**
	2.7nm,0.9s							
KBL	**Kabul**	**68.31**	**308**	P		**P**	**20 36 05.4**	**+2.1**
	6.4nm,1.4s							
KURK	**Kurchatov**	**68.32**	**327**	*eP*		**P**	**20 36 03.1**	**+0.4**
	3.9nm,0.8s							
KKAR	**Karatay Array**	**70.02**	**317**	P		**P**	**20 36 12.8**	**-0.7**
	4.4nm,1.1s							
BRVK	**Borovoye**	**73.99**	**327**	*eP*		**P**	**20 36 36.7**	**-0.3**
	3.1nm,1.0s							
ABKAR	**Akbulak array**	**78.89**	**321**	*eP*		**P**	**20 37 05.0**	**+0.2**
	2.3nm,0.8s							
ARU	**Arti**	**81.50**	**327**	*eP*		**P**	**20 37 18.3**	**-0.4**
	3.7nm,0.8s							
ILAR	**Eielson Array**	**87.08**	**25**	P		**P**	**20 37 45.9**	**-1.0**
	0.7nm,0.9s,baz=252,slow=4.7,SNR=9.2							
ILAR	**Eielson Array**	**87.08**	**25**	P		**P**	**20 37 45.9**	**-1.0**
QSPA	**South Pole Qui**	**89.06**	**180**	P		P	20 37 59.8	+3.4
	2.2nm,1.1s,baz=319,slow=5.0							
QSPA	**South Pole Qui**	**89.06**	**180**	*eP*		P	20 37 59.3	+2.9

*IDC **17** 20:37:19.2±0.5, 58°.67S × 25°.24W, h0 km, mb4.4/11, mb1 4.5/11, mb1mx4.4/16, mbtmp4.4/11, MS3.7/5, Ms1 3.7/5, ms1mx3.5/21, Error ellipse: s-maj=22.1km s-min=18.0km az=66.0*
*ISCJB **17** 20:37:21.4±0.4, 58°.62S±0°.07 × 25°.4W±0°.2, h28 km, mb4.4/17, MS3.6/4, Error ellipse: s-maj=14.9km s-min=7.9km az=147.7*
*NEIC **17** 20:37:26.6±0.4, 58°.71S × 25°.29W, h55 km, mb4.5/9, Error ellipse: s-maj=17.8km s-min=12.4km az=54.0*
ISC 17 20:37:23.7±0.4, 58°.61S±0°.09 × 25°.1W±0°.1, h28 km, n68, σ 1°.28/61, mb4.5/17, MS3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.99**	**156**	*e*		**Pn**	**20 40 39.7**	**0.0**
VNA1				*e*			20 43 07.5	
VNA3	**Neumayer Olymp**	**14.19**	**159**	*e*		**Pn**	**20 40 41.9**	**-0.6**
VNA2	**Neumayer--Watz**	**14.39**	**156**	*e*		**Pn**	**20 40 44.8**	**-0.3**
VNA2				*e*			20 43 14.5	
SNAA	**Sanae**	**15.94**	**154**	*e*		**Pn**	**20 41 02.1**	**-3.5**
SNAA	**Sanae**	**15.94**	**154**	*ePn*		**Pn**	**20 41 01.7**	**-3.9**
	11nm,0.5s							
SNAA				*eSn*		Sn	20 43 43.2	-18
PMSA	**Palmer Station**	**19.20**	**235**	LR		LR	20 47 12.5	
	comp=Z,241nm,18.1s,baz=193,slow=31							
MAIT	**Maitri**	**19.49**	**143**	*eP*		**P**	**20 41 49.5**	**+1.5**
USHA	**Ushuaia**	**23.75**	**260**	LR		LR	20 49 47.4	
	comp=Z,370nm,18.3s,baz=305,slow=32							
TRQA	**Tornquist**	**31.39**	**295**	P		P	20 43 38.6	-3.3
	6.5nm,1.0s							
QSPA	**South Pole Qui**	**31.63**	**180**	P		**P**	**20 43 44.9**	**+0.9**
	8.1nm,0.9s,baz=209,slow=3.2,SNR=22							
QSPA	**South Pole Qui**	**31.63**	**180**	*eP*		**P**	**20 43 44.8**	**+0.8**
	13nm,1.1s							
PLCA	**Paso Flores**	**33.59**	**282**	P		**P**	**20 44 01.4**	**+0.2**
	11nm,1.2s,baz=163,slow=5.5,SNR=6.3							
PLCA				LR		LR	20 57 30.4	
	comp=Z,143nm,18.8s,baz=290,slow=36							
PLCA	**Paso Flores**	**33.59**	**282**	P		**P**	**20 44 01.4**	**+0.2**
CFAA	**Coronel Fontan**	**39.62**	**294**	P		**P**	**20 44 55.3**	**+2.7**
	0.3nm,0.6s,baz=146,slow=8.3,SNR=6.1							
CFAA				LR		LR	20 58 11.9	
	comp=Z,16nm,20.0s,baz=302,slow=32							
CFAA	**Coronel Fontan**	**39.62**	**294**	P		**P**	**20 44 55.3**	**+2.7**
SUR	**Sutherland**	**40.35**	**70**	P		**P**	**20 44 59.5**	**+0.7**
	24nm,1.2s							
LCO	**Las Campanas**	**42.95**	**293**	P		**P**	**20 45 18.1**	**-2.2**
SBA	**Scott Base**	**43.59**	**184**	P		**P**	**20 45 27.4**	**+2.9**
	9.6nm,0.8s							
VNDA	**Vanda**	**44.05**	**182**	*eP*		**P**	**20 45 29.8**	**+1.6**
	8.2nm,0.9s							
BDFB	**Brasilia**	**46.15**	**329**	P		**P**	**20 45 46.1**	**+0.4**
	2.3nm,0.7s,baz=144,slow=7.8,SNR=3.2							
BDFB	**Brasilia**	**46.15**	**329**	P		**P**	**20 45 46.1**	**+0.4**
LBTB	**Lobatse**	**48.78**	**69**	P		**P**	**20 46 06.4**	**+0.3**
	3.0nm,1.1s,baz=172,slow=18,SNR=2.3							
LBTB	**Lobatse**	**48.78**	**69**	P		**P**	**20 46 06.4**	**+0.3**
SIV	**San Ignacio**	**50.15**	**313**	P		**P**	**20 46 15.1**	**-1.4**
	0.9nm,0.8s,baz=185,slow=12,SNR=2.6							
SIV	**San Ignacio**	**50.15**	**313**	P		**P**	**20 46 15.1**	**-1.4**
LPAZ	**La Paz**	**52.77**	**305**	P		**P**	**20 46 35.9**	**-0.9**
	1.1nm,0.4s,baz=127,slow=2.5,SNR=5.9							
LPAZ	**La Paz**	**52.77**	**305**	*eP*		**P**	**20 46 35.8**	**-0.9**
	1.8nm,0.6s							
RCBR	**Riachuelo**	**53.31**	**347**	LR		LR	21 04 02.8	
	comp=Z,93nm,18.3s,baz=138,slow=30							
SAML	**Samuel**	**57.40**	**314**	*eP*		**P**	**20 47 07.8**	**-1.6**
	2.3nm,0.8s							
DBIC	**Dimbokro**	**67.09**	**22**	P		**P**	**20 48 14.8**	**+0.5**
	12nm,1.3s,baz=184,slow=11,SNR=5.2							
DBIC	**Dimbokro**	**67.09**	**22**	*eP*		**P**	**20 48 14.3**	**0.0**
	12nm,1.2s							
OTAV	**Otavalo**	**72.00**	**303**	P		P	20 48 42.4	-2.8
TORD	**Torodi Ar. Bea**	**74.79**	**27**	P		**P**	**20 49 01.8**	**+0.8**
	2.6nm,0.4s,baz=201,slow=6.4,SNR=118							
TORD	**Torodi Ar. Bea**	**74.79**	**27**	P		**P**	**20 49 01.8**	**+0.8**
RPZ	**Rata Peaks**	**77.15**	**192**	P		**P**	**20 49 13.0**	**-1.3**
	18nm,0.9s,baz=122,slow=11,SNR=3.9							
RPZ	**Rata Peaks**	**77.15**	**192**	P		**P**	**20 49 13.0**	**-1.3**
STKA	**Stephens Creek**	**89.17**	**169**	P		**P**	**20 50 15.7**	**-0.7**
	2.7nm,0.9s,baz=273,slow=1.2,SNR=6.0							
STKA	**Stephens Creek**	**89.17**	**169**	P		**P**	**20 50 15.7**	**-0.7**
ASAR	**Alice Springs**	**96.20**	**161**	P		**P**	**20 50 48.1**	**-0.9**
	1.4nm,0.9s,baz=200,slow=4.5,SNR=9.3							
ASAR	**Alice Springs**	**96.20**	**161**	P		**P**	**20 50 48.1**	**-0.9**
PDAR	**Pinedale Array**	**122.62**	**300**	PKP		**PKPdf**	**20 56 14.8**	**-1.1**
	0.3nm,0.4s,baz=124,slow=5.3,SNR=7.2							
PDAR	**Pinedale Array**	**122.62**	**300**	PKP		**PKPdf**	**20 56 14.8**	**-1.1**
ULM	**Lac du Bonnet**	**122.86**	**314**	PKP		**PKPdf**	**20 56 14.8**	**-1.0**
	1.3nm,0.6s,baz=28,slow=1.2,SNR=3.2							
ULM	**Lac du Bonnet**	**122.86**	**314**	PKP		**PKPdf**	**20 56 14.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**123.12**	**110**	PKP		**PKPdf**	**20 56 16.2**	**-1.1**
	0.6nm,0.4s,baz=231,slow=3.5,SNR=8.8							
CMAR	**Chiang Mai Arr**	**123.12**	**110**	PKP		**PKPdf**	**20 56 16.2**	**-1.1**
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP		**PKPdf**	**20 56 18.4**	**+0.9**
	0.3nm,0.6s,baz=155,slow=3.5,SNR=4.7							
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP		**PKPdf**	**20 56 18.4**	**+0.9**
FINES	**FINESS Array B**	**126.14**	**28**	PKP		**PKPdf**	**20 56 21.4**	**-0.3**
	1.1nm,0.8s,baz=144,slow=5.0,SNR=5.0							
FINES	**FINESS Array B**	**126.14**	**28**	PKP		**PKPdf**	**20 56 21.4**	**-0.3**
AKTO	**Aktyubinsk**	**127.96**	**54**	PKP		**PKPdf**	**20 56 25.9**	**+0.3**
	2.6nm,1.1s,baz=218,slow=14,SNR=4.1							
AKTO	**Aktyubinsk**	**127.96**	**54**	PKP		**PKPdf**	**20 56 25.9**	**+0.3**
BVAR	**Borovoye Array**	**135.19**	**59**	PKP		**PKPdf**	**20 56 40.8**	**+1.7**
	0.4nm,0.4s,baz=176,slow=3.0,SNR=8.6							
BVAR	**Borovoye Array**	**135.19**	**59**	PKP		**PKPdf**	**20 56 40.8**	**+1.7**
YKA	**Yellowknife Ar**	**138.81**	**315**	PKP		**PKPdf**	**20 56 45.2**	**-0.2**
	1.1nm,0.6s,baz=128,slow=2.4,SNR=19							
YKA				SKP			21 00 16.9	
	0.4nm,0.8s,baz=142,slow=2.9,SNR=4.1							
YKA	**Yellowknife Ar**	**138.81**	**315**	PKP		**PKPdf**	**20 56 45.2**	**-0.2**
YKA				SKP			21 00 16.9	
ZALV	**Zalesovo Beam**	**142.45**	**66**	PKhKP		PKPpre	20 56 47.2	
	0.4nm,0.4s,baz=205,slow=3.0,SNR=2.6							
ZALV	**Zalesovo Beam**	**142.45**	**66**	PKPpre		PKPpre	20 56 47.2	
INK	**Inuvik**	**148.48**	**318**	PKPbc		**PKPbc**	**20 57 05.8**	**-0.1**
	9.7nm,0.9s,baz=89,slow=3.7,SNR=29							
INK	**Inuvik**	**148.48**	**318**	PKPbc		**PKPbc**	**20 57 05.8**	**-0.1**
DAWY	**Dawson**	**149.31**	**308**	*e*PKPbc		**PKPbc**	**20 57 07.9**	**-0.2**
SONM	**Songino Array**	**149.70**	**89**	PKPbc		**PKPbc**	**20 57 09.6**	**-0.1**
	7.5nm,1.2s,baz=221,slow=3.8,SNR=23							
SONM	**Songino Array**	**149.70**	**89**	PKPbc		**PKPbc**	**20 57 09.6**	**-0.1**
DOT	**Dot Lake**	**151.11**	**306**	*e*PKPbc		**PKPbc**	**20 57 13.3**	**+0.9**
KSAR	**Wonju Array Be**	**152.50**	**129**	PKPab		**PKPab**	**20 57 26.7**	**-0.2**
KSRS	**Korea Array**	**152.53**	**129**	PKPab		**PKPab**	**20 57 26.7**	**-0.3**
	1.5nm,0.9s,baz=200,slow=4.0,SNR=5.2							
ILAR	**Eielson Array**	**152.62**	**308**	PKPbc		**PKPbc**	**20 57 16.2**	**+0.4**
	3.3nm,0.4s,baz=146,slow=2.0,SNR=44							
ILAR	**Eielson Array**	**152.62**	**308**	PKPbc		**PKPbc**	**20 57 16.2**	**+0.4**

IDC 17 20:39:42.1±24.0, 22°.73S × 177°.85W, h262 km±202 km, mb3.7/8, mb1 3.8/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=125.5km s-min=43.3km az=100.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.47**	**268**	P		P	20 45 57.7	+0.6
	5.0nm,0.5s,baz=110,slow=10,SNR=6.4							
PMG	**Port Moresby**	**36.03**	**286**	P		P	20 46 19.4	+0.5
	5.4nm,0.7s,baz=146,slow=11,SNR=4.7							
STKA	**Stephens Creek**	**36.99**	**247**	P		P	20 46 28.6	+1.7
	1.9nm,0.4s,baz=89,slow=9.1,SNR=16							
ASAR	**Alice Springs**	**44.19**	**259**	P		P	20 47 24.9	-0.8
	3.1nm,0.7s,baz=94,slow=6.8,SNR=50							
WRA	**Warramunga Arr**	**44.47**	**264**	P		P	20 47 26.4	-1.5
	2.3nm,0.6s,baz=92,slow=5.9,SNR=94							
FITZ	**Fitzroy Crossi**	**52.90**	**264**	P		P	20 48 30.7	-1.1
	4.4nm,0.4s,baz=70,slow=10,SNR=10							
MJAR	**Matsushiro Ar**	**72.08**	**324**	P		P	20 50 38.9	+0.9
	0.5nm,0.5s,baz=160,slow=5.8,SNR=4.6							
CMAR	**Chiang Mai Arr**	**90.99**	**289**	P		P	20 52 16.5	-0.5
	1.3nm,0.8s,baz=133,slow=3.4,SNR=11							
AKASG	**Malin Array Be**	**145.01**	**330**	PKPbc		PKPbc	20 58 47.5	-0.3
	1.0nm,0.3s,baz=45,slow=4.1,SNR=11							
BRTR	**Keskin Array B**	**148.40**	**310**	PKPbc		PKPbc	20 58 56.9	-1.0
	0.7nm,0.6s,baz=138,slow=6.9,SNR=4.3							

CASC 17 20:40:05.0±1.2, 13°.08N × 89°.16W, h35 km±11 km, MD3.5, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.55**	**10**	*eP*		Pn	20 40 16.2	-0.2
LFRS				*eS*		Sb	20 40 25.6	+1.0
BOQS	**Boqueron**	**0.66**	**349**	*eP*		Pn	20 40 18.2	-0.1
BOQS				*eS*		Sb	20 40 28.6	+0.7
SBLS	**San Blas**	**0.88**	**329**	*eP*		Pn	20 40 21.1	-0.2
SNJE	**San Jose**	**0.90**	**331**	*eP*		Pn	20 40 21.2	-0.2
SNJE				*eS*		Sn	20 40 33.6	+0.2
VSM	**San Miguel**	**0.92**	**68**	*eP*		Pn	20 40 21.9	0.0
VSM				*eS*		Sb	20 40 35.1	-0.2
RTR	**El Retiro**	**0.94**	**330**	*eP*		Pn	20 40 22.0	0.0
RTR				*eS*		Sb	20 40 35.9	+0.3
BLLM	**Bellamira**	**0.96**	**68**	*eP*		Pn	20 40 22.1	-0.1
BLLM				*eS*		Sb	20 40 35.6	-0.3
RBDL	**Robledal**	**1.15**	**333**	*eP*		Pn	20 40 24.8	0.0
IXG	**Ixpaco**	**1.67**	**311⇑**	*eP*		Pn	20 40 32.4	+0.4
IXG				*eS*		Sn	20 40 52.3	-0.1
MRL	**Marmol**	**2.04**	**345⇓**	*eP*		Pn	20 40 38.6	+1.5

IDC 17 20:57:11.3±1.5, 2°.13S × 68°.25E, h0 km, mb3.5/8, mb1 3.6/8, mb1mx3.4/23, mbtmp3.5/8, Error ellipse: s-maj=46.4km s-min=23.7km az=55.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.48**	**55**	P		P	21 04 19.6	+1.2
	0.6nm,1.0s,baz=257,slow=12,SNR=5.4							
MKAR	**Makanchi Array**	**50.26**	**13**	P		P	21 06 09.8	+0.4
	3.3nm,0.9s,baz=192,slow=8.2,SNR=2.3							
KURK	**Kurchatov**	**53.38**	**8**	P		P	21 06 31.1	-1.5
	0.4nm,0.7s,baz=207,slow=7.5,SNR=2.4							
ZALV	**Zalesovo Beam**	**57.56**	**12**	P		P	21 07 01.8	-0.8
	0.3nm,0.3s,baz=215,slow=4.6,SNR=3.2							
SONM	**Songino Array**	**59.85**	**29

baz=0.8,SNR=60
I22A 9 Mile Ranch, 0.84 279 P Pb 21 20 25.3 -0.7
baz=0.9,SNR=964
I22A ⇓S Sb 21 20 36.7 -1.1
baz=0.9
J22A Midwest 0.90 247 ⇓P Pg 21 20 25.5 -0.2
baz=1.0,SNR=123
RSSD Black Hills 1.00 69 ePn Pg 21 20 27.8 +0.1
K23A Bowen Ranch, D 1.03 192 ⇑P Pg 21 20 27.4 -0.7
baz=1.1,SNR=10
K23A ⇓S Sg 21 20 41.3 -0.2
baz=1.1
H22A Clearmont 1.10 319 P Pn 21 20 30.7 -0.6
baz=1.1,SNR=239
K24A Anderson Ranch 1.11 160 ⇑P Pg 21 20 28.8 -0.8
baz=1.1,SNR=80
H24A Dirks Ranch, A 1.13 30 P Pg 21 20 30.2 +0.1
baz=1.1,SNR=515
H24A ⇓S Sb 21 20 46.6 +0.3
baz=1.1
K22A Casper 1.41 218 Pn Pn 21 20 34.3 -1.3
baz=1.5,SNR=51
I21A Big Trails, Te 1.42 273 ⇑Pn Pn 21 20 34.7 -0.9
baz=1.5
G23A Biddle 1.44 358 Pn Pb 21 20 36.1 0.0
baz=1.4,SNR=130
H21A Big Horn, Sher 1.50 306 Pb Pb 21 20 37.5 +0.2
baz=1.5,SNR=168
K25A Mack Ranch, Ha 1.57 137 ⇓Pb Pn 21 20 37.7 -0.1
baz=1.6,SNR=47
J21A Lysite 1.59 255 Pn Pn 21 20 37.5 -0.6
baz=1.7,SNR=214
G22A Birney 1.61 335 ⇓Pb Pg 21 20 39.4 +0.2
baz=1.6,SNR=78
L23A Garrett 1.67 189 ⇓Pn Pn 21 20 38.3 -0.9
baz=1.7,SNR=505
L23A ⇑Sb Sn 21 21 01.4 0.0
baz=1.7
G24A Alzada 1.70 23 ⇓Pb Pg 21 20 40.6 -0.4
baz=1.6,SNR=22
L24A Wheatland 1.75 170 ⇓Pb Pn 21 20 39.8 -0.3
baz=1.8,SNR=40
L24A ⇓Sb Sn 21 21 03.6 +0.5
baz=1.8
K21A Alcova 1.80 232 ⇓Pb Pn 21 20 41.2 +0.3
baz=1.9,SNR=440
L25A Engebretsen Ra 1.90 147 ⇓Pb Pn 21 20 42.9 +0.7
baz=1.9
L22A Ellis Ranch, M 1.91 205 ⇑Pn Pn 21 20 43.2 +0.7
baz=2.0,SNR=23
I20A Worland 2.03 276 ⇑Pn Pb 21 20 45.8 -0.4
baz=2.1,SNR=540
J20A Shoshoni 2.04 259 ⇑Pb Pb 21 20 46.3 -0.1
baz=2.1
F22A Rosebud 2.12 342 ⇑Pb Pb 21 20 47.7 0.0
baz=2.1,SNR=60
F24A Ekalaka 2.17 17 ⇓Pb Pb 21 20 48.7 0.0
baz=2.1
M23A Laramie 2.31 187 ⇓Pb Pn 21 20 49.3 +1.3
baz=2.4
M24A Cheyenne 2.33 170 ⇓Pb Pb 21 20 50.7 -0.6
baz=2.4
L21A Rawlins 2.34 220 ⇓Pb Pn 21 20 49.9 +1.6
baz=2.4,SNR=117
L26A Underwood Farm 2.40 135 ⇓Pb Pn 21 20 51.2 +2.2
baz=2.4
K20A Yellowstone Ra 2.46 244 ⇓Pb Pb 21 20 52.5 -1.1
baz=2.5,SNR=97
PHWY Pilot Hill 2.46 182 ePn Pn 21 20 50.7 +0.6
PHWY eS Sb 21 21 24.1 -0.6
RWWY Rawlins 2.49 214 ePn Pn 21 20 51.6 +1.2
RWWY eS Sb 21 21 25.2 -0.3
K27A Flueckinger Fa 2.50 114 ⇑Pb Pn 21 20 52.5 +2.0
baz=2.4
RLMT Red Lodge 3.12 297 ePn Pn 21 20 60.0 +0.8
RLMT eS Sb 21 21 42.7 -1.0
BW06 Boulder Array 3.24 254 ePn Pn 21 21 01.8 +1.1
BW06 eS Sb 21 21 43.6 -3.5
PDAR Pinedale Array 3.24 254 Pn Pn 21 21 01.6 +0.9
2.8nm,0.3s,baz=72,slow=16,SNR=67
PDAR Lg Lg 21 21 43.9
7.3nm,0.3s,baz=66,slow=33,SNR=7.6
PDAR Pinedale Array 3.24 254 Pn Pn 21 21 01.6 +0.9
PDAR Lg Lg 21 21 43.9
PD02 Pinedale Array 3.24 254 ePn Pn 21 21 01.6 +0.8
PD02 eS Sn 21 21 43.4 +3.2
PD01 Pinedale Array 3.25 254 ePn Pn 21 21 02.0 +1.1
PD01 eS Sb 21 21 49.8 +2.3
LKWY Lake 3.73 284 ePn Pn 21 21 09.7 +2.2
OGNE Ogallala 3.73 138 ePn Pn 21 21 08.5 +1.1
OGNE eS Sb 21 22 04.8 +3.7
LOHW Long Hollow 3.82 270 ePn Pn 21 21 10.6 +1.9
FLWY Flagg Ranch 3.89 277 ePn Pn 21 21 11.2 +1.5
FLWY eS Sg 21 22 17.3 +4.0
MOOW Moose Ponds 3.92 272 ePn Pn 21 21 12.0 +2.0
SNOW Snow King Moun 3.95 267 ePn Pn 21 21 11.7 +1.2
SNOW eS Sb 21 22 02.2 -5.2
ISCO Idaho Springs 3.97 183 ePn Pn 21 21 11.4 +0.6
ISCO eS Sb 21 22 12.3 +4.2
REDW Red Top Meadow 4.03 266 ePn Pn 21 21 13.5 +1.9
REDW eS Sg 21 22 19.8 +2.0
DCID1 Drake Creek 4.25 270 ePn Pn 21 21 17.0 +2.5
DCID1 eS Sg 21 22 23.9 -0.9
RRI2 Red Ridge 4.37 267 ePn Pn 21 21 17.7 +1.4
RRI2 eS Sg 21 22 30.4 +1.7
SMCO Snowmass 4.75 196 Pn Pn 21 21 23.9 +2.4
SMCO eS Sb 21 22 33.8 +3.3
DGMT Dagmar 4.77 9 ePn Pn 21 21 23.4 +1.8
DGMT eS Sg 21 22 37.0 -4.7
BOZ Bozeman (W) 4.86 295 ePn Pn 21 21 23.7 +0.7
BOZ eS Sg 21 22 40.7 -3.9
HWUT Hardware Ranch 5.07 247 ePn Pn 21 21 27.1 +1.2
15nm,0.6s
HWUT eS Sb 21 22 43.8 +4.1
EGMT Eagleton 5.26 326 ePn Pn 21 21 25.1 -3.3
33nm,0.8s
EGMT ePg Pg 21 21 48.3 -0.8
EGMT eS Sg 21 22 55.4 -1.9
DLMT Dillon 5.43 290 ePn Pn 21 21 30.4 -0.3
DLMT eS Sb 21 22 54.2 +4.4
SDCO Great Sand Dun 6.01 181 ePn Pn 21 21 39.6 +0.7
3.1nm,0.6s
SDCO eS Sg 21 23 16.9 -4.7
ECSD EROS Data Cent 6.32 87 ePn Pn 21 21 43.1 +0.2
7.8nm,0.5s
ECSD ePg Pb 21 22 04.4 +5.1
ECSD eS Sg 21 23 25.8 -5.5
HLID Hailey 6.59 271 ePn Pn 21 21 49.9 +3.3
2.8nm,0.8s
DUG Dugway 6.61 240 ePn Pn 21 21 48.2 +1.2
3.9nm,0.5s
DUG eS Sg 21 23 40.4 -0.4
MVCO Mesa Verde 6.98 201 ePn Pn 21 21 54.4 +2.3
5.3nm,0.6s
MVCO eS Sg 21 23 46.6 -5.9
ULM Lac du Bonnet 9.15 42 Pn Pn 21 22 19.9 -1.8
0.5nm,0.3s,baz=238,slow=12,SNR=6.7
ULM Pg 21 22 47.5
0.3nm,0.3s,baz=228,slow=15,SNR=2.8
ULM Lg Lg 21 24 44.2
0.5nm,0.3s,baz=148,slow=18,SNR=2.3
ULM Lac du Bonnet 9.15 42 Pn Pn 21 22 19.9 -1.8
ULM Pg 21 22 47.5
ULM Lg Lg 21 24 44.2
NVAR Mina Array Bea 11.14 246 Pn Pn 21 22 50.8 +1.7
0.1nm,0.3s,baz=50,slow=11,SNR=4.6
NVAR Mina Array Bea 11.14 246 Pn Pn 21 22 50.8 +1.7
TXAR Lajitas Array 14.46 174 Pn P 21 23 40.3 -1.2
0.0nm,0.3s,baz=15,slow=11,SNR=3.3
TXAR Pg 21 24 37.2
0.1nm,0.3s,baz=1.9,slow=14,SNR=6.6
TXAR Lg Lg 21 27 43.8
0.0nm,0.3s,baz=0.4,slow=24,SNR=3.5
TXAR Lajitas Array 14.46 174 Pn P 21 23 40.3 -1.2
TXAR Pg 21 24 37.2
TXAR Lg Lg 21 27 43.8
YKA Yellowknife Ar 19.53 347 P P 21 24 36.7 -0.5
0.1nm,0.3s,baz=156,slow=11,SNR=5.5
YKA Yellowknife Ar 19.53 347 P P 21 24 36.7 -0.5
ARCES ARCESS Array B 61.41 18 P P 21 30 25.1 -0.7
4.5nm,1.1s,baz=324,slow=9.0,SNR=3.1
ARCES ARCESS Array B 61.41 18 P P 21 30 25.1 -0.7
FINES FINESS Array B 68.03 23 P P 21 31 08.9 -0.2
3.3nm,0.9s,baz=350,slow=7.1,SNR=3.1
FINES FINESS Array B 68.03 23 P P 21 31 08.9 -0.2

ZALV Zalesovo Beam 82.28 354 P P 21 32 31.1 -0.3
0.6nm,0.6s,baz=5.7,slow=6.0,SNR=4.1
ZALV Zalesovo Beam 82.28 354 P P 21 32 31.1 -0.3
SONM Songino Array 84.60 339 P P 21 32 43.9 +0.2
0.4nm,0.8s,baz=64,slow=3.4,SNR=4.2
SONM Songino Array 84.60 339 P P 21 32 43.9 +0.2
MKAR Makanchi Array 89.57 355 P P 21 33 07.6 -0.1
0.5nm,0.7s,baz=5.0,slow=4.2,SNR=6.5
MKAR Makanchi Array 89.57 355 P P 21 33 07.6 -0.1

IDC 17 21:30:42.5±9.8, 18°.25S×177°.61W, h438km±87km, mb3.4/7, mb1 3.7/7, mb1mx3.4/17, mbtmp3.4/7, Error ellipse: s-maj=70.5km s-min=27.5km az=111.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.13**	**242**	P		P	P	21 37 31.8	+1.0
	4.0nm,0.5s,baz=92,slow=9.2,SNR=21								
WRA	**Warramunga Arr**	**45.32**	**260**	P		P	P	21 38 18.6	-1.5
	1.3nm,0.3s,baz=97,slow=7.9,SNR=78								
WRA				PcP		PcP	PcP	21 39 50.6	-0.4
	0.3nm,0.4s,baz=93,slow=3.5,SNR=3.6								
ASAR	**Alice Springs**	**45.43**	**255**	P		P	P	21 38 20.4	-0.5
	16nm,0.7s,baz=90,slow=8.5,SNR=354								
ASAR				PcP		PcP	PcP	21 39 50.9	-0.5
	0.6nm,0.4s,baz=101,slow=3.9,SNR=6.1								
MJAR	**Matsushiro Arr**	**68.64**	**323**	P		P	P	21 40 59.6	-1.0
	1.0nm,0.5s,baz=150,slow=6.0,SNR=8.6								
USRK	**Ussuriysk Arra**	**77.32**	**325**	P		P	P	21 41 52.5	+2.0
	0.9nm,0.7s,baz=100,slow=8.2,SNR=3.9								
ILAR	**Eielson Array**	**86.05**	**13**	P		P	P	21 42 34.2	-0.8
	0.3nm,0.8s,baz=218,slow=5.6,SNR=4.6								
CMAR	**Chiang Mai Arr**	**89.72**	**289**	P		P	P	21 42 53.9	+0.5
	1.0nm,1.0s,baz=104,slow=2.4,SNR=5.9								
MKAR	**Makanchi Array**	**109.92**	**314**	PKiKP		PKiKP	PKiKP	21 48 21.9	-1.1
	0.3nm,0.5s,baz=117,slow=0.3,SNR=12								
BRTR	**Keskin Array B**	**145.56**	**315**	PKPbc		PKPdf	PKPdf	21 49 30.8	+0.5
	1.8nm,0.6s,baz=111,slow=2.8,SNR=14								
ASF	**Jabal al Asfar**	**146.00**	**301**	PKPbc		PKPdf	PKPdf	21 49 30.5	-0.6
	1.2nm,0.7s,baz=333,slow=2.3,SNR=3.6								
MMAI	**Mount Meron Ar**	**146.97**	**303**	PKPbc		PKPbc	PKPbc	21 49 35.6	+0.1
	3.4nm,0.5s,baz=67,slow=6.4,SNR=24								
GERES	**GERESS Array B**	**148.13**	**346**	PKPbc		PKPbc	PKPbc	21 49 38.4	+0.4
	0.4nm,0.7s,baz=27,slow=3.6,SNR=4.8								
DAVOX	**Davos/Dischmat**	**150.89**	**349**	PKPbc		PKPbc	PKPbc	21 49 42.6	-2.2
	0.6nm,0.4s,baz=351,slow=9.0,SNR=3.2								

CSEM 17 21:36:36.3±0.3, 38°.71N×20°.22E, h2km, ML2.4/1, Error ellipse: s-maj=9.4km s-min=4.3km az=70.0
ATH 17 21:36:37.1, 38°.65N×20°.23E, h22km±4km, MD3.4/8
THE 17 21:36:37.8, 38°.79N×20°.61E, h28km, ML2.4/1, Error ellipse: s-maj=6.6km s-min=0.5km az=75.0

ISC 17 21:36:34.9±1.5, 38°.70N±0°.03×20°.15E±0°.06, h6km±11km, n28, σ1s33/38, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.41**	**77**	P		**Pg**	**Pg**	**21 36 42.3**	**-0.5**
LKD2				S		**Sg**	**Sg**	**21 36 46.2**	**-2.0**
LKD2	**Lefkada island**	**0.41**	**77**	P		**Pg**	**Pg**	**21 36 42.3**	**-0.5**
LKD2				S		**Sg**	**Sg**	**21 36 46.2**	**-2.0**
VLS	**Valsamata**	**0.62**	**146**	ePN		**Pg**	**Pg**	**21 36 47.5**	**+0.7**
VLS				eSN		**Sb**	**Sb**	**21 36 56.7**	**-0.4**
VLS	**Valsamata**	**0.62**	**146**	ePn		**Pg**	**Pg**	**21 36 47.5**	**+0.7**
VLS				eSn		**Sb**	**Sb**	**21 36 56.7**	**-0.4**
RGA	**Parga**	**0.65**	**14**	P		**Pb**	**Pb**	**21 36 49.0**	**+0.4**
RGA	**Parga**	**0.65**	**14**	P		**Pb**	**Pb**	**21 36 49.0**	**+0.4**
KFL	**Anninata**	**0.77**	**139**	P		**Pb**	**Pb**	**21 36 50.8**	**+0.1**
KFL	**Anninata**	**0.77**	**139**	P		**Pb**	**Pb**	**21 36 50.8**	**+0.1**
IGT	**Igoumenitsa**	**0.85**	**10**	P		**Pb**	**Pb**	**21 36 52.2**	**+0.2**
IGT				S		**Sg**	**Sg**	**21 37 03.0**	**+0.8**
IGT	**Igoumenitsa**	**0.85**	**10**	P		**Pb**	**Pb**	**21 36 52.2**	**+0.2**
IGT				S		**Sg**	**Sg**	**21 37 03.0**	**+0.8**
KEK	**Kerkira**	**1.05**	**345**	ePN		**Pn**	**Pn**	**21 36 58.9**	**+2.8**
KEK	**Kerkira**	**1.05**	**345**	ePn		**Pn**	**Pn**	**21 36 58.9**	**+2.8**
JAN	**Janina**	**1.10**	**29**	ePB		**Pn**	**Pn**	**21 36 57.6**	**+0.7**
JAN				eSN		**Sn**	**Sn**	**21 37 13.6**	**+1.1**
JAN	**Janina**	**1.10**	**29**	ePb		**Pn**	**Pn**	**21 36 57.6**	**+0.7**
JAN				eSn		**Sn**	**Sn**	**21 37 13.6**	**+1.1**
RLS	**Riolos of Patr**	**1.22**	**121**	ePN		**Pn**	**Pn**	**21 36 59.6**	**+1.2**
RLS	**Riolos of Patr**	**1.22**	**121**	ePn		**Pn**	**Pn**	**21 36 59.6**	**+1.2**
EVR	**Evrytania**	**1.32**	**80**	ePN		**Pg**	**Pg**	**21 37 02.0**	**+1.9**
EVR	**Evrytania**	**1.32**	**80**	ePn		**Pg**	**Pg**	**21 37 02.0**	**+1.9**
EFP	**Efpalio**	**1.40**	**100**	ePN		**Pg**	**Pg**	**21 37 02.6**	**+0.8**
EFP	**Efpalio**	**1.40**	**100**	ePn		**Pg**	**Pg**	**21 37 02.6**	**+0.8**
THL	**Klokotos Trika**	**1.69**	**59**	ePB		**Pb**	**Pb**	**21 37 06.1**	**-0.3**
THL	**Klokotos Trika**	**1.69**	**59**	ePb		**Pb**	**Pb**	**21 37 06.1**	**-0.3**
GUR	**Goura**	**1.89**	**113**	ePN		**Pb**	**Pb**	**21 37 09.8**	**+0.1**
GUR	**Goura**	**1.89**	**113**	ePn		**Pb**	**Pb**	**21 37 09.8**	**+0.1**
STON	**Ston**	**4.57**	**337**	ePn		**Pn**	**Pn**	**21 37 43.1**	**-1.4**
STON				Sn		**Sn**	**Sn**	**21 38 34.7**	**-3.1**
STON	**Ston**	**4.57**	**337**	ePn		**Pn**	**Pn**	**21 37 43.0**	**-1.4**
NVLJ	**Novalja**	**7.07**	**328**	ePn		**Pn**	**Pn**	**21 38 19.7**	**+0.9**
NVLJ				Sn		**Sn**	**Sn**	**21 39 37.4**	**-2.0**
NVLJ	**Novalja**	**7.07**	**328**	ePn		**Pn**	**Pn**	**21 38 19.6**	**+0.9**

IDC 17 21:50:17.9±1.2, 35°.88N×71°.39E, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.6/28, mbtmp3.9/10, ML3.4/3, Error ellipse: s-maj=26.9km s-min=25.0km az=62.0
ISCJB 17 21:50:31.4±0.5, 36°.39N±0°.04×71°.63E±0°.07, h114km, mb4.0/7, Error ellipse: s-maj=9.0km s-min=4.2km az=159.5
NNC 17 21:50:32.7±5.2, 36°.87N×70°.97E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=48.3km s-min=33.7km az=152.0

ISC 17 21:50:32.7±0.7, 36°.40N±0°.06×71°.61E±0°.09, h114km, n39, σ1s30/45, mb4.2/7, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.58**	**174**	⇓P		**Pn**	**Pn**	**21 51 14.8**	**+1.3**
CEP				S		**Sn**	**Sn**	**21 51 48.0**	**+3.2**
CHCP	**Chirah Chowk**	**3.05**	**153**	P		**Pn**	**Pn**	**21 51 22.3**	**+2.7**
THW	**Thamme Wali**	**3.60**	**178**	P		**Pn**	**Pn**	**21 51 27.5**	**+0.7**
SARP	**Sargodha**	**4.55**	**168**	P		**Pn**	**Pn**	**21 51 40.0**	**+0.4**
DLH	**Dalhousie**	**5.27**	**136**	eP		**Pn**	**Pn**	**21 51 50.0**	**+0.5**
DLH				eS		**Sn**	**Sn**	**21 52 49.0**	**-0.2**
AML	**Almayashu**	**5.95**	**15**	P		**Pn**	**Pn**	**21 51 58.7**	**-0.1**
	SNR=30								
AML				P		**Pn**	**Pn**	**21 51 58.7**	**-0.1**
	SNR=30								
EKS2	**Erkin-Say**	**6.48**	**14**	P		**Pn**	**Pn**	**21 52 06.0**	**+0.4**
	SNR=11								
EKS2				P		**Pn**	**Pn**	**21 52 06.0**	**+0.4**
	SNR=11								
AAK	**Ala-Archa**	**6.62**	**19**	P		**Pn**	**Pn**	**21 52 08.6**	**+1.0**
	SNR=9.5								
AAK				P		**Pn**	**Pn**	**21 52 08.6**	**+1.0**
	SNR=9.5								
KK31	**Karatay Array**	**6.75**	**353**	⇑Pn		Pn	Pn	21 52 07.6	-1.6
	6.5nm,0.3s,baz=178,slow=11,SNR=512								
KK31				⇑Sn		Sn	Sn	21 53 19.8	-4.8
	8.6nm,0.4s,baz=184,slow=25,SNR=12								
TKM2	**Tokmak 2**	**7.20**	**24**	P		**Pn**	**Pn**	**21 52 16.4**	**+0.9**
	SNR=6.6								
TKM2				P		**Pn**	**Pn**	**21 52 16.4**	**+0.9**
	SNR=6.6								
TKM2	**Tokmak 2**	**7.20**	**24**	⇑Pn		**Pn**	**Pn**	**21 52 17.2**	**+1.6**
	2.3nm,0.5s								
TKM2				⇓Sn		**Sn**	**Sn**	**21 53 37.4**	**+1.5**
	2.7nm,0.7s								
USP	**Ospenovka**	**7.21**	**17**	P		**Pn**	**Pn**	**21 52 15.9**	**+0.4**
	SNR=6.1								
USP				P		**Pn**	**Pn**	**21 52 15.9**	**+0.4**
	SNR=6.1								
DANN	**Dangsing**	**13.03**	**125**	eP		**Pn**	**Pn**	**21 53 32.0**	**-1.8**
	14nm,0.2s								
MKAR	**Makanchi Array**	**13.09**	**34**	Pn		**Pn**	**Pn**	**21 53 35.2**	**+1.0**
	0.0nm,0.3s,baz=225,slow=14,SNR=6.1								
KOLN	**Koldanda**	**13.31**	**127**	eP		**Pn**	**Pn**	**21 53 35.7**	**-1.7**
	16nm,0.4s								
GKN	**Gorkha**	**13.84**	**124**	eP		**Pn**	**Pn**	**21 53 42.7**	**-1.5**
	39nm,0.5s								
DMN	**Daman**	**14.41**	**124**	eP		**Pn**	**Pn**	**21 53 49.6**	**-2.0**
	12nm,0.4s								
KKN	**Kakani**	**14.41**	**123**	eP		**Pn**	**Pn**	**21 53 50.0**	**-1.6**
	14nm,0.4s								
PKI	**Pulchoki**	**14.64**	**123**	eP		**Pn**	**Pn**	**21 53 53.4**	**-1.2**
	15nm,0.4s								

GUN Gumba 14.75 121 eP Pn 21 53 55.0 -0.9
22nm,0.4s
JIRN Jiri 15.12 121 eP Pn 21 53 59.0 -1.6
15nm,0.3s
KURK Kurchatov 15.18 17 Pn Pn 21 54 00.2 -0.6
0.0nm,0.3s,baz=208,slow=11,SNR=4.9
AB31 Akbulak array 15.41 330 ⇑P Pn 21 54 00.2 -3.6
1.3nm,0.3s
RAMN Ramite 15.85 122 eP Pn 21 54 07.8 -1.9
12nm,0.4s
TAPN Taplejung 16.37 119 eP Pn 21 54 14.7 -1.4
26nm,0.7s
ODAN Odare 16.45 121 eP Pn 21 54 16.1 -1.0
12nm,0.5s
BVAR Borovoye Array 16.65 357 P Pn 21 54 19.3 +0.3
0.2nm,0.3s,baz=158,slow=10,SNR=4.6
AKTO Aktyubinsk 17.11 329 P P 21 54 22.9 -1.8
0.6nm,0.3s,baz=133,slow=12,SNR=15
AKTO Aktyubinsk 17.11 329 ⇑P P 21 54 23.5 -1.1
0.4nm,0.6s
ZALV Zalesovo Beam 19.81 23 P P 21 54 54.6 +0.6
1.4nm,0.4s,baz=223,slow=10,SNR=6.1
JOF Joensuu 36.20 330 eP P 21 57 25.2 +1.2
1.8nm,0.5s
JOF Joensuu 36.20 330 eP P 21 57 25.2 +1.2
1.8nm,0.5s
FINES FINESS Array B 37.84 326 P P 21 57 38.9 +1.0
3.5nm,0.9s,baz=110,slow=9.2,SNR=12
ARCES ARCESS Array B 41.42 337 P P 21 58 08.1 +0.6
9.3nm,1.1s,baz=101,slow=12,SNR=3.5
HFS Hagfors 43.45 322 P P 21 58 24.8 +0.8
2.6nm,0.5s,baz=98,slow=11,SNR=20
NB2 NORSAR Subarra 44.75 323 P P 21 58 34.6 +0.1
comp=Z,0.9nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.75 323 P P 21 58 34.9 +0.4
comp=Z,1.1nm,0.5s,baz=96,slow=7.7,SNR=7.5
TORD Torodi Ar. Bea 66.20 269 P P 22 01 06.8 -1.8
comp=Z,0.4nm,0.4s,baz=50,slow=6.7,SNR=18
WRA Warramunga Arr 81.52 122 P P 22 02 36.7 -1.0
comp=Z,0.3nm,1.0s,baz=326,slow=4.8,SNR=2.7

IDC 17 21:50:59.4±3.8, 0°.68S×130°.92E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=265.2km s-min=25.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.43**	**170**	P		P	P	21 55 27.2	-0.4
	0.1nm,0.3s,baz=352,slow=11,SNR=6.0								
ASAR	**Alice Springs**	**23.03**	**173**	P		P	P	21 56 06.5	+0.2
	0.5nm,0.6s,baz=357,slow=9.6,SNR=10.0								
MKAR	**Makanchi Array**	**63.54**	**325**	P		P	P	22 01 31.8	0.0
	0.2nm,0.8s,baz=116,slow=6.6,SNR=2.9								

MAN 17 22:15:09, 16°.14N×120°.17E, h31km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.35**	**315**	eP		Pn	Pn	22 15 18.4	+0.5
BOLP				eS		Sb	Sb	22 15 22.0	-0.8
SCZP	**Santa Cruz**	**0.44**	**215**	eP		Pn	Pn	22 15 19.6	+0.5
SCZP				eS		Sb	Sb	22 15 23.1	-1.9
BCPH	**Baguio City Da**	**0.47**	**58**	⇑iP		Pn	Pn	22 15 21.0	+1.2

IDC 17 22:26:30.1±8.1, 17°.74N×101°.35W, h83km±52km, mb3.1/4, mb1 3.5/6, mb1mx3.4/23, mbtmp3.2/6, ML3.5/2, Error ellipse: s-maj=133.0km s-min=37.1km az=39.1
ISCJB 17 22:26:32.0±0.4, 18°.16N±0°.05×100°.89W±0°.03, h84km±8km, mb3.3/4, Error ellipse: s-maj=9.2km s-min=4.1km az=8.3
MEX 17 22:26:35.1±0.7, 18°.20N×100°.87W, h56km±21km, MD4.1

ISC 17 22:26:32.7±0.9, 18°.17N±0°.06×100°.89W±0°.03, h77km±11km, n17, σ1s49/29, mb3.2/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.78**	**225**	*i* P		**Pn**	**Pn**	**22 26 48.4**	**-0.6**
ZIIG				*i* S		**Sn**	**Sn**	**22 27 00.9**	**-0.2**
CAIG	**El Cayaco**	**1.26**	**152**	*i* P		**Pn**	**Pn**	**22 26 55.5**	**+0.7**
CAIG				*i* S		**Sn**	**Sn**	**22 27 10.3**	**-1.0**
PLIG	**Platanillo**	**1.33**	**80**	*i* P		**Pn**	**Pn**	**22 26 55.9**	**+0.1**
PLIG				eS		**Sn**	**Sn**	**22 27 12.1**	**-1.2**
YAIG	**Yautepec**	**1.86**	**68**	eP		**Pn**	**Pn**	**22 27 03.0**	**+0.2**
YAIG				*i* S		**Sn**	**Sn**	**22 27 24.1**	**-1.6**
PPM	**Popocatepetl**	**2.32**	**67**	*i* P		**Pn**	**Pn**	**22 27 10.0**	**+0.8**
PPM				eS		**Sn**	**Sn**	**22 27 37.0**	**-0.2**
MMIG	**Aquila**	**2.34**	**273**	eP		**Pn**	**Pn**	**22 27 08.6**	**-0.4**
MMIG				eS		**Sn**	**Sn**	**22 27 37.7**	**+0.8**
EZ5V		**2.88**	**297**	eP		**Pn**	**Pn**	**22 27 18.2**	**+1.6**
EZ5V				eS		**Sn**	**Sn**	**22 27 51.6**	**+1.1**
UTMO	**Huajuapan**	**2.95**	**96**	eP		**Pn**	**Pn**	**22 27 19.8**	**+2.2**
UTMO				eS		**Sn**	**Sn**	**22 27 51.6**	**-0.5**
R15V		**3.10**	**289**	eP		**Pn**	**Pn**	**22 27 20.2**	**+0.8**
R15V				eS		**Sn**	**Sn**	**22 27 55.8**	**+0.4**
PNIG	**Pinotepa**	**3.17**	**123**	eP		**Pn**	**Pn**	**22 27 22.5**	**+2.1**
PNIG				eS		**Sn**	**Sn**	**22 27 58.4**	**+1.2**
VHO	**Vista Hermosa**	**4.11**	**105**	eP		**Pn**	**Pn**	**22 27 33.2**	**0.0**
VHO				eS		**Sn**	**Sn**	**22 28 22.1**	**+1.9**
CMIG	**Matias Romero**	**5.82**	**100**	P		**Pn**	**Pn**	**22 27 59.2**	**+2.7**
	0.8nm,0.3s,baz=302,slow=9.6,SNR=13								
CMIG				S		**Sn**	**Sn**	**22 28 59.0**	**-2.9**
	1.7nm,0.3s,baz=270,slow=9.1,SNR=2.9								
TXAR	**Lajitas Array**	**11.40**	**348**	P		**Pn**	**Pn**	**22 29 14.3**	**+1.6**
	0.1nm,0.3s,baz=165,slow=15,SNR=14								
NVAR	**Mina Array Bea**	**25.27**	**327**	P		**P**	**P**	**22 31 49.3**	**-2.7**
	0.2nm,0.3s,baz=146,slow=8.3,SNR=3.0								
PDAR	**Pinedale Array**	**25.60**	**345**	P		**P**	**P**	**22 31 55.8**	**+0.7**
	1.1nm,0.9s,baz=147,slow=11,SNR=8.5								
YKA	**Yellowknife Ar**	**45.31**	**351**	P		**P**	**P**	**22 34 41.4**	**-1.1**
	0.2nm,0.7s,baz=158,slow=7.2,SNR=6.0								
INK	**Inuvik**	**54.17**	**346**	P		**P**	**P**	**22 35 48.9**	**-0.9**
	1.3nm,0.9s,baz=185,slow=4.7,SNR=3.2								

ISCJB 17 22:28:14.3±0.5, 37°.16N±0°.02×36°.35E±0°.03, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=29.9
CSEM 17 22:28:14.7±0.1, 37°.17N×36°.33E, h8km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.9km az=125.0
DDA 17 22:28:14.1, 37°.16N×36°.31E, h7km, MD3.2
ISK 17 22:28:14.1, 37°.18N×36°.35E, h8km, MD3.3
NSSC 17 22:28:15.9±2.0, 37°.04N×36°.46E, h0km±12km, MD2.1, ML2.5

ISC 17 22:28:14.7±1.0, 37°.16N±0°.02×36°.32E±0°.02, h7km±9km, n62, σ0s68/92, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.48**	**252**	ePG		**Pg**	**Pg**

BTCH	**Batrach**	**1.13**	**174**	*e*P	**Pg**	**22 28 36.2**	**-0.2**
BTCH				*e*S	**Sb**	**22 28 51.5**	**+0.1**
BTCH				AML	AML	22 28 56.3	
	comp=E,186nm,0.3s						
BTCH				AML	AML	22 28 57.5	
	comp=N,333nm,0.3s						
BTCH	**Batrach**	**1.13**	**174**	*e*P	**Pg**	**22 28 36.2**	**-0.2**
	SNR=57						
BTCH				*e*S	**Sb**	**22 28 51.5**	**0.0**
	comp=N,333nm,0.3s,SNR=59						
YAYL	**Yayladag**	**1.14**	**189**	*i* P	**Pb**	**22 28 36.6**	**-0.2**
YAYL	**Yayladag**	**1.14**	**189**	*i* P	**Pb**	**22 28 36.6**	**-0.2**
GULE	**Gulek**	**1.24**	**276**	*i* P	**Pn**	**22 28 37.3**	**-1.4**
GULE				*i* S	**Sg**	**22 28 55.3**	**+0.6**
GULE	**Gulek**	**1.24**	**276**	*i* P	**Pn**	**22 28 37.3**	**-1.4**
GULE				*i* S	**Sg**	**22 28 55.3**	**+0.6**
ARNB	**Al Arnab**	**1.33**	**192**	*e*P	**Pn**	**22 28 39.1**	**-0.6**
ARNB				*e*S	**Sg**	**22 28 58.1**	**+0.7**
ARNB				AML	AML	22 28 59.7	
	comp=E,190nm,0.6s						
ARNB				AML	AML	22 29 01.4	
	comp=N,161nm,0.3s						
ARNB	**Al Arnab**	**1.33**	**192**	*e*P	**Pn**	**22 28 39.6**	**-0.1**
ARNB				*e*S	**Sg**	**22 28 58.2**	**+0.7**
ARNB				AML	AML	22 29 00.2	
	comp=E,188nm,0.5s						
ARNB				AML	AML	22 29 01.5	
	comp=N,159nm,0.3s						
ARNB	**Al Arnab**	**1.33**	**192**	*e*P	**Pn**	**22 28 39.6**	**-0.1**
	SNR=57						
ARNB				*e*S	**Sg**	**22 28 58.2**	**+0.7**
	comp=N,159nm,0.3s,SNR=49						
MERS	**Mersin**	**1.47**	**259**	*e*PN	**Pn**	**22 28 41.7**	**0.0**
MERS	**Mersin**	**1.47**	**259**	*e*Pn	**Pn**	**22 28 41.7**	**0.0**
PINB	**Pinarbasi**	**1.51**	**2**	*i* P	**Pn**	**22 28 42.3**	**-0.2**
PINB				*i* S	**Sg**	**22 29 04.1**	**+0.7**
PINB	**Pinarbasi**	**1.51**	**2**	*i* P	**Pn**	**22 28 42.3**	**-0.2**
PINB				*i* S	**Sg**	**22 29 04.1**	**+0.7**
SLMH	**Al Salmeh**	**1.60**	**126**	*e*P	**Pn**	**22 28 43.0**	**-0.4**
SLMH				*e*S	**Sn**	**22 29 03.0**	**-1.4**
SLMH				AML	AML	22 29 07.7	
	comp=Z,146nm,0.3s						
WRDH	**Warideh**	**1.65**	**177**	*e*P	**Pn**	**22 28 43.2**	**-1.0**
WRDH				*e*S	**Sn**	**22 29 04.9**	**-0.8**
WRDH				AML	AML	22 29 11.2	
	comp=N,126nm,0.4s						
WRDH				AML	AML	22 29 14.6	
	comp=E,43nm,0.4s						
WRDH	**Warideh**	**1.65**	**177**	*e*P	**Pn**	**22 28 43.2**	**-1.0**
	SNR=57						
WRDH				*e*S	**Sn**	**22 29 04.9**	**-0.8**
	comp=E,126nm,0.4s,SNR=49						
NIG	**Nigde**	**1.66**	**305**	*e*PN	**Pn**	**22 28 44.1**	**-0.3**
NIG	**Nigde**	**1.66**	**305**	*e*Pn	**Pn**	**22 28 44.1**	**-0.3**
AKCD	**Akcadag**	**1.70**	**48**	*i* P	**Pn**	**22 28 45.3**	**+0.3**
AKCD				*i* S	**Sb**	**22 29 07.7**	**-0.3**
AKCD	**Akcadag**	**1.70**	**48**	*i* P	**Pn**	**22 28 45.3**	**+0.3**
AKCD				*i* S	**Sb**	**22 29 07.7**	**-0.3**
BNN	**Bunyan**	**1.73**	**348**	*e*PN	**Pn**	**22 28 45.2**	**-0.1**
BNN	**Bunyan**	**1.73**	**348**	*e*Pn	**Pn**	**22 28 45.2**	**-0.1**
URFA	**Urfa**	**2.01**	**81**	*e*PN	**Pn**	**22 28 48.9**	**-0.3**
URFA	**Urfa**	**2.01**	**81**	*e*Pn	**Pn**	**22 28 48.9**	**-0.3**
MALT	**Malatya**	**2.03**	**55**	*e*PN	**Pn**	**22 28 49.4**	**0.0**
MALT	**Malatya**	**2.03**	**55**	*e*Pn	**Pn**	**22 28 49.4**	**0.0**
MYA	**Malatya**	**2.03**	**54**	*e*PN	**Pn**	**22 28 48.9**	**-0.6**
MYA	**Malatya**	**2.03**	**54**	*e*Pn	**Pn**	**22 28 48.9**	**-0.6**
DARE	**Darende-Malaty**	**2.14**	**33**	*e*PN	Pn	22 28 44.1	-6.8
JHLN	**Al Jahlan**	**2.27**	**130**	*e*P	**Pn**	**22 28 51.4**	**-1.1**
JHLN				*e*S	**Sn**	**22 29 19.4**	**-1.3**
JHLN				AML	AML	22 29 29.2	
	comp=Z,53nm,0.2s						
SULT	**Sultanhani-AKS**	**2.46**	**296**	*e*PN	**Pn**	**22 28 55.6**	**+0.3**
SULT	**Sultanhani-AKS**	**2.46**	**296**	*e*Pn	**Pn**	**22 28 55.6**	**+0.3**
HAWK	**Haweek**	**2.64**	**179**	*e*P	**Pn**	**22 28 57.5**	**-0.2**
HAWK				*e*S	**Sn**	**22 29 31.8**	**+1.8**
HAWK				AML	AML	22 29 39.6	
	comp=N,17nm,0.4s						
HAWK				AML	AML	22 29 42.8	
	comp=E,8.6nm,0.2s						
SVRC	**Sivrice-ELAZID**	**2.66**	**62**	*e*PN	**Pn**	**22 28 58.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.66**	**62**	*e*Pn	**Pn**	**22 28 58.1**	**0.0**
MNKR	**ALMNKUR**	**2.67**	**116**	*e*P	**Pn**	**22 28 57.8**	**-0.3**
MNKR				*e*S	**Sn**	**22 29 31.3**	**+0.6**
MNKR				AML	AML	22 29 52.3	
	comp=Z,232nm,0.3s						
ILIC	**ilic-Erzincan**	**2.89**	**37**	*e*PN	**Pn**	**22 29 01.5**	**+0.2**
ILIC	**ilic-Erzincan**	**2.89**	**37**	*e*Pn	**Pn**	**22 29 01.5**	**+0.2**
PTK	**Pertek**	**2.98**	**54**	*e*PN	**Pn**	**22 29 02.4**	**-0.1**
PTK	**Pertek**	**2.98**	**54**	*e*Pn	**Pn**	**22 29 02.4**	**-0.1**
SFNV	**Sufian**	**3.13**	**103**	*e*P	**Pn**	**22 29 03.8**	**-0.8**
SFNV				*e*S	**Sn**	**22 29 44.2**	**+2.0**
SFNV				AML	AML	22 29 59.3	
	comp=Z,24nm,0.6s						
SFNV	**Sufian**	**3.13**	**103**	*e*P	**Pn**	**22 29 03.7**	**-0.8**
SFNV				*e*S	**Sn**	**22 29 43.2**	**+1.0**
SFNV				AML	AML	22 29 59.3	
	comp=Z,24nm,0.7s						
KBSD	**Kabsdagh**	**3.38**	**91**	*e*P	**Pn**	**22 29 09.6**	**+1.7**
KBSD				*e*S	**Sn**	**22 29 50.4**	**+2.1**
KBSD				AML	AML	22 30 09.7	
	comp=Z,42nm,0.4s						

*NERS **17** 22:31:00.7, 59.75N×146.21E, h11km*
*IDC **17** 22:31:01.8±1.7, 59.76N×146.81E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.4/26, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=35.4km s-min=33.8km az=106.0*
ISC 17 22:31:00.3±1.4, **59.73N**±0.05×**146.31E**±0.04, **h2**km±10km, **n12**, σ1§**79**/26, **2C-1D**, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHTR	**Okhotsk**	**1.56**	**257**	*e*Pg	**Pg**	**22 31 29.8**	**-0.5**
OHTR				Pgmax		22 31 30.3	
	110nm,0.3s						
OHTR				*e*Sg	**Sn**	**22 31 48.1**	**-1.9**
OHTR				Sgmax		22 31 49.8	
	2μm,0.4s						
OCHR	**Omchak**	**2.08**	**21**	⇑*i*P	**Pn**	**22 31 36.1**	**-0.3**
OCHR				⇑*i*Pg	**Pb**	**22 31 39.0**	**+0.1**
OCHR				Pgmax		22 31 40.1	
	130nm,0.3s						
OCHR				*e*Sg	**Sg**	**22 32 09.1**	**+1.9**
OCHR				Sgmax		22 32 10.9	
	560nm,0.2s						
OCHR				Sgmax		22 32 10.9	
	40nm,0.1s						
MGD	**Magadan 1**	**2.25**	**80**	*e*P	**Pn**	**22 31 38.4**	**-0.2**
MGD				*e*Pg	**Pb**	**22 31 41.8**	**+0.2**
MGD				Pgmax		22 31 42.3	
	40nm,0.2s						
MGD				*e*S	**Sb**	**22 32 09.1**	**-0.8**
MGD				*e*Sg	**Sg**	**22 32 13.0**	**+0.5**
MGD				Sgmax		22 32 24.2	
	1μm,0.4s						
MGD				Sgmax		22 32 24.2	
	130nm,0.2s						
SUUS	**Susuman**	**3.19**	**16**	⇓*i*P	**Pn**	**22 31 51.2**	**-0.3**
SUUS				*e*Pg	**Pg**	**22 31 59.7**	**-1.6**
SUUS				*e*		22 32 01.2	
SUUS				Pgmax		22 32 02.1	
	40nm,0.3s						
SUUS				*e*S	**Sn**	**22 32 26.2**	**-3.8**
SUUS				*e*Sg	**Sg**	**22 32 40.8**	**-1.8**
SUUS				Sgmax		22 32 47.1	
	400nm,0.6s						
SUUS				Sgmax		22 32 47.1	
	160nm,0.5s						
TLAR	**Talaya**	**3.33**	**62**	*e*P	**Pn**	**22 31 54.9**	**+1.5**
TLAR				*e*		22 32 04.3	
TLAR				*e*S	**Sn**	**22 32 34.8**	**+1.3**
TLAR				*e*Sg	**Sg**	**22 32 46.7**	**-0.4**
TLAR				Sgmax		22 32 50.1	
	80nm,0.3s						
TLAR				Sgmax		22 32 50.1	
	90nm,0.3s						
SEY	**Seymchan**	**4.34**	**40**	*e*P	**Pn**	**22 32 08.4**	**+1.1**
SEY				*e*Pg	**Pg**	**22 32 23.7**	**+0.3**
SEY				Pgmax		22 32 26.2	
	10.0nm,0.3s						
SEY				*e*S	**Sn**	**22 32 59.0**	**+0.6**
SEY				*e*Sg	**Sg**	**22 33 18.5**	**-1.1**
SEY				Sgmax		22 33 24.3	
	70nm,0.4s						
SEY				Sgmax		22 33 24.3	
	20nm,0.3s						
OMS	**Omsukchan**	**5.37**	**55**	*e*Sg	**Sg**	**22 33 52.8**	**+0.3**
OMS				Sgmax		22 34 04.4	
	20nm,0.7s						
EVEN	**Evensk**	**6.68**	**65**	*e*		22 34 47.0	
PETK	**Petropavlovsk-**	**9.15**	**132**	Pn	**Pn**	**22 33 12.7**	**-0.6**
	1.2nm,0.3s,baz=316,slow=10.0,SNR=25						
PETK				Sn	**Sn**	**22 34 52.4**	**-4.3**
	0.0nm,0.3s,baz=267,slow=15,SNR=2.3						
USRK	**Ussuriysk Arra**	**17.81**	**216**	P	**P**	**22 35 13.1**	**+3.1**
	0.1nm,0.3s,baz=43,slow=11,SNR=5.4						
ILAR	**Eielson Array**	**30.17**	**52**	P	**P**	**22 37 11.3**	**-0.1**
	0.7nm,0.7s,baz=286,slow=7.4,SNR=10.0						
FINES	**FINESS Array B**	**50.69**	**328**	P	**P**	**22 40 03.0**	**+2.4**
	3.0nm,1.0s,baz=41,slow=11,SNR=3.4						

IDC 17 22:32:52.1±1.7, **6.59S**×**128.37E**, **h0**km, **mb3.4**/2, **mb1 3.8**/5, **mb1mx3.6**/15, **mbtmp3.6**/5, **ML3.5**/1, **Error ellipse: s-maj=104.2km s-min=24.3km az=76.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.75**	**193**	Pn	Pn	22 35 42.7	+1.5
	0.7nm,0.3s,baz=18,slow=11,SNR=16						
FITZ				Sn	Sn	22 37 38.2	-15
	0.4nm,0.3s,baz=77,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**14.48**	**157**	Pn	Pn	22 36 19.0	+0.4
	0.6nm,0.3s,baz=322,slow=14,SNR=25						
WRA				Sn	Sn	22 38 44.8	-15
	0.9nm,0.3s,baz=331,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.79**	**163**	P	Pn	22 37 00.0	-1.4
	0.2nm,0.3s,baz=339,slow=11,SNR=18						
ASAR				S	Sn	22 40 05.2	-15
	0.2nm,0.3s,baz=338,slow=21,SNR=6.5						
SONM	**Songino Array**	**57.55**	**343**	P	P	22 42 45.1	+1.5
	0.3nm,0.6s,baz=158,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**67.00**	**327**	P	P	22 43 46.0	-1.0
	0.2nm,0.4s,baz=117,slow=8.2,SNR=9.9						

*IDC **17** 22:38:40.2±0.9, 31.42N×141.85E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/25, mbtmp3.6/10, ML3.6/2, Error ellipse: s-maj=32.5km s-min=16.2km az=76.0*
*ISCJB **17** 22:38:43.7±0.6, 31.47N±0.06×141.8E±0.1, h40km, mb3.7/8, Error ellipse: s-maj=17.9km s-min=6.8km az=158.8*
*JMA **17** 22:38:44.8±0.5, 31.92N×141.74E, h0km, M3.2*
ISC 17 22:38:45.3±0.8, **31.48N**±0.07×**141.8E**±0.1, **h40**km, **n16**, σ1§**47**/19, **mb3.7**/8, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.31**	**315**	P	**Pn**	**22 39 20.5**	**-0.4**
JHJ2				*e*S	**Sn**	**22 39 46.8**	**-1.4**
BSO1	**Boso 1**	**3.23**	**348**	P	**Pn**	**22 39 32.6**	**-0.4**
JOD2	**Odawara 2**	**4.38**	**330**	P	**Pn**	**22 39 50.3**	**+0.9**
CBIJ	**Chichi jima**	**4.39**	**175**	Pn	**Pn**	**22 39 49.0**	**-0.4**
	12nm,0.3s,baz=280,slow=20,SNR=11						
CBIJ				Sn	**Sn**	**22 40 36.6**	**-2.6**
	3.7nm,0.3s,baz=246,slow=20,SNR=2.1						
JHU	**Hanno**	**4.83**	**335**	P	**Pn**	**22 39 55.9**	**+0.5**
JHU				*e*S	**Sn**	**22 40 47.8**	**-2.2**
JHO	**Hitachi**	**5.21**	**349**	P	**Pn**	**22 40 00.0**	**-0.7**
JHO				*e*S	**Sn**	**22 40 56.4**	**-3.2**
JAG	**Ashikaga**	**5.29**	**339**	P	**Pn**	**22 40 02.2**	**+0.4**
MJAR	**Matsushiro Arr**	**5.85**	**331**	Pn	**Pn**	**22 40 08.9**	**-0.6**
	0.4nm,0.3s,baz=161,slow=10,SNR=7.6						
SONM	**Songino Array**	**31.41**	**312**	P	P	22 45 04.4	+1.7
	0.5nm,0.8s,baz=120,slow=7.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**46.00**	**316**	P	**P**	**22 47 05.6**	**+1.1**
	0.6nm,0.4s,baz=123,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**47.49**	**307**	P	**P**	**22 47 17.6**	**+1.3**
	0.3nm,0.5s,baz=86,slow=10.0,SNR=7.7						
KURK	**Kurchatov**	**49.72**	**312**	P	**P**	**22 47 35.0**	**+1.7**
	0.7nm,0.5s,baz=88,slow=7.3,SNR=7.4						
WRA	**Warramunga Arr**	**51.62**	**189**	P	**P**	**22 47 48.1**	**+0.2**
	0.8nm,0.5s,baz=5.2,slow=7.6,SNR=30						
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	**22 48 05.8**	**+0.2**
	0.3nm,0.7s,baz=251,slow=5.6,SNR=5.1						
ASAR	**Alice Springs**	**55.35**	**189**	P	**P**	**22 48 15.1**	**-0.2**
	0.4nm,0.5s,baz=16,slow=14,SNR=15						
TXAR	**Lajitas Array**	**93.26**	**53**	P	**P**	**22 51 57.7**	**+1.5**
	0.2nm,0.7s,baz=256,slow=2.7,SNR=2.9						

IDC 17 23:01:10.7±3.2, **22.53N**×**144.69E**, **h0**km, **mb3.6**/6, **mb1 3.7**/6, **mb1mx3.4**/25, **mbtmp3.6**/6, **MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.3**/30, **Error ellipse: s-maj=128.2km s-min=29.7km az=78.0**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.05**	**340**	LR	LR	23 09 47.3	
	comp=Z,40nm,20.6s,baz=25,slow=34						
SONM	**Songino Array**	**39.61**	**319**	P	P	23 08 44.3	+0.2
	0.3nm,0.7s,baz=127,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**43.41**	**194**	P	P	23 09 15.2	0.0
	0.1nm,0.4s,baz=16,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**55.17**	**312**	P	P	23 10 44.8	-0.4
	0.1nm,0.4s,baz=87,slow=8.6,SNR=5.4						
KURK	**Kurchatov**	**57.83**	**317**	P	P	23 11 04.0	0.0
	0.6nm,0.4s,baz=91,slow=7.7,SNR=9.3						
BVAR	**Borovoye Array**	**62.95**	**319**	P	P	23 11 39.2	+0.2
	0.8nm,0.4s,baz=92,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**83.03**	**335**	P	P	23 13 37.7	0.0
	1.4nm,0.7s,baz=59,slow=5.4,SNR=5.0						

*NNC **17** 23:12:42.8±3.3, 41.25N×79.60E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=31.0km s-min=21.2km az=2.0*
*ISCJB **17** 23:12:43.6±0.6, 41.28N±0.06×79.51E±0.05, h10km, mb3.6/8, MS4.0/3, Error ellipse: s-maj=9.1km s-min=5.3km az=175.0*
*IDC **17** 23:12:43.2±0.9, 41.17N×79.35E, h0km, mb3.5/8, mb1 3.7/12, mb1mx3.5/30, mbtmp3.5/12, ML3.5/4, MS4.0/2, Ms1 4.0/2, ms1mx2.8/40, Error ellipse: s-maj=20.1km s-min=14.9km az=69.0*
*BJI **17** 23:12:46.0, 41.20N×79.40E, h13km, mb4.0/4, ML3.6/9, Ms4.1/2, Ms7 4.0/2*
ISC 17 23:12:45.2±0.7, **41.32N**±0.07×**79.49E**±0.05, **h10**km, **n39**, σ1§**82**/49, **mb3.7**/8, **MS4.0**/3, **7C-6D**, **Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.60**	**292**	P	**Pn**	**23 13 28.1**	**+0.6**
	SNR=126						
ULHL				P	**Pn**	**23 13 28.1**	**+0.6**
	SNR=126						
KNDC	**Almaty**	**2.67**	**316**	⇑Pn	**Pn**	**23 13 29.3**	**+0.9**
KNDC				⇑Sn	**Sn**	**23 14 03.4**	**+2.7**
KSH	**Kashi**	**3.23**	**237**	*e*Pn	**Pb**	**23 13 44.1**	**+1.4**
KSH				Sn	**Sg**	**23 14 28.0**	**-0.9**
KSH				smax	smax		
	comp=N,130nm,0.9s						
KSH				smax	smax		
	comp=E,140nm,0.8s						
KZA	**Kyzart**	**3.26**	**285**	P	**Pn**	**23 13 37.5**	**+0.7**
	SNR=54						
KZA				P	**Pn**	**23 13 37.5**	**+0.7**
	SNR=54						
TKM2	**Tokmak 2**	**3.31**	**300**	P	**Pn**	**23 13 37.7**	**+0.4**
	SNR=147						
TKM2				P	**Pn**	**23 13 37.7**	**+0.4**
	SNR=147						
TKM2	**Tokmak 2**	**3.31**	**300**	⇓Pn	**Pn**	**23 13 37.2**	**-0.1**
	comp=E,45nm,0.3s						
TKM2				⇓Sn	**Sn**	**23 14 21.0**	**+4.2**
	comp=E,251nm,0.5s						
KBK	**Karagaybulak**	**3.64**	**293**	P	**Pn**	**23 13 42.4**	**+0.6**
	SNR=28						
KBK				P	**Pn**	**23 13 42.4**	**+0.6**
	SNR=28						
UCH	**Uchtor**	**3.83**	**285**	P	Pb	23 13 50.5	-2.6
	SNR=21						
UCH				P	Pb	23 13 50.5	-2.6
	SNR=21						
CHMS	**Chumysh**	**3.90**	**297**	P	**Pn**	**23 13 45.6**	**+0.4**
	SNR=6.6						
CHMS				P	**Pn**	**23 13 45.6**	**+0.4**
	SNR=6.6						
AAK	**Ala-Archa**	**3.95**	**291**	P	**Pn**	**23 13 47.0**	**+1.0**
	SNR=26						
AAK				P	**Pn**	**23 13 47.0**	**+1.0**
	SNR=26						
USP	**Ospenovka**	**4.18**	**299**	P	**Pn**	**23 13 49.2**	**+0.1**
	SNR=12						
USP				P	**Pn**	**23 13 49.2**	**+0.1**
	SNR=12						
AML	**Almayashu**	**4.41**	**283**	P	**Pn**	**23 13 52.8**	**+0.2**
	SNR=10						
AML				P	**Pn**	**23 13 52.8**	**+0.2**
	SNR=10						
EKS2	**Erkin-Say**	**4.46**	**289**	P	**Pn**	**23 13 53.7**	**+0.7**
	SNR=7.2						
EKS2				P	**Pn**	**23 13 53.7**	**+0.7**
	SNR=7.2						
MK31	**Makanchi Array**	**5.84**	**19**	⇑Pn	**Pn**	**23 14 13.0**	**+1.2**
	comp=E,1.2nm,0.3s,baz=195,slow=14,SNR=4.0						
MK31				⇓Lg	Lg	23 15 50.9	
MKAR	**Makanchi Array**	**5.84**	**19**	Pn	**Pn**	**23 14 13.2**	**+1.4**
	comp=E,1.5nm,0.3s,baz=202,slow=13,SNR=73						
MKAR				Sn	**Sn**	**23 15 21.1**	**+2.3**
	comp=E,2.6nm,0.3s,baz=198,slow=14,SNR=4.0						
MKAR				Lg	Lg	23 15 45.9	
	comp=E,3.0nm,0.3s,baz=203,slow=25,SNR=4.9						
WMQ	**Urumqi**	**6.56**	**65**	Pn	Pn	23 14 26.0	+4.2
WMQ				Sn	**Sn**	**23 15 40.3**	**+3.7**
WMQ				smax	smax		
	comp=N,65nm,0.8s						
WMQ				smax	smax		
	comp=E,54nm,0.6s						
KK31	**Karatay Array**	**6.90**	**288**	⇓Pn	**Pn**	**23 14 25.1**	**-1.3**
	comp=E,5.1nm,0.6s,baz=96,slow=14,SNR=11						
KK31				⇑Lg	Lg	23 16 27.1	
	comp=E,5.9nm,0.4s,baz=97,slow=26,SNR=4.7						
KURK	**Kurchatov**	**9.42**	**357**	Pn	**Pn**	**23 15 00.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=186,slow=13,SNR=5.9						
KURK				Lg	Lg	23 17 32.3	
	comp=E,0.5nm,0.3s,baz=204,slow=29,SNR=9.3						
KURK	**Kurchatov**	**9.42**	**357**	⇑Pn	**Pn**	**23 15 02.7**	**+1.8**
	comp=E,2.5nm,0.8s						
VOSK	**Vostochnaya**	**12.79**	**336**	⇑P	**Pn**	**23 15 48.2**	**+1.2**
	comp=E,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**13.14**	**14**	Pn	**Pn**	**23 15 50.2**	**-1.5**
	comp=E,0.2nm,0.3s,baz=195,slow=8.8,SNR=2.3						
ZALV				Sn	Sn	23 18 11.8	-5.9
	comp=E,0.2nm,0.3s,baz=202,slow=18,SNR=2.6						
BVA0	**Borovoye Array**	**13.23**	**335**	⇓P	**Pn**	**23 15 52.5**	**-0.6**
	comp=E,0.1nm,0.5s,baz=153,slow=15,SNR=5.3						
BVAR	**Borovoye Array**	**13.23**	**335**	Pn	**Pn**	**23 15 50.9**	**-2.2**
	comp=E,0.3nm,0.3s,baz=157,slow=14,SNR=6.6						
BVAR				Sn	**Sn**	**23 18 16.5**	**-3.7**
	comp=E,0.3nm,0.3s,baz=140,slow=23,SNR=3.7						
BVAR				Lg	Lg	23 19 30.4	
	comp=E,0.3nm,0.3s,baz=164,slow=21,SNR=4.1						
ZRNK	**Zerenda**	**13.63**	**332**	⇑P	**Pn**	**23 15 57.1**	**-1.5**
GTA	**Gaotai**	**15.61**	**90**	*e*P	P	23 16 35.1	+5.4
GTA				pP	pP	23 16 39.3	+6.8
GTA				sP	sP	23 16 42.3	+8.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31	**Akbulak array**	**15.85**	**307**	P	**Pn**	**23 16 24.8**	**-3.5**
	comp=Z,1.1nm,0.5s,baz=110,slow=14,SNR=33						
AKTO	**Aktyubinsk**	**17.46**	**309**	P	**Pn**	**23 16 48.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=112,slow=12,SNR=9.8						
AKTO	**Aktyubinsk**	**17.46**	**309**	⇓P	Pn	23 16 43.8	-4.9
	comp=Z,0.1nm,1.2s						
SONM	**Songino Array**	**20.18**	**62**	P	Pn	23 17 21.7	-0.2
	comp=Z,0.7nm,0.6s,baz=262,slow=10,SNR=8.3						
HHC	**Hu-ho-hao-te**	**24.12**	**80**	*e*P	**P**	**23 17 59.0**	**-2.2**
HHC				sP	**sP**	**23 18 06.3**	**+0.8**
HHC				PP	**PnPn**	**23 18 33.8**	**+3.7**
HHC				S	**S**	**23 22 13.3**	**-5.6**
HHC				SS		23 23 06.4	
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				LR	LR		
	comp=N,100nm,12.2s						
HHC				LR	LR		
	comp=E,300nm,11.2s						
HHC				LR	LR		
	comp=Z,240nm,9.5s						
FINES	**FINESS Array B**	**37.58**	**321**	P	**P**	**23 19 59.7**	**+0.2**
	comp=Z,2.2nm,1.1s,baz=109,slow=7.5,SNR=4.7						
HFS	**Hagfors**	**43.62**	**319**	P	**P**	**23 20 48.4**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=97,slow=10,SNR=3.9						
ATD	**Arta Tunnel**	**43.70**	**238**	LR	LR	23 41 53.6	
	comp=Z,107nm,18.6s,baz=80,slow=40						
ESDC	**Sonseca Array**	**61.02**	**299**	P	**P**	**23 22 59.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=49,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**68.19**	**20**	P	**P**	**23 23 46.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=325,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**72.31**	**272**	P	P	23 24 08.5	-2.8
	comp=Z,0.5nm,0.7s,baz=47,slow=5.9,SNR=4.6						
WRA	**Warramunga Arr**	**79.34**	**128**	P	**P**	**23 24 50.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=325,slow=5.2,SNR=4.6						
DBIC	**Dimbokro**	**81.39**	**271**	LR	LR	00 07 58.7	
	comp=Z,108nm,18.0s,baz=97,slow=41						
ASAR	**Alice Springs**	**81.99**	**131**	P	**P**	**23 25 05.5**	**0.0**
	comp=Z,0.5nm,1.0s,baz=311,slow=4.4,SNR=3.0						

*IDC **17** 23:18:33.7±0.7, 35.61N×69.83E, h0km, mb4.4/24, mb1 4.5/28, mb1mx4.5/31, mbtmp4.5/28, ML4.7/4, MS3.5/9, Ms1 3.5/9, ms1mx3.3/42, Error ellipse: s-maj=18.3km s-min=11.9km az=0.0*
*BJI **17** 23:18:42.5, 36.14N×69.50

UCH	**Uchtor**	**7.18**	**29**	P		**Pn**	**23 20 30.2**	**+2.9**		
	SNR=21									
UCH				P		Pn	23 20 30.2	+2.9		
	SNR=21									
EKS2	**Erkin-Say**	**7.30**	**23**	P		**Pn**	**23 20 31.0**	**+2.4**		
	SNR=31									
EKS2				P		Pn	23 20 31.0	+2.4		
	SNR=31									
EKS2	**Erkin-Say**	**7.30**	**23**	*e*P		**Pn**	**23 20 31.0**	**+2.4**		
EKS2				*e*S		Sn	23 21 43.6	-6.4		
EKS2	**Erkin-Say**	**7.30**	**23**	*e*Pn		**Pn**	**23 20 31.0**	**+2.4**		
EKS2				*e*S		Sn	23 21 43.6	-6.4		
KZA	**Kyzart**	**7.36**	**33**	P		**Pn**	**23 20 31.7**	**+2.0**		
	SNR=66									
KZA				P		Pn	23 20 31.7	+2.0		
	SNR=66									
AAK	**Ala-Archa**	**7.52**	**27**	P		**Pn**	**23 20 33.8**	**+2.1**		
	SNR=59									
AAK				P		Pn	23 20 33.8	+2.1		
	SNR=59									
AAK	**Ala-Archa**	**7.52**	**27**	*e*P		**Pn**	**23 20 34.2**	**+2.5**		
AAK				*e*S		**Sn**	**23 21 58.2**	**+2.7**		
AAK	**Ala-Archa**	**7.52**	**27**	*e*Pn		**Pn**	**23 20 34.2**	**+2.5**		
AAK				*e*S		**Sn**	**23 21 58.2**	**+2.7**		
KBK	**Karagaybulak**	**7.72**	**29**	P		**Pn**	**23 20 36.9**	**+2.6**		
	SNR=39									
KBK				P		Pn	23 20 36.9	+2.6		
	SNR=39									
FRU	**Bishkek**	**7.74**	**27**	*e*P		**Pn**	**23 20 37.0**	**+2.5**		
FRU				*e*S		**Sn**	**23 22 01.0**	**+0.3**		
FRU				pmax	pmax					
	comp=Z,290nm,1.8s									
FRU				smax	smax					
	comp=N,1μm,1.6s									
IMYA	**Miami**	**7.91**	**275**	*e*P		**Pn**	**23 20 36.2**	**-0.8**		
CHMS	**Chumysh**	**7.93**	**27**	P		**Pn**	**23 20 39.2**	**+2.0**		
	SNR=37									
CHMS				P		Pn	23 20 39.2	+2.0		
	SNR=37									
ULHL	**Ulahol**	**7.95**	**37**	P		**Pn**	**23 20 40.1**	**+2.5**		
	SNR=24									
ULHL				P		Pn	23 20 40.1	+2.5		
	SNR=24									
USP	**Ospenovka**	**8.08**	**25**	P		**Pn**	**23 20 40.6**	**+1.4**		
	SNR=46									
USP				P		Pn	23 20 40.6	+1.4		
	SNR=46									
TKM2	**Tokmak 2**	**8.20**	**31**	P		**Pn**	**23 20 42.9**	**+1.9**		
	SNR=43									
TKM2				P		Pn	23 20 42.9	+1.9		
	SNR=43									
TKM2	**Tokmak 2**	**8.20**	**31**	⇑Pn		**Pn**	**23 20 42.3**	**+1.4**		
	comp=N,71nm,0.6s									
TKM2				⇓Sn		**Sn**	**23 22 15.2**	**+3.0**		
	comp=N,64nm,0.6s									
TKM2	**Tokmak 2**	**8.20**	**31**	*i* P		**Pn**	**23 20 42.9**	**+1.9**		
TKM2	**Tokmak 2**	**8.20**	**31**	*e*Pn		**Pn**	**23 20 42.8**	**+1.9**		
KKR	**Kurukshetra**	**8.39**	**134**	*e*S		Sn	23 22 09.8	-6.7		
KKR				AML		AML	23 22 55.1			
	comp=Z,538nm,0.4s									
ISRO	**Mashad**	**8.42**	**275**	*e*P		**Pn**	**23 20 41.8**	**-2.1**		
IMOG	**Moghan**	**8.53**	**274**	*e*P		**Pn**	**23 20 45.1**	**-0.5**		
IPAY	**Payeh**	**8.80**	**276**	*e*P		**Pn**	**23 20 48.4**	**-0.8**		
IDAH	**Dahanechah**	**8.89**	**251**	*e*P		Pn	23 20 54.1	+3.6		
DDI	**Dehra Dun**	**8.89**	**127**	*e*P		Pn	23 20 53.4	+3.0		
DDI				*ex*		**Sn**	**23 22 29.5**	**+0.4**		
KNDC	**Almaty**	**9.04**	**35**	⇑Pn		**Pn**	**23 20 55.0**	**+2.7**		
KNDC				⇓Sn		Sn	23 22 38.6	+6.1		
AAA	**Alma-Ata**	**9.07**	**35**	*e*P		Pn	23 20 56.5	+3.7		
AAA				*e*S		**Sn**	**23 22 36.9**	**+3.6**		
AAA				pmax	pmax					
	comp=Z,115nm,0.7s									
AAA				smax	smax					
	comp=E,140nm,1.9s									
IEMG	**Emamgholi**	**9.12**	**282**	*e*P		**Pn**	**23 20 53.0**	**-0.7**		
NDI	**New Delhi**	**9.58**	**138**	*e*P		**Pn**	**23 21 00.2**	**+0.5**		
NDI				*e*S		Sn	23 22 37.7	-8.1		
ISFR	**Sfrayin**	**9.62**	**280**	*e*P		**Pn**	**23 21 00.0**	**-0.4**		
KUDL	**Kundal**	**9.64**	**143**	*e*P		**Pn**	**23 20 59.7**	**-0.7**		
KUDL				*e*S		Sn	23 22 38.7	-8.4		
IKOO	**Kooshah**	**9.68**	**251**	*e*P		Pn	23 21 05.0	+3.7		
AYAN	**Aya Nagar**	**9.69**	**139**	*e*P		**Pn**	**23 21 00.9**	**-0.3**		
AYAN				*e*S		Sn	23 22 41.4	-7.1		
ISHV	**Shirvan**	**9.88**	**282**	*e*P		**Pn**	**23 21 04.4**	**+0.4**		
IGLO	**Ghaloghah**	**12.96**	**277**	*e*P		**Pn**	**23 21 48.1**	**+2.1**		
IANJ	**Anjilo**	**12.98**	**272**	*e*P		**Pn**	**23 21 46.7**	**+0.4**		
IKIA	**Kiasar**	**13.10**	**276**	*e*P		**Pn**	**23 21 48.4**	**+0.5**		
ISHM	**Shahmirzad**	**13.45**	**274**	*e*P		**Pn**	**23 21 52.9**	**+0.3**		
IALA	**Alasht**	**13.81**	**275**	*e*P		**Pn**	**23 21 58.7**	**+1.2**		
DANN	**Dangsing**	**14.01**	**119**	*e*P		Pn	23 21 58.0	-2.1		
	comp=E,112nm,0.6s									
DANN	**Dangsing**	**14.01**	**119**	*e*P		Pn	23 21 58.0	-2.1		
	comp=E,112nm,0.6s									
IPRN	**Peran**	**14.18**	**276**	*e*P		**Pn**	**23 22 04.0**	**+1.8**		
MK31	**Makanchi Array**	**14.23**	**37**	⇑P		**Pn**	**23 22 05.0**	**+2.4**		
	comp=E,9.3nm,0.6s,baz=220,slow=16,SNR=33									
MK31	**Makanchi Array**	**14.23**	**37**	*e*P		**Pn**	**23 22 03.5**	**+0.9**		
MK31	**Makanchi Array**	**14.23**	**37**	*e*Pn		**Pn**	**23 22 03.5**	**+0.9**		
MKAR	**Makanchi Array**	**14.23**	**37**	Pn		**Pn**	**23 22 01.9**	**-0.7**		
	comp=E,1.5nm,0.3s,baz=228,slow=15,SNR=29									
MKAR	**Makanchi Array**	**14.23**	**37**	P		**Pn**	**23 22 01.9**	**-0.7**		
MKAR				pmax	pmax					
	comp=Z,2.0nm,0.3s									
MKAR	**Makanchi Array**	**14.23**	**37**	Pn		**Pn**	**23 22 01.9**	**-0.7**		
KOLN	**Koldanda**	**14.25**	**121**	*e*P		Pn	23 22 00.8	-2.4		
	comp=Z,35nm,0.3s									
KOLN	**Koldanda**	**14.25**	**121**	*e*P		Pn	23 22 00.8	-2.4		
	comp=Z,35nm,0.3s									
IZEF	**Zefreh**	**14.80**	**263**	*e*P		**P**	**23 22 14.5**	**-0.3**		
GKN	**Gorkha**	**14.84**	**118**	*e*P		Pn	23 22 08.6	-2.2		
	comp=Z,75nm,0.3s									
GKN	**Gorkha**	**14.84**	**118**	*e*P		Pn	23 22 08.6	-2.2		
	comp=Z,75nm,0.3s									
AB31	**Akbulak array**	**15.11**	**334**	P		**Pn**	**23 22 12.0**	**-1.9**		
	comp=Z,29nm,0.4s,baz=152,slow=14,SNR=876									
ABKAR	**Akbulak array**	**15.11**	**334**	*e*Pn		**Pn**	**23 22 12.2**	**-1.7**		
IKLH	**Kolahrood**	**15.29**	**265**	*e*P		**P**	**23 22 22.9**	**+2.7**		
DMN	**Daman**	**15.41**	**119**	*e*P		**Pn**	**23 22 16.3**	**-1.9**		
	comp=Z,98nm,0.6s									
DMN	**Daman**	**15.41**	**119**	*e*P		**Pn**	**23 22 16.3**	**-1.9**		
	comp=Z,98nm,0.6s									
KKN	**Kakani**	**15.42**	**118**	*e*P		**Pn**	**23 22 16.7**	**-1.7**		
	comp=Z,118nm,0.5s									
KKN	**Kakani**	**15.42**	**118**	*e*P		**Pn**	**23 22 16.7**	**-1.7**		
KKN				pmax	pmax					
	comp=Z,118nm,0.5s									
KKN	**Kakani**	**15.42**	**118**	*e*P		**Pn**	**23 22 16.7**	**-1.7**		
	comp=Z,118nm,0.5s									
PKI	**Pulchoki**	**15.64**	**118**	*e*P		**Pn**	**23 22 19.9**	**-1.4**		
	comp=Z,72nm,0.4s									
WMQ	**Urumqi**	**15.72**	**55**	P		**P**	**23 22 24.8**	**+0.1**		
WMQ				pP		**pP**	**23 22 35.6**	**-2.8**		
WMQ				PP		PP	23 22 38.8			
WMQ				sP		**sP**	**23 22 45.8**	**-1.1**		
WMQ				S		**Sn**	**23 25 17.0**	**+1.7**		
WMQ				pmax	pmax					
	comp=Z,26nm,0.7s									
WMQ				pmax	pmax					
	comp=Z,260nm,6.0s									
WMQ				LR	LR					
	comp=N,180nm,12.8s									
WMQ				LR	LR					
	comp=E,480nm,19.0s									
WMQ				LR	LR					
	comp=Z,160nm,21.2s									
GUN	**Gumba**	**15.79**	**116**	*e*P		**Pn**	**23 22 21.3**	**-1.8**		
	comp=Z,86nm,0.5s									
GUN	**Gumba**	**15.79**	**116**	*e*P		**Pn**	**23 22 21.3**	**-1.8**		
	comp=Z,86nm,0.5s									
KURK	**Kurchatov**	**16.00**	**21**	Pn		**Pn**	**23 22 21.4**	**-3.9**		
	comp=Z,0.4nm,0.3s,baz=211,slow=11,SNR=24									
KURK				Sn		**S**	**23 25 31.2**	**-0.7**		
	baz=202,slow=17,SNR=4.3									
KURK				LR		LR	23 29 37.5			
	comp=Z,155nm,19.3s,baz=270,slow=41									
KURK	**Kurchatov**	**16.00**	**21**	⇓P		**P**	**23 22 27.5**	**-0.1**		
	comp=Z,65nm,1.0s									
KURK	**Kurchatov**	**16.00**	**21**	*d* iP		**Pn**	**23 22 25.2**	**-0.1**		
KURK				pmax	pmax					
	comp=Z,107nm,1.7s									
KURK	**Kurchatov**	**16.00**	**21**	*e*Pn		**Pn**	**23 22 25.0**	**-0.3**		
	comp=Z,57nm,1.0s									
KURK				Sn		**S**	**23 25 31.2**	**-0.7**		
IPIR	**Pirpir**	**16.02**	**264**	*e*P		**P**	**23 22 31.1**	**+2.7**		
JIRN	**Jiri**	**16.16**	**116**	*e*P		**Pn**	**23 22 26.2**	**-1.6**		
	comp=Z,175nm,0.5s									
JIRN	**Jiri**	**16.16**	**116**	*e*P		**Pn**	**23 22 26.2**	**-1.6**		
	comp=Z,175nm,0.5s									
VOSK	**Vostochnaya**	**16.73**	**2**	⇑P		**Pn**	**23 22 33.7**	**-0.8**		
	comp=Z,32nm,0.8s									
AKTO	**Aktyubinsk**	**16.78**	**333**	P		**Pn**	**23 22 34.1**	**-0.9**		
	comp=Z,5.8nm,0.3s,baz=148,slow=13,SNR=66									
AKTO				S		Sn	23 25 27.5	-13		
	comp=Z,2.0nm,0.3s,baz=163,slow=19,SNR=4.9									
AKTO				LR		LR	23 29 23.4			
	comp=Z,41nm,19.3s,baz=36,slow=38									
AKTO	**Aktyubinsk**	**16.78**	**333**	⇑P		**Pn**	**23 22 35.5**	**+0.5**		
	comp=Z,16nm,0.9s									
AKTO	**Aktyubinsk**	**16.78**	**333**	P		**Pn**	**23 22 34.1**	**-0.9**		
AKTO				pmax	pmax					
	comp=Z,6.0nm,0.3s									
AKTO				MLR		MLR				
	comp=Z,41nm,19.3s									
AKTO	**Aktyubinsk**	**16.78**	**333**	P		**Pn**	**23 22 34.1**	**-0.9**		
AKTO				S		Sn	23 25 27.5	-13		
RAMN	**Ramite**	**16.86**	**118**	*e*P		**Pn**	**23 22 34.3**	**-2.2**		
	comp=Z,77nm,0.5s									
RAMN	**Ramite**	**16.86**	**118**	*e*P		**Pn**	**23 22 34.3**	**-2.2**		
	comp=Z,77nm,0.5s									
ZRNK	**Zerenda**	**16.95**	**358**	⇓P		**Pn**	**23 22 36.0**	**-1.2**		
	comp=Z,2.8nm,0.3s									
BVA0	**Borovoye Array**	**17.02**	**1**	⇓P		**P**	**23 22 39.2**	**+0.3**		
	comp=Z,4.3nm,0.7s,baz=159,slow=10,SNR=6.8									
BVAR	**Borovoye Array**	**17.02**	**1**	P		**Pn**	**23 22 36.9**	**-1.1**		
	comp=Z,3.8nm,0.3s,baz=168,slow=11,SNR=32									
BVAR				S		**Sn**	**23 25 42.2**	**-4.2**		
	comp=Z,1.0nm,0.3s,baz=181,slow=24,SNR=6.0									
BVAR	**Borovoye Array**	**17.02**	**1**	P		**Pn**	**23 22 36.9**	**-1.1**		
BVAR				S		**Sn**	**23 25 42.2**	**-4.2**		
BVAR				pmax	pmax					
	comp=Z,4.0nm,0.3s									
BVAR				smax	smax					
	comp=N,1.0nm,0.3s									
BVAR	**Borovoye Array**	**17.02**	**1**	P		**Pn**	**23 22 36.9**	**-1.1**		
BVAR				S		**Sn**	**23 25 42.2**	**-4.2**		
BRVK	**Borovoye**	**17.05**	**1**	*d* iP		**Pn**	**23 22 38.6**	**+0.2**		
BRVK				pmax	pmax					
	comp=Z,88nm,1.7s									
BRVK	**Borovoye**	**17.05**	**1**	*e*Pn		**Pn**	**23 22 37.5**	**-0.8**		
	comp=Z,65nm,1.2s									
BRVK				*e*S		Sn	23 25 37.6	-9.5		
TAPN	**Taplejung**	**17.44**	**115**	*e*P		**Pn**	**23 22 42.3**	**-1.4**		
	comp=Z,56nm,0.5s									
TAPN	**Taplejung**	**17.44**	**115**	*e*P		**Pn**	**23 22 42.3**	**-1.4**		
	comp=Z,56nm,0.5s									
ODAN	**Odare**	**17.49**	**117**	*e*P		**Pn**	**23 22 42.8**	**-1.4**		
	comp=Z,50nm,0.4s									
POO	**Poona**	**17.76**	**168**	*e*P		**P**	**23 22 48.0**	**+0.7**		
POO				*ex*		x	23 23 15.0			
IKOM	**Komasi**	**18.39**	**271**	*e*P		**Pn**	**23 22 57.5**	**+2.5**		
IVIS	**Veis**	**18.86**	**272**	*e*P		**Pn**	**23 23 00.8**	**+0.2**		
LSA	**Lhasa**	**18.93**	**103**	P		**Pn**	**23 23 03.3**	**+1.4**		
LSA				S		S	23 26 23.6	-8.9		
LSA				LR		LR				
	comp=Z,420nm,11.0s									
LSA	**Lhasa**	**18.93**	**103**	*e*P		**Pn**	**23 23 03.7**	**+1.8**		
LSA				pmax	pmax					
	comp=Z,13nm,0.6s									
LSA	**Lhasa**	**18.93**	**103**	*e*P		**Pn**	**23 23 03.7**	**+1.8**		
	comp=Z,14nm,0.6s									
IGHG	**Ghaleghazi**	**19.12**	**272**	*e*P		**Pn**	**23 23 05.1**	**+1.2**		
DGRG	**David-gareji**	**19.84**	**293**	P		**Pn**	**23 23 12.9**	**+0.7**		
MIB	**Mutribah**	**19.89**	**258**	*e*P		**P**	**23 23 10.2**	**-0.3**		
MIB				AMb		AMB	23 23 17.9			
	comp=Z,75nm,1.0s									
HYB	**Hyderabad**	**20.05**	**155**	*i* P		**P**	**23 23 12.0**	**-0.4**		
HYB				*e*S		S	23 26 45.0	-9.3		
RDF	**Al-Radifah**	**20.09**	**256**	*e*P		**P**	**23 23 11.0**	**-1.8**		
RDF				AMb		AMB	23 23 19.4			
	comp=Z,65nm,1.0s									
GNI	**Garni**	**20.19**	**289**	P		Pn	23 23 16.5	+0.1		
	comp=Z,17nm,0.5s,baz=25,slow=1.5,SNR=25									
GNI	**Garni**	**20.19**	**289**	*c* iP		**P**	**23 23 14.2**	**+0.3**		
GNI				pmax	pmax					
	comp=Z,140nm,1.7s									
GNI	**Garni**	**20.19**	**289**	*e*P		Pn	23 23 16.6	+0.2		
	comp=Z,71nm,1.1s									
NAY	**Al-Naaiem**	**20.19**	**257**	*e*P		**P**	**23 23 12.8**	**-1.1**		
NAY				AMb		AMB	23 23 19.7			
	comp=Z,22nm,1.5s									
TBLG	**Delisi**	**20.36**	**294**	P		Pn	23 23 17.7	-0.4		
TBLG	**Delisi**	**20.36**	**294**	P		Pn	23 23 17.7	-0.4		
ZAA0	**Zalesovo Array**	**20.75**	**25**	*e*P		**P**	**23 23 20.5**	**+1.0**		
ZALV	**Zalesovo Beam**	**20.75**	**25**	P		**P**	**23 23 20.7**	**+1.1**		
	comp=Z,69nm,0.4s,baz=218,slow=11,SNR=118									
ZALV				S		**S**	**23 27 06.6**	**-0.7**		
	comp=Z,3.5nm,0.9s,baz=220,slow=15,SNR=3.1									
ZALV	**Zalesovo Beam**	**20.75**	**25**	P		**P**	**23 23 20.7**	**+1.1**		
ZALV				S		**S**	**23 27 06.6**	**-0.7**		
ZALV				pmax	pmax					
	comp=Z,69nm,0.4s									
ZALV				smax	smax					
	comp=N,4.0nm,0.9s									
ZALV	**Zalesovo Beam**	**20.75**	**25**	P		**P**	**23 23 20.7**	**+1.1**		
ZALV				S		**S**	**23 27 06.6**	**-0.7**		
NVS	**Novosibirsk**	**20.97**	**22**	⇑*i*P		**S**	**23 23 22.2**	**+0.2**		
NVS				*i* S		**S**	**23 27 10.8**	**-0.9**		
NVS				pmax	pmax					
	comp=N,70nm,1.0s									
NVS				pmax	pmax					
	comp=Z,99nm,1.0s									
NVS				pmax	pmax					
	comp=E,16nm,0.6s									
NVS				smax	smax					
	comp=N,19nm,1.9s									
NVS				smax	smax					
	comp=E,11nm,1.4s									
ZEI	**Tsey**	**21.13**	**297**	*e*P		**P**	**23 23 26.6**	**+2.5**		
ZEI				pmax	pmax					
	comp=Z,46nm,1.5s									
BHD	**Baghdad**	**21.14**	**270**	*e*P		**P**	**23 23 25.0**	**+1.1**		
BHD				*e*PPP		x	23 24 08.0			
BHD				*e*S		**S**	**23 27 11.0**	**-4.4**		
SHL	**Shillong**	**21.54**	**113**	*ex*		**P**	**23 23 30.0**	**+1.5**		
SVE	**Sverdlovsk**	**21.74**	**346**	*e*P		**P**	**23 23 30.4**	**+0.2**		
SVE				*e*S		**S**	**23 27 24.3**	**-2.6**		
SVE				pmax	pmax					
	comp=Z,61nm,1.4s									
ARU	**Arti**	**21.82**	**343**	*d* iP		**P**	**23 23 33.0**	**+2.0**		
ARU							23 23 58.2			
ARU				PPP		PPP	23 24 08.2			
ARU				S		**S**	**23 27 31.0**	**+2.6**		
ARU				SS		**SnSn**	**23 28 00.8**	**+2.7**		
ARU				pmax	pmax					
	comp=Z,71nm,1.2s									
ARU	**Arti**	**21.82**	**343**	*e*P		**P**	**23 23 31.4**	**+0.4**		
	comp=Z,48nm,1.0s									
ARU				*e*S		**S**	**23 27 24.6**	**-3.8**		
KIV	**Kislovodsk**	**22.22**	**299**	⇑P		**P**	**23 23 35.1**	**-0.5**		
	comp=Z,29nm,0.7s									
KIV	**Kislovodsk**	**22.22**	**299**	*d* iP		**P**	**23 23 36.0**	**+0.4**		
KIV				*i*			23 23 47.6			
KIV				*i* S		**S**	**23 27 40.4**	**+4.2**		
KIV				pmax	pmax					
	comp=Z,32nm,1.0s									
KIV	**Kislovodsk**	**22.22**	**299**	*e*P		**P**	**23 23 36.0**	**+0.4**		
	comp=Z,32nm,0.9s									
KIV				*e*			23 27 43.8			
GTA	**Gaotai**	**23.88**	**73**	*e*P		**P**	**23 23 53.1**	**+1.1**		
GTA				pP		**pP**	**23 24 07.1**	**-0.5**		
GTA				sP		**sP**	**23 24 14.5**	**-1.1**		
GTA				S		**S**	**23 28 03.4**	**-0.1**		
GTA				sS		**sS**	**23 28 27.1**	**-3.3**		
GTA				SS		SS	23 28 57.3			
GTA				pmax	pmax					
	comp=Z,18nm,0.7s									
GTA				pmax	pmax					
	comp=Z,220nm,7.1s									
GTA				LR	LR					
	comp=N,330nm,9.5s									
GTA				LR	LR					
	comp=E,290nm,10.2s									
GTA				LR	LR					
	comp=Z,250nm,9.0s									
SOKR	**Solikamsk**	**25.07**	**344**	⇑*i*P		**P**	**23 24 04.0**	**+1.6**		
SOKR				pmax	pmax					
	comp=Z,40nm,1.3s									
VRHR	**Novokhopersk**	**25.22**	**316**	*e*P		**P**	**23 24 02.9**	**-1.1**		
VRHR				*e**PP		**pP**	**23 24 17.3**	**-2.5**		
VRHR				*e*S		**S**	**23 28 31.1**	**+6.6**		
VRHR				pmax	pmax					
	comp=N,20nm,0.8s									
VRHR				pmax	pmax					
	comp=E,10.0nm,0.8s									
VRHR				pmax	pmax					
	comp=Z,10.0nm,0.8s									
VRHR				smax	smax					
	comp=N,50nm,0.9s									
VRHR				smax	smax					
	comp=E,40nm,0.9s									
VRHR				smax	smax					
	comp=Z,9.0nm,0.9s									
VSR	**Storozhevoye**	**26.68**	**314**	*e*P		**P**	**23 24 17.3**	**+0.1**		
VSR				*e**SP		**sP**	**23 24 39.2**	**-1.7**		
VSR				pmax	pmax					
	comp=N,1.0nm,0.4s									
VSR				pmax	pmax					
	comp=E,2.0nm,0.4s									
VSR				pmax	pmax					
	comp=Z,5.0nm,0.4s									
MOY	**Mondy**	**27.10**	**45**	*e*P		**P**	**23 24 25.1**	**+4.1**		
LZH	**Lanzhou**	**27.39**	**80**	*e*P		P	23 24 29.3	+5.4		
LZH				pP		pP	23 24 44.5	+4.7		
LZH				sP		sP	23 24 55.0	+7.4		
LZH				pmax	pmax					
	comp=Z,13nm,1.0s									
ASF	**Jabal al Asfar**	**27.50**	**272**	LR		LR	23 35 14.8			
	comp=Z,102nm,20.5s,baz=176,slow=36									
CD2	**Chengdu**	**28.63**	**90**	P		P	23 24 39.8	+4.9		
CD2				pP		pP	23 24 56.0	+5.2		
CD2				sP		sP	23 25 04.4	+5.8		
CD2				PP		**PP**	**23 25 34.8**	**-5.6**		
CD2				S		**S**	**23 29 22.5**	**+3.7**		
CD2				sS		sS	23 29 50.8	+4.6		
CD2				SS		SS	23 30 53.8	-28		
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,7.1s									
CD2				LR	LR					
	comp=N,430nm,7.7s									
CD2				LR	LR					
	comp=Z,300nm,8.3s									
BR131	**Keskin Array S**	**28.72**	**288**	*e*P		**P**	**23 24 36.4**	**+0.7**		
	comp=Z,4.2nm,0.6s									
BRTR	**Keskin Array B**	**28.72**	**288**	P		**P**	**23 24 35.4**	**-0.3**		
	comp=Z,4.6nm,0.7s,baz=96,slow=8.2,SNR=17									
BRTR	**Keskin Array B**	**28.72**	**288**	P		**P**	**23 24 35.4**	**-0.3**		
BRTR				pmax	pmax					
	comp=Z,5.0nm,0.7s									
BRTR	**Keskin Array B**	**28.72**	**288**	P		**P**	**23 24 35.4**	**-0.3**		
SONM	**Songino Array**	**29.36**	**55**	P		**P**	**23 24 42.0**	**+0.8**		
	comp=Z,0.9nm,0.4s,baz=266,slow=8.6,SNR=15									
SONM	**Songino Array**	**29.36**	**55**	P		**P**	**23 24 42.0**	**+0.8**		
SONM				pmax	pmax					
	comp=Z,1.0nm,0.4s									
SONM	**Songino Array**	**29.36**	**55**	P		**P**	**23 24 42.0**	**+0.8**		
OBN	**Obninsk**	**29.73**	**320**	*d* iP		**P**	**23 24 44.6**	**+0.4**		
OBN				*e*			23 25 47.3			
OBN				pmax	pmax					
	comp=Z,38nm,1.2s									
OBN	**Obninsk**	**29.73**	**320**	*e*P		**P**	**23 24 44.3**	**+0.1**		
	comp=Z,21nm,0.8s									
ULN	**Ulaanbaatar**	**29.80**	**55**	*e*P		**P**	**23 24 46.1**	**+0.9**		
ULN				pmax	pmax					
	comp=Z,2.0nm,0.7s									
ULN	**Ulaanbaatar**	**29.80**	**55**	*e*P		**P**	**23 24 46.1**	**+0.9**		
	comp=Z,1.9nm,0.7s									
KMI	**Kunming**	**30.18**	**102**	P		P	23 24 56.9	+8.1		
KMI				pP		pP	23 25 09.0	+4.2		
KMI				pmax	pmax					
	comp=Z,3.0nm,1.6s									
KMI				LR	LR					
	comp=N,120nm,21.8s									
KMI				LR	LR					
	comp=E,170nm,19.8s									
KMI				LR	LR					
	comp=Z,180nm,20.3s									
CMAR	**Chiang Mai Arr**	**31.03**	**117**	P		**P**	**23 24 55.5**	**-0.6**		
	comp=Z,1.2nm,0.3s,baz=289,slow=8.9,SNR=4.2									
CMAR				LR		LR	23 39 55.7			
	comp=Z,71nm,19.1s,baz=87,slow=42									
CMAR	**Chiang Mai Arr**	**31.03**	**117**	P		**P**	**23 24 55.6**	**-0.6**		
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.3s			

CRVS				pmax	pmax		
	comp=Z,52nm,2.8s						
CRVS	**Cervenica-Dubn**	**37.35**	**306**	*eP*	P	23 25 55.0	+4.5
FINES	**FINESS Array B**	**37.39**	**327**	P	**P**	**23 25 50.8**	**+0.2**
	comp=Z,7.2nm,0.7s,baz=108,slow=8.6,SNR=23						
FINES				LR	LR	23 44 23.5	
	comp=Z,210nm,19.1s,baz=111,slow=41						
FINES	**FINESS Array B**	**37.39**	**327**	P	**P**	**23 25 50.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,210nm,19.1s						
FINES	**FINESS Array B**	**37.39**	**327**	P	**P**	**23 25 50.8**	**+0.2**
KAF	**Kangasniemi**	**37.55**	**328**	*eP*	**P**	**23 25 51.3**	**-0.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KAF	**Kangasniemi**	**37.55**	**328**	*ep*	**P**	**23 25 51.3**	**-0.7**
	comp=Z,4.5nm,0.8s						
KAF	**Kangasniemi**	**37.55**	**328**	*ep*	**P**	**23 25 51.3**	**-0.7**
	comp=Z,4.5nm,0.8s						
APA	**Apatity**	**37.75**	**338**	⇑*iP*	P	23 25 44.0	-10
APA				MLR	MLR		
	comp=Z,2µm,27.0s						
NIE	**Niedzica**	**38.12**	**306**	*eP*	**P**	**23 25 58.6**	**+1.6**
NIE	**Niedzica**	**38.12**	**306**	*eP*	**P**	**23 25 58.6**	**+1.6**
OJC	**Ojcow**	**38.48**	**308**	*eP*	**P**	**23 25 59.6**	**-0.4**
OJC	**Ojcow**	**38.48**	**308**	*eP*	**P**	**23 25 59.6**	**-0.4**
VYHS	**Vyhne**	**39.09**	**305**	*eP*	**P**	**23 26 06.5**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,219nm,4.1s						
VYHS	**Vyhne**	**39.09**	**305**	*eP*	**P**	**23 26 06.5**	**+1.4**
PKSM	**Moragy**	**39.31**	**301**	⇑*iP*	**P**	**23 26 09.4**	**+2.5**
PKSM	**Moragy**	**39.31**	**301**	⇑*iP*	**P**	**23 26 09.4**	**+2.5**
MORC	**Moravsky Berou**	**39.93**	**307**	⇑*iP*	**P**	**23 26 11.1**	**-1.0**
MORC	**Moravsky Berou**	**39.93**	**307**	⇑*iP*	**P**	**23 26 11.1**	**-1.0**
DPC	**Dobruska-Polom**	**40.71**	**308**	*eP*	**P**	**23 26 20.1**	**+1.5**
DPC	**Dobruska-Polom**	**40.71**	**308**	*eP*	**P**	**23 26 20.1**	**+1.5**
KEV	**Kevo**	**40.93**	**339**	*eP*	**P**	**23 26 20.1**	**+0.1**
KEV				pmax	pmax		
	comp=Z,11nm,0.4s						
KEV	**Kevo**	**40.93**	**339**	*eP*	**P**	**23 26 20.1**	**+0.1**
	comp=Z,11nm,0.4s						
KEV	**Kevo**	**40.93**	**339**	*ep*	**P**	**23 26 19.1**	**-0.9**
	comp=Z,9.1nm,0.4s						
KEV	**Kevo**	**40.93**	**339**	*ep*	**P**	**23 26 19.1**	**-0.9**
	comp=Z,9.1nm,0.4s						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**23 26 22.9**	**+0.2**
	comp=Z,8.3nm,0.4s,baz=100,slow=7.7,SNR=101						
ARCES				LR	LR	23 46 36.4	
	comp=Z,129nm,20.5s,baz=117,slow=40						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**23 26 22.9**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ARCES				MLR	MLR		
	comp=Z,129nm,20.5s						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**23 26 22.9**	**+0.2**
ARE0	**ARCESS Array S**	**41.26**	**338**	*eP*	**P**	**23 26 23.0**	**+0.3**
TREC	**Trest**	**41.28**	**306**	*eP*	**P**	**23 26 24.1**	**+0.9**
TREC	**Trest**	**41.28**	**306**	*eP*	**P**	**23 26 24.1**	**+0.9**
PDKS	**Podkum**	**41.85**	**301**	*eP*	**P**	**23 26 28.8**	**+0.8**
PRU	**Pruhonice**	**41.86**	**307**	*eP*	**P**	**23 26 30.7**	**+2.8**
PRU	**Pruhonice**	**41.86**	**307**	*eP*	**P**	**23 26 30.7**	**+2.8**
CUC	**Castrocucco**	**42.24**	**292**	*eP*	**P**	**23 26 31.9**	**+0.6**
	comp=Z,12nm,0.9s						
GERES	**GERESS Array B**	**42.47**	**306**	P	**P**	**23 26 33.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=82,slow=9.7,SNR=6.4						
GERES				PP	**PP**	**23 28 15.9**	**+3.5**
	comp=Z,0.5nm,0.7s,baz=72,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**42.47**	**306**	P	**P**	**23 26 33.5**	**+0.4**
GERES						23 28 16.0	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**42.47**	**306**	P	**P**	**23 26 33.5**	**+0.4**
GERES				PP	**PP**	**23 28 15.9**	**+3.5**
CADS	**Cadrg**	**42.70**	**302**	*eP*	**P**	**23 26 35.2**	**+0.3**
CLL	**Collm**	**42.80**	**309**	*eP*	**P**	**23 26 33.0**	**-2.5**
CLL	**Collm**	**42.80**	**309**	*eP*	**P**	**23 26 35.0**	**-0.5**
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**23 26 35.5**	**-0.7**
	comp=Z,12nm,0.6s,baz=98,slow=11,SNR=45						
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**23 26 35.5**	**-0.7**
HFS				pmax	pmax		
	comp=Z,12nm,0.6s						
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**23 26 35.5**	**-0.7**
GRF	**Grafenberg Arr**	**44.03**	**307**	*eP*	P	23 26 48.9	+3.4
	comp=Z,11nm,1.2s						
GRF				*ep*P	pP	23 27 19.6	+17
	comp=Z,24nm,1.5s						
GRF	**Grafenberg Arr**	**44.03**	**307**	*eP*	P	23 26 48.9	+3.4
GRF				*e**PP	pP	23 27 19.6	+17
GRF				pmax	pmax		
	comp=Z,11nm,1.2s						
GRF				pmax	pmax		
	comp=Z,24nm,1.5s						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**23 26 45.7**	**-1.2**
	comp=Z,4.6nm,0.5s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**23 26 45.8**	**-1.1**
	comp=Z,5.3nm,0.5s,baz=99,slow=8.0,SNR=15						
NOA				LR	LR	23 49 49.8	
	comp=Z,2.3nm,18.4s,baz=260,slow=42						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**23 26 45.8**	**-1.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,2.0nm,18.5s						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**23 26 45.8**	**-1.1**
YAK	**Yakutsk**	**44.89**	**35**	*eP*	P	23 27 01.3	+9.2
YAK				*e*		23 33 22.7	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
DAVOX	**Davos/Dischmat**	**45.27**	**303**	P	**P**	**23 26 54.3**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=90,slow=5.4,SNR=5.8						
DAVOX	**Davos/Dischmat**	**45.27**	**303**	P	**P**	**23 26 54.3**	**-1.3**
DAVOX	**Davos/Dischmat**	**45.27**	**303**	P	**P**	**23 26 54.3**	**-1.3**
KSAR	**Wonju Array Be**	**45.88**	**70**	P	**P**	**23 27 00.7**	**+0.4**
KSAR	**Wonju Array Be**	**45.88**	**70**	P	**P**	**23 27 00.7**	**+0.4**
KSRS	**Korea Array**	**45.90**	**70**	P	**P**	**23 27 00.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=293,slow=5.9,SNR=5.1						
KSRS				LR	LR	23 47 39.9	
	comp=Z,58nm,18.6s,baz=126,slow=38						
KSRS	**Korea Array**	**45.90**	**70**	P	**P**	**23 27 00.7**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,58nm,18.6s						
PGF	**Pioggiola**	**46.69**	**297**	*eP*	**P**	**23 27 04.7**	**-2.0**
	comp=Z,16nm,0.9s						
CDF	**Champ du Feu**	**46.76**	**306**	*eP*	**P**	**23 27 05.9**	**-1.3**
	comp=Z,13nm,1.0s						
HINF	**Hinteralfeld**	**47.13**	**305**	*eP*	**P**	**23 27 09.1**	**-0.9**
	comp=Z,28nm,1.3s						
USRK	**Ussuriysk Arra**	**47.21**	**60**	P	**P**	**23 27 11.2**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=288,slow=8.1,SNR=4.1						
HAU	**Haudompre**	**47.44**	**305**	*eP*	**P**	**23 27 11.5**	**-0.9**
	comp=Z,128nm,1.8s						
LPG	**La Plagne**	**47.63**	**302**	*eP*	**P**	**23 27 14.0**	**-0.2**
LPL	**La Plagne**	**47.64**	**302**	*eP*	**P**	**23 27 13.4**	**-0.8**
MBDF	**Montbardon**	**47.78**	**301**	*eP*	**P**	**23 27 14.0**	**-1.2**
CABF	**La Chapelle**	**47.86**	**303**	*eP*	**P**	**23 27 14.0**	**-1.8**
	comp=Z,56nm,1.2s						
KEST	**Kesra**	**48.33**	**289**	P	**P**	**23 27 18.9**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=254,slow=2.6,SNR=14						
KEST	**Kesra**	**48.33**	**289**	P	**P**	**23 27 18.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**48.36**	**301**	*eP*	**P**	**23 27 18.4**	**-1.2**
	comp=Z,22nm,1.2s						
HABR	**Khabarovsk**	**48.44**	**54**	*eP*	**pP**	**23 27 36.3**	**-0.6**
HABR				*eS*	**S**	**23 34 15.1**	**-0.7**
HABR				*e**SS	sS	23 34 46.0	+1.6
HABR				*e*		23 37 04.2	
HABR				SS	**SS**	**23 37 46.9**	**+1.0**
HABR				*e*SSS	SSS	23 39 05.1	
HABR				pmax	pmax		
	comp=N,19nm,2.3s						
HABR				pmax	pmax		
	comp=E,6.0nm,0.7s						
HABR				pmax	pmax		
	comp=Z,18nm,1.7s						
HABR				MLR	MLR		
	comp=Z,84nm,17.0s						
BAIF	**Baives**	**48.48**	**308**	*eP*	**P**	**23 27 19.5**	**-0.9**
	comp=Z,135nm,1.7s						
VIVF	**Saint-Julien-l**	**49.21**	**301**	*eP*	**P**	**23 27 24.4**	**-1.7**
	comp=Z,25nm,1.1s						
SSF	**Saint Saulge**	**49.51**	**305**	*eP*	**P**	**23 27 27.4**	**-0.9**
AVF	**Avril sur Loir**	**49.67**	**304**	*eP*	**P**	**23 27 28.6**	**-0.9**
	comp=Z,41nm,1.1s						
LASF	**Ste Croix**	**49.97**	**301**	*eP*	**P**	**23 27 30.0**	**-1.8**
	comp=Z,40nm,1.2s						
TCF	**Toulx Ste Croi**	**50.55**	**304**	*eP*	**P**	**23 27 35.8**	**-0.4**
	comp=Z,24nm,1.0s						
ETSF	**Etsaut**	**53.38**	**300**	*eP*	**P**	**23 27 56.6**	**-0.7**
MJAR	**Matsushiro Arr**	**53.98**	**68**	P	**P**	**23 28 00.3**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=292,slow=11,SNR=5.0						
MJAR	**Matsushiro Arr**	**53.98**	**68**	P	**P**	**23 28 00.3**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**53.98**	**68**	P	**P**	**23 28 00.3**	**-1.5**
ASAJ	**Asahikawa**	**54.59**	**58**	LR	LR	23 50 59.0	
	comp=Z,51nm,19.1s,baz=223,slow=36						
DAG	**Danmarks Havn**	**54.95**	**344**	*i* P	**P**	**23 28 08.0**	**-0.1**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DAG	**Danmarks Havn**	**54.95**	**344**	*i* P	**P**	**23 28 08.0**	**-0.1**
	comp=Z,56nm,0.8s						
SEY	**Seymchan**	**55.33**	**33**	⇑*iP*	**P**	**23 28 10.5**	**-0.6**
ESDC	**Sonseca Array**	**56.88**	**298**	P	**P**	**23 28 22.2**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=59,slow=7.9,SNR=14						
ESDC	**Sonseca Array**	**56.88**	**298**	P	**P**	**23 28 22.2**	**-0.4**
BILL	**Bilibino**	**59.45**	**26**	*eP*	**P**	**23 28 39.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,19nm,1.6s						
SUMG	**Summit**	**61.23**	**341**	*i* P	**P**	**23 28 53.0**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	**Summit**	**61.23**	**341**	*i* P	**P**	**23 28 53.0**	**+0.5**
	comp=Z,5.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**64.79**	**268**	P	P	23 29 13.3	-3.3
	comp=Z,3.4nm,0.9s,baz=49,slow=6.2,SNR=42						
TORD	**Torodi Ar. Bea**	**64.79**	**268**	P	P	23 29 13.3	-3.3
FX1	**Attu Island--F**	**69.35**	**39**	P	**P**	**23 29 44.0**	**-0.9**
	comp=Z,16nm,0.8s,baz=346,slow=4.2,SNR=3.4						
FX1	**Attu Island--F**	**69.35**	**39**	P	**P**	**23 29 44.0**	**-0.9**
FX1				pmax	pmax		
	comp=Z,16nm,0.8s						
FX1	**Attu Island--F**	**69.35**	**39**	P	**P**	**23 29 44.0**	**-0.9**
DBIC	**Dimbokro**	**73.76**	**266**	P	**P**	**23 30 09.6**	**-2.4**
	comp=Z,1.9nm,0.8s,baz=79,slow=7.6,SNR=4.7						
DBIC	**Dimbokro**	**73.76**	**266**	P	**P**	**23 30 09.6**	**-2.4**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DBIC	**Dimbokro**	**73.76**	**266**	P	**P**	**23 30 09.6**	**-2.4**
INK	**Inuvik**	**74.53**	**9**	*eP*	**P**	**23 30 14.7**	**-0.9**
INK				pmax	pmax		
	comp=Z,17nm,1.0s						
INK	**Inuvik**	**74.53**	**9**	*eP*	**P**	**23 30 14.7**	**-0.9**
	comp=Z,17nm,1.0s						
COLA	**College**	**75.20**	**16**	*eP*	**P**	**23 30 19.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**75.20**	**16**	*eP*	**P**	**23 30 19.5**	**0.0**
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**75.50**	**15**	P	**P**	**23 30 20.2**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=306,slow=4.8,SNR=16						
ILAR				PP	**PP**	**23 33 08.9**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=331,slow=7.2,SNR=3.0						
ILAR	**Eielson Array**	**75.50**	**15**	P	**P**	**23 30 20.3**	**-1.0**
ILAR						23 33 08.9	
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**75.50**	**15**	P	**P**	**23 30 20.2**	**-1.0**
ILAR				PP	**PP**	**23 33 08.9**	**-1.5**
DAWY	**Dawson**	**77.61**	**13**	*eP*	**P**	**23 30 33.2**	**0.0**
KDAK	**Kodiak Island**	**79.99**	**22**	P	**P**	**23 30 46.2**	**0.0**
	comp=Z,6.5nm,0.8s,baz=153,slow=2.3,SNR=3.9						
KDAK	**Kodiak Island**	**79.99**	**22**	P	**P**	**23 30 46.3**	**0.0**
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KDAK	**Kodiak Island**	**79.99**	**22**	P	**P**	**23 30 46.2**	**0.0**
YKA	**Yellowknife Ar**	**81.78**	**2**	P	**P**	**23 30 54.2**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=350,slow=5.4,SNR=35						
YKA	**Yellowknife Ar**	**81.78**	**2**	P	**P**	**23 30 54.2**	**-1.5**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**81.78**	**2**	P	**P**	**23 30 54.2**	**-1.5**
SCHQ	**Schefferville**	**82.19**	**336**	P	**P**	**23 30 57.0**	**-1.1**
	comp=Z,5.4nm,1.0s,baz=121,slow=6.8,SNR=5.3						
SCHQ	**Schefferville**	**82.19**	**336**	P	**P**	**23 30 57.0**	**-1.1**
WRA	**Warramunga Arr**	**82.51**	**121**	P	P	23 30 57.6	-2.6
	comp=Z,1.4nm,0.4s,baz=325,slow=4.9,SNR=72						
WRA	**Warramunga Arr**	**82.51**	**121**	P	P	23 30 57.6	-2.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**82.51**	**121**	P	P	23 30 57.6	-2.6
ASAR	**Alice Springs**	**84.72**	**124**	P	P	23 31 08.8	-2.6
	comp=Z,0.9nm,0.5s,baz=315,slow=4.7,SNR=22						
ASAR	**Alice Springs**	**84.72**	**124**	P	P	23 31 08.9	-2.6
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**84.72**	**124**	P	P	23 31 08.8	-2.6
FFC	**Flin Flon**	**89.36**	**355**	*i* P	**P**	**23 31 34.0**	**+0.5**

ISCJB ***17*** *23:22:00.2±0.7, 33.67N±0.03×36.29E±0.05, h5km±6km, Error ellipse: s-maj=6.8km s-min=4.2km az=156.4*
CSEM ***17*** *23:22:00.2, 33.65N×36.32E, h1km, ML2.0*
NSSC ***17*** *23:22:00.2±0.9, 33.64N×36.32E, h8km±2km, MD1.2, ML1.6*
GRAL ***17*** *23:22:01.0±0.3, 33.68N×36.29E, h3km±28km, MD2.8*

ISC 17 23:22:00.3±1.2, 33.69N±0.04×36.31E±0.04, h0km±22km, n18, σ0s45/31, 3C-2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QASN	**Qassioun**	**0.15**	**189**	*eP*	**Pg**	**23 22 03.0**	**-0.2**
QASN				*eS*	**Sg**	**23 22 05.5**	**+0.4**
QASN				AML	AML	23 22 06.4	
	comp=E,2µm,0.1s						
QASN				AML	AML	23 22 06.6	
	comp=N,1µm,0.2s						
QASN	**Qassioun**	**0.15**	**189**	⇑*eP*	**Pg**	**23 22 03.0**	**-0.2**
	SNR=98						
QASN				*eS*	**Sg**	**23 22 05.5**	**+0.4**
	comp=N,1µm,0.2s,SNR=98						
TOTH	**TOTAH**	**0.34**	**162**	*eP*	**Pg**	**23 22 06.7**	**0.0**
TOTH				*eS*	**Sg**	**23 22 11.7**	**+0.6**
TOTH				AML	AML	23 22 12.3	
	comp=E,240nm,0.1s						
TOTH				AML	AML	23 22 12.3	
	comp=N,60nm,0.1s						
TOTH	**TOTAH**	**0.34**	**162**	⇑*eP*	**Pg**	**23 22 06.7**	**0.0**
	SNR=93						
TOTH				*eS*	**Sg**	**23 22 11.7**	**+0.6**
	comp=N,60nm,0.1s,SNR=59						
BRBR	**Barbar**	**0.40**	**228**	*eP*	**Pg**	**23 22 07.8**	**-0.2**
BRBR				*eS*	**Sg**	**23 22 14.0**	**+0.8**
BRBR				AML	AML	23 22 17.8	
	comp=E,63nm,0.3s						
BRBR				AML	AML	23 22 18.3	
	comp=N,63nm,0.3s						
RCY	**Rachaya**	**0.43**	**245**	*eP*	**Pg**	**23 22 08.5**	**-0.1**
RCY				*eS*	**Sg**	**23 22 14.1**	**-0.1**
BHL	**Bhannes**	**0.59**	**292**	*eP*	**Pg**	**23 22 11.3**	**-0.2**
BHL				*eS*	**Sg**	**23 22 18.9**	**-0.2**
BHL	**Bhannes**	**0.59**	**292**	*eP*	**Pg**	**23 22 11.3**	**-0.2**
BHL				*eS*	**Sg**	**23 22 18.9**	**-0.2**
HWQ	**Hawqa**	**0.66**	**333**	*eP*	**Pg**	**23 22 12.9**	**-0.1**
HWQ	**Hawqa**	**0.66**	**333**	*eP*	**Pg**	**23 22 12.9**	**-0.1**
HAWK	**Haweek**	**0.84**	**6**	*eP*	**Pb**	**23 22 17.8**	**0.0**
HAWK				*eS*	**Sb**	**23 22 29.9**	**+0.2**
	SNR=59						
SALA	**Sala**	**1.03**	**160**	*eP*	**Pg**	**23 22 19.2**	**-0.9**
SALA				*eS*	**Sg**	**23 22 33.8**	**+0.3**
SALA				AML	AML	23 22 37.5	
	comp=N,17nm,0.4s						
SALA				AML	AML	23 22 42.0	
	comp=E,1.1nm,0.4s						
SALA	**Sala**	**1.03**	**160**	⇓*eP*	**Pg**	**23 22 20.0**	**-0.1**
	SNR=67						
TCHB	**Talchebab**	**1.05**	**196**	*eP*	**Pg**	**23 22 19.2**	**-1.2**
TCHB				*eS*	**Sg**	**23 22 33.8**	**-0.3**
TCHB				AML	AML	23 22 35.7	
	comp=E,16nm,0.2s						
TCHB				AML	AML	23 22 37.1	
	comp=N,30nm,0.5s						
TCHB	**Talchebab**	**1.05**	**196**	⇓*eP*	**Pg**	**23 22 20.0**	**-0.4**
	SNR=67						
ZALF	**Zalf**	**1.15**	**131**	*eP*	**Pg**	**23 22 21.6**	**-0.7**
ZALF				*eS*	**Sg**	**23 22 37.1**	**-0.1**
ZALF				AML	AML	23 22 40.4	
	comp=E,19nm,0.5s						
ZALF				AML	AML	23 22 41.6	
	comp=N,9.2nm,0.3s						
ZALF	**Zalf**	**1.15**	**131**	⇑*eP*	**Pg**	**23 22 21.6**	**-0.7**
	SNR=57						

NNC 17 23:37:58.8±6.9, 43.98N×87.76E, h0km, mb3.7, mpv3.4, 5C-4D, Error ellipse: s-maj=69.5km s-min=56.4km az=68.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.77**	**308**	⇑Pn	Pn	23 39 13.8	+1.9
	2.6nm,0.5s,baz=131,slow=14,SNR=184						
MK31				⇑Sn	Sn	23 40 09.0	+1.1
	4.0nm,0.3s,baz=134,slow=26,SNR=7.0						
MK31				⇓Lg	Lg	23 40 30.2	
	11nm,0.5s,baz=130,slow=27,SNR=5.7						
TKM2	**Tokmak 2**	**8.91**	**267**	⇓Pn	Pn	23 40 08.3	-0.7
	1.4nm,0.7s						
TKM2				⇑Lg	Lg	23 42 44.6	
	6.4nm,0.8s						
KURK	**Kurchatov**	**9.15**	**321**	⇑Pn	Pn	23 40 08.2	-3.8
	0.5nm,0.3s						
KURK				⇓Lg	Lg	23 42 45.4	
	19nm,1.1s						
VOSK	**Vostochnaya**	**14.15**	**314**	⇓P	P	23 41 24.9	-3.2
	1.8nm,1.1s						
ZRNK	**Zerenda**	**15.30**	**312**	⇑P	Pn	23 41 32.8	-3.0
	0.9nm,0.7s						

ISK ***17*** *23:38:43.8, 40.77N×41.15E, h2km, ML2.3*
ISCJB ***17*** *23:38:44.7±0.5, 40.77N±0.02×41.15E±0.03, h1km±7km, Error ellipse: s-maj=4.4km s-min=4.0km az=23.0*
DDA ***17*** *23:38:44.8, 40.81N×41.13E, h5km, MD3.0*
CSEM ***17*** *23:38:44.9±0.2, 40.75N×41.15E, h2km, ML2.3, Error ellipse: s-maj=4.1km s-min=3.1km az=143.0*

ISC 17 23:38:45.1±1.0, 40.77N±0.03×41.15E±0.02, h8km±10km, n38, σ0s52/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZAR	**Pazar-Rize**	**0.45**	**335**	*e*PG	**Pg**	**23 38 53.5**	**-0.4**
PZAR				*e*SG	**Sg**	**23 39 00.8**	**+1.0**
PZAR	**Pazar-Rize**	**0.45**	**335**	*e*Pg	**Pg**	**23 38 53.5**	**-0.4**
PZAR				*e*Sg	**Sg**	**23 39 00.8**	**+1.0**
DDEM	**Demirkent**	**0.47**	**75**	*i* P	**Pg**	**23 38 54.3**	**0.0**
DDEM				*i* S	**Sg**	**23 39 01.0**	**+0.5**
DDEM	**Demirkent**	**0.47**	**75**	*i* P	**Pg**	**23 38 54.3**	**0.0**
DDEM				*i* S	**Sg**	**23 39 01.0**	**+0.5**
DBAD	**Bademkaya**	**0.48**	**59**	*i* P	**Pg**	**23 38 54.6**	**+0.1**
DBAD				*i* S	**Sg**	**23 39 00.8**	**-0.1**
DBAD	**Bademkaya**	**0.48**	**59**	*i* P	**Pg**	**23 38 54.6**	**+0.1**
DBAD				*i* S	**Sg**	**23 39 00.8**	**-0.1**
DAGI	**Agillar**	**0.66**	**62**	*i* P	**Pg**	**23 38 57.6**	**-0.2**
DAGI				*i* S	**Sg**	**23 39 05.9**	**-0.5**
ARTV	**Artvin**	**0.72**	**54**	*i* P	**Pg**	**23 38 59.0**	**0.0**
ARTV				*i* S	**Sg**	**23 39 08.4**	**-0.1**
ARTV	**Artvin**	**0.72**	**54**	*i* P	**Pg**	**23 38 59.0**	**0.0**
ARTV				*i* S	**Sg**	**23 39 08.4**	**-0.1**
BCA	**Borcka**	**0.77**	**28**	*e*PG	**Pg**	**23 38 59.6**	**-0.2**
BCA				*e*SG	**Sb**	**23 39 10.7**	**-0.5**
BCA	**Borcka**	**0.77**	**28**	*e*Pg	**Pg**	**23 38 59.6**	**-0.2**
BCA				*e*Sg	**Sb**	**23 39 10.7**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.85**	**244**	*e*PG	**Pg**	**23 39 01.0**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.85**	**244**	*e*Pg	**Pg**	**23 39 01.0**	**-0.5**
EZM	**Erzurum**	**0.88**	**169**	*e*PG	**Pg**	**23 39 01.7**	**-0.3**
ERZM	**Erzurum**	**0.88**	**169**	*i* P	**Pg**	**23 39 02.0**	**+0.1**
ERZM				*i* S	**Sb**	**23 39 14.0**	**-0.6**
ERZM	**Erzurum**	**0.88**	**169**	*i* P	**Pg**	**23 39 02.0**	**+0.1**
ERZM				*i* S	**Sb**	**23 39 14.0**	**-0.6**
KOPT	**Kop Dagi**	**0.90**	**214**	*i* P	**Pb**	**23 39 03.1**	**+0.1**
KOPT	**Kop Dagi**	**0.90**	**214**	*i* P	**Pb**	**23 39 03.1**	**+0.1**
HOMI	**Horasan**	**0.92**	**141**	*i* P	**Pb**	**23 39 03.5**	**+0.1**
HOMI				*i* S	**Sn**	**23 39 17.8**	**-0.3**
MACK	**Trabzon**	**1.06**	**280**	*i* P	**Pg**	**23 39 05.4**	**-0.1**
MACK				*i* S	**Sb**	**23 39 19.8**	**+0.1**
MACK	**Trabzon**	**1.06**	**280**	*i* P	**Pg**	**23 39 05.4**	**-0.1**
MACK				*i* S	**Sb**	**23 39 19.8**	**+0.1**
KTUT	**Trabzon**	**1.07**	**282**	*e*PG	**Pg**	**23 39 05.3**	**-0.3**
KTUT	**Trabzon**	**1.07**	**282**	*e*Pg	**Pg**	**23 39 05.3**	**-0.3**
GUMT	**Gumushane**	**1.31**	**257**	*e*PN	**Pn**	**23 39 09.5**	**-0.2**
GUMT	**Gumushane**	**1.31**	**257**	*e*Pn	**Pn**	**23 39 09.5**	**-0.2**
KELT	**Kelkit**

TNS	**Taunus Mts**	**1.42**	**161**	*e*Pn	**Pb**	**23 39 17.8**	**0.0**
TNS				*e*Sg	**Sn**	**23 39 38.7**	**+1.7**
TNS	**Taunus Mts**	**1.42**	**161**	Pn	**Pb**	**23 39 17.8**	**0.0**
TNS				Sg	**Sn**	**23 39 38.7**	**+1.7**
HILG	**Hillesheim**	**1.45**	**208**	*e*Pg	**Pg**	**23 39 18.4**	**+0.3**
HILG	**Hillesheim**	**1.45**	**208**	Pg	**Pg**	**23 39 18.4**	**+0.3**
MEM	**Membach**	**1.46**	**229**	P	**Pn**	**23 39 18.6**	**+0.6**
CLZ	**Clausthal**	**1.66**	**80**	*e*Pn	**Pn**	**23 39 19.8**	**-1.0**
CLZ				*e*Sg	**Sg**	**23 39 44.0**	**+0.3**
CLZ	**Clausthal**	**1.66**	**80**	Pn	**Pn**	**23 39 19.8**	**-1.0**
CLZ				Sg	**Sg**	**23 39 44.0**	**+0.3**
GIVF	**Givet**	**2.36**	**233**	*e*Pn	**Pn**	**23 39 30.1**	**-0.3**
GIVF	**Givet**	**2.36**	**233**	*e*Pg	**Pg**	**23 39 35.6**	**-0.1**
GIVF				*e*Sn	**Sn**	**23 39 57.4**	**-2.7**
GIVF				*e*Sg	**Sg**	**23 40 06.5**	**+0.2**
	4.2nm,0.3s						
BAIF	**Baives**	**2.70**	**237**	*e*Pg	**Pg**	**23 39 41.6**	**-0.6**
BAIF				*e*Sn	**Sn**	**23 40 05.7**	**-2.8**
BAIF				*e*Sg	**Sg**	**23 40 16.8**	**-0.4**
	7.7nm,0.4s						
BAIF	**Baives**	**2.70**	**237**	*e*Pg	**Pg**	**23 39 41.6**	**-0.6**
BAIF				*e*Sn	**Sn**	**23 40 05.7**	**-2.8**
BAIF				*e*Sg	**Sg**	**23 40 16.8**	**-0.4**
	3.8nm,0.4s						
CDF	**Champ du Feu**	**3.18**	**186**	*e*Pn	**Pn**	**23 39 41.2**	**-0.5**
CDF				*e*Sn	**Sn**	**23 40 17.9**	**-2.4**
CDF				*e*Sg	**Sg**	**23 40 32.4**	**0.0**
	1.6nm,0.3s						
CDF	**Champ du Feu**	**3.18**	**186**	*e*Pn	**Pn**	**23 39 41.2**	**-0.5**
CDF				*e*Sn	**Sn**	**23 40 17.9**	**-2.4**
CDF				*e*Sg	**Sg**	**23 40 32.4**	**0.0**
	0.8nm,0.3s						
CLL	**Collm**	**3.30**	**93**	*e*Pg	**Pg**	**23 39 53.0**	**-0.7**
CLL				*e*Sg	**Sg**	**23 40 40.0**	**+3.6**
MEZF	**Maizieres J'vi**	**3.53**	**210**	*e*Pn	**Pn**	**23 39 45.7**	**-0.7**
MEZF	**Maizieres J'vi**	**3.53**	**210**	*e*Pn	**Pn**	**23 39 45.7**	**-0.7**
HAU	**Haudompre**	**3.68**	**195**	*e*Pn	**Pn**	**23 39 47.9**	**-0.7**
HAU	**Haudompre**	**3.68**	**195**	*e*Pn	**Pn**	**23 39 47.9**	**-0.7**
HINF	**Hinteralfeld**	**3.80**	**189**	*e*Pn	**Pn**	**23 39 50.4**	**+0.2**
HINF	**Hinteralfeld**	**3.80**	**189**	*e*Pn	**Pn**	**23 39 50.4**	**+0.2**
LOR	**Lormes**	**5.00**	**212**	*e*Pn	**Pn**	**23 40 05.6**	**-1.0**
LOR	**Lormes**	**5.00**	**212**	*e*Pn	**Pn**	**23 40 05.6**	**-1.0**
CABF	**La Chapelle**	**5.08**	**193**	*e*Pn	**Pn**	**23 40 07.3**	**-0.6**
CABF	**La Chapelle**	**5.08**	**193**	*e*Pn	**Pn**	**23 40 07.3**	**-0.6**
SSF	**Saint Saulge**	**5.29**	**213**	*e*Pn	**Pn**	**23 40 09.6**	**-1.1**
SSF	**Saint Saulge**	**5.29**	**213**	*e*Pn	**Pn**	**23 40 09.6**	**-1.1**
SMF	**Signal de Mont**	**5.55**	**209**	*e*Pn	**Pn**	**23 40 13.8**	**-0.5**
SMF	**Signal de Mont**	**5.55**	**209**	*e*Pn	**Pn**	**23 40 13.8**	**-0.5**
LDF	**La Druitiere**	**5.87**	**243**	*e*Pn	**Pn**	**23 40 17.3**	**-1.3**
LDF	**La Druitiere**	**5.87**	**243**	*e*Pn	**Pn**	**23 40 17.3**	**-1.3**

*IDC **17** 23:39:13.5±2.1, 63.°30N×150.°95W, h104km±17km, mb3.2/6, mb1 3.5/10, mb1mx3.3/27, mbtmp3.3/10, MS4.1/1, Ms1 4.1/1, ms1mx2.6/27, Error ellipse: s-maj=22.3km s-min=16.0km az=93.0*

*ISCJB **17** 23:39:14.1±0.3, 63.°17N±0.°02×150.°58W±0.°07, h127km±3km, mb3.5/6, Error ellipse: s-maj=5.2km s-min=3.4km az=27.9*

*NEIC **17** 23:39:15.4, 63.°17N×150.°63W, h118km, MG3.2(AEIC), After AEIC.*

ISC 17 23:39:15.1±0.7, 63.°18N±0.°03×150.°61W±0.°04, h123km±6km, n74, σ1§24/91, mb3.4/6, 2C-3D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.31**	**27**	⇓*i*P	**Pn**	**23 39 32.2**	**-0.4**
TRF				*e*Sn	**Sn**	**23 39 45.8**	**-0.1**
PPLA	**Purkeypile**	**0.77**	**250**	⇑*i*P	**Pn**	**23 39 35.5**	**0.0**
PPLA				*e*Sn	**Sn**	**23 39 50.4**	**-0.5**
RND	**Reindeer**	**0.82**	**73**	P	**Pn**	**23 39 36.0**	**+0.2**
RND				S	**Sn**	**23 39 51.6**	**0.0**
TRAP	**Trapper Creek**	**0.86**	**169**	P	**Pn**	**23 39 36.1**	**+0.1**
TRAP				S	**Sn**	**23 39 52.4**	**+0.6**
MCK	**McKinley**	**0.94**	**53**	⇓*i*P	**Pn**	**23 39 37.1**	**+0.3**
MCK				*e*Sn	**Sn**	**23 39 53.1**	**-0.1**
SKT	**Skwentna**	**1.27**	**200**	P	**Pn**	**23 39 38.8**	**-0.4**
SKT				S	**Sn**	**23 39 58.6**	**-0.6**
DHY	**Denali Highway**	**1.47**	**92**	P	**Pn**	**23 39 42.7**	**+0.2**
NEA	**Nenana**	**1.56**	**25**	P	**Pn**	**23 39 43.2**	**-0.1**
SUA	**Susitna One**	**1.72**	**182**	P	**Pn**	**23 39 45.7**	**+0.4**
SML	**Sawmill**	**1.73**	**141**	P	**Pn**	**23 39 45.3**	**-0.1**
PMR	**Palmer**	**1.73**	**156**	*e*Pn	**Pn**	**23 39 45.0**	**-0.3**
PMR				*e*Sn	**Sn**	**23 40 08.3**	**-0.1**
MLY	**Manley**	**1.86**	**358**	P	**Pn**	**23 39 46.8**	**-0.2**
CCB	**Clear Creek Bu**	**1.93**	**39**	P	**Pn**	**23 39 47.8**	**+0.1**
SPCG	**Spurr Capps Gl**	**2.00**	**200**	P	**Pn**	**23 39 48.7**	**-0.1**
FIB	**Fire Island**	**2.03**	**174**	P	**Pn**	**23 39 50.4**	**+1.5**
SCM	**Sheep Creek Mo**	**2.03**	**130**	P	**Pn**	**23 39 48.7**	**-0.4**
HDA	**Harding Lake**	**2.04**	**51**	P	**Pn**	**23 39 49.4**	**+0.3**
MDM	**Murphy Dome**	**2.07**	**29**	P	**Pn**	**23 39 49.5**	**0.0**
SPBG	**Spurr Blockage**	**2.09**	**204**	P	**Pn**	**23 39 49.9**	**+0.1**
COLA	**College**	**2.09**	**34**	⇑*i*P	**Pn**	**23 39 49.7**	**0.0**
COLA				*e*Sn	**Sn**	**23 40 16.4**	**+0.1**
RC01	**Rabbit Creek A**	**2.13**	**169**	*e*Pn	**Pn**	**23 39 49.8**	**-0.5**
RC01				*e*Sn	**Sn**	**23 40 16.9**	**-0.3**
CKL	**Chakachamna La**	**2.15**	**203**	P	**Pn**	**23 39 50.4**	**-0.2**
DDM	**Donnelly Dome**	**2.21**	**72**	P	**Pn**	**23 39 50.5**	**-0.9**
BKG	**Blockade Glaci**	**2.25**	**201**	P	**Pn**	**23 39 51.9**	**0.0**
ILAR	**Eielson Array**	**2.29**	**44**	P	**Pn**	**23 39 52.2**	**-0.1**
	10nm,0.3s,baz=227,slow=13,SNR=667						
ILAR				S	**Sn**	**23 40 18.6**	**-2.2**
	7.6nm,0.3s,baz=255,slow=14,SNR=15						
ILAR	**Eielson Array**	**2.29**	**44**	P	**Pn**	**23 39 52.2**	**-0.1**
ILAR				S	**Sn**	**23 40 18.6**	**-2.2**
IL1	**Eielson Array**	**2.29**	**44**	P	**Pn**	**23 39 52.1**	**-0.1**
GLM	**Gilmore Dome**	**2.30**	**36**	P	**Pn**	**23 39 52.4**	**-0.1**
PAX	**Paxson**	**2.35**	**93**	⇓*e*P	**Pn**	**23 39 53.6**	**+0.6**
PAX				*e*Sn	**Sn**	**23 40 21.7**	**-0.5**
TT01	**Tatalina**	**2.48**	**266**	P	**Pn**	**23 39 53.6**	**-1.1**
HARP	**HAARP**	**2.62**	**105**	P	**Pn**	**23 39 56.4**	**-0.1**
SLKM	**Skilak Lake**	**2.68**	**176**	P	**Pn**	**23 39 57.2**	**-0.1**
KLU	**Klutina**	**2.76**	**126**	P	**Pn**	**23 39 57.7**	**-0.7**
VLZ	**Valdez**	**2.87**	**134**	P	**Pn**	**23 39 58.4**	**-1.2**
RSO	**Redoubt South**	**2.91**	**201**	P	**Pn**	**23 40 00.4**	**+0.1**
DOT	**Dot Lake**	**2.98**	**78**	*e*Pn	**Pn**	**23 40 01.2**	**+0.1**
DOT				*e*Sn	**Sn**	**23 40 32.3**	**-4.4**
DIV	**Divide**	**3.06**	**130**	*e*Pn	**Pn**	**23 40 01.3**	**-0.9**
DIV				*e*Sn	**Sn**	**23 40 36.9**	**-1.7**
FID	**Port Fidalgo**	**3.12**	**139**	P	**Pn**	**23 40 02.1**	**-0.8**
IM3	**Indian Mountai**	**3.13**	**336**	P	**Pn**	**23 40 02.7**	**-0.3**
SEW	**Seward**	**3.13**	**169**	P	**Pn**	**23 40 02.7**	**-0.4**
MENT	**Mentasta**	**3.14**	**91**	*e*Pn	**Pn**	**23 40 03.7**	**+0.4**
MENT				*e*Sn	**Sn**	**23 40 39.9**	**-0.6**
BRLK	**Bradley Lake**	**3.43**	**182**	P	**Pn**	**23 40 07.0**	**0.0**
BMRM	**Bremner River**	**3.59**	**125**	P	**Pn**	**23 40 08.2**	**-1.0**
MCARA	**McCarthy VSAT**	**3.97**	**113**	P	**Pn**	**23 40 14.4**	**+0.2**
BCA3	**Beaver Creek A**	**4.01**	**88**	P	**Pn**	**23 40 14.1**	**-0.6**
COLD	**Coldfoot**	**4.07**	**2**	*e*Pn	**Pn**	**23 40 15.5**	**0.0**
COLD				*e*Sn	**Sn**	**23 40 59.4**	**-3.0**
BALM	**Baldy**	**4.43**	**115**	P	**Pn**	**23 40 20.1**	**-0.3**
EGAK	**Eagle**	**4.46**	**65**	P	**Pn**	**23 40 21.2**	**+0.5**
FOPK	**Fourpeaked Vol**	**4.65**	**199**	P	**Pn**	**23 40 23.2**	**-0.1**
BM3	**Burnt Mountain**	**4.95**	**28**	P	**Pn**	**23 40 27.2**	**0.0**
DAWY	**Dawson**	**5.08**	**75**	P	**Pn**	**23 40 29.1**	**+0.1**
KAKN	**Katmai Knife C**	**5.36**	**206**	P	**Pn**	**23 40 32.8**	**-0.1**
KABU	**Katmai Buttres**	**5.43**	**207**	P	**Pn**	**23 40 34.3**	**+0.5**
KCE	**Katmai Mt Cerb**	**5.43**	**206**	P	**Pn**	**23 40 33.5**	**-0.3**
KDAK	**Kodiak Island**	**5.50**	**191**	P	**Pn**	**23 40 33.5**	**-1.1**
	2.1nm,0.3s,baz=29,slow=8.6,SNR=58						
KDAK				S	**Sn**	**23 41 31.7**	**-4.9**
	2.8nm,0.3s,baz=141,slow=23,SNR=9.3						
KDAK	**Kodiak Island**	**5.50**	**191**	P	**Pn**	**23 40 33.5**	**-1.1**
KDAK				S	**Sn**	**23 41 31.7**	**-4.9**
CAHL	**Cahill**	**5.63**	**206**	P	**Pn**	**23 40 36.8**	**+0.2**
INK	**Inuvik**	**8.69**	**46**	P	**Pn**	**23 41 17.1**	**-0.4**
	0.2nm,0.3s,baz=240,slow=16,SNR=10						
INK	**Inuvik**	**8.69**	**46**	P	**Pn**	**23 41 17.1**	**-0.4**
YKA	**Yellowknife Ar**	**16.32**	**76**	P	**Pn**	**23 42 56.3**	**-0.4**
	0.2nm,0.3s,baz=294,slow=11,SNR=10						
YKA	**Yellowknife Ar**	**16.32**	**76**	P	**Pn**	**23 42 56.4**	**-0.4**
RES	**Resolute Bay**	**22.02**	**36**	P	**P**	**23 43 59.0**	**+0.1**
	1.0nm,0.3s,baz=253,slow=11,SNR=21						
RES	**Resolute Bay**	**22.02**	**36**	P	**P**	**23 43 59.0**	**+0.1**
PDAR	**Pinedale Array**	**31.25**	**111**	P	**P**	**23 45 24.4**	**+1.4**
	0.3nm,0.5s,baz=324,slow=4.5,SNR=3.6						
PDAR	**Pinedale Array**	**31.25**	**111**	P	**P**	**23 45 24.4**	**+1.4**
NVAR	**Mina Array Bea**	**31.48**	**127**	P	**P**	**23 45 27.4**	**+2.3**
	0.5nm,0.6s,baz=326,slow=10,SNR=5.2						
NVAR	**Mina Array Bea**	**31.48**	**127**	P	**P**	**23 45 27.4**	**+2.3**
SCHQ	**Schefferville**	**40.95**	**61**	LR	LR	00 04 10.7	
	comp=Z,274nm,19.8s,baz=41,slow=36						
TXAR	**Lajitas Array**	**45.18**	**116**	P	**P**	**23 47 21.5**	**+2.1**
	0.3nm,0.8s,baz=336,slow=4.8,SNR=3.4						
TXAR	**Lajitas Array**	**45.18**	**116**	P	**P**	**23 47 21.5**	**+2.1**
ARCES	**ARCESS Array B**	**47.54**	**2**	P	**P**	**23 47 36.7**	**-0.5**
	3.0nm,0.9s,baz=353,slow=6.4,SNR=2.6						
ARCES	**ARCESS Array B**	**47.54**	**2**	P	**P**	**23 47 36.7**	**-0.5**
MKAR	**Makanchi Array**	**62.65**	**322**	P	**P**	**23 49 24.7**	**-1.3**
	0.2nm,0.5s,baz=43,slow=6.8,SNR=5.6						
MKAR	**Makanchi Array**	**62.65**	**322**	P	**P**	**23 49 24.7**	**-1.3**

*MOS **18** 00:02:03.2±0.8, 48.°95N×157.°45E, h9km, mb4.2/1, Error ellipse: s-maj=49.4km s-min=10.6km az=83.4*

*KRSC **18** 00:02:08.0±1.8, 49.°32N×157.°50E, h5km±5km, ML4.0*

*IDC **18** 00:02:13.5±6.9, 49.°62N×156.°01E, h89km±79km, mb3.1/2, mb1 3.4/4, mb1mx3.0/25, mbtmp3.2/4, ML3.4/2, Error ellipse: s-maj=172.6km s-min=23.7km az=130.0*

ISC 18 00:02:08.9±1.1, 49.°2N±0.°1×156.°9E±0.°2, h39km, n25, σ0§99/31, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.56**	**343**	*e*PN	**Pn**	**00 02 37.9**	**+3.8**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
ASAK	**Asacha**	**3.26**	**11**	*e*P	**Pn**	**00 02 58.5**	**+1.0**
ASAK				*i* S	**Sn**	**00 03 35.2**	**+0.2**
MTVR	**Mutnovka**	**3.40**	**14**	*e*P	**Pn**	**00 03 00.0**	**+0.5**
MTVR				*i* S	**Sn**	**00 03 37.8**	**-0.7**
RUS	**Russkaya**	**3.41**	**17**	PN	**Pn**	**00 02 59.2**	**-0.2**
RUS	**Russkaya**	**3.41**	**17**	*e*P	**Pn**	**00 02 59.2**	**-0.2**
RUS				*i* S	**Sn**	**00 03 36.3**	**-2.2**
GRL	**Gorelyy**	**3.44**	**13**	*e*P	**Pn**	**00 03 01.1**	**+1.0**
GRL				*i* S	**Sn**	**00 03 40.1**	**+0.4**
PETK	**Petropavlovsk-**	**3.95**	**7**	P	**Pn**	**00 03 08.0**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=165,slow=12,SNR=6.2						
PETK	**Petropavlovsk-**	**3.95**	**7**	PN	**Pn**	**00 03 08.0**	**+1.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**4.00**	**16**	*e*PN	**Pn**	**00 03 08.8**	**+1.3**
PET				pmax	pmax		
	comp=Z,9.0nm,0.4s						
PET	**Petropavlovsk**	**4.00**	**16**	*e*P	**Pn**	**00 03 08.4**	**+0.9**
PET				*i* S	**Sn**	**00 03 52.7**	**-0.3**
UGLR	**Uglovaya**	**4.20**	**16**	*e*P	**Pn**	**00 03 11.9**	**+1.4**
KOK	**Koryaka**	**4.25**	**15**	*e*P	**Pn**	**00 03 13.0**	**+1.9**
SMAR	**Somma**	**4.25**	**16**	*e*P	**Pn**	**00 03 12.8**	**+1.5**
SDLR	**Sedlovina**	**4.28**	**17**	*e*P	**Pn**	**00 03 11.8**	**+0.2**
SDLR				*i* S	**Sn**	**00 03 58.7**	**-1.6**
SPN	**Mys Shipunski**	**4.38**	**26**	PN	**Pn**	**00 03 14.3**	**+1.4**
SPN	**Mys Shipunski**	**4.38**	**26**	*e*P	**Pn**	**00 03 14.3**	**+1.4**
SPN				*i* S	**Sn**	**00 04 02.6**	**-0.1**
MKZ	**Mys Kozlova**	**6.16**	**28**	PN	**Pn**	**00 03 37.3**	**+0.1**
MKZ	**Mys Kozlova**	**6.16**	**28**	P	**Pn**	**00 03 37.3**	**+0.1**
KBTR	**Krutoberegovo**	**7.90**	**25**	PN	**Pn**	**00 04 01.5**	**+0.4**
KBTR	**Krutoberegovo**	**7.90**	**25**	*e*P	**Pn**	**00 04 01.5**	**+0.4**
ASAJ	**Asahikawa**	**11.03**	**248**	P	**Pn**	**00 04 43.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=51,slow=13,SNR=4.4						
ILAR	**Eielson Array**	**33.06**	**41**	P	**P**	**00 08 40.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=255,slow=7.5,SNR=4.2						
ILAR	**Eielson Array**	**33.06**	**41**	P	**P**	**00 08 40.3**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**71.69**	**202**	P	**P**	**00 13 26.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=16,slow=5.4,SNR=4.2						
WRA	**Warramunga Arr**	**71.69**	**202**	P	**P**	**00 13 26.9**	**+0.3**

*NIED **18** 00:19:00, 32.°00N×141.°80E, h5km, Mw3.7 Best double couple: M○4.65000×10^14 NP1:ϕs352.00000°, δ47.00000°, λ74.00000°. NP2:ϕs194.00000°, δ46.00000°, λ106.00000°.*

*ISCJB **18** 00:19:50.4±0.9, 31.°61N±0.°04×142.°5E±0.°2, h29km, mb3.5/6, Error ellipse: s-maj=27.8km s-min=5.0km az=172.2*

*IDC **18** 00:19:50.4±1.0, 31.°38N×141.°78E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/24, mbtmp3.5/8, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/29, Error ellipse: s-maj=37.7km s-min=18.1km az=79.0*

*JMA **18** 00:19:55.7±0.4, 31.°99N×141.°83E, h0km, M3.6*

ISC 18 00:19:52.8±1.1, 31.°61N±0.°06×142.°2E±0.°2, h29km, n24, σ1§69/31, mb3.6/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.22**	**341**	P	**Pn**	**00 20 42.5**	**+1.6**
BSO3	**Boso 3**	**3.50**	**336**	P	**Pn**	**00 20 45.9**	**+0.9**
BSO4	**Boso 4**	**3.73**	**335**	P	**Pn**	**00 20 49.5**	**+1.2**
CBIJ	**Chichi jima**	**4.50**	**181**	Pn	**Pn**	**00 20 58.8**	**-0.1**
	5.2nm,0.3s,baz=288,slow=19,SNR=7.5						
CBIJ				Sn	**Sn**	**00 21 49.6**	**-0.6**
	4.2nm,0.3s,baz=258,slow=19,SNR=2.2						
JOD2	**Odawara 2**	**4.50**	**325**	P	**Pn**	**00 21 00.3**	**+1.3**
JHU	**Hanno**	**4.90**	**331**	P	**Pn**	**00 21 06.7**	**+2.2**
JHU				*e*S	**Sn**	**00 21 57.2**	**-3.0**
JHO	**Hitachi**	**5.18**	**345**	P	**Pn**	**00 21 09.6**	**+1.3**
JHO				*e*S	**Sn**	**00 22 07.2**	**+0.1**
JRY	**Ryogami san**	**5.20**	**329**	P	**Pn**	**00 21 10.3**	**+1.6**
JAG	**Ashikaga**	**5.34**	**335**	P	**Pn**	**00 21 12.1**	**+1.6**
ONAJ	**Iwakimizuishiy**	**5.61**	**348**	P	**Pn**	**00 21 15.1**	**+0.8**
ONAJ				*e*S	**Sn**	**00 22 17.0**	**-0.8**
JFK	**Kawauchi**	**5.86**	**349**	P	**Pn**	**00 21 18.4**	**+0.7**
JFK				*e*S	**Sn**	**00 22 21.8**	**-2.0**
JNG	**Nsakai**	**5.90**	**325**	P	**Pn**	**00 21 20.7**	**+2.5**
MJAR	**Matsushiro Arr**	**5.95**	**327**	Pn	**Pn**	**00 21 21.1**	**+2.1**
	0.9nm,0.3s,baz=155,slow=11,SNR=13						
MJAR				LR	LR	00 23 21.1	
	comp=Z,820nm,21.6s,baz=240,slow=96						
MAT	**Matsushiro**	**5.95**	**327**	P	**Pn**	**00 21 21.3**	**+2.3**
MAT				*e*S	**Sn**	**00 22 23.0**	**-3.2**
JFT	**Otama**	**6.10**	**346**	P	**Pn**	**00 21 22.7**	**+1.7**
JFT				*e*S	**Sn**	**00 22 29.1**	**-0.8**
JHK	**Hiroka**	**6.23**	**336**	P	**Pn**	**00 21 24.0**	**+1.3**
JMM	**Marumori**	**6.36**	**350**	P	**Pn**	**00 21 25.9**	**+1.4**
JMM				*e*S	**Sn**	**00 22 34.7**	**-1.4**
JMK	**Ichinoseki**	**7.38**	**354**	P	**Pn**	**00 21 40.6**	**+2.1**
JMK				*e*S	**Sn**	**00 22 58.8**	**-2.4**
SONM	**Songino Array**	**31.64**	**311**	P	**P**	**00 26 13.7**	**+0.3**
	0.8nm,0.9s,baz=109,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**00 28 27.5**	**+0.4**
	0.4nm,0.6s,baz=86,slow=9.8,SNR=5.9						
WRA	**Warramunga Arr**	**51.81**	**189**	P	**P**	**00 28 57.6**	**-0.6**
	0.3nm,0.4s,baz=5.0,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**53.77**	**30**	P	P	00 29 16.7	+4.5
	0.3nm,0.9s,baz=286,slow=4.6,SNR=3.3						
ASAR	**Alice Springs**	**55.54**	**189**	P	**P**	**00 29 25.2**	**-0.2**
	0.3nm,0.6s,baz=17,slow=13,SNR=7.3						
TXAR	**Lajitas Array**	**92.86**	**53**	P	P	00 33 08.0	+4.7
	0.3nm,0.9s,baz=316,slow=2.5,SNR=2.5						

IDC 18 00:30:54.0±3.3, 22.°39S×179.°75W, h600km±36km, mb2.7/5, mb1 3.0/5, mb1mx2.9/16, mbtmp2.7/5, Error ellipse: s-maj=44.8km s-min=16.9km az=165.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.79**	**269**	P	P	00 33 44.1	+3.2
	0.5nm,0.3s,baz=69,slow=17,SNR=12						
STKA	**Stephens Creek**	**35.52**	**246**	P	P	00 37 02.2	+0.1
	0.5nm,0.5s,baz=67,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**42.53**	**259**	P	P	00 37 58.7	+0.1
	0.7nm,0.7s,baz=101,slow=7.9,SNR=11						
ASAR				PcP	PcP	00 39 37.5	+0.4
	0.5nm,0.7s,baz=113,slow=3.8,SNR=5.9						
WRA	**Warramunga Arr**	**42.76**	**264**	P	P	00 37 59.9	-0.5
	0.7nm,0.3s,baz=95,slow=8.0,SNR=82						
WRA				S	S	00 43 41.8	-0.5
	0.3nm,0.6s,baz=100,slow=14,SNR=2.8						
NVAR	**Mina Array Bea**	**83.51**	**44**	P	P	00 42 19.5	-0.8
	0.4nm,0.6s,baz=206,slow=8.5,SNR=4.0						
TXAR	**Lajitas Array**	**89.44**	**58**	P	P	00 42 48.1	-0.4
	0.2nm,0.6s,baz=233,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**111.30**	**313**	PKiKP	PKiKP	00 48 19.5	-1.2
	0.2nm,0.5s,baz=231,slow=1.5,SNR=5.3						
BVAR	**Borovoye Array**	**119.46**	**319**	PKP	PKPdf	00 48 35.0	-1.1
	0.5nm,0.4s,baz=155,slow=1.2,SNR=4.2						
ARCES	**ARCESS Array B**	**130.46**	**349**	PKP	PKPdf	00 48 56.2	-0.5
	3.0nm,0.8s,baz=31,slow=2.2,SNR=5.8						
AKASG	**Malin Array Be**	**143.82**	**329**	PKP	PKPbc	00 49 20.4	-0.6
	0.7nm,0.3s,baz=44,slow=4.0,SNR=7.3						
BRTR	**Keskin Array B**	**146.83**	**309**	PKPbc	PKPbc	00 49 29.2	-1.1
	0.6nm,0.6s,baz=158,slow=4.9,SNR=4.4						
MMAI	**Mount Meron Ar**	**147.26**	**297**	PKPbc	PKPbc	00 49 32.8	+1.3
	0.7nm,0.3s,baz=72,slow=8.0,SNR=13						
GERES	**GERESS Array B**	**151.52**	**341**	PKPbc	PKPbc	00 49 41.1	-0.1
	0.4nm,0.6s,baz=12,slow=5.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**170.70**	**189**	PKPab	PKPab	00 51 16.2	-0.8
	0.5nm,0.7s,baz=222,slow=1.9,SNR=3.3						

*ISCJB **18** 00:31:14.8±0.5, 58.°67S±0.°08×24.°8W±0.°2, h28km, mb4.2/10, Error ellipse: s-maj=17.2km s-min=9.0km az=145.7*

*IDC **18** 00:31:17.9±3.1, 58.°66S×24.°97W, h36km±22km, mb4.1/10, mb1 4.2/10, mb1mx4.1/14, mbtmp4.1/10, MS3.0/1, Ms1 3.0/1, ms1mx2.9/16, Error ellipse: s-maj=26.0km s-min=19.6km az=29.0*

*NEIC **18** 00:31:19.8±0.4, 58.°81S×24.°95W, h55km, mb4.3/4, Error ellipse: s-maj=17.9km s-min=11.8km az=215.0*

ISC 18 00:31:16.4±0.5, 58.°7S±0.°1×24.°9W±0.°1, h28km, n56, σ0§96/56, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.89**	**157**	*e*P	**Pn**	**00 34 32.3**	**+1.2**
VNA3	**Neumayer Olymp**	**14.10**	**160**	*e*P	**Pn**	**00 34 33.9**	**-0.1**
VNA2	**Neumayer--Watz**	**14.29**	**156**	*e*P	**Pn**	**00 34 37.3**	**+0.8**
	baz=321,slow=15						
SNAA	**Sanae**	**15.83**	**154**	*e*P	**Pn**	**00 34 54.9**	**-2.2**
SNAA	**Sanae**	**15.83**	**154**	*e*Pn	**Pn**	**00 34 54.7**	**-2.4**
	6.5nm,0.4s						
PMSA	**Palmer Station**	**19.29**	**235**	LR	LR	00 40 58.9	
	comp=Z,46nm,21.9s,baz=130,slow=30						
EFI	**East Falkland**	**20.05**	**276**	*e*Pn	Pn	00 35 48.3	-0.6
PLCA	**Paso Flores**	**33.74**	**282**	P	**P**	**00 37 54.6**	**-0.7**
	5.2nm,0.9s,baz=120,slow=6.4,SNR=5.7						
PLCA	**Paso Flores**	**33.74**	**282**	*e*P	**P**	**00 37 57.1**	**+1.8**
	9.8nm,1.1s						
CFAA	**Coronel Fontan**	**39.76**	**294**	P	**P**	**00 38 47.6**	**+1.1**
	0.5nm,0.7s,baz=154,slow=6.3,SNR=5.3						
CFAA				PcP	**PcP**	**00 40 52.4**	**0.0**
	0.3nm,0.5s,baz=155,slow=3.0,SNR=3.5						
CFAA	**Coronel Fontan**	**39.76**	**294**	P	**P**	**00 38 47.6**	**+1.1**
CFAA				PcP	**PcP**	**00 40 52.4**	**0.0**
BDFB	**Br

CHMS					P		Pn	00 33 28.3 +1.0
	SNR=8.1							
USP	**Ospenovka**	**6.52**	**19**		P		**Pn**	**00 33 30.2 +0.5**
	SNR=8.8							
USP					P		**Pn**	**00 33 30.2 +0.5**
	SNR=8.8							
TKM2	**Tokmak 2**	**6.54**	**26**		P		**Pn**	**00 33 31.9 +1.7**
	SNR=8.8							
TKM2					P		**Pn**	**00 33 31.9 +1.7**
	SNR=8.8							
TKM2	**Tokmak 2**	**6.54**	**26**	⇑	P		**Pn**	**00 33 31.2 +1.0**
	10.0nm,1.1s							
MK31	**Makanchi Array**	**12.48**	**36**		P		**Pn**	**00 34 50.7 +0.5**
	1.0nm,0.7s,baz=227,slow=14,SNR=11							
MKAR	**Makanchi Array**	**12.48**	**36**		P		**Pn**	**00 34 50.6 +0.4**
	0.1nm,0.3s,baz=226,slow=14,SNR=11							
DANN	**Dangsing**	**13.42**	**127**		*eP*		**Pn**	**00 35 00.7 -2.1**
	8.4nm,0.4s							
KOLN	**Koldanda**	**13.72**	**129**		*eP*		Pn	00 35 03.3 -3.4
	6.2nm,0.4s							
GKN	**Gorkha**	**14.22**	**126**		*eP*		**Pn**	**00 35 10.3 -2.7**
	10nm,0.3s							
KURBB	**Kurchatov Arra**	**14.37**	**18**	⇑	P		**P**	**00 35 18.3 0.0**
	0.5nm,0.8s							
KURK	**Kurchatov**	**14.48**	**18**		P		Pn	00 35 11.3 -4.7
	0.0nm,0.3s,baz=201,slow=14,SNR=4.6							
KURK	**Kurchatov**	**14.48**	**18**	⇑	P		**Pn**	**00 35 17.3 +1.3**
	2.7nm,1.0s							
DMN	**Daman**	**14.79**	**126**		*eP*		**Pn**	**00 35 18.7 -1.7**
	6.6nm,0.5s							
AB31	**Akbulak array**	**14.81**	**329**	⇓	P		Pn	00 35 16.3 -3.9
	2.6nm,0.6s,baz=138,slow=16,SNR=102							
AB31				⇓	S		Sn	00 37 53.2 -10
	1.0nm,0.4s,baz=151,slow=22,SNR=10							
PKI	**Pulchoki**	**15.01**	**125**		*eP*		**Pn**	**00 35 21.0 -2.2**
	8.2nm,0.5s							
GUN	**Gumba**	**15.10**	**123**		*eP*		**Pn**	**00 35 22.6 -1.7**
	8.0nm,0.4s							
JIRN	**Jiri**	**15.47**	**123**		*eP*		**Pn**	**00 35 27.1 -1.9**
	12nm,0.3s							
VOSK	**Vostochnaya**	**15.61**	**358**	⇑	P		**Pn**	**00 35 27.7 -2.6**
	3.0nm,0.8s							
BVA0	**Borovoye Array**	**15.93**	**357**	⇓	P		**P**	**00 35 36.0 +0.3**
	0.9nm,0.9s,baz=163,slow=10,SNR=11							
BVAR	**Borovoye Array**	**15.93**	**357**		P		**Pn**	**00 35 32.5 -1.7**
	0.6nm,0.3s,baz=168,slow=13,SNR=7.8							
ZRNK	**Zerenda**	**15.94**	**354**	⇑	P		**P**	**00 35 36.0 +0.2**
	6.1nm,0.9s							
RAMN	**Ramite**	**16.21**	**124**		*eP*		**Pn**	**00 35 36.2 -1.9**
	6.1nm,0.3s							
AKTO	**Aktyubinsk**	**16.52**	**328**		P		**Pn**	**00 35 39.3 -2.2**
	0.9nm,0.3s,baz=139,slow=11,SNR=27							
AKTO					S		Sn	00 38 32.5 -12
	0.1nm,0.3s,baz=326,slow=18,SNR=3.0							
AKTO	**Aktyubinsk**	**16.52**	**328**	⇑	P		**P**	**00 35 42.3 +0.1**
	2.3nm,1.0s							
TAPN	**Taplejung**	**16.70**	**121**		*eP*		**Pn**	**00 35 43.6 -0.5**
	5.2nm,0.4s							
ODAN	**Odare**	**16.80**	**123**		*eP*		**Pn**	**00 35 44.2 -1.1**
	7.3nm,0.5s							
ZALV	**Zalesovo Beam**	**19.14**	**24**		P		**P**	**00 36 11.7 +0.8**
	0.5nm,0.3s,baz=228,slow=10,SNR=8.1							
SONM	**Songino Array**	**27.55**	**56**		P		**P**	**00 37 36.7 +3.6**
	0.3nm,0.4s,baz=260,slow=8.3,SNR=5.1							
FINES	**FINESS Array B**	**37.27**	**325**		P		**P**	**00 38 57.8 +0.5**
	0.7nm,0.8s,baz=120,slow=8.3,SNR=4.9							
ARCES	**ARCESS Array B**	**40.78**	**337**		P		**P**	**00 39 27.4 +0.9**
	5.8nm,1.0s,baz=112,slow=8.8,SNR=8.1							
ESDC	**Sonseca Array**	**57.63**	**298**		P		**P**	**00 41 36.4 +1.1**
	0.2nm,0.4s,baz=58,slow=6.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**66.26**	**269**		P		**P**	**00 42 33.5 +0.2**
	0.1nm,0.4s,baz=62,slow=6.4,SNR=3.0							
YKA	**Yellowknife Ar**	**80.60**	**3**		P		**P**	**00 43 58.0 +1.4**
	0.3nm,0.8s,baz=351,slow=5.8,SNR=4.3							

MEX 18 00:49:43.4±0.6, 17.75N×95.26W, h129km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.75**	**151**	*i*	P	Pn	00 50 02.9	-1.2
CMIG					S	Sn	00 50 17.6	-2.1
VHO	**Vista Hermosa**	**1.56**	**245**	*e*	P	Pn	00 50 11.5	-0.9
VHO				*e*	S	Sn	00 50 33.1	-1.3
TPIG	**Tehuac#an**	**2.10**	**289**	*i*	P	Pn	00 50 17.8	-1.0
TPIG				*i*	S	Sn	00 50 43.5	-2.5
HUIG	**Huatulco**	**2.13**	**202**	*e*	P	Pn	00 50 17.2	-1.8
HUIG				*e*	S	Sn	00 50 43.7	-2.5
PCIG		**2.82**	**136**	*e*	P	Pn	00 50 25.4	-2.4
PCIG				*e*	S	Sn	00 50 58.8	-3.1
PNIG	**Pinotepa**	**3.06**	**244**	*e*	P	Pn	00 50 27.5	-3.2
PNIG				*i*	S	Sn	00 51 05.5	-1.8
PPM	**Popocatepetl**	**3.45**	**293**	*e*	P	Pn	00 50 36.2	-0.4
PPM				*e*	S	Sn	00 51 15.7	-2.0
YAIG	**Yautepec**	**3.78**	**288**	*i*	P	Pn	00 50 40.0	-0.4
YAIG				*e*	S	Sn	00 51 22.4	-2.2

IDC 18 01:07:07.7±2.6, 30.08N×138.02E, h425km±34km, mb3.1/5, mb1 3.2/6, mb1mx2.7/25, mbtmp3.0/6, Error ellipse: s-maj=66.4km s-min=17.1km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.44**	**1**		P	P	01 08 45.5	-0.1
	0.3nm,0.3s,baz=173,slow=11,SNR=5.6							
KURK	**Kurchatov**	**48.28**	**313**		P	P	01 15 08.0	-0.2
	0.5nm,0.3s,baz=91,slow=7.9,SNR=8.1							
WRA	**Warramunga Arr**	**49.86**	**185**		P	P	01 15 20.2	-0.1
	0.2nm,0.4s,baz=1.1,slow=7.9,SNR=11							
BVAR	**Borovoye Array**	**53.36**	**316**		P	P	01 15 46.4	+0.9
	0.4nm,0.5s,baz=98,slow=8.0,SNR=5.8							
ARCES	**ARCESS Array B**	**69.50**	**340**		P	P	01 17 31.8	+0.2
	3.7nm,1.1s,baz=67,slow=9.9,SNR=3.7							
FINES	**FINESS Array B**	**73.63**	**332**		P	P	01 17 55.1	-0.8
	2.6nm,1.0s,baz=57,slow=7.0,SNR=4.6							

*ISCJB **18** 01:13:03.0±0.4, 41.86N×0.02×22.79E±0.03, h4km±4km, Error ellipse: s-maj=3.8km s-min=2.6km az=174.1*
*SKO **18** 01:13:03.5, 41.86N×22.84E, h19km, M2.3, ML2.6*
*SOF **18** 01:13:03.4, 41.85N×22.88E, h9km, MD2.6*
*CSEM **18** 01:13:03.8±0.1, 41.84N×22.83E, h10km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.5km az=77.0*
*ATH **18** 01:13:04.9, 41.76N×22.90E, h5km±2km, MD3.3/6*
*THE **18** 01:13:04.2, 41.83N×22.86E, h2km±1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=0.4km az=276.0*
*BEO **18** 01:13:05.8±1.3, 41.82N×22.70E, h19km±9km, ML2.4/5*

ISC 18 01:13:03.6±0.7, 41.84N±0.02×22.85E±0.02, h13km±6km, n88, σ0.82/120, 8C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.18**	**80**	*i*	Pg	**Pg**	**01 13 08.2**	**+0.4**
KKB	**Krupnik**	**0.18**	**80**	*i*	Pg	**Pg**	**01 13 08.2**	**+0.4**
VAY	**Valandovo**	**0.55**	**202**	*i*	Pg	**Pb**	**01 13 15.3**	**+0.1**
VAY				*i*	Sg	**Sb**	**01 13 22.7**	**-0.3**
VAY				*e*	Lg	Lg	01 13 23.0	
	comp=N,159nm,0.2s							
VAY				*e*	Lg	Lg	01 13 23.0	
	comp=E,206nm,0.2s							
VAY	**Valandovo**	**0.55**	**202**	*i*	Pg	**Pb**	**01 13 15.8**	**+0.6**
VAY				*i*	Sg	**Sb**	**01 13 23.2**	**+0.2**
VAY				*e*	Lg	Lg	01 13 23.5	
	comp=E,206nm,0.2s							
KNT	**Kendrikon**	**0.67**	**177**		P	**Pb**	**01 13 16.9**	**-0.4**
KNT					S	**Sb**	**01 13 26.3**	**-0.2**
KNT	**Kendrikon**	**0.67**	**177**		P	**Pb**	**01 13 16.9**	**-0.4**
KNT					S	**Sb**	**01 13 26.3**	**-0.2**
MMB	**Musomiste**	**0.70**	**110**	*i*	Pg	**Pb**	**01 13 17.9**	**+0.1**
MMB	**Musomiste**	**0.70**	**110**	*i*	Pg	**Pb**	**01 13 17.9**	**+0.1**
VTS	**Vitosha**	**0.80**	**20**		P	**Pb**	**01 13 19.3**	**-0.3**
VTS					S	**Sb**	**01 13 30.6**	**+0.2**
VTS	**Vitosha**	**0.80**	**20**	⇓	*i*P	**Pb**	**01 13 18.8**	**-0.8**
VTS					S	**Sb**	**01 13 29.8**	**-0.6**
VTS	**Vitosha**	**0.80**	**20**	*i*	Pg	**Pb**	**01 13 19.3**	**-0.3**
VTS	**Vitosha**	**0.80**	**20**		P	**Pb**	**01 13 19.3**	**-0.3**
VTS					S	**Sb**	**01 13 30.6**	**+0.2**
NVR	**Nevrokopi**	**0.90**	**122**	*e*	PB	**Pb**	**01 13 20.9**	**-0.3**
NVR				*e*	SB	**Sb**	**01 13 32.7**	**-0.5**
NVR	**Nevrokopi**	**0.90**	**122**	*e*	Pb	**Pb**	**01 13 20.9**	**-0.3**
NVR				*e*	Sb	**Sb**	**01 13 32.7**	**-0.5**
SRS	**Serrai**	**0.91**	**142**		P	**Pb**	**01 13 21.0**	**-0.3**
SRS	**Serrai**	**0.91**	**142**		P	**Pb**	**01 13 21.0**	**-0.3**
GRG	**Griva**	**0.94**	**201**		P	**Pb**	**01 13 21.7**	**-0.1**
GRG	**Griva**	**0.94**	**201**		P	**Pb**	**01 13 21.7**	**-0.1**
SKO	**Skopje**	**1.06**	**278**	*e*	Pg	**Pn**	**01 13 24.1**	**-0.1**
SKO	**Skopje**	**1.06**	**278**	*e*	Pg	**Pn**	**01 13 24.5**	**+0.3**
SOH	**Sokhos**	**1.08**	**159**		P	**Pn**	**01 13 24.5**	**-0.1**
SOH					S	**Sn**	**01 13 39.7**	**+0.2**
SOH	**Sokhos**	**1.08**	**159**	*e*	PN	**Pn**	**01 13 24.4**	**-0.1**
SOH				*e*	SB	**Sg**	**01 13 37.7**	**-0.9**
SOH	**Sokhos**	**1.08**	**159**		P	**Pn**	**01 13 24.5**	**-0.1**
SOH				*e*	Sb	**Sg**	**01 13 37.7**	**-0.9**
SOH					S	**Sn**	**01 13 39.7**	**+0.2**
THE	**Thessaloniki**	**1.21**	**176**		P	**Pn**	**01 13 26.5**	**+0.3**
THE	**Thessaloniki**	**1.21**	**176**		P	**Pn**	**01 13 26.5**	**+0.3**
PGB	**Panagyurishte**	**1.21**	**54**	*i*	P	**Pb**	**01 13 26.1**	**-0.4**
PGB				*i*	Pg	**Pn**	**01 13 27.6**	**+1.2**
PGB	**Panagyurishte**	**1.21**	**54**	*i*	P	**Pb**	**01 13 26.1**	**-0.4**
BARS	**Barje**	**1.24**	**322**	*e*	Pg	**Pg**	**01 13 27.6**	**0.0**
BARS				*e*	Sg	**Sn**	**01 13 43.9**	**+0.5**
BARS	**Barje**	**1.24**	**322**	*e*	Pg	**Pg**	**01 13 27.6**	**0.0**
BARS				*e*	Sg	**Sn**	**01 13 43.9**	**+0.5**
HORT	**Hortiatis**	**1.25**	**171**		P	**Pg**	**01 13 27.5**	**-0.2**
HORT					S	**Sn**	**01 13 45.6**	**+1.9**
HORT	**Hortiatis**	**1.25**	**171**		P	**Pg**	**01 13 27.5**	**-0.2**
HORT					S	**Sn**	**01 13 45.6**	**+1.9**
KRUS	**Krusevo**	**1.28**	**249**	*i*	Pg	**Pg**	**01 13 28.0**	**-0.4**
KRUS	**Krusevo**	**1.28**	**249**	*i*	Pg	**Pg**	**01 13 27.9**	**-0.4**
BIA	**Bitola**	**1.41**	**235**	*i*	Pg	**Pg**	**01 13 30.2**	**-0.4**
BIA				*i*	Sg	**Sg**	**01 13 49.5**	**+0.6**
BIA				*e*	Lg	Lg	01 13 50.8	
	comp=N,20nm,0.4s							
BIA				*e*	Lg	Lg	01 13 50.8	
	comp=E,12nm,0.2s							
BIA	**Bitola**	**1.41**	**235**	*i*	Pg	**Pg**	**01 13 30.2**	**-0.4**
BIA				*i*	Sg	**Sg**	**01 13 49.5**	**+0.6**
BIA				*e*	Lg	Lg	01 13 50.8	
	comp=E,12nm,0.2s							
RZN	**Rozhen**	**1.41**	**95**	*i*	Pg	**Pg**	**01 13 30.2**	**-0.5**
RZN	**Rozhen**	**1.41**	**95**	*i*	Pg	**Pg**	**01 13 30.2**	**-0.5**
PLD	**Plovdiv**	**1.41**	**78**		P	**Pg**	**01 13 30.2**	**-0.6**
PLD					S	**Sg**	**01 13 50.2**	**+1.1**
PLD	**Plovdiv**	**1.41**	**78**	*i*	P	**Pg**	**01 13 30.6**	**-0.2**
PLD	**Plovdiv**	**1.41**	**78**		P	**Pg**	**01 13 30.2**	**-0.6**
PLD					S	**Sg**	**01 13 50.2**	**+1.1**
ZAPS	**Zavoj**	**1.45**	**354**	*e*	Pg	**Pg**	**01 13 31.7**	**+0.3**
ZAPS				*e*	Sg	**Sg**	**01 13 52.2**	**+2.0**
KAVA	**Kavala**	**1.51**	**123**		P	**Pb**	**01 13 31.4**	**-0.1**
KAVA					S	**Sg**	**01 13 52.3**	**+0.1**
KAVA	**Kavala**	**1.51**	**123**		P	**Pb**	**01 13 31.4**	**-0.1**
KAVA					S	**Sg**	**01 13 52.3**	**+0.1**
FNA	**Florina**	**1.53**	**227**		P	**Pg**	**01 13 32.1**	**-0.9**
FNA	**Florina**	**1.53**	**227**		P	**Pg**	**01 13 32.1**	**-0.9**
PLG	**Polygyros**	**1.53**	**163**	*e*	PG	**Pb**	**01 13 31.5**	**-0.4**
PLG				*e*	SB	**Sg**	**01 13 51.8**	**-1.1**
PLG	**Polygyros**	**1.53**	**163**	*e*	Pg	**Pb**	**01 13 31.5**	**-0.4**
PLG				*e*	Sb	**Sg**	**01 13 51.8**	**-1.1**
MPEP	**Malo Peshtene**	**1.66**	**23**	*i*	P	**Pg**	**01 13 34.9**	**-0.6**
MPEP				*i*	Pg	**Pb**	**01 13 35.6**	**+1.6**
OUR	**Ouranopolis**	**1.73**	**150**		P	**Pb**	**01 13 34.2**	**-1.0**
OUR	**Ouranopolis**	**1.73**	**150**		P	**Pb**	**01 13 34.2**	**-1.0**
SELS	**Selova**	**1.88**	**318**	*e*	Pg	**Pg**	**01 13 38.8**	**-0.9**
SELS				*e*	Sg	**Sg**	**01 13 53.5**	**-0.7**
KDZ	**Kurdzhali**	**1.93**	**95**	*i*	Pg	**Pb**	**01 13 38.6**	**-0.1**
PAIG	**Paliouri**	**2.01**	**161**		P	**Pn**	**01 13 38.1**	**+0.9**
PAIG	**Paliouri**	**2.01**	**161**		P	**Pn**	**01 13 38.1**	**+0.9**
DIM	**Dimitrovgrad**	**2.02**	**83**	*i*	Pg	**Pg**	**01 13 41.9**	**-0.4**
DIM	**Dimitrovgrad**	**2.02**	**83**	*i*	Pg	**Pg**	**01 13 41.9**	**-0.4**
RDO	**Rodhopi**	**2.14**	**108**	*e*	PN	**Pb**	**01 13 42.3**	**+0.1**
RDO				*e*	SN	**Sg**	**01 14 10.9**	**-1.4**
RDO	**Rodhopi**	**2.14**	**108**	*e*	Pn	**Pb**	**01 13 42.3**	**+0.1**
RDO				*e*	Sn	**Sg**	**01 14 10.9**	**-1.4**
PVL	**Pavlikeni**	**2.30**	**52**	*i*	Pg	**Pb**	**01 13 44.0**	**-1.0**
XOR	**Xorichti**	**2.48**	**174**		P	**Pn**	**01 13 44.6**	**+0.8**
XOR	**Xorichti**	**2.48**	**174**		P	**Pn**	**01 13 44.6**	**+0.8**
GRUS	**Gruza**	**2.58**	**323**	*e*	Pn	**Pn**	**01 13 46.2**	**+1.1**
GRUS	**Gruza**	**2.58**	**323**	*e*	Pn	**Pn**	**01 13 46.2**	**+1.1**
ALN	**Alexandroupoli**	**2.58**	**110**		P	**Pn**	**01 13 46.3**	**+1.1**
ALN	**Alexandroupoli**	**2.58**	**110**	*e*	PN	**Pb**	**01 13 49.7**	**-0.1**
ALN				*e*	SN	**Sb**	**01 14 22.1**	**+0.6**
ALN	**Alexandroupoli**	**2.58**	**110**		P	**Pn**	**01 13 46.3**	**+1.1**
ALN	**Alexandroupoli**	**2.58**	**110**	*e*	Pn	**Pb**	**01 13 49.7**	**-0.1**
ALN				*e*	Sn	**Sb**	**01 14 22.1**	**+0.6**
ZIMR		**2.60**	**45**		S	**Sn**	**01 14 19.2**	**+2.4**
LIA	**Limnos Island**	**2.62**	**137**	*e*	PN	**Pb**	**01 13 49.8**	**-0.7**
LIA	**Limnos Island**	**2.62**	**137**	*e*	Pn	**Pb**	**01 13 49.8**	**-0.7**
SZH	**Strazhica**	**2.69**	**57**	*i*	P	**Pb**	**01 13 49.0**	**-2.7**
SZH	**Strazhica**	**2.69**	**57**	*i*	P	**Pb**	**01 13 49.0**	**-2.7**
RMGR	**Halanga-Turnu**	**2.83**	**358**	⇑	*i*P	**Pn**	**01 13 48.3**	**-0.2**
RMGR	**Halanga-Turnu**	**2.83**	**358**	⇑	*i*P	**Pn**	**01 13 48.3**	**-0.2**
DIVS	**Divibare**	**3.08**	**318**	*e*	Pn	**Pn**	**01 13 53.0**	**+0.9**
DIVS	**Divibare**	**3.08**	**318**	*e*	Pn	**Pn**	**01 13 53.0**	**+0.9**
GZR	**Gura Zlata**	**3.56**	**359**	⇑	*i*P	**Pn**	**01 13 58.8**	**+0.2**
GZR	**Gura Zlata**	**3.56**	**359**	⇑	*i*P	**Pn**	**01 13 58.8**	**+0.2**
LOT	**Lotru**	**3.67**	**10**	⇓	*i*P	**Pn**	**01 13 59.7**	**-0.5**
LOT	**Lotru**	**3.67**	**10**	⇓	*i*P	**Pn**	**01 13 59.7**	**-0.5**
BZS	**Buzias**	**3.88**	**347**	⇓	*i*P	**Pn**	**01 14 03.5**	**+0.5**
BZS	**Buzias**	**3.88**	**347**	⇓	*i*P	**Pn**	**01 14 03.5**	**+0.5**
BZS					S	**Sn**	**01 14 47.6**	**-0.9**
DEV	**Deva**	**4.05**	**1**	⇑	*i*P	**Pn**	**01 14 05.6**	**+0.3**
DEV	**Deva**	**4.05**	**1**	⇑	*i*P	**Pn**	**01 14 05.6**	**+0.3**
DRGR		**4.96**	**359**	⇑	*i*P	**Pn**	**01 14 16.4**	**-1.4**
DRGR		**4.96**	**359**	⇑	*i*P	**Pn**	**01 14 16.4**	**-1.4**
PKSM	**Moragy**	**5.32**	**327**	⇓	*i*P	Pn	01 14 19.6	-3.2
PKSM	**Moragy**	**5.32**	**327**	⇓	*i*P	Pn	01 14 19.6	-3.2

*IDC **18** 01:16:41.8±0.9, 50.88N×179.24E, h0km, mb3.5/10, mb1 3.8/12, mb1mx3.6/30, mbtmp3.6/12, ML3.7/2, Error ellipse: s-maj=23.7km s-min=13.7km az=180.0*
*NEIC **18** 01:16:44.7, 50.72N×178.93E, h5km, ML3.3(AEIC), After AEIC.*

ISC 18 01:16:43.7±2.4, 50.7N±0.1×179.25E±0.06, h18km±10km, n34, σ1.70/39, mb3.5/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.50**	**54**		P	**Pg**	**01 17 13.7**	**+1.1**
GALAA	**Gareloi Lava P**	**1.64**	**48**		P	**Pg**	**01 17 15.6**	**+0.3**
GALAA					S	**Sg**	**01 17 39.1**	**+2.4**
GANE	**Gareloi Northe**	**1.68**	**47**		P	**Pg**	**01 17 15.4**	**-0.6**
TANO	**Tanaga North**	**2.06**	**52**		P	**Pb**	**01 17 21.2**	**+0.7**
TAFP	**Tanaga Falls P**	**2.12**	**54**		P	**Pg**	**01 17 23.3**	**-1.1**
TAFP					S	**Sg**	**01 17 52.7**	**+0.8**
KIMD	**Kanaga Island**	**2.46**	**63**		P	**Pb**	**01 17 27.4**	**0.0**
KIKV	**Kanaga Island**	**2.54**	**61**		P	**Pb**	**01 17 28.3**	**-0.5**
ADAG	**Mount Adagdak**	**2.90**	**62**		P	**Pb**	**01 17 34.6**	**-0.4**
GSMY	**Great Sitkin M**	**3.24**	**63**		P	**Pb**	**01 17 38.9**	**-1.8**
SMY	**Shemya**	**3.80**	**305**		P	**Pn**	**01 17 41.2**	**-0.1**
SMY					S	**Sn**	**01 18 26.2**	**+0.7**
FX1	**Attu Island--F**	**4.37**	**303**		Pn	**Pn**	**01 17 47.6**	**-1.5**
	13nm,0.3s,baz=297,slow=23,SNR=33							
FX1					Sn	**Sn**	**01 18 43.3**	**+3.8**
	26nm,0.3s,baz=243,slow=23,SNR=8.1							
FX1	**Attu Island--F**	**4.37**	**303**		Pn	**Pn**	**01 17 47.6**	**-1.5**
FX1					Sn	**Sn**	**01 18 43.3**	**+3.8**
KDAK	**Kodiak Island**	**17.83**	**56**		P	**Pn**	**01 20 49.7**	**-0.9**
	0.4nm,0.3s,baz=293,slow=21,SNR=4.0							
KDAK	**Kodiak Island**	**17.83**	**56**		P	**Pn**	**01 20 49.7**	**-0.9**
ILAR	**Eielson Array**	**22.55**	**39**		P	**P**	**01 21 41.3**	**-1.2**
	0.4nm,0.5s,baz=254,slow=11,SNR=8.6							
ILAR	**Eielson Array**	**22.55**	**39**		P	**P**	**01 21 41.3**	**-1.2**
INK	**Inuvik**	**28.73**	**35**		P	**P**	**01 22 38.0**	**-1.5**
	0.4nm,0.5s,baz=294,slow=2.9,SNR=3.1							
INK	**Inuvik**	**28.73**	**35**		P	**P**	**01 22 38.0**	**-1.5**
YKA	**Yellowknife Ar**	**36.59**	**45**		P	**P**	**01 23 46.5**	**-1.8**
	0.3nm,0.7s,baz=280,slow=7.9,SNR=5.7							
YKA	**Yellowknife Ar**	**36.59**	**45**		P	**P**	**01 23 46.5**	**-1.8**
SONM	**Songino Array**	**45.85**	**296**		P	**P**	**01 25 03.8**	**-0.9**
	0.4nm,0.5s,baz=50,slow=13,SNR=2.7							
SONM	**Songino Array**	**45.85**	**296**		P	**P**	**01 25 03.8**	**-0.9**
PDAR	**Pinedale Array**	**47.70**	**70**		P	**P**	**01 25 21.4**	**+2.1**
	0.9nm,0.6s,baz=317,slow=4.1,SNR=8.2							
PDAR	**Pinedale Array**	**47.70**	**70**		P	**P**	**01 25 21.4**	**+2.1**
MKAR	**Makanchi Array**	**59.49**	**308**		P	**P**	**01 26 43.6**	**-1.8**
	0.1nm,0.3s,baz=53,slow=6.8,SNR=6.1							
MKAR	**Makanchi Array**	**59.49**	**308**		P	**P**	**01 26 43.6**	**-1.8**
TXAR	**Lajitas Array**	**59.98**	**79**		P	**P**	**01 26 51.3**	**+2.2**
	0.2nm,0.8s,baz=320,slow=2.7,SNR=3.1							
TXAR	**Lajitas Array**	**59.98**	**79**		P	**P**	**01 26 51.3**	**+2.2**
BVAR	**Borovoye Array**	**60.61**	**319**		P	**P**	**01 26 52.0**	**-1.0**
	0.6nm,0.4s,baz=50,slow=7.3,SNR=6.4							
BVAR	**Borovoye Array**	**60.61**	**319**		P	**P**	**01 26 52.0**	**-1.0**
WRA	**Warramunga Arr**	**80.67**	**222**		P	**P**	**01 28 56.7**	**+1.3**
	0.4nm,0.5s,baz=30,slow=5.9,SNR=11							
WRA	**Warramunga Arr**	**80.67**	**222**		P	**P**	**01 28 56.7**	**+1.3**
ASAR	**Alice Springs**	**84.15**	**221**		P	**P**	**01 29 15.3**	**+1.8**
	0.3nm,0.6s,baz=24,slow=6.0,SNR=6.9							
ASAR	**Alice Springs**	**84.15**	**221**		P	**P**	**01 29 15.3**	**+1.8**

*IDC **18** 01:29:13.5±0.9, 47.95N×155.02E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/25, mbtmp3.7/13, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/32, Error ellipse: s-maj=25.5km s-min=18.3km az=121.0*
*NEIC **18** 01:29:14.9±4.3, 47.95N×154.95E, h9km±26km, mb4.2/3, Error ellipse: s-maj=16.3km s-min=8.8km az=130.0*
*ISCJB **18** 01:29:16.8±0.7, 48.04N±0.08×155.0E±0.2, h33km, mb3.7/14, Error ellipse: s-maj=17.7km s-min=6.3km az=37.7*
*MOS **18** 01:29:18.1±1.6, 48.03N×155.04E, h49km, mb4.2/6, Error ellipse: s-maj=15.1km s-min=9.6km az=70.6*

ISC 18 01:29:18.8±0.7, 47.99N±0.09×154.9E±0.1, h33km, n59, σ1.12/61, mb3.8/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.81**	**16**	*e*	PN	**Pb**	**01 30 10.5**	**+2.4**
SKR					pmax	pmax		
	comp=Z,220nm,1.0s							
SKR					pmax	pmax		
	comp=N,70nm,0.3s							
SKR					pmax	pmax		
	comp=E,70nm,0.3s							
PEA0B	**Petropavlovsk-**	**5.42**	**18**	*e*	Pn	**Pn**	**01 30 36.5**	**-0.7**
PETK	**Petropavlovsk-**	**5.42**	**18**		Pn	**Pn**	**01 30 36.6**	**-0.6**
	comp=E,1.1nm,0.3s,baz=170,slow=13,SNR=36							
PETK					LR	LR	01 33 03.3	
	comp=E,155nm,18.0s,baz=195,slow=42							
PETK	**Petropavlovsk-**	**5.42**	**18**		PN	**Pn**	**01 30 36.7**	**-0.6**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK					MLR	MLR		
	comp=Z,155nm,18.0s							
PETK	**Petropavlovsk-**	**5.42**	**18**		Pn	**Pn**	**01 30 36.6**	**-0.6**
PET	**Petropavlovsk**	**5.57**	**24**	*e*	PN	**Pn**	**01 30 41.5**	**+2.2**
PET				*e*	S	**Sn**	**01 31 41.7**	**-0.5**
PET					MLR	MLR		
	comp=Z,100nm,19.0s							
YUK	**Yuzh-Kuril'sk**	**7.44**	**241**	*i*	PN	Pn	01 30 59.6	-5.3
YUK					pmax	pmax		
	comp=N,27μm,0.2s							
YUK					pmax	pmax		
	comp=E,19μm,0.2s	

	comp=Z,16nm,0.5s							
SLR	**Silverton**	**6.01**	**224**	*e*P		Pn	01 31 00.6	+1.5
SLR				*e*S		Sn	01 32 06.3	-2.1
SLR				AML		AML	01 32 19.9	
	comp=Z,10.0nm,0.3s							
PRYS	**Parys**	**7.43**	**222**	*e*P		Pn	01 31 18.9	+0.3
PRYS				*e*S		Sn	01 32 39.9	-3.7
PRYS				AML		AML	01 33 04.4	
	comp=Z,4.8nm,0.5s							
LBTB	**Lobatse**	**7.61**	**241**	*e*P		Pn	01 31 21.5	+0.5
LBTB				*e*S		Sn	01 32 44.5	-3.3
LBTB				AML		AML	01 33 43.9	
	comp=Z,12nm,0.6s							
SEK	**Senekal**	**8.34**	**214**	*e*P		Pn	01 31 32.0	+0.9
SEK				*e*S		Sn	01 33 01.3	-4.7
SEK				AML		AML	01 33 05.2	
	comp=Z,16nm,0.7s							

*NEIC **18** 01:37:33.6, 19.08N×67.77W, h25km, ML2.7, After RSPR.*
RSPR 18 01:37:33.6, 19.08N×67.77W, h25km±31km, 10C-17D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.87**	**134**	⇑*e*P	Pb	01 37 46.9	-3.2
AGPR	**Aguadilla, PR**	**0.87**	**134**	⇑*e*P	Pb	01 37 46.9	-3.2
LSP	**Las Mesas**	**1.11**	**144**	⇓*i*P	Pn	01 37 50.8	-2.9
LSP	**Las Mesas**	**1.11**	**144**	⇓*i*P	Pn	01 37 50.8	-2.9
LRS	**Lares**	**1.17**	**132**	⇓*e*P	Pn	01 37 51.3	-3.2
LRS				*e*S	Sn	01 38 07.3	-2.5
LRS	**Lares**	**1.17**	**132**	⇓*e*P	Pn	01 37 51.3	-3.2
LRS				*e*S	Sn	01 38 07.3	-2.5
AOPR	**Arecibo Observ**	**1.21**	**127**	⇓*e*P	Pn	01 37 51.7	-3.2
AOPR	**Arecibo Observ**	**1.21**	**127**	⇓*e*P	Pn	01 37 51.7	-3.2
CRPR	**Cabo Rojo, PR**	**1.23**	**149**	⇓*e*P	Pn	01 37 53.4	-1.9
CRPR	**Cabo Rojo, PR**	**1.23**	**149**	*e*S	Sn	01 38 08.5	-2.7
CRPR	**Cabo Rojo, PR**	**1.23**	**149**	⇓*e*P	Pn	01 37 53.4	-1.9
CRPR				*e*S	Sn	01 38 08.5	-2.7
SMN1	**Samana, DR**	**1.43**	**275**	⇓*e*P	Pn	01 37 54.6	-3.4
SMN1				*e*S	Sn	01 38 14.2	-1.9
CELP	**Cerrillos**	**1.51**	**131**	⇑*e*P	Pn	01 37 57.4	-1.7
CELP	**Cerrillos**	**1.51**	**131**	⇑*e*P	Pn	01 37 57.4	-1.7
OBIP	**Obispado Ponce**	**1.51**	**133**	⇓*e*P	Pn	01 37 57.5	-1.6
OBIP	**Obispado Ponce**	**1.51**	**133**	*e*Pn	Pn	01 37 56.9	-2.2
OBIP				*e*Sn	Sn	01 38 17.0	-1.0
DR12	**Loma Pena Alta**	**1.55**	**260**	⇑*e*P	Pn	01 37 56.8	-3.0
DR12				*e*S	Sn	01 38 16.9	-2.2
DR12	**Loma Pena Alta**	**1.55**	**260**	⇑*e*P	Pn	01 37 56.8	-3.0
DR12				*e*S	Sn	01 38 16.9	-2.2
ICM	**Isla Caja Muer**	**1.67**	**135**	⇑*e*P	Pn	01 38 00.4	-0.9
ICM	**Isla Caja Muer**	**1.67**	**135**	⇑*e*P	Pn	01 38 00.4	-0.9
SJG	**San Juan**	**1.81**	**122**	⇓*e*P	Pn	01 38 01.4	-1.9
SJG	**San Juan**	**1.81**	**122**	⇓*i*P	Pn	01 38 01.5	-1.8
SJG	**San Juan**	**1.81**	**122**	⇓*i*P	Pn	01 38 01.5	-1.8
CBYP	**Canovanas**	**1.98**	**114**	⇓*e*P	Pn	01 38 04.2	-1.5
CBYP	**Canovanas**	**1.98**	**114**	⇓*e*P	Pn	01 38 04.2	-1.5
HUMP	**Col San Antoni**	**2.04**	**117**	⇓*e*P	Pn	01 38 05.0	-1.4
HUMP	**Col San Antoni**	**2.04**	**117**	⇓*e*P	Pn	01 38 05.0	-1.4
MTP	**Monte Pirata**	**2.32**	**115**	⇓*e*P	Pn	01 38 08.4	-1.8
MTP	**Monte Pirata**	**2.32**	**115**	⇓*e*P	Pn	01 38 08.4	-1.8
SDDR	**Presa de Saban**	**3.33**	**269**	*e*Pn	Pn	01 38 23.9	-0.3
SDDR				*e*Sn	Sn	01 39 06.3	+3.2

ISC 18 01:55:58.2±6.2, 37.6N±0.4×72.4E±0.1, h119km, n8, σ1°81/14, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.36**	**55**	Pn	Pn	01 56 46.6	-2.7
KSH				Sn	**Sn**	**01 57 25.6**	**-3.1**
KSH				smax	smax		
	comp=N,28nm,0.3s						
KSH				smax	smax		
	comp=E,21nm,0.4s						
AML	**Almayashu**	**4.60**	**12**	P	**Pn**	**01 57 07.5**	**+1.4**
	SNR=43						
AML				P	**Pn**	**01 57 07.5**	**+1.4**
	SNR=43						
KZA	**Kyzart**	**4.95**	**25**	P	**Pn**	**01 57 11.7**	**+1.0**
	SNR=5.8						
KZA				P	**Pn**	**01 57 11.7**	**+1.0**
	SNR=5.8						
EKS2	**Erkin-Say**	**5.13**	**11**	P	**Pn**	**01 57 14.7**	**+1.7**
	SNR=7.8						
EKS2				P	**Pn**	**01 57 14.7**	**+1.7**
	SNR=7.8						
AAK	**Ala-Archa**	**5.24**	**17**	P	**Pn**	**01 57 16.2**	**+1.7**
	SNR=12						
AAK				P	**Pn**	**01 57 16.2**	**+1.7**
	SNR=12						
CHMS	**Chumysh**	**5.65**	**18**	P	**Pn**	**01 57 21.4**	**+1.6**
	SNR=7.8						
CHMS				P	**Pn**	**01 57 21.4**	**+1.6**
	SNR=7.8						
KK31	**Karatay Array**	**5.66**	**346**	⇑P	**Pn**	**01 57 18.6**	**-1.3**
	comp=E,2.8nm,0.5s,baz=180,slow=14,SNR=43						
KK31				⇓S	**Sn**	**01 58 23.0**	**-0.7**
	comp=E,5.9nm,0.4s,baz=178,slow=23,SNR=23						
TKM2	**Tokmak 2**	**5.81**	**24**	⇓P	**Pn**	**01 57 23.1**	**+0.9**
	comp=E,2.4nm,0.9s						

*ISCJB **18** 02:05:29.5±1.1, 45.95N±0.06×17.14E±0.07, h14km±8km, Error ellipse: s-maj=10.7km s-min=6.9km az=153.6*
*CSEM **18** 02:05:29.9±0.3, 45.95N×17.17E, h15km, ML3.5/1, Error ellipse: s-maj=7.5km s-min=5.9km az=171.0*
ISC 18 02:05:29.0±2.0, 45.91N±0.07×17.19E±0.05, h7km±16km, n15, σ0°66/21, 6C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEHE	**Becsehely**	**0.63**	**333**	*e*Pn	**Pg**	**02 05 41.9**	**+0.8**
BEHE				*e*Sn	**Sg**	**02 05 48.5**	**-0.8**
BEHE	**Becsehely**	**0.63**	**333**	*e*Pg	**Pg**	**02 05 41.9**	**+0.8**
BEHE				*e*Sg	**Sg**	**02 05 48.5**	**-0.8**
RHK3	**Tenkes**	**0.74**	**92**	⇑*e*Pn	**Pn**	**02 05 45.5**	**-0.4**
RHK3	**Tenkes**	**0.74**	**92**	⇑*e*Pg	**Pn**	**02 05 45.5**	**-0.4**
PKS9	**Tamasi**	**1.01**	**48**	⇑*e*Pn	**Pb**	**02 05 48.8**	**0.0**
PKS9				*e*Sn	**Sb**	**02 06 03.5**	**+1.2**
PKS9	**Tamasi**	**1.01**	**48**	⇑*e*Pb	**Pb**	**02 05 48.8**	**0.0**
PKS9				*e*Sn	**Sb**	**02 06 03.5**	**+1.2**
PKSM	**Moragy**	**1.05**	**73**	*e*Pn	**Pb**	**02 05 49.0**	**-0.5**
PKSM				*e*Sn	**Sn**	**02 06 04.7**	**-0.4**
PKSM	**Moragy**	**1.05**	**73**	*e*Pn	**Pb**	**02 05 49.0**	**-0.5**
PKSM				*e*Sn	**Sn**	**02 06 04.7**	**-0.4**
PKST	**T''s**	**1.47**	**23**	⇑*e*	**Pn**	**02 05 56.1**	**+0.2**
PKST	**T''s**	**1.47**	**23**	⇑*e*Pn	**Pn**	**02 05 56.1**	**+0.2**
SOP	**Sopron**	**1.82**	**346**	*e*Sn	Sn	02 06 33.1	+9.0
SOP	**Sopron**	**1.82**	**346**	*e*Sn	Sn	02 06 33.1	+9.0
NVLJ	**Novalja**	**2.12**	**231**	*i*Pn	**Pn**	**02 06 04.9**	**0.0**
NVLJ					**Sn**	**02 06 31.6**	**+0.1**
NVLJ	**Novalja**	**2.12**	**231**	*i*Pn	**Pn**	**02 06 04.9**	**0.0**
NVLJ					**Sn**	**02 06 31.5**	**+0.1**
TREC	**Trest**	**3.58**	**342**	*e*Sn	**Pb**	**02 06 31.6**	**-0.9**

IDC 18 02:16:16.6±8.1, 10.79S×166.17E, h192km±82km, mb3.3/9, mb1 3.5/10, mb1mx3.4/18, mbtmp3.3/10, Error ellipse: s-maj=53.9km s-min=22.1km az=161.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.22**	**179**	P	Pn	02 18 53.4	+1.4
	0.3nm,0.3s,baz=32,slow=19,SNR=5.6						
DZM				S	Sn	02 20 54.7	-2.4
	0.6nm,0.3s,baz=146,slow=22,SNR=9.3						
STKA	**Stephens Creek**	**30.91**	**224**	P	P	02 22 17.1	+1.6
	0.6nm,0.5s,baz=14,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**31.96**	**250**	P	P	02 22 24.3	-0.5
	0.6nm,0.5s,baz=82,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**33.28**	**243**	P	P	02 22 35.1	-1.1
	0.7nm,0.8s,baz=71,slow=7.7,SNR=8.5						
CMAR	**Chiang Mai Arr**	**72.39**	**293**	P	P	02 27 22.4	+0.1
	1.0nm,0.3s,baz=110,slow=1.6,SNR=4.2						
SONM	**Songino Array**	**78.70**	**324**	P	P	02 27 58.5	+0.8
	0.3nm,0.5s,baz=141,slow=5.8,SNR=2.9						
ILAR	**Eielson Array**	**83.14**	**18**	P	P	02 28 20.9	+0.2
	0.4nm,0.6s,baz=230,slow=5.7,SNR=8.3						
NVAR	**Mina Array Bea**	**85.54**	**50**	P	P	02 28 33.5	-0.1
	0.3nm,0.6s,baz=220,slow=5.5,SNR=2.6						
MKAR	**Makanchi Array**	**93.62**	**317**	P	P	02 29 11.4	+0.3
	0.6nm,0.6s,baz=89,slow=6.4,SNR=7.5						
YKA	**Yellowknife Ar**	**94.56**	**27**	P	P	02 29 13.1	-1.9
	0.1nm,0.6s,baz=256,slow=3.9,SNR=3.3						
ARCES	**ARCESS Array B**	**116.19**	**346**	PKP	PKPdf	02 34 36.4	0.0
	2.3nm,0.8s,baz=50,slow=3.8,SNR=8.6						

*ISCJB **18** 02:22:44.5±0.7, 43.52N±0.04×46.45E±0.04, h8km±4km, Error ellipse: s-maj=7.4km s-min=4.6km az=16.1*
*CSEM **18** 02:22:47.3±0.4, 43.42N×46.40E, h20km, mb3.9, Error ellipse: s-maj=11.4km s-min=7.4km az=172.0*
*MOS **18** 02:22:48.5±1.4, 43.24N×46.33E, h22km, mb3.9/1, Error ellipse: s-maj=19.1km s-min=8.4km az=2.9*
*NNC **18** 02:22:50.5±5.2, 44.02N×46.46E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=117.4km s-min=13.3km az=163.0*
ISC 18 02:22:47.4±1.1, 43.38N±0.04×46.41E±0.03, h25km±11km, n40, σ1°65/69, 7C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.47**	**139**	*i*PG	**Pb**	**02 22 56.8**	**-0.4**
DBC				*i*S	**Sb**	**02 23 03.6**	**-0.2**
DBC	**Dubki**	**0.47**	**139**	*i*Pg	**Pb**	**02 22 56.8**	**-0.4**
DBC				*i*Sg	**Sb**	**02 23 03.6**	**-0.2**
GRO	**Groznyy**	**0.48**	**264**	*e*PG	**Pb**	**02 22 55.9**	**-1.4**
GRO	**Groznyy**	**0.48**	**264**	*e*Pg	**Pb**	**02 22 55.9**	**-1.4**
MAK	**Makhachkala**	**0.90**	**117**	*e*PG	**Pn**	**02 23 07.3**	**+2.8**
MAK				*e*		02 23 20.1	
MAK				smax	smax		
	comp=N,149nm,0.3s						
MAK				smax	smax		
	comp=E,215nm,0.3s						
MAK	**Makhachkala**	**0.90**	**117**	*e*Pg	**Pn**	**02 23 07.3**	**+2.8**
	comp=E,149nm,0.3s						
MAK				*e*Sg	**Sn**	**02 23 20.1**	**+3.3**
SNJR	**Sundja**	**1.21**	**256**	*e*PG	**Pn**	**02 23 08.4**	**-0.4**
SNJR				*e*S	**Sn**	**02 23 23.4**	**-0.9**
SNJR	**Sundja**	**1.21**	**256**	*e*Pg	**Pn**	**02 23 08.4**	**-0.4**
SNJR				*e*Sg	**Sn**	**02 23 23.4**	**-0.9**
TRKR	**Terskaya**	**1.27**	**287**	*e*PG	**Pb**	**02 23 11.9**	**+1.3**
TRKR				*i*S	**Sb**	**02 23 29.8**	**+3.4**
TRKR	**Terskaya**	**1.27**	**287**	*e*Pg	**Pb**	**02 23 11.9**	**+1.3**
TRKR				*i*Sg	**Sb**	**02 23 29.8**	**+3.4**
VLKR	**Vladikavkaz**	**1.31**	**256**	*e*PG	**Pn**	**02 23 09.9**	**-0.2**
VLKR				*e*S	**Sn**	**02 23 26.3**	**-0.5**
VLKR	**Vladikavkaz**	**1.31**	**256**	*e*Pg	**Pn**	**02 23 09.9**	**-0.2**
VLKR				*e*Sg	**Sn**	**02 23 26.3**	**-0.5**
BTKR	**Batakoyurt**	**1.36**	**271**	*e*PG	**Pb**	**02 23 12.2**	**0.0**
BTKR				*e*S	**Sb**	**02 23 30.2**	**+1.0**
BTKR	**Batakoyurt**	**1.36**	**271**	*e*Pg	**Pb**	**02 23 12.2**	**0.0**
BTKR				*e*Sg	**Sb**	**02 23 30.2**	**+1.0**
KMSR	**Komsomolskaya**	**1.54**	**271**	*e*PG	**Pb**	**02 23 14.9**	**-0.4**
KMSR				*e*S	**Sb**	**02 23 35.0**	**+0.6**
KMSR	**Komsomolskaya**	**1.54**	**271**	*e*Pg	**Pb**	**02 23 14.9**	**-0.4**
KMSR				*e*Sg	**Sb**	**02 23 35.0**	**+0.6**
ARNR	**Ardon**	**1.56**	**264**	*e*PG	**Pn**	**02 23 14.6**	**+0.9**
ARNR				*e*S	**Sn**	**02 23 34.5**	**+1.4**
ARNR	**Ardon**	**1.56**	**264**	*e*Pg	**Pn**	**02 23 14.6**	**+0.9**
ARNR				*e*Sg	**Sn**	**02 23 34.5**	**+1.4**
PRTR	**Priterechnaya**	**1.59**	**284**	*e*PG	**Pb**	**02 23 16.9**	**+0.8**
PRTR				*i*S	**Sb**	**02 23 38.3**	**+2.6**
PRTR	**Priterechnaya**	**1.59**	**284**	*e*Pg	**Pb**	**02 23 16.9**	**+0.8**
PRTR				*i*Sg	**Sb**	**02 23 38.3**	**+2.6**
LACR	**Lac**	**1.64**	**251**	⇑*i*PG	**Pn**	**02 23 14.7**	**-0.1**
LACR	**Lac**	**1.64**	**251**	*i*Pg	**Pn**	**02 23 14.7**	**-0.1**
KORR	**Kora**	**1.73**	**261**	⇑*i*PN	**Pn**	**02 23 17.0**	**+1.0**
KORR				*e*S	**Sn**	**02 23 39.0**	**+1.6**
KORR	**Kora**	**1.73**	**261**	*i*Pn	**Pn**	**02 23 17.0**	**+1.0**
KORR				*e*Sg	**Sn**	**02 23 39.0**	**+1.6**
LSNR	**Lesken**	**1.89**	**268**	*e*PN	**Pn**	**02 23 19.9**	**+1.7**
LSNR	**Lesken**	**1.89**	**268**	*e*Pn	**Pn**	**02 23 19.9**	**+1.7**
ZEI	**Tsey**	**1.94**	**253**	⇑*i*PN	**Pn**	**02 23 19.2**	**+0.2**
ZEI	**Tsey**	**1.94**	**253**	*i*Pn	**Pn**	**02 23 19.2**	**+0.2**
TBLG	**Delisi**	**2.05**	**217**	PN	**Pn**	**02 23 22.2**	**+1.8**
TBLG	**Delisi**	**2.05**	**217**	P	**Pn**	**02 23 22.2**	**+1.8**
TBLG				S	**Sn**	**02 23 47.4**	**+2.2**
TBLG	**Delisi**	**2.05**	**217**	P	**Pn**	**02 23 22.2**	**+1.8**
TBLG				S	**Sn**	**02 23 47.4**	**+2.2**
DGRG	**David-gareji**	**2.07**	**202**	P	**Pb**	**02 23 23.8**	**-0.5**
DGRG				S	**Sb**	**02 23 50.9**	**+1.3**
GOR	**Gori**	**2.19**	**231**	P	**Sn**	**02 23 50.2**	**+1.6**
KIV	**Kislovodsk**	**2.76**	**283**	⇓Pn	**Pb**	**02 23 35.8**	**-0.3**
	comp=E,5.3nm,0.6s						
KIV				⇑Sn	**Sb**	**02 24 10.1**	**+0.6**
	comp=E,31nm,0.7s						
KIV	**Kislovodsk**	**2.76**	**283**	Pn	**Pb**	**02 23 35.8**	**-0.3**
	comp=E,5.3nm,0.6s						
KIV				Sn	**Sb**	**02 24 10.1**	**+0.6**
	comp=E,31nm,0.7s						
AKH	**Akhalkalaki**	**2.92**	**229**	P	**Pb**	**02 23 37.2**	**-1.6**
AKH				S	**Sb**	**02 24 12.1**	**-2.1**
AKTO	**Aktyubinsk**	**10.62**	**44**	⇓Pn	**Sn**	**02 25 18.4**	**+0.5**
AKTO				⇑Sn	**Sn**	**02 27 13.3**	**-2.6**
	comp=E,0.4nm,1.3s						
AKTO	**Aktyubinsk**	**10.62**	**44**	Pn	**Pn**	**02 25 18.4**	**+0.5**
AKTO				Sn	**Sn**	**02 27 13.3**	**-2.6**
	comp=E,0.4nm,1.3s						
AB31	**Akbulak array**	**11.05**	**53**	⇑Pn	**Pn**	**02 25 22.0**	**-1.8**
	comp=E,0.1nm,0.2s,baz=244,slow=12,SNR=4.8						
AB31				⇑Sn	**Sn**	**02 27 22.6**	**-3.8**
	comp=E,0.1nm,0.2s,baz=234,slow=3.0,SNR=10						
AB31	**Akbulak array**	**11.05**	**53**	Pn	**Pn**	**02 25 22.0**	**-1.8**
	comp=E,0.1nm,0.2s,baz=244,SNR=4.8						
AB31				Sn	**Sn**	**02 27 22.6**	**-3.8**
	comp=E,0.1nm,0.2s,baz=234,SNR=10						

IDC 18 02:36:42.2±6.0, 16.38S×175.92W, h381km±66km, mb3.1/7, mb1 3.4/8, mb1mx3.2/18, mbtmp3.1/8, Error ellipse: s-maj=86.1km s-min=21.1km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.59**	**248**	P	P	02 40 24.2	+0.8
	0.2nm,0.3s,baz=59,slow=19,SNR=5.1						
STKA	**Stephens Creek**	**41.45**	**240**	P	P	02 43 51.8	-1.8
	1.1nm,0.5s,baz=81,slow=7.2,SNR=5.0						
WRA	**Warramunga Arr**	**47.27**	**258**	P	P	02 44 38.6	-0.6
	2.6nm,0.5s,baz=98,slow=5.9,SNR=154						
ASAR	**Alice Springs**	**47.51**	**253**	P	P	02 44 41.1	+0.1
	11nm,0.3s,baz=90,slow=7.5,SNR=315						
FITZ	**Fitzroy Crossi**	**55.64**	**259**	P	P	02 45 41.6	+1.0
	1.3nm,0.6s,baz=90,slow=4.0,SNR=4.8						
NVAR	**Mina Array Bea**	**76.68**	**43**	P	P	02 47 52.9	+0.2
	0.2nm,0.5s,baz=214,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**83.17**	**57**	P	P	02 48 27.9	+0.8
	0.3nm,0.8s,baz=218,slow=5.7,SNR=3.2						
ILAR	**Eielson Array**	**83.88**	**12**	P	P	02 48 28.3	-1.4
	0.6nm,0.4s,baz=216,slow=5.4,SNR=25						
PDAR	**Pinedale Array**	**84.61**	**43**	P	P	02 48 34.0	-0.2
	0.3nm,0.7s,baz=242,slow=5.8,SNR=3.5						
BRTR	**Keskin Array B**	**145.32**	**318**	PKPbc	PKPbc	02 55 36.1	-0.2
	1.4nm,0.9s,baz=33,slow=3.4,SNR=4.2						
GERES	**GERESS Array B**	**146.68**	**348**	PKPbc	PKPbc	02 55 39.5	-0.4
	0.9nm,1.0s,baz=324,slow=4.8,SNR=4.0						

*NIED **18** 02:38:00, 44.20N×149.40E, h11km, Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φ=60.00000°, δ=64.00000°, λ=130.00000°. NP2:φ=177.00000°, δ=47.00000°, λ=37.00000°.*
*ISCJB **18** 02:38:29.7±1.0, 43.95N±0.07×149.42E±0.07, h33km±9km, mb4.1/31, MS4.0/4, Error ellipse: s-maj=12.1km s-min=8.2km az=161.9*
*NEIC **18** 02:38:32.5±2.5, 44.04N×149.42E, h33km±17km, mb4.3/2, Error ellipse: s-maj=10.9km s-min=7.0km az=148.0*
*MOS **18** 02:38:32.2±1.2, 44.12N×149.30E, h48km, mb4.4/25, Error ellipse: s-maj=10.4km s-min=7.8km az=114.0*
*IDC **18** 02:38:33.6±0.6, 43.98N×149.41E, h44km±4km, mb3.7/18, mb1 3.8/22, mb1mx3.8/30, mbtmp3.7/22, ML2.9/3, MS3.6/1, Ms1 3.8/1, ms1mx3.0/38, Error ellipse: s-maj=14.0km s-min=12.6km az=138.0*
ISC 18 02:38:33.5±0.6, 44.00N±0.08×149.35E±0.06, h44km±4km, h43km:pP-P, n111, σ1°10/134, mb4.2/31, MS3.9/4, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.52**	**272**	*i*PN	**Pn**	**02 39 12.2**	**+0.4**
YUK				*i*S	**Sn**	**02 39 41.5**	**+0.2**
YUK				pmax	pmax		
	comp=N,80μm,0.6s						
YUK				pmax	pmax		
	comp=Z,108μm,0.6s						
YUK				pmax	pmax		
	comp=E,50μm,0.4s						
YUK				pmax	pmax		
	comp=Z,427nm,2.2s						
YUK				pmax	pmax		
	comp=N,863nm,2.5s						
YUK				pmax	pmax		
	comp=E,1μm,2.5s						
YUK				MLR	MLR		
	comp=N,647nm,10.0s						
YUK				MLR	MLR		
	comp=E,879nm,10.0s						
YUK				MLR	MLR		
	comp=Z,1μm,10.0s						
NEM2	**Nemuro 2**	**2.69**	**258**	P	**Pn**	**02 39 12.4**	**-1.8**
NEM2				*e*S	**Sn**	**02 39 42.6**	**-3.0**
JNK	**Nakash**	**3.38**	**265**	P	**Pn**	**02 39 23.5**	**-0.2**
JNK				*e*S	**Sn**	**02 40 02.7**	**+0.2**
JAK	**Akkeshi**	**3.53**	**255**	*e*S		02 40 03.1	
JTKR	**Abashiri--Toko**	**3.93**	**272**	P	**Pn**	**02 39 31.4**	**+0.2**
JAR	**Ashorobuto**	**4.11**	**262**	P	**Pn**	**02 39 32.6**	**-1.1**
JOB	**Onbets**	**4.16**	**257**	P	**Pn**	**02 39 33.8**	**-0.6**
JMP	**Maruseppu**	**4.32**	**272**	P	**Pn**	**02 39 37.2**	**+0.5**
JCH	**Churui**	**4.58**	**255**	P	**Pn**	**02 39 39.7**	**-0.5**
ASAJ	**Asahikawa**	**4.87**	**274**	P	**Pn**	**02 39 43.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=3.7						
ASAJ	**Asahikawa**	**4.87**	**274**	PN	**Pn**	**02 39 43.2**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**4.87**	**274**	P	**Pn**	**02 39 43.1**	**-1.0**
ERM	**Erimo**	**4.96**	**249**	*e*PN	**Pn**	**02 39 44.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**5.12**	**253**	P	**Pn**	**02 39 46.5**	**-1.1**
JBT2	**Biratori 2**	**5.24**	**259**	P	**Pn**	**02 39 48.4**	**-0.8**
YSS	**Yuzh-Sakhalins**	**5.50**	**305**	PN	Pn	02 39 58.0	+5.2
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
JNB	**Noboribetsu**	**6.26**	**259**	P	**Pn**	**02 40 02.7**	**-0.5**
JKB	**Kayabe**	**6.46**	**254**	P	**Pn**	**02 40 05.0**	**-0.9**
JKB				*e*S	**Sn**	**02 41 14.7**	**-3.6**
JANG	**Nango**	**6.85**	**241**	*e*S		02 41 21.9	
JTH	**Tanohata**	**6.90**	**237**	*e*S		02 41 22.5	
JTM	**Tenmabayashi**	**6.92**	**245**	P	**Pn**	**02 40 10.4**	**-1.9**
OFUJ	**Ofunato**	**7.57**	**232**	P	**Pn**	**02 40 18.8**	**-2.4**
JRG	**Rokugo**	**7.98**	**238**	P	**Pn**	**02 40 24.7**	**-2.1**
PETK	**Petropavlovsk-**	**10.66**	**28**	P	**Pn**	**02 41 01.7**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=185,slow=13,SNR=4.0						
PETK	**Petropavlovsk-**	**10.66**	**28**	PN	**Pn**	**02 41 01.7**	**-1.7**
PETK	**Petropavlovsk-**	**10.66**	**28**	P	**Pn**	**02 41 01.7**	**-1.7**
HABR	**Khabarovsk**	**10.87**	**299**	*e*PN	**Pn**	**02 41 04.2**	**-2.1**
HABR				pmax	pmax		
	comp=E,58nm,2.8s						
HABR				pmax	pmax		
	comp=N,27nm,2.2s						
HABR				pmax	pmax		
	comp=E,47nm,2.2s						
HABR				MLR	MLR		
	comp=Z,155nm,18.0s						
MJAR	**Matsushiro Arr**	**11.30**	**233**	P	**Pn**	**02 41 13.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=21,SNR=4.2						
MJAR	**Matsushiro Arr**	**11.30**	**233**	PN	**Pn**	**02 41 13.4**	**+1.1**
MJAR	**Matsushiro Arr**	**11.30**	**233**	P	**Pn**	**02 41 13.4**	**+1.1**
USRK	**Ussuriysk Arra**	**12.48**	**277**	P	**Pn**	**02 41 29.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=84,slow=14,SNR=4.0						
KLR	**Kul'dur**	**13.18**	**300**	*e*PN	**Pn**	**02 41 38.0**	**+0.2**
KLR				MLR	MLR		
	comp=E,500nm,12.5s						
KLR				MLR	MLR		
	comp=Z,2μm,12.5s						
SEY	**Seymchan**	**19.05**	**4**	*e*P	**P**	**02 42 49.9**	**-1.8**
YAK	**Yakutsk**	**21.43**	**334**	*e*P	**P**	**02 43 14.1**	**-3.4**
YAK				*e*		02 43 46.2	
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
BILL	**Bilibino**	**25.70**	**15**	*e*P	**P**	**02 43 56.5**	**-2.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,200nm,13.0s						
BOD	**Bodaibo

	comp=Z,5.0nm,1.3s								
AAK	**Ala-Archa**	**52.68**	**296**	*e*P		**P**		**02 47 42.3**	**-1.2**
AAK				pmax		pmax			
	comp=Z,22nm,2.5s								
YKA	**Yellowknife Ar**	**54.70**	**34**	P		**P**		**02 47 57.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=298,slow=7.0,SNR=8.0								
YKA				pP		**pP**		**02 48 10.1**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=298,slow=6.8,SNR=7.5								
YKA	**Yellowknife Ar**	**54.70**	**34**	P		**P**		**02 47 57.9**	**+0.1**
YKA				*PP		**pP**		**02 48 10.1**	**-0.1**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**54.70**	**34**	P		**P**		**02 47 57.9**	**+0.1**
YKA				pP		**pP**		**02 48 10.1**	**-0.1**
ARU	**Arti**	**55.25**	**317**	*d* iP		**P**		**02 48 01.7**	**-0.1**
ARU								02 50 00.8	
ARU				S		**S**		**02 55 44.4**	**+2.4**
ARU				SS		SS		02 59 26.1	+0.2
ARU				pmax		pmax			
	comp=Z,14nm,2.5s								
AB31	**Akbulak array**	**58.14**	**310**	*c*eP		**P**		**02 48 23.1**	**+0.7**
AB31				pmax		pmax			
	comp=Z,1.0nm,0.2s								
AKTO	**Aktyubinsk**	**58.57**	**311**	P		**P**		**02 48 26.1**	**+0.6**
	comp=Z,2.8nm,1.1s,baz=73,slow=8.1,SNR=7.3								
AKTO	**Aktyubinsk**	**58.57**	**311**	P		**P**		**02 48 26.1**	**+0.6**
AKTO				pmax		pmax			
	comp=Z,3.0nm,1.1s								
AKTO	**Aktyubinsk**	**58.57**	**311**	P		**P**		**02 48 26.1**	**+0.6**
ARCES	**ARCESS Array B**	**59.56**	**340**	P		**P**		**02 48 31.5**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=33,slow=7.5,SNR=4.3								
ARCES	**ARCESS Array B**	**59.56**	**340**	P		**P**		**02 48 31.5**	**-0.5**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**59.56**	**340**	P		**P**		**02 48 31.5**	**-0.5**
JOF	**Joensuu**	**62.60**	**333**	*e*P		**P**		**02 48 52.8**	**+0.2**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.8s								
JOF	**Joensuu**	**62.60**	**333**	*e*p		**P**		**02 48 52.8**	**+0.2**
	comp=Z,2.1nm,0.8s								
JOF	**Joensuu**	**62.60**	**333**	*e*p		**P**		**02 48 52.8**	**+0.2**
	comp=Z,2.1nm,0.8s								
SUMG	**Summit**	**63.60**	**3**	*i* P		**P**		**02 49 00.3**	**+0.7**
SUMG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SUMG	**Summit**	**63.60**	**3**	*i* P		**P**		**02 49 00.3**	**+0.7**
	comp=Z,6.4nm,0.9s								
KAF	**Kangasniemi**	**64.80**	**334**	*e*P		**P**		**02 49 06.3**	**-0.8**
KAF	**Kangasniemi**	**64.80**	**334**	*e*p		**P**		**02 49 06.3**	**-0.8**
KAF	**Kangasniemi**	**64.80**	**334**	*e*p		**P**		**02 49 06.3**	**-0.8**
WRA	**Warramunga Arr**	**65.10**	**196**	P		**P**		**02 49 08.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=16,slow=6.9,SNR=12								
WRA				pP		**pP**		**02 49 21.7**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=14,slow=6.8,SNR=9.1								
WRA	**Warramunga Arr**	**65.10**	**196**	P		**P**		**02 49 08.6**	**-0.9**
WRA				*PP		**pP**		**02 49 21.7**	**-0.5**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
WRA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
WRA	**Warramunga Arr**	**65.10**	**196**	P		**P**		**02 49 08.6**	**-0.9**
WRA				pP		**pP**		**02 49 21.7**	**-0.5**
FINES	**FINESS Array B**	**65.37**	**334**	P		**P**		**02 49 10.8**	**0.0**
	comp=Z,2.0nm,0.6s,baz=39,slow=9.1,SNR=18								
FINES				pP		**pP**		**02 49 23.4**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=46,slow=8.2,SNR=4.3								
FINES	**FINESS Array B**	**65.37**	**334**	P		**P**		**02 49 10.8**	**0.0**
FINES				*PP		**pP**		**02 49 23.4**	**-0.1**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
FINES				pmax		pmax			
	comp=Z,5.0nm,0.8s								
FINES	**FINESS Array B**	**65.37**	**334**	P		**P**		**02 49 10.8**	**0.0**
FINES				pP		**pP**		**02 49 23.4**	**-0.1**
OBN	**Obninsk**	**66.05**	**325**	*e*P		**P**		**02 49 15.6**	**+0.3**
OBN				*e*				02 49 28.7	
OBN				pmax		pmax			
	comp=Z,20nm,1.7s								
OBN				MLR		MLR			
	comp=Z,300nm,10.0s								
NVAR	**Mina Array Bea**	**66.09**	**59**	P		**P**		**02 49 16.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=289,slow=8.4,SNR=4.9								
NVAR	**Mina Array Bea**	**66.09**	**59**	P		**P**		**02 49 16.2**	**0.0**
PDAR	**Pinedale Array**	**68.53**	**51**	P		**P**		**02 49 31.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=328,slow=3.2,SNR=3.1								
PDAR	**Pinedale Array**	**68.53**	**51**	P		**P**		**02 49 31.7**	**+0.2**
ASAR	**Alice Springs**	**68.81**	**195**	P		**P**		**02 49 33.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=14,slow=5.2,SNR=7.4								
ASAR				pP		**pP**		**02 49 46.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=16,slow=5.4,SNR=6.0								
ASAR	**Alice Springs**	**68.81**	**195**	P		**P**		**02 49 33.9**	**+0.8**
ASAR				*PP		**pP**		**02 49 46.6**	**+0.8**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**68.81**	**195**	P		**P**		**02 49 33.9**	**+0.8**
ASAR				pP		**pP**		**02 49 46.5**	**+0.8**
NB2	**NORSAR Subarra**	**69.94**	**340**	P		**P**		**02 49 39.7**	**0.0**
	comp=Z,3.4nm,0.5s,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**69.94**	**340**	P		**P**		**02 49 40.0**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=30,slow=6.5,SNR=11								
NOA				pP		**pP**		**02 49 53.1**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=30,slow=6.5,SNR=7.6								
NOA	**NORSAR Array B**	**69.94**	**340**	P		**P**		**02 49 40.0**	**+0.3**
NOA				*PP		**pP**		**02 49 53.1**	**+0.6**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NOA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NOA	**NORSAR Array B**	**69.94**	**340**	P		**P**		**02 49 40.0**	**+0.3**
NOA				pP		**pP**		**02 49 53.1**	**+0.6**
AKASG	**Malin Array Be**	**72.31**	**325**	P		**P**		**02 49 54.4**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=36,slow=5.9,SNR=6.3								
AKASG	**Malin Array Be**	**72.31**	**325**	*c*eP		**P**		**02 49 54.4**	**+0.2**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**72.31**	**325**	P		**P**		**02 49 54.4**	**+0.2**
CLL	**Collm**	**77.82**	**334**	*e*P		**P**		**02 50 28.0**	**+2.1**
CLL	**Collm**	**77.82**	**334**	*e*P		**P**		**02 50 28.0**	**+2.1**
TXAR	**Lajitas Array**	**81.18**	**58**	P		**P**		**02 50 45.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=305,slow=3.8,SNR=14								
TXAR	**Lajitas Array**	**81.18**	**58**	P		**P**		**02 50 45.1**	**+0.4**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**81.18**	**58**	P		**P**		**02 50 45.0**	**+0.4**

IDC ***18*** *02:54:48.6±0.7, 32°.41S×178°.90W, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.3/18, mbtmp4.4/10, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=26.0km s-min=19.0km az=21.0*

NEIC ***18*** *02:54:54.8±2.9, 32°.56S×179°.02W, h41km±24km, mb4.8/5, Error ellipse: s-maj=21.7km s-min=13.6km az=48.0*

ISCJB ***18*** *02:54:57.1±0.7, 32°.74S±0°.03×179°.8W±0°.1, h33km, mb4.7/14, Error ellipse: s-maj=12.9km s-min=4.6km az=6.7*

ISC 18 02:54:55.0±0.6, 32°.62S±0°.05×179°.19W±0°.09, h35km, n97, σ2s31/87, mb4.8/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.34**	**202**	PN	Pn	02 56 16.6	+4.3
MXZ				SN	**Sn**	**02 57 16.0**	**+3.4**
PUZ	**Puketiti**	**5.83**	**200**	PN	Pn	02 56 23.3	+4.4
PUZ				SN	**Sn**	**02 57 25.3**	**+0.7**
CNGZ	**Carnagh Statio**	**6.23**	**199**	PN	Pn	02 56 28.8	+4.4
OPRZ	**Ohinepanea**	**6.27**	**213**	PN	Pn	02 56 31.4	+6.4
MWZ	**Matawai**	**6.30**	**204**	PN	Pn	02 56 29.1	+3.7
MWZ				SN	**Sn**	**02 57 38.0**	**+1.8**
URZ	**Urewera**	**6.39**	**207**	PN	Pn	02 56 30.8	+4.2
OUZ	**Omahuta**	**6.54**	**245**	PN	sPn	02 56 44.8	+3.8
KNZ	**Kokohu**	**6.88**	**201**	PN	**Pn**	**02 56 35.5**	**+2.2**
KNZ				SN	**Sn**	**02 57 46.5**	**-3.9**
MHGZ	**Mahia Peninsul**	**6.94**	**199**	PN	**Pn**	**02 56 36.8**	**+2.7**
RAHZ	**Arahi**	**6.98**	**205**	PN	Pn	02 56 37.9	+3.2
RAHZ				SN	**Sn**	**02 57 55.1**	**+2.3**
NMHZ	**Naumai**	**7.24**	**206**	PN	Pn	02 56 41.3	+3.0
NMHZ				SN	**Sn**	**02 58 00.2**	**+0.9**
BKZ	**Black Stump Fm**	**7.42**	**207**	PN	**Pn**	**02 56 43.4**	**+2.6**
BKZ				SN	**Sn**	**02 58 04.7**	**+1.0**
MCHZ	**McNeill Hill**	**7.58**	**205**	PN	**Pn**	**02 56 45.6**	**+2.6**
KAHZ	**Kahuranaki**	**7.84**	**203**	PN	**Pn**	**02 56 48.1**	**+1.5**
BHHZ	**Black Hill Sta**	**7.86**	**208**	PN	**Pn**	**02 56 49.2**	**+2.3**
PXZ	**Pawanui**	**8.06**	**202**	PN	**Pn**	**02 56 50.4**	**+0.9**
PXZ				SN	**Sn**	**02 58 14.7**	**-4.6**
PNHZ	**Pukenui**	**8.18**	**206**	PN	**Pn**	**02 56 52.2**	**+1.0**
PNHZ				SN	**Sn**	**02 58 21.6**	**-0.8**
WPHZ	**Waipukurau**	**8.23**	**204**	SN	**Sn**	**02 58 24.1**	**+0.6**
PRHZ	**Porangahau**	**8.34**	**203**	*e*PN	**Pn**	**02 56 53.6**	**+0.2**
TSZ	**Takapari Road**	**8.39**	**206**	PN	**Pn**	**02 56 54.5**	**+0.4**
WAZ	**Wanganui**	**8.54**	**212**	SN	**Sn**	**02 58 34.4**	**+3.2**
POWZ	**Post Office Ro**	**8.76**	**206**	SN	**Sn**	**02 58 36.0**	**-0.6**
MRZ	**Mangatainoka R**	**9.06**	**206**	PN	**Pn**	**02 57 03.0**	**-0.2**
TMWZ	**Te Maipa**	**9.35**	**204**	SN	**Sn**	**02 58 45.4**	**-5.7**
OGWZ	**Otaki Gorge**	**9.35**	**207**	PN	**Pn**	**02 57 06.7**	**-0.6**
KIW	**Kapiti Island**	**9.49**	**208**	*e*PN	**Pn**	**02 57 08.3**	**-0.8**
KIW				SN	**Sn**	**02 58 50.9**	**-3.7**
CAW	**Cannon Point**	**9.64**	**207**	SN	**Sn**	**02 58 55.6**	**-2.7**
PAWZ	**Paruwai Farm**	**9.75**	**205**	SN	**Sn**	**02 58 57.4**	**-3.5**
PLWZ	**Palliser**	**9.97**	**205**	PN	**Pn**	**02 57 14.2**	**-1.7**
PLWZ				SN	**Sn**	**02 59 01.4**	**-5.1**
TCW	**Tory Channel**	**10.04**	**209**	PN	**Pn**	**02 57 15.7**	**-1.1**
TCW				SN	**Sn**	**02 59 03.9**	**-4.2**
TUWZ	**Tuamarina**	**10.37**	**210**	SN	**Sn**	**02 59 11.4**	**-4.6**
NNZ	**Nelson**	**10.44**	**213**	SN	**Sn**	**02 59 13.0**	**-4.8**
QRZ	**Quartz Range**	**10.54**	**217**	SN	**Sn**	**02 59 16.7**	**-3.8**
THZ	**Tophouse**	**11.09**	**212**	PN	**Pn**	**02 57 30.2**	**-0.9**
THZ				SN	**Sn**	**02 59 29.0**	**-4.9**
KHZ	**Kahutara**	**11.35**	**208**	PN	**Pn**	**02 57 32.8**	**-1.8**
KHZ				SN	Sn	02 59 32.7	-7.5
DSZ	**Denniston Nort**	**11.60**	**216**	SN	Sn	02 59 38.8	-7.5
LTZ	**Lake Taylor**	**12.19**	**211**	SN	Sn	02 59 52.6	-8.1
MQZ	**McQueen's Vall**	**12.79**	**208**	*e*PN	Pn	02 57 51.1	-3.2
MQZ				SN	Sn	03 00 02.4	-13
RPZ	**Rata Peaks**	**13.47**	**212**	Pn	**Pn**	**02 58 03.7**	**+0.2**
	1.5nm,0.3s,baz=347,slow=15,SNR=6.8						
RPZ				Sn	Sn	03 00 20.7	-11
	4.9nm,0.3s,baz=132,slow=22,SNR=11						
RPZ				LR	LR	03 02 29.1	
	comp=Z,149nm,18.2s,baz=154,slow=33						
RPZ	**Rata Peaks**	**13.47**	**212**	Pn	**Pn**	**02 58 03.7**	**+0.2**
RPZ				Sn	Sn	03 00 20.7	-11
DZM	**Mont Dzumac**	**16.51**	**306**	Pn	**Pn**	**02 58 44.5**	**+0.5**
	0.1nm,0.3s,baz=124,slow=17,SNR=2.4						
DZM	**Mont Dzumac**	**16.51**	**306**	Pn	**Pn**	**02 58 44.5**	**+0.5**
ARMA	**Armidale**	**24.94**	**267**	*e*P	**P**	**03 00 19.1**	**+3.9**
STKA	**Stephens Creek**	**33.05**	**261**	P	**P**	**03 01 28.8**	**+1.6**
	2.2nm,0.6s,baz=85,slow=8.3,SNR=6.3						
STKA	**Stephens Creek**	**33.05**	**261**	*e*P	**P**	**03 01 29.0**	**+1.8**
	2.0nm,0.7s						
STKA	**Stephens Creek**	**33.05**	**261**	P	**P**	**03 01 28.8**	**+1.6**
CTA	**Charters Tower**	**33.23**	**283**	P	**P**	**03 01 30.6**	**+1.7**
	8.3nm,0.6s,baz=116,slow=9.2,SNR=13						
CTA	**Charters Tower**	**33.23**	**283**	*e*P	**P**	**03 01 30.8**	**+1.9**
	7.8nm,0.6s						
CTA	**Charters Tower**	**33.23**	**283**	P	**P**	**03 01 30.6**	**+1.7**
CTAO	**Charters Tower**	**33.23**	**283**	*e*P	**P**	**03 01 30.6**	**+1.7**
	7.7nm,0.6s						
PMG	**Port Moresby**	**38.71**	**299**	P	**P**	**03 02 17.2**	**+1.4**
	10nm,0.8s,baz=111,slow=6.0,SNR=6.9						
PMG	**Port Moresby**	**38.71**	**299**	*e*P	**P**	**03 02 16.7**	**+0.9**
	7.0nm,0.9s						
COEN	**Coen**	**38.98**	**290**	*e*P	**P**	**03 02 19.1**	**+1.1**
	22nm,0.6s						
AS31	**Alice Springs**	**42.03**	**270**	*e*P	**P**	**03 02 43.1**	**-0.2**
ASAR	**Alice Springs**	**42.03**	**270**	P	**P**	**03 02 43.4**	**+0.1**
	17nm,0.8s,baz=106,slow=7.7,SNR=212						
ASAR	**Alice Springs**	**42.03**	**270**	P	**P**	**03 02 43.4**	**+0.1**
WB2	**Warramunga Arr**	**43.21**	**275**	*e*P	**P**	**03 02 52.8**	**-0.2**
WRA	**Warramunga Arr**	**43.22**	**275**	P	**P**	**03 02 52.9**	**-0.1**
	28nm,0.4s,baz=114,slow=8.1,SNR=529						
WRA	**Warramunga Arr**	**43.22**	**275**	P	**P**	**03 02 52.9**	**-0.1**
FORT	**Forrest**	**44.54**	**258**	*e*P	**P**	**03 03 02.9**	**-0.5**
	17nm,0.5s						
FORT	**Forrest**	**44.54**	**258**	*e*P	**P**	**03 03 02.5**	**-0.9**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.38**	**272**	*e*P	**P**	**03 03 56.2**	**-0.3**
	12nm,0.7s						
KLBR	**Kellerberrin**	**52.70**	**253**	*e*P	**P**	**03 04 04.3**	**-1.9**
	34nm,1.2s						
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**03 04 42.0**	**+1.5**
	25nm,0.7s,baz=84,slow=1.4,SNR=38						
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**03 04 42.0**	**+1.5**
SNAA	**Sanae**	**75.97**	**179**	*e*	**P**	**03 06 38.3**	**+0.3**
SNAA	**Sanae**	**75.97**	**179**	*e*P	**P**	**03 06 37.7**	**-0.3**
	6.8nm,0.8s						
VNA3	**Neumayer Olymp**	**76.16**	**177**	*e*	P	03 06 43.0	+4.0
VNA2	**Neumayer--Watz**	**76.58**	**177**	*e*	P	03 06 45.5	+4.1
	baz=183,slow=5.3						
VNA1	**Neumayer--Stat**	**76.82**	**177**	*e*	P	03 06 47.2	+4.5
PLCA	**Paso Flores**	**81.74**	**133**	P	**P**	**03 07 10.4**	**+0.2**
	0.7nm,0.5s,baz=226,slow=8.5,SNR=3.6						
PLCA	**Paso Flores**	**81.74**	**133**	P	**P**	**03 07 10.4**	**+0.2**
NVAR	**Mina Array Bea**	**90.55**	**43**	P	P	03 07 52.1	-1.5
	0.2nm,0.5s,baz=215,slow=8.1,SNR=4.3						
NVAR	**Mina Array Bea**	**90.55**	**43**	P	P	03 07 52.1	-1.5
TXAR	**Lajitas Array**	**94.43**	**58**	P	P	03 08 10.1	-1.6
	0.4nm,1.0s,baz=210,slow=9.9,SNR=4.0						
TXAR	**Lajitas Array**	**94.43**	**58**	P	P	03 08 10.1	-1.6
KURK	**Kurchatov**	**121.83**	**313**	PKP	**PKPdf**	**03 13 41.9**	**-3.0**
	0.2nm,0.2s,baz=111,slow=2.1,SNR=4.0						
KURK	**Kurchatov**	**121.83**	**313**	PKP	**PKPdf**	**03 13 41.9**	**-3.0**
BVAR	**Borovoye Array**	**127.26**	**315**	PKP	**PKPdf**	**03 13 53.0**	**-2.3**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=2.6						
BVAR	**Borovoye Array**	**127.26**	**315**	PKP	**PKPdf**	**03 13 53.0**	**-2.3**
ARCES	**ARCESS Array B**	**140.52**	**347**	PKhKP	PKPpre	03 14 14.6	
	4.3nm,1.0s,baz=50,slow=2.1,SNR=6.2						
ARCES	**ARCESS Array B**	**140.52**	**347**	PKPpre	PKPpre	03 14 14.6	
JOF	**Joensuu**	**144.07**	**337**	*e*p	**PKPab**	**03 14 23.1**	**-0.5**
	0.8nm,0.5s						
JOF	**Joensuu**	**144.07**	**337**	*e*p	**PKPab**	**03 14 23.1**	**-0.5**
	0.8nm,0.5s						
KAF	**Kangasniemi**	**146.26**	**339**	*e*p	PKPpre	03 14 19.5	
KAF	**Kangasniemi**	**146.26**	**339**	*e*p	PKPpre	03 14 19.5	
FINES	**FINESS Array B**	**146.84**	**338**	PKPbc	**PKPdf**	**03 14 29.9**	**-0.9**
	5.3nm,0.7s,baz=46,slow=5.5,SNR=24						
FINES	**FINESS Array B**	**146.84**	**338**	PKPbc	**PKPdf**	**03 14 29.9**	**-0.9**
NB2	**NORSAR Subarra**	**150.76**	**350**	PKP	**PKPdf**	**03 14 41.3**	**+4.0**
	comp=Z,0.7nm,0.5s,baz=15,slow=4.3						
NOA	**NORSAR Array B**	**150.76**	**350**	PKPbc	**PKPbc**	**03 14 43.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=16,slow=4.2,SNR=3.0						
NOA	**NORSAR Array B**	**150.76**	**350**	PKPbc	**PKPbc**	**03 14 43.1**	**+0.2**
BRTR	**Keskin Array B**	**152.67**	**294**	PKPbc	**PKPdf**	**03 14 45.6**	**+4.6**
	comp=Z,0.8nm,0.5s,baz=3.8,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**152.67**	**294**	PKPbc	**PKPdf**	**03 14 45.6**	**+4.6**
DBIC	**Dimbokro**	**153.65**	**167**	PKPbc	**PKPbc**	**03 14 50.5**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=189,slow=4.9,SNR=4.7						
DBIC	**Dimbokro**	**153.65**	**167**	PKPbc	**PKPbc**	**03 14 50.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**160.60**	**183**	PKPab	**PKPab**	**03 15 31.7**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=173,slow=3.3,SNR=14						
TORD	**Torodi Ar. Bea**	**160.60**	**183**	PKPab	**PKPab**	**03 15 31.7**	**-1.4**

ISCJB ***18*** *03:13:51.3±0.5, 4°.82N±0°.05×77°.22W±0°.06, h33km, mb3.8/11, Error ellipse: s-maj=9.1km s-min=6.7km az=19.3*

NEIC ***18*** *03:13:54.8±0.9, 4°.82N×77°.32W, h54km±8km, mb4.4/3, Error ellipse: s-maj=11.8km s-min=8.7km az=55.0*

IDC ***18*** *03:13:54.3±3.7, 4°.87N×77°.15W, h45km±36km, mb3.7/10, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=27.7km s-min=16.2km az=62.0*

ISC 18 03:13:53.4±0.5, 4°.85N±0°.06×77°.24W±0°.08, h35km, n40, σ0s99/42, mb4.0/11, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.90**	**90**	P	Pn	03 14 41.6	+4.3
	24nm,0.3s,baz=301,slow=3.5,SNR=54						
ROSC				Lg	Lg	03 15 21.9	
	12nm,0.3s,baz=95,slow=20,SNR=8.9						
ROSC	**El Rosal**	**2.90**	**90**	P	Pn	03 14 41.6	+4.3
ROSC				Lg	Lg	03 15 21.9	
OTAV	**Otavalo**	**4.74**	**195**	*e*Pn	**Pn**	**03 15 02.9**	**+0.1**
OTAV				*e*Sn	**Sn**	**03 15 54.8**	**-1.9**
BCIP	**Isla Barro Col**	**5.01**	**329**	*e*Pn	**Pn**	**03 15 04.9**	**-1.2**
SDV	**Santo Domingo**	**7.69**	**58**	*e*Pn	**Pn**	**03 15 45.4**	**+2.4**
	26nm,0.4s						
SDV				*e*Sn	**Sn**	**03 17 10.2**	**+1.2**
JTS	**JuntasAbangare**	**9.37**	**306**	P	**Pn**	**03 16 08.1**	**+2.1**
	0.3nm,0.3s,baz=228,slow=14,SNR=2.3						
JTS				LR	LR	03 19 38.0	
	comp=Z,169nm,20.5s,baz=2.8,slow=36						
JTS	**JuntasAbangare**	**9.37**	**306**	P	**Pn**	**03 16 08.1**	**+2.1**
SAML	**Samuel**	**19.60**	**134**	*e*P	**P**	**03 18 18.9**	**+0.1**
	14nm,0.4s						
LPAZ	**La Paz**	**22.85**	**157**	P	**P**	**03 18 53.2**	**-1.2**
	2.5nm,0.5s,baz=334,slow=14,SNR=11						
LPAZ	**La Paz**	**22.85**	**157**	*e*P	**P**	**03 18 53.0**	**-1.4**
	3.0nm,0.6s						
SIV	**San Ignacio**	**26.16**	**143**	P	**P**	**03 19 24.3**	**-0.4**
	5.1nm,0.5s,baz=330,slow=9.3,SNR=39						
SIV	**San Ignacio**	**26.16**	**143**	P	**P**	**03 19 24.3**	**-0.4**
TXAR	**Lajitas Array**	**34.91**	**317**	PcP	**PcP**	**03 23 14.1**	**-0.3**
	0.2nm,0.7s,baz=105,slow=1.4,SNR=3.6						
TXAR	**Lajitas Array**	**34.91**	**317**	PcP	**PcP**	**03 23 14.1**	**-0.3**
BDFB	**Brasilia**	**35.38**	**126**	P	**P**	**03 20 44.7**	**-1.4**
	1.5nm,0.7s,baz=261,slow=9.3,SNR=3.3						
BDFB	**Brasilia**	**35.38**	**126**	P	**P**	**03 20 44.7**	**-1.4**
CFAA	**Coronel Fontan**	**37.25**	**167**	P	**P**	**03 21 02.8**	**+0.9**
	0.2nm,0.5s,baz=288,slow=6.4,SNR=3.8						
CFAA	**Coronel Fontan**	**37.25**	**167**	P	**P**	**03 21 02.8**	**+0.9**
PLCA	**Paso Flores**	**45.77**	**173**	P	**P**	**03 22 12.7**	**+1.1**
	2.1nm,0.7s,baz=352,slow=11,SNR=7.0						
PLCA	**Paso Flores**	**45.77**	**173**	P	**P**	**03 22 12.7**	**+1.1**
NVAR	**Mina Array Bea**	**50.06**	**318**	P	P	03 22 48.1	+3.0
	0.1nm,0.3s,baz=125,slow=7.8,SNR=2.5						
NVAR				PcP	**PcP**	**03 24 04.8**	**+0.2**
	0.3nm,0.5s,baz=104,slow=3.8,SNR=3.7						
NVAR	**Mina Array Bea**	**50.06**	**318**	P	P	03 22 48.1	+3.0
NVAR				PcP	**PcP**	**03 24 04.8**	**+0.2**
YKA	**Yellowknife Ar**	**63.77**	**342**	P	**P**	**03 24 21.3**	**-0.2**
	0.2nm,0.3s,baz=100,slow=7.9,SNR=7.3						
YKA	**Yellowknife Ar**	**63.77**	**342**	P	**P**	**03 24 21.3**	**-0.2**
DBIC	**Dimbokro**	**71.98**	**85**	P	**P**	**03 25 13.7**	**-0.5**
	4.0nm,0.7s,baz=281,slow=9.5,SNR=8.4						
DBIC	**Dimbokro**	**71.98**	**85**	*e*P	**P**	**03 25 13.3**	**-0.9**
	5.4nm,0.8s						
ESDC	**Sonseca Array**	**74.05**	**50**	P	**P**	**03 25 26.2**	**+0.1**
	0.6nm,0.5s,baz=262,slow=6.2,SNR=7.4						
ESDC	**Sonseca Array**	**74.05**	**50**	P	**P**	**03 25 26.2**	**+0.1**
ILAR	**Eielson Array**	**77.04**	**336**	P	**P**	**03 25 42.0**	**-0.5**
	0.2nm,0.6s,baz=104,slow=3.8,SNR=3.9						
ILAR	**Eielson Array**	**77.04**	**336**	P	**P**	**03 25 42.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**78.15**	**78**	P	**P**	**03 25 49.1**	**-0.6**
	1.2nm,0.5s,baz=281,slow=6.3,SNR=42						
TORD	**Torodi Ar. Bea**	**78.15**	**78**	P	**P**	**03 25 49.1**	**-0.6**
MKAR	**Makanchi Array**	**125.48**	**17**	PKP	**PKPdf**	**03 32 50.2**	**-0.9**
	0.1nm,0.4s,baz=254,slow=1.0,SNR=2.4						
MKAR	**Makanchi Array**	**125.48**	**17**	PKP	**PKPdf**	**03 32 50.2**	**-0.9**
**SONM

comp=E,6.0nm,0.6s,baz=153,slow=28,SNR=6.2
TKM2 Tokmak 2 6.36 264 ⇓Lg Lg 03 38 52.8
comp=E,3.8nm,1.1s
KURK Kurchatov 7.75 333 ⇑Sn Sn 03 38 59.3 -3.3
comp=E,3.3nm,1.5s
KURK ⇓Lg Lg 03 39 47.0
comp=E,3.1nm,0.9s

IGQ 18 03:39:01.2, 0.93N×78.22W, h12km±79km, Mb4.1, Ms3.9, 7C-5D, Error ellipse: s-maj=4.5km s-min=1.7km az=3.3, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COTA	Cotacachi	0.60	192	⇓P		Pg	03 39 13.5	-0.1
OTAV	Otavalo	0.72	199	⇑S		Sg	03 39 25.9	+0.2
OTAV	Otavalo	0.72	199	⇑P		Pg	03 39 15.2	-0.7
CAYA	Cayambe	0.88	165	⇓P		Pg	03 39 18.3	-0.6
CAYR	Refugio Cayamb	0.93	167	P		Pg	03 39 19.5	-0.5
YANA	Yana	1.09	199	P		Pb	03 39 22.7	-0.1
CONE	Cono NE Rev Vo	1.14	150	⇑S		Sb	03 39 38.5	-0.1
CONE	Cono NE Rev Vo	1.14	150	⇑P		Pb	03 39 23.2	-0.2
CHAR	Charly	1.15	151	S		Sn	03 39 39.6	0.0
CHAR	Charly	1.15	151	P		Pb	03 39 23.2	-0.3
PINO	Pino	1.15	200	⇑P		Pb	03 39 23.5	-0.3
GGP	Refugio Guagua	1.16	199	⇓P		Pb	03 39 23.5	-0.4
TERV	Terraza Guagua	1.16	199	P		Pb	03 39 23.9	0.0
LAV4	Lava4-Reventad	1.17	150	⇓P		Pb	03 39 23.5	-0.3
LAV4	Lava4-Reventad	1.17	150	⇓S		Sb	03 39 39.2	0.0
ANTI	Antisana	1.37	178	⇑P		Pb	03 39 27.4	-0.2
PITA	Cotopaxi Volc	1.49	188	P		Pg	03 39 30.3	-0.2
VC1	Cotopaxi 1	1.57	187	P		Pb	03 39 31.4	+0.5
NAS2	Nasa	1.58	189	P		Pb	03 39 31.7	+0.6
COV1	Cotopaxi Volc	1.58	185	P		Pg	03 39 32.8	+0.3
BVC2	Cotopaxi Volca	1.58	187	⇑P		Pg	03 39 32.3	-0.1
BREF	Cotopaxi Volca	1.60	188	P		Pb	03 39 32.0	+0.4
BTAM	Cotopaxi Volca	1.60	186	P		Pg	03 39 32.4	-0.4
TAMB	Tambo	1.62	185	P		Pb	03 39 32.4	+0.6
BMOR	Cotopaxi Volca	1.66	188	P		Pb	03 39 32.6	+0.1
PISA	Pisayambo	1.98	185	P		Pg	03 39 39.7	-0.2

ISCJB 18 03:56:34.9±1.2, 36.44N±0.06×28.73E±0.05, h6km±6km, Error ellipse: s-maj=11.1km s-min=6.1km az=25.9
ISK 18 03:56:34.9, 36.49N×28.77E, h15km, MD2.9
CSEM 18 03:56:34.1±0.5, 36.37N×28.76E, h10km, MD2.9, Error ellipse: s-maj=10.3km s-min=5.0km az=9.0
DDA 18 03:56:36.2, 36.52N×28.69E, h6km, MD2.8
ISC 18 03:56:36.1±1.4, 36.49N±0.06×28.73E±0.04, h10km±9km, n28, σ1°36/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FETY	Fethiye	0.32	62	*e*Pg		Pg	03 56 41.5	-1.1
FETY				*e*Sg		Sg	03 56 46.2	-0.7
FETY	Fethiye	0.32	62	*e*Pg		Pg	03 56 41.5	-1.1
FETY				*e*Sg		Sg	03 56 46.2	-0.7
TURN	Turunc	0.40	346	*i* P		Pg	03 56 45.2	+1.3
TURN	Turunc	0.40	346	*i* P		Pg	03 56 45.2	+1.3
YER	Yerkesik	0.74	331	*e*Pg		Pg	03 56 50.1	-0.3
YER				*e*Sg		Sg	03 57 01.1	+1.0
YER	Yerkesik	0.74	331	*e*Pg		Pg	03 56 50.1	-0.3
YER				*e*Sg		Sg	03 57 01.1	+1.0
AKAS	Kas	0.75	109	*i* P		Pg	03 56 51.3	+0.7
AKAS				*i* S		Sb	03 57 04.8	+3.1
AKAS	Kas	0.75	109	*i* P		Pg	03 56 51.3	+0.7
ELL	Elmali	0.99	74	*e*PG		Pb	03 56 53.8	-1.6
ELL	Elmali	0.99	74	*e*Pg		Pb	03 56 53.8	-1.6
GOLH	Golhisar	1.00	42	*i* P		Pb	03 56 54.0	-1.7
GOLH	Golhisar	1.00	42	*i* P		Pb	03 56 54.0	-1.7
DNZL	Cakiroluk	1.23	12	*i* P		Pn	03 57 00.3	+0.8
DNZL				*i* S		Sg	03 57 17.1	+1.4
DNZL	Cakiroluk	1.23	12	*i* P		Pn	03 57 00.3	+0.8
DNZL				*i* S		Sg	03 57 17.1	+1.4
BODT	Bodrum	1.27	297	*e*PN		Pn	03 56 59.2	-0.8
BODT	Bodrum	1.27	297	*e*Pn		Pn	03 56 59.2	-0.8
AYDN	Tasoluk	1.35	330	*i* P		Pn	03 57 00.8	-0.3
AYDN				*i* S		Sn	03 57 18.7	-0.5
AYDN	Tasoluk	1.35	330	*i* P		Pn	03 57 00.8	-0.3
AYDN				*i* S		Sn	03 57 18.7	-0.5
KORT	Korkueli	1.40	68	*i* P		Pg	03 57 03.6	+0.6
KORT				*i* S		Sg	03 57 25.7	+4.5
KORT	Korkueli	1.40	68	*i* P		Pg	03 57 03.6	+0.6
BCK	Bucak	1.78	56	*e*PN		Pn	03 57 05.6	-1.4
BCK	Bucak	1.78	56	*e*Pn		Pn	03 57 05.6	-1.4
KHL	Karahalli	1.94	19	*e*PN		Pn	03 57 08.1	-1.1
KHL	Karahalli	1.94	19	*e*Pn		Pn	03 57 08.1	-1.1
KHAL	Karahalli	1.98	18	*i* P		Pn	03 57 09.3	-0.5
KHAL				*i* S		Sn	03 57 34.8	+0.1
KHAL	Karahalli	1.98	18	*i* P		Pn	03 57 09.3	-0.5
KHAL				*i* S		Sn	03 57 34.8	+0.1
KULA	Kula-Manisa	2.03	359	*e*PN		Pn	03 57 09.5	-0.9
KULA	Kula-Manisa	2.03	359	*e*Pn		Pn	03 57 09.5	-0.9

IDC 18 04:02:37.0±12.0, 21.37S×169.79E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=368.0km s-min=61.9km az=139.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.16	266	P		P	04 09 15.5	-0.1
	0.1nm,0.3s,baz=98,slow=8.2,SNR=3.8							
ASAR	Alice Springs	33.18	259	P		P	04 09 15.6	-0.1
	0.5nm,0.8s,baz=84,slow=9.5,SNR=5.5							
SONM	Songino Array	89.23	323	P		P	04 15 35.0	0.0
	0.3nm,0.6s,baz=135,slow=5.6,SNR=3.5							

NIED 18 04:04:00, 44.20N×149.60E, h14km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs 56.00000°, δ 68.00000°, λ 143.00000°. NP2:φs 162.00000°, δ 56.00000°, λ 27.00000°.
JMA 18 04:04:37.7±0.5, 44.19N×149.57E, h30km, M3.9
ISCJB 18 04:04:39.5±0.9, 43.66N±0.07×149.37E±0.07, h52km±8km, mb4.0/28, MS3.8/1, Error ellipse: s-maj=11.0km s-min=8.2km az=175.7
MOS 18 04:04:40.6±1.0, 43.95N×149.35E, h50km, mb4.3/18, Error ellipse: s-maj=13.9km s-min=9.9km az=130.9
NEIC 18 04:04:41.1±0.6, 43.99N×149.40E, h35km, mb4.4/5, Error ellipse: s-maj=15.6km s-min=10.1km az=167.0
IDC 18 04:04:42.0±0.6, 43.95N×149.31E, h46km±4km, mb3.5/17, mb1 3.7/19, mb1mx3.6/27, mbtmp3.5/19, Error ellipse: s-maj=15.8km s-min=13.0km az=176.0
ISC 18 04:04:40.9±0.5, 43.71N±0.05×149.40E±0.05, h47km±3km, h47km:pP-P, n104, σ1°28/155, mb4.0/28, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	2.58	279	*d* iPN		Pn	04 05 19.7	-0.4
YUK				*i* S		Sn	04 05 51.5	+1.3
YUK				pmax	pmax			
	comp=Z,77μm,1.0s							
YUK				pmax	pmax			
	comp=E,46μm,0.5s							
YUK				pmax	pmax			
	comp=N,43μm,0.5s							
YUK				smax	smax			
	comp=E,1μm,2.9s							
YUK				smax	smax			
	comp=N,2μm,2.9s							
YUK				MLR	MLR			
	comp=N,458nm,12.0s							
YUK				MLR	MLR			
	comp=E,768nm,12.0s							
YUK				MLR	MLR			
	comp=Z,1μm,12.0s							
NEM2	Nemuro 2	2.68	264	P		Pn	04 05 20.6	-0.9
NEM2				*e*S		Sn	04 05 52.5	-0.2
JRA	Rausu	3.10	276	P		Pn	04 05 27.9	+0.6
JRA				*e*S		Sn	04 06 04.7	+1.6
JNK	Nakash	3.40	270	P		Pn	04 05 30.8	-0.6
JNK				*e*S		Sn	04 06 10.6	+0.2
JAK	Akkeshi	3.50	260	P		Pn	04 05 32.5	-0.3
JAK				*e*S		Sn	04 06 12.2	-0.7
JTKR	Abashiri--Toko	3.98	276	P		Pn	04 05 39.7	+0.3
JAR	Ashorobuto	4.11	266	P		Pn	04 05 41.3	+0.1
JAR				*e*S		Sn	04 06 28.6	+0.5
JOB	Onbets	4.14	261	P		Pn	04 05 41.8	+0.3
JMP	Maruseppu	4.38	276	P		Pn	04 05 45.1	+0.3
JCH	Churui	4.55	258	P		Pn	04 05 47.4	+0.2
JCH				*e*S		Sn	04 06 39.5	+0.8
ERM	Erimo	4.89	252	*e*PN		Pn	04 05 53.9	+2.1
ASAJ	Asahikawa	4.93	277	P		Pn	04 05 54.2	+1.8
	comp=Z,1.1nm,0.3s,baz=110,slow=17,SNR=7.6							
ASAJ	Asahikawa	4.93	277	PN		Pn	04 05 54.2	+1.8
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ	Asahikawa	4.93	277	P		Pn	04 05 54.2	+1.8
JFR	Fuun	4.98	266	P		Pn	04 05 54.3	+1.1
JNBK	Urakawa-nobuka	5.08	256	P		Pn	04 05 54.5	+0.1
JBT2	Biratori 2	5.22	262	P		Pn	04 05 56.2	-0.2
YSS	Yuzh-Sakhalins	5.70	307	PN		Pn	04 06 03.0	+0.1
YSS				*e*S		Sn	04 07 07.7	+0.8
YSS				MLR	MLR			
	comp=E,500nm,15.0s							
YSS				MLR	MLR			
	comp=Z,600nm,15.0s							
JNB	Noboribetsu	6.24	261	P		Pn	04 06 10.4	0.0
JNB				*e*S		Sn	04 07 20.9	+0.5
JKB	Kayabe	6.42	256	P		Pn	04 06 12.8	0.0
JKB				*e*S		Sn	04 07 23.1	-1.5
JSK	Shakotan	6.49	270	P		Pn	04 06 15.8	+1.9
JANG	Nango	6.75	243	*e*S		Sn	04 07 29.0	-3.8
JTH	Tanohata	6.77	239	*e*S		Sn	04 07 28.5	-4.9
JYM2	Yakumo 2	6.81	260	P		Pn	04 06 18.6	+0.3
JTM	Tenmabayashi	6.83	248	P		Pn	04 06 18.3	-0.2
JTM				*e*S		Sn	04 07 32.3	-2.6
OFUJ	Ofunato	7.42	234	P		Pn	04 06 25.9	-0.7
OFUJ				*e*S		Sn	04 07 45.7	-3.7
JOSM	Okushiri--Mats	7.46	261	P		Pn	04 06 28.1	+0.9
JIO	Ouri	8.03	232	P		Pn	04 06 34.5	-0.4
JIO				*e*S		Sn	04 07 59.7	-4.6
USRK	Ussuriysk Arra	12.55	278	P		Pn	04 07 37.0	+0.4
	comp=Z,0.2nm,0.3s,baz=79,slow=16,SNR=3.0							
SEY	Seymchan	19.34	4	*e*P		P	04 08 57.7	-4.3
BILL	Bilibino	25.97	14	*e*P		P	04 10 01.4	-7.3
BILL				*e*			04 10 14.9	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.3s							
BOD	Bodaibo	26.10	315	*e*P		P	04 10 05.0	-4.9
SONM	Songino Array	29.99	293	P		P	04 10 45.4	+0.5
	comp=Z,2.3nm,0.9s,baz=79,slow=8.6,SNR=14							
SONM				pP		pP	04 10 57.0	-0.3
	comp=Z,2.2nm,0.7s,baz=75,slow=8.3,SNR=8.6							
SONM	Songino Array	29.99	293	P		P	04 10 45.4	+0.5
SONM				*PP		pP	04 10 57.0	-0.3
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SONM	Songino Array	29.99	293	P		P	04 10 45.4	+0.5
SONM				pP		pP	04 10 57.0	-0.3
TLY	Talaya	31.37	301	*e*P		pP	04 11 09.4	+0.1
TLY				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,125nm,12.0s							
ZAK	Zakamensk	31.70	299	*e*P		P	04 11 00.0	0.0
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ILAR	Eielson Array	40.56	36	P		P	04 12 14.6	-0.7
	comp=Z,0.6nm,1.1s,baz=273,slow=8.1,SNR=5.9							
ILAR	Eielson Array	40.56	36	P		P	04 12 14.6	-0.7
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.1s							
ILAR	Eielson Array	40.56	36	P		P	04 12 14.6	-0.7
ZALV	Zalesovo Beam	42.32	308	P		P	04 12 29.3	-0.4
	comp=Z,0.4nm,0.3s,baz=87,slow=7.4,SNR=3.1							
ZALV				pP		pP	04 12 43.1	+0.6
	comp=Z,0.7nm,0.6s,baz=76,slow=6.8,SNR=2.6							
ZALV	Zalesovo Beam	42.32	308	P		P	04 12 29.4	-0.4
ZALV				*PP		pP	04 12 43.1	+0.6
ZALV	Zalesovo Beam	42.32	308	P		P	04 12 29.4	-0.4
ZALV				pP		pP	04 12 43.1	+0.6
INK	Inuvik	45.62	30	P		P	04 12 56.2	+0.2
	comp=Z,1.2nm,0.9s,baz=282,slow=9.1,SNR=4.7							
INK				pP		pP	04 13 10.1	+1.2
	comp=Z,0.8nm,0.6s,baz=340,slow=8.5,SNR=2.8							
INK	Inuvik	45.62	30	P		P	04 12 56.2	+0.2
INK				*PP		pP	04 13 10.1	+1.2
INK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	Inuvik	45.62	30	P		P	04 12 56.2	+0.2
INK				pP		pP	04 13 10.1	+1.2
MK31	Makanchi Array	46.04	298	*e*P		P	04 12 59.9	+0.2
MK31	Makanchi Array	46.04	298	*e*P		P	04 12 59.9	+0.2
MKAR	Makanchi Array	46.04	298	P		P	04 13 00.1	+0.4
	comp=Z,1.3nm,0.5s,baz=73,slow=9.0,SNR=18							
MKAR				pP		pP	04 13 12.9	+0.3
	comp=Z,4.6nm,0.8s,baz=74,slow=8.9,SNR=19							
MKAR	Makanchi Array	46.04	298	P		P	04 13 00.1	+0.4
MKAR				*PP		pP	04 13 12.9	+0.3
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MKAR	Makanchi Array	46.04	298	P		P	04 13 00.1	+0.4
MKAR				pP		pP	04 13 12.9	+0.3
KURK	Kurchatov	46.90	305	P		P	04 13 06.5	+0.2
	comp=Z,0.9nm,0.3s,baz=73,slow=8.3,SNR=13							
KURK				pP		pP	04 13 19.7	+0.5
	comp=Z,2.4nm,0.7s,baz=69,slow=8.6,SNR=9.4							
KURK	Kurchatov	46.90	305	*i* P		P	04 13 05.9	-0.4
KURK				pmax	pmax			
	comp=Z,9.0nm,2.5s							
KURK	Kurchatov	46.90	305	*e*P		P	04 13 05.8	-0.4
	comp=Z,2.3nm,0.8s							
KURK				*e*pP		pP	04 13 18.9	-0.3
BVAR	Borovoye Array	50.78	310	P		P	04 13 37.1	+1.0
	comp=Z,0.8nm,0.8s,baz=72,slow=7.0,SNR=4.3							
BVAR				pP		pP	04 13 48.7	-0.4
	comp=Z,0.5nm,0.7s,baz=68,slow=9.7,SNR=3.3							
BVAR	Borovoye Array	50.78	310	P		P	04 13 37.1	+1.0
BVAR				*PP		pP	04 13 48.7	-0.4
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	Borovoye Array	50.78	310	P		P	04 13 37.1	+1.0
BVAR				pP		pP	04 13 48.7	-0.4
TKM2	Tokmak 2	51.99	296	*e*P		P	04 13 46.6	+1.1
TKM2				pmax	pmax			
	comp=Z,6.0nm,1.1s							
TKM2	Tokmak 2	51.99	296	*e*P		P	04 13 46.6	+1.1
	comp=Z,6.0nm,1.1s							
AAK	Ala-Archa	52.84	297	*e*P		P	04 13 52.4	+0.6
AAK				pmax	pmax			
	comp=Z,24nm,1.1s							
AAK	Ala-Archa	52.84	297	*e*P		P	04 13 52.4	+0.6
	comp=Z,24nm,1.1s							
EKS2	Erkin-Say	53.29	297	*e*P		P	04 13 56.0	+1.0
EKS2				*e*PP		pP	04 14 08.8	+0.7
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.9s							
EKS2	Erkin-Say	53.29	297	*e*P		P	04 13 56.0	+1.0
	comp=Z,3.8nm,0.9s							
EKS2				*e*pP		pP	04 14 08.8	+0.7
RES	Resolute Bay	54.53	17	*e*P		P	04 14 03.5	0.0
RES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
RES	Resolute Bay	54.53	17	*e*P		P	04 14 03.5	0.0
	comp=Z,2.6nm,0.9s							
YKA	Yellowknife Ar	54.92	34	P		P	04 14 06.2	-0.3
	comp=Z,0.4nm,0.8s,baz=299,slow=6.6,SNR=4.9							
YKA	Yellowknife Ar	54.92	34	P		P	04 14 06.2	-0.3
YKA	Yellowknife Ar	54.92	34	P		P	04 14 06.2	-0.3
ARU	Arti	55.48	318	*d* iP		P	04 14 09.1	-1.5
ARU				S		S	04 21 51.6	-0.3
ARU				SS		SS	04 25 27.9	-8.6
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
ARCES	ARCESS Array B	59.84	340	P		P	04 14 40.1	-0.9
	comp=Z,2.3nm,0.8s,baz=49,slow=9.7,SNR=4.3							
ARCES	ARCESS Array B	59.84	340	P		P	04 14 40.1	-0.9
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	ARCESS Array B	59.84	340	P		P	04 14 40.1	-0.9
JOF	Joensuu	62.87	333	*e*P		P	04 15 00.5	-1.0
JOF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
JOF	Joensuu	62.87	333	*e*p		P	04 15 00.5	-1.0
	comp=Z,1.6nm,0.6s							
JOF	Joensuu	62.87	333	*e*p		P	04 15 00.5	-1.0
	comp=Z,1.6nm,0.6s							
WRA	Warramunga Arr	64.83	196	P		P	04 15 16.4	+1.5
	comp=Z,0.7nm,0.7s,baz=16,slow=6.8,SNR=7.5							
WRA				pP		pP	04 15 29.5	+1.2
	comp=Z,1.1nm,1.0s,baz=14,slow=6.7,SNR=4.6							
WRA	Warramunga Arr	64.83	196	P		P	04 15 16.4	+1.5
WRA				*PP		pP	04 15 29.5	+1.2
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA	Warramunga Arr	64.83	196	P		P	04 15 16.4	+1.5
WRA				pP		pP	04 15 29.5	+1.2
FINES	FINESS Array B	65.64	334	P		P	04 15 18.6	-1.0
	comp=Z,1.7nm,0.5s,baz=37,slow=7.7,SNR=14							
FINES				pP		pP	04 15 31.4	-1.7
	comp=Z,2.5nm,0.7s,baz=52,slow=9.9,SNR=3.6							
FINES	FINESS Array B	65.64	334	P		P	04 15 18.6	-1.0
FINES				*PP		pP	04 15 31.4	-1.7
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FINES	FINESS Array B	65.64	334	P		P	04 15 18.6	-1.0
FINES				pP		pP	04 15 31.4	-1.7
NVAR	Mina Array Bea	66.21	59	P		P	04 15 26.0	+2.0
	comp=Z,0.3nm,0.7s,baz=282,slow=8.8,SNR=3.0							
NVAR	Mina Array Bea	66.21	59	P		P	04 15 26.0	+2.0
OBN	Obninsk	66.30	325	*e*P		P	04 15 23.9	-0.1
OBN				*e*			04 15 37.3	
OBN				*e*SS		SS	04 28 24.3	-1.3
OBN				pmax	pmax			
	comp=Z,7.0nm,1.5s							
ASAR	Alice Springs	68.53	195	P		P	04 15 42.2	+3.8
	comp=Z,0.4nm,0.7s,baz=8.0,slow=5.6,SNR=6.7							
ASAR	Alice Springs	68.53	195	P		P	04 15 42.2	+3.8
ASAR	Alice Springs	68.53	195	P		P	04 15 42.2	+3.8
NB2	NORSAR Subarra	70.22	340	P		P	04 15 48.4	-0.1
	comp=Z,6.3nm,0.7s,baz=31,slow=6.5							
NOA	NORSAR Array B	70.22	340	P		P	04 15 47.8	-0.7
	comp=Z,1.4nm,0.6s,baz=33,slow=6.3,SNR=8.8							
NOA				pP		pP	04 16 00.8	-1.3
	comp=Z,3.6nm,0.7s,baz=31,slow=6.3,SNR=6.1							
NOA	NORSAR Array B	70.22	340	P		P	04 15 47.8	-0.7
NOA				*PP		pP	04 16 00.8	-1.3
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
NOA	NORSAR Array B	70.22	340	P		P	04 15 47.8	-0.7
NOA				pP		pP	04 16 00.8	-1.3
AKASG	Malin Array Be	72.56	325	P		P	04 16 01.2	-1.6
	comp=Z,0.4nm,0.4s,baz=36,slow=5.3,SNR=3.8							
AKASG				pP		pP	04 16 14.9	-1.5
	comp=Z,1.1nm,0.6s,baz=40,slow=6.7,SNR=2.8							
AKASG	Malin Array Be	72.56	325	P		P	04 16 01.2	-1.6
AKASG				*PP		pP	04 16 14.9	-1.5
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	Malin Array Be	72.56	325	P		P	04 16 01.2	-1.6
AKASG				pP		pP	04 16 14.9	-1.5
CLL	Collm	78.09	334	*i* P		P	04 16 35.5	+1.0
CLL				pmax	pmax			
	comp=Z,12nm,1.4s							
CLL	Collm	78.09	334	*i* P		P	04 16 35.5	+1.0
	comp=Z,12nm,1.4s							
CLL				*e*pP		PcP	04 16 45.0	+1.1
KHC	Kasperske Hory	79.77	332	*e*P		P	04 16 45.0	+1.2
KHC				*e*			04 16 58.0	
KHC	Kasperske Hory	79.77	332	*e*P		P	04 16 45.0	+1.2
KHC				*e*pP		pP	04 16 58.0	+0.4
KHC				*ex*		x	04 17 11.0	
GERES	GERESS Array B	79.97	332	P		P	04 16 43.9	-1.0
	comp=Z,0.4nm,0.8s,baz=26,slow=13,SNR=4.0							
GERES				pP		pP	04 16 57.9	-0.9
	comp=Z,0.4nm,0.6s,baz=28,slow=6.5,SNR=3.3							
GERES	GERESS Array B	79.97	332	P		P	04 16 43.9	-1.0
GERES				*PP		pP	04 16 57.9	-0.9
GERES	GERESS Array B	79.97	332	P		P	04 16 43.9	-1.0
GERES				pP		pP	04 16 57.9	-0.9
TXAR	Lajitas Array	81.31	58	P		P	04 16 54.1	+1.6
	comp=Z,0.5nm,0.7s,baz=297,slow=4.0,SNR=6.5							
TXAR				pP		pP	04 17 05.2	-1.1
	comp=Z,0.3nm,0.6s,baz=298,slow=4.2,SNR=3.2							
TXAR				sP		sP	04 17 13.7	+2.1
	comp=Z,0.4nm,0.7s,baz=285,slow=3.8,SNR=4.0							
TXAR	Lajitas Array	81.31	58	P		P	04 16 54.1	+1.6
TXAR				*PP		pP	04 17 05.2	-1.1
TXAR				*SP		sP	04 17 13.7	+2.1
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	81.31	58	P		P	04 16 54.1	+1.6
TXAR				pP		pP	04 17 05.2	-1.1
TXAR				sP		sP	04 17 13.7	+2.1

IDC 18 04:22:23.3±4.8, 20.08S×178.06W, h532km±54km, mb3.1/10, mb1 3.4/11, mb1mx3.2/19, mbtmp3.1/11, Error ellipse: s-maj=47.1km s-min=22.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.60	259	P		P	04 25 30.6	+1.5
	0.1nm,0.3s,baz=89,slow=17,SNR=3.5							
CTA	Charters Tower	33.48	264	P		P	04 28 18.5	-0.1
	6.4nm,0.5s,baz=88,slow=8.6,SNR=11							
STKA	Stephens Creek	37.92	244	P		P	04 28 54.8	-0.6
	1.2nm,0.5s,baz=116,

TLE	**Tual**	**5.32 177**	P		Pn	04 28 40.1	+2.7	
	211nm,0.9s,4µm1.7nm							
AAI	**Ambon**	**5.40 231**	P		**Pn**	**04 28 37.7**	**-0.9**	
	600nm,0.8s,5µm2.0nm							
NLAI	**Namlea**	**6.07 241**	P		**Pn**	**04 28 47.6**	**-0.1**	
	112nm,0.7s,5µm0.5nm							
LUWI	**Luwuk**	**9.68 266**	P		Pn	04 29 40.7	+3.5	
	77nm,1.1s							
KDI	**Kendari**	**10.45 249**	P		**Pn**	**04 29 47.9**	**+0.1**	
	28nm,1.0s							
KAPI	**Kappang**	**13.49 249**	Pn		**Pn**	**04 30 30.6**	**+1.2**	
	1.3nm,0.3s,baz=148,slow=5.4,SNR=4.7							
KAPI			LR		LR	04 36 34.1		
	comp=Z,107nm,18.3s,baz=82,slow=41							
KAPI	**Kappang**	**13.49 249**	Pn		**Pn**	**04 30 30.6**	**+1.2**	
PMG	**Port Moresby**	**17.24 122**	Pn		**P**	**04 31 20.7**	**+0.8**	
	0.0nm,0.3s,baz=296,slow=6.3,SNR=7.2							
PMG	**Port Moresby**	**17.24 122**	⇓*i*P		**P**	**04 31 20.9**	**+1.0**	
PMG	**Port Moresby**	**17.24 122**	*e*Pn		**P**	**04 31 22.1**	**+2.2**	
	19nm,0.9s							
GUMO	**Guam**	**18.50 41**	LR		LR	04 37 41.8		
	comp=Z,184nm,18.8s,baz=202,slow=34							
FITZ	**Fitzroy Crossi**	**18.91 200**	P		**P**	**04 31 34.3**	**-4.0**	
	0.7nm,0.3s,baz=69,slow=9.3,SNR=18							
FITZ			S		Sn	04 34 54.8	-15	
	0.7nm,0.3s,baz=201,slow=10.0,SNR=5.0							
FITZ	**Fitzroy Crossi**	**18.91 200**	*e*P		**P**	**04 31 33.9**	**-4.4**	
	15nm,0.6s							
FITZ			*e*S		Sn	04 34 50.8	-19	
FITZ	**Fitzroy Crossi**	**18.91 200**	P		**P**	**04 31 34.3**	**-4.0**	
FITZ			S		Sn	04 34 54.8	-15	
WRA	**Warramunga Arr**	**19.62 175**	P		**P**	**04 31 45.0**	**-1.1**	
	1.9nm,0.3s,baz=353,slow=11,SNR=54							
WRA			S		S	04 35 14.1	-12	
	0.4nm,0.3s,baz=353,slow=23,SNR=8.4							
WRA	**Warramunga Arr**	**19.62 175**	P		**P**	**04 31 45.0**	**-1.1**	
WRA			S		S	04 35 14.1	-12	
WRA	**Warramunga Arr**	**19.62 175**	P		**P**	**04 31 45.0**	**-1.1**	
WRA			S		S	04 35 14.1	-12	
WB2	**Warramunga Arr**	**19.62 175**	*e*P		**P**	**04 31 45.0**	**-1.1**	
WB2			*e*Sn		S	04 35 13.7	-12	
AS31	**Alice Springs**	**23.28 177**	*e*P		**P**	**04 32 23.8**	**-1.4**	
ASAR	**Alice Springs**	**23.28 177**	P		**P**	**04 32 24.2**	**-1.0**	
	31nm,0.8s,baz=359,slow=8.3,SNR=88							
ASAR			S		S	04 36 42.5	+7.1	
	4.8nm,0.9s,baz=10,slow=26,SNR=6.9							
ASAR	**Alice Springs**	**23.28 177**	P		**P**	**04 32 24.2**	**-1.0**	
ASAR	**Alice Springs**	**23.28 177**	P		**P**	**04 32 24.2**	**-1.0**	
ASAR			S		S	04 36 42.5	+7.1	
CTA	**Charters Tower**	**23.89 146**	P		**P**	**04 32 31.1**	**+0.1**	
	14nm,0.9s,baz=321,slow=14,SNR=9.1							
CTA	**Charters Tower**	**23.89 146**	*e*P		**P**	**04 32 31.9**	**+0.9**	
	11nm,0.9s							
CTA	**Charters Tower**	**23.89 146**	P		**P**	**04 32 31.1**	**+0.1**	
CTA	**Charters Tower**	**23.89 146**	P		**P**	**04 32 31.1**	**+0.1**	
CTAO	**Charters Tower**	**23.89 146**	*e*P		**P**	**04 32 31.3**	**+0.3**	
CTAO				pmax	pmax			
	comp=Z,14nm,0.8s							
CTAO	**Charters Tower**	**23.89 146**	*e*P		**P**	**04 32 31.3**	**+0.3**	
	comp=Z,14nm,0.8s							
MBWA	**Marble Bar**	**24.16 210**	*e*P		**P**	**04 32 34.6**	**+1.0**	
	comp=Z,12nm,0.7s							
FORT	**Forrest**	**30.60 187**	*e*P		**P**	**04 33 30.1**	**-1.1**	
	comp=Z,64nm,0.6s							
FORT	**Forrest**	**30.60 187**	*e*P		**P**	**04 33 32.4**	**+1.2**	
	comp=Z,68nm,0.6s							
STKA	**Stephens Creek**	**32.59 165**	P		**P**	**04 33 48.2**	**-0.5**	
	comp=Z,2.9nm,0.6s,baz=344,slow=7.5,SNR=11							
STKA	**Stephens Creek**	**32.59 165**	*e*P		**P**	**04 33 50.1**	**+1.4**	
	comp=Z,2.4nm,0.6s							
STKA	**Stephens Creek**	**32.59 165**	*e*P		**P**	**04 33 50.5**	**+1.8**	
STKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
STKA	**Stephens Creek**	**32.59 165**	*e*P		**P**	**04 33 50.5**	**+1.8**	
	comp=Z,0.8nm,0.8s							
PSI	**Prapat**	**33.62 275**	P		**P**	**04 34 00.7**	**+2.6**	
	comp=Z,19nm,1.2s							
KLBR	**Kellerberrin**	**34.09 203**	*e*P		**P**	**04 34 01.5**	**-0.3**	
	comp=Z,38nm,1.2s							
NJ2	**Nanjing**	**34.63 339**	*e*P		**P**	**04 34 08.6**	**+2.1**	
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s							
ARMA	**Armidale**	**35.09 150**	*e*P		**P**	**04 34 10.5**	**-0.1**	
ARMA	**Armidale**	**35.09 150**	*e*P		**P**	**04 34 11.0**	**+0.4**	
	comp=Z,18nm,0.8s							
NWAO	**Narrogin (SRO)**	**35.47 202**	P		**P**	**04 34 14.8**	**+1.1**	
	comp=Z,12nm,0.8s,baz=30,slow=8.4,SNR=5.8							
NWAO	**Narrogin (SRO)**	**35.47 202**	P		**P**	**04 34 14.9**	**+1.1**	
NWAO	**Narrogin (SRO)**	**35.47 202**	P		**P**	**04 34 14.8**	**+1.1**	
GYA	**Guiyang**	**36.38 319**	P		**P**	**04 34 23.8**	**+2.1**	
GYA			pP		**pP**	**04 34 33.0**	**+1.2**	
GYA			PP		PP	04 35 47.9	+3.0	
GYA			S		**S**	**04 40 01.3**	**+0.3**	
GYA			SP		**ScP**	**04 40 30.8**	**+0.9**	
GYA			SS		SS	04 42 27.8	-13	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.8s							
GYA			LR		LR			
	comp=N,490nm,16.9s							
GYA			LR		LR			
	comp=E,470nm,17.0s							
GYA			LR		LR			
	comp=Z,510nm,16.4s							
MJAR	**Matsushiro Arr**	**37.04 8**	P		**P**	**04 34 25.6**	**-1.5**	
	comp=Z,2.0nm,0.8s,baz=196,slow=9.2,SNR=6.9							
MJAR	**Matsushiro Arr**	**37.04 8**	P		**P**	**04 34 25.6**	**-1.5**	
MJAR	**Matsushiro Arr**	**37.04 8**	P		**P**	**04 34 25.6**	**-1.5**	
KSRS	**Korea Array**	**37.79 354**	LR		LR	04 48 51.0		
	comp=Z,47nm,18.2s,baz=340,slow=34							
CMAR	**Chiang Mai Arr**	**37.80 301**	P		**P**	**04 34 33.6**	**-0.1**	
	comp=Z,0.9nm,0.3s,baz=115,slow=6.8,SNR=7.9							
CMAR	**Chiang Mai Arr**	**37.80 301**	P		**P**	**04 34 33.7**	**-0.1**	
CMAR	**Chiang Mai Arr**	**37.80 301**	P		**P**	**04 34 33.6**	**-0.1**	
KMI	**Kunming**	**38.24 314**	P		**P**	**04 34 38.0**	**+0.3**	
KMI			pP		**pP**	**04 34 49.6**	**+1.8**	
KMI			sP		**sP**	**04 34 54.9**	**+3.0**	
KMI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CD2	**Chengdu**	**41.27 321**	P		**P**	**04 35 04.0**	**+1.4**	
CD2			pP		**pP**	**04 35 14.3**	**+1.5**	
CD2			sP		**sP**	**04 35 18.5**	**+1.6**	
CD2			PP		PP	04 36 43.3	+5.0	
CD2			S		**S**	**04 41 15.8**	**+1.3**	
CD2			sS		**sS**	**04 41 32.8**	**+1.5**	
CD2			SS		SS	04 44 15.5	-3.4	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,190nm,4.8s							
CD2			LR		LR			
	comp=N,410nm,8.3s							
CD2			LR		LR			
	comp=Z,310nm,9.5s							
BJT	**Baijiatuau**	**42.77 342**	*e*P		**P**	**04 35 14.4**	**-0.2**	
BJT				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BJT	**Baijiatuau**	**42.77 342**	*e*P		**P**	**04 35 14.4**	**-0.2**	
	comp=Z,7.0nm,0.6s							
BJI	**Beijing**	**42.79 342**	P		**P**	**04 35 14.6**	**-0.2**	
BJI			S		**S**	**04 41 35.8**	**-0.8**	
BJI				pmax	pmax			
	comp=Z,22nm,1.1s							
BJI			LR		LR			
	comp=Z,110nm,20.2s							
USRK	**Ussuriysk Arra**	**44.30 360**	P		**P**	**04 35 27.3**	**+0.5**	
	comp=Z,6.1nm,0.8s,baz=185,slow=7.3,SNR=14							
CN2	**Changchun**	**44.34 353**	*e*P		P	04 35 32.3	+5.1	
CN2			*e*SP		sP	04 35 47.0	+5.4	
CN2			*e*S		S	04 42 05.3	+6.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2			LR		LR			
	comp=N,200nm,14.0s							
CN2			LR		LR			
	comp=E,200nm,14.0s							
CN2			LR		LR			
	comp=Z,300nm,15.0s							
MDJ	**Mudanjiang**	**44.78 357**	P		**P**	**04 35 31.3**	**+0.6**	
MDJ			pP		**pP**	**04 35 40.3**	**-0.7**	
MDJ			sP		**sP**	**04 35 44.0**	**-1.1**	
MDJ			ScP		**ScP**	**04 41 02.9**	**+0.6**	
MDJ			PcS		**PcS**	**04 41 06.8**	**+1.0**	
MDJ			S		**S**	**04 42 06.5**	**+0.9**	
MDJ			sS		**sS**	**04 42 22.0**	**-0.4**	
MDJ				pmax	pmax			
	comp=Z,9.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,58nm,4.3s							
LZH	**Lanzhou**	**44.90 327**	*e*P		**P**	**04 35 32.4**	**+0.4**	
LZH			pP		**pP**	**04 35 43.1**	**+0.8**	
LZH			sP		**sP**	**04 35 48.3**	**+1.9**	
LZH				pmax	pmax			
	comp=Z,28nm,1.5s							
LZH				pmax	pmax			
	comp=Z,130nm,6.6s							
HHC	**Hu-ho-hao-te**	**45.12 338**	*e*P		**P**	**04 35 34.3**	**+0.7**	
HHC			sP		**sP**	**04 35 48.8**	**+0.8**	
HHC			PcP		**PcP**	**04 37 13.3**	**-0.5**	
HHC			PP		PP	04 37 20.1	+0.5	
HHC			ScP		**ScP**	**04 41 01.8**	**-2.2**	
HHC			PcS		**PcS**	**04 41 06.8**	**-0.9**	
HHC			S		**S**	**04 42 11.4**	**+0.6**	
HHC			sS		**sS**	**04 42 27.8**	**+0.1**	
HHC			SS		**ScS**	**04 45 25.8**	**-2.4**	
HHC				pmax	pmax			
	comp=Z,21nm,0.8s							
HHC				pmax	pmax			
	comp=Z,500nm,6.7s							
HHC			LR		LR			
	comp=N,340nm,16.1s							
HHC			LR		LR			
	comp=E,310nm,17.1s							
HHC			LR		LR			
	comp=Z,330nm,16.8s							
YSS	**Yuzh-Sakhalins**	**47.92 10**	⇑*e*P		**P**	**04 35 56.2**	**+1.0**	
YSS	**Yuzh-Sakhalins**	**47.92 10**	*e*P		**P**	**04 35 55.5**	**+0.2**	
	comp=Z,13nm,0.5s							
HABR	**Khabarovsk**	**48.62 2**	*e*P		**P**	**04 35 59.8**	**-0.9**	
HABR			*e**SP		**sP**	**04 36 12.8**	**-2.3**	
HABR			S		**S**	**04 43 00.1**	**-0.2**	
HABR			*e**SS		**sS**	**04 43 16.2**	**-1.1**	
HABR				pmax	pmax			
	comp=Z,34nm,1.9s							
HABR				pmax	pmax			
	comp=E,61nm,2.5s							
HABR				pmax	pmax			
	comp=N,39nm,2.5s							
ULN	**Ulaanbaatar**	**52.79 339**	*e*P		**P**	**04 36 33.1**	**+0.7**	
ULN				pmax	pmax			
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**52.79 339**	*e*P		**P**	**04 36 33.1**	**+0.7**	
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**52.79 339**	P		**P**	**04 36 33.0**	**+0.7**	
	comp=Z,19nm,0.9s							
SONM	**Songino Array**	**53.01 338**	P		**P**	**04 36 34.4**	**+0.5**	
	comp=Z,7.3nm,1.0s,baz=158,slow=7.6,SNR=42							
SONM	**Songino Array**	**53.01 338**	P		**P**	**04 36 34.4**	**+0.5**	
SONM	**Songino Array**	**53.01 338**	P		**P**	**04 36 34.4**	**+0.5**	
TLY	**Talaya**	**57.20 339**	*e*P		**P**	**04 37 04.7**	**+0.7**	
TLY				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TLY	**Talaya**	**57.20 339**	*e*P		**P**	**04 37 04.7**	**+0.7**	
	comp=Z,3.2nm,0.7s							
PETK	**Petropavlovsk-**	**57.24 18**	P		**P**	**04 37 05.3**	**+1.1**	
	comp=Z,5.7nm,0.8s,baz=181,slow=7.1,SNR=3.6							
PETK	**Petropavlovsk-**	**57.24 18**	P		**P**	**04 37 05.3**	**+1.1**	
PETK	**Petropavlovsk-**	**57.24 18**	P		**P**	**04 37 05.3**	**+1.1**	
WMQ	**Urumqi**	**59.28 324**	*e*P		**P**	**04 37 18.4**	**-0.4**	
WMQ			pP		**pP**	**04 37 28.4**	**-0.9**	
WMQ			sP		**sP**	**04 37 32.4**	**-1.0**	
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BOD	**Bodaibo**	**59.77 349**	*e*P		**P**	**04 37 21.3**	**-0.4**	
BOD				pmax	pmax			
	comp=Z,5.0nm,1.7s							
YAK	**Yakutsk**	**62.20 359**	*e*P		**P**	**04 37 38.0**	**-0.1**	
YAK			*e**PP		**pP**	**04 37 45.7**	**-3.0**	
YAK			*e*			04 38 18.8		
YAK			*e*			04 39 51.7		
YAK			*e*S		**S**	**04 46 02.3**	**+1.2**	
YAK				pmax	pmax			
	comp=Z,53nm,0.9s							
YAK				pmax	pmax			
	comp=N,15nm,1.1s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.2s							
YAK				smax	smax			
	comp=N,131nm,6.2s							
YAK				smax	smax			
	comp=E,72nm,4.5s							
YAK			MLR		MLR			
	comp=E,29nm,10.0s							
YAK			MLR		MLR			
	comp=Z,66nm,8.0s							
YAK			MLR		MLR			
	comp=N,74nm,11.0s							
YAK	**Yakutsk**	**62.20 359**	*e*P		**P**	**04 37 38.9**	**+0.8**	
	comp=N,64nm,0.8s							
MK31	**Makanchi Array**	**64.10 324**	*e*P		**P**	**04 37 51.2**	**0.0**	
MK31	**Makanchi Array**	**64.10 324**	*e*P		**P**	**04 37 51.2**	**0.0**	
MKAR	**Makanchi Array**	**64.10 324**	P		**P**	**04 37 51.3**	**+0.1**	
	comp=N,7.9nm,0.7s,baz=117,slow=7.9,SNR=106							
MKAR	**Makanchi Array**	**64.10 324**	P		**P**	**04 37 51.3**	**+0.1**	
MKAR	**Makanchi Array**	**64.10 324**	P		**P**	**04 37 51.3**	**+0.1**	
SEY	**Seymchan**	**64.82 10**	*e*P		**P**	**04 37 55.7**	**+0.3**	
KSH	**Kashi**	**64.89 315**	*e*P		**P**	**04 37 57.5**	**+0.9**	
KSH			*e*pP		**pP**	**04 38 07.9**	**+0.7**	
KSH			*e*sP		**sP**	**04 38 11.8**	**+0.5**	
KSH			*e*PcP		**PcP**	**04 38 30.6**	**+0.9**	
KSH			*e*PP		**PP**	**04 40 22.0**	**+2.3**	
KSH			*e*ScP			04 42 29.6		
KSH			*e*PcS			04 42 33.1		
KSH			*e*S		**S**	**04 46 33.3**	**-2.6**	
KSH			*e*sS		**sS**	**04 46 51.4**	**-2.0**	
KSH			*e*ScS		**SKSac**	**04 47 45.8**	**-3.2**	
KSH			*e*SS		**SS**	**04 50 47.8**	**-0.2**	
KSH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KSH				pmax	pmax			
	comp=Z,80nm,5.1s							
KSH			LR		LR			
	comp=N,310nm,7.1s							
KSH			LR		LR			
	comp=E,430nm,8.1s							
KSH			LR		LR			
	comp=Z,410nm,8.3s							
KZA	**Kyzart**	**66.41 317**	P		**P**	**04 38 07.6**	**+0.9**	
	SNR=10							
KZA			P		**P**	**04 38 07.6**	**+0.9**	
	SNR=10							
TKM2	**Tokmak 2**	**66.51 318**	P		**P**	**04 38 07.3**	**+0.1**	
	SNR=9.1							
TKM2			P		**P**	**04 38 07.3**	**+0.1**	
	SNR=9.1							
TKM2	**Tokmak 2**	**66.51 318**	*e*P		**P**	**04 38 07.2**	**+0.1**	
TKM2				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TKM2	**Tokmak 2**	**66.51 318**	*e*P		**P**	**04 38 07.2**	**+0.1**	
	comp=Z,8.6nm,0.8s							
ZAA0	**Zalesovo Array**	**66.77 332**	*e*P		**P**	**04 38 06.8**	**-1.3**	
ZALV	**Zalesovo Beam**	**66.77 332**	P		**P**	**04 38 07.5**	**-0.7**	
	comp=Z,4.5nm,0.7s,baz=111,slow=6.2,SNR=25							
ZALV	**Zalesovo Beam**	**66.77 332**	P		**P**	**04 38 07.5**	**-0.7**	
ZALV	**Zalesovo Beam**	**66.77 332**	P		**P**	**04 38 07.5**	**-0.7**	
AAK	**Ala-Archa**	**67.14 317**	*d*iP		**P**	**04 38 11.4**	**+0.4**	
AAK				pmax	pmax			
	comp=Z,26nm,2.5s							
USP	**Ospenovka**	**67.39 318**	P		**P**	**04 38 12.6**	**+0.1**	
	SNR=14							
USP			P		**P**	**04 38 12.6**	**+0.1**	
	SNR=14							
AML	**Almayashu**	**67.49 317**	P		**P**	**04 38 14.1**	**+0.6**	
	SNR=11							
AML			P		**P**	**04 38 14.1**	**+0.6**	
	SNR=11							
EKS2	**Erkin-Say**	**67.64 317**	P		**P**	**04 38 14.7**	**+0.6**	
	SNR=7.4							
EKS2			P		**P**	**04 38 14.7**	**+0.6**	
	SNR=7.4							
EKS2	**Erkin-Say**	**67.64 317**	*e*P		**P**	**04 38 15.0**	**+0.9**	
EKS2	**Erkin-Say**	**67.64 317**	*e*P		**P**	**04 38 15.0**	**+0.9**	
NVS	**Novosibirsk**	**68.04 332**	*e*P		**P**	**04 38 14.1**	**-2.1**	
NVS				pmax	pmax			
	comp=N,5.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,5.0nm,0.9s							
NVS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KURK	**Kurchatov**	**68.19 326**	*d*iP		**P**	**04 38 17.0**	**-0.2**	
KURK				pmax	pmax			
	comp=Z,16nm,1.2s							
KURK	**Kurchatov**	**68.19 326**	*e*P		**P**	**04 38 17.1**	**-0.1**	
	comp=Z,54nm,1.9s							
KBL	**Kabul**	**68.46 308**	*e*P		**P**	**04 38 18.6**	**-1.0**	
KBL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBL	**Kabul**	**68.46 308**	*e*P		**P**	**04 38 18.6**	**-1.0**	
	comp=Z,3.1nm,0.8s							
KKAR	**Karatay Array**	**70.03 317**	*e*P		**P**	**04 38 29.0**	**+0.1**	
KKAR	**Karatay Array**	**70.03 317**	*e*P		**P**	**04 38 29.0**	**+0.1**	
BILL	**Bilibino**	**72.08 13**	*e*P		**P**	**04 38 39.9**	**-0.9**	
BILL			*e**PP		**pP**	**04 38 50.8**	**-0.7**	
BILL			*e*			04 39 01.3		
BILL			*e*S		**S**	**04 48 03.4**	**+3.3**	
BILL				pmax	pmax			
	comp=Z,16nm,2.5s							
BRVK	**Borovoye**	**73.86 326**	*e*P		**P**	**04 38 51.6**	**0.0**	
BRVK	**Borovoye**	**73.86 326**	*e*P		**P**	**04 38 51.6**	**0.0**	
VNDA	**Vanda**	**78.79 174**	*e*P		**P**	**04 39 19.3**	**+0.2**	
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
VNDA	**Vanda**	**78.79 174**	*e*P		**P**	**04 39 19.3**	**+0.2**	
	comp=Z,4.2nm,0.7s							
SVE	**Sverdlovsk**	**80.35 328**	⇓*i*P		**P**	**04 39 28.3**	**+0.3**	
SVE				pmax	pmax			
	comp=Z,17nm,1.1s							
ARU	**Arti**	**81.36 327**	*d*iP		**P**	**04 39 32.8**	**-0.6**	
ARU						04 42 38.0		
ARU			S		**S**	**04 49 41.0**	**-0.8**	
ARU			SS		**SS**	**04 54 54.7**	**-3.5**	
ARU				pmax	pmax			
	comp=Z,27nm,1.2s							
MIB	**Mutribah**	**85.87 300**	*e*P		**P**	**04 39 55.7**	**-1.4**	
MIB				AMb	AMB	04 39 58.0		
	comp=Z,31nm,1.0s							
COLA	**College**	**85.90 25**	*e*P		**P**	**04 39 55.4**	**-1.0**	
COLA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
COLA	**College**	**85.90 25**	*e*P		**P**	**04 39 55.4**	**-1.0**	
	comp=Z,5.7nm,0.8s							
NAY	**Al-Naaiem**	**85.93 299**	*e*P		**P**	**04 39 55.6**	**-1.8**	
NAY				AMb	AMB	04 39 58.0		
	comp=Z,19nm,1.2s							
ILAR	**Eielson Array**	**86.29 25**	P		**P**	**04 39 57.6**	**-0.8**	
	comp=Z,5.1nm,0.8s,baz=254,slow=4.6,SNR=42							
ILAR	**Eielson Array**	**86.29 25**	P		**P**	**04 39 57.7**	**-0.8**	
ILAR	**Eielson Array**	**86.29 25**	P		**P**	**04 39 57.6**	**-0.8**	
QSPA	**South Pole Qui**	**89.64 180**	*e*P		**P**	**04 40 14.3**	**-0.3**	
	comp=Z,8.2nm,0.8s							
OBN	**Obninsk**	**93.59 325**	*e*P		**P**	**04 40 30.8**	**-2.1**	
OBN			*e*			04 44 18.0		
OBN			*e*PS		PS	04 52 59.5	+2.6	
OBN			*e*SS		SS	04 58 00.9	+4.1	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ARCES	**ARCESS Array B**	**96.14 340**	P		**P**	**04 40 42.9**	**-1.5**	
	comp=Z,7.2nm,0.9s,baz=96,slow=6.7,SNR=6.6							
ARCES	**ARCESS Array B**	**96.14 340**	P		**P**	**04 40 42.9**	**-1.5**	
ARCES	**ARCESS Array B**	**96.14 340**	P		**P**	**04 40 42.9**	**-1.5**	
FINES	**FINESS Array B**	**98.03 332**	P		**P**	**04 40 51.4**	**-1.5**	
	comp=Z,3.7nm,0.9s,baz=108,slow=6.2,SNR=4.7							
FINES	**FINESS Array B**	**98.03 332**	P		**P**	**04 40 51.4**	**-1.5**	
FINES	**FINESS Array B**	**98.03 332**	P		**P**	**04 40 51.4**	**-1.5**	
YKA	**Yellowknife Ar**	**100.70 26**	P		**Pdif**	**04 41 04.6**	**-0.3**	
	comp=Z,0.8nm,1.0s,baz=291,slow=4.8,SNR=7.8							
YKA	**Yellowknife Ar**	**100.70 26**	P		**Pdif**	**04 41 04.6**	**-0.3**	
YKA	**Yellowknife Ar**	**100.70 26**	P		**Pdif**	**04 41 04.6**	**-0.3**	
TORD	**Torodi Ar. Bea**	**129.54 287**	PKP		**PKPdf**	**04 46 25.9**	**-0.8**	
	comp=Z,0.3nm,0.8s,baz=35,slow=1.9,SNR=2.2							
TORD	**Torodi Ar. Bea**	**129.54 287**	PKP		**PKPdf**	**04 46 25.9**	**-0.8**	
PLCA	**Paso Flores**	**134.14 156**	PKP		**PKPdf**	**04 46 35.0**	**+0.1**	
	comp=Z,1.1nm,0.8s,baz=210,slow=2.5,SNR=3.6							
PLCA	**Paso Flores**	**134.14 156**	PKIKP		**PKPdf**	**04 46 35.0**	**+0.1**	
PLCA	**Paso Flores**	**134.14 156**	PKP		**PKPdf**	**04 46 35.0**	**+0.1**	
LPAZ	**La Paz**	**153.88 130**	PKPbc		**PKPbc**	**04 47 19.9**	**+2.0**	
	comp=Z,1.6nm,1.1s,baz=199,slow=2.7,SNR=3.8							
LPAZ			PKPab		**PKPab**	**04 47 33.0**	**+2.1**	
	comp=Z,2.1nm,0.8s,baz=198,slow=2.0,SNR=6.1							
LPAZ	**La Paz**	**153.88 130**	PKIKP		**PKPbc**	**04 47 19.9**	**+2.0**	
LPAZ			*e*			04 47 31.6		
LPAZ						04 47 33.1		
LPAZ	**La Paz**	**153.88 130**	PKPbc		**PKPbc**	**04 47 19.9**	**+2.0**	
LPAZ			*e*PKPab		**PKPab**	**04 47 31.6**	**+0.6**	
LPAZ			PKPab		**PKPab**	**04 47 33.0**	**+2.1**	

MEX 18 04:49:07.2±0.4, 18.00N×100.61W, h75km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.90**	**245**	*e*P	Pn		04 49 23.3	-1.5
ZIIG				*i*S	Sn		04 49 36.3	-1.6
MEIG	**Mezcala**	**0.95**	**94**	*i*P	Pn		04 49 23.9	-1.6
MEIG				*i*S	Sn		04 49 37.2	-1.8
CAIG	**El Cayaco**	**1.00**	**161**	*e*P	Pn		04 49 25.2	-0.8
CAIG				*e*S	Sn		04 49 37.8	-2.1
PPM	**Popocatepetl**	**2.16**	**60**	*e*P	Pn		04 49 40.6	-1.2
PPM				*i*S	Sn		04 50 06.5	-1.8
MMIG	**Aquila**	**2.62**	**277**	*e*P	Pn		04 49 45.8	-1.5
MMIG				*i*S	Sn		04

0.1nm,0.5s,baz=136,slow=7.4,SNR=2.5
KURK Kurchatov 68.49 326 P P 05 36 36.2 +0.6
0.3nm,0.8s,baz=117,slow=6.1,SNR=2.4

IDC 18 05:29:30.4±7.8, 7°.74S×118°.13E, h279km±76km, mb3.2/3, mb1 3.2/5, mb1mx3.0/18, mbtmp3.1/5, Error ellipse: s-maj=131.1km s-min=24.2km az=63.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.63**	**145**	P	P	05 32 22.6	+0.1
	0.3nm,0.3s,baz=326,slow=14,SNR=7.2						
FITZ				S	S	05 34 39.1	-2.5
	baz=261,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**19.85**	**129**	P	P	05 33 41.1	-0.1
	0.5nm,0.3s,baz=300,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.90**	**138**	P	P	05 34 01.7	+0.3
	1.3nm,0.4s,baz=312,slow=9.4,SNR=31						
STKA	**Stephens Creek**	**32.47**	**141**	P	P	05 35 34.7	-0.5
	1.0nm,0.5s,baz=312,slow=12,SNR=5.2						
SONM	**Songino Array**	**56.30**	**351**	P	P	05 38 42.4	-0.2
	0.9nm,0.7s,baz=172,slow=7.4,SNR=7.8						

BEO 18 05:30:12.0±1.4, 41°.78N×19°.84E, h0km, ML2.5/3
TIR 18 05:30:13.9±4.2, 42°.33N×20°.41E, h26km±18km, ML2.5
ISCJB 18 05:30:17.1±0.5, 42°.37N±0°.03×19°.94E±0°.03, h8km, Error ellipse: s-maj=3.7km s-min=3.4km az=161.4
PDG 18 05:30:17.8±0.1, 42°.39N×19°.90E, h111km±1km, ML1.8/8, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0
CSEM 18 05:30:17.2±0.2, 42°.37N×19°.94E, h2km, ML1.8/8, Error ellipse: s-maj=4.7km s-min=4.1km az=163.0

ISC 18 05:30:17.8±0.8, 42°.36N±0°.02×19°.93E±0°.02, h8km, n36, σ1§49/65, 12C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.10**	**87**	*e*PG	**Pg**	**05 30 18.7**	**-1.5**
BCI				*i* SG	**Sg**	**05 30 20.4**	**-1.5**
BCI	**Bajram Curri**	**0.10**	**87**	*e*Pg	**Pg**	**05 30 18.7**	**-1.5**
	SNR=17						
BCI				*i* Sg	**Sg**	**05 30 20.4**	**-1.5**
	SNR=17						
PVY	**Plav**	**0.23**	**5**	⇑*i*Pg	**Pg**	**05 30 21.7**	**-0.9**
PVY				*e*Sg	**Sg**	**05 30 25.8**	**0.0**
PVY	**Plav**	**0.23**	**5**	*e*PG	**Pg**	**05 30 21.7**	**-0.9**
PVY				*i* SG	**Sg**	**05 30 25.8**	**0.0**
PVY	**Plav**	**0.23**	**5**	⇑*i*Pg	**Pg**	**05 30 21.7**	**-0.9**
PVY				*e*Sg	**Sg**	**05 30 25.8**	**0.0**
PUK	**Puka**	**0.32**	**185**	*e*Pg	**Pg**	**05 30 23.4**	**-0.7**
PUK				*i* SG	**Sg**	**05 30 29.5**	**+1.2**
PUK	**Puka**	**0.32**	**185**	*e*Pg	**Pg**	**05 30 23.4**	**-0.7**
	SNR=12						
PUK				*i* Sg	**Sg**	**05 30 29.5**	**+1.2**
	SNR=12						
TTG	**Podgorica**	**0.50**	**278**	⇓*i*Pg	**Pg**	**05 30 26.4**	**-1.0**
TTG				*e*Sg	**Sg**	**05 30 34.2**	**+0.2**
PDG	**Podgorica**	**0.50**	**278**	*e*PG	**Pg**	**05 30 26.4**	**-1.1**
PDG				*i* SG	**Sg**	**05 30 34.2**	**0.0**
PDG	**Podgorica**	**0.50**	**278**	*e*Pg	**Pg**	**05 30 26.5**	**-1.1**
PDG				*e*Sg	**Sg**	**05 30 36.7**	**+0.2**
PDG	**Podgorica**	**0.50**	**278**	*e*Pg	**Pg**	**05 30 26.5**	**-1.1**
PDG				*e*Sg	**Sg**	**05 30 34.2**	**0.0**
IVA	**Berane**	**0.51**	**357**	⇑*i*Pg	**Pg**	**05 30 26.9**	**-0.8**
IVA				*e*Sg	**Sg**	**05 30 34.8**	**+0.3**
BEY	**Berane**	**0.51**	**357**	*e*PG	**Pg**	**05 30 26.9**	**-0.9**
BEY				*i* SG	**Sg**	**05 30 34.8**	**+0.3**
BEY	**Berane**	**0.51**	**357**	⇑*i*Pg	**Pg**	**05 30 26.9**	**-0.9**
BEY				*e*Sg	**Sg**	**05 30 34.8**	**+0.3**
ULC	**Ulcinj**	**0.65**	**232**	⇓*i*Pg	**Pg**	**05 30 30.1**	**-0.2**
ULC				*e*Sg	**Sb**	**05 30 40.1**	**-0.5**
ULC	**Ulcinj**	**0.65**	**232**	⇓*i*Pg	**Pg**	**05 30 30.1**	**-0.2**
ULC				*e*Sg	**Sb**	**05 30 40.1**	**-0.5**
BUM	**Brajici-Budva**	**0.77**	**266**	⇑*i*Pg	**Pg**	**05 30 31.9**	**-0.8**
BUM				*e*Sg	**Sg**	**05 30 43.2**	**+0.5**
BUM	**Brajici-Budva**	**0.77**	**266**	⇑*i*Pg	**Pg**	**05 30 31.9**	**-0.8**
BUM				*e*Sg	**Sg**	**05 30 43.2**	**+0.5**
NKY	**Niksic**	**0.83**	**303**	⇑*i*Pg	**Pg**	**05 30 32.3**	**-1.4**
NKY				*e*Sg	**Sg**	**05 30 44.9**	**+0.4**
NKY	**Niksic**	**0.83**	**303**	⇑*i*Pg	**Pg**	**05 30 32.3**	**-1.4**
NKY				*e*Sg	**Sg**	**05 30 44.9**	**+0.4**
HCY	**Herceg Novi**	**1.07**	**275**	⇑*i*Pg	**Pg**	**05 30 37.1**	**-1.2**
HCY				*e*Sg	**Sn**	**05 30 53.3**	**-0.9**
HCY	**Herceg Novi**	**1.07**	**275**	⇑*i*Pg	**Pg**	**05 30 37.1**	**-1.2**
HCY				*e*Sg	**Sn**	**05 30 53.3**	**-0.9**
UPM	**Unac-Piva**	**1.13**	**318**	⇑*i*Pg	**Pg**	**05 30 38.1**	**-1.4**
UPM				*e*Sg	**Sn**	**05 30 55.2**	**-0.8**
UPM	**Unac-Piva**	**1.13**	**318**	⇑*i*Pg	**Pg**	**05 30 38.1**	**-1.4**
UPM				*e*Sg	**Sn**	**05 30 55.2**	**-0.8**
BRY	**Bratogost**	**1.16**	**298**	⇓*i*Pg	**Pg**	**05 30 38.4**	**-1.7**
BRY				*e*Sg	**Sn**	**05 30 56.3**	**-0.4**
BRY	**Bratogost**	**1.16**	**298**	⇓*i*Pg	**Pg**	**05 30 38.4**	**-1.7**
BRY				*e*Sg	**Sn**	**05 30 56.3**	**-0.4**
BARS	**Barje**	**1.47**	**71**	*e*Pn	**Pn**	**05 30 44.2**	**-0.4**
BARS				*e*Sn	**Sg**	**05 31 07.7**	**+2.8**
BARS	**Barje**	**1.47**	**71**	*e*Pn	**Pn**	**05 30 44.2**	**-0.4**
BARS				*e*Sn	**Sg**	**05 31 07.7**	**+2.8**
GRUS	**Gruza**	**1.63**	**20**	*e*Pn	**Pg**	**05 30 48.9**	**-0.2**
GRUS				*e*Sn	Sg	05 31 17.9	+7.6
GRUS	**Gruza**	**1.63**	**20**	*e*Pn	**Pg**	**05 30 48.9**	**-0.2**
STON	**Ston**	**1.72**	**288**	*e*Pn	**Pb**	**05 30 49.2**	**-0.5**
STON				Sn	**Sg**	**05 31 16.6**	**+3.4**
STON	**Ston**	**1.72**	**288**	*e*Pn	**Pb**	**05 30 49.2**	**-0.5**
DIVS	**Divibare**	**1.74**	**1**	*e*Pn	**Pg**	**05 30 51.5**	**+0.4**
DIVS	**Divibare**	**1.74**	**1**	*e*Pn	**Pg**	**05 30 51.5**	**+0.4**
NVLJ	**Novalja**	**4.29**	**303**	Sn	**Sn**	**05 32 19.3**	**+5.6**
NVLJ	**Novalja**	**4.29**	**303**	Sn	**Sn**	**05 32 19.2**	**+5.6**

IDC 18 05:35:06.0±2.8, 5°.42S×150°.75E, h107km±22km, mb3.4/6, mb1 3.6/7, mb1mx3.3/18, mbtmp3.5/7, Error ellipse: s-maj=46.3km s-min=16.8km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**222**	P	Pn	05 36 24.0	+0.8
	16nm,0.3s,baz=44,slow=6.8,SNR=38						
PMG				S	Sn	05 37 22.8	-0.5
	9.3nm,0.3s,baz=165,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**21.52**	**226**	P	P	05 39 46.8	+0.2
	0.7nm,0.5s,baz=49,slow=10,SNR=14						
WRA				S	S	05 43 39.5	+0.3
	1.0nm,0.9s,baz=47,slow=17,SNR=4.6						
ASAR	**Alice Springs**	**24.34**	**220**	P	P	05 40 15.1	+1.1
	0.3nm,0.4s,baz=56,slow=9.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P	P	05 40 43.7	+0.5
	2.2nm,0.8s,baz=55,slow=9.1,SNR=6.4						
STKA	**Stephens Creek**	**27.68**	**197**	P	P	05 40 42.4	-1.6
	1.1nm,0.7s,baz=345,slow=16,SNR=3.0						
ILAR	**Eielson Array**	**83.50**	**22**	P	P	05 47 20.7	-0.9
	0.3nm,0.9s,baz=242,slow=5.1,SNR=4.1						
QSPA	**South Pole Qui**	**84.54**	**180**	P	P	05 47 27.2	+0.2
	0.7nm,0.6s,baz=14,slow=12,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	05 54 41.6	+0.1
	0.2nm,0.6s,baz=56,slow=4.0,SNR=2.7						

ISCJB 18 05:36:42.8±1.1, 38°.5N±0°.1×75°.20E±0°.09, h10km, mb3.8/7, Error ellipse: s-maj=15.2km s-min=10.3km az=13.5
IDC 18 05:36:42.4±1.8, 38°.30N×75°.20E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/28, mbtmp3.7/10, ML3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/45, Error ellipse: s-maj=36.8km s-min=20.6km az=145.0
BJI 18 05:36:43.4, 38°.87N×74°.90E, h24km, ML3.3/5
NNC 18 05:36:48.5±22.0, 38°.72N×75°.85E, h0km, mb3.4, Error ellipse: s-maj=301.0km s-min=205.9km az=70.0

ISC 18 05:36:44.3±1.3, 38°.4N±0°.1×75°.29E±0°.10, h10km, n26, σ1§79/32, mb3.9/7, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.23**	**25**	⇑*i*Pn	Pb	05 36 55.4	-12
KSH				Sn	Sb	05 37 03.4	-21
KSH				smax	smax		
	comp=N,810nm,0.7s						
KSH				smax	smax		
	comp=E,2μm,0.8s						
KZA	**Kyzart**	**3.67**	**360**	P	**Pn**	**05 37 43.3**	**+1.8**
	SNR=16						
KZA				P	**Pn**	**05 37 43.3**	**+1.8**
	SNR=16						
ULHL	**Ulahol**	**3.91**	**10**	P	**Pb**	**05 37 52.1**	**-1.3**
	SNR=7.7						
ULHL				P	**Pb**	**05 37 52.1**	**-1.3**
	SNR=7.7						
AML	**Almayashu**	**3.92**	**342**	P	**Pb**	**05 37 55.1**	**+1.4**
	SNR=5.4						
AML				P	**Pb**	**05 37 55.1**	**+1.4**
	SNR=5.4						
KBK	**Karagaybulak**	**4.26**	**357**	P	Pn	05 37 51.0	+1.7
	SNR=6.9						
KBK				P	Pn	05 37 51.0	+1.7
	SNR=6.9						
AAK	**Ala-Archa**	**4.27**	**352**	P	**Pn**	**05 37 52.5**	**+3.0**
	SNR=5.0						
AAK				P	**Pn**	**05 37 52.5**	**+3.0**
	SNR=5.0						
TKM2	**Tokmak 2**	**4.52**	**3**	P	**Pn**	**05 37 55.8**	**+2.8**
	SNR=6.8						
TKM2				P	**Pn**	**05 37 55.8**	**+2.8**
	SNR=6.8						
TKM2	**Tokmak 2**	**4.52**	**3**	⇑Pn	**Pn**	**05 37 55.6**	**+2.7**
	comp=E,9.2nm,0.6s						
TKM2				⇑Sn	Sn	05 38 38.1	-7.5
	comp=E,45nm,0.8s						
KK31	**Karatay Array**	**5.93**	**324**	Pn	**Pn**	**05 38 13.8**	**+1.5**
	comp=E,2.2nm,0.3s,baz=135,slow=13,SNR=91						
KK31				⇓Sn	**Sn**	**05 39 17.9**	**-2.3**
	comp=E,2.6nm,0.5s,baz=132,slow=24,SNR=5.0						
MK31	**Makanchi Array**	**9.84**	**29**	⇓Pn	**Pn**	**05 39 06.6**	**+0.8**
	comp=E,0.5nm,0.6s,baz=205,slow=12,SNR=16						
MKAR	**Makanchi Array**	**9.84**	**29**	Pn	**Pn**	**05 39 07.4**	**+1.6**
	comp=E,0.1nm,0.3s,baz=202,slow=11,SNR=9.8						
MKAR				Lg	Lg	05 41 58.4	
	baz=205,slow=23,SNR=3.6						
MKAR				LR	LR	05 42 23.4	
	comp=E,53nm,20.7s,baz=298,slow=34						
KURBB	**Kurchatov Arra**	**12.43**	**10**	⇓Pn	**Pn**	**05 39 39.7**	**-1.5**
	comp=E,0.2nm,1.0s						
KURBB				⇑Lg	Lg	05 43 09.8	
	comp=E,1.7nm,1.1s						
KURK	**Kurchatov**	**12.54**	**10**	Pn	**Pn**	**05 39 40.7**	**-1.9**
	comp=E,0.0nm,0.3s,baz=196,slow=12,SNR=5.6						
KURK				Lg	Lg	05 43 12.8	
	comp=E,0.0nm,0.3s,baz=197,slow=26,SNR=5.1						
KURK	**Kurchatov**	**12.54**	**10**	⇑Pn	**Pn**	**05 39 42.4**	**-0.2**
	comp=E,3.3nm,1.2s						
KURK				⇑Lg	Lg	05 43 14.5	
	comp=E,8.0nm,1.3s						
BVAR	**Borovoye Array**	**15.01**	**349**	Pn	**P**	**05 40 21.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=159,slow=9.7,SNR=7.4						
BVAR				Lg	Lg	05 44 32.9	
	comp=E,0.0nm,0.3s,baz=129,slow=24,SNR=2.4						
AB31	**Akbulak array**	**15.47**	**319**	P	**Pn**	**05 40 20.2**	**-2.2**
	comp=E,0.8nm,0.6s,baz=117,slow=9.8,SNR=16						
ZALV	**Zalesovo Beam**	**16.86**	**20**	Pn	**Pn**	**05 40 40.2**	**0.0**
	comp=E,0.4nm,0.3s,baz=218,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**17.18**	**320**	Pn	**Pn**	**05 40 43.0**	**-1.4**
	comp=E,0.3nm,0.3s,baz=122,slow=14,SNR=7.2						
SONM	**Songino Array**	**24.44**	**57**	P	**P**	**05 42 05.3**	**+2.1**
	comp=E,0.4nm,0.7s,baz=249,slow=10.0,SNR=4.6						
HHC	**Hu-ho-hao-te**	**27.92**	**73**	*e*P	**P**	**05 42 33.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,7.8s						
FINES	**FINESS Array B**	**37.90**	**324**	P	**P**	**05 44 01.6**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=134,slow=11,SNR=6.4						
ARCES	**ARCESS Array B**	**40.75**	**336**	P	**P**	**05 44 25.7**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=76,slow=10,SNR=4.2						
NB2	**NORSAR Subarra**	**44.96**	**322**	P	**P**	**05 44 59.3**	**0.0**
	comp=Z,11nm,1.4s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.96**	**322**	P	**P**	**05 44 59.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=93,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**69.15**	**270**	P	**P**	**05 47 49.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=46,slow=4.9,SNR=8.4						
YKA	**Yellowknife Ar**	**79.13**	**5**	P	**P**	**05 48 48.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=346,slow=5.7,SNR=8.2						

IDC 18 05:42:22.9±1.8, 4°.73S×126°.88E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=232.8km s-min=29.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.77**	**155**	Pn	Pn	05 46 09.6	-10
	0.2nm,0.3s,baz=348,slow=13,SNR=15						
WRA				Sn	Sn	05 49 12.1	-15
	0.1nm,0.3s,baz=0.0,slow=23,SNR=2.4						
ASAR	**Alice Springs**	**20.01**	**161**	P	P	05 46 57.5	+0.1
	2.1nm,0.4s,baz=349,slow=10,SNR=38						
SONM	**Songino Array**	**55.36**	**343**	P	P	05 51 59.3	+0.4
	0.5nm,1.1s,baz=160,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**64.65**	**328**	P	P	05 53 03.6	+0.9
	0.8nm,1.0s,baz=118,slow=6.6,SNR=2.2						
KURK	**Kurchatov**	**68.99**	**329**	P	P	05 53 29.9	-0.2
	1.0nm,1.1s,baz=119,slow=5.8,SNR=3.8						
BVAR	**Borovoye Array**	**74.51**	**328**	P	P	05 54 02.5	-0.9
	0.3nm,0.5s,baz=117,slow=6.6,SNR=3.1						

ISCJB 18 05:53:33.6±0.8, 31°.66N±0°.10×104°.3E±0°.1, h9km, mb3.4/4, Error ellipse: s-maj=21.5km s-min=7.1km az=35.3
IDC 18 05:53:34.7±1.6, 31°.80N×104°.42E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=113.5km s-min=24.5km az=68.0

ISC 18 05:53:35.3±1.0, 31°.7N±0°.1×104°.3E±0°.1, h9km, n7, σ2§44/10, mb3.4/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.88**	**212**	Pg	**Pg**	**05 53 51.8**	**-0.4**
CD2				Sg	**Sg**	**05 54 02.0**	**-1.6**
CD2				smax	smax		
	comp=N,600nm,0.6s						
CD2				smax	smax		
	comp=E,630nm,0.4s						
XAN	**Xi'an**	**4.56**	**57**	Pn	Pb	05 54 50.3	-5.2
XAN				Pg	**Pg**	**05 55 03.4**	**+0.8**
XAN				Sg	**Sn**	**05 55 40.4**	**+2.8**
XAN				Sg	**Sg**	**05 55 56.6**	**-5.1**
XAN				smax	smax		
	comp=N,40nm,0.9s						
XAN				smax	smax		
	comp=E,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.00**	**201**	Pn	**P**	**05 57 01.6**	**-0.4**
	comp=E,0.5nm,0.3s,baz=11,slow=9.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**26.30**	**334**	P	**P**	**05 59 10.5**	**-0.6**
	comp=E,0.3nm,0.3s,baz=148,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**58.84**	**147**	P	**P**	**06 03 34.8**	**+0.4**
	comp=E,0.4nm,0.5s,baz=340,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**61.87**	**149**	P	**P**	**06 03 57.2**	**+2.0**
	comp=E,0.1nm,0.3s,baz=343,slow=6.9,SNR=4.1						
YKA	**Yellowknife Ar**	**81.12**	**17**	P	**P**	**06 05 51.1**	**+0.4**
	comp=E,0.1nm,0.5s,baz=328,slow=5.3,SNR=3.1						

IDC 18 05:54:55.0±4.0, 0°.48S×131°.76E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.3/1, MS3.1/1, Ms1 3.3/1, ms1mx2.5/19, Error ellipse: s-maj=276.5km s-min=23.7km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.50**	**173**	P	P	05 59 23.7	-0.2
	0.1nm,0.3s,baz=353,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**23.14**	**175**	P	P	06 00 03.2	+0.1
	0.4nm,0.7s,baz=360,slow=9.3,SNR=8.1						
CMAR	**Chiang Mai Arr**	**37.34**	**302**	LR	LR	06 16 50.3	
	comp=Z,30nm,21.3s,baz=345,slow=35						
MKAR	**Makanchi Array**	**63.87**	**324**	P	P	06 05 29.9	+0.4
	0.3nm,0.6s,baz=119,slow=7.6,SNR=5.5						
KURK	**Kurchatov**	**67.98**	**327**	P	P	06 05 55.5	-0.4
	0.2nm,0.3s,baz=118,slow=6.1,SNR=4.3						

DDA 18 06:06:06.9, 38°.76N×39°.98E, h16km, MD2.8
ISK 18 06:06:06.4, 38°.79N×39°.98E, h23km, MD3.0
ISCJB 18 06:06:07.0±0.5, 38°.79N±0°.03×39°.98E±0°.03, h12km±5km, Error ellipse: s-maj=5.3km s-min=4.0km az=180.0
CSEM 18 06:06:08.0±0.2, 38°.80N×39°.91E, h30km, MD3.0, Error ellipse: s-maj=8.7km s-min=5.3km az=151.0

ISC 18 06:06:07.1±1.2, 38°.79N±0°.03×39°.98E±0°.03, h13km±10km, n35, σ1§19/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.40**	**78**	*e*Pg	**Pn**	**06 06 18.4**	**-0.4**
BINT				*e*Sg	**Sb**	**06 06 27.4**	**+5.0**
PTK	**Pertek**	**0.47**	**282**	*e*PG	**Pg**	**06 06 16.5**	**0.0**
PTK				*e*SG	**Sg**	**06 06 23.9**	**+1.1**
PTK	**Pertek**	**0.47**	**282**	*e*Pg	**Pg**	**06 06 16.5**	**0.0**
PTK				*e*Sg	**Sg**	**06 06 23.9**	**+1.1**
BNGB	**Bing¯¶l**	**0.58**	**70**	*e*PG	**Pb**	**06 06 18.4**	**-0.8**
BNGB				*e*SG	**Sb**	**06 06 27.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.67**	**232**	*e*PG	**Pg**	**06 06 19.5**	**-0.8**
SVRC				*e*SG	**Sb**	**06 06 30.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.67**	**232**	*e*Pg	**Pg**	**06 06 19.5**	**-0.8**
SVRC				*e*Sg	**Sb**	**06 06 30.5**	**+0.3**
ERZN	**Erzincan**	**0.82**	**346**	*e*PG	**Pb**	**06 06 23.1**	**-0.2**
ELZG	**Elazig**	**0.84**	**250**	*i* P	**Pb**	**06 06 23.6**	**0.0**
ELZG				*i* S	**Sn**	**06 06 37.9**	**+0.7**
ELZG	**Elazig**	**0.84**	**250**	*i* P	**Pb**	**06 06 23.6**	**0.0**
ELZG				*i* S	**Sn**	**06 06 37.9**	**+0.7**
BNGL	**BINGOL**	**0.92**	**80**	*i* P	**Pb**	**06 06 25.4**	**+0.2**
BNGL				*i* S	**Sn**	**06 06 39.8**	**+0.4**
EZC	**Erzincan**	**1.07**	**333**	*e*PG	**Pg**	**06 06 26.4**	**-1.4**
EZC	**Erzincan**	**1.07**	**333**	*e*Pg	**Pg**	**06 06 26.5**	**-1.4**
VRTB	**Varto-Mus**	**1.20**	**72**	*e*PN	**Pb**	**06 06 28.5**	**-1.4**
VRTB	**Varto-Mus**	**1.20**	**72**	*e*Pn	**Pb**	**06 06 28.5**	**-1.4**
KEMA	**Kemaliye**	**1.25**	**293**	*i* P	Pn	**06 06 30.3**	**-0.2**
KEMA				*i* S	**Sg**	**06 06 47.6**	**0.0**
KEMA	**Kemaliye**	**1.25**	**293**	*i* P	Pn	**06 06 30.3**	**-0.2**
KEMA				*i* S	**Sg**	**06 06 47.6**	**0.0**
ILIC	**ilic-Erzincan**	**1.28**	**301**	*e*PN	**Pn**	**06 06 29.3**	**-1.7**
ILIC	**ilic-Erzincan**	**1.28**	**301**	*e*Pn	**Pn**	**06 06 29.3**	**-1.7**
MYA	**Malataya**	**1.31**	**250**	*e*PN	**Pn**	**06 06 29.7**	**-1.5**
MYA	**Malataya**	**1.31**	**250**	*e*Pn	**Pn**	**06 06 29.7**	**-1.5**
MALT	**Malatya**	**1.31**	**249**	*e*PN	**Pn**	**06 06 30.4**	**-0.9**
MALT	**Malatya**	**1.31**	**249**	*e*Pn	**Pn**	**06 06 30.4**	**-0.9**
BEST	**Besiri**	**1.35**	**131**	*i* P	**Pb**	**06 06 32.2**	**-0.2**
BEST				*i* S	**Sn**	**06 06 49.8**	**0.0**
KELT	**Kelkit**	**1.47**	**338**	*i* P	**Pg**	**06 06 35.4**	**+0.1**
KELT				*i* S	**Sg**	**06 06 55.1**	**+0.7**
KELT	**Kelkit**	**1.47**	**338**	*i* P	**Pg**	**06 06 35.4**	**+0.1**
EZM	**Erzurum**	**1.54**	**43**	*e*PN	**Pn**	**06 06 33.3**	**-1.4**
BAYT	**Ayd¯¬ntepe-Bay**	**1.60**	**4**	*e*PN	**Pn**	**06 06 34.1**	**-1.3**
BAYT	**Ayd¯¬ntepe-Bay**	**1.60**	**4**	*e*Pn	**Pn**	**06 06 34.1**	**-1.3**
MARD	**Mardin**	**1.60**	**157**	*i* P	**Pn**	**06 06 34.8**	**-0.6**
MARD				*i* S	**Sn**	**06 06 56.0**	**0.0**
URFA	**Urfa**	**1.63**	**215**	*e*PN	**Pn**	**06 06 34.5**	**-1.2**
URFA	**Urfa**	**1.63**	**215**	*e*Pn	**Pn**	**06 06 34.5**	**-1.2**
AKCD	**Akcadag**	**1.69**	**254**	*i* P	**Pb**	**06 06 38.4**	**+0.2**
AKCD				*i* S	**Sg**	**06 07 03.3**	**+1.7**
AKCD	**Akcadag**	**1.69**	**254**	*i* P	**Pb**	**06 06 38.4**	**+0.2**
GUMT	**Gumushane**	**1.71**	**347**	*e*PN	**Pn**	**06 06 35.8**	**-1.0**
GUMT	**Gumushane**	**1.71**	**347**	*e*Pn	**Pn**	**06 06 35.8**	**-1.0**

IDC 18 06:07:51.0±1.0, 5°.59N×127°.54E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/23, mbtmp3.8/10, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/32, Error ellipse: s-maj=60.3km s-min=14.0km az=65.0
ISCJB 18 06:07:59.9±0.6, 5°.4N±0°.1×126°.9E±0°.2, h84km, mb3.8/11, Error ellipse: s-maj=34.2km s-min=7.2km az=154.0
NEIC 18 06:07:59.9±1.8, 5°.19N×126°.50E, h58km±17km, mb4.3/2, Error ellipse: s-maj=33.7km s-min=8.2km az=76.0
MAN 18 06:08:04, 5°.80N×126°.82E, h60km, mb4.7, ML3.5, MS3.5

ISC 18 06:08:01.8±0.9, 5°.2N±0°.1×126°.8E±0°.3, h84km, n28, σ1§38/26, mb3.9/11, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.79**	**343**	*e*P	Pn	06 08 26.2	-4.8
MATI				*e*S	Sn	06 08 43.4	-10
DAV	**Davao City (W)**	**2.19**	**327**	Pn	Pn	06 08 32.9	-3.5
	126nm,0.3s,baz=317,slow=3.6,SNR=6.4						
DAV				LR	LR	06 09 04.0	
	comp=Z,282nm,20.6s,baz=328,slow=30						
DAV				Sn	**Sn**	**06 09 04.8**	**+1.9**
	82nm,0.3s,baz=253,slow=21,SNR=20						
DAV	**Davao City (W)**	**2.19**	**327**	Pn	Pn	06 08 32.9	-3.5
DAV				Sn	**Sn**	**06 09 04.8**	**+1.9**
DMPH	**Davao City--Mi**	**2.25**	**325**	⇑*i*P	**Pn**

Error ellipse: s-maj=9.8km s-min=7.2km az=224.0
*IDC **18** 06:31:28.3±0.8, 7°.25S×129°.25E, h131km±7km, mb3.7/11, mb1 3.9/13,mb1mx3.8/18,mbtmp3.8/13,MS3.1/1, Ms1 3.1/1,ms1mx2.8/25,Error ellipse: s-maj=23.8km s-min=11.3km az=66.0*
*ISCJB **18** 06:31:29.1±0.6, 7°.44S±0°.04×129°.32E±0°.05, h166km±6km, mb4.4/21,Error ellipse: s-maj=9.2km s-min=6.2km az=152.5*
*DJA **18** 06:31:30, 7°.39S×129°.53E, h138km, mb4.9/9*

ISC 18 06:31:28.6±0.5, 7°.34S±0°.06×129°.49E±0°.06, h143km±5km, h143km:pP-P,n81,σ1§41/80, mb4.5/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.64**	**62**	P	Pn	06 32 28.6	+4.5
AAI	**Ambon**	**3.85**	**340**	P	**Pn**	**06 32 28.0**	**+1.2**
MSAI	**Masohi**	**4.01**	**352**	P	Pn	06 32 33.0	+4.1
NLAI	**Namlea**	**4.72**	**330**	P	**Pn**	**06 32 39.9**	**+1.7**
FAKI	**Fak Fak**	**5.18**	**32**	P	**Pn**	**06 32 45.5**	**+1.1**
	73nm,0.7s,3µm0.8nm						
KDI	**Kendari**	**7.62**	**296**	P	**Pn**	**06 33 18.6**	**+1.6**
	38nm,1.1s,575nm0.1nm						
BAKI	**Biak**	**8.99**	**47**	P	Pn	06 33 40.5	+5.2
	128nm,1.1s						
MRSI	**Marisa**	**10.82**	**316**	P	**Pn**	**06 34 01.2**	**+1.5**
	83nm,0.9s,744nm						
FITZ	**Fitzroy Crossi**	**11.33**	**199**	P	Pn	06 34 02.6	-3.8
	6.8nm,0.3s,baz=29,slow=10,SNR=179						
FITZ				S	Sn	06 35 58.9	-13
	10nm,0.3s,baz=88,slow=19,SNR=12						
FITZ				LR	LR	06 38 37.9	
	comp=Z,79nm,18.1s,baz=48,slow=38						
FITZ	**Fitzroy Crossi**	**11.33**	**199**	*e*P	Pn	06 34 02.1	-4.3
	45nm,0.4s						
FITZ				*e*S	Sn	06 35 57.5	-14
FITZ	**Fitzroy Crossi**	**11.33**	**199**	P	Pn	06 34 02.6	-3.8
	34nm,0.5s						
FITZ				*e*Sn	Sn	06 35 53.4	-18
FITZ				S	S	06 35 58.9	-34
WRAB	**Tennant Creek**	**13.37**	**160**	*e*Pn	Pn	06 34 28.9	-4.0
	50nm,0.6s						
WRAB				*e*Sn	Sn	06 36 49.0	-12
WRA	**Warramunga Arr**	**13.38**	**160**	P	**Pn**	**06 34 30.4**	**-2.6**
	9.1nm,0.3s,baz=330,slow=13,SNR=133						
WRA				S	Sn	06 36 50.9	-10
	21nm,0.3s,baz=334,slow=22,SNR=9.9						
WRA	**Warramunga Arr**	**13.38**	**160**	P	**Pn**	**06 34 30.4**	**-2.6**
WRA				S	Sn	06 36 50.9	-10
WB2	**Warramunga Arr**	**13.38**	**160**	*e*Pn	**Pn**	**06 34 30.9**	**-2.1**
WB2				*e*Sn	Sn	06 36 47.7	-13
COEN	**Coen**	**14.96**	**117**	*e*Pn	**P**	**06 34 54.9**	**-0.1**
	356nm,0.8s						
COEN				*e*Sn	Sn	06 37 28.4	-11
BBKI	**Banjar Baru**	**15.08**	**284**	P	**P**	**06 34 58.8**	**+2.5**
	93nm,1.1s						
MBWA	**Marble Bar**	**16.66**	**213**	*e*Pn	**P**	**06 35 11.9**	**-1.8**
	25nm,0.7s						
AS31	**Alice Springs**	**16.77**	**166**	*e*P	**Pn**	**06 35 15.9**	**+0.7**
AS31				*e*S	S	06 38 08.5	-14
ASAR	**Alice Springs**	**16.77**	**166**	P	**Pn**	**06 35 15.7**	**+0.5**
	3.0nm,0.3s,baz=344,slow=9.9,SNR=123						
ASAR				S	S	06 38 06.5	-16
	1.5nm,0.3s,baz=357,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**16.77**	**166**	P	**Pn**	**06 35 15.7**	**+0.5**
ASAR				S	S	06 38 06.5	-16
SJI	**Sawahan**	**17.57**	**268**	P	**Pn**	**06 35 26.1**	**+1.1**
	55nm,0.9s						
PMG	**Port Moresby**	**17.60**	**98**	P	**Pn**	**06 35 27.7**	**+2.5**
	1.9nm,0.3s,baz=279,slow=5.3,SNR=13						
PMG				S	**S**	**06 38 39.6**	**-0.4**
	0.7nm,0.3s,baz=142,slow=22,SNR=2.1						
PMG	**Port Moresby**	**17.60**	**98**	P	**Pn**	**06 35 27.7**	**+2.5**
PMG				*e*S	**S**	**06 38 38.6**	**-1.4**
PMG				S	**S**	**06 38 39.6**	**-0.4**
PBKI	**Pangkalan Bun**	**18.34**	**284**	P	**Pn**	**06 35 34.0**	**+0.1**
CTA	**Charters Tower**	**20.61**	**130**	P	Pn	06 36 00.1	-0.4
	4.9nm,1.0s,baz=278,slow=14,SNR=3.1						
CTA				pP	pP	06 36 24.3	+2.1
	4.8nm,0.6s,baz=289,slow=17,SNR=2.4						
CTA	**Charters Tower**	**20.61**	**130**	*e*P	Pn	06 35 59.9	-0.7
	7.1nm,0.8s						
CTA	**Charters Tower**	**20.61**	**130**	P	Pn	06 36 00.1	-0.4
CTA				pP	pP	06 36 24.3	+2.1
FORT	**Forrest**	**23.36**	**183**	*e*P	**P**	**06 36 25.4**	**+1.2**
	39nm,0.7s						
FORT	**Forrest**	**23.36**	**183**	*e*P	**P**	**06 36 25.0**	**+0.8**
	42nm,0.6s						
FORT				*e*S	Sn	06 40 39.4	-20
BBOO	**Buckleboo**	**26.07**	**167**	*e*P	**P**	**06 36 50.2**	**+1.4**
	117nm,0.5s						
BBOO				*e*S	S	06 41 37.5	+28
KLBR	**Kellerberrin**	**26.50**	**203**	*e*P	**P**	**06 36 52.9**	**+0.2**
	43nm,1.2s						
STKA	**Stephens Creek**	**26.89**	**157**	P	**P**	**06 36 58.6**	**+2.4**
	1.7nm,0.3s,baz=334,slow=10,SNR=12						
STKA				pP	**pP**	**06 37 25.9**	**-0.6**
	14nm,0.6s,baz=326,slow=12,SNR=14						
STKA	**Stephens Creek**	**26.89**	**157**	*e*P	**P**	**06 36 58.0**	**+1.8**
	1.5nm,0.3s						
STKA	**Stephens Creek**	**26.89**	**157**	P	**P**	**06 36 58.6**	**+2.4**
	30nm,0.5s						
STKA				pP	**pP**	**06 37 25.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**27.89**	**202**	P	**P**	**06 37 05.5**	**+0.4**
	11nm,1.0s,baz=27,slow=4.5,SNR=4.7						
NWAO	**Narrogin (SRO)**	**27.89**	**202**	P	**P**	**06 37 05.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.57**	**311**	P	**P**	**06 38 45.1**	**-1.0**
	1.9nm,0.6s,baz=138,slow=7.0,SNR=9.4						
CMAR	**Chiang Mai Arr**	**39.57**	**311**	P	**P**	**06 38 45.1**	**-1.0**
MJAR	**Matsushiro Arr**	**44.41**	**10**	P	**P**	**06 39 24.6**	**-0.5**
	0.9nm,0.8s,baz=173,slow=7.5,SNR=3.0						
MJAR				pP	**pP**	**06 39 54.6**	**-2.7**
	1.2nm,0.7s,baz=188,slow=9.6,SNR=3.3						
MJAR	**Matsushiro Arr**	**44.41**	**10**	P	**P**	**06 39 24.6**	**-0.5**
MJAR				pP	**pP**	**06 39 54.6**	**-2.7**
TAPN	**Taplejung**	**53.14**	**312**	*e*P	**P**	**06 40 31.0**	**-1.2**
	8.5nm,0.4s						
TAPN	**Taplejung**	**53.14**	**312**	*e*P	**P**	**06 40 31.0**	**-1.2**
	8.5nm,0.4s						
RAMN	**Ramite**	**53.74**	**311**	*e*P	**P**	**06 40 35.6**	**-1.0**
	18nm,0.6s						
RAMN	**Ramite**	**53.74**	**311**	*e*P	**P**	**06 40 35.6**	**-1.0**
	18nm,0.6s						
JIRN	**Jiri**	**54.43**	**312**	*e*P	**P**	**06 40 41.1**	**-0.6**
JIRN	**Jiri**	**54.43**	**312**	*e*P	**P**	**06 40 41.1**	**-0.6**
GUN	**Gumba**	**54.80**	**312**	*e*P	**P**	**06 40 43.1**	**-1.2**
	15nm,0.6s						
GUN	**Gumba**	**54.80**	**312**	*e*P	**P**	**06 40 43.1**	**-1.2**
	15nm,0.6s						
PKI	**Pulchoki**	**54.97**	**311**	*e*P	**P**	**06 40 43.8**	**-1.7**
PKI	**Pulchoki**	**54.97**	**311**	*e*P	**P**	**06 40 43.8**	**-1.7**
KKN	**Kakani**	**55.18**	**311**	*e*P	**P**	**06 40 45.6**	**-1.3**
	9.0nm,0.6s						
KKN	**Kakani**	**55.18**	**311**	*e*P	**P**	**06 40 45.6**	**-1.3**
	9.0nm,0.6s						
DMN	**Daman**	**55.21**	**311**	*e*P	**P**	**06 40 45.8**	**-1.4**
DMN	**Daman**	**55.21**	**311**	*e*P	**P**	**06 40 45.8**	**-1.4**
GKN	**Gorkha**	**55.77**	**311**	*e*P	**P**	**06 40 49.8**	**-1.3**
	11nm,0.5s						
GKN	**Gorkha**	**55.77**	**311**	*e*P	**P**	**06 40 49.8**	**-1.3**
	11nm,0.5s						
KOLN	**Koldanda**	**56.43**	**310**	*e*P	**P**	**06 40 54.7**	**-1.1**
	7.0nm,0.5s						
KOLN	**Koldanda**	**56.43**	**310**	*e*P	**P**	**06 40 54.7**	**-1.1**
	7.0nm,0.5s						
DANN	**Dangsing**	**56.61**	**311**	*e*P	**P**	**06 40 55.8**	**-1.4**
	8.7nm,0.6s						
DANN	**Dangsing**	**56.61**	**311**	*e*P	**P**	**06 40 55.8**	**-1.4**
	8.7nm,0.6s						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**06 41 11.1**	**+0.5**
	0.5nm,0.7s,baz=165,slow=7.0,SNR=3.4						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**06 41 11.1**	**+0.5**
MK31	**Makanchi Array**	**68.23**	**327**	*e*P	**P**	**06 42 13.4**	**-0.4**
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**06 42 13.5**	**-0.3**
	1.0nm,0.5s,baz=120,slow=7.2,SNR=18						
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**06 42 13.4**	**-0.3**
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	**P**	**06 42 33.4**	**-1.1**
	0.7nm,0.4s,baz=140,slow=5.0,SNR=4.4						
ZALV				pP	**pP**	**06 43 07.9**	**-1.8**
	0.4nm,0.4s,baz=123,slow=12,SNR=2.1						
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	**P**	**06 42 33.4**	**-1.1**
ZALV				pP	**pP**	**06 43 07.9**	**-1.8**
KURK	**Kurchatov**	**72.55**	**329**	P	**P**	**06 42 39.3**	**-0.6**
	1.5nm,0.6s,baz=131,slow=5.1,SNR=16						
KURK	**Kurchatov**	**72.55**	**329**	P	**P**	**06 42 39.3**	**-0.6**
QSPA	**South Pole Qui**	**82.64**	**180**	*e*P	**P**	**06 43 36.6**	**+0.9**
	3.2nm,0.6s						
AKTO	**Aktyubinsk**	**84.03**	**322**	P	**P**	**06 43 44.1**	**+1.1**
	0.7nm,0.7s,baz=169,slow=16,SNR=3.2						
AKTO	**Aktyubinsk**	**84.03**	**322**	P	**P**	**06 43 44.1**	**+1.1**
ILAR	**Eielson Array**	**93.87**	**25**	P	**P**	**06 44 30.4**	**+1.0**
	0.9nm,1.1s,baz=203,slow=5.9,SNR=3.3						
ILAR	**Eielson Array**	**93.87**	**25**	P	**P**	**06 44 30.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**128.38**	**281**	PKP	**PKPdf**	**06 50 19.6**	**+0.3**
	0.6nm,0.6s,baz=59,slow=1.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**128.38**	**281**	PKP	**PKPdf**	**06 50 19.6**	**+0.3**
DBIC	**Dimbokro**	**134.70**	**272**	PKP	**PKPdf**	**06 50 32.2**	**+1.0**
	1.3nm,0.5s,baz=219,slow=5.2,SNR=4.4						
DBIC	**Dimbokro**	**134.70**	**272**	PKP	**PKPdf**	**06 50 32.2**	**+1.0**
LPAZ	**La Paz**	**150.75**	**143**	PKPbc	**PKPbc**	**06 51 08.1**	**+2.3**
	1.1nm,0.6s,baz=339,slow=2.8,SNR=8.0						
LPAZ	**La Paz**	**150.75**	**143**	PKPbc	**PKPbc**	**06 51 08.1**	**+2.3**

*IDC **18** 06:33:42.9±4.8, 25°.88N×104°.07E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=95.4km s-min=53.1km az=8.0*

ISC 18 06:33:46.8±1.9, 25°.7N±0°.2×103°.9E±0°.1, h35km, n8, σ0§95/8, mb3.6/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.64**	**72**	Pg	Pn	06 34 31.5	+4.5
GYA				Sg	**Sn**	**06 34 58.3**	**+0.5**
GYA				*smax*	*smax*		
	comp=N,300nm,0.9s						
GYA				*smax*	*smax*		
	comp=E,440nm,0.7s						
CD2	**Chengdu**	**5.23**	**359**	Pg	Pn	06 35 08.9	+6.3
CD2				Sg	**Sn**	**06 36 02.3**	**+0.7**
CD2				*smax*	*smax*		
	comp=N,90nm,0.8s						
CD2				*smax*	*smax*		
	comp=E,140nm,0.6s						
SONM	**Songino Array**	**22.22**	**5**	P	**P**	**06 38 38.8**	**-1.5**
	comp=E,1.2nm,0.5s,baz=184,slow=11,SNR=9.7						
MKAR	**Makanchi Array**	**27.18**	**326**	P	**P**	**06 39 27.8**	**+0.8**
	comp=E,0.5nm,0.8s,baz=128,slow=7.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**31.61**	**338**	P	**P**	**06 40 05.3**	**-0.8**
	comp=E,0.6nm,0.6s,baz=129,slow=8.3,SNR=3.9						
KURK	**Kurchatov**	**31.64**	**329**	P	**P**	**06 40 06.7**	**+0.3**
	comp=E,1.1nm,0.6s,baz=133,slow=9.7,SNR=13						
ARCES	**ARCESS Array B**	**62.15**	**337**	P	**P**	**06 44 04.6**	**+0.6**
	comp=E,2.1nm,0.8s,baz=93,slow=8.1,SNR=4.5						
ILAR	**Eielson Array**	**74.83**	**25**	P	**P**	**06 45 23.4**	**0.0**
	comp=E,0.2nm,0.7s,baz=290,slow=4.1,SNR=4.0						

MEX 18 06:39:09.3±0.3, 16°.21N×97°.61W, h5km±10km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.53**	**290**	*i* P	Pg	06 39 19.0	-0.5
PNIG				*i* S	Sg	06 39 26.8	+0.4
VHO	**Vista Hermosa**	**1.20**	**45**	*e*P	Pg	06 39 29.3	-3.4
VHO				*i* S	Sg	06 39 44.6	-3.8
HUIG	**Huatulco**	**1.51**	**107**	*e*P	Pn	06 39 33.7	-3.4
HUIG				*e*S	Sn	06 39 52.3	-4.9
TPIG	**Tehuac#an**	**2.21**	**6**	*e*P	Pn	06 39 43.6	-3.3
TPIG				*e*S	Sn	06 40 09.5	-5.2
CAIG	**El Cayaco**	**2.68**	**288**	*i* P	Pn	06 39 49.7	-3.4
CAIG				*i* S	Sn	06 40 22.8	-3.1
CMIG	**Matias Romero**	**2.76**	**71**	*e*P	Pn	06 39 50.8	-3.4
CMIG				*i* S	Sn	06 40 23.8	-4.2
YAIG	**Yautepec**	**2.98**	**332**	*e*P	Pb	06 40 00.7	-2.4

*ISCJB **18** 06:47:49.2±0.5, 8°.95S±0°.07×114°.60E±0°.04, h101km, mb3.7/10, Error ellipse: s-maj=10.4km s-min=5.6km az=6.0*
*DJA **18** 06:47:50, 9°.23S×114°.52E, h36km, MLv4.6/11*
*IDC **18** 06:47:53.6±2.8, 8°.79S×114°.78E, h118km±23km, mb3.6/10, mb1 3.8/11,mb1mx3.7/19,mbtmp3.6/11, Error ellipse: s-maj=25.4km s-min=9.9km az=43.0*

ISC 18 06:47:51.1±0.6, 8°.97S±0°.08×114°.61E±0°.06, h101km, n34, σ1§42/36, mb3.7/10, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.55**	**74**	P	**Pn**	**06 48 05.4**	**-1.9**
NBBI	**Negara**	**0.60**	**1**	P	**Pn**	**06 48 06.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**0.68**	**318**	P	Pn	06 48 04.8	-3.6
BYJI	**Banyuwangi**	**0.80**	**342**	P	**Pn**	**06 48 08.4**	**-1.1**
KHKI	**Kahang-Kahang**	**1.16**	**59**	P	**Pn**	**06 48 12.8**	**-0.5**
GMJI	**Gumukmas**	**1.35**	**301**	P	**Pn**	**06 48 13.3**	**-2.2**
MTNI	**Mataram**	**1.58**	**78**	P	**Pn**	**06 48 17.8**	**-0.5**
BLJI	**Banyuglugur**	**1.58**	**320**	P	**Pn**	**06 48 17.5**	**-0.9**
KRKI	**Karangkates**	**2.28**	**291**	P	**Pn**	**06 48 26.5**	**-0.9**
PWJI	**Pagerwojo**	**2.93**	**289**	P	**Pn**	**06 48 35.3**	**-0.6**
SJI	**Sawahan**	**3.07**	**293**	P	**Pn**	**06 48 36.3**	**-1.6**
PCJI	**Pacitan**	**3.48**	**283**	P	**Pn**	**06 48 42.7**	**-0.6**
BJII	**Banjamegara**	**5.12**	**288**	P	Pn	06 49 14.0	+8.5
KAPI	**Kappang**	**6.44**	**53**	P	**Pn**	**06 49 23.5**	**+0.1**
	15nm,0.3s,baz=218,slow=4.8,SNR=33						
KAPI				S	**Sn**	**06 50 34.4**	**-1.2**
	4.8nm,0.3s,baz=58,slow=8.9,SNR=6.4						
BKSI	**Bulukumba**	**6.56**	**57**	P	**Pn**	**06 49 28.0**	**+2.9**
	57nm,0.6s,952nm0.2nm						
CISI	**Cisompet, Garu**	**6.87**	**281**	P	**Pn**	**06 49 29.0**	**-0.3**
	145nm,0.6s,0.7nm						
CGJI	**Cibinong**	**9.14**	**284**	P	**Pn**	**06 49 58.4**	**-1.7**
	242nm,0.5s,5µm						
PCI	**Palu**	**9.56**	**33**	P	Pn	06 50 12.5	+6.7
FITZ	**Fitzroy Crossi**	**14.04**	**131**	P	**Pn**	**06 51 02.9**	**-2.6**
	0.6nm,0.3s,baz=284,slow=7.9,SNR=20						
FITZ				S	Sn	06 53 27.1	-13
	0.8nm,0.3s,baz=160,slow=18,SNR=4.5						
FITZ	**Fitzroy Crossi**	**14.04**	**131**	*e*P	**Pn**	**06 51 03.2**	**-2.3**
	3.8nm,0.3s						
FITZ				*e*S	Sn	06 53 25.9	-14
WRA	**Warramunga Arr**	**21.97**	**122**	P	**P**	**06 52 36.1**	**-0.8**
	2.2nm,0.5s,baz=295,slow=12,SNR=33						
WRA				S	**S**	**06 56 32.3**	**-1.2**
	0.4nm,0.9s,baz=290,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**23.54**	**131**	P	**P**	**06 52 52.7**	**+0.2**
	1.7nm,0.4s,baz=304,slow=9.0,SNR=28						
ASAR				PcP	**PcP**	**06 56 36.1**	**+0.9**
	0.5nm,0.4s,baz=312,slow=1.8,SNR=8.7						
ASAR				S	**S**	**06 57 00.7**	**+1.7**
	0.1nm,0.3s,baz=324,slow=23,SNR=2.7						
CMAR	**Chiang Mai Arr**	**31.34**	**330**	P	**P**	**06 54 04.3**	**+2.1**
	0.8nm,0.5s,baz=162,slow=8.4,SNR=5.6						
STKA	**Stephens Creek**	**33.86**	**136**	P	**P**	**06 54 25.0**	**+0.9**
	1.4nm,0.4s,baz=319,slow=7.9,SNR=15						
STKA				PcP	**PcP**	**06 57 02.1**	**+1.3**
	0.7nm,0.4s,baz=342,slow=3.1,SNR=3.3						
STKA	**Stephens Creek**	**33.86**	**136**	*e*P	**P**	**06 54 24.8**	**+0.7**
	1.2nm,0.4s						
SONM	**Songino Array**	**57.03**	**353**	P	**P**	**06 57 25.6**	**-0.8**
	0.4nm,0.5s,baz=176,slow=8.3,SNR=4.6						
MKAR	**Makanchi Array**	**62.55**	**336**	P	**P**	**06 58 03.5**	**-0.7**
	0.4nm,0.5s,baz=140,slow=7.3,SNR=9.3						
KURK	**Kurchatov**	**67.14**	**336**	P	**P**	**06 58 33.8**	**0.0**
	0.2nm,0.4s,baz=156,slow=5.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**67.56**	**341**	P	**P**	**06 58 35.0**	**-1.4**
	0.7nm,0.3s,baz=139,slow=4.5,SNR=4.4						
BVAR	**Borovoye Array**	**72.29**	**334**	P	**P**	**06 59 04.7**	**-0.8**
	0.6nm,0.7s,baz=138,slow=7.8,SNR=3.7						
BRTR	**Keskin Array B**	**88.80**	**310**	P	**P**	**07 00 34.4**	**+0.3**
	1.0nm,0.9s,baz=104,slow=4.2,SNR=4.1						
YKA	**Yellowknife Ar**	**115.80**	**23**	PKP	**PKPdf**	**07 06 21.7**	**+0.1**
	0.1nm,0.5s,baz=322,slow=1.8,SNR=3.6						
BDFB	**Brasilia**	**150.09**	**215**	PKPbc	**PKPbc**	**07 07 32.9**	**+1.7**
	1.6nm,0.5s,baz=135,slow=1.4,SNR=5.6						
LPAZ	**La Paz**	**154.75**	**174**	PKPab	**PKPab**	**07 07 59.3**	**+2.0**
	0.7nm,0.5s,baz=102,slow=2.1,SNR=6.0						

*ISCJB **18** 06:55:14.2±1.2, 51°.52N±0°.05×16°.08E±0°.05, h0km, Error ellipse: s-maj=7.9km s-min=4.3km az=20.4*
*CSEM **18** 06:55:16.3±0.6, 51°.49N×16°.10E, h2km, ML4.3/2, Error ellipse: s-maj=9.1km s-min=4.9km az=178.0*
*WAR **18** 06:55:17.9, 51°.45N×16°.12E*
*PRU **18** 06:55:17.0, 51°.49N×16°.10E, h0km*

ISC 18 06:55:17.7±1.3, 51°.42N±0°.06×16°.09E±0°.03, h0km, n25, σ0§64/38, Poland

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

KSP	**Ksiaz**	**0.59**	**167**	*i* Pg	**Pg**	**06 55 29.4**	**+0.4**
KSP				*e*Sg	**Sb**	**06 55 38.9**	**-0.9**
UPC	**Upice**	**0.91**	**183**	*e*PG	**Pg**	**06 55 35.5**	**+0.3**
UPC	**Upice**	**0.91**	**183**	Pg	**Pg**	**06 55 35.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**06 55 38.1**	**-0.3**
DPC				*e*SG	**Sb**	**06 55 53.8**	**-0.1**
	comp=Z,9.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**172**	Pg	**Pg**	**06 55 38.1**	**-0.3**
DPC				Sg	**Sb**	**06 55 53.8**	**-0.1**
	9.9nm,0.3s						
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	**Pg**	**06 55 42.5**	**-0.3**
PVCC				*e*SG	**Sb**	**06 56 00.9**	**+0.4**
	comp=Z,63nm,0.2s						
PVCC	**Panska Ves**	**1.31**	**228**	Pg	**Pg**	**06 55 42.5**	**-0.3**
PVCC				Sg	**Sb**	**06 56 00.9**	**+0.4**
	63nm,0.2s						
KRLC	**Kraliky**	**1.41**	**162**	*e*PG	**Pb**	**06 55 44.9**	**-0.1**
KRLC				*e*SG	**Sb**	**06 56 03.6**	**0.0**
KRLC	**Kraliky**	**1.41**	**162**	Pg	**Pb**	**06 55 44.9**	**-0.1**
KRLC				Sg	**Sb**	**06 56 03.6**	**0.0**
BRG	**Berggiesshubel**	**1.46**	**249**	PG	**Pn**	**06 55 44.2**	**-1.1**
BRG				SG	**Sg**	**06 56 04.7**	**+0.3**
	28nm,0.4s						
PRU	**Pruhonice**	**1.73**	**215**	*e*SG	**Sg**	**06 56 13.8**	**+0.4**
	comp=Z,13nm,0.3s						
PRU	**Pruhonice**	**1.73**	**215**	Sg	**Sg**	**06 56 13.8**	**+0.4**
	13nm,0.3s						
CLL	**Collm**	**1.94**	**268**	*e*Pg	**Pn**	**06 55 52.0**	**+0.1**
CLL				*e*		06 55 57.0	
CLL				*e*Sg	**Sb**	**06 56 19.0**	**+0.5**
TREC	**Trest**	**2.16**	**190**	*e*PN	**Pn**	**06 55 55.2**	**+0.2**
TREC				*e*PG	**Pb**	**06 55 58.1**	**+0.4**
TREC	**Trest**	**2.16**	**190**	Pn	**Pn**	**06 55 55.2**	**+0.2**
TREC	**Trest**	**2.16**	**190**	Pg	**Pb**	**06 55 58.1**	**+0.4**
NKC	**Novy Kostel**	**2.59**	**244**	*e*SG	**Sg**	**06 56 41.8**	**+0.8**
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.59**	**244**	Sg	**Sg**	**06 56 41.8**	**+0.8**
	12nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**06 56 03.3**	**-0.5**
KHC				*e*PG	**Pg**	**06 56 10.3**	**-1.0**
KHC				*e*SG	**Sg**	**06 56 47.7**	**+0.2**
KHC	**Kasperske Hory**	**2.80**	**216**	Pn	**Pn**	**06 56 03.3**	**-0.5**
KHC	**Kasperske Hory**	**2.80**	**216**	Pg	**Pg**	**06 56 10.3**	**-1.0**
KHC				Sg	**Sg**	**06 56 47.7**	**+0.2**
STHS	**Stebnicka Huta**	**3.86**	**119**	*e*SG	**Sb**	**06 57 13.3**	**-0.6**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*PG	**Pg**	**06 56 46.6**	**-0.9**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*Pg	**Pg**	**06 56 46.6**	**-0.9**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*SG	**Pg**	**06 56 49.6**	**+2.1**

*ISCJB **18** 07:03:33.9±0.6, 7°.51N±0°.06×73°.09W±0°.08, h150km±7km, mb3.7/3, Error ellipse: s-maj=14.4km s-min=7.1km az=35.2*
*IDC **18** 07:03:35.9±2.7, 7°.34N×73°.17W, h157km±22km, mb3.4/3, mb1 3.5/4, mb1mx3.1/21, mbtmp3.4/4, Error ellipse: s-maj=59.0km s-min=20.5km az=92.0*
*FUNV **18** 07:03:36.4, 7°.55N×73°.15W, h141km, MW3.7*

ISC 18 07:03:34.4±0.9, 7°.55N±0°.06×73°.10W±0°.08, h146km±7km, n22, σ1§48/30, mb3.6/3, 1C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.84**	**68**	*e*P	**Pn**	**07 03 58.9**	**+1.1**
CAPV				*e*S	**Sn**	**07 04 15.8**	**+0.2**
VIGV	**El Vigia**	**2.15**	**53**	*e*P	**Pn**	**07 04 12.3**	**+1.2**
VIGV				*e*S	**Sn**	**07 04 39.0**	**-0.4**
SOCV	**Socops**	**2.34**	**72**	*e*P	**Pn**	**07 04 14.9**	**+1.4**
SOCV				*e*S	**Sn**	**07 04 43.5**	**0.0**
ROSC	**El Rosal**	**2.94**	**205**	P	**Pn**	**07 04 21.5**	**+0.2**
	9.6nm,0.3s,baz=85,slow=16,SNR=51						
ROSC				S	**Sn**	**07 04 55.2**	**-2.3**
	12nm,0.3s,baz=84,slow=23,SNR=6.6						
VIRV	**Villa del Rosa**	**3.02**	**13**	*e*P	**Pn**	**07 04 22.3**	**+0.4**
VIRV				*e*S	**Sn**	**07 04 56.3**	**

MATI Mati 3.05 175 *e*P **Pn** **07 13 12.8 -2.1**
PAGZ Pagadian 3.33 230 *e*P **Pn** **07 13 17.2 -1.5**
GUIM Jordan 3.38 281 *e*P **Pn** **07 13 16.6 -2.7**
RCP Roxas 3.53 296‖ *e*P **Pn** **07 13 18.7 -2.6**
PVCP Virac 3.99 334 *e*P Pn 07 13 21.4 -6.1
OTRP Odiongan 4.53 302 *e*P **Pn** **07 13 32.2 -2.5**
CUYO Cuyo Island 4.94 280 *e*P **Pn** **07 13 38.4 -2.0**
KAPI Kappang 16.15 203 LR LR 07 22 17.7
comp=Z,157nm,21.7s,baz=171,slow=37
KAPI Kappang 16.15 203 Pn **Pn** **07 16 09.9 +0.4**
111nm,1.7s
JOW Kunigami 16.89 7 LR LR 07 21 25.9
comp=Z,165nm,21.5s,baz=350,slow=32
JOW Kunigami 16.89 7 *e*P **P** **07 16 19.6 +0.8**
17nm,1.2s
QIZ Qiongzhong 17.99 302 P **Pn** **07 16 33.5 +1.5**
QIZ pP **pP** **07 16 50.3 0.0**
QIZ pmax pmax
comp=Z,150nm,4.7s
GUMO Guam 18.84 77 LR LR 07 22 14.8
comp=Z,312nm,18.1s,baz=236,slow=31
CBIJ Chichi jima 22.88 40 LR LR 07 24 23.7
comp=Z,175nm,19.2s,baz=108,slow=32
NJ2 Nanjing 22.91 344 *e*P **P** **07 17 23.8 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 23.45 10 *e*P **P** **07 17 25.9 -2.9**
comp=Z,8.8nm,1.2s
GYA Guiyang 24.52 314 P **P** **07 17 40.0 +1.5**
GYA pP **pP** **07 18 01.4 +0.5**
GYA sP **sP** **07 18 15.3 +2.1**
GYA PP PP 07 18 20.9
GYA sS **sS** **07 22 30.6 -0.8**
GYA ScP **ScP** **07 24 44.1 0.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.7s
KMI Kunming 26.70 307 P **P** **07 18 01.0 +2.6**
KMI pP **pP** **07 18 23.6 +2.5**
KMI sP **sP** **07 18 36.1 +3.0**
KMI S **S** **07 22 27.5 +0.8**
KMI sS **sS** **07 23 07.3 +0.9**
KMI pmax pmax
comp=Z,4.0nm,0.8s
KMI pmax pmax
comp=Z,110nm,4.6s
KMI LR LR
comp=N,210nm,18.7s
KMI LR LR
comp=E,180nm,19.0s
KMI LR LR
comp=Z,240nm,21.8s
KSAR Wonju Array Be 27.38 3 P **P** **07 18 02.4 -1.6**
KSAR Wonju Array Be 27.38 3 P **P** **07 18 02.4 -1.6**
KSRS Korea Array 27.39 3 P **P** **07 18 02.4 -1.7**
comp=Z,1.0nm,0.4s,baz=181,slow=10,SNR=6.6
CMAR Chiang Mai Arr 27.48 291 P **P** **07 18 05.4 +0.2**
comp=Z,1.6nm,0.3s,baz=104,slow=7.0,SNR=8.8
CMAR LR LR 07 29 12.1
comp=Z,122nm,18.1s,baz=152,slow=37
CMAR Chiang Mai Arr 27.48 291 P **P** **07 18 05.4 +0.2**
CMAR Chiang Mai Arr 27.48 291 P **P** **07 18 05.4 +0.2**
CHTO Chiang Mai 27.57 292 *e*P **P** **07 18 06.0 0.0**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 27.57 292 *e*P **P** **07 18 06.0 0.0**
comp=Z,3.2nm,0.7s
FITZ Fitzroy Crossi 27.93 181 P **P** **07 18 08.8 -0.2**
comp=Z,2.0nm,0.3s,baz=2.5,slow=11,SNR=18
FITZ Fitzroy Crossi 27.93 181 *e*P **P** **07 18 09.3 +0.2**
comp=Z,8.0nm,0.9s
FITZ Fitzroy Crossi 27.93 181 *e*P **P** **07 18 08.6 -0.4**
comp=Z,1.7nm,0.4s
PMG Port Moresby 28.57 132 P **P** **07 18 14.2 -0.7**
comp=Z,10nm,0.8s,baz=296,slow=8.4,SNR=7.0
PMG Port Moresby 28.57 132‖ *i*P **P** **07 18 13.3 -1.6**
PMG Port Moresby 28.57 132 P **P** **07 18 14.2 -0.7**
comp=Z,0.9nm,0.9s
XAN Xi'an 28.58 329 P **P** **07 18 13.3 -1.6**
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN pmax pmax
comp=Z,66nm,7.7s
MJAR Matsushiro Arr 28.66 21 LR LR 07 27 41.6
comp=Z,128nm,21.4s,baz=195,slow=32
COEN Coen 29.29 144 *e*P **P** **07 18 20.3 -1.0**
comp=Z,37nm,0.8s
CD2 Chengdu 29.31 318 P **P** **07 18 23.3 +1.9**
CD2 pP **pP** **07 18 45.8 +1.5**
CD2 sP **sP** **07 18 58.1 +1.9**
CD2 PP **PnPn** **07 19 22.6 +2.7**
CD2 S **S** **07 23 08.5 +1.2**
CD2 sS **sS** **07 23 48.1 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,230nm,4.8s
CD2 LR LR
comp=E,430nm,13.7s
CD2 LR LR
comp=Z,490nm,11.9s
WRAB Tennant Creek 30.87 164 *e*P **P** **07 18 33.8 -1.3**
WRAB pmax pmax
comp=Z,12nm,1.3s
WRAB Tennant Creek 30.87 164 *e*P **P** **07 18 33.8 -1.3**
comp=Z,12nm,1.3s
WRA Warramunga Arr 30.87 165 P **P** **07 18 33.7 -1.5**
comp=Z,5.4nm,0.8s,baz=343,slow=9.5,SNR=32
WRA Warramunga Arr 30.87 165 P **P** **07 18 33.7 -1.5**
WRA Warramunga Arr 30.87 165 P **P** **07 18 33.7 -1.5**
WB2 Warramunga Arr 30.88 164 *e*P **P** **07 18 33.6 -1.6**
BJI Beijing 31.16 345 P **P** **07 18 38.3 +0.8**
BJI pmax pmax
comp=Z,5.0nm,1.6s
MBWA Marble Bar 31.57 191 *e*P **P** **07 18 40.9 -0.3**
comp=Z,5.2nm,0.8s
LZH Lanzhou 32.83 326 *e*P **P** **07 18 52.0 -0.4**
LZH pP pP 07 18 57.3 -18
LZH sP sP 07 18 59.8 -28
LZH pmax pmax
comp=Z,18nm,1.4s
LZH Lanzhou 32.83 326 *e*P **P** **07 18 52.5 +0.1**
LZH pP **pP** **07 19 16.0 +0.5**
LZH sP **sP** **07 19 25.0 -2.4**
LZH pmax pmax
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 33.27 340 *e*P **P** **07 18 56.3 +0.2**
HHC pP **pP** **07 19 18.5 -0.7**
HHC sP **sP** **07 19 29.4 -1.7**
HHC PP **PnPn** **07 20 11.4 +1.2**
HHC PcP **PcP** **07 21 36.3 +0.1**
HHC S **S** **07 24 09.4 +0.5**
HHC sS **sS** **07 24 48.8 -0.2**
HHC ScP **ScP** **07 25 10.3 -1.1**
HHC PcS **PcS** **07 25 20.8 -1.1**
HHC SS **SnSn** **07 26 18.8 -1.5**
HHC ScS **ScS** **07 29 09.9 -2.4**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.7s
HHC LR LR
comp=N,300nm,13.0s
HHC LR LR
comp=E,290nm,13.1s
HHC LR LR
comp=Z,150nm,13.0s
CN2 Changchun 33.68 359 *e*P P 07 19 02.9 +3.4
CN2 *es*P sP 07 19 38.8 +4.3
CN2 *e*S **S** **07 24 18.6 +3.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
AS31 Alice Springs 34.35 167 *e*P **P** **07 19 04.7 -0.9**
ASAR Alice Springs 34.35 167 P **P** **07 19 05.0 -0.6**
comp=Z,4.0nm,0.7s,baz=3.6,slow=7.7,SNR=38
ASAR ScP **ScP** **07 25 21.0 +5.7**
comp=Z,0.9nm,0.9s,baz=23,slow=1.5,SNR=5.1
ASAR Alice Springs 34.35 167 P **P** **07 19 05.0 -0.6**
ASAR Alice Springs 34.35 167 P **P** **07 19 05.0 -0.6**
ASAR ScP **ScP** **07 25 21.0 +5.7**
USRK Ussuriysk Arra 34.47 8 P **P** **07 19 05.8 -0.4**
comp=Z,1.8nm,0.6s,baz=170,slow=6.5,SNR=6.6
USRK LR LR 07 30 50.1
comp=Z,122nm,20.2s,baz=230,slow=32
MDJ Mudanjiang 34.63 5 P **P** **07 19 08.4 +0.7**
MDJ pP **pP** **07 19 31.0 +0.1**
MDJ sP **sP** **07 19 42.8 0.0**
MDJ S **S** **07 24 31.8 +2.2**
MDJ sS **sS** **07 25 11.9 +2.0**
MDJ ScP **ScP** **07 25 15.8 -0.2**
MDJ pmax pmax
comp=Z,5.0nm,1.5s
MDJ pmax pmax
comp=Z,46nm,3.8s
GTA Gaotai 37.44 326 *e*P **P** **07 19 31.1 -0.8**
GTA pP **pP** **07 19 53.6 -1.7**
GTA sP **sP** **07 20 05.3 -1.8**
GTA S **S** **07 25 11.6 -1.3**
GTA sS **sS** **07 25 52.3 -1.1**
GTA SS SS 07 27 48.4 -12
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,190nm,9.0s
GTA LR LR
comp=N,280nm,11.2s
GTA LR LR
comp=E,300nm,14.0s
GTA LR LR
comp=Z,280nm,10.7s
HABR Khabarovsk 39.10 10 *e*P **P** **07 19 42.6 -2.9**
HABR *e* 07 21 13.1
HABR *e*PPP PPP 07 21 35.6
HABR *e* 07 21 51.4
HABR *e*S **S** **07 25 41.1 +3.7**
HABR *e*'SS sS 07 25 58.0 -20
HABR SSS SSS 07 28 55.4
HABR *e* 07 29 48.9
HABR pmax pmax
comp=N,22nm,2.4s
HABR pmax pmax
comp=E,37nm,2.4s
HABR pmax pmax
comp=Z,46nm,2.0s
HABR MLR MLR
comp=Z,92nm,18.0s
YSS Yuzh-Sakhalins 39.49 18 *e*P **P** **07 19 50.0 +1.2**
TAPN Taplejung 39.93 301 *e*P **P** **07 19 53.7 +0.6**
comp=Z,7.4nm,0.4s
ODAN Odare 40.05 300 *e*P **P** **07 19 54.4 +0.3**
comp=Z,23nm,0.8s
ODAN Odare 40.05 300 *e*P **P** **07 19 54.4 +0.3**
comp=Z,23nm,0.8s
FORT Forrest 40.59 177 *e*P **P** **07 19 58.8 +0.7**
comp=Z,18nm,0.4s
FORT Forrest 40.59 177 *e*P **P** **07 19 58.1 +0.1**
comp=Z,42nm,0.9s
RAMN Ramite 40.76 300 *e*P **P** **07 19 59.7 -0.2**
comp=Z,14nm,0.7s
RAMN Ramite 40.76 300 *e*P **P** **07 19 59.7 -0.2**
comp=Z,14nm,0.7s
ULN Ulaanbaatar 40.98 341 *e*P **P** **07 20 00.9 -0.3**
ULN pmax pmax
comp=Z,14nm,1.4s
ULN Ulaanbaatar 40.98 341 *e*P **P** **07 20 00.9 -0.3**
comp=Z,14nm,1.4s
SONM Songino Array 41.17 340 P **P** **07 20 02.3 -0.5**
comp=Z,1.6nm,0.5s,baz=156,slow=9.4,SNR=17
SONM Songino Array 41.17 340 P **P** **07 20 02.3 -0.5**
SONM Songino Array 41.17 340 P **P** **07 20 02.3 -0.5**
JIRN Jiri 41.31 301 *e*P **P** **07 20 03.8 -0.8**
comp=Z,13nm,0.5s
JIRN Jiri 41.31 301 *e*P **P** **07 20 03.8 -0.8**
comp=Z,13nm,0.5s
GUN Gumba 41.65 301 *e*P **P** **07 20 06.9 -0.4**
comp=Z,21nm,0.8s
GUN Gumba 41.65 301 *e*P **P** **07 20 06.9 -0.4**
comp=Z,21nm,0.8s
PKI Pulchoki 41.95 300 *e*P **P** **07 20 10.3 +0.6**
comp=Z,4.6nm,0.3s
KLBR Kellerberrin 42.10 190 *e*P **P** **07 20 11.3 +0.9**
comp=Z,40nm,1.1s
DMN Daman 42.22 300 *e*P **P** **07 20 12.6 +0.8**
DMN Daman 42.22 300 *e*P **P** **07 20 12.6 +0.8**
GKN Gorkha 42.73 301 *e*P **P** **07 20 16.8 +1.0**
comp=Z,5.9nm,0.3s
KOLN Koldanda 43.55 300 *e*P **P** **07 20 23.2 +0.7**
comp=Z,12nm,0.6s
KOLN Koldanda 43.55 300 *e*P **P** **07 20 23.2 +0.7**
comp=Z,12nm,0.6s
DANN Dangsing 43.57 301 *e*P **P** **07 20 22.4 -0.4**
comp=Z,12nm,0.6s
DANN Dangsing 43.57 301 *e*P **P** **07 20 22.4 -0.4**
comp=Z,12nm,0.6s
BBOO Buckleboo 43.65 168 *e*P **P** **07 20 23.3 +0.4**
comp=Z,532nm,1.2s
BBOO *e*PcP **PcP** **07 22 09.0 +0.5**
STKA Stephens Creek 44.24 161 P **P** **07 20 27.6 -0.1**
comp=Z,4.8nm,0.6s,baz=296,slow=9.3,SNR=3.3
STKA Stephens Creek 44.24 161 *e*P **P** **07 20 27.6 -0.1**
comp=Z,5.1nm,0.6s
STKA Stephens Creek 44.24 161 P **P** **07 20 27.6 -0.1**
STKA Stephens Creek 44.24 161 P **P** **07 20 27.6 -0.1**
ZAK Zakamensk 44.41 339 *e*P **P** **07 20 27.2 -1.7**
ZAK *e* 07 22 10.0
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY Talaya 45.39 341 *e*P **P** **07 20 34.9 -1.6**
TLY pmax pmax
comp=Z,5.0nm,0.8s
MOY Mondy 46.28 339 *e*P **P** **07 20 43.0 -0.7**
WMQ Urumqi 47.25 322 *e*P **P** **07 20 57.0 +5.7**
WMQ pP pP 07 21 20.0 +4.4
WMQ sP sP 07 21 32.0 +4.8
WMQ pmax pmax
comp=Z,12nm,0.4s
BOD Bodaibo 48.59 351 *e*P **P** **07 20 59.4 -1.9**
BOD pmax pmax
comp=Z,6.0nm,1.3s
PETK Petropavlovsk- 50.01 24 P **P** **07 21 12.5 +0.3**
comp=Z,2.2nm,0.6s,baz=200,slow=5.7,SNR=6.6
PETK Petropavlovsk- 50.01 24 P **P** **07 21 12.5 +0.3**
PETK Petropavlovsk- 50.01 24 P **P** **07 21 12.5 +0.3**
CNB Canberra Magne 50.20 155 *e*P **P** **07 21 15.2 +1.2**
comp=Z,51nm,0.9s
DZM Mont Dzumac 50.91 129 P **P** **07 21 21.2 +1.6**
comp=Z,17nm,0.8s,baz=295,slow=9.3,SNR=6.3
DZM Mont Dzumac 50.91 129 P **P** **07 21 21.2 +1.6**
YAK Yakutsk 52.01 2 *e*P **P** **07 21 25.1 -1.9**
YAK *e* 07 21 42.2
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.2s
MKAR Makanchi Array 52.06 323 P **P** **07 21 27.5 -0.2**
comp=E,2.2nm,0.5s,baz=118,slow=9.0,SNR=5.0
MKAR Makanchi Array 52.06 323 P **P** **07 21 27.5 -0.2**
MKAR Makanchi Array 52.06 323 P **P** **07 21 27.5 -0.2**
KSH Kashi 53.19 312 *e*P **P** **07 21 39.1 +2.8**
KSH *ep*P **pP** **07 22 02.6 +1.5**
KSH *es*P **sP** **07 22 13.8 +1.3**
KSH *e*PcP **PcP** **07 22 45.0 +1.9**
KSH *e*PP **PP** **07 23 42.4 +5.1**
KSH *e*ScP **ScP** **07 26 32.3 +0.9**
KSH *e*PcS **PcS** **07 26 42.5 +0.4**
KSH *e*S **S** **07 29 01.3 +1.7**
KSH *es*S **sS** **07 29 43.1 +1.0**
KSH *e*ScS **ScS** **07 31 15.6 -0.6**
KSH *e*SS **SKiKP** **07 32 42.6 -1.0**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,160nm,5.5s
KSH LR LR
comp=N,310nm,8.6s
KSH LR LR
comp=E,330nm,7.2s
KSH LR LR
comp=Z,340nm,8.2s
ZALV Zalesovo Beam 54.72 332 P **P** **07 21 45.6 -1.4**
comp=Z,1.3nm,0.3s,baz=124,slow=6.3,SNR=12
ZALV PcP **PcP** **07 22 47.7 -0.7**
comp=Z,0.9nm,0.3s,baz=123,slow=5.8,SNR=5.1
ZALV Zalesovo Beam 54.72 332 P **P** **07 21 45.6 -1.4**
ZALV 07 22 47.7
ZALV Zalesovo Beam 54.72 332 P **P** **07 21 45.6 -1.4**
ZALV PcP **PcP** **07 22 47.7 -0.7**
KURK Kurchatov 56.12 326 P **P** **07 21 56.5 -0.6**
comp=Z,3.2nm,0.6s,baz=126,slow=6.7,SNR=14
KURK Kurchatov 56.12 326 *e*P **P** **07 21 56.7 -0.4**
KURK Kurchatov 56.12 326 *e*P **P** **07 21 56.7 -0.4**
SEY Seymchan 56.15 14‖ *e*P **P** **07 21 57.2 +0.1**
KKAR Karatay Array 58.23 315 *e*P **P** **07 22 11.5 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 58.23 315 *e*P **P** **07 22 11.5 -0.6**
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 61.72 326 P **P** **07 22 35.6 -0.2**
comp=Z,0.9nm,0.6s,baz=140,slow=9.4,SNR=8.0
BVAR Borovoye Array 61.72 326 P **P** **07 22 35.6 -0.2**
BVAR Borovoye Array 61.72 326 P **P** **07 22 35.6 -0.2**
BRVK Borovoye 61.79 326‖ *i*P **P** **07 22 35.0 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 61.79 326 *e*P **P** **07 22 35.6 -0.6**
comp=Z,2.2nm,0.8s
BILL Bilibino 63.74 16 *i*P **P** **07 22 48.9 0.0**
BILL *e* 07 25 10.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 63.74 16 *e*P **P** **07 22 48.6 -0.3**
comp=Z,11nm,1.3s
ABKAR Akbulak array 66.89 319 *e*P **P** **07 23 08.9 -0.6**
comp=Z,0.4nm,0.3s
AKTO Aktyubinsk 68.34 320 P **P** **07 23 18.1 -0.6**
comp=Z,0.7nm,0.4s,baz=84,slow=11,SNR=6.3
AKTO Aktyubinsk 68.34 320 P **P** **07 23 18.1 -0.6**
AKTO Aktyubinsk 68.34 320 P **P** **07 23 18.1 -0.6**
ARU Arti 69.29 327 *e*P **P** **07 23 23.2 -1.2**
ARU pmax pmax
comp=Z,83nm,2.6s
ARU Arti 69.29 327 *e*P **P** **07 23 23.1 -1.2**
comp=Z,84nm,2.6s
CHGN Chignik 73.76 34 *e*P P 07 23 43.4 -7.9
NAY Al-Naaiem 75.39 298 *e*P **P** **07 24 00.5 -0.9**
NAY AMb AMB 07 24 02.5
comp=Z,7.2nm,0.5s
MCK McKinley 78.93 27 *e*P **P** **07 24 19.7 -0.7**
MCK pmax pmax
comp=Z,4.0nm,0.6s
MCK McKinley 78.93 27 *e*P **P** **07 24 19.7 -0.7**
comp=Z,3.7nm,0.6s
ILAR Eielson Array 79.81 26 P **P** **07 24 24.3 -0.9**
comp=Z,1.7nm,0.8s,baz=235,slow=4.9,SNR=30
ILAR Eielson Array 79.81 26 P **P** **07 24 24.3 -0.9**
ILAR Eielson Array 79.81 26 P **P** **07 24 24.3 -0.9**
JOF Joensuu 83.29 333 *e*P **P** **07 24 42.6 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 83.29 333 *ep* **P** **07 24 42.6 -0.9**
comp=Z,2.1nm,0.5s
JOF Joensuu 83.29 333 *ep* **P** **07 24 42.6 -0.9**
comp=Z,2.1nm,0.5s
ARCES ARCESS Array B 84.34 340 P **P** **07 24 49.2 +0.4**
comp=Z,1.4nm,0.5s,baz=80,slow=6.8,SNR=13
ARCES ARCESS Array B 84.34 340 P **P** **07 24 49.2 +0.4**
ARCES ARCESS Array B 84.34 340 P **P** **07 24 49.2 +0.4**
BRTR Keskin Array B 85.47 309 P **P** **07 24 53.6 -1.5**
comp=Z,0.9nm,0.7s,baz=90,slow=5.6,SNR=4.6
BRTR Keskin Array B 85.47 309 P **P** **07 24 53.7 -1.5**
BRTR Keskin Array B 85.47 309 P **P** **07 24 53.6 -1.5**
KAF Kangasniemi 85.73 332 *e*P **P** **07 24 54.8 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 85.73 332 *ep* **P** **07 24 54.8 -1.0**
comp=Z,1.6nm,0.7s
KAF Kangasniemi 85.73 332 *ep* **P** **07 24 54.8 -1.0**
comp=Z,1.6nm,0.7s
FINES FINESS Array B 85.99 332 P **P** **07 24 56.8 -0.3**
comp=Z,1.6nm,0.4s,baz=67,slow=5.7,SNR=25
FINES FINESS Array B 85.99 332 P **P** **07 24 56.8 -0.3**
FINES FINESS Array B 85.99 332 P **P** **07 24 56.8 -0.3**
AKASG Malin Array Be 86.58 321 P **P** **07 24 59.6 -0.6**
comp=Z,0.6nm,0.4s,baz=64,slow=4.5,SNR=6.4
AKASG Malin Array Be 86.58 321 P **P** **07 24 59.7 -0.6**
AKASG Malin Array Be 86.58 321 P **P** **07 24 59.6 -0.6**
YKA Yellowknife Ar 94.12 24 P **P** **07 25 35.8 +0.6**
comp=Z,1.5nm,0.6s,baz=299,slow=4.3,SNR=59
YKA Yellowknife Ar 94.12 24 P **P** **07 25 35.8 +0.6**
YKA Yellowknife Ar 94.12 24 P **P** **07 25 35.8 +0.6**
TXAR Lajitas Array 118.23 49 PKP **PKPdf** **07 31 05.3 +0.9**
comp=Z,0.1nm,0.5s,baz=0.2,slow=1.6,SNR=3.5
TXAR Lajitas Array 118.23 49 PKIKP **PKPdf** **07 31 05.3 +0.9**
TXAR Lajitas Array 118.23 49 PKP **PKPdf** **07 31 05.3 +0.9**
TORD Torodi Ar. Bea 120.09 292 PKP **PKPdf** **07 31 08.3 +0.1**
comp=Z,0.6nm,0.4s,baz=57,slow=2.4,SNR=14
TORD Torodi Ar. Bea 120.09 292 PKP **PKPdf** **07 31 08.3 +0.1**
PLCA Paso Flores 146.07 157 PKPbc **PKPab** **07 31 58.5 +0.8**
comp=Z,2.4nm,0.7s,baz=240,slow=4.5,SNR=6.3
PLCA Paso Flores 146.07 157 PKP2 **PKPab** **07 31 58.5 +0.8**
PLCA Paso Flores 146.07 157 PKPbc **PKPab** **07 31 58.5 +0.8**
MTP Monte Pirata 149.85 22 *e*PKPbc **PKPbc** **07 32 08.6 +1.1**

IDC 18 07:14:20.3±2.0, 17°36S×168°26E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.0/18, mbtmp4.2/6, ML4.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/25, Error ellipse: s-maj=56.7km s-min=29.5km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.99**	**200**	Pn		Pn		07 15 35.7	-0.9
	6.9nm,0.3s,baz=20,slow=16,SNR=73								
DZM				Sn		Sn		07 16 31.3	-3.8
	11nm,0.3s,baz=142,slow=22,SNR=7.5								
DZM				LR		LR		07 17 23.7	
	comp=Z,424nm,20.6s,baz=21,slow=37								
CNB	**Canberra Magne**	**24.55**	**220**	*e*P		P		07 19 43.0	+1.1
	42nm,1.0s								
RPZ	**Rata Peaks**	**26.38**	**175**	LR		LR		07 28 53.9	
	comp=Z,161nm,19.9s,baz=245,slow=33								
STKA	**Stephens Creek**	**28.12**	**234**	P		P		07 20 14.5	+0.4
	3.8nm,0.9s,baz=64,slow=9.2,SNR=9.4								
STKA	**Stephens Creek**	**28.12**	**234**	*e*P		P		07 20 14.8	+0.7
	3.0nm,0.8s								
WRA	**Warramunga Arr**	**32.21**	**260**	P		P		07 20 49.2	-1.3
	1.0nm,0.7s,baz=90,slow=9.3,SNR=5.5								
ASAR	**Alice Springs**	**32.73**	**253**	P		P		07 20 54.8	-0.2
	5.7nm,0.7s,baz=78,slow=9.1,SNR=29								
FITZ	**Fitzroy Crossi**	**40.54**	**262**	P		P		07 22 02.6	+1.0
	7.6nm,1.1s,baz=106,slow=7.4,SNR=3.1								
FITZ				LR		LR		07 37 59.6	
	comp=Z,72nm,18.1s,baz=329,slow=35								
ILAR	**Eielson Array**	**88.73**	**18**	P		P		07 27 15.3	-0.1
	0.3nm,0.8s,baz=226,slow=4.8,SNR=4.1								

*ISCJB **18** 07:20:04.5±0.8, 57.5°S±0.1°×23.4°W±0.3, h10km, mb4.3/5, Error ellipse: s-maj=28.7km s-min=11.5km az=146.2*
*IDC **18** 07:20:04.6±0.8, 57.45°S×23.06°W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.1/11, mbtmp4.3/4, Error ellipse: s-maj=44.6km s-min=33.2km az=53.0*
*NEIC **18** 07:20:09.6±0.4, 57.55°S×23.25°W, h35km, mb4.5/4, Error ellipse: s-maj=19.4km s-min=11.7km az=49.0*

ISC 18 07:20:06.0±0.7, 57.4°S±0.1°×23.2°W±0.2°, h10km, n24, σ0.8s58/24, mb4.3/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.70**	**160**	*e*		Pn		07 23 34.2	+0.5
VNA2	**Neumayer--Watz**	**15.09**	**160**	*e*		Pn		07 23 39.3	+0.4
SNAA	**Sanae**	**16.58**	**157**	*e*		Pn		07 23 58.4	+0.1
SNAA	**Sanae**	**16.58**	**157**	*e*Pn		Pn		07 23 57.4	-0.9
	10nm,0.8s								
EFI	**East Falkland**	**20.86**	**271**	*e*P		P		07 24 47.1	-0.7
	47nm,1.0s								
LPAZ	**La Paz**	**52.99**	**302**	P		P		07 29 24.3	+0.9
	3.1nm,0.7s,baz=127,slow=4.1,SNR=13								
LPAZ	**La Paz**	**52.99**	**302**	*e*P		P		07 29 24.3	+0.9
	2.9nm,0.7s								
SAML	**Samuel**	**57.37**	**311**	*e*P		P		07 29 54.7	+0.4
	3.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**73.28**	**25**	P		P		07 31 37.5	+0.2
	1.6nm,0.6s,baz=193,slow=6.6,SNR=8.6								
TORD	**Torodi Ar. Bea**	**73.28**	**25**	P		P		07 31 37.5	+0.2
STKA	**Stephens Creek**	**90.10**	**167**	P		P		07 33 05.4	-0.6
	1.9nm,0.9s,baz=146,slow=7.7,SNR=4.3								
STKA	**Stephens Creek**	**90.10**	**167**	P		P		07 33 05.4	-0.6

ASAR	**Alice Springs**	**96.94**	**159**	P	**P**	**07 33 38.2**	**+0.6**
	0.5nm,0.7s,baz=184,slow=4.6,SNR=8.0						
ASAR	**Alice Springs**	**96.94**	**159**	P	**P**	**07 33 38.2**	**+0.6**
FINES	**FINESS Array B**	**124.62**	**26**	PKP	**PKPdf**	**07 39 03.1**	**-0.9**
	1.3nm,0.6s,baz=96,slow=1.9,SNR=5.6						
FINES	**FINESS Array B**	**124.62**	**26**	PKP	**PKPdf**	**07 39 03.1**	**-0.9**
ARCES	**ARCESS Array B**	**131.45**	**21**	PKP	**PKPdf**	**07 39 16.4**	**-0.4**
	5.1nm,1.0s,baz=340,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**131.45**	**21**	PKP	**PKPdf**	**07 39 16.4**	**-0.4**
YKA	**Yellowknife Ar**	**138.70**	**315**	PKP	**PKPdf**	**07 39 30.2**	**-0.3**
	0.5nm,0.6s,baz=124,slow=2.5,SNR=15						
YKA	**Yellowknife Ar**	**138.70**	**315**	PKP	**PKPdf**	**07 39 30.2**	**-0.3**
SONM	**Songino Array**	**148.62**	**86**	PKPbc	**PKPbc**	**07 39 52.5**	**+0.2**
	2.1nm,0.7s,baz=225,slow=3.0,SNR=18						
SONM	**Songino Array**	**148.62**	**86**	PKPbc	**PKPbc**	**07 39 52.5**	**+0.2**
ILAR	**Eielson Array**	**152.70**	**309**	PKPbc	**PKPbc**	**07 40 01.3**	**0.0**
	1.0nm,0.5s,baz=132,slow=2.9,SNR=26						
ILAR	**Eielson Array**	**152.70**	**309**	PKPbc	**PKPbc**	**07 40 01.3**	**0.0**

IDC 18 07:31:23.7±5.5, 5.26S×148.50E, h75km±49km, mb3.4/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=61.2km s-min=33.7km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.33**	**198**	P	Pn	07 32 28.2	+1.1
	12nm,0.3s,baz=33,slow=9.0,SNR=14						
PMG				S	Sn	07 33 10.0	-6.4
	5.1nm,0.3s,baz=55,slow=7.3,SNR=6.0						
WRA	**Warramunga Arr**	**20.07**	**222**	P	P	07 35 50.6	-0.6
	3.6nm,0.7s,baz=48,slow=11,SNR=32						
ASAR	**Alice Springs**	**23.08**	**216**	P	P	07 36 22.1	-1.1
	1.7nm,0.6s,baz=52,slow=9.0,SNR=36						
FITZ	**Fitzroy Crossi**	**25.73**	**238**	P	P	07 36 48.4	+1.1
	3.2nm,1.1s,baz=68,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**27.26**	**193**	P	P	07 37 01.5	+0.5
	0.8nm,0.6s,baz=2.5,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**77.88**	**320**	P	P	07 43 13.1	-0.3
	0.1nm,0.5s,baz=91,slow=5.8,SNR=2.3						

IDC 18 07:37:32.7±2.6, 1.12S×130.39E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.2/18, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=139.5km s-min=24.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.51**	**195**	P	Pn	07 41 38.3	-0.1
	0.1nm,0.3s,baz=194,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**19.10**	**169**	P	P	07 41 56.8	-0.5
	0.1nm,0.3s,baz=355,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**22.67**	**172**	P	P	07 42 36.2	+0.4
	0.2nm,0.4s,baz=352,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**63.60**	**325**	P	P	07 48 05.4	0.0
	0.1nm,0.5s,baz=119,slow=8.0,SNR=3.9						

IDC 18 08:03:58.3±1.8, 2.12N×124.36E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=190.9km s-min=24.9km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.02**	**156**	P	P	08 09 14.3	-0.8
	0.5nm,0.5s,baz=333,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**27.27**	**161**	P	P	08 09 46.0	+1.5
	0.2nm,0.7s,baz=354,slow=16,SNR=5.1						
MKAR	**Makanchi Array**	**57.56**	**327**	P	P	08 13 49.3	-0.5
	0.1nm,0.4s,baz=124,slow=6.8,SNR=3.3						

*NNC **18** 08:06:08.2±2.4, 50.52N×73.24E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=34.2km s-min=7.9km az=28.0*
*IDC **18** 08:06:09.4±1.0, 50.91N×73.51E, h0km, mb3.3/1, mb1 3.2/6, mb1mx3.0/29, mbtmp3.0/6, ML2.9/5, Error ellipse: s-maj=22.6km s-min=7.2km az=27.0*

ISC 18 08:06:09.8±1.1, 50.9N±0.1×73.48E±0.06, h10km, n14, σt§43/22, 12C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.41**	**321**	⇑Pn	**Pb**	**08 06 50.9**	**-2.4**
	2.8nm,0.4s						
VOSK				⇑Sn	**Sb**	**08 07 23.9**	**+0.8**
	17nm,0.8s						
BVA0	**Borovoye Array**	**2.88**	**320**	⇑Pn	**Pb**	**08 06 59.0**	**-2.2**
	0.4nm,0.4s,baz=129,slow=16,SNR=48						
BVA0				⇑Sn	**Sb**	**08 07 36.4**	**0.0**
	1.4nm,0.5s,baz=125,slow=27,SNR=11						
BVAR	**Borovoye Array**	**2.88**	**320**	Pn	**Pn**	**08 06 56.8**	**+1.1**
	2.7nm,0.3s,baz=127,slow=16,SNR=34						
BVAR				Pg	**Pb**	**08 06 59.7**	**-1.5**
	2.7nm,0.3s,baz=128,slow=16,SNR=39						
BVAR				Lg	Lg	08 07 39.3	
	3.3nm,0.3s,baz=118,slow=26,SNR=9.1						
BRVK	**Borovoye**	**2.94**	**319**	⇑Pn	**Pb**	**08 07 00.7**	**-1.7**
	3.4nm,0.5s						
BRVK				⇓Sn	**Sb**	**08 07 40.6**	**+2.3**
	14nm,0.4s						
KURBB	**Kurchatov Arra**	**3.22**	**93**	⇓Pn	**Pn**	**08 06 59.8**	**-0.6**
	0.3nm,0.4s						
KURBB				⇑Pg	**Pb**	**08 07 08.3**	**+1.2**
	1.7nm,0.5s						
KURBB				⇓Sn	**Sb**	**08 07 45.9**	**-0.3**
	3.9nm,0.5s						
KURK	**Kurchatov**	**3.27**	**91**	Pn	**Pn**	**08 07 00.0**	**-1.0**
	0.3nm,0.3s,baz=278,slow=13,SNR=25						
KURK				Pg	**Pb**	**08 07 07.3**	**-0.5**
	0.9nm,0.3s,baz=276,slow=15,SNR=33						
KURK				Lg	Lg	08 07 45.8	
	0.7nm,0.3s,baz=273,slow=30,SNR=14						
KURK	**Kurchatov**	**3.27**	**91**	⇑Pn	**Pn**	**08 07 01.4**	**+0.4**
	2.8nm,0.8s						
KURK				⇑Sn	**Sb**	**08 07 46.2**	**-1.4**
	11nm,0.5s						
ZRNK	**Zerenda**	**3.46**	**309**	⇓Pn	**Pn**	**08 07 05.5**	**+1.8**
	1.3nm,0.3s						
ZRNK				⇑Sn	**Sn**	**08 07 47.5**	**+2.7**
	7.7nm,0.5s						
MK31	**Makanchi Array**	**7.11**	**122**	⇑Pn	**Pn**	**08 07 53.7**	**-0.1**
	0.3nm,0.4s,baz=301,slow=10,SNR=8.9						
MK31				⇑Lg	Lg	08 09 50.1	
	2.1nm,0.5s,baz=325,slow=19,SNR=6.1						
MKAR	**Makanchi Array**	**7.11**	**122**	Pn	**Pn**	**08 07 53.0**	**-0.8**
	0.1nm,0.3s,baz=297,slow=12,SNR=6.1						
MKAR				Lg	Lg	08 09 52.2	
	0.5nm,0.3s,baz=321,slow=28,SNR=8.7						
ZALV	**Zalesovo Beam**	**7.58**	**62**	Pn	**Pn**	**08 08 00.1**	**-0.2**
	0.2nm,0.3s,baz=248,slow=12,SNR=4.7						
TKM2	**Tokmak 2**	**8.09**	**169**	⇑Lg	Lg	08 10 19.5	
	4.7nm,0.6s						
AKTO	**Aktyubinsk**	**9.84**	**273**	Pn	**Pn**	**08 08 31.1**	**0.0**
	0.2nm,0.3s,baz=91,slow=9.2,SNR=4.6						
ILAR	**Eielson Array**	**60.51**	**19**	P	**P**	**08 16 19.4**	**-0.1**
	0.2nm,0.5s,baz=328,slow=6.1,SNR=8.1						

*IDC **18** 08:11:26.8±0.4, 1.54N×126.36E, h0km, mb4.5/23, mb1 4.5/24, mb1mx4.5/26, mbtmp4.5/24, ML4.2/1, Error ellipse: s-maj=21.2km s-min=10.0km az=71.0*
*MOS **18** 08:11:29.9±1.0, 1.54N×126.33E, h33km, mb5.0/31, Error ellipse: s-maj=15.5km s-min=6.1km az=116.3*
*ISCJB **18** 08:11:30.5±0.2, 1.61N±0.02×126.72E±0.03, h36km, mb4.8/94, MS4.7/10, Error ellipse: s-maj=4.7km s-min=3.5km az=170.0*
*BJI **18** 08:11:32.2, 1.50N×126.50E, h37km, mB5.1/24, mb4.6/34, Ms4.9/25, Ms7 4.7/27*
*NEIC **18** 08:11:35.0±0.9, 1.50N×126.38E, h64km±8km, mb4.8/24, Error ellipse: s-maj=8.0km s-min=3.7km az=66.0*
*DJA **18** 08:11:36, 1.58N×126.52E, h49km, mb5.1/31*

ISC 18 08:11:32.7±0.4, 1.54N±0.04×126.63E±0.05, h40km±2km, h40km:pP-P, n250, σt§75/280, mb4.8/94, MS4.6/11, 6C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**136**	P	Pn	08 11 55.4	+4.3
MNI	**Manado**	**1.79**	**267**	P	**Pn**	**08 12 02.5**	**+1.4**
LBMI	**Labuha**	**2.33**	**158**	P	Pn	08 12 14.1	+5.5
SGSI	**Sangihe**	**2.40**	**333**	P	**Pn**	**08 12 12.2**	**+2.7**
KMSI	**Cibinong**	**2.81**	**250**	P	**Pn**	**08 12 17.9**	**+2.7**
LUWI	**Luwuk**	**4.63**	**236**	P	**Pn**	**08 12 42.1**	**+1.9**
NLAI	**Namlea**	**4.77**	**174**	P	Pn	08 12 46.5	+4.4
MRSI	**Marisa**	**4.80**	**257**	P	**Pn**	**08 12 45.1**	**+2.5**
MSAI	**Masohi**	**5.37**	**155**	P	Pn	08 12 59.4	+9.0
	68nm,0.9s,0.2nm						
AAI	**Ambon**	**5.42**	**163**	P	Pn	08 13 01.3	+10
	180nm,1.2s,2μm0.7nm						
DAV	**Davao City (W)**	**5.59**	**349**	Pn	**Pn**	**08 12 56.4**	**+3.0**
KDI	**Kendari**	**6.77**	**216**	P	**Pn**	**08 13 11.0**	**+1.4**
	144nm,0.7s,2μm0.5nm						
FAKI	**Fak Fak**	**7.15**	**128**	P	Pn	08 13 20.3	+5.4
	82nm,0.9s,20μm0.3nm						
SPSI	**Sidrap Palu**	**8.77**	**231**	P	**Pn**	**08 13 39.4**	**+2.4**
	175nm,0.6s,2μm0.6nm						
MYLDM	**Lahad Datu**	**8.88**	**294**	P	Pn	08 13 42.8	+4.2
TSM	**Tawau**	**9.16**	**288**	P	Pn	08 13 46.4	+4.0
TLE	**Tual**	**9.38**	**139**	P	Pn	08 13 54.2	+8.7
	210nm,1.4s,3μm						
BKSI	**Bulukumba**	**9.42**	**224**	P	**Pn**	**08 13 48.5**	**+2.6**
	121nm,0.7s,1μm						
KAPI	**Kappang**	**9.46**	**227**	Pn	**Pn**	**08 13 47.6**	**+1.0**
	9.1nm,0.3s,baz=9.5,slow=7.5,SNR=18						
KAPI	**Kappang**	**9.46**	**227**	*e*Pn	**Pn**	**08 13 47.6**	**+1.0**
KAPI				*e*Sn	**Sn**	**08 15 28.4**	**-3.3**
KAPI	**Kappang**	**9.46**	**227**	P	**Pn**	**08 13 48.9**	**+2.3**
	99nm,0.8s						
BAKI	**Biak**	**9.86**	**106**	P	Pn	08 14 01.9	+10
	298nm,1.1s,4μm409μm						
SDKM	**Sandakan**	**10.26**	**294**	P	Pn	08 14 01.6	+4.1
KKM	**Kota Kinabalu**	**11.31**	**294**	P	Pn	08 14 16.0	+4.1
KBKI	**Kotabaru**	**11.51**	**245**	P	**Pn**	**08 14 17.4**	**+2.8**
	36nm,1.1s,2μm						
SMPI	**Sarmi**	**12.58**	**106**	P	**P**	**08 14 38.8**	**-1.2**
	54nm,1.4s						
BTM	**Bintulu**	**13.63**	**277**	P	Pn	08 14 47.5	+3.8
SBUM	**Sibu**	**14.43**	**274**	P	**P**	**08 14 58.4**	**-2.2**
MTNI	**Mataram**	**14.52**	**226**	P	**P**	**08 15 02.6**	**+1.0**
	422nm,1.0s						
KHKI	**Kahang-Kahang**	**14.75**	**228**	P	**P**	**08 15 06.4**	**+2.3**
STKI	**Sintang**	**15.22**	**265**	P	**P**	**08 15 07.1**	**-2.3**
	53nm,1.3s						
KMMI	**Kalianget**	**15.25**	**236**	P	**P**	**08 15 12.0**	**+2.4**
	427nm,0.9s						
IGBI	**Denpasar**	**15.39**	**228**	P	**P**	**08 15 13.4**	**+2.2**
	434nm,0.8s						
BYJI	**Banyuwangi**	**15.61**	**231**	P	P	08 15 18.5	+4.8
	324nm,1.0s,7μm						
JAGI	**Jajag, Banyuwa**	**15.92**	**231**	P	**P**	**08 15 19.7**	**+2.5**
	241nm,1.0s,2μm						
BLJI	**Banyuglugur**	**15.94**	**234**	P	**P**	**08 15 18.5**	**+1.2**
	212nm,1.0s,6μm						
KSM	**Kuching**	**16.31**	**270**	P	**P**	**08 15 22.7**	**+1.2**
GMJI	**Gumukmas**	**16.36**	**233**	P	**P**	**08 15 24.8**	**+2.7**
	158nm,1.1s						
KRKI	**Karangkates**	**17.11**	**236**	P	**P**	**08 15 34.8**	**+4.5**
	291nm,0.8s						
SJI	**Sawahan**	**17.45**	**238**	P	**P**	**08 15 35.8**	**+1.6**
	97nm,0.9s						
PWJI	**Pagerwojo**	**17.57**	**237**	P	**P**	**08 15 36.7**	**+1.3**
	79nm,1.0s						
PCJI	**Pacitan**	**18.19**	**238**	P	**Pn**	**08 15 44.0**	**+1.7**
	169nm,0.7s						
BJII	**Banjamegara**	**19.04**	**242**	P	**P**	**08 15 52.1**	**+0.4**
	73nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.54**	**183**	P	**P**	**08 15 57.0**	**-0.1**
	0.6nm,0.3s,baz=49,slow=7.5,SNR=14						
FITZ	**Fitzroy Crossi**	**19.54**	**183**	*e*P	**P**	**08 15 56.6**	**-0.4**
	11nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.54**	**183**	P	**P**	**08 15 57.0**	**-0.1**
	10nm,1.2s						
TPUB	**Ta-pu**	**22.40**	**345**	*e*P	**P**	**08 16 29.1**	**+1.2**
	1μm,1.0s						
CGJI	**Cibinong**	**22.41**	**249**	P	**P**	**08 16 27.6**	**-0.5**
	57nm,0.6s,4μm						
COEN	**Coen**	**22.49**	**134**	*e*P	**P**	**08 16 27.4**	**-1.6**
	119nm,1.0s						
COEN				*e*S	**S**	**08 20 29.6**	**-3.8**
WRAB	**Tennant Creek**	**22.64**	**161**	*e*P	**P**	**08 16 30.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,98nm,0.7s						
WRAB	**Tennant Creek**	**22.64**	**161**	*e*P	**P**	**08 16 30.5**	**0.0**
	comp=Z,98nm,0.7s						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**08 16 30.4**	**-0.2**
	comp=Z,97nm,0.8s,baz=339,slow=11,SNR=216						
WRA				S	**S**	**08 20 31.6**	**-4.5**
	comp=Z,6.5nm,0.7s,baz=342,slow=17,SNR=11						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**08 16 30.4**	**-0.2**
WRA				S	**S**	**08 20 31.6**	**-4.5**
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**08 16 30.4**	**-0.2**
WRA				S	**S**	**08 20 31.6**	**-4.5**
WB2	**Warramunga Arr**	**22.65**	**161**	*e*P	**P**	**08 16 30.5**	**-0.2**
WB2				*e*S	**S**	**08 20 32.4**	**-3.8**
MYKOM	**Kota Tinggi**	**22.77**	**271**	P	**P**	**08 16 36.2**	**+4.3**
SSLB	**Suanglung**	**22.79**	**346**	*e*P	**P**	**08 16 32.8**	**+0.7**
	comp=Z,288nm,0.9s						
PMG	**Port Moresby**	**23.16**	**118**	P	**P**	**08 16 36.7**	**+0.8**
	comp=Z,13nm,0.8s,baz=322,slow=5.4,SNR=6.4						
PMG	**Port Moresby**	**23.16**	**118**	*ce*P	**P**	**08 16 36.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,22nm,1.2s						
PMG	**Port Moresby**	**23.16**	**118**	*e*P	**P**	**08 16 37.5**	**+1.6**
LWLI	**Liwa**	**23.47**	**254**	P	**P**	**08 16 38.6**	**-0.5**
	comp=Z,122nm,0.8s,comp=Z,16μm						
MBWA	**Marble Bar**	**23.55**	**196**	*e*P	**P**	**08 16 38.8**	**-0.7**
	comp=Z,15nm,0.9s						
QIZ	**Qiongzhong**	**23.93**	**318**	P	**P**	**08 16 43.8**	**+0.6**
QIZ				S	**S**	**08 20 56.8**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,17nm,1.7s						
QIZ				LR	LR		
	comp=Z,2μm,14.8s						
KSI	**Kapahiang**	**24.57**	**258**	P	**P**	**08 16 52.4**	**+3.2**
	comp=Z,66nm,0.8s						
FRIM	**Kepong**	**25.04**	**274**	P	**P**	**08 16 56.8**	**+3.4**
JOW	**Kunigami**	**25.20**	**3**	P	**P**	**08 16 53.6**	**-1.0**
	comp=Z,12nm,0.8s,baz=67,slow=26,SNR=2.6						
JOW	**Kunigami**	**25.20**	**3**	*e*P	**P**	**08 16 53.5**	**-1.1**
	comp=Z,7.5nm,0.7s						
IPM	**Ipoh**	**25.73**	**277**	P	**P**	**08 17 03.2**	**+3.5**
AS31	**Alice Springs**	**26.03**	**165**	*e*P	**P**	**08 17 02.5**	**+0.2**
ASAR	**Alice Springs**	**26.04**	**165**	P	**P**	**08 17 02.6**	**+0.3**
	comp=Z,20nm,0.7s,baz=350,slow=13,SNR=126						
ASAR				PcP	**PcP**	**08 20 29.9**	**0.0**
	comp=Z,1.1nm,0.5s,baz=351,slow=1.9,SNR=4.7						
ASAR				S	**S**	**08 21 29.7**	**-1.1**
	comp=Z,5.8nm,1.0s,baz=348,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**26.04**	**165**	P	**P**	**08 17 02.7**	**+0.3**
ASAR						08 20 29.9	
ASAR				S	**S**	**08 21 29.7**	**-1.1**
ASAR	**Alice Springs**	**26.04**	**165**	P	**P**	**08 17 02.6**	**+0.3**
ASAR				PcP	**PcP**	**08 20 29.9**	**0.0**
ASAR				S	**S**	**08 21 29.7**	**-1.1**
PPI	**Padang Panjang**	**26.30**	**266**	P	**P**	**08 17 07.4**	**+2.5**
	comp=Z,26nm,1.0s						
MNSI	**Mandailing Nat**	**27.05**	**269**	P	**P**	**08 17 11.1**	**-0.5**
	comp=Z,20nm,1.2s						
PSI	**Prapat**	**27.71**	**273**	P	**P**	**08 17 16.4**	**-1.3**
	comp=Z,30nm,1.4s						
CTA	**Charters Tower**	**28.85**	**139**	P	**P**	**08 17 28.3**	**+0.6**
	comp=Z,11nm,1.0s,baz=309,slow=12,SNR=3.2						
CTA	**Charters Tower**	**28.85**	**139**	*e*P	**P**	**08 17 29.9**	**+2.3**
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**28.85**	**139**	P	**P**	**08 17 28.3**	**+0.6**
CTA	**Charters Tower**	**28.85**	**139**	P	**P**	**08 17 28.3**	**+0.6**
CTAO	**Charters Tower**	**28.85**	**139**	P	**P**	**08 17 28.6**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**28.85**	**139**	P	**P**	**08 17 28.6**	**+1.0**
	comp=Z,17nm,0.8s						
WHN	**Wuhan**	**31.11**	**339**	P	P	08 17 51.3	+3.9
WHN				*e*S	**S**	**08 22 50.3**	**-0.1**
NJ2	**Nanjing**	**31.22**	**347**	*e*P	**P**	**08 17 49.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA	**Guiyang**	**31.34**	**324**	P	**P**	**08 17 51.8**	**+2.1**
GYA				pP	**pP**	**08 18 01.0**	**+0.2**
GYA				PP	PP	08 18 56.3	-4.7
GYA				S	**S**	**08 22 55.4**	**+1.0**
GYA				sS	**sS**	**08 23 12.3**	**-0.5**
GYA				ScP	**ScP**	**08 24 23.9**	**+0.6**
GYA				SS	SS	08 24 43.6	-26
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,470nm,16.5s						
GYA				LR	LR		
	comp=E,450nm,17.2s						
GYA				LR	LR		
	comp=Z,500nm,16.8s						
CMAR	**Chiang Mai Arr**	**31.94**	**304**	P	**P**	**08 17 52.6**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=131,slow=8.2,SNR=8.9						
CMAR	**Chiang Mai Arr**	**31.94**	**304**	P	**P**	**08 17 52.6**	**-2.4**
CMAR	**Chiang Mai Arr**	**31.94**	**304**	P	**P**	**08 17 52.6**	**-2.4**
FORT	**Forrest**	**32.17**	**178**	*e*P	**P**	**08 17 56.9**	**+0.1**
	comp=Z,40nm,0.6s						
FORT	**Forrest**	**32.17**	**178**	*e*P	**P**	**08 17 57.1**	**+0.3**
	comp=Z,42nm,0.6s						
KMI	**Kunming**	**32.88**	**317**	P	**P**	**08 18 03.9**	**+0.5**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KLBR	**Kellerberrin**	**34.01**	**194**	*e*P	**P**	**08 18 12.8**	**-0.1**
	comp=Z,46nm,1.3s						
BBOO	**Buckleboo**	**35.31**	**166**	*e*P	**P**	**08 18 23.8**	**-0.3**
	comp=Z,239nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.41**	**194**	P	**P**	**08 18 24.4**	**-0.5**
	comp=Z,10nm,0.8s,baz=14,slow=14,SNR=5.9						
NWAO	**Narrogin (SRO)**	**35.41**	**194**	P	**P**	**08 18 24.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**35.41**	**194**	P	**P**	**08 18 24.4**	**-0.5**
EIDS	**Eidsvold**	**35.72**	**140**	*e*P	**P**	**08 18 28.5**	**+0.8**
	comp=Z,23nm,1.1s						
KSAR	**Wonju Array Be**	**35.75**	**2**	P	**P**	**08 18 28.4**	**+0.7**
KSAR	**Wonju Array Be**	**35.75**	**2**	P	**P**	**08 18 28.4**	**+0.7**
KSRS	**Korea Array**	**35.76**	**2**	P	**P**	**08 18 28.4**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=179,slow=9.5,SNR=9.2						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**08 18 31.4**	**+0.3**
	comp=Z,11nm,0.7s,baz=335,slow=8.0,SNR=36						
STKA	**Stephens Creek**	**36.14**	**158**	*e*P	**P**	**08 18 31.5**	**+0.3**
	comp=Z,9.8nm,0.8s						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**08 18 31.5**	**+0.3**
STKA				pmax	pmax		
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**08 18 31.4**	**+0.3**
	comp=Z,21nm,0.8s						
CD2	**Chengdu**	**36.36**	**326**	P	**P**	**08 18 35.3**	**+2.1**
CD2				pP	**pP**	**08 18 45.4**	**+1.0**
CD2				sP	**sP**	**08 18 49.6**	**+0.5**
CD2				PP	PP	08 19 59.6	+3.1
CD2				S	**S**	**08 24 14.0**	**+2.1**
CD2				sS	**sS**	**08 24 30.9**	**+0.5**
CD2				SS	SS	08 26 40.5	-11
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,8.8s						
CD2				LR	LR		
	comp=N,2μm,12.5s						
CD2				LR	LR		
	comp=Z,2μm,14.9s						
MAT	**Matsushiro**	**36.44**	**16**	P	**P**	**08 18 32.9**	**-0.9**
MJAR	**Matsushiro Arr**	**36.44**	**16**	P	**P**	**08 18 33.0**	**-0.8**
	comp=Z,5.5nm,0.7s,baz=184,slow=10,SNR=15						
MJAR	**Matsushiro Arr**	**36.44**	**16**	P	**P**	**08 18 33.0**	**-0.8**
MJAR	**Matsushiro Arr**	**36.44**	**16**	P	**P**	**08 18 33.0**	**-0.8**
BJT	**Baijiatuan**	**39.47**	**347**	*e*P	**P**	**08 18 59.9**	**+0.7**
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	**Baijiatuan**	**39.47**	**347**	*e*P	**P**	**08 18 59.9**	**+0.7**
	comp=Z,13nm,0.8s						
BJI	**Beijing**	**39.48**	**347**	P	**P**	**08 19 00.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				LR	LR		
	comp=E,810nm,15.7s						
BJI				LR	LR		
	comp=Z,480nm,28.5s						
ARMA	**Armidale**	**39.72**	**145**	*e*P	**P**	**08 19 03.2**	**+1.6**
ARMA	**Armidale**	**39.72**	**145**	*e*P	**P**	**08 19 02.4**	**+0.8**
	comp=Z,13nm,0.8s						
LZH	**Lanzhou**	**40.34**	**331**	*e*P	**P**	**08 19 08.8**	**+2.0**
LZH				pP	**pP**	**08 19 19.5**	**+1.5**
LZH				sP	**sP**	**08 19 25.0**	**+2.2**
LZH				S	**S**	**08 25 10.1**	**-2.0**
LZH				sS	**sS**	**08 25 32.1**	**+1.3**
LZH				SS	SS	08 28 06.0	-6.1
LZH				pmax	pmax		
	comp=Z,31nm,1.2s						
LZH				pmax	pmax		
	comp=Z,250nm,6.9s						
LZH				LR	LR		
	comp=N,1μm,11.2s						
LZH				LR	LR		
	comp=E,960nm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,16.3s						
SHL	**Shillong**	**41.12**	**308**	*e*P	**P**	**08 19 14.0**	**+0.7**
SHL				*ex*	x	08 21 27.5	
SHL				*e*S	S	08 24 32.0	-52
HHC	**Hu-ho-hao-te**	**41.44**	**343**	*e*P	**P**	**08 19 17.8**	**+2.2**
HHC				sP	**sP**	**08 19 30.9**	**-0.8**
HHC				PP	PP	08 20 57.9	+5.9
HHC				PcP	**PcP**	**08 21 15.3**	**+2.2**
HHC				ScP	**ScP**	**08 25 01.3**	**+1.2**
HHC				PcS	**PcS**

GTA LR LR
comp=E,670nm,17.3s
GTA LR LR
comp=Z,990nm,16.2s
TAPN Taplejung 45.25 308 *e*P **P 08 19 44.0 -2.9**
comp=Z,11nm,0.6s
TAPN Taplejung 45.25 308 *e*P **P 08 19 44.0 -2.9**
comp=Z,11nm,0.6s
ODAN Odare 45.28 307 *e*P **P 08 19 44.7 -2.3**
comp=Z,26nm,0.7s
ODAN Odare 45.28 307 *e*P **P 08 19 44.7 -2.3**
comp=Z,26nm,0.7s
DZM Mont Dzumac 45.39 123 P **P 08 19 49.7 +1.9**
comp=Z,10nm,0.8s,baz=321,slow=20,SNR=8.4
DZM Mont Dzumac 45.39 123 *e*P **P 08 19 49.0 +1.3**
comp=Z,12nm,0.9s
RAMN Ramite 45.95 307 *e*P **P 08 19 50.6 -1.7**
comp=Z,27nm,0.8s
RAMN Ramite 45.95 307 *e*P **P 08 19 50.6 -1.7**
comp=Z,27nm,0.8s
JIRN Jiri 46.59 308 *e*P **P 08 19 55.7 -1.8**
comp=Z,13nm,0.4s
JIRN Jiri 46.59 308 *e*P **P 08 19 55.7 -1.8**
comp=Z,13nm,0.4s
GUN Gumba 46.95 308 *e*P **P 08 19 58.5 -1.8**
comp=Z,22nm,0.4s
GUN Gumba 46.95 308 *e*P **P 08 19 58.5 -1.8**
comp=Z,22nm,0.4s
PKI Pulchoki 47.17 307 *e*P **P 08 19 59.7 -2.3**
comp=Z,16nm,0.7s
PKI Pulchoki 47.17 307 *e*P **P 08 19 59.7 -2.3**
PKI pmax pmax
comp=Z,16nm,0.7s
PKI Pulchoki 47.17 307 *e*P **P 08 19 59.7 -2.3**
comp=Z,16nm,0.7s
HABR Khabarovsk 47.31 8 *e*P **P 08 20 00.4 -1.9**
HABR *e**PP **pP 08 20 10.0 -3.8**
HABR *e**SP **sP 08 20 14.5 -4.0**
HABR *e* 08 21 30.7
HABR 08 21 51.6
HABR PPP PPP 08 22 37.6
HABR *e*S **S 08 26 52.3 -0.8**
HABR *e**SS **sS 08 27 09.3 -2.8**
HABR 08 29 51.6
HABR *e*SSS SSS 08 31 25.5
HABR pmax pmax
comp=E,67nm,2.3s
HABR pmax pmax
comp=Z,29nm,2.3s
HABR pmax pmax
comp=N,34nm,3.1s
HABR MLR MLR
comp=Z,272nm,19.0s
YSS Yuzh-Sakhalins 47.37 15 *e*P **P 08 20 04.1 +1.3**
KKN Kakani 47.37 307 *e*P **P 08 20 00.7 -2.7**
comp=Z,13nm,0.5s
KKN Kakani 47.37 307 *e*P **P 08 20 00.7 -2.7**
KKN pmax pmax
comp=Z,13nm,0.5s
KKN Kakani 47.37 307 *e*P **P 08 20 00.7 -2.7**
comp=Z,13nm,0.5s
DMN Daman 47.43 307 *e*P **P 08 20 01.9 -2.0**
comp=Z,20nm,0.7s
DMN Daman 47.43 307 *e*P **P 08 20 01.9 -2.0**
comp=Z,20nm,0.7s
KLR Kul'dur 47.71 5 *e*P P 08 20 01.7 -3.7
GKN Gorkha 47.98 307 *e*P **P 08 20 06.0 -2.1**
GKN Gorkha 47.98 307 *e*P **P 08 20 06.0 -2.1**
DANN Dangsing 48.83 307 *e*P **P 08 20 12.9 -1.8**
comp=Z,57nm,0.7s
DANN Dangsing 48.83 307 *e*P **P 08 20 12.9 -1.8**
comp=Z,57nm,0.7s
ULN Ulaanbaatar 49.16 343 *e*P **P 08 20 16.7 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 49.16 343 *e*P **P 08 20 16.6 -0.1**
comp=Z,6.1nm,0.9s
ULN Ulaanbaatar 49.16 343 P P 08 20 24.5 +7.7
comp=Z,6.6nm,1.1s
SONM Songino Array 49.33 342 P **P 08 20 17.8 -0.3**
comp=Z,1.1nm,0.6s,baz=158,slow=8.3,SNR=11
SONM Songino Array 49.33 342 P **P 08 20 17.8 -0.3**
SONM Songino Array 49.33 342 P **P 08 20 17.8 -0.3**
HYB Hyderabad 49.79 292 *i*P **P 08 20 19.0 -2.9**
ZAK Zakamensk 52.55 341 *e*P **P 08 20 41.2 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.9s
WMQ Urumqi 54.46 326 *e*P **P 08 20 56.0 -0.3**
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ LR LR
comp=N,650nm,17.3s
WMQ LR LR
comp=E,350nm,16.0s
WMQ LR LR
comp=Z,660nm,17.3s
BOD Bodaibo 57.01 352 *e*P **P 08 21 14.5 +0.3**
BOD pmax pmax
comp=Z,7.0nm,1.2s
PETK Petropavlovsk- 57.49 22 P **P 08 21 18.7 +1.0**
comp=Z,3.5nm,0.6s,baz=188,slow=5.2,SNR=5.9
PETK Petropavlovsk- 57.49 22 P **P 08 21 18.7 +1.0**
PETK Petropavlovsk- 57.49 22 P **P 08 21 18.7 +1.0**
MK31 Makanchi Array 59.30 326 *i*P **P 08 21 29.0 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 59.30 326 *e*P **P 08 21 29.3 -1.2**
MKAR Makanchi Array 59.30 326 P **P 08 21 29.2 -1.3**
comp=Z,3.7nm,0.5s,baz=121,slow=7.9,SNR=96
MKAR Makanchi Array 59.30 326 P **P 08 21 29.2 -1.3**
MKAR Makanchi Array 59.30 326 P **P 08 21 29.2 -1.3**
YAK Yakutsk 60.39 2 *e*P **P 08 21 36.5 -1.1**
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
TKM2 Tokmak 2 61.32 319 *e*P **P 08 21 43.1 -1.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 61.32 319 *e*P **P 08 21 43.1 -1.5**
comp=Z,4.8nm,0.8s
AAK Ala-Archa 61.91 319⇑ *e*P **P 08 21 46.7 -1.9**
AAK pmax pmax
comp=Z,19nm,2.0s
AAK Ala-Archa 61.91 319 *e*P **P 08 21 49.4 +0.8**
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 62.40 318 *e*P **P 08 21 50.9 -0.9**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 62.40 318 *e*P **P 08 21 50.9 -0.9**
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 62.49 334 P **P 08 21 50.5 -1.5**
comp=Z,0.7nm,0.3s,baz=126,slow=7.7,SNR=5.6
ZALV Zalesovo Beam 62.49 334 P **P 08 21 50.5 -1.5**
ZALV Zalesovo Beam 62.49 334 P **P 08 21 50.5 -1.5**
KBL Kabul 62.78 308 *e*P **P 08 21 52.5 -2.1**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 62.78 308 *e*P **P 08 21 52.5 -2.1**
comp=Z,11nm,0.8s
KURK Kurchatov 63.53 328 P **P 08 21 57.7 -1.2**
comp=Z,4.4nm,0.5s,baz=133,slow=5.2,SNR=78
KURK Kurchatov 63.53 328⇓ *i*P **P 08 21 57.4 -1.5**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 63.53 328 *e*P **P 08 21 57.7 -1.2**
comp=Z,12nm,0.8s
NVS Novosibirsk 63.77 334 *e*P P 08 21 57.1 -3.4
NVS pmax pmax
comp=Z,7.0nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
SEY Seymchan 64.18 13⇑ *i*P **P 08 22 04.2 +1.2**
KK31 Karatay Array 64.76 318 *i*P **P 08 22 05.5 -1.8**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 64.76 318 *e*P **P 08 22 05.7 -1.6**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 64.76 318 *e*P **P 08 22 05.7 -1.6**
comp=Z,4.6nm,0.8s
VOSK Vostochnaya 68.64 327 P **P 08 22 30.4 -1.4**
VOSK pmax pmax
comp=Z,3.0nm,0.6s
BVA0 Borovoye Array 69.09 327 P **P 08 22 32.1 -2.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 69.09 327 P **P 08 22 33.7 -0.9**
comp=Z,3.2nm,0.6s,baz=118,slow=5.6,SNR=17
BVAR Borovoye Array 69.09 327 P **P 08 22 33.7 -0.9**
BVAR Borovoye Array 69.09 327 P **P 08 22 33.7 -0.9**
BRVK Borovoye 69.17 327⇑ *i*P **P 08 22 34.3 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
ZRNK Zerenda 69.81 327 *i*P **P 08 22 38.1 -0.9**
ZRNK pmax pmax
comp=Z,7.0nm,0.7s
BILL Bilibino 71.68 15 *e*P **P 08 22 53.0 +2.9**
BILL *e* 08 23 05.1
BILL *e* 08 25 29.7
BILL pmax pmax
comp=Z,2.0nm,0.9s
AB31 Akbulak array 73.78 321 *i*P **P 08 23 01.4 -1.5**
AB31 pmax pmax
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 73.78 321 *e*P **P 08 23 01.6 -1.3**
comp=Z,2.1nm,0.6s
AKTO Aktyubinsk 75.31 322 P **P 08 23 10.9 -0.9**
comp=Z,4.1nm,0.7s,baz=105,slow=6.9,SNR=23
AKTO Aktyubinsk 75.31 322 *i*P **P 08 23 10.7 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 75.31 322 P **P 08 23 10.9 -0.9**
SVE Sverdlovsk 75.77 329⇑ *i*P **P 08 23 13.9 -0.3**
SVE pmax pmax
comp=Z,18nm,0.8s
ARU Arti 76.72 328 *c i*P **P 08 23 18.4 -1.3**
ARU 08 26 06.9
ARU S **S 08 33 03.7 0.0**
ARU SS **SS 08 37 52.3 -7.7**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU Arti 76.72 328 *e*P **P 08 23 18.6 -1.1**
comp=Z,14nm,1.0s
NAY Al-Naaiem 79.99 299 *e*P **P 08 23 36.3 -2.0**
NAY AMb AMB 08 23 39.8
comp=Z,11nm,1.0s
ZEI Tsey 83.61 313 *e*P **P 08 23 56.4 -1.1**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 84.57 314 *e*P **P 08 24 02.2 +0.1**
KIV pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 85.66 321 *e*P **P 08 24 06.0 -1.3**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,8.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
ILAR Eielson Array 87.11 25 P **P 08 24 13.9 -0.2**
comp=Z,0.4nm,0.7s,baz=234,slow=5.3,SNR=3.4
ILAR Eielson Array 87.11 25 P **P 08 24 13.9 -0.2**
ILAR Eielson Array 87.11 25 P **P 08 24 13.9 -0.2**
VSR Storozhevoye 87.22 321 *e*P **P 08 24 13.6 -1.3**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,3.0nm,0.6s
OBN Obninsk 88.78 325 *e*P **P 08 24 22.1 -0.1**
OBN *e* 08 27 49.5
OBN pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 91.33 310 P **P 08 24 33.0 -1.7**
comp=Z,8.8nm,0.7s,baz=93,slow=3.8,SNR=5.5
BRTR Keskin Array B 91.33 310 P **P 08 24 33.1 -1.7**
BRTR Keskin Array B 91.33 310 P **P 08 24 33.0 -1.7**
ARCES ARCESS Array B 92.46 340 P **P 08 24 38.0 -1.1**
comp=Z,4.2nm,0.9s,baz=75,slow=3.8,SNR=2.9
ARCES ARCESS Array B 92.46 340 P **P 08 24 38.0 -1.1**
ARCES ARCESS Array B 92.46 340 P **P 08 24 38.0 -1.1**
SKAG Skagway 92.78 30 *e*P **P 08 24 41.5 +0.7**
comp=Z,34nm,0.4s
FINES FINESS Array B 93.70 332 P **P 08 24 45.7 +0.8**
comp=Z,2.0nm,0.9s,baz=46,slow=8.2,SNR=6.0
FINES FINESS Array B 93.70 332 P **P 08 24 45.7 +0.8**
FINES FINESS Array B 93.70 332 P **P 08 24 45.7 +0.8**
BUR08 Bucovina Ar. S 96.56 318 *e*P **P 08 24 58.0 -0.5**
CRVS Cervenica-Dubn 98.77 320 *e*P Pdif 08 25 10.1 +1.8
CRVS Cervenica-Dubn 98.77 320 PDIF Pdif 08 25 10.1 +1.8
SCHQ Schefferville 122.73 9 PKP **PKPdf 08 30 24.1 -0.1**
comp=Z,3.0nm,0.7s,baz=310,slow=1.7,SNR=3.7
SCHQ Schefferville 122.73 9 PKP **PKPdf 08 30 24.1 -0.1**
TXAR Lajitas Array 123.00 53 PKP **PKPdf 08 30 26.2 +0.5**
comp=Z,0.6nm,0.6s,baz=210,slow=1.3,SNR=7.7
TXAR Lajitas Array 123.00 53 PKIKP **PKPdf 08 30 26.2 +0.5**
TXAR Lajitas Array 123.00 53 PKP **PKPdf 08 30 26.2 +0.5**
TORD Torodi Ar. Bea 123.47 287 PKP **PKPdf 08 30 26.0 -0.7**
comp=Z,0.7nm,0.7s,baz=61,slow=1.4,SNR=5.2
TORD PP **PP 08 32 11.2 +2.7**
comp=Z,0.5nm,0.7s,baz=49,slow=4.5,SNR=3.6
TORD Torodi Ar. Bea 123.47 287 PKP **PKPdf 08 30 26.0 -0.7**
TORD PP **PP 08 32 11.2 +2.7**
TKL Tuckaleechee C 133.37 35 PKP **PKPdf 08 30 46.0 +1.0**
comp=Z,1.9nm,0.6s,baz=360,slow=1.2,SNR=4.1
TKL Tuckaleechee C 133.37 35 PKIKP **PKPdf 08 30 46.1 +1.0**
TKL Tuckaleechee C 133.37 35 PKP **PKPdf 08 30 46.0 +1.0**
PLCA Paso Flores 138.00 160 PKP **PKPdf 08 30 55.7 +2.0**
comp=Z,2.9nm,0.9s,baz=166,slow=4.2,SNR=4.3
PLCA Paso Flores 138.00 160 PKIKP **PKPdf 08 30 55.7 +2.0**
PLCA Paso Flores 138.00 160 PKP **PKPdf 08 30 55.7 +2.0**
LPAZ La Paz 159.36 136 PKP **PKPdf 08 31 29.2 +0.5**
comp=Z,0.6nm,0.6s,baz=42,slow=2.0,SNR=3.8
LPAZ La Paz 159.36 136 PKIKP **PKPdf 08 31 29.2 +0.5**
LPAZ La Paz 159.36 136 PKP **PKPdf 08 31 29.2 +0.5**
SIV San Ignacio 163.76 153 PKPab **PKPab 08 32 25.6 +1.1**
comp=Z,3.8nm,0.7s,baz=222,slow=4.2,SNR=16
SIV San Ignacio 163.76 153 PKPab **PKPab 08 32 25.6 +1.1**

BJI 18 08:12:29.1,26.79N×104.17E,h14km,ML3.5/13,
Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.10**	**218**	Pg	Pb	08 13 06.9	-0.4
KMI				Sg	Sg	08 13 36.0	-1.2
KMI				smax	smax		
	comp=N,66nm,1.0s						
KMI				smax	smax		
	comp=E,76nm,1.1s						
GYA	**Guiyang**	**2.26**	**98**	Pg	Pb	08 13 09.5	-0.3
GYA				Sg	Sb	08 13 38.3	+0.5
GYA				smax	smax		
	comp=N,750nm,0.9s						
GYA				smax	smax		
	comp=E,220nm,0.8s						
CD2	**Chengdu**	**4.12**	**355**	Pg	Pg	08 13 46.4	-1.8
CD2				Sg	Sg	08 14 42.0	+0.4
CD2				smax	smax		
	comp=N,200nm,0.7s						
CD2				smax	smax		
	comp=E,160nm,0.7s						
WHN	**Wuhan**	**9.69**	**65**	*e*P	Pn	08 14 52.8	+4.7

IDC ***18*** *08:15:33.1±0.5, 19.18N×121.26E, h0km, mb4.5/25, mb1 4.6/27, mb1mx4.6/31, mbtmp4.5/27, ML4.4/2, MS4.3/20, Ms1 4.3/20, ms1mx4.1/41, Error ellipse: s-maj=18.1km s-min=11.1km az=77.0*

ISCJB ***18*** *08:15:34.1±1.2, 19.19N±0.03×121.26E±0.04, h15km±8km, mb4.7/53, MS4.3/24, Error ellipse: s-maj=6.2km s-min=4.5km az=159.6*

BJI ***18*** *08:15:37.8, 19.50N×121.09E, h17km, mB5.0/30, mb4.6/39, ML4.4/3, Ms4.6/38, Ms7 4.5/37*

NEIC ***18*** *08:15:38.6±0.2, 19.22N×121.25E, h35km, mb4.9/18, Error ellipse: s-maj=6.1km s-min=4.2km az=83.0*

ISC 18 08:15:38.4±0.5,**19.21N**±0.04×**121.23E**±0.05,**h32**km±3km,
n165,σ1§**52**/186,**mb4.7**/53,**MS4.2**/24,**4C-9D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.63**	**198**	*e*P	**Pb**	**08 16 06.6**	**-1.3**

CAUP Cauayan 2.32 166 *e*P **Pb 08 16 19.6 -0.1**
BCPH Baguio City Da 2.88 193⇑ *i*P **Pb 08 16 27.5 -1.8**
BOLP Bolinao 3.08 204 *e*P **Pn 08 16 27.4 +2.5**
BALP Baler 3.47 175 *e*P Pn 08 16 33.9 +3.7
TWG Pinlang 3.59 358 *e*Pn **Pn 08 16 30.5 -1.4**
SCZP Santa Cruz 3.64 200 *e*P Pn 08 16 37.0 +4.3
TPUB Ta-pu 4.11 352 *e*Pn **Pn 08 16 36.7 -2.3**
YULB Yu-li 4.16 1 *e*Pn **Pn 08 16 39.0 -0.8**
SSLB Suanglung 4.56 357 *e*Pn **Pn 08 16 43.9 -1.3**
NACB Ninganchiao 4.95 4 *e*Pn **Pn 08 16 49.6 -0.9**
TGY Tagaytay City 5.09 183 Pn Pn 08 16 58.8 +6.2
14nm,0.3s,baz=348,slow=23,SNR=4.2
TGY Tagaytay City 5.09 183 Pn Pn 08 16 58.8 +6.2
YHNB Yeheng 5.43 1 *e*Pn **Pn 08 16 57.2 -0.1**
LUBP Lubang 5.53 190 *e*P **Pn 08 16 59.5 +0.9**
TATO Taipei 5.74 2 *e*Pn **Pn 08 17 02.8 +1.3**
QZH Quanzhou 6.21 337 Pn Pn 08 17 04.1 -3.8
QZH Sn Sn 08 18 07.8 -10
QZH smax smax
comp=N,280nm,1.0s
QZH smax smax
comp=E,320nm,0.6s
QZH LR LR
comp=N,3μm,13.0s
QZH LR LR
comp=E,3μm,14.0s
QZH LR LR
comp=Z,7μm,22.2s
JOW Kunigami 9.97 39 Pn **Pn 08 17 59.5 0.0**
comp=Z,7.9nm,0.3s,baz=220,slow=12,SNR=26
JOW LR LR 08 22 01.4
comp=Z,1μm,20.3s,baz=167,slow=39
JOW Kunigami 9.97 39 Pn **Pn 08 17 59.5 0.0**
QIZ Qiongzhong 10.77 271 P **Pn 08 18 10.8 +0.3**
QIZ S **Sn 08 20 10.3 +0.3**
QIZ LR LR
comp=Z,2μm,15.0s
QIZ Qiongzhong 10.77 271 *e*Pn Pn 08 18 06.5 -4.0
comp=Z,40nm,0.8s
QIZ *e*Sn Sn 08 20 00.5 -10
SSE Sheshan 11.83 360 P **Pn 08 18 25.5 +0.5**
SSE S **Sn 08 20 39.1 +3.2**
SSE pmax pmax
comp=Z,10.0nm,0.5s
SSE pmax pmax
comp=Z,180nm,7.5s
SSE LR LR
comp=N,630nm,17.7s
SSE LR LR
comp=E,1μm,17.7s
DAV Davao City (W) 12.79 160 LR LR 08 24 24.8
comp=E,2μm,19.3s,baz=18,slow=42
WHN Wuhan 12.89 332 P **Pn 08 18 41.3 +1.9**
WHN *e*S **Sn 08 21 05.0 +3.2**
WHN LR LR
comp=N,5μm,16.8s
WHN LR LR
comp=E,1μm,8.6s
WHN LR LR
comp=Z,5μm,17.5s
NJ2 Nanjing 12.96 351 *e*P **Pn 08 18 39.6 -0.8**
NJ2 pP P 08 18 47.3 -3.3
NJ2 PP **PnPn 08 18 49.5 +1.0**
NJ2 sP 08 18 51.8
NJ2 S **Sn 08 20 58.0 -5.6**
NJ2 sS 08 21 09.0
NJ2 pmax pmax
comp=Z,20nm,1.0s
NJ2 pmax pmax
comp=Z,820nm,3.5s
NJ2 LR LR
comp=N,2μm,17.4s
NJ2 LR LR
comp=E,2μm,16.1s
NJ2 LR LR
comp=Z,2μm,16.2s
GYA Guiyang 15.24 301 P **Pn 08 19 11.4 -0.1**
GYA pP **pP 08 19 20.5 -4.0**
GYA PP PP 08 19 25.8
GYA S **Sn 08 22 01.3 +2.0**
GYA SS **S 08 22 18.0 +2.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,490nm,12.5s
GYA LR LR
comp=E,450nm,14.2s
GYA LR LR
comp=Z,500nm,13.8s
ENH Enshi 15.32 318 *e*Pn **Pn 08 19 11.8 -0.6**
JNU Nakatsue 16.32 30 *e*Pn **Pn 08 19 25.4 +0.2**
comp=Z,36nm,1.1s
KMI Kunming 18.10 292 P **Pn 08 19 46.4 -1.4**
KMI pP **pP 08 19 54.6 -1.8**
KMI sP **sP 08 19 59.3 -1.2**
KMI S **Sn 08 23 05.6 -3.5**
KMI sS **S 08 23 17.8 +3.8**
KMI SS **SnSn 08 23 30.0 +7.2**
KMI pmax pmax
comp=Z,17nm,2.0s
KMI pmax pmax
comp=Z,170nm,3.1s
KMI LR LR
comp=N,1μm,12.9s
KMI LR LR
comp=E,2μm,14.0s
KMI LR LR
comp=Z,2μm,16.3s
XAN Xi'an 18.39 326 P **P 08 19 49.4 -1.5**
XAN pmax pmax
comp=Z,8.0nm,1.5s
XAN pmax pmax
comp=Z,160nm,8.4s
KSAR Wonju Array Be 19.07 16 P **P 08 19 57.5 -0.8**
KSRS Korea Array 19.09 16 P **P 08 19 57.5 -1.0**
comp=Z,1.1nm,0.3s,baz=199,slow=12,SNR=19
KSRS LR LR 08 28 28.8
comp=Z,1μm,18.8s,baz=200,slow=41
CD2 Chengdu 19.62 310 P **Pn 08 20 06.8 +0.9**
CD2 pP **pP 08 20 15.5 +2.6**
CD2 PP PP 08 20 25.3
CD2 S **S 08 23 40.3 -3.9**
CD2 SS SS 08 24 07.8
CD2 pmax pmax
comp=Z,820nm,3.6s
CD2 LR LR
comp=N,2μm,17.8s
CD2 LR LR
comp=Z,2μm,17.8s
CBIJ Chichi jima 20.78 64 LR LR 08 27 06.2
comp=Z,524nm,18.6s,baz=276,slow=33
CHTO Chiang Mai 21.08 273 *e*P **P 08 20 20.5 +0.2**
comp=Z,59nm,1.3s
CM31 Chiang Mai Arr 21.11 272 *e*P **P 08 20 20.4 -0.2**
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 21.11 272 P **P 08 20 20.9 +0.3**
comp=Z,8.2nm,0.8s,baz=73,slow=9.4,SNR=28
CMAR PcP **PcP 08 24 25.6 -0.6**
comp=Z,1.1nm,0.3s,baz=355,slow=0.6,SNR=4.3
CMAR LR LR 08 29 23.3
comp=Z,900nm,18.1s,baz=80,slow=39
CMAR Chiang Mai Arr 21.11 272 P **P 08 20 20.9 +0.3**
CMAR PcP **PcP 08 24 25.6 -0.6**
BJT Baijiatuan 21.19 349 *e*P **P 08 20 21.7 +0.5**
comp=Z,52nm,0.7s
BJI Beijing 21.21 349 P **P 08 20 21.3 -0.1**
BJI sP **sP 08 20 34.0 0.0**
BJI S **S 08 24 16.8 +1.3**
BJI pmax pmax
comp=Z,22nm,1.0s
BJI pmax pmax
comp=Z,450nm,9.2s
BJI LR LR
comp=Z,670nm,17.1s
SNY Shenyang 22.63 5⇓ P **P 08 20 35.3 -1.3**
SNY pmax pmax
comp=Z,8.0nm,0.5s
SNY pmax pmax
comp=Z,200nm,4.3s
SNY LR LR
comp=N,670nm,22.0s
SNY LR LR
comp=E,720nm,15.4s

SNY LR LR
comp=Z,720nm,23.3s
LZH Lanzhou 22.74 321 ⇑P **P** **08 20 38.4 +0.3**
LZH S **S** **08 24 41.1 -3.8**
LZH sS sS 08 24 51.3 -8.3
LZH pmax pmax
comp=Z,71nm,1.2s
LZH pmax pmax
comp=Z,480nm,5.3s
LZH LR LR
comp=N,1μm,11.2s
LZH LR LR
comp=E,960nm,13.8s
LZH LR LR
comp=Z,2μm,16.3s
MAJO Matsushiro 22.81 37 *e*P **P** **08 20 38.8 +0.2**
comp=Z,40nm,1.1s
MAT Matsushiro 22.81 37 P **P** **08 20 37.5 -1.1**
MAT S **S** **08 24 49.0 +3.2**
MJAR Matsushiro Arr 22.81 37 P **P** **08 20 38.2 -0.5**
comp=Z,8.1nm,1.1s,baz=232,slow=11,SNR=10
MJAR Matsushiro Arr 22.81 37 P **P** **08 20 38.2 -0.5**
HHC Hu-ho-hao-te 23.10 341 *e*P **P** **08 20 41.9 +0.2**
HHC PP PP 08 21 13.4
HHC PcP **PcP** **08 24 32.3 +2.3**
HHC S **S** **08 24 46.5 -4.4**
HHC SS SS 08 25 32.5
HHC ScP **ScP** **08 28 06.5 +0.8**
HHC PcS **PcS** **08 28 10.3 +1.2**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,380nm,5.4s
HHC LR LR
comp=N,2μm,13.7s
HHC LR LR
comp=E,710nm,12.1s
HHC LR LR
comp=Z,2μm,11.2s
GUMO Guam 23.34 100 LR LR 08 28 20.6
comp=Z,904nm,18.8s,baz=7.3,slow=33
BTO Baotou 23.39 338 *e*P **P** **08 20 40.8 -3.8**
KAPI Kappang 24.12 184 LR LR 08 31 31.4
comp=Z,417nm,18.7s,baz=271,slow=40
CN2 Changchun 24.77 7 *e*P **P** **08 20 59.3 +2.1**
CN2 *e*S **S** **08 25 14.4 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,800nm,15.0s
CN2 LR LR
comp=Z,700nm,23.0s
MDJ Mudanjiang 26.27 14 P **P** **08 21 11.5 +0.6**
MDJ pP **pP** **08 21 20.3 +0.2**
MDJ sP **sP** **08 21 24.1 +0.2**
MDJ S **S** **08 25 42.9 +1.6**
MDJ PcS **PcS** **08 28 17.9 +0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,190nm,7.2s
MDJ LR LR
comp=N,610nm,22.3s
MDJ LR LR
comp=E,390nm,18.9s
MDJ LR LR
comp=Z,730nm,21.4s
MDJ Mudanjiang 26.27 14 *e*P **P** **08 21 12.2 +1.3**
comp=Z,10nm,0.8s
USRK Ussuriysk Arra 26.50 18 P **P** **08 21 12.6 -0.3**
comp=Z,7.7nm,0.8s,baz=204,slow=11,SNR=7.9
USRK LR LR 08 32 03.2
comp=Z,440nm,20.4s,baz=1.5,slow=37
ULN Ulaanbaatar 30.82 341 *e*P **P** **08 21 51.1 -0.4**
comp=Z,16nm,1.2s
SONM Songino Array 31.00 340 P **P** **08 21 53.1 0.0**
comp=Z,3.3nm,0.9s,baz=162,slow=9.4,SNR=4.5
SONM LR LR 08 35 25.1
comp=Z,1μm,18.3s,baz=67,slow=38
SONM Songino Array 31.00 340 P **P** **08 21 53.1 0.0**
TLY Talaya 35.23 341 *e*P **P** **08 22 29.8 0.0**
comp=Z,6.3nm,0.9s
WMQ Urumqi 37.27 319 *e*P P 08 22 51.0 +3.6
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=N,650nm,16.9s
WMQ LR LR
comp=E,350nm,16.5s
WMQ LR LR
comp=Z,660nm,18.1s
FITZ Fitzroy Crossi 37.33 173 P **P** **08 22 46.1 -1.9**
comp=Z,4.5nm,0.8s,baz=352,slow=7.9,SNR=6.2
FITZ PcP **PcP** **08 25 07.6 +0.7**
comp=Z,2.7nm,0.7s,baz=17,slow=4.2,SNR=4.5
FITZ Fitzroy Crossi 37.33 173 P **P** **08 22 46.1 -1.9**
FITZ PcP **PcP** **08 25 07.6 +0.7**
COEN Coen 39.41 145 *e*P **P** **08 23 04.9 -0.7**
comp=Z,22nm,0.9s
WRAB Tennant Creek 40.97 161 *e*P **P** **08 23 17.8 -0.7**
WRA Warramunga Arr 40.98 161 P **P** **08 23 16.7 -1.8**
comp=Z,3.6nm,0.4s,baz=347,slow=8.3,SNR=42
WRA PcP **PcP** **08 25 19.1 +0.7**
comp=Z,3.0nm,0.9s,baz=350,slow=3.6,SNR=6.0
WRA Warramunga Arr 40.98 161 P **P** **08 23 16.7 -1.8**
WRA PcP **PcP** **08 25 19.1 +0.7**
MK31 Makanchi Array 42.04 320 *e*P **P** **08 23 27.4 +0.4**
MKAR Makanchi Array 42.04 320 P **P** **08 23 27.5 +0.5**
comp=Z,7.5nm,0.9s,baz=113,slow=9.5,SNR=7.6
MKAR LR LR 08 42 46.4
comp=Z,386nm,19.7s,baz=122,slow=39
MKAR Makanchi Array 42.04 320 *e*P **P** **08 23 27.0 -0.1**
KSH Kashi 43.80 307 *e*P **P** **08 23 44.5 +3.0**
KSH *e*pP **pP** **08 23 55.0 +4.0**
KSH pmax pmax
comp=Z,2.0nm,0.2s
KSH pmax pmax
comp=Z,200nm,7.1s
KSH LR LR
comp=N,680nm,8.3s
KSH LR LR
comp=E,530nm,8.0s
KSH LR LR
comp=Z,870nm,8.9s
PETK Petropavlovsk- 44.02 31 P **P** **08 23 42.9 0.0**
comp=Z,6.1nm,0.8s,baz=205,slow=6.6,SNR=5.1
PETK LR LR 08 42 44.9
comp=Z,166nm,18.1s,baz=334,slow=37
PETK Petropavlovsk- 44.02 31 P **P** **08 23 42.9 0.0**
AS31 Alice Springs 44.37 163 *e*P **P** **08 23 46.1 0.0**
ASAR Alice Springs 44.37 163 P **P** **08 23 45.4 -0.7**
comp=Z,2.3nm,0.5s,baz=345,slow=6.7,SNR=31
ASAR Alice Springs 44.37 163 P **P** **08 23 45.4 -0.7**
ZAA0 Zalesovo Array 44.49 330 *e*P **P** **08 23 46.3 -0.4**
ZALV Zalesovo Beam 44.49 330 P **P** **08 23 46.5 -0.2**
comp=Z,5.8nm,0.8s,baz=116,slow=6.8,SNR=11
ZALV LR LR 08 43 25.8
comp=Z,392nm,20.6s,baz=263,slow=38
ZALV Zalesovo Beam 44.49 330 P **P** **08 23 46.5 -0.2**
KURK Kurchatov 46.00 323 P **P** **08 23 59.1 +0.3**
comp=Z,15nm,0.8s,baz=123,slow=6.7,SNR=16
KURK Kurchatov 46.00 323 *e*P **P** **08 23 59.0 +0.3**
comp=Z,24nm,1.1s
CTA Charters Tower 46.12 147 LR LR 08 41 33.7
comp=Z,331nm,19.8s,baz=138,slow=34
KBL Kabul 48.48 299 *e*P **P** **08 24 19.2 +0.6**
comp=Z,11nm,0.9s
KKAR Karatay Array 48.63 311 *e*P **P** **08 24 19.8 +0.4**
FORT Forrest 50.13 172 *e*P **P** **08 24 30.9 +0.1**
comp=Z,17nm,0.7s
FORT Forrest 50.13 172 *e*P **P** **08 24 31.1 +0.3**
comp=Z,12nm,0.7s
KLBR Kellerberrin 50.62 184 *e*P **P** **08 24 33.9 -0.6**
comp=Z,9.8nm,0.5s
BVAR Borovoye Array 51.60 323 P **P** **08 24 42.1 +0.4**
comp=Z,2.4nm,0.7s,baz=108,slow=9.5,SNR=5.2
BVAR PcP **PcP** **08 25 54.6 -0.6**
comp=Z,2.0nm,0.5s,baz=107,slow=5.0,SNR=4.0
BVAR Borovoye Array 51.60 323 P **P** **08 24 42.1 +0.4**
BVAR PcP **PcP** **08 25 54.6 -0.6**
BRVK Borovoye 51.67 323 *e*P **P** **08 24 43.2 +1.0**
comp=Z,9.9nm,0.9s

NWAO Narrogin (SRO) 51.98 184 P **P** **08 24 44.2 -0.4**
comp=Z,11nm,0.8s,baz=26,slow=6.0,SNR=11
NWAO Narrogin (SRO) 51.98 184 P **P** **08 24 44.2 -0.4**
BBOO Buckleboo 53.64 164 *e*P **P** **08 24 56.3 -0.5**
comp=Z,542nm,0.9s
STKA Stephens Creek 54.42 159 P **P** **08 25 02.1 -0.5**
comp=Z,2.8nm,0.6s,baz=327,slow=8.1,SNR=6.6
STKA Stephens Creek 54.42 159 *e*P **P** **08 25 02.7 +0.1**
comp=Z,3.1nm,1.2s
STKA Stephens Creek 54.42 159 P **P** **08 25 02.1 -0.5**
ABKAR Akbulak array 57.01 317 *e*P **P** **08 25 21.7 +0.6**
ARMA Armidale 57.36 149 *e*P **P** **08 25 21.0 -2.9**
AKTO Aktyubinsk 58.41 318 P **P** **08 25 31.3 +0.3**
comp=Z,3.6nm,0.6s,baz=92,slow=9.5,SNR=8.3
AKTO Aktyubinsk 58.41 318 P **P** **08 25 31.3 +0.3**
ARU Arti 59.14 325 *e*P **P** **08 25 35.9 +0.1**
comp=Z,58nm,1.8s
DZM Mont Dzumac 60.31 131 *e*LR LR 08 43 40.3
comp=Z,529nm,22.1s
CNB Canberra Magne 60.44 154 *e*P **P** **08 25 46.0 +0.9**
comp=Z,40nm,0.9s
TOO Toolangi 60.92 158 *e*P **P** **08 25 49.5 +1.2**
comp=Z,20nm,0.6s
MSVF Nonsavu 66.80 120 *e*P **P** **08 26 29.1 +1.7**
comp=Z,44nm,1.3s
RSO Redoubt South 71.54 31 *e*P **P** **08 26 56.6 +0.3**
KDAK Kodiak Island 71.95 34 P **P** **08 26 57.8 -0.8**
comp=Z,10nm,0.6s,baz=165,slow=2.4,SNR=4.5
KDAK Kodiak Island 71.95 34 P **P** **08 26 57.8 -0.8**
ILAR Eielson Array 73.61 27 LR LR 09 00 20.6
comp=Z,102nm,19.5s,baz=333,slow=36
ARCES ARCESS Array B 74.16 339 P **P** **08 27 10.8 -0.7**
comp=Z,6.8nm,0.9s,baz=79,slow=6.3,SNR=5.5
ARCES ARCESS Array B 74.16 339 P **P** **08 27 10.8 -0.7**
FINES FINESS Array B 75.76 330 P **P** **08 27 20.6 -0.2**
comp=Z,5.4nm,0.8s,baz=84,slow=7.9,SNR=5.3
FINES FINESS Array B 75.76 330 P **P** **08 27 20.6 -0.2**
EGAK Eagle 76.00 26 *e*P **P** **08 27 22.0 -0.2**
comp=Z,176nm,2.8s
BRTR Keskin Array B 76.18 307 P **P** **08 27 21.8 -2.2**
comp=Z,0.9nm,0.5s,baz=119,slow=3.7,SNR=5.3
BRTR LR LR 09 02 16.0
comp=Z,112nm,18.5s,baz=185,slow=37
BRTR Keskin Array B 76.18 307 P **P** **08 27 21.8 -2.2**
AKASG Malin Array Be 76.62 319 P **P** **08 27 24.4 -1.6**
comp=Z,3.0nm,0.8s,baz=63,slow=5.4,SNR=6.2
AKASG LR LR 09 03 31.3
comp=Z,215nm,20.1s,baz=75,slow=38
AKASG Malin Array Be 76.62 319 P **P** **08 27 24.4 -1.6**
NACGM Naroch 77.02 324 *e* P 08 27 24.0 -4.1
INK Inuvik 77.80 22 P **P** **08 27 31.4 -0.8**
comp=Z,8.1nm,1.2s,baz=270,slow=8.2,SNR=7.6
INK Inuvik 77.80 22 P **P** **08 27 31.4 -0.8**
CFR Carcaliu 78.75 314 ||*i*P **P** **08 27 36.9 -1.0**
TESR 79.38 316 ||*i*P **P** **08 27 41.7 +0.3**
VRI Vrincioaia 79.51 315 ||*i*P **P** **08 27 42.5 +0.4**
ISR Istrita 79.85 314 ||*i*P P 08 27 56.0 +12
BURAR Bucovina Array 79.99 317 ||*i*P **P** **08 27 44.5 -0.3**
BUR08 Bucovina Ar. S 79.99 317 *e*P **P** **08 27 44.0 -0.9**
MLR Muntele Rosu 80.14 315 P **P** **08 27 45.0 -0.7**
comp=Z,1.0nm,0.6s,baz=175,slow=18,SNR=5.4
MLR Muntele Rosu 80.14 315 P **P** **08 27 45.0 -0.7**
MLR Muntele Rosu 80.14 315 ||*i*P **P** **08 27 44.9 -0.8**
VOIR 80.76 315 ||*i*P **P** **08 27 48.2 -0.8**
KWP Kalwaria Pacla 80.94 319 *e*P **P** **08 27 49.8 0.0**
OPO Ambohidratompo 81.79 247 LR LR 09 00 58.5
comp=Z,254nm,18.3s,baz=20,slow=33
HFS Hagfors 81.92 331 P **P** **08 27 52.7 -2.0**
comp=Z,13nm,1.1s,baz=238,slow=8.2,SNR=4.1
HFS Hagfors 81.92 331 P **P** **08 27 52.7 -2.0**
STHS Stebnicka Huta 81.92 319 *e*P **P** **08 27 56.7 +1.8**
CRVS Cervenica-Dubn 81.96 319 *e*P **P** **08 27 54.6 -0.5**
NOA NORSAR Array B 82.63 333 LR LR 09 08 23.1
comp=Z,337nm,20.5s,baz=340,slow=38
VTS Vitosha 82.93 313 ⇑*i*P **P** **08 28 00.1 -0.4**
VYHS Vyhne 83.73 319 *e*P **P** **08 28 04.7 +0.4**
MORC Moravsky Berou 84.03 321 ||*i*P **P** **08 28 05.4 -0.5**
KMBO Kilima Mbogo 84.68 267 *e*P **P** **08 28 10.8 +0.6**
comp=Z,9.6nm,1.2s
VRAC Vranov 84.78 321 P **P** **08 28 10.5 +0.8**
comp=Z,7.3nm,0.9s,baz=115,slow=4.0,SNR=7.1
VRAC Vranov 84.78 321 P **P** **08 28 10.5 +0.8**
VRAC Vranov 84.78 321 ||*i*P **P** **08 28 10.0 +0.3**
CLL Collm 86.04 323 *e*P **P** **08 28 14.0 -1.9**
comp=Z,7.0nm,1.5s
GERES GERESS Array B 86.70 321 P **P** **08 28 18.7 -0.6**
comp=Z,0.6nm,0.6s,baz=72,slow=5.9,SNR=7.7
GERES LR LR 09 12 55.9
comp=Z,206nm,18.2s,baz=157,slow=40
GERES GERESS Array B 86.70 321 P **P** **08 28 18.7 -0.6**
YKA Yellowknife Ar 87.52 23 P **P** **08 28 22.6 -0.2**
comp=Z,13nm,0.8s,baz=314,slow=4.7,SNR=152
YKA LR LR 09 13 28.9
comp=Z,25nm,18.8s,baz=265,slow=40
YKA Yellowknife Ar 87.52 23 P **P** **08 28 22.6 -0.2**
PPT2 Papeete2 94.90 107 *e*LR LR 08 59 36.9
comp=Z,251nm,24.8s
TBI Tubuai 96.80 112 *e*LR LR 09 00 33.5
comp=Z,173nm,25.8s
NVAR Mina Array Bea 100.01 43 P **Pdif** **08 29 21.0 0.0**
comp=Z,1.0nm,0.8s,baz=284,slow=4.8,SNR=6.3
NVAR Mina Array Bea 100.01 43 P **Pdif** **08 29 21.0 0.0**
TXAR Lajitas Array 115.15 43 PKP **PKPdf** **08 34 17.4 +0.2**
comp=Z,1.2nm,0.7s,baz=193,slow=1.1,SNR=12
TXAR Lajitas Array 115.15 43 PKP **PKPdf** **08 34 17.4 +0.2**
JCT Junction City 116.76 39 *e*PKPdf **PKPdf** **08 34 20.5 +0.2**
VNA2 Neumayer--Watz 120.19 197 *e* **PKPdf** **08 34 26.0 +0.5**
baz=72,slow=1.3
VNA1 Neumayer--Stat 120.58 197 *e* **PKPdf** **08 34 26.7 +0.5**
VNA3 Neumayer Olymp 120.64 197 *e* **PKPdf** **08 34 26.3 -0.1**
SDV Santo Domingo 149.73 24 *e*PKPdf **PKPdf** **08 35 22.0 +0.4**
SDV *e*PKPbc **PKPbc** **08 35 26.2 -0.1**
SDV *e*PKPab **PKPab** **08 35 32.5 +1.1**
ROSC El Rosal 151.59 34 *e*PKPdf **PKPdf** **08 35 25.9 +1.1**
ROSC *e*PKPbc **PKPbc** **08 35 31.8 +0.8**
OTAV Otavalo 152.67 47 *e*PKPdf **PKPdf** **08 35 27.2 +0.8**
OTAV *e*PKPbc **PKPbc** **08 35 33.5 0.0**
LPAZ La Paz 170.62 73 PKP **PKPdf** **08 35 45.5 +0.6**
comp=Z,2.5nm,1.1s,baz=25,slow=3.1,SNR=5.3
LPAZ La Paz 170.62 73 PKP **PKPdf** **08 35 45.5 +0.6**
SIV San Ignacio 176.11 35 PKP **PKPdf** **08 35 45.4 -0.9**
comp=Z,2.0nm,0.9s,baz=206,slow=2.5,SNR=6.7
SIV San Ignacio 176.11 35 PKP **PKPdf** **08 35 45.4 -0.9**

IDC ***18*** *08:17:04.1±1.3,51°.46N×179°.67E,h0km,mb4.1/16, mb1 4.3/17,mb1mx4.1/31,mbtmp4.1/17,ML4.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/49,Error ellipse: s-maj=35.5km s-min=15.4km az=3.0*
BJI ***18*** *08:17:05.6,50°.90N×179°.70E,h38km,mB5.3/16,mb4.7/19, Ms4.7/11,Ms7 4.5/11*
MOS ***18*** *08:17:05.3±1.5,51°.01N×179°.75E,h33km,mb4.6/17,Error ellipse: s-maj=14.0km s-min=10.3km az=109.3*
ISCJB ***18*** *08:17:07.8±0.8,51°.06N±0°.09×179°.71E±0°.05,h52km±5km, mb4.5/44,MS4.4/3,Error ellipse: s-maj=15.4km s-min=5.0km az=179.6*
NEIC ***18*** *08:17:09.3±0.9,51°.10N×179°.71E,h47km±5km,mb4.5/19, ML4.2(AEIC),Error ellipse: s-maj=15.5km s-min=5.0km az=183.0*
ISC 18 08:17:08.4±0.6,**51°.0N**±0°.1×**179°.78E**±0°.04,**h45**km±3km, **n128,σ1s31**/156,**mb4.5**/44,**MS4.4**/3,**1D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**1.05**	**57**	P	**Pn**	**08 17 25.4**	**-1.4**
GALAA	**Gareloi Lava P**	**1.20**	**49**	P	**Pn**	**08 17 27.8**	**-0.9**
GAEA	**Gareloi East**	**1.22**	**49**	P	**Pn**	**08 17 27.9**	**-1.1**
GANE	**Gareloi Northe**	**1.23**	**47**	P	**Pn**	**08 17 28.8**	**-0.4**
TANO	**Tanaga North**	**1.61**	**54**	P	**Pn**	**08 17 34.3**	**-0.1**
TASE	**Tanaga Southea**	**1.61**	**57**	P	**Pn**	**08 17 34.0**	**-0.4**
TAFP	**Tanaga Falls P**	**1.67**	**56**	P	**Pn**	**08 17 34.6**	**-0.6**
TAFP				S	**Sn**	**08 17 56.0**	**+0.6**
KIMD	**Kanaga Island**	**2.03**	**66**	P	**Pn**	**08 17 40.2**	**+0.2**
KIKV	**Kanaga Island**	**2.11**	**64**	P	**Pn**	**08 17 41.2**	**0.0**
ETKA	**Kagalaska Isla**	**2.54**	**68**	P	**Pn**	**08 17 47.8**	**+0.7**
GSCK	**Great Sitkin C**	**2.74**	**66**	P	**Pn**	**08 17 51.0**	**+1.2**
GSTD	**Great Sitkin T**	**2.76**	**66**	P	**Pn**	**08 17 50.8**	**+0.6**
GSTD				S	**Sn**	**08 18 23.3**	**+0.9**
GSMY	**Great Sitkin M**	**2.81**	**66**	P	**Pn**	**08 17 51.3**	**+0.5**
SMY	**Shemya**	**3.93**	**299**	P	**Pn**	**08 18 06.9**	**+0.7**
SMY				S	**Sn**	**08 18 53.9**	**+3.0**
SMY	**Shemya**	**3.93**	**299**	P	**Pn**	**08 18 06.9**	**+0.7**
SMY				S	**Sn**	**08 18 53.9**	**+3.0**
KOKL	**Mount Kliuchef**	**3.98**	**68**	P	**Pn**	**08 18 08.2**	**+1.3**
KOFP	**Korovin Flat P**	**4.03**	**69**	P	**Pn**	**08 18 08.9**	**+1.4**
KOSE	**Korovin Southe**	**4.08**	**68**	P	**Pn**	**08 18 09.8**	**+1.6**
FX1	**Attu Island--F**	**4.51**	**297**	Pn	**Pn**	**08 18 14.9**	**+0.8**
	29nm,0.3s,baz=255,slow=23,SNR=28						
FX1				Sn	Sn	08 19 11.7	+6.4
	37nm,0.3s,baz=266,slow=19,SNR=6.1						
FX1	**Attu Island--F**	**4.51**	**297**	P	**Pn**	**08 18 14.9**	**+0.8**
FX1						08 19 11.7	
FX1				pmax	pmax		
	comp=Z,29nm,0.3s						
FX1				smax	smax		
	comp=N,37nm,0.3s						
FX1	**Attu Island--F**	**4.51**	**297**	Pn	**Pn**	**08 18 14.9**	**+0.8**
FX1				Sn	Sn	08 19 11.7	+6.4
SPIA	**Saint Paul Isl**	**8.53**	**39**	P	**Pn**	**08 19 11.0**	**+1.8**
MREP	**Makushin Rep't**	**8.71**	**66**	P	**Pn**	**08 19 13.4**	**+1.7**
UNV	**Unalaska Valle**	**8.86**	**66**	*e*Pn	**Pn**	**08 19 15.7**	**+2.0**
AKUT	**Akutan**	**9.35**	**65**	*e*Pn	**Pn**	**08 19 22.2**	**+1.8**
AKUT				*e*Sn	**Sn**	**08 21 03.5**	**-0.5**
FALS	**False Pass**	**10.86**	**63**	*e*Pn	**Pn**	**08 19 43.1**	**+2.1**
PET	**Petropavlovsk**	**13.17**	**287**	*e*P	**Pn**	**08 20 10.8**	**-1.7**
PET	**Petropavlovsk**	**13.17**	**287**	*e*Pn	**Pn**	**08 20 10.8**	**-1.7**
GAMB	**Gambell**	**13.60**	**16**	*e*Pn	**Pn**	**08 20 20.2**	**+1.8**
PETK	**Petropavlovsk-**	**13.74**	**287**	LR	LR	08 24 54.9	
	comp=N,82nm,18.8s,baz=233,slow=35						
CHGN	**Chignik**	**13.96**	**59**	*e*Pn	**Pn**	**08 20 23.4**	**+0.2**
TNA	**Tin City**	**15.93**	**19**	*e*Pn	**P**	**08 20 52.3**	**+0.3**
	comp=N,4.3nm,0.8s						
KDAK	**Kodiak Island**	**17.39**	**56**	P	**Pn**	**08 21 04.3**	**-3.1**
	comp=N,1.7nm,0.3s,baz=139,slow=22,SNR=22						
KDAK	**Kodiak Island**	**17.39**	**56**	*e*P	**Pn**	**08 21 07.3**	**-0.1**
KDAK	**Kodiak Island**	**17.39**	**56**	*e*Pn	**Pn**	**08 21 07.3**	**-0.1**
RSO	**Redoubt South**	**18.01**	**48**	*e*P	**P**	**08 21 16.8**	**+1.5**
BILL	**Bilibino**	**18.34**	**344**	||*e*P	**Pn**	**08 21 20.5**	**+1.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BILL	**Bilibino**	**18.34**	**344**	*e*P	**Pn**	**08 21 20.3**	**+1.3**
	comp=Z,2.3nm,0.5s						
SPU	**Mount Spurr**	**18.58**	**46**	*e*P	**Pn**	**08 21 22.2**	**+0.2**
RAGM	**Ragged Mountai**	**21.87**	**51**	*e*P	**P**	**08 21 59.7**	**+2.6**
	comp=Z,244nm,0.8s						
PAX	**Paxson**	**22.09**	**44**	*e*P	**P**	**08 21 59.2**	**-0.2**
PAX				pmax	pmax		
	comp=Z,49nm,2.1s						
PAX	**Paxson**	**22.09**	**44**	*e*P	**P**	**08 21 59.2**	**-0.2**
	comp=Z,49nm,2.1s						
ILAR	**Eielson Array**	**22.11**	**39**	P	**P**	**08 21 57.8**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=240,slow=8.5,SNR=18						
ILAR	**Eielson Array**	**22.11**	**39**	P	**P**	**08 21 57.8**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**22.11**	**39**	P	**P**	**08 21 57.8**	**-1.8**
EGAK	**Eagle**	**24.43**	**41**	*e*P	**P**	**08 22 21.9**	**-0.4**
	comp=Z,116nm,2.8s						
INK	**Inuvik**	**28.29**	**35**	P	**P**	**08 22 56.0**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=244,slow=6.3,SNR=7.5						
INK	**Inuvik**	**28.29**	**35**	P	**P**	**08 22 56.0**	**-1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**28.29**	**35**	P	**P**	**08 22 56.0**	**-1.1**
MDJ	**Mudanjiang**	**33.75**	**279**	P	**P**	**08 23 44.6**	**-0.8**
MDJ				pP	**pP**	**08 23 55.8**	**-1.7**
MDJ				sP	**sP**	**08 24 00.8**	**-2.1**
MDJ				S	**S**	**08 29 04.6**	**-1.0**
MDJ				sS	**sS**	**08 29 23.6**	**-2.3**
MDJ				ScP	**ScP**	**08 30 05.5**	**+1.0**
MDJ				PcS	**PcS**	**08 30 10.4**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.2s						
MDJ				LR	LR		
	comp=N,350nm,12.3s						
MDJ				LR	LR		
	comp=E,280nm,19.4s						
MDJ				LR	LR		
	comp=Z,520nm,16.8s						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 24 05.1**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=282,slow=7.3,SNR=38						
YKA				PcP	**PcP**	**08 26 31.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=293,slow=3.3,SNR=6.0						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 24 05.1**	**-0.7**
YKA						08 26 31.6	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 24 05.1**	**-0.7**
YKA				PcP	**PcP**	**08 26 31.6**	**+1.1**
CN2	**Changchun**	**36.74**	**280**	*e*P	**P**	**08 24 12.8**	**+1.7**
CN2				*e*S	**S**	**08 29 49.5**	**-2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
MSO	**Missoula**	**42.44**	**69**	*e*P	**P**	**08 24 58.8**	**+0.1**
	comp=Z,0.7nm,0.6s						
MCMT	**McKenzie Canyo**	**44.15**	**71**	*e*P	**P**	**08 25 13.2**	**+0.6**
	comp=Z,0.8nm,0.5s						
BOZ	**Bozeman (W)**	**44.43**	**69**	*e*P	**P**	**08 25 15.5**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOZ	**Bozeman (W)**	**44.43**	**69**	*e*P	**P**	**08 25 15.5**	**+0.8**
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**44.49**	**81**	P	**P**	**08 25 18.4**	**+3.1**
	comp=Z,0.9nm,0.7s,baz=292,slow=7.0,SNR=8.7						
NVAR	**Mina Array Bea**	**44.49**	**81**	P	**P**	**08 25 18.4**	**+3.1**
ULN	**Ulaanbaatar**	**45.63**	**296**	*e*P	**P**	**08 25 24.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ULN	**Ulaanbaatar**	**45.63**	**296**	*e*P	**P**	**08 25 24.7**	**+0.5**
	comp=Z,7.0nm,0.6s						
FLWY	**Flagg Ranch**	**45.85**	**70**	*e*P	**P**	**08 25 26.2**	**+0.1**
	comp=Z,5.8nm,1.0s						
RRI2	**Red Ridge**	**45.89**	**71**	*e*P	**P**	**08 25 27.9**	**+1.4**
	comp=Z,69nm,2.9s						
RLMT	**Red Lodge**	**46.11**	**68**	*e*P	**P**	**08 25 30.1**	**+2.0**
	comp=Z,6.4nm,1.0s						
DUG	**Dugway**	**46.83**	**76**	*e*P	**P**	**08 25 35.0**	**+1.3**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
DUG	**Dugway**	**46.83**	**76**	*e*P	**P**	**08 25 35.0**	**+1.3**
	comp=Z,7.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**46.93**	**285**	*e*P	**P**	**08 25 33.8**	**-0.7**
HHC				sP	**sP**	**08 25 51.0**	**-1.3**
HHC				PcP	**PcP**	**08 27 07.6**	**+1.2**
HHC				PP	PP	08 27 24.5	-0.5
HHC				ScP	**ScP**	**08 30 55.5**	**-0.6**
HHC				PcS	**PcS**	**08 31 00.5**	**-1.0**
HHC				S	**S**	**08 32 20.1**	**-2.2**
HHC				sS	**sS**	**08 32 42.1**	**-1.0**
HHC				ScS	**ScS**	**08 35 22.1**	**-2.7**
HHC				SS	SS	08 35 38.9	-10
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,380nm,6.6s						
HHC				LR	LR		
	comp=N,270nm,15.9s						
HHC				LR	LR		
	comp=E,220nm,16.4s						
HHC				LR	LR		
	comp=Z,340nm,15.5s						
PD01	**Pinedale Array**	**47.26**	**71**	*e*P	**P**	**08 25 37.8**	**+0.7**
PD02	**Pinedale Array**	**47.27**	**71**	*e*P	**P**	**08 25 37.3**	**0.0**
BW06	**Boulder Array**	**47.28**	**71**	*e*P	**P**	**08 25 37.8**	**+0.5**
	comp=Z,5.0nm,0.9s						
PDAR	**Pinedale Array**	**47.28**	**71**	P	**P**	**08 25 37.9**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=307,slow=3.6,SNR=33						
PDAR	**Pinedale Array**	**47.28**	**71**	P	**P**	**08 25 37.9**	**+0.5**
GSC	**Goldstone**	**47.38**	**84**	*e*P	P	08 25 42.7	+4.7
GSC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GSC	**Goldstone**	**47.38**	**84**	*e*P	P	08 25 42.7	+4.7
	comp=Z,2.5nm,0.7s						
NJ2	**Nanjing**	**47.93**	**271**	*e*P	**P**	**08 25 41.5**	**-0.6**
NJ2				pmax	pmax		

comp=Z,20nm,0.6s
SRU San Rafael 48.89 76 *e*P **P** 08 25 51.5 +1.8
SRU pmax pmax
comp=Z,56nm,2.6s
SRU San Rafael 48.89 76 *e*P **P** 08 25 51.5 +1.8
comp=Z,56nm,2.6s
TARA Tarawa 49.79 189 *e*P P 08 25 50.4 -6.1
comp=Z,36nm,1.6s
PV01 Paradox Valley 50.70 75 *e*P **P** 08 26 04.0 +0.5
comp=Z,219nm,0.8s
SPITS Spitsbergen Ar 50.70 356 P **P** 08 26 01.4 -1.3
comp=Z,3.0nm,0.4s,baz=64,slow=4.5,SNR=27
SPITS Spitsbergen Ar 50.70 356 P **P** 08 26 01.4 -1.3
SPITS pmax pmax
comp=Z,3.0nm,0.4s
SPITS Spitsbergen Ar 50.70 356 P **P** 08 26 01.4 -1.3
ZALV Zalesovo Beam 53.65 313 P **P** 08 26 24.3 -0.6
comp=Z,0.6nm,0.3s,baz=52,slow=7.3,SNR=3.1
ZALV Zalesovo Beam 53.65 313 P **P** 08 26 24.3 -0.6
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 53.65 313 P **P** 08 26 24.3 -0.6
GTA Gaotai 54.88 291 *e*P **P** 08 26 35.3 +1.1
GTA pmax pmax
comp=Z,6.0nm,1.1s
CD2 Chengdu 58.17 281 P **P** 08 26 58.3 +0.6
CD2 pP **pP** 08 27 11.5 +1.0
CD2 sP **sP** 08 27 17.3 +1.6
CD2 PP **PP** 08 29 08.6 +2.1
CD2 S **S** 08 34 53.3 -2.6
CD2 sS **sS** 08 35 15.9 -1.4
CD2 SS **SS** 08 38 46.4 -1.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,660nm,6.5s
CD2 LR LR
comp=N,500nm,9.5s
CD2 LR LR
comp=Z,340nm,8.9s
ARCES ARCESS Array B 58.32 350 P **P** 08 26 56.5 -1.6
comp=Z,1.6nm,0.4s,baz=16,slow=8.6,SNR=16
ARCES ARCESS Array B 58.32 350 P **P** 08 26 56.5 -1.6
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 58.32 350 P **P** 08 26 56.5 -1.6
KURK Kurchatov 58.64 313 P **P** 08 27 01.4 +0.8
comp=Z,9.1nm,0.6s,baz=43,slow=6.6,SNR=17
KURK Kurchatov 58.64 313 P **P** 08 27 01.4 +0.8
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 58.64 313 *e*P **P** 08 27 00.1 -0.4
comp=Z,10.0nm,0.9s
GYA Guiyang 59.47 275 *e*P **P** 08 27 08.0 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 59.57 308 *e*P **P** 08 27 06.7 -0.4
MK31 Makanchi Array 59.57 308 *e*P **P** 08 27 06.7 -0.4
MKAR Makanchi Array 59.57 308 P **P** 08 27 06.7 -0.4
comp=Z,1.1nm,0.4s,baz=50,slow=6.3,SNR=9.9
MKAR Makanchi Array 59.57 308 *e*P **P** 08 27 06.9 -0.2
MKAR Makanchi Array 59.57 308 *e*P **P** 08 27 06.9 -0.2
TXAR Lajitas Array 59.60 80 P **P** 08 27 09.2 +1.6
comp=Z,0.5nm,0.5s,baz=314,slow=5.7,SNR=5.6
TXAR Lajitas Array 59.60 80 P **P** 08 27 09.3 +1.6
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 59.60 80 P **P** 08 27 09.2 +1.6
BVAR Borovoye Array 60.61 319 P **P** 08 27 14.0 0.0
comp=Z,1.5nm,0.6s,baz=48,slow=7.7,SNR=5.3
BVAR Borovoye Array 60.61 319 P **P** 08 27 14.0 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 60.61 319 P **P** 08 27 14.0 0.0
KMI Kunming 62.89 277 P **P** 08 27 29.3 -0.8
KMI pP **pP** 08 27 44.5 +1.4
KMI sP **sP** 08 27 50.8 +2.6
KMI pmax pmax
comp=Z,10.0nm,1.1s
TKM2 Tokmak 2 65.67 309 *e*P **P** 08 27 46.6 -1.4
TKM2 Tokmak 2 65.67 309 *e*P **P** 08 27 46.6 -1.4
comp=Z,4.2nm,0.9s
EKS2 Erkin-Say 66.75 309 *e*P **P** 08 27 56.2 +1.3
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 66.75 309 *e*P **P** 08 27 56.2 +1.3
comp=Z,5.1nm,0.7s
NB2 NORSAR Subarra 67.95 354 P **P** 08 28 00.9 -1.1
comp=Z,1.8nm,0.5s,baz=9.1,slow=6.5
NOA NORSAR Array B 67.95 354 P **P** 08 28 00.4 -1.6
comp=Z,3.5nm,0.7s,baz=8.6,slow=6.3,SNR=11
NOA NORSAR Array B 67.95 354 P **P** 08 28 00.4 -1.6
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 67.95 354 P **P** 08 28 00.4 -1.6
KKAR Karatay Array 67.98 312 *e*P **P** 08 28 03.3 +0.8
KKAR Karatay Array 67.98 312 *e*P **P** 08 28 03.3 +0.8
KSH Kashi 68.01 306 *e*P **P** 08 28 03.1 +0.2
KSH *e*pP **pP** 08 28 16.3 +0.3
KSH *e*sP **sP** 08 28 21.5 +0.4
KSH *e*PcP **PcP** 08 28 29.4 +0.5
KSH *e*ScP 08 32 27.9
KSH *e*PcS 08 32 33.1
KSH pmax pmax
comp=Z,1.0nm,0.2s
KSH pmax pmax
comp=Z,500nm,6.4s
KSH LR LR
comp=N,670nm,9.6s
KSH LR LR
comp=E,430nm,9.3s
KSH LR LR
comp=Z,870nm,8.9s
CMAR Chiang Mai Arr 70.16 275 P **P** 08 28 17.6 +1.3
comp=Z,0.9nm,0.4s,baz=30,slow=7.0,SNR=4.2
CMAR Chiang Mai Arr 70.16 275 P **P** 08 28 17.6 +1.3
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 70.16 275 P **P** 08 28 17.6 +1.3
KBL Kabul 75.37 307 *e*P **P** 08 28 47.0 -0.2
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 75.37 307 *e*P **P** 08 28 47.0 -0.2
comp=Z,7.5nm,1.0s
AKASG Malin Array Be 75.64 341 P **P** 08 28 47.1 -1.1
comp=Z,0.7nm,0.3s,baz=20,slow=6.3,SNR=4.6
AKASG Malin Array Be 75.64 341 P **P** 08 28 47.1 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 75.64 341 P **P** 08 28 47.1 -1.1
BRTR Keskin Array B 84.92 334 P **P** 08 29 38.3 -0.3
comp=Z,0.9nm,0.9s,baz=36,slow=2.1,SNR=3.5
BRTR Keskin Array B 84.92 334 P **P** 08 29 38.3 -0.3

*IDC **18** 08:19:16.5±0.8,28°.81N×102°.10E,h0km,mb4.1/11, mb1 4.2/12,mb1mx4.0/25,mbtmp4.1/12,ML4.0/1,Error ellipse: s-maj=32.8km s-min=15.8km az=61.0*
*ISCJB **18** 08:19:17.1±0.4,28°.90N±0°.03×102°.21E±0°.04,h10km, mb4.2/15,Error ellipse: s-maj=5.3km s-min=4.4km az=16.0*
*BJI **18** 08:19:19.4,28°.80N×102°.10E,h15km,mb4.3/5,ML4.2/16, Ms4.0/3,Ms7 3.9/4*
*MOS **18** 08:19:20.0±1.3,28°.89N×102°.13E,h33km,mb4.5/11,Error ellipse: s-maj=19.7km s-min=11.0km az=94.8*
*NEIC **18** 08:19:23.2±1.3,28°.92N×102°.27E,h44km±14km,mb4.4/3, Error ellipse: s-maj=12.5km s-min=10.2km az=80.0*

ISC 18 08:19:19.0±0.6,28°.83N±0°.05×102°.13E±0°.05,h10km,n55, σ1§53/60,mb4.3/15,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.51**	**34**	Pn	**Pn**	**08 20 02.4**	**+2.5**
CD2				Pg	**Pb**	**08 20 04.3**	**+0.1**
CD2				Sg	**Sb**	**08 20 38.3**	**+3.2**
CD2				smax	smax		
	comp=N,5μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
KMI	**Kunming**	**3.73**	**172**	Pn	**Pn**	**08 20 18.8**	**+1.9**
KMI				Sn	**Sn**	**08 21 02.8**	**+1.7**
KMI				smax	smax		
	comp=N,520nm,0.6s						
KMI				smax	smax		
	comp=E,500nm,0.9s						
KMI				LR	LR		
	comp=N,830nm,5.3s						
KMI				LR	LR		
	comp=E,1μm,5.3s						
KMI				LR	LR		
	comp=Z,760nm,8.8s						
GYA	**Guiyang**	**4.66**	**119**	Pn	**Pn**	**08 20 30.9**	**+1.3**
GYA				Sg	**Sg**	**08 21 50.5**	**+1.7**
GYA				smax	smax		
	comp=N,300nm,0.9s						
GYA				smax	smax		
	comp=E,400nm,0.8s						
ENH	**Enshi**	**6.56**	**76**	*e*Pn	**Pn**	**08 20 54.3**	**-1.3**
	comp=E,0.6nm,0.4s						
ENH				*e*Sn	**Sn**	**08 22 10.6**	**0.0**
XAN	**Xi'an**	**7.78**	**46**	Pn	**Pn**	**08 21 12.1**	**-0.3**
XAN				Sn	**Sn**	**08 22 39.1**	**-1.5**
XAN				smax	smax		
	comp=N,200nm,1.0s						
XAN				smax	smax		
	comp=E,89nm,1.0s						
XAN				LR	LR		
	comp=N,880nm,15.3s						
XAN				LR	LR		
	comp=E,200nm,12.4s						
LSA	**Lhasa**	**9.63**	**278**	P	**Pn**	**08 21 38.6**	**+0.4**
LSA	**Lhasa**	**9.63**	**278**	*e*P	**Pn**	**08 21 39.0**	**+0.9**
	comp=E,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.73**	**196**	Pn	Pn	08 21 56.5	+3.6
	comp=E,0.2nm,0.3s,baz=54,slow=7.5,SNR=3.8						
CMAR				Pg		08 22 37.0	
	comp=E,0.6nm,0.3s,baz=5.4,slow=19,SNR=9.7						
CMAR				Lg	Lg	08 24 57.4	
	comp=E,0.4nm,0.3s,baz=5.7,slow=29,SNR=3.2						
CMAR	**Chiang Mai Arr**	**10.73**	**196**	P	Pn	08 21 56.5	+3.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**10.73**	**196**	Pn	Pn	08 21 56.5	+3.6
CMAR				Pg		08 22 37.0	
CMAR				Lg	Lg	08 24 57.4	
WHN	**Wuhan**	**10.76**	**78**	P	Pn	08 21 49.3	-3.9
WHN				*e*S	**Sn**	**08 23 50.8**	**-2.9**
HHC	**Hu-ho-hao-te**	**14.26**	**30**	*e*P	**Pn**	**08 22 40.9**	**-0.2**
HHC				PP	**PnPn**	**08 22 52.3**	**+3.2**
HHC				S	**Sn**	**08 25 19.9**	**+0.5**
HHC				SS	**SnSn**	**08 25 35.9**	**+3.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				LR	LR		
	comp=N,680nm,10.3s						
HHC				LR	LR		
	comp=E,370nm,9.8s						
HHC				LR	LR		
	comp=Z,650nm,10.2s						
SONM	**Songino Array**	**19.26**	**9**	P	**P**	**08 23 44.6**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=189,slow=12,SNR=9.4						
SONM	**Songino Array**	**19.26**	**9**	P	**P**	**08 23 44.6**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**19.26**	**9**	P	**P**	**08 23 44.6**	**+0.8**
ULN	**Ulaanbaatar**	**19.39**	**10**	*e*P	**P**	**08 23 43.7**	**-1.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**19.39**	**10**	*e*P	**P**	**08 23 43.7**	**-1.4**
	comp=Z,8.8nm,1.0s						
ZAK	**Zakamensk**	**21.54**	**2**	*e*P	P	08 24 14.0	+5.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KSAR	**Wonju Array Be**	**23.16**	**62**	P	**P**	**08 24 25.2**	**-0.3**
KSRS	**Korea Array**	**23.19**	**62**	P	**P**	**08 24 25.2**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=244,slow=9.7,SNR=12						
KSRS	**Korea Array**	**23.19**	**62**	P	**P**	**08 24 25.3**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**23.71**	**325**	P	**P**	**08 24 31.2**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=132,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**23.71**	**325**	P	**P**	**08 24 31.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**23.71**	**325**	P	**P**	**08 24 31.2**	**+0.2**
KSH	**Kashi**	**24.05**	**303**	*e*P	**P**	**08 24 37.3**	**+2.8**
KSH				pmax	pmax		
	comp=Z,13nm,1.1s						
KSH				LR	LR		
	comp=Z,870nm,8.9s						
AAK	**Ala-Archa**	**26.19**	**309**	*e*P	**P**	**08 24 54.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,21nm,0.9s						
AAK	**Ala-Archa**	**26.19**	**309**	*e*P	**P**	**08 24 54.9**	**+0.9**
	comp=Z,21nm,0.9s						
KURK	**Kurchatov**	**28.14**	**327**	P	**P**	**08 25 10.4**	**-0.8**
	comp=Z,7.1nm,0.6s,baz=138,slow=7.9,SNR=17						
KURK	**Kurchatov**	**28.14**	**327**	P	**P**	**08 25 10.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	**Kurchatov**	**28.14**	**327**	P	**P**	**08 25 10.4**	**-0.8**
BRVK	**Borovoye**	**33.66**	**325**	*e*P	**P**	**08 25 58.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**33.66**	**325**	*e*P	**P**	**08 25 58.9**	**-0.9**
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**57.60**	**144**	P	**P**	**08 29 07.2**	**-2.1**
	comp=Z,3.9nm,0.6s,baz=334,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**57.60**	**144**	P	**P**	**08 29 07.2**	**-2.1**
WB2	**Warramunga Arr**	**57.61**	**144**	*e*P	**P**	**08 29 07.5**	**-1.9**
FINES	**FINESS Array B**	**58.51**	**327**	P	**P**	**08 29 13.7**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=76,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**58.51**	**327**	P	**P**	**08 29 13.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**58.51**	**327**	P	**P**	**08 29 13.7**	**-1.5**
ARCES	**ARCESS Array B**	**58.64**	**336**	P	**P**	**08 29 13.8**	**-2.1**
	comp=Z,3.5nm,0.9s,baz=84,slow=7.1,SNR=5.0						
ARCES	**ARCESS Array B**	**58.64**	**336**	P	**P**	**08 29 13.9**	**-2.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.64**	**336**	P	**P**	**08 29 13.8**	**-2.1**
ASAR	**Alice Springs**	**60.50**	**146**	P	**P**	**08 29 28.8**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=325,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**60.50**	**146**	P	**P**	**08 29 28.8**	**-0.6**
STKA	**Stephens Creek**	**71.08**	**145**	P	**P**	**08 30 38.2**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=301,slow=7.8,SNR=4.9						
STKA	**Stephens Creek**	**71.08**	**145**	P	**P**	**08 30 38.2**	**+0.7**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**71.08**	**145**	P	**P**	**08 30 38.2**	**+0.7**
ILAR	**Eielson Array**	**72.61**	**25**	P	**P**	**08 30 44.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=291,slow=4.1,SNR=4.4						
ILAR	**Eielson Array**	**72.61**	**25**	P	**P**	**08 30 44.7**	**-1.7**
ILAR	**Eielson Array**	**72.61**	**25**	P	**P**	**08 30 44.6**	**-1.7**
INK	**Inuvik**	**74.85**	**19**	P	**P**	**08 30 58.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=342,slow=6.4,SNR=6.5						
INK	**Inuvik**	**74.85**	**19**	P	**P**	**08 30 58.5**	**-0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**74.85**	**19**	P	**P**	**08 30 58.5**	**-0.9**
YKA	**Yellowknife Ar**	**84.35**	**16**	P	**P**	**08 31 50.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=334,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**84.35**	**16**	P	**P**	**08 31 50.6**	**-0.5**
YKA	**Yellowknife Ar**	**84.35**	**16**	P	**P**	**08 31 50.5**	**-0.5**

IDC 18 08:23:57.6±1.6,7°.43S×124°.32E,h0km,mb3.8/1, mb1 4.0/4,mb1mx3.6/17,mbtmp3.8/4,ML3.8/3,MS3.8/2, Ms1 3.8/2,ms1mx3.1/35,Error ellipse: s-maj=116.6km s-min=24.7km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.69**	**173**	Pn	Pn	08 26 32.3	+0.1
	0.3nm,0.3s,baz=356,slow=8.5,SNR=13						
FITZ				Sn	Sn	08 28 17.4	-15
	1.8nm,0.3s,baz=117,slow=12,SNR=11						
FITZ				LR	LR	08 31 49.6	
	comp=Z,146nm,18.1s,baz=345,slow=44						
WRA	**Warramunga Arr**	**15.79**	**143**	Pn	Pn	08 27 43.4	+1.9
	0.5nm,0.3s,baz=317,slow=12,SNR=11						
WRA				Sn	Sn	08 30 26.9	-10
	0.2nm,0.3s,baz=313,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**18.59**	**151**	P	P	08 28 15.3	-1.2
	0.3nm,0.3s,baz=330,slow=12,SNR=12						
RPZ	**Rata Peaks**	**54.46**	**140**	LR	LR	08 55 31.9	
	comp=Z,257nm,21.7s,baz=299,slow=35						
MKAR	**Makanchi Array**	**65.61**	**330**	P	P	08 34 43.5	0.0
	0.5nm,0.5s,baz=137,slow=7.6,SNR=15						

IDC 18 08:38:43.0±2.3,21°.67S×68°.40W,h110km±20km,mb3.3/6, mb1 3.5/10,mb1mx3.4/17,mbtmp3.2/10,Error ellipse: s-maj=23.6km s-min=19.1km az=82.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.36**	**3**	P	Pn	08 40 03.0	+1.6
	1.3nm,0.3s,baz=200,slow=6.1,SNR=42						
SIV	**San Ignacio**	**8.94**	**52**	P	Pn	08 40 48.6	-0.8
	0.9nm,0.3s,baz=248,slow=12,SNR=15						
SIV				S	Sn	08 42 24.4	-3.9
	0.1nm,0.3s,baz=308,slow=23,SNR=9.1						
CFAA	**Coronel Fontan**	**9.90**	**179**	P	Pn	08 41 01.1	-1.2
	0.0nm,0.3s,baz=357,slow=13,SNR=6.9						
CFAA				S	Sn	08 42 43.9	-7.6
	0.1nm,0.3s,baz=230,slow=16,SNR=6.3						
PLCA	**Paso Flores**	**19.10**	**185**	P	Pn	08 42 58.2	-0.9
	0.1nm,0.3s,baz=359,slow=13,SNR=3.2						
BDFB	**Brasilia**	**20.21**	**76**	P	P	08 43 08.4	-1.1
	1.0nm,0.4s,baz=215,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**61.04**	**325**	P	P	08 48 44.6	-0.8
	0.2nm,0.4s,baz=158,slow=9.3,SNR=5.1						
PDAR	**Pinedale Array**	**74.49**	**330**	P	P	08 50 09.4	-0.3
	0.3nm,0.8s,baz=134,slow=7.7,SNR=3.4						
NVAR	**Mina Array Bea**	**75.92**	**322**	P	P	08 50 18.1	+0.2
	0.2nm,0.5s,baz=130,slow=9.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	P	08 50 24.4	+0.4
	0.6nm,0.4s,baz=259,slow=5.3,SNR=12						
TORD				pP	pP	08 50 54.8	+2.8
	1.3nm,0.9s,baz=248,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	P	08 51 36.2	-0.4
	0.5nm,0.5s,baz=134,slow=4.5,SNR=16						
ASAR	**Alice Springs**	**129.99**	**207**	PKP	PKPdf	08 57 40.2	-0.3
	0.2nm,0.6s,baz=130,slow=1.9,SNR=4.9						
WRA	**Warramunga Arr**	**133.05**	**210**	PKP	PKPdf	08 57 46.4	0.0
	0.2nm,0.4s,baz=173,slow=1.5,SNR=5.3						
MKAR	**Makanchi Array**	**145.49**	**36**	PKPbc	PKPbc	08 58 08.5	+0.1
	0.3nm,0.5s,baz=329,slow=4.9,SNR=4.0						
MKAR				pPKPbc	pPKPbc	08 58 39.8	+1.9
	0.6nm,0.8s,baz=308,slow=2.9,SNR=5.2						

IDC 18 08:38:52.6±3.8,47°.08N×155°.33E,h0km,mb3.7/4, mb1 3.7/6,mb1mx3.4/26,mbtmp3.6/6,ML3.0/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/41,Error ellipse: s-maj=87.3km s-min=26.8km az=154.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.23**	**13**	Pn	Pn	08 40 26.0	+0.3
	0.3nm,0.3s,baz=201,slow=14,SNR=11						
PETK				Sn	Sn	08 41 47.1	+10
	0.0nm,0.3s,baz=182,slow=23,SNR=2.1						
ASAJ	**Asahikawa**	**9.40**	**256**	Pn	Pn	08 41 10.5	+1.3
	0.2nm,0.3s,baz=114,slow=20,SNR=2.0						
USRK	**Ussuriysk Arra**	**16.55**	**269**	LR	LR	08 48 29.2	
	comp=Z,56nm,20.0s,baz=346,slow=35						
ILAR	**Eielson Array**	**35.34**	**39**	P	P	08 45 48.9	-0.3
	0.2nm,0.6s,baz=256,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**48.13**	**298**	P	P	08 47 32.5	-1.6
	0.2nm,0.6s,baz=63,slow=9.9,SNR=3.5						
KURK	**Kurchatov**	**48.44**	**304**	P	P	08 47 37.5	+1.2
	0.7nm,0.6s,baz=62,slow=7.7,SNR=6.0						
FINES	**FINESS Array B**	**64.38**	**336**	P	P	08 49 30.5	+0.7
	2.5nm,0.9s,baz=32,slow=11,SNR=4.5						

IDC 18 08:43:06.8±1.6,3°.13N×126°.28E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/19,mbtmp3.7/5,MS3.5/1,Ms1 3.5/1, ms1mx2.8/29,Error ellipse: s-maj=179.0km s-min=19.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**21.10**	**59**	LR	LR	08 55 15.4	
	comp=Z,112nm,18.3s,baz=262,slow=34						
WRA	**Warramunga Arr**	**24.26**	**161**	P	P	08 48 24.7	-1.1
	1.5nm,0.5s,baz=339,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.65**	**165**	P	P	08 48 58.4	+1.9
	0.3nm,0.6s,baz=349,slow=7.2,SNR=8.0						
STKA	**Stephens Creek**	**37.73**	**158**	P	P	08 50 23.8	-0.6
	1.9nm,0.7s,baz=336,slow=8.9,SNR=6.1						
MKAR	**Makanchi Array**	**57.79**	**326**	P	P	08 53 00.2	+0.2
	0.3nm,0.4s,baz=125,slow=9.0,SNR=2.8						
KURK	**Kurchatov**	**62.01**	**328**	P	P	08 53 28.2	-0.6
	0.3nm,0.3s,baz=130,slow=6.6,SNR=4.1						

IDC 18 08:47:55.7±7.8,19°.68S×175°.97W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/17,mbtmp3.6/3,Error ellipse: s-maj=343.1km s-min=37.0km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.56**	**256**	P	P	08 56 25.9	+0.2
	0.5nm,0.6s,baz=97,slow=8.3,SNR=15						
WRA	**Warramunga Arr**	**46.60**	**261**	P	P	08 56 25.4	-0.5
	0.2nm,0.3s,baz=97,slow=7.4,SNR=8.3						
ILAR	**Eielson Array**	**87.11**	**12**	P	P	09 00 43.0	0.0
	0.8nm,1.1s,baz=198,slow=5.4,SNR=4.9						

*ATH **18** 08:57:53.3,35°.64N×27°.41E,h24km±2km,MD3.2/5*
*ISCJB **18** 08:57:54.4±0.6,35°.69N±0°.06×27°.38E±0°.05,h18km,Error ellipse: s-maj=9.1km s-min=3.9km az=149.0*
*CSEM **18** 08:57:54.6±0.6,35°.67N×27°.39E,h20km,MD3.2,Error ellipse: s-maj=19.0km s-min=8.5km az=154.0*
*DDA **18** 08:58:03.0,36°.06N×28°.20E,h6km,MD2.9*

ISC 18 08:57:53.5±0.9,35°.60N±0°.06×27°.46E±0°.04,h18km,n32, σ1§23/45,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.25**	**259**	*e*PB	**Pg**	**08 57 59.0**	**-0.3**
KARP				*e*SB	**Sg**	**08 58 03.6**	**+0.4**
KARP	**Karpathos**	**0.25**	**259**	*e*Pb	**Pg**	**08 57 59.0**	**-0.3**
KARP				*e*Sb	**Sg**	**08 58 03.6**	**+0.4**
ARG	**Arkhangelos**	**0.82**	**41**	*e*PB	**Pb**	**08 58 08.6**	**-0.7**
ARG				*e*SN	**Sg**	**08 58 21.4**	**+0.9**
ARG	**Arkhangelos**	**0.82**	**41**	*e*Pb	**Pb**	**08 58 08.6**	**-0.7**
ARG				*e*Sn	**Sg**	**08 58 21.4**	**+0.9**
NPS	**Neapolis**	**1.54**	**258**	*e*PB	**Pn**	**08 58 19.7**	**-0.4**
NPS				*e*SN	**Sb**	**08 58 40.8**	**0.0**
NPS	**Neapolis**	**1.54**	**258**	*e*Pb	**Pn**	**08 58 19.7**	**-0.4**
NPS				*e*Sn	**Sb**	**08 58 40.8**	**0.0**
TURN	**Turunc**	**1.57**	**36**	*i* P	Pn	08 58 16.8	-3.7
TURN				*i* S	**Sn**	**08 58 35.5**	**-4.9**
TURN	**Turunc**	**1.57**	**36**	*i* P	Pn	08 58 16.8	-3.7
XRY	**Khrisi**	**1.61**	**244**	*e*PN	**Pb**	**08 58 23.2**	**+0.4**
XRY	**Khrisi**	**1.61**	**244**	*e*Pn	**Pb**	**08 58 23.2**	**+0.4**
FETY	**Fethiye**	**1.67**	**51**	*e*PG	**Pn**	**08 58 23.1**	**+1.2**
FETY				*e*SG	**Sg**	**08 58 48.2**	**+0.6**
FETY	**Fethiye**	**1.67**	**51**	*e*Pg	**Pn**	**08 58 23.1**	**+1.2**
FETY				*e*Sg	**Sg**	**08 58 48.2**	**+0.6**
YER	**Yerkesik**	**1.67**	**23**	*e*PG	**Pb**	**08 58 24.1**	**+0.3**
YER	**Yerkesik**	**1.67**	**23**	*e*Pg	**Pb**	**08 58 24.1**	**+0.3**
AKAS	**Kas**	**1.85**	**69**	*i* P	**Pn**	**08 58 25.1**	**+0.6**
AKAS				*i* S	**Sb**	**08 58 50.2**	**+0.4**
AKAS	**Kas**	**1.85**	**69**	*i* P	**Pn**	**08 58 25.1**	**+0.6**
AKAS				*i* S	**Sb**	**08 58 50.2**	**+0.4**
AYDN	**Tasoluk**	**2.09**	**9**	*i* P	**Pn**	**08 58 28.7**	**+1.0**
AYDN				*i* S

WEL 18 09:01:08.5±0.3, 38.60S×175.80E, h144km±3km, ML3.5/5, Error ellipse: s-maj=2.5km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPVZ	Whakapapa	0.64	198	PN	Pn	09 01 30.4	+0.3
WNVZ	Wahianoa	0.75	192	PN	Pn	09 01 30.9	0.0
BKZ	Black Stump Fm	0.78	137	PN	Pn	09 01 31.2	+0.1
BKZ				SN	Sn	09 01 48.0	-0.2
MOVZ	Moawhango	0.81	183	PN	Pn	09 01 31.1	-0.1
MOVZ				SN	Sn	09 01 48.0	-0.6
MTVZ	Mangateitei	0.83	198	PN	Pn	09 01 31.6	+0.2
TOZ	Tahuroa Road	0.90	345	PN	Pn	09 01 31.8	0.0
BHHZ	Black Hill Sta	0.91	167	PN	Pn	09 01 32.0	-0.1
BHHZ				SN	Sn	09 01 49.2	-0.8
NMHZ	Naumai	0.93	123	PN	Pn	09 01 33.1	+0.9
RAHZ	Arahi	1.05	108	PN	Pn	09 01 33.9	+0.7
URZ	Urewera	1.08	72	PN	Pn	09 01 32.9	-0.5
MCHZ	McNeill Hill	1.09	141	PN	Pn	09 01 34.6	+1.0
PNHZ	Pukenui	1.35	167	PN	Pn	09 01 36.0	-0.1
MWZ	Matawai	1.38	80	PN	Pn	09 01 36.0	-0.4
KAHZ	Kahuranaki	1.46	145	PN	Pn	09 01 37.6	+0.4
TSZ	Takapari Road	1.46	175	PN	Pn	09 01 36.9	-0.4
KNZ	Kokohu	1.52	107	PN	Pn	09 01 37.9	+0.1
WPHZ	Waipukurau	1.55	162	PN	Pn	09 01 37.9	-0.2
PXZ	Pawanui	1.65	150	PN	Pn	09 01 39.0	-0.2
PRGZ	Paritu Road	1.66	102	PN	Pn	09 01 39.3	-0.1
DVHZ	Dannevirke	1.72	171	PN	Pn	09 01 39.2	-0.8
MHGZ	Mahia Peninsul	1.73	109	PN	Pn	09 01 40.5	+0.3
PRHZ	Porangahau	1.79	159	PN	Pn	09 01 40.4	-0.4
CNGZ	Carnagh Statio	1.89	87	PN	Pn	09 01 42.1	+0.1
PUZ	Puketiti	2.00	76	PN	Pn	09 01 42.5	-0.8
MRZ	Mangatainoka R	2.07	185	PN	Pn	09 01 42.5	-1.5
BFZ	Birch Farm	2.11	171	PN	Pn	09 01 43.4	-1.1
OGWZ	Otaki Gorge	2.27	192	PN	Pn	09 01 44.9	-1.6
HOWZ	Holdsworth Sta	2.31	185	PN	Pn	09 01 45.0	-2.0
KIWZ	Kapiti Island	2.36	197	PN	Pn	09 01 45.6	-2.0
TMWZ	Te Maipa	2.51	178	PN	Pn	09 01 47.5	-2.0
MTWZ	Mount Morrison	2.57	185	PN	Pn	09 01 47.8	-2.4
MSWZ	Moikau Station	2.84	188	PN	Pn	09 01 50.9	-2.8
TCWZ	Tory Channel	2.86	204	PN	Pn	09 01 51.3	-2.6
PLWZ	Palliser	3.00	188	PN	Pn	09 01 52.6	-3.1
TUWZ	Tuamarina	3.17	206	PN	Pn	09 01 55.3	-2.4
KHZ	Kahutara	4.19	204	PN	Pn	09 02 07.5	-3.5

*IDC **18** 09:05:49.4±1.7, 37.42N×138.49E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.2/23, mbtmp3.4/2, Error ellipse: s-maj=30.9km s-min=13.1km az=107.0*
*ISCJB **18** 09:05:52.0±0.5, 37.36N±0.03×138.38E±0.04, h31km±4km, mb3.5/2, Error ellipse: s-maj=5.5km s-min=4.8km az=41.7*
*JMA **18** 09:05:52.4, 37.37N×138.39E, h17km±1km, M3.1*
JMA Felt I J1.
ISC 18 09:05:52.1±0.9, 37.37N±0.04×138.38E±0.03, h26km±8km, n14, σ0.75/25, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	Izumozaki	0.31	59	P	Pb	09 05 59.3	-0.1
JIZZ				eS	Sb	09 06 05.8	+1.5
JJN	Nakama	0.32	213	P	Pb	09 05 59.0	-0.5
JJN				S	Sb	09 06 04.8	+0.4
JHK	Hiroka	0.53	103	P	Pb	09 06 02.0	-0.8
JHK				S	Sb	09 06 09.4	-0.7
JSD	Sado	0.67	352	P	Pn	09 06 05.0	-1.0
JSD				S	Sn	09 06 14.6	-1.1
JSZ	Suzu	0.81	276	P	Pb	09 06 07.3	-0.3
JSZ				S	Sn	09 06 19.2	+0.1
JGK	Kuni	0.83	165	P	Pb	09 06 08.1	+0.1
JGK				S	Sb	09 06 19.5	+0.6
MAT	Matsushiro	0.84	189	P	Pn	09 06 07.3	-1.0
MAT				S	Sb	09 06 18.7	-0.2
MAT	Matsushiro	0.84	189	P	Pn	09 06 07.5	-0.8
MAT				S	Sb	09 06 18.9	0.0
MJAR	Matsushiro Arr	0.84	189	Pg	Pn	09 06 07.7	-0.6
	12nm,0.3s,baz=12,slow=18,SNR=134						
MJAR				Lg	Lg	09 06 18.7	
	27nm,0.3s,baz=173,slow=33,SNR=28						
JNS	Sasagawa	0.87	59	P	Pn	09 06 08.4	-0.3
JNS				S	Sn	09 06 20.8	+0.2
JKT	Katashina	0.92	131	P	Pn	09 06 08.9	-0.6
JKT				S	Sb	09 06 21.1	-0.3
JFY	Yanaizu	1.06	88	P	Pb	09 06 11.3	-0.5
JFY				S	Sb	09 06 25.4	+0.1
ILAR	Eielson Array	50.51	32	P	P	09 14 47.8	+0.1
	0.3nm,0.7s,baz=284,slow=5.3,SNR=4.5						
WRA	Warramunga Arr	57.13	185	P	P	09 15 38.1	+1.6
	0.6nm,0.9s,baz=0.4,slow=7.7,SNR=5.1						

IDC 18 09:03:19.6±2.6, 21.59S×71.57W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=71.2km s-min=61.8km az=172.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	6.20	32	Pn	Pn	09 04 53.0	-0.2
	0.3nm,0.3s,baz=220,slow=7.9,SNR=8.4						
TORD	Torodi Ar. Bea	79.73	71	P	P	09 15 30.0	+0.1
	0.4nm,0.9s,baz=260,slow=4.2,SNR=2.8						
YKA	Yellowknife Ar	90.47	342	P	P	09 16 22.7	-0.1
	0.2nm,0.7s,baz=134,slow=4.3,SNR=6.1						

IDC 18 09:08:14.5±1.1, 14.09N×53.70E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=35.3km s-min=27.0km az=8.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	40.44	30	P	P	09 15 55.7	+1.1
	0.2nm,0.5s,baz=217,slow=8.4,SNR=3.5						
ZALV	Zalesovo Beam	46.67	25	P	P	09 16 43.7	-1.1
	0.2nm,0.4s,baz=210,slow=7.8,SNR=2.4						
TORD	Torodi Ar. Bea	50.46	276	P	P	09 17 15.1	+0.5
	0.7nm,0.8s,baz=92,slow=7.2,SNR=5.1						
ESDC	Sonseca Array	56.33	308	P	P	09 17 56.8	-0.6
	0.2nm,0.3s,baz=91,slow=4.9,SNR=3.0						
WRA	Warramunga Arr	86.19	112	P	P	09 20 58.3	-0.1
	0.4nm,0.6s,baz=300,slow=3.5,SNR=7.8						
ASAR	Alice Springs	86.86	115	P	P	09 21 01.6	-0.1
	0.5nm,0.7s,baz=288,slow=4.9,SNR=7.8						

IDC 18 09:09:50.5±1.3, 14.17N×145.32E, h92km±10km, mb3.2/6, mb1 3.5/6, mb1mx3.2/21, mbtmp3.2/6, Error ellipse: s-maj=46.6km s-min=21.1km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.72	217	P	Pn	09 10 09.9	+2.5
	244nm,0.3s,baz=122,slow=4.3,SNR=134						
GUMO				S	Sn	09 10 21.1	+1.1
	875nm,0.3s,baz=332,slow=24,SNR=42						
WRA	Warramunga Arr	35.58	198	P		09 16 39.4	+0.2
	0.7nm,0.7s,baz=20,slow=9.4,SNR=7.5						
ASAR	Alice Springs	39.23	197	P	P	09 17 09.8	-0.2
	0.2nm,0.6s,baz=22,slow=12,SNR=4.1						
MKAR	Makanchi Array	61.38	316	P	P	09 19 57.6	+0.7
	0.2nm,0.4s,baz=92,slow=8.2,SNR=5.9						
ILAR	Eielson Array	67.86	25	P	P	09 20 38.0	-0.7
	0.2nm,0.6s,baz=251,slow=6.0,SNR=6.6						
YKA	Yellowknife Ar	82.14	27	P	P	09 22 00.9	0.0
	0.2nm,0.7s,baz=300,slow=5.5,SNR=3.6						
FINES	FINESS Array B	90.82	335	P	P	09 22 41.9	-1.4
	2.5nm,0.9s,baz=69,slow=7.6,SNR=3.4						

WEL 18 09:12:54.5±0.6, 35.51S×178.57E, h225km±11km, ML3.9/6, Error ellipse: s-maj=9.2km s-min=8.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	2.58	185	PN	Pn	09 13 40.6	-0.2
PUZ				SN	S	09 14 16.2	-0.9
MWZ	Matawai	2.94	196	PN	Pn	09 13 45.5	+0.6
MWZ				SN	S	09 14 24.5	0.0
URZ	Urewera	2.99	203	PN	Pn	09 13 45.7	+0.4
CNGZ	Carnagh Statio	2.99	185	PN	Pn	09 13 45.8	+0.5
WCZ	Waipu Caves	3.46	262	PN	Pn	09 13 50.8	0.0
KNZ	Kokohu	3.58	191	PN	Pn	09 13 51.8	-0.3
RAHZ	Arahi	3.61	199	PN	Pn	09 13 52.8	+0.4
NMHZ	Naumai	3.85	201	PN	Pn	09 13 56.2	+0.7
KAHZ	Kahuranaki	4.49	197	PN	Pn	09 14 03.7	+0.5
PXZ	Pawanui	4.72	196	PN	Pn	09 14 05.4	-0.6
PXZ				SN	S	09 15 01.9	-0.6
MRZ	Mangatainoka R	5.66	204	PN	Pn	09 14 16.8	-1.0
MRZ				SN	S	09 15 23.3	-0.7
HOWZ	Holdsworth Sta	5.90	203	PN	Pn	09 14 20.0	-0.8
OGWZ	Otaki Gorge	5.94	206	PN	Pn	09 14 20.5	-0.8
TCW	Tory Channel	6.62	209	PN	Pn	09 14 28.7	-1.3
TUWZ	Tuamarina	6.94	210	PN	Pn	09 14 33.4	-0.6
THZ	Tophouse	7.66	214	PN	Pn	09 14 42.8	-0.6
THZ				SN	S	09 16 10.5	0.0
KHZ	Kahutara	7.93	208	PN	Pn	09 14 46.0	-0.7
LTZ	Lake Taylor	8.76	212	PN	Pn	09 14 56.7	-0.8
MQZ	McQueen's Vall	9.37	207	SN	S	09 16 45.7	-5.0

*NIED **18** 09:36:00, 36.50N×140.60E, h77km, Mw3.8 Best double couple: M0 5.05000×10^14 NP1:φ=28.00000°, δ=74.00000°, λ=113.00000°. NP2:φ=151.00000°, δ=27.00000°, λ=36.00000°.*
*ISCJB **18** 09:36:32.4±0.7, 36.45N±0.05×140.82E±0.07, h61km±4km, mb3.6/9, Error ellipse: s-maj=10.8km s-min=7.2km az=40.7*
*IDC **18** 09:36:33.8±2.2, 36.51N×140.63E, h50km±20km, mb3.4/9, mb1 3.6/11, mb1mx3.5/25, mbtmp3.5/11, ML3.9/2, Error ellipse: s-maj=21.2km s-min=14.1km az=96.0*
*JMA **18** 09:36:35.1±0.1, 36.52N×140.57E, h57km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ±21.00000°, δ60.00000°, λ=99.00000°. NP2:φ=183.00000°, δ31.00000°, λ=74.00000°. Principal axes: T Plg73.0000°, Azm313.0000°; N Plg8.0000°, Azm196.0000°; P Plg15.0000°, Azm104.0000°;*
JMA Felt II J1.
ISC 18 09:36:33.1±0.9, 36.40N±0.05×140.85E±0.07, h54km±8km, n22, σ1.954/28, mb3.6/9, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.31	313	⇑P	Pn	09 36 43.7	+1.1
JHO				S	Sn	09 36 49.7	+0.3
JYT	Yasato	0.55	252	⇑P	Pn	09 36 46.0	+0.9
JYT				S	Sn	09 36 53.6	-0.3
JFK	Kawauchi	0.96	1	⇑P	Pn	09 36 50.8	+0.3
JFK				S	Sn	09 37 02.2	-1.1
JAG	Ashikaga	1.12	272	⇓P	Pn	09 36 51.9	-0.6
JKT	Katashina	1.34	286	⇓P	Pn	09 36 54.5	-1.0
JRY	Ryogami san	1.62	257	⇓P	Pn	09 36 59.1	-0.2
JHK	Hiroka	1.69	301	⇓P	Pn	09 36 59.3	-1.0
MJAR	Matsushiro Arr	2.13	275	P	Pn	09 37 05.7	-0.5
	31nm,0.3s,baz=96,slow=12,SNR=360						
MJAR				S	Sn	09 37 32.1	+0.5
	21nm,0.3s,baz=85,slow=16,SNR=8.3						
MAT	Matsushiro	2.13	275	P	Pn	09 37 06.3	+0.1
MAT				eS	Sn	09 37 30.1	-1.5
ASAJ	Asahikawa	7.82	9	P	Pn	09 38 23.2	-0.9
	0.7nm,0.3s,baz=210,slow=16,SNR=9.6						
ASAJ				S	Sn	09 39 50.0	-1.2
	0.2nm,0.3s,baz=60,slow=25,SNR=2.1						
CBIJ	Chichi jima	9.35	173	P	Pn	09 38 45.7	+0.6
	6.6nm,0.3s,baz=108,slow=21,SNR=9.7						
CBIJ				S	Sn	09 40 23.7	-5.1
	3.9nm,0.3s,baz=109,slow=22,SNR=3.5						
USRK	Ussuriysk Arra	10.31	322	P	Pn	09 39 01.9	+3.7
	0.1nm,0.3s,baz=150,slow=12,SNR=4.1						
KSRS	Korea Array	10.40	280	P	Pn	09 39 01.2	+1.8
	0.2nm,0.3s,baz=92,slow=14,SNR=3.9						
SONM	Songino Array	27.77	305	P	P	09 42 14.9	-1.9
	0.6nm,0.5s,baz=105,slow=9.6,SNR=7.2						
ZALV	Zalesovo Beam	42.01	313	P	P	09 44 18.4	-0.5
	1.8nm,0.5s,baz=96,slow=6.7,SNR=11						
MKAR	Makanchi Array	44.07	303	P	P	09 44 35.2	-0.5
	0.8nm,0.6s,baz=88,slow=9.4,SNR=13						
ILAR	Eielson Array	50.27	32	P	P	09 45 25.6	+2.0
	0.3nm,0.9s,baz=270,slow=5.4,SNR=3.4						
WRA	Warramunga Arr	56.37	187	P	P	09 46 10.2	+1.3
	0.3nm,0.4s,baz=2.2,slow=7.5,SNR=12						
ASAR	Alice Springs	60.10	187	P	P	09 46 36.8	+2.0
	0.1nm,0.4s,baz=5.2,slow=7.2,SNR=4.0						
YKA	Yellowknife Ar	64.58	30	P	P	09 47 06.0	+1.6
	0.2nm,0.8s,baz=294,slow=5.8,SNR=3.1						
FINES	FINESS Array B	69.16	332	P	P	09 47 32.8	-0.7
	3.5nm,0.9s,baz=290,slow=5.5,SNR=3.5						
GERES	GERESS Array B	83.01	328	P	P	09 48 52.3	-0.2
	0.3nm,0.4s,baz=31,slow=6.2,SNR=4.4						

*MOS **18** 09:42:17.0±1.2, 51.26N×179.81E, h33km, mb4.6/31, Error ellipse: s-maj=10.6km s-min=8.3km az=107.5*
*ISCJB **18** 09:42:19.1±0.6, 51.15N±0.07×179.76E±0.03, h53km±4km, mb4.5/72, MS3.9/7, Error ellipse: s-maj=11.2km s-min=3.5km az=179.7*
*BJI **18** 09:42:19.3, 51.33N×179.50E, h55km, mB5.2/18, mb4.7/31, Ms4.7/12, Ms7 4.5/13*
*NEIC **18** 09:42:20.1±0.6, 51.14N×179.75E, h47km±5km, mb4.5/34, ML4.2(AEIC), Error ellipse: s-maj=10.5km s-min=4.1km az=176.0*
*IDC **18** 09:42:22.7±3.0, 51.39N×179.73E, h70km±26km, mb3.8/22, mb1 4.0/24, mb1mx3.9/30, mbtmp3.8/24, MS3.4/6, Ms1 3.4/6, ms1mx3.1/45, Error ellipse: s-maj=20.6km s-min=10.7km az=163.0*
ISC 18 09:42:21.0±0.5, 51.15N±0.09×179.81E±0.03, h57km±2km, n272, σ1.906/356, mb4.5/72, MS4.2/8, 81C-53D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	Gareloi Lava P	1.08	55	P	Pn	09 42 37.9	-2.0
GAEA	Gareloi East	1.10	54	P	Pn	09 42 38.3	-1.9
GANE	Gareloi Northe	1.11	52	P	Pn	09 42 38.5	-1.8
TANO	Tanaga North	1.50	58	P	Pn	09 42 44.5	-1.1
TASE	Tanaga Southea	1.51	62	P	Pn	09 42 44.2	-1.6
TAFP	Tanaga Falls P	1.57	61	P	Pn	09 42 45.1	-1.4
TAFP				S	Sn	09 43 07.5	+1.8
TAPA	Tanaga Point A	1.63	65	P	Pn	09 42 46.0	-1.4
KIMD	Kanaga Island	1.95	71	P	Pn	09 42 50.6	-1.0
KIKV	Kanaga Island	2.02	68	P	Pn	09 42 52.0	-0.6
ETKA	Kagalaska Isla	2.47	72	P	Pn	09 42 58.5	-0.3
GSCK	Great Sitkin C	2.66	69	P	Pn	09 43 00.6	-0.8
GSTD	Great Sitkin T	2.68	69	P	Pn	09 43 01.3	-0.4
GSTD				S	Sn	09 43 37.1	+4.1
GSMY	Great Sitkin M	2.73	69	P	Pn	09 43 01.5	-0.7
SMY	Shemya	3.87	296	P	Pn	09 43 15.6	-2.3
SMY				S	Sn	09 44 02.1	0.0
SMY	Shemya	3.87	296	P	Pn	09 43 15.6	-2.3
SMY				S	Sn	09 44 02.1	0.0
KOKL	Mount Kliuchef	3.90	70	P	Pn	09 43 19.4	+1.0
FX1	Attu Island--F	4.46	295	P	Pn	09 43 25.3	-0.7
	47nm,0.3s,baz=49,slow=7.6,SNR=54						
FX1				S	Sn	09 44 22.9	+6.4
	27nm,0.3s,baz=65,slow=14,SNR=6.7						
FX1				LR	LR	09 45 09.3	
	comp=Z,702nm,20.7s,baz=123,slow=39						
FX1	Attu Island--F	4.46	295	eP	Pn	09 43 25.5	-0.4
FX1				S	Sn	09 44 22.9	+6.4
FX1	Attu Island--F	4.46	295	ePn	Pn	09 43 25.5	-0.4
FX1				S	Sn	09 44 22.9	+6.4
SPIA	Saint Paul Isl	8.39	40	P	Pn	09 44 20.7	+1.0
UNV	Unalaska Valle	8.78	67	ePn	Pn	09 44 27.2	+2.2
AKUT	Akutan	9.26	66	ePn	Pn	09 44 32.6	+1.0
	202nm,1.6s						
GAMB	Gambell	13.44	16	ePn	Pn	09 45 29.9	+1.3
PETK	Petropavlovsk-	13.72	287	P	Pn	09 45 31.9	-0.6
	0.4nm,0.3s,baz=97,slow=19,SNR=11						
PETK				LR	LR	09 50 28.1	
	comp=Z,144nm,20.6s,baz=274,slow=36						
PETK	Petropavlovsk-	13.72	287	P	Pn	09 45 31.9	-0.6
PETK				MLR	MLR		
	comp=Z,144nm,20.6s						
PETK	Petropavlovsk-	13.72	287	P	Pn	09 45 31.9	-0.6
TNA	Tin City	15.77	19	ePn	P	09 46 02.0	0.0
	comp=Z,320nm,1.4s						
KDAK	Kodiak Island	17.28	57	P	Pn	09 46 14.8	-3.2
	comp=Z,3.2nm,0.3s,baz=5.4,slow=3.2,SNR=20						
KDAK	Kodiak Island	17.28	57	iP	Pn	09 46 15.6	-2.4
KDAK	Kodiak Island	17.28	57	eP	Pn	09 46 15.5	-2.4
	comp=Z,140nm,1.6s						
RSO	Redoubt South	17.89	48	eP	Pn	09 46 27.7	+2.0
BILL	Bilibino	18.19	344	dP	P	09 46 28.7	-0.1
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	Bilibino	18.19	344	eP	Pn	09 46 29.1	0.0
	comp=Z,22nm,1.1s						
SPU	Mount Spurr	18.45	46	ePn	Pn	09 46 34.1	+1.7
PPLA	Purkeypile	19.06	41	eP	Pn	09 46 41.1	+1.4
	comp=Z,77nm,1.9s						
RC01	Rabbit Creek A	19.49	48	eP	Pn	09 46 45.5	+0.8
	comp=Z,13nm,0.7s						
TRF	Thorofare Moun	20.07	41	eP	P	09 46 49.0	-0.6
	comp=Z,15nm,1.0s						
MCK	McKinley	20.74	41	eP	P	09 46 57.9	+1.3
MCK				pmax	pmax		
	comp=Z,51nm,1.7s						
MCK	McKinley	20.74	41	eP	P	09 46 57.9	+1.3
	comp=Z,51nm,1.7s						
COLA	College	21.63	38	eP	P	09 47 06.9	+0.9
COLA				pmax	pmax		
	comp=Z,52nm,1.7s						
COLA	College	21.63	38	eP	P	09 47 06.9	+0.9
	comp=Z,52nm,1.7s						
COLD	Coldfoot	21.90	31	eP	P	09 47 10.8	+1.9
	comp=Z,31nm,1.5s						
PAX	Paxson	21.96	44	eP	P	09 47 09.6	-0.1
PAX				pmax	pmax		
	comp=Z,21nm,1.4s						
PAX	Paxson	21.96	44	eP	P	09 47 09.6	-0.1
	comp=Z,21nm,1.4s						
ILAR	Eielson Array	21.97	39	P	P	09 47 07.9	-1.8
	comp=Z,0.5nm,0.5s,baz=236,slow=8.7,SNR=12						
ILAR	Eielson Array	21.97	39	P	P	09 47 07.9	-1.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	21.97	39	P	P	09 47 07.9	-1.8
MENT	Mentasta	22.72	45	eP	P	09 47 17.4	-0.4
EGAK	Eagle	24.29	41	eP	P	09 47 32.0	-0.6
	comp=Z,8.3nm,1.0s						
YSS	Yuzh-Sakhalins	24.47	275	eP	P	09 47 35.6	+1.2
DAWY	Dawson	24.87	43	eP	P	09 47 39.9	+2.0
ASAJ	Asahikawa	25.83	269	P	P	09 47 47.0	+0.3
	comp=Z,12nm,0.9s,baz=10,slow=20,SNR=12						
ASAJ	Asahikawa	25.83	269	P	P	09 47 47.1	+0.3
ASAJ				pmax	pmax		
	comp=Z,12nm,0.9s						
ASAJ	Asahikawa	25.83	269	P	P	09 47 47.0	+0.3
INK	Inuvik	28.15	35	P	P	09 48 05.9	-1.4
	comp=Z,0.5nm,0.3s,baz=234,slow=8.4,SNR=8.9						
INK				PcP	PcP	09 51 19.7	0.0
	comp=Z,2.9nm,1.1s,baz=58,slow=1.9,SNR=4.5						
INK	Inuvik	28.15	35	eP	P	09 48 07.1	-0.2
INK						09 51 19.7	
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	28.15	35	eP	P	09 48 07.1	-0.2
	comp=Z,1.1nm,0.5s						
INK				PcP	PcP	09 51 19.7	0.0
KLR	Kul'dur	30.40	286	eP	P	09 48 22.8	-4.7
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,28nm,1.0s						
USRK	Ussuriysk Arra	32.45	277	P	P	09 48 45.5	0.0
	comp=Z,1.9nm,0.8s,baz=59,slow=9.6,SNR=4.2						
MJAR	Matsushiro Arr	32.89	260	P	P	09 48 49.7	+0.3
	comp=Z,1.1nm,0.7s,baz=47,slow=5.7,SNR=3.9						
MJAR	Matsushiro Arr	32.89	260	P	P	09 48 49.7	+0.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MJAR	Matsushiro Arr	32.89	260	P	P	09 48 49.7	+0.3
MDJ	Mudanjiang	33.75	279	P	P	09 48 56.3	-0.5
MDJ				pP	pP	09 49 09.1	-2.0
MDJ				sP	sP	09 49 15.1	-2.7
MDJ				S	S	09 54 15.6	-0.5
MDJ				sS	sS	09 54 38.3	-2.0
MDJ				ScP	ScP	09 55 15.6	+1.0
MDJ				PcS	PcS	09 55 21.4	+0.6
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,96nm,3.6s						
MDJ				LR	LR		
	comp=N,140nm,8.7s						
MDJ				LR	LR		
	comp=E,85nm,8.3s						
MDJ				LR	LR		
	comp=Z,270nm,10.8s						
YKA	Yellowknife Ar	36.02	46	P	P	09 49 15.2	-1.0
	comp=Z,1.5nm,0.5s,baz=282,slow=7.3,SNR=42						
YKA				PcP	PcP	09 51 41.9	+0.6
	comp=Z,1.5nm,1.0s,baz=292,slow=3.1,SNR=8.3						
YKA				LR	LR	10 06 14.5	
	comp=Z,12nm,18.3s,baz=110,slow=40						
YKA	Yellowknife Ar	36.02	46	P	P	09 49 15.2	-1.0
YKA						09 51 41.9	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA				MLR	MLR		
	comp=Z,13nm,18.3s						
YKA	Yellowknife Ar	36.02	46	P	P	09 49 15.2	-1.0
YKA				PcP	PcP	09 51 41.9	+0.6
CN2	Changchun	36.73	280	eP	P	09 49 23.3	+0.8
BOD	Bodaibo	37.41	307	eP	P	09 49 26.4	-1.7
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ETW	Entiat	38.20	71	eP	P	09 49 35.8	+0.8
	comp=Z,4.8nm,0.9s						
KSRS	Korea Array	38.77	270	P	P	09 49 40.8	+1.1
	comp=Z,2.9nm,0.8s,baz=50,slow=9.5,SNR=7.5						
KSRS				LR	LR	10 07 26.4	
	comp=Z,32nm,18.1s,baz=335,slow=39						
KSRS	Korea Array	38.77	270	P	P	09 49 40.8	+1.1
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS				MLR	ML

baz=43,SNR=7.8
G13A ⇓P P 09 50 15.6 +0.1
baz=43,SNR=7.8
A17A Triple J Farms 43.15 65 ⇑P P 09 50 15.5 -0.2
baz=43
A17A ⇑P P 09 50 15.5 -0.2
baz=43
I12A Atlanta 43.28 73 ⇑P P 09 50 17.1 +0.2
baz=43
I12A ⇑P P 09 50 17.1 +0.2
baz=43
E15A Deer Lodge 43.34 69 ⇓P P 09 50 16.8 -0.5
baz=43
E15A ⇓P P 09 50 16.8 -0.5
baz=43
B17A L&G Farms, Che 43.43 65 ⇑P P 09 50 17.8 -0.2
baz=43
B17A ⇑P P 09 50 17.8 -0.2
baz=43
G14A Jackson 43.49 71 ⇑P P 09 50 18.7 +0.1
baz=43
G14A ⇑P P 09 50 18.7 +0.1
baz=43
D16A Dana Ranch, Ca 43.66 67 ⇓P P 09 50 19.9 +0.1
baz=44
D16A ⇓P P 09 50 19.9 +0.1
baz=44
I13A Wildhorse Cree 43.82 73 ⇑P P 09 50 21.6 +0.3
baz=44,SNR=5.8
I13A ⇑P P 09 50 21.6 +0.3
baz=44,SNR=5.8
HLID Hailey 43.84 73 *e*P P 09 50 22.3 +0.9
comp=Z,3.5nm,1.0s
HLID Hailey 43.84 73 ⇑P P 09 50 21.7 +0.2
baz=44
HLID ⇑P P 09 50 21.7 +0.2
baz=44
H14A Leadore 43.88 71 ⇓P P 09 50 21.8 0.0
baz=44
H14A ⇓P P 09 50 21.8 0.0
baz=44
J13A Cove Ranch, Pi 44.08 73 ⇓P P 09 50 23.9 +0.6
baz=44,SNR=6.2
J13A ⇓P P 09 50 23.9 +0.6
baz=44,SNR=6.2
MCMT McKenzie Canyo 44.08 71 *e*P P 09 50 23.3 -0.1
comp=Z,2.9nm,1.0s
G15A Dillon 44.10 70 ⇑P P 09 50 23.3 -0.3
baz=44
G15A ⇑P P 09 50 23.3 -0.3
baz=44
I14A Mackay 44.22 72 ⇑P P 09 50 24.6 +0.1
baz=44
I14A ⇑P P 09 50 24.6 +0.1
baz=44
A19A Klindworth Far 44.27 64 ⇓P P 09 50 24.5 -0.2
baz=44
A19A ⇓P P 09 50 24.5 -0.2
baz=44
BOZ Bozeman (W) 44.35 69 *e*P P 09 50 25.3 -0.2
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 44.35 69 *e*P P 09 50 25.3 -0.2
comp=Z,3.6nm,0.9s
BOZ Bozeman (W) 44.35 69 ⇓P P 09 50 25.5 +0.1
baz=44,SNR=6.5
BOZ ⇓P P 09 50 25.5 +0.1
baz=44,SNR=6.5
BOZ ⇓P P 09 50 25.5 +0.1
baz=44,SNR=6.5
BOZ ⇓P P 09 50 25.5 +0.1
baz=44,SNR=6.5
NVAR Mina Array Bea 44.45 82 P P 09 50 27.7 +1.3
comp=Z,1.1nm,0.8s,baz=296,slow=7.3,SNR=7.1
NVAR Mina Array Bea 44.45 82 P P 09 50 27.7 +1.3
G16A Moss Hill, Enn 44.48 70 ⇑P P 09 50 26.4 -0.1
baz=44,SNR=7.8
G16A ⇑P P 09 50 26.4 -0.1
baz=44,SNR=7.8
C19A Slack Wire Ran 44.72 65 ⇑P P 09 50 28.2 -0.1
baz=45
C19A ⇑P P 09 50 28.2 -0.1
baz=45
F17A Fitzpatrick Pl 44.78 68 ⇓P P 09 50 29.1 +0.2
baz=45
F17A ⇓P P 09 50 29.1 +0.2
baz=45
ELK Elko 44.96 77 *e*P P 09 50 32.0 +1.5
ELK Elko 44.96 77 *e*P P 09 50 32.0 +1.5
H16A Russell Place, 45.09 70 ⇑P P 09 50 31.4 -0.1
baz=45,SNR=7.2
H16A ⇑P P 09 50 31.4 -0.1
baz=45,SNR=7.2
F18A Big Timber 45.33 68 ⇑P P 09 50 33.0 -0.2
baz=45
F18A ⇑P P 09 50 33.0 -0.2
baz=45
I16A Newdale 45.42 71 ⇑P P 09 50 34.4 +0.4
baz=45
I16A ⇑P P 09 50 34.4 +0.4
baz=45
TLY Talaya 45.45 302 *e*P P 09 50 34.1 +0.2
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 45.45 302 *e*P P 09 50 34.1 +0.2
comp=Z,4.1nm,0.8s
ULN Ulaanbaatar 45.58 296 *e*P P 09 50 35.2 0.0
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 45.58 296 *e*P P 09 50 35.2 0.0
comp=Z,4.4nm,0.9s
J16A Bone 45.69 72 ⇓P P 09 50 35.9 -0.3
baz=46
J16A ⇓P P 09 50 35.9 -0.3
baz=46
FLWY Flagg Ranch 45.77 70 *e*P P 09 50 37.8 +1.0
comp=Z,6.1nm,0.9s
RRI2 Red Ridge 45.82 72 *e*P P 09 50 38.0 +0.7
comp=Z,5.4nm,1.0s
SONM Songino Array 45.97 296 P P 09 50 38.2 0.0
comp=Z,3.2nm,0.8s,baz=62,slow=8.6,SNR=21
SONM LR LR 10 09 54.2
comp=Z,206nm,18.0s,baz=340,slow=36
SONM Songino Array 45.97 296 P P 09 50 38.2 0.0
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,206nm,18.0s
SONM Songino Array 45.97 296 P P 09 50 38.2 0.0
RLMT Red Lodge 46.03 68 *e*P P 09 50 39.4 +0.5
comp=Z,7.6nm,0.9s
RLMT Red Lodge 46.03 68 ⇑P P 09 50 39.0 +0.2
baz=46,SNR=7.0
RLMT ⇑P P 09 50 39.0 +0.2
baz=46,SNR=7.0
RLMT ⇑P P 09 50 39.0 +0.2
baz=46,SNR=7.0
RLMT ⇑P P 09 50 39.0 +0.2
baz=46,SNR=7.0
ZAK Zakamensk 46.32 301 ⇑*i*P P 09 50 41.1 +0.1
ZAK *e* 09 52 16.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s
H19A Powell 46.45 69 ⇓P P 09 50 42.7 +0.7
baz=46
H19A ⇓P P 09 50 42.7 +0.7
baz=46
G20A Bridger 46.59 68 ⇓P P 09 50 43.0 -0.2
baz=46
G20A ⇓P P 09 50 43.0 -0.2
baz=46
D22A Cohagen 46.68 64 ⇑P P 09 50 43.7 0.0
baz=46
D22A ⇑P P 09 50 43.7 0.0
baz=46
DUG Dugway 46.77 76 *e*P P 09 50 46.2 +1.5
DUG pmax pmax
comp=Z,8.0nm,1.2s
DUG Dugway 46.77 76 *e*P P 09 50 46.1 +1.5
comp=Z,8.2nm,1.2s
HHC Hu-ho-hao-te 46.91 285 *e*P P 09 50 45.9 +0.2
HHC pP **pP** 09 51 00.8 +0.3
HHC sP **sP** 09 51 07.6 +0.5
HHC PcP **PcP** 09 52 19.3 +1.8
HHC PP PP 09 52 36.9 +0.6
HHC ScP **ScP** 09 56 06.4 +0.3
HHC PcS **PcS** 09 56 12.9 +0.3

HHC S **S** 09 57 29.3 -3.1
HHC ScS **ScS** 10 00 32.1 -2.6
HHC SS SS 10 00 49.4 -10
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,330nm,6.1s
HHC LR LR
comp=N,360nm,15.4s
HHC LR LR
comp=E,220nm,15.5s
HHC LR LR
comp=Z,150nm,15.5s
K18A Toltan Ranch, 46.99 72 ⇑P P 09 50 47.3 +0.8
baz=47,SNR=6.8
K18A ⇑P P 09 50 47.3 +0.8
baz=47,SNR=6.8
PD01 Pinedale Array 47.19 71 *e*P P 09 50 48.3 +0.3
PD02 Pinedale Array 47.20 71 *e*P P 09 50 48.1 +0.1
BW06 Boulder Array 47.21 71 *e*P P 09 50 48.2 +0.1
comp=Z,7.8nm,0.9s
BW06 Boulder Array 47.21 71 ⇓P P 09 50 48.2 +0.1
baz=47,SNR=8.6
BW06 ⇓P P 09 50 48.2 +0.1
baz=47,SNR=8.6
BW06 ⇓P P 09 50 48.2 +0.1
baz=47,SNR=8.6
BW06 ⇓P P 09 50 48.2 +0.1
baz=47,SNR=8.6
PDAR Pinedale Array 47.21 71 P P 09 50 48.1 0.0
comp=Z,6.5nm,0.9s,baz=310,slow=3.2,SNR=30
PDAR Pinedale Array 47.21 71 P P 09 50 48.1 0.0
J19A Crowheart 47.22 70 ⇑P P 09 50 48.5 +0.3
baz=47
J19A ⇑P P 09 50 48.5 +0.3
baz=47
I20A Worland 47.37 69 ⇑P P 09 50 49.5 +0.3
baz=47
I20A ⇑P P 09 50 49.5 +0.3
baz=47
K19A Absolon Red Bu 47.60 71 ⇓P P 09 50 50.8 -0.3
baz=48
K19A ⇓P P 09 50 50.8 -0.3
baz=48
J20A Shoshoni 47.74 70 ⇓P P 09 50 52.3 +0.1
baz=48
J20A ⇓P P 09 50 52.3 +0.1
baz=48
I21A Big Trails, Te 47.94 69 ⇑P P 09 50 53.8 +0.1
baz=48
I21A ⇑P P 09 50 53.8 +0.1
baz=48
NJ2 Nanjing 47.95 271 *e*P P 09 50 52.4 -1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
K20A Yellowstone Ra 48.00 71 ⇑P P 09 50 53.8 -0.4
baz=48
K20A ⇑P P 09 50 53.8 -0.4
baz=48
TMUT Trail Mountain 48.30 76 *e*P P 09 50 59.0 +2.4
comp=Z,95nm,2.7s
J22A Midwest 48.65 69 ⇑P P 09 50 59.3 +0.2
baz=48,SNR=5.6
J22A ⇑P P 09 50 59.3 +0.2
baz=48,SNR=5.6
SRU San Rafael 48.83 76 *e*P P 09 51 05.8 +5.1
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael 48.83 76 *e*P P 09 51 05.8 +5.1
comp=Z,3.2nm,0.7s
O19A Miners Draw (B 48.95 74 ⇓P P 09 51 01.8 +0.2
baz=49
O19A ⇓P P 09 51 01.8 +0.2
baz=49
L21A Rawlins 48.99 71 ⇓P P 09 51 01.9 0.0
baz=49
L21A ⇓P P 09 51 01.9 0.0
baz=49
O20A White River Ci 49.58 73 ⇑P P 09 51 06.7 +0.3
baz=50
O20A ⇑P P 09 51 06.7 +0.3
baz=50
R18A Canyonlands Na 49.67 76 ⇑P P 09 51 07.1 +0.1
baz=50
R18A ⇑P P 09 51 07.1 +0.1
baz=50
L23A Garrett 49.89 70 ⇑P P 09 51 08.7 0.0
baz=50
L23A ⇑P P 09 51 08.7 0.0
baz=50
S18A Hurst Farm, Bl 50.04 77 ⇑P P 09 51 09.9 -0.1
baz=50
S18A ⇑P P 09 51 09.9 -0.1
baz=50
M23A Laramie 50.27 70 ⇓P P 09 51 11.3 -0.3
baz=50
M23A ⇓P P 09 51 11.3 -0.3
baz=50
T19A Beclabito 51.19 77 ⇑P P 09 51 18.8 +0.3
baz=51
T19A ⇑P P 09 51 18.8 +0.3
baz=51
ISCO Idaho Springs 51.37 72 ⇑P P 09 51 20.0 0.0
baz=51
ISCO ⇑P P 09 51 20.0 0.0
baz=51
ZALV Zalesovo Beam 53.55 313 P P 09 51 34.6 -0.9
comp=Z,0.9nm,0.3s,baz=52,slow=7.7,SNR=7.4
ZALV Zalesovo Beam 53.55 313 P P 09 51 34.6 -0.9
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 53.55 313 P P 09 51 34.6 -0.9
LZH Lanzhou 54.61 285 *e*P P 09 51 43.8 +0.1
LZH pP **pP** 09 52 01.0 +2.2
LZH sP **sP** 09 52 06.5 +1.2
LZH pmax pmax
comp=Z,15nm,1.0s
GTA Gaotai 54.84 291 *e*P P 09 51 45.3 0.0
GTA pmax pmax
comp=Z,6.0nm,0.9s
KEV Kevo 57.78 349 *e*P P 09 52 01.5 -4.1
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 57.78 349 *e*p P 09 52 01.5 -4.1
comp=Z,4.2nm,0.8s
KEV Kevo 57.78 349 *e*p P 09 52 01.5 -4.1
comp=Z,4.2nm,0.8s
ARCES ARCESS Array B 58.16 350 P P 09 52 06.5 -1.8
comp=Z,1.3nm,0.3s,baz=18,slow=8.1,SNR=35
ARCES ARCESS Array B 58.16 350 P P 09 52 06.5 -1.8
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 58.16 350 P P 09 52 06.5 -1.8
CD2 Chengdu 58.16 281 P P 09 52 09.8 +0.9
CD2 pP **pP** 09 52 25.4 +1.2
CD2 sP **sP** 09 52 32.3 +1.7
CD2 PP **PP** 09 54 20.3 +2.4
CD2 S **S** 10 00 03.6 -2.5
CD2 sS **sS** 10 00 30.5 -1.4
CD2 SS **SS** 10 03 56.9 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,240nm,6.6s
CD2 LR LR
comp=N,320nm,17.1s
CD2 LR LR
comp=Z,380nm,8.3s
KURK Kurchatov 58.54 313 ⇑*e*P P 09 52 11.0 -0.2
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 58.54 313 *e*P P 09 52 10.7 -0.5
comp=Z,23nm,1.1s
WMQ Urumqi 58.73 302 *e*P P 09 52 12.8 +0.1
WMQ pP **pP** 09 52 28.8 +0.8
WMQ sP **sP** 09 52 35.8 +1.3
WMQ pmax pmax
comp=Z,7.0nm,0.8s
GYA Guiyang 59.48 275 P P 09 52 18.3 +0.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 59.49 308 *e*P P 09 52 16.8 -1.1
MK31 Makanchi Array 59.49 308 *e*P P 09 52 16.8 -1.1
MKAR Makanchi Array 59.49 308 P P 09 52 16.8 -1.1
comp=Z,1.8nm,0.6s,baz=48,slow=6.6,SNR=41
MKAR Makanchi Array 59.49 308 *ce*P P 09 52 16.7 -1.1
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 59.49 308 *e*P P 09 52 17.1 -0.8
TXAR Lajitas Array 59.55 80 P P 09 52 19.4 +0.8
comp=Z,0.3nm,0.5s,baz=295,slow=6.0,SNR=4.1
TXAR Lajitas Array 59.55 80 P P 09 52 19.4 +0.8
TXAR Lajitas Array 59.55 80 P P 09 52 19.4 +0.8
BVAR Borovoye Array 60.50 319 LR LR 10 22 14.7
comp=Z,41nm,21.6s,baz=185,slow=40
KMI Kunming 62.89 277 P P 09 52 40.0 -1.4
KMI pP **pP** 09 52 57.8 +0.9
KMI sP **sP** 09 53 03.3 0.0
KMI pmax pmax
comp=Z,13nm,0.9s
JOF Joensuu 63.59 345 *e*P P 09 52 43.2 -2.0
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 63.59 345 *ep* P 09 52 43.2 -2.0
comp=Z,1.7nm,0.7s
JOF Joensuu 63.59 345 *ep* P 09 52 43.2 -2.0
comp=Z,1.7nm,0.7s
KAF Kangasniemi 65.14 347 *e*P P 09 52 51.7 -3.6
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 65.14 347 *ep* P 09 52 51.7 -3.6
comp=Z,2.8nm,0.8s
KAF Kangasniemi 65.14 347 *ep* P 09 52 51.7 -3.6
comp=Z,2.8nm,0.8s
TKM2 Tokmak 2 65.58 309 *e*P P 09 52 59.3 +0.5
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 65.58 309 *e*P P 09 52 59.3 +0.5
comp=Z,7.5nm,0.9s
FINES FINESS Array B 65.81 347 P P 09 52 56.9 -2.7
comp=Z,3.5nm,0.8s,baz=25,slow=11,SNR=4.9
FINES FINESS Array B 65.81 347 P P 09 52 56.9 -2.7
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 65.81 347 P P 09 52 56.9 -2.7
AAK Ala-Archa 66.34 309 ⇓*i*P P 09 53 03.5 -0.1
AAK pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 66.34 309 *e*P P 09 53 04.1 +0.6
comp=Z,36nm,1.0s
EKS2 Erkin-Say 66.67 309 *e*P P 09 53 06.6 +1.0
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 66.67 309 *e*P P 09 53 06.6 +1.0
comp=Z,10nm,0.8s
ABKAR Akbulak array 67.59 322 *e*P P 09 53 11.5 +0.3
comp=Z,0.7nm,0.4s
NB2 NORSAR Subarra 67.79 354 P P 09 53 11.5 -0.8
comp=Z,4.0nm,0.8s,baz=7.9,slow=6.5
NOA NORSAR Array B 67.79 354 P P 09 53 11.3 -0.9
comp=Z,5.2nm,0.8s,baz=8.4,slow=6.4,SNR=10
NOA NORSAR Array B 67.79 354 P P 09 53 11.4 -0.8
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 67.79 354 P P 09 53 11.3 -0.9
KKAR Karatay Array 67.89 312 *e*P P 09 53 13.5 +0.3
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 67.89 312 *e*P P 09 53 13.5 +0.3
comp=Z,6.8nm,0.7s
KSH Kashi 67.93 306 *e*P P 09 53 17.3 +3.6
KSH *ep*P pP 09 53 33.5 +4.2
KSH *es*P sP 09 53 40.6 +5.0
KSH *e*PcP **PcP** 09 53 43.5 +3.8
KSH PP **PP** 09 55 49.8 +6.3
KSH *e*ScP 09 57 40.0
KSH *e*PcS 09 57 46.5
KSH *e*S **S** 10 02 08.6 +0.5
KSH *es*S sS 10 02 38.3 +3.9
KSH *e*ScS **SKKSac** 10 03 07.1 +0.1
KSH *e*SS **SS** 10 06 34.6 +4.7
KSH pmax pmax
comp=Z,5.0nm,0.3s
KSH pmax pmax
comp=Z,290nm,6.4s
KSH LR LR
comp=N,560nm,9.5s
KSH LR LR
comp=E,450nm,8.7s
KSH LR LR
comp=Z,340nm,10.4s
CMAR Chiang Mai Arr 70.17 275 P P 09 53 27.2 -0.4
comp=Z,1.6nm,0.4s,baz=28,slow=6.8,SNR=12
CMAR Chiang Mai Arr 70.17 275 P P 09 53 27.3 -0.4
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 70.17 275 P P 09 53 27.2 -0.4
TAPN Taplejung 70.46 289 *e*P P 09 53 30.1 +0.4
comp=Z,29nm,1.0s
TAPN Taplejung 70.46 289 *e*P P 09 53 30.1 +0.4
comp=Z,29nm,1.0s
GUN Gumba 71.13 291 *e*P P 09 53 34.3 +0.5
comp=Z,66nm,1.0s
GUN Gumba 71.13 291 *e*P P 09 53 34.3 +0.5
comp=Z,66nm,1.0s
JIRN Jiri 71.13 291 *e*P P 09 53 34.5 +0.6
comp=Z,26nm,0.9s
JIRN Jiri 71.13 291 *e*P P 09 53 34.5 +0.6
comp=Z,26nm,0.9s
RAMN Ramite 71.42 290 *e*P P 09 53 35.6 +0.1
comp=Z,34nm,0.8s
RAMN Ramite 71.42 290 *e*P P 09 53 35.6 +0.1
comp=Z,34nm,0.8s
KKN Kakani 71.57 291 *e*P P 09 53 36.7 +0.4
KKN Kakani 71.57 291 *e*P P 09 53 36.7 +0.4
KKN Kakani 71.57 291 *e*P P 09 53 36.7 +0.4
PKI Pulchoki 71.66 291 *e*P P 09 53 37.3 +0.3
PKI Pulchoki 71.66 291 *e*P P 09 53 37.3 +0.3
PKI Pulchoki 71.66 291 *e*P P 09 53 37.3 +0.3
GKN Gorkha 71.79 292 *e*P P 09 53 37.8 +0.2
GKN Gorkha 71.79 292 *e*P P 09 53 37.8 +0.2
DMN Daman 71.81 291 *e*P P 09 53 38.5 +0.7
DMN Daman 71.81 291 *e*P P 09 53 38.5 +0.7
DANN Dangsing 72.04 293 *e*P P 09 53 39.5 +0.3
comp=Z,26nm,0.8s
DANN Dangsing 72.04 293 *e*P P 09 53 39.5 +0.3
comp=Z,26nm,0.8s
KOLN Koldanda 72.57 293 *e*P P 09 53 42.7 +0.4
KOLN Koldanda 72.57 293 *e*P P 09 53 42.7 +0.4
KBL Kabul 75.28 307 *e*P P 09 53 57.8 -0.2
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 75.28 307 *e*P P 09 53 57.8 -0.2
comp=Z,11nm,1.0s
AKASG Malin Array Be 75.49 341 P P 09 53 57.3 -1.4
comp=Z,1.3nm,0.3s,baz=20,slow=6.3,SNR=7.7
AKASG Malin Array Be 75.49 341 *ce*P P 09 53 57.2 -1.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 75.49 341 P P 09 53 57.3 -1.4
TRPA Tarpa 79.19 345 ⇑*i*P P 09 54 20.0 +0.6
BUR08 Bucovina Ar. S 79.20 343 *e*P P 09 54 19.3 -0.3
BURAR Bucovina Array 79.22 343 ⇑*i*P P 09 54 20.0 +0.3
GERES GERESS Array B 79.68 351 P P 09 54 20.9 -1.3
comp=Z,0.4nm,0.5s,baz=44,slow=7.8,SNR=4.4
GERES GERESS Array B 79.68 351 P P 09 54 20.9 -1.3
GERES GERESS Array B 79.68 351 P P 09 54 20.9 -1.3
PSZ Piszkesteto 79.81 346 ⇑P P 09 54 14.0 -9.0
PSZ Piszkesteto 79.81 346 ⇑*i*P P 09 54 13.9 -9.0
DRGR 80.46 344 ⇑P P 09 54 26.4 0.0
DRGR 80.46 344 ⇑*i*P P 09 54 26.4 0.0
WRA Warramunga Arr 81.25 223 P P 09 54 30.2 -0.5
comp=Z,1.2nm,1.1s,baz=32,slow=6.2,SNR=4.4
WRA Warramunga Arr 81.25 223 P P 09 54 30.2 -0.5
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 81.25 223 P P 09 54 30.2 -0.5
VOIR 81.35 342 ⇓P P 09 54 31.6 +0.4
VOIR 81.35 342 ⇓*i*P P 09 54 31.6 +0.4
WTTA Wattenberg 81.44 352 ⇑*i*P P 09 54 32.1 +0.3
comp=Z,8.0nm,1.1s
KBA Koelnbreinsper 81.46 351 ⇓*i*P P 09 54 32.0 +0.2
comp=Z,6.4nm,0.6s
SOKA Soboth 81.67 349 ⇑*i*P P 09 54 33.1 +0.2
comp=Z,7.0nm,1.4s
BZS Buzias 81.79 345 ⇑P P 09 54 33.3 -0.1
BZS Buzias 81.79 345 ⇑*i*P P 09 54 33.3 -0.1
GZR Gura Zlata 81.81 344 ⇑P P 09 54 33.6 0.0
GZR Gura Zlata 81.81 344 ⇑*i*P P 09 54 33.6 0.0
HYB Hyderabad 83.47 290 *i* P P 09 54 42.0 -0.6
ASAR Alice Springs 84.73 221 P P 09 54 48.8 +0.1
comp=Z,1.0nm,1.0s,baz=22,slow=4.7,SNR=6.0

ASAR	**Alice Springs**	**84.73**	**221**	P	**P**	**09**	**54**	**48.8**	**+0.1**
ASAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ASAR	**Alice Springs**	**84.73**	**221**	P	**P**	**09**	**54**	**48.8**	**+0.1**
BRTR	**Keskin Array B**	**84.78**	**334**	P	**P**	**09**	**54**	**47.5**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=57,slow=2.0,SNR=5.9								
BRTR	**Keskin Array B**	**84.78**	**334**	*ce*P	**P**	**09**	**54**	**48.5**	**-0.6**
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**84.78**	**334**	P	**P**	**09**	**54**	**47.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**115.95**	**358**	PKP	**PKPdf**	**10**	**00**	**56.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=356,slow=3.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**115.95**	**358**	PKP	**PKPdf**	**10**	**00**	**56.8**	**-0.7**
LBTB	**Lobatse**	**147.26**	**313**	*e*PKP2	**PKPbc**	**10**	**01**	**58.5**	**+0.6**
LBTB	**Lobatse**	**147.26**	**313**	*e*PKPbc	**PKPbc**	**10**	**01**	**58.5**	**+0.6**

IDC 18 09:58:42.9±1.1, 12°.58N×143°.66E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.4/22, mbtmp3.3/6, Error ellipse: s-maj=49.1km s-min=22.1km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**33.60**	**196**	P	P	10	05	26.4 +1.4
	0.4nm,0.6s,baz=21,slow=9.7,SNR=5.7							
ASAR	**Alice Springs**	**37.27**	**195**	P	P	10	05	55.4 -1.3
	0.2nm,0.8s,baz=16,slow=11,SNR=3.8							
SONM	**Songino Array**	**46.88**	**326**	P	P	10	07	15.0 -0.1
	0.4nm,0.6s,baz=144,slow=7.3,SNR=3.5							
MKAR	**Makanchi Array**	**61.40**	**317**	P	P	10	09	00.8 -0.1
	0.2nm,0.6s,baz=95,slow=7.8,SNR=4.4							
ILAR	**Eielson Array**	**69.98**	**25**	P	P	10	09	55.6 -0.4
	0.3nm,0.6s,baz=249,slow=6.3,SNR=4.1							
YKA	**Yellowknife Ar**	**84.29**	**27**	P	P	10	11	16.9 +0.5
	0.6nm,1.1s,baz=236,slow=9.3,SNR=4.0							

IDC 18 10:13:24.5±15.0, 28°.98N×80°.73E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.1/25, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=260.4km s-min=67.1km az=33.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MKAR	**Makanchi Array**	**17.82**	**3**	P	Pn	10	17	34.0 0.0
	0.1nm,0.3s,baz=181,slow=12,SNR=5.1							
KURK	**Kurchatov**	**21.77**	**356**	P	P	10	18	16.8 -0.9
	1.2nm,0.7s,baz=178,slow=10.0,SNR=18							
ZALV	**Zalesovo Beam**	**25.12**	**6**	P	P	10	18	50.9 -0.1
	0.4nm,0.5s,baz=169,slow=8.8,SNR=2.7							
SONM	**Songino Array**	**27.34**	**39**	P	P	10	19	11.4 +0.1
	0.2nm,0.6s,baz=226,slow=9.9,SNR=3.6							

IGQ 18 10:23:20.8, 2°.72S×77°.97W, h12km±5km, Mb4.0, Ms3.8, 6C-13D, Error ellipse: s-maj=3.3km s-min=1.3km az=3.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PAT1	**Patacocha**	**1.29**	**339**	⇓P	Pn	10	23	45.2 -0.1
ARRY	**Arrayan**	**1.30**	**338**	⇓P	Pn	10	23	44.8 -0.5
ARRY	**Arrayan**	**1.30**	**338**	⇓S	Sb	10	24	01.9 -0.8
BMAS	**Trigal station**	**1.31**	**337**	⇓S	Sg	10	24	03.9 -0.1
BMAS	**Trigal station**	**1.31**	**337**	⇓P	Pn	10	23	45.3 -0.2
ULBA	**Ulba**	**1.34**	**341**	P	Pn	10	23	45.9 +0.1
BULB	**Ulba Tungurahu**	**1.35**	**341**	⇓S	Sg	10	24	05.7 +0.5
BULB	**Ulba Tungurahu**	**1.35**	**341**	⇓P	Pb	10	23	46.9 +0.3
BBIL	**Ulba Tungurahu**	**1.37**	**338**	⇑P	Pn	10	23	46.3 +0.2
BBIL	**Ulba Tungurahu**	**1.37**	**338**	⇑S	Sg	10	24	05.5 -0.1
BRUN	**Tungurahua Vol**	**1.37**	**341**	⇓S	Sg	10	24	05.2 -0.4
BRUN	**Tungurahua Vol**	**1.37**	**341**	⇓P	Pn	10	23	46.3 +0.1
JUI6	**Juive**	**1.38**	**339**	⇑S	Sb	10	24	05.2 +0.3
JUI6	**Juive**	**1.38**	**339**	⇑P	Pn	10	23	46.2 -0.2
IGUA	**Igualata**	**1.39**	**332**	⇓P	Pb	10	23	47.7 +0.1
PISA	**Pisayambo**	**1.71**	**346**	P	Pb	10	23	52.1 -0.6
PISA	**Pisayambo**	**1.71**	**346**	S	Sg	10	24	16.6 -0.2
CATE	**Catamayo**	**1.86**	**229**	⇑S	Sg	10	24	20.6 -0.5
CATE	**Catamayo**	**1.86**	**229**	⇑P	Pb	10	23	54.2 -0.8
BMOR	**Cotopaxi Volca**	**2.04**	**346**	S	Sg	10	24	26.3 -1.3
BMOR	**Cotopaxi Volca**	**2.04**	**346**	P	Pb	10	23	58.2 -0.3
MOV1	**Cotopaxi Vol s**	**2.05**	**347**	P	Pb	10	23	58.8 0.0
BTAM	**Cotopaxi Volca**	**2.08**	**348**	S	Sb	10	24	26.9 +1.4
BTAM	**Cotopaxi Volca**	**2.08**	**348**	P	Pb	10	23	58.5 -0.7
COV1	**Cotopaxi Volc**	**2.08**	**350**	S	Sg	10	24	29.1 -0.1
COV1	**Cotopaxi Volc**	**2.08**	**350**	P	Pb	10	23	59.4 0.0
BREF	**Cotopaxi Volca**	**2.09**	**347**	P	Pb	10	23	59.6 0.0
BVC2	**Cotopaxi Volca**	**2.10**	**348**	P	Pb	10	23	59.4 -0.2
BVC2	**Cotopaxi Volca**	**2.10**	**348**	S	Sg	10	24	29.1 -0.5
VC1	**Cotopaxi 1**	**2.11**	**348**	S	Sg	10	24	29.8 -0.2
VC1	**Cotopaxi 1**	**2.11**	**348**	P	Pb	10	24	00.7 +0.9
NAS2	**Nasa**	**2.12**	**347**	P	Pb	10	24	00.3 +0.4
PITA	**Cotopaxi Volc**	**2.20**	**348**	S	Sg	10	24	31.8 -0.8
PITA	**Cotopaxi Volc**	**2.20**	**348**	P	Pb	10	24	01.1 0.0
ARNL	**Arenillas**	**2.25**	**249**	⇓P	Pn	10	23	58.8 +1.0
ANTI	**Antisana**	**2.27**	**355**	⇓S	Sb	10	24	31.4 +0.4
ANTI	**Antisana**	**2.27**	**355**	⇓P	Pb	10	24	00.8 -1.6
GGP	**Refugio Guagua**	**2.61**	**346**	P	Pb	10	24	08.2 0.0
PINO	**Pino**	**2.63**	**346**	P	Pb	10	24	07.8 -0.8
CAYA	**Cayambe**	**2.78**	**360**	P	Pb	10	24	11.2 +0.2
OTAV	**Otavalo**	**2.98**	**351**	P	Pb	10	24	15.9 +1.5

MEX 18 10:23:31.1±0.5, 15°.94N×92°.96W, h171km±5km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PCIG		**0.34**	**227**	*i* P	Pn	10	23	52.8 -1.5
PCIG				*i* S	Sn	10	24	09.7 -2.2
CCIG	**Comitan**	**0.86**	**67**	*i* P	Pn	10	23	55.6 -1.5
CCIG				*i* S	Sn	10	24	14.8 -2.3
THIG		**1.23**	**147**	*e*P	Pn	10	23	58.8 -0.9
THIG				*i* S	Sn	10	24	19.9 -2.0
CMIG	**Matias Romero**	**2.17**	**302**	*e*P	Pn	10	24	08.9 -0.5
CMIG				*i* S	Sn	10	24	37.5 -1.6
HUIG	**Huatulco**	**3.03**	**267**	*i* P	Pn	10	24	18.1 -1.6
HUIG				*i* S	Sn	10	24	55.2 -2.3
VHO	**Vista Hermosa**	**3.79**	**288**	*e*P	Pn	10	24	28.8 -0.7
VHO				*i* S	Sn	10	25	13.3 -1.7
PNIG	**Pinotepa**	**4.98**	**276**	*e*P	Pn	10	24	44.0 -0.7
PNIG				*i* S	Sn	10	25	40.7 -1.7

IDC 18 10:30:11.9±2.0, 3°.71S×152°.36E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.6/17, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=69.7km s-min=21.5km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**7.66**	**222**	Pn	Pn	10	32	06.1 +1.2
	0.5nm,0.3s,baz=86,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**23.86**	**226**	P	P	10	35	26.1 -1.1
	1.9nm,0.9s,baz=49,slow=9.6,SNR=12							
ASAR	**Alice Springs**	**26.68**	**220**	P	P	10	35	53.5 +0.5
	0.6nm,0.8s,baz=49,slow=8.9,SNR=9.1							
SONM	**Songino Array**	**65.18**	**328**	P	P	10	40	54.8 -0.3
	0.2nm,0.3s,baz=147,slow=3.4,SNR=2.9							
MKAR	**Makanchi Array**	**79.22**	**319**	P	P	10	42	18.4 -0.8
	0.2nm,0.9s,baz=126,slow=2.5,SNR=2.2							
ZALV	**Zalesovo Beam**	**80.01**	**326**	P	P	10	42	24.6 +1.4
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.5							
ILAR	**Eielson Array**	**81.32**	**22**	P	P	10	42	29.9 -0.2
	0.3nm,0.8s,baz=251,slow=5.6,SNR=4.1							

IDC 18 10:46:56.6±1.8, 21°.65N×143°.16E, h289km±17km, mb3.1/11, mb1 3.2/13, mb1mx3.1/26, mbtmp3.1/13, Error ellipse: s-maj=22.7km s-min=12.1km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CBIJ	**Chichi jima**	**5.49**	**351**	P	Pn	10	48	21.2 +1.8
	7.2nm,0.3s,baz=310,slow=21,SNR=23							
CBIJ				S	S	10	49	24.4 -1.6
	10nm,0.3s,baz=304,slow=22,SNR=5.9							
MJAR	**Matsushiro Arr**	**15.45**	**345**	P	P	10	50	19.2 +0.1
	0.4nm,0.3s,baz=167,slow=11,SNR=6.5							
KSRS	**Korea Array**	**20.54**	**323**	P	P	10	51	14.1 +0.5
	0.8nm,0.5s,baz=146,slow=8.7,SNR=4.7							
SONM	**Songino Array**	**39.36**	**321**	P	P	10	53	58.8 +0.2
	0.3nm,0.5s,baz=134,slow=8.1,SNR=4.0							
WRA	**Warramunga Arr**	**42.23**	**192**	P	P	10	54	21.9 -0.2
	0.8nm,0.3s,baz=17,slow=9.3,SNR=33							
ASAR	**Alice Springs**	**45.94**	**192**	P	P	10	54	51.0 -0.4
	0.2nm,0.4s,baz=16,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**54.71**	**313**	P	P	10	55	56.5 0.0
	0.2nm,0.6s,baz=89,slow=9.1,SNR=5.6							
KURK	**Kurchatov**	**57.49**	**317**	P	P	10	56	16.1 +0.2
	0.6nm,0.4s,baz=96,slow=7.6,SNR=4.7							
ILAR	**Eielson Array**	**62.09**	**27**	P	P	10	56	46.5 -0.3
	0.1nm,0.3s,baz=264,slow=4.8,SNR=4.6							
BVAR	**Borovoye Array**	**62.69**	**320**	P	P	10	56	51.0 0.0
	1.2nm,0.3s,baz=98,slow=7.9,SNR=12							
YKA	**Yellowknife Ar**	**76.51**	**28**	P	P	10	58	14.9 +0.2
	0.3nm,0.4s,baz=292,slow=5.9,SNR=12							
ARCES	**ARCESS Array B**	**78.96**	**341**	P	P	10	58	28.2 +0.1
	1.9nm,0.8s,baz=56,slow=6.5,SNR=7.9							
FINES	**FINESS Array B**	**83.21**	**334**	P	P	10	58	49.5 -1.0
	1.1nm,0.5s,baz=62,slow=6.5,SNR=12							
PDAR	**Pinedale Array**	**87.44**	**45**	P	P	10	59	12.5 +0.4
	0.3nm,0.3s,baz=128,slow=17,SNR=7.2							

IDC 18 10:56:11.8±1.3, 19°.46N×109°.77E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, Error ellipse: s-maj=285.7km s-min=22.0km az=60.0, Hainan Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MKAR	**Makanchi Array**	**35.34**	**327**	P	P	11	03	08.6 -0.3
	0.3nm,0.6s,baz=130,slow=8.2,SNR=5.0							
ZALV	**Zalesovo Beam**	**39.40**	**337**	P	P	11	03	43.2 +0.1
	0.9nm,0.6s,baz=143,slow=8.1,SNR=5.9							
WRA	**Warramunga Arr**	**45.97**	**147**	P	P	11	04	37.0 0.0
	0.5nm,0.6s,baz=330,slow=8.8,SNR=7.0							
ASAR	**Alice Springs**	**48.90**	**150**	P	P	11	04	59.4 -0.3
	0.4nm,1.1s,baz=330,slow=6.6,SNR=5.1							

*NEIC **18** 10:58:12.4, 51°.13N×179°.73E, h5km, ML3.4(AEIC), After AEIC.*
*IDC **18** 10:58:19.0±4.0, 51°.56N×179°.75E, h65km±31km, mb3.7/11, mb1 3.9/13, mb1mx3.6/30, mbtmp3.8/13, ML3.8/2, MS3.3/2, Ms1 3.4/2, ms1mx2.8/41, Error ellipse: s-maj=49.4km s-min=16.1km az=178.0*

ISC 18 10:58:18.5±2.3, 51°.3N±0°.3×179°.92E±0°.04, h71km±11km, n39, σ1°51/43, mb4.0/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
GAEA	**Gareloi East**	**0.95**	**60**	P	**Pn**	**10**	**58**	**34.5 -1.9**
GAEA				S	**Sn**	**10**	**58**	**50.8 +1.0**
TASE	**Tanaga Southea**	**1.38**	**67**	P	**Pn**	**10**	**58**	**40.1 -1.8**
TAFP	**Tanaga Falls P**	**1.43**	**65**	P	**Pn**	**10**	**58**	**41.2 -1.4**
TAFP				S	**Sn**	**10**	**59**	**03.5 +2.8**
KIMD	**Kanaga Island**	**1.83**	**75**	P	**Pn**	**10**	**58**	**46.5 -1.3**
KIRH	**Kanaga Island**	**1.95**	**72**	P	**Pn**	**10**	**58**	**48.4 -1.0**
ADAG	**Mount Adagdak**	**2.27**	**72**	P	**Pn**	**10**	**58**	**53.2 -0.4**
ETKA	**Kagalaska Isla**	**2.36**	**75**	P	**Pn**	**10**	**58**	**54.0 -0.9**
GSMY	**Great Sitkin M**	**2.61**	**72**	P	**Pn**	**10**	**58**	**57.4 -0.9**
SMY	**Shemya**	**3.86**	**294**	P	Pn	10	59	12.0 -3.3
SMY				S	**Sn**	**10**	**59**	**59.7 +0.3**
FX1	**Attu Island--F**	**4.45**	**293**	P	**Pn**	**10**	**59**	**21.2 -2.2**
	12nm,0.3s,baz=40,slow=6.4,SNR=15							
FX1				S	**Sn**	**11**	**00**	**18.4 +4.7**
	15nm,0.3s,baz=261,slow=23,SNR=8.6							
FX1	**Attu Island--F**	**4.45**	**293**	P	**Pn**	**10**	**59**	**21.2 -2.2**
FX1				S	**Sn**	**11**	**00**	**18.4 +4.7**
PETK	**Petropavlovsk-**	**13.73**	**286**	LR	LR	11	06	34.7
	comp=Z,72nm,18.3s,baz=162,slow=36							
KDAK	**Kodiak Island**	**17.13**	**57**	P	**P**	**11**	**02**	**14.1 +0.6**
	0.7nm,0.3s,baz=126,slow=23,SNR=6.1							
KDAK	**Kodiak Island**	**17.13**	**57**	P	**P**	**11**	**02**	**14.1 +0.6**
ILAR	**Eielson Array**	**21.79**	**39**	P	**P**	**11**	**03**	**03.5 -0.7**
	0.3nm,0.8s,baz=239,slow=8.6,SNR=5.8							
ILAR	**Eielson Array**	**21.79**	**39**	P	**P**	**11**	**03**	**03.5 -0.7**
YKA	**Yellowknife Ar**	**35.85**	**46**	P	**P**	**11**	**05**	**10.8 0.0**
	0.5nm,0.5s,baz=281,slow=7.6,SNR=21							
YKA				PcP	**PcP**	**11**	**07**	**37.6 +1.1**
	0.1nm,0.6s,baz=294,slow=3.6,SNR=4.2							
YKA	**Yellowknife Ar**	**35.85**	**46**	P	**P**	**11**	**05**	**10.8 0.0**
YKA				PcP	**PcP**	**11**	**07**	**37.6 +1.1**
NVAR	**Mina Array Bea**	**44.36**	**82**	LR	LR	11	20	17.2
	comp=Z,70nm,21.1s,baz=27,slow=30							
SONM	**Songino Array**	**45.95**	**296**	P	**P**	**11**	**06**	**33.9 -0.2**
	0.6nm,0.8s,baz=48,slow=8.1,SNR=3.0							
SONM	**Songino Array**	**45.95**	**296**	P	**P**	**11**	**06**	**33.9 -0.2**
PDAR	**Pinedale Array**	**47.09**	**71**	P	**P**	**11**	**06**	**44.2 +1.0**
	1.5nm,0.9s,baz=295,slow=3.4,SNR=9.2							
PDAR	**Pinedale Array**	**47.09**	**71**	P	**P**	**11**	**06**	**44.2 +1.0**
SPITS	**Spitsbergen Ar**	**50.37**	**356**	P	**P**	**11**	**07**	**07.6 0.0**
	9.0nm,0.8s,baz=355,slow=4.3,SNR=10							
SPITS	**Spitsbergen Ar**	**50.37**	**356**	P	**P**	**11**	**07**	**07.6 0.0**
ZALV	**Zalesovo Beam**	**53.48**	**313**	P	**P**	**11**	**07**	**30.0 -1.0**
	0.4nm,0.3s,baz=55,slow=7.3,SNR=3.0							
ZALV	**Zalesovo Beam**	**53.48**	**313**	P	**P**	**11**	**07**	**30.0 -1.0**
ARCES	**ARCESS Array B**	**58.01**	**350**	P	**P**	**11**	**08**	**02.4 -0.8**
	5.6nm,1.0s,baz=20,slow=7.5,SNR=8.6							
ARCES	**ARCESS Array B**	**58.01**	**350**	P	**P**	**11**	**08**	**02.4 -0.8**
KURK	**Kurchatov**	**58.48**	**313**	P	**P**	**11**	**08**	**06.6 0.0**
	3.4nm,0.7s,baz=46,slow=5.9,SNR=18							
KURK	**Kurchatov**	**58.48**	**313**	P	**P**	**11**	**08**	**06.6 0.0**
MKAR	**Makanchi Array**	**59.44**	**308**	P	**P**	**11**	**08**	**12.8 -0.6**
	0.4nm,0.4s,baz=47,slow=6.0,SNR=21							
MKAR	**Makanchi Array**	**59.44**	**308**	P	**P**	**11**	**08**	**12.8 -0.6**
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**11**	**08**	**53.7 -0.9**
	2.0nm,0.8s,baz=49,slow=4.6,SNR=2.9							
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**11**	**08**	**53.7 -0.9**
NOA	**NORSAR Array B**	**67.62**	**354**	P	**P**	**11**	**09**	**07.3 +0.2**
	1.6nm,0.9s,baz=11,slow=1.8,SNR=3.9							
NOA	**NORSAR Array B**	**67.62**	**354**	P	**P**	**11**	**09**	**07.3 +0.2**
HFS	**Hagfors**	**68.34**	**353**	P	**P**	**11**	**09**	**10.5 -1.1**
	2.5nm,0.8s,baz=258,slow=5.6,SNR=4.1							
HFS	**Hagfors**	**68.34**	**353**	P	**P**	**11**	**09**	**10.5 -1.1**

IDC 18 11:23:02.7±6.1, 4°.00S×141°.20E, h58km±65km, mb3.3/5, mb1 3.7/7, mb1mx3.5/14, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=51.4km s-min=25.7km az=105.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**7.99**	**133**	P	Pn	11	24	56.4 +0.2
	0.6nm,0.3s,baz=322,slow=19,SNR=2.7							
PMG				S	Sn	11	26	19.3 -6.0
	baz=310,slow=5.1,SNR=1.6							
WRA	**Warramunga Arr**	**17.20**	**202**	P	Pn	11	26	59.1 0.0
	1.7nm,0.3s,baz=24,slow=12,SNR=45							
WRA				S	Sn	11	30	09.4 -0.5
	0.1nm,0.3s,baz=14,slow=23,SNR=4.0							
ASAR	**Alice Springs**	**20.78**	**199**	P	P	11	27	40.0 +0.8
	2.1nm,0.7s,baz=29,slow=11,SNR=57							
STKA	**Stephens Creek**	**27.73**	**179**	P	P	11	28	45.5 -0.4
	1.3nm,1.0s,baz=0.0,slow=9.1,SNR=2.7							
SONM	**Songino Array**	**59.95**	**334**	P	P	11	33	02.0 -1.2
	0.2nm,0.5s,baz=142,slow=7.2,SNR=2.9							
MKAR	**Makanchi Array**	**72.33**	**322**	P	P	11	34	23.2 +0.8
	0.5nm,0.5s,baz=108,slow=7.0,SNR=10							
ZALV	**Zalesovo Beam**	**74.30**	**329**	P	P	11	34	33.3 -0.4
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.7							

*ISCJB **18** 11:33:29.1±1.0, 41°.11N±0°.06×24°.64E±0°.04, h7km±6km, Error ellipse: s-maj=9.3km s-min=5.0km az=3.0*
*CSEM **18** 11:33:29.3±0.2, 41°.06N×24°.66E, h5km, ML1.9/5, Error ellipse: s-maj=7.0km s-min=3.4km az=4.0*
*THE **18** 11:33:30.5, 41°.05N×24°.60E, h2km±16km, ML1.9/5, Error ellipse: s-maj=16.7km s-min=0.4km az=202.0*
*ATH **18** 11:33:30.2, 41°.03N×24°.64E, h17km, MD3.0/6*

ISC 18 11:33:30.2±1.0, 41°.01N±0°.04×24°.63E±0°.02, h6km±7km, n24, σ0°33/37, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
KAVA	**Kavala**	**0.09**	**261**	P	**Pg**	**11**	**33**	**32.1 -0.1**
KAVA				S	**Sg**	**11**	**33**	**33.7 +0.1**
KAVA	**Kavala**	**0.09**	**261**	P	**Pg**	**11**	**33**	**32.1 -0.1**
KAVA				S	**Sg**	**11**	**33**	**33.7 +0.1**
NVR	**Nevrokopi**	**0.67**	**301**	*e*PB	**Pg**	**11**	**33**	**42.9 -0.2**
NVR				*e*SN	**Sg**	**11**	**33**	**52.7 +0.8**
NVR	**Nevrokopi**	**0.67**	**301**	*e*Pb	**Pg**	**11**	**33**	**42.9 -0.2**
NVR				*e*Sn	**Sg**	**11**	**33**	**52.7 +0.8**
RDO	**Rodhopi**	**0.70**	**78**	*e*PN	**Pg**	**11**	**33**	**43.5 -0.2**
RDO	**Rodhopi**	**0.70**	**78**	*e*Pn	**Pg**	**11**	**33**	**43.5 -0.2**
SRS	**Serrai**	**0.79**	**278**	P	**Pg**	**11**	**33**	**44.9 -0.5**
SRS				S	**Sg**	**11**	**33**	**55.8 +0.1**
SRS	**Serrai**	**0.79**	**278**	P	**Pg**	**11**	**33**	**44.9 -0.5**
SRS				S	**Sg**	**11**	**33**	**55.8 +0.1**
OUR	**Ouranopolis**	**0.83**	**216**	P	**Pb**	**11**	**33**	**47.0 -0.1**
OUR				S	**Sb**	**11**	**33**	**59.0 +0.5**
OUR	**Ouranopolis**	**0.83**	**216**	P	**Pb**	**11**	**33**	**47.0 -0.1**
OUR				S	**Sb**	**11**	**33**	**59.0 +0.5**
SOH	**Sokhos**	**0.98**	**259**	*e*PN	**Pb**	**11**	**33**	**49.7 0.0**
SOH	**Sokhos**	**0.98**	**259**	*e*Pn	**Pb**	**11**	**33**	**49.7 0.0**
ALN	**Alexandroupoli**	**1.08**	**96**	P	**Pg**	**11**	**33**	**50.8 -0.1**
ALN				S	**Sn**	**11**	**34**	**07.2 +0.1**
ALN	**Alexandroupoli**	**1.08**	**96**	*e*PN	**Pg**	**11**	**33**	**50.6 -0.3**
ALN				*e*SN	**Sb**	**11**	**34**	**05.8 +0.2**
ALN	**Alexandroupoli**	**1.08**	**96**	*e*Pn	**Pg**	**11**	**33**	**50.6 -0.3**
ALN	**Alexandroupoli**	**1.08**	**96**	P	**Pg**	**11**	**33**	**50.8 -0.1**
ALN				*e*Sn	**Sb**	**11**	**34**	**05.8 +0.2**
PLG	**Polygyros**	**1.10**	**235**	*e*PN	**Pg**	**11**	**33**	**51.3 0.0**
PLG	**Polygyros**	**1.10**	**235**	*e*Pn	**Pg**	**11**	**33**	**51.3 0.0**
LIA	**Limnos Island**	**1.19**	**159**	*e*PN	**Pg**	**11**	**33**	**52.8 -0.2**
LIA	**Limnos Island**	**1.19**	**159**	*e*Pn	**Pg**	**11**	**33**	**52.8 -0.2**
HORT	**Hortiatis**	**1.23**	**251**	P	**Pg**	**11**	**33**	**53.4 -0.4**
HORT				S	**Sn**	**11**	**34**	**11.0 0.0**
HORT	**Hortiatis**	**1.23**	**251**	P	**Pg**	**11**	**33**	**53.4 -0.4**
HORT				S	**Sn**	**11**	**34**	**11.0 0.0**
KNT	**Kendrikon**	**1.32**	**277**	P	**Pn**	**11**	**33**	**54.8 -0.3**
KNT	**Kendrikon**	**1.32**	**277**	P	**Pn**	**11**	**33**	**54.8 -0.3**

*MOS **18** 11:36:55.2±0.8, 13°.94S×75°.17W, h33km, mb4.9/26, Error ellipse: s-maj=26.4km s-min=7.7km az=115.1*
*BJI **18** 11:36:59.2, 13°.41S×75°.05W, h70km, mB5.0/5, Ms5.6/2, Ms7 5.3/2*
*IDC **18** 11:37:00.8±0.7, 14°.17S×75°.19W, h78km±4km, mb4.1/13, mb1 4.3/17, mb1mx4.2/19, mbtmp4.1/17, Error ellipse: s-maj=23.7km s-min=8.8km az=51.0*
*ISCJB **18** 11:37:01.3±0.9, 13°.90S±0°.06×74°.98W±0°.07, h89km±7km, mb4.6/81, Error ellipse: s-maj=13.1km s-min=6.7km az=136.9*
*NEIC **18** 11:37:01.6±0.8, 13°.97S×75°.00W, h76km±7km, mb4.7/71, Error ellipse: s-maj=9.8km s-min=5.2km az=54.0*
NEIC Felt [II] at Huaytara and Palpa. Also felt at Ayacucho.

ISC 18 11:37:00.9±0.5, 14°.16S±0°.07×75°.15W±0°.09, h81km±3km, h80km:pP-P, n515, σ1°00/535, mb4.7/80, 166C-156D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
NNA	**Nana**	**2.72**	**322**	P	**Pn**	**11**	**37**	**42.0 -0.6**
	62nm,0.3s,baz=168,slow=12,SNR=171							
NNA				S	**Sn**	**11**	**38**	**15.0 +0.4**
	221nm,0.3s,baz=218,slow=18,SNR=9.4							
NNA	**Nana**	**2.72**	**322**	*e*P	**Pn**	**11**	**37**	**40.9 -1.6**
NNA				*e*		11	38	13.4
NNA	**Nana**	**2.72**	**322**	*e*Pn	**P

SIUC	Southern Illin	53.27	346	eP		P	11 46 10.2	-1.2
	comp=Z,19nm,0.8s							
TUL1	Tulsa	53.49	339	⇑P		P	11 46 12.6	-0.5
	baz=54,SNR=9.7							
WMOK	Wichita Mounta	53.56	336	eP		P	11 46 13.7	+0.1
WMOK					pmax	pmax		
	comp=Z,12nm,1.6s							
WMOK	Wichita Mounta	53.56	336	eP		P	11 46 13.7	+0.1
	comp=Z,12nm,1.6s							
325A	Bean Ranch, Si	53.57	328	⇓P		P	11 46 14.0	+0.1
	baz=54,SNR=9.1							
226A	Malaga, Loving	53.68	329	⇓P		P	11 46 15.3	+0.6
	baz=54							
CLNB	Carlsbad	53.74	330	eP		P	11 46 16.3	+1.3
	comp=Z,0.6nm,0.3s							
FVM	French Village	53.81	345	eP		P	11 46 14.6	-0.8
FVM					pmax	pmax		
	comp=Z,140nm,2.5s							
FVM	French Village	53.81	345	eP		P	11 46 14.6	-0.8
	comp=Z,140nm,2.5s							
324A	Moseley Ranch,	53.89	328	⇓P		P	11 46 15.6	-0.6
	baz=54							
GDL2	Guadalupe Moun	53.93	329	eP		P	11 46 17.0	+0.5
	comp=Z,12nm,1.1s							
OLIL	Olney	53.99	347	eP		P	11 46 15.6	-1.0
	comp=Z,18nm,0.8s							
MNTX	Cornudas Mount	54.04	328	⇑P		P	11 46 16.8	-0.4
	baz=54							
MNTX				⇑P		P	11 46 16.8	-0.4
	baz=54							
225A	Deer Hill, Car	54.08	329	⇑P		P	11 46 18.3	+0.6
	baz=54,SNR=8.6							
BLO	Bloomington	54.11	349	eP		P	11 46 16.5	-1.0
BLO					pmax	pmax		
	comp=Z,7.0nm,0.6s							
BLO	Bloomington	54.11	349	eP		P	11 46 16.5	-1.0
	comp=Z,7.1nm,0.6s							
126A	Clayton Basin,	54.12	330	⇑P		P	11 46 18.1	+0.3
	baz=54,SNR=5.5							
Z27A	Tatum	54.28	331	⇓P		P	11 46 18.8	-0.2
	baz=54,SNR=11							
CPRX	Cap Rock	54.36	330	eP		P	11 46 20.9	+1.3
	comp=Z,23nm,1.0s							
224A	Cornudas Mount	54.41	328	⇑P		P	11 46 19.9	-0.1
	baz=54,SNR=9.6							
ACSO	Alum Creek Sta	54.60	353	eP		P	11 46 20.3	-0.8
	comp=Z,3nm,0.7s							
Z26A	Caprock	54.61	330	⇑P		P	11 46 21.4	+0.1
	baz=55,SNR=5.9							
MSTX	Muleshoe	54.62	332	⇓P		P	11 46 21.0	-0.5
	baz=55,SNR=6.4							
Y27A	Causey	54.73	331	⇑P		P	11 46 22.0	-0.3
	baz=55,SNR=16							
124A	Stringfield Ra	54.87	329	⇓P		P	11 46 23.5	0.0
	baz=55,SNR=11							
Z25A	Roswell	54.97	330	⇓P		P	11 46 24.0	-0.1
	baz=55,SNR=8.0							
Z24A	Sheeppen Canyo	55.33	329	⇑P		P	11 46 26.8	0.0
	baz=56,SNR=15							
320A	Kipp Ranch, An	55.44	325	⇓P		P	11 46 28.0	+0.6
	baz=56,SNR=5.8							
Y25A	Mesa, Roswell	55.48	330	⇑P		P	11 46 27.4	-0.3
	baz=56,SNR=6.4							
X26A	CR and CF Fran	55.58	331	⇑P		P	11 46 28.4	0.0
	baz=56							
Y24A	Capitan	55.85	330	⇓P		P	11 46 30.3	-0.1
	baz=56							
V28A	Channing	55.87	333	⇑P		P	11 46 30.5	+0.1
	baz=56							
220A	Playas Peak, P	55.87	326	⇑P		P	11 46 31.1	+0.6
	baz=56,SNR=8.3							
319A	Douglas	55.89	325	⇑P		P	11 46 31.5	+0.9
	baz=56,SNR=5.6							
121A	Cookes Peak, D	55.95	327	⇓P		P	11 46 32.2	+1.1
	baz=56,SNR=7.1							
X25A	Clemmons Ranch	55.96	331	⇓P		P	11 46 31.2	+0.1
	baz=56							
W26A	Owens Ranch, T	56.00	332	⇑P		P	11 46 32.0	+0.6
	baz=56							
Z22A	Elephant Butte	56.08	328	⇑P		P	11 46 32.8	+0.7
	baz=56							
318A	Bisbee	56.34	324	⇑P		P	11 46 34.6	+0.7
	baz=56,SNR=10							
120A	U Bar Ranch, L	56.42	326	⇑P		P	11 46 35.1	+0.6
	baz=57							
W25A	X Bar L Ranch,	56.43	331	⇑P		P	11 46 34.3	-0.2
	baz=57,SNR=5.2							
Z21A	St. Cloud Mine	56.49	327	⇓P		P	11 46 36.0	+1.0
	baz=57,SNR=5.4							
X23A	Hourglass Bar	56.74	329	⇓P		P	11 46 37.2	+0.4
	baz=57							
LPM	Los Pinos Moun	56.75	329	eP		P	11 46 38.1	+1.3
	comp=Z,4.2nm,1.1s							
218A	Dragoon	56.77	324	⇓P		P	11 46 37.7	+0.7
	baz=57,SNR=8.5							
Z20A	Nine Sixteen R	56.83	326	⇑P		P	11 46 38.5	+1.1
	baz=57,SNR=8.9							
W24A	Lazy 6 Ranch,	56.87	330	⇓P		P	11 46 38.2	+0.5
	baz=57							
119A	Ashpeak Ranch,	56.95	326	⇑P		P	11 46 39.3	+1.1
	baz=57							
V25A	Rancho No Teng	57.01	332	⇓P		P	11 46 38.5	-0.1
	baz=57,SNR=9.2							
Y21A	Point of Rocks	57.04	328	⇓P		P	11 46 40.0	+1.1
	baz=57,SNR=11							
U26A	Atchley Ranch,	57.07	333	⇑P		P	11 46 38.9	-0.1
	baz=57,SNR=8.3							
LAZ	Ladron	57.08	329	eP		P	11 46 40.4	+1.3
	comp=Z,6.6nm,1.0s							
ANMO	Albuquerque	57.17	329	eP		P	11 46 40.4	+0.6
ANMO					pmax	pmax		
	comp=Z,18nm,1.5s							
ANMO	Albuquerque	57.17	329	eP		P	11 46 40.4	+0.6
	comp=Z,18nm,1.5s							
T27A	Campo	57.19	334	⇑P		P	11 46 39.5	-0.3
	baz=57,SNR=9.1							
V24A	Rampart Ranch,	57.22	331	⇑P		P	11 46 40.1	-0.1
	baz=57,SNR=6.0							
U25A	Circle Dot Ran	57.38	332	⇓P		P	11 46 41.2	0.0
	baz=58,SNR=6.9							
TUC	Tucson	57.44	324	eP		P	11 46 42.1	+0.5
TUC					pmax	pmax		
	comp=Z,9.0nm,1.4s							
TUC	Tucson	57.44	324	eP		P	11 46 42.1	+0.5
	comp=Z,9.1nm,1.4s							
X21A	Alamocita Cree	57.44	328	⇑P		P	11 46 42.8	+1.1
	baz=58,SNR=8.8							
W22A	Albuquerque	57.47	329	⇓P		P	11 46 42.8	+0.9
	baz=58							
T26A	Comanche Natio	57.66	333	⇓P		P	11 46 43.5	+0.4
	baz=58							
V23A	Ortiz Mt. (NFS	57.67	330	⇓P		P	11 46 44.3	+0.9
	baz=58							
U24A	Moreno Valley	57.78	331	⇓P		P	11 46 44.8	+0.6
	baz=58,SNR=5.0							
Y19A	Nutrioso	57.83	327	⇑P		P	11 46 45.7	+1.1
	baz=58,SNR=7.9							
X20A	Quemado	57.88	328	⇑P		P	11 46 46.2	+1.3
	baz=58							
S26A	Kim	57.98	334	⇑P		P	11 46 45.8	+0.4
	baz=58,SNR=26							
T25A	Trinidad	57.99	333	⇓P		P	11 46 46.2	+0.7
	baz=58,SNR=8.7							
Y18A	Canyon Day Jun	58.12	326	⇑P		P	11 46 47.1	+0.7
	baz=58							
U23A	El Rito	58.15	331	⇓P		P	11 46 47.4	+0.7
	baz=58,SNR=7.7							
V22A	San Miguel Ran	58.16	330	⇑P		P	11 46 47.8	+1.1
	baz=58,SNR=13							
R27A	Eads	58.25	335	⇑P		P	11 46 47.1	-0.1
	baz=58							
W20A	Ramah	58.34	328	⇑P		P	11 46 48.9	+0.9
	baz=58,SNR=8.7							
214A	Organ Pipe Nat	58.35	322	⇓P		P	11 46 49.0	+1.0
	baz=58							
S25A	Robets Cordova	58.43	333	⇑P		P	11 46 49.1	+0.6
	baz=59,SNR=6.2							
Y17A	Roosevelt	58.50	325	⇑P		P	11 46 49.7	+0.7
	baz=59							
R26A	Arlington	58.54	334	⇑P		P	11 46 49.3	+0.1
	baz=59,SNR=7.8							
X18A	Snowflake	58.64	327	⇑P		P	11 46 51.1	+1.1
	baz=59							
T23A	Casias Ranch,	58.65	331	⇑P		P	11 46 50.6	+0.4
	baz=59,SNR=5.1							
S24A	Houchin Ranch,	58.76	332	⇑P		P	11 46 51.8	+0.9
	baz=59,SNR=6.4							
W19A	Sanders	58.79	327	⇑P		P	11 46 52.1	+1.0
	baz=59							
V20A	Brimhall	58.84	329	⇓P		P	11 46 52.1	+0.6
	baz=59							
U21A	Nageezi	58.94	330	⇑P		P	11 46 52.7	+0.6
	baz=59,SNR=7.2							
X17A	Forest Lakes	58.96	326	⇑P		P	11 46 53.6	+1.2
	baz=59,SNR=7.1							
114A	Black Gap (USA	58.97	323	⇓P		P	11 46 53.1	+0.9
	baz=59							
T22A	Edith	59.04	331	⇓P		P	11 46 53.7	+0.9
	baz=59							
V19A	Window Rock	59.07	328	⇑P		P	11 46 53.9	+0.8
	baz=59							
Q26A	Hugo	59.09	334	⇓P		P	11 46 53.3	+0.2
	baz=59,SNR=5.3							
R24A	Sanders Place,	59.20	333	⇓P		P	11 46 54.5	+0.6
	baz=59,SNR=6.0							
BGNE	Belgrade	59.24	340	⇓P		P	11 46 53.4	-0.4
	baz=59,SNR=5.3							
U20A	Newcomb	59.32	329	⇓P		P	11 46 55.0	+0.3
	baz=60							
X16A	Lo Mia Camp, P	59.37	325	⇓P		P	11 46 56.0	+0.9
	baz=60,SNR=7.6							
Q25A	Bedland, Calha	59.39	334	⇑P		P	11 46 55.1	-0.1
	baz=60							
R23A	Moffat	59.49	332	⇓P		P	11 46 56.6	+0.6
	baz=60,SNR=9.6							
113A	Mohawk Valley,	59.50	322	⇑P		P	11 46 56.6	+0.8
	baz=60							
P26A	Davis Ranch, A	59.56	335	⇑P		P	11 46 56.6	+0.4
	baz=60							
S22A	4UR Ranch, Cre	59.59	331	⇓P		P	11 46 57.2	+0.5
	baz=60,SNR=11							
U19A	Dine' College,	59.60	328	⇓P		P	11 46 56.8	0.0
	baz=60,SNR=5.2							
Z13A	Yuma Proving G	59.74	323	⇑P		P	11 46 58.2	+0.7
	baz=60							
O27A	Beecher Island	59.74	336	⇑P		P	11 46 57.8	+0.3
	baz=60,SNR=5.9							
Q24A	Divide	59.83	333	⇓P		P	11 46 58.7	+0.4
	baz=60,SNR=5.6							
P25A	Willow Gulch B	59.86	334	⇑P		P	11 46 58.7	+0.3
	baz=60,SNR=8.5							
Y14A	Wickenburg	59.89	324	⇑P		P	11 46 59.6	+1.0
	baz=60,SNR=7.7							
V17A	Tonalea, Kykot	59.92	327	⇓P		P	11 46 59.9	+1.0
	baz=60,SNR=15							
T19A	Beclabito	59.93	329	⇓P		P	11 46 59.9	+1.0
	baz=60,SNR=9.5							
R22A	Saguache, Gunn	59.95	332	⇓P		P	11 46 59.6	+0.5
	baz=60,SNR=5.3							
MVCO	Mesa Verde	59.97	330	eP		P	11 47 00.0	+0.8
	comp=Z,9.3nm,0.9s							
MVCO	Mesa Verde	59.97	330	⇑P		P	11 46 59.5	+0.3
	baz=60,SNR=7.8							
S21A	Coal Bank Pass	59.98	330	⇑P		P	11 46 59.9	+0.5
	baz=60,SNR=11							
U18A	Rough Rock, Ch	60.04	328	⇓P		P	11 47 00.3	+0.6
	baz=60,SNR=6.9							
O26A	Horse Wrangler	60.12	335	⇑P		P	11 47 00.8	+0.7
	baz=60							
WUAZ	Wupatki	60.15	326	eP		P	11 47 01.9	+1.4
	comp=Z,17nm,1.1s							
WUAZ	Wupatki	60.15	326	⇓P		P	11 47 01.5	+1.0
	baz=60,SNR=12							
P24A	Kohler Place,	60.18	334	⇓P		P	11 47 01.0	+0.5
	baz=60							
O25A	Wiggins	60.34	335	⇑P		P	11 47 02.1	+0.5
	baz=60							
S20A	Disappointment	60.39	330	⇑P		P	11 47 02.9	+0.8
	baz=60,SNR=18							
R21A	Cimarron	60.43	331	⇑P		P	11 47 03.0	+0.6
	baz=61,SNR=6.8							
P23A	Jefferson	60.47	333	⇓P		P	11 47 03.8	+1.1
	baz=61,SNR=9.0							
U16A	Tuba City	60.49	327	⇑P		P	11 47 03.6	+0.9
	baz=61,SNR=9.4							
Q22A	Crested Butte,	60.53	332	⇑P		P	11 47 03.9	+0.8
	baz=61,SNR=6.1							
U17A	Shonto	60.59	328	⇑P		P	11 47 04.1	+0.7
	baz=61,SNR=8.6							
T18A	Mexican Hat	60.60	328	⇓P		P	11 47 03.7	+0.3
	baz=61,SNR=13							
Y12C	Blythe	60.64	323	⇑P		P	11 47 04.8	+1.3
	baz=61,SNR=5.1							
R20A	Redvale	60.68	330	⇓P		P	11 47 05.1	+1.1
	baz=61,SNR=16							
S19A	Harvey Farm, M	60.70	329	⇓P		P	11 47 04.8	+0.6
	baz=61,SNR=14							
ISCO	Idaho Springs	60.72	333	eP		P	11 47 05.0	+0.6
ISCO					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ISCO	Idaho Springs	60.72	333	eP		P	11 47 05.0	+0.6
	comp=Z,5.6nm,0.8s							
ISCO	Idaho Springs	60.72	333	⇓P		P	11 47 04.7	+0.3
	baz=61,SNR=10							
PV01	Paradox Valley	60.73	330	eP		P	11 47 05.6	+1.2
	comp=Z,1µm,1.0s							
O24A	Longmont	60.75	334	⇑P		P	11 47 05.0	+0.5
	baz=61,SNR=5.4							
Q21A	Lamborn Mesa,	60.81	331	⇑P		P	11 47 04.9	0.0
	baz=61							
SMCO	Snowmass	60.81	332	eP		P	11 47 06.2	+1.1
	comp=Z,9.8nm,0.8s							
ECSD	EROS Data Cent	60.86	342	eP		P	11 47 04.0	-0.9
	comp=Z,16nm,1.3s							
T17A	Navajo Res., N	60.97	328	⇑P		P	11 47 07.2	+1.2
	baz=61,SNR=9.2							
P22A	Eagle	61.06	332	⇑P		P	11 47 07.2	+0.6
	baz=61,SNR=11							
S18A	Hurst Farm, Bl	61.08	329	⇑P		P	11 47 07.5	+0.6
	baz=61,SNR=8.4							
PV04	Paradox Valley	61.09	330	eP		P	11 47 07.7	+0.9
BC3	Big Chuckawall	61.12	322	⇑P		P	11 47 08.1	+1.1
	baz=61							
O23A	Lake Granby, G	61.19	333	⇑P		P	11 47 08.0	+0.4
	baz=61,SNR=11							
R19A	Curley Farm, L	61.19	330	⇓P		P	11 47 07.8	+0.3
	baz=61,SNR=9.8							
W13A	Hualapai Mount	61.23	324	⇑P		P	11 47 09.0	+1.1
	baz=61							
N24A	Carr	61.26	335	⇓P		P	11 47 08.0	+0.1
	baz=61							
IRM	Iron Mountain	61.30	323	⇓P		P	11 47 09.2	+1.1
	baz=61,SNR=9.1							
P21A	Newcastle	61.31	332	⇓P		P	11 47 09.4	+1.1
	baz=61							
U15A	North Rim	61.32	326	⇑P		P	11 47 09.9	+1.4
	baz=62,SNR=7.9							
O22A	Kremmling	61.42	333	⇓P		P	11 47 09.4	+0.2
	baz=62							
S17A	Black Ridge (B	61.45	328	⇓P		P	11 47 10.3	+1.1
	baz=62							
R18A	Canyonlands Na	61.57	329	⇓P		P	11 47 10.3	+0.2
	baz=62,SNR=7.1							
PFO	Pinyon Flat Ob	61.70	321	eP		P	11 47 12.0	+1.1
PFO					pmax	pmax		
	comp=Z,10.0nm,1.0s							
PFO	Pinyon Flat Ob	61.70	321	eP		P	11 47 12.0	+1.1
	comp=Z,9.7nm,1.0s							
PFO	Pinyon Flat Ob	61.70	321	⇑P		P	11 47 12.1	+1.1
	baz=62,SNR=7.7							
Q19A	Hogan Spring (	61.71	330	⇑P		P	11 47 11.5	+0.7
	baz=62,SNR=14							
P20A	De Beque	61.73	331	⇓P		P	11 47 11.6	+0.5
	baz=62,SNR=5.4							
N23A	Red Feather La	61.76	334	⇓P		P	11 47 11.6	+0.3
	baz=62							
M24A	Cheyenne	61.77	335	⇑P		P	11 47 11.9	+0.6
	baz=62							
K27A	Flueckinger Fa	61.81	338	⇓P		P	11 47 11.7	+0.2
	baz=62							
O21A	Pagoda	61.88	332	⇓P		P	11 47 12.8	+0.6
	baz=62							
PHWY	Pilot Hill	61.90	334	eP		P	11 47 12.9	+0.7
	comp=Z,2.6nm,0.6s							
N22A	Wattenberg Ran	61.91	333	⇑P		P	11 47 12.8	+0.5
	baz=62							
S16A	Weppner Ranch,	61.93	328	⇓P		P	11 47 13.1	+0.6
	baz=62,SNR=8.2							
R17A	Hanksville Air	62.01	329	⇑P		P	11 47 13.5	+0.7
	baz=62,SNR=16							
GMRC	Granite Mounta	62.03	323	⇓P		P	11 47 14.3	+1.1
	baz=62							
P19A	Cripple Cowboy	62.11	331	⇑P		P	11 47 14.1	+0.5
	baz=62,SNR=12							
M23A	Laramie	62.14	334	⇑P		P	11 47 14.3	+0.4
	baz=62							
O20A	White River Ci	62.16	332	⇑P		P	11 47 14.5	+0.5
	baz=62,SNR=14							
Q18A	Rafter H Ranch	62.25	330	⇑P		P	11 47 15.2	+0.7
	baz=62,SNR=8.1							
R16A	Teasdale	62.29	328	⇑P		P	11 47 15.7	+0.7
	baz=62,SNR=7.5							
N21A	Black Mountain	62.34	333	⇑P		P	11 47 15.9	+0.7
	baz=62,SNR=8.0							
SRU	San Rafael	62.45	329	eP		P	11 47 16.8	+0.9
SRU					pmax	pmax		
	comp=Z,12nm,0.9s							
SRU	San Rafael	62.45	329	eP		P	11 47 16.8	+0.9
	comp=Z,12nm,0.9s							
SRU	San Rafael	62.45	329	⇓P		P	11 47 16.3	+0.4
	baz=63,SNR=13							
HEC	Hector,Ludlow	62.46	322	⇑P		P	11 47 17.0	+1.1
	baz=63							
M22A	Cedar Creek Ra	62.46	334	⇓P		P	11 47 16.5	+0.5
	baz=63							
Q16A	Castle Valley	62.62	329	⇓P		P	11 47 17.8	+0.8
	baz=63,SNR=8.6							
R15A	Junction	62.65	328	⇓P		P	11 47 18.1	+0.8
	baz=63,SNR=8.3							
L23A	Garrett	62.67	335	⇑P		P	11 47 17.7	+0.3
	baz=63							
O19A	Miners Draw (B	62.70	331	⇓P		P	11 47 18.2	+0.6
	baz=63,SNR=28							
P18A	Preston Nutter	62.71	330	⇑P		P	11 47 18.4	+0.6
	baz=63,SNR=11							
CCUT	Cedar City	62.73	326	eP		P	11 47 19.9	+2.0
	comp=Z,7.4nm,0.9s							
N20A	Spence Gulch,	62.73	332	⇑P		P	11 47 18.2	+0.4
	baz=63,SNR=10							
K24A	Anderson Ranch	62.82	336	⇓P		P	11 47 18.6	+0.4
	baz=63,SNR=6.8							
MSU	Marysvale	62.82	328	eP		P	11 47 19.9	+1.5
MSU	Marysvale	62.82	328	eP		P	11 47 19.9	+1.5
P17A	Butcher Ranch,	62.83	330	⇓P		P	11 47 19.0	+0.6
	baz=63,SNR=17							
BFSC	Mount Baldy Ra	62.86	321	⇑P		P	11 47 19.9	+1.2
	baz=63,SNR=5.1							
TMUT	Trail Mountain	62.93	329	eP		P	11 47 20.3	+1.1
	comp=Z,6.7nm,0.7s							
ARUT	Antelope Range	62.95	327	eP		P	11 47 20.9	+1.7
ARUT					pmax	pmax		
	comp=Z,16nm,1.0s							
ARUT	Antelope Range	62.95	327	eP		P	11 47 20.9	+1.7
	comp=Z,16nm,1.0s							
M21A	Separation Pea	62.96	333	⇓P		P	11 47 19.8	+0.5
	baz=63,SNR=8.6							
RWWY	Rawlins	62.96	333	eP		P	11 47 19.7	+0.4
	comp=Z,7.0nm,0.6s							
GSC	Goldstone	63.07	322	eP		P	11 47 21.2	+1.2
GSC	Goldstone	63.07	322	eP		P	11 47 21.2	+1.2
GSC	Goldstone	63.07	322	⇓P		P	11 47 20.7	+0.7
	baz=63,SNR=6.2							
MWC	Mount Wilson	63.09	321	eP		P	11 47 21.6	+1.3
MWC					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MWC	Mount Wilson	63.09	321	eP		P	11 47 21.6	+1.3
	comp=Z,7.4nm,0.8s							
O18A	Roosevelt	63.09	331	⇑P		P	11 47 21.0	+0.8
	baz=63,SNR=11							
K23A	Bowen Ranch, D	63.17	335	⇑P		P	11 47 20.9	+0.3
	baz=63							
N19A	John Jarvie Ra	63.20	332	⇓P		P	11 47 21.2	+0.4
	baz=63,SNR=25							
M20A	Sweetwater, Wa	63.23	333	⇑P		P	11 47 21.4	+0.4
	baz=63,SNR=11							
L21A	Rawlins	63.25	334	⇑P		P	11 47 21.2	0.0
	baz=63,SNR=10							
J24A	Dixon Ranch, L	63.27	336	⇑P		P	11 47 21.9	+0.7
	baz=63							
O17A	Robinson Place	63.39	330	⇑P		P	11 47 23.2	+1.0
	baz=64,SNR=19							
P16A	Fountain Green	63.39	329	⇓P		P	11 47 23.1	+0.9
	baz=64							
EDW2	Edwards Air Fo	63.49	321	⇑P		P	11 47 23.6	+0.8
	baz=64,SNR=6.2							
R13A	O'Grain Ranch,	63.52	326	⇑P		P	11 47 24.6	+1.6
	baz=64,SNR=8.1							
P15A	Leamington	63.67	329	⇑P		P	11 47 25.1	+1.1
	baz=64							
MPU	Maple Canyon	63.69	329	eP		P	11 47 25.2	+1.1
	comp=Z,8.0nm,0.9s							
RSSD	Black Hills	63.70	337	eP		P	11 47 24.5	+0.4
RSSD	Black Hills	63.70	337	eP		P	11 47 24.5	+0.4
I24A	Kuemmerle Ranc	63.71	337	⇓P		P	11 47 24.3	+0.3
	baz=64							
L20A	Wamsutter	63.71	333	⇓P		P	11 47 24.7	+0.5
	baz=64							
K21A	Alcova	63.75	334	⇓P		P	11 47 25.0	+0.5
	baz=64,SNR=9.4							
O16A	Springville	63.77	330	⇑P		P	11 47 25.4	+0.7
	baz=64							
DAU	Daniels Canyon	63.81	330	eP		P	11 47 26.4	+1.4
DAU	Daniels Canyon	63.81	330	eP		P	11 47 26.4	+1.4
FURC	Furnace Creek,	63.91	323	⇓P		P	11 47 26.6	+1.3
	baz=64,SNR=8.3							
MPMC	Manual Prospec	63.99	323	⇑P		P	11 47 26.8	+0.6
	baz=64,SNR=5.1							
N17A	Moffit Pass	64.01	331	⇓P		P	11 47 27.2	+0.8
	baz=64,SNR=18							
M18A	Lyman	64.03	331	⇓P		P	11 47 26.5	+0.1
	baz=64,SNR=5.6							
JLU	Jordanelle	64.05	330	eP		P	11 47 27.6	+1.0
	comp=Z,13nm,0.8s							
J22A	Midwest	64.07	335	⇓P		P	11 47 26.5	0.0
	baz=64,SNR=5.4							
K20A	Yellowstone Ra	64.24	333	⇑P		P	11 47 27.6	0.0
	baz=64,SNR=12							
L19A	Farson	64.24	332	⇑P		P	11 47 28.2	+0.5
	baz=64							
N16A	Rees Ranch, Co	64.26	330	⇑P		P	11 47 28.8	+0.9
	baz=64,SNR=8.8							
O15A	The Old Anders	64.31	329	⇓P		P	11 47 29.3	+1.2
	baz=64,SNR=5.6							
ISA	Isabella	64.31	322	eP		P	11 47 29.1	+1.0
ISA					pmax

PD02	Pinedale Array	64.87 333	*e*P	P	11 47 31.1	-0.8		
PD01	Pinedale Array	64.88 333	*e*P	P	11 47 31.4	-0.5		
L17A	Cokeville	64.93 331	⇓P	P	11 47 32.1	-0.1		
	baz=65							
K18A	Toltan Ranch,	64.97 332	⇑P	P	11 47 33.0	+0.5		
	baz=65,SNR=11							
SMMC	Simmler	65.00 320	⇑P	P	11 47 33.7	+1.1		
	baz=65							
J19A	Crowheart	65.03 333	⇓P	P	11 47 32.9	+0.1		
	baz=65,SNR=10.0							
L16A	Fish Haven	65.13 331	⇓P	P	11 47 33.2	-0.3		
	baz=65							
G23A	Biddle	65.13 337	⇑P	P	11 47 33.1	-0.2		
	baz=65,SNR=8.2							
I20A	Worland	65.19 334	⇑P	P	11 47 33.7	0.0		
	baz=65,SNR=6.5							
M15A	Larsen Ranch,	65.19 330	⇓P	P	11 47 34.1	+0.3		
	baz=65							
H21A	Big Horn, Sher	65.30 335	⇓P	P	11 47 34.3	-0.2		
	baz=65							
F24A	Ekalaka	65.33 338	⇑P	P	11 47 34.5	0.0		
	baz=66,SNR=6.4							
J18A	Kendall Valley	65.42 333	⇓P	P	11 47 35.4	0.0		
	baz=66,SNR=10							
K17A	Gardner Place,	65.46 332	⇓P	P	11 47 35.6	-0.1		
	baz=66,SNR=12							
MDND	Maddock	65.48 342	⇑P	P	11 47 35.7	+0.3		
	baz=66							
G22A	Birney	65.49 336	⇓P	P	11 47 35.4	-0.3		
	baz=66							
MTUM	Tungsten Hills	65.51 323	*e*P	P	11 47 37.3	+1.3		
L15A	Malad City	65.58 330	⇑P	P	11 47 36.4	+0.1		
	baz=66,SNR=7.6							
F23A	Volborg	65.58 337	⇓P	P	11 47 35.9	-0.2		
	baz=66,SNR=7.6							
H20A	Greybull	65.58 335	⇑P	P	11 47 35.8	-0.4		
	baz=66,SNR=11							
HVU	Hansel Valley	65.59 330	*e*P	P	11 47 36.8	+0.4		
HVU			pmax	pmax				
	comp=Z,9.0nm,0.8s							
HVU	Hansel Valley	65.59 330	*e*P	P	11 47 36.8	+0.4		
	comp=Z,9.3nm,0.8s							
I19A	Meeteetse	65.63 334	⇓P	P	11 47 36.9	+0.3		
	baz=66							
I18A	Diamond G Ranc	65.72 333	⇓P	P	11 47 37.6	+0.3		
	baz=66,SNR=11							
K16A	Soda Springs	65.83 331	⇑P	P	11 47 38.8	+0.8		
	baz=66,SNR=8.1							
J17A	Brown Place, J	65.85 332	⇓P	P	11 47 38.6	+0.5		
	baz=66,SNR=6.4							
MLAC	Mammoth Lakes	65.85 323	⇑P	P	11 47 39.5	+1.2		
	baz=66							
G21A	Lodge Grass	65.86 336	⇓P	P	11 47 37.9	-0.1		
	baz=66,SNR=7.2							
E24A	Baker	65.89 338	⇑P	P	11 47 38.4	+0.3		
	baz=66							
REDW	Red Top Meadow	65.91 332	*e*P	P	11 47 38.7	+0.2		
	comp=Z,3.1nm,0.7s							
SNOW	Snow King Moun	65.95 332	*e*P	P	11 47 38.7	-0.1		
	comp=Z,4.1nm,0.6s							
F22A	Rosebud	65.95 337	⇑P	P	11 47 38.2	-0.4		
	baz=66							
LOHW	Long Hollow	66.00 333	*e*P	P	11 47 39.3	+0.3		
	comp=Z,4.2nm,0.6s							
L14A	Malta	66.01 330	⇑P	P	11 47 39.4	+0.3		
	baz=66							
NVAR	Mina Array Bea	66.09 324	P	P	11 47 40.4	+0.6		
	comp=Z,2.5nm,0.8s,baz=143,slow=7.1,SNR=23							
NVAR	Mina Array Bea	66.09 324	P	P	11 47 40.4	+0.6		
RRI2	Red Ridge	66.11 332	*e*P	P	11 47 40.4	+0.5		
	comp=Z,19nm,0.8s							
K15A	Arbon	66.17 331	⇓P	P	11 47 40.6	+0.5		
	baz=66,SNR=5.1							
MOOW	Moose Ponds	66.17 333	*e*P	P	11 47 40.6	+0.5		
	comp=Z,4.0nm,0.9s							
J16A	Bone	66.19 332	⇑P	P	11 47 40.8	+0.5		
	baz=66,SNR=9.2							
I17A	Pilgrim Ck.	66.23 333	⇑P	P	11 47 41.2	+0.7		
	baz=66,SNR=7.9							
DCID1	Drake Creek	66.24 332	*e*P	P	11 47 41.5	+0.9		
	comp=Z,8.3nm,0.6s							
G20A	Bridger	66.26 335	⇓P	P	11 47 40.2	-0.4		
	baz=66,SNR=5.5							
K14A	Jones Ranch, D	66.37 330	⇓P	P	11 47 41.9	+0.5		
	baz=66,SNR=8.1							
D24A	Glendive	66.37 339	⇓P	P	11 47 41.7	+0.6		
	baz=66,SNR=5.7							
E22A	Miles City	66.38 337	⇑P	P	11 47 41.0	-0.3		
	baz=66							
FLWY	Flagg Ranch	66.41 333	*e*P	P	11 47 42.7	+1.0		
	comp=Z,19nm,0.8s							
H18A	Shoshone NF, C	66.43 334	⇑P	P	11 47 41.7	-0.1		
	baz=67,SNR=9.3							
I16A	Newdale	66.60 332	⇓P	P	11 47 43.3	+0.5		
	baz=67							
RLMT	Red Lodge	66.62 334	*e*P	P	11 47 43.2	+0.2		
	comp=Z,6.6nm,0.8s							
RLMT	Red Lodge	66.62 334	⇑P	P	11 47 43.4	+0.4		
	baz=67,SNR=8.2							
RLMT			⇑P	P	11 47 43.4	+0.4		
	baz=67,SNR=8.2							
LKWY	Lake	66.66 333	*e*P	P	11 47 44.8	+1.5		
LKWY			pmax	pmax				
	comp=Z,9.0nm,0.8s							
LKWY	Lake	66.66 333	*e*P	P	11 47 44.8	+1.5		
	comp=Z,8.5nm,0.8s							
J15A	Blackfoot	66.67 331	⇑P	P	11 47 44.0	+0.8		
	baz=67,SNR=8.1							
ULM	Lac du Bonnet	66.67 346	P	P	11 47 41.2	-1.7		
	comp=Z,5.9nm,0.8s,baz=152,slow=5.4,SNR=12							
ULM	Lac du Bonnet	66.67 346	*e*P	P	11 47 42.1	-0.8		
ULM			pmax	pmax				
	comp=Z,5.0nm,0.8s							
ULM	Lac du Bonnet	66.67 346	*e*P	P	11 47 42.1	-0.8		
	comp=Z,5.3nm,0.8s							
F20A	Billings	66.71 335	⇓P	P	11 47 43.4	0.0		
	baz=67							
D23A	Lindsay	66.73 338	⇑P	P	11 47 44.2	+0.7		
	baz=67,SNR=6.6							
E21A	Keefer Ranch,	66.90 337	⇓P	P	11 47 44.6	+0.1		
	baz=67							
G18A	Lazy EL Ranch,	66.90 334	⇓P	P	11 47 45.1	+0.4		
	baz=67,SNR=21							
CMB	Columbia Colle	67.03 322	*e*P	P	11 47 46.5	+0.9		
CMB			pmax	pmax				
	comp=Z,4.0nm,1.0s							
CMB	Columbia Colle	67.03 322	*e*P	P	11 47 46.5	+0.9		
	comp=Z,3.7nm,1.0s							
D22A	Cohagen	67.07 338	⇑P	P	11 47 46.6	+1.0		
	baz=67,SNR=20							
F19A	Roth Farm, Mol	67.08 335	⇓P	P	11 47 46.0	+0.3		
	baz=67,SNR=9.9							
J14A	Carey	67.12 331	⇓P	P	11 47 47.2	+1.1		
	baz=67,SNR=11							
H16A	Russell Place,	67.14 333	⇑P	P	11 47 47.4	+1.1		
	baz=67,SNR=13							
I15A	Monteview	67.15 332	⇓P	P	11 47 47.5	+1.2		
	baz=67,SNR=5.5							
E20A	Meyer Farm, Mu	67.28 336	⇓P	P	11 47 47.6	+0.7		
	baz=67,SNR=14							
D21A	La Casta Ranch	67.30 337	⇓P	P	11 47 47.4	+0.3		
	baz=67,SNR=9.2							
G17A	Pierce Place,	67.41 334	⇑P	P	11 47 49.1	+1.2		
	baz=68							
F18A	Big Timber	67.44 335	⇑P	P	11 47 48.5	+0.5		
	baz=68,SNR=15							
DGMT	Dagmar	67.49 340	⇓P	P	11 47 49.0	+0.9		
	baz=68							
J13A	Cove Ranch, Pi	67.49 330	⇑P	P	11 47 49.3	+0.8		
	baz=68,SNR=7.2							
E19A	Rath Farm, Rou	67.50 336	⇓P	P	11 47 48.9	+0.5		
	baz=68,SNR=15							
WCN	Washoe City	67.51 324	*e*P	P	11 47 49.9	+1.1		
WCN			pmax	pmax				
	comp=Z,2.0nm,0.6s							
WCN	Washoe City	67.51 324	*e*P	P	11 47 49.9	+1.1		
	comp=Z,1.9nm,0.6s							
WCN	Washoe City	67.51 324	⇓P	P	11 47 50.1	+1.3		
	baz=68							
I14A	Mackay	67.55 331	⇑P	P	11 47 50.0	+1.1		
	baz=68,SNR=15							
HLID	Hailey	67.73 330	*e*P	P	11 47 51.0	+1.0		
	comp=Z,5.9nm,0.6s							
HLID	Hailey	67.73 330	⇓P	P	11 47 51.2	+1.1		
	baz=68,SNR=12							
D20A	Manuel Ranch,	67.76 336	⇑P	P	11 47 50.6	+0.5		
	baz=68,SNR=6.1							
G16A	Moss Hill, Enn	67.80 333	⇓P	P	11 47 51.0	+0.6		
	baz=68,SNR=8.6							
A24A	Westby	67.81 340	⇓P	P	11 47 51.4	+1.1		
	baz=68							
F17A	Fitzpatrick Pl	67.83 334	⇓P	P	11 47 51.4	+0.8		
	baz=68,SNR=6.3							
I13A	Wildhorse Cree	67.85 331	⇓P	P	11 47 51.9	+1.1		
	baz=68,SNR=16							
MCMT	McKenzie Canyo	67.95 332	*e*P	P	11 47 52.9	+1.4		
	comp=Z,3.1nm,0.9s							
B22A	Reddig Ranch S	67.97 338	⇓P	P	11 47 52.3	+1.0		
	baz=68							
H14A	Leadore	68.03 332	⇓P	P	11 47 53.0	+1.1		
	baz=68,SNR=8.9							
BOZ	Bozeman (W)	68.05 333	*e*P	P	11 47 52.0	0.0		
BOZ			pmax	pmax				
	comp=Z,3.0nm,0.7s							
BOZ	Bozeman (W)	68.05 333	*e*P	P	11 47 52.0	0.0		
	comp=Z,3.3nm,0.7s							
BOZ	Bozeman (W)	68.05 333	⇓P	P	11 47 52.2	+0.2		
	baz=68,SNR=7.5							
BOZ			⇓P	P	11 47 52.2	+0.2		
	baz=68,SNR=7.5							
G15A	Dillon	68.05 332	⇓P	P	11 47 52.9	+0.9		
	baz=68,SNR=5.2							
D19A	Cripps Ranch,	68.12 336	⇑P	P	11 47 52.8	+0.5		
	baz=68							
F16A	Kennard Place,	68.15 333	⇑P	P	11 47 53.0	+0.4		
	baz=68							
C20A	Veseth Ranch,	68.22 337	⇓P	P	11 47 53.2	+0.3		
	baz=68							
I12A	Atlanta	68.25 330	⇑P	P	11 47 54.4	+1.1		
	baz=68							
DLMT	Dillon	68.25 333	*e*P	P	11 47 54.0	+0.7		
	comp=Z,12nm,1.3s							
MFID	Camas Ranch	68.31 329	*e*P	P	11 47 54.7	+1.1		
	comp=Z,3.1nm,0.9s							
MFID	Camas Ranch	68.31 329	⇓P	P	11 47 54.7	+1.1		
	baz=68,SNR=29							
E17A	Martinsdale	68.36 334	⇑P	P	11 47 54.4	+0.5		
	baz=68,SNR=5.7							
H13A	Challis	68.41 331	⇓P	P	11 47 55.1	+0.9		
	baz=68,SNR=12							
D18A	Linhart Farms,	68.51 335	⇑P	P	11 47 55.4	+0.7		
	baz=69							
G14A	Jackson	68.55 332	⇑P	P	11 47 55.9	+0.8		
	baz=69							
F15A	Butte	68.58 333	⇓P	P	11 47 56.0	+0.6		
	baz=69							
H12A	Diamond D Ranc	68.68 331	⇓P	P	11 47 56.9	+0.9		
	baz=69,SNR=8.1							
G13A	Cobalt	68.79 331	⇓P	P	11 47 57.8	+1.2		
	baz=69,SNR=14							
D17A	Six Diamond Ra	68.84 335	⇑P	P	11 47 57.3	+0.5		
	baz=69,SNR=9.4							
A21A	Bergtoll Ranch	68.89 338	⇓P	P	11 47 57.4	+0.4		
	baz=69							
F14A	Wisdom	68.95 332	⇓P	P	11 47 58.4	+0.8		
	baz=69							
HRY	Holter Researc	68.97 334	*e*P	P	11 47 58.6	+1.0		
SCHQ	Schefferville	69.08 5	P	P	11 47 56.5	-1.5		
	comp=Z,5.2nm,0.9s,baz=176,slow=5.5,SNR=3.7							
SCHQ	Schefferville	69.08 5	P	P	11 47 56.5	-1.5		
E15A	Deer Lodge	69.09 333	⇓P	P	11 47 59.2	+0.7		
	baz=69							
D16A	Dana Ranch, Ca	69.10 334	⇑P	P	11 47 59.4	+0.9		
	baz=69							
VNA1	Neumayer--Stat	69.14 161	*e*	P	11 48 01.0	+2.8		
B19A	Brinkman Farms	69.19 337	⇑P	P	11 47 59.5	+0.6		
	baz=69,SNR=5.8							
C17A	Wharram Farm,	69.25 335	⇓P	P	11 47 59.8	+0.5		
	baz=69,SNR=7.4							
F13A	Darby	69.36 332	⇑P	P	11 48 00.9	+0.8		
	baz=70,SNR=9.3							
E14A	Clinton	69.46 333	⇑P	P	11 48 01.6	+0.9		
	baz=70,SNR=9.6							
B18A	Beardsley Farm	69.47 336	⇑P	P	11 48 01.1	+0.6		
	baz=70,SNR=6.1							
VNA2	Neumayer--Watz	69.49 161	*e*	P	11 48 02.9	+2.5		
	baz=290,slow=7.0							
A19A	Klindworth Far	69.50 337	⇑P	P	11 48 01.3	+0.5		
	baz=70,SNR=7.8							
D15A	Lincoln	69.52 334	⇑P	P	11 48 01.6	+0.6		
	baz=70							
MOD	Modoc	69.58 326	*e*P	P	11 48 02.8	+1.3		
	comp=Z,7.8nm,1.0s							
F12A	Elk City	69.77 331	⇓P	P	11 48 03.2	+0.6		
	baz=70,SNR=5.5							
C16A	Fuhringer Ranc	69.79 335	⇓P	P	11 48 03.4	+0.8		
	baz=70,SNR=6.2							
E13A	Victor	69.80 332	⇑P	P	11 48 03.8	+1.1		
	baz=70,SNR=12							
A18A	Metzger Ranch,	69.92 336	⇓P	P	11 48 03.7	+0.4		
	baz=70							
WDC	Whiskeytown Da	69.96 323	*e*P	P	11 48 02.6	-1.1		
WDC			pmax	pmax				
	comp=Z,2.0nm,0.5s							
WDC	Whiskeytown Da	69.96 323	*e*P	P	11 48 02.6	-1.1		
	comp=Z,2.3nm,0.5s							
MSO	Missoula	69.98 333	*e*P	P	11 48 04.3	+0.5		
	comp=Z,6.3nm,1.1s							
MSO	Missoula	69.98 333	⇑P	P	11 48 04.8	+1.0		
	baz=70,SNR=5.5							
BMO	Blue Mountains	70.09 329	*e*P	P	11 48 04.6	+0.1		
BMO			pmax	pmax				
	comp=Z,4.0nm,0.8s							
BMO	Blue Mountains	70.09 329	*e*P	P	11 48 04.6	+0.1		
	comp=Z,3.9nm,0.8s							
C15A	Salmond Ranch,	70.13 334	⇑P	P	11 48 05.8	+1.1		
	baz=70,SNR=11							
B16A	M & M Farms, S	70.26 335	⇑P	P	11 48 05.8	+0.3		
	baz=70,SNR=5.4							
A17A	Triple J Farms	70.27 336	⇓P	P	11 48 05.9	+0.4		
	baz=70,SNR=6.7							
E12A	Beaver Dam Sad	70.41 332	⇑P	P	11 48 06.9	+0.5		
	baz=70							
D13A	Huson	70.41 333	⇓P	P	11 48 06.8	+0.3		
	baz=70							
SWMT	Swartz Lake	70.52 333	*e*P	P	11 48 08.2	+1.0		
	comp=Z,1.8nm,0.8s							
B15A	Bradely Ranch,	70.53 335	⇑P	P	11 48 07.5	+0.4		
	baz=71,SNR=6.4							
C14A	Swan Lake	70.61 334	⇑P	P	11 48 08.6	+0.9		
	baz=71							
A16A	West Butte Ran	70.64 335	⇓P	P	11 48 08.5	+0.7		
	baz=71							
D12A	Red Ives Fores	70.78 332	⇓P	P	11 48 09.7	+1.0		
	baz=71							
B14A	Marquette Ranc	70.87 334	⇓P	P	11 48 09.9	+0.7		
	baz=71,SNR=5.9							
C13A	Hot Springs	70.91 333	⇑P	P	11 48 10.5	+1.1		
	baz=71,SNR=11							
SNAA	Sanae	71.10 161	*e*	P	11 48 09.4	-0.9		
SNAA	Sanae	71.10 161	*e*P	P	11 48 09.3	-1.0		
SNAA			pmax	pmax				
	comp=Z,5.0nm,0.7s							
SNAA	Sanae	71.10 161	*e*P	P	11 48 09.3	-1.0		
	comp=Z,5.2nm,0.7s							
BSMT	Bassoo Peak	71.13 333	*e*P	P	11 48 12.3	+1.4		
C12B	Naegeli Ranch,	71.33 333	⇓P	P	11 48 13.1	+1.1		
	baz=72,SNR=8.0							
B13A	Whitefish	71.39 334	⇓P	P	11 48 13.1	+0.8		
	baz=72							
A14A	Double T Ranch	71.40 334	⇑P	P	11 48 12.8	+0.4		
	baz=72							
C11A	Tepee Creek (N	71.78 332	⇓P	P	11 48 15.6	+1.0		
	baz=72							
A13A	Flathead Natio	71.79 334	⇑P	P	11 48 15.7	+1.0		
	baz=72,SNR=6.0							
HAWA	Hanford	72.28 329	*e*P	P	11 48 18.5	+0.9		
	comp=Z,6.6nm,0.8s							
FFC	Flin Flon	72.30 344	*i* P	P	11 48 17.6	+0.1		
A12A	Yaak River Ran	72.33 333	⇓P	P	11 48 19.0	+1.1		
	baz=72,SNR=9.6							
NEW	Newport	72.48 332	*e*P	P	11 48 19.4	+0.5		
NEW	Newport	72.48 332	*e*P	P	11 48 19.4	+0.5		
NEW	Newport	72.48 332	⇑P	P	11 48 19.3	+0.5		
	baz=73							
OD2	Odessa Site #2	72.59 331	*e*P	P	11 48 20.7	+1.3		
ETW	Entiat	73.52 330	*e*P	P	11 48 26.7	+1.6		
JCW	Jim Creek	74.71 330	*e*P	P	11 48 32.6	+0.8		
QSPA	South Pole Qui	75.98 180	*e*P	P	11 48 41.2	+2.1		
	comp=Z,4.9nm,0.8s							
TORD	Torodi Ar. Bea	80.79 74	P	P	11 49 07.2	+0.8		
TORD			pP	pP	11 49 27.7	-0.2		
	comp=Z,6.8nm,0.8s,baz=258,slow=5.3,SNR=20							
TORD			sP	sP	11 49 37.0	+0.5		
	comp=Z,2.5nm,0.9s,baz=255,slow=4.8,SNR=3.3							
TORD			sP	sP	11 49 37.0	+0.5		
	comp=Z,1.9nm,0.7s,baz=246,slow=5.0,SNR=2.8							
YKA	Yellowknife Ar	82.39 343	P	P	11 49 13.4	-0.3		
	comp=Z,3.1nm,0.8s,baz=138,slow=5.7,SNR=61							
YKA			pP	pP	11 49 34.3	-0.9		
	comp=Z,0.8nm,0.8s,baz=141,slow=5.7,SNR=4.1							
YKA	Yellowknife Ar	82.39 343	P	P	11 49 13.4	-0.3		
YKA	Yellowknife Ar	82.39 343	P	P	11 49 13.4	-0.3		
YKA			pP	pP	11 49 34.4	-0.9		
ESDC	Sonseca Array	85.02 47	P	P	11 49 28.9	+1.2		
	comp=Z,0.1nm,0.3s,baz=261,slow=6.1,SNR=5.3							
ESDC	Sonseca Array	85.02 47	P	P	11 49 28.9	+1.2		
MAW	Mawson	92.97 165	P	P	11 50 03.9	-0.9		
	comp=Z,6.1nm,0.9s,baz=225,slow=12,SNR=3.6							
MAW	Mawson	92.97 165	P	P	11 50 03.9	-0.9		
MAW	Mawson	92.97 165	P	P	11 50 03.9	-0.9		
ILAR	Eielson Array	95.13 336	P	P	11 50 14.3	-0.4		
	comp=Z,0.6nm,0.9s,baz=157,slow=3.0,SNR=5.4							
ILAR	Eielson Array	95.13 336	P	P	11 50 14.3	-0.4		
ILAR	Eielson Array	95.13 336	P	P	11 50 14.3	-0.4		
GERES	GERESS Array B	99.77 42	P	Pdif	11 50 36.8	+0.6		
	comp=Z,0.5nm,0.7s,baz=256,slow=2.8,SNR=4.3							
GERES	GERESS Array B	99.77 42	P	Pdif	11 50 36.8	+0.6		
GERES	GERESS Array B	99.77 42	P	Pdif	11 50 36.8	+0.6		
AKTO	Aktyubinsk	127.68 36	PKP	PKPdf	11 55 56.7	-0.2		
	comp=Z,0.7nm,0.6s,baz=334,slow=5.4,SNR=4.4							
AKTO	Aktyubinsk	127.68 36	PKIKP	PKPdf	11 55 56.7	-0.2		
AKTO	Aktyubinsk	127.68 36	PKP	PKPdf	11 55 56.7	-0.2		
ABKAR	Akbulak array	129.33 37	*e*PKPdf	PKPdf	11 56 01.6	+1.6		
ASAR	Alice Springs	132.88 217	PKP	PKPdf	11 56 07.8	+0.1		
	comp=Z,0.5nm,0.7s,baz=123,slow=2.0,SNR=12							
ASAR	Alice Springs	132.88 217	PKIKP	PKPdf	11 56 07.8	+0.1		
ASAR	Alice Springs	132.88 217	PKP	PKPdf	11 56 07.8	+0.1		
WRA	Warramunga Arr	135.39 221	PKP	PKPdf	11 56 13.3	+0.9		
	comp=Z,1.2nm,0.6s,baz=132,slow=1.9,SNR=17							
WRA	Warramunga Arr	135.39 221	PKIKP	PKPdf	11 56 13.3	+0.9		
WRA	Warramunga Arr	135.39 221	PKP	PKPdf	11 56 13.3	+0.9		
ZALV	Zalesovo Beam	137.29 17	PKP	PKPdf	11 56 15.9	+1.0		
	comp=Z,2.9nm,0.8s,baz=318,slow=2.0,SNR=13							
ZALV	Zalesovo Beam	137.29 17	PKIKP	PKPdf	11 56 15.9	+1.0		
ZALV	Zalesovo Beam	137.29 17	PKP	PKPdf	11 56 15.9	+1.0		
MKAR	Makanchi Array	142.38 26	PKP	PKPdf	11 56 21.8	-2.6		
	comp=Z,0.4nm,0.6s,baz=0.0,slow=1.2,SNR=6.2							
MKAR	Makanchi Array	142.38 26	PKP	PKPdf	11 56 21.8	-2.6		
MDJ	Mudanjiang	143.07 330	PKP	PKPdf	11 56 25.0	-0.6		
KSH	Kashi	144.20 40	*e*PKP	PKPdf	11 56 28.1	+0.1		
KSH			*e*PKS	PKSdf	12 00 02.5	-1.2		
KSH			*e*SKS	SKSdf	12 03 31.6	+1.1		
KSH			*e*SKKS	SKKSac	12 06 19.8	-9.0		
KSH			AMB	AMB				
	comp=Z,500nm,7.3s							
KSH			LR	LR				
	comp=N,310nm,6.4s							
KSH			LR	LR				
	comp=E,430nm,8.0s							
KSH			LR	LR				
	comp=Z,550nm,8.4s							
CN2	Changchun	145.60 333	*e*PKPbc	PKPdf	11 56 28.5	-1.5		
ULN	Ulaanbaatar	146.35 357	*e*PKPdf	PKPab	11 56 33.9	+0.2		
SONM	Songino Array	146.40 358	PKPbc	PKPbc	11 56 32.7	-0.2		
	comp=Z,4.3nm,0.7s,baz=332,slow=1.7,SNR=37							
SONM			pPKPbc	pPKPbc	11 56 53.3	-2.1		
	comp=Z,1.4nm,0.7s,baz=318,slow=2.5,SNR=2.8							
SONM			sPKPbc	sPKPbc	11 57 04.7	+0.8		
	comp=Z,3.5nm,1.1s,baz=340,slow=2.8,SNR=6.3							
SONM	Songino Array	146.40 358	PKPbc	PKPbc	11 56 32.7	-0.2		
SONM			pPKPbc	pPKPbc	11 56 53.3	-2.1		
SONM			sPKPbc	sPKPbc	11 57 04.7	+0.8		
WMQ	Urumqi	146.99 23	*e*PKPbc	PKPdf	11 56 30.5	-2.0		
KSRS	Korea Array	149.03 323	PKPbc	PKPbc	11 56 41.0	+0.9		
	comp=Z,3.4nm,0.8s,baz=350,slow=1.9,SNR=7.6							
KSAR	Wonju Array Be	149.06 323	PKPbc	PKPbc	11 56 41.0	+0.8		
HHC	Hu-ho-hao-te	152.77 349	*e*PKPbc	PKPdf	11 56 39.8	-2.0		
HHC			pPKP	pPKPdf	11 57 03.3	-1.3		
HHC			PKS	PKSdf	12 00 13.6	-2.7		
HHC			PP	PP	12 00 31.9	-0.1		
HHC			SKS	SKSdf	12 03 36.3	-5.7		
HHC			SKKS	SKKSac	12 07 10.6	-5.5		
HHC			SS	SS	12 19 52.9	-3.5		
HHC			AMB	AMB				
	comp=Z,73nm,9.2s							
HHC			LR	LR				
	comp=N,180nm,21.8s							
HHC			LR	LR				
	comp=E,190nm,20.6s							
HHC			LR	LR				
	comp=Z,140nm,20.6s							
LZH	Lanzhou	158.15 2	*e*PKP	PKPdf	11 56 40.5	-8.7		
LZH			PKP	PKPab	11 57 13.0	-10		
LZH			pPKP	pPKPdf	11 57 20.0	+7.9		
LZH			sPKP		11 57 38.5			
CD2	Chengdu	163.30 3	PKP	PKPdf	11 56 54.3	-0.5		
GYA	Guiyang	167.65 352	*e*PKP	PKPdf	11 56 58.8	+0.2		
GYA			pPKP	pPKPdf	11 57 19.8	-1.7		
GYA			sPKP		11 57 28.4			
GYA			PKPab	PKPab	11 58 06.0	+1.2		
GYA			PKS	PKSdf	12 00 30.3	-1.2		
GYA			PP	PP	12 01 54.5	+2.4		
GYA			AMB	AMB				
	comp=Z,90nm,8.0s							

IDC ***18*** *11:51:28.6±0.9,51.72N×173.04W, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/29, mbtmp3.8/14

ARCES	**ARCES Array B**	**58.40**	**352**	P		**P**	**12 01 24.5**	**-0.3**
	2.2nm,0.8s,baz=15,slow=7.8,SNR=3.8							
ARCES	**ARCES Array B**	**58.40**	**352**	P		**P**	**12 01 24.5**	**-0.3**
MKAR	**Makanchi Array**	**62.68**	**312**	P		**P**	**12 01 53.5**	**-0.9**
	0.3nm,0.4s,baz=46,slow=6.1,SNR=21							
MKAR	**Makanchi Array**	**62.68**	**312**	P		**P**	**12 01 53.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**74.61**	**280**	P		**P**	**12 03 10.4**	**+1.3**
	0.5nm,0.3s,baz=35,slow=6.1,SNR=5.4							
CMAR	**Chiang Mai Arr**	**74.61**	**280**	P		**P**	**12 03 10.4**	**+1.3**
ASAR	**Alice Springs**	**88.25**	**227**	P		**P**	**12 04 20.7**	**-0.2**
	0.4nm,0.6s,baz=28,slow=4.5,SNR=5.2							
ASAR	**Alice Springs**	**88.25**	**227**	P		**P**	**12 04 20.7**	**-0.2**

*IDC **18** 11:53:24.7±0.7,22.65S×170.83E,h0km,mb4.4/14, mb1 4.6/15,mb1mx4.4/21,mbtmp4.4/15,ML4.3/1,MS4.2/14, Ms1 4.2/14,ms1mx4.0/23,Error ellipse: s-maj=21.1km s-min=17.1km az=166.0*

*ISCJB **18** 11:53:29.5±0.4,22.70S±0.09×170.72E±0.06,h42km, mb4.6/22,MS4.3/12,Error ellipse: s-maj=12.5km s-min=7.3km az=173.9*

*NEIC **18** 11:53:30.3±0.4,22.67S×170.77E,h35km,mb4.7/14,Error ellipse: s-maj=14.3km s-min=7.7km az=161.0*

*SZGRF **18** 11:53:31.3,21.50S×173.50E,h33km, Vanuatu Islands region*

ISC 18 11:53:31.1±0.5,22.6S±0.1×170.79E±0.07,h42km,n123, σ1§11/114,mb4.7/22,MS4.3/12,7C-9D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.06**	**276**	*e*Pn	**Pn**	**11 54 29.1**	**-1.6**
	76nm,0.2s						
DZM				*e*Sn	**Sn**	**11 55 14.9**	**-2.1**
	143nm,0.2s						
DZM				*e*LR	LR	11 55 28.2	
	2μm,22.4s						
DZM	**Mont Dzumac**	**4.06**	**276**	Pn	**Pn**	**11 54 30.2**	**-0.5**
	17nm,0.3s,baz=73,slow=19,SNR=479						
DZM				Sn	**Sn**	**11 55 16.4**	**-0.6**
	17nm,0.3s,baz=110,slow=20,SNR=11						
DZM				LR	LR	11 55 46.9	
	comp=Z,826nm,19.7s,baz=315,slow=35						
DZM	**Mont Dzumac**	**4.06**	**276**	*e*Pn	**Pn**	**11 54 29.1**	**-1.6**
DZM				*e*Sn	**Sn**	**11 55 14.6**	**-2.4**
MSVF	**Nonsavu**	**8.35**	**56**	*e*Pn	Pn	11 55 32.6	+2.9
	98nm,1.0s						
EIDS	**Eidsvold**	**18.22**	**257**	*e*P	**Pn**	**11 57 43.5**	**+2.7**
	55nm,1.6s						
AFI	**Afiamalu**	**18.66**	**65**	LR	LR	12 02 55.7	
	comp=Z,419nm,21.1s,baz=243,slow=31						
AFI	**Afiamalu**	**18.66**	**65**	*e*P	**P**	**11 57 43.9**	**-1.7**
	16nm,0.6s						
ARMA	**Armidale**	**18.82**	**241**	*e*P	**Pn**	**11 57 51.0**	**+2.8**
ARMA	**Armidale**	**18.82**	**241**	*e*P	**Pn**	**11 57 50.4**	**+2.2**
	47nm,1.6s						
RPZ	**Rata Peaks**	**21.08**	**179**	P	**P**	**11 58 10.8**	**-0.9**
	7.4nm,0.8s,baz=324,slow=14,SNR=1.8						
RPZ				LR	LR	12 04 52.4	
	comp=Z,708nm,21.8s,baz=336,slow=33						
RPZ	**Rata Peaks**	**21.08**	**179**	P	**P**	**11 58 10.8**	**-0.9**
CTA	**Charters Tower**	**22.98**	**272**	P	**P**	**11 58 32.9**	**+0.6**
	4.3nm,0.6s,baz=101,slow=13,SNR=7.3						
CTA	**Charters Tower**	**22.98**	**272**	*e*P	**P**	**11 58 34.7**	**+2.4**
	14nm,1.1s						
CTA	**Charters Tower**	**22.98**	**272**	P	**P**	**11 58 32.9**	**+0.6**
PMG	**Port Moresby**	**26.17**	**296**	P	**P**	**11 59 00.9**	**-0.8**
	9.3nm,0.7s,baz=135,slow=7.1,SNR=3.9						
PMG	**Port Moresby**	**26.17**	**296**	P	**P**	**11 59 00.9**	**-0.8**
STKA	**Stephens Creek**	**27.49**	**244**	P	**P**	**11 59 11.2**	**-2.3**
	4.0nm,0.8s,baz=84,slow=11,SNR=9.3						
STKA				LR	LR	12 09 37.2	
	comp=Z,344nm,18.4s,baz=66,slow=35						
STKA	**Stephens Creek**	**27.49**	**244**	*e*P	**P**	**11 59 13.9**	**+0.4**
	4.2nm,1.2s						
STKA	**Stephens Creek**	**27.49**	**244**	*e*P	**P**	**11 59 13.7**	**+0.2**
	7.1nm,1.7s						
COEN	**Coen**	**27.55**	**283**	*e*P	**P**	**11 59 15.5**	**+1.3**
	139nm,1.4s						
BBOO	**Buckleboo**	**32.27**	**244**	*e*P	**P**	**11 59 55.8**	**0.0**
	169nm,0.9s						
AS31	**Alice Springs**	**33.88**	**261**	*e*P	**P**	**12 00 09.8**	**-0.2**
ASAR	**Alice Springs**	**33.88**	**261**	P	**P**	**12 00 09.7**	**-0.4**
	7.6nm,0.9s,baz=92,slow=9.7,SNR=74						
ASAR	**Alice Springs**	**33.88**	**261**	P	**P**	**12 00 09.7**	**-0.4**
WB2	**Warramunga Arr**	**34.01**	**268**	*e*P	**P**	**12 00 09.9**	**-1.2**
WRAB	**Tennant Creek**	**34.01**	**268**	*e*P	**P**	**12 00 09.9**	**-1.3**
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**34.02**	**268**	P	**P**	**12 00 09.6**	**-1.7**
	1.3nm,0.5s,baz=97,slow=8.4,SNR=22						
WRA	**Warramunga Arr**	**34.02**	**268**	P	**P**	**12 00 09.6**	**-1.7**
TBI	**Tubuai**	**36.53**	**99**	*e*LR	LR	12 10 15.1	
	262nm,24.0s						
PPT2	**Papeete2**	**37.48**	**90**	*e*LR	LR	12 10 47.5	
	230nm,23.5s						
FORT	**Forrest**	**38.85**	**249**	*e*P	**P**	**12 00 52.3**	**0.0**
	15nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.45**	**268**	P	**P**	**12 01 22.3**	**+0.2**
	10.0nm,0.6s,baz=134,slow=9.9,SNR=32						
FITZ	**Fitzroy Crossi**	**42.45**	**268**	*e*P	**P**	**12 01 22.6**	**+0.4**
	21nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.45**	**268**	*e*P	**P**	**12 01 22.4**	**+0.2**
	13nm,0.9s						
MBWA	**Marble Bar**	**47.22**	**262**	*e*P	**P**	**12 01 59.7**	**-0.4**
	9.9nm,0.6s						
JOW	**Kunigami**	**64.07**	**318**	LR	LR	12 28 06.4	
	comp=Z,119nm,19.0s,baz=53,slow=32						
QSPA	**South Pole Qui**	**67.49**	**180**	P	**P**	**12 04 21.8**	**-0.8**
	7.0nm,0.9s,baz=9.8,slow=2.4,SNR=12						
QSPA	**South Pole Qui**	**67.49**	**180**	*e*P	**P**	**12 04 21.9**	**-0.7**
	11nm,1.1s						
ASAJ	**Asahikawa**	**71.23**	**339**	LR	LR	12 32 46.8	
	comp=Z,160nm,18.4s,baz=282,slow=33						
MAW	**Mawson**	**75.89**	**202**	LR	LR	12 30 59.9	
	comp=Z,202nm,21.9s,baz=303,slow=30						
PETK	**Petropavlovsk-**	**76.23**	**352**	P	**P**	**12 05 15.1**	**+0.3**
	4.3nm,0.8s,baz=167,slow=7.0,SNR=5.0						
PETK				LR	LR	12 32 00.7	
	comp=Z,83nm,21.1s,baz=240,slow=30						
PETK	**Petropavlovsk-**	**76.23**	**352**	P	**P**	**12 05 15.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**12 05 44.9**	**+2.0**
	4.5nm,0.8s,baz=137,slow=4.0,SNR=21						
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**12 05 44.9**	**+2.0**
CHTO	**Chiang Mai**	**81.35**	**294**	*e*P	**P**	**12 05 45.3**	**+1.5**
	13nm,1.1s						
SNAA	**Sanae**	**85.89**	**182**	*e*	P	12 06 02.2	-4.0
SNAA	**Sanae**	**85.89**	**182**	*e*P	P	12 06 01.7	-4.5
	5.8nm,0.9s						
VNA3	**Neumayer Olymp**	**86.42**	**180**	*e*	**P**	**12 06 07.7**	**-1.1**
VNA2	**Neumayer--Watz**	**86.74**	**181**	*e*	**P**	**12 06 09.5**	**-0.8**
	baz=174,slow=4.3						
ISA	**Isabella**	**88.47**	**50**	*e*P	**P**	**12 06 19.0**	**-0.2**
	7.1nm,1.3s						
NVAR	**Mina Array Bea**	**89.94**	**48**	P	**P**	**12 06 25.9**	**-0.4**
	2.1nm,0.7s,baz=224,slow=8.6,SNR=20						
NVAR	**Mina Array Bea**	**89.94**	**48**	P	**P**	**12 06 25.9**	**-0.4**
ULN	**Ulaanbaatar**	**90.40**	**323**	*e*P	**P**	**12 06 28.8**	**+0.8**
	6.2nm,1.1s						
SONM	**Songino Array**	**90.75**	**323**	P	**P**	**12 06 29.7**	**+0.1**
	4.1nm,1.1s,baz=137,slow=3.1,SNR=20						
SONM	**Songino Array**	**90.75**	**323**	P	**P**	**12 06 29.7**	**+0.1**
BBB	**Bella Bella**	**91.48**	**33**	LR	LR	12 37 24.8	
	comp=Z,161nm,20.3s,baz=236,slow=29						
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**	**12 06 39.3**	**-0.2**
	0.3nm,0.7s,baz=238,slow=5.1,SNR=3.6						
ILAR				LR	LR	12 44 41.4	
	comp=Z,140nm,18.7s,baz=137,slow=33						
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**	**12 06 39.3**	**-0.2**
DLBC	**Dease Lake**	**94.34**	**27**	LR	LR	12 46 59.3	
	comp=Z,226nm,19.3s,baz=129,slow=34						
PLCA	**Paso Flores**	**95.08**	**138**	LR	LR	12 42 12.8	
	comp=Z,76nm,18.1s,baz=112,slow=31						
PDAR	**Pinedale Array**	**97.82**	**47**	P	Pdif	12 07 02.8	+0.4
	0.3nm,0.9s,baz=210,slow=5.2,SNR=2.3						
PDAR				LR	LR	12 46 29.5	
	comp=Z,249nm,18.2s,baz=3.0,slow=33						
PDAR	**Pinedale Array**	**97.82**	**47**	P	Pdif	12 07 02.8	+0.4
INK	**Inuvik**	**99.25**	**18**	LR	LR	12 52 17.1	
	comp=Z,131nm,18.5s,baz=355,slow=36						
MKAR	**Makanchi Array**	**105.12**	**315**	Pdiff	**Pdif**	**12 07 34.6**	**+0.2**
	0.2nm,0.6s,baz=96,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**105.12**	**315**	Pdif	**Pdif**	**12 07 34.6**	**+0.2**
ARCES	**ARCES Array B**	**128.66**	**345**	PKP	**PKPdf**	**12 12 32.0**	**-1.0**
	3.9nm,0.9s,baz=69,slow=3.0,SNR=7.6						
ARCES	**ARCES Array B**	**128.66**	**345**	PKP	**PKPdf**	**12 12 32.0**	**-1.0**
FINES	**FINESS Array B**	**134.22**	**337**	PKhKP	PKPpre	12 12 35.3	
	3.4nm,0.9s,baz=76,slow=5.9,SNR=2.9						
FINES	**FINESS Array B**	**134.22**	**337**	PKPpre	PKPpre	12 12 35.4	
BRTR	**Keskin Array B**	**139.97**	**305**	PKP	**PKPdf**	**12 12 56.4**	**+1.2**
	1.5nm,1.0s,baz=134,slow=3.6,SNR=4.2						
BRTR	**Keskin Array B**	**139.97**	**305**	PKP	**PKPdf**	**12 12 56.4**	**+1.2**
TRPA	**Tarpa**	**144.10**	**323**	*e*PKP	**PKPdf**	**12 13 01.4**	**-0.6**
CRVS	**Cervenica-Dubn**	**144.24**	**325**	*e*PKP	**PKPdf**	**12 13 02.0**	**-0.3**
DRGR		**144.73**	**321**	*i*PKP	**PKPdf**	**12 13 02.8**	**-0.5**
OKC	**Ostrava-Krasne**	**145.34**	**328**	*e*PKP	**PKPab**	**12 13 03.9**	**-0.3**
KDZ	**Kurdzhali**	**145.36**	**311**	*e*P	**PKPab**	**12 13 04.5**	**-0.1**
GZR	**Gura Zlata**	**145.42**	**319**	*i*P	**PKPab**	**12 13 05.7**	**+0.9**
PSZ	**Piszkesteto**	**145.66**	**325**	*i*P	**PKPab**	**12 13 06.7**	**+1.1**
PSZ	**Piszkesteto**	**145.66**	**325**	*i*EPKPdf	**PKPab**	**12 13 06.7**	**+1.1**
KRLC	**Kraliky**	**145.82**	**330**	*e*PKP	**PKPab**	**12 13 06.8**	**+0.7**
RZN	**Rozhen**	**145.83**	**312**	*e*P	**PKPbc**	**12 13 05.5**	**-0.6**
DPC	**Dobruska-Polom**	**145.84**	**331**	*e*PKP	**PKPab**	**12 13 06.5**	**+0.4**
VYHS	**Vyhne**	**145.86**	**326**	*e*PKP	**PKPab**	**12 13 05.9**	**-0.3**
UPC	**Upice**	**145.87**	**331**	*e*PKP	**PKPab**	**12 13 06.4**	**+0.2**
BZS	**Buzias**	**146.00**	**320**	*i*P	**PKPab**	**12 13 07.1**	**+0.3**
VRAC	**Vranov**	**146.44**	**329**	*i*P	**PKPab**	**12 13 08.7**	**+0.3**
VTS	**Vitosha**	**146.47**	**314**	*i*P	**PKPab**	**12 13 09.2**	**+0.3**
VTS	**Vitosha**	**146.47**	**314**	*e*P	**PKPbc**	**12 13 07.6**	**-0.4**
PVCC	**Panska Ves**	**146.49**	**332**	*e*PKP	**PKPab**	**12 13 08.9**	**+0.4**
BRG	**Berggiesshubel**	**146.50**	**333**	*e*P	**PKPab**	**12 13 08.7**	**+0.1**
	18nm,1.0s						
BRG	**Berggiesshubel**	**146.50**	**333**	*e*PKPbc	**PKPab**	**12 13 08.3**	**-0.2**
CLL	**Collm**	**146.55**	**335**	*e*PKPbc	**PKPab**	**12 13 08.6**	**-0.1**
CLL	**Collm**	**146.55**	**335**	*i*PKPbc	**PKPab**	**12 13 08.3**	**-0.4**
	comp=Z,10.0nm,0.7s						
MMB	**Musomiste**	**146.55**	**312**	*e*P	**PKPbc**	**12 13 07.3**	**-0.8**
NRDL	**Niedersach Rie**	**146.66**	**338**	*e*PKPbc	**PKPab**	**12 13 09.1**	**+0.1**
PRU	**Pruhonice**	**146.90**	**332**	*e*PKP	**PKPab**	**12 13 10.2**	**+0.1**
TREC	**Trest**	**146.97**	**330**	*e*PKP	**PKPab**	**12 13 10.3**	**-0.2**
PKSM	**Moragy**	**147.38**	**323**	*i*P	**PKPab**	**12 13 11.0**	**-1.1**
PKSM	**Moragy**	**147.38**	**323**	*i*EPKPdf	**PKPab**	**12 13 11.1**	**-1.1**
TANN	**Tannenbergstha**	**147.46**	**334**	*e*PKPbc	**PKPab**	**12 13 11.6**	**-0.8**
SOP	**Sopron**	**147.55**	**327**	*i*EPKPdf	**PKPbc**	**12 13 10.1**	**-0.5**
IBBN	**Ibbenburen**	**147.58**	**340**	*e*PKPbc	**PKPbc**	**12 13 10.4**	**-0.1**
NKC	**Novy Kostel**	**147.60**	**334**	*e*PKP	**PKPbc**	**12 13 11.2**	**+0.5**
MOX	**Moxa**	**147.61**	**335**	*e*PKPbc	**PKPab**	**12 13 12.3**	**-0.7**
CONA	**Conrad Observa**	**147.74**	**328**	*i*PKPab	**PKPab**	**12 13 12.6**	**-1.0**
	comp=Z,14nm,1.7s						
KHC	**Kasperske Hory**	**147.95**	**331**	*e*PKP	**PKPab**	**12 13 12.7**	**-1.7**
ROTZ	**Rotzenmuhle**	**148.06**	**333**	*e*PKPbc	**PKPab**	**12 13 13.8**	**-1.0**
UBBA	**Unterbreizbach**	**148.08**	**337**	*e*PKPbc	**PKPab**	**12 13 13.4**	**-1.2**
GEC2	**GERESS Array S**	**148.11**	**331**	*e*PKPbc	**PKPab**	**12 13 13.8**	**-1.3**
GERES	**GERESS Array B**	**148.11**	**331**	PKPbc	**PKPbc**	**12 13 11.6**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=43,slow=3.4,SNR=12						
GERES	**GERESS Array B**	**148.11**	**331**	PKPbc	**PKPbc**	**12 13 11.6**	**-0.6**
GRF	**Grafenberg Arr**	**148.52**	**334**	*e*PKPbc	**PKPab**	**12 13 14.9**	**-1.7**
GRF				*e*PKPab	**PKiKP**	**12 13 18.4**	**+3.7**
TNS	**Taunus Mts**	**149.13**	**338**	*e*PKPbc	**PKPbc**	**12 13 15.7**	**+0.9**
TNS				*e*PKPab	**PKPab**	**12 13 20.0**	**+0.9**
RJOB	**Jochberg**	**149.33**	**330**	*e*PKPab	**PKPab**	**12 13 22.4**	**+2.4**
FUR	**Furstenfeldbru**	**149.69**	**332**	*e*PKPab	**PKPab**	**12 13 23.1**	**+1.7**
STU	**Stuttgart**	**150.06**	**335**	*e*PKPbc	**PKPbc**	**12 13 18.3**	**+1.3**
WTTA	**Wattenberg**	**150.21**	**331**	*i*PKiKP	**PKiKP**	**12 13 18.7**	**+0.2**
	comp=Z,18nm,1.1s						
WLF	**Walferdange**	**150.38**	**340**	*e*PKPbc	**PKPbc**	**12 13 18.9**	**+1.2**
MOTA	**Moosalm**	**150.39**	**331**	*i*PKiKP	**PKiKP**	**12 13 18.7**	**-0.1**
	comp=Z,11nm,1.2s						
BFO	**Black Forest**	**150.75**	**336**	*e*PKPbc	**PKPbc**	**12 13 19.4**	**+0.7**
BFO				*e*PKPab	**PKPab**	**12 13 26.4**	**+0.6**
DAVA	**Damuels**	**150.96**	**333**	*i*PKiKP	**PKiKP**	**12 13 20.6**	**+0.6**
	comp=Z,20nm,1.6s						
TORD	**Torodi Ar. Bea**	**166.01**	**230**	PKP	**PKPdf**	**12 13 33.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=101,slow=1.5,SNR=3.3						
TORD				PKPab	**PKPab**	**12 14 32.9**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=121,slow=2.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**166.01**	**230**	PKP	**PKPdf**	**12 13 33.0**	**+0.7**
TORD				PKPab	**PKPab**	**12 14 32.9**	**+0.3**

IDC 18 11:54:52.9±5.0,19.98N×147.07E,h66km±46km,mb3.3/6, mb1 3.4/6,mb1mx3.3/22,mbtmp3.3/6,ML4.5/1,Error ellipse: s-maj=42.5km s-min=20.3km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.69**	**199**	P	Pn	11 56 28.6	0.0
	11nm,0.3s,baz=350,slow=19,SNR=2.6						
GUMO				S	Sn	11 57 43.9	+0.4
	13nm,0.3s,baz=162,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**41.59**	**198**	P	P	12 02 35.7	+1.3
	0.7nm,1.0s,baz=32,slow=9.1,SNR=3.4						
SONM	**Songino Array**	**42.98**	**320**	P	P	12 02 46.0	+0.3
	0.3nm,0.4s,baz=126,slow=6.7,SNR=8.2						
STKA	**Stephens Creek**	**51.83**	**186**	P	P	12 03 53.0	-1.3
	1.2nm,0.8s,baz=0.0,slow=12,SNR=2.8						
ZALV	**Zalesovo Beam**	**57.80**	**322**	P	P	12 04 36.7	-0.5
	0.4nm,0.5s,baz=100,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**58.52**	**313**	P	P	12 04 42.1	-0.4
	0.5nm,0.7s,baz=87,slow=7.5,SNR=7.0						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	P	12 06 34.3	+0.2
	0.2nm,0.4s,baz=284,slow=5.9,SNR=11						

CASC 18 11:57:49.9±2.4,10.26N×84.12W,h1km±7km,MD3.8, 4C-1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.33**	**168**	*e*P	Pg	11 57 57.0	+0.7
SJS				*e*S	Sg	11 58 02.4	+1.7
LAJ	**Bijagual**	**0.40**	**180**	*i*P	Pn	11 58 04.3	+1.2
URSC	**Urasca**	**0.54**	**141**	*i*P	Pg	11 58 00.8	+0.3
BUS	**Buena Vista**	**0.79**	**153**	*e*P	Pg	11 58 04.8	-0.8
QCR	**Quepos**	**0.83**	**183**	*i*P	Pg	11 58 05.8	-0.1
JCR	**Jicaral**	**1.06**	**247**	*e*P	Pg	11 58 10.0	-0.3
ACR	**Cerro Adams**	**1.85**	**149**	*e*P	Pn	11 58 23.0	+0.1
BRU2	**Volcan**	**2.03**	**136**	*i*P	Pn	11 58 26.4	+1.0
BRU2				*i*S	Sb	11 58 54.1	+0.4
TBS2		**2.05**	**135**	*e*P	Pb	11 58 27.1	-1.2
TBS2				*i*S	Sn	11 58 49.7	-2.5

*ISK **18** 12:05:33.9,37.17N×36.32E,h5km,MD3.0*

*DDA **18** 12:05:34.7,37.17N×36.33E,h7km,MD2.9*

*CSEM **18** 12:05:35.3±0.1,37.16N×36.32E,h2km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.2km az=157.0*

ISC 18 12:05:35.3±1.1,37.17N±0.03×36.32E±0.02,h5km±10km, n37,σ0§57/53,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.49**	**251**	*e*PG	**Pg**	**12 05 44.6**	**-0.1**
CEYT				*e*SG	**Sg**	**12 05 52.3**	**+1.3**
CEYT	**Ceyhan**	**0.49**	**251**	*e*Pg	**Pg**	**12 05 44.6**	**-0.1**
CEYT				*e*Sg	**Sg**	**12 05 52.3**	**+1.3**
KOZT	**Kozan**	**0.50**	**308**	*e*PG	**Pg**	**12 05 44.9**	**-0.1**
KOZT	**Kozan**	**0.50**	**308**	*e*Pg	**Pg**	**12 05 44.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.57**	**54**	*e*PG	**Pg**	**12 05 45.8**	**-0.4**
KMRS				*e*SG	**Sg**	**12 05 53.2**	**-0.4**
KMRS	**Kahramanmaras**	**0.57**	**54**	*e*Pg	**Pg**	**12 05 45.8**	**-0.4**
KMRS				*e*Sg	**Sg**	**12 05 53.2**	**-0.4**
COBT	**Iskenderun**	**0.65**	**185**	*i*P	**Pg**	**12 05 47.4**	**-0.4**
GAZ	**Gaziantep**	**0.71**	**90**	*e*PG	**Pg**	**12 05 48.9**	**0.0**
GAZ				*e*SG	**Sb**	**12 05 59.9**	**-0.4**
GAZ	**Gaziantep**	**0.71**	**90**	*e*Pg	**Pg**	**12 05 48.9**	**0.0**
GAZ				*e*Sg	**Sb**	**12 05 59.9**	**-0.4**
KUZU	**Kuzuini**	**0.72**	**123**	*i*P	**Pg**	**12 05 49.1**	**0.0**
KUZU				*i*S	**Sg**	**12 05 58.6**	**+0.1**
GZT	**Gaziantep**	**1.01**	**79**	*i*P	**Pg**	**12 05 54.7**	**+0.1**
GZT				*i*S	**Sg**	**12 06 07.9**	**+0.3**
HTY	**Hatay**	**1.06**	**188**	*e*PG	**Pg**	**12 05 55.0**	**-0.6**
HTY	**Hatay**	**1.06**	**188**	*e*Pg	**Pg**	**12 05 55.0**	**-0.6**
YAYL	**Yayladag**	**1.15**	**189**	*i*P	**Pg**	**12 05 56.9**	**-0.4**
YAYL				*i*S	**Sb**	**12 06 13.1**	**+0.1**
YAYL	**Yayladag**	**1.15**	**189**	*i*P	**Pg**	**12 05 56.9**	**-0.4**
YAYL				*i*S	**Sb**	**12 06 13.1**	**+0.1**
GULE	**Gulek**	**1.24**	**276**	*i*P	**Pg**	**12 05 58.4**	**-0.7**
GULE				*i*S	**Sn**	**12 06 16.8**	**+0.1**
GULE	**Gulek**	**1.24**	**276**	*i*P	**Pg**	**12 05 58.4**	**-0.7**
GULE				*i*S	**Sn**	**12 06 16.8**	**+0.1**
MERS	**Mersin**	**1.47**	**259**	*e*PN	**Pn**	**12 06 02.4**	**-0.2**
MERS	**Mersin**	**1.47**	**259**	*e*Pn	**Pn**	**12 06 02.4**	**-0.2**
PINB	**Pinarbasi**	**1.50**	**2**	*i*P	**Pn**	**12 06 03.3**	**+0.1**
PINB				*i*S	**Sg**	**12 06 24.3**	**+0.6**
PINB	**Pinarbasi**	**1.50**	**2**	*i*P	**Pn**	**12 06 03.3**	**+0.1**
PINB				*i*S	**Sg**	**12 06 24.3**	**+0.6**
NIG	**Nigde**	**1.65**	**305**	*e*PN	**Pn**	**12 06 05.5**	**+0.2**
NIG	**Nigde**	**1.65**	**305**	*e*Pn	**Pn**	**12 06 05.5**	**+0.2**
AKCD	**Akcadag**	**1.69**	**48**	*i*P	**Pn**	**12 06 05.7**	**0.0**
AKCD				*i*S	**Sb**	**12 06 28.6**	**-0.1**
AKCD	**Akcadag**	**1.69**	**48**	*i*P	**Pn**	**12 06 05.7**	**0.0**
AKCD				*i*S	**Sb**	**12 06 28.6**	**-0.1**
BNN	**Bunyan**	**1.72**	**347**	*e*PN	**Pb**	**12 06 06.9**	**-0.6**
BNN	**Bunyan**	**1.72**	**347**	*e*Pn	**Pb**	**12 06 06.9**	**-0.6**
URFA	**Urfa**	**2.01**	**82**	*e*PN	**Pn**	**12 06 10.3**	**+0.3**
URFA	**Urfa**	**2.01**	**82**	*e*Pn	**Pn**	**12 06 10.3**	**+0.3**
MALT	**Malatya**	**2.02**	**55**	*e*PN	**Pn**	**12 06 11.1**	**+0.9**
MALT	**Malatya**	**2.02**	**55**	*e*Pn	**Pn**	**12 06 11.1**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.65**	**62**	*e*PN	**Pn**	**12 06 19.8**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.65**	**62**	*e*Pn	**Pn**	**12 06 19.8**	**+0.8**
ILIC	**ilic-Erzincan**	**2.88**	**37**	*e*PN	**Pn**	**12 06 22.9**	**+0.9**
ILIC	**ilic-Erzincan**	**2.88**	**37**	*e*Pn	**Pn**	**12 06 22.9**	**+0.9**
PTK	**Pertek**	**2.97**	**54**	*e*PN	**Pn**	**12 06 24.5**	**+1.2**
PTK	**Pertek**	**2.97**	**54**	*e*Pn	**Pn**	**12 06 24.5**	**+1.2**

IDC 18 12:17:38.3±4.6,52.00N×179.51E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.2/26,mbtmp3.2/3,Error ellipse: s-maj=147.0km s-min=34.5km az=1.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**35.57**	**47**	P	P	12 24 36.5	-0.3
	0.1nm,0.5s,baz=285,slow=7.8,SNR=5.2						
PDAR	**Pinedale Array**	**47.12**	**72**	P	P	12 26 12.2	+0.1
	0.4nm,0.8s,baz=303,slow=4.2,SNR=4.2						
MKAR	**Makanchi Array**	**58.82**	**307**	P	P	12 27 38.1	-0.1
	0.2nm,0.6s,baz=52,slow=6.1,SNR=5.0						

*IDC **18** 12:19:12.5±0.5,22.37S×170.75E,h0km,mb4.6/21, mb1 4.7/23,mb1mx4.7/23,mbtmp4.6/23,ML3.8/2,MS4.0/8, Ms1 4.0/8,ms1mx3.7/23,Error ellipse: s-maj=17.4km s-min=14.2km az=159.0*

*SZGRF **18** 12:19:17.6,22.69S×170.56E,h33km,Southeast of Loyalty Islands*

*ISCJB **18** 12:19:18.8±1.3,22.42S±0.05×170.56E±0.05,h48km±11km, mb4.8/56,MS4.3/11,Error ellipse: s-maj=9.4km s-min=8.0km az=158.0*

*NEIC **18** 12:19:18.8±0.3,22.41S×170.60E,h35km,mb4.9/31,Error ellipse: s-maj=11.3km s-min=7.4km az=161.0*

*MOS **18** 12:19:18.8±1.8,22.18S×170.46E,h33km,mb4.8/13,Error ellipse: s-maj=12.5km s-min=9.2km az=166.8*

*BJI **18** 12:19:19.7,22.15S×171.28E,h68km,mB5.2/17,mb4.8/33, Ms5.2/15,Ms7 4.8/14*

*BGS **18** 12:19:20.2±5.0,22.41S×170.60E,h33km,mb4.9(NEIC)*

ISC 18 12:19:21.5±0.4,22.52S±0.06×170.69E±0.05,h65km±3km, h65km:pP-P,n372,σ1§34/417,mb4.8/54,40C-16D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.96**	**276**	*e*Pn	Pn	12 20 15.5	-4.3
	176nm,0.2s						
DZM				*e*Sn	Sn

WRAB **Tennant Creek** 33.92 267 *e*P P 12 25 56.7 -1.9
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 33.92 267 *e*P P 12 25 56.7 -1.9
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 33.93 267 P P 12 25 57.2 -1.5
comp=Z,2.4nm,0.7s,baz=104,slow=7.9,SNR=15
WRA PcP PcP 12 28 36.7 +0.8
comp=Z,1.8nm,0.8s,baz=96,slow=2.8,SNR=6.1
WRA PKiKP PKiKP 12 35 59.1 -1.3
comp=Z,0.6nm,0.9s,baz=19,slow=0.3,SNR=4.3
WRA Warramunga Arr 33.93 267 P P 12 25 57.2 -1.5
WRA 12 28 36.7
WRA Warramunga Arr 33.93 267 P P 12 25 57.2 -1.5
WRA PcP PcP 12 28 36.7 +0.8
WRA PKiKP PKiKP 12 35 59.1 -1.3
TBI Tubuai 36.63 99 *e*LR LR 12 36 22.6
comp=Z,236nm,25.8s
PPT2 Papeete2 37.57 90 *e*LR LR 12 36 50.7
comp=Z,199nm,24.0s
FORT Forrest 38.80 248 *e*P P 12 26 40.7 +0.7
comp=Z,16nm,1.0s
FITZ Fitzroy Crossi 42.36 267 P P 12 27 09.8 +0.2
comp=Z,14nm,0.8s,baz=126,slow=8.2,SNR=20
FITZ LR LR 12 45 10.8
comp=Z,279nm,18.1s,baz=107,slow=37
FITZ Fitzroy Crossi 42.36 267 *e*P P 12 27 09.6 0.0
comp=Z,23nm,0.8s
FITZ Fitzroy Crossi 42.36 267 *e*P P 12 27 09.3 -0.2
comp=Z,16nm,0.9s
GUMO Guam 43.91 322 LR LR 12 44 07.2
comp=Z,132nm,18.2s,baz=80,slow=34
MBWA Marble Bar 47.13 262 *e*P P 12 27 47.2 -0.4
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 48.01 245 *e*P P 12 27 53.8 -0.4
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 48.01 245 *e*P P 12 27 53.8 -0.4
comp=Z,15nm,0.8s
KAPI Kappang 52.15 282 *e*P P 12 28 25.5 -0.3
comp=Z,55nm,1.3s
JOW Kunigami 63.96 318 P P 12 29 47.6 -0.5
comp=Z,24nm,0.9s,baz=137,slow=8.9,SNR=4.6
JOW Kunigami 63.96 318 *e*P P 12 29 48.5 +0.5
comp=Z,15nm,1.1s
MJAR Matsushiro Arr 66.27 332 P P 12 30 01.6 -1.3
comp=Z,3.7nm,0.7s,baz=166,slow=7.0,SNR=12
MJAR PcP PcP 12 30 32.8 +0.3
comp=Z,2.8nm,0.7s,baz=164,slow=4.9,SNR=4.7
MJAR Matsushiro Arr 66.27 332 P P 12 30 01.6 -1.3
MJAR 12 30 32.8
MJAR Matsushiro Arr 66.27 332 P P 12 30 01.6 -1.3
MJAR PcP PcP 12 30 32.8 +0.3
MAT Matsushiro 66.27 332 P P 12 30 01.5 -1.4
NACB Ninganchiao 66.55 311 *e*P P 12 30 04.7 -0.2
comp=Z,25nm,0.8s
TPUB Ta-pu 66.67 310 *e*P P 12 30 04.6 -1.1
comp=Z,30nm,0.8s
SSLB Suanglung 66.75 310 *e*P P 12 30 05.5 -0.8
comp=Z,30nm,0.9s
YHNB Yeheng 67.02 311 *e*P P 12 30 07.9 -0.1
comp=Z,26nm,0.8s
QSPA South Pole Qui 67.55 180 *e*P P 12 30 11.8 +0.9
comp=Z,17nm,1.2s
COCO West Island 70.65 264 *i*P P 12 30 35.5 +4.8
ASAJ Asahikawa 71.13 339 P P 12 30 32.7 -0.2
comp=Z,4.3nm,0.6s,baz=214,slow=7.3,SNR=6.2
ASAJ Asahikawa 71.13 339 P P 12 30 32.7 -0.2
KSRS Korea Array 71.96 325 P P 12 30 37.9 -0.2
comp=Z,3.6nm,0.8s,baz=139,slow=5.9,SNR=7.9
KSAR Wonju Array Be 71.97 325 P P 12 30 37.9 -0.3
KSAR Wonju Array Be 71.97 325 P P 12 30 37.9 -0.3
NJ2 Nanjing 73.50 316 *e*P P 12 30 48.9 +1.6
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 73.61 340 *e*P P 12 30 46.7 -0.9
USRK Ussuriysk Arra 75.25 332 P P 12 30 56.8 -0.4
comp=Z,2.1nm,0.7s,baz=99,slow=4.8,SNR=4.2
MAW Mawson 75.92 202 P P 12 31 02.1 +1.3
comp=Z,5.7nm,0.7s,baz=104,slow=14,SNR=4.8
MAW Mawson 75.92 202 P P 12 31 02.1 +1.3
MAW Mawson 75.92 202 P P 12 31 02.1 +1.3
PETK Petropavlovsk- 76.15 352 P P 12 31 01.0 -1.1
comp=Z,6.2nm,0.9s,baz=159,slow=4.8,SNR=8.6
PETK LR LR 12 57 38.8
comp=Z,118nm,20.2s,baz=355,slow=30
PETK Petropavlovsk- 76.15 352 P P 12 31 01.0 -1.1
PETK Petropavlovsk- 76.15 352 P P 12 31 01.0 -1.1
MDJ Mudanjiang 76.64 331 P P 12 31 07.1 +2.0
MDJ pmax pmax
comp=Z,6.0nm,2.0s
MDJ pmax pmax
comp=Z,53nm,4.8s
CN2 Changchun 77.95 328 *e*P P 12 31 12.4 0.0
CN2 *es*P **sP** 12 31 38.0 +0.7
CN2 *eS* **S** 12 41 05.3 +4.6
CN2 SS **SS** 12 46 06.8 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,300nm,19.0s
ENH Enshi 78.79 309 *e*P P 12 31 17.5 0.0
comp=Z,17nm,1.0s
GYA Guiyang 78.80 305 P P 12 31 19.0 +1.3
GYA pP **pP** 12 31 37.6 +2.1
GYA sP **sP** 12 31 46.3 +3.7
GYA PP **PP** 12 34 20.8 +3.7
GYA S **S** 12 41 11.4 +0.6
GYA SKS **SKSac** 12 41 24.0 -3.8
GYA SS **SS** 12 46 19.0 +1.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,540nm,19.5s
GYA LR LR
comp=E,480nm,20.2s
GYA LR LR
comp=Z,500nm,19.8s
BJI Beijing 80.32 321 P P 12 31 26.0 +0.5
BJI S S 12 41 19.0 -7.1
BJI pmax pmax
comp=Z,14nm,0.7s
BJI LR LR
comp=N,380nm,9.1s
BJI LR LR
comp=E,380nm,12.4s
BJI LR LR
comp=Z,89nm,22.5s
CM31 Chiang Mai Arr 81.08 294 *e*P P 12 31 32.4 +2.4
comp=Z,3.5nm,0.5s
CMAR Chiang Mai Arr 81.08 294 P P 12 31 31.3 +1.2
comp=Z,13nm,0.8s,baz=137,slow=4.2,SNR=79
CMAR PKKPbc PKKPbc 12 50 07.7 +1.2
comp=Z,1.4nm,0.8s,baz=291,slow=4.2,SNR=8.6
CMAR Chiang Mai Arr 81.08 294 P P 12 31 31.3 +1.2
CMAR 12 50 07.7
CMAR Chiang Mai Arr 81.08 294 P P 12 31 31.3 +1.2
CMAR PKKPbc PKKPbc 12 50 07.7 +1.2
KMI Kunming 81.15 302 P P 12 31 31.4 +0.8
KMI pP **pP** 12 31 49.8 +1.4
KMI sP **sP** 12 31 56.8 +1.3
KMI pmax pmax
comp=Z,13nm,1.8s
CHTO Chiang Mai 81.24 294 *e*P P 12 31 32.8 +1.9
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 81.24 294 *e*P P 12 31 32.8 +1.9
comp=Z,21nm,0.9s
XAN Xi'an 81.31 312 P P 12 31 31.5 +0.5
XAN sP **sP** 12 31 58.9 +2.9
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,63nm,10.9s
SYO Syowa Base 82.17 196⇑ *e*P P 12 31 33.8 -1.1
CD2 Chengdu 83.29 307 P P 12 31 43.3 +1.9
CD2 pP **pP** 12 32 01.5 +2.1
CD2 sP **sP** 12 32 08.8 +2.3
CD2 PP **PP** 12 34 57.8 +3.7
CD2 S **S** 12 41 57.5 +0.3
CD2 sS **sS** 12 42 28.8 +1.1
CD2 SS **SS** 12 47 27.0 +3.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.4s
CD2 LR LR
comp=N,350nm,8.9s
CD2 LR LR
comp=Z,340nm,8.9s
HHC Hu-ho-hao-te 83.58 319 *e*P P 12 31 43.8 +1.1
HHC sP **sP** 12 32 06.5 -1.3
HHC PP **PP** 12 34 58.6 +2.3
HHC SKS **SKSac** 12 41 57.6 -2.2
HHC S **S** 12 42 00.3 +0.5
HHC sS **sS** 12 42 29.3 -0.9
HHC SS **SS** 12 47 30.9 +3.0
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,280nm,7.9s
HHC LR LR
comp=N,270nm,17.7s
HHC LR LR
comp=E,220nm,17.1s
HHC LR LR
comp=Z,320nm,17.2s
MAIT Maitri 85.79 187 *e*P P 12 31 54.8 +1.5
SNAA Sanae 85.96 182 *e* P 12 31 51.5 -2.7
SNAA *e* 12 32 02.6
SNAA Sanae 85.96 182 *e*P P 12 31 51.6 -2.7
SNAA pmax pmax
comp=Z,10.0nm,0.9s
SNAA Sanae 85.96 182 *e*P P 12 31 51.6 -2.6
comp=Z,10nm,0.9s
SEY Seymchan 86.39 352 *ce*P P 12 31 55.6 -0.5
VNA2 Neumayer--Watz 86.80 181 *e* P 12 31 59.0 +0.7
VNA2 *e* 12 32 10.1
VNA1 Neumayer--Stat 87.09 180 *e* P 12 32 00.6 +0.9
VNA1 *e* 12 32 09.8
WDC Whiskeytown Da 88.22 44 *e*P P 12 32 08.7 +3.2
WDC pmax pmax
comp=Z,6.0nm,1.4s
WDC Whiskeytown Da 88.22 44 *e*P P 12 32 08.7 +3.2
comp=Z,6.5nm,1.4s
CMB Columbia Colle 88.34 47 *e*P P 12 32 09.2 +3.0
CMB pmax pmax
comp=Z,4.0nm,1.3s
CMB Columbia Colle 88.34 47 *e*P P 12 32 09.2 +3.0
comp=Z,3.8nm,1.3s
ISA Isabella 88.50 50 *e*P P 12 32 09.7 +2.6
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella 88.50 50 *e*P P 12 32 09.7 +2.6
comp=Z,4.5nm,0.8s
MTUM Tungsten Hills 89.26 49 *e*P P 12 32 13.2 +2.4
NVAR Mina Array Bea 89.96 48 P P 12 32 13.9 -0.1
comp=Z,3.8nm,0.7s,baz=224,slow=7.8,SNR=22
NVAR Mina Array Bea 89.96 48 P P 12 32 13.9 -0.1
ULN Ulaanbaatar 90.29 323 *e*P P 12 32 15.0 -0.2
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 90.29 323 *e*P P 12 32 15.0 -0.2
comp=Z,14nm,1.0s
BILL Bilibino 90.34 358⇑ *i*P P 12 32 14.2 -0.6
BILL pmax pmax
comp=Z,11nm,1.4s
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 90.34 358 *e*P P 12 32 14.4 -0.4
comp=Z,4.6nm,0.8s
GTA Gaotai 90.35 313 *e*P P 12 32 15.5 -0.2
GTA pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 90.64 323 P P 12 32 17.0 +0.2
comp=Z,12nm,0.9s,baz=138,slow=4.7,SNR=72
SONM Songino Array 90.64 323 P P 12 32 17.0 +0.2
SONM Songino Array 90.64 323 P P 12 32 17.0 +0.2
ILAR Eielson Array 92.95 17 P P 12 32 24.7 -2.3
comp=Z,1.1nm,0.6s,baz=236,slow=4.8,SNR=21
ILAR Eielson Array 92.95 17 P P 12 32 24.7 -2.3
ILAR Eielson Array 92.95 17 P P 12 32 24.7 -2.3
ZAK Zakamensk 93.73 324⇑ *i*P P 12 32 30.7 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.5s
PLCA Paso Flores 95.20 138 P P 12 32 39.9 +1.7
comp=Z,2.0nm,0.9s,baz=234,slow=8.7,SNR=4.0
PLCA Paso Flores 95.20 138 P P 12 32 39.9 +1.7
PLCA Paso Flores 95.20 138 P P 12 32 39.9 +1.7
TXAR Lajitas Array 97.14 61 P Pdif 12 32 47.8 +0.6
comp=Z,0.5nm,0.8s,baz=229,slow=4.8,SNR=5.0
TXAR Lajitas Array 97.14 61 P Pdif 12 32 47.8 +0.6
TXAR Lajitas Array 97.14 61 P Pdif 12 32 47.8 +0.6
PDAR Pinedale Array 97.84 47 P Pdif 12 32 51.0 +0.8
comp=Z,0.2nm,0.7s,baz=218,slow=5.6,SNR=2.7
PDAR LR LR 13 10 46.2
comp=Z,149nm,18.1s,baz=18,slow=32
PDAR Pinedale Array 97.84 47 P Pdif 12 32 51.0 +0.8
INK Inuvik 99.22 18 PKiKP PKiKP 12 37 22.8 -2.2
comp=Z,0.9nm,0.9s,baz=225,slow=2.9,SNR=3.0
INK Inuvik 99.22 18 PKiKP PKiKP 12 37 22.8 -2.2
YKA Yellowknife Ar 102.94 27 P Pdif 12 33 10.5 -1.5
comp=Z,0.2nm,0.9s,baz=255,slow=4.8,SNR=3.2
YKA PKiKP PKiKP 12 37 30.2 -1.6
comp=Z,0.5nm,0.7s,baz=255,slow=1.4,SNR=9.0
YKA Yellowknife Ar 102.94 27 P Pdif 12 33 10.5 -1.5
YKA *i* 12 37 30.3
YKA Yellowknife Ar 102.94 27 P Pdif 12 33 10.5 -1.5
YKA PKiKP PKiKP 12 37 30.2 -1.6
MKAR Makanchi Array 105.01 315 Pdiff Pdif 12 33 22.2 +0.5
comp=Z,0.5nm,0.7s,baz=101,slow=5.1,SNR=7.3
MKAR PKiKP PKiKP 12 37 36.1 -0.1
comp=Z,1.0nm,1.0s,baz=108,slow=10,SNR=3.6
MKAR PKKPbc PKKPbc 12 49 02.4 -2.4
comp=Z,0.8nm,0.8s,baz=294,slow=2.9,SNR=9.3
MKAR Makanchi Array 105.01 315 P Pdif 12 33 22.2 +0.5
MKAR Makanchi Array 105.01 315 Pdif Pdif 12 33 22.1 +0.5
MKAR PKiKP PKiKP 12 37 36.1 -0.1
MKAR PKKPbc PKKPbc 12 49 02.4 -2.4
ZALV Zalesovo Beam 105.53 322 Pdiff Pdif 12 33 22.9 -0.9
comp=Z,0.7nm,0.7s,baz=105,slow=3.8,SNR=5.8
ZALV PKiKP PKiKP 12 37 37.8 +0.9
comp=Z,0.5nm,0.6s,baz=75,slow=1.6,SNR=2.4
ZALV Zalesovo Beam 105.53 322 P Pdif 12 33 22.9 -0.9
ZALV Zalesovo Beam 105.53 322 Pdif Pdif 12 33 22.9 -0.9
ZALV PKiKP PKiKP 12 37 37.8 +0.9
UALR University of 107.97 59 *e*PKPdf 12 37 43.4
KURK Kurchatov 108.37 318 PKiKP PKiKP 12 37 41.5 -0.7
comp=Z,0.5nm,0.6s,baz=112,slow=1.7,SNR=5.5
KURK Kurchatov 108.37 318 PKiKP PKiKP 12 37 41.5 -0.7
ULM Lac du Bonnet 109.12 43 PKiKP PKiKP 12 37 42.1 -1.6
comp=Z,0.8nm,0.4s,baz=325,slow=3.2,SNR=3.3
ULM Lac du Bonnet 109.12 43 PKiKP PKiKP 12 37 42.1 -1.6
RES Resolute Bay 112.70 17 PKiKP PKiKP 12 37 48.6 -1.1
comp=Z,1.8nm,0.7s,baz=265,slow=3.0,SNR=12
RES Resolute Bay 112.70 17 *e*PKiKP PKiKP 12 37 48.8 -1.0
RES Resolute Bay 112.70 17 *e*PKPdf PKiKP 12 37 48.8 -1.0
BVAR Borovoye Array 113.79 319 PKiKP PKiKP 12 37 52.3 -0.2
comp=Z,0.8nm,0.4s,baz=96,slow=3.0,SNR=5.1
BVAR Borovoye Array 113.79 319 PKiKP 12 37 52.3
BVAR Borovoye Array 113.79 319 PKiKP PKiKP 12 37 52.3 -0.2
ARU Arti 120.67 323 *e*PKiKP PKPdf 12 38 06.7 +1.1
ARU Arti 120.67 323 *e*PKPdf PKPdf 12 38 06.7 +1.1
AKTO Aktyubinsk 121.38 316 PKP PKPdf 12 38 07.3 +0.2
comp=Z,2.2nm,0.6s,baz=70,slow=2.3,SNR=8.4
AKTO Aktyubinsk 121.38 316 PKiKP PKPdf 12 38 07.3 +0.2
AKTO Aktyubinsk 121.38 316 PKP PKPdf 12 38 07.3 +0.2
BDFB Brasilia 126.38 132 PKP PKPdf 12 38 18.0 +0.1
comp=Z,3.9nm,0.7s,baz=225,slow=5.7,SNR=6.5
BDFB Brasilia 126.38 132 PKiKP PKPdf 12 38 18.0 +0.1
BDFB Brasilia 126.38 132 PKP PKPdf 12 38 18.0 +0.1
SCHQ Schefferville 126.71 38 PKP PKPdf 12 38 16.6 -0.6
comp=Z,3.9nm,0.8s,baz=188,slow=4.9,SNR=3.9
SCHQ Schefferville 126.71 38 PKP PKPdf 12 38 16.6 -0.6
ARCES ARCESS Array B 128.57 345 PKP PKPdf 12 38 20.1 -0.2
comp=Z,2.6nm,0.5s,baz=54,slow=2.3,SNR=19
ARCES ARCESS Array B 128.57 345 PKiKP PKPdf 12 38 20.2 -0.2
ARCES ARCESS Array B 128.57 345 PKP PKPdf 12 38 20.1 -0.2
OBN Obninsk 132.96 326 *e*PKiKP PKPdf 12 38 28.6 -0.4
OBN *e* 12 45 28.8
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINES Array B 134.12 337 PKhKP PKPpre 12 38 23.2
comp=Z,1.9nm,0.9s,baz=72,slow=6.2,SNR=5.0
FINES PKP **PKPdf** 12 38 29.6 -1.4
comp=Z,2.7nm,0.7s,baz=73,slow=4.7,SNR=6.4
FINES FINESS Array B 134.12 337 PKHKP PKPpre 12 38 23.2
FINES 12 38 29.6
FINES FINESS Array B 134.12 337 PKPpre PKPpre 12 38 23.2
FINES PKP **PKPdf** 12 38 29.6 -1.4
AKASG Malin Array Be 138.92 323 PKHKP PKPpre 12 38 38.3
comp=Z,0.2nm,0.3s,baz=53,slow=3.6,SNR=3.9
AKASG Malin Array Be 138.92 323 *c* *i*PKiKP **PKPdf** 12 38 41.0 +0.7
AKASG Malin Array Be 138.92 323 PKPpre PKPpre 12 38 38.3
NOA NORSAR Array B 138.95 345 PKP **PKPdf** 12 38 40.9 +0.8
comp=Z,1.3nm,0.9s,baz=28,slow=2.0,SNR=3.7
NOA NORSAR Array B 138.95 345 PKiKP **PKPdf** 12 38 40.9 +0.8
NOA NORSAR Array B 138.95 345 PKP **PKPdf** 12 38 40.9 +0.8
BRTR Keskin Array B 139.85 305 PKhKP PKPpre 12 38 39.8
comp=Z,0.6nm,0.6s,baz=100,slow=1.6,SNR=4.0
BRTR Keskin Array B 139.85 305 *c* *i*PKiKP **PKPdf** 12 38 43.7 +1.2
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 139.85 305 PKPpre PKPpre 12 38 39.8
PSN Preselentsi 142.59 313 *e*P **PKPdf** 12 38 44.0 -3.1
AMRR Amara 142.79 315⇑ PKiKP pPKPdf 12 39 01.5 -4.8
AMRR Amara 142.79 315⇑ *i*P pPKPdf 12 39 01.5 -4.8
MLR Muntele Rosu 143.30 317⇑ PKiKP **PKPdf** 12 38 50.2 +1.7
MLR Muntele Rosu 143.30 317⇑ *i*P **PKPdf** 12 38 50.2 +1.7
KOLS Kolonicke sedl 143.68 324 *e*PKiKP **PKPdf** 12 38 53.1 +4.2
KOLS Kolonicke sedl 143.68 324 *e*PKP **PKPdf** 12 38 53.1 +4.2
BMR Baia Mare 143.70 322⇑ PKiKP **PKPdf** 12 38 48.0 -1.0
BMR Baia Mare 143.70 322⇑ *i*P **PKPdf** 12 38 48.0 -1.0
UZH Uzhgorod 143.84 324 *e*PKiKP **PKPdf** 12 38 48.2 -1.0
UZH *e* 12 38 58.6
VOIR 143.88 318⇑ PKiKP **PKPdf** 12 38 48.5 -1.0
VOIR 143.88 318⇑ *i*P **PKPdf** 12 38 48.5 -1.0
TRPA Tarpa 143.99 323⇓ *i*P PKPbc 12 38 48.1 +0.7
TRPA Tarpa 143.99 323⇓ *e*PKPdf PKPbc 12 38 48.2 +0.8
CRVS Cervenica-Dubn 144.13 325 *e*PKiKP **PKPdf** 12 38 48.9 -0.8
CRVS Cervenica-Dubn 144.13 325 *e*PKP **PKPdf** 12 38 48.9 -0.8
JMB Yambol 144.13 312 *e*P **PKPdf** 12 38 49.6 -0.3
SZH Strazhica 144.26 314 *e*P **PKPab** 12 38 46.6 -1.5
HUMR Humele 144.34 316⇓ *i*P PKPbc 12 38 48.6 -0.1
DRGR 144.62 321⇑ PKiKP **PKPdf** 12 38 50.2 -0.5
DRGR 144.62 321⇑ *i*P **PKPdf** 12 38 50.2 -0.5
PVL Pavlikeni 144.68 314 *e*P **PKPdf** 12 38 50.4 -0.4
MDO Dochfour 144.93 355 *e*P **PKPab** 12 38 49.1 -1.0
MDO Dochfour 144.93 355 P **PKPab** 12 38 49.1 -1.0
KAC Achnashellach 144.93 356 *e*P **PKPab** 12 38 49.6 -0.5
KAC Achnashellach 144.93 356 P **PKPab** 12 38 49.6 -0.5
KPL Plockton 145.11 357 *e*P **PKPbc** 12 38 50.1 -0.6
KPL Plockton 145.11 357 P **PKPbc** 12 38 50.1 -0.6
OKC Ostrava-Krasne 145.23 328 *e*PKiKP **PKPab** 12 38 51.4 -0.1
OKC *e* 12 39 03.5
OKC Ostrava-Krasne 145.23 328 *e*PKP **PKPab** 12 38 51.4 -0.1
OKC *ep*PKP **pPKPdf** 12 39 03.5 -6.9
RUE Ruedersdorf 145.23 335 *e*PKPdf **PKPab** 12 38 51.3 0.0
KDZ Kurdzhali 145.25 311 *e*P PKPpre 12 38 46.0
GZR Gura Zlata 145.31 319⇓ PKHKP PKPpre 12 38 52.4
GZR Gura Zlata 145.31 319⇓ *i*P **PKPab** 12 38 52.4 +0.4
KSP Ksiaz 145.40 331 *e*PKP **PKPab** 12 38 52.5 +0.4
KSP Ksiaz 145.40 331⇑ *i*PKiKP **PKPab** 12 38 52.4 +0.4
KSP *e* 12 39 02.8
PSZ Piszkesteto 145.56 325⇓ PKiKP **PKPab** 12 38 53.4 +0.5
PSZ Piszkesteto 145.56 325 *e*PKPdf **PKPab** 12 38 53.2 +0.3
PSZ Piszkesteto 145.56 325⇓ *i*P **PKPab** 12 38 53.4 +0.5
PSZ Piszkesteto 145.56 325⇓ *e*PKPbc **PKPab** 12 38 53.4 +0.5
MORC Moravsky Berou 145.56 329⇑ PKiKP **PKPab** 12 38 53.1 +0.3
MORC Moravsky Berou 145.56 329 *e*PKPdf **PKPab** 12 38 52.7 -0.1
MORC Moravsky Berou 145.56 329⇑ *i*P **PKPab** 12 38 53.1 +0.3
KRLC Kraliky 145.72 330 *e*PKP **PKPab** 12 38 53.5 +0.1
RZN Rozhen 145.72 312 *e*P **PKPdf** 12 38 53.0 +0.1
DPC Dobruska-Polom 145.74 331 *i*PKiKP **PKPab** 12 38 53.7 +0.3
DPC *e* 12 39 07.8
DPC Dobruska-Polom 145.74 331 *i*PKP **PKPab** 12 38 53.7 +0.3
DPC *ep*PKP **pPKPdf** 12 39 07.8 -3.5
VYHS Vyhne 145.76 326 *e*PKiKP **PKPab** 12 38 53.8 +0.3
VYHS Vyhne 145.76 326 *e*PKP **PKPab** 12 38 53.8 +0.3
UPC Upice 145.76 331 *i*PKiKP **PKPab** 12 38 53.5 0.0
UPC Upice 145.76 331 *i*PKP **PKPab** 12 38 53.5 0.0
BZS Buzias 145.89 320⇓ PKiKP **PKPab** 12 38 54.2 +0.1
BZS Buzias 145.89 320⇓ *i*P **PKPab** 12 38 54.2 +0.1
EAB Aberfoyle 146.17 355 *e*P **PKPbc** 12 38 53.7 -0.3
EAB Aberfoyle 146.17 355 P **PKPbc** 12 38 53.7 -0.3
ESY Stoneypath 146.27 353 *e*P **PKPdf** 12 38 53.7 +0.6
ESY Stoneypath 146.27 353 P **PKPdf** 12 38 53.7 +0.6
BUD Budapest 146.29 325⇑ *e*PKPdf **PKPab** 12 38 55.4 -0.1
VRAC Vranov 146.33 329⇓ PKP2 **PKPbc** 12 38 55.1 +0.3
VRAC Vranov 146.33 329⇓ *i*P **PKPbc** 12 38 55.1 +0.3
VTS Vitosha 146.36 314⇓ PKP2 **PKPab** 12 38 56.2 0.0
VTS Vitosha 146.36 314⇓ *i*P **PKPab** 12 38 56.2 0.0
VTS Vitosha 146.36 314 *e*P **PKPbc** 12 38 55.5 +0.2
PVCC Panska Ves 146.38 332 *e*PKP2 **PKPab** 12 38 55.7 -0.1
PVCC Panska Ves 146.38 332 *e*PKP **PKPab** 12 38 55.7 -0.1
BRG Berggiesshubel 146.39 333 *i*PKP **PKPbc** 12 38 55.3 +0.4
comp=Z,28nm,0.7s
BRG Berggiesshubel 146.39 333 *e*PKPbc **PKPbc** 12 38 55.1 +0.2
BRG Berggiesshubel 146.39 333 *i*PKP2 **PKPbc** 12 38 55.3 +0.4
BRG pmax pmax
comp=Z,28nm,0.7s
EAU Auchinoon 146.43 354 *e*P **PKPbc** 12 38 54.5 -0.3
EAU Auchinoon 146.43 354 P **PKPbc** 12 38 54.5 -0.3
MMB Musomiste 146.44 312 *e*P **PKPbc** 12 38 55.3 -0.1
CLL Collm 146.44 334 *e*PKPbc **PKPbc** 12 38 55.1 0.0
CLL Collm 146.44 334 *i*PKP2 **PKPbc** 12 38 55.0 0.0
CLL pmax pmax
comp=Z,38nm,0.6s
CLL Collm 146.44 334 *i*PKPbc **PKPbc** 12 38 55.0 0.0
comp=Z,38nm,0.6s
CLL *e*PKiKP **PKiKP** 12 38 59.0 +1.1
SMOL Smolenice 146.46 327 *e*PKP2 **PKPab** 12 38 57.5 +1.3
SMOL Smolenice 146.46 327 *e*PKP **PKPab** 12 38 57.5 +1.3
EBL Broad Law 146.46 354 *e*P **PKPbc** 12 38 54.5 -0.4
EBL Broad Law 146.46 354 P **PKPbc** 12 38 54.5 -0.4
NRDL Niedersach Rie 146.56 338 *e*PKPbc **PKPbc** 12 38 55.4 +0.2
KKB Krupnik 146.76 313 *e*P **PKPbc** 12 38 56.3 0.0
PRU Pruhonice 146.79 332 *e*PKP2 **PKPbc** 12 38 56.6 +0.5
PRU Pruhonice 146.79 332 *e*PKP **PKPbc** 12 38 56.6 +0.5
PRU *ep*PKP **pPKPdf** 12 39 06.2 -6.9
ZST Bratislava 146.83 327 *e*PKP2 **PKPbc** 12 38 56.9 +0.7
ZST Bratislava 146.83 327 *e*PKP **PKPbc** 12 38 56.9 +0.7
TREC Trest 146.86 330 *e*PKP2 **PKPbc** 12 38 56.4 +0.1
TREC Trest 146.86 330 *e*PKP **PKPbc** 12 38 56.4 +0.1
ESK Eskdalemuir 146.93 354 *e*P **PKPdf** 12 38 54.9 +0.7
ESK Eskdalemuir 146.93 354 P **PKPdf** 12 38 54.9 +0.7
CLZ Clausthal 147.01 337 *e*PKPbc **PKPbc** 12 38 57.1 +0.4
CLZ *e*PKPab **PKiKP** 12 38 58.8 -0.3
CLZ Clausthal 147.01 337 *e*PKP2 **PKPbc** 12 38 57.1 +0.4
XAL Allendale 147.26 352 *e*P **PKPbc** 12 38 56.4 -0.8
XAL Allendale 147.26 352 P **PKPbc** 12 38 56.4 -0.8
PKSM Moragy 147.27 323⇓ PKP2 **PKPbc** 12 38 57.6 +0.1
PKSM Moragy 147.27 323⇓ *i*P **PKPbc** 12 38 57.6 +0.1
PKSM Moragy 147.27 323⇑ *e*PKPdf **PKPbc** 12 38 57.7 +0.2
TANN Tannenbergstha 147.35 334 *e*PKPbc **PKPbc** 12 38 57.7 0.0
SOP Sopron 147.45 327⇑ *e*PKPdf **PKPbc** 12 38 58.3 +0.3
IBBN Ibbenburen 147.49 340 *e*PKPbc **PKPbc** 12 38 58.2 +0.3
NKC Novy Kostel 147.50 334 *e*PKP2 **PKPbc** 12 38 58.5 +0.4
NKC Novy Kostel 147.50 334 *e*PKP **PKPbc** 12 38 58.5 +0.4
NKC *ep*PKP **pPKPdf** 12 39 10.0 -4.3
MOX Moxa 147.51 335 *e*PKPbc **PKPbc** 12 38 58.1 0.0
MOX *e*PKPab **PKPab** 12 39 00.6 +0.4
MOX Moxa 147.51 335 *e*PKP2 **PKPbc** 12 38 58.1 0.0
CONA Conrad Observa 147.63 328⇑ *i*P **PKPbc** 12 38 59.2 +0.6
CONA Conrad Observa 147.63 328⇑ *i*PKPbc **PKPbc** 12 38 59.2 +0.6
comp=Z,18nm,0.7s,SNR=7.0
KHC Kasperske Hory 147.85 331 *i*PKP2 **PKPbc** 12 38 59.5 +0.4
KHC Kasperske Hory 147.85 331 *e*PKPdf **PKPbc** 12 38 58.9 -0.2
KHC Kasperske Hory 147.85 331 *i*PKP **PKPbc** 12 38 59.5 +0.4
KHC *ep*PKP **pPKPdf** 12 39 10.7 -4.2
KHC *ex* x 12 39 25.8
ROTZ Rotzenmuhle 147.96 333 *e*PKPbc **PKPbc** 12 38 59.9 +0.6
ROTZ *e*PKPab **PKPab** 12 39 02.8 +0.8
GEC2 GERESS Array S 148.00 331 *e*PKPbc **PKPbc** 12 38 59.8 +0.2
GEC2 GERESS Array S 148.00 331 *e*PKP2 **PKPbc** 12 38 59.8 +0.2
GERES GERESS Array B 148.00 331 PKPbc **PKPbc** 12 38 59.6 +0.1
comp=Z,11nm,0.8s,baz=35,slow=3.3,SNR=66
GERES GERESS Array B 148.00 331 PKP2 **PKPbc** 12 38 59.7 +0.1
GERES GERESS Array B 148.00 331 PKPbc **PKPbc** 12 38 59.6 +0.1
BEHE Becsehely 148.12 325⇑ *e*PKPdf **PKPbc** 12 39 00.3 +0.5
WET Wettzell 148.15 332 *e*PKPbc **PKPbc** 12 39 00.0 +0.2
WET *e*PKPab **PKPab** 12 39 03.1 +0.2

WET	Wettzell	148.15 332	*e*PKP2	PKPbc	12 39 00.0	+0.2
KBI1	Birley Grange	148.74 351	*e*P	PKPbc	12 39 00.4	-0.8
KBI1	Birley Grange	148.74 351	P	PKPbc	12 39 00.4	-0.8
PERS	Pernice	148.88 327	*i* PKPdf	PKPbc	12 39 02.1	+0.3
PERS			*i* PKPbc	PKPab	12 39 06.9	+1.0
KWE	Weaver Farm	149.02 351	*e*P	PKPbc	12 39 01.6	-0.3
KWE	Weaver Farm	149.02 351	P	PKPbc	12 39 01.6	-0.3
TNS	Taunus Mts	149.03 338	*e*PKPbc	PKPbc	12 39 02.3	+0.2
TNS	Taunus Mts	149.03 338	*e*PKP2	PKPbc	12 39 02.3	+0.2
RJOB	Jochberg	149.23 330	*e*PKPbc	PKPbc	12 39 03.0	+0.3
FOEL	Foel Wylfa	149.32 353	*e*P	PKPbc	12 39 01.6	-1.1
FOEL	Foel Wylfa	149.32 353	P	PKPbc	12 39 01.6	-1.1
PDKS	Podkum	149.32 326	*e*PKPdf	PKPbc	12 39 03.4	+0.4
KBA	Koelnbreinsper	149.45 329 ⇑	*i* PKIKP	PKPbc	12 39 02.6	-0.8
KBA	Koelnbreinsper	149.45 329 ⇑	*i* P	PKPbc	12 39 02.6	-0.8
KBA	Koelnbreinsper	149.45 329 ⇑	*i* PKPbc	PKPbc	12 39 02.6	-0.8
	comp=Z,12nm,1.1s,SNR=9.2					
MEM	Membach	149.51 341	PKPbc	PKPbc	12 39 03.5	+0.4
BOJS	Bojanci	149.56 325	*i* PKPdf	PKPbc	12 39 04.3	+0.8
BOJS			*i* PKPbc	PKPab	12 39 08.5	-0.2
VISS	Visnje	149.58 326	*i* PKPdf	PKPbc	12 39 03.9	+0.4
VISS			*i* PKPbc	PKPab	12 39 08.0	-0.8
FUR	Furstenfeldbru	149.58 332	*e*PKPbc	PKPbc	12 39 03.6	+0.1
FUR			*e*PKPab	PKPab	12 39 09.3	+0.6
FUR	Furstenfeldbru	149.58 332	*e*PKP2	PKPbc	12 39 03.6	+0.1
MYKA	Terra Mystica	149.62 328 ⇑	*i* P	PKPbc	12 39 03.1	-0.6
MYKA	Terra Mystica	149.62 328 ⇑	*i* PKPbc	PKPbc	12 39 03.1	-0.6
	comp=Z,6.7nm,0.5s					
BCLA	Clavier	149.89 341	PKPbc	PKPbc	12 39 04.3	+0.2
BCLA			PKPab	PKPab	12 39 09.3	-0.5
VOY	Vojsko	149.91 327	*e*PKPdf	PKPbc	12 39 03.9	-0.6
VOY			*e*PKPbc	PKPab	12 39 08.2	-2.0
JAVS	Javornik	149.92 326	*i* PKPdf	PKPbc	12 39 04.7	+0.2
JAVS			*i* PKPbc	PKPab	12 39 09.7	-0.6
STU	Stuttgart	149.95 335	*e*PKPbc	PKPbc	12 39 04.3	-0.1
STU	Stuttgart	149.95 335	*e*PKHKP	PKPbc	12 39 04.4	+0.1
STU	Stuttgart	149.95 335	*e*PKPbc	PKPbc	12 39 04.4	+0.1
WATA	Walderalm	150.08 331 ⇑	*i* PKHKP	PKPbc	12 39 04.7	-0.2
WATA	Walderalm	150.08 331 ⇑	*i* P	PKPbc	12 39 04.7	-0.2
WATA	Walderalm	150.08 331 ⇑	*i* PKPbc	PKPbc	12 39 04.6	-0.2
	comp=Z,9.1nm,0.5s,SNR=11					
ABTA	Abfaltersbach	150.08 329 ⇑	*i* P	PKPbc	12 39 04.3	-0.6
ABTA	Abfaltersbach	150.08 329 ⇑	*i* PKPbc	PKPbc	12 39 04.3	-0.6
	comp=Z,15nm,0.6s,SNR=13					
SNF	Seneffe	150.10 342	PKPbc	PKPbc	12 39 04.8	+0.2
WTTA	Wattenberg	150.11 331	*i* PKHKP	PKPbc	12 39 04.9	-0.1
WTTA	Wattenberg	150.11 331	*i* P	PKPbc	12 39 04.9	-0.1
WTTA	Wattenberg	150.11 331	*i* PKPbc	PKPbc	12 39 04.9	-0.1
	comp=Z,10nm,0.6s,SNR=10.0					
MCH1	Michaelchurch	150.17 352	*e*P	PKPbc	12 39 03.9	-0.8
MCH1	Michaelchurch	150.17 352	P	PKPbc	12 39 03.9	-0.8
TRI	Trieste	150.20 326	*e*PKHKP	PKPbc	12 39 04.2	-0.8
TRI	Trieste	150.20 326	*e*PKPbc	PKPbc	12 39 04.2	-0.8
MOTA	Moosalm	150.28 331 ⇑	*i* PKHKP	PKPbc	12 39 05.1	-0.3
MOTA	Moosalm	150.28 331 ⇑	*i* P	PKPbc	12 39 05.1	-0.3
MOTA	Moosalm	150.28 331 ⇑	*i* PKPbc	PKPbc	12 39 05.1	-0.3
	comp=Z,17nm,0.8s,SNR=17					
WLF	Walferdange	150.29 340	PKPbc	PKPbc	12 39 06.4	+1.2
WLF	Walferdange	150.29 340	*e*PKPbc	PKPbc	12 39 06.3	+1.2
WLF	Walferdange	150.29 340	*e*PKP2	PKPbc	12 39 06.0	+0.9
WLF	Walferdange	150.29 340	*e*PKPbc	PKPbc	12 39 06.0	+0.9
RETA	Reutte	150.32 332	*i* P	PKPbc	12 39 05.3	-0.1
RETA	Reutte	150.32 332	*i* PKPbc	PKPbc	12 39 05.3	-0.1
	comp=Z,7.9nm,0.9s,SNR=5.8					
DOU	Dourbes	150.38 342	PKPbc	PKPbc	12 39 05.6	+0.3
SWN1	Swindon	150.47 350	*e*P	PKPbc	12 39 05.2	-0.3
SWN1	Swindon	150.47 350	P	PKPbc	12 39 05.2	-0.3
WOL	Wolverton	150.58 350	*e*P	PKPbc	12 39 05.3	-0.4
WOL	Wolverton	150.58 350	P	PKPbc	12 39 05.3	-0.4
BFO	Black Forest	150.65 336	*e*PKPbc	PKPbc	12 39 06.4	+0.3
BFO			*e*PKPab	PKPab	12 39 13.3	+0.2
BFO	Black Forest	150.65 336	*e*PKIKP	PKPbc	12 39 06.4	+0.3
BFO			*e*		12 39 13.3	
BFO	Black Forest	150.65 336	*e*PKPbc	PKPbc	12 39 05.4	-0.7
FETA	Feichten	150.70 331	*i* P	PKPbc	12 39 06.5	+0.1
FETA	Feichten	150.70 331	*i* PKPbc	PKPbc	12 39 06.5	+0.1
	comp=Z,19nm,0.8s,SNR=19					
DAVA	Damuels	150.86 333 ⇑	*i* PKPbc	PKPbc	12 39 07.0	+0.2
	comp=Z,20nm,0.7s					
HEX	Exmoor	151.18 353	*e*P	PKPbc	12 39 06.0	-1.2
HEX	Exmoor	151.18 353	P	PKPbc	12 39 06.0	-1.2
TUE	Stuetta	151.72 332	*e*PKPbc	PKPbc	12 39 08.8	0.0
DYA	Yadsworthy	151.82 353	*e*P	PKPbc	12 39 07.2	-1.5
DYA	Yadsworthy	151.82 353	P	PKPbc	12 39 07.2	-1.5
AQU	L'Aquila	152.60 322	*e*PKIKP	PKPdf	12 39 05.4	+1.7
AQU			*e*		12 39 14.3	
AQU			*e*		12 39 22.8	
AQU	L'Aquila	152.60 322	*e*PKPdf	PKPdf	12 39 05.4	+1.7
AQU			*e*PKPbc	PKiKP	12 39 14.2	+3.2
AQU			*e*PKPab	PKPab	12 39 22.8	+1.3
ESDC	Sonseca Array	162.30 346	PKPab	PKPab	12 40 02.8	-0.5
	comp=Z,0.7nm,0.6s,baz=14,slow=4.4,SNR=5.1					
ESDC	Sonseca Array	162.30 346	PKPab	PKPab	12 40 02.8	-0.5
DBIC	Dimbokro	163.67 196	PKP	PKPdf	12 39 19.0	+1.1
	comp=Z,4.4nm,1.1s,baz=90,slow=4.0,SNR=3.7					
DBIC			PKPab	PKPab	12 40 08.3	-1.4
	comp=Z,5.5nm,0.8s,baz=158,slow=3.5,SNR=6.4					
DBIC	Dimbokro	163.67 196	PKIKP	PKPdf	12 39 19.0	+1.1
DBIC					12 40 08.3	
DBIC	Dimbokro	163.67 196	PKP	PKPdf	12 39 19.0	+1.1
DBIC			PKPab	PKPab	12 40 08.3	-1.4
TORD	Torodi Ar. Bea	165.99 230	PKP	PKPdf	12 39 20.4	+0.5
	comp=Z,3.4nm,0.9s,baz=10,slow=0.4,SNR=15					
TORD			PKPab	PKPab	12 40 20.3	+0.2
	comp=Z,2.4nm,1.1s,baz=131,slow=5.3,SNR=4.7					
TORD	Torodi Ar. Bea	165.99 230	PKP	PKPdf	12 39 20.4	+0.5
TORD			PKPab	PKPab	12 40 20.3	+0.2

IDC 18 12:19:43.8±1.4, 3°38N×126°89E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/21, mbtmp3.4/6, Error ellipse: s-maj=106.8km s-min=17.9km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.38	183	P	P	12 24 33.7	+0.6
	2.3nm,1.0s,baz=0.0,slow=11,SNR=3.8						
WRA	Warramunga Arr	24.30	163	P	P	12 25 02.6	-0.7
	0.4nm,0.4s,baz=342,slow=10,SNR=7.7						
ASAR	Alice Springs	27.73	166	P	P	12 25 34.5	+0.2
	0.2nm,0.5s,baz=347,slow=8.3,SNR=6.1						
SONM	Songino Array	47.68	341	P	P	12 28 22.4	+0.1
	0.2nm,0.6s,baz=142,slow=7.3,SNR=2.4						
MKAR	Makanchi Array	57.94	325	P	P	12 29 36.6	-1.4
	0.1nm,0.4s,baz=120,slow=8.0,SNR=7.0						
KURK	Kurchatov	62.13	328	P	P	12 30 07.7	+1.0
	0.3nm,0.4s,baz=127,slow=6.2,SNR=4.4						

IDC 18 13:02:29.1±0.6, 4°20S×76°85W, h0km, mb3.9/10, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, ML3.7/4, Error ellipse: s-maj=23.3km s-min=15.4km az=75.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	3.30	208	Pn	Pn	13 03 23.2	+0.7
	8.2nm,0.3s,baz=23,slow=13,SNR=42						
ATAH				Sn	Sn	13 04 03.3	+0.4
	23nm,0.3s,baz=304,slow=17,SNR=6.5						
NNA	Nana	7.74	180	Pn	Pn	13 04 24.4	+1.2
	1.8nm,0.3s,baz=359,slow=13,SNR=9.1						
LPAZ	La Paz	14.76	145	Pn	Pn	13 06 01.7	+1.6
	0.1nm,0.3s,baz=315,slow=10.0,SNR=4.0						
SIV	San Ignacio	19.44	128	P	P	13 06 57.0	-0.4
	0.1nm,0.3s,baz=233,slow=10,SNR=3.6						
SJG	San Juan	24.55	25	P	P	13 07 52.0	+1.2
	2.5nm,0.3s,baz=270,slow=1.0,SNR=2.8						
PLCA	Paso Flores	36.81	172	P	P	13 09 38.4	-0.5
	1.2nm,0.8s,baz=339,slow=13,SNR=4.1						
TXAR	Lajitas Array	42.12	324	P	P	13 10 23.8	+0.4
	0.4nm,0.7s,baz=150,slow=7.5,SNR=4.6						
TXAR				PcP	PcP	13 12 17.5	-0.7
	0.3nm,0.7s,baz=142,slow=4.7,SNR=4.5						
PDAR	Pinedale Array	55.33	331	P	P	13 12 04.8	-0.2
	0.9nm,0.6s,baz=126,slow=9.2,SNR=8.6						
NVAR	Mina Array Bea	57.17	322	P	P	13 12 18.8	+0.6
	1.4nm,0.6s,baz=121,slow=6.9,SNR=14						
SCHQ	Schefferville	59.41	7	P	P	13 12 33.7	+0.4
	2.8nm,0.8s,baz=190,slow=8.3,SNR=5.3						
YKA	Yellowknife Ar	72.44	343	P	P	13 13 56.3	-0.7
	0.6nm,0.6s,baz=141,slow=6.3,SNR=19						
DBIC	Dimbokro	72.67	82	P	P	13 13 59.3	-0.2
	2.0nm,0.7s,baz=234,slow=4.8,SNR=2.7						
VNA2	Neumayer--Watz	79.42	162	*e*	P	13 14 36.9	+0.1
	baz=314,slow=5.8						
TORD	Torodi Ar. Bea	79.84	76	P	P	13 14 40.3	+0.1
	0.4nm,0.4s,baz=284,slow=6.3,SNR=8.5						
SNAA	Sanae	81.03	162	*e*	P	13 14 42.5	-3.2
ILAR	Eielson Array	85.39	336	P	P	13 15 07.4	-0.7
	0.5nm,0.8s,baz=130,slow=4.4,SNR=6.5						
ZALV	Zalesovo Beam	128.19	14	PKP	PKPdf	13 21 37.1	-0.3
	1.1nm,0.7s,baz=241,slow=1.5,SNR=6.0						
SONM	Songino Array	136.44	357	PKP	PKPdf	13 21 53.0	-0.3
	0.2nm,0.7s,baz=305,slow=1.7,SNR=3.2						
ASAR	Alice Springs	139.18	226	PKP	PKPdf	13 21 57.4	-1.6
	0.6nm,0.9s,baz=129,slow=2.4,SNR=6.0						
WRA	Warramunga Arr	141.08	231	PKhKP	PKPpre	13 21 52.4	
	0.2nm,0.6s,baz=108,slow=2.7,SNR=2.8						
WRA				PKP	PKPdf	13 22 01.0	-1.5
	0.5nm,0.7s,baz=124,slow=2.0,SNR=7.8						
CMAR	Chiang Mai Arr	165.24	16	PKP	PKPdf	13 22 35.7	-0.9
	0.3nm,0.4s,baz=318,slow=2.6,SNR=5.0						
CMAR				PKPab	PKPab	13 23 33.4	-0.2
	0.2nm,0.5s,baz=322,slow=5.6,SNR=4.4						

IDC 18 13:07:45.7±1.3, 46°80N×155°84E, h0km, mb3.0/4, mb1 3.3/6, mb1mx3.2/25, mbtmp3.2/6, ML3.1/2, Error ellipse: s-maj=38.4km s-min=22.0km az=130.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.43	10	Pn	Pn	13 09 19.6	-2.0
	0.3nm,0.3s,baz=188,slow=14,SNR=13						
PETK				Sn	Sn	13 10 35.9	+0.3
	0.1nm,0.3s,baz=194,slow=18,SNR=2.5						
ASAJ	Asahikawa	9.68	259	Pn	Pn	13 10 04.2	-2.0
	0.2nm,0.3s,baz=71,slow=16,SNR=3.9						
ILAR	Eielson Array	35.34	39	P	P	13 14 41.8	-0.5
	0.3nm,1.0s,baz=258,slow=7.8,SNR=4.6						
MKAR	Makanchi Array	48.57	298	P	P	13 16 31.4	+0.8
	0.1nm,0.6s,baz=70,slow=6.3,SNR=2.4						
YKA	Yellowknife Ar	49.76	37	P	P	13 16 40.0	+0.6
	0.1nm,0.7s,baz=291,slow=7.2,SNR=3.1						
ASAR	Alice Springs	72.89	201	P	P	13 19 16.2	-0.2
	0.3nm,0.8s,baz=14,slow=5.5,SNR=4.7						

IDC 18 13:13:05.2±0.8, 46°89N×155°47E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.8/27, mbtmp3.7/17, ML3.5/4, Error ellipse: s-maj=21.9km s-min=15.7km az=134.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.39	12	Pn	Pn	13 14 38.5	-2.1
	1.4nm,0.3s,baz=164,slow=15,SNR=61						
PETK				Sn	Sn	13 15 50.8	-3.4
	baz=125,slow=20,SNR=2.8						
ASAJ	Asahikawa	9.45	258	Pn	Pn	13 15 22.6	+0.1
	1.0nm,0.3s,baz=105,slow=18,SNR=16						
MJAR	Matsushiro Arr	16.48	237	Pn	Pn	13 16 56.0	-1.7
	0.2nm,0.3s,baz=30,slow=13,SNR=6.5						
USRK	Ussuriysk Arra	16.64	269	Pn	Pn	13 16 58.7	-1.0
	0.2nm,0.3s,baz=67,slow=11,SNR=4.2						
KSRS	Korea Array	22.39	255	P	P	13 18 04.6	-0.3
	1.4nm,0.9s,baz=56,slow=11,SNR=3.1						
SONM	Songino Array	32.81	290	P	P	13 19 41.3	+1.1
	0.3nm,0.6s,baz=61,slow=7.2,SNR=3.2						
ILAR	Eielson Array	35.43	39	P	P	13 20 02.2	-0.4
	0.5nm,0.6s,baz=248,slow=7.9,SNR=16						
ZALV	Zalesovo Beam	43.84	306	P	P	13 21 11.9	-0.7
	0.8nm,0.5s,baz=55,slow=7.0,SNR=6.9						
MKAR	Makanchi Array	48.31	298	P	P	13 21 46.7	-1.3
	0.3nm,0.4s,baz=72,slow=6.7,SNR=6.8						
YKA	Yellowknife Ar	49.84	37	P	P	13 21 59.2	-0.3
	0.3nm,0.8s,baz=294,slow=7.1,SNR=5.1						
JOF	Joensuu	61.91	335	ep	P	13 23 25.5	-0.5
JOF	Joensuu	61.91	335	ep	P	13 23 25.5	-0.5
FINES	FINESS Array B	64.59	336	P	P	13 23 44.0	+0.3
	0.7nm,0.3s,baz=42,slow=8.5,SNR=9.6						
NOA	NORSAR Array B	68.61	342	P	P	13 24 10.5	+0.9
	1.0nm,0.8s,baz=26,slow=6.3,SNR=3.0						
WRA	Warramunga Arr	69.20	201	P	P	13 24 13.1	-0.5
	1.3nm,0.8s,baz=17,slow=6.6,SNR=6.7						
AKASG	Malin Array Be	72.31	327	P	P	13 24 32.7	+0.4
	0.3nm,0.3s,baz=33,slow=6.2,SNR=3.6						
ASAR	Alice Springs	72.88	201	P	P	13 24 36.5	+0.6
	0.7nm,0.6s,baz=17,slow=5.9,SNR=19						
TXAR	Lajitas Array	76.01	62	P	P	13 24 54.0	-0.3
	0.4nm,0.7s,baz=308,slow=5.8,SNR=4.9						
GERES	GERESS Array B	79.02	335	P	P	13 25 11.4	+0.5
	0.3nm,0.5s,baz=36,slow=7.1,SNR=4.5						

IDC 18 13:15:04.0±1.2, 10°27S×75°33W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.5/18, mbtmp3.3/5, ML3.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/17, Error ellipse: s-maj=25.8km s-min=24.5km az=26.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	2.27	221	Pg	Pb	13 15 45.4	-0.5
	53nm,0.3s,baz=32,slow=18,SNR=72						
NNA				Lg	Lg	13 16 13.0	
	71nm,0.3s,baz=139,slow=17,SNR=14						
ATAH	Atahualpa	4.34	315	Pn	Pn	13 16 14.8	+3.0
	3.3nm,0.3s,baz=119,slow=5.5,SNR=19						
ATAH				Lg	Lg	13 17 12.6	
	2.7nm,0.3s,baz=92,slow=16,SNR=4.1						
ATAH				LR	LR	13 18 09.6	
	comp=Z,90nm,18.1s,baz=319,slow=43						
LPAZ	La Paz	9.21	131	Pn	Pn	13 17 18.2	-0.8
	0.1nm,0.3s,baz=317,slow=13,SNR=1.8						
LPAZ				Lg	Lg	13 19 52.9	
	0.1nm,0.3s,baz=355,slow=12,SNR=2.2						
SIV	San Ignacio	15.00	114	Pn	Pn	13 18 38.2	+0.7
	0.1nm,0.3s,baz=289,slow=17,SNR=2.6						
SIV				Lg	Lg	13 23 01.9	
	0.2nm,0.3s,baz=292,slow=19,SNR=5.8						
TXAR	Lajitas Array	47.92	326	P	P	13 23 44.9	+0.4
	0.2nm,0.5s,baz=148,slow=9.1,SNR=4.6						
YKA	Yellowknife Ar	78.64	343	P	P	13 27 07.1	-0.4
	0.1nm,0.4s,baz=139,slow=5.3,SNR=6.5						
TORD	Torodi Ar. Bea	79.90	75	P	P	13 27 15.4	0.0
	0.8nm,0.9s,baz=250,slow=5.0,SNR=3.3						

IDC 18 13:29:10.6±2.5, 22°81S×68°47W, h79km±23km, mb3.3/2, mb1 3.2/5, mb1mx3.1/16, mbtmp3.0/5, Error ellipse: s-maj=40.7km s-min=18.0km az=104.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	6.49	3	P	Pn	13 30 44.6	+0.3
	0.1nm,0.3s,baz=198,slow=6.4,SNR=2.7						
CFAA	Coronel Fontan	8.77	179	P	Pn	13 31 15.2	+0.6
	0.0nm,0.3s,baz=358,slow=14,SNR=8.7						
CFAA				S	Sn	13 32 51.1	-0.8
	0.1nm,0.3s,baz=283,slow=14,SNR=2.3						
SIV	San Ignacio	9.73	47	P	Pn	13 31 28.4	+0.6
	0.3nm,0.3s,baz=250,slow=8.6,SNR=17						
SIV				S	Sn	13 33 13.5	-1.9
	0.1nm,0.3s,baz=266,slow=16,SNR=2.8						
TORD	Torodi Ar. Bea	77.41	70	P	P	13 40 58.3	+0.6
	0.4nm,0.5s,baz=248,slow=6.5,SNR=6.8						
YKA	Yellowknife Ar	92.55	340	P	P	13 42 11.8	-0.8
	0.1nm,0.6s,baz=138,slow=4.9,SNR=4.2						

*ISCJB **18** 13:29:30.8±0.5, 30°07N±0°04×139°2E±0°1, h421km, mb3.2/8, Error ellipse: s-maj=14.7km s-min=5.0km az=178.6*

*JMA **18** 13:29:30.6±0.3, 30°14N×139°48E, h461km±4km, M3.5*

*IDC **18** 13:29:30.9±1.2, 30°03N×139°03E, h406km±15km, mb2.9/8, mb1 3.1/10, mb1mx2.9/26, mbtmp3.0/10, Error ellipse: s-maj=29.4km s-min=11.8km az=86.0*

ISC 18 13:29:32.1±0.8, 30°14N±0°07×139°1E±0°2, h421km, n24, σ1°94/31, mb3.2/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	3.02	12	P	**P**	13 30 39.6	**+2.7**
JHJ2				S	**S**	13 31 32.5	**+2.8**
CBIJ	Chichi jima	4.08	137	P	**P**	13 30 44.3	**-1.8**
	5.7nm,0.3s,baz=292,slow=19,SNR=42						
CBIJ				S	**S**	13 31 42.6	**-3.7**
	44nm,0.3s,baz=281,slow=22,SNR=22						
CBIJ	Chichi jima	4.08	137	P	**P**	13 30 44.9	**-1.2**
JIE	Ise	4.69	335	P	P	13 30 55.1	+3.3
JKN2	Miekihoku	4.73	330	P	P	13 30 54.8	+2.7
BSO1	Boso 1	4.77	19	P	**P**	13 30 53.6	**+1.7**
BSO1				eS	**S**	13 31 59.5	**+2.2**
BSO3	Boso 3	4.80	14	S	**S**	13 31 56.8	**-1.5**
BSO4	Boso 4	4.95	12	S	**S**	13 32 00.7	**-0.6**
JOD2	Odawara 2	5.11	360	P	**P**	13 30 57.6	**+1.7**
JOD2				S	**S**	13 32 05.3	**+0.8**
JHU	Hanno	5.70	2	P	**P**	13 31 02.8	**+0.9**
JHU				S	**S**	13 32 13.5	**-2.0**
JRY	Ryogami san	5.86	358	P	**P**	13 31 05.6	**+1.9**
JRY				S	**S**	13 32 16.7	**-2.0**
JYT	Yasato	6.14	8	P	**P**	13 31 06.3	**-0.2**
JYT				S	**S**	13 32 21.1	**-2.9**
JAG	Ashikaga	6.27	3	P	**P**	13 31 08.4	**+0.4**
JAG				S	**S**	13 32 23.1	**-3.6**
MJAR	Matsushiro Arr	6.42	354	P	**P**	13 31 09.5	**-0.1**
	0.6nm,0.3s,baz=190,slow=11,SNR=12						
JHO	Hitachi	6.57	10	P	**P**	13 31 12.6	**+1.0**
JHO				S	**S**	13 32 29.6	**-2.9**
JFK	Kawauchi	7.36	11	eS	**S**	13 32 45.4	**-3.0**
FITZ	Fitzroy Crossi	49.69	197	P	**P**	13 37 42.9	**-0.8**
	1.2nm,0.6s,baz=22,slow=5.4,SNR=4.2						
WRA	Warramunga Arr	50.01	186	P	**P**	13 37 44.8	**-1.3**
	0.7nm,0.5s,baz=2.2,slow=7.7,SNR=16						
ASAR	Alice Springs	53.73	186	P	**P**	13 38 12.4	**-0.7**
	0.5nm,0.4s,baz=0.2,slow=6.0,SNR=39						
BVAR	Borovoye Array	53.97	316	P	**P**	13 38 14.8	**+0.2**
	0.5nm,0.5s,baz=98,slow=6.0,SNR=7.2						
ILAR	Eielson Array	56.38	30	P	**P**	13 38 31.9	**+0.6**
	0.3nm,0.7s,baz=286,slow=5.6,SNR=4.5						
STKA	Stephens Creek	61.73	178	P	**P**	13 39 07.6	**-0.2**
	0.9nm,0.8s,baz=327,slow=9.8,SNR=5.1						
YKA	Yellowknife Ar	70.75	28	P	**P**	13 40 05.2	**+1.2**
	0.1nm,0.4s,baz=299,slow=6.0,SNR=4.4						
FINES	FINESS Array B	74.01	333	P	**P**	13 40 23.2	**+0.3**
	2.3nm,1.0s,baz=70,slow=8.0,SNR=2.8						

*IDC **18** 13:37:38.5±0.9, 0°56S×133°30E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=54.5km s-min=16.0km az=80.0*

*DJA **18** 13:37:46, 0.79S×133.10E, h30km, MLv4.5/9*

ISC 18 13:37:43.6±0.8, 0.75S±0.08×132.79E±0.10, h32km, n16, σ1°48/12, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	2.22	194	P	**Pb**	13 39 22.4	**-0.7**
BAKI	Biak	3.34	97	P	**Pb**	13 38 42.4	**+0.2**
MSAI	Masohi	4.64	236	P	Pb	13 39 00.6	-3.7
TLE	Tual	4.85	181	P	Pn	13 38 59.0	+4.6
LBMI	Labuha	5.29	271	P	Pb	13 39 15.0	-0.4
	44nm,0.8s,0.2nm						
AAI	Ambon	5.44	238	P	Pn	13 39 09.5	+7.0
	255nm,0.7s,2μm0.9nm						
NLAI	Namlea	6.20	246	P	Pn	13 39 23.5	+11
	103nm,0.7s,0.4nm						
FITZ	Fitzroy Crossi	18.62	202	P	**Pn**	13 42 00.3	**+1.3**
	0.4nm,0.3s,baz=25,slow=13,SNR=19						
FITZ				S	Sn	13 45 17.6	-8.8
	0.2nm,0.3s,baz=349,slow=16,SNR=2.8						
FITZ				LR	LR	13 49 33.5	
	comp=Z,68nm,21.6s,baz=162,slow=38						
WRA	Warramunga Arr	19.13	176	P	**Pn**	13 42 05.0	**-0.3**
	0.5nm,0.3s,baz=355,slow=12,SNR=20						
WRA				S	Sn	13 45 30.4	-8.5
	0.2nm,0.3s,baz=356,slow=24,SNR=5.1						
ASAR	Alice Springs	22.80	177	P	**P**	13 42 45.8	**+1.9**
	2.9nm,0.5s,baz=355,slow=11,SNR=90						
ASAR				S	**S**	13 46 49.2	**-1.8**

SZGRF ***18*** *14:11:42.1,30.˙77S×177.˙15W,h33km,mb6.4,Kermadec Islands, New Zealand*
BJI ***18*** *14:11:43.7,29.˙55S×177.˙40W,h7km,mB6.6/39,mb5.9/57, Ms6.2/73,Ms7 6.1/67*
DJA ***18*** *14:11:45,29.˙97S×177.˙72W,h10km,Mw6.4/19*
ISCJB ***18*** *14:11:45.9±0.1,30.˙35S±0.˙02×178.˙03W±0.˙03,h23km, mb6.0/245,MS6.1/211, Error ellipse: s-maj=3.8km s-min=1.9km az=36.3*
MOS ***18*** *14:11:48.4±0.9,30.˙04S×177.˙94W,h33km,mb6.2/84, MS6.1/66,Error ellipse: s-maj=8.8km s-min=6.9km az=81.8*
NEIC ***18*** *14:11:48.9±0.1,30.˙20S×177.˙95W,h33km,mb6.0/184, ME5.9,MS6.1/150,MW6.4,MW6.3,Error ellipse: s-maj=5.0km s-min=3.1km az=124.0,Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁸Nm; Mrr3.20; Mθθ-1.09; Mϕϕ-2.11; Mrθ0.28; Mrϕ-1.32; Mθϕ0.67; Best double couple: M₀3.20000×10¹⁸ NP1:ϕs217.00000°,δ39.00000°, λ94.00000°. Principal axes: T 3.2900, Plg83.0000°, Azm283.0000°; N -0.1900, Plg2.0000°, Azm33.0000°; P -3.1000, Plg6.0000°, Azm124.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
IDC ***18*** *14:11:51.8±1.0,30.˙19S×177.˙99W,h51km±7km,mb5.6/34, mb1 5.5/35,mb1mx5.5/35,mbtmp5.5/35,MS5.9/28, Ms1 6.0/28,ms1mx5.9/31 Error ellipse: s-maj=10.5km s-min=7.4km az=24.0*
NEIC ***18*** *14:12:12.3±0.0,29.˙50S×177.˙55W,h51km,Moment Tensor Solution. s121 Moment tensor: Scale 10¹⁸Nm; Mrr4.70; Mθθ-0.50; Mϕϕ-4.21; Mrθ0.11; Mθϕ-1.61; Mϕr1.59; Best double couple: M₀5.00000×10¹⁸ NP1:ϕs15.00000°, δ54.00000°,λ84.00000°. NP2:ϕs206.00000°,δ36.00000°, λ98.00000°. Principal axes: T 4.9800, Plg79.0000°, Azm259.0000°; N 0.0600, Plg5.0000°, Azm18.0000°; P -5.0500, Plg8.0000°, Azm109.0000°;*
ISC 18 14:11:48.7±0.3, 30°23S±0.˙03×177°86W±0.˙03, h31km±2km, h31km:pP-P,n1768,cf1947/2451,mb6.0/240,MS6.1/216, 526C-551D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**357**	*eP*		**Pn**	**14 12 04.0**	**-2.2**
RAO	**Raoul Island**	**0.97**	**357**	*ePn*		**Pn**	**14 12 04.0**	**-2.2**
MXZ	**Matakaoa Point**	**7.98**	**203**	Pn		**Pn**	**14 13 42.1**	**-0.5**
MXZ	**Matakaoa Point**	**7.98**	**203**	Pn		**Pn**	**14 13 41.1**	**-1.5**
MXZ				SN		Sn	14 15 17.4	+5.7
KUZ	**Kuaotunu**	**8.43**	**218**	Pn		Pn	14 13 54.4	+5.8
KUZ	**Kuaotunu**	**8.43**	**218**	PN		Pn	14 13 53.8	+5.2
PUZ	**Puketiti**	**8.46**	**201**	Pn		**Pn**	**14 13 47.4**	**-1.7**
PUZ	**Puketiti**	**8.46**	**201**	PN		**Pn**	**14 13 46.8**	**-2.3**
PUZ				SN		**Sn**	**14 15 21.7**	**-1.9**
WCZ	**Waipu Caves**	**8.68**	**227**	Pn		Pn	14 13 59.5	+7.5
WCZ	**Waipu Caves**	**8.68**	**227**	PN		Pn	14 13 59.5	+7.5
OUZ	**Omahuta**	**8.75**	**233**	Pn		Pn	14 14 01.2	+8.1
OUZ				*eP*			14 14 01.3	
OUZ	**Omahuta**	**8.75**	**233**	PN		Pn	14 14 01.2	+8.1
CNGZ	**Carnagh Statio**	**8.86**	**200**	Pn		**Pn**	**14 13 52.4**	**-2.2**
CNGZ	**Carnagh Statio**	**8.86**	**200**	PN		**Pn**	**14 13 52.3**	**-2.2**
OPRZ	**Ohinepanea**	**8.90**	**210**	Pn		**Pn**	**14 13 56.6**	**+1.5**
OPRZ	**Ohinepanea**	**8.90**	**210**	*ePN*		**Pn**	**14 13 55.6**	**+0.5**
MWZ	**Matawai**	**8.94**	**204**	Pn		**Pn**	**14 13 53.9**	**-1.9**
MWZ	**Matawai**	**8.94**	**204**	PN		**Pn**	**14 13 53.9**	**-1.9**
MWZ				SN		**Sn**	**14 15 38.6**	**+3.2**
MKAZ	**Moumakai**	**8.99**	**218**	Pn		Pn	14 14 03.4	+7.0
MKAZ	**Moumakai**	**8.99**	**218**	PN		Pn	14 14 02.1	+5.7
URZ	**Urewera**	**9.03**	**206**	*eP*		**Pn**	**14 13 55.3**	**-1.6**
URZ	804nm,0.7s							
				Pn		Pn	14 13 55.8	-1.1
URZ	**Urewera**	**9.03**	**206**	PN		**Pn**	**14 13 55.8**	**-1.1**
URZ				SN		**Sn**	**14 15 41.4**	**+3.9**
TARZ	**Mount Tarawera**	**9.25**	**209**	Pn		Pn	14 14 03.7	+3.7
TOZ	**Tahuroa Road**	**9.29**	**215**	Pn		Pn	14 14 04.8	+4.3
TOZ	**Tahuroa Road**	**9.29**	**215**	PN		Pn	14 14 04.8	+4.3
RRRZ	**Republican Roa**	**9.34**	**208**	Pn		**Pn**	**14 14 02.6**	**+1.5**
PRGZ	**Paritu Road**	**9.36**	**201**	Pn		**Pn**	**14 13 59.2**	**-2.2**
KNZ	**Kokohu**	**9.51**	**202**	Pn		**Pn**	**14 14 01.0**	**-2.5**
KNZ	**Kokohu**	**9.51**	**202**	PN		**Pn**	**14 14 01.0**	**-2.5**
KNZ				SN		**Sn**	**14 15 48.6**	**-0.7**
PRRZ	**Plateau Road**	**9.52**	**208**	Pn		**Pn**	**14 14 04.5**	**+0.8**
PRRZ	**Plateau Road**	**9.52**	**208**	*ePN*		**Pn**	**14 14 04.1**	**+0.4**
PRRZ				SN		Sn	14 15 55.3	+5.8
MHGZ	**Mahia Peninsul**	**9.56**	**200**	Pn		**Pn**	**14 14 01.9**	**-2.3**
MHGZ	**Mahia Peninsul**	**9.56**	**200**	PN		**Pn**	**14 14 01.9**	**-2.3**
ALRZ	**Allen Road**	**9.60**	**208**	Pn		**Pn**	**14 14 05.3**	**+0.7**
RAHZ	**Arahi**	**9.62**	**204**	Pn		**Pn**	**14 14 04.6**	**-0.4**
RAHZ	**Arahi**	**9.62**	**204**	PN		**Pn**	**14 14 04.6**	**-0.4**
RAHZ				SN		**Sn**	**14 15 53.3**	**+1.4**
NMHZ	**Naumai**	**9.88**	**205**	Pn		**Pn**	**14 14 06.7**	**-2.0**
NMHZ	**Naumai**	**9.88**	**205**	*ePN*		**Pn**	**14 14 06.7**	**-2.0**
NMHZ				SN		**Sn**	**14 16 01.3**	**+2.9**
BKZ	**Black Stump Fm**	**10.06**	**206**	Pn		**Pn**	**14 14 08.3**	**-2.7**
BKZ	**Black Stump Fm**	**10.06**	**206**	PN		**Pn**	**14 14 08.3**	**-2.7**
BKZ				SN		**Sn**	**14 16 02.4**	**-0.4**
RITZ	**Rihia Road**	**10.15**	**209**	Pn		**Pn**	**14 14 12.2**	**-0.1**
HIZ	**Hauiti**	**10.22**	**214**	Pn		Pn	14 14 16.1	+2.8
HIZ	**Hauiti**	**10.22**	**214**	PN		Pn	14 14 16.1	+2.8
MCHZ	**McNeill Hill**	**10.22**	**204**	Pn		**Pn**	**14 14 11.6**	**-1.7**
MCHZ	**McNeill Hill**	**10.22**	**204**	*ePN*		**Pn**	**14 14 11.4**	**-1.8**
WPVZ	**Whakapapa**	**10.47**	**209**	Pn		**Pn**	**14 14 18.5**	**+1.7**
KAHZ	**Kahuranaki**	**10.47**	**203**	Pn		Pn	14 14 13.6	-3.1
KAHZ	**Kahuranaki**	**10.47**	**203**	*ePN*		Pn	14 14 13.1	-3.6
BHHZ	**Black Hill Sta**	**10.50**	**207**	Pn		Pn	14 14 10.0	-7.2
FWVZ	**Far West T-bar**	**10.51**	**209**	Pn		**Pn**	**14 14 18.8**	**+1.4**
MOVZ	**Moawhango**	**10.55**	**208**	Pn		**Pn**	**14 14 16.7**	**-1.1**
PXZ	**Pawanui**	**10.69**	**202**	Pn		Pn	14 14 15.8	-3.8
PXZ	**Pawanui**	**10.69**	**202**	*ePN*		Pn	14 14 15.7	-3.9
PXZ				SN		**Sn**	**14 16 14.6**	**-3.7**
PNHZ	**Pukenui**	**10.82**	**205**	*ePN*		Pn	14 14 16.7	-4.7
WPHZ	**Waipukurau**	**10.87**	**204**	Pn		Pn	14 14 18.8	-3.2
PRHZ	**Porangahau**	**10.98**	**203**	Pn		Pn	14 14 20.3	-3.4
PRHZ	**Porangahau**	**10.98**	**203**	*eSN*		**Sn**	**14 16 21.3**	**-4.0**
TSZ	**Takapari Road**	**11.04**	**206**	PN		Pn	14 14 21.4	-3.0
WAZ	**Wanganui**	**11.17**	**210**	Pn		**Pn**	**14 14 26.1**	**-0.2**
WAZ	**Wanganui**	**11.17**	**210**	*ePN*		**Pn**	**14 14 25.1**	**-1.1**
POWZ	**Post Office Ro**	**11.40**	**205**	Pn		**Pn**	**14 14 29.0**	**-0.3**
TIWZ	**Tintock**	**11.69**	**204**	Pn		Pn	14 14 29.8	-3.6
MRZ	**Mangatainoka R**	**11.70**	**205**	Pn		Pn	14 14 28.5	-5.0
MRZ	**Mangatainoka R**	**11.70**	**205**	PN		Pn	14 14 28.5	-5.0
MRZ				SN		Sn	14 16 36.4	-6.6
TMWZ	**Te Maipa**	**11.98**	**203**	Pn		Pn	14 14 32.9	-4.5
TMWZ	**Te Maipa**	**11.98**	**203**	PN		Pn	14 14 32.9	-4.5
TMWZ				SN		Sn	14 16 44.3	-5.6
OGWZ	**Otaki Gorge**	**11.99**	**206**	Pn		Pn	14 14 32.3	-5.1
KIW	**Kapiti Island**	**12.13**	**207**	Pn		Pn	14 14 34.9	-4.4
MTW	**Mount Morrison**	**12.16**	**204**	Pn		Pn	14 14 34.2	-5.6
CAW	**Cannon Point**	**12.28**	**206**	Pn		Pn	14 14 35.6	-5.8
CAW	**Cannon Point**	**12.28**	**206**	PN		Pn	14 14 34.9	-6.5
CAW				SN		Sn	14 16 49.1	-8.1
TRWZ	**Traveller**	**12.31**	**203**	Pn		Pn	14 14 37.7	-4.2
PAWZ	**Paruwai Farm**	**12.39**	**204**	Pn		Pn	14 14 37.9	-4.9
MSWZ	**Moikau Station**	**12.48**	**205**	Pn		Pn	14 14 39.2	-4.9
DUWZ	**D'Urville Isla**	**12.49**	**210**	Pn		Pn	14 14 40.6	-3.7
DUWZ	**D'Urville Isla**	**12.49**	**210**	PN		Pn	14 14 40.6	-3.7
DUWZ				SN		Sn	14 16 56.6	-5.7
WEL	**Wellington**	**12.55**	**206**	P		Pn	14 14 40.3	-4.8
WEL	**Wellington**	**12.55**	**206**	Pn		Pn	14 14 40.3	-4.8
WEL	**Wellington**	**12.55**	**206**	*ePN*		Pn	14 14 40.2	-4.9
SNZO	**South Karori**	**12.59**	**207**	Pn		Pn	14 14 40.1	-5.6
SNZO				*eP*		P	14 14 42.8	-14
SNZO	**South Karori**	**12.59**	**207**	PN		Pn	14 14 39.0	-6.7
SNZO				SN		Sn	14 16 56.7	-8.1
BHW	**Baring Head**	**12.62**	**206**	Pn		Pn	14 14 41.3	-4.6
PLWZ	**Palliser**	**12.62**	**204**	Pn		Pn	14 14 39.9	-6.1
PLWZ	**Palliser**	**12.62**	**204**	PN		Pn	14 14 39.9	-6.1
TCW	**Tory Channel**	**12.68**	**208**	Pn		Pn	14 14 41.2	-5.6
MSVF	**Nonsavu**	**12.99**	**342**	*eP*		**Pn**	**14 14 52.4**	**+1.2**
MSVF	comp=Z,1μm,1.3s			pmax	pmax			
MSVF	**Nonsavu**	**12.99**	**342**	*eP*		**Pn**	**14 14 52.4**	**+1.2**
	comp=Z,1μm,1.3s							
MSVF	**Nonsavu**	**12.99**	**342**	Pn		Pn	14 14 55.9	+4.7
	comp=Z,3μm,1.0s,SNR=31							
TUWZ	**Tuamarina**	**13.00**	**208**	Pn		Pn	14 14 46.0	-5.3
TUWZ	**Tuamarina**	**13.00**	**208**	SN		Sn	14 17 08.4	-6.3
NNZ	**Nelson**	**13.07**	**211**	Pn		Pn	14 14 46.9	-5.2
NNZ	**Nelson**	**13.07**	**211**	PN		Pn	14 14 46.7	-5.4
QRZ	**Quartz Range**	**13.15**	**214**	Pn		Pn	14 14 50.0	-3.2
BSWZ	**Blackbirch Sta**	**13.27**	**208**	Pn		Pn	14 14 50.0	-4.9
CTZ	**Chatham Island**	**13.52**	**176**	Pn		**Pn**	**14 14 56.5**	**-1.7**
CTZ	**Chatham Island**	**13.52**	**176**	*ePN*		Pn	14 14 55.2	-3.0
CTZ				SN		Sn	14 17 14.3	-13
THZ	**Tophouse**	**13.72**	**210**	Pn		Pn	14 14 55.3	-5.8
THZ	**Tophouse**	**13.72**	**210**	PN		Pn	14 14 55.3	-5.8
THZ				SN		Sn	14 17 22.6	-10
KHZ	**Kahutara**	**13.99**	**207**	Pn		Pn	14 14 58.0	-6.7
KHZ				*eP*		P	14 15 01.4	-11
KHZ	**Kahutara**	**13.99**	**207**	PN		Pn	14 14 57.9	-6.8
KHZ				SN		Sn	14 17 29.4	-9.5
DSZ	**Denniston Nort**	**14.21**	**213**	Pn		**Pn**	**14 15 05.8**	**-1.9**
DSZ	**Denniston Nort**	**14.21**	**213**	SN		Sn	14 17 35.7	-8.5
LTZ	**Lake Taylor**	**14.82**	**210**	Pn		Pn	14 15 09.5	-6.6
LTZ	**Lake Taylor**	**14.82**	**210**	PN		Pn	14 15 09.1	-7.0
CRLZ	**Canterbury Las**	**15.33**	**207**	Pn		Pn	14 15 17.0	-5.7
MQZ	**McQueen's Vall**	**15.43**	**207**	Pn		Pn	14 15 16.8	-7.2
MQZ	**McQueen's Vall**	**15.43**	**207**	PN		Pn	14 15 16.8	-7.2
MQZ				SN		Sn	14 18 00.6	-13
WVZ	**Waitaha Valley**	**15.73**	**212**	Pn		**Pn**	**14 15 24.9**	**-3.0**
WVZ	**Waitaha Valley**	**15.73**	**212**	PN		**Pn**	**14 15 24.4**	**-3.5**
WVZ				SN		Sn	14 18 08.7	-13
RPZ	**Rata Peaks**	**16.10**	**210**	P		**Pn**	**14 15 32.7**	**+0.1**
RPZ	comp=Z,13nm,0.3s,baz=15,slow=2.9,SNR=17			S		Sn	14 18 20.4	-10
	comp=Z,33nm,0.3s,baz=12,slow=8.6,SNR=9.7							
RPZ	**Rata Peaks**	**16.10**	**210**	*eP*		**Pn**	**14 15 29.7**	**-3.0**
	comp=Z,222nm,0.6s							
RPZ				P		**Pn**	**14 15 32.7**	**+0.1**
RPZ				S		Sn	14 18 20.4	-10
DZM	**Mont Dzumac**	**16.26**	**296**	*eP*		**P**	**14 15 40.9**	**+3.2**
DZM	comp=Z,2μm,1.3s							
	comp=Z,425μm,25.5s			*e*LR		LR	14 19 40.5	
DZM	**Mont Dzumac**	**16.26**	**296**	P		**P**	**14 15 42.2**	**+4.5**
	comp=Z,4.8nm,0.3s,baz=127,slow=11,SNR=60							
DZM				S		**S**	**14 18 44.3**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=355,slow=15,SNR=1.9							
DZM				LR		LR	14 20 34.4	
	comp=Z,227μm,20.8s,baz=124,slow=32							
DZM				ScP		ScP	14 24 09.5	+9.1
	comp=Z,1.7nm,0.3s,baz=104,slow=9.4,SNR=7.9							
DZM	**Mont Dzumac**	**16.26**	**296**	P		**P**	**14 15 42.2**	**+4.5**
DZM				S		**S**	**14 18 44.3**	**-2.2**
DZM				ScP		ScP	14 24 09.5	+9.1
FOZ	**Fox Glacier**	**16.60**	**213**	Pn		Pn	14 15 34.5	-4.5
FOZ	**Fox Glacier**	**16.60**	**213**	PN		Pn	14 15 34.2	-4.8
LBZ	**Lake Benmore**	**17.01**	**211**	Pn		**Pn**	**14 15 41.4**	**-2.8**
LBZ	**Lake Benmore**	**17.01**	**211**	PN		**Pn**	**14 15 41.4**	**-2.8**
LBZ				SN		Sn	14 18 39.7	-13
AFI	**Afiamalu**	**17.18**	**20**	P		Pn	14 15 39.1	-7.5
AFI	comp=Z,7.9nm,0.3s,baz=39,slow=18,SNR=10			S		Sn	14 18 32.7	-24
	comp=Z,7.5nm,0.3s,baz=245,slow=23,SNR=1.9							
AFI	**Afiamalu**	**17.18**	**20**	P		Pn	14 15 39.1	-7.5
AFI	comp=Z,8.0nm,0.3s			pmax	pmax			
AFI	**Afiamalu**	**17.18**	**20**	*eP*		Pn	14 15 38.2	-8.4
AFI	comp=Z,489nm,0.9s							
AFI				P		Pn	14 15 39.1	-7.5
AFI				S		Sn	14 18 32.7	-24
ODZ	**Otahua Downs**	**17.34**	**208**	*eP*		**Pn**	**14 15 44.7**	**-3.7**
	comp=Z,802nm,0.6s							
JCZ	**Jackson Bay**	**17.43**	**214**	Pn		**Pn**	**14 15 45.7**	**-3.8**
JCZ	**Jackson Bay**	**17.43**	**214**	*ePN*		Pn	14 15 45.0	-4.5
JCZ				SN		Sn	14 18 50.9	-12
WKZ	**Wanaka**	**17.88**	**212**	Pn		**Pn**	**14 15 51.2**	**-3.8**
WKZ	**Wanaka**	**17.88**	**212**	PN		**Pn**	**14 15 51.1**	**-3.9**
EAZ	**Earnscleugh**	**18.06**	**210**	P*		**Pn**	**14 15 54.6**	**-2.5**
EAZ	**Earnscleugh**	**18.06**	**210**	PN		**Pn**	**14 15 54.4**	**-2.7**
MSZ	**Milford Sound**	**18.27**	**214**	P		**P**	**14 15 58.1**	**-1.6**
MSZ	**Milford Sound**	**18.27**	**214**	P*		**P**	**14 15 58.1**	**-1.6**
RAR	**Rarotonga**	**18.58**	**65**	P		**P**	**14 16 00.7**	**-2.6**
RAR	comp=Z,9.3nm,0.3s,baz=239,slow=5.9,SNR=13			S		Sn	14 19 13.1	-17
	comp=Z,11nm,0.3s,baz=264,slow=21,SNR=3.8							
RAR				LR		LR	14 21 29.9	
	comp=Z,31μm,20.8s,baz=237,slow=31							
RAR	**Rarotonga**	**18.58**	**65**	*eP*		**P**	**14 16 00.0**	**-3.3**
RAR	comp=Z,369nm,0.8s			pmax	pmax			
RAR	**Rarotonga**	**18.58**	**65**	*eP*		**P**	**14 16 00.0**	**-3.3**
	comp=Z,369nm,0.8s							
RAR				P		**P**	**14 16 00.7**	**-2.6**
RAR				S		Sn	14 19 13.1	-17
MLZ	**Mavora Lakes**	**18.66**	**212**	P*		**P**	**14 16 03.3**	**-0.8**
MLZ	**Mavora Lakes**	**18.66**	**212**	PN		**P**	**14 16 02.7**	**-1.3**
SYZ	**Scrubby Hill**	**19.17**	**208**	P*		**Pn**	**14 16 11.0**	**+0.4**
SYZ	**Scrubby Hill**	**19.17**	**208**	PN		**P**	**14 16 09.4**	**-0.2**
FUNA	**Funafuti**	**21.77**	**352**	*eP*		**P**	**14 16 33.5**	**-4.4**
FUNA	comp=Z,171nm,1.0s			LR		LR		
	comp=Z,61μm,22.0s							
TBI	**Tubuai**	**26.21**	**82**	*eP*		**P**	**14 17 19.3**	**-1.5**
TBI	comp=Z,404nm,1.3s							
	comp=Z,38μm,30.2s			*e*S		**S**	**14 21 45.3**	**-5.8**
TBI				*e*LQ		LQ	14 22 30.5	
	comp=Z,58μm,28.0s							
TBI				*e*LR		LR	14 23 45.6	
	comp=Z,113μm,30.2s,baz=246							
ARMA	**Armidale**	**26.30**	**262**	*eP*		**P**	**14 17 25.6**	**+3.8**
ARMA				*e*SCP		**ScP**	**14 24 22.3**	**-2.7**
ARMA				*e*SCS		ScS	14 28 24.6	+9.3
ARMA	**Armidale**	**26.30**	**262**	*eP*		**P**	**14 17 25.9**	**+4.1**
	comp=Z,381nm,0.9s							
RIV	**Riverview**	**26.46**	**254**	*eP*		**P**	**14 17 27.4**	**+4.4**
EIDS	**Eidsvold**	**27.85**	**272**	*eP*		**P**	**14 17 37.5**	**+1.9**
	comp=Z,288nm,0.8s							
CNB	**Canberra Magne**	**27.95**	**251**	*eP*		**P**	**14 17 40.4**	**+4.0**
CNB	comp=Z,2μm,0.8s			*e*PCP		**PcP**	**14 20 50.9**	**-0.4**
CNB				*e*S		**S**	**14 22 24.4**	**+5.9**
CNB				*e*SCP		ScP	14 24 39.4	+10
CAN	**Canberra**	**28.25**	**251**	*eP*		P	14 17 42.3	+3.2
CAN				pmax	pmax			
	comp=Z,337nm,0.7s			MLR	MLR			
	comp=Z,54μm,22.0s							
CAN	**Canberra**	**28.25**	**251**	*eP*		P	14 17 42.3	+3.2
	comp=Z,337nm,0.7s							
CAN				LR	LR			
	comp=Z,54μm,22.0s							
PAE	**Paea**	**28.62**	**71**	*eP*		**P**	**14 17 42.4**	**-0.1**
	comp=Z,41nm,1.2s							
PPT2	**Papeete2**	**28.66**	**70**	*e*S		S	14 22 23.9	-6.0
	comp=Z,25μm,27.8s							
PPT2				*e*LQ		LQ	14 23 24.1	
	comp=Z,62μm,26.8s							
PPT2				*e*LR		LR	14 25 04.7	
	comp=Z,112μm,26.8s,baz=234							
TIAR	**Tiarei**	**28.87**	**71**	*eP*		**P**	**14 17 44.8**	**+0.1**
	comp=Z,332nm,0.9s							
HNR	**Honiara**	**29.28**	**310**	*eP*		**P**	**14 17 47.4**	**-1.0**
HNR	comp=Z,618nm,1.2s			pmax	pmax			
HNR				MLR	MLR			
	comp=Z,39μm,21.0s							
HNR	**Honiara**	**29.28**	**310**	*eP*		**P**	**14 17 47.4**	**-1.0**
	comp=Z,618nm,1.2s							
HNR				LR	LR			
	comp=Z,39μm,21.0s							
MEH	**Mehetia**	**29.76**	**72**	*eP*		**P**	**14 17 51.3**	**-1.3**
	comp=Z,151nm,1.0s							
MOO	**Moorlands**	**30.47**	**237**	*eP*		**P**	**14 18 00.9**	**+2.2**
	comp=Z,1μm,0.9s							
MOO				*e*PCP		**PcP**	**14 20 59.1**	**+1.7**
MOO				*e*SCP		**ScP**	**14 24 38.6**	**+1.0**
TAU	**Tasmania Unive**	**30.48**	**236**	*eP*		**P**	**14 18 00.7**	**+2.0**
TAU				pmax	pmax			
	comp=Z,289nm,1.0s			MLR	MLR			
	comp=Z,67μm,20.0s							
TAU	**Tasmania Unive**	**30.48**	**236**	*eP*		**P**	**14 18 00.7**	**+2.0**
	comp=Z,289nm,1.0s							
TAU				LR	LR			
	comp=Z,67μm,20.0s							
TAU	**Tasmania Unive**	**30.48**	**236**	P		P	14 18 01.9	+3.2
	comp=Z,1μm,0.9s,SNR=39							
TOO	**Toolangi**	**31.14**	**247**	*eP*		**P**	**14 18 07.6**	**+2.9**
	comp=Z,1μm,0.7s							
TOO				*e*PCP		**PcP**	**14 20 55.0**	**-4.4**
TOO				*e*S		**S**	**14 23 11.7**	**+3.2**
TOO				*e*			14 24 48.2	
PMOR	**Pomariorio Ree**	**31.41**	**68**	*eP*		**P**	**14 18 06.3**	**-0.8**
	comp=Z,114nm,1.1s							
TARA	**Tarawa**	**32.61**	**343**	PFAKE			14 18 30.0	+12
TARA				LR	LR			
	comp=Z,6μm,20.0s							
CTA	**Charters Tower**	**33.89**	**279**	P		**P**	**14 18 30.8**	**+1.9**
	comp=Z,1μm,0.7s,baz=102,slow=11,SNR=402							
CTA				S		**S**	**14 23 46.3**	**-5.3**
	comp=Z,23nm,1.0s,baz=305,slow=22,SNR=1.9							
CTA				ScP		**ScP**	**14 24 52.1**	**+2.5**
	comp=Z,19nm,0.9s,baz=117,slow=4.5,SNR=3.0							
CTA				LR	LR		14 31 11.5	
	comp=Z,91μm,18.1s,baz=120,slow=34							
CTA	**Charters Tower**	**33.89**	**279**	*eP*		**P**	**14 18 31.8**	**+2.9**
	comp=Z,2μm,1.0s							
CTA				*e*S		S	14 23 58.0	+6.4
CTA				*e*SCP		**ScP**	**14 24 51.9**	**+2.2**
CTA				*e*SCS		**ScS**	**14 24 56.8**	**+5.1**
CTA	**Charters Tower**	**33.89**	**279**	P		**P**	**14 18 30.8**	**+1.9**
CTA				S		**S**	**14 23 46.3**	**-5.3**
CTA				smax	smax			
	comp=N,23nm,1.0s							
CTA				pmax	pmax			
	comp=N,19nm,0.9s							
CTA				MLR	MLR			
	comp=Z,91μm,18.1s							
CTA	**Charters Tower**	**33.89**	**279**	P		**P**	**14 18 30.8**	**+1.9**
CTA				S		**S**	**14 23 46.3**	**-5.3**
CTA				ScP		**ScP**	**14 24 52.1**	**+2.5**
CTAO	**Charters Tower**	**33.89**	**279**	*eP*		**P**	**14 18 31.3**	**+2.4**
CTAO				pmax	pmax			
	comp=Z,1μm,0.8s							
CTAO				MLR	MLR			
	comp=Z,98μm,22.0s							
CTAO	**Charters Tower**	**33.89**	**279**	*eP*		**P**	**14 18 31.3**	**+2.4**
	comp=Z,1μm,0.8s							
CTAO				LR	LR			
	comp=Z,98μm,22.0s							
STKA	**Stephens Creek**	**34.64**	**257**	P		**P**	**14 18 37.1**	**+1.9**
	comp=Z,636nm,0.7s,baz=92,slow=9.1,SNR=547							
STKA				S		S	14 23 54.6	-8.2
	comp=Z,4.0nm,0.5s,baz=72,slow=19,SNR=1.5							
STKA				ScP		**ScP**	**14 24 59.0**	**+6.9**
	comp=Z,38nm,1.1s,baz=135,slow=1.4,SNR=3.8							
STKA				PKiKP		**PKiKP**	**14 28 34.0**	**+2.1**
	comp=Z,2.5nm,0.5s,baz=91,slow=4.2,SNR=6.5							
STKA				LR	LR		14 32 06.9	
	comp=Z,73μm,18.1s,baz=87,slow=35							
STKA	**Stephens Creek**	**34.64**	**257**	*eP*		**P**	**14 18 37.8**	**+2.6**
	comp=Z,481nm,0.6s							
STKA				*e*PP		PP	14 20 05.9	+12
STKA				*e*S		**S**	**14 24 08.5**	**+5.6**
STKA				*e*SCP		**ScP**	**14 24 58.6**	**+6.5**
STKA				*e*SCS		**ScS**	**14 28 54.9**	**-0.4**
STKA	**Stephens Creek**	**34.64**	**257**	P		**P**	**14 18 37.2**	**+1.9**
STKA				S		S	14 23 54.7	-8.2
STKA				pmax	pmax			
	comp=Z,636nm,0.7s							
STKA				smax	smax			
	comp=N,4.0nm,0.5s							
STKA				pmax	pmax			
	comp=N,38nm,1.1s							
STKA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
STKA				MLR	MLR			
	comp=Z,73μm,18.1s							
STKA	**Stephens Creek**	**34.64**	**257**	P		**P**	**14 18 37.1**	**+1.9**
STKA				*eP*		**P**	**14 18 37.9**	**+2.6**
STKA				S		S	14 23 54.6	-8.2
STKA				ScP		**ScP**	**14 24 59.0**	**+6.9**
STKA				PKiKP		**PKiKP**	**14 28 34.0**	**+2.1**
XMAS	**Kiritimati**	**37.54**	**35**	P		**P**	**14 18 59.2**	**-1.0**
XMAS	comp=

VNDA Vanda 48.28 186 *e*P P 14 20 29.6 +3.2
VNDA pmax pmax
comp=Z,48nm,0.7s
VNDA MLR MLR
comp=Z,9μm,22.0s
VNDA Vanda 48.28 186 *e*P P 14 20 29.6 +3.2
comp=Z,48nm,0.7s
VNDA LR LR
comp=Z,9μm,22.0s
WAKE Wake Island 51.43 341 *e*P **P 14 20 50.1 -0.9**
comp=Z,972nm,0.8s
WAKE LR LR
comp=Z,24μm,19.0s
FITZ Fitzroy Crossi 52.48 270 P **P 14 20 59.4 +0.4**
comp=Z,277nm,0.8s,baz=142,slow=6.2,SNR=97
FITZ ScP ScP 14 26 13.2 +8.9
comp=Z,44nm,1.0s,baz=161,slow=2.8,SNR=4.2
FITZ Fitzroy Crossi 52.48 270 *e*P **P 14 20 59.3 +0.4**
comp=Z,604nm,0.8s
FITZ *e*SCP ScP 14 26 13.5 +9.2
FITZ *e*S **S 14 28 24.1 +0.5**
FITZ Fitzroy Crossi 52.48 270 P **P 14 20 59.4 +0.4**
FITZ ScP ScP 14 26 13.2 +8.9
PUH Pauahi 53.92 27 P **P 14 21 08.3 -1.2**
STCH Steam Cracks 53.97 27 *e*P **P 14 21 10.9 +1.1**
KLBR Kellerberrin 54.52 251 *e*P **P 14 21 13.4 -0.4**
comp=Z,443nm,1.2s
KLBR *e*SCP **ScP 14 26 14.7 +1.7**
NWAO Narrogin (SRO) 54.57 249 P **P 14 21 13.8 -0.4**
comp=Z,31nm,0.7s,baz=100,slow=8.2,SNR=20
NWAO S S 14 28 38.9 -13
comp=Z,6.2nm,0.7s,baz=187,slow=19,SNR=1.6
NWAO LR LR 14 41 20.9
comp=Z,21μm,21.7s,baz=106,slow=32
NWAO Narrogin (SRO) 54.57 249 *e*P **P 14 21 13.3 -0.9**
NWAO pmax pmax
comp=Z,275nm,1.8s
NWAO Narrogin (SRO) 54.57 249 *e*P **P 14 21 13.3 -0.9**
comp=Z,275nm,1.8s
NWAO P **P 14 21 13.8 -0.4**
NWAO S S 14 28 38.9 -13
HON Honolulu 54.70 23 *e*P **P 14 21 14.8 -0.2**
HON Honolulu 54.70 23 *e*P **P 14 21 14.8 -0.2**
KIP Kipapa 54.78 23⇑ *i*P **P 14 21 15.7 +0.1**
KIP pmax pmax
comp=Z,759nm,1.2s
KIP Kipapa 54.78 23 *e*P **P 14 21 16.1 +0.4**
comp=Z,1μm,1.5s
KIP LR LR
comp=Z,6μm,20.0s
CASY Casey 55.35 208 *e*P **P 14 21 19.5 +0.3**
CASY *e*S **S 14 28 58.4 -2.7**
CASY Casey 55.35 208 *e*P **P 14 21 19.7 +0.5**
comp=Z,337nm,0.7s
CASY LR LR
comp=Z,10μm,20.0s
MBWA Marble Bar 56.37 264 *e*P **P 14 21 26.3 -0.9**
comp=Z,229nm,1.0s
MBWA LR LR
comp=Z,51μm,19.0s
MBWA Marble Bar 56.37 264 P **P 14 21 27.0 -0.2**
SNR=21
MBWA mb 14 21 31.3
SNR=38
GUMO Guam 56.45 315 LR LR 14 42 55.4
comp=Z,14μm,20.1s,baz=135,slow=33
GUMO Guam 56.45 315 *e*P **P 14 21 26.2 -1.5**
GUMO pmax pmax
comp=Z,961nm,1.3s
GUMO Guam 56.45 315 *e*P **P 14 21 26.1 -1.5**
comp=Z,962nm,1.3s
MIDW Midway 58.12 1 PFAKE 14 21 50.0 +11
MIDW LR LR
comp=Z,21μm,22.0s
RPN Rapa Nui 59.36 105 P **P 14 21 50.4 +2.2**
comp=Z,68nm,1.0s,baz=22,slow=2.2,SNR=2.3
RPN LR LR 14 40 39.3
comp=Z,8μm,20.8s,baz=164,slow=29
RPN Rapa Nui 59.36 105 *e*P **P 14 21 49.9 +1.8**
RPN *e* 14 22 07.8
RPN pmax pmax
comp=Z,771nm,1.9s
RPN Rapa Nui 59.36 105 *e*P **P 14 21 49.9 +1.8**
comp=Z,771nm,1.9s
RPN P **P 14 21 50.4 +2.2**
RPN *e* 14 22 07.8
QSPA South Pole Qui 59.88 180 P **P 14 21 54.1 +2.8**
comp=Z,325nm,1.0s,baz=39,slow=2.7,SNR=109
QSPA S **S 14 29 58.8 -2.1**
comp=Z,7.3nm,1.0s,baz=182,slow=6.6,SNR=2.2
QSPA LR LR 14 42 52.4
comp=Z,9μm,22.0s,baz=224,slow=31
QSPA South Pole Qui 59.88 180 *e*P **P 14 21 54.0 +2.7**
comp=Z,0.7nm,0.5s
QSPA P **P 14 21 54.1 +2.8**
QSPA S **S 14 29 58.8 -2.1**
MIR Mirnyy 62.33 207⇑ *i*P **P 14 22 08.0 +0.3**
MIR *i* 14 22 22.0
MIR *e*S S 14 30 24.0 -7.7
MIR *e* 14 31 57.0
MIR *e*SSS SSS 14 37 16.0
MIR pmax pmax
comp=Z,1μm,2.0s
MIR pmax pmax
comp=Z,1μm,2.0s
MIR pmax pmax
comp=N,505nm,4.0s
MIR pmax pmax
comp=E,1μm,2.0s
MIR smax smax
comp=N,2μm,10.0s
MIR smax smax
comp=E,3μm,9.0s
KAPI Kappang 63.70 280 P **P 14 22 16.9 -0.7**
comp=E,58nm,0.4s,baz=132,slow=4.6,SNR=26
KAPI S **S 14 30 47.0 -3.3**
comp=E,9.3nm,0.9s,baz=209,slow=14,SNR=1.8
KAPI Kappang 63.70 280 *e*P **P 14 22 16.6 -1.0**
comp=E,67nm,0.5s
KAPI P **P 14 22 16.9 -0.7**
KAPI S **S 14 30 47.0 -3.3**
KAPI LR LR
comp=Z,14μm,19.0s
KAPI Kappang 63.70 280 P **P 14 22 17.5 -0.1**
SNR=7.9
KAPI mb 14 22 20.3
SNR=11
KAPI Kappang 63.70 280 P **P 14 22 17.2 -0.4**
comp=Z,148nm,1.4s,comp=Z,4μm
MTNI Mataram 64.96 275 P **P 14 22 25.9 0.0**
comp=Z,384nm,1.4s,comp=Z,6μm
KHKI Kahang-Kahang 65.58 275 P **P 14 22 29.3 -0.6**
comp=Z,246nm,1.1s,comp=Z,5μm
DAV Davao City (W) 65.67 295 P **P 14 22 30.5 +0.1**
comp=Z,378nm,0.5s,baz=232,slow=3.9,SNR=19
DAV Davao City (W) 65.67 295 P **P 14 22 28.5 -1.9**
comp=Z,758nm,0.8s
DAV P **P 14 22 30.5 +0.1**
DAV LR LR
comp=Z,7μm,22.0s
DAV Davao City (W) 65.67 295 P **P 14 22 31.3 +1.0**
SNR=31
DAV mb 14 22 35.1
SNR=11
DAV Davao City (W) 65.67 295 P **P 14 22 31.1 +0.7**
comp=Z,862nm,0.8s,comp=Z,10μm
DMPH Davao City--Mi 65.73 295⇑ *i*P **P 14 22 30.2 -0.6**
IGBI Denpasar 65.76 274 P **P 14 22 31.8 +0.8**
comp=Z,528nm,1.3s,comp=Z,28μm
BUKP Musuan 66.56 295 *e*P **P 14 22 36.6 +0.4**
BYJI Banyuwangi 66.73 274 P P 14 22 41.5 +4.2
comp=Z,398nm,1.0s,comp=Z,8μm
JAGI Jajag, Banyuwa 66.79 274 P **P 14 22 36.9 -0.7**
comp=Z,301nm,1.4s,comp=Z,5μmcomp=Z,36μm
BUTP Butuan 66.79 296 *e*P **P 14 22 37.0 -0.5**
GMJI Gumukmas 67.49 273 P **P 14 22 41.9 -0.2**
comp=Z,323nm,1.6s,comp=Z,6μm
BLJI Banyuglugur 67.62 274 P **P 14 22 43.4 +0.5**
comp=Z,372nm,0.6s,comp=Z,6μm
PAGZ Pagadian 67.87 294 *e*P **P 14 22 44.9 +0.5**
MSLP Maasin 68.10 297 *e*P **P 14 22 45.3 -0.6**
KRKI Karangkates 68.41 273 P **P 14 22 48.7 +0.9**
comp=Z,716nm,1.1s,comp=Z,20μm
IPIL Ipil 68.47 293 *e*P **P 14 22 48.6 +0.4**
CBIJ Chichi jima 68.62 322 P **P 14 22 49.9 +1.0**
comp=Z,254nm,0.5s,baz=209,slow=3.9,SNR=26

CBIJ LR LR 14 47 18.6
comp=Z,9μm,21.2s,baz=148,slow=31
CBIJ Chichi jima 68.62 322 P **P 14 22 49.9 +1.0**
OCLP Ormoc 68.86 297 *e*P **P 14 22 50.1 -0.5**
PWJI Pagerwojo 69.03 273 P **P 14 22 51.6 -0.2**
comp=Z,350nm,0.8s,comp=Z,6μm
PCJI Pacitan 69.49 272 P **P 14 22 54.7 +0.1**
comp=Z,1μm,0.9s,comp=Z,11μm
GUIM Jordan 70.16 296 *e*P **P 14 22 57.1 -1.6**
UGM Wanagama 70.19 272 P **P 14 22 59.5 +0.5**
comp=Z,427nm,1.2s,comp=Z,5μm
MYLDM Lahad Datu 70.26 289 P **P 14 22 59.3 0.0**
TSM Tawau 70.28 287 P **P 14 22 59.6 +0.2**
PVCP Virac 70.79 299 *e*P **P 14 23 02.1 -0.3**
BJII Banjamegara 71.18 272 P **P 14 23 06.4 +1.4**
comp=Z,274nm,0.8s,comp=Z,5μm
CUYO Cuyo Island 71.53 295 *e*P **P 14 23 07.1 +0.1**
SDKM Sandakan 71.59 288 P **P 14 23 06.9 -0.6**
OTRP Odiongan 71.66 297 *e*P **P 14 23 06.7 -1.0**
PMSA Palmer Station 72.37 156 P **P 14 23 12.8 +1.6**
comp=Z,34nm,0.8s,baz=231,slow=8.1,SNR=5.6
PMSA LR LR 14 50 58.7
comp=Z,6μm,19.7s,baz=58,slow=32
PMSA Palmer Station 72.37 156 *e*P **P 14 23 12.5 +1.3**
comp=Z,150nm,1.1s
PMSA P **P 14 23 12.8 +1.6**
BOAC Boac 72.46 298 *e*P **P 14 23 12.9 +0.4**
MAW Mawson 72.51 201 P **P 14 23 13.7 +1.7**
comp=Z,137nm,0.8s,baz=118,slow=7.5,SNR=60
MAW S S 14 32 24.5 -9.4
comp=Z,2.8nm,0.8s,baz=55,slow=14,SNR=1.2
MAW LR LR 14 53 44.6
comp=Z,21μm,20.9s,baz=121,slow=35
MAW Mawson 72.51 201 *e*P **P 14 23 13.4 +1.4**
comp=Z,87nm,0.6s
MAW Mawson 72.51 201 *e*P **P 14 23 13.2 +1.2**
MAW pmax pmax
comp=Z,47nm,1.0s
MAW Mawson 72.51 201 *e*P **P 14 23 13.2 +1.2**
comp=Z,47nm,1.0s
MAW P **P 14 23 13.7 +1.7**
MAW S S 14 32 24.5 -9.4
KDM Kudat 72.60 289 P **P 14 23 13.4 0.0**
KKM Kota Kinabalu 72.62 288 P **P 14 23 13.7 0.0**
BUSP Coron 72.86 295 *e*P **P 14 23 14.8 -0.1**
BATP Bataraza 72.88 291 *e*P **P 14 23 15.0 -0.1**
ENPP El Nido 72.99 294 *e*P **P 14 23 15.7 0.0**
TGY Tagaytay City 73.55 298 P **P 14 23 19.6 +0.5**
comp=Z,1μm,1.1s,baz=288,slow=2.8,SNR=18
TGY Tagaytay City 73.55 298 P **P 14 23 19.6 +0.5**
TGY Tagaytay City 73.55 298 P **P 14 23 19.6 +0.5**
BTM Bintulu 73.68 284 P **P 14 23 20.4 +0.5**
SBUM Sibu 74.00 283 P **P 14 23 22.3 +0.6**
BALP Baler 74.07 299 *e*P **P 14 23 24.1 +2.2**
CAUP Cauayan 74.63 300 *e*P P 14 23 28.9 +3.7
KSM Kuching 75.11 281 P **P 14 23 28.2 +0.1**
SCZP Santa Cruz 75.35 298 *e*P P 14 23 34.1 +4.8
BOLP Bolinao 75.72 299 *e*P **P 14 23 32.0 +0.5**
ABRA Dolores 75.89 300 *e*P **P 14 23 33.4 +0.9**
USHA Ushuaia 75.99 146 P **P 14 23 32.9 +0.3**
comp=Z,35nm,1.0s,baz=243,slow=5.3,SNR=5.9
USHA LR LR 14 49 12.8
comp=Z,5μm,21.4s,baz=182,slow=30
USHA Ushuaia 75.99 146 P **P 14 23 32.9 +0.3**
JOW Kunigami 76.64 312 P **P 14 23 36.2 -0.4**
comp=Z,59nm,0.6s,baz=173,slow=3.7,SNR=11
JOW Kunigami 76.64 312 *e*P **P 14 23 35.6 -0.9**
comp=Z,62nm,0.9s
JOW P **P 14 23 36.2 -0.4**
SYO Syowa Base 77.31 193‖ *e*P **P 14 23 39.0 -0.7**
SYO Syowa Base 77.31 193 *e*SH **S 14 33 23.2 -4.0**
MJAR Matsushiro Arr 78.17 325 P **P 14 23 43.7 -1.2**
comp=Z,173nm,1.1s,baz=169,slow=5.7,SNR=72
MJAR LR LR 14 54 58.2
comp=Z,7μm,21.5s,baz=125,slow=33
MJAR Matsushiro Arr 78.17 325 P **P 14 23 43.7 -1.2**
MJAR pmax pmax
comp=Z,173nm,1.1s
MJAR Matsushiro Arr 78.17 325 P **P 14 23 43.7 -1.2**
MAJO Matsushiro 78.17 325 *e*P **P 14 23 43.7 -1.2**
MAJO MLR MLR
comp=Z,8μm,22.0s
MAJO Matsushiro 78.17 325 *e*P **P 14 23 43.7 -1.2**
MAJO LR LR
comp=Z,8μm,22.0s
MAT Matsushiro 78.17 325 P **P 14 23 43.6 -1.3**
MAT S S 14 33 28.0 -9.3
SNAA Sanae 78.32 178 *e* **P 14 23 43.6 -1.9**
SNAA Sanae 78.32 178 *e* S 14 33 44.6 +6.3
SNAA Sanae 78.32 178 *e*P **P 14 23 43.2 -2.3**
SNAA pmax pmax
comp=Z,108nm,0.6s
SNAA Sanae 78.32 178 *e*P **P 14 23 43.2 -2.3**
comp=Z,108nm,0.6s
TWG Pinlang 78.87 305 *e*P P 14 23 45.5 -3.5
comp=Z,99nm,0.6s
VNA2 Neumayer--Watz 78.91 177 *e* **P 14 23 50.2 +1.6**
VNA2 *e* 14 23 55.6
VNA2 *e* 14 23 59.0
VNA2 Neumayer--Watz 78.91 177 *e* S 14 33 55.2 +11
baz=182,slow=5.0
MAIT Maitri 79.05 183 *e*P **P 14 23 51.7 +2.3**
NVL N'lazarevskaya 79.06 183 *c i*P P 14 23 56.2 +6.8
NVL *e**PP pP 14 24 04.9 +5.6
NVL *e* 14 24 08.3
NVL *i**SP sP 14 24 11.6 +8.6
NVL *i* S **S 14 33 46.4 +0.4**
NVL *e* 14 34 08.9
NVL pmax pmax
comp=Z,44nm,0.4s
NVL MLR MLR
comp=Z,6μm,19.0s
YULB Yu-li 79.07 305 *e*P **P 14 23 47.4 -2.8**
comp=Z,74nm,0.9s
VNA1 Neumayer--Stat 79.13 176 *e* **P 14 23 51.7 +1.9**
VNA1 *e* 14 23 55.8
VNA1 *e* 14 24 00.5
NACB Ninganchiao 79.36 306 *e*P **P 14 23 49.8 -1.9**
comp=Z,305nm,1.3s
TPUB Ta-pu 79.48 305 *e*P **P 14 23 50.2 -2.3**
comp=Z,196nm,0.8s
JNU Nakatsue 79.51 318 *e*P **P 14 23 51.5 -0.9**
comp=Z,185nm,1.4s
SSLB Suanglung 79.56 305 *e*P **P 14 23 50.3 -2.5**
comp=Z,103nm,0.8s
YHNB Yeheng 79.83 306 *e*P **P 14 23 51.9 -2.4**
comp=Z,111nm,1.0s
YHNB LR LR
comp=Z,10μm,22.0s
TATO Taipei 79.94 307 P **P 14 23 53.2 -1.7**
comp=Z,110nm,0.8s
TATO LR LR
comp=Z,11μm,22.0s
COCO West Island 79.96 262 *e*P **P 14 23 54.4 -0.8**
COCO pmax pmax
comp=Z,363nm,1.3s
COCO MLR MLR
comp=Z,13μm,21.0s
COCO West Island 79.96 262 *e*P **P 14 23 54.4 -0.8**
comp=Z,363nm,1.3s
COCO LR LR
comp=Z,13μm,21.0s
COCO West Island 79.96 262 P **P 14 23 57.2 +1.9**
comp=Z,339nm,0.9s,comp=Z,6μm
PAF Port-aux-Franc 80.35 218 *e*P **P 14 23 58.3 +1.5**
PAF pmax pmax
comp=Z,679nm,1.4s
PAF MLR MLR
comp=Z,11μm,19.0s
PAF Port-aux-Franc 80.35 218 *e*P **P 14 23 58.3 +1.5**
comp=Z,678nm,1.4s
PAF LR LR
comp=Z,11μm,19.0s
ERM Erimo 80.37 332 *d i*P **P 14 23 57.5 +0.8**
ERM Erimo 80.37 332 *e*P **P 14 23 57.7 +1.0**
comp=Z,267nm,1.3s
ERM LR LR
comp=Z,21μm,20.0s
ERM Erimo 80.37 332 P P 14 24 00.1 +3.4
comp=Z,754nm,1.3s,SNR=7.7
MYKOM Kota Tinggi 80.79 277 P **P 14 23 59.7 0.0**
YUK Yuzh-Kuril'sk 81.01 334 *i* P P 14 23 53.5 -6.6
YUK *i* 14 27 08.5
YUK *i* PPP PPP 14 28 55.1
YUK *i* S **S 14 34 01.6 -5.3**

YUK pmax pmax
comp=N,278μm,1.5s
YUK pmax pmax
comp=Z,589μm,1.5s
YUK pmax pmax
comp=E,61μm,1.5s
KGM Kluang 81.36 277 P **P 14 24 02.9 +0.1**
QZH Quanzhou 81.96 305⇑ *i*P **P 14 24 05.8 +0.2**
QZH PP **PP 14 27 15.6 +1.8**
QZH S **S 14 34 15.1 -2.5**
QZH pmax pmax
comp=Z,360nm,1.1s
QZH pmax pmax
comp=Z,5μm,9.6s
QZH LR LR
comp=N,2μm,15.2s
QZH LR LR
comp=E,11μm,21.4s
QZH LR LR
comp=Z,10μm,18.9s
ASAJ Asahikawa 82.34 332 P **P 14 24 08.2 +1.0**
comp=Z,90nm,0.8s,baz=222,slow=8.6,SNR=44
ASAJ S **S 14 34 21.2 +0.4**
comp=Z,5.3nm,1.1s,baz=193,slow=28,SNR=1.5
ASAJ Asahikawa 82.34 332 P **P 14 24 08.2 +1.0**
ASAJ S **S 14 34 21.2 +0.4**
ASAJ pmax pmax
comp=Z,90nm,0.8s
ASAJ smax smax
comp=N,5.0nm,1.1s
ASAJ Asahikawa 82.34 332 *e*P **P 14 24 07.7 +0.5**
comp=N,87nm,1.0s
ASAJ S **S 14 34 21.2 +0.4**
PLCA Paso Flores 82.53 133 P **P 14 24 10.0 +1.3**
comp=N,74nm,0.9s,baz=233,slow=5.3,SNR=53
PLCA S **S 14 34 21.8 -1.8**
comp=N,0.3nm,0.6s,baz=158,slow=15,SNR=2.5
PLCA PKKPbc **PKKPbc 14 42 34.6 +0.9**
comp=N,5.1nm,0.9s,baz=151,slow=1.6,SNR=6.3
PLCA LR LR 14 52 05.2
comp=N,10μm,21.9s,baz=270,slow=29
PLCA Paso Flores 82.53 133 P **P 14 24 10.0 +1.3**
PLCA S **S 14 34 21.8 -1.8**
PLCA pmax pmax
comp=Z,74nm,0.9s
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 82.53 133 *e*P **P 14 24 09.6 +1.0**
comp=Z,122nm,1.0s
PLCA S **S 14 34 21.8 -1.8**
PLCA PKKPbc **PKKPbc 14 42 34.6 +0.9**
EFI East Falkland 82.87 147‖ *i*P **P 14 24 11.0 +1.0**
EFI East Falkland 82.87 147 *e*P **P 14 24 11.4 +1.4**
comp=Z,181nm,1.0s
EFI LR LR
comp=Z,5μm,21.0s
SMY Shemya 82.90 355 *e*P **P 14 24 09.1 -0.7**
SMY pmax pmax
comp=Z,417nm,1.0s
SMY Shemya 82.90 355 *e*P **P 14 24 09.1 -0.7**
comp=Z,417nm,1.0s
FX1 Attu Island--F 83.13 355 P **P 14 24 10.6 -0.4**
comp=Z,79nm,0.8s,baz=132,slow=7.8,SNR=12
FX1 Attu Island--F 83.13 355 P **P 14 24 10.6 -0.4**
FX1 pmax pmax
comp=Z,79nm,0.8s
FX1 Attu Island--F 83.13 355 P **P 14 24 10.6 -0.4**
NIKO Nikolski 83.22 5 *e*P **P 14 24 10.5 -0.9**
comp=Z,1μm,1.0s
FRIM Kepong 83.44 278 P **P 14 24 13.2 -0.4**
HKC Hong Kong Obse 83.59 300⇑ *i*P **P 14 24 13.0 -1.1**
SKR Severo-Kuril's 83.78 344 *e*P P 14 24 20.0 +5.6
SKR *e* 14 24 28.0
SKR *e* 14 27 28.0
SKR pmax pmax
comp=N,3μm,16.0s
SKR pmax pmax
comp=Z,4μm,16.0s
SKR pmax pmax
comp=E,3μm,12.0s
SKR pmax pmax
comp=Z,960nm,1.5s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR MLR MLR
comp=N,11μm,18.0s
SKR MLR MLR
comp=E,6μm,18.0s
SKR MLR MLR
comp=Z,12μm,18.0s
SSE Sheshan 84.09 311 P **P 14 24 15.8 -0.7**
SSE PP **PP 14 27 27.9 -3.3**
SSE S S 14 34 30.5 -8.5
SSE sS **sS 14 34 54.8 -0.8**
SSE pmax pmax
comp=Z,86nm,1.2s
SSE pmax pmax
comp=Z,3μm,10.4s
SSE LR LR
comp=N,6μm,23.9s
SSE LR LR
comp=E,6μm,24.4s
SSE LR LR
comp=Z,10μm,23.5s
SCI San Clemente I 84.27 47⇑ P **P 14 24 18.2 +0.9**
baz=84
SCI ⇑P **P 14 24 18.2 +0.9**
baz=84
SCI ⇑P **P 14 24 18.2 +0.9**
baz=84
BSC Santa Cruz Isl 84.27 45⇓ P **P 14 24 18.5 +1.1**
baz=84
BSC ⇓P **P 14 24 18.5 +1.1**
baz=84
BSC ⇓P **P 14 24 18.5 +1.1**
baz=84
KSRS Korea Array 84.30 320 P **P 14 24 17.6 +0.2**
comp=Z,79nm,1.0s,baz=143,slow=5.6,SNR=48
KSRS LR LR 15 01 22.5
comp=Z,7μm,18.8s,baz=125,slow=35
KSRS Korea Array 84.30 320 P **P 14 24 17.6 +0.2**
KSRS pmax pmax
comp=Z,79nm,1.0s
KSRS MLR MLR
comp=Z,7μm,18.8s
UNV Unalaska Valle 84.30 7 *e*P **P 14 24 16.3 -0.7**
comp=Z,512nm,1.1s
KSAR Wonju Array Be 84.31 320 P **P 14 24 17.6 +0.1**
KSAR Wonju Array Be 84.31 320 P **P 14 24 17.6 +0.1**
SBC Santa Barbara 84.52 45⇓ P **P 14 24 19.9 +1.3**
baz=85
SBC ⇓P **P 14 24 19.9 +1.3**
baz=85
SBC ⇓P **P 14 24 19.9 +1.3**
baz=85
IPM Ipoh 84.58 278 P **P 14 24 19.3 -0.2**
CIS Catalina Islan 84.64 46⇓ P **P 14 24 20.0 +0.7**
baz=85,SNR=15
CIS ⇓P **P 14 24 20.0 +0.7**
baz=85,SNR=15
CIS ⇓P **P 14 24 20.0 +0.7**
baz=85,SNR=15
YSS Yuzh-Sakhalins 84.65 334 *c i*P **P 14 24 19.7 +0.8**
YSS *e**SP **sP 14 24 30.0 -2.6**
YSS *e*S **SKSac 14 34 42.0 +1.7**
YSS *e*SS **SS 14 40 20.0 +3.5**
YSS pmax pmax
comp=Z,580μm,1.0s
YSS pmax pmax
comp=N,160nm,1.0s
YSS pmax pmax
comp=E,310nm,1.0s
YSS MLR MLR
comp=N,900nm,19.0s
YSS MLR MLR
comp=Z,8μm,19.0s
YSS MLR MLR
comp=E,2μm,18.0s
YSS Yuzh-Sakhalins 84.65 334 *e*P **P 14 24 18.9 0.0**
comp=E,617nm,1.0s
YSS LR LR
comp=Z,6μm,21.0s
AKUT Akutan 84.66 7 *e*P **P 14 24 18.2 -0.6**
comp=Z,649nm,1.2s
GZH Guangzhou 84.67 300 P **P 14 24 20.4 +0.8**

GZH PP **PP** 14 27 36.0 0.0
GZH S **S** 14 34 45.0 -0.1
GZH LR LR
comp=N,2μm,19.0s
GZH LR LR
comp=E,4μm,20.2s
GZH LR LR
comp=Z,10μm,26.9s
BLG Laguna Peak 84.69 45 ⇓P **P** 14 24 20.4 +0.9
baz=85
BLG ⇓P **P** 14 24 20.4 +0.9
baz=85
BLG ⇓P **P** 14 24 20.4 +0.9
baz=85
PKM Peak Mountain 84.76 44 ⇓P **P** 14 24 21.3 +1.2
baz=85,SNR=53
PKM ⇓P **P** 14 24 21.3 +1.2
baz=85,SNR=53
PKM ⇓P **P** 14 24 21.3 +1.2
baz=85,SNR=53
FMP Fort Macarthur 84.91 46 ⇓P **P** 14 24 21.5 +0.9
baz=85
FMP ⇓P **P** 14 24 21.5 +0.9
baz=85
FMP ⇓P **P** 14 24 21.5 +0.9
baz=85
SMMC Simmler 84.93 44 ⇑P **P** 14 24 21.9 +1.1
baz=85
SMMC ⇑P **P** 14 24 21.9 +1.1
baz=85
SMMC ⇑P **P** 14 24 21.9 +1.1
baz=85
QIZ Qiongzhong 85.03 295 P **P** 14 24 20.8 -0.8
QIZ S **S** 14 34 48.9 0.0
QIZ LR LR
comp=N,3μm,31.3s
QIZ LR LR
comp=Z,12μm,37.0s
QIZ Qiongzhong 85.03 295 *e*P **P** 14 24 21.4 -0.2
comp=Z,74nm,0.9s
QIZ LR LR
comp=Z,4μm,20.0s
INCN Inchon 85.05 319 *e*P **P** 14 24 22.2 +1.0
comp=Z,136nm,0.9s
INCN LR LR
comp=Z,3μm,19.0s
SAO San Andreas Ge 85.07 42 *e*P **P** 14 24 21.6 +0.3
SAO pmax pmax
comp=Z,86nm,1.1s
SAO San Andreas Ge 85.07 42 *e*P **P** 14 24 21.6 +0.3
comp=Z,86nm,1.1s
SAC San Andreas 85.08 41 *e*P **P** 14 24 21.5 +0.2
SAC pmax pmax
comp=Z,122nm,1.0s
SAC San Andreas 85.08 41 *e*P **P** 14 24 21.5 +0.2
comp=Z,122nm,1.0s
109C Camp Elliot, M 85.12 47 ⇑P **P** 14 24 22.4 +0.8
baz=85,SNR=16
109C ⇑P **P** 14 24 22.4 +0.8
baz=85,SNR=16
109C ⇑P **P** 14 24 22.4 +0.8
baz=85,SNR=16
MCCM Marconi Confer 85.21 40 *e*P **P** 14 24 22.1 +0.1
comp=Z,208nm,1.3s
OSI Osito Adit 85.24 45 *e*P **P** 14 24 22.5 +0.2
comp=Z,98nm,0.7s
OSI Osito Adit 85.24 45 ⇑P **P** 14 24 23.1 +0.8
baz=86
OSI ⇑P **P** 14 24 23.1 +0.8
baz=86
OSI ⇑P **P** 14 24 23.1 +0.8
baz=86
DECC Green Verdugo 85.24 46 ⇓P **P** 14 24 23.1 +0.8
baz=86,SNR=11
DECC ⇓P **P** 14 24 23.1 +0.8
baz=86,SNR=11
DECC ⇓P **P** 14 24 23.1 +0.8
baz=86,SNR=11
BAR Barrett 85.26 48 *e*P **P** 14 24 22.3 -0.2
comp=Z,199nm,1.4s
PASC Pasadena Art C 85.28 46 *e*P **P** 14 24 22.9 +0.4
comp=Z,104nm,1.1s
MWC Mount Wilson 85.39 46 *e*P **P** 14 24 23.2 -0.1
MWC pmax pmax
comp=Z,237nm,1.4s
MWC Mount Wilson 85.39 46 *e*P **P** 14 24 23.2 -0.1
comp=Z,237nm,1.4s
PET Petropavlovsk 85.39 346 *e*P **P** 14 24 19.6 -2.9
PET *e* 14 27 41.0
PET *e*S **S** 14 34 46.3 -4.7
PET *e*PS **PnS** 14 35 40.5 -10
PET *e*PPS PPS 14 36 07.1
PET *e*SS **SS** 14 40 24.1 -3.1
PET pmax pmax
comp=Z,3μm,8.0s
PET pmax pmax
comp=Z,4μm,15.8s
PET pmax pmax
comp=Z,200nm,0.6s
PET pmax pmax
comp=Z,1μm,26.4s
PET Petropavlovsk 85.39 346 *e*P **P** 14 24 21.9 -0.6
comp=Z,131nm,0.6s
PET LR LR
comp=Z,10μm,20.0s
ARVC Arvin 85.52 45 ⇓P **P** 14 24 24.4 +0.8
baz=86,SNR=59
ARVC ⇓P **P** 14 24 24.4 +0.8
baz=86,SNR=59
ARVC ⇓P **P** 14 24 24.4 +0.8
baz=86,SNR=59
MURC Murrieta 85.52 47 ⇑P **P** 14 24 24.7 +1.0
baz=86,SNR=55
MURC ⇑P **P** 14 24 24.7 +1.0
baz=86,SNR=55
MURC ⇑P **P** 14 24 24.7 +1.0
baz=86,SNR=55
PSI Prapat 85.54 276 P **P** 14 24 22.8 -1.6
comp=Z,186nm,1.4s,comp=Z,3μm
MONP Monument Peak 85.56 48 ⇓P **P** 14 24 25.3 +1.1
baz=86,SNR=62
MONP ⇓P **P** 14 24 25.3 +1.1
baz=86,SNR=62
MONP ⇓P **P** 14 24 25.3 +1.1
baz=86,SNR=62
DVTC Desert V Tower 85.61 48 ⇓P **P** 14 24 25.4 +1.2
baz=86,SNR=47
DVTC ⇓P **P** 14 24 25.4 +1.2
baz=86,SNR=47
DVTC ⇓P **P** 14 24 25.4 +1.2
baz=86,SNR=47
FALS False Pass 85.64 8 *e*P **P** 14 24 22.4 -1.3
comp=Z,215nm,0.7s
BFSC Mount Baldy Ra 85.65 46 ⇓P **P** 14 24 24.9 +0.4
baz=86,SNR=78
BFSC ⇓P **P** 14 24 24.9 +0.4
baz=86,SNR=78
BFSC ⇓P **P** 14 24 24.9 +0.4
baz=86,SNR=78
PEA0B Petropavlovsk- 85.68 346 *e*P **P** 14 24 23.4 -0.5
PETK Petropavlovsk- 85.68 346 P **P** 14 24 24.2 +0.3
comp=Z,217nm,0.8s,baz=128,slow=4.3,SNR=92
PETK LR LR 14 56 11.4
comp=Z,7μm,21.4s,baz=175,slow=31
PETK Petropavlovsk- 85.68 346 P **P** 14 24 24.2 +0.3
PETK pmax pmax
comp=Z,217nm,0.8s
PETK Petropavlovsk- 85.68 346 P **P** 14 24 24.2 +0.3
HOPS Hopland 85.70 40 *e*P **P** 14 24 25.0 +0.6
comp=Z,313nm,1.3s
VES Vestal, Richgr 85.84 44 ⇓P **P** 14 24 25.8 +0.6
baz=86,SNR=84
VES ⇓P **P** 14 24 25.8 +0.6
baz=86,SNR=84
VES ⇓P **P** 14 24 25.8 +0.6
baz=86,SNR=84
EDW2 Edwards Air Fo 85.87 45 ⇑P **P** 14 24 26.3 +0.9
baz=86,SNR=158
EDW2 ⇑P **P** 14 24 26.3 +0.9
baz=86,SNR=158
EDW2 ⇑P **P** 14 24 26.3 +0.9
baz=86,SNR=158
KCPM Cahto Peak 85.91 39 *e*P **P** 14 24 26.5 +0.9
comp=Z,175nm,1.4s
SWSC Sam W. Stewart 85.99 48 ⇑P **P** 14 24 27.2 +1.2
baz=86,SNR=55
SWSC ⇑P **P** 14 24 27.2 +1.2
baz=86,SNR=55
SWSC ⇑P **P** 14 24 27.2 +1.2
baz=86,SNR=55
PFO Pinyon Flat Ob 86.00 47 *e*P **P** 14 24 26.9 +0.7
PFO pmax pmax
comp=Z,216nm,1.5s
PFO MLR MLR
comp=Z,6μm,20.0s
PFO Pinyon Flat Ob 86.00 47 *e*P **P** 14 24 26.9 +0.7
comp=Z,216nm,1.5s
PFO LR LR
comp=Z,6μm,20.0s
PFO Pinyon Flat Ob 86.00 47 P **P** 14 24 27.9 +1.7
comp=Z,475nm,1.7s,SNR=24
PFO Pinyon Flat Ob 86.00 47 ⇑P **P** 14 24 27.1 +0.9
baz=86,SNR=46
PFO ⇑P **P** 14 24 27.1 +0.9
baz=86,SNR=46
PFO ⇑P **P** 14 24 27.1 +0.9
baz=86,SNR=46
KIPM Iron Peak 86.05 39 *e*P **P** 14 24 27.2 +0.9
comp=Z,356nm,1.4s
RCTC Rector, Farmer 86.06 44 ⇑P **P** 14 24 26.3 +0.1
baz=86,SNR=9.4
RCTC ⇑P **P** 14 24 26.3 +0.1
baz=86,SNR=9.4
RCTC ⇑P **P** 14 24 26.3 +0.1
baz=86,SNR=9.4
ISA Isabella 86.09 45 *e*P **P** 14 24 27.3 +0.8
ISA pmax pmax
comp=Z,224nm,1.1s
ISA Isabella 86.09 45 *e*P **P** 14 24 27.3 +0.8
comp=Z,224nm,1.1s
ISA Isabella 86.09 45 ⇓P **P** 14 24 27.6 +1.0
baz=86,SNR=184
ISA ⇓P **P** 14 24 27.6 +1.0
baz=86,SNR=184
ISA ⇓P **P** 14 24 27.6 +1.0
baz=86,SNR=184
BBRC Big Bear Solar 86.13 47 ⇓P **P** 14 24 27.9 +0.9
baz=86,SNR=20
BBRC ⇓P **P** 14 24 27.9 +0.9
baz=86,SNR=20
BBRC ⇓P **P** 14 24 27.9 +0.9
baz=86,SNR=20
NJ2 Nanjing 86.23 311 *e*P **P** 14 24 27.8 +0.6
NJ2 pP **pP** 14 24 37.9 +0.7
NJ2 sP **sP** 14 24 40.6 -0.2
NJ2 PP **PP** 14 27 48.5 -0.1
NJ2 S **S** 14 35 01.0 +0.9
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,820nm,4.5s
NJ2 LR LR
comp=N,5μm,24.4s
NJ2 LR LR
comp=E,7μm,28.2s
NJ2 LR LR
comp=Z,4μm,27.7s
VLA Vladivostok 86.33 326 ⇓*i*P **P** 14 24 28.1 +0.7
VLA *e* 14 27 49.1
VLA *e*S **SKSac** 14 34 50.6 -0.5
VLA pmax pmax
comp=Z,78nm,1.2s
LRMC Laurel Mountai 86.45 45 ⇑P **P** 14 24 29.3 +0.9
baz=87,SNR=61
LRMC ⇑P **P** 14 24 29.3 +0.9
baz=87,SNR=61
LRMC ⇑P **P** 14 24 29.3 +0.9
baz=87,SNR=61
RRX Edison Barstow 86.48 46 ⇑P **P** 14 24 29.4 +1.0
baz=87
RRX ⇑P **P** 14 24 29.4 +1.0
baz=87
RRX ⇑P **P** 14 24 29.4 +1.0
baz=87
SDPT Sand Point 86.53 10 *e*P **P** 14 24 27.6 -0.4
comp=Z,2μm,1.2s
BELC Belle Mtn. Jos 86.54 47 ⇑P **P** 14 24 30.2 +1.3
baz=87,SNR=120
BELC ⇑P **P** 14 24 30.2 +1.3
baz=87,SNR=120
BELC ⇑P **P** 14 24 30.2 +1.3
baz=87,SNR=120
CMB Columbia Colle 86.55 42 *e*P **P** 14 24 29.0 +0.3
CMB pmax pmax
comp=Z,94nm,1.0s
CMB Columbia Colle 86.55 42 *e*P **P** 14 24 29.0 +0.3
comp=Z,94nm,1.0s
BC3 Big Chuckawall 86.67 48 ⇑P **P** 14 24 30.9 +1.4
baz=87,SNR=105
BC3 ⇑P **P** 14 24 30.9 +1.4
baz=87,SNR=105
BC3 ⇑P **P** 14 24 30.9 +1.4
baz=87,SNR=105
KHMM Horse Mountain 86.67 38 *e*P **P** 14 24 30.3 +0.9
comp=Z,129nm,1.1s
GLA Glamis 86.69 49 *e*P **P** 14 24 30.8 +1.3
GLA pmax pmax
comp=Z,124nm,0.9s
GLA Glamis 86.69 49 *e*P **P** 14 24 30.8 +1.3
comp=Z,124nm,0.9s
GLA Glamis 86.69 49 ⇑P **P** 14 24 31.2 +1.7
baz=87,SNR=46
GLA ⇑P **P** 14 24 31.2 +1.7
baz=87,SNR=46
GLA ⇑P **P** 14 24 31.2 +1.7
baz=87,SNR=46
CWC Cottonwood Cre 86.84 44 ⇓P **P** 14 24 31.1 +0.8
baz=87,SNR=38
CWC ⇓P **P** 14 24 31.1 +0.8
baz=87,SNR=38
CWC ⇓P **P** 14 24 31.1 +0.8
baz=87,SNR=38
HEC Hector,Ludlow 86.87 46 ⇓P **P** 14 24 31.3 +0.9
baz=87,SNR=113
HEC ⇓P **P** 14 24 31.3 +0.9
baz=87,SNR=113
HEC ⇓P **P** 14 24 31.3 +0.9
baz=87,SNR=113
GSC Goldstone 86.88 46 *e*P **P** 14 24 30.7 +0.3
GSC pmax pmax
comp=Z,150nm,1.0s
GSC Goldstone 86.88 46 *e*P **P** 14 24 30.7 +0.3
comp=Z,150nm,1.0s
GSC Goldstone 86.88 46 ⇓P **P** 14 24 31.4 +1.0
baz=87,SNR=128
GSC ⇓P **P** 14 24 31.4 +1.0
baz=87,SNR=128
GSC ⇓P **P** 14 24 31.4 +1.0
baz=87,SNR=128
MPMC Manual Prospec 86.95 45 ⇑P **P** 14 24 31.8 +0.9
baz=87,SNR=97
MPMC ⇑P **P** 14 24 31.8 +0.9
baz=87,SNR=97
MPMC ⇑P **P** 14 24 31.8 +0.9
baz=87,SNR=97
DAC Darwin (Calif) 87.03 45 PFAKE 14 24 40.0 +8.7
DAC LR LR
comp=Z,9μm,20.0s
USRK Ussuriysk Arra 87.08 326 P **P** 14 24 31.4 +0.4
comp=Z,134nm,1.1s,baz=146,slow=3.2,SNR=35
USRK S **SKSac** 14 34 51.0 -4.7
comp=Z,1.0nm,0.8s,baz=140,slow=34,SNR=2.2
USRK LR LR 15 00 23.8
comp=Z,6μm,20.7s,baz=315,slow=34
WDC Whiskeytown Da 87.10 39 *e*P **P** 14 24 31.2 -0.1
WDC pmax pmax
comp=Z,108nm,1.1s
WDC Whiskeytown Da 87.10 39 *e*P **P** 14 24 31.2 -0.1
comp=Z,108nm,1.1s
MLAC Mammoth Lakes 87.18 43 ⇓P **P** 14 24 33.2 +1.1
baz=88,SNR=40
MLAC ⇓P **P** 14 24 33.2 +1.1
baz=88,SNR=40
MLAC ⇓P **P** 14 24 33.2 +1.1
baz=88,SNR=40
IRM Iron Mountain 87.18 48 ⇓P **P** 14 24 33.4 +1.5
baz=88,SNR=123
IRM ⇓P **P** 14 24 33.4 +1.5
baz=88,SNR=123
IRM ⇓P **P** 14 24 33.4 +1.5
baz=88,SNR=123
113A Mohawk Valley, 87.20 49 ⇑P **P** 14 24 33.3 +1.3
baz=88,SNR=49
113A ⇑P **P** 14 24 33.3 +1.3
baz=88,SNR=49
113A ⇑P **P** 14 24 33.3 +1.3
baz=88,SNR=49
GMRC Granite Mounta 87.26 47 ⇑P **P** 14 24 33.4 +1.0
baz=88,SNR=58
GMRC ⇑P **P** 14 24 33.4 +1.0
baz=88,SNR=58
GMRC ⇑P **P** 14 24 33.4 +1.0
baz=88,SNR=58
Y12C Blythe 87.33 48 ⇓P **P** 14 24 33.9 +1.4
baz=88,SNR=69
Y12C ⇓P **P** 14 24 33.9 +1.4
baz=88,SNR=69
Y12C ⇓P **P** 14 24 33.9 +1.4
baz=88,SNR=69
214A Organ Pipe Nat 87.33 50 ⇓P **P** 14 24 33.9 +1.3
baz=88,SNR=56
214A ⇓P **P** 14 24 33.9 +1.3
baz=88,SNR=56
214A ⇓P **P** 14 24 33.9 +1.3
baz=88,SNR=56
KBO Bosley Butte 87.36 37 *e*P **P** 14 24 33.7 +1.1
comp=Z,314nm,1.8s
TUQ Turquoise Moun 87.51 46 ⇓P **P** 14 24 34.7 +1.1
baz=88
TUQ ⇓P **P** 14 24 34.7 +1.1
baz=88
TUQ ⇓P **P** 14 24 34.7 +1.1
baz=88
Z13A Yuma Proving G 87.54 49 ⇑P **P** 14 24 35.0 +1.4
baz=88,SNR=96
Z13A ⇑P **P** 14 24 35.0 +1.4
baz=88,SNR=96
Z13A ⇑P **P** 14 24 35.0 +1.4
baz=88,SNR=96
PAYG Puerto Ayora 87.56 89 *e*P **P** 14 24 36.1 +1.9
comp=Z,269nm,1.6s
PAYG LR LR
comp=Z,7μm,22.0s
SHOC Shoshone 87.59 46 ⇑P **P** 14 24 34.7 +1.0
baz=88,SNR=57
SHOC ⇑P **P** 14 24 34.7 +1.0
baz=88,SNR=57
SHOC ⇑P **P** 14 24 34.7 +1.0
baz=88,SNR=57
FURC Furnace Creek, 87.60 45 ⇓P **P** 14 24 34.5 +0.8
baz=88,SNR=28
FURC ⇓P **P** 14 24 34.5 +0.8
baz=88,SNR=28
FURC ⇓P **P** 14 24 34.5 +0.8
baz=88,SNR=28
GRAC Grapevine Rang 87.64 44 ⇑P **P** 14 24 35.0 +1.0
baz=88,SNR=49
GRAC ⇑P **P** 14 24 35.0 +1.0
baz=88,SNR=49
GRAC ⇑P **P** 14 24 35.0 +1.0
baz=88,SNR=49
CHGN Chignik 87.76 11 *e*P **P** 14 24 33.9 -0.1
WCN Washoe City 87.77 41 *e*P **P** 14 24 35.0 +0.2
WCN pmax pmax
comp=Z,53nm,0.9s
WCN Washoe City 87.77 41 *e*P **P** 14 24 35.0 +0.2
comp=Z,53nm,0.9s
WCN Washoe City 87.77 41 ⇓P **P** 14 24 35.4 +0.6
baz=88
WCN ⇓P **P** 14 24 35.4 +0.6
baz=88
WCN ⇓P **P** 14 24 35.4 +0.6
baz=88
114A Black Gap (USA 87.77 50 ⇑P **P** 14 24 36.0 +1.3
baz=88,SNR=50
114A ⇑P **P** 14 24 36.0 +1.3
baz=88,SNR=50
114A ⇑P **P** 14 24 36.0 +1.3
baz=88,SNR=50
KEBM Edson Butte 87.78 36 *e*P **P** 14 24 35.5 +0.9
comp=Z,245nm,1.3s
LDFC Landfair 87.79 47 *e*P **P** 14 24 36.4 +1.5
comp=Z,338nm,1.0s
YBH Yreka Blue Hor 87.82 38 *e*P **P** 14 24 35.2 +0.3
YBH pmax pmax
comp=Z,49nm,0.9s
YBH Yreka Blue Hor 87.82 38 *e*P **P** 14 24 35.1 +0.3
comp=Z,49nm,0.9s
PDMCI Parker Dam,Lak 87.92 48 ⇓P **P** 14 24 36.8 +1.5
baz=88,SNR=40
PDMCI ⇓P **P** 14 24 36.8 +1.5
baz=88,SNR=40
PDMCI ⇓P **P** 14 24 36.8 +1.5
baz=88,SNR=40
NVAR Mina Array Bea 88.03 43 P **P** 14 24 36.3 +0.2
comp=Z,39nm,0.7s,baz=221,slow=7.5,SNR=100
NVAR S **SKSac** 14 35 05.3 +3.0
comp=Z,0.3nm,0.7s,baz=51,slow=23,SNR=2.3
NVAR PKKPbc **PKKPbc** 14 42 22.6 +0.3
comp=Z,3.0nm,0.8s,baz=94,slow=2.1,SNR=11
NVAR PKPPKP **P'P'df** 14 50 30.8 +4.7
comp=Z,4.6nm,1.0s,baz=69,slow=2.4,SNR=11
NVAR LR LR 15 01 16.4
comp=Z,8μm,18.0s,baz=128,slow=34
NVAR Mina Array Bea 88.03 43 P **P** 14 24 36.3 +0.2
NVAR S **SKSac** 14 35 05.3 +3.0
NVAR PKKPbc **PKKPbc** 14 42 22.6 +0.3
NVAR P'P' 14 50 30.8
Z14A Wintersburg 88.11 49 ⇓P **P** 14 24 37.6 +1.3
baz=88,SNR=58
Z14A ⇓P **P** 14 24 37.6 +1.3
baz=88,SNR=58
Z14A ⇓P **P** 14 24 37.6 +1.3
baz=88,SNR=58
HUMO Hull Mountain 88.31 37 *e*P **P** 14 24 37.7 +0.7
comp=Z,322nm,1.7s
WHN Wuhan 88.34 307 ⇑P **P** 14 24 37.6 +0.2
WHN pmax pmax
comp=Z,93nm,0.8s
WHN pmax pmax
comp=Z,4μm,5.0s
WHN LR LR
comp=N,7μm,21.1s
WHN LR LR
comp=E,11μm,21.5s
WHN LR LR
comp=Z,19μm,24.5s
Y14A Wickenburg 88.43 49 ⇑P **P** 14 24 39.1 +1.2
baz=89,SNR=91
Y14A ⇑P **P** 14 24 39.1 +1.2
baz=89,SNR=91
Y14A ⇑P **P** 14 24 39.1 +1.2
baz=89,SNR=91
TPH Tonopah 88.43 43 PFAKE 14 24 50.0 +12
TPH LR LR
comp=Z,6μm,22.0s
MDJ Mudanjiang 88.55 325 P **P** 14 24 38.4 +0.3
MDJ pP **PcP** 14 24 41.6 +1.9
MDJ sP sP 14 24 43.0 -8.8
MDJ S **ScS** 14 35 25.4 -2.1
MDJ sS sS 14 35 31.0 -7.6
MDJ pmax pmax
comp=Z,29nm,1.4s
MDJ pmax pmax
comp=Z,3μm,8.2s
MDJ LR LR
comp=N,4μm,28.7s
MDJ LR LR
comp=E,5μm,30.3s
MDJ LR LR
comp=Z,10μm,28.3s
MDJ Mudanjiang 88.55 325 *e*P **P** 14 24 37.4 -0.7
comp=Z,106nm,0.9s
MDJ LR LR
comp=Z,9μm,22.0s
W13A Hualapai Mount 88.58 47 ⇑P **P** 14 24 40.2 +1.4
baz=89,SNR=83
W13A ⇑P **P** 14 24 40.2 +1.4
baz=89,SNR=83
W13A ⇑P **P** 14 24 40.2 +1.4
baz=89,SNR=83
TUC Tucson 88.91 51 *e*P **P** 14 24 41.1 +0.9
TUC pmax pmax
comp=Z,436nm,1.5s
TUC MLR MLR
comp=Z,5μm,21.0s
TUC Tucson 88.91 51 *e*P **P** 14 24 41.1 +0.9
comp=Z,436nm,1.5s
TUC LR LR
comp=Z,5μm,21.0s
DL2 Dalian 88.91 317 ⇓P **P** 14 24 38.3 -1.6
DL2 PP **PP** 14 28 05.3 -4.7
DL2 SKS **SKSac** 14 35 01.8 -5.2

DL2 S **S** **14 35 24.3 -1.2**
DL2 SS **SS** **14 41 17.5 -1.7**
DL2 pmax pmax
comp=Z,130nm,0.7s
DL2 pmax pmax
comp=Z,1μm,7.9s
DL2 LR LR
comp=N,2μm,24.3s
DL2 LR LR
comp=E,4μm,25.0s
DL2 LR LR
comp=Z,6μm,26.0s
318A Bisbee **88.93 52** ⇑P **P** **14 24 41.8 +1.4**
baz=89,SNR=131
318A ⇑P **P** **14 24 41.8 +1.4**
baz=89,SNR=131
318A ⇑P **P** **14 24 41.8 +1.4**
baz=89,SNR=131
HABR Khabarovsk **88.95 331** *c iP* **P** **14 24 40.9 +1.0**
HABR *e**PP **pP** **14 24 49.5 -0.4**
HABR *e**SP **sP** **14 24 53.6 0.0**
HABR *e* 14 28 08.4
HABR *e*PPP PPP 14 30 04.7
HABR *e*S **SKSac** **14 35 04.9 -1.9**
HABR *e**SS **S** **14 35 23.9 -1.6**
HABR *e*SS **SS** **14 41 18.9 -0.6**
HABR *e*SSS SSS 14 44 54.6
HABR pmax pmax
comp=Z,942nm,2.9s
HABR pmax pmax
comp=Z,694nm,9.8s
HABR pmax pmax
comp=N,1μm,8.1s
HABR pmax pmax
comp=E,2μm,11.1s
HABR MLR MLR
comp=N,4μm,20.0s
HABR MLR MLR
comp=E,5μm,20.0s
HABR MLR MLR
comp=Z,6μm,17.0s
LCO Las Campanas **88.97 123** *e*P **P** **14 24 41.3 +0.3**
comp=Z,69nm,0.9s
LCO LR LR
comp=Z,9μm,22.0s
218A Dragoon **89.21 52** ⇓P **P** **14 24 43.1 +1.4**
baz=90,SNR=95
218A ⇓P **P** **14 24 43.1 +1.4**
baz=90,SNR=95
218A ⇓P **P** **14 24 43.1 +1.4**
baz=90,SNR=95
MOD Modoc **89.23 39** *e*P **P** **14 24 41.2 -0.3**
comp=Z,169nm,1.4s
CFAA Coronel Fontan **89.24 127** P **P** **14 24 42.4 +0.4**
comp=Z,14nm,1.3s,baz=236,slow=3.9,SNR=46
CFAA S **SKSac** **14 35 07.7 -2.3**
comp=Z,0.1nm,0.4s,baz=298,slow=4.6,SNR=2.5
CFAA PKKPbc **PKKPbc** **14 42 20.0 +2.3**
comp=Z,0.3nm,0.5s,baz=83,slow=3.3,SNR=5.5
CFAA PKPPKP P'P'df 14 50 22.8 -7.9
comp=Z,0.3nm,0.7s,baz=326,slow=1.2,SNR=3.1
CFAA LR LR 14 56 01.1
comp=Z,853nm,21.6s,baz=313,slow=30
CFAA Coronel Fontan **89.24 127** P **P** **14 24 42.4 +0.4**
CFAA S **SKSac** **14 35 07.7 -2.3**
CFAA PKKPbc **PKKPbc** **14 42 20.0 +2.3**
CFAA P'P' 14 50 22.8
319A Douglas **89.38 53** ⇑P **P** **14 24 43.8 +1.4**
baz=90,SNR=45
319A ⇑P **P** **14 24 43.8 +1.4**
baz=90,SNR=45
319A ⇑P **P** **14 24 43.8 +1.4**
baz=90,SNR=45
TRQA Tornquist **89.47 135** *e*P **P** **14 24 43.5 +0.6**
comp=Z,115nm,1.3s
TRQA LR LR
comp=Z,6μm,22.0s
COR Corvallis **89.53 36** P **P** **14 24 42.5 -0.2**
COR pmax pmax
comp=Z,243nm,1.4s
COR Corvallis **89.53 36** P **P** **14 24 42.5 -0.2**
comp=Z,243nm,1.4s
R11A Troy Canyon, C **89.59 44** ⇓P **P** **14 24 43.8 +0.5**
baz=90,SNR=22
R11A ⇓P **P** **14 24 43.8 +0.5**
baz=90,SNR=22
R11A ⇓P **P** **14 24 43.8 +0.5**
baz=90,SNR=22
Y17A Roosevelt **89.70 50** ⇓P **P** **14 24 45.4 +1.5**
baz=90,SNR=101
Y17A ⇓P **P** **14 24 45.4 +1.5**
baz=90,SNR=101
Y17A ⇓P **P** **14 24 45.4 +1.5**
baz=90,SNR=101
Z17A San Carlos Hig **89.71 51** ⇓P **P** **14 24 45.5 +1.6**
baz=90,SNR=53
Z17A ⇓P **P** **14 24 45.5 +1.6**
baz=90,SNR=53
Z17A ⇓P **P** **14 24 45.5 +1.6**
baz=90,SNR=53
SNY Shenyang **89.74 320** ⇑P **P** **14 24 43.8 +0.1**
SNY S **S** **14 35 31.9 -1.2**
SNY pmax pmax
comp=Z,51nm,2.5s
SNY pmax pmax
comp=Z,3μm,12.0s
SNY LR LR
comp=N,3μm,27.4s
SNY LR LR
comp=E,4μm,26.5s
SNY LR LR
comp=Z,8μm,27.0s
X16A Lo Mia Camp, P **89.75 49** ⇑P **P** **14 24 45.8 +1.6**
baz=90,SNR=78
X16A ⇑P **P** **14 24 45.8 +1.6**
baz=90,SNR=78
X16A ⇑P **P** **14 24 45.8 +1.6**
baz=90,SNR=78
HEBO Mount Hebo **89.75 35** *e*P **P** **14 24 44.5 +0.7**
comp=Z,270nm,1.1s
219A White Tail Can **89.76 52** ⇓P **P** **14 24 45.7 +1.4**
baz=90,SNR=70
219A ⇓P **P** **14 24 45.7 +1.4**
baz=90,SNR=70
219A ⇓P **P** **14 24 45.7 +1.4**
baz=90,SNR=70
320A Kipp Ranch, An **89.87 53** ⇓P **P** **14 24 46.5 +1.7**
baz=90,SNR=78
320A ⇓P **P** **14 24 46.5 +1.7**
baz=90,SNR=78
320A ⇓P **P** **14 24 46.5 +1.7**
baz=90,SNR=78
Z18A Geronimo **89.88 51** ⇓P **P** **14 24 46.5 +1.8**
baz=90,SNR=38
Z18A ⇓P **P** **14 24 46.5 +1.8**
baz=90,SNR=38
Z18A ⇓P **P** **14 24 46.5 +1.8**
baz=90,SNR=38
TIA Tai'an **89.94 313** ⇑P **P** **14 24 45.4 +0.5**
TIA SS SS 14 41 35.5 +1.1
TIA pmax pmax
comp=Z,270nm,1.0s
TIA LR LR
comp=N,4μm,24.7s
TIA LR LR
comp=E,6μm,23.1s
TIA LR LR
comp=Z,4μm,24.7s
BMN Battle Mountai **89.98 42** *e*P **P** **14 24 45.1 0.0**
BMN pmax pmax
comp=Z,111nm,1.2s
BMN MLR MLR
comp=Z,10μm,22.0s
BMN Battle Mountai **89.98 42** *e*P **P** **14 24 45.1 0.0**
comp=Z,111nm,1.2s
BMN LR LR
comp=Z,10μm,22.0s
CN2 Changchun **90.08 323** *e*P **P** **14 24 45.1 -0.2**
CN2 *e*pP **PcP** **14 24 50.3 +3.8**
CN2 *e*sP sP 14 24 52.4 -6.6
CN2 *e*S **SKKSac** **14 35 26.6 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,4μm,21.0s
CN2 LR LR
comp=E,5μm,21.0s
CN2 LR LR
comp=Z,7μm,23.0s
X17A Forest Lakes **90.11 50** ⇑P **P** **14 24 47.7 +1.6**
baz=90,SNR=81
X17A ⇑P **P** **14 24 47.7 +1.6**
baz=90,SNR=81
X17A ⇑P **P** **14 24 47.7 +1.6**
baz=90,SNR=81
BKCOR Black Crater **90.15 37** P **P** **14 24 46.3 +0.6**
119A Ashpeak Ranch, **90.18 52** ⇑P **P** **14 24 47.8 +1.6**
baz=90,SNR=57
119A ⇑P **P** **14 24 47.8 +1.6**
baz=90,SNR=57
119A ⇑P **P** **14 24 47.8 +1.6**
baz=90,SNR=57
220A Playas Peak, P **90.21 53** ⇑P **P** **14 24 47.8 +1.5**
baz=90,SNR=86
220A ⇑P **P** **14 24 47.8 +1.5**
baz=90,SNR=86
220A ⇑P **P** **14 24 47.8 +1.5**
baz=90,SNR=86
KDAK Kodiak Island **90.21 13** P **P** **14 24 46.0 +0.5**
comp=Z,255nm,1.2s,baz=171,slow=2.1,SNR=12
KDAK Kodiak Island **90.21 13** *ePi* **P** **14 24 48.5 +3.0**
KDAK Kodiak Island **90.21 13** *eP* **P** **14 24 45.8 +0.3**
comp=Z,322nm,1.3s
KDAK LR LR
comp=Z,9μm,20.0s
KDAK Kodiak Island **90.21 13** P **P** **14 24 46.4 +0.9**
comp=Z,1μm,1.2s,SNR=6.3
Y18A Canyon Day Jun **90.29 50** ⇑P **P** **14 24 48.5 +1.8**
baz=90,SNR=159
Y18A ⇑P **P** **14 24 48.5 +1.8**
baz=90,SNR=159
Y18A ⇑P **P** **14 24 48.5 +1.8**
baz=90,SNR=159
U15A North Rim **90.42 47** ⇑P **P** **14 24 48.8 +1.4**
baz=91,SNR=86
U15A ⇑P **P** **14 24 48.8 +1.4**
baz=91,SNR=86
U15A ⇑P **P** **14 24 48.8 +1.4**
baz=91,SNR=86
CCUT Cedar City **90.45 46** *e*P **P** **14 24 48.5 +1.0**
comp=Z,42nm,0.9s
WUAZ Wupatki **90.46 48** *e*P **P** **14 24 46.4 -1.1**
comp=Z,266nm,1.4s
WUAZ LR LR
comp=Z,6μm,21.0s
WUAZ Wupatki **90.46 48** ⇑P **P** **14 24 48.7 +1.2**
baz=91,SNR=80
WUAZ ⇑P **P** **14 24 48.7 +1.2**
baz=91,SNR=80
WUAZ ⇑P **P** **14 24 48.7 +1.2**
baz=91,SNR=80
R13A O'Grain Ranch, **90.47 45** ⇑P **P** **14 24 48.8 +1.3**
baz=91
R13A ⇑P **P** **14 24 48.8 +1.3**
baz=91
R13A ⇑P **P** **14 24 48.8 +1.3**
baz=91
WVOR Wild Horse Val **90.51 39** *e*P **P** **14 24 47.8 +0.3**
WVOR pmax pmax
comp=Z,142nm,1.4s
WVOR MLR MLR
comp=Z,8μm,19.0s
WVOR Wild Horse Val **90.51 39** *e*P **P** **14 24 47.8 +0.3**
comp=Z,142nm,1.4s
WVOR LR LR
comp=Z,8μm,19.0s
120A U Bar Ranch, L **90.51 52** ⇑P **P** **14 24 49.0 +1.2**
baz=91,SNR=70
120A ⇑P **P** **14 24 49.0 +1.2**
baz=91,SNR=70
120A ⇑P **P** **14 24 49.0 +1.2**
baz=91,SNR=70
ARUT Antelope Range **90.55 46** *e*P **P** **14 24 48.6 +0.7**
ARUT pmax pmax
comp=Z,184nm,1.6s
ARUT Antelope Range **90.55 46** *e*P **P** **14 24 48.6 +0.7**
comp=Z,184nm,1.6s
W17A Winslow **90.62 49** ⇓P **P** **14 24 49.6 +1.4**
baz=91,SNR=12
W17A ⇓P **P** **14 24 49.6 +1.4**
baz=91,SNR=12
W17A ⇓P **P** **14 24 49.6 +1.4**
baz=91,SNR=12
221A Mesquite Ranch **90.78 53** ⇑P **P** **14 24 50.4 +1.4**
baz=91,SNR=24
221A ⇑P **P** **14 24 50.4 +1.4**
baz=91,SNR=24
221A ⇑P **P** **14 24 50.4 +1.4**
baz=91,SNR=24
X18A Snowflake **90.80 50** ⇑P **P** **14 24 50.5 +1.4**
baz=91,SNR=48
X18A ⇑P **P** **14 24 50.5 +1.4**
baz=91,SNR=48
X18A ⇑P **P** **14 24 50.5 +1.4**
baz=91,SNR=48
VIPM Ingram Point **90.85 37** P **P** **14 24 49.5 +0.4**
VIPM Ingram Point **90.85 37** P **P** **14 24 49.5 +0.4**
Z20A Nine Sixteen R **90.87 52** ⇓P **P** **14 24 51.2 +1.7**
baz=91,SNR=91
Z20A ⇓P **P** **14 24 51.2 +1.7**
baz=91,SNR=91
Z20A ⇓P **P** **14 24 51.2 +1.7**
baz=91,SNR=91
V17A Tonalea, Kykot **90.90 49** ⇓P **P** **14 24 50.9 +1.3**
baz=91
V17A ⇓P **P** **14 24 50.9 +1.3**
baz=91
V17A ⇓P **P** **14 24 50.9 +1.3**
baz=91
Y19A Nutrioso **90.92 51** ⇓P **P** **14 24 51.5 +1.6**
baz=91,SNR=111
Y19A ⇓P **P** **14 24 51.5 +1.6**
baz=91,SNR=111
Y19A ⇓P **P** **14 24 51.5 +1.6**
baz=91,SNR=111
KLR Kul'dur **90.95 330** ⇓*iP* **P** **14 24 46.0 -3.2**
KLR *eS* SKSac 14 35 11.0 -7.5
KLR *e* 14 37 00.0
KLR pmax pmax
comp=E,64nm,1.4s
KLR pmax pmax
comp=Z,300nm,1.4s
KLR pmax pmax
comp=Z,4μm,13.0s
VFP Flag Point **90.97 36** P **P** **14 24 50.0 +0.4**
U16A Tuba City **90.99 48** ⇓P **P** **14 24 51.2 +1.3**
baz=91,SNR=47
U16A ⇓P **P** **14 24 51.2 +1.3**
baz=91,SNR=47
U16A ⇓P **P** **14 24 51.2 +1.3**
baz=91,SNR=47
121A Cookes Peak, D **91.08 53** ⇑P **P** **14 24 51.7 +1.2**
baz=91,SNR=32
121A ⇑P **P** **14 24 51.7 +1.2**
baz=91,SNR=32
121A ⇑P **P** **14 24 51.7 +1.2**
baz=91,SNR=32
X19A St. Johns **91.17 50** ⇑P **P** **14 24 52.2 +1.3**
baz=91,SNR=32
X19A ⇑P **P** **14 24 52.2 +1.3**
baz=91,SNR=32
X19A ⇑P **P** **14 24 52.2 +1.3**
baz=91,SNR=32
NLWA Neilton Lookou **91.25 33** P **P** **14 24 50.5 -0.2**
comp=Z,68nm,0.9s
NLWA LR LR
comp=Z,9μm,22.0s
W18A Petrified Fore **91.29 50** ⇑P **P** **14 24 52.6 +1.2**
baz=92,SNR=22
W18A ⇑P **P** **14 24 52.6 +1.2**
baz=92,SNR=22
W18A ⇑P **P** **14 24 52.6 +1.2**
baz=92,SNR=22
222A Williams Famil **91.31 53** ⇑P **P** **14 24 52.7 +1.3**
baz=92,SNR=10
222A ⇑P **P** **14 24 52.7 +1.3**
baz=92,SNR=10
222A ⇑P **P** **14 24 52.7 +1.3**
baz=92,SNR=10
ELK Elko **91.33 42** *e*P **P** **14 24 51.6 +0.1**
ELK Elko **91.33 42** *eP* **P** **14 24 51.6 +0.1**
Y20A Horse Springs, **91.48 51** ⇓P **P** **14 24 54.2 +1.9**
baz=92,SNR=113
Y20A ⇓P **P** **14 24 54.2 +1.9**
baz=92,SNR=113
Y20A ⇓P **P** **14 24 54.2 +1.9**
baz=92,SNR=113
V18A Ganado **91.51 49** ⇓P **P** **14 24 53.9 +1.4**
baz=92,SNR=21
V18A ⇓P **P** **14 24 53.9 +1.4**
baz=92,SNR=21
V18A ⇓P **P** **14 24 53.9 +1.4**
baz=92,SNR=21
W19A Sanders **91.51 50** ⇓P **P** **14 24 53.9 +1.4**
baz=92
W19A ⇓P **P** **14 24 53.9 +1.4**
baz=92
W19A ⇓P **P** **14 24 53.9 +1.4**
baz=92
R15A Junction **91.53 46** ⇓P **P** **14 24 54.1 +1.6**
baz=92,SNR=26
R15A ⇓P **P** **14 24 54.1 +1.6**
baz=92,SNR=26
R15A ⇓P **P** **14 24 54.1 +1.6**
baz=92,SNR=26
U17A Shonto **91.57 48** ⇓P **P** **14 24 53.8 +1.1**
baz=92,SNR=35
U17A ⇓P **P** **14 24 53.8 +1.1**
baz=92,SNR=35
U17A ⇓P **P** **14 24 53.8 +1.1**
baz=92,SNR=35
GYA Guiyang **91.57 300** ⇑*iP* **P** **14 24 53.0 +0.2**
GYA SKS **SKSac** **14 35 24.0 +0.6**
GYA S **S** **14 35 50.6 -0.3**
GYA SS **SS** **14 42 01.0 +2.5**
GYA pmax pmax
comp=Z,90nm,1.0s
GYA LR LR
comp=N,3μm,23.2s
GYA LR LR
comp=E,2μm,28.6s
GYA LR LR
comp=Z,5μm,24.5s
ENH Enshi **91.61 304** *eP* **P** **14 24 52.5 -0.2**
comp=Z,1μm,1.7s
ENH LR LR
comp=Z,4μm,20.0s
Z21A St. Cloud Mine **91.61 52** ⇓P **P** **14 24 54.5 +1.6**
baz=92,SNR=41
Z21A ⇓P **P** **14 24 54.5 +1.6**
baz=92,SNR=41
Z21A ⇓P **P** **14 24 54.5 +1.6**
baz=92,SNR=41
S16A Weppner Ranch, **91.66 47** ⇑P **P** **14 24 53.7 +0.7**
baz=92,SNR=30
S16A ⇑P **P** **14 24 53.7 +0.7**
baz=92,SNR=30
S16A ⇑P **P** **14 24 53.7 +0.7**
baz=92,SNR=30
T17A Navajo Res., N **91.72 48** ⇑P **P** **14 24 54.6 +1.3**
baz=92,SNR=22
T17A ⇑P **P** **14 24 54.6 +1.3**
baz=92,SNR=22
T17A ⇑P **P** **14 24 54.6 +1.3**
baz=92,SNR=22
122A Conniff Cattle **91.72 53** ⇓P **P** **14 24 54.9 +1.5**
baz=92
122A ⇓P **P** **14 24 54.9 +1.5**
baz=92
122A ⇓P **P** **14 24 54.9 +1.5**
baz=92
223A Chaparral, Ant **91.72 54** ⇑P **P** **14 24 54.6 +1.2**
baz=92
223A ⇑P **P** **14 24 54.6 +1.2**
baz=92
223A ⇑P **P** **14 24 54.6 +1.2**
baz=92
MVU Marysvale **91.75 46** PFAKE 14 25 00.0 +6.5
MVU LR LR
comp=Z,5μm,20.0s
X20A Quemado **91.77 51** ⇑P **P** **14 24 55.2 +1.5**
baz=92,SNR=149
X20A ⇑P **P** **14 24 55.2 +1.5**
baz=92,SNR=149
X20A ⇑P **P** **14 24 55.2 +1.5**
baz=92,SNR=149
MSU Marysvale **91.78 46** *eP* **P** **14 24 54.7 +1.1**
MSU pmax pmax
comp=Z,97nm,1.4s
MSU Marysvale **91.78 46** *eP* **P** **14 24 54.7 +1.1**
comp=Z,97nm,1.4s
LON Longmire **91.79 35** *eP* **P** **14 24 52.9 -0.4**
LON pmax pmax
comp=Z,28nm,0.9s
LON Longmire **91.79 35** *eP* **P** **14 24 52.9 -0.4**
comp=Z,28nm,0.9s
GNW Green Mountain **91.87 34** *eP* **P** **14 24 53.8 +0.4**
comp=Z,46nm,1.0s
WPW White Pass **91.89 35** P **P** **14 24 54.5 +0.8**
U18A Rough Rock, Ch **91.97 48** ⇑P **P** **14 24 55.5 +0.9**
baz=92,SNR=24
U18A ⇑P **P** **14 24 55.5 +0.9**
baz=92,SNR=24
U18A ⇑P **P** **14 24 55.5 +0.9**
baz=92,SNR=24
626A Big Bend Ranch **91.97 57** ⇓P **P** **14 24 55.4 +0.8**
baz=92,SNR=31
626A ⇓P **P** **14 24 55.4 +0.8**
baz=92,SNR=31
626A ⇓P **P** **14 24 55.4 +0.8**
baz=92,SNR=31
Y21A Point of Rocks **92.01 51** ⇓P **P** **14 24 56.3 +1.5**
baz=92,SNR=57
Y21A ⇓P **P** **14 24 56.3 +1.5**
baz=92,SNR=57
Y21A ⇓P **P** **14 24 56.3 +1.5**
baz=92,SNR=57
425A Indio Mountain **92.05 55** ⇓P **P** **14 24 55.4 +0.5**
baz=92,SNR=30
425A ⇓P **P** **14 24 55.4 +0.5**
baz=92,SNR=30
425A ⇓P **P** **14 24 55.4 +0.5**
baz=92,SNR=30
Z22A Elephant Butte **92.06 52** ⇓P **P** **14 24 56.2 +1.2**
baz=92,SNR=58
Z22A ⇓P **P** **14 24 56.2 +1.2**
baz=92,SNR=58
Z22A ⇓P **P** **14 24 56.2 +1.2**
baz=92,SNR=58
324A Moseley Ranch, **92.06 55** ⇑P **P** **14 24 55.3 +0.3**
baz=92,SNR=26
324A ⇑P **P** **14 24 55.3 +0.3**
baz=92,SNR=26
324A ⇑P **P** **14 24 55.3 +0.3**
baz=92,SNR=26
R16A Teasdale **92.07 46** ⇑P **P** **14 24 56.1 +1.1**
baz=92,SNR=19
R16A ⇑P **P** **14 24 56.1 +1.1**
baz=92,SNR=19
R16A ⇑P **P** **14 24 56.1 +1.1**
baz=92,SNR=19
V19A Window Rock **92.09 49** ⇑P **P** **14 24 56.1 +1.0**
baz=92,SNR=16
V19A ⇑P **P** **14 24 56.1 +1.0**
baz=92,SNR=16
V19A ⇑P **P** **14 24 56.1 +1.0**
baz=92,SNR=16
S17A Black Ridge (B **92.10 47** ⇓P **P** **14 24 55.4 +0.3**
baz=92,SNR=36
S17A ⇓P **P** **14 24 55.4 +0.3**
baz=92,SNR=36
S17A ⇓P **P** **14 24 55.4 +0.3**
baz=92,SNR=36
W20A Ramah **92.11 50** ⇑P **P** **14 24 56.6 +1.3**
baz=92,SNR=137
W20A ⇑P **P** **14 24 56.6 +1.3**
baz=92,SNR=137
W20A ⇑P **P** **14 24 56.6 +1.3**
baz=92,SNR=137
TXAR Lajitas Array **92.19 57** P **P** **14 24 56.2 +0.6**
comp=Z,8.7nm,0.9s,baz=215,slow=6.1,SNR=30
TXAR PKKPbc **PKKPbc** **14 42 11.9 +0.8**
comp=Z,3.1nm,1.0s,baz=121,slow=4.8,SNR=5.6
TXAR PKPPKP **P'P'df** **14 50 16.6 -3.2**
comp=Z,1.2nm,1.1s,baz=45,slow=1.9,SNR=5.5
TXAR LR LR 15 01 32.4
comp=Z,2μm,18.5s,baz=285,slow=32
TXAR Lajitas Array **92.19 57** P **P** **14 24 56.2 +0.6**
TXAR 14 42 11.9
TXAR pmax pmax
comp=Z,9.0nm,0.9s

TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 92.19 57 P **P** **14 24 56.2 +0.6**
TXAR PKKPbc **PKKPbc** **14 42 11.9 +0.8**
TXAR P'P' 14 50 16.6
X21A Alamocita Cree 92.19 51 ⇑P **P** **14 24 57.0 +1.4**
baz=92,SNR=89
X21A ⇑P **P** **14 24 57.0 +1.4**
baz=92,SNR=89
X21A ⇑P **P** **14 24 57.0 +1.4**
baz=92,SNR=89
123A Bell Site, Whi 92.19 53 ⇓P **P** **14 24 56.7 +1.1**
baz=92
123A ⇓P **P** **14 24 56.7 +1.1**
baz=92
123A ⇓P **P** **14 24 56.7 +1.1**
baz=92
MNTX Cornudas Mount 92.28 54 *e*P **P** **14 24 55.9 +0.1**
MNTX LR LR
comp=Z,2μm,22.0s
MNTX Cornudas Mount 92.28 54 ⇓P **P** **14 24 56.5 +0.6**
baz=92,SNR=34
MNTX ⇓P **P** **14 24 56.5 +0.6**
baz=92,SNR=34
MNTX ⇓P **P** **14 24 56.5 +0.6**
baz=92,SNR=34
MNTX ⇓P **P** **14 24 56.5 +0.6**
MNTX ⇓P **P** **14 24 56.5 +0.6**
baz=92,SNR=34
MNTX ⇓P **P** **14 24 56.5 +0.6**
baz=92,SNR=34
526A Mary Lane Ranc 92.29 56 ⇑P **P** **14 24 56.3 +0.2**
baz=92,SNR=25
526A ⇑P **P** **14 24 56.3 +0.2**
baz=92,SNR=25
526A ⇑P **P** **14 24 56.3 +0.2**
baz=92,SNR=25
U19A Dine' College, 92.33 49 ⇓P **P** **14 24 57.1 +0.9**
baz=93,SNR=26
U19A ⇓P **P** **14 24 57.1 +0.9**
baz=93,SNR=26
U19A ⇓P **P** **14 24 57.1 +0.9**
baz=93,SNR=26
PGC Sidney 92.34 33 P **P** **14 24 56.6 +1.0**
comp=Z,3.3nm,1.1s
P15A Leamington 92.36 45 ⇑P **P** **14 24 57.0 +0.8**
baz=93,SNR=56
P15A ⇑P **P** **14 24 57.0 +0.8**
baz=93,SNR=56
P15A ⇑P **P** **14 24 57.0 +0.8**
baz=93,SNR=56
325A Bean Ranch, Si 92.39 55 ⇓P **P** **14 24 56.8 +0.2**
baz=93,SNR=17
325A ⇓P **P** **14 24 56.8 +0.2**
baz=93,SNR=17
325A ⇓P **P** **14 24 56.8 +0.2**
baz=93,SNR=17
224A Cornudas Mount 92.39 54 ⇓P **P** **14 24 57.4 +0.9**
baz=93,SNR=24
224A ⇓P **P** **14 24 57.4 +0.9**
baz=93,SNR=24
224A ⇓P **P** **14 24 57.4 +0.9**
baz=93,SNR=24
T18A Mexican Hat 92.40 48 ⇑P **P** **14 24 57.4 +1.0**
baz=93,SNR=54
T18A ⇑P **P** **14 24 57.4 +1.0**
baz=93,SNR=54
T18A ⇑P **P** **14 24 57.4 +1.0**
baz=93,SNR=54
DUG Dugway 92.42 44 *e*P **P** **14 24 56.7 +0.2**
DUG pmax pmax
comp=Z,26nm,1.1s
DUG MLR MLR
comp=Z,7μm,20.0s
DUG Dugway 92.42 44 *e*P **P** **14 24 56.7 +0.2**
comp=Z,26nm,1.1s
DUG LR LR
comp=Z,7μm,20.0s
DUG Dugway 92.42 44 ⇓P **P** **14 24 56.9 +0.4**
baz=93,SNR=28
DUG ⇓P **P** **14 24 56.9 +0.4**
baz=93,SNR=28
DUG ⇓P **P** **14 24 56.9 +0.4**
baz=93,SNR=28
Y22A Socorro 92.45 52 ⇓P **P** **14 24 57.8 +1.0**
baz=93,SNR=18
Y22A ⇓P **P** **14 24 57.8 +1.0**
baz=93,SNR=18
Y22A ⇓P **P** **14 24 57.8 +1.0**
baz=93,SNR=18
627A Terlingua Ranc 92.46 57 ⇑P **P** **14 24 57.5 +0.6**
baz=93,SNR=35
627A ⇑P **P** **14 24 57.5 +0.6**
baz=93,SNR=35
627A ⇑P **P** **14 24 57.5 +0.6**
baz=93,SNR=35
EBG Ellensburg 92.52 35 P **P** **14 24 57.1 +0.4**
V20A Brimhall 92.52 50 ⇑P **P** **14 24 57.9 +0.8**
baz=93,SNR=20
V20A ⇑P **P** **14 24 57.9 +0.8**
baz=93,SNR=20
V20A ⇑P **P** **14 24 57.9 +0.8**
baz=93,SNR=20
Y22D IRIS PASSCAL I 92.56 52 ⇓P **P** **14 24 58.7 +1.5**
baz=93,SNR=6.3
Y22D ⇓P **P** **14 24 58.7 +1.5**
baz=93,SNR=6.3
Y22D ⇓P **P** **14 24 58.7 +1.5**
baz=93,SNR=6.3
Z23A Rita Site, Whi 92.57 53 ⇓P **P** **14 24 58.4 +1.1**
baz=93,SNR=17
Z23A ⇓P **P** **14 24 58.4 +1.1**
baz=93,SNR=17
Z23A ⇓P **P** **14 24 58.4 +1.1**
baz=93,SNR=17
LENM Lemitar 92.58 52 *e*P **P** **14 24 58.1 +0.8**
comp=Z,43nm,1.1s
CMIG Matias Romero 92.58 72 P **P** **14 24 58.9 +1.4**
comp=Z,14nm,0.9s,baz=228,slow=3.4,SNR=7.8
CMIG LR LR 14 56 30.3
comp=Z,2μm,20.8s,baz=240,slow=29
CMIG Matias Romero 92.58 72 P **P** **14 24 58.9 +1.4**
LAZ Ladron 92.60 51 *e*P **P** **14 24 58.2 +0.7**
comp=Z,35nm,0.8s
R17A Hanksville Air 92.63 46 ⇑P **P** **14 24 57.9 +0.5**
baz=93,SNR=38
R17A ⇑P **P** **14 24 57.9 +0.5**
baz=93,SNR=38
R17A ⇑P **P** **14 24 57.9 +0.5**
baz=93,SNR=38
Q16A Castle Valley 92.65 46 ⇑P **P** **14 24 58.9 +1.3**
baz=93,SNR=31
Q16A ⇑P **P** **14 24 58.9 +1.3**
baz=93,SNR=31
Q16A ⇑P **P** **14 24 58.9 +1.3**
baz=93,SNR=31
S18A Hurst Farm, Bl 92.65 47 ⇑P **P** **14 24 58.5 +0.7**
baz=93
S18A ⇑P **P** **14 24 58.5 +0.7**
baz=93
S18A ⇑P **P** **14 24 58.5 +0.7**
baz=93
426A McDonald Obser 92.67 56 ⇓P **P** **14 24 58.4 +0.4**
baz=93,SNR=26
426A ⇓P **P** **14 24 58.4 +0.4**
baz=93,SNR=26
426A ⇓P **P** **14 24 58.4 +0.4**
baz=93,SNR=26
W21A San Fidel 92.67 51 ⇑P **P** **14 24 59.0 +1.2**
baz=93,SNR=18
W21A ⇑P **P** **14 24 59.0 +1.2**
baz=93,SNR=18
W21A ⇑P **P** **14 24 59.0 +1.2**
baz=93,SNR=18
527A Woodward Ranch 92.68 57 ⇑P **P** **14 24 58.1 +0.2**
baz=93,SNR=23
527A ⇑P **P** **14 24 58.1 +0.2**
baz=93,SNR=23
527A ⇑P **P** **14 24 58.1 +0.2**
baz=93,SNR=23
RSO Redoubt South 92.68 12 *e*P **P** **14 24 56.7 -0.5**
comp=Z,339nm,1.2s
O15A The Old Anders 92.68 44 ⇑P **P** **14 24 58.3 +0.6**
baz=93,SNR=15
O15A ⇑P **P** **14 24 58.3 +0.6**
baz=93,SNR=15
O15A ⇑P **P** **14 24 58.3 +0.6**
baz=93,SNR=15
HAWA Hanford 92.69 36 *e*P **P** **14 24 56.9 -0.4**
comp=Z,83nm,1.0s
HAWA LR LR
comp=Z,6μm,19.0s
MFID Camas Ranch 92.71 40 *e*P **P** **14 24 57.3 -0.4**
comp=Z,60nm,1.0s
MFID Camas Ranch 92.71 40 ⇓P **P** **14 24 58.1 +0.4**
baz=93
MFID ⇓P **P** **14 24 58.1 +0.4**
baz=93
MFID ⇓P **P** **14 24 58.1 +0.4**
baz=93
JCW Jim Creek 92.74 34 *e*P **P** **14 24 57.8 +0.2**
comp=Z,40nm,0.9s
X22A Bernardo 92.75 51 ⇑P **P** **14 24 59.6 +1.5**
baz=93,SNR=14
X22A ⇑P **P** **14 24 59.6 +1.5**
baz=93,SNR=14
X22A ⇑P **P** **14 24 59.6 +1.5**
baz=93,SNR=14
P16A Fountain Green 92.77 45 ⇓P **P** **14 24 59.4 +1.3**
baz=93
P16A ⇓P **P** **14 24 59.4 +1.3**
baz=93
P16A ⇓P **P** **14 24 59.4 +1.3**
baz=93
124A Stringfield Ra 92.79 54 ⇓P **P** **14 24 59.3 +0.8**
baz=93,SNR=18
124A ⇓P **P** **14 24 59.3 +0.8**
baz=93,SNR=18
124A ⇓P **P** **14 24 59.3 +0.8**
baz=93,SNR=18
BNM Barren Site 92.80 52 *e*P **P** **14 24 58.9 +0.4**
comp=Z,111nm,1.7s
U20A Newcomb 92.83 49 ⇓P **P** **14 24 59.3 +0.9**
baz=93
U20A ⇓P **P** **14 24 59.3 +0.9**
baz=93
U20A ⇓P **P** **14 24 59.3 +0.9**
baz=93
BMO Blue Mountains 92.83 38 *e*P **P** **14 24 57.5 -0.7**
BMO pmax pmax
comp=Z,22nm,0.8s
BMO MLR MLR
comp=Z,5μm,22.0s
BMO Blue Mountains 92.83 38 *e*P **P** **14 24 57.5 -0.7**
comp=Z,22nm,0.8s
BMO LR LR
comp=Z,5μm,22.0s
628A Black Gap, Mar 92.84 57 ⇑P **P** **14 24 59.2 +0.7**
baz=93,SNR=30
628A ⇑P **P** **14 24 59.2 +0.7**
baz=93,SNR=30
628A ⇑P **P** **14 24 59.2 +0.7**
baz=93,SNR=30
TMUT Trail Mountain 92.85 46 *e*P **P** **14 24 59.0 +0.3**
comp=Z,92nm,0.9s
BJT Baijiatuau 92.88 315 *e*P **P** **14 24 57.9 -0.4**
BJT pmax pmax
comp=Z,103nm,0.8s
BJT MLR MLR
comp=Z,9μm,22.0s
BJT Baijiatuau 92.88 315 *e*P **P** **14 24 57.9 -0.4**
comp=Z,103nm,0.8s
BJT LR LR
comp=Z,9μm,22.0s
BJI Beijing 92.89 315 P **P** **14 24 58.6 +0.2**
BJI sP sP 14 25 03.3 -8.8
BJI S **ScS** **14 36 04.5 +0.8**
BJI pmax pmax
comp=Z,39nm,1.0s
BJI LR LR
comp=N,5μm,30.2s
BJI LR LR
comp=E,6μm,31.0s
BJI LR LR
comp=Z,15μm,32.6s
LPM Los Pinos Moun 92.89 52 *e*P **P** **14 24 59.6 +0.8**
comp=Z,69nm,1.5s
225A Deer Hill, Car 92.90 54 ⇓P **P** **14 24 59.7 +0.8**
baz=93,SNR=15
225A ⇓P **P** **14 24 59.7 +0.8**
baz=93,SNR=15
225A ⇓P **P** **14 24 59.7 +0.8**
baz=93,SNR=15
SEW Seward 92.99 14 *e*P **P** **14 24 57.4 -0.9**
comp=Z,267nm,1.2s
MPU Maple Canyon 93.03 45 *e*P **P** **14 24 59.8 +0.5**
comp=Z,65nm,1.3s
N15A Stansbury Isla 93.03 44 ⇑P **P** **14 24 59.7 +0.5**
baz=93,SNR=36
N15A ⇑P **P** **14 24 59.7 +0.5**
baz=93,SNR=36
N15A ⇑P **P** **14 24 59.7 +0.5**
baz=93,SNR=36
326A Caldwell Ranch 93.06 55 ⇓P **P** **14 25 00.3 +0.8**
baz=93
326A ⇓P **P** **14 25 00.3 +0.8**
baz=93
326A ⇓P **P** **14 25 00.3 +0.8**
baz=93
V21A Milan 93.08 50 ⇓P **P** **14 25 00.6 +0.9**
baz=93
V21A ⇓P **P** **14 25 00.6 +0.9**
baz=93
V21A ⇓P **P** **14 25 00.6 +0.9**
baz=93
ETW Entiat 93.11 35 *e*P **P** **14 24 59.0 -0.5**
comp=Z,52nm,0.8s
RPW Rockport 93.12 34 *e*P **P** **14 25 00.7 +1.4**
comp=Z,14nm,0.6s
R18A Canyonlands Na 93.13 47 ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=54
R18A ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=54
R18A ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=54
SRU San Rafael 93.17 46 *e*P **P** **14 25 00.0 0.0**
SRU pmax pmax
comp=Z,60nm,1.0s
SRU San Rafael 93.17 46 *e*P **P** **14 25 00.0 0.0**
comp=Z,60nm,1.0s
SRU San Rafael 93.17 46 ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=27
SRU ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=27
SRU ⇓P **P** **14 25 00.4 +0.5**
baz=93,SNR=27
W22A Albuquerque 93.17 51 ⇓P **P** **14 25 01.4 +1.3**
baz=93
W22A ⇓P **P** **14 25 01.4 +1.3**
baz=93
W22A ⇓P **P** **14 25 01.4 +1.3**
baz=93
SLKM Skilak Lake 93.20 13 *e*P **P** **14 24 59.7 +0.3**
SLKM Skilak Lake 93.20 13 *e*P **P** **14 24 59.7 +0.3**
Z24A Sheeppen Canyo 93.21 53 ⇑P **P** **14 25 01.0 +0.7**
baz=94,SNR=17
Z24A ⇑P **P** **14 25 01.0 +0.7**
baz=94,SNR=17
Z24A ⇑P **P** **14 25 01.0 +0.7**
baz=94,SNR=17
427A Hayter Ranch, 93.22 56 ⇓P **P** **14 25 01.0 +0.7**
baz=94,SNR=26
427A ⇓P **P** **14 25 01.0 +0.7**
baz=94,SNR=26
427A ⇓P **P** **14 25 01.0 +0.7**
baz=94,SNR=26
O16A Springville 93.22 45 ⇑P **P** **14 25 00.9 +0.7**
baz=94,SNR=5.1
O16A ⇑P **P** **14 25 00.9 +0.7**
baz=94,SNR=5.1
O16A ⇑P **P** **14 25 00.9 +0.7**
baz=94,SNR=5.1
S19A Harvey Farm, M 93.23 48 ⇓P **P** **14 25 01.1 +0.8**
baz=94,SNR=14
S19A ⇓P **P** **14 25 01.1 +0.8**
baz=94,SNR=14
S19A ⇓P **P** **14 25 01.1 +0.8**
baz=94,SNR=14
P17A Butcher Ranch, 93.25 46 ⇓P **P** **14 25 01.2 +0.9**
baz=94
P17A ⇓P **P** **14 25 01.2 +0.9**
baz=94
P17A ⇓P **P** **14 25 01.2 +0.9**
baz=94
GDL2 Guadalupe Moun 93.28 55 *e*P **P** **14 25 00.8 +0.2**
comp=Z,63nm,1.0s
528A Cox Ranch, San 93.28 57 ⇓P **P** **14 25 01.2 +0.5**
baz=94,SNR=35
528A ⇓P **P** **14 25 01.2 +0.5**
baz=94,SNR=35
528A ⇓P **P** **14 25 01.2 +0.5**
baz=94,SNR=35
L14A Malta 93.31 42 ⇓P **P** **14 25 01.0 +0.5**
baz=94,SNR=41
L14A ⇓P **P** **14 25 01.0 +0.5**
baz=94,SNR=41
L14A ⇓P **P** **14 25 01.0 +0.5**
baz=94,SNR=41
125A Gardner Draw, 93.33 54 ⇓P **P** **14 25 01.4 +0.6**
baz=94
125A ⇓P **P** **14 25 01.4 +0.6**
baz=94
125A ⇓P **P** **14 25 01.4 +0.6**
baz=94
MVCO Mesa Verde 93.33 48 *e*P **P** **14 25 01.1 +0.3**
comp=Z,24nm,1.2s
MVCO LR LR
comp=Z,4μm,20.0s
MVCO Mesa Verde 93.33 48 ⇓P **P** **14 25 01.3 +0.5**
baz=94
MVCO ⇓P **P** **14 25 01.3 +0.5**
baz=94
MVCO ⇓P **P** **14 25 01.3 +0.5**
baz=94
I12A Atlanta 93.34 40 ⇑P **P** **14 25 01.3 +0.6**
baz=94
I12A ⇑P **P** **14 25 01.3 +0.6**
baz=94
I12A ⇑P **P** **14 25 01.3 +0.6**
baz=94
X23A Hourglass Bar 93.35 52 ⇑P **P** **14 25 01.8 +0.8**
baz=94
X23A ⇑P **P** **14 25 01.8 +0.8**
baz=94
X23A ⇑P **P** **14 25 01.8 +0.8**
baz=94
NNA Nana 93.35 106 P **P** **14 25 02.9 +1.6**
comp=Z,9.6nm,0.6s,baz=281,slow=10,SNR=6.6
NNA S **SKSac** **14 35 34.9 +1.1**
comp=Z,1.6nm,0.3s,baz=264,slow=10,SNR=2.0
NNA Nana 93.35 106 P **P** **14 25 02.9 +1.6**
NNA S **SKSac** **14 35 34.9 +1.1**
NNA pmax pmax
comp=Z,10.0nm,0.6s
NNA smax smax
comp=N,2.0nm,0.3s
NNA Nana 93.35 106 *e*P **P** **14 25 01.4 +0.1**
comp=N,50nm,1.1s
NNA S **SKSac** **14 35 34.9 +1.1**
NNA LR LR
comp=Z,5μm,22.0s
ANMO Albuquerque 93.37 51 *e*P **P** **14 25 01.4 +0.3**
ANMO pmax pmax
comp=Z,24nm,0.9s
ANMO MLR MLR
comp=Z,5μm,21.0s
ANMO Albuquerque 93.37 51 *e*P **P** **14 25 01.4 +0.3**
comp=Z,24nm,0.9s
ANMO LR LR
comp=Z,5μm,21.0s
Q18A Rafter H Ranch 93.40 46 ⇑P **P** **14 25 01.5 +0.5**
baz=94,SNR=33
Q18A ⇑P **P** **14 25 01.5 +0.5**
baz=94,SNR=33
Q18A ⇑P **P** **14 25 01.5 +0.5**
baz=94,SNR=33
U21A Nageezi 93.42 49 ⇑P **P** **14 25 02.1 +0.8**
baz=94,SNR=53
U21A ⇑P **P** **14 25 02.1 +0.8**
baz=94,SNR=53
U21A ⇑P **P** **14 25 02.1 +0.8**
baz=94,SNR=53
M15A Larsen Ranch, 93.42 43 ⇓P **P** **14 25 01.2 +0.2**
baz=94,SNR=72
M15A ⇓P **P** **14 25 01.2 +0.2**
baz=94,SNR=72
M15A ⇓P **P** **14 25 01.2 +0.2**
baz=94,SNR=72
HVU Hansel Valley 93.42 43 *e*P **P** **14 25 00.8 -0.3**
HVU pmax pmax
comp=Z,57nm,0.8s
HVU Hansel Valley 93.42 43 *e*P **P** **14 25 00.8 -0.3**
comp=Z,57nm,0.8s
CM31 Chiang Mai Arr 93.46 289 *e*P **P** **14 25 04.3 +2.7**
comp=Z,103nm,1.0s
CM31 LR LR
comp=Z,5μm,21.0s
CMAR Chiang Mai Arr 93.46 289 P **P** **14 25 02.6 +1.0**
comp=Z,62nm,0.9s,baz=144,slow=3.7,SNR=42
CMAR PP **PP** **14 28 46.5 +0.1**
comp=Z,6.1nm,0.8s,baz=117,slow=4.8,SNR=5.4
CMAR S **SKSac** **14 35 33.5 -0.5**
comp=Z,0.2nm,0.4s,baz=179,slow=20,SNR=2.3
CMAR PKKPbc **PKKPbc** **14 42 08.2 +1.0**
comp=Z,3.0nm,0.8s,baz=284,slow=3.9,SNR=11
CMAR PKPPKP **P'P'df** **14 50 18.6 -0.2**
comp=Z,0.6nm,0.4s,baz=259,slow=3.4,SNR=6.7
CMAR Chiang Mai Arr 93.46 289 P **P** **14 25 02.6 +1.0**
CMAR 14 28 46.6
CMAR S **SKSac** **14 35 33.5 -0.5**
CMAR pmax pmax
comp=Z,62nm,0.9s
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 93.46 289 P **P** **14 25 02.6 +1.0**
CMAR PP **PP** **14 28 46.5 +0.1**
CMAR S **SKSac** **14 35 33.5 -0.5**
CMAR PKKPbc **PKKPbc** **14 42 08.2 +1.0**
CMAR P'P' 14 50 18.6
R19A Curley Farm, L 93.47 47 ⇓P **P** **14 25 01.7 +0.3**
baz=94,SNR=10.0
R19A ⇓P **P** **14 25 01.7 +0.3**
baz=94,SNR=10.0
R19A ⇓P **P** **14 25 01.7 +0.3**
baz=94,SNR=10.0
Y24A Capitan 93.49 53 ⇓P **P** **14 25 02.2 +0.6**
baz=94,SNR=40
Y24A ⇓P **P** **14 25 02.2 +0.6**
baz=94,SNR=40
Y24A ⇓P **P** **14 25 02.2 +0.6**
baz=94,SNR=40
JLU Jordanelle 93.50 44 *e*P **P** **14 25 00.9 -0.6**
comp=Z,86nm,1.5s
DAU Daniels Canyon 93.50 45 *e*P **P** **14 25 01.9 +0.3**
DAU pmax pmax
comp=Z,40nm,1.1s
DAU Daniels Canyon 93.50 45 *e*P **P** **14 25 01.9 +0.3**
comp=Z,40nm,1.1s
HLID Hailey 93.59 41 *e*P **P** **14 25 02.0 +0.2**
comp=Z,49nm,0.9s
HLID LR LR
comp=Z,6μm,20.0s
HLID Hailey 93.59 41 ⇑P **P** **14 25 02.4 +0.5**
baz=94,SNR=84
HLID ⇑P **P** **14 25 02.4 +0.5**
baz=94,SNR=84
HLID ⇑P **P** **14 25 02.4 +0.5**
baz=94,SNR=84
V22A San Miguel Ran 93.62 50 ⇓P **P** **14 25 03.2 +1.0**
baz=94,SNR=6.5
V22A ⇓P **P** **14 25 03.2 +1.0**
baz=94,SNR=6.5
V22A ⇓P **P** **14 25 03.2 +1.0**
baz=94,SNR=6.5
J13A Cove Ranch, Pi 93.63 41 ⇓P **P** **14 25 02.8 +0.9**
baz=94,SNR=101
J13A ⇓P **P** **14 25 02.8 +0.9**
baz=94,SNR=101
J13A ⇓P **P** **14 25 02.8 +0.9**
baz=94,SNR=101
Z25A Roswell 93.63 53 ⇑P **P** **14 25 03.0 +0.8**
baz=94,SNR=26
Z25A ⇑P **P** **14 25 03.0 +0.8**
baz=94,SNR=26
Z25A ⇑P **P** **14 25 03.0 +0.8**
baz=94,SNR=26
CHTO Chiang Mai 93.64 290 *e*P **P** **14 25 02.9 +0.5**
CHTO pmax pmax
comp=Z,99nm,1.0s
CHTO MLR MLR

comp=Z,7µm,22.0s
CHTO Chiang Mai 93.64 290 *e*P P 14 25 02.9 +0.5
comp=Z,99nm,1.0s
CHTO LR LR
comp=Z,7µm,22.0s
CHTO Chiang Mai 93.64 290 P P 14 25 03.2 +0.8
comp=Z,26nm,1.0s,comp=Z,2µm
P18A Preston Nutter 93.65 46 ⇓P P 14 25 02.7 +0.4
baz=94,SNR=10
P18A ⇓P P 14 25 02.7 +0.4
baz=94,SNR=10
P18A ⇓P P 14 25 02.7 +0.4
baz=94,SNR=10
CLNB Carlsbad 93.65 55 *e*P P 14 25 01.6 -0.6
comp=Z,14nm,1.3s
428A Kincaid Ranch, 93.67 57 ⇑P P 14 25 03.0 +0.6
baz=94,SNR=13
428A ⇑P P 14 25 03.0 +0.6
baz=94,SNR=13
428A ⇑P P 14 25 03.0 +0.6
baz=94,SNR=13
K14A Jones Ranch, D 93.67 42 ⇓P P 14 25 02.6 +0.5
baz=94,SNR=52
K14A ⇓P P 14 25 02.6 +0.5
baz=94,SNR=52
K14A ⇓P P 14 25 02.6 +0.5
baz=94,SNR=52
N16A Rees Ranch, Co 93.68 44 ⇓P P 14 25 03.0 +0.7
baz=94,SNR=15
N16A ⇓P P 14 25 03.0 +0.7
baz=94,SNR=15
N16A ⇓P P 14 25 03.0 +0.7
baz=94,SNR=15
O17A Robinson Place 93.68 45 ⇑P P 14 25 03.2 +0.8
baz=94,SNR=42
O17A ⇑P P 14 25 03.2 +0.8
baz=94,SNR=42
O17A ⇑P P 14 25 03.2 +0.8
baz=94,SNR=42
W23A Werner Place, 93.70 51 ⇑P P 14 25 03.4 +0.8
baz=94
W23A ⇑P P 14 25 03.4 +0.8
baz=94
W23A ⇑P P 14 25 03.4 +0.8
baz=94
PV04 Paradox Valley 93.76 47 *e*P P 14 25 03.1 +0.4
126A Clayton Basin, 93.76 54 ⇓P P 14 25 03.5 +0.7
baz=94
126A ⇓P P 14 25 03.5 +0.7
baz=94
126A ⇓P P 14 25 03.5 +0.7
baz=94
S20A Disappointment 93.78 48 ⇓P P 14 25 03.4 +0.5
baz=94,SNR=20
S20A ⇓P P 14 25 03.4 +0.5
baz=94,SNR=20
S20A ⇓P P 14 25 03.4 +0.5
baz=94,SNR=20
OD2 Odessa Site #2 93.78 36 *e*P P 14 25 02.5 +0.1
comp=Z,61nm,0.8s
L15A Malad City 93.79 43 ⇑P P 14 25 03.1 +0.3
baz=94,SNR=67
L15A ⇑P P 14 25 03.1 +0.3
baz=94,SNR=67
L15A ⇑P P 14 25 03.1 +0.3
baz=94,SNR=67
GAMB Gambell 93.81 3 *e*P P 14 25 02.6 +0.6
comp=Z,258nm,1.1s
M16A Huntsville 93.82 44 ⇑P P 14 25 03.1 +0.2
baz=94
M16A ⇑P P 14 25 03.1 +0.2
baz=94
M16A ⇑P P 14 25 03.1 +0.2
baz=94
PV01 Paradox Valley 93.82 48 *e*P P 14 25 03.2 +0.1
comp=Z,2µm,1.0s
T21A Navajo Lake 93.83 49 ⇓P P 14 25 04.1 +1.0
baz=94,SNR=15
T21A ⇓P P 14 25 04.1 +1.0
baz=94,SNR=15
T21A ⇓P P 14 25 04.1 +1.0
baz=94,SNR=15
RC01 Rabbit Creek A 93.83 13 *e*P P 14 25 02.6 +0.4
comp=Z,345nm,1.4s
TIY Taiyuan 93.85 312 ⇑*i*P P 14 25 03.3 +0.3
TIY SKS **SKSac** 14 35 35.1 -0.3
TIY S **ScS** 14 36 13.6 +1.6
TIY LR LR
comp=N,3µm,18.7s
TIY LR LR
comp=E,640nm,12.3s
TIY LR LR
comp=Z,11µm,30.1s
X24A Lazy VL Ranch, 93.85 52 ⇑P P 14 25 03.3 0.0
baz=94
X24A ⇑P P 14 25 03.3 0.0
baz=94
X24A ⇑P P 14 25 03.3 0.0
baz=94
KMI Kunming 93.85 297 P P 14 25 02.9 -0.6
KMI pP **PcP** 14 25 06.5 +2.5
KMI sP sP 14 25 08.5 -8.7
KMI SKS **SKSac** 14 35 35.6 -0.8
KMI S **S** 14 36 08.3 -3.2
KMI SS **SS** 14 42 29.8 -1.7
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,1µm,12.3s
KMI LR LR
comp=N,2µm,24.2s
KMI LR LR
comp=E,4µm,22.5s
KMI LR LR
comp=Z,6µm,19.0s
Q19A Hogan Spring (93.86 47 ⇓P P 14 25 03.5 +0.4
baz=94,SNR=6.8
Q19A ⇓P P 14 25 03.5 +0.4
baz=94,SNR=6.8
Q19A ⇓P P 14 25 03.5 +0.4
baz=94,SNR=6.8
328A Wristen Ranch, 93.93 56 ⇑P P 14 25 03.5 0.0
baz=94
328A ⇑P P 14 25 03.5 0.0
baz=94
328A ⇑P P 14 25 03.5 0.0
baz=94
J14A Carey 93.95 41 ⇓P P 14 25 04.4 +0.9
baz=94,SNR=109
J14A ⇓P P 14 25 04.4 +0.9
baz=94,SNR=109
J14A ⇓P P 14 25 04.4 +0.9
baz=94,SNR=109
H12A Diamond D Ranc 93.97 40 ⇓P P 14 25 03.7 +0.2
baz=94,SNR=68
H12A ⇓P P 14 25 03.7 +0.2
baz=94,SNR=68
H12A ⇓P P 14 25 03.7 +0.2
baz=94,SNR=68
R20A Redvale 93.97 48 ⇓P P 14 25 04.4 +0.6
baz=94,SNR=9.9
R20A ⇓P P 14 25 04.4 +0.6
baz=94,SNR=9.9
R20A ⇓P P 14 25 04.4 +0.6
baz=94,SNR=9.9
I13A Wildhorse Cree 93.98 41 ⇑P P 14 25 04.1 +0.5
baz=94,SNR=30
I13A ⇑P P 14 25 04.1 +0.5
baz=94,SNR=30
I13A ⇑P P 14 25 04.1 +0.5
baz=94,SNR=30
Y25A Mesa, Roswell 94.00 53 ⇑P P 14 25 04.1 +0.2
baz=94,SNR=48
Y25A ⇑P P 14 25 04.1 +0.2
baz=94,SNR=48
Y25A ⇑P P 14 25 04.1 +0.2
baz=94,SNR=48
V23A Ortiz Mt. (NFS 94.01 51 ⇓P P 14 25 05.1 +1.1
baz=94,SNR=8.1
V23A ⇓P P 14 25 05.1 +1.1
baz=94,SNR=8.1
V23A ⇓P P 14 25 05.1 +1.1
baz=94,SNR=8.1
S21A Coal Bank Pass 94.05 48 ⇓P P 14 25 05.0 +0.7
baz=94,SNR=19
S21A ⇓P P 14 25 05.0 +0.7
baz=94,SNR=19
S21A ⇓P P 14 25 05.0 +0.7
baz=94,SNR=19
N17A Moffit Pass 94.07 44 ⇑P P 14 25 04.6 +0.4
baz=94,SNR=20
N17A ⇑P P 14 25 04.6 +0.4
baz=94,SNR=20
N17A ⇑P P 14 25 04.6 +0.4
baz=94,SNR=20
CPRX Cap Rock 94.08 54 *e*P P 14 25 04.1 -0.2
comp=Z,52nm,0.9s
XAN Xi'an 94.11 307 P P 14 25 04.4 +0.1
XAN sP sP 14 25 11.4 -6.6
XAN SKS **SKSac** 14 35 34.5 -2.5
XAN S **SKKSac** 14 36 04.9 +7.2
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=N,4µm,25.2s
XAN LR LR
comp=E,920nm,23.4s
XAN LR LR
comp=Z,2µm,18.7s
K15A Arbon 94.13 42 ⇑P P 14 25 04.7 +0.4
baz=94,SNR=74
K15A ⇑P P 14 25 04.7 +0.4
baz=94,SNR=74
K15A ⇑P P 14 25 04.7 +0.4
baz=94,SNR=74
Z26A Caprock 94.14 54 ⇑P P 14 25 04.7 +0.2
baz=94,SNR=18
Z26A ⇑P P 14 25 04.7 +0.2
baz=94,SNR=18
Z26A ⇑P P 14 25 04.7 +0.2
baz=94,SNR=18
W24A Lazy 6 Ranch, 94.23 52 ⇑P P 14 25 05.2 +0.2
baz=94,SNR=24
W24A ⇑P P 14 25 05.2 +0.2
baz=94,SNR=24
W24A ⇑P P 14 25 05.2 +0.2
baz=94,SNR=24
127A Arkansas Junct 94.25 55 ⇓P P 14 25 04.9 -0.2
baz=94,SNR=9.4
127A ⇓P P 14 25 04.9 -0.2
baz=94,SNR=9.4
127A ⇓P P 14 25 04.9 -0.2
baz=94,SNR=9.4
T22A Edith 94.25 49 ⇓P P 14 25 06.0 +0.8
baz=94,SNR=5.5
T22A ⇓P P 14 25 06.0 +0.8
baz=94,SNR=5.5
T22A ⇓P P 14 25 06.0 +0.8
baz=94,SNR=5.5
H13A Challis 94.31 40 ⇑P P 14 25 05.6 +0.5
baz=95,SNR=40
H13A ⇑P P 14 25 05.6 +0.5
baz=95,SNR=40
H13A ⇑P P 14 25 05.6 +0.5
baz=95,SNR=40
U23A El Rito 94.33 50 ⇓P P 14 25 06.2 +0.7
baz=95,SNR=17
U23A ⇓P P 14 25 06.2 +0.7
baz=95,SNR=17
U23A ⇓P P 14 25 06.2 +0.7
baz=95,SNR=17
X25A Clemmons Ranch 94.36 52 ⇑P P 14 25 06.1 +0.6
baz=95
X25A ⇑P P 14 25 06.1 +0.6
baz=95
X25A ⇑P P 14 25 06.1 +0.6
baz=95
L16A Fish Haven 94.36 43 ⇓P P 14 25 05.6 +0.1
baz=95,SNR=15
L16A ⇓P P 14 25 05.6 +0.1
baz=95,SNR=15
L16A ⇓P P 14 25 05.6 +0.1
baz=95,SNR=15
I14A Mackay 94.37 41 ⇑P P 14 25 06.0 +0.7
baz=95,SNR=57
I14A ⇑P P 14 25 06.0 +0.7
baz=95,SNR=57
I14A ⇑P P 14 25 06.0 +0.7
baz=95,SNR=57
PMR Palmer 94.41 13 *e*P P 14 25 04.9 +0.1
PMR pmax pmax
comp=Z,60nm,0.7s
PMR Palmer 94.41 13 *e*P P 14 25 04.9 +0.1
comp=Z,60nm,0.7s
P19A Cripple Cowboy 94.44 46 ⇑P P 14 25 06.1 +0.2
baz=95,SNR=9.9
P19A ⇑P P 14 25 06.1 +0.2
baz=95,SNR=9.9
P19A ⇑P P 14 25 06.1 +0.2
baz=95,SNR=9.9
Q20A Ridgley Place, 94.47 47 ⇓P P 14 25 06.3 +0.3
baz=95,SNR=21
Q20A ⇓P P 14 25 06.3 +0.3
baz=95,SNR=21
Q20A ⇓P P 14 25 06.3 +0.3
baz=95,SNR=21
M17A Scullys Gap (B 94.49 44 ⇓P P 14 25 05.9 -0.1
baz=95,SNR=14
M17A ⇓P P 14 25 05.9 -0.1
baz=95,SNR=14
M17A ⇓P P 14 25 05.9 -0.1
baz=95,SNR=14
F12A Elk City 94.52 39 ⇓P P 14 25 05.8 -0.2
baz=95,SNR=57
F12A ⇓P P 14 25 05.8 -0.2
baz=95,SNR=57
F12A ⇓P P 14 25 05.8 -0.2
baz=95,SNR=57
ATAH Atahualpa 94.55 101 P P 14 25 09.8 +2.5
comp=Z,7.6nm,0.7s,baz=216,slow=1.1,SNR=13
ATAH S **SKSac** 14 35 40.6 -0.5
comp=Z,2.4nm,0.5s,baz=88,slow=14,SNR=2.1
ATAH Atahualpa 94.55 101 P P 14 25 09.8 +2.5
ATAH S **SKSac** 14 35 40.6 -0.5
WRAK Wrangell Islan 94.55 23 P P 14 25 06.7 +1.1
comp=Z,57nm,0.9s
WRAK LR LR
comp=Z,6µm,21.0s
Y26A Elida 94.60 53 ⇓P P 14 25 06.7 +0.1
baz=95
Y26A ⇓P P 14 25 06.7 +0.1
baz=95
Y26A ⇓P P 14 25 06.7 +0.1
baz=95
R21A Cimarron 94.61 48 ⇓P P 14 25 07.5 +0.8
baz=95,SNR=39
R21A ⇓P P 14 25 07.5 +0.8
baz=95,SNR=39
R21A ⇓P P 14 25 07.5 +0.8
baz=95,SNR=39
V24A Rampart Ranch, 94.61 51 ⇓P P 14 25 07.7 +0.9
baz=95,SNR=23
V24A ⇓P P 14 25 07.7 +0.9
baz=95,SNR=23
V24A ⇓P P 14 25 07.7 +0.9
baz=95,SNR=23
J15A Blackfoot 94.62 42 ⇓P P 14 25 07.6 +1.1
baz=95,SNR=81
J15A ⇓P P 14 25 07.6 +1.1
baz=95,SNR=81
J15A ⇓P P 14 25 07.6 +1.1
baz=95,SNR=81
G13A Cobalt 94.66 40 ⇓P P 14 25 07.1 +0.4
baz=95,SNR=38
G13A ⇓P P 14 25 07.1 +0.4
baz=95,SNR=38
G13A ⇓P P 14 25 07.1 +0.4
baz=95,SNR=38
Z27A Tatum 94.70 54 ⇓P P 14 25 06.9 -0.2
baz=95,SNR=14
Z27A ⇓P P 14 25 06.9 -0.2
baz=95,SNR=14
Z27A ⇓P P 14 25 06.9 -0.2
baz=95,SNR=14
DIV Divide 94.71 15 *e*P P 14 25 07.0 +0.7
comp=Z,78nm,0.9s
S22A 4UR Ranch, Cre 94.72 49 ⇑P P 14 25 08.1 +0.8
baz=95,SNR=24
S22A ⇑P P 14 25 08.1 +0.8
baz=95,SNR=24
S22A ⇑P P 14 25 08.1 +0.8
baz=95,SNR=24
P20A De Beque 94.73 47 ⇑P P 14 25 07.8 +0.6
baz=95
P20A ⇑P P 14 25 07.8 +0.6
baz=95
P20A ⇑P P 14 25 07.8 +0.6
baz=95
O19A Miners Draw (B 94.74 46 ⇓P P 14 25 07.3 +0.2
baz=95,SNR=16
O19A ⇓P P 14 25 07.3 +0.2
baz=95,SNR=16
O19A ⇓P P 14 25 07.3 +0.2
baz=95,SNR=16
L17A Cokeville 94.75 43 ⇓P P 14 25 06.8 -0.4
baz=95,SNR=11
L17A ⇓P P 14 25 06.8 -0.4
baz=95,SNR=11
L17A ⇓P P 14 25 06.8 -0.4
baz=95,SNR=11
K16A Soda Springs 94.77 43 ⇓P P 14 25 07.9 +0.7
baz=95,SNR=42
K16A ⇓P P 14 25 07.9 +0.7
baz=95,SNR=42
K16A ⇓P P 14 25 07.9 +0.7
baz=95,SNR=42
SML Sawmill 94.77 14 *e*P P 14 25 06.7 +0.1
SML pmax pmax
comp=Z,16nm,0.9s
SML Sawmill 94.77 14 *e*P P 14 25 06.7 +0.1
comp=Z,16nm,0.9s
E12A Beaver Dam Sad 94.77 38 ⇑P P 14 25 07.5 +0.4
baz=95
E12A ⇑P P 14 25 07.5 +0.4
baz=95
E12A ⇑P P 14 25 07.5 +0.4
baz=95
M18A Lyman 94.83 44 ⇑P P 14 25 07.8 +0.2
baz=95,SNR=5.9
M18A ⇑P P 14 25 07.8 +0.2
baz=95,SNR=5.9
M18A ⇑P P 14 25 07.8 +0.2
baz=95,SNR=5.9
BMRM Bremner River 94.83 16 *e*P P 14 25 07.4 +0.5
comp=Z,109nm,0.7s
T23A Casias Ranch, 94.84 50 ⇑P P 14 25 08.6 +0.8
baz=95,SNR=7.8
T23A ⇑P P 14 25 08.6 +0.8
baz=95,SNR=7.8
T23A ⇑P P 14 25 08.6 +0.8
baz=95,SNR=7.8
H14A Leadore 94.84 40 ⇓P P 14 25 08.1 +0.5
baz=95,SNR=65
H14A ⇓P P 14 25 08.1 +0.5
baz=95,SNR=65
H14A ⇓P P 14 25 08.1 +0.5
baz=95,SNR=65
Q21A Lamborn Mesa, 94.86 48 ⇑P P 14 25 08.4 +0.6
baz=95
Q21A ⇑P P 14 25 08.4 +0.6
baz=95
Q21A ⇑P P 14 25 08.4 +0.6
baz=95
W25A X Bar L Ranch, 94.88 52 ⇓P P 14 25 08.0 +0.1
baz=95,SNR=37
W25A ⇓P P 14 25 08.0 +0.1
baz=95,SNR=37
W25A ⇓P P 14 25 08.0 +0.1
baz=95,SNR=37
X26A CR and CF Fran 94.96 53 ⇓P P 14 25 08.4 +0.1
baz=95,SNR=12
X26A ⇓P P 14 25 08.4 +0.1
baz=95,SNR=12
X26A ⇓P P 14 25 08.4 +0.1
baz=95,SNR=12
I15A Monteview 94.96 41 ⇓P P 14 25 08.9 +0.9
baz=95,SNR=14
I15A ⇓P P 14 25 08.9 +0.9
baz=95,SNR=14
I15A ⇓P P 14 25 08.9 +0.9
baz=95,SNR=14
J16A Bone 95.02 42 ⇓P P 14 25 09.1 +0.7
baz=95,SNR=43
J16A ⇓P P 14 25 09.1 +0.7
baz=95,SNR=43
J16A ⇓P P 14 25 09.1 +0.7
baz=95,SNR=43
F13A Darby 95.04 39 ⇓P P 14 25 08.0 -0.4
baz=95,SNR=35
F13A ⇓P P 14 25 08.0 -0.4
baz=95,SNR=35
F13A ⇓P P 14 25 08.0 -0.4
baz=95,SNR=35
R22A Saguache, Gunn 95.04 48 ⇑P P 14 25 10.1 +1.3
baz=95,SNR=6.1
R22A ⇑P P 14 25 10.1 +1.3
baz=95,SNR=6.1
R22A ⇑P P 14 25 10.1 +1.3
baz=95,SNR=6.1
Y27A Causey 95.04 54 ⇓P P 14 25 08.5 -0.1
baz=95
Y27A ⇓P P 14 25 08.5 -0.1
baz=95
Y27A ⇓P P 14 25 08.5 -0.1
baz=95
PPLA Purkeypile 95.05 11 *e*P P 14 25 07.5 -0.5
comp=Z,45nm,1.1s
N19A John Jarvie Ra 95.05 45 ⇓P P 14 25 08.9 +0.3
baz=95,SNR=9.1
N19A ⇓P P 14 25 08.9 +0.3
baz=95,SNR=9.1
N19A ⇓P P 14 25 08.9 +0.3
baz=95,SNR=9.1
K17A Gardner Place, 95.11 43 ⇑P P 14 25 09.3 +0.4
baz=95,SNR=36
K17A ⇑P P 14 25 09.3 +0.4
baz=95,SNR=36
K17A ⇑P P 14 25 09.3 +0.4
baz=95,SNR=36
V25A Rancho No Teng 95.12 51 ⇑P P 14 25 09.4 +0.4
baz=95,SNR=19
V25A ⇑P P 14 25 09.4 +0.4
baz=95,SNR=19
V25A ⇑P P 14 25 09.4 +0.4
baz=95,SNR=19
L18A Fontenelle, Gr 95.14 44 ⇑P P 14 25 09.6 +0.5
baz=95,SNR=6.5
L18A ⇑P P 14 25 09.6 +0.5
baz=95,SNR=6.5
L18A ⇑P P 14 25 09.6 +0.5
baz=95,SNR=6.5
NEW Newport 95.16 36 *e*P P 14 25 07.9 -0.8
NEW pmax pmax
comp=Z,14nm,0.9s
NEW MLR MLR
comp=Z,9µm,22.0s
NEW Newport 95.16 36 *e*P P 14 25 07.9 -0.8
comp=Z,14nm,0.9s
NEW LR LR
comp=Z,9µm,22.0s
NEW Newport 95.16 36 ⇑P P 14 25 08.9 +0.2
baz=95,SNR=7.5
NEW ⇑P P 14 25 08.9 +0.2
baz=95,SNR=7.5
NEW ⇑P P 14 25 08.9 +0.2
baz=95,SNR=7.5
G14A Jackson 95.18 40 ⇑P P 14 25 09.4 +0.3
baz=96,SNR=16
G14A ⇑P P 14 25 09.4 +0.3
baz=96,SNR=16
G14A ⇑P P 14 25 09.4 +0.3
baz=96,SNR=16
RRI2 Red Ridge 95.23 42 *e*P P 14 25 09.4 -0.1
comp=Z,17nm,0.8s
H15A Lima 95.25 41 ⇑P P 14 25 10.2 +0.8
baz=96,SNR=13
H15A ⇑P P 14 25 10.2 +0.8
baz=96,SNR=13
H15A ⇑P P 14 25 10.2 +0.8
baz=96,SNR=13
MCMT McKenzie Canyo 95.26 40 *e*P P 14 25 09.6 +0.1
comp=Z,17nm,1.0s
W26A Owens Ranch, T 95.28 52 ⇓P P 14 25 09.8 0.0
baz=96
W26A ⇓P P 14 25 09.8 0.0
baz=96
W26A ⇓P P 14 25 09.8 0.0
baz=96
Q22A Crested Butte, 95.30 48 ⇑P P 14 25 10.6 +0.6
baz=96,SNR=9.9
Q22A ⇑P P 14 25 10.6 +0.6
baz=96,SNR=9.9
Q22A ⇑P P 14 25 10.6 +0.6
baz=96,SNR=9.9

C11A Tepee Creek (N 95.33 37 ⇓P P 14 25 10.4 +0.9
baz=96
C11A ⇓P P 14 25 10.4 +0.9
baz=96
C11A ⇓P P 14 25 10.4 +0.9
baz=96
MSTX Muleshoe 95.36 54 ⇓P P 14 25 09.9 -0.2
baz=96,SNR=16
MSTX ⇓P P 14 25 09.9 -0.2
baz=96,SNR=16
MSTX ⇓P P 14 25 09.9 -0.2
baz=96,SNR=16
M19A Rock Springs 95.42 45 ⇓P P 14 25 10.2 -0.1
baz=96
M19A ⇓P P 14 25 10.2 -0.1
baz=96
M19A ⇓P P 14 25 10.2 -0.1
baz=96
SMCO Snowmass 95.44 48 eP P 14 25 10.2 -0.5
comp=Z,18nm,0.9s
I16A Newdale 95.46 42 ⇓P P 14 25 11.2 +0.9
baz=96
I16A ⇓P P 14 25 11.2 +0.9
baz=96
I16A ⇓P P 14 25 11.2 +0.9
baz=96
DCID1 Drake Creek 95.46 42 eP P 14 25 10.7 +0.3
comp=Z,73nm,1.2s
X27A F and S Farms, 95.50 53 ⇑P P 14 25 11.1 +0.3
baz=96
X27A ⇑P P 14 25 11.1 +0.3
baz=96
X27A ⇑P P 14 25 11.1 +0.3
baz=96
T24A Torres, Weston 95.51 50 ⇓P P 14 25 11.7 +0.8
baz=96
T24A ⇓P P 14 25 11.7 +0.8
baz=96
T24A ⇓P P 14 25 11.7 +0.8
baz=96
REDW Red Top Meadow 95.52 42 eP P 14 25 10.2 -0.5
comp=Z,48nm,1.0s
E13A Victor 95.53 39 ⇑P P 14 25 10.8 +0.3
baz=96,SNR=14
E13A ⇑P P 14 25 10.8 +0.3
baz=96,SNR=14
E13A ⇑P P 14 25 10.8 +0.3
baz=96,SNR=14
KVTX Kingsville 95.54 61 P P 14 25 16.0 +5.1
comp=Z,76nm,1.2s
KVTX LR LR
comp=Z,4µm,20.0s
K18A Toltan Ranch, 95.56 43 ⇑P P 14 25 11.3 +0.4
baz=96,SNR=33
K18A ⇑P P 14 25 11.3 +0.4
baz=96,SNR=33
K18A ⇑P P 14 25 11.3 +0.4
baz=96,SNR=33
U25A Circle Dot Ran 95.57 51 ⇓P P 14 25 11.9 +0.8
baz=96,SNR=11
U25A ⇓P P 14 25 11.9 +0.8
baz=96,SNR=11
U25A ⇓P P 14 25 11.9 +0.8
baz=96,SNR=11
F14A Wisdom 95.58 39 ⇓P P 14 25 11.0 +0.1
baz=96,SNR=12
F14A ⇓P P 14 25 11.0 +0.1
baz=96,SNR=12
F14A ⇓P P 14 25 11.0 +0.1
baz=96,SNR=12
N20A Spence Gulch, 95.58 46 ⇓P P 14 25 11.7 +0.6
baz=96,SNR=14
N20A ⇓P P 14 25 11.7 +0.6
baz=96,SNR=14
N20A ⇓P P 14 25 11.7 +0.6
baz=96,SNR=14
J17A Brown Place, J 95.60 42 ⇑P P 14 25 11.6 +0.5
baz=96,SNR=46
J17A ⇑P P 14 25 11.6 +0.5
baz=96,SNR=46
J17A ⇑P P 14 25 11.6 +0.5
baz=96,SNR=46
R23A Moffat 95.62 49 ⇓P P 14 25 12.2 +0.8
baz=96,SNR=15
R23A ⇓P P 14 25 12.2 +0.8
baz=96,SNR=15
R23A ⇓P P 14 25 12.2 +0.8
baz=96,SNR=15
SNOW Snow King Moun 95.63 42 eP P 14 25 11.3 0.0
comp=Z,54nm,0.9s
JCT Junction City 95.63 58 eP P 14 25 10.0 -1.3
JCT pmax pmax
comp=Z,47nm,1.4s
JCT MLR MLR
comp=Z,5µm,19.0s
JCT Junction City 95.63 58 eP P 14 25 10.0 -1.3
comp=Z,48nm,1.4s
JCT LR LR
comp=Z,5µm,19.0s
JCT Junction City 95.63 58 ⇑P P 14 25 11.0 -0.3
baz=96
JCT ⇑P P 14 25 11.0 -0.3
baz=96
JCT ⇑P P 14 25 11.0 -0.3
baz=96
C12B Naegeli Ranch, 95.65 37 ⇑P P 14 25 10.7 -0.3
baz=96,SNR=15
C12B ⇑P P 14 25 10.7 -0.3
baz=96,SNR=15
C12B ⇑P P 14 25 10.7 -0.3
baz=96,SNR=15
L19A Farson 95.65 44 ⇓P P 14 25 11.7 +0.3
baz=96
L19A ⇓P P 14 25 11.7 +0.3
baz=96
L19A ⇓P P 14 25 11.7 +0.3
baz=96
G15A Dillon 95.67 40 ⇓P P 14 25 11.8 +0.4
baz=96,SNR=60
G15A ⇓P P 14 25 11.8 +0.4
baz=96,SNR=60
G15A ⇓P P 14 25 11.8 +0.4
baz=96,SNR=60
O21A Pagoda 95.72 46 ⇓P P 14 25 12.2 +0.4
baz=96
O21A ⇓P P 14 25 12.2 +0.4
baz=96
O21A ⇓P P 14 25 12.2 +0.4
baz=96
S24A Houchin Ranch, 95.72 50 ⇓P P 14 25 12.7 +0.8
baz=96,SNR=20
S24A ⇓P P 14 25 12.7 +0.8
baz=96,SNR=20
S24A ⇓P P 14 25 12.7 +0.8
baz=96,SNR=20
DLMT Dillon 95.73 40 eP P 14 25 11.4 -0.1
comp=Z,85nm,1.5s
TNA Tin City 95.79 4 eP P 14 25 12.2 +1.2
comp=Z,250nm,1.1s
LOHW Long Hollow 95.81 42 eP P 14 25 11.6 -0.5
comp=Z,67nm,1.4s
MOOW Moose Ponds 95.81 42 eP P 14 25 11.8 -0.3
comp=Z,32nm,1.4s
P22A Eagle 95.82 47 ⇓P P 14 25 13.1 +0.9
baz=96
P22A ⇓P P 14 25 13.1 +0.9
baz=96
P22A ⇓P P 14 25 13.1 +0.9
baz=96
SEY Seymchan 95.84 347 *c i* P P 14 25 10.1 -1.3
E14A Clinton 95.89 39 ⇓P P 14 25 12.5 +0.2
baz=96,SNR=14
E14A ⇓P P 14 25 12.5 +0.2
baz=96,SNR=14
E14A ⇓P P 14 25 12.5 +0.2
baz=96,SNR=14
TRF Thorofare Moun 95.90 12 eP P 14 25 10.7 -1.2
comp=Z,149nm,1.0s
MSO Missoula 95.91 38 PFAKE 14 25 20.0 +7.8
MSO LR LR
comp=Z,4µm,22.0s
MSO Missoula 95.91 38 ⇓P P 14 25 12.8 +0.5
baz=96
MSO ⇓P P 14 25 12.8 +0.5
baz=96
MSO ⇓P P 14 25 12.8 +0.5
baz=96
J18A Kendall Valley 95.91 43 ⇑P P 14 25 12.7 +0.2
baz=96,SNR=44
J18A ⇑P P 14 25 12.7 +0.2
baz=96,SNR=44
J18A ⇑P P 14 25 12.7 +0.2
baz=96,SNR=44
PD01 Pinedale Array 95.92 43 eP P 14 25 11.9 -0.7
BW06 Boulder Array 95.92 43 PFAKE 14 25 20.0 +7.4
BW06 LR LR
comp=Z,9µm,22.0s
BW06 Boulder Array 95.92 43 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
BW06 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
BW06 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
BW06 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
BW06 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
BW06 ⇓P P 14 25 12.4 -0.2
baz=96,SNR=19
PDAR Pinedale Array 95.92 43 P P 14 25 12.1 -0.6
comp=Z,9.5nm,0.8s,baz=201,slow=2.9,SNR=46
PDAR PP PP 14 29 03.0 -2.5
comp=Z,5.6nm,1.2s,baz=224,slow=4.1,SNR=4.5
PDAR PKKPbc PKKPbc 14 42 01.8 -0.2
comp=Z,5.6nm,0.6s,baz=80,slow=5.1,SNR=17
PDAR PKPPKP P'P'df 14 50 11.1 -0.4
comp=Z,0.5nm,0.4s,baz=27,slow=1.7,SNR=5.6
PDAR LR LR 15 00 57.5
comp=Z,7µm,21.8s,baz=231,slow=31
PDAR Pinedale Array 95.92 43 P P 14 25 12.1 -0.6
PDAR PP PP 14 29 03.0 -2.5
PDAR PKKPbc PKKPbc 14 42 01.8 -0.2
PDAR P'P' 14 50 11.1
PD02 Pinedale Array 95.93 43 eP P 14 25 11.9 -0.7
T25A Trinidad 95.97 50 ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
T25A ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
T25A ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
N21A Black Mountain 96.00 46 ⇓P P 14 25 13.3 +0.3
baz=96,SNR=12
N21A ⇓P P 14 25 13.3 +0.3
baz=96,SNR=12
N21A ⇓P P 14 25 13.3 +0.3
baz=96,SNR=12
I17A Pilgrim Ck. 96.01 42 ⇓P P 14 25 13.9 +0.9
baz=96,SNR=41
I17A ⇓P P 14 25 13.9 +0.9
baz=96,SNR=41
I17A ⇓P P 14 25 13.9 +0.9
baz=96,SNR=41
M20A Sweetwater, Wa 96.01 45 ⇓P P 14 25 13.4 +0.4
baz=96,SNR=10
M20A ⇓P P 14 25 13.4 +0.4
baz=96,SNR=10
M20A ⇓P P 14 25 13.4 +0.4
baz=96,SNR=10
U26A Atchley Ranch, 96.01 51 ⇑P P 14 25 13.3 +0.2
baz=96,SNR=12
U26A ⇑P P 14 25 13.3 +0.2
baz=96,SNR=12
U26A ⇑P P 14 25 13.3 +0.2
baz=96,SNR=12
SKAG Skagway 96.02 20 eP P 14 25 14.5 +2.2
comp=Z,32nm,1.0s
FLWY Flagg Ranch 96.03 42 eP P 14 25 13.6 +0.5
comp=Z,105nm,1.4s
QLMT Earthquake Lak 96.06 41 eP P 14 25 14.7 +1.5
comp=Z,5.7nm,1.1s
B12A Libby 96.08 36 ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
B12A ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
B12A ⇑P P 14 25 13.3 +0.4
baz=96,SNR=12
F15A Butte 96.08 40 ⇑P P 14 25 14.0 +0.8
baz=96,SNR=6.8
F15A ⇑P P 14 25 14.0 +0.8
baz=96,SNR=6.8
F15A ⇑P P 14 25 14.0 +0.8
baz=96,SNR=6.8
H16A Russell Place, 96.09 41 ⇑P P 14 25 14.2 +1.0
baz=96,SNR=30
H16A ⇑P P 14 25 14.2 +1.0
baz=96,SNR=30
H16A ⇑P P 14 25 14.2 +1.0
baz=96,SNR=30
G16A Moss Hill, Enn 96.09 41 ⇑P P 14 25 13.6 +0.4
baz=96,SNR=23
G16A ⇑P P 14 25 13.6 +0.4
baz=96,SNR=23
G16A ⇑P P 14 25 13.6 +0.4
baz=96,SNR=23
LRM Limekiln Ridge 96.09 40 eP P 14 25 12.8 -0.5
comp=Z,91nm,1.0s
BSMT Bassoo Peak 96.10 37 eP P 14 25 13.2 0.0
comp=Z,14nm,1.0s
CD2 Chengdu 96.10 302 ⇑P P 14 25 14.3 +0.9
CD2 pP pP 14 25 19.0 -4.6
CD2 sP sP 14 25 21.3 -5.9
CD2 PP PP 14 29 09.4 +2.5
CD2 SKS SKSac 14 35 50.4 +2.6
CD2 S S 14 36 30.0 -0.5
CD2 sS ScS 14 36 37.4 +6.3
CD2 SS SS 14 43 05.3 +2.3
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,2µm,11.6s
CD2 LR LR
comp=E,4µm,22.7s
CD2 LR LR
comp=Z,5µm,27.6s
R24A Sanders Place, 96.12 49 ⇑P P 14 25 14.4 +0.9
baz=96
R24A ⇑P P 14 25 14.4 +0.9
baz=96
R24A ⇑P P 14 25 14.4 +0.9
baz=96
YFT Old Faithful 96.18 42 eP P 14 25 15.1 +1.4
comp=Z,86nm,1.4s
HHC Hu-ho-hao-te 96.20 314 eP P 14 25 13.5 -0.2
HHC sP sP 14 25 18.9 -8.6
HHC PP PP 14 29 09.3 +1.7
HHC SKS SKSac 14 35 48.3 +0.3
HHC S S 14 36 28.8 -2.2
HHC sS ScS 14 36 37.1 +5.5
HHC SS SS 14 43 04.8 +0.6
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,1µm,7.5s
HHC LR LR
comp=N,4µm,17.3s
HHC LR LR
comp=E,5µm,17.2s
HHC LR LR
comp=Z,13µm,17.5s
L20A Wamsutter 96.21 45 ⇑P P 14 25 14.6 +0.7
baz=96,SNR=21
L20A ⇑P P 14 25 14.6 +0.7
baz=96,SNR=21
L20A ⇑P P 14 25 14.6 +0.7
baz=96,SNR=21
YMR Madison River 96.23 41 eP P 14 25 14.6 +0.7
comp=Z,120nm,1.4s
S25A Robets Cordova 96.24 50 ⇑P P 14 25 14.5 +0.4
baz=96,SNR=15
S25A ⇑P P 14 25 14.5 +0.4
baz=96,SNR=15
S25A ⇑P P 14 25 14.5 +0.4
baz=96,SNR=15
O22A Kremmling 96.27 47 ⇑P P 14 25 14.7 +0.4
baz=96,SNR=16
O22A ⇑P P 14 25 14.7 +0.4
baz=96,SNR=16
O22A ⇑P P 14 25 14.7 +0.4
baz=96,SNR=16
P23A Jefferson 96.28 48 ⇑P P 14 25 16.4 +1.9
baz=96
P23A ⇑P P 14 25 16.4 +1.9
baz=96
P23A ⇑P P 14 25 16.4 +1.9
baz=96
H17A Grant Village 96.29 42 ⇑P P 14 25 15.6 +1.4
baz=97,SNR=19
H17A ⇑P P 14 25 15.6 +1.4
baz=97,SNR=19
H17A ⇑P P 14 25 15.6 +1.4
baz=97,SNR=19
D14A Greenough 96.30 38 ⇓P P 14 25 14.1 0.0
baz=97,SNR=7.9
D14A ⇓P P 14 25 14.1 0.0
baz=97,SNR=7.9
D14A ⇓P P 14 25 14.1 0.0
baz=97,SNR=7.9
JTMT Jette 96.30 37 eP P 14 25 14.8 +0.8
comp=Z,5.0nm,1.0s
SWMT Swartz Lake 96.30 38 eP P 14 25 14.9 +0.9
comp=Z,3.9nm,1.0s
I18A Diamond G Ranc 96.32 43 ⇑P P 14 25 14.6 +0.2
baz=97,SNR=9.7
I18A ⇑P P 14 25 14.6 +0.2
baz=97,SNR=9.7
I18A ⇑P P 14 25 14.6 +0.2
baz=97,SNR=9.7
CHMT Chamberlain Mo 96.33 39 eP P 14 25 13.6 -0.8
comp=Z,8.5nm,0.9s
A12A Yaak River Ran 96.34 36 ⇓P P 14 25 15.1 +0.9
baz=97,SNR=7.6
A12A ⇓P P 14 25 15.1 +0.9
baz=97,SNR=7.6
A12A ⇓P P 14 25 15.1 +0.9
baz=97,SNR=7.6
E15A Deer Lodge 96.36 39 ⇑P P 14 25 15.0 +0.7
baz=97,SNR=16
E15A ⇑P P 14 25 15.0 +0.7
baz=97,SNR=16
E15A ⇑P P 14 25 15.0 +0.7
baz=97,SNR=16
K19A Absolon Red Bu 96.38 44 ⇑P P 14 25 14.1 -0.5
baz=97
K19A ⇑P P 14 25 14.1 -0.5
baz=97
K19A ⇑P P 14 25 14.1 -0.5
baz=97
MCK McKinley 96.40 13 eP P 14 25 12.8 -1.2
MCK pmax pmax
comp=Z,78nm,0.9s
MCK McKinley 96.40 13 eP P 14 25 12.8 -1.2
comp=Z,78nm,0.9s
PAX Paxson 96.41 14 eP P 14 25 13.3 -0.8
PAX pmax pmax
comp=Z,94nm,1.3s
PAX Paxson 96.41 14 eP P 14 25 13.3 -0.8
comp=Z,94nm,1.3s
YNR Norris Junctio 96.42 41 P P 14 25 14.8 0.0
comp=Z,45nm,1.2s
BOZ Bozeman (W) 96.44 40 eP P 14 25 13.9 -0.9
BOZ pmax pmax
comp=Z,66nm,1.4s
BOZ MLR MLR
comp=Z,5µm,22.0s
BOZ Bozeman (W) 96.44 40 eP P 14 25 13.9 -0.9
comp=Z,66nm,1.4s
BOZ LR LR
comp=Z,5µm,22.0s
BOZ Bozeman (W) 96.44 40 ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
BOZ ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
BOZ ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
BOZ ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
BOZ ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
BOZ ⇑P P 14 25 15.6 +0.8
baz=97,SNR=46
LKWY Lake 96.50 42 eP P 14 25 16.7 +1.5
LKWY pmax pmax
comp=Z,23nm,1.0s
LKWY MLR MLR
comp=Z,12µm,19.0s
LKWY Lake 96.50 42 eP P 14 25 16.7 +1.5
comp=Z,23nm,1.0s
LKWY LR LR
comp=Z,12µm,19.0s
J19A Crowheart 96.52 43 ⇓P P 14 25 15.1 -0.1
baz=97,SNR=18
J19A ⇓P P 14 25 15.1 -0.1
baz=97,SNR=18
J19A ⇓P P 14 25 15.1 -0.1
baz=97,SNR=18
F16A Kennard Place, 96.53 40 ⇑P P 14 25 15.9 +0.7
baz=97,SNR=19
F16A ⇑P P 14 25 15.9 +0.7
baz=97,SNR=19
F16A ⇑P P 14 25 15.9 +0.7
baz=97,SNR=19
T26A Comanche Natio 96.54 51 ⇓P P 14 25 15.5 +0.1
baz=97
T26A ⇓P P 14 25 15.5 +0.1
baz=97
T26A ⇓P P 14 25 15.5 +0.1
baz=97
M21A Separation Pea 96.58 45 ⇓P P 14 25 15.6 0.0
baz=97,SNR=11
M21A ⇓P P 14 25 15.6 0.0
baz=97,SNR=11
M21A ⇓P P 14 25 15.6 0.0
baz=97,SNR=11
K20A Yellowstone Ra 96.59 44 ⇑P P 14 25 15.2 -0.4
baz=97,SNR=11
K20A ⇑P P 14 25 15.2 -0.4
baz=97,SNR=11
K20A ⇑P P 14 25 15.2 -0.4
baz=97,SNR=11
AMTX Amarillo 96.61 53 eP P 14 25 15.3 -0.4
comp=Z,31nm,1.2s
AMTX LR LR
comp=Z,5µm,22.0s
AMTX Amarillo 96.61 53 ⇑P P 14 25 15.7 -0.1
baz=97
AMTX ⇑P P 14 25 15.7 -0.1
baz=97
AMTX ⇑P P 14 25 15.7 -0.1
baz=97
AMTX ⇑P P 14 25 15.7 -0.1
baz=97
AMTX ⇑P P 14 25 15.7 -0.1
baz=97
AMTX ⇑P P 14 25 15.7 -0.1
baz=97
HIA Hailar 96.65 324 P P 14 25 15.2 -0.2
HIA pmax pmax
comp=Z,36nm,1.3s
HIA MLR MLR
comp=Z,9µm,22.0s
HIA Hailar 96.65 324 P P 14 25 15.2 -0.2
comp=Z,36nm,1.3s
HIA LR LR
comp=Z,9µm,22.0s
ISCO Idaho Springs 96.66 48 eP P 14 25 16.7 +0.6
ISCO pmax pmax
comp=Z,22nm,1.4s
ISCO MLR MLR
comp=Z,5µm,20.0s
ISCO Idaho Springs 96.66 48 eP P 14 25 16.7 +0.6
comp=Z,22nm,1.4s
ISCO LR LR
comp=Z,5µm,20.0s
O23A Lake Granby, G 96.70 47 ⇑P P 14 25 17.2 +1.0
baz=97,SNR=8.7
O23A ⇑P P 14 25 17.2 +1.0
baz=97,SNR=8.7
O23A ⇑P P 14 25 17.2 +1.0
baz=97,SNR=8.7
RWWY Rawlins 96.72 45 eP P 14 25 15.9 -0.4
comp=Z,30nm,0.9s
MENT Mentasta 96.76 15 eP P 14 25 16.5 +0.9
D15A Lincoln 96.80 39 ⇓P P 14 25 17.1 +0.8
baz=97,SNR=6.4
D15A ⇓P P 14 25 17.1 +0.8
baz=97,SNR=6.4
D15A ⇓P P 14 25 17.1 +0.8
baz=97,SNR=6.4
DLBC Dease Lake 96.92 23 LR LR 15 01 45.6
comp=Z,8µm,21.3s,baz=140,slow=31
DLBC Dease Lake 96.92 23 eP P 14 25 18.0 +1.5
M22A Cedar Creek Ra 96.94 46 ⇑P P 14 25 18.4 +1.2
baz=97,SNR=7.1

M22A ⇑P **P** **14 25 18.4 +1.2**
baz=97,SNR=7.1
M22A ⇑P **P** **14 25 18.4 +1.2**
baz=97,SNR=7.1
E16A **East Helena** **96.95** **40** ⇑P **P** **14 25 18.4 +1.4**
baz=97
E16A ⇑P **P** **14 25 18.4 +1.4**
baz=97
E16A ⇑P **P** **14 25 18.4 +1.4**
baz=97
HRY **Holter Researc** **96.98** **39** *e*P **P** **14 25 16.9 -0.2**
comp=Z,10nm,0.7s
H18A **Shoshone NF, C** **96.98** **42** ⇓P **P** **14 25 17.8 +0.4**
baz=97,SNR=21
H18A ⇓P **P** **14 25 17.8 +0.4**
baz=97,SNR=21
H18A ⇓P **P** **14 25 17.8 +0.4**
baz=97,SNR=21
I19A **Meeteetse** **97.00** **43** ⇓P Pdif 14 25 17.8 +0.3
baz=97,SNR=21
I19A ⇓P Pdif 14 25 17.8 +0.3
baz=97,SNR=21
I19A ⇓P Pdif 14 25 17.8 +0.3
baz=97,SNR=21
BTO **Baotou** **97.03** **313** *e*P **P** **14 25 17.3 -0.2**
F17A **Fitzpatrick Pl** **97.14** **40** ⇓P Pdif 14 25 18.5 +0.4
baz=97
F17A ⇓P Pdif 14 25 18.5 +0.4
baz=97
F17A ⇓P Pdif 14 25 18.5 +0.4
baz=97
J20A **Shoshoni** **97.14** **44** ⇓P Pdif 14 25 18.4 +0.3
baz=97,SNR=15
J20A ⇓P Pdif 14 25 18.4 +0.3
baz=97,SNR=15
J20A ⇓P Pdif 14 25 18.4 +0.3
baz=97,SNR=15
B14A **Marquette Ranc** **97.21** **37** ⇑P **P** **14 25 17.8 -0.4**
baz=98,SNR=10
B14A ⇑P **P** **14 25 17.8 -0.4**
baz=98,SNR=10
B14A ⇑P **P** **14 25 17.8 -0.4**
baz=98,SNR=10
K21A **Alcova** **97.23** **45** ⇓P **P** **14 25 18.2 -0.3**
baz=98,SNR=26
K21A ⇓P **P** **14 25 18.2 -0.3**
baz=98,SNR=26
K21A ⇓P **P** **14 25 18.2 -0.3**
baz=98,SNR=26
R26A **Arlington** **97.25** **50** ⇓P Pdif 14 25 19.0 +0.3
baz=98
R26A ⇓P Pdif 14 25 19.0 +0.3
baz=98
R26A ⇓P Pdif 14 25 19.0 +0.3
baz=98
WALA **Waterton Lakes** **97.31** **37** *e*P **P** **14 25 17.8 -0.8**
comp=Z,0.6nm,0.9s
DOT **Dot Lake** **97.31** **14** *e*P **P** **14 25 18.0 -0.1**
comp=Z,28nm,0.9s
DOT *e*PP **PP** **14 29 14.2 -1.3**
D16A **Dana Ranch, Ca** **97.32** **39** ⇓P Pdif 14 25 18.9 +0.1
baz=98
D16A ⇓P Pdif 14 25 18.9 +0.1
baz=98
D16A ⇓P Pdif 14 25 18.9 +0.1
baz=98
H19A **Powell** **97.37** **42** ⇑P Pdif 14 25 19.8 +0.7
baz=98
H19A ⇑P Pdif 14 25 19.8 +0.7
baz=98
H19A ⇑P Pdif 14 25 19.8 +0.7
baz=98
L22A **Ellis Ranch, M** **97.39** **45** ⇑P Pdif 14 25 20.3 +1.0
baz=98,SNR=5.1
L22A ⇑P Pdif 14 25 20.3 +1.0
baz=98,SNR=5.1
L22A ⇑P Pdif 14 25 20.3 +1.0
baz=98,SNR=5.1
G18A **Lazy EL Ranch,** **97.42** **41** ⇓P Pdif 14 25 20.3 +1.0
baz=98
G18A ⇓P Pdif 14 25 20.3 +1.0
baz=98
G18A ⇓P Pdif 14 25 20.3 +1.0
baz=98
TGUH **Tegucigalpa,Un** **97.44** **78** PFAKE 14 25 30.0 +10
TGUH LR LR
comp=Z,6μm,21.0s
I20A **Worland** **97.46** **43** ⇑P Pdif 14 25 19.6 +0.1
baz=98
I20A ⇑P Pdif 14 25 19.6 +0.1
baz=98
I20A ⇑P Pdif 14 25 19.6 +0.1
baz=98
RLMT **Red Lodge** **97.47** **42** PFAKE 14 25 30.0 +10
RLMT LR LR
comp=Z,7μm,19.0s
RLMT **Red Lodge** **97.47** **42** ⇑P Pdif 14 25 20.5 +0.9
baz=98
RLMT ⇑P Pdif 14 25 20.5 +0.9
baz=98
RLMT ⇑P Pdif 14 25 20.5 +0.9
baz=98
RLMT ⇑P Pdif 14 25 20.5 +0.9
baz=98
RLMT ⇑P Pdif 14 25 20.5 +0.9
baz=98
RLMT ⇑P Pdif 14 25 20.5 +0.9
baz=98
A14A **Double T Ranch** **97.51** **37** ⇓P Pdif 14 25 20.0 +0.5
baz=98,SNR=18
A14A ⇓P Pdif 14 25 20.0 +0.5
baz=98,SNR=18
A14A ⇓P Pdif 14 25 20.0 +0.5
baz=98,SNR=18
J21A **Lysite** **97.52** **44** ⇓P Pdif 14 25 20.5 +0.7
baz=98,SNR=12
J21A ⇓P Pdif 14 25 20.5 +0.7
baz=98,SNR=12
J21A ⇓P Pdif 14 25 20.5 +0.7
baz=98,SNR=12
M23A **Laramie** **97.52** **46** ⇑P Pdif 14 25 20.8 +0.9
baz=98,SNR=5.6
M23A ⇑P Pdif 14 25 20.8 +0.9
baz=98,SNR=5.6
M23A ⇑P Pdif 14 25 20.8 +0.9
baz=98,SNR=5.6
JTS **JuntasAbangare** **97.59** **83** P Pdif 14 25 23.2 +2.6
comp=Z,4.9nm,0.9s,baz=238,slow=10,SNR=4.2
JTS S SKSac 14 35 41.8 -14
comp=Z,1.8nm,0.4s,baz=312,slow=15,SNR=2.1
JTS LR LR 14 59 49.7
comp=Z,4μm,21.9s,baz=235,slow=30
JTS **JuntasAbangare** **97.59** **83** P Pdif 14 25 23.2 +2.6
JTS pmax pmax
comp=Z,5.0nm,0.9s
JTS **JuntasAbangare** **97.59** **83** P Pdif 14 25 23.2 +2.6
JTS S SKSac 14 35 41.8 -14
PHWY **Pilot Hill** **97.59** **46** *e*P **P** **14 25 19.3 -1.0**
comp=Z,7.0nm,0.9s
COLA **College** **97.64** **12** *e*P **P** **14 25 18.7 -0.8**
COLA pmax pmax
comp=Z,59nm,0.8s
COLA MLR MLR
comp=Z,7μm,20.0s
COLA **College** **97.64** **12** *e*P **P** **14 25 18.7 -0.8**
comp=Z,59nm,0.8s
COLA LR LR
comp=Z,7μm,20.0s
F18A **Big Timber** **97.67** **41** ⇓P Pdif 14 25 21.3 +0.9
baz=98,SNR=14
F18A ⇓P Pdif 14 25 21.3 +0.9
baz=98,SNR=14
F18A ⇓P Pdif 14 25 21.3 +0.9
baz=98,SNR=14
C16A **Fuhringer Ranc** **97.68** **38** ⇑P **P** **14 25 20.2 0.0**
baz=98,SNR=5.8
C16A ⇑P **P** **14 25 20.2 0.0**
baz=98,SNR=5.8
C16A ⇑P **P** **14 25 20.2 0.0**
baz=98,SNR=5.8
K22A **Casper** **97.69** **45** ⇑P Pdif 14 25 20.8 +0.2
baz=98,SNR=12
K22A ⇑P Pdif 14 25 20.8 +0.2
baz=98,SNR=12
K22A ⇑P Pdif 14 25 20.8 +0.2
baz=98,SNR=12
N24A **Carr** **97.70** **47** ⇑P Pdif 14 25 22.3 +1.6
baz=98
N24A ⇑P Pdif 14 25 22.3 +1.6
baz=98
N24A ⇑P Pdif 14 25 22.3 +1.6
baz=98
ILAR **Eielson Array** **97.73** **13** P **P** **14 25 18.9 -1.0**
comp=Z,16nm,0.9s,baz=218,slow=4.7,SNR=40
ILAR PP **PP** **14 29 15.1 -3.5**
comp=Z,11nm,1.1s,baz=212,slow=6.6,SNR=5.2
ILAR PKiKP **PKiKP** **14 29 54.0 +0.3**
comp=Z,2.2nm,0.8s,baz=310,slow=3.5,SNR=8.7
ILAR PKKPbc **PKKPbc** **14 41 57.2 -0.4**
comp=Z,2.7nm,0.7s,baz=348,slow=2.2,SNR=4.1
ILAR PKPPKP P'P'df 14 50 11.8 +6.2
comp=Z,0.8nm,0.9s,baz=338,slow=2.4,SNR=5.6
ILAR LR LR 15 09 08.6
comp=Z,4μm,19.2s,baz=233,slow=35
ILAR **Eielson Array** **97.73** **13** P **P** **14 25 18.9 -1.0**
ILAR 14 29 15.1
ILAR pmax pmax
comp=Z,16nm,0.9s
ILAR pmax pmax
comp=Z,11nm,1.1s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR **Eielson Array** **97.73** **13** P **P** **14 25 18.9 -1.0**
ILAR PP **PP** **14 29 15.1 -3.5**
ILAR PKiKP **PKiKP** **14 29 54.0 +0.3**
ILAR PKKPbc **PKKPbc** **14 41 57.2 -0.4**
ILAR P'P' 14 50 11.8
H20A **Greybull** **97.84** **43** ⇓P Pdif 14 25 21.2 0.0
baz=98
H20A ⇓P Pdif 14 25 21.2 0.0
baz=98
H20A ⇓P Pdif 14 25 21.2 0.0
baz=98
D17A **Six Diamond Ra** **97.87** **39** ⇓P Pdif 14 25 21.2 0.0
baz=98
D17A ⇓P Pdif 14 25 21.2 0.0
baz=98
D17A ⇓P Pdif 14 25 21.2 0.0
baz=98
A15A **Johnson Ranch,** **97.87** **37** ⇓P **P** **14 25 21.1 0.0**
baz=98,SNR=13
A15A ⇓P **P** **14 25 21.1 0.0**
baz=98,SNR=13
A15A ⇓P **P** **14 25 21.1 0.0**
baz=98,SNR=13
I21A **Big Trails, Te** **97.88** **44** ⇑P **P** **14 25 21.1 -0.2**
baz=98,SNR=17
I21A ⇑P **P** **14 25 21.1 -0.2**
baz=98,SNR=17
I21A ⇑P **P** **14 25 21.1 -0.2**
baz=98,SNR=17
L23A **Garrett** **97.89** **46** ⇓P **P** **14 25 21.3 -0.2**
baz=98,SNR=15
L23A ⇓P **P** **14 25 21.3 -0.2**
baz=98,SNR=15
L23A ⇓P **P** **14 25 21.3 -0.2**
baz=98,SNR=15
E18A **Harlowton** **97.95** **40** ⇑P Pdif 14 25 22.3 +0.7
baz=98,SNR=6.0
E18A ⇑P Pdif 14 25 22.3 +0.7
baz=98,SNR=6.0
E18A ⇑P Pdif 14 25 22.3 +0.7
baz=98,SNR=6.0
LPAZ **La Paz** **98.10** **114** P Pdif 14 25 25.1 +1.4
comp=Z,3.4nm,0.7s,baz=251,slow=7.0,SNR=8.3
LPAZ S **SKSac** **14 35 57.5 -2.6**
comp=Z,0.9nm,0.7s,baz=131,slow=25,SNR=2.0
LPAZ PKKPbc **PKKPdf** **14 41 58.0 +0.4**
comp=Z,2.9nm,0.8s,baz=65,slow=6.1,SNR=7.4
LPAZ PKPPKP **P'P'df** **14 50 13.1 -1.2**
comp=Z,1.4nm,0.9s,baz=165,slow=2.8,SNR=4.3
LPAZ LR LR 15 00 50.2
comp=Z,3μm,21.9s,baz=148,slow=30
LPAZ **La Paz** **98.10** **114** P Pdif 14 25 25.1 +1.4
LPAZ S **SKSac** **14 35 57.5 -2.6**
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ smax smax
comp=N,1.0nm,0.7s
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ **La Paz** **98.10** **114** P Pdif 14 25 25.1 +1.4
LPAZ S **SKSac** **14 35 57.5 -2.6**
LPAZ PKKPbc **PKKPdf** **14 41 58.0 +0.4**
LPAZ P'P' 14 50 13.1
C17A **Wharram Farm,** **98.11** **39** ⇑P **P** **14 25 21.9 -0.3**
baz=98,SNR=20
C17A ⇑P **P** **14 25 21.9 -0.3**
baz=98,SNR=20
C17A ⇑P **P** **14 25 21.9 -0.3**
baz=98,SNR=20
J22A **Midwest** **98.14** **44** ⇑P **P** **14 25 22.0 -0.5**
baz=98,SNR=15
J22A ⇑P **P** **14 25 22.0 -0.5**
baz=98,SNR=15
J22A ⇑P **P** **14 25 22.0 -0.5**
baz=98,SNR=15
OTAV **Otavalo** **98.25** **95** *e*P Pdif 14 25 24.5 +0.3
comp=Z,21nm,1.9s
OTAV LR LR
comp=Z,4μm,22.0s
K23A **Bowen Ranch, D** **98.30** **45** ⇓P Pdif 14 25 23.7 +0.4
baz=99
K23A ⇓P Pdif 14 25 23.7 +0.4
baz=99
K23A ⇓P Pdif 14 25 23.7 +0.4
baz=99
D18A **Linhart Farms,** **98.38** **40** ⇑P Pdif 14 25 23.9 +0.5
baz=99
D18A ⇑P Pdif 14 25 23.9 +0.5
baz=99
D18A ⇑P Pdif 14 25 23.9 +0.5
baz=99
I22A **9 Mile Ranch,** **98.41** **44** ⇓P **P** **14 25 23.6 -0.1**
baz=99,SNR=17
I22A ⇓P **P** **14 25 23.6 -0.1**
baz=99,SNR=17
I22A ⇓P **P** **14 25 23.6 -0.1**
baz=99,SNR=17
A16A **West Butte Ran** **98.45** **38** ⇓P **P** **14 25 23.3 -0.4**
baz=99
A16A ⇓P **P** **14 25 23.3 -0.4**
baz=99
A16A ⇓P **P** **14 25 23.3 -0.4**
baz=99
B17A **L&G Farms, Che** **98.48** **38** ⇑P Pdif 14 25 24.0 +0.2
baz=99,SNR=8.5
B17A ⇑P Pdif 14 25 24.0 +0.2
baz=99,SNR=8.5
B17A ⇑P Pdif 14 25 24.0 +0.2
baz=99,SNR=8.5
WMOK **Wichita Mounta** **98.57** **55** PFAKE 14 25 40.0 +15
WMOK LR LR
comp=Z,4μm,21.0s
BILL **Bilibino** **98.68** **354** *c i*P **P** **14 25 23.8 -0.3**
BILL *e**PP **pP** **14 25 32.4 -1.8**
BILL *e* 14 29 25.7
BILL *e* 14 35 57.9
BILL pmax pmax
comp=Z,65nm,1.9s
BILL MLR MLR
comp=Z,8μm,22.0s
BILL **Bilibino** **98.68** **354** *e*P **P** **14 25 23.6 -0.5**
comp=Z,31nm,0.9s
BILL LR LR
comp=Z,7μm,20.0s
LZH **Lanzhou** **98.72** **307** *e*P Pdif 14 25 30.9 +5.6
LZH pP pP 14 25 33.3 -2.1
LZH sP sP 14 25 35.0 -4.0
LZH S **ScS** **14 36 55.4 +2.5**
LZH sS sS 14 37 04.0 -5.7
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,270nm,7.8s
LZH LR LR
comp=N,4μm,16.2s
LZH LR LR
comp=E,4μm,17.5s
LZH LR LR
comp=Z,12μm,20.0s
DAWY **Dawson** **98.74** **16** *e*P Pdif 14 25 25.6 +1.1
H22A **Clearmont** **98.88** **43** ⇓P Pdif 14 25 25.8 +0.1
baz=99,SNR=8.2
H22A ⇓P Pdif 14 25 25.8 +0.1
baz=99,SNR=8.2
H22A ⇓P Pdif 14 25 25.8 +0.1
baz=99,SNR=8.2
EGMT **Eagleton** **98.89** **39** PFAKE 14 25 40.0 +14
EGMT LR LR
comp=Z,6μm,19.0s
EGAK **Eagle** **98.93** **15** *e*P Pdif 14 25 26.1 +0.8
comp=Z,42nm,1.0s
EGAK LR LR
comp=Z,6μm,20.0s
B18A **Beardsley Farm** **99.09** **39** ⇓P **Pdif** **14 25 27.4 +0.9**
baz=99,SNR=6.1
B18A ⇓P **Pdif** **14 25 27.4 +0.9**
baz=99,SNR=6.1
B18A ⇓P **Pdif** **14 25 27.4 +0.9**
baz=99,SNR=6.1
CLNS **Chul'man** **99.27** **332** *e*P **Pdif** **14 25 26.0 -1.1**
CLNS *e**PP **pP** **14 25 36.4 -0.8**
CLNS *e* 14 29 32.9
CLNS *e*PPP PPP 14 31 38.2
CLNS *e*S **SKSac** **14 36 00.5 -2.2**
CLNS pmax pmax
comp=Z,23nm,1.1s
CLNS pmax pmax
comp=N,16nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.4s
CLNS pmax pmax
comp=N,17nm,1.4s
CLNS pmax pmax
comp=Z,20nm,1.2s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS smax smax
comp=N,210nm,12.4s
CLNS smax smax
comp=E,235nm,17.9s
A18A **Metzger Ranch,** **99.36** **38** ⇑P **Pdif** **14 25 27.3 -0.4**
baz=100
A18A ⇑P **Pdif** **14 25 27.3 -0.4**
baz=100
A18A ⇑P **Pdif** **14 25 27.3 -0.4**
baz=100
COLD **Coldfoot** **99.38** **11** P **Pdif** **14 25 26.4 -0.8**
comp=E,72nm,1.5s
TEIG **Tepich** **99.57** **72** PFAKE 14 25 40.0 +11
TEIG LR LR
comp=Z,1μm,21.0s
OGNE **Ogallala** **99.58** **48** PFAKE 14 25 40.0 +11
OGNE LR LR
comp=Z,6μm,20.0s
K26A **Motz Farm, Whi** **99.78** **46** ⇓P **Pdif** **14 25 31.3 +1.5**
baz=100,SNR=5.8
K26A ⇓P **Pdif** **14 25 31.3 +1.5**
baz=100,SNR=5.8
K26A ⇓P **Pdif** **14 25 31.3 +1.5**
baz=100,SNR=5.8
A19A **Klindworth Far** **99.96** **39** ⇓P **Pdif** **14 25 30.8 +0.4**
baz=100
A19A ⇓P **Pdif** **14 25 30.8 +0.4**
baz=100
A19A ⇓P **Pdif** **14 25 30.8 +0.4**
baz=100
RSSD **Black Hills** **100.01** **45** *e*P **Pdif** **14 25 30.8 -0.1**
RSSD pmax pmax
comp=Z,41nm,1.0s
RSSD **Black Hills** **100.01** **45** *e*Pdif **Pdif** **14 25 30.8 -0.1**
comp=Z,41nm,1.0s
H24A **Dirks Ranch, A** **100.03** **44** ⇑P **Pdif** **14 25 30.8 -0.1**
baz=100,SNR=16
H24A ⇑P **Pdif** **14 25 30.8 -0.1**
baz=100,SNR=16
H24A ⇑P **Pdif** **14 25 30.8 -0.1**
baz=100,SNR=16
NATX **Nacogdoches** **100.08** **59** PFAKE 14 25 40.0 +8.8
NATX LR LR
comp=Z,4μm,22.0s
YAK **Yakutsk** **101.14** **338** *e*P **Pdif** **14 25 33.8 -1.3**
YAK *e* 14 29 42.7
YAK *e*PPP PPP 14 31 50.1
YAK *e*S **SKSac** **14 36 04.9 -6.5**
YAK *e*SS SS 14 44 22.4 +10
YAK *e*SSS SSS 14 47 59.2
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,119nm,1.8s
YAK pmax pmax
comp=N,291nm,6.2s
YAK pmax pmax
comp=E,212nm,5.2s
YAK smax smax
comp=N,106nm,2.8s
YAK smax smax
comp=E,58nm,1.6s
YAK **Yakutsk** **101.14** **338** *e*Pdif **Pdif** **14 25 34.1 -1.0**
comp=E,34nm,0.8s
YAK LR LR
comp=Z,14μm,22.0s
MIAR **Mount Ida** **102.22** **57** PFAKE 14 25 50.0 +9.3
MIAR LR LR
comp=Z,3μm,22.0s
DGMT **Dagmar** **102.23** **41** PFAKE 14 25 50.0 +10
DGMT LR LR
comp=Z,7μm,22.0s
KSU1 **Kansas State U** **102.25** **52** PFAKE 14 25 50.0 +9.3
KSU1 LR LR
comp=Z,4μm,22.0s
SHL **Shillong** **102.62** **292** *e*P **Pdif** **14 25 40.5 -2.4**
SHL *ex* x 14 29 26.0
ULN **Ulaanbaatar** **102.73** **318** *e*P **Pdif** **14 25 41.9 -1.0**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN MLR MLR
comp=Z,4μm,20.0s
ULN **Ulaanbaatar** **102.73** **318** *e*Pdif **Pdif** **14 25 41.9 -1.0**
comp=Z,14nm,0.8s
ULN LR LR
comp=Z,4μm,20.0s
DGAR **Diego Garcia** **103.00** **253** PFAKE 14 26 00.0 +15
DGAR LR LR
comp=Z,11μm,21.0s
SONM **Songino Array** **103.10** **318** Pdiff **Pdif** **14 25 45.3 +0.9**
comp=Z,5.1nm,0.9s,baz=122,slow=3.1,SNR=13
SONM PKiKP **PKiKP** **14 30 05.5 +1.5**
comp=Z,9.0nm,1.1s,baz=18,slow=3.2,SNR=11
SONM S **SKSac** **14 36 19.4 -2.4**
comp=Z,1.1nm,0.9s,baz=280,slow=4.7,SNR=2.1
SONM PKKPbc **PKKPbc** **14 41 42.4 +0.8**
comp=Z,2.7nm,0.8s,baz=283,slow=2.8,SNR=6.6
SONM PKPPKP P'P'df 14 50 03.1 +5.4
comp=Z,0.9nm,1.1s,baz=255,slow=4.5,SNR=3.1
SONM **Songino Array** **103.10** **318** P **Pdif** **14 25 45.3 +0.9**
SONM *i* 14 30 05.5
SONM S **SKSac** **14 36 19.4 -2.4**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM pmax pmax
comp=Z,9.0nm,1.1s
SONM smax smax
comp=N,1.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM **Songino Array** **103.10** **318** Pdif **Pdif** **14 25 45.3 +0.9**
SONM PKiKP **PKiKP** **14 30 05.5 +1.5**
SONM S **SKSac** **14 36 19.4 -2.4**
SONM PKKPbc **PKKPbc** **14 41 42.4 +0.8**
SONM P'P' 14 50 03.1
GTA **Gaotai** **103.13** **308** *e*P **Pdif** **14 25 45.8 +1.0**
GTA pP 14 25 50.3
GTA sP 14 25 53.0
GTA PP **PKiKP** **14 30 03.8 -0.6**
GTA SKS **SKSac** **14 36 21.9 -0.5**
GTA LR LR
comp=N,3μm,20.9s
GTA LR LR
comp=E,4μm,23.3s
GTA LR LR
comp=Z,5μm,23.1s
INK **Inuvik** **103.58** **16** Pdiff **Pdif** **14 25 46.5 +0.7**

comp=Z,15nm,1.1s,baz=224,slow=5.7,SNR=18
INK PKiKP **PKiKP** **14 30 04.5 +0.3**
comp=Z,22nm,1.2s,baz=217,slow=4.8,SNR=6.9
INK PKKPbc **PKKPbc** **14 41 40.9 +0.3**
comp=Z,1.6nm,0.7s,baz=350,slow=3.6,SNR=3.7
INK Inuvik 103.58 16 P **Pdif** **14 25 46.6 +0.7**
INK *i* 14 30 04.5
INK pmax pmax
comp=Z,15nm,1.1s
INK pmax pmax
comp=Z,23nm,1.2s
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 103.58 16 *e*Pdif **Pdif** **14 25 45.1 -0.7**
comp=Z,29nm,1.3s
INK PKiKP **PKiKP** **14 30 04.5 +0.3**
INK PKKPbc **PKKPbc** **14 41 40.9 +0.3**
SIV San Ignacio 103.77 118 S SKSac 14 36 17.5 -8.8
comp=Z,1.8nm,0.3s,baz=139,slow=21,SNR=15
SIV PKKPbc **PKKPbc** **14 41 37.8 -0.4**
comp=Z,3.2nm,0.8s,baz=86,slow=5.1,SNR=6.6
SIV San Ignacio 103.77 118 PKKPbc PKKPbc 14 41 37.8 -0.4
CAL Calcutta 104.13 288 *e*P **Pdif** **14 25 48.5 -0.9**
ECSD EROS Data Cent 104.45 48 PFAKE 14 26 00.0 +10
ECSD LR LR
comp=Z,4μm,20.0s
BOD Bodaibo 104.52 329 *e*P **Pdif** **14 25 51.0 +0.7**
BOD pmax pmax
comp=Z,4.0nm,1.6s
BOD pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 105.07 296 P **Pdif** **14 25 51.8 -2.3**
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA MLR MLR
comp=Z,6μm,22.0s
LSA Lhasa 105.07 296 Pdif **Pdif** **14 25 51.8 -2.3**
comp=Z,6.9nm,1.0s
LSA LR LR
comp=Z,6μm,22.0s
YKA Yellowknife Ar 105.23 25 Pdiff **Pdif** **14 25 54.3 +1.0**
comp=Z,1.1nm,0.6s,baz=236,slow=4.3,SNR=11
YKA PKiKP **PKiKP** **14 30 06.6 -0.7**
comp=Z,2.1nm,0.6s,baz=254,slow=1.6,SNR=25
YKA PKKPbc **PKKPbc** **14 41 32.9 -2.5**
comp=Z,6.1nm,0.8s,baz=26,slow=2.8,SNR=15
YKA PKPPKP P'P'df 14 49 57.3 +5.2
comp=Z,1.3nm,0.9s,baz=43,slow=2.0,SNR=9.0
YKA Yellowknife Ar 105.23 25 P **Pdif** **14 25 54.4 +1.0**
YKA Yellowknife Ar 105.23 25 Pdif **Pdif** **14 25 54.4 +1.0**
YKA PKiKP **PKiKP** **14 30 06.7 -0.7**
YKA PKKPbc **PKKPbc** **14 41 32.9 -2.5**
YKA P'P' 14 49 57.4
OXF Oxford 105.26 59 PFAKE 14 30 20.0
OXF LR LR
comp=Z,4μm,22.0s
BRAL Brewton 105.50 63 PFAKE 14 30 20.0
BRAL LR LR
comp=Z,3μm,22.0s
SCIA State Center 105.84 51 PFAKE 14 30 20.0
SCIA LR LR
comp=Z,3μm,19.0s
ZAK Zakamensk 106.13 319 *e*P **Pdif** **14 25 59.3 +1.5**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
SAML Samuel 106.23 111 PFAKE 14 30 20.0
SAML LR LR
comp=Z,5μm,21.0s
LRAL Lakeview Retre 106.42 61 PFAKE 14 30 20.0
LRAL LR LR
comp=Z,3μm,22.0s
PLAL Pickwick Lake 106.45 59 *e*PKiKP **PKiKP** **14 30 10.4 0.0**
PLAL LR LR
comp=Z,4μm,20.0s
TLY Talaya 106.53 320 PFAKE 14 30 20.0
TLY LR LR
comp=Z,6μm,20.0s
FFC Flin Flon 106.59 36 PFAKE 14 30 20.0
FFC LR LR
comp=Z,6μm,22.0s
MDRS Chennai 106.64 276 *e*P **Pdif** **14 26 00.2 -0.6**
MDRS *ex* x 14 31 07.2
MDRS *ex* x 14 33 23.2
TAPN Taplejung 106.76 292 *e*P **Pdif** **14 26 03.8 +2.3**
comp=Z,36nm,1.2s
TAPN Taplejung 106.76 292 *e*P **PKiKP** **14 30 11.3 -0.4**
comp=Z,133nm,1.0s
TAPN Taplejung 106.76 292 *e*P **Pdif** **14 26 03.8 +2.3**
comp=Z,36nm,1.2s
TAPN *e*P **PKiKP** **14 30 11.3 -0.4**
ODAN Odare 106.81 292 *e*P **Pdif** **14 26 05.3 +3.7**
comp=Z,20nm,0.8s
ODAN Odare 106.81 292 *e*P **PKiKP** **14 30 11.4 -0.3**
comp=Z,110nm,0.9s
ODAN Odare 106.81 292 *e*P **Pdif** **14 26 05.3 +3.7**
comp=Z,20nm,0.8s
ODAN *e*P **PKiKP** **14 30 11.4 -0.3**
AGMN Agassiz Nation 107.00 44 PFAKE 14 30 20.0
AGMN LR LR
comp=Z,6μm,22.0s
WVT Waverly 107.12 58 *e*PKPdf **PKiKP** **14 30 13.2 +1.6**
RER Riviere de l'E 107.43 232 PFAKE 14 30 20.0
RER LR LR
comp=Z,8μm,21.0s
RAMN Ramite 107.48 291 *e*P **Pdif** **14 26 10.2 +5.6**
RAMN Ramite 107.48 291 *e*P **PKiKP** **14 30 12.7 -0.3**
comp=Z,90nm,0.9s
RAMN Ramite 107.48 291 *e*P **Pdif** **14 26 10.2 +5.6**
RAMN *e*P **PKiKP** **14 30 12.7 -0.3**
ULM Lac du Bonnet 107.85 42 PKiKP **PKiKP** **14 30 12.2 -0.4**
comp=Z,3.2nm,0.7s,baz=214,slow=3.2,SNR=5.6
ULM PKKPbc **PKKPbc** **14 41 26.7 -0.1**
comp=Z,3.0nm,0.7s,baz=89,slow=5.6,SNR=6.2
ULM Lac du Bonnet 107.85 42 PKiKP **PKiKP** **14 30 12.2 -0.4**
ULM PKKPbc **PKKPbc** **14 41 26.7 -0.1**
ULM LR LR
comp=Z,8μm,22.0s
MOY Mondy 108.00 320 *e*P Pdif 14 26 16.2 +10
JIRN Jiri 108.11 292 *e*P **Pdif** **14 26 12.3 +4.7**
comp=Z,14nm,0.8s
JIRN Jiri 108.11 292 *e*P **PKiKP** **14 30 13.3 -1.0**
comp=Z,40nm,0.7s
JIRN Jiri 108.11 292 *e*P **Pdif** **14 26 12.3 +4.7**
comp=Z,14nm,0.8s
JIRN *e*P **PKiKP** **14 30 13.3 -1.0**
JFWS Jewell Farm 108.26 51 *e*PKiKP **PKiKP** **14 30 13.8 +0.2**
JFWS LR LR
comp=Z,4μm,20.0s
GUN Gumba 108.47 292 *e*P **Pdif** **14 26 13.8 +4.7**
comp=Z,12nm,0.6s
GUN Gumba 108.47 292 *e*P **PKiKP** **14 30 14.1 -0.8**
comp=Z,122nm,1.2s
GUN Gumba 108.47 292 *e*P **Pdif** **14 26 13.8 +4.7**
comp=Z,12nm,0.6s
GUN *e*P **PKiKP** **14 30 14.1 -0.8**
PKI Pulchoki 108.71 291 *e*P **Pdif** **14 26 15.9 +5.8**
comp=Z,21nm,0.9s
PKI Pulchoki 108.71 291 *e*P **PKiKP** **14 30 14.8 -0.5**
comp=Z,40nm,0.7s
PKI Pulchoki 108.71 291 *e*P **Pdif** **14 26 15.9 +5.8**
PKI pmax pmax
comp=Z,21nm,0.9s
PKI Pulchoki 108.71 291 *e*P **Pdif** **14 26 15.9 +5.8**
comp=Z,21nm,0.9s
PKI *e*P **PKiKP** **14 30 14.8 -0.5**
KKN Kakani 108.90 292 *e*P **Pdif** **14 26 15.9 +5.0**
comp=Z,16nm,0.8s
KKN Kakani 108.90 292 *e*P **PKiKP** **14 30 14.6 -0.9**
comp=Z,72nm,0.9s
KKN Kakani 108.90 292 *e*P **Pdif** **14 26 15.9 +5.0**
KKN pmax pmax
comp=Z,16nm,0.8s
KKN Kakani 108.90 292 *e*P **Pdif** **14 26 15.9 +5.0**
comp=Z,16nm,0.8s
KKN *e*P **PKiKP** **14 30 14.6 -0.9**
DMN Daman 108.97 291 *e*P **Pdif** **14 26 17.6 +6.4**
comp=Z,22nm,0.8s
DMN Daman 108.97 291 *e*P **PKiKP** **14 30 14.8 -0.9**
comp=Z,153nm,1.1s
DMN Daman 108.97 291 *e*P **Pdif** **14 26 17.6 +6.4**
comp=Z,22nm,0.8s
DMN *e*P **PKiKP** **14 30 14.8 -0.9**
WCI Wyandotte Cave 109.10 56 PKiKP **PKiKP** **14 30 13.4 -2.0**
GOGA Godfrey 109.27 62 PFAKE 14 30 30.0
GOGA LR LR
comp=Z,3μm,21.0s

SDV Santo Domingo 109.28 91 PFAKE 14 30 30.0
SDV LR LR
comp=Z,1μm,21.0s
EYMN Ely 109.50 45 *e*PKiKP **PKiKP** **14 30 15.2 -0.6**
EYMN LR LR
comp=Z,5μm,20.0s
GKN Gorkha 109.51 292 *e*P **Pdif** **14 26 20.1 +6.6**
comp=Z,23nm,0.9s
GKN Gorkha 109.51 292 *e*P **PKiKP** **14 30 15.0 -1.6**
comp=Z,94nm,1.2s
GKN Gorkha 109.51 292 *e*P **Pdif** **14 26 20.1 +6.6**
GKN *e*P **PKiKP** **14 30 15.0 -1.6**
TKL Tuckaleechee C 109.93 60 PKiKP **PKiKP** **14 30 16.9 -0.1**
comp=Z,4.4nm,0.9s,baz=206,slow=9.8,SNR=5.1
TKL Tuckaleechee C 109.93 60 *e*PKiKP **PKiKP** **14 30 16.4 -0.6**
HYB Hyderabad 110.07 279 *i* Pdiff **Pdif** **14 26 16.0 0.0**
HYB *e* 14 30 17.5
HYB *e*PP **PP** **14 30 48.0 -3.6**
HYB *e*PPP PPP 14 33 10.0
HYB *e*SP SP 14 40 10.0 -7.4
HYB *e* 14 41 40.0
HYB *e*SS **SS** **14 46 12.0 -3.9**
KOLN Koldanda 110.25 291 *e*P **PKiKP** **14 30 16.9 -1.2**
comp=Z,46nm,0.8s
KOLN Koldanda 110.25 291 *e*P **PKiKP** **14 30 16.9 -1.2**
DANN Dangsing 110.36 292 *e*P **Pdif** **14 26 24.5 +7.1**
comp=Z,34nm,1.3s
DANN Dangsing 110.36 292 *e*P **PKiKP** **14 30 16.5 -1.9**
comp=Z,87nm,0.8s
DANN Dangsing 110.36 292 *e*P **Pdif** **14 26 24.5 +7.1**
DANN *e*P **PKiKP** **14 30 16.5 -1.9**
GTBY Guantanamo Bay 110.45 78 PFAKE 14 30 30.0
GTBY LR LR
comp=Z,2μm,21.0s
MNGI Mangalore 111.27 273 *e*P **PKiKP** **14 30 18.2 -1.8**
MNGI *ex* x 14 45 32.0
MNGI *ex* x 14 47 51.5
comp=Z,2μm,18.9s
NGP Nagpur 111.27 283 *e*P **PKiKP** **14 30 19.1 -0.8**
NGP *ex* x 14 40 33.0
NGP *ex* x 15 16 43.5
comp=N,8μm,20.7s
TRIS Tristan da Cun 111.70 168 PFAKE 14 30 30.0
TRIS LR LR
comp=Z,3μm,19.0s
ACSO Alum Creek Sta 112.25 56 PFAKE 14 30 30.0
ACSO LR LR
comp=Z,5μm,22.0s
AAM Ann Arbor 112.51 53 PFAKE 14 30 30.0
AAM LR LR
comp=Z,4μm,19.0s
GLMI Grayling 112.75 50 PFAKE 14 30 30.0
GLMI LR LR
comp=Z,3μm,22.0s
BLA Blacksburg 113.02 59 PFAKE 14 30 30.0
BLA LR LR
comp=Z,4μm,19.0s
WMQ Urumqi 113.22 308 PKP **PKiKP** **14 30 22.3 -0.7**
WMQ PP **PP** **14 31 16.3 +2.5**
WMQ SKS **SKSdf** **14 37 33.4 +0.6**
WMQ SS **SS** **14 46 57.3 +0.1**
WMQ AMB AMB
comp=Z,2μm,10.2s
WMQ LR LR
comp=N,4μm,24.8s
WMQ LR LR
comp=E,7μm,26.1s
WMQ LR LR
comp=Z,8μm,26.0s
SDDR Presa de Saban 113.30 81 PFAKE 14 30 40.0
SDDR LR LR
comp=Z,2μm,21.0s
BDFB Brasilia 113.58 126 PKiKP **PKiKP** **14 30 25.5 +0.8**
comp=Z,4.7nm,0.8s,baz=184,slow=1.4,SNR=5.8
BDFB PKKPbc **PKKPbc** **14 41 08.1 +0.7**
comp=Z,4.9nm,1.0s,baz=96,slow=4.4,SNR=4.5
BDFB Brasilia 113.58 126 *i* PKiKP **PKiKP** **14 30 25.5 +0.8**
BDFB pmax pmax
comp=Z,5.0nm,0.8s
BDFB pmax pmax
comp=Z,5.0nm,1.0s
BDFB Brasilia 113.58 126 PKiKP **PKiKP** **14 30 25.5 +0.8**
BDFB PKKPbc **PKKPbc** **14 41 08.1 +0.7**
CNNC Cliffs of the 114.23 62 PFAKE 14 30 40.0 +15
CNNC LR LR
comp=Z,3μm,19.0s
ABPO Ambohimpanom 114.58 227 PFAKE 14 30 40.0 +13
ABPO LR LR
comp=Z,9μm,21.0s
POO Poona 114.58 278 ⇑ *i*PKP PKPdf 14 30 24.0 -2.3
comp=Z,143nm,1.5s
POO *e*P **PKiKP** **14 30 24.4 -1.9**
POO *i* PP **PP** **14 31 24.0 +0.1**
POO *ex* x 14 41 12.9
OPO Ambohidratompo 114.93 228 PKP PKPdf 14 30 28.0 +0.7
comp=Z,7.3nm,0.6s,baz=147,slow=2.8,SNR=11
OPO Ambohidratompo 114.93 228 PKP PKPdf 14 30 28.0 +0.7
ERPA Erie 115.01 54 PFAKE 14 30 40.0 +14
ERPA LR LR
comp=Z,5μm,19.0s
SUR Sutherland 115.27 197 PKP **PKPdf** **14 30 28.9 +1.3**
comp=Z,20nm,0.7s,baz=54,slow=2.1,SNR=10
SUR PP **PP** **14 31 28.7 +1.7**
comp=Z,19nm,0.8s,baz=154,slow=5.9,SNR=3.6
SUR PKKPbc **PKKPbc** **14 41 03.2 +1.0**
comp=Z,5.1nm,0.7s,baz=265,slow=7.9,SNR=4.6
SUR Sutherland 115.27 197 PKP **PKPdf** **14 30 28.9 +1.3**
SUR PP **PP** **14 31 28.7 +1.7**
SUR PKKPbc **PKKPbc** **14 41 03.2 +1.0**
SUR LR LR
comp=Z,8μm,22.0s
CBN Corbin 115.63 59 PFAKE 14 30 40.0 +12
CBN LR LR
comp=Z,3μm,19.0s
NDI New Delhi 115.79 289 *e*P **PKPdf** **14 30 25.8 -2.6**
SSPA Standing Stone 116.04 57 *e*PKPdf **PKPdf** **14 30 27.4 -1.1**
SDMD Soldier's Deli 116.41 58 *e*PKPdf **PKPdf** **14 30 29.9 +0.7**
SADO Sadowa 116.42 52 PKP **PKPdf** **14 30 28.6 -0.4**
comp=Z,7.1nm,0.6s,baz=222,slow=2.4,SNR=11
SADO Sadowa 116.42 52 PKP **PKPdf** **14 30 28.6 -0.4**
LRS Lares 116.81 84 PKPdf **PKPdf** **14 30 28.9 -1.7**
RES Resolute Bay 117.05 17 PKP **PKPdf** **14 30 28.0 -1.3**
comp=Z,17nm,0.9s,baz=268,slow=3.1,SNR=24
RES PP **PP** **14 31 41.0 +1.2**
comp=Z,6.3nm,1.0s,baz=339,slow=6.8,SNR=11
RES PKKPbc **PKKPbc** **14 40 57.5 +1.1**
comp=Z,10nm,1.0s,baz=60,slow=3.1,SNR=15
RES Resolute Bay 117.05 17 *e*PKiKP **PKPdf** **14 30 27.8 -1.6**
RES 14 31 41.0
RES Resolute Bay 117.05 17 *e*PKPdf **PKPdf** **14 30 27.8 -1.6**
RES PKP **PKPdf** **14 30 28.0 -1.3**
RES PP **PP** **14 31 41.0 +1.2**
RES PKKPbc **PKKPbc** **14 40 57.5 +1.1**
SJG San Juan 117.34 84 PKP **PKPdf** **14 30 31.2 -0.3**
comp=Z,20nm,0.8s,baz=315,slow=0.4,SNR=6.1
SJG San Juan 117.34 84 *e*PKiKP **PKPdf** **14 30 30.7 -0.9**
SJG MLR MLR
comp=Z,2μm,21.0s
SJG San Juan 117.34 84 *e*PKPdf **PKPdf** **14 30 30.7 -0.9**
SJG PKP **PKPdf** **14 30 31.2 -0.3**
SJG LR LR
comp=Z,2μm,21.0s
MK31 Makanchi Array 117.76 310 *e*P **Pdif** **14 26 51.4 +1.9**
MK31 *e* 14 30 30.3
MK31 Makanchi Array 117.76 310 *e*Pdif **Pdif** **14 26 51.4 +1.9**
MK31 *e*PKPdf **PKPdf** **14 30 30.3 -1.3**
MKAR Makanchi Array 117.76 310 Pdiff **Pdif** **14 26 52.6 +3.1**
comp=Z,1.4nm,0.8s,baz=101,slow=3.3,SNR=9.8
MKAR PKP **PKPdf** **14 30 30.2 -1.4**
comp=Z,33nm,0.9s,baz=74,slow=2.2,SNR=41
MKAR PKKPab **PKKPab** **14 40 55.9 +1.5**
comp=Z,4.5nm,0.7s,baz=285,slow=3.7,SNR=9.8
MKAR Makanchi Array 117.76 310 P **Pdif** **14 26 52.6 +3.1**
MKAR 14 30 30.2
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,33nm,0.9s
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 117.76 310 Pdif **Pdif** **14 26 52.6 +3.1**
MKAR PKP **PKPdf** **14 30 30.2 -1.4**
MKAR PKKPab **PKKPab** **14 40 55.9 +1.5**
MTP Monte Pirata 117.84 84 *e*PKPdf **PKPdf** **14 30 33.1 +0.6**

BINY Binghamton 117.87 55 PFAKE 14 30 40.0 +8.0
BINY LR LR
comp=Z,6μm,22.0s
ZAA0 Zalesovo Array 117.99 318 *e*PKPdf **PKPdf** **14 30 29.6 -2.1**
ZALV Zalesovo Beam 117.99 318 Pdiff **Pdif** **14 26 57.8 +7.5**
comp=Z,1.4nm,0.9s,baz=110,slow=6.5,SNR=6.4
ZALV PKP **PKPdf** **14 30 30.3 -1.4**
comp=Z,25nm,0.8s,baz=169,slow=1.5,SNR=32
ZALV Zalesovo Beam 117.99 318 P **Pdif** **14 26 57.8 +7.5**
ZALV 14 30 30.3
ZALV pmax pmax
comp=Z,1.0nm,0.9s
ZALV pmax pmax
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 117.99 318 Pdif **Pdif** **14 26 57.8 +7.5**
ZALV PKP **PKPdf** **14 30 30.3 -1.4**
MSEY Mahe Island 118.33 245 PFAKE 14 30 50.0 +16
MSEY LR LR
comp=Z,8μm,20.0s
GRGR Grenville 118.58 92 PFAKE 14 30 50.0 +16
GRGR LR LR
comp=Z,4μm,22.0s
PAL Palisades 119.03 57 PKiKP **PKPdf** **14 30 34.1 -0.1**
PAL Palisades 119.03 57 PKPdf **PKPdf** **14 30 34.1 -0.1**
NVS Novosibirsk 119.09 319 *e*PKiKP **PKPdf** **14 30 31.7 -2.1**
NVS *e* 14 37 22.2
NVS *e* 14 48 04.0
NVS pmax pmax
comp=N,24nm,1.3s
NVS pmax pmax
comp=E,52nm,1.3s
LONY Lake Ozonia 119.51 53 *e*PKPdf **PKPdf** **14 30 34.7 -0.3**
LONY LR LR
comp=Z,4μm,22.0s
BHJ Bhuj 120.08 281 *e*P **PKPdf** **14 30 34.5 -2.2**
BHJ *ex* x 14 42 57.1
FDF Fort de France 120.19 90 PFAKE 14 30 50.0 +13
FDF LR LR
comp=Z,2μm,21.0s
FRNY Flat Rock 120.25 53 *e*PKPdf **PKPdf** **14 30 35.6 -0.8**
KSH Kashi 120.26 301 *i* PKP **PKPdf** **14 30 37.1 +0.3**
KSH *e*PKS **PKSdf** **14 34 12.6 -0.9**
KSH *e*SKS **SKSdf** **14 37 43.9 -2.7**
KSH AMB AMB
comp=Z,330nm,4.0s
KSH LR LR
comp=N,1μm,11.4s
KSH LR LR
comp=E,3μm,19.2s
KSH LR LR
comp=Z,6μm,26.2s
MDV Middlebury 120.33 54 *e*PKPdf **PKPdf** **14 30 37.1 +0.6**
LBTB Lobatse 120.65 205 PKP **PKPdf** **14 30 38.5 +0.4**
comp=Z,11nm,0.6s,baz=169,slow=3.3,SNR=25
LBTB Lobatse 120.65 205 *e*PKiKP **PKPdf** **14 30 38.3 +0.2**
LBTB MLR MLR
comp=Z,5μm,22.0s
LBTB Lobatse 120.65 205 *e*PKPdf **PKPdf** **14 30 38.3 +0.2**
LBTB PKP **PKPdf** **14 30 38.5 +0.4**
LBTB LR LR
comp=Z,5μm,22.0s
ULHL Ulahol 120.77 304 P **PKPdf** **14 30 37.6 -0.2**
SNR=49
ULHL P **PKPdf** **14 30 37.6 -0.2**
SNR=49
BBGH Gun Hill 120.86 92 PFAKE 14 30 50.0 +12
BBGH LR LR
comp=Z,8μm,22.0s
ANWB Willy Bob 120.92 87 PFAKE 14 30 50.0 +12
ANWB LR LR
comp=Z,2μm,22.0s
KURK Kurchatov 121.02 314 PKP **PKPdf** **14 30 36.5 -1.2**
comp=Z,82nm,0.8s,baz=107,slow=2.0,SNR=146
KURK PP **PP** **14 32 09.4 +1.6**
comp=Z,24nm,1.2s,baz=94,slow=6.1,SNR=5.2
KURK Kurchatov 121.02 314 *e*PKiKP **PKPdf** **14 30 36.3 -1.4**
KURK 14 32 09.5
KURK MLR MLR
comp=Z,6μm,22.0s
KURK Kurchatov 121.02 314 *e*PKPdf **PKPdf** **14 30 36.3 -1.4**
KURK PKP **PKPdf** **14 30 36.5 -1.2**
KURK PP **PP** **14 32 09.4 +1.6**
KURK LR LR
comp=Z,6μm,22.0s
LBNH Lisbon 121.27 54 *e*PKiKP **PKPdf** **14 30 38.6 +0.2**
LBNH MLR MLR
comp=Z,5μm,19.0s
LBNH Lisbon 121.27 54 *e*PKPdf **PKPdf** **14 30 38.6 +0.2**
LBNH LR LR
comp=Z,5μm,19.0s
TKM2 Tokmak 2 121.40 304 P **PKPdf** **14 30 37.9 -1.0**
SNR=56
TKM2 P **PKPdf** **14 30 37.9 -1.0**
SNR=56
TKM2 Tokmak 2 121.40 304 *e*PKiKP **PKPdf** **14 30 37.6 -1.4**
TKM2 MLR MLR
comp=Z,4μm,21.0s
TKM2 Tokmak 2 121.40 304 *e*PKPdf **PKPdf** **14 30 37.5 -1.4**
TKM2 LR LR
comp=Z,4μm,21.0s
KZA Kyzart 121.44 303 P **PKPdf** **14 30 39.3 -0.1**
SNR=86
KZA P **PKPdf** **14 30 39.3 -0.1**
SNR=86
KBK Karagaybulak 121.80 304 P **PKPdf** **14 30 39.2 -0.6**
SNR=42
KBK P **PKPdf** **14 30 39.2 -0.6**
SNR=42
UCH Uchtor 122.01 303 P **PKPdf** **14 30 40.5 0.0**
SNR=19
UCH P **PKPdf** **14 30 40.5 0.0**
SNR=19
CHMS Chumysh 122.02 304 P **PKPdf** **14 30 39.2 -0.7**
SNR=53
CHMS P **PKPdf** **14 30 39.2 -0.7**
SNR=53
FRU Bishkek 122.08 304 *i* PKiKP **PKPdf** **14 30 39.0 -1.1**
FRU *e* 14 32 18.0
FRU pmax pmax
comp=Z,200nm,1.8s
AAK Ala-Archa 122.12 304 P **PKPdf** **14 30 39.8 -0.5**
SNR=36
AAK P **PKPdf** **14 30 39.8 -0.5**
SNR=36
AAK Ala-Archa 122.12 304 ⇓ *i*PKiKP **PKPdf** **14 30 39.4 -0.9**
AAK Ala-Archa 122.12 304 *e*PKPdf **PKPdf** **14 30 39.4 -0.9**
AAK LR LR
comp=Z,4μm,21.0s
USP Ospenovka 122.26 305 P **PKPdf** **14 30 39.7 -0.7**
SNR=60
USP P **PKPdf** **14 30 39.7 -0.7**
SNR=60
AML Almayashu 122.58 303 P **PKPdf** **14 30 41.3 -0.2**
SNR=126
AML P **PKPdf** **14 30 41.3 -0.2**
SNR=126
EKS2 Erkin-Say 122.64 304 P **PKPdf** **14 30 40.9 -0.4**
SNR=89
EKS2 P **PKPdf** **14 30 40.9 -0.4**
SNR=89
EKS2 Erkin-Say 122.64 304 *e*PKiKP **PKPdf** **14 30 40.7 -0.6**
EKS2 Erkin-Say 122.64 304 *e*PKPdf **PKPdf** **14 30 40.7 -0.6**
BBSR BB Station 123.71 69 PFAKE 14 31 00.0 +17
BBSR LR LR
comp=Z,2μm,20.0s
KBL Kabul 124.27 293 *e*PKiKP **PKPdf** **14 30 44.7 0.0**
KBL Kabul 124.27 293 *e*PKPdf **PKPdf** **14 30 44.7 0.0**
PQI Presque Isle 124.44 52 *e*PKPdf **PKPdf** **14 30 44.3 -0.1**
KK31 Karatay Array 125.08 304 PKiKP **PKPdf** **14 30 44.9 -0.9**
KK31 pmax pmax
comp=Z,123nm,0.8s
KKAR Karatay Array 125.08 304 *e*PKiKP **PKPdf** **14 30 44.7 -1.1**
KKAR Karatay Array 125.08 304 *e*PKPdf **PKPdf** **14 30 44.7 -1.1**
SCHQ Schefferville 126.03 42 PKP **PKPdf** **14 30 46.1 -1.1**
comp=Z,39nm,0.9s,baz=337,slow=1.4,SNR=20
SCHQ Schefferville 126.03 42 *e*PKPdf **PKPdf** **14 30 46.0 -1.2**
SCHQ PKP **PKPdf** **14 30 46.1 -1.1**
SCHQ LR LR
comp=Z,8μm,22.0s
BVA0 Borovoye Array 126.37 316 *i* PKiKP **PKPdf** **14 30 46.8 -1.1**
BVA0 pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 126.37 316 PKP **PKPdf** **14 30 47.4 -0.5**
comp=Z,86nm,0.8s,baz=101,slow=3.0,SNR=90
BVAR Borovoye Array 126.37 316 PKiKP **PKPdf** **14 30 47.4 -0.5**

BVAR pmax pmax
comp=Z,86nm,0.8s
BVAR Borovoye Array 126.37 316 PKP PKPdf 14 30 47.4 -0.5
BRVK Borovoye 126.43 316*c i*PKIKP **PKPdf 14 30 47.3 -0.7**
BRVK pmax pmax
comp=Z,144nm,1.2s
BRVK Borovoye 126.43 316 *e*PKPdf **PKPdf 14 30 46.8 -1.2**
BRVK LR LR
comp=Z,5µm,21.0s
TSUM Tsumeb 128.66 199 *e*PKPdf **PKPdf 14 30 54.1 +0.6**
TSUM LR LR
comp=Z,7µm,20.0s
RCBR Riachuelo 128.87 128 PKP PKPdf 14 30 54.2 +0.2
comp=Z,21nm,0.7s,baz=358,slow=1.1,SNR=11
RCBR Riachuelo 128.87 128 PKP PKPdf 14 30 54.2 +0.2
RCBR PKPdf **PKiKP 14 30 54.7 +0.1**
RCBR LR LR
comp=Z,3µm,20.0s
KBS Kingsbay 131.02 358 *e*P **PKPdf 14 30 58.0 +1.9**
KBS AMS AMS 15 17 34.8
comp=Z,5µm,22.6s
KBS Kingsbay 131.02 358 *e*PKIKP **PKPdf 14 30 55.9 -0.2**
KBS MLR MLR
comp=Z,4µm,20.0s
KBS Kingsbay 131.02 358 *e*PKPdf **PKPdf 14 30 55.9 -0.2**
KBS LR LR
comp=Z,4µm,20.0s
SPA0 Spitsbergen Ar 131.54 356 *e*P **PKPdf 14 30 57.7 +0.6**
SPB4 Spitsbergen Ar 131.54 356 *e*PKPdf **PKPdf 14 30 58.0 +0.8**
SPITS Spitsbergen Ar 131.54 356 PKP PKPdf 14 30 58.0 +0.9
comp=Z,42nm,0.8s,baz=136,slow=8.8,SNR=20
SPITS Spitsbergen Ar 131.54 356 PKIKP PKPdf 14 30 58.0 +0.9
SPITS pmax pmax
comp=Z,42nm,0.8s
SPITS Spitsbergen Ar 131.54 356 PKP PKPdf 14 30 58.0 +0.9
SFJD Kangerlussuaq 131.79 25 *e*PKIKP **PKPdf 14 30 58.2 +0.4**
SFJD MLR MLR
comp=Z,7µm,21.0s
SFJD Kangerlussuaq 131.79 25 *e*PKPdf **PKPdf 14 30 58.1 +0.4**
SFJD LR LR
comp=Z,7µm,21.0s
SFJD Kangerlussuaq 131.79 25 *i* P **PKPdf 14 30 57.6 -0.2**
comp=Z,24nm,0.9s
SVE Sverdlovsk 131.84 321 *i*PKIKP **PKPdf 14 30 57.9 -0.3**
SVE *e* 14 33 17.3
SVE pmax pmax
comp=Z,84nm,1.2s
SVE MLR MLR
comp=Z,5µm,20.0s
DAG Danmarks Havn 132.36 6 *i*PKIKP **PKPdf 14 30 57.4 -1.2**
DAG pmax pmax
comp=Z,28nm,0.9s
DAG Danmarks Havn 132.36 6 *i* P **PKPdf 14 30 57.4 -1.2**
comp=Z,283nm,0.9s
HOPEN Hopen 132.39 353 AMS AMS 15 17 51.6
comp=Z,6µm,27.1s
SUMG Summit 132.50 15 *i*PKIKP **PKPdf 14 30 59.6 +0.1**
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 132.50 15 *e*PKPdf **PKPdf 14 30 59.1 -0.5**
SUMG Summit 132.50 15 *i* P **PKPdf 14 30 59.6 +0.1**
comp=Z,33nm,1.0s
AB31 Akbulak array 132.89 311 PKHKP PKPpre 14 30 49.2
AB31 pmax pmax
comp=Z,31nm,0.9s
ABKAR Akbulak array 132.89 311 *e*PKPpre PKPpre 14 30 43.5
ARU Arti 133.03 321 *i*PKIKP **PKPdf 14 31 00.0 -0.4**
ARU 14 33 25.6
ARU Arti 133.03 321 *e*PKPdf **PKPdf 14 31 00.6 +0.1**
ARU LR LR
comp=Z,10µm,22.0s
SOKR Solikamsk 133.32 325*c i*PKIKP **PKPdf 14 31 00.3 -0.5**
SOKR SSS SSS 14 56 11.9
SOKR pmax pmax
comp=Z,90nm,0.8s
SHEL Horse Pasture 133.46 170 PFAKE 14 31 10.0 +7.4
SHEL LR LR
comp=Z,5µm,21.0s
AKTO Aktyubinsk 134.08 313 PKhKP PKPpre 14 30 50.0
comp=Z,8.0nm,0.6s,baz=99,slow=5.7,SNR=27
AKTO PKP **PKPdf 14 31 02.1 -0.5**
comp=Z,47nm,0.8s,baz=68,slow=0.4,SNR=27
AKTO Aktyubinsk 134.08 313 PKHKP PKPpre 14 30 50.0
AKTO 14 31 02.2
AKTO pmax pmax
comp=Z,8.0nm,0.6s
AKTO pmax pmax
comp=Z,47nm,0.8s
AKTO Aktyubinsk 134.08 313 PKPpre PKPpre 14 30 50.0
AKTO PKP **PKPdf 14 31 02.1 -0.5**
KMBO Kilima Mbogo 134.28 233 PFAKE 14 31 20.0 +16
KMBO LR LR
comp=Z,6µm,21.0s
SCO Scoresbysund 137.50 12 *i*PKIKP **PKPdf 14 31 09.7 +1.3**
SCO pmax pmax
comp=Z,29nm,0.9s
SCO Scoresbysund 137.50 12 *i* P **PKPdf 14 31 09.7 +1.3**
comp=Z,29nm,0.9s
LVZ Lovozero 137.72 342*c i*PKIKP **PKPdf 14 31 10.6 +1.7**
LVZ pmax pmax
comp=Z,98nm,1.2s
LVZ Lovozero 137.72 342 PFAKE 14 31 20.0 +11
LVZ LR LR
comp=Z,6µm,20.0s
KEV Kevo 137.98 347 *e*PKHKP PKPpre 14 31 00.8
KEV Kevo 137.98 347 PFAKE 14 31 20.0 +11
KEV LR LR
comp=Z,9µm,21.0s
KEV Kevo 137.98 347 *e*pkp PKPpre 14 31 00.8
KEV Kevo 137.98 347 *e*pkp PKPpre 14 31 00.8
APA Apatity 138.29 343⇑ *i*PKHKP PKPpre 14 31 01.0
APA *i* 14 34 07.0
APA *i* 14 38 20.0
APA pmax pmax
comp=Z,327nm,2.0s
ARCES ARCESS Array B 138.45 348 PKhKP PKPpre 14 31 00.0
comp=Z,14nm,0.6s,baz=76,slow=2.3,SNR=29
ARCES PKP **PKPdf 14 31 10.9 +0.7**
comp=Z,45nm,0.5s,baz=99,slow=1.7,SNR=17
ARCES ARCESS Array B 138.45 348 PKHKP PKPpre 14 31 00.0
ARCES 14 31 10.9
ARCES pmax pmax
comp=Z,14nm,0.6s
ARCES pmax pmax
comp=Z,45nm,0.5s
ARCES ARCESS Array B 138.45 348 PKPpre PKPpre 14 31 00.0
ARCES PKP **PKPdf 14 31 10.9 +0.7**
ARE0 ARCESS Array S 138.45 348 *e*P PKPpre 14 31 02.3
ARE0 ARCESS Array S 138.45 348 *e*PKPpre PKPpre 14 31 01.4
TRO Tromso 139.40 351 *e*P PKPdf 14 31 06.2 -5.7
KBD Kabd 140.62 280 *e*P **PKPdf 14 31 12.2 -3.1**
KBD AMb AMB 14 31 21.7
comp=Z,137nm,1.3s
RDF Al-Radifah 140.69 280 *e*P **PKPdf 14 31 11.7 -3.8**
RDF AMb AMB 14 31 20.1
comp=Z,428nm,1.1s
NAY Al-Naaiem 141.02 280 *e*P **PKPdf 14 31 12.3 -3.8**
NAY AMb AMB 14 31 20.1
comp=Z,95nm,1.7s
MIB Mutribah 141.06 281 *e*P **PKPdf 14 31 12.2 -3.9**
MIB AMb AMB 14 31 25.7
comp=Z,260nm,0.8s
STEI Steigen 141.47 352 *e*P **PKPdf 14 31 12.9 -2.8**
STEI AMB AMB 14 31 24.8
comp=Z,124nm,4.0s
MAK Makhachkala 141.87 302 *e*PKHKP PKPpre 14 31 08.5
MAK *e* 14 34 17.5
MAK *e*PPP PPP 14 37 29.6
MAK *e* 14 38 22.3
MAK *e*SSS SSS 14 58 05.7
MAK pmax pmax
comp=Z,434nm,1.8s
JOF Joensuu 142.30 339 *e*PKHKP PKPpre 14 31 10.9
JOF pmax pmax
comp=Z,78nm,0.6s
JOF Joensuu 142.30 339 *e*pkp PKPpre 14 31 10.9
comp=Z,78nm,0.6s
JOF Joensuu 142.30 339 *e*pkp PKPpre 14 31 10.9
comp=Z,78nm,0.6s
BORG Borgarnes 142.47 16 PKP **PKPdf 14 31 20.4 +2.9**
comp=Z,34nm,0.9s,baz=137,slow=2.5,SNR=6.8
BORG Borgarnes 142.47 16 PKIKP **PKPdf 14 31 20.4 +2.9**
BORG pmax pmax
comp=Z,34nm,0.9s
BORG Borgarnes 142.47 16 PKP **PKPdf 14 31 20.4 +2.9**

FLOS Flostrand 143.22 352 *e*P **PKPdf 14 31 17.6 -1.2**
MOR8 Moi Rana 143.25 352 *e*P PKPbc 14 31 17.1 +1.1
STOK Stokkvaagen 143.26 353 *e*P PKPbc 14 31 15.4 -0.6
STOK AMB AMB 14 31 20.3
comp=Z,275nm,1.7s
DGRG David-gareji 143.55 300 P PKPbc 14 31 17.9 +0.2
TBLG Delisi 144.00 300 *e*PKIKP PKPbc 14 31 18.7 -0.3
TBLG Delisi 144.00 300 P **PKPab 14 31 18.7 +0.2**
VRHR Novokhopersk 144.10 317 *e*PKIKP **PKPab 14 31 17.8 -0.6**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s
VRHR MLR MLR
comp=N,3µm,24.0s
VRHR MLR MLR
comp=E,6µm,24.0s
VRHR MLR MLR
comp=Z,12µm,24.0s
GNI Garni 144.10 298 PKP PKPbc 14 31 20.1 +0.5
comp=Z,46nm,0.8s,baz=13,slow=5.4,SNR=12
GNI Garni 144.10 298 *e*P PKPbc 14 31 18.6 -0.9
GNI Garni 144.10 298*c i*PKIKP PKPbc 14 31 19.7 +0.2
GNI Garni 144.10 298 *e*PKPpre PKPbc 14 31 19.3 -0.2
GNI PKP **PKPab 14 31 20.1 +1.0**
GNI LR LR
comp=Z,7µm,22.0s
BHD Baghdad 144.13 286 *i* PKP **PKPab 14 31 17.0 -2.1**
BHD *i* PP **PP 14 34 35.0 -1.6**
BHD *i* PKS **PKSdf 14 35 00.0 +2.9**
BHD *i* SKS SKSdf 14 38 36.0 +7.3
BHD *i* PS 14 44 37.0
MOS Moscow 144.26 326 *e*PKHKP PKPpre 14 31 15.7
MOS *e* 14 34 32.3
MOS pmax pmax
comp=Z,236nm,1.1s
MOS MLR MLR
comp=N,4µm,23.0s
MOS MLR MLR
comp=E,3µm,23.0s
MOS MLR MLR
comp=Z,6µm,23.0s
KAF Kangasniemi 144.43 341 *e*PKHKP **PKPab 14 31 16.5 -2.8**
KAF Kangasniemi 144.43 341 *e*pkp **PKPab 14 31 16.5 -2.8**
KAF Kangasniemi 144.43 341 *e*pkp **PKPab 14 31 16.5 -2.8**
GOR Gori 144.45 301 P **PKPdf 14 31 25.0 +3.2**
ZEI Tsey 144.52 302 *i*PKIKP PKPbc 14 31 20.9 0.0
ZEI pmax pmax
comp=Z,201nm,0.8s
CLDR Caldiran 144.77 296 *e*P PKPbc 14 31 22.1 +0.4
ONI Oni 144.87 302 P PKPbc 14 31 22.1 +0.3
PUL Pulkovo 144.90 335‖ *i*PKIKP **PKPab 14 31 20.2 -0.9**
HKR Hakkari 144.93 293 *e*P PKPbc 14 31 22.2 -0.1
DYDN Diyadin 144.94 297 *i* P **PKPab 14 31 22.1 -0.1**
HAKT HÂKKARI 144.95 293 *i* P **PKPab 14 31 21.8 -0.6**
AKH Akhalkalaki 144.96 300 P **PKPdf 14 31 22.7 -0.2**
FINES FINESS Array B 145.03 340 PKP **PKPbc 14 31 20.4 -1.1**
comp=Z,765nm,0.8s,baz=56,slow=4.8,SNR=409
FINES FINESS Array B 145.03 340 PKIKP **PKPbc 14 31 20.4 -1.1**
FINES pmax pmax
comp=Z,765nm,0.8s
FINES FINESS Array B 145.03 340 PKP **PKPbc 14 31 20.4 -1.1**
CUKT Cukurca 145.03 293 *e*P **PKPbc 14 31 22.5 0.0**
OBN Obninsk 145.10 325*c i*PKIKP **PKPbc 14 31 21.1 -0.8**
OBN *e* 14 34 42.4
OBN *e*SS SS 14 53 27.4 -1.7
OBN pmax pmax
comp=Z,223nm,0.8s
OBN Obninsk 145.10 325 *e*PKPdf **PKPbc 14 31 20.7 -1.3**
OBN LR LR
comp=Z,6µm,20.0s
NSS Namsos 145.13 353 *e*P **PKPbc 14 31 20.1 -1.6**
DIGO Kars 145.13 298 *i* P **PKPbc 14 31 21.9 -1.0**
VANB Van 145.20 295 *e*P **PKPbc 14 31 22.2 -0.8**
KIV Kislovodsk 145.23 305*c e*PKHKP PKPpre 14 31 18.6
KIV *i* 14 31 22.5
KIV *e*SS SS 14 53 27.7 -4.4
KIV *e*SSS SSS 14 58 52.7
KIV pmax pmax
comp=Z,184nm,1.1s
KIV Kislovodsk 145.23 305 *e*PKP **PKPbc 14 31 22.6 -0.3**
KIV LR LR
comp=Z,5µm,20.0s
VOR Voronezh 145.27 319 PKP2 **PKPbc 14 31 21.0 -1.6**
VOR pmax pmax
comp=Z,620nm,1.6s
VANT Van 145.30 295 *e*P **PKPbc 14 31 24.6 +1.2**
KARS Kars 145.34 299 *e*P **PKPbc 14 31 24.4 +0.9**
AGRB Hanur-Agry 145.47 297 *e*P **PKPbc 14 31 23.9 -0.1**
VSR Storozhevoye 145.49 318 *e*PKP2 **PKPdf 14 31 22.0 -1.2**
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,70nm,0.8s
VSR pmax pmax
comp=Z,260nm,0.8s
VSR pmax pmax
comp=Z,290nm,2.3s
VSR pmax pmax
comp=N,80nm,1.1s
VSR pmax pmax
comp=E,190nm,2.3s
TUTA Tutak 145.62 297 *i* P **PKPab 14 31 24.7 -0.1**
SIRN S¨¨rnak 145.98 293 *i* P **PKPdf 14 31 24.5 -0.2**
TATV Tatvan 146.08 295 *i* P **PKPdf 14 31 25.3 +0.4**
ARTV Artvin 146.16 300 *i* P **PKPdf 14 31 25.1 +0.1**
HOMI Horasan 146.28 298 *i* P **PKPdf 14 31 24.9 -0.4**
DDEM Demirkent 146.32 299 *i* P **PKPdf 14 31 25.6 +0.5**
DBOC Borcka 146.34 300 *i* P **PKPdf 14 31 24.8 -0.3**
BCA Borcka 146.36 300 *e*P **PKPbc 14 31 25.5 -0.9**
MSKU Masuku 146.46 201 PKPbc **PKPab 14 31 28.3 -0.1**
comp=E,365nm,1.1s,baz=143,slow=1.9,SNR=71
MSKU Masuku 146.46 201 PKPbc **PKPab 14 31 28.3 -0.1**
TBLU Trondheim 146.55 353 *e*P **PKPdf 14 31 20.1 -4.5**
VRTB Varto-Mus 146.68 296 *e*P **PKPbc 14 31 25.9 -1.7**
EZM Erzurum 146.71 298 *e*P **PKPbc 14 31 26.7 -1.1**
BEST Besiri 146.88 294 *i* P **PKPbc 14 31 28.6 +0.5**
BNGL BINGOL 146.93 296 *i* P **PKPdf 14 31 27.2 +0.8**
VSU Vasula 147.12 336*c i*PKP2 **PKPbc 14 31 27.4 -0.5**
MARD Mardin 147.28 293 *i* P **PKPdf 14 31 26.8 -0.1**
BNGB Bing¨¶l 147.30 296 *e*P **PKPbc 14 31 27.1 -2.2**
KOPT Kop Dagi 147.36 298 *i* P **PKPdf 14 31 27.6 +0.4**
SOC Sochi 147.41 305 *e*PKIKP **PKPdf 14 31 25.9 -0.8**
SOC *i* 14 31 28.6
SOC *e* 14 31 42.2
SOC *e*PPP PPP 14 38 11.2
SOC pmax pmax
comp=Z,39nm,1.1s
SOC pmax pmax
comp=Z,302nm,1.1s
SOC MLR MLR
comp=Z,5µm,18.0s
MOL Molde 147.46 355 *e*P **PKPbc 14 31 28.5 -0.2**
BAYT Ayd¨¨ntepe-Bay 147.59 299 *e*P **PKPbc 14 31 27.2 -2.9**
MACK Trabzon 147.81 300 *i* P **PKPdf 14 31 27.3 -0.2**
DOMB Dombas 147.86 354 *e*P **PKPbc 14 31 28.9 -1.0**
ERZN Erzincan 147.99 297 *e*P **PKPbc 14 31 28.7 -2.4**
GUMT Gumushane 148.09 299 *e*P **PKPbc 14 31 32.6 +1.2**
EZC Erzincan 148.26 298 *e*P **PKPbc 14 31 30.5 -1.4**
KELT Kelkit 148.29 298 *i* P **PKPdf 14 31 28.8 +0.2**
PTK Pertek 148.31 296 *e*P **PKPbc 14 31 29.3 -2.8**
SVRC Sivrice-ELAZID 148.41 295 *e*P **PKPbc 14 31 28.3 -4.0**
FOO Floro 148.56 357 *e*P **PKPbc 14 31 32.3 +0.6**
NB2 NORSAR Subarra1 148.60 352 PKP **PKPbc 14 31 30.8 -1.1**
comp=Z,439nm,1.2s,baz=17,slow=2.6
NB2 NORSAR Subarra1 148.60 352 PKP **PKPbc 14 31 30.8 -1.1**
baz=17,slow=2.6
NOA NORSAR Array B 148.60 352 PKPbc **PKPbc 14 31 31.2 -0.7**
comp=Z,163nm,0.8s,baz=13,slow=4.5,SNR=135
NOA NORSAR Array B 148.60 352 PKP2 **PKPbc 14 31 31.2 -0.7**
NOA pmax pmax
comp=Z,163nm,0.8s
NOA NORSAR Array B 148.60 352 PKPbc **PKPbc 14 31 31.2 -0.7**
ELZG Elazig 148.65 295 *i* P **PKPdf 14 31 29.8 +0.6**
ANN Anapa 148.73 308 *i* PKHKP PKPpre 14 31 20.0

ANN *i* 14 31 32.4
ANN *e* 14 38 31.8
ANN pmax pmax
comp=N,54nm,1.1s
ANN pmax pmax
comp=E,55nm,1.1s
ANN pmax pmax
comp=Z,64nm,1.1s
NAO01 NORSAR Array S 148.83 352 PFAKE 14 31 40.0 +3.6
NAO01 LR LR
comp=Z,5µm,20.0s
URFA Urfa 148.84 293 *e*P **PKPbc 14 31 32.0 -1.4**
NC602 NORSAR Array S 148.85 351 *e*P **PKPbc 14 31 31.8 -0.8**
ILIC ilic-Erzincan 148.89 297 *e*P **PKPbc 14 31 35.1 +1.6**
KEMA Kemaliye 148.97 297 *i* P **PKPdf 14 31 29.7 +0.1**
SUSE Susehri 149.09 299 *i* P **PKPdf 14 31 29.9 +0.1**
HFS Hagfors 149.10 349 PKPbc **PKPbc 14 31 32.2 -0.9**
comp=Z,316nm,0.8s,baz=90,slow=1.5,SNR=61
HFS Hagfors 149.10 349 PKP2 **PKPbc 14 31 32.2 -0.9**
HFS pmax pmax
comp=Z,316nm,0.8s
HFS Hagfors 149.10 349 PKPbc **PKPbc 14 31 32.2 -0.9**
MALT Malatya 149.10 295 *e*P **PKPbc 14 31 35.8 +1.8**
MYA Malataya 149.10 295 *e*P **PKPbc 14 31 34.8 +0.8**
IZAR Zarasai 149.30 333 *e*P **PKPdf 14 31 29.0 -0.4**
IZAR AMB AMB 14 31 38.1
comp=Z,201nm,1.5s
IDID Didziasalis 149.41 332 *e*P **PKPdf 14 31 29.4 -0.2**
IDID AMB AMB 14 31 39.7
comp=Z,124nm,1.0s
ISAL Salakas 149.47 333 *e*P **PKPdf 14 31 29.4 -0.3**
ISAL AMB AMB 14 31 35.1
comp=Z,113nm,1.2s
MICGM Minsk 149.50 330‖ *e*PKP **PKPdf 14 31 29.0 -0.8**
AKCD Akcadag 149.50 295¯ *i* P **PKPdf 14 31 29.3 -1.2**
MNK Minsk 149.52 330‖ *e*PKHKP **PKPdf 14 31 29.0 -0.8**
MNK *e* 14 35 04.0
MNK *e* 14 38 28.0
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=E,480nm,1.6s
MNK pmax pmax
comp=N,250nm,1.2s
MNK MLR MLR
comp=Z,22µm,20.0s
MNK MLR MLR
comp=N,16µm,20.0s
IIGN Ignalina 149.60 333 *e*P **PKPdf 14 31 29.6 -0.4**
IIGN AMB AMB 14 31 35.5
comp=Z,130nm,1.1s
ASK Askoy 149.67 357 *e*P **PKPbc 14 31 33.0 -1.5**
NACGM Naroch 149.69 332 *e*PKP **PKPdf 14 31 27.0 -3.1**
RSDY Resadiye-TOKAT 149.72 299 *e*P **PKPbc 14 31 35.6 +0.2**
OSL Oslo 149.73 351 *e*P **PKPbc 14 31 35.0 +0.3**
RUND Rundenannen 149.74 357 *e*P **PKPbc 14 31 33.3 -1.4**
BER Bergen 149.77 357 *e*P **PKPbc 14 31 33.3 -1.4**
EGD Espegrend 149.88 357 *e*P **PKPbc 14 31 35.7 +0.6**
SCER sogukcermik 149.95 298 *i* P **PKPdf 14 31 31.1 -0.1**
ERBA Erbaa 150.11 300 *i* P **PKPdf 14 31 30.7 -0.6**
GAZ Gaziantep 150.13 293 *e*P **PKPbc 14 31 36.7 +0.2**
KONO Kongsberg 150.15 352 *e*P **PKPbc 14 31 35.3 -0.4**
KONO AMB AMB 14 31 44.8
comp=Z,327nm,0.9s
KONO Kongsberg 150.15 352 *e*PKP2 **PKPbc 14 31 35.2 -0.5**
KONO MLR MLR
comp=Z,8µm,22.0s
KONO Kongsberg 150.15 352 *e*PKPbc **PKPbc 14 31 35.1 -0.5**
KONO LR LR
comp=Z,8µm,22.0s
ODD1 Odda 150.16 355 *e*P **PKPbc 14 31 34.8 -1.1**
ODD1 AMB AMB 14 31 38.6
comp=Z,461nm,1.2s
KUZU Kuzuini 150.26 292 *i* P **PKPdf 14 31 31.4 -0.3**
ASF Jabal al Asfar 150.28 283 PKP **PKPdf 14 31 32.9 +1.0**
comp=Z,28nm,1.0s,baz=278,slow=0.5,SNR=11
ASF PKPbc **PKiKP 14 31 37.5 -0.4**
comp=Z,96nm,0.9s,baz=3.2,slow=1.0,SNR=44
ASF Jabal al Asfar 150.28 283 PKIKP **PKPdf 14 31 32.9 +1.0**
ASF 14 31 37.5
ASF pmax pmax
comp=Z,28nm,1.0s
ASF pmax pmax
comp=Z,96nm,0.9s
ASF Jabal al Asfar 150.28 283 PKP **PKPdf 14 31 32.9 +1.0**
ASF PKPbc **PKiKP 14 31 37.5 -0.4**
KMRS Kahramanmaras 150.36 294 *e*P **PKPbc 14 31 36.5 -0.5**
KVT Kavak 150.57 301 *e*P **PKPbc 14 31 36.9 -0.5**
PINB Pinarbasi 150.65 296 *i* P **PKPdf 14 31 31.9 -0.6**
BLS5 Blasjo 150.66 356 *e*P **PKPbc 14 31 37.6 +0.6**
BLS5 AMB AMB 14 31 44.6
comp=Z,152nm,1.1s
ANDN Andirin 150.80 294 *i* P PKPdf 14 31 25.4 -7.1
FKH Fakeheh 150.82 287 *e*P **PKPdf 14 31 33.0 +0.3**
SIM Simferopol' 150.93 309*c i*PKIKP **PKPdf 14 31 32.0 -0.4**
SIM *e* 14 31 48.0
SIM *e*PPS PPS 14 48 01.0
SIM pmax pmax
comp=Z,219nm,0.7s
SIM pmax pmax
comp=Z,1µm,18.3s
DIKM Dikmen 151.04 302 *e*P **PKPbc 14 31 38.1 -0.3**
HTY Hatay 151.04 291 *e*P **PKPbc 14 31 39.8 +1.2**
BNN Bunyan 151.06 296 *e*P PKPbc 14 31 32.0 -6.8
STAV Stavanger 151.19 356 *e*P **PKPbc 14 31 38.1 -0.1**
HWQ Hawqa 151.21 287 *e*P **PKPdf 14 31 32.5 -0.8**
KOZT Kozan 151.22 294 *e*P **PKPbc 14 31 38.5 -0.5**
AKASG Malin Array Be 151.24 323 PKP **PKPdf 14 31 31.2 -1.3**
comp=Z,16nm,0.9s,baz=62,slow=1.5,SNR=23
AKASG PKPbc **PKPbc 14 31 38.0 -0.6**
comp=Z,267nm,0.8s,baz=46,slow=2.9,SNR=128
AKASG Malin Array Be 151.24 323 PKIKP **PKPdf 14 31 31.3 -1.3**
AKASG 14 31 38.0
AKASG pmax pmax
comp=Z,16nm,0.9s
AKASG pmax pmax
comp=Z,267nm,0.8s
AKASG Malin Array Be 151.24 323 PKP **PKPdf 14 31 31.2 -1.3**
AKASG PKPbc **PKPbc 14 31 38.0 -0.6**
AKBB Malin Array Si 151.24 323 *e*PKIKP **PKPdf 14 31 31.3 -1.3**
AKBB *e* 14 31 37.3
AKBB Malin Array Si 151.24 323 *e*PKPdf **PKPdf 14 31 31.3 -1.3**
AKBB *e*PKPbc **PKPbc 14 31 37.3 -1.3**
KIEV Kiev 151.25 323*c i*PKIKP **PKPbc 14 31 38.2 -0.4**
KIEV Kiev 151.25 323 *e*PKPdf **PKPdf 14 31 31.9 -0.8**
KIEV *e*PKPbc **PKPbc 14 31 38.0 -0.6**
KIEV LR LR
comp=Z,5µm,22.0s
RCY Rachaya 151.27 285 *e*P **PKPdf 14 31 33.8 +0.3**
CEYT Ceyhan 151.31 293 *e*P **PKPbc 14 31 40.1 +0.9**
YOZ Yozgat 151.36 298 *e*P **PKPbc 14 31 39.3 -0.1**
BHL Bhannes 151.44 286 *e*P **PKPdf 14 31 33.1 -0.5**
MMAI Mount Meron Ar 151.61 284 PKP **PKPdf 14 31 33.7 -0.2**
comp=Z,0.6nm,0.3s,baz=315,slow=57,SNR=3.8
MMAI PKPbc **PKiKP 14 31 40.9 +0.4**
comp=Z,334nm,0.8s,baz=62,slow=4.1,SNR=75
MMAI Mount Meron Ar 151.61 284 PKP **PKPdf 14 31 33.7 -0.2**
MMAI PKPbc **PKiKP 14 31 40.9 +0.4**
HOMB Homborsund 151.62 353 *e*P **PKPbc 14 31 39.4 +0.2**
SNART Snartemo 151.68 354 *e*P **PKPbc 14 31 39.2 -0.2**
SNART AMB AMB 14 31 43.0
comp=Z,223nm,1.3s
SUW Suwalki 151.78 333 *e*PKPdf **PKPdf 14 31 35.3 +1.9**
SUW *e*PKPbc **PKPbc 14 31 39.4 -0.3**
SUW LMZ LR 15 28 07.7
comp=Z,10µm,33.5s
SUW Suwalki 151.78 333 *e*PKIKP **PKPdf 14 31 33.1 -0.2**
SUW *e* 14 31 40.0
SUW Suwalki 151.78 333 *e*PKPdf **PKPdf 14 31 33.1 -0.2**
SUW *e*PKPbc **PKiKP 14 31 40.0 -0.1**
CORM Corum 151.79 299 *e*P **PKPbc 14 31 40.5 +0.1**
AVNT Avonos 151.84 296 *i* P **PKPbc 14 31 40.4 -0.2**
BZK Bozkurt 151.88 303 *e*P **PKPbc 14 31 40.0 -0.4**
SACV Santiago Islan 151.88 117 PFAKE 14 31 50.0 -0.3
SACV LR LR
comp=Z,4µm,21.0s
TOS Tosya 152.08 301 *e*P **PKPbc 14 31 41.0 0.0**
CDAG Cicekdag 152.09 298 *i* P **PKPdf 14 31 33.3 -1.2**
NIG Nigde 152.12 295 *e*P **PKPbc 14 31 40.2 -1.2**
MERS Mersin 152.30 292 *e*P **PKPbc 14 31 41.4 -0.2**
CANT Cankiri 152.47 301 *e*P **PKPbc 14 31 41.0 -0.8**
BR131 Keskin Array S 152.62 299 *e*PKPdf **PKPdf 14 31 34.5 -0.8**
BR131 *e*PKPbc **PKPbc 14 31 41.7 -0.6**

BR131 LR LR
comp=Z,3µm,20.0s
BRTR Keskin Array B 152.62 299 PKP **PKPdf 14 31 34.5 -0.8**
comp=Z,5.3nm,0.8s,baz=116,slow=2.9,SNR=28
BRTR PKPbc **PKPbc 14 31 41.8 -0.6**
comp=Z,83nm,0.9s,baz=126,slow=2.5,SNR=72
BRTR Keskin Array B 152.62 299 PKIKP **PKPdf 14 31 34.5 -0.8**
BRTR 14 31 41.8
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR pmax pmax
comp=Z,83nm,0.9s
BRTR Keskin Array B 152.62 299 PKP **PKPdf 14 31 34.5 -0.8**
BRTR PKPbc **PKPbc 14 31 41.8 -0.6**
KAMT Kaman 152.63 298 *eP* **PKPbc 14 31 41.7 -0.6**
EREN Erenkoy 152.66 290 *eP* **PKPbc 14 31 42.2 -0.1**
PHNC Paralimni 152.79 288 P **PKPbc 14 31 40.8 -1.8**
comp=Z,12nm,1.0s
SULT Sultanhani-AKS 152.96 296 *eP* **PKPbc 14 31 41.7 -1.4**
SAFT Safranbolu 153.01 302 *eP* **PKPbc 14 31 42.6 -0.4**
BBAL Bala 153.05 299 *i* P **PKPdf 14 31 35.0 -0.9**
AFSR Af˙ar-Bala (A 153.11 298 *eP* **PKPbc 14 31 43.2 -0.2**
LFK Lefkose 153.19 289 *eP* **PKPbc 14 31 42.2 -1.4**
MUD Monsted U'grnd 153.32 351 *e*PKIKP **PKPbc 14 31 43.3 +0.3**
MUD pmax pmax
comp=Z,150nm,0.9s
MUD Monsted U'grnd 153.32 351 *i* P **PKPbc 14 31 43.3 +0.3**
comp=Z,152nm,0.9s
CSS Prodhromos 153.36 288 P **PKPbc 14 31 41.8 -2.1**
comp=Z,5.0nm,0.9s
CSS Prodhromos 153.36 288 *eP* **PKPdf 14 31 35.9 -0.5**
CSS Prodhromos 153.36 288 *e*PKPdf **PKPdf 14 31 35.8 -0.5**
CSS *e*PKPbc **PKPbc 14 31 43.1 -0.9**
CSS P **PKiKP 14 31 44.0 -0.1**
CSS LR LR
comp=Z,14µm,21.0s
KIS Kishinev 153.45 317 *i* PKIKP **PKPbc 14 31 42.0 -1.7**
KIS *e* 14 48 30.0
KIS Kishinev 153.45 317 *e*PKIKP **PKPbc 14 31 42.0 -1.7**
KIS LRM MLR 15 37 40.0
comp=Z,10µm,24.0s
MAMC Mammari 153.45 289 P **PKPbc 14 31 43.6 -0.5**
BSD Bornholm Skovb 153.50 343 *i* PKIKP **PKPbc 14 31 43.4 -0.1**
BSD pmax pmax
comp=Z,130nm,0.9s
BSD Bornholm Skovb 153.50 343 *i* P **PKPbc 14 31 43.4 -0.1**
comp=Z,133nm,0.9s
COP Copenhagen 153.52 347 *e*PKIKP **PKPbc 14 31 45.1 +1.6**
COP pmax pmax
comp=Z,130nm,0.9s
COP Copenhagen 153.52 347 *i* P **PKPbc 14 31 45.1 +1.6**
comp=Z,127nm,0.9s
LEF Lefka 153.72 289 *eP* **PKPbc 14 31 43.9 -0.8**
SZAC Souni-Zanaja 153.74 288 P **PKPbc 14 31 43.8 -1.0**
LLD Lille Linde 153.90 347 *i* PKIKP **PKPbc 14 31 45.9 +1.6**
LLD pmax pmax
comp=Z,210nm,0.8s
LLD Lille Linde 153.90 347 *i* P **PKPbc 14 31 45.9 +1.6**
comp=Z,206nm,0.8s
ALFC Alevga 153.96 289 P **PKPbc 14 31 44.2 -1.0**
comp=Z,6.4nm,0.7s
LEOM Leova 154.05 316 ⇑PKIKP **PKPbc 14 31 45.0 0.0**
LEOM Leova 154.05 316 ⇑*i*P **PKPbc 14 31 45.0 0.0**
KIZT Kizilcal 154.12 298 *eP* **PKPbc 14 31 45.0 -0.6**
PPCY Paphos 154.18 288 P **PKPbc 14 31 46.8 +1.2**
SVRH Sivrihisar-ESK 154.28 299 *eP* **PKPbc 14 31 47.1 +1.2**
MDUB Mudurnu 154.29 301 *eP* **PKPbc 14 31 44.7 -1.2**
TLCR 154.30 313 ⇑PKIKP **PKPdf 14 31 40.6 +3.3**
TLCR 154.30 313 ⇑*i*P **PKPdf 14 31 40.6 +3.3**
LVV L'vov 154.40 326 *e*PKIKP **PKPdf 14 31 35.8 -1.5**
GKP Gorka Klasztor 154.47 339 *e*PKPdf **PKPdf 14 31 39.4 +2.2**
GKP *e*PKPbc **PKiKP 14 31 45.9 +0.2**
GKP *e*PKPab **PKPab 14 31 59.6 -0.5**
GKP LMZ LR 15 39 05.9
comp=Z,11µm,23.3s
GKP Gorka Klasztor 154.47 339 *e*PKIKP **PKPdf 14 31 39.4 +2.2**
ESK Eskdalemuir 154.63 7 PKIKP **PKPbc 14 31 44.7 -1.2**
ESK *e* 14 32 00.2
ESK MLR MLR
comp=Z,5µm,19.0s
ESK Eskdalemuir 154.63 7 PKPbc **PKPbc 14 31 44.7 -1.2**
ESK *e*PKPab **PKPab 14 32 00.1 -0.6**
ESK LR LR
comp=Z,5µm,19.0s
CFR Carcaliu 154.74 313 ⇑PKIKP **PKPdf 14 31 37.6 -0.3**
CFR Carcaliu 154.74 313 ⇑*i*P **PKPdf 14 31 37.6 -0.3**
ESKT Eskisehir 154.78 299 *eP* **PKPdf 14 31 37.7 -0.7**
BOLV Bolvadin 154.86 297 *i* P **PKPdf 14 31 36.1 -2.4**
TIRR Tirgusor 154.88 312 ⇓PKIKP **PKPdf 14 31 37.4 -0.7**
TIRR Tirgusor 154.88 312 *e*PKPbc **PKPbc 14 31 46.2 -0.6**
TIRR Tirgusor 154.88 312 ⇓*i*P **PKPdf 14 31 37.4 -0.7**
EFOR EFORIE 154.90 311 ⇓*i*P **PKPbc 14 31 48.1 +1.3**
MANR Mangalia 155.03 310 ⇓*i*P **PKPdf 14 31 40.8 +2.5**
KWP Kalwaria Pacla 155.16 327 *e*PKP PKPbc 14 31 52.2
KWP *e*PKPab **PKPab 14 32 02.8 -0.4**
KWP LMZ LR 15 39 16.8
comp=Z,13µm,23.7s
KWP Kalwaria Pacla 155.16 327 *e*PKIKP **PKPdf 14 31 37.8 -0.6**
KWP *e* 14 31 47.6
KWP MLR MLR
comp=Z,11µm,21.0s
KWP Kalwaria Pacla 155.16 327 *e*PKPdf **PKPdf 14 31 37.8 -0.6**
KWP *e*PKPbc PKPab 14 31 47.6 -16
KWP LR LR
comp=Z,11µm,21.0s
BUR08 Bucovina Ar. S 155.17 321 *e*PKPdf **PKPdf 14 31 38.1 -0.5**
BUR08 *e*PKPbc PKPab 14 31 48.3 -15
BURAR Bucovina Array 155.17 321 ⇓*i*P PKPdf 14 31 49.0 +10
LIC Lamto 155.19 163 *e*PKIKP **PKPdf 14 31 39.9 +0.4**
comp=Z,187nm,0.9s
LIC *e*R
comp=Z,9µm,22.5s
VRI Vrincioaia 155.27 316 ⇑PKIKP **PKPdf 14 31 38.3 -0.3**
VRI Vrincioaia 155.27 316 ⇑*i*P **PKPdf 14 31 38.3 -0.3**
PLOR Plostina 155.32 316 ⇓PKIKP PKPdf 14 31 47.7 +8.9
PLOR Plostina 155.32 316 ⇓*i*P PKPdf 14 31 47.7 +8.9
HRT Hereke 155.32 303 *eP* PKPdf 14 31 48.3 +9.3
PSN Preselentsi 155.35 310 *eP* **PKPab 14 32 05.6 +1.4**
ADVT Abdulvahap 155.38 302 *eP* PKPdf 14 31 45.2 +6.3
AMRR Amara 155.50 313 ⇓PKIKP PKPdf 14 31 49.0 +10
AMRR Amara 155.50 313 ⇓*i*P PKPdf 14 31 49.0 +10
PGOR Pogoanele 155.58 314 ⇓*i*P PKPdf 14 31 47.3 +8.3
KORT Korkueli 155.61 294 *i* P **PKPdf 14 31 38.6 -1.0**
DBIC Dimbokro 155.66 163 PKP **PKPdf 14 31 40.4 +0.3**
comp=Z,9.8nm,0.6s,baz=153,slow=2.3,SNR=12
DBIC PKPab **PKPab 14 32 10.3 +4.2**
comp=Z,43nm,0.9s,baz=178,slow=4.9,SNR=7.7
DBIC Dimbokro 155.66 163 *e*PKIKP **PKPdf 14 31 39.8 -0.3**
DBIC MLR MLR
comp=Z,6µm,21.0s
DBIC Dimbokro 155.66 163 *e*PKPdf **PKPdf 14 31 39.8 -0.3**
DBIC PKP PKPbc 14 31 40.4
DBIC PKPab **PKPab 14 32 10.3 +4.2**
DBIC LR LR
comp=Z,6µm,21.0s
ISR Istrita 155.75 315 ⇑PKIKP PKPdf 14 31 46.4 +7.0
ISR Istrita 155.75 315 ⇑*i*P PKPdf 14 31 46.4 +7.0
KOLS Kolonicke sedl 155.84 326 *e*PKIKP **PKPdf 14 31 39.0 -0.3**
KOLS Kolonicke sedl 155.84 326 *e*PKP **PKPdf 14 31 39.0 -0.3**
CMLA Cha da Macela 155.92 64 PFAKE 14 31 50.0 +10
CMLA LR LR
comp=Z,4µm,22.0s
MLR Muntele Rosu 155.93 316 PKP **PKPdf 14 31 38.4 -1.3**
comp=Z,0.8nm,0.4s,baz=172,slow=12,SNR=8.5
MLR Muntele Rosu 155.93 316 PKIKP **PKPdf 14 31 38.4 -1.3**
MLR pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 155.93 316 PKP **PKPdf 14 31 38.4 -1.3**
STHS Stebnicka Huta 155.99 328 *e*PKIKP **PKPdf 14 31 39.9 +0.4**
STHS *e* 14 31 56.6
STHS Stebnicka Huta 155.99 328 *e*PKP **PKPdf 14 31 39.9 +0.4**
STHS *e* 14 31 56.6
STHS *e* 14 32 10.7
DOPR Dopca 156.01 317 ⇑*i*P **PKPdf 14 31 42.8 +3.1**
OJC Ojcow 156.02 331 *e*PKPdf **PKPdf 14 31 38.3 -1.2**
OJC *ep*PKPdf **pPKPdf 14 31 48.4 -1.5**
OJC Ojcow 156.02 331 *e*PKIKP **PKPdf 14 31 38.3 -1.2**
OJC *e* 14 31 48.4
UZH Uzhgorod 156.04 326 *i* PKIKP **PKPdf 14 31 43.6 +4.1**
UZH *e* 14 31 52.8
UZH *e* 14 38 42.4
UZH *e*SS SS 14 56 23.4 +53
BMR Baia Mare 156.06 323 ⇓PKIKP PKPdf 14 31 50.2 +11
BMR Baia Mare 156.06 323 ⇓*i*P PKPdf 14 31 50.2 +11
PRD Provadia 156.07 310 *eP* **PKPab 14 32 08.6 +1.3**
SECR 156.09 315 ⇑*i*P PKPdf 14 31 45.3 +5.5
DLF Lyons Farm 156.09 13 *eP* PKPdf 14 31 48.5 +9.1
SULR 156.15 314 ⇓*i*P PKPdf 14 31 45.3 +5.5
DSB Dublin 156.17 13 *e*PKPab **PKPab 14 32 08.4 +1.1**
RUE Ruedersdorf 156.17 342 *e*PKPdf **PKPdf 14 31 38.7 -0.8**
CRVS Cervenica-Dubn 156.25 327 *e*PKIKP **PKPdf 14 31 39.6 -0.3**
CRVS *e* 14 32 08.6
CRVS Cervenica-Dubn 156.25 327 *e*PKP **PKPdf 14 31 39.6 -0.3**
CRVS *e* 14 32 08.6
TRPA Tarpa 156.26 325 ⇓*i*P **PKPdf 14 31 40.9 +1.1**
TRPA Tarpa 156.26 325 ⇑*e*PKPdf **PKPdf 14 31 37.5 -2.3**
AKAS Kas 156.30 292 *i* P **PKPdf 14 31 44.6 +4.1**
NIE Niedzica 156.40 329 *e*PKPdf **PKPdf 14 31 40.0 -0.1**
NIE Niedzica 156.40 329 *e*PKIKP **PKPdf 14 31 40.0 -0.1**
VOIR 156.50 317 ⇓PKIKP **PKPdf 14 31 41.4 +1.0**
VOIR 156.50 317 ⇓*i*P **PKPdf 14 31 41.4 +1.0**
DNZL Cakiroluk 156.53 296 *i* P **PKPdf 14 31 40.4 -0.5**
KSP Ksiaz 156.84 337 *e*PKPdf **PKPdf 14 31 40.1 -0.4**
KSP *e*PKPab **PKPab 14 32 09.6 -0.7**
KSP LMZ LR 15 43 37.4
comp=Z,11µm,22.2s
KSP Ksiaz 156.84 337 *e*PKIKP **PKPdf 14 31 40.1 -0.4**
KSP *e* 14 35 46.0
KSP *e*PPP PPP 14 39 25.0
KSP *e*PPS PPS 14 48 55.0
JMB Yambol 156.92 309 *eP* **PKPab 14 32 13.9 +2.9**
OKC Ostrava-Krasne 156.99 333 *e*PKIKP **PKPdf 14 31 40.8 +0.1**
OKC MLR MLR
comp=Z,7µm,24.2s
OKC Ostrava-Krasne 156.99 333 *e*PKPDF **PKPdf 14 31 40.8 +0.1**
OKC *e*PKPAB **PKPab 14 32 10.9 -0.1**
OKC AMS AMS 15 38 40.0
comp=Z,7µm,24.2s
NRDL Niedersach Rie 156.99 347 *e*PKPdf **PKPdf 14 31 39.6 -1.0**
NRDL *e*PKPab **PKPab 14 32 10.4 -0.4**
HUMR Humele 157.01 315 ⇓*i*P **PKPdf 14 31 44.0 +3.0**
BALY Balya 157.13 301 *eP* **PKPdf 14 31 36.6 -4.8**
AKS Akhisar 157.22 299 *eP* **PKPdf 14 31 40.3 -1.1**
UPC Upice 157.22 337 *e*PKIKP **PKPdf 14 31 40.9 -0.1**
UPC *e* 14 31 57.5
UPC Upice 157.22 337 *e*PKPDF **PKPdf 14 31 40.9 -0.1**
UPC *ep*PKP **pPKPdf 14 31 57.5 +6.0**
UPC *e*PKPAB **PKPab 14 32 12.2 +0.2**
LOT Lotru 157.24 318 ⇑*i*P PKPdf 14 31 49.3 +7.9
DPC Dobruska-Polom 157.25 336 *e*PKIKP **PKPdf 14 31 41.1 0.0**
DPC *e* 14 31 57.9
DPC MLR MLR
comp=Z,10µm,23.8s
DPC Dobruska-Polom 157.25 336 *e*PKPDF **PKPdf 14 31 41.1 0.0**
DPC ⇑*e*PKP PKPab 14 31 57.9 -14
DPC *e*PKPAB PKPab 14 32 12.1 -0.1
DPC AMS AMS 15 43 00.0
comp=Z,10µm,23.8s
MORC Moravsky Berou 157.27 334 ⇓PKIKP **PKPdf 14 31 41.5 +0.3**
MORC Moravsky Berou 157.27 334 *e*PKPdf **PKPdf 14 31 40.2 -0.9**
MORC Moravsky Berou 157.27 334 ⇓*i*P **PKPdf 14 31 41.5 +0.3**
KRLC Kraliky 157.31 335 *e*PKPDF **PKPdf 14 31 41.4 +0.2**
KRLC *e*PKPAB **PKPab 14 32 12.0 -0.5**
CLL Collm 157.44 342 *e*PKPdf **PKPdf 14 31 40.4 -0.9**
CLL *e*PKPab **PKPab 14 32 12.0 -0.9**
CLL Collm 157.44 342 *i* PKIKP **PKPdf 14 31 40.4 -0.9**
CLL pmax pmax
comp=Z,229nm,2.5s
CLL pmax pmax
comp=Z,258nm,1.3s
CLL MLR MLR
comp=Z,9µm,27.7s
CLL Collm 157.44 342 *i* PKPdf **PKPdf 14 31 40.4 -0.9**
comp=Z,229nm,2.5s
CLL *i* PKPdif PKPab 14 31 51.2 -22
CLL *i* PKPab PKPab 14 32 11.7 -1.2
comp=Z,258nm,1.3s
CLL *e*PP **PP 14 35 52.0 +0.5**
CLL *e*PPP PPP 14 39 30.0
CLL *e*SKSP 14 46 11.0
CLL *e*PPS PPS 14 49 08.0
CLL *e*SS SS 14 56 02.0 +17
CLL *e*SSS SSS 15 02 06.0
AYDN Tasoluk 157.44 296 *i* P **PKPdf 14 31 41.2 -0.6**
IBBN Ibbenburen 157.55 351 *e*PKPdf **PKPdf 14 31 39.8 -1.6**
IBBN *e*PKPab **PKPab 14 32 13.1 -0.2**
CLZ Clausthal 157.56 347 *e*PKPdf **PKPdf 14 31 40.4 -1.1**
CLZ *e*PKPab **PKPab 14 32 13.6 +0.2**
CLZ Clausthal 157.56 347 *e*PKIKP **PKPdf 14 31 40.4 -1.1**
BRG Berggiesshubel 157.57 340 *i* PKP **PKPdf 14 31 40.8 -0.7**
comp=Z,68nm,1.6s
BRG *i* 14 32 13.2
comp=Z,180nm,1.1s
BRG PP **PP 14 35 50.0 -2.3**
BRG SS SS 14 55 48.0 +1.8
BRG
comp=N,7µm,25.1s
BRG
comp=E,5µm,23.3s
BRG
comp=Z,9µm,25.1s
BRG Berggiesshubel 157.57 340 *e*PKPdf **PKPdf 14 31 40.7 -0.7**
BRG *e*PKPab **PKPab 14 32 13.2 -0.2**
BRG Berggiesshubel 157.57 340 *i* PKIKP **PKPdf 14 31 40.8 -0.7**
BRG 14 35 50.0
BRG SS SS 14 55 48.0 +1.8
BRG pmax pmax
comp=Z,68nm,1.6s
BRG pmax pmax
comp=Z,180nm,1.1s
BRG MLR MLR
comp=N,7µm,25.1s
BRG MLR MLR
comp=E,5µm,23.3s
BRG MLR MLR
comp=Z,9µm,25.1s
PVCC Panska Ves 157.68 339 *e*PKIKP **PKPdf 14 31 41.3 -0.3**
PVCC MLR MLR
comp=Z,9µm,25.1s
PVCC Panska Ves 157.68 339 *e*PKPDF **PKPdf 14 31 41.3 -0.3**
PVCC *e*PKPAB **PKPab 14 32 13.9 0.0**
PVCC *ex* x 15 02 18.6
PVCC AMS AMS 15 38 50.0
comp=Z,9µm,25.1s
PSZ Piszkesteto 157.69 327 ⇑PKIKP **PKPdf 14 31 40.7 -1.1**
PSZ Piszkesteto 157.69 327 *e*PKPdf **PKPdf 14 31 40.5 -1.3**
PSZ LR LR
comp=Z,9µm,22.0s
PSZ Piszkesteto 157.69 327 ⇑*i*P **PKPdf 14 31 40.7 -1.1**
PSZ Piszkesteto 157.69 327 ⇑*e*PKPdf **PKPdf 14 31 40.9 -0.9**
FBE Freiberg 157.69 341 *e*PKPdf **PKPdf 14 31 41.8 +0.2**
VYHS Vyhne 157.74 330 *e*PKIKP **PKPdf 14 31 40.6 -1.2**
VYHS *e* 14 32 13.9
VYHS Vyhne 157.74 330 *e*PKP **PKPdf 14 31 40.6 -1.2**
VYHS *e* 14 32 13.9
NEUB Neuenburg 157.84 344 *e*PKPdf **PKPdf 14 31 41.1 -0.7**
GZR Gura Zlata 157.84 319 ⇑PKIKP **PKPdf 14 31 41.1 -1.0**
GZR Gura Zlata 157.84 319 ⇑*i*P **PKPdf 14 31 41.1 -1.0**
ALN Alexandroupoli 157.90 305 *eP* **PKPdf 14 31 45.8 +3.6**
VRAC Vranov 158.01 334 PKP **PKPdf 14 31 42.2 +0.2**
comp=Z,8.0nm,0.9s,baz=209,slow=2.5,SNR=8.7
VRAC PKPab **PKPab 14 32 15.7 +0.3**
comp=Z,46nm,1.0s,baz=60,slow=2.6,SNR=8.8
VRAC PP **PP 14 35 53.6 -1.3**
comp=Z,5.0nm,0.9s,baz=140,slow=9.4,SNR=3.1
VRAC Vranov 158.01 334 ⇓PKIKP **PKPdf 14 31 42.0 -0.1**
VRAC Vranov 158.01 334 PKP **PKPdf 14 31 42.2 +0.2**
VRAC PKPab **PKPab 14 32 15.7 +0.3**
VRAC PP **PP 14 35 53.6 -1.3**
VRAC Vranov 158.01 334 ⇓*i*P **PKPdf 14 31 42.0 -0.1**
PRA Prague 158.12 338 PKPDF **PKPdf 14 31 41.4 -0.7**
PRA *ex* x 14 31 52.7
PRA PKPAB **PKPab 14 32 15.2 -0.7**
PRU Pruhonice 158.16 338 *e*PKIKP **PKPdf 14 31 41.8 -0.4**
PRU *e* 14 31 57.8
PRU *e* 14 32 16.3
PRU MLR MLR
comp=Z,6µm,24.9s
PRU Pruhonice 158.16 338 *e*PKPDF **PKPdf 14 31 41.8 -0.4**
PRU *ep*PKP **pPKPdf 14 31 57.8 +5.2**
PRU *e*PKPAB **PKPab 14 32 16.3 +0.3**
PRU *ex* x 15 02 23.4
PRU AMS AMS 15 42 20.0
comp=Z,6µm,24.9s
SMG Samos 158.24 297 *eP* **PKPdf 14 31 45.9 +3.2**
BOZC Bozcaada 158.25 303 *i* P **PKPdf 14 31 40.9 -1.8**
URLA Izmir 158.27 298 *i* P **PKPdf 14 31 41.3 -1.4**
SMOL Smolenice 158.32 332 *e*PKP2 **PKPab 14 32 12.1 -4.7**
SMOL Smolenice 158.32 332 *e* **PKPab 14 32 12.1 -4.7**
SMOL Smolenice 158.32 332 *e*PKP **PKPab 14 32 19.7 +2.9**
KARP Karpathos 158.36 291 *eP* PKPdf 14 31 58.2 +15
BZS Buzias 158.36 321 ⇑PKIKP **PKPdf 14 31 41.3 -1.3**
BZS Buzias 158.36 321 ⇑*i*P **PKPdf 14 31 41.3 -1.3**
TANN Tannenbergstha 158.40 342 *e*PKPdf **PKPdf 14 31 42.0 -0.6**
TANN *e*PKPab **PKPab 14 32 16.7 -0.4**
MOX Moxa 158.40 343 *e*PKPdf **PKPdf 14 31 41.1 -1.4**
MOX *e*PKPab **PKPab 14 32 17.0 -0.1**
MOX *e*L L 15 52 28.6
comp=Z,6µm,20.6s
MOX Moxa 158.40 343 *e*PKIKP **PKPdf 14 31 41.1 -1.4**
MOX *e* 14 32 17.0
BUD Budapest 158.41 328 ⇑*e*PKPdf **PKPdf 14 31 41.7 -0.9**
WERD Werda 158.41 342 *e*PKPdf **PKPdf 14 31 41.7 -0.8**
PLN Plauen 158.41 342 *e*PKPdf **PKPdf 14 31 41.4 -1.1**
TREC Trest 158.43 336 *e*PKIKP **PKPdf 14 31 41.9 -0.7**
TREC *e* 14 32 16.3
TREC MLR MLR
comp=Z,10µm,24.3s
TREC Trest 158.43 336 *e*PKPDF **PKPdf 14 31 41.9 -0.7**
TREC *e*PKPAB **PKPab 14 32 16.3 -1.0**
TREC AMS AMS 15 42 00.0
comp=Z,10µm,24.3s
BUG Bochum--Univer 158.47 351 *e*PKPdf **PKPdf 14 31 42.0 -0.5**
BUG *e*PKPab **PKPab 14 32 16.9 -0.4**
GUNZ Gunzen 158.48 342 *e*PKPdf **PKPdf 14 31 41.8 -0.8**
PGB Panagyurishte 158.50 311 *eP* **PKPab 14 32 20.5 +2.6**
WERN Wernitzgruen 158.53 342 *e*PKPdf **PKPdf 14 31 41.1 -1.6**
NKC Novy Kostel 158.56 342 *e*PKPdf **PKPdf 14 31 40.1 -2.6**
NKC Novy Kostel 158.56 342 *e*PKIKP **PKPdf 14 31 42.2 -0.5**
NKC *e* 14 32 17.8
NKC MLR MLR
comp=Z,9µm,29.4s
NKC Novy Kostel 158.56 342 *e*PKPDF **PKPdf 14 31 42.2 -0.5**
NKC *e*PKPAB **PKPab 14 32 17.8 0.0**
NKC AMS AMS 15 33 40.0
comp=Z,9µm,29.4s
ROHR Rohrbach 158.60 342 *e*PKPdf **PKPdf 14 31 42.2 -0.6**
UBBA Unterbreizbach 158.60 346 *e*PKPdf **PKPdf 14 31 43.2 +0.6**
UBBA *e*PKPab **PKPab 14 32 18.2 +0.4**
CHOS Chios island 158.68 299 *eP* PKPab 14 32 03.3 -16
ZST Bratislava 158.71 332 *e*PKIKP **PKPdf 14 31 42.9 0.0**
ZST Bratislava 158.71 332 *e*PKP **PKPdf 14 31 42.9 0.0**
PKSG 158.76 328 ⇓*e*PKPdf **PKPdf 14 31 42.4 -0.6**
PKST T˜'s 159.03 329 *e*PKPdf **PKPdf 14 31 41.2 -2.2**
PKS2 Kecel 159.03 325 ⇓*e*PKPdf **PKPdf 14 31 43.2 -0.1**
ROTZ Rotzenmuhle 159.05 342 *e*PKPab **PKPab 14 32 20.2 +0.3**
VTS Vitosha 159.10 312 ⇓PKIKP **PKPdf 14 31 42.6 -1.2**
VTS Vitosha 159.10 312 P **PKPdf 14 31 42.4 -1.4**
VTS Vitosha 159.10 312 P **PKPdf 14 31 42.4 -1.4**
VTS Vitosha 159.10 312 ⇓*i*P **PKPdf 14 31 42.6 -1.2**
VTS Vitosha 159.10 312 *eP* **PKPab 14 32 22.9 +2.3**
KHC Kasperske Hory 159.21 338 *e*PKIKP **PKPdf 14 31 43.2 -0.4**
KHC *e* 14 31 57.5
KHC *e* 14 32 00.7
KHC *e* 14 36 03.5
KHC MLR MLR
comp=Z,11µm,27.0s
KHC Kasperske Hory 159.21 338 *e*PKPdf **PKPdf 14 31 41.7 -1.9**
KHC Kasperske Hory 159.21 338 *e*PKPDF **PKPdf 14 31 43.2 -0.4**
KHC *ep*PKP **pPKPdf 14 31 57.5 +3.5**
KHC *e*PKPAB **PKPab 14 32 20.7 0.0**
KHC *ex* x 14 32 58.0
KHC *e*PP **PP 14 36 03.5 +2.1**
KHC *ex* x 15 02 30.6
KHC AMS AMS 15 42 10.0
comp=Z,11µm,27.0s
MMB Musomiste 159.22 309 *eP* **PKPab 14 32 22.9 +1.8**
BEBN Eben Emael 159.28 354 PKPab **PKPab 14 32 20.1 -0.7**
SOP Sopron 159.34 332 ⇓*e*PKPdf **PKPdf 14 31 43.4 -0.3**
GRF Grafenberg Arr 159.38 343 *e*PKPdf **PKPdf 14 31 42.9 -0.8**
GRF *e*PKPab **PKPab 14 32 21.5 +0.1**
GRF *e*L L 15 54 21.5
comp=Z,5µm,20.6s
GRF Grafenberg Arr 159.38 343 *e*PKIKP **PKPdf 14 31 42.9 -0.8**
GRF *e* 14 32 21.5
GRFO Grafenberg 159.38 343 *e*PKP2 **PKPab 14 32 21.4 0.0**
GRFO Grafenberg 159.38 343 *e*PKPab **PKPab 14 32 21.4 0.0**
APE Apeiranthos 159.40 296 ⇓PKIKP **PKPdf 14 31 48.6 +4.4**
APE Apeiranthos 159.40 296 *eP* PKPdf 14 31 52.4 +8.2
APE Apeiranthos 159.40 296 ⇓*i*P **PKPdf 14 31 48.6 +4.4**
PKS9 Tamasi 159.41 327 ⇓*e*PKPdf **PKPdf 14 31 43.2 -0.6**
CONA Conrad Observa 159.42 333 ⇓*i*P **PKPdf 14 31 43.2 -0.7**
CONA Conrad Observa 159.42 333 ⇓*i*PKPdf **PKPdf 14 31 43.2 -0.7**
comp=Z,28nm,2.2s
WET Wettzell 159.42 340 *e*PKPdf **PKPdf 14 31 42.6 -1.2**
WET *e*PKPab **PKPab 14 32 21.7 +0.1**
WET Wettzell 159.42 340 *e*PKIKP **PKPdf 14 31 42.6 -1.2**
WET *e* 14 32 21.7
GEC2 GERESS Array S 159.42 338 *e*PKPdf **PKPdf 14 31 42.9 -1.0**
GEC2 *e*PKPab **PKPab 14 32 21.7 0.0**
GEC2 GERESS Array S 159.42 338 *e*PKIKP **PKPdf 14 31 42.9 -1.0**
GEC2 *e* 14 32 21.7
GERES GERESS Array B 159.42 338 PKP **PKPdf 14 31 43.3 -0.6**
comp=Z,9.5nm,1.0s,baz=90,slow=1.3,SNR=20
GERES PKPab **PKPab 14 32 21.0 -0.7**
comp=Z,24nm,1.0s,baz=27,slow=2.9,SNR=7.3
GERES GERESS Array B 159.42 338 PKIKP **PKPdf 14 31 43.3 -0.6**
GERES 14 32 21.0
GERES pmax pmax
comp=Z,10.0nm,1.0s
GERES pmax pmax
comp=Z,24nm,1.0s
GERES GERESS Array B 159.42 338 PKP **PKPdf 14 31 43.3 -0.6**
GERES PKPab **PKPab 14 32 21.0 -0.7**
MEM Membach 159.43 353 PKPdf **PKPdf 14 31 43.6 -0.1**
MEM PKPab **PKPab 14 32 21.1 -0.4**
TNS Taunus Mts 159.47 348 *e*PKPdf **PKPdf 14 31 43.8 0.0**
TNS *e*PKPab **PKPab 14 32 21.6 -0.2**
TNS Taunus Mts 159.47 348 *e*PKIKP **PKPdf 14 31 43.8 0.0**
TNS *e* 14 32 21.6
PKSM Moragy 159.51 326 ⇑PKIKP **PKPdf 14 31 43.3 -0.6**
PKSM Moragy 159.51 326 ⇑*i*P **PKPdf 14 31 43.3 -0.6**
PKSM Moragy 159.51 326 ⇑*e*PKPdf **PKPdf 14 31 42.9 -1.0**
KKB Krupnik 159.53 310 *eP* **PKPab 14 32 24.6 +2.3**
NPS Neapolis 159.65 290 *eP* PKPdf 14 32 03.2 +19
SNF Seneffe 159.68 356 PKPdf **PKPdf 14 31 43.6 -0.4**
SNF PKPab **PKPab 14 32 21.9 -0.6**
BCLA Clavier 159.69 354 PKPab **PKPab 14 32 21.8 -0.9**
RHK3 Tenkes 159.93 326 *e*PKPdf **PKPdf 14 31 43.5 -0.9**
ABH Alteburg 159.95 350 PKP **PKPdf 14 31 44.1 -0.3**
TOD Tromm 160.00 347 PKIKP **PKPdf 14 31 43.9 -0.5**
TOD Tromm 160.00 347 PKP **PKPdf 14 31 43.9 -0.5**
DOU Dourbes 160.07 355 PKPab **PKPab 14 32 23.6 -0.7**
ARSA Arzberg 160.10 332 ⇑*i*P **PKPdf 14 31 43.0 -1.6**
ARSA Arzberg 160.10 332 ⇑*i*PKPdf **PKPdf 14 31 43.0 -1.6**
comp=Z,24nm,2.0s,SNR=6.0
VAY Valandovo 160.12 309 *e*Pn **PKPdf 14 31 42.5 -2.2**
BAIF Baives 160.13 356 *e*PKIKP **PKPdf 14 31 43.7 -0.8**
comp=Z,132nm,1.4s
BEHE Becsehely 160.19 329 ⇑*e*PKPdf **PKPdf 14 31 43.1 -1.6**
RUP Ruppelstein 160.19 351 PKIKP **PKPdf 14 31 44.3 -0.4**
RUP Ruppelstein 160.19 351 PKP **PKPdf 14 31 44.3 -0.4**
WLF Walferdange 160.35 352 PKPdf **PKPdf 14 31 44.3 -0.5**
WLF PKPab **PKPab 14 32 25.6 +0.1**
WLF Walferdange 160.35 352 *e*PKPdf **PKPdf 14 31 44.3 -0.5**
WLF *e*PKPab **PKPab 14 32 25.6 +0.1**
WLF Walferdange 160.35 352 *e*PKIKP **PKPdf 14 31 44.0 -0.7**
WLF *e* 14 32 25.2
WLF MLR MLR
comp=Z,12µm,20.0s
WLF Walferdange 160.35 352 *e*PKPdf **PKPdf 14 31 44.0 -0.7**
WLF *e*PKPab **PKPab 14 32 25.2 -0.3**
WLF LR LR
comp=Z,12µm,20.0s
ERET Eretria 160.35 300 P **PKPdf 14 31 43.4 -1.8**
MRKA Markates 160.43 301 P **PKPdf 14 31 43.2 -2.0**
XOR Xorichti 160.49 304 P **PKPdf 14 31 43.4 -1.9**
XOR Xorichti 160.49 304 P **PKPdf 14 31 43.4 -1.9**
VLY Voula,Athens 160.54 299 *eP* PKPdf 14 31 51.7 +6.3
RJOB Jochberg 160.69 338 *e*PKPab **PKPab 14 32 27.3 +0.1**
LIT Litokhoron 160.71 306 PKIKP **PKPdf 14 31 43.4 -2.1**
LIT Litokhoron 160.71 306 P **PKPdf 14 31 43.4 -2.1**
LIT Litokhoron 160.71 306 P **PKPdf 14 31 43.4 -2.1**
STU Stuttgart 160.71 346 *e*PKPdf **PKPdf 14 31 44.9 -0.3**
STU *e*PKPab **PKPab 14 32 27.1 -0.1**
STU Stuttgart 160.71 346 *e*PKIKP **PKPdf 14 31 45.1 -0.1**

STU	Stuttgart	160.71	346	ePKPdf	PKPdf	14 31 45.1	-0.1		
GROS	Grobnik	160.75	331	ePKPdf	PKPdf	14 31 43.9	-1.5		
FUR	Furstenfeldbru	160.76	341	ePKPdf	PKPdf	14 31 44.4	-0.9		
FUR				ePKPab	PKPab	14 32 27.8	+0.4		
FUR	Furstenfeldbru	160.76	341	ePKIKP	PKPdf	14 31 44.4	-0.9		
FUR				e		14 32 27.8			
PERS	Pernice	160.76	332	i PKPdf	PKPdf	14 31 45.9	+0.5		
SOKA	Soboth	160.76	332 ⇑	iP	PKPdf	14 31 44.0	-1.4		
SOKA	Soboth	160.76	332 ⇑	iPKPdf	PKPdf	14 31 44.0	-1.4		
	comp=Z,32nm,1.3s								
VAM	Vamos	160.77	291	eP	PKPab	14 32 08.3	-20		
LANF	Langenberg	160.78	349	PKIKP	PKPdf	14 31 44.5	-0.8		
LANF	Langenberg	160.78	349	PKP	PKPdf	14 31 44.5	-0.8		
LANF	Langenberg	160.78	349	PKP	PKPdf	14 31 44.5	-0.8		
ATAL	Atalanti	160.85	302	P	PKPdf	14 31 43.7	-2.0		
ATAL	Atalanti	160.85	302	P	PKPdf	14 31 43.7	-2.0		
KRUS	Krusevo	160.97	311	i Pn	PKPdf	14 31 43.5	-2.4		
DID	Didima	161.06	298	P	PKPdf	14 31 44.0	-2.0		
DID	Didima	161.06	298	eP	PKPdf	14 31 48.6	+2.6		
KBA	Koelnbreinsper	161.07	336 ⇑	iPKIKP	PKPdf	14 31 43.4	-2.5		
KBA	Koelnbreinsper	161.07	336 ⇑	iP	PKPdf	14 31 43.4	-2.5		
KBA	Koelnbreinsper	161.07	336 ⇑	iPKPdf	PKPdf	14 31 43.4	-2.5		
	comp=Z,30nm,1.1s,SNR=9.1								
THL	Klokotos Trika	161.26	305	eP	PKPdf	14 31 45.2	-0.9		
BFO	Black Forest	161.31	347	ePKPdf	PKPdf	14 31 44.5	-1.4		
BFO				ePKPab	PKPab	14 32 29.4	-0.4		
BFO	Black Forest	161.31	347	ePKIKP	PKPdf	14 31 44.5	-1.4		
BFO				e		14 32 29.4			
BFO	Black Forest	161.31	347	ePKPdf	PKPdf	14 31 45.3	-0.6		
BFO				LR	LR				
	comp=Z,9μm,21.0s								
DSF	Desfina	161.31	301	P	PKPdf	14 31 44.4	-1.9		
DSF	Desfina	161.31	301	P	PKPdf	14 31 44.4	-1.9		
FLN	La Foliniere	161.38	5	ePKIKP	PKPdf	14 31 45.0	-0.9		
	comp=Z,221nm,1.3s								
FLN				eR					
	comp=Z,5μm,22.2s								
CDF	Champ du Feu	161.42	349	ePKIKP	PKPdf	14 31 44.7	-1.4		
	comp=Z,66nm,1.4s								
SPAK	Spaichingen-Ko	161.44	346	PKP	PKPdf	14 31 47.1	+1.0		
ROSF	Rostrenen	161.44	11	ePKIKP	PKPdf	14 31 45.0	-1.0		
	comp=Z,360nm,1.6s								
WTTA	Wattenberg	161.47	339	i PKIKP	PKPdf	14 31 45.0	-1.3		
WTTA	Wattenberg	161.47	339	i P	PKPdf	14 31 45.0	-1.3		
WTTA	Wattenberg	161.47	339	i PKPdf	PKPdf	14 31 45.0	-1.3		
	comp=Z,59nm,1.7s,SNR=11								
LJU	Ljubljana	161.48	332	ePKPdf	PKPdf	14 31 46.0	-0.1		
PAGF	Fort de Pagny	161.49	352	ePKIKP	PKPdf	14 31 45.4	-0.6		
	comp=Z,68nm,1.6s								
VLI	Veliai	161.50	296	eP	PKPab	14 32 10.7	-20		
VISS	Visnje	161.55	331	i PKPdf	PKPdf	14 31 45.2	-0.9		
VISS				i PKPbc	PKPab	14 31 51.6	-39		
MOTA	Moosalm	161.56	340 ⇑	iPKIKP	PKPdf	14 31 44.9	-1.5		
MOTA	Moosalm	161.56	340 ⇑	iP	PKPdf	14 31 44.9	-1.5		
MOTA	Moosalm	161.56	340 ⇑	iPKPdf	PKPdf	14 31 44.9	-1.5		
	comp=Z,17nm,0.8s								
MOTA				⇓ iPKPab	PKPab	14 32 29.8	-1.3		
	comp=Z,154nm,1.0s,SNR=11								
NEST	Nestorio	161.56	309	P	PKPdf	14 31 45.0	-1.5		
LDF	La Druitiere	161.58	5	ePKIKP	PKPdf	14 31 45.2	-0.9		
	comp=Z,30nm,0.8s								
BOJS	Bojanci	161.61	330	i PKPdf	PKPdf	14 31 45.7	-0.6		
BOJS				i PKPbc	PKPab	14 31 51.1	-40		
BOJS				i		14 32 36.0			
GUR	Goura	161.61	300	P	PKPdf	14 31 44.4	-2.2		
MEZF	Maizieres J'vi	161.61	354	ePKIKP	PKPdf	14 31 45.7	-0.4		
	comp=Z,235nm,1.3s								
ECH	Echery	161.63	349	PKIKP	PKPdf	14 31 44.3	-1.9		
ECH				e		14 32 29.9			
ECH				MLR	MLR				
	comp=Z,10μm,21.0s								
ECH	Echery	161.63	349	PKP	PKPdf	14 31 44.3	-1.9		
ECH				ePKPab	PKPab	14 32 29.9	-1.3		
ECH				LR	LR				
	comp=Z,10μm,21.0s								
ECH	Echery	161.63	349	PKP	PKPdf	14 31 44.3	-1.9		
SGMF	Saint Gilles	161.64	10	ePKIKP	PKPdf	14 31 45.0	-1.2		
	comp=Z,220nm,1.5s								
ABTA	Abfaltersbach	161.65	337 ⇑	iP	PKPdf	14 31 42.5	-3.9		
ABTA	Abfaltersbach	161.65	337 ⇑	iPKPdf	PKPdf	14 31 42.5	-3.9		
	comp=Z,70nm,1.5s,SNR=15								
GRR	Gorron	161.72	6	ePKIKP	PKPdf	14 31 45.6	-0.7		
	comp=Z,191nm,1.5s								
VOY	Vojsko	161.75	333	ePKPdf	PKPdf	14 31 44.5	-2.0		
VOY				ePKPbc	PKPab	14 31 51.8	-40		
VOY				e		14 32 35.9			
VOY				e		14 33 06.9			
EFP	Efpalio	161.77	302	eP	PKPab	14 32 14.3	-18		
FELD	Feldberg im Sc	161.81	347	PKP	PKPdf	14 31 45.6	-1.0		
QUIF	Quistinic	161.87	12	ePKIKP	PKPdf	14 31 46.2	-0.2		
	comp=Z,178nm,1.3s								
TIR	Tirane	161.88	313	PFAKE		14 32 00.0	+13		
TIR				LR	LR				
	comp=Z,9μm,21.0s								
SFTF	Sexfontaines	161.91	354	ePKIKP	PKPdf	14 31 45.8	-0.7		
	comp=Z,283nm,1.3s								
DAVA	Damuels	161.95	343 ⇓	iP	PKPdf	14 31 46.2	-0.6		
DAVA	Damuels	161.95	343 ⇓	iPKPdf	PKPdf	14 31 46.2	-0.6		
	comp=Z,28nm,1.2s								
HAU	Haudompre	161.95	351	ePKIKP	PKPdf	14 31 45.5	-1.1		
	comp=Z,150nm,1.4s								
HAU				eR					
	comp=Z,8μm,20.8s								
FETA	Feichten	161.96	341 ⇑	iP	PKPdf	14 31 45.9	-0.9		
FETA	Feichten	161.96	341 ⇑	iPKPdf	PKPdf	14 31 45.9	-0.9		
	comp=Z,38nm,1.0s,SNR=7.8								
MOF	Molkenrain	161.99	349	PKIKP	PKPdf	14 31 45.8	-0.9		
MOF	Molkenrain	161.99	349	PKP	PKPdf	14 31 45.8	-0.9		
MOF	Molkenrain	161.99	349	PKP	PKPdf	14 31 45.8	-0.9		
TRI	Trieste	162.06	333	ePKIKP	PKPdf	14 31 45.1	-1.6		
TRI	Trieste	162.06	333	ePKPdf	PKPdf	14 31 45.1	-1.6		
HINF	Hinteralfeld	162.06	350	ePKIKP	PKPdf	14 31 45.5	-1.2		
	comp=Z,152nm,1.5s								
BBS	Basel-Blauen	162.30	348	PKIKP	PKPdf	14 31 46.0	-1.0		
BBS	Basel-Blauen	162.30	348	PKP	PKPdf	14 31 46.0	-1.0		
PYL	PYLOS	162.38	297	eP	PKPab	14 32 12.6	-22		
DAVOX	Davos/Dischmat	162.41	342	PKP	PKPdf	14 31 47.0	-0.3		
	comp=Z,9.0nm,0.9s,baz=187,slow=4.7,SNR=8.9								
DAVOX				PKPab	PKPab	14 32 35.0	+0.1		
	comp=Z,83nm,0.7s,baz=357,slow=3.7,SNR=11								
DAVOX	Davos/Dischmat	162.41	342	PKIKP	PKPdf	14 31 47.0	-0.3		
DAVOX						14 32 35.0			
DAVOX	Davos/Dischmat	162.41	342	PKP	PKPdf	14 31 47.0	-0.3		
DAVOX				PKPab	PKPab	14 32 35.0	+0.1		
LOMF	Lomont	162.52	349	PKIKP	PKPdf	14 31 50.3	+3.1		
LOMF	Lomont	162.52	349	PKP	PKPdf	14 31 50.3	+3.1		
LOMF	Lomont	162.52	349	PKP	PKPdf	14 31 50.3	+3.1		
VLS	Valsamata	162.82	302	eP	PKPdf	14 31 55.6	+7.9		
TUE	Stuetta	162.84	343	ePKPdf	PKPdf	14 31 46.0	-1.7		
TUE				ePKPab	PKPab	14 32 36.4	-0.4		
TUE				LR	LR				
	comp=Z,12μm,20.0s								
LOR	Lormes	162.93	356	ePKIKP	PKPdf	14 31 46.8	-0.8		
	comp=Z,210nm,1.4s								
LOR				eR					
	comp=Z,15μm,22.5s								
TORD	Torodi Ar. Bea	163.00	179	PKP	PKPdf	14 31 47.5	-1.1		
	comp=Z,8.8nm,0.8s,baz=331,slow=0.0,SNR=33								
TORD				PKPab	PKPab	14 32 39.2	+1.3		
	comp=Z,77nm,0.7s,baz=161,slow=2.5,SNR=18								
TORD				PP	PP	14 36 22.6	+1.3		
	comp=Z,11nm,0.9s,baz=141,slow=5.1,SNR=3.8								
TORD	Torodi Ar. Bea	163.00	179	PKP	PKPdf	14 31 47.5	-1.1		
TORD				PKPab	PKPab	14 32 39.2	+1.3		
TORD				PP	PP	14 36 22.6	+1.3		
SSF	Saint Saulge	163.16	357	ePKIKP	PKPdf	14 31 47.0	-0.8		
	comp=Z,116nm,1.2s								
AVF	Avril sur Loir	163.44	357	ePKIKP	PKPdf	14 31 47.0	-1.0		
	comp=Z,130nm,1.6s								
MFF	Saint Martin d	163.55	6	ePKIKP	PKPdf	14 31 47.5	-0.6		
	comp=Z,320nm,1.5s								
BGF	Bois d'Agland	163.69	358	ePKIKP	PKPdf	14 31 47.7	-0.6		
	comp=Z,128nm,1.2s								
TCF	Toulx Ste Croi	163.96	360	ePKIKP	PKPdf	14 31 48.0	-0.6		
	comp=Z,95nm,1.2s								
AGO	Saint Agoulin	164.18	357	PKP	PKPdf	14 31 47.6	-1.2		
AGO	Saint Agoulin	164.18	357	PKP	PKPdf	14 31 47.6	-1.2		
PLDF	La Plantade	164.24	356	PKIKP	PKPdf	14 31 48.1	-0.8		
PLDF	La Plantade	164.24	356	PKP	PKPdf	14 31 48.1	-0.8		
PLDF	La Plantade	164.24	356	PKP	PKPdf	14 31 48.1	-0.8		
LPL	La Plagne	164.32	348	ePKIKP	PKPdf	14 31 48.6	-0.6		
	comp=Z,33nm,0.9s								
LPG	La Plagne	164.33	348	ePKIKP	PKPdf	14 31 48.6	-0.7		
	comp=Z,49nm,1.0s								
PYM	Petit Puy Mans	164.49	358	PKIKP	PKPdf	14 31 48.3	-0.8		
PYM	Petit Puy Mans	164.49	358	PKP	PKPdf	14 31 48.3	-0.8		
PYM	Petit Puy Mans	164.49	358	PKP	PKPdf	14 31 48.3	-0.8		
GDM	Grand'Maison	164.72	349	PKP	PKPdf	14 31 48.9	-0.6		
GDM	Grand'Maison	164.72	349	PKP	PKPdf	14 31 48.9	-0.6		
GRN	Grenoble	164.75	350	PKIKP	PKPdf	14 31 49.4	0.0		
GRN	Grenoble	164.75	350	PKP	PKPdf	14 31 49.4	0.0		
GRN	Grenoble	164.75	350	PKP	PKPdf	14 31 49.4	0.0		
BNI	Bardonecchia	164.78	348	ePKIKP	PKPdf	14 31 48.3	-1.2		
BNI				e		14 32 45.1			
BNI				MLR	MLR				
	comp=Z,9μm,20.0s								
BNI	Bardonecchia	164.78	348	ePKPdf	PKPdf	14 31 48.3	-1.2		
BNI				ePKPab	PKPab	14 32 45.1	-0.2		
BNI				LR	LR				
	comp=Z,9μm,20.0s								
SSB	Saint Sauveur	164.85	354	ePKIKP	PKPdf	14 31 49.4	0.0		
SSB				MLR	MLR				
	comp=Z,10μm,21.0s								
SSB	Saint Sauveur	164.85	354	ePKPdf	PKPdf	14 31 49.4	0.0		
SSB				LR	LR				
	comp=Z,10μm,21.0s								
AQU	L'Aquila	164.89	326	PKIKP	PKPdf	14 31 49.0	-0.6		
AQU				MLR	MLR				
	comp=Z,8μm,20.0s								
AQU	L'Aquila	164.89	326	PKPdf	PKPdf	14 31 49.0	-0.6		
AQU				ePKPab	PKPab	14 32 48.7	+3.0		
AQU				LR	LR				
	comp=Z,8μm,20.0s								
RJF	Les Rejaudoux	164.94	2	ePKIKP	PKPdf	14 31 49.0	-0.4		
	comp=Z,206nm,1.5s								
RJF				eR					
	comp=Z,7μm,22.0s								
LBL	Lubilhac	165.00	357	PKIKP	PKPdf	14 31 49.0	-0.6		
LBL	Lubilhac	165.00	357	PKP	PKPdf	14 31 49.0	-0.6		
LBL	Lubilhac	165.00	357	PKP	PKPdf	14 31 49.0	-0.6		
ORIF	Oris-en-Rattie	165.04	350	ePKIKP	PKPdf	14 31 48.9	-0.8		
	comp=Z,120nm,1.3s								
ORIF				eR					
	comp=Z,6μm,22.0s								
MBDF	Montbardon	165.07	347	ePKIKP	PKPdf	14 31 49.1	-0.7		
	comp=Z,73nm,1.0s								
CUC	Castrocucco	165.18	315	ePKPdf	PKPdf	14 31 48.8	-1.1		
CUC				LR	LR				
	comp=Z,5μm,22.0s								
VIVF	Saint-Julien-l	165.26	353	ePKIKP	PKPdf	14 31 49.2	-0.6		
	comp=Z,155nm,1.4s								
SURF	Saint Ours	165.30	347	PKP	PKPdf	14 31 49.9	-0.1		
SURF	Saint Ours	165.30	347	PKP	PKPdf	14 31 49.9	-0.1		
CAF	Calviac	165.33	0	ePKIKP	PKPdf	14 31 49.5	-0.3		
	comp=Z,59nm,1.0s								
PGAV	Gavieira, Arco	165.59	33	ePKPdf	PKPdf	14 31 51.4	+1.2		
SAOF	Saorge	165.61	344	PKIKP	PKPdf	14 31 49.3	-0.8		
SAOF	Saorge	165.61	344	PKP	PKPdf	14 31 49.3	-0.8		
SAOF	Saorge	165.61	344	PKP	PKPdf	14 31 49.3	-0.8		
AUTN	L'Aution	165.63	344	PKIKP	PKPdf	14 31 49.3	-1.1		
AUTN	L'Aution	165.63	344	PKP	PKPdf	14 31 49.3	-1.1		
AUTN	L'Aution	165.63	344	PKP	PKPdf	14 31 49.3	-1.1		
TOUF	Mont Tournerai	165.65	345	PKIKP	PKPdf	14 31 49.1	-1.2		
TOUF	Mont Tournerai	165.65	345	PKP	PKPdf	14 31 49.1	-1.2		
TOUF	Mont Tournerai	165.65	345	PKP	PKPdf	14 31 49.1	-1.2		
SBF	Sospel	165.75	344	ePKIKP	PKPdf	14 31 48.9	-1.4		
	comp=Z,172nm,1.3s								
MVIF	Mont Vial	165.79	345	PKIKP	PKPdf	14 31 49.5	-0.9		
MVIF	Mont Vial	165.79	345	PKP	PKPdf	14 31 49.5	-0.9		
MVIF	Mont Vial	165.79	345	PKP	PKPdf	14 31 49.5	-0.9		
PCAB	Cabril	165.90	33	ePKPdf	PKPdf	14 31 51.4	+1.0		
CALN	Calern	165.98	346	PKIKP	PKPdf	14 31 49.3	-1.2		
CALN	Calern	165.98	346	PKP	PKPdf	14 31 49.3	-1.2		
CALN	Calern	165.98	346	PKP	PKPdf	14 31 49.3	-1.2		
SMRF	Simiane la Rot	166.01	350	ePKIKP	PKPdf	14 31 50.2	-0.2		
	comp=Z,191nm,1.5s								
PTO	Porto	166.06	36	ePKPab	PKPab	14 32 52.5	+1.6		
CEL	Celeste	166.10	309	PFAKE		14 32 00.0	+9.3		
CEL				LR	LR				
	comp=Z,5μm,22.0s								
LASF	Ste Croix	166.11	355	ePKIKP	PKPdf	14 31 50.2	-0.3		
	comp=Z,318nm,1.9s								
POLO	Lamas de Olo	166.27	33	ePKPdf	PKPdf	14 31 51.9	+1.1		
PVRL	Vila Real	166.39	33	ePKPdf	PKPdf	14 31 52.0	+1.2		
PVRL	Vila Real	166.39	33	ePKPab	PKPab	14 32 53.4	+1.0		
PBRG	Braganca	166.40	29	ePKPab	PKPab	14 32 53.2	+0.8		
LMR	La Mourre	166.46	346	ePKIKP	PKPdf	14 31 49.9	-0.8		
	comp=Z,104nm,1.3s								
PGF	Pioggiola	166.53	338	ePKIKP	PKPdf	14 31 49.7	-1.3		
	comp=Z,102nm,1.2s								
PVIS	Viseu	166.73	35	ePKPdf	PKPdf	14 31 54.5	+3.4		
PVIS	Viseu	166.73	35	ePKPab	PKPab	14 32 55.0	+1.1		
MVO	Moncorvo	166.79	32	ePKPdf	PKPdf	14 31 51.9	+0.7		
MVO	Moncorvo	166.79	32	ePKPab	PKPab	14 32 54.3	+0.1		
SJPF	Ste Jean	166.86	11	ePKIKP	PKPdf	14 31 51.6	+0.5		
	comp=Z,99nm,1.1s								
MTLF	Montolieu	166.91	360	ePKIKP	PKPdf	14 31 50.5	-0.6		
	comp=Z,144nm,1.5s								
EPF	Esparros	167.14	6	ePKIKP	PKPdf	14 31 51.2	-0.1		
	comp=Z,132nm,1.2s								
MTE	Manteigas	167.14	35	ePKPdf	PKPdf	14 31 52.6	+1.2		
MTE	Manteigas	167.14	35	ePKPab	PKPab	14 32 56.7	+0.9		
MTE	Manteigas	167.14	35	ePKPdf	PKPdf	14 31 52.5	+1.0		
MTE				LR	LR				
	comp=Z,8μm,20.0s								
ETSF	Etsaut	167.17	9	ePKIKP	PKPdf	14 31 52.1	+0.7		
	comp=Z,55nm,1.0s								
PMAFR	Mafra	167.19	44	ePKPab	PKPab	14 32 54.2	-1.8		
PTOM	Tomar	167.25	40	ePKPdf	PKPdf	14 31 52.9	+1.5		
PCBR	Castelo Branco	167.59	37	ePKPdf	PKPdf	14 31 53.1	+1.4		
PMTG	Montargil	167.73	41	ePKPdf	PKPdf	14 31 52.7	+0.9		
PMTG	Montargil	167.73	41	ePKPab	PKPab	14 32 59.5	+1.1		
PMRV	Marv??o	167.94	38	ePKPdf	PKPdf	14 31 53.7	+1.7		
PMRV	Marv??o	167.94	38	ePKPab	PKPab	14 33 00.6	+1.3		
PNCL	Nicolau / Gran	168.18	45	ePKPdf	PKPdf	14 31 53.2	+1.1		
WDD	Wield Dalam	168.19	302	PFAKE		14 32 00.0	+7.8		
WDD				LR	LR				
	comp=Z,6μm,20.0s								
EVO	Evora	168.22	43	ePKPdf	PKPdf	14 31 53.3	+1.1		
EVO	Evora	168.22	43	ePKPab	PKPab	14 33 02.2	+1.6		
EVO	Evora	168.22	43	ePKIKP	PKPdf	14 31 53.0	+0.8		
	comp=Z,288nm,1.6s								
EVO				eR					
	comp=Z,11μm,22.8s								
PESTR	Estremoz	168.23	40	ePKPdf	PKPdf	14 31 53.2	+1.0		
PESTR	Estremoz	168.23	40	ePKPab	PKPab	14 33 01.9	+1.3		
MORF	Marmelete	168.58	49	ePKPdf	PKPdf	14 31 54.1	+1.6		
PBEJ	Beja	168.63	44	ePKPdf	PKPdf	14 31 53.8	+1.3		
PBEJ	Beja	168.63	44	ePKPab	PKPab	14 33 04.5	+2.1		
PCVE	Castro Verde	168.78	46	ePKPdf	PKPdf	14 31 54.0	+1.4		
PCVE	Castro Verde	168.78	46	ePKPab	PKPab	14 33 04.6	+1.5		
PBAR	Barrancos	169.02	41	ePKPdf	PKPdf	14 31 53.8	+1.1		
PBAR	Barrancos	169.02	41	ePKPab	PKPab	14 33 04.9	+0.8		
PBDV	Barranco-do-Ve	169.08	47	ePKPdf	PKPdf	14 31 54.4	+1.6		
PVAQ	Vaqueiros	169.12	46	ePKPdf	PKPdf	14 31 54.1	+1.3		
PVAQ	Vaqueiros	169.12	46	ePKPab	PKPab	14 33 06.1	+1.5		
PAB	San Pablo	169.29	28	ePKIKP	PKPdf	14 31 53.1	+0.1		
PAB				MLR	MLR				
	comp=Z,9μm,21.0s								
PAB	San Pablo	169.29	28	ePKPdf	PKPdf	14 31 53.0	+0.1		
PAB				LR	LR				
	comp=Z,9μm,21.0s								
ESDC	Sonseca Array	169.33	26	PKP	PKPdf	14 31 53.4	+0.5		
	comp=Z,37nm,1.2s,baz=357,slow=2.6,SNR=24								
ESDC				PKPab	PKPab	14 33 05.2	-0.3		
	comp=Z,8.3nm,0.9s,baz=331,slow=3.9,SNR=5.3								
ESDC				PP	PP	14 36 55.2	+0.7		
	comp=Z,34nm,1.3s,baz=340,slow=4.9,SNR=11								
ESDC	Sonseca Array	169.33	26	PKP	PKPdf	14 31 53.4	+0.5		
ESDC				PKPab	PKPab	14 33 05.2	-0.3		
ESDC				PP	PP	14 36 55.2	+0.7		
ESLA	Sonseca Array	169.33	26	ePKPdf	PKPdf	14 31 53.4	+0.5		
ESLA				LR	LR				
	comp=Z,45μm,21.0s								
RTC	Rabat Centre	171.50	62	PFAKE		14 32 00.0	+5.8		
RTC				LR	LR				
	comp=Z,7μm,20.0s								
KEST	Kesra	171.83	314	PKP	PKPdf	14 31 54.8	+0.4		
	comp=Z,9.6nm,1.1s,baz=246,slow=1.8,SNR=9.1								
KEST				PKPab	PKPab	14 33 18.6	+1.9		
	comp=Z,16nm,0.8s,baz=309,slow=5.2,SNR=8.5								
KEST	Kesra	171.83	314	ePKPdf	PKPdf	14 31 51.6	-2.9		
KEST				PKP		14 31 54.8			
KEST				PKPab	PKPab	14 33 18.6	+1.9		
TAM	Tamanrasset	172.00	203	ePKIKP	PKPdf	14 31 55.9	+0.9		
TAM				MLR	MLR				
	comp=Z,8μm,21.0s								
TAM	Tamanrasset	172.00	203	ePKPdf	PKPdf	14 31 55.9	+0.9		
TAM				LR	LR				
	comp=Z,8μm,21.0s								
CMAH	Djebel Manchou	172.25	327	P	PKPdf	14 31 54.6	0.0		
CAEH	'Ain El Ouahch	172.38	330	P	PKPdf	14 31 56.0	+1.4		
CKFL	Kef-Lekhel	172.75	329	P	PKPdf	14 31 56.9	+2.0		
CASM	Ain Smara	172.97	330	P	PKPdf	14 31 55.3	+0.4		
DFRA	Djebel Bou Aff	172.97	335	P	PKPdf	14 31 56.1	+1.1		
CTEI	Djebel Teioual	173.17	330	P	PKPdf	14 31 57.0	+1.9		
SET	Setif	173.45	336	P	PKPdf	14 31 59.0	+3.9		

*CASC **18** 14:18:12.6±1.8, 11°.61N×87°.07W, h22km±10km, MD4.2*
*ISCJB **18** 14:18:13.3±0.5, 11°.61N±0°.06×87°.03W±0°.06, h66km±7km, mb4.2/7, Error ellipse: s-maj=12.8km s-min=3.9km az=136.6*
*IDC **18** 14:18:15.0±2.4, 11°.89N×86°.76W, h58km±22km, mb4.0/7, mb1 4.2/9, mb1mx3.8/24, mbtmp4.0/9, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/37, Error ellipse: s-maj=44.8km s-min=14.5km az=54.0*

ISC 18 14:18:14.8±1.2, 11°.69N±0°.07×86°.99W±0°.07, h58km±11km, n38, σ1§16/43, mb4.3/7, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MGAN	Managua	0.86	57	eP		Pn		14 18 30.0	-0.9
MGAN				eS		Sn		14 18 43.8	+1.1
CNGN	Cerro Negro	0.86	19	eP		Pn		14 18 29.8	-1.1
GBS2	Las Lilas	1.72	119	i P		Pn		14 18 41.8	-0.7
NY14	Universidad de	1.76	126	i P		Pn		14 18 42.0	-1.0
LAPC	Finca la Perla	1.77	121	i P		Pn		14 18 41.5	-1.8
LAPC				i S		Sn		14 19 05.7	+0.9
CNCH	Conchagua	1.79	332	eP		Pn		14 18 42.4	-1.1
CNCH				eS		Sn		14 19 06.4	+1.3
LIM1	Limonal	1.96	120	i P		Pn		14 18 45.8	0.0
MESS	Mesas	1.99	118	i P		Pn		14 18 45.7	-0.5
CUI	Cuipilapa	2.06	120	i P		Pn		14 18 46.3	-0.7
BLLM	Bellamira	2.13	325	eP		Pn		14 18 47.4	-0.7
BLLM				eS		Sn		14 19 14.9	+1.4
VSM	San Miguel	2.14	324	eP		Pn		14 18 48.2	-0.2
PTEN	Parque Tenorio	2.19	116	i P		Pn		14 18 47.8	-1.0
TGUH	Tegucigalpa,Un	2.38	353	eP		Pn		14 18 51.6	+0.2
TGUH				eS		Sn		14 19 21.6	+2.2
CAHU	Cacacuatique	2.39	330	eP		Pn		14 18 51.5	-0.3
JTS	JuntasAbangare	2.43	125	P		Pn		14 18 51.3	-0.9
	8.1nm,0.3s,baz=324,slow=17,SNR=33								
JTS				S		Sn		14 19 26.9	+6.2
	45nm,0.3s,baz=314,slow=22,SNR=10								
JTS				LR		LR		14 20 08.1

CHN4	**Tsaushan** baz=342	**1.58**	**338**	*e*P	**Pb**	**15 12 23.7**	**-0.2**
CHN4				*e*S	**Sb**	**15 12 44.6**	**+1.0**
EHY	**Hungye** baz=5.0	**1.63**	**3**	*e*P	**Pn**	**15 12 21.3**	**-1.7**
CHN5	**Tsauling** baz=346	**1.79**	**344**	*e*P	**Pn**	**15 12 25.6**	**+0.3**
CHN5				*e*S	**Sb**	**15 12 49.9**	**+0.2**
WGK	**Gukeng** baz=344	**1.91**	**341**	*e*P	**Pn**	**15 12 27.4**	**+0.7**
WGK				*e*S	**Sn**	**15 12 51.9**	**+1.6**
ESL	**Shilin**	**1.94**	**6**	*e*P	**Pn**	**15 12 27.3**	**0.0**
SMLT	**Sun Moon Lake** baz=5.0	**2.02**	**352**	*e*P	**Pn**	**15 12 29.2**	**+0.7**
SMLT				*e*S	**Sn**	**15 12 55.2**	**+1.7**
TYC	**Yuchr** baz=353	**2.05**	**351**	*e*P	**Pn**	**15 12 29.7**	**+1.0**
TYC				*e*S	**Sb**	**15 12 56.6**	**-0.4**
WHF	**Hehuan Shan** baz=14	**2.26**	**1**	*e*P	**Pn**	**15 12 31.9**	**-0.1**
WHF				*e*S	**Sn**	**15 12 59.8**	**0.0**
PNG	**Penghu** baz=320	**2.29**	**318**	*e*P	**Pn**	**15 12 29.6**	**-2.4**
TWQ1	**Liyutan** baz=353	**2.50**	**351**	*e*P	**Pn**	**15 12 36.1**	**+1.2**
TWQ1				*e*S	**Sn**	**15 13 07.6**	**+2.6**
NNS	**Nan Shan** baz=10.0	**2.56**	**3**	*e*P	**Pn**	**15 12 37.9**	**+2.1**
ENA	**Nanau** baz=3.0	**2.59**	**10**	*e*P	**Pn**	**15 12 36.2**	**0.0**
NSTT	**Nanjuang** baz=358	**2.75**	**356**	*e*P	**Pn**	**15 12 39.3**	**+0.9**
ENTT	**Nioudou** baz=8.0	**2.77**	**6**	*e*P	**Pn**	**15 12 40.0**	**+1.3**
ENTT				*e*S	**Sn**	**15 13 13.2**	**+1.4**
TWE	**Neicheng** baz=9.0	**2.87**	**8**	*e*P	**Pn**	**15 12 41.9**	**+1.9**
YOJ	**Yonaguni jima**	**3.06**	**32**	P	**Pn**	**15 12 42.8**	**+0.2**
YOJ				*e*S	**Sn**	**15 13 19.5**	**+0.7**
HATJ	**Hateruma jima**	**3.22**	**47**	*e*S	**Sn**	**15 13 22.3**	**-0.5**
IRIF	**Iriomote-Funau**	**3.37**	**43**	P	**Pn**	**15 12 46.7**	**-0.1**
IRIF				*e*S	**Sn**	**15 13 26.3**	**-0.1**
JKRS	**Kuro-shima**	**3.48**	**47**	P	**Pn**	**15 12 48.5**	**+0.1**
JKRS				*e*S	**Sn**	**15 13 28.8**	**-0.4**
KNM	**Kinmen** baz=316	**3.61**	**315**	*e*P	**Pn**	**15 12 49.1**	**-1.1**
JIJ	**Ishigaki jima**	**3.66**	**47**	P	**Pn**	**15 12 50.7**	**-0.1**
JIJ				*e*S	**Sn**	**15 13 31.8**	**-1.8**
JTJ	**Tarama**	**4.22**	**49**	P	**Pn**	**15 12 58.4**	**-0.2**
JTJ				*e*S	**Sn**	**15 13 46.9**	**-0.6**

IDC 18 15:16:13.1±6.1, 30°34S×133°50E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=389.7km s-min=22.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.50**	**178**	P	P	15 20 42.2	+0.2
	0.2nm,0.3s,baz=356,slow=13,SNR=7.7						
WRA				S	Sn	15 24 09.8	-13
	0.1nm,0.3s,baz=358,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**23.19**	**179**	P	P	15 21 21.7	-0.1
	0.5nm,0.3s,baz=356,slow=10,SNR=22						
MKAR	**Makanchi Array**	**64.77**	**324**	P	P	15 26 54.2	+0.6
	0.1nm,0.6s,baz=106,slow=9.1,SNR=2.7						
KURK	**Kurchatov**	**68.82**	**326**	P	P	15 27 19.1	-0.2
	0.1nm,0.4s,baz=115,slow=5.6,SNR=6.2						
BVAR	**Borovoye Array**	**74.42**	**326**	P	P	15 27 52.6	-0.4
	0.3nm,0.5s,baz=104,slow=6.3,SNR=3.9						

IDC 18 15:19:47.5±5.7, 30°26S×178°03W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/15, mbtmp3.5/3, Error ellipse: s-maj=221.1km s-min=53.3km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.48**	**257**	P	P	15 26 38.5	+1.3
	1.4nm,1.1s,baz=94,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**43.09**	**267**	P	P	15 27 49.2	-0.3
	0.3nm,0.6s,baz=106,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	15 27 56.5	-1.0
	0.5nm,0.7s,baz=110,slow=8.2,SNR=5.9						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	15 39 24.4	-0.9
	2.1nm,0.9s,baz=42,slow=5.9,SNR=5.6						

IDC 18 16:18:56.8±0.8, 7°53S×128°31E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.9/15, mbtmp3.9/11, ML4.0/3, Error ellipse: s-maj=42.6km s-min=16.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.82**	**194**	Pn	Pn	16 21 33.8	+0.7
	1.2nm,0.3s,baz=28,slow=12,SNR=62						
FITZ				Sn	Sn	16 23 24.3	-11
	6.6nm,0.3s,baz=145,slow=24,SNR=9.5						
WRA	**Warramunga Arr**	**13.66**	**155**	Pn	Pn	16 22 12.4	+0.5
	0.6nm,0.3s,baz=330,slow=15,SNR=18						
WRA				Sn	Sn	16 24 32.4	-12
	2.3nm,0.3s,baz=336,slow=21,SNR=11						
ASAR	**Alice Springs**	**16.92**	**162**	Pn	Pn	16 22 55.2	0.0
	0.5nm,0.3s,baz=334,slow=9.5,SNR=111						
ASAR				Sn	Sn	16 25 51.6	-12
	0.6nm,0.3s,baz=195,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**27.21**	**155**	P	P	16 24 42.1	-0.3
	0.7nm,0.5s,baz=349,slow=13,SNR=3.8						
CMAR	**Chiang Mai Arr**	**38.81**	**312**	P	P	16 26 25.5	+1.8
	0.4nm,0.7s,baz=144,slow=6.0,SNR=5.4						
KSRS	**Korea Array**	**44.75**	**360**	P	P	16 27 12.8	+0.8
	1.1nm,0.6s,baz=177,slow=9.0,SNR=6.2						
USRK	**Ussuriysk Arra**	**51.60**	**3**	P	P	16 28 05.1	+0.3
	1.0nm,0.5s,baz=186,slow=7.4,SNR=5.3						
SONM	**Songino Array**	**58.43**	**343**	P	P	16 28 54.7	+0.3
	0.9nm,0.7s,baz=172,slow=7.0,SNR=8.1						
PETK	**Petropavlovsk-**	**65.36**	**19**	P	P	16 29 41.0	+0.2
	1.9nm,0.9s,baz=242,slow=5.8,SNR=4.9						
MKAR	**Makanchi Array**	**67.76**	**328**	P	P	16 29 54.8	-1.6
	0.2nm,0.4s,baz=119,slow=8.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**71.32**	**335**	P	P	16 30 16.6	-1.6
	0.8nm,0.5s,baz=137,slow=5.9,SNR=5.5						
LPAZ	**La Paz**	**151.28**	**146**	PKPbc	PKPbc	16 38 55.3	+1.1
	0.5nm,0.5s,baz=252,slow=6.4,SNR=2.8						
LPAZ				PKPab	PKPab	16 39 00.1	-1.9
	0.8nm,0.6s,baz=138,slow=4.4,SNR=5.2						

IDC 18 16:27:46.6±9.1, 6°92S×129°45E, h132km±88km, mb3.4/4, mb1 3.6/7, mb1mx3.4/15, mbtmp3.5/7, Error ellipse: s-maj=77.1km s-min=22.3km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.72**	**198**	P	Pn	16 30 30.9	+1.0
	0.6nm,0.3s,baz=40,slow=12,SNR=9.0						
FITZ				S	Sn	16 32 37.1	-2.0
	0.6nm,0.3s,baz=260,slow=22,SNR=7.5						
WRA	**Warramunga Arr**	**13.79**	**160**	P	Pn	16 30 55.5	-1.3
	0.6nm,0.3s,baz=343,slow=13,SNR=12						
WRA				S	Sn	16 33 23.6	-5.6
	1.0nm,0.3s,baz=353,slow=24,SNR=7.4						
ASAR	**Alice Springs**	**17.20**	**166**	P	Pn	16 31 40.4	+1.4
	0.5nm,0.3s,baz=344,slow=9.6,SNR=30						
ASAR				S	S	16 34 49.5	-1.6
	0.2nm,0.3s,baz=335,slow=15,SNR=5.5						
STKA	**Stephens Creek**	**27.30**	**157**	P	P	16 33 19.3	+0.3
	0.7nm,0.4s,baz=343,slow=10.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**39.26**	**310**	P	P	16 35 02.7	+0.1
	0.4nm,0.6s,baz=137,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	16 38 31.1	+0.4
	0.7nm,0.4s,baz=117,slow=8.3,SNR=38						
ZALV	**Zalesovo Beam**	**71.27**	**334**	P	P	16 38 50.6	-0.8
	0.4nm,0.5s,baz=134,slow=6.2,SNR=3.2						

*DJA **18** 16:37:25,0.74S×132.25E,h14km,MLv4.0/7*
IDC 18 16:37:14.0±2.3, 0.05N×131.21E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, ML3.8/1, MS4.7/1, Ms1 4.7/1, ms1mx3.2/30, Error ellipse: s-maj=113.8km s-min=18.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.85**	**197**	P	Pn	16 41 37.3	+1.1
	0.2nm,0.3s,baz=36,slow=11,SNR=7.4						
FITZ				S	Sn	16 45 01.2	-6.7
	0.2nm,0.3s,baz=160,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**20.10**	**171**	P	P	16 41 48.8	-0.7
	1.8nm,0.5s,baz=348,slow=11,SNR=28						
WRA				S	S	16 45 23.0	-13
	1.9nm,0.8s,baz=350,slow=24,SNR=7.4						
ASAR	**Alice Springs**	**23.72**	**174**	P	P	16 42 27.9	0.0
	4.9nm,0.7s,baz=352,slow=8.9,SNR=114						
ASAR				S	S	16 46 45.2	+0.9
	0.8nm,0.7s,baz=352,slow=26,SNR=4.2						
RPZ	**Rata Peaks**	**56.21**	**146**	LR	LR	17 08 14.9	
	comp=Z,642nm,20.1s,baz=107,slow=33						
MKAR	**Makanchi Array**	**63.12**	**325**	P	P	16 47 43.5	-0.1
	0.9nm,0.5s,baz=129,slow=8.6,SNR=26						

*DJA **18** 16:48:34,2.82N×128.47E,h102km,MLv4.3/5*
IDC 18 16:48:26.6±0.9, 2.89N×128.75E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/18, mbtmp3.7/8, Error ellipse: s-maj=60.2km s-min=16.1km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.34**	**167**	P	P	16 53 36.7	-0.1
	1.1nm,0.4s,baz=345,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**26.86**	**170**	P	P	16 54 10.1	+0.8
	0.3nm,0.5s,baz=353,slow=7.9,SNR=5.5						
ASAR				PcP	PcP	16 57 30.8	-1.2
	0.2nm,0.6s,baz=356,slow=2.0,SNR=7.0						
CMAR	**Chiang Mai Arr**	**33.04**	**300**	P	P	16 55 05.3	+1.3
	0.4nm,0.6s,baz=122,slow=7.4,SNR=6.3						
KSRS	**Korea Array**	**34.41**	**359**	P	P	16 55 17.5	+1.8
	1.1nm,0.7s,baz=180,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**36.66**	**162**	P	P	16 55 35.0	-0.2
	1.7nm,0.6s,baz=341,slow=13,SNR=3.8						
SONM	**Songino Array**	**48.76**	**340**	P	P	16 57 12.6	-0.8
	0.3nm,0.7s,baz=162,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**59.40**	**325**	P	P	16 58 30.1	-0.9
	1.5nm,0.7s,baz=117,slow=8.6,SNR=23						
ZALV	**Zalesovo Beam**	**62.26**	**332**	P	P	16 58 49.9	-0.4
	0.2nm,0.3s,baz=142,slow=7.3,SNR=3.0						

*VIE **18** 16:53:44.4±0.3, 48.06N×16.62E, h4km±2km, mb1.9/4, ML2.4/4, Error ellipse: s-maj=2.6km s-min=1.3km az=99.0 3 km SSE of Enzersdorf a.d. Fischa felt 3 ems98 at Schwadorf / LOWER AUSTRIA*
*CSEM **18** 16:53:44.7±0.1, 48.10N×16.54E, h2km, ML2.8/5, Error ellipse: s-maj=2.5km s-min=1.9km az=124.0*
*IPEC **18** 16:53:44.8±0.1, 48.07N×16.61E, h14km±1km, ML1.7/2, Error ellipse: s-maj=1.4km s-min=0.7km az=117.0*
*PRU **18** 16:53:46.0, 48.11N×16.43E, h15km*
ISC 18 16:53:44.1±1.0, 48.10N±0.02×16.54E±0.02, h8km±10km, n31, σ0963/53, 6C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZST	**Bratislava**	**0.39**	**75**	*e*Pg	**Pg**	**16 53 51.8**	**+0.1**
ZST				*e*SG	**Sg**	**16 53 56.8**	**-0.1**
ZST	**Bratislava** baz=249	**0.39**	**75**	*e*Pg	**Pg**	**16 53 51.9**	**+0.2**
ZST				*e*Sg	**Sg**	**16 53 56.8**	**-0.1**
SOP	**Sopron**	**0.41**	**178**	*e*Pg	**Pg**	**16 53 52.1**	**0.0**
SOP				*e*SG	**Sg**	**16 53 56.9**	**-0.7**
SOP	**Sopron**	**0.41**	**178**	*e*Pg	**Pg**	**16 53 52.1**	**0.0**
SOP				*e*Sg	**Sg**	**16 53 56.9**	**-0.7**
CONA	**Conrad Observa** 7.0nm,0.1s	**0.49**	**250**	↑*i*Pg	**Pb**	**16 53 54.7**	**-0.3**
CONA	30nm,0.2s			↑*i*Sg	**Sb**	**16 54 02.2**	**-0.1**
CONA	**Conrad Observa** 7.0nm,0.1s	**0.49**	**250**	Pg	**Pb**	**16 53 54.7**	**-0.3**
CONA	30nm,0.2s			Sg	**Sb**	**16 54 02.2**	**-0.1**
SMOL	**Smolenice**	**0.73**	**54**	*e*PG	**Pb**	**16 53 58.7**	**-0.4**
SMOL				*e*SG	**Sb**	**16 54 09.2**	**+0.1**
SMOL	**Smolenice**	**0.73**	**54**	*e*Pg	**Pb**	**16 53 58.7**	**-0.4**
SMOL				*e*Sg	**Sb**	**16 54 09.3**	**+0.1**
KRUC	**Moravsky** baz=172	**0.97**	**354**	*e*Pg	**Pn**	**16 54 03.8**	**-0.3**
KRUC	15nm,0.2s,baz=172			*e*Sg	**Sb**	**16 54 16.3**	**0.0**
ARSA	**Arzberg** 2.7nm,0.1s	**1.09**	**220**	↑*i*Pg	**Pg**	**16 54 05.1**	**+0.1**
ARSA	7.7nm,0.3s			↑*i*Sg	**Sb**	**16 54 20.1**	**+0.4**
ARSA	**Arzberg** 2.7nm,0.1s	**1.09**	**220**	Pg	**Pg**	**16 54 05.1**	**+0.1**
ARSA	baz=42			*e*Sg	**Sb**	**16 54 19.5**	**-0.1**
ARSA				Sn	**Sb**	**16 54 20.0**	**+0.4**
VRAC	**Vranov** baz=179	**1.22**	**2**	*e*Pg	**Pg**	**16 54 07.6**	**+0.1**
VRAC	5.8nm,0.2s,baz=179			*e*Sg	**Sn**	**16 54 23.8**	**-0.3**
TREC	**Trest** baz=148	**1.39**	**330**	*e*Sg	**Sg**	**16 54 29.8**	**+1.0**
MOA	**Molln**	**1.55**	**262**	↑*i*Pn	**Pb**	**16 54 13.4**	**+0.3**
MOA				↑*i*Sn	**Sg**	**16 54 35.2**	**+1.3**
MOA	**Molln**	**1.55**	**262**	Pn	**Pb**	**16 54 13.4**	**+0.3**
MOA	baz=81			*e*Sg	**Sg**	**16 54 34.5**	**+0.6**
MOA				Sn	**Sg**	**16 54 35.2**	**+1.3**
VYHS	**Vyhne**	**1.58**	**75**	*e*PN	**Pg**	**16 54 14.7**	**+0.2**
VYHS				*e*SN	**Sg**	**16 54 36.0**	**+1.0**
VYHS	**Vyhne**	**1.58**	**75**	*e*Pn	**Pg**	**16 54 14.7**	**+0.2**
VYHS				*e*Sn	**Sg**	**16 54 36.0**	**+1.0**
MORC	**Moravsky Berou** baz=200	**1.81**	**21**	*e*Sn	**Sn**	**16 54 39.0**	**+0.2**
KHC	**Kasperske Hory** comp=Z,8.2nm,0.6s	**2.22**	**299**	*e*PG	**Pb**	**16 54 24.4**	**-0.2**
KHC				*e*SG	**Sb**	**16 54 53.0**	**+0.7**
KHC	**Kasperske Hory** 8.2nm,0.6s	**2.22**	**299**	Pg	**Pb**	**16 54 24.4**	**-0.2**
KHC				Sg	**Sb**	**16 54 53.0**	**+0.7**
DPC	**Dobruska-Polom** baz=175	**2.26**	**356**	*e*Sg	**Sg**	**16 54 56.6**	**-0.2**
PRU	**Pruhonice** comp=Z,4.8nm,0.3s	**2.31**	**326**	*e*PG	**Pb**	**16 54 26.4**	**+0.4**
PRU				*e*SG	**Sg**	**16 54 57.7**	**-0.5**
PRU	**Pruhonice** 4.8nm,0.3s	**2.31**	**326**	Pg	**Pb**	**16 54 26.4**	**+0.4**
PRU				Sg	**Sg**	**16 54 57.7**	**-0.5**
UPC	**Upice**	**2.44**	**352**	*e*SG	**Sg**	**16 55 02.4**	**-0.1**
UPC	**Upice**	**2.44**	**352**	Sg	**Sg**	**16 55 02.4**	**-0.1**
PVCC	**Panska Ves** comp=Z,12nm,0.3s	**2.76**	**333**	*e*SG	**Sg**	**16 55 12.0**	**-0.6**
PVCC	**Panska Ves** 12nm,0.3s	**2.76**	**333**	Sg	**Sg**	**16 55 12.0**	**-0.6**
BRG	**Berggiesshubel** 3.4nm,0.5s	**3.26**	**330**	SG	**Sg**	**16 55 29.0**	**+0.3**
NKC	**Novy Kostel**	**3.43**	**310**	*e*SG	**Sg**	**16 55 32.5**	**-1.9**
NKC	**Novy Kostel**	**3.43**	**310**	Sg	**Sg**	**16 55 32.5**	**-1.9**
CLL	**Collm**	**3.95**	**326**	*e*Sg	**Sg**	**16 55 51.0**	**0.0**

*ISCJB **18** 17:09:36.5±0.5, 33.67N±0.04×132.15E±0.05, h64km±5km, mb3.5/3, Error ellipse: s-maj=7.8km s-min=5.3km az=43.3*
*JMA **18** 17:09:37.7, 33.68N×132.17E, h54km, M3.7*
JMA Felt II J1.
*IDC **18** 17:09:38.9±3.0, 33.75N×132.07E, h72km±30km, mb3.2/3, mb1 3.3/5, mb1mx3.0/25, mbtmp3.2/5, Error ellipse: s-maj=37.4km s-min=19.0km az=43.0*
ISC 18 17:09:37.4±0.9, 33.67N±0.05×132.15E±0.04, h56km±7km, n16, σ0967/27, mb3.5/3, 3C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.29**	**112**	↑P	**Pn**	**17 09 47.0**	**0.0**
JNA				S	**Sn**	**17 09 53.7**	**-0.2**
JKD	**Kudamatsu**	**0.45**	**329**	↓P	**Pn**	**17 09 48.5**	**0.0**
JKD				S	**Sn**	**17 09 56.4**	**-0.1**
JKI	**Kunimi**	**0.49**	**266**	↓P	**Pn**	**17 09 49.3**	**+0.4**
JKI				S	**Sn**	**17 09 57.8**	**+0.6**
JHM	**Kurahashi**	**0.57**	**34**	↑P	**Pn**	**17 09 49.7**	**-0.1**
JHM				S	**Sn**	**17 09 58.5**	**-0.2**
UWA2	**Uwa jima 2**	**0.60**	**139**	↓P	**Pn**	**17 09 50.4**	**+0.2**
UWA2				S	**Sn**	**17 09 59.7**	**+0.2**
JET	**Tanbara**	**0.76**	**81**	↓P	**Pn**	**17 09 52.2**	**+0.1**
JET				S	**Sn**	**17 10 03.2**	**+0.3**
JKU	**Kubokawa**	**0.84**	**115**	↓P	**Pn**	**17 09 53.1**	**-0.1**
JKU				S	**Sn**	**17 10 05.0**	**+0.2**
JTO	**Tosashimizu**	**0.97**	**146**	↓P	**Pn**	**17 09 55.1**	**+0.2**
JTO				S	**Sn**	**17 10 08.4**	**+0.6**
JHT	**Toyohira**	**1.02**	**13**	↑P	**Pn**	**17 09 55.9**	**+0.4**
JHT				S	**Sn**	**17 10 09.7**	**+0.7**
JGT	**Gotsu**	**1.37**	**6**	P	**Pn**	**17 10 00.7**	**+0.6**
JMN	**Monobe**	**1.44**	**87**	P	**Pn**	**17 10 00.6**	**-0.6**
JMN				S	**Sn**	**17 10 18.4**	**-0.7**
KSRS	**Korea Array** 0.4nm,0.3s,baz=137,slow=14,SNR=4.2	**5.11**	**319**	P	**Pn**	**17 10 52.1**	**+0.7**
KSRS	1.0nm,0.3s,baz=139,slow=24,SNR=6.6			S	**Sn**	**17 11 48.4**	**-0.7**
MJAR	**Matsushiro Arr**	**5.73**	**58**	P	**Pn**	**17 11 01.8**	**+1.9**
	0.8nm,0.3s,baz=243,slow=14,SNR=15						
SONM	**Songino Array**	**23.96**	**314**	P	**P**	**17 14 46.8**	**+0.3**
	0.2nm,0.6s,baz=129,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**57.04**	**178**	P	**P**	**17 19 17.9**	**+0.3**
	0.3nm,0.6s,baz=358,slow=5.1,SNR=12						
FINES	**FINESS Array B**	**68.10**	**330**	P	**P**	**17 20 29.4**	**-1.5**
	2.3nm,0.8s,baz=71,slow=8.3,SNR=6.3						

*ISCJB **18** 18:01:30.6±0.5, 38.16N±0.02×27.16E±0.04, h4km±5km, Error ellipse: s-maj=5.2km s-min=3.5km az=178.2*
*ISK **18** 18:01:30.3, 38.19N×27.17E, h4km, ML1.8*
*DDA **18** 18:01:30.4, 38.18N×27.12E, h5km, MD2.8*
*CSEM **18** 18:01:30.9±0.2, 38.16N×27.16E, h5km, ML1.8, Error ellipse: s-maj=4.1km s-min=2.9km az=87.0*
ISC 18 18:01:30.7±1.0, 38.16N±0.02×27.17E±0.03, h6km±10km, n34, σ0945/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.24**	**336**	*e*PG	**Pg**	**18 01 35.5**	**0.0**
BLCB				*e*SG	**Sg**	**18 01 38.6**	**-0.1**
BLCB	**Balcova**	**0.24**	**336**	*e*Pg	**Pg**	**18 01 35.5**	**0.0**
BLCB				*e*Sg	**Sg**	**18 01 38.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.46**	**174**	*i*P	**Pg**	**18 01 40.0**	**+0.4**
GCAM				*i*S	**Sg**	**18 01 46.6**	**+0.9**
GCAM	**G?zelcaml?**	**0.46**	**174**	*i*P	**Pg**	**18 01 40.0**	**+0.4**
GCAM				*i*S	**Sg**	**18 01 46.6**	**+0.9**
URLA	**Izmir**	**0.49**	**294**	*i*P	**Pg**	**18 01 39.9**	**-0.3**
URLA				*i*S	**Sg**	**18 01 46.7**	**0.0**
URLA	**Izmir**	**0.49**	**294**	*i*P	**Pg**	**18 01 39.9**	**-0.3**
URLA				*i*S	**Sg**	**18 01 46.7**	**0.0**
AYDN	**Tasoluk**	**0.75**	**132**	*i*P	**Pb**	**18 01 46.1**	**-0.2**
AYDN				*i*S	**Sb**	**18 01 56.3**	**-0.5**
AYDN	**Tasoluk**	**0.75**	**132**	*i*P	**Pb**	**18 01 46.1**	**-0.2**
AYDN				*i*S	**Sb**	**18 01 56.3**	**-0.5**
AKS	**Akhisar**	**0.88**	**35**	*e*PG	**Pg**	**18 01 47.2**	**-0.3**
AKS				*e*SG	**Sb**	**18 01 60.0**	**-0.4**
AKS	**Akhisar**	**0.88**	**35**	*e*Pg	**Pg**	**18 01 47.2**	**-0.3**
AKS				*e*Sg	**Sb**	**18 02 00.0**	**-0.4**
AKHS	**Akhisar**	**0.88**	**35**	*i*P	**Pb**	**18 01 48.1**	**-0.2**
AKHS				*i*S	**Sb**	**18 02 00.4**	**0.0**
AKHS	**Akhisar**	**0.88**	**35**	*i*P	**Pb**	**18 01 48.1**	**-0.2**
AKHS				*i*S	**Sb**	**18 02 00.4**	**0.0**
BODT	**Bodrum**	**1.10**	**174**	*e*PN	**Pb**	**18 01 52.3**	**+0.1**
BODT				*e*SN	**Sn**	**18 02 08.8**	**+0.5**
BODT	**Bodrum**	**1.10**	**174**	*e*Pn	**Pb**	**18 01 52.3**	**+0.1**
BODT				*e*Sn	**Sn**	**18 02 08.8**	**+0.5**
BDRM	**Kayabasi**	**1.12**	**169**	*i*P	**Pg**	**18 01 51.1**	**-1.0**
BDRM				*i*S	**Sg**	**18 02 06.1**	**-0.5**
BDRM	**Kayabasi**	**1.12**	**169**	*i*P	**Pg**	**18 01 51.1**	**-1.0**
BDRM				*i*S	**Sg**	**18 02 06.1**	**-0.5**
MANT	**Manisa**	**1.14**	**73**	*i*P	**Pn**	**18 01 53.1**	**-0.3**
MANT				*i*S	**Sg**	**18 02 07.2**	**-0.2**
MANT	**Manisa**	**1.14**	**73**	*i*P	**Pn**	**18 01 53.1**	**-0.3**
MANT				*i*S	**Sg**	**18 02 07.2**	**-0.2**
KULA	**Kula-Manisa**	**1.22**	**73**	*e*PN	**Pn**	**18 01 53.9**	**-0.6**
KULA	**Kula-Manisa**	**1.22**	**73**	*e*Pn	**Pn**	**18 01 53.9**	**-0.6**
YER	**Yerkesik**	**1.35**	**139**	*e*PN	**Pg**	**18 01 56.8**	**+0.1**
YER	**Yerkesik**	**1.35**	**139**	*e*Pn	**Pg**	**18 01 56.8**	**+0.1**
DEMI	**Demirci**	**1.50**	**54**	*i*P	**Pg**	**18 02 00.2**	**+0.8**
DEMI	**Demirci**	**1.50**	**54**	*i*P	**Pg**	**18 02 00.2**	**+0.8**
BALY	**Balya**	**1.61**	**12**	*i*P	**Pn**	**18 01 59.5**	**-0.3**
BALY				*i*S	**Sb**	**18 02 21.5**	**-0.2**
BALY	**Balya**	**1.61**	**12**	*i*P	**Pn**	**18 01 59.5**	**-0.3**
BALY				*i*S	**Sb**	**18 02 21.5**	**-0.2**
APE	**Apeiranthos**	**1.70**	**231**	*e*PN	**Pb**	**18 02 02.5**	**+0.1**
APE	**Apeiranthos**	**1.70**	**231**	*e*Pn	**Pb**	**18 02 02.5**	**+0.1**
KHL	**Karahalli**	**1.86**	**84**	*e*PN	**Pn**	**18 02 03.5**	**+0.2**
KHL	**Karahalli**	**1.86**	**84**	*e*Pn	**Pn**	**18 02 03.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.92**	**12**	*e*PN	**Pn**	**18 02 04.7**	**+0.7**
GONE	**Gonen-Balikesi**	**1.92**	**12**	*e*Pn	**Pn**	**18 02 04.7**	**+0.7**
KCTX	**Karacabey (Bur**	**2.29**	**23**	*e*PN	**Pn**	**18 02 09.6**	**+0.5**
KCTX	**Karacabey (Bur**	**2.29**	**23**	*e*Pn	**Pn**	**18 02 09.6**	**+0.5**

JMA 18 18:16:52.3±0.2, 26°64N×141°80E, h36km, M4.1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.34**	**92**	P	Pn	18 17 00.5	-0.1
JHHJ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.60**	**290**	*i* P	**Pg**	**18 42 52.1**	**+0.3**
DNZL				*i* S	**Sb**	**18 43 02.2**	**-0.3**
DNZL	**Cakiroluk**	**0.60**	**290**	*i* P	**Pg**	**18 42 52.1**	**+0.3**
DNZL				*i* S	**Sb**	**18 43 02.2**	**-0.3**
BCK	**Bucak**	**0.66**	**92**	*e*PG	**Pg**	**18 42 52.4**	**-0.7**
BCK				*e*SG	**Sb**	**18 43 04.0**	**-0.3**
BCK	**Bucak**	**0.66**	**92**	*e*Pg	**Pg**	**18 42 52.4**	**-0.7**
BCK				*e*Sg	**Sb**	**18 43 04.0**	**-0.3**
KORT	**Korkueli**	**0.68**	**135**	*i* P	**Pg**	**18 42 53.5**	**+0.2**
KORT				*i* S	**Sb**	**18 43 04.9**	**+0.2**
KORT	**Korkueli**	**0.68**	**135**	*i* P	**Pg**	**18 42 53.5**	**+0.2**
ELL	**Elmali**	**0.74**	**170**	*e*PG	**Pg**	**18 42 53.7**	**-0.9**
ELL				*e*SG	**Sg**	**18 43 04.5**	**+0.3**
ELL	**Elmali**	**0.74**	**170**	*e*Pg	**Pg**	**18 42 53.7**	**-0.9**
ELL				*e*Sg	**Sg**	**18 43 04.5**	**+0.3**
KHL	**Karahalli**	**0.86**	**348**	*e*PG	**Pg**	**18 42 57.2**	**+0.5**
KHL	**Karahalli**	**0.86**	**348**	*e*Pg	**Pg**	**18 42 57.3**	**+0.5**
KHAL	**Karahalli**	**0.91**	**347**	*i* P	**Pg**	**18 42 57.4**	**-0.3**
KHAL				*i* S	**Sb**	**18 43 12.4**	**+1.0**
KHAL	**Karahalli**	**0.91**	**347**	*i* P	**Pg**	**18 42 57.4**	**-0.3**
KHAL				*i* S	**Sb**	**18 43 12.4**	**+1.0**
ANTB	**Antalya**	**0.93**	**129**	*e*PG	**Pg**	**18 42 57.4**	**-0.6**
ANTB				*e*SG	**Sb**	**18 43 11.8**	**+0.1**
ANTB	**Antalya**	**0.93**	**129**	*e*Pg	**Pg**	**18 42 57.4**	**-0.6**
ANTB				*e*Sg	**Sb**	**18 43 11.8**	**+0.1**
FETY	**Fethiye**	**1.00**	**213**	*e*PG	**Pg**	**18 42 58.9**	**-0.6**
FETY				*e*SG	**Sb**	**18 43 13.3**	**-0.7**
FETY	**Fethiye**	**1.00**	**213**	*e*Pg	**Pg**	**18 42 58.9**	**-0.6**
FETY				*e*Sg	**Sb**	**18 43 13.3**	**-0.7**
TURN	**Turunc**	**1.10**	**237**	*i* P	Pn	18 43 06.6	+3.9
TURN				*i* S	Sn	18 43 26.4	+7.9
YER	**Yerkesik**	**1.23**	**254**	*e*PN	**Pg**	**18 43 03.6**	**-0.2**
YER	**Yerkesik**	**1.23**	**254**	*e*Pn	**Pg**	**18 43 03.6**	**-0.2**
SHUT	**Suhut-Afyon**	**1.24**	**30**	*e*PN	**Pg**	**18 43 04.0**	**-0.1**
SHUT	**Suhut-Afyon**	**1.24**	**30**	*e*Pn	**Pg**	**18 43 04.0**	**-0.1**
AKAS	**Kas**	**1.25**	**186**	*i* P	**Pn**	**18 43 05.7**	**+0.8**
AKAS				*i* S	**Sn**	**18 43 28.3**	**+5.9**
AKAS	**Kas**	**1.25**	**186**	*i* P	**Pn**	**18 43 05.7**	**+0.8**
MANT	**Manisa**	**1.38**	**317**	*i* P	**Pn**	**18 43 06.3**	**-0.4**
MANT				*i* S	**Sg**	**18 43 24.0**	**-0.7**
MANT	**Manisa**	**1.38**	**317**	*i* P	**Pn**	**18 43 06.3**	**-0.4**
MANT				*i* S	**Sg**	**18 43 24.0**	**-0.7**
AYDN	**Tasoluk**	**1.50**	**277**	*i* P	**Pn**	**18 43 08.3**	**+0.1**
AYDN				*i* S	**Sg**	**18 43 28.0**	**-0.6**
AYDN	**Tasoluk**	**1.50**	**277**	*i* P	**Pn**	**18 43 08.3**	**+0.1**
AYDN				*i* S	**Sg**	**18 43 28.0**	**-0.6**
BOLV	**Bolvadin**	**1.55**	**37**	*i* P	**Pn**	**18 43 09.1**	**+0.1**
BOLV				*i* S	**Sn**	**18 43 27.0**	**-2.8**
BOLV	**Bolvadin**	**1.55**	**37**	*i* P	**Pn**	**18 43 09.1**	**+0.1**
ALT	**Altintas**	**1.59**	**10**	*e*PN	**Pn**	**18 43 09.2**	**-0.4**
ALT	**Altintas**	**1.59**	**10**	*e*Pn	**Pn**	**18 43 09.2**	**-0.4**
GDZ	**Gediz**	**1.62**	**352**	*i* P	**Pn**	**18 43 10.1**	**+0.2**
GDZ				*i* S	**Sg**	**18 43 36.0**	**+3.7**
GDZ	**Gediz**	**1.62**	**352**	*i* P	**Pn**	**18 43 10.1**	**+0.2**
BDRM	**Kayabasi**	**1.89**	**258**	*i* P	**Pn**	**18 43 14.2**	**+0.7**
BDRM				*i* S	**Sg**	**18 43 41.1**	**+0.1**
BDRM	**Kayabasi**	**1.89**	**258**	*i* P	**Pn**	**18 43 14.2**	**+0.7**
BODT	**Bodrum**	**2.00**	**259**	*e*PN	**Pn**	**18 43 14.7**	**-0.3**
BODT	**Bodrum**	**2.00**	**259**	*e*Pn	**Pn**	**18 43 14.7**	**-0.3**
GCAM	**G?zelcaml?**	**2.02**	**277**	*i* P	**Pn**	**18 43 14.5**	**-0.8**
GCAM	**G?zelcaml?**	**2.02**	**277**	*i* P	**Pn**	**18 43 14.5**	**-0.8**
AKHS	**Akhisar**	**2.07**	**313**	*i* P	**Pn**	**18 43 15.3**	**-0.7**
AKHS	**Akhisar**	**2.07**	**313**	*i* P	**Pn**	**18 43 15.3**	**-0.7**
AKS	**Akhisar**	**2.07**	**313**	*e*PN	**Pn**	**18 43 15.3**	**-0.7**
AKS	**Akhisar**	**2.07**	**313**	*e*Pn	**Pn**	**18 43 15.3**	**-0.7**
KONT	**Konya--Tatoy**	**2.12**	**77**	*e*PN	**Pn**	**18 43 16.5**	**-0.2**
KONT	**Konya--Tatoy**	**2.12**	**77**	*e*Pn	**Pn**	**18 43 16.5**	**-0.2**
KDHN	**Kadinhani**	**2.13**	**60**	*i* P	**Pn**	**18 43 16.8**	**-0.2**
KDHN	**Kadinhani**	**2.13**	**60**	*i* P	**Pn**	**18 43 16.8**	**-0.2**
IZM	**Izmir**	**2.17**	**296**	*e*PN	**Pn**	**18 43 17.4**	**-0.1**
IZM	**Izmir**	**2.17**	**296**	*e*Pn	**Pn**	**18 43 17.4**	**-0.1**
KIZT	**Kizilcal**	**2.18**	**50**	*e*PN	**Pn**	**18 43 17.0**	**-0.6**
KIZT	**Kizilcal**	**2.18**	**50**	*e*Pn	**Pn**	**18 43 17.0**	**-0.6**
LADK	**Ladik-KONYA**	**2.19**	**70**	*e*PN	**Pn**	**18 43 17.8**	**+0.1**
LADK	**Ladik-KONYA**	**2.19**	**70**	*e*Pn	**Pn**	**18 43 17.8**	**+0.1**
ESKT	**Eskisehir**	**2.21**	**23**	*e*PN	**Pn**	**18 43 18.6**	**+0.6**
ESKT	**Eskisehir**	**2.21**	**23**	*e*Pn	**Pn**	**18 43 18.7**	**+0.6**
BLCB	**Balcova**	**2.33**	**294**	*e*PN	**Pn**	**18 43 19.8**	**+0.2**
BLCB	**Balcova**	**2.33**	**294**	*e*Pn	**Pn**	**18 43 19.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.40**	**35**	*e*PN	**Pn**	**18 43 21.5**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.40**	**35**	*e*Pn	**Pn**	**18 43 21.5**	**+0.8**
BALB	**Balikesir**	**2.61**	**326**	*e*PN	**Pn**	**18 43 23.8**	**+0.4**
BALB	**Balikesir**	**2.61**	**326**	*e*Pn	**Pn**	**18 43 23.8**	**+0.4**
ERMK	**Ermenek**	**2.66**	**107**	*i* P	**Pn**	**18 43 24.3**	**0.0**
ERMK	**Ermenek**	**2.66**	**107**	*i* P	**Pn**	**18 43 24.3**	**0.0**
CAVI	**Cavuskoy**	**2.71**	**1**	*e*PN	**Pn**	**18 43 25.5**	**+0.6**
CAVI	**Cavuskoy**	**2.71**	**1**	*e*Pn	**Pn**	**18 43 25.5**	**+0.6**
BALY	**Balya**	**2.81**	**324**	*i* P	**Pn**	**18 43 24.8**	**-1.4**
BALY				*e*S	**Sn**	**18 43 59.8**	**-0.8**
BALY	**Balya**	**2.81**	**324**	*i* P	**Pn**	**18 43 24.8**	**-1.4**
BALY				*e*S	**Sn**	**18 43 59.8**	**-0.8**
KCTX	**Karacabey (Bur**	**2.98**	**339**	*e*PN	**Pn**	**18 43 28.9**	**+0.4**
KCTX	**Karacabey (Bur**	**2.98**	**339**	*e*Pn	**Pn**	**18 43 29.0**	**+0.4**
GULT	**Gulveren**	**3.00**	**11**	*e*PN	**Pn**	**18 43 29.4**	**+0.5**
GULT	**Gulveren**	**3.00**	**11**	*e*Pn	**Pn**	**18 43 29.4**	**+0.5**
GONE	**Gonen-Balikesi**	**3.03**	**328**	*e*PN	**Pn**	**18 43 29.1**	**-0.1**
GONE	**Gonen-Balikesi**	**3.03**	**328**	*e*Pn	**Pn**	**18 43 29.1**	**-0.1**
YLV	**Yalova**	**3.09**	**355**	*e*PN	**Pn**	**18 43 30.8**	**+0.7**
YLV	**Yalova**	**3.09**	**355**	*e*Pn	**Pn**	**18 43 30.8**	**+0.7**
ARMT	**Armutlu**	**3.15**	**348**	*e*PN	**Pn**	**18 43 31.9**	**+0.9**
ARMT	**Armutlu**	**3.15**	**348**	*e*Pn	**Pn**	**18 43 31.9**	**+0.9**
MDUB	**Mudurnu**	**3.19**	**20**	*e*PN	**Pn**	**18 43 32.8**	**+1.3**
MDUB	**Mudurnu**	**3.19**	**20**	*e*Pn	**Pn**	**18 43 32.8**	**+1.3**
BNT	**Bandirma**	**3.21**	**334**	*e*PN	**Pn**	**18 43 32.2**	**+0.6**
BNT	**Bandirma**	**3.21**	**334**	*e*Pn	**Pn**	**18 43 32.2**	**+0.6**
EDC	**Edincik**	**3.22**	**333**	*e*PN	**Pn**	**18 43 32.5**	**+0.7**
EDC	**Edincik**	**3.22**	**333**	*e*Pn	**Pn**	**18 43 32.5**	**+0.7**
AFSR	**Af˙ar-Bala (A**	**3.26**	**52**	*e*PN	**Pn**	**18 43 32.5**	**0.0**
AFSR	**Af˙ar-Bala (A**	**3.26**	**52**	*e*Pn	**Pn**	**18 43 32.5**	**0.0**
APE	**Apeiranthos**	**3.40**	**264**	*e*PN	**Pn**	**18 43 34.8**	**+0.5**
APE	**Apeiranthos**	**3.40**	**264**	*e*Pn	**Pn**	**18 43 34.8**	**+0.5**
KRBG	**Karabiga-Canak**	**3.48**	**327**	*e*PN	**Pn**	**18 43 36.0**	**+0.6**
KRBG	**Karabiga-Canak**	**3.48**	**327**	*e*Pn	**Pn**	**18 43 36.0**	**+0.6**
ISK	**Istanbul-Kandi**	**3.62**	**352**	*e*PN	**Pn**	**18 43 38.2**	**+0.9**
ISK	**Istanbul-Kandi**	**3.62**	**352**	*e*Pn	**Pn**	**18 43 38.2**	**+0.9**
LPK	**Lapseki**	**3.71**	**322**	*e*PN	**Pn**	**18 43 38.9**	**+0.3**
LPK	**Lapseki**	**3.71**	**322**	*e*Pn	**Pn**	**18 43 38.9**	**+0.3**
LFK	**Lefkose**	**3.76**	**125**	*e*PN	**Pn**	**18 43 39.4**	**+0.1**
LFK	**Lefkose**	**3.76**	**125**	*e*Pn	**Pn**	**18 43 39.4**	**+0.1**
BRTR	**Keskin Array B**	**3.78**	**52**	Pn	**Pn**	**18 43 39.5**	**-0.1**
	0.6nm,0.3s,baz=240,slow=15,SNR=14						
BRTR				Sn	**Sn**	**18 44 25.6**	**+0.9**
	0.2nm,0.3s,baz=225,slow=22,SNR=5.4						
CSS	**Prodhromos**	**3.83**	**130**	*e*PN	**Pn**	**18 43 41.1**	**+0.8**
CSS	**Prodhromos**	**3.83**	**130**	*e*Pn	**Pn**	**18 43 41.1**	**+0.8**
CTKS	**Kestanelik-??a**	**3.87**	**346**	*e*PN	**Pn**	**18 43 42.4**	**+1.7**
CTKS	**Kestanelik-??a**	**3.87**	**346**	*e*Pn	**Pn**	**18 43 42.4**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.87**	**320**	*e*PN	**Pn**	**18 43 42.1**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.87**	**320**	*e*Pn	**Pn**	**18 43 42.1**	**+1.3**
CORM	**Corum**	**4.66**	**53**	*e*PN	**Pn**	**18 43 52.0**	**+0.2**
CORM	**Corum**	**4.66**	**53**	*e*Pn	**Pn**	**18 43 52.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**34.84**	**233**	P	P	18 49 36.6	+3.8
	0.3nm,0.8s,baz=38,slow=9.3,SNR=4.1						
KURK	**Kurchatov**	**36.83**	**53**	P	**P**	**18 49 48.4**	**-1.1**
	0.3nm,0.4s,baz=276,slow=8.8,SNR=4.5						
MKAR	**Makanchi Array**	**39.40**	**59**	P	**P**	**18 50 10.3**	**-1.0**
	0.2nm,0.5s,baz=291,slow=9.1,SNR=2.8						

*ISK **18** 18:46:19.7, 36˙.75N×36˙.05E, h17km, ML1.6*
*ISCJB **18** 18:46:21.4±0.6, 36˙.79N±0˙.03×35˙.94E±0˙.05, h25km±7km, Error ellipse: s-maj=6.4km s-min=5.3km az=177.4*
*DDA **18** 18:46:21.9, 36˙.74N×35˙.97E, h7km, MD2.9*
*CSEM **18** 18:46:21.3±0.3, 36˙.79N×36˙.00E, h2km, MD2.9, Error ellipse: s-maj=7.1km s-min=6.3km az=97.0*

ISC 18 18:46:21.2±0.9, 36˙.78N±0˙.03×35˙.94E±0˙.04, h28km±8km, n22,σ1°36/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.28**	**327**	*e*PG	**Pb**	**18 46 27.3**	**-0.9**
CEYT				*e*SG	**Sb**	**18 46 33.3**	**+0.3**
CEYT	**Ceyhan**	**0.28**	**327**	*e*Pg	**Pb**	**18 46 27.3**	**-0.9**
CEYT				*e*Sg	**Sb**	**18 46 33.3**	**+0.3**
COBT	**Iskenderun**	**0.36**	**135**	*i* P	**Pb**	**18 46 28.4**	**-1.2**
COBT				*i* S	**Sb**	**18 46 35.2**	**0.0**
COBT	**Iskenderun**	**0.36**	**135**	*i* P	**Pb**	**18 46 28.4**	**-1.2**
COBT				*i* S	**Sb**	**18 46 35.2**	**0.0**
KRTS	**Karatas**	**0.49**	**246**	*e*PG	**Pb**	**18 46 31.3**	**-0.1**
KRTS				*e*SG	**Sn**	**18 46 40.1**	**+1.7**
KRTS	**Karatas**	**0.49**	**246**	*e*Pg	**Pb**	**18 46 31.3**	**-0.1**
KRTS				*e*Sg	**Sn**	**18 46 40.1**	**+1.7**
HTY	**Hatay**	**0.68**	**166**	*e*PG	**Pb**	**18 46 32.4**	**-2.0**
HTY	**Hatay**	**0.68**	**166**	*e*Pg	**Pb**	**18 46 32.4**	**-2.0**
KOZT	**Kozan**	**0.71**	**353**	*e*PG	**Pn**	**18 46 34.8**	**-0.6**
KOZT	**Kozan**	**0.71**	**353**	*e*Pg	**Pn**	**18 46 34.8**	**-0.6**
YAYL	**Yayladag**	**0.75**	**169**	*i* P	**Pn**	**18 46 36.2**	**+0.1**
YAYL				*i* S	**Sb**	**18 46 45.4**	**-0.5**
YAYL	**Yayladag**	**0.75**	**169**	*i* P	**Pn**	**18 46 36.2**	**+0.1**
YAYL				*i* S	**Sb**	**18 46 45.4**	**-0.5**
ANDN	**Andirin**	**0.86**	**22**	*i* P	Pb	18 46 30.3	-7.4
ANDN				*i* S	**Sb**	**18 46 46.3**	**-2.7**
KUZU	**Kuzuini**	**0.92**	**90**	*i* P	**Pn**	**18 46 39.2**	**+1.0**
KUZU				*i* S	**Sn**	**18 46 52.0**	**+1.5**
KUZU	**Kuzuini**	**0.92**	**90**	*i* P	**Pn**	**18 46 39.2**	**+1.0**
KUZU				*i* S	**Sn**	**18 46 52.0**	**+1.5**
KMRS	**Kahramanmaras**	**1.06**	**46**	*e*PG	**Pn**	**18 46 39.8**	**-0.4**
KMRS				*e*SG	**Sn**	**18 46 54.1**	**+0.1**
KMRS	**Kahramanmaras**	**1.06**	**46**	*e*Pg	**Pn**	**18 46 39.8**	**-0.4**
KMRS				*e*Sg	**Sn**	**18 46 54.1**	**+0.1**
GAZ	**Gaziantep**	**1.09**	**69**	*e*PG	**Pn**	**18 46 39.8**	**-0.9**
GAZ	**Gaziantep**	**1.09**	**69**	*e*Pg	**Pn**	**18 46 39.8**	**-0.9**
GZT	**Gaziantep**	**1.42**	**66**	*i* P	**Pb**	**18 46 47.2**	**0.0**
GZT				*i* S	**Sb**	**18 47 09.6**	**+4.6**
AKCD	**Akcadag**	**2.19**	**46**	*i* P	**Pb**	**18 46 59.4**	**-0.8**
AKCD	**Akcadag**	**2.19**	**46**	*i* P	**Pb**	**18 46 59.4**	**-0.8**

IDC 18 19:11:27.8±2.3, 1˙.03N×97˙.30E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/24, mbtmp3.5/7, ML3.9/1, MS2.9/2, Ms1 3.0/2, ms1mx2.6/36, Error ellipse: s-maj=99.5km s-min=25.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.39**	**5**	Pn	Pn	19 15 30.9	-1.2
	0.2nm,0.3s,baz=195,slow=12,SNR=8.6						
CMAR				LR	LR	19 22 33.5	
	comp=Z,16nm,19.8s,baz=320,slow=38						
FITZ	**Fitzroy Crossi**	**33.75**	**126**	LR	LR	19 34 26.1	
	comp=Z,51nm,19.8s,baz=320,slow=41						
ASAR	**Alice Springs**	**43.22**	**127**	P	P	19 19 31.0	-0.2
	0.6nm,1.1s,baz=298,slow=7.8,SNR=3.8						
SONM	**Songino Array**	**47.28**	**8**	P	P	19 20 03.4	+0.3
	0.2nm,0.7s,baz=181,slow=6.4,SNR=4.2						
MKAR	**Makanchi Array**	**47.43**	**346**	P	P	19 20 04.3	+0.1
	0.4nm,0.4s,baz=162,slow=8.4,SNR=11						
KURK	**Kurchatov**	**51.98**	**345**	P	P	19 20 38.2	-0.5
	0.4nm,0.7s,baz=166,slow=7.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**53.74**	**351**	P	P	19 20 51.7	0.0
	0.9nm,0.5s,baz=168,slow=6.6,SNR=7.5						
BVAR	**Borovoye Array**	**56.44**	**341**	P	P	19 21 10.8	-0.5
	0.3nm,0.7s,baz=141,slow=9.3,SNR=3.2						

IDC 18 19:30:51.7±1.5, 5˙.38S×153˙.42E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/17, mbtmp3.7/8, Error ellipse: s-maj=52.9km s-min=20.4km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**	**237**	Pn	Pn	19 32 44.5	+3.7
	1.3nm,0.3s,baz=106,slow=10,SNR=5.6						
PMG				Sn	Sn	19 34 03.3	-2.1
	2.1nm,0.3s,baz=148,slow=22,SNR=14						
WRA	**Warramunga Arr**	**23.53**	**230**	P	P	19 36 02.6	-1.2
	0.6nm,0.7s,baz=53,slow=10,SNR=2.7						
WRA				PcP	PcP	19 39 49.6	-0.1
	0.2nm,0.4s,baz=56,slow=2.6,SNR=3.2						
ASAR	**Alice Springs**	**26.15**	**224**	P	P	19 36 29.5	+1.6
	0.2nm,0.5s,baz=61,slow=9.0,SNR=8.6						
FITZ	**Fitzroy Crossi**	**29.93**	**243**	P	P	19 37 00.9	-0.9
	1.5nm,0.6s,baz=28,slow=11,SNR=6.5						
PETK	**Petropavlovsk-**	**58.38**	**3**	P	P	19 40 50.0	+1.2
	5.0nm,1.0s,baz=173,slow=8.5,SNR=7.0						
CMAR	**Chiang Mai Arr**	**58.68**	**295**	P	P	19 40 52.0	+0.5
	0.7nm,0.8s,baz=119,slow=5.4,SNR=7.2						
SONM	**Songino Array**	**67.14**	**328**	P	P	19 41 47.2	-0.3
	0.2nm,0.5s,baz=147,slow=5.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	P	19 43 12.9	-0.5
	1.4nm,0.7s,baz=112,slow=4.7,SNR=9.7						
ILAR	**Eielson Array**	**82.47**	**22**	P	P	19 43 14.8	-0.9
	0.3nm,0.8s,baz=260,slow=5.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**151.07**	**287**	PKPbc	PKPbc	19 50 47.5	-0.4
	1.1nm,0.7s,baz=75,slow=2.2,SNR=14						

*DDA **18** 19:39:11.9, 38˙.77N×31˙.41E, h23km, MD3.7*
*ISCJB **18** 19:39:12.4±0.5, 38˙.85N±0˙.02×31˙.39E±0˙.02, h6km±3km, mb3.4/5, Error ellipse: s-maj=2.8km s-min=2.1km az=9.0*
*ISK **18** 19:39:12.0, 38˙.83N×31˙.40E, h3km, ML4.0*
*IDC **18** 19:39:12.3±1.2, 38˙.96N×31˙.32E, h0km, mb3.5/5, mb1 3.5/8, mb1mx3.4/26, mbtmp3.5/8, ML3.6/3, Error ellipse: s-maj=18.9km s-min=15.8km az=54.0*
*CSEM **18** 19:39:13.3±0.1, 38˙.83N×31˙.39E, h2km, MD3.7, Error ellipse: s-maj=2.0km s-min=1.5km az=18.0*

ISC 18 19:39:13.4±1.1, 38˙.82N±0˙.02×31˙.42E±0˙.02, h5km±8km, n307,σ0°89/321, mb3.4/5, 18C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.37**	**80**	PG	**Pg**	**19 39 20.0**	**-0.6**
KIZT	**Kizilcal**	**0.37**	**80**	*i* Pg	**Pg**	**19 39 20.0**	**-0.6**
BOLV	**Bolvadin**	**0.38**	**255**	*i* P	**Pg**	**19 39 20.3**	**-0.4**
BOLV				*i* S	**Sg**	**19 39 26.1**	**+0.4**
BOLV	**Bolvadin**	**0.38**	**255**	*i* P	**Pg**	**19 39 20.3**	**-0.4**
BOLV				*i* S	**Sg**	**19 39 26.1**	**+0.4**
KDHN	**Kadinhani**	**0.62**	**118**	*i* P	**Pg**	**19 39 23.7**	**-1.6**
KDHN				*i* S	**Sg**	**19 39 32.9**	**-0.6**
SVRH	**Sivrihisar-ESK**	**0.64**	**8**	*e*PG	**Pg**	**19 39 24.8**	**-0.9**
SVRH				*e*SG	**Sg**	**19 39 34.0**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.64**	**8**	*e*Pg	**Pg**	**19 39 24.8**	**-0.9**
SVRH				*e*Sg	**Sg**	**19 39 34.0**	**+0.1**
SHUT	**Suhut-Afyon**	**0.72**	**249**	*e*PG	**Pg**	**19 39 26.9**	**-0.4**
SHUT				*e*SG	**Sg**	**19 39 37.3**	**+0.5**
SHUT	**Suhut-Afyon**	**0.72**	**249**	*e*Pg	**Pg**	**19 39 26.9**	**-0.4**
SHUT				*e*Sg	**Sg**	**19 39 37.3**	**+0.5**
ESKT	**Eskisehir**	**0.83**	**328**	*e*PG	**Pg**	**19 39 28.4**	**-0.9**
ESKT	**Eskisehir**	**0.83**	**328**	*e*Pg	**Pg**	**19 39 28.4**	**-0.9**
SEYT	**Eskypehyr**	**0.83**	**328**	*i* P	**Pg**	**19 39 28.4**	**-0.9**
SEYT	**Eskypehyr**	**0.83**	**328**	*i* P	**Pg**	**19 39 28.4**	**-0.9**
LADK	**Ladik-KONYA**	**0.97**	**129**	*e*PG	**Pg**	**19 39 30.1**	**-1.8**
LADK	**Ladik-KONYA**	**0.97**	**129**	*e*Pg	**Pg**	**19 39 30.1**	**-1.8**
ALT	**Altintas**	**1.05**	**284**	*e*PG	**Pg**	**19 39 32.5**	**-0.9**
ALT	**Altintas**	**1.05**	**284**	*e*Pg	**Pg**	**19 39 32.5**	**-0.9**
KONT	**Konya--Tatoy**	**1.14**	**139**	*e*PN	**Pg**	**19 39 33.3**	**-2.0**
KONT	**Konya--Tatoy**	**1.14**	**139**	*e*Pn	**Pg**	**19 39 33.3**	**-2.0**
AFSR	**Af˙ar-Bala (A**	**1.43**	**63**	*e*PN	**Pn**	**19 39 40.2**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**1.43**	**63**	*e*Pn	**Pn**	**19 39 40.2**	**+0.1**
LOD	**Lodumlu**	**1.50**	**44**	*e*PN	**Pn**	**19 39 40.5**	**-0.5**
LOD	**Lodumlu**	**1.50**	**44**	*e*Pn	**Pn**	**19 39 40.5**	**-0.5**
BBAL	**Bala**	**1.51**	**61**	*i* P	**Pn**	**19 39 41.1**	**-0.1**
BBAL				*i* S	**Sn**	**19 39 57.8**	**-3.5**
BBAL	**Bala**	**1.51**	**61**	*i* P	**Pn**	**19 39 41.1**	**-0.1**
GDZ	**Gediz**	**1.53**	**281**	*i* P	**Pn**	**19 39 41.0**	**-0.5**
GDZ				*i* S	**Sn**	**19 39 59.8**	**-2.0**
GDZ	**Gediz**	**1.53**	**281**	*i* P	**Pn**	**19 39 41.0**	**-0.5**
GDZ				*i* S	**Sn**	**19 39 59.8**	**-2.0**
KHL	**Karahalli**	**1.56**	**252**	*e*PN	**Pn**	**19 39 41.2**	**-0.6**
KHL	**Karahalli**	**1.56**	**252**	*e*Pn	**Pn**	**19 39 41.2**	**-0.6**
KHAL	**Karahalli**	**1.57**	**254**	*i* P	**Pn**	**19 39 41.3**	**-0.7**
KHAL				*i* S	**Sn**	**19 39 59.7**	**-3.1**
KHAL	**Karahalli**	**1.57**	**254**	*i* P	**Pn**	**19 39 41.3**	**-0.7**
MDUB	**Mudurnu**	**1.66**	**354**	*e*PN	**Pn**	**19 39 43.4**	**+0.1**
MDUB	**Mudurnu**	**1.66**	**354**	*e*Pn	**Pn**	**19 39 43.4**	**+0.1**
GULT	**Gulveren**	**1.76**	**337**	*e*PN	**Pn**	**19 39 44.5**	**0.0**
GULT	**Gulveren**	**1.76**	**337**	*e*Pn	**Pn**	**19 39 44.5**	**0.0**
SULT	**Sultanhani-AKS**	**1.76**	**110**	*e*PN	**Pn**	**19 39 44.8**	**+0.2**
SULT	**Sultanhani-AKS**	**1.76**	**110**	*e*Pn	**Pn**	**19 39 44.8**	**+0.2**
CAVI	**Cavuskoy**	**1.84**	**319**	*e*PN	**Pn**	**19 39 45.2**	**-0.4**
CAVI	**Cavuskoy**	**1.84**	**319**	*e*Pn	**Pn**	**19 39 45.2**	**-0.4**
KAMT	**Kaman**	**1.87**	**72**	*e*PN	**Pn**	**19 39 46.0**	**-0.1**
KAMT	**Kaman**	**1.87**	**72**	*e*Pn	**Pn**	**19 39 46.0**	**-0.1**
BRTR	**Keskin Array B**	**1.95**	**62**	Pn	**Pn**	**19 39 46.9**	**-0.3**
	9.0nm,0.3s,baz=244,slow=14,SNR=94						
BRTR				Sn	**Sb**	**19 40 14.8**	**+0.6**
	17nm,0.3s,baz=232,slow=23,SNR=14						
KORT	**Korkueli**	**2.00**	**205**	*i* P	**Pn**	**19 39 46.4**	**-1.5**
KORT	**Korkueli**	**2.00**	**205**	*i* P	**Pn**	**19 39 46.4**	**-1.5**
ANTB	**Antalya**	**2.00**	**198**	*e*PN	**Pn**	**19 39 47.8**	**0.0**
ANTB	**Antalya**	**2.00**	**198**	*e*Pn	**Pn**	**19 39 47.8**	**0.0**
HENT	**Hendek**	**2.04**	**349**	*i* P	Pn	19 39 48.7	+0.3
HENT				*i* S	Sn	19 40 13.7	-0.6
HENT	**Hendek**	**2.04**	**349**	*i* P	**Pn**	**19 39 48.7**	**+0.3**
HENT				*i* S	**Sn**	**19 40 13.7**	**-0.6**
SPNC	**Sapanca-Adapaz**	**2.05**	**336**	*e*PN	**Pn**	**19 39 48.3**	**-0.2**
SPNC	**Sapanca-Adapaz**	**2.05**	**336**	*e*Pn	**Pn**	**19 39 48.3**	**-0.2**
ADVT	**Abdulvahap**	**2.07**	**322**	*e*PN	**Pn**	**19 39 48.5**	**-0.3**
ADVT	**Abdulvahap**	**2.07**	**322**	*e*Pn	**Pn**	**19 39 48.5**	**-0.3**
DEMI	**Demirci**	**2.12**	**277**	*i* P	**Pn**	**19 39 49.0**	**-0.5**
DEMI	**Demirci**	**2.12**	**277**	*i* P	**Pn**	**19 39 49.0**	**-0.5**
DNZL	**Cakiroluk**	**2.18**	**240**	*i* P	**Pn**	**19 39 49.5**	**-0.9**
DNZL				*i* S	**Sn**	**19 40 19.4**	**+1.6**
DNZL	**Cakiroluk**	**2.18**	**

KMRS	Kahramanmaras	4.52	105	*e*Pn	Pn	19 40 23.8	+1.4
SCER	sogukcermik	4.55	75	*i* P	Pn	19 40 22.8	-0.2
SCER	sogukcermik	4.55	75	*i* P	Pn	19 40 22.8	-0.2
HTY	Hatay	4.62	124	*e*PN	Pn	19 40 24.7	+0.9
HTY	Hatay	4.62	124	*e*Pn	Pn	19 40 24.7	+0.9
ALN	Alexandroupoli	4.63	298	*e*P	Pn	19 40 24.0	+0.1
YAYL	Yayladag	4.65	125	*i* P	Pn	19 40 25.3	+0.9
YAYL	Yayladag	4.65	125	*i* P	Pn	19 40 25.3	+0.9
EDRB	Edirne	4.68	312	*e*PN	Pn	19 40 24.9	+0.3
EDRB	Edirne	4.68	312	*e*Pn	Pn	19 40 24.9	+0.3
GAZ	Gaziantep	4.86	108	*e*PN	Pn	19 40 28.6	+1.4
GAZ	Gaziantep	4.86	108	*e*Pn	Pn	19 40 28.6	+1.4
LIA	Limnos Island	4.95	285	*e*P	Pn	19 40 29.2	+0.9
APE	Apeiranthos	4.97	251	*e*PN	Pn	19 40 30.8	+2.2
APE	Apeiranthos	4.97	251	*e*Pn	Pn	19 40 30.8	+2.2
AKCD	Akcadag	5.13	94	*i* P	Pn	19 40 28.3	-2.6
JMB	Yambol	5.18	316	*e*P	Pn	19 40 32.4	+1.0
JMB	Yambol	5.18	316	*e*P	Pn	19 40 32.4	+1.0
PRD	Provadia	5.33	327	*e*P	Pn	19 40 32.0	-1.5
PRD	Provadia	5.33	327	*e*P	Pn	19 40 32.0	-1.5
KDZ	Kurdzhali	5.39	304	*e*P	Pn	19 40 34.8	+0.4
KDZ	Kurdzhali	5.39	304	*e*P	Pn	19 40 34.8	+0.4
MANR	Mangalia	5.43	338	||*i*P	Pn	19 40 35.0	+0.1
MANR	Mangalia	5.43	338	||*i*P	Pn	19 40 35.0	+0.1
PSN	Preselentsi	5.44	334	*e*P	Pn	19 40 28.8	-6.2
MALT	Malatya	5.52	93	*e*PN	Pn	19 40 38.3	+2.1
MALT	Malatya	5.52	93	*e*Pn	Pn	19 40 38.3	+2.1
ILIC	ilic-Erzincan	5.60	81	*e*PN	Pn	19 40 39.2	+1.8
ILIC	ilic-Erzincan	5.60	81	*e*Pn	Pn	19 40 39.2	+1.8
EFOR	EFORIE	5.66	339	||*i*P	Pn	19 40 38.1	+0.1
EFOR	EFORIE	5.66	339	||*i*P	Pn	19 40 38.1	+0.1
RZN	Rozhen	5.87	301	*e*P	Pn	19 40 41.5	+0.3
RZN	Rozhen	5.87	301	*e*P	Pn	19 40 41.5	+0.3
CVD	Cernavoda	6.05	336	||*i*P	Pn	19 40 44.1	+0.7
CVD	Cernavoda	6.05	336	||*i*P	Pn	19 40 44.1	+0.7
TIRR	Tirgusor	6.07	339	||*i*P	Pn	19 40 43.5	-0.2
TIRR	Tirgusor	6.07	339	||*i*P	Pn	19 40 43.5	-0.2
SZH	Strazhica	6.08	319	*e*P	Pn	19 40 43.4	-0.4
SZH	Strazhica	6.08	319	*e*P	Pn	19 40 43.4	-0.4
PLD	Plovdiv	6.08	305	*e*P	Pn	19 40 43.9	0.0
PLD	Plovdiv	6.08	305	*e*P	Pn	19 40 43.9	0.0
SVRC	Sivrice-ELAZID	6.20	92	*e*PN	Pn	19 40 47.7	+2.1
SVRC	Sivrice-ELAZID	6.20	92	*e*Pn	Pn	19 40 47.7	+2.1
PTK	Pertek	6.23	87	*e*PN	Pn	19 40 48.0	+2.0
PTK	Pertek	6.23	87	*e*Pn	Pn	19 40 48.0	+2.0
NVR	Nevrokopi	6.32	296	*e*P	Pn	19 40 47.7	+0.5
PLG	Polygyros	6.35	287	*e*P	Pn	19 40 48.2	+0.6
PVL	Pavlikeni	6.36	316	*e*P	Pn	19 40 48.0	+0.3
PVL	Pavlikeni	6.36	316	*e*P	Pn	19 40 48.0	+0.3
MMB	Musomiste	6.50	298	*e*P	Pn	19 40 49.9	+0.2
MMB	Musomiste	6.50	298	*e*P	Pn	19 40 49.9	+0.2
SOH	Sokhos	6.52	290	*e*P	Pn	19 40 50.2	+0.2
MMAI	Mount Meron Ar	6.63	150	Pn	Pn	19 40 52.3	+0.8
	1.1nm,0.3s,baz=341,slow=12,SNR=9.8						
ZIMR		6.65	319	||*i*P	Pn	19 40 51.4	-0.2
PGB	Panagyurishte	6.65	306	*e*P	Pn	19 40 52.1	+0.3
PGB	Panagyurishte	6.65	306	*e*P	Pn	19 40 52.1	+0.3
TLCR		6.65	344	||*i*P	Pn	19 40 51.6	-0.1
TLCR		6.65	344	||*i*P	Pn	19 40 51.6	-0.1
CFR	Carcaliu	6.81	340	||*i*P	Pn	19 40 53.2	-0.6
CFR	Carcaliu	6.81	340	||*i*P	Pn	19 40 53.2	-0.6
PGOR	Pogoanele	6.93	333	||*i*P	Pn	19 40 56.2	+0.8
PGOR	Pogoanele	6.93	333	||*i*P	Pn	19 40 56.2	+0.8
SULR		7.01	328	||*i*P	Pn	19 40 56.0	-0.6
SULR		7.01	328	||*i*P	Pn	19 40 56.0	-0.6
KKB	Krupnik	7.06	298	*e*P	Pn	19 40 57.6	+0.3
KKB	Krupnik	7.06	298	*e*P	Pn	19 40 57.6	+0.3
ISR	Istrita	7.27	332	||*i*P	Pn	19 41 01.4	+1.2
ISR	Istrita	7.27	332	||*i*P	Pn	19 41 01.4	+1.2
VTS	Vitosha	7.29	304	||*i*P	Pn	19 41 01.3	+0.7
VTS	Vitosha	7.29	304	*e*P	Pn	19 40 56.6	-4.0
VTS	Vitosha	7.29	304	||*i*P	Pn	19 41 01.3	+0.7
GRER		7.34	335	||*i*P	Pn	19 41 02.2	+1.0
GRER		7.34	335	||*i*P	Pn	19 41 02.2	+1.0
HUMR	Humele	7.47	322	||*i*P	Pn	19 41 03.0	+0.1
HUMR	Humele	7.47	322	||*i*P	Pn	19 41 03.0	+0.1
PETR		7.57	337	||*i*P	Pn	19 41 04.6	+0.4
PETR		7.57	337	||*i*P	Pn	19 41 04.6	+0.4
MLR	Muntele Rosu	7.81	330	Pn	Pn	19 41 07.1	-0.6
	0.2nm,0.3s,baz=108,slow=20,SNR=5.9						
VRI	Vrincioaia	7.85	335	||*i*P	Pn	19 41 08.5	+0.3
VRI	Vrincioaia	7.85	335	||*i*P	Pn	19 41 08.5	+0.3
PLOR	Plostina	7.87	335	||*i*P	Pn	19 41 08.9	+0.5
PLOR	Plostina	7.87	335	||*i*P	Pn	19 41 08.9	+0.5
VOIR		8.13	327	||*i*P	Pn	19 41 12.6	+0.5
VOIR		8.13	327	||*i*P	Pn	19 41 12.6	+0.5
BARS	Barje	8.30	302	||*i*Pn	Pn	19 41 15.5	+1.1
DOPR	Dopca	8.42	330	||*i*P	Pn	19 41 17.0	+1.0
DOPR	Dopca	8.42	330	||*i*P	Pn	19 41 17.0	+1.0
TESR		8.45	337	||*i*P	Pn	19 41 16.9	+0.5
TESR		8.45	337	||*i*P	Pn	19 41 16.9	+0.5
BOLS	Boljevac	8.70	308	*e*Pn	Pn	19 41 18.7	-1.1
LOT	Lotru	8.72	322	||*i*P	Pn	19 41 21.0	+0.7
LOT	Lotru	8.72	322	||*i*P	Pn	19 41 21.0	+0.7
GZR	Gura Zlata	9.18	318	||*i*P	Pn	19 41 25.8	-0.7
GZR	Gura Zlata	9.18	318	||*i*P	Pn	19 41 25.8	-0.7
GRUS	Gruza	9.51	306	||*i*Pn	Pn	19 41 31.0	+0.2
BZS	Buzias	9.95	316	||*i*P	Pn	19 41 35.7	-1.1
BZS	Buzias	9.95	316	||*i*P	Pn	19 41 35.7	-1.1
DRGR		10.21	324	||*i*P	Pn	19 41 40.3	-0.3
DRGR		10.21	324	||*i*P	Pn	19 41 40.3	-0.3
BMR	Baia Mare	10.56	329	||*i*P	Pn	19 41 45.8	+0.5
BMR	Baia Mare	10.56	329	||*i*P	Pn	19 41 45.8	+0.5
TRPA	Tarpa	11.32	328	||*i*P	Pn	19 41 55.2	-0.4
TRPA	Tarpa	11.32	328	||*i*P	Pn	19 41 55.2	-0.4
PKSM	Moragy	11.97	312	||*i*P	Pn	19 42 04.8	+0.3
PKSM	Moragy	11.97	312	||*i*P	Pn	19 42 04.8	+0.3
AKASG	Malin Array Be	11.99	353	Pn	Pn	19 42 01.1	-3.6
	2.4nm,0.3s,baz=173,slow=11,SNR=12						
AKASG				Sn	Sn	19 44 09.2	-10
	0.6nm,0.3s,baz=154,slow=24,SNR=3.7						
AKTO	Aktyubinsk	22.09	50	P	P	19 44 09.0	-0.2
	1.2nm,0.5s,baz=233,slow=10,SNR=4.2						
TORD	Torodi Ar. Bea	36.68	234	P	P	19 46 20.9	-0.3
	0.5nm,0.7s,baz=30,slow=8.5,SNR=5.1						
MKAR	Makanchi Array	37.60	61	P	P	19 46 28.5	-0.3
	0.6nm,0.6s,baz=276,slow=7.1,SNR=10						
ZALV	Zalesovo Beam	38.85	49	P	P	19 46 38.3	-0.8
	0.3nm,0.4s,baz=275,slow=8.5,SNR=2.6						
SONM	Songino Array	53.29	54	P	P	19 48 33.1	-0.1
	0.1nm,0.4s,baz=296,slow=4.6,SNR=2.4						

*KRSC **18** 19:42:53.3±0.3,55.°74N×166.°19E,h5km±5km, ML3.7*
*IDC **18** 19:42:53.3±1.4,55.°39N×166.°74E,h0km,mb3.4/2,*
mb1 3.6/4,mb1mx3.3/27,mbtmp3.5/4,ML3.3/2, Error
ellipse: s-maj=35.2km s-min=14.6km az=28.0
*ISCJB **18** 19:42:54.7±0.9,55.°48N±0.°05×166.°30E±0.°09,h24km±7km,*
mb3.4/2, Error ellipse: s-maj=8.6km s-min=7.3km az=36.5

ISC 18 19:42:51.1±2.1,55.°55N±0.°07×166.°67E±0.°07,h14km±11km, n27,σ1°56/47, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.53	229	P	Pg	19 43 01.7	+0.1
BKI				*i* S	Sg	19 43 07.1	-1.5
KBTR	Krutoberegovo	2.27	288	P	Pn	19 43 28.4	+0.3
KBTR				*i* S	Sn	19 43 54.4	-1.3
MKZ	Mys Kozlova	3.01	253	P	Pn	19 43 38.7	+0.4
MKZ				*i* S	Sn	19 44 12.2	-1.9
SMKR	Semkarok	3.09	292	P	Pn	19 43 39.8	+0.3
SMKR				*i* S	Sn	19 44 14.7	-1.5
BDR	Baidarnaya	3.23	291	P	Pn	19 43 44.3	+3.0
BDR				*i* S	Sn	19 44 20.5	+1.0
SRKR	Sorokina	3.27	292	P	Pn	19 43 41.8	-0.2
ZLN	Zelenaya	3.35	280	P	Pn	19 43 44.5	+1.5
ZLN				*i* S	Sn	19 44 21.8	-0.7
CIRR	Tsirk	3.39	282	P	Pn	19 43 44.0	+0.4
CIRR				*i* S	Sn	19 44 21.2	-2.4
BZGR	Bezymyannyi-Gr	3.40	279	P	Pn	19 43 45.6	+1.9
BZGR				*i* S	Sn	19 44 23.2	-0.6
KRSR	Krestovskiy	3.50	283	P	Pn	19 43 46.8	+1.7
KRSR				*i* S	Sn	19 44 25.5	-0.9
BZWR	Bezymyannyi-We	3.51	279	P	Pn	19 43 47.1	+1.8
BZWR				*i* S	Sn	19 44 26.9	+0.2
BZMR	Bezymyannaya	3.52	279	P	Pn	19 43 47.5	+2.2
BZMR				*i* S	Sn	19 44 26.7	0.0
KIRR	Kirishev	3.60	279	P	Pn	19 43 47.6	+1.1
KIRR				*i* S	Sn	19 44 26.8	-2.0
KMNR	Kamenistaya	3.65	276	P	Pn	19 43 47.5	+0.3
KMNR				*i* S	Sn	19 44 28.5	-1.5
KPT	Kopyto	3.67	279	P	Pn	19 43 48.4	+1.0
KPT				*i* S	Sn	19 44 29.4	-1.0
TUMR	Tumrok	3.73	269	P	Pn	19 43 50.0	+1.7
TUMR				*i* S	Sn	19 44 31.1	-0.9
FX1	Attu Island--F	4.66	122	Pn	Pn	19 44 01.6	+0.7
	2.8nm,0.3s,baz=101,slow=16,SNR=20						
FX1				Sn	Sn	19 44 51.8	-2.9
	5.6nm,0.3s,baz=142,slow=20,SNR=9.6						
SDLR	Sedlovina	5.09	247	P	Pn	19 44 08.6	+1.7
SDLR				*i* S	Sn	19 45 04.5	-0.9
SMAR	Somma	5.14	247	P	Pn	19 44 09.3	+1.6
SMAR				*i* S	Sn	19 45 06.1	-0.7
UGLR	Uglovaya	5.15	246	*e*P	Pn	19 44 09.9	+2.1
AVH	Avacha	5.17	247	P	Pn	19 44 10.1	+2.1
AVH				*i* S	Sn	19 45 06.9	-0.5
KOK	Koryaka	5.21	248	P	Pn	19 44 10.6	+2.0
KOK				*i* S	Sn	19 45 07.1	-1.3
RUS	Russkaya	5.74	240	P	Pn	19 44 18.1	+2.4
PETK	Petropavlovsk-	5.79	249	Pn	Pn	19 44 18.3	+1.8
	2.2nm,0.3s,baz=76,slow=18,SNR=31						
PETK				Sn	Sn	19 45 22.4	-0.2
	0.8nm,0.3s,baz=87,slow=35,SNR=3.5						
ASAK	Asacha	6.07	242	*e*P	Pn	19 44 22.4	+2.0
ASAK				*e*S	Sn	19 45 27.7	-1.9
ILAR	Eielson Array	24.32	49	P	pP	19 48 12.2	+0.1
	1.3nm,1.0s,baz=262,slow=8.7,SNR=8.2						
MKAR	Makanchi Array	50.50	298	P	pP	19 51 54.1	+1.3
	0.2nm,0.5s,baz=56,slow=5.7,SNR=4.6						

IDC 18 19:52:00.5±1.2,19.°16N×145.°07E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.4/23,mbtmp3.5/5,MS3.7/1,Ms1 3.7/1, ms1mx2.5/25, Error ellipse: s-maj=185.8km s-min=20.4km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	40.26	196	P	P	19 59 39.1	-0.2
	0.5nm,0.6s,baz=14,slow=8.7,SNR=6.5						
FITZ	Fitzroy Crossi	41.66	208	P	P	19 59 51.9	+1.0
	2.0nm,0.9s,baz=18,slow=9.7,SNR=6.8						
ASAR	Alice Springs	43.94	195	P	P	20 00 08.3	-1.1
	0.2nm,0.7s,baz=20,slow=11,SNR=4.1						
DZM	Mont Dzumac	46.00	152	LR	LR	20 15 44.5	
	comp=Z,82nm,19.2s,baz=168,slow=31						
ILAR	Eielson Array	63.50	26	P	P	20 02 32.4	+0.2
	0.1nm,0.4s,baz=257,slow=6.0,SNR=6.9						
YKA	Yellowknife Ar	77.86	28	P	P	20 03 59.7	-0.1
	0.1nm,0.4s,baz=289,slow=5.6,SNR=3.6						

IDC 18 20:19:21.5±2.8,19.°03S×169.°26E,h238km±28km, mb3.5/10,mb1 3.8/11,mb1mx3.6/17,mbtmp3.5/11, Error ellipse: s-maj=41.3km s-min=17.8km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.01	221	P	Pn	20 20 25.0	-0.1
	3.3nm,0.3s,baz=67,slow=17,SNR=26						
CTA	Charters Tower	21.70	263	P	P	20 23 54.4	+0.4
	5.0nm,0.8s,baz=99,slow=13,SNR=2.9						
STKA	Stephens Creek	27.97	237	P	P	20 24 50.9	+0.5
	2.4nm,0.6s,baz=71,slow=8.5,SNR=5.5						
WRA	Warramunga Arr	32.90	263	P	P	20 25 32.8	-1.0
	1.1nm,0.4s,baz=88,slow=8.5,SNR=13						
ASAR	Alice Springs	33.20	256	P	P	20 25 35.8	-0.5
	11nm,0.4s,baz=80,slow=8.8,SNR=366						
PETK	Petropavlovsk-	72.53	353	P	P	20 30 22.6	+0.3
	2.3nm,0.7s,baz=147,slow=8.1,SNR=3.5						
CMAR	Chiang Mai Arr	78.44	294	P	P	20 30 58.3	+1.7
	0.4nm,0.8s,baz=132,slow=6.0,SNR=4.1						
SONM	Songino Array	87.06	323	LR	P	20 31 41.0	+0.7
	0.7nm,0.8s,baz=136,slow=7.2,SNR=7.0						
NVAR	Mina Array Bea	88.65	49	P	P	20 31 48.1	-0.1
	0.1nm,0.4s,baz=226,slow=8.0,SNR=4.4						
ILAR	Eielson Array	90.03	17	P	P	20 31 51.7	-2.0
	0.7nm,0.7s,baz=238,slow=5.2,SNR=15						
TXAR	Lajitas Array	96.65	61	P	P	20 32 26.2	+1.1
	0.2nm,0.7s,baz=235,slow=3.2,SNR=3.3						
YKA	Yellowknife Ar	100.47	27	P	Pdif	20 32 42.0	+0.8
	0.2nm,0.4s,baz=258,slow=4.6,SNR=7.4						
ARCES	ARCESS Array B	124.87	345	PKP	PKPdf	20 37 51.2	-1.2
	5.7nm,1.1s,baz=57,slow=4.9,SNR=7.3						
GERES	GERESS Array B	144.32	332	PKP	PKPab	20 38 27.9	-0.1
	1.5nm,0.7s,baz=107,slow=1.4,SNR=7.3						
DAVOX	Davos/Dischmat	147.56	333	PKPbc	PKPbc	20 38 37.3	-0.6
	3.6nm,0.6s,baz=213,slow=2.3,SNR=11						

*IDC **18** 20:40:51.5±49.0,16.°58S×175.°32W,h0km,mb4.0/3,*
mb1 4.2/3,mb1mx3.7/17,mbtmp4.0/3, Error ellipse:
s-maj=931.6km s-min=162.4km az=79.0

NEIC 18 20:40:55.1±1.9,16.°54S×175.°06W,h47km±29km,mb5.1/3, Error ellipse: s-maj=25.2km s-min=9.4km az=212.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.11	51	*e*Pn	Pn	20 41 55.0	-0.5
FUNA	Funafuti	9.74	324	*e*Pn	Pn	20 43 12.8	+0.1
RAR	Rarotonga	15.20	110	*e*Pn	Pn	20 44 27.2	+0.5
SNZO	South Karori	26.22	198	*e*P	P	20 46 25.9	+0.3
	120nm,1.4s						
ARMA	Armidale	33.39	240	*e*P	P	20 47 29.4	0.0
	9.0nm,1.3s						
CTAO	Charters Tower	36.84	258	*e*P	P	20 47 58.8	-0.4
	54nm,1.6s						
CAN	Canberra	37.08	233	*e*P	P	20 48 00.3	-0.7
COEN	Coen	40.33	268	*e*P	P	20 48 28.4	0.0
TAU	Tasmania Unive	41.40	223	*e*P	P	20 48 35.8	-1.1
STKA	Stephens Creek	42.09	241	P	P	20 48 44.0	+1.3
	0.8nm,0.7s,baz=84,slow=9.2,SNR=3.4						
STKA	Stephens Creek	42.09	241	*e*P	P	20 48 43.4	+0.6
	1.2nm,1.4s						
WB2	Warramunga Arr	48.03	258	*e*P	P	20 49 30.6	+0.6
WRAB	Tennant Creek	48.03	258	*e*P	P	20 49 30.1	0.0
WRA	Warramunga Arr	48.04	258	P	P	20 49 30.4	+0.3
	0.5nm,0.4s,baz=96,slow=7.0,SNR=15						
WRA	Warramunga Arr	48.04	258	P	P	20 49 30.4	+0.3
AS31	Alice Springs	48.24	253	*e*P	P	20 49 31.6	-0.2
ASAR	Alice Springs	48.25	253	P	P	20 49 32.5	+0.7
	3.8nm,0.5s,baz=89,slow=8.6,SNR=70						
ASAR	Alice Springs	48.25	253	P	P	20 49 32.5	+0.7
FITZ	Fitzroy Crossi	56.42	259	*e*P	P	20 50 32.0	-0.4

*IDC **18** 21:04:52.1±2.3,54.°62N×161.°83W,h0km,mb3.8/9,*
mb1 3.9/12,mb1mx3.7/30,mbtmp3.8/12,ML3.5/3, Error
ellipse: s-maj=61.8km s-min=16.2km az=157.0
*NEIC **18** 21:04:56.4,54.°46N×161.°49W,h15km,ML3.6(AEIC), After*
AEIC.

ISC 18 21:04:55.7±2.0,54.°5N±0.°1×161.°33W±0.°05,h32km±12km, n38,σ1°35/48,mb3.9/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	Deer Island	0.74	313	P	Pb	21 05 09.7	-0.5
DOL	Dolgoi Island	0.76	336	P	Pn	21 05 10.4	+0.3
DOL				S	Sb	21 05 19.9	-0.5
DT1	Dutton Round H	0.85	320	P	Pb	21 05 11.3	-0.6
PS4A	Pavlof South-4	0.94	341	P	Pb	21 05 13.7	+0.3
PVV	Pavlof Volcano	0.95	344	P	Pb	21 05 14.0	+0.4
SDPT	Sand Point	1.01	29	P	Pb	21 05 15.7	+1.0
SDPT				S	Sb	21 05 30.5	+2.8
FALS	False Pass	1.28	289	P	Pn	21 05 17.0	-0.2
FALS				S	Sb	21 05 34.5	-0.7
BRPK	Brown Peak	1.42	278	P	Pn	21 05 19.4	+0.2
VNFG	Veniaminof 2	2.09	28	P	Pb	21 05 31.9	-1.0
CHGN	Chignik	2.48	41	*e*Pn	Pb	21 05 37.1	-2.4
CHGN				*e*Sn	Sb	21 06 08.8	-0.8
AKUT	Akutan	2.63	265	P	Pn	21 05 37.5	+1.7
AKUT				S	Sn	21 06 07.5	+0.9
UNV	Unalaska Valle	3.11	261	*e*Pn	Pn	21 05 43.8	+1.4
UNV				*e*Sn	Sn	21 06 18.7	+0.3
MSOM	Makushin Julie	3.37	261	P	Pn	21 05 46.9	+0.9
KDAK	Kodiak Island	5.91	52	Pn	Pn	21 06 22.4	+1.4
	1.2nm,0.3s,baz=138,slow=23,SNR=11						
KDAK				Sn	Sn	21 07 28.7	+1.2
	0.9nm,0.3s,baz=10,slow=11,SNR=2.5						
KDAK	Kodiak Island	5.91	52	Pn	Pn	21 06 22.4	+1.4
KDAK				Sn	Sn	21 07 28.7	+1.2
TNA	Tin City	11.60	346	*e*Pn	Pn	21 07 40.3	+1.5
	2.2nm,0.6s						
ILAR	Eielson Array	12.62	29	Pn	Pn	21 07 50.5	-2.2
	0.1nm,0.3s,baz=222,slow=14,SNR=4.7						
ILAR	Eielson Array	12.62	29	Pn	Pn	21 07 50.5	-2.2
INK	Inuvik	18.97	32	P	P	21 09 12.9	-1.1
	0.2nm,0.3s,baz=236,slow=13,SNR=9.0						
INK	Inuvik	18.97	32	P	P	21 09 12.9	-1.1
PETK	Petropavlovsk-	24.01	284	P	P	21 10 07.0	-0.3
	3.5nm,0.5s,baz=88,slow=13,SNR=18						
PETK	Petropavlovsk-	24.01	284	P	P	21 10 07.0	-0.3
YKA	Yellowknife Ar	25.19	53	P	P	21 10 20.5	+2.7
	0.2nm,0.5s,baz=271,slow=8.5,SNR=6.8						
YKA	Yellowknife Ar	25.19	53	P	P	21 10 20.6	+2.7
FRB	Frobisher Bay	44.39	39	P	P	21 13 03.9	+1.3
	1.6nm,0.5s,baz=305,slow=10.0,SNR=4.3						
FRB	Frobisher Bay	44.39	39	P	P	21 13 03.9	+1.3
SONM	Songino Array	54.25	304	P	P	21 14 16.0	-2.3
	0.6nm,0.8s,baz=45,slow=7.6,SNR=6.1						
SONM				PcP	PcP	21 15 22.8	+0.5
	0.3nm,0.7s,baz=60,slow=1.4,SNR=3.5						
SONM	Songino Array	54.25	304	P	P	21 14 16.0	-2.3
SONM				PcP	PcP	21 15 22.8	+0.5
FINES	FINESS Array B	64.29	356	P	P	21 15 26.4	-0.8
	4.9nm,1.0s,baz=15,slow=7.9,SNR=9.6						
FINES	FINESS Array B	64.29	356	P	P	21 15 26.4	-0.8
MKAR	Makanchi Array	65.69	318	P	P	21 15 35.6	-1.1
	0.1nm,0.3s,baz=37,slow=5.6,SNR=5.6						
MKAR	Makanchi Array	65.69	318	P	P	21 15 35.6	-1.1
AKASG	Malin Array Be	74.83	353	P	P	21 16 32.2	-0.3
	2.3nm,0.7s,baz=10.0,slow=6.2,SNR=3.6						
AKASG	Malin Array Be	74.83	353	P	P	21 16 32.2	-0.3
CMAR	Chiang Mai Arr	80.69	289	P	P	21 17 05.5	0.0
	0.8nm,0.8s,baz=4.2,slow=5.3,SNR=5.1						
CMAR	Chiang Mai Arr	80.69	289	P	P	21 17 05.5	0.0
BRTR	Keskin Array B	85.31	348	P	P	21 17 30.4	+1.0
	0.7nm,0.8s,baz=8.5,slow=2.9,SNR=4.7						
BRTR	Keskin Array B	85.31	348	P	P	21 17 30.4	+1.0

IDC 18 21:12:54.9±2.8,0.°44S×132.°83E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/17,mbtmp3.3/3,ML3.4/1, Error ellipse: s-maj=151.6km s-min=25.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.44	176	P	P	21 17 23.3	+0.1
	0.1nm,0.3s,baz=355,slow=12,SNR=9.2						
ASAR	Alice Springs	23.12	177	P	P	21 18 02.7	0.0
	1.1nm,0.7s,baz=1.4,slow=10.0,SNR=26						
MKAR	Makanchi Array	64.46	324	P	P	21 23 33.2	-0.1
	0.2nm,0.6s,baz=114,slow=7.1,SNR=3.8						

KRSC 18 21:12:56.7±0.9,53.°83N×161.°46E,h5km±5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	Mys Kozlova	0.74	12	*e*P	Pg	21 13 10.5	-0.5
MKZ				S	Sg	21 13 20.0	-0.7
SPN	Mys Shipunski	1.13	230	P	Pg	21 13 18.1	-0.3
SPN				S	Sg	21 13 33.2	+0.2
NLC	Nalytchevo	1.43	243	S	Sb	21 13 41.2	-0.9
SDLR	Sedlovina	1.63	251	P	Pn	21 13 26.4	+0.1
SDLR				S	Sn	21 13 47.9	+0.1
SMAR	Somma	1.69	251	P	Pn	21 13 27.5

SPU	**Mount Spurr**	**8.41**	**33**	*e*Pn	**Pn**	**21 19 15.4**	**+2.4**
SLKM	**Skilak Lake**	**8.59**	**41**	*e*P	**Pn**	**21 19 17.3**	**+2.0**
SLKM				*e*		21 20 54.4	
SLKM	**Skilak Lake**	**8.59**	**41**	*e*Pn	**Pn**	**21 19 17.3**	**+2.0**
SLKM				*e*Sn	**Sn**	**21 20 54.4**	**+3.5**
SEW	**Seward**	**8.64**	**44**	P	**Pn**	**21 19 16.5**	**+0.5**
PMR	**Palmer**	**9.70**	**38**	*e*P	**Pn**	**21 19 32.2**	**+1.7**
PMR				*e*		21 21 23.2	
PMR	**Palmer**	**9.70**	**38**	*e*Pn	**Pn**	**21 19 32.1**	**+1.7**
PMR				*e*Sn	**Sn**	**21 21 23.2**	**+5.2**
PPLA	**Purkeypile**	**9.74**	**26**	*e*Pn	**Pn**	**21 19 34.0**	**+2.8**
PPLA				Sn	**Sn**	**21 21 24.1**	**+4.7**
SML	**Sawmill**	**10.13**	**38**	P	**Pn**	**21 19 36.6**	**+0.2**
SML				*e*		21 21 36.1	
SML	**Sawmill**	**10.13**	**38**	Pn	**Pn**	**21 19 36.6**	**+0.2**
SML				*e*Sn	Sn	21 21 36.1	+7.4
GAMB	**Gambell**	**10.67**	**335**	*e*Pn	**Pn**	**21 19 43.3**	**-0.5**
	26nm,1.0s						
TRF	**Thorofare Moun**	**10.70**	**28**	*e*Pn	**Pn**	**21 19 46.0**	**+1.6**
TRF				*e*Sn	**Sn**	**21 21 47.3**	**+4.4**
DIV	**Divide**	**10.72**	**45**	*e*Pn	**Pn**	**21 19 44.6**	**0.0**
BMRM	**Bremner River**	**11.13**	**47**	*e*Pn	**Pn**	**21 19 50.8**	**+0.6**
BMRM				*e*Sn	**Sn**	**21 21 54.0**	**+0.7**
MCK	**McKinley**	**11.30**	**30**	*e*P	**Pn**	**21 19 52.4**	**-0.1**
MCK				*e*		21 22 02.4	
MCK	**McKinley**	**11.30**	**30**	*e*Pn	**Pn**	**21 19 52.4**	**-0.1**
MCK				*e*Sn	**Sn**	**21 22 02.4**	**+5.1**
TNA	**Tin City**	**11.56**	**347**	*e*Pn	**Pn**	**21 19 56.3**	**+0.3**
	38nm,0.9s						
PAX	**Paxson**	**11.90**	**38**	*e*P	**Pn**	**21 20 00.6**	**-0.1**
PAX				*e*		21 22 05.6	
PAX	**Paxson**	**11.90**	**38**	*e*Pn	**Pn**	**21 20 00.6**	**-0.1**
PAX				*e*Sn	Sn	21 22 05.6	-6.5
COLA	**College**	**12.48**	**28**	*e*P	**Pn**	**21 20 07.2**	**-1.3**
COLA				*e*		21 22 30.5	
COLA				pmax	pmax		
	comp=Z,90nm,1.0s						
COLA	**College**	**12.48**	**28**	*e*Pn	**Pn**	**21 20 07.2**	**-1.3**
	comp=Z,90nm,1.0s						
COLA				*e*Sn	**Sn**	**21 22 30.5**	**+4.4**
ILAR	**Eielson Array**	**12.67**	**30**	Pn	Pn	21 20 07.9	-3.3
	comp=Z,0.5nm,0.3s,baz=220,slow=14,SNR=25						
ILAR				Sn	**Sn**	**21 22 25.3**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=210,slow=29,SNR=3.0						
ILAR				LR	LR	21 25 31.7	
	comp=Z,2μm,19.5s,baz=242,slow=39						
ILAR	**Eielson Array**	**12.67**	**30**	P	Pn	21 20 07.9	-3.3
ILAR						21 22 25.3	
ILAR	**Eielson Array**	**12.67**	**30**	Pn	Pn	21 20 07.9	-3.3
ILAR				Sn	**Sn**	**21 22 25.3**	**-5.6**
DOT	**Dot Lake**	**12.82**	**37**	*e*Pn	**Pn**	**21 20 12.2**	**-1.0**
PNL	**Peninsula**	**13.10**	**58**	*e*Pn	**Pn**	**21 20 18.1**	**+1.2**
	comp=Z,179nm,1.0s						
COLD	**Coldfoot**	**13.90**	**19**	*e*Pn	**Pn**	**21 20 28.2**	**+0.3**
EGAK	**Eagle**	**14.51**	**37**	*e*Pn	**Pn**	**21 20 35.1**	**-1.1**
DAWY	**Dawson**	**14.77**	**41**	*e*Pn	**Pn**	**21 20 39.1**	**-0.6**
FX1	**Attu Island--F**	**15.04**	**274**	LR	LR	21 26 22.6	
	comp=Z,552nm,18.2s,baz=336,slow=37						
SKAG	**Skagway**	**15.09**	**60**	*e*Pn	**P**	**21 20 47.2**	**-1.6**
	comp=Z,48nm,1.0s						
DLBC	**Dease Lake**	**17.77**	**64**	Pn	**P**	**21 21 19.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=313,slow=21,SNR=6.6						
DLBC				LR	LR	21 28 30.4	
	comp=Z,377nm,18.1s,baz=149,slow=38						
DLBC	**Dease Lake**	**17.77**	**64**	*e*Pn	**P**	**21 21 21.4**	**+2.8**
INK	**Inuvik**	**19.03**	**32**	P	**P**	**21 21 30.4**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=228,slow=14,SNR=55						
INK				LR	LR	21 29 44.1	
	comp=Z,2μm,19.2s,baz=232,slow=40						
INK	**Inuvik**	**19.03**	**32**	*e*P	**P**	**21 21 30.2**	**-2.1**
INK				pmax	pmax		
	comp=Z,42nm,0.9s						
INK	**Inuvik**	**19.03**	**32**	*e*P	**P**	**21 21 30.2**	**-2.1**
	comp=Z,42nm,0.9s						
BBB	**Bella Bella**	**20.00**	**83**	LR	LR	21 28 27.6	
	comp=Z,305nm,19.0s,baz=291,slow=34						
BILL	**Bilibino**	**20.25**	**325**	*i*P	**P**	**21 21 45.1**	**-0.5**
BILL				pmax	pmax		
	comp=Z,17nm,2.3s						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s						
BILL	**Bilibino**	**20.25**	**325**	*e*P	**P**	**21 21 45.8**	**+0.2**
BILL				pmax	pmax		
	comp=Z,64nm,1.4s						
BILL	**Bilibino**	**20.25**	**325**	*e*P	**P**	**21 21 45.8**	**+0.2**
	comp=Z,64nm,1.4s						
PEA0B	**Petropavlovsk-**	**23.88**	**284**	*e*P	**P**	**21 22 24.4**	**+0.7**
PETK	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**21 22 23.3**	**-0.4**
	comp=Z,7.9nm,0.4s,baz=89,slow=12,SNR=33						
PETK				LR	LR	21 31 50.7	
	comp=Z,217nm,20.2s,baz=82,slow=37						
PETK	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**21 22 23.3**	**-0.4**
PETK	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**21 22 23.3**	**-0.4**
SEY	**Seymchan**	**24.86**	**308**	*ce*P	**P**	**21 22 31.0**	**-1.6**
YKA	**Yellowknife Ar**	**25.29**	**53**	P	**P**	**21 22 36.6**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=267,slow=7.1,SNR=78						
YKA				PcP	**PcP**	**21 26 08.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=276,slow=2.2,SNR=4.7						
YKA				ScP	**ScP**	**21 29 44.4**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=273,slow=2.3,SNR=9.2						
YKA				LR	LR	21 33 49.2	
	comp=Z,46nm,18.6s,baz=200,slow=39						
YKA	**Yellowknife Ar**	**25.29**	**53**	P	**P**	**21 22 36.7**	**+0.3**
YKA						21 26 08.1	
YKA	**Yellowknife Ar**	**25.29**	**53**	P	**P**	**21 22 36.6**	**+0.3**
YKA				PcP	**PcP**	**21 26 08.1**	**-0.3**
YKA				ScP	**ScP**	**21 29 44.5**	**-0.2**
LON	**Longmire**	**26.08**	**91**	*e*P	**P**	**21 22 46.7**	**+2.8**
LON				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LON	**Longmire**	**26.08**	**91**	*e*P	**P**	**21 22 46.7**	**+2.8**
	comp=Z,9.2nm,1.1s						
ETW	**Entiat**	**26.50**	**88**	*e*P	**P**	**21 22 49.9**	**+2.2**
OD2	**Odessa Site #2**	**27.56**	**87**	*e*P	**P**	**21 22 58.9**	**+1.9**
HAWA	**Hanford**	**27.60**	**90**	*e*P	**P**	**21 22 59.1**	**+1.6**
	comp=Z,7.4nm,0.8s						
BMO	**Blue Mountains**	**29.76**	**90**	*e*P	**P**	**21 23 18.7**	**+2.0**
	comp=Z,51nm,2.7s						
MOD	**Modoc**	**29.79**	**98**	*e*P	**P**	**21 23 19.6**	**+2.6**
	comp=Z,8.9nm,1.2s						
JTMT	**Jette**	**29.95**	**83**	*e*P	P	21 23 22.4	+4.0
	comp=Z,3.0nm,0.8s						
YBMT	**Yellow Bay**	**30.05**	**83**	*e*P	P	21 23 23.6	+4.3
	comp=Z,4.8nm,0.9s						
OHCM	**Honcut**	**30.79**	**103**	*e*P	**P**	**21 23 27.3**	**+1.5**
OHCM				*e*pP	**pP**	**21 23 38.2**	**+2.6**
OHCM				*e*PcP	**PcP**	**21 26 24.0**	**+1.7**
MFID	**Camas Ranch**	**31.46**	**91**	*e*P	**P**	**21 23 33.2**	**+1.4**
	comp=Z,7.6nm,1.0s						
HLID	**Hailey**	**32.20**	**90**	*e*P	**P**	**21 23 39.8**	**+1.4**
	comp=Z,3.6nm,0.8s						
MCMT	**McKenzie Canyo**	**32.37**	**87**	*e*P	**P**	**21 23 41.5**	**+1.6**
	comp=Z,2.2nm,0.9s						
RES	**Resolute Bay**	**32.41**	**27**	P	**P**	**21 23 38.1**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=252,slow=9.2,SNR=12						
RES				ScP	**ScP**	**21 30 06.8**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=250,slow=6.9,SNR=4.6						
RES	**Resolute Bay**	**32.41**	**27**	P	**P**	**21 23 38.1**	**-1.5**
RES	**Resolute Bay**	**32.41**	**27**	P	**P**	**21 23 38.1**	**-1.5**
RES				ScP	**ScP**	**21 30 06.8**	**-0.1**
NVAR	**Mina Array Bea**	**33.23**	**101**	P	**P**	**21 23 49.1**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=299,slow=8.6,SNR=9.8						
NVAR				ScP	**ScP**	**21 30 11.4**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=284,slow=1.1,SNR=5.7						
NVAR				LR	LR	21 34 36.5	
	comp=Z,460nm,20.6s,baz=45,slow=31						
NVAR	**Mina Array Bea**	**33.23**	**101**	P	**P**	**21 23 49.1**	**+1.7**
NVAR				ScP	**ScP**	**21 30 11.4**	**+0.8**
ELK	**Elko**	**33.46**	**95**	*e*P	**P**	**21 23 51.7**	**+2.2**
ELK	**Elko**	**33.46**	**95**	*e*P	**P**	**21 23 51.7**	**+2.2**
FFC	**Flin Flon**	**33.60**	**65**	*i*P	**P**	**21 23 51.4**	**+1.1**
HVU	**Hansel Valley**	**34.24**	**91**	*e*P	P	21 24 01.9	+5.7
HVU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HVU	**Hansel Valley**	**34.24**	**91**	*e*P	P	21 24 01.9	+5.7
	comp=Z,10.0nm,1.1s						
DUG	**Dugway**	**35.23**	**93**	*e*P	**P**	**21 24 06.0**	**+1.3**
DUG				pmax	pmax		
	comp=Z,12nm,1.0s						
DUG	**Dugway**	**35.23**	**93**	*e*P	**P**	**21 24 06.0**	**+1.3**
	comp=Z,12nm,1.0s						
YAK	**Yakutsk**	**35.34**	**311**	*e*P	**P**	**21 24 02.7**	**-2.5**
YAK				*e**PP	pP	21 24 08.5	-6.5
YAK				*e*		21 25 20.6	
YAK				*e*PPP	PPP	21 25 36.7	
YAK				*e*		21 26 33.4	
YAK				*e*S	**S**	**21 29 39.0**	**+2.2**
YAK				*e*SSS	SSS	21 32 24.8	
YAK				pmax	pmax		
	comp=Z,29nm,1.2s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,19nm,1.5s						
YAK				pmax	pmax		
	comp=Z,14nm,1.4s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,20nm,1.6s						
YAK				smax	smax		
	comp=N,25nm,3.5s						
YAK				smax	smax		
	comp=E,43nm,3.6s						
YAK				MLR	MLR		
	comp=Z,890nm,26.0s						
YAK				MLR	MLR		
	comp=E,547nm,21.0s						
YAK				MLR	MLR		
	comp=N,305nm,23.0s						
YAK	**Yakutsk**	**35.34**	**311**	*e*P	**P**	**21 24 04.1**	**-1.0**
YAK				pmax	pmax		
	comp=Z,31nm,1.1s						
YAK	**Yakutsk**	**35.34**	**311**	*e*P	**P**	**21 24 04.1**	**-1.0**
	comp=Z,31nm,1.1s						
PDAR	**Pinedale Array**	**35.51**	**87**	P	**P**	**21 24 06.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=338,slow=6.8,SNR=4.8						
PDAR	**Pinedale Array**	**35.51**	**87**	P	**P**	**21 24 06.8**	**-0.3**
CCUT	**Cedar City**	**36.67**	**97**	*e*P	**P**	**21 24 19.3**	**+2.1**
	comp=Z,7.3nm,1.1s						
MSU	**Marysvale**	**36.71**	**95**	*e*P	P	21 24 22.4	+4.9
MSU	**Marysvale**	**36.71**	**95**	*e*P	P	21 24 22.4	+4.9
TMUT	**Trail Mountain**	**36.75**	**93**	*e*P	P	21 24 22.9	+5.0
	comp=Z,9.7nm,0.9s						
SRU	**San Rafael**	**37.27**	**93**	*e*P	**P**	**21 24 24.5**	**+2.3**
SRU				pmax	pmax		
	comp=Z,11nm,0.9s						
SRU	**San Rafael**	**37.27**	**93**	*e*P	**P**	**21 24 24.5**	**+2.3**
	comp=Z,11nm,0.9s						
LDFC	**Landfair**	**37.40**	**102**	*e*P	**P**	**21 24 21.5**	**-1.7**
	comp=Z,58nm,0.4s						
HABR	**Khabarovsk**	**38.74**	**288**	*e*P	**P**	**21 24 33.7**	**-0.5**
HABR				*e*		21 26 02.6	
HABR				*e*PPP	PP	21 26 23.8	+21
HABR				*e*S	**S**	**21 30 28.9**	**+0.2**
HABR				*e*SSS	SSS	21 33 38.2	
HABR				*e*		21 34 40.9	
HABR				pmax	pmax		
	comp=N,52nm,2.6s						
HABR				pmax	pmax		
	comp=Z,63nm,2.0s						
HABR				pmax	pmax		
	comp=E,113nm,2.0s						
HABR				MLR	MLR		
	comp=Z,296nm,20.0s						
ULM	**Lac du Bonnet**	**39.02**	**68**	P	**P**	**21 24 35.1**	**-1.5**
	comp=Z,6.4nm,0.7s,baz=296,slow=9.5,SNR=15						
ULM				LR	LR	21 41 24.9	
	comp=Z,142nm,20.9s,baz=295,slow=37						
ULM	**Lac du Bonnet**	**39.02**	**68**	*e*P	**P**	**21 24 36.8**	**+0.2**
ULM	**Lac du Bonnet**	**39.02**	**68**	*e*P	**P**	**21 24 36.8**	**+0.2**
PV01	**Paradox Valley**	**39.06**	**92**	*e*P	**P**	**21 24 38.9**	**+1.6**
	comp=Z,836nm,0.8s						
WUAZ	**Wupatki**	**39.24**	**98**	*e*P	**P**	**21 24 40.8**	**+2.0**
	comp=Z,11nm,0.9s						
MVCO	**Mesa Verde**	**39.73**	**93**	*e*P	P	21 24 47.2	+4.3
	comp=Z,6.6nm,0.9s						
AGMN	**Agassiz Nation**	**40.10**	**71**	*e*P	**P**	**21 24 45.9**	**+0.3**
	comp=Z,11nm,0.7s						
KLR	**Kul'dur**	**40.13**	**291**	*e*P	P	21 24 41.7	-4.1
EYMN	**Ely**	**42.70**	**69**	*e*P	**P**	**21 25 06.7**	**-0.2**
	comp=Z,15nm,0.8s						
USRK	**Ussuriysk Arra**	**42.96**	**285**	LR	LR	21 42 41.4	
	comp=Z,230nm,21.0s,baz=218,slow=36						
MDJ	**Mudanjiang**	**44.05**	**287**	P	**P**	**21 25 18.3**	**+0.5**
MDJ				pP	**pP**	**21 25 27.3**	**-0.6**
MDJ				sP	**sP**	**21 25 31.3**	**-0.6**
MDJ				ScP	**ScP**	**21 30 52.9**	**+1.3**
MDJ				PcS	**PcS**	**21 30 56.5**	**+0.9**
MDJ				S	**S**	**21 31 46.0**	**-1.6**
MDJ				sS	**sS**	**21 32 03.4**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.1s						
MDJ				LR	LR		
	comp=N,240nm,27.3s						
MDJ				LR	LR		
	comp=E,130nm,30.2s						
MDJ				LR	LR		
	comp=Z,140nm,24.4s						
BOD	**Bodaibo**	**44.26**	**310**	*e*P	**P**	**21 25 16.6**	**-2.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**44.38**	**272**	P	**P**	**21 25 20.5**	**0.0**
	comp=Z,2.3nm,0.6s,baz=33,slow=5.0,SNR=5.6						
MJAR	**Matsushiro Arr**	**44.38**	**272**	P	**P**	**21 25 20.5**	**0.0**
MJAR	**Matsushiro Arr**	**44.38**	**272**	P	**P**	**21 25 20.5**	**0.0**
MAT	**Matsushiro**	**44.38**	**272**	P	**P**	**21 25 19.8**	**-0.8**
CN2	**Changchun**	**46.87**	**288**	*e*P	**P**	**21 25 40.1**	**0.0**
CN2				sP	**sP**	**21 25 55.0**	**+0.7**
CN2				*e*S	**S**	**21 32 30.4**	**+2.1**
CN2				SS	SS	21 35 46.3	-8.3
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
DAG	**Danmarks Havn**	**46.93**	**11**	*i*P	**P**	**21 25 39.7**	**-0.4**
DAG				pmax	pmax		
	comp=Z,15nm,0.9s						
DAG	**Danmarks Havn**	**46.93**	**11**	*i*P	**P**	**21 25 39.7**	**-0.4**
	comp=Z,152nm,0.9s						
WMOK	**Wichita Mounta**	**47.12**	**88**	*e*P	**P**	**21 25 43.0**	**+0.8**
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WMOK	**Wichita Mounta**	**47.12**	**88**	*e*P	**P**	**21 25 43.0**	**+0.8**
	comp=Z,6.9nm,1.0s						
SUMG	**Summit**	**47.30**	**20**	*i*P	**P**	**21 25 43.2**	**-0.3**
SUMG				pmax	pmax		
	comp=Z,13nm,1.0s						
SUMG	**Summit**	**47.30**	**20**	*e*P	**P**	**21 25 43.5**	**0.0**
SUMG				pmax	pmax		
	comp=Z,353nm,2.9s						
SUMG	**Summit**	**47.30**	**20**	*e*P	**P**	**21 25 43.5**	**0.0**
	comp=Z,353nm,2.9s						
SUMG	**Summit**	**47.30**	**20**	*i*P	**P**	**21 25 43.2**	**-0.3**
	comp=Z,13nm,1.0s						
TXAR	**Lajitas Array**	**48.19**	**97**	P	**P**	**21 25 51.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=318,slow=4.8,SNR=7.1						
TXAR				LR	LR	21 44 53.1	
	comp=Z,207nm,18.8s,baz=65,slow=34						
TXAR	**Lajitas Array**	**48.19**	**97**	P	**P**	**21 25 51.2**	**+0.6**
TXAR	**Lajitas Array**	**48.19**	**97**	P	**P**	**21 25 51.2**	**+0.6**
HDIL	**Hopedale**	**48.59**	**75**	*e*P	**P**	**21 25 53.1**	**-0.4**
	comp=Z,25nm,0.8s						
KSRS	**Korea Array**	**49.72**	**280**	P	**P**	**21 26 02.2**	**+0.1**
	comp=Z,11nm,0.9s,baz=50,slow=6.9,SNR=18						
KSRS				LR	LR	21 45 25.5	
	comp=Z,115nm,19.4s,baz=2.4,slow=34						
KSAR	**Wonju Array Be**	**49.75**	**280**	P	**P**	**21 26 02.3**	**-0.1**
KSAR	**Wonju Array Be**	**49.75**	**280**	P	**P**	**21 26 02.2**	**-0.1**
SCHQ	**Schefferville**	**50.62**	**48**	P	**P**	**21 26 08.8**	**0.0**
	comp=Z,9.0nm,1.0s,baz=320,slow=8.0,SNR=5.4						
SCHQ				LR	LR	21 48 23.0	
	comp=Z,372nm,21.8s,baz=311,slow=37						
SCHQ	**Schefferville**	**50.62**	**48**	P	**P**	**21 26 08.8**	**0.0**
SCO	**Scoresbysund**	**52.02**	**16**	*i*P	**P**	**21 26 19.6**	**+0.6**
SCO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SCO	**Scoresbysund**	**52.02**	**16**	*i*P	**P**	**21 26 19.6**	**+0.6**
	comp=Z,6.3nm,0.9s						
OXF	**Oxford**	**52.72**	**81**	*e*P	**P**	**21 26 24.0**	**-0.6**
OXF				pmax	pmax		
	comp=Z,39nm,1.0s						
OXF	**Oxford**	**52.72**	**81**	*e*P	**P**	**21 26 24.0**	**-0.6**
	comp=Z,39nm,1.0s						
TLY	**Talaya**	**52.77**	**309**	*e*P	**P**	**21 26 24.8**	**-0.1**
TLY				pmax	pmax		
	comp=Z,12nm,1.3s						
TLY	**Talaya**	**52.77**	**309**	*e*P	**P**	**21 26 25.3**	**+0.4**
TLY				pmax	pmax		
	comp=Z,16nm,1.4s						
TLY	**Talaya**	**52.77**	**309**	*e*P	**P**	**21 26 25.3**	**+0.4**
	comp=Z,16nm,1.4s						
ULN	**Ulaanbaatar**	**53.79**	**303**	*e*P	**P**	**21 26 32.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**53.79**	**303**	*e*P	**P**	**21 26 32.0**	**-0.6**
	comp=Z,7.2nm,0.9s						
ZAK	**Zakamensk**	**53.84**	**308**	*e*P	**P**	**21 26 30.4**	**-2.4**
ZAK				*e*		21 27 38.2	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**54.13**	**304**	P	**P**	**21 26 35.1**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=50,slow=7.4,SNR=36						
SONM				PcP	**PcP**	**21 27 39.7**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=50,slow=2.9,SNR=5.8						
SONM				LR	LR	21 51 03.9	
	comp=Z,362nm,20.0s,baz=2.5,slow=38						
SONM	**Songino Array**	**54.13**	**304**	P	**P**	**21 26 35.1**	**+0.1**
SONM						21 27 39.7	
SONM	**Songino Array**	**54.13**	**304**	P	**P**	**21 26 35.1**	**+0.1**
SONM				PcP	**PcP**	**21 27 39.7**	**+0.3**
BJI	**Beijing**	**54.51**	**291**	P	**P**	**21 26 37.8**	**+0.1**
BJI				S	**S**	**21 34 17.0**	**+2.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.9s						
BJI				LR	LR		
	comp=N,310nm,12.4s						
BJI				LR	LR		
	comp=E,300nm,8.9s						
BJI				LR	LR		
	comp=Z,190nm,24.6s						
KEV	**Kevo**	**55.92**	**356**	*e*P	**P**	**21 26 44.9**	**-2.6**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KEV	**Kevo**	**55.92**	**356**	*e*p	**P**	**21 26 44.9**	**-2.6**
	comp=Z,5.2nm,0.7s						
KEV	**Kevo**	**55.92**	**356**	*e*p	**P**	**21 26 44.9**	**-2.6**
	comp=Z,5.2nm,0.7s						
ARCES	**ARCESS Array B**	**56.19**	**357**	P	**P**	**21 26 48.9**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=18,slow=6.0,SNR=6.1						
ARCES				LR	LR	21 53 39.5	
	comp=Z,305nm,19.0s,baz=59,slow=39						
ARCES	**ARCESS Array B**	**56.19**	**357**	P	**P**	**21 26 48.9**	**-0.5**
ARCES	**ARCESS Array B**	**56.19**	**357**	P	**P**	**21 26 48.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**56.42**	**295**	*e*P	**P**	**21 26 51.8**	**+0.2**
HHC				pP	**pP**	**21 27 01.8**	**-0.1**
HHC				sP	**sP**	**21 27 05.8**	**-0.1**
HHC				PP	**PP**	**21 28 59.4**	**+2.4**
HHC				S	**S**	**21 34 38.0**	**-1.9**
HHC				sS	**sS**	**21 34 55.6**	**-1.3**
HHC				SS	**SS**	**21 38 26.1**	**-0.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,410nm,8.6s						
HHC				LR	LR		
	comp=N,360nm,16.5s						
HHC				LR	LR		
	comp=E,250nm,16.9s						
HHC				LR	LR		
	comp=Z,410nm,16.9s						
LVZ	**Lovozero**	**57.35**	**353**	*ce*P	**P**	**21 26 57.2**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,168nm,2.5s						
NVS	**Novosibirsk**	**58.77**	**322**	*e*P	**P**	**21 27 05.2**	**-2.5**
NJ2	**Nanjing**	**58.78**	**282**	*e*P	**P**	**21 27 07.3**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
ZALV	**Zalesovo Beam**	**58.89**	**321**	P	**P**	**21 27 09.0**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=61,slow=7.0,SNR=10						
ZALV				PcP	**PcP**	**21 27 58.1**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=18,slow=6.2,SNR=5.4						
ZALV				LR	LR	21 54 52.1	
	comp=Z,278nm,18.9s,baz=145,slow=38						
ZALV	**Zalesovo Beam**	**58.89**	**321**	P	**P**	**21 27 09.0**	**+0.4**
ZALV						21 27 58.1	
ZALV	**Zalesovo Beam**	**58.89**	**321**	P	**P**	**21 27 09.0**	**+0.4**
ZALV				PcP	**PcP**	**21 27 58.1**	**+0.5**
SOKR	**Solikamsk**	**62.23**	**339**	*d*P	**P**	**21 27 30.4**	**-0.8**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s						
JOF	**Joensuu**	**62.52**	**353**	*e*P	**P**	**21 27 31.0**	**-2.1**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JOF	**Joensuu**	**62.52**	**353**	*e*p	**P**	**21 27 31.0**	**-2.1**
	comp=Z,6.4nm,0.8s						
JOF	**Joensuu**	**62.52**	**353**	*e*p	**P**	**21 27 31.0**	**-2.1**
	comp=Z,6.4nm,0.8s						
GTA	**Gaotai**	**63.54**	**301**	*e*P	**P**	**21 27 40.3**	**-0.2**
GTA				pP	**pP**	**21 27 50.8**	**-0.1**
GTA				sP	**sP**	**21 27 54.8**	**-0.1**
GTA				PP	**PP**	**21 30 01.6**	**+1.6**
GTA				S	**S**	**21 36 08.3**	**-3.2**
GTA				sS	**sS**	**21 36 26.4**	**-2.3**
GTA				SS	**SS**	**21 40 17.9**	**-0.4**
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,5.0s						
GTA				LR	LR		
	comp=N,400nm,10.7s						
GTA				LR	LR		

ARU Arti 64.71 337 *c i* P **P 21 27 46.3 -1.4**
ARU 21 30 06.2
ARU PPP PPP 21 31 44.4
ARU S **S 21 36 23.7 -1.5**
ARU SSS SSS 21 43 28.0
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 64.71 337 *e* P **P 21 27 46.1 -1.6**
comp=Z,12nm,0.7s
ENH Enshi 65.39 288 *e* P **P 21 27 53.0 +0.4**
comp=Z,68nm,2.2s
MK31 Makanchi Array 65.59 317 *e* P **P 21 27 52.0 -1.6**
MK31 Makanchi Array 65.59 317 *e* P **P 21 27 52.0 -1.6**
MKAR Makanchi Array 65.59 317 P **P 21 27 52.7 -0.9**
comp=Z,1.4nm,0.9s,baz=47,slow=7.3,SNR=24
MKAR LR LR 21 57 13.4
comp=Z,360nm,20.4s,baz=16,slow=37
MKAR Makanchi Array 65.59 317 *e* P **P 21 27 52.9 -0.8**
MKAR Makanchi Array 65.59 317 *e* P **P 21 27 52.9 -0.8**
OBN Obninsk 69.77 349 ⇓ *i* P **P 21 28 18.0 -1.7**
OBN *e* 21 30 53.4
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,300nm,12.0s
GYA Guiyang 69.91 287 P **P 21 28 23.0 +1.8**
GYA pP **pP 21 28 32.8 +1.0**
GYA sP **sP 21 28 38.5 +2.8**
GYA PP **PP 21 30 59.0 +3.3**
GYA SKS **SKSac 21 38 17.8 -1.8**
GYA SS **SS 21 41 59.4 +1.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,570nm,18.2s
GYA LR LR
comp=E,520nm,19.6s
GYA LR LR
comp=Z,550nm,17.5s
IZAR Zarasai 69.95 355 *e* P **P 21 28 19.7 -1.2**
IZAR AMB AMB 21 28 22.3
comp=Z,9.7nm,0.9s
ISAL Salakas 70.14 355 *e* P **P 21 28 20.9 -1.1**
ISAL AMB AMB 21 28 22.5
comp=Z,12nm,1.1s
IIGN Ignalina 70.35 355 *e* P **P 21 28 22.0 -1.3**
IIGN AMB AMB 21 28 24.8
comp=Z,11nm,0.9s
IDID Didziasalis 70.36 355 *e* P **P 21 28 22.1 -1.2**
IDID AMB AMB 21 28 24.8
comp=Z,13nm,1.0s
NACGM Naroch 70.78 355 *e* P 21 28 22.0 -3.9
ABKAR Akbulak array 70.92 333 *e* P **P 21 28 26.8 0.0**
TKM2 Tokmak 2 71.44 319 P **P 21 28 31.0 +0.5**
SNR=9.6
TKM2 P **P 21 28 31.0 +0.5**
SNR=9.6
TKM2 Tokmak 2 71.44 319 *e* P **P 21 28 30.9 +0.5**
TKM2 pmax pmax
comp=Z,22nm,1.4s
TKM2 Tokmak 2 71.44 319 *e* P **P 21 28 30.9 +0.4**
comp=Z,22nm,1.4s
USP Ospenovka 71.55 320 P **P 21 28 31.6 +0.7**
SNR=9.0
USP P **P 21 28 31.6 +0.7**
SNR=9.0
CHMS Chumysh 71.69 320 P **P 21 28 32.5 +0.8**
SNR=11
CHMS P **P 21 28 32.5 +0.8**
SNR=11
BSEG Bad Segeberg 71.75 5 *e* P **P 21 28 32.3 +0.5**
comp=Z,107nm,1.8s
BSEG Bad Segeberg 71.75 5 *e* P **P 21 28 32.3 +0.5**
BSEG pmax pmax
comp=Z,107nm,1.8s
SUW Suwalki 71.81 357 *e* P **P 21 28 31.7 -0.5**
SUW Suwalki 71.81 357 *e* P **P 21 28 31.7 -0.5**
SUW Suwalki 71.81 357 *e* P **P 21 28 32.1 -0.1**
SUW pmax pmax
comp=Z,42nm,0.9s
SUW Suwalki 71.81 357 *e* P **P 21 28 32.0 -0.1**
comp=Z,42nm,0.9s
KBK Karagaybulak 71.91 320 P **P 21 28 33.6 +0.3**
SNR=11
KBK P **P 21 28 33.6 +0.3**
SNR=11
AAK Ala-Archa 72.10 320 P **P 21 28 35.0 +0.6**
SNR=8.0
AAK P **P 21 28 35.0 +0.6**
SNR=8.0
AAK Ala-Archa 72.10 320 ⇓ *i* P **P 21 28 34.1 -0.2**
AAK pmax pmax
comp=Z,58nm,1.7s
AAK Ala-Archa 72.10 320 *e* P **P 21 28 34.5 +0.1**
AAK pmax pmax
comp=Z,58nm,1.1s
AAK Ala-Archa 72.10 320 *e* P **P 21 28 34.5 +0.1**
comp=Z,58nm,1.1s
EKS2 Erkin-Say 72.34 320 P **P 21 28 36.7 +0.9**
SNR=6.9
EKS2 P **P 21 28 36.7 +0.9**
SNR=6.9
EKS2 Erkin-Say 72.34 320 *e* P **P 21 28 36.5 +0.8**
EKS2 pmax pmax
comp=Z,16nm,1.2s
EKS2 Erkin-Say 72.34 320 *e* P **P 21 28 36.5 +0.8**
comp=Z,16nm,1.2s
PPT2 Papeete2 72.50 168 *e* LR LR 21 50 50.2
comp=Z,347nm,23.0s,baz=355
GKP Gorka Klasztor 72.62 1 *e* P **P 21 28 37.2 +0.2**
GKP Gorka Klasztor 72.62 1 *e* P **P 21 28 37.2 +0.2**
AML Almayashu 72.83 320 P **P 21 28 39.6 +0.6**
SNR=7.4
AML P **P 21 28 39.6 +0.6**
SNR=7.4
VRHR Novokhopersk 73.03 345 *e* P **P 21 28 37.8 -1.7**
VRHR pmax pmax
comp=Z,8.0nm,0.4s
VRHR pmax pmax
comp=E,4.0nm,0.4s
KMI Kunming 73.13 290 P **P 21 28 41.3 +0.5**
KMI pP **pP 21 28 53.3 +1.9**
KMI sP **sP 21 28 57.9 +2.5**
KMI S **S 21 38 05.5 -0.7**
KMI pmax pmax
comp=Z,10.0nm,1.3s
KMI pmax pmax
comp=Z,78nm,4.3s
KMI LR LR
comp=N,140nm,18.9s
KMI LR LR
comp=E,150nm,23.7s
KMI LR LR
comp=Z,170nm,17.4s
KKAR Karatay Array 73.14 323 *e* P **P 21 28 40.2 -0.1**
KKAR Karatay Array 73.14 323 *e* P **P 21 28 40.2 -0.1**
NRDL Niedersach Rie 73.18 5 *e* P **P 21 28 40.3 +0.1**
comp=Z,38nm,1.3s
IBBN Ibbenburen 73.22 7 *e* P **P 21 28 41.6 +1.0**
comp=Z,21nm,0.9s
VSR Storozhevoye 73.27 347 *e* P **P 21 28 39.2 -1.7**
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,30nm,1.0s
CLZ Clausthal 73.84 5 *e* P **P 21 28 44.9 +0.6**
comp=Z,32nm,1.1s
CLZ Clausthal 73.84 5 *e* P **P 21 28 44.9 +0.6**
CLZ pmax pmax
comp=Z,32nm,1.1s
BUG Bochum--Univer 74.05 7 *e* P **P 21 28 45.6 +0.2**
comp=Z,50nm,1.3s
CLL Collm 74.49 4 *e* P **P 21 28 47.8 -0.3**
comp=Z,27nm,1.4s
CLL Collm 74.49 4 *i* P **P 21 28 47.7 -0.3**
CLL pmax pmax
comp=Z,27nm,1.4s
CLL Collm 74.49 4 *i* P **P 21 28 47.7 -0.3**
comp=Z,27nm,1.4s
AKASG Malin Array Be 74.81 353 P **P 21 28 48.9 -1.0**
comp=Z,21nm,0.8s,baz=7.1,slow=5.6,SNR=45
AKASG LR LR 22 04 31.5
comp=Z,398nm,19.6s,baz=315,slow=38
AKASG Malin Array Be 74.81 353 P **P 21 28 48.9 -1.0**
AKASG Malin Array Be 74.81 353 P **P 21 28 48.9 -1.0**
AKBB Malin Array Si 74.81 353 *e* P **P 21 28 48.1 -1.8**
AKBB Malin Array Si 74.81 353 *e* P **P 21 28 48.1 -1.8**
KIEV Kiev 74.82 353 *i* P **P 21 28 47.9 -2.0**
KIEV Kiev 74.82 353 *e* P **P 21 28 49.0 -0.9**
KIEV pmax pmax
comp=Z,34nm,1.0s
KIEV Kiev 74.82 353 *e* P **P 21 28 49.0 -0.9**
comp=Z,34nm,1.0s
BRG Berggiesshubel 74.96 3 *i* P **P 21 28 50.5 -0.3**
comp=Z,21nm,1.1s
BRG Berggiesshubel 74.96 3 *e* P **P 21 28 50.9 +0.1**
comp=Z,20nm,1.1s
BRG Berggiesshubel 74.96 3 *i* P **P 21 28 50.5 -0.3**
BRG pmax pmax
comp=Z,21nm,1.2s
KSP Ksiaz 75.04 1 *e* P **P 21 28 51.7 +0.4**
KSP Ksiaz 75.04 1 *e* P **P 21 28 51.2 -0.1**
MOX Moxa 75.10 4 *e* P **P 21 28 52.0 +0.4**
comp=Z,22nm,1.1s
MOX Moxa 75.10 4 *e* P **P 21 28 52.0 +0.4**
MOX pmax pmax
comp=Z,22nm,1.1s
BAIF Baives 75.16 9 *e* P **P 21 28 52.1 +0.2**
comp=Z,21nm,1.1s
PVCC Panska Ves 75.32 3 *e* P **P 21 28 53.2 +0.3**
PVCC *e* 21 29 05.6
PVCC Panska Ves 75.32 3 *e* P **P 21 28 53.2 +0.3**
PVCC *e* pP **PcP 21 29 05.6 -0.5**
TNS Taunus Mts 75.34 7 *e* P **P 21 28 53.4 +0.3**
comp=Z,17nm,1.0s
TNS Taunus Mts 75.34 7 *e* P **P 21 28 53.4 +0.3**
TNS pmax pmax
comp=Z,17nm,1.0s
UPC Upice 75.37 2 *e* P **P 21 28 53.5 +0.3**
UPC Upice 75.37 2 *e* P **P 21 28 53.5 +0.3**
DPC Dobruska-Polom 75.53 1 *e* P **P 21 28 54.3 +0.1**
DPC Dobruska-Polom 75.53 1 *e* P **P 21 28 54.5 +0.3**
DPC pmax pmax
comp=Z,21nm,0.9s
DPC Dobruska-Polom 75.53 1 *e* P **P 21 28 54.5 +0.3**
comp=Z,21nm,0.9s
DPC Dobruska-Polom 75.53 1 *e* P **P 21 28 54.3 +0.1**
NKC Novy Kostel 75.55 4 *e* P **P 21 28 54.4 +0.2**
NKC Novy Kostel 75.55 4 *e* P **P 21 28 54.4 +0.2**
LSA Lhasa 75.57 301 P **P 21 28 55.5 +0.3**
LSA Lhasa 75.57 301 *e* P **P 21 28 55.7 +0.5**
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 75.57 301 *e* P **P 21 28 55.7 +0.5**
comp=Z,8.4nm,0.9s
WLF Walferdange 75.72 8 *e* P **P 21 28 57.7 +2.5**
comp=Z,33nm,1.3s
KRLC Kraliky 75.81 1 *e* P **P 21 28 55.9 +0.1**
PRU Pruhonice 75.86 3 *e* P **P 21 28 55.7 -0.3**
PRU Pruhonice 75.86 3 *e* P **P 21 28 55.7 -0.3**
LVV L'vov 75.97 356 *e* P **P 21 28 55.6 -1.0**
ROTZ Rotzenmuhle 76.00 4 *e* P **P 21 28 56.6 -0.2**
comp=Z,17nm,1.4s
GRF Grafenberg Arr 76.03 5 *e* P **P 21 28 57.4 +0.4**
comp=Z,40nm,1.5s
GRF Grafenberg Arr 76.03 5 *e* P **P 21 28 57.4 +0.4**
GRF pmax pmax
comp=Z,40nm,1.5s
OKC Ostrava-Krasne 76.06 0 *e* P **P 21 28 56.9 -0.2**
OKC Ostrava-Krasne 76.06 0 *e* P **P 21 28 56.9 -0.2**
MORC Moravsky Berou 76.12 1 *e* P **P 21 28 56.9 -0.6**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 76.12 1 ⇑ P **P 21 28 57.4 -0.1**
MORC Moravsky Berou 76.12 1 *e* P **P 21 28 56.9 -0.6**
comp=Z,7.6nm,0.9s
MORC Moravsky Berou 76.12 1 ⇑ *i* P **P 21 28 57.3 -0.2**
SGMF Saint Gilles 76.12 14 *e* P **P 21 28 57.5 0.0**
KWP Kalwaria Pacla 76.21 357 *e* P **P 21 28 58.0 +0.1**
KWP Kalwaria Pacla 76.21 357 *e* P **P 21 28 57.6 -0.3**
KWP pmax pmax
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 76.21 357 *e* P **P 21 28 58.1 +0.1**
KWP Kalwaria Pacla 76.21 357 ⇓ P **P 21 28 58.8 +0.8**
KWP Kalwaria Pacla 76.21 357 *e* P **P 21 28 57.6 -0.3**
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 76.21 357 ⇓ *i* P **P 21 28 58.8 +0.8**
QUIF Quistinic 76.36 15 *e* P **P 21 28 58.7 -0.1**
NIE Niedzica 76.47 359 *e* P **P 21 29 00.3 +0.8**
NIE Niedzica 76.47 359 *e* P **P 21 29 00.3 +0.8**
TREC Trest 76.58 2 *e* P **P 21 28 59.9 -0.2**
TREC Trest 76.58 2 *e* P **P 21 28 59.9 -0.2**
VRAC Vranov 76.58 1 ⇑ P **P 21 29 00.3 +0.2**
VRAC Vranov 76.58 1 ⇑ *i* P **P 21 29 00.3 +0.2**
WET Wettzell 76.65 4 *e* P **P 21 29 00.7 +0.2**
comp=Z,10.0nm,1.3s
WET Wettzell 76.65 4 *e* P **P 21 29 00.7 +0.2**
WET pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 76.69 3 *e* P **P 21 29 01.2 +0.5**
KHC *e* 21 29 07.9
KHC Kasperske Hory 76.69 3 *e* P **P 21 29 01.3 +0.5**
KHC pmax pmax
comp=Z,17nm,1.0s
KHC Kasperske Hory 76.69 3 *e* P **P 21 29 01.3 +0.5**
comp=Z,17nm,1.0s
KHC Kasperske Hory 76.69 3 *e* P **P 21 29 01.2 +0.5**
KHC *ex* x 21 29 07.9
MEZF Maizieres J'vi 76.78 9 *e* P **P 21 29 01.4 +0.2**
PAGF Fort de Pagny 76.79 9 *e* P **P 21 29 01.7 +0.4**
comp=Z,15nm,1.1s
STU Stuttgart 76.83 6 *e* P **P 21 29 02.1 +0.6**
comp=Z,24nm,1.2s
KOLS Kolonicke sedl 76.92 357 *e* P **P 21 29 03.4 +1.4**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 76.92 357 *e* P **P 21 29 03.4 +1.4**
CRVS Cervenica-Dubn 76.97 358 *e* P **P 21 29 02.5 +0.2**
CRVS pmax pmax
comp=Z,19nm,1.7s
CRVS Cervenica-Dubn 76.97 358 *e* P **P 21 29 02.5 +0.2**
GEC2 GERESS Array S 76.98 3 *e* P **P 21 29 02.4 0.0**
comp=Z,9.0nm,1.0s
GEC2 GERESS Array S 76.98 3 *e* P **P 21 29 02.4 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s
GERES GERESS Array B 76.98 3 P **P 21 29 02.5 0.0**
comp=Z,4.5nm,0.8s,baz=350,slow=4.6,SNR=18
GERES GERESS Array B 76.98 3 P **P 21 29 02.5 0.0**
GERES GERESS Array B 76.98 3 P **P 21 29 02.5 0.0**
CDF Champ du Feu 77.06 8 *e* P **P 21 29 02.9 0.0**
comp=Z,17nm,1.0s
SFTF Sexfontaines 77.07 9 *e* P **P 21 29 02.8 -0.1**
comp=Z,23nm,1.0s
BFO Black Forest 77.22 7 *e* P **P 21 29 04.3 +0.6**
comp=Z,74nm,2.2s
BFO Black Forest 77.22 7 *e* P **P 21 29 04.3 +0.6**
BFO pmax pmax
comp=Z,74nm,2.2s
UZH Uzhgorod 77.22 357 *e* P P 21 28 57.3 -6.3
UZH *e* 21 29 00.1
UZH *i* 21 29 03.9
UZH *e* 21 29 18.5
SMOL Smolenice 77.38 1 *e* P **P 21 29 05.8 +1.2**
SMOL Smolenice 77.38 1 *e* P **P 21 29 05.8 +1.2**
HAU Haudompre 77.39 8 *e* P **P 21 29 04.6 -0.1**
comp=Z,47nm,1.4s
VYHS Vyhne 77.41 360 *e* P **P 21 29 05.0 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 77.41 360 *e* P **P 21 29 05.0 +0.2**
HINF Hinteralfeld 77.61 8 *e* P **P 21 29 05.8 -0.2**
comp=Z,19nm,1.1s
ZST Bratislava 77.70 1 *e* P **P 21 29 07.3 +0.9**
ZST pmax pmax
comp=Z,11nm,0.9s
ZST Bratislava 77.70 1 *e* P **P 21 29 07.3 +0.9**
TRPA Tarpa 77.71 357 ⇓ *i* P **P 21 29 07.3 +0.8**
TRPA Tarpa 77.71 357 ⇓ *e* P **P 21 29 07.2 +0.8**
LOR Lormes 77.88 10 *e* P **P 21 29 07.3 -0.1**
comp=Z,38nm,1.2s
CONA Conrad Observa 77.95 2 ⇑ *i* P **P 21 29 08.3 +0.4**
comp=Z,16nm,0.9s
CONA Conrad Observa 77.95 2 ⇑ *i* P **P 21 29 08.3 +0.4**
comp=Z,16nm,0.9s
PSZ Piszkesteto 77.98 359 *e* P **P 21 29 08.1 +0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 77.98 359 ⇓ P **P 21 29 09.1 +1.1**
PSZ Piszkesteto 77.98 359 *e* P **P 21 29 08.1 +0.1**
comp=Z,7.5nm,0.8s
PSZ Piszkesteto 77.98 359 ⇓ *i* P **P 21 29 09.1 +1.1**
PSZ Piszkesteto 77.98 359 ⇑ *e* P **P 21 29 08.9 +0.9**
RJOB Jochberg 78.05 4 *e* P **P 21 29 08.7 +0.3**
comp=Z,10.0nm,0.7s
SSF Saint-Saulge 78.05 10 *e* P **P 21 29 08.2 -0.1**
comp=Z,50nm,1.4s
MFF Saint Martin d 78.07 13 *e* P **P 21 29 08.7 +0.2**
BUR08 Bucovina Ar. S 78.10 355 *e* P **P 21 29 08.6 -0.2**
BMR Baia Mare 78.14 357 ⇓ P **P 21 29 09.5 +0.7**
BMR Baia Mare 78.14 357 ⇓ *i* P **P 21 29 09.5 +0.7**
TBI Tubuai 78.20 169 *e* LR LR 21 53 19.4
comp=Z,323nm,24.0s
SOP Sopron 78.21 1 ⇑ *e* P **P 21 29 10.5 +1.3**
AVF Avril sur Loir 78.30 11 *e* P **P 21 29 09.5 -0.2**
comp=Z,21nm,1.0s
MOTA Moosalm 78.37 5 ⇑ *i* P **P 21 29 10.4 +0.1**
MOTA pmax pmax
comp=Z,17nm,1.0s
MOTA Moosalm 78.37 5 ⇑ *i* P **P 21 29 10.4 +0.1**
comp=Z,17nm,1.0s
MOTA Moosalm 78.37 5 ⇑ *i* P **P 21 29 10.4 +0.1**
comp=Z,17nm,1.0s
WATA Walderalm 78.40 5 ⇑ *i* P **P 21 29 10.6 +0.2**
WATA pmax pmax
comp=Z,12nm,0.9s
WATA Walderalm 78.40 5 ⇑ *i* P **P 21 29 10.6 +0.2**
comp=Z,12nm,0.9s
WATA Walderalm 78.40 5 ⇑ *i* P **P 21 29 10.6 +0.2**
comp=Z,12nm,0.9s
WTTA Wattenberg 78.47 5 ⇑ *i* P **P 21 29 11.4 +0.5**
WTTA pmax pmax
comp=Z,17nm,0.8s
WTTA Wattenberg 78.47 5 ⇑ *i* P **P 21 29 11.4 +0.5**
comp=Z,16nm,0.8s
WTTA Wattenberg 78.47 5 ⇑ *i* P **P 21 29 11.4 +0.5**
comp=Z,16nm,0.8s
BGF Bois d'Agland 78.48 11 *e* P **P 21 29 10.5 -0.2**
comp=Z,109nm,1.6s
ARSA Arzberg 78.62 2 ⇑ *i* P **P 21 29 12.0 +0.5**
comp=Z,10nm,0.9s
ARSA Arzberg 78.62 2 ⇑ *i* P **P 21 29 12.0 +0.5**
comp=Z,10nm,0.9s
FETA Feichten 78.67 5 ⇑ *i* P **P 21 29 11.6 -0.4**
comp=Z,14nm,0.9s
FETA Feichten 78.67 5 ⇑ *i* P **P 21 29 11.6 -0.4**
comp=Z,14nm,0.9s
TCF Toulx Ste Croi 78.67 11 *e* P **P 21 29 11.6 -0.2**
KBA Koelnbreinsper 78.73 4 ⇑ *i* P **P 21 29 13.1 +0.8**
KBA pmax pmax
comp=Z,20nm,0.9s
KBA Koelnbreinsper 78.73 4 ⇑ *i* P **P 21 29 13.1 +0.8**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 78.73 4 ⇑ *i* P **P 21 29 13.1 +0.8**
comp=Z,20nm,0.9s
CABF La Chapelle 78.75 9 *e* P **P 21 29 11.6 -0.7**
comp=Z,73nm,1.4s
LEOM Leova 79.09 353 ⇑ P **P 21 29 14.7 +0.7**
LEOM Leova 79.09 353 ⇑ *i* P **P 21 29 14.7 +0.7**
TESR 79.15 354 ⇑ *i* P **P 21 29 14.6 +0.2**
SOKA Soboth 79.18 2 ⇑ *i* P **P 21 29 15.2 +0.5**
comp=Z,23nm,1.1s
SOKA Soboth 79.18 2 ⇑ *i* P **P 21 29 15.2 +0.5**
comp=Z,23nm,1.1s
TAPN Taplejung 79.21 302 *e* P **P 21 29 15.1 -0.3**
comp=Z,35nm,1.1s
TAPN Taplejung 79.21 302 *e* P **P 21 29 15.1 -0.3**
comp=Z,35nm,1.1s
PERS Pernice 79.23 2 *i* P **P 21 29 15.5 +0.6**
OBKA Obir 79.34 3 ⇑ *i* P **P 21 29 15.9 +0.4**
comp=Z,27nm,0.8s
OBKA Obir 79.34 3 ⇑ *i* P **P 21 29 15.9 +0.4**
comp=Z,27nm,0.8s
RJF Les Rejaudoux 79.56 12 *e* P **P 21 29 16.3 -0.4**
GUN Gumba 79.64 304 *e* P **P 21 29 17.6 -0.2**
comp=Z,61nm,1.2s
GUN Gumba 79.64 304 *e* P **P 21 29 17.6 -0.2**
comp=Z,61nm,1.2s
PKSM Moragy 79.69 360 ⇓ P **P 21 29 17.7 +0.4**
PKSM Moragy 79.69 360 ⇓ *i* P **P 21 29 17.7 +0.4**
PKSM Moragy 79.69 360 ⇑ *e* P **P 21 29 17.7 +0.4**
JIRN Jiri 79.70 303 *e* P **P 21 29 18.3 +0.1**
comp=Z,31nm,0.6s
JIRN Jiri 79.70 303 *e* P **P 21 29 18.3 +0.1**
comp=Z,31nm,0.6s
DOPR Dopca 79.76 355 ⇓ *i* P **P 21 29 19.5 +1.7**
ODAN Odare 79.77 302 *e* P **P 21 29 18.0 -0.4**
comp=Z,9.5nm,0.8s
ODAN Odare 79.77 302 *e* P **P 21 29 18.0 -0.4**
comp=Z,9.5nm,0.8s
ANN Anapa 79.79 346 *e* P P 21 29 26.6 +8.7
ANN *e* S S 21 39 35.1 +17
ANN pmax pmax
comp=Z,123nm,1.1s
VRI Vrincioaia 79.79 354 ⇓ P **P 21 29 17.7 -0.2**
VRI Vrincioaia 79.79 354 ⇓ *i* P **P 21 29 17.7 -0.2**
KIV Kislovodsk 79.79 342 *e* P **P 21 29 18.4 +0.4**
KIV pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 79.79 342 *e* P **P 21 29 18.4 +0.4**
comp=Z,24nm,0.9s
PLOR Plostina 79.81 354 ⇓ P **P 21 29 19.1 +1.0**
PLOR Plostina 79.81 354 ⇓ *i* P **P 21 29 19.1 +1.0**
JAVS Javornik 79.94 3 *i* P **P 21 29 18.8 -0.1**
KKN Kakani 80.03 304 *e* P **P 21 29 19.6 -0.2**
KKN Kakani 80.03 304 *e* P **P 21 29 19.6 -0.2**
KKN Kakani 80.03 304 *e* P **P 21 29 19.6 -0.2**
RAMN Ramite 80.09 303 *e* P **P 21 29 19.7 -0.4**
comp=Z,42nm,1.0s
RAMN Ramite 80.09 303 *e* P **P 21 29 19.7 -0.4**
comp=Z,42nm,1.0s
PKI Pulchoki 80.15 304 *e* P **P 21 29 20.2 -0.4**
PKI Pulchoki 80.15 304 *e* P **P 21 29 20.2 -0.4**
PKI Pulchoki 80.15 304 *e* P **P 21 29 20.2 -0.4**
GKN Gorkha 80.16 305 *e* P **P 21 29 19.9 -0.5**
GKN Gorkha 80.16 305 *e* P **P 21 29 19.9 -0.5**
BZS Buzias 80.25 358 ⇑ P **P 21 29 20.3 -0.1**
BZS Buzias 80.25 358 ⇑ *i* P **P 21 29 20.3 -0.1**
DMN Daman 80.27 304 *e* P **P 21 29 21.0 -0.1**
DMN Daman 80.27 304 *e* P **P 21 29 21.0 -0.1**
CHTO Chiang Mai 80.27 289 *e* P **P 21 29 20.3 -0.6**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 80.27 289 *e* P **P 21 29 20.3 -0.6**
comp=Z,4.6nm,1.1s
DANN Dangsing 80.29 306 *e* P **P 21 29 21.3 0.0**
comp=Z,47nm,0.9s
DANN Dangsing 80.29 306 *e* P **P 21 29 21.3 0.0**
comp=Z,47nm,0.9s
VOIR 80.31 355 ⇓ P **P 21 29 21.4 +0.6**
VOIR 80.31 355 ⇓ *i* P **P 21 29 21.4 +0.6**
TLCR 80.33 353 ⇓ P **P 21 29 21.2 +0.4**
TLCR 80.33 353 ⇓ *i* P **P 21 29 21.2 +0.4**
VIVF Saint-Julien-l 80.35 10 *e* P **P 21 29 21.2 +0.2**
BOJS Bojanci 80.36 2 *i* P **P 21 29 21.3 +0.4**
CFR Carcaliu 80.38 353 ⇓ P **P 21 29 20.7 -0.4**
CFR Carcaliu 80.38 353 ⇓ *i* P **P 21 29 20.7 -0.4**
ORIF Oris-en-Rattie 80.41 9 *e* P **P 21 29 20.8 -0.6**
CM31 Chiang Mai Arr 80.56 288 *e* P **P 21 29 22.9 +0.5**
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 80.56 288 P **P 21 29 22.1 -0.4**
comp=Z,10.0nm,0.9s,baz=16,slow=5.3,SNR=54
CMAR LR LR 22 06 13.6
comp=Z,79nm,19.6s,baz=210,slow=36
CMAR Chiang Mai Arr 80.56 288 P **P 21 29 22.1 -0.4**
CMAR Chiang Mai Arr 80.56 288 P **P 21 29 22.1 -0.4**
MBDF Montbardon 80.68 8 *e* P **P 21 29 23.0 +0.1**
comp=Z,28nm,1.1s
ZEI Tsey 80.72 341 *e* P **P 21 29 23.8 +0.6**
ZEI pmax pmax
comp=Z,20nm,1.3s
KOLN Koldanda 80.85 305 *e* P **P 21 29 23.7 -0.5**
comp=Z,9.8nm,0.5s
KOLN Koldanda 80.85 305 *e* P **P 21 29 23.7 -0.5**
comp=Z,9.8nm,0.5s
DZM Mont Dzumac 81.04 210 *e* LR LR 21 54 38.0
comp=Z,263nm,23.6s
TIRR Tirgusor 81.08 353 ⇑ P **P 21 29 24.5 -0.3**
TIRR Tirgusor 81.08 353 *e* P **P 21 29 24.8 0.0**
TIRR pmax pmax
comp=Z,17nm,1.0s

TIRR	**Tirgusor**	**81.08**	**353**	*eP*	**P**	**21 29 24.8**	**0.0**
	comp=Z,17nm,1.0s							
TIRR	**Tirgusor**	**81.08**	**353**	⇑*iP*	**P**	**21 29 24.5**	**-0.3**
HUMR	**Humele**	**81.22**	**355**	⇑*iP*	**P**	**21 29 25.6**	**0.0**
TBLG	**Delisi**	**81.56**	**340**	*eP*	**P**	**21 29 28.1**	**+0.6**
TBLG	**Delisi**	**81.56**	**340**	P	**P**	**21 29 28.1**	**+0.6**
MTLF	**Montolieu**	**81.58**	**12**	*eP*	**P**	**21 29 27.7**	**+0.2**
	comp=Z,29nm,1.2s							
DGRG	**David-gareji**	**81.70**	**340**	P	**P**	**21 29 29.4**	**+1.1**
PGF	**Pioggiola**	**83.02**	**7**	*eP*	**P**	**21 29 35.4**	**+0.2**
	comp=Z,177nm,1.5s							
GNI	**Garni**	**83.08**	**340**	⇑*eP*	**P**	**21 29 37.0**	**+1.3**
GNI				pmax	pmax			
	comp=Z,23nm,1.8s							
GNI	**Garni**	**83.08**	**340**	*eP*	**P**	**21 29 37.9**	**+2.2**
GNI				pmax	pmax			
	comp=Z,15nm,1.1s							
GNI	**Garni**	**83.08**	**340**	*eP*	**P**	**21 29 37.9**	**+2.2**
	comp=Z,15nm,1.1s							
VTS	**Vitosha**	**83.22**	**356**	⇑P	**P**	**21 29 35.6**	**-0.7**
VTS	**Vitosha**	**83.22**	**356**	⇑*iP*	**P**	**21 29 35.6**	**-0.7**
VTS	**Vitosha**	**83.22**	**356**	*eP*	**P**	**21 29 36.0**	**-0.3**
KDZ	**Kurdzhali**	**84.06**	**355**	*eP*	**P**	**21 29 41.5**	**+1.0**
MMB	**Musomiste**	**84.20**	**356**	*eP*	**P**	**21 29 42.0**	**+0.8**
ESDC	**Sonseca Array**	**84.27**	**17**	P	**P**	**21 29 42.0**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=346,slow=5.0,SNR=15							
ESDC	**Sonseca Array**	**84.27**	**17**	P	**P**	**21 29 42.0**	**+0.4**
BR131	**Keskin Array S**	**85.27**	**348**	*eP*	**P**	**21 29 47.1**	**+0.3**
	comp=Z,8.4nm,0.9s							
BRTR	**Keskin Array B**	**85.27**	**348**	P	**P**	**21 29 46.7**	**0.0**
	comp=Z,10.0nm,0.9s,baz=34,slow=1.8,SNR=37							
BRTR	**Keskin Array B**	**85.27**	**348**	P	**P**	**21 29 46.7**	**0.0**
BRTR	**Keskin Array B**	**85.27**	**348**	P	**P**	**21 29 46.7**	**0.0**
WRA	**Warramunga Arr**	**92.04**	**238**	P	**P**	**21 30 17.1**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=39,slow=5.4,SNR=4.6							
WRA	**Warramunga Arr**	**92.04**	**238**	P	**P**	**21 30 17.1**	**-1.8**
QSPA	**South Pole Qui**	**144.25**	**180**	PKP	**PKPab**	**21 36 41.9**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=94,slow=1.3,SNR=7.9							
QSPA	**South Pole Qui**	**144.25**	**180**	PKP	**PKPab**	**21 36 41.9**	**-0.5**

NEIC ***18*** *21:18:02.2±3.1, 30.15°S×177.67°W, h32km±21km, mb4.4/4, Error ellipse: s-maj=17.1km s-min=10.0km az=98.0*
IDC ***18*** *21:18:06.0±0.9, 29.99°S×177.75°W, h56km±7km, mb4.1/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, MS3.7/3, Ms1 3.7/3, ms1mx3.4/25, Error ellipse: s-maj=30.4km s-min=22.4km az=173.0*

ISC 18 21:18:05.0±0.8, 30.08°S±0.08°×177.8°W±0.1, h49km±6km, h52km; pP-P, n43, σ1 27/43, mb4.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.83**	**353**	*eP*n	**Pn**	**21 18 19.1**	**-1.4**
RAO				*eS*n	**Sn**	**21 18 29.7**	**-2.1**
URZ	**Urewera**	**9.18**	**206**	*eP*n	Pn	21 20 11.6	-3.3
URZ				*eS*n	**Sn**	**21 21 54.8**	**-1.9**
DZM	**Mont Dzumac**	**16.24**	**296**	LR	LR	21 26 38.5	
	comp=Z,251nm,21.6s,baz=28,slow=32						
RPZ	**Rata Peaks**	**16.25**	**210**	P	**Pn**	**21 21 47.1**	**-2.8**
	0.9nm,0.3s,baz=308,slow=2.5,SNR=4.9						
RPZ	**Rata Peaks**	**16.25**	**210**	*eP*n	**Pn**	**21 21 48.7**	**-1.1**
	12nm,0.7s						
RAR	**Rarotonga**	**18.48**	**66**	LR	LR	21 28 04.5	
	comp=Z,150nm,18.3s,baz=314,slow=32						
CTA	**Charters Tower**	**33.92**	**279**	P	**P**	**21 24 46.2**	**+2.6**
	6.1nm,0.4s,baz=87,slow=11,SNR=7.4						
CTA	**Charters Tower**	**33.92**	**279**	P	**P**	**21 24 46.2**	**+2.6**
STKA	**Stephens Creek**	**34.72**	**256**	P	**P**	**21 24 51.9**	**+1.5**
	5.1nm,0.8s,baz=100,slow=8.8,SNR=12						
STKA	**Stephens Creek**	**34.72**	**256**	*eP*	**P**	**21 24 51.6**	**+1.2**
	4.4nm,1.0s						
STKA	**Stephens Creek**	**34.72**	**256**	*eP*	**P**	**21 24 51.7**	**+1.2**
	1.5nm,1.0s						
AS31	**Alice Springs**	**43.30**	**267**	*eP*	**P**	**21 26 02.8**	**+0.6**
WB2	**Warramunga Arr**	**44.25**	**272**	*eP*	**P**	**21 26 10.2**	**+0.4**
WRAB	**Tennant Creek**	**44.25**	**272**	*eP*	**P**	**21 26 10.1**	**+0.2**
	7.1nm,0.8s						
WRA	**Warramunga Arr**	**44.26**	**272**	P	**P**	**21 26 09.8**	**-0.2**
	3.0nm,0.4s,baz=110,slow=8.2,SNR=65						
WRA	**Warramunga Arr**	**44.26**	**272**	P	**P**	**21 26 09.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.53**	**270**	P	**P**	**21 27 13.8**	**+0.1**
	3.2nm,0.8s,baz=187,slow=10,SNR=5.3						
FITZ				LR	LR	21 47 24.6	
	comp=Z,87nm,18.3s,baz=39,slow=33						
FITZ	**Fitzroy Crossi**	**52.53**	**270**	*eP*	**P**	**21 27 13.6**	**-0.1**
	5.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.53**	**270**	*eP*	**P**	**21 27 14.6**	**+0.9**
	2.6nm,0.7s						
QSPA	**South Pole Qui**	**60.03**	**180**	P	**P**	**21 28 08.0**	**+1.4**
	1.3nm,0.4s,baz=351,slow=1.9,SNR=6.9						
QSPA	**South Pole Qui**	**60.03**	**180**	*eP*	**P**	**21 28 06.0**	**-0.5**
	10nm,0.9s						
NVAR	**Mina Array Bea**	**87.89**	**43**	P	**P**	**21 30 50.6**	**+1.1**
	0.9nm,0.8s,baz=222,slow=9.3,SNR=5.4						
NVAR				pP	**pP**	**21 31 06.0**	**+2.1**
	0.9nm,0.6s,baz=229,slow=8.0,SNR=5.1						
NVAR	**Mina Array Bea**	**87.89**	**43**	P	**P**	**21 30 50.6**	**+1.1**
NVAR				pP	**pP**	**21 31 06.0**	**+2.1**
TXAR	**Lajitas Array**	**92.07**	**57**	pP	pP	21 31 25.2	+1.6
	0.7nm,1.0s,baz=196,slow=3.5,SNR=3.9						
MKAR	**Makanchi Array**	**117.70**	**310**	PKP	**PKPdf**	**21 36 44.5**	**-1.0**
	0.4nm,0.6s,baz=110,slow=1.0,SNR=4.6						
MKAR	**Makanchi Array**	**117.70**	**310**	PKP	**PKPdf**	**21 36 44.5**	**-1.0**
KEV	**Kevo**	**137.85**	**347**	*ep*	PKPpre	21 37 15.7	
KEV	**Kevo**	**137.85**	**347**	*ep*	PKPpre	21 37 15.7	
JOF	**Joensuu**	**142.19**	**339**	*ep*	PKPpre	21 37 20.1	
	1.0nm,0.7s						
JOF	**Joensuu**	**142.19**	**339**	*ep*	PKPpre	21 37 20.1	
	1.0nm,0.7s						
KAF	**Kangasniemi**	**144.31**	**341**	*ep*	**PKPab**	**21 37 31.6**	**-1.3**
	3.7nm,0.7s						
KAF	**Kangasniemi**	**144.31**	**341**	*ep*	**PKPab**	**21 37 31.6**	**-1.3**
	3.7nm,0.7s						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	**PKPab**	**21 37 34.7**	**-0.5**
	12nm,0.7s,baz=54,slow=5.4,SNR=68						
FINES				pPKP	**pPKPdf**	**21 37 51.1**	**+0.2**
	3.1nm,0.5s,baz=58,slow=5.0,SNR=3.3						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	**PKPab**	**21 37 34.7**	**-0.5**
FINES				pPKP	**pPKPdf**	**21 37 51.1**	**+0.2**
NB2	**NORSAR Subarra**	**148.46**	**352**	PKP	**PKPbc**	**21 37 45.3**	**-0.3**
	comp=Z,14nm,1.2s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**148.46**	**352**	PKPbc	**PKPbc**	**21 37 45.4**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=14,slow=4.2,SNR=4.8						
NOA				pPKPbc	**pPKPbc**	**21 38 00.8**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=15,slow=4.3,SNR=3.8						
NOA	**NORSAR Array B**	**148.46**	**352**	PKPbc	**PKPbc**	**21 37 45.4**	**-0.1**
NOA				pPKPbc	**pPKPbc**	**21 38 00.8**	**+0.3**
AKASG	**Malin Array Be**	**151.15**	**323**	PKPbc	**PKPbc**	**21 37 51.8**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=48,slow=2.6,SNR=14						
AKASG	**Malin Array Be**	**151.15**	**323**	PKPbc	**PKPbc**	**21 37 51.8**	**-0.5**
BRTR	**Keskin Array B**	**152.60**	**299**	PKPbc	**PKPbc**	**21 37 54.9**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=97,slow=3.6,SNR=5.1						
BRTR	**Keskin Array B**	**152.60**	**299**	PKPbc	**PKPbc**	**21 37 54.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**163.14**	**178**	PKPab	**PKPab**	**21 38 52.7**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=205,slow=6.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**163.14**	**178**	PKPab	**PKPab**	**21 38 52.7**	**+0.1**

MAN ***18*** *21:32:08, 5.31°N×126.40°E, h42km, mb5.1, ML4.0, MS4.2*
ISCJB ***18*** *21:32:11.0±0.7, 5.55°N±0.06°×126.34°E±0.09°, h113km±5km, mb4.3/30, Error ellipse: s-maj=16.0km s-min=8.2km az=155.3*
IDC ***18*** *21:32:13.9±1.8, 5.52°N×126.31°E, h123km±16km, mb3.8/16, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, Error ellipse: s-maj=25.8km s-min=10.1km az=77.0*
NEIC ***18*** *21:32:14.4±0.7, 5.54°N×126.27°E, h129km±6km, mb4.1/7, Error ellipse: s-maj=10.0km s-min=4.2km az=64.0*
DJA ***18*** *21:32:15, 5.14°N×126.45°E, h23km, MLv4.7/8*

ISC 18 21:32:11.1±1.2, 5.51°N±0.08°×126.4°E±0.1, h98km±9km, n77, σ0 92/87, mb4.4/29, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.43**	**356**	*eP*	**Pn**	**21 32 34.9**	**-1.5**
MATI				*eS*	**Sn**	**21 32 55.6**	**0.0**
DAV	**Davao City (W)**	**1.74**	**333**	P	Pn	21 32 44.4	+4.2
	103nm,0.3s,baz=305,slow=9.2,SNR=6.2						
DAV				S	**Sn**	**21 33 03.8**	**+1.5**
	127nm,0.3s,baz=150,slow=20,SNR=9.2						
DAV	**Davao City (W)**	**1.74**	**333**	P	Pn	21 32 44.5	+4.2
DAV				S	**Sn**	**21 33 03.8**	**+1.5**
DMPH	**Davao City--Mi**	**1.78**	**332**	⇑*iP*	**Pn**	**21 32 39.8**	**-1.0**
DMPH				*i* S	Sn	21 33 22.9	+20
BUKP	**Musuan**	**2.69**	**331**	*eP*	**Pn**	**21 32 53.0**	**+0.4**
BUKP				*eS*	**Sn**	**21 33 26.6**	**+1.9**
BUTP	**Butuan**	**3.52**	**348**	*eP*	**Pn**	**21 33 06.1**	**+2.3**
PAGZ	**Pagadian**	**3.76**	**308**	*eP*	**Pn**	**21 33 07.7**	**+0.6**
MSLP	**Maasin**	**4.83**	**342**	*eP*	**Pn**	**21 33 22.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.47**	**182**	P	**P**	**21 37 12.7**	**+0.5**
	1.0nm,0.4s,baz=58,slow=13,SNR=12						
FITZ	**Fitzroy Crossi**	**23.47**	**182**	*eP*	**P**	**21 37 12.6**	**+0.5**
	5.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.47**	**182**	*eP*	**P**	**21 37 13.0**	**+0.9**
	2.5nm,0.6s						
WRAB	**Tennant Creek**	**26.48**	**163**	*eP*	**P**	**21 37 39.9**	**+0.5**
	7.7nm,0.9s						
WRA	**Warramunga Arr**	**26.48**	**163**	P	**P**	**21 37 40.1**	**+0.8**
	3.5nm,0.5s,baz=344,slow=10,SNR=16						
WRA	**Warramunga Arr**	**26.48**	**163**	P	**P**	**21 37 40.1**	**+0.8**
WB2	**Warramunga Arr**	**26.48**	**163**	*eP*	**P**	**21 37 40.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.69**	**298**	P	**P**	**21 38 07.9**	**-0.1**
	0.7nm,0.8s,baz=113,slow=6.5,SNR=6.3						
CMAR				PcP	**PcP**	**21 41 10.4**	**+0.2**
	0.5nm,0.7s,baz=138,slow=1.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**29.69**	**298**	P	**P**	**21 38 07.9**	**-0.1**
CMAR				PcP	**PcP**	**21 41 10.4**	**+0.2**
ASAR	**Alice Springs**	**29.92**	**166**	P	**P**	**21 38 10.1**	**+0.1**
	1.0nm,0.6s,baz=343,slow=7.1,SNR=20						
ASAR				PcP	**PcP**	**21 41 10.0**	**-0.7**
	0.7nm,0.5s,baz=339,slow=2.4,SNR=4.0						
ASAR				ScP	**ScP**	**21 44 45.9**	**+1.7**
	0.5nm,0.9s,baz=342,slow=3.5,SNR=4.4						
ASAR	**Alice Springs**	**29.92**	**166**	P	**P**	**21 38 10.1**	**+0.1**
ASAR				PcP	**PcP**	**21 41 10.0**	**-0.7**
ASAR				ScP	**ScP**	**21 44 45.9**	**+1.7**
USRK	**Ussuriysk Arra**	**38.85**	**6**	P	**P**	**21 39 26.4**	**-0.3**
	2.5nm,0.5s,baz=177,slow=6.6,SNR=16						
NWAO	**Narrogin (SRO)**	**39.20**	**192**	P	**P**	**21 39 30.1**	**+0.4**
	11nm,1.0s,baz=12,slow=9.8,SNR=6.6						
NWAO	**Narrogin (SRO)**	**39.20**	**192**	*eP*	**P**	**21 39 30.3**	**+0.6**
	8.4nm,1.0s						
STKA	**Stephens Creek**	**39.91**	**160**	P	**P**	**21 39 35.9**	**+0.2**
	1.4nm,0.5s,baz=340,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**39.91**	**160**	*eP*	**P**	**21 39 36.2**	**+0.5**
	1.4nm,0.4s						
STKA	**Stephens Creek**	**39.91**	**160**	*eP*	**P**	**21 39 36.3**	**+0.6**
	0.4nm,0.5s						
TAPN	**Taplejung**	**42.69**	**305**	*eP*	**P**	**21 39 58.5**	**-0.4**
	6.2nm,0.5s						
TAPN	**Taplejung**	**42.69**	**305**	*eP*	**P**	**21 39 58.5**	**-0.4**
	6.2nm,0.5s						
ODAN	**Odare**	**42.76**	**304**	*eP*	**P**	**21 39 59.1**	**-0.3**
	11nm,0.6s						
ODAN	**Odare**	**42.76**	**304**	*eP*	**P**	**21 39 59.1**	**-0.3**
	11nm,0.6s						
RAMN	**Ramite**	**43.45**	**304**	*eP*	**P**	**21 40 04.8**	**-0.2**
	12nm,0.6s						
RAMN	**Ramite**	**43.45**	**304**	*eP*	**P**	**21 40 04.8**	**-0.2**
	12nm,0.6s						
JIRN	**Jiri**	**44.05**	**305**	*eP*	**P**	**21 40 09.6**	**-0.4**
	17nm,0.6s						
JIRN	**Jiri**	**44.05**	**305**	*eP*	**P**	**21 40 09.6**	**-0.4**
	17nm,0.6s						
GUN	**Gumba**	**44.40**	**305**	*eP*	**P**	**21 40 12.3**	**-0.4**
	18nm,0.6s						
GUN	**Gumba**	**44.40**	**305**	*eP*	**P**	**21 40 12.3**	**-0.4**
	18nm,0.6s						
PKI	**Pulchoki**	**44.66**	**304**	*eP*	**P**	**21 40 14.3**	**-0.5**
PKI	**Pulchoki**	**44.66**	**304**	*eP*	**P**	**21 40 14.3**	**-0.5**
KKN	**Kakani**	**44.85**	**304**	*eP*	**P**	**21 40 15.3**	**-0.8**
	11nm,0.9s						
KKN	**Kakani**	**44.85**	**304**	*eP*	**P**	**21 40 15.3**	**-0.8**
	11nm,0.9s						
DMN	**Daman**	**44.92**	**304**	*eP*	**P**	**21 40 16.2**	**-0.6**
DMN	**Daman**	**44.92**	**304**	*eP*	**P**	**21 40 16.2**	**-0.6**
ULN	**Ulaanbaatar**	**45.33**	**342**	*eP*	**P**	**21 40 19.4**	**-0.1**
	5.3nm,0.8s						
GKN	**Gorkha**	**45.45**	**304**	*eP*	**P**	**21 40 19.7**	**-1.2**
	5.2nm,0.5s						
GKN	**Gorkha**	**45.45**	**304**	*eP*	**P**	**21 40 19.7**	**-1.2**
	5.2nm,0.5s						
SONM	**Songino Array**	**45.51**	**341**	P	**P**	**21 40 21.2**	**+0.3**
	2.5nm,0.7s,baz=156,slow=7.8,SNR=8.1						
SONM				PcP	**PcP**	**21 41 58.9**	**+0.8**
	0.6nm,0.7s,baz=176,slow=4.3,SNR=3.6						
SONM	**Songino Array**	**45.51**	**341**	P	**P**	**21 40 21.2**	**+0.3**
SONM				PcP	**PcP**	**21 41 59.0**	**+0.8**
KOLN	**Koldanda**	**46.23**	**304**	*eP*	**P**	**21 40 26.7**	**-0.3**
	18nm,0.4s						
KOLN	**Koldanda**	**46.23**	**304**	*eP*	**P**	**21 40 26.7**	**-0.3**
	18nm,0.4s						
DANN	**Dangsing**	**46.30**	**304**	*eP*	**P**	**21 40 27.0**	**-0.7**
	28nm,0.6s						
DANN	**Dangsing**	**46.30**	**304**	*eP*	**P**	**21 40 27.0**	**-0.7**
	28nm,0.6s						
MK31	**Makanchi Array**	**55.90**	**325**	*eP*	**P**	**21 41 38.0**	**-0.8**
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**21 41 38.1**	**-0.8**
	1.6nm,0.4s,baz=118,slow=7.5,SNR=49						
MKAR				PcP	**PcP**	**21 42 36.6**	**+0.2**
	1.1nm,0.7s,baz=127,slow=4.8,SNR=4.2						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**21 41 38.1**	**-0.8**
MKAR				PcP	**PcP**	**21 42 36.6**	**+0.2**
ZAA0	**Zalesovo Array**	**58.85**	**333**	*eP*	**P**	**21 41 58.1**	**-1.3**
ZALV	**Zalesovo Beam**	**58.85**	**333**	P	**P**	**21 41 57.8**	**-1.7**
	1.4nm,0.3s,baz=139,slow=6.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**58.85**	**333**	P	**P**	**21 41 57.8**	**-1.7**
KURK	**Kurchatov**	**60.05**	**327**	*eP*	**P**	**21 42 06.7**	**-1.1**
	6.0nm,0.5s						
ABKAR	**Akbulak array**	**70.55**	**320**	*eP*	**P**	**21 43 14.3**	**-1.3**
	0.7nm,0.4s						
KDAK	**Kodiak Island**	**80.59**	**32**	P	**P**	**21 44 13.6**	**+0.8**
	6.9nm,0.6s,baz=326,slow=7.3,SNR=5.4						
KDAK	**Kodiak Island**	**80.59**	**32**	P	**P**	**21 44 13.6**	**+0.8**
ILAR	**Eielson Array**	**83.67**	**26**	P	**P**	**21 44 27.9**	**-0.8**
	1.0nm,0.6s,baz=246,slow=5.5,SNR=26						
ILAR	**Eielson Array**	**83.67**	**26**	P	**P**	**21 44 27.9**	**-0.8**
JOF	**Joensuu**	**87.44**	**333**	*ep*	**P**	**21 44 45.8**	**-1.6**
	1.7nm,0.5s						
JOF	**Joensuu**	**87.44**	**333**	*ep*	**P**	**21 44 45.8**	**-1.6**
	1.7nm,0.5s						
INK	**Inuvik**	**88.65**	**21**	P	**P**	**21 44 53.3**	**+0.3**
	1.0nm,0.8s,baz=250,slow=7.2,SNR=3.4						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	**P**	**21 44 52.6**	**-0.5**
	3.9nm,0.9s,baz=79,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	**P**	**21 44 52.6**	**-0.5**
KAF	**Kangasniemi**	**89.86**	**332**	*ep*	**P**	**21 44 56.7**	**-2.1**
KAF	**Kangasniemi**	**89.86**	**332**	*ep*	**P**	**21 44 56.7**	**-2.1**
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**21 44 59.6**	**-0.3**
	0.9nm,0.4s,baz=62,slow=5.7,SNR=12						
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**21 44 59.6**	**-0.3**
YKA	**Yellowknife Ar**	**98.04**	**24**	P	Pdif	21 45 36.6	+0.3
	0.1nm,0.6s,baz=297,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**98.04**	**24**	P	Pdif	21 45 36.6	+0.3
TXAR	**Lajitas Array**	**120.79**	**51**	PKP	**PKPdf**	**21 50 52.3**	**-0.4**
	0.2nm,0.9s,baz=343,slow=2.8,SNR=2.8						
TXAR	**Lajitas Array**	**120.79**	**51**	PKP	**PKPdf**	**21 50 52.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.01**	**289**	PKP	**PKPdf**	**21 50 55.1**	**-0.2**
	0.8nm,0.7s,baz=61,slow=2.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**122.01**	**289**	PKP	**PKPdf**	**21 50 55.1**	**-0.2**

IDC 18 21:38:36.1±7.8, 21.02°N×121.04°E, h57km±76km, mb3.4/9, mb1 3.6/10, mb1mx3.5/22, mbtmp3.4/10, ML3.5/1, Error ellipse: s-maj=32.9km s-min=15.3km az=74.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**17.44**	**19**	P	P	21 42 35.8	-0.1
	0.2nm,0.3s,baz=199,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**20.95**	**267**	P	P	21 43 13.7	-0.8
	1.6nm,0.7s,baz=75,slow=9.1,SNR=21						
SONM	**Songino Array**	**29.25**	**340**	P	P	21 44 32.6	-0.2
	0.5nm,0.6s,baz=157,slow=9.9,SNR=4.5						
MKAR	**Makanchi Array**	**40.56**	**319**	P	P	21 46 10.1	+0.1
	0.3nm,0.6s,baz=112,slow=7.9,SNR=3.8						
WRA	**Warramunga Arr**	**42.74**	**161**	P	P	21 46 27.5	-0.5
	1.3nm,0.6s,baz=343,slow=9.0,SNR=15						
ZALV	**Zalesovo Beam**	**42.85**	**329**	P	P	21 46 29.0	+0.5
	0.5nm,0.4s,baz=138,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**46.15**	**164**	P	P	21 46 55.4	+0.2
	1.0nm,0.4s,baz=345,slow=7.3,SNR=19						
STKA	**Stephens Creek**	**56.16**	**159**	P	P	21 48 10.4	+0.3
	1.0nm,0.6s,baz=316,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**72.08**	**27**	P	P	21 49 53.1	-0.9
	0.3nm,0.7s,baz=297,slow=6.5,SNR=5.2						
YKA	**Yellowknife Ar**	**85.93**	**23**	P	P	21 51 09.8	+0.1
	0.2nm,0.5s,baz=309,slow=4.7,SNR=6.4						

MAN 18 21:43:32, 9.26°N×125.63°E, h5km, mb4.5, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.28**	**181**	*eP*	Pg	21 43 40.0	+2.4
MSLP	**Maasin**	**1.16**	**319**	*eP*	Pg	21 43 53.6	-0.5
MSLP				*eS*	Sn	21 44 14.2	+3.2
BUKP	**Musuan**	**1.48**	**202**	*eP*	Pg	21 44 00.4	0.0
TBP	**Tagbilaran**	**1.79**	**284**	*eP*	Pn	21 44 03.9	+0.3
TBP				*eS*	Sn	21 44 26.8	0.0
DMPH	**Davao City--Mi**	**2.16**	**183**	⇑*iP*	Pb	21 44 12.4	+0.7
PAGZ	**Pagadian**	**2.62**	**238**	*eP*	Pn	21 44 16.2	+1.2

TRN 18 21:49:30.4, 14.12°N×60.94°W, h17km, MD3.7, M3.3 (FDF), 6C-6D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLB	**Belfond**	**0.31**	**199**	⇓*iP*	Pn	21 49 39.6	-0.6
MCLT	**Moule a Chique**	**0.41**	**181**	*eP*	Pb	21 49 40.2	+1.0
MCLT				*eS*	Sn	21 49 47.1	-1.7
BIM	**Bigot**	**0.41**	**341**	⇑*iP*	Pb	21 49 40.2	+0.8
BIM				⇑*eS*	Sb	21 49 46.3	+0.9
MVM	**Montagne Vaucl**	**0.43**	**5**	⇓*eP*	Pb	21 49 40.1	+0.5
FDF	**Fort de France**	**0.64**	**341**	*iP*	Pb	21 49 43.5	+0.3
FDF	**Fort de France**	**0.64**	**341**	⇑*eP*	Pb	21 49 43.6	+0.3
FDF				⇑*eS*	Sb	21 49 52.7	+0.7
FDF				*iS*	Sg	21 49 52.8	+0.9
BHS	**Barnard House**	**0.84**	**193**	⇓*iP*	Pn	21 49 48.8	+1.3
BHS				*eS*	Sn	21 50 00.5	+1.0
SVV	**Soufriere Volc**	**0.84**	**199**	*eP*	Pn	21 49 49.1	+1.6
SVV				*eS*	Sn	21 50 02.0	+2.4
SVB	**Belmont**	**0.90**	**200**	*eP*	Pn	21 49 48.6	+0.3
SVB				*eS*	Sn	21 50 02.3	+1.3
FCV	**Fort Charlotte**	**1.00**	**197**	⇑*iP*	Pg	21 49 51.6	+1.6
FCV				*eS*	Sn	21 50 04.8	+1.3
DSTT	**Stowe**	**1.17**	**342**	⇑*iP*	Pg	21 49 53.7	+0.5
DSTT	**Stowe**	**1.17**	**342**	⇓*iP*	Pg	21 49 53.7	+0.6
DFBT	**Forest Bistro**	**1.18**	**340**	*eP*	Pg	21 49 53.4	0.0
DBCT	**Belle View Cho**	**1.21**	**341**	⇓*eP*	Pg	21 49 54.1	+0.2
DLPL	**La Plaine**	**1.24**	**346**	*eS*	Sg	21 50 10.9	+0.2
MDN	**Morne-Daniel**	**1.27**	**340**	⇓*eP*	Pg	21 49 54.4	-0.5
BBGH	**Gun Hill**	**1.65**	**126**	*iP*	Pn	21 49 59.4	+0.7
BBGH				*eS*	Sb	21 50 22.0	+1.0
MGG	**Marie-Galante**	**1.82**	**348**	*eP*	Pn	21 50 01.6	+0.6
TBG	**Guadaloupe-3**	**1.85**	**338**	*eP*	Pb	21 50 03.1	-0.8
GRSS	**Sisters**	**1.93**	**200**	*eP*	Pn	21 50 03.7	+1.3
GRSS				*eS*	Sb	21 50 28.3	-0.7
HMG	**Houelmont**

	comp=E,3µm,0.6s								
PHP	**Peshkopia**	**0.43**	**246**	*e*PG	**Pg**	22 18 32.6	+0.4		
PHP				*i* SG	**Sg**	22 18 38.3	+0.6		
PHP	**Peshkopia**	**0.43**	**246**	*e*Pg	**Pg**	22 18 32.6	+0.4		
	SNR=9.0								
PHP				*i* Sg	**Sg**	22 18 38.3	+0.6		
	SNR=9.0								
KRUS	**Krusevo**	**0.54**	**156**⇑	*e*Pg	**Pg**	22 18 34.2	-0.2		
KRUS				*e*Sg	**Sg**	22 18 41.2	-0.1		
KRUS	**Krusevo**	**0.54**	**156**⇑	*e*Pg	**Pg**	22 18 34.1	-0.2		
KRUS				*e*Sg	**Sg**	22 18 41.1	-0.1		
PUK	**Puka**	**0.82**	**283**	*e*PG	**Pg**	22 18 38.5	-1.2		
PUK				*i* SG	**Sb**	22 18 52.7	-0.1		
PUK	**Puka**	**0.82**	**283**	*e*Pg	**Pg**	22 18 38.5	-1.2		
	SNR=9.0								
PUK				*i* Sg	**Sb**	22 18 52.7	-0.1		
	SNR=9.0								
BCI	**Bajram Curri**	**0.83**	**308**	*e*PG	**Pg**	22 18 38.9	-1.1		
BCI				*i* SG	**Sb**	22 18 54.2	+1.0		
BCI	**Bajram Curri**	**0.83**	**308**	*e*Pg	**Pg**	22 18 38.9	-1.1		
	SNR=9.0								
BCI				*i* Sg	**Sb**	22 18 54.2	+1.0		
	SNR=9.0								
BIA	**Bitola**	**0.88**	**162**⇑	*e*Pg	**Pg**	22 18 40.6	-0.4		
BIA				*e*Sg	**Sb**	22 18 53.5	-1.1		
BIA				*e*Lg	Lg	22 18 53.9			
	comp=E,2µm,0.5s								
BIA				*e*Lg	Lg	22 18 54.3			
	comp=N,550nm,0.3s								
BIA	**Bitola**	**0.88**	**162**⇑	*e*Pg	**Pg**	22 18 40.6	-0.4		
BIA				*e*Sg	**Sb**	22 18 53.5	-1.1		
BIA				*e*Lg	Lg	22 18 54.3			
	comp=N,550nm,0.3s								
TIR	**Tirane**	**0.97**	**238**	*e*PN	**Pg**	22 18 42.9	+0.3		
TIR				*i* SN	**Sn**	22 18 59.0	-0.3		
TIR	**Tirane**	**0.97**	**238**	*e*Pn	**Pg**	22 18 42.9	+0.3		
TIR				*i* Sn	**Sn**	22 18 59.0	-0.3		
PVY	**Plav**	**1.04**	**315**⇑	*i*Pg	**Pg**	22 18 42.6	-1.5		
PVY				*e*Sg	**Sb**	22 18 59.1	-0.3		
PVY	**Plav**	**1.04**	**315**	*e*PG	**Pg**	22 18 42.6	-1.5		
PVY				*i* SG	**Sb**	22 18 59.1	-0.3		
PVY	**Plav**	**1.04**	**315**⇑	*i*Pg	**Pg**	22 18 42.6	-1.5		
PVY				*e*Sg	**Sb**	22 18 59.1	-0.3		
FNA	**Florina**	**1.12**	**164**	*e*PN	**Pg**	22 18 45.2	-0.3		
FNA				*i* SN	**Sn**	22 19 04.3	+1.1		
FNA	**Florina**	**1.12**	**164**	*e*Pn	**Pg**	22 18 45.2	-0.3		
FNA				*i* Sn	**Sn**	22 19 04.3	+1.1		
BARS	**Barje**	**1.15**	**33**	*e*Pg	**Pg**	22 18 45.6	-0.4		
BARS				*e*Sg	**Sg**	22 19 01.4	+0.5		
BARS	**Barje**	**1.15**	**33**	*e*Pg	**Pg**	22 18 45.6	-0.4		
BARS				*e*Sg	**Sg**	22 19 01.4	+0.5		
KBN	**Korca**	**1.24**	**186**	*e*PN	**Pn**	22 18 48.3	-0.4		
KBN				*i* SN	**Sn**	22 19 07.1	+0.9		
KBN	**Korca**	**1.24**	**186**	*e*Pn	**Pn**	22 18 48.3	-0.4		
	SNR=4.0								
KBN				*i* Sn	**Sn**	22 19 07.1	+0.9		
	SNR=4.0								
IVA	**Berane**	**1.28**	**322**⇑	*i*Pg	**Pg**	22 18 47.0	-1.6		
IVA				*e*Sg	**Sb**	22 19 06.7	+0.6		
BEY	**Berane**	**1.28**	**322**	*e*PN	**Pg**	22 18 47.0	-1.6		
BEY				*i* SN	**Sb**	22 19 06.7	+0.5		
BEY	**Berane**	**1.28**	**322**⇑	*i*Pg	**Pg**	22 18 47.0	-1.6		
BEY				*e*Sg	**Sb**	22 19 06.7	+0.5		
ULC	**Ulcinj**	**1.28**	**275**⇑	*i*Pg	**Pg**	22 18 47.7	-1.0		
ULC				*e*Sg	**Sn**	22 19 09.1	+1.9		
ULC	**Ulcinj**	**1.28**	**275**⇑	*i*Pg	**Pg**	22 18 47.7	-1.0		
ULC				*e*Sg	**Sn**	22 19 09.1	+1.9		
VAY	**Valandovo**	**1.32**	**114**	*e*Pg	**Pg**	22 18 47.5	-1.8		
VAY				*e*Sg	**Sg**	22 19 06.1	-0.4		
VAY				*e*Lg	Lg	22 19 06.3			
	comp=E,644nm,0.6s								
VAY				*e*Lg	Lg	22 19 06.9			
	comp=N,482nm,0.6s								
VAY	**Valandovo**	**1.32**	**114**	*e*Pg	**Pg**	22 18 47.6	-1.8		
VAY				*e*Sg	**Sg**	22 19 06.2	-0.4		
VAY	**Valandovo**	**1.32**	**114**	*e*Pg	**Pg**	22 18 48.0	-1.4		
VAY				*e*Lg	Lg	22 19 01.8			
	comp=N,644nm,0.6s								
VAY				*e*Sg	**Sg**	22 19 06.2	-0.4		
SELS	**Selova**	**1.36**	**5**	*e*Pg	**Pn**	22 18 48.1	-2.3		
SELS				*e*Sg	**Sg**	22 19 08.5	+0.6		
TTG	**Podgorica**	**1.39**	**295**	*i*Pg	**Pn**	22 18 48.8	-1.9		
TTG				*e*Sg	**Sn**	22 19 11.2	+1.6		
PDG	**Podgorica**	**1.39**	**295**	*e*Pn	**Pn**	22 18 48.7	-2.0		
PDG				*e*Sn	**Sg**	22 19 09.0	+0.3		
PDG	**Podgorica**	**1.39**	**295**	*e*Pn	**Pn**	22 18 48.7	-2.0		
PDG				*e*Sn	**Sg**	22 19 09.0	+0.3		
PDG				*e*Sg	**Sn**	22 19 11.2	+1.5		
KKB	**Krupnik**	**1.59**	**89**	*e*P	**Pn**	22 18 53.4	0.0		
KKB	**Krupnik**	**1.59**	**89**	*e*P	**Pn**	22 18 53.4	0.0		
BUM	**Brajici-Budva**	**1.60**	**287**	*i*Pn	**Pn**	22 18 53.6	-0.1		
BUM				*e*Sn	**Sg**	22 19 18.4	+3.0		
BUM	**Brajici-Budva**	**1.60**	**287**	*i*Pn	**Sg**	22 18 53.6	-0.1		
BUM				*e*Sn	**Sg**	22 19 18.4	+3.0		
KZN	**Kozani**	**1.67**	**158**	*e*PN	**Pg**	22 18 55.8	-0.2		
NKY	**Niksic**	**1.74**	**304**	*i*Pn	**Pn**	22 18 56.2	+0.6		
NKY				*e*Sn	**Sg**	22 19 21.2	+1.2		
NKY	**Niksic**	**1.74**	**304**	*i*Pn	**Pn**	22 18 56.2	+0.6		
NKY				*e*Sn	**Sg**	22 19 21.2	+1.2		
VLO	**Vlora**	**1.78**	**219**	*e*PN	**Pg**	22 18 58.6	+0.5		
VLO	**Vlora**	**1.78**	**219**	*e*Pn	**Pg**	22 18 58.6	+0.5		
	SNR=4.0								
VTS	**Vitosha**	**1.82**	**66**⇑	*i*P	**Pn**	22 18 56.1	-0.7		
VTS	**Vitosha**	**1.82**	**66**	*e*P	**Pn**	22 18 57.0	+0.2		
VTS	**Vitosha**	**1.82**	**66**⇑	*i*Pn	**Pn**	22 18 56.1	-0.7		
VTS				*e*Sn	**Sn**	22 19 21.0	+0.3		
VTS	**Vitosha**	**1.82**	**66**⇑	*i*Pn	**Pn**	22 18 56.1	-0.7		
VTS	**Vitosha**	**1.82**	**66**	*e*P	**Pn**	22 18 57.0	+0.2		
VTS				*e*Sn	**Sn**	22 19 21.0	+0.3		
ZAPS	**Zavoj**	**1.88**	**41**	*e*Pn	**Pn**	22 18 58.0	+0.5		
ZAPS				*e*Sn	**Sb**	22 19 23.0	-0.3		
ZAPS	**Zavoj**	**1.88**	**41**	*e*Pn	**Pn**	22 18 58.0	+0.5		
ZAPS				*e*Sn	**Sb**	22 19 23.0	-0.3		
HCY	**Herceg Novi**	**1.93**	**289**	*i*Pn	**Pb**	22 18 59.1	-0.9		
HCY				*e*Sn	**Sg**	22 19 26.2	+0.3		
HCY	**Herceg Novi**	**1.93**	**289**	*i*Pn	**Pb**	22 18 59.1	-0.9		
HCY				*e*Sn	**Sg**	22 19 26.2	+0.3		
UPM	**Unac-Piva**	**2.03**	**312**⇑	*i*Pn	**Pn**	22 19 00.3	+0.7		
UPM				*e*Sn	**Sb**	22 19 28.6	+0.9		
UPM	**Unac-Piva**	**2.03**	**312**⇑	*i*Pn	**Pn**	22 19 00.3	+0.7		
UPM				*e*Sn	**Sb**	22 19 28.6	+0.9		
GRUS	**Gruza**	**2.04**	**355**	*e*Pn	**Pn**	22 18 59.1	-0.5		
GRUS				*e*Sn	**Sn**	22 19 26.3	+0.6		
GRUS	**Gruza**	**2.04**	**355**	*e*Pn	**Pn**	22 18 59.1	-0.5		
GRUS				*e*Sn	**Sn**	22 19 26.3	+0.6		
BRY	**Bratogost**	**2.07**	**301**	*i*Pn	**Pb**	22 19 01.6	-1.0		
BRY				*e*Sn	**Sb**	22 19 29.7	+0.7		
BRY	**Bratogost**	**2.07**	**301**	*i*Pn	**Pb**	22 19 01.6	-1.0		
BRY				*e*Sn	**Sb**	22 19 29.7	+0.7		
SOH	**Sokhos**	**2.08**	**119**	*e*PN	**Pn**	22 19 00.1	-0.2		
MMB	**Musomiste**	**2.09**	**97**	*e*P	**Pb**	22 19 01.6	-1.3		
MMB	**Musomiste**	**2.09**	**97**	*e*P	**Pb**	22 19 01.6	-1.3		
BOLS	**Boljevac**	**2.10**	**20**	*e*Pn	**Pn**	22 19 01.0	+0.5		
BOLS				*e*Sn	**Sn**	22 19 28.1	+0.8		
BOLS	**Boljevac**	**2.10**	**20**	*e*Pn	**Pn**	22 19 01.0	+0.5		
BOLS				*e*Sn	**Sn**	22 19 28.1	+0.8		
LIT	**Litokhoron**	**2.11**	**146**	*e*PN	**Pn**	22 19 01.1	+0.5		
SRN	**Sarande**	**2.11**	**200**	*e*PN	**Pn**	22 19 00.1	-0.5		
SRN	**Sarande**	**2.11**	**200**	*e*Pn	**Pn**	22 19 00.1	-0.5		
	SNR=4.0								
JAN	**Janina**	**2.20**	**182**	*e*PB	**Pg**	22 19 06.4	+0.1		
NVR	**Nevrokopi**	**2.24**	**102**	*e*PN	**Pn**	22 19 02.0	-0.4		
KEK	**Kerkira**	**2.32**	**203**	*e*PN	**Pn**	22 19 04.5	+1.0		
PLG	**Polygyros**	**2.40**	**128**	*e*PN	**Pn**	22 19 04.5	-0.1		
TRUS	**Trudelj**	**2.40**	**350**	*e*Pn	**Pn**	22 19 05.4	+0.8		
TRUS				*e*Sn	**Sn**	22 19 35.1	+0.5		
TRUS	**Trudelj**	**2.40**	**350**	*e*Pn	**Pn**	22 19 05.4	+0.8		
TRUS				*e*Sn	**Sn**	22 19 35.1	+0.5		
SVIS	**Svilajnac**	**2.41**	**4**	*e*Pn	**Pn**	22 19 04.8	+0.1		
SVIS				*e*Sn	**Sn**	22 19 36.5	+1.5		
PGB	**Panagyurishte**	**2.48**	**73**	*e*P	**Pb**	22 19 10.3	+0.8		
PGB	**Panagyurishte**	**2.48**	**73**	*e*P	**Pb**	22 19 10.3	+0.8		
STON	**Ston**	**2.62**	**294**	*e*Pn	**Pb**	22 19 09.9	-1.9		
STON					**Sb**	22 19 45.0	+0.4		
STON	**Ston**	**2.62**	**294**	*e*Pn	**Pb**	22 19 09.9	-1.9		
STON					**Sb**	22 19 44.9	+0.4		
PLD	**Plovdiv**	**2.80**	**84**	*e*P	**Pg**	22 19 18.5	+0.8		
RZN	**Rozhen**	**2.81**	**92**	*e*P	**Pb**	22 19 14.5	-0.8		
RZN	**Rozhen**	**2.81**	**92**	*e*P	**Pb**	22 19 14.5	-0.8		
PE1	**Pezze di Greco**	**2.86**	**250**	*e*Pn	**Pn**	22 19 11.6	+0.6		
PE1				*e*Sn	**Sn**	22 19 47.0	+0.9		

RMGR	**Halanga-Turnu**	**3.07**	**24**⇑	*i*P	**Pn**	22 19 13.7	-0.1		
RMGR	**Halanga-Turnu**	**3.07**	**24**⇑	*i*P	**Pn**	22 19 13.7	-0.1		
TAR1	**Taranto**	**3.08**	**246**	*e*Pn	**Pn**	22 19 12.0	-1.9		
TAR1				*e*Sn	**Sn**	22 19 50.5	-0.9		
BAI	**Bari**	**3.16**	**258**	*e*Pn	**Pn**	22 19 15.1	+0.1		
BAI				*e*Sn	**Sn**	22 19 53.4	+0.1		
DIM	**Dimitrovgrad**	**3.42**	**85**	*e*P	**Pg**	22 19 31.1	+1.6		
CDT	**Castel del Mon**	**3.60**	**259**	*e*Pn	**Pn**	22 19 21.7	+0.5		
CDT				*e*Sn	**Sn**	22 20 02.9	-1.6		
BZS	**Buzias**	**3.79**	**7**⇑	*i*P	**Pn**	22 19 22.5	-1.1		
BZS	**Buzias**	**3.79**	**7**	*e*Pn	**Pn**	22 19 22.5	-1.1		
BZS	**Buzias**	**3.79**	**7**⇑	*i*P	**Pn**	22 19 22.5	-1.1		
ALN	**Alexandroupoli**	**3.95**	**102**	*e*PN	**Pn**	22 19 25.7	-0.1		
HUMR	**Humele**	**3.97**	**46**⇓	*i*P	**Pn**	22 19 25.8	-0.4		
HUMR	**Humele**	**3.97**	**46**⇓	*i*P	**Pn**	22 19 25.8	-0.4		
LOT	**Lotru**	**4.12**	**29**⇓	*i*P	**Pn**	22 19 27.0	-1.4		
LOT	**Lotru**	**4.12**	**29**⇓	*i*P	**Pn**	22 19 27.0	-1.4		
VOIR		**4.65**	**38**⇓	*i*P	**Pn**	22 19 35.1	-0.5		
VOIR		**4.65**	**38**⇓	*i*P	**Pn**	22 19 35.1	-0.5		
PKSM	**Moragy**	**4.66**	**340**⇑	*i*P	**Pn**	22 19 34.0	-1.6		
PKSM	**Moragy**	**4.66**	**340**⇑	*i*P	**Pn**	22 19 34.0	-1.6		
AYVA	**Ayvalik**	**5.05**	**118**	*i*P	**Pn**	22 19 40.8	-0.2		
AYVA	**Ayvalik**	**5.05**	**118**	*i*P	**Pn**	22 19 40.8	-0.2		
MLR	**Muntele Rosu**	**5.12**	**43**	Pn	**Pn**	22 19 43.3	+1.1		
	comp=N,0.2nm,0.3s,baz=151,slow=14,SNR=16								
MLR				Sn	**Sn**	22 20 43.0	+1.0		
	comp=N,0.2nm,0.3s,baz=208,slow=12,SNR=5.3								
NVLJ	**Novalja**	**5.21**	**303**	*i* Pn	**Pn**	22 19 43.5	+0.4		
NVLJ				Sn	**Sn**	22 20 43.8	-0.1		
NVLJ	**Novalja**	**5.21**	**303**	*i* Pn	**Pn**	22 19 43.5	+0.4		
NVLJ				Sn	**Sn**	22 20 43.7	-0.1		
CHOS	**Chios island**	**5.22**	**130**	*e*PN	**Pn**	22 19 44.2	+0.7		
URLA	**Izmir**	**5.56**	**127**	*i* P	**Pn**	22 19 48.0	0.0		
URLA	**Izmir**	**5.56**	**127**	*i* P	**Pn**	22 19 48.0	0.0		
VRI	**Vrincioaia**	**5.78**	**44**⇑	*i*P	**Pn**	22 19 51.3	+0.2		
VRI	**Vrincioaia**	**5.78**	**44**⇑	*i*P	**Pn**	22 19 51.3	+0.2		
PSZ	**Piszkesteto**	**6.11**	**353**⇓	*i*P	**Pn**	22 19 54.2	-1.4		
PSZ	**Piszkesteto**	**6.11**	**353**⇓	*i*P	**Pn**	22 19 54.2	-1.4		
MANT	**Manisa**	**6.72**	**118**	*i* P	**Pn**	22 20 04.7	+0.5		
MANT	**Manisa**	**6.72**	**118**	*i* P	**Pn**	22 20 04.7	+0.5		
GDZ	**Gediz**	**7.06**	**110**	*i* P	**Pn**	22 20 09.6	+0.8		
GDZ	**Gediz**	**7.06**	**110**	*i* P	**Pn**	22 20 09.6	+0.8		
DAVOX	**Davos/Dischmat**	**9.34**	**306**	Pn	**Pn**	22 20 40.9	+0.9		
	comp=N,0.7nm,0.3s,baz=125,slow=18,SNR=9.1								
DAVOX				Sn	**Sn**	22 22 24.8	-1.1		
	comp=N,0.1nm,0.3s,baz=158,slow=19,SNR=2.7								
BRTR	**Keskin Array B**	**9.85**	**98**	Pn	**Pn**	22 20 47.0	0.0		
	comp=N,0.1nm,0.3s,baz=276,slow=11,SNR=4.4								
TORD	**Torodi Ar. Bea**	**33.16**	**216**	P	**P**	22 25 01.9	-0.3		
	comp=N,0.3nm,0.6s,baz=28,slow=8.6,SNR=4.1								
MKAR	**Makanchi Array**	**43.17**	**62**	P	**P**	22 26 26.8	+0.4		
	comp=N,0.2nm,0.5s,baz=288,slow=7.4,SNR=5.4								

*IDC **18** 22:29:50.2±1.9, 40.58S×176.26E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.9/12, mbtmp3.8/3, Error ellipse: s-maj=99.8km s-min=40.3km az=17.0*
*ISCJB **18** 22:29:55.5±0.4, 40.40S±0.02×176.32E±0.05, h57km±4km, mb3.7/3, Error ellipse: s-maj=6.2km s-min=3.4km az=26.5*
*NEIC **18** 22:29:57.2, 40.37S×176.26E, h41km, ML4.2(WEL), After WEL.*
NEIC Felt [IV] at Dannevirke and Palmerston North.
*WEL **18** 22:29:57.1±0.1, 40.32S×176.16E, h39km±1km, ML4.1/19, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0*
WEL Felt from Hawkes Bay to Wellington, maximum reported intensity MM 4.

ISC 18 22:29:56.5±0.8, **40°37'S**±0'03×**176°24'E**±0'03, **h41**km±5km, **n172**, σ0s**97**/176, **mb3.6**/3, **4C-9D, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVHZ	**Dannevirke**	**0.09**	**318**	⇓P*	**Pn**	**22 30 02.6**	**-0.6**
DVHZ				S*	**Sn**	**22 30 07.0**	**-0.9**
DVHZ	**Dannevirke**	**0.09**	**318**	P*	**Pn**	**22 30 02.6**	**-0.6**
DVHZ				S*	**Sn**	**22 30 07.0**	**-0.9**
BFZ	**Birch Farm**	**0.32**	**180**	⇓P*	**Pn**	**22 30 06.0**	**+0.9**
BFZ				S*	**Sn**	**22 30 13.1**	**+2.1**
BFZ	**Birch Farm**	**0.32**	**180**	P*	**Pn**	**22 30 05.4**	**+0.4**
BFZ				S*	**Sn**	**22 30 13.1**	**+2.1**
PRHZ	**Porangahau**	**0.32**	**72**	⇑P*	**Pn**	**22 30 05.8**	**+0.8**
PRHZ				S*	**Sn**	**22 30 13.1**	**+2.1**
PRHZ	**Porangahau**	**0.32**	**72**	P*	**Pn**	**22 30 05.8**	**+0.8**
PRHZ				S*	**Sn**	**22 30 13.1**	**+2.1**
WPHZ	**Waipukurau**	**0.34**	**27**	⇓P*	**Pn**	**22 30 05.1**	**-0.1**
WPHZ	**Waipukurau**	**0.34**	**27**	P*	**Pn**	**22 30 05.1**	**-0.1**
POWZ	**Post Office Ro**	**0.36**	**266**	P*	**Pn**	**22 30 05.4**	**-0.2**
POWZ	**Post Office Ro**	**0.36**	**266**	P*	**Pn**	**22 30 05.4**	**-0.2**
TSZ	**Takapari Road**	**0.38**	**325**	P*	**Pn**	**22 30 04.7**	**-1.1**
TSZ	**Takapari Road**	**0.38**	**325**	P*	**Pn**	**22 30 04.5**	**-1.3**
TSZ				S*	**Sn**	**22 30 10.7**	**-1.5**
PNHZ	**Pukenui**	**0.45**	**356**	⇑P*	**Pn**	**22 30 06.0**	**-0.7**
TIWZ	**Tintock**	**0.49**	**213**	P*	**Pn**	**22 30 08.3**	**+1.1**
TIWZ	**Tintock**	**0.49**	**213**	P*	**Pn**	**22 30 08.3**	**+1.1**
PXZ	**Pawanui**	**0.58**	**55**	P*	**Pn**	**22 30 08.6**	**+0.3**
PXZ	**Pawanui**	**0.58**	**55**	P*	**Pn**	**22 30 08.6**	**+0.3**
MRZ	**Mangatainoka R**	**0.59**	**240**	⇓P*	**Pn**	**22 30 08.9**	**+0.4**
MRZ	**Mangatainoka R**	**0.59**	**240**	P*	**Pn**	**22 30 08.9**	**+0.4**
KAHZ	**Kahuranaki**	**0.75**	**41**	⇑PN	**Pn**	**22 30 11.2**	**+0.5**
KAHZ	**Kahuranaki**	**0.75**	**41**	Pn	**Pn**	**22 30 11.2**	**+0.5**
HOWZ	**Holdsworth Sta**	**0.77**	**226**	⇓P*	**Pn**	**22 30 11.6**	**+0.6**
TMWZ	**Te Maipa**	**0.79**	**200**	P*	**Pn**	**22 30 12.1**	**+0.9**
TMWZ	**Te Maipa**	**0.79**	**200**	P*	**Pn**	**22 30 12.1**	**+0.9**
BHHZ	**Black Hill Sta**	**0.89**	**351**	⇑PN	**Pn**	**22 30 12.4**	**-0.2**
BHHZ	**Black Hill Sta**	**0.89**	**351**	Pn	**Pn**	**22 30 12.4**	**-0.2**
OGWZ	**Otaki Gorge**	**0.93**	**241**	⇓P*	**Pn**	**22 30 13.6**	**+0.4**
OGWZ	**Otaki Gorge**	**0.93**	**241**	Pn	**Pn**	**22 30 13.6**	**+0.4**
CKHZ	**Cape Kidnapper**	**0.95**	**42**	PN	**Pn**	**22 30 13.5**	**0.0**
CKHZ	**Cape Kidnapper**	**0.95**	**42**	Pn	**Pn**	**22 30 13.5**	**0.0**
MTW	**Mount Morrison**	**0.97**	**215**	⇓P*	**Pn**	**22 30 14.1**	**+0.4**
MTW	**Mount Morrison**	**0.97**	**215**	Pn	**Pn**	**22 30 14.2**	**+0.4**
MCHZ	**McNeill Hill**	**0.98**	**21**	PN	**Pn**	**22 30 14.1**	**+0.2**
MCHZ	**McNeill Hill**	**0.98**	**21**	Pn	**Pn**	**22 30 14.1**	**+0.2**
MOVZ	**Moawhango**	**1.03**	**338**	PN	**Pn**	**22 30 14.6**	**0.0**
MOVZ	**Moawhango**	**1.03**	**338**	Pn	**Pn**	**22 30 14.7**	**+0.1**
TRWZ	**Traveller**	**1.11**	**202**	⇓PN	**Pn**	**22 30 16.2**	**+0.5**
TRWZ	**Traveller**	**1.11**	**202**	Pn	**Pn**	**22 30 16.2**	**+0.5**
KIW	**Kapiti Island**	**1.13**	**244**	PN	**Pn**	**22 30 16.3**	**+0.4**
KIW	**Kapiti Island**	**1.13**	**244**	Pn	**Pn**	**22 30 16.3**	**+0.4**
WAZ	**Wanganui**	**1.14**	**302**	PN	**Pn**	**22 30 17.0**	**+0.9**
WAZ	**Wanganui**	**1.14**	**302**	Pn	**Pn**	**22 30 17.1**	**+1.0**
MTVZ	**Mangateitei**	**1.15**	**328**	PN	**Pn**	**22 30 16.8**	**+0.7**
MTVZ	**Mangateitei**	**1.15**	**328**	Pn	**Pn**	**22 30 16.9**	**+0.7**
WNVZ	**Wahianoa**	**1.15**	**334**	PN	**Pn**	**22 30 16.9**	**+0.7**
WNVZ	**Wahianoa**	**1.15**	**334**	Pn	**Pn**	**22 30 16.9**	**+0.7**
CAW	**Cannon Point**	**1.16**	**230**	PN	**Pn**	**22 30 16.5**	**+0.2**
CAW	**Cannon Point**	**1.16**	**230**	Pn	**Pn**	**22 30 16.5**	**+0.2**
TUVZ	**Tukino**	**1.19**	**337**	PN	**Pn**	**22 30 17.4**	**+0.6**
TUVZ	**Tukino**	**1.19**	**337**	Pn	**Pn**	**22 30 17.4**	**+0.6**
PAWZ	**Paruwai Farm**	**1.19**	**211**	PN	**Pn**	**22 30 16.9**	**+0.2**
PAWZ	**Paruwai Farm**	**1.19**	**211**	Pn	**Pn**	**22 30 16.9**	**+0.2**
TRVZ	**Turoa**	**1.19**	**333**	PN	**Pn**	**22 30 17.4**	**+0.5**
TRVZ	**Turoa**	**1.19**	**333**	Pn	**Pn**	**22 30 17.4**	**+0.5**
DRZ	**Dome Shelter**	**1.21**	**334**	PN	**Pn**	**22 30 17.7**	**+0.5**
DRZ	**Dome Shelter**	**1.21**	**334**	Pn	**Pn**	**22 30 17.7**	**+0.5**
BKZ	**Black Stump Fm**	**1.21**	**9**	PN	**Pn**	**22 30 16.9**	**-0.2**
BKZ	**Black Stump Fm**	**1.21**	**9**	Pn	**Pn**	**22 30 16.9**	**-0.2**
FWVZ	**Far West T-bar**	**1.23**	**334**	PN	**Pn**	**22 30 17.9**	**+0.5**
FWVZ	**Far West T-bar**	**1.23**	**334**	Pn	**Pn**	**22 30 17.9**	**+0.5**
PKVZ	**Pokaka**	**1.28**	**327**	PN	**Pn**	**22 30 18.7**	**+0.8**
PKVZ	**Pokaka**	**1.28**	**327**	Pn	**Pn**	**22 30 18.7**	**+0.8**
WPVZ	**Whakapapa**	**1.28**	**335**	PN	**Pn**	**22 30 18.6**	**+0.6**
WPVZ	**Whakapapa**	**1.28**	**335**	Pn	**Pn**	**22 30 18.6**	**+0.6**
OTVZ	**Oturere**	**1.28**	**339**	PN	**Pn**	**22 30 18.6**	**+0.5**
OTVZ	**Oturere**	**1.28**	**339**	Pn	**Pn**	**22 30 18.6**	**+0.5**
MSWZ	**Moikau Station**	**1.29**	**215**	⇓PN	**Pn**	**22 30 18.0**	**-0.1**
MSWZ	**Moikau Station**	**1.29**	**215**	Pn	**Pn**	**22 30 18.0**	**-0.1**
NMHZ	**Naumai**	**1.34**	**19**	PN	**Pn**	**22 30 19.1**	**+0.3**
NMHZ	**Naumai**	**1.34**	**19**	Pn	**Pn**	**22 30 19.1**	**+0.3**
WTVZ	**West Tongariro**	**1.35**	**338**	PN	**Pn**	**22 30 19.5**	**+0.5**
WTVZ	**West Tongariro**	**1.35**	**338**	Pn	**Pn**	**22 30 19.5**	**+0.5**
KRVZ	**Karewarewa**	**1.35**	**340**	PN	**Pn**	**22 30 20.0**	**+1.0**
KRVZ	**Karewarewa**	**1.35**	**340**	Pn	**Pn**	**22 30 20.0**	**+1.0**
PLWZ	**Palliser**	**1.42**	**212**	PN	**Pn**	**22 30 19.6**	**-0.3**
PLWZ	**Palliser**	**1.42**	**212**	Pn	**Pn**	**22 30 19.6**	**-0.3**
RITZ	**Rihia Road**	**1.42**	**348**	PN	**Pn**	**22 30 20.7**	**+0.8**
RITZ	**Rihia Road**	**1.42**	**348**	Pn	**Pn**	**22 30 20.7**	**+0.8**
TWVZ	**Taurewa**	**1.43**	**334**	PN	**Pn**	**22 30 21.1**	**+1.0**
TWVZ	**Taurewa**	**1.43**	**334**	Pn	**Pn**	**22 30 21.1**	**+1.0**
WEL	**Wellington**	**1.45**	**230**	PN	**Pn**	**22 30 20.1**	**-0.1**
WEL	**Wellington**	**1.45**	**230**	Pn	**Pn**	**22 30 20.1**	**-0.1**
KATZ	**Kakaramea**	**1.45**	**343**	PN	**Pn**	**22 30 21.6**	**+1.2**
KATZ	**Kakaramea**	**1.45**	**343**	Pn	**Pn**	**22 30 21.6**	**+1.2**
BHW	**Baring Head**	**1.47**	**225**	PN	**Pn**	**22 30 20.2**	**-0.3**
BHW	**Baring Head**	**1.47**	**225**	Pn	**Pn**	**22 30 20.2**	**-0.3**
HATZ	**Hinemaiaia**	**1.48**	**355**	PN	**Pn**	**22 30 20.8**	**+0.1**
HATZ	**

PRU ***18*** *22:47:14.1, 45°.16N×22°.43E, h27km*
VIE ***18*** *22:47:16.7±0.3, 45°.48N×22°.08E, h10km, mb2.9/4, ML3.3/4, Error ellipse: s-maj=4.0km s-min=2.3km az=30.0 71 km ESE of Timisoara*

ISC 18 22:47:11.3±0.9, 45°.27N±0°.01×22°.54E±0°.01, h11km±6km, n240, σ1s21/352, 63C-63D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.21**	**54**	⇓*iP*		**Pg**	**22 47 15.7**	**0.0**
GZR				*i*S		**Sg**	**22 47 18.4**	**-0.4**
GZR	**Gura Zlata**	**0.21**	**54**	⇓*iP*		**Pg**	**22 47 15.7**	**0.0**
GZR				*i*S		**Sg**	**22 47 18.4**	**-0.4**
GZR	**Gura Zlata**	**0.21**	**54**	⇓*iP*		**Pg**	**22 47 15.7**	**0.0**
GZR				*i*S		**Sg**	**22 47 18.4**	**-0.4**
DJES	**Djerdap**	**0.60**	**181**	*ePg*		**Pg**	**22 47 22.9**	**-0.1**
DJES				*eSg*		**Sg**	**22 47 31.2**	**+0.2**
RMGR	**Halanga-Turnu**	**0.62**	**170**	⇑*iP*		**Pb**	**22 47 24.0**	**-0.1**
RMGR	**Halanga-Turnu**	**0.62**	**170**	*i*S		**Sb**	**22 47 33.9**	**+1.2**
RMGR	**Halanga-Turnu**	**0.62**	**170**	⇑*iP*		**Pb**	**22 47 24.0**	**-0.1**
RMGR				*i*S		**Sb**	**22 47 33.9**	**+1.2**
RMGR	**Halanga-Turnu**	**0.62**	**170**	⇑*iP*		**Pb**	**22 47 24.0**	**-0.1**
DEV	**Deva**	**0.66**	**23**	⇑*iP*		**Pb**	**22 47 24.3**	**-0.6**
DEV	**Deva**	**0.66**	**23**	*i*S		**Sg**	**22 47 32.7**	**-0.2**
DEV	**Deva**	**0.66**	**23**	⇑*iP*		**Pb**	**22 47 24.3**	**-0.6**
DEV				*i*S		**Sg**	**22 47 32.7**	**-0.2**
DEV	**Deva**	**0.66**	**23**	⇑*iP*		**Pb**	**22 47 24.3**	**-0.6**
DEV				*i*S		**Sg**	**22 47 32.7**	**-0.2**
BZS	**Buzias**	**0.73**	**298**	⇑*iP*		**Pb**	**22 47 25.9**	**-0.2**
BZS	**Buzias**	**0.73**	**298**	*i*S		**Sb**	**22 47 37.1**	**+1.0**
BZS	**Buzias**	**0.73**	**298**	⇑*iP*		**Pb**	**22 47 25.9**	**-0.2**
BZS				*i*S		**Sb**	**22 47 37.1**	**+1.0**
BZS	**Buzias**	**0.73**	**298**	⇑*iP*		**Pb**	**22 47 25.9**	**-0.2**
LOT	**Lotru**	**0.89**	**78**	⇓*iP*		**Pg**	**22 47 27.8**	**-0.6**
LOT	**Lotru**	**0.89**	**78**	⇓*iP*		**Pg**	**22 47 27.8**	**-0.6**
LOT	**Lotru**	**0.89**	**78**	⇓*iP*		**Pg**	**22 47 27.8**	**-0.6**
TIM	**Timisoara**	**1.04**	**297**	⇑*iP*		**Pn**	**22 47 32.5**	**+0.8**
TIM	**Timisoara**	**1.04**	**297**	*i*S		**Sn**	**22 47 47.5**	**+1.3**
TIM	**Timisoara**	**1.04**	**297**	⇑*iP*		**Pn**	**22 47 32.5**	**+0.8**
TIM				*i*S		**Sn**	**22 47 47.5**	**+1.3**
TIM	**Timisoara**	**1.04**	**297**	⇑*iP*		**Pn**	**22 47 32.5**	**+0.8**
SIBR	**Sibiu**	**1.27**	**64**	⇓*iP*		**Pn**	**22 47 34.8**	**-0.2**
SIBR	**Sibiu**	**1.27**	**64**	*i*S		**Sb**	**22 47 51.5**	**-0.1**
SIBR	**Sibiu**	**1.27**	**64**	⇓*iP*		**Pn**	**22 47 34.8**	**-0.2**
SIBR				*i*S		**Sb**	**22 47 51.5**	**-0.1**
SIBR	**Sibiu**	**1.27**	**64**	⇓*iP*		**Pn**	**22 47 34.8**	**-0.2**
SIBR				*i*S		**Sb**	**22 47 51.5**	**-0.1**
CRAR	**CRAIOVA**	**1.30**	**136**	⇑*iP*		**Pb**	**22 47 35.8**	**0.0**
CRAR	**CRAIOVA**	**1.30**	**136**	*i*S		**Sg**	**22 47 53.8**	**+0.6**
CRAR	**CRAIOVA**	**1.30**	**136**	⇑*iP*		**Pb**	**22 47 35.8**	**0.0**
CRAR				*i*S		**Sg**	**22 47 53.8**	**+0.6**
CRAR	**CRAIOVA**	**1.30**	**136**	⇑*iP*		**Pb**	**22 47 35.8**	**0.0**
CRAR				*i*S		**Sg**	**22 47 53.8**	**+0.6**
BOLS	**Boljevac**	**1.50**	**196**	*ePg*		**Pn**	**22 47 37.6**	**-0.5**
BOLS				*eSg*		**Sn**	**22 47 57.8**	**+0.1**
BOLS	**Boljevac**	**1.50**	**196**	*ePg*		**Pn**	**22 47 37.6**	**-0.5**
BOLS				*eSg*		**Sn**	**22 47 57.8**	**+0.1**
BEO	**Beograd**	**1.54**	**253**	*ePg*		**Pg**	**22 47 40.8**	**+0.1**
BEO				*eSg*		**Sg**	**22 48 02.5**	**+1.9**
BEO	**Beograd**	**1.54**	**253**	*ePg*		**Pg**	**22 47 40.8**	**+0.1**
BEO				*eSg*		**Sg**	**22 48 02.5**	**+1.9**
MDB	**Medias**	**1.56**	**55**	⇓*iP*		**Pb**	**22 47 39.8**	**-0.3**
MDB	**Medias**	**1.56**	**55**	⇓*iP*		**Pb**	**22 47 39.8**	**-0.3**
MDB	**Medias**	**1.56**	**55**	⇓*iP*		**Pb**	**22 47 39.8**	**-0.3**
VOIR		**1.78**	**84**	⇑*iP*		**Pn**	**22 47 42.8**	**+0.8**
VOIR		**1.78**	**84**	*i*S		**Sb**	**22 48 05.7**	**-0.6**
VOIR		**1.78**	**84**	⇑*iP*		**Pn**	**22 47 42.8**	**+0.8**
VOIR				*i*S		**Sb**	**22 48 05.7**	**-0.6**
VOIR		**1.78**	**84**	⇑*iP*		**Pn**	**22 47 42.8**	**+0.8**
VOIR				*i*S		**Sb**	**22 48 05.7**	**-0.6**
HUMR	**Humele**	**1.89**	**112**	⇓*iP*		**Pn**	**22 47 44.3**	**+0.9**
HUMR	**Humele**	**1.89**	**112**	*i*S		**Sb**	**22 48 08.5**	**-0.8**
HUMR	**Humele**	**1.89**	**112**	⇓*iP*		**Pn**	**22 47 44.3**	**+0.9**
HUMR				*i*S		**Sb**	**22 48 08.5**	**-0.8**
HUMR	**Humele**	**1.89**	**112**	⇓*iP*		**Pn**	**22 47 44.3**	**+0.9**
HUMR				*i*S		**Sb**	**22 48 08.5**	**-0.8**
GRUS	**Gruza**	**1.90**	**224**	*ePg*		**Pn**	**22 47 44.3**	**+0.7**
GRUS				*eSg*		**Sg**	**22 48 12.2**	**-0.1**
GRUS	**Gruza**	**1.90**	**224**	*ePg*		**Pn**	**22 47 44.3**	**+0.7**
GRUS				*eSg*		**Sg**	**22 48 12.2**	**-0.1**
FGSL	**Fruska Gora**	**1.93**	**268**	*ePn*		**Pn**	**22 47 44.3**	**+0.2**
FRGS	**Fruska Gora**	**1.93**	**268**	*ePn*		**Pn**	**22 47 44.3**	**+0.2**
ZAPS	**Zavoj**	**2.00**	**178**	*ePg*		**Pn**	**22 47 45.9**	**+0.9**
ZAPS				*eSg*		**Sb**	**22 48 13.3**	**+0.8**
DOPR	**Dopca**	**2.12**	**70**	⇑*iP*		**Pn**	**22 47 47.8**	**+1.2**
DOPR	**Dopca**	**2.12**	**70**	⇑*iP*		**Pn**	**22 47 47.8**	**+1.2**
DOPR	**Dopca**	**2.12**	**70**	⇑*iP*		**Pn**	**22 47 47.8**	**+1.2**
DIVS	**Divibare**	**2.16**	**238**	*ePn*		**Pn**	**22 47 47.4**	**+0.1**
DIVS	**Divibare**	**2.16**	**238**	*ePn*		**Pn**	**22 47 47.4**	**+0.1**
TEKS	**Tekeris**	**2.26**	**252**	*ePn*		**Pn**	**22 47 48.3**	**-0.2**
TEKS	**Tekeris**	**2.26**	**252**	*ePn*		**Pn**	**22 47 48.3**	**-0.2**
SELS	**Selova**	**2.29**	**207**	*ePg*		**Pb**	**22 47 53.2**	**+0.6**
SELS				*eSg*		**Sg**	**22 48 23.0**	**-1.8**
MLR	**Muntele Rosu**	**2.41**	**84**	*i*S		**Sn**	**22 48 21.3**	**+1.0**
MLR	**Muntele Rosu**	**2.41**	**84**	*i*S		**Sn**	**22 48 21.3**	**+1.0**
MLR	**Muntele Rosu**	**2.41**	**84**	*i*S		**Sn**	**22 48 21.3**	**+1.0**
BMR	**Baia Mare**	**2.49**	**15**	⇓*iP*		**Pn**	**22 47 52.5**	**+0.7**
BMR	**Baia Mare**	**2.49**	**15**	*i*S		**Sn**	**22 48 22.7**	**+0.5**
BMR	**Baia Mare**	**2.49**	**15**	⇓*iP*		**Pn**	**22 47 52.5**	**+0.7**
BMR				*i*S		**Sn**	**22 48 22.7**	**+0.5**
BMR	**Baia Mare**	**2.49**	**15**	⇓*iP*		**Pn**	**22 47 52.5**	**+0.7**
BMR				*i*S		**Sn**	**22 48 22.7**	**+0.5**
BARS	**Barje**	**2.51**	**192**	*ePg*		**Pb**	**22 47 56.0**	**-0.3**
BARS				*eSg*		**Sb**	**22 48 29.3**	**+2.1**
BARS	**Barje**	**2.51**	**192**	*ePg*		**Pb**	**22 47 56.0**	**-0.3**
BARS				*eSg*		**Sb**	**22 48 29.3**	**+2.1**
SECR		**2.51**	**94**	⇓*iP*		**Pn**	**22 47 53.1**	**+1.1**
SECR		**2.51**	**94**	⇓*iP*		**Pn**	**22 47 53.1**	**+1.1**
SECR		**2.51**	**94**	⇓*iP*		**Pn**	**22 47 53.1**	**+1.1**
SOF	**Sofiya**	**2.65**	**167**	*i*P		**Pn**	**22 47 54.5**	**+0.6**
SOF	**Sofiya**	**2.65**	**167**	*i*P		**Pn**	**22 47 54.5**	**+0.6**
BUC1	**Bucharest**	**2.65**	**109**	⇓*iP*		**Pn**	**22 47 55.8**	**+1.9**
BUC1	**Bucharest**	**2.65**	**109**	*i*S		**Sn**	**22 48 28.1**	**+2.1**
BUC1	**Bucharest**	**2.65**	**109**	⇓*iP*		**Pn**	**22 47 55.8**	**+1.9**
BUC1				*i*S		**Sn**	**22 48 28.1**	**+2.1**
BUC1	**Bucharest**	**2.65**	**109**	⇓*iP*		**Pn**	**22 47 55.8**	**+1.9**
BUC1				*i*S		**Sn**	**22 48 28.1**	**+2.1**
SULR		**2.70**	**101**	⇓*iP*		**Pn**	**22 47 55.0**	**+0.4**
SULR		**2.70**	**101**	*i*S		**Sn**	**22 48 28.5**	**+1.2**
SULR		**2.70**	**101**	⇓*iP*		**Pn**	**22 47 55.0**	**+0.4**
SULR				*i*S		**Sn**	**22 48 28.5**	**+1.2**
SULR		**2.70**	**101**	⇓*iP*		**Pn**	**22 47 55.0**	**+0.4**
SULR				*i*S		**Sn**	**22 48 28.5**	**+1.2**
VTS	**Vitosha**	**2.72**	**170**	*i*P		**Pn**	**22 47 54.5**	**-0.5**
VTS	**Vitosha**	**2.72**	**170**	*i*P		**Pn**	**22 47 54.5**	**-0.5**
SJES	**Sjenica**	**2.73**	**223**	*ePn*		**Pn**	**22 47 54.2**	**-0.9**
SJES	**Sjenica**	**2.73**	**223**	*ePn*		**Pn**	**22 47 54.2**	**-0.9**
TRPA	**Tarpa**	**2.86**	**0**	⇑*iP*		**Pn**	**22 47 57.4**	**+0.6**
TRPA	**Tarpa**	**2.86**	**0**	*i*S		**Sn**	**22 48 30.8**	**-0.4**
TRPA	**Tarpa**	**2.86**	**0**	⇑*iP*		**Pn**	**22 47 57.4**	**+0.6**
TRPA				*i*S		**Sn**	**22 48 30.8**	**-0.4**
TRPA	**Tarpa**	**2.86**	**0**	*ePn*		**Pn**	**22 47 57.3**	**+0.5**
TRPA				*eSn*		**Sn**	**22 48 31.2**	**0.0**
TRPA	**Tarpa**	**2.86**	**0**	⇑*iP*		**Pn**	**22 47 57.4**	**+0.6**
TRPA				*i*S		**Sn**	**22 48 30.8**	**-0.4**
TRPA				*eSn*		**Sn**	**22 48 31.2**	**0.0**
PKSM	**Moragy**	**2.89**	**290**	⇓*iP*		**Pn**	**22 47 57.7**	**+0.6**
PKSM	**Moragy**	**2.89**	**290**	⇓*iP*		**Pn**	**22 47 57.7**	**+0.6**
PKSM	**Moragy**	**2.89**	**290**	⇓*ePn*		**Pn**	**22 47 57.6**	**+0.5**
PKSM				*eSn*		**Sn**	**22 48 30.3**	**-1.5**
PKSM	**Moragy**	**2.89**	**290**	⇓*ePn*		**Pn**	**22 47 57.6**	**+0.5**
PKSM				*eSn*		**Sn**	**22 48 30.3**	**-1.5**
PLOR	**Plostina**	**2.95**	**77**	⇓*iP*		**Pn**	**22 47 59.4**	**+1.4**
PLOR	**Plostina**	**2.95**	**77**	⇓*iP*		**Pn**	**22 47 59.4**	**+1.4**
PLOR	**Plostina**	**2.95**	**77**	⇓*iP*		**Pn**	**22 47 59.4**	**+1.4**
PGB	**Panagyurishte**	**2.96**	**156**	*i*P		**Pn**	**22 47 58.8**	**+0.5**
PGB	**Panagyurishte**	**2.96**	**156**	*i*P		**Pn**	**22 47 58.8**	**+0.5**
BURAR	**Bucovina Array**	**2.99**	**37**	⇓*iP*		**Pn**	**22 47 59.6**	**+0.9**
BURAR	**Bucovina Array**	**2.99**	**37**	*i*S		**Sn**	**22 48 34.3**	**-0.2**
BURAR	**Bucovina Array**	**2.99**	**37**	⇓*iP*		**Pn**	**22 47 59.6**	**+0.9**
BURAR				*i*S		**Sn**	**22 48 34.3**	**-0.2**
BURAR	**Bucovina Array**	**2.99**	**37**	⇓*iP*		**Pn**	**22 47 59.6**	**+0.9**
BURAR				*i*S		**Sn**	**22 48 34.3**	**-0.2**
VRI	**Vrincioaia**	**3.00**	**77**	⇓*iP*		**Pn**	**22 48 00.6**	**+1.8**
VRI	**Vrincioaia**	**3.00**	**77**	*i*S		**Sn**	**22 48 35.5**	**+0.8**
VRI	**Vrincioaia**	**3.00**	**77**	⇓*iP*		**Pn**	**22 48 00.6**	**+1.8**
VRI				*i*S		**Sn**	**22 48 35.5**	**+0.8**
IVA	**Berane**	**3.06**	**219**	⇑*iPn*		**Pn**	**22 48 00.2**	**+0.6**
IVA				*eSn*		**Sn**	**22 48 37.5**	**+1.2**
BEY	**Berane**	**3.06**	**219**	⇑*iPn*		**Pn**	**22 48 00.2**	**+0.5**
BEY				*eSn*		**Sn**	**22 48 37.5**	**+1.1**
RHK3	**Tenkes**	**3.07**	**283**	⇑*e*		**Pn**	**22 48 00.3**	**+0.6**
RHK3	**Tenkes**	**3.07**	**283**	⇑*ePn*		**Pn**	**22 48 00.3**	**+0.6**
SZH	**Strazhica**	**3.16**	**128**	*eP*		**Pn**	**22 48 01.7**	**+0.8**
SZH	**Strazhica**	**3.16**	**128**	*eP*		**Pn**	**22 48 01.7**	**+0.8**
PSZ	**Piszkesteto**	**3.21**	**326**	⇑*iP*		**Pn**	**22 48 02.1**	**+0.4**
PSZ	**Piszkesteto**	**3.21**	**326**	⇑*iP*		**Pn**	**22 48 02.1**	**+0.4**
PSZ	**Piszkesteto**	**3.21**	**326**	⇓*ePn*		**Pn**	**22 48 02.2**	**+0.5**
PSZ				*eSn*		**Sn**	**22 48 38.1**	**-2.0**
PSZ	**Piszkesteto**	**3.21**	**326**	⇓*ePn*		**Pn**	**22 48 02.2**	**+0.5**
PSZ				*eSn*		**Sn**	**22 48 38.1**	**-2.0**
PKS9	**Tamasi**	**3.25**	**295**	⇑*ePn*		**Pn**	**22 48 02.8**	**+0.6**
PKS9				*eSn*		**Sn**	**22 48 40.4**	**-0.4**
PKS9	**Tamasi**	**3.25**	**295**	⇑*ePn*		**Pn**	**22 48 02.8**	**+0.6**
PKS9				*eSn*		**Sn**	**22 48 40.4**	**-0.4**
PVY	**Plav**	**3.26**	**216**	⇑*iPn*		**Pn**	**22 48 02.4**	**0.0**
PVY				*eSn*		**Sn**	**22 48 41.8**	**+0.5**
PVY	**Plav**	**3.26**	**216**	⇑*iPn*		**Pn**	**22 48 02.4**	**0.0**
PVY				*eSn*		**Sn**	**22 48 41.8**	**+0.5**
BUD	**Budapest**	**3.29**	**314**	⇓*ePn*		**Pn**	**22 48 04.3**	**+1.6**
BUD				*eSn*		**Sn**	**22 48 40.9**	**-0.8**
BUD	**Budapest**	**3.29**	**314**	⇓*ePn*		**Pn**	**22 48 04.3**	**+1.6**
BUD				*eSn*		**Sn**	**22 48 40.9**	**-0.8**
UPM	**Unac-Piva**	**3.33**	**233**	⇑*iPn*		**Pn**	**22 48 04.1**	**+0.7**
UPM				*eSn*		**Sn**	**22 48 43.1**	**0.0**
UPM	**Unac-Piva**	**3.33**	**233**	⇑*iPn*		**Pn**	**22 48 04.1**	**+0.7**
UPM				*eSn*		**Sn**	**22 48 43.1**	**0.0**
PETR		**3.33**	**81**	⇑*iP*		**Pn**	**22 48 03.5**	**+0.3**
PETR		**3.33**	**81**	⇑*iP*		**Pn**	**22 48 03.5**	**+0.3**
PETR		**3.33**	**81**	⇑*iP*		**Pn**	**22 48 03.5**	**+0.3**
BCI	**Bajram Curri**	**3.41**	**212**	*ePN*		**Pg**	**22 48 14.9**	**-1.7**
AMRR	**Amara**	**3.47**	**99**	⇑*iP*		**Pn**	**22 48 06.7**	**+1.5**
AMRR	**Amara**	**3.47**	**99**	⇑*iP*		**Pn**	**22 48 06.7**	**+1.5**
AMRR	**Amara**	**3.47**	**99**	⇑*iP*		**Pn**	**22 48 06.7**	**+1.5**
NKY	**Niksic**	**3.54**	**227**	⇓*iPn*		**Pn**	**22 48 06.3**	**0.0**
NKY				*eSn*		**Sn**	**22 48 48.6**	**+0.3**
NKY	**Niksic**	**3.54**	**227**	⇓*iPn*		**Pn**	**22 48 06.3**	**0.0**
NKY				*eSn*		**Sn**	**22 48 48.6**	**+0.3**
PKSG		**3.57**	**308**	⇓*ePn*		**Pn**	**22 48 07.2**	**+0.6**
PKSG				*eSn*		**Sn**	**22 48 47.5**	**-1.2**
PKSG		**3.57**	**308**	⇓*ePn*		**Pn**	**22 48 07.2**	**+0.6**
PKSG				*eSn*		**Sn**	**22 48 47.5**	**-1.2**
KOLS	**Kolonicke sedl**	**3.67**	**357**	*ePN*		**Pn**	**22 48 09.2**	**+1.3**
KOLS				*eSG*		**Sg**	**22 49 12.2**	**+3.2**
KOLS	**Kolonicke sedl**	**3.67**	**357**	*ePn*		**Pn**	**22 48 09.2**	**+1.3**
KOLS				*eSg*		**Sg**	**22 49 12.2**	**+3.2**
TTG	**Podgorica**	**3.70**	**221**	⇑*iPn*		**Pn**	**22 48 08.3**	**0.0**
TTG				*eSn*		**Sn**	**22 48 51.6**	**-0.3**
PDG	**Podgorica**	**3.70**	**221**	⇑*iPn*		**Pn**	**22 48 08.3**	**0.0**
PDG				*eSn*		**Sn**	**22 48 51.6**	**-0.3**
PKST	**T"s**	**3.70**	**304**	⇓*ePn*		**Pn**	**22 48 09.2**	**+0.8**
PKST				*eSn*		**Sn**	**22 48 50.9**	**-1.1**
PKST	**T"s**	**3.70**	**304**	⇓*ePn*		**Pn**	**22 48 09.2**	**+0.8**
PKST				*eSn*		**Sn**	**22 48 50.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**3.71**	**349**	*ePN*		**Pn**	**22 48 09.6**	**+1.2**
CRVS				*eSG*		**Sg**	**22 49 12.7**	**+2.5**
CRVS	**Cervenica-Dubn**	**3.71**	**349**	*ePn*		**Pn**	**22 48 09.6**	**+1.2**
CRVS				*eSg*		**Sg**	**22 49 12.7**	**+2.5**
BRY	**Bratogost**	**3.73**	**232**	⇑*iPn*		**Pn**	**22 48 08.5**	**-0.4**
BRY				*eSn*		**Sn**	**22 48 52.9**	**0.0**
BRY	**Bratogost**	**3.73**	**232**	⇑*iPn*		**Pn**	**22 48 08.5**	**-0.4**
BRY				*eSn*		**Sn**	**22 48 52.9**	**0.0**
PUK	**Puka**	**3.75**	**212**	*ePN*		**Pb**	**22 48 14.5**	**-3.1**
MMB	**Musomiste**	**3.78**	**166**	*i*P		**Pn**	**22 48 10.2**	**+0.7**
MMB	**Musomiste**	**3.78**	**166**	*i*P		**Pn**	**22 48 10.2**	**+0.7**
DIM	**Dimitrovgrad**	**3.88**	**145**	*eP*		**Pn**	**22 48 12.0**	**+1.1**
DIM	**Dimitrovgrad**	**3.88**	**145**	*eP*		**Pn**	**22 48 12.0**	**+1.1**
PHP	**Peshkopia**	**3.90**	**204**	*ePN*		**Pn**	**22 48 12.8**	**+1.7**
PHP	**Peshkopia**	**3.90**	**204**	*ePn*		**Pn**	**22 48 12.8**	**+1.7**
RZN	**Rozhen**	**3.92**	**155**	*eP*		**Pn**	**22 48 11.4**	**-0.1**
RZN	**Rozhen**	**3.92**	**155**	*eP*		**Pn**	**22 48 11.4**	**-0.1**
CFR	**Carcaliu**	**3.96**	**89**	⇑*iP*		**Pn**	**22 48 12.9**	**+1.1**
CFR	**Carcaliu**	**3.96**	**89**	⇑*iP*		**Pn**	**22 48 12.9**	**+1.1**
CFR	**Carcaliu**	**3.96**	**89**	⇑*iP*		**Pn**	**22 48 12.9**	**+1.1**
BUM	**Brajici-Budva**	**3.97**	**223**	⇑*iPn*		**Pn**	**22 48 12.7**	**+0.6**
BUM				*eSn*		**Sn**	**22 48 59.4**	**+0.7**
BUM	**Brajici-Budva**	**3.97**	**223**	⇑*iPn*		**Pn**	**22 48 12.7**	**+0.6**
BUM				*eSn*		**Sn**	**22 48 59.4**	**+0.7**
KRUS	**Krusevo**	**4.01**	**194**	*ePn*		**Pn**	**22 48 12.8**	**+0.1**
KRUS	**Krusevo**	**4.01**	**194**	*ePn*		**Pn**	**22 48 12.8**	**+0.1**
CVD	**Cernavoda**	**4.03**	**102**	⇑*iP*		**Pn**	**22 48 13.0**	**+0.2**
CVD	**Cernavoda**	**4.03**	**102**	*i*S		**Sn**	**22 48 49.0**	**+0.3**
CVD	**Cernavoda**	**4.03**	**102**	⇑*iP*		**Pn**	**22 48 13.0**	**+0.2**
CVD				*i*S		**Sn**	**22 49 00.6**	**+0.7**
CVD	**Cernavoda**	**4.03**	**102**	⇑*iP*		**Pn**	**22 48 13.0**	**+0.2**
CVD				*i*S		**Sn**	**22 49 00.6**	**+0.7**
NVR	**Nevrokopi**	**4.04**	**166**	*eP*		**Pn**	**22 48 12.4**	**-0.6**
JMB	**Yambol**	**4.05**	**132**	*eP*		**Pn**	**22 48 12.3**	**-0.9**
JMB	**Yambol**	**4.05**	**132**	*eP*		**Pn**	**22 48 12.3**	**-0.9**
HCY	**Herceg Novi**	**4.06**	**227**	⇓*iPn*		**Pn**	**22 48 14.2**	**+0.8**
HCY				*eSn*		**Sn**	**22 49 01.6**	**+0.7**
HCY	**Herceg Novi**	**4.06**	**227**	⇓*iPn*		**Pn**	**22 48 14.2**	**+0.8**
HCY				*eSn*		**Sn**	**22 49 01.6**	**+0.7**
ULC	**Ulcinj**	**4.08**	**217**	⇓*iPn*		**Pn**	**22 48 14.2**	**+0.6**
ULC				*eSn*		**Sn**	**22 49 01.4**	**+0.1**
ULC	**Ulcinj**	**4.08**	**217**	⇓*iPn*		**Pn**	**22 48 14.2**	**+0.6**
ULC				*eSn*		**Sn**	**22 49 01.4**	**+0.1**
VYHS	**Vyhne**	**4.10**	**323**	*ePn*		**Pn**	**22 48 14.7**	**+0.8**
VYHS				*eSN*		**Sn**	**22 49 02.0**	**-1.7**
VYHS	**Vyhne**	**4.10**	**323**	*ePn*		**Pn**	**22 48 14.7**	**+0.8**
VYHS				*eSn*		**Sn**	**22 49 00.2**	**-1.7**
BEHE	**Becsehely**	**4.20**	**289**	*ePn*		Pn	22 48 18.9	+3.7
BEHE				*eSn*		**Sn**	**22 49 04.0**	**-0.2**
BEHE	**Becsehely**	**4.20**	**289**	*ePn*		Pn	22 48 18.9	+3.7
BEHE				*eSn*		**Sn**	**22 49 04.0**	**-0.2**
STON	**Ston**	**4.23**	**237**	*ePn*		**Pn**	**22 48 17.4**	**+1.8**
STON				*Sn*		**Sn**	**22 49 07.2**	**+2.2**
STON	**Ston**	**4.23**	**237**	*ePn*		**Pn**	**22 48 17.4**	**+1.8**
STON				*Sn*		**Sn**	**22 49 07.1**	**+2.2**
TIRR	**Tirgusor**	**4.25**	**99**	⇓*iP*		**Pn**	**22 48 16.9**	**+1.0**
TIRR	**Tirgusor**	**4.25**	**99**	*i*S		**Sn**	**22 49 05.1**	**-0.5**
TIRR	**Tirgusor**	**4.25**	**99**	⇓*iP*		**Pn**	**22 48 16.9**	**+1.0**
TIRR				*i*S		**Sn**	**22 49 05.1**	**-0.5**
TIRR	**Tirgusor**	**4.25**	**99**	⇓*iP*		**Pn**	**22 48 16.9**	**+1.0**
TIRR				*i*S		**Sn**	**22 49 05.1**	**-0.5**
BIA	**Bitola**	**4.34**	**192**	*ePn*		**Pn**	**22 48 18.7**	**+1.5**
BIA	**Bitola**	**4.34**	**192**	*ePn*		**Pn**	**22 48 18.7**	**+1.5**
NIE	**Niedzica**	**4.42**	**341**	*ePn*		**Pn**	**22 48 20.5**	**+2.3**
NIE				*eSn*		**Sn**	**22 49 12.8**	**+3.2**
NIE	**Niedzica**	**4.42**	**341**	*ePn*		**Pn**	**22 48 20.5**	**+2.3**
NIE				*eSn*		**Sn**	**22 49 12.8**	**+3.2**
TLCR		**4.44**	**89**	⇓*iP*		**Pn**	**22 48 19.7**	**+1.3**
TLCR		**4.44**	**89**	⇓*iP*		**Pn**	**22 48 19.7**	**+1.3**
TLCR		**4.44**	**89**	⇓*iP*		**Pn**	**22 48 19.7**	**+1.3**
SOH	**Sokhos**	**4.49**	**172**	*eP*		**Pn**	**22 48 19.3**	**+0.1**
KOGS	**Kog**	**4.55**	**287**	*i*Pn		**Pn**	**22 48 20.3**	**+0.3**
KOGS				*i*Sn		**Sn**	**22 49 10.0**	**-2.8**
KOGS	**Kog**	**4.55**	**287**	Pn		**Pn**	**22 48 20.3**	**+0.3**
KOGS				*i*Sn		**Sn**	**22 49 10.0**	**-2.8**
MANR	**Mangalia**	**4.56**	**106**	⇑*iP*		**Pn**	**22 48 21.4**	**+1.2**
MANR	**Mangalia**	**4.56**	**106**	*i*S		**Sn**	**22 49 12.7**	**-0.4**
MANR	**Mangalia**	**4.56**	**106**	⇑*iP*		**Pn**	**22 48 21.4**	**+1.2**
MANR				*i*S		**Sn**	**22 49 12.7**	**-0.4**
MANR	**Mangalia**	**4.56**	**106**	⇑*iP*		**Pn**	**22 48 21.4**	**+1.2**
MANR				*i*S		**Sn**	**22 49 12.7**	**-0.4**
ZST	**Bratislava**	**4.75**	**310**	*ePN*		**Pn**	**22 48 24.0**	**+1.3**
ZST				*eSN*		**Sn**	**22 49 14.7**	**-3.0**
ZST	**Bratislava**	**4.75**	**310**	*ePn*		**Pn**	**22 48 24.0**	**+1.3**
ZST				*eSn*		**Sn**	**22 49 14.7**	**-3.0**
SMOL	**Smolenice**	**4.77**	**315**	*ePN*		**Pn**	**22 48 24.0**	**+0.9**
SMOL				*eSN*		**Sn**	**22 49 16.1**	**-2.3**
SMOL	**Smolenice**	**4.77**	**315**	*ePn*		**Pn**	**22 48 24.0**	**+0.9**
SMOL				*eSn*		**Sn**	**22 49 16.1**	**-2.3**
SOP	**Sopron**	**4.78**	**302**	*ePn*		**Pn**	**22 48 23.7**	**+0.5**
SOP				*eSn*		**Sn**	**22 49 16.6**	**-2.0**
SOP	**Sopron**	**4.78**	**302**	*ePn*		**Pn**	**22 48 23.7**	**+0.5**
SOP				*eSn*		**Sn**	**22 49 16.6**	**-2.0**
PLG	**Polygyros**	**4.94**	**172**	*eP*		**Pn**	**22 48 25.0**	**-0.4**
KZN	**Kozani**	**4.99**	**187**	*eP*		**Pn**	**22 48 27.8**	**+1.6**
CRES	**Cresnjev**	**5.00**	**279**	*i*Pn		**Pn**	**22 48 26.8**	**+0.5**
CRES				*i*Sn		**Sn**	**22 49 22.4**	**-1.7**
CRES	**Cresnjev**	**5.00**	**279**	*i*Pn		**Pn**	**22 48 26.8**	**+0.5**
CRES				*i*Sn		**Sn**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.89**	**190**	P	Pn	23 06 20.0	-0.8
	0.7nm,0.3s,baz=29,slow=11,SNR=19						
FITZ				S	S	23 08 23.3	+0.4
	0.1nm,0.3s,baz=312,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**14.20**	**153**	P	Pn	23 07 00.2	-0.4
	1.4nm,0.3s,baz=328,slow=12,SNR=41						
WRA				S	S	23 09 38.2	+2.4
	0.1nm,0.3s,baz=331,slow=21,SNR=4.2						
ASAR	**Alice Springs**	**17.38**	**160**	P	P	23 07 35.5	+0.9
	0.5nm,0.3s,baz=340,slow=12,SNR=53						
ASAR				S	S	23 10 39.6	+0.2
	0.1nm,0.3s,baz=348,slow=27,SNR=4.2						
STKA	**Stephens Creek**	**27.75**	**154**	P	P	23 09 12.1	-0.7
	0.5nm,0.4s,baz=305,slow=12,SNR=3.6						

IDC 18 23:06:53.4±5.8, 30°50S×177°38W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/15, mbtmp3.7/3, Error ellipse: s-maj=233.1km s-min=50.0km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.97**	**257**	P	P	23 13 47.2	-0.2
	0.5nm,0.4s,baz=99,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**43.63**	**267**	P	P	23 14 59.7	-0.3
	0.3nm,0.5s,baz=103,slow=7.0,SNR=6.3						
WRA	**Warramunga Arr**	**44.63**	**272**	P	P	23 15 08.0	+0.1
	0.7nm,0.3s,baz=111,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	PKPbc	23 26 31.8	-0.8
	4.5nm,0.9s,baz=57,slow=5.3,SNR=11						

IDC 18 23:37:28.4±1.0, 60°34S×52°03W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.9/5, ML4.4/1, MS4.0/3, Ms1 4.0/3, ms1mx3.5/19, Error ellipse: s-maj=37.3km s-min=23.3km az=86.0, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.11**	**226**	Pn	Pn	23 39 14.3	+0.8
	0.6nm,0.3s,baz=41,slow=9.3,SNR=3.2						
PMSA				LR	LR	23 41 10.6	
	comp=Z,48nm,21.9s,baz=320,slow=31						
USHA	**Ushuaia**	**10.37**	**295**	LR	LR	23 43 03.8	
	comp=Z,280nm,18.3s,baz=60,slow=32						
PLCA	**Paso Flores**	**22.73**	**321**	P	P	23 42 32.2	+0.5
	1.2nm,0.9s,baz=199,slow=6.0,SNR=2.7						
QSPA	**South Pole Qui**	**29.90**	**180**	P	P	23 43 37.5	0.0
	1.7nm,0.7s,baz=174,slow=9.2,SNR=11						
SIV	**San Ignacio**	**44.77**	**348**	P	P	23 45 42.6	-0.9
	0.7nm,0.7s,baz=228,slow=15,SNR=2.8						
OPO	**Ambohidratompo**	**78.52**	**107**	LR	LR	00 18 02.5	
	comp=Z,121nm,21.2s,baz=356,slow=31						
TORD	**Torodi Ar. Bea**	**84.80**	**52**	P	P	23 50 05.7	+1.3
	0.8nm,0.6s,baz=204,slow=5.0,SNR=9.2						
TXAR	**Lajitas Array**	**98.81**	**316**	LR	LR	00 32 45.3	
	comp=Z,118nm,19.1s,baz=350,slow=34						
MKAR	**Makanchi Array**	**150.36**	**96**	PKPbc	PKPbc	23 57 19.0	-1.5
	0.3nm,0.7s,baz=238,slow=4.4,SNR=2.8						

*IDC **18** 23:39:39.9±11.0, 38°35S×176°99E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.7/12, mbtmp3.6/2, Error ellipse: s-maj=491.0km s-min=64.1km az=169.0*
*ISCJB **18** 23:40:06.2±0.4, 38°10S±0°05×176°02E±0°06, h203km, mb3.2/2, Error ellipse: s-maj=7.5km s-min=5.7km az=140.3*
*WEL **18** 23:40:07.8±0.4, 37°99S×176°19E, h187km±3km, ML4.8/21, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0*

ISC 18 23:40:06.0±1.0, 38°01S±0°08×176°20E±0°07, h203km, n88, σ0°84/66, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.32**	**60**	PN	**Pn**	**23 40 32.4**	**-0.5**
OPRZ				SN	**S**	**23 40 51.8**	**-2.0**
RRRZ	**Republican Roa**	**0.41**	**144**	PN	**Pn**	**23 40 33.2**	**+0.1**
PRRZ	**Plateau Road**	**0.51**	**163**	PN	**Pn**	**23 40 33.6**	**+0.2**
ALRZ	**Allen Road**	**0.57**	**169**	PN	**Pn**	**23 40 34.1**	**+0.4**
TOZ	**Tahuroa Road**	**0.62**	**296**	PN	**Pn**	**23 40 33.6**	**-0.2**
TOZ				SN	**S**	**23 40 54.1**	**-1.4**
WHTZ	**Whakaora**	**0.69**	**196**	PN	**Pn**	**23 40 34.7**	**+0.5**
URZ	**Urewera**	**0.76**	**110**	PN	**Pn**	**23 40 34.1**	**-0.5**
URZ				SN	**S**	**23 40 54.6**	**-2.0**
WATZ	**Wairara**	**0.79**	**208**	PN	**Pn**	**23 40 35.2**	**+0.5**
HATZ	**Hinemaiaia**	**0.89**	**186**	PN	**Pn**	**23 40 35.6**	**+0.3**
RATZ	**Rangitukua**	**0.93**	**201**	PN	**Pn**	**23 40 36.0**	**+0.4**
RITZ	**Rihia Road**	**1.01**	**195**	PN	**Pn**	**23 40 36.8**	**+0.7**
KATZ	**Kakaramea**	**1.05**	**202**	PN	**Pn**	**23 40 37.1**	**+0.6**
MWZ	**Matawai**	**1.09**	**108**	PN	**Pn**	**23 40 37.0**	**+0.3**
RAHZ	**Arahi**	**1.14**	**143**	PN	**Pn**	**23 40 38.1**	**+1.0**
KRVZ	**Karewarewa**	**1.17**	**202**	PN	**Pn**	**23 40 37.6**	**+0.3**
HIZ	**Hauiti**	**1.18**	**244**	PN	**Pn**	**23 40 37.4**	**+0.1**
BKZ	**Black Stump Fm**	**1.18**	**169**	PN	**Pn**	**23 40 37.3**	**0.0**
NMHZ	**Naumai**	**1.19**	**157**	PN	**Pn**	**23 40 38.8**	**+1.4**
WTVZ	**West Tongariro**	**1.21**	**203**	PN	**Pn**	**23 40 38.0**	**+0.4**
MKAZ	**Moumakai**	**1.22**	**317**	PN	**Pn**	**23 40 37.2**	**-0.4**
TWVZ	**Taurewa**	**1.22**	**209**	PN	**Pn**	**23 40 38.2**	**+0.5**
NGZ	**Ngauruhoe**	**1.26**	**202**	PN	**Pn**	**23 40 38.5**	**+0.4**
WPVZ	**Whakapapa**	**1.30**	**203**	PN	**Pn**	**23 40 38.8**	**+0.5**
TUVZ	**Tukino**	**1.33**	**199**	PN	**Pn**	**23 40 39.2**	**+0.6**
FWVZ	**Far West T-bar**	**1.35**	**202**	PN	**Pn**	**23 40 39.1**	**+0.3**
DRZ	**Dome Shelter**	**1.36**	**201**	PN	**Pn**	**23 40 37.4**	**-1.7**
TRVZ	**Turoa**	**1.39**	**201**	PN	**Pn**	**23 40 39.6**	**+0.4**
WNVZ	**Wahianoa**	**1.40**	**200**	PN	**Pn**	**23 40 39.7**	**+0.4**
MOVZ	**Moawhango**	**1.44**	**194**	PN	**Pn**	**23 40 39.6**	**+0.1**
PKVZ	**Pokaka**	**1.45**	**207**	PN	**Pn**	**23 40 39.9**	**+0.4**
BHHZ	**Black Hill Sta**	**1.48**	**184**	PN	**Pn**	**23 40 40.1**	**+0.3**
MCHZ	**McNeill Hill**	**1.49**	**165**	PN	**Pn**	**23 40 41.2**	**+1.4**
MTVZ	**Mangateitei**	**1.49**	**202**	PN	**Pn**	**23 40 40.3**	**+0.4**
KNZ	**Kokohu**	**1.54**	**132**	PN	**Pn**	**23 40 41.1**	**+1.0**
VRZ	**Vera Road**	**1.59**	**225**	PN	**Pn**	**23 40 41.5**	**+0.8**
PRGZ	**Paritu Road**	**1.61**	**125**	PN	**Pn**	**23 40 41.9**	**+1.0**
PUZ	**Puketiti**	**1.62**	**93**	PN	**Pn**	**23 40 41.2**	**+0.2**
CNGZ	**Carnagh Statio**	**1.65**	**107**	PN	**Pn**	**23 40 42.6**	**+1.4**
MXZ	**Matakaoa Point**	**1.72**	**76**	PN	**Pn**	**23 40 42.5**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.76**	**131**	PN	**Pn**	**23 40 43.7**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.79**	**158**	PN	**Pn**	**23 40 43.8**	**+1.3**
MHEZ	**Mangahewa**	**1.82**	**233**	PN	**Pn**	**23 40 44.3**	**+1.4**
KAHZ	**Kahuranaki**	**1.86**	**164**	PN	**Pn**	**23 40 44.5**	**+1.2**
PNHZ	**Pukenui**	**1.91**	**180**	PN	**Pn**	**23 40 44.0**	**+0.3**
RAEZ	**Rainy Point**	**1.91**	**227**	PN	**Pn**	**23 40 45.1**	**+1.4**
WAZ	**Wanganui**	**1.99**	**208**	PN	**Pn**	**23 40 44.8**	**+0.3**
TSZ	**Takapari Road**	**2.06**	**185**	PN	**Pn**	**23 40 45.5**	**+0.2**
WPHZ	**Waipukurau**	**2.06**	**175**	PN	**Pn**	**23 40 45.3**	**+0.6**
PXZ	**Pawanui**	**2.09**	**166**	PN	**Pn**	**23 40 46.3**	**+0.8**
PKE	**Pukeiti**	**2.10**	**235**	PN	**Pn**	**23 40 46.6**	**+0.8**
DFE	**Dawson Falls**	**2.11**	**231**	PN	**Pn**	**23 40 46.8**	**+0.9**
PRHZ	**Porangahau**	**2.28**	**172**	PN	**Pn**	**23 40 48.1**	**+0.5**
DVHZ	**Dannevirke**	**2.29**	**181**	PN	**Pn**	**23 40 47.7**	**0.0**
POWZ	**Post Office Ro**	**2.41**	**188**	PN	**Pn**	**23 40 48.8**	**-0.2**
BFZ	**Birch Farm**	**2.67**	**179**	PN	**Pn**	**23 40 51.7**	**-0.2**
MRZ	**Mangatainoka R**	**2.70**	**190**	PN	**Pn**	**23 40 51.6**	**-0.6**
TIWZ	**Tintock**	**2.78**	**185**	PN	**Pn**	**23 40 52.6**	**-0.5**
OGWZ	**Otaki Gorge**	**2.92**	**196**	PN	**Pn**	**23 40 54.0**	**-0.7**
KIW	**Kapiti Island**	**3.02**	**199**	PN	Pn	23 40 54.8	-1.2
TMWZ	**Te Maipa**	**3.11**	**184**	PN	**Pn**	**23 40 56.1**	**-0.9**
MTW	**Mount Morrison**	**3.19**	**190**	PN	Pn	23 40 56.7	-1.3
CAW	**Cannon Point**	**3.22**	**195**	PN	Pn	23 40 57.1	-1.1
DUWZ	**D'Urville Isla**	**3.31**	**212**	PN	Pn	23 40 57.9	-1.4
TRWZ	**Traveller**	**3.41**	**187**	PN	**Pn**	**23 40 59.5**	**-1.1**
PAWZ	**Paruwai Farm**	**3.42**	**190**	PN	Pn	23 40 59.3	-1.4
MSWZ	**Moikau Station**	**3.48**	**192**	PN	Pn	23 40 59.9	-1.5
SNZO	**South Karori**	**3.50**	**199**	PN	Pn	23 40 59.9	-1.6
TCW	**Tory Channel**	**3.53**	**204**	PN	Pn	23 41 00.5	-1.5
BHW	**Baring Head**	**3.55**	**196**	PN	Pn	23 41 00.6	-1.6
PLWZ	**Palliser**	**3.63**	**191**	PN	Pn	23 41 01.7	-1.6
TUWZ	**Tuamarina**	**3.84**	**206**	PN	Pn	23 41 03.9	-1.8
NNZ	**Nelson**	**3.88**	**213**	PN	Pn	23 41 04.2	-2.0
QRZ	**Quartz Range**	**4.00**	**224**	PN	Pn	23 41 05.3	-2.5
BSWZ	**Blackbirch Sta**	**4.11**	**205**	PN	Pn	23 41 07.5	-1.7
THZ	**Tophouse**	**4.53**	**213**	PN	Pn	23 41 12.3	-2.2
KHZ	**Kahutara**	**4.86**	**204**	PN	Pn	23 41 16.7	-1.7
DSZ	**Denniston Nort**	**5.04**	**221**	PN	Pn	23 41 18.4	-2.5
LTZ	**Lake Taylor**	**5.64**	**211**	PN	Pn	23 41 25.8	-2.7
MQZ	**McQueen's Vall**	**6.30**	**204**	PN	Pn	23 41 33.4	-3.5
WVZ	**Waitaha Valley**	**6.55**	**218**	PN	Pn	23 41 38.3	-2.0
RPZ	**Rata Peaks**	**6.91**	**213**	PN	Pn	23 41 41.9	-3.0
FOZ	**Fox Glacier**	**7.43**	**220**	PN	Pn	23 41 47.6	-4.0
LBZ	**Lake Benmore**	**7.82**	**214**	PN	Pn	23 41 53.6	-3.2
ODZ	**Otahua Downs**	**8.17**	**209**	PN	Pn	23 41 59.0	-2.4
JCZ	**Jackson Bay**	**8.27**	**221**	PN	Pn	23 41 58.3	-4.4
ASAR	**Alice Springs**	**38.70**	**279**	P	**P**	**23 47 11.3**	**+0.9**
	0.5nm,0.6s,baz=131,slow=8.7,SNR=8.4						
WRA	**Warramunga Arr**	**40.42**	**284**	P	**P**	**23 47 25.2**	**+0.6**
	0.5nm,0.6s,baz=125,slow=6.6,SNR=5.0						
ARCES	**ARCESS Array B**	**144.71**	**343**	PKPbc	**PKPab**	**23 59 17.4**	**+0.6**
	7.3nm,1.1s,baz=25,slow=3.4,SNR=3.6						

*IDC **19** 00:02:41.4±0.7, 13°61S×76°84W, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.5/16, mbtmp4.3/14, ML3.4/2, MS4.1/5, Ms1 4.1/5, ms1mx3.8/21, Error ellipse: s-maj=22.4km s-min=11.9km az=70.0*
*ISCJB **19** 00:02:44.7±0.4, 13°62S±0°05×76°76W±0°06, h33km, mb4.5/32, MS4.9/6, Error ellipse: s-maj=9.1km s-min=6.1km az=135.2*
*NEIC **19** 00:02:48.4±0.8, 13°48S×76°71W, h43km±6km, mb4.8/22, Error ellipse: s-maj=10.4km s-min=4.9km az=56.0*
NEIC Felt [II] at Chincha Alta. Also felt at Lima.

ISC 19 00:02:46.6±0.4, 13°56S±0°06×76°72W±0°08, h33km, n108, σ1°50/127, mb4.7/33, MS5.1/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.56**	**356**	Pg	**Pn**	**00 03 12.1**	**-0.1**
	202nm,0.3s,baz=182,slow=14,SNR=187						
NNA				Lg	Lg	00 03 32.7	
	2µm,0.3s,baz=267,slow=18,SNR=24						
NNA				LR	LR	00 03 50.6	
	comp=Z,2µm,18.2s,baz=150,slow=43						
NNA	**Nana**	**1.56**	**356**	Pg	**Pn**	**00 03 12.1**	**-0.1**
NNA				Lg	Lg	00 03 32.7	
ATAH	**Atahualpa**	**6.59**	**345**	Pn	**Pn**	**00 04 22.8**	**+1.1**
	5.9nm,0.3s,baz=197,slow=4.0,SNR=17						
ATAH				Sn	**Sn**	**00 05 38.2**	**+2.3**
	6.1nm,0.3s,baz=308,slow=19,SNR=1.9						
ATAH	**Atahualpa**	**6.59**	**345**	Pn	**Pn**	**00 04 22.8**	**+1.1**
ATAH				Sn	**Sn**	**00 05 38.2**	**+2.3**
LPAZ	**La Paz**	**8.73**	**109**	Pn	Pn	00 04 55.2	+3.9
	1.0nm,0.3s,baz=290,slow=12,SNR=15						
LPAZ				LR	LR	00 09 04.0	
	comp=Z,744nm,18.1s,baz=292,slow=43						
LPAZ	**La Paz**	**8.73**	**109**	*e*Pn	Pn	00 04 55.0	+3.7
LPAZ				*e*Sn	Sn	00 06 38.5	+10
OTAV	**Otavalo**	**13.81**	**353**	*e*Pn	**Pn**	**00 06 00.1**	**-0.6**
OTAV				*e*Sn	**Sn**	**00 08 29.0**	**-4.2**
SAML	**Samuel**	**14.04**	**72**	*e*Pn	**Pn**	**00 06 04.8**	**+1.4**
	13nm,0.6s						
SAML				*e*Sn	**Sn**	**00 08 39.0**	**+0.8**
SIV	**San Ignacio**	**15.32**	**101**	Pn	**Pn**	**00 06 20.9**	**+0.2**
	0.4nm,0.3s,baz=289,slow=13,SNR=10						
SIV				LR	LR	00 13 03.1	
	comp=Z,474nm,20.4s,slow=40						
SIV	**San Ignacio**	**15.32**	**101**	Pn	**Pn**	**00 06 20.9**	**+0.2**
LCO	**Las Campanas**	**16.36**	**161**	*e*Pn	**P**	**00 06 38.6**	**+1.8**
	17nm,1.0s						
ROSC	**El Rosal**	**18.45**	**8**	LR	LR	00 15 22.8	
	comp=Z,704nm,18.7s,baz=194,slow=41						
ROSC	**El Rosal**	**18.45**	**8**	*e*Pn	**Pn**	**00 07 00.1**	**-0.2**
CFAA	**Coronel Fontan**	**19.58**	**158**	P	**P**	**00 07 11.6**	**-0.5**
	0.0nm,0.3s,baz=334,slow=12,SNR=8.8						
CFAA				LR	LR	00 13 18.1	
	comp=Z,30nm,18.0s,baz=354,slow=32						
CFAA	**Coronel Fontan**	**19.58**	**158**	P	**P**	**00 07 11.6**	**-0.5**
SDV	**Santo Domingo**	**23.10**	**15**	*e*P	**P**	**00 07 49.9**	**-0.2**
	19nm,0.7s						
PLCA	**Paso Flores**	**27.61**	**170**	P	**P**	**00 08 30.9**	**-0.2**
	1.9nm,1.0s,baz=360,slow=6.1,SNR=3.1						
PLCA	**Paso Flores**	**27.61**	**170**	*e*P	**P**	**00 08 31.1**	**0.0**
BDFB	**Brasilia**	**27.85**	**98**	P	**P**	**00 08 33.6**	**+0.1**
	2.8nm,0.8s,baz=249,slow=13,SNR=5.1						
BDFB				LR	LR	00 20 10.0	
	comp=Z,341nm,18.9s,baz=111,slow=38						
BDFB	**Brasilia**	**27.85**	**98**	P	**P**	**00 08 33.6**	**+0.1**
CELP	**Cerrillos**	**32.98**	**18**	*e*P	**P**	**00 09 19.3**	**+0.6**
RCBR	**Riachuelo**	**40.91**	**83**	P	**P**	**00 10 26.8**	**+0.4**
	6.8nm,0.8s,baz=268,slow=18,SNR=4.2						
RCBR	**Riachuelo**	**40.91**	**83**	P	**P**	**00 10 26.8**	**+0.4**
TXAR	**Lajitas Array**	**49.95**	**329**	P	**P**	**00 11 37.8**	**+0.1**
	1.3nm,0.9s,baz=147,slow=8.9,SNR=9.8						
TXAR	**Lajitas Array**	**49.95**	**329**	P	**P**	**00 11 37.8**	**+0.1**
ANMO	**Albuquerque**	**55.89**	**331**	*e*P	**P**	**00 12 22.0**	**+0.4**
	47nm,2.7s						
TRY	**Troy**	**56.08**	**3**	*e*P	**P**	**00 12 24.0**	**+1.5**
FRNY	**Flat Rock**	**58.18**	**3**	*e*P	**P**	**00 12 37.7**	**+0.4**
	18nm,0.8s						
SMCO	**Snowmass**	**59.58**	**333**	*e*P	**P**	**00 12 48.6**	**+0.9**
	4.0nm,1.0s						
PFO	**Pinyon Flat Ob**	**60.28**	**322**	*e*P	**P**	**00 12 52.9**	**+0.6**
	4.4nm,0.7s						
PFO				*e*PcP	**PcP**	**00 13 38.2**	**+0.8**
SRU	**San Rafael**	**61.16**	**330**	*e*P	**P**	**00 12 59.0**	**+0.8**
	7.2nm,1.2s						
CCUT	**Cedar City**	**61.39**	**327**	*e*P	**P**	**00 13 00.0**	**+0.1**
	16nm,1.9s						
DUG	**Dugway**	**63.12**	**330**	*e*P	**P**	**00 13 12.3**	**+1.0**
	6.6nm,1.0s						
BW06	**Boulder Array**	**63.63**	**334**	*e*P	**P**	**00 13 14.8**	**+0.1**
	37nm,2.7s						
PDAR	**Pinedale Array**	**63.63**	**334**	P	**P**	**00 13 14.2**	**-0.6**
	1.2nm,0.9s,baz=141,slow=5.8,SNR=7.0						
PDAR	**Pinedale Array**	**63.63**	**334**	P	**P**	**00 13 14.2**	**-0.6**
AGMN	**Agassiz Nation**	**63.89**	**346**	*e*P	**P**	**00 13 15.9**	**-0.2**
	9.8nm,0.9s						
MTUM	**Tungsten Hills**	**64.11**	**324**	*e*P	**P**	**00 13 19.5**	**+1.5**
NVAR	**Mina Array Bea**	**64.71**	**325**	P	**P**	**00 13 22.5**	**+0.6**
	1.5nm,0.9s,baz=134,slow=6.4,SNR=9.5						
NVAR	**Mina Array Bea**	**64.71**	**325**	P	**P**	**00 13 22.5**	**+0.6**
RRI2	**Red Ridge**	**64.87**	**333**	*e*P	**P**	**00 13 23.4**	**+0.4**
	5.5nm,0.8s						
FLWY	**Flagg Ranch**	**65.19**	**334**	*e*P	**P**	**00 13 25.6**	**+0.7**
	21nm,1.4s						
ULM	**Lac du Bonnet**	**65.72**	**347**	P	**P**	**00 13 27.2**	**-0.7**
	13nm,0.8s,baz=157,slow=5.9,SNR=25						
ULM	**Lac du Bonnet**	**65.72**	**347**	*e*P	**P**	**00 13 27.0**	**-0.9**
	12nm,0.8s						
MFID	**Camas Ranch**	**67.02**	**330**	*e*P	**P**	**00 13 37.5**	**+1.0**
	38nm,2.3s						
SCHQ	**Schefferville**	**68.63**	**6**	P	**P**	**00 13 45.9**	**-0.5**
	7.0nm,0.8s,baz=218,slow=6.7,SNR=6.2						
SCHQ	**Schefferville**	**68.63**	**6**	P	**P**	**00 13 45.9**	**-0.5**
MSO	**Missoula**	**68.75**	**334**	*e*P	**P**	**00 13 48.4**	**+1.1**
	4.4nm,1.2s						
KHMM	**Horse Mountain**	**69.45**	**324**	*e*P	P	00 13 57.2	+5.3
	31nm,1.7s						
NEW	**Newport**	**71.24**	**333**	*e*P	**P**	**00 14 02.7**	**+0.2**
	3.9nm,0.8s						
FFC	**Flin Flon**	**71.31**	**345**	*e*P	**P**	**00 14 02.2**	**-0.5**
	108nm,3.0s						
OD2	**Odessa Site #2**	**71.32**	**331**	*e*P	**P**	**00 14 02.9**	**-0.1**
	7.3nm,0.6s						
OD2				*e*PP	**PP**	**00 16 41.0**	**-0.7**
SNAA	**Sanae**	**72.16**	**161**	*e*P	**P**	**00 14 04.9**	**-2.9**
	6.7nm,0.9s						
BMW	**Boistfort Moun**	**72.89**	**328**	*e*P	**P**	**00 14 10.5**	**-1.9**
DBIC	**Dimbokro**	**74.11**	**79**	P	**P**	**00 14 20.9**	**+0.6**
	4.2nm,0.8s,baz=259,slow=6.7,SNR=8.3						
DBIC				LR	LR	00 46 16.1	
	comp=Z,259nm,19.0s,baz=68,slow=35						
DBIC	**Dimbokro**	**74.11**	**79**	*e*P	**P**	**00 14 20.9**	**+0.6**
	4.5nm,0.7s						
YKA	**Yellowknife Ar**	**81.37**	**343**	P	**P**	**00 14 59.1**	**-0.5**
	2.2nm,0.8s,baz=142,slow=6.1,SNR=43						
YKA	**Yellowknife Ar**	**81.37**	**343**	P	P	00 14 59.1	-0.5
TORD	**Torodi Ar. Bea**	**82.09**	**74**	P	**P**	**00 15 05.3**	**+0.8**
	12nm,0.9s,baz=265,slow=5.1,SNR=41						
TORD	**Torodi Ar. Bea**	**82.09**	**74**	P	**P**	**00 15 05.3**	**+0.8**
ESDC	**Sonseca Array**	**85.73**	**48**	P	**P**	**00 15 23.2**	**+0.5**
	0.4nm,0.5s,baz=237,slow=5.8,SNR=4.8						
ESDC	**Sonseca Array**	**85.73**	**48**	P	P	00 15 23.2	+0.5
SUMG	**Summit**	**89.55**	**11**	*i* P	**P**	**00 15 40.8**	**+0.1**
	6.2nm,1.1s						
ILAR	**Eielson Array**	**93.96**	**336**	P	**P**	**00 16 00.0**	**-0.8**
	1.3nm,0.9s,baz=148,slow=3.3,SNR=12						
ILAR	**Eielson Array**	**93.96**	**336**	P	P	00 16 00.0	-0.8
ABKAR	**Akbulak array**	**129.75**	**36**	*e*PKPdf	**PKPdf**	**00 21 53.5**	**+1.0**
ABKAR				*e*PP	**PP**	**00 24 03.2**	**-0.2**
ZALV	**Zalesovo Beam**	**137.15**	**16**	PKP	**PKPdf**	**00 22 05.8**	**-0.5**
	1.6nm,0.8s,baz=318,slow=1.9,SNR=8.8						
ZALV	**Zalesovo Beam**	**137.15**	**16**	PKP	**PKPdf**	**00 22 05.8**	**-0.5**
KURK	**Kurchatov**	**137.87**	**23**	PKP	**PKPdf**	**00 22 07.8**	**+0.1**
	1.3nm,0.9s,baz=314,slow=2.7,SNR=12						
KURK	**Kurchatov**	**137.87**	**23**	PKP	**PKPdf**	**00 22 07.8**	**+0.1**
MKAR	**Makanchi Array**	**142.47**	**24**	PKhKP	PKPpre	00 22 11.3	
	0.8nm,0.9s,baz=314,slow=2.9,SNR=6.6						
MKAR	**Makanchi Array**	**142.47**	**24**	PKPpre	PKPpre	00 22 11.3	
CN2	**Changchun**	**144.37**	**332**	*e*PKP	**PKPdf**	**00 22 22.6**	**+3.0**
CN2				*ep*PKP	**pPKPdf**	**00 22 33.3**	**+2.8**
CN2				*e*PP	**PP**	**00 25 40.6**	**+6.1**
CN2				*e*SS	SS	00 44 20.0	+2.0
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,600nm,20.0s						
CN2				LR	LR		
	comp=E,800nm,20.0s						
CN2				LR	LR		
	comp=Z,700nm,22.0s						
KSH	**Kashi**	**144.69**	**38**	*e*PKP	**PKPdf**	**00 22 20.3**	**-0.2**
KSH				*ep*PKP	**pPKPdf**	**00 22 30.9**	**-0.5**
KSH				*e*PKS	**PKSdf**	**00 25 54.6**	**-1.6**
KSH				*e*SKS	**SKSdf**	**00 29 24.5**	**-3.2**
KSH				*e*SKKS	**SKKSac**	**00 32 23.1**	**-4.6**
KSH				*e*SS	**SS**	**00 44 17.6**	**-5.1**
KSH				AMB	AMB		
	comp=Z,140nm,5.5s						
KSH				LR	LR		
	comp=N,290nm,5.9s						
KSH				LR	LR		
	comp=E,260nm,6.7s						
KSH				LR	LR		
	comp=Z,220nm,6.4s						
ULN	**Ulaanbaatar**	**145.65**	**355**	*e*PKPdf	**PKPab**	**00 22 22.6**	**0.0**
SONM	**Songino Array**	**145.73**	**356**	PKPbc	**PKPab**	**00 22 22.5**	**-0.3**
	comp=Z,7.6nm,1.0s,baz=316,slow=2.3,SNR=40						
SONM	**Songino Array**	**145.73**	**356**	PKPbc	**PKPab**	**00 22 22.5**	**-0.3**
WMQ	**Urumqi**	**147.01**	**21**	*e*PKPbc	**PKPbc**	**00 22 26.0**	**-0.3**
WMQ				LR	LR		
	comp=N,540nm,25.4s						
WMQ				LR	LR		
	comp=E,290nm,18.8s						
WMQ				LR	LR		
	comp=Z,190nm,21.6s						
KSRS	**Korea Array**	**147.62**	**322**	PKPbc	**PKPbc**	**00 22 27.4**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=37,slow=4.7,SNR=4.5						
KSAR	**Wonju Array Be**	**147.65**	**322**	PKPbc	**PKPbc**	**00 22 27.4**	**-0.7**
BJI	**Beijing**	**151.28**	**339**	PKPbc	**PKPbc**	**00 22 37.1**	**0.0**
BJI				LR	LR		
	comp=N,540nm,21.6s						
BJI				LR	LR		
	comp=E,370nm,19.1s						
BJI				LR	LR		
	comp=Z,470nm,24.9s						
HHC	**Hu-ho-hao-te**	**151.86**	**347**	*e*PKPbc	**PKPdf**	**00 22 30.5**	**-1.6**
HHC				PP	PP	00 26 20.8	+2.8
HHC				SKS	**SKSdf**	**00 29 52.6**	**-4.8**
HHC				SKKS	**SKKSac**	**00 33 04.8**	**-2.6**
HHC				SS	SS	00 45 41.6	-0.2
HHC				AMB	AMB		
	comp=Z,260nm,7.9s						
HHC				LR	LR		
	comp=N,410nm,21.0s						
HHC				LR	LR		
	comp=E,280nm,19.9s						
HHC				LR	LR		
	comp=Z,320nm,21.5s						
GTA	**Gaotai**	**154.07**

mb4.9/69,MS4.2/20,Error ellipse: s-maj=6.7km s-min=4.6km az=154.3
MOS ***19*** *00:14:55.2s1.2,0.49S×131.89E,h33km,mb5.2/20,Error ellipse: s-maj=13.9km s-min=6.8km az=112.4*
DJA ***19*** *00:14:56,0.70S×131.76E,h11km,ML4.9/13*
NEIC ***19*** *00:14:56.9±2.6,0.47S×131.91E,h33km±18km,mb5.0/21, Error ellipse: s-maj=8.6km s-min=5.0km az=62.0*
NEIC Felt [III] at Sorong.

ISC 19 00:14:54.8±0.4,0.56S±0.04×131.99E±0.05,h18km±1km, h18km:pP-P,n198,σ1§64/215,mb4.9/69,MS4.2/24,6C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.36**	**174**	P		**Pb**	**00 15 36.7**	**0.0**
MSAI	**Masohi**	**4.12**	**228**	P		Pn	00 16 00.3	+3.4
BAKI	**Biak**	**4.17**	**99**	P		**Pb**	**00 16 07.4**	**-0.2**
LBMI	**Labuha**	**4.49**	**269**	P		**Pn**	**00 16 03.0**	**+1.1**
TNTI	**Ternate**	**4.81**	**286**	P		**Pn**	**00 16 05.9**	**-0.4**
AAI	**Ambon**	**4.90**	**231**	P		**Pn**	**00 16 09.3**	**+1.8**
TLE	**Tual**	**5.10**	**172**	P		Pn	00 16 15.9	+5.6
	138nm,0.7s,4μm1.6nm							
NLAI	**Namlea**	**5.56**	**241**	P		**Pn**	**00 16 17.1**	**+0.4**
	106nm,0.7s,2μm0.6nm							
DAV	**Davao City (W)**	**9.92**	**320**	LR		LR	00 21 23.2	
	comp=Z,2μm,20.0s,baz=267,slow=40							
DAV	**Davao City (W)**	**9.92**	**320**	*e*P		**Pn**	**00 17 15.4**	**-1.1**
KDI	**Kendari**	**9.95**	**250**	P		**Pn**	**00 17 19.6**	**+2.7**
	37nm,1.3s,916nm							
MRSI	**Marisa**	**10.10**	**276**	P		Pn	00 17 26.9	+7.9
PCI	**Palu**	**12.15**	**268**	P		**P**	**00 17 56.9**	**-2.8**
SPSI	**Sidrap Palu**	**12.67**	**254**	P		**Pn**	**00 17 56.6**	**+2.5**
	38nm,1.6s,845nm							
BKSI	**Bulukumba**	**12.75**	**248**	P		P	00 18 02.7	-3.7
KAPI	**Kappang**	**12.99**	**250**	Pn		**Pn**	**00 18 00.5**	**+1.8**
	0.7nm,0.3s,baz=93,slow=12,SNR=4.9							
KAPI	**Kappang**	**12.99**	**250**	*e*Pn		**Pn**	**00 17 59.3**	**+0.7**
KAPI	**Kappang**	**12.99**	**250**	P		Pn	00 18 03.7	+5.1
	66nm,1.0s,866nm							
MYLDM	**Lahad Datu**	**14.63**	**293**	P		**P**	**00 18 24.7**	**-2.5**
SMKI	**Samarinda**	**14.78**	**270**	P		**Pn**	**00 18 23.2**	**+0.2**
	190nm,0.4s,5μm							
TSM	**Tawau**	**14.90**	**289**	P		**P**	**00 18 27.9**	**-2.5**
SDKM	**Sandakan**	**16.00**	**293**	P		**P**	**00 18 42.8**	**+0.2**
KBKI	**Kotabaru**	**16.04**	**260**	P		**P**	**00 18 41.4**	**-1.5**
	39nm,1.5s							
KDM	**Kudat**	**16.85**	**296**	P		**P**	**00 18 54.0**	**+2.1**
KKM	**Kota Kinabalu**	**17.06**	**293**	P		**P**	**00 18 56.1**	**+1.8**
COEN	**Coen**	**17.31**	**141**	*e*Pn		**Pn**	**00 18 55.9**	**+0.2**
	152nm,1.0s							
COEN				*e*Sn		**Sn**	**00 22 04.2**	**-3.8**
BBKI	**Banjar Baru**	**17.37**	**260**	P		P	00 19 02.8	+5.1
PMG	**Port Moresby**	**17.47**	**121**	P		**P**	**00 19 00.2**	**+1.4**
	1.1nm,0.3s,baz=314,slow=12,SNR=7.4							
PMG	**Port Moresby**	**17.47**	**121**	*e*P		**P**	**00 19 01.4**	**+2.6**
PMG	**Port Moresby**	**17.47**	**121**	*e*P		**P**	**00 19 01.4**	**+2.6**
MTNI	**Mataram**	**17.68**	**243**	P		P	00 19 09.5	+8.4
KHKI	**Kahang-Kahang**	**18.06**	**244**	P		P	00 19 16.3	+11
FITZ	**Fitzroy Crossi**	**18.51**	**199**	P		**P**	**00 19 07.7**	**-2.5**
	0.7nm,0.3s,baz=42,slow=10,SNR=10							
FITZ				S		Sn	00 22 27.5	-10
	0.3nm,0.3s,baz=202,slow=19,SNR=3.3							
FITZ				LR		LR	00 27 12.6	
	comp=Z,188nm,20.4s,baz=163,slow=40							
FITZ	**Fitzroy Crossi**	**18.51**	**199**	*e*P		**P**	**00 19 08.8**	**-1.4**
	23nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.51**	**199**	*e*Pn		**P**	**00 19 07.9**	**-2.3**
FITZ				*e*Sn		Sn	00 22 24.0	-13
NBBI	**Negara**	**18.96**	**245**	P		**Pn**	**00 19 17.8**	**+1.9**
	217nm,1.4s,9μm							
GUMO	**Guam**	**18.99**	**42**	LR		LR	00 25 49.4	
	comp=Z,375nm,19.1s,baz=102,slow=34							
GUMO	**Guam**	**18.99**	**42**	*e*P		**P**	**00 19 14.8**	**-0.7**
GUMO	**Guam**	**18.99**	**42**	*e*P		**P**	**00 19 14.8**	**-0.7**
	10μm,1.4s							
BTM	**Bintulu**	**19.26**	**281**	P		**Pn**	**00 19 20.7**	**+1.1**
WRAB	**Tennant Creek**	**19.39**	**173**	*e*P		**P**	**00 19 19.7**	**-0.2**
WRAB				*e*S		**Sn**	**00 22 57.0**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,13nm,0.6s							
WRAB	**Tennant Creek**	**19.39**	**173**	*e*P		**P**	**00 19 19.7**	**-0.2**
	comp=Z,13nm,0.6s							
WRAB				*e*S		**Sn**	**00 22 57.0**	**-1.3**
WRA	**Warramunga Arr**	**19.40**	**173**	P		**P**	**00 19 19.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=352,slow=11,SNR=20							
WRA				S		**Sn**	**00 22 53.5**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=353,slow=23,SNR=4.8							
WRA	**Warramunga Arr**	**19.40**	**173**	P		**P**	**00 19 19.6**	**-0.4**
WRA				S		**Sn**	**00 22 53.5**	**-5.0**
WRA	**Warramunga Arr**	**19.40**	**173**	P		**P**	**00 19 19.6**	**-0.4**
WRA				S		**Sn**	**00 22 53.5**	**-5.0**
JAGI	**Jajag, Banyuwa**	**19.43**	**246**	P		**Pn**	**00 19 22.4**	**+0.9**
	comp=Z,77nm,1.8s							
BLJI	**Banyuglugur**	**19.67**	**248**	P		**Pn**	**00 19 26.9**	**+2.4**
	comp=Z,85nm,1.8s							
SBUM	**Sibu**	**19.99**	**279**	P		**Pn**	**00 19 28.4**	**+0.2**
GMJI	**Gumukmas**	**20.00**	**247**	P		Pn	00 19 30.7	+2.3
	comp=Z,83nm,1.7s,comp=Z,2μm							
PWJI	**Pagerwojo**	**21.43**	**249**	P		P	00 19 49.5	+7.4
KSM	**Kuching**	**21.77**	**275**	P		**P**	**00 19 47.4**	**+1.6**
UGM	**Wanagama**	**22.60**	**251**	*e*P		**P**	**00 19 52.9**	**-1.8**
	comp=Z,270nm,1.6s							
AS31	**Alice Springs**	**23.04**	**176**	*e*P		**P**	**00 19 59.2**	**0.0**
AS31				*e*S		**S**	**00 24 08.5**	**-0.9**
ASAR	**Alice Springs**	**23.04**	**176**	P		**P**	**00 19 59.0**	**-0.2**
	comp=Z,17nm,0.6s,baz=350,slow=6.4,SNR=56							
ASAR				S		Sn	00 24 18.4	-7.6
	comp=Z,1.7nm,0.8s,baz=356,slow=22,SNR=5.8							
ASAR	**Alice Springs**	**23.04**	**176**	P		**P**	**00 19 59.0**	**-0.2**
ASAR	**Alice Springs**	**23.04**	**176**	P		**P**	**00 19 59.0**	**-0.2**
ASAR				S		Sn	00 24 18.4	-7.6
BJII	**Banjamegara**	**23.21**	**253**	P		**P**	**00 20 04.8**	**+3.7**
	comp=Z,109nm,1.7s,comp=Z,2μm							
MBWA	**Marble Bar**	**23.71**	**210**	*e*P		**P**	**00 20 07.6**	**+1.8**
	comp=Z,37nm,1.1s							
CTA	**Charters Tower**	**23.91**	**145**	P		**P**	**00 20 08.6**	**+0.9**
	comp=Z,12nm,1.0s,baz=313,slow=8.2,SNR=4.2							
CTA	**Charters Tower**	**23.91**	**145**	*e*P		**P**	**00 20 09.9**	**+2.1**
	comp=Z,17nm,1.6s							
CTA	**Charters Tower**	**23.91**	**145**	P		**P**	**00 20 08.6**	**+0.9**
CTAO	**Charters Tower**	**23.91**	**145**	*e*P		**P**	**00 20 10.2**	**+2.4**
CTAO				pmax		pmax		
	comp=Z,73nm,1.5s							
CTAO	**Charters Tower**	**23.91**	**145**	*e*P		**P**	**00 20 10.2**	**+2.4**
	comp=Z,73nm,1.5s							
CISI	**Cisompet, Garu**	**25.08**	**253**	P		**P**	**00 20 21.0**	**+2.4**
	comp=Z,81nm,1.0s							
YHNB	**Yeheng**	**27.11**	**338**	*e*P		**P**	**00 20 35.9**	**-1.0**
	comp=Z,71nm,1.5s							
JOW	**Kunigami**	**27.47**	**353**	LR		LR	00 30 34.9	
	comp=Z,368nm,19.5s,baz=108,slow=34							
MYKOM	**Kota Tinggi**	**28.23**	**275**	P		**P**	**00 20 48.8**	**+1.8**
QIZ	**Qiongzhong**	**29.19**	**313**	P		**P**	**00 20 55.4**	**0.0**
QIZ				S		**S**	**00 25 48.3**	**+1.1**
QIZ				pmax		pmax		
	comp=Z,19nm,1.5s							
QIZ				LR		LR		
	comp=N,340nm,15.9s							
QIZ				LR		LR		
	comp=Z,370nm,27.9s							
FORT	**Forrest**	**30.28**	**187**	*e*P		**P**	**00 21 06.4**	**+1.4**
	comp=Z,14nm,0.7s							
FORT	**Forrest**	**30.28**	**187**	*e*P		**P**	**00 21 07.7**	**+2.7**
	comp=Z,141nm,1.9s							
KRJI	**Kerinci**	**30.55**	**267**	P		P	00 21 11.4	+3.7
	comp=Z,264nm,1.0s							
FRIM	**Kepong**	**30.58**	**277**	P		**P**	**00 21 09.7**	**+1.8**
EIDS	**Eidsvold**	**30.79**	**145**	*e*P		**P**	**00 21 10.8**	**+1.3**
	comp=Z,20nm,1.3s							
BKNI	**Bangkinang**	**30.96**	**272**	P		**P**	**00 21 14.3**	**+3.1**
	comp=Z,78nm,1.1s							
IPM	**Ipoh**	**31.34**	**280**	P		**P**	**00 21 16.6**	**+2.1**
PPI	**Padang Panjang**	**31.59**	**270**	P		**P**	**00 21 16.1**	**-0.6**
	comp=Z,75nm,1.0s,comp=Z,745nm							
BBOO	**Buckleboo**	**32.30**	**174**	*e*P		**P**	**00 21 25.2**	**+2.4**
	comp=Z,214nm,0.9s							
MNSI	**Mandailing Nat**	**32.43**	**272**	P		**P**	**00 21 27.1**	**+2.9**
	comp=Z,16nm,0.8s							
STKA	**Stephens Creek**	**32.44**	**165**	P		**P**	**00 21 23.8**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=341,slow=9.4,SNR=7.3							
STKA				LR		LR	00 36 23.4	
	comp=Z,602nm,20.9s,baz=345,slow=40							
STKA	**Stephens Creek**	**32.44**	**165**	*e*P		**P**	**00 21 24.1**	**+0.1**
	comp=Z,5.1nm,0.9s							
STKA	**Stephens Creek**	**32.44**	**165**	*e*P		**P**	**00 21 25.1**	**+1.1**
STKA	**Stephens Creek**	**32.44**	**165**	*e*P		**P**	**00 21 25.1**	**+1.1**
PSI	**Prapat**	**33.22**	**276**	P		**P**	**00 21 30.2**	**-1.0**
	comp=Z,33nm,1.1s							
NJ2	**Nanjing**	**34.74**	**340**	*e*P		**P**	**00 21 44.0**	**0.0**
NJ2				pP		pP	00 21 55.1	+5.5
NJ2				sP		sP	00 21 58.4	+6.6
NJ2				PP		PP	00 23 01.5	-1.4
NJ2				sS		sS	00 27 29.0	+6.3
NJ2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,270nm,4.0s							
NJ2				LR		LR		
	comp=N,450nm,21.0s							
NJ2				LR		LR		
	comp=E,450nm,15.5s							
NJ2				LR		LR		
	comp=Z,420nm,13.6s							
NWAO	**Narrogin (SRO)**	**35.06**	**202**	LR		LR	00 36 53.7	
	comp=Z,185nm,20.1s,baz=178,slow=38							
NWAO	**Narrogin (SRO)**	**35.06**	**202**	*e*P		**P**	**00 21 48.5**	**+1.7**
NWAO	**Narrogin (SRO)**	**35.06**	**202**	*e*P		**P**	**00 21 48.5**	**+1.7**
ARMA	**Armidale**	**35.07**	**150**	*e*P		**P**	**00 21 47.5**	**+0.5**
ARMA	**Armidale**	**35.07**	**150**	*e*P		**P**	**00 21 48.0**	**+0.9**
	comp=Z,11nm,0.8s							
GYA	**Guiyang**	**36.30**	**320**	P		**P**	**00 21 58.9**	**+1.3**
GYA				PP		PP	00 23 21.8	+1.4
GYA				S		**S**	**00 27 37.6**	**-0.3**
GYA				ScP		**ScP**	**00 28 08.0**	**-0.3**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,530nm,16.2s							
GYA				LR		LR		
	comp=E,470nm,17.6s							
GYA				LR		LR		
	comp=Z,510nm,17.5s							
MJAR	**Matsushiro Arr**	**37.37**	**8**	LR		LR	00 35 49.7	
	comp=Z,137nm,21.4s,baz=200,slow=34							
CM31	**Chiang Mai Arr**	**37.58**	**302**	*e*P		**P**	**00 22 08.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**37.58**	**302**	P		**P**	**00 22 08.8**	**+0.3**
	comp=Z,6.3nm,1.1s,baz=122,slow=7.0,SNR=14							
CMAR				LR		LR	00 38 06.1	
	comp=Z,145nm,19.8s,baz=108,slow=37							
CMAR	**Chiang Mai Arr**	**37.58**	**302**	P		**P**	**00 22 08.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**37.58**	**302**	P		**P**	**00 22 08.8**	**+0.3**
CHTO	**Chiang Mai**	**37.73**	**302**	*e*P		**P**	**00 22 10.1**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,42nm,1.8s							
CHTO	**Chiang Mai**	**37.73**	**302**	*e*P		**P**	**00 22 10.1**	**+0.3**
	comp=Z,42nm,1.8s							
CHTO	**Chiang Mai**	**37.73**	**302**	P		**P**	**00 22 10.9**	**+1.1**
	comp=Z,14nm,1.7s							
KSRS	**Korea Array**	**38.01**	**355**	LR		LR	00 37 47.8	
	comp=Z,172nm,19.1s,baz=310,slow=36							
KMI	**Kunming**	**38.12**	**314**	P		**P**	**00 22 14.6**	**+1.4**
KMI				pP		**pP**	**00 22 18.1**	**-0.8**
KMI				sP		**sP**	**00 22 19.9**	**-1.2**
KMI				S		**S**	**00 28 02.8**	**-3.0**
KMI				pmax		pmax		
	comp=Z,200nm,4.3s							
KMI				LR		LR		
	comp=N,200nm,16.3s							
KMI				LR		LR		
	comp=E,270nm,23.5s							
KMI				LR		LR		
	comp=Z,350nm,25.5s							
DZM	**Mont Dzumac**	**39.78**	**125**	*e*S		S	00 28 39.4	+8.6
	comp=Z,179nm,32.3s							
DZM				*e*LR		LR	00 33 38.9	
	comp=Z,461nm,31.7s							
CD2	**Chengdu**	**41.22**	**322**	P		**P**	**00 22 39.4**	**+0.6**
CD2				pP		**pP**	**00 22 43.9**	**-0.5**
CD2				PP		PP	00 24 17.8	+3.7
CD2				S		**S**	**00 28 52.0**	**+0.2**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,220nm,4.9s							
CD2				LR		LR		
	comp=E,400nm,9.5s							
CD2				LR		LR		
	comp=Z,530nm,17.8s							
BJI	**Beijing**	**42.91**	**342**	S		**S**	**00 29 14.8**	**-1.7**
BJI				SS		ScS	00 32 43.4	-9.2
BJI				pmax		pmax		
	comp=Z,14nm,0.8s							
BJI				LR		LR		
	comp=N,330nm,19.2s							
BJI				LR		LR		
	comp=E,350nm,17.5s							
BJI				LR		LR		
	comp=Z,180nm,34.0s							
CN2	**Changchun**	**44.55**	**353**	*e*P		**P**	**00 23 08.5**	**+3.0**
CN2				*es*P		**sP**	**00 23 15.5**	**+2.0**
CN2				*e*S		**S**	**00 29 43.3**	**+2.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,1μm,15.0s							
CN2				LR		LR		
	comp=E,1μm,15.0s							
CN2				LR		LR		
	comp=Z,2μm,17.0s							
USRK	**Ussuriysk Arra**	**44.57**	**0**	P		**P**	**00 23 05.5**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=178,slow=7.5,SNR=14							
LZH	**Lanzhou**	**44.89**	**327**	*e*P		**P**	**00 23 11.5**	**+2.9**
LZH				pP		**pP**	**00 23 16.1**	**+1.8**
LZH				sP		**sP**	**00 23 18.5**	**+2.0**
LZH				pmax		pmax		
	comp=Z,27nm,1.3s							
LZH				pmax		pmax		
	comp=Z,140nm,7.8s							
LZH				LR		LR		
	comp=N,450nm,9.1s							
LZH				LR		LR		
	comp=E,230nm,7.7s							
LZH				LR		LR		
	comp=Z,400nm,10.7s							
MDJ	**Mudanjiang**	**45.03**	**358**	P		**P**	**00 23 10.6**	**+1.2**
MDJ				pP		**pP**	**00 23 13.8**	**-1.3**
MDJ				sP		**sP**	**00 23 15.0**	**-2.3**
MDJ				PP		PP	00 24 55.5	+0.7
MDJ				S		**S**	**00 29 49.8**	**+2.5**
MDJ				SS		SS	00 33 12.5	+2.8
MDJ				pmax		pmax		
	comp=Z,12nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,270nm,5.6s							
MDJ				LR		LR		
	comp=N,86nm,23.0s							
MDJ				LR		LR		
	comp=E,100nm,23.0s							
MDJ				LR		LR		
	comp=Z,110nm,19.2s							
HHC	**Hu-ho-hao-te**	**45.21**	**338**	*e*P		**P**	**00 23 12.8**	**+1.8**
HHC				sP		**sP**	**00 23 20.0**	**+1.1**
HHC				PcP		**PcP**	**00 24 53.4**	**+2.4**
HHC				PP		PP	00 24 59.6	+2.7
HHC				ScP		**ScP**	**00 28 43.8**	**+0.8**
HHC				PcS		**PcS**	**00 28 46.1**	**+1.2**
HHC				S		**S**	**00 29 51.4**	**+1.2**
HHC				ScS		**ScS**	**00 33 06.8**	**-0.6**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,230nm,6.7s							
HHC				LR		LR		
	comp=N,230nm,15.4s							
HHC				LR		LR		
	comp=E,350nm,15.5s							
HHC				LR		LR		
	comp=Z,330nm,15.7s							
MSVF	**Nonsavu**	**48.38**	**113**	*e*P		**P**	**00 23 38.3**	**+2.2**
MSVF				pmax		pmax		
	comp=Z,19nm,1.1s							
MSVF	**Nonsavu**	**48.38**	**113**	*e*P		**P**	**00 23 38.3**	**+2.2**
	comp=Z,18nm,1.1s							
HABR	**Khabarovsk**	**48.91**	**3**	P		**P**	**00 23 38.7**	**-0.9**
HABR				*e**PP		**pP**	**00 23 48.3**	**+3.0**
HABR				*e*			00 25 32.0	
HABR				S		**S**	**00 30 40.6**	**-1.9**
HABR				*e**SS		sS	00 30 57.3	+5.3
HABR				*e*			00 33 28.1	
HABR				*e*SS		SS	00 34 13.0	-0.6
HABR				*e*SSS		SSS	00 35 28.0	
HABR				MLR		MLR		
	comp=Z,206nm,20.0s							
GTA	**Gaotai**	**49.49**	**327**	*e*P		P	00 23 48.0	+3.6
GTA				pP		pP	00 23 52.9	+2.7
GTA				sP		sP	00 23 55.0	+2.6
GTA				S		S	00 30 58.9	+7.6
GTA				sS		sS	00 31 05.0	+4.2
GTA				SS		SS	00 34 26.5	+2.9
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,310nm,6.7s							
GTA				LR		LR		
	comp=N,370nm,18.0s							
GTA				LR		LR		
	comp=E,300nm,16.1s							
GTA				LR		LR		
	comp=Z,250nm,19.9s							
KLR	**Kul'dur**	**49.60**	**360**	*e*P		P	00 23 40.6	-4.3
ULN	**Ulaanbaatar**	**52.89**	**339**	*e*P		**P**	**00 24 08.9**	**-0.9**
ULN				pmax		pmax		
	comp=Z,19nm,1.2s							
ULN	**Ulaanbaatar**	**52.89**	**339**	*e*P		**P**	**00 24 08.9**	**-0.9**
	comp=Z,19nm,1.2s							
ULN	**Ulaanbaatar**	**52.89**	**339**	P		P	00 24 14.6	+4.8
	comp=Z,18nm,1.9s							
SONM	**Songino Array**	**53.10**	**339**	P		**P**	**00 24 10.5**	**-0.8**
	comp=Z,7.1nm,1.1s,baz=152,slow=9.1,SNR=4.0							
SONM				PcP		**PcP**	**00 25 19.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=165,slow=4.0,SNR=2.6							
SONM				LR		LR	00 46 20.4	
	comp=Z,182nm,20.0s,baz=170,slow=36							
SONM	**Songino Array**	**53.10**	**339**	P		**P**	**00 24 10.5**	**-0.8**
SONM							00 25 19.1	
SONM	**Songino Array**	**53.10**	**339**	P		**P**	**00 24 10.5**	**-0.8**
SONM				PcP		**PcP**	**00 25 19.1**	**-0.4**
HYB	**Hyderabad**	**55.54**	**292**	*i* P		**P**	**00 24 27.0**	**-2.5**
ZAK	**Zakamensk**	**56.36**	**338**	*e*P		**P**	**00 24 34.8**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.4s							
TLY	**Talaya**	**57.30**	**339**	*e*P		**P**	**00 24 41.2**	**-0.2**
TLY				pmax		pmax		
	comp=Z,11nm,1.9s							
TLY	**Talaya**	**57.30**	**339**	*e*P		**P**	**00 24 40.1**	**-1.3**
PETK	**Petropavlovsk-**	**57.63**	**18**	P		**P**	**00 24 44.5**	**+0.8**
	comp=Z,11nm,0.8s,baz=184,slow=6.8,SNR=10.0							
PETK	**Petropavlovsk-**	**57.63**	**18**	P		**P**	**00 24 44.5**	**+0.8**
PETK	**Petropavlovsk-**	**57.63**	**18**	P		**P**	**00 24 44.5**	**+0.8**
MOY	**Mondy**	**58.25**	**338**	*e*P		**P**	**00 24 50.5**	**+2.3**
MOY				pmax		pmax		
	comp=Z,32nm,2.6s							
WMQ	**Urumqi**	**59.25**	**324**	P		**P**	**00 24 54.9**	**-0.4**
WMQ				pP		**pP**	**00 24 59.5**	**-1.6**
WMQ				sP		**sP**	**00 25 01.9**	**-1.4**
WMQ				pmax		pmax		
	comp=Z,11nm,1.2s							
WMQ				LR		LR		
	comp=N,290nm,22.6s							
WMQ				LR		LR		
	comp=E,230nm,25.0s							
WMQ				LR		LR		
	comp=Z,230nm,16.8s							
BOD	**Bodaibo**	**59.95**	**349**	*e*P		**P**	**00 24 58.7**	**-1.0**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.4s							
YAK	**Yakutsk**	**62.45**	**359**	*e*P		**P**	**00 25 15.8**	**-0.8**
YAK				pmax		pmax		
	comp=Z,19nm,0.9s							
YAK	**Yakutsk**	**62.45**	**359**	*e*P		**P**	**00 25 15.7**	**-0.9**
MK31	**Makanchi Array**	**64.07**	**324**	*i* P		**P**	**00 25 27.0**	**-0.7**
MK31				pmax		pmax		
	comp=Z,16nm,1.1s							
MK31	**Makanchi Array**	**64.07**	**324**	*e*P		**P**	**00 25 26.7**	**-1.0**
MKAR	**Makanchi Array**	**64.07**	**324**	P		**P**	**00 25 26.9**	**-0.8**
	comp=Z,5.3nm,0.9s,baz=114,slow=7.1,SNR=18							
MKAR				LR		LR	00 53 44.2	
	comp=Z,179nm,18.1s,baz=271,slow=36							
MKAR	**Makanchi Array**	**64.07**	**324**	*e*P		**P**	**00 25 27.3**	**-0.4**
MKAR	**Makanchi Array**	**64.07**	**324**	*e*P		**P**	**00 25 27.2**	**-0.4**
KSH	**Kashi**	**64.77**	**315**	*e*P		**P**	**00 25 33.1**	**+0.5**
KSH				*ep*P		**pP**	**00 25 37.8**	**-0.7**
KSH				*es*P		**sP**	**00 25 40.5**	**-0.2**
KSH				*e*PcP		**PcP**	**00 26 07.3**	**+1.2**
KSH				*e*PP		**PP**	**00 27 57.1**	**+1.9**
KSH				*e*ScP			00 30 07.8	
KSH				*e*PcS			00 30 09.3	
KSH				*e*S		**S**	**00 34 10.3**	**-2.4**
KSH				pmax		pmax		
	comp=Z,12nm,1.2s							
KSH				pmax		pmax		
	comp=Z,380nm,8.9s							
KSH				LR		LR		
	comp=N,370nm,10.1s							
KSH				LR		LR		
	comp=E,480nm,8.4s							
KSH				LR		LR		
	comp=Z,400nm,8.2s							
SEY	**Seymchan**	**65.16**	**10**	*ce*P		**P**	**00 25 35.7**	**+1.3**
TKM2	**Tokmak 2**	**66.42**	**318**	*e*P		**P**	**00 25 42.2**	**-1.1**
TKM2				pmax		pmax		
	comp=Z,9.0nm,1.0s							
TKM2	**Tokmak 2**	**66.42**	**318**	*e*P		**P**	**00 25 42.2**	**-1.1**
	comp=Z,8.7nm,1.0s							
ZAA0	**Zalesovo Array**	**66.80**	**332**	*e*P		**P**	**00 25 43.7**	**-1.4**
ZALV	**Zalesovo Beam**	**66.80**	**332**	P		**P**	**00 25 43.9**	**-1.3**
	comp=Z,15nm,1.1s,baz=139,slow=6.0,SNR=15							
ZALV				LR		LR	00 58 27.3	
	comp=Z,138nm,19.7s,baz=63,slow=39							
ZALV	**Zalesovo Beam**	**66.80**	**332**	P		**P**	**00 25 43.9**	**-1.3**
ZALV	**Zalesovo Beam**	**66.80**	**332**	P		**P**	**00 25 43.9**	**-1.3**
AAK	**Ala-Archa**	**67.05**

VNDA	Vanda	78.57	174	*e*P		P	00 26 55.2	+0.5	
VNDA	Vanda	78.57	174	*e*P		P	00 26 55.2	+0.5	
AB31	Akbulak array	78.78	321	*i* P		P	00 26 54.9	-1.5	
AB31	comp=Z,28nm,1.3s			pmax	pmax				
ABKAR	Akbulak array	78.78	321	*e*P		P	00 26 55.5	-0.9	
PPT2	Papeete2	78.81	108	*e*LR	LR	LR	00 51 40.7		
	comp=Z,273nm,30.5s								
TBI	Tubuai	79.27	114	*e*LR	LR	LR	00 51 52.7		
	comp=Z,226nm,30.5s								
AKTO	Aktyubinsk	80.27	321	P		P	00 27 03.5	-1.0	
	comp=Z,13nm,1.1s,baz=93,slow=8.5,SNR=14								
AKTO	Aktyubinsk	80.27	321	*i* P		P	00 27 06.3	+1.8	
AKTO	comp=Z,3.0nm,1.1s			pmax	pmax				
AKTO	Aktyubinsk	80.27	321	P		P	00 27 03.5	-1.0	
SVE	Sverdlovsk	80.35	328⇓	*i* P		P	00 27 04.5	-0.3	
SVE	comp=Z,43nm,1.6s			pmax	pmax				
ARU	Arti	81.35	327	*c i* P		P	00 27 09.1	-1.1	
ARU							00 30 15.0		
ARU				S		S	00 37 18.4	-1.8	
ARU				SS		SS	00 42 29.0	-7.3	
ARU	comp=Z,18nm,1.2s			pmax	pmax				
ARU	Arti	81.35	327	*e*P		P	00 27 08.8	-1.3	
	comp=Z,19nm,1.0s								
PMR	Palmer	85.20	28	*e*P		P	00 27 29.5	-0.4	
PMR	Palmer	85.20	28	*e*P		P	00 27 29.5	-0.4	
RDF	Al-Radifah	85.39	299	*e*P		P	00 27 30.7	-0.9	
RDF				AMb	AMB	AMB	00 27 34.1		
	comp=Z,52nm,1.6s								
MIB	Mutribah	85.63	300	*e*P		P	00 27 30.8	-2.0	
MIB				AMb	AMB	AMB	00 27 36.9		
	comp=Z,43nm,1.5s								
MCK	McKinley	85.67	26	*e*P		P	00 27 32.2	-0.1	
MCK	comp=Z,1.0nm,1.4s			pmax	pmax				
MCK	McKinley	85.67	26	*e*P		P	00 27 32.1	-0.1	
	comp=Z,0.6nm,1.4s								
NAY	Al-Naaiem	85.68	299	*e*P		P	00 27 31.6	-1.5	
NAY				AMb	AMB	AMB	00 27 36.4		
	comp=Z,32nm,0.8s								
ILAR	Eielson Array	86.72	25	P		P	00 27 36.1	-1.3	
	comp=Z,1.5nm,0.7s,baz=257,slow=4.5,SNR=23								
ILAR	Eielson Array	86.72	25	P		P	00 27 36.1	-1.3	
ILAR	Eielson Array	86.72	25	P		P	00 27 36.1	-1.3	
RAYN	Ar Rayn	87.00	293	P		P	00 27 38.7	-1.0	
	comp=Z,102nm,0.8s,SNR=6.6								
RAGM	Ragged Mountai	87.18	30	*e*P		P	00 27 36.9	-2.9	
	comp=Z,368nm,0.6s								
ZEI	Tsey	88.97	313	*e*P		P	00 27 48.9	0.0	
ZEI	comp=Z,11nm,1.5s			pmax	pmax				
OBN	Obninsk	93.57	325⇑	*e*P		P	00 28 10.5	+0.9	
OBN	comp=Z,21nm,2.0s			pmax	pmax				
ANN	Anapa	93.63	315	*e*P		P	00 28 03.8	-6.4	
ANN				*e*			00 38 35.0		
ANN	comp=Z,101nm,1.0s			pmax	pmax				
ARCES	ARCESS Array B	96.25	340	P		P	00 28 20.0	-1.7	
	comp=Z,2.6nm,0.7s,baz=83,slow=7.4,SNR=7.1								
ARCES	ARCESS Array B	96.25	340	P		P	00 28 20.0	-1.7	
ARCES	ARCESS Array B	96.25	340	P		P	00 28 20.0	-1.7	
YKA	Yellowknife Ar	101.13	26	P		Pdif	00 28 43.1	-0.6	
	comp=Z,0.2nm,0.6s,baz=290,slow=4.7,SNR=3.6								
YKA	Yellowknife Ar	101.13	26	P		Pdif	00 28 43.1	-0.6	
YKA	Yellowknife Ar	101.13	26	P		Pdif	00 28 43.1	-0.6	
TORD	Torodi Ar. Bea	129.21	286	PKP		PKPdf	00 34 02.2	-0.8	
	comp=Z,0.9nm,0.7s,baz=74,slow=0.9,SNR=5.6								
TORD	Torodi Ar. Bea	129.21	286	PKP		PKPdf	00 34 02.2	-0.8	

IDC ***19*** *00:21:30.1±0.6, 0.°55S×131.°77E, h0km, mb4.4/10, mb1 4.6/13, mb1mx4.4/19, mbtmp4.5/13, ML4.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/34, Error ellipse: s-maj=27.7km s-min=10.9km az=77.0*

ISCJB ***19*** *00:21:32.9±0.2, 0.°46S±0.°03×131.°91E±0.°04, h31km, mb4.8/46, MS4.2/3, Error ellipse: s-maj=6.2km s-min=4.6km az=164.6*

MOS ***19*** *00:21:33.3±1.1, 0.°51S×131.°76E, h33km, mb5.1/17, Error ellipse: s-maj=13.8km s-min=6.8km az=114.6*

BJI ***19*** *00:21:34.0, 0.°40S×131.°80E, h30km, mB5.3/6, mb4.6/11, Ms4.9/3, Ms7 4.6/4*

NEIC ***19*** *00:21:35.2±0.2, 0.°50S×131.°87E, h35km, mb4.9/16, Error ellipse: s-maj=6.7km s-min=3.5km az=61.0*

NEIC Felt [IV] at Sorong.

DJA ***19*** *00:21:35, 0.°56S×131.°73E, h13km, mb4.9/14*

ISC 19 00:21:34.9±0.3, 0.°47S±0.°04×131.°93E±0.°05, h31km, n169, σ1§46/182, mb4.9/46, MS4.2/3, 6C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
FAKI	Fak Fak	2.46	173	P		Pn	00	22	12.7 -0.2
MSAI	Masohi	4.14	226	P		Pn	00	22	36.8 +0.7
LBMI	Labuha	4.43	268	P		Pn	00	22	41.1 +1.1
TNTI	Ternate	4.72	285	P		Pn	00	22	47.5 +3.5
AAI	Ambon	4.92	229	P		Pn	00	22	46.8 +0.1
TLE	Tual	5.20	171	P		Pn	00	22	54.6 +4.0
	166nm,1.1s,1.5nm								
NLAI	Namlea	5.56	240	P		Pn	00	22	54.8 -0.7
	126nm,0.7s,2μm0.8nm								
DAV	Davao City (W)	9.81	320	*e*P		Pn	00	23	53.9 0.0
KDI	Kendari	9.93	249	P		Pn	00	23	56.2 +0.7
	46nm,1.2s								
SPSI	Sidrap Palu	12.64	254	P		Pn	00	24	34.5 +1.9
	36nm,1.2s								
BKSI	Bulukumba	12.74	248	P		P	00	24	42.4 -2.3
KAPI	Kappang	12.97	249	Pn		Pn	00	24	38.4 +1.2
	1.0nm,0.3s,baz=116,slow=10.0,SNR=7.0								
KAPI				Sn		Sn	00	27	06.1 +5.5
	0.4nm,0.3s,baz=68,slow=19,SNR=2.1								
KAPI				LR		LR	00	29	13.8
	comp=Z,447nm,20.9s,baz=322,slow=36								
KAPI	Kappang	12.97	249	*e*Pn		Pn	00	24	38.8 +1.5
KAPI				Sn		Sn	00	27	06.1 +5.5
KAPI	Kappang	12.97	249	P		Pn	00	24	39.4 +2.2
	63nm,1.2s								
KBKI	Kotabaru	16.00	260	P		Pn	00	25	18.1 +0.2
COEN	Coen	17.42	141	*e*Pn		Pn	00	25	34.8 -1.0
	288nm,1.1s								
PMG	Port Moresby	17.57	121	P		P	00	25	39.1 +0.7
	1.1nm,0.3s,baz=318,slow=9.3,SNR=11								
PMG	Port Moresby	17.57	121	*c e*P		P	00	25	40.8 +2.4
PMG				pmax	pmax				
	comp=Z,64nm,1.2s								
PMG	Port Moresby	17.57	121	P		P	00	25	39.1 +0.7
FITZ	Fitzroy Crossi	18.58	199	P		P	00	25	46.6 -3.0
	comp=Z,0.7nm,0.3s,baz=36,slow=12,SNR=11								
FITZ				S		Sn	00	29	04.4 -13
	comp=Z,0.9nm,0.3s,baz=14,slow=19,SNR=3.4								
FITZ	Fitzroy Crossi	18.58	199	*e*P		P	00	25	45.4 -4.2
	comp=Z,19nm,0.6s								
FITZ	Fitzroy Crossi	18.58	199	*e*P		P	00	25	45.6 -4.0
	comp=Z,23nm,1.1s								
FITZ				S		Sn	00	29	04.4 -13
GUMO	Guam	18.96	42	*e*P		Pn	00	25	54.1 -0.5
GUMO	Guam	18.96	42	*e*P		Pn	00	25	54.1 -0.5
WRAB	Tennant Creek	19.49	173	*e*P		P	00	25	58.8 -0.8
WRAB	Tennant Creek	19.49	173	*e*P		P	00	25	58.8 -0.8
WRAB				*e*S		S	00	29	19.3 -19
WRA	Warramunga Arr	19.50	173	P		P	00	25	58.1 -1.5
	comp=Z,1.7nm,0.3s,baz=350,slow=11,SNR=16								
WRA				S		S	00	29	24.4 -14
	comp=Z,0.5nm,0.3s,baz=352,slow=22,SNR=5.7								
WRA	Warramunga Arr	19.50	173	P		P	00	25	58.1 -1.5
WRA				S		S	00	29	24.5 -14
WRA	Warramunga Arr	19.50	173	P		P	00	25	58.1 -1.5
WRA				S		S	00	29	24.4 -14
AS31	Alice Springs	23.14	175	*e*P		P	00	26	37.6 -1.1
ASAR	Alice Springs	23.14	175	P		P	00	26	37.7 -1.1
	comp=Z,12nm,0.6s,baz=354,slow=7.8,SNR=49								
ASAR				S		S	00	30	51.3 +2.9
	comp=Z,2.6nm,0.9s,baz=354,slow=24,SNR=3.8								
ASAR	Alice Springs	23.14	175	P		P	00	26	37.7 -1.1
ASAR				S		S	00	30	51.3 +2.9
ASAR	Alice Springs	23.14	175	P		P	00	26	37.7 -1.1
ASAR				S		S	00	30	51.3 +2.9
MBWA	Marble Bar	23.77	209	*e*P		P	00	26	43.6 -1.2
	comp=Z,8.8nm,0.8s								
CTA	Charters Tower	24.02	145	P		P	00	26	48.2 +1.0
	comp=Z,9.7nm,0.9s,baz=336,slow=9.0,SNR=3.5								
CTA	Charters Tower	24.02	145	*e*P		P	00	26	44.4 -2.8
	comp=Z,13nm,1.5s								
CTA	Charters Tower	24.02	145	P		P	00	26	48.2 +1.0
CTA	Charters Tower	24.02	145	P		P	00	26	48.2 +1.0
CTAO	Charters Tower	24.02	145	*e*P		P	00	26	48.1 +0.9
CTAO	Charters Tower	24.02	145	*e*P		P	00	26	48.1 +0.9
NACB	Ninganchiao	26.47	338	*e*P		P	00	27	09.6 +0.2
BBOO	Buckleboo	32.41	174	*e*P		P	00	28	01.9 -0.2
	comp=Z,225nm,1.0s								
STKA	Stephens Creek	32.55	165	P		P	00	28	02.2 -1.1
	comp=Z,4.2nm,0.7s,baz=329,slow=8.6,SNR=8.4								
STKA	Stephens Creek	32.55	165	*e*P		P	00	28	02.2 -1.1
	comp=Z,3.9nm,0.8s								
STKA	Stephens Creek	32.55	165	*e*P		P	00	28	02.5 -0.8
STKA	Stephens Creek	32.55	165	*e*P		P	00	28	02.5 -0.8
NJ2	Nanjing	34.63	340	*e*P		P	00	28	21.4 0.0
NJ2				pP		pP	00	28	34.3 +3.8
NJ2				sP		sP	00	28	38.3 +4.1
NJ2				PP		PP	00	29	38.3 -2.0
NJ2				S		S	00	33	46.0 -3.0
NJ2				sS		sS	00	34	06.5 +2.5
NJ2				pmax	pmax				
	comp=Z,30nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,300nm,4.4s								
NJ2				LR	LR				
	comp=N,350nm,17.0s								
NJ2				LR	LR				
	comp=E,300nm,17.8s								
NJ2				LR	LR				
	comp=Z,290nm,11.6s								
WHN	Wuhan	35.08	333	*e*P		P	00	28	28.8 +3.5
NWAO	Narrogin (SRO)	35.13	202	*e*P		P	00	28	25.2 -0.5
NWAO				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NWAO	Narrogin (SRO)	35.13	202	*e*P		P	00	28	25.2 -0.5
	comp=Z,6.4nm,0.7s								
ARMA	Armidale	35.18	150	*e*P		P	00	28	26.0 -0.4
ARMA	Armidale	35.18	150	*e*P		P	00	28	26.8 +0.5
	comp=Z,44nm,1.8s								
CM31	Chiang Mai Arr	37.48	302	*e*P		P	00	28	45.8 -0.2
CMAR	Chiang Mai Arr	37.48	302	P		P	00	28	45.2 -0.7
	comp=Z,0.8nm,0.4s,baz=126,slow=7.7,SNR=14								
CMAR				PcP		PcP	00	31	05.7 +1.5
	comp=Z,1.1nm,0.3s,baz=140,slow=2.1,SNR=4.2								
CMAR	Chiang Mai Arr	37.48	302	P		P	00	28	45.3 -0.7
CMAR							00	31	05.7
CMAR	Chiang Mai Arr	37.48	302	P		P	00	28	45.2 -0.7
CMAR				PcP		PcP	00	31	05.7 +1.5
CHTO	Chiang Mai	37.63	302	*e*P		P	00	28	47.6 +0.3
CHTO				pmax	pmax				
	comp=Z,13nm,1.4s								
CHTO	Chiang Mai	37.63	302	*e*P		P	00	28	47.6 +0.3
	comp=Z,13nm,1.4s								
CAN	Canberra	38.15	157	P		P	00	28	51.8 +0.3
CAN	Canberra	38.15	157	P		P	00	28	51.8 +0.3
TAU	Tasmania Unive	44.45	164	*e*P		P	00	29	43.4 +0.3
TAU	Tasmania Unive	44.45	164	*e*P		P	00	29	43.4 +0.3
USRK	Ussuriysk Arra	44.47	0	P		P	00	29	44.4 +1.2
	comp=Z,3.7nm,0.6s,baz=179,slow=8.0,SNR=11								
LZH	Lanzhou	44.78	327	*e*P		P	00	29	50.0 +4.0
LZH				pP		pP	00	29	56.3 +1.0
LZH				sP		sP	00	29	58.8 -0.2
LZH				pmax	pmax				
	comp=Z,18nm,1.4s								
MSVF	Nonsavu	48.47	113	*e*P		P	00	30	17.4 +2.3
MSVF				pmax	pmax				
	comp=Z,23nm,1.2s								
MSVF	Nonsavu	48.47	113	*e*P		P	00	30	17.4 +2.3
	comp=Z,23nm,1.2s								
HABR	Khabarovsk	48.82	3	*e*P		P	00	30	26.0 +8.8
HABR				*e*			00	31	40.1
HABR				*e*			00	32	09.4
HABR				*e*PPP		PP	00	33	00.5 +50
HABR				S		S	00	37	18.0 -0.4
HABR				*e**SS		sS	00	37	34.6 +0.8
HABR				*e*			00	40	05.4
HABR				*e*SS		SS	00	40	50.3 +0.9
HABR				*e*SSS		SKiKP	00	42	06.2 +5.3
HABR				pmax	pmax				
	comp=Z,59nm,1.8s								
HABR				pmax	pmax				
	comp=E,167nm,3.6s								
HABR				pmax	pmax				
	comp=N,29nm,1.8s								
HABR				MLR	MLR				
	comp=Z,128nm,15.0s								
GTA	Gaotai	49.38	327	*e*P		P	00	30	25.3 +3.4
GTA				pP		pP	00	30	33.8 +2.6
GTA				sP		sP	00	30	37.8 +2.9
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KLR	Kul'dur	49.50	360	*e*P		P	00	30	20.0 -2.4
TAPN	Taplejung	50.67	307	*e*P		P	00	30	30.2 -1.9
TAPN	Taplejung	50.67	307	*e*P		P	00	30	30.2 -1.9
ODAN	Odare	50.72	306	*e*P		P	00	30	30.9 -1.5
	comp=Z,23nm,1.1s								
ODAN	Odare	50.72	306	*e*P		P	00	30	30.9 -1.5
	comp=Z,23nm,1.1s								
RAMN	Ramite	51.40	306	*e*P		P	00	30	36.5 -1.0
	comp=Z,13nm,0.7s								
RAMN	Ramite	51.40	306	*e*P		P	00	30	36.5 -1.0
	comp=Z,13nm,0.7s								
JIRN	Jiri	52.02	306	*e*P		P	00	30	41.3 -1.0
JIRN	Jiri	52.02	306	*e*P		P	00	30	41.3 -1.0
GUN	Gumba	52.38	306	*e*P		P	00	30	43.9 -1.0
	comp=Z,33nm,1.2s								
GUN	Gumba	52.38	306	*e*P		P	00	30	43.9 -1.0
	comp=Z,33nm,1.2s								
ULN	Ulaanbaatar	52.78	339	*e*P		P	00	30	51.3 +4.0
ULN				pmax	pmax				
	comp=Z,8.0nm,0.9s								
ULN	Ulaanbaatar	52.78	339	*e*P		P	00	30	51.3 +4.0
	comp=Z,7.9nm,0.9s								
KKN	Kakani	52.81	306	*e*P		P	00	30	47.0 -1.0
KKN	Kakani	52.81	306	*e*P		P	00	30	47.0 -1.0
KKN	Kakani	52.81	306	*e*P		P	00	30	47.0 -1.0
DMN	Daman	52.88	306	*e*P		P	00	30	48.0 -0.5
DMN	Daman	52.88	306	*e*P		P	00	30	48.0 -0.5
SONM	Songino Array	52.99	339	P		P	00	30	49.4 +0.6
	comp=Z,2.4nm,0.7s,baz=154,slow=7.6,SNR=17								
SONM				PcP		PcP	00	31	57.3 0.0
	comp=Z,1.9nm,0.8s,baz=144,slow=4.2,SNR=4.9								
SONM	Songino Array	52.99	339	P		P	00	30	49.4 +0.6
SONM							00	31	57.3
SONM	Songino Array	52.99	339	P		P	00	30	49.4 +0.6
SONM				PcP		PcP	00	31	57.3 0.0
GKN	Gorkha	53.42	306	*e*P		P	00	30	52.1 -0.3
GKN	Gorkha	53.42	306	*e*P		P	00	30	52.1 -0.3
KOLN	Koldanda	54.17	305	*e*P		P	00	30	57.2 -0.7
	comp=Z,23nm,0.8s								
KOLN	Koldanda	54.17	305	*e*P		P	00	30	57.2 -0.7
	comp=Z,23nm,0.8s								
DANN	Dangsing	54.27	306	*e*P		P	00	30	57.6 -1.1
	comp=Z,26nm,0.9s								
DANN	Dangsing	54.27	306	*e*P		P	00	30	57.6 -1.1
	comp=Z,26nm,0.9s								
HYB	Hyderabad	55.45	292	*i* P		P	00	31	04.5 -2.6
RAO	Raoul Island	55.68	126	P		P	00	31	08.0 -0.5
RAO	Raoul Island	55.68	126	P		P	00	31	08.0 -0.5
ZAK	Zakamensk	56.25	338	*e*P		P	00	31	11.6 -0.8
ZAK				*e*			00	32	09.1
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.6s								
TLY	Talaya	57.19	339	*e*P		P	00	31	18.7 -0.2
TLY	Talaya	57.19	339	*e*P		P	00	31	18.7 -0.2
PETK	Petropavlovsk-	57.56	18	P		P	00	31	22.6 +1.1
	comp=Z,14nm,0.8s,baz=194,slow=5.5,SNR=9.3								
PETK	Petropavlovsk-	57.56	18	P		P	00	31	22.6 +1.1
PETK	Petropavlovsk-	57.56	18	P		P	00	31	22.6 +1.1
MOY	Mondy	58.14	338	*e*P		P	00	31	32.2 +6.5
BOD	Bodaibo	59.84	349	*e*P		P	00	31	38.3 +1.0
BOD				pmax	pmax				
	comp=Z,4.0nm,1.5s								
YAK	Yakutsk	62.36	359	*e*P		P	00	31	54.6 +0.4
YAK				pmax	pmax				
	comp=Z,21nm,0.9s								
YAK	Yakutsk	62.36	359	*e*P		P	00	31	54.0 -0.1
	comp=Z,29nm,0.8s								
MK31	Makanchi Array	63.95	324	*e*P		P	00	32	04.6 -0.6
MK31	Makanchi Array	63.95	324	*e*P		P	00	32	04.6 -0.6
MKAR	Makanchi Array	63.95	324	P		P	00	32	05.1 -0.1
	comp=Z,4.0nm,0.8s,baz=118,slow=7.8,SNR=32								
MKAR	Makanchi Array	63.95	324	*c e*P		P	00	32	05.0 -0.1
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MKAR	Makanchi Array	63.95	324	P		P	00	32	05.1 -0.1
KSH	Kashi	64.66	315	P		P	00	32	11.6 +1.5
KSH				pmax	pmax				
	comp=Z,150nm,3.9s								
SEY	Seymchan	65.08	10	*c e*P		P	00	32	14.2 +2.1
KZA	Kyzart	66.20	317	P		P	00	32	20.9 +0.5
	SNR=6.1								
KZA				P		P	00	32	20.9 +0.5
	SNR=6.1								
TKM2	Tokmak 2	66.31	318	P		P	00	32	20.8 0.0
	SNR=7.2								
TKM2				P		P	00	32	20.8 0.0
	SNR=7.2								
TKM2	Tokmak 2	66.31	318	*e*P		P	00	32	21.0 +0.2
TKM2	Tokmak 2	66.31	318	*e*P		P	00	32	21.0 +0.2
ZAA0	Zalesovo Array	66.69	332	*e*P		P	00	32	21.8 -0.9
ZALV	Zalesovo Beam	66.69	332	P		P	00	32	21.9 -0.7
	comp=Z,5.3nm,1.0s,baz=120,slow=6.4,SNR=22								
ZALV	Zalesovo Beam	66.69	332	P		P	00	32	21.9 -0.7
ZALV	Zalesovo Beam	66.69	332	P		P	00	32	21.9 -0.7
AAK	Ala-Archa	66.94	317	*e*P		P	00	32	24.4 -0.3
AAK				pmax	pmax				
	comp=Z,22nm,1.0s								
AAK	Ala-Archa	66.94	317	*e*P		P	00	32	24.4 -0.3
	comp=Z,22nm,1.0s								
USP	Ospenovka	67.19	318	P		P	00	32	27.2 +1.0
	SNR=12								
USP				P		P	00	32	27.2 +1.0
	SNR=12								
AML	Almayashu	67.28	317	P		P	00	32	28.7 +1.4
	SNR=9.9								
AML				P		P	00	32	28.7 +1.4
	SNR=9.9								
EKS2	Erkin-Say	67.43	317	P		P	00	32	28.5 +0.6
	SNR=5.9								
EKS2				P		P	00	32	28.5 +0.6
	SNR=5.9								
EKS2	Erkin-Say	67.43	317	*e*P		P	00	32	28.8 +0.9
EKS2	Erkin-Say	67.43	317	*e*P		P	00	32	28.8 +0.9
NVS	Novosibirsk	67.96	332	*e*P		P	00	32	28.1 -2.6
NVS				*e*			00	34	56.8
NVS				pmax	pmax				
	comp=Z,52nm,2.2s								
NVS				pmax	pmax				
	comp=N,10.0nm,1.9s								
KURK	Kurchatov	68.06	327	*c e*P		P	00	32	32.2 +0.7
KURK				pmax	pmax				
	comp=Z,19nm,1.0s								
KURK	Kurchatov	68.06	327	*e*P		P	00	32	31.3 -0.2
KBL	Kabul	68.18	308	*e*P		P	00	32	32.0 -0.8
KBL	Kabul	68.18	308	*e*P		P	00	32	32.0 -0.8
KKAR	Karatay Array	69.83	317	*e*P		P	00	32	42.3 -0.3
KKAR				pmax	pmax				
	comp=Z,11nm,1.0s								
KKAR	Karatay Array	69.83	317	*e*P		P	00	32	42.3 -0.3
	comp=Z,11nm,1.0s								
BILL	Bilibino	72.36	13⇓	*e*P		P	00	32	58.5 +1.1
BILL				*e*			00	35	44.0
BILL				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BILL				MLR	MLR				
	comp=Z,100nm,17.0s								
BRVK	Borovoye	73.73	326	*c e*P		P	00	33	06.8 +1.0
BRVK				pmax	pmax				
	comp=Z,14nm,1.0s								
BRVK	Borovoye	73.73	326	*e*P		P	00	33	05.3 -0.5
ABKAR	Akbulak array	78.67	321	*e*P		P	00	33	33.3 -0.7
	comp=Z,7.4nm,0.9s								
VNDA	Vanda	78.67	174	*e*P		P	00	33	32.9 -0.6
VNDA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
VNDA	Vanda	78.67	174	*e*P		P	00	33	32.9 -0.6
	comp=Z,6.3nm,1.0s								
SVE	Sverdlovsk	80.24	328⇓	*e*P		P	00	33	42.6 +0.2
SVE				pmax	pmax				
	comp=Z,17nm,0.9s								
ARU	Arti	81.24	327	*c i* P		P	00	33	47.8 0.0
ARU							00	36	53.6
ARU				S		S	00	43	57.0 +1.1
ARU				SS		SS	00	49	12.9 +1.1
ARU				pmax	pmax				
	comp=Z,24nm,1.2s								
ARU	Arti	81.24	327	*e*P		P	00	33	47.3 -0.5
	comp=Z,10nm,0.8s								
RDF	Al-Radifah	85.30	299	*e*P		P	00	34	09.2 -0.1
RDF				AMb	AMB	AMB	00	34	15.7
	comp=Z,49nm,1.4s								
MIB	Mutribah	85.53	300	*e*P		P	00	34	10.1 -0.3
MIB				AMb	AMB	AMB	00	34	11.3

GONE	**Gonen-Balikesi**	**1.48**	**98**	*e*Pn	**Pb**	**00 38 29.7**	**0.0**
BALY	**Balya**	**1.51**	**110**	*e*P	Pn	00 38 23.4	-5.7
BALY				*e*S	**Sg**	**00 38 51.0**	**-0.1**
BALY	**Balya**	**1.51**	**110**	*e*S	**Sg**	**00 38 51.0**	**-0.1**
EDRB	**Edirne**	**1.74**	**25**	*e*PN	**Pn**	**00 38 32.6**	**+0.3**
EDRB	**Edirne**	**1.74**	**25**	*e*Pn	**Pn**	**00 38 32.6**	**+0.3**

IDC 19 00:45:25.0±1.0, 0°54S×131°90E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=71.5km s-min=13.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.43**	**173**	P	P	00 49 53.6	+0.4
	0.3nm,0.3s,baz=348,slow=11,SNR=5.9						
WRA				S	Sn	00 53 21.6	-11
	0.2nm,0.3s,baz=358,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**23.07**	**175**	P	P	00 50 32.9	+0.5
	2.7nm,0.6s,baz=355,slow=8.9,SNR=27						
ASAR				S	S	00 54 45.4	+0.8
	0.2nm,0.5s,baz=358,slow=24,SNR=2.8						
STKA	**Stephens Creek**	**32.48**	**165**	P	P	00 51 57.5	0.0
	1.1nm,0.8s,baz=350,slow=11,SNR=2.5						
SONM	**Songino Array**	**53.05**	**339**	P	P	00 54 44.3	+0.1
	0.5nm,0.8s,baz=157,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**64.00**	**324**	P	P	00 56 00.6	+0.1
	0.9nm,0.8s,baz=119,slow=7.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**66.74**	**332**	P	P	00 56 17.6	-0.5
	0.7nm,0.5s,baz=132,slow=6.8,SNR=4.2						
ILAR	**Eielson Array**	**86.73**	**25**	P	P	00 58 10.6	-0.2
	0.5nm,0.8s,baz=268,slow=5.0,SNR=5.4						

IDC 19 00:55:18.1±1.2, 0°46S×131°97E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=64.2km s-min=19.9km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.60**	**199**	P	P	00 59 37.1	0.0
	0.1nm,0.3s,baz=23,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**19.50**	**173**	P	P	00 59 47.0	0.0
	0.2nm,0.3s,baz=351,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**23.14**	**175**	P	P	01 00 26.1	-0.1
	1.4nm,0.6s,baz=355,slow=9.1,SNR=21						
MKAR	**Makanchi Array**	**63.98**	**324**	P	P	01 05 53.5	+0.2
	0.2nm,0.4s,baz=118,slow=7.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**66.70**	**332**	P	P	01 06 11.0	+0.1
	0.2nm,0.3s,baz=117,slow=5.0,SNR=3.6						
KURK	**Kurchatov**	**68.08**	**327**	P	P	01 06 19.7	+0.1
	0.9nm,0.7s,baz=124,slow=5.9,SNR=4.7						
ILAR	**Eielson Array**	**86.64**	**25**	P	P	01 08 03.0	-0.4
	0.2nm,0.5s,baz=250,slow=4.4,SNR=4.1						

IDC 19 00:57:51.9±1.0, 0°49S×132°03E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/20, mbtmp3.8/10, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/32, Error ellipse: s-maj=60.5km s-min=15.9km az=77.0
NEIC 19 00:57:57.0±0.4, 0°54S×131°96E, h35km, mb4.0/5, Error ellipse: s-maj=19.0km s-min=5.8km az=75.0
ISC 19 00:57:56.8±0.8, 0°90S±0°08×131°4E±0°2, h35km, n25, σ2s37/26, mb3.9/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**12.31**	**250**	LR	LR	01 05 57.9	
	comp=Z,53nm,18.3s,baz=355,slow=37						
COEN	**Coen**	**17.45**	**139**	*e*Pn	**Pn**	**01 01 56.6**	**-1.1**
	37nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.00**	**198**	P	P	01 02 10.6	+6.0
	0.2nm,0.3s,baz=39,slow=11,SNR=4.7						
FITZ				S	**S**	**01 05 27.1**	**-2.3**
	0.1nm,0.3s,baz=38,slow=18,SNR=5.2						
FITZ	**Fitzroy Crossi**	**18.00**	**198**	*e*P	P	01 02 10.6	+6.0
	2.5nm,0.8s						
FITZ				S	**S**	**01 05 27.1**	**-2.3**
WRAB	**Tennant Creek**	**19.14**	**171**	*e*P	**Pn**	**01 02 20.1**	**+1.9**
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**19.14**	**171**	P	**Pn**	**01 02 20.4**	**+2.1**
	0.3nm,0.3s,baz=350,slow=11,SNR=6.2						
WRA				S	**Sn**	**01 05 47.4**	**-4.5**
	0.1nm,0.3s,baz=356,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**19.14**	**171**	P	**Pn**	**01 02 20.4**	**+2.1**
WRA				S	**Sn**	**01 05 47.4**	**-4.5**
AS31	**Alice Springs**	**22.76**	**174**	*e*P	**P**	**01 02 59.2**	**+3.0**
ASAR	**Alice Springs**	**22.76**	**174**	P	**P**	**01 03 00.1**	**+3.8**
	2.4nm,0.6s,baz=356,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**22.76**	**174**	P	**P**	**01 03 00.1**	**+3.8**
STKA	**Stephens Creek**	**32.28**	**164**	P	**P**	**01 04 24.2**	**+1.8**
	0.5nm,0.6s,baz=342,slow=13,SNR=2.1						
STKA	**Stephens Creek**	**32.28**	**164**	*e*P	**P**	**01 04 24.7**	**+2.3**
ULN	**Ulaanbaatar**	**52.99**	**340**	*e*P	**P**	**01 07 09.1**	**-1.2**
	1.6nm,0.8s						
SONM	**Songino Array**	**53.20**	**339**	P	**P**	**01 07 11.5**	**-0.2**
	0.6nm,0.8s,baz=134,slow=7.0,SNR=3.3						
SONM	**Songino Array**	**53.20**	**339**	P	**P**	**01 07 11.5**	**-0.2**
MKAR	**Makanchi Array**	**63.99**	**325**	P	**P**	**01 08 27.4**	**+0.6**
	1.1nm,0.9s,baz=112,slow=7.6,SNR=8.4						
MKAR	**Makanchi Array**	**63.99**	**325**	P	**P**	**01 08 27.4**	**+0.6**
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**01 08 44.4**	**-0.5**
	0.5nm,0.6s,baz=119,slow=5.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**01 08 44.4**	**-0.5**
KURK	**Kurchatov**	**68.13**	**327**	P	**P**	**01 08 53.8**	**+0.5**
	2.1nm,0.8s,baz=122,slow=5.9,SNR=13						
KURK	**Kurchatov**	**68.13**	**327**	*e*P	**P**	**01 08 53.7**	**+0.5**
	3.2nm,1.0s						
BVAR	**Borovoye Array**	**73.72**	**327**	P	**P**	**01 09 27.8**	**+0.7**
	1.7nm,0.9s,baz=116,slow=6.8,SNR=8.9						
BVAR	**Borovoye Array**	**73.72**	**327**	P	**P**	**01 09 27.9**	**+0.7**
ILAR	**Eielson Array**	**87.28**	**25**	P	**P**	**01 10 37.0**	**-2.6**
	0.5nm,0.7s,baz=252,slow=5.3,SNR=4.2						
ILAR	**Eielson Array**	**87.28**	**25**	P	**P**	**01 10 37.0**	**-2.6**

IDC 19 00:58:18.0±0.8, 33°22N×141°15E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/25, mbtmp3.6/11, ML3.9/2, Error ellipse: s-maj=26.1km s-min=16.3km az=75.0
JMA 19 00:58:23.3±0.1, 33°48N×140°96E, h53km±5km, M3.5
ISC 19 00:58:22.4±2.1, 33°33N±0°07×141°01E±0°09, h29km±15km, n20, σ1s55/29, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.02**	**258**	P	**Pb**	**00 58 41.8**	**+0.3**
JHJ2				*e*S	**Sb**	**00 58 54.6**	**0.0**
BSO1	**Boso 1**	**1.32**	**359**	P	**Pn**	**00 58 43.6**	**-0.8**
BSO1				*e*S	**Sn**	**00 58 58.4**	**-2.4**
BSO3	**Boso 3**	**1.52**	**344**	P	**Pn**	**00 58 46.7**	**-0.8**
BSO3				*e*S	**Sn**	**00 59 04.9**	**-1.3**
BSO4	**Boso 4**	**1.75**	**342**	P	**Pn**	**00 58 50.2**	**-0.5**
BSO4				*e*S	**Sn**	**00 59 10.8**	**-1.1**
JIM2	**Oshima 3**	**1.91**	**317**	P	**Pn**	**00 58 51.9**	**-1.1**
JIM2				*e*S	**Sn**	**00 59 13.0**	**-3.0**
JIZS	**Izushimoda**	**2.25**	**309**	P	**Pn**	**00 58 57.4**	**-0.2**
JIZS				*e*S	**Sn**	**00 59 22.5**	**-1.9**
JOD2	**Odawara 2**	**2.50**	**321**	P	**Pn**	**00 59 00.2**	**-0.9**
JOD2				*e*S	**Sn**	**00 59 27.7**	**-2.9**
JHU	**Hanno**	**2.89**	**331**	*e*S	**Sn**	**00 59 37.8**	**-2.5**
MJAR	**Matsushiro Arr**	**3.94**	**325**	Pn	**Pn**	**00 59 21.7**	**+0.7**
	4.8nm,0.3s,baz=152,slow=12,SNR=18						
MJAR				S	**Sn**	**01 00 06.2**	**0.0**
	2.6nm,0.3s,baz=154,slow=25,SNR=6.0						
MAT	**Matsushiro**	**3.94**	**325**	P	**Pn**	**00 59 20.5**	**-0.5**
MAT				S	**Sn**	**01 00 05.7**	**-0.6**
CBIJ	**Chichi jima**	**6.30**	**170**	Pn	Pn	00 59 51.6	-1.7
	5.2nm,0.3s,baz=319,slow=19,SNR=2.9						
CBIJ				S	**Sn**	**01 01 01.2**	**-3.0**
	5.0nm,0.3s,baz=342,slow=20,SNR=2.2						
SONM	**Songino Array**	**29.73**	**309**	P	**P**	**01 04 27.5**	**+1.4**
	0.2nm,0.6s,baz=124,slow=9.4,SNR=2.6						
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**01 06 42.8**	**+0.6**
	0.3nm,0.7s,baz=100,slow=6.4,SNR=2.8						
KURK	**Kurchatov**	**48.02**	**311**	P	**P**	**01 07 01.0**	**+2.3**
	0.3nm,0.3s,baz=83,slow=7.7,SNR=3.6						
WRA	**Warramunga Arr**	**53.35**	**188**	P	**P**	**01 07 38.4**	**-0.8**
	2.9nm,0.6s,baz=5.6,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.08**	**188**	P	**P**	**01 08 05.3**	**-0.7**
	0.7nm,0.4s,baz=3.3,slow=6.8,SNR=15						
YKA	**Yellowknife Ar**	**67.18**	**29**	P	**P**	**01 09 14.3**	**+0.9**
	0.1nm,0.4s,baz=292,slow=5.7,SNR=3.0						
AKASG	**Malin Array Be**	**77.03**	**323**	P	**P**	**01 10 13.2**	**+0.7**
	0.3nm,0.4s,baz=54,slow=4.6,SNR=3.8						
NVAR	**Mina Array Bea**	**77.49**	**52**	P	**P**	**01 10 15.5**	**-0.1**
	0.2nm,0.3s,baz=310,slow=5.6,SNR=2.8						
TXAR	**Lajitas Array**	**92.65**	**52**	P	**P**	**01 11 31.6**	**-0.3**
	0.1nm,0.5s,baz=317,slow=3.8,SNR=4.0						

IDC 19 01:06:24.0±0.5, 0°14S×132°84E, h0km, mb4.7/19, mb1 4.8/22, mb1mx4.8/26, mbtmp4.7/22, ML4.3/3, MS4.4/23, Ms1 4.4/23, ms1mx4.2/37, Error ellipse: s-maj=22.0km s-min=9.8km az=78.0
ISCJB 19 01:06:27.9±0.8, 0°17S±0°03×133°03E±0°04, h40km±7km, mb4.9/78, MS4.5/33, Error ellipse: s-maj=7.5km s-min=4.7km az=165.0
MOS 19 01:06:27.2±0.9, 0°19S×132°83E, h33km, mb5.2/19, Error ellipse: s-maj=13.1km s-min=6.4km az=106.8
NEIC 19 01:06:29.2±0.2, 0°20S×132°84E, h35km, mb5.3/33, Error ellipse: s-maj=6.7km s-min=4.0km az=67.0
DJA 19 01:06:33.0°61S×132°94E, h10km, mb5.1/26
ISC 19 01:06:29.4±0.3, 0°19S±0°03×132°97E±0°05, h34km, h35km; pP-P, n255, σ1s62/288, mb5.0/78, MS4.5/34, 10C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.80**	**195**	P	**Pn**	**01 07 12.2**	**+0.4**
BAKI	**Biak**	**3.29**	**108**	P	Pn	01 07 22.3	+3.8
MSAI	**Masohi**	**5.11**	**232**	P	**Pn**	**01 07 45.3**	**+1.7**
TLE	**Tual**	**5.42**	**182**	P	**Pn**	**01 07 49.3**	**+1.6**
	1μm,0.9s,14μm5.4nm						
LBMI	**Labuha**	**5.49**	**265**	P	**Pn**	**01 07 51.3**	**+2.6**
	405nm,1.2s,5μm1.4nm						
TNTI	**Ternate**	**5.68**	**280**	P	**Pn**	**01 07 52.9**	**+1.5**
	215nm,1.3s,3μm1.0nm						
AAI	**Ambon**	**5.90**	**234**	P	**Pn**	**01 07 56.0**	**+1.6**
	1μm,0.9s,11μm4.0nm						
SMPI	**Sarmi**	**6.01**	**107**	P	Pn	01 08 00.7	+4.8
	113nm,1.2s,24μm1.7nm						
NLAI	**Namlea**	**6.60**	**243**	P	**Pn**	**01 08 04.3**	**+0.3**
	217nm,0.9s,3μm0.9nm						
KMSI	**Cibinong**	**9.02**	**275**	P	Pn	01 08 49.7	+12
DAV	**Davao City (W)**	**10.31**	**315**	LR	LR	01 12 26.5	
	comp=Z,2μm,19.9s,baz=120,slow=36						
KDI	**Kendari**	**11.00**	**250**	P	**Pn**	**01 09 05.4**	**+1.0**
	63nm,1.3s,1μm						
MRSI	**Marisa**	**11.05**	**273**	P	Pn	01 09 11.1	+6.0
	62nm,1.3s,960nm						
SPSI	**Sidrap Palu**	**13.71**	**254**	P	Pn	01 09 45.0	+3.5
	82nm,1.3s,986nm						
BKSI	**Bulukumba**	**13.80**	**248**	P	**P**	**01 09 48.2**	**-2.5**
	64nm,1.2s,950nm						
KAPI	**Kappang**	**14.04**	**250**	Pn	**Pn**	**01 09 46.9**	**+0.9**
	0.5nm,0.3s,baz=121,slow=1.7,SNR=6.5						
KAPI	**Kappang**	**14.04**	**250**	*e*Pn	**Pn**	**01 09 43.3**	**-2.7**
KAPI	**Kappang**	**14.04**	**250**	P	**Pn**	**01 09 48.7**	**+2.7**
	96nm,1.2s,1μm						
MYLDM	**Lahad Datu**	**15.40**	**290**	P	P	01 10 15.0	+6.5
TSM	**Tawau**	**15.73**	**287**	P	**P**	**01 10 14.9**	**+2.8**
SMKI	**Samarinda**	**15.76**	**269**	P	**P**	**01 10 16.7**	**+4.2**
SDKM	**Sandakan**	**16.78**	**290**	P	**P**	**01 10 27.2**	**+3.4**
PMG	**Port Moresby**	**16.83**	**123**	Pn	**P**	**01 10 24.6**	**+0.2**
	0.6nm,0.3s,baz=292,slow=9.2,SNR=19						
PMG	**Port Moresby**	**16.83**	**123**	*ce*P	**P**	**01 10 27.0**	**+2.6**
PMG				pmax	pmax		
	comp=Z,154nm,1.7s						
PMG	**Port Moresby**	**16.83**	**123**	*e*Pn	**P**	**01 10 25.5**	**+1.1**
COEN	**Coen**	**17.00**	**144**	*e*Pn	**Pn**	**01 10 22.9**	**-1.8**
	comp=Z,485nm,1.3s						
KBKI	**Kotabaru**	**17.07**	**259**	P	**P**	**01 10 27.7**	**+0.7**
	comp=Z,56nm,1.7s						
KKM	**Kota Kinabalu**	**17.83**	**291**	P	P	01 10 42.3	+6.7
GUMO	**Guam**	**18.07**	**40**	LR	LR	01 15 59.8	
	comp=Z,501nm,19.1s,baz=198,slow=32						
GUMO	**Guam**	**18.07**	**40**	*e*P	**P**	**01 10 38.4**	**+0.4**
GUMO	**Guam**	**18.07**	**40**	*e*Pn	**P**	**01 10 38.4**	**+0.4**
BBKI	**Banjar Baru**	**18.41**	**260**	P	Pn	01 10 47.1	+5.1
	comp=Z,202nm,1.0s,comp=Z,37μm						
MTNI	**Mataram**	**18.72**	**243**	P	**Pn**	**01 10 48.8**	**+3.0**
	comp=Z,121nm,1.1s						
KHKI	**Kahang-Kahang**	**19.11**	**244**	P	**Pn**	**01 10 52.1**	**+1.6**
	comp=Z,77nm,1.4s,comp=Z,2μm						
FITZ	**Fitzroy Crossi**	**19.20**	**202**	P	**P**	**01 10 49.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=32,slow=11,SNR=21						
FITZ				S	Sn	01 14 15.4	-11
	comp=Z,0.9nm,0.3s,baz=108,slow=19,SNR=5.4						
FITZ	**Fitzroy Crossi**	**19.20**	**202**	*e*P	**P**	**01 10 47.5**	**-3.0**
	comp=Z,72nm,1.0s						
FITZ				*e*S	Sn	01 14 12.6	-13
FITZ	**Fitzroy Crossi**	**19.20**	**202**	*e*P	**P**	**01 10 49.6**	**-0.8**
	comp=Z,79nm,1.1s						
FITZ				*e*S	Sn	01 14 12.6	-13
WRAB	**Tennant Creek**	**19.67**	**176**	*e*P	**P**	**01 10 55.4**	**-0.2**
WRAB				*e*S	**S**	**01 14 29.5**	**-6.2**
WRAB				pmax	pmax		
	comp=Z,145nm,1.3s						
WRAB	**Tennant Creek**	**19.67**	**176**	*e*P	**P**	**01 10 55.4**	**-0.2**
	comp=Z,145nm,1.3s						
WRAB				*e*S	**S**	**01 14 29.5**	**-6.2**
WRAB	**Tennant Creek**	**19.67**	**176**	P	**P**	**01 10 55.0**	**-0.6**
	comp=Z,359nm,0.8s,SNR=22						
WRA	**Warramunga Arr**	**19.68**	**176**	P	**P**	**01 10 55.1**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=356,slow=11,SNR=58						
WRA				S	**S**	**01 14 31.1**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=359,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**19.68**	**176**	P	**P**	**01 10 55.1**	**-0.6**
WRA				S	**S**	**01 14 31.1**	**-4.8**
WRA	**Warramunga Arr**	**19.68**	**176**	P	**P**	**01 10 55.1**	**-0.6**
WRA				S	**S**	**01 14 31.1**	**-4.8**
NBBI	**Negara**	**20.01**	**246**	P	Pn	01 11 09.9	+8.7
BYJI	**Banyuwangi**	**20.19**	**246**	P	Pn	01 11 07.3	+4.0
	comp=Z,301nm,1.7s,comp=Z,10μm						
JAGI	**Jajag, Banyuwa**	**20.47**	**246**	P	Pn	01 11 11.2	+4.5
	comp=Z,130nm,1.2s,comp=Z,2μm						
BLJI	**Banyuglugur**	**20.72**	**248**	P	pP	01 11 20.6	+4.4
SBUM	**Sibu**	**20.91**	**277**	P	**P**	**01 11 09.8**	**+0.7**
GMJI	**Gumukmas**	**21.05**	**247**	P	pP	01 11 20.7	+1.0
PBKI	**Pangkalan Bun**	**21.44**	**263**	P	pP	01 11 24.2	+0.2
STKI	**Sintang**	**21.49**	**271**	P	P	01 11 20.2	+4.8
	comp=Z,83nm,1.3s,comp=Z,11μm						
SJI	**Sawahan**	**22.43**	**250**	P	pP	01 11 35.3	+0.6
PWJI	**Pagerwojo**	**22.48**	**249**	P	P	01 11 30.9	+4.9
	comp=Z,46nm,1.3s,comp=Z,1μm						
KSM	**Kuching**	**22.72**	**274**	P	**P**	**01 11 31.6**	**+3.0**
AS31	**Alice Springs**	**23.35**	**178**	*e*P	**P**	**01 11 35.0**	**0.0**
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 11 34.7**	**-0.2**
	comp=Z,49nm,0.7s,baz=355,slow=11,SNR=208						
ASAR				S	**S**	**01 15 51.5**	**+5.9**
	comp=Z,12nm,1.1s,baz=356,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 11 34.7**	**-0.2**
ASAR	**Alice Springs**	**23.35**	**178**	P	**P**	**01 11 34.7**	**-0.2**
ASAR				S	**S**	**01 15 51.5**	**+5.9**
CTA	**Charters Tower**	**23.67**	**147**	P	**P**	**01 11 39.1**	**+1.1**
	comp=Z,30nm,0.7s,baz=334,slow=12,SNR=25						
CTA				LR	LR	01 22 20.9	
	comp=Z,4μm,18.1s,baz=326,slow=40						
CTA	**Charters Tower**	**23.67**	**147**	*e*P	**P**	**01 11 38.9**	**+0.9**
	comp=Z,23nm,0.6s						
CTA	**Charters Tower**	**23.67**	**147**	P	**P**	**01 11 39.1**	**+1.1**
CTA	**Charters Tower**	**23.67**	**147**	P	**P**	**01 11 39.1**	**+1.1**
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	**P**	**01 11 38.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,83nm,1.2s						
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	**P**	**01 11 38.2**	**+0.2**
	comp=Z,83nm,1.2s						
YOGI	**Yogyakarta**	**23.84**	**251**	P	pP	01 11 50.8	+1.4
BJII	**Banjamegara**	**24.25**	**252**	P	**P**	**01 11 45.9**	**+2.3**
	comp=Z,244nm,1.1s,comp=Z,3μm						
MBWA	**Marble Bar**	**24.52**	**211**	*e*P	**P**	**01 11 45.3**	**-0.6**
	comp=Z,108nm,1.1s						
CISI	**Cisompet, Garu**	**26.12**	**253**	P	**P**	**01 12 00.0**	**-0.5**
JOW	**Kunigami**	**27.25**	**351**	LR	LR	01 21 03.1	
	comp=Z,2μm,20.6s,baz=292,slow=32						
TATO	**Taipei**	**27.38**	**337**	*e*P	**P**	**01 12 10.3**	**-1.2**
	comp=Z,755nm,2.3s						
CGJI	**Cibinong**	**27.95**	**256**	P	P	01 12 25.2	+8.3
	comp=Z,114nm,0.7s,comp=Z,36μm						
CBIJ	**Chichi jima**	**28.54**	**17**	LR	LR	01 20 20.3	
	comp=Z,734nm,21.5s,baz=134,slow=29						
QIZ	**Qiongzhong**	**29.66**	**311**	P	**P**	**01 12 32.5**	**+0.4**
QIZ				S	**S**	**01 17 26.8**	**+1.1**
QIZ				sS	**sS**	**01 17 41.5**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,28nm,1.8s						
QIZ				LR	LR		
	comp=N,750nm,17.3s						
QIZ				LR	LR		
	comp=Z,790nm,20.4s						
FORT	**Forrest**	**30.78**	**188**	*e*P	**P**	**01 12 42.4**	**+0.7**
	comp=Z,35nm,0.8s						
FORT	**Forrest**	**30.78**	**188**	*e*P	**P**	**01 12 41.9**	**+0.2**
	comp=Z,151nm,1.3s						
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**	**01 12 56.8**	**-0.6**
	comp=Z,62nm,0.9s,baz=340,slow=8.3,SNR=109						
STKA				LR	LR	01 28 34.0	
	comp=Z,1μm,18.9s,baz=340,slow=41						
STKA	**Stephens Creek**	**32.55**	**166**	*e*P	**P**	**01 12 56.6**	**-0.8**
	comp=Z,51nm,0.9s						
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**	**01 12 56.8**	**-0.6**
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**	**01 12 56.8**	**-0.6**
PPI	**Padang Panjang**	**32.57**	**269**	P	P	01 13 06.1	+8.3
	comp=Z,25nm,1.2s						
BBOO	**Buckleboo**	**32.58**	**175**	*e*P	**P**	**01 12 57.0**	**-0.6**
	comp=Z,312nm,1.0s						
PSI	**Prapat**	**34.16**	**275**	P	P	01 13 18.4	+6.6
	comp=Z,36nm,1.7s						
KLBR	**Kellerberrin**	**34.39**	**203**	*e*P	**P**	**01 13 13.3**	**-0.1**
	comp=Z,36nm,1.1s						
NJ2	**Nanjing**	**34.74**	**339**	*e*P	**P**	**01 13 15.8**	**-0.6**
NJ2				pP	**pP**	**01 13 27.8**	**+1.4**
NJ2				sP	**sP**	**01 13 31.9**	**+1.4**
NJ2				PP	**PnPn**	**01 14 33.8**	**+0.7**
NJ2				S	**S**	**01 18 42.0**	**-2.4**
NJ2				sS	**sS**	**01 19 02.5**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,190nm,4.5s						
NJ2				LR	LR		
	comp=N,800nm,27.2s						
NJ2				LR	LR		
	comp=E,580nm,14.5s						
NJ2				LR	LR		
	comp=Z,640nm,22.8s						
WHN	**Wuhan**	**35.32**	**332**	*e*P	P	01 13 30.3	+8.9
WHN				S	S	01 19 14.9	+21
WHN				LR	LR		
	comp=Z,930nm,17.4s						
NWAO	**Narrogin (SRO)**	**35.78**	**203**	P	**P**	**01 13 24.0**	**-1.3**
	comp=Z,15nm,0.9s,baz=16,slow=11,SNR=4.3						
NWAO				LR	LR	01 29 54.3	
	comp=Z,614nm,18.7s,baz=229,slow=39						
NWAO	**Narrogin (SRO)**	**35.78**	**203**	P	**P**	**01 13 24.0**	**-1.3**
NWAO	**Narrogin (SRO)**	**35.78**	**203**	P	**P**	**01 13 24.0**	**-1.3**
GYA	**Guiyang**	**36.66**	**318**	P	**P**	**01 13 34.5**	**+1.3**
GYA				pP	**pP**	**01 13 44.3**	**+1.1**
GYA				PP	**PP**	**01 15 01.0**	**+3.9**
GYA				S	**S**	**01 19 15.4**	**+1.0**
GYA				SS	**SnSn**	**01 21 44.0**	**-2.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,580nm,16.4s						
GYA				LR	LR		
	comp=E,490nm,17.7s						
GYA				LR	LR		
	comp=Z,570nm,17.0s						
MJAR	**Matsushiro Arr**	**36.87**	**7**	P	**P**	**01 13 32.5**	**-2.2**
	comp=Z,3.8nm,0.8s,baz=192,slow=8.1,SNR=6.8						
MJAR				LR	LR	01 25 08.4	
	comp=Z,1μm,20.8s,baz=190,slow=30						
MJAR	**Matsushiro Arr**	**36.87**	**7**	P	**P**	**01 13 32.5**	**-2.2**
MJAR	**Matsushiro Arr**	**36.87**	**7**	P	**P**	**01 13 32.5**	**-2.2**
MAT	**Matsushiro**	**36.87**	**7**	P	**P**	**01 13 32.3**	**-2.3**
MAT				S	**S**	**01 19 16.0**	**-1.1**
ENH	**Enshi**	**37.65**	**326**	*e*P	**P**	**01 13 40.4**	**-0.9**
	comp=Z,60nm,0.8s						
KSAR	**Wonju Array Be**	**37.74**	**353**	P	**P**	**01 13 40.2**	**-1.7**
KSAR	**Wonju Array Be**	**37.74**	**353**	P	**P**	**01 13 40.2**	**-1.7**
KSRS	**Korea Array**	**37.75**	**353**	P	**P**	**01 13 40.2**	**-1.8**
	comp=Z,2.2nm,1.0s,baz=160,slow=7.6,SNR=4.0						
KSRS				LR	LR	01 26 54.3	
	comp=Z,874nm,21.2s,baz=170,slow=33						
CAN	**Canberra**	**38.01**	**158**	*e*P	**P**	**01 13 44.8**	**+0.4**
CAN				pmax	pmax		
	comp=Z,13nm,0.8s						
CAN	**Canber

MDJ pP **pP** 01 14 48.4 -1.0
MDJ sP **sP** 01 14 52.3 -1.2
MDJ PP **PP** 01 16 24.1 0.0
MDJ S **S** 01 21 15.0 +1.4
MDJ sS **sS** 01 21 30.4 0.0
MDJ SS **ScS** 01 24 31.8 -2.4
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,150nm,4.5s
MDJ LR LR
comp=N,410nm,16.4s
MDJ LR LR
comp=E,340nm,11.3s
MDJ LR LR
comp=Z,410nm,14.8s
ASAJ Asahikawa 44.94 10 LR LR 01 33 48.9
comp=Z,403nm,18.8s,baz=3.8,slow=37
LZH Lanzhou 45.12 326 *e*P P 01 14 46.5 +3.7
LZH pP pP 01 14 57.0 +4.0
LZH sP sP 01 15 01.3 +4.2
LZH *e*S **S** **01 21 24.0 +3.9**
LZH sS sS 01 21 39.5 +2.6
LZH SS **ScS** **01 24 37.1 -0.5**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,100nm,5.1s
LZH LR LR
comp=N,480nm,14.8s
LZH LR LR
comp=E,680nm,17.0s
LZH LR LR
comp=Z,570nm,15.3s
YUK Yuzh-Kuril'sk 45.51 13 P **P** **01 14 47.5 +2.0**
YUK S **S** **01 21 28.3 +3.2**
YSS Yuzh-Sakhalins 47.73 9 *e*P **P** **01 15 02.5 -0.3**
YSS *e* 01 22 07.0
HABR Khabarovsk 48.51 2 *e*P **P** **01 15 07.3 -1.5**
HABR *e**PP **pP** **01 15 17.3 -1.8**
HABR *e**SP **sP** **01 15 21.4 -1.8**
HABR 01 17 00.4
HABR S **S** **01 22 06.2 -1.4**
HABR *e*SS **sS** **01 22 22.9 -1.7**
HABR *e* 01 24 57.4
HABR SS **SS** **01 25 37.1 -0.9**
HABR *e*SSS SSS 01 26 49.6
HABR pmax pmax
comp=Z,63nm,2.0s
HABR pmax pmax
comp=N,43nm,2.0s
HABR pmax pmax
comp=E,17nm,0.7s
KLR Kul'dur 49.24 359 *e*P P 01 15 10.8 -3.6
LSA Lhasa 49.70 310 P **P** **01 15 18.0 -0.9**
LSA Lhasa 49.70 310 *e*P **P** **01 15 18.9 0.0**
LSA pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 49.70 310 *e*P **P** **01 15 18.9 0.0**
comp=Z,13nm,0.9s
GTA Gaotai 49.72 326 *e*P **P** **01 15 18.5 0.0**
GTA pP **pP** **01 15 28.0 -0.8**
GTA sP **sP** **01 15 32.3 -0.6**
GTA S **S** **01 22 25.8 +0.4**
GTA sS **sS** **01 22 41.5 -0.9**
GTA SS **SS** **01 25 53.0 -5.3**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,310nm,6.2s
GTA LR LR
comp=N,230nm,16.6s
GTA LR LR
comp=E,320nm,20.9s
GTA LR LR
comp=Z,400nm,19.5s
TAPN Taplejung 51.35 306 *e*P **P** **01 15 29.8 -1.4**
comp=Z,70nm,1.2s
TAPN Taplejung 51.35 306 *e*P **P** **01 15 29.8 -1.4**
comp=Z,70nm,1.2s
ODAN Odare 51.41 305 *e*P **P** **01 15 30.7 -0.9**
ODAN Odare 51.41 305 *e*P **P** **01 15 30.7 -0.9**
RAMN Ramite 52.09 305 *e*P **P** **01 15 35.6 -1.1**
comp=Z,46nm,0.7s
RAMN Ramite 52.09 305 *e*P **P** **01 15 35.6 -1.1**
comp=Z,46nm,0.7s
JIRN Jiri 52.71 306 *e*P **P** **01 15 39.8 -1.6**
comp=Z,121nm,1.5s
JIRN Jiri 52.71 306 *e*P **P** **01 15 39.8 -1.6**
comp=Z,121nm,1.5s
ULN Ulaanbaatar 52.90 338 *e*P **P** **01 15 42.0 -0.2**
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 52.90 338 *e*P **P** **01 15 42.0 -0.2**
comp=Z,19nm,1.2s
GUN Gumba 53.06 306 *e*P **P** **01 15 42.5 -1.4**
comp=Z,82nm,0.8s
GUN Gumba 53.06 306 *e*P **P** **01 15 42.5 -1.4**
comp=Z,82nm,0.8s
SONM Songino Array 53.12 338 P **P** **01 15 43.4 -0.4**
comp=Z,2.0nm,0.8s,baz=154,slow=7.3,SNR=13
SONM PcP **PcP** **01 16 52.0 +0.2**
comp=Z,1.4nm,0.8s,baz=146,slow=3.1,SNR=2.5
SONM LR LR 01 37 33.0
comp=Z,452nm,19.0s,baz=5.8,slow=35
SONM Songino Array 53.12 338 P **P** **01 15 43.4 -0.4**
SONM 01 16 52.0
SONM Songino Array 53.12 338 P **P** **01 15 43.4 -0.4**
SONM PcP **PcP** **01 16 52.0 +0.2**
PKI Pulchoki 53.31 305 *e*P **P** **01 15 44.4 -1.4**
comp=Z,31nm,1.0s
PKI Pulchoki 53.31 305 *e*P **P** **01 15 44.4 -1.4**
PKI pmax pmax
comp=Z,31nm,1.0s
PKI Pulchoki 53.31 305 *e*P **P** **01 15 44.4 -1.4**
comp=Z,31nm,1.0s
KKN Kakani 53.50 305 *e*P **P** **01 15 45.5 -1.5**
KKN Kakani 53.50 305 *e*P **P** **01 15 45.5 -1.5**
KKN Kakani 53.50 305 *e*P **P** **01 15 45.5 -1.5**
DMN Daman 53.57 305 *e*P **P** **01 15 46.8 -0.8**
comp=Z,56nm,0.9s
DMN Daman 53.57 305 *e*P **P** **01 15 46.8 -0.8**
comp=Z,56nm,0.9s
GKN Gorkha 54.10 305 *e*P **P** **01 15 50.3 -1.1**
GKN Gorkha 54.10 305 *e*P **P** **01 15 50.3 -1.1**
KOLN Koldanda 54.87 305 *e*P **P** **01 15 56.1 -0.9**
comp=Z,52nm,0.8s
KOLN Koldanda 54.87 305 *e*P **P** **01 15 56.1 -0.9**
comp=Z,52nm,0.8s
DANN Dangsing 54.95 305 *e*P **P** **01 15 56.4 -1.3**
comp=Z,142nm,1.1s
DANN Dangsing 54.95 305 *e*P **P** **01 15 56.4 -1.3**
comp=Z,142nm,1.1s
RPZ Rata Peaks 55.04 147 LR LR 01 39 36.5
comp=Z,1μm,18.5s,baz=303,slow=36
HYB Hyderabad 56.32 291 *i*P **P** **01 16 08.0 +0.6**
ZAK Zakamensk 56.38 338 *e*P **P** **01 16 07.0 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
PETK Petropavlovsk- 56.98 18 P **P** **01 16 11.8 +0.4**
comp=Z,19nm,0.9s,baz=184,slow=4.0,SNR=15
PETK LR LR 01 36 55.0
comp=Z,175nm,20.5s,baz=207,slow=32
PETK Petropavlovsk- 56.98 18 P **P** **01 16 11.8 +0.4**
PETK Petropavlovsk- 56.98 18 P **P** **01 16 11.8 +0.4**
WMQ Urumqi 59.53 323 P **P** **01 16 29.8 +0.3**
WMQ pP **pP** **01 16 39.8 -0.2**
WMQ sP **sP** **01 16 43.8 -0.3**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ pmax pmax
comp=Z,1μm,8.7s
WMQ LR LR
comp=N,550nm,25.2s
WMQ LR LR
comp=E,290nm,19.0s
WMQ LR LR
comp=Z,190nm,21.4s
BOD Bodaibo 59.78 348 *e*P **P** **01 16 30.9 +0.1**
BOD pmax pmax
comp=Z,13nm,1.2s
YAK Yakutsk 62.11 358 P **P** **01 16 46.8 +0.2**
YAK Yakutsk 62.11 358 P **P** **01 16 46.8 +0.2**
MK31 Makanchi Array 64.34 324 *ce*P **P** **01 17 01.2 -0.6**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 64.34 324 *e*P **P** **01 17 01.5 -0.3**
MK31 *e* 01 17 10.3
MKAR Makanchi Array 64.34 324 P **P** **01 17 01.4 -0.4**
comp=Z,9.0nm,0.7s,baz=114,slow=8.0,SNR=103
MKAR LR LR 01 48 04.9
comp=Z,167nm,20.7s,baz=230,slow=39
MKAR Makanchi Array 64.34 324 P **P** **01 17 01.4 -0.4**
MKAR Makanchi Array 64.34 324 P **P** **01 17 01.4 -0.4**
SEY Seymchan 64.63 10 *ce*P **P** **01 17 04.1 +0.9**
KSH Kashi 65.21 314 P **P** **01 17 08.5 +0.8**
KSH *ep*P **pP** **01 17 18.8 +0.5**
KSH *es*P **sP** **01 17 22.6 +0.3**
KSH *e*PcP **PcP** **01 17 41.0 +1.0**
KSH *e*PP **PP** **01 19 33.8 +2.3**
KSH *e*ScP 01 21 40.1
KSH *e*PcS 01 21 44.1
KSH *e*S **S** **01 25 46.0 -2.9**
KSH *es*S **sS** **01 26 03.8 -2.6**
KSH *e*ScS **SKSac** **01 26 57.1 -3.4**
KSH *e*SS **SS** **01 30 00.6 -1.5**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,340nm,5.8s
KSH LR LR
comp=N,430nm,7.4s
KSH LR LR
comp=E,360nm,10.1s
KSH LR LR
comp=Z,440nm,9.2s
KIWB Kanaga Island 66.61 31 *e*P **P** **01 17 18.6 +2.4**
KZA Kyzart 66.71 317 P **P** **01 17 18.5 +0.9**
SNR=7.4
KZA P **P** **01 17 18.5 +0.9**
SNR=7.4
TKM2 Tokmak 2 66.81 318 P **P** **01 17 17.9 -0.1**
SNR=7.0
TKM2 P **P** **01 17 17.9 -0.1**
SNR=7.0
TKM2 Tokmak 2 66.81 318 *e*P **P** **01 17 17.7 -0.3**
TKM2 *e* 01 17 26.0
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 66.81 318 *e*P **P** **01 17 17.7 -0.3**
comp=Z,7.1nm,0.8s
TKM2 *e* 01 17 26.0
ZAA0 Zalesovo Array 66.94 331 *e*P **P** **01 17 16.9 -1.3**
ZALV Zalesovo Beam 66.94 331 P **P** **01 17 17.4 -0.9**
comp=Z,5.1nm,0.8s,baz=110,slow=5.6,SNR=30
ZALV LR LR 01 47 08.3
comp=Z,104nm,19.5s,baz=256,slow=37
ZALV Zalesovo Beam 66.94 331 P **P** **01 17 17.4 -0.9**
ZALV Zalesovo Beam 66.94 331 P **P** **01 17 17.4 -0.9**
AAK Ala-Archa 67.44 317 *e*P **P** **01 17 22.2 +0.3**
AAK pmax pmax
comp=Z,35nm,1.1s
AAK Ala-Archa 67.44 317 *e*P **P** **01 17 22.2 +0.3**
comp=Z,35nm,1.1s
USP Ospenovka 67.68 318 P **P** **01 17 22.9 -0.5**
SNR=9.0
USP P **P** **01 17 22.9 -0.5**
SNR=9.0
AML Almayashu 67.80 316 P **P** **01 17 24.3 -0.3**
SNR=7.0
AML P **P** **01 17 24.3 -0.3**
SNR=7.0
EKS2 Erkin-Say 67.94 317 P **P** **01 17 25.5 +0.4**
SNR=6.5
EKS2 P **P** **01 17 25.5 +0.4**
SNR=6.5
EKS2 Erkin-Say 67.94 317 *e*P **P** **01 17 24.4 -0.7**
EKS2 *e* 01 17 34.0
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 67.94 317 *e*P **P** **01 17 24.4 -0.7**
comp=Z,6.8nm,0.8s
EKS2 *e* 01 17 34.0
NVS Novosibirsk 68.21 332 *e*P P 01 17 23.1 -3.2
NVS pmax pmax
comp=N,16nm,1.8s
NVS pmax pmax
comp=Z,39nm,1.8s
NVS pmax pmax
comp=E,24nm,2.0s
KURK Kurchatov 68.41 326 P **P** **01 17 27.4 -0.2**
comp=E,13nm,0.8s,baz=120,slow=5.9,SNR=91
KURK LR LR 01 48 37.6
comp=E,123nm,20.4s,baz=320,slow=37
KURK Kurchatov 68.41 326 *ce*P **P** **01 17 27.4 -0.2**
KURK pmax pmax
comp=Z,27nm,1.2s
KURK Kurchatov 68.41 326 *e*P **P** **01 17 26.9 -0.7**
comp=Z,20nm,0.8s
KURK *ep*P **pP** **01 17 35.6 -2.7**
KURK Kurchatov 68.41 326 P **P** **01 17 27.3 -0.3**
comp=Z,148nm,0.8s,SNR=14
KBL Kabul 68.84 307 *e*P **P** **01 17 30.2 -0.7**
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 68.84 307 *e*P **P** **01 17 30.2 -0.7**
comp=Z,21nm,1.0s
KK31 Karatay Array 70.34 316 *ce*P **P** **01 17 39.6 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 70.34 316 *e*P **P** **01 17 39.2 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 70.34 316 *e*P **P** **01 17 39.2 -0.6**
comp=Z,5.8nm,0.7s
BILL Bilibino 71.86 13 *e*P **P** **01 17 48.5 0.0**
BILL *e* 01 20 25.9
BILL *eS* **S** **01 27 07.5 +0.9**
BILL pmax pmax
comp=Z,2.0nm,0.9s
BVA0 Borovoye Array 74.01 326 *i*P **P** **01 18 00.8 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 74.01 326 P **P** **01 18 01.2 -0.3**
comp=Z,8.9nm,0.8s,baz=116,slow=6.8,SNR=57
BVAR LR LR 01 52 58.7
comp=Z,172nm,19.2s,baz=110,slow=38
BVAR Borovoye Array 74.01 326 P **P** **01 18 01.2 -0.3**
BVAR Borovoye Array 74.01 326 P **P** **01 18 01.2 -0.3**
BRVK Borovoye 74.08 326 *ce*P **P** **01 18 01.7 -0.2**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 74.08 326 *e*P **P** **01 18 01.4 -0.5**
comp=Z,22nm,0.9s
BRVK *e* 01 18 10.4
BRVK Borovoye 74.08 326 P **P** **01 18 01.4 -0.5**
comp=Z,137nm,0.9s,SNR=12
PPT2 Papeete2 77.98 108 *e*LR LR 01 42 42.8
comp=Z,210nm,24.2s
TBI Tubuai 78.52 114 *e*SS SS 01 33 31.9 +5.7
comp=Z,110nm,30.0s
TBI *e*LR LR 01 42 58.9
comp=Z,325nm,32.5s
AB31 Akbulak array 79.12 320 *ce*P **P** **01 18 30.7 +0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 79.12 320 *e*P **P** **01 18 29.8 -0.7**
comp=Z,20nm,1.2s
SVE Sverdlovsk 80.56 328 *e*P **P** **01 18 37.3 -0.8**
SVE pmax pmax
comp=Z,20nm,1.3s
AKTO Aktyubinsk 80.59 321 P **P** **01 18 37.6 -0.8**
comp=Z,1.6nm,0.7s,baz=121,slow=5.9,SNR=5.6
AKTO Aktyubinsk 80.59 321 P **P** **01 18 37.7 -0.8**
AKTO Aktyubinsk 80.59 321 P **P** **01 18 37.6 -0.8**
ARU Arti 81.57 327 *d*P **P** **01 18 43.8 +0.3**
ARU 01 21 49.1
ARU S **S** **01 28 52.1 -0.9**
ARU pmax pmax
comp=Z,22nm,2.5s
ARU Arti 81.57 327 *e*P **P** **01 18 43.0 -0.5**
comp=Z,18nm,1.7s
KDAK Kodiak Island 81.90 31 LR LR 01 53 59.2
comp=Z,214nm,18.3s,baz=265,slow=35
MAW Mawson 82.33 201 LR LR 01 54 03.0
comp=Z,296nm,20.6s,baz=217,slow=35
MCK McKinley 84.91 26 *e*P **P** **01 19 00.4 -0.2**
MCK pmax pmax
comp=Z,47nm,1.5s
MCK McKinley 84.91 26 *e*P **P** **01 19 00.4 -0.2**
comp=Z,47nm,1.5s
ILAR Eielson Array 85.97 25 P **P** **01 19 05.2 -0.6**
comp=Z,4.1nm,0.8s,baz=258,slow=4.3,SNR=34
ILAR Eielson Array 85.97 25 P **P** **01 19 05.2 -0.6**
ILAR Eielson Array 85.97 25 P **P** **01 19 05.2 -0.6**
PAX Paxson 86.33 27 *e*P **P** **01 19 07.7 -0.1**
PAX pmax pmax
comp=Z,12nm,1.3s
PAX Paxson 86.33 27 *e*P **P** **01 19 07.7 -0.1**
comp=Z,12nm,1.3s
QSPA South Pole Qui 89.74 180 *e*P **P** **01 19 24.4 +0.4**
comp=Z,18nm,1.1s
SYO Syowa Base 91.04 201 *e*P **P** **01 19 29.7 -0.1**
INK Inuvik 91.48 22 P **P** **01 19 30.8 -1.1**
comp=Z,1.8nm,1.0s,baz=267,slow=1.7,SNR=4.8
INK LR LR 01 55 37.1
comp=Z,149nm,21.4s,baz=135,slow=32
INK Inuvik 91.48 22 P **P** **01 19 30.8 -1.1**
INK Inuvik 91.48 22 P **P** **01 19 30.8 -1.1**
OBN Obninsk 93.83 325 *e*P **P** **01 19 42.2 -0.8**
OBN *e* 01 23 25.5
OBN *eS* **SKSac** **01 30 14.4 -0.7**
OBN pmax pmax
comp=Z,15nm,1.7s
ARCES ARCESS Array B 96.24 340 P **P** **01 19 53.5 -0.3**
comp=Z,5.6nm,0.9s,baz=60,slow=5.5,SNR=4.1
ARCES LR LR 02 04 21.7
comp=Z,309nm,19.4s,baz=278,slow=36
ARCES ARCESS Array B 96.24 340 P **P** **01 19 53.5 -0.3**
ARCES ARCESS Array B 96.24 340 P **P** **01 19 53.5 -0.3**
AKASG Malin Array Be 98.84 321 LR LR 02 12 54.5
comp=Z,152nm,20.2s,baz=295,slow=40
AKASG Malin Array Be 98.84 321 *i*P Pdif 01 20 12.3 +6.4
YKA Yellowknife Ar 100.37 26 P **Pdif** **01 20 12.0 -0.4**
comp=Z,0.4nm,0.7s,baz=292,slow=4.7,SNR=6.3
YKA Yellowknife Ar 100.37 26 P **Pdif** **01 20 12.1 -0.4**
YKA Yellowknife Ar 100.37 26 P **Pdif** **01 20 12.1 -0.4**
RES Resolute Bay 100.45 12 P **Pdif** **01 20 12.2 -0.4**
comp=Z,1.2nm,0.7s,baz=329,slow=5.6,SNR=5.5
RES Resolute Bay 100.45 12 P **Pdif** **01 20 12.2 -0.4**
RES Resolute Bay 100.45 12 P **Pdif** **01 20 12.2 -0.4**
NVAR Mina Array Bea 104.73 50 PP PP 01 24 52.7 +0.2
comp=Z,0.5nm,0.9s,baz=277,slow=7.2,SNR=2.7
NVAR Mina Array Bea 104.73 50 PP PP 01 24 52.7 +0.2
PV01 Paradox Valley 112.20 48 *e*PKPdf **PKiKP** **01 24 59.9 -2.3**
TXAR Lajitas Array 118.81 56 PKP **PKPdf** **01 25 15.3 +0.4**
comp=Z,0.3nm,0.9s,baz=207,slow=3.8,SNR=3.9
TXAR PP PP **01 26 33.9 +0.4**
comp=Z,0.5nm,1.1s,baz=286,slow=6.4,SNR=3.5
TXAR Lajitas Array 118.81 56 PKIKP **PKPdf** **01 25 15.3 +0.4**
TXAR 01 26 33.9
TXAR Lajitas Array 118.81 56 PKP **PKPdf** **01 25 15.3 +0.4**
TXAR PP **PP** **01 26 33.9 +0.4**
ESDC Sonseca Array 124.47 320 PP PP 01 27 10.4 -0.9
comp=Z,0.1nm,0.3s,baz=62,slow=6.0,SNR=2.7
ESDC Sonseca Array 124.47 320 PP PP 01 27 10.4 -0.9
TORD Torodi Ar. Bea 130.04 287 PKP **PKPdf** **01 25 36.6 -0.1**
comp=Z,1.1nm,0.8s,baz=41,slow=1.9,SNR=5.7
TORD Torodi Ar. Bea 130.04 287 PKP **PKPdf** **01 25 36.6 -0.1**
OTAV Otavalo 148.58 90 PKPbc **PKPab** **01 26 16.4 -1.7**
LPAZ La Paz 153.52 129 PKPbc **PKPbc** **01 26 27.1 +0.9**
comp=Z,1.1nm,0.7s,baz=207,slow=2.3,SNR=3.1
LPAZ La Paz 153.52 129 PKIKP **PKPbc** **01 26 27.1 +0.9**
LPAZ La Paz 153.52 129 PKPbc **PKPbc** **01 26 27.1 +0.9**

*ISCJB **19** 01:12:11.0±0.6, 31.93N±0.03×104.50E±0.08, h10km, mb3.9/6, Error ellipse: s-maj=9.3km s-min=4.7km az=9.6*
*BJI **19** 01:12:13.2, 31.83N×104.63E, h14km, mL3.5/14*
*IDC **19** 01:12:13.7±1.0, 32.06N×104.31E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=43.8km s-min=21.5km az=55.0*

ISC 19 01:12:14.0±0.7, 31.90N±0.05×104.53E±0.06, h10km, n13, σ2.2 s10/17, mb4.0/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.19**	**214**	Pg	**Pn**	**01 12 34.8**	**-1.9**
CD2				Sg	**Sb**	**01 12 49.3**	**-2.8**
CD2				smax	smax		
	comp=N,2μm,0.6s						
CD2				smax	smax		
	comp=E,4μm,0.7s						
LZH	**Lanzhou**	**4.21**	**352**	Pg	**Pg**	**01 13 32.6**	**-2.2**
LZH				Sn	**Sn**	**01 14 11.8**	**+3.9**
LZH				Sg	**Sg**	**01 14 30.1**	**+0.7**
LZH				smax	smax		
	comp=N,57nm,1.0s						
LZH				smax	smax		
	comp=E,72nm,0.7s						
XAN	**Xi'an**	**4.26**	**59**	Pn	Pb	01 13 23.3	-5.9
XAN				Pg	**Pg**	**01 13 34.3**	**-1.5**
XAN				Sg	**Sg**	**01 14 28.8**	**-2.2**
XAN				smax	smax		
	comp=N,66nm,0.9s						
XAN				smax	smax		
	comp=E,38nm,0.8s						
GYA	**Guiyang**	**5.73**	**160**	Pn	**Pn**	**01 13 40.8**	**+1.4**
GYA				Sn	**Sn**	**01 14 44.4**	**-0.9**
GYA				Sg	Sg	01 15 12.3	-5.9
GYA				smax	smax		
	comp=N,40nm,0.7s						
GYA				smax	smax		
	comp=E,80nm,0.8s						
KMI	**Kunming**	**6.93**	**194**	Pn	Pn	01 13 50.3	-5.6
HHC	**Hu-ho-hao-te**	**10.58**	**30**	*e*P	**Pn**	**01 14 44.1**	**-1.6**
HHC				pP		01 14 54.0	
HHC				sP		01 14 57.9	
KSRS	**Korea Array**	**20.00**	**67**	P	**Pn**	**01 16 48.9**	**+0.4**
	comp=E,1.0nm,0.3s,baz=265,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**56.69**	**336**	P	**P**	**01 21 57.2**	**0.0**
	comp=E,5.0nm,1.0s,baz=76,slow=7.5,SNR=3.2						
FINES	**FINESS Array B**	**57.11**	**326**	P	**P**	**01 22 00.1**	**-0.3**
	comp=E,1.2nm,0.8s,baz=93,slow=8.0,SNR=6.9						
WRA	**Warramunga Arr**	**58.94**	**147**	P	**P**	**01 22 16.5**	**+2.8**
	comp=E,0.8nm,0.7s,baz=338,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**61.99**	**149**	P	**P**	**01 22 37.3**	**+2.8**
	comp=E,0.6nm,0.8s,baz=331,slow=6.7,SNR=4.3						
NOA	**NORSAR Array B**	**64.19**	**327**	P	**P**	**01 22 48.2**	**-0.5**
	comp=E,1.3nm,0.9s,baz=67,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**80.83**	**17**	P	**P**	**01 24 28.3**	**+0.6**
	comp=E,0.2nm,0.7s,baz=332,slow=5.5,SNR=3.3						

*DJA **19** 01:25:37, 5.20S×134.89E, h13km, MLv4.5/3*

IDC 19 01:25:18.3±2.0, 6.06S×130.44E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/16, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=94.4km s-min=26.8km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.86**	**201**	Pn	Pn	01 28 22.6	+0.2
	0.4nm,0.3s,baz=30,slow=11,SNR=14						
FITZ				Sn	Sn	01 30 32.6	-14
	1.1nm,0.3s,baz=175,slow=17,SNR=9.8						
WRA	**Warramunga Arr**	**14.31**	**165**	Pn	Pn	01 28 42.2	-0.2
	0.2nm,0.3s,baz=348,slow=13,SNR=6.4						
WRA				Sn	Sn	01 31 06.3	-16
	0.5nm,0.3s,baz=347,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.82**	**170**	Pn	Pn	01 29 27.9	-0.1
	0.1nm,0.3s,baz=345,slow=9.0,SNR=4.9						
ASAR				Sn	Sn	01 32 31.3	-16
	0.1nm,0.3s,baz=355,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	01 36 17.7	+0.2
	0.4nm,0.4s,baz=116,slow=6.6,SNR=12						
KURK	**Kurchatov**	**71.95**	**328**	P	P	01 36 43.4	-0.2
	0.5nm,0.5s,baz=134,slow=5.3,SNR=5.9						

IDC 19 01:54:21.9±3.1, 0.52S×133.63E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=163.4km s-min=26.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.32**	**178**	P	P	01 58 49.0	+0.1
	0.1nm,0.3s,baz=357,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**23.01**	**179**	P	P	01 59 28.6	0.0
	0.7nm,0.4s,baz=355,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**65.00**	**324**	P	P	02 05 03.8	-0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=3.3						

*ISCJB **19** 01:57:14.9±0.4,37.82N±0.02×27.52E±0.03,h3km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=42.0*
*ISK **19** 01:57:14.6,37.83N×27.53E,h7km,MD3.1*
*DDA **19** 01:57:15.2,37.82N×27.54E,h7km,MD2.8*
*CSEM **19** 01:57:15.4±0.1,37.81N×27.54E,h5km,MD2.8, Error ellipse: s-maj=3.2km s-min=3.0km az=51.0*
*ATH **19** 01:57:16.4,37.82N×27.49E,h10km±2km,MD3.2/4*

ISC 19 01:57:15.6±1.0,37.83N±0.02×27.54E±0.02,h9km±9km, n56,σ0s52/79,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.27**	**243**	*i*P	**Pg**	**01 57 20.9**	**-0.1**
GCAM	**G?zelcaml?**	**0.27**	**243**	*i*P	**Pg**	**01 57 20.9**	**-0.1**
AYDN	**Tasoluk**	**0.31**	**121**	*i*P	**Pg**	**01 57 21.8**	**0.0**
AYDN				*i*S	**Sg**	**01 57 26.4**	**+0.4**
AYDN	**Tasoluk**	**0.31**	**121**	*i*P	**Pg**	**01 57 21.8**	**0.0**
AYDN				*i*S	**Sg**	**01 57 26.4**	**+0.4**
SMG	**Samos**	**0.57**	**258**	*e*PB	**Pg**	**01 57 26.6**	**0.0**
SMG				*e*SB	**Sg**	**01 57 34.1**	**0.0**
SMG	**Samos**	**0.57**	**258**	*e*Pb	**Pg**	**01 57 26.6**	**0.0**
SMG				*e*Sb	**Sg**	**01 57 34.1**	**0.0**
IZM	**Izmir**	**0.61**	**339**	*e*PG	**Pg**	**01 57 27.1**	**-0.3**
IZM				*e*SG	**Sg**	**01 57 35.2**	**-0.3**
IZM	**Izmir**	**0.61**	**339**	*e*Pg	**Pg**	**01 57 27.1**	**-0.3**
IZM				*e*Sg	**Sg**	**01 57 35.2**	**-0.3**
BLCB	**Balcova**	**0.68**	**325**	*e*PG	**Pg**	**01 57 28.9**	**+0.1**
BLCB				*e*SG	**Sg**	**01 57 37.6**	**-0.1**
BLCB	**Balcova**	**0.68**	**325**	*e*Pg	**Pg**	**01 57 28.9**	**+0.1**
BLCB				*e*Sg	**Sg**	**01 57 37.6**	**-0.1**
BDRM	**Kayabasi**	**0.76**	**186**	*i*P	**Pg**	**01 57 29.4**	**-0.8**
BDRM				*i*S	**Sg**	**01 57 40.3**	**+0.2**
BDRM	**Kayabasi**	**0.76**	**186**	*i*P	**Pg**	**01 57 29.4**	**-0.8**
BDRM				*i*S	**Sg**	**01 57 40.3**	**+0.2**
BODT	**Bodrum**	**0.78**	**194**	*e*PG	**Pg**	**01 57 29.8**	**-0.8**
BODT	**Bodrum**	**0.78**	**194**	*e*Pg	**Pg**	**01 57 29.8**	**-0.8**
YER	**Yerkesik**	**0.91**	**139**	*e*PG	**Pb**	**01 57 33.5**	**0.0**
YER				*e*SG	**Sg**	**01 57 45.4**	**+0.6**
YER	**Yerkesik**	**0.91**	**139**	*e*Pg	**Pb**	**01 57 33.5**	**0.0**
YER				*e*Sg	**Sg**	**01 57 45.4**	**+0.6**
URLA	**Izmir**	**0.92**	**306**	*i*P	**Pg**	**01 57 33.6**	**+0.4**
URLA				*i*S	**Sb**	**01 57 46.3**	**+0.3**
URLA	**Izmir**	**0.92**	**306**	*i*P	**Pg**	**01 57 33.6**	**+0.4**
URLA				*i*S	**Sb**	**01 57 46.3**	**+0.3**
AKHS	**Akhisar**	**1.07**	**11**	*i*P	**Pg**	**01 57 35.9**	**-0.3**
AKHS				*i*S	**Sb**	**01 57 51.0**	**+0.5**
AKHS	**Akhisar**	**1.07**	**11**	*i*P	**Pg**	**01 57 35.9**	**-0.3**
AKHS				*i*S	**Sb**	**01 57 51.0**	**+0.5**
AKS	**Akhisar**	**1.07**	**11**	*e*PG	**Pg**	**01 57 35.3**	**-0.9**
AKS	**Akhisar**	**1.07**	**11**	*e*Pg	**Pg**	**01 57 35.3**	**-0.9**
KULA	**Kula-Manisa**	**1.12**	**52**	*e*PN	**Pb**	**01 57 36.0**	**-1.2**
KULA	**Kula-Manisa**	**1.12**	**52**	*e*Pn	**Pb**	**01 57 36.0**	**-1.2**
DNZL	**Cakiroluk**	**1.20**	**96**	*i*P	**Pn**	**01 57 38.9**	**+0.2**
DNZL				*i*S	**Sn**	**01 57 57.2**	**+1.9**
DNZL	**Cakiroluk**	**1.20**	**96**	*i*P	**Pn**	**01 57 38.9**	**+0.2**
CHOS	**Chios island**	**1.30**	**296**	*e*PG	**Pn**	**01 57 40.0**	**0.0**
CHOS				*e*SB	**Sn**	**01 57 57.5**	**-0.1**
CHOS	**Chios island**	**1.30**	**296**	*e*Pg	**Pn**	**01 57 40.0**	**0.0**
CHOS				*e*Sb	**Sn**	**01 57 57.5**	**-0.1**
DEMI	**Demirci**	**1.53**	**37**	*i*P	**Pb**	**01 57 44.3**	**+0.2**
DEMI				*i*S	**Sn**	**01 58 02.2**	**-1.0**
DEMI	**Demirci**	**1.53**	**37**	*i*P	**Pb**	**01 57 44.3**	**+0.2**
DEMI				*i*S	**Sn**	**01 58 02.2**	**-1.0**
KHAL	**Karahalli**	**1.63**	**70**	*i*P	**Pn**	**01 57 45.0**	**+0.4**
KHAL				*i*S	**Sb**	**01 58 06.6**	**-0.1**
KHAL	**Karahalli**	**1.63**	**70**	*i*P	**Pn**	**01 57 45.0**	**+0.4**
KHAL				*i*S	**Sb**	**01 58 06.6**	**-0.1**
KHL	**Karahalli**	**1.64**	**72**	*e*PN	**Pn**	**01 57 44.5**	**-0.2**
KHL	**Karahalli**	**1.64**	**72**	*e*Pn	**Pn**	**01 57 44.5**	**-0.2**
FETY	**Fethiye**	**1.71**	**133**	*e*PN	**Pn**	**01 57 45.5**	**-0.1**
FETY	**Fethiye**	**1.71**	**133**	*e*Pn	**Pn**	**01 57 45.5**	**-0.1**
PRK	**Paraskevi**	**1.73**	**325**	*e*PN	**Pg**	**01 57 48.5**	**-0.3**
PRK	**Paraskevi**	**1.73**	**325**	*e*Pn	**Pg**	**01 57 48.5**	**-0.3**
APE	**Apeiranthos**	**1.77**	**245**	*e*PN	**Pn**	**01 57 45.6**	**-0.8**
APE	**Apeiranthos**	**1.77**	**245**	*e*PG	**Pb**	**01 57 48.6**	**+0.4**
APE	**Apeiranthos**	**1.77**	**245**	*e*Pn	**Pn**	**01 57 45.6**	**-0.8**
APE	**Apeiranthos**	**1.77**	**245**	*e*Pg	**Pb**	**01 57 48.6**	**+0.4**
BALB	**Balikesir**	**1.83**	**8**	*e*PN	**Pn**	**01 57 47.2**	**0.0**
BALB	**Balikesir**	**1.83**	**8**	*e*Pn	**Pn**	**01 57 47.2**	**0.0**
DURS	**Dursunbey**	**1.92**	**22**	*i*P	**Pb**	**01 57 50.8**	**0.0**
DURS	**Dursunbey**	**1.92**	**22**	*i*P	**Pb**	**01 57 50.8**	**0.0**
EZN	**Ezine**	**2.21**	**335**	*e*PN	**Pn**	**01 57 52.8**	**+0.3**
EZN	**Ezine**	**2.21**	**335**	*e*Pn	**Pn**	**01 57 52.8**	**+0.3**
GONE	**Gonen-Balikesi**	**2.22**	**3**	*e*PN	**Pn**	**01 57 52.8**	**+0.2**
GONE	**Gonen-Balikesi**	**2.22**	**3**	*e*Pn	**Pn**	**01 57 52.8**	**+0.2**
ALT	**Altintas**	**2.36**	**58**	*e*PN	**Pn**	**01 57 54.8**	**+0.2**
ALT	**Altintas**	**2.36**	**58**	*e*Pn	**Pn**	**01 57 54.8**	**+0.2**
SHUT	**Suhut-Afyon**	**2.48**	**72**	*e*PN	**Pn**	**01 57 56.9**	**+0.6**
SHUT	**Suhut-Afyon**	**2.48**	**72**	*e*Pn	**Pn**	**01 57 56.9**	**+0.6**
KCTX	**Karacabey (Bur**	**2.52**	**14**	*e*PN	**Pn**	**01 57 57.7**	**+1.0**
KCTX	**Karacabey (Bur**	**2.52**	**14**	*e*Pn	**Pn**	**01 57 57.7**	**+1.0**

*IDC **19** 02:05:56.4±1.5,30.73N×102.21E,h0km,mb3.1/3, mb1 3.3/4,mb1mx3.1/23,mbtmp3.1/4,ML3.1/1, Error ellipse: s-maj=86.2km s-min=24.2km az=61.0*

ISC 19 02:05:57.4±1.3,30.91N±0.09×102.5E±0.2,h10km,n7, σ1s88/10,mb3.2/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**5.28**	**12**	Pg	**Pb**	**02 07 28.4**	**-1.5**
LZH				Sg	**Sn**	**02 08 18.8**	**+1.4**
LZH				smax	smax		
	comp=N,30nm,0.5s						
LZH				smax	smax		
	comp=E,27nm,0.7s						
LZH				LR	LR		
	comp=N,170nm,5.2s						
LZH				LR	LR		
	comp=E,190nm,5.6s						
LZH				LR	LR		
	comp=Z,190nm,7.7s						
GYA	**Guiyang**	**5.73**	**140**	Pn	**Pn**	**02 07 21.4**	**-1.4**
GYA				Pg	**Pg**	**02 07 46.8**	**-0.5**
GYA				Sn	**Sn**	**02 08 26.6**	**-2.1**
GYA				Sg	**Sb**	**02 08 50.0**	**+3.5**
GYA				smax	smax		
	comp=N,50nm,0.8s						
GYA				smax	smax		
	comp=E,50nm,0.8s						
GTA	**Gaotai**	**8.77**	**346**	*e*P	Pg	02 08 38.9	-6.3
GTA				pP	Pn	02 08 46.8	+42
GTA				sP	Sn	02 08 50.8	-53
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**17.16**	**9**	P	**P**	**02 09 59.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**22.26**	**321**	P	**P**	**02 10 54.8**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=137,slow=11,SNR=2.4						
ZALV	**Zalesovo Beam**	**26.33**	**336**	P	**P**	**02 11 34.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=150,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**59.08**	**145**	P	**P**	**02 15 58.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=326,slow=9.1,SNR=3.1						

*IDC **19** 02:09:34.8±0.8,15.23N×123.10E,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.7/24,mbtmp3.7/13,ML4.4/1,Error ellipse: s-maj=23.6km s-min=15.5km az=70.0*
*ISCJB **19** 02:09:38.5±1.1,15.27N±0.06×122.91E±0.08, h34km±10km,mb3.7/12,Error ellipse: s-maj=15.1km s-min=6.9km az=150.1*
*MAN **19** 02:09:38,15.24N×122.79E,h18km,mb4.7,ML3.5,MS3.5*

ISC 19 02:09:39.3±2.6,15.20N±0.10×122.84E±0.09,h29km±20km, n22,σ1s32/25,mb3.6/12,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.34**	**294**	*e*P	**Pn**	**02 09 59.5**	**-2.5**
BALP				*e*S	**Sn**	**02 10 17.2**	**-1.7**
GQP	**Guinayangan**	**1.34**	**197**	*e*P	**Pb**	**02 10 02.6**	**-1.2**
GQP				*e*S	**Sb**	**02 10 20.9**	**+0.3**
LQP	**Lukban**	**1.66**	**230**	*e*P	Pb	02 10 18.3	+8.9
CAUP	**Cauayan**	**2.00**	**331**	*e*P	**Pn**	**02 10 09.8**	**-1.2**
CAUP				*e*S	Sn	02 10 25.9	-9.1
PVCP	**Virac**	**2.04**	**141**	*e*P	**Pn**	**02 10 12.2**	**+0.5**
TGY	**Tagaytay City**	**2.14**	**240**	Pn	**Pb**	**02 10 16.2**	**-1.3**
	100nm,0.3s,baz=105,slow=8.1,SNR=5.8						
TGY				Sn	**Sb**	**02 10 47.2**	**+3.5**
	384nm,0.3s,baz=108,slow=20,SNR=6.0						

BCPH	**Baguio City Da**	**2.48**	**299**	*i*P	**Pn**	**02 10 17.4**	**-0.4**
BCPH				*i*S	**Sn**	**02 10 48.2**	**+1.0**
SCZP	**Santa Cruz**	**2.88**	**282**	*e*P	**Pn**	**02 10 22.2**	**-1.1**
BOLP	**Bolinao**	**3.06**	**293**	*e*P	**Pn**	**02 10 25.8**	**+0.1**
ABRA	**Dolores**	**3.18**	**320**	*e*P	**Pn**	**02 10 28.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**23.10**	**281**	P	**P**	**02 14 43.5**	**+0.5**
	1.1nm,0.3s,baz=98,slow=7.5,SNR=6.6						
SONM	**Songino Array**	**35.28**	**341**	P	**P**	**02 16 32.4**	**+0.8**
	0.4nm,0.8s,baz=160,slow=8.9,SNR=3.3						
WRA	**Warramunga Arr**	**36.70**	**162**	P	**P**	**02 16 43.2**	**-0.8**
	0.6nm,0.7s,baz=342,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**40.11**	**164**	P	**P**	**02 17 12.1**	**-0.6**
	0.3nm,0.4s,baz=342,slow=6.7,SNR=4.3						
MKAR	**Makanchi Array**	**46.11**	**322**	P	**P**	**02 18 02.4**	**+1.4**
	1.0nm,0.7s,baz=116,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**48.72**	**331**	P	**P**	**02 18 21.6**	**+0.5**
	0.2nm,0.3s,baz=122,slow=7.5,SNR=3.3						
KURK	**Kurchatov**	**50.14**	**325**	P	**P**	**02 18 32.9**	**+1.0**
	1.3nm,0.6s,baz=120,slow=8.5,SNR=6.0						
STKA	**Stephens Creek**	**50.14**	**159**	P	**P**	**02 18 31.6**	**-0.5**
	0.9nm,0.5s,baz=342,slow=5.1,SNR=4.7						
BVAR	**Borovoye Array**	**55.74**	**325**	P	**P**	**02 19 14.3**	**+1.1**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.2						
ILAR	**Eielson Array**	**76.50**	**26**	P	**P**	**02 21 25.4**	**-0.9**
	0.5nm,1.0s,baz=260,slow=5.2,SNR=4.9						
FINES	**FINESS Array B**	**79.99**	**331**	P	**P**	**02 21 45.3**	**-0.3**
	1.6nm,0.9s,baz=86,slow=5.7,SNR=2.4						
YKA	**Yellowknife Ar**	**90.60**	**23**	P	**P**	**02 22 39.0**	**+0.3**
	0.2nm,0.6s,baz=302,slow=4.5,SNR=7.9						

*ISCJB **19** 02:17:15.4±0.6,51.50N±0.03×16.07E±0.03,h0km,Error ellipse: s-maj=4.7km s-min=2.7km az=22.1*
*CSEM **19** 02:17:16.3±0.2,51.54N×16.05E,h2km,ML3.3/8,Error ellipse: s-maj=3.7km s-min=2.8km az=25.0*
*PRU **19** 02:17:17.6,51.50N×16.06E,h0km*
*IPEC **19** 02:17:17.1±0.4,51.54N×16.12E,h8km±1km,ML1.9/3, Error ellipse: s-maj=2.4km s-min=0.9km az=23.0*
*WAR **19** 02:17:19.4,51.44N×16.20E*

ISC 19 02:17:17.9±1.1,51.48N±0.05×16.11E±0.03,h0km,n40, σ1s22/68,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	**Pg**	**02 17 30.7**	**+0.4**
KSP				*e*Sg	**Sb**	**02 17 40.1**	**-1.5**
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	**Pg**	**02 17 30.6**	**+0.4**
KSP				*i*Sg	**Sb**	**02 17 40.1**	**-1.5**
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	**Pg**	**02 17 30.5**	**+0.2**
	baz=351						
KSP				*e*Sg	**Sg**	**02 17 39.9**	**+1.3**
	baz=351						
UPC	**Upice**	**0.97**	**184**	*e*PG	**Pg**	**02 17 36.7**	**+0.2**
UPC	**Upice**	**0.97**	**184**	*e*Pg	**Pg**	**02 17 36.5**	**0.0**
	baz=3.8						
UPC				*e*Sg	**Sb**	**02 17 50.9**	**-0.1**
	baz=3.8						
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**02 17 39.5**	**-0.2**
DPC				*e*SG	**Sg**	**02 17 54.7**	**+0.3**
	comp=Z,31nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**173**	Pg	**Pg**	**02 17 39.5**	**-0.2**
DPC				Sg	**Sg**	**02 17 54.7**	**+0.3**
	31nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**02 17 43.3**	**-0.6**
PVCC				*e*SG	**Sg**	**02 18 01.4**	**-0.1**
	comp=Z,102nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pn	**Pg**	**02 17 43.0**	**-0.9**
	baz=43						
PVCC	**Panska Ves**	**1.36**	**226**	Pg	**Pg**	**02 17 43.3**	**-0.6**
PVCC				Sg	**Sg**	**02 18 01.4**	**-0.1**
	102nm,0.2s						
KRLC	**Kraliky**	**1.47**	**163**	*e*PG	**Pn**	**02 17 45.7**	**0.0**
KRLC				*e*SG	**Sn**	**02 18 05.4**	**-0.2**
KRLC	**Kraliky**	**1.47**	**163**	Pg	**Pn**	**02 17 45.7**	**0.0**
KRLC				Sg	**Sn**	**02 18 05.4**	**-0.2**
BRG	**Berggiesshubel**	**1.49**	**247**	PG	**Pn**	**02 17 45.1**	**-0.9**
BRG				SG	**Sn**	**02 18 05.0**	**-1.1**
	40nm,0.3s						
BRG	**Berggiesshubel**	**1.49**	**247**	*e*Pn	**Pn**	**02 17 45.0**	**-0.9**
	baz=63						
BRG				*e*Sg	**Sn**	**02 18 04.5**	**-1.6**
	baz=63						
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	**Pn**	**02 17 48.8**	**-1.3**
PRU				*e*PG	**Pn**	**02 17 50.5**	**+0.4**
PRU				*e*SG	**Sn**	**02 18 14.6**	**+1.1**
	comp=Z,26nm,0.3s						
PRU	**Pruhonice**	**1.79**	**214**	*e*Pn	**Pn**	**02 17 48.9**	**-1.2**
	baz=32						
PRU	**Pruhonice**	**1.79**	**214**	Pg	**Pn**	**02 17 50.5**	**+0.4**
PRU				Sg	**Sn**	**02 18 14.6**	**+1.1**
	26nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**02 17 51.3**	**-0.8**
	baz=333						
MORC				*e*Sg	**Sg**	**02 18 19.0**	**-1.0**
	8.9nm,0.2s,baz=333						
CLL	**Collm**	**1.95**	**266**	*e*Pn	Pn	02 17 50.0	-2.3
CLL				*e*Pg	Pb	02 17 53.0	-1.3
CLL				*i*Sg	**Sn**	**02 18 18.9**	**+1.5**
	comp=Z,16nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*SG	**Sg**	**02 18 25.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.09**	**141**	Sg	**Sg**	**02 18 25.0**	**-0.1**
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	**Pn**	**02 17 55.4**	**-0.2**
	baz=352						
VRAC				*e*Sg	**Sg**	**02 18 27.3**	**-1.0**
	comp=Z,7.8nm,0.2s,baz=352						
KRUC	**Moravsky**	**2.42**	**175**	*e*Pn	**Pn**	**02 17 58.6**	**-0.2**
	baz=356						
KRUC				*e*Sg	**Sg**	**02 18 35.6**	**-0.2**
	comp=Z,3.3nm,0.2s,baz=356						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**02 18 00.7**	**-0.9**
NKC				*e*PG	**Pb**	**02 18 05.7**	**-0.2**
NKC				*e*SG	**Sb**	**02 18 41.6**	**+2.8**
	comp=Z,22nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pn	**Pn**	**02 18 00.5**	**-1.1**
	baz=59						
NKC	**Novy Kostel**	**2.63**	**243**	Pg	**Pb**	**02 18 05.7**	**-0.2**
NKC				Sg	**Sb**	**02 18 41.6**	**+2.8**
	comp=Z,22nm,0.3s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**02 18 08.3**	**-0.5**
OJC				*e*Sg	**Sg**	**02 18 43.5**	**+0.2**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**02 18 08.3**	**-0.5**
OJC				*e*Sg	**Sg**	**02 18 43.5**	**+0.2**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**02 18 03.5**	**-1.2**
KHC				*e*PG	**Pb**	**02 18 10.0**	**+0.3**
KHC				*e*SN	**Sn**	**02 18 38.2**	**-1.6**
KHC				*e*SG	**Sb**	**02 18 47.5**	**+2.3**
	comp=Z,5.2nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**216**	Pn	**Pn**	**02 18 03.5**	**-1.2**
KHC	**Kasperske Hory**	**2.85**	**216**	Pg	**Pb**	**02 18 10.0**	**+0.3**
KHC				Sn	**Sn**	**02 18 38.2**	**-1.6**
KHC				Sg	**Sb**	**02 18 47.5**	**+2.3**
	comp=Z,5.2nm,0.3s						
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**02 18 07.0**	**-1.4**
	baz=40						
ZST	**Bratislava**	**3.35**	**168**	*e*SG	**Sg**	**02 19 06.2**	**+0.8**
ZST	**Bratislava**	**3.35**	**168**	*e*Sg	**Sg**	**02 19 06.2**	**+0.8**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**02 18 21.5**	**-1.3**
NIE				*e*S	**Sg**	**02 19 05.5**	**-1.2**
VYHS	**Vyhne**	**3.47**	**148**	*e*PN	**Pn**	**02 18 12.3**	**-0.8**
VYHS				*e*SG	**Sg**	**02 19 11.5**	**+2.3**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i*P	Pn	02 18 12.7	-3.8
BSD				*i*S	Sn	02 18 52.3	-8.6
BSD	**Bornholm Skovb**	**3.71**	**349**	*i*P	Pn	02 18 12.7	-3.8
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*SG	**Sg**	**02 19 25.8**	**+3.4**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*Sg	**Sg**	**02 19 25.8**	**+3.4**

CASC 19 02:18:40.5±2.3,10.25N×84.09W,h0km±4km,MD3.7, 4C-1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.31**	**173**	*i*P	Pg	02 18 47.9	+1.2
SJS				*e*S	Sg	02 18 50.1	-0.8
LAJ	**Bijagual**	**0.39**	**184**	*e*P	Pn	02 18 55.1	+1.5
LAJ				*e*S	Sb	02 19 06.1	+8.8
URSC	**Urasca**	**0.52**	**143**	*i*P	Pb	02 18 51.8	-0.9
BUS	**Buena Vista**	**0.77**	**155**	*i*P	Pg	02 18 55.7	-0.1
QCR	**Quepos**	**0.82**	**185**	*i*P	Pg	02 18 56.7	+0.4
PTEN	**Parque Tenorio**	**0.99**	**298**	*i*P	Pg	02 18 59.6	-0.1
PTEN				*i*S	Sn	02 19 16.2	-0.4
JCR	**Jicaral**	**1.08**	**248**	*e*P	Pg	02 19 00.8	-0.5
CUI	**Cuipilapa**	**1.13**	**291**	*i*P	Pg	02 19 02.6	+0.3
COLC	**Colonia**	**1.17**	**291**	*i*P	Pg	02 19 03.3	+0.3
MESS	**Mesas**	**1.19**	**294**	*i*P	Pb	02 19 03.9	-0.2
GPS2	**Hotel Rinc?‡n**	**1.34**	**292**	*i*P	Pg	02 19 02.1	-4.2
LAPC	**Finca la Perla**	**1.42**	**291**	*i*P	Pn	02 19 05.9	-1.7
GBS3	**Finca Las Im?¡**	**1.44**	**292**	*i*P	Pn	02 19 06.5	-1.4
BRU2	**Volcan**	**2.00**	**136**	*i*P	Pb	02 19 17.4	-0.6
BRU2				*i*S	Sb	02 19 44.2	+0.5
TBS2		**2.02**	**136**	*i*P	Pn	02 19 17.0	+0.8
TBS2				*e*S	Sb	02 19 44.4	0.0
PTP	**Ponta Puerca**	**19.57**	**64**	*e*P	x	02 19 28.1	

*JSCJB **19** 02:20:30.6±0.6,38.13N±0.03×38.54E±0.03,h2km±6km, Error ellipse: s-maj=4.6km s-min=4.0km az=145.0*
*ISK **19** 02:20:30.1,38.13N×38.54E,h11km,MD2.9*
*DDA **19** 02:20:30.4,38.12N×38.53E,h5km,MD3.0*
*CSEM **19** 02:20:30.7±0.1,38.13N×38.53E,h10km,MD2.9, Error ellipse: s-maj=2.9km s-min=2.4km az=142.0*

ISC 19 02:20:30.7±0.9,38.14N±0.03×38.54E±0.02,h13km±7km, n27,σ0s45/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.19**	**334**	*e*PG	**Pg**	**02 20 35.1**	**-0.1**
MALT				*e*SG	**Sg**	**02 20 38.2**	**+0.1**
MALT	**Malatya**	**0.19**	**334**	*e*Pg	**Pg**	**02 20 35.1**	**-0.1**
MALT				*e*Sg	**Sg**	**02 20 38.3**	**+0.1**
ELZG	**Elazig**	**0.50**	**45**	*i*P	**Pg**	**02 20 40.5**	**-0.2**
ELZG				*i*S	**Sb**	**02 20 48.3**	**-0.5**
ELZG	**Elazig**	**0.50**	**45**	*i*P	**Pg**	**02 20 40.5**	**-0.2**
ELZG				*i*S	**Sb**	**02 20 48.3**	**-0.5**
AKCD	**Akcadag**	**0.51**	**288**	*i*P	**Pg**	**02 20 40.6**	**-0.1**
AKCD				*i*S	**Sb**	**02 20 48.7**	**-0.2**
AKCD	**Akcadag**	**0.51**	**288**	*i*P	**Pg**	**02 20 40.6**	**-0.1**
AKCD				*i*S	**Sb**	**02 20 48.7**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.65**	**69**	*e*PG	**Pg**	**02 20 43.2**	**-0.3**
SVRC				*e*SG	**Sg**	**02 20 52.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.65**	**69**	*e*Pg	**Pg**	**02 20 43.2**	**-0.3**
SVRC				*e*Sg	**Sg**	**02 20 52.4**	**+0.3**
URFA	**Urfa**	**0.74**	**162**	*e*PG	**Pg**	**02 20 44.5**	**-0.5**
URFA				*e*SG	**Sb**	**02 20 55.0**	**-0.4**
URFA	**Urfa**	**0.74**	**162**	*e*Pg	**Pg**	**02 20 44.5**	**-0.5**
URFA				*e*Sg	**Sb**	**02 20 55.0**	**-0.4**
PTK	**Pertek**	**1.01**	**42**	*e*PG	**Pn**	**02 20 50.6**	**-0.1**
PTK				*e*SG	**Sn**	**02 21 04.6**	**-0.3**
PTK	**Pertek**	**1.01**	**42**	*e*Pg	**Pn**	**02 20 50.6**	**-0.1**
PTK				*e*Sg	**Sn**	**02 21 04.6**	**-0.3**
GZT	**Gaziantep**	**1.10**	**225**	*i*P	**Pn**	**02 20 52.3**	**+0.4**
GZT				*i*S	**Sn**	**02 21 08.3**	**+1.2**
KEMA	**Kemaliye**	**1.13**	**358**	*i*P	**Pb**	**02 20 51.6**	**-0.5**
KEMA				*i*S	**Sn**	**02 21 07.8**	**+0.2**
KEMA	**Kemaliye**	**1.13**	**358**	*i*P	**Pb**	**02 20 51.6**	**-0.5**
KEMA				*i*S	**Sn**	**02 21 07.8**	**+0.2**
DIYA	**Diyarbakir**	**1.27**	**99**	*i*P	**Pg**	**02 20 55.2**	**0.0**
DIYA				*i*S	**Sg**	**02 21 12.8**	**+1.1**
DIYA	**Diyarbakir**	**1.27**	**99**	*i*P	**Pg**	**02 20 55.2**	**0.0**
DIYA				*i*S	**Sg**	**02 21 12.8**	**+1.1**
ILIC	**ilic-Erzincan**	**1.31**	**1**	*e*PN	**Pb**	**02 20 55.6**	**+0.4**
ILIC	**ilic-Erzincan**	**1.31**	**1**	*e*Pn	**Pb**	**02 20 55.6**	**+0.4**
GAZ	**Gaziantep**	**1.43**	**228**	*e*PN	**Pn**	**02 20 56.1**	**-0.3**
GAZ	**Gaziantep**	**1.43**	**228**	*e*Pn	**Pn**	**02 20 56.1**	**-0.3**
KMRS	**Kahramanmaras**	**1.44**	**244**	*e*PN	**Pn**	**02 20 56.8**	**+0.3**
KMRS	**Kahramanmaras**	**1.44**	**244**	*e*Pn	**Pn**	**02 20 56.8**	**+0.3**
**KU

IDC ***19*** *02:52:21.6±2.1,51°.81N×179°.93E, h0km, mb3.2/5, mb1 3.6/6, mb1mx3.4/27, mbtmp3.3/6, ML3.1/1, Error ellipse: s-maj=63.9km s-min=24.6km az=3.0*

ISCJB ***19*** *02:52:48.6±0.8, 52°.4N±0°.3×178°.4W±0°.1, h182km±11km, mb3.1/4, Error ellipse: s-maj=46.8km s-min=14.0km az=174.7*

NEIC ***19*** *02:52:50.0, 51°.88N×178°.32W, h192km, MG2.9(AEIC), After AEIC.*

ISC 19 02:52:49.6±1.1, 52°.4N±0°.3×178°.4W±0°.1, h177km±12km, n19, σ0°39/23, mb3.1/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASE	**Tanaga Southea**	**0.58**	**158**	P	**Pn**	**02 53 14.7**	**+0.2**
GAEA	**Gareloi East**	**0.63**	**201**	P	**Pn**	**02 53 15.0**	**+0.4**
GAEA				S	**Sn**	**02 53 33.8**	**-0.1**
GALAA	**Gareloi Lava P**	**0.65**	**201**	P	**Pn**	**02 53 14.8**	**0.0**
GALAA				S	**Sn**	**02 53 34.1**	**0.0**
TAPA	**Tanaga Point A**	**0.66**	**147**	P	**Pn**	**02 53 14.7**	**-0.2**
KIKV	**Kanaga Island**	**0.90**	**123**	P	**Pn**	**02 53 16.5**	**+0.2**
KIKV				S	**Sn**	**02 53 37.4**	**+0.6**
KIMD	**Kanaga Island**	**0.94**	**130**	P	**Pn**	**02 53 16.2**	**-0.3**
KIMD				S	**Sn**	**02 53 36.2**	**-1.0**
ETKA	**Kagalaska Isla**	**1.32**	**112**	P	**Pn**	**02 53 19.6**	**0.0**
ETKA				S	**Sn**	**02 53 42.6**	**-0.3**
GSCK	**Great Sitkin C**	**1.42**	**104**	P	**Pn**	**02 53 20.6**	**+0.1**
GSMY	**Great Sitkin M**	**1.47**	**102**	P	**Pn**	**02 53 21.1**	**0.0**
GSMY				S	**Sn**	**02 53 46.3**	**+0.9**
ILAR	**Eielson Array**	**20.32**	**40**	P	**P**	**02 57 11.3**	**-0.2**
	0.4nm,0.6s,baz=234,slow=8.4,SNR=7.9						
ILAR	**Eielson Array**	**20.32**	**40**	P	**P**	**02 57 11.3**	**-0.2**
YKA	**Yellowknife Ar**	**34.37**	**48**	P	**P**	**02 59 18.9**	**-0.2**
	0.1nm,0.5s,baz=280,slow=7.3,SNR=5.7						
YKA	**Yellowknife Ar**	**34.37**	**48**	P	**P**	**02 59 18.9**	**-0.2**
NVAR	**Mina Array Bea**	**43.19**	**84**	P	**P**	**03 00 33.2**	**+0.2**
	0.1nm,0.5s,baz=306,slow=7.7,SNR=4.2						
NVAR	**Mina Array Bea**	**43.19**	**84**	P	**P**	**03 00 33.2**	**+0.2**
TXAR	**Lajitas Array**	**58.26**	**82**	P	**P**	**03 02 25.6**	**+0.1**
	0.4nm,0.6s,baz=308,slow=4.9,SNR=5.8						
TXAR	**Lajitas Array**	**58.26**	**82**	P	**P**	**03 02 25.6**	**+0.1**
MKAR	**Makanchi Array**	**59.62**	**308**	P	P	03 02 23.8	-11
	0.2nm,0.3s,baz=42,slow=5.6,SNR=8.1						
MKAR	**Makanchi Array**	**59.62**	**308**	P	P	03 02 23.8	-11

IDC ***19*** *02:58:42.0±1.3,26°.75N×99°.30E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, Error ellipse: s-maj=70.3km s-min=18.8km az=63.0*

ISC 19 02:58:47.1±1.4, 27°.86N±0°.07×100°.8E±0°.1, h10km, n8, σ1°53/7, mb3.4/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.23**	**147**	Pg	**Pn**	**02 59 38.8**	**+0.6**
KMI				Sg	**Sb**	**03 00 23.5**	**-0.8**
KMI				smax	smax		
	comp=N,35nm,1.0s						
KMI				smax	smax		
	comp=E,35nm,1.0s						
CD2	**Chengdu**	**3.99**	**40**	Pg	**Pn**	**02 59 48.6**	**+0.2**
CD2				Sg	**Sn**	**03 00 34.8**	**-0.4**
CD2				smax	smax		
	comp=N,110nm,0.8s						
CD2				smax	smax		
	comp=E,120nm,0.5s						
SONM	**Songino Array**	**20.41**	**11**	P	Pn	03 03 35.3	+8.7
	comp=E,0.3nm,0.8s,baz=206,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**23.85**	**327**	P	**P**	**03 03 59.5**	**-1.1**
	comp=E,0.7nm,0.7s,baz=138,slow=8.6,SNR=8.3						
KURK	**Kurchatov**	**28.35**	**330**	P	**P**	**03 04 39.7**	**-1.5**
	comp=E,0.3nm,0.6s,baz=145,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**28.59**	**340**	P	**P**	**03 04 45.4**	**+2.2**
	comp=E,0.2nm,0.3s,baz=149,slow=9.4,SNR=2.1						
WRA	**Warramunga Arr**	**57.55**	**142**	P	P	03 08 33.2	-3.9
	comp=E,0.4nm,0.4s,baz=331,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**60.37**	**145**	P	P	03 08 52.7	-3.9
	comp=E,0.2nm,0.3s,baz=325,slow=7.0,SNR=4.4						

ISCJB ***19*** *03:05:26.7±0.4, 12°.42N±0°.05×87°.71W±0°.05, h73km±3km, mb3.9/13, Error ellipse: s-maj=10.9km s-min=3.6km az=137.1*

IDC ***19*** *03:05:26.1±1.8, 12°.68N×87°.43W, h52km±12km, mb3.5/8, mb1 3.8/10, mb1mx3.6/22, mbtmp3.6/10, ML3.4/2, MS3.0/3, Ms1 3.0/3, ms1mx2.9/27, Error ellipse: s-maj=35.9km s-min=17.2km az=61.0*

CASC ***19*** *03:05:27.5±1.9, 12°.40N×87°.77W, h40km±123km, MD4.1, ML3.7, mb4.1(NEIC)*

NEIC ***19*** *03:05:28.3±1.0, 12°.44N×87°.63W, h78km±9km, mb4.1/4, Error ellipse: s-maj=19.1km s-min=9.5km az=59.0*

ISC 19 03:05:27.3±0.7, 12°.46N±0°.05×87°.76W±0°.05, h64km±5km, n190, σ0°96/215, mb3.9/13, 67C-73D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.81**	**355**	*e*P	**Pn**	**03 05 43.6**	**+0.3**
CNCH				*e*S	**Sn**	**03 05 55.2**	**+0.2**
CNGN	**Cerro Negro**	**1.04**	**88**	*e*P	**Pn**	**03 05 45.9**	**-0.2**
CNGN				*e*S	**Sn**	**03 06 00.1**	**+0.1**
BLLM	**Bellamira**	**1.08**	**335**	*e*P	**Pn**	**03 05 46.9**	**+0.2**
BLLM				*e*S	**Sn**	**03 06 01.9**	**+0.9**
VSM	**San Miguel**	**1.08**	**333**	*e*P	**Pn**	**03 05 47.6**	**+0.8**
CAHU	**Cacacuatique**	**1.37**	**341**	*e*P	**Pn**	**03 05 51.4**	**+0.8**
CAHU				*e*S	**Sn**	**03 06 10.4**	**+2.0**
SNVI	**San Vicente**	**1.55**	**318**	*e*P	**Pn**	**03 05 53.7**	**+0.8**
SNVI				*e*S	**Sn**	**03 06 14.3**	**+2.0**
TGUH	**Tegucigalpa,Un**	**1.66**	**17**	*e*Pn	**Pn**	**03 05 55.5**	**+1.4**
TGUH				*e*Sn	**Sn**	**03 06 13.5**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.66**	**17**	↑*i*P	**Pn**	**03 05 55.6**	**+1.4**
TGUH				*e*S	**Sn**	**03 06 16.7**	**+2.2**
LFRS	**El Faro**	**1.71**	**313**	*e*P	**Pn**	**03 05 55.2**	**+0.1**
LBRS	**Las Brisas**	**1.78**	**316**	*e*P	**Pn**	**03 05 56.9**	**+0.9**
SNET	**Serv Nac Est T**	**1.88**	**311**	AML	AML	03 06 25.1	
	comp=Z,835nm,0.2s						
SNET				AML	AML	03 06 25.1	
	comp=Z,956nm,0.3s						
BOQS	**Boqueron**	**1.95**	**311**	*e*P	**Pn**	**03 05 58.6**	**+0.3**
MTO2	**Montecristo 2**	**2.48**	**321**	*e*P	**Pn**	**03 06 06.1**	**+0.5**
MESS	**Mesas**	**3.04**	**124**	*i*P	**Pn**	**03 06 12.2**	**-0.9**
CUI	**Cuipilapa**	**3.11**	**125**	*i*P	**Pn**	**03 06 14.2**	**+0.1**
PTEN	**Parque Tenorio**	**3.23**	**122**	*i*P	**Pn**	**03 06 15.3**	**-0.3**
JTS	**JuntasAbangare**	**3.50**	**128**	P	**Pn**	**03 06 18.6**	**-0.7**
	comp=Z,3.8nm,0.3s,baz=325,slow=20,SNR=47						
JTS				S	**Sn**	**03 07 01.0**	**+1.4**
	comp=Z,16nm,0.3s,baz=256,slow=21,SNR=4.2						
JTS	**JuntasAbangare**	**3.50**	**128**	P	**Pn**	**03 06 18.6**	**-0.7**
JTS				S	**Sn**	**03 07 01.0**	**+1.4**
JCR	**Jicaral**	**3.67**	**135**	*e*P	**Pn**	**03 06 22.6**	**+0.9**
JCR				*e*S	S	03 07 00.7	
LAJ	**Bijagual**	**4.41**	**125**	*e*P	**Pn**	**03 06 30.0**	**-1.9**
QCR	**Quepos**	**4.64**	**130**	*e*P	**Pn**	**03 06 36.5**	**+1.5**
QCR				*e*S	**Sn**	**03 07 25.5**	**-2.1**
URSC	**Urasca**	**4.70**	**123**	↓*e*P	Pn	03 06 39.6	+3.7
BUS	**Buena Vista**	**4.88**	**126**	*e*P	**Pn**	**03 06 41.1**	**+2.6**
TEIG	**Tepich**	**7.74**	**356**	P	**Pn**	**03 07 20.0**	**+2.7**
	comp=Z,2.0nm,0.3s,baz=338,slow=23,SNR=13						
TEIG				LR	LR	03 10 14.9	
	comp=Z,99nm,21.9s,baz=155,slow=38						
TEIG	**Tepich**	**7.74**	**356**	P	**Pn**	**03 07 20.0**	**+2.7**
CMIG	**Matias Romero**	**8.28**	**305**	P	**Pn**	**03 07 26.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=141,slow=7.8,SNR=7.1						
CMIG				S	Sn	03 08 50.5	-6.5
	baz=259,slow=13,SNR=2.1						
CMIG				LR	LR	03 11 25.7	
	comp=Z,90nm,18.5s,baz=115,slow=43						
CMIG	**Matias Romero**	**8.28**	**305**	P	**Pn**	**03 07 26.2**	**+1.4**
CMIG				S	Sn	03 08 50.5	-6.5
JCT	**Junction City**	**21.11**	**330**	*e*P	**P**	**03 10 09.6**	**+2.8**
	comp=Z,1.6nm,0.4s						
JCT	**Junction City**	**21.11**	**330**	↓P	**P**	**03 10 08.1**	**+1.2**
	baz=21						
SJG	**San Juan**	**21.58**	**72**	LR	LR	03 18 06.0	
	comp=Z,62nm,19.9s,baz=90,slow=36						
628A	**Black Gap, Mar**	**22.01**	**323**	↑P	**P**	**03 10 17.3**	**+0.8**
	baz=22,SNR=8.6						
627A	**Terlingua Ranc**	**22.29**	**322**	↓P	**P**	**03 10 20.4**	**+0.8**
	baz=22,SNR=8.2						
TXAR	**Lajitas Array**	**22.37**	**321**	P	**P**	**03 10 20.9**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=138,slow=10,SNR=47						
TXAR				pP	**pP**	**03 10 33.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=143,slow=9.6,SNR=3.4						
TXAR				PcP	**PcP**	**03 14 14.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=163,slow=4.4,SNR=3.1						
TXAR				ScP	**ScP**	**03 17 46.5**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=170,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**22.37**	**321**	P	**P**	**03 10 20.9**	**+0.4**
TXAR				pP	**pP**	**03 10 33.6**	**-0.6**
TXAR				PcP	**PcP**	**03 14 14.8**	**+1.1**
TXAR				ScP	**ScP**	**03 17 46.5**	**+0.7**
MIAR	**Mount Ida**	**22.61**	**347**	*e*P	**P**	**03 10 22.8**	**-0.1**
	comp=Z,3.4nm,0.7s						
626A	**Big Bend Ranch**	**22.82**	**321**	↑P	**P**	**03 10 25.1**	**0.0**
	baz=23,SNR=5.6						
428A	**Kincaid Ranch,**	**22.82**	**325**	↑P	**P**	**03 10 25.3**	**+0.1**
	baz=23						
527A	**Woodward Ranch**	**22.92**	**323**	↑P	**P**	**03 10 26.0**	**-0.3**
	baz=23						
526A	**Mary Lane Ranc**	**23.15**	**322**	↑P	**P**	**03 10 28.9**	**+0.4**
	baz=23						
TKL	**Tuckaleechee C**	**23.38**	**8**	P	**P**	**03 10 31.0**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=181,slow=15,SNR=5.9						
TKL	**Tuckaleechee C**	**23.38**	**8**	P	**P**	**03 10 31.0**	**+0.5**
328A	**Wristen Ranch,**	**23.39**	**326**	↓P	**P**	**03 10 30.6**	**-0.1**
	baz=24,SNR=7.5						
426A	**McDonald Obser**	**23.55**	**323**	↑P	**P**	**03 10 32.6**	**+0.2**
	baz=24						
326A	**Caldwell Ranch**	**24.00**	**324**	↓P	**P**	**03 10 36.7**	**+0.5**
	baz=24						
425A	**Indio Mountain**	**24.21**	**322**	↓P	**P**	**03 10 38.6**	**+0.4**
	baz=24						
325A	**Bean Ranch, Si**	**24.61**	**323**	↓P	**P**	**03 10 42.2**	**+0.2**
	baz=25						
226A	**Malaga, Loving**	**24.62**	**325**	↓P	**P**	**03 10 42.4**	**+0.5**
	baz=25						
127A	**Arkansas Junct**	**24.68**	**327**	↑P	**P**	**03 10 42.2**	**-0.3**
	baz=25,SNR=6.2						
324A	**Moseley Ranch,**	**24.97**	**322**	↓P	**P**	**03 10 45.4**	**+0.2**
	baz=25						
126A	**Clayton Basin,**	**25.02**	**326**	↓P	**P**	**03 10 45.8**	**+0.3**
	baz=25						
225A	**Deer Hill, Car**	**25.07**	**324**	↑P	**P**	**03 10 47.2**	**+1.1**
	baz=25						
MNTX	**Cornudas Mount**	**25.09**	**323**	↑P	**P**	**03 10 46.9**	**+0.8**
	baz=25						
MNTX				↑P	**P**	**03 10 46.9**	**+0.8**
	baz=25						
Z27A	**Tatum**	**25.11**	**328**	↑P	**P**	**03 10 46.0**	**-0.4**
	baz=25						
MSTX	**Muleshoe**	**25.41**	**330**	↓P	**P**	**03 10 48.8**	**-0.3**
	baz=26						
224A	**Cornudas Mount**	**25.45**	**323**	↓P	**P**	**03 10 50.6**	**+1.1**
	baz=26						
Z26A	**Caprock**	**25.47**	**327**	↑P	**P**	**03 10 50.2**	**+0.5**
	baz=26						
Y27A	**Causey**	**25.53**	**329**	↑P	**P**	**03 10 50.1**	**-0.1**
	baz=26						
AMTX	**Amarillo**	**25.65**	**333**	↑P	**P**	**03 10 51.5**	**+0.3**
	baz=26						
AMTX				↑P	**P**	**03 10 51.5**	**+0.3**
	baz=26						
124A	**Stringfield Ra**	**25.86**	**324**	↓P	**P**	**03 10 53.4**	**+0.1**
	baz=26						
Z25A	**Roswell**	**25.88**	**326**	↓P	**P**	**03 10 54.3**	**+0.9**
	baz=26,SNR=5.5						
Y26A	**Elida**	**25.90**	**328**	↑P	**P**	**03 10 54.5**	**+0.9**
	baz=26						
X27A	**F and S Farms,**	**26.11**	**330**	↑P	**P**	**03 10 55.9**	**+0.4**
	baz=26						
Z24A	**Sheeppen Canyo**	**26.27**	**325**	↑P	**P**	**03 10 59.5**	**+2.5**
	baz=26,SNR=5.5						
Y25A	**Mesa, Roswell**	**26.35**	**327**	↓P	**P**	**03 10 58.7**	**+1.0**
	baz=26						
Z23A	**Rita Site, Whi**	**26.71**	**324**	↓P	**P**	**03 11 03.6**	**+2.6**
	baz=27						
Y24A	**Capitan**	**26.76**	**326**	↓P	**P**	**03 11 03.7**	**+2.3**
	baz=27						
121A	**Cookes Peak, D**	**27.13**	**321**	↑P	**P**	**03 11 06.3**	**+1.5**
	baz=27						
U23A	**El Rito**	**28.98**	**328**	↑P	**P**	**03 11 22.4**	**+1.1**
	baz=29						
V22A	**San Miguel Ran**	**29.05**	**327**	↑P	**P**	**03 11 23.2**	**+1.4**
	baz=29						
Q25A	**Bedland, Calha**	**30.14**	**334**	↓P	**P**	**03 11 31.8**	**+0.4**
	baz=30						
S22A	**4UR Ranch, Cre**	**30.40**	**329**	↓P	**P**	**03 11 34.1**	**+0.2**
	baz=31						
X16A	**Lo Mia Camp, P**	**30.67**	**319**	↑P	**P**	**03 11 38.2**	**+2.1**
	baz=31						
MVCO	**Mesa Verde**	**30.86**	**327**	↓P	**P**	**03 11 39.0**	**+1.1**
	baz=31						
Q22A	**Crested Butte,**	**31.31**	**330**	↓P	**P**	**03 11 42.6**	**+0.7**
	baz=32						
S19A	**Haley Farm, M**	**31.60**	**327**	↑P	**P**	**03 11 45.1**	**+0.8**
	baz=32						
R19A	**Curley Farm, L**	**32.07**	**327**	↑P	**P**	**03 11 49.2**	**+0.7**
	baz=32						
P21A	**Newcastle**	**32.09**	**331**	↓P	**P**	**03 11 49.2**	**+0.5**
	baz=32						
O22A	**Kremmling**	**32.18**	**332**	↓P	**P**	**03 11 49.9**	**+0.3**
	baz=32						
R17A	**Hanksville Air**	**32.95**	**326**	↓P	**P**	**03 11 57.2**	**+1.2**
	baz=33						
O20A	**White River Ci**	**32.95**	**330**	↑P	**P**	**03 11 56.9**	**+0.8**
	baz=33						
Q18A	**Rafter H Ranch**	**33.13**	**327**	↓P	**P**	**03 11 58.1**	**+0.5**
	baz=33						
SRU	**San Rafael**	**33.34**	**327**	↑P	**P**	**03 12 00.4**	**+0.8**
	baz=34						
N20A	**Spence Gulch,**	**33.51**	**331**	↓P	**P**	**03 12 01.7**	**+0.7**
	baz=34						
P18A	**Preston Nutter**	**33.57**	**328**	↑P	**P**	**03 12 02.3**	**+0.6**
	baz=34						
P17A	**Butcher Ranch,**	**33.72**	**327**	↓P	**P**	**03 12 03.4**	**+0.5**
	baz=34						
N19A	**John Jarvie Ra**	**33.99**	**330**	↑P	**P**	**03 12 05.3**	**+0.2**
	baz=34						
MURC	**Murrieta**	**34.10**	**313**	↑P	**P**	**03 12 08.8**	**+2.8**
	baz=34						
O17A	**Robinson Place**	**34.24**	**328**	↓P	**P**	**03 12 07.7**	**+0.3**
	baz=34						
P16A	**Fountain Green**	**34.31**	**326**	↓P	**P**	**03 12 08.8**	**+0.8**
	baz=34						
O16A	**Springville**	**34.65**	**327**	↓P	**P**	**03 12 11.5**	**+0.5**
	baz=35						
J22A	**Midwest**	**34.82**	**336**	↓P	**P**	**03 12 12.5**	**+0.3**
	baz=35						
N17A	**Moffit Pass**	**34.85**	**329**	↑P	**P**	**03 12 13.1**	**+0.4**
	baz=35						
K20A	**Yellowstone Ra**	**34.99**	**333**	↓P	**P**	**03 12 13.8**	**+0.1**
	baz=35						
L19A	**Farson**	**35.01**	**331**	↓P	**P**	**03 12 14.2**	**+0.2**
	baz=35						
M17A	**Scullys Gap (B**	**35.16**	**329**	↓P	**P**	**03 12 15.5**	**+0.3**
	baz=35						
J21A	**Lysite**	**35.16**	**335**	↓P	**P**	**03 12 16.1**	**+0.9**
	baz=35						
L18A	**Fontenelle, Gr**	**35.19**	**331**	↑P	**P**	**03 12 15.8**	**+0.3**
	baz=35						
I22A	**9 Mile Ranch,**	**35.22**	**336**	↑P	**P**	**03 12 16.4**	**+0.7**
	baz=35						
K19A	**Absolon Red Bu**	**35.34**	**333**	↑P	**P**	**03 12 16.4**	**-0.4**
	baz=36						
J20A	**Shoshoni**	**35.44**	**334**	↑P	**P**	**03 12 18.4**	**+0.8**
	baz=36						
BW06	**Boulder Array**	**35.62**	**332**	↑P	**P**	**03 12 19.6**	**+0.3**
	baz=36						
BW06				↑P	**P**	**03 12 19.6**	**+0.3**
	baz=36						
PDAR	**Pinedale Array**	**35.62**	**332**	P	**P**	**03 12 19.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=133,slow=11,SNR=9.0						
PDAR	**Pinedale Array**	**35.62**	**332**	P	**P**	**03 12 19.2**	**0.0**
N15A	**Stansbury Isla**	**35.68**	**327**	↑P	**P**	**03 12 20.3**	**+0.6**
	baz=36						
L17A	**Cokeville**	**35.73**	**330**	↑P	**P**	**03 12 20.3**	**+0.1**
	baz=36						
K18A	**Toltan Ranch,**	**35.74**	**331**	↑P	**P**	**03 12 21.4**	**+1.1**
	baz=36,SNR=6.2						
J19A	**Crowheart**	**35.78**	**333**	↓P	**P**	**03 12 20.8**	**+0.2**
	baz=36						
I20A	**Worland**	**35.94**	**335**	↓P	**P**	**03 12 22.4**	**-0.6**
	baz=36						
L16A	**Fish Haven**	**35.94**	**329**	↓P	**P**	**03 12 22.3**	**+0.3**
	baz=36,SNR=6.5						
M15A	**Larsen Ranch,**	**36.06**	**328**	↓P	**P**	**03 12 23.3**	**+0.4**
	baz=36						
H21A	**Big Horn, Sher**	**36.06**	**336**	↓P	**P**	**03 12 22.7**	**-0.2**
	baz=36						
J18A	**Kendall Valley**	**36.18**	**332**	↓P	**P**	**03 12 24.4**	**+0.3**
	baz=36,SNR=6.3						
K17A	**Gardner Place,**	**36.25**	**331**	↓P	**P**	**03 12 25.2**	**+0.7**
	baz=36						
L15A	**Malad City**	**36.42**	**328**	↑P	**P**	**03 12 25.8**	**-0.2**
	baz=37						
I18A	**Diamond G Ranc**	**36.47**	**333**	↑P	**P**	**03 12 26.9**	**+0.4**
	baz=37						
J17A	**Brown Place, J**	**36.62**	**332**	↓P	**P**	**03 12 28.6**	**+0.9**
	baz=37,SNR=7.1						
MDND	**Maddock**	**36.64**	**347**	↑P	**P**	**03 12 28.8**	**+1.2**
	baz=37						
REDW	**Red Top Meadow**	**36.68**	**331**	*e*P	**P**	**03 12 28.8**	**+0.5**
	comp=Z,5.6nm,0.6s						
E24A	**Baker**	**36.75**	**341**	↓P	**P**	**03 12 29.3**	**+0.7**
	baz=37						
LOHW	**Long Hollow**	**36.76**	**332**	*e*P	**P**	**03 12 28.9**	**0.0**
	comp=Z,6.4nm,1.3s						
L14A	**Malta**	**36.88**	**328**	↑P	**P**	**03 12 29.8**	**-0.1**
	baz=37						
J16A	**Bone**	**36.97**	**331**	↓P	**P**	**03 12 31.7**	**+0.9**
	baz=37						
I17A	**Pilgrim Ck.**	**36.98**	**332**	↓P	**P**	**03 12 31.5**	**+0.6**
	baz=37						
K15A	**Arbon**	**36.99**	**329**	↓P	**P**	**03 12 31.6**	**+0.8**
	baz=37						
H18A	**Shoshone NF, C**	**37.18**	**334**	↑P	**P**	**03 12 33.1**	**+0.6**
	baz=37						
K14A	**Jones Ranch, D**	**37.21**	**328**	↑P	**P**	**03 12 32.8**	**+0.1**
	baz=37,SNR=9.7						
D24A	**Glendive**	**37.25**	**341**	↓P	**P**	**03 12 33.0**	**+0.2**
	baz=37						
J15A	**Blackfoot**	**37.47**	**330**	↑P	**P**	**03 12 34.9**	**+0.1**
	baz=38						
NVAR	**Mina Array Bea**	**37.49**	**319**	P	**P**	**03 12 36.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=129,slow=6.3,SNR=4.0						
NVAR				PcP	**PcP**	**03 14 53.1**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=126,slow=4.6,SNR=7.1						
NVAR				ScP	**ScP**	**03 18 34.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=140,slow=4.6,SNR=7.4						
NVAR	**Mina Array Bea**	**37.49**	**319**	P	**P**	**03 12 36.4**	**+1.2**
NVAR				PcP	**PcP**	**03 14 53.1**	**+0.6**
NVAR				ScP	**ScP**	**03 18 34.8**	**+0.3**
G18A	**Lazy EL Ranch,**	**37.65**	**335**	↓P	**P**	**03 12 36.4**	**0.0**
	baz=38						
C24A	**Savage**	**37.65**	**341**	↓P	**P**	**03 12 37.1**	**+0.9**
	baz=38						
F19A	**Roth Farm, Mol**	**37.83**	**336**	↓P	**P**	**03 12 37.6**	**-0.2**
	baz=38						
D22A	**Cohagen**	**37.89**	**339**	↑P	**P**	**03 12 38.3**	**0.0**
	baz=38						
H16A	**Russell Place,**	**37.90**	**332**	↑P	**P**	**03 12 39.2**	**+0.6**
	baz=38						
J14A	**Carey**	**37.95**	**329**	↑P	**P**	**03 12 39.6**	**+0.7**
	baz=38						
E20A	**Meyer Farm, Mu**	**38.05**	**337**	↓P	**P**	**03 12 40.2**	**+0.6**
	baz=38						
G17A	**Pierce Place,**	**38.15**	**334**	↓P	**P**	**03 12 41.3**	**+0.7**
	baz=38						
F18A	**Big Timber**	**38.18**	**335**	↓P	**P**	**03 12 41.0**	**+0.1**
	baz=38						
ULM	**Lac du Bonnet**	**38.27**	**352**	P	**P**	**03 12 39.0**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=173,slow=13,SNR=3.1						
ULM	**Lac du Bonnet**	**38.27**	**352**	P	**P**	**03 12 39.0**	**-2.3**
C22A	**Vida**	**38.31**	**340**	↓P	**P**	**03 12 42.5**	**+0.7**
	baz=38						
J13A	**Cove Ranch, Pi**	**38.33**	**328**	↓P	**P**	**03 12 42.6**	**+0.4**
	baz=38						
I14A	**Mackay**	**38.35**	**330**	↑P	**P**	**03 12 43.2**	**+0.8**
	baz=38						
DGMT	**Dagmar**	**38.42**	**342**	↓P	**P**	**03 12 43.3**	**+0.7**
	baz=39						
H15A	**Lima**	**38.48**	**331**	↑P	**P**	**03 12 44.2**	**+0.8**
	baz=39,SNR=5.1						
D20A	**Manuel Ranch,**	**38.54**	**338**	↓P	**P**	**03 12 43.9**	**+0.2**
	baz=39						
G16A	**Moss Hill, Enn**	**38.55**	**332**	↑P	**P**	**03 12 44.7**	**+0.7**
	baz=39						
HLID	**Hailey**	**38.57**	**328**	↑P	**P**	**03 12 44.8**	**+0.6**
	baz=39						
F17A	**Fitzpatrick Pl**	**38.58**	**334**	↓P	**P**	**03 12 45.2**	**+1.0**
	baz=39						
I13A	**Wildhorse Cree**	**38.67**	**329**	↓P	**P**	**03 12 45.6**	**+0.5**
	baz=39						
BOZ	**Bozeman (W)**	**38.80**	**333**	↑P	**P**	**03 12 46.2**	**+0.2**
	baz=39						
BOZ				↑P	**P**	**03 12 46.2**	**+0.2**
	baz=39						
G15A	**Dillon**	**38.82**	**332**	↓P	**P**	**03 12 47.0**	**+0.8**
	baz=39						
I12A	**Atlanta**	**39.11**	**328**	↑P	**P**	**03 12 48.9**	**+0.3**
	baz=39						
H13A	**Challis**	**39.21**	**330**	↑P	**P**	**03 12 50.3**	**+0.8**
	baz=39						
F15A	**Butte**	**39.33**	**333**	↑P	**P**	**03 12 50.6**	**+0.1**
	baz=40						
H12A	**Diamond D Ranc**	**39.50**	**329**	↑P	**P**	**03 12 52.8**	**+0.9**
	baz=40						
D17A	**Six Diamond Ra**	**39.59**	**335**	↑P	**P**	**03 12 52.9**	**+0.4**
	baz=40						
**

IDC 19 03:27:12.4±5.1, 29°50S×177°62W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/15, mbtmp3.6/3, Error ellipse: s-maj=235.1km s-min=74.9km az=160.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.01**	**256**	P	P	03 34 06.8	+0.1
	0.9nm,0.8s,baz=105,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**43.50**	**266**	P	P	03 35 17.2	-0.6
	0.3nm,0.5s,baz=105,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**44.40**	**271**	P	P	03 35 25.2	+0.1
	0.3nm,0.3s,baz=112,slow=7.8,SNR=9.1						
FINES	**FINESS Array B**	**144.41**	**341**	PKP	PKPdf	03 46 49.2	-0.6
	2.6nm,0.9s,baz=53,slow=2.6,SNR=4.0						

*ISCJB **19** 03:31:01.9±0.6, 24°07S±0°06×179°96W±0°05, h506km±7km, mb4.7/63, Error ellipse: s-maj=9.9km s-min=6.4km az=169.4*

*NEIC **19** 03:31:03.3±0.4, 23°99S×179°98W, h514km±4km, mb4.8/45, Error ellipse: s-maj=8.4km s-min=5.1km az=157.0*

*IDC **19** 03:31:03.2±2.1, 23°95S×179°89W, h518km±22km, mb4.1/18, mb1 4.2/18, mb1mx4.2/21, mbtmp4.1/18, Error ellipse: s-maj=14.6km s-min=12.4km az=66.0*

ISC 19 03:31:03.1±0.4, 24°02S±0°07×179°85W±0°06, h517km±4km, h517km:pP-P, n498, σ1§14/512, mb4.7/63, 152C-170D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.49**	**162**	*eP*	**P**	**03 32 35.6**	**+0.3**
	397nm,0.4s						
RAO				*eS*	**S**	**03 33 46.8**	**-4.0**
MSVF	**Nonsavu**	**6.55**	**342**	*eP*	**P**	**03 32 45.6**	**-0.1**
AFI	**Afiamalu**	**12.62**	**39**	P	P	03 33 43.4	-4.9
	8.5nm,0.3s,baz=52,slow=4.3,SNR=7.7						
AFI				S	S	03 35 54.1	-10
	10nm,0.3s,baz=37,slow=20,SNR=5.4						
AFI	**Afiamalu**	**12.62**	**39**	*eP*	P	03 33 43.5	-4.9
	70nm,0.6s						
AFI				S	S	03 35 54.1	-10
DZM	**Mont Dzumac**	**12.77**	**276**	*eP*	**P**	**03 33 51.6**	**+1.8**
	153nm,1.5s						
DZM	**Mont Dzumac**	**12.77**	**276**	P	**P**	**03 33 52.6**	**+2.8**
	1.1nm,0.3s,baz=87,slow=14,SNR=11						
DZM	**Mont Dzumac**	**12.77**	**276**	P	**P**	**03 33 52.6**	**+2.8**
FUNA	**Funafuti**	**15.43**	**356**	*eP*	**P**	**03 34 15.7**	**-2.0**
	124nm,0.9s						
RPZ	**Rata Peaks**	**21.03**	**199**	P	**P**	**03 35 09.7**	**-0.2**
	18nm,0.6s,baz=29,slow=3.6,SNR=9.9						
RPZ	**Rata Peaks**	**21.03**	**199**	P	**P**	**03 35 09.7**	**-0.2**
HNR	**Honiara**	**24.13**	**304**	P	**P**	**03 35 36.6**	**-1.4**
	129nm,0.6s,baz=56,slow=2.6,SNR=5.7						
HNR	**Honiara**	**24.13**	**304**	*eP*	**P**	**03 35 36.7**	**-1.4**
	206nm,0.8s						
ARMA	**Armidale**	**26.11**	**250**	*eP*	**P**	**03 35 57.0**	**+1.4**
EIDS	**Eidsvold**	**26.42**	**261**	*eP*	**P**	**03 35 58.8**	**+0.5**
	9.9nm,0.6s						
TIAR	**Tiarei**	**29.19**	**83**	*eP*	**P**	**03 36 23.3**	**+0.7**
	168nm,1.1s						
MEH	**Mehetia**	**30.26**	**84**	*eP*	**P**	**03 36 32.8**	**+0.9**
	137nm,1.2s						
PMOR	**Pomariorio Ree**	**31.37**	**79**	*eP*	**P**	**03 36 41.9**	**+0.5**
	152nm,1.1s						
CTA	**Charters Tower**	**31.61**	**270**	P	**P**	**03 36 44.1**	**+0.6**
	35nm,0.4s,baz=94,slow=12,SNR=91						
CTA	**Charters Tower**	**31.61**	**270**	*i*P	**P**	**03 36 43.9**	**+0.4**
	28nm,0.4s						
CTA	**Charters Tower**	**31.61**	**270**	P	**P**	**03 36 44.1**	**+0.6**
CTAO	**Charters Tower**	**31.61**	**270**	*eP*	**P**	**03 36 44.1**	**+0.6**
	86nm,1.1s						
PMG	**Port Moresby**	**34.66**	**289**	P	**P**	**03 37 09.4**	**+0.1**
	92nm,0.8s,baz=113,slow=5.2,SNR=48						
PMG	**Port Moresby**	**34.66**	**289**	*eP*	**P**	**03 37 09.1**	**-0.2**
	120nm,0.9s						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**03 37 10.3**	**0.0**
	1.5nm,0.3s,baz=97,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.81**	**248**	*eP*	**P**	**03 37 10.7**	**+0.4**
	2.9nm,0.9s						
STKA	**Stephens Creek**	**34.81**	**248**	*eP*	**P**	**03 37 10.0**	**-0.3**
	4.0nm,1.5s						
COEN	**Coen**	**36.27**	**279**	*eP*	**P**	**03 37 23.0**	**+0.3**
	166nm,1.0s						
AS31	**Alice Springs**	**42.15**	**261**	*eP*	**P**	**03 38 10.0**	**-0.2**
ASAR	**Alice Springs**	**42.15**	**261**	P	**P**	**03 38 10.0**	**-0.2**
	16nm,0.8s,baz=93,slow=8.3,SNR=113						
ASAR				pP	**pP**	**03 39 41.5**	**-2.3**
	4.1nm,0.9s,baz=93,slow=7.1,SNR=1.9						
ASAR	**Alice Springs**	**42.15**	**261**	P	**P**	**03 38 10.0**	**-0.2**
ASAR				pP	**pP**	**03 39 41.5**	**-2.3**
WB2	**Warramunga Arr**	**42.52**	**266**	*eP*	**P**	**03 38 12.5**	**-0.6**
WRAB	**Tennant Creek**	**42.53**	**266**	*eP*	**P**	**03 38 12.4**	**-0.7**
	26nm,0.8s						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**03 38 12.4**	**-0.8**
	12nm,0.4s,baz=97,slow=8.3,SNR=183						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**03 38 12.4**	**-0.8**
FORT	**Forrest**	**46.40**	**250**	*eP*	**P**	**03 38 41.9**	**-1.0**
	21nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**03 39 16.9**	**0.0**
	21nm,1.0s,baz=97,slow=7.1,SNR=23						
FITZ				pP	**pP**	**03 40 55.8**	**+0.2**
	4.9nm,0.9s,baz=88,slow=9.4,SNR=2.8						
FITZ	**Fitzroy Crossi**	**50.96**	**266**	*eP*	**P**	**03 39 17.1**	**+0.2**
	34nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.96**	**266**	*eP*	**P**	**03 39 17.1**	**+0.2**
FITZ				pP	**pP**	**03 40 55.8**	**+0.2**
MBWA	**Marble Bar**	**55.49**	**260**	*eP*	**P**	**03 39 48.1**	**-1.0**
	15nm,0.9s						
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**03 40 59.2**	**+0.9**
	16nm,0.9s,baz=31,slow=3.0,SNR=22						
QSPA				pP	**pP**	**03 42 48.0**	**+3.7**
	6.3nm,1.0s,baz=46,slow=3.2,SNR=4.3						
QSPA	**South Pole Qui**	**66.07**	**180**	*eP*	**P**	**03 40 59.3**	**+0.9**
QSPA				pP	**pP**	**03 42 48.0**	**+3.7**
MJAR	**Matsushiro Arr**	**72.07**	**326**	P	**P**	**03 41 33.6**	**-1.0**
	4.3nm,0.8s,baz=168,slow=6.1,SNR=9.4						
MJAR	**Matsushiro Arr**	**72.07**	**326**	P	**P**	**03 41 33.6**	**-1.0**
KSRS	**Korea Array**	**78.42**	**320**	P	**P**	**03 42 11.3**	**+1.3**
	2.3nm,0.8s,baz=148,slow=5.1,SNR=5.4						
KSAR	**Wonju Array Be**	**78.44**	**320**	P	**P**	**03 42 11.3**	**+1.2**
USRK	**Ussuriysk Arra**	**80.93**	**327**	P	**P**	**03 42 24.5**	**+1.4**
	3.6nm,0.8s,baz=108,slow=4.3,SNR=5.3						
SCI	**San Clemente I**	**81.38**	**48**	⇓P	**P**	**03 42 26.9**	**+1.2**
	baz=82						
PKM	**Peak Mountain**	**81.66**	**46**	⇓P	**P**	**03 42 28.6**	**+1.2**
	baz=82,SNR=7.1						
CIS	**Catalina Islan**	**81.73**	**48**	⇑P	**P**	**03 42 28.0**	**+0.4**
	baz=82						
SAO	**San Andreas Ge**	**81.75**	**44**	*eP*	**P**	**03 42 28.7**	**+1.1**
	23nm,1.0s						
CHGN	**Chignik**	**82.04**	**12**	*eP*	**P**	**03 42 27.5**	**-1.0**
HOPS	**Hopland**	**82.14**	**41**	*eP*	**P**	**03 42 30.8**	**+1.4**
	25nm,1.1s						
KCPM	**Cahto Peak**	**82.27**	**40**	*eP*	**P**	**03 42 32.3**	**+2.0**
	14nm,1.1s						
109C	**Camp Elliot, M**	**82.32**	**49**	⇓P	**P**	**03 42 30.9**	**+0.3**
	baz=83						
KIPM	**Iron Peak**	**82.41**	**40**	*eP*	**P**	**03 42 33.0**	**+1.9**
	47nm,1.4s						
MWC	**Mount Wilson**	**82.44**	**47**	*eP*	**P**	**03 42 32.5**	**+1.1**
	22nm,1.3s						
ARVC	**Arvin**	**82.45**	**46**	⇓P	**P**	**03 42 32.3**	**+1.1**
	baz=83,SNR=5.7						
BAR	**Barrett**	**82.50**	**49**	*eP*	**P**	**03 42 32.9**	**+1.3**
	44nm,1.8s						
MURC	**Murrieta**	**82.66**	**48**	⇓P	**P**	**03 42 33.5**	**+1.2**
	baz=83,SNR=6.8						
VES	**Vestal, Richgr**	**82.71**	**46**	⇓P	**P**	**03 42 33.1**	**+0.7**
	baz=83,SNR=11						
BFSC	**Mount Baldy Ra**	**82.72**	**48**	⇑P	**P**	**03 42 33.2**	**+0.5**
	baz=83,SNR=8.6						
MONP	**Monument Peak**	**82.80**	**49**	⇓P	**P**	**03 42 34.3**	**+1.0**
	baz=83,SNR=21						
EDW2	**Edwards Air Fo**	**82.87**	**47**	⇓P	**P**	**03 42 34.2**	**+0.9**
	baz=83,SNR=16						
DVTC	**Desert V Tower**	**82.89**	**50**	⇓P	**P**	**03 42 34.7**	**+1.2**
	baz=83						
SYO	**Syowa Base**	**82.93**	**193**	⇓*e*P	**P**	**03 42 31.0**	**-2.0**
KHMM	**Horse Mountain**	**82.95**	**39**	*eP*	**P**	**03 42 35.8**	**+2.1**
ISA	**Isabella**	**83.00**	**46**	*eP*	**P**	**03 42 35.0**	**+1.0**
	22nm,0.9s						
ISA	**Isabella**	**83.00**	**46**	⇑P	**P**	**03 42 35.0**	**+1.0**
	baz=83,SNR=34						
PFO	**Pinyon Flat Ob**	**83.18**	**49**	*eP*	**P**	**03 42 36.5**	**+1.4**
	17nm,1.3s						
PFO	**Pinyon Flat Ob**	**83.18**	**49**	⇑P	**P**	**03 42 36.2**	**+1.2**
	baz=83,SNR=9.5						
CMB	**Columbia Colle**	**83.19**	**43**	*eP*	**P**	**03 42 35.5**	**+0.6**
	24nm,0.9s						
SWSC	**Sam W. Stewart**	**83.26**	**50**	⇓P	**P**	**03 42 36.4**	**+1.1**
	baz=84,SNR=17						
OHCM	**Honcut**	**83.31**	**42**	*eP*	P	03 42 31.8	-3.5
LRMC	**Laurel Mountai**	**83.41**	**47**	⇑P	**P**	**03 42 37.1**	**+1.0**
	baz=84,SNR=8.7						
WDC	**Whiskeytown Da**	**83.46**	**40**	*eP*	**P**	**03 42 37.3**	**+1.3**
	30nm,1.1s						
BELC	**Belle Mtn. Jos**	**83.71**	**49**	⇓P	**P**	**03 42 39.1**	**+1.4**
	baz=84,SNR=21						
MPMC	**Manual Prospec**	**83.88**	**46**	⇓P	**P**	**03 42 39.9**	**+1.3**
	baz=84						
BC3	**Big Chuckawall**	**83.89**	**49**	⇑P	**P**	**03 42 40.0**	**+1.5**
	baz=84,SNR=10						
KEBM	**Edson Butte**	**83.90**	**38**	*eP*	**P**	**03 42 40.8**	**+2.5**
	42nm,1.2s						
GSC	**Goldstone**	**83.90**	**47**	*eP*	**P**	**03 42 39.6**	**+1.1**
	19nm,0.9s						
GSC	**Goldstone**	**83.90**	**47**	⇑P	**P**	**03 42 39.5**	**+0.9**
	baz=84,SNR=16						
MLAC	**Mammoth Lakes**	**83.93**	**44**	⇑P	**P**	**03 42 40.1**	**+1.3**
	baz=84						
MTUM	**Tungsten Hills**	**83.94**	**45**	*eP*	**P**	**03 42 39.8**	**+1.0**
HEC	**Hector,Ludlow**	**83.95**	**48**	⇓P	**P**	**03 42 39.6**	**+0.9**
	baz=84,SNR=12						
GLA	**Glamis**	**84.00**	**50**	*eP*	**P**	**03 42 40.7**	**+1.7**
	44nm,1.0s						
GLA	**Glamis**	**84.00**	**50**	⇑P	**P**	**03 42 40.5**	**+1.5**
	baz=84,SNR=7.2						
YBH	**Yreka Blue Hor**	**84.09**	**39**	*eP*	**P**	**03 42 40.6**	**+1.3**
	7.4nm,0.8s						
WCN	**Washoe City**	**84.35**	**43**	*eP*	**P**	**03 42 42.1**	**+1.4**
	12nm,1.0s						
WCN	**Washoe City**	**84.35**	**43**	⇓P	**P**	**03 42 41.9**	**+1.1**
	baz=85						
GMRC	**Granite Mounta**	**84.38**	**48**	⇓P	**P**	**03 42 41.8**	**+0.8**
	baz=85,SNR=10						
IRM	**Iron Mountain**	**84.39**	**49**	⇓P	**P**	**03 42 42.2**	**+1.3**
	baz=85,SNR=11						
HUMO	**Hull Mountain**	**84.50**	**38**	*eP*	**P**	**03 42 42.9**	**+1.7**
	22nm,1.1s						
GRAC	**Grapevine Rang**	**84.51**	**46**	⇓P	**P**	**03 42 42.9**	**+1.5**
	baz=85						
FURC	**Furnace Creek,**	**84.53**	**46**	⇓P	**P**	**03 42 42.9**	**+1.5**
	baz=85						
SNAA	**Sanae**	**84.55**	**179**	*e*	P	03 42 37.6	-3.5
TUQ	**Turquoise Moun**	**84.57**	**47**	⇓P	**P**	**03 42 42.9**	**+1.1**
	baz=85						
113A	**Mohawk Valley,**	**84.59**	**51**	⇑P	**P**	**03 42 43.2**	**+1.4**
	baz=85,SNR=7.6						
Y12C	**Blythe**	**84.59**	**50**	⇑P	**P**	**03 42 43.2**	**+1.3**
	baz=85,SNR=8.6						
SHOC	**Shoshone**	**84.59**	**47**	⇑P	**P**	**03 42 43.5**	**+1.7**
	baz=85						
NVAR	**Mina Array Bea**	**84.74**	**44**	P	**P**	**03 42 43.5**	**+0.7**
	5.0nm,0.8s,baz=225,slow=8.4,SNR=42						
NVAR	**Mina Array Bea**	**84.74**	**44**	P	**P**	**03 42 43.5**	**+0.7**
214A	**Organ Pipe Nat**	**84.83**	**52**	⇑P	**P**	**03 42 44.3**	**+1.2**
	baz=85						
Z13A	**Yuma Proving G**	**84.90**	**50**	⇑P	**P**	**03 42 44.6**	**+1.2**
	baz=85,SNR=18						
LDFC	**Landfair**	**84.92**	**48**	*eP*	**P**	**03 42 45.2**	**+1.6**
NEE2	**Needles Airpor**	**85.09**	**49**	⇑P	**P**	**03 42 45.6**	**+1.4**
	baz=85						
PDMCI	**Parker Dam,Lak**	**85.16**	**49**	⇓P	**P**	**03 42 46.0**	**+1.4**
	baz=85,SNR=6.7						
VNA2	**Neumayer--Watz**	**85.17**	**178**	*e*	P	03 42 43.4	-0.7
	baz=195,slow=3.9						
114A	**Black Gap (USA**	**85.20**	**51**	⇑P	**P**	**03 42 46.4**	**+1.5**
	baz=86,SNR=9.7						
Z14A	**Wintersburg**	**85.49**	**51**	⇓P	**P**	**03 42 47.7**	**+1.5**
	baz=86,SNR=6.9						
Y14A	**Wickenburg**	**85.75**	**50**	⇓P	**P**	**03 42 48.8**	**+1.2**
	baz=86,SNR=11						
W13A	**Hualapai Mount**	**85.77**	**49**	⇑P	**P**	**03 42 49.1**	**+1.3**
	baz=86,SNR=8.3						
R11A	**Troy Canyon, C**	**86.44**	**45**	⇓P	**P**	**03 42 51.2**	**+0.4**
	baz=87						
TUC	**Tucson**	**86.48**	**52**	*eP*	**P**	**03 42 52.4**	**+1.3**
BMN	**Battle Mountai**	**86.59**	**43**	*eP*	**P**	**03 42 52.6**	**+1.1**
	3.3nm,0.6s						
318A	**Bisbee**	**86.61**	**54**	⇓P	**P**	**03 42 53.7**	**+1.8**
	baz=87,SNR=35						
218A	**Dragoon**	**86.84**	**53**	⇑P	**P**	**03 42 54.3**	**+1.4**
	baz=87,SNR=14						
WVOR	**Wild Horse Val**	**86.91**	**41**	*eP*	**P**	**03 42 53.9**	**+1.0**
	20nm,1.1s						
VIPM	**Ingram Point**	**87.02**	**38**	P	**P**	**03 42 54.5**	**+1.1**
319A	**Douglas**	**87.11**	**54**	⇑P	**P**	**03 42 55.9**	**+1.8**
	baz=87,SNR=24						
X16A	**Lo Mia Camp, P**	**87.11**	**50**	⇓P	**P**	**03 42 55.7**	**+1.6**
	baz=87,SNR=8.9						
Y17A	**Roosevelt**	**87.15**	**51**	⇑P	**P**	**03 42 55.7**	**+1.5**
	baz=87,SNR=7.7						
Z17A	**San Carlos Hig**	**87.21**	**52**	⇓P	**P**	**03 42 56.0**	**+1.5**
	baz=88						
R13A	**O'Grain Ranch,**	**87.40**	**46**	⇑P	**P**	**03 42 56.8**	**+1.3**
	baz=88						
219A	**White Tail Can**	**87.43**	**53**	⇑P	**P**	**03 42 57.3**	**+1.6**
	baz=88,SNR=17						
CCUT	**Cedar City**	**87.46**	**47**	*eP*	**P**	**03 42 57.1**	**+1.3**
X17A	**Forest Lakes**	**87.51**	**51**	⇑P	**P**	**03 42 57.6**	**+1.5**
	baz=88,SNR=5.6						
ARUT	**Antelope Range**	**87.54**	**47**	*eP*	**P**	**03 42 57.8**	**+1.7**
	13nm,1.3s						
U15A	**North Rim**	**87.58**	**48**	⇓P	**P**	**03 42 57.6**	**+1.2**
	baz=88						
SLKM	**Skilak Lake**	**87.61**	**14**	*eP*	**P**	**03 42 55.4**	**-0.3**
320A	**Kipp Ranch, An**	**87.64**	**54**	⇓P	**P**	**03 42 58.7**	**+2.0**
	baz=88,SNR=25						
WUAZ	**Wupatki**	**87.73**	**49**	*eP*	**P**	**03 42 58.5**	**+1.5**
WUAZ	**Wupatki**	**87.73**	**49**	⇓P	**P**	**03 42 58.0**	**+1.1**
	baz=88,SNR=8.1						
LON	**Longmire**	**87.77**	**36**	*eP*	**P**	**03 42 57.6**	**+0.9**
	5.9nm,0.7s						
Y18A	**Canyon Day Jun**	**87.77**	**51**	⇓P	**P**	**03 42 59.0**	**+1.8**
	baz=88,SNR=20						
WPW	**White Pass**	**87.87**	**36**	P	**P**	**03 42 58.5**	**+1.2**
220A	**Playas Peak, P**	**87.93**	**54**	⇑P	**P**	**03 42 59.6**	**+1.6**
	baz=88,SNR=15						
ELK	**Elko**	**88.01**	**43**	*eP*	**P**	**03 42 58.6**	**+0.3**
PLCA	**Paso Flores**	**88.09**	**134**	P	**P**	**03 42 59.9**	**+1.3**
	4.1nm,1.1s,baz=240,slow=6.6,SNR=4.1						
PLCA	**Paso Flores**	**88.09**	**134**	P	**P**	**03 42 59.9**	**+1.3**
120A	**U Bar Ranch, L**	**88.17**	**53**	⇑P	**P**	**03 43 00.4**	**+1.3**
	baz=88,SNR=10						
V17A	**Tonalea, Kykot**	**88.19**	**50**	⇓P	**P**	**03 43 00.1**	**+0.9**
	baz=88,SNR=17						
X18A	**Snowflake**	**88.22**	**51**	⇑P	**P**	**03 43 00.7**	**+1.4**
	baz=88,SNR=6.0						
U16A	**Tuba City**	**88.22**	**49**	⇓P	**P**	**03 43 00.7**	**+1.4**
	baz=88,SNR=6.7						
NAC	**Naches**	**88.28**	**36**	P	**P**	**03 43 00.4**	**+1.2**
Y19A	**Nutrioso**	**88.42**	**52**	⇓P	**P**	**03 43 01.9**	**+1.5**
	baz=89,SNR=18						
Z20A	**Nine Sixteen R**	**88.48**	**53**	⇓P	**P**	**03 43 02.3**	**+1.8**
	baz=89,SNR=11						
221A	**Mesquite Ranch**	**88.53**	**54**	⇑P	**P**	**03 43 02.3**	**+1.5**
	baz=89						
R15A	**Junction**	**88.54**	**47**	⇓P	**P**	**03 43 02.1**	**+1.3**
	baz=89						
JCW	**Jim Creek**	**88.61**	**35**	*eP*	**P**	**03 43 01.5**	**+0.9**
X19A	**St. Johns**	**88.64**	**51**	⇑P	**P**	**03 43 02.7**	**+1.4**
	baz=89						
CMW	**Cultus Mountai**	**88.66**	**34**	P	**P**	**03 43 02.5**	**+1.5**
S16A	**Weppner Ranch,**	**88.73**	**47**	⇑P	**P**	**03 43 02.5**	**+0.9**
	baz=89,SNR=5.9						
MSU	**Marysvale**	**88.77**	**47**	*eP*	**P**	**03 43 03.3**	**+1.4**
HAWA	**Hanford**	**88.78**	**37**	*eP*	**P**	**03 43 02.5**	**+1.1**
	22nm,1.0s						
121A	**Cookes Peak, D**	**88.78**	**54**	⇑P	**P**	**03 43 03.5**	**+1.5**
	baz=89,SNR=10						
U17A	**Shonto**	**88.78**	**49**	⇑P	**P**	**03 43 03.1**	**+1.1**
	baz=89,SNR=5.4						
V18A	**Ganado**	**88.83**	**50**	⇑P	**P**	**03 43 03.3**	**+1.1**
	baz=89						
T17A	**Navajo Res., N**	**88.89**	**48**	⇑P	**P**	**03 43 03.7**	**+1.2**
	baz=89,SNR=9.6						
W19A	**Sanders**	**88.91**	**51**	⇑P	**P**	**03 43 03.7**	**+1.2**
	baz=89						
RPW	**Rockport**	**88.99**	**35**	*eP*	**P**	**03 43 02.8**	**+0.4**
Y20A	**Horse Springs,**	**89.03**	**52**	⇑P	**P**	**03 43 05.0**	**+1.8**
	baz=89,SNR=23						
222A	**Williams Famil**	**89.08**	**54**	⇓P	**P**	**03 43 04.7**	**+1.4**
	baz=89,SNR=9.6						
ETW	**Entiat**	**89.09**	**36**	*eP*	**P**	**03 43 03.7**	**+0.7**
	42nm,1.1s						
R16A	**Teasdale**	**89.11**	**47**	⇓P	**P**	**03 43 04.8**	**+1.4**
	baz=89,SNR=8.7						
BMO	**Blue Mountains**	**89.12**	**39**	*eP*	**P**	**03 43 03.7**	**+0.5**
MFID	**Camas Ranch**	**89.16**	**41**	*eP*	**P**	**03 43 04.3**	**+0.9**
MFID	**Camas Ranch**	**89.16**	**41**	⇓P	**P**	**03 43 04.0**	**+0.6**
	baz=89,SNR=27						
S17A	**Black Ridge (B**	**89.23**	**48**	⇓P	**P**	**03 43 04.5**	**+0.7**
	baz=90,SNR=7.8						
U18A	**Rough Rock, Ch**	**89.24**	**49**	⇑P	**P**	**03 43 04.8**	**+0.7**
	baz=90,SNR=6.6						
Z21A	**St. Cloud Mine**	**89.25**	**53**	⇓P	**P**	**03 43 05.8**	**+1.6**
	baz=90,SNR=18						
DUG	**Dugway**	**89.25**	**45**	*eP*	**P**	**03 43 04.9**	**+1.0**
DUG	**Dugway**	**89.25**	**45**	⇓P	**P**	**03 43 04.9**	**+1.0**
	baz=90,SNR=5.2						
X20A	**Quemado**	**89.26**	**51**	⇑P	**P**	**03 43 05.7**	**+1.5**
	baz=90,SNR=14						
P15A	**Leamington**	**89.26**	**46**	⇑P	**P**	**03 43 05.2**	**+1.2**
	baz=90,SNR=9.1						
KMI	**Kunming**	**89.44**	**298**	P	P	03 43 09.1	+3.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
122A	**Conniff Cattle**	**89.44**	**54**	⇑P	**P**	**03 43 06.2**	**+1.2**
	baz=90						
V19A	**Window Rock**	**89.46**	**50**	⇓P	**P**	**03 43 06.2**	**+1.1**
	baz=90						
223A	**Chaparral, Ant**	**89.53**	**55**	⇑P	**P**	**03 43 06.9**	**+1.5**
	baz=90						
W20A	**Ramah**	**89.55**	**51**	⇓P	**P**	**03 43 06.8**	**+1.2**
	baz=90,SNR=24						
Y21A	**Point of Rocks**	**89.59**	**52**	⇓P	**P**	**03 43 07.6**	**+1.8**
	baz=90,SNR=21						
T18A	**Mexican Hat**	**89.60**	**49**	⇓P	**P**	**03 43 06.6**	**+0.9**
	baz=90,SNR=18						
U19A	**Dine' College,**	**89.64**	**50**	⇓P	**P**	**03 43 07.0**	**+1.0**
	baz=90,SNR=9.8						
Q16A	**Castle Valley**	**89.65**	**47**	⇓P	**P**	**03 43 07.1**	**+1.3**
	baz=90,SNR=12						
P16A	**Fountain Green**	**89.69**	**46**	⇓P	**P**	**03 43 07.5**	**+1.5**
	baz=90						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**03 43 08.2**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=141,slow=3.4,SNR=11						
CMAR				pP	**pP**	**03 45 00.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=116,slow=4.1,SNR=1.9						
CMAR				PP	**PP**	**03 46 47.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=136,slow=6.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**03 43 08.2**	**+2.0**
CMAR				pP	**pP**	**03 45 00.9**	**0.0**
CMAR				PP	**PP**	**03 46 47.0**	**-0.9**
R17A	**Hanksville Air**	**89.69**	**47**	⇑P	**P**	**03 43 06.9**	**+0.9**
	baz=90,SNR=8.9						
X21A	**Alamocita Cree**	**89.72**	**52**	⇑P	**P**	**03 43 07.5**	**+1.1**
	baz=90,SNR=14						
Z22A	**Elephant Butte**	**89.74**	**53**	⇑P	**P**	**03 43 07.4**	**+1.0**
	baz=90,SNR=20						
TNA	**Tin City**	**89.76**	**5**	*eP*	P	03 42 59.2	-6.2
	comp=Z,25nm,0.9s						
I12A	**Atlanta**	**89.79**	**41**	⇑P	**P**	**03 43 07.3**	**+1.0**
	baz=90,SNR=14						
N15A	**Stansbury Isla**	**89.81**	**44**	⇑P	**P**	**03 43 07.4**	**+0.9**
	baz=90,SNR=9.4						
TMUT	**Trail Mountain**	**89.82**	**46**	*eP*	**P**	**03 43 08.1**	**+1.3**
	comp=Z,6nm,1.0s						
OD2	**Odessa Site #2**	**89.83**	**37**	*eP*	**P**	**03 43 06.9**	**+0.7**
V20A	**Brimhall**	**89.91**	**50**	⇓P	**P**	**03 43 07.8**	**+0.6**
	baz=90						
MPU	**Maple Canyon**	**89.92**	**45**	*eP*	**P**	**03 43 08.5**	**+1.4**
324A	**Moseley Ranch,**	**89.97**	**55**	⇓P	**P**	**03 43 08.2**	**+0.7**
	baz=90,SNR=13						
L14A	**Malta**	**89.97**	**43**	⇑P	**P**	**03 43 07.8**	**+0.6**
	baz=90,SNR=9.7						
T19A	**Beclabito**	**90.03**	**49**	⇓P	**P**	**03 43 08.7**	**+1.0**
	baz=90						
425A	**Indio Mountain**	**90.04**	**56**	⇑P	**P**	**03 43 08.8**	**+1.0**

baz=91,SNR=24
527A **Woodward Ranch** 90.79 57 ⇑P P 03 43 11.9 +0.6
baz=91,SNR=13
PV10 **Paradox Valley** 90.80 48 *e*P P 03 43 11.8 +0.5
comp=Z,74nm,0.7s
F12A **Elk City** 90.82 39 ⇑P P 03 43 11.7 +0.7
baz=91,SNR=11
I14A **Mackay** 90.87 41 ⇑P P 03 43 12.4 +1.0
baz=91,SNR=19
PV04 **Paradox Valley** 90.90 48 *e*P P 03 43 12.7 +1.0
ANMO **Albuquerque** 90.92 52 *e*P P 03 43 12.7 +0.8
comp=Z,8.8nm,1.1s
N17A **Moffit Pass** 90.92 45 ⇓P P 03 43 12.8 +0.9
baz=91,SNR=8.5
Q19A **Hogan Spring (** 90.94 47 ⇓P P 03 43 12.6 +0.8
baz=91,SNR=5.9
Z24A **Sheeppen Canyo** 90.95 54 ⇓P P 03 43 12.8 +0.8
baz=91,SNR=5.5
S20A **Disappointment** 90.99 49 ⇑P P 03 43 12.5 +0.3
baz=91
PV01 **Paradox Valley** 91.00 48 *e*P P 03 43 12.8 +0.6
comp=Z,458nm,0.9s
G13A **Cobalt** 91.05 40 ⇓P P 03 43 12.9 +0.8
baz=91,SNR=6.8
628A **Black Gap, Mar** 91.05 58 ⇑P P 03 43 13.0 +0.6
baz=91,SNR=14
V22A **San Miguel Ran** 91.06 51 ⇑P P 03 43 13.0 +0.4
baz=91
L16A **Fish Haven** 91.10 44 ⇓P P 03 43 13.1 +0.5
baz=91,SNR=22
O18A **Roosevelt** 91.11 46 ⇓P P 03 43 13.1 +0.6
baz=91,SNR=5.5
T21A **Navajo Lake** 91.15 50 ⇑P P 03 43 13.6 +0.7
baz=91
R20A **Redvale** 91.16 48 ⇓P P 03 43 13.2 +0.3
baz=91
Y24A **Capitan** 91.18 53 ⇓P P 03 43 13.4 +0.4
baz=91,SNR=21
J15A **Blackfoot** 91.21 42 ⇑P P 03 43 14.1 +1.2
baz=92,SNR=13
427A **Hayter Ranch,** 91.27 57 ⇑P P 03 43 14.2 +0.8
baz=92,SNR=18
226A **Malaga, Loving** 91.30 55 ⇑P P 03 43 14.3 +0.7
baz=92
S21A **Coal Bank Pass** 91.30 49 ⇑P P 03 43 14.0 +0.3
baz=92,SNR=7.5
M17A **Scullys Gap (B** 91.31 45 ⇓P P 03 43 13.8 +0.3
baz=92,SNR=8.6
F13A **Darby** 91.38 40 ⇑P P 03 43 14.6 +1.0
baz=92,SNR=9.5
Z25A **Roswell** 91.40 54 ⇓P P 03 43 14.4 +0.4
baz=92,SNR=8.7
528A **Cox Ranch, San** 91.43 58 ⇑P P 03 43 14.7 +0.5
baz=92,SNR=7.2
K16A **Soda Springs** 91.43 43 ⇑P P 03 43 15.0 +0.9
baz=92,SNR=12
C11A **Tepee Creek (N** 91.44 37 ⇑P P 03 43 14.3 +0.5
baz=92,SNR=7.9
P19A **Cripple Cowboy** 91.47 47 ⇓P P 03 43 14.8 +0.5
baz=92,SNR=5.0
D12A **Red Ives Fores** 91.50 38 ⇓P P 03 43 14.7 +0.6
baz=92
I15A **Monteview** 91.50 42 ⇓P P 03 43 16.3 +2.0
baz=92
L17A **Cokeville** 91.50 44 ⇑P P 03 43 15.2 +0.8
baz=92,SNR=6.1
V23A **Ortiz Mt. (NFS** 91.50 51 ⇓P P 03 43 15.7 +1.1
baz=92
G14A **Jackson** 91.59 40 ⇓P P 03 43 15.9 +1.1
baz=92
Q20A **Ridgley Place,** 91.59 48 ⇓P P 03 43 15.3 +0.4
baz=92
T22A **Edith** 91.60 50 ⇑P P 03 43 15.2 +0.2
baz=92
126A **Clayton Basin,** 91.63 55 ⇓P P 03 43 15.3 +0.3
baz=92
J16A **Bone** 91.65 43 ⇓P P 03 43 16.1 +1.1
baz=92,SNR=15
M18A **Lyman** 91.67 45 ⇑P P 03 43 15.6 +0.4
baz=92,SNR=15
O19A **Miners Draw (B** 91.71 46 ⇓P P 03 43 15.8 +0.4
baz=92,SNR=8.1
Y25A **Mesa, Roswell** 91.72 54 ⇓P P 03 43 15.9 +0.4
baz=92,SNR=5.5
MCMT **McKenzie Canyo** 91.72 41 *e*P P 03 43 16.1 +0.7
comp=Z,3.0nm,1.2s
H15A **Lima** 91.73 41 ⇓P P 03 43 16.4 +1.1
baz=92,SNR=5.9
428A **Kincaid Ranch,** 91.77 57 ⇑P P 03 43 16.6 +0.9
baz=92
U23A **El Rito** 91.77 51 ⇑P P 03 43 16.1 +0.3
baz=92,SNR=5.7
C12B **Naegeli Ranch,** 91.80 38 ⇑P P 03 43 16.3 +0.9
baz=92,SNR=5.9
P20A **De Beque** 91.80 47 ⇑P P 03 43 16.3 +0.5
baz=92,SNR=5.4
W24A **Lazy 6 Ranch,** 91.80 52 ⇑P P 03 43 16.5 +0.5
baz=92
K17A **Gardner Place,** 91.81 43 ⇓P P 03 43 16.6 +0.9
baz=92,SNR=9.2
R21A **Cimarron** 91.81 49 ⇓P P 03 43 16.7 +0.7
baz=92,SNR=10
L18A **Fontenelle, Gr** 91.94 44 ⇑P P 03 43 17.5 +1.1
baz=92
Z26A **Caprock** 91.95 54 ⇓P P 03 43 16.7 +0.2
baz=92,SNR=5.8
F14A **Wisdom** 91.95 40 ⇑P P 03 43 17.1 +0.8
baz=92
328A **Wristen Ranch,** 91.97 57 ⇑P P 03 43 16.3 -0.3
baz=92
N19A **John Jarvie Ra** 91.98 46 ⇓P P 03 43 17.2 +0.6
baz=92
S22A **4UR Ranch, Cre** 92.01 49 ⇓P P 03 43 17.2 +0.3
baz=92,SNR=14
D13A **Huson** 92.03 38 ⇑P P 03 43 18.3 +1.8
baz=92
Q21A **Lamborn Mesa,** 92.03 48 ⇓P P 03 43 17.6 +0.7
baz=92
X25A **Clemmons Ranch** 92.03 53 ⇓P P 03 43 17.1 +0.2
baz=92
I16A **Newdale** 92.05 42 ⇓P P 03 43 17.7 +0.9
baz=92,SNR=8.6
ILAR **Eielson Array** 92.11 13 P P 03 43 15.4 -0.9
comp=Z,1.4nm,0.8s,baz=219,slow=4.3,SNR=12
ILAR **Eielson Array** 92.11 13 P P 03 43 15.4 -0.9
G15A **Dillon** 92.12 41 ⇑P P 03 43 18.1 +1.0
baz=92
V24A **Rampart Ranch,** 92.14 52 ⇑P P 03 43 17.8 +0.3
baz=92
B12A **Libby** 92.17 37 ⇑P P 03 43 17.9 +0.9
baz=92
E14A **Clinton** 92.21 39 ⇑P P 03 43 17.8 +0.4
baz=92
O20A **White River Ci** 92.22 47 ⇓P P 03 43 18.3 +0.5
baz=92
T23A **Casias Ranch,** 92.22 50 ⇑P P 03 43 18.6 +0.7
baz=92
J17A **Brown Place, J** 92.26 43 ⇓P P 03 43 18.6 +0.8
baz=92,SNR=7.7
SNOW **Snow King Moun** 92.28 43 *e*P P 03 43 18.4 +0.4
R22A **Saguache, Gunn** 92.29 49 ⇓P P 03 43 18.8 +0.6
baz=92,SNR=5.4
K18A **Toltan Ranch,** 92.31 44 ⇑P P 03 43 19.1 +1.0
baz=93,SNR=17
MOOW **Moose Ponds** 92.44 43 *e*P P 03 43 19.3 +0.6
L19A **Farson** 92.47 45 ⇑P P 03 43 19.4 +0.6
baz=93,SNR=9.1
F15A **Butte** 92.48 40 ⇓P P 03 43 19.4 +0.6
baz=93
Q22A **Crested Butte,** 92.49 48 ⇑P P 03 43 19.6 +0.4
baz=93,SNR=7.1
W25A **X Bar L Ranch,** 92.49 52 ⇑P P 03 43 19.1 +0.1
baz=93,SNR=6.2
Z27A **Tatum** 92.54 55 ⇑P P 03 43 19.1 -0.2
baz=93
N20A **Spence Gulch,** 92.55 46 ⇑P P 03 43 19.6 +0.3
baz=93,SNR=7.2
D14A **Greenough** 92.56 39 ⇓P P 03 43 18.9 -0.1
baz=93
G16A **Moss Hill, Enn** 92.56 41 ⇓P P 03 43 19.9 +0.7
baz=93
SMCO **Snowmass** 92.60 48 *e*P P 03 43 20.2 +0.4
comp=Z,3.6nm,0.8s
J18A **Kendall Valley** 92.61 43 ⇑P P 03 43 20.2 +0.7
baz=93,SNR=16
H16A **Russell Place,** 92.63 42 ⇑P P 03 43 20.6 +1.1
baz=93,SNR=6.4
I17A **Pilgrim Ck.** 92.63 43 ⇓P P 03 43 20.3 +0.7
baz=93
FLWY **Flagg Ranch** 92.64 42 *e*P P 03 43 20.9 +1.3
PD01 **Pinedale Array** 92.67 44 *e*P P 03 43 20.3 +0.6
BW06 **Boulder Array** 92.68 44 *e*P P 03 43 20.2 +0.4
BW06 **Boulder Array** 92.68 44 ⇑P P 03 43 20.0 +0.1
baz=93,SNR=5.6
BW06 ⇑P P 03 43 20.0 +0.1
baz=93,SNR=5.6
PDAR **Pinedale Array** 92.68 44 P P 03 43 20.0 +0.2
comp=Z,4.7nm,0.9s,baz=200,slow=2.8,SNR=28
PDAR **Pinedale Array** 92.68 44 P P 03 43 20.0 +0.2
PD02 **Pinedale Array** 92.68 44 *e*P P 03 43 20.4 +0.5
Y27A **Causey** 92.83 54 ⇓P P 03 43 21.0 +0.4
baz=93
H17A **Grant Village** 92.88 42 ⇓P P 03 43 22.4 +1.7
baz=93
BOZ **Bozeman (W)** 92.89 41 ⇓P P 03 43 21.3 +0.7
baz=93,SNR=5.8
BOZ ⇓P P 03 43 21.3 +0.7
baz=93,SNR=5.8
R23A **Moffat** 92.92 49 ⇓P P 03 43 21.9 +0.8
baz=93
M20A **Sweetwater, Wa** 92.92 46 ⇓P P 03 43 21.9 +0.9
baz=93
T24A **Torres, Weston** 92.93 51 ⇑P P 03 43 21.8 +0.7
baz=93
P22A **Eagle** 92.95 48 ⇑P P 03 43 21.7 +0.6
baz=93
F16A **Kennard Place,** 92.97 41 ⇑P P 03 43 22.0 +1.1
baz=93
I18A **Diamond G Ranc** 92.99 43 ⇑P P 03 43 22.2 +1.0
baz=93
N21A **Black Mountain** 93.00 46 ⇓P P 03 43 22.1 +0.8
baz=93
A13A **Flathead Natio** 93.07 37 ⇑P P 03 43 22.6 +1.3
baz=93
U25A **Circle Dot Ran** 93.08 51 ⇓P P 03 43 22.0 +0.3
baz=93
L20A **Wamsutter** 93.08 45 ⇓P P 03 43 22.2 +0.5
baz=93,SNR=6.2
S24A **Houchin Ranch,** 93.08 50 ⇑P P 03 43 22.5 +0.6
baz=93
D15A **Lincoln** 93.11 39 ⇓P P 03 43 22.0 +0.4
baz=93
K19A **Absolon Red Bu** 93.16 44 ⇑P P 03 43 22.0 0.0
baz=93
MSTX **Muleshoe** 93.16 54 ⇓P P 03 43 22.5 +0.4
baz=93
X27A **F and S Farms,** 93.23 53 ⇓P P 03 43 22.5 +0.1
baz=94
J19A **Crowheart** 93.25 44 ⇓P P 03 43 23.2 +0.9
baz=94
G17A **Pierce Place,** 93.25 41 ⇓P P 03 43 24.6 +2.4
baz=94
E16A **East Helena** 93.33 40 ⇑P P 03 43 23.0 +0.5
baz=94
O22A **Krmmling** 93.36 47 ⇑P P 03 43 23.1 0.0
baz=94,SNR=7.2
B14A **Marquette Ranc** 93.39 38 ⇑P P 03 43 22.7 -0.1
baz=94,SNR=6.2
K20A **Yellowstone Ra** 93.40 44 ⇑P P 03 43 22.9 -0.1
baz=94
T25A **Trinidad** 93.42 51 ⇓P P 03 43 23.0 -0.3
baz=94
EGAK **Eagle** 93.43 16 *e*P P 03 43 22.8 +0.4
R24A **Sanders Place,** 93.43 50 ⇓P P 03 43 24.0 +0.7
baz=94
P23A **Jefferson** 93.47 48 ⇑P P 03 43 24.7 +1.0
baz=94
M21A **Separation Pea** 93.52 46 ⇑P P 03 43 24.0 +0.3
baz=94
U26A **Atchley Ranch,** 93.55 52 ⇓P P 03 43 24.7 +0.8
baz=94
F17A **Fitzpatrick Pl** 93.61 41 ⇑P P 03 43 25.5 +1.7
baz=94
A14A **Double T Ranch** 93.64 37 ⇑P P 03 43 23.9 0.0
baz=94,SNR=6.0
S25A **Robets Cordova** 93.64 50 ⇑P P 03 43 24.4 +0.1
baz=94,SNR=5.7
I19A **Meeteetse** 93.67 43 ⇑P P 03 43 25.6 +1.3
baz=94
N22A **Wattenberg Ran** 93.73 47 ⇓P P 03 43 25.4 +0.7
baz=94
Q24A **Divide** 93.75 49 ⇓P P 03 43 25.9 +1.0
baz=94
O23A **Lake Granby, G** 93.81 48 ⇓P P 03 43 26.5 +1.3
baz=94
ISCO **Idaho Springs** 93.82 48 ⇓P P 03 43 26.0 +0.8
baz=94
JCT **Junction City** 93.89 58 *e*P P 03 43 25.9 +0.5
JCT **Junction City** 93.89 58 ⇑P P 03 43 25.1 -0.3
baz=94
J20A **Shoshoni** 93.91 44 ⇓P P 03 43 26.2 +0.9
baz=94
M22A **Cedar Creek Ra** 93.92 46 ⇓P P 03 43 26.8 +1.2
baz=94
C16A **Fuhringer Ranc** 93.96 39 ⇓P P 03 43 26.0 +0.6
baz=94
G18A **Lazy EL Ranch,** 93.97 42 ⇑P P 03 43 26.0 +0.4
baz=94
R25A **Fountain Ranch** 93.97 50 ⇓P P 03 43 26.1 +0.3
baz=94
H19A **Powell** 94.00 43 ⇑P P 03 43 27.1 +1.5
baz=94
RLMT **Red Lodge** 94.05 42 ⇓P P 03 43 27.7 +1.7
baz=94
RLMT ⇓P P 03 43 27.7 +1.7
baz=94
K21A **Alcova** 94.09 45 ⇑P P 03 43 26.5 +0.3
baz=94
N23A **Red Feather La** 94.11 47 ⇓P P 03 43 27.7 +1.2
baz=94
F18A **Big Timber** 94.17 41 ⇓P P 03 43 27.7 +1.3
baz=94
I20A **Worland** 94.17 43 ⇑P P 03 43 27.1 +0.6
baz=94
D17A **Six Diamond Ra** 94.23 40 ⇓P P 03 43 27.2 +0.5
baz=94,SNR=6.8
S26A **Kim** 94.30 51 ⇓P P 03 43 28.0 +0.7
baz=95
J21A **Lysite** 94.31 44 ⇓P P 03 43 28.4 +1.2
baz=95
L22A **Ellis Ranch, M** 94.33 46 ⇑P P 03 43 28.8 +1.4
baz=95
O24A **Longmont** 94.34 48 ⇑P P 03 43 28.5 +1.1
baz=95
C17A **Wharram Farm,** 94.44 39 ⇓P P 03 43 27.8 +0.2
baz=95,SNR=8.0
H20A **Greybull** 94.52 43 ⇓P P 03 43 28.7 +0.7
baz=95
R26A **Arlington** 94.63 50 ⇑P P 03 43 28.8 +0.1
baz=95,SNR=5.6
I21A **Big Trails, Te** 94.63 44 ⇑P P 03 43 29.4 +0.8
baz=95
A16A **West Butte Ran** 94.64 38 ⇓P P 03 43 28.6 +0.1
baz=95,SNR=6.9
P25A **Willow Gulch B** 94.68 49 ⇓P P 03 43 29.5 +0.6
baz=95,SNR=5.5
B17A **L&G Farms, Che** 94.75 39 ⇑P P 03 43 29.9 +1.0
baz=95
L23A **Garrett** 94.85 46 ⇓P P 03 43 30.0 +0.3
baz=95
J22A **Midwest** 94.96 44 ⇑P P 03 43 31.7 +1.6
baz=95
R27A **Eads** 95.08 50 ⇑P P 03 43 30.8 +0.1
baz=95
A17A **Triple J Farms** 95.15 38 ⇑P P 03 43 31.6 +0.9
baz=95
I22A **9 Mile Ranch,** 95.19 44 ⇓P P 03 43 32.0 +0.9
baz=95
C19A **Slack Wire Ran** 95.49 40 ⇓P P 03 43 33.6 +1.3
baz=96
A18A **Metzger Ranch,** 95.62 39 ⇓P P 03 43 33.2 +0.4
baz=96
D20A **Manuel Ranch,** 95.71 41 ⇓P P 03 43 34.9 +1.6
baz=96
B19A **Brinkman Farms** 95.90 39 ⇓P P 03 43 35.8 +1.7
baz=96
INK **Inuvik** 98.10 16 P Pdif 03 43 43.0 -0.4
comp=Z,1.2nm,0.8s,baz=227,slow=3.7,SNR=4.7
INK **Inuvik** 98.10 16 P Pdif 03 43 43.0 -0.4
YKA **Yellowknife Ar** 100.41 25 P **Pdif** **03 43 53.5 -0.2**
comp=Z,0.4nm,0.9s,baz=244,slow=4.0,SNR=5.1
YKA **Yellowknife Ar** 100.41 25 P **Pdif** **03 43 53.5 -0.2**
KSH **Kashi** 115.45 304 *e*PKPbc PKPdf 03 48 40.0 -6.3
KSH *es*PKP 03 48 54.4
KSH *e*PP PP 03 49 17.5 -40
KSH *e*PKS 03 51 15.5
KSH *e*SKS SKSdf 03 55 47.4 +38
KSH *e*SKKS **SKKSac** **03 56 08.3 +3.7**
KSH *e*SS SS 04 04 38.3 -39
KSH AMB AMB
comp=Z,550nm,7.6s
KSH LR LR
comp=N,2μm,11.6s
KSH LR LR
comp=E,4μm,15.5s
KSH LR LR
comp=Z,7μm,19.1s
BDFB **Brasilia** 118.63 125 PKP **PKPdf** **03 48 52.3 -0.8**
comp=Z,0.9nm,0.6s,baz=36,slow=16,SNR=3.2
BDFB **Brasilia** 118.63 125 PKP **PKPdf** **03 48 52.3 -0.8**
SCHQ **Schefferville** 122.48 39 PKP **PKPdf** **03 48 58.0 -1.1**
comp=Z,1.7nm,0.6s,baz=345,slow=5.9,SNR=3.5
SCHQ **Schefferville** 122.48 39 PKP **PKPdf** **03 48 58.0 -1.1**
ARCES **ARCESS Array B** 132.03 348 PKP **PKPdf** **03 49 16.5 -0.4**
comp=Z,5.7nm,0.8s,baz=50,slow=2.8,SNR=7.1
ARCES **ARCESS Array B** 132.03 348 PKP **PKPdf** **03 49 16.5 -0.4**
FINES **FINESS Array B** 138.60 341 SKPbc **SKPbc** **03 52 15.2 0.0**
comp=Z,3.6nm,0.8s,baz=57,slow=5.2,SNR=3.6
FINES **FINESS Array B** 138.60 341 SKPbc **SKPbc** **03 52 15.2 0.0**
ZEI **Tsey** 139.49 308 *e*P **PKPdf** **03 49 33.9 +2.1**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
HFS **Hagfors** 142.69 349 PKhKP PKPpre 03 49 33.3
comp=Z,12nm,0.3s,baz=64,slow=3.4,SNR=20
HFS **Hagfors** 142.69 349 PKPpre PKPpre 03 49 33.3
AKASG **Malin Array Be** 145.14 327 PKPbc **PKPdf** **03 49 39.4 -1.8**
comp=Z,3.5nm,0.3s,baz=46,slow=4.8,SNR=22
AKASG pPKPbc pPKPbc 03 51 41.7 -0.6
comp=Z,3.4nm,0.8s,baz=39,slow=3.7,SNR=3.8
AKASG SKPbc **SKPbc** **03 52 31.9 +0.1**
comp=Z,1.8nm,0.6s,baz=36,slow=2.1,SNR=5.9
AKASG **Malin Array Be** 145.14 327 PKPbc **PKPdf** **03 49 39.4 -1.8**
AKASG pPKPbc pPKPbc 03 51 41.7 -0.6
AKASG SKPbc **SKPbc** **03 52 31.9 +0.1**
SUW **Suwalki** 145.43 336 *e*PKP **PKPdf** **03 49 42.6 +1.0**
BR131 **Keskin Array S** 147.76 307 *e*PKPdf **PKPbc** **03 49 49.4 -0.4**
BRTR **Keskin Array B** 147.76 307 PKPbc **PKPbc** **03 49 49.5 -0.4**
comp=Z,1.4nm,0.4s,baz=145,slow=5.5,SNR=26
BRTR pPKPbc **pPKPbc** **03 51 49.6 -0.8**
comp=Z,1.9nm,1.0s,baz=295,slow=8.8,SNR=2.4
BRTR **Keskin Array B** 147.76 307 PKPbc **PKPbc** **03 49 49.5 -0.4**
BRTR pPKPbc **pPKPbc** **03 51 49.6 -0.8**
MMAI **Mount Meron Ar** 147.87 294 pPKPbc pPKPbc 03 51 49.9 -1.0
comp=Z,3.2nm,0.8s,baz=106,slow=3.0,SNR=1.7
MMAI **Mount Meron Ar** 147.87 294 pPKPbc pPKPbc 03 51 49.9 -1.0
LEOM **Leova** 148.21 322 ⇑P **PKPdf** **03 49 46.7 +0.2**
LEOM **Leova** 148.21 322 ⇑*i*P **PKPdf** **03 49 46.7 +0.2**
TLCR 148.60 319 ⇓P **PKPbc** **03 49 51.7 +0.1**
TLCR 148.60 319 ⇓*i*P **PKPbc** **03 49 51.7 +0.1**
KWP **Kalwaria Pacla** 148.93 331 *e*PKP **PKPbc** **03 49 52.4 +0.2**
CFR **Carcaliu** 149.01 320 ⇓P **PKPbc** **03 49 52.7 +0.1**
CFR **Carcaliu** 149.01 320 ⇓*i*P **PKPbc** **03 49 52.7 +0.1**
TESR 149.08 323 ⇑*i*P **PKPdf** **03 49 47.7 -0.2**
BURAR **Bucovina Array** 149.14 326 ⇓*i*P **PKPdf** **03 49 47.0 -1.1**
TIRR **Tirgusor** 149.23 318 ⇓P **PKPbc** **03 49 53.3 +0.2**
TIRR **Tirgusor** 149.23 318 ⇓*i*P **PKPbc** **03 49 53.3 +0.2**
VRI **Vrincioaia** 149.42 322 ⇑P **PKPbc** **03 49 53.9 +0.3**
VRI **Vrincioaia** 149.42 322 ⇑*i*P **PKPbc** **03 49 53.9 +0.3**
PLOR **Plostina** 149.48 322 ⇓P **PKPbc** **03 49 52.9 -0.9**
PLOR **Plostina** 149.48 322 ⇓*i*P **PKPbc** **03 49 52.9 -0.9**
GRER 149.57 321 ⇓*i*P **PKPbc** **03 49 53.0 -0.9**
OJC **Ojcow** 149.70 335 *e*PX pPKPdf 03 51 58.6 +7.3
MLR **Muntele Rosu** 150.09 322 PKPbc **PKPbc** **03 49 54.6 -0.7**
baz=349,slow=10
MLR **Muntele Rosu** 150.09 322 ⇓P **PKPbc** **03 49 55.1 -0.2**
MLR **Muntele Rosu** 150.09 322 PKPbc **PKPbc** **03 49 54.6 -0.7**
MLR **Muntele Rosu** 150.09 322 ⇓*i*P **PKPbc** **03 49 55.1 -0.2**
TRPA **Tarpa** 150.10 329 ⇓*i*P **PKPdf** **03 49 45.3 -4.1**
DOPR **Dopca** 150.10 323 ⇓*i*P **PKPbc** **03 49 55.9 +0.7**
NIE **Niedzica** 150.12 333 *e*PX pPKPdf 03 52 01.2 +9.2
KSP **Ksiaz** 150.44 339 *e*PKP **PKPbc** **03 49 56.4 +0.5**
KSP **Ksiaz** 150.44 339 ⇑*i*P **PKPbc** **03 49 56.3 +0.5**
VOIR 150.62 323 ⇑P **PKPbc** **03 49 57.8 +1.3**
VOIR 150.62 323 ⇑*i*P **PKPbc** **03 49 57.8 +1.3**
OKC **Ostrava-Krasne** 150.64 336 *e*pPKP pPKPdf 03 52 01.5 +8.7
UPC **Upice** 150.82 339 *e*pPKP pPKPdf 03 52 02.0 +9.0
DPC **Dobruska-Polom** 150.85 339 ⇑*e*PKP **PKPbc** **03 49 57.3 +0.5**
DPC *e*pPKP **pPKPdf** **03 51 57.4 +4.2**
DPC *ex* x 03 52 02.2
MORC **Moravsky Berou** 150.91 337 ⇓*i*P **PKPdf** **03 49 46.5 -4.2**
KRLC **Kraliky** 150.93 338 *e*pPKP pPKPdf 03 52 02.6 +9.3
CLL **Collm** 151.00 343 ⇓*i*PKPbc **PKPbc** **03 49 57.4 +0.3**
comp=Z,42nm,1.1s
CLL ⇓*i*pPKPab **pPKPab** **03 52 02.0 -1.6**
comp=Z,17nm,1.0s
CLL **Collm** 151.00 343 *i* **PKPbc** **03 49 57.2 +0.1**
PVCC **Panska Ves** 151.26 341 ⇑*e*PKP **PKPbc** **03 49 57.8 +0.1**
PVCC *e*pPKP pPKPdf 03 52 03.3 +10
VRAC **Vranov** 151.64 337 PKPab **PKPab** **03 50 09.8 +0.1**
comp=Z,1.7nm,0.4s,baz=194,slow=7.2,SNR=3.6
VRAC **Vranov** 151.64 337 ⇑P **PKPdf** **03 49 49.7 -2.1**
VRAC **Vranov** 151.64 337 PKPab **PKPab** **03 50 09.8 +0.1**
VRAC **Vranov** 151.64 337 ⇑*i*P **PKPdf** **03 49 49.7 -2.1**
PRU **Pruhonice** 151.74 340 *e*pPKP pPKPdf 03 52 04.0 +10
GZR **Gura Zlata** 151.87 325 ⇓P **PKPbc** **03 49 59.0 -0.3**
GZR **Gura Zlata** 151.87 325 ⇓*i*P **PKPbc** **03 49 59.0 -0.3**
NKC **Novy Kostel** 152.13 343 *ex* **PKPbc** **03 50 03.2 +3.5**
NKC *e*pPKP pPKPdf 03 52 05.6 +11
BZS **Buzias** 152.32 326 ⇓P **PKPbc** **03 50 00.2 0.0**
BZS **Buzias** 152.32 326 ⇓*i*P **PKPbc** **03 50 00.2 0.0**
KDZ **Kurdzhali** 152.59 316 *e*P **PKPab** **03 50 11.8 -2.2**
KHC **Kasperske Hory** 152.80 341 *ex* **PKPbc** **03 50 03.5 +2.3**
KHC *e*pPKP pPKPdf 03 52 04.9 +8.7
GERES **GERESS Array B** 153.01 340 PKP **PKPdf** **03 49 53.7 -0.2**
comp=Z,0.5nm,0.7s,baz=7.6,slow=4.0,SNR=3.8
GERES PKPbc **PKPbc** **03 50 01.4 -0.3**
comp=Z,7.7nm,0.6s,baz=18,slow=4.1,SNR=52
GERES PKPab **PKPab** **03 50 14.9 -0.8**
comp=Z,2.2nm,0.7s,baz=17,slow=5.6,SNR=4.1
GERES pPKPbc **pPKPbc** **03 52 03.3 0.0**
comp=Z,3.0nm,1.0s,baz=117,slow=0.3,SNR=4.3
GERES **GERESS Array B** 153.01 340 PKP **PKPdf** **03 49 53.7 -0.2**
GERES PKPbc **PKPbc** **03 50 01.4 -0.3**
GERES PKPab **PKPab** **03 50 14.9 -0.8**
GERES pPKPbc **pPKPbc** **03 52 03.3 0.0**
PKSM **Moragy** 153.31 331 ⇓P **PKPbc** **03 50 02.4 +0.1**
PKSM **Moragy** 153.31 331 ⇓*i*P **PKPbc** **03 50 02.3 0.0**
VTS **Vitosha** 153.41 320 ⇑P **PKPab** **03 50 16.1 -1.6**
VTS **Vitosha** 153.41 320 ⇑*i*P **PKPab** **03 50 16.1 -1.6**
MMB **Musomiste** 153.68 317 *i* P **PKPab** **03 50 17.2 -1.5**
AQU **L'Aquila** 158.66 332 ⇑*i*P PKPab 03 50 30.4 -10
SAOF **Saorge** 159.17 345 *e*P PKPab 03 50 33.0 -9.3
SAOF **Saorge** 159.17 345 *e*P PKPab 03 50 33.0 -9.3
DBIC **Dimbokro** 162.10 164 PKPab **PKPab** **03 50 55.9 +0.2**
comp=Z,3.6nm,1.0s,baz=158,slow=6.2,SNR=3.9
DBIC **Dimbokro** 162.10 164 PKPab **PKPab** **03 50 55.9 +0.2**
ESDC **Sonseca Array** 164.00 12 PKPab **PKPab** **03 51 01.3 -2.3**
comp=Z,5.6nm,1.1s,baz=350,slow=2.9,SNR=10.0
ESDC **Sonseca Array** 164.00 12 PKPab **PKPab** **03 51 01.3 -2.3**
TORD **Torodi Ar. Bea** 169.09 188 PKP **PKPdf** **03 50 10.3 -1.2**
comp=Z,3.4nm,1.1s,baz=42,slow=2.3,SNR=11
TORD PKPab **PKPab** **03 51 26.3 -0.2**
comp=Z,1.9nm,0.7s,baz=171,slow=4.2,SNR=15
TORD pPKP **pPKPdf** **03 52 15.3 +0.5**
comp=Z,1.7nm,1.1s,baz=263,slow=4.8,SNR=4.0
TORD pPKPab **pPKPab** **03 53 21.2 -0.8**
comp=Z,1.6nm,1.1s,baz=172,slow=4.9,SNR=4.1
TORD **Torodi Ar. Bea** 169.09 188 PKP **PKPdf** **03 50 10.3 -1.2**
TORD PKPab **PKPab** **03 51 26.3 -0.2**
TORD pPKP **pPKPdf** **03 52 15.3 +0.5**
TORD pPKPab **pPKPab** **03 53 21.2 -0.8**

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*SZGRF **19** 03:35:15.4, 22.°88S × 172.°71E, h33 km, mb6.5, Southeast of Loyalty Islands*

*IDC **19** 03:35:16.8 ± 0.3, 22.°60S × 170.°90E, h0 km, mb5.2/27, mb1 5.3/30, mb1mx5.3/30, mbtmp5.2/30, ML4.8/1, MS6.1/28, Ms1 6.1/28, ms1mx6.1/33, Error ellipse: s-maj=13.4km s-min=11.0km az=22.0*

*NOU **19** 03:35:17.7 ± 1.2, 20.°14S × 170.°61E, h10 km, MD3.6, ML3.3, MS3.1*

*ISCJB **19** 03:35:18.1 ± 1.2, 22.°60S ± 0.°03 × 170.°86E ± 0.°02, h15 km ± 8 km, mb5.6/120, MS6.3/227, Error ellipse: s-maj=5.7km s-min=3.6km az=173.2*

*NEIC **19** 03:35:18.8 ± 0.1, 22.°60S × 170.°91E, h12 km, mb5.7/56, ME6.2, MS6.4/158, MW6.5, MW6.4, Error ellipse: s-maj=5.9km s-min=5.2km az=152.0 Broadband fault*

plane solution: P waves. NP1:ϕ_s110.00000°,δ75.00000°, λ85.00000°. NP2:ϕ_s309.00000°,δ16.00000°,λ108.00000°. Principal axes: T Plg60.0000°, Azm13.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm204.0000°; Moment Tensor Solution. s63 Moment tensor: Scale 10^{18} Nm; M_{rr}3.33; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-2.51; $M_{r\theta}$3.71; $M_{\theta\phi}$0.31; $M_{r\phi}$-0.15; Best double couple: $M_0$4.80000×10^{18} NP1: ϕ_s331.00000°,δ22.00000°,λ129.00000°. NP2: ϕ_s110.00000°,δ73.00000°,λ76.00000°. Principal axes: T 5.5100, Plg59.0000°, Azm359.0000°; N -2.3300, Plg13.0000°, Azm113.0000°; P -3.1700, Plg26.0000°, Azm210.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

LDG ***19*** *03:35:19.5±0.1,22.22S×170.11E,h10km,Mb5.8/3, Ms6.4/10 Error ellipse: s-maj=13.8km s-min=2.7km az=177.0*

BJI ***19*** *03:35:19.3,21.94S×171.26E,h21km,mB6.2/6,mb5.4/35, Ms6.4/64,Ms7 6.2/62*

MOS ***19*** *03:35:20.5±1.4,22.58S×170.82E,h33km,mb5.9/49, MS6.3/44,Error ellipse: s-maj=8.9km s-min=8.4km az=46.3*

DJA ***19*** *03:35:25,22.70S×170.35E,h13km,Mw6.5/26*

NEIC ***19*** *03:35:38.9±0.0,22.40S×170.69E,h10km,Moment Tensor Solution. s170 Moment tensor: Scale 10^{18}Nm; M_{rr}5.53; $M_{\theta\theta}$-5.15; $M_{\phi\phi}$-0.39; $M_{r\theta}$5.94; $M_{\theta\phi}$ 1.72; $M_{r\phi}$-1.62; Best double couple: $M_0$8.30000×10^{18} NP1:ϕ_s106.00000°, δ69.00000°,λ89.00000°. NP2:ϕ_s290.00000°,δ21.00000°, λ94.00000°. Principal axes: T 8.2500, Plg66.0000°, Azm13.0000°; N 0.1600, Plg1.0000°, Azm106.0000°; P -8.4200, Plg23.0000°, Azm197.0000°;*

ISC 19 03:35:19.5±0.3,22.56S±0.04×170.96E±0.03,h16km±1km, h16km:pP-P,n1240,σ1957/1146,mb5.7/119,MS6.4/229, 102C-130D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BAYA	**Yate Dam**	**3.80**	**275**	*e*P		**Pn**	**03 36 16.9**	**-0.5**
BAYA				*e*S		**Sn**	**03 36 58.7**	**-3.0**
BAYA				AMP			03 37 07.8	
	comp=Z,138nm,2.8s							
LASL	**Noumea**	**4.11**	**274**	*e*P		**Pn**	**03 36 19.5**	**-2.1**
DZM	**Mont Dzumac**	**4.21**	**276**	*e*Pn		Pn	03 36 18.1	-5.1
	comp=Z,618nm,0.3s							
DZM				*e*Sn		Sn	03 37 05.7	-6.4
	comp=Z,654nm,0.3s							
DZM				*e*LR		LR	03 37 13.7	
	comp=Z,193μm,21.6s							
DZM	**Mont Dzumac**	**4.21**	**276**	Pn		**Pn**	**03 36 22.3**	**-0.9**
	comp=Z,51nm,0.3s,baz=75,slow=22,SNR=163							
DZM				Sn		**Sn**	**03 37 10.6**	**-1.5**
	comp=Z,106nm,0.3s,baz=93,slow=18,SNR=4.5							
DZM				LR		LR	03 37 43.4	
	comp=Z,110μm,21.6s,baz=93,slow=35							
DZM	**Mont Dzumac**	**4.21**	**276**	*e*P		**Pn**	**03 36 20.8**	**-2.4**
DZM	**Mont Dzumac**	**4.21**	**276**	*e*Pn		**Pn**	**03 36 21.5**	**-1.7**
DZM				*e*S		**Sn**	**03 37 09.2**	**-3.0**
NOUC	**Port Laguerre**	**4.34**	**275**	*e*P		**Pn**	**03 36 22.8**	**-2.0**
NOUC				*e*S		**Sn**	**03 37 12.2**	**-2.9**
NOUC				AMP			03 37 19.9	
	comp=Z,592nm,11.0s							
MSVF	**Nonsavu**	**8.21**	**55**	*e*P		Pn	03 37 24.8	+6.8
MSVF	**Nonsavu**	**8.21**	**55**	*e*Pn		Pn	03 37 24.8	+6.8
OUZ	**Omahula**	**12.82**	**170**	*e*Pn		**Pn**	**03 38 21.0**	**-0.1**
FUNA	**Funafuti**	**16.04**	**31**	*e*Pn		**P**	**03 39 06.9**	**-1.0**
	comp=Z,4μm,2.5s							
URZ	**Urewera**	**16.52**	**163**	*e*Pn		**Pn**	**03 39 10.8**	**+0.4**
	comp=Z,5μm,2.5s							
HNR	**Honiara**	**16.79**	**319**	Pn		**P**	**03 39 15.4**	**-0.9**
	comp=Z,27nm,0.3s,baz=132,slow=14,SNR=9.5							
HNR				LR		LR	03 44 26.4	
	comp=Z,22μm,20.4s,baz=333,slow=33							
HNR	**Honiara**	**16.79**	**319**	*e*P		**P**	**03 39 16.3**	**+0.1**
HNR	**Honiara**	**16.79**	**319**	*e*Pn		**P**	**03 39 16.3**	**+0.1**
EIDS	**Eidsvold**	**18.38**	**257**	*e*Pn		**Pn**	**03 39 34.6**	**+0.7**
	comp=Z,577nm,1.5s							
AFI	**Afiamalu**	**18.50**	**65**	P		**Pn**	**03 39 35.4**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=222,slow=22,SNR=4.1							
AFI				LR		LR	03 45 14.8	
	comp=Z,85μm,19.1s,baz=241,slow=32							
AFI	**Afiamalu**	**18.50**	**65**	*e*P		**P**	**03 39 35.0**	**-0.2**
AFI				pmax		pmax		
	comp=Z,2μm,2.0s							
AFI	**Afiamalu**	**18.50**	**65**	*e*P		**P**	**03 39 35.0**	**-0.2**
	comp=Z,2μm,2.0s							
SNZO	**South Karori**	**18.96**	**171**	*e*Pn		**P**	**03 39 40.2**	**+0.2**
	comp=Z,3μm,2.0s							
ARMA	**Armidale**	**18.98**	**242**	*i*P		**Pn**	**03 39 41.8**	**+0.7**
ARMA				*e*S		**S**	**03 43 18.4**	**+2.9**
ARMA	**Armidale**	**18.98**	**242**	*e*Pn		**Pn**	**03 39 42.0**	**+0.9**
	comp=Z,1μm,2.0s							
KHZ	**Kahutara**	**19.92**	**174**	*e*Pn		**Pn**	**03 39 51.6**	**-0.6**
	comp=Z,1μm,1.4s							
RIV	**Riverview**	**20.72**	**233**	*e*P		**P**	**03 40 00.3**	**+1.1**
RPZ	**Rata Peaks**	**21.10**	**180**	P		**P**	**03 40 02.8**	**-0.5**
	comp=Z,127nm,1.1s,baz=71,slow=3.4,SNR=10							
RPZ				LR		LR	03 47 06.9	
	comp=Z,69μm,19.2s,baz=267,slow=34							
RPZ	**Rata Peaks**	**21.10**	**180**	*e*P		**P**	**03 40 03.8**	**+0.5**
CNB	**Canberra Magne**	**22.72**	**231**	*e*P		**P**	**03 40 21.4**	**+0.6**
CNB				*e*S		**S**	**03 44 31.5**	**+2.7**
CAN	**Canberra**	**22.98**	**232**	*e*P		**P**	**03 40 23.0**	**-0.5**
CAN				*e*			03 44 30.3	
CAN				pmax		pmax		
	comp=Z,301nm,1.4s							
CAN				MLR		MLR		
	comp=Z,73nm,22.0s							
CAN	**Canberra**	**22.98**	**232**	*e*P		**P**	**03 40 23.0**	**-0.5**
	comp=Z,301nm,1.4s							
CAN				*e*			03 44 30.3	
CAN				LR		LR		
	comp=Z,73μm,22.0s							
CTA	**Charters Tower**	**23.14**	**271**	P		**P**	**03 40 25.3**	**0.0**
	comp=Z,74nm,0.8s,baz=102,slow=11,SNR=18							
CTA				ScP		**ScP**	**03 47 56.3**	**+5.1**
	comp=Z,17nm,1.1s,baz=135,slow=4.3,SNR=3.5							
CTA				LR		LR	03 48 16.8	
	comp=Z,18μm,20.1s,baz=275,slow=34							
CTA	**Charters Tower**	**23.14**	**271**	*e*P		**P**	**03 40 26.0**	**+0.7**
	comp=Z,62nm,0.9s							
CTA				*e*S		**S**	**03 44 35.8**	**-0.5**
CTA	**Charters Tower**	**23.14**	**271**	P		**P**	**03 40 25.3**	**0.0**
CTA				ScP		**ScP**	**03 47 56.3**	**+5.1**
CTAO	**Charters Tower**	**23.14**	**271**	*e*P		**P**	**03 40 25.4**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,897nm,2.2s							
CTAO				MLR		MLR		
	comp=Z,25μm,21.0s							
CTAO	**Charters Tower**	**23.14**	**271**	*e*P		**P**	**03 40 25.4**	**+0.2**
	comp=Z,897nm,2.2s							
CTAO				LR		LR		
	comp=Z,25μm,21.0s							
WHZ	**Wether Hill Ro**	**23.41**	**185**	*e*P		**P**	**03 40 29.4**	**+1.8**
TARA	**Tarawa**	**23.85**	**5**	PFAKE			03 40 40.0	+7.9
TARA				LR		LR		
	comp=Z,10μm,20.0s							
PMG	**Port Moresby**	**26.30**	**296**	P		**P**	**03 40 53.5**	**-1.0**
	comp=Z,86nm,0.9s,baz=112,slow=5.3,SNR=18							
PMG				ScP		**ScP**	**03 48 03.8**	**+3.7**
	comp=Z,3.5nm,0.4s,baz=219,slow=13,SNR=2.0							
PMG				LR		LR	03 49 46.1	
	comp=Z,67μm,19.0s,baz=102,slow=33							
PMG	**Port Moresby**	**26.30**	**296**	*i*P		**P**	**03 40 53.6**	**-1.0**
PMG				pmax		pmax		
	comp=Z,209nm,1.6s							
PMG				MLR		MLR		
	comp=Z,82μm,17.0s							
PMG	**Port Moresby**	**26.30**	**296**	*e*P		**P**	**03 40 54.2**	**-0.4**
PMG				ScP		**ScP**	**03 48 03.8**	**+3.7**
TOO	**Toolangi**	**26.53**	**230**	*e*P		**P**	**03 40 55.8**	**-0.7**
	comp=Z,298nm,1.0s							
TOO				*e*S		**S**	**03 45 33.2**	**+2.9**
RAR	**Rarotonga**	**27.17**	**93**	P		**P**	**03 41 02.7**	**+0.3**
	comp=Z,34nm,1.0s,baz=294,slow=4.9,SNR=6.9							
RAR				LR		LR	03 49 33.5	
	comp=Z,30μm,20.8s,baz=264,slow=32							
RAR	**Rarotonga**	**27.17**	**93**	P		**P**	**03 41 02.7**	**+0.3**
RAR	**Rarotonga**	**27.17**	**93**	P		**P**	**03 41 02.7**	**+0.3**
STKA	**Stephens Creek**	**27.64**	**244**	P		**P**	**03 41 05.5**	**-1.1**
	comp=Z,30nm,0.8s,baz=68,slow=8.9,SNR=28							
STKA				LR		LR	03 51 13.3	
	comp=Z,67μm,19.3s,baz=73,slow=35							
STKA	**Stephens Creek**	**27.64**	**244**	*e*P		**P**	**03 41 06.1**	**-0.5**
	comp=Z,61nm,1.6s							
STKA				*e*S		**S**	**03 45 51.3**	**+3.4**
STKA	**Stephens Creek**	**27.64**	**244**	*e*P		**P**	**03 41 06.1**	**-0.5**
STKA	**Stephens Creek**	**27.64**	**244**	*e*P		**P**	**03 41 06.1**	**-0.5**
COEN	**Coen**	**27.70**	**283**	*e*P		**P**	**03 41 07.8**	**+0.6**
	comp=Z,1μm,1.3s							
MOO	**Moorlands**	**28.04**	**219**	*e*P		**P**	**03 41 11.5**	**+1.6**
	comp=Z,511nm,1.0s							
TAU	**Tasmania Unive**	**28.25**	**219**	*e*P		**P**	**03 41 11.7**	**-0.1**
TAU				pmax		pmax		
	comp=Z,422nm,2.2s							
TAU				MLR		MLR		
	comp=Z,97μm,20.0s							
TAU	**Tasmania Unive**	**28.25**	**219**	*e*P		**P**	**03 41 11.7**	**-0.1**
	comp=Z,422nm,2.2s							
TAU				LR		LR		
	comp=Z,97μm,20.0s							
BBOO	**Buckleboo**	**32.42**	**244**	*e*P		**P**	**03 41 47.7**	**-1.1**
	comp=Z,2μm,0.9s							
AS31	**Alice Springs**	**34.04**	**261**	*e*P		**P**	**03 42 01.9**	**-1.3**
ASAR	**Alice Springs**	**34.04**	**261**	P		**P**	**03 42 01.4**	**-1.8**
	comp=Z,64nm,0.9s,baz=89,slow=8.9,SNR=49							
ASAR				S		**S**	**03 47 28.4**	**+0.1**
	comp=Z,4.9nm,1.1s,baz=79,slow=21,SNR=4.3							
ASAR				ScP		**ScP**	**03 48 28.4**	**+3.1**
	comp=Z,2.7nm,1.0s,baz=108,slow=3.6,SNR=2.7							
ASAR	**Alice Springs**	**34.04**	**261**	P		**P**	**03 42 01.4**	**-1.8**
ASAR				S		**S**	**03 47 28.4**	**+0.1**
ASAR	**Alice Springs**	**34.04**	**261**	P		**P**	**03 42 01.4**	**-1.8**
ASAR				S		**S**	**03 47 28.4**	**+0.1**
ASAR				ScP		**ScP**	**03 48 28.4**	**+3.1**
WB2	**Warramunga Arr**	**34.17**	**267**	*e*P		**P**	**03 42 02.3**	**-2.0**
WRAB	**Tennant Creek**	**34.17**	**267**	*e*P		**P**	**03 42 02.4**	**-1.9**
WRAB				MLR		MLR		
	comp=Z,46μm,21.0s							
WRAB	**Tennant Creek**	**34.17**	**267**	*e*P		**P**	**03 42 02.4**	**-1.9**
WRAB				LR		LR		
	comp=Z,46μm,21.0s							
WRAB	**Tennant Creek**	**34.17**	**267**	P		**P**	**03 42 02.7**	**-1.6**
	comp=Z,205nm,1.7s,SNR=9.6							
WRA	**Warramunga Arr**	**34.18**	**267**	P		**P**	**03 42 01.8**	**-2.6**
	comp=Z,6.1nm,0.5s,baz=100,slow=8.5,SNR=18							
WRA				LR		LR	03 54 15.6	
	comp=Z,43μm,20.1s,baz=105,slow=33							
WRA	**Warramunga Arr**	**34.18**	**267**	P		**P**	**03 42 01.8**	**-2.6**
WRA	**Warramunga Arr**	**34.18**	**267**	P		**P**	**03 42 01.8**	**-2.6**
JAY	**Jayapura**	**35.48**	**300**	P		**P**	**03 42 18.2**	**+2.6**
	comp=Z,516nm,1.2s,comp=Z,11μm							
TBI	**Tubuai**	**36.37**	**99**	*e*P		**P**	**03 42 20.6**	**-2.6**
	comp=Z,652nm,1.5s							
TBI				*e*S		**S**	**03 48 02.8**	**-1.2**
	comp=Z,12μm,26.8s							
TBI				*e*LQ		LQ	03 50 26.6	
	comp=Z,39μm,27.0s							
TBI				*e*LR		LR	03 52 06.3	
	comp=Z,42μm,27.0s,baz=262							
PPT2	**Papeete2**	**37.31**	**90**	*e*S		**S**	**03 48 17.8**	**-0.8**
	comp=Z,18μm,26.2s							
PPT2				*e*LQ		LQ	03 50 42.3	
	comp=Z,37μm,29.2s							
PPT2				*e*LR		LR	03 52 30.0	
	comp=Z,38μm,22.8s,baz=249							
SMPI	**Sarmi**	**37.40**	**299**	P		**P**	**03 42 34.1**	**+2.2**
	comp=Z,163nm,1.9s,comp=Z,14μm							
FORT	**Forrest**	**39.02**	**249**	*e*P		**P**	**03 42 44.0**	**-1.4**
	comp=Z,70nm,0.9s							
FORT				*e*S		**S**	**03 48 40.4**	**-3.6**
FORT	**Forrest**	**39.02**	**249**	*e*P		**P**	**03 42 44.2**	**-1.3**
	comp=Z,138nm,0.9s							
XMAS	**Kiritimati**	**39.34**	**56**	*e*P		**P**	**03 42 50.0**	**+1.7**
	comp=Z,40nm,0.8s							
XMAS				LR		LR		
	comp=Z,55μm,21.0s							
PMOR	**Pomariorio Ree**	**39.57**	**86**	*e*P		**P**	**03 42 48.5**	**-1.7**
	comp=Z,159nm,1.1s							
BAKI	**Biak**	**39.98**	**297**	P		P	03 42 59.9	+6.2
	comp=Z,472nm,1.1s,comp=Z,20μm							
WAKE	**Wake Island**	**41.80**	**354**	PFAKE			03 43 20.0	+12
WAKE				LR		LR		
	comp=Z,41nm,19.0s							
FAKI	**Fak Fak**	**42.30**	**292**	P		**P**	**03 43 12.4**	**-0.4**
	comp=Z,434nm,1.4s,comp=Z,11μm							
FITZ	**Fitzroy Crossi**	**42.61**	**267**	P		**P**	**03 43 14.1**	**-1.1**
	comp=Z,85nm,0.8s,baz=118,slow=8.3,SNR=19							
FITZ	**Fitzroy Crossi**	**42.61**	**267**	*e*P		**P**	**03 43 14.1**	**-1.1**
	comp=Z,189nm,0.9s							
FITZ				*e*S		**S**	**03 49 37.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.61**	**267**	*e*P		**P**	**03 43 14.6**	**-0.7**
GUMO	**Guam**	**44.10**	**322**	P		**P**	**03 43 27.8**	**+0.6**
	comp=Z,48nm,0.5s,baz=176,slow=19,SNR=1.6							
GUMO				LR		LR	04 00 05.3	
	comp=Z,22μm,19.6s,baz=296,slow=34							
GUMO	**Guam**	**44.10**	**322**	P		**P**	**03 43 27.8**	**+0.6**
GUMO	**Guam**	**44.10**	**322**	P		**P**	**03 43 27.8**	**+0.6**
NLAI	**Namlea**	**46.62**	**288**	P		**P**	**03 43 48.7**	**+1.4**
	comp=Z,462nm,1.2s,comp=Z,7μm							
MBWA	**Marble Bar**	**47.38**	**261**	*e*P		**P**	**03 43 51.7**	**-1.5**
	comp=Z,168nm,1.1s							
MBWA				LR		LR		
	comp=Z,49μm,20.0s							
KLBR	**Kellerberrin**	**47.83**	**247**	*e*P		**P**	**03 43 54.8**	**-1.8**
	comp=Z,98nm,0.9s							
KLBR				*e*S		**S**	**03 50 48.9**	**-4.2**
NWAO	**Narrogin (SRO)**	**48.22**	**245**	P		**P**	**03 43 57.3**	**-2.3**
	comp=Z,66nm,0.8s,baz=94,slow=6.2,SNR=19							
NWAO	**Narrogin (SRO)**	**48.22**	**245**	*e*P		**P**	**03 43 58.1**	**-1.5**
NWAO				MLR		MLR		
	comp=Z,73nm,21.0s							
NWAO	**Narrogin (SRO)**	**48.22**	**245**	*e*P		**P**	**03 43 58.1**	**-1.5**
NWAO				LR		LR		
	comp=Z,73nm,21.0s							
DRV	**Dumont d'Urvil**	**48.27**	**196**	PP		PP	03 45 41.0	-11
DRV				S		S	03 50 48.0	-10
DRV				SS		**SS**	**03 54 31.0**	**+3.7**
DRV				R			03 57 00.0	
TNTI	**Ternate**	**48.37**	**293**	P		P	03 44 07.1	+6.2
	comp=Z,930nm,0.9s,comp=Z,13μm							
RKT	**Rikitea**	**49.58**	**102**	*e*S		**S**	**03 51 13.6**	**-4.2**
	comp=Z,16μm,29.2s							
RKT				*e*LQ		LQ	03 55 53.9	
	comp=Z,23μm,28.0s							
RKT				*e*LR		LR	03 58 10.4	
	comp=Z,24μm,26.8s,baz=257							
KDI	**Kendari**	**50.27**	**284**	P		**P**	**03 44 16.9**	**+1.4**
	comp=Z,58nm,1.3s,comp=Z,7μm							
LUWI	**Luwuk**	**51.46**	**288**	P		**P**	**03 44 25.9**	**+1.4**
	comp=Z,176nm,1.3s,comp=Z,11μmcomp=Z,43μm							
MIDW	**Midway**	**51.72**	**13**	PFAKE			03 44 40.0	+14
MIDW				LR		LR		
	comp=Z,19μm,20.0s							
BKSI	**Bulukumba**	**51.95**	**281**	P		**P**	**03 44 28.4**	**+0.3**
	comp=Z,195nm,0.7s,comp=Z,5μmcomp=Z,25μm							
KAPI	**Kappang**	**52.41**	**281**	P		**P**	**03 44 29.4**	**-2.2**
	comp=Z,27nm,0.8s,baz=163,slow=4.2,SNR=7.8							
KAPI				LR		LR	04 07 12.9	
	comp=Z,27μm,18.1s,baz=292,slow=37							
KAPI	**Kappang**	**52.41**	**281**	*e*P		**P**	**03 44 30.9**	**-0.7**
KAPI	**Kappang**	**52.41**	**281**	P		**P**	**03 44 32.4**	**+0.9**
	comp=Z,148nm,1.6s,comp=Z,8μmcomp=Z,28μm							
KAPI	**Kappang**	**52.41**	**281**	P		**P**	**03 44 32.4**	**+0.9**
	comp=Z,148nm,1.6s,comp=Z,8μmcomp=Z,28μm							
SPSI	**Sidrap Palu**	**52.83**	**283**	P		**P**	**03 44 36.4**	**+1.7**
	comp=Z,329nm,1.1s,comp=Z,5μm							
KIP	**Kipapa**	**53.16**	**37**	PFAKE			03 44 50.0	+13
KIP				LR		LR		
	comp=Z,38μm,21.0s							
POHA	**Pohakuloa**	**53.29**	**40**	PFAKE			03 44 50.0	+12
POHA				LR		LR		
	comp=Z,23μm,19.0s							
DAV	**Davao City (W)**	**53.29**	**298**	P		**P**	**03 44 39.1**	**+1.1**
	comp=Z,144nm,0.4s,baz=245,slow=4.5,SNR=4.4							
DAV				LR		LR	04 05 38.1	
	comp=Z,10μm,21.5s,baz=242,slow=34							
DAV	**Davao City (W)**	**53.29**	**298**	*e*P		**P**	**03 44 37.7**	**-0.3**
MTNI	**Mataram**	**54.28**	**276**	P		**P**	**03 44 46.4**	**+1.1**
	comp=Z,256nm,1.1s,comp=Z,13μm							
MTNI	**Mataram**	**54.28**	**276**	P		**P**	**03 44 46.4**	**+1.1**
	comp=Z,256nm,1.1s,comp=Z,13μm							
KHKI	**Kahang-Kahang**	**54.89**	**276**	P		P	03 44 53.1	+3.4
	comp=Z,104nm,0.7s,comp=Z,5μm							
KHKI	**Kahang-Kahang**	**54.89**	**276**	P		P	03 44 53.1	+3.4
	comp=Z,104nm,0.7s,comp=Z,5μm							
IGBI	**Denpasar**	**55.15**	**275**	P		P	03 44 56.6	+5.0
	comp=Z,333nm,1.4s,comp=Z,19μm							
IGBI	**Denpasar**	**55.15**	**275**	P		P	03 44 56.6	+5.0
	comp=Z,333nm,1.4s,comp=Z,19μm							
VNDA	**Vanda**	**55.19**	**182**	*e*P		**P**	**03 44 50.2**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,103nm,1.6s							
VNDA				MLR		MLR		
	comp=Z,46μm,19.0s							
VNDA	**Vanda**	**55.19**	**182**	*e*P		**P**	**03 44 50.2**	**-0.8**
	comp=Z,102nm,1.6s							
VNDA				LR		LR		
	comp=Z,46μm,19.0s							
SBA	**Scott Base**	**55.38**	**181**	*e*P		**P**	**03 44 53.9**	**+1.5**
SBA				pmax		pmax		
	comp=Z,235nm,1.6s							
SBA				MLR		MLR		
	comp=Z,32μm,20.0s							
SBA	**Scott Base**	**55.38**	**181**	*e*P		**P**	**03 44 53.9**	**+1.5**
	comp=Z,235nm,1.6s							
SBA				LR		LR		
	comp=Z,32μm,20.0s							
BYJI	**Banyuwangi**	**56.10**	**275**	P		P	03 45 06.2	+7.8
	comp=Z,473nm,0.9s,comp=Z,35μm							
BYJI	**Banyuwangi**	**56.10**	**275**	P		P	03 45 06.2	+7.8
	comp=Z,473nm,0.9s,comp=Z,35μm							
PLP	**Palo**	**56.16**	**302**	*i*P		**P**	**03 44 58.4**	**-0.4**
JAGI	**Jajag, Banyuwa**	**56.20**	**275**	P		**P**	**03 44 59.3**	**+0.2**
CBIJ	**Chichi jima**	**56.67**	**329**	P		**P**	**03 45 04.8**	**+2.7**
	comp=Z,65nm,0.7s,baz=243,slow=6.6,SNR=2.7							
CBIJ				LR		LR	04 06 01.2	
	comp=Z,16μm,20.8s,baz=305,slow=32							
CBIJ	**Chichi jima**	**56.67**	**329**	P		**P**	**03 45 04.8**	**+2.7**
GMJI	**Gumukmas**	**56.92**	**275**	P		P	03 45 13.0	+8.7
	comp=Z,125nm,1.9s,comp=Z,6μm							
GMJI	**Gumukmas**	**56.92**	**275**	P		P	03 45 13.0	+8.7
	comp=Z,125nm,1.9s,comp=Z,6μm							
BLJI	**Banyuglugur**	**56.97**	**275**	P		P	03 45 15.7	+11
	comp=Z,161nm,1.1s,comp=Z,13μm							
BLJI	**Banyuglugur**	**56.97**	**275**	P		P	03 45 15.7	+11
	comp=Z,161nm,1.1s,comp=Z,13μm							
BBKI	**Banjar Baru**	**57.51**	**281**	P		**P**	**03 45 10.7**	**+2.3**
CASY	**Casey**	**57.76**	**205**	PFAKE			03 45 20.0	+11
CASY				LR		LR		
	comp=Z,32μm,22.0s							
MYLDM	**Lahad Datu**	**58.22**	**292**	P		**P**	**03 45 14.4**	**+1.1**
PWJI	**Pagerwojo**	**58.52**	**274**	P		P	03 45 24.2	+8.7
PWJI	**Pagerwojo**	**58.52**	**274**	P		P	03 45 24.2	+8.7
	comp=Z,216nm,1.2s,comp=Z,5μm							
SJI	**Sawahan**	**58.66**	**275**	P		P	03 45 21.0	+4.4
PCJI	**Pacitan**	**59.04**	**274**	P		**P**	**03 45 20.8**	**+1.7**
SDKM	**Sandakan**	**59.57**	**291**	P		**P**	**03 45 24.3**	**+1.4**
KKM	**Kota Kinabalu**	**60.61**	**291**	P		**P**	**03 45 30.6**	**+0.5**
BJII	**Banjarnegara**	**60.70**	**274**	P		P	03 45 40.6	+10
TGY	**Tagaytay City**	**61.06**	**302**	P		**P**	**03 45 33.5**	**+0.4**
	comp=Z,152nm,0.4s,baz=146,slow=6.4,SNR=3.1							
TGY				LR		LR	04 12 33.5	
	comp=Z,35nm,18.6s,baz=144,slow=37							
TGY	**Tagaytay City**	**61.06**	**302**	P		**P**	**03 45 33.5**	**+0.4**
TGY	**Tagaytay City**	**61.06**	**302**	P		**P**	**03 45 33.5**	**+0.4**
CISI	**Cisompet, Garu**	**62.37**	**273**	P		**P**	**03 45 44.3**	**+2.4**
SBUM	**Sibu**	**62.42**	**286**	P		**P**	**03 45 42.9**	**+0.7**
LEM	**Lembang**	**62.82**	**274**	P		**P**	**03 45 46.8**	**+1.7**
KSM	**Kuching**	**63.70**	**284**	P		**P**	**03 45 51.2**	**+0.5**
TNG	**Tangerang**	**63.96**	**274**	P		P	03 45 57.8	+5.4
JOW	**Kunigami**	**64.16**	**318**	LR		LR	04 13 37.5	
	comp=Z,20μm,18.0s,baz=132,slow=36							
CGJI	**Cibinong**	**64.67**	**273**	P		**P**	**03 45 56.8**	**-0.3**
MIR	**Mirnyy**	**64.73**	**206**	*i*P		P	03 45 59.8	+3.2
MIR				*i*			03 46 10.0	
MIR				*e*S		**S**	**03 54 36.0**	**-0.1**
MIR				*e*SSS		SSS	03 58 42.0	
MIR				pmax		pmax		
	comp=Z,2μm,4.0s							
MIR				pmax		pmax		
	comp=Z,4μm,8.0s							
MIR				pmax		pmax		
	comp=N,404nm,3.0s							
MIR				pmax		pmax		
	comp=E,1μm,5.0s							
MIR				smax		smax		
	comp=E,16μm,8.0s							
MIR				smax		smax		
	comp=N,2μm,8.0s							
MJAR	**Matsushiro Arr**	**66.43**	**332**	P		**P**	**03 46 07.3**	**-0.6**
	comp=N,4.7nm,0.6s,baz=172,slow=6.3,SNR=5.8							
MJAR	**Matsushiro Arr**	**66.43**	**332**	P		**P**	**03 46 07.3**	**-0.6**
MJAR	**Matsushiro Arr**	**66.43**	**332**	P		**P**	**03 46 07.3**	**-0.6**
MAJO	**Matsushiro**	**66.43**	**332**	*e*P		**P**	**03 46 08.3**	**+0.4**
MAJO				MLR		MLR		
	comp=Z,12μm,21

GZH LR LR
comp=E,6µm,19.6s
GZH LR LR
comp=Z,10µm,21.1s
KSRS Korea Array 72.14 325 P **P** **03 46 43.0 -0.3**
comp=Z,8.6nm,0.9s,baz=145,slow=6.6,SNR=12
KSAR Wonju Array Be 72.15 325 P **P** **03 46 43.0 -0.4**
KSAR Wonju Array Be 72.15 325 P **P** **03 46 43.0 -0.4**
FRIM Kepong 72.29 281 P P 03 46 48.3 +3.6
QIZ Qiongzhong 72.62 300 P **P** **03 46 47.5 +0.9**
QIZ S **S** **03 56 15.0 +3.8**
QIZ sS **sS** **03 56 19.6 -0.4**
QIZ LR LR
comp=N,5µm,17.0s
QIZ LR LR
comp=Z,7µm,20.8s
QIZ Qiongzhong 72.62 300 *e*P **P** **03 46 47.1 +0.5**
comp=Z,80nm,1.3s
QIZ LR LR
comp=Z,7µm,20.0s
INCN Inchon 72.85 324 PFAKE 03 47 00.0 +12
INCN LR LR
comp=Z,9µm,20.0s
IPM Ipoh 73.35 282 P **P** **03 46 51.1 0.0**
NJ2 Nanjing 73.70 316 *e*P **P** **03 46 53.3 +0.6**
NJ2 pP **pP** **03 46 57.5 -0.5**
NJ2 PP **PP** **03 49 40.3 +2.9**
NJ2 S **S** **03 56 23.5 +0.5**
NJ2 sS **sS** **03 56 32.5 +0.7**
NJ2 LR LR
comp=N,9µm,26.0s
NJ2 LR LR
comp=E,7µm,29.0s
NJ2 LR LR
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 73.73 340*c i*P **P** **03 46 54.0 +1.5**
YSS *i* *SP **sP** **03 47 04.0 +4.2**
YSS *e*S **S** **03 56 26.0 +3.3**
YSS *e*PPS PPS 03 57 04.0
YSS *e*SSS SSS 04 04 17.0
YSS pmax pmax
comp=Z,11µm,8.0s
YSS Yuzh-Sakhalins 73.73 340 *e*P **P** **03 46 54.5 +2.0**
comp=Z,77nm,1.0s
YSS LR LR
comp=Z,9µm,20.0s
SKR Severo-Kuril's 74.09 350 *e*P **P** **03 46 52.0 -2.5**
SKR *e* 03 46 58.0
SKR *e* 03 49 42.0
SKR *e*PPP PPP 03 51 30.0
SKR *e*S **S** **03 56 32.0 +5.5**
SKR *e* 03 56 48.0
SKR *e*PS PnS 03 57 13.0 +12
SKR *e*SSS SSS 04 04 22.0
SKR pmax pmax
comp=N,5µm,12.0s
SKR pmax pmax
comp=Z,8µm,12.0s
SKR pmax pmax
comp=E,9µm,14.0s
SKR pmax pmax
comp=N,7µm,12.0s
SKR MLR MLR
comp=N,9µm,20.0s
SKR MLR MLR
comp=Z,13µm,20.0s
SKR MLR MLR
comp=E,9µm,18.0s
VLA Vladivostok 74.59 331⇑ *i*P **P** **03 46 58.6 +1.0**
VLA *e* 03 47 11.1
VLA *e* 03 49 43.1
VLA S **S** **03 56 33.3 +0.8**
VLA pmax pmax
comp=Z,183nm,2.8s
USRK Ussuriysk Arra 75.41 332 P **P** **03 47 03.0 +0.7**
comp=Z,7.8nm,0.8s,baz=150,slow=4.5,SNR=7.7
USRK LR LR 04 19 24.4
comp=Z,6µm,18.1s,baz=107,slow=35
WHN Wuhan 75.76 312⇑P **P** **03 47 05.1 +0.5**
WHN S **S** **03 56 51.3 +5.3**
WHN LR LR
comp=N,14µm,18.5s
WHN LR LR
comp=E,9µm,15.0s
WHN LR LR
comp=Z,17µm,19.7s
MAW Mawson 75.98 202 P **P** **03 47 05.9 +0.5**
comp=Z,20nm,0.9s,baz=163,slow=5.7,SNR=3.9
MAW LR LR 04 18 31.3
comp=Z,19µm,19.0s,baz=91,slow=34
MAW Mawson 75.98 202 P **P** **03 47 05.9 +0.5**
MAW Mawson 75.98 202 P **P** **03 47 05.9 +0.5**
PET Petropavlovsk 76.02 352*c i*P **P** **03 47 05.7 +0.1**
PET *e*S **S** **03 56 49.5 +1.6**
PET *e*PS PnS 03 57 41.9 +16
PET pmax pmax
comp=Z,7µm,9.3s
PET pmax pmax
comp=Z,7µm,11.6s
PET Petropavlovsk 76.02 352 PFAKE 03 47 20.0 +14
PET LR LR
comp=Z,26µm,19.0s
PEA0B Petropavlovsk- 76.23 352 *e*P **P** **03 47 07.2 +0.4**
PETK Petropavlovsk- 76.23 352 P **P** **03 47 07.0 +0.2**
comp=Z,33nm,0.8s,baz=147,slow=7.3,SNR=12
PETK LR LR 04 15 01.7
comp=Z,21µm,20.4s,baz=149,slow=31
PETK Petropavlovsk- 76.23 352 P **P** **03 47 07.0 +0.2**
PETK Petropavlovsk- 76.23 352 P **P** **03 47 07.0 +0.2**
DL2 Dalian 76.62 323⇑ *i*P **P** **03 47 09.5 +0.2**
DL2 S **S** **03 56 52.4 -2.7**
DL2 SS SS 04 01 43.4 -7.8
DL2 LR LR
comp=E,5µm,19.6s
DL2 LR LR
comp=Z,5µm,21.4s
MDJ Mudanjiang 76.80 331 P **P** **03 47 09.8 -0.4**
MDJ pP **pP** **03 47 15.8 +0.2**
MDJ sP **sP** **03 47 16.9 -0.6**
MDJ PP **PP** **03 50 05.4 +2.0**
MDJ LR LR
comp=N,6µm,18.8s
MDJ LR LR
comp=E,7µm,21.9s
MDJ LR LR
comp=Z,11µm,19.4s
MDJ Mudanjiang 76.80 331 *e*P **P** **03 47 10.5 +0.3**
comp=Z,63nm,1.6s
MDJ LR LR
comp=Z,11µm,19.0s
TIA Tai'an 77.48 318⇑P **P** **03 47 13.9 -0.4**
TIA pmax pmax
comp=Z,80nm,1.1s
TIA pmax pmax
comp=Z,12µm,12.8s
TIA LR LR
comp=N,9µm,18.6s
TIA LR LR
comp=E,11µm,19.8s
TIA LR LR
comp=Z,16µm,18.7s
SNY Shenyang 77.62 326⇑P **P** **03 47 12.1 -2.8**
SNY LR LR
comp=N,7µm,18.6s
SNY LR LR
comp=E,7µm,18.6s
SNY LR LR
comp=Z,12µm,18.4s
HABR Khabarovsk 77.67 336 *i* P **P** **03 47 15.6 +0.6**
HABR *e* 03 47 23.9
HABR *e**SP sP 03 47 28.6 +6.3
HABR *e* 03 50 08.9
HABR *e*PPP PPP 03 51 56.6
HABR pmax pmax
comp=E,107nm,1.9s
HABR pmax pmax
comp=Z,186nm,2.4s
HABR pmax pmax
comp=N,43nm,1.9s
CN2 Changchun 78.12 328⇓P **P** **03 47 17.5 -0.1**
CN2 *e*sP **sP** **03 47 24.0 -1.0**
CN2 *e*S **S** **03 57 11.5 +0.3**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 LR LR
comp=N,8µm,19.0s
CN2 LR LR
comp=E,5µm,19.0s
CN2 LR LR
comp=Z,9µm,22.0s
ENH Enshi 79.02 309 *e*P **P** **03 47 22.7 -0.3**
comp=Z,390nm,1.6s
ENH LR LR
comp=Z,7µm,22.0s
GYA Guiyang 79.03 305⇑ *i*P **P** **03 47 23.0 -0.2**
GYA PP **PP** **03 50 25.8 +3.2**
GYA S **S** **03 57 26.4 +4.4**
GYA SKS **SKSac** **03 57 36.5 -2.2**
GYA pmax pmax
comp=Z,80nm,1.0s
GYA LR LR
comp=N,3µm,19.8s
GYA LR LR
comp=E,4µm,19.5s
GYA LR LR
comp=Z,5µm,18.4s
KLR Kul'dur 79.55 335 *e*P **P** **03 47 22.6 -2.8**
KLR *e*S **S** **03 57 27.0 +0.8**
KLR pmax pmax
comp=Z,3.0nm,4.8s
PAF Port-aux-Franc 79.87 221 PFAKE 03 47 40.0 +13
PAF LR LR
comp=Z,31µm,22.0s
BJT Baijiatuau 80.51 320 *e*P **P** **03 47 29.8 -1.0**
BJT pmax pmax
comp=Z,30nm,0.8s
BJT MLR MLR
comp=Z,17µm,22.0s
BJT Baijiatuau 80.51 320 *e*P **P** **03 47 29.8 -1.0**
comp=Z,30nm,0.8s
BJT LR LR
comp=Z,17µm,22.0s
BJI Beijing 80.52 321 P **P** **03 47 30.4 -0.4**
BJI PP **PP** **03 50 30.8 -3.8**
BJI S **S** **03 57 41.4 +4.6**
BJI sS **sS** **03 57 46.1 +0.4**
BJI pmax pmax
comp=Z,35nm,1.9s
BJI LR LR
comp=N,10µm,20.3s
BJI LR LR
comp=E,13µm,22.0s
BJI LR LR
comp=Z,14µm,23.4s
CM31 Chiang Mai Arr 81.33 294 *e*P **P** **03 47 36.9 +1.2**
comp=Z,29nm,0.8s
CM31 LR LR
comp=Z,7µm,20.0s
CMAR Chiang Mai Arr 81.33 294 P **P** **03 47 36.8 +1.1**
comp=Z,18nm,0.8s,baz=136,slow=4.0,SNR=48
CMAR PKKPbc **PKKPbc** **04 06 10.8 +0.3**
comp=Z,1.6nm,0.5s,baz=282,slow=3.1,SNR=5.8
CMAR Chiang Mai Arr 81.33 294 P **P** **03 47 36.8 +1.1**
CMAR Chiang Mai Arr 81.33 294 P **P** **03 47 36.8 +1.1**
CMAR PKKPbc **PKKPbc** **04 06 10.8 +0.3**
TIY Taiyuan 81.35 317 *e*P **P** **03 47 36.5 +1.0**
TIY LR LR
comp=N,3µm,14.4s
TIY LR LR
comp=E,6µm,16.6s
TIY LR LR
comp=Z,11µm,18.6s
KMI Kunming 81.39 302 P **P** **03 47 37.4 +1.3**
KMI S **S** **03 57 47.9 +0.9**
KMI pmax pmax
comp=Z,69nm,1.8s
KMI LR LR
comp=N,2µm,21.4s
KMI LR LR
comp=E,12µm,18.0s
KMI LR LR
comp=Z,7µm,18.6s
CHTO Chiang Mai 81.49 294 *e*P **P** **03 47 37.1 +0.6**
CHTO pmax pmax
comp=Z,82nm,1.0s
CHTO MLR MLR
comp=Z,9µm,21.0s
CHTO Chiang Mai 81.49 294 *e*P **P** **03 47 37.1 +0.6**
comp=Z,82nm,1.0s
CHTO LR LR
comp=Z,9µm,21.0s
XAN Xi'an 81.53 312 P **P** **03 47 36.5 +0.1**
XAN PP **PP** **03 50 44.3 +1.1**
XAN S **S** **03 57 48.1 +0.3**
XAN SS **SS** **04 03 01.8 -3.5**
XAN pmax pmax
comp=Z,2µm,9.6s
XAN LR LR
comp=N,3µm,17.6s
XAN LR LR
comp=E,2µm,21.1s
XAN LR LR
comp=Z,2µm,19.5s
SYO Syowa Base 82.20 196⇑ *e*P **P** **03 47 36.6 -2.8**
SYO Syowa Base 82.20 196⇑ *e*P **P** **03 47 38.6 -0.8**
PMSA Palmer Station 83.25 159 P **P** **03 47 44.4 -0.5**
comp=Z,81nm,1.2s
PMSA LR LR 04 17 26.4
comp=Z,13µm,21.9s,baz=236,slow=30
PMSA Palmer Station 83.25 159 P **P** **03 47 44.4 -0.5**
CD2 Chengdu 83.52 307 P **P** **03 47 48.0 +1.1**
CD2 PP **PP** **03 51 03.8 +4.2**
CD2 SKS **SKSac** **03 58 02.9 -6.2**
CD2 S **S** **03 58 05.8 -2.5**
CD2 SS **SS** **04 03 36.4 +1.4**
CD2 pmax pmax
comp=Z,70nm,2.0s
CD2 pmax pmax
comp=Z,2µm,10.1s
CD2 LR LR
comp=N,9µm,17.8s
CD2 LR LR
comp=Z,10µm,22.6s
HHC Hu-ho-hao-te 83.78 319 *e*P **P** **03 47 49.1 +1.0**
HHC sP **sP** **03 47 56.1 +0.7**
HHC PP **PP** **03 51 04.8 +3.2**
HHC S **S** **03 58 11.5 +0.9**
HHC sS **sS** **03 58 19.4 -0.1**
HHC pmax pmax
comp=Z,60nm,0.8s
HHC LR LR
comp=N,13µm,17.3s
HHC LR LR
comp=E,11µm,17.8s
HHC LR LR
comp=Z,19µm,18.0s
BTO Baotou 84.58 318 *e*P **P** **03 47 52.0 -0.1**
HIA Hailar 84.78 329 PFAKE 03 48 00.0 +7.2
HIA LR LR
comp=Z,12µm,21.0s
KDAK Kodiak Island 85.63 19 LR LR 04 22 40.6
comp=Z,11µm,19.2s,baz=154,slow=33
NVL N'lazarevskaya 85.78 187⇑ *i*P P 03 48 01.5 +3.9
NVL *e**PP pP 03 48 11.1 +8.1
NVL *e**SP sP 03 48 15.5 +11
NVL *e* 03 51 14.3
NVL *i* 03 53 12.6
NVL *i* S **SKSac** **03 58 21.4 -0.9**
NVL *e*SS **SS** **04 04 11.8 +6.8**
NVL *e*SSS SSS 04 07 39.0
NVL pmax pmax
comp=Z,28nm,0.8s
NVL MLR MLR
comp=Z,21µm,18.0s
MAIT Maitri 85.78 187 *e*P **P** **03 47 57.5 -0.2**
MAIT *e* 03 48 05.6
SNAA Sanae 85.92 182 *e* **P** **03 47 55.6 -2.8**
SNAA Sanae 85.92 182 *e*P P 03 47 54.0 -4.5
SNAA pmax pmax
comp=Z,73nm,1.2s
SNAA Sanae 85.92 182 *e*P P 03 47 54.0 -4.5
comp=Z,73nm,1.2s
LZH Lanzhou 86.13 312 *e*P **P** **03 47 59.9 -0.2**
LZH pP **pP** **03 48 04.3 -1.2**
LZH PP **PP** **03 51 22.0 +1.0**
LZH SKS **SKSac** **03 58 24.0 -1.8**
LZH S **SKSac** **03 58 31.0 -2.3**
LZH sS **sS** **03 58 44.0 +0.7**
LZH pmax pmax
comp=Z,240nm,1.0s
LZH pmax pmax
comp=Z,1µm,6.1s
LZH LR LR
comp=N,9µm,19.0s
LZH LR LR
comp=E,6µm,17.0s
LZH LR LR
comp=Z,9µm,17.2s
VNA3 Neumayer Olymp 86.45 180 *e* **P** **03 48 00.9 -0.1**
SEY Seymchan 86.47 352⇑ *i*P **P** **03 48 00.7 -0.2**
BSC Santa Cruz Isl 86.68 51⇓P **P** **03 48 03.0 +0.3**
baz=87
VNA2 Neumayer--Watz 86.76 181 *e* **P** **03 48 02.7 +0.2**
baz=154,slow=5.5
SAO San Andreas Ge 86.81 48 *e*P **P** **03 48 03.6 +0.4**
comp=Z,29nm,1.1s
SBC Santa Barbara 86.84 51⇑P **P** **03 48 04.2 +0.8**
baz=87
HOPS Hopland 86.88 45 *e*P **P** **03 48 01.8 -1.7**
comp=Z,95nm,1.6s
KCPM Cahto Peak 86.92 45 *e*P **P** **03 48 04.7 +0.8**
comp=Z,30nm,1.1s
SCI San Clemente I 86.97 53⇓P **P** **03 48 04.8 +0.7**
baz=87
PKM Peak Mountain 87.00 50⇑P **P** **03 48 04.8 +0.4**
baz=87,SNR=14
VNA1 Neumayer--Stat 87.05 180 *e* **P** **03 48 04.6 +0.8**
KIPM Iron Peak 87.05 45 *e*P **P** **03 48 05.0 +0.5**
comp=Z,50nm,1.1s
GAMB Gambell 87.12 8 *e*P **P** **03 48 04.1 +0.2**
comp=Z,49nm,1.3s
KHMM Horse Mountain 87.47 44 *e*P **P** **03 48 07.0 +0.5**
comp=Z,72nm,1.4s
FMP Fort Macarthur 87.51 52⇓P **P** **03 48 07.9 +1.2**
baz=88
USHA Ushuaia 87.77 150 P **P** **03 48 09.2 +1.6**
comp=Z,21nm,1.1s,baz=194,slow=6.4,SNR=2.8
USHA Ushuaia 87.77 150 P **P** **03 48 09.2 +1.6**
PASC Pasadena Art C 87.81 52 *e*P **P** **03 48 08.7 +0.6**
comp=Z,19nm,0.8s
ARVC Arvin 87.82 51⇓P **P** **03 48 08.2 +0.1**
baz=88,SNR=15
KBO Bosley Butte 87.88 42 *e*P **P** **03 48 09.5 +1.1**
comp=Z,82nm,1.5s
MWC Mount Wilson 87.93 52 *e*P **P** **03 48 07.9 -1.0**
MWC pmax pmax
comp=Z,131nm,1.5s
MWC Mount Wilson 87.93 52 *e*P **P** **03 48 07.9 -1.0**
comp=Z,131nm,1.5s
VES Vestal, Richgr 87.99 50⇓P **P** **03 48 08.8 -0.1**
baz=88
109C Camp Elliot, M 87.99 53⇑P **P** **03 48 08.7 -0.2**
baz=88
CLNS Chul'man 88.06 337 *e*P **P** **03 48 07.3 -1.5**
CLNS *e* 03 51 40.4
CLNS *e*PPP PPP 03 53 31.1
CLNS *e*S **SKSac** **03 58 31.2 -5.2**
CLNS *e*SS **SS** **04 04 45.6 +4.8**
CLNS pmax pmax
comp=Z,57nm,1.6s
CLNS pmax pmax
comp=N,34nm,1.5s
CLNS pmax pmax
comp=E,9.0nm,1.3s
CLNS pmax pmax
comp=Z,12nm,1.5s
CLNS pmax pmax
comp=N,8.0nm,1.5s
CLNS pmax pmax
comp=E,10.0nm,1.6s
CLNS smax smax
comp=N,3µm,13.2s
CLNS smax smax
comp=E,2µm,12.3s
CLNS MLR MLR
comp=N,2µm,20.0s
CLNS MLR MLR
comp=N,5µm,21.0s
CLNS MLR MLR
comp=Z,7µm,23.0s
WDC Whiskeytown Da 88.07 44 *e*P **P** **03 48 09.9 +0.7**
WDC pmax pmax
comp=Z,61nm,1.4s
WDC Whiskeytown Da 88.07 44 *e*P **P** **03 48 09.8 +0.7**
comp=Z,61nm,1.4s
RCTC Rector, Farmer 88.11 49⇓P **P** **03 48 09.8 +0.4**
baz=88
BAR Barrett 88.21 54 *e*P **P** **03 48 09.7 -0.4**
comp=Z,146nm,2.0s
BFSC Mount Baldy Ra 88.23 52⇓P **P** **03 48 10.3 0.0**
baz=88,SNR=29
MURC Murrieta 88.26 53⇓P **P** **03 48 10.3 0.0**
baz=88
EDW2 Edwards Air Fo 88.30 51⇓P **P** **03 48 10.3 -0.2**
baz=89,SNR=41
ISA Isabella 88.33 50 *e*P **P** **03 48 10.7 0.0**
comp=Z,174nm,1.6s
ISA Isabella 88.33 50⇑P **P** **03 48 10.8 +0.1**
baz=89,SNR=66
MONP Monument Peak 88.50 53⇑P **P** **03 48 11.5 -0.2**
baz=89,SNR=26
DVTC Desert V Tower 88.63 54⇑P **P** **03 48 12.5 +0.3**
baz=89,SNR=10
LRMC Laurel Mountai 88.80 51⇓P **P** **03 48 13.0 +0.1**
baz=89,SNR=25
PFO Pinyon Flat Ob 88.81 53 *e*P **P** **03 48 13.3 +0.2**
PFO pmax pmax
comp=Z,226nm,2.2s
PFO MLR MLR
comp=Z,16µm,21.0s
PFO Pinyon Flat Ob 88.81 53 *e*P **P** **03 48 13.3 +0.2**
comp=Z,226nm,2.2s
PFO LR LR
comp=Z,16µm,21.0s
PFO Pinyon Flat Ob 88.81 53 P **P** **03 48 13.2 +0.2**
comp=Z,104nm,1.6s,SNR=6.5
PFO Pinyon Flat Ob 88.81 53⇓P **P** **03 48 12.8 -0.2**
baz=89,SNR=13
HUMO Hull Mountain 88.89 42 *e*P **P** **03 48 13.0 0.0**
comp=Z,25nm,1.3s
SWSC Sam W. Stewart 88.99 54⇓P **P** **03 48 13.9 +0.2**
baz=89,SNR=18
CWC Cottonwood Cre 88.99 50⇓P **P** **03 48 14.2 +0.4**
baz=89
MLAC Mammoth Lakes 89.04 48⇑P **P** **03 48 14.8 +0.6**
baz=89
TIN Tinemaha 89.19 49⇑P **P** **03 48 15.3 +0.6**
baz=89
MPMC Manual Prospec 89.22 50⇓P **P** **03 48 15.3 +0.3**
baz=90
WCN Washoe City 89.25 47⇓P **P** **03 48 15.5 +0.5**
baz=90
DAC Darwin (Calif) 89.25 50 PFAKE 03 48 30.0 +15
DAC LR LR
comp=Z,22µm,21.0s
BELC Belle Mtn. Jos 89.33 53⇑P **P** **03 48 15.6 +0.2**
baz=90,SNR=32
GSC Goldstone 89.35 51 *e*P **P** **03 48 15.8 +0.4**
comp=Z,123nm,1.8s
GSC Goldstone 89.35 51⇑P **P** **03 48 15.9 +0.4**
baz=90,SNR=18
HEC Hector,Ludlow 89.47 52⇓P **P** **03 48 16.2 +0.1**
baz=90,SNR=25
CIT Chita 89.56 329 *e*P **P** **03 48 15.7 -0.3**
CIT *e* 03 48 32.4
CIT pmax pmax
comp=Z,227nm,1.8s
BC3 Big Chuckawall 89.57 53⇓P **P** **03 48 16.9 +0.3**
baz=90,SNR=15
GLA Glamis 89.76 54 *e*P **P** **03 48 18.7 +1.3**
GLA pmax pmax
comp=Z,43nm,0.9s
GLA Glamis 89.76 54 *e*P **P** **03 48 18.7 +1.3**
comp=Z,43nm,0.9s
GLA Glamis 89.76 54⇓P **P** **03 48 17.8 +0.4**
baz=90
NVAR Mina Array Bea 89.80 48 P **P** **03 48 17.8 +0.1**
comp=Z,12nm,0.8s,baz=216,slow=7.5,SNR=8.2
NVAR PKPPKP P'P'df 04 14 05.2 +8.2
comp=Z,0.8nm,0.9s,baz=317,slow=4.9,SNR=4.6
NVAR LR LR 04 21 42.5
comp=Z,27µm,19.2s,baz=112,slow=31
NVAR Mina Array Bea 89.80 48 P **P** **03 48 17.8 +0.1**
NVAR P'P' 04 14 05.2
FURC Furnace Creek, 89.87 50⇓P **P** **03 48 17.9 +0.2**
baz=90,SNR=12
GMRC Granite Mounta 89.94 52⇑P **P** **03 48 18.6 +0.3**

baz=90,SNR=18
SHOC Shoshone 90.01 51 ⇑P P 03 48 18.6 +0.1
baz=90,SNR=14
IRM Iron Mountain 90.03 53 ⇓P P 03 48 19.1 +0.5
baz=90,SNR=18
AGT Agartala 90.14 296 *ex* P 03 48 12.0 -7.3
Y12C Blythe 90.30 53 ⇓P P 03 48 20.2 +0.3
baz=91,SNR=16
SHL Shillong 90.32 298 *i* P P 03 48 25.0 +4.7
SHL *i* S **SKSac** 03 58 56.0 +4.6
TPH Tonopah 90.38 49 PFAKE 03 48 30.0 +10
TPH LR LR
comp=Z,22µm,21.0s
BILL Bilibino 90.40 358 ⇑*eP* P 03 48 20.1 +0.7
BILL *e* 03 51 55.0
BILL *eS* **SKSac** 03 58 47.9 -1.7
BILL pmax pmax
comp=Z,79nm,1.6s
BILL Bilibino 90.40 358 *eP* P 03 48 20.1 +0.7
BILL LR LR
comp=Z,15µm,21.0s
113A Mohawk Valley, 90.43 55 ⇑P P 03 48 20.6 +0.2
baz=91
ULN Ulaanbaatar 90.47 323 *eP* P 03 48 20.3 -0.2
ULN pmax pmax
comp=Z,48nm,1.0s
ULN MLR MLR
comp=Z,11µm,20.0s
ULN Ulaanbaatar 90.47 323 *eP* P 03 48 20.3 -0.2
comp=Z,48nm,1.0s
ULN LR LR
comp=Z,11µm,20.0s
LDFC Landfair 90.48 52 *eP* P 03 48 21.4 +0.6
comp=Z,54nm,0.9s
YAK Yakutsk 90.51 342 PFAKE 03 48 30.0 +10
YAK LR LR
comp=Z,15µm,19.0s
GTA Gaotai 90.56 313 *eP* P 03 48 22.3 +1.2
GTA pP **pP** 03 48 26.6 +0.1
GTA sP **sP** 03 48 29.3 +0.8
GTA PP **PP** 03 51 56.5 +0.1
GTA SKS **SKSac** 03 58 51.3 -0.8
GTA S **S** 03 59 14.1 -2.0
GTA sS **sS** 03 59 23.1 -2.1
GTA SS **SS** 04 05 17.5 -0.5
GTA LR LR
comp=N,4µm,18.5s
GTA LR LR
comp=E,8µm,18.5s
GTA LR LR
comp=Z,8µm,18.1s
NEE2 Needles Airpor 90.69 52 ⇓P P 03 48 22.2 +0.6
baz=91
Z13A Yuma Proving G 90.70 54 ⇑P P 03 48 22.2 +0.5
baz=91,SNR=31
214A Organ Pipe Nat 90.79 56 ⇑P P 03 48 23.5 +1.2
baz=91
SONM Songino Array 90.83 323 P P 03 48 21.6 -0.5
comp=Z,39nm,1.1s,baz=137,slow=4.3,SNR=34
SONM LR LR 04 31 30.2
comp=Z,10µm,18.3s,baz=118,slow=37
SONM Songino Array 90.83 323 P P 03 48 21.6 -0.5
SONM Songino Array 90.83 323 P P 03 48 21.6 -0.5
PDMCI Parker Dam,Lak 90.83 53 ⇑P P 03 48 22.4 +0.1
baz=91,SNR=12
NLWA Neilton Lookou 90.92 38 PFAKE 03 48 30.0 +7.6
NLWA LR LR
comp=Z,27µm,19.0s
114A Black Gap (USA 91.09 55 ⇓P P 03 48 24.6 +1.1
baz=91
Z14A Wintersburg 91.31 54 ⇓P P 03 48 25.2 +0.7
baz=92
W13A Hualapai Mount 91.38 52 ⇓P P 03 48 25.5 +0.4
baz=92,SNR=22
BMN Battle Mountai 91.50 47 *eP* P 03 48 26.0 +0.5
BMN pmax pmax
comp=Z,75nm,1.5s
BMN MLR MLR
comp=Z,22µm,20.0s
BMN Battle Mountai 91.50 47 *eP* P 03 48 26.0 +0.5
comp=Z,75nm,1.5s
BMN LR LR
comp=Z,22µm,20.0s
Y14A Wickenburg 91.52 54 ⇑P P 03 48 26.1 +0.5
baz=92,SNR=12
WVOR Wild Horse Val 91.54 44 PFAKE 03 48 40.0 +14
WVOR LR LR
comp=Z,13µm,19.0s
R11A Troy Canyon, C 91.64 49 ⇓P P 03 48 26.9 +0.7
baz=92
WRAK Wrangell Islan 92.01 28 PFAKE 03 48 40.0 +13
WRAK LR LR
comp=Z,17µm,19.0s
CAL Calcutta 92.05 293 *eP* P 03 48 28.7 +0.5
CAL *ex* x 03 59 37.1
TUC Tucson 92.50 56 *eP* P 03 48 30.5 +0.3
TUC pmax pmax
comp=Z,44nm,1.5s
TUC MLR MLR
comp=Z,17µm,20.0s
TUC Tucson 92.50 56 *eP* P 03 48 30.5 +0.3
comp=Z,44nm,1.5s
TUC LR LR
comp=Z,17µm,20.0s
LSA Lhasa 92.62 301 P P 03 48 30.3 -1.0
LSA pmax pmax
comp=Z,3µm,12.7s
LSA LR LR
comp=E,4µm,23.4s
LSA LR LR
comp=Z,4µm,23.4s
LSA Lhasa 92.62 301 PFAKE 03 48 40.0 +8.7
LSA LR LR
comp=Z,5µm,20.0s
R13A O'Grain Ranch, 92.70 50 ⇓P P 03 48 31.9 +0.8
baz=93
318A Bisbee 92.74 57 ⇑P P 03 48 32.5 +1.1
baz=93
COLA College 92.75 16 *eP* P 03 48 28.9 -1.5
COLA pmax pmax
comp=Z,19nm,1.0s
COLA MLR MLR
comp=Z,9µm,20.0s
COLA College 92.75 16 *eP* P 03 48 28.9 -1.5
comp=Z,19nm,1.0s
COLA LR LR
comp=Z,9µm,20.0s
X16A Lo Mia Camp, P 92.89 54 ⇓P P 03 48 33.0 +0.9
baz=93,SNR=25
ILAR Eielson Array 92.92 17 P P 03 48 30.2 -1.0
comp=Z,5.7nm,1.0s,baz=238,slow=6.2,SNR=10.0
ILAR PKiKP **PKiKP** 03 53 18.2 -0.5
comp=Z,0.8nm,0.8s,baz=274,slow=1.6,SNR=5.8
ILAR PKKPbc **PKKPdf** 04 05 42.9 -0.1
comp=Z,1.0nm,1.0s,baz=349,slow=1.6,SNR=4.2
ILAR PKPPKP **P'P'df** 04 13 53.0 +4.9
comp=Z,0.4nm,1.0s,baz=21,slow=3.1,SNR=2.8
ILAR LR LR 04 30 21.6
comp=Z,11µm,18.4s,baz=259,slow=36
ILAR Eielson Array 92.92 17 P P 03 48 30.3 -1.0
ILAR Eielson Array 92.92 17 P P 03 48 30.2 -1.0
ILAR PKiKP **PKiKP** 03 53 18.2 -0.5
ILAR PKKPbc **PKKPdf** 04 05 42.9 -0.1
ILAR P'P' 04 13 53.0
218A Dragoon 92.92 57 ⇓P P 03 48 33.3 +1.1
baz=93
HAWA Hanford 92.94 40 PFAKE 03 48 40.0 +8.2
HAWA LR LR
comp=Z,23µm,20.0s
BOD Bodaibo 93.01 333 *eP* P 03 48 30.3 -1.5
BOD pmax pmax
comp=Z,17nm,2.0s
Y17A Roosevelt 93.03 55 ⇑P P 03 48 33.5 +0.9
baz=93,SNR=8.2
U15A North Rim 93.13 52 ⇓P P 03 48 33.6 +0.3
baz=93,SNR=28
Z17A San Carlos Hig 93.15 55 ⇑P P 03 48 34.1 +1.0
baz=93
319A Douglas 93.27 57 ⇑P P 03 48 34.1 +0.3
baz=94
X17A Forest Lakes 93.33 54 ⇓P P 03 48 35.0 +0.8
baz=94,SNR=12
WUAZ Wupatki 93.41 53 *eP* P 03 48 34.8 +0.4
comp=Z,40nm,1.4s
WUAZ LR LR
comp=Z,15µm,21.0s
WUAZ Wupatki 93.41 53 ⇑P P 03 48 34.4 0.0
baz=94,SNR=8.8
219A White Tail Can 93.54 57 ⇓P P 03 48 35.7 +0.6
baz=94,SNR=13
BMO Blue Mountains 93.56 43 PFAKE 03 48 50.0 +15
BMO LR LR
comp=Z,13µm,22.0s
Y18A Canyon Day Jun 93.68 55 ⇓P P 03 48 35.7 0.0
baz=94,SNR=26
MFID Camas Ranch 93.82 44 ⇓P P 03 48 37.4 +1.3
baz=94
320A Kipp Ranch, An 93.84 58 ⇑P P 03 48 37.4 +0.9
baz=94
U16A Tuba City 93.86 52 ⇑P P 03 48 36.3 -0.1
baz=94,SNR=17
V17A Tonalea, Kykot 93.88 53 ⇑P P 03 48 37.1 +0.5
baz=94,SNR=20
X18A Snowflake 94.06 54 ⇓P P 03 48 38.2 +0.7
baz=94
220A Playas Peak, P 94.07 57 ⇓P P 03 48 37.8 +0.3
baz=94
COLD Coldfoot 94.07 14 *eP* P 03 48 37.4 +0.9
MVU Marysvale 94.08 50 PFAKE 03 48 50.0 +12
MVU LR LR
comp=Z,22µm,21.0s
120A U Bar Ranch, L 94.25 57 ⇑P P 03 48 39.1 +0.8
baz=94
Y19A Nutrioso 94.35 55 ⇑P P 03 48 39.5 +0.6
baz=95,SNR=12
U17A Shonto 94.39 52 ⇓P P 03 48 39.6 +0.6
baz=95
TLY Talaya 94.39 325 *c* *iP* P 03 48 34.8 -3.5
TLY *eS* **SKSac** 03 59 14.7 +2.0
TLY *e* 04 01 12.7
TLY pmax pmax
comp=Z,15nm,1.0s
TLY Talaya 94.39 325 PFAKE 03 48 50.0 +12
TLY LR LR
comp=Z,10µm,22.0s
DUG Dugway 94.39 48 PFAKE 03 48 50.0 +11
DUG LR LR
comp=Z,22µm,20.0s
T17A Navajo Res., N 94.45 52 ⇑P P 03 48 40.0 +0.8
baz=95
Z20A Nine Sixteen R 94.51 56 ⇓P P 03 48 40.3 +0.8
baz=95
EFI East Falkland 94.53 152 PFAKE 03 48 50.0 +11
EFI LR LR
comp=Z,14µm,22.0s
EGAK Eagle 94.53 19 *eP* P 03 48 38.8 +0.2
EGAK LR LR
comp=Z,9µm,20.0s
V18A Ganado 94.56 53 ⇓P P 03 48 40.7 +1.0
baz=95
221A Mesquite Ranch 94.69 57 ⇓P P 03 48 41.4 +1.0
baz=95
W19A Sanders 94.72 54 ⇑P P 03 48 41.2 +0.7
baz=95
HLID Hailey 94.81 45 PFAKE 03 48 50.0 +9.3
HLID LR LR
comp=Z,11µm,20.0s
U18A Rough Rock, Ch 94.90 53 ⇓P P 03 48 41.6 +0.4
baz=95
121A Cookes Peak, D 94.90 57 ⇓P P 03 48 42.0 +0.6
baz=95,SNR=8.8
DGAR Diego Garcia 94.98 260 PFAKE 03 48 50.0 +8.1
DGAR LR LR
comp=Z,30µm,22.0s
Y20A Hone Springs, 94.99 55 ⇓P P 03 48 42.4 +0.6
baz=95,SNR=10
PLCA Paso Flores 95.00 138 P P 03 48 41.8 +0.1
comp=Z,8.2nm,0.9s,baz=238,slow=5.4,SNR=12
PLCA LR LR 04 24 54.3
comp=Z,5µm,18.3s,baz=328,slow=31
PLCA Paso Flores 95.00 138 *eP* P 03 48 41.5 -0.2
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 95.00 138 *eP* P 03 48 41.5 -0.2
comp=Z,15nm,1.0s
X20A Quemado 95.16 55 ⇓P P 03 48 43.7 +1.1
baz=95
T18A Mexican Hat 95.19 52 ⇑P P 03 48 41.5 -1.0
baz=95
V19A Window Rock 95.22 54 ⇓P P 03 48 44.0 +1.2
baz=96
222A Williams Famil 95.26 58 ⇓P P 03 48 43.6 +0.6
baz=96
NEW Newport 95.28 40 PFAKE 03 48 50.0 +7.5
NEW LR LR
comp=Z,18µm,19.0s
Z21A St. Cloud Mine 95.29 56 ⇓P P 03 48 44.1 +0.9
baz=96,SNR=12
U19A Dine' College, 95.33 53 ⇓P P 03 48 44.1 +0.8
baz=96
W20A Ramah 95.39 54 ⇑P P 03 48 44.8 +1.2
baz=96
Y21A Point of Rocks 95.57 56 ⇓P P 03 48 45.5 +1.1
baz=96,SNR=6.5
X21A Alamocita Cree 95.66 55 ⇓P P 03 48 45.7 +0.8
baz=96
T19A Beclabito 95.68 53 ⇑P P 03 48 46.0 +1.1
baz=96
MOY Mondy 95.81 324 *eP* P 03 48 45.2 +0.2
Z22A Elephant Butte 95.82 57 ⇑P P 03 48 45.6 +0.1
baz=96
Y22A Socorro 96.08 56 ⇑P P 03 48 47.6 +0.9
baz=96
LAZ Ladron 96.13 55 *eP* P 03 48 49.1 +2.1
comp=Z,8.1nm,1.3s
MVCO Mesa Verde 96.22 52 PFAKE 03 49 00.0 +13
MVCO LR LR
comp=Z,20µm,22.0s
MVCO Mesa Verde 96.22 52 ⇓P P 03 48 47.3 -0.1
baz=96
324A Moseley Ranch, 96.28 59 ⇓P P 03 48 47.4 -0.2
baz=96,SNR=8.2
425A Indio Mountain 96.42 59 ⇓P P 03 48 48.5 +0.3
baz=97
BNM Barren Site 96.42 56 *eP* P 03 48 48.8 +0.5
comp=Z,11nm,1.3s
MNTX Cornudas Mount 96.45 58 *eP* P 03 48 48.2 -0.1
comp=Z,6.6nm,0.9s
MNTX LR LR
comp=Z,15µm,20.0s
MNTX Cornudas Mount 96.45 58 ⇑P P 03 48 48.5 +0.2
baz=97,SNR=8.7
MNTX ⇑P P 03 48 48.5 +0.2
baz=97,SNR=8.7
224A Cornudas Mount 96.48 58 ⇑P P 03 48 49.0 +0.4
baz=97,SNR=9.8
U21A Nageezi 96.53 53 ⇓P P 03 48 48.6 -0.1
baz=97
MSO Missoula 96.55 42 PFAKE 03 49 00.0 +12
MSO LR LR
comp=Z,13µm,19.0s
MSO Missoula 96.55 42 ⇑P P 03 48 49.8 +1.4
baz=97
626A Big Bend Ranch 96.64 61 ⇓P P 03 48 49.5 +0.3
baz=97
325A Bean Ranch, Si 96.65 59 ⇓P P 03 48 49.7 +0.3
baz=97
124A Stringfield Ra 96.78 58 ⇓P P 03 48 50.3 +0.3
baz=97
T21A Navajo Lake 96.84 53 ⇓P P 03 48 50.4 +0.3
baz=97
ANMO Albuquerque 96.86 55 *eP* P 03 48 51.0 +0.8
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO MLR MLR
comp=Z,15µm,21.0s
ANMO Albuquerque 96.86 55 *eP* P 03 48 51.0 +0.8
comp=Z,10nm,1.2s
ANMO LR LR
comp=Z,15µm,21.0s
526A Mary Lane Ranc 96.86 60 ⇓P P 03 48 50.7 +0.3
baz=97
TRD Trivandrum 96.89 276 *eP* P 03 48 49.2 -1.4
TRD AMb AMB 03 49 16.2
comp=Z,32nm,0.8s
TXAR Lajitas Array 96.94 61 P P 03 48 50.4 -0.2
comp=Z,1.7nm,1.0s,baz=218,slow=7.8,SNR=9.4
TXAR PKKP **PKKPbc** 04 05 29.4 -2.8
comp=Z,0.6nm,0.9s,baz=158,slow=1.3,SNR=3.4
TXAR PKKPbc **PKKPdf** 04 05 36.5 +2.1
comp=Z,1.2nm,0.8s,baz=101,slow=3.3,SNR=8.8
TXAR LR LR 04 29 31.4
comp=Z,11µm,18.1s,baz=70,slow=34
TXAR Lajitas Array 96.94 61 P P 03 48 50.4 -0.2
TXAR PKKP **PKKPbc** 04 05 29.4 -2.8
TXAR PKKPbc **PKKPdf** 04 05 36.5 +2.1
225A Deer Hill, Car 97.05 58 ⇓P Pdif 03 48 51.8 +0.5
baz=97
Z24A Sheeppen Canyo 97.08 57 ⇓P Pdif 03 48 51.7 +0.3
baz=97
426A McDonald Obser 97.14 60 ⇑P Pdif 03 48 51.8 0.0
baz=97
J17A Brown Place, J 97.16 46 ⇓P Pdif 03 48 51.8 +0.3
baz=97
627A Terlingua Ranc 97.20 61 ⇑P Pdif 03 48 52.5 +0.6
baz=97
Y24A Capitan 97.25 56 ⇑P Pdif 03 48 52.6 +0.4
baz=98
527A Woodward Ranch 97.28 61 ⇓P Pdif 03 48 53.0 +0.7
baz=98
T22A Edith 97.32 53 ⇓P Pdif 03 48 53.9 +1.4
baz=98,SNR=8.5
V23A Ortiz Mt. (NFS 97.37 54 ⇑P Pdif 03 48 53.6 +1.0
baz=98
BOZ Bozeman (W) 97.50 44 PFAKE 03 49 00.0 +7.1
BOZ LR LR
comp=Z,14µm,20.0s
J18A Kendall Valley 97.56 46 ⇑P Pdif 03 48 54.0 +0.7
baz=98
Z25A Roswell 97.57 57 ⇑P Pdif 03 48 54.3 +0.9
baz=98
226A Malaga, Loving 97.60 59 ⇓P Pdif 03 48 54.2 +0.6
baz=98
628A Black Gap, Mar 97.62 61 ⇓P Pdif 03 48 54.0 +0.3
baz=98
BW06 Boulder Array 97.69 47 PFAKE 03 49 10.0 +16
BW06 LR LR
comp=Z,15µm,19.0s
PDAR Pinedale Array 97.69 47 PP PP 03 52 54.4 +2.2
comp=Z,2.1nm,1.0s,baz=237,slow=4.6,SNR=5.1
PDAR PKPPKP P'P'df 04 13 49.2 +7.0
comp=Z,0.6nm,0.9s,baz=46,slow=2.6,SNR=4.0
PDAR LR LR 04 29 55.9
comp=Z,14µm,18.1s,baz=254,slow=34
PDAR Pinedale Array 97.69 47 PP PP 03 52 54.4 +2.2
PDAR P'P' 04 13 49.2
427A Hayter Ranch, 97.71 60 ⇓P Pdif 03 48 54.5 +0.4
baz=98
Y25A Mesa, Roswell 97.82 57 ⇓P Pdif 03 48 54.9 +0.2
baz=98
PAYG Puerto Ayora 97.83 94 PFAKE 03 49 10.0 +15
PAYG LR LR
comp=Z,6µm,20.0s
LKWY Lake 97.85 45 PFAKE 03 49 10.0 +15
LKWY LR LR
comp=Z,24µm,20.0s
528A Cox Ranch, San 97.95 61 ⇓P Pdif 03 48 55.7 +0.5
baz=98
T23A Casias Ranch, 97.97 53 ⇓P Pdif 03 48 56.2 +0.8
baz=98
HYB Hyderabad 98.66 285 *i* P P 03 48 56.0 -2.5
HYB *e* PP **PP** 03 53 00.0 +0.2
HYB *e* SKS **SKSac** 03 59 36.0 -0.5
HYB *e* S **S** 04 00 24.0 -3.8
HYB *e* SP **SP** 04 01 52.0 -0.8
HYB *e* SS **SS** 04 07 12.0 -2.0
HYB LR LR 04 35 00.0
comp=Z,7.1nm,20.0s
Z27A Tatum 98.75 58 ⇑Pdiff Pdif 03 48 59.2 +0.5
baz=99
RLMT Red Lodge 98.81 45 PFAKE 03 49 10.0 +11
RLMT LR LR
comp=Z,13µm,20.0s
INK Inuvik 99.18 18 P **Pdif** 03 49 02.2 +2.7
comp=Z,1.3nm,0.8s,baz=263,slow=4.8,SNR=3.8
INK PKiKP **PKiKP** 03 53 29.9 +0.3
comp=Z,2.4nm,1.1s,baz=54,slow=9.0,SNR=2.2
INK Inuvik 99.18 18 P **Pdif** 03 49 02.3 +2.7
INK Inuvik 99.18 18 P **Pdif** 03 49 02.2 +2.7
INK PKiKP **PKiKP** 03 53 29.9 +0.3
ISCO Idaho Springs 99.30 51 PFAKE 03 49 10.0 +8.7
ISCO LR LR
comp=Z,6µm,20.0s
MSTX Muleshoe 99.33 57 ⇓Pdiff **Pdif** 03 49 01.3 0.0
baz=100
NGP Nagpur 99.53 289 *eP* **Pdif** 03 49 01.8 -0.5
NGP *ex* x 04 00 39.6
EGMT Eagleton 99.63 42 PFAKE 03 49 10.0 +7.8
EGMT LR LR
comp=Z,14µm,20.0s
JCT Junction City 100.48 61 PFAKE 03 49 20.0 +14
JCT LR LR
comp=Z,11µm,20.0s
AMTX Amarillo 100.49 57 PFAKE 03 49 20.0 +14
AMTX LR LR
comp=Z,14µm,20.0s
WMQ Urumqi 100.65 313 P **Pdif** 03 49 08.0 +1.2
WMQ PP **PP** 03 53 18.0 +3.5
WMQ SKS **SKSac** 03 59 41.8 -3.5
WMQ S **Sdif** 04 00 37.8 -5.7
WMQ SS **SS** 04 07 39.5 -1.4
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ LR LR
comp=N,3µm,20.2s
WMQ LR LR
comp=E,5µm,21.8s
WMQ LR LR
comp=Z,6µm,21.4s
KVTX Kingsville 101.06 65 PFAKE 03 49 20.0 +11
KVTX LR LR
comp=Z,8µm,19.0s
LCO Las Campanas 101.55 128 PFAKE 03 49 20.0 +8.4
LCO LR LR
comp=Z,9µm,22.0s
CFAA Coronel Fontan 101.83 132 P **Pdif** 03 49 13.5 +1.0
comp=Z,0.1nm,0.5s,baz=270,slow=4.0,SNR=1.9
CFAA Coronel Fontan 101.83 132 P **Pdif** 03 49 13.5 +1.0
TRQA Tornquist 101.86 140 PFAKE 03 49 20.0 +7.5
TRQA LR LR
comp=Z,7µm,19.0s
OGNE Ogallala 102.26 51 PFAKE 03 49 30.0 +16
OGNE LR LR
comp=Z,11µm,20.0s
AGRA Agra 102.53 294 *eP* **Pdif** 03 49 15.1 -0.4
AGRA AMb AMB 03 49 41.4
comp=Z,67nm,0.2s
WMOK Wichita Mounta 102.69 58 PFAKE 03 49 30.0 +14
WMOK LR LR
comp=Z,18µm,20.0s
YKA Yellowknife Ar 102.86 27 P **Pdif** 03 49 18.9 +2.8
comp=Z,0.9nm,0.9s,baz=250,slow=4.6,SNR=2.4
YKA PKiKP **PKiKP** 03 53 35.3 -1.1
comp=Z,0.9nm,0.8s,baz=252,slow=2.0,SNR=6.8
YKA Yellowknife Ar 102.86 27 P **Pdif** 03 49 18.9 +2.8
YKA *i* 03 53 35.3
YKA Yellowknife Ar 102.86 27 P **Pdif** 03 49 18.9 +2.8
YKA PKiKP **PKiKP** 03 53 35.3 -1.1
POO Poona 103.25 285 *eP* **Pdif** 03 49 16.0 -2.9
DGMT Dagmar 103.26 43 PFAKE 03 49 30.0 +12
DGMT LR LR
comp=Z,13µm,20.0s
RER Riviere de l'E 103.34 240 PFAKE 03 49 30.0 +11
RER LR LR
comp=Z,9µm,19.0s
NDI New Delhi 103.61 296 *ex* **Pdif** 03 49 13.2 -7.1
NDI AMb AMB 03 49 34.9
comp=Z,22nm,1.8s
AYAN Aya Nagar 103.62 295 *eP* **Pdif** 03 49 20.0 -0.2
AYAN AMb AMB 03 49 45.9
comp=Z,3.9nm,0.2s
KKR Kurukshetra 104.33 297 *eP* **Pdif** 03 49 23.2 -0.3
KKR AMb AMB 03 49 27.6
comp=Z,220nm,0.3s
NATX Nacogdoches 105.06 62 PFAKE 03 53 50.0
NATX LR LR
comp=Z,7µm,19.0s
MKAR Makanchi Array 105.22 315 Pdiff **Pdif** 03 49 29.7 +2.7
comp=Z,1.6nm,0.6s,baz=94,slow=6.5,SNR=3.6
MKAR PKiKP **PKiKP** 03 53 42.5 +1.2
comp=Z,2.3nm,1.0s,baz=94,slow=4.3,SNR=4.8
MKAR Makanchi Array 105.22 315 P **Pdif** 03 49 29.7 +2.7
MKAR Makanchi Array 105.22 315 Pdif **Pdif** 03 49 29.7 +2.7
MKAR PKiKP **PKiKP** 03 53 42.5 +1.2
NNA Nana 105.25 110 PFAKE 03 53 50.0
NNA LR LR
comp=Z,7µm,21.0s

KSU1	**Kansas State U**	**105.67**	**54**	PFAKE			03 53 50.0		
KSU1				LR	LR				
	comp=Z,17µm,20.0s								
ZALV	**Zalesovo Beam**	**105.72**	**322**	Pdiff	**Pdif**		**03 49 30.5**	**+1.5**	
	comp=Z,1.7nm,0.7s,baz=91,slow=4.5,SNR=3.2								
ZALV				PKiKP	**PKiKP**		**03 53 42.8**	**+0.9**	
	comp=Z,0.9nm,0.6s,baz=86,slow=2.0,SNR=2.7								
ZALV	**Zalesovo Beam**	**105.72**	**322**	P	**Pdif**		**03 49 30.5**	**+1.5**	
ZALV	**Zalesovo Beam**	**105.72**	**322**	Pdif	**Pdif**		**03 49 30.5**	**+1.5**	
ZALV				PKiKP	**PKiKP**		**03 53 42.8**	**+0.9**	
TGUH	**Tegucigalpa,Un**	**105.96**	**81**	PFAKE			03 54 00.0		
TGUH				LR	LR				
	comp=Z,3µm,19.0s								
FFC	**Flin Flon**	**106.45**	**37**	PFAKE			03 53 50.0		
FFC				LR	LR				
	comp=Z,18µm,20.0s								
MIAR	**Mount Ida**	**106.74**	**59**	PFAKE			03 54 00.0		
MIAR				LR	LR				
	comp=Z,19µm,20.0s								
JTS	**JuntasAbangare**	**106.80**	**86**	PFAKE			03 54 00.0		
JTS				LR	LR				
	comp=Z,5µm,20.0s								
ECSD	**EROS Data Cent**	**106.92**	**49**	PFAKE			03 54 00.0		
ECSD				LR	LR				
	comp=Z,23µm,20.0s								
TEIG	**Tepich**	**107.05**	**75**	PFAKE			03 54 00.0		
TEIG				LR	LR				
	comp=Z,6µm,21.0s								
NIL	**Nilore**	**108.29**	**299**	PFAKE			03 54 00.0		
NIL				LR	LR				
	comp=Z,170nm,22.0s								
BHJ	**Bhuj**	**108.45**	**288**	*e*P	**Pdif**		**03 49 42.0**	**+0.1**	
BHJ				AMb	AMB		03 50 47.9		
	comp=Z,68nm,1.4s								
AGMN	**Agassiz Nation**	**108.55**	**45**	PFAKE			03 54 00.0		
AGMN				LR	LR				
	comp=Z,19µm,20.0s								
KURK	**Kurchatov**	**108.57**	**318**	PKiKP	**PKiKP**		**03 53 46.3**	**-1.0**	
	comp=Z,4.9nm,0.8s,baz=108,slow=2.0,SNR=17								
KURK	**Kurchatov**	**108.57**	**318**	*e*PKPdf	**PKiKP**		**03 53 47.7**	**+0.4**	
TKM2	**Tokmak 2**	**108.81**	**309**	PFAKE			03 54 00.0		
TKM2				LR	LR				
	comp=Z,6µm,22.0s								
SCIA	**State Center**	**108.89**	**52**	PFAKE			03 54 00.0		
SCIA				LR	LR				
	comp=Z,19µm,20.0s								
ULM	**Lac du Bonnet**	**108.98**	**43**	PKiKP	**PKiKP**		**03 53 49.1**	**+1.0**	
	comp=Z,2.0nm,0.8s,baz=248,slow=1.5,SNR=3.4								
ULM	**Lac du Bonnet**	**108.98**	**43**	PKiKP	**PKiKP**		**03 53 49.1**	**+1.0**	
ULM				LR	LR				
	comp=Z,19µm,19.0s								
OTAV	**Otavalo**	**109.06**	**98**	PFAKE			03 54 00.0		
OTAV				LR	LR				
	comp=Z,4µm,19.0s								
FRU	**Bishkek**	**109.49**	**309**	*e*P	**Pdif**		**03 49 53.0**	**+6.9**	
FRU				*e*			04 03 45.0		
FRU				pmax	pmax				
	comp=Z,2µm,6.2s								
FRU				MLR	MLR				
	comp=E,6µm,22.0s								
AAK	**Ala-Archa**	**109.53**	**309**	PFAKE			03 54 00.0		
AAK				LR	LR				
	comp=Z,6µm,21.0s								
OXF	**Oxford**	**110.05**	**60**	PFAKE			03 54 00.0		
OXF				LR	LR				
	comp=Z,12µm,20.0s								
EKS2	**Erkin-Say**	**110.05**	**309**	PFAKE			03 54 00.0		
EKS2				LR	LR				
	comp=Z,7µm,20.0s								
LPAZ	**La Paz**	**110.47**	**118**	PKiKP	**PKiKP**		**03 53 53.0**	**+0.3**	
	comp=Z,0.9nm,0.8s,baz=228,slow=14,SNR=2.7								
LPAZ				PKKPbc	**PKKPbc**		**04 04 54.4**	**+2.4**	
	comp=Z,1.8nm,0.8s,baz=347,slow=4.2,SNR=6.1								
LPAZ	**La Paz**	**110.47**	**118**	PKIKP	**PKiKP**		**03 53 53.0**	**+0.3**	
LPAZ							04 04 54.4		
LPAZ				MLR	MLR				
	comp=Z,4µm,20.0s								
LPAZ	**La Paz**	**110.47**	**118**	PKiKP	**PKiKP**		**03 53 53.0**	**+0.3**	
LPAZ				PKKPbc	**PKKPbc**		**04 04 54.4**	**+2.4**	
LPAZ				LR	LR				
	comp=Z,4µm,20.0s								
BRAL	**Brewton**	**111.12**	**64**	PFAKE			03 54 00.0		
BRAL				LR	LR				
	comp=Z,7µm,19.0s								
BCIP	**Isla Barro Col**	**111.13**	**89**	PFAKE			03 54 00.0		
BCIP				LR	LR				
	comp=Z,3µm,19.0s								
PLAL	**Pickwick Lake**	**111.22**	**60**	PFAKE			03 54 00.0		
PLAL				LR	LR				
	comp=Z,14µm,21.0s								
ABPO	**Ambohimpanom**	**111.23**	**238**	PFAKE			03 54 00.0		
ABPO				LR	LR				
	comp=Z,17µm,19.0s								
JFWS	**Jewell Farm**	**111.26**	**51**	PFAKE			03 54 00.0		
JFWS				LR	LR				
	comp=Z,20µm,20.0s								
EYMN	**Ely**	**111.34**	**46**	PFAKE			03 54 00.0		
EYMN				LR	LR				
	comp=Z,20µm,20.0s								
MSEY	**Mahe Island**	**111.44**	**255**	PFAKE			03 54 10.0		
MSEY				LR	LR				
	comp=Z,15µm,19.0s								
LRAL	**Lakeview Retre**	**111.65**	**62**	PFAKE			03 54 10.0		
LRAL				LR	LR				
	comp=Z,9µm,19.0s								
WVT	**Waverly**	**111.68**	**59**	*e*P	**Pdif**		**03 49 57.3**	**+1.3**	
KBL	**Kabul**	**111.89**	**299**	*e*PKiKP	**PKiKP**		**03 53 53.8**	**-0.5**	
KBL	**Kabul**	**111.89**	**299**	*e*PKPdf	**PKiKP**		**03 53 53.8**	**-0.5**	
KKAR	**Karatay Array**	**112.49**	**309**	*e*PKiKP	**PKiKP**		**03 53 54.3**	**-0.7**	
KKAR	**Karatay Array**	**112.49**	**309**	*e*PKPdf	**PKiKP**		**03 53 54.3**	**-0.7**	
BVAR	**Borovoye Array**	**113.98**	**319**	PKiKP	**PKiKP**		**03 53 57.4**	**-0.1**	
	comp=Z,4.6nm,0.8s,baz=131,slow=2.2,SNR=17								
BVAR				SKP			03 57 34.1		
	comp=Z,4.7nm,1.1s,baz=126,slow=2.6,SNR=4.7								
BVAR				PKKPbc	**PKKPbc**		**04 04 41.3**	**+0.9**	
	comp=Z,0.4nm,0.5s,baz=290,slow=4.4,SNR=3.6								
BVAR	**Borovoye Array**	**113.98**	**319**	PKIKP	**PKiKP**		**03 53 57.4**	**-0.1**	
BVAR	**Borovoye Array**	**113.98**	**319**	PKiKP	**PKiKP**		**03 53 57.4**	**-0.1**	
BVAR				SKP			03 57 34.1		
BVAR				PKKPbc	**PKKPbc**		**04 04 41.3**	**+0.9**	
BRVK	**Borovoye**	**114.05**	**319**	‖*i*PKIKP	PKPdf		03 53 56.9	-0.7	
BRVK	**Borovoye**	**114.05**	**319**	*e*PKPdf	PKPdf		03 53 57.6	0.0	
BRVK				LR	LR				
	comp=Z,11µm,19.0s								
GOGA	**Godfrey**	**114.62**	**62**	PFAKE			03 54 10.0	+11	
GOGA				LR	LR				
	comp=Z,10µm,20.0s								
GLMI	**Grayling**	**115.58**	**50**	PFAKE			03 54 10.0	+9.2	
GLMI				LR	LR				
	comp=Z,27µm,21.0s								
AAM	**Ann Arbor**	**115.95**	**53**	PFAKE			03 54 10.0	+8.4	
AAM				LR	LR				
	comp=Z,13µm,19.0s								
ACSO	**Alum Creek Sta**	**116.17**	**55**	PFAKE			03 54 10.0	+7.9	
ACSO				LR	LR				
	comp=Z,15µm,20.0s								
SIV	**San Ignacio**	**116.26**	**122**	PKP	**PKPdf**		**03 54 03.5**	**+0.4**	
	comp=Z,1.2nm,0.9s,baz=16,slow=3.6,SNR=4.1								
SIV				PKKPab	**PKKPab**		**04 04 36.8**	**-1.2**	
	comp=Z,1.5nm,1.1s,baz=32,slow=3.2,SNR=3.3								
SIV	**San Ignacio**	**116.26**	**122**	PKP	**PKPdf**		**03 54 03.5**	**+0.4**	
SIV				PKKPab	**PKKPab**		**04 04 36.8**	**-1.2**	
BLA	**Blacksburg**	**117.73**	**59**	PFAKE			03 54 20.0	+15	
BLA				LR	LR				
	comp=Z,18µm,20.0s								
SUR	**Sutherland**	**118.37**	**209**	PFAKE			03 54 20.0	+13	
SUR				LR	LR				
	comp=Z,13µm,20.0s								
SAML	**Samuel**	**118.42**	**114**	PFAKE			03 54 20.0	+13	
SAML				LR	LR				
	comp=Z,8µm,20.0s								
ERPA	**Erie**	**118.64**	**53**	PFAKE			03 54 20.0	+13	
ERPA				LR	LR				
	comp=Z,14µm,20.0s								
GTBY	**Guantanamo Bay**	**118.81**	**79**	PFAKE			03 54 20.0	+12	
GTBY				LR	LR				
	comp=Z,2µm,19.0s								
CNNC	**Cliffs of the**	**119.48**	**61**	PFAKE			03 54 20.0	+11	
CNNC				LR	LR				
	comp=Z,8µm,20.0s								
SDV	**Santo Domingo**	**119.54**	**92**	*e*PKPdf	**PKPdf**		**03 54 07.9**	**-1.6**	
SDV				LR	LR				
	comp=Z,2µm,19.0s								
SVE	**Sverdlovsk**	**119.68**	**324**	*e*PKIKP	**PKPdf**		**03 54 08.8**	**+0.5**	
SVE				pmax	pmax				
	comp=Z,15nm,0.6s								
CBN	**Corbin**	**120.25**	**58**	PFAKE			03 54 20.0	+10	
CBN				LR	LR				
	comp=Z,21µm,20.0s								
ABKAR	**Akbulak array**	**120.36**	**315**	*e*PKPdf	**PKPdf**		**03 54 08.8**	**-1.0**	
TRIS	**Tristan da Cun**	**120.61**	**177**	PFAKE			03 54 20.0	+9.1	
TRIS				LR	LR				
	comp=Z,12µm,20.0s								
ARU	**Arti**	**120.86**	**323**	*i* PKIKP	**PKPdf**		**03 54 10.8**	**+0.2**	
ARU							03 55 43.4		
ARU				PPP	PPP		03 58 12.7		
ARU							04 01 06.6		
ARU				SP	SP		04 05 33.1	+4.9	
ARU				SS	**SKKSdf**		**04 12 00.4**	**-1.9**	
ARU	**Arti**	**120.86**	**323**	*e*PKPdf	**PKPdf**		**03 54 10.2**	**-0.3**	
ARU				LR	LR				
	comp=Z,8µm,19.0s								
SOKR	**Solikamsk**	**121.40**	**327**	⇓*i*PKIKP	**PKPdf**		**03 54 10.7**	**-0.8**	
SOKR							03 55 40.5		
SOKR							04 01 19.0		
SOKR				SS	SS		04 12 16.9	+0.2	
SOKR				SSS	SSS		04 16 42.7		
SOKR				pmax	pmax				
	comp=Z,20nm,1.4s								
AKTO	**Aktyubinsk**	**121.58**	**316**	PKP	**PKPdf**		**03 54 11.1**	**-1.1**	
	comp=Z,9.2nm,0.8s,baz=78,slow=3.0,SNR=17								
AKTO				SKP			03 57 49.4		
	comp=Z,4.4nm,1.0s,baz=122,slow=2.5,SNR=4.2								
AKTO				PKKPbc	**PKKPbc**		**04 04 15.2**	**+2.2**	
	comp=Z,1.4nm,0.8s,baz=314,slow=6.3,SNR=4.3								
AKTO	**Aktyubinsk**	**121.58**	**316**	PKIKP	**PKPdf**		**03 54 11.1**	**-1.1**	
AKTO	**Aktyubinsk**	**121.58**	**316**	PKP	**PKPdf**		**03 54 11.1**	**-1.1**	
AKTO				SKP			03 57 49.4		
AKTO				PKKPbc	**PKKPbc**		**04 04 15.2**	**+2.2**	
BINY	**Binghamton**	**121.61**	**53**	PFAKE			03 54 20.0	+7.5	
BINY				LR	LR				
	comp=Z,15µm,20.0s								
LBTB	**Lobatse**	**121.98**	**217**	PFAKE			03 54 30.0	+16	
LBTB				LR	LR				
	comp=Z,12µm,19.0s								
SDDR	**Presa de Saban**	**122.05**	**81**	PFAKE			03 54 30.0	+16	
SDDR				LR	LR				
	comp=Z,4µm,19.0s								
LONY	**Lake Ozonia**	**122.70**	**51**	PFAKE			03 54 30.0	+15	
LONY				LR	LR				
	comp=Z,18µm,21.0s								
KBS	**Kingsbay**	**122.76**	**355**	*e*PP	PP		03 55 53.4	+1.7	
KBS	**Kingsbay**	**122.76**	**355**	PFAKE			03 54 30.0	+16	
KBS				LR	LR				
	comp=Z,6µm,21.0s								
SPA0	**Spitsbergen Ar**	**123.05**	**354**	*e*PP	PP		03 55 49.5	-4.3	
SPITS	**Spitsbergen Ar**	**123.05**	**354**	PKP	**PKPdf**		**03 54 12.9**	**-1.4**	
	comp=Z,26nm,0.7s,baz=120,slow=7.7,SNR=18								
SPITS	**Spitsbergen Ar**	**123.05**	**354**	PKIKP	**PKPdf**		**03 54 12.9**	**-1.4**	
SPITS	**Spitsbergen Ar**	**123.05**	**354**	PKP	**PKPdf**		**03 54 12.9**	**-1.4**	
SPB4	**Spitsbergen Ar**	**123.06**	**354**	*e*PKPdf	**PKPdf**		**03 54 13.9**	**-0.4**	
FRB	**Frobisher Bay**	**123.38**	**27**	PKP	**PKPdf**		**03 54 13.2**	**-2.0**	
	comp=Z,24nm,0.9s,baz=287,slow=3.6,SNR=3.0								
FRB				PKKPbc	**PKKPbc**		**04 04 06.1**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=84,slow=5.1,SNR=4.7								
FRB	**Frobisher Bay**	**123.38**	**27**	PKIKP	**PKPdf**		**03 54 13.2**	**-2.0**	
FRB	**Frobisher Bay**	**123.38**	**27**	PKP	**PKPdf**		**03 54 13.2**	**-2.0**	
FRB				PKKPbc	**PKKPbc**		**04 04 06.1**	**-0.2**	
HOPEN	**Hopen**	**123.41**	**351**	*e*	**PP**		**03 55 51.1**	**-5.0**	
LBNH	**Lisbon**	**124.61**	**51**	PFAKE			03 54 30.0	+12	
LBNH				LR	LR				
	comp=Z,18µm,19.0s								
DAG	**Danmarks Havn**	**125.53**	**3**	*i* PKIKP	**PKPdf**		**03 54 16.5**	**-2.5**	
DAG				pmax	pmax				
	comp=Z,13nm,0.7s								
DAG	**Danmarks Havn**	**125.53**	**3**	*i* P	**PKPdf**		**03 54 16.5**	**-2.5**	
	comp=Z,128nm,0.7s								
BJO	**Bjornoya**	**125.90**	**351**	*e*PP	PP		03 56 12.3	-0.5	
LRS	**Lares**	**125.94**	**83**	*e*PKPdf	**PKPdf**		**03 54 20.2**	**-1.3**	
OBIP	**Obispado Ponce**	**126.09**	**84**	*e*PKPdf	**PKPdf**		**03 54 20.5**	**-1.3**	
CELP	**Cerrillos**	**126.12**	**84**	*e*PKPdf	**PKPdf**		**03 54 20.6**	**-1.2**	
BDFB	**Brasilia**	**126.17**	**131**	PKP	**PKPdf**		**03 54 20.0**	**-2.2**	
	comp=Z,8.0nm,0.8s,baz=346,slow=8.3,SNR=4.4								
BDFB	**Brasilia**	**126.17**	**131**	PKIKP	**PKPdf**		**03 54 20.0**	**-2.2**	
BDFB	**Brasilia**	**126.17**	**131**	PKP	**PKPdf**		**03 54 20.0**	**-2.2**	
SJG	**San Juan**	**126.53**	**84**	*e*PKIKP	**PKPdf**		**03 54 20.4**	**-2.2**	
SJG				MLR	MLR				
	comp=Z,3µm,20.0s								
SJG	**San Juan**	**126.53**	**84**	*e*PKPdf	**PKPdf**		**03 54 20.4**	**-2.2**	
SJG				LR	LR				
	comp=Z,3µm,20.0s								
SCHQ	**Schefferville**	**126.59**	**38**	PKP	**PKPdf**		**03 54 19.8**	**-1.9**	
	comp=Z,8.5nm,0.9s,baz=15,slow=3.2,SNR=4.2								
SCHQ	**Schefferville**	**126.59**	**38**	PKP	**PKPdf**		**03 54 19.8**	**-1.9**	
SCHQ				LR	LR				
	comp=Z,40µm,22.0s								
MTP	**Monte Pirata**	**127.07**	**84**	*e*PKPdf	**PKPdf**		**03 54 22.0**	**-1.6**	
LVZ	**Lovozero**	**127.30**	**341**	PFAKE			03 54 30.0	+7.3	
LVZ				LR	LR				
	comp=Z,11µm,20.0s								
SUMG	**Summit**	**127.32**	**11**	*i* PKIKP	**PKPdf**		**03 54 22.3**	**-0.8**	
SUMG				pmax	pmax				
	comp=Z,15nm,1.2s								
SUMG	**Summit**	**127.32**	**11**	*i* P	**PKPdf**		**03 54 22.3**	**-0.8**	
	comp=Z,15nm,1.2s								
APA	**Apatity**	**127.88**	**341**	⇑*i*PKIKP	PKPdf		03 54 38.0	+14	
APA				*i*			04 01 29.0		
APA				pmax	pmax				
	comp=Z,18nm,1.0s								
APA				MLR	MLR				
	comp=Z,14µm,22.0s								
KEV	**Kevo**	**128.15**	**345**	*e*PKIKP	**PKPdf**		**03 54 21.9**	**-2.3**	
KEV				pmax	pmax				
	comp=Z,9.0nm,0.7s								
KEV	**Kevo**	**128.15**	**345**	PFAKE			03 54 40.0	+16	
KEV				LR	LR				
	comp=Z,11µm,22.0s								
KEV	**Kevo**	**128.15**	**345**	*e*p	**PKPdf**		**03 54 21.9**	**-2.3**	
	comp=Z,8.9nm,0.7s								
KEV	**Kevo**	**128.15**	**345**	*e*p	SKPbc		03 57 51.4		
KEV	**Kevo**	**128.15**	**345**	*e*p	**PKPdf**		**03 54 21.9**	**-2.3**	
	comp=Z,8.9nm,0.7s								
KEV	**Kevo**	**128.15**	**345**	*e*p	SKPbc		03 57 51.4		
SFJD	**Kangerlussuaq**	**128.50**	**19**	*i* PKIKP	**PKPdf**		**03 54 24.1**	**-0.8**	
SFJD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SFJD	**Kangerlussuaq**	**128.50**	**19**	PFAKE			03 54 40.0	+15	
SFJD				LR	LR				
	comp=Z,19µm,20.0s								
SFJD	**Kangerlussuaq**	**128.50**	**19**	*i* P	**PKPdf**		**03 54 24.1**	**-0.8**	
	comp=Z,10nm,0.8s								
ARCES	**ARCESS Array B**	**128.67**	**345**	PKP	**PKPdf**		**03 54 24.3**	**-0.9**	
	comp=Z,15nm,0.7s,baz=104,slow=2.0,SNR=24								
ARCES	**ARCESS Array B**	**128.67**	**345**	PKIKP	**PKPdf**		**03 54 24.3**	**-0.9**	
ARCES	**ARCESS Array B**	**128.67**	**345**	PKP	**PKPdf**		**03 54 24.3**	**-0.9**	
GRGR	**Grenville**	**128.94**	**92**	PFAKE			03 54 40.0	+13	
GRGR				LR	LR				
	comp=Z,4µm,20.0s								
KMBO	**Kilima Mbogo**	**129.14**	**249**	PFAKE			03 54 40.0	+12	
KMBO				LR	LR				
	comp=Z,10µm,20.0s								
MAK	**Makhachkala**	**129.28**	**308**	*d*PKIKP	**PKPdf**		**03 54 28.9**	**+1.8**	
MAK				*i*			03 56 40.5		
MAK				*e*PPP	PPP		03 59 24.8		
MAK				*e*			04 01 36.9		
MAK				*e*PS	**PS**		**04 06 44.6**	**-1.3**	
MAK				*e*SS	SS		04 13 56.0	-0.9	
MAK				*e*SSS	SSS		04 18 42.1		
MAK				pmax	pmax				
	comp=Z,169nm,1.6s								
KTK1	**Kautokeino**	**129.60**	**346**	AMS	AMS		04 43 16.5		
	comp=Z,16µm,26.7s								
TRO	**Tromso**	**130.03**	**348**	AMS	AMS		04 41 38.7		
	comp=Z,10µm,26.5s								
BBSR	**BB Station**	**130.13**	**66**	PFAKE			03 54 40.0	+11	
BBSR				LR	LR				
	comp=Z,4µm,20.0s								
FDF	**Fort de France**	**130.21**	**89**	PFAKE			03 54 40.0	+10	
FDF				LR	LR				
	comp=Z,3µm,20.0s								
ANWB	**Willy Bob**	**130.43**	**86**	PFAKE			03 54 40.0	+10	
ANWB				LR	LR				
	comp=Z,3µm,19.0s								
DGRG	**David-gareji**	**130.99**	**306**	P	**PKPdf**		**03 54 28.0**	**-2.5**	
DGRG				S	**SKiKP**		**03 58 01.4**	**-5.5**	
TSUM	**Tsumeb**	**131.02**	**214**	*e*PKPdf	**PKPdf**		**03 54 33.5**	**+2.1**	
TSUM				LR	LR				
	comp=Z,15µm,20.0s								
BBGH	**Gun Hill**	**131.20**	**92**	PFAKE			03 54 40.0	+8.4	
BBGH				LR	LR				
	comp=Z,6µm,19.0s								
JOF	**Joensuu**	**131.42**	**337**	*e*PKIKP	**PKPdf**		**03 54 28.5**	**-2.1**	
JOF				pmax	pmax				
	comp=Z,15nm,0.7s								
JOF	**Joensuu**	**131.42**	**337**	*e*p	**PKPdf**		**03 54 28.5**	**-2.1**	
	comp=Z,15nm,0.7s								
JOF	**Joensuu**	**131.42**	**337**	*e*p	**SKPbc**		**03 57 53.7**	**-1.4**	
JOF	**Joensuu**	**131.42**	**337**	*e*p	**PKPdf**		**03 54 28.5**	**-2.1**	
	comp=Z,15nm,0.7s								
JOF	**Joensuu**	**131.42**	**337**	*e*p	**SKPbc**		**03 57 53.7**	**-1.4**	
TBLG	**Delisi**	**131.44**	**306**	PKIKP	**PKPdf**		**03 54 32.3**	**+1.0**	
TBLG	**Delisi**	**131.44**	**306**	P	**PKPdf**		**03 54 32.3**	**+1.0**	
TBLG				S	**SKPab**		**03 57 58.5**	**+2.0**	
SCO	**Scoresbysund**	**131.46**	**6**	*i* PKIKP	**PKPdf**		**03 54 31.0**	**+0.6**	
SCO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SCO	**Scoresbysund**	**131.46**	**6**	*i* P	**PKPdf**		**03 54 31.0**	**+0.6**	
	comp=Z,9.0nm,0.8s								
GNI	**Garni**	**131.58**	**304**	PKP	**PKPdf**		**03 54 32.5**	**+0.7**	
	comp=Z,12nm,0.7s,baz=26,slow=7.9,SNR=9.1								
GNI	**Garni**	**131.58**	**304**	*e*P	**PKPdf**		**03 54 30.2**	**-1.6**	
GNI	**Garni**	**131.58**	**304**	⇑*i*PKIKP	**PKPdf**		**03 54 31.8**	**0.0**	
GNI	**Garni**	**131.58**	**304**	*e*PKPdf	**PKPdf**		**03 54 31.2**	**-0.6**	
GNI				PKP	**PKPdf**		**03 54 32.5**	**+0.7**	
GNI				LR	LR				
	comp=Z,6µm,19.0s								
VRHR	**Novokhopersk**	**131.72**	**319**	*e*PKIKP	**PKPdf**		**03 54 31.6**	**+0.1**	
VRHR				pmax	pmax				
	comp=N,5.0nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.8s								
VRHR				pmax	pmax				
	comp=E,3.0nm,0.4s								
ZEI	**Tsey**	**131.94**	**308**	*i* PKIKP	**PKPdf**		**03 54 34.1**	**+1.6**	
ZEI				pmax	pmax				
	comp=Z,44nm,2.0s								
BHD	**Baghdad**	**132.06**	**295**	*i* PKP	**PKPdf**		**03 54 30.0**	**-2.7**	
BHD				*i* PP	PP		03 56 30.0	-25	
BHD				*i* PKS	PKSdf		03 57 54.0	-15	
BHD				*i* PPP	PPP		03 59 51.0		
BHD				*e*SKS	SKSdf		04 01 23.0	-21	
BHD				*e*SKKKS			04 05 05.0		
BHD				*e*PS	PS		04 06 46.0	-24	
ONI	**Oni**	**132.29**	**308**	P	**PKPdf**		**03 54 32.7**	**-0.2**	
ONI				S	**SKPab**		**03 58 02.0**	**+1.9**	
CLDR	**Caldiran**	**132.29**	**303**	*e*P	**PKPdf**		**03 54 32.4**	**-0.9**	
MOS	**Moscow**	**132.33**	**326**	*e*PKIKP	**PKPdf**		**03 54 31.9**	**-0.6**	
MOS				*e*			03 56 58.0		
MOS				*e*PS	**PS**		**04 07 02.9**	**-8.8**	
AKH	**Akhalkalaki**	**132.40**	**306**	P	**PKPdf**		**03 54 34.1**	**+0.7**	
AKH				S	**SKPab**		**03 58 02.6**	**+1.8**	
DYDN	**Diyadin**	**132.44**	**304**	*i* P	**PKPdf**		**03 54 32.6**	**-1.0**	
HAKT	**HÁKKARI**	**132.55**	**301**	*i* P	**PKPdf**		**03 54 35.7**	**+1.8**	
DIGO	**Kars**	**132.60**	**305**	*i* P	**PKPdf**		**03 54 33.7**	**-0.2**	
KIV	**Kislovodsk**	**132.64**	**310**	*e*P	**Pdif**		**03 51 27.4**	**-1.7**	
KIV				*i*			03 54 34.0		
KIV				*e*			03 56 55.8		
KIV				*e*PPP	PPP		03 59 53.4		
KIV				*e*PS	**PS**		**04 07 13.9**	**-1.3**	
KIV				*e*SS	SS		04 14 35.3	-2.9	
KIV				*e*SSS	SSS		04 19 27.5		
KIV				pmax	pmax				
	comp=Z,16nm,0.9s								
KIV	**Kislovodsk**	**132.64**	**310**	PFAKE			03 54 50.0	+16	
KIV				LR	LR				
	comp=Z,5µm,19.0s								
CUKT	**Cukurca**	**132.65**	**300**	*e*P	**PKPdf**		**03 54 31.8**	**-2.1**	
VANB	**Van**	**132.74**	**302**	*e*P	**PKPdf**		**03 54 31.8**	**-2.2**	
KARS	**Kars**	**132.80**	**305**	*e*P	**PKPdf**		**03 54 31.0**	**-3.1**	
AGRB	**Hanur-Agry**	**132.97**	**304**	*e*P	**PKPdf**		**03 54 34.4**	**-0.1**	
OBN	**Obninsk**	**133.14**	**326**	‖*i*PKIKP	**PKPdf**		**03 54 34.0**	**0.0**	
OBN				*i*			03 57 03.3		
OBN				pmax	pmax				
	comp=Z,89nm,2.4s								
OBN	**Obninsk**	**133.14**	**326**	PFAKE			03 54 50.0	+16	
OBN				LR	LR				
	comp=Z,9µm,19.0s								
VSR	**Storozhevoye**	**133.16**	**320**	*e*PKIKP	**PKPdf**		**03 54 34.1**	**-0.1**	
VSR				pmax	pmax				
	comp=N,8.0n

NACGM **Naroch** 138.10 330 *e*PKHK PKPpre 03 54 26.0
NACGM **Naroch** 138.10 330 *e* **SKPbc** **03 58 16.0 -0.8**
PINB **Pinarbasi** 138.17 303 *i* P PKPdf 03 54 38.5 -5.8
ASF **Jabal al Asfar** 138.36 293 PKP **PKPdf** **03 54 45.5 +0.8**
comp=Z,9.6nm,0.8s,baz=326,slow=2.0,SNR=3.1
ASF **Jabal al Asfar** 138.36 293 PKIKP **PKPdf** **03 54 45.5 +0.8**
ASF **Jabal al Asfar** 138.36 293 PKP **PKPdf** **03 54 45.5 +0.8**
SIM **Simferopol'** 138.37 313*c* *i*PKIKP **PKPdf** **03 54 46.0 +1.9**
SIM *e* 03 57 34.0
SIM *e*PPS PPS 04 09 40.0
SIM pmax pmax
comp=Z,1µm,9.6s
ANDN **Andirin** 138.37 302 *i* P PKPdf 03 54 30.9 -14
DIKM **Dikmen** 138.45 308 *e*P **PKPdf** **03 54 40.5 -3.9**
BNN **Bunyan** 138.57 304 *e*P PKPdf 03 54 35.9 -9.0
COBT **Iskenderun** 138.58 300 *i* P **PKPdf** **03 54 46.0 +0.9**
KOZT **Kozan** 138.79 302 *e*P PKPdf 03 54 39.5 -5.7
CEYT **Ceyhan** 138.92 301 *e*P **PKPdf** **03 54 43.0 -2.4**
NB2 **NORSAR Subarra** 139.05 345 PKPdf PKPpre 03 54 35.9
comp=Z,7.7nm,1.1s,baz=39,slow=1.9
NOA **NORSAR Array B** 139.05 345 PKhKP PKPpre 03 54 36.4
comp=Z,2.5nm,0.7s,baz=31,slow=2.7,SNR=5.8
NOA SKPbc **SKPbc** **03 58 20.0 +0.6**
comp=Z,7.2nm,1.1s,baz=32,slow=2.6,SNR=3.4
NOA **NORSAR Array B** 139.05 345 PKHKP PKPpre 03 54 36.4
NOA **NORSAR Array B** 139.05 345 PKPpre PKPpre 03 54 36.4
NOA SKPbc **SKPbc** **03 58 20.0 +0.6**
AKASG **Malin Array Be** 139.11 323 PKhKP PKPpre 03 54 38.0
comp=Z,2.4nm,0.9s,baz=56,slow=2.3,SNR=6.0
AKASG PKP **PKPdf** **03 54 44.7 -0.6**
comp=Z,2.4nm,0.7s,baz=44,slow=4.1,SNR=5.1
AKASG SKPbc **SKiKP** **03 58 21.6 -1.5**
comp=Z,34nm,1.1s,baz=47,slow=3.3,SNR=17
AKASG **Malin Array Be** 139.11 323 PKHKP PKPpre 03 54 38.0
AKASG 03 54 44.7
AKASG **Malin Array Be** 139.11 323 PKPpre PKPpre 03 54 38.0
AKASG PKP **PKPdf** **03 54 44.7 -0.6**
AKASG SKPbc **SKiKP** **03 58 21.6 -1.5**
KIEV **Kiev** 139.12 323 *e*PKIKP **PKPdf** **03 54 42.5 -2.8**
KIEV MLR MLR
comp=Z,13µm,22.0s
KIEV **Kiev** 139.12 323 *e*PKPdf **PKPdf** **03 54 42.5 -2.8**
KIEV LR LR
comp=Z,13µm,22.0s
HFS **Hagfors** 139.20 343 PKhKP PKPpre 03 54 35.8
comp=Z,3.3nm,0.7s,baz=63,slow=4.0,SNR=5.4
HFS SKP 03 58 20.1
comp=Z,9.2nm,1.1s,baz=309,slow=6.9,SNR=3.2
HFS **Hagfors** 139.20 343 PKHKP PKPpre 03 54 35.8
HFS **Hagfors** 139.20 343 PKPpre PKPpre 03 54 35.8
HFS SKP 03 58 20.1
CORM **Corum** 139.24 306 *e*P PKPdf 03 54 36.4 -10
NC602 **NORSAR Array S** 139.24 345 *e*PP PP 03 57 44.8 +6.4
KRTS **Karatas** 139.28 300 *e*P **PKPdf** **03 54 41.8 -4.2**
BZK **Bozkurt** 139.29 309 *e*P PKPdf 03 54 37.9 -7.9
NAO01 **NORSAR Array S** 139.30 345 PFAKE 03 55 00.0 +15
NAO01 LR LR
comp=Z,11µm,20.0s
BHL **Bhannes** 139.32 296 *e*P PKPdf 03 54 41.1 -5.3
CDAG **Cicekdag** 139.55 305 *i* P PKPdf 03 54 35.9 -11
MMAI **Mount Meron Ar** 139.59 295 PKhKP PKPpre 03 54 41.9
comp=Z,6.7nm,1.0s,baz=64,slow=9.8,SNR=4.3
MMAI PKP **PKPdf** **03 54 48.0 +1.1**
comp=Z,7.8nm,1.1s,baz=246,slow=28,SNR=3.6
MMAI SKPbc **SKiKP** **03 58 24.4 -0.4**
comp=Z,12nm,1.1s,baz=264,slow=2.3,SNR=4.1
MMAI **Mount Meron Ar** 139.59 295 PKPpre PKPpre 03 54 41.9
MMAI PKP **PKPdf** **03 54 48.0 +1.1**
MMAI SKPbc **SKiKP** **03 58 24.4 -0.4**
GULE **Gulek** 139.65 301 *i* P PKPdf 03 54 41.0 -5.9
CANT **Cankiri** 139.90 307 *e*P PKPdf 03 54 39.5 -7.7
MERS **Mersin** 139.91 301 *e*P PKPdf 03 54 39.3 -8.0
EIL **Elat** 140.06 290 PKP **PKPdf** **03 54 45.7 -2.0**
comp=Z,17nm,1.0s,baz=93,slow=2.4,SNR=7.2
EIL **Elat** 140.06 290 PKP **PKPdf** **03 54 45.7 -2.0**
BR131 **Keskin Array S** 140.08 305 *e*PKPdf **PKPdf** **03 54 47.2 -0.4**
BR131 LR LR
comp=Z,3µm,19.0s
BRTR **Keskin Array B** 140.08 305 PKhKP PKPpre 03 54 41.6
comp=Z,1.7nm,1.0s,baz=128,slow=3.6,SNR=5.8
BRTR PKP **PKPdf** **03 54 47.3 -0.4**
comp=Z,2.7nm,0.9s,baz=153,slow=4.4,SNR=5.0
BRTR SKPbc **SKPbc** **03 58 23.1 0.0**
comp=Z,4.2nm,1.1s,baz=0.0,slow=2.2,SNR=4.0
BRTR **Keskin Array B** 140.08 305 PKIKP PKPpre 03 54 41.6
BRTR 03 54 47.3
BRTR **Keskin Array B** 140.08 305 PKPpre PKPpre 03 54 41.6
BRTR PKP **PKPdf** **03 54 47.3 -0.4**
BRTR SKPbc **SKPbc** **03 58 23.1 0.0**
KAMT **Kaman** 140.10 305 *e*P **PKPdf** **03 54 48.5 +0.9**
SUW **Suwalki** 140.31 330 *e*PKP **PKPdf** **03 54 48.3 +1.0**
SUW **Suwalki** 140.31 330 *e*PKIKP **PKPdf** **03 54 48.3 +1.0**
EREN **Erenkoy** 140.38 299 *e*P PKPdf 03 54 41.0 -7.1
SAFT **Safranbolu** 140.43 308 *e*P **PKPdf** **03 54 52.6 +4.6**
SULT **Sultanhani-AKS** 140.48 303 *e*P PKPdf 03 54 39.3 -9.0
BBAL **Bala** 140.51 305 *i* P PKPdf 03 54 40.6 -7.8
AFSR **Af`ar-Bala (A** 140.57 305 *e*P PKPdf 03 54 41.5 -7.0
KONO **Kongsberg** 140.66 345 *e*PP PP 03 57 49.0 +1.9
KONO AMS AMS 04 48 17.8
comp=Z,9µm,26.9s
KONO **Kongsberg** 140.66 345 PFAKE 03 55 00.0 +12
KONO LR LR
comp=Z,12µm,20.0s
LOD **Lodumlu** 140.70 306 *e*P PKPdf 03 54 41.0 -7.7
LFK **Lefkose** 140.93 299 *e*P PKPdf 03 54 43.5 -5.7
KIS **Kishinev** 141.05 318 *e*PKIKP **PKPdf** **03 54 52.0 +3.1**
KIS *e* 03 54 58.0
KIS *e* 04 10 12.0
KIS **Kishinev** 141.05 318 *e*PKP **PKPdf** **03 54 52.0 +3.1**
KIS LRM MLR 04 59 50.0
comp=Z,8µm,22.0s
CSS **Prodhromos** 141.13 298 *e*P PKPdf 03 54 39.2 -10
CSS **Prodhromos** 141.13 298 *e*PKPdf **PKPdf** **03 54 45.8 -3.7**
CSS LR LR
comp=Z,7µm,20.0s
ERMK **Ermenek** 141.23 301 *i* P PKPdf 03 54 42.9 -6.9
KDZE **Karadeniz Ereo** 141.31 309 *e*P PKPdf 03 54 43.5 -6.1
LADK **Ladik-KONYA** 141.37 303 *e*P PKPdf 03 54 41.0 -9.0
KONT **Konya--Tatoy** 141.43 303 *e*P PKPdf 03 54 39.3 -11
RCBR **Riachuelo** 141.44 134 PKhKP PKPpre 03 54 46.7
comp=Z,15nm,0.8s,baz=69,slow=3.3,SNR=8.7
RCBR **Riachuelo** 141.44 134 PKPpre PKPpre 03 54 46.7
RCBR LR LR
comp=Z,8µm,20.0s
LEF **Lefka** 141.47 298 *e*P PKPdf 03 54 43.5 -6.6
SHEL **Horse Pasture** 141.58 185 PFAKE 03 55 00.0 +9.1
SHEL LR LR
comp=Z,5µm,20.0s
KIZT **Kizilcal** 141.60 305 *e*P **PKPdf** **03 54 50.2 -0.2**
MDUB **Mudurnu** 141.72 307 *e*P PKPdf 03 54 41.8 -8.7
SVRH **Sivrihisar-ESK** 141.74 306 *e*P **PKPdf** **03 54 45.5 -5.0**
GULT **Gulveren** 142.23 307 *e*P **PKPdf** **03 54 46.5 -4.9**
CFR **Carcaliu** 142.24 316 ⇑PKIKP **PKPdf** **03 54 51.1 0.0**
CFR **Carcaliu** 142.24 316 ⇑*i*P **PKPdf** **03 54 51.1 0.0**
CFR **Carcaliu** 142.24 316 ⇓*i*P **SKPbc** **03 58 31.1 +2.9**
SPNC **Sapanca-Adapaz** 142.31 308 *e*P **PKPdf** **03 54 47.0 -4.4**
TIRR **Tirgusor** 142.35 315 ⇓PKIKP **PKPdf** **03 54 54.2 +2.9**
TIRR **Tirgusor** 142.35 315 *e*PKPdf **PKPdf** **03 54 50.9 -0.4**
TIRR **Tirgusor** 142.35 315 ⇓*i*P **PKPdf** **03 54 54.2 +2.9**
LVV **L'vov** 142.41 325 *e*PKIKP **PKPdf** **03 54 48.4 -2.9**
LVV *e* 03 57 55.6
LVV MLR MLR
comp=N,8µm,21.0s
LVV MLR MLR
comp=E,6µm,21.0s
LVV MLR MLR
comp=Z,11µm,21.0s
TESR 142.60 318 ⇑*i*P **PKPdf** **03 54 51.9 +0.1**
SILT **Sile** 142.66 309 *e*P **PKPdf** **03 54 46.8 -5.2**
SHUT **Suhut-Afyon** 142.69 304 *e*P **PKPdf** **03 54 47.7 -4.7**
HRT **Hereke** 142.74 308 *e*P PKPdf 03 54 47.0 -5.2
CAVI **Cavuskoy** 142.79 307 *e*P PKPdf 03 54 46.0 -6.3
ADVT **Abdulvahap** 142.80 308 *e*P PKPdf 03 54 46.5 -5.8
VRI **Vrincioaia** 142.84 317 ⇑PKIKP **PKPdf** **03 54 49.4 -2.8**
VRI **Vrincioaia** 142.84 317 ⇑*i*P **PKPdf** **03 54 49.4 -2.8**
ALT **Altintas** 142.90 305 *e*P PKPdf 03 54 47.0 -5.6
PLOR **Plostina** 142.90 317 ⇑PKIKP **PKPdf** **03 54 49.8 -2.6**
PLOR **Plostina** 142.90 317 ⇑*i*P **PKPdf** **03 54 49.8 -2.6**
BCK **Bucak** 142.90 303 *e*P PKPdf 03 54 44.5 -8.2
BUR08 **Bucovina Ar. S** 142.92 321 *e*PKPdf **PKPdf** **03 54 51.7 -0.7**
BURAR **Bucovina Array** 142.92 321 ⇓*i*P **PKPdf** **03 54 52.1 -0.3**
BURAR **Bucovina Array** 142.92 321 ⇓*i*P **SKPbc** **03 58 34.0 +4.0**
ANTB **Antalya** 142.96 302 *e*P PKPdf 03 54 46.0 -6.7

YLV **Yalova** 143.03 308 *e*P PKPab 03 54 46.0 -2.0
KLYT **Kilyos** 143.06 309 *e*P PKPab 03 54 45.1 -2.9
ISK **Istanbul-Kandi** 143.10 309 *e*P PKPab 03 54 46.8 -1.4
KORT **Korkueli** 143.18 302 *i* P **PKPdf** **03 54 49.2 -4.1**
GEMT **Gemlik** 143.20 308 *e*P PKPab 03 54 48.0 -0.6
KWP **Kalwaria Pacla** 143.22 325 *e*PKP **PKPdf** **03 54 52.9 +0.1**
KWP **Kalwaria Pacla** 143.22 325 *e*PKIKP **PKPdf** **03 54 52.9 +0.1**
KWP **Kalwaria Pacla** 143.22 325 PFAKE 03 55 00.0 +7.2
KWP LR LR
comp=Z,14µm,21.0s
BGKT **Bogazkoy** 143.27 309 *e*P PKPab 03 54 48.0 -0.8
GDZ **Gediz** 143.36 306 *i* P PKPab 03 54 48.4 -1.1
GKP **Gorka Klasztor** 143.40 334 *e*PKP PKPbc 03 54 50.7 +0.7
GKP **Gorka Klasztor** 143.40 334 *e*PKIKP PKPbc 03 54 50.7 +0.6
MDNY **Mudanya-Bursa** 143.44 308 *e*P PKPab 03 54 49.3 -0.3
CTKS **Kestanelik-??a** 143.44 310 *e*P PKPab 03 54 46.0 -3.5
MLR **Muntele Rosu** 143.50 317 PKP PKPbc 03 54 51.0 +0.2
comp=Z,6.1nm,1.2s,baz=42,slow=3.4,SNR=10
MLR SKPbc **SKiKP** **03 58 33.5 +0.9**
comp=Z,5.1nm,1.1s,baz=27,slow=5.7,SNR=3.4
MLR **Muntele Rosu** 143.50 317 ⇓PKIKP PKPbc 03 54 51.4 +0.6
MLR **Muntele Rosu** 143.50 317 PKP PKPbc 03 54 51.0 +0.2
MLR SKPbc **SKiKP** **03 58 33.5 +0.9**
MLR **Muntele Rosu** 143.50 317 ⇓*i*P PKPbc 03 54 51.4 +0.6
MLR **Muntele Rosu** 143.50 317 ⇓*i*P **SKPbc** **03 58 33.8 +2.3**
CTYL **Yal??k??y-??at** 143.52 310 *e*P PKPab 03 54 47.5 -2.3
KHL **Karahalli** 143.52 304 *e*P **PKPdf** **03 54 50.6 -3.1**
ELBA **Canakca** 143.53 309 *i* P PKPab 03 54 49.8 -0.1
KHAL **Karahalli** 143.54 305 *i* P **PKPdf** **03 54 49.8 -4.0**
ELL **Elmali** 143.58 302 *e*P **PKPdf** **03 54 49.5 -4.4**
MUD **Monsted U'grnd** 143.59 343 *e*PKIKP **PKPdf** **03 54 52.8 -0.3**
MUD pmax pmax
comp=Z,14nm,1.1s
MUD **Monsted U'grnd** 143.59 343 *i* P **PKPdf** **03 54 52.8 -0.3**
comp=Z,14nm,1.1s
DOPR **Dopca** 143.63 318 ⇓*i*P **PKPdf** **03 54 53.5 -0.1**
SLVT **Silivri** 143.66 310 *e*P PKPbc 03 54 51.5 +0.3
KCTX **Karacabey (Bur** 143.86 308 *e*P PKPab 03 54 50.2 -1.1
KOLS **Kolonicke sedl** 143.86 324 *e*PKIKP **PKPdf** **03 54 54.3 +0.4**
KOLS **Kolonicke sedl** 143.86 324 *e*PKP **PKPdf** **03 54 54.3 +0.4**
BMR **Baia Mare** 143.89 322 ⇓PKIKP **PKPdf** **03 54 52.9 -1.1**
BMR **Baia Mare** 143.89 322 ⇓*i*P **PKPdf** **03 54 52.9 -1.1**
AKAS **Kas** 143.92 301 *i* P PKPdf 03 54 47.7 -6.9
DEMI **Demirci** 143.95 306 *i* P PKPbc 03 54 52.6 +0.3
DURS **Dursunbey** 143.97 307 *i* P PKPbc 03 54 52.6 +0.3
UZH **Uzhgorod** 144.02 324 *i* PKIKP PKPbc 03 54 53.0 +0.9
UZH *e* 03 58 05.0
CRLT **Corlu** 144.03 310 *e*P **PKPab** **03 54 49.3 -2.5**
DNZL **Cakiroluk** 144.04 304 *i* P **PKPdf** **03 54 52.6 -2.2**
VOIR 144.09 318 ⇑PKIKP PKPbc 03 54 53.0 +0.5
VOIR 144.09 318 ⇑*i*P PKPbc 03 54 53.0 +0.5
VOIR 144.09 318 ⇑*i*P **SKPbc** **03 58 36.0 +3.2**
STHS **Stebnicka Huta** 144.12 326 *e*PKIKP **PKPdf** **03 54 53.7 -0.7**
STHS **Stebnicka Huta** 144.12 326 *e*PKP **PKPdf** **03 54 53.7 -0.7**
KULA **Kula-Manisa** 144.13 305 *e*P **PKPab** **03 54 48.0 -4.4**
BNT **Bandirma** 144.15 308 *e*P **PKPab** **03 54 51.7 -0.6**
MDB **Medias** 144.16 319 PKIKP **PKPdf** **03 54 54.5 0.0**
TRPA **Tarpa** 144.17 323 ⇓*i*P **PKPab** **03 54 51.9 -0.2**
TRPA **Tarpa** 144.17 323⇑*e* **PKPab** **03 54 51.4 -0.7**
EDC **Edincik** 144.19 308 *e*P **PKPab** **03 54 49.3 -3.2**
TKR **Tekirdag** 144.22 310 *e*P **PKPab** **03 54 50.2 -2.4**
FETY **Fethiye** 144.25 302 *e*P **PKPdf** **03 54 50.5 -4.5**
CRVS **Cervenica-Dubn** 144.31 325 *e*PKIKP **PKPdf** **03 54 54.5 -0.2**
CRVS **Cervenica-Dubn** 144.31 325 *e*PKP **PKPdf** **03 54 54.5 -0.2**
OJC **Ojcow** 144.34 328 *e*PKPdf PKPbc 03 54 53.0 0.0
OJC *es*PKPdf sPKPdf 03 55 18.0 +16
OJC *e*SS **SS** **04 16 54.5 -0.5**
OJC L L 05 03 57.6
comp=Z,8.9nm,20.8s
OJC **Ojcow** 144.34 328 *e*PKIKP PKPbc 03 54 53.0 0.0
OJC *e*SS SS 04 16 54.5 -0.5
JMB **Yambol** 144.35 312 PKIKP **PKPdf** **03 54 54.5 -0.4**
JMB **Yambol** 144.35 312 P **PKPdf** **03 54 54.5 -0.4**
JMB **Yambol** 144.35 312 P **PKPdf** **03 54 54.5 -0.4**
BALB **Balikesir** 144.40 307 *e*P **PKPab** **03 54 50.2 -3.1**
GONE **Gonen-Balikesi** 144.41 308 *e*P **PKPab** **03 54 50.2 -3.1**
EDRB **Edirne** 144.47 311 *e*P **PKPab** **03 54 52.1 -1.4**
BALY **Balya** 144.56 307 *i* P **PKPab** **03 54 53.4 -0.5**
RKY **Sarkoy-Tekirda** 144.57 309 *e*P **PKPab** **03 54 53.5 -0.5**
KRBG **Karabiga-Canak** 144.59 309 *e*P **PKPab** **03 54 52.7 -1.3**
NIE **Niedzica** 144.59 326 *e*PKPdf PKPbc 03 54 54.0 +0.1
NIE **Niedzica** 144.59 326 *e*PKIKP PKPbc 03 54 54.0 +0.1
AKHS **Akhisar** 144.67 306 *i* P PKPbc 03 54 54.4 0.0
AKS **Akhisar** 144.67 306 *e*P **PKPab** **03 54 54.1 -0.2**
ZIMR 144.68 315 ⇓PKIKP **PKPdf** **03 54 56.2 +0.7**
ZIMR 144.68 315 ⇓*i*P **PKPdf** **03 54 56.2 +0.7**
MCD **Coleburn Disti** 144.76 355 *e*P **PKPab** **03 54 51.8 -2.2**
MCD **Coleburn Disti** 144.76 355 P **PKPab** **03 54 51.8 -2.2**
YER **Yerkesik** 144.76 303 *e*P **PKPab** **03 54 51.8 -3.0**
LOT **Lotru** 144.87 318 ⇓*i*P PKPbc 03 54 55.1 +0.1
PVL **Pavlikeni** 144.89 317 *i* P **PKPdf** **03 54 56.7 +0.9**
AYDN **Tasoluk** 144.95 304 *i* P **PKPab** **03 54 55.4 0.0**
LPK **Lapseki** 144.98 309 *e*P **PKPab** **03 54 52.7 -2.7**
MDO **Dochfour** 144.99 356 *e*P **PKPab** **03 54 52.6 -2.3**
MDO **Dochfour** 144.99 356 P **PKPab** **03 54 52.6 -2.3**
KAC **Achnashellach** 144.99 356 *e*P **PKPab** **03 54 53.8 -1.1**
KAC **Achnashellach** 144.99 356 P **PKPab** **03 54 53.8 -1.1**
MME1 **Meikle Cairn** 145.00 354 *e*P **PKPbc** **03 54 52.5 -2.5**
MME1 **Meikle Cairn** 145.00 354 P **PKPbc** **03 54 52.5 -2.5**
ERIK **Erikli-Kesan** 145.06 309 *e*P **PKPbc** **03 54 53.5 -2.1**
ARG **Arkhangelos** 145.10 301 *e*P **PKPbc** **03 54 55.9 0.0**
KPL **Plockton** 145.17 357 *e*P **PKPbc** **03 54 53.8 -1.6**
KPL **Plockton** 145.17 357 P **PKPbc** **03 54 53.8 -1.6**
GELI **Tayfur-Gelibol** 145.18 309 *e*P **PKPbc** **03 54 55.1 -1.0**
RAC **Raciborz** 145.21 329 *e*PKIKP **PKPdf** **03 54 56.1 -0.1**
IZM **Izmir** 145.22 305 *e*P **PKPbc** **03 54 55.1 -1.2**
ENEZ **Enez** 145.29 310 *e*P **PKPbc** **03 54 53.6 -2.8**
ALN **Alexandroupoli** 145.31 310 PKP2 **PKPbc** **03 54 54.2 -2.2**
ALN **Alexandroupoli** 145.31 310 P **PKPbc** **03 54 54.2 -2.2**
ALN **Alexandroupoli** 145.31 310 P **PKPbc** **03 54 54.2 -2.2**
ALN **Alexandroupoli** 145.31 310 *e*P **PKPbc** **03 54 56.0 -0.4**
RUE **Ruedersdorf** 145.38 335 *e*PKPdf **PKPbc** **03 54 56.0 -0.3**
BLCB **Balcova** 145.39 305 *e*P **PKPbc** **03 54 56.3 -0.5**
CRAR **CRAIOVA** 145.39 317 PKIKP **PKPab** **03 54 57.9 +1.1**
OKC **Ostrava-Krasne** 145.40 329 *e*PKIKP **PKPbc** **03 54 56.4 0.0**
OKC MLR MLR
comp=Z,8µm,22.7s
OKC **Ostrava-Krasne** 145.40 329 *e*PKP **PKPbc** **03 54 56.4 0.0**
OKC AMS AMS 05 01 30.0
comp=Z,8µm,22.7s
BSEG **Bad Segeberg** 145.42 340 *e*PKPbc **PKPbc** **03 54 56.1 -0.2**
comp=Z,1µm,1.4s
BSEG *e*L L 04 57 20.2
comp=Z,15µm,21.9s
BSEG **Bad Segeberg** 145.42 340 *e*PKIKP **PKPbc** **03 54 56.1 -0.2**
BSEG pmax pmax
comp=Z,1µm,1.4s
BSEG MLR MLR
comp=Z,15µm,21.9s
GCAM **G?zelcami?** 145.43 304 *i* P **PKPab** **03 54 57.4 +0.3**
BDRM **Kayabasi** 145.43 303 *i* P **PKPbc** **03 54 56.3 -0.6**
KDZ **Kurdzhali** 145.47 312 *i* P **PKPab** **03 54 57.1 -0.1**
EZN **Ezine** 145.47 308 *e*P **PKPab** **03 54 55.2 -1.8**
GZR **Gura Zlata** 145.50 319 ⇓PKIKP **PKPdf** **03 54 56.9 0.0**
GZR **Gura Zlata** 145.50 319 ⇓*i*P **PKPdf** **03 54 56.9 0.0**
GZR **Gura Zlata** 145.50 319 ⇓*i*P **SKPbc** **03 58 38.0 +1.9**
BODT **Bodrum** 145.54 303 *e*P **PKPdf** **03 54 56.9 -0.3**
KSP **Ksiaz** 145.56 331 *e*PKP **PKPdf** **03 54 56.4 -0.4**
KSP **Ksiaz** 145.56 331 *e*PKP2 **PKPdf** **03 54 56.2 -0.6**
KSP *e* 03 58 19.0
KSP *e*SS SS 04 17 12.0 +3.3
KSP MLR MLR
comp=Z,27µm,22.4s
BOZC **Bozcaada** 145.67 308 *i* P **PKPab** **03 54 58.0 +0.1**
PRK **Paraskevi** 145.70 307 *e*P **PKPdf** **03 54 57.4 0.0**
MORC **Moravsky Berou** 145.73 329 ⇓PKP2 **PKPdf** **03 54 56.1 -1.1**
MORC **Moravsky Berou** 145.73 329 *e*PKPdf **PKPdf** **03 54 57.0 -0.2**
MORC **Moravsky Berou** 145.73 329 ⇓*i*P **PKPdf** **03 54 56.1 -1.1**
MORC **Moravsky Berou** 145.73 329 ⇓*i*P **SKPbc** **03 58 38.2 +1.8**
SMG **Samos** 145.73 304 *e*P **PKPdf** **03 54 56.9 -0.6**
PSZ **Piszkesteto** 145.74 325 *e*PKP2 **PKPdf** **03 54 57.3 0.0**
PSZ MLR MLR
comp=Z,14µm,20.0s
PSZ **Piszkesteto** 145.74 325 *e*PKPdf **PKPdf** **03 54 57.2 0.0**
PSZ LR LR
comp=Z,14µm,20.0s
PSZ **Piszkesteto** 145.74 325⇑*e* **PKPdf** **03 54 57.3 0.0**
NIS1 **Nisyros Isl.** 145.75 302 P **PKPdf** **03 54 56.5 -1.1**
NIS1 **Nisyros Isl.** 145.75 302 P **PKPdf** **03 54 56.5 -1.1**
PLD **Plovdiv** 145.78 313 PKP2 **PKPbc** **03 54 57.7 -0.2**
PLD **Plovdiv** 145.78 313 P **PKPbc** **03 54 57.7 -0.2**
PLD **Plovdiv** 145.78 313 P **PKPbc** **03 54 57.7 -0.2**
KRLC **Kraliky** 145.88 330 *e*PKP **PKPab** **03 54 58.3 -0.2**
DPC **Dobruska-Polom** 145.90 331 *e*PKP2 **PKPdf** **03 54 57.5 +0.1**
DPC *e* 04 10 56.4
DPC MLR MLR
comp=Z,13µm,23.0s
DPC **Dobruska-Polom** 145.90 331 *e*PKP **PKPdf** **03 54 57.5 +0.1**
DPC *ex* x 04 10 56.4
DPC AMS AMS 05 01 20.0
comp=Z,13µm,23.0s
UPC **Upice** 145.92 331 *e*PKP2 **PKPbc** **03 54 57.9 -0.2**
UPC **Upice** 145.92 331 *e*PKP **PKPbc** **03 54 57.9 -0.2**
VYHS **Vyhne** 145.93 326 *e*PKP2 **PKPdf** **03 54 56.8 -0.7**
VYHS **Vyhne** 145.93 326 *e*PKP **PKPdf** **03 54 56.8 -0.7**
KARP **Karpathos** 146.01 301 *e*P PKPdf 03 54 47.7 -10
BZS **Buzias** 146.08 320 ⇓PKP2 **PKPbc** **03 54 58.4 -0.3**
BZS **Buzias** 146.08 320 ⇓*i*P **PKPbc** **03 54 58.3 -0.4**
BZS **Buzias** 146.08 320 ⇓*i*P **SKPbc** **03 58 39.6 +2.3**
CHOS **Chios island** 146.13 306 P **PKPdf** **03 54 58.5 +0.3**
CHOS **Chios island** 146.13 306 *e*P **PKPdf** **03 54 58.0 -0.2**
EAB **Aberfoyle** 146.24 355 *e*P **PKPdf** **03 54 57.3 -0.4**
EAB **Aberfoyle** 146.24 355 P **PKPdf** **03 54 57.3 -0.4**
ESY **Stoneypath** 146.35 353 *e*P **PKPdf** **03 54 57.8 -0.2**
ESY **Stoneypath** 146.35 353 P **PKPdf** **03 54 57.8 -0.2**
KAVA **Kavala** 146.35 311 P **PKPbc** **03 54 59.4 -0.2**
KAVA **Kavala** 146.35 311 P **PKPbc** **03 54 59.4 -0.2**
EDI **Edinburgh** 146.40 354 *e*P **PKPdf** **03 54 56.8 -1.2**
EDI **Edinburgh** 146.40 354 P **PKPdf** **03 54 56.8 -1.2**
BUD **Budapest** 146.47 325⇑*e* **PKPdf** **03 54 58.8 +0.4**
EAU **Auchinoon** 146.50 354 *e*P **PKPdf** **03 54 57.9 -0.3**
EAU **Auchinoon** 146.50 354 P **PKPdf** **03 54 57.9 -0.3**
VRAC **Vranov** 146.50 329 PKPbc **PKPbc** **03 54 59.5 -0.3**
comp=Z,26nm,0.7s,baz=60,slow=2.8,SNR=35
VRAC **Vranov** 146.50 329 ⇓PKP2 **PKPbc** **03 55 00.1 +0.2**
VRAC **Vranov** 146.50 329 PKPbc **PKPbc** **03 54 59.5 -0.3**
VRAC **Vranov** 146.50 329 ⇓*i*P **PKPbc** **03 55 00.1 +0.2**
EBL **Broad Law** 146.53 354 *e*P **PKPdf** **03 54 58.3 0.0**
EBL **Broad Law** 146.53 354 P **PKPdf** **03 54 58.3 0.0**
PVCC **Panska Ves** 146.54 332 *e*PKP2 **PKPbc** **03 54 59.7 -0.2**
PVCC *e* 03 58 24.4
PVCC MLR MLR
comp=Z,8µm,21.4s
PVCC **Panska Ves** 146.54 332 *e*PKP **PKPbc** **03 54 59.7 -0.2**
PVCC *e*PP **PP** **03 58 24.4 +1.7**
PVCC AMS AMS 04 58 30.0
comp=Z,8µm,21.4s
BRG **Berggiesshubel** 146.55 333 *i* PKP **PKPdf** **03 54 58.8 +0.3**
comp=Z,95nm,1.2s
BRG *i* 03 55 03.9
comp=Z,184nm,1.4s
BRG *e*PP PP 03 58 30.0 +7.3
comp=Z,23nm,1.6s
BRG *i* PKS **PKSdf** **03 58 37.4 +3.8**
comp=Z,26nm,1.3s
BRG **Berggiesshubel** 146.55 333 *e*PKPbc **PKPdf** **03 54 58.9 +0.5**
comp=Z,502nm,2.0s
BRG *e*L L 05 00 17.5
comp=Z,9µm,21.4s
BRG **Berggiesshubel** 146.55 333 *i* PKP2 **PKPdf** **03 54 58.8 +0.3**
BRG *e* 03 58 30.0
BRG pmax pmax
comp=Z,95nm,1.2s
BRG pmax pmax
comp=Z,184nm,1.4s
BRG pmax pmax
comp=Z,23nm,1.6s
BRG pmax pmax
comp=Z,26nm,1.3s
BRG **Berggiesshubel** 146.55 333 SS SS 04 17 33.0 +13
VTS **Vitosha** 146.57 314 ⇓PKP2 **PKPbc** **03 55 00.4 -0.1**
VTS **Vitosha** 146.57 314 P **PKPdf** **03 54 59.7 +0.7**
VTS **Vitosha** 146.57 314 P **PKPdf** **03 54 59.7 +0.7**
VTS **Vitosha** 146.57 314 ⇓*i*P **PKPbc** **03 55 00.4 -0.1**
VTS **Vitosha** 146.57 314 *i* P **PKPbc** **03 55 00.8 +0.3**
CLL **Collm** 146.59 335 *e*PKPbc **PKPbc** **03 54 59.7 -0.3**
comp=Z,166nm,1.2s
CLL *e*L L 05 00 41.2
comp=Z,9µm,21.3s
CLL **Collm** 146.59 335 *i* PKP2 **PKPbc** **03 55 00.0 0.0**
CLL *e* 03 58 21.0
CLL pmax pmax
comp=Z,138nm,0.9s
CLL MLR MLR
comp=Z,9µm,21.3s
CLL **Collm** 146.59 335 *i* PKPbc **PKPbc** **03 55 00.0 0.0**
comp=Z,59nm,1.1s
CLL *e*PKPlp **PKPab** **03 55 02.0 +0.9**
comp=Z,10nm,18.2s
CLL *i* PKiKP **PKiKP** **03 55 03.8 +0.9**
comp=Z,138nm,0.9s
CLL *e*PP **PP** **03 58 21.0 -2.0**
comp=Z,4µm,18.2s
CLL *e*PKSbc **PKSbc** **03 58 40.0 +0.1**
CLL *e*PPP 04 01 41.0
CLL *e*SKSdf SKSdf 04 01 59.0 -7.6
CLL *e*SKKSac **SKKSac** **04 05 13.0 -1.6**
CLL *e*PSKS 04 08 42.0
CLL *e*PPS PPS 04 11 06.0
CLL *e*PPPPrev 04 12 30.0
CLL *e*SS SS 04 17 42.0 +22
CLL *e* 04 19 31.0
CLL *e*SSS SSS 04 22 42.0
CLL *e*SSSS 04 27 06.0
CLL Lm MLR 05 00 00.0
comp=Z,9µm,21.3s
PGBU **Glenifferbraes** 146.62 355 *e*P **PKPdf** **03 54 58.4 0.0**
PGBU **Glenifferbraes** 146.62 355 P **PKPdf** **03 54 58.4 0.0**
SMOL **Smolenice** 146.63 327 *e*PKP2 **PKPbc** **03 55 00.5 +0.2**
SMOL **Smolenice** 146.63 327 *e*PKP **PKPbc** **03 55 00.5 +0.2**
MMB **Musomiste** 146.65 312 *i* P **PKPbc** **03 55 00.5 -0.1**
NVR **Nevrokopi** 146.66 312 *e*P **PKPbc** **03 55 00.1 -0.6**
NRDL **Niedersach Rie** 146.70 339 *e*PKPbc **PKPbc** **03 55 00.0 -0.2**
comp=Z,726nm,2.5s
NRDL *e*L L 04 59 26.5
comp=Z,13µm,21.1s
ZKR **Zakros** 146.85 300 P **PKPab** **03 55 02.4 -0.3**
ZKR **Zakros** 146.85 300 P **PKPab** **03 55 02.4 -0.3**
PKSG 146.86 325 *e* **PKPbc** **03 55 00.7 -0.2**
APE **Apeiranth

PLG Polygyros 147.34 311 eP PKPbc 03 55 02.2 -0.4
XAL Allendale 147.34 353 eP PKPdf 03 54 57.9 -1.7
XAL Allendale 147.34 353 P PKPdf 03 54 57.9 -1.7
PAIG Paliouri 147.34 310 PKP2 PKPdf 03 55 01.2 +1.1
PAIG Paliouri 147.34 310 P PKPdf 03 55 01.2 +1.1
PAIG Paliouri 147.34 310 P PKPdf 03 55 01.2 +1.1
KNT Kendrikon 147.40 312 PKP2 PKPdf 03 55 01.4 +1.2
KNT Kendrikon 147.40 312 P PKPdf 03 55 01.4 +1.2
KNT Kendrikon 147.40 312 P PKPdf 03 55 01.4 +1.2
PKS9 Tamasi 147.42 324 e PKPbc 03 55 02.3 -0.2
PKSM Moragy 147.45 323 ||PKP2 PKPdf 03 55 00.7 +0.6
PKSM Moragy 147.45 323 ||iP PKPdf 03 55 00.7 +0.6
PKSM Moragy 147.45 323 ||iP SKPbc 03 58 42.7 +2.4
PKSM Moragy 147.45 323 ||e PKPab 03 55 05.0 +0.4
AOS Alonnisos 147.48 308 P PKPbc 03 55 01.9 -1.0
AOS Alonnisos 147.48 308 P PKPbc 03 55 01.9 -1.0
VAY Valandovo 147.55 313 i PKP PKPdf 03 54 58.8 -1.6
IBBN Ibbenburen 147.61 341 ePKPbc PKPbc 03 55 02.3 -0.5
comp=Z,190nm,1.0s
IBBN eL L 05 02 46.7
comp=Z,9μm,20.7s
SOP Sopron 147.62 327||e PKPab 03 55 05.1 -0.1
NKC Novy Kostel 147.65 334 ePKP2 PKPbc 03 55 02.9 -0.2
NKC e 03 58 35.0
NKC MLR MLR
comp=Z,10μm,24.3s
NKC Novy Kostel 147.65 334 ePKP PKPbc 03 55 02.9 -0.2
NKC ePP PP 03 58 35.0 +5.8
NKC AMS AMS 05 00 10.0
comp=Z,10μm,24.3s
MOX Moxa 147.66 335 ePKPbc PKPbc 03 55 02.3 -0.8
comp=Z,78nm,1.0s
MOX eL L 05 01 19.7
comp=Z,9μm,21.1s
MOX Moxa 147.66 335 ePKP2 PKPbc 03 55 02.3 -0.8
MOX pmax pmax
comp=Z,78nm,1.0s
MOX MLR MLR
comp=Z,9μm,21.1s
KESW Keswick, Cumbr 147.71 354 eP PKPdf 03 55 00.9 +0.6
KESW Keswick, Cumbr 147.71 354 P PKPdf 03 55 00.9 +0.6
SKIA Skiathos 147.78 308 P PKPbc 03 55 02.4 -1.4
ERET Eretria 147.78 307 P PKPbc 03 55 02.5 -1.4
CONA Conrad Observa 147.80 328⇑iP PKPdf 03 55 00.6 -0.2
CONA Conrad Observa 147.80 328⇑iPKPdf PKPdf 03 55 00.6 -0.2
comp=Z,112nm,1.4s,SNR=13
GRG Griva 147.82 312 PKP2 PKPbc 03 55 02.9 -1.0
GRG Griva 147.82 312 P PKPbc 03 55 02.9 -1.0
GRG Griva 147.82 312 P PKPbc 03 55 02.9 -1.0
MRKA Markates 147.85 308 P PKPbc 03 55 03.9 -0.1
XOR Xorichti 147.90 309 P PKPdf 03 55 02.5 +1.4
XOR Xorichti 147.90 309 P PKPdf 03 55 02.5 +1.4
SIVA Sivas 148.00 300 P PKPbc 03 55 04.7 +0.2
SIVA Sivas 148.00 300 P PKPbc 03 55 04.7 +0.2
KHC Kasperske Hory 148.01 332 ePKIKP PKPdf 03 55 00.5 -0.5
KHC e 03 55 04.0
KHC e 03 55 10.0
KHC e 03 58 30.8
KHC MLR MLR
comp=Z,11μm,24.7s
KHC Kasperske Hory 148.01 332 ePKPdf PKPdf 03 55 00.7 -0.3
KHC Kasperske Hory 148.01 332 ePKP PKPdf 03 55 00.5 -0.5
KHC epPKP PKPbc 03 55 04.0 -0.1
KHC ex x 03 55 10.0
KHC ePP PP 03 58 30.8 -0.6
KHC ex x 04 08 37.3
KHC AMS AMS 05 00 40.0
comp=Z,11μm,24.7s
SKO Skopje 148.02 314 i PKP PKPbc 03 55 05.4 +1.1
FYTO Fytoko, Volos 148.07 309 P PKPab 03 55 13.5 +6.2
SMIA Simia 148.07 308 P PKPbc 03 55 03.5 -1.1
ROTZ Rotzenmuhle 148.11 334 ePKPbc PKPbc 03 55 04.0 -0.3
comp=Z,392nm,1.7s
ROTZ eL L 05 01 30.3
comp=Z,9μm,21.9s
LIT Litokhoron 148.12 311 PKP2 PKPbc 03 55 04.0 -0.7
LIT Litokhoron 148.12 311 P PKPbc 03 55 04.0 -0.7
LIT Litokhoron 148.12 311 P PKPbc 03 55 04.0 -0.7
LIT Litokhoron 148.12 311 eP PKPbc 03 55 03.7 -1.0
UBBA Unterbreizbach 148.12 337 ePKPbc PKPbc 03 55 04.7 +0.6
comp=Z,281nm,1.8s
UBBA eL L 05 00 15.0
comp=Z,7μm,21.8s
GEC2 GERESS Array S 148.16 331 eL L 05 02 21.4
comp=Z,7μm,21.2s
GERES GERESS Array B 148.16 331 PKP PKPdf 03 55 00.9 -0.5
comp=Z,21nm,1.0s,baz=11,slow=1.4,SNR=24
GERES PKPbc PKPbc 03 55 04.5 -0.1
comp=Z,27nm,1.0s,baz=35,slow=3.6,SNR=55
GERES GERESS Array B 148.16 331 PKIKP PKPdf 03 55 00.9 -0.5
GERES 03 55 04.5
GERES GERESS Array B 148.16 331 PKP PKPdf 03 55 00.9 -0.5
GERES PKPbc PKPbc 03 55 04.5 -0.1
WTSB Winterswijk 148.20 341 ePKP PKPbc 03 55 03.8 -0.6
ATAL Atalanti 148.27 308 P PKPbc 03 55 04.0 -1.1
ATAL Atalanti 148.27 308 P PKPbc 03 55 04.0 -1.1
BEHE Becsehely 148.30 325||ePP PKPbc 03 55 06.7 +1.8
WET Wettzell 148.30 332 eL L 05 10 02.1
comp=Z,10μm,20.1s
KRUS Krusevo 148.43 314 i PKP PKPdf 03 55 02.9 +0.9
ARSA Arzberg 148.43 327⇑iP PKPdf 03 55 01.2 -0.5
ARSA Arzberg 148.43 327⇑iPKPdf PKPdf 03 55 01.2 -0.5
comp=Z,64nm,1.6s,SNR=8.4
BUG Bochum--Univer 148.52 340 ePKPbc PKPbc 03 55 04.4 -0.9
comp=Z,256nm,1.5s
BUG eL L 05 00 37.7
comp=Z,10μm,21.9s
DID Didima 148.52 306 P PKPdf 03 55 03.7 +1.5
BIA Bitola 148.53 313 ePKP PKPbc 03 55 04.7 -1.0
DIDY Didyma 148.55 306 P PKPbc 03 55 04.4 -1.6
LTK Loutraki 148.55 307 P PKPdf 03 55 03.0 +0.8
LTK Loutraki 148.55 307 P PKPdf 03 55 03.0 +0.8
GRF Grafenberg Arr 148.57 334 ePKPbc PKPbc 03 55 05.9 +0.4
comp=Z,365nm,1.8s
GRF eL L 05 01 05.1
comp=Z,7μm,22.0s
GRF Grafenberg Arr 148.57 334 ePKP2 PKPbc 03 55 05.9 +0.4
GRF pmax pmax
comp=Z,365nm,1.8s
GRF MLR MLR
comp=Z,6μm,22.0s
GRFO Grafenberg 148.57 334 ePKP2 PKPbc 03 55 05.3 -0.2
GRFO Grafenberg 148.57 334 ePKPbc PKPbc 03 55 05.3 -0.2
IVA Berane 148.57 317||iPKP PKPdf 03 55 02.2 0.0
KOGS Kog 148.59 325 ePKPdf PKPdf 03 55 01.9 -0.1
KOGS ePKPbc PKPbc 03 55 05.7 +0.1
KOGS e 03 58 35.5
FNA Florina 148.60 312 PKP2 PKPbc 03 55 04.4 -1.6
FNA Florina 148.60 312 P PKPbc 03 55 04.4 -1.6
FNA Florina 148.60 312 P PKPbc 03 55 04.4 -1.6
PLE Pljevlja 148.65 318||iPKP PKPdf 03 55 02.5 +0.2
PVY Plav 148.68 316||iPKP PKPdf 03 55 03.0 +0.6
BCI Bajram Curri 148.72 316 eP PKPbc 03 55 04.9 -1.3
DESF Desfina 148.73 308 P PKPdf 03 55 03.8 +1.2
DSF Desfina 148.74 308 P PKPbc 03 55 04.9 -1.5
DSF Desfina 148.74 308 P PKPbc 03 55 04.9 -1.5
MAKR Makrakomi, Fth 148.80 309 P PKPbc 03 55 04.8 -1.7
MAKR Makrakomi, Fth 148.80 309 P PKPbc 03 55 04.8 -1.7
PHP Peshkopia 148.81 315 eP PKPdf 03 55 03.6 +1.0
KBI1 Birley Grange 148.82 351 eP PKPdf 03 55 01.3 -0.8
KBI1 Birley Grange 148.82 351 P PKPdf 03 55 01.3 -0.8
PUK Puka 149.00 316 eP PKPdf 03 55 03.2 +0.3
UPM Unac-Piva 149.02 318||iPKP PKPdf 03 55 04.1 +1.1
KALE Kalithea 149.03 308 P PKPbc 03 55 06.4 -0.7
KALE Kalithea 149.03 308 P PKPbc 03 55 06.4 -0.7
GUR Goura 149.04 307 P PKPbc 03 55 05.6 -1.6
PERS Pernice 149.05 327 ePKPdf PKPdf 03 55 02.3 -0.5
PERS ePKPbc PKPbc 03 55 06.8 -0.1
SOKA Soboth 149.07 327⇑iP PKPdf 03 54 59.5 -3.3
SOKA Soboth 149.07 327⇑iPKPdf PKPdf 03 54 59.5 -3.3
comp=Z,127nm,1.5s
KBN Korca 149.07 313 eP PKPdf 03 55 02.4 -0.7
KWE Weaver Farm 149.10 352 eP PKPbc 03 55 05.1 -1.7
KWE Weaver Farm 149.10 352 P PKPbc 03 55 05.1 -1.7
SISC Sisak 149.16 324 P PKPbc 03 55 06.6 -0.5
TNS Taunus Mts 149.17 338 ePKPbc PKPbc 03 55 06.9 -0.2
comp=Z,203nm,1.4s
TNS eL L 05 00 09.4
comp=Z,9μm,21.8s
TNS Taunus Mts 149.17 338 ePKP2 PKPbc 03 55 06.9 -0.2
TNS pmax pmax
comp=Z,203nm,1.4s
TNS MLR MLR
comp=Z,9μm,21.8s
NKY Niksic 149.17 318||iPKP PKPbc 03 55 05.3 -2.1
EFP Efpalio 149.18 308 P PKPbc 03 55 07.8 +0.4
LAKA Lakka 149.20 308 P PKPbc 03 55 07.3 -0.2
LAKA Lakka 149.20 308 P PKPbc 03 55 07.3 -0.2
TTG Podgorica 149.21 317||iPKP PKPbc 03 55 06.0 -1.3
DLF Lyons Farm 149.25 357⇑iP PKPbc 03 55 05.5 -1.6
DSB Dublin 149.30 357 ePKPbc PKPbc 03 55 07.5 +0.3
TIR Tirane 149.35 314 eP PKPdf 03 55 04.4 +1.0
TIR Tirane 149.35 314 ePKPdf PKPdf 03 55 03.0 -0.3
TIR ePKPbc PKPbc 03 55 08.2 +0.4
TIR LR LR
comp=Z,15μm,22.0s
FOEL Foel Wylfa 149.39 353 eP PKPbc 03 55 07.0 -0.5
FOEL Foel Wylfa 149.39 353 P PKPbc 03 55 07.0 -0.5
BRY Bratogost 149.41 318||iPKP PKPdf 03 55 05.0 +1.4
ULC Ulcinj 149.46 316||iPKP PKPdf 03 55 05.6 +2.0
BUM Brajici-Budva 149.51 317||iPKP PKPdf 03 55 05.5 +1.8
HGN Heimansgroeve 149.52 341 ePKP PKPbc 03 55 07.7 -0.1
HGN ePP PP 03 58 44.9 +5.1
HGN ePKP 04 06 21.6
BEBN Eben Emael 149.56 341 PKPbc PKPbc 03 55 08.3 +0.3
KBA Koelnbreinsper 149.61 329||iP PKPdf 03 55 03.4 -0.4
KBA Koelnbreinsper 149.61 329||iPKPdf PKPdf 03 55 03.4 -0.4
comp=Z,87nm,0.9s,SNR=18
MEM Membach 149.63 341 PKPbc PKPbc 03 55 07.8 -0.3
HCY Herceg Novi 149.68 317||iPKP PKPdf 03 55 05.1 +1.2
HLM1 Long Mynd 149.72 353 eP PKPdf 03 55 03.2 -0.4
HLM1 Long Mynd 149.72 353 P PKPdf 03 55 03.2 -0.4
FUR Furstenfeldbru 149.74 333 eL L 05 01 38.1
comp=Z,9μm,21.6s
BOJS Bojanci 149.74 325 ePKPbc PKPbc 03 55 09.4 +0.8
LJU Ljubljana 149.75 326 i PKPbc PKPbc 03 55 09.0 +0.4
LJU e 03 58 40.6
IGT Igoumenitsa 149.86 311 PKP2 PKPbc 03 55 07.9 -1.2
IGT Igoumenitsa 149.86 311 P PKPbc 03 55 07.9 -1.2
IGT Igoumenitsa 149.86 311 P PKPbc 03 55 07.9 -1.2
STON Ston 149.94 319 P PKPbc 03 55 07.7 -1.4
SRN Sarande 149.94 312 eP PKPdf 03 55 03.2 -1.1
LKD2 Lefkada island 149.94 309 P PKPbc 03 55 08.6 -0.7
LKD2 Lefkada island 149.94 309 P PKPbc 03 55 08.6 -0.7
BCLA Clavier 150.01 342 PKPbc PKPbc 03 55 08.4 -0.6
VLO Vlora 150.02 313 eP PKPdf 03 55 06.1 +1.7
CADS Cadrg 150.03 327 ePKPdf PKPbc 03 55 08.5 -0.8
VOY Vojsko 150.08 327 ePKPdf PKPdf 03 55 04.0 -0.5
VOY ePKPbc PKPbc 03 55 08.2 -1.3
VOY e 03 55 10.7
VOY e 03 55 54.2
STU Stuttgart 150.10 335 ePKPbc PKPbc 03 55 08.5 -0.8
comp=Z,199nm,1.1s
STU eL L 05 08 47.2
comp=Z,7μm,20.6s
STU Stuttgart 150.10 335 ePKIKP PKPbc 03 55 09.1 -0.2
STU Stuttgart 150.10 335 ePKPbc PKPbc 03 55 09.1 -0.2
SSW Stow on the Wo 150.12 351 eP PKPbc 03 55 08.6 -0.7
SSW Stow on the Wo 150.12 351 P PKPbc 03 55 08.6 -0.7
SKP1 Kophill 150.20 350 eP PKPbc 03 55 07.2 -2.3
SKP1 Kophill 150.20 350 P PKPbc 03 55 07.2 -2.3
SNF Seneffe 150.22 343 PKPbc PKPbc 03 55 08.8 -0.7
WATA Walderalm 150.24 331||iPKIKP PKPdf 03 55 04.6 -0.2
WATA Walderalm 150.24 331||iP PKPdf 03 55 04.6 -0.2
WATA Walderalm 150.24 331||iPKPdf PKPdf 03 55 04.6 -0.2
comp=Z,83nm,1.0s,SNR=13
MCH1 Michaelchurch 150.25 352 eP PKPdf 03 55 06.0 +1.6
MCH1 Michaelchurch 150.25 352 P PKPdf 03 55 06.0 +1.6
ABTA Abfaltersbach 150.25 329||iP PKPdf 03 55 03.3 -1.4
ABTA Abfaltersbach 150.25 329||iPKPdf PKPdf 03 55 03.3 -1.4
comp=Z,68nm,0.7s,SNR=8.8
WTTA Wattenberg 150.27 331⇑iPKIKP PKPdf 03 55 04.5 -0.4
WTTA Wattenberg 150.27 331⇑iP PKPdf 03 55 04.5 -0.4
WTTA Wattenberg 150.27 331⇑iPKPdf PKPdf 03 55 04.5 -0.4
comp=Z,137nm,0.9s,SNR=29
TRI Trieste 150.37 327 ePKIKP PKPbc 03 55 10.1 0.0
TRI Trieste 150.37 327 ePKPbc PKPbc 03 55 10.1 0.0
WLF Walferdange 150.41 340 PKPbc PKPbc 03 55 10.0 -0.1
WLF Walferdange 150.41 340 ePKPbc PKPbc 03 55 10.0 -0.1
comp=Z,252nm,1.2s
WLF eL L 05 09 10.5
comp=Z,9μm,20.5s
WLF Walferdange 150.41 340 ePKIKP PKPbc 03 55 10.3 +0.2
WLF MLR MLR
comp=Z,11μm,22.0s
WLF Walferdange 150.41 340 ePKPbc PKPbc 03 55 10.2 +0.2
WLF LR LR
comp=Z,11μm,22.0s
MOTA Moosalm 150.44 332⇑iPKIKP PKPdf 03 55 04.8 -0.3
MOTA Moosalm 150.44 332⇑iP PKPdf 03 55 04.8 -0.3
MOTA Moosalm 150.44 332⇑iPKPdf PKPdf 03 55 04.8 -0.3
comp=Z,92nm,0.8s,SNR=21
RETA Reutte 150.48 332⇑iP PKPbc 03 55 08.8 -1.6
RETA Reutte 150.48 332⇑ipPKPdf PKPbc 03 55 08.8 -1.6
comp=Z,104nm,1.4s,SNR=24
DOU Dourbes 150.50 342 PKPbc PKPbc 03 55 09.6 -0.7
NVLJ Novalja 150.56 324 P PKPdf 03 55 07.7 +2.6
SWN1 Swindon 150.56 351 eP PKPbc 03 55 09.3 -1.0
SWN1 Swindon 150.56 351 P PKPbc 03 55 09.3 -1.0
HGH Gray Hill 150.57 352 eP PKPdf 03 55 06.6 +1.6
HGH Gray Hill 150.57 352 P PKPdf 03 55 06.6 +1.6
BAIF Baives 150.65 342 ePKIKP PKPdf 03 55 05.5 +0.4
comp=Z,285nm,1.3s
WOL Wolverton 150.66 350 eP PKPbc 03 55 08.0 -2.6
WOL Wolverton 150.66 350 P PKPbc 03 55 08.0 -2.6
BFO Black Forest 150.79 336 ePKPbc PKPbc 03 55 09.5 -1.5
comp=Z,396nm,2.0s
BFO eL L 05 07 45.2
comp=Z,6μm,21.0s
BFO Black Forest 150.79 336 ePKIKP PKPbc 03 55 09.5 -1.5
BFO pmax pmax
comp=Z,396nm,2.0s
BFO Black Forest 150.79 336 ePKPbc PKPbc 03 55 10.4 -0.6
BFO LR LR
comp=Z,8μm,20.0s
FETA Feichten 150.85 332⇑iP PKPbc 03 55 08.8 -2.6
FETA Feichten 150.85 332⇑ipPKPdf PKPbc 03 55 08.8 -2.6
comp=Z,140nm,1.1s,SNR=34
DAVA Damuels 151.01 333 i PKPbc PKPbc 03 55 11.2 -0.6
comp=Z,130nm,0.9s,SNR=11
CDF Champ du Feu 151.11 337 ePKIKP PKPdf 03 55 05.8 -0.2
comp=Z,235nm,1.2s
HEX Exmoor 151.25 353 eP PKPbc 03 55 10.7 -1.3
HEX Exmoor 151.25 353 P PKPbc 03 55 10.7 -1.3
ECH Echery 151.32 337 ePKIKP PKPbc 03 55 11.6 -0.7
ECH MLR MLR
comp=Z,10μm,19.0s
ECH Echery 151.32 337 ePKPbc PKPbc 03 55 11.6 -0.7
ECH LR LR
comp=Z,10μm,19.0s
HTL Hartland 151.40 354 eP PKPbc 03 55 11.3 -1.0
HTL Hartland 151.40 354 P PKPbc 03 55 11.3 -1.0
DAVOX Davos/Dischmat 151.41 332 PKP PKPdf 03 55 05.9 -0.8
comp=Z,22nm,1.1s,baz=13,slow=4.0,SNR=6.0
DAVOX PKPbc PKPbc 03 55 12.5 -0.3
comp=Z,90nm,0.7s,baz=59,slow=7.4,SNR=39
DAVOX Davos/Dischmat 151.41 332 PKIKP PKPdf 03 55 05.9 -0.8
DAVOX 03 55 12.5
DAVOX Davos/Dischmat 151.41 332 PKP PKPdf 03 55 05.9 -0.8
DAVOX PKPbc PKPbc 03 55 12.5 -0.3
PAGF Fort de Pagny 151.52 339 ePKIKP PKPdf 03 55 06.8 +0.3
comp=Z,38nm,1.0s
HINF Hinteralfeld 151.76 337 ePKIKP PKPdf 03 55 06.8 -0.2
comp=Z,76nm,0.9s
HAU Haudompre 151.78 338 ePKIKP PKPdf 03 55 06.9 -0.1
comp=Z,113nm,0.8s
HAU eR
comp=Z,11μm,20.5s
MEZF Maizieres J'vi 151.78 340 ePKIKP PKPdf 03 55 07.5 +0.6
comp=Z,710nm,1.5s
TUE Stuetta 151.88 332 ePKPdf PKPdf 03 55 06.9 -0.5
TUE ePKPbc PKPbc 03 55 13.9 +0.1
TUE LR LR
comp=Z,15μm,20.0s
DYA Yadsworthy 151.89 353 eP PKPbc 03 55 12.0 -1.5
DYA Yadsworthy 151.89 353 P PKPbc 03 55 12.0 -1.5
SFTF Sexfontaines 152.05 340 ePKIKP PKPdf 03 55 07.4 +0.1
TIP Timpagrande 152.49 313 PFAKE 03 55 20.0 +4.7
TIP LR LR
comp=Z,7μm,20.0s
CUC Castrocucco 152.70 315 PFAKE 03 55 20.0 +4.3
CUC LR LR
comp=Z,9μm,20.0s
AQU L'Aquila 152.79 322||iPKIKP PKPbc 03 55 16.4 +0.6
AQU L'Aquila 152.79 322 PFAKE 03 55 20.0 +4.2
AQU LR LR
comp=Z,14μm,22.0s
AQU L'Aquila 152.79 322||iP PKPbc 03 55 16.4 +0.6
FLN La Foliniere 152.98 347 ePKIKP PKPdf 03 55 08.5 -0.2
comp=Z,123nm,0.9s
FLN eR
comp=Z,15μm,21.5s
CABF La Chapelle 153.06 337 ePKIKP PKPdf 03 55 09.4 +0.4
comp=Z,251nm,1.4s
LDF La Druitiere 153.07 347 ePKIKP PKPdf 03 55 08.7 -0.1
comp=Z,53nm,0.9s
LOR Lormes 153.25 340 ePKIKP PKPdf 03 55 09.3 +0.1
comp=Z,67nm,0.9s
LOR eR
comp=Z,14μm,23.0s
GRR Gorron 153.41 348 ePKIKP PKPdf 03 55 09.6 +0.3
comp=Z,60nm,0.7s
CEL Celeste 153.53 312 ePKPbc PKPbc 03 55 18.9 +1.3
CEL LR LR
comp=Z,7μm,21.0s
SSF Saint Saulge 153.54 341 ePKIKP PKPdf 03 55 09.8 +0.2
comp=Z,93nm,1.3s
LPL La Plagne 153.73 334 ePKIKP PKPdf 03 55 10.3 +0.1
comp=Z,166nm,1.1s
LPG La Plagne 153.74 334 ePKIKP PKPdf 03 55 10.5 +0.2
comp=Z,139nm,0.9s
AVF Avril sur Loir 153.83 340 ePKIKP PKPdf 03 55 09.7 -0.3
comp=Z,145nm,1.2s
SGMF Saint Gilles 153.84 350 ePKIKP PKPdf 03 55 10.1 +0.2
ROSF Rostrenen 153.87 351 ePKIKP PKPdf 03 55 10.1 +0.1
BNI Bardonecchia 154.13 334 ePKIKP PKPdf 03 55 10.9 +0.2
BNI MLR MLR
comp=Z,11μm,19.0s
BNI Bardonecchia 154.13 334 ePKPdf PKPdf 03 55 10.9 +0.2
BNI LR LR
comp=Z,11μm,19.0s
BGF Bois d'Agland 154.20 341 ePKIKP PKPdf 03 55 10.8 +0.3
QUIF Quistinic 154.26 351 ePKIKP PKPdf 03 55 10.3 -0.2
MBDF Montbardon 154.36 333 ePKIKP PKPdf 03 55 11.1 +0.1
comp=Z,92nm,0.9s
ORIF Oris-en-Rattie 154.56 335 ePKIKP PKPdf 03 55 11.1 -0.1
comp=Z,85nm,0.9s
ORIF eR
comp=Z,15μm,22.5s
TCF Toulx Ste Croi 154.63 342 ePKIKP PKPdf 03 55 11.3 +0.1
SSB Saint Sauveur 154.76 337 PFAKE 03 55 20.0 0.0
SSB LR LR
comp=Z,10μm,19.0s
SBF Sospel 154.77 331 ePKIKP PKPdf 03 55 10.8 -0.7
comp=Z,167nm,0.9s
MFF Saint Martin d 154.96 345 ePKIKP PKPdf 03 55 11.7 +0.1
PGF Pioggiola 155.03 327 ePKIKP PKPdf 03 55 11.6 -0.3
comp=Z,290nm,1.6s
VIVF Saint-Julien-l 155.08 336 ePKIKP PKPdf 03 55 12.0 +0.2
SMRF Simiane la Rot 155.47 334 ePKIKP PKPdf 03 55 11.4 -1.0
WDD Wield Dalam 155.61 308 PFAKE 03 55 20.0 +7.2
WDD LR LR
comp=Z,11μm,21.0s
RJF Les Rejaudoux 155.72 342 ePKIKP PKPdf 03 55 12.8 +0.1
RJF eR
comp=Z,13μm,20.2s
CAF Calviac 155.90 340 ePKIKP PKPdf 03 55 13.4 +0.5
LASF Ste Croix 156.05 337 ePKIKP PKPdf 03 55 13.6 +0.5
comp=Z,52nm,1.0s
MTLF Montolieu 157.27 338 ePKIKP PKPdf 03 55 15.1 +0.4
EPF Esparros 158.15 341 ePKIKP PKPdf 03 55 16.1 +0.2
SJPF Ste Jean 158.50 344 ePKIKP PKPdf 03 55 16.4 +0.1
ETSF Etsaut 158.52 343 ePKIKP PKPdf 03 55 16.9 +0.5
comp=Z,34nm,1.0s
CMLA Cha da Macela 159.25 39 eLR LR 04 50 34.3
CMLA Cha da Macela 159.25 39 PFAKE 03 55 30.0 +13
CMLA LR LR
comp=Z,11μm,20.0s
KEST Kesra 159.31 313 PKP PKPdf 03 55 18.8 +1.2
comp=Z,1.2nm,0.9s,baz=18,slow=3.2,SNR=3.0
KEST PKPab PKPab 03 55 55.7 +0.8
comp=Z,3.3nm,0.9s,baz=257,slow=3.9,SNR=4.4
KEST Kesra 159.31 313 PKP PKPdf 03 55 18.8 +1.2
KEST PKPab PKPab 03 55 55.7 +0.8
PSMN Pico do Norte, 160.02 40 eLR LR 04 50 34.3
POLO Lamas de Olo 161.21 357 ePKPab PKPab 03 56 05.3 +2.4
PVRL Vila Real 161.31 357 ePKPab PKPab 03 56 04.3 +1.1
SET Setif 161.51 321 P PKPdf 03 55 22.0 +2.0
PVIS Viseu 161.87 357 ePKPab PKPab 03 56 06.3 +0.6
MTE Manteigas 162.17 356 PFAKE 03 55 30.0 +10
MTE LR LR
comp=Z,14μm,20.0s
ESDC Sonseca Array 162.40 347 PKP PKPdf 03 55 19.2 -1.5
comp=Z,1.3nm,0.8s,baz=0.0,slow=3.6,SNR=4.6
ESDC PKPab PKPab 03 56 06.9 -1.2
comp=Z,2.4nm,0.8s,baz=28,slow=3.1,SNR=6.2
ESDC Sonseca Array 162.40 347 PKP PKPdf 03 55 19.2 -1.5
ESDC PKPab PKPab 03 56 06.9 -1.2
ESLA Sonseca Array 162.40 347 PFAKE 03 55 30.0 +9.3
ESLA LR LR
comp=Z,84μm,19.0s
PAB San Pablo 162.60 348 PFAKE 03 55 30.0 +9.0
PAB LR LR
comp=Z,14μm,20.0s
PCBR Castelo Branco 162.72 356 ePKPdf PKPdf 03 55 21.1 +0.2
PCBR Castelo Branco 162.72 356 ePKPab PKPab 03 56 10.0 +0.6
LIC Lamto 163.31 194 ePKIKP PKPdf 03 55 20.1 -2.2
comp=Z,261nm,1.9s
LIC eR
comp=Z,13μm,20.5s
DBIC Dimbokro 163.70 195 PKP PKPdf 03 55 22.4 -0.2
comp=Z,8.2nm,1.0s,baz=135,slow=3.9,SNR=6.6
DBIC PKPab PKPab 03 56 14.6 +0.4
comp=Z,31nm,1.2s,baz=138,slow=6.2,SNR=4.2
DBIC PP PP 04 00 07.7 +9.5
comp=Z,2.1nm,0.6s,baz=173,slow=13,SNR=3.3
DBIC Dimbokro 163.70 195 ePKIKP PKPdf 03 55 22.0 -0.6
DBIC 03 56 14.6
DBIC 04 00 07.7
DBIC MLR MLR
comp=Z,17μm,22.0s
DBIC Dimbokro 163.70 195 ePKPdf PKPdf 03 55 22.0 -0.6
DBIC PKP PKPdf 03 55 22.4 -0.2
DBIC PKPab PKPab 03 56 14.6 +0.4
DBIC PP PP 04 00 07.7 +9.5
DBIC LR LR
comp=Z,17μm,22.0s
EANR 'Ain N'Sour 164.01 329 P PKPdf 03 55 23.0 +0.6
SACV Santiago Islan 164.28 116 PFAKE 03 55 30.0 +6.9
SACV LR LR
comp=Z,8μm,21.0s
PBAR Barrancos 164.34 354 ePKPab PKPab 03 56 17.2 +0.7
ETRT Tiaret 164.35 327 P PKPdf 03 55 28.0 +5.2
PVAQ Vaqueiros 165.16 356 eLR LR 05 02 30.4
comp=Z,13μm,18.0s
TORD Torodi Ar. Bea 166.15 229 PKP PKPdf 03 55 24.3 -0.4
comp=Z,11nm,0.9s,baz=321,slow=0.1,SNR=21
TORD PKPab PKPab 03 56 24.6 -0.7
comp=Z,24nm,1.1s,baz=126,slow=2.7,SNR=10
TORD PP PP 04 00 22.1 +10
comp=Z,6.9nm,1.3s,baz=151,slow=6.4,SNR=3.7
TORD Torodi Ar. Bea 166.15 229 PKP PKPdf 03 55 24.3 -0.4
TORD PKPab PKPab 03 56 24.6 -0.7
TORD PP PP 04 00 22.1 +10
TAM Tamanrasset 166.56 274 ePKIKP PKPdf 03 55 25.5 +0.5
TAM MLR MLR
comp=Z,12μm,20.0s
TAM Tamanrasset 166.56 274 ePKPdf PKPdf 03 55 25.5 +0.5
TAM LR LR
comp=Z,12μm,20.0s
RTC Rabat Centre 168.45 351 PFAKE 03 55 40.0 +14
RTC LR LR
comp=Z,16μm,19.0s

*MOS **19** 03:38:30.5± 1.1, 53.˚80N× 160.˚41E, h32km, mb5.2/79, MS4.1/4, Error ellipse: s-maj=7.7km s-min=5.0km az=90.7*
*BJI **19** 03:38:31.3, 54.˚10N× 160.˚66E, h58km, mB5.1/23, mb4.8/35, Ms5.3/22, Ms7 5.1/21*
*ISCJB **19** 03:38:35.2± 0.2, 53.˚79N± 0.˚02× 160.˚51E± 0.˚02, h72km± 2km, mb4.9/226, Error ellipse: s-maj=2.9km s-min=2.0km az=140.7*
*IDC **19** 03:38:35.2± 0.7, 53.˚88N× 160.˚42E, h57km± 5km, mb4.6/36, mb1 4.7/37, mb1mx4.7/37, mbtmp4.6/37, MS4.3/1, Ms1 4.3/1, ms1mx3.7/51, Error ellipse: s-maj=12.1km s-min=8.3km az=145.0*
*KRSC **19** 03:38:35.3± 0.1, 53.˚79N× 160.˚63E, h47km± 26km, ML5.1*
*NEIC **19** 03:38:36.1± 0.6, 53.˚83N× 160.˚40E, h66km± 5km, mb5.1/105,*

Error ellipse: s-maj=5.2km s-min=2.8km az=167.0
NEIC Felt at Petropavlovsk-Kamchatskiy.
*SZGRF **19** 03:38:53.0,56˚.24N×158˚.44E,h33km,mb5.4,Kamchatka Peninsula, Russia*
ISC 19 03:38:33.6±0.3,53˚.74N±0˚.02×160˚.63E±0˚.03,h49km±2km, h48km;pP-P,n887,σt$37/961,mb5.0/226,MS5.3/9,
196C-144D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.74**	**210**	PN	**Pn**	**03 38 48.4**	**+0.6**
SPN	**Mys Shipunski**	**0.74**	**210**	*e*P	**Pn**	**03 38 48.4**	**+0.6**
KII	**Karymskiy**	**0.76**	**293**	*e*P	**Pn**	**03 38 50.0**	**+1.9**
NLC	**Nalytchevo**	**0.96**	**234**	PN	**Pn**	**03 38 52.2**	**+1.5**
NLC	**Nalytchevo**	**0.96**	**234**	*e*P	**Pn**	**03 38 52.2**	**+1.5**
MKZ	**Mys Kozlova**	**1.04**	**38**	PN	**Pn**	**03 38 51.5**	**-0.3**
MKZ	**Mys Kozlova**	**1.04**	**38**	*e*P	**Pn**	**03 38 51.5**	**-0.3**
SDLR	**Sedlovina**	**1.14**	**247**	P	**Pn**	**03 38 55.4**	**+2.1**
SMAR	**Somma**	**1.19**	**247**	P	**Pn**	**03 38 56.1**	**+2.0**
SMAR				*i* S	**Sn**	**03 39 12.2**	**+2.9**
UGLR	**Uglovaya**	**1.20**	**244**	P	**Pn**	**03 38 56.3**	**+2.2**
AVH	**Avacha**	**1.23**	**248**	P	**Pn**	**03 38 56.9**	**+2.5**
KOK	**Koryaka**	**1.27**	**250**	P	**Pn**	**03 38 57.4**	**+2.3**
PET	**Petropavlovsk**	**1.39**	**240**	⇓*i* PN	**Pn**	**03 38 58.4**	**+2.0**
PET				pmax	pmax		
	comp=Z,1μm,0.6s						
PET	**Petropavlovsk**	**1.39**	**240**	*e*Pn	**Pn**	**03 38 58.5**	**+2.0**
PET				*e*S	**Sn**	**03 39 14.4**	**+0.8**
PET	**Petropavlovsk**	**1.39**	**240**	P	**Pn**	**03 38 58.7**	**+2.2**
PET				*i* S	**Sn**	**03 39 15.5**	**+1.9**
INSR	**Institute**	**1.39**	**242**	*e*P	**Pn**	**03 38 59.3**	**+2.8**
INSR				*i* S	**Sn**	**03 39 17.1**	**+3.4**
TUMR	**Tumrok**	**1.57**	**350**	*e*P	**Pn**	**03 39 01.2**	**+2.1**
TUMR				*i* S	**Sn**	**03 39 20.8**	**+2.4**
RUS	**Russkaya**	**1.83**	**225**	PN	**Pn**	**03 39 03.9**	**+1.3**
RUS				S	**Sn**	**03 39 24.8**	**+0.3**
RUS	**Russkaya**	**1.83**	**225**	P	**Pn**	**03 39 03.9**	**+1.3**
RUS				*i* S	**Sn**	**03 39 24.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.86**	**251**	*e*Pn	**Pn**	**03 39 05.7**	**+2.7**
PETK	**Petropavlovsk-**	**1.86**	**251**	P	**Pn**	**03 39 05.7**	**+2.6**
	comp=Z,269nm,0.3s,baz=66,slow=18,SNR=835						
PETK				S	**Sn**	**03 39 30.0**	**+4.6**
	comp=Z,637nm,0.3s,baz=45,slow=21,SNR=18						
PETK				LR	LR	03 40 01.7	
	comp=Z,5μm,21.4s,baz=100,slow=48						
PETK	**Petropavlovsk-**	**1.86**	**251**	PN	**Pn**	**03 39 05.7**	**+2.6**
PETK				pmax	pmax		
	comp=Z,269nm,0.3s						
PETK	**Petropavlovsk-**	**1.86**	**251**	P	**Pn**	**03 39 05.7**	**+2.6**
PETK				S	**Sn**	**03 39 30.0**	**+4.6**
MTVR	**Mutnovka**	**1.94**	**230**	*e*P	Pn	03 39 07.3	+3.1
MTVR				*i* S	**Sn**	**03 39 30.7**	**+3.2**
GRL	**Gorelyy**	**1.95**	**233**	P	Pn	03 39 07.2	+2.9
GRL				*i* S	**Sn**	**03 39 29.8**	**+2.2**
KMNR	**Kamenistaya**	**2.03**	**354**	P	Pn	**03 39 08.0**	**+2.6**
ASAK	**Asacha**	**2.14**	**232**	P	Pn	03 39 09.8	+2.9
ASAK				*i* S	**Sn**	**03 39 34.7**	**+2.5**
BZMR	**Bezymyannaya**	**2.20**	**358**	*e*P	**Pn**	**03 39 10.3**	**+2.5**
BZMR				*i* S	**Sn**	**03 39 34.8**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.20**	**1**	*e*P	**Pn**	**03 39 10.4**	**+2.6**
BZGR				*i* S	**Sn**	**03 39 36.2**	**+2.3**
KIRR	**Kirishev**	**2.22**	**356**	*e*P	**Pn**	**03 39 10.5**	**+2.4**
KIRR				*e*S	**Sn**	**03 39 35.6**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.23**	**358**	*e*P	**Pn**	**03 39 10.9**	**+2.7**
BZWR				*i* S	**Sn**	**03 39 37.1**	**+2.5**
KPT	**Kopyto**	**2.24**	**354**	*e*P	**Pn**	**03 39 10.6**	**+2.3**
KPT				*i* S	**Sn**	**03 39 36.5**	**+1.7**
ZLN	**Zelenaya**	**2.28**	**2**	*e*P	**Pn**	**03 39 11.5**	**+2.6**
LGNR	**Loginova**	**2.35**	**1**	P	Pn	03 39 12.9	+3.0
KOZ	**Kozyrevsk**	**2.36**	**350**	*e*P	**Pn**	**03 39 12.2**	**+2.3**
KOZ				*i* S	**Sn**	**03 39 38.5**	**+0.9**
KOZR	**Kozyr**	**2.37**	**350**	PN	**Pn**	**03 39 12.2**	**+2.2**
KOZR				S	**Sn**	**03 39 38.5**	**+0.7**
CIRR	**Tsirk**	**2.38**	**2**	*e*P	Pn	03 39 13.0	+2.8
CIRR				*i* S	**Sn**	**03 39 40.3**	**+2.0**
ESO	**Esso**	**2.46**	**334**	PN	**Pn**	**03 39 13.4**	**+2.2**
ESO				S	**Sn**	**03 39 42.0**	**+2.0**
ESO	**Esso**	**2.46**	**334**	*e*P	**Pn**	**03 39 13.4**	**+2.2**
ESO				*i* S	**Sn**	**03 39 42.0**	**+2.0**
KRSR	**Krestovskiy**	**2.48**	**359**	*e*P	**Pn**	**03 39 13.8**	**+2.2**
KRSR				*i* S	**Sn**	**03 39 42.2**	**+1.5**
KLY	**Klyuchi**	**2.58**	**0**	PN	**Pn**	**03 39 14.9**	**+2.1**
KLY				S	**Sn**	**03 39 44.3**	**+1.4**
KLY	**Klyuchi**	**2.58**	**0**	*e*P	**Pn**	**03 39 14.9**	**+2.1**
KLY				*i* S	**Sn**	**03 39 44.3**	**+1.4**
SRDR	**Sredinnyy**	**2.63**	**349**	*e*P	**Pn**	**03 39 15.3**	**+1.6**
SRDR				*i* S	**Sn**	**03 39 43.8**	**-0.6**
MIPR	**Malaya Ipel'ka**	**2.76**	**239**	*e*P	Pn	03 39 18.8	+3.5
MIPR				*i* S	**Sn**	**03 39 51.1**	**+3.7**
KBTR	**Krutoberegovo**	**2.77**	**26**	PN	**Pn**	**03 39 16.8**	**+1.3**
KBTR				S	**Sn**	**03 39 47.8**	**+0.1**
KBTR	**Krutoberegovo**	**2.77**	**26**	*e*P	**Pn**	**03 39 16.8**	**+1.3**
KBTR				*i* S	**Sn**	**03 39 47.8**	**+0.1**
BDR	**Baidarnaya**	**2.85**	**6**	*e*P	**Pn**	**03 39 19.0**	**+2.3**
BDR				*i* S	**Sn**	**03 39 52.1**	**+2.3**
SMKR	**Semkarok**	**2.89**	**9**	*e*P	**Pn**	**03 39 19.5**	**+2.4**
SMKR				*i* S	**Sn**	**03 39 52.5**	**+1.9**
SRKR	**Sorokina**	**2.94**	**6**	*e*P	**Pn**	**03 39 20.3**	**+2.5**
SRKR				*i* S	**Sn**	**03 39 53.2**	**+1.4**
BKI	**Bering**	**3.44**	**63**	PN	**Pn**	**03 39 24.9**	**+0.2**
BKI	**Bering**	**3.44**	**63**	*e*P	**Pn**	**03 39 24.9**	**+0.2**
BKI				*i* S	**Sn**	**03 40 00.8**	**-3.4**
SKR	**Severo-Kuril's**	**4.13**	**224**	*e*PN	**sPn**	**03 39 47.0**	**-2.0**
SKR				pmax	pmax		
	comp=Z,110nm,0.6s						
SKR				MLR	MLR		
	comp=E,3μm,8.0s						
SKR				MLR	MLR		
	comp=Z,3μm,8.0s						
TILK	**Tilichiki**	**7.36**	**22**	*e*P	**Pn**	**03 40 20.8**	**+2.5**
TILK				*i* S	**Sn**	**03 41 38.3**	**-2.0**
FX1	**Attu Island--F**	**7.56**	**91**	P	**Pn**	**03 40 20.4**	**-0.6**
	comp=Z,80nm,0.3s,baz=324,slow=10,SNR=124						
FX1				S	Sn	03 41 37.6	-7.7
	comp=Z,204nm,0.3s,baz=195,slow=15,SNR=17						
FX1				LR	LR	03 43 07.9	
	comp=Z,2μm,21.4s,baz=279,slow=35						
FX1	**Attu Island--F**	**7.56**	**91**	PN	**Pn**	**03 40 20.5**	**-0.6**
FX1				pmax	pmax		
	comp=Z,81nm,0.3s						
FX1				MLR	MLR		
	comp=Z,2μm,21.4s						
FX1	**Attu Island--F**	**7.56**	**91**	P	**Pn**	**03 40 20.4**	**-0.6**
FX1				S	Sn	03 41 37.6	-7.7
SMY	**Shemya**	**8.15**	**92**	*e*PN	**Pn**	**03 40 29.7**	**+0.6**
SMY	**Shemya**	**8.15**	**92**	*e*Pn	**Pn**	**03 40 29.7**	**+0.6**
SEY	**Seymchan**	**10.18**	**338**	⇓*i* PN	Pn	03 41 00.2	+3.4
YSS	**Yuzh-Sakhalins**	**13.26**	**246**	*e*PN	**P**	**03 41 46.2**	**-1.3**
YSS				*e*		03 44 09.0	
BILL	**Bilibino**	**14.60**	**8**	⇑*e*P	**Pn**	**03 41 56.7**	**-0.2**
BILL				*e*S	**Sn**	**03 44 37.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,27nm,1.5s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
BILL	**Bilibino**	**14.60**	**8**	*e*Pn	**Pn**	**03 41 59.3**	**+2.4**
	comp=Z,15nm,0.6s						
ASAJ	**Asahikawa**	**15.23**	**238**	P	**Pn**	**03 42 06.8**	**+1.5**
	comp=Z,3.1nm,0.3s,baz=84,slow=12,SNR=11						
ASAJ	**Asahikawa**	**15.23**	**238**	P	**Pn**	**03 42 06.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**15.23**	**238**	P	**Pn**	**03 42 06.8**	**+1.5**
	comp=Z,5.2nm,1.3s						
ERM	**Erimo**	**16.53**	**232**	⇑*i* P	**Pn**	**03 42 20.4**	**-1.5**
ERM	**Erimo**	**16.53**	**232**	*e*Pn	**Pn**	**03 42 20.3**	**-1.5**
	comp=Z,171nm,1.4s						
ERM				*e*S	**Sn**	**03 45 29.1**	**+4.9**
HABR	**Khabarovsk**	**16.86**	**262**	P	**Pn**	**03 42 24.0**	**-1.9**
HABR				*e*S	**Sn**	**03 45 29.7**	**-2.4**
HABR				pmax	pmax		
	comp=N,132nm,2.8s						
HABR				pmax	pmax		
	comp=E,204nm,2.8s						
HABR				pmax	pmax		
	comp=Z,254nm,2.8s						
HABR				MLR	MLR		
	comp=Z,2μm,20.0s						
GAMB	**Gambell**	**17.36**	**44**	*e*P	**P**	**03 42 33.1**	**+0.3**
	comp=Z,71nm,1.7s						
YAK	**Yakutsk**	**18.26**	**309**	*e*P	**P**	**03 42 42.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,52nm,0.9s						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,31nm,1.0s						
YAK	**Yakutsk**	**18.26**	**309**	*e*Pn	**P**	**03 42 42.2**	**-0.6**
	comp=E,90nm,0.6s						
KLR	**Kul'dur**	**18.47**	**268**	*e*P	**P**	**03 42 44.2**	**-1.0**
KLR				pmax	pmax		
	comp=E,42nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s						
CLNS	**Chul'man**	**20.44**	**293**	*e*P	**P**	**03 43 07.0**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,27nm,0.9s						
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,18nm,0.8s						
USRK	**Ussuriysk Arra**	**20.95**	**255**	P	**P**	**03 43 12.9**	**+0.7**
	comp=E,4.9nm,0.5s,baz=56,slow=12,SNR=21						
VLA	**Vladivostok**	**21.68**	**252**	⇓*e*P	**P**	**03 43 17.0**	**-3.0**
VLA						03 43 40.8	
VLA				S	**S**	**03 47 13.1**	**-4.0**
VLA				pmax	pmax		
	comp=Z,42nm,0.7s						
MAJO	**Matsushiro**	**23.20**	**231**	*e*P	**P**	**03 43 37.2**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,51nm,0.7s						
MAJO	**Matsushiro**	**23.20**	**231**	*e*P	**P**	**03 43 37.2**	**+1.1**
	comp=Z,51nm,0.7s						
MAT	**Matsushiro**	**23.20**	**231**	P	**P**	**03 43 36.7**	**+0.6**
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**03 43 37.2**	**+1.1**
	comp=Z,39nm,1.0s,baz=20,slow=10,SNR=41						
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**03 43 37.2**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,39nm,1.0s						
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**03 43 37.2**	**+1.1**
CN2	**Changchun**	**24.99**	**261**	*e*P	**P**	**03 43 53.0**	**+0.5**
CN2				*e*sP	**sP**	**03 44 07.0**	**-3.8**
CN2				*e*S	**S**	**03 48 10.6**	**-2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s						
CN2				LR	LR		
	comp=E,900nm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
HIA	**Hailar**	**25.58**	**277**	*e*P	**P**	**03 43 56.9**	**-1.0**
HIA				pmax	pmax		
	comp=Z,29nm,0.8s						
HIA	**Hailar**	**25.58**	**277**	*e*P	**P**	**03 43 56.9**	**-1.0**
	comp=Z,29nm,0.8s						
RSO	**Redoubt South**	**25.72**	**56**	P	**P**	**03 44 01.3**	**+2.1**
BOD	**Bodaibo**	**26.12**	**298**	*e*P	**P**	**03 44 00.8**	**-1.8**
BOD				pmax	pmax		
	comp=Z,29nm,1.3s						
KDAK	**Kodiak Island**	**26.21**	**62**	P	**P**	**03 44 04.5**	**+1.1**
	comp=Z,6.6nm,0.8s,baz=248,slow=5.4,SNR=2.9						
KDAK				PcP	**PcP**	**03 47 29.9**	**+1.1**
	comp=Z,16nm,1.1s,baz=281,slow=10,SNR=2.8						
KDAK	**Kodiak Island**	**26.21**	**62**	P	**P**	**03 44 04.5**	**+1.1**
KDAK						03 47 29.9	
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KDAK	**Kodiak Island**	**26.21**	**62**	P	**P**	**03 44 04.5**	**+1.1**
KDAK				PcP	**PcP**	**03 47 29.9**	**+1.1**
COLD	**Coldfoot**	**26.85**	**41**	*e*P	**P**	**03 44 09.6**	**+0.4**
	comp=Z,10nm,0.9s						
SNY	**Shenyang**	**27.28**	**259**	⇓P	P	03 44 06.4	-6.8
SNY				pmax	pmax		
	comp=Z,17nm,1.2s						
SML	**Sawmill**	**27.71**	**53**	*e*P	**P**	**03 44 17.6**	**+0.7**
SML				pmax	pmax		
	comp=Z,12nm,1.3s						
SML	**Sawmill**	**27.71**	**53**	*e*P	**P**	**03 44 17.6**	**+0.7**
	comp=Z,12nm,1.3s						
COLA	**College**	**27.72**	**46**	*e*P	**P**	**03 44 17.4**	**+0.5**
COLA	**College**	**27.72**	**46**	*e*P	**P**	**03 44 17.4**	**+0.5**
KSRS	**Korea Array**	**27.76**	**247**	P	**P**	**03 44 18.1**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=40,slow=9.2,SNR=13						
KSRS				PcP	**PcP**	**03 47 34.4**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=350,slow=2.3,SNR=6.6						
KSRS	**Korea Array**	**27.76**	**247**	P	**P**	**03 44 18.1**	**+0.6**
KSRS						03 47 34.4	
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSAR	**Wonju Array Be**	**27.79**	**247**	P	**P**	**03 44 18.1**	**+0.3**
KSAR						03 47 34.4	
KSAR	**Wonju Array Be**	**27.79**	**247**	P	**P**	**03 44 18.1**	**+0.3**
KSAR				PcP	**PcP**	**03 47 34.4**	**+1.5**
ILAR	**Eielson Array**	**28.13**	**46**	P	**P**	**03 44 20.4**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=266,slow=8.6,SNR=91						
ILAR				PcP	**PcP**	**03 47 32.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=280,slow=3.3,SNR=6.6						
ILAR	**Eielson Array**	**28.13**	**46**	P	**P**	**03 44 20.5**	**-0.1**
ILAR						03 47 32.5	
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILAR	**Eielson Array**	**28.13**	**46**	P	**P**	**03 44 20.4**	**-0.1**
ILAR				PcP	**PcP**	**03 47 32.5**	**-0.9**
DOT	**Dot Lake**	**29.45**	**48**	*e*P	**P**	**03 44 32.2**	**-0.2**
	comp=Z,48nm,1.9s						
EGAK	**Eagle**	**30.58**	**46**	*e*P	**P**	**03 44 41.9**	**-0.4**
	comp=Z,14nm,0.6s						
DAWY	**Dawson**	**31.44**	**47**	*e*P	**P**	**03 44 50.5**	**+0.5**
BJI	**Beijing**	**32.75**	**264**	P	**P**	**03 45 01.6**	**0.0**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				LR	LR		
	comp=N,6μm,22.3s						
BJI				LR	LR		
	comp=E,5μm,24.7s						
BJI				LR	LR		
	comp=Z,6μm,27.3s						
INK	**Inuvik**	**33.16**	**38**	P	**P**	**03 45 05.7**	**+0.9**
	comp=Z,12nm,0.6s,baz=291,slow=6.8,SNR=116						
INK				PcP	**PcP**	**03 47 47.0**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=335,slow=2.9,SNR=4.1						
INK	**Inuvik**	**33.16**	**38**	P	**P**	**03 45 05.7**	**+0.9**
INK						03 47 47.0	
INK				pmax	pmax		
	comp=Z,12nm,0.6s						
INK	**Inuvik**	**33.16**	**38**	*e*P	**P**	**03 45 05.6**	**+0.9**
	comp=Z,14nm,0.7s						
INK				PcP	**PcP**	**03 47 47.0**	**+0.5**
ULN	**Ulaanbaatar**	**33.67**	**282**	*e*P	**P**	**03 45 08.7**	**-1.0**
ULN				pmax	pmax		
	comp=Z,16nm,1.7s						
ULN	**Ulaanbaatar**	**33.67**	**282**	*e*P	**P**	**03 45 08.7**	**-1.0**
	comp=Z,16nm,1.7s						
SONM	**Songino Array**	**34.07**	**283**	P	**P**	**03 45 12.4**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=56,slow=8.6,SNR=27						
SONM				PcP	**PcP**	**03 47 50.1**	**+0.4**
	comp=Z,3.2nm,0.6s,baz=70,slow=1.3,SNR=15						
SONM	**Songino Array**	**34.07**	**283**	P	**P**	**03 45 12.4**	**-0.7**
SONM						03 47 50.1	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**34.07**	**283**	P	**P**	**03 45 12.4**	**-0.7**
SONM				PcP	**PcP**	**03 47 50.1**	**+0.4**
ZAK	**Zakamensk**	**34.60**	**288**	*e*P	P	03 45 12.8	-4.9
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**34.98**	**269**	*e*P	**P**	**03 45 19.5**	**-1.5**
HHC				PP	**PnPn**	**03 46 37.3**	**-1.6**
HHC				S	**S**	**03 50 46.3**	**-3.1**
HHC				SS	**SnSn**	**03 53 02.3**	**-5.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,780nm,7.2s						
HHC				LR	LR		
	comp=N,1μm,11.8s						
HHC				LR	LR		
	comp=E,2μm,12.8s						
HHC				LR	LR		
	comp=Z,2μm,11.8s						
MOY	**Mondy**	**35.27**	**291**	*e*P	**P**	**03 45 23.0**	**-0.5**
JOW	**Kunigami**	**35.95**	**235**	*e*P	**P**	**03 45 30.2**	**+0.9**
	comp=Z,37nm,1.1s						
NJ2	**Nanjing**	**36.77**	**251**	*e*P	**P**	**03 45 36.5**	**+0.2**
NJ2				pP	**pP**	**03 45 48.4**	**-0.7**
NJ2				PP	**PP**	**03 47 00.6**	**0.0**
NJ2				S	**S**	**03 51 15.5**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,120nm,4.0s						
NJ2				LR	LR		
	comp=N,6μm,12.9s						
NJ2				LR	LR		
	comp=E,8μm,12.8s						
NJ2				LR	LR		
	comp=Z,2μm,16.2s						
WHN	**Wuhan**	**40.45**	**254**	P	**P**	**03 46 06.0**	**-1.1**
YHNB	**Yeheng**	**41.20**	**241**	*e*P	**P**	**03 46 13.0**	**-0.5**
	comp=Z,115nm,0.9s						
ALE	**Alert**	**42.23**	**8**	P	**P**	**03 46 21.0**	**-0.2**
	comp=Z,105nm,0.7s,SNR=6.5						
YKA	**Yellowknife Ar**	**42.47**	**43**	P	**P**	**03 46 24.1**	**+0.8**
	comp=Z,9.3nm,0.6s,baz=298,slow=7.8,SNR=222						
YKA				pP	**pP**	**03 46 38.7**	**+2.4**
	comp=Z,3.2nm,0.7s,baz=298,slow=7.6,SNR=4.4						
YKA				PcP	**PcP**	**03 48 15.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=306,slow=3.8,SNR=5.6						
YKA	**Yellowknife Ar**	**42.47**	**43**	P	**P**	**03 46 24.1**	**+0.8**
YKA				*PP	**pP**	**03 46 38.7**	**+2.4**
YKA						03 48 15.8	
YKA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YKA	**Yellowknife Ar**	**42.47**	**43**	P	**P**	**03 46 24.1**	**+0.8**
YKA				pP	**pP**	**03 46 38.8**	**+2.4**
YKA				PcP	**PcP**	**03 48 15.8**	**+0.6**
RES	**Resolute Bay**	**42.60**	**22**	*e*P	**P**	**03 46 24.7**	**+0.5**
RES				*e*		03 46 36.1	
RES	**Resolute Bay**	**42.60**	**22**	*e*P	**P**	**03 46 24.7**	**+0.5**
RES				*e*		03 46 36.1	
LZH	**Lanzhou**	**42.67**	**269**	*e*P	**P**	**03 46 26.1**	**+0.6**
LZH				pP	**pP**	**03 46 37.3**	**-1.2**
LZH				sP	**sP**	**03 46 40.1**	**-4.0**
LZH				S	**S**	**03 52 46.1**	**+0.9**
LZH				SS	SS	03 55 48.5	-8.1
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,7.5s						
LZH				LR	LR		
	comp=N,2μm,8.7s						
LZH				LR	LR		
	comp=E,1μm,9.4s						
LZH				LR	LR		
	comp=Z,2μm,12.4s						
ZAA0	**Zalesovo Array**	**42.70**	**302**	*e*P	**P**	**03 46 22.8**	**-2.5**
ZALV	**Zalesovo Beam**	**42.70**	**302**	P	**P**	**03 46 23.0**	**-2.3**
	comp=Z,3.0nm,0.5s,baz=60,slow=5.8,SNR=16						
ZALV				PP	**PP**	**03 48 03.1**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=52,slow=7.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.70**	**302**	P	**P**	**03 46 23.0**	**-2.3**
ZALV						03 48 03.2	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.70**	**302**	P	**P**	**03 46 23.0**	**-2.3**
ZALV				PP	**PP**	**03 48 03.1**	**-1.6**
GTA	**Gaotai**	**42.85**	**276**	*e*P	**P**	**03 46 26.8**	**-0.1**
GTA				pP	**pP**	**03 46 36.9**	**-3.0**
GTA				sP	**sP**	**03 46 41.5**	**-4.1**
GTA				S	**S**	**03 52 48.6**	**+0.7**
GTA				pmax	pmax		
	comp=Z,17nm,0.9s						
GTA				pmax	pmax		
	comp=Z,200nm,6.2s						
GTA				LR	LR		
	comp=N,2μm,15.2s						
GTA				LR	LR		
	comp=E,3μm,17.1s						
GTA				LR	LR		
	comp=Z,3μm,14.7s						
NVS	**Novosibirsk**	**43.01**	**304**	⇑*i* P	**P**	**03 46 25.2**	**-2.6**
NVS				*e*		03 46 42.7	
NVS				*e*		03 48 16.7	
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
NVS				pmax	pmax		
	comp=E,29nm,1.3s						
NVS				pmax	pmax		
	comp=Z,46nm,1.3s						
ENH	**Enshi**	**43.46**	**258**	*e*P	**P**	**03 46 30.5**	**-1.2**
	comp=Z,12nm,0.4s						
KBS	**Kingsbay**	**46.28**	**352**	*e*		03 55 49.0	
CD2	**Chengdu**	**46.35**	**264**	P	**P**	**03 46 54.0**	**-0.8**
CD2				pP	**pP**	**03 47 04.3**	**-3.6**
CD2				PP	**PP**	**03 48 42.3**	**-1.8**
CD2				S	**S**	**03 53 36.6**	**-2.0**
CD2				SS	ScS	03 56 54.1	+8.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,240nm,7.1s						
CD2				LR	LR		
	comp=E,2μm,8.9s						
CD2				LR	LR		
	comp=Z,1μm,6.3s						
SPA0	**Spitsbergen Ar**	**46.55**	**350**	*e*P	**P**	**03 46 55.1**	**-0.6**
SPB4	**Spitsbergen Ar**	**46.55**	**350**	*e*P	**P**	**03 46 55.8**	**+0.1**
WMQ	**Urumqi**	**47.06**	**289**	P	**P**	**03 46 59.5**	**-0.7**
WMQ				pP	**pP**	**03 47 09.5**	**-3.9**
WMQ				pmax	pmax		
	comp=Z,45nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,590nm,6.6s						
KURK	**Kurchatov**	**47.66**	**302**	*e*P	**P**	**03 47 02.5**	**-2.2**
KURK				pmax	pmax		
	comp=Z,23nm,0.6s						
KURK	**Kurchatov**	**47.66**	**302**	*e*P	**P**	**03 47 02.5**	**-2.2**
	comp=Z,24nm,0.6s						
KURK	**Kurchatov**	**47.66**	**302**	P	**P**	**03 47 02.3**	**-2.4**
	comp=Z,275nm,0.5s,SNR=50						
GYA	**Guiyang**	**47.95**

YBH pmax pmax
comp=Z,45nm,1.4s
YBH Yreka Blue Hor 50.50 71 eP P 03 47 28.2 +1.6
comp=Z,45nm,1.4s
C12B Naegeli Ranch, 50.51 60 ⇓P P 03 47 27.7 +1.2
baz=50
B13A Whitefish 50.60 59 ⇓P P 03 47 28.5 +1.2
baz=50,SNR=5.6
A14A Double T Ranch 50.74 58 ⇓P P 03 47 29.1 +0.7
baz=51
BSMT Bassoo Peak 50.77 60 eP P 03 47 29.9 +1.2
BLMT Blacktail Moun 50.89 60 eP P 03 47 30.6 +1.0
comp=Z,9.1nm,1.0s
C13A Hot Springs 50.99 60 ⇑P P 03 47 31.4 +1.1
baz=51,SNR=7.8
D12A Red Ives Fores 51.00 61 ⇑P P 03 47 31.4 +1.1
baz=51
A15A Johnson Ranch, 51.09 58 ⇑P P 03 47 31.4 +0.5
baz=51
JTMT Jette 51.10 60 eP P 03 47 32.3 +1.2
comp=Z,8.1nm,0.9s
B14A Marquette Ranc 51.22 59 ⇑P P 03 47 32.3 +0.3
baz=51
KMI Kunming 51.25 260 P P 03 47 30.8 -1.8
KMI pmax pmax
comp=Z,6.0nm,0.9s
E12A Beaver Dam Sad 51.30 62 ⇓P P 03 47 33.6 +0.9
baz=51
C14A Swan Lake 51.36 59 ⇑P P 03 47 34.0 +1.0
baz=51
WDC Whiskeytown Da 51.37 72 eP P 03 47 35.0 +2.0
WDC pmax pmax
comp=Z,127nm,1.7s
WDC Whiskeytown Da 51.37 72 eP P 03 47 35.0 +2.0
comp=Z,127nm,1.7s
SWMT Swartz Lake 51.40 60 eP P 03 47 34.4 +1.1
BMO Blue Mountains 51.41 64 eP P 03 47 34.5 +1.0
comp=Z,3.1nm,0.9s
D13A Huson 51.44 61 ⇓P P 03 47 33.8 +0.3
baz=51
B15A Bradely Ranch, 51.61 58 ⇑P P 03 47 35.1 +0.2
baz=52,SNR=6.2
A16A West Butte Ran 51.68 57 ⇑P P 03 47 35.9 +0.5
baz=52,SNR=8.0
SLMT Seeley Lake 51.84 60 eP P 03 47 37.8 +1.2
MSO Missoula 51.88 60 eP P 03 47 38.1 +1.2
comp=Z,7.3nm,1.3s
MSO Missoula 51.88 60 ⇓P P 03 47 37.4 +0.5
baz=52
F12A Elk City 51.90 62 ⇓P P 03 47 37.9 +0.8
baz=52
D14A Greenough 51.94 60 ⇑P P 03 47 38.2 +0.8
baz=52,SNR=8.5
C15A Salmond Ranch, 51.94 59 ⇑P P 03 47 38.5 +1.1
baz=52,SNR=7.6
B16A M & M Farms, S 51.97 58 ⇓P P 03 47 38.0 +0.4
baz=52
E13A Victor 52.00 61 ⇓P P 03 47 38.4 +0.6
baz=52
A17A Triple J Farms 52.12 57 ⇓P P 03 47 38.9 +0.2
baz=52,SNR=5.1
CHMT Chamberlain Mo 52.18 60 eP P 03 47 40.2 +0.9
WVOR Wild Horse Val 52.29 67 eP P 03 47 41.5 +1.4
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 52.29 67 eP P 03 47 41.5 +1.4
comp=Z,5.0nm,1.0s
KEV Kevo 52.30 341 eP P 03 47 38.3 -1.3
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 52.30 341 ep P 03 47 38.3 -1.3
comp=Z,1.0nm,0.3s
KEV Kevo 52.30 341 ep P 03 47 38.3 -1.3
comp=Z,1.0nm,0.3s
FFC Flin Flon 52.34 47 eP P 03 47 40.8 +0.7
FFC e 03 48 51.4
FFC pmax pmax
comp=Z,25nm,1.6s
FFC Flin Flon 52.34 47 eP P 03 47 40.8 +0.7
comp=Z,25nm,1.6s
FFC ePcP PcP 03 48 51.4 +0.9
C16A Fuhringer Ranc 52.36 58 ⇑P P 03 47 41.3 +0.9
baz=52
F13A Darby 52.36 62 ⇑P P 03 47 41.4 +0.8
baz=52
E14A Clinton 52.38 61 ⇑P P 03 47 41.8 +1.0
baz=52,SNR=8.7
D15A Lincoln 52.47 59 ⇑P P 03 47 42.5 +1.2
baz=52
A18A Metzger Ranch, 52.56 56 ⇓P P 03 47 42.2 +0.3
baz=52
ARCES ARCESS Array B 52.77 342 P P 03 47 41.4 -1.7
comp=Z,8.5nm,0.9s,baz=49,slow=6.8,SNR=19
ARCES ARCESS Array B 52.77 342 P P 03 47 41.4 -1.7
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 52.77 342 P P 03 47 41.4 -1.7
ARE0 ARCESS Array S 52.77 342 eP P 03 47 42.8 -0.3
E15A Deer Lodge 52.82 60 ⇑P P 03 47 44.5 +0.6
baz=53,SNR=7.2
G13A Cobalt 52.88 62 ⇑P P 03 47 45.2 +0.8
baz=53
B18A Beardsley Farm 52.95 57 ⇓P P 03 47 45.5 +0.8
baz=53
C17A Wharram Farm, 52.97 58 ⇑P P 03 47 45.6 +0.6
baz=53,SNR=6.4
D16A Dana Ranch, Ca 52.97 59 ⇓P P 03 47 46.5 +1.5
baz=53
HRY Holter Researc 53.04 59 eP P 03 47 46.9 +1.4
A19A Klindworth Far 53.10 56 ⇓P P 03 47 46.5 +0.6
baz=53
ARU Arti 53.14 317 d iP P 03 47 44.3 -1.6
ARU S S 03 55 09.5 -3.0
ARU pmax pmax
comp=Z,12nm,0.6s
ARU Arti 53.14 317 eP P 03 47 44.1 -1.8
comp=Z,13nm,0.7s
MFID Camas Ranch 53.16 65 eP P 03 47 46.4 0.0
comp=Z,47nm,2.2s
MFID Camas Ranch 53.16 65 ⇑P P 03 47 47.9 +1.4
baz=53
G14A Jackson 53.18 62 ⇓P P 03 47 47.4 +0.7
baz=53
H13A Challis 53.22 63 ⇓P P 03 47 47.8 +0.8
baz=53,SNR=5.8
E16A East Helena 53.24 59 ⇑P P 03 47 48.4 +1.4
baz=53,SNR=7.0
I12A Atlanta 53.27 64 ⇑P P 03 47 48.3 +0.9
baz=53
SUMG Summit 53.28 7 eP P 03 47 47.4 +0.2
SUMG pmax pmax
comp=Z,43nm,0.8s
SUMG Summit 53.28 7 eP P 03 47 47.4 +0.2
comp=Z,43nm,0.8s
SUMG Summit 53.28 7 i P P 03 47 47.2 0.0
comp=Z,34nm,0.7s
F15A Butte 53.28 61 ⇑P P 03 47 48.3 +0.9
baz=53
B19A Brinkman Farms 53.32 56 ⇑P P 03 47 48.3 +0.8
baz=53,SNR=6.8
D17A Six Diamond Ra 53.33 58 ⇑P P 03 47 48.4 +0.7
baz=53,SNR=8.3
A20A Cobblestone Ra 53.53 55 ⇑P P 03 47 50.0 +1.0
baz=53,SNR=6.1
E17A Martinsdale 53.70 59 ⇑P P 03 47 52.3 +1.8
baz=54,SNR=8.8
I13A Wildhorse Cree 53.73 63 ⇑P P 03 47 51.9 +1.1
baz=54,SNR=5.5
D18A Linhart Farms, 53.74 58 ⇑P P 03 47 51.7 +1.1
baz=54
G15A Dillon 53.74 61 ⇓P P 03 47 51.5 +0.7
baz=54,SNR=6.7
C19A Slack Wire Ran 53.75 57 ⇓P P 03 47 52.0 +1.3
baz=54,SNR=7.1
F16A Kennard Place, 53.77 60 ⇑P P 03 47 51.8 +0.9
baz=54
MCMT McKenzie Canyo 53.78 62 eP P 03 47 51.8 +0.7
comp=Z,1.7nm,1.0s
WCN Washoe City 53.80 71 eP P 03 47 53.1 +1.8
WCN pmax pmax
comp=Z,110nm,1.9s
WCN Washoe City 53.80 71 eP P 03 47 53.1 +1.8
comp=Z,110nm,1.9s
WCN Washoe City 53.80 71 ⇓P P 03 47 52.8 +1.5
baz=54
HLID Hailey 53.81 64 ⇓P P 03 47 52.7 +1.3
baz=54
TRO Tromso 53.82 344 eP P 03 47 50.9 +0.2
TRO e 03 57 50.4
BOZ Bozeman (W) 53.86 60 eP P 03 47 52.9 +1.3
BOZ pmax pmax
comp=Z,37nm,2.3s
BOZ Bozeman (W) 53.86 60 eP P 03 47 52.9 +1.3
comp=Z,37nm,2.3s
BOZ Bozeman (W) 53.86 60 ⇑P P 03 47 52.9 +1.3
baz=54,SNR=5.5
BOZ ⇑P P 03 47 52.9 +1.3
baz=54,SNR=5.5
A21A Bergtoll Ranch 53.94 54 ⇑P P 03 47 53.6 +1.6
baz=54,SNR=6.4
H15A Lima 54.03 62 ⇓P P 03 47 53.7 +0.8
baz=54
G16A Moss Hill, Enn 54.05 61 ⇑P P 03 47 54.6 +1.6
baz=54,SNR=9.3
J13A Cove Ranch, Pi 54.05 64 ⇑P P 03 47 54.5 +1.5
baz=54
I14A Mackay 54.08 63 ⇓P P 03 47 55.0 +1.8
baz=54,SNR=6.5
E18A Harlowton 54.11 58 ⇓P P 03 47 54.7 +1.3
baz=54
F17A Fitzpatrick Pl 54.18 59 ⇑P P 03 47 54.7 +0.8
baz=54
D19A Cripps Ranch, 54.23 57 ⇓P P 03 47 55.0 +0.8
baz=54,SNR=6.0
B21A Ellsworth Farm 54.28 55 ⇑P P 03 47 55.4 +0.9
baz=54
C20A Veseth Ranch, 54.28 56 ⇓P P 03 47 56.0 +1.4
baz=54,SNR=7.9
TKM2 Tokmak 2 54.29 296 eP P 03 47 52.9 -2.0
TKM2 e 03 48 58.3
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 54.29 296 eP P 03 47 52.9 -2.0
comp=Z,4.1nm,0.7s
TKM2 ePcP PcP 03 48 58.3 -0.1
A22A Carney Farms, 54.43 54 ⇓P P 03 47 57.0 +1.5
baz=54
J14A Carey 54.45 63 ⇓P P 03 47 57.6 +1.6
baz=54,SNR=5.7
QLMT Earthquake Lak 54.52 61 eP P 03 47 58.3 +1.8
G17A Pierce Place, 54.54 60 ⇓P P 03 47 58.4 +1.8
baz=54
D20A Manuel Ranch, 54.65 57 ⇑P P 03 47 58.7 +1.5
baz=54,SNR=7.8
F18A Big Timber 54.66 59 ⇓P P 03 47 58.8 +1.4
baz=54,SNR=7.8
H16A Russell Place, 54.70 61 ⇑P P 03 47 59.3 +1.5
baz=55,SNR=10
LSA Lhasa 54.71 273 P P 03 47 58.0 -0.3
E19A Rath Farm, Rou 54.75 58 ⇓P P 03 47 59.4 +1.4
baz=55
B22A Reddig Ranch S 54.87 55 ⇓P P 03 47 59.9 +1.2
baz=55
YMR Madison River 54.87 61 eP P 03 48 00.4 +1.3
comp=Z,6.5nm,0.8s
E20A Meyer Farm, Mu 55.05 57 ⇑P P 03 48 01.7 +1.5
baz=55,SNR=5.8
AAK Ala-Archa 55.08 296 ⇓i P P 03 47 58.4 -2.1
AAK pmax pmax
comp=Z,37nm,1.8s
AAK Ala-Archa 55.08 296 eP P 03 47 58.8 -1.8
AAK Ala-Archa 55.08 296 P P 03 47 58.9 -1.6
comp=Z,49nm,0.7s,SNR=6.3
F19A Roth Farm, Mol 55.09 58 ⇓P P 03 48 02.0 +1.6
baz=55,SNR=5.7
G18A Lazy EL Ranch, 55.15 59 ⇓P P 03 48 01.2 +0.3
baz=55
I16A Newdale 55.15 62 ⇓P P 03 48 02.5 +1.6
baz=55,SNR=6.1
K14A Jones Ranch, D 55.17 64 ⇓P P 03 48 03.3 +2.2
baz=55,SNR=9.4
NVAR Mina Array Bea 55.22 71 P P 03 48 03.6 +2.0
comp=Z,4.2nm,0.6s,baz=302,slow=7.5,SNR=41
NVAR Mina Array Bea 55.22 71 P P 03 48 03.6 +2.0
D21A La Casita Ranch 55.23 56 ⇑P P 03 48 02.9 +1.5
baz=55,SNR=5.6
B23A Brockton 55.24 54 ⇑P P 03 48 02.1 +0.7
baz=55
LKWY Lake 55.24 60 eP P 03 48 03.3 +1.6
LKWY pmax pmax
comp=Z,9.0nm,0.6s
LKWY Lake 55.24 60 eP P 03 48 03.2 +1.6
comp=Z,9.1nm,0.6s
H17A Grant Village 55.26 61 ⇓P P 03 48 04.8 +2.9
baz=55,SNR=8.6
C22A Vida 55.30 55 ⇑P P 03 48 02.8 +1.0
baz=55
ELK Elko 55.31 67 eP P 03 48 04.3 +2.1
ELK Elko 55.31 67 eP P 03 48 04.3 +2.1
A24A Westby 55.39 53 ⇑P P 03 48 03.7 +1.2
baz=55
FLWY Flagg Ranch 55.41 61 eP P 03 48 04.9 +2.0
comp=Z,17nm,1.3s
K15A Arbon 55.42 63 ⇑P P 03 48 05.4 +2.5
baz=55,SNR=9.1
RLMT Red Lodge 55.43 59 eP P 03 48 04.8 +1.8
comp=Z,13nm,0.8s
RLMT Red Lodge 55.43 59 ⇑P P 03 48 05.3 +2.2
baz=55,SNR=14
RLMT ⇑P P 03 48 05.3 +2.2
baz=55,SNR=14
EKS2 Erkin-Say 55.44 297 eP P 03 48 01.5 -1.6
EKS2 e 03 49 02.7
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 55.44 297 eP P 03 48 01.5 -1.6
comp=Z,6.4nm,0.8s
EKS2 ePcP PcP 03 49 02.7 0.0
L14A Malta 55.49 64 ⇓P P 03 48 05.4 +2.0
baz=55,SNR=11
J16A Bone 55.50 62 ⇓P P 03 48 05.1 +1.6
baz=55
F20A Billings 55.53 58 ⇑P P 03 48 05.1 +1.5
baz=55
H18A Shoshone NF, C 55.54 60 ⇓P P 03 48 05.0 +1.2
baz=55
E21A Keefer Ranch, 55.55 57 ⇑P P 03 48 05.1 +1.4
baz=55
D22A Cohagen 55.57 56 ⇑P P 03 48 05.3 +1.5
baz=55,SNR=9.3
I17A Pilgrim Ck. 55.59 61 ⇑P P 03 48 06.4 +2.2
baz=55
RRI2 Red Ridge 55.60 62 eP P 03 48 05.4 +1.0
comp=Z,40nm,1.9s
C23A Lambert 55.60 55 ⇓P P 03 48 05.4 +1.4
baz=55,SNR=8.5
DGMT Dagmar 55.61 53 ⇓P P 03 48 04.9 +0.8
baz=55
MOOW Moose Ponds 55.62 61 eP P 03 48 06.0 +1.6
comp=Z,37nm,2.4s
LOHW Long Hollow 55.79 61 eP P 03 48 07.9 +2.2
comp=Z,92nm,2.8s
K16A Sona Springs 55.82 63 ⇑P P 03 48 08.0 +2.2
baz=56,SNR=7.5
MTUM Tungsten Hills 55.83 72 eP P 03 48 08.4 +2.4
H19A Powell 55.89 60 ⇑P P 03 48 08.0 +1.7
baz=56,SNR=5.4
G20A Bridger 55.90 59 ⇑P P 03 48 07.3 +1.0
baz=56,SNR=9.1
J17A Brown Place, J 55.91 62 ⇓P P 03 48 08.2 +1.7
baz=56
HVU Hansel Valley 55.92 64 eP P 03 48 07.7 +1.2
HVU pmax pmax
comp=Z,14nm,1.2s
HVU Hansel Valley 55.92 64 eP P 03 48 07.7 +1.2
comp=Z,14nm,1.2s
L15A Malad City 55.97 64 ⇓P P 03 48 08.9 +2.0
baz=56,SNR=9.7
D23A Lindsay 56.03 55 ⇓P P 03 48 08.5 +1.4
baz=56
I18A Diamond G Ranc 56.14 61 ⇓P P 03 48 10.4 +2.2
baz=56
E22A Miles City 56.18 56 ⇑P P 03 48 09.4 +1.2
baz=56
M15A Larsen Ranch, 56.32 64 ⇑P P 03 48 10.5 +1.1
baz=56,SNR=7.4
J18A Kendall Valley 56.38 61 ⇑P P 03 48 11.5 +1.6
baz=56,SNR=5.6
G21A Lodge Grass 56.41 58 ⇑P P 03 48 11.0 +1.1
baz=56
E23A Ismay 56.46 56 ⇑P P 03 48 11.2 +1.1
baz=56
L16A Fish Haven 56.47 63 ⇓P P 03 48 12.0 +1.5
baz=56,SNR=6.8
F22A Rosebud 56.49 57 ⇑P P 03 48 11.6 +1.2
baz=56
D24A Glendive 56.50 55 ⇓P P 03 48 11.9 +1.4
baz=56
H20A Greybull 56.52 59 ⇓P P 03 48 11.7 +1.0
baz=56
N15A Stansbury Isla 56.68 65 ⇓P P 03 48 13.7 +1.8
baz=57,SNR=9.2
L17A Cokeville 56.71 63 ⇑P P 03 48 13.9 +1.7
baz=57,SNR=11
K18A Toltan Ranch, 56.77 62 ⇓P P 03 48 14.2 +1.5
baz=57,SNR=18
R11A Troy Canyon, C 56.80 69 ⇓P P 03 48 14.3 +1.4
baz=57,SNR=5.5
I20A Worland 56.83 60 ⇓P P 03 48 14.6 +1.7
baz=57,SNR=5.3
J19A Crowheart 56.84 61 ⇓P P 03 48 15.0 +1.9
baz=57
KKAR Karatay Array 56.85 299 eP P 03 48 11.0 -2.0
KKAR Karatay Array 56.85 299 eP P 03 48 11.0 -2.0
G22A Birney 56.87 57 ⇑P P 03 48 14.3 +1.1
baz=57,SNR=5.4
PD01 Pinedale Array 56.91 62 eP P 03 48 13.8 +0.2
H21A Big Horn, Sher 56.91 58 ⇓P P 03 48 14.8 +1.3
baz=57
PD02 Pinedale Array 56.92 61 eP P 03 48 14.8 +1.1
BW06 Boulder Array 56.93 61 eP P 03 48 14.5 +0.7
comp=Z,10nm,1.0s
BW06 Boulder Array 56.93 61 ⇓P P 03 48 14.7 +0.9
baz=57,SNR=15
BW06 ⇓P P 03 48 14.7 +0.9
baz=57,SNR=15
PDAR Pinedale Array 56.93 61 P P 03 48 15.2 +1.4
comp=Z,6.4nm,0.8s,baz=322,slow=2.9,SNR=41
PDAR pP pP 03 48 29.9 +2.6
comp=Z,2.8nm,0.7s,baz=324,slow=1.2,SNR=6.1
PDAR Pinedale Array 56.93 61 P P 03 48 15.2 +1.4
PDAR pP pP 03 48 29.9 +2.6
F23A Volborg 56.96 56 ⇑P P 03 48 14.9 +1.1
baz=57,SNR=5.6
DUG Dugway 57.01 66 eP P 03 48 16.3 +2.0
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG Dugway 57.01 66 eP P 03 48 16.3 +2.0
comp=Z,9.4nm,0.9s
DUG Dugway 57.01 66 ⇑P P 03 48 15.9 +1.6
baz=57,SNR=11
JOF Joensuu 57.11 335 eP P 03 48 12.7 -1.8
JOF pmax pmax
comp=Z,21nm,0.6s
JOF Joensuu 57.11 335 ep P 03 48 12.7 -1.8
comp=Z,20nm,0.6s
JOF Joensuu 57.11 335 ep P 03 48 12.7 -1.8
comp=Z,20nm,0.6s
K19A Absolon Red Bu 57.26 61 ⇑P P 03 48 16.6 +0.6
baz=57,SNR=5.6
M17A Scullys Gap (B 57.26 63 ⇓P P 03 48 17.4 +1.2
baz=57,SNR=12
N16A Rees Ranch, Co 57.26 64 ⇑P P 03 48 17.7 +1.6
baz=57
L18A Fontenelle, Gr 57.27 63 ⇑P P 03 48 17.9 +1.7
baz=57,SNR=11
J20A Shoshoni 57.28 60 ⇓P P 03 48 17.8 +1.7
baz=57,SNR=9.1
H22A Clearmont 57.28 58 ⇓P P 03 48 17.5 +1.4
baz=57
SFJD Kangerlussuaq 57.31 14 i P P 03 48 15.2 -0.6
SFJD pmax pmax
comp=Z,9.0nm,0.7s
SFJD Kangerlussuaq 57.31 14 i P P 03 48 15.2 -0.6
comp=Z,8.7nm,0.7s
G23A Biddle 57.33 57 ⇑P P 03 48 17.6 +1.2
baz=57
F24A Ekalaka 57.34 56 ⇓P P 03 48 17.6 +1.1
baz=57
I21A Big Trails, Te 57.36 59 ⇓P P 03 48 17.9 +1.2
baz=57
JLU Jordanelle 57.46 65 eP P 03 48 19.2 +1.7
comp=Z,19nm,1.6s
L19A Farson 57.50 62 ⇑P P 03 48 19.0 +1.2
baz=57
N17A Moffit Pass 57.55 64 ⇓P P 03 48 19.8 +1.6
baz=57
M18A Lyman 57.61 63 ⇑P P 03 48 20.1 +1.5
baz=58
AB31 Akbulak array 57.62 310 P P 03 48 16.2 -2.0
AB31 pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 57.62 310 eP P 03 48 16.5 -1.8
comp=Z,3.4nm,0.6s
K20A Yellowstone Ra 57.64 61 ⇑P P 03 48 19.6 +0.9
baz=58
MOR8 Moi Rana 57.69 344 eP P 03 48 16.7 -1.8
O16A Springville 57.71 65 ⇑P P 03 48 21.0 +1.8
baz=58
I22A 9 Mile Ranch, 57.71 59 ⇓P P 03 48 20.6 +1.4
baz=58,SNR=6.1
G24A Alzada 57.72 56 ⇑P P 03 48 20.1 +0.9
baz=58
P15A Leamington 57.74 66 ⇑P P 03 48 20.9 +1.4
baz=58,SNR=5.7
MPU Maple Canyon 57.78 65 eP P 03 48 22.1 +2.4
comp=Z,12nm,1.0s
J22A Midwest 58.06 59 ⇓P P 03 48 22.7 +1.0
baz=58,SNR=11
H24A Dirks Ranch, A 58.07 57 ⇑P P 03 48 22.1 +0.5
baz=58,SNR=5.6
L20A Wamsutter 58.10 61 ⇓P P 03 48 23.5 +1.4
baz=58,SNR=10.0
O17A Robinson Place 58.13 64 ⇑P P 03 48 23.7 +1.4
baz=58
ULM Lac du Bonnet 58.14 47 P P 03 48 22.5 +0.6
comp=Z,9.5nm,0.5s,baz=314,slow=6.9,SNR=34
ULM Lac du Bonnet 58.14 47 eP P 03 48 22.7 +0.8
ULM Lac du Bonnet 58.14 47 eP P 03 48 22.7 +0.8
MDND Maddock 58.22 51 ⇑P P 03 48 24.0 +1.6
baz=58,SNR=8.1
K21A Alcova 58.22 60 ⇑P P 03 48 23.6 +0.8
baz=58,SNR=12
ARUT Antelope Range 58.38 68 eP P 03 48 25.5 +1.5
comp=Z,13nm,1.0s
N19A John Jarvie Ra 58.46 63 ⇓P P 03 48 25.9 +1.5
baz=58
O18A Roosevelt 58.47 64 ⇑P P 03 48 25.9 +1.4
baz=58,SNR=7.6
TAPN Taplejung 58.48 274 eP P 03 48 24.5 -0.4
comp=Z,11nm,0.4s
TMUT Trail Mountain 58.52 65 eP P 03 48 26.9 +1.8
comp=Z,82nm,2.1s
M20A Sweetwater, Wa 58.55 62 ⇑P P 03 48 26.9 +1.7
baz=58
MSU Marysvale 58.55 67 eP P 03 48 27.3 +2.0
comp=Z,7.7nm,1.0s
K22A Casper 58.58 60 ⇑P P 03 48 26.3 +1.0
baz=58
CCUT Cedar City 58.59 68 eP P 03 48 27.4 +1.9
comp=Z,68nm,1.8s
CMAR Chiang Mai Arr 58.63 258 P P 03 48 26.8 +1.1
comp=Z,7.8nm,0.5s,baz=27,slow=7.2,SNR=13
CMAR Chiang Mai Arr 58.63 258 P P 03 48 26.8 +1.1
CMAR pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 58.63 258 P P 03 48 26.8 +1.1
L21A Rawlins 58.64 61 ⇓P P 03 48 26.5 +0.7
baz=58,SNR=7.8
RSSD Black Hills 58.78 57 eP P 03 48 28.1 +1.3
RSSD pmax pmax
comp=Z,24nm,0.7s
RSSD Black Hills 58.78 57 eP P 03 48 28.1 +1.3
comp=Z,24nm,0.7s
P18A Preston Nutter 58.80 65 ⇑P P 03 48 28.6 +1.5
baz=59,SNR=5.4
Q16A Castle Valley 58.81 66 ⇓P P 03 48 28.2 +1.2
baz=59
M21A Separation Pea 58.90 61 ⇓P P 03 48 28.6 +1.0
baz=59,SNR=5.2
O19A Miners Draw (B 58.91 63 ⇑P P 03 48 28.7 +1.0
baz=59
RWWY Rawlins 58.92 61 eP P 03 48 28.9 +1.1
comp=Z,25nm,1.5s
K23A Bowen Ranch, D 58.97 59 ⇑P P 03 48 28.6 +0.7
baz=59
N20A Spence Gulch, 58.98 62 ⇑P P 03 48 30.0 +1.8
baz=59,SNR=10
KAF Kangasniemi 59.01 337 eP P 03 48 26.9 -0.9
KAF pmax pmax
comp=Z,25nm,0.6s

KAF Kangasniemi 59.01 337 ep P 03 48 26.9 -0.9
comp=Z,24nm,0.6s
KAF Kangasniemi 59.01 337 ep P 03 48 26.9 -0.9
comp=Z,24nm,0.6s
SRU San Rafael 59.02 65 eP P 03 48 29.1 +0.7
comp=Z,12nm,0.9s
SRU San Rafael 59.02 65 ⇓P P 03 48 29.9 +1.5
baz=59,SNR=7.9
ODAN Odare 59.03 274 eP P 03 48 29.1 +0.4
ODAN Odare 59.03 274 eP P 03 48 29.1 +0.4
J24A Dixon Ranch, L 59.04 58 ⇑P P 03 48 29.6 +1.1
baz=59
L22A Ellis Ranch, M 59.07 60 ⇑P P 03 48 29.8 +1.0
baz=59
R16A Teasdale 59.10 66 ⇓P P 03 48 31.2 +2.1
baz=59,SNR=8.0
GUN Gumba 59.15 276 eP P 03 48 29.4 -0.2
comp=Z,13nm,0.3s
JIRN Jiri 59.15 276 eP P 03 48 29.6 -0.1
JIRN Jiri 59.15 276 eP P 03 48 29.6 -0.1
Q18A Rafter H Ranch 59.24 65 ⇑P P 03 48 31.5 +1.6
baz=59
L23A Garrett 59.39 60 ⇓P P 03 48 31.9 +0.9
baz=59,SNR=9.3
R17A Hanksville Air 59.42 66 ⇑P P 03 48 32.6 +1.4
baz=59,SNR=6.8
RAMN Ramite 59.43 275 eP P 03 48 30.9 -0.6
comp=Z,21nm,0.4s
S16A Weppner Ranch, 59.44 67 ⇓P P 03 48 32.8 +1.5
baz=59
M22A Cedar Creek Ra 59.44 61 ⇓P P 03 48 32.8 +1.4
baz=59
P19A Cripple Cowboy 59.47 64 ⇑P P 03 48 32.8 +1.2
baz=59,SNR=9.4
O20A White River Ci 59.50 63 ⇑P P 03 48 32.8 +1.0
baz=59,SNR=6.2
KKN Kakani 59.59 276 eP P 03 48 31.6 -0.9
comp=Z,13nm,0.4s
NSS Namsos 59.60 345 AMS AMS 04 49 54.8
comp=Z,11μm,23.7s
FINES FINESS Array B 59.65 337 P P 03 48 31.3 -0.8
comp=Z,27nm,0.6s,baz=37,slow=8.9,SNR=94
FINES FINESS Array B 59.65 337 P P 03 48 31.3 -0.8
FINES pmax pmax
comp=Z,27nm,0.6s
FINES FINESS Array B 59.65 337 P P 03 48 31.3 -0.8
PKI Pulchoki 59.68 276 eP P 03 48 32.8 -0.5
PKI Pulchoki 59.68 276 eP P 03 48 32.8 -0.5
GKN Gorkha 59.81 277 eP P 03 48 32.9 -1.1
GKN Gorkha 59.81 277 eP P 03 48 32.9 -1.1
Q19A Hogan Spring (59.81 64 ⇑P P 03 48 35.0 +1.2
baz=60,SNR=18
DMN Daman 59.83 276 eP P 03 48 33.9 -0.3
DMN Daman 59.83 276 eP P 03 48 33.9 -0.3
L24A Wheatland 59.83 59 ⇓P P 03 48 35.1 +1.2
baz=60
O21A Pagoda 59.85 62 ⇓P P 03 48 35.4 +1.2
baz=60,SNR=5.9
P20A De Beque 59.88 63 ⇓P P 03 48 35.7 +1.3
baz=60
R18A Canyonlands Na 59.88 65 ⇓P P 03 48 35.2 +0.8
baz=60,SNR=12
S17A Black Ridge (B 59.94 66 ⇑P P 03 48 35.9 +1.2
baz=60,SNR=13
N22A Wattenberg Ran 59.95 61 ⇑P P 03 48 36.7 +1.8
baz=60,SNR=5.9
DANN Dangsing 60.07 278 eP P 03 48 35.2 -0.7
comp=Z,11nm,0.4s
N23A Red Feather La 60.15 61 ⇓P P 03 48 37.5 +1.2
baz=60,SNR=7.1
K26A Motz Farm, Whi 60.24 58 ⇑P P 03 48 36.5 -0.2
baz=60
R19A Curley Farm, L 60.30 65 ⇓P P 03 48 38.1 +0.9
baz=60,SNR=8.1
Q20A Ridgley Place, 60.33 64 ⇑P P 03 48 38.8 +1.4
baz=60
S18A Hurst Farm, Bl 60.34 66 ⇓P P 03 48 38.4 +0.8
baz=60
P21A Newcastle 60.36 63 ⇑P P 03 48 38.8 +1.1
baz=60
O22A Kremmling 60.37 62 ⇓P P 03 48 38.6 +0.7
baz=60
PV04 Paradox Valley 60.41 65 eP P 03 48 38.9 +0.9
KOLN Koldanda 60.59 278 eP P 03 48 38.8 -0.6
comp=Z,9.4nm,0.5s
KOLN Koldanda 60.59 278 eP P 03 48 38.8 -0.6
comp=Z,9.4nm,0.5s
O23A Lake Granby, G 60.66 61 ⇓P P 03 48 41.9 +2.1
baz=60,SNR=13
P22A Eagle 60.67 62 ⇑P P 03 48 41.3 +1.5
baz=60,SNR=6.5
K27A Flueckinger Fa 60.71 57 ⇓P P 03 48 40.5 +0.6
baz=60
S19A Harvey Farm, M 60.76 65 ⇑P P 03 48 41.3 +0.9
baz=61,SNR=10.0
PV01 Paradox Valley 60.78 65 eP P 03 48 42.0 +1.5
comp=Z,602nm,1.0s
Q21A Lamborn Mesa, 60.80 63 ⇑P P 03 48 42.0 +1.3
baz=61,SNR=8.1
R20A Redvale 60.84 64 ⇑P P 03 48 42.2 +1.2
baz=61
SMCO Snowmass 60.87 63 eP P 03 48 42.7 +1.4
comp=Z,10nm,1.0s
S20A Disappointment 61.12 65 ⇑P P 03 48 43.9 +1.0
baz=61,SNR=5.6
ISCO Idaho Springs 61.12 61 eP P 03 48 44.8 +1.9
comp=Z,31nm,1.5s
ISCO Idaho Springs 61.12 61 ⇑P P 03 48 44.4 +1.4
baz=61,SNR=15
Q22A Crested Butte, 61.13 63 ⇑P P 03 48 44.7 +1.7
baz=61,SNR=6.5
R21A Cimarron 61.16 64 ⇑P P 03 48 44.8 +1.6
baz=61,SNR=17
M26A McRoberts Ranc 61.17 59 ⇑P P 03 48 44.2 +1.2
baz=61
O24A Longmont 61.17 61 ⇑P P 03 48 45.0 +1.9
baz=61
P23A Jefferson 61.32 62 ⇓P P 03 48 46.4 +2.0
baz=61
MVCO Mesa Verde 61.50 65 eP P 03 48 46.3 +0.9
comp=Z,35nm,1.9s
M27A Reverse DX Ran 61.50 58 ⇑P P 03 48 46.4 +1.2
baz=61
S21A Coal Bank Pass 61.55 64 ⇑P P 03 48 47.8 +1.9
baz=61,SNR=9.9
Q23A Hartsel 61.67 62 ⇑P P 03 48 48.5 +1.8
baz=62
R22A Saguache, Gunn 61.68 63 ⇑P P 03 48 48.7 +2.0
baz=62
P24A Kohler Place, 61.70 61 ⇓P P 03 48 48.8 +2.0
baz=62
EYMN Ely 61.77 47 eP P 03 48 47.3 +0.5
comp=Z,13nm,0.7s
N27A Anderson Farm, 61.96 59 ⇓P P 03 48 49.8 +1.5
baz=62
Q24A Divide 61.98 62 ⇓P P 03 48 50.2 +1.4
baz=62
O26A Horse Wrangler 61.99 60 ⇑P P 03 48 49.9 +1.4
baz=62
S22A 4UR Ranch, Cre 62.00 64 ⇓P P 03 48 50.4 +1.5
baz=62
P25A Willow Gulch B 62.09 61 ⇑P P 03 48 50.9 +1.6
baz=62
OGNE Ogallala 62.12 58 ⇑P P 03 48 50.9 +1.6
baz=62
OBN Obninsk 62.14 327⇑eP P 03 48 48.5 -0.6
OBN eS S 03 57 09.5 -0.9
OBN pmax pmax
comp=Z,44nm,1.5s
R23A Moffat 62.20 63 ⇓P P 03 48 51.6 +1.4
baz=62
O27A Beecher Island 62.45 59 ⇓P P 03 48 52.8 +1.1
baz=62
P26A Davis Ranch, A 62.48 60 ⇓P P 03 48 53.4 +1.5
baz=62,SNR=6.5
Q25A Bedland, Calha 62.49 61 ⇓P P 03 48 53.3 +1.2
baz=62,SNR=5.3
R24A Sanders Place, 62.55 62 ⇑P P 03 48 53.7 +1.3
baz=62,SNR=5.7
ECSD EROS Data Cent 62.67 53 eP P 03 48 53.4 +0.5
comp=Z,84nm,1.9s
S24A Houchin Ranch, 62.93 63 ⇑P P 03 48 56.8 +1.6
baz=63,SNR=7.0
NB2 NORSAR Subarra 63.01 344 P P 03 48 54.5 -0.4
comp=Z,25nm,0.8s,baz=21,slow=6.9
NOA NORSAR Array B 63.01 344 P P 03 48 54.2 -0.7
comp=Z,14nm,0.6s,baz=20,slow=6.6,SNR=61
NOA NORSAR Array B 63.01 344 P P 03 48 54.2 -0.7
comp=Z,14nm,0.6s
NOA pmax pmax
NOA NORSAR Array B 63.01 344 P P 03 48 54.2 -0.7
R25A Fountain Ranch 63.04 62 ⇑P P 03 48 57.0 +1.4
baz=63,SNR=10
NC602 NORSAR Array S 63.24 344 eP P 03 48 56.2 -0.2
SPMN St. Paul 63.29 49 ⇑P P 03 48 57.5 +0.5
baz=63
V22A San Miguel Ran 63.31 65 ⇑P P 03 48 59.3 +1.6
baz=63
S25A Robets Cordova 63.33 62 ⇑P P 03 48 59.0 +1.4
baz=63
R26A Arlington 63.37 61 ⇓P P 03 48 58.6 +0.9
baz=63,SNR=22
U23A El Rito 63.39 64 ⇓P P 03 48 59.1 +1.0
baz=63
HFS Hagfors 63.43 342 P P 03 48 56.7 -1.0
comp=Z,11nm,0.5s,baz=46,slow=4.2,SNR=9.2
HFS Hagfors 63.43 342 P P 03 48 56.7 -1.0
HFS pmax pmax
comp=Z,11nm,0.5s
HFS Hagfors 63.43 342 P P 03 48 56.7 -1.0
T24A Torres, Weston 63.44 63 ⇑P P 03 49 00.1 +1.6
baz=63
X20A Quemado 63.48 67 ⇑P P 03 49 00.3 +1.6
baz=63
BGNE Belgrade 63.70 55 ⇑P P 03 49 00.7 +0.9
baz=64
R27A Eads 63.71 61 ⇑P P 03 49 01.2 +1.1
baz=64
VRHR Novokhopersk 63.72 322 eP P 03 48 56.7 -3.0
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,2.0nm,0.3s
T25A Trinidad 63.73 63 ⇑P P 03 49 01.8 +1.5
baz=64
U24A Moreno Valley 63.82 64 ⇑P P 03 49 02.6 +1.6
baz=64
V23A Ortiz Mt. (NFS 63.83 65 ⇑P P 03 49 02.8 +1.8
baz=64
S26A Kim 63.86 62 ⇑P P 03 49 01.4 +0.4
baz=64,SNR=6.6
OSL Oslo 64.13 344 eP P 03 49 02.4 +0.1
W23A Werner Place, 64.29 65 ⇑P P 03 49 05.0 +1.1
baz=64
V24A Rampart Ranch, 64.33 64 ⇓P P 03 49 05.4 +1.1
baz=64,SNR=6.4
ASK Askoy 64.44 347 eP P 03 49 03.5 -0.8
RUND Rundenannen 64.49 347 eP P 03 49 04.0 -0.7
VSR Storozhevoye 64.50 324 eP P 03 49 03.2 -1.6
VSR eS sPn 03 57 58.7
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
KONO Kongsberg 64.59 344 AMS AMS 04 49 43.2
comp=Z,9μm,25.0s
IZAR Zarasai 64.62 333 eP P 03 49 05.5 -0.1
IZAR AMB AMB 03 49 06.5
comp=Z,10nm,0.7s
U26A Atchley Ranch, 64.64 63 ⇑P P 03 49 07.0 +0.7
baz=64
W24A Lazy 6 Ranch, 64.65 65 ⇑P P 03 49 07.1 +0.8
baz=64
T27A Campo 64.68 62 ⇓P P 03 49 06.9 +0.5
baz=64
ODD1 Odda 64.79 346 eP P 03 49 06.1 -0.6
ISAL Salakas 64.81 333 eP P 03 49 06.7 -0.1
ISAL AMB AMB 03 49 07.8
comp=Z,11nm,1.5s
IDID Didziasalis 64.87 333 eP P 03 49 07.1 -0.1
IDID AMB AMB 03 49 08.2
comp=Z,9.4nm,0.8s
120A U Bar Ranch, L 64.90 69 ⇓P P 03 49 09.1 +1.2
baz=65
SCHQ Schefferville 64.92 28 P P 03 49 07.2 -0.3
comp=Z,14nm,0.6s,baz=348,slow=6.8,SNR=51
SCHQ Schefferville 64.92 28 eP P 03 49 07.1 -0.5
comp=Z,16nm,0.6s
219A White Tail Can 64.96 70 ⇓P P 03 49 09.9 +1.6
baz=65
IIGN Ignalina 64.98 333 eP P 03 49 07.8 -0.1
IIGN AMB AMB 03 49 09.6
comp=Z,20nm,0.6s
X24A Lazy VL Ranch, 65.12 65 ⇑P P 03 49 10.9 +1.5
baz=65
W25A X Bar L Ranch, 65.15 64 ⇑P P 03 49 10.8 +1.3
baz=65
NACGM Naroch 65.23 333 e P 03 49 06.0 -3.5
X25A Clemmons Ranch 65.57 65 ⇑P P 03 49 13.4 +1.1
baz=65
Y24A Capitan 65.61 66 ⇑P P 03 49 14.0 +1.5
baz=66
W26A Owens Ranch, T 65.62 64 ⇓P P 03 49 14.3 +1.8
baz=66
SCIA State Center 65.67 52 eP P 03 49 13.8 +1.2
comp=Z,85nm,0.6s
X26A CR and CF Fran 66.00 64 ⇑P P 03 49 16.6 +1.6
baz=66
Y25A Mesa, Roswell 66.01 65 ⇓P P 03 49 16.6 +1.6
baz=66
222A Williams Famil 66.08 68 ⇓P P 03 49 17.3 +1.8
baz=66
Z24A Sheeppen Canyo 66.10 66 ⇑P P 03 49 17.1 +1.4
baz=66
SNART Snartemo 66.22 345 eP P 03 49 16.1 +0.4
KSU1 Kansas State U 66.22 56 eP P 03 49 15.7 -0.4
comp=Z,11nm,0.6s
X27A F and S Farms, 66.31 63 ⇓P P 03 49 18.4 +1.4
baz=66
Y26A Elida 66.48 65 ⇓P P 03 49 19.6 +1.5
baz=66
Z25A Roswell 66.48 66 ⇓P P 03 49 19.8 +1.7
baz=66
124A Stringfield Ra 66.53 67 ⇑P P 03 49 20.3 +1.8
baz=66
Y27A Causey 66.86 64 ⇑P P 03 49 21.9 +1.4
baz=67
AMTX Amarillo 66.88 62 ⇑P P 03 49 21.6 +1.0
baz=67
AMTX ⇑P P 03 49 21.6 +1.0
baz=67
Z26A Caprock 66.89 65 ⇑P P 03 49 22.3 +1.6
baz=67
224A Cornudas Mount 66.97 67 ⇓P P 03 49 23.1 +1.9
baz=67
SUW Suwalki 66.97 334 eP P 03 49 20.8 +0.1
SUW Suwalki 66.97 334 eP P 03 49 20.8 +0.1
MSTX Muleshoe 67.00 64 ⇓P P 03 49 22.5 +1.1
baz=67
Z27A Tatum 67.27 65 ⇑P P 03 49 23.9 +0.8
baz=67,SNR=5.7
225A Deer Hill, Car 67.32 66 ⇓P P 03 49 25.0 +1.5
baz=67
MNTX Cornudas Mount 67.33 67 ⇓P P 03 49 25.2 +1.9
baz=67
MNTX ⇓P P 03 49 25.2 +1.9
baz=67
126A Clayton Basin, 67.35 66 ⇑P P 03 49 25.1 +1.6
baz=67
127A Arkansas Junct 67.68 65 ⇓P P 03 49 27.1 +1.4
baz=68
226A Malaga, Loving 67.75 66 ⇓P P 03 49 27.8 +1.7
baz=68
325A Bean Ranch, Si 67.81 67 ⇑P P 03 49 28.3 +1.7
baz=68
KAPI Kappang 67.81 225 P P 03 49 26.5 +0.1
comp=Z,7.0nm,0.6s,baz=120,slow=5.5,SNR=3.5
KAPI Kappang 67.81 225 P P 03 49 26.5 +0.1
BSD Bornholm Skovb 67.89 340 i P P 03 49 26.6 +0.2
BSD Bornholm Skovb 67.89 340 i P P 03 49 26.6 +0.2
AKASG Malin Array Be 68.22 329 P P 03 49 27.3 -1.3
comp=Z,11nm,0.4s,baz=29,slow=6.6,SNR=37
AKASG Malin Array Be 68.22 329 ceP P 03 49 27.5 -1.1
AKASG pmax pmax
comp=Z,11nm,0.4s
AKASG Malin Array Be 68.22 329 P P 03 49 27.3 -1.3
AKBB Malin Array Si 68.22 329 eP P 03 49 26.5 -2.1
AKBB Malin Array Si 68.22 329 eP P 03 49 26.4 -2.1
KIEV Kiev 68.23 329⇑i P P 03 49 27.2 -1.4
KIEV Kiev 68.23 329 eP P 03 49 27.3 -1.4
comp=Z,17nm,0.9s
425A Indio Mountain 68.25 67 ⇓P P 03 49 31.1 +1.8
baz=68
326A Caldwell Ranch 68.39 66 ⇑P P 03 49 32.0 +1.9
baz=68
WMOK Wichita Mounta 68.50 60 eP P 03 49 31.3 +0.6
comp=Z,16nm,0.7s
426A McDonald Obser 68.86 67 ⇑P P 03 49 34.4 +1.2
baz=69
328A Wristen Ranch, 68.97 66 ⇑P P 03 49 34.7 +1.0
baz=69,SNR=14
427A Hayter Ranch, 69.06 66 ⇓P P 03 49 35.7 +1.4
baz=69
GKP Gorka Klasztor 69.10 337 eP P 03 49 34.7 +0.7
GKP Gorka Klasztor 69.10 337 eP P 03 49 34.7 +0.7
TUL1 Tulsa 69.11 58 ⇓P P 03 49 34.9 +0.5
baz=69
KIV Kislovodsk 69.18 317 eP P 03 49 35.0 +0.1
KIV pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 69.18 317 P P 03 49 36.0 +1.1
comp=Z,15nm,0.6s
526A Mary Lane Ranc 69.30 67 ⇓P P 03 49 37.4 +1.5
baz=69,SNR=5.3
527A Woodward Ranch 69.49 67 ⇑P P 03 49 38.6 +1.5
baz=69
428A Kincaid Ranch, 69.55 66 ⇓P P 03 49 39.1 +1.8
baz=69,SNR=13
SLM Saint Louis 69.65 52 eP P 03 49 38.4 +0.7
comp=Z,28nm,0.7s
626A Big Bend Ranch 69.66 68 ⇑P P 03 49 39.6 +1.6
baz=70
SFIN Scholer Farm 69.69 49 ⇑P P 03 49 38.2 +0.3
baz=70
528A Cox Ranch, San 69.93 66 ⇓P P 03 49 41.0 +1.3
baz=70,SNR=5.1
FVM French Village 70.08 53 P P 03 49 40.9 +0.5
comp=Z,117nm,1.8s
TXAR Lajitas Array 70.09 68 P P 03 49 41.9 +1.2
comp=Z,11nm,0.6s,baz=297,slow=4.8,SNR=105
TXAR Lajitas Array 70.09 68 P P 03 49 41.9 +1.2
TXAR pmax pmax
comp=Z,11nm,0.6s
TXAR Lajitas Array 70.09 68 P P 03 49 41.9 +1.2
627A Terlingua Ranc 70.15 67 ⇓P P 03 49 42.5 +1.4
baz=70
628A Black Gap, Mar 70.40 67 ⇑P P 03 49 44.1 +1.6
baz=70
ANN Anapa 70.53 321 eP P 03 49 47.4 +4.5
ANN e*PP PcP 03 50 02.9 -1.0
ANN ePPP PPP 03 53 55.1
ANN eS S 03 58 58.5 +6.2
LVV L'vov 70.53 332 eP P 03 49 43.8 +0.9
SIUC Southern Illin 70.87 52 eP P 03 49 45.8 +0.6
comp=Z,29nm,0.6s
KWP Kalwaria Pacla 71.06 333 eP P 03 49 46.4 +0.3
KWP Kalwaria Pacla 71.06 333 ⇓P P 03 49 47.1 +0.9
KWP Kalwaria Pacla 71.06 333 ePKPdf P 03 49 46.3 +0.1
KWP Kalwaria Pacla 71.06 333⇓iP P 03 49 47.1 +0.9
JCT Junction City 71.29 64 eP P 03 49 48.4 +0.5
JCT pmax pmax
comp=Z,26nm,1.3s
JCT Junction City 71.29 64 eP P 03 49 48.4 +0.5
comp=Z,26nm,1.3s
JCT Junction City 71.29 64 ⇓P P 03 49 49.1 +1.2
baz=71
ERPA Erie 71.30 43 eP P 03 49 47.6 -0.1
comp=Z,24nm,0.9s
OJC Ojcow 71.30 335 eP P 03 49 47.3 -0.2
OJC Ojcow 71.30 335 eP P 03 49 47.3 -0.2
OJC Ojcow 71.30 335 eP P 03 49 47.2 -0.4
comp=Z,20nm,0.8s
MIAR Mount Ida 71.30 57 eP P 03 49 48.4 +0.6
comp=Z,37nm,1.4s
NRDL Niedersach Rie 71.31 341 eP P 03 49 47.8 +0.3
comp=Z,18nm,1.0s
USIN University of 71.39 51 eP P 03 49 49.0 +0.7
comp=Z,158nm,2.0s
PARMO Parma 71.46 53 eP P 03 49 49.9 +1.1
GNI Garni 71.47 313⇑iP P 03 49 48.0 -1.0
GNI pmax pmax
comp=Z,23nm,1.8s
GNI Garni 71.47 313 eP P 03 49 48.7 -0.3
comp=Z,5.4nm,0.5s
KSP Ksiaz 71.57 337 eP P 03 49 49.9 +0.7
ACSO Alum Creek Sta 71.61 46 eP P 03 49 50.1 +0.5
comp=Z,64nm,1.8s
STHS Stebnicka Huta 71.66 333 eP P 03 49 50.7 +0.9
STHS pmax pmax
comp=Z,12nm,0.7s
STHS Stebnicka Huta 71.66 333 eP P 03 49 50.7 +0.9
KOLS Kolonicke sedl 71.82 333 eP P 03 49 51.4 +0.7
KOLS pmax pmax
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 71.82 333 eP P 03 49 51.4 +0.7
CLL Collm 71.86 339 eP P 03 49 50.5 -0.4
comp=Z,44nm,1.3s
CLL Collm 71.86 339 iP P 03 49 51.1 +0.2
CLL pmax pmax
comp=Z,44nm,1.3s
CLL Collm 71.86 339⇑iP P 03 49 50.5 -0.4
comp=Z,44nm,1.3s
CLZ Clausthal 71.88 341 eP P 03 49 51.4 +0.3
comp=Z,45nm,1.2s
CLZ Clausthal 71.88 341 eP P 03 49 51.4 +0.3
CLZ pmax pmax
comp=Z,45nm,1.2s
NIE Niedzica 71.90 334 eP P 03 49 52.4 +1.2
NIE Niedzica 71.90 334 eP P 03 49 52.4 +1.2
GNAR Gosnell 71.90 54 eP P 03 49 52.8 +1.5
comp=Z,1μm,1.4s
UPC Upice 71.95 337 eP P 03 49 52.0 +0.5
UPC Upice 71.95 337 ePKPDF P 03 49 52.0 +0.5
DPC Dobruska-Polom 72.02 337 eP P 03 49 52.4 +0.4
DPC Dobruska-Polom 72.02 337 eP P 03 49 51.7 -0.3
comp=Z,22nm,0.9s
DPC Dobruska-Polom 72.02 337 ePKPDF P 03 49 52.4 +0.4
OKC Ostrava-Krasne 72.06 336 eP P 03 49 52.8 +0.7
OKC Ostrava-Krasne 72.06 336 ePKPDF P 03 49 52.8 +0.7
CRVS Cervenica-Dubn 72.07 333 eP P 03 49 51.7 -0.5
CRVS pmax pmax
comp=Z,9.0nm,0.9s
CRVS Cervenica-Dubn 72.07 333 eP P 03 49 51.7 -0.5
CRVS e 03 52 00.4
BRG Berggiesshubel 72.07 339 i PKP P 03 49 52.3 +0.1
comp=Z,15nm,1.0s
BRG i 03 49 57.4
comp=Z,16nm,0.8s
BRG e 03 51 59.3
comp=Z,15nm,1.2s
BRG e 03 53 47.3
comp=Z,23nm,1.7s
BRG Berggiesshubel 72.07 339 eP P 03 49 51.8 -0.4
comp=Z,28nm,1.5s
BRG Berggiesshubel 72.07 339 i P P 03 49 52.3 +0.1
BRG i 03 49 57.4
BRG pmax pmax
comp=Z,15nm,1.0s
UZH Uzhgorod 72.09 332 eP P 03 49 54.4 +2.1
UZH e 03 50 06.0
BUR08 Bucovina Ar. S 72.15 330 ePKPdf P 03 49 52.3 -0.5
KRLC Kraliky 72.17 336 ePKPDF P 03 49 53.6 +0.7
PVCC Panska Ves 72.26 338 eP P 03 49 54.0 +0.7
PVCC Panska Ves 72.26 338 ePKPDF P 03 49 54.0 +0.7
MORC Moravsky Berou 72.27 336 eP P 03 49 54.0 +0.6
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 72.27 336 eP P 03 49 54.0 +0.6
comp=Z,14nm,0.9s
TRPA Tarpa 72.48 332⇓eP P 03 49 55.0 +0.4
LBNH Lisbon 72.56 37 eP P 03 49 56.1 +0.9
LBNH pmax pmax
comp=Z,40nm,1.5s
LBNH Lisbon 72.56 37 eP P 03 49 56.1 +0.9
comp=Z,40nm,1.5s
PRU Pruhonice 72.77 338 eP P 03 49 56.7 +0.3
PRU Pruhonice 72.77 338⇑ePKP P 03 49 56.7 +0.3
MOX Moxa 72.78 340 eP P 03 49 56.3 -0.1
comp=Z,88nm,2.0s
MOX Moxa 72.78 340 eP P 03 49 56.3 -0.1
MOX pmax pmax
comp=Z,88nm,2.0s
DLF Lyons Farm 72.80 352 eP P 03 49 55.6 -0.8
UBBA Unterbreizbach 72.93 341 eP P 03 49 58.3 +1.1
comp=Z,68nm,1.8s
VRAC Vranov 72.93 336 P P 03 49 58.2 +0.8

comp=Z,7.5nm,0.6s,baz=15,slow=9.1,SNR=12
VRAC Vranov 72.93 336 P **P 03 49 58.2 +0.8**
NATX Nacogdoches 72.97 60 *e*P **P 03 49 59.2 +1.4**
comp=Z,18nm,0.8s
NKC Novy Kostel 72.99 339 *e*P **P 03 49 58.1 +0.4**
NKC Novy Kostel 72.99 339⇓ *e*PKP **P 03 49 58.1 +0.4**
VYHS Vyhne 73.13 335 *e*P **P 03 49 58.4 -0.2**
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 73.13 335 *e*P **P 03 49 58.4 -0.2**
VYHS *e* 03 52 03.7
PSZ Piszkesteto 73.39 334 *e*P **P 03 50 00.8 +0.7**
PSZ pmax pmax
comp=Z,10.0nm,0.7s
PSZ Piszkesteto 73.39 334 *e*P **P 03 50 00.8 +0.7**
comp=Z,9.5nm,0.7s
PSZ Piszkesteto 73.39 334⇓ *e*P **P 03 50 01.5 +1.4**
SMOL Smolenice 73.47 335 *e*P **P 03 50 01.5 +1.0**
SMOL Smolenice 73.47 335 *e*P **P 03 50 01.5 +1.0**
ROTZ Rotzenmuhle 73.48 339 *e*P **P 03 50 01.1 +0.5**
comp=Z,41nm,1.6s
PLAL Pickwick Lake 73.62 53 *e*P **P 03 50 01.9 +0.3**
comp=Z,14nm,0.7s
BEBN Eben Emael 73.73 344 P **P 03 50 02.4 +0.4**
GRF Grafenberg Arr 73.76 340 *e*P **P 03 50 03.1 +0.9**
comp=Z,140nm,1.7s
GRF Grafenberg Arr 73.76 340 *e*P **P 03 50 03.1 +0.9**
GRF pmax pmax
comp=Z,140nm,1.7s
GRFO Grafenberg 73.76 340 *e*P **P 03 50 02.7 +0.5**
GRFO pmax pmax
comp=Z,131nm,1.7s
GRFO Grafenberg 73.76 340 *e*P **P 03 50 02.7 +0.5**
comp=Z,131nm,1.7s
KHC Kasperske Hory 73.79 338 *e*P **P 03 50 01.1 -1.4**
KHC Kasperske Hory 73.79 338 *e*P **P 03 50 01.0 -1.4**
comp=Z,63nm,1.5s
KHC Kasperske Hory 73.79 338⇑ *e*PKP **P 03 50 01.1 -1.4**
ZST Bratislava 73.84 336 *e*P **P 03 50 04.2 +1.5**
ZST pmax pmax
comp=Z,9.0nm,0.9s
ZST Bratislava 73.84 336 *e*P **P 03 50 04.2 +1.5**
MEM Membach 73.86 343 P **P 03 50 03.1 +0.4**
comp=Z,42nm,1.2s
MLR Muntele Rosu 73.86 329 P **P 03 50 03.7 +0.7**
comp=Z,6.9nm,0.6s,baz=331,slow=10,SNR=75
MLR Muntele Rosu 73.86 329 P **P 03 50 03.7 +0.7**
WET Wettzell 73.93 339 *e*P **P 03 50 03.9 +0.6**
comp=Z,79nm,1.8s
WET Wettzell 73.93 339 *e*P **P 03 50 03.9 +0.6**
WET pmax pmax
comp=Z,79nm,1.8s
TIRR Tirgusor 74.00 327 *e*P **P 03 50 03.2 -0.4**
comp=Z,13nm,0.7s
BUD Budapest 74.02 334⇓ *e*P **P 03 50 05.2 +1.5**
GEC2 GERESS Array S 74.03 338 *e*P **P 03 50 04.2 +0.3**
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 74.03 338 *e*P **P 03 50 04.2 +0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.7s
GERES GERESS Array B 74.03 338 P **P 03 50 04.2 +0.3**
comp=Z,7.8nm,0.6s,baz=37,slow=5.0,SNR=52
GERES GERESS Array B 74.03 338 P **P 03 50 04.3 +0.3**
GERES pmax pmax
comp=Z,8.0nm,0.6s
GERES GERESS Array B 74.03 338 P **P 03 50 04.2 +0.3**
BCLA Clavier 74.16 344 P **P 03 50 04.8 +0.3**
comp=Z,39nm,2.2s
SNF Seneffe 74.23 345 P **P 03 50 05.0 +0.1**
comp=Z,24nm,1.9s
TOD Tromm 74.32 341 *e*P **P 03 50 05.7 +0.2**
TOD Tromm 74.32 341 *e*P **P 03 50 05.7 +0.2**
SWET Sewanee 74.43 51 *e*P **P 03 50 06.1 -0.3**
comp=Z,27nm,0.6s
SOP Sopron 74.45 336⇓ *e*P **P 03 50 07.9 +1.6**
RUP Ruppelstein 74.55 343 *e*P **P 03 50 06.3 -0.6**
RUP Ruppelstein 74.55 343 *e*P **P 03 50 06.3 -0.6**
CTA Charters Tower 74.56 194 P **P 03 50 07.6 +0.5**
comp=Z,8.0nm,0.7s,baz=15,slow=8.5,SNR=6.6
CTA Charters Tower 74.56 194 P **P 03 50 07.6 +0.5**
CTA pmax pmax
comp=Z,8.0nm,0.7s
CTA Charters Tower 74.56 194 P **P 03 50 07.6 +0.5**
DOU Dourbes 74.58 344 P **P 03 50 07.0 0.0**
BAIF Baives 74.68 344⇑ *i*P **P 03 50 07.7 +0.2**
comp=Z,33nm,0.6s
STU Stuttgart 75.04 341 *e*P **P 03 50 09.8 +0.1**
comp=Z,40nm,1.4s
LANF Langenberg 75.11 342 *e*P **P 03 50 10.0 0.0**
LANF Langenberg 75.11 342 *e*P **P 03 50 10.0 0.0**
LANF Langenberg 75.11 342 *e*P **P 03 50 10.0 0.0**
ARSA Arzberg 75.11 336⇑ *i*P **P 03 50 11.2 +1.0**
comp=Z,31nm,1.9s
ARSA Arzberg 75.11 336⇑ *i*P **P 03 50 11.2 +1.0**
comp=Z,31nm,1.9s
PKSM Moragy 75.29 334⇓ *e*P **P 03 50 11.3 +0.2**
BEHE Becsehely 75.53 335⇓ *e*P **P 03 50 13.9 +1.4**
BFO Black Forest 75.63 341 *e*P **P 03 50 13.6 +0.5**
BFO pmax pmax
comp=Z,15nm,1.1s
BFO Black Forest 75.63 341 *e*P **P 03 50 13.6 +0.5**
comp=Z,15nm,1.1s
LRAL Lakeview Retre 75.73 53 *e*P **P 03 50 13.6 -0.2**
comp=Z,7.4nm,0.6s
CDF Champ du Feu 75.75 342⇑ *i*P **P 03 50 14.1 +0.3**
comp=Z,22nm,0.6s
SPAK Spaichingen-Ko 75.76 341 *e*P **P 03 50 14.1 +0.2**
SOKA Soboth 75.76 336⇓ *i*P **P 03 50 14.8 +0.8**
comp=Z,29nm,1.2s
SOKA Soboth 75.76 336⇓ *i*P **P 03 50 14.8 +0.8**
comp=Z,29nm,1.2s
KBA Koelnbreinsper 75.78 338 *i*P **P 03 50 15.5 +1.3**
KBA pmax pmax
comp=Z,40nm,0.6s
KBA Koelnbreinsper 75.78 338 *i*P **P 03 50 15.5 +1.3**
comp=Z,40nm,0.6s
KBA Koelnbreinsper 75.78 338 *i*P **P 03 50 15.5 +1.3**
comp=Z,40nm,0.6s,SNR=40
PERS Pernice 75.78 336 *i*P **P 03 50 14.7 +0.7**
PERS Pernice 75.78 336 *i*P **P 03 50 14.7 +0.7**
GROS Grobnik 75.85 336 *i*P **P 03 50 15.2 +0.7**
GROS Grobnik 75.85 336 *i*P **P 03 50 15.2 +0.7**
PAGF Fort de Pagny 75.89 343 *e*P **P 03 50 15.1 +0.6**
comp=Z,14nm,0.6s
WATA Walderalm 75.92 339⇓ *i*P **P 03 50 15.6 +0.7**
WATA pmax pmax
comp=Z,9.0nm,0.5s
WATA Walderalm 75.92 339⇓ *i*P **P 03 50 15.6 +0.7**
comp=Z,8.9nm,0.5s
WATA Walderalm 75.92 339⇓ *i*P **P 03 50 15.6 +0.7**
comp=Z,8.9nm,0.5s
LIBD Limburg 75.94 342 *e*P **P 03 50 15.2 +0.4**
LIBD Limburg 75.94 342 *e*P **P 03 50 15.2 +0.4**
ECH Echery 75.96 342 *e*P **P 03 50 14.8 -0.2**
ECH Echery 75.96 342 *e*P **P 03 50 14.8 -0.2**
ECH Echery 75.96 342 *e*P **P 03 50 14.8 -0.2**
WTTA Wattenberg 75.98 339⇑ *i*P **P 03 50 16.4 +1.1**
WTTA pmax pmax
comp=Z,23nm,0.7s
WTTA Wattenberg 75.98 339⇑ *i*P **P 03 50 16.4 +1.1**
comp=Z,22nm,0.7s
WTTA Wattenberg 75.98 339⇑ *i*P **P 03 50 16.4 +1.1**
comp=Z,22nm,0.7s
MOTA Moosalm 76.02 339⇑ *i*P **P 03 50 15.9 +0.4**
MOTA pmax pmax
comp=Z,18nm,0.6s
MOTA Moosalm 76.02 339⇑ *i*P **P 03 50 15.9 +0.4**
comp=Z,18nm,0.6s
MOTA Moosalm 76.02 339⇑ *i*P **P 03 50 15.9 +0.4**
comp=Z,18nm,0.6s
OBKA Obir 76.04 337 *i*P **P 03 50 16.5 +1.0**
comp=Z,42nm,1.5s
OBKA Obir 76.04 337 *i*P **P 03 50 16.5 +1.0**
comp=Z,42nm,1.5s,SNR=8.5
MEZF Maizieres J'vi 76.05 344⇑ *i*P **P 03 50 15.9 +0.5**
comp=Z,48nm,0.7s
FELD Feldberg im Sc 76.13 341 *e*P **P 03 50 16.1 0.0**
MYKA Terra Mystica 76.13 337⇑ *i*P **P 03 50 16.1 +0.1**
comp=Z,15nm,0.7s
MYKA Terra Mystica 76.13 337⇑ *i*P **P 03 50 16.2 +0.1**
comp=Z,15nm,0.7s
THEF They Montfort 76.16 343 *e*P **P 03 50 16.1 0.0**
THEF They Montfort 76.16 343 *e*P **P 03 50 16.1 0.0**
THEF They Montfort 76.16 343 *e*P **P 03 50 16.1 0.0**
ABTA Abfaltersbach 76.28 338⇓ *i*P **P 03 50 17.2 +0.3**
comp=Z,27nm,0.8s
ABTA Abfaltersbach 76.28 338⇓ *i*P **P 03 50 17.2 +0.3**
comp=Z,27nm,0.8s,SNR=7.1
HAU Haudompre 76.31 343⇑ *i*P **P 03 50 17.0 0.0**
comp=Z,37nm,0.8s
MOF Molkenrain 76.31 342 *e*P **P 03 50 16.5 -0.6**
MOF Molkenrain 76.31 342 *e*P **P 03 50 16.5 -0.6**
MOF Molkenrain 76.31 342 *e*P **P 03 50 16.5 -0.6**
BRTR Keskin Array B 76.32 321 P **P 03 50 16.6 -0.7**
comp=Z,3.0nm,0.6s,baz=22,slow=4.1,SNR=10
BRTR Keskin Array B 76.32 321 P **P 03 50 16.7 -0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 76.32 321 P **P 03 50 16.6 -0.7**
SFTF Sexfontaines 76.34 343⇑ *i*P **P 03 50 17.3 +0.2**
comp=Z,72nm,0.7s
HINF Hinteralfeld 76.40 342⇑ *i*P **P 03 50 17.3 -0.2**
comp=Z,17nm,0.7s
FETA Feichten 76.40 339 *i*P **P 03 50 18.8 +1.1**
comp=Z,22nm,0.7s
FETA Feichten 76.40 339 *i*P **P 03 50 18.8 +1.1**
comp=Z,22nm,0.7s,SNR=15
CRES Cresnjev 76.46 336 *i*P **P 03 50 18.1 +0.3**
CRES Cresnjev 76.46 336 *i*P **P 03 50 18.1 +0.3**
KMSC Kings Mountain 76.58 48⇑ P **P 03 50 19.1 +0.5**
baz=76
BBS Basel-Blauen 76.62 342 *e*P **P 03 50 18.9 +0.2**
BBS Basel-Blauen 76.62 342 *e*P **P 03 50 18.9 +0.2**
FLN La Foliniere 76.63 347⇑ *i*P **P 03 50 18.4 -0.3**
comp=Z,36nm,0.8s
LDF La Druitiere 76.75 347⇑ *i*P **P 03 50 19.0 -0.4**
comp=Z,6.9nm,0.5s
WRA Warramunga Arr 76.81 205 P **P 03 50 19.9 0.0**
comp=Z,7.9nm,1.0s,baz=18,slow=5.4,SNR=8.4
WRA Warramunga Arr 76.81 205 P **P 03 50 19.9 0.0**
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRA Warramunga Arr 76.81 205 P **P 03 50 19.9 0.0**
DAVOX Davos/Dischmat 76.81 340 P **P 03 50 21.0 +1.0**
comp=Z,7nm,0.6s,baz=18,slow=3.2,SNR=56
DAVOX Davos/Dischmat 76.81 340 P **P 03 50 21.0 +1.0**
DAVOX Davos/Dischmat 76.81 340 P **P 03 50 21.0 +1.0**
FUORN Ofenpass-Fuorn 76.88 340 *e*P **P 03 50 21.6 +1.1**
comp=Z,22nm,0.7s
GBRS Gornja Briga 76.89 336 *i*P **P 03 50 20.5 +0.2**
GRR Gorron 77.04 347⇑ *i*P **P 03 50 21.0 0.0**
comp=Z,42nm,0.6s
TUE Stuetta 77.21 340 *e*P **P 03 50 23.2 +1.0**
comp=Z,41nm,0.6s
VTS Vitosha 77.32 329 *i*P **P 03 50 23.2 +0.3**
JSC Jenkinsville 77.33 48 *e*P **P 03 50 23.6 +0.7**
SGMF Saint Gilles 77.39 349 *e*P **P 03 50 23.0 +0.1**
comp=Z,69nm,0.8s
ROSF Rostrenen 77.39 349 *e*P **P 03 50 23.1 +0.1**
LOR Lormes 77.45 344⇑ *i*P **P 03 50 23.4 0.0**
comp=Z,35nm,0.7s
FITZ Fitzroy Crossi 77.62 214 P **P 03 50 25.5 +1.0**
comp=Z,6.4nm,0.6s,baz=12,slow=10.0,SNR=7.4
FITZ Fitzroy Crossi 77.62 214 P **P 03 50 25.5 +1.0**
CABF La Chapelle 77.70 342⇑ *i*P **P 03 50 25.3 +0.4**
comp=Z,49nm,1.0s
SSF Saint Saulge 77.71 344⇑ *i*P **P 03 50 24.8 0.0**
comp=Z,22nm,0.7s
SENIN Lac Senin/Sane 77.72 341 *e*P **P 03 50 25.8 +0.7**
comp=Z,206nm,2.7s
QUIF Quistinic 77.79 349 *e*P **P 03 50 25.2 0.0**
comp=Z,29nm,0.7s
AVF Avril sur Loir 77.99 344⇑ *i*P **P 03 50 26.5 +0.1**
comp=Z,34nm,0.7s
BGF Bois d'Agland 78.30 345 *e*P **P 03 50 29.0 +0.9**
comp=Z,21nm,0.7s
RSL Roselend 78.49 342 *e*P **P 03 50 31.1 +1.7**
RSL Roselend 78.49 342 *e*P **P 03 50 31.1 +1.7**
RSL Roselend 78.49 342 *e*P **P 03 50 31.1 +1.7**
LPL La Plagne 78.64 342⇑ *i*P **P 03 50 31.4 +1.1**
comp=Z,55nm,0.7s
LPG La Plagne 78.65 342⇑ *i*P **P 03 50 31.7 +1.3**
comp=Z,76nm,0.8s
TCF Toulx Ste Croi 78.66 345⇑ *i*P **P 03 50 30.3 +0.2**
comp=Z,31nm,0.8s
MFF Saint Martin d 78.70 347⇑ *i*P **P 03 50 30.6 +0.3**
comp=Z,43nm,0.9s
AGO Saint Agoulin 78.75 344 *e*P **P 03 50 31.4 +0.8**
AGO Saint Agoulin 78.75 344 *e*P **P 03 50 31.4 +0.8**
PLDF La Plantade 78.75 344 *e*P **P 03 50 31.1 +0.4**
PLDF La Plantade 78.75 344 *e*P **P 03 50 31.1 +0.4**
PLDF La Plantade 78.75 344 *e*P **P 03 50 31.1 +0.4**
MIB Mutribah 78.83 306 *e*P **P 03 50 29.6 -1.7**
MIB AMb AMB 03 50 31.8
comp=Z,69nm,0.6s
PYM Petit Puy Mans 79.06 344 *e*P **P 03 50 33.0 +0.6**
PYM Petit Puy Mans 79.06 344 *e*P **P 03 50 33.0 +0.6**
PYM Petit Puy Mans 79.06 344 *e*P **P 03 50 33.0 +0.6**
BNI Bardonecchia 79.10 342 *e*P **P 03 50 33.9 +1.2**
BNI pmax pmax
comp=Z,50nm,1.5s
BNI Bardonecchia 79.10 342 *e*P **P 03 50 33.9 +1.2**
comp=Z,50nm,1.5s
NAY Al-Naaiem 79.34 305 *e*P **P 03 50 32.3 -1.8**
NAY AMb AMB 03 50 34.1
comp=Z,22nm,0.6s
ORIF Oris-en-Rattie 79.37 342⇑ *i*P **P 03 50 35.3 +1.2**
comp=Z,51nm,0.8s
MBDF Montbardon 79.39 341⇑ *i*P **P 03 50 35.1 +0.8**
comp=Z,17nm,0.5s
TIR Tirane 79.45 331 *e*P **P 03 50 34.0 -0.5**
TIR pmax pmax
comp=Z,34nm,0.7s
TIR Tirane 79.45 331 *e*P **P 03 50 34.0 -0.5**
comp=Z,34nm,0.7s
RDF Al-Radifah 79.46 305 *e*P **P 03 50 33.6 -1.1**
RDF AMb AMB 03 50 36.0
comp=Z,61nm,0.5s
VIVF Saint-Julien-l 79.65 343⇑ *i*P **P 03 50 36.4 +0.8**
comp=Z,39nm,1.0s
RJF Les Rejaudoux 79.73 345 *e*P **P 03 50 36.6 +0.7**
OG25 Le Caire 79.87 342 *e*P **P 03 50 37.8 +1.0**
OG25 Le Caire 79.87 342 *e*P **P 03 50 37.8 +1.0**
TOUF Mont Tournerai 79.99 341 *e*P **P 03 50 39.2 +1.6**
TOUF Mont Tournerai 79.99 341 *e*P **P 03 50 39.2 +1.6**
TOUF Mont Tournerai 79.99 341 *e*P **P 03 50 39.2 +1.6**
CAF Calviac 80.02 345⇑ *i*P **P 03 50 38.5 +1.0**
comp=Z,20nm,0.7s
SBF Sospel 80.10 341 *e*P **P 03 50 38.2 +0.2**
AQU L'Aquila 80.23 336 *e*P **P 03 50 39.2 +0.5**
AQU pmax pmax
comp=Z,101nm,1.5s
AQU L'Aquila 80.23 336 *e*P **P 03 50 39.2 +0.5**
comp=Z,101nm,1.5s
SMRF Simiane la Rot 80.34 342 *e*P **P 03 50 40.4 +1.1**
comp=Z,22nm,0.8s
ASAR Alice Springs 80.48 205 P **P 03 50 41.3 +1.2**
comp=Z,12nm,1.0s,baz=18,slow=5.6,SNR=23
ASAR Alice Springs 80.48 205 P **P 03 50 41.3 +1.2**
ASAR pmax pmax
comp=Z,12nm,1.0s
ASAR Alice Springs 80.48 205 P **P 03 50 41.3 +1.2**
LASF Ste Croix 80.55 343 *e*P **P 03 50 41.6 +1.2**
CSS Prodhromos 80.60 319 *e*P **P 03 50 40.1 -0.7**
comp=Z,17nm,0.7s
LMR La Mourre 80.78 341⇑ *i*P **P 03 50 42.2 +0.6**
comp=Z,60nm,0.8s
PGF Pioggiola 81.04 339 *e*P **P 03 50 43.3 +0.2**
comp=Z,52nm,0.8s
MMAI Mount Meron Ar 81.47 316 P **P 03 50 45.4 -0.2**
comp=Z,8.9nm,0.6s,baz=47,slow=8.5,SNR=6.3
MMAI Mount Meron Ar 81.47 316 P **P 03 50 45.4 -0.2**
MTLF Montolieu 81.54 344⇑ *i*P **P 03 50 46.9 +1.3**
EPF Esparros 82.13 346 *e*P **P 03 50 50.5 +1.7**
comp=Z,87nm,0.7s
SJPF Ste Jean 82.27 347 *e*P **P 03 50 50.9 +1.4**
comp=Z,16nm,0.6s
ETSF Etsaut 82.39 346 *e*P **P 03 50 51.5 +1.3**
comp=Z,14nm,0.7s
CEL Celeste 83.44 333 *e*P **P 03 50 54.5 -1.2**
comp=Z,14nm,0.7s
PBRG Braganca 84.21 351 *e*P **P 03 51 00.4 +0.8**
comp=Z,113nm,1.6s
EIL Elat 84.57 315 P **P 03 51 01.3 -0.2**
comp=Z,12nm,0.6s,baz=19,slow=5.7
EIL Elat 84.57 315 P **P 03 51 01.3 -0.2**
POLO Lamas de Olo 84.74 351 *e*P **P 03 51 03.3 +1.0**
comp=Z,51nm,1.7s
PVRL Vila Real 84.83 351 *e*P **P 03 51 03.7 +1.0**
comp=Z,70nm,1.7s
MVO Moncorvo 84.87 351 *e*P **P 03 51 04.1 +1.1**
comp=Z,32nm,2.9s
PVIS Viseu 85.40 351 *e*P **P 03 51 06.8 +1.2**
comp=Z,83nm,1.7s
ESDC Sonseca Array 86.01 348 P **P 03 51 09.2 +0.5**
comp=Z,6.9nm,0.6s,baz=1.3,slow=4.9,SNR=44
ESDC pP **pP 03 51 24.8 +1.9**
comp=Z,3.2nm,0.6s,baz=3.0,slow=5.0,SNR=5.8
ESDC Sonseca Array 86.01 348 P **P 03 51 09.2 +0.5**
ESDC pP **pP 03 51 24.8 +1.9**
PCBR Castelo Branco 86.23 351 *e*P **P 03 51 10.1 +0.5**
comp=Z,47nm,1.9s
STKA Stephens Creek 86.85 196 P **P 03 51 13.3 +0.9**
comp=Z,5.6nm,0.9s,baz=346,slow=5.0,SNR=5.9
STKA Stephens Creek 86.85 196 *e*P **P 03 51 13.4 +0.9**
STKA Stephens Creek 86.85 196 *e*P **P 03 51 13.4 +0.9**
KEST Kesra 87.49 337 P **P 03 51 15.8 -0.1**
comp=Z,5.9nm,0.5s,baz=314,slow=3.1,SNR=40
KEST Kesra 87.49 337 P **P 03 51 15.8 -0.1**
TORD Torodi Ar. Bea 110.99 338 Pdiff **Pdif 03 53 02.8 +0.4**
comp=Z,0.4nm,0.9s,baz=15,slow=5.6,SNR=2.4
TORD Torodi Ar. Bea 110.99 338 Pdif **Pdif 03 53 02.8 +0.4**
DBIC Dimbokro 118.58 344 PKP **PKPdf 03 57 15.7 -0.5**
comp=Z,7.7nm,1.0s,baz=29,slow=4.7,SNR=4.9
DBIC Dimbokro 118.58 344 PKIKP **PKPdf 03 57 15.7 -0.5**
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC Dimbokro 118.58 344 PKP **PKPdf 03 57 15.7 -0.5**
LPAZ La Paz 126.89 65 PKP **PKPdf 03 57 32.8 +0.1**
comp=Z,1.7nm,0.6s,baz=359,slow=7.2,SNR=9.1
LPAZ La Paz 126.89 65 PKIKP **PKPdf 03 57 32.8 +0.1**
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ La Paz 126.89 65 PKP **PKPdf 03 57 32.8 +0.1**
SIV San Ignacio 130.30 57 PKP **PKPdf 03 57 38.5 +0.1**
comp=Z,2.6nm,0.8s,baz=100,slow=2.1,SNR=7.0
SIV San Ignacio 130.30 57 PKP **PKPdf 03 57 38.5 +0.1**
LBTB Lobatse 136.02 293 PKP **PKPdf 03 57 50.3 +1.2**
comp=Z,3.0nm,0.7s,baz=182,slow=0.6,SNR=4.3
LBTB Lobatse 136.02 293 PKIKP **PKPdf 03 57 50.3 +1.2**
LBTB pmax pmax
comp=Z,3.0nm,0.7s
LBTB Lobatse 136.02 293 PKP **PKPdf 03 57 50.3 +1.2**
QSPA South Pole Qui 143.49 180 PKhKP PKPpre 03 57 58.2
comp=Z,32nm,0.8s,baz=23,slow=5.6,SNR=11
QSPA South Pole Qui 143.49 180 PKPpre PKPpre 03 57 58.2
PLCA Paso Flores 143.69 90 PKP PKPbc 03 58 00.3 +0.2
comp=Z,2.4nm,0.7s,baz=300,slow=6.2,SNR=12
PLCA pPKP pPKPdf 03 58 18.7 +1.5
comp=Z,1.7nm,0.6s,baz=289,slow=4.1,SNR=2.4
PLCA Paso Flores 143.69 90 PKIKP PKPbc 03 58 00.4 +0.2
PLCA Paso Flores 143.69 90 PKP PKPbc 03 58 00.3 +0.2
PLCA pPKP pPKPdf 03 58 18.7 +1.5
SUR Sutherland 144.37 290 PKP **PKPdf 03 58 04.5 +0.4**
comp=Z,4.3nm,0.7s,baz=36,slow=8.7,SNR=4.1
SUR Sutherland 144.37 290 PKP **PKPdf 03 58 04.5 +0.4**
TRQA Tornquist 147.03 79 *e*PKPbc **PKPab 03 58 11.3 -0.7**
SYO Syowa Base 149.40 217⇓ *e*X **PKPdf 03 58 10.6 -0.4**
SYO Syowa Base 149.40 217⇓ *e*X **PKPdf 03 58 14.0 +3.0**
USHA Ushuaia 151.80 112 PKPbc **PKPbc 03 58 22.2 +0.6**
comp=Z,11nm,0.7s,baz=156,slow=21,SNR=7.6
USHA Ushuaia 151.80 112 PKPbc **PKPbc 03 58 22.2 +0.6**

IDC 19 03:42:58.0±2.8, 22°.64S × 171°.05E, h0 km, mb3.6/2, mb1 3.9/3, mb1mx3.8/16, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=141.3km s-min=37.9km az=164.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**277**	Pn	Pn	03 44 05.9	+1.0
	7.7nm,0.3s,baz=198,slow=18,SNR=24						
DZM				Sn	Sn	03 44 56.0	+0.1
	5.8nm,0.3s,baz=106,slow=18,SNR=5.3						
ASAR	**Alice Springs**	**34.11**	**261**	P	P	03 49 44.7	-0.1
	1.1nm,0.8s,baz=96,slow=8.8,SNR=4.1						
WRA	**Warramunga Arr**	**34.26**	**267**	P	P	03 49 45.3	-0.8
	0.3nm,0.4s,baz=98,slow=8.5,SNR=4.9						
GERES	**GERESS Array B**	**148.27**	**331**	PKPbc	PKPbc	04 02 45.5	-0.7
	0.8nm,0.7s,baz=64,slow=2.3,SNR=3.8						
DAVOX	**Davos/Dischmat**	**151.52**	**332**	PKPbc	PKPbc	04 02 54.4	0.0
	3.2nm,0.8s,baz=77,slow=6.2,SNR=7.0						

IDC 19 03:44:02.3±2.3, 5°.96S × 130°.21E, h0 km, mb4.0/1, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML3.2/3, Error ellipse: s-maj=95.3km s-min=29.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.86**	**200**	Pn	Pn	03 47 07.5	+0.9
	0.1nm,0.3s,baz=29,slow=12,SNR=7.1						
FITZ				Sn	Sn	03 49 15.3	-15
	0.5nm,0.3s,baz=206,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**14.46**	**164**	Pn	Pn	03 47 27.4	-1.1
	0.2nm,0.3s,baz=346,slow=13,SNR=7.0						
WRA				Sn	Sn	03 49 54.3	-15
	0.4nm,0.3s,baz=342,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**17.96**	**169**	Pn	Pn	03 48 13.5	0.0
	0.0nm,0.3s,baz=354,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**67.48**	**326**	P	P	03 55 00.1	0.0
	1.7nm,0.9s,baz=123,slow=7.1,SNR=6.1						

*IDC **19** 03:46:31.6±0.4, 22°.52S × 170°.86E, h0 km, mb4.9/20, mb1 5.0/23, mb1mx5.0/24, mbtmp4.9/23, ML4.6/1, MS5.8/5, Ms1 5.8/5, ms1mx5.3/23, Error ellipse: s-maj=15.6km s-min=13.6km az=169.0*

*NOU **19** 03:46:33.9±1.2, 22°.62S × 170°.99E, h10 km, MD3.3, ML3.5*

*ISCJB **19** 03:46:34.4±2.1, 22°.48S±0°.05 × 170°.73E±0°.03, h22km±14km, mb5.2/68, MS5.8/9, Error ellipse: s-maj=7.9km s-min=4.6km az=6.3*

*MOS **19** 03:46:34.9±2.0, 22°.82S × 170°.85E, h33 km, mb5.5/29, Error ellipse: s-maj=25.8km s-min=13.7km az=171.9*

*NEIC **19** 03:46:37.5±0.2, 22°.48S × 170°.81E, h35 km, mb5.3/36, Error ellipse: s-maj=7.0km s-min=6.0km az=160.0*

*BJI **19** 03:46:43.4, 21°.89S × 170°.74E, h75 km, mB5.3/10, mb5.1/33, Ms5.4/7, Ms7 5.4/12*

*DJA **19** 03:47:03, 22°.50S × 169°.79E, h208 km, mb5.2/36*

*SZGRF **19** 03:47:06.7, 22°.74S × 172°.34E, h290 km, Southeast of Loyalty Islands*

ISC 19 03:46:37.7±0.4, 22°.53S±0°.06 × 170°.84E±0°.06, h37 km±2km, n586, σ1°.20/672, mb5.3/67, MS5.7/9, 103C-89D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.68**	**275**	*e*P	**Pn**	**03 47 30.6**	**-1.4**
BAYA				*e*S	**Sn**	**03 48 10.4**	**-3.8**
BAYA				AMP		03 48 29.5	
	comp=Z,74nm,3.5s						
BAYA	**Yate Dam**	**3.68**	**275**	*e*P	**Pn**	**03 47 30.5**	**-1.5**
BAYA				*e*S	**Sn**	**03 48 10.5**	**-3.8**
BAYA				AMP		03 48 28.4	
	comp=Z,72nm,1.4s						
LASL	**Noumea**	**3.99**	**274**	*e*P	**Pn**	**03 47 34.0**	**-2.4**
LASL				*e*S	**Sn**	**03 48 18.7**	**-3.1**
LASL				AMP		03 48 30.0	
	comp=Z,2μm,2.2s						
LASL	**Noumea**	**3.99**	**274**	*e*P	**Pn**	**03 47 33.9**	**-2.4**
LASL				*e*S	**Sn**	**03 48 18.3**	**-3.6**
LASL				AMP		03 48 30.0	
	comp=Z,2μm,6.0s						
NORM	**Noumea**	**4.04**	**273**	*e*P	Pn	03 47 33.9	-3.2
NORM				*e*S	**Sn**	**03 48 19.1**	**-4.0**
NORM				AMP		03 48 28.8	
	comp=Z,816nm,1.1s						
NORM	**Noumea**	**4.04**	**273**	*e*P	Pn	03 47 33.7	-3.4
NORM				*e*S	**Sn**	**03 48 19.9**	**-3.2**
NORM				AMP		03 48 29.0	
	comp=Z,784nm,0.0s						
DZM	**Mont Dzumac**	**4.10**	**276**	Pn	**Pn**	**03 47 36.3**	**-1.6**
	comp=Z,38nm,0.3s,baz=137,slow=12,SNR=83						
DZM				Sn	**Sn**	**03 48 22.0**	**-2.6**
	comp=Z,47nm,0.3s,baz=74,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**4.10**	**276**	*e*Pn	**Pn**	**03 47 35.7**	**-2.2**
DZM				*e*S	**Sn**	**03 48 21.9**	**-2.8**
NOUC	**Port Laguerre**	**4.22**	**275**	*e*P	Pn	03 47 36.6	-2.9
NOUC				*e*S	**Sn**	**03 48 27.0**	**-0.5**
NOUC				AMP		03 48 32.6	
	comp=Z,304nm,3.4s						
MSVF	**Nonsavu**	**8.29**	**56**	*e*P	Pn	03 48 40.6	+5.1

MSVF **Nonsavu** 8.29 56 *e*Pn Pn 03 48 40.6 +5.1
MSVF **Nonsavu** 8.29 56 Pn Pn 03 48 42.0 +6.5
comp=Z,4µm,1.4s,SNR=34
OUZ **Omahuta** 12.87 170 *e*Pn **Pn** **03 49 37.4 -0.6**
URZ **Urewera** 16.57 162 *e*Pn **P** **03 50 30.1 +0.7**
comp=Z,172nm,1.2s
HNR **Honiara** 16.70 320 Pn **Pn** **03 50 28.9 0.0**
comp=Z,12nm,0.3s,baz=139,slow=3.1,SNR=19
HNR **Honiara** 16.70 320 *e*P **P** **03 50 30.7 -0.3**
HNR pmax pmax
comp=Z,996nm,1.3s
HNR **Honiara** 16.70 320 *e*Pn **P** **03 50 30.7 -0.3**
comp=Z,996nm,1.3s
EIDS **Eidsvold** 18.28 257 *e*Pn **Pn** **03 50 50.4 +2.0**
comp=Z,185nm,1.4s
AFI **Afiamalu** 18.59 65 P **P** **03 50 50.9 -1.0**
comp=Z,1.4nm,0.3s,baz=93,slow=6.1,SNR=5.3
AFI LR LR 03 56 18.4
comp=Z,17µm,19.8s,baz=240,slow=32
AFI **Afiamalu** 18.59 65 *e*P **P** **03 50 50.4 -1.6**
AFI pmax pmax
comp=Z,111nm,0.8s
AFI **Afiamalu** 18.59 65 *e*P **P** **03 50 50.4 -1.6**
comp=Z,111nm,0.8s
ARMA **Armidale** 18.89 241 *e*P **Pn** **03 50 57.2 +1.2**
ARMA **Armidale** 18.89 241 *e*Pn **Pn** **03 50 57.3 +1.3**
comp=Z,948nm,2.5s
SNZO **South Karori** 19.00 171 *e*P **P** **03 50 56.5 +0.3**
comp=Z,415nm,1.5s
KHZ **Kahutara** 19.96 174 *e*P **Pn** **03 51 09.3 +0.9**
comp=Z,330nm,1.3s
RIV **Riverview** 20.64 233 *e*P Pn 03 51 16.3 -0.2
RPZ **Rata Peaks** 21.13 180 P **P** **03 51 18.1 -1.2**
comp=Z,58nm,1.1s,baz=7.8,slow=5.7,SNR=4.4
RPZ LR LR 03 58 05.0
comp=Z,24µm,21.1s,baz=261,slow=33
RPZ **Rata Peaks** 21.13 180 *e*P **P** **03 51 19.8 +0.5**
comp=Z,385nm,1.5s
CNB **Canberra Magne** 22.65 231 *e*P **P** **03 51 37.2 +1.5**
comp=Z,215nm,1.0s
CAN **Canberra** 22.91 231 *e*P **P** **03 51 38.8 +0.3**
CTA **Charters Tower** 23.03 271 P **P** **03 51 40.2 +0.5**
comp=Z,19nm,0.8s,baz=99,slow=11,SNR=8.6
CTA **Charters Tower** 23.03 271 *e*P **P** **03 51 40.5 +0.8**
comp=Z,47nm,1.5s
CTA **Charters Tower** 23.03 271 P **P** **03 51 40.2 +0.5**
CTA **Charters Tower** 23.03 271 P **P** **03 51 40.2 +0.5**
CTAO **Charters Tower** 23.03 271 *e*P **P** **03 51 40.8 +1.1**
CTAO pmax pmax
comp=Z,140nm,1.3s
CTAO **Charters Tower** 23.03 271 *e*P **P** **03 51 40.8 +1.1**
comp=Z,140nm,1.3s
WHZ **Wether Hill Ro** 23.42 185 *e*P **P** **03 51 45.0 +1.6**
PMG **Port Moresby** 26.19 296 P **P** **03 52 08.3 -0.7**
comp=Z,32nm,0.7s,baz=103,slow=5.1,SNR=11
PMG **Port Moresby** 26.19 296 ⇓ *i*P **P** **03 52 08.7 -0.3**
PMG pmax pmax
comp=Z,81nm,1.4s
PMG **Port Moresby** 26.19 296 *e*P **P** **03 52 08.4 -0.6**
comp=Z,242nm,1.7s
TOO **Toolangi** 26.46 230 *e*P **P** **03 52 11.8 +0.4**
comp=Z,268nm,1.5s
STKA **Stephens Creek** 27.55 244 P **P** **03 52 21.3 +0.1**
comp=Z,20nm,0.9s,baz=91,slow=12,SNR=14
STKA LR LR 04 02 48.7
comp=Z,14µm,18.5s,baz=74,slow=35
STKA **Stephens Creek** 27.55 244 *e*P **P** **03 52 21.3 +0.1**
comp=Z,38nm,1.2s
STKA **Stephens Creek** 27.55 244 *e*P **P** **03 52 21.5 +0.3**
STKA pmax pmax
comp=Z,15nm,1.1s
STKA **Stephens Creek** 27.55 244 *e*P **P** **03 52 21.5 +0.3**
comp=Z,15nm,1.1s
COEN **Coen** 27.59 283 *e*P **P** **03 52 22.7 +1.1**
comp=Z,487nm,1.1s
MOO **Moorlands** 27.98 219 *e*P **P** **03 52 25.8 +0.9**
comp=Z,179nm,1.0s
BBOO **Buckleboo** 32.33 244 *e*P **P** **03 53 02.6 -0.9**
comp=Z,1µm,1.2s
AS31 **Alice Springs** 33.93 261 *e*P **P** **03 53 16.9 -0.7**
ASAR **Alice Springs** 33.93 261 P **P** **03 53 16.2 -1.4**
comp=Z,28nm,0.8s,baz=90,slow=9.0,SNR=73
ASAR **Alice Springs** 33.93 261 P **P** **03 53 16.3 -1.4**
ASAR **Alice Springs** 33.93 261 P **P** **03 53 16.2 -1.4**
WB2 **Warramunga Arr** 34.06 267 *e*P **P** **03 53 18.0 -0.7**
WRAB **Tennant Creek** 34.06 267 *e*P **P** **03 53 16.5 -2.2**
WRAB pmax pmax
comp=Z,136nm,1.8s
WRAB **Tennant Creek** 34.06 267 *e*P **P** **03 53 16.5 -2.2**
comp=Z,136nm,1.8s
WRA **Warramunga Arr** 34.07 267 P **P** **03 53 16.1 -2.7**
comp=Z,2.2nm,0.3s,baz=97,slow=8.6,SNR=34
WRA ScP ScP 03 59 44.6 +6.5
comp=Z,4.7nm,1.2s,baz=100,slow=4.4,SNR=3.6
WRA LR LR 04 07 49.4
comp=Z,20µm,18.6s,baz=80,slow=38
WRA **Warramunga Arr** 34.07 267 P **P** **03 53 16.1 -2.7**
WRA **Warramunga Arr** 34.07 267 P **P** **03 53 16.1 -2.7**
WRA ScP ScP 03 59 44.6 +6.5
FORT **Forrest** 38.92 249 *e*P **P** **03 53 58.7 -1.3**
comp=Z,53nm,0.8s
FORT **Forrest** 38.92 249 *e*P **P** **03 53 58.9 -1.1**
comp=Z,35nm,0.8s
FITZ **Fitzroy Crossi** 42.50 267 P **P** **03 54 28.6 -1.1**
comp=Z,50nm,1.0s,baz=132,slow=8.2,SNR=30
FITZ **Fitzroy Crossi** 42.50 267 *e*P **P** **03 54 28.9 -0.8**
comp=Z,106nm,0.9s
FITZ **Fitzroy Crossi** 42.50 267 *e*P **P** **03 54 29.7 0.0**
comp=Z,75nm,0.9s
MBWA **Marble Bar** 47.27 262 *e*P **P** **03 55 06.1 -1.6**
comp=Z,84nm,1.0s
KLBR **Kellerberrin** 47.74 247 *e*P **P** **03 55 09.5 -1.7**
comp=Z,127nm,1.5s
NWAO **Narrogin (SRO)** 48.12 245 LR LR 04 13 48.6
comp=Z,24µm,18.6s,baz=86,slow=34
NWAO **Narrogin (SRO)** 48.12 245 *e*P **P** **03 55 12.6 -1.6**
NWAO **Narrogin (SRO)** 48.12 245 *e*P **P** **03 55 12.6 -1.6**
BKSI **Bulukumba** 51.83 281 P **P** **03 55 42.5 0.0**
comp=Z,44nm,1.2s
KAPI **Kappang** 52.29 282 P **P** **03 55 44.5 -1.5**
comp=Z,30nm,0.9s,baz=54,slow=5.9,SNR=8.8
KAPI **Kappang** 52.29 282 *e*P **P** **03 55 45.1 -0.8**
KAPI **Kappang** 52.29 282 P **P** **03 55 46.9 +0.9**
comp=Z,85nm,2.3s
KAPI **Kappang** 52.29 282 P **P** **03 55 47.1 +1.1**
comp=Z,87nm,1.3s
SPSI **Sidrap Palu** 52.72 283 P P 03 56 01.3 +12
comp=Z,45nm,1.7s
BBKI **Banjar Baru** 57.39 281 P P 03 56 27.2 +4.3
MYLDM **Lahad Datu** 58.10 292 P **P** **03 56 29.8 +2.0**
SDKM **Sandakan** 59.45 291 P **P** **03 56 39.5 +2.2**
KKM **Kota Kinabalu** 60.50 291 P **P** **03 56 45.4 +0.8**
CISI **Cisompet, Garu** 62.25 273 P P 03 57 02.9 +6.5
comp=Z,80nm,2.2s
SBUM **Sibu** 62.30 286 P **P** **03 56 58.8 +2.2**
KSM **Kuching** 63.58 284 P **P** **03 57 05.8 +0.6**
MJAR **Matsushiro Arr** 66.35 332 P **P** **03 57 21.2 -1.5**
comp=Z,13nm,1.1s,baz=168,slow=6.5,SNR=8.9
MJAR **Matsushiro Arr** 66.35 332 P **P** **03 57 21.2 -1.5**
MJAR **Matsushiro Arr** 66.35 332 P **P** **03 57 21.2 -1.5**
MAT **Matsushiro** 66.35 332 P **P** **03 57 20.8 -1.9**
SSLB **Suanglung** 66.87 310 *e*P **P** **03 57 25.3 -1.0**
comp=Z,32nm,0.9s
QSPA **South Pole Qui** 67.54 180 P **P** **03 57 29.9 -0.1**
comp=Z,12nm,0.8s,baz=20,slow=2.1,SNR=22
QSPA **South Pole Qui** 67.54 180 *e*P **P** **03 57 29.9 -0.1**
comp=Z,68nm,1.1s
MYKOM **Kota Tinggi** 69.55 281 P **P** **03 57 44.4 +1.1**
KGM **Kluang** 70.12 281 P **P** **03 57 48.4 +1.5**
KSRS **Korea Array** 72.05 325 P **P** **03 57 57.5 -0.5**
comp=Z,8.1nm,1.0s,baz=143,slow=6.3,SNR=14
KSAR **Wonju Array Be** 72.07 325 P **P** **03 57 57.5 -0.6**
KSAR **Wonju Array Be** 72.07 325 P **P** **03 57 57.5 -0.6**
QIZ **Qiongzhong** 72.51 300 P **P** **03 58 01.3 +0.2**
QIZ pmax pmax
comp=Z,41nm,1.3s
IPM **Ipoh** 73.23 282 P **P** **03 58 06.0 +0.5**
PSI **Prapat** 74.44 280 P **P** **03 58 12.4 -0.4**
comp=Z,144nm,1.4s
VLA **Vladivostok** 74.51 331 P **P** **03 58 12.0 -0.3**
VLA *e* 03 58 26.0
VLA 04 00 59.3
VLA S **S** **04 07 46.3 +1.5**
VLA pmax pmax
comp=Z,18nm,1.3s
USRK **Ussuriysk Arra** 75.33 332 P **P** **03 58 17.7 +0.7**
comp=Z,12nm,1.1s,baz=131,slow=8.6,SNR=7.5
WHN **Wuhan** 75.66 312 ⇑P **P** **03 58 20.4 +1.2**
PETK **Petropavlovsk-** 76.18 352 P **P** **03 58 22.1 +0.3**
comp=Z,13nm,0.8s,baz=158,slow=7.7,SNR=18
PETK **Petropavlovsk-** 76.18 352 P **P** **03 58 22.1 +0.3**
PETK **Petropavlovsk-** 76.18 352 P **P** **03 58 22.1 +0.3**
MDJ **Mudanjiang** 76.72 331 *e*P **P** **03 58 25.3 +0.4**
comp=Z,37nm,1.4s
HABR **Khabarovsk** 77.60 337 *e*P **P** **03 58 29.4 -0.4**
HABR 03 58 39.2
HABR *e**SP **sP** **03 58 44.0 -1.5**
HABR 04 01 24.9
HABR S **S** **04 08 20.0 +1.4**
HABR *e* 04 08 45.6
HABR *e*SS **SS** **04 13 20.9 +1.7**
HABR *e*SSS SSS 04 16 45.8
HABR pmax pmax
comp=N,97nm,2.3s
HABR pmax pmax
comp=E,95nm,2.3s
HABR pmax pmax
comp=Z,231nm,3.1s
HABR MLR MLR
comp=Z,3µm,17.0s
CN2 **Changchun** 78.03 328 *e*P P 03 58 37.3 +5.0
CN2 *e*sP sP 03 59 07.0 +19
CN2 *e*S **S** **04 08 25.0 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
ENH **Enshi** 78.91 309 *e*P **P** **03 58 37.4 -0.1**
comp=Z,40nm,1.0s
GYA **Guiyang** 78.92 305 ⇑ *i*P **P** **03 58 38.9 +1.1**
GYA pP pP 03 59 01.6 +12
GYA PP **PP** **04 01 41.0 +3.9**
GYA S **S** **04 08 31.3 -2.7**
GYA SKS SKSac 04 08 43.4 -7.5
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.5s
GYA LR LR
comp=N,640nm,18.8s
GYA LR LR
comp=E,510nm,19.0s
GYA LR LR
comp=Z,650nm,18.9s
KLR **Kul'dur** 79.47 335 *e*P P 03 58 33.2 -6.9
KLR pmax pmax
comp=Z,100nm,1.8s
BJT **Baijiatuau** 80.41 321 *e*P **P** **03 58 42.9 -2.5**
BJT pmax pmax
comp=Z,19nm,0.9s
BJT **Baijiatuau** 80.41 321 *e*P **P** **03 58 42.9 -2.5**
comp=Z,20nm,0.9s
BJI **Beijing** 80.42 321 P **P** **03 58 45.1 -0.4**
BJI pmax pmax
comp=Z,24nm,1.5s
BJI LR LR
comp=Z,4µm,18.6s
CMAR **Chiang Mai Arr** 81.21 294 P **P** **03 58 51.4 +1.2**
comp=Z,13nm,0.7s,baz=136,slow=3.9,SNR=51
CMAR PKKPbc **PKKPbc** **04 17 26.7 +0.9**
comp=Z,1.4nm,0.3s,baz=290,slow=3.7,SNR=6.3
CMAR **Chiang Mai Arr** 81.21 294 P **P** **03 58 51.4 +1.2**
CMAR **Chiang Mai Arr** 81.21 294 P **P** **03 58 51.4 +1.2**
CMAR PKKPbc **PKKPbc** **04 17 26.7 +0.9**
KMI **Kunming** 81.27 302 P **P** **03 58 52.6 +1.9**
KMI pP pP 03 59 11.9 +10
KMI sP sP 03 59 19.5 +13
KMI PP PP 04 02 02.1 +5.3
KMI S **S** **04 08 55.6 -3.4**
KMI sS sS 04 09 27.5 +9.4
KMI SS **SS** **04 14 12.0 -3.6**
KMI pmax pmax
comp=Z,64nm,1.3s
CHTO **Chiang Mai** 81.37 294 *e*P **P** **03 58 51.8 +0.8**
CHTO **Chiang Mai** 81.37 294 *e*P **P** **03 58 51.8 +0.8**
CHTO **Chiang Mai** 81.37 294 P **P** **03 58 52.5 +1.5**
comp=Z,77nm,0.9s
SYO **Syowa Base** 82.20 196 ⇓ *e*P **P** **03 58 55.0 +0.5**
HHC **Hu-ho-hao-te** 83.68 319 *e*P **P** **03 59 03.5 +0.8**
HHC pP pP 03 59 24.0 +10
HHC sP sP 03 59 32.4 +14
HHC PP **PP** **04 02 19.9 +3.7**
HHC S **SKSac** **04 09 19.5 -3.2**
HHC sS sS 04 09 55.4 +14
HHC pmax pmax
comp=Z,75nm,1.4s
HHC LR LR
comp=N,2µm,17.1s
HHC LR LR
comp=E,2µm,17.5s
HHC LR LR
comp=Z,3µm,17.2s
SNAA **Sanae** 85.94 182 *e* P 03 59 09.6 -4.1
SNAA **Sanae** 85.94 182 *e*P P 03 59 09.6 -4.1
SNAA pmax pmax
comp=Z,21nm,0.8s
SNAA **Sanae** 85.94 182 *e*P P 03 59 09.6 -4.1
comp=Z,21nm,0.8s
LZH **Lanzhou** 86.03 312 *e*P **P** **03 59 16.8 +2.1**
LZH pP pP 03 59 38.3 +12
LZH sP sP 03 59 45.5 +15
LZH pmax pmax
comp=Z,75nm,1.3s
LZH pmax pmax
comp=Z,430nm,7.4s
SEY **Seymchan** 86.42 352 *ce*P **P** **03 59 15.4 -0.4**
VNA3 **Neumayer Olymp** 86.48 180 *e* **P** **03 59 15.2 -1.0**
VNA2 **Neumayer--Watz** 86.79 181 *e* **P** **03 59 17.1 -0.7**
baz=174,slow=3.6
SAO **San Andreas Ge** 86.88 48 *e*P **P** **03 59 19.2 +0.5**
SAO pmax pmax
comp=Z,9.0nm,0.9s
SAO **San Andreas Ge** 86.88 48 *e*P **P** **03 59 19.2 +0.5**
comp=Z,8.8nm,0.9s
HOPS **Hopland** 86.95 46 *e*P P 03 59 14.9 -4.0
comp=Z,30nm,0.9s
KCPM **Cahto Peak** 86.98 45 *e*P **P** **03 59 20.0 +0.7**
comp=Z,6.1nm,0.8s
PKM **Peak Mountain** 87.07 50 ⇓P **P** **03 59 20.2 +0.3**
baz=87
PKM ⇓P **P** **03 59 20.2 +0.3**
baz=87
VNA1 **Neumayer--Stat** 87.07 180 *e* **P** **03 59 19.2 +0.1**
KIPM **Iron Peak** 87.11 45 *e*P **P** **03 59 19.5 -0.4**
comp=Z,11nm,0.9s
CIS **Catalina Islan** 87.36 52 ⇑P **P** **03 59 21.4 +0.3**
baz=88
CIS ⇑P **P** **03 59 21.4 +0.3**
baz=88
PASC **Pasadena Art C** 87.89 52 *e*P **P** **03 59 23.9 +0.2**
comp=Z,5.7nm,0.4s
ARVC **Arvin** 87.89 51 ⇓P **P** **03 59 23.4 -0.2**
baz=88
ARVC ⇓P **P** **03 59 23.4 -0.2**
baz=88
CLNS **Chul'man** 87.99 337 *e*P **P** **03 59 23.2 -0.4**
CLNS pmax pmax
comp=N,29nm,1.5s
CLNS pmax pmax
comp=Z,47nm,1.4s
CLNS pmax pmax
comp=E,10.0nm,1.3s
MWC **Mount Wilson** 88.01 52 *e*P **P** **03 59 24.9 +0.5**
MWC **Mount Wilson** 88.01 52 *e*P **P** **03 59 24.9 +0.5**
VES **Vestal, Richgr** 88.06 50 ⇓P **P** **03 59 24.0 -0.3**
baz=88
VES ⇓P **P** **03 59 24.0 -0.3**
baz=88
CMB **Columbia Colle** 88.25 47 *e*P **P** **03 59 25.3 0.0**
CMB pmax pmax
comp=Z,18nm,1.4s
CMB **Columbia Colle** 88.25 47 *e*P **P** **03 59 25.3 0.0**
comp=Z,18nm,1.4s
MURC **Murrieta** 88.33 53 ⇑P **P** **03 59 25.6 -0.2**
baz=88
MURC ⇑P **P** **03 59 25.6 -0.2**
baz=88
EDW2 **Edwards Air Fo** 88.37 51 ⇓P **P** **03 59 26.3 +0.3**
baz=88
EDW2 ⇓P **P** **03 59 26.3 +0.3**
baz=88
ISA **Isabella** 88.40 50 *e*P **P** **03 59 25.8 -0.3**
ISA pmax pmax
comp=Z,16nm,1.0s
ISA **Isabella** 88.40 50 *e*P **P** **03 59 25.8 -0.3**
comp=Z,16nm,1.0s
ISA **Isabella** 88.40 50 ⇑P **P** **03 59 26.0 -0.2**
baz=89
ISA ⇑P **P** **03 59 26.0 -0.2**
baz=89
MONP **Monument Peak** 88.58 53 ⇑P **P** **03 59 26.8 -0.4**
baz=89
MONP ⇑P **P** **03 59 26.8 -0.4**
baz=89
DVTC **Desert V Tower** 88.70 54 ⇑P **P** **03 59 28.2 +0.6**
baz=89
DVTC ⇑P **P** **03 59 28.2 +0.6**
baz=89
LRMC **Laurel Mountai** 88.88 51 ⇓P **P** **03 59 28.5 +0.1**
baz=89
LRMC ⇓P **P** **03 59 28.5 +0.1**
baz=89
PFO **Pinyon Flat Ob** 88.89 53 ⇓P **P** **03 59 28.6 +0.1**
baz=89
PFO ⇓P **P** **03 59 28.6 +0.1**
baz=89
CWC **Cottonwood Cre** 89.06 50 ⇑P **P** **03 59 29.9 +0.6**
baz=89
CWC ⇑P **P** **03 59 29.9 +0.6**
baz=89
SWSC **Sam W. Stewart** 89.06 54 ⇓P **P** **03 59 29.6 +0.4**
baz=89
SWSC ⇓P **P** **03 59 29.6 +0.4**
baz=89
MLAC **Mammoth Lakes** 89.11 48 ⇑P **P** **03 59 30.8 +1.1**
baz=89
MLAC ⇑P **P** **03 59 30.8 +1.1**
baz=89
MPMC **Manual Prospec** 89.30 50 ⇑P **P** **03 59 30.4 -0.1**
baz=90
MPMC ⇑P **P** **03 59 30.4 -0.1**
baz=90
WCN **Washoe City** 89.31 47 *e*P **P** **03 59 30.4 -0.1**
WCN pmax pmax
comp=Z,6.0nm,1.2s
WCN **Washoe City** 89.31 47 *e*P **P** **03 59 30.4 -0.1**
comp=Z,6.3nm,1.2s
WCN **Washoe City** 89.31 47 ⇓P **P** **03 59 30.3 -0.1**
baz=90
WCN ⇓P **P** **03 59 30.3 -0.1**
baz=90
BELC **Belle Mtn. Jos** 89.40 53 ⇓P **P** **03 59 30.8 -0.2**
baz=90
BELC ⇓P **P** **03 59 30.8 -0.2**
baz=90
GSC **Goldstone** 89.42 51 *e*P **P** **03 59 31.9 +1.0**
GSC pmax pmax
comp=Z,24nm,1.6s
GSC **Goldstone** 89.42 51 *e*P **P** **03 59 31.9 +1.0**
comp=Z,24nm,1.6s
GSC **Goldstone** 89.42 51 ⇑P **P** **03 59 31.4 +0.5**
baz=90
GSC ⇑P **P** **03 59 31.4 +0.5**
baz=90
HEC **Hector,Ludlow** 89.55 52 ⇓P **P** **03 59 31.6 +0.1**
baz=90
HEC ⇓P **P** **03 59 31.6 +0.1**
baz=90
BC3 **Big Chuckawall** 89.65 53 ⇑P **P** **03 59 32.5 +0.4**
baz=90
BC3 ⇑P **P** **03 59 32.5 +0.4**
baz=90
GRAC **Grapevine Rang** 89.83 50 ⇓P **P** **03 59 33.5 +0.7**
baz=90
GRAC ⇓P **P** **03 59 33.5 +0.7**
baz=90
GLA **Glamis** 89.84 54 *e*P **P** **03 59 34.2 +1.3**
GLA pmax pmax
comp=Z,22nm,0.9s
GLA **Glamis** 89.84 54 *e*P **P** **03 59 34.2 +1.3**
comp=Z,22nm,0.9s
GLA **Glamis** 89.84 54 ⇓P **P** **03 59 33.3 +0.4**
baz=90
GLA ⇓P **P** **03 59 33.3 +0.4**
baz=90
NVAR **Mina Array Bea** 89.87 48 P **P** **03 59 33.2 +0.1**
comp=Z,5.9nm,0.8s,baz=226,slow=8.4,SNR=39
NVAR **Mina Array Bea** 89.87 48 P **P** **03 59 33.2 +0.1**
GMRC **Granite Mounta** 90.01 52 ⇑P **P** **03 59 33.8 0.0**
baz=90
GMRC ⇑P **P** **03 59 33.8 0.0**
baz=90
SHOC **Shoshone** 90.08 51 ⇓P **P** **03 59 34.0 0.0**
baz=90
SHOC ⇓P **P** **03 59 34.0 0.0**
baz=90
IRM **Iron Mountain** 90.10 53 ⇓P **P** **03 59 34.6 +0.5**
baz=90
IRM ⇓P **P** **03 59 34.6 +0.5**
baz=90
TUQ **Turquoise Moun** 90.12 51 ⇓P **P** **03 59 35.0 +0.7**
baz=90
TUQ ⇓P **P** **03 59 35.0 +0.7**
baz=90
BILL **Bilibino** 90.36 358 ⇑ *e*P **P** **03 59 35.3 +0.9**
BILL *e* 04 03 15.4
BILL *i* S **SKSac** **04 10 04.0 +1.7**
BILL pmax pmax
comp=Z,37nm,1.4s
Y12C **Blythe** 90.38 53 ⇓P **P** **03 59 35.8 +0.5**
baz=90
Y12C ⇓P **P** **03 59 35.8 +0.5**
baz=90
ULN **Ulaanbaatar** 90.38 323 *e*P **P** **03 59 35.2 0.0**
ULN **Ulaanbaatar** 90.38 323 *e*P **P** **03 59 35.2 0.0**
YAK **Yakutsk** 90.45 342 *e*P **P** **03 59 34.2 -0.7**
YAK pmax pmax
comp=Z,23nm,0.6s
YAK **Yakutsk** 90.45 342 *e*P **P** **03 59 34.2 -0.7**
comp=Z,23nm,0.6s
GTA **Gaotai** 90.46 313 *e*P **P** **03 59 37.0 +1.3**
GTA pP pP 03 59 58.0 +11
GTA sP sP 04 00 06.3 +15
GTA S **S** **04 10 24.5 -3.8**
GTA sS sS 04 11 00.1 +13
GTA pmax pmax
comp=Z,13nm,1.4s
113A **Mohawk Valley,** 90.50 55 ⇑P **P** **03 59 36.8 +0.9**
baz=91
113A ⇑P **P** **03 59 36.8 +0.9**
baz=91
SONM **Songino Array** 90.74 323 P **P** **03 59 36.3 -0.5**
comp=Z,24nm,1.1s,baz=140,slow=2.4,SNR=57
SONM PKKPbc **PKKPbc** **04 17 03.4 -1.0**
comp=Z,0.6nm,0.9s,baz=264,slow=3.5,SNR=4.7
SONM **Songino Array** 90.74 323 P **P** **03 59 36.3 -0.5**
SONM **Songino Array** 90.74 323 P **P** **03 59 36.3 -0.5**
SONM PKKPbc **PKKPbc** **04 17 03.4 -1.0**
NEE2 **Needles Airpor** 90.77 53 ⇑P **P** **03 59 37.8 +0.7**
baz=91
NEE2 ⇑P **P** **03 59 37.8 +0.7**
baz=91
Z13A **Yuma Proving G** 90.78 54 ⇑P **P** **03 59 36.9 -0.3**
baz=91
Z13A ⇑P **P** **03 59 36.9 -0.3**
baz=91
214A **Organ Pipe Nat** 90.87 56 ⇑P **P** **03 59 38.4 +0.7**
baz=91
214A ⇑P **P** **03 59 38.4 +0.7**
baz=91
PDMCI **Parker Dam,Lak** 90.91 53 ⇑P **P** **03 59 38.7 +0.9**
baz=91
PDMCI ⇑P **P** **03 59 38.7 +0.9**
baz=91
Z14A **Wintersburg** 91.39 54 ⇓P **P** **03 59 41.1 +1.1**
baz=92
Z14A ⇓P **P** **03 59 41.1 +1.1**
baz=92
W13A **Hualapai Mount** 91.46 52 ⇑P **P** **03 59 40.8 +0.2**
baz=92
W13A ⇑P **P** **03 59 40.8 +0.2**
baz=92
BMN **Battle Mountai** 91.57 47 *e*P **P** **03 59 41.4 +0.5**
BMN pmax pmax
comp=Z,3.0nm,0.6s
BMN **Battle Mountai** 91.57 47 *e*P **P** **03 59 41.4 +0.5**
comp=Z,2.9nm,0.6s
Y14A **Wickenburg** 91.59 54 ⇑P **P** **03 59 41.1 +0.1**

baz=92
Y14A ⇑P **P** **03 59 41.1 +0.1**
baz=92
R11A **Troy Canyon, C** **91.71** **49** ⇑P **P** **03 59 41.7 +0.1**
baz=92
R11A ⇑P **P** **03 59 41.7 +0.1**
baz=92
TUC **Tucson** **92.58** **56** *e*P **P** **03 59 45.6 0.0**
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** **92.58** **56** *e*P **P** **03 59 45.6 0.0**
comp=Z,3.6nm,0.9s
COLA **College** **92.75** **16** *e*P **P** **03 59 46.2 +0.7**
COLA pmax pmax
comp=Z,14nm,1.2s
COLA **College** **92.75** **16** *e*P **P** **03 59 46.2 +0.7**
comp=Z,14nm,1.2s
R13A **O'Grain Ranch,** **92.77** **50** ⇑P **P** **03 59 47.3 +0.7**
baz=93
R13A ⇑P **P** **03 59 47.3 +0.7**
baz=93
318A **Bisbee** **92.83** **57** ⇑P **P** **03 59 46.0 -1.0**
baz=93
318A ⇑P **P** **03 59 46.0 -1.0**
baz=93
ILAR **Eielson Array** **92.93** **17** P **P** **03 59 44.7 -1.7**
comp=Z,3.3nm,1.0s,baz=236,slow=4.6,SNR=17
ILAR **Eielson Array** **92.93** **17** P **P** **03 59 44.7 -1.7**
ILAR **Eielson Array** **92.93** **17** P **P** **03 59 44.7 -1.7**
BOD **Bodaibo** **92.93** **333** *e*P **P** **03 59 45.7 -0.8**
BOD pmax pmax
comp=Z,12nm,1.5s
X16A **Lo Mia Camp, P** **92.97** **54** ⇑P **P** **03 59 47.9 +0.4**
baz=93
X16A ⇑P **P** **03 59 47.9 +0.4**
baz=93
U15A **North Rim** **93.20** **52** ⇓P **P** **03 59 48.9 +0.2**
baz=93
U15A ⇓P **P** **03 59 48.9 +0.2**
baz=93
319A **Douglas** **93.35** **58** ⇓P **P** **03 59 49.5 +0.2**
baz=94
319A ⇓P **P** **03 59 49.5 +0.2**
baz=94
WUAZ **Wupatki** **93.49** **53** ⇑P **P** **03 59 50.8 +0.9**
baz=94
WUAZ ⇑P **P** **03 59 50.8 +0.9**
baz=94
219A **White Tail Can** **93.62** **57** ⇑P **P** **03 59 51.2 +0.6**
baz=94
219A ⇑P **P** **03 59 51.2 +0.6**
baz=94
Y18A **Canyon Day Jun** **93.76** **55** ⇓P **P** **03 59 51.5 +0.3**
baz=94
Y18A ⇓P **P** **03 59 51.5 +0.3**
baz=94
ZAK **Zakamensk** **93.83** **324** *e*P **P** **03 59 49.7 -1.3**
ZAK pmax pmax
comp=Z,23nm,1.4s
MFID **Camas Ranch** **93.88** **44** ⇑P **P** **03 59 52.2 +0.7**
baz=94
MFID ⇑P **P** **03 59 52.2 +0.7**
baz=94
320A **Kipp Ranch, An** **93.92** **58** ⇑P **P** **03 59 52.5 +0.6**
baz=94
320A ⇑P **P** **03 59 52.5 +0.6**
baz=94
U16A **Tuba City** **93.93** **53** ⇓P **P** **03 59 52.5 +0.6**
baz=94
U16A ⇓P **P** **03 59 52.5 +0.6**
baz=94
V17A **Tonalea, Kykot** **93.96** **53** ⇓P **P** **03 59 52.6 +0.5**
baz=94
V17A ⇓P **P** **03 59 52.6 +0.5**
baz=94
220A **Playas Peak, P** **94.15** **57** ⇓P **P** **03 59 53.4 +0.4**
baz=94
220A ⇓P **P** **03 59 53.4 +0.4**
baz=94
TLY **Talaya** **94.30** **325** *e*P **P** **03 59 52.9 -0.2**
TLY pmax pmax
comp=Z,30nm,1.6s
120A **U Bar Ranch, L** **94.33** **57** ⇓P **P** **03 59 54.6 +0.7**
baz=94
120A ⇓P **P** **03 59 54.6 +0.7**
baz=94
Y19A **Nutrioso** **94.43** **55** ⇓P **P** **03 59 54.5 +0.1**
baz=95
Y19A ⇓P **P** **03 59 54.5 +0.1**
baz=95
T17A **Navajo Res., N** **94.53** **52** ⇑P **P** **03 59 55.5 +0.8**
baz=95
T17A ⇑P **P** **03 59 55.5 +0.8**
baz=95
Z20A **Nine Sixteen R** **94.59** **56** ⇑P **P** **03 59 55.5 +0.5**
baz=95
Z20A ⇑P **P** **03 59 55.5 +0.5**
baz=95
121A **Cookes Peak, D** **94.98** **57** ⇓P **P** **03 59 57.3 +0.5**
baz=95
121A ⇓P **P** **03 59 57.3 +0.5**
baz=95
H12A **Diamond D Ranc** **95.02** **44** ⇓P **P** **03 59 56.2 -0.5**
baz=95
H12A ⇓P **P** **03 59 56.2 -0.5**
baz=95
PLCA **Paso Flores** **95.09** **138** P **P** **03 59 57.1 -0.1**
comp=Z,2.1nm,0.8s,baz=216,slow=3.9,SNR=2.7
PLCA **Paso Flores** **95.09** **138** P **P** **03 59 57.2 -0.1**
PLCA **Paso Flores** **95.09** **138** P **P** **03 59 57.1 -0.1**
T18A **Mexican Hat** **95.26** **52** ⇑P **P** **03 59 58.2 +0.2**
baz=95
T18A ⇑P **P** **03 59 58.2 +0.2**
baz=95
Z21A **St. Cloud Mine** **95.38** **56** ⇓P **P** **03 59 59.4 +0.7**
baz=96
Z21A ⇓P **P** **03 59 59.4 +0.7**
baz=96
I14A **Mackay** **95.65** **45** ⇑P **P** **03 59 59.5 -0.2**
baz=96
I14A ⇑P **P** **03 59 59.5 -0.2**
baz=96
Z22A **Elephant Butte** **95.90** **57** ⇓P **P** **04 00 00.8 -0.2**
baz=96
Z22A ⇓P **P** **04 00 00.8 -0.2**
baz=96
O17A **Robinson Place** **95.90** **49** ⇑P **P** **04 00 00.9 0.0**
baz=96
O17A ⇑P **P** **04 00 00.9 0.0**
baz=96
MNTX **Cornudas Mount** **96.54** **59** ⇑P **P** **04 00 04.7 +0.9**
baz=97
MNTX ⇑P **P** **04 00 04.7 +0.9**
baz=97
MNTX ⇑P **P** **04 00 04.7 +0.9**
baz=97
MNTX ⇑P **P** **04 00 04.7 +0.9**
baz=97
J16A **Bone** **96.58** **46** ⇓P **P** **04 00 04.3 +0.4**
baz=97
J16A ⇓P **P** **04 00 04.3 +0.4**
baz=97
325A **Bean Ranch, Si** **96.74** **59** ⇓P **P** **04 00 05.4 +0.6**
baz=97
325A ⇓P **P** **04 00 05.4 +0.6**
baz=97
TXAR **Lajitas Array** **97.02** **61** P **P** **04 00 05.5 -0.6**
comp=Z,0.7nm,0.9s,baz=210,slow=4.2,SNR=5.2
TXAR PKKP **PKKPdf** **04 16 48.9 -0.3**
comp=Z,0.4nm,0.8s,baz=100,slow=3.3,SNR=4.3
TXAR **Lajitas Array** **97.02** **61** P **P** **04 00 05.5 -0.6**
TXAR **Lajitas Array** **97.02** **61** P **P** **04 00 05.5 -0.6**
TXAR PKKP **PKKPdf** **04 16 48.9 -0.3**
Y24A **Capitan** **97.33** **56** ⇑P Pdif 04 00 07.8 +0.2
baz=98
Y24A ⇑P Pdif 04 00 07.8 +0.2
baz=98
R21A **Cimarron** **97.44** **52** ⇑P Pdif 04 00 08.4 +0.4
baz=98
R21A ⇑P Pdif 04 00 08.4 +0.4
baz=98
PDAR **Pinedale Array** **97.75** **47** P Pdif 04 00 10.3 +1.0
comp=Z,0.4nm,0.7s,baz=200,slow=4.7,SNR=3.5
PDAR **Pinedale Array** **97.75** **47** P Pdif 04 00 10.3 +1.0
WMQ **Urumqi** **100.55** **313** *e*P **Pdif** **04 00 22.4 +0.9**
YKA **Yellowknife Ar** **102.89** **27** P **Pdif** **04 00 29.7 -1.6**
comp=Z,0.2nm,0.8s,baz=248,slow=4.8,SNR=3.5
YKA PKiKP **PKiKP** **04 04 49.4 -2.0**
comp=Z,0.4nm,0.6s,baz=245,slow=1.4,SNR=8.2
YKA **Yellowknife Ar** **102.89** **27** P **Pdif** **04 00 29.8 -1.6**
YKA *i* 04 04 49.4
YKA **Yellowknife Ar** **102.89** **27** P **Pdif** **04 00 29.8 -1.6**
YKA PKiKP **PKiKP** **04 04 49.4 -2.0**
MK31 **Makanchi Array** **105.11** **315** *e*PKPdf 04 04 55.8
MKAR **Makanchi Array** **105.11** **315** Pdiff **Pdif** **04 00 43.3 +1.6**
comp=Z,0.9nm,0.5s,baz=92,slow=5.6,SNR=13
MKAR PKiKP **PKiKP** **04 04 55.8 -0.3**
comp=Z,2.5nm,1.2s,baz=119,slow=3.6,SNR=4.6
MKAR PKKPbc **PKKPbc** **04 16 21.6 -2.4**
comp=Z,0.8nm,0.7s,baz=238,slow=1.1,SNR=6.0
MKAR **Makanchi Array** **105.11** **315** P **Pdif** **04 00 43.3 +1.6**
MKAR **Makanchi Array** **105.11** **315** Pdif **Pdif** **04 00 43.3 +1.6**
MKAR PKiKP **PKiKP** **04 04 55.8 -0.3**
MKAR PKKPbc **PKKPbc** **04 16 21.6 -2.4**
ZALV **Zalesovo Beam** **105.63** **322** Pdiff **Pdif** **04 00 42.5 -1.1**
comp=Z,0.6nm,0.6s,baz=92,slow=7.2,SNR=3.1
ZALV PKiKP **PKiKP** **04 04 58.2 +1.5**
comp=Z,0.4nm,0.4s,baz=176,slow=2.3,SNR=2.8
ZALV **Zalesovo Beam** **105.63** **322** P **Pdif** **04 00 42.6 -1.1**
ZALV **Zalesovo Beam** **105.63** **322** Pdif **Pdif** **04 00 42.5 -1.1**
ZALV PKiKP **PKiKP** **04 04 58.2 +1.5**
KSH **Kashi** **107.59** **306** P **PKiKP** **04 05 01.6 +0.6**
KSH pmax pmax
comp=Z,1μm,8.2s
KURK **Kurchatov** **108.47** **318** PKiKP **PKiKP** **04 05 01.2 -0.9**
comp=Z,2.3nm,0.7s,baz=284,slow=3.6,SNR=5.2
KURK PKKPab **PKKPab** **04 16 20.9 -3.0**
comp=Z,0.9nm,0.3s,baz=280,slow=3.5,SNR=4.3
KURK **Kurchatov** **108.47** **318** PKiKP **PKiKP** **04 05 01.2 -0.9**
KURK PKKPab **PKKPab** **04 16 20.9 -3.0**
TKM2 **Tokmak 2** **108.70** **309** *e*PKPdf PKiKP 04 04 57.2 -5.8
ULM **Lac du Bonnet** **109.04** **43** PKiKP **PKiKP** **04 05 01.8 -1.4**
comp=Z,1.2nm,0.6s,baz=172,slow=2.9,SNR=2.6
ULM **Lac du Bonnet** **109.04** **43** PKiKP **PKiKP** **04 05 01.8 -1.4**
RES **Resolute Bay** **112.68** **17** PKiKP **PKiKP** **04 05 08.0 -1.4**
comp=Z,2.5nm,0.8s,baz=198,slow=3.9,SNR=4.1
RES **Resolute Bay** **112.68** **17** PKIKP **PKiKP** **04 05 08.0 -1.4**
RES **Resolute Bay** **112.68** **17** PKiKP **PKiKP** **04 05 08.0 -1.4**
BVAR **Borovoye Array** **113.89** **319** PKiKP **PKiKP** **04 05 12.0 -0.3**
comp=Z,0.7nm,0.4s,baz=186,slow=3.0,SNR=5.5
BVAR PP **PP** **04 06 06.2 -0.2**
comp=Z,1.3nm,0.8s,baz=111,slow=3.2,SNR=3.6
BVAR **Borovoye Array** **113.89** **319** PKIKP **PKiKP** **04 05 12.0 -0.3**
BVAR 04 06 06.2
BVAR **Borovoye Array** **113.89** **319** PKiKP **PKiKP** **04 05 12.0 -0.3**
BVAR PP **PP** **04 06 06.2 -0.2**
ARU **Arti** **120.77** **323** *e*PKIKP **PKPdf** **04 05 25.3 -0.1**
ARU **Arti** **120.77** **323** *e*PKPdf **PKPdf** **04 05 25.3 -0.1**
AKTO **Aktyubinsk** **121.48** **316** PKP **PKPdf** **04 05 26.7 -0.3**
comp=Z,3.1nm,0.9s,baz=59,slow=1.5,SNR=5.8
AKTO **Aktyubinsk** **121.48** **316** PKIKP **PKPdf** **04 05 26.7 -0.3**
AKTO **Aktyubinsk** **121.48** **316** PKP **PKPdf** **04 05 26.7 -0.3**
LBTB **Lobatse** **121.93** **218** PKP **PKPdf** **04 05 28.3 -0.6**
comp=Z,0.8nm,0.6s,baz=135,slow=13,SNR=2.7
LBTB **Lobatse** **121.93** **218** PKIKP **PKPdf** **04 05 28.3 -0.6**
LBTB **Lobatse** **121.93** **218** PKP **PKPdf** **04 05 28.3 -0.6**
SPITS **Spitsbergen Ar** **123.02** **354** PKP **PKPdf** **04 05 28.0 -1.2**
comp=Z,38nm,1.1s,baz=150,slow=1.6,SNR=20
SPITS **Spitsbergen Ar** **123.02** **354** PKIKP **PKPdf** **04 05 28.0 -1.2**
SPITS **Spitsbergen Ar** **123.02** **354** PKP **PKPdf** **04 05 28.0 -1.2**
FRB **Frobisher Bay** **123.41** **27** PKP **PKPdf** **04 05 28.5 -1.7**
comp=Z,13nm,0.9s,baz=310,slow=2.2,SNR=27
FRB **Frobisher Bay** **123.41** **27** PKIKP **PKPdf** **04 05 28.5 -1.7**
FRB **Frobisher Bay** **123.41** **27** PKP **PKPdf** **04 05 28.5 -1.7**
DAG **Danmarks Havn** **125.51** **3** *i* PKIKP **PKPdf** **04 05 31.8 -2.2**
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG **Danmarks Havn** **125.51** **3** *i* P **PKPdf** **04 05 31.8 -2.2**
comp=Z,69nm,0.9s
DAG *i* 04 06 45.4
BDFB **Brasilia** **126.27** **131** PKP **PKPdf** **04 05 36.3 -1.1**
comp=Z,4.7nm,0.8s,baz=94,slow=1.6,SNR=7.8
BDFB **Brasilia** **126.27** **131** PKIKP **PKPdf** **04 05 36.3 -1.1**
BDFB **Brasilia** **126.27** **131** PKP **PKPdf** **04 05 36.3 -1.1**
SJG **San Juan** **126.64** **84** *e*PKIKP **PKPdf** **04 05 36.7 -1.1**
SJG **San Juan** **126.64** **84** *e*PKPdf **PKPdf** **04 05 36.7 -1.1**
SCHQ **Schefferville** **126.64** **38** PKP **PKPdf** **04 05 35.9 -0.9**
comp=Z,5.8nm,0.9s,baz=39,slow=5.3,SNR=7.1
SCHQ **Schefferville** **126.64** **38** PKP **PKPdf** **04 05 35.9 -0.9**
SUMG **Summit** **127.32** **11** *i* PKIKP **PKPdf** **04 05 37.7 -0.4**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG **Summit** **127.32** **11** *i* P **PKPdf** **04 05 37.7 -0.4**
comp=Z,9.9nm,1.0s
SUMG *e* 04 06 49.1
ARCES **ARCESS Array B** **128.62** **345** PKP **PKPdf** **04 05 39.3 -0.8**
comp=Z,3.7nm,0.6s,baz=103,slow=1.9,SNR=29
ARCES **ARCESS Array B** **128.62** **345** PKIKP **PKPdf** **04 05 39.3 -0.8**
ARCES **ARCESS Array B** **128.62** **345** PKP **PKPdf** **04 05 39.3 -0.8**
RDF **Al-Radifah** **128.92** **290** *e*P **PKPdf** **04 05 40.1 -1.8**
MIB **Mutribah** **129.19** **291** *e*P **PKPdf** **04 05 41.5 -0.9**
MIB AMb AMB 04 05 45.3
comp=Z,47nm,1.7s
NAY **Al-Naaiem** **129.22** **290** *e*P **PKPdf** **04 05 38.4 -4.1**
NAY AMb AMB 04 05 45.2
comp=Z,34nm,1.6s
GNI **Garni** **131.47** **304** PKP **PKPdf** **04 05 45.4 -1.3**
comp=Z,3.8nm,0.7s,baz=90,slow=3.0,SNR=2.6
GNI **Garni** **131.47** **304** ⇑*i* PKIKP **PKPdf** **04 05 48.2 +1.6**
GNI **Garni** **131.47** **304** PKP **PKPdf** **04 05 45.4 -1.3**
VRHR **Novokhopersk** **131.63** **319** *e*PKIKP **PKPdf** **04 05 45.3 -1.0**
VRHR *e* 04 12 52.1
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.5s
KIV **Kislovodsk** **132.53** **310** *e*PKIKP **PKPdf** **04 05 50.4 +2.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
OBN **Obninsk** **133.05** **326** ⇑*i* PKIKP **PKPdf** **04 05 49.3 +0.4**
OBN *e* 04 08 14.0
OBN *e*PS **PS** **04 18 30.3 -3.0**
OBN pmax pmax
comp=Z,24nm,1.5s
VSR **Storozhevoye** **133.07** **320** *e*PKIKP **PKPdf** **04 05 47.5 -1.5**
FINES **FINESS Array B** **134.19** **337** PKhKP PKPpre 04 05 39.0
comp=Z,3.2nm,0.9s,baz=48,slow=2.1,SNR=3.9
FINES PKP **PKPdf** **04 05 50.7 -0.1**
comp=Z,2.0nm,0.6s,baz=79,slow=2.6,SNR=8.6
FINES SKPbc **SKPab** **04 09 19.3 -1.1**
comp=Z,4.2nm,0.7s,baz=64,slow=6.3,SNR=9.0
FINES **FINESS Array B** **134.19** **337** PKHKP PKPpre 04 05 39.0
FINES 04 05 50.7
FINES **FINESS Array B** **134.19** **337** PKPpre PKPpre 04 05 39.0
FINES PKP **PKPdf** **04 05 50.7 -0.1**
FINES SKPbc **SKPab** **04 09 19.3 -1.1**
ANN **Anapa** **136.04** **312** *i* PKIKP **PKPdf** **04 05 56.4 +1.6**
GZT **Gaziantep** **137.33** **301** *i* P **PKPdf** **04 05 58.4 +0.7**
IZAR **Zarasai** **137.76** **331** *e*P **PKPdf** **04 05 59.5 +1.9**
IZAR AMB AMB 04 06 01.0
comp=Z,10nm,1.4s
IDID **Didziasalis** **137.80** **330** *e*P **PKPdf** **04 06 00.3 +2.5**
IDID AMB AMB 04 06 01.1
comp=Z,12nm,1.2s
ISAL **Salakas** **137.92** **331** *e*P **PKPdf** **04 06 00.2 +2.2**
ISAL AMB AMB 04 06 01.2
comp=Z,9.3nm,1.6s
IIGN **Ignalina** **138.01** **330** *e*P **PKPdf** **04 06 00.5 +2.4**
IIGN AMB AMB 04 06 01.6
comp=Z,12nm,1.4s
ASF **Jabal al Asfar** **138.25** **294** PKP **PKPdf** **04 05 59.3 -0.1**
comp=Z,3.4nm,1.0s,baz=86,slow=13,SNR=2.4
ASF **Jabal al Asfar** **138.25** **294** PKIKP **PKPdf** **04 05 59.3 -0.1**
ASF **Jabal al Asfar** **138.25** **294** PKP **PKPdf** **04 05 59.3 -0.1**
COBT **Iskenderun** **138.47** **300** *i* P **PKPdf** **04 06 00.8 +0.9**
NB2 **NORSAR Subarra** **139.00** **345** PKPdf PKPpre 04 05 52.0
comp=Z,22nm,1.7s,baz=31,slow=1.9
NB2 **NORSAR Subarra** **139.00** **345** PKPdf PKPpre 04 05 52.0
baz=31,slow=1.9
NOA **NORSAR Array B** **139.00** **345** PKP **PKPdf** **04 05 57.4 -2.4**
comp=Z,2.1nm,0.8s,baz=51,slow=1.8,SNR=3.7
NOA **NORSAR Array B** **139.00** **345** PKIKP **PKPdf** **04 05 57.4 -2.4**
NOA **NORSAR Array B** **139.00** **345** PKP **PKPdf** **04 05 57.4 -2.4**
AKASG **Malin Array Be** **139.02** **323** PKhKP PKPpre 04 05 56.4
comp=Z,0.9nm,0.6s,baz=60,slow=2.1,SNR=6.4
AKASG SKPbc **SKiKP** **04 09 35.5 -0.2**
comp=Z,9.6nm,1.0s,baz=51,slow=3.0,SNR=11
AKASG **Malin Array Be** **139.02** **323** PKIKP **PKPdf** **04 05 56.4 -3.7**
AKASG **Malin Array Be** **139.02** **323** PKPpre PKPpre 04 05 56.4
AKASG SKPbc **SKiKP** **04 09 35.5 -0.2**
HFS **Hagfors** **139.14** **343** PKhKP PKPpre 04 05 49.5
comp=Z,1.9nm,0.5s,baz=188,slow=4.0,SNR=12
HFS **Hagfors** **139.14** **343** PKHKP PKPpre 04 05 49.5
HFS **Hagfors** **139.14** **343** PKPpre PKPpre 04 05 49.5
MMAI **Mount Meron Ar** **139.47** **295** PKP **PKPdf** **04 06 00.4 -1.3**
comp=Z,6.3nm,1.0s,baz=352,slow=8.7,SNR=3.4
MMAI **Mount Meron Ar** **139.47** **295** PKP **PKPdf** **04 06 00.3 -1.3**
EIL **Elat** **139.94** **290** PKP **PKPdf** **04 06 02.5 +0.1**
comp=Z,13nm,1.0s,baz=282,slow=3.4,SNR=5.5
EIL **Elat** **139.94** **290** PKP **PKPdf** **04 06 02.5 +0.1**
BR131 **Keskin Array S** **139.97** **305** *e*PKPdf **PKPdf** **04 06 03.5 +1.0**
BRTR **Keskin Array B** **139.97** **305** PKP **PKPdf** **04 06 01.1 -1.3**
comp=Z,5.4nm,1.1s,baz=342,slow=6.5,SNR=12
BRTR **Keskin Array B** **139.97** **305** PKIKP **PKPdf** **04 06 01.2 -1.3**
BRTR **Keskin Array B** **139.97** **305** PKP **PKPdf** **04 06 01.1 -1.3**
RCBR **Riachuelo** **141.54** **134** PKP **PKPdf** **04 06 04.3 -1.7**
comp=Z,16nm,1.1s,baz=10,slow=1.2,SNR=3.9
RCBR **Riachuelo** **141.54** **134** PKP **PKPdf** **04 06 04.3 -1.7**
CFR **Carcaliu** **142.14** **316** ⇓PKIKP **PKPdf** **04 06 07.4 +1.5**
CFR **Carcaliu** **142.14** **316** ⇓*i* P **PKPdf** **04 06 07.4 +1.5**
LVV **L'vov** **142.32** **325** *e*PKIKP **PKPdf** **04 06 05.0 -1.1**
TESR **142.50** **318** ⇑*i* P **PKPdf** **04 06 06.0 -0.6**
VRI **Vrincioaia** **142.75** **317** ⇑PKIKP **PKPdf** **04 06 07.2 +0.1**
VRI **Vrincioaia** **142.75** **317** ⇑*i* P **PKPdf** **04 06 07.2 +0.1**
BUR08 **Bucovina Ar. S** **142.83** **321** *e*PKPdf **PKPdf** **04 06 06.2 -1.0**
BURAR **Bucovina Array** **142.83** **321** ⇑*i* P **PKPdf** **04 06 06.6 -0.7**
MLR **Muntele Rosu** **143.41** **317** PKP PKPbc 04 06 06.4 +0.8
comp=Z,6.9nm,1.2s,baz=0.9,slow=2.9,SNR=10
MLR **Muntele Rosu** **143.41** **317** PKIKP PKPbc 04 06 06.8 +1.2
MLR **Muntele Rosu** **143.41** **317** PKP PKPbc 04 06 06.4 +0.8
MLR **Muntele Rosu** **143.41** **317** ⇓*i* P PKPbc 04 06 06.0 +0.4
KOLS **Kolonicke sedl** **143.77** **324** *e*PKIKP **PKPdf** **04 06 08.4 -0.4**
KOLS **Kolonicke sedl** **143.77** **324** *e*PKP **PKPdf** **04 06 08.4 -0.4**
BMR **Baia Mare** **143.79** **322** PKIKP **PKPdf** **04 06 08.4 -0.4**
BMR **Baia Mare** **143.79** **322** ⇑*i* P **PKPdf** **04 06 08.1 -0.7**
UZH **Uzhgorod** **143.93** **324** *e*PKIKP **PKPdf** **04 06 08.0 -1.0**
UZH *i* 04 06 12.6
VOIR **143.99** **318** ⇓PKIKP PKPbc 04 06 07.5 +0.2
VOIR **143.99** **318** ⇓*i* P PKPbc 04 06 07.5 +0.2
KULA **Kula-Manisa** **144.02** **305** *e*P **PKPdf** **04 06 04.8 -4.9**
STHS **Stebnicka Huta** **144.03** **326** *e*PKIKP **PKPdf** **04 06 10.4 +1.2**
STHS **Stebnicka Huta** **144.03** **326** *e*PKP **PKPdf** **04 06 10.4 +1.2**
TRPA **Tarpa** **144.08** **323** ⇑*i* P PKPbc 04 06 07.8 +0.5
TRPA **Tarpa** **144.08** **323** ⇓*e*PKPdf **PKPdf** **04 06 08.4 -0.9**
MANT **Manisa** **144.10** **305** *i* P **PKPab** **04 06 07.7 +0.1**
CRVS **Cervenica-Dubn** **144.22** **325** *e*PKIKP PKPbc 04 06 08.2 +0.4
CRVS **Cervenica-Dubn** **144.22** **325** *e*PKP PKPbc 04 06 08.2 +0.4
JMB **Yambol** **144.25** **312** *e*P PKPab 04 06 00.1 -7.6
OJC **Ojcow** **144.26** **328** *e*PKPdf PKPbc 04 06 08.7 +0.8
OJC **Ojcow** **144.26** **328** *e*PKIKP PKPbc 04 06 08.7 +0.8
GONE **Gonen-Balikesi** **144.31** **308** *e*P **PKPdf** **04 06 05.2 -4.7**
SZH **Strazhica** **144.37** **314** P **PKPab** **04 06 06.5 -1.6**
KRBG **Karabiga-Canak** **144.48** **309** *e*P **PKPdf** **04 06 06.7 -3.5**
NIE **Niedzica** **144.51** **326** *e*PKPdf **PKPdf** **04 06 09.7 -0.4**
NIE **Niedzica** **144.51** **326** *e*PKIKP **PKPdf** **04 06 09.7 -0.4**
AKS **Akhisar** **144.56** **306** *e*P **PKPdf** **04 06 07.2 -3.3**
YER **Yerkesik** **144.65** **303** *e*P PKPdf 04 06 04.2 -6.5
LOT **Lotru** **144.78** **318** ⇓*i* P **PKPdf** **04 06 10.4 -0.4**
PVL **Pavlikeni** **144.79** **314** *e*P **PKPdf** **04 06 11.7 +1.0**
LPK **Lapseki** **144.87** **309** *e*P **PKPdf** **04 06 09.0 -1.9**
IZM **Izmir** **145.11** **305** *e*P **PKPdf** **04 06 08.2 -3.3**
DIM **Dimitrovgrad** **145.13** **312** P **PKPdf** **04 06 11.2 -0.1**
ALN **Alexandroupoli** **145.20** **310** PKIKP **PKPdf** **04 06 11.6 +0.1**
ALN **Alexandroupoli** **145.20** **310** P **PKPdf** **04 06 11.6 +0.1**
ALN **Alexandroupoli** **145.20** **310** P **PKPdf** **04 06 11.6 +0.1**
ALN **Alexandroupoli** **145.20** **310** *e*P **PKPdf** **04 06 11.7 +0.2**
BLCB **Balcova** **145.28** **305** *e*P **PKPdf** **04 06 08.5 -3.2**
RUE **Ruedersdorf** **145.31** **335** *e*PKPdf **PKPdf** **04 06 11.3 +0.1**
OKC **Ostrava-Krasne** **145.31** **329** *e*PKP2 **PKPbc** **04 06 11.0 -0.2**
OKC **Ostrava-Krasne** **145.31** **329** *e*PKP **PKPbc** **04 06 11.0 -0.2**
BDRM **Kayabasi** **145.32** **303** *i* P **PKPbc** **04 06 10.6 -1.1**
BSEG **Bad Segeberg** **145.35** **340** *e*PKPbc **PKPab** **04 06 12.0 +0.7**
BSEG **Bad Segeberg** **145.35** **340** *e*PKP2 **PKPab** **04 06 12.0 +0.7**
KDV **Kurdzhali** **145.36** **312** P **PKPbc** **04 06 11.1 -0.6**
EZN **Ezine** **145.37** **308** *e*P **PKPdf** **04 06 07.7 -4.1**
GZR **Gura Zlata** **145.41** **319** ⇓PKIKP **PKPbc** **04 06 10.7 -1.1**
GZR **Gura Zlata** **145.41** **319** ⇓*i* P **PKPbc** **04 06 10.7 -1.1**
BODT **Bodrum** **145.43** **303** *e*P **PKPdf** **04 06 08.8 -3.3**
KSP **Ksiaz** **145.48** **331** *e*PKP **PKPab** **04 06 12.6 +0.6**
KSP **Ksiaz** **145.48** **331** *e*PKP2 **PKPdf** **04 06 11.1 -0.5**
BOZC **Bozcaada** **145.56** **308** *i* P **PKPdf** **04 06 07.2 -4.9**
SMG **Samos** **145.62** **304** *e*P **PKPab** **04 06 13.5 +0.6**
URLA **Izmir** **145.62** **306** *i* P **PKPdf** **04 06 12.5 +0.2**
MORC **Moravsky Berou** **145.65** **329** ⇓PKP2 **PKPbc** **04 06 12.5 +0.2**
MORC **Moravsky Berou** **145.65** **329** *e*PKPdf **PKPdf** **04 06 12.1 +0.1**
MORC **Moravsky Berou** **145.65** **329** ⇓*i* P **PKPbc** **04 06 12.5 +0.2**
PSZ **Piszkesteto** **145.65** **325** ⇓PKP2 **PKPbc** **04 06 12.4 -0.1**
PSZ **Piszkesteto** **145.65** **325** *e*PKPdf **PKPdf** **04 06 12.1 0.0**
PSZ **Piszkesteto** **145.65** **325** ⇓*i* P **PKPbc** **04 06 12.4 -0.1**
PSZ **Piszkesteto** **145.65** **325** ⇑*e*PKPbc **PKPbc** **04 06 11.5 -0.6**
PLIP **Plovdiv** **145.67** **313** P **PKPdf** **04 06 11.4 -0.8**
MPEP **Malo Peshtene** **145.78** **315** P **PKPab** **04 06 14.1 +0.8**
KRLC **Kraliky** **145.80** **330** *e*PKP **PKPdf** **04 06 12.6 +0.3**
DPC **Dobruska-Polom** **145.82** **331** *e*PKP2 **PKPbc** **04 06 12.8 -0.1**
DPC **Dobruska-Polom** **145.82** **331** *e*PKP **PKPbc** **04 06 12.8 -0.1**
DPC *ex* x 04 07 26.0
RZN **Rozhen** **145.83** **312** P **PKPbc** **04 06 13.3 -0.1**
UPC **Upice** **145.84** **331** *e*PKP2 **PKPbc** **04 06 12.8 -0.1**
UPC **Upice** **145.84** **331** *e*PKP **PKPbc** **04 06 12.8 -0.1**
VYHS **Vyhne** **145.85** **326** *e*PKP2 **PKPbc** **04 06 13.0 0.0**
VYHS **Vyhne** **145.85** **326** *e*PKP **PKPbc** **04 06 13.0 0.0**
PGB **Panagyurishte** **145.85** **314** P **PKPab** **04 06 14.4 +0.7**
KARP **Karpathos** **145.89** **301** *e*P **PKPab** **04 06 14.0 -0.1**
BZS **Buzias** **145.99** **320** ⇓PKP2 **PKPab** **04 06 14.2 +0.2**
BZS **Buzias** **145.99** **320** ⇓*i* P **PKPab** **04 06 14.1 +0.1**
CHOS **Chios island** **146.02** **306** *e*P **PKPab** **04 06 14.8 +0.3**
BUD **Budapest** **146.38** **325** ⇓*e*PKPdf **PKPdf** **04 06 13.4 +0.1**
VRAC **Vranov** **146.42** **329** PKPbc **PKPbc** **04 06 14.2 -0.4**
comp=Z,23nm,0.9s,baz=49,slow=2.8,SNR=23
VRAC **Vranov** **146.42** **329** ⇑PKP2 **PKPab** **04 06 15.2 -0.4**
VRAC **Vranov** **146.42** **329** PKPbc **PKPbc** **04 06 14.2 -0.4**
VRAC **Vranov** **146.42** **329** ⇑*i* P **PKPab** **04 06 15.2 -0.4**
PVCC **Panska Ves** **146.46** **332** *e*PKP2 **PKPdf** **04 06 13.7 +0.4**
PVCC **Panska Ves** **146.46** **332** *e*PKP **PKPdf** **04 06 13.7 +0.4**
VTS **Vitosha** **146.47** **314** ⇑PKP2 **PKPdf** **04 06 14.1 +0.2**
VTS **Vitosha** **146.47** **314** P **PKPdf** **04 06 14.0 +0.2**
VTS **Vitosha** **146.47** **314** P **PKPdf** **04 06 14.0 +0.2**
VTS **Vitosha** **146.47** **314** ⇑*i* P **PKPdf** **04 06 14.1 +0.2**
VTS **Vitosha** **146.47** **314** P **PKPdf** **04 06 10.3 -3.5**
BRG **Berggiesshubel** **146.47** **333** *i* PKP **PKPbc** **04 06 14.1 -0.6**
comp=Z,157nm,1.6s
BRG *e* 04 09 53.3
comp=Z,21nm,1.4s
BRG
comp=N,8μm,22.0s
BRG
comp=E,7μm,21.9s
BRG
comp=Z,10μm,22.0s
BRG **Berggiesshubel** **146.47** **333** *e*PKPbc **PKPab** **04 06 15.5 -0.2**
BRG **Berggiesshubel** **146.47** **333** *i* PKP2 **PKPbc** **04 06 14.1 -0.6**
BRG pmax pmax
comp=Z,157nm,1.7s
BRG pmax pmax
comp=Z,21nm,1.4s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG MLR MLR
comp=N,8μm,22.0s
BRG MLR MLR
comp=E,7μm,21.9s
BRG MLR MLR
comp=Z,10μm,22.0s
CLL **Collm** **146.52** **335** *e*PKPbc **PKPbc** **04 06 15.4 +0.6**
CLL **Collm** **146.52** **335** ⇓*i* PKP2 **PKPdf** **04 06 13.5 +0.1**
CLL *i* 04 06 15.4
CLL pmax pmax
comp=Z,50nm,0.9s
CLL **Collm** **146.52** **335

SRS	Serrai	146.84 312	P		PKPbc	04 06 15.6	-0.5
PRA	Prague	146.86 332	PKP		PKPab	04 06 17.0	-0.2
PRA			*ex*		x	04 06 24.0	
KKB	Krupnik	146.87 313	P		PKPab	04 06 17.1	-0.5
PRU	Pruhonice	146.87 332	*e*PKP2		PKPdf	04 06 14.7	+0.7
PRU	Pruhonice	146.87 332	*e*PKP		PKPdf	04 06 14.7	+0.7
PRU			*ex*		x	04 07 29.5	
ZST	Bratislava	146.92 327	*e*PKP2		PKPbc	04 06 16.0	-0.1
ZST	Bratislava	146.92 327	*e*PKP		PKPbc	04 06 16.0	-0.1
TREC	Trest	146.95 330	*e*PKP2		PKPdf	04 06 15.1	+0.9
TREC	Trest	146.95 330	*e*PKP		PKPdf	04 06 15.1	+0.9
TREC			*ex*		x	04 07 31.5	
ESK	Eskdalemuir	146.96 354	*e*PKP2		PKPbc	04 06 15.4	-0.6
ESK	Eskdalemuir	146.96 354	*e*PKPdf		PKPbc	04 06 15.4	-0.6
PKST	T"s	147.05 325	*e*PKPdf		PKPdf	04 06 15.2	+0.8
PLG	Polygyros	147.23 310	*e*P		PKPab	04 06 18.6	-0.5
PAIG	Paliouri	147.24 310	PKP2		PKPdf	04 06 15.2	+0.2
PAIG	Paliouri	147.24 310	P		PKPdf	04 06 15.2	+0.2
PAIG	Paliouri	147.24 310	P		PKPdf	04 06 15.2	+0.2
MSKU	Masuku	147.27 226	PKPbc		PKPbc	04 06 18.5	+0.3
	comp=Z,103nm,1.1s,baz=79,slow=7.8,SNR=9.8						
MSKU	Masuku	147.27 226	PKPbc		PKPbc	04 06 18.5	+0.3
KNT	Kendrikon	147.29 312	PKP2		PKPbc	04 06 17.3	-0.1
KNT	Kendrikon	147.29 312	P		PKPbc	04 06 17.3	-0.1
KNT	Kendrikon	147.29 312	P		PKPbc	04 06 17.3	-0.1
PKS9	Tamasi	147.33 324	*e*PKPdf		PKPbc	04 06 17.5	+0.2
PKSM	Moragy	147.36 323	*i*PKP2		PKPdf	04 06 15.9	+0.9
PKSM	Moragy	147.36 323	*i*P		PKPdf	04 06 15.9	+0.9
PKSM	Moragy	147.36 323	*e*PKPdf		PKPbc	04 06 18.0	+0.6
VAY	Valandovo	147.45 313	*e*PKP		PKPdf	04 06 16.5	+1.2
SOP	Sopron	147.53 327	*e*PKPdf		PKPbc	04 06 18.6	+0.8
IBBN	Ibbenburen	147.55 341	*e*PKPbc		PKPbc	04 06 18.6	+0.9
NKC	Novy Kostel	147.57 334	*e*PKP2		PKPbc	04 06 17.9	0.0
NKC	Novy Kostel	147.57 334	*e*PKP		PKPbc	04 06 17.9	0.0
NKC			*ex*		x	04 07 33.4	
MOX	Moxa	147.59 335	*e*PKPbc		PKPbc	04 06 18.6	+0.7
MOX	Moxa	147.59 335	*e*PKP2		PKPbc	04 06 18.6	+0.7
SKIA	Skiathos	147.67 308	P		PKPdf	04 06 16.6	+0.9
CONA	Conrad Observa	147.72 328	*i*P		PKPdf	04 06 16.3	+0.7
CONA	Conrad Observa	147.72 328	*i*PKPbc		PKPdf	04 06 16.3	+0.7
	comp=Z,59nm,1.5s						
RHK3	Tenkes	147.77 323	*e*PKPdf		PKPbc	04 06 19.0	+0.4
XOR	Xorichti	147.80 309	P		PKPbc	04 06 17.6	-1.3
XOR	Xorichti	147.80 309	P		PKPbc	04 06 17.6	-1.3
SKO	Skopje	147.92 314	*e*Pn		PKPbc	04 06 19.9	+0.8
KHC	Kasperske Hory	147.93 331	*e*PKIKP		PKPdf	04 06 18.9	+0.6
KHC			*e*			04 06 29.5	
KHC	Kasperske Hory	147.93 331	*e*PKPdf		PKPdf	04 06 16.6	+0.6
KHC			*e*PKPbc		PKiKP	04 06 20.5	-0.3
KHC	Kasperske Hory	147.93 331	*e*PKP		PKPdf	04 06 16.5	+0.6
KHC			*ep*PKP		pPKPdf	04 06 29.5	+1.6
KHC			*ex*		x	04 07 32.2	
LIT	Litokhoron	148.01 311	PKP2		PKPbc	04 06 18.7	-0.7
LIT	Litokhoron	148.01 311	P		PKPbc	04 06 18.7	-0.7
LIT	Litokhoron	148.01 311	P		PKPbc	04 06 18.7	-0.7
LIT	Litokhoron	148.01 311	*e*P		PKPbc	04 06 18.4	-1.0
ROTZ	Rotzenmuhle	148.03 333	*e*PKPbc		PKPbc	04 06 20.4	+1.3
UBBA	Unterbreizbach	148.05 337	*e*PKPbc		PKPab	04 06 20.6	-1.2
GEC2	GERESS Array S	148.09 331	*e*PKPbc		PKPbc	04 06 20.1	+0.7
GEC2	GERESS Array S	148.09 331	*e*PKP2		PKPbc	04 06 20.1	+0.7
GERES	GERESS Array B	148.09 331	PKP		PKPdf	04 06 15.4	-0.8
	comp=Z,11nm,0.9s,baz=318,slow=1.3,SNR=9.7						
GERES			PKPbc		PKPbc	04 06 19.2	-0.3
	comp=Z,7.4nm,0.5s,baz=44,slow=1.9,SNR=29						
GERES	GERESS Array B	148.09 331	PKIKP		PKPdf	04 06 15.4	-0.8
GERES						04 06 19.2	
GERES	GERESS Array B	148.09 331	PKP		PKPdf	04 06 15.4	-0.8
GERES			PKPbc		PKPbc	04 06 19.2	-0.3
WTSB	Winterswijk	148.14 341	*e*PKP		PKPbc	04 06 19.4	+0.2
ATAL	Atalanti	148.17 308	P		PKPbc	04 06 19.1	-0.7
ATAL	Atalanti	148.17 308	P		PKPbc	04 06 19.1	-0.7
BEHE	Becsehely	148.22 325	*e*PKPdf		PKPbc	04 06 18.4	-1.3
WET	Wettzell	148.23 332	*e*PKPbc		PKPbc	04 06 20.6	+0.9
WET	Wettzell	148.23 332	*e*PKP2		PKPbc	04 06 20.6	+0.9
KRUS	Krusevo	148.32 313	*e*Pn		PKPdf	04 06 16.4	-0.5
DID	Didima	148.41 306	P		PKPbc	04 06 19.5	-1.1
BIA	Bitola	148.43 313	*e*Pn		PKPbc	04 06 19.6	-0.9
BUG	Bochum--Univer	148.45 340	*e*PKPbc		PKPbc	04 06 21.0	+0.9
GRF	Grafenberg Arr	148.49 334	*e*PKPbc		PKPbc	04 06 21.4	+1.0
GRF	Grafenberg Arr	148.49 334	*e*PKP2		PKPbc	04 06 21.4	+1.0
GRFO	Grafenberg	148.50 334	*e*PKP2		PKPbc	04 06 21.7	+1.3
GRFO	Grafenberg	148.50 334	*e*PKPbc		PKPbc	04 06 21.6	+1.3
GUR	Goura	148.93 307	P		PKPbc	04 06 21.7	-0.3
PERS	Pernice	148.97 327	*e*PKPbc		PKPbc	04 06 22.1	+0.4
SOKA	Soboth	148.98 327	*i*P		PKPdf	04 06 17.7	-0.1
SOKA	Soboth	148.98 327	*i*PKPbc		PKPdf	04 06 17.7	-0.1
	comp=Z,46nm,1.4s						
TNS	Taunus Mts	149.10 338	*e*PKPbc		PKPbc	04 06 22.8	+0.9
TNS	Taunus Mts	149.10 338	*e*PKP2		PKPbc	04 06 22.8	+0.9
DLF	Lyons Farm	149.22 357	*e*P		PKPdf	04 06 16.4	-1.3
TIR	Tirane	149.25 314	*e*PKP2		PKPbc	04 06 23.7	+1.1
TIR	Tirane	149.25 314	*e*PKPbc		PKPbc	04 06 23.6	+1.1
TOD	Tromm	149.49 337	PKIKP		PKPbc	04 06 19.5	-3.4
TOD	Tromm	149.49 337	PKP		PKPbc	04 06 19.5	-3.4
BEBN	Eben Emael	149.50 341	PKPbc		PKPbc	04 06 23.4	+0.6
MEM	Membach	149.57 341	PKPbc		PKPbc	04 06 23.3	+0.3
MEM			PKPab		PKPab	04 06 28.5	+0.5
FUR	Furstenfeldbru	149.66 332	*e*PKPbc		PKPbc	04 06 24.0	+0.6
FUR	Furstenfeldbru	149.66 332	*e*PKP2		PKPbc	04 06 24.0	+0.6
LJU	Ljubljana	149.67 326	*e*PKPdf		PKPdf	04 06 19.9	+1.2
LJU			*i* PKPbc		PKPbc	04 06 23.2	-0.2
CRNS	Crni Vrh	149.78 327	*i* PKPdf		PKPbc	04 06 23.3	-0.5
CEY	Cerknica	149.93 326	*i* PKPbc		PKPbc	04 06 23.8	-0.3
BCLA	Clavier	149.95 341	PKPbc		PKPbc	04 06 24.7	+0.8
VOY	Vojsko	150.00 327	*e*PKPdf		PKPdf	04 06 20.8	+1.4
VOY			*e*PKPbc		PKPbc	04 06 23.7	-0.6
VOY			*e*			04 06 31.2	
VOY			*e*			04 06 48.0	
VOY			*e*			04 07 41.1	
VOY			*e*			04 07 50.3	
RUP	Ruppelstein	150.02 339	PKIKP		PKPdf	04 06 20.6	+1.4
RUP	Ruppelstein	150.02 339	PKP		PKPdf	04 06 20.6	+1.4
STU	Stuttgart	150.03 335	*e*PKPbc		PKPbc	04 06 25.1	+0.9
STU	Stuttgart	150.03 335	*e*PKIKP		PKPbc	04 06 24.4	+0.2
STU	Stuttgart	150.03 335	*e*PKPbc		PKPbc	04 06 24.4	+0.2
SNF	Seneffe	150.16 343	PKPbc		PKPbc	04 06 24.1	-0.3
ABTA	Abfaltersbach	150.17 329	*i*P		PKPdf	04 06 19.4	-0.2
ABTA	Abfaltersbach	150.17 329	*i*PKPdf		PKPdf	04 06 19.4	-0.2
	comp=Z,80nm,1.4s,SNR=8.7						
WTTA	Wattenberg	150.19 331	*i*PKIKP		PKPdf	04 06 20.0	+0.2
WTTA	Wattenberg	150.19 331	*i*P		PKPdf	04 06 20.0	+0.2
WTTA	Wattenberg	150.19 331	*i*PKPdf		PKPdf	04 06 20.0	+0.2
	comp=Z,117nm,1.5s,SNR=6.3						
WLF	Walferdange	150.35 340	*e*PKPbc		PKPbc	04 06 24.6	-0.3
WLF	Walferdange	150.35 340	*e*PKPbc		PKPbc	04 06 26.4	+1.5
WLF	Walferdange	150.35 340	*e*PKIKP		PKPbc	04 06 25.3	+0.4
WLF	Walferdange	150.35 340	*e*PKPbc		PKPbc	04 06 25.3	+0.4
MOTA	Moosalm	150.36 332	*i*PKIKP		PKPdf	04 06 18.2	-1.8
MOTA	Moosalm	150.36 332	*i*P		PKPdf	04 06 18.2	-1.8
MOTA	Moosalm	150.36 332	*i*PKPdf		PKPdf	04 06 18.2	-1.8
	comp=Z,63nm,1.3s,SNR=10						
LANF	Langenberg	150.37 337	PKIKP		PKPdf	04 06 21.1	+1.3
LANF	Langenberg	150.37 337	PKP		PKPdf	04 06 21.1	+1.3
LANF	Langenberg	150.37 337	PKP		PKPdf	04 06 21.1	+1.3
DOU	Dourbes	150.44 342	PKPbc		PKPbc	04 06 24.9	-0.3
BFO	Black Forest	150.72 336	*e*PKPbc		PKPbc	04 06 26.3	+0.4
BFO	Black Forest	150.72 336	*e*PKIKP		PKPbc	04 06 25.2	-0.7
BFO			*e*			04 06 32.9	
BFO	Black Forest	150.72 336	*e*PKPbc		PKPbc	04 06 25.2	-0.7
BFO			*e*PKPab		PKPab	04 06 32.9	0.0
FETA	Feichten	150.78 332	*i*P		PKPdf	04 06 21.1	+0.5
FETA	Feichten	150.78 332	*i*PKPdf		PKPdf	04 06 21.1	+0.5
	comp=Z,72nm,1.2s,SNR=8.6						
FELD	Feldberg im Sc	151.22 336	PKP		PKPdf	04 06 21.9	+0.6
ECH	Echery	151.25 337	PKIKP		PKPdf	04 06 22.1	+0.9
ECH	Echery	151.25 337	PKP		PKPdf	04 06 22.1	+0.9
ECH	Echery	151.25 337	PKP		PKPdf	04 06 22.1	+0.9
DAVOX	Davos/Dischmat	151.33 332	PKP		PKPdf	04 06 22.0	+0.4
	comp=Z,30nm,0.9s,baz=326,slow=2.1,SNR=4.7						
DAVOX			PKPbc		PKPbc	04 06 27.7	+0.1
	comp=Z,57nm,1.1s,baz=3.6,slow=3.2,SNR=22						
DAVOX	Davos/Dischmat	151.33 332	PKIKP		PKPdf	04 06 22.0	+0.4
DAVOX						04 06 27.7	
DAVOX	Davos/Dischmat	151.33 332	PKP		PKPdf	04 06 22.0	+0.4
DAVOX			PKPbc		PKPbc	04 06 27.7	+0.1
MOF	Molkenrain	151.56 337	PKIKP		PKPdf	04 06 22.4	+0.6
MOF	Molkenrain	151.56 337	PKP		PKPdf	04 06 22.4	+0.6
MOF	Molkenrain	151.56 337	PKP		PKPdf	04 06 22.4	+0.6
TUE	Stuetta	151.80 332	*e*PKPdf		PKPdf	04 06 22.5	+0.2
TUE			*e*PKPbc		PKPbc	04 06 28.8	+0.1
AQU	L'Aquila	152.70 322	‖PKIKP		PKPbc	04 06 30.2	-0.5
AQU	L'Aquila	152.70 322	‖*i*P		PKPbc	04 06 30.2	-0.5
CEL	Celeste	153.42 312	*e*PKPbc		PKPbc	04 06 32.4	0.0
KEST	Kesra	159.21 313	PKPab		PKPab	04 07 09.8	+0.2
	comp=Z,4.3nm,1.1s,baz=334,slow=6.2,SNR=4.1						
KEST	Kesra	159.21 313	PKPab		PKPab	04 07 09.8	+0.2
ESDC	Sonseca Array	162.35 347	PKP		PKPdf	04 06 36.1	+0.4
	comp=Z,0.1nm,0.3s,baz=101,slow=1.5,SNR=2.6						
ESDC			PKPab		PKPab	04 07 22.0	-1.0
	comp=Z,1.1nm,0.6s,baz=13,slow=3.8,SNR=7.1						
ESDC	Sonseca Array	162.35 347	PKP		PKPdf	04 06 36.1	+0.4
ESDC			PKPab		PKPab	04 07 22.0	-1.0
DBIC	Dimbokro	163.69 195	PKP		PKPdf	04 06 38.0	+0.4
	comp=Z,5.6nm,0.9s,baz=93,slow=3.3,SNR=4.6						
DBIC			PKPab		PKPab	04 07 29.1	-0.3
	comp=Z,8.9nm,1.1s,baz=132,slow=7.3,SNR=4.7						
DBIC	Dimbokro	163.69 195	PKIKP		PKPdf	04 06 38.1	+0.4
DBIC						04 07 29.1	
DBIC	Dimbokro	163.69 195	PKP		PKPdf	04 06 38.0	+0.4
DBIC			PKPab		PKPab	04 07 29.1	-0.3
TORD	Torodi Ar. Bea	166.08 230	PKP		PKPdf	04 06 39.2	-0.4
	comp=Z,7.6nm,1.1s,baz=87,slow=0.5,SNR=13						
TORD			PKPab		PKPab	04 07 39.0	-1.1
	comp=Z,8.9nm,1.0s,baz=130,slow=4.6,SNR=7.6						
TORD	Torodi Ar. Bea	166.08 230	PKP		PKPdf	04 06 39.2	-0.4
TORD			PKPab		PKPab	04 07 39.0	-1.1

NOU ***19*** *03:46:32.9± 1.9, 21.°96S × 171.°05E, h10km, MD3.4, ML3.8*
IDC ***19*** *03:47:44.7± 1.0, 22.°76S × 171.°00E, h0km, mb4.8/12, mb1 5.0/13, mb1mx4.9/18, mbtmp4.8/13, Error ellipse: s-maj=46.4km s-min=17.7km az=163.0*
ISCJB ***19*** *03:47:49.0± 0.8, 22.°6S± 0.°2 × 170.°71E± 0.°08, h32km, mb4.7/13, Error ellipse: s-maj=31.8km s-min=9.3km az=172.3*
NEIC ***19*** *03:47:50.2± 0.7, 22.°58S × 170.°83E, h35km, mb4.8/2, Error ellipse: s-maj=37.8km s-min=10.1km az=165.0*

ISC 19 03:47:49.9± 0.8, 22.°6S± 0.°2 × 170.°83E± 0.°08, h32km, n49, σ 1§29/47, mb4.8/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.09 276**		Pn	**Pn**		**03 48 50.4**	**0.0**
	91nm,0.3s,baz=227,slow=24,SNR=4							
DZM				Sn	**Sn**		**03 49 35.4**	**-1.8**
	23nm,0.3s,baz=55,slow=16,SNR=2.0							
DZM	**Mont Dzumac**	**4.09 276**		*e*Pn	**Pn**		**03 48 48.0**	**-2.4**
DZM				*e*Sn	**Sn**		**03 49 35.3**	**-1.9**
MSVF	**Nonsavu**	**8.30 56**		*e*Pn	**Pn**		**03 49 47.1**	**-1.1**
CTA	**Charters Tower**	**23.02 272**		P	**P**		**03 52 54.6**	**+2.2**
	22nm,0.9s,baz=94,slow=12,SNR=3.4							
CTA	**Charters Tower**	**23.02 272**		P	**P**		**03 52 54.6**	**+2.2**
STKA	**Stephens Creek**	**27.54 244**		P	**P**		**03 53 34.0**	**+0.1**
	13nm,0.8s,baz=76,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**33.92 261**		P	**P**		**03 54 30.7**	**+0.3**
	20nm,0.9s,baz=90,slow=9.7,SNR=2.9							
ASAR	**Alice Springs**	**33.92 261**		P	**P**		**03 54 30.7**	**+0.3**
WRAB	**Tennant Creek**	**34.05 267**		P	**P**		**03 54 30.8**	**-0.7**
	4.4nm,0.6s							
WRA	**Warramunga Arr**	**34.06 267**		P	**P**		**03 54 30.7**	**-0.9**
	4.8nm,0.7s,baz=97,slow=8.5,SNR=4.8							
WRA	**Warramunga Arr**	**34.06 267**		P	**P**		**03 54 30.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**42.49 267**		P	**P**		**03 55 42.5**	**0.0**
	32nm,0.9s,baz=132,slow=8.0,SNR=2.8							
FITZ	**Fitzroy Crossi**	**42.49 267**		*e*P	**P**		**03 55 42.2**	**-0.3**
	29nm,0.8s							
PETK	**Petropavlovsk-**	**76.20 352**		P	**P**		**03 59 35.0**	**+0.3**
	9.9nm,0.8s,baz=150,slow=6.6,SNR=2.6							
PETK	**Petropavlovsk-**	**76.20 352**		P	**P**		**03 59 35.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**81.21 294**		P	**P**		**04 00 05.8**	**+2.2**
	6.5nm,0.7s,baz=139,slow=4.1,SNR=2.2							
CMAR	**Chiang Mai Arr**	**81.21 294**		P	**P**		**04 00 05.8**	**+2.7**
NVAR	**Mina Array Bea**	**89.89 48**		P	**P**		**04 00 46.1**	**0.0**
	5.5nm,0.8s,baz=224,slow=8.7,SNR=4.9							
NVAR	**Mina Array Bea**	**89.89 48**		P	**P**		**04 00 46.1**	**0.0**
SONM	**Songino Array**	**90.75 323**		P	**P**		**04 00 50.5**	**+0.7**
	6.0nm,0.9s,baz=141,slow=3.4,SNR=2.5							
SONM	**Songino Array**	**90.75 323**		P	**P**		**04 00 50.5**	**+0.7**
ILAR	**Eielson Array**	**92.94 17**		P	**P**		**04 00 59.3**	**0.0**
	2.7nm,1.0s,baz=234,slow=5.0,SNR=2.6							
ILAR	**Eielson Array**	**92.94 17**		P	**P**		**04 00 59.3**	**0.0**
TXAR	**Lajitas Array**	**97.04 61**		P	Pdif		04 01 19.6	+0.4
	1.0nm,1.0s,baz=251,slow=5.6,SNR=2.2							
TXAR	**Lajitas Array**	**97.04 61**		P	Pdif		04 01 19.6	+0.4
PDAR	**Pinedale Array**	**97.77 47**		P	Pdif		04 01 23.4	+1.0
	1.0nm,1.0s,baz=208,slow=6.0,SNR=4.1							
PDAR	**Pinedale Array**	**97.77 47**		P	Pdif		04 01 23.4	+1.0
MKAR	**Makanchi Array**	**105.12 315**		Pdiff	**Pdif**		**04 01 57.3**	**+2.7**
	0.6nm,0.8s,baz=81,slow=7.0,SNR=2.2							
MKAR	**Makanchi Array**	**105.12 315**		Pdif	**Pdif**		**04 01 57.3**	**+2.7**
RES	**Resolute Bay**	**112.70 17**		PKiKP	**PKiKP**		**04 06 21.0**	**-1.4**
	2.0nm,0.8s,baz=260,slow=2.0,SNR=3.7							
RES	**Resolute Bay**	**112.70 17**		PKiKP	**PKiKP**		**04 06 21.0**	**-1.4**
SPITS	**Spitsbergen Ar**	**123.03 354**		PKP	**PKPdf**		**04 06 41.6**	**-0.6**
	6.0nm,0.7s,baz=32,slow=7.8,SNR=2.7							
SPITS	**Spitsbergen Ar**	**123.03 354**		PKP	**PKPdf**		**04 06 41.6**	**-0.6**
FRB	**Frobisher Bay**	**123.43 27**		PKP	**PKPdf**		**04 06 42.1**	**-1.1**
	8.5nm,0.9s,baz=278,slow=2.3,SNR=3.6							
FRB	**Frobisher Bay**	**123.43 27**		PKP	**PKPdf**		**04 06 42.1**	**-1.1**
BDFB	**Brasilia**	**126.26 131**		PKP	**PKPdf**		**04 06 49.1**	**-1.2**
	4.1nm,0.7s,baz=219,slow=4.8,SNR=4.7							
BDFB	**Brasilia**	**126.26 131**		PKP	**PKPdf**		**04 06 49.1**	**-1.2**
ARCES	**ARCESS Array B**	**128.63 345**		PKP	**PKPdf**		**04 06 52.9**	**-0.2**
	2.7nm,0.6s,baz=29,slow=2.8,SNR=3.6							
ARCES	**ARCESS Array B**	**128.63 345**		PKP	**PKPdf**		**04 06 52.9**	**-0.2**
MMAI	**Mount Meron Ar**	**139.47 295**		PKP	**PKPdf**		**04 07 13.9**	**-0.7**
	0.7nm,0.4s,baz=128,slow=2.4,SNR=10							
MMAI	**Mount Meron Ar**	**139.47 295**		PKP	**PKPdf**		**04 07 13.9**	**-0.7**
BRTR	**Keskin Array B**	**139.98 305**		PKP	**PKPdf**		**04 07 16.6**	**+1.2**
	1.9nm,1.0s,baz=304,slow=0.5,SNR=2.4							
BRTR	**Keskin Array B**	**139.98 305**		PKP	**PKPdf**		**04 07 16.6**	**+1.2**
BSEG	**Bad Segeberg**	**145.37 340**		*ep*PKPbc	**PKPab**		**04 07 24.2**	**-0.1**
VRAC	**Vranov**	**146.43 329**		PKPbc	**PKPab**		**04 07 28.6**	**+0.1**
	12nm,1.0s,baz=78,slow=4.2,SNR=3.7							
VRAC	**Vranov**	**146.43 329**		PKPbc	**PKPab**		**04 07 28.6**	**+0.1**
CLL	**Collm**	**146.53 335**		*i* PKPbc	**PKPbc**		**04 07 28.2**	**+0.4**
GERES	**GERESS Array B**	**148.10 331**		PKPbc	**PKPbc**		**04 07 33.7**	**+1.3**
	9.0nm,0.9s,baz=46,slow=2.8,SNR=2.3							
GERES	**GERESS Array B**	**148.10 331**		PKPbc	**PKPbc**		**04 07 33.7**	**+1.3**

SZGRF ***19*** *03:51:27.9, 22.°04S × 172.°37E, h33km, Southeast of Loyalty Islands*
IDC ***19*** *03:51:29.0± 0.6, 22.°38S × 170.°93E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/19, mbtmp4.4/13, ML4.2/1, Error ellipse: s-maj=22.6km s-min=19.0km az=171.0*
ISCJB ***19*** *03:51:34.4± 0.6, 22.°4S± 0.°1 × 170.°78E± 0.°07, h42km, mb4.3/15, Error ellipse: s-maj=16.1km s-min=9.5km az=2.3*
NEIC ***19*** *03:51:34.4± 0.5, 22.°39S × 170.°86E, h35km, mb4.5/3, Error ellipse: s-maj=15.5km s-min=12.4km az=171.0*

ISC 19 03:51:35.2± 0.5, 22.°4S± 0.°1 × 170.°86E± 0.°08, h42km, n77, σ 1§03/78, mb4.3/15, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10 274**		Pn	**Pn**		**03 52 35.7**	**+0.1**
	14nm,0.3s,baz=86,slow=19,SNR=7.8							
DZM				Sn	**Sn**		**03 53 22.5**	**+0.1**
	9.2nm,0.3s,baz=40,slow=17,SNR=4.0							
DZM	**Mont Dzumac**	**4.10 274**		*e*Pn	**Pn**		**03 52 34.5**	**-1.1**
DZM				*e*Sn	**Sn**		**03 53 21.8**	**-0.6**
RPZ	**Rata Peaks**	**21.27 180**		P	**P**		**03 56 18.6**	**+0.6**
	22nm,0.8s,baz=25,slow=7.4,SNR=4.2							
RPZ	**Rata Peaks**	**21.27 180**		P	**P**		**03 56 18.6**	**+0.6**
CTA	**Charters Tower**	**23.04 271**		P	**P**		**03 56 37.4**	**+0.3**
	10nm,1.0s,baz=80,slow=13,SNR=3.1							
CTA	**Charters Tower**	**23.04 271**		P	**P**		**03 56 37.4**	**+0.3**
PMG	**Port Moresby**	**26.14 296**		P	**P**		**03 57 05.8**	**+0.1**
	3.8nm,0.4s,baz=198,slow=6.4,SNR=3.0							
PMG	**Port Moresby**	**26.14 296**		P	**P**		**03 57 05.8**	**+0.1**
STKA	**Stephens Creek**	**27.63 244**		P	**P**		**03 57 21.5**	**+2.5**
	3.5nm,0.8s,baz=90,slow=8.1,SNR=2.5							
STKA	**Stephens Creek**	**27.63 244**		P	**P**		**03 57 20.2**	**+1.2**
	3.0nm,1.2s							
ASAR	**Alice Springs**	**33.98 261**		P	**P**		**03 58 14.8**	**-0.3**
	3.4nm,0.8s,baz=87,slow=9.3,SNR=5.8							
ASAR	**Alice Springs**	**33.98 261**		P	**P**		**03 58 14.8**	**-0.3**
WRA	**Warramunga Arr**	**34.09 267**		P	**P**		**03 58 14.8**	**-1.3**
	0.9nm,0.6s,baz=102,slow=7.8,SNR=5.2							
WRA	**Warramunga Arr**	**34.09 267**		P	**P**		**03 58 14.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**42.52 267**		P	**P**		**03 59 27.1**	**+0.1**
	6.2nm,1.0s,baz=127,slow=13,SNR=5.0							
FITZ	**Fitzroy Crossi**	**42.52 267**		*e*P	**P**		**03 59 24.9**	**-2.0**
	11nm,0.9s							
MJAR	**Matsushiro Arr**	**66.23 332**		P	**P**		**04 02 20.9**	**+2.0**
	1.0nm,0.6s,baz=139,slow=6.1,SNR=3.2							
MJAR	**Matsushiro Arr**	**66.23 332**		P	**P**		**04 02 20.9**	**+2.0**
QSPA	**South Pole Qui**	**67.68 180**		P	**P**		**04 02 28.7**	**+0.8**
	1.0nm,0.3s,baz=79,slow=3.3,SNR=2.8							
QSPA	**South Pole Qui**	**67.68 180**		P	**P**		**04 02 28.7**	**+0.8**
PETK	**Petropavlovsk-**	**76.05 352**		P	**P**		**04 03 19.0**	**+1.1**
	1.9nm,0.5s,baz=154,slow=7.3,SNR=3.1							
PETK	**Petropavlovsk-**	**76.05 352**		P	**P**		**04 03 19.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**81.17 294**		P	**P**		**04 03 49.1**	**+2.2**
	1.9nm,0.4s,baz=140,slow=4.8,SNR=5.1							
CMAR	**Chiang Mai Arr**	**81.17 294**		P	**P**		**04 03 49.1**	**+2.2**
NVAR	**Mina Array Bea**	**89.76 48**		P	**P**		**04 04 29.4**	**-0.2**
	1.3nm,0.7s,baz=230,slow=8.0,SNR=6.6							
NVAR	**Mina Array Bea**	**89.76 48**		P	**P**		**04 04 29.4**	**-0.2**
ULN	**Ulaanbaatar**	**90.28 323**		*e*P	**P**		**04 04 31.6**	**-0.1**
	2.7nm,0.7s							
SONM	**Songino Array**	**90.64 323**		P	**P**		**04 04 33.6**	**+0.3**
	3.2nm,0.9s,baz=150,slow=3.8,SNR=6.7							
SONM	**Songino Array**	**90.64 323**		P	**P**		**04 04 33.6**	**+0.3**
TXAR	**Lajitas Array**	**96.94 61**		P	**P**		**04 05 03.7**	**+1.1**
	0.3nm,0.9s,baz=235,slow=3.2,SNR=2.7							
TXAR	**Lajitas Array**	**96.94 61**		P	**P**		**04 05 03.8**	**+1.1**
BVAR	**Borovoye Array**	**113.79 320**		PKiKP	**PKiKP**		**04 10 08.2**	**-0.8**
	0.8nm,0.8s,baz=128,slow=2.4,SNR=3.0							
BVAR	**Borovoye Array**	**113.79 320**		PKiKP	**PKiKP**		**04

ISC 19 04:05:15.6±0.9, 22.7S±0.2×170.88E±0.09, h42km, n25, σ0°62/25, mb4.2/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.15**	**278**	Sn	**Sn**	**04 07 04.5**	**+0.6**
	11nm,0.3s,baz=135,slow=19,SNR=3.4						
DZM	**Mont Dzumac**	**4.15**	**278**	Sn	**Sn**	**04 07 04.5**	**+0.6**
MSVF	**Nonsavu**	**8.36**	**55**	*e*Pn	**Pn**	**04 07 14.4**	**0.0**
	17nm,0.8s						
STKA	**Stephens Creek**	**27.50**	**244**	P	**P**	**04 10 59.5**	**+1.3**
	1.8nm,0.9s,baz=91,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**27.50**	**244**	*e*P	**P**	**04 10 57.5**	**-0.7**
	0.4nm,0.7s						
COEN	**Coen**	**27.66**	**284**	*e*P	**P**	**04 10 58.5**	**-1.2**
	21nm,0.7s						
ASAR	**Alice Springs**	**33.94**	**261**	P	**P**	**04 11 55.1**	**0.0**
	2.9nm,0.8s,baz=87,slow=9.1,SNR=9.8						
ASAR	**Alice Springs**	**33.94**	**261**	P	**P**	**04 11 55.1**	**0.0**
WRA	**Warramunga Arr**	**34.09**	**268**	P	**P**	**04 11 55.5**	**-1.0**
	0.3nm,0.3s,baz=97,slow=8.5,SNR=9.4						
WRA	**Warramunga Arr**	**34.09**	**268**	P	**P**	**04 11 55.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**42.52**	**268**	P	**P**	**04 13 08.1**	**+0.8**
	6.5nm,0.8s,baz=128,slow=10,SNR=10						
FITZ	**Fitzroy Crossi**	**42.52**	**268**	*e*P	**P**	**04 13 07.8**	**+0.5**
	5.7nm,0.7s						
NVAR	**Mina Array Bea**	**89.97**	**48**	P	**P**	**04 18 11.1**	**+0.2**
	0.8nm,0.7s,baz=229,slow=8.7,SNR=5.7						
NVAR	**Mina Array Bea**	**89.97**	**48**	P	**P**	**04 18 11.1**	**+0.2**
SONM	**Songino Array**	**90.90**	**323**	P	**P**	**04 18 14.5**	**-0.4**
	1.1nm,0.9s,baz=136,slow=4.6,SNR=4.8						
SONM	**Songino Array**	**90.90**	**323**	P	**P**	**04 18 14.5**	**-0.4**
TXAR	**Lajitas Array**	**97.08**	**61**	P	Pdif	04 18 45.4	+1.6
	0.2nm,0.8s,baz=248,slow=4.8,SNR=2.3						
TXAR	**Lajitas Array**	**97.08**	**61**	P	Pdif	04 18 45.4	+1.6
ARCES	**ARCESS Array B**	**128.81**	**345**	PKP	**PKPdf**	**04 24 18.1**	**+0.4**
	4.7nm,1.0s,baz=111,slow=2.0,SNR=4.1						
ARCES	**ARCESS Array B**	**128.81**	**345**	PKP	**PKPdf**	**04 24 18.1**	**+0.4**
CLL	**Collm**	**146.70**	**334**	*e*PKPbc	**PKPbc**	**04 24 53.0**	**+0.4**
GERES	**GERESS Array B**	**148.26**	**331**	PKPbc	**PKPbc**	**04 24 57.1**	**-0.1**
	1.3nm,0.7s,baz=122,slow=1.3,SNR=4.6						
GERES	**GERESS Array B**	**148.26**	**331**	PKPbc	**PKPbc**	**04 24 57.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.99**	**229**	PKP	**PKPdf**	**04 25 17.3**	**+0.5**
	1.3nm,1.2s,baz=42,slow=2.3,SNR=3.4						
TORD				PKPab	**PKPab**	**04 26 16.7**	**-0.2**
	1.5nm,1.0s,baz=168,slow=0.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**165.99**	**229**	PKP	**PKPdf**	**04 25 17.3**	**+0.5**
TORD				PKPab	**PKPab**	**04 26 16.7**	**-0.2**

*IDC **19** 04:06:41.0±1.4, 38.82N×110.53E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.6/5, ML2.4/1, Error ellipse: s-maj=45.5km s-min=20.6km az=65.0*

ISC 19 04:06:44.5±1.6, 38.7N±0.1×110.3E±0.1, h10km, n7, σ0°82/4, mb3.6/4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**2.40**	**25**	*e*Pg	Pn	04 07 21.9	-2.1
HHC				Sg	**Sn**	**04 07 54.0**	**+0.5**
HHC				smax	smax		
	comp=N,180nm,0.6s						
HHC				smax	smax		
	comp=E,290nm,0.6s						
BJI	**Beijing**	**4.79**	**72**	Pg	Pn	04 08 05.1	+8.4
BJI				Sg	**Sb**	**04 09 06.0**	**-0.3**
BJI				smax	smax		
	comp=N,26nm,0.9s						
BJI				smax	smax		
	comp=E,19nm,1.1s						
SONM	**Songino Array**	**9.58**	**344**	Pn	Pn	04 09 00.2	-2.4
	comp=E,0.0nm,0.3s,baz=162,slow=12,SNR=2.9						
SONM				Lg	Lg	04 11 39.7	
	comp=E,0.1nm,0.3s,baz=165,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**22.00**	**301**	P	**P**	**04 11 38.2**	**-0.5**
	comp=E,0.9nm,0.8s,baz=102,slow=12,SNR=6.6						
CMAR	**Chiang Mai Arr**	**22.42**	**209**	P	**P**	**04 11 43.8**	**+0.4**
	comp=E,0.9nm,0.3s,baz=16,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**62.53**	**154**	P	P	04 17 06.8	-1.7
	comp=E,0.6nm,0.7s,baz=345,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**65.86**	**156**	P	P	04 17 28.7	-1.6
	comp=E,0.3nm,0.7s,baz=341,slow=6.5,SNR=6.5						

TAP 19 04:17:02.9, 24.13N×121.68E, h9km, ML2.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**236**	P	Pg	04 17 06.0	+0.7
	baz=233						
HWA	**Hwalien**	**0.17**	**205**	*e*P	Pg	04 17 07.7	+1.2
	baz=202						
HWA				*e*S	Sg	04 17 10.6	+1.6
	baz=202						
ENA	**Nanau**	**0.30**	**10**	*i* P	Pb	04 17 09.8	-0.7
	baz=11						
ENA				*e*S	Sb	04 17 14.5	-1.0
	baz=11						
WHF	**Hehuan Shan**	**0.38**	**272**	P	Pg	04 17 11.5	+0.5
	baz=271						
ESL	**Shilin**	**0.39**	**216**	*e*P	Pg	04 17 11.1	+0.5
	baz=214						
NNS	**Nan Shan**	**0.42**	**317**	*e*P	Pb	04 17 12.3	-0.4
	baz=317						
NNS				*e*S	Sb	04 17 18.4	-0.9
	baz=317						
TWT	**Tachien**	**0.48**	**284**	*e*P	Pb	04 17 13.8	+0.1
	baz=283						
TWC	**Suao**	**0.50**	**18**	*e*P	Pb	04 17 13.5	-0.3
	baz=18						
ENTT	**Nioudou**	**0.52**	**348**	*e*P	Pb	04 17 14.3	+0.1
	baz=348						
ENTT				*e*S	Sb	04 17 21.4	-0.4
	baz=348						
TWE	**Neicheng**	**0.58**	**358**	*e*P	Pb	04 17 15.4	0.0
	baz=359						
TWE				*e*S	Sb	04 17 23.7	-0.1
	baz=359						
EHY	**Hungye**	**0.71**	**208**	*e*P	Pg	04 17 16.8	+0.2
	baz=207						
SMLT	**Sun Moon Lake**	**0.76**	**251**	*e*P	Pb	04 17 18.4	-0.1
	baz=250						
TYC	**Yuchr**	**0.79**	**253**	*e*P	Pb	04 17 18.6	-0.2
	baz=252						
NSTT	**Nanjuang**	**0.80**	**309**	*e*P	Pg	04 17 18.5	+0.3
	baz=308						
TWF1	**Yuli**	**0.85**	**205**	*e*P	Pg	04 17 19.4	0.0
	baz=204						
TWQ1	**Liyutan**	**0.86**	**285**	*e*P	Pb	04 17 20.1	+0.1
	baz=284						
TWB1	**Santiao Chiao**	**0.91**	**18**	*e*P	Pb	04 17 21.0	+0.1
	baz=18						
TWB1				*e*S	Sb	04 17 34.2	+0.9
	baz=18						
NWF	**Wu-fen Shan**	**0.94**	**5**	*e*P	Pb	04 17 21.8	+0.3
	baz=5.0						
CHN5	**Tsauling**	**1.06**	**240**	*e*P	Pg	04 17 22.7	-0.8
	baz=239						

TAP 19 04:17:05.1, 24.13N×121.70E, h9km, ML2.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**243**	*e*P	Pg	04 17 07.8	+0.2
	baz=241						
TWD				*i* S	Sg	04 17 10.3	+1.0
	baz=241						
HWA	**Hwalien**	**0.17**	**209**	*e*P	Pg	04 17 09.4	+0.7
	baz=206						
ENA	**Nanau**	**0.30**	**8**	P	Pb	04 17 12.2	-0.5
	baz=9.0						
ENA				S	Sb	04 17 16.7	-1.2
	baz=9.0						
ESL	**Shilin**	**0.39**	**218**	*e*P	Pb	04 17 13.6	-0.7
	baz=216						
ESL				*e*S	Sb	04 17 19.9	-0.6
	baz=216						
WHF	**Hehuan Shan**	**0.39**	**273**	*e*P	Pg	04 17 14.0	+0.6
	baz=272						
WHF				*e*S	Sg	04 17 19.4	+0.4
	baz=272						
NNS	**Nan Shan**	**0.43**	**317**	*e*P	Pb	04 17 14.8	-0.3
	baz=317						
NNS				*e*S	Sb	04 17 21.0	-0.8
	baz=317						
TWT	**Tachien**	**0.49**	**285**	*e*P	Pb	04 17 16.3	+0.1
	baz=284						
TWT				*e*S	Sb	04 17 23.8	+0.1
	baz=284						
TWC	**Suao**	**0.50**	**16**	*e*P	Pb	04 17 15.9	-0.2
	baz=17						
ENTT	**Nioudou**	**0.52**	**347**	*e*P	Pb	04 17 16.5	-0.1
	baz=347						
ENTT				*e*S	Sb	04 17 24.4	+0.1
	baz=347						
TWE	**Neicheng**	**0.59**	**358**	*e*P	Pb	04 17 18.0	+0.3
	baz=358						
TWE				*e*S	Sb	04 17 26.4	+0.2
	baz=358						
EHY	**Hungye**	**0.71**	**209**	*e*P	Pb	04 17 19.4	-0.3
	baz=208						
EHY				*e*S	Sb	04 17 29.8	+0.3
	baz=208						
SMLT	**Sun Moon Lake**	**0.77**	**252**	*e*P	Pb	04 17 21.1	+0.3
	baz=251						
SMLT				*e*S	Sb	04 17 31.4	0.0
	baz=251						
TYC	**Yuchr**	**0.80**	**254**	*e*P	Pb	04 17 21.6	+0.4
	baz=253						
NSTT	**Nanjuang**	**0.81**	**309**	*e*P	Pb	04 17 22.0	+0.7
	baz=308						
NSTT				*e*S	Sb	04 17 32.9	+0.5
	baz=308						
TWF1	**Yuli**	**0.85**	**205**	*e*P	Pb	04 17 22.3	+0.1
	baz=204						
TWF1				*e*S	Sb	04 17 34.4	+0.6
	baz=204						
TWA	**Mucha**	**0.86**	**353**	*e*P	Pb	04 17 22.6	+0.4
	baz=353						
TWA				*e*S	Sb	04 17 34.0	+0.1
	baz=353						
TWQ1	**Liyutan**	**0.87**	**285**	*e*P	Pn	04 17 23.2	-0.4
	baz=284						
YUS	**Yu-Shan**	**0.93**	**227**	*e*P	Pn	04 17 24.6	-0.4
	baz=226						
YUS				*e*S	Sb	04 17 36.9	-0.1
	baz=226						
NWF	**Wu-fen Shan**	**0.94**	**5**	*e*P	Pn	04 17 24.6	-0.1
	baz=4.0						
ALS	**Alishan**	**1.02**	**233**	*e*P	Pg	04 17 25.1	0.0
	baz=232						
ALS				*e*S	Sb	04 17 39.7	+0.5
	baz=232						
CHN5	**Tsauling**	**1.07**	**241**	*e*P	Pb	04 17 25.9	0.0
	baz=240						
CHN5				*e*S	Sn	04 17 41.7	+0.2
	baz=240						
CHN4	**Tsaushan**	**1.27**	**233**	*e*P	Pn	04 17 28.8	-0.3
	baz=232						
CHN4				*e*S	Sn	04 17 46.9	+0.6
	baz=232						
STYT	**Tauyuan**	**1.29**	**222**	*e*P	Pg	04 17 30.7	+0.7
	baz=221						
WTP	**Ta-pu**	**1.32**	**229**	*e*P	Pn	04 17 29.7	-0.2
	baz=228						
WTP				*e*S	Sg	04 17 49.2	+1.4
	baz=228						
TWK	**Hsinying**	**1.40**	**233**	*e*P	Pg	04 17 32.0	-0.1
	baz=231						
CHN1	**Nanshi**	**1.42**	**229**	*e*P	Pb	04 17 31.9	0.0
	baz=228						
CHN1				*e*S	Sg	04 17 51.2	+0.2
	baz=228						

*IDC **19** 04:34:33.7±0.7, 12.94N×124.46E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/23, mbtmp4.0/15, Error ellipse: s-maj=27.3km s-min=14.7km az=71.0*
*MAN **19** 04:34:35, 12.97N×124.41E, h1km, mb4.9, ML3.8, MS3.8*
*ISCJB **19** 04:34:38.1±0.4, 12.98N±0.04×124.51E±0.05, h44km, mb4.0/16, Error ellipse: s-maj=7.7km s-min=5.7km az=171.7*
*NEIC **19** 04:34:41.2±1.8, 12.94N×124.45E, h56km±16km, mb4.1/1, Error ellipse: s-maj=16.5km s-min=7.5km az=67.0*
NEIC Felt [II PIVS] at Legaspi, Luzon.

ISC 19 04:34:39.9±0.6, 12.93N±0.05×124.50E±0.07, h44km, n44, σ0°94/44, mb4.1/16, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.74**	**333**	*e*P	Pn	04 34 48.4	-5.7
MMPH	**Masbate**	**1.02**	**236**	*i*P	**Pn**	**04 34 55.6**	**-2.2**
MMPH				*i* S	**Sn**	**04 35 10.0**	**-1.0**
PLP	**Palo**	**1.81**	**165**	*e*P	**Pn**	**04 35 09.3**	**+0.6**
PLP				*e*S	**Sn**	**04 35 30.8**	**+0.3**
AUQP	**San Andres**	**1.82**	**283**	*e*P	**Pn**	**04 35 10.1**	**+1.4**
GQP	**Guinayangan**	**2.22**	**296**	*e*P	**Pn**	**04 35 13.7**	**-0.5**
GQP				*e*S	**Sn**	**04 35 43.3**	**+2.8**
BOAC	**Boac**	**2.64**	**282**	*e*P	**Pn**	**04 35 19.9**	**-0.1**
MSLP	**Maasin**	**2.80**	**173**	*e*P	Pn	04 35 26.9	+4.7
GUIM	**Jordan**	**2.96**	**219**	*e*P	**Pn**	**04 35 24.4**	**+0.1**
LQP	**Lukban**	**3.11**	**293**	*e*P	Pn	04 35 36.7	+10
TGY	**Tagaytay City**	**3.66**	**289**	Pn	**Pn**	**04 35 34.7**	**+0.7**
	68nm,0.3s,baz=64,slow=5.9,SNR=5.5						
TGY	**Tagaytay City**	**3.66**	**289**	Pn	**Pn**	**04 35 34.7**	**+0.7**
CAUP	**Cauayan**	**4.76**	**327**	*e*P	**Pn**	**04 35 46.7**	**-2.4**
KSAR	**Wonju Array Be**	**24.60**	**6**	P	**P**	**04 39 55.1**	**-0.8**
KSRS	**Korea Array**	**24.61**	**7**	P	**P**	**04 39 55.1**	**-0.9**
	3.2nm,0.9s,baz=188,slow=11,SNR=6.9						
CMAR	**Chiang Mai Arr**	**25.20**	**286**	P	**P**	**04 40 01.8**	**+0.2**
	0.9nm,0.3s,baz=87,slow=6.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**25.20**	**286**	P	**P**	**04 40 01.8**	**+0.2**
USRK	**Ussuriysk Arra**	**31.82**	**10**	P	**P**	**04 41 00.7**	**+0.4**
	4.0nm,0.7s,baz=182,slow=8.7,SNR=6.9						
WRA	**Warramunga Arr**	**34.07**	**163**	P	**P**	**04 41 19.2**	**-1.1**
	1.1nm,0.7s,baz=342,slow=9.2,SNR=8.3						
WRA	**Warramunga Arr**	**34.07**	**163**	P	**P**	**04 41 19.2**	**-1.1**
AS31	**Alice Springs**	**37.52**	**166**	*e*P	**P**	**04 41 50.6**	**+0.8**
ASAR	**Alice Springs**	**37.52**	**166**	P	**P**	**04 41 50.0**	**+0.2**
	1.5nm,0.6s,baz=334,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**37.52**	**166**	P	**P**	**04 41 50.0**	**+0.2**
SONM	**Songino Array**	**37.94**	**340**	P	**P**	**04 41 53.0**	**-0.3**
	1.5nm,0.8s,baz=158,slow=9.4,SNR=12						
SONM	**Songino Array**	**37.94**	**340**	P	**P**	**04 41 53.0**	**-0.3**
STKA	**Stephens Creek**	**47.47**	**160**	P	**P**	**04 43 11.1**	**+0.6**
	2.0nm,0.8s,baz=319,slow=8.3,SNR=4.0						
STKA	**Stephens Creek**	**47.47**	**160**	P	**P**	**04 43 11.1**	**+0.6**
PETK	**Petropavlovsk-**	**47.99**	**26**	P	**P**	**04 43 15.6**	**+1.2**
	2.8nm,0.6s,baz=201,slow=6.3,SNR=4.1						
PETK	**Petropavlovsk-**	**47.99**	**26**	P	**P**	**04 43 15.6**	**+1.2**
MK31	**Makanchi Array**	**48.87**	**322**	*e*P	**P**	**04 43 21.1**	**-0.2**
MKAR	**Makanchi Array**	**48.87**	**322**	P	**P**	**04 43 21.1**	**-0.2**
	3.5nm,0.8s,baz=121,slow=8.4,SNR=41						
MKAR	**Makanchi Array**	**48.87**	**322**	P	**P**	**04 43 21.1**	**-0.2**
ZALV	**Zalesovo Beam**	**51.48**	**331**	P	**P**	**04 43 39.9**	**-0.9**
	2.6nm,0.8s,baz=115,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**51.48**	**331**	P	**P**	**04 43 39.9**	**-0.9**
KURK	**Kurchatov**	**52.91**	**325**	P	**P**	**04 43 51.4**	**-0.1**
	2.9nm,0.8s,baz=119,slow=8.0,SNR=9.9						
KURK	**Kurchatov**	**52.91**	**325**	P	**P**	**04 43 51.4**	**-0.1**
BVAR	**Borovoye Array**	**58.51**	**325**	P	**P**	**04 44 31.2**	**-0.4**
	2.1nm,0.8s,baz=111,slow=8.1,SNR=7.9						
BVAR	**Borovoye Array**	**58.51**	**325**	P	**P**	**04 44 31.2**	**-0.4**
ABKAR	**Akbulak array**	**63.74**	**319**	*e*P	**P**	**04 45 06.7**	**-0.5**
	1.4nm,0.7s						
AKTO	**Aktyubinsk**	**65.18**	**320**	P	**P**	**04 45 15.6**	**-1.0**
	0.9nm,0.7s,baz=71,slow=8.1,SNR=5.1						
AKTO	**Aktyubinsk**	**65.18**	**320**	P	**P**	**04 45 15.6**	**-1.0**
ILAR	**Eielson Array**	**77.82**	**26**	P	**P**	**04 46 32.2**	**-0.3**
	0.4nm,0.8s,baz=288,slow=5.3,SNR=6.0						
ILAR	**Eielson Array**	**77.82**	**26**	P	**P**	**04 46 32.2**	**-0.3**
YKA	**Yellowknife Ar**	**92.04**	**23**	P	**P**	**04 47 44.4**	**+0.4**
	0.3nm,0.7s,baz=304,slow=4.3,SNR=5.5						
YKA	**Yellowknife Ar**	**92.04**	**23**	P	**P**	**04 47 44.5**	**+0.4**

IDC 19 04:52:50.3±1.6, 24.05S×179.91W, h502km±16km, mb3.4/11, mb1 3.6/12, mb1mx3.5/20, mbtmp3.4/12, Error ellipse: s-maj=16.6km s-min=14.6km az=138.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.68**	**39**	P	P	04 55 37.8	+1.5
	2.1nm,0.3s,baz=87,slow=8.5,SNR=5.1						
RPZ	**Rata Peaks**	**20.98**	**199**	P	P	04 56 56.7	-0.9
	14nm,0.6s,baz=110,slow=4.2,SNR=9.7						
PMG	**Port Moresby**	**34.62**	**289**	P	P	04 58 57.5	+0.3
	5.4nm,0.5s,baz=111,slow=9.3,SNR=4.3						
STKA	**Stephens Creek**	**34.75**	**248**	P	P	04 58 58.6	+0.6
	0.8nm,0.6s,baz=105,slow=9.6,SNR=3.8						
ASAR	**Alice Springs**	**42.09**	**261**	P	P	04 59 58.0	+0.1
	0.7nm,0.6s,baz=100,slow=7.0,SNR=9.8						
ASAR				pP	pP	05 01 29.8	+0.1
	0.5nm,0.7s,baz=94,slow=7.1,SNR=2.0						
ASAR				ScP	ScP	05 04 44.4	+0.7
	1.8nm,0.8s,baz=103,slow=4.4,SNR=7.9						
WRA	**Warramunga Arr**	**42.48**	**266**	P	P	05 00 00.4	-0.6
	1.7nm,0.5s,baz=98,slow=8.3,SNR=27						
WRA				ScP	ScP	05 04 46.5	+1.2
	1.4nm,0.9s,baz=101,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	P	05 01 05.0	+0.2
	2.8nm,0.8s,baz=100,slow=11,SNR=4.2						
QSPA	**South Pole Qui**	**66.04**	**180**	P	P	05 02 47.2	+0.6
	8.1nm,0.7s,baz=29,slow=2.0,SNR=24						
PETK	**Petropavlovsk-**	**79.26**	**346**	P	P	05 04 02.8	0.0
	1.6nm,0.5s,baz=149,slow=6.2,SNR=3.7						
NVAR	**Mina Array Bea**	**84.80**	**44**	P	P	05 04 31.3	-0.3
	0.5nm,0.8s,baz=225,slow=8.9,SNR=3.6						
TXAR	**Lajitas Array**	**90.44**	**58**	P	P	05 04 58.9	+0.6
	1.3nm,0.7s,baz=204,slow=8.5,SNR=19						
PDAR	**Pinedale Array**	**92.74**	**44**	P	P	05 05 08.6	-0.2
	0.5nm,0.8s,baz=227,slow=3.6,SNR=4.6						
KURK	**Kurchatov**	**115.37**	**316**	PKP	PKPdf	05 10 32.2	-2.0
	0.3nm,0.5s,baz=108,slow=1.8,SNR=4.6						
BVAR	**Borovoye Array**	**120.61**	**319**	PKP	PKPdf	05 10 43.2	-1.1
	0.7nm,0.6s,baz=32,slow=5.8,SNR=3.9						
HFS	**Hagfors**	**142.71**	**349**	PKhKP	PKPpre	05 11 21.2	
	3.9nm,1.3s,baz=83,slow=3.5,SNR=8.0						
AKASG	**Malin Array Be**	**145.14**	**327**	PKPbc	PKPdf	05 11 29.6	-0.4
	0.6nm,0.4s,baz=44,slow=4.3,SNR=5.8						
AKASG				SKPbc	SKPbc	05 14 20.9	-1.0
	1.3nm,0.6s,baz=43,slow=2.4,SNR=4.4						
BRTR	**Keskin Array B**	**147.73**	**307**	PKPbc	PKPbc	05 11 37.9	-0.7
	1.0nm,0.9s,baz=141,slow=5.2,SNR=4.5						
MMAI	**Mount Meron Ar**	**147.84**	**294**	PKPbc	PKPbc	05 11 39.4	+0.5
	3.2nm,0.6s,baz=56,slow=5.4,SNR=3.6						
MLR	**Muntele Rosu**	**150.08**	**322**	PKPbc	PKPbc	05 11 43.5	-0.5
	0.2nm,0.7s,baz=95,slow=10.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**169.05**	**188**	PKP	PKPdf	05 11 58.5	-1.7
	0.9nm,1.0s,baz=173,slow=1.1,SNR=3.2						
TORD				PKPab	PKPab	05 13 14.4	-0.5
	1.5nm,0.7s,baz=174,slow=4.6,SNR=9.8						

IDC 19 04:57:59.6±1.3, 0.91S×132.95E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, ML3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.2/23, Error ellipse: s-maj=62.5km s-min=20.9km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.53**	**202**	P	P	05 02 16.5	-1.3
	0.1nm,0.3s,baz=30,slow=14,SNR=3.6						
FITZ				S	Sn	05 05 33.9	-12
	0.1nm,0.3s,baz=342,slow=19,SNR=2.4						
FITZ				LR	LR	05 10 13.4	
	comp=Z,687nm,20.7s,baz=100,slow=40						
WRA	**Warramunga Arr**	**18.96**	**176**	P	P	05 02 22.5	-0.1
	0.2nm,0.3s,baz=354,slow=12,SNR=9.0						
WRA				S	Sn	05 05 54.0	-2.2
	0.0nm,0.3s,baz=358,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**22.64**	**178**	P	P	05 03 03.1	+0.7
	6.0nm,1.2s,baz=356,slow=9.7,SNR=8.9						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	05 08 41.7	+0.7
	0.1nm,0.5s,baz=141,slow=5.0,SNR=2.8						
KURK	**Kurchatov**	**69.00**	**326**	P	P	05 09 06.7	-0.1
	0.4nm,0.6s,baz=115,slow=5.6,SNR=3.8						
ILAR	**Eielson Array**	**86.62**	**25**	P	P	05 10 43.9	-0.9
	0.4nm,0.8s,baz=258,slow=5.2,SNR=4.8						

*ISCJB **19** 05:01:15.7±0.3, 51.47N±0.02×16.05E±0.02, h0km, mb3.5/3, Error ellipse: s-maj=2.5km s-min=2.0km az=19.6*
*CSEM **19** 05:01:16.9±0.1, 51.51N×16.06E, h2km, ML3.8/6, Error ellipse: s-maj=2.9km s-min=2.0km az=20.0*
*IDC **19** 05:01:17.6±0.6, 51.54N×15.94E, h0km, mb3.5/3, mb1 3.6/11, mb1mx3.5/28, mbtmp3.5/11, ML3.2/8, MS4.3/1, Ms1 4.3/1, ms1mx3.8/42, Error ellipse: s-maj=10.6km s-min=6.5km az=108.0*
*PRU **19** 05:01:17.8, 51.52N×16.10E, h0km, Felt In Harrachov*
*IPEC **19** 05:01:17.5±0.2, 51.52N×16.13E, h8km±1km, ML2.7/3, Error ellipse: s-maj=1.3km s-min=0.6km az=38.0*
*BGR **19** 05:01:18.4±0.2, 51.46N×16.08E, h1km, ML3.3/18, Error ellipse: s-maj=3.3km s-min=2.2km az=3.0*
*WAR **19** 05:01:19.8, 51.44N×16.20E*
*VIE **19** 05:01:20.6±0.5, 51.26N×16.05E, h0km, mb2.9/6, ML3.2/6, Error ellipse: s-maj=3.0km s-min=2.6km az=164.0 69 km WNW of Wroclaw Suspected Mining induced.*
*LDG **19** 05:01:21.4±0.2, 51.19N×15.81E, h1km, Ml3.7/5, Error ellipse: s-maj=4.6km s-min=2.4km az=5.0, Suspected Mining induced.*

ISC 19 05:01:17.7±0.6, 51.49N±0.02×16.14E±0.02, h0km, n121, σ1°19/177, mb3.5/3, 9C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**171**	*e*Pg	**Pg**	**05 01 31.0**	**+0.9**
KSP				*e*Sg	**Sb**	**05 01 40.5**	**-1.0**
KSP	**Ksiaz**	**0.65**	**171**	*i* Pg	**Pg**	**05 01 31.0**	**+0.9**
KSP				*i* Sg	**Sb**	**05 01 40.5**	**-1.0**
KSP				*e*L	L	05 01 43.2	
KSP	**Ksiaz**	**0.65**	**171**	*e*Pg	**Pg**	**05 01 31.0**	**+0.9**
	SNR=43						
KSP				*e*Sg	**Sg**	**05 01 38.8**	**+0.3**
KSP	**Ksiaz**	**0.65**	**171**	*e*Pg	**Pg**	**05 01 30.9**	**+0.9**
	ba

GKP	**Gorka Klasztor** SNR=3.0	**1.91**	**20**	*e*Pg		**Pb**	**05 01 54.7**	**+1.3**
GKP				*e*Sg		**Sg**	**05 02 20.9**	**+1.9**
GKP	**Gorka Klasztor** SNR=3.0	**1.91**	**20**	Pg		**Pb**	**05 01 54.7**	**+1.3**
RAC	**Raciborz**	**1.92**	**136**	*e*Pg		**Pg**	**05 01 54.7**	**+0.3**
RAC				*e*Sg		**Sg**	**05 02 20.0**	**+0.8**
RAC	**Raciborz**	**1.92**	**136**	*e*Pg		**Pg**	**05 01 54.7**	**+0.3**
RAC				*e*Sg		**Sg**	**05 02 20.0**	**+0.8**
MORC	**Moravsky Berou** SNR=43	**1.93**	**152**	*e*Pn		**Pn**	**05 01 51.5**	**-0.3**
MORC				*e*Sg		**Sg**	**05 02 19.6**	**0.0**
MORC	**Moravsky Berou**	**1.93**	**152**	⇑*i*P		**Pn**	**05 01 51.2**	**-0.5**
MORC	**Moravsky Berou** baz=333	**1.93**	**152**	*e*Pn		**Pn**	**05 01 51.3**	**-0.5**
MORC				S		**Sn**	**05 02 16.7**	**-0.1**
MORC				Sg		**Sg**	**05 02 19.6**	**0.0**
CLL	**Collm** SNR=12	**1.97**	**266**	*e*Pn		Pn	05 01 50.5	-1.8
CLL				*e*Pg		**Pb**	**05 01 53.6**	**-0.9**
CLL	SNR=12			*e*Sg		**Sn**	**05 02 19.8**	**+2.1**
CLL	**Collm**	**1.97**	**266**	*i* Pn		Pn	05 01 50.4	-1.9
CLL				*i* Pg		**Pb**	**05 01 53.5**	**-0.9**
CLL				*i*			05 01 57.4	
CLL	comp=Z,140nm,0.7s			*i* Sg		**Sn**	**05 02 19.3**	**+1.6**
CLL	**Collm** SNR=12	**1.97**	**266**	Pn		Pn	05 01 50.5	-1.8
OKC	**Ostrava-Krasne** SNR=1.9	**2.09**	**141**	*e*Pn		**Pn**	**05 01 53.1**	**-0.8**
OKC				*e*Sg		**Sg**	**05 02 25.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PN		**Pn**	**05 01 53.0**	**-0.8**
OKC				*e*PG		**Pg**	**05 01 57.6**	**-0.1**
OKC				*e*SG		**Sg**	**05 02 24.7**	**0.0**
OKC	**Ostrava-Krasne** SNR=1.9	**2.09**	**141**	Pn		**Pn**	**05 01 53.1**	**-0.8**
OKC	**Ostrava-Krasne**	**2.09**	**141**	Pg		**Pg**	**05 01 57.6**	**-0.1**
OKC				Sg		**Sg**	**05 02 25.0**	**+0.3**
VRAC	**Vranov** comp=Z,3.9nm,0.3s,baz=348,slow=17,SNR=15	**2.20**	**172**	Pn		**Pn**	**05 01 55.7**	**+0.2**
VRAC				Lg		Lg	05 02 29.0	
VRAC	comp=Z,12nm,0.3s,baz=239,slow=23,SNR=8.1			LR		LR	05 03 02.1	
VRAC	comp=Z,6μm,19.1s,baz=92,slow=46 **Vranov**	**2.20**	**172**	⇓*i*P		**Pn**	**05 01 55.7**	**+0.2**
VRAC	**Vranov** baz=352	**2.20**	**172**	*e*Pn		**Pn**	**05 01 55.6**	**+0.2**
VRAC				*e*Sg		**Sb**	**05 02 26.3**	**+0.2**
VRAC	comp=Z,81nm,0.6s,baz=352			S		**Sg**	**05 02 27.3**	**-1.0**
TREC	**Trest**	**2.23**	**191**	*e*PN		**Pn**	**05 01 55.8**	**-0.2**
TREC				*e*PG		**Pb**	**05 01 59.6**	**+0.7**
TREC	**Trest** baz=10	**2.23**	**191**	*e*Pn		**Pn**	**05 01 55.7**	**-0.2**
TREC	**Trest**	**2.23**	**191**	Pg		**Pb**	**05 01 59.6**	**+0.7**
KRUC	**Moravsky** baz=356	**2.43**	**176**	*e*Pn		**Pn**	**05 01 58.8**	**+0.2**
KRUC	**Moravsky** baz=356	**2.43**	**176**	*e*Pg		**Pb**	**05 02 02.9**	**+0.6**
KRUC				*e*Sg		**Sg**	**05 02 34.4**	**-1.3**
WERD	comp=Z,22nm,0.2s,baz=356 **Werda** SNR=6.6	**2.63**	**248**	*e*Pn		**Pn**	**05 02 00.4**	**-1.1**
WERD				*e*Sg		**Sb**	**05 02 39.9**	**+1.3**
WERD	**Werda** SNR=6.6	**2.63**	**248**	Pn		**Pn**	**05 02 00.4**	**-1.1**
WERD				Sg		**Sb**	**05 02 39.9**	**+1.3**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg		**Pg**	**05 02 07.8**	**-0.5**
OJC				*e*Sg		**Sg**	**05 02 43.5**	**+0.9**
OJC	**Ojcow** SNR=2.3	**2.64**	**117**	*e*Pn		**Pn**	**05 02 00.5**	**-1.1**
OJC	SNR=11			*e*Pg		**Pg**	**05 02 07.9**	**-0.5**
OJC				*e*Sg		**Sg**	**05 02 43.7**	**+1.1**
OJC	**Ojcow** SNR=2.3	**2.64**	**117**	Pn		**Pn**	**05 02 00.5**	**-1.1**
NKC	**Novy Kostel** SNR=20	**2.65**	**243**	*e*Pn		**Pn**	**05 02 00.9**	**-0.8**
NKC				*e*Sg		**Sb**	**05 02 42.8**	**+3.7**
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN		**Pn**	**05 02 01.2**	**-0.5**
NKC				*e*PG		**Pb**	**05 02 07.2**	**+1.2**
NKC	comp=Z,106nm,0.3s			*e*SG		**Sb**	**05 02 42.7**	**+3.6**
NKC	**Novy Kostel** baz=60	**2.65**	**243**	*e*Pn		**Pn**	**05 02 00.8**	**-0.9**
NKC	**Novy Kostel**	**2.65**	**243**	Pg		**Pb**	**05 02 07.2**	**+1.2**
NKC	baz=60			*e*Sg		**Sb**	**05 02 41.9**	**+2.8**
KHC	**Kasperske Hory** SNR=7.7	**2.87**	**216**	*e*Pn		**Pn**	**05 02 04.1**	**-0.6**
KHC				*e*Sg		**Sg**	**05 02 50.4**	**+0.5**
KHC	**Kasperske Hory**	**2.87**	**216**	*e*PN		**Pn**	**05 02 03.9**	**-0.8**
KHC				*e*PG		**Pb**	**05 02 10.1**	**+0.3**
KHC				*e*SN		**Sn**	**05 02 39.9**	**-0.1**
KHC	comp=Z,36nm,0.4s			*e*SG		**Sg**	**05 02 49.9**	**0.0**
KHC	**Kasperske Hory**	**2.87**	**216**	Pn		**Pn**	**05 02 03.9**	**-0.8**
KHC	**Kasperske Hory**	**2.87**	**216**	Pg		**Pb**	**05 02 10.1**	**+0.3**
KHC				Sn		**Sn**	**05 02 39.9**	**-0.1**
KHC				Sg		**Sg**	**05 02 50.4**	**+0.5**
MOX	**Moxa** SNR=4.2	**2.97**	**255**	*e*Pn		**Pn**	**05 02 04.8**	**-1.3**
MOX	SNR=4.2			*e*Pg		**Pb**	**05 02 13.3**	**+1.8**
MOX				*e*Sg		**Sb**	**05 02 51.2**	**+2.8**
MOX	**Moxa** SNR=4.2	**2.97**	**255**	Pn		**Pn**	**05 02 04.8**	**-1.3**
ROTZ	**Rotzenmuhle** SNR=10	**3.04**	**237**	*e*Pn		**Pn**	**05 02 06.5**	**-0.5**
ROTZ	SNR=2.5			*e*Pg		**Pb**	**05 02 14.9**	**+2.4**
ROTZ				*e*Sg		**Sb**	**05 02 53.3**	**+3.1**
ROTZ	**Rotzenmuhle** SNR=10	**3.04**	**237**	Pn		**Pn**	**05 02 06.5**	**-0.5**
GEC2	**GERESS Array S** SNR=12	**3.07**	**212**	*e*Pn		**Pn**	**05 02 07.8**	**+0.3**
GEC2	SNR=7.5			*e*Pg		**Pb**	**05 02 15.5**	**+2.3**
GEC2				*e*Sg		**Sb**	**05 02 54.4**	**+3.1**
GEC2	**GERESS Array S** SNR=12	**3.07**	**212**	Pn		**Pn**	**05 02 07.8**	**+0.3**
GERES	**GERESS Array B** comp=Z,3.3nm,0.3s,baz=29,slow=13,SNR=88	**3.07**	**212**	Pn		**Pn**	**05 02 06.9**	**-0.6**
GERES	comp=Z,5.5nm,0.3s,baz=28,slow=17,SNR=45			Pg		**Pb**	**05 02 14.2**	**+1.0**
GERES	comp=Z,7.9nm,0.3s,baz=22,slow=29,SNR=18			Lg		Lg	05 02 55.9	
SMOL	**Smolenice**	**3.09**	**164**	*e*PN		**Pn**	**05 02 07.4**	**-0.3**
SMOL				*e*			05 02 17.1	
SMOL	**Smolenice**	**3.09**	**164**	*e*Pn		**Pn**	**05 02 07.4**	**-0.3**
SMOL				*e*Sg		**Sg**	**05 02 59.7**	**+2.9**
LIKS	**Likavka**	**3.09**	**141**	*e*SG		**Sg**	**05 02 58.8**	**+1.8**
LIKS	**Likavka**	**3.09**	**141**	*e*Sg		**Sg**	**05 02 58.8**	**+1.8**
WET	**Wettzell** SNR=13	**3.14**	**223**	*e*Pn		**Pn**	**05 02 08.1**	**-0.3**
WET				*e*Sg		**Sb**	**05 02 56.6**	**+3.5**
WET	**Wettzell** baz=40	**3.14**	**223**	*e*Pn		**Pn**	**05 02 07.8**	**-0.6**
WET				Sg		**Sb**	**05 02 56.6**	**+3.5**
ZST	**Bratislava**	**3.35**	**169**	*e*PN		**Pn**	**05 02 12.4**	**+1.1**
ZST				*e*			05 02 21.6	
ZST	**Bratislava**	**3.35**	**169**	*e*Pn		**Pn**	**05 02 12.4**	**+1.1**
ZST				*e*Sg		**Sg**	**05 03 05.5**	**+0.2**
NIE	**Niedzica**	**3.38**	**126**	*e*P		**Pg**	**05 02 22.0**	**-0.3**
NIE				*e*S		**Sg**	**05 03 06.4**	**+0.3**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN		**Pn**	**05 02 12.6**	**-0.2**
VYHS				*e*			05 02 24.8	
VYHS	**Vyhne**	**3.46**	**149**	*e*Pn		**Pn**	**05 02 12.6**	**-0.2**
VYHS				*e*Sg		**Sg**	**05 03 09.4**	**+0.5**
CONA	**Conrad Observa**	**3.56**	**183**	⇑*i*Pn		**Pn**	**05 02 14.7**	**+0.4**
CONA				⇑*i*Sg		**Sg**	**05 03 10.6**	**-1.5**
CONA	comp=Z,78nm,0.6s **Conrad Observa**	**3.56**	**183**	Pn		**Pn**	**05 02 14.7**	**+0.4**
CONA				Sg		**Sg**	**05 03 10.6**	**-1.5**
CLZ	comp=Z,78nm,0.6s **Clausthal** SNR=6.0	**3.61**	**278**	*e*Pn		**Pn**	**05 02 14.1**	**-0.7**
CLZ	**Clausthal** SNR=6.0	**3.61**	**278**	Pn		**Pn**	**05 02 14.1**	**-0.7**
GRA1	**Grafenberg Arr** SNR=7.4	**3.61**	**242**	Pn		**Pn**	**05 02 14.2**	**-0.6**
GRA1				Sg		**Sg**	**05 03 12.2**	**-1.4**
GRF	**Grafenberg Arr** SNR=7.4	**3.61**	**242**	*e*Pn		**Pn**	**05 02 14.2**	**-0.6**
GRF				*e*Sg		**Sg**	**05 03 12.2**	**-1.4**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P		Pn	05 02 13.4	-2.8
BSD				*i* S		Sn	05 02 53.8	-6.7
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P		Pn	05 02 13.4	-2.8
BSD				*i* S		Sn	05 02 53.8	-6.7
MOA	**Molln** comp=Z,61nm,0.8s	**3.84**	**199**	⇑*i*Pn		**Pn**	**05 02 18.0**	**0.0**
MOA				⇑*i*Sg		**Sg**	**05 03 20.4**	**-0.4**
MOA	**Molln** comp=Z,61nm,0.8s	**3.84**	**199**	Pn		**Pn**	**05 02 18.0**	**0.0**
MOA				Sg		**Sg**	**05 03 20.4**	**-0.4**
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PN		**Pn**	**05 02 18.5**	**+0.1**
STHS				*e*			05 02 32.3	
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*Pn		**Pn**	**05 02 18.5**	**+0.1**
STHS				*e*Sg		**Sg**	**05 03 21.5**	**-0.3**
ARSA	**Arzberg** comp=Z,51nm,0.7s	**4.26**	**186**	⇓*i*Pn		**Pn**	**05 02 23.6**	**-0.2**
ARSA				⇑*i*Sg		**Sg**	**05 03 33.9**	**-0.5**
ARSA	**Arzberg** comp=Z,51nm,0.7s	**4.26**	**186**	Pn		**Pn**	**05 02 23.6**	**-0.2**
ARSA				Sg		**Sg**	**05 03 33.9**	**-0.5**
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*PN		**Pn**	**05 02 24.8**	**+0.6**
CRVS				*e*			05 02 41.4	
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*Pn		**Pn**	**05 02 24.8**	**+0.6**
CRVS				*e*Sg		**Sg**	**05 03 35.1**	**-0.2**
PSZ	**Piszkesteto**	**4.32**	**144**	⇑*i*P		Pn	05 02 20.9	-3.8
PSZ	**Piszkesteto**	**4.32**	**144**	⇑*i*Pn		Pn	05 02 20.9	-3.8
KOLS	**Kolonicke sedl**	**4.70**	**121**	*e*			05 03 57.4	
KBA	**Koelnbreinsper**	**4.77**	**204**	⇑*i*Pn		**Pn**	**05 02 31.4**	**+0.4**
KBA	comp=Z,33nm,0.8s			⇓*i*Sg		**Sg**	**05 03 50.3**	**-0.7**
KBA	**Koelnbreinsper**	**4.77**	**204**	Pn		**Pn**	**05 02 31.4**	**+0.4**
KBA	comp=Z,33nm,0.8s			Sg		**Sg**	**05 03 50.3**	**-0.7**
PKSM	**Moragy**	**5.53**	**162**	⇓*i*P		**Pn**	**05 02 40.4**	**-0.8**
PKSM	**Moragy**	**5.53**	**162**	⇓*i*P		**Pn**	**05 02 40.4**	**-0.8**
DAVOX	**Davos/Dischmat** comp=Z,0.3nm,0.3s,baz=25,slow=14,SNR=4.4	**6.25**	**224**	Pn		**Pn**	**05 02 49.7**	**-1.6**
DAVOX				Lg		Lg	05 04 40.0	
HGN	comp=Z,0.5nm,0.3s,baz=12,slow=22,SNR=4.4 **Heimansgroeve**	**6.47**	**268**	*e*L		L	05 04 26.3	
HGN	comp=Z,10μm,21.9s			*e*L		L	05 04 26.3	
CDF	comp=Z,10μm,21.9s **Champ du Feu**	**6.49**	**245**	*e*Pn		Pn	05 02 52.3	-2.2
CDF				*e*Sg		Sb	05 04 35.7	+6.1
CDF	comp=Z,74nm,1.1s **Champ du Feu**	**6.49**	**245**	*e*Pn		Pn	05 02 52.3	-2.2
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn		Pn	05 02 59.4	-2.8
HINF				*e*Sg		Sb	05 04 52.9	+7.1
HINF	comp=Z,38nm,1.0s **Hinteralfeld**	**7.06**	**242**	*e*Pn		Pn	05 02 59.4	-2.8
BURAR	**Bucovina Array**	**7.06**	**120**	⇓*i*P		Pn	05 02 54.5	-7.8
HAU	**Haudompre**	**7.23**	**245**	*e*Pn		Pn	05 03 02.2	-2.4
HAU	comp=Z,46nm,0.9s			*e*Sg		Sb	05 04 58.5	+7.6
HAU	**Haudompre**	**7.23**	**245**	*e*Pn		Pn	05 03 02.2	-2.4
PAGF	**Fort de Pagny** baz=64	**7.32**	**250**	*e*Pn		Pn	05 03 02.8	-3.0
PAGF	comp=Z,3.0nm,0.6s			*e*Sg		Sb	05 05 01.7	+8.4
PAGF	**Fort de Pagny** baz=64	**7.32**	**250**	*e*Pn		Pn	05 03 02.8	-3.0
AKASG	**Malin Array Be** comp=Z,2.2nm,0.3s,baz=278,slow=12,SNR=9.5	**8.28**	**90**	Pn		**Pn**	**05 03 17.4**	**-1.5**
AKASG	comp=Z,0.5nm,0.3s,baz=282,slow=15,SNR=5.0			Pg		Pg	05 03 53.1	-3.1
AKASG	comp=Z,0.9nm,0.3s,baz=278,slow=22,SNR=4.1			Sn		**Sn**	**05 04 47.6**	**-5.4**
AKASG	comp=Z,0.5nm,0.3s,baz=275,slow=25,SNR=3.7			Lg		Lg	05 05 46.8	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=160,slow=14,SNR=5.7	**8.78**	**352**	Pn		Pn	05 03 22.6	-3.1
LOR	**Lormes** baz=67	**9.05**	**247**	*e*Pn		Pn	05 03 26.6	-2.9
LOR	**Lormes** baz=67	**9.05**	**247**	*e*Pn		Pn	05 03 26.6	-2.9
SBF	**Sospel**	**9.62**	**221**	*e*P		**Pn**	**05 03 39.1**	**+1.8**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=2.9	**9.96**	**346**	Pn		Pn	05 03 37.6	-4.3
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=200,slow=10.0,SNR=9.5	**11.38**	**25**	Pn		Pn	05 03 56.8	-4.5
FINES	comp=Z,0.4nm,0.3s,baz=199,slow=20,SNR=5.1			Sn		Sn	05 05 59.7	-9.2
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=7.3	**18.64**	**10**	Pn		P	05 05 30.6	-6.0
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.0s,baz=286,slow=6.0,SNR=3.5	**39.98**	**202**	P		**P**	**05 08 52.7**	**-1.3**
SONM	**Songino Array** comp=Z,0.4nm,0.8s,baz=331,slow=5.4,SNR=3.5	**54.91**	**55**	P		**P**	**05 10 50.0**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=29,slow=6.6,SNR=8.4	**59.89**	**336**	P		**P**	**05 11 23.9**	**-0.7**

*CSEM **19** 05:05:27.9±0.1, 38°.41N×23°.60E, h10km, ML2.0/6, Error ellipse: s-maj=2.6km s-min=1.6km az=80.0*
*ISCJB **19** 05:05:28.1±0.6, 38°.40N±0°.02×23°.61E±0°.04, h12km±5km, Error ellipse: s-maj=5.4km s-min=3.0km az=170.4*
*THE **19** 05:05:28.3, 38°.41N×23°.59E, h13km, ML2.0/6, Error ellipse: s-maj=0.8km s-min=0.4km az=63.0*
*ATH **19** 05:05:28.0, 38°.41N×23°.57E, h12km±2km, MD2.7/8, ML2.1*
ISC 19 05:05:28.4±0.9, 38°.41N±0°.02×23°.60E±0°.02, h13km±8km, n40, σ0=52/73, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERET	**Eretria**	**0.17**	**77**	P		P	**Pg**	**05 05 32.2**	**-0.1**
ERET				S		S	**Sg**	**05 05 35.1**	**+0.1**
ERET	**Eretria**	**0.17**	**77**	P		P	**Pg**	**05 05 32.2**	**-0.1**
ERET				S		S	**Sg**	**05 05 35.1**	**+0.1**
MRKA	**Markates**	**0.30**	**358**	P		P	**Pg**	**05 05 34.4**	**-0.2**
MRKA	**Markates**	**0.30**	**358**	P		P	**Pg**	**05 05 34.4**	**-0.2**
PTL	**Penteli**	**0.41**	**150**	*e*PB		P	**Pg**	**05 05 36.3**	**-0.3**
PTL				*e*SB		S	**Sg**	**05 05 41.8**	**-0.3**
PTL	**Penteli**	**0.41**	**150**	*e*Pb		P	**Pg**	**05 05 36.3**	**-0.3**
PTL				*e*Sb		S	**Sg**	**05 05 41.8**	**-0.3**
ATH	**Athens Observa**	**0.44**	**168**	*e*PB		P	**Pg**	**05 05 37.0**	**-0.1**
ATH				*e*SB		S	**Sg**	**05 05 42.6**	**-0.4**
ATH	**Athens Observa**	**0.44**	**168**	*e*Pb		P	**Pg**	**05 05 37.0**	**-0.1**
ATH				*e*Sb		S	**Sg**	**05 05 42.6**	**-0.4**
LKR	**Lokris**	**0.53**	**298**	*e*PB		P	**Pg**	**05 05 37.9**	**-0.9**
LKR				*e*SB		S	**Sg**	**05 05 45.1**	**-0.8**
LKR	**Lokris**	**0.53**	**298**	*e*Pb		P	**Pg**	**05 05 37.9**	**-0.9**
LKR				*e*Sb		S	**Sg**	**05 05 45.1**	**-0.8**
ATAL	**Atalanti**	**0.54**	**302**	P		P	**Pg**	**05 05 38.1**	**-0.8**
ATAL				S		S	**Sg**	**05 05 46.1**	**+0.1**
ATAL	**Atalanti**	**0.54**	**302**	P		P	**Pg**	**05 05 38.1**	**-0.8**
ATAL				S		S	**Sg**	**05 05 46.1**	**+0.1**
SMIA	**Simia**	**0.56**	**327**	P		P	**Pg**	**05 05 39.4**	**0.0**
SMIA				S		S	**Sg**	**05 05 47.5**	**+0.6**
SMIA	**Simia**	**0.56**	**327**	P		P	**Pg**	**05 05 39.4**	**0.0**
SMIA				S		S	**Sg**	**05 05 47.5**	**+0.6**
VLY	**Voula,Athens**	**0.57**	**165**	*e*PG		P	**Pg**	**05 05 39.0**	**-0.6**
VLY				*e*SB		S	**Sg**	**05 05 46.5**	**-0.7**
VLY	**Voula,Athens**	**0.57**	**165**	*e*Pg		P	**Pg**	**05 05 39.0**	**-0.6**
VLY				*e*Sb		S	**Sg**	**05 05 46.5**	**-0.7**
LTK	**Loutraki**	**0.63**	**233**	P		P	**Pg**	**05 05 40.4**	**-0.2**
LTK				S		S	**Sg**	**05 05 49.5**	**+0.6**
LTK	**Loutraki**	**0.63**	**233**	*e*PB		P	**Pg**	**05 05 40.2**	**-0.4**
LTK				*e*SB		S	**Sg**	**05 05 49.3**	**+0.4**
LTK	**Loutraki**	**0.63**	**233**	P		P	**Pg**	**05 05 40.4**	**-0.2**
LTK				*e*Sb		S	**Sg**	**05 05 49.3**	**+0.4**
NAIG	**Nisos Aigina**	**0.65**	**188**	*e*PB		P	**Pg**	**05 05 40.7**	**-0.4**
NAIG	**Nisos Aigina**	**0.65**	**188**	*e*Pb		P	**Pg**	**05 05 40.7**	**-0.4**
SKIA	**Skiathos**	**0.77**	**352**	P		P	**Pg**	**05 05 43.0**	**-0.2**
SKIA				S		S	**Sg**	**05 05 53.9**	**+0.6**
SKIA	**Skiathos**	**0.77**	**352**	P		P	**Pg**	**05 05 43.0**	**-0.2**
SKIA				S		S	**Sg**	**05 05 53.9**	**+0.6**
AOS	**Alonnisos**	**0.79**	**16**	P		P	**Pg**	**05 05 43.0**	**-0.7**
AOS				S		S	**Sg**	**05 05 54.6**	**+0.4**
AOS	**Alonnisos**	**0.79**	**16**	P		P	**Pg**	**05 05 43.0**	**-0.7**
AOS				S		S	**Sg**	**05 05 54.6**	**+0.4**
DSF	**Desfina**	**0.84**	**271**	P		P	**Pg**	**05 05 44.4**	**-0.3**
DSF				S		S	**Sg**	**05 05 56.1**	**+0.4**
DSF	**Desfina**	**0.84**	**271**	P		P	**Pg**	**05 05 44.4**	**-0.3**
DSF				S		S	**Sg**	**05 05 56.1**	**+0.4**
DID	**Didima**	**0.94**	**198**	P		P	**Pg**	**05 05 45.9**	**-0.7**
DID				S		S	**Sb**	**05 05 59.6**	**+0.6**
DID	**Didima**	**0.94**	**198**	*e*PB		P	**Pg**	**05 05 45.7**	**-0.9**
DID				*e*SB		S	**Sg**	**05 05 58.9**	**0.0**
DID	**Didima**	**0.94**	**198**	P		P	**Pg**	**05 05 45.9**	**-0.7**
DID				*e*Sb		S	**Sg**	**05 05 58.9**	**0.0**
DID						S	**Sb**	**05 05 59.6**	**+0.6**
NEO	**Neokhori**	**0.95**	**342**	*e*PB		P	**Pg**	**05 05 46.2**	**-0.4**
NEO				*e*SB		S	**Sg**	**05 05 58.7**	**-0.3**
NEO	**Neokhori**	**0.95**	**342**	*e*Pb		P	**Pg**	**05 05 46.2**	**-0.4**
NEO				*e*Sb		S	**Sg**	**05 05 58.7**	**-0.3**
XOR	**Xorichti**	**1.01**	**342**	P		P	**Pg**	**05 05 47.2**	**-0.7**
XOR				S		S	**Sg**	**05 06 01.3**	**+0.3**
XOR	**Xorichti**	**1.01**	**342**	P		P	**Pg**	**05 05 47.2**	**-0.7**
XOR				S		S	**Sg**	**05 06 01.3**	**+0.3**
GUR	**Goura**	**1.10**	**245**	P		P	**Pg**	**05 05 48.8**	**-0.7**
GUR				S		S	**Sg**	**05 06 03.8**	**0.0**
GUR	**Goura**	**1.10**	**245**	P		P	**Pg**	**05 05 48.8**	**-0.7**
GUR				S		S	**Sg**	**05 06 03.8**	**0.0**
PAIG	**Paliouri**	**1.52**	**2**	P		P	**Pn**	**05 05 54.6**	**-0.7**
PAIG	**Paliouri**	**1.52**	**2**	P		P	**Pn**	**05 05 54.6**	**-0.7**
VLI	**Veliai**	**1.77**	**198**	*e*PN		**Pn**	**05 05 59.7**	**+1.1**
VLI	**Veliai**	**1.77**	**198**	*e*Pn		**Pn**	**05 05 59.7**	**+1.1**

IDC 19 05:09:32.1±2.2, 8°.14N×103°.99W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.7/9, Error ellipse: s-maj=98.5km s-min=17.1km az=55.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array** 1.6nm,0.9s,baz=177,slow=11,SNR=12	**21.09**	**1**	P		P	P	05 14 18.7	+0.3
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=181,slow=8.7,SNR=3.2	**32.81**	**339**	P		P	P	05 16 09.3	+1.7
PDAR	**Pinedale Array** 2.2nm,1.0s,baz=164,slow=9.2,SNR=11	**34.84**	**353**	P		P	P	05 16 24.6	-0.7
LPAZ	**La Paz** 3.8nm,0.9s,baz=325,slow=9.2,SNR=9.5	**43.00**	**124**	P		P	P	05 17 36.0	+1.5
SIV	**San Ignacio** 0.9nm,0.9s,baz=310,slow=16,SNR=3.5	**48.79**	**119**	P		P	P	05 18 18.7	-0.8
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=166,slow=7.8,SNR=3.9	**54.81**	**354**	P		P	P	05 19 04.5	+0.8
YKA				PcP		PcP	PcP	05 20 06.8	+0.8
BDFB	**Brasilia** 1.3nm,0.5s,baz=216,slow=23,SNR=3.6	**60.26**	**113**	P		P	P	05 19 41.6	-1.4
INK	**Inuvik** 1.7nm,1.0s,baz=211,slow=4.4,SNR=4.0	**63.20**	**348**	P		P	P	05 20 01.2	-0.7
ILAR	**Eielson Array** 0.6nm,0.8s,baz=154,slow=5.0,SNR=11	**64.03**	**341**	P		P	P	05 20 05.8	-1.6

IDC 19 05:14:06.0±3.2, 18°.83S×177°.59W, h640km±36km, mb3.3/5, mb1 3.5/5, mb1mx3.0/19, mbtmp3.3/5, Error ellipse: s-maj=51.0km s-min=18.6km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 5.7nm,0.5s,baz=87,slow=11,SNR=8.3	**34.07**	**262**	P		P	P	05 19 59.8	-0.4
PMG	**Port Moresby** 17nm,0.8s,baz=83,slow=5.9,SNR=8.1	**35.38**	**280**	P		P	P	05 20 10.8	-0.3
WRA	**Warramunga Arr** 4.1nm,0.6s,baz=97,slow=7.5,SNR=118	**45.23**	**260**	P		P	P	05 21 29.1	+0.2
ASAR	**Alice Springs** 4.0nm,0.7s,baz=90,slow=7.8,SNR=39	**45.29**	**255**	P		P	P	05 21 30.1	+0.8
ASAR				S		S	S	05 27 25.0	-0.3
ILAR	**Eielson Array** 0.2nm,0.5s,baz=228,slow=4.5,SNR=9.4	**86.61**	**13**	P		P	P	05 25 42.2	-0.7
ATAH	**Atahualpa** 4.3nm,0.6s,baz=247,slow=6.4,SNR=4.0	**96.35**	**100**	P		P	P	05 26 28.0	-1.3
ARCES	**ARCESS Array B** 5.2nm,1.0s,baz=7.5,slow=10,SNR=3.6	**127.36**	**350**	PKP		PKPdf	PKPdf	05 31 59.3	+0.4
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=44,slow=5.7,SNR=4.4	**141.74**	**332**	PKhKP		PKPpre		05 32 20.0	
BRTR	**Keskin Array B** 0.8nm,0.9s,baz=54,slow=6.3,SNR=4.4	**145.98**	**314**	PKPbc		PKPbc		05 32 36.5	+0.3
GERES	**GERESS Array B** 0.6nm,0.8s,baz=347,slow=9.6,SNR=3.6	**148.70**	**346**	PKPbc		PKPbc		05 32 43.0	+0.1

*ISK **19** 05:16:12.3, 37°.20N×36°.34E, h2km, ML2.1*
*DDA **19** 05:16:12.7, 37°.17N×36°.34E, h7km, MD3.0*
*CSEM **19** 05:16:13.0±0.1, 37°.17N×36°.32E, h2km, ML2.1, Error ellipse: s-maj=3.4km s-min=2.6km az=157.0*
**ISC 19 05:16:13.0±0.1, 37°.17N±0°.03×36°.34E±0°.02, h6km±11km, n31,

*SZGRF **19** 05:18:31.6, 21°.16S×169°.33E, h33km, Southeast of Loyalty Islands*

ISC 19 05:18:26.6±0.6, **22°.5S**±0°.1×**170°.79E**±0°.0°, **h42km**,**n74**, σ1**s03**/75,**mb4.2**/13,**2C**,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.63**	**274**	*eS*	**Sn**	**05 20 00.6**	**-1.3**
DZM	**Mont Dzumac**	**4.04**	**275**	Pn	**Pn**	**05 19 25.7**	**-0.4**
	14nm,0.3s,baz=105,slow=16,SNR=137						
DZM				Sn	**Sn**	**05 20 14.0**	**+1.7**
	21nm,0.3s,baz=131,slow=23,SNR=7.2						
DZM				LR	LR	05 20 27.9	
	comp=Z,1μm,18.2s,baz=95,slow=31						
DZM	**Mont Dzumac**	**4.04**	**275**	*eP*	**Pn**	**05 19 24.5**	**-1.6**
DZM				*eS*	**Sn**	**05 20 10.6**	**-1.7**
DZM				AMP		05 20 16.6	
	comp=Z,787nm,3.5s						
DZM	**Mont Dzumac**	**4.04**	**275**	*e*Pn	**Pn**	**05 19 24.9**	**-1.3**
DZM				Sn	**Sn**	**05 20 14.0**	**+1.7**
DZM				*e*Sn	Sn	05 20 14.1	+1.7
NOUC	**Port Laguerre**	**4.17**	**274**	*eP*	**Pn**	**05 19 26.3**	**-1.5**
NOUC				*eS*	**Sn**	**05 20 14.9**	**-0.4**
NOUC				AMP		05 20 21.8	
	comp=Z,64nm,3.3s						
MSVF	**Nonsavu**	**8.28**	**57**	*e*Pn	Pn	05 20 28.4	+4.1
	comp=Z,162nm,1.1s						
URZ	**Urewera**	**16.66**	**162**	*eP*	**Pn**	**05 22 16.0**	**-1.0**
AFI	**Afiamalu**	**18.61**	**66**	LR	LR	05 28 44.6	
	comp=Z,1μm,18.2s,baz=70,slow=34						
AFI	**Afiamalu**	**18.61**	**66**	*eP*	**P**	**05 22 39.2**	**-1.4**
	comp=Z,7.2nm,0.3s						
ARMA	**Armidale**	**18.88**	**241**	*eP*	**Pn**	**05 22 46.2**	**+1.7**
RPZ	**Rata Peaks**	**21.20**	**179**	LR	LR	05 30 00.8	
	comp=Z,2μm,20.6s,baz=333,slow=33						
CTA	**Charters Tower**	**22.98**	**271**	P	**P**	**05 23 27.8**	**0.0**
	comp=Z,8.0nm,1.0s,baz=76,slow=12,SNR=3.0						
CTA	**Charters Tower**	**22.98**	**271**	P	**P**	**05 23 27.8**	**0.0**
PMG	**Port Moresby**	**26.11**	**296**	P	**P**	**05 23 56.3**	**-0.5**
	comp=Z,8.1nm,0.7s,baz=170,slow=17,SNR=2.5						
PMG	**Port Moresby**	**26.11**	**296**	*eP*	**P**	**05 23 58.9**	**+2.1**
	comp=Z,9.8nm,0.9s						
STKA	**Stephens Creek**	**27.54**	**244**	P	**P**	**05 24 09.8**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=92,slow=11,SNR=8.7						
STKA	**Stephens Creek**	**27.54**	**244**	*eP*	**P**	**05 24 09.9**	**+0.3**
	comp=Z,4.9nm,1.2s						
STKA	**Stephens Creek**	**27.54**	**244**	*eP*	**P**	**05 24 10.1**	**+0.5**
	comp=Z,6.7nm,1.6s						
AS31	**Alice Springs**	**33.90**	**261**	*eP*	**P**	**05 25 05.7**	**-0.1**
ASAR	**Alice Springs**	**33.90**	**261**	P	**P**	**05 25 06.0**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=87,slow=9.1,SNR=46						
ASAR	**Alice Springs**	**33.90**	**261**	P	**P**	**05 25 06.0**	**+0.2**
WB2	**Warramunga Arr**	**34.01**	**267**	*eP*	**P**	**05 25 06.0**	**-0.8**
WRAB	**Tennant Creek**	**34.02**	**267**	*eP*	**P**	**05 25 05.5**	**-1.3**
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**34.02**	**267**	P	**P**	**05 25 05.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**34.02**	**267**	P	**P**	**05 25 05.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**42.45**	**267**	P	**P**	**05 26 17.1**	**-0.7**
	comp=Z,8.4nm,0.9s,baz=118,slow=8.3,SNR=7.8						
FITZ	**Fitzroy Crossi**	**42.45**	**267**	*eP*	**P**	**05 26 18.1**	**+0.3**
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**42.45**	**267**	*eP*	**P**	**05 26 18.6**	**+0.8**
	comp=Z,13nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.11**	**245**	LR	LR	05 46 22.3	
	comp=Z,1μm,18.8s,baz=90,slow=35						
PETK	**Petropavlovsk-**	**76.10**	**352**	P	**P**	**05 30 09.8**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=169,slow=8.8,SNR=4.9						
PETK	**Petropavlovsk-**	**76.10**	**352**	P	**P**	**05 30 09.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**81.14**	**294**	P	**P**	**05 30 39.1**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=134,slow=4.6,SNR=9.6						
CMAR	**Chiang Mai Arr**	**81.14**	**294**	P	**P**	**05 30 39.1**	**+1.0**
CHTO	**Chiang Mai**	**81.30**	**294**	*eP*	**P**	**05 30 38.0**	**-1.1**
	comp=Z,22nm,1.6s						
NVAR	**Mina Array Bea**	**89.86**	**48**	P	**P**	**05 31 20.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=226,slow=7.5,SNR=9.6						
NVAR	**Mina Array Bea**	**89.86**	**48**	P	**P**	**05 31 20.9**	**-0.5**
SONM	**Songino Array**	**90.65**	**323**	P	**P**	**05 31 23.6**	**-1.2**
	comp=Z,4.8nm,1.1s,baz=133,slow=4.3,SNR=11						
SONM	**Songino Array**	**90.65**	**323**	P	**P**	**05 31 23.6**	**-1.2**
ILAR	**Eielson Array**	**92.87**	**17**	P	**P**	**05 31 36.0**	**+1.5**
	comp=Z,1.1nm,1.1s,baz=222,slow=4.5,SNR=5.0						
ILAR	**Eielson Array**	**92.87**	**17**	P	**P**	**05 31 36.0**	**+1.5**
AKTO	**Aktyubinsk**	**121.40**	**316**	PKP	**PKPdf**	**05 37 17.2**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=1.2,slow=18,SNR=4.5						
AKTO	**Aktyubinsk**	**121.40**	**316**	PKP	**PKPdf**	**05 37 17.2**	**+2.1**
ARCES	**ARCESS Array B**	**128.53**	**345**	PKP	**PKPdf**	**05 37 28.1**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=45,slow=1.4,SNR=7.6						
ARCES	**ARCESS Array B**	**128.53**	**345**	PKP	**PKPdf**	**05 37 28.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**144.14**	**325**	*e*PKP	**PKPdf**	**05 38 00.5**	**+2.8**
OKC	**Ostrava-Krasne**	**145.23**	**329**	*e*PKP	**PKPdf**	**05 38 00.2**	**+0.7**
BSEG	**Bad Segeberg**	**145.27**	**340**	*e*PKPbc	**PKPdf**	**05 37 59.4**	**0.0**
DPC	**Dobruska-Polom**	**145.73**	**331**	*e*PKP	**PKPbc**	**05 38 00.2**	**-0.7**
DPC				*ex*	x	05 38 22.4	
UPC	**Upice**	**145.76**	**331**	*e*PKP	**PKPab**	**05 38 01.2**	**-0.1**
UPC				*ex*	x	05 38 22.9	
VYHS	**Vyhne**	**145.76**	**326**	*e*PKP	**PKPab**	**05 38 00.8**	**-0.6**
BRG	**Berggiesshubel**	**146.38**	**333**	*eP*	**PKPbc**	**05 38 02.4**	**-0.4**
	comp=Z,47nm,1.8s						
CLL	**Collm**	**146.43**	**335**	*e*PKPbc	**PKPdf**	**05 38 01.4**	**-0.1**
CLL	**Collm**	**146.43**	**335**	*e*PKPbc	**PKPab**	**05 38 03.0**	**-0.8**
CLL				*e*PKiKP	**PKiKP**	**05 38 06.0**	**+0.1**
NRDL	**Niedersach Rie**	**146.54**	**338**	*e*PKPbc	**PKPab**	**05 38 03.6**	**-0.5**
PRU	**Pruhonice**	**146.79**	**332**	*e*PKP	**PKPbc**	**05 38 04.0**	**0.0**
PRU				*ex*	x	05 38 25.1	
TREC	**Trest**	**146.86**	**330**	*e*PKP	**PKPab**	**05 38 05.1**	**-0.5**
CLZ	**Clausthal**	**146.99**	**338**	*e*PKPbc	**PKPab**	**05 38 05.7**	**-0.4**
IBBN	**Ibbenburen**	**147.47**	**341**	*e*PKPbc	**PKPab**	**05 38 07.5**	**-0.3**
MOX	**Moxa**	**147.50**	**335**	*e*PKPbc	**PKPab**	**05 38 06.7**	**-1.4**
KHC	**Kasperske Hory**	**147.84**	**331**	*e*PKP	**PKPbc**	**05 38 06.8**	**-0.2**
KHC				*ex*	x	05 38 29.1	
ROTZ	**Rotzenmuhle**	**147.95**	**334**	*e*PKPbc	**PKPbc**	**05 38 07.6**	**+0.4**
GEC2	**GERESS Array S**	**148.00**	**331**	*e*PKPbc	**PKPbc**	**05 38 08.2**	**+0.7**
GERES	**GERESS Array B**	**148.00**	**331**	PKPbc	**PKPab**	**05 38 08.3**	**-1.9**
	comp=Z,3.1nm,0.7s,baz=27,slow=3.3,SNR=13						
GERES	**GERESS Array B**	**148.00**	**331**	PKPbc	**PKPab**	**05 38 08.3**	**-1.9**
WET	**Wettzell**	**148.14**	**332**	*e*PKPbc	**PKPbc**	**05 38 08.2**	**+0.4**
GRF	**Grafenberg Arr**	**148.41**	**334**	*e*PKPbc	**PKPbc**	**05 38 09.3**	**+0.9**
FUR	**Furstenfeldbru**	**149.57**	**332**	*e*PKPbc	**PKPbc**	**05 38 11.5**	**+0.1**
WTTA	**Wattenberg**	**150.10**	**331**	⇑*i*P	**PKPbc**	**05 38 12.9**	**0.0**
WTTA	**Wattenberg**	**150.10**	**331**	⇑*i*PKPbc	**PKPbc**	**05 38 13.0**	**0.0**
	comp=Z,16nm,1.6s						
WLF	**Walferdange**	**150.26**	**340**	*e*PKPbc	**PKPbc**	**05 38 14.1**	**+1.1**
DAVOX	**Davos/Dischmat**	**151.25**	**332**	PKPbc	**PKPbc**	**05 38 15.5**	**-0.2**
	baz=231,slow=6.5						
DAVOX	**Davos/Dischmat**	**151.25**	**332**	PKPbc	**PKPbc**	**05 38 15.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**166.09**	**230**	PKPab	**PKPab**	**05 39 28.3**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=112,slow=5.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**166.09**	**230**	PKPab	**PKPab**	**05 39 28.3**	**-0.1**

NNC 19 05:19:42.8±10.0, **37°.37N×70°.15E, h0km, mb3.5, mpv3.4, 3C-1D, Error ellipse: s-maj=107.3km s-min=78.4km az=79.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.74**	**3**	Pn	Pn	05 21 12.6	+3.3
	1.1nm,0.3s,baz=181,slow=13,SNR=36						
KK31				⇑Sn	Sn	05 22 22.2	+6.4
	1.1nm,0.5s,baz=190,slow=25						
TKM2	**Tokmak 2**	**6.94**	**35**	⇑Pn	Pn	05 21 21.9	-4.1
	1.7nm,0.5s						
AB31	**Akbulak array**	**13.99**	**331**	⇑Pn	Pn	05 23 05.6	+3.4
	0.1nm,0.3s,baz=0.0,slow=0.1,SNR=14						
AB31				⇓Sn	Sn	05 25 39.4	+1.1
	0.1nm,0.3s						

IDC 19 05:25:05.2±2.9, **22°.91S×69°.58W, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.4/15, mbtmp3.5/4, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx3.2/16, Error ellipse: s-maj=59.7km s-min=54.1km az=102.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.73**	**12**	Pn	Pn	05 26 45.1	-0.7
	0.5nm,0.3s,baz=202,slow=5.5,SNR=14						
CFAA	**Coronel Fontan**	**8.74**	**172**	LR	LR	05 31 12.6	
	comp=Z,162nm,18.7s,baz=149,slow=42						
SIV	**San Ignacio**	**10.57**	**51**	Pn	Pn	05 27 40.2	+2.2
	0.2nm,0.3s,baz=248,slow=16,SNR=2.9						
BDFB	**Brasilia**	**21.59**	**74**	P	P	05 29 55.2	-1.6
	1.4nm,0.7s,baz=231,slow=13,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.41**	**70**	P	P	05 37 09.1	+0.8
	0.4nm,0.5s,baz=250,slow=4.8,SNR=8.2						
MKAR	**Makanchi Array**	**147.13**	**37**	PKPbc	PKPdf	05 44 48.9	+0.8
	0.3nm,0.7s,baz=318,slow=1.9,SNR=3.8						

*IDC **19** 05:27:17.8±0.9, 22°.71S×170°.80E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=33.1km s-min=22.2km az=158.0*
*NEIC **19** 05:27:20.7±4.4, 22°.68S×170°.73E, h18km±27km, mb4.2/4, Error ellipse: s-maj=22.7km s-min=9.3km az=160.0*
*ISCJB **19** 05:27:22.0±0.7, 22°.6S±0°.2×170°.69E±0°.05, h42km, mb4.1/10, Error ellipse: s-maj=21.9km s-min=7.1km az=177.2*

ISC 19 05:27:23.9±0.7, **22°.6S**±0°.2×**170°.72E**±0°.0°, **h42km**,**n36**, σ1**s33**/39,**mb4.1**/8,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NORM	**Noumea**	**3.94**	**275**	*eP*	**Pn**	**05 28 20.1**	**-1.7**
NORM				*eS*	**Sn**	**05 29 04.3**	**-2.6**
DZM	**Mont Dzumac**	**4.00**	**277**	Pn	**Pn**	**05 28 22.4**	**-0.4**
	9.3nm,0.3s,baz=135,slow=18,SNR=78						
DZM	**Mont Dzumac**	**4.00**	**277**	*e*Pn	**Pn**	**05 28 21.6**	**-1.2**
DZM				*e*Sn	**Sn**	**05 29 10.4**	**+2.0**
NOUC	**Port Laguerre**	**4.12**	**277**	*eP*	**Pn**	**05 28 22.7**	**-1.7**
NOUC				*eS*	**Sn**	**05 29 11.3**	**0.0**
MSVF	**Nonsavu**	**8.44**	**56**	*e*Pn	**Pn**	**05 29 22.5**	**-1.2**
	39nm,1.0s						
STKA	**Stephens Creek**	**27.41**	**244**	P	**P**	**05 33 06.2**	**+0.6**
	2.9nm,0.6s,baz=81,slow=10,SNR=13						
STKA	**Stephens Creek**	**27.41**	**244**	*eP*	**P**	**05 33 06.7**	**+1.0**
	3.3nm,0.9s						
STKA	**Stephens Creek**	**27.41**	**244**	*eP*	**P**	**05 33 06.1**	**+0.5**
	2.6nm,1.3s						
ASAR	**Alice Springs**	**33.81**	**261**	P	**P**	**05 34 02.5**	**+0.1**
	3.4nm,0.8s,baz=89,slow=8.9,SNR=37						
ASAR	**Alice Springs**	**33.81**	**261**	P	**P**	**05 34 02.5**	**+0.1**
WB2	**Warramunga Arr**	**33.94**	**268**	*eP*	**P**	**05 34 02.5**	**-1.0**
WRAB	**Tennant Creek**	**33.94**	**268**	*eP*	**P**	**05 34 02.6**	**-0.9**
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**33.95**	**268**	P	**P**	**05 34 02.2**	**-1.3**
	0.4nm,0.4s,baz=94,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**33.95**	**268**	P	**P**	**05 34 02.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**42.38**	**268**	P	**P**	**05 35 14.3**	**-0.2**
	7.3nm,0.8s,baz=114,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**42.38**	**268**	*eP*	**P**	**05 35 15.0**	**+0.5**
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.38**	**268**	*eP*	**P**	**05 35 15.1**	**+0.5**
	5.7nm,0.8s						
QSPA	**South Pole Qui**	**67.44**	**180**	P	**P**	**05 38 14.8**	**-0.3**
	2.5nm,1.0s,baz=355,slow=6.0,SNR=5.0						
QSPA	**South Pole Qui**	**67.44**	**180**	*eP*	**P**	**05 38 15.2**	**+0.1**
	4.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.15**	**294**	P	**P**	**05 39 37.0**	**+1.5**
	1.2nm,0.3s,baz=135,slow=3.7,SNR=10						
CMAR	**Chiang Mai Arr**	**81.15**	**294**	P	**P**	**05 39 37.0**	**+1.5**
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**PcP**	**05 40 19.9**	**-0.8**
	0.7nm,0.7s,baz=215,slow=5.5,SNR=4.4						
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**PcP**	**05 40 19.9**	**-0.8**
SONM	**Songino Array**	**90.75**	**323**	P	**PcP**	**05 40 23.7**	**+0.2**
	1.3nm,0.9s,baz=143,slow=6.0,SNR=7.4						
SONM	**Songino Array**	**90.75**	**323**	P	**PcP**	**05 40 23.7**	**+0.2**
ILAR	**Eielson Array**	**93.06**	**17**	P	**P**	**05 40 31.5**	**-1.1**
	0.5nm,1.1s,baz=251,slow=5.6,SNR=3.6						
ILAR	**Eielson Array**	**93.06**	**17**	P	**P**	**05 40 31.5**	**-1.1**
ABKAR	**Akbulak array**	**120.25**	**315**	*e*PKPdf	**PKiKP**	**05 46 10.9**	**+0.5**
BRG	**Berggiesshubel**	**146.51**	**333**	*eP*	**PKPab**	**05 47 05.2**	**+3.7**
	6.1nm,0.8s						
CLL	**Collm**	**146.56**	**334**	*e*PKiKP	**PKPab**	**05 47 05.0**	**+3.3**
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**148.12**	**331**	PKPbc	**PKPbc**	**05 47 05.3**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=354,slow=1.3,SNR=4.9						
GERES	**GERESS Array B**	**148.12**	**331**	PKPbc	**PKPbc**	**05 47 05.3**	**+0.2**
DAVOX	**Davos/Dischmat**	**151.37**	**332**	PKPbc	**PKPbc**	**05 47 14.3**	**+1.0**
	comp=Z,5.1nm,0.7s,baz=319,slow=9.3,SNR=4.9						
DAVOX	**Davos/Dischmat**	**151.37**	**332**	PKPbc	**PKPbc**	**05 47 14.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**165.93**	**230**	PKPab	**PKPab**	**05 48 24.3**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=127,slow=2.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.93**	**230**	PKPab	**PKPab**	**05 48 24.3**	**-0.8**

*IDC **19** 05:28:57.8±0.7, 22°.79S×170°.83E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/19, mbtmp4.3/12, ML4.3/1, MS4.5/4, Ms1 4.5/4, ms1mx4.2/28, Error ellipse: s-maj=26.5km s-min=20.0km az=161.0*
*ISCJB **19** 05:29:01.2±0.6, 22°.8S±0°.1×170°.72E±0°.06, h33km, mb4.2/12, MS3.9/3, Error ellipse: s-maj=20.5km s-min=8.1km az=172.6*
*NEIC **19** 05:29:03.5±0.5, 22°.63S×170°.72E, h35km, mb4.3/6, Error ellipse: s-maj=20.8km s-min=10.1km az=167.0*
*SZGRF **19** 05:29:06.8, 20°.84S×172°.50E, h33km, Vanuatu Islands region*

ISC 19 05:29:03.2±0.6, **22°.7S**±0°.2×**170°.74E**±0°.0°, **h33km**,**n63**, σ0**s91**/62,**mb4.3**/12,**MS4.5**/3,**1C**,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.02**	**278**	Pn	**Pn**	**05 30 02.4**	**-0.1**
	20nm,0.3s,baz=117,slow=22,SNR=9.3						
DZM				Sn	**Sn**	**05 30 47.9**	**-0.6**
	27nm,0.3s,baz=146,slow=18,SNR=3.4						
DZM	**Mont Dzumac**	**4.02**	**278**	*e*Pn	**Pn**	**05 30 02.2**	**-0.3**
DZM				Sn	**Sn**	**05 30 47.9**	**-0.6**
DZM				*e*Sn	Sb	05 30 50.6	-11
MSVF	**Nonsavu**	**8.45**	**56**	*e*Pn	Pn	05 31 07.8	+4.4
	118nm,1.0s						
HNR	**Honiara**	**16.75**	**320**	LR	LR	05 38 24.2	
	comp=Z,1μm,18.7s,baz=168,slow=34						
AFI	**Afiamalu**	**18.74**	**65**	LR	LR	05 39 28.1	
	comp=Z,664nm,18.2s,baz=82,slow=34						
AFI	**Afiamalu**	**18.74**	**65**	*eP*	**P**	**05 33 18.9**	**-0.6**
	14nm,0.5s						
RPZ	**Rata Peaks**	**20.98**	**179**	LR	LR	05 40 13.4	
	comp=Z,2μm,20.4s,baz=259,slow=32						
PMG	**Port Moresby**	**26.17**	**297**	P	**P**	**05 34 36.1**	**+1.3**
	8.8nm,0.6s,baz=94,slow=11,SNR=4.4						
PMG	**Port Moresby**	**26.17**	**297**	*eP*	**P**	**05 34 36.0**	**+1.1**
	8.7nm,0.9s						
STKA	**Stephens Creek**	**27.40**	**244**	P	**P**	**05 34 45.4**	**-0.4**
	1.9nm,0.4s,baz=46,slow=7.4,SNR=9.5						
STKA				LR	LR	05 43 43.3	
	comp=Z,1μm,19.5s,baz=238,slow=32						
STKA	**Stephens Creek**	**27.40**	**244**	*eP*	**P**	**05 34 46.6**	**+0.8**
	4.1nm,1.4s						
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**05 35 42.0**	**-0.6**
	3.3nm,0.9s,baz=87,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**05 35 42.0**	**-0.6**
WB2	**Warramunga Arr**	**33.95**	**268**	*eP*	**P**	**05 35 43.1**	**-0.7**
WRAB	**Tennant Creek**	**33.96**	**268**	P	**P**	**05 35 41.8**	**-2.0**
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**33.97**	**268**	P	**P**	**05 35 42.8**	**-1.0**
	0.7nm,0.5s,baz=95,slow=8.2,SNR=7.1						
WRA	**Warramunga Arr**	**33.97**	**268**	P	**P**	**05 35 42.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**42.40**	**268**	P	**P**	**05 36 54.2**	**-0.7**
	9.4nm,1.0s,baz=106,slow=7.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**42.40**	**268**	*eP*	**P**	**05 36 54.4**	**-0.5**
	10nm,1.0s						
TGY	**Tagaytay City**	**60.95**	**302**	LR	LR	06 01 52.7	
	comp=Z,4.6nm,19.0s,baz=222,slow=32						
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**05 39 54.3**	**-0.8**
	2.4nm,0.9s,baz=353,slow=4.3,SNR=3.0						
QSPA	**South Pole Qui**	**67.38**	**180**	*eP*	**P**	**05 39 56.3**	**+1.2**
	2.3nm,0.8s						
PETK	**Petropavlovsk-**	**76.32**	**352**	P	**P**	**05 40 48.1**	**-0.4**
	6.4nm,1.0s,baz=147,slow=8.5,SNR=4.2						
PETK	**Petropavlovsk-**	**76.32**	**352**	P	**P**	**05 40 48.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**05 41 18.2**	**+2.2**
	1.4nm,0.3s,baz=136,slow=4.5,SNR=10						
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**05 41 18.2**	**+2.2**
NVAR	**Mina Array Bea**	**90.04**	**48**	P	**P**	**05 41 59.5**	**-0.4**
	1.3nm,0.8s,baz=224,slow=8.2,SNR=7.5						
NVAR	**Mina Array Bea**	**90.04**	**48**	P	**P**	**05 41 59.5**	**-0.4**
SONM	**Songino Array**	**90.80**	**323**	P	**P**	**05 42 03.2**	**+0.1**
	4.0nm,1.0s,baz=140,slow=2.2,SNR=15						
SONM	**Songino Array**	**90.80**	**323**	P	**P**	**05 42 03.2**	**+0.1**
ILAR	**Eielson Array**	**93.10**	**17**	P	**P**	**05 42 11.8**	**-1.4**
	0.5nm,0.7s,baz=242,slow=5.1,SNR=5.4						
ILAR	**Eielson Array**	**93.10**	**17**	P	**P**	**05 42 11.8**	**-1.4**
AKTO	**Aktyubinsk**	**121.53**	**316**	PKP	**PKPdf**	**05 47 52.0**	**-1.2**
	0.9nm,0.6s,baz=126,slow=5.9,SNR=4.1						
AKTO	**Aktyubinsk**	**121.53**	**316**	PKP	**PKPdf**	**05 47 52.0**	**-1.2**
BDFB	**Brasilia**	**126.24**	**132**	PKP	**PKPdf**	**05 48 03.7**	**+0.3**
	0.8nm,0.5s,baz=186,slow=4.6,SNR=3.0						
BDFB	**Brasilia**	**126.24**	**132**	PKP	**PKPdf**	**05 48 03.7**	**+0.3**
ARCES	**ARCESS Array B**	**128.74**	**345**	PKP	**PKPdf**	**05 48 06.0**	**-0.3**
	4.7nm,0.8s,baz=75,slow=1.4,SNR=8.5						
ARCES	**ARCESS Array B**	**128.74**	**345**	PKP	**PKPdf**	**05 48 06.0**	**-0.3**
OKC	**Ostrava-Krasne**	**145.40**	**328**	*e*PKP	**PKPab**	**05 48 38.7**	**+1.0**
BSEG	**Bad Segeberg**	**145.46**	**340**	*e*PKPbc	**PKPbc**	**05 48 38.2**	**+0.7**
DPC	**Dobruska-Polom**	**145.90**	**330**	*e*PKP	**PKPdf**	**05 48 38.5**	**0.0**
DPC				*ex*	x	05 48 43.5	
VYHS	**Vyhne**	**145.92**	**326**	*e*PKP	**PKPbc**	**05 48 39.9**	**+0.7**
UPC	**Upice**	**145.93**	**331**	*e*PKP	**PKPdf**	**05 48 39.5**	**+1.0**
VRAC	**Vranov**	**146.50**	**329**	PKPbc	**PKPbc**	**05 48 41.9**	**+1.0**
	4.7nm,0.6s,baz=318,slow=3.0,SNR=3.8						
VRAC	**Vranov**	**146.50**	**329**	PKPbc	**PKPbc**	**05 48 41.9**	**+1.0**
PVCC	**Panska Ves**	**146.56**	**332**	*e*PKP	**PKPbc**	**05 48 41.2**	**+0.2**
BRG	**Berggiesshubel**	**146.56**	**333**	*eP*	**PKPdf**	**05 48 40.6**	**+1.1**
	14nm,1.0s						
BRG	**Berggiesshubel**	**146.56**	**333**	*e*PKPbc	**PKPbc**	**05 48 41.6**	**+0.6**
CLL	**Collm**	**146.62**	**334**	*e*PKPbc	**PKPbc**	**05 48 41.7**	**+0.5**
CLL	**Collm**	**146.62**	**334**	*e*PKPbc	**PKPbc**	**05 48 42.0**	**+0.8**
PRU	**Pruhonice**	**146.96**	**331**	*e*PKP	**PKPbc**	**05 48 42.2**	**0.0**
NKC	**Novy Kostel**	**147.67**	**334**	*e*PKP	**PKPbc**	**05 48 43.6**	**-0.6**
KHC	**Kasperske Hory**	**148.02**	**331**	*e*PKP	**PKPdf**	**05 48 43.3**	**+1.2**
KHC				*ex*	x	05 48 49.9	
ROTZ	**Rotzenmuhle**	**148.13**	**333**	*e*PKPbc	**PKPbc**	**05 48 46.3**	**+0.9**
GERES	**GERESS Array B**	**148.17**	**331**	PKPbc	**PKPbc**	**05 48 46.6**	**+0.9**
	3.0nm,0.8s,baz=19,slow=2.6,SNR=8.2						
GERES	**GERESS Array B**	**148.17**	**331**	PKPbc	**PKPbc**	**05 48 46.6**	**+0.9**
GRF	**Grafenberg Arr**	**148.59**	**334**	*e*PKPbc	**PKPbc**	**05 48 47.2**	**+0.6**
WTTA	**Wattenberg**	**150.28**	**331**	⇑*i*PKiKP	**PKPbc**	**05 48 51.8**	**+0.7**
	14nm,1.0s						
WLF	**Walferdange**	**150.46**	**339**	*e*PKPbc	**PKPbc**	**05 48 52.3**	**+1.1**
DAVOX	**Davos/Dischmat**	**151.42**	**332**	PKPbc	**PKPbc**	**05 48 53.9**	**+0.1**
	3.2nm,0.4s,baz=264,slow=9.2,SNR=4.2						
DAVOX	**Davos/Dischmat**	**151.42**	**332**	PKPbc	**PKP

VLI	Veliai	2.58	123	*e*PB	Pb	05 47 34.1	-0.9
STON	Ston	5.08	338	*e*Pn	Pn	05 48 04.9	+0.2
STON				Sn	Sn	05 49 02.0	-1.4
STON	Ston	5.08	338	*e*Pn	Pn	05 48 04.9	+0.2
STON				Sn	Sn	05 49 01.9	-1.4
NVLJ	Novalja	7.56	329	*e*Pn	Pn	05 48 40.5	+1.8
NVLJ				Sn	Sn	05 50 02.6	-1.6
NVLJ	Novalja	7.56	329	*e*Pn	Pn	05 48 40.4	+1.8

*ISCJB **19** 05:48:37.9±1.1, 32°.43N±0°.03×117°.71W±0°.04, h5km±7km, Error ellipse: s-maj=7.0km s-min=3.6km az=41.2*
*ECX **19** 05:48:40.2±0.6, 32°.42N×117°.75W, h20km, MD3.1, ML3.2*
*NEIC **19** 05:48:40.2, 32°.44N×117°.70W, h33km, ML3.2(ECX), ML3.1(PAS), After PAS.*
NEIC Felt [II] at El Cajon, La Jolla, La Mesa, San Diego and Spring Valley, California. Also felt at Chula Vista, Coronado, Encinitas, Lakeside and Santee.

ISC 19 05:48:37.3±1.3, 32°.39N±0°.04×117°.66W±0°.04, h4km±12km, n21, σ1§03/35, 10C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
109C	**Camp Elliot, M** baz=0.7	**0.68**	**43**	⇑P		**Pb**	**05 48 52.1**	**+0.4**
109C	baz=0.7			⇑S		**Sb**	**05 49 01.5**	**0.0**
CBX	**Cerro Bola**	**0.84**	**95**	*e*P		**Pn**	**05 48 55.9**	**-0.1**
CBX				*e*S		**Sn**	**05 49 08.5**	**-0.5**
CBX	comp=N,1μm,0.2s			*e*			05 49 09.8	
CBX	comp=E,966nm,0.4s			⇓*e*			05 49 12.5	
DPP	**Dos Picos Cty**	**0.85**	**45**	⇓*e*P		**Pb**	**05 48 55.3**	**+0.6**
BAR	**Barrett**	**0.88**	**71**	*e*Pn		**Pb**	**05 48 56.0**	**+0.9**
BAR				*e*Sg		**Sn**	**05 49 09.0**	**-0.7**
BAR	**Barrett**	**0.88**	**71**	⇑*e*P		**Pb**	**05 48 56.0**	**+0.9**
SCI	**San Clemente I** baz=0.9	**0.95**	**308**	⇑P		**Pg**	**05 48 55.6**	**+0.1**
SCI	baz=0.9			⇑S		**Sg**	**05 49 08.5**	**+0.6**
PBX	**Punta Banda**	**1.02**	**129**	*e*P		**Pn**	**05 48 58.4**	**0.0**
PBX				*e*S		**Sn**	**05 49 12.8**	**-0.4**
PBX	comp=N,424nm,0.2s			⇑*e*			05 49 15.8	
MONP	**Monument Peak** baz=1.2	**1.16**	**64**	⇓P		**Pb**	**05 49 00.3**	**+0.4**
ECNX	**Esteban Cantu**	**1.16**	**129**	*e*P		**Pn**	**05 49 00.3**	**-0.1**
ECNX				*e*P		**Pg**	**05 48 58.1**	**-1.4**
ECNX				*e*S		**Sn**	**05 49 17.2**	**+0.5**
CIS	**Catalina Islan** baz=1.1	**1.19**	**328**	⇓S		**Sg**	**05 49 13.3**	**-2.3**
MURC	**Murrieta** baz=1.2	**1.26**	**18**	⇓S		**Sg**	**05 49 18.2**	**+0.2**
DVTC	**Desert V Tower** baz=1.4	**1.34**	**78**	⇑Pb		**Pb**	**05 49 03.3**	**+0.3**
DVTC	baz=1.4			⇓S		**Sb**	**05 49 20.5**	**-0.1**
RDX	**Rancho Dawling**	**1.53**	**107**	*e*P		**Pb**	**05 49 06.4**	**+0.1**
RDX				*e*S		**Sg**	**05 49 27.6**	**+1.2**
RDX	comp=N,184nm,0.3s			⇓*e*			05 49 31.9	
RDX	comp=E,180nm,0.2s			*e*			05 49 32.4	
PFO	**Pinyon Flat Ob**	**1.58**	**39**	*e*Pn		**Pn**	**05 49 06.5**	**+0.3**
PFO				*e*Sg		**Sg**	**05 49 28.2**	**+0.2**
PFO	**Pinyon Flat Ob** baz=1.6	**1.58**	**39**	⇑Pb		**Pn**	**05 49 06.8**	**+0.6**
PFO	baz=1.6			⇑Sb		**Sb**	**05 49 28.0**	**+0.5**
PASC	**Pasadena Art C**	**1.83**	**346**	*e*Pn		**Pn**	**05 49 09.8**	**+0.3**
PASC				*e*Sg		**Sg**	**05 49 38.4**	**+2.4**
BFSC	**Mount Baldy Ra** baz=1.8	**1.84**	**360**	⇑Pb		**Pb**	**05 49 11.6**	**0.0**
MWC	**Mount Wilson**	**1.86**	**350**	*e*Pn		**Pn**	**05 49 09.1**	**-1.0**
MWC				*e*Sg		**Sb**	**05 49 36.8**	**+1.2**
SPX	**San Pedro Mart**	**2.30**	**125**	*e*P		**Pn**	**05 49 18.1**	**+1.8**
SPX				*e*S		**Sb**	**05 49 47.6**	**-0.9**
EDW2	**Edwards Air Fo** baz=2.5	**2.50**	**354**	⇓Pb		**Pb**	**05 49 23.4**	**+0.7**
GSC	**Goldstone**	**2.99**	**13**	*e*Pn		**Pn**	**05 49 22.9**	**-2.7**

IDC 19 05:51:45.7±1.5, 8°.87S×127°.04E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=84.8km s-min=25.0km az=72.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=14,slow=4.2,SNR=28	**9.27**	**188**	Pn		Pn	05 54 01.9	+1.1
FITZ	2.6nm,0.3s,baz=87,slow=23,SNR=9.0			Sn		Sn	05 55 39.8	-6.1
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=320,slow=13,SNR=38	**13.07**	**148**	Pn		Pn	05 54 51.8	-1.1
WRA	1.1nm,0.3s,baz=324,slow=25,SNR=12			Sn		Sn	05 57 10.8	-8.4
ASAR	**Alice Springs** 0.4nm,0.3s,baz=324,slow=10,SNR=14	**16.11**	**157**	Pn		Pn	05 55 33.6	-0.2
ASAR	0.3nm,0.3s,baz=324,slow=20,SNR=7.2			Sn		Sn	05 58 25.2	-8.0
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=127,slow=8.1,SNR=6.3	**68.23**	**329**	P		P	06 02 49.0	+0.8
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=143,slow=5.2,SNR=2.9	**72.00**	**335**	P		P	06 03 10.5	-0.7

*BEO **19** 06:04:40.5±1.5, 39°.65N×20°.84E, h0km, ML2.8/2*
*ATH **19** 06:04:56.8, 39°.82N×20°.64E, h20km±1km, MD3.3/8*
*ISCJB **19** 06:04:57.2±0.6, 39°.80N±0°.03×20°.56E±0°.04, h20km±6km, Error ellipse: s-maj=5.1km s-min=4.7km az=21.6*
*CSEM **19** 06:04:57.5±0.2, 39°.81N×20°.59E, h20km, MD3.3, Error ellipse: s-maj=5.7km s-min=5.0km az=26.0*

ISC 19 06:04:56.8±1.0, 39°.80N±0°.02×20°.58E±0°.02, h15km±7km, n31, σ1§19/56, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.26**	**124**	*e*PB		**Pg**	**06 05 02.2**	**-0.2**
JAN				*e*SB		**Sg**	**06 05 06.4**	**+0.3**
JAN	**Janina**	**0.26**	**124**	*e*Pb		**Pg**	**06 05 02.2**	**-0.2**
JAN				*e*Sb		**Sg**	**06 05 06.4**	**+0.3**
IGT	**Igoumenitsa**	**0.33**	**215**	P		**Pb**	**06 05 04.7**	**+0.3**
IGT				S		**Sn**	**06 05 12.6**	**-1.0**
IGT	**Igoumenitsa**	**0.33**	**215**	P		**Pb**	**06 05 04.7**	**+0.3**
IGT				S		**Sn**	**06 05 12.6**	**-1.0**
KEK	**Kerkira**	**0.61**	**262**	*e*PB		**Pb**	**06 05 09.3**	**+0.1**
KEK				*e*SN		**Sb**	**06 05 19.1**	**+1.6**
KEK	**Kerkira**	**0.61**	**262**	*e*Pb		**Pb**	**06 05 09.3**	**+0.1**
KEK				*e*Sn		**Sb**	**06 05 19.1**	**+1.6**
LKD2	**Lefkada island**	**1.01**	**176**	*e*PN		**Pb**	**06 05 16.3**	**+0.2**
LKD2				*e*SN		**Sn**	**06 05 30.9**	**+0.4**
LKD2	**Lefkada island**	**1.01**	**176**	*e*Pn		**Pb**	**06 05 16.3**	**+0.2**
LKD2				*e*Sn		**Sn**	**06 05 30.9**	**+0.4**
KZN	**Kozani**	**1.05**	**61**	*e*PN		**Pb**	**06 05 16.6**	**-0.1**
KZN				*e*SN		**Sb**	**06 05 29.7**	**-0.6**
KZN	**Kozani**	**1.05**	**61**	*e*Pn		**Pb**	**06 05 16.6**	**-0.1**
KZN				*e*Sn		**Sb**	**06 05 29.7**	**-0.6**
THL	**Klokotos Trika**	**1.13**	**101**	*e*PN		**Pb**	**06 05 17.3**	**-0.9**
THL				*e*SN		**Sb**	**06 05 32.8**	**+0.1**
THL	**Klokotos Trika**	**1.13**	**101**	*e*Pn		**Pb**	**06 05 17.3**	**-0.9**
THL				*e*Sn		**Sb**	**06 05 32.8**	**+0.1**
EVR	**Evrytania**	**1.30**	**132**	*e*PN		**Pb**	**06 05 20.4**	**-0.2**
EVR				*e*SN		**Sg**	**06 05 38.7**	**-0.1**
EVR	**Evrytania**	**1.30**	**132**	*e*Pn		**Pn**	**06 05 20.4**	**-0.2**
EVR				*e*Sn		**Sg**	**06 05 38.7**	**-0.1**
BIA	**Bitola**	**1.34**	**25**	*e*Pg		**Pn**	**06 05 20.8**	**-0.4**
BIA				*i* Sg		**Sg**	**06 05 40.7**	**+0.4**
BIA	**Bitola**	**1.34**	**25**	*e*Pg		**Pn**	**06 05 20.8**	**-0.4**
BIA				*i* Sg		**Sg**	**06 05 40.6**	**+0.4**
LIT	**Litokhoron**	**1.50**	**78**	*e*PN		**Pb**	**06 05 23.9**	**-0.5**
LIT				*e*SB		**Sb**	**06 05 43.8**	**+0.5**
LIT	**Litokhoron**	**1.50**	**78**	*e*Pn		**Pb**	**06 05 23.9**	**-0.5**
LIT				*e*Sb		**Sb**	**06 05 43.8**	**+0.5**
KRUS	**Krusevo**	**1.65**	**18**	*e*Pn		**Pb**	**06 05 27.4**	**+0.3**
KRUS	**Krusevo**	**1.65**	**18**	*e*Pn		**Pb**	**06 05 27.3**	**+0.3**
EFP	**Efpalio**	**1.72**	**143**	*e*PN		**Pb**	**06 05 27.8**	**-0.3**
EFP	**Efpalio**	**1.72**	**143**	*e*Pn		**Pb**	**06 05 27.8**	**-0.3**
BARS	**Barje**	**3.15**	**17**	*e*Pg		**Pn**	**06 05 48.0**	**+2.0**
BARS				*e*Sg		**Sn**	**06 06 26.1**	**+2.7**
BARS	**Barje**	**3.15**	**17**	*e*Pg		**Pn**	**06 05 48.0**	**+2.0**
BARS				*e*Sg		**Sn**	**06 06 26.1**	**+2.7**
VTS	**Vitosha**	**3.42**	**35**	*e*Sg		**Sn**	**06 06 31.1**	**+0.8**
VTS	**Vitosha**	**3.42**	**35**	*e*Sg		**Sn**	**06 06 31.1**	**+0.8**
STON	**Ston**	**3.76**	**326**	*e*Pn		**Pn**	**06 05 54.1**	**-0.2**
STON				Sn		**Sn**	**06 06 36.4**	**-1.8**
STON	**Ston**	**3.76**	**326**	*e*Pn		**Pn**	**06 05 54.0**	**-0.2**
STON				Sn		**Sn**	**06 06 36.4**	**-1.8**
ZAPS	**Zavoj**	**3.80**	**23**	*e*Pg		**Pb**	**06 06 00.9**	**-2.7**
ZAPS				*e*Sg		**Sn**	**06 06 42.1**	**+2.8**
NVLJ	**Novalja**	**6.37**	**320**	*i* Pn		**Pn**	**06 06 30.2**	**0.0**
NVLJ				Sn		**Sn**	**06 07 39.8**	**-2.9**
NVLJ	**Novalja**	**6.37**	**320**	*i* Pn		**Pn**	**06 06 30.2**	**0.0**
NVLJ				Sn		**Sn**	**06 07 39.7**	**-2.9**

IDC 19 06:12:21.2±2.2, 17°.08S×177°.47W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.5/4, Error ellipse: s-maj=135.6km s-min=29.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=97,slow=7.2,SNR=6.8	**45.67**	**259**	P	P	P	06 20 44.6	+0.5
ASAR	**Alice Springs** 0.2nm,0.5s,baz=91,slow=8.1,SNR=2.6	**45.88**	**253**	P	P	P	06 20 45.3	-0.6
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=218,slow=8.6,SNR=5.1	**84.80**	**57**	P	P	P	06 24 58.7	+0.6
ILAR	**Eielson Array** 0.2nm,0.4s,baz=212,slow=4.8,SNR=4.1	**84.88**	**13**	P	P	P	06 24 56.7	-0.8

IDC 19 06:14:01.1±2.8, 0°.16S×133°.19E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=143.2km s-min=27.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=11,SNR=8.3	**19.70**	**177**	P	P	P	06 18 32.4	+0.2
ASAR	**Alice Springs** 1.6nm,0.9s,baz=350,slow=10,SNR=9.0	**23.38**	**178**	P	P	P	06 19 11.4	-0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=108,slow=7.8,SNR=5.6	**64.44**	**324**	P	P	P	06 24 39.4	0.0

MEX 19 06:30:24.3±0.6, 16°.97N×95°.16W, h111km±7km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.29**	**66**	*i* P		Pn	06 30 38.9	-1.2
CMIG				*i* S		Sn	06 30 50.0	-1.9
HUIG	**Huatulco**	**1.51**	**218**	*e*P		Pn	06 30 49.1	-2.1
HUIG				*i* S		Sn	06 31 10.6	-1.1
VHO	**Vista Hermosa**	**1.51**	**274**	*i* P		Pn	06 30 50.5	-1.0
VHO				*e*S		Sn	06 31 10.4	-1.9
PCIG		**2.25**	**124**	*e*P		Pn	06 30 59.2	-1.3
PCIG				*e*S		Sn	06 31 27.0	-1.2
PNIG	**Pinotepa**	**2.91**	**259**	*e*P		Pn	06 31 06.2	-3.0
PNIG				*i* S		Sn	06 31 41.5	-2.2
CCIG	**Comitan**	**2.98**	**103**	*e*P		Pn	06 31 09.2	-1.0
CCIG				*e*S		Sn	06 31 43.2	-2.4

*NOU **19** 06:39:09.0±1.0, 19°.26S×170°.27E, h10km, MD3.3, ML4.1*
*IDC **19** 06:39:10.6±1.2, 22°.78S×170°.84E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/17, mbtmp4.2/8, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/33, Error ellipse: s-maj=50.8km s-min=23.2km az=164.0*
*ISCJB **19** 06:39:15.1±1.0, 22°.9S±0°.2×170°.77E±0°.08, h42km, mb4.1/7, Error ellipse: s-maj=35.1km s-min=10.1km az=6.1*

ISC 19 06:39:16.6±1.0, 22°.7S±0°.3×170°.82E±0°.10, h42km, n15, σ1§02/19, mb4.3/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.68**	**277**	*e*P		**Pn**	**06 40 10.5**	**-0.4**
DZM	**Mont Dzumac** 20nm,0.3s,baz=122,slow=20,SNR=164	**4.09**	**277**	Pn		**Pn**	**06 40 16.7**	**-0.1**
DZM	10nm,0.3s,baz=122,slow=23,SNR=7.2			Sn		**Sn**	**06 41 04.3**	**+0.8**
DZM	comp=Z,502nm,20.1s,baz=71,slow=31			LR		LR	06 41 20.2	
DZM	**Mont Dzumac**	**4.09**	**277**	*e*P		**Pn**	**06 40 15.5**	**-1.3**
DZM				*e*S		**Sn**	**06 41 03.8**	**+0.3**
DZM	comp=Z,672nm,0.0s			AMP			06 41 09.2	
NOUC	**Port Laguerre**	**4.22**	**277**	*e*P		**Pn**	**06 40 16.9**	**-1.5**
NOUC				*e*S		**Sn**	**06 41 07.2**	**+0.8**
NOUC	comp=Z,34nm,9.4s			AMP			06 41 09.2	
STKA	**Stephens Creek** comp=Z,1.4nm,0.7s,baz=79,slow=8.3,SNR=7.9	**27.48**	**244**	P		**P**	**06 44 59.1**	**+0.1**
STKA	**Stephens Creek** comp=Z,1.6nm,0.9s	**27.48**	**244**	*e*P		**P**	**06 44 59.5**	**+0.5**
ASAR	**Alice Springs** comp=Z,3.3nm,0.8s,baz=91,slow=8.9,SNR=37	**33.90**	**261**	P		**P**	**06 45 55.1**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=104,slow=7.9,SNR=14	**34.05**	**268**	P		**P**	**06 45 55.6**	**-1.5**
FITZ	**Fitzroy Crossi** comp=Z,5.8nm,0.6s,baz=131,slow=9.5,SNR=18	**42.48**	**268**	P		**P**	**06 47 07.9**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,10nm,0.6s	**42.48**	**268**	*e*P		**P**	**06 47 08.2**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.3s,baz=143,slow=3.7,SNR=6.1	**81.25**	**294**	P		**P**	**06 51 29.8**	**+1.1**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=226,slow=8.2,SNR=7.9	**89.97**	**48**	P		**P**	**06 52 12.2**	**+0.3**
SONM	**Songino Array** comp=Z,1.4nm,1.0s,baz=123,slow=4.1,SNR=5.0	**90.83**	**323**	P		**P**	**06 52 16.2**	**+0.7**
GERES	**GERESS Array B** comp=Z,1.0nm,0.6s,baz=54,slow=2.3,SNR=6.7	**148.19**	**331**	PKPbc		**PKPab**	**06 58 58.5**	**-2.5**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=211,slow=1.4,SNR=2.4	**165.99**	**229**	PKP		**PKPdf**	**06 59 18.5**	**+0.6**
TORD	comp=Z,1.0nm,0.9s,baz=126,slow=4.9,SNR=3.4			PKPab		**PKPab**	**07 00 17.4**	**-0.5**

IDC 19 06:47:04.3±0.0, 16°.74S×176°.35W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=930.7km s-min=168.2km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.8nm,0.4s,baz=91,slow=8.7,SNR=5.6	**40.91**	**240**	P	P	P	06 54 49.2	+0.6
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=96,slow=8.3,SNR=7.8	**46.78**	**258**	P	P	P	06 55 35.4	-0.6
ASAR	**Alice Springs** 2.9nm,0.6s,baz=88,slow=8.3,SNR=45	**47.00**	**253**	P	P	P	06 55 37.5	-0.3

IDC 19 06:54:22.1±1.2, 0°.37S×132°.25E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=65.8km s-min=20.0km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=18,slow=13,SNR=3.2	**18.78**	**200**	P	P	P	06 58 41.2	-1.9
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=352,slow=11,SNR=12	**19.56**	**174**	P	P	P	06 58 52.0	+0.3
ASAR	**Alice Springs** 3.4nm,0.8s,baz=349,slow=9.5,SNR=28	**23.21**	**176**	P	P	P	06 59 31.7	+0.7
SONM	**Songino Array** 0.5nm,0.6s,baz=155,slow=7.2,SNR=3.7	**53.02**	**338**	P	P	P	07 03 41.0	0.0
MKAR	**Makanchi Array** 1.2nm,0.6s,baz=116,slow=8.1,SNR=21	**64.07**	**324**	P	P	P	07 04 58.4	+0.4
ILAR	**Eielson Array** 0.3nm,0.8s,baz=242,slow=7.9,SNR=4.0	**86.43**	**25**	P	P	P	07 07 05.4	-1.0

IDC 19 06:58:29.8±3.0, 0°.02S×133°.15E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/18, Error ellipse: s-maj=154.2km s-min=27.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**177**	P	P	P	07 03 02.8	+0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=3.5							
ASAR	**Alice Springs** 1.0nm,0.8s,baz=349,slow=8.7,SNR=6.7	**23.52**	**178**	P	P	P	07 03 41.5	-0.3
ASAJ	**Asahikawa** comp=Z,225nm,20.7s,baz=17,slow=34	**44.74**	**10**	LR	LR		07 24 11.1	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=111,slow=7.7,SNR=5.4	**64.31**	**324**	P	P	P	07 09 07.3	0.0

IDC 19 07:10:13.8±4.2, 0°.46S×133°.84E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=224.0km s-min=28.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=358,slow=11,SNR=4.7	**19.37**	**179**	P	P	P	07 14 41.3	-0.1
ASAR	**Alice Springs** 0.6nm,0.4s,baz=355,slow=12,SNR=6.7	**23.07**	**180**	P	P	P	07 15 21.4	+0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=107,slow=8.9,SNR=4.1	**65.07**	**324**	P	P	P	07 20 56.2	-0.1

*DJA **19** 07:18:09, 2°.59S×134°.77E, h2km, MLv4.5/4*
IDC 19 07:18:08.7±1.9, 2°.12S×135°.02E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=78.3km s-min=23.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=2.6,slow=12,SNR=34	**17.72**	**182**	P	Pn	Pn	07 22 16.2	-0.8
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=44,slow=11,SNR=8.1	**18.36**	**209**	P	Pn	Pn	07 22 22.7	-2.1
ASAR	**Alice Springs** 2.2nm,0.6s,baz=5.8,slow=12,SNR=21	**21.44**	**183**	P	P	P	07 22 59.1	+0.4
STKA	**Stephens Creek** 1.4nm,0.9s,baz=0.0,slow=9.1,SNR=3.1	**30.24**	**169**	P	P	P	07 24 21.7	+0.5
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=114,slow=7.8,SNR=20	**67.11**	**324**	P	P	P	07 29 04.4	+0.2

IDC 19 07:26:13.1±3.9, 1°.76S×135°.88E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/14, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=179.6km s-min=29.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=2.7,slow=12,SNR=4.6	**18.13**	**185**	P	P	P	07 30 26.9	-0.2
ASAR	**Alice Springs** 0.6nm,0.7s,baz=5.8,slow=11,SNR=6.2	**21.86**	**185**	P	P	P	07 31 06.9	-0.7
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=117,slow=7.7,SNR=4.1	**67.33**	**323**	P	P	P	07 37 10.4	+0.3

IDC 19 07:29:00.4±5.1, 1°.66S×138°.89E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=211.7km s-min=28.0km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=15,slow=11,SNR=9.7	**18.70**	**193**	P	Pn	Pn	07 33 21.4	+0.5
ASAR	**Alice Springs** 0.3nm,0.4s,baz=22,slow=10,SNR=6.7	**22.40**	**192**	P	P	P	07 34 00.2	-0.5
MKAR	**Makanchi Array** 0.4nm,1.0s,baz=125,slow=7.2,SNR=3.4	**69.07**	**322**	P	P	P	07 40 08.3	0.0

IDC 19 07:37:52.1±3.1, 29°.20S×177°.89W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/17, mbmp4.3/5, MS4.1/3, Ms1 4.1/3, ms1mx3.3/27, Error ellipse: s-maj=80.7km s-min=34.5km az=37.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 7.7nm,1.0s,baz=91,slow=14,SNR=4.4	**33.72**	**277**	P	P	P	07 44 36.9	+1.5
STKA	**Stephens Creek** 1.8nm,0.4s,baz=101,slow=9.1,SNR=16	**34.86**	**255**	P	P	P	07 44 44.9	-0.3
ASAR	**Alice Springs** 0.7nm,0.4s,baz=105,slow=6.9,SNR=14	**43.28**	**266**	P	P	P	07 45 54.8	-1.0
WRA	**Warramunga Arr** 3.1nm,0.5s,baz=111,slow=7.8,SNR=31	**44.16**	**271**	P	P	P	07 46 02.5	-0.4
QSPA	**South Pole Stat** 0.9nm,0.2s,baz=125,slow=5.3,SNR=5.1	**60.31**	**180**	P	P	P	07 48 06.7	+0.2
JOW	**Kunigami** comp=Z,89nm,18.1s,baz=57,slow=32	**75.93**	**312**	LR	LR		08 18 51.9	
FX1	**Attu Island--F** comp=Z,80nm,18.2s,baz=57,slow=33	**82.11**	**355**	LR	LR		08 23 15.7	
KDAK	**Kodiak Island** comp=Z,130nm,18.5s,baz=308,slow=34	**89.22**	**13**	LR	LR		08 27 55.6	
FINES	**FINESS Array B** 2.0nm,0.5s,baz=67,slow=5.0,SNR=7.5	**144.05**	**341**	PKP	PKPdf		07 57 28.0	-1.0

IDC 19 07:41:03.5±2.4, 0°.56S×133°.35E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=98.6km s-min=24.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=45,slow=14,SNR=4.2	**19.01**	**203**	P	Pn	Pn	07 45 28.1	+0.4
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=11,SNR=4.2	**19.29**	**177**	P	P	P	07 45 29.8	-0.4
ASAR	**Alice Springs** 0.6nm,0.3s,baz=357,slow=11,SNR=9.3	**22.98**	**179**	P	P	P	07 46 09.7	-0.3
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=126,slow=7.3,SNR=3.2	**64.86**	**324**	P	P	P	07 51 44.5	-0.1

*IDC **19** 08:03:06.0±0.9, 22°.24S×170°.79E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML4.1/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/28, Error ellipse: s-maj=29.3km s-min=19.9km az=156.0*
*ISCJB **19** 08:03:09.7±1.5, 22°.3S±0°.1×170°.73E±0°.06, h35km±12km, mb4.2/12, MS4.1/4, Error ellipse: s-maj=21.2km s-min=8.9km az=170.5*
*NEIC **19** 08:03:11.5±0.5, 22°.28S×170°.75E, h35km, mb4.3/4, Error ellipse: s-maj=15.5km s-min=8.6km az=159.0*
*NOU **19** 08:03:11.6±1.4, 19°.84S×170°.00E, h10km, MD3.3, ML3.0, MS2.9*

ISC 19 08:03:12.0±0.7, 22°.3S±0°.1×170°.72E±0°.08, h38km±2km, n54, σ0§98/55, mb4.3/12, MS4.1/4, 2C-1D, Southeast of Loyalty Islands

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

RPZ	**Rata Peaks**	**21.39**	**179**	P	**P**	**08 07 56.6**	**+0.3**
	comp=Z,17nm,0.7s,baz=312,slow=9.6,SNR=4.8						
RPZ				LR	LR	08 14 09.1	
	comp=Z,426nm,20.2s,baz=9.9,slow=31						
RPZ	**Rata Peaks**	**21.39**	**179**	P	**P**	**08 07 56.6**	**+0.3**
PMG	**Port Moresby**	**25.98**	**296**	P	**P**	**08 08 40.7**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=198,slow=20,SNR=2.2						
PMG	**Port Moresby**	**25.98**	**296**	*e*P	**P**	**08 08 41.5**	**+0.2**
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**27.57**	**243**	P	**P**	**08 08 55.2**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=86,slow=10.0,SNR=8.2						
STKA				LR	LR	08 19 02.3	
	comp=Z,186nm,20.7s,baz=217,slow=35						
STKA	**Stephens Creek**	**27.57**	**243**	*e*P	**P**	**08 08 55.7**	**+0.1**
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**27.57**	**243**	*e*P	**P**	**08 08 55.8**	**+0.1**
	comp=Z,1.5nm,1.2s						
AS31	**Alice Springs**	**33.87**	**260**	*e*P	**P**	**08 09 51.3**	**0.0**
ASAR	**Alice Springs**	**33.87**	**260**	P	**P**	**08 09 51.0**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=90,slow=9.1,SNR=32						
ASAR	**Alice Springs**	**33.87**	**260**	P	**P**	**08 09 51.0**	**-0.3**
WB2	**Warramunga Arr**	**33.96**	**267**	*e*P	**P**	**08 09 51.3**	**-0.8**
WRAB	**Tennant Creek**	**33.96**	**267**	*e*P	**P**	**08 09 52.4**	**+0.2**
	comp=Z,3.9nm,1.1s						
WRA	**Warramunga Arr**	**33.97**	**267**	P	**P**	**08 09 51.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=98,slow=8.2,SNR=9.9						
WRA	**Warramunga Arr**	**33.97**	**267**	P	**P**	**08 09 51.2**	**-1.1**
TBI	**Tubuai**	**36.64**	**100**	*e*LR	LR	08 20 18.6	
	comp=Z,140nm,26.5s						
PPT2	**Papeete2**	**37.54**	**90**	*e*LR	LR	08 20 44.5	
	comp=Z,129nm,24.5s						
FITZ	**Fitzroy Crossi**	**42.40**	**267**	*e*P	**P**	**08 11 03.6**	**+0.4**
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.40**	**267**	*e*P	**P**	**08 11 03.6**	**+0.4**
	comp=Z,5.9nm,0.8s						
PETK	**Petropavlovsk-**	**75.91**	**352**	P	**P**	**08 14 55.4**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=150,slow=6.0,SNR=3.9						
PETK	**Petropavlovsk-**	**75.91**	**352**	P	**P**	**08 14 55.4**	**+1.0**
MAW	**Mawson**	**76.16**	**202**	LR	LR	08 46 19.9	
	comp=Z,146nm,18.4s,baz=41,slow=34						
CMAR	**Chiang Mai Arr**	**81.01**	**294**	P	**P**	**08 15 24.8**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=143,slow=3.9,SNR=9.3						
CMAR	**Chiang Mai Arr**	**81.01**	**294**	P	**P**	**08 15 24.8**	**+1.5**
NVAR	**Mina Array Bea**	**89.78**	**48**	P	**P**	**08 16 06.0**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=224,slow=9.5,SNR=9.4						
NVAR				LR	LR	08 46 17.5	
	comp=Z,184nm,20.7s,baz=3.0,slow=29						
NVAR	**Mina Array Bea**	**89.78**	**48**	P	**P**	**08 16 06.0**	**-1.0**
SONM	**Songino Array**	**90.47**	**323**	P	**P**	**08 16 09.1**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=131,slow=4.2,SNR=14						
SONM	**Songino Array**	**90.47**	**323**	P	**P**	**08 16 09.1**	**-0.6**
ILAR	**Eielson Array**	**92.71**	**17**	P	**P**	**08 16 18.2**	**-1.4**
	comp=Z,0.3nm,1.0s,baz=268,slow=5.4,SNR=3.4						
ILAR	**Eielson Array**	**92.71**	**17**	P	**P**	**08 16 18.2**	**-1.4**
ARCES	**ARCESS Array B**	**128.34**	**345**	PKP	**PKPdf**	**08 22 13.0**	**-0.8**
	comp=Z,4.1nm,1.0s,baz=87,slow=0.7,SNR=8.3						
ARCES	**ARCESS Array B**	**128.34**	**345**	PKP	**PKPdf**	**08 22 13.0**	**-0.8**
KOLS	**Kolonicke sedl**	**143.50**	**325**	*e*PKP	**PKPdf**	**08 22 44.3**	**+1.8**
DPC	**Dobruska-Polom**	**145.54**	**331**	*e*PKP	**PKPab**	**08 22 47.2**	**+0.7**
UPC	**Upice**	**145.57**	**331**	*e*PKP	**PKPab**	**08 22 47.5**	**+1.0**
VYHS	**Vyhne**	**145.57**	**326**	*e*PKP	**PKPab**	**08 22 46.6**	**0.0**
CLL	**Collm**	**146.24**	**335**	*i* PKPbc	**PKPab**	**08 22 48.8**	**-0.2**
	comp=Z,8.0nm,0.9s						
CLL				*i* PKiKP	**PKiKP**	**08 22 52.7**	**+1.3**
PRU	**Pruhonice**	**146.59**	**332**	*e*PKP	**PKPab**	**08 22 49.6**	**-0.8**
KHC	**Kasperske Hory**	**147.65**	**332**	*e*PKP	**PKPbc**	**08 22 53.0**	**+0.6**
GERES	**GERESS Array B**	**147.81**	**331**	PKPbc	**PKPbc**	**08 22 53.1**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=56,slow=3.4,SNR=11						
GERES	**GERESS Array B**	**147.81**	**331**	PKPbc	**PKPbc**	**08 22 53.1**	**+0.2**
WTTA	**Wattenberg**	**149.91**	**331**	*i* PKiKP	**PKPbc**	**08 22 59.1**	**+0.7**
WTTA	**Wattenberg**	**149.91**	**331**	*i* PKiKP	**PKPbc**	**08 22 59.1**	**+0.7**
	comp=Z,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**166.16**	**231**	PKP	**PKPdf**	**08 23 12.7**	**-1.3**
	comp=Z,1.2nm,1.0s,baz=101,slow=0.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**166.16**	**231**	PKP	**PKPdf**	**08 23 12.7**	**-1.3**

JMA 19 08:06:45.4±0.6, 44°29N×148°40E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.13**	**245**	P	Pn	08 07 23.2	+1.0
NEM2				*e*S	Sb	08 07 50.9	-1.0
JRA	**Rausu**	**2.39**	**263**	P	Pn	08 07 26.6	+0.9
JNK	**Nakash**	**2.75**	**256**	P	Pn	08 07 31.1	+0.3
JAK	**Akkeshi**	**2.98**	**246**	P	Pn	08 07 34.6	+0.7
JAR	**Ashorobuto**	**3.50**	**255**	P	Pn	08 07 42.4	+1.4
JCH	**Churui**	**4.03**	**247**	P	Pn	08 07 49.6	+1.2
JCH				*e*S	Sn	08 08 37.5	+1.2
JNBK	**Urakawa-nobuka**	**4.59**	**246**	P	Pn	08 07 58.5	+2.5

CSEM 19 08:09:04.5±1.2, 37.78N×35.88E, h10km, ML1.7, Error ellipse: s-maj=24.1km s-min=12.2km az=179.0
DDA 19 08:09:04.8, 37.51N×35.93E, h7km, MD2.8
ISK 19 08:09:09.2, 37.51N×35.68E, h3km, ML1.7
ISC 19 08:09:02.5±2.7, 37.8N±0.1×35.90E±0.04, h12km±12km, n11, σ1°21/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.37**	**189**	*e*PG	**Pb**	**08 09 12.1**	**+1.1**
KOZT				*e*SG	**Sg**	**08 09 14.5**	**-0.3**
KOZT	**Kozan**	**0.37**	**189**	*e*Pg	**Pb**	**08 09 12.1**	**+1.1**
KOZT				*e*Sg	**Sg**	**08 09 14.5**	**-0.3**
ANDN	**Andirin**	**0.44**	**127**	*i* P	**Pb**	**08 09 11.5**	**-0.8**
ANDN				*i* S	**Sb**	**08 09 20.2**	**+1.3**
ANDN	**Andirin**	**0.44**	**127**	*i* P	**Pb**	**08 09 11.5**	**-0.8**
ANDN				*i* S	**Sb**	**08 09 20.2**	**+1.3**
CEYT	**Ceyhan**	**0.84**	**188**	*e*PG	**Pb**	**08 09 19.2**	**+0.2**
CEYT				*e*SG	**Sg**	**08 09 27.6**	**-2.2**
CEYT	**Ceyhan**	**0.84**	**188**	*e*Pg	**Pb**	**08 09 19.2**	**+0.2**
CEYT				*e*Sg	**Sg**	**08 09 27.6**	**-2.2**
KMRS	**Kahramanmaras**	**0.86**	**113**	*e*PG	Pn	08 09 29.2	+8.7
GULE	**Gulek**	**1.05**	**238**	*i* P	**Pb**	**08 09 23.1**	**+0.3**
GULE				*i* S	**Sb**	**08 09 35.5**	**-1.1**
GULE	**Gulek**	**1.05**	**238**	*i* P	**Pb**	**08 09 23.1**	**+0.3**
GULE				*i* S	**Sb**	**08 09 35.5**	**-1.1**
MERS	**Mersin**	**1.47**	**229**	*e*PN	**Pg**	**08 09 31.9**	**+1.2**
MERS				*e*SN	**Sn**	**08 09 47.4**	**-0.6**
MERS	**Mersin**	**1.47**	**229**	*e*Pn	**Pg**	**08 09 32.0**	**+1.2**
MERS				*e*Sn	**Sn**	**08 09 47.4**	**-0.6**

ISCJB 19 08:27:17.2±0.6, 38°36N±0.04×21°96E±0.04, h11km±4km, Error ellipse: s-maj=6.4km s-min=5.3km az=163.4
CSEM 19 08:27:17.0±0.1, 38°37N×21°97E, h10km, ML1.6/3, Error ellipse: s-maj=3.9km s-min=3.4km az=169.0
ATH 19 08:27:17.2, 38°35N×21°97E, h10km±8km, MD2.5/5
THE 19 08:27:17.4, 38°37N×21°95E, h10km±1km, ML1.6/3, Error ellipse: s-maj=1.4km s-min=0.6km az=289.0
ISC 19 08:27:17.5±1.2, 38°37N±0.03×21°96E±0.02, h9km±6km, n19, σ0°50/34, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.07**	**323**	P	**Pg**	**08 27 19.4**	**-0.2**
EFP				S	**Sg**	**08 27 21.1**	**-0.1**
EFP	**Efpalio**	**0.07**	**323**	*e*PG	**Pg**	**08 27 19.5**	**-0.2**
EFP				*e*SG	**Sg**	**08 27 21.0**	**-0.1**
EFP	**Efpalio**	**0.07**	**323**	*e*Pg	**Pg**	**08 27 19.5**	**-0.2**
EFP				*e*Sg	**Sg**	**08 27 21.0**	**-0.1**
TRIZ	**Trizonia**	**0.09**	**93**	P	**Pg**	**08 27 19.8**	**-0.1**
TRIZ				S	**Sg**	**08 27 21.7**	**+0.2**
TRIZ	**Trizonia**	**0.09**	**93**	P	**Pg**	**08 27 19.8**	**-0.1**
TRIZ				S	**Sg**	**08 27 21.7**	**+0.2**
LAKA	**Lakka**	**0.13**	**173**	P	**Pg**	**08 27 20.8**	**+0.3**
LAKA				S	**Sg**	**08 27 22.6**	**0.0**
LAKA	**Lakka**	**0.13**	**173**	P	**Pg**	**08 27 20.8**	**+0.3**
LAKA				S	**Sg**	**08 27 22.6**	**0.0**
KALE	**Kalithea**	**0.14**	**82**	P	**Pg**	**08 27 20.8**	**+0.1**
KALE				S	**Sg**	**08 27 23.4**	**+0.4**
KALE	**Kalithea**	**0.14**	**82**	P	**Pg**	**08 27 20.8**	**+0.1**
KALE				S	**Sg**	**08 27 23.4**	**+0.4**
UPR	**University Cam**	**0.16**	**237**	*e*PG	**Pg**	**08 27 20.0**	**-1.0**
UPR				*e*SG	**Sg**	**08 27 24.3**	**+1.0**
UPR	**University Cam**	**0.16**	**237**	*e*Pg	**Pg**	**08 27 20.0**	**-1.0**
UPR				*e*Sg	**Sg**	**08 27 24.3**	**+1.0**
DSF	**Desfina**	**0.45**	**85**	P	**Pg**	**08 27 25.8**	**-0.5**
DSF				S	**Sg**	**08 27 32.9**	**+0.7**
DSF	**Desfina**	**0.45**	**85**	P	**Pg**	**08 27 25.8**	**-0.5**
DSF				S	**Sg**	**08 27 32.9**	**+0.7**
RLS	**Riolos of Patr**	**0.50**	**231**	*e*PB	**Pg**	**08 27 27.6**	**+0.4**
RLS	**Riolos of Patr**	**0.50**	**231**	*e*Pb	**Pg**	**08 27 27.6**	**+0.4**
GUR	**Goura**	**0.53**	**145**	*e*PB	**Pg**	**08 27 27.0**	**-0.8**
GUR	**Goura**	**0.53**	**145**	*e*Pb	**Pg**	**08 27 27.0**	**-0.8**
EVR	**Evrytania**	**0.56**	**348**	*e*PB	**Pg**	**08 27 28.4**	**0.0**
EVR				*e*SB	**Sb**	**08 27 37.4**	**-0.2**
EVR	**Evrytania**	**0.56**	**348**	*e*Pb	**Pg**	**08 27 28.4**	**0.0**
EVR				*e*Sb	**Sb**	**08 27 37.4**	**-0.2**

IDC 19 08:38:30.2±0.7, 57.94S×25.53W, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.3/13, mbtmp4.4/7, Error ellipse: s-maj=27.2km s-min=23.4km az=71.0
ISCJB 19 08:38:35.7±0.6, 57.91S±0.10×25.7W±0.3, h49km, mb4.6/9, Error ellipse: s-maj=24.9km s-min=9.1km az=153.5
NEIC 19 08:38:35.8±0.3, 57.86S×25.61W, h35km, mb4.4/4, Error ellipse: s-maj=17.8km s-min=11.2km az=62.0
ISC 19 08:38:37.0±0.5, 58.0S±0.1×25.5W±0.2, h49km, n48, σ0°90/57, mb4.5/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.61**	**157**	*e*	**P**	**08 42 02.7**	**-3.0**
VNA3	**Neumayer Olymp**	**14.81**	**160**	*e*	**P**	**08 42 04.9**	**-3.0**
VNA2	**Neumayer--Watz**	**15.01**	**157**	*e*	**Pn**	**08 42 06.6**	**+1.0**
	baz=314,slow=11						
SNAA	**Sanae**	**16.55**	**155**	*e*	**P**	**08 42 26.4**	**-0.9**
QSPA	**South Pole Qui**	**32.21**	**180**	P	**P**	**08 45 02.5**	**+2.3**
	1.1nm,0.3s,baz=320,slow=1.8,SNR=5.5						
QSPA	**South Pole Qui**	**32.21**	**180**	*e*P	**P**	**08 45 02.1**	**+2.0**
	4.2nm,1.0s						
PLCA	**Paso Flores**	**33.26**	**281**	P	**P**	**08 45 09.3**	**-0.1**
	1.5nm,0.5s,baz=132,slow=6.0,SNR=6.5						
PLCA	**Paso Flores**	**33.26**	**281**	*e*P	**P**	**08 45 09.3**	**-0.1**
	5.6nm,1.1s						
BDFB	**Brasilia**	**45.54**	**329**	P	**P**	**08 46 52.3**	**+0.5**
	2.2nm,0.4s,baz=100,slow=6.8,SNR=4.7						
BDFB	**Brasilia**	**45.54**	**329**	P	**P**	**08 46 52.3**	**+0.5**
CASY	**Casey**	**51.73**	**159**	*e*P	P	08 47 42.7	+4.1
	76nm,0.6s						
LPAZ	**La Paz**	**52.26**	**305**	P	**P**	**08 47 42.8**	**-1.1**
	2.0nm,0.4s,baz=103,slow=6.6,SNR=20						
LPAZ	**La Paz**	**52.26**	**305**	*e*P	**P**	**08 47 42.9**	**-1.0**
	2.2nm,0.4s						
SAML	**Samuel**	**56.84**	**314**	*e*P	**P**	**08 48 15.2**	**-1.1**
	5.8nm,0.4s						
DBIC	**Dimbokro**	**66.63**	**22**	P	**P**	**08 49 22.3**	**+0.1**
	3.1nm,0.3s,baz=159,slow=7.7,SNR=10						
DBIC	**Dimbokro**	**66.63**	**22**	P	**P**	**08 49 22.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**74.37**	**28**	P	P	**08 50 09.4**	**+0.1**
	2.6nm,0.4s,baz=199,slow=6.4,SNR=42						
TORD	**Torodi Ar. Bea**	**74.37**	**28**	P	**P**	**08 50 09.4**	**+0.1**
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**08 52 02.3**	**-0.2**
	0.9nm,0.8s,baz=185,slow=4.3,SNR=13						
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**08 52 02.3**	**-0.2**
WB2	**Warramunga Arr**	**100.53**	**161**	*e*P	**Pdif**	**08 52 19.8**	**+0.7**
PDAR	**Pinedale Array**	**122.15**	**300**	PKP	**PKPdf**	**08 57 24.6**	**-0.9**
	0.6nm,0.5s,baz=119,slow=5.3,SNR=13						
PDAR	**Pinedale Array**	**122.15**	**300**	PKP	**PKPdf**	**08 57 24.6**	**-0.9**
NVAR	**Mina Array Bea**	**122.98**	**291**	PKP	**PKPdf**	**08 57 28.2**	**+1.0**
	0.7nm,0.6s,baz=125,slow=3.0,SNR=7.2						
NVAR	**Mina Array Bea**	**122.98**	**291**	PKP	**PKPdf**	**08 57 28.2**	**+1.0**
LOHW	**Long Hollow**	**123.29**	**300**	*e*PKPdf	**PKPdf**	**08 57 27.6**	**-0.1**
FINES	**FINESS Array B**	**125.72**	**28**	PKP	**PKPdf**	**08 57 31.1**	**-0.2**
	1.7nm,0.5s,baz=132,slow=2.8,SNR=9.5						
FINES	**FINESS Array B**	**125.72**	**28**	PKP	**PKPdf**	**08 57 31.1**	**-0.2**
ARCES	**ARCESS Array B**	**132.46**	**22**	PKP	**PKPdf**	**08 57 43.6**	**-0.4**
	2.8nm,0.8s,baz=214,slow=0.9,SNR=6.2						
ARCES	**ARCESS Array B**	**132.46**	**22**	PKP	**PKPdf**	**08 57 43.6**	**-0.4**
MKAR	**Makanchi Array**	**136.65**	**72**	PKP	**PKPdf**	**08 57 53.5**	**+0.9**
YKA	**Yellowknife Ar**	**138.24**	**316**	PKPabPKP	PKPpre	08 57 44.8	
	0.2nm,0.5s,baz=120,slow=2.8,SNR=8.6						
YKA				PKP	**PKPdf**	**08 57 54.9**	**-0.1**
	0.9nm,0.3s,baz=129,slow=2.1,SNR=28						
YKA	**Yellowknife Ar**	**138.24**	**316**	PKP	**PKPdf**	**08 57 54.9**	**-0.1**
INK	**Inuvik**	**147.90**	**318**	*e*PKPdf	**PKPdf**	**08 58 12.1**	**+0.3**
INK				*e*PKPbc	**PKPbc**	**08 58 14.6**	**-0.3**
INK				*e*PKPab	**PKPab**	**08 58 17.9**	**+0.3**
DAWY	**Dawson**	**148.77**	**309**	*e*PKPbc	**PKPbc**	**08 58 17.1**	**-0.3**
EGAK	**Eagle**	**149.73**	**310**	*e*PKPdf	**PKPdf**	**08 58 15.7**	**+0.8**
EGAK				*e*PKPbc	**PKPbc**	**08 58 19.4**	**-0.3**
EGAK				*e*PKPab	**PKPab**	**08 58 26.2**	**+1.0**
SONM	**Songino Array**	**149.91**	**89**	PKPbc	**PKPbc**	**08 58 20.8**	**0.0**
	3.1nm,0.5s,baz=223,slow=3.6,SNR=23						
SONM	**Songino Array**	**149.91**	**89**	PKPbc	**PKPbc**	**08 58 20.8**	**0.0**
MENT	**Mentasta**	**150.22**	**306**	*e*PKPdf	**PKPdf**	**08 58 15.5**	**-0.3**
MENT				*e*PKPbc	**PKiKP**	**08 58 21.5**	**-0.3**
MENT				*e*PKPab	**PKPab**	**08 58 26.6**	**-0.8**
DOT	**Dot Lake**	**150.59**	**307**	*e*PKPbc	**PKPbc**	**08 58 22.4**	**+0.6**
PAX	**Paxson**	**150.99**	**305**	*e*PKPdf	**PKPdf**	**08 58 18.0**	**+0.9**
PAX				*e*PKPbc	**PKPbc**	**08 58 23.0**	**+0.1**
PAX				*e*PKPab	**PKPab**	**08 58 30.7**	**+0.1**
SML	**Sawmill**	**151.89**	**302**	*e*PKPbc	**PKPbc**	**08 58 24.8**	**-0.1**
ILAR	**Eielson Array**	**152.09**	**309**	PKPbc	**PKPbc**	**08 58 25.0**	**-0.2**
	5.7nm,0.5s,baz=137,slow=3.6,SNR=154						
ILAR	**Eielson Array**	**152.09**	**309**	PKPbc	**PKPbc**	**08 58 25.0**	**-0.2**
COLA	**College**	**152.52**	**309**	*e*PKPbc	**PKPbc**	**08 58 25.6**	**-0.5**
COLD	**Coldfoot**	**153.87**	**313**	*e*PKPdf	**PKPdf**	**08 58 21.2**	**+0.2**
COLD				*e*PKPbc	**PKiKP**	**08 58 29.4**	**+0.3**
COLD				*e*PKPab	**PKPab**	**08 58 42.8**	**+0.2**
PPLA	**Purkeypile**	**153.92**	**303**	*e*PKPbc	**PKPbc**	**08 58 29.6**	**+0.1**

IDC 19 08:53:55.0±3.8, 11.98S×15.38W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/20, mbtmp4.0/6, Error ellipse: s-maj=208.0km s-min=79.9km az=125.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**21.28**	**30**	P	P	08 58 43.8	+0.5
	5.1nm,0.9s,baz=204,slow=12,SNR=4.9						
TORD	**Torodi Ar. Bea**	**30.17**	**35**	P	P	09 00 06.7	-0.5
	1.1nm,0.8s,baz=218,slow=8.8,SNR=5.0						
BRTR	**Keskin Array B**	**68.68**	**39**	P	P	09 05 00.7	+0.1
	1.1nm,0.9s,baz=255,slow=4.3,SNR=4.7						
AKASG	**Malin Array Be**	**73.51**	**28**	P	P	09 05 29.1	-0.3
	0.3nm,0.3s,baz=222,slow=7.2,SNR=5.1						
FINES	**FINESS Array B**	**80.12**	**19**	P	P	09 06 07.2	+0.6
	1.5nm,0.8s,baz=224,slow=3.8,SNR=3.7						
AKTO	**Aktyubinsk**	**88.84**	**38**	P	P	09 06 50.8	-0.2
	1.4nm,0.8s,baz=244,slow=6.0,SNR=3.9						

NEIC 19 09:11:33.6±0.9, 38.95S×15.76W, h10km, mb4.5/4, Error ellipse: s-maj=54.9km s-min=14.6km az=157.0, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIS	**Tristan da Cun**	**3.31**	**57**	*e*Pn	Pn	09 12 23.5	-1.9
TRIS				*e*Sn	Sn	09 13 05.3	+0.6
EFI	**East Falkland**	**31.90**	**232**	P	P	09 17 58.5	-0.4
TSUM	**Tsumeb**	**34.89**	**65**	*e*P	P	09 18 27.3	+1.8
	17nm,1.2s						
TRQA	**Tornquist**	**35.88**	**257**	P	P	09 18 32.7	-1.1
	1.1nm,1.0s						
LSZ	**Lusaka**	**45.11**	**71**	P	P	09 19 50.8	+0.3
	4.0nm,0.9s						
SAML	**Samuel**	**51.83**	**292**	P	P	09 20 42.9	+0.9
	19nm,1.7s						
TNA	**Tin City**	**148.89**	**338**	*e*PKPdf	PKPbc	09 31 19.8	-0.7
BILL	**Bilibino**	**150.83**	**358**	*e*PKPdf	PKPdf	09 31 19.9	+0.4
BILL				*e*PKPbc	PKiKP	09 31 26.6	+0.8

IDC 19 09:13:06.6±1.1, 22.67S×170.99E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.3/21, mbtmp4.4/12, ML4.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=30.1km s-min=23.8km az=178.0
ISCJB 19 09:13:11.9±0.8, 22.6S±0.1×170.76E±0.07, h42km, mb4.3/13, MS3.5/1, Error ellipse: s-maj=20.9km s-min=8.1km az=9.7
NEIC 19 09:13:12.0±0.7, 22.65S×170.91E, h35km, mb4.4/4, Error ellipse: s-maj=16.8km s-min=12.6km az=167.0
ISC 19 09:13:13.4±0.8, 22.6S±0.2×170.83E±0.08, h42km, n40, σ1°09/42, mb4.3/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.67**	**276**	*e*S	**Sn**	**09 14 47.8**	**-2.0**
DZM	**Mont Dzumac**	**4.09**	**276**	Pn	**Pn**	**09 14 13.7**	**+0.1**
	16nm,0.3s,baz=150,slow=18,SNR=19						
DZM				Sn	**Sn**	**09 15 00.1**	**-0.1**
	31nm,0.3s,baz=120,slow=20,SNR=12						
DZM	**Mont Dzumac**	**4.09**	**276**	Pn	**Pn**	**09 14 13.7**	**+0.1**
DZM				Sn	**Sn**	**09 15 00.1**	**-0.1**
NOUC	**Port Laguerre**	**4.22**	**276**	*e*P	**Pn**	**09 14 13.5**	**-1.6**
NOUC				*e*S	**Sn**	**09 15 02.6**	**-0.5**
HNR	**Honiara**	**16.74**	**320**	LR	LR	09 22 36.1	
	comp=Z,120nm,18.5s,baz=144,slow=34						
ARMA	**Armidale**	**18.85**	**242**	*e*P	**Pn**	**09 17 34.2**	**+3.3**
ARMA	**Armidale**	**18.85**	**242**	*e*P	**P**	**09 17 29.7**	**-0.4**
	8.3nm,0.9s						
CAN	**Canberra**	**22.87**	**231**	*e*P	P	**09 18 13.1**	**-0.2**
	7.8nm,0.9s						
CTA	**Charters Tower**	**23.02**	**272**	P	P	**09 18 14.8**	**-0.1**
	5.9nm,0.9s,baz=94,slow=9.3,SNR=5.1						
CTA	**Charters Tower**	**23.02**	**272**	P	**P**	**09 18 14.8**	**-0.1**
CTAO	**Charters Tower**	**23.02**	**272**	P	**P**	**09 18 14.8**	**-0.1**
	31nm,1.5s						
PMG	**Port Moresby**	**26.20**	**296**	P	**P**	**09 18 44.4**	**0.0**
	5.7nm,0.8s,baz=360,slow=3.0,SNR=3.7						
PMG	**Port Moresby**	**26.20**	**296**	P	**P**	**09 18 44.4**	**0.0**
STKA	**Stephens Creek**	**27.52**	**244**	P	**P**	**09 18 57.2**	**+1.1**
	3.2nm,0.7s,baz=87,slow=9.7,SNR=11						
STKA				LR	LR	09 28 05.3	
	comp=Z,111nm,18.0s,baz=24,slow=32						
STKA	**Stephens Creek**	**27.52**	**244**	*e*P	**P**	**09 18 56.9**	**+0.8**
	3.1nm,0.8s						
STKA	**Stephens Creek**	**27.52**	**244**	P	**P**	**09 18 57.2**	**+1.1**
AS31	**Alice Springs**	**33.91**	**261**	*e*P	**P**	**09 19 52.4**	**-0.2**
ASAR	**Alice Springs**	**33.91**	**261**	P	**P**	**09 19 52.6**	**-0.1**
	5.9nm,0.7s,baz=84,slow=9.3,SNR=66						
ASAR	**Alice Springs**	**33.91**	**261**	P	**P**	**09 19 52.6**	**-0.1**
WRAB	**Tennant Creek**	**34.05**	**268**	*e*P	**P**	**09 19 52.6**	**-1.2**
	21nm,1.6s						
WRA	**Warramunga Arr**	**34.05**	**267**	P	**P**	**09 19 52.6**	**-1.2**
	0.7nm,0.6s,baz=105,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**34.05**	**267**	P	**P**	**09 19 52.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**42.48**	**268**	P	**P**	**09 21 05.2**	**+0.5**
	1.0nm,0.8s,baz=156,slow=7.8,SNR=12						
FITZ	**Fitzroy Crossi**	**42.48**	**268**	*e*P	**P**	**09 21 05.4**	**+0.6**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.48**	**268**	*e*P	**P**	**09 21 05.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**48.09**	**245**	P	**P**	**09 21 48.2**	**-0.9**
	3.8nm,0.6s,baz=142,slow=4.0,SNR=5.9						
NWAO	**Narrogin (SRO)**	**48.09**	**245**	P	**P**	**09 21 48.2**	**-0.9**
QSPA	**South Pole Qui**	**67.48**	**180**	P	**P**	**09 24 03.8**	**-1.1**
	6.8nm,1.0s,baz=31,slow=5.3,SNR=7.3						
QSPA	**South Pole Qui**	**67.48**	**180**	P	**P**	**09 24 03.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**81.22**	**294**	P	**P**	**09 25 27.6**	**+2.3**
	2.6nm,0.8s,baz=140,slow=5.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**81.22**	**294**	P	**P**	**09 25 27.6**	**+2.3**
NVAR	**Mina Array Bea**	**89.92**	**48**	P	**P**	**09 26 07.7**	**-0.8**
	0.4nm,0.7s,baz=230,slow=7.0,SNR=3.9						
NVAR	**Mina Array Bea**

SIV	**San Ignacio**	**45.60**	**287**	P		**P**	**09 27 27.6**	**+0.5**
	0.6nm,0.7s,baz=129,slow=7.6,SNR=6.1								
SIV	**San Ignacio**	**45.60**	**287**	P		**P**	**09 27 27.6**	**+0.5**
MSKU	**Masuku**	**45.77**	**43**	P		**P**	**09 27 28.3**	**-0.3**
	9.9nm,0.6s,baz=225,slow=8.9,SNR=6.3								
MSKU	**Masuku**	**45.77**	**43**	P		**P**	**09 27 28.3**	**-0.3**
DBIC	**Dimbokro**	**46.44**	**15**	LR	LR		09 42 33.2		
	comp=Z,122nm,18.2s,baz=75,slow=30								
MAW	**Mawson**	**50.51**	**151**	LR	LR		09 44 38.8		
	comp=Z,204nm,18.6s,baz=292,slow=30								
LPAZ	**La Paz**	**50.76**	**281**	P		**P**	**09 28 05.8**	**-1.9**
	1.2nm,0.8s,baz=126,slow=7.4,SNR=5.5								
LPAZ	**La Paz**	**50.76**	**281**	P		**P**	**09 28 05.8**	**-1.9**
QSPA	**South Pole Qui**	**51.38**	**180**	P		**P**	**09 28 11.1**	**-0.2**
	4.3nm,0.8s,baz=214,slow=4.4,SNR=8.5								
QSPA	**South Pole Qui**	**51.38**	**180**	*e*P		**P**	**09 28 11.4**	**+0.2**
	17nm,1.0s								
SAML	**Samuel**	**51.76**	**292**	*e*P		**P**	**09 28 14.4**	**-0.1**
	4.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**54.28**	**21**	P		**P**	**09 28 31.9**	**-1.1**
	1.6nm,1.0s,baz=196,slow=6.3,SNR=6.3								
TORD				LR	LR		09 44 44.1		
	comp=Z,67nm,21.2s,baz=345,slow=28								
TORD	**Torodi Ar. Bea**	**54.28**	**21**	P		**P**	**09 28 31.9**	**-1.1**
ATAH	**Atahualpa**	**64.28**	**282**	P		**P**	**09 29 44.5**	**+1.6**
	0.8nm,0.3s,baz=150,slow=6.9,SNR=3.2								
ATAH	**Atahualpa**	**64.28**	**282**	P		**P**	**09 29 44.5**	**+1.6**
ROSC	**El Rosal**	**69.28**	**295**	P		**P**	**09 30 16.3**	**+1.6**
	2.7nm,0.4s,baz=230,slow=9.3,SNR=2.3								
ROSC	**El Rosal**	**69.28**	**295**	P		**P**	**09 30 16.3**	**+1.6**
KEST	**Kesra**	**77.80**	**21**	P		**P**	**09 31 04.2**	**+0.2**
	1.9nm,0.9s,baz=178,slow=6.5,SNR=4.5								
KEST	**Kesra**	**77.80**	**21**	P		**P**	**09 31 04.2**	**+0.2**
ESDC	**Sonseca Array**	**78.92**	**9**	P		**P**	**09 31 10.8**	**+0.7**
	0.2nm,0.3s,baz=213,slow=3.7,SNR=2.8								
ESDC				LR	LR		09 59 30.4		
	comp=Z,242nm,20.5s,baz=315,slow=31								
ESDC	**Sonseca Array**	**78.92**	**9**	P		**P**	**09 31 10.8**	**+0.7**
BR131	**Keskin Array S**	**90.38**	**36**	*e*P		**P**	**09 32 08.0**	**+0.1**
	4.1nm,0.9s								
BRTR	**Keskin Array B**	**90.38**	**36**	P		**P**	**09 32 09.7**	**+1.7**
	2.2nm,0.9s,baz=175,slow=7.4,SNR=9.4								
BRTR	**Keskin Array B**	**90.38**	**36**	P		**P**	**09 32 09.7**	**+1.7**
BHD	**Baghdad**	**90.94**	**47**	*i* P		**P**	09 32 07.0	-3.5
BHD				*i* PP		**PP**	**09 35 49.0**	**+1.9**
BHD				*i* PPP		x	09 37 50.0		
BHD				*i* SKS		SKSac	09 42 35.0	-7.3
BHD				*i* S		**S**	**09 43 03.0**	**-4.6**
GERES	**GERESS Array B**	**91.18**	**19**	P		**P**	**09 32 12.6**	**+1.2**
	0.3nm,0.4s,baz=241,slow=12,SNR=2.9								
GERES	**GERESS Array B**	**91.18**	**19**	P		**P**	**09 32 12.6**	**+1.2**
GNI	**Garni**	**96.17**	**42**	LR	LR		10 11 56.9		
	comp=Z,247nm,18.2s,baz=264,slow=33								
MKAR	**Makanchi Array**	**122.00**	**53**	PKP		**PKPdf**	**09 38 03.8**	**+2.9**
	0.3nm,0.8s,baz=197,slow=3.0,SNR=3.2								
MKAR	**Makanchi Array**	**122.00**	**53**	PKP		**PKPdf**	**09 38 03.8**	**+2.9**
YKA	**Yellowknife Ar**	**127.51**	**325**	PKP		**PKPdf**	**09 38 10.0**	**-0.8**
	0.7nm,0.8s,baz=102,slow=2.1,SNR=14								
YKA	**Yellowknife Ar**	**127.51**	**325**	PKP		**PKPdf**	**09 38 10.1**	**-0.8**
INK	**Inuvik**	**135.65**	**332**	PKP		**PKPdf**	**09 38 25.6**	**-0.4**
	2.6nm,1.0s,baz=72,slow=2.2,SNR=8.0								
INK	**Inuvik**	**135.65**	**332**	PKP		**PKPdf**	**09 38 25.6**	**-0.4**
SONM	**Songino Array**	**137.93**	**58**	PKP		**PKPdf**	**09 38 30.3**	**-0.8**
	0.6nm,1.0s,baz=247,slow=1.1,SNR=4.6								
SONM	**Songino Array**	**137.93**	**58**	PKP		**PKPdf**	**09 38 30.3**	**-0.8**
ILAR	**Eielson Array**	**141.67**	**329**	PKhKP		PKPpre	09 38 30.6		
	1.2nm,1.1s,baz=79,slow=1.6,SNR=7.3								
ILAR				PKP		**PKPdf**	**09 38 35.2**	**-2.0**
	2.2nm,0.9s,baz=355,slow=3.6,SNR=11								
ILAR	**Eielson Array**	**141.67**	**329**	PKPpre		PKPpre	09 38 30.6		
ILAR				PKP		**PKPdf**	**09 38 35.2**	**-2.0**
COLA	**College**	**142.03**	**329**	*e*PKPdf		**PKPdf**	**09 38 37.5**	**-0.2**
PPLA	**Purkeypile**	**144.53**	**327**	*e*PKPdf		**PKPdf**	**09 38 42.8**	**+0.3**
RSO	**Redoubt South**	**145.64**	**323**	*e*PKPdf		**PKPdf**	**09 38 44.6**	**+0.1**
BILL	**Bilibino**	**150.76**	**358**	*e*PKPdf		**PKPdf**	**09 38 53.8**	**+1.3**

*DDA **19** 09:40:38.5,37.°12N×38.°73E,h13km,MD3.1*
*ISK **19** 09:40:38.5,37.°15N×38.°71E,h2km,MD3.1*
*CSEM **19** 09:40:39.1±0.2,37.°14N×38.°73E,h5km,ML2.6,Error ellipse: s-maj=4.4km s-min=3.4km az=70.0*
*NSSC **19** 09:40:40.4±0.8,35.°26N×40.°49E,h0km±23km,MD2.0, ML2.7*

ISC 19 09:40:39.1±1.3,37.°12N±0.°03×38.°73E±0.°03,h0km±11km, n37,σ0°65/56,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
URFA	**Urfa**	**0.33**	**13**	*e*PG	**Pg**		**09 40 45.1**	**-0.3**
URFA				*e*SG	**Sg**		**09 40 50.5**	**+0.9**
URFA	**Urfa**	**0.33**	**13**	*e*Pg	**Pg**		**09 40 45.1**	**-0.3**
URFA				*e*Sg	**Sg**		**09 40 50.5**	**+0.9**
GZT	**Gaziantep**	**0.96**	**284**	*i* P	**Pg**		**09 40 57.0**	**-0.4**
GAZ	**Gaziantep**	**1.21**	**273**	*e*PN	**Pg**		**09 41 02.3**	**0.0**
GAZ				*e*SN	**Sb**		**09 41 19.5**	**+0.3**
GAZ	**Gaziantep**	**1.21**	**273**	*e*Pn	**Pg**		**09 41 02.3**	**0.0**
GAZ				*e*Sn	**Sb**		**09 41 19.5**	**+0.3**
MALT	**Malatya**	**1.21**	**349**	*e*PN	**Pg**		**09 41 02.4**	**0.0**
MALT	**Malatya**	**1.21**	**349**	*e*Pn	**Pg**		**09 41 02.4**	**0.0**
MYA	**Malatya**	**1.23**	**349**	*e*PN	**Pg**		**09 41 01.9**	**-0.7**
MYA	**Malatya**	**1.23**	**349**	*e*Pn	**Pg**		**09 41 01.9**	**-0.7**
MNKR	**ALMNKUR**	**1.26**	**159**	*e*P	**Pg**		**09 41 03.2**	**+0.1**
MNKR				*e*S	**Sb**		**09 41 20.6**	**+0.3**
MNKR				AML	AML		09 41 24.7	
	comp=Z,348nm,0.3s							
MNKR	**ALMNKUR**	**1.26**	**159**	*e*P	**Pg**		**09 41 03.2**	**+0.1**
	SNR=172							
MNKR				*e*S	**Sb**		**09 41 20.6**	**+0.3**
	comp=Z,348nm,0.3s,SNR=172							
KSRV	**Kasrt alli**	**1.27**	**170**	*e*P	**Pg**		**09 41 03.3**	**-0.2**
KSRV				*e*S	**Sn**		**09 41 21.8**	**-0.2**
KSRV	**Kasrt alli**	**1.27**	**170**	*e*P	**Pg**		**09 41 03.3**	**-0.2**
	SNR=149							
KSRV				*e*S	**Sn**		**09 41 21.8**	**-0.2**
	SNR=149							
SFNV	**Sufian**	**1.31**	**122**	*e*P	**Pg**		**09 41 03.3**	**-1.0**
SFNV				*e*S	**Sb**		**09 41 21.9**	**-0.3**
SFNV				AML	AML		09 41 25.9	
	comp=Z,104nm,0.5s							
SFNV	**Sufian**	**1.31**	**122**	*e*P	**Pg**		**09 41 03.3**	**-1.0**
	SNR=156							
SFNV				*e*S	**Sb**		**09 41 21.9**	**-0.3**
	comp=Z,104nm,0.5s,SNR=156							
AKCD	**Akcadag**	**1.33**	**332**	*i* P	**Pg**		**09 41 02.4**	**-2.3**
AKCD				*i* S	**Sb**		**09 41 22.9**	**+0.1**
AKCD	**Akcadag**	**1.33**	**332**	*i* P	**Pg**		**09 41 02.4**	**-2.3**
AKCD				*i* S	**Sb**		**09 41 22.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.34**	**20**	*e*PN	**Pg**		**09 41 04.3**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.34**	**20**	*e*Pn	**Pg**		**09 41 04.3**	**-0.4**
KUZU	**Kuzuini**	**1.37**	**256**	*i* P	**Pn**		**09 41 04.6**	**-0.9**
KUZU				*i* S	**Sn**		**09 41 24.7**	**+0.3**
KUZU	**Kuzuini**	**1.37**	**256**	*i* P	**Pn**		**09 41 04.6**	**-0.9**
KUZU				*i* S	**Sn**		**09 41 24.7**	**+0.3**
ELZG	**Elazig**	**1.39**	**8**	*i* P	**Pn**		**09 41 05.0**	**-0.9**
ELZG				*i* S	**Sn**		**09 41 25.3**	**+0.2**
ELZG	**Elazig**	**1.39**	**8**	*i* P	**Pn**		**09 41 05.0**	**-0.9**
ELZG				*i* S	**Sn**		**09 41 25.3**	**+0.2**
KBSD	**Kabsdagh**	**1.46**	**94**	⇓*e*P	**Pn**		**09 41 05.9**	**-0.8**
	SNR=140							
KBSD				*e*S	**Sn**		**09 41 26.4**	**-0.2**
	comp=Z,120nm,0.3s,SNR=140							
KMRS	**Kahramanmaras**	**1.51**	**285**	*e*PN	**Pn**		**09 41 07.0**	**-0.4**
KMRS	**Kahramanmaras**	**1.51**	**285**	*e*Pn	**Pn**		**09 41 07.0**	**-0.4**
MARD	**Mardin**	**1.65**	**83**	*i* P	**Pn**		**09 41 09.1**	**-0.3**
MARD				*i* S	**Sg**		**09 41 32.6**	**+0.5**
PTK	**Pertek**	**1.84**	**16**	*e*PN	**Pn**		**09 41 12.0**	**-0.2**
PTK	**Pertek**	**1.84**	**16**	*e*Pn	**Pn**		**09 41 12.0**	**-0.2**
KEMA	**Kemaliye**	**2.15**	**355**	*i* P	**Pn**		**09 41 15.9**	**-0.4**
KEMA				*i* S	**Sg**		**09 41 48.5**	**+0.2**
KEMA	**Kemaliye**	**2.15**	**355**	*i* P	**Pn**		**09 41 15.9**	**-0.4**
BINT	**Bingol**	**2.24**	**38**	*e*PN	**Pb**		**09 41 20.8**	**+0.3**
ILIC	**ilic-Erzincan**	**2.33**	**357**	*e*PN	**Pn**		**09 41 18.7**	**-0.1**
ILIC	**ilic-Erzincan**	**2.33**	**357**	*e*Pn	**Pn**		**09 41 18.7**	**-0.1**
KOZT	**Kozan**	**2.34**	**280**	*e*PN	**Pn**		**09 41 19.0**	**+0.2**
KOZT	**Kozan**	**2.34**	**280**	*e*Pn	**Pn**		**09 41 19.0**	**+0.2**
BNGB	**Bing¶ll**	**2.42**	**39**	*e*PN	**Pn**		**09 41 20.8**	**+0.8**

JMA 19 09:55:00.3±0.2,30.°39N×139.°72E,h319km±4km,M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.71**	**2**	*e*S	S	09 56 37.7	-0.5
CBIJ	**Chichi jima**	**3.93**	**146**	P	Pn	09 56 07.1	+0.2
CBIJ				*e*S	S	09 56 59.0	-1.3
BSO1	**Boso 1**	**4.38**	**14**	*e*S	S	09 57 08.3	+0.6
BSO3	**Boso 3**	**4.45**	**8**	*e*S	S	09 57 10.0	+0.3
BSO4	**Boso 4**	**4.62**	**6**	*e*S	S	09 57 14.2	+0.8
JKN2	**Miekihoku**	**4.82**	**324**	P	Pn	09 56 17.1	+0.7
JHU	**Hanno**	**5.46**	**356**	*e*S	S	09 57 26.2	-4.9
JAG	**Ashikaga**	**6.02**	**358**	P	Pn	09 56 30.1	-0.2
JHO	**Hitachi**	**6.25**	**6**	P	Pn	09 56 34.6	+1.7
JHO				*e*S	S	09 57 43.9	-3.9
JFK	**Kawauchi**	**7.02**	**8**	*e*S	S	09 58 01.6	-3.3

*BJI **19** 10:01:23.1,24.°98N×97.°79E,h10km,mb4.0/3,ML3.9/8*
*ISCJB **19** 10:01:24.1±0.7,25.°10N±0.°08×98.°36E±0.°06,h10km, mb3.6/7,Error ellipse: s-maj=11.5km s-min=7.1km az=8.0*
*IDC **19** 10:01:24.1±1.0,25.°11N×98.°32E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.6/27,mbtmp3.7/8,ML4.0/1,Error ellipse: s-maj=37.8km s-min=14.2km az=75.0*

ISC 19 10:01:25.7±0.8,25.°13N±0.°09×98.°25E±0.°06,h10km,n12, σ0°54/13,mb3.8/7,1C,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KMI	**Kunming**	**4.07**	**89**	⇑Pg	**Pg**		**10 02 43.1**	**-0.6**
KMI				Sg	**Sg**		**10 03 36.9**	**+0.5**
KMI				smax	smax			
	comp=N,180nm,0.7s							
KMI				smax	smax			
	comp=E,140nm,1.1s							
SHL	**Shillong**	**5.78**	**276**	*e*P	Pn		10 02 55.0	+3.2
SHL				*e*S	**Sb**		**10 04 16.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**6.67**	**174**	Pn	**Pn**		**10 03 04.7**	**+0.8**
	comp=E,0.8nm,0.3s,baz=348,slow=12,SNR=6.2							
CMAR				Pg	Pg		10 03 26.9	-6.7
	comp=E,0.8nm,0.3s,baz=352,slow=19,SNR=16							
CMAR				Lg	Lg		10 04 53.9	
	comp=E,2.2nm,0.3s,baz=356,slow=29,SNR=10.0							
LSA	**Lhasa**	**7.78**	**307**	Pn	Pn		10 03 14.8	-4.7
HHC	**Hu-ho-hao-te**	**19.21**	**32**	*e*P	**Pn**		**10 05 51.3**	**+0.5**
HHC				PP	pP		10 06 09.3	+17
HHC				S	**Sn**		**10 09 26.3**	**+0.1**
HHC				SS	S		10 09 53.4	+26
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
SONM	**Songino Array**	**23.56**	**14**	P	**P**		**10 06 36.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=199,slow=10,SNR=5.2							
MKAR	**Makanchi Array**	**25.09**	**334**	P	**P**		**10 06 50.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=135,slow=10,SNR=13							
KURK	**Kurchatov**	**29.68**	**334**	P	**P**		**10 07 31.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=139,slow=8.9,SNR=3.1							
ZALV	**Zalesovo Beam**	**30.48**	**344**	P	**P**		**10 07 38.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=172,slow=8.7,SNR=9.2							
USRK	**Ussuriysk Arra**	**33.33**	**47**	P	**P**		**10 08 03.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=238,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**56.91**	**139**	P	**P**		**10 11 10.3**	**-0.9**
	comp=Z,3.0nm,1.2s,baz=329,slow=7.7,SNR=14							
ASAR	**Alice Springs**	**59.55**	**142**	P	**P**		**10 11 29.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=318,slow=6.2,SNR=4.4							

*IDC **19** 10:02:40.5±3.0,22.°31S×170.°82E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/16,mbtmp3.7/4,ML3.8/1,MS3.2/1, Ms1 3.2/1,ms1mx2.9/24,Error ellipse: s-maj=121.8km s-min=35.6km az=158.0*
*NOU **19** 10:02:45.0±1.0,19.°64S×169.°96E,h10km,MD3.2,ML2.9*

ISC 19 10:02:46.0±1.9,22.°4S±0.°6×170.°8E±0.°1,h42km,n9, σ1°21/13,mb3.6/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BAYA	**Yate Dam**	**3.63**	**273**	*e*P	**Pn**		**10 03 41.1**	**+1.4**
BAYA				*e*S	**Sn**		**10 04 21.4**	**+0.1**
NORM	**Noumea**	**4.00**	**271**	*e*P	**Pn**		**10 03 44.2**	**-0.5**
NORM				*e*S	**Sn**		**10 04 30.0**	**-0.4**
NORM				AMP			10 04 32.1	
	comp=Z,111nm,0.7s							
DZM	**Mont Dzumac**	**4.04**	**273**	Pn	**Pn**		**10 03 45.7**	**+0.2**
	comp=Z,6.3nm,0.3s,baz=241,slow=15,SNR=420							
DZM				LR	LR		10 04 30.6	
	comp=Z,316nm,21.7s,baz=44,slow=27							
DZM				Sn	**Sn**		**10 04 33.3**	**+1.6**
	comp=Z,15nm,0.3s,baz=139,slow=22,SNR=14							
NOUC	**Port Laguerre**	**4.17**	**273**	*e*P	**Pn**		**10 03 47.2**	**+0.1**
NOUC				*e*S	**Sn**		**10 04 32.5**	**-2.1**
NOUC				AMP			10 04 43.3	
	comp=Z,28nm,4.2s							
ASAR	**Alice Springs**	**33.92**	**261**	P	**P**		**10 09 25.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=86,slow=9.4,SNR=14							
WRA	**Warramunga Arr**	**34.03**	**267**	P	**P**		**10 09 25.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=99,slow=8.6,SNR=8.9							
SONM	**Songino Array**	**90.59**	**323**	P	**P**		**10 15 44.7**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=117,slow=3.7,SNR=5.0							
GERES	**GERESS Array B**	**147.93**	**331**	PKPbc	**PKPab**		**10 22 27.3**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=22,slow=4.3,SNR=5.9							
DAVOX	**Davos/Dischmat**	**151.18**	**332**	PKPbc	**PKPbc**		**10 22 35.4**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=94,slow=5.4,SNR=4.9							

IDC 19 10:05:33.0±49.0,16.°23S×175.°70W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/17,mbtmp3.7/3,Error ellipse: s-maj=931.9km s-min=168.6km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.71**	**240**	P	P	10 13 24.5	+0.6
	2.7nm,1.2s,baz=82,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**47.50**	**258**	P	P	10 14 09.9	-0.5
	0.1nm,0.5s,baz=96,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**47.75**	**253**	P	P	10 14 11.8	-0.6
	1.1nm,0.5s,baz=88,slow=8.1,SNR=27						

*IDC **19** 10:06:42.8±4.5,36.°16N×70.°32E,h170km±40km,mb3.4/13, mb1 3.5/17,mb1mx3.4/31,mbtmp3.4/17,Error ellipse: s-maj=22.0km s-min=14.8km az=15.0*
*ISCJB **19** 10:06:47.1±0.4,36.°54N±0.°03×70.°45E±0.°07,h204km, mb3.5/12,Error ellipse: s-maj=7.5km s-min=3.6km az=167.5*
*NEIC **19** 10:06:47.7±0.8,36.°48N×70.°41E,h206km±9km,mb4.9/13, Error ellipse: s-maj=11.1km s-min=6.5km az=58.0*
*NNC **19** 10:06:55.2±8.3,37.°07N×70.°72E,h233km±74km,mb2.9, mpv4.3,Error ellipse: s-maj=77.4km s-min=38.8km az=4.0*

ISC 19 10:06:47.5±0.5,36.°51N±0.°05×70.°34E±0.°07,h204km,n86, σ1°47/106,mb3.6/12,6C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KBL	**Kabul**	**2.23**	**209**	*e*Pn	**Pn**		**10 07 30.8**	**+1.8**
CEP	**Cherat**	**2.97**	**154**	⇓P	**Pn**		**10 07 38.8**	**+1.6**
CEP				S	**S**		**10 08 17.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.72**	**139**	P	**Pn**		**10 07 47.7**	**+1.6**
THW	**Thamme Wali**	**3.88**	**162**	⇓P	**Pn**		**10 07 49.2**	**+1.1**
THW				S	**S**		**10 08 35.0**	**0.0**
SARP	**Sargodha**	**4.97**	**156**	P	**Pn**		**10 08 02.1**	**+0.5**
AML	**Almayashu**	**6.19**	**24**	P	**Pn**		**10 08 17.6**	**+0.1**
	SNR=273							
AML				P	**Pn**		**10 08 17.6**	**+0.1**
	SNR=273							
UCH	**Uchtor**	**6.56**	**28**	P	**Pn**		**10 08 23.0**	**+0.6**
	SNR=7.8							
UCH				P	**Pn**		**10 08 23.0**	**+0.6**
	SNR=7.8							
KK31	**Karatay Array**	**6.59**	**1**	P	**Pn**		**10 08 22.7**	**+0.4**
	6.7nm,0.3s,baz=170,slow=12,SNR=208							
KK31				⇑S	**S**		**10 09 32.9**	**-4.5**
	5.6nm,0.4s,baz=175,slow=26,SNR=6.7							
KKAR	**Karatay Array**	**6.59**	**1**	*e*Pn	**Pn**		**10 08 22.4**	**+0.1**
	22nm,0.3s							
EKS2	**Erkin-Say**	**6.69**	**22**	P	**Pn**		**10 08 24.2**	**+0.4**
	SNR=12							
EKS2				P	**Pn**		**10 08 24.2**	**+0.4**
	SNR=12							
EKS2	**Erkin-Say**	**6.69**	**22**	*e*Pn	**Pn**		**10 08 24.0**	**+0.1**
	80nm,0.7s							
EKS2				*e*Sn	**S**		**10 09 35.0**	**-5.1**
KZA	**Kyzart**	**6.74**	**33**	P	**Pn**		**10 08 24.4**	**-0.3**
	SNR=13							
KZA				P	**Pn**		**10 08 24.4**	**-0.3**
	SNR=13							
AAK	**Ala-Archa**	**6.91**	**26**	P	**Pn**		**10 08 26.8**	**+0.2**
	SNR=19							
AAK				P	**Pn**		**10 08 26.8**	**+0.2**
AAK	**Ala-Archa**	**6.91**	**26**	*e*Pn	**Pn**		**10 08 26.6**	**0.0**
	65nm,0.6s							
AAK				*e*Sn	**S**		**10 09 42.7**	**-2.4**
KBK	**Karagaybulak**	**7.09**	**29**	P	**Pn**		**10 08 29.4**	**+0.3**
	SNR=8.6							
KBK				P	**Pn**		**10 08 29.4**	**+0.3**
	SNR=8.6							
CHMS	**Chumysh**	**7.32**	**26**	P	**Pn**		**10 08 33.2**	**+1.4**
	SNR=5.5							
CHMS				P	**Pn**		**10 08 33.2**	**+1.4**
	SNR=5.5							
ULHL	**Ulahol**	**7.33**	**37**	P	**Pn**		**10 08 32.0**	**-0.1**
	SNR=7.6							
ULHL				P	**Pn**		**10 08 32.0**	**-0.1**
	SNR=7.6							
USP	**Ospenovka**	**7.47**	**24**	P	**Pn**		**10 08 33.8**	**+0.1**
	SNR=17							
USP				P	**Pn**		**10 08 33.8**	**+0.1**
	SNR=17							
TKM2	**Tokmak 2**	**7.58**	**31**	P	**Pn**		**10 08 35.4**	**0.0**
	SNR=15							
TKM2				P	**Pn**		**10 08 35.4**	**0.0**
	SNR=15							
TKM2	**Tokmak 2**	**7.58**	**31**	⇑P	**Pn**		**10 08 35.2**	**-0.1**
	15nm,0.6s							
TKM2				⇑S	**S**		**10 09 57.3**	**-3.8**
	18nm,0.8s							
TKM2	**Tokmak 2**	**7.58**	**31**	*e*Pn	**Pn**		**10 08 35.0**	**-0.4**
	19nm,0.6s							
TKM2				*e*Sn	S		10 09 51.8	-9.3
MK31	**Makanchi Array**	**13.60**	**37**	⇑P	**Pn**		**10 09 51.4**	**-0.8**
	4.5nm,0.8s,baz=224,slow=10.0,SNR=34							
MK31	**Makanchi Array**	**13.60**	**37**	*e*Pn	**Pn**		**10 09 51.2**	**-1.0**
MKAR	**Makanchi Array**	**13.60**	**37**	P	**Pn**		**10 09 51.6**	**-0.6**
	0.5nm,0.3s,baz=212,slow=14,SNR=16							
MKAR				S	**S**		**10 12 26.5**	**+3.2**
	0.2nm,0.3s,baz=186,slow=24,SNR=2.4							
MKAR	**Makanchi Array**	**13.60**	**37**	P	**Pn**		**10 09 51.6**	**-0.6**
MKAR				S	**S**		**10 12 26.5**	**+3.2**
DANN	**Dangsing**	**13.94**	**122**	*e*P	**Pn**		**10 09 55.6**	**-1.3**
DANN	**Dangsing**	**13.94**	**122**	*e*P	**Pn**		**10 09 55.6**	**-1.3**
KOLN	**Koldanda**	**14.20**	**124**	*e*P	**Pn**		**10 09 58.5**	**-1.6**
	13nm,0.3s							
KOLN	**Koldanda**	**14.20**	**124**	*e*P	**Pn**		**10 09 58.5**	**-1.6**
	13nm,0.3s							
GKN	**Gorkha**	**14.76**	**121**	*e*P	**Pn**		**10 10 05.8**	**-1.0**
	47nm,0.4s							
GKN	**Gorkha**	**14.76**	**121**	*e*P	**Pn**		**10 10 05.8**	**-1.0**
	47nm,0.4s							
AB31	**Akbulak array**	**14.83**	**332**	⇑P	**Pn**		**10 10 07.1**	**-0.2**
	2.1nm,0.4s,baz=149,slow=13,SNR=14							
ABKAR	**Akbulak array**	**14.83**	**332**	*e*Pn	**Pn**		**10 10 07.1**	**-0.2**
	3.7nm,0.3s							
DMN	**Daman**	**15.33**	**121**	*e*P	**Pn**		**10 10 12.3**	**-1.6**
DMN	**Daman**	**15.33**	**121**	*e*P	**Pn**		**10 10 12.3**	**-1.6**
KKN	**Kakani**	**15.34**	**120**	*e*P	**Pn**		**10 10 13.3**	**-0.6**
KKN	**Kakani**	**15.34**	**120**	*e*P	**Pn**		**10 10 13.3**	**-0.6**
KURK	**Kurchatov**	**15.40**	**20**	P	**Pn**		**10 10 12.2**	**-2.0**
	0.3nm,0.3s,baz=208,slow=12,SNR=23							
KURK	**Kurchatov**	**15.40**	**20**	⇓P	**Pn**		**10 10 14.1**	**-0.1**
	3.5nm,1.3s							
KURK	**Kurchatov**	**15.40**	**20**	P	**Pn**		**10 10 12.2**	**-2.0**
PKI	**Pulchoki**	**15.56**	**121**	*e*P	**P**		**10 10 15.5**	**-1.2**
	31nm,0.4s							
PKI	**Pulchoki**	**15.56**	**121**	*e*P	**P**		**10 10 15.

MTP			eS	Sn	10 07 49.0	-1.2
CBYP	**Canovanas**	**1.47 244**	ePn	Pn	10 07 34.8	-1.1
HUMP	**Col San Antoni**	**1.53 240**	eS	Sn	10 07 53.0	-2.3
HUMP	**Col San Antoni**	**1.53 240**	eS	Sn	10 07 53.0	-2.3
CPD	**Cerro la Pandu**	**1.64 238**‖	eP	Pn	10 07 37.3	-0.8
CPD	**Cerro la Pandu**	**1.64 238**	eS	Sn	10 07 56.5	-1.6
CPD	**Cerro la Pandu**	**1.64 238**‖	eP	Pn	10 07 37.3	-0.8
CPD			eS	Sn	10 07 56.5	-1.6
CPD	**Cerro la Pandu**	**1.64 238**‖	eP	Pn	10 07 37.3	-0.8
CPD			eS	Sn	10 07 56.5	-1.6

*IDC **19** 10:09:11.4±1.6,21°.38S×178°.27W,h418km±16km, mb3.8/16,mb1 4.0/17,mb1mx3.8/22,mbtmp3.8/17,Error ellipse: s-maj=14.7km s-min=11.2km az=158.0*
*ISCJB **19** 10:09:12.9±0.4,21°.57S±0°.05×178°.31W±0°.08,h450km, mb4.5/35,Error ellipse: s-maj=9.7km s-min=6.9km az=8.2*
*NEIC **19** 10:09:14.4±0.9,21°.47S×178°.32W,h457km±9km,mb4.7/12, Error ellipse: s-maj=11.5km s-min=8.3km az=139.0*

ISC 19 10:09:17.7±1.0,21°.66S±0°.08×178°.35W±0°.09, h495km±10km,n93,σ1°76/95,mb4.5/35,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.17 318**		eP	P	10 10 40.8	-5.5
AFI	**Afiamalu**	**9.93**	**40**	P	P	10 11 24.1	-10
	15nm,0.3s,baz=198,slow=8.6,SNR=10.0						
AFI				S	S	10 13 09.2	-18
	7.1nm,0.3s,baz=52,slow=19,SNR=4.2						
AFI	**Afiamalu**	**9.93**	**40**	P	P	10 11 28.2	-6.3
AFI				S	S	10 13 09.2	-18
PUZ	**Puketiti**	**16.62 189**		ePN	**P**	**10 12 41.1**	**-3.7**
PUZ				eSN	**S**	**10 15 32.4**	**-2.7**
MWZ	**Matawai**	**17.00 191**		ePN	**P**	**10 12 46.0**	**-2.7**
URZ	**Urewera**	**17.00 192**		eP	**P**	**10 12 46.5**	**-2.2**
	60nm,1.2s						
BKZ	**Black Stump Fm**	**18.00 193**		ePN	**P**	**10 12 55.4**	**-2.8**
MRZ	**Mangatainoka R**	**19.63 194**		ePN	**P**	**10 13 10.8**	**-2.3**
SNZO	**South Karori**	**20.45 195**		eP	**P**	**10 13 20.4**	**-0.1**
	28nm,0.6s						
THZ	**Tophouse**	**21.36 198**		ePN	**P**	**10 13 27.8**	**-1.0**
WHZ	**Wether Hill Ro**	**26.64 202**		eP	**P**	**10 14 17.2**	**+1.4**
ARMA	**Armidale**	**28.28 246**		eP	**P**	**10 14 31.8**	**+1.2**
ARMA	**Armidale**	**28.28 246**		eP	**P**	**10 14 31.9**	**+1.4**
	16nm,1.0s						
CNB	**Canberra Magne**	**31.32 237**		eP	**P**	**10 14 58.4**	**+1.6**
	295nm,0.6s						
CAN	**Canberra**	**31.61 237**		eP	**P**	**10 14 60.0**	**+0.7**
	55nm,0.8s						
CTA	**Charters Tower**	**33.07 266**		P	**P**	**10 15 11.9**	**+0.1**
	13nm,0.7s,baz=98,slow=8.5,SNR=13						
CTA	**Charters Tower**	**33.07 266**		eP	**P**	**10 15 11.7**	**-0.2**
	11nm,0.8s						
CTA	**Charters Tower**	**33.07 266**		P	**P**	**10 15 11.9**	**+0.1**
CTAO	**Charters Tower**	**33.07 266**		eP	**P**	**10 15 11.5**	**-0.4**
TOO	**Toolangi**	**34.96 235**		eP	**P**	**10 15 28.6**	**+1.0**
	391nm,0.6s						
PMG	**Port Moresby**	**35.30 285**		P	**P**	**10 15 30.1**	**-0.6**
	9.0nm,0.7s,baz=109,slow=8.4,SNR=9.4						
PMG	**Port Moresby**	**35.30 285**		eP	**P**	**10 15 28.7**	**-2.0**
	9.2nm,0.8s						
STKA	**Stephens Creek**	**37.00 245**		P	**P**	**10 15 45.3**	**+0.7**
	14nm,0.7s,baz=85,slow=9.4,SNR=50						
STKA	**Stephens Creek**	**37.00 245**		eP	**P**	**10 15 45.3**	**+0.7**
	19nm,1.2s						
STKA	**Stephens Creek**	**37.00 245**		eP	**P**	**10 15 44.6**	**0.0**
	7.2nm,1.2s						
COEN	**Coen**	**37.35 275**		eP	**P**	**10 15 47.9**	**+0.3**
	56nm,1.0s						
BBOO	**Buckleboo**	**41.75 245**		eP	**P**	**10 16 23.0**	**0.0**
	536nm,0.8s						
AS31	**Alice Springs**	**43.95 258**		eP	**P**	**10 16 40.0**	**-0.5**
ASAR	**Alice Springs**	**43.95 258**		P	**P**	**10 16 40.1**	**-0.3**
	9.6nm,0.7s,baz=101,slow=7.9,SNR=145						
ASAR				PcP	**PcP**	**10 18 16.9**	**+1.2**
	1.5nm,0.6s,baz=98,slow=4.7,SNR=5.1						
ASAR	**Alice Springs**	**43.95 258**		P	**P**	**10 16 40.1**	**-0.3**
ASAR				PcP	**PcP**	**10 18 16.9**	**+1.2**
WB2	**Warramunga Arr**	**44.12 263**		eP	**P**	**10 16 40.8**	**-0.9**
WRAB	**Tennant Creek**	**44.12 263**		eP	**P**	**10 16 40.8**	**-1.0**
	10nm,0.8s						
WRA	**Warramunga Arr**	**44.13 263**		P	**P**	**10 16 40.8**	**-1.0**
	7.9nm,0.7s,baz=94,slow=8.1,SNR=231						
WRA				ScP	ScP	10 21 29.0	+8.2
	0.3nm,0.8s,baz=94,slow=3.7,SNR=2.6						
WRA	**Warramunga Arr**	**44.13 263**		P	**P**	**10 16 40.8**	**-1.0**
WRA				ScP	ScP	10 21 29.0	+8.2
FORT	**Forrest**	**48.55 248**		eP	**P**	**10 17 15.0**	**-0.2**
	54nm,0.5s						
FORT	**Forrest**	**48.55 248**		eP	**P**	**10 17 15.0**	**-0.2**
	86nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.56 263**		eP	**P**	**10 17 45.7**	**+0.9**
	3.7nm,0.3s						
KLBR	**Kellerberrin**	**57.28 246**		eP	**P**	**10 18 18.2**	**+0.5**
	58nm,0.9s						
MBWA	**Marble Bar**	**57.29 258**		eP	**P**	**10 18 18.1**	**+0.1**
	26nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.57 244**		eP	**P**	**10 18 20.0**	**+0.3**
	21nm,0.9s						
RPN	**Rapa Nui**	**62.40 110**		P	**P**	**10 18 52.9**	**+1.0**
	18nm,0.7s,baz=267,slow=19,SNR=2.3						
RPN	**Rapa Nui**	**62.40 110**		P	**P**	**10 18 52.9**	**+1.0**
QSPA	**South Pole Qui**	**68.41 180**		P	**P**	**10 19 31.7**	**+2.5**
	12nm,0.7s,baz=36,slow=1.7,SNR=31						
QSPA	**South Pole Qui**	**68.41 180**		eP	**P**	**10 19 31.3**	**+2.1**
	12nm,0.8s						
PETK	**Petropavlovsk-**	**77.31 345**		P	**P**	**10 20 19.7**	**-0.6**
	1.7nm,0.6s,baz=123,slow=7.3,SNR=3.5						
PETK	**Petropavlovsk-**	**77.31 345**		eP	**P**	**10 20 19.7**	**-0.6**
USRK	**Ussuriysk Arra**	**79.73 326**		P	**P**	**10 20 34.6**	**+1.1**
	1.3nm,0.6s,baz=139,slow=3.1,SNR=6.2						
MAW	**Mawson**	**80.37 200**		P	P	10 20 39.5	+3.0
	11nm,1.0s,baz=125,slow=3.8,SNR=3.6						
MAW	**Mawson**	**80.37 200**		P	P	10 20 39.5	+3.0
NJ2	**Nanjing**	**80.37 310**		eP	**P**	**10 20 35.0**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
KDAK	**Kodiak Island**	**82.01 14**		P	**P**	**10 20 45.5**	**+0.5**
	comp=Z,15nm,1.1s,baz=216,slow=14,SNR=1.8						
KDAK	**Kodiak Island**	**82.01 14**		P	**P**	**10 20 45.5**	**+0.5**
NVAR	**Mina Array Bea**	**82.09 43**		P	**P**	**10 20 46.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=226,slow=9.0,SNR=7.1						
NVAR	**Mina Array Bea**	**82.09 43**		P	**P**	**10 20 46.0**	**-0.1**
CN2	**Changchun**	**83.02 323**		‖P	**P**	**10 20 49.5**	**-0.9**
CN2				ePP	pP	10 22 35.0	-4.1
CN2				eS	**S**	**10 30 29.5**	**+1.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
SYO	**Syowa Base**	**85.53 193**‖		eP	**P**	**10 21 01.6**	**-0.8**
GYA	**Guiyang**	**86.94 300**		P	**P**	**10 21 08.9**	**-1.2**
GYA				pP	pP	10 22 56.0	-4.0
GYA				sP	sP	10 23 43.4	-7.1
GYA				SKS	**SKSac**	**10 30 50.6**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TXAR	**Lajitas Array**	**87.95 57**		P	**P**	**10 21 15.5**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=211,slow=7.0,SNR=5.9						
TXAR	**Lajitas Array**	**87.95 57**		P	**P**	**10 21 15.5**	**+0.7**
ILAR	**Eielson Array**	**89.51 13**		P	**P**	**10 21 19.5**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=216,slow=5.5,SNR=28						
ILAR	**Eielson Array**	**89.51 13**		P	**P**	**10 21 19.5**	**-1.5**
KMI	**Kunming**	**89.59 297**		P	**P**	**10 21 23.5**	**+0.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**89.93 314**		eP	P	10 21 18.1	-5.6
HHC				pP	pP	10 23 04.1	-10
HHC				SKS	**SKSac**	**10 31 02.4**	**-4.5**
HHC				S	**S**	**10 31 29.8**	**-4.2**
HHC				sS	sS	10 34 39.4	-12
HHC				SS	**SS**	**10 37 46.6**	**-0.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,6.6s						
PDAR	**Pinedale Array**	**90.02 43**		P	**P**	**10 21 23.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=213,slow=2.7,SNR=8.0						
PDAR	**Pinedale Array**	**90.02 43**		P	**P**	**10 21 23.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**90.20 290**		P	**P**	**10 21 27.4**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=128,slow=3.2,SNR=19						
CMAR	**Chiang Mai Arr**	**90.20 290**		P	**P**	**10 21 27.4**	**+2.1**
CD2	**Chengdu**	**91.14 303**		P	**P**	**10 21 31.9**	**+2.4**
CD2				pP	**pP**	**10 23 19.0**	**-1.2**
CD2				sP	sP	10 24 06.3	-4.1
CD2				PP	**PP**	**10 25 20.1**	**+4.9**
CD2				S	**ScS**	**10 31 48.6**	**+1.6**
CD2				sS	sS	10 34 58.3	-5.0
CD2				SS	**SS**	**10 38 12.1**	**+7.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,240nm,8.3s						
LZH	**Lanzhou**	**93.22 308**		eP	**P**	**10 21 39.5**	**+0.5**
LZH				pP	pP	10 23 27.0	-2.9
LZH				sP	sP	10 24 14.0	-6.1
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
MKAR	**Makanchi Array**	**111.75 313**		PKiKP	**PKiKP**	**10 26 54.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=230,slow=3.0,SNR=2.3						
MKAR	**Makanchi Array**	**111.75 313**		PKiKP	**PKiKP**	**10 26 54.8**	**-0.9**
KURK	**Kurchatov**	**114.62 317**		PKP	PKPdf	10 26 59.9	-1.1
	comp=Z,0.5nm,0.7s,baz=94,slow=2.2,SNR=5.0						
KURK	**Kurchatov**	**114.62 317**		PKP	PKPdf	10 26 59.9	-1.1
ARCES	**ARCESS Array B**	**130.00 349**		PKP	**PKPdf**	**10 27 29.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=28,slow=2.9,SNR=5.3						
ARCES	**ARCESS Array B**	**130.00 349**		PKP	**PKPdf**	**10 27 29.6**	**-0.4**
FINES	**FINESS Array B**	**136.79 343**		PKP	**PKPdf**	**10 27 43.8**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=73,slow=6.4,SNR=1.7						
FINES				SKPbc	**SKPab**	**10 30 36.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=90,slow=1.9,SNR=5.1						
FINES	**FINESS Array B**	**136.79 343**		PKP	**PKPdf**	**10 27 43.8**	**+0.9**
FINES				SKPbc	**SKPab**	**10 30 36.0**	**0.0**
NOA	**NORSAR Array B**	**140.09 353**		SKPbc	**SKPab**	**10 30 45.5**	**-5.2**
	comp=Z,2.0nm,0.8s,baz=13,slow=4.4,SNR=4.6						
HFS	**Hagfors**	**140.63 351**		PKiKP	PKPpre	10 27 44.7	
	comp=Z,5.3nm,1.0s,baz=46,slow=4.3,SNR=9.2						
HFS	**Hagfors**	**140.63 351**		PKPpre	PKPpre	10 27 44.7	
AKASG	**Malin Array Be**	**143.86 330**		PKhKP	PKPpre	10 27 53.8	
	comp=Z,4.5nm,0.5s,baz=43,slow=4.1,SNR=21						
AKASG	**Malin Array Be**	**143.86 330**		PKPpre	PKPpre	10 27 53.8	
BRTR	**Keskin Array B**	**147.36 311**		PKPbc	**PKPbc**	**10 28 05.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=136,slow=4.4,SNR=6.7						
BRTR	**Keskin Array B**	**147.36 311**		PKPbc	**PKPbc**	**10 28 05.8**	**+0.1**
MLR	**Muntele Rosu**	**149.01 326**		PKPbc	**PKPbc**	**10 28 11.2**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=195,slow=0.8,SNR=4.6						
MLR	**Muntele Rosu**	**149.01 326**		PKPbc	**PKPbc**	**10 28 11.2**	**+1.6**
CLL	**Collm**	**149.11 346**		ePKPbc	**PKPbc**	**10 28 09.0**	**-0.5**
GERES	**GERESS Array B**	**151.22 343**		PKPbc	**PKPbc**	**10 28 14.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=14,slow=2.8,SNR=6.9						
GERES	**GERESS Array B**	**151.22 343**		PKPbc	**PKPbc**	**10 28 14.5**	**-0.1**
DBIC	**Dimbokro**	**163.82 156**		PKPab	**PKPab**	**10 29 21.6**	**+1.6**
	comp=Z,5.6nm,1.0s,baz=299,slow=3.8,SNR=3.5						
DBIC	**Dimbokro**	**163.82 156**		PKPab	**PKPab**	**10 29 21.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**171.53 180**		PKPab	**PKPab**	**10 29 54.9**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=174,slow=3.2,SNR=7.7						
TORD	**Torodi Ar. Bea**	**171.53 180**		PKPab	**PKPab**	**10 29 54.9**	**+0.8**

*CSEM **19** 10:10:51.0±0.5,35°.69N×36°.60E,h10km,ML1.9,Error ellipse: s-maj=14.9km s-min=10.6km az=99.0*
*DDA **19** 10:10:51.3,35°.70N×36°.54E,h7km,MD2.9*
*NSSC **19** 10:10:54.6±0.8,35°.27N×37°.00E,h2km±13km,ML1.9*

ISC 19 10:10:50.6±1.4,35°.70N±0°.04×36°.61E±0°.07,h13km±14km, n13,σ1°50/22,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRDH	**Warideh**	**0.25 220**		AML	AML	10 11 05.3	
	comp=E,206nm,0.5s						
YAYL	**Yayladag**	**0.53 309**		*i* P	**Pg**	**10 11 01.0**	**0.0**
YAYL				*i* S	**Sg**	**10 11 08.1**	**0.0**
YAYL	**Yayladag**	**0.53 309**		*i* P	**Pg**	**10 11 01.0**	**0.0**
YAYL				*i* S	**Sg**	**10 11 08.1**	**0.0**
BIDA	**Albida**	**0.72 199**		eP	**Pn**	**10 11 06.8**	**+0.1**
BIDA				eS	**Sb**	**10 11 15.7**	**+0.7**
BIDA				AML	AML	10 11 29.9	
	comp=N,32nm,0.3s						
BIDA	**Albida**	**0.72 199**		eP	**Pn**	**10 11 06.8**	**+0.1**
	SNR=91						
BIDA				eS	**Sb**	**10 11 15.7**	**+0.7**
	comp=N,32nm,0.3s,SNR=59						
KUZU	**Kuzuini**	**1.14 19**		*i* P	**Pn**	**10 11 13.1**	**+0.8**
KUZU				*i* S	**Sn**	**10 11 29.7**	**+1.9**
KUZU	**Kuzuini**	**1.14 19**		*i* P	**Pn**	**10 11 13.1**	**+0.8**
KUZU				*i* S	**Sn**	**10 11 29.7**	**+1.9**
HAWK	**Haweek**	**1.19 188**		eP	**Pb**	**10 11 11.5**	**-1.5**
HAWK				eS	**Sb**	**10 11 26.0**	**-2.4**
HAWK				AML	AML	10 11 31.2	
	comp=E,32nm,0.2s						
HAWK				AML	AML	10 11 34.7	
	comp=N,42nm,0.4s						
HAWK	**Haweek**	**1.19 188**		eP	**Pb**	**10 11 11.5**	**-1.5**
	SNR=67						
HAWK				eS	**Sb**	**10 11 26.0**	**-2.4**
	comp=N,42nm,0.4s,SNR=59						
FKH	**Fakeheh**	**1.46 187**		eP	**Pg**	**10 11 20.9**	**+2.3**
HWQ	**Hawqa**	**1.52 201**		eP	**Pg**	**10 11 22.1**	**+2.3**
KSRV	**Kasrt alli**	**1.95 84**		eP	**Pb**	**10 11 24.6**	**-1.4**
KSRV				eS	**Sn**	**10 11 47.5**	**-0.3**
KSRV				AML	AML	10 11 55.9	
	comp=Z,22nm,0.6s						
KSRV	**Kasrt alli**	**1.95 84**		eP	**Pb**	**10 11 24.6**	**-1.4**
	SNR=57						
KSRV				eS	**Sn**	**10 11 47.5**	**-0.3**
	comp=Z,22nm,0.6s,SNR=49						

*IDC **19** 10:17:12.5±1.6,22°.65S×170°.99E,h0km,mb3.9/7, mb1 4.2/8,mb1mx4.0/16,mbtmp3.9/8,ML3.9/1,MS3.4/4, Ms1 3.4/4,ms1mx3.2/30,Error ellipse: s-maj=67.2km s-min=21.7km az=166.0*
*NOU **19** 10:17:15.8±0.6,19°.95S×170°.47E,h10km,MD3.4,ML2.8*
*ISCJB **19** 10:17:17.2±1.1,22°.7S±0°.3×170°.88E±0°.06,h42km, mb3.9/7,MS3.4/2,Error ellipse: s-maj=45.6km s-min=7.4km az=0.1*

ISC 19 10:17:18.5±1.6,22°.7S±0°.4×170°.93E±0°.09,h42km,n17, σ0°.87/15,mb4.0/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.78 277**		eS	**Sn**	**10 18 57.3**	**-0.2**
PLUM	**Mont Dore**	**3.99 275**		eS	**Sn**	**10 19 02.5**	**-0.1**
DZM	**Mont Dzumac**	**4.20 277**		Pn	**Pn**	**10 18 20.5**	**+0.4**
	7.1nm,0.3s,baz=119,slow=17,SNR=136						
DZM				Sn	**Sn**	**10 19 09.0**	**+1.1**
	9.1nm,0.3s,baz=104,slow=20,SNR=8.0						
DZM				LR	LR	10 19 18.2	
	comp=Z,220nm,20.8s,baz=55,slow=30						
NOUC	**Port Laguerre**	**4.32 277**		eP	**Pn**	**10 18 21.1**	**-0.6**
NOUC				eS	**Sn**	**10 19 09.4**	**-1.5**
NOUC				AMP		10 19 21.0	
	comp=Z,35nm,4.3s						
HNR	**Honiara**	**16.86 320**		LR	LR	10 26 42.0	
	comp=Z,156nm,21.1s,baz=295,slow=34						
RPZ	**Rata Peaks**	**20.99 180**		LR	LR	10 28 16.6	
	comp=Z,178nm,19.0s,baz=15,slow=32						
STKA	**Stephens Creek**	**27.57 244**		LR	LR	10 32 27.4	
	comp=Z,105nm,19.8s,baz=25,slow=33						
ASAR	**Alice Springs**	**34.00 261**		P	**P**	**10 23 58.7**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=80,slow=9.0,SNR=10.0						
WRA	**Warramunga Arr**	**34.15 268**		P	**P**	**10 23 59.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=96,slow=8.5,SNR=15						
PETK	**Petropavlovsk-**	**76.33 352**		P	**P**	**10 29 03.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=170,slow=9.6,SNR=2.0						
CMAR	**Chiang Mai Arr**	**81.34 294**		P	**P**	**10 29 32.9**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=139,slow=4.2,SNR=5.7						
NVAR	**Mina Array Bea**	**89.90 48**		P	**P**	**10 30 12.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=223,slow=8.8,SNR=5.9						
SONM	**Songino Array**	**90.90 323**		P	**P**	**10 30 17.2**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=136,slow=4.5,SNR=6.5						
TXAR	**Lajitas Array**	**97.02 61**		P	Pdif	10 30 47.4	+1.0
	comp=Z,0.2nm,0.8s,baz=241,slow=3.7,SNR=2.9						
BRG	**Berggiesshubel**	**146.63 333**		eP	**PKPbc**	**10 36 55.8**	**+0.5**
	comp=Z,4.9nm,0.9s						
GERES	**GERESS Array B**	**148.25 331**		PKPbc	**PKPbc**	**10 37 00.3**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=85,slow=1.5,SNR=12						
DAVOX	**Davos/Dischmat**	**151.49 332**		PKPbc	**PKPbc**	**10 37 08.1**	**0.0**

*ISCJB **19** 10:27:10.5±0.5,38°.99S±0°.10×15°.69W±0°.09,h10km, mb4.4/18,MS4.8/22,Error ellipse: s-maj=13.8km s-min=10.5km az=177.0*
*IDC **19** 10:27:11.2±0.6,38°.93S×15°.75W,h0km,mb4.3/16, mb1 4.4/16,mb1mx4.4/19,mbtmp4.3/16,MS4.8/22, Ms1 4.8/22,ms1mx4.7/25,Error ellipse: s-maj=19.4km s-min=15.2km az=159.0*
*NEIC **19** 10:27:12.4±0.4,38°.96S×15°.71W,h10km,mb4.9/3,Error ellipse: s-maj=14.8km s-min=9.8km az=173.0*

ISC 19 10:27:12.4±0.5,39°.0S±0°.1×15°.71W±0°.09,h10km,n61, σ1°.02/48,mb4.4/18,MS4.9/22,1C,Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**30.24 89**		LR	LR	10 42 50.5	
	comp=Z,3μm,19.7s,baz=240,slow=31						
SUR	**Sutherland**	**30.24 89**		eP	**P**	**10 33 21.4**	**-2.2**
TSUM	**Tsumeb**	**34.86 65**		eP	**P**	**10 34 03.3**	**-0.7**
	30nm,1.5s						
BOSA	**Boshof**	**35.32 86**		P	**P**	**10 34 07.6**	**-0.3**
	5.2nm,0.9s,baz=237,slow=7.9,SNR=4.0						
BOSA				LR	LR	10 46 03.0	
	comp=Z,2μm,19.0s,baz=242,slow=32						
BOSA	**Boshof**	**35.32 86**		P	**P**	**10 34 07.6**	**-0.3**
BDFB	**Brasilia**	**36.62 300**		P	**P**	**10 34 18.7**	**-0.4**
	7.0nm,0.9s,baz=159,slow=5.9,SNR=6.1						
BDFB				LR	LR	10 46 39.7	
	comp=Z,2μm,18.7s,baz=128,slow=32						
BDFB	**Brasilia**	**36.62 300**		P	**P**	**10 34 18.7**	**-0.4**
LBTB	**Lobatse**	**37.38 81**		P	**P**	**10 34 26.5**	**+1.0**
	10.0nm,1.2s,baz=209,slow=15,SNR=4.7						
LBTB				LR	LR	10 47 36.7	
	comp=Z,3μm,18.5s,baz=243,slow=33						
LBTB	**Lobatse**	**37.38 81**		P	**P**	**10 34 26.5**	**+1.0**
RCBR	**Riachuelo**	**37.72 326**		LR	LR	10 47 13.1	
	comp=Z,963nm,18.6s,baz=320,slow=32						
PMSA	**Palmer Station**	**37.99 211**		LR	LR	10 46 47.0	
	comp=Z,962nm,19.5s,baz=231,slow=31						
USHA	**Ushuaia**	**38.36 228**		LR	LR	10 48 28.9	
	comp=Z,1μm,19.8s,baz=64,slow=33						
PLCA	**Paso Flores**	**41.56 249**		P	**P**	**10 35 02.0**	**+1.9**
	2.2nm,0.9s,baz=223,slow=14,SNR=3.2						
PLCA				LR	LR	10 49 25.1	
	comp=Z,3μm,21.0s,baz=126,slow=32						
PLCA	**Paso Flores**	**41.56 249**		P	**P**	**10 35 02.0**	**+1.9**
SYO	**Syowa Base**	**41.91 154**‖		eP	**P**	**10 35 01.2**	**-1.3**
CFAA	**Coronel Fontan**	**43.00 263**		P	**P**	**10 35 10.3**	**-1.7**
	0.8nm,1.0s,baz=94,slow=9.0,SNR=5.4						
CFAA				LR	LR	10 50 28.6	
	comp=Z,330nm,21.4s,baz=106,slow=32						
CFAA	**Coronel Fontan**	**43.00 263**		P	**P**	**10 35 10.3**	**-1.7**
SIV	**San Ignacio**	**45.71 287**		P	**P**	**10 35 33.6**	**-0.2**
	1.8nm,0.8s,baz=167,slow=5.2,SNR=4.6						
SIV				LR	LR	10 52 16.4	
	comp=Z,738nm,20.6s,slow=33						
SIV	**San Ignacio**	**45.71 287**		P	**P**	**10 35 33.6**	**-0.2**
MSKU	**Masuku**	**45.79 43**		P	**P**	**10 35 35.0**	**+0.6**
	18nm,0.7s,baz=171,slow=8.9,SNR=7.3						
MSKU				LR	LR	10 51 17.1	
	comp=Z,2μm,19.0s,baz=210,slow=32						
MSKU	**Masuku**	**45.79 43**		P	**P**	**10 35 35.0**	**+0.6**
DBIC	**Dimbokro**	**46.52 15**		P	**P**	**10 35 40.0**	**0.0**
	5.1nm,1.0s,baz=204,slow=12,SNR=2.3						
DBIC				LR	LR	10 50 30.2	
	comp=Z,427nm,18.7s,baz=177,slow=30						
DBIC	**Dimbokro**	**46.52 15**		P	**P**	**10 35 40.0**	**0.0**
MAW	**Mawson**	**50.37 151**		P	**P**	**10 36 09.3**	**+0.1**
	44nm,1.3s,baz=248,slow=15,SNR=2.8						
MAW				LR	LR	10 52 56.4	
	comp=Z,699nm,21.2s,baz=275,slow=31						
MAW	**Mawson**	**50.37 151**		P	**P**	**10 36 09.3**	**+0.1**
LPAZ	**La Paz**	**50.87 281**		P	**P**	**10 36 14.1**	**-0.3**
	3.7nm,1.1s,baz=98,slow=5.9,SNR=8.6						
LPAZ				LR	LR	10 57 40.8	
	comp=Z,1μm,20.2s,baz=125,slow=36						
LPAZ	**La Paz**	**50.87 281**		P	**P**	**10 36 14.1**	**-0.3**
QSPA	**South Pole Qui**	**51.28 180**		P	**P**	**10 36 16.6**	**+0.3**
	5.2nm,0.8s,baz=220,slow=4.5,SNR=9.9						
QSPA	**South Pole Qui**	**51.28 180**		eP	**P**	**10 36 16.0**	**-0.3**
	15nm,1.0s						
SAML	**Samuel**	**51.88 292**		eP	**P**	**10 36 20.8**	**-0.4**
	13nm,1.5s						
TORD	**Torodi Ar. Bea**	**54.34 21**		P	**P**	**10 36 37.6**	**-1.6**
	3.6nm,1.1s,baz=190,slow=6.2,SNR=10						
TORD				LR	LR	10 54 23.9	

ellipse: s-maj=13.5km s-min=10.9km az=171.0
ISC 19 10:37:50.8±0.5, 39°08'S±0°1' × 15°59'W±0°1', h10km, n41, σ1§13/36, mb4.5/15, MS4.7/7, 1D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**30.35**	**89**	P	**P**	**10 44 01.3**	**-1.7**
SNAA	**Sanae**	**33.38**	**173**	*e*P	**P**	**10 44 28.1**	**-0.9**
	8.7nm,1.2s						
TSUM	**Tsumeb**	**34.98**	**65**	*e*P	**P**	**10 44 43.2**	**-0.4**
	11nm,0.9s						
BOSA	**Boshof**	**35.43**	**86**	P	**P**	**10 44 46.5**	**-0.8**
	8.1nm,1.0s,baz=231,slow=8.8,SNR=4.7						
BOSA				LR	LR	10 55 50.0	
	comp=Z,3μm,19.5s,baz=242,slow=30						
BOSA	**Boshof**	**35.43**	**86**	P	**P**	**10 44 46.5**	**-0.8**
BDFB	**Brasilia**	**36.55**	**301**	LR	LR	10 57 18.9	
	comp=Z,1μm,18.4s,baz=137,slow=32						
PLCA	**Paso Flores**	**41.44**	**250**	LR	LR	10 59 18.9	
	comp=Z,3μm,20.8s,baz=122,slow=31						
SYO	**Syowa Base**	**41.91**	**154**	*e*P	**P**	**10 45 40.6**	**-0.4**
CFAA	**Coronel Fontan**	**42.89**	**263**	P	**P**	**10 45 49.5**	**-0.1**
	0.1nm,0.4s,baz=94,slow=16,SNR=4.6						
CFAA	**Coronel Fontan**	**42.89**	**263**	P	**P**	**10 45 49.5**	**-0.1**
LSZ	**Lusaka**	**45.20**	**71**	*e*P	**P**	**10 46 07.8**	**-0.6**
	29nm,1.6s						
SIV	**San Ignacio**	**45.62**	**287**	P	**P**	**10 46 12.1**	**+0.5**
	0.3nm,0.3s,baz=215,slow=19,SNR=4.2						
SIV	**San Ignacio**	**45.62**	**287**	P	**P**	**10 46 12.1**	**+0.5**
MSKU	**Masuku**	**45.90**	**43**	P	**P**	**10 46 14.3**	**+0.5**
	12nm,0.6s,baz=217,slow=18,SNR=10						
MSKU	**Masuku**	**45.90**	**43**	P	**P**	**10 46 14.3**	**+0.5**
DBIC	**Dimbokro**	**46.59**	**15**	LR	LR	10 59 46.3	
	comp=Z,331nm,20.5s,baz=164,slow=28						
MAW	**Mawson**	**50.38**	**151**	P	**P**	**10 46 48.8**	**+1.1**
	22nm,1.2s,baz=93,slow=22,SNR=2.7						
MAW				LR	LR	11 03 22.4	
	comp=Z,644nm,20.6s,baz=276,slow=30						
MAW	**Mawson**	**50.38**	**151**	P	**P**	**10 46 48.8**	**+1.1**
LPAZ	**La Paz**	**50.77**	**281**	P	**P**	**10 46 50.4**	**-1.7**
	1.2nm,0.9s,baz=114,slow=8.6,SNR=4.4						
LPAZ				LR	LR	11 08 19.6	
	comp=Z,947nm,19.9s,baz=128,slow=36						
LPAZ	**La Paz**	**50.77**	**281**	P	**P**	**10 46 49.6**	**-2.5**
	16nm,1.6s						
QSPA	**South Pole Qui**	**51.23**	**180**	*e*P	**P**	**10 46 55.0**	**+0.6**
	9.6nm,0.9s						
SAML	**Samuel**	**51.80**	**292**	*e*P	**P**	**10 46 58.1**	**-0.9**
	5.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**54.43**	**21**	P	**P**	**10 47 17.1**	**-1.1**
	1.7nm,1.0s,baz=192,slow=7.7,SNR=5.9						
TORD				LR	LR	11 05 36.1	
	comp=Z,641nm,19.4s,baz=170,slow=31						
TORD	**Torodi Ar. Bea**	**54.43**	**21**	P	**P**	**10 47 17.1**	**-1.1**
VNDA	**Vanda**	**63.72**	**179**	P	**P**	**10 48 23.1**	**+1.1**
	8.0nm,1.2s						
KEST	**Kesra**	**77.94**	**21**	P	**P**	**10 49 51.3**	**+2.4**
	0.9nm,0.7s,baz=303,slow=3.3,SNR=2.9						
KEST	**Kesra**	**77.94**	**21**	P	**P**	**10 49 51.3**	**+2.4**
BRTR	**Keskin Array B**	**90.51**	**36**	P	**P**	**10 50 53.3**	**+0.5**
	1.6nm,0.9s,baz=197,slow=2.6,SNR=7.5						
BRTR	**Keskin Array B**	**90.51**	**36**	P	**P**	**10 50 53.3**	**+0.5**
RKT	**Rikitea**	**95.98**	**234**	*e*LR	LR	11 22 37.1	
	321nm,34.5s						
TBI	**Tubuai**	**104.28**	**223**	*e*SS	SS	11 11 08.0	+5.9
	129nm,28.2s						
TBI				*e*LR	LR	11 26 10.5	
	544nm,23.2s						
PPT2	**Papeete2**	**108.98**	**227**	*e*SS	SS	11 12 08.6	+2.1
	200nm,26.8s						
PPT2				*e*LR	LR	11 28 19.6	
	755nm,26.5s						
RES	**Resolute Bay**	**124.42**	**342**	*e*PKPdf	**PKPdf**	**10 56 49.8**	**+1.0**
YKA	**Yellowknife Ar**	**127.62**	**325**	PKP	**PKPdf**	**10 56 54.9**	**-0.4**
	0.7nm,0.9s,baz=108,slow=1.9,SNR=9.8						
YKA	**Yellowknife Ar**	**127.62**	**325**	PKP	**PKPdf**	**10 56 54.9**	**-0.4**
SONM	**Songino Array**	**138.02**	**58**	PKP	**PKPdf**	**10 57 16.8**	**+1.3**
	1.0nm,1.1s,baz=259,slow=2.0,SNR=6.5						
SONM	**Songino Array**	**138.02**	**58**	PKP	**PKPdf**	**10 57 16.8**	**+1.3**
ILAR	**Eielson Array**	**141.79**	**328**	PKhKP	PKPpre	10 57 16.4	
	0.7nm,0.9s,baz=72,slow=2.8,SNR=5.3						
ILAR				PKP	**PKiKP**	**10 57 23.6**	**-0.9**
	1.1nm,0.8s,baz=44,slow=0.9,SNR=10						
ILAR	**Eielson Array**	**141.79**	**328**	PKPpre	PKPpre	10 57 16.4	
ILAR				PKP	**PKiKP**	**10 57 23.6**	**-0.9**
TNA	**Tin City**	**148.94**	**338**	*e*PKPbc	**PKPbc**	**10 57 37.1**	**-0.7**
BILL	**Bilibino**	**150.91**	**358**	*e*PKPdf	**PKPdf**	**10 57 36.5**	**-0.4**
BILL				*e*PKPbc	**PKPbc**	**10 57 42.9**	**+0.3**

CSEM 19 10:40:29.6±0.1, 39.13N×40.39E, h2km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.9km az=137.0
DDA 19 10:40:30.0, 39.16N×40.39E, h6km, MD3.2
ISK 19 10:40:29.1, 39.10N×40.41E, h4km, MD3.1
ISC 19 10:40:30.2±1.1, 39.12N±0.02×40.41E±0.02, h4km±10km, n39, σ1§23/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bing˜¶l**	**0.25**	**122**	*e*PG	**Pg**	**10 40 34.3**	**-0.7**
BNGB				*e*SG	**Sg**	**10 40 38.5**	**+0.2**
BINT	**Bingol**	**0.26**	**166**	*e*Pg	**Pg**	**10 40 34.3**	**-0.8**
BINT				*e*Sg	**Sg**	**10 40 38.5**	**+0.0**
BNGL	**BINGOL**	**0.60**	**106**	*i* P	**Pg**	**10 40 41.9**	**+0.1**
BNGL				*i* S	**Sb**	**10 40 52.8**	**+0.4**
ERZN	**Erzincan**	**0.70**	**311**	*e*PG	**Pg**	**10 40 42.8**	**-1.0**
ERZN				*e*SG	**Sb**	**10 40 54.4**	**-0.9**
VRTB	**Varto-Mus**	**0.81**	**87**	*e*PG	**Pg**	**10 40 45.0**	**-0.8**
VRTB				*e*SG	**Sg**	**10 40 57.5**	**+1.1**
VRTB	**Varto-Mus**	**0.81**	**87**	*e*Pg	**Pg**	**10 40 45.0**	**-0.8**
VRTB				*e*Sg	**Sg**	**10 40 57.5**	**+1.1**
PTK	**Pertek**	**0.82**	**254**	*e*PG	**Pg**	**10 40 45.4**	**-0.6**
PTK				*e*SG	**Sg**	**10 40 57.1**	**+0.4**
PTK	**Pertek**	**0.82**	**254**	*e*Pg	**Pg**	**10 40 45.4**	**-0.6**
PTK				*e*Sg	**Sg**	**10 40 57.1**	**+0.4**
KOPT	**Kop Dagi**	**0.90**	**4**	*i* P	**Pg**	**10 40 46.7**	**-0.7**
KOPT				*i* S	**Sn**	**10 41 02.7**	**-0.8**
KOPT	**Kop Dagi**	**0.90**	**4**	*i* P	**Pg**	**10 40 46.7**	**-0.7**
KOPT				*i* S	**Sn**	**10 41 02.7**	**-0.8**
EZC	**Erzincan**	**1.03**	**308**	*e*PG	**Pg**	**10 40 49.4**	**-0.6**
EZC	**Erzincan**	**1.03**	**308**	*e*Pg	**Pg**	**10 40 49.4**	**-0.6**
EZM	**Erzurum**	**1.07**	**43**	*e*PN	**Pb**	**10 40 50.6**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.14**	**230**	*e*PN	**Pb**	**10 40 51.7**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.14**	**230**	*e*Pn	**Pb**	**10 40 51.7**	**-0.9**
DIYA	**Diyarbakir**	**1.22**	**191**	*i* P	**Pg**	**10 40 54.0**	**+0.4**
DIYA				*i* S	**Sn**	**10 41 12.0**	**+0.9**
DIYA	**Diyarbakir**	**1.22**	**191**	*i* P	**Pg**	**10 40 54.0**	**+0.4**
DIYA				*i* S	**Sn**	**10 41 12.0**	**+0.9**
ELZG	**Elazig**	**1.28**	**241**	*i* P	**Pn**	**10 40 53.7**	**-1.3**
ELZG				*i* S	**Sn**	**10 41 14.1**	**+1.5**
ELZG	**Elazig**	**1.28**	**241**	*i* P	**Pn**	**10 40 53.7**	**-1.3**
ELZG				*i* S	**Sn**	**10 41 14.1**	**+1.5**
BAYT	**Ayd˜–ntepe-Bay**	**1.28**	**351**	*e*PN	**Pb**	**10 40 55.0**	**-0.1**
BAYT	**Ayd˜–ntepe-Bay**	**1.28**	**351**	*e*Pn	**Pb**	**10 40 55.0**	**-0.1**
KELT	**Kelkit**	**1.36**	**319**	*i* P	**Pn**	**10 40 54.9**	**-1.3**
KELT				*i* S	**Sg**	**10 41 18.1**	**+4.3**
KELT	**Kelkit**	**1.36**	**319**	*i* P	**Pn**	**10 40 54.9**	**-1.3**
BEST	**Besiri**	**1.40**	**151**	*i* P	**Pn**	**10 40 56.4**	**-0.3**
BEST				*i* S	**Sg**	**10 41 16.3**	**+1.0**
ILIC	**ilic-Erzincan**	**1.47**	**284**	*e*PN	**Pn**	**10 40 56.6**	**-1.0**
ILIC	**ilic-Erzincan**	**1.47**	**284**	*e*Pn	**Pn**	**10 40 56.6**	**-1.0**
HOMI	**Horasan**	**1.48**	**51**	*i* P	**Pn**	**10 40 57.0**	**-0.9**
HOMI				*i* S	**Sg**	**10 41 20.5**	**+2.8**
KEMA	**Kemaliye**	**1.50**	**276**	*i* P	**Pn**	**10 40 57.0**	**-0.9**
KEMA				*i* S	**Sg**	**10 41 22.9**	**+4.6**
KEMA	**Kemaliye**	**1.50**	**276**	*i* P	**Pn**	**10 40 57.0**	**-0.9**
GUMT	**Gumushane**	**1.51**	**332**	*e*PN	**Pb**	**10 40 58.4**	**-0.6**
GUMT	**Gumushane**	**1.51**	**332**	*e*Pn	**Pb**	**10 40 58.4**	**-0.6**
MYA	**Malataya**	**1.74**	**243**	*e*PN	**Pn**	**10 41 01.2**	**-0.1**
MYA	**Malataya**	**1.74**	**243**	*e*Pn	**Pn**	**10 41 01.2**	**-0.1**
AGRB	**Hanur-Agry**	**2.05**	**76**	*e*PN	**Pn**	**10 41 05.7**	**0.0**
AGRB	**Hanur-Agry**	**2.05**	**76**	*e*Pn	**Pn**	**10 41 05.7**	**0.0**
URFA	**Urfa**	**2.09**	**217**	*e*PN	**Pn**	**10 41 06.1**	**0.0**
URFA	**Urfa**	**2.09**	**217**	*e*Pn	**Pn**	**10 41 06.1**	**0.0**
BCA	**Borcka**	**2.50**	**21**	*e*PN	**Pn**	**10 41 12.1**	**+0.4**
BCA	**Borcka**	**2.50**	**21**	*e*Pn	**Pn**	**10 41 12.1**	**+0.4**

ISCJB 19 10:40:53.9±1.9, 6.34S±0.09×154.82E±0.07, h55km±18km, mb4.1/15, MS4.8/2, Error ellipse: s-maj=15.9km s-min=11.8km az=166.7
NEIC 19 10:40:56.5±1.3, 6.38S×154.81E, h66km±13km, mb4.6/2,

Error ellipse: s-maj=12.0km s-min=9.7km az=160.0
IDC 19 10:40:57.4±2.6, 6.38S×154.89E, h73km±23km, mb3.8/13, mb1 4.0/16, mb1mx4.0/19, mbtmp3.9/16, MS3.9/4, Ms1 4.0/4, ms1mx3.3/32, Error ellipse: s-maj=17.5km s-min=15.7km az=131.0
ISC 19 10:40:58.0±1.5, 6.3S±0.1×154.78E±0.06, h77km±14km, n40, σ1§36/49, mb4.1/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.97**	**121**	P	**Pn**	**10 42 21.7**	**-2.1**
	8.9nm,0.3s,baz=215,slow=4.6,SNR=3.3						
HNR				S	**Sn**	**10 43 34.6**	**+3.7**
	12nm,0.3s,baz=50,slow=18,SNR=4.0						
HNR				LR	LR	10 44 34.3	
	comp=Z,200nm,20.2s,baz=256,slow=37						
HNR	**Honiara**	**5.97**	**121**	P	**Pn**	**10 42 21.7**	**-2.1**
HNR				S	**Sn**	**10 43 34.6**	**+3.7**
PMG	**Port Moresby**	**8.14**	**248**	P	**Pn**	**10 42 52.6**	**-0.8**
	5.9nm,0.3s,baz=46,slow=11,SNR=26						
PMG				S	**Sn**	**10 44 28.3**	**+4.4**
	0.8nm,0.3s,baz=58,slow=21,SNR=4.2						
PMG	**Port Moresby**	**8.14**	**248**	*e*Pn	**Pn**	**10 42 52.4**	**-1.0**
	34nm,0.6s						
PMG				*e*Sn	**Sn**	**10 44 23.9**	**0.0**
PMG				S		10 44 28.3	
CTA	**Charters Tower**	**15.97**	**210**	LR	LR	10 49 49.3	
	comp=Z,112nm,19.0s,baz=224,slow=33						
CTAO	**Charters Tower**	**15.97**	**210**	*e*Pn	**Pn**	**10 44 35.6**	**-2.6**
DZM	**Mont Dzumac**	**19.27**	**145**	P	**P**	**10 45 16.2**	**-0.6**
	0.7nm,0.3s,baz=118,slow=18,SNR=10.0						
DZM	**Mont Dzumac**	**19.27**	**145**	P	**P**	**10 45 16.2**	**-0.6**
WRAB	**Tennant Creek**	**24.00**	**234**	*e*P	**P**	**10 46 05.5**	**-0.2**
	14nm,1.3s						
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**10 46 05.8**	**-0.1**
	2.7nm,0.7s,baz=57,slow=9.7,SNR=23						
WRA				PcP	**PcP**	**10 49 46.3**	**+0.2**
	1.0nm,0.6s,baz=61,slow=2.5,SNR=11						
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**10 46 05.8**	**-0.1**
WRA				PcP	**PcP**	**10 49 46.3**	**+0.2**
ASAR	**Alice Springs**	**26.45**	**227**	P	**P**	**10 46 27.2**	**-0.7**
	0.6nm,0.6s,baz=59,slow=8.7,SNR=16						
ASAR				PcP	**PcP**	**10 49 51.6**	**+0.1**
	1.2nm,0.7s,baz=67,slow=2.6,SNR=13						
ASAR	**Alice Springs**	**26.45**	**227**	P	**P**	**10 46 27.2**	**-0.7**
ASAR				PcP	**PcP**	**10 49 51.6**	**+0.1**
STKA	**Stephens Creek**	**28.23**	**204**	P	**P**	**10 46 44.5**	**+0.7**
	1.0nm,0.7s,baz=26,slow=13,SNR=3.8						
STKA				PcP	**PcP**	**10 49 55.4**	**-0.2**
	1.0nm,0.9s,baz=20,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**28.23**	**204**	P	**P**	**10 46 44.5**	**+0.7**
STKA				PcP	**PcP**	**10 49 55.4**	**-0.2**
KSRS	**Korea Array**	**50.27**	**332**	P	**P**	**10 49 46.7**	**+0.1**
	0.3nm,0.4s,baz=143,slow=6.7,SNR=5.3						
KSAR	**Wonju Array Be**	**50.27**	**332**	P	**P**	**10 49 46.7**	**+0.1**
PETK	**Petropavlovsk-**	**59.28**	**2**	P	**P**	**10 50 52.1**	**+0.7**
	2.1nm,0.7s,baz=182,slow=9.4,SNR=7.0						
PETK	**Petropavlovsk-**	**59.28**	**2**	P	**P**	**10 50 52.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**60.31**	**295**	P	**P**	**10 51 01.1**	**+1.9**
	6.4nm,0.8s,baz=114,slow=4.9,SNR=35						
CMAR	**Chiang Mai Arr**	**60.31**	**295**	P	**P**	**10 51 01.1**	**+1.9**
SONM	**Songino Array**	**68.67**	**327**	P	**P**	**10 51 53.8**	**+0.5**
	1.1nm,0.5s,baz=146,slow=5.3,SNR=14						
SONM	**Songino Array**	**68.67**	**327**	P	**P**	**10 51 53.8**	**+0.5**
MKAR	**Makanchi Array**	**82.78**	**319**	P	**P**	**10 53 14.1**	**+0.4**
	1.9nm,0.8s,baz=100,slow=5.6,SNR=18						
MKAR	**Makanchi Array**	**82.78**	**319**	P	**P**	**10 53 14.1**	**+0.4**
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**10 53 12.4**	**-1.3**
	0.5nm,0.8s,baz=236,slow=5.1,SNR=9.1						
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**10 53 12.4**	**-1.3**
ZALV	**Zalesovo Beam**	**83.52**	**326**	P	**P**	**10 53 16.5**	**-0.9**
	0.8nm,0.5s,baz=113,slow=4.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**83.52**	**326**	P	**P**	**10 53 16.5**	**-0.9**
MAW	**Mawson**	**84.91**	**203**	P	**P**	**10 53 23.8**	**-0.3**
	14nm,1.1s,baz=117,slow=2.3,SNR=3.8						
MAW	**Mawson**	**84.91**	**203**	P	**P**	**10 53 23.8**	**-0.3**
NVAR	**Mina Array Bea**	**91.49**	**52**	P	**P**	**10 53 56.9**	**+0.4**
	1.0nm,0.8s,baz=255,slow=6.2,SNR=6.2						
NVAR	**Mina Array Bea**	**91.49**	**52**	P	**P**	**10 53 56.9**	**+0.4**
BVAR	**Borovoye Array**	**91.65**	**323**	LR	LR	11 35 25.1	
	comp=Z,293nm,18.9s,baz=239,slow=36						
BRVK	**Borovoye**	**91.72**	**323**	*e*P	**P**	**10 53 56.0**	**-0.9**
	5.5nm,0.8s						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	**P**	**10 54 15.5**	**-0.2**
	0.7nm,0.9s,baz=266,slow=4.5,SNR=11						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	**P**	**10 54 15.6**	**-0.2**
PDAR	**Pinedale Array**	**98.42**	**48**	LR	LR	11 33 32.9	
	comp=Z,306nm,21.7s,baz=117,slow=32						
TORD	**Torodi Ar. Bea**	**152.64**	**286**	PKPbc	**PKPbc**	**11 00 46.1**	**-0.7**
	1.4nm,0.6s,baz=74,slow=2.3,SNR=9.1						
TORD				PKPab	**PKPab**	**11 00 57.6**	**-0.1**
	0.5nm,0.5s,baz=92,slow=3.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**152.64**	**286**	PKPbc	**PKPbc**	**11 00 46.1**	**-0.7**
TORD				PKPab	**PKPab**	**11 00 57.6**	**-0.1**

ISK 19 10:45:48.3, 38.63N×26.96E, h10km, MD3.2
DDA 19 10:45:48.6, 38.62N×27.01E, h14km, MD3.2
ISCJB 19 10:45:49.0±0.5, 38.64N±0.02×26.99E±0.03, h10km±4km, Error ellipse: s-maj=3.4km s-min=3.1km az=179.7
CSEM 19 10:45:49.3±0.1, 38.61N×26.97E, h12km, MD3.2, Error ellipse: s-maj=2.8km s-min=2.3km az=87.0
ATH 19 10:45:50.0, 38.59N×26.87E, h59km±4km, MD3.5/6
ISC 19 10:45:49.4±0.9, 38.62N±0.02×26.98E±0.02, h14km±7km, n104, σ0§81/136, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.24**	**168**	PG	**Pg**	**10 45 54.2**	**-0.4**
BLCB				*e*SG	**Sg**	**10 45 58.1**	**-0.1**
BLCB	**Balcova**	**0.24**	**168**	*i* Pg	**Pg**	**10 45 54.2**	**-0.4**
BLCB				*e*Sg	**Sg**	**10 45 58.1**	**-0.1**
IZM	**Izmir**	**0.31**	**135**	PG	**Pg**	**10 45 55.5**	**-0.4**
IZM				*e*SG	**Sg**	**10 46 00.2**	**-0.2**
IZM	**Izmir**	**0.31**	**135**	*i* Pg	**Pg**	**10 45 55.6**	**-0.4**
IZM				*e*Sg	**Sg**	**10 46 00.2**	**-0.2**
URLA	**Izmir**	**0.40**	**230**	*i* P	**Pg**	**10 45 56.9**	**-0.5**
URLA				*i* S	**Sg**	**10 46 04.2**	**+1.3**
URLA	**Izmir**	**0.40**	**230**	*i* P	**Pg**	**10 45 56.9**	**-0.5**
URLA				*i* S	**Sg**	**10 46 04.2**	**+1.3**
AKS	**Akhisar**	**0.70**	**68**	*e*PG	**Pg**	**10 46 02.5**	**-0.6**
AKS				*e*SG	**Sg**	**10 46 12.7**	**+0.3**
AKS	**Akhisar**	**0.70**	**68**	*e*Pg	**Pg**	**10 46 02.5**	**-0.6**
AKS				*e*Sg	**Sg**	**10 46 12.7**	**+0.3**
AKHS	**Akhisar**	**0.70**	**68**	*i* P	**Pg**	**10 46 02.4**	**-0.7**
AKHS				*i* S	**Sg**	**10 46 11.8**	**-0.6**
AKHS	**Akhisar**	**0.70**	**68**	*i* P	**Pg**	**10 46 02.4**	**-0.7**
AKHS				*i* S	**Sg**	**10 46 11.8**	**-0.6**
AYVA	**Ayvalik**	**0.72**	**342**	*i* P	**Pg**	**10 46 02.6**	**-0.9**
AYVA				*i* S	**Sb**	**10 46 14.0**	**+0.4**
AYVA	**Ayvalik**	**0.72**	**342**	*i* P	**Pg**	**10 46 02.6**	**-0.9**
AYVA				*i* S	**Sb**	**10 46 14.0**	**+0.4**
CHOS	**Chios island**	**0.76**	**253**	*e*P	**Pb**	**10 46 04.5**	**0.0**
CHOS				*e*S	**Sb**	**10 46 14.9**	**+0.1**
CHOS	**Chios island**	**0.76**	**253**	*e*P	**Pb**	**10 46 04.5**	**0.0**
CHOS				*e*S	**Sb**	**10 46 14.9**	**+0.1**
PRK	**Paraskevi**	**0.83**	**319**	*e*P	**Pb**	**10 46 06.2**	**+0.5**
PRK				*e*S	**Sn**	**10 46 18.1**	**-0.7**
PRK	**Paraskevi**	**0.83**	**319**	*e*P	**Pb**	**10 46 06.2**	**+0.5**
PRK				*e*S	**Sn**	**10 46 18.1**	**-0.7**
SMG	**Samos**	**0.92**	**187**	*e*P	**Pg**	**10 46 06.6**	**-0.6**
SMG				*e*S	**Sb**	**10 46 20.1**	**+1.0**
SMG	**Samos**	**0.92**	**187**	*e*P	**Pg**	**10 46 06.6**	**-0.6**
SMG				*e*S	**Sb**	**10 46 20.1**	**+1.0**
GCAM	**G?zelcaml?**	**0.94**	**168**	*i* P	**Pg**	**10 46 06.4**	**-1.2**
GCAM				*i* S	**Sg**	**10 46 20.5**	**+0.6**
GCAM	**G?zelcaml?**	**0.94**	**168**	*i* P	**Pg**	**10 46 06.4**	**-1.2**
GCAM				*i* S	**Sg**	**10 46 20.5**	**+0.6**
AYDN	**Tasoluk**	**1.19**	**143**	*i* P	**Pn**	**10 46 10.7**	**-1.0**
AYDN				*i* S	**Sb**	**10 46 27.8**	**+0.7**
AYDN	**Tasoluk**	**1.19**	**143**	*i* P	**Pn**	**10 46 10.7**	**-1.0**
AYDN				*i* S	**Sb**	**10 46 27.8**	**+0.7**
BALY	**Balya**	**1.23**	**24**	*i* P	**Pn**	**10 46 11.3**	**-0.9**
BALY				*i* S	**Sb**	**10 46 28.6**	**+0.5**
BALY	**Balya**	**1.23**	**24**	*i* P	**Pn**	**10 46 11.3**	**-0.9**
BALY				*i* S	**Sb**	**10 46 28.6**	**+0.5**
BALB	**Balikesir**	**1.24**	**34**	*e*PN	**Pn**	**10 46 11.9**	**-0.4**
BALB				*e*SN	**Sg**	**10 46 29.7**	**+0.3**
BALB	**Balikesir**	**1.24**	**34**	*e*Pn	**Pn**	**10 46 11.9**	**-0.4**
BALB				*e*Sn	**Sg**	**10 46 29.7**	**+0.3**
MANT	**Manisa**	**1.24**	**95**	*i* P	**Pn**	**10 46 11.8**	**-0.8**
MANT				*i* S	**Sb**	**10 46 27.8**	**-1.0**
MANT	**Manisa**	**1.24**	**95**	*i* P	**Pn**	**10 46 11.8**	**-0.8**
MANT				*i* S	**Sb**	**10 46 27.8**	**-1.0**
EZN	**Ezine**	**1.31**	**337**	*e*PN	**Pn**	**10 46 12.9**	**-0.3**
EZN				*e*SN	**Sn**	**10 46 30.9**	**+0.4**
EZN	**Ezine**	**1.31**	**337**	*e*Pn	**Pn**	**10 46 12.9**	**-0.3**
EZN				*e*Sn	**Sn**	**10 46 30.9**	**+0.4**
KULA	**Kula-Manisa**	**1.32**	**94**	*e*PN	**Pn**	**10 46 13.0**	**-0.5**
KULA	**Kula-Manisa**	**1.32**	**94**	*e*Pn	**Pn**	**10 46 13.0**	**-0.5**
GONE	**Gonen-Balikesi**	**1.53**	**21**	*e*PN	**Pn**	**10 46 15.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.53**	**21**	*e*Pn	**Pn**	**10 46 15.9**	**-0.4**
BODT	**Bodrum**	**1.58**	**170**	*e*PN	**Pn**	**10 46 17.5**	**+0.5**
BODT	**Bodrum**	**1.58**	**170**	*e*Pn	**Pn**	**10 46 17.5**	**+0.5**
LPK	**Lapseki**	**1.76**	**355**	*e*PN	**Pn**	**10 46 19.7**	**+0.2**
LPK	**Lapseki**	**1.76**	**355**	*e*Pn	**Pn**	**10 46 19.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.79**	**8**	*e*PN	**Pn**	**10 46 19.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.79**	**8**	*e*Pn	**Pn**	**10 46 19.6**	**-0.3**
YER	**Yerkesik**	**1.81**	**145**	*e*PN	**Pn**	**10 46 20.5**	**+0.4**
YER	**Yerkesik**	**1.81**	**145**	*e*Pn	**Pn**	**10 46 20.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.82**	**348**	*e*PN	**Pn**	**10 46 20.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.82**	**348**	*e*Pn	**Pn**	**10 46 20.5**	**+0.2**
EDC	**Edincik**	**1.86**	**21**	*e*PN	**Pn**	**10 46 20.1**	**-0.7**
EDC	**Edincik**	**1.86**	**21**	*e*Pn	**Pn**	**10 46 20.1**	**-0.7**
BNT	**Bandirma**	**1.88**	**22**	*e*PN	**Pn**	**10 46 20.8**	**-0.4**
BNT	**Bandirma**	**1.88**	**22**	*e*Pn	**Pn**	**10 46 20.8**	**-0.4**
LIA	**Limnos Island**	**1.89**	**313**	*e*P	**Pn**	**10 46 20.8**	**-0.5**
LIA	**Limnos Island**	**1.89**	**313**	*e*P	**Pn**	**10 46 20.8**	**-0.5**
APE	**Apeiranthos**	**1.93**	**217**	*e*PN	**Pn**	**10 46 21.2**	**-0.6**
APE	**Apeiranthos**	**1.93**	**217**	*e*P	**Pn**	**10 46 20.6**	**-1.2**
APE	**Apeiranthos**	**1.93**	**217**	*e*P	**Pn**	**10 46 20.6**	**-1.2**
APE	**Apeiranthos**	**1.93**	**217**	*e*Pn	**Pn**	**10 46 21.2**	**-0.6**
KHL	**Karahalli**	**2.02**	**98**	*e*PN	**Pn**	**10 46 24.2**	**+1.1**
KHL	**Karahalli**	**2.02**	**98**	*e*Pn	**Pn**	**10 46 24.2**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.07**	**4**	*e*PN	**Pn**	**10 46 23.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.07**	**4**	*e*Pn	**Pn**	**10 46 23.7**	**-0.1**
ERIK	**Erikli-Kesan**	**2.08**	**350**	*e*PN	**Pn**	**10 46 23.4**	**-0.4**
ERIK	**Erikli-Kesan**	**2.08**	**350**	*e*Pn	**Pn**	**10 46 23.4**	**-0.4**
ENEZ	**Enez**	**2.21**	**343**	*e*PN	**Pn**	**10 46 25.0**	**-0.6**
ENEZ	**Enez**	**2.21**	**343**	*e*Pn	**Pn**	**10 46

CHOJ	**Chosi**	**1.22**	**324**	P	**Pn**	**11**	**14**	**18.5**	**-0.7**
CHOJ				*e*S	**Sb**	**11**	**14**	**34.6**	**-0.4**
KTR	**Katsuura**	**1.25**	**291**	⇑P	**Pn**	**11**	**14**	**19.5**	**0.0**
KTR				S	**Sn**	**11**	**14**	**36.1**	**+0.4**
JIM2	**Oshima 3**	**1.90**	**271**	⇑P	**Pn**	**11**	**14**	**27.5**	**-1.0**
JIM2				*e*S	**Sn**	**11**	**14**	**51.5**	**-0.4**
JMY	**Miyakejima3**	**1.95**	**251**	P	**Pn**	**11**	**14**	**28.1**	**-1.1**
JOD2	**Odawara 2**	**2.24**	**285**	⇑P	**Pn**	**11**	**14**	**32.4**	**-0.8**
JOD2				S	**Sn**	**11**	**14**	**59.2**	**-1.2**
JHJ2	**Mitsune**	**2.26**	**226**	P	**Pn**	**11**	**14**	**32.0**	**-1.4**
JHJ2				S	**Sn**	**11**	**14**	**58.6**	**-2.1**
JIZS	**Izushimoda**	**2.35**	**271**	P	**Pn**	**11**	**14**	**34.0**	**-0.7**
JIZS				S	**Sn**	**11**	**15**	**02.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.40**	**303**	Pn	**Pn**	**11**	**14**	**49.5**	**+0.3**
	20nm,0.3s,baz=217,slow=8.8,SNR=211								
MJAR				Sn	**Sn**	**11**	**15**	**31.0**	**+2.0**
	44nm,0.3s,baz=32,slow=28,SNR=12								
MJAR	**Matsushiro Arr**	**3.40**	**303**	P	**Pn**	**11**	**14**	**49.5**	**+0.3**
MJAR						11	15	31.0	
MJAR	**Matsushiro Arr**	**3.40**	**303**	P	**Pn**	**11**	**14**	**49.5**	**+0.3**
MJAR				Sn	**Sn**	**11**	**15**	**31.0**	**+2.0**
MAJO	**Matsushiro**	**3.41**	**303**	*e*P	**Pn**	**11**	**14**	**50.2**	**+1.0**
MAJO				*e*		11	15	27.9	
MAJO	**Matsushiro**	**3.41**	**303**	*e*Pn	**Pn**	**11**	**14**	**50.2**	**+1.0**
MAJO				*e*Sn	**Sn**	**11**	**15**	**27.9**	**-1.2**
MAT	**Matsushiro**	**3.41**	**303**	P	**Pn**	**11**	**14**	**49.9**	**+0.7**
MAT				S	**Sn**	**11**	**15**	**29.3**	**+0.2**
ERM	**Erimo**	**7.38**	**8**	*e*P	**Pn**	**11**	**15**	**40.9**	**-2.8**
ERM	**Erimo**	**7.38**	**8**	*e*Pn	Pn	11	15	40.3	-3.4
ERM				*e*Sn	Sn	11	17	00.5	-6.3
CBIJ	**Chichi jima**	**7.60**	**177**	Pn	**Pn**	**11**	**15**	**44.1**	**-2.8**
	50nm,0.3s,baz=289,slow=18,SNR=47								
CBIJ				Sn	Sn	11	17	03.8	-8.7
	73nm,0.3s,baz=254,slow=22,SNR=6.9								
CBIJ				LR	LR	11	18	13.2	
	comp=Z,1μm,18.3s,baz=356,slow=34								
CBIJ	**Chichi jima**	**7.60**	**177**	Pn	**Pn**	**11**	**15**	**44.1**	**-2.8**
CBIJ				Sn	Sn	11	17	03.8	-8.7
JNU	**Nakatsue**	**9.16**	**263**	*e*Pn	**Pn**	**11**	**16**	**10.1**	**+1.8**
ASAJ	**Asahikawa**	**9.41**	**4**	Pn	Pn	11	16	08.8	-2.9
	13nm,0.3s,baz=222,slow=11,SNR=43								
ASAJ				Sn	**Sn**	**11**	**17**	**52.4**	**-4.5**
	14nm,0.3s,baz=123,slow=32,SNR=7.2								
ASAJ	**Asahikawa**	**9.41**	**4**	P	Pn	11	16	08.8	-2.9
ASAJ						11	17	52.4	
ASAJ				pmax	pmax				
	comp=Z,13nm,0.3s								
ASAJ				smax	smax				
	comp=N,14nm,0.3s								
ASAJ	**Asahikawa**	**9.41**	**4**	*e*Pn	**Pn**	**11**	**16**	**09.0**	**-2.6**
ASAJ				Sn	**Sn**	**11**	**17**	**52.4**	**-4.5**
YUK	**Yuzh-Kuril'sk**	**9.84**	**18**	*d iP*	**Pn**	**11**	**16**	**15.3**	**-2.2**
YUK				pmax	pmax				
	comp=Z,114nm,0.3s								
YUK				pmax	pmax				
	comp=N,25nm,0.2s								
YUK				pmax	pmax				
	comp=E,41nm,0.3s								
VLA	**Vladivostok**	**11.36**	**321**	P	Pn	11	16	42.4	+4.1
VLA				S	**Sn**	**11**	**18**	**50.6**	**+6.0**
VLA				pmax	pmax				
	comp=Z,43nm,0.7s								
KSRS	**Korea Array**	**11.51**	**288**	Pn	**Pn**	**11**	**16**	**43.2**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=100,slow=14,SNR=18								
KSRS	**Korea Array**	**11.51**	**288**	P	**Pn**	**11**	**16**	**43.2**	**+2.9**
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KSAR	**Wonju Array Be**	**11.54**	**288**	P	**Pn**	**11**	**16**	**43.2**	**+2.5**
KSAR	**Wonju Array Be**	**11.54**	**288**	Pn	**Pn**	**11**	**16**	**43.2**	**+2.5**
USRK	**Ussuriysk Arra**	**12.09**	**324**	Pn	**Pn**	**11**	**16**	**48.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=134,slow=13,SNR=14								
USRK				LR	LR	11	21	20.8	
	comp=Z,742nm,19.4s,baz=72,slow=37								
YSS	**Yuzh-Sakhalins**	**12.25**	**3**	*e*P	Pn	11	16	46.0	-4.5
YSS				MLR	MLR				
	comp=Z,2μm,13.0s								
YSS				MLR	MLR				
	comp=N,2μm,14.0s								
YSS				MLR	MLR				
	comp=E,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**12.25**	**3**	*e*Pn	**Pn**	**11**	**16**	**47.9**	**-2.6**
	comp=E,86nm,0.7s								
MDJ	**Mudanjiang**	**13.60**	**320**	P	**Pn**	**11**	**17**	**09.3**	**+0.4**
MDJ				S	**Sn**	**11**	**19**	**41.8**	**+2.5**
MDJ				PcP	**PcP**	**11**	**22**	**33.3**	**-0.8**
MDJ				ScP	**ScP**	**11**	**26**	**07.1**	**+0.6**
MDJ				ScS	**ScS**	**11**	**29**	**42.9**	**-0.4**
MDJ				pmax	pmax				
	comp=Z,11nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,160nm,4.3s								
MDJ				LR	LR				
	comp=N,1μm,15.4s								
MDJ				LR	LR				
	comp=E,880nm,14.7s								
MDJ				LR	LR				
	comp=Z,1μm,14.6s								
JOW	**Kunigami**	**13.98**	**239**	Pn	P	11	17	18.4	-3.7
	comp=Z,0.9nm,0.3s,baz=59,slow=27,SNR=2.5								
JOW	**Kunigami**	**13.98**	**239**	Pn	P	11	17	18.4	-3.7
HABR	**Khabarovsk**	**14.62**	**342**	*e*P	Pn	11	17	19.6	-3.2
HABR				*e*		11	20	02.0	
HABR				pmax	pmax				
	comp=E,22nm,1.7s								
HABR				pmax	pmax				
	comp=Z,15nm,1.6s								
HABR				pmax	pmax				
	comp=N,22nm,1.6s								
HABR				pmax	pmax				
	comp=Z,45nm,1.9s								
HABR				MLR	MLR				
	comp=Z,1μm,16.0s								
CN2	**Changchun**	**15.52**	**311**	⇑P	**Pn**	**11**	**17**	**35.6**	**+0.8**
CN2				*e*sP	**sP**	**11**	**17**	**42.6**	**-4.5**
CN2				*e*S	**Sn**	**11**	**20**	**26.8**	**+0.6**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,1μm,13.0s								
CN2				LR	LR				
	comp=E,2μm,13.0s								
CN2				LR	LR				
	comp=Z,1μm,15.0s								
SNY	**Shenyang**	**15.92**	**302**	⇓P	**Pn**	**11**	**17**	**40.8**	**+0.9**
SNY				pmax	pmax				
	comp=Z,12nm,1.4s								
SNY				pmax	pmax				
	comp=Z,220nm,5.3s								
SNY				LR	LR				
	comp=N,2μm,14.7s								
SNY				LR	LR				
	comp=E,2μm,17.2s								
SNY				LR	LR				
	comp=Z,2μm,18.0s								
KLR	**Kul'dur**	**16.27**	**336**	*e*P	Pn	11	17	38.0	-6.5
KLR				MLR	MLR				
	comp=N,1000μm,12.5s								
KLR				MLR	MLR				
	comp=E,700μm,12.5s								
KLR				MLR	MLR				
	comp=Z,4μm,12.5s								
DL2	**Dalian**	**16.63**	**290**	P	**P**	**11**	**17**	**53.6**	**+2.1**
DL2				S	**S**	**11**	**21**	**02.1**	**-2.3**
DL2				pmax	pmax				
	comp=Z,20nm,1.4s								
DL2				pmax	pmax				
	comp=Z,220nm,4.7s								
DL2				LR	LR				
	comp=N,1μm,14.1s								
DL2				LR	LR				
	comp=Z,1μm,15.2s								
NJ2	**Nanjing**	**19.29**	**269**	*e*P	**Pn**	**11**	**18**	**23.3**	**+1.5**
NJ2				pP	**pP**	**11**	**18**	**26.6**	**+0.4**
NJ2				sP	**sP**	**11**	**18**	**30.8**	**+2.0**
NJ2				PP	PP	11	18	40.9	
NJ2				S	**Sn**	**11**	**21**	**53.0**	**-4.6**
NJ2				sS	**S**	**11**	**22**	**01.5**	**+3.2**
NJ2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,330nm,5.0s								
NJ2				LR	LR				
	comp=N,720nm,27.0s								
NJ2				LR	LR				
	comp=E,870nm,20.2s								
NJ2				LR	LR				
	comp=Z,740nm,23.3s								
BJI	**Beijing**	**20.97**	**292**	P	**P**	**11**	**18**	**38.9**	**-0.1**
BJI				S	**S**	**11**	**22**	**33.5**	**+1.8**
BJI				pmax	pmax				
	comp=Z,14nm,2.0s								
BJI				pmax	pmax				
	comp=Z,240nm,5.3s								
BJI				LR	LR				
	comp=N,1μm,15.6s								
BJI				LR	LR				
	comp=E,860nm,18.3s								
BJI				LR	LR				
	comp=Z,470nm,17.8s								
GUMO	**Guam**	**21.22**	**172**	P	**P**	**11**	**18**	**45.6**	**+3.8**
	comp=Z,152nm,0.9s,baz=205,slow=12,SNR=4.1								
GUMO	**Guam**	**21.22**	**172**	P	**P**	**11**	**18**	**45.6**	**+3.8**
GUMO	**Guam**	**21.22**	**172**	P	**P**	**11**	**18**	**45.6**	**+3.8**
PETK	**Petropavlovsk-**	**21.60**	**27**	P	**P**	**11**	**18**	**47.4**	**+1.7**
	comp=Z,6.2nm,0.8s,baz=192,slow=13,SNR=8.2								
PETK				PcP	**PcP**	**11**	**22**	**47.0**	**0.0**
	comp=Z,3.9nm,0.8s,baz=193,slow=5.8,SNR=3.7								
PETK				LR	LR	11	26	39.0	
	comp=Z,181nm,19.5s,baz=18,slow=35								
PETK	**Petropavlovsk-**	**21.60**	**27**	P	**P**	**11**	**18**	**47.4**	**+1.7**
PETK						11	22	47.0	
PETK	**Petropavlovsk-**	**21.60**	**27**	P	**P**	**11**	**18**	**47.4**	**+1.7**
PETK				PcP	**PcP**	**11**	**22**	**47.0**	**0.0**
TPUB	**Ta-pu**	**21.63**	**244**	*e*P	**P**	**11**	**18**	**44.6**	**-1.7**
	comp=Z,764nm,2.6s								
HIA	**Hailar**	**21.77**	**319**	*e*P	**P**	**11**	**18**	**46.8**	**-0.8**
HIA				pmax	pmax				
	comp=Z,29nm,1.1s								
HIA	**Hailar**	**21.77**	**319**	*e*P	**P**	**11**	**18**	**46.8**	**-0.8**
	comp=Z,29nm,1.1s								
PET	**Petropavlovsk**	**21.90**	**28**	*e*P	**P**	**11**	**18**	**51.0**	**+2.2**
PET				*e*S	**S**	**11**	**22**	**49.4**	**-0.3**
PET				MLR	MLR				
	comp=Z,400nm,17.0s								
WHN	**Wuhan**	**23.41**	**267**	P	**P**	**11**	**19**	**03.8**	**-1.1**
WHN				sP	**sP**	**11**	**19**	**13.9**	**+0.9**
WHN				S	**S**	**11**	**23**	**12.9**	**-4.2**
WHN				LR	LR				
	comp=N,1μm,11.6s								
WHN				LR	LR				
	comp=E,2μm,11.6s								
WHN				LR	LR				
	comp=Z,3μm,12.7s								
HHC	**Hu-ho-hao-te**	**24.55**	**293**	*e*P	**P**	**11**	**19**	**13.5**	**-2.2**
HHC				PP	PP	11	19	49.0	
HHC				PcP	**PcP**	**11**	**22**	**53.5**	**0.0**
HHC				S	S	11	23	27.6	-7.9
HHC				ScP	**ScP**	**11**	**26**	**31.0**	**-0.2**
HHC				PcS	**PcS**	**11**	**26**	**32.4**	**-1.1**
HHC				pmax	pmax				
	comp=Z,11nm,0.6s								
HHC				pmax	pmax				
	comp=Z,260nm,6.7s								
HHC				LR	LR				
	comp=N,1μm,15.9s								
HHC				LR	LR				
	comp=E,910nm,15.2s								
HHC				LR	LR				
	comp=Z,960nm,13.9s								
CLNS	**Chul'man**	**24.92**	**338**	*e*P	**P**	**11**	**19**	**19.4**	**+0.6**
CLNS				*e*PPP	PPP	11	20	01.0	
CLNS				*e*		11	22	48.1	
CLNS				*e*S	**S**	**11**	**23**	**42.0**	**+1.0**
CLNS				*e*SS		11	24	41.9	
CLNS				pmax	pmax				
	comp=Z,34nm,1.1s								
CLNS				pmax	pmax				
	comp=N,30nm,1.5s								
CLNS				pmax	pmax				
	comp=E,11nm,1.5s								
CLNS				pmax	pmax				
	comp=N,48nm,1.4s								
CLNS				pmax	pmax				
	comp=Z,36nm,1.3s								
CLNS				pmax	pmax				
	comp=E,23nm,1.3s								
CLNS				smax	smax				
	comp=E,202nm,13.1s								
CLNS				smax	smax				
	comp=N,312nm,12.3s								
CLNS				MLR	MLR				
	comp=Z,854nm,15.0s								
CLNS				MLR	MLR				
	comp=N,1μm,16.0s								
CLNS				MLR	MLR				
	comp=E,456nm,16.0s								
BTO	**Baotou**	**25.70**	**293**	*e*P	**P**	**11**	**19**	**24.8**	**-1.3**
XAN	**Xi'an**	**27.03**	**278**	P	**P**	**11**	**19**	**37.9**	**-0.2**
XAN				S	S	11	24	22.8	+7.9
XAN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
XAN				LR	LR				
	comp=N,640nm,16.9s								
XAN				LR	LR				
	comp=E,130nm,20.4s								
XAN				LR	LR				
	comp=Z,200nm,23.0s								
ENH	**Enshi**	**27.49**	**270**	*e*P	**P**	**11**	**19**	**40.8**	**-1.5**
	comp=Z,14nm,0.7s								
YAK	**Yakutsk**	**28.39**	**348**	*e*P	**P**	**11**	**19**	**48.7**	**-1.2**
YAK				*e**PP	**pP**	**11**	**19**	**58.8**	**+3.0**
YAK				*e*		11	20	36.0	
YAK				*e*PPP	PPP	11	20	50.0	
YAK				*e*		11	22	59.3	
YAK				*e*S	**S**	**11**	**24**	**33.8**	**-1.8**
YAK				*e*SS	SS	11	25	53.7	-42
YAK				*e*		11	30	29.6	
YAK				pmax	pmax				
	comp=Z,18nm,0.9s								
YAK				pmax	pmax				
	comp=N,11nm,1.1s								
YAK				pmax	pmax				
	comp=Z,80nm,3.0s								
YAK				pmax	pmax				
	comp=N,154nm,2.7s								
YAK				pmax	pmax				
	comp=E,79nm,3.0s								
YAK				smax	smax				
	comp=N,293nm,3.2s								
YAK				smax	smax				
	comp=E,192nm,3.0s								
YAK				MLR	MLR				
	comp=Z,867nm,16.0s								
YAK				MLR	MLR				
	comp=N,756nm,15.0s								
YAK				MLR	MLR				
	comp=E,273nm,17.0s								
FX1	**Attu Island--F**	**28.73**	**41**	P	**P**	**11**	**19**	**54.7**	**+1.7**
	comp=E,2.8nm,0.3s,baz=130,slow=14,SNR=6.6								
FX1				LR	LR	11	31	56.0	
	comp=E,163nm,18.2s,baz=91,slow=38								
FX1	**Attu Island--F**	**28.73**	**41**	P	**P**	**11**	**19**	**54.7**	**+1.7**
FX1	**Attu Island--F**	**28.73**	**41**	P	**P**	**11**	**19**	**54.7**	**+1.7**
ULN	**Ulaanbaatar**	**28.93**	**308**	*e*P	**P**	**11**	**19**	**54.4**	**-0.7**
ULN				pmax	pmax				
	comp=Z,13nm,0.9s								
ULN	**Ulaanbaatar**	**28.93**	**308**	*e*P	**P**	**11**	**19**	**54.4**	**-0.7**
	comp=Z,13nm,0.9s								
SEY	**Seymchan**	**29.02**	**10**	*c*eP	**P**	**11**	**19**	**56.8**	**+1.3**
SONM	**Songino Array**	**29.35**	**307**	P	**P**	**11**	**19**	**59.8**	**+1.0**
	comp=Z,7.7nm,0.8s,baz=109,slow=6.7,SNR=30								
SONM				PcP	**PcP**	**11**	**23**	**05.0**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=122,slow=3.1,SNR=4.5								
SONM	**Songino Array**	**29.35**	**307**	P	**P**	**11**	**19**	**59.8**	**+1.0**
SONM						11	23	05.0	
SONM	**Songino Array**	**29.35**	**307**	P	**P**	**11**	**19**	**59.8**	**+1.0**
SONM				PcP	**PcP**	**11**	**23**	**05.0**	**+0.2**
BOD	**Bodaibo**	**29.65**	**330**	*e*P	**P**	**11**	**20**	**00.9**	**-0.2**
BOD				pmax	pmax				
	comp=Z,34nm,1.4s								
LZH	**Lanzhou**	**30.79**	**284**	*e*P	**P**	**11**	**20**	**11.9**	**+0.2**
LZH				pP	**pP**	**11**	**20**	**15.5**	**-2.2**
LZH				*e*S	**S**	**11**	**25**	**12.9**	**-1.4**
LZH				SS	**ScP**	**11**	**26**	**55.0**	**+4.6**
LZH				pmax	pmax				
	comp=Z,28nm,1.6s								
LZH				pmax	pmax				
	comp=Z,130nm,5.3s								
LZH				LR	LR				
	comp=N,1μm,13.8s								
LZH				LR	LR				
	comp=E,940nm,10.3s								
LZH				LR	LR				
	comp=Z,2μm,15.0s								
GYA	**Guiyang**	**31.17**	**264**	P	**P**	**11**	**20**	**16.0**	**+0.9**
GYA				PP	PP	11	21	18.4	-7.1
GYA				S	**S**	**11**	**25**	**18.9**	**-1.4**
GYA				ScP	**ScP**	**11**	**26**	**52.0**	**+0.2**
GYA				SS	SS	11	27	02.8	-31
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,4.8s								
GYA				LR	LR				
	comp=N,610nm,16.2s								
GYA				LR	LR				
	comp=E,510nm,17.1s								
GYA				LR	LR				
	comp=Z,630nm,17.7s								
IRK	**Irkutsk**	**31.89**	**315**	*e*P	**P**	**11**	**20**	**21.4**	**+0.4**
IRK				*e*		11	23	11.1	
IRK				pmax	pmax				
	comp=Z,32nm,0.9s								
ZAK	**Zakamensk**	**31.95**	**311**	*e*P	**P**	**11**	**20**	**22.2**	**+0.5**
ZAK				*e*		11	23	08.9	
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
CD2	**Chengdu**	**32.02**	**274**	P	**P**	**11**	**20**	**22.4**	**0.0**
CD2				pP	**pP**	**11**	**20**	**27.1**	**-1.3**
CD2				sP	**sP**	**11**	**20**	**29.8**	**-1.0**
CD2				PP	PP	11	21	28.0	-6.8
CD2				S	**S**	**11**	**25**	**31.3**	**-2.0**
CD2				SS	SS	11	27	22.3	-28
CD2				pmax	pmax				
	comp=Z,30nm,0.6s								
CD2				pmax	pmax				
	comp=Z,170nm,6.5s								
CD2				LR	LR				
	comp=E,1μm,16.6s								
CD2				LR	LR				
	comp=Z,1μm,19.0s								
TLY	**Talaya**	**32.09**	**314**	*e*P	**P**	**11**	**20**	**23.7**	**+1.0**
TLY				*e*		11	21	36.9	
TLY				pmax	pmax				
	comp=Z,18nm,1.0s								
TLY				MLR	MLR				
	comp=Z,608nm,15.0s								
TLY	**Talaya**	**32.09**	**314**	*e*P	**P**	**11**	**20**	**23.8**	**+1.0**
	comp=Z,14nm,0.9s								
TLY	**Talaya**	**32.09**	**314**	P	**P**	**11**	**20**	**23.8**	**+1.0**
	comp=Z,68nm,0.9s,SNR=6.8								
QIZ	**Qiongzhong**	**32.28**	**249**	P	**P**	**11**	**20**	**24.9**	**+0.1**
QIZ				S	**S**	**11**	**25**	**36.8**	**-0.7**
QIZ				LR	LR				
	comp=N,310nm,13.3s								
QIZ				LR	LR				
	comp=Z,750nm,15.6s								
GTA	**Gaotai**	**33.56**	**291**	*e*P	**P**	**11**	**20**	**37.3**	**+1.4**
GTA				pP	**pP**	**11**	**20**	**42.3**	**+0.4**
GTA				sP	**sP**	**11**	**20**	**44.5**	**+0.2**
GTA				PP	PP	11	21	50.8	-1.1
GTA				PcP	**PcP**	**11**	**23**	**16.1**	**-0.1**
GTA				S	**S**	**11**	**25**	**58.8**	**+1.5**
GTA				SS	SS	11	28	04.6	-18
GTA				pmax	pmax				
	comp=Z,7.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,160nm,6.6s								
GTA				LR	LR				
	comp=N,620nm,16.6s								
GTA				LR	LR				
	comp=E,590nm,14.2s								
GTA				LR	LR				
	comp=Z,1μm,17.1s								
MOY	**Mondy**	**33.67**	**313**	*e*P	P	11	20	40.8	+4.1
KMI	**Kunming**	**34.94**	**265**	P	**P**	**11**	**20**	**48.8**	**+0.6**
KMI				pP	**pP**	**11**	**20**	**53.9**	**-0.2**
KMI				sP	**sP**	**11**	**20**	**56.5**	**0.0**
KMI				PP	PP	11	22	05.9	-1.6
KMI				S	**S**	**11**	**26**	**17.8**	**-1.3**
KMI				SS	SS	11	28	32.3	-19
KMI				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KMI				pmax	pmax				
	comp=Z,95nm,3.9s								
KMI				LR	LR				
	comp=N,280nm,16.7s								
KMI				LR	LR				
	comp=E,780nm,16.7s								
KMI				LR	LR				
	comp=Z,940nm,16.7s								
BILL	**Bilibino**	**36.18**	**15**	*e*P	**P**	**11**	**20**	**57.7**	**-0.3**
BILL				*e*S	**S**	**11**	**26**	**40.9**	**+4.2**
BILL				pmax	pmax				
	comp=Z,12nm,1.0s								
BILL	**Bilibino**	**36.18**	**15**	*e*P	**P**	**11**	**20**	**57.9**	**-0.1**
	comp=Z,9.8nm,0.9s								
BILL				*e*pP	**pP**	**11**	**21**	**08.1**	**+4.1**
CHTO	**Chiang Mai**	**41.03**	**259**	*e*P	**P**	**11**	**21**	**37.9**	**-1.4**
CHTO				pmax	pmax				
	comp=Z,9.0nm,0.9s								
CHTO	**Chiang Mai**	**41.03**	**259**	*e*P	**P**	**11**	**21**	**37.9**	**-1.4**
	comp=Z,9.4nm,0.9s								
CM31	**Chiang Mai Arr**	**41.22**	**258**	*e*P	**P**	**11**	**21**	**39.3**	**-1.6**
	comp=Z,6.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**41.22**	**258**	P	**P**	**11**	**21**	**39.6**	**-1.3**
	comp=Z,7.0nm,0.7s,baz=48,slow=7.8,SNR=38								
CMAR				PcP	**PcP**	**11**	**23**	**40.5**	**+0.7**
	comp=Z,3.3nm,1.0s,baz=34,slow=2.3,SNR=6.6								
CMAR	**Chiang Mai Arr**	**41.22**	**258**	P	**P**	**11**	**21**	**39.6**	**-1.3**
CMAR						11	23	40.5	
CMAR	**Chiang Mai Arr**	**41.22**	**258**	P	**P**	**11**	**21**	**39.6**	**-1.3**
CMAR				PcP	**PcP**	**11**	**23**	**40.5**	**+0.7**
WMQ	**Urumqi**	**42.16**	**299**	P	**P**	**11**	**21**	**49.9**	**+1.5**
WMQ				pP	**pP**	**11**	**21**	**54.4**	**-0.1**
WMQ				sP	**sP**	**11**	**21**	**56.9**	**0.0**
WMQ				pmax	pmax				
	comp=Z,42nm,1.6s								
WMQ				pmax	pmax				
	comp=Z,450nm,5.5s								
WMQ				LR	LR				
	comp=N,480nm,16.1s								
WMQ				LR	LR				
	comp=E,500nm,24.1s								
WMQ				LR	LR				
	comp=Z,540nm,21.7s								
LSA	**Lhasa**	**42.73**	**278**	P	**P**	**11**	**21**	**51.9**	**-1.8**
TNA	**Tin City**	**42.76**	**28**	*e*P	**P**	**11**	**21**	**53.9**	**+1.1**
	comp=Z,18nm,0.9s								
ZAA0	**Zalesovo Array**	**43.69**	**314**	*e*P	**P**	**11**	**22**	**00.3**	**-0.3**
ZALV	**Zalesovo Beam**	**43.69**	**314**	P	**P**	**11**	**22**	**00.5**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=94,slow=6.8,SNR=38								
ZALV				PcP	**PcP**	**11**	**23**	**46.7**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=104,slow=3.1,SNR=5.0								
ZALV	**Zalesovo Beam**	**43.69**	**314**	P	**P**	**11**	**22**	**00.5**	**-0.1**
ZALV						11	23	46.7	
ZALV	**Zalesovo Beam**	**43.69**	**314**	P	**P**	**11**	**22**	**00.5**	**-0.1**
ZALV				PcP	**PcP**	**11**	**23**	**46.7**	**-0.7**
PMG

MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 45.60 304 *e*P **P 11 22 15.7 -0.2**
ODAN Odare 46.87 276 *e*P **P 11 22 25.3 -1.1**
comp=Z,26nm,0.7s
ODAN Odare 46.87 276 *e*P **P 11 22 25.3 -1.1**
comp=Z,26nm,0.7s
SVW2 Sparrevohn 47.22 36 *e*P **P 11 22 29.6 +1.1**
comp=Z,17nm,1.2s
RAMN Ramite 47.48 276 *e*P **P 11 22 30.3 -0.9**
comp=Z,77nm,0.8s
RAMN Ramite 47.48 276 *e*P **P 11 22 30.3 -0.9**
comp=Z,77nm,0.8s
JIRN Jiri 47.53 277 *e*P **P 11 22 31.4 -0.4**
comp=Z,73nm,0.7s
JIRN Jiri 47.53 277 *e*P **P 11 22 31.4 -0.4**
comp=Z,73nm,0.7s
KURK Kurchatov 47.59 310 P **P 11 22 31.5 0.0**
comp=Z,28nm,0.9s,baz=85,slow=7.7,SNR=117
KURK Kurchatov 47.59 310 P **P 11 22 31.5 0.0**
KURK pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 47.59 310 *e*P **P 11 22 30.9 -0.5**
comp=Z,47nm,1.0s
KURK P **P 11 22 31.5 0.0**
GUN Gumba 47.69 278 *e*P **P 11 22 32.5 -0.5**
comp=Z,72nm,0.9s
GUN Gumba 47.69 278 *e*P **P 11 22 32.5 -0.5**
comp=Z,72nm,0.9s
PKI Pulchoki 48.21 278 *e*P **P 11 22 36.0 -0.9**
PKI Pulchoki 48.21 278 *e*P **P 11 22 36.0 -0.9**
PKI Pulchoki 48.21 278 *e*P **P 11 22 36.0 -0.9**
KKN Kakani 48.23 278 *e*P **P 11 22 36.3 -0.7**
comp=Z,42nm,0.7s
KKN Kakani 48.23 278 *e*P **P 11 22 36.3 -0.7**
KKN pmax pmax
comp=Z,42nm,0.7s
KKN Kakani 48.23 278 *e*P **P 11 22 36.3 -0.7**
comp=Z,42nm,0.7s
COEN Coen 48.42 178 *e*P **P 11 22 38.1 0.0**
comp=Z,238nm,1.1s
DMN Daman 48.44 278 *e*P **P 11 22 37.9 -0.8**
DMN Daman 48.44 278 *e*P **P 11 22 37.9 -0.8**
RSO Redoubt South 48.58 37 *e*P **P 11 22 40.4 +1.2**
GKN Gorkha 48.67 279 *e*P **P 11 22 39.6 -0.7**
comp=Z,84nm,1.0s
GKN Gorkha 48.67 279 *e*P **P 11 22 39.6 -0.7**
comp=Z,84nm,1.0s
KDAK Kodiak Island 48.67 41 P **P 11 22 40.3 +0.6**
comp=Z,28nm,0.8s,baz=274,slow=3.0,SNR=10
KDAK Kodiak Island 48.67 41 *ce*P **P 11 22 39.5 -0.1**
KDAK Kodiak Island 48.67 41 P **P 11 22 40.3 +0.6**
PPLA Purkeypile 48.93 34 *e*P **P 11 22 43.7 +1.9**
comp=Z,25nm,1.0s
SPU Mount Spurr 48.94 36 *e*P **P 11 22 43.0 +1.3**
DANN Dangsing 49.25 279 *e*P **P 11 22 44.4 -0.5**
comp=Z,141nm,0.8s
DANN Dangsing 49.25 279 *e*P **P 11 22 44.4 -0.5**
comp=Z,141nm,0.8s
KOLN Koldanda 49.60 279 *e*P **P 11 22 47.0 -0.5**
comp=Z,23nm,0.7s
KOLN Koldanda 49.60 279 *e*P **P 11 22 47.0 -0.5**
comp=Z,23nm,0.7s
COLD Coldfoot 50.06 28 *e*P **P 11 22 51.4 +1.2**
comp=Z,15nm,1.3s
PMR Palmer 50.34 35 *e*P **P 11 22 52.6 +0.2**
PMR pmax pmax
comp=Z,37nm,1.1s
PMR Palmer 50.34 35 *e*P **P 11 22 52.6 +0.2**
comp=Z,37nm,1.1s
MCK McKinley 50.43 33 *e*P **P 11 22 53.8 +0.8**
MCK pmax pmax
comp=Z,101nm,2.0s
MCK McKinley 50.43 33 *e*P **P 11 22 53.8 +0.8**
comp=Z,101nm,2.0s
SML Sawmill 50.72 35 *e*P **P 11 22 56.0 +0.7**
SML pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 50.72 35 *e*P **P 11 22 56.0 +0.7**
comp=Z,7.3nm,0.9s
COLA College 50.91 31 *e*P **P 11 22 57.4 +0.8**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 50.91 31 *e*P **P 11 22 57.4 +0.8**
comp=Z,14nm,0.9s
TKM2 Tokmak 2 50.99 300 P **P 11 22 58.6 +0.8**
SNR=18
TKM2 P **P 11 22 58.6 +0.8**
SNR=18
TKM2 Tokmak 2 50.99 300 *e*P **P 11 22 58.2 +0.3**
TKM2 pmax pmax
comp=Z,43nm,1.3s
TKM2 Tokmak 2 50.99 300 *e*P **P 11 22 58.1 +0.3**
comp=Z,43nm,1.3s
ILAR Eielson Array 51.32 31 P **P 11 22 59.6 -0.1**
comp=Z,18nm,0.8s,baz=267,slow=6.1,SNR=163
ILAR Eielson Array 51.32 31 P **P 11 22 59.7 -0.1**
ILAR Eielson Array 51.32 31 P **P 11 22 59.6 -0.1**
KBK Karagaybulak 51.52 300 P **P 11 23 01.8 0.0**
SNR=14
KBK P **P 11 23 01.8 0.0**
SNR=14
KSH Kashi 51.62 296 P P 11 23 06.0 +3.5
KSH *e*pP pP 11 23 10.8 +2.1
KSH *e*sP sP 11 23 13.1 +2.1
KSH *e*PcP **PcP 11 24 18.5 +2.4**
KSH *e*PP PP 11 25 04.9 +5.0
KSH *e*ScP **ScP 11 28 13.3 +1.5**
KSH *e*PcS **PcS 11 28 15.1 +0.9**
KSH *e*S **S 11 30 26.1 +3.4**
KSH *e*ScS **ScS 11 32 52.5 +0.5**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.3s
KSH LR LR
comp=N,350nm,6.5s
KSH LR LR
comp=E,380nm,9.2s
KSH LR LR
comp=Z,430nm,7.9s
USP Ospenovka 51.69 301 P **P 11 23 03.0 +0.2**
SNR=10
USP P **P 11 23 03.0 +0.2**
SNR=10
FRU Bishkek 51.71 300 *e*P **P 11 23 03.0 0.0**
FRU pmax pmax
comp=Z,110nm,2.2s
AAK Ala-Archa 51.85 300 P **P 11 23 04.4 +0.2**
SNR=6.4
AAK P **P 11 23 04.4 +0.2**
SNR=6.4
AAK Ala-Archa 51.85 300 *e*P **P 11 23 04.1 -0.1**
AAK pmax pmax
comp=Z,27nm,0.8s
AAK Ala-Archa 51.85 300 *e*P **P 11 23 04.1 -0.1**
comp=Z,27nm,0.8s
DIV Divide 51.98 36 *e*P **P 11 23 06.1 +1.3**
comp=Z,38nm,1.1s
PAX Paxson 52.01 34 *e*P **P 11 23 05.8 +0.8**
PAX pmax pmax
comp=Z,13nm,1.0s
PAX Paxson 52.01 34 *e*P **P 11 23 05.8 +0.8**
comp=Z,13nm,1.0s
VOSK Vostochnaya 52.04 313 P **P 11 23 04.6 -0.7**
VOSK pmax pmax
comp=Z,31nm,1.0s
BVA0 Borovoye Array 52.34 314 P **P 11 23 07.2 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 52.34 314 P **P 11 23 07.3 -0.2**
comp=Z,13nm,0.9s,baz=90,slow=7.4,SNR=49
BVAR Borovoye Array 52.34 314 P **P 11 23 07.3 -0.2**
BVAR Borovoye Array 52.34 314 P **P 11 23 07.3 -0.2**
EKS2 Erkin-Say 52.35 300 *e*P **P 11 23 07.7 -0.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 52.35 300 *e*P **P 11 23 07.7 -0.2**
comp=Z,4.2nm,0.8s
BRVK Borovoye 52.40 314 *e*P **P 11 23 07.8 -0.1**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 52.40 314 *e*P **P 11 23 07.8 -0.1**
comp=Z,20nm,1.0s
AML Almayashu 52.55 300 P **P 11 23 10.6 +0.9**
SNR=35
AML P **P 11 23 10.6 +0.9**
SNR=35
DOT Dot Lake 52.60 33 *e*P **P 11 23 09.8 +0.5**
comp=Z,14nm,0.8s
MENT Mentasta 52.81 34 *e*P **P 11 23 11.7 +0.9**
EGAK Eagle 53.77 31 *e*P **P 11 23 18.4 +0.5**
comp=Z,8.2nm,0.8s
NDI New Delhi 54.40 283 *e*P **P 11 23 21.0 -2.0**
KK31 Karatay Array 54.54 302 *i*P **P 11 23 23.7 -0.1**
KK31 pmax pmax
comp=Z,48nm,1.0s
KKAR Karatay Array 54.54 302 *e*P **P 11 23 23.9 +0.1**
KKAR Karatay Array 54.54 302 *e*P **P 11 23 23.9 +0.1**
DAWY Dawson 54.62 32 *e*P **P 11 23 24.6 +0.5**
CTA Charters Tower 54.67 175 P **P 11 23 24.7 -0.1**
comp=Z,5.8nm,0.9s,baz=344,slow=18,SNR=2.4
CTA Charters Tower 54.67 175 P **P 11 23 24.7 -0.1**
CTA Charters Tower 54.67 175 P **P 11 23 24.7 -0.1**
FITZ Fitzroy Crossi 54.71 199 P **P 11 23 24.9 -0.3**
comp=Z,4.8nm,0.6s,baz=14,slow=6.0,SNR=12
FITZ Fitzroy Crossi 54.71 199 *e*P **P 11 23 24.7 -0.4**
comp=Z,25nm,1.1s
FITZ Fitzroy Crossi 54.71 199 P **P 11 23 24.9 -0.3**
WRAB Tennant Creek 54.80 189 *e*P **P 11 23 24.5 -1.3**
WRAB pmax pmax
comp=Z,56nm,1.0s
WRAB Tennant Creek 54.80 189 *e*P **P 11 23 24.5 -1.3**
comp=Z,56nm,1.0s
WB2 Warramunga Arr 54.80 189 *e*P **P 11 23 24.2 -1.6**
WRA Warramunga Arr 54.81 189 P **P 11 23 24.4 -1.5**
comp=Z,40nm,0.9s,baz=7.5,slow=7.6,SNR=124
WRA Warramunga Arr 54.81 189 P **P 11 23 24.4 -1.5**
WRA Warramunga Arr 54.81 189 P **P 11 23 24.4 -1.5**
INK Inuvik 56.34 26 P **P 11 23 37.0 +0.7**
comp=Z,22nm,0.8s,baz=292,slow=6.7,SNR=95
INK Inuvik 56.34 26 P **P 11 23 37.0 +0.7**
INK Inuvik 56.34 26 P **P 11 23 37.0 +0.7**
SVE Sverdlovsk 57.07 320 ⇓ *i*P **P 11 23 42.1 +0.4**
SVE pmax pmax
comp=Z,36nm,1.1s
ARU Arti 58.28 320 *d i*P **P 11 23 49.7 -0.5**
ARU 11 25 57.3
ARU S **S 11 31 55.3 +4.1**
ARU SS **SS 11 35 45.4 +2.8**
ARU pmax pmax
comp=Z,43nm,1.2s
SOKR Solikamsk 58.34 323 *d i*P **P 11 23 50.7 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
HYB Hyderabad 58.44 270 *i*P **P 11 23 50.0 -1.9**
AS31 Alice Springs 58.53 188 *e*P **P 11 23 51.2 -1.1**
ASAR Alice Springs 58.53 188 P **P 11 23 51.1 -1.2**
comp=Z,11nm,1.0s,baz=9.1,slow=5.1,SNR=59
ASAR Alice Springs 58.53 188 P **P 11 23 51.1 -1.2**
ASAR Alice Springs 58.53 188 P **P 11 23 51.1 -1.2**
AB31 Akbulak array 59.65 311 *i*P **P 11 23 59.1 -0.7**
AB31 pmax pmax
comp=Z,15nm,0.7s
DLBC Dease Lake 60.30 37 P **P 11 24 05.9 +1.6**
comp=Z,13nm,0.9s,baz=296,slow=6.6,SNR=15
DLBC Dease Lake 60.30 37 P **P 11 24 05.9 +1.6**
AKTO Aktyubinsk 60.43 313 P **P 11 24 04.1 -1.1**
comp=Z,16nm,0.8s,baz=80,slow=11,SNR=36
AKTO Aktyubinsk 60.43 313 P **P 11 24 04.1 -1.1**
AKTO Aktyubinsk 60.43 313 P **P 11 24 04.1 -1.1**
DZM Mont Dzumac 61.16 154 P **P 11 24 12.6 +2.2**
comp=Z,27nm,1.0s,baz=54,slow=8.5,SNR=4.9
DZM Mont Dzumac 61.16 154 P **P 11 24 12.6 +2.2**
POO Poona 61.75 274 *e*P P 11 24 23.0 +8.3
RES Resolute Bay 64.78 14 P **P 11 24 34.0 +0.2**
comp=Z,28nm,0.8s,baz=311,slow=6.6,SNR=122
RES Resolute Bay 64.78 14 P **P 11 24 34.0 +0.2**
RES pmax pmax
comp=Z,28nm,0.8s
RES Resolute Bay 64.78 14 *e*P **P 11 24 33.8 0.0**
comp=Z,27nm,0.8s
APA Apatity 64.91 336 ⇑ *i*P **P 11 24 37.2 +2.4**
APA *i* 11 27 05.0
APA *i*S **S 11 33 16.0 +1.1**
APA *i* 11 34 29.0
APA MLR MLR
comp=Z,1μm,22.0s
ARMA Armidale 65.45 171 *e*P **P 11 24 38.8 0.0**
YKA Yellowknife Ar 65.69 30 P **P 11 24 39.6 -0.3**
comp=Z,6.5nm,0.8s,baz=296,slow=6.2,SNR=110
YKA Yellowknife Ar 65.69 30 P **P 11 24 39.6 -0.3**
YKA Yellowknife Ar 65.69 30 P **P 11 24 39.6 -0.3**
STKA Stephens Creek 66.24 180 P **P 11 24 43.2 -0.5**
comp=Z,6.3nm,1.0s,baz=359,slow=7.1,SNR=12
STKA Stephens Creek 66.24 180 *e*P **P 11 24 42.9 -0.8**
comp=Z,5.6nm,0.6s
STKA Stephens Creek 66.24 180 P **P 11 24 43.2 -0.5**
STKA pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 66.26 340 P **P 11 24 43.7 +0.2**
comp=Z,5.5nm,0.8s,baz=60,slow=10,SNR=6.5
ARCES ARCESS Array B 66.26 340 P **P 11 24 43.7 +0.2**
ARCES ARCESS Array B 66.26 340 P **P 11 24 43.7 +0.2**
FORT Forrest 66.41 193 *e*P **P 11 24 44.3 -0.5**
comp=Z,26nm,0.6s
DAG Danmarks Havn 68.10 355 *i*P **P 11 24 54.6 -0.4**
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 68.10 355 *i*P **P 11 24 54.6 -0.4**
comp=Z,130nm,0.9s
JOF Joensuu 68.13 332 *e*P **P 11 24 54.7 -0.7**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 68.13 332 *ep* **P 11 24 54.7 -0.7**
comp=Z,3.8nm,0.6s
JOF Joensuu 68.13 332 *ep* **P 11 24 54.7 -0.7**
comp=Z,3.8nm,0.6s
CMW Cultus Mountai 68.65 45 P **P 11 25 00.5 +1.4**
RPW Rockport 68.99 45 *e*P **P 11 25 01.5 +0.3**
comp=Z,7.6nm,0.9s
VRHR Novokhopersk 69.59 319 *e*P **P 11 25 03.1 -1.6**
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
KLBR Kellerberrin 69.71 202 *e*P **P 11 25 04.3 -1.2**
comp=Z,35nm,1.0s
OBN Obninsk 70.11 324 ⇓ *e*P **P 11 25 07.3 -0.5**
OBN *e*S **S 11 34 20.0 +2.3**
OBN *e*SS **SS 11 38 40.4 -6.3**
OBN pmax pmax
comp=Z,52nm,2.5s
OBN MLR MLR
comp=Z,500nm,17.0s
KAF Kangasniemi 70.49 333 *e*P **P 11 25 08.1 -1.9**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 70.49 333 *ep* **P 11 25 08.1 -1.9**
comp=Z,9.1nm,0.8s
KAF Kangasniemi 70.49 333 *ep* **P 11 25 08.1 -1.9**
comp=Z,9.1nm,0.8s
FRIS Frissel Point 70.71 49 P **P 11 25 13.3 +1.3**
IRO Indian Ridge 70.72 49 P **P 11 25 13.2 +1.2**
VSR Storozhevoye 70.86 319 *e*P **P 11 25 11.4 -1.1**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
FINES FINESS Array B 70.99 333 P **P 11 25 13.0 -0.1**
comp=Z,13nm,0.8s,baz=58,slow=7.6,SNR=20
FINES FINESS Array B 70.99 333 P **P 11 25 13.0 -0.1**
FINES FINESS Array B 70.99 333 P **P 11 25 13.0 -0.1**
VTHM Trough 71.17 48 P **P 11 25 15.8 +1.2**
VIPM Ingram Point 71.48 48 P **P 11 25 17.7 +1.1**
VIPM Ingram Point 71.48 48 P **P 11 25 17.7 +1.1**
NEW Newport 71.61 44 ⇓ P **P 11 25 17.9 +0.7**
baz=72,SNR=20
KIPM Iron Peak 72.03 54 *e*P **P 11 25 20.8 +0.8**
comp=Z,18nm,1.1s
A12A Yaak River Ran 72.09 43 ⇓ P **P 11 25 21.0 +0.9**
baz=72,SNR=11
C11A Tepee Creek (N 72.33 44 ⇓ P **P 11 25 22.6 +1.1**
baz=72
B12A Libby 72.37 43 ⇓ P **P 11 25 22.9 +1.2**
baz=72,SNR=5.8
KIV Kislovodsk 72.63 312 *e*P **P 11 25 23.2 -0.2**
KIV pmax pmax
comp=Z,23nm,1.0s
A13A Flathead Natio 72.78 42 ⇑ P **P 11 25 25.0 +0.7**
baz=73,SNR=10
C12B Naegeli Ranch, 72.85 44 ⇑ P **P 11 25 25.3 +0.7**
baz=73
SUMG Summit 73.00 0 *i*P **P 11 25 26.5 +1.0**
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 73.00 0 *i*P **P 11 25 26.5 +1.0**
comp=Z,22nm,1.0s
B13A Whitefish 73.05 43 ⇓ P **P 11 25 26.7 +0.9**
baz=73,SNR=19
D12A Red Ives Fores 73.28 44 ⇓ P **P 11 25 27.7 +0.5**
baz=73
A14A Double T Ranch 73.30 42 ⇑ P **P 11 25 27.8 +0.4**
baz=73,SNR=10
GNI Garni 73.31 307 *ce*P **P 11 25 29.3 +1.7**
GNI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 73.31 307 *e*P **P 11 25 28.2 +0.6**
comp=Z,24nm,1.1s
C13A Hot Springs 73.38 43 ⇑ P **P 11 25 28.6 +0.9**
baz=73,SNR=20
YBMT Yellow Bay 73.59 43 *e*P **P 11 25 29.7 +0.6**
comp=Z,13nm,1.0s
A15A Johnson Ranch, 73.67 41 ⇓ P **P 11 25 29.7 +0.2**
baz=74,SNR=17
B14A Marquette Ranc 73.72 42 ⇓ P **P 11 25 30.8 +0.9**
baz=74,SNR=21
D13A Huson 73.76 44 ⇓ P **P 11 25 30.3 +0.3**
baz=74,SNR=12
WVOR Wild Horse Val 73.79 49 *e*P **P 11 25 31.0 +0.7**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 73.79 49 *e*P **P 11 25 31.0 +0.7**
comp=Z,8.9nm,1.1s
F12A Elk City 74.04 45 ⇑ P **P 11 25 32.6 +0.8**
baz=74,SNR=18
B15A Bradely Ranch, 74.14 42 ⇑ P **P 11 25 33.0 +0.7**
baz=74,SNR=38
MSO Missoula 74.20 44 ⇓ P **P 11 25 33.0 +0.3**
baz=74,SNR=9.4
E13A Victor 74.28 44 ⇑ P **P 11 25 33.5 +0.3**
baz=74,SNR=7.8
A16A West Butte Ran 74.31 41 ⇑ P **P 11 25 33.2 -0.1**
baz=74
D14A Greenough 74.31 43 ⇑ P **P 11 25 33.5 +0.2**
baz=74,SNR=13
C15A Salmond Ranch, 74.42 42 ⇓ P **P 11 25 35.0 +1.0**
baz=74,SNR=38
SCO Scoresbysund 74.44 354 *i*P **P 11 25 34.4 +1.0**
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 74.44 354 *i*P **P 11 25 34.4 +1.0**
comp=Z,10nm,0.8s
B16A M & M Farms, S 74.55 41 ⇓ P **P 11 25 35.0 +0.4**
baz=74,SNR=9.6
F13A Darby 74.56 45 ⇓ P **P 11 25 34.9 +0.1**
baz=74,SNR=14
MICGM Minsk 74.57 326 *e* **P 11 25 33.0 -1.4**
MNK Minsk 74.59 326 *eP* **P 11 25 33.0 -1.6**
E14A Clinton 74.69 44 ⇓ P **P 11 25 35.7 +0.1**
baz=75
WCN Washoe City 74.75 53 ⇓ P **P 11 25 36.5 +0.4**
baz=75,SNR=11
A17A Triple J Farms 74.79 41 ⇑ P **P 11 25 36.5 +0.5**
baz=75,SNR=14
NACGM Naroch 74.81 327 *e* **P 11 25 33.0 -2.9**
C16A Fuhringer Ranc 74.88 42 ⇓ P **P 11 25 37.3 +0.7**
baz=75,SNR=33
D15A Lincoln 74.89 43 ⇑ P **P 11 25 37.2 +0.5**
baz=75,SNR=7.0
H12A Diamond D Ranc 74.95 46 ⇑ P **P 11 25 37.5 +0.4**
baz=75,SNR=18
MFID Camas Ranch 74.99 47 ⇑ P **P 11 25 38.0 +0.7**
baz=75,SNR=15
G13A Cobalt 75.01 45 ⇓ P **P 11 25 37.7 +0.3**
baz=75,SNR=12
F14A Wisdom 75.10 44 ⇑ P **P 11 25 38.1 +0.1**
baz=75,SNR=7.6
B17A L&G Farms, Che 75.12 41 ⇓ P **P 11 25 38.1 +0.3**
baz=75,SNR=27
E15A Deer Lodge 75.17 44 ⇑ P **P 11 25 38.7 +0.4**
baz=75,SNR=16
I12A Atlanta 75.20 47 ⇓ P **P 11 25 39.1 +0.5**
baz=75,SNR=20
A18A Metzger Ranch, 75.26 40 ⇓ P **P 11 25 39.2 +0.5**
baz=75,SNR=18
H13A Challis 75.29 46 ⇑ P **P 11 25 39.7 +0.7**
baz=75,SNR=28
ANN Anapa 75.33 315 *eP* **P 11 25 38.9 -0.1**
ANN *eS* **S 11 35 17.4 -0.1**
ANN pmax pmax
comp=Z,108nm,1.0s
G14A Jackson 75.38 45 ⇑ P **P 11 25 39.4 -0.2**
baz=75
D16A Dana Ranch, Ca 75.44 43 ⇑ P **P 11 25 40.5 +0.7**
baz=75,SNR=18
FFC Flin Flon 75.52 32 *ce*P **P 11 25 40.1 +0.2**
C17A Wharram Farm, 75.52 42 ⇑ P **P 11 25 40.6 +0.3**
baz=75,SNR=12
F15A Butte 75.59 44 ⇓ P **P 11 25 41.5 +0.7**
baz=76,SNR=45
B18A Beardsley Farm 75.61 41 ⇑ P **P 11 25 41.3 +0.6**
baz=76,SNR=16
E16A East Helena 75.66 43 ⇓ P **P 11 25 41.7 +0.7**
baz=76,SNR=16
I13A Wildhorse Cree 75.74 46 ⇑ P **P 11 25 42.5 +0.8**
baz=76,SNR=14
HLID Hailey 75.76 47 ⇓ P **P 11 25 42.4 +0.6**
baz=76,SNR=14
EGMT Eagleton 75.84 41 ⇑ P **P 11 25 42.9 +0.8**
baz=76,SNR=9.6
A19A Klindworth Far 75.84 40 ⇑ P **P 11 25 42.8 +0.7**
baz=76,SNR=34
D17A Six Diamond Ra 75.85 42 ⇑ P **P 11 25 42.8 +0.6**
baz=76,SNR=24
MCMT McKenzie Canyo 75.97 45 *e*P **P 11 25 42.7 -0.3**
comp=Z,2.2nm,1.0s
G15A Dillon 75.98 45 ⇑ P **P 11 25 43.6 +0.6**
baz=76,SNR=13
J13A Cove Ranch, Pi 76.00 47 ⇑ P **P 11 25 44.0 +0.9**
baz=76,SNR=13
B19A Brinkman Farms 76.02 40 ⇓ P **P 11 25 43.9 +0.9**
baz=76,SNR=30
F16A Kennard Place, 76.12 44 ⇓ P **P 11 25 44.5 +0.8**
baz=76,SNR=21
I14A Mackay 76.13 46 ⇑ P **P 11 25 45.2 +1.3**
baz=76,SNR=50
E17A Martinsdale 76.16 43 ⇑ P **P 11 25 45.1 +1.1**
baz=76,SNR=20
NVAR Mina Array Bea 76.17 53 P **P 11 25 45.1 +0.8**
comp=Z,14nm,0.8s,baz=282,slow=6.0,SNR=96
NVAR Mina Array Bea 76.17 53 P **P 11 25 45.1 +0.8**
BOZ Bozeman (W) 76.20 44 ⇑ P **P 11 25 45.1 +0.9**
baz=76,SNR=18
BOZ ⇑ P **P 11 25 45.1 +0.9**
baz=76,SNR=18
H15A Lima 76.21 45 ⇑ P **P 11 25 45.2 +0.8**
baz=76
MLAC Mammoth Lakes 76.26 54 ⇑ P **P 11 25 45.3 +0.5**
baz=76
AKASG Malin Array Be 76.30 323 P **P 11 25 43.8 -0.7**
comp=Z,7.5nm,0.7s,baz=46,slow=5.9,SNR=22
AKASG Malin Array Be 76.30 323 P **P 11 25 43.8 -0.7**
AKASG Malin Array Be 76.30 323 P **P 11 25 43.8 -0.7**
AKBB Malin Array Si 76.30 323 *eP* **P 11 25 42.9 -1.5**
AKBB Malin Array Si 76.30 323 *eP* **P 11 25 42.9 -1.5**
A20A Cobblestone Ra 76.30 40 ⇓ P **P 11 25 45.1 +0.5**
baz=76,SNR=7.1
D18A Linhart Farms, 76.31 42 ⇓ P **P 11 25 45.4 +0.7**
baz=76,SNR=17
C19A Slack Wire Ran 76.40 41 ⇓ P **P 11 25 46.0 +0.8**
baz=76,SNR=38
NB2 NORSAR Subarra 76.43 338 P **P 11 25 44.5 -0.6**
comp=Z,21nm,0.9s,baz=39,slow=5.9
NOA NORSAR Array B 76.43 338 P **P 11 25 44.8 -0.3**
comp=Z,16nm,0.8s,baz=39,slow=5.7,SNR=34
NOA NORSAR Array B 76.43 338 P **P 11 25 44.8 -0.3**
NOA NORSAR Array B 76.43 338 P **P 11 25 44.8 -0.3**
J14A Carey 76.44 47 ⇑ P **P 11 25 47.2 +1.6**
baz=76,SNR=21
B20A Solberg Farm, 76.52 40 ⇓ P **P 11 25 46.2 +0.4**
baz=76,SNR=13
F17A Fitzpatrick Pl 76.59 43 ⇑ P **P 11 25 47.1 +0.6**
baz=76,SNR=17

E18A **Harlowton** 76.62 42 ⇓P P 11 25 47.2 +0.6
baz=76,SNR=7.0
I15A **Monteview** 76.66 46 ⇑P P 11 25 47.5 +0.6
baz=77
RCTC **Rector, Farmer** 76.71 55 ⇓P P 11 25 47.7 +0.7
baz=77
A21A **Bergtoll Ranch** 76.76 39 ⇑P P 11 25 47.9 +0.7
baz=77,SNR=12
D19A **Cripps Ranch,** 76.83 41 ⇑P P 11 25 48.3 +0.6
baz=77,SNR=18
G17A **Pierce Place,** 76.89 44 ⇓P P 11 25 48.9 +0.7
baz=77,SNR=9.0
H16A **Russell Place,** 76.97 44 ⇓P P 11 25 49.5 +0.8
baz=77,SNR=10
C20A **Veseth Ranch,** 76.97 41 ⇑P P 11 25 49.3 +0.9
baz=77,SNR=20
J15A **Blackfoot** 77.04 46 ⇑P P 11 25 50.4 +1.4
baz=77,SNR=12
B21A **Ellsworth Farm** 77.06 40 ⇓P P 11 25 49.5 +0.6
baz=77,SNR=8.1
VES **Vestal, Richgr** 77.07 55 ⇑P P 11 25 49.3 +0.2
baz=77,SNR=8.2
K14A **Jones Ranch, D** 77.09 47 ⇓P P 11 25 50.4 +1.1
baz=77,SNR=16
PKM **Peak Mountain** 77.09 57 ⇓P P 11 25 50.6 +1.1
baz=77,SNR=6.5
F18A **Big Timber** 77.13 43 ⇓P P 11 25 50.3 +0.9
baz=77,SNR=15
YMR **Madison River** 77.15 44 *e*P P 11 25 50.7 +1.0
comp=Z,10nm,0.7s
A22A **Carney Farms,** 77.28 39 ⇑P P 11 25 50.3 +0.2
baz=77,SNR=28
D20A **Manuel Ranch,** 77.28 41 ⇓P P 11 25 51.0 +0.8
baz=77,SNR=22
E19A **Rath Farm, Rou** 77.31 42 ⇓P P 11 25 51.2 +0.8
baz=77,SNR=26
I16A **Newdale** 77.32 45 ⇑P P 11 25 52.1 +1.5
baz=77,SNR=29
L14A **Malta** 77.35 48 ⇑P P 11 25 51.9 +1.1
baz=77,SNR=17
YFT **Old Faithful** 77.36 44 *e*P P 11 25 51.2 +0.3
comp=Z,12nm,0.8s
K15A **Arbon** 77.40 47 ⇓P P 11 25 52.5 +1.5
baz=77,SNR=10
CWC **Cottonwood Cre** 77.42 54 ⇑P P 11 25 51.6 +0.3
baz=77
H17A **Grant Village** 77.54 44 ⇓P P 11 25 54.1 +2.2
baz=77,SNR=23
GRAC **Grapevine Rang** 77.58 54 ⇓P P 11 25 53.0 +0.9
baz=78
ISA **Isabella** 77.59 55 ⇓P P 11 25 51.8 -0.3
baz=78,SNR=5.7
F19A **Roth Farm, Mol** 77.59 42 ⇓P P 11 25 52.5 +0.5
baz=78,SNR=8.9
J16A **Bone** 77.60 46 ⇓P P 11 25 53.1 +0.9
baz=78,SNR=11
E20A **Meyer Farm, Mu** 77.64 42 ⇑P P 11 25 53.2 +0.9
baz=78,SNR=19
ARVC **Arvin** 77.64 56 ⇓P P 11 25 52.7 +0.4
baz=78
B22A **Reddig Ranch S** 77.67 39 ⇓P P 11 25 52.5 +0.2
baz=78,SNR=5.8
I17A **Pilgrim Ck.** 77.82 45 ⇓P P 11 25 55.2 +1.7
baz=78,SNR=18
RLMT **Red Lodge** 77.85 43 ⇑P P 11 25 54.4 +0.8
baz=78,SNR=6.6
RLMT ⇑P P 11 25 54.4 +0.8
baz=78,SNR=6.6
K16A **Soda Springs** 77.87 46 ⇑P P 11 25 55.2 +1.4
baz=78,SNR=21
L15A **Malad City** 77.88 47 ⇓P P 11 25 54.7 +1.0
baz=78,SNR=12
H18A **Shoshone NF, C** 77.89 44 ⇓P P 11 25 54.6 +0.7
baz=78,SNR=9.6
D21A **La Casta Ranch** 77.91 41 ⇑P P 11 25 54.4 +0.7
baz=78,SNR=11
R11A **Troy Canyon, C** 77.99 52 ⇑P P 11 25 55.2 +0.7
baz=78,SNR=16
MPMC **Manual Prospec** 78.03 54 ⇓P P 11 25 55.2 +0.5
baz=78,SNR=8.7
F20A **Billings** 78.06 42 ⇓P P 11 25 55.0 +0.4
baz=78
J17A **Brown Place, J** 78.07 45 ⇓P P 11 25 55.9 +1.0
baz=78,SNR=9.2
C22A **Vida** 78.08 40 ⇑P P 11 25 54.7 +0.1
baz=78
B23A **Brockton** 78.09 39 ⇓P P 11 25 55.0 +0.3
baz=78,SNR=13
M15A **Larsen Ranch,** 78.16 48 ⇑P P 11 25 56.3 +1.0
baz=78,SNR=7.8
SFJD **Kangerlussuaq** 78.17 5 *i* P P 11 25 54.9 +0.2
SFJD pmax pmax
comp=Z,12nm,0.9s
SFJD **Kangerlussuaq** 78.17 5 *i* P P 11 25 54.9 +0.2
comp=Z,12nm,0.9s
E21A **Keefer Ranch,** 78.19 41 ⇓P P 11 25 55.7 +0.4
baz=78
FURC **Furnace Creek,** 78.22 54 ⇓P P 11 25 56.4 +0.9
baz=78,SNR=10
LRMC **Laurel Mountai** 78.22 55 ⇑P P 11 25 55.8 +0.1
baz=78
H19A **Powell** 78.28 43 ⇓P P 11 25 56.8 +0.8
baz=78,SNR=7.3
D22A **Cohagen** 78.29 40 ⇓P P 11 25 56.5 +0.7
baz=78,SNR=20
A24A **Westby** 78.30 38 ⇓P P 11 25 55.8 0.0
baz=78
K17A **Gardner Place,** 78.32 46 ⇑P P 11 25 56.5 +0.3
baz=78
EDW2 **Edwards Air Fo** 78.35 56 ⇑P P 11 25 57.0 +0.6
baz=78,SNR=12
G20A **Bridger** 78.38 43 ⇓P P 11 25 56.4 0.0
baz=78
I18A **Diamond G Ranc** 78.39 45 ⇓P P 11 25 57.3 +0.6
baz=78
C23A **Lambert** 78.41 39 ⇓P P 11 25 56.7 +0.3
baz=78,SNR=10
L16A **Fish Haven** 78.45 47 ⇓P P 11 25 58.0 +1.0
baz=78,SNR=5.9
N15A **Stansbury Isla** 78.45 48 ⇑P P 11 25 58.0 +1.1
baz=78,SNR=13
DGMT **Dagmar** 78.49 38 ⇓P P 11 25 57.1 +0.2
baz=78
J18A **Kendall Valley** 78.57 45 ⇑P P 11 25 58.6 +1.0
baz=78,SNR=12
I19A **Meeteetse** 78.66 44 ⇑P P 11 25 58.5 +0.4
baz=78
DUG **Dugway** 78.68 49 ⇑P P 11 25 58.9 +0.7
baz=79,SNR=28
L17A **Cokeville** 78.73 46 ⇓P P 11 25 59.3 +0.8
baz=79,SNR=8.7
D23A **Lindsay** 78.79 40 ⇑P P 11 25 59.4 +0.8
baz=79,SNR=14
E22A **Miles City** 78.86 41 ⇓P P 11 25 59.5 +0.6
baz=79,SNR=7.2
CIS **Catalina Islan** 78.89 57 ⇓P P 11 25 59.3 -0.1
baz=79
K18A **Toltan Ranch,** 78.90 46 ⇓P P 11 26 00.1 +0.6
baz=79,SNR=7.7
GSC **Goldstone** 78.92 55 ⇑P P 11 25 60.0 +0.5
baz=79,SNR=5.3
SHOC **Shoshone** 78.93 54 ⇓P P 11 25 59.7 +0.2
baz=79
BFSC **Mount Baldy Ra** 78.94 56 ⇓P P 11 25 59.8 +0.1
baz=79
G21A **Lodge Grass** 78.94 42 ⇓P P 11 26 00.1 +0.6
baz=79
H20A **Greybull** 78.95 43 ⇓P P 11 25 59.8 +0.2
baz=79
C24A **Savage** 78.97 39 ⇑P P 11 25 59.7 +0.2
baz=79
PD01 **Pinedale Array** 79.09 45 *e*P P 11 26 00.0 -0.5
PD02 **Pinedale Array** 79.10 45 *e*P P 11 26 00.6 0.0
J19A **Crowheart** 79.10 45 ⇓P P 11 26 01.4 +0.9
baz=79,SNR=15
BW06 **Boulder Array** 79.11 45 ⇓P P 11 26 00.8 +0.2
baz=79,SNR=7.4
BW06 ⇓P P 11 26 00.8 +0.2
baz=79,SNR=7.4
PDAR **Pinedale Array** 79.11 45 P P 11 26 00.8 +0.1
comp=Z,4.4nm,0.8s,baz=279,slow=2.5,SNR=35
PDAR **Pinedale Array** 79.11 45 P P 11 26 00.8 +0.1
F22A **Rosebud** 79.11 41 ⇓P P 11 26 00.8 +0.4
baz=79
N16A **Rees Ranch, Co** 79.12 48 ⇑P P 11 26 00.9 +0.3
baz=79
R13A **O'Grain Ranch,** 79.13 51 ⇓P P 11 26 01.7 +0.9
baz=79,SNR=8.1

E23A **Ismay** 79.17 40 ⇓P P 11 26 01.3 +0.7
baz=79,SNR=11
I20A **Worland** 79.21 44 ⇑P P 11 26 02.0 +1.0
baz=79,SNR=7.2
M17A **Scullys Gap (B** 79.23 47 ⇓P P 11 26 01.8 +0.5
baz=79,SNR=8.7
D24A **Glendive** 79.29 39 ⇑P P 11 26 02.1 +0.8
baz=79,SNR=11
L18A **Fontenelle, Gr** 79.34 46 ⇓P P 11 26 02.9 +1.0
baz=79,SNR=14
P15A **Leamington** 79.38 49 ⇓P P 11 26 02.9 +0.8
baz=79,SNR=12
H21A **Big Horn, Sher** 79.40 43 ⇓P P 11 26 02.6 +0.6
baz=79
BBRC **Big Bear Solar** 79.43 56 ⇓P P 11 26 02.6 +0.1
baz=79
G22A **Birney** 79.44 42 ⇑P P 11 26 02.5 +0.2
baz=79
N17A **Moffit Pass** 79.45 47 ⇓P P 11 26 03.4 +0.8
baz=79,SNR=16
K19A **Absolon Red Bu** 79.49 45 ⇓P P 11 26 02.8 +0.1
baz=79
J20A **Shoshoni** 79.60 44 ⇑P P 11 26 03.8 +0.6
baz=80,SNR=10
F23A **Volborg** 79.61 41 ⇑P P 11 26 03.6 +0.5
baz=80,SNR=12
BSD **Bornholm Skovb** 79.61 332 *e*P P 11 26 02.0 -0.8
BSD **Bornholm Skovb** 79.61 332 *i* P P 11 26 02.0 -0.8
MURC **Murrieta** 79.61 56 ⇑P P 11 26 03.2 -0.1
baz=80
M18A **Lyman** 79.62 47 ⇑P P 11 26 03.8 +0.4
baz=80,SNR=7.7
L19A **Farson** 79.63 46 ⇓P P 11 26 03.9 +0.5
baz=80,SNR=6.4
E24A **Baker** 79.66 40 ⇑P P 11 26 03.5 +0.1
baz=80
ARUT **Antelope Range** 79.69 51 *e*P P 11 26 04.4 +0.6
ARUT pmax pmax
comp=Z,27nm,1.2s
ARUT **Antelope Range** 79.69 51 *e*P P 11 26 04.4 +0.6
comp=Z,27nm,1.2s
P16A **Fountain Green** 79.74 49 ⇓P P 11 26 04.9 +0.8
baz=80,SNR=7.9
I21A **Big Trails, Te** 79.77 43 ⇓P P 11 26 04.6 +0.5
baz=80,SNR=7.5
K20A **Yellowstone Ra** 79.88 45 ⇑P P 11 26 05.0 +0.3
baz=80,SNR=5.9
G23A **Biddle** 79.95 41 ⇑P P 11 26 05.0 0.0
baz=80
O17A **Robinson Place** 79.96 48 ⇓P P 11 26 06.1 +0.9
baz=80,SNR=23
J21A **Lysite** 79.97 44 ⇓P P 11 26 05.6 +0.4
baz=80,SNR=6.9
GMRC **Granite Mounta** 79.98 55 ⇑P P 11 26 06.2 +0.8
baz=80,SNR=8.4
F24A **Ekalaka** 80.05 40 ⇑P P 11 26 05.6 +0.1
baz=80
M19A **Rock Springs** 80.11 46 ⇓P P 11 26 06.3 +0.2
baz=80
PFO **Pinyon Flat Ob** 80.12 56 ⇓P P 11 26 06.4 +0.3
baz=80,SNR=6.2
KWP **Kalwaria Pacla** 80.17 325 *e*P P 11 26 06.5 +0.5
KWP **Kalwaria Pacla** 80.17 325 ⇓P P 11 26 06.6 +0.6
KWP **Kalwaria Pacla** 80.17 325 ⇓*i*P P 11 26 06.6 +0.6
I22A **9 Mile Ranch,** 80.17 43 ⇓P P 11 26 06.8 +0.6
baz=80,SNR=5.4
R15A **Junction** 80.19 50 ⇓P P 11 26 08.2 +1.6
baz=80,SNR=15
BELC **Belle Mtn. Jos** 80.20 55 ⇑P P 11 26 06.6 0.0
baz=80,SNR=5.7
BUR08 **Bucovina Ar. S** 80.28 322 *e*P P 11 26 06.6 -0.1
L20A **Wamsutter** 80.29 45 ⇑P P 11 26 07.2 +0.2
baz=80
TESR 80.29 321 ⇑*i*P P 11 26 07.4 +0.8
O18A **Roosevelt** 80.36 47 ⇑P P 11 26 08.9 +1.5
baz=80,SNR=24
P17A **Butcher Ranch,** 80.39 48 ⇓P P 11 26 08.9 +1.3
baz=80,SNR=24
Q16A **Castle Valley** 80.46 49 ⇑P P 11 26 09.3 +1.4
baz=80,SNR=13
N19A **John Jarvie Ra** 80.48 47 ⇑P P 11 26 08.6 +0.7
baz=80,SNR=17
J22A **Midwest** 80.48 43 ⇓P P 11 26 08.5 +0.5
baz=80,SNR=26
K21A **Alcova** 80.53 44 ⇑P P 11 26 08.9 +0.6
baz=80,SNR=17
MONP **Monument Peak** 80.55 57 ⇑P P 11 26 09.0 +0.4
baz=80,SNR=9.0
BR131 **Keskin Array S** 80.59 312 *e*P P 11 26 08.8 +0.2
comp=Z,4.4nm,0.9s
BRTR **Keskin Array B** 80.59 312 P P 11 26 08.7 +0.1
comp=Z,4.3nm,0.8s,baz=109,slow=3.9,SNR=18
BRTR **Keskin Array B** 80.59 312 P P 11 26 08.7 +0.1
BRTR **Keskin Array B** 80.59 312 P P 11 26 08.7 +0.1
R16A **Teasdale** 80.64 50 ⇑P P 11 26 10.7 +1.7
baz=80,SNR=55
VRI **Vrincioaia** 80.67 320 ⇑P P 11 26 09.9 +1.2
VRI **Vrincioaia** 80.67 320 ⇑*i*P P 11 26 09.9 +1.2
IRM **Iron Mountain** 80.69 55 ⇓P P 11 26 09.9 +0.8
baz=81,SNR=7.6
M20A **Sweetwater, Wa** 80.70 46 ⇓P P 11 26 10.3 +1.1
baz=81,SNR=9.6
H24A **Dirks Ranch, A** 80.70 41 ⇑P P 11 26 09.0 0.0
baz=81,SNR=6.1
SRU **San Rafael** 80.74 49 ⇓P P 11 26 10.5 +1.0
baz=81,SNR=40
BC3 **Big Chuckawall** 80.77 55 ⇑P P 11 26 10.2 +0.6
baz=81,SNR=6.6
O19A **Miners Draw (B** 80.87 47 ⇑P P 11 26 10.7 +0.5
baz=81,SNR=13
L21A **Rawlins** 80.88 45 ⇑P P 11 26 10.8 +0.6
baz=81,SNR=16
DVTC **Desert V Tower** 80.91 57 ⇓P P 11 26 10.7 +0.4
baz=81,SNR=5.6
S16A **Wegpner Ranch,** 80.91 50 ⇑P P 11 26 11.4 +1.0
baz=81,SNR=21
SWSC **Sam W. Stewart** 80.95 56 ⇑P P 11 26 10.4 0.0
baz=81
W13A **Hualapai Mount** 80.98 54 ⇑P P 11 26 11.1 +0.3
baz=81
Q18A **Rafter H Ranch** 80.99 48 ⇑P P 11 26 11.3 +0.6
baz=81,SNR=16
R17A **Hanksville Air** 81.05 49 ⇑P P 11 26 11.9 +0.8
baz=81,SNR=30
UZH **Uzhgorod** 81.05 324 *e*P P 11 26 09.7 -1.0
UZH *i* 11 26 18.0
UZH *e* 11 26 23.0
N20A **Spence Gulch,** 81.06 46 ⇓P P 11 26 12.5 +1.3
baz=81,SNR=25
M21A **Separation Pea** 81.11 45 ⇓P P 11 26 12.1 +0.7
baz=81,SNR=13
OJC **Ojcow** 81.11 327 *e*P P 11 26 10.7 -0.3
OJC **Ojcow** 81.11 327 *e*P P 11 26 10.6 -0.4
MDND **Maddock** 81.21 37 ⇑P P 11 26 11.6 0.0
baz=81
U15A **North Rim** 81.24 52 ⇓P P 11 26 13.1 +0.8
baz=81,SNR=16
CRVS **Cervenica-Dubn** 81.26 325 *e*P P 11 26 12.2 +0.4
CRVS pmax pmax
comp=Z,23nm,2.0s
CRVS **Cervenica-Dubn** 81.26 325 *e*P P 11 26 12.2 +0.4
TRPA **Tarpa** 81.28 324 ⇑*i*P P 11 26 13.3 +1.4
TRPA **Tarpa** 81.28 324 ⇓*e*P P 11 26 12.1 +0.2
PDMCI **Parker Dam,Lak** 81.28 54 ⇑P P 11 26 12.5 +0.3
baz=81
ULM **Lac du Bonnet** 81.30 33 P P 11 26 11.3 -0.6
comp=Z,10nm,0.9s,baz=311,slow=6.4,SNR=20
ULM **Lac du Bonnet** 81.30 33 P P 11 26 11.4 -0.6
ULM pmax pmax
comp=Z,10.0nm,0.9s
ULM **Lac du Bonnet** 81.30 33 *e*P P 11 26 11.3 -0.6
comp=Z,10nm,0.9s
Y12C **Blythe** 81.35 55 ⇑P P 11 26 13.4 +0.8
baz=81,SNR=6.6
P19A **Cripple Cowboy** 81.37 47 ⇑P P 11 26 13.8 +0.9
baz=81,SNR=41
L22A **Ellis Ranch, M** 81.38 44 ⇓P P 11 26 13.7 +0.8
baz=81,SNR=5.9
K23A **Bowen Ranch, D** 81.38 43 ⇑P P 11 26 12.7 -0.1
baz=81
S17A **Black Ridge (B** 81.46 50 ⇑P P 11 26 14.0 +0.7
baz=81,SNR=31
O20A **White River Ci** 81.50 47 ⇓P P 11 26 14.1 +0.6
baz=81,SNR=15
N21A **Black Mountain** 81.55 46 ⇑P P 11 26 14.8 +1.0
baz=81,SNR=13
GLA **Glamis** 81.55 56 ⇓P P 11 26 14.1 +0.4

baz=82
R18A **Canyonlands Na** 81.57 49 ⇑P P 11 26 14.4 +0.5
baz=82,SNR=25
Q19A **Hogan Spring (** 81.61 48 ⇓P P 11 26 15.0 +1.0
baz=82,SNR=26
M22A **Cedar Creek Ra** 81.68 45 ⇓P P 11 26 15.2 +0.6
baz=82,SNR=10
L23A **Garrett** 81.75 44 ⇑P P 11 26 14.8 0.0
baz=82,SNR=11
P20A **De Beque** 81.81 47 ⇓P P 11 26 15.7 +0.6
baz=82,SNR=8.2
VOIR 81.83 321 ⇓P P 11 26 15.5 +0.5
VOIR 81.83 321 ⇓*i*P P 11 26 15.5 +0.5
T17A **Navajo Res., N** 81.85 50 ⇑P P 11 26 15.9 +0.5
baz=82,SNR=13
O21A **Pagoda** 81.92 46 ⇓P P 11 26 16.0 +0.3
baz=82
S18A **Hurst Farm, Bl** 81.94 50 ⇓P P 11 26 16.6 +0.7
baz=82,SNR=33
R19A **Curley Farm, L** 82.03 49 ⇓P P 11 26 17.2 +0.8
baz=82,SNR=18
N22A **Wattenberg Ran** 82.14 45 ⇓P P 11 26 17.8 +0.9
baz=82,SNR=7.2
M23A **Laramie** 82.15 44 ⇓P P 11 26 17.6 +0.7
baz=82,SNR=6.5
U16A **Tuba City** 82.16 51 ⇑P P 11 26 18.3 +1.3
baz=82,SNR=30
U17A **Shonto** 82.18 51 ⇓P P 11 26 18.4 +1.2
baz=82,SNR=25
Q20A **Ridgley Place,** 82.21 48 ⇑P P 11 26 18.3 +1.1
baz=82,SNR=37
KSP **Ksiaz** 82.21 329 *e*P P 11 26 16.6 -0.2
L24A **Wheatland** 82.23 44 ⇑P P 11 26 17.9 +0.6
baz=82
Y14A **Wickenburg** 82.25 54 ⇑P P 11 26 18.0 +0.6
baz=82,SNR=9.0
Z13A **Yuma Proving G** 82.26 55 ⇓P P 11 26 18.1 +0.8
baz=82,SNR=11
T18A **Mexican Hat** 82.35 50 ⇑P P 11 26 18.5 +0.6
baz=82,SNR=26
P21A **Newcastle** 82.36 47 ⇑P P 11 26 19.0 +0.9
baz=82,SNR=7.7
WUAZ **Wupatki** 82.38 52 ⇓P P 11 26 19.1 +0.9
baz=82,SNR=17
N23A **Red Feather La** 82.39 45 ⇓P P 11 26 19.1 +0.8
baz=82,SNR=24
113A **Mohawk Valley,** 82.44 55 ⇑P P 11 26 18.7 +0.4
baz=82
S19A **Harvey Farm, M** 82.44 49 ⇑P P 11 26 19.2 +0.7
baz=82,SNR=23
MORC **Moravsky Berou** 82.44 327 ⇓P P 11 26 18.3 +0.2
MORC **Moravsky Berou** 82.44 327 ⇓*i*P P 11 26 18.3 +0.2
O22A **Kremmling** 82.50 46 ⇓P P 11 26 19.4 +0.6
baz=82,SNR=18
PV01 **Paradox Valley** 82.55 48 *e*P P 11 26 19.8 +0.7
comp=Z,4µm,1.0s
DPC **Dobruska-Polom** 82.56 328 *e*P P 11 26 18.8 +0.1
DPC *e* 11 26 31.8
DPC **Dobruska-Polom** 82.56 328 *e*P P 11 26 18.8 +0.1
DPC *e*pP pP 11 26 31.8 +6.7
UPC **Upice** 82.58 328 *e*P P 11 26 18.8 +0.1
UPC **Upice** 82.58 328 *e*P P 11 26 18.8 +0.1
R20A **Redvale** 82.63 48 ⇑P P 11 26 20.7 +1.2
baz=82,SNR=55
Z14A **Wintersburg** 82.64 54 ⇓P P 11 26 19.6 +0.3
baz=83
M24A **Cheyenne** 82.66 44 ⇑P P 11 26 20.6 +1.1
baz=82,SNR=9.7
V17A **Tonalea, Kykot** 82.69 52 ⇑P P 11 26 21.2 +1.4
baz=83,SNR=43
PSZ **Piszkesteto** 82.70 325 ⇓P P 11 26 20.2 +0.7
PSZ **Piszkesteto** 82.70 325 ⇓*i*P P 11 26 20.2 +0.7
PSZ **Piszkesteto** 82.70 325 ⇑*e*P P 11 26 20.2 +0.7
Q21A **Lamborn Mesa,** 82.72 47 ⇓P P 11 26 21.1 +1.2
baz=83,SNR=26
P22A **Eagle** 82.73 46 ⇑P P 11 26 21.5 +1.5
baz=83,SNR=34
VYHS **Vyhne** 82.78 326 *i* P P 11 26 20.5 +0.7
VYHS pmax pmax
comp=Z,25nm,2.4s
VYHS **Vyhne** 82.78 326 *i* P P 11 26 20.5 +0.7
K26A **Motz Farm, Whi** 82.79 42 ⇓P P 11 26 20.6 +0.5
baz=83
U18A **Rough Rock, Ch** 82.80 50 ⇓P P 11 26 21.8 +1.5
baz=83,SNR=49
O23A **Lake Granby, G** 82.84 46 ⇓P P 11 26 21.7 +1.1
baz=83,SNR=14
S20A **Disappointment** 82.87 49 ⇓P P 11 26 21.7 +0.9
baz=83,SNR=18
X16A **Lo Mia Camp, P** 83.00 53 ⇓P P 11 26 23.0 +1.5
baz=83,SNR=22
ASF **Jabal al Asfar** 83.02 304 P P 11 26 22.0 +0.5
ASF **Jabal al Asfar** 83.02 304 P P 11 26 22.0 +0.5
ASF **Jabal al Asfar** 83.02 304 P P 11 26 22.0 +0.5
R21A **Cimarron** 83.03 48 ⇓P P 11 26 23.1 +1.5
baz=83,SNR=46
GZR **Gura Zlata** 83.04 322 ⇓P P 11 26 18.3 -3.0
GZR **Gura Zlata** 83.04 322 ⇓*i*P P 11 26 18.3 -3.0
114A **Black Gap (USA** 83.05 55 ⇓P P 11 26 22.4 +0.9
baz=83
W17A **Winslow** 83.08 52 ⇓P P 11 26 22.3 +0.5
baz=83
T19A **Beclabito** 83.08 50 ⇑P P 11 26 22.9 +1.1
baz=83,SNR=16
Q22A **Crested Butte,** 83.11 47 ⇑P P 11 26 23.5 +1.4
baz=83,SNR=30
M25A **Palm-Egli Farm** 83.12 44 ⇑P P 11 26 23.0 +1.1
baz=83
MVCO **Mesa Verde** 83.17 49 ⇑P P 11 26 23.2 +0.9
baz=83,SNR=18
BRG **Berggiesshubel** 83.18 330 *e*P P 11 26 21.3 -0.5
comp=Z,14nm,1.4s
BRG *e* 11 26 35.7
comp=Z,21nm,1.7s
BRG *e* 11 47 37.7
comp=Z,6.0nm,1.0s
BRG **Berggiesshubel** 83.18 330 *e*P P 11 26 21.3 -0.5
BRG *e* 11 26 35.7
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
V18A **Ganado** 83.19 51 ⇑P P 11 26 23.8 +1.3
baz=83,SNR=30
VRAC **Vranov** 83.21 327 ⇓P P 11 26 23.1 +1.0
VRAC **Vranov** 83.21 327 ⇓*i*P P 11 26 23.0 +1.0
CLL **Collm** 83.24 330 ⇓*i*P P 11 26 21.5 -0.6
CLL *e* 11 26 28.0
CLL pmax pmax
comp=Z,13nm,1.0s
CLL **Collm** 83.24 330 ⇓*i*P P 11 26 21.5 -0.6
comp=Z,13nm,1.0s
CLL *e*PcP pP 11 26 28.0 -0.5
ISCO **Idaho Springs** 83.28 46 ⇓P P 11 26 23.7 +0.8
baz=83,SNR=7.7
U19A **Dine' College,** 83.29 50 ⇑P P 11 26 24.2 +1.2
baz=83,SNR=58
K27A **Flueckinger Fa** 83.30 42 ⇑P P 11 26 23.3 +0.5
baz=83,SNR=7.0
S21A **Coal Bank Pass** 83.33 48 ⇑P P 11 26 24.8 +1.6
baz=83,SNR=38
O24A **Longmont** 83.39 45 ⇓P P 11 26 24.5 +1.2
baz=83,SNR=8.1
P23A **Jefferson** 83.42 46 ⇑P P 11 26 25.1 +1.4
baz=83,SNR=7.2
X17A **Forest Lakes** 83.47 53 ⇑P P 11 26 25.4 +1.4
baz=83,SNR=23
BZS **Buzias** 83.47 322 ⇑P P 11 26 23.2 -0.2
BZS **Buzias** 83.47 322 ⇑*i*P P 11 26 23.2 -0.2
MMAI **Mount Meron Ar** 83.53 306 P P 11 26 24.1 +0.1
comp=Z,12nm,0.7s,baz=34,slow=8.0,SNR=6.7
MMAI **Mount Meron Ar** 83.53 306 P P 11 26 24.1 +0.1
214A **Organ Pipe Nat** 83.57 56 ⇑P P 11 26 24.8 +0.6
baz=84
PRU **Pruhonice** 83.60 329 *e*P P 11 26 24.2 +0.2
PRU *e* 11 26 31.5
PRU *e* 11 26 37.6
PRU **Pruhonice** 83.60 329 *e*P P 11 26 24.2 +0.2
PRU *ex* x 11 26 31.5
PRU *e*pP pP 11 26 37.6 +7.2
R22A **Saguache, Gunn** 83.60 48 ⇑P P 11 26 26.4 +1.8
baz=84,SNR=35
U20A **Newcomb** 83.68 50 ⇓P P 11 26 25.9 +1.0
baz=84,SNR=20

W18A	**Petrified Fore** baz=84	**83.68**	**51**	⇓P		**P**	**11 26 25.4**	**+0.5**
TREC	**Trest**	**83.71**	**328**	*eP*		**P**	**11 26 24.8**	**+0.2**
TREC				*e*			11 26 38.7	
TREC	**Trest**	**83.71**	**328**	*eP*		**P**	**11 26 24.8**	**+0.2**
TREC				*ep*	P	pP	11 26 38.7	+7.7
V19A	**Window Rock** baz=84,SNR=7.9	**83.75**	**51**	⇓P		**P**	**11 26 26.7**	**+1.3**
ZST	**Bratislava**	**83.80**	**326**	*eP*		**P**	**11 26 25.5**	**+0.5**
ZST	**Bratislava**	**83.80**	**326**	*eP*		**P**	**11 26 25.5**	**+0.5**
Y17A	**Roosevelt** baz=84,SNR=17	**83.83**	**53**	⇓P		**P**	**11 26 26.7**	**+1.1**
S22A	**4UR Ranch, Cre** baz=84,SNR=41	**83.86**	**48**	⇓P		**P**	**11 26 27.1**	**+1.2**
P24A	**Kohler Place,** baz=84,SNR=5.9	**83.88**	**46**	⇑P		**P**	**11 26 26.9**	**+1.0**
T21A	**Navajo Lake** baz=84,SNR=11	**83.91**	**49**	⇓P		**P**	**11 26 27.0**	**+0.9**
X18A	**Snowflake** baz=84,SNR=12	**83.91**	**52**	⇑P		**P**	**11 26 26.6**	**+0.5**
W19A	**Sanders** baz=84,SNR=5.4	**83.91**	**51**	⇑P		**P**	**11 26 26.8**	**+0.7**
O25A	**Wiggins** baz=84,SNR=12	**83.95**	**45**	⇑P		**P**	**11 26 27.2**	**+1.0**
V20A	**Brimhall** baz=84,SNR=20	**84.07**	**50**	⇓P		**P**	**11 26 27.8**	**+0.8**
Q24A	**Divide** baz=84,SNR=10.0	**84.09**	**46**	⇑P		**P**	**11 26 27.9**	**+0.8**
U21A	**Nageezi** baz=84,SNR=22	**84.19**	**49**	⇓P		**P**	**11 26 28.6**	**+1.0**
R23A	**Moffat** baz=84,SNR=52	**84.19**	**47**	⇑P		**P**	**11 26 29.0**	**+1.4**
T22A	**Edith** baz=84,SNR=24	**84.28**	**49**	⇑P		**P**	**11 26 29.2**	**+1.1**
P25A	**Willow Gulch B** baz=84,SNR=11	**84.31**	**45**	⇑P		**P**	**11 26 29.1**	**+1.0**
Y18A	**Canyon Day Jun** baz=84,SNR=18	**84.31**	**53**	⇓P		**P**	**11 26 29.1**	**+0.9**
Z17A	**San Carlos Hig** baz=84,SNR=8.8	**84.32**	**53**	⇑P		**P**	**11 26 29.4**	**+1.3**
O26A	**Horse Wrangler** baz=84	**84.33**	**44**	⇑P		**P**	**11 26 28.8**	**+0.7**
S23A	**Nye Farm, Mont** baz=84,SNR=8.3	**84.39**	**48**	⇓P		**P**	**11 26 30.0**	**+1.3**
X19A	**St. Johns** baz=84,SNR=35	**84.40**	**52**	⇓P		**P**	**11 26 29.7**	**+1.1**
N27A	**Anderson Farm,** baz=84	**84.40**	**43**	⇑P		**P**	**11 26 28.9**	**+0.5**
SOP	**Sopron**	**84.42**	**326**	⇓*i*P		**P**	**11 26 28.7**	**+0.5**
W20A	**Ramah** baz=84,SNR=13	**84.47**	**51**	⇓P		**P**	**11 26 29.3**	**+0.3**
PKSM	**Moragy**	**84.52**	**324**	⇓P		**P**	**11 26 28.8**	**+0.1**
PKSM	**Moragy**	**84.52**	**324**	⇓*i*P		**P**	**11 26 28.8**	**+0.1**
PKSM	**Moragy**	**84.52**	**324**	⇓*e*P		**P**	**11 26 28.1**	**-0.6**
CONA	**Conrad Observa** comp=Z,12nm,1.0s	**84.56**	**327**	⇑*i*P		**P**	**11 26 29.7**	**+0.7**
CONA	**Conrad Observa** comp=Z,12nm,1.0s	**84.56**	**327**	⇑*i*PcP		**P**	**11 26 29.7**	**+0.7**
V21A	**Milan** baz=84,SNR=6.0	**84.59**	**50**	⇑P		**P**	**11 26 30.1**	**+0.5**
OGNE	**Ogallala** baz=84	**84.59**	**43**	⇓P		**P**	**11 26 29.6**	**+0.3**
R24A	**Sanders Place,** baz=84,SNR=21	**84.59**	**47**	⇑P		**P**	**11 26 30.7**	**+1.1**
KHC	**Kasperske Hory**	**84.66**	**329**	*eP*		**P**	**11 26 29.2**	**-0.2**
KHC				*e*			11 26 36.2	
KHC				*e*			11 26 42.4	
KHC	**Kasperske Hory**	**84.66**	**329**	*eP*		**P**	**11 26 29.2**	**-0.2**
KHC				*ex*		x	11 26 36.2	
KHC				*ep*	P	pP	11 26 42.4	+6.5
Q25A	**Bedland, Calha** baz=84,SNR=19	**84.66**	**46**	⇓P		**P**	**11 26 30.4**	**+0.5**
Y19A	**Nutrioso** baz=85,SNR=8.1	**84.71**	**52**	⇑P		**P**	**11 26 30.9**	**+0.6**
VTS	**Vitosha**	**84.74**	**319**	⇑P		**P**	**11 26 29.9**	**-0.2**
VTS	**Vitosha**	**84.74**	**319**	⇑*i*P		**P**	**11 26 29.9**	**-0.2**
P26A	**Davis Ranch, A** baz=85	**84.76**	**45**	⇑P		**P**	**11 26 30.8**	**+0.4**
T23A	**Casias Ranch,** baz=85,SNR=19	**84.80**	**48**	⇑P		**P**	**11 26 31.9**	**+1.2**
GERES	**GERESS Array B** comp=Z,5.4nm,0.9s,baz=39,slow=5.1,SNR=25	**84.82**	**329**	P		**P**	**11 26 30.0**	**-0.3**
GERES	**GERESS Array B**	**84.82**	**329**	P		**P**	**11 26 30.0**	**-0.3**
GERES	**GERESS Array B**	**84.82**	**329**	P		**P**	**11 26 30.0**	**-0.3**
X20A	**Quemado** baz=85,SNR=26	**84.84**	**51**	⇑P		**P**	**11 26 31.9**	**+1.0**
O27A	**Beecher Island** baz=85	**84.84**	**44**	⇑P		**P**	**11 26 31.3**	**+0.6**
S24A	**Houchin Ranch,** baz=85,SNR=18	**84.91**	**47**	⇓P		**P**	**11 26 32.4**	**+1.1**
W21A	**San Fidel** baz=85,SNR=5.7	**85.02**	**50**	⇓P		**P**	**11 26 33.2**	**+1.4**
Q26A	**Hugo** baz=85	**85.08**	**45**	⇓P		**P**	**11 26 32.9**	**+0.9**
R25A	**Fountain Ranch** baz=85,SNR=18	**85.14**	**46**	⇑P		**P**	**11 26 32.9**	**+0.7**
U23A	**El Rito** baz=85,SNR=59	**85.16**	**49**	⇑P		**P**	**11 26 33.8**	**+1.4**
GRF	**Grafenberg Arr** comp=Z,18nm,1.1s	**85.21**	**330**	*eP*		**P**	**11 26 32.4**	**+0.2**
GRF	**Grafenberg Arr** comp=Z,18nm,1.1s	**85.21**	**330**	*eP*		**P**	**11 26 32.4**	**+0.2**
GRF					pmax	pmax		
Y20A	**Horse Springs,** baz=85,SNR=20	**85.31**	**52**	⇑P		**P**	**11 26 34.4**	**+1.1**
X21A	**Alamocita Cree** baz=85,SNR=12	**85.35**	**51**	⇑P		**P**	**11 26 34.5**	**+1.0**
S25A	**Robets Cordova** baz=85	**85.37**	**47**	⇑P		**P**	**11 26 34.2**	**+0.8**
T24A	**Torres, Weston** baz=85,SNR=14	**85.38**	**48**	⇑P		**P**	**11 26 35.0**	**+1.4**
R26A	**Arlington** baz=85,SNR=21	**85.53**	**46**	⇓P		**P**	**11 26 34.7**	**+0.5**
V23A	**Ortiz Mt. (NFS** baz=85,SNR=9.3	**85.54**	**49**	⇓P		**P**	**11 26 35.9**	**+1.5**
U24A	**Moreno Valley** baz=86,SNR=24	**85.67**	**48**	⇓P		**P**	**11 26 36.5**	**+1.4**
Z20A	**Nine Sixteen R** baz=86,SNR=22	**85.67**	**52**	⇓P		**P**	**11 26 36.1**	**+1.1**
Y21A	**Point of Rocks** baz=86,SNR=10	**85.70**	**51**	⇓P		**P**	**11 26 36.4**	**+1.1**
T25A	**Trinidad** baz=86,SNR=12	**85.72**	**47**	⇑P		**P**	**11 26 36.0**	**+0.7**
318A	**Bisbee** baz=86,SNR=9.2	**85.79**	**54**	⇑P		**P**	**11 26 36.4**	**+0.7**
LAZ	**Ladron** comp=Z,11nm,1.6s	**85.80**	**51**	*eP*		**P**	**11 26 36.1**	**+0.5**
X22A	**Bernardo** baz=86	**85.81**	**51**	⇑P		**P**	**11 26 36.6**	**+1.0**
SOKA	**Soboth** comp=Z,13nm,1.3s	**85.87**	**326**	⇓*i*P		**P**	**11 26 35.4**	**-0.2**
SOKA	**Soboth** comp=Z,13nm,1.3s	**85.87**	**326**	⇓*i*PcP		**P**	**11 26 35.4**	**-0.2**
R27A	**Eads** baz=86,SNR=6.3	**85.93**	**45**	⇓P		**P**	**11 26 36.6**	**+0.5**
219A	**White Tail Can** baz=86,SNR=12	**85.93**	**54**	⇑P		**P**	**11 26 37.0**	**+0.7**
W23A	**Werner Place,** baz=86,SNR=7.3	**85.94**	**50**	⇓P		**P**	**11 26 37.3**	**+1.0**
S26A	**Kim** baz=86,SNR=6.4	**85.97**	**46**	⇑P		**P**	**11 26 37.1**	**+0.7**
120A	**U Bar Ranch, L** baz=86,SNR=6.4	**86.00**	**53**	⇑P		**P**	**11 26 37.7**	**+1.1**
V24A	**Rampart Ranch,** baz=86,SNR=12	**86.12**	**49**	⇓P		**P**	**11 26 38.3**	**+1.1**
Z21A	**St. Cloud Mine** baz=86	**86.15**	**52**	⇑P		**P**	**11 26 38.2**	**+0.8**
Y22A	**Socorro** baz=86,SNR=7.3	**86.20**	**51**	⇑P		**P**	**11 26 38.3**	**+0.7**
U25A	**Circle Dot Ran** baz=86,SNR=19	**86.21**	**48**	⇑P		**P**	**11 26 38.8**	**+1.1**
BNM	**Barren Site** comp=Z,15nm,1.5s	**86.28**	**51**	*eP*		**P**	**11 26 38.2**	**+0.1**
319A	**Douglas** baz=86	**86.30**	**54**	⇑P		**P**	**11 26 38.4**	**+0.3**
W24A	**Lazy 6 Ranch,** baz=86,SNR=12	**86.37**	**49**	⇓P		**P**	**11 26 39.3**	**+0.9**
SPMN	**St. Paul** baz=86	**86.37**	**35**	⇑P		**P**	**11 26 37.6**	**-0.4**
BGNE	**Belgrade** baz=86	**86.41**	**41**	⇑P		**P**	**11 26 37.9**	**-0.5**
220A	**Playas Peak, P** baz=86	**86.47**	**53**	⇓P		**P**	**11 26 39.1**	**+0.1**
121A	**Cookes Peak, D** baz=86,SNR=11	**86.56**	**52**	⇓P		**P**	**11 26 40.6**	**+1.2**
U26A	**Atchley Ranch,** baz=86,SNR=12	**86.61**	**47**	⇓P		**P**	**11 26 40.3**	**+0.6**
Z22A	**Elephant Butte** baz=86,SNR=8.4	**86.64**	**51**	⇑P		**P**	**11 26 40.5**	**+0.7**
X24A	**Lazy VL Ranch,** baz=87,SNR=12	**86.77**	**50**	⇑P		**P**	**11 26 41.2**	**+0.7**
T27A	**Campo** baz=87	**86.79**	**46**	⇑P		**P**	**11 26 41.0**	**+0.6**
320A	**Kipp Ranch, An** baz=87	**86.83**	**54**	⇓P		**P**	**11 26 40.8**	**+0.1**
W25A	**X Bar L Ranch,** baz=87,SNR=6.5	**86.95**	**49**	⇓P		**P**	**11 26 42.1**	**+0.8**
Z23A	**Rita Site, Whi** baz=87	**87.10**	**51**	⇓P		**P**	**11 26 42.4**	**+0.4**
Y24A	**Capitan** baz=87	**87.18**	**50**	⇓P		**P**	**11 26 42.7**	**+0.3**
X25A	**Clemmons Ranch** baz=87,SNR=5.8	**87.28**	**49**	⇑P		**P**	**11 26 43.8**	**+0.9**
SCHQ	**Schefferville** comp=Z,20nm,0.9s,baz=352,slow=5.8,SNR=19	**87.49**	**16**	P		**P**	**11 26 43.4**	**+0.1**
SCHQ	**Schefferville** comp=Z,24nm,1.1s	**87.49**	**16**	*eP*		**P**	**11 26 43.0**	**-0.3**
Z24A	**Sheeppen Canyo** baz=88	**87.61**	**51**	⇑P		**P**	**11 26 43.9**	**-0.6**
Y25A	**Mesa, Roswell** baz=88	**87.65**	**50**	⇓P		**P**	**11 26 44.7**	**+0.1**
X26A	**CR and CF Fran** baz=88	**87.79**	**49**	⇑P		**P**	**11 26 45.6**	**+0.3**
CDF	**Champ du Feu**	**87.81**	**332**	*eP*		**P**	**11 26 43.6**	**-1.4**
124A	**Stringfield Ra** baz=88	**87.96**	**51**	⇓P		**P**	**11 26 46.2**	**0.0**
Z25A	**Roswell** baz=88	**88.06**	**50**	⇓P		**P**	**11 26 46.3**	**-0.3**
X27A	**F and S Farms,** baz=88	**88.17**	**48**	⇓P		**P**	**11 26 47.0**	**-0.1**
224A	**Cornudas Mount** baz=88	**88.33**	**52**	⇑P		**P**	**11 26 47.8**	**-0.1**
Z26A	**Caprock** baz=88,SNR=9.8	**88.53**	**50**	⇓P		**P**	**11 26 49.1**	**+0.3**
Y27A	**Causey** baz=88	**88.63**	**49**	⇓P		**P**	**11 26 49.0**	**-0.3**
MNTX	**Cornudas Mount** baz=89	**88.66**	**52**	⇑P		**P**	**11 26 49.5**	**+0.2**
MNTX				⇑P		**P**	**11 26 49.5**	**+0.2**
CPRX	**Cap Rock** comp=Z,5.7nm,0.8s	**88.76**	**50**	*eP*		**P**	**11 26 49.7**	**-0.2**
324A	**Moxley Ranch,** baz=89	**88.76**	**52**	⇓P		**P**	**11 26 49.5**	**-0.4**
MSTX	**Muleshoe** baz=89	**88.82**	**49**	⇑P		**P**	**11 26 49.7**	**-0.4**
AMTX	**Amarillo** comp=Z,8.1nm,0.7s	**88.87**	**47**	*eP*		**P**	**11 26 50.6**	**+0.3**
AMTX	**Amarillo** baz=89,SNR=6.0	**88.87**	**47**	⇑P		**P**	**11 26 50.7**	**+0.3**
AMTX	baz=89,SNR=6.0			⇑P		**P**	**11 26 50.7**	**+0.3**
126A	**Clayton Basin,** baz=89	**88.91**	**50**	⇑P		**P**	**11 26 50.4**	**-0.1**
Z27A	**Tatum** baz=89,SNR=6.0	**88.98**	**49**	⇓P		**P**	**11 26 51.0**	**+0.1**
GDL2	**Guadalupe Moun** comp=Z,9.0nm,1.0s	**88.99**	**51**	*eP*		**P**	**11 26 50.9**	**-0.1**
325A	**Bean Ranch, Si** baz=89	**89.14**	**52**	⇓P		**P**	**11 26 51.3**	**-0.5**
226A	**Malaga, Loving** baz=89	**89.25**	**51**	⇓P		**P**	**11 26 52.1**	**0.0**
425A	**Indio Mountain** baz=89	**89.51**	**52**	⇓P		**P**	**11 26 53.0**	**-0.4**
326A	**Caldwell Ranch** baz=90	**89.81**	**51**	⇑P		**P**	**11 26 55.1**	**+0.2**
426A	**McDonald Obser** baz=90	**90.21**	**52**	⇓P		**P**	**11 26 56.8**	**-0.1**
LPL	**La Plagne**	**90.37**	**330**	*eP*		**P**	**11 26 56.1**	**-1.2**
LPG	**La Plagne** comp=Z,25nm,1.1s	**90.38**	**330**	*eP*		**P**	**11 26 56.1**	**-1.3**
427A	**Hayter Ranch,** baz=90	**90.49**	**51**	⇑P		**P**	**11 26 58.0**	**0.0**
328A	**Wristen Ranch,** baz=90	**90.52**	**51**	⇑P		**P**	**11 26 58.1**	**0.0**
526A	**Mary Lane Ranc** baz=90,SNR=5.2	**90.57**	**52**	⇓P		**P**	**11 26 58.6**	**+0.2**
AVF	**Avril sur Loir**	**90.65**	**333**	*eP*		**P**	**11 26 57.0**	**-1.3**
527A	**Woodward Ranch** baz=91	**90.82**	**52**	⇓P		**P**	**11 26 59.8**	**+0.2**
626A	**Big Bend Ranch** baz=91	**90.87**	**53**	⇓P		**P**	**11 26 59.9**	**+0.1**
MBDF	**Montbardon** comp=Z,31nm,1.1s	**91.00**	**330**	*eP*		**P**	**11 26 58.2**	**-2.0**
428A	**Kincaid Ranch,** baz=91	**91.04**	**51**	⇑P		**P**	**11 27 00.5**	**0.0**
TXAR	**Lajitas Array** comp=Z,3.8nm,0.7s,baz=298,slow=3.3,SNR=64	**91.32**	**53**	P		**P**	**11 27 02.1**	**+0.2**
TXAR	**Lajitas Array**	**91.32**	**53**	P		**P**	**11 27 02.1**	**+0.2**
TXAR	**Lajitas Array**	**91.32**	**53**	P		**P**	**11 27 02.1**	**+0.2**
528A	**Cox Ranch, San** baz=91	**91.35**	**51**	⇓P		**P**	**11 27 02.6**	**+0.6**
627A	**Terlingua Ranc** baz=91	**91.43**	**52**	⇑P		**P**	**11 27 02.6**	**+0.2**
TUL1	**Tulsa** baz=92	**91.61**	**43**	⇓P		**P**	**11 27 03.0**	**0.0**
628A	**Black Gap, Mar** baz=92	**91.73**	**52**	⇓P		**P**	**11 27 03.7**	**0.0**
VIVF	**Saint-Julien-l**	**91.75**	**331**	*eP*		**P**	**11 27 02.2**	**-1.3**
LMR	**La Mourre** comp=Z,33nm,1.1s	**92.24**	**329**	*eP*		**P**	**11 27 03.9**	**-1.8**
SFIN	**Scholer Farm** baz=93	**92.78**	**35**	⇑P		**P**	**11 27 07.9**	**-0.3**
JCT	**Junction City** baz=93	**93.03**	**49**	⇓P		**P**	**11 27 09.5**	**-0.1**
MIAR	**Mount Ida** comp=Z,17nm,1.1s	**93.84**	**43**	*eP*		**P**	**11 27 13.3**	**0.0**
MIAR					pmax	pmax		
MIAR	**Mount Ida** comp=Z,17nm,1.1s	**93.84**	**43**	*eP*		**P**	**11 27 13.2**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,1.9nm,0.8s,baz=354,slow=2.5,SNR=8.3	**119.14**	**314**	PKP		**PKPdf**	**11 32 43.8**	**-1.5**
TORD				PKKPab		**PKKPbc**	**11 42 59.6**	**+2.0**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,1.0s,baz=253,slow=0.7,SNR=3.6	**119.14**	**314**	PKP		**PKPdf**	**11 32 43.8**	**-1.5**
TORD				PKKPab		**PKKPbc**	**11 42 59.6**	**+2.0**
LPAZ	**La Paz** comp=Z,11nm,0.7s,baz=341,slow=3.5,SNR=46	**147.57**	**63**	PKP		**PKPdf**	**11 33 39.0**	**+0.3**
LPAZ				PKPbc		**PKPbc**	**11 33 41.5**	**+0.1**
LPAZ	**La Paz** comp=Z,11nm,0.7s,baz=344,slow=3.9,SNR=46	**147.57**	**63**	PKP2		**PKPdf**	**11 33 39.0**	**+0.3**
LPAZ	**La Paz**	**147.57**	**63**	PKP		**PKPdf**	**11 33 39.0**	**+0.3**
LPAZ				PKPbc		**PKPbc**	**11 33 41.5**	**+0.1**
PLCA	**Paso Flores** comp=Z,2.6nm,0.9s,baz=244,slow=8.4,SNR=3.1	**153.86**	**113**	PKPbc		**PKPbc**	**11 33 55.4**	**+0.4**
PLCA	**Paso Flores**	**153.86**	**113**	PKIKP		**PKPbc**	**11 33 55.4**	**+0.4**
PLCA	**Paso Flores**	**153.86**	**113**	PKPbc		**PKPbc**	**11 33 55.4**	**+0.4**
BDFB	**Brasilia** comp=Z,4.9nm,0.8s,baz=8.6,slow=2.6,SNR=5.4	**159.08**	**27**	PKPab		**PKPab**	**11 34 31.4**	**+0.3**
BDFB	**Brasilia**	**159.08**	**27**	PKP2		**PKPab**	**11 34 31.4**	**+0.3**
BDFB	**Brasilia**	**159.08**	**27**	PKPab		**PKPab**	**11 34 31.4**	**+0.3**

*IDC **19** 11:14:47.2±0.5,34.61N×141.73E,h0km,mb4.6/28,*
***mb1 4.7**/28,**mb1mx4.7**/32,**mbtmp4.6**/28,**MS4.1**/4,*
Ms1 4.1**/4,**ms1mx3.5**/34,**Error ellipse: s-maj=16.2km
s-min=13.5km az=113.0,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima** 57nm,0.3s,baz=274,slow=23,SNR=2.3	**7.50**	**177**	Sn	Sn	11 17 55.5	-8.2
CBIJ	**Chichi jima**	**7.50**	**177**	Sn	Sn	11 17 55.5	-8.2
KSRS	**Korea Array** comp=Z,340nm,21.5s,baz=100,slow=36	**11.53**	**288**	LR	LR	11 21 41.9	
JOW	**Kunigami** comp=Z,734nm,18.4s,baz=149,slow=38	**13.92**	**240**	LR	LR	11 23 29.5	
PETK	**Petropavlovsk-** 4.3nm,0.8s,baz=215,slow=10,SNR=3.0	**21.69**	**27**	P	P	11 19 39.8	+0.3
PETK				PcP	PcP	11 23 40.5	0.0
SONM	**Songino Array** 5.1nm,0.9s,baz=102,slow=9.6,SNR=2.3	**29.41**	**307**	P	P	11 20 53.6	+1.2
SONM	1.1nm,0.5s,baz=123,slow=2.7,SNR=7.0			PcP	PcP	11 23 58.2	-0.1
CMAR	**Chiang Mai Arr** 2.6nm,0.6s,baz=49,slow=7.5,SNR=2.4	**41.20**	**258**	P	P	11 22 33.6	-0.2
ZALV	**Zalesovo Beam** 7.8nm,0.6s,baz=93,slow=6.6,SNR=4.6	**43.76**	**314**	P	P	11 22 54.0	-0.2
ZALV	3.6nm,0.7s,baz=111,slow=2.9,SNR=3.4			PcP	PcP	11 24 40.6	-0.3
PMG	**Port Moresby** 4.9nm,0.6s,baz=3.7,slow=7.3,SNR=2.7	**44.08**	**172**	PcP	PcP	11 24 42.9	+0.4
MKAR	**Makanchi Array** 5.1nm,0.8s,baz=94,slow=7.7,SNR=2.6	**45.66**	**304**	P	P	11 23 10.0	+0.5
KURK	**Kurchatov** 12nm,0.8s,baz=82,slow=7.4,SNR=2.0	**47.65**	**310**	P	P	11 23 26.0	+0.9
KDAK	**Kodiak Island** 21nm,1.0s,baz=214,slow=7.0,SNR=2.9	**48.75**	**40**	P	P	11 23 32.9	-0.5
ILAR	**Eielson Array** 4.9nm,0.8s,baz=259,slow=6.0,SNR=4.3	**51.41**	**31**	P	P	11 23 52.9	-0.6
BVAR	**Borovoye Array** 5.5nm,0.8s,baz=140,slow=4.8,SNR=3.8	**52.41**	**314**	P	P	11 24 01.3	+0.2
BVAR	2.7nm,0.7s,baz=70,slow=4.7,SNR=3.0			PcP	PcP	11 25 11.8	-0.2
CTA	**Charters Tower** 4.6nm,0.8s,baz=119,slow=11,SNR=3.0	**54.57**	**175**	P	P	11 24 17.8	+0.6
CTA	comp=Z,276nm,20.0s,baz=332,slow=31			LR	LR	11 43 04.9	
FITZ	**Fitzroy Crossi** 3.5nm,0.6s,baz=358,slow=12,SNR=2.3	**54.61**	**199**	P	P	11 24 17.9	+0.3
WRA	**Warramunga Arr** 21nm,0.7s,baz=6.3,slow=7.6,SNR=6.7	**54.71**	**189**	P	P	11 24 17.9	-0.3
INK	**Inuvik** 6.3nm,0.7s,baz=292,slow=4.6,SNR=5.5	**56.43**	**26**	P	P	11 24 30.7	+0.6
ASAR	**Alice Springs** 6.1nm,0.9s,baz=6.4,slow=5.0,SNR=4.5	**58.43**	**188**	P	P	11 24 43.3	-1.5
DLBC	**Dease Lake** 3.0nm,0.8s,baz=336,slow=14,SNR=2.1	**60.38**	**37**	P	P	11 24 59.6	+1.6
AKTO	**Aktyubinsk** 6.5nm,0.7s,baz=81,slow=13,SNR=4.1	**60.50**	**313**	P	P	11 25 00.1	+1.3
RES	**Resolute Bay** 6.1nm,0.5s,baz=315,slow=6.3,SNR=9.8	**64.88**	**14**	P	P	11 25 27.7	0.0
YKA	**Yellowknife Ar** 1.8nm,0.7s,baz=301,slow=5.5,SNR=6.0	**65.77**	**30**	P	P	11 25 32.9	-0.7
ARCES	**ARCESS Array B** 3.1nm,0.8s,baz=63,slow=6.2,SNR=3.0	**66.35**	**340**	P	P	11 25 36.2	-1.1
FINES	**FINESS Array B** 5.6nm,0.8s,baz=74,slow=7.4,SNR=2.9	**71.08**	**333**	P	P	11 26 05.3	-1.6
NVAR	**Mina Array Bea** 5.1nm,0.8s,baz=281,slow=6.3,SNR=5.1	**76.24**	**53**	P	P	11 26 38.6	+0.7
AKASG	**Malin Array Be** 6.2nm,0.7s,baz=48,slow=5.7,SNR=4.5	**76.37**	**323**	P	P	11 26 37.2	-0.9
AKASG	comp=Z,288nm,18.6s,baz=20,slow=38			LR	LR	12 02 44.5	
NOA	**NORSAR Array B** 6.0nm,0.8s,baz=39,slow=5.7,SNR=4.2	**76.52**	**338**	P	P	11 26 38.5	-0.4
BRTR	**Keskin Array B** 1.9nm,0.7s,baz=100,slow=3.6,SNR=2.4	**80.66**	**312**	P	P	11 27 02.6	+0.4
ULM	**Lac du Bonnet** 4.5nm,1.1s,baz=327,slow=4.1,SNR=3.7	**81.38**	**33**	P	P	11 27 04.5	-1.2
GERES	**GERESS Array B** 1.8nm,0.7s,baz=32,slow=3.5,SNR=3.5	**84.91**	**329**	P	P	11 27 23.6	-0.4
SCHQ	**Schefferville** 4.9nm,0.9s,baz=339,slow=5.3,SNR=5.8	**87.59**	**16**	P	P	11 27 37.0	0.0
TXAR	**Lajitas Array** 1.6nm,0.7s,baz=308,slow=3.3,SNR=5.3	**91.39**	**53**	P	P	11 27 55.6	+0.2
TORD	**Torodi Ar. Bea** 0.6nm,0.5s,baz=45,slow=2.0,SNR=3.8	**119.21**	**314**	PKP	PKPdf	11 33 37.5	-1.4
LPAZ	**La Paz** 6.7nm,0.7s,baz=358,slow=8.2,SNR=5.4	**147.62**	**63**	PKPbc	PKPbc	11 34 34.9	+0.1

*IDC **19** 11:27:54.3±1.5,22.82S×170.93E,h0km,mb3.9/8,*
mb1 4.1/9,mb1mx4.0/17,mbtmp3.9/9,ML4.0/1,MS3.4/1,
Ms1 3.4/1,ms1mx2.7/28,Error ellipse: s-maj=64.7km
s-min=21.7km az=161.0
*ISCJB **19** 11:28:00.1±0.9,22.7S±0.2×170.65E±0.06,h42km,*
mb3.8/8,Error ellipse: s-maj=33.0km s-min=8.0km az=2.4
*NOU **19** 11:28:01.9±0.9,19.90S×170.00E,h10km,MD3.3,ML2.7,*
MS2.8

ISC 19 11:28:00.9±1.2,22.6S±0.3×170.72E±0.09,h42km,n15,
σ1°44/17,mb3.9/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.58**	**276**	*eP*	Pn	11 28 56.2	+2.3
BAYA				*eS*	**Sn**	**11 29 34.8**	**-0.1**
LASL	**Noumea**	**3.88**	**274**	*eS*	**Sn**	**11 29 42.1**	**-0.4**
DZM	**Mont Dzumac** 8.3nm,0.3s,baz=112,slow=16,SNR=206	**3.99**	**276**	Pn	**Pn**	**11 29 01.1**	**+1.4**
DZM	6.2nm,0.3s,baz=96,slow=23,SNR=12			Sn	**Sn**	**11 29 48.0**	**+2.8**
DZM	comp=Z,401nm,18.0s,baz=201,slow=36			LR	LR	11 30 26.4	
DZM	**Mont Dzumac**	**3.99**	**276**	*eP*	**Pn**	**11 28 59.5**	**-0.1**
DZM				*eS*	**Sn**	**11 29 42.8**	**-2.5**
DZM	comp=Z,483nm,13.7s			AMP		11 29 53.4	
NOUC	**Port Laguerre**	**4.12**	**275**	*eP*	**Pn**	**11 29 01.7**	**+0.4**
NOUC				*eS*	**Sn**	**11 29 47.0**	**-1.3**
NOUC	comp=Z,34nm,1.7s			AMP		11 29 51.6	
STKA	**Stephens Creek** comp=Z,2.8nm,1.0s,baz=130,slow=17,SNR=3.0	**27.45**	**244**	P	**P**	**11 33 42.3**	**-0.7**
ASAR	**Alice Springs** comp=Z,1.1nm,0.8s,baz=78,slow=9.4,SNR=16	**33.83**	**261**	P	**P**	**11 34 40.7**	**+1.3**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.3s,baz=99,slow=8.1,SNR=6.4	**33.96**	**267**	P	**P**	**11 34 39.9**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.7s,baz=141,slow=14,SNR=3.9	**42.39**	**267**	P	**P**	**11 35 51.7**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.6s,baz=135,slow=4.4,SNR=9.6	**81.12**	**294**	P	P	11 40 14.8	+2.5
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.6s,baz=225,slow=6.8,SNR=5.1	**89.96**	**48**	P	**P**	**11 40 55.9**	**-0.3**
SONM	**Songino Array** comp=Z,1.6nm,0.9s,baz=138,slow=4.4,SNR=9.4	**90.68**	**323**	P	**P**	**11 40 59.5**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=231,slow=6.2,SNR=3.0	**92.97**	**17**	P	**P**	**11 41 10.4**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,3.2nm,0.8s,baz=24,slow=2.5,SNR=5.0	**128.60**	**345**	PKP	**PKPdf**	**11 47 02.3**	**-0.4**
GERES	**GERESS Array B** comp=Z,1.5nm,0.8s,baz=50,slow=2.1,SNR=6.8	**148.04**	**331**	PKPbc	**PKPab**	**11 47 42.1**	**-2.6**

**IDC 19 11:30:40.6±6.2,23.72S×179.50E

MKAR **Makanchi Array** **64.92 324** P P 11 46 57.4 0.0
0.4nm,0.4s,baz=110,slow=8.1,SNR=11

IDC 19 11:54:43.3±7.6, 10.90N×91.94E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/23, mbtmp3.2/3, Error ellipse: s-maj=391.5km s-min=27.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.70**	**349**	P	P	12 01 51.9	-0.1
	0.2nm,0.5s,baz=176,slow=9.5,SNR=3.7						
WRA	**Warramunga Arr**	**51.78**	**126**	P	P	12 03 53.2	-0.1
	0.2nm,0.5s,baz=306,slow=8.5,SNR=5.9						
ASAR	**Alice Springs**	**53.51**	**130**	P	P	12 04 06.0	-0.1
	0.2nm,0.7s,baz=307,slow=7.6,SNR=5.8						

CASC 19 11:58:12.0±2.2, 9.46N×84.09W, h33km±5km, MD3.7, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.08**	**242**	⇑*i*P	Pb	11 58 18.4	+0.7
BUS	**Buena Vista**	**0.34**	**74**	⇑*i*P	Pn	11 58 21.2	-0.1
SJS	**Escuela Geolog**	**0.48**	**5**	⇓*i*P	Pb	11 58 22.5	+0.1
SJS				*e*S	Sn	11 58 31.0	+0.8
URSC	**Urasca**	**0.48**	**40**	⇓*i*P	Pb	11 58 22.6	0.0
URSC				*e*S	Sb	11 58 29.2	-0.7
JCR	**Jicaral**	**1.08**	**291**	*e*P	Pn	11 58 29.7	-1.2
JCR				*e*S	Sn	11 58 43.6	-1.1
ACR	**Cerro Adams**	**1.22**	**131**	*e*P	Pn	11 58 31.5	-1.3
AMAS	**Alto Masis**	**1.45**	**322**	*i*P	Pn	11 58 36.5	+0.4
PTEN	**Parque Tenorio**	**1.52**	**325**	*i*P	Pn	11 58 37.3	+0.2
BRU2	**Volcan**	**1.54**	**116**	*i*P	Pn	11 58 36.6	-0.7
BRU2				*i*S	Sn	11 58 57.5	+1.2
TBS2		**1.57**	**115**	*i*P	Pn	11 58 38.0	+0.2
TBS2				*i*S	Sn	11 58 57.9	+0.8
CUI	**Cuipilapa**	**1.59**	**318**	*i*P	Pn	11 58 37.8	-0.2
COLC	**Colonia**	**1.62**	**318**	*i*P	Pn	11 58 38.4	0.0
MESS	**Mesas**	**1.67**	**320**	*i*P	Pn	11 58 39.0	-0.1
PTP	**Ponta Puerca**	**19.93**	**62**	*i*P	x	11 58 41.8	
PTP				*i*S	x	11 59 03.9	

*IDC **19** 11:58:19.2±1.4, 22.95S×170.94E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=54.8km s-min=21.7km az=157.0*
*NOU **19** 11:58:19.9±1.1, 19.19S×170.04E, h10km, MD3.1, ML3.4*
*ISCJB **19** 11:58:22.5±0.8, 23.05S×170.86E±0.07, h31km, mb4.0/9, Error ellipse: s-maj=27.4km s-min=8.9km az=7.0*

ISC 19 11:58:24.2±1.0, 22.9S×170.87E±0.9, h31km, n14, σ1§51/18, mb4.0/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.76**	**281**	*e*P	**Pn**	11 59 20.6	**+0.5**
BAYA				*e*S	**Sn**	12 00 05.5	**+2.2**
DZM	**Mont Dzumac**	**4.18**	**281**	Pn	**Pn**	11 59 26.2	**+0.3**
	16nm,0.3s,baz=119,slow=19,SNR=143						
DZM				LR	LR	12 00 15.0	
	comp=Z,313nm,20.3s,baz=206,slow=27						
DZM				Sn	**Sn**	12 00 15.7	**+1.9**
	20nm,0.3s,baz=154,slow=19,SNR=13						
DZM	**Mont Dzumac**	**4.18**	**281**	*e*P	**Pn**	11 59 24.0	**-2.0**
DZM				*e*S	**Sn**	12 00 10.5	**-3.3**
DZM				AMP		12 00 25.4	
	comp=Z,707nm,1.7s						
NOUC	**Port Laguerre**	**4.30**	**280**	*e*P	**Pn**	11 59 26.3	**-1.1**
NOUC				*e*S	**Sn**	12 00 16.3	**-0.3**
NOUC				AMP		12 00 24.8	
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**27.42**	**245**	P	**P**	12 04 08.5	**+1.3**
	comp=Z,0.9nm,0.7s,baz=106,slow=16,SNR=3.7						
ASAR	**Alice Springs**	**33.90**	**261**	P	**P**	12 05 04.3	**-0.3**
	comp=Z,2.0nm,0.9s,baz=96,slow=9.8,SNR=19						
WRA	**Warramunga Arr**	**34.08**	**268**	P	**P**	12 05 04.7	**-1.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=8.5,SNR=23						
FITZ	**Fitzroy Crossi**	**42.51**	**268**	P	**P**	12 06 17.3	**+0.2**
	comp=Z,5.0nm,0.6s,baz=167,slow=9.1,SNR=12						
NWAO	**Narrogin (SRO)**	**47.99**	**246**	P	**P**	12 07 00.1	**-0.4**
	comp=Z,6.0nm,0.8s,baz=124,slow=7.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**81.39**	**294**	P	**P**	12 10 40.0	**+1.6**
	comp=Z,0.7nm,0.3s,baz=142,slow=4.4,SNR=5.9						
NVAR	**Mina Array Bea**	**90.10**	**48**	P	**P**	12 11 20.4	**-1.1**
	comp=Z,0.6nm,0.8s,baz=223,slow=8.5,SNR=4.6						
SONM	**Songino Array**	**91.05**	**323**	P	**P**	12 11 25.3	**-0.3**
	comp=Z,0.9nm,0.9s,baz=131,slow=6.7,SNR=5.7						
ILAR	**Eielson Array**	**93.28**	**17**	P	**P**	12 11 36.4	**+1.1**
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=4.2						
GERES	**GERESS Array B**	**148.43**	**331**	PKPbc	**PKPbc**	12 18 07.2	**-0.5**
	comp=Z,1.0nm,0.8s,baz=19,slow=4.5,SNR=4.0						

IDC 19 12:09:28.6±3.1, 20.28N×146.38E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, Error ellipse: s-maj=122.0km s-min=22.7km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.47**	**321**	P	P	12 14 41.0	+1.2
	1.2nm,0.6s,baz=162,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**41.68**	**197**	P	P	12 17 19.4	+0.2
	0.4nm,0.7s,baz=9.1,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**42.33**	**320**	P	P	12 17 24.5	+0.1
	0.2nm,0.4s,baz=130,slow=7.1,SNR=5.6						
ASAR	**Alice Springs**	**45.34**	**196**	P	P	12 17 48.3	-0.4
	0.3nm,0.9s,baz=10,slow=6.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**57.17**	**322**	P	P	12 19 16.0	-1.1
	0.4nm,0.5s,baz=91,slow=5.8,SNR=2.9						
MKAR	**Makanchi Array**	**57.85**	**313**	P	P	12 19 21.5	-0.6
	0.5nm,0.6s,baz=87,slow=8.7,SNR=5.5						
FINES	**FINESS Array B**	**85.72**	**335**	P	P	12 22 09.6	+0.3
	2.6nm,1.0s,baz=101,slow=7.2,SNR=3.0						

*IDC **19** 12:10:56.7±1.0, 28.46N×129.75E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.4/23, mbtmp3.3/7, ML3.8/1, Error ellipse: s-maj=30.0km s-min=18.4km az=101.0*
*ISCJB **19** 12:10:59.3±0.5, 28.49N±0.05×129.57E±0.07, h26km±5km, mb3.2/6, Error ellipse: s-maj=11.5km s-min=5.3km az=34.8*
*JMA **19** 12:10:59.3, 28.52N×129.51E, h21km±1km, M3.7*
JMA Felt II J1.

ISC 19 12:10:59.7±1.0, 28.51N±0.05×129.55E±0.06, h20km±4km, n16, σ0§73/23, mb3.3/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.11**	**153**	P	**Pg**	12 11 03.6	**-0.1**
JAM				S	**Sg**	12 11 06.3	**0.0**
JZK	**Kikaishima**	**0.42**	**117**	P	**Pg**	12 11 08.3	**-0.1**
JZK				S	**Sb**	12 11 14.9	**+0.5**
JTK	**Tokunoshima**	**0.89**	**217**	P	**Pb**	12 11 15.6	**-1.0**
JTK				*e*S	**Sb**	12 11 27.6	**-0.4**
JNN	**Nakanoshima**	**1.36**	**12**	P	**Pn**	12 11 22.9	**-0.7**
JNN				*e*S	**Sn**	12 11 40.4	**-0.7**
JOW	**Kunigami**	**2.02**	**214**	Pn	**Pn**	12 11 33.4	**+0.8**
	44nm,0.3s,baz=34,slow=12,SNR=77						
JOW				Sn	**Sb**	12 12 01.0	**+0.6**
	49nm,0.3s,baz=130,slow=25,SNR=8.8						
JOW	**Kunigami**	**2.02**	**214**	P	**Pn**	12 11 33.1	**+0.5**
JIH	**Iheya**	**2.03**	**224**	P	**Pn**	12 11 32.7	**-0.1**
JIH				*e*S	**Sn**	12 11 57.2	**-0.4**
JKC	**Kuchinoerabu**	**2.03**	**16**	P	**Pn**	12 11 32.7	**-0.1**
JKC				*e*S	**Sn**	12 11 56.8	**-0.8**
JTN	**Tanegashima 3**	**2.48**	**30**	P	**Pn**	12 11 39.8	**+0.8**
JAGN	**Aguni-jima**	**2.80**	**228**	P	**Pn**	12 11 43.9	**+0.5**
SONM	**Songino Array**	**26.36**	**323**	P	**P**	12 16 36.4	**+1.8**
	0.9nm,1.3s,baz=127,slow=9.2,SNR=2.5						
MKAR	**Makanchi Array**	**40.94**	**310**	P	**P**	12 18 41.5	**+0.5**
	0.4nm,0.7s,baz=98,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**48.39**	**174**	P	**P**	12 19 39.6	**-0.9**
	0.2nm,0.7s,baz=354,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**52.04**	**175**	P	**P**	12 20 07.8	**-0.3**
	0.1nm,0.3s,baz=8.9,slow=14,SNR=2.1						
ILAR	**Eielson Array**	**61.88**	**29**	P	**P**	12 21 17.1	**-0.4**
	0.4nm,0.9s,baz=288,slow=7.1,SNR=4.7						
YKA	**Yellowknife Ar**	**75.97**	**26**	P	**P**	12 22 45.4	**+0.4**
	0.2nm,0.7s,baz=302,slow=5.9,SNR=3.4						

CASC 19 12:13:34.7±2.2, 8.97N×82.86W, h13km±452km, MD3.5, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.24**	**135**	⇑*i*P	Pb	12 13 40.7	-0.5
BRU2				*i*S	Sb	12 13 45.2	-0.3
TBS2		**0.27**	**130**	⇓*i*P	Pb	12 13 41.3	-0.3
TBS2				*i*S	Sb	12 13 46.0	-0.3
CNI	**Changuinola**	**0.56**	**37**	*e*P	Pg	12 13 45.5	-0.3
BUS	**Buena Vista**	**1.06**	**304**	*e*P	Pb	12 13 54.1	-1.3
BUS				*e*S	Sb	12 14 07.5	-2.2
URSC	**Urasca**	**1.25**	**314**	*e*P	Pn	12 13 57.6	-0.5
URSC				*e*S	Sb	12 14 14.6	0.0
SJS	**Escuela Geolog**	**1.52**	**309**	*e*P	Pn	12 14 01.8	0.0
PTP	**Ponta Puerca**	**19.11**	**59**	⇑*i*P	x	12 13 48.3	
PTP				*i*S	x	12 13 59.4	

IDC 19 12:31:01.8±3.6, 6.87S×155.21E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.7/6, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=110.5km s-min=26.9km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.34**	**119**	LR	LR	12 34 08.8	
	comp=Z,143nm,19.7s,baz=303,slow=35						
WRA	**Warramunga Arr**	**24.06**	**235**	P	P	12 36 19.5	+0.4
	0.3nm,0.5s,baz=61,slow=9.9,SNR=9.2						
WRA				LR	LR	12 44 42.4	
	comp=Z,100nm,21.2s,baz=120,slow=34						
ASAR	**Alice Springs**	**26.42**	**228**	P	P	12 36 40.8	+0.3
	0.1nm,0.5s,baz=57,slow=10,SNR=3.5						
KSRS	**Korea Array**	**50.93**	**332**	LR	LR	12 58 41.6	
	comp=Z,24nm,21.9s,baz=345,slow=33						
SONM	**Songino Array**	**69.34**	**327**	P	P	12 42 12.9	+1.5
	0.4nm,0.6s,baz=137,slow=6.0,SNR=5.1						
MKAR	**Makanchi Array**	**83.45**	**319**	P	P	12 43 31.6	+0.2
	2.8nm,0.6s,baz=102,slow=5.9,SNR=38						
ZALV	**Zalesovo Beam**	**84.19**	**326**	P	P	12 43 33.8	-1.2
	1.9nm,0.6s,baz=112,slow=5.6,SNR=12						
KURK	**Kurchatov**	**86.86**	**322**	P	P	12 43 47.6	-0.8
	0.5nm,0.6s,baz=101,slow=4.1,SNR=4.8						

WEL 19 12:42:27.5±0.5, 35.75S×179.79E, h33km, ML3.7/10, Error ellipse: s-maj=4.8km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.17**	**213**	PN	Pn	12 43 01.4	+0.1
MXZ				*e*SN	Sn	12 43 25.8	-1.3
PUZ	**Puketiti**	**2.62**	**207**	PN	Pn	12 43 08.1	+0.4
PUZ				*e*SN	Sn	12 43 37.5	-0.9
CNGZ	**Carnagh Statio**	**3.01**	**204**	*e*PN	Pn	12 43 12.9	0.0
MWZ	**Matawai**	**3.15**	**214**	PN	Pn	12 43 14.6	-0.3
MWZ				SN	Sn	12 43 50.9	-0.5
URZ	**Urewera**	**3.30**	**220**	PN	Pn	12 43 16.6	-0.3
URZ				SN	Sn	12 43 53.4	-1.5
KUZ	**Kuaotunu**	**3.44**	**252**	PN	Pn	12 43 17.6	-1.2
PRGZ	**Paritu Road**	**3.51**	**205**	PN	Pn	12 43 19.2	-0.7
KNZ	**Kokohu**	**3.67**	**207**	PN	Pn	12 43 20.7	-1.3
MHGZ	**Mahia Peninsul**	**3.71**	**203**	PN	Pn	12 43 21.7	-0.8
RAHZ	**Arahi**	**3.83**	**213**	PN	Pn	12 43 23.7	-0.4
ALRZ	**Allen Road**	**3.93**	**223**	PN	Pn	12 43 25.1	-0.6
MKAZ	**Moumakai**	**3.97**	**249**	PN	Pn	12 43 26.1	0.0
NMHZ	**Naumai**	**4.10**	**215**	*e*PN	Pn	12 43 27.3	-0.7
BKZ	**Black Stump Fm**	**4.30**	**217**	PN	Pn	12 43 28.9	-1.9
MCHZ	**McNeill Hill**	**4.43**	**213**	PN	Pn	12 43 31.9	-0.6
KAHZ	**Kahuranaki**	**4.65**	**209**	PN	Pn	12 43 33.2	-2.3
BHHZ	**Black Hill Sta**	**4.76**	**217**	*e*PN	Pn	12 43 35.1	-2.0
PXZ	**Pawanui**	**4.86**	**208**	PN	Pn	12 43 35.5	-2.8
PXZ				*e*SN	Sn	12 44 26.9	-6.6
WPHZ	**Waipukurau**	**5.06**	**211**	PN	Pn	12 43 38.9	-2.2
MRZ	**Mangatainoka R**	**5.92**	**213**	PN	Pn	12 43 48.8	-4.1
MRZ				SN	Sn	12 44 52.7	-6.9
SNZO	**South Karori**	**6.83**	**214**	PN	Pn	12 43 59.7	-5.7

*ISCJB **19** 12:53:28.5±1.4, 34.43N±0.03×36.69E±0.07, h1km±9km, Error ellipse: s-maj=10.1km s-min=4.2km az=3.3*
*CSEM **19** 12:53:28.8±0.2, 34.41N×36.66E, h2km, ML3.1, Error ellipse: s-maj=5.9km s-min=3.5km az=104.0*
*GRAL **19** 12:53:29.1±0.4, 34.41N×36.73E, h3km±4km, MD3.1*
*NSSC **19** 12:53:30.1±1.7, 34.45N×36.73E, h22km±17km, ML1.8*
*DDA **19** 12:53:31.1, 34.72N×36.57E, h2km, MD3.1*

ISC 19 12:53:29.7±1.5, 34.41N±0.03×36.63E±0.06, h10km±10km, n17, σ0§75/32, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.24**	**228**	*e*P	**Pg**	12 53 34.5	**-0.2**
FKH				*e*S	**Sg**	12 53 39.0	**+0.9**
HWQ	**Hawqa**	**0.58**	**257**	*e*P	**Pg**	12 53 41.1	**+0.1**
HWQ				*e*S	**Sb**	12 53 49.7	**-0.7**
HWQ	**Hawqa**	**0.58**	**257**	*e*P	**Pg**	12 53 41.1	**+0.1**
HWQ				*e*S	**Sb**	12 53 49.7	**-0.7**
BHL	**Bhannes**	**0.95**	**238**	*e*P	**Pg**	12 53 47.6	**-0.5**
BHL	**Bhannes**	**0.95**	**238**	*e*P	**Pg**	12 53 47.6	**-0.5**
RCY	**Rachaya**	**1.12**	**216**	*e*P	**Pg**	12 53 50.1	**-1.2**
RCY				*e*S	**Sg**	12 54 05.6	**-0.3**
BRBR	**Barbar**	**1.14**	**210**	*e*P	**Pg**	12 53 50.9	**-0.8**
BRBR				*e*S	**Sn**	12 54 09.1	**+1.2**
BRBR				AML	AML	12 54 16.0	
	comp=N,14nm,0.5s						
BRBR				AML	AML	12 54 19.6	
	comp=E,22nm,0.5s						
ZALF	**Zalf**	**1.60**	**158**	*e*P	**Pn**	12 53 58.0	**-0.1**
ZALF				*e*S	**Sn**	12 54 18.6	**-0.2**
ZALF				AML	AML	12 54 21.2	
	comp=E,18nm,0.5s						
ZALF				AML	AML	12 54 22.2	
	comp=N,14nm,1.0s						
ZALF	**Zalf**	**1.60**	**158**	*e*P	**Pn**	12 53 58.0	**-0.1**
	SNR=57						
ZALF				*e*S	**Sn**	12 54 18.6	**-0.2**
	comp=N,14nm,1.0s,SNR=49						
BTCH	**Batrach**	**1.63**	**355**	*e*P	**Pn**	12 53 58.4	**-0.2**
BTCH				*e*S	**Sn**	12 54 18.1	**-1.6**
BTCH				AML	AML	12 54 23.4	
	comp=E,70nm,0.5s						
BTCH				AML	AML	12 54 30.9	
	comp=N,44nm,0.5s						
BTCH	**Batrach**	**1.63**	**355**	*e*P	**Pn**	12 53 58.4	**-0.2**
	SNR=57						
BTCH				*e*S	**Sn**	12 54 18.1	**-1.6**
	comp=N,44nm,0.5s,SNR=49						
YAYL	**Yayladag**	**1.68**	**345**	*i*P	**Pn**	12 53 59.3	**0.0**
YAYL				*i*S	**Sn**	12 54 21.9	**+1.0**
YAYL	**Yayladag**	**1.68**	**345**	*i*P	**Pn**	12 53 59.3	**0.0**
YAYL				*i*S	**Sn**	12 54 21.9	**+1.0**
SALA	**Sala**	**1.70**	**177**	*e*P	**Pn**	12 54 00.0	**+0.4**
SALA				*e*S	**Sb**	12 54 23.1	**+0.5**
SALA				AML	AML	12 54 25.3	
	comp=N,48nm,0.6s						
SALA				AML	AML	12 54 27.4	
	comp=E,2.0nm,0.4s						
SALA	**Sala**	**1.70**	**177**	*e*P	**Pn**	12 54 00.0	**+0.4**
	SNR=45						
SALA				*e*S	**Sb**	12 54 23.1	**+0.5**
	comp=E,2.0nm,0.4s,SNR=40						
KUZU	**Kuzuini**	**2.39**	**9**	*i*P	**Pn**	12 54 09.6	**+0.6**
KUZU				*i*S	**Sn**	12 54 39.1	**+0.8**
KUZU	**Kuzuini**	**2.39**	**9**	*i*P	**Pn**	12 54 09.6	**+0.6**
KUZU				*i*S	**Sn**	12 54 39.1	**+0.8**

KRSC 19 12:58:20.2±0.9, 50.82N×157.73E, h91km±90km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**1.57**	**4**	P	Pn	12 58 49.8	+2.8
ASAK				*i*S	Sn	12 59 11.6	+4.4
MIPR	**Malaya Ipel'ka**	**1.58**	**338**	*e*P	Pn	12 58 46.9	-0.1
MIPR				*i*S	Sn	12 59 06.3	-1.0
RUS	**Russkaya**	**1.69**	**17**	*e*P	Pn	12 58 51.5	+3.2
RUS				*i*S	Sn	12 59 14.2	+4.5
MTVR	**Mutnovka**	**1.69**	**9**	*e*P	Pn	12 58 51.7	+3.1
MTVR				*i*S	Sn	12 59 14.7	+4.6
GRL	**Gorelyy**	**1.75**	**7**	*e*P	Pn	12 58 52.4	+3.1
GRL				*i*S	Sn	12 59 16.0	+4.6
PET	**Petropavlovsk**	**2.28**	**14**	*e*P	Pn	12 58 58.5	+2.5
PET				*i*S	Sn	12 59 26.6	+3.1
UGLR	**Uglovaya**	**2.49**	**15**	P	Pn	12 59 02.3	+3.3
UGLR				*i*S	Sn	12 59 32.3	+3.6
AVH	**Avacha**	**2.53**	**14**	P	Pn	12 59 02.6	+3.1
AVH				*i*S	Sn	12 59 33.2	+3.6
SMAR	**Somma**	**2.54**	**15**	*e*P	Pn	12 59 02.3	+2.5
SMAR				*i*S	Sn	12 59 33.0	+2.9
KOK	**Koryaka**	**2.54**	**12**	P	Pn	12 59 02.8	+3.2
KOK				*i*S	Sn	12 59 33.8	+3.9
NLC	**Nalytchevo**	**2.56**	**22**	*e*P	Pn	12 59 02.0	+2.3
NLC				*i*S	Sn	12 59 32.1	+2.0
SDLR	**Sedlovina**	**2.56**	**16**	P	Pn	12 59 02.7	+2.7
SDLR				*i*S	Sn	12 59 33.0	+2.4
SPN	**Mys Shipunski**	**2.69**	**31**	*e*P	Pn	12 59 04.7	+3.2
SPN				*i*S	Sn	12 59 36.8	+3.6
KMNR	**Kamenistaya**	**5.17**	**16**	*e*P	Pn	12 59 36.5	+1.3
KBTR	**Krutoberegovo**	**6.19**	**27**	*e*P	Pn	12 59 50.2	+1.3

*ISCJB **19** 13:12:23.9±0.2, 46.65N±0.01×7.32E±0.02, h5km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=27.0*
*GEN **19** 13:12:23.9, 46.71N×7.30E, h1km, ML2.8*
*ZUR **19** 13:12:24.5, 46.62N×7.49E, h-2km, 3km, ML2.7/21*
*CSEM **19** 13:12:24.6±0.1, 46.62N×7.42E, h2km, ML3.3/23, Error ellipse: s-maj=2.2km s-min=1.9km az=101.0*
*LDG **19** 13:12:25.5±0.1, 46.61N×7.44E, h6km, Md3.2/2, Ml3.3/25, Error ellipse: s-maj=1.5km s-min=1.3km az=106.0*
*BGR **19** 13:12:25.4±0.7, 46.56N×7.35E, h10km, ML3.5/6, Error ellipse: s-maj=10.0km s-min=7.8km az=176.0*
*VIE **19** 13:12:27.4±0.5, 46.60N×7.43E, h6km, mb2.9/13, ML3.0/15, Error ellipse: s-maj=8.8km s-min=4.1km az=153.0 18 km W of Thuner See*

ISC 19 13:12:25.7±0.9, 46.61N±0.01×7.40E±0.01, h7km±8km, n177, σ1§64/261, 25C-23D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	**Wimmis**	**0.16**	**71**	⇓*i*Pg	**Pg**	13 12 27.1	**-1.9**
	13µm,0.7s						
WIMIS	**Wimmis**	**0.16**	**71**	⇓*i*Pg	**Pg**	13 12 27.1	**-1.9**
	13µm,0.7s						
SENIN	**Lac Senin/Sane**	**0.26**	**196**	⇑*i*Pg	**Pg**	13 12 30.6	**-0.3**
	1µm,0.7s						
SENIN	**Lac Senin/Sane**	**0.26**	**196**	⇑*i*Pg	**Pg**	13 12 30.6	**-0.3**
	1µm,0.7s						
LKBD	**Leukerbad**	**0.27**	**146**	⇓*i*Pg	**Pg**	13 12 30.0	**-1.1**
	692nm,0.3s						
LKBD				*e*Sg	**Sg**	13 12 34.1	**-0.7**
	692nm,0.3s						
LKBD	**Leukerbad**	**0.27**	**146**	⇓*i*Pg	**Pg**	13 12 30.0	**-1.1**
	692nm,0.3s						
LKBD2	**Leukerbad 2**	**0.29**	**145**	⇓*i*Pg	**Pg**	13 12 30.4	**-1.1**
LKBD2	**Leukerbad 2**	**0.29**	**145**	⇓*i*Pg	**Pg**	13 12 30.4	**-1.1**
TORNY	**Torny/Romont**	**0.34**	**298**	⇑*i*Pg	**Pg**	13 12 33.3	**+0.8**
	2µm,0.7s						
TORNY	**Torny/Romont**	**0.34**	**298**	⇑*i*Pg	**Pg**	13 12 33.3	**+0.8**
	2µm,0.7s						
GRYON	**Gryon**	**0.42**	**209**	⇑*i*Pg	**Pg**	13 12 33.6	**-0.2**
	308nm,0.5s						
GRYON				*e*Sg	**Sg**	13 12 40.9	**+1.7**
	308nm,0.5s						
GRYON	**Gryon**	**0.42**	**209**	⇑*i*Pg	**Pg**	13 12 33.6	**-0.2**
	308nm,0.5s						
DIX	**Grande Dixence**	**0.53**	**180**	⇑*i*Pg	**Pg**	13 12 35.6	**-0.4**
	433nm,0.7s						
DIX	**Grande Dixence**	**0.53**	**180**	⇑*i*Pg	**Pg**	13 12 35.6	**-0.4**
	433nm,0.7s						
HASLI	**Hasliberg/Brie**	**0.53**	**74**	⇓*i*Pg	**Pg**	13 12 34.5	**-1.5**
	821nm,0.6s						
HASLI	**Hasliberg/Brie**	**0.53**	**74**	⇓*i*Pg	**Pg**	13 12 34.5	**-1.5**
	821nm,0.6s						
SALAN	**Lac Salanfe**	**0.56**	**213**	*e*Pg	**Pg**	13 12 36.3	**-0.1**
	125nm,0.4s						
SALAN	**Lac Salanfe**	**0.56**	**213**	⇓*e*Pg	**Pg**	13 12 36.4	**0.0**
	125nm,0.4s						
OG01	**Vacheresse**	**0.57**	**241**	Pg	**Pg**	13 12 37.8	**+1.1**
MMK	**Mattmark**	**0.68**	**145**	⇓*i*Pg	**Pg**	13 12 37.6	**-1.3**
	286nm,0.5s						
MMK	**Mattmark**	**0.68**	**145**	⇓*i*P	**Pg**	13 12 37.6	**-1.3**
	286nm,0.5s						
BNALP	**Bannalp**	**0.75**	**70**	⇑*i*Pg	**Pg**	13 12 38.8	**-1.3**
	335nm,0.6s						
BNALP	**Bannalp**	**0.75**	**70**	⇑*e*P	**Pg**	13 12 38.8	**-1.3**
	335nm,0.6s						
BALST	**Balsthal**	**0.75**	**15**	*e*Pg	**Pg**	13 12 39.6	**-0.5**
	2µm,0.6s						
BALST	**Balsthal**	**0.75**	**15**	*e*Pn	**Pg**	13 12 39.6	**-0.5**
	2µm,0.6s						
BOURR	**Bourrignon**	**0.79**	**351**	*e*Pg	**Pg**	13 12 40.8	**-0.1**
	2µm,0.6s						
BOURR	**Bourrignon**	**0.79**	**351**	*e*P	**Pg**	13 12 41.0	**+0.1**
	2µm,0.6s						
LOMF	**Lomont**	**0.84**	**332**	Pg	**Pg**	13 12 42.1	**+0.3**
LOMF				Sg	**Sb**	13 12 55.0	**+1.0**
BBS	**Basel-Blauen**	**0.85**	**5**	Pg	**Pb**	13 12 43.5	**+0.7**
BBS				Sg	**Sb**	13 12 55.5	**+1.0**
FUSIO	**Fusio**	**0.88**	**100**	*e*Pg	**Pg**	13 12 41.0	**-1.7**
	348nm,0.4s						
FUSIO	**Fusio**	**0.88**	**100**	⇓*i*P	**Pg**	13 12 41.0	**-1.7**
	348nm,0.4s						
CABF	**La Chapelle**	**0.91**	**270**	*e*Pg	**Pg**	13 12 43.4

	732nm,0.4s								
SLE	**Schleitheim**	**1.37**	**32**	⇓*i*	Pn	**Pn**	**13 12 49.6**	**-1.6**
	732nm,0.4s								
VDL	**Val di Lei**	**1.42**	**95**	*e*	P	**Pn**	**13 12 50.8**	**-1.2**
	589nm,0.7s								
VDL	**Val di Lei**	**1.42**	**95**	*e*	Pn	**Pn**	**13 12 50.8**	**-1.2**
	589nm,0.7s								
PLONS	**Plons/SG**	**1.43**	**71**	*e*	P	**Pn**	**13 12 51.1**	**-0.9**
	433nm,0.7s								
PLONS	**Plons/SG**	**1.43**	**71**	⇑*e*	Pn	**Pn**	**13 12 51.1**	**-0.9**
	433nm,0.7s								
RSP	**Reno Superiore**	**1.47**	**184**		P	**Pn**	**13 12 51.4**	**-1.2**
HAU	**Haudompre**	**1.57**	**333**	*e*	Pn	**Pn**	**13 12 51.9**	**-2.0**
	SNR=1.0								
HAU	**Haudompre**	**1.57**	**333**	*e*	Pg	**Pn**	**13 12 54.4**	**+0.5**
	SNR=1.0								
HAU				*e*	Sn	**Sn**	**13 13 11.1**	**-3.4**
	SNR=1.0								
HAU				*e*	Sg	**Sb**	**13 13 15.2**	**+0.2**
	131nm,0.3s								
HAU	**Haudompre**	**1.57**	**333**	*e*	Pn	**Pn**	**13 12 51.9**	**-2.0**
	SNR=1.0								
HAU	**Haudompre**	**1.57**	**333**	*e*	Pg	**Pn**	**13 12 54.4**	**+0.5**
	SNR=1.0								
HAU				*e*	Sn	**Sn**	**13 13 11.1**	**-3.4**
	SNR=1.0								
HAU				*e*	Sg	**Sb**	**13 13 15.2**	**+0.2**
	65nm,0.3s								
ECH	**Echery**	**1.61**	**354**		Pg	**Pg**	**13 12 57.2**	**+0.6**
DAVOX	**Davos/Dischmat**	**1.71**	**84**	⇑*i*	P	**Pn**	**13 12 56.3**	**+0.2**
	266nm,0.6s								
DAVOX	**Davos/Dischmat**	**1.71**	**84**	⇑*i*	Pn	**Pn**	**13 12 56.3**	**+0.2**
	266nm,0.6s								
CDF	**Champ du Feu**	**1.80**	**357**	*e*	Pn	**Pn**	**13 12 55.9**	**-1.3**
	SNR=1.0								
CDF	**Champ du Feu**	**1.80**	**357**	*e*	Pg	**Pn**	**13 12 58.6**	**+1.4**
CDF				*e*	Sn	**Sn**	**13 13 16.8**	**-3.5**
	SNR=1.0								
CDF				*e*	Sg	**Sb**	**13 13 21.8**	**0.0**
	71nm,0.3s								
CDF	**Champ du Feu**	**1.80**	**357**	*e*	Pn	**Pn**	**13 12 55.9**	**-1.3**
	SNR=1.0								
CDF	**Champ du Feu**	**1.80**	**357**	*e*	Pg	**Pn**	**13 12 58.6**	**+1.4**
CDF				*e*	Sn	**Sn**	**13 13 16.8**	**-3.5**
	SNR=1.0								
CDF				*e*	Sg	**Sb**	**13 13 21.8**	**0.0**
	35nm,0.3s								
BERNI	**Berninapass**	**1.82**	**95**	⇑*i*	P	**Pn**	**13 12 58.0**	**+0.4**
	165nm,0.9s								
BERNI	**Berninapass**	**1.82**	**95**	⇑*i*	Pn	**Pn**	**13 12 58.0**	**+0.4**
	165nm,0.9s								
OG22	**Abries**	**1.82**	**190**		Pg	**Pb**	**13 13 00.3**	**+0.9**
DAVA	**Damuels**	**1.82**	**67**	⇑*e*	Pn	**Pb**	**13 12 59.5**	**+0.1**
	25nm,0.3s,SNR=13								
DAVA				⇓*e*	Sn	**Sb**	**13 13 24.1**	**+1.5**
	127nm,0.5s								
DAVA	**Damuels**	**1.82**	**67**		Pn	**Pb**	**13 12 59.5**	**+0.1**
	25nm,0.3s,SNR=13								
DAVA					Sn	**Sb**	**13 13 24.1**	**+1.5**
	127nm,0.5s								
BFO	**Black Forest**	**1.83**	**20**	*e*	Pn	**Pn**	**13 12 55.7**	**-1.8**
	SNR=8.1								
BFO				*e*	Sg	**Sb**	**13 13 23.4**	**+0.9**
BFO	**Black Forest**	**1.83**	**20**		Pn	**Pn**	**13 12 55.7**	**-1.8**
	SNR=8.1								
BFO					Sg	**Sb**	**13 13 23.4**	**+0.9**
MBDF	**Montbardon**	**1.94**	**193**	*e*	P	**Pn**	**13 12 59.1**	**0.0**
	SNR=1.0								
MBDF	**Montbardon**	**1.94**	**193**	*e*	Pg	**Pb**	**13 13 01.4**	**0.0**
	SNR=1.0								
MBDF				*e*	Sg	**Sb**	**13 13 26.6**	**+0.8**
	141nm,0.7s								
MBDF	**Montbardon**	**1.94**	**193**	*e*	P	**Pn**	**13 12 59.1**	**0.0**
	SNR=1.0								
MBDF	**Montbardon**	**1.94**	**193**	*e*	Pg	**Pb**	**13 13 01.4**	**0.0**
	SNR=1.0								
MBDF				*e*	Sg	**Sb**	**13 13 26.6**	**+0.8**
	71nm,0.7s								
ORIF	**Oris-en-Rattie**	**2.00**	**213**	*e*	P	**Pn**	**13 13 00.2**	**+0.2**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.00**	**213**	*e*	Pg	**Pb**	**13 13 02.9**	**+0.5**
ORIF				*e*	Sn	**Sn**	**13 13 21.9**	**-3.4**
	SNR=1.0								
ORIF				*e*	Sg	**Sb**	**13 13 28.0**	**+0.4**
	100nm,0.7s								
ORIF	**Oris-en-Rattie**	**2.00**	**213**	*e*	P	**Pn**	**13 13 00.2**	**+0.2**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.00**	**213**	*e*	Pg	**Pb**	**13 13 02.9**	**+0.5**
ORIF				*e*	Sn	**Sn**	**13 13 21.9**	**-3.4**
	SNR=1.0								
ORIF				*e*	Sg	**Sb**	**13 13 28.0**	**+0.4**
	50nm,0.7s								
PZZ	**Stroppo**	**2.12**	**186**		P	**Pn**	**13 13 01.7**	**+0.1**
PZZ					S	**Sn**	**13 13 26.3**	**-1.9**
PCP	**Piancastagn**	**2.22**	**158**		P	**Pn**	**13 13 03.4**	**+0.5**
PCP					S	**Sn**	**13 13 29.4**	**-1.2**
PAGF	**Fort de Pagny**	**2.25**	**330**	*e*	Pg	**Pb**	**13 13 07.3**	**+0.7**
	baz=154								
PAGF				*e*	Sg	**Sb**	**13 13 36.9**	**+2.3**
	22nm,0.5s								
PAGF	**Fort de Pagny**	**2.25**	**330**	*e*	Pg	**Pb**	**13 13 07.3**	**+0.7**
	baz=154								
PAGF				*e*	Sg	**Sb**	**13 13 36.9**	**+2.3**
	11nm,0.5s								
SFTF	**Sexfontaines**	**2.26**	**316**	*e*	Pg	**Pb**	**13 13 08.0**	**+1.2**
	baz=134								
SFTF				*e*	Sg	**Sg**	**13 13 38.0**	**-0.3**
	54nm,0.4s								
SFTF	**Sexfontaines**	**2.26**	**316**	*e*	Pg	**Pb**	**13 13 08.0**	**+1.2**
	baz=134								
SFTF				*e*	Sg	**Sg**	**13 13 38.0**	**-0.3**
	27nm,0.4s								
FETA	**Feichten**	**2.32**	**79**	⇑*e*	Pn	**Pn**	**13 13 05.5**	**+1.1**
	2.3nm,0.3s,SNR=30								
FETA				⇑*e*	Sg	**Sg**	**13 13 41.2**	**+1.0**
	50nm,1.0s								
FETA	**Feichten**	**2.32**	**79**		Pn	**Pn**	**13 13 05.5**	**+1.1**
	2.3nm,0.3s,SNR=30								
FETA					Sg	**Sg**	**13 13 41.2**	**+1.0**
	50nm,1.0s								
SMF	**Signal de Mont**	**2.46**	**272**	*e*	P	**Pn**	**13 13 07.1**	**+1.0**
	SNR=1.0								
SMF	**Signal de Mont**	**2.46**	**272**	*e*	Pg	**Pb**	**13 13 11.8**	**+1.7**
	SNR=1.0								
SMF				*e*	Sn	**Sn**	**13 13 33.3**	**-3.0**
	SNR=1.0								
SMF				*e*	Sg	**Sb**	**13 13 43.6**	**+3.1**
	57nm,0.7s,SNR=1.0								
SMF	**Signal de Mont**	**2.46**	**272**	*e*	P	**Pn**	**13 13 07.1**	**+1.0**
	SNR=1.0								
SMF	**Signal de Mont**	**2.46**	**272**	*e*	Pg	**Pb**	**13 13 11.8**	**+1.7**
	SNR=1.0								
SMF				*e*	Sn	**Sn**	**13 13 33.3**	**-3.0**
	SNR=1.0								
SMF				*e*	Sg	**Sb**	**13 13 43.6**	**+3.1**
	28nm,0.7s,SNR=1.0								
RETA	**Reutte**	**2.46**	**68**	⇓*e*	Pn	**Pn**	**13 13 08.3**	**+2.1**
	1.7nm,0.2s								
RETA	**Reutte**	**2.46**	**68**		Pn	**Pn**	**13 13 08.3**	**+2.1**
	1.7nm,0.2s								
MEZF	**Maizieres J'vi**	**2.47**	**321**	*e*	Pg	**Pb**	**13 13 11.6**	**+1.2**
	baz=136								
MEZF				*e*	Sg	**Sb**	**13 13 43.9**	**+2.9**
	113nm,0.5s								
MEZF	**Maizieres J'vi**	**2.47**	**321**	*e*	Pg	**Pb**	**13 13 11.6**	**+1.2**
	baz=136								
MEZF				*e*	Sg	**Sb**	**13 13 43.9**	**+2.9**
	56nm,0.5s								
STU	**Stuttgart**	**2.48**	**29**	*e*	Sg	**Sg**	**13 13 46.5**	**+1.3**
STU	**Stuttgart**	**2.48**	**29**		Sg	**Sg**	**13 13 46.5**	**+1.3**
LOR	**Lormes**	**2.52**	**286**	*e*	P	**Pn**	**13 13 07.5**	**+0.6**
	baz=103,SNR=1.0								
LOR	**Lormes**	**2.52**	**286**	*e*	Pg	**Pb**	**13 13 12.6**	**+1.5**
	baz=106								
LOR				*e*	Sg	**Sg**	**13 13 45.5**	**-0.9**
	28nm,0.3s,SNR=1.0								
LOR	**Lormes**	**2.52**	**286**	*e*	P	**Pn**	**13 13 07.5**	**+0.6**
	baz=103,SNR=1.0								
LOR	**Lormes**	**2.52**	**286**	*e*	Pg	**Pb**	**13 13 12.6**	**+1.5**
	baz=106								
LOR				*e*	Sg	**Sg**	**13 13 45.5**	**-0.9**
	14nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.60**	**228**	*e*	P	**Pn**	**13 13 08.3**	**+0.2**
	SNR=1.0								
VIVF				*e*	Sn	**Sn**	**13 13 36.4**	**-3.5**
	SNR=1.0								
VIVF				*e*	Sg	**Sg**	**13 13 48.1**	**-1.0**
	38nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.60**	**228**	*e*	P	**Pn**	**13 13 08.3**	**+0.2**
	SNR=1.0								
VIVF				*e*	Sn	**Sn**	**13 13 36.4**	**-3.5**
	SNR=1.0								
VIVF				*e*	Sg	**Sg**	**13 13 48.1**	**-1.0**
	19nm,0.4s,SNR=1.0								
MOTA	**Moosalm**	**2.64**	**73**	⇑*e*	Pn	**Pn**	**13 13 10.0**	**+1.3**
	2.7nm,0.1s								
MOTA	**Moosalm**	**2.64**	**73**		Pn	**Pn**	**13 13 10.0**	**+1.3**
	2.7nm,0.1s								
SC2M	**Scurtabo**	**2.67**	**145**		P	**Pn**	**13 13 09.2**	**+0.1**
SC2M					S	**Sn**	**13 13 39.3**	**-2.4**
PLDF	**La Plantade**	**2.70**	**258**		Pn	**Pn**	**13 13 09.7**	**+0.2**
SSF	**Saint Saulge**	**2.71**	**281**	*e*	Pn	**Pn**	**13 13 08.5**	**-1.1**
	SNR=1.0								
SSF	**Saint Saulge**	**2.71**	**281**	*e*	Pg	**Pg**	**13 13 17.0**	**-0.6**
	SNR=1.0								
SSF				*e*	Sn	**Sn**	**13 13 40.1**	**-2.6**
	SNR=1.0								
SSF				*e*	Sg	**Sg**	**13 13 52.6**	**-0.2**
	14nm,0.2s,SNR=1.0								
SSF	**Saint Saulge**	**2.71**	**281**	*e*	Pn	**Pn**	**13 13 08.5**	**-1.1**
	SNR=1.0								
SSF	**Saint Saulge**	**2.71**	**281**	*e*	Pg	**Pg**	**13 13 17.0**	**-0.6**
	SNR=1.0								
SSF				*e*	Sn	**Sn**	**13 13 40.1**	**-2.6**
	SNR=1.0								
SSF				*e*	Sg	**Sg**	**13 13 52.6**	**-0.2**
	6.8nm,0.2s,SNR=1.0								
IMI	**Imperia**	**2.73**	**173**		P	**Pn**	**13 13 09.0**	**-0.9**
IMI					S	**Sn**	**13 13 39.0**	**-4.1**
SBF	**Sospel**	**2.75**	**180**	*e*	P	**Pn**	**13 13 11.2**	**+1.0**
	SNR=1.0								
SBF				*e*	Sn	**Sn**	**13 13 39.2**	**-4.5**
	62nm,0.6s,SNR=1.0								
SBF	**Sospel**	**2.75**	**180**	*e*	P	**Pn**	**13 13 11.2**	**+1.0**
	SNR=1.0								
SBF				*e*	Sn	**Sn**	**13 13 39.2**	**-4.5**
	31nm,0.6s,SNR=1.0								
AVF	**Avril sur Loir**	**2.79**	**275**	*e*	Pn	**Pn**	**13 13 09.6**	**-1.1**
	SNR=1.0								
AVF	**Avril sur Loir**	**2.79**	**275**	*e*	Pg	**Pb**	**13 13 17.9**	**+2.1**
AVF				*e*	Sn	**Sn**	**13 13 41.6**	**-3.0**
	SNR=1.0								
AVF				*e*	Sg	**Sg**	**13 13 54.1**	**-1.3**
	28nm,0.6s,SNR=1.0								
AVF	**Avril sur Loir**	**2.79**	**275**	*e*	Pn	**Pn**	**13 13 09.6**	**-1.1**
	SNR=1.0								
AVF	**Avril sur Loir**	**2.79**	**275**	*e*	Pg	**Pb**	**13 13 17.9**	**+2.1**
AVF				*e*	Sn	**Sn**	**13 13 41.6**	**-3.0**
	SNR=1.0								
AVF				*e*	Sg	**Sg**	**13 13 54.1**	**-1.3**
	14nm,0.6s,SNR=1.0								
SMRF	**Simiane la Rot**	**2.94**	**207**	*e*	Sg	**Sb**	**13 13 57.9**	**+3.5**
	8.6nm,0.5s								
SMRF	**Simiane la Rot**	**2.94**	**207**	*e*	Sg	**Sb**	**13 13 57.9**	**+3.5**
	4.3nm,0.5s								
WATA	**Walderalm**	**2.95**	**74**	⇓*e*	Pn	**Pn**	**13 13 14.4**	**+1.4**
	4.3nm,0.3s								
WATA				⇑*e*	Sn	**Sn**	**13 13 52.3**	**+3.6**
	24nm,0.7s								
WATA	**Walderalm**	**2.95**	**74**		Pn	**Pn**	**13 13 14.4**	**+1.4**
	4.3nm,0.3s								
WATA					Sn	**Sn**	**13 13 52.3**	**+3.6**
	24nm,0.7s								
WTTA	**Wattenberg**	**2.97**	**76**	⇑*i*	Pn	**Pn**	**13 13 14.4**	**+1.0**
	4.0nm,0.2s								
WTTA				⇑*e*	Pg	**Pg**	**13 13 23.0**	**+0.4**
	27nm,0.6s								
WTTA				⇑*e*	Sg	**Sg**	**13 14 04.9**	**+3.8**
	55nm,0.8s								
WTTA	**Wattenberg**	**2.97**	**76**		Pn	**Pn**	**13 13 14.4**	**+1.0**
	4.0nm,0.2s								
WTTA	**Wattenberg**	**2.97**	**76**		Pg	**Pg**	**13 13 23.0**	**+0.4**
	27nm,0.6s								
FUR	**Furstenfeldbru**	**3.06**	**58**	*e*	Sg	**Sg**	**13 14 03.9**	**+0.1**
FUR	**Furstenfeldbru**	**3.06**	**58**		Sg	**Sg**	**13 14 03.9**	**+0.1**
BGF	**Bois d'Agland**	**3.14**	**271**	*e*	Pn	**Pn**	**13 13 15.1**	**-0.4**
	SNR=1.0								
BGF	**Bois d'Agland**	**3.14**	**271**	*e*	Pg	**Pb**	**13 13 24.3**	**+2.5**
BGF				*e*	Sg	**Sg**	**13 14 05.2**	**-1.4**
	36nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**	**3.14**	**271**	*e*	Pn	**Pn**	**13 13 15.1**	**-0.4**
	SNR=1.0								
BGF	**Bois d'Agland**	**3.14**	**271**	*e*	Pg	**Pb**	**13 13 24.3**	**+2.5**
BGF				*e*	Sg	**Sg**	**13 14 05.2**	**-1.4**
	18nm,0.4s,SNR=1.0								
WLF	**Walferdange**	**3.17**	**345**	*e*	Pn	Pn	13 13 12.6	-3.3
	SNR=1.6								
WLF				*e*	Sg	**Sg**	**13 14 08.0**	**+0.7**
WLF	**Walferdange**	**3.17**	**345**		Pn	Pn	13 13 12.6	-3.3
	SNR=1.6								
WLF					Sg	**Sg**	**13 14 08.0**	**+0.7**
LMR	**La Mourre**	**3.34**	**191**	*e*	Sg	**Sg**	**13 14 10.6**	**-2.3**
	14nm,0.5s								
LMR	**La Mourre**	**3.34**	**191**	*e*	Sg	**Sg**	**13 14 10.6**	**-2.3**
	7.2nm,0.5s								
ABTA	**Abfaltersbach**	**3.52**	**86**	⇓*i*	Pn	**Pn**	**13 13 22.9**	**+2.1**
	1.9nm,0.2s								
ABTA				⇑*e*	Sn	**Sn**	**13 14 05.4**	**+2.7**
	2.3nm,0.3s								
ABTA				⇑*e*	Sg	**Sg**	**13 14 23.8**	**+5.2**
	7.4nm,0.5s								
ABTA	**Abfaltersbach**	**3.52**	**86**		Pn	**Pn**	**13 13 22.9**	**+2.1**
	1.9nm,0.2s								
ABTA					Sn	**Sn**	**13 14 05.4**	**+2.7**
	2.3nm,0.3s								
LASF	**Ste Croix**	**3.56**	**226**	*e*	P	**Pn**	**13 13 22.0**	**+0.7**
	SNR=1.0								
LASF	**Ste Croix**	**3.56**	**226**	*e*	Pg	**Pb**	**13 13 31.6**	**+2.6**
LASF				*e*	Sg	**Sg**	**13 14 18.0**	**-2.0**
	16nm,0.4s								
LASF	**Ste Croix**	**3.56**	**226**	*e*	P	**Pn**	**13 13 22.0**	**+0.7**
	SNR=1.0								
LASF	**Ste Croix**	**3.56**	**226**	*e*	Pg	**Pb**	**13 13 31.6**	**+2.6**
LASF				*e*	Sg	**Sg**	**13 14 18.0**	**-2.0**
	8.1nm,0.4s								
TCF	**Toulx Ste Croi**	**3.60**	**267**	*e*	Sg	**Sg**	**13 14 20.2**	**-1.2**
	12nm,0.5s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.60**	**267**	*e*	Sg	**Sg**	**13 14 20.2**	**-1.2**
	6.0nm,0.5s,SNR=1.0								
TNS	**Taunus Mts**	**3.68**	**11**	*e*	Pn	**Pn**	**13 13 21.5**	**-1.4**
	SNR=2.9								
TNS				*e*	Sn	**Sn**	**13 14 04.6**	**-1.9**
TNS				*e*	Sg	**Sg**	**13 14 23.1**	**-0.6**
TNS	**Taunus Mts**	**3.68**	**11**		Pn	**Pn**	**13 13 21.5**	**-1.4**
	SNR=2.9								
TNS					Sn	**Sn**	**13 14 04.6**	**-1.9**
TNS					Sg	**Sg**	**13 14 23.1**	**-0.6**
GIVF	**Givet**	**3.89**	**335**	*e*	Pg	**Pb**	**13 13 37.2**	**+2.6**
GIVF				*e*	Sg	**Sg**	**13 14 28.3**	**-2.3**
	57nm,0.7s								
GIVF	**Givet**	**3.89**	**335**	*e*	Pg	**Pb**	**13 13 37.2**	**+2.6**
GIVF				*e*	Sg	**Sg**	**13 14 28.3**	**-2.3**
	29nm,0.7s								
GRA1	**Grafenberg Arr**	**4.00**	**38**		Sg	**Sg**	**13 14 35.2**	**+1.1**
GRF	**Grafenberg Arr**	**4.00**	**38**	*e*	Sg	**Sg**	**13 14 35.2**	**+1.1**
BAIF	**Baives**	**4.05**	**329**	*e*	Pn	**Pn**	**13 13 25.8**	**-2.2**
	SNR=1.0								
BAIF	**Baives**	**4.05**	**329**	*e*	Pn	**Pn**	**13 13 25.8**	**-2.2**
	SNR=1.0								
KBA	**Koelnbreinsper**	**4.10**	**81**	⇓*i*	Pn	**Pn**	**13 13 30.1**	**+1.2**
	3.5nm,0.2s								
KBA	**Koelnbreinsper**	**4.10**	**81**		Pn	**Pn**	**13 13 30.1**	**+1.2**
	3.5nm,0.2s								
DREG	**Dreilaegerbach**	**4.13**	**350**	*e*	Pn	**Pn**	**13 13 30.0**	**+0.9**
	SNR=3.3								
DREG	**Dreilaegerbach**	**4.13**	**350**		Pn	**Pn**	**13 13 30.0**	**+0.9**
	SNR=3.3								
MYKA	**Terra Mystica**	**4.30**	**88**	⇓*i*	Pn	**Pn**	**13 13 33.4**	**+1.9**
	1.9nm,0.2s								
MYKA	**Terra Mystica**	**4.30**	**88**		Pn	**Pn**	**13 13 33.4**	**+1.9**
	1.9nm,0.2s								
WET	**Wettzell**	**4.47**	**54**	*e*	Pn	**Pn**	**13 13 33.2**	**-0.6**
	SNR=2.2								
WET				*e*	Sg	**Sg**	**13 14 48.5**	**-0.6**
WET	**Wettzell**	**4.47**	**54**		Pn	**Pn**	**13 13 33.2**	**-0.6**
	SNR=2.2								
WET					Sg	**Sg**	**13 14 48.5**	**-0.6**
GEC2	**GERESS Array S**	**4.80**	**60**	*e*	Pn	**Pn**	**13 13 37.6**	**-0.8**
	SNR=2.1								
GEC2	**GERESS Array S**	**4.80**	**60**		Pn	**Pn**	**13 13 37.6**	**-0.8**
	SNR=2.1								
MOX	**Moxa**	**4.91**	**33**	*e*	Sg	**Sg**	**13 15 01.3**	**-1.8**
MOX	**Moxa**	**4.91**	**33**		Sg	**Sg**	**13 15 01.3**	**-1.8**
SOKA	**Soboth**	**5.25**	**87**	⇓*i*	Pn	**Pn**	**13 13 44.8**	**+0.2**
	1.4nm,0.2s								
SOKA	**Soboth**	**5.25**	**87**	*e*	Pn	**Pn**	**13 13 44.8**	**+0.2**
	1.4nm,0.2s								
CLL	**Collm**	**5.97**	**36**	*e*	Pg	**Pg**	**13 14 19.0**	**-1.0**
CLL				*e*	Sg	**Sg**	**13 15 37.0**	**-0.2**
BRG	**Berggiesshubel**	**6.07**	**43**		SG	**Sg**	**13 15 38.6**	**-1.9**
	12nm,1.2s								

IDC 19 13:14:13.1±15.0, 2°88S×133°09E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/15, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=228.0km s-min=134.3km az=151.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.00**	**176**	P	Pn	13 18 13.2	+0.8
	0.1nm,0.3s,baz=355,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**20.68**	**178**	P	P	13 18 53.9	-0.9
	0.2nm,0.5s,baz=360,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**29.93**	**165**	P	P	13 20 23.3	+0.3
	1.5nm,1.0s,baz=343,slow=10,SNR=3.0						

IDC 19 13:21:33.6±60.0, 19°38S×179°08W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=1082.0km s-min=146.6km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.38**	**243**	P	P	13 28 48.4	0.0
	0.5nm,0.5s,baz=80,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**43.76**	**261**	P	P	13 29 41.4	+0.1
	0.3nm,0.2s,baz=96,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**43.80**	**256**	P	P	13 29 41.0	-0.5
	1.5nm,0.8s,baz=96,slow=7.8,SNR=16						

*ISK **19** 13:24:55.3, 37°25N×27°93E, h5km, ML1.9*
*DDA **19** 13:24:56.6, 37°11N×27°93E, h7km, MD2.8*
*ISCJB **19** 13:24:57.5±0.6, 37°14N±0°04×27°92E±0°03, h12km, Error ellipse: s-maj=6.3km s-min=3.9km az=8.5*
*CSEM **19** 13:24:57.4±0.2, 37°10N×27°93E, h5km, ML1.9, Error ellipse: s-maj=5.6km s-min=3.3km az=12.0*

ISC 19 13:24:57.4±0.8, 37°16N±0°04×27°92E±0°02, h12km, n18, σ1°15/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**95**	*e*PG	**Pg**	**13 25 02.8**	**-0.6**
YER				*e*SG	**Sg**	**13 25 07.6**	**+0.2**
YER	**Yerkesik**	**0.29**	**95**	*e*Pg	**Pg**	**13 25 02.8**	**-0.6**
YER				*e*Sg	**Sg**	**13 25 07.6**	**+0.2**
BDRM	**Kayabasi**	**0.39**	**256**	*i* P	**Pg**	**13 25 04.8**	**-0.4**
BDRM				*i* S	**Sg**	**13 25 09.7**	**-0.8**
BDRM	**Kayabasi**	**0.39**	**256**	*i* P	**Pg**	**13 25 04.8**	**-0.4**
BDRM				*i* S	**Sg**	**13 25 09.7**	**-0.8**
AYDN	**Tasoluk**	**0.50**	**356**	*i* P	**Pb**	**13 25 08.2**	**+1.0**
AYDN				*i* S	**Sg**	**13 25 15.3**	**+1.4**
AYDN	**Tasoluk**	**0.50**	**356**	*i* P	**Pb**	**13 25 08.2**	**+1.0**
AYDN				*i* S	**Sg**	**13 25 15.3**	**+1.4**
BODT	**Bodrum**	**0.50**	**259**	*e*PG	**Pg**	**13 25 06.4**	**-0.8**
BODT				*e*SG	**Sg**	**13 25 15.3**	**+1.5**
BODT	**Bodrum**	**0.50**	**259**	*e*Pg	**Pg**	**13 25 06.4**	**-0.8**
BODT				*e*Sg	**Sg**	**13 25 15.3**	**+1.5**
TURN	**Turunc**	**0.62**	**118**	*i* P	Pg	13 25 04.2	-5.3
TURN	**Turunc**	**0.62**	**118**	*i* P	Pg	13 25 04.2	-5.3
GCAM	**G?zelcaml?**	**0.77**	**315**	*i* P	**Pn**	**13 25 13.8**	**-0.2**
GCAM				*i* S	**Sb**	**13 25 23.8**	**+0.8**
GCAM	**G?zelcaml?**	**0.77**	**315**	*i* P	**Pn**	**13 25 13.8**	**-0.2**
GCAM				*i* S	**Sb**	**13 25 23.8**	**+0.8**
FETY	**Fethiye**	**1.07**	**119**	*e*PN	**Pn**	**13 25 18.0**	**-0.2**
FETY				*e*SN	**Sn**	**13 25 34.0**	**+1.0**
FETY	**Fethiye**	**1.07**	**119**	*e*Pn	**Pn**	**13 25 18.0**	**-0.2**
FETY				*e*Sn	**Sn**	**13 25 34.0**	**+1.0**
MANT	**Manisa**	**1.42**	**21**	*i* P	**Pn**	**13 25 20.9**	**-2.3**
MANT	**Manisa**	**1.42**	**21**	*i* P	**Pn**	**13 25 20.9**	**-2.3**
AKAS	**Kas**	**1.64**	**124**	*i* P	**Pb**	**13 25 27.2**	**-0.5**
AKAS				*i* S	**Sg**	**13 25 52.7**	**+2.4**
AKAS	**Kas**	**1.64**	**124**	*i* P	**Pb**	**13 25 27.2**	**-0.5**

**IDC 19 13:31:34.7±1.9, 0°77S×133°17E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML3

PMG	**Port Moresby**	**18.36 106**	*ce*P	**P**	**13 53 36.1 +0.8**				
PMG			pmax	pmax					
	comp=Z,60nm,1.7s								
PMG	**Port Moresby**	**18.36 106**	*e*P	**P**	**13 53 35.4 +0.1**				
	comp=Z,125nm,1.8s								
MBWA	**Marble Bar**	**18.97 209**	*e*P	**Pn**	**13 53 42.4 -0.5**				
	comp=Z,21nm,0.9s								
AS31	**Alice Springs**	**19.53 167**	*e*P	**P**	**13 53 49.0 +0.8**				
AS31			S	S	13 57 14.4 -13				
ASAR	**Alice Springs**	**19.54 167**	P	**Pn**	**13 53 49.4 -0.3**				
	comp=Z,1.9nm,0.3s,baz=345,slow=12,SNR=201								
ASAR			S	S	13 57 18.6 -8.5				
	comp=Z,0.3nm,0.3s,baz=0.3,slow=27,SNR=4.2								
ASAR	**Alice Springs**	**19.54 167**	P	**Pn**	**13 53 49.4 -0.3**				
ASAR			S	S	13 57 18.6 -8.5				
ASAR	**Alice Springs**	**19.54 167**	P	**Pn**	**13 53 49.4 -0.3**				
ASAR			S	S	13 57 18.6 -8.5				
CTA	**Charters Tower**	**22.61 135**	P	**P**	**13 54 22.6 +1.2**				
	comp=Z,57nm,0.9s,baz=317,slow=12,SNR=22								
CTA			LR	LR	14 04 36.4				
	comp=Z,229nm,18.4s,baz=197,slow=40								
CTA	**Charters Tower**	**22.61 135**	*e*P	**P**	**13 54 22.9 +1.5**				
	comp=Z,44nm,0.9s								
CTA	**Charters Tower**	**22.61 135**	P	**P**	**13 54 22.6 +1.2**				
CTA	**Charters Tower**	**22.61 135**	P	**P**	**13 54 22.6 +1.2**				
FORT	**Forrest**	**26.14 182**	*e*P	**P**	**13 54 54.9 +0.4**				
	comp=Z,29nm,0.8s								
MYKOM	**Kota Tinggi**	**26.21 283**	P	**P**	**13 54 57.5 +2.2**				
KLBR	**Kellerberrin**	**29.03 201**	*e*P	**P**	**13 55 21.0 +0.6**				
	comp=Z,21nm,0.9s								
STKA	**Stephens Creek**	**29.55 158**	P	**P**	**13 55 25.6 +0.7**				
	comp=Z,14nm,0.8s,baz=334,slow=7.9,SNR=30								
STKA			LR	LR	14 08 36.7				
	comp=Z,290nm,18.3s,baz=357,slow=39								
STKA	**Stephens Creek**	**29.55 158**	*e*P	**P**	**13 55 25.4 +0.4**				
	comp=Z,11nm,0.8s								
STKA	**Stephens Creek**	**29.55 158**	*e*P	**P**	**13 55 25.3 +0.4**				
STKA			pmax	pmax					
	comp=Z,4.0nm,0.9s								
STKA	**Stephens Creek**	**29.55 158**	*e*P	**P**	**13 55 25.3 +0.4**				
	comp=Z,3.7nm,0.9s								
NWAO	**Narrogin (SRO)**	**30.43 200**	P	**P**	**13 55 32.8 +0.1**				
	comp=Z,13nm,1.0s,baz=24,slow=12,SNR=3.5								
NWAO			LR	LR	14 09 47.5				
	comp=Z,96nm,19.6s,baz=236,slow=40								
NWAO	**Narrogin (SRO)**	**30.43 200**	P	**P**	**13 55 32.8 +0.1**				
NWAO	**Narrogin (SRO)**	**30.43 200**	P	**P**	**13 55 32.8 +0.1**				
HNR	**Honiara**	**30.78 101**	P	**P**	**13 55 38.4 +2.3**				
	comp=Z,38nm,0.8s,baz=246,slow=8.2,SNR=4.5								
HNR	**Honiara**	**30.78 101**	P	**P**	**13 55 38.4 +2.3**				
HNR	**Honiara**	**30.78 101**	P	**P**	**13 55 38.4 +2.3**				
JOW	**Kunigami**	**31.19 358**	LR	LR	14 06 31.8				
	comp=Z,142nm,19.7s,baz=151,slow=33								
CNB	**Canberra Magne**	**35.80 151**	*e*P	**P**	**13 56 22.1 +2.4**				
	comp=Z,107nm,1.0s								
TOO	**Toolangi**	**36.06 158**	*e*P	**P**	**13 56 24.0 +2.2**				
	comp=Z,133nm,0.9s								
CM31	**Chiang Mai Arr**	**37.65 308**	*e*P	**P**	**13 56 34.9 -0.7**				
	comp=Z,1.4nm,0.4s								
CMAR	**Chiang Mai Arr**	**37.65 308**	P	**P**	**13 56 35.5 -0.1**				
	comp=Z,3.3nm,0.7s,baz=141,slow=7.2,SNR=30								
CMAR			PcP	**PcP**	**13 58 53.5 +0.7**				
	comp=Z,0.7nm,0.7s,baz=146,slow=1.4,SNR=4.3								
CMAR			LR	LR	14 09 40.9				
	comp=Z,37nm,21.5s,baz=100,slow=32								
CMAR	**Chiang Mai Arr**	**37.65 308**	P	**P**	**13 56 35.5 -0.1**				
CMAR					13 58 53.5				
CMAR	**Chiang Mai Arr**	**37.65 308**	P	**P**	**13 56 35.5 -0.1**				
CMAR			PcP	**PcP**	**13 58 53.5 +0.7**				
WHN	**Wuhan**	**37.70 339**	P	**P**	**13 56 35.4 -0.3**				
GYA	**Guiyang**	**37.82 326**	P	**P**	**13 56 38.0 +1.0**				
GYA			pP	**pP**	**13 56 48.8 +1.6**				
GYA			PP	PP	13 58 08.3 +4.5				
GYA			S	**S**	**14 02 26.8 +0.9**				
GYA			S	ScP	14 02 27.4 -11				
GYA			ScP	ScP	14 02 37.6 -0.7				
GYA			sS	**sS**	**14 02 45.0 +2.3**				
GYA			SS	SS	14 05 03.4 -10				
GYA			pmax	pmax					
	comp=Z,10.0nm,0.8s								
GYA			pmax	pmax					
	comp=Z,90nm,4.2s								
GYA			LR	LR					
	comp=N,540nm,16.8s								
GYA			LR	LR					
	comp=E,490nm,17.5s								
GYA			LR	LR					
	comp=Z,530nm,17.9s								
CHTO	**Chiang Mai**	**37.85 309**	*e*P	**P**	**13 56 36.3 -1.0**				
CHTO			pmax	pmax					
	comp=Z,13nm,1.0s								
CHTO	**Chiang Mai**	**37.85 309**	*e*P	**P**	**13 56 36.3 -1.0**				
	comp=Z,13nm,1.0s								
KMI	**Kunming**	**39.19 320**	P	**P**	**13 56 49.8 +1.1**				
KMI			pP	**pP**	**13 56 59.3 +0.4**				
KMI			sP	**sP**	**13 57 02.9 -0.2**				
KMI			PP	PP	13 58 24.3 +5.3				
KMI			S	**S**	**14 02 48.0 +1.1**				
KMI			sS	**sS**	**14 03 05.8 +2.1**				
KMI			SS	SS	14 05 35.3 -5.6				
KMI			pmax	pmax					
	comp=Z,13nm,1.3s								
KMI			pmax	pmax					
	comp=Z,70nm,3.2s								
KMI			LR	LR					
	comp=N,130nm,14.8s								
KMI			LR	LR					
	comp=E,140nm,16.8s								
KMI			LR	LR					
	comp=Z,130nm,17.9s								
DZM	**Mont Dzumac**	**39.95 119**	LR	LR	14 13 45.7				
	comp=Z,147nm,18.3s,baz=202,slow=36								
MJAR	**Matsushiro Arr**	**41.69 11**	P	**P**	**13 57 08.5 -0.5**				
	comp=Z,1.0nm,0.4s,baz=186,slow=9.7,SNR=2.5								
MJAR			LR	LR	14 10 31.7				
	comp=Z,110nm,20.2s,baz=295,slow=30								
MJAR	**Matsushiro Arr**	**41.69 11**	P	**P**	**13 57 08.5 -0.5**				
MJAR	**Matsushiro Arr**	**41.69 11**	P	**P**	**13 57 08.5 -0.5**				
KSAR	**Wonju Array Be**	**41.78 358**	P	**P**	**13 57 09.5 -0.1**				
KSAR	**Wonju Array Be**	**41.78 358**	P	**P**	**13 57 09.5 -0.1**				
KSRS	**Korea Array**	**41.79 358**	P	**P**	**13 57 09.5 -0.2**				
	comp=Z,0.5nm,0.4s,baz=181,slow=10.0,SNR=4.4								
KSRS			LR	LR	14 13 16.2				
	comp=Z,44nm,21.1s,baz=335,slow=34								
CD2	**Chengdu**	**42.87 327**	P	**P**	**13 57 19.3 +0.6**				
CD2			pP	**pP**	**13 57 30.1 +1.1**				
CD2			sP	**sP**	**13 57 34.6 +1.4**				
CD2			PP	PP	13 59 01.8 +3.1				
CD2			S	**S**	**14 03 41.6 +0.5**				
CD2			sS	**sS**	**14 03 59.6 +1.5**				
CD2			SS	SS	14 06 47.8 -5.7				
CD2			pmax	pmax					
	comp=Z,10.0nm,0.5s								
CD2			pmax	pmax					
	comp=Z,140nm,7.7s								
CD2			LR	LR					
	comp=N,380nm,4.8s								
CD2			LR	LR					
	comp=Z,300nm,7.1s								
BJI	**Beijing**	**45.97 346**	P	**P**	**13 57 41.9 -1.3**				
BJI			pmax	pmax					
	comp=Z,14nm,0.8s								
LZH	**Lanzhou**	**46.92 332**	*e*P	**P**	**13 57 50.0 -1.0**				
LZH			pP	**pP**	**13 58 03.5 +2.1**				
LZH			sP	**sP**	**13 58 08.5 +2.9**				
LZH			*e*S	**S**	**14 04 43.0 +3.1**				
LZH			sS	**sS**	**14 04 57.0 -0.1**				
LZH			SS	SS	14 07 58.1 -9.1				
LZH			pmax	pmax					
	comp=Z,15nm,1.2s								
LZH			pmax	pmax					
	comp=Z,77nm,5.0s								
LZH			LR	LR					
	comp=E,270nm,4.7s								
LZH			LR	LR					
	comp=Z,490nm,15.0s								
HHC	**Hu-ho-hao-te**	**48.00 342**	*e*P	**P**	**13 57 59.3 +0.1**				
HHC			sP	**sP**	**13 58 14.3 +0.5**				
HHC			PcP	**PcP**	**13 59 27.4 +0.4**				
HHC			PP	PP	13 59 51.6 0.0				
HHC			ScP	**ScP**	**14 03 16.8 -2.2**				
HHC			PcS	**PcS**	**14 03 22.6 -0.1**				
HHC			S	**S**	**14 04 54.4 -0.6**				
HHC			sS	**sS**	**14 05 12.4 +0.2**				
HHC			ScS	**ScS**	**14 07 46.8 -3.2**				
HHC			SS	SS	14 08 18.8 -5.6				
HHC			pmax	pmax					
	comp=Z,6.0nm,0.6s								
HHC			pmax	pmax					
	comp=Z,160nm,6.6s								
HHC			LR	LR					
	comp=N,240nm,16.2s								
HHC			LR	LR					
	comp=E,360nm,16.2s								
HHC			LR	LR					
	comp=Z,190nm,16.5s								
CN2	**Changchun**	**48.23 356**	*e*P	**P**	**13 58 03.6 +2.8**				
CN2			pmax	pmax					
	comp=Z,10.0nm,0.6s								
USRK	**Ussuriysk Arra**	**48.57 3**	P	**P**	**13 58 02.9 -0.5**				
	comp=Z,1.2nm,0.4s,baz=190,slow=7.8,SNR=6.2								
ASAJ	**Asahikawa**	**49.88 12**	P	**P**	**13 58 13.5 +0.1**				
	comp=Z,14nm,0.9s,baz=200,slow=23,SNR=4.4								
ASAJ			LR	LR	14 19 00.4				
	comp=Z,98nm,18.1s,baz=123,slow=36								
ASAJ	**Asahikawa**	**49.88 12**	P	**P**	**13 58 13.5 +0.1**				
LSA	**Lhasa**	**49.96 315**	*e*P	**P**	**13 58 13.9 -1.0**				
LSA			pmax	pmax					
	comp=Z,3.0nm,0.8s								
LSA	**Lhasa**	**49.96 315**	*e*P	**P**	**13 58 13.9 -1.0**				
	comp=Z,3.0nm,0.8s								
ODAN	**Odare**	**51.15 310**	*e*P	**P**	**13 58 22.5 -1.1**				
ODAN	**Odare**	**51.15 310**	*e*P	**P**	**13 58 22.5 -1.1**				
GTA	**Gaotai**	**51.49 331**	*e*P	**P**	**13 58 25.5 -0.4**				
GTA			pP	**pP**	**13 58 35.4 -1.0**				
GTA			sP	**sP**	**13 58 39.4 -1.1**				
GTA			S	**S**	**14 05 43.6 -0.4**				
GTA			sS	**sS**	**14 06 01.8 +0.5**				
GTA			pmax	pmax					
	comp=Z,4.0nm,1.3s								
GTA			LR	LR					
	comp=N,270nm,15.2s								
GTA			LR	LR					
	comp=E,180nm,14.7s								
GTA			LR	LR					
	comp=Z,220nm,15.7s								
RAMN	**Ramite**	**51.80 310**	*e*P	**P**	**13 58 27.3 -1.2**				
	comp=Z,30nm,0.7s								
RAMN	**Ramite**	**51.80 310**	*e*P	**P**	**13 58 27.3 -1.2**				
	comp=Z,30nm,0.7s								
JIRN	**Jiri**	**52.47 310**	*e*P	**P**	**13 58 32.2 -1.5**				
JIRN	**Jiri**	**52.47 310**	*e*P	**P**	**13 58 32.2 -1.5**				
GUN	**Gumba**	**52.84 310**	*e*P	**P**	**13 58 34.6 -1.7**				
GUN	**Gumba**	**52.84 310**	*e*P	**P**	**13 58 34.6 -1.7**				
PKI	**Pulchoki**	**53.02 310**	*e*P	**P**	**13 58 35.7 -2.0**				
PKI	**Pulchoki**	**53.02 310**	*e*P	**P**	**13 58 35.7 -2.0**				
PKI	**Pulchoki**	**53.02 310**	*e*P	**P**	**13 58 35.7 -2.0**				
KKN	**Kakani**	**53.23 310**	*e*P	**P**	**13 58 37.5 -1.6**				
KKN	**Kakani**	**53.23 310**	*e*P	**P**	**13 58 37.5 -1.6**				
KKN	**Kakani**	**53.23 310**	*e*P	**P**	**13 58 37.5 -1.6**				
DMN	**Daman**	**53.28 309**	*e*P	**P**	**13 58 38.6 -0.9**				
DMN	**Daman**	**53.28 309**	*e*P	**P**	**13 58 38.6 -0.9**				
GKN	**Gorkha**	**53.83 310**	*e*P	**P**	**13 58 41.8 -1.6**				
	comp=Z,15nm,0.5s								
GKN	**Gorkha**	**53.83 310**	*e*P	**P**	**13 58 41.8 -1.6**				
	comp=Z,15nm,0.5s								
KOLN	**Koldanda**	**54.52 309**	*e*P	**P**	**13 58 47.0 -1.5**				
	comp=Z,13nm,0.4s								
KOLN	**Koldanda**	**54.52 309**	*e*P	**P**	**13 58 47.0 -1.5**				
	comp=Z,13nm,0.4s								
DANN	**Dangsing**	**54.67 310**	*e*P	**P**	**13 58 48.1 -1.6**				
	comp=Z,16nm,0.6s								
DANN	**Dangsing**	**54.67 310**	*e*P	**P**	**13 58 48.1 -1.6**				
	comp=Z,16nm,0.6s								
ULN	**Ulaanbaatar**	**55.72 342**	*e*P	**P**	**13 58 56.2 -0.6**				
ULN			pmax	pmax					
	comp=Z,7.0nm,1.0s								
ULN	**Ulaanbaatar**	**55.72 342**	*e*P	**P**	**13 58 56.2 -0.6**				
	comp=Z,6.7nm,1.0s								
SONM	**Songino Array**	**55.90 342**	P	**P**	**13 58 57.6 -0.4**				
	comp=Z,2.6nm,0.9s,baz=159,slow=6.1,SNR=15								
SONM	**Songino Array**	**55.90 342**	P	**P**	**13 58 57.6 -0.4**				
SONM	**Songino Array**	**55.90 342**	P	**P**	**13 58 57.6 -0.4**				
ZAK	**Zakamensk**	**59.12 341**	*e*P	**P**	**13 59 19.3 -1.3**				
ZAK			pmax	pmax					
	comp=Z,2.0nm,1.4s								
WMQ	**Urumqi**	**60.97 327**	*e*P	**P**	**13 59 35.0 +1.6**				
MOY	**Mondy**	**60.98 340**	*e*P	**P**	**13 59 33.3 0.0**				
PETK	**Petropavlovsk-**	**62.21 19**	P	**P**	**13 59 41.5 0.0**				
	comp=Z,2.7nm,0.6s,baz=178,slow=6.0,SNR=22								
PETK			LR	LR	14 27 52.2				
	comp=Z,31nm,18.5s,baz=298,slow=37								
PETK	**Petropavlovsk-**	**62.21 19**	P	**P**	**13 59 41.5 0.0**				
PETK	**Petropavlovsk-**	**62.21 19**	P	**P**	**13 59 41.5 0.0**				
BOD	**Bodaibo**	**63.36 351**	*e*P	P	13 59 45.0 -4.0				
BOD			pmax	pmax					
	comp=Z,6.0nm,3.0s								
MK31	**Makanchi Array**	**65.80 327**	*e*P	P	14 00 00.8 -4.4				
MK31	**Makanchi Array**	**65.80 327**	*e*P	P	14 00 00.8 -4.4				
MKAR	**Makanchi Array**	**65.80 327**	P	**P**	**14 00 04.4 -0.8**				
	comp=Z,1.2nm,0.5s,baz=116,slow=8.2,SNR=44								
MKAR	**Makanchi Array**	**65.80 327**	*ce*P	**P**	**14 00 04.0 -1.2**				
MKAR			pmax	pmax					
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**65.80 327**	P	**P**	**14 00 04.4 -0.8**				
THW	**Thamme Wali**	**65.92 309**	⇓P	P	14 00 01.4 -4.9				
YAK	**Yakutsk**	**66.37 0**	*e*P	**P**	**14 00 08.0 -0.5**				
YAK			*e*		14 00 17.0				
YAK			pmax	pmax					
	comp=Z,9.0nm,0.3s								
YAK	**Yakutsk**	**66.37 0**	*e*P	**P**	**14 00 08.0 -0.5**				
	comp=Z,9.0nm,0.3s								
YAK			*e*		14 00 17.0				
ZAA0	**Zalesovo Array**	**69.08 334**	*e*P	**P**	**14 00 24.1 -1.6**				
ZALV	**Zalesovo Beam**	**69.08 334**	P	**P**	**14 00 24.3 -1.5**				
	comp=Z,0.8nm,0.4s,baz=131,slow=4.5,SNR=11								
ZALV	**Zalesovo Beam**	**69.08 334**	P	**P**	**14 00 24.3 -1.5**				
ZALV	**Zalesovo Beam**	**69.08 334**	P	**P**	**14 00 24.3 -1.5**				
SEY	**Seymchan**	**69.52 11**	*de*P	**P**	**14 00 29.1 +0.8**				
KURK	**Kurchatov**	**70.07 328**	P	**P**	**14 00 30.9 -1.0**				
	comp=Z,2.4nm,0.5s,baz=129,slow=5.5,SNR=22								
KURK	**Kurchatov**	**70.07 328**	*e*P	**P**	**14 00 30.8 -1.1**				
KURK			pmax	pmax					
	comp=Z,7.0nm,0.9s								
KURK	**Kurchatov**	**70.07 328**	*e*P	**P**	**14 00 30.8 -1.1**				
	comp=Z,7.4nm,0.9s								
NVS	**Novosibirsk**	**70.37 334**	*e*P	**P**	**14 00 31.2 -2.5**				
NVS			pmax	pmax					
	comp=N,7.0nm,1.6s								
NVS			pmax	pmax					
	comp=Z,19nm,1.6s								
NVS			pmax	pmax					
	comp=E,14nm,1.8s								
BVAR	**Borovoye Array**	**75.62 328**	P	**P**	**14 01 03.8 -1.1**				
	comp=E,1.4nm,0.4s,baz=125,slow=10,SNR=21								
BVAR	**Borovoye Array**	**75.62 328**	P	**P**	**14 01 03.8 -1.1**				
BVAR	**Borovoye Array**	**75.62 328**	P	**P**	**14 01 03.8 -1.1**				
BRVK	**Borovoye**	**75.69 328**	*ce*P	**P**	**14 01 04.2 -1.1**				
BRVK			pmax	pmax					
	comp=Z,18nm,1.7s								
BRVK	**Borovoye**	**75.69 328**	*e*P	**P**	**14 01 03.6 -1.6**				
	comp=Z,20nm,1.4s								
BRVK			*e*		14 01 18.3				
MAW	**Mawson**	**76.99 201**	LR	LR	14 29 23.8				
	comp=Z,97nm,20.9s,baz=149,slow=31								
ABKAR	**Akbulak array**	**80.16 322**	*e*P	**P**	**14 01 28.5 -1.6**				
	comp=Z,2.2nm,0.5s								
AKTO	**Aktyubinsk**	**81.71 322**	P	**P**	**14 01 37.5 -0.9**				
	comp=Z,1.2nm,0.3s,baz=112,slow=8.7,SNR=6.1								
AKTO	**Aktyubinsk**	**81.71 322**	P	**P**	**14 01 37.5 -0.9**				
AKTO	**Aktyubinsk**	**81.71 322**	P	**P**	**14 01 37.5 -0.9**				
SVE	**Sverdlovsk**	**82.31 329**	*e*P	**P**	**14 01 40.8 -0.6**				
SVE			pmax	pmax					
	comp=Z,15nm,1.3s								
QSPA	**South Pole Qui**	**85.43 180**	*e*P	**P**	**14 01 56.3 -1.1**				
	comp=Z,6.5nm,1.0s								
ATD	**Arta Tunnel**	**87.44 282**	P	**P**	**14 02 08.2 -0.1**				
	comp=Z,3.3nm,0.3s,baz=223,slow=22,SNR=1.7								
ATD	**Arta Tunnel**	**87.44 282**	P	**P**	**14 02 08.2 -0.1**				
KDAK	**Kodiak Island**	**87.48 32**	P	**P**	**14 02 07.8 +0.4**				
	comp=Z,21nm,1.0s,baz=70,slow=6.6,SNR=3.2								
KDAK	**Kodiak Island**	**87.48 32**	P	**P**	**14 02 07.8 +0.4**				
KDAK	**Kodiak Island**	**87.48 32**	P	**P**	**14 02 07.8 +0.4**				
ILAR	**Eielson Array**	**91.42 25**	P	**P**	**14 02 24.7 -1.0**				
	comp=Z,0.5nm,0.4s,baz=265,slow=4.5,SNR=23								
ILAR	**Eielson Array**	**91.42 25**	P	**P**	**14 02 24.7 -1.0**				
ILAR	**Eielson Array**	**91.42 25**	P	**P**	**14 02 24.7 -1.0**				
INK	**Inuvik**	**96.84 22**	P	**P**	**14 02 49.2 -1.3**				
	comp=Z,0.9nm,0.6s,baz=290,slow=7.6,SNR=9.7								
INK	**Inuvik**	**96.84 22**	P	**P**	**14 02 49.2 -1.3**				
INK	**Inuvik**	**96.84 22**	P	**P**	**14 02 49.2 -1.3**				
ARCES	**ARCESS Array B**	**99.04 340**	P	**Pdif**	**14 02 58.9 -1.5**				
	comp=Z,4.1nm,0.9s,baz=69,slow=5.1,SNR=3.6								
ARCES	**ARCESS Array B**	**99.04 340**	P	**Pdif**	**14 02 58.9 -1.5**				
ARCES	**ARCESS Array B**	**99.04 340**	P	**Pdif**	**14 02 58.9 -1.5**				
PDAR	**Pinedale Array**	**115.63 44**	PKP	**PKPdf**	**14 08 02.9 +0.2**				
	comp=Z,0.3nm,0.6s,baz=329,slow=5.2,SNR=5.5								
PDAR	**Pinedale Array**	**115.63 44**	PKP	**PKPdf**	**14 08 02.9 +0.2**				
TXAR	**Lajitas Array**	**124.22 57**	PKP	**PKPdf**	**14 08 19.5 +0.1**				
	comp=Z,0.3nm,0.4s,baz=270,slow=1.3,SNR=5.0								
TXAR	**Lajitas Array**	**124.22 57**	PKIKP	**PKPdf**	**14 08 19.5 +0.1**				
TXAR	**Lajitas Array**	**124.22 57**	PKP	**PKPdf**	**14 08 19.5 +0.1**				
TORD	**Torodi Ar. Bea**	**127.63 283**	PKP	**PKPdf**	**14 08 25.1 -1.1**				
	comp=Z,1.4nm,1.0s,baz=88,slow=2.9,SNR=4.5								
TORD	**Torodi Ar. Bea**	**127.63 283**	PKP	**PKPdf**	**14 08 25.1 -1.1**				
NNA	**Nana**	**149.25 122**	*i* PKP2	**PKPbc**	**14 09 11.5 +1.8**				
LPAZ	**La Paz**	**153.06 141**	PKPbc	**PKPbc**	**14 09 19.8 +0.6**				
	comp=Z,1.0nm,0.6s,baz=7.8,slow=0.0,SNR=5.2								
LPAZ	**La Paz**	**153.06 141**	PKIKP	**PKPbc**	**14 09 19.8 +0.6**				
LPAZ	**La Paz**	**153.06 141**	PKPbc	**PKPbc**	**14 09 19.8 +0.6**				

ISCJB ***19*** *13:54:21.1±1.4, 34.°60N±0.°05×141.°89E±0.°07, h32km±9km, mb3.5/2, Error ellipse: s-maj=11.0km s-min=6.0km az=144.7*

JMA ***19*** *13:54:21.2±0.2, 34.°59N×141.°88E, h41km±3km, M3.2*

IDC ***19*** *13:54:26.7±3.1, 33.°86N×139.°64E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=163.5km s-min=16.2km az=72.0*

ISC 19 13:54:22.5±2.5, 34.°63N±0.°07×141.°8E±0.°1, h24km±15km, n16, σ0.°96/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.70**	**272**	P	**Pb**	**13 54 35.2**	**-0.6**
BSO1				*e*S	**Sb**	**13 54 45.8**	**+1.0**
BSO2	**Boso 2**	**0.89**	**278**	*e*S		13 54 51.2	
BSO3	**Boso 3**	**1.10**	**279**	P	**Pn**	**13 54 41.7**	**-0.4**
BSO3				*e*S	**Sb**	**13 54 57.7**	**+1.2**
BSO4	**Boso 4**	**1.28**	**287**	P	**Pn**	**13 54 44.4**	**-0.3**
BSO4				*e*S	**Sn**	**13 55 01.3**	**+0.3**
CHOJ	**Chosi**	**1.33**	**324**	P	**Pn**	**13 54 45.0**	**-0.6**
CHOJ				*e*S	**Sn**	**13 55 01.6**	**-0.9**
KTR	**Katsuura**	**1.35**	**293**	P	**Pn**	**13 54 45.5**	**-0.3**
KTR				*e*S	**Sn**	**13 55 01.9**	**-1.0**
JIM2	**Oshima 3**	**1.98**	**273**	P	**Pn**	**13 54 53.2**	**-1.3**
JIM2				*e*S	**Sn**	**13 55 17.6**	**-0.9**
JHJ2	**Mitsune**	**2.26**	**228**	P	**Pn**	**13 54 58.0**	**-0.3**
JHJ2				*e*S	**Sn**	**13 55 25.6**	**+0.2**
JOD2	**Odawara 2**	**2.34**	**286**	P	Pn	13 54 58.1	-1.3
JOD2				*e*S	**Sn**	**13 55 25.6**	**-1.8**
JIZS	**Izushimoda**	**2.43**	**273**	P	**Pn**	**13 54 59.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.51**	**304**	Pn	**Pn**	**13 55 15.6**	**+0.1**
	1.2nm,0.3s,baz=28,slow=7.6,SNR=3.0						
MJAR				Lg	Lg	13 55 57.1	
	2.0nm,0.3s,baz=91,slow=16,SNR=5.4						
MAT	**Matsushiro**	**3.51**	**304**	P	**Pn**	**13 55 16.8**	**+1.2**
MAT				S	**Sn**	**13 55 56.7**	**+0.3**
CBIJ	**Chichi jima**	**7.52**	**178**	Pn	**Pn**	**13 56 10.1**	**-0.6**
	3.9nm,0.3s,baz=282,slow=20,SNR=1.4						
CBIJ				Sn	**Sn**	**13 57 34.0**	**-1.1**
	6.0nm,0.3s,baz=302,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**9.49**	**3**	LR	LR	14 01 49.8	
	comp=Z,40nm,19.9s,baz=62,slow=42						
WRA	**Warramunga Arr**	**54.74**	**189**	P	**P**	**14 03 50.3**	**+0.2**
	0.3nm,0.5s,baz=4.3,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**58.47**	**189**	P	**P**	**14 04 18.2**	**+1.7**
	0.3nm,0.8s,baz=7.5,slow=9.9,SNR=4.6						

IDC ***19*** *13:58:59.2±8.7, 36.°20N×70.°68E, h160km±68km, mb3.4/7, mb1 3.5/10, mb1mx3.2/29, mbtmp3.4/10, Error ellipse: s-maj=55.5km s-min=26.6km az=29.0*

ISCJB ***19*** *13:59:03.1±0.6, 36.°57N±0.°04×70.°86E±0.°09, h204km

BRVK	**Borovoye** 6.9nm,1.1s	**16.67**	**359**	⇑P		**P**	**14 02 42.6**	**-1.5**
AKTO	**Aktyubinsk** 0.7nm,0.9s	**16.75**	**331**	⇓P		**Pn**	**14 02 45.9**	**-0.4**
TAPN	**Taplejung** 5.0nm,0.4s	**17.01**	**117**	*e*P		**Pn**	**14 02 51.2**	**+1.3**
ZALV	**Zalesovo Beam** 12nm,0.4s,baz=222,slow=12,SNR=33	**20.11**	**25**	P		**P**	**14 03 21.4**	**0.0**
SONM	**Songino Array** 0.6nm,0.6s,baz=267,slow=8.2,SNR=5.4	**28.60**	**55**	P		**P**	**14 04 41.6**	**+1.1**
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=104,slow=7.3,SNR=6.0	**41.15**	**338**	P		P	14 06 29.0	+1.8
NOA	**NORSAR Array B** 1.1nm,0.8s,baz=118,slow=5.7,SNR=3.0	**44.32**	**323**	P		**P**	**14 06 54.0**	**+1.2**
INK	**Inuvik** 0.6nm,0.6s,baz=6.1,slow=9.7,SNR=7.0	**74.05**	**9**	P		P	14 10 18.4	+2.1
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=350,slow=5.4,SNR=12	**81.36**	**2**	P		**P**	**14 10 58.3**	**+1.5**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=325,slow=4.8,SNR=2.8	**82.14**	**122**	P		**P**	**14 11 02.0**	**+0.5**

IDC 19 14:07:23.8±16.0, **23°70S×179°99E, h481**km±188km, **mb3.4**/6, **mb1 3.6**/6, **mb1mx3.2**/17, **mbtmp3.4**/6, **Error ellipse: s-maj=83.3km s-min=60.8km az=165.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 10.0nm,0.3s,baz=95,slow=11,SNR=29	**31.47**	**270**	P	P	14 13 05.8	+0.6
STKA	**Stephens Creek** 1.8nm,0.6s,baz=100,slow=9.5,SNR=12	**34.79**	**248**	P	P	14 13 32.2	-1.0
ASAR	**Alice Springs** 0.8nm,0.4s,baz=96,slow=7.4,SNR=22	**42.06**	**260**	P	P	14 14 32.8	0.0
WRA	**Warramunga Arr** 2.4nm,0.4s,baz=98,slow=8.4,SNR=30	**42.41**	**266**	P	P	14 14 35.5	0.0
FITZ	**Fitzroy Crossi** 1.2nm,0.4s,baz=109,slow=6.9,SNR=5.7	**50.84**	**265**	P	P	14 15 39.0	-0.5
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=203,slow=8.8,SNR=4.2	**90.33**	**58**	P	P	14 19 33.2	0.0

IDC 19 14:12:58.0±67.0, **16°96S×178°21W, h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.5**/17, **mbtmp3.7**/3, **Error ellipse: s-maj=1234.0km s-min=167.7km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.7nm,1.1s,baz=105,slow=11,SNR=4.9	**39.25**	**240**	P	P	14 20 29.1	+0.6
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=96,slow=8.4,SNR=4.3	**44.99**	**259**	P	P	14 21 14.9	-0.6
ASAR	**Alice Springs** 1.1nm,0.5s,baz=90,slow=7.9,SNR=46	**45.23**	**253**	P	P	14 21 17.1	-0.3

IDC 19 14:13:35.1±49.0, **16°84S×178°14W, h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.6**/17, **mbtmp3.7**/3, **Error ellipse: s-maj=894.6km s-min=165.1km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 0.7nm,0.7s,baz=90,slow=12,SNR=4.0	**39.37**	**240**	P	P	14 21 07.4	+0.8
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=96,slow=8.0,SNR=7.4	**45.09**	**258**	P	P	14 21 52.9	-0.5
ASAR	**Alice Springs** 1.6nm,0.4s,baz=89,slow=8.1,SNR=50	**45.33**	**253**	P	P	14 21 55.0	-0.4

*NOU **19** 14:36:11.9±1.1, 21°02S×170°34E, h10km, MD2.7, ML3.2*
*IDC **19** 14:36:14.6±7.2, 20°36S×169°21E, h255km±30km, mb2.9/3, mb1 3.1/4, mb1mx2.9/16, mbtmp3.0/4, Error ellipse: s-maj=88.6km s-min=76.2km az=117.0*
ISC 19 14:36:03.7±4.9, **19°0S**±0°2×**169°1E**±0°6, **h122**km, **n8, σ3s 76**/7, **mb3.5**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.78**	**213**	*e*S	**Sn**	**14 37 39.6**	**-4.6**
DZM	**Mont Dzumac** 6.6nm,0.3s,baz=38,slow=19,SNR=179	**3.95**	**218**	P	Pn	14 37 08.3	+5.5
DZM	7.6nm,0.3s,baz=120,slow=20,SNR=11			S	**Sn**	**14 37 51.4**	**+2.9**
DZM	**Mont Dzumac**	**3.95**	**218**	*e*P	Pn	14 37 07.5	+4.7
DZM				*e*S	**Sn**	**14 37 48.0**	**-0.6**
DZM	comp=Z,272nm,1.5s			AMP		14 37 52.2	
NORM	**Noumea**	**4.05**	**217**	*e*P	**Pn**	**14 37 06.5**	**+2.5**
NORM				*e*S	**Sn**	**14 37 47.0**	**-3.7**
NORM	comp=Z,65nm,1.2s			AMP		14 37 51.7	
NOUC	**Port Laguerre**	**4.06**	**220**	*e*S	**Sn**	**14 37 53.0**	**+2.1**
STKA	**Stephens Creek** comp=Z,0.8nm,0.9s,baz=62,slow=15,SNR=2.6	**27.87**	**237**	P	P	14 41 35.1	-6.9
WRA	**Warramunga Arr** comp=Z,0.3nm,0.4s,baz=97,slow=7.8,SNR=8.0	**32.75**	**262**	P	**P**	**14 42 23.7**	**-1.5**
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=89,slow=7.9,SNR=19	**33.05**	**256**	P	P	14 42 24.8	-3.1
ASAR	comp=Z,0.3nm,0.4s,baz=88,slow=8.8,SNR=2.9			pP	pP	14 43 14.7	+20

IDC 19 14:45:31.9±4.6, **21°11S×178°43W, h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.6**/16, **mbtmp3.6**/4, **Error ellipse: s-maj=197.2km s-min=37.3km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.3nm,0.9s,baz=96,slow=15,SNR=4.3	**37.16**	**245**	P	P	14 52 44.0	-0.8
ASAR	**Alice Springs** 0.3nm,0.6s,baz=91,slow=8.2,SNR=12	**43.99**	**257**	P	P	14 53 41.5	+0.1
WRA	**Warramunga Arr** 0.8nm,1.2s,baz=96,slow=8.4,SNR=5.4	**44.12**	**263**	P	P	14 53 42.7	+0.2
ILAR	**Eielson Array** 0.3nm,0.5s,baz=224,slow=5.0,SNR=4.6	**88.99**	**13**	P	P	14 58 28.1	-0.1

*ISCJB **19** 14:50:30.9±0.4, 38°85N±0°01×23°66E±0°03, h14km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=10.6*
*CSEM **19** 14:50:30.7±0.1, 38°84N×23°66E, h10km, ML2.8/7, Error ellipse: s-maj=2.4km s-min=1.7km az=102.0*
*ATH **19** 14:50:30.5, 38°87N×23°62E, h25km, ML3.6*
*THE **19** 14:50:31.4, 38°85N×23°61E, h8km, ML2.8/7, Error ellipse: s-maj=1.0km s-min=0.4km az=132.0*
ISC 19 14:50:31.2±0.8, **38°85N**±0°01×**23°61E**±0°02, **h12**km±6km, **n100, σ0s 51**/164, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.15**	**187**	P	**Pg**	**14 50 34.7**	**0.0**
MRKA				S	**Sg**	**14 50 36.9**	**-0.3**
MRKA	**Markates**	**0.15**	**187**	P	**Pg**	**14 50 34.7**	**0.0**
MRKA				S	**Sg**	**14 50 36.9**	**-0.3**
SKIA	**Skiathos**	**0.33**	**340**	P	**Pg**	**14 50 38.2**	**+0.3**
SKIA				S	**Sg**	**14 50 43.4**	**+0.9**
SKIA	**Skiathos**	**0.33**	**340**	P	**Pg**	**14 50 38.2**	**+0.3**
SKIA				S	**Sg**	**14 50 43.4**	**+0.9**
AOS	**Alonnisos**	**0.38**	**33**	P	**Pg**	**14 50 38.9**	**+0.1**
AOS				S	**Sg**	**14 50 44.2**	**+0.3**
AOS	**Alonnisos**	**0.38**	**33**	P	**Pg**	**14 50 38.9**	**+0.1**
AOS				S	**Sg**	**14 50 44.2**	**+0.3**
ERET	**Eretria**	**0.44**	**160**	P	**Pg**	**14 50 39.8**	**0.0**
ERET				S	**Sg**	**14 50 46.4**	**+0.7**
ERET	**Eretria**	**0.44**	**160**	P	**Pg**	**14 50 39.8**	**0.0**
ERET				S	**Sg**	**14 50 46.4**	**+0.7**
ATAL	**Atalanti**	**0.49**	**251**	P	**Pg**	**14 50 40.4**	**-0.4**
ATAL				S	**Sg**	**14 50 47.6**	**+0.3**
ATAL	**Atalanti**	**0.49**	**251**	P	**Pg**	**14 50 40.4**	**-0.4**
ATAL				S	**Sg**	**14 50 47.6**	**+0.3**
LKR	**Lokris**	**0.52**	**247**	*e*PN	**Pg**	**14 50 40.8**	**-0.5**
LKR				*e*SN	**Sb**	**14 50 49.3**	**-0.4**
LKR	**Lokris**	**0.52**	**247**	*e*Pn	**Pg**	**14 50 40.8**	**-0.5**
LKR				*e*Sn	**Sb**	**14 50 49.3**	**-0.4**
NEO	**Neokhori**	**0.55**	**326**	*e*PN	**Pg**	**14 50 42.0**	**+0.1**
NEO				*e*SN	**Sg**	**14 50 49.5**	**+0.4**
NEO	**Neokhori**	**0.55**	**326**	*e*Pn	**Pg**	**14 50 42.0**	**+0.1**
NEO				*e*Sn	**Sg**	**14 50 49.5**	**+0.4**
XOR	**Xorichti**	**0.61**	**328**	P	**Pg**	**14 50 43.0**	**0.0**
XOR				S	**Sb**	**14 50 52.1**	**-0.2**
XOR	**Xorichti**	**0.61**	**328**	P	**Pg**	**14 50 43.0**	**0.0**
XOR				S	**Sb**	**14 50 52.1**	**-0.2**
PTL	**Penteli**	**0.83**	**166**	*e*PN	**Pg**	**14 50 46.5**	**-0.7**
PTL				*e*SN	**Sg**	**14 50 58.2**	**+0.2**
PTL	**Penteli**	**0.83**	**166**	*e*Pn	**Pg**	**14 50 46.5**	**-0.7**
PTL				*e*Sn	**Sg**	**14 50 58.2**	**+0.2**
ATH	**Athens Observa**	**0.88**	**175**	*e*PN	**Pg**	**14 50 48.2**	**0.0**
ATH				*e*SN	**Sb**	**14 51 00.3**	**+0.1**
ATH	**Athens Observa**	**0.88**	**175**	*e*Pn	**Pg**	**14 50 48.2**	**0.0**
ATH				*e*Sn	**Sb**	**14 51 00.3**	**+0.1**
DSF	**Desfina**	**0.96**	**243**	P	**Pb**	**14 50 48.1**	**-1.6**
DSF				S	**Sn**	**14 51 03.9**	**-0.2**
DSF	**Desfina**	**0.96**	**243**	P	**Pb**	**14 50 48.1**	**-1.6**
DSF				S	**Sn**	**14 51 03.9**	**-0.2**
LTK	**Loutraki**	**0.97**	**212**	P	**Pb**	**14 50 48.9**	**-1.0**
LTK				S	**Sb**	**14 51 03.3**	**+0.6**
LTK	**Loutraki**	**0.97**	**212**	*e*PN	**Pb**	**14 50 49.1**	**-0.8**
LTK				*e*SN	**Sn**	**14 51 04.0**	**-0.4**
LTK	**Loutraki**	**0.97**	**212**	P	**Pb**	**14 50 48.9**	**-1.0**
LTK				S	**Sb**	**14 51 03.3**	**+0.6**
LTK				*e*Sn	**Sn**	**14 51 04.0**	**-0.4**
MRMA	**Marmari**	**1.00**	**143**	P	**Pb**	**14 50 49.9**	**-0.5**
MRMA	**Marmari**	**1.00**	**143**	P	**Pb**	**14 50 49.9**	**-0.5**
VLY	**Voula,Athens**	**1.01**	**172**	*e*PN	**Pb**	**14 50 49.8**	**-0.8**
VLY				*e*SN	**Sg**	**14 51 03.8**	**+0.1**
VLY	**Voula,Athens**	**1.01**	**172**	*e*Pn	**Pb**	**14 50 49.8**	**-0.8**
VLY				*e*Sn	**Sg**	**14 51 03.8**	**+0.1**
PAIG	**Paliouri**	**1.07**	**3**	P	**Pb**	**14 50 51.4**	**-0.3**
PAIG				S	**Sn**	**14 51 07.0**	**+0.1**
PAIG	**Paliouri**	**1.07**	**3**	P	**Pb**	**14 50 51.4**	**-0.3**
PAIG				S	**Sn**	**14 51 07.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.10**	**185**	*e*PN	**Pb**	**14 50 51.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.10**	**185**	*e*Pn	**Pb**	**14 50 51.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.17**	**278**	P	**Pn**	**14 50 53.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.17**	**278**	P	**Pn**	**14 50 53.4**	**+0.1**
KALE	**Kalithea**	**1.24**	**249**	P	**Pn**	**14 50 54.1**	**-0.3**
KALE	**Kalithea**	**1.24**	**249**	P	**Pn**	**14 50 54.1**	**-0.3**
TRIZ	**Trizonia**	**1.30**	**249**	P	**Pn**	**14 50 54.6**	**-0.5**
TRIZ	**Trizonia**	**1.30**	**249**	P	**Pn**	**14 50 54.6**	**-0.5**
GUR	**Goura**	**1.35**	**228**	P	**Pn**	**14 50 56.0**	**0.0**
GUR	**Goura**	**1.35**	**228**	*e*PN	**Pn**	**14 50 55.9**	**0.0**
GUR				*e*SN	**Sb**	**14 51 14.3**	**+0.5**
GUR	**Goura**	**1.35**	**228**	P	**Pn**	**14 50 56.0**	**0.0**
GUR				*e*Sn	**Sb**	**14 51 14.3**	**+0.5**
DID	**Didima**	**1.38**	**193**	P	**Pn**	**14 50 56.0**	**-0.2**
DID	**Didima**	**1.38**	**193**	*e*PN	**Pn**	**14 50 56.1**	**-0.2**
DID	**Didima**	**1.38**	**193**	*e*Pn	**Pn**	**14 50 56.1**	**-0.2**
EFP	**Efpalio**	**1.40**	**253**	P	**Pn**	**14 50 57.0**	**-0.3**
EFP	**Efpalio**	**1.40**	**253**	*e*PN	**Pn**	**14 50 56.8**	**+0.2**
EFP				*e*SN	**Sb**	**14 51 15.5**	**+0.4**
EFP	**Efpalio**	**1.40**	**253**	P	**Pb**	**14 50 57.0**	**-0.3**
EFP				*e*Sn	**Sb**	**14 51 15.5**	**+0.4**
EVR	**Evrytania**	**1.41**	**273**	*e*PN	**Pb**	**14 50 57.5**	**0.0**
EVR				*e*SN	**Sn**	**14 51 15.4**	**+0.1**
EVR	**Evrytania**	**1.41**	**273**	*e*Pn	**Pb**	**14 50 57.5**	**0.0**
EVR				*e*Sn	**Sn**	**14 51 15.4**	**+0.1**
DIDY	**Didyma**	**1.41**	**193**	P	**Pn**	**14 50 56.6**	**-0.2**
DIDY	**Didyma**	**1.41**	**193**	P	**Pn**	**14 50 56.6**	**-0.2**
LAKA	**Lakka**	**1.42**	**245**	P	**Pb**	**14 50 57.4**	**-0.2**
LAKA	**Lakka**	**1.42**	**245**	P	**Pb**	**14 50 57.4**	**-0.2**
THL	**Klokotos Trika**	**1.43**	**300**	*e*PN	**Pn**	**14 50 57.0**	**+0.1**
THL				*e*SN	**Sb**	**14 51 16.3**	**+0.4**
THL	**Klokotos Trika**	**1.43**	**300**	*e*Pn	**Pn**	**14 50 57.0**	**+0.1**
THL				*e*Sn	**Sb**	**14 51 16.3**	**+0.4**
OUR	**Ouranopolis**	**1.51**	**11**	P	**Pn**	**14 50 57.8**	**-0.2**
OUR				S	**Sb**	**14 51 18.0**	**-0.2**
OUR	**Ouranopolis**	**1.51**	**11**	P	**Pn**	**14 50 57.8**	**-0.2**
OUR				S	**Sb**	**14 51 18.0**	**-0.2**
LIT	**Litokhoron**	**1.52**	**325**	P	**Pn**	**14 50 57.8**	**-0.4**
LIT				S	**Sb**	**14 51 18.6**	**0.0**
LIT	**Litokhoron**	**1.52**	**325**	*e*PN	**Pn**	**14 50 57.9**	**-0.3**
LIT				*e*SN	**Sn**	**14 51 18.0**	**+0.1**
LIT	**Litokhoron**	**1.52**	**325**	*e*Pn	**Pn**	**14 50 57.9**	**-0.3**
LIT				*e*Sn	**Sn**	**14 51 18.0**	**+0.1**
LIT				S	**Sb**	**14 51 18.6**	**0.0**
PLG	**Polygyros**	**1.52**	**355**	*e*PN	**Pn**	**14 50 57.9**	**-0.4**
PLG				*e*SN	**Sn**	**14 51 16.9**	**-1.2**
PLG	**Polygyros**	**1.52**	**355**	*e*Pn	**Pn**	**14 50 57.9**	**-0.4**
PLG				*e*Sn	**Sn**	**14 51 16.9**	**-1.2**
LIA	**Limnos Island**	**1.60**	**49**	*e*PN	**Pn**	**14 50 59.0**	**-0.3**
LIA				*e*SN	**Sn**	**14 51 19.5**	**-0.5**
LIA	**Limnos Island**	**1.60**	**49**	*e*Pn	**Pn**	**14 50 59.0**	**-0.3**
LIA				*e*Sn	**Sn**	**14 51 19.5**	**-0.5**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*PN	**Pb**	**14 51 02.7**	**-0.9**
VLX				*e*SN	**Sb**	**14 51 25.2**	**-0.6**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*Pn	**Pb**	**14 51 02.7**	**-0.9**
VLX				*e*Sn	**Sb**	**14 51 25.2**	**-0.6**
HORT	**Hortiatis**	**1.79**	**347**	P	**Pn**	**14 51 02.0**	**0.0**
HORT	**Hortiatis**	**1.79**	**347**	P	**Pn**	**14 51 02.0**	**0.0**
RLS	**Riolos of Patr**	**1.86**	**245**	*e*PN	**Pn**	**14 51 03.1**	**+0.2**
RLS				*e*SN	**Sn**	**14 51 26.8**	**+0.5**
RLS	**Riolos of Patr**	**1.86**	**245**	*e*Pn	**Pn**	**14 51 03.1**	**+0.2**
RLS				*e*Sn	**Sn**	**14 51 26.8**	**+0.5**
SOH	**Sokhos**	**1.98**	**354**	P	**Pn**	**14 51 04.7**	**+0.2**
SOH	**Sokhos**	**1.98**	**354**	*e*PN	**Pn**	**14 51 04.8**	**+0.2**
SOH				*e*SN	**Sn**	**14 51 29.2**	**0.0**
SOH	**Sokhos**	**1.98**	**354**	P	**Pn**	**14 51 04.7**	**+0.2**
SOH				*e*Sn	**Sn**	**14 51 29.3**	**0.0**
PRK	**Paraskevi**	**2.11**	**78**	*e*PB	**Pn**	**14 51 06.5**	**+0.2**
PRK	**Paraskevi**	**2.11**	**78**	*e*Pb	**Pn**	**14 51 06.5**	**+0.2**
ITM	**Ithomi**	**2.13**	**219**	*e*PN	**Pn**	**14 51 07.1**	**+0.4**
ITM	**Ithomi**	**2.13**	**219**	*e*Pn	**Pn**	**14 51 07.1**	**+0.4**
VLI	**Veliai**	**2.20**	**194**	*e*PN	**Pn**	**14 51 07.7**	**+0.2**
VLI	**Veliai**	**2.20**	**194**	*e*Pn	**Pn**	**14 51 07.7**	**+0.2**
KAVA	**Kavala**	**2.25**	**18**	P	**Pn**	**14 51 07.5**	**-0.7**
KAVA	**Kavala**	**2.25**	**18**	P	**Pn**	**14 51 07.5**	**-0.7**
SRS	**Serrai**	**2.26**	**360**	P	**Pn**	**14 51 08.4**	**0.0**
SRS	**Serrai**	**2.26**	**360**	P	**Pn**	**14 51 08.4**	**0.0**
GRG	**Griva**	**2.30**	**336**	P	**Pn**	**14 51 09.2**	**+0.3**
GRG	**Griva**	**2.30**	**336**	P	**Pn**	**14 51 09.2**	**+0.3**
APE	**Apeiranthos**	**2.34**	**139**	*e*PN	**Pn**	**14 51 09.8**	**+0.3**
APE				*e*SN	**Sn**	**14 51 39.2**	**+1.0**
APE	**Apeiranthos**	**2.34**	**139**	*e*Pn	**Pn**	**14 51 09.8**	**+0.3**
APE				*e*Sn	**Sn**	**14 51 39.2**	**+1.0**
KNT	**Kendrikon**	**2.37**	**347**	P	**Pn**	**14 51 10.7**	**+0.8**
KNT	**Kendrikon**	**2.37**	**347**	P	**Pn**	**14 51 10.7**	**+0.8**
PYL	**PYLOS**	**2.45**	**218**	*e*PB	**Pn**	**14 51 12.1**	**+1.1**
PYL				*e*SN	**Sn**	**14 51 41.8**	**+0.9**
PYL	**PYLOS**	**2.45**	**218**	*e*Pb	**Pn**	**14 51 12.1**	**+1.1**
PYL				*e*Sn	**Sn**	**14 51 41.8**	**+0.9**
VLS	**Valsamata**	**2.46**	**255**	*e*PN	**Pn**	**14 51 12.0**	**+0.8**
VLS				*e*SN	**Sn**	**14 51 42.3**	**+1.1**
VLS	**Valsamata**	**2.46**	**255**	*e*Pn	**Pn**	**14 51 12.0**	**+0.8**
VLS				*e*Sn	**Sn**	**14 51 42.3**	**+1.1**
NVR	**Nevrokopi**	**2.50**	**4**	*e*PN	**Pn**	**14 51 11.4**	**-0.3**
NVR				*e*SN	**Sn**	**14 51 42.1**	**-0.1**
NVR	**Nevrokopi**	**2.50**	**4**	*e*Pn	**Pn**	**14 51 11.4**	**-0.3**
NVR				*e*Sn	**Sn**	**14 51 42.1**	**-0.1**
KYTH	**Kithira**	**2.61**	**190**	*e*PN	**Pn**	**14 51 13.6**	**+0.4**
KYTH	**Kithira**	**2.61**	**190**	*e*Pn	**Pn**	**14 51 13.6**	**+0.4**
ALN	**Alexandroupoli**	**2.77**	**42**	*e*PN	**Pn**	**14 51 15.7**	**+0.3**
ALN				*e*SN	**Sn**	**14 51 48.4**	**-0.3**
ALN	**Alexandroupoli**	**2.77**	**42**	*e*Pn	**Pn**	**14 51 15.7**	**+0.3**
ALN				*e*Sn	**Sn**	**14 51 48.4**	**-0.3**

IDC 19 14:57:11.5±2.8, **4°65S×102°18E, h0**km, **mb3.7**/7, **mb1 3.8**/7, **mb1mx3.6**/21, **mbtmp3.7**/7, **Error ellipse: s-maj=122.6km s-min=19.5km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=181,slow=9.2,SNR=4.3	**23.18**	**352**	P	P	15 02 20.1	+0.1
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=302,slow=9.0,SNR=5.2	**34.80**	**119**	P	P	15 04 04.5	+0.3
ASAR	**Alice Springs** 0.2nm,0.3s,baz=298,slow=8.1,SNR=10	**35.95**	**125**	P	P	15 04 13.9	-0.2
SONM	**Songino Array** 0.8nm,0.7s,baz=188,slow=8.9,SNR=7.1	**52.39**	**4**	P	P	15 06 25.5	-0.1
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=154,slow=9.1,SNR=22	**54.16**	**343**	P	P	15 06 39.1	+0.5
ZALV	**Zalesovo Beam** 1.8nm,0.4s,baz=166,slow=6.1,SNR=8.1	**60.17**	**348**	P	P	15 07 20.2	-0.7
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=130,slow=6.2,SNR=4.8	**63.41**	**339**	P	P	15 07 42.8	-0.1
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=212,slow=0.5,SNR=4.1	**145.34**	**42**	PKPbc	PKPbc	15 16 50.9	-1.2

FUNV 19 15:06:15.7, 7°00N×73°00W, h167km, **MW3.7, 4D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.10**	**38**	⇓*i*P	Pn	15 06 42.0	-1.2
CAPV				*e*S	Sn	15 07 02.4	-2.1
VIGV	**El Vigia**	**2.45**	**41**	⇓*i*P	Pn	15 06 56.5	-0.6
VIGV				*e*S	Sn	15 07 26.3	-2.9
SOCV	**Socops**	**2.48**	**59**	⇓*e*P	Pn	15 06 56.9	-0.7
ELOV	**Elorza**	**3.50**	**90**	*e*P	Pn	15 07 08.3	-1.6
VIRV	**Villa del Rosa**	**3.53**	**10**	⇓*e*P	Pn	15 07 09.0	-1.5
VIRV				*e*S	Sn	15 07 48.3	-5.0
SANV	**Sanarito**	**4.24**	**54**	*e*P	Pn	15 07 17.6	-2.2
SANV				*e*S	Sn	15 08 04.1	-5.6
CURV	**Curarigua**	**4.25**	**45**	*e*P	Pn	15 07 18.5	-1.2
TEPV	**Terepaima**	**4.79**	**52**	*e*P	Pn	15 07 25.6	-1.1
SIQV	**Siquisique**	**4.81**	**41**	*e*P	Pn	15 07 25.4	-1.6
SIQV				*e*S	Sn	15 08 16.9	-5.9
BAUV	**El Baul**	**5.28**	**68**	*e*P	Pn	15 07 30.6	-2.6
MAPV	**Macapo**	**5.31**	**58**	*e*P	Pn	15 07 32.0	-1.5
MONV	**Montecano**	**5.76**	**31**	*e*P	Pn	15 07 38.0	-1.5
TURV	**Turiamo**	**6.15**	**56**	*e*P	Pn	15 07 42.6	-2.0
CUPV	**Cœpira**	**7.76**	**66**	*e*P	Pn	15 08 03.7	-2.3

*ISCJB **19** 15:10:19.7±0.5, 39°01S±0°08×15°9W±0°1, h10km, mb4.2/10, MS4.6/13, Error ellipse: s-maj=13.3km s-min=10.8km az=28.5*
*IDC **19** 15:10:20.5±1.1, 38°97S×15°96W, h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/16, mbtmp4.1/8, MS4.5/13, Ms1 4.5/13, ms1mx4.5/20, Error ellipse: s-maj=36.0km s-min=21.3km az=139.0*
*NEIC **19** 15:10:21.3±0.5, 39°01S×15°87W, h10km, mb4.9/4, Error ellipse: s-maj=19.6km s-min=11.7km az=150.0*
ISC 19 15:10:21.4±0.5, **39°02S**±0°10×**15°9W**±0°1, **h10**km, **n38, σ0s 89**/32, **mb4.3**/10, **MS4.5**/13, **1D, Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIS	**Tristan da Cun**	**3.40**	**56**	*e*P	**Pn**	**15 11 12.9**	**-1.6**
VNA2	**Neumayer--Watz** baz=346,slow=11	**32.27**	**175**	*e*	**P**	**15 16 51.4**	**+1.6**
VNA3	**Neumayer Olymp**	**32.45**	**176**	*e*	**P**	**15 16 51.9**	**+0.5**
SNAA	**Sanae**	**33.39**	**173**	*e*	**P**	**15 16 59.9**	**+0.2**
TSUM	**Tsumeb** 39nm,1.5s	**34.98**	**65**	*e*P	**P**	**15 17 15.7**	**+1.7**
BDFB	**Brasilia** 1.5nm,0.4s,baz=241,slow=6.7,SNR=2.3	**36.55**	**301**	P	**P**	**15 17 27.8**	**+0.2**
BDFB	comp=Z,807nm,18.5s,baz=309,slow=32			LR	LR	15 29 51.2	
BDFB	**Brasilia**	**36.55**	**301**	P	**P**	**15 17 27.8**	**+0.2**
PMSA	**Palmer Station** 17nm,0.8s,baz=114,slow=4.6,SNR=3.3	**37.91**	**211**	P	**P**	**15 17 38.5**	**+0.2**
PMSA	comp=Z,549nm,18.2s,baz=24,slow=32			LR	LR	15 30 17.7	
PMSA	**Palmer Station** 20nm,0.8s	**37.91**	**211**	P	**P**	**15 17 37.3**	**-1.0**
PLCA	**Paso Flores** comp=Z,1μm,21.5s,baz=122,slow=32	**41.44**	**250**	LR	LR	15 32 24.7	
SYO	**Syowa Base**	**41.91**	**154**	⇓*e*P	**P**	**15 18 10.0**	**-1.6**
CFAA	**Coronel Fontan** 0.1nm,0.5s,baz=120,slow=4.1,SNR=4.7	**42.89**	**263**	P	**P**	**15 18 20.3**	**+0.1**
CFAA	**Coronel Fontan**	**42.89**	**263**	P	**P**	**15 18 20.3**	**+0.1**
SIV	**San Ignacio** 0.4nm,0.5s,baz=138,slow=12,SNR=4.4	**45.62**	**287**	P	**P**	**15 18 40.8**	**-1.4**
SIV	comp=Z,409nm,20.5s,slow=33			LR	LR	15 35 17.3	
SIV	**San Ignacio**	**45.62**	**287**	P	**P**	**15 18 40.8**	**-1.4**
DBIC	**Dimbokro** 7.4nm,1.2s,baz=222,slow=14,SNR=3.3	**46.59**	**15**	P	**P**	**15 18 49.5**	**0.0**
DBIC	comp=Z,372nm,18.9s,baz=166,slow=30			LR	LR	15 33 13.0	
DBIC	**Dimbokro**	**46.59**	**15**	P	**P**	**15 18 49.5**	**0.0**
MAW	**Mawson** comp=Z,354nm,20.8s,baz=277,slow=31	**50.39**	**151**	LR	LR	15 36 16.0	
LPAZ	**La Paz** 3.5nm,1.1s,baz=169,slow=6.5,SNR=5.4	**50.77**	**281**	P	**P**	**15 19 22.5**	**-0.1**
LP

comp=Z,196nm,0.2s
POGA Pongola 7.98 201 *e*P Pn 15 22 18.4 +3.4
POGA *e*S **Sn 15 23 44.8 -0.7**
POGA AML AML 15 23 48.3
comp=Z,47nm,0.4s
SLR Silverton 8.36 225 *e*P **Pn 15 22 21.5 +1.1**
SLR *e*S **Sn 15 23 55.0 0.0**
SLR AML AML 15 23 59.0
comp=Z,74nm,0.4s
PRYS Parys 9.78 223 *e*P **Pn 15 22 42.3 +2.4**
PRYS *e*S **Sn 15 24 27.3 -2.5**
PRYS AML AML 15 25 45.8
comp=Z,26nm,0.8s
LBTB Lobatse 9.92 238 *e*P **Pn 15 22 43.6 +1.9**
LBTB *e*S **Sn 15 24 28.6 -4.7**
LBTB AML AML 15 24 34.0
comp=Z,37nm,0.4s
LBTB Lobatse 9.92 238 *e*P **Pn 15 22 43.4 +1.6**
comp=Z,18nm,0.6s
SEK Senekal 10.64 217 *e*P **Pn 15 22 53.7 +2.0**
SEK *e*S **Sn 15 24 49.8 -1.2**
SEK AML AML 15 26 07.6
comp=Z,31nm,0.7s
ABPO Ambohimpanom 11.74 88 *e*P **Pn 15 23 07.5 +0.7**
OPO Ambohidratompo 11.76 86 Pn **Pn 15 23 05.7 -1.3**
comp=Z,2.8nm,0.3s,baz=266,slow=13,SNR=10
OPO Ambohidratompo 11.76 86 Pn **Pn 15 23 05.7 -1.3**
BOSA Boshof 12.29 223 Pn **Pn 15 23 14.9 +0.7**
comp=Z,0.9nm,0.3s,baz=47,slow=12,SNR=13
BOSA Sn Sn 15 25 25.1 -6.2
comp=Z,1.6nm,0.3s,baz=69,slow=10,SNR=4.9
BOSA Boshof 12.29 223 *e*P **Pn 15 23 14.9 +0.7**
BOSA *e*S **Sn 15 25 28.5 -2.8**
BOSA AML AML 15 26 59.3
comp=Z,14nm,0.7s
BOSA Boshof 12.29 223 *e*P **Pn 15 23 15.6 +1.4**
comp=Z,8.2nm,0.6s
BOSA Sn Sn 15 25 25.1 -6.2
TSUM Tsumeb 16.26 270 *e*P **Pn 15 24 07.5 -0.2**
SUR Sutherland 17.65 222 *e*P **P 15 24 30.0 +3.8**
SUR *e*S **Sn 15 27 37.2 -4.8**
SUR AML AML 15 28 11.2
comp=Z,5.6nm,0.6s
SUR Sutherland 17.65 222 *e*P **P 15 24 29.9 +3.7**
comp=Z,38nm,1.0s
TORD Torodi Ar. Bea 46.28 313 P **P 15 28 45.5 +0.5**
comp=Z,3.3nm,0.6s,baz=127,slow=7.6,SNR=42
TORD Torodi Ar. Bea 46.28 313 P **P 15 28 45.5 +0.5**
AKASG Malin Array Be 70.47 356 LR LR 16 05 57.9
comp=Z,104nm,20.0s,baz=280,slow=39
ABKAR Akbulak array 72.40 17 P **P 15 31 44.4 -0.7**
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 73.55 63 P **P 15 31 52.5 -0.2**
comp=Z,0.4nm,0.4s,baz=248,slow=8.1,SNR=4.6
CMAR Chiang Mai Arr 73.55 63 P **P 15 31 52.5 -0.2**
BVAR Borovoye Array 78.90 21 P **P 15 32 22.0 -0.3**
comp=Z,0.3nm,0.5s,baz=213,slow=6.9,SNR=2.5
BVAR Borovoye Array 78.90 21 P **P 15 32 22.0 -0.3**
MK31 Makanchi Array 78.99 31 *e*P **P 15 32 22.2 -0.8**
MKAR Makanchi Array 78.99 31 P **P 15 32 22.4 -0.5**
comp=Z,0.8nm,0.9s,baz=214,slow=5.1,SNR=5.3
MKAR Makanchi Array 78.99 31 P **P 15 32 22.4 -0.5**
KURK Kurchatov 80.19 27 P **P 15 32 28.2 -1.1**
comp=Z,0.3nm,0.2s,baz=230,slow=6.6,SNR=3.8
KURK Kurchatov 80.19 27 P **P 15 32 28.2 -1.1**
FINES FINESS Array B 81.38 356 LR LR 16 14 58.6
comp=Z,214nm,19.4s,baz=300,slow=40
ARCES ARCESS Array B 89.45 357 LR LR 16 18 34.0
comp=Z,277nm,19.7s,baz=56,slow=39
ASAR Alice Springs 90.06 115 P **P 15 33 19.5 -0.2**
comp=Z,0.2nm,0.9s,baz=255,slow=4.3,SNR=3.3
ASAR Alice Springs 90.06 115 P **P 15 33 19.5 -0.2**
STKA Stephens Creek 93.05 125 LR LR 16 08 32.3
comp=Z,221nm,19.3s,baz=205,slow=31
NVAR Mina Array Bea 150.31 314 PKP **PKPdf 15 40 05.6 -0.3**
comp=Z,1.1nm,1.1s,baz=60,slow=4.3,SNR=2.7
NVAR PKPbc **PKPbc 15 40 11.2 +0.2**
comp=Z,0.4nm,0.6s,baz=46,slow=2.6,SNR=4.0
NVAR Mina Array Bea 150.31 314 PKP **PKPdf 15 40 05.6 -0.3**
NVAR PKPbc **PKPbc 15 40 11.2 +0.2**

IDC 19 15:32:43.4±20.0, 14°69S×166°72E, h54km±88km, mb3.7/4, mb1 4.0/6, mb1mx3.6/20, mbtmp4.0/6, ML4.5/2, Error ellipse: s-maj=481.8km s-min=32.8km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.34**	**182**	P	Pn	15 34 28.5	+0.3
	4.6nm,0.3s,baz=14,slow=12,SNR=41						
DZM				S	Sn	15 35 43.4	-7.0
	1.1nm,0.3s,baz=86,slow=7.0,SNR=3.9						
DZM	**Mont Dzumac**	**7.34**	**182**	*e*P	Pn	15 34 26.2	-2.1
DZM				*e*S	Sn	15 35 39.3	-11
HNR	**Honiara**	**8.44**	**308**	P	Pn	15 34 42.9	-0.3
	10nm,0.3s,baz=208,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**28.62**	**229**	P	P	15 38 33.9	-1.0
	1.5nm,0.9s,baz=56,slow=3.6,SNR=6.3						
WRA	**Warramunga Arr**	**31.32**	**256**	P	P	15 38 58.8	-0.2
	0.6nm,0.8s,baz=83,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**32.19**	**249**	P	P	15 39 06.5	-0.1
	1.2nm,0.4s,baz=79,slow=8.9,SNR=62						
FITZ	**Fitzroy Crossi**	**39.50**	**259**	P	P	15 40 09.9	+0.8
	1.3nm,0.6s,baz=90,slow=8.1,SNR=3.3						

IDC 19 15:36:56.5±1.9, 2°24N×127°88E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=146.0km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**164**	P	P	15 42 03.0	+0.5
	1.0nm,0.3s,baz=344,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.41**	**168**	P	P	15 42 34.8	-0.3
	0.5nm,0.5s,baz=346,slow=7.6,SNR=26						
STKA	**Stephens Creek**	**36.34**	**160**	P	P	15 44 02.0	-0.3
	1.5nm,0.7s,baz=331,slow=7.0,SNR=6.4						
MKAR	**Makanchi Array**	**59.43**	**325**	P	P	15 47 01.2	+0.1
	0.1nm,0.6s,baz=109,slow=8.5,SNR=2.8						

*DDA **19** 15:46:57.0, 36°.35N×40°.98E, h7km, MD3.3*
*CSEM **19** 15:46:58.6±0.2, 36°.40N×40°.90E, h5km, ML2.4, Error ellipse: s-maj=5.5km s-min=4.2km az=134.0*
*NSSC **19** 15:46:58.3±1.2, 36°.39N×40°.78E, h51km±13km, MD2.2, ML2.4*

ISC 19 15:46:58.6±1.5, 36°38N±0°.03×40°96E±0°.04, h0km±11km, n20, σ1°04/39, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZRK	**Al-Mazaregh**	**0.60**	**204**	*e*P	**Pg**	**15 47 10.3**	**+0.1**
MZRK				*e*S	**Sb**	**15 47 19.6**	**-1.6**
MZRK				AML	AML	15 47 31.6	
	comp=Z,134nm,0.3s						
MZRK	**Al-Mazaregh**	**0.60**	**204**	*e*P	**Pg**	**15 47 10.3**	**+0.1**
	SNR=120						
MZRK				*e*S	**Sb**	**15 47 19.6**	**-1.6**
	comp=Z,134nm,0.3s,SNR=120						
SFNV	**Sufian**	**0.68**	**273**	*e*P	**Pg**	**15 47 11.1**	**-0.7**
SFNV				*e*S	**Sg**	**15 47 20.5**	**-0.1**
SFNV				AML	AML	15 47 31.3	
	comp=Z,143nm,0.4s						
SFNV	**Sufian**	**0.68**	**273**	*e*P	**Pg**	**15 47 11.1**	**-0.7**
	SNR=119						
SFNV				*e*S	**Sg**	**15 47 20.5**	**-0.1**
	comp=Z,143nm,0.4s,SNR=119						
KBSD	**Kabsdagh**	**0.70**	**332**	*e*P	**Pg**	**15 47 11.7**	**-0.5**
KBSD				*e*S	**Sg**	**15 47 20.6**	**-0.7**
KBSD				AML	AML	15 47 29.9	
	comp=Z,210nm,0.6s						
KBSD	**Kabsdagh**	**0.70**	**332**	*e*P	**Pg**	**15 47 11.7**	**-0.5**
	SNR=117						
KBSD				*e*S	**Sg**	**15 47 20.6**	**-0.7**
	comp=Z,210nm,0.6s,SNR=117						
MARD	**Mardin**	**0.94**	**351**	*i* P	**Pg**	**15 47 16.0**	**-0.8**
MARD				*i* S	**Sb**	**15 47 30.3**	**-0.8**
BEST	**Besiri**	**1.53**	**9**	*i* P	**Pn**	**15 47 26.4**	**-0.8**
BEST				*i* S	**Sn**	**15 47 47.9**	**-0.1**
SIRN	**S¯¯rnak**	**1.61**	**46**	*i* P	**Pn**	**15 47 27.8**	**-0.6**
SIRN				*i* S	**Sn**	**15 47 50.1**	**+0.1**
SIRN	**S¯¯rnak**	**1.61**	**46**	*i* P	**Pn**	**15 47 27.8**	**-0.6**
SIRN				*i* S	**Sn**	**15 47 50.1**	**+0.1**
KSRV	**Kasrt alli**	**1.66**	**253**	*e*P	**Pn**	**15 47 27.9**	**-1.1**
KSRV				*e*S	**Sn**	**15 47 49.9**	**-1.2**
KSRV				AML	AML	15 47 56.5	
	comp=Z,63nm,0.6s						
KSRV	**Kasrt alli**	**1.66**	**253**	*e*P	**Pn**	**15 47 27.9**	**-1.1**
	SNR=96						
KSRV				*e*S	**Sn**	**15 47 49.9**	**-1.2**
	comp=Z,63nm,0.6s,SNR=96						
DIYA	**Diyarbakir**	**1.68**	**337**	*i* P	**Pn**	**15 47 28.5**	**-0.8**
DIYA				*i* S	**Sb**	**15 47 51.5**	**-0.7**
DIYA	**Diyarbakir**	**1.68**	**337**	*i* P	**Pn**	**15 47 28.5**	**-0.8**
DIYA				*i* S	**Sb**	**15 47 51.5**	**-0.7**
HAKT	**HAKKARI**	**2.50**	**61**	*i* P	**Pn**	**15 47 40.5**	**-0.2**
HAKT				*i* S	**Sn**	**15 48 13.1**	**+1.1**
HAKT	**HAKKARI**	**2.50**	**61**	*i* P	**Pn**	**15 47 40.5**	**-0.2**
HAKT				*i* S	**Sn**	**15 48 13.1**	**+1.1**
GZT	**Gaziantep**	**2.89**	**291**	*i* P	**Pn**	**15 47 47.0**	**+1.0**
GZT				*i* S	**Sg**	**15 48 34.0**	**+2.5**
AKCD	**Akcadag**	**3.08**	**309**	*i* P	**Pn**	**15 47 47.5**	**-1.2**
AKCD				*i* S	**Sb**	**15 48 34.3**	**+1.6**
AKCD	**Akcadag**	**3.08**	**309**	*i* P	**Pn**	**15 47 47.5**	**-1.2**
COBT	**Iskenderun**	**3.79**	**274**	*i* P	**Pb**	**15 48 08.0**	**+1.5**
COBT				*i* S	**Sb**	**15 48 54.7**	**+1.6**

*PGC **19** 16:03:25.0±10.0, 61°.90N×142°.99W, h1km, ML3.9/2, 197km Ene of Valdez, Ak Southern Alaska*
*NEIC **19** 16:03:24.5, 61°.88N×142°.84W, h5km, ML3.6(AEIC), After AEIC.*
*IDC **19** 16:03:26.2±0.8, 62°.09N×142°.76W, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.5/31, mbtmp3.5/11, ML3.2/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/32, Error ellipse: s-maj=14.0km s-min=9.2km az=38.0*

ISC 19 16:03:23.4±1.3, 61°89N±0°.03×142°72W±0°.03, h0km±10km, n62, σ1°56/64, mb3.7/6, 4D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCARA	**McCarthy VSAT**	**0.53**	**196**	P	**Pg**	**16 03 34.1**	**+0.7**
MCARA				S	**Sg**	**16 03 41.2**	**+1.0**
BALM	**Baldy**	**0.87**	**168**	P	**Pg**	**16 03 40.4**	**+0.3**
MENT	**Mentasta**	**1.15**	**337**	*e*P	**Pb**	**16 03 45.1**	**-1.1**
HARP	**HAARP**	**1.26**	**296**	P	**Pn**	**16 03 46.9**	**-1.3**
HARP				S	**Sn**	**16 04 04.3**	**-1.6**
BCA3	**Beaver Creek A**	**1.26**	**20**	P	**Pg**	**16 03 48.7**	**+1.2**
BMRM	**Bremner River**	**1.29**	**225**	P	**Pn**	**16 03 46.7**	**-2.0**
ISLE	**Juniper Island**	**1.30**	**172**	P	**Pn**	**16 03 48.0**	**-1.0**
BAGL	**Bagley Icefiel**	**1.44**	**167**	P	**Pn**	**16 03 48.9**	**-1.7**
KHIT	**Khitrov Hills**	**1.47**	**190**	P	**Pn**	**16 03 49.6**	**-1.6**
KHIT				S	**Sn**	**16 04 09.5**	**-1.7**
BERG	**Berg Lake**	**1.57**	**198**	P	**Pn**	**16 03 51.5**	**-1.1**
KLU	**Klutina**	**1.58**	**257**	P	**Pn**	**16 03 51.6**	**-1.1**
GOAT	**Goat Mountain**	**1.63**	**217**	P	**Pn**	**16 03 52.5**	**-0.9**
GRIN	**Grindle Hills**	**1.64**	**191**	P	**Pn**	**16 03 52.6**	**-0.8**
TABL	**Table Mountain**	**1.64**	**152**	P	**Pn**	**16 03 53.7**	**0.0**
KULT	**Kultieth River**	**1.65**	**180**	P	**Pn**	**16 03 53.4**	**-0.2**
DIV	**Divide**	**1.65**	**244**	P	**Pn**	**16 03 52.2**	**-1.5**
PAX	**Paxson**	**1.68**	**312**	P	**Pn**	**16 03 53.5**	**-0.5**
RKAV	**Rock Avalanche**	**1.73**	**157**	P	**Pb**	**16 03 55.0**	**-1.1**
DOT	**Dot Lake**	**1.87**	**341**	P	**Pn**	**16 03 57.0**	**+0.3**
DDM	**Donnelly Dome**	**2.39**	**324**	P	**Pn**	**16 04 04.8**	**+0.9**
DHY	**Denali Highway**	**2.47**	**301**	P	**Pn**	**16 04 05.8**	**+0.8**
DAWY	**Dawson**	**2.66**	**33**	P	**Pn**	**16 04 08.9**	**+1.4**
DAWY	**Dawson**	**2.66**	**33**	⇓Pn	**Pn**	**16 04 08.9**	**+1.4**
DAWY				⇑Sg	**Sg**	**16 04 49.0**	**+0.2**
SML	**Sawmill**	**2.66**	**271**	*e*Pn	**Pb**	**16 04 09.2**	**-2.7**
PNL	**Peninsula**	**2.76**	**142**	*e*Pn	**Pb**	**16 04 11.4**	**-2.2**
EGAK	**Eagle**	**2.98**	**13**	*e*Pn	**Pn**	**16 04 13.3**	**+1.4**
PMR	**Palmer**	**3.06**	**267**	*e*Pn	**Pn**	**16 04 14.9**	**+1.9**
MCK	**McKinley**	**3.40**	**306**	*e*Pn	Pb	16 04 20.5	-4.0
IL1	**Eielson Array**	**3.45**	**329**	P	**Pn**	**16 04 17.8**	**-0.6**
ILAR	**Eielson Array**	**3.45**	**329**	Pn	**Pn**	**16 04 17.7**	**-0.6**
	1.0nm,0.3s,baz=152,slow=12,SNR=97						
ILAR				Pg	**Pb**	**16 04 23.2**	**-2.1**
	6.6nm,0.3s,baz=150,slow=14,SNR=80						
ILAR				Lg	Lg	16 05 11.3	
	16nm,0.3s,baz=147,slow=28,SNR=6.5						
ILAR	**Eielson Array**	**3.45**	**329**	Pn	**Pn**	**16 04 17.7**	**-0.6**
ILAR				Pg	**Pb**	**16 04 23.2**	**-2.1**
ILAR				Lg	Lg	16 05 11.3	
SEW	**Seward**	**3.73**	**244**	*e*Pn	**Pn**	**16 04 23.5**	**+1.3**
COLA	**College**	**3.78**	**325**	*e*Pn	**Pn**	**16 04 24.4**	**+1.5**
TRF	**Thorofare Moun**	**3.83**	**298**	*e*Pn	**Pn**	**16 04 25.5**	**+1.9**
SLKM	**Skilak Lake**	**3.88**	**252**	*e*Pn	Pn	16 04 26.7	+2.4
WHY	**Whitehorse**	**3.98**	**105**	⇑Pn	Pn	16 04 28.6	+2.9
WHY				⇑Pg	**Pg**	**16 04 38.0**	**-1.6**
WHY				⇑Sg	**Sg**	**16 05 32.5**	**+1.4**
SKAG	**Skagway**	**4.38**	**121**	*e*P	Pn	16 04 35.2	+4.2
PPLA	**Purkeypile**	**4.52**	**287**	*e*P	Pn	16 04 35.9	+2.7
RSO	**Redoubt South**	**5.06**	**258**	*e*P	**Pn**	**16 04 42.6**	**+1.9**
	74nm,0.6s						
COLD	**Coldfoot**	**6.25**	**332**	*e*P	**Pn**	**16 04 57.6**	**+0.8**
	7.6nm,0.4s						
KDAK	**Kodiak Island**	**6.45**	**235**	Pn	**Pn**	**16 05 00.9**	**+1.4**
	1.8nm,0.3s,baz=39,slow=9.7,SNR=14						
KDAK				Sn	**Sn**	**16 06 13.0**	**-0.7**
	baz=127,slow=20,SNR=2.8						
KDAK	**Kodiak Island**	**6.45**	**235**	Pn	**Pn**	**16 05 00.9**	**+1.4**
KDAK				Sn	**Sn**	**16 06 13.0**	**-0.7**
DLBC	**Dease Lake**	**7.21**	**113**	Pn	Pn	16 05 14.9	+4.9
	0.1nm,0.3s,baz=270,slow=18,SNR=2.8						
DLBC				Lg	Lg	16 07 21.6	
	1.3nm,0.3s,baz=215,slow=25,SNR=8.1						
DLBC				LR	LR	16 08 12.5	
	comp=Z,147nm,19.9s,baz=333,slow=39						
DLBC	**Dease Lake**	**7.21**	**113**	Pn	Pn	16 05 14.9	+4.9
DLBC				Lg	Lg	16 07 21.6	
DLBC	**Dease Lake**	**7.21**	**113**	⇓Sg	Sg	16 07 11.5	-3.6
INK	**Inuvik**	**7.51**	**27**	Pn	**Pn**	**16 05 14.2**	**+0.1**
	0.7nm,0.3s,baz=208,slow=14,SNR=16						
INK				Sn	**Sn**	**16 06 37.1**	**-2.7**
	1.1nm,0.3s,baz=185,slow=19,SNR=4.6						
INK				Lg	Lg	16 07 17.9	
	1.1nm,0.3s,baz=204,slow=10.0,SNR=5.3						
INK				LR	LR	16 08 38.1	
	comp=Z,127nm,18.9s,baz=304,slow=42						
INK	**Inuvik**	**7.51**	**27**	*e*P	**Pn**	**16 05 13.7**	**-0.4**
	5.3nm,0.6s						
INK				Sn	**Sn**	**16 06 37.1**	**-2.7**
INK				Lg	Lg	16 07 17.9	
INK	**Inuvik**	**7.51**	**27**	⇓Pn	**Pn**	**16 05 14.2**	**+0.1**
INK				⇓Sn	**Sn**	**16 06 36.4**	**-3.4**
INK				⇑Sg	**Sg**	**16 07 20.3**	**-4.1**
YKA	**Yellowknife Ar**	**13.10**	**75**	Pn	**Pn**	**16 06 32.2**	**+1.9**
	0.1nm,0.3s,baz=277,slow=13,SNR=8.1						
YKA	**Yellowknife Ar**	**13.10**	**75**	Pn	**Pn**	**16 06 32.2**	**+1.9**
RES	**Resolute Bay**	**21.00**	**33**	P	**P**	**16 08 08.1**	**+0.2**
	0.5nm,0.5s,baz=238,slow=9.5,SNR=3.0						
RES	**Resolute Bay**	**21.00**	**33**	P	**P**	**16 08 08.1**	**+0.2**
PDAR	**Pinedale Array**	**27.40**	**119**	P	**P**	**16 09 13.0**	**+2.4**
	0.3nm,0.7s,baz=337,slow=5.9,SNR=2.7						
PDAR	**Pinedale Array**	**27.40**	**119**	P	**P**	**16 09 12.9**	**+2.4**
SONM	**Songino Array**	**57.52**	**312**	P	P	16 13 17.0	+2.8
	0.5nm,0.9s,baz=23,slow=7.8,SNR=2.5						
SONM	**Songino Array**	**57.52**	**312**	P	P	16 13 17.0	+2.8
ZALV	**Zalesovo Beam**	**58.58**	**329**	P	**P**	**16 13 21.9**	**+0.6**
	0.4nm,0.3s,baz=15,slow=6.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**58.58**	**329**	P	**P**	**16 13 21.9**	**+0.6**
BVAR	**Borovoye Array**	**62.47**	**338**	P	P	16 13 51.3	+3.4
	0.6nm,0.7s,baz=33,slow=3.4,SNR=3.6						
BVAR	**Borovoye Array**	**62.47**	**338**	P	P	16 13 51.3	+3.4
MKAR	**Makanchi Array**	**65.81**	**328**	P	**P**	**16 14 10.3**	**+0.4**
	0.4nm,0.6s,baz=58,slow=7.5,SNR=5.0						
MKAR	**Makanchi Array**	**65.81**	**328**	P	**P**	**16 14 10.3**	**+0.4**

*BYKL **19** 16:07:52.5±0.7, 57°.43N×120°.85E*
*MOS **19** 16:07:53.9±1.1, 57°.37N×120°.77E, h4km, mb4.3/1, Error ellipse: s-maj=45.7km s-min=24.4km az=52.7*

ISC 19 16:07:50.4±1.4, 57°34N±0°.05×120°76E±0°.02, h0km±12km, n28, σ2°01/35, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.60**	**225**	*i* Pg	**Pn**	**16 08 05.8**	**-0.4**
KHNR				*e*Sg	**Sb**	**16 08 13.8**	**+1.1**
CRS	**Chara**	**1.43**	**253**	*e*P	**Pg**	**16 08 20.4**	**+2.7**
CRS				*e*		16 08 39.8	
CRS				pmax	pmax		
	comp=Z,150nm,1.1s						
CRS				smax	smax		
	comp=N,288nm,0.5s						
CRS	**Chara**	**1.43**	**253**	*e*Pg	**Pg**	**16 08 20.4**	**+2.7**
CRS				*e*Sg	**Sg**	**16 08 39.4**	**+3.2**
CRS				Pmax			
	comp=N,126nm,1.1s						
CRS				Smax			
	comp=N,170nm,0.7s						
CLNS	**Chul'man**	**2.31**	**101**	*e*P	**Pb**	**16 08 33.3**	**+0.3**
CLNS				*e*		16 09 02.9	
CLNS				pmax	pmax		
	comp=N,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.2s						
CLNS				smax	smax		
	comp=E,106nm,0.3s						
CLNS				smax	smax		
	comp=Z,77nm,0.4s						
CLNS				smax	smax		
	comp=N,183nm,0.4s						
CLNS	**Chul'man**	**2.31**	**101**	*e*Pg	**Pb**	**16 08 33.3**	**+0.3**
CLNS				*e*Sg	**Sb**	**16 09 02.9**	**+0.8**
IENR	**Iengra**	**2.52**	**115**	*e*Pn	**Pb**	**16 08 35.3**	**-1.2**
IENR				*e*Pg	**Pg**	**16 08 38.2**	**-0.4**
IENR				*e*Sg	**Sb**	**16 09 09.2**	**+1.2**
NLYR	**Nelyaty**	**2.90**	**255**	*e*P	**Pb**	**16 08 41.4**	**-1.5**
NLYR				*e*		16 09 22.7	
NLYR				pmax	pmax		
	comp=Z,40nm,0.5s						
NLYR				smax	smax		
	comp=N,244nm,1.3s						
NLYR	**Nelyaty**	**2.90**	**255**	⇑*i*Pn	**Pb**	**16 08 41.5**	**-1.5**
NLYR				*e*Pg	**Pg**	**16 08 46.3**	**+0.4**
NLYR				*e*Sg	**Sg**	**16 09 22.9**	**-0.5**
NLYR				Pmax			
	comp=N,26nm,0.7s						
NLYR				Smax			
	comp=N,202nm,1.0s						
TUP	**Tupik**	**2.96**	**189**	*e*P	**Pb**	**16 08 42.2**	**-1.8**
TUP				*e*		16 09 26.2	
TUP				pmax	pmax		
	comp=Z,43nm,0.5s						
TUP				smax	smax		
	comp=E,220nm,0.6s						
TUP	**Tupik**	**2.96**	**189**	*e*Pn	**Pb**	**16 08 41.8**	**-2.2**
TUP				*e*Pg	**Pg**	**16 08 46.8**	**-0.2**
TUP				*e*Sg	**Sg**	**16 09 26.1**	**+0.8**
TUP				Pmax			
	comp=E,41nm,0.5s						
TUP				Smax			
	comp=E,217nm,0.5s						
TNDR	**Tynda**	**3.12**	**133**	*e*Pn	Pn	16 08 43.9	+3.1
TNDR				*e*Pg	**Pg**	**16 08 50.3**	**+0.2**
TNDR				*e*Sn	**Sn**	**16 09 21.0**	**+2.2**
TNDR				*e*Sg	**Sg**	**16 09 30.6**	**+0.1**
BOD	**Bodaibo**	**3.67**	**280**	*e*Pn	Pn	16 08 51.3	+3.0
BOD				*e*Pg	**Pb**	**16 08 57.7**	**+1.7**
BOD				*e*Sg	**Sg**	**16 09 45.0**	**-3.1**
BOD				Pmax			
	comp=E,2.0nm,0.2s						
BOD				Smax			
	comp=E,38nm,0.6s						
UKT	**Uakit**	**4.37**	**248**	*e*P	Pn	16 09 02.0	+4.0
UKT				*e*S	**Sn**	**16 09 49.9**	**+0.1**
UKT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
UKT				smax	smax		
	comp=N,91nm,0.9s						
UKT	**Uakit**	**4.37**	**248**	*e*Pn	Pn	16 09 02.1	+4.0
UKT				*e*Pg	**Pg**	**16 09 13.0**	**-1.1**
UKT				*i* Sg	**Sg**	**16 10 10.0**	**-0.8**
UKT				Pmax			
	comp=N,2.0nm,0.7s						
UKT				Smax			
	comp=N,54nm,1.1s						
KROS	**Kirovskiy**	**4.55**	**127**	*e*Pn	**Pn**	**16 08 59.5**	**-1.0**
KROS				*e*Pg	**Pb**	**16 09 12.0**	**+0.9**
KROS				*e*Sn	**Sn**	**16 09 52.0**	**-2.1**
KROS				*i* Sg	**Sb**	**16 10 12.0**	**+5.5**
KROS				Pmax			
	comp=N,6.0nm,0.6s						
KROS				Smax			
	comp=N,11nm,0.5s						
ZEA	**Zeya**	**5.16**	**132**	*e*Pn	**Pn**	**16 09 09.1**	**+0.3**
ZEA				*e*Pg	Pb	16 09 25.1	+3.7
ZEA				*e*Sn	**Sn**	**16 10 05.1**	**-3.9**
ZEA				*e*Sg	Sg	16 10 31.4	-4.6
ZEA				Pmax			
	comp=N,10.0nm,0.4s						
ZEA				Smax			
	comp=N,150nm,0.9s						
KMO	**Kumora**	**5.48**	**259**	*e*Pg	Pb	16 09 31.2	+4.4
KMO				*e*Sg	**Sg**	**16 10 42.9**	**-3.2**
KMO				Pmax			
	comp=N,5.0nm,0.8s						
KMO				Smax			
	comp=N,48nm,0.9s						
YLYR	**Ulyunkhan**	**5.91**	**249**	*e*P	Pb	16 09 39.2	+5.0
YLYR				pmax	pmax		
	comp=Z,4.0nm,0.1s						
YLYR	**Ulyunkhan**	**5.91**	**249**	*e*Sg	Sg	16 10 58.3	-1.9
YLYR				Smax			
	comp=Z,13nm,1.0s						
NIZ	**Nizh Angarsk**	**6.40**	**261**	*e*Sg	Sg	16 11 13.5	-2.3
YAK	**Yakutsk**	**6.52**	**40**	*e*P	**Pb**	**16 09 44.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YAK				MLR	MLR		
	comp=Z,16nm,6.0s						
CIT	**Chita**	**6.77**	**221**	*e*Sg	Sg	16 11 25.1	-2.8
CIT				Smax			
	comp=Z,48nm,0.5s						
SYVR	**Suvo**	**7.14**	**243**	*e*Sg	Sg	16 11 36.4	-3.1
SYVR				Smax			
	comp=Z,40nm,1.7s						
MXMB	**Maximikha**	**7.98**	**244**	*e*Sg	Sg	16 12 04.1	-2.3
MXMB				Smax			
	comp=Z,93nm,1.1s						
OGRR	**Ongureny**	**8.34**	**249**	*e*Sg	Sg	16 12 12.7	-5.3
OGRR				Smax			
	comp=Z,6.0nm,0.9s						
KPC	**Khapcheranga**	**9.13**	**217**	*e*Sg		16 12 36.0	
KP

IDC 19 16:10:33.5±6.2, 31°24S×178°38W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=245.0km s-min=60.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.74**	**268**	P	P	16 18 32.2	-0.6
	0.7nm,0.7s,baz=110,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	**43.81**	**273**	P	P	16 18 41.7	+0.3
	0.7nm,0.4s,baz=114,slow=8.0,SNR=13						
FINES	**FINESS Array B**	**145.81**	**339**	PKPbc	PKPdf	16 30 12.9	-0.4
	1.4nm,0.7s,baz=56,slow=2.5,SNR=3.8						

*IDC **19** 16:11:22.3±0.9, 17°.20N×101°.02W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.2/23, mbtmp4.2/10, ML2.8/1, MS3.9/4, Ms1 3.8/4, ms1mx3.4/31, Error ellipse: s-maj=33.6km s-min=19.2km az=69.0*

*NEIC **19** 16:11:26.3, 17°.24N×101°.41W, h5km, mb4.3/22, MD4.6(MEX), After MEX.*

NEIC Felt at Ixtapa.

*MEX **19** 16:11:26.3±0.6, 17°.24N×101°.41W, h5km, MD4.6*

ISC 19 16:11:24.9±1.1, 17°22N±0°04×101°36W±0°03, h15km±6km, n341, σ1§09/578, mb4.4/25, MS3.6/3, 232C-210D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**346**	*i* P	**Pg**	**16 11 32.6**	**-0.3**
ZIIG				*i* S	**Sg**	**16 11 38.1**	**-0.3**
ZIIG	**Zihuatanejo**	**0.40**	**346**	*i* P	**Pg**	**16 11 32.6**	**-0.3**
ZIIG				*i* S	**Sg**	**16 11 38.1**	**-0.3**
CAIG	**El Cayaco**	**1.06**	**99**	*eP*	**Pb**	**16 11 44.0**	**-0.9**
CAIG				*i* S	**Sg**	**16 11 58.5**	**-0.8**
CAIG	**El Cayaco**	**1.06**	**99**	*eP*	**Pb**	**16 11 44.0**	**-0.9**
CAIG				*i* S	**Sg**	**16 11 58.5**	**-0.8**
ACX	**Acapulco**	**1.48**	**103**	*i* P	**Pn**	**16 11 50.0**	**-1.0**
ACX	**Acapulco**	**1.48**	**103**	*i* P	**Pn**	**16 11 50.0**	**-1.0**
MEIG	**Mezcala**	**1.81**	**67**	*eP*	**Pn**	**16 11 55.7**	**+0.2**
MEIG				*i* S	**Sn**	**16 12 18.0**	**-0.2**
MEIG	**Mezcala**	**1.81**	**67**	*eP*	**Pn**	**16 11 55.7**	**+0.2**
MEIG				*i* S	**Sn**	**16 12 18.0**	**-0.2**
PLIG	**Platanillo**	**2.12**	**56**	*eP*	**Pn**	**16 12 00.1**	**+0.2**
PLIG				*i* S	**Sn**	**16 12 26.0**	**0.0**
PLIG	**Platanillo**	**2.12**	**56**	*eP*	**Pn**	**16 12 00.1**	**+0.2**
PLIG				*i* S	**Sn**	**16 12 26.0**	**0.0**
MMIG	**Aquila**	**2.17**	**300**	*eP*	**Pn**	**16 11 58.6**	**-1.7**
MMIG				*i* S	**Sn**	**16 12 25.7**	**-1.3**
MMIG	**Aquila**	**2.17**	**300**	*eP*	**Pn**	**16 11 58.6**	**-1.7**
MMIG				*i* S	**Sn**	**16 12 25.7**	**-1.3**
MOIG	**Morelia**	**2.45**	**4**	*eP*	**Pn**	**16 12 03.7**	**-0.8**
MOIG				*i* S	**Sn**	**16 12 33.5**	**-0.8**
MOIG	**Morelia**	**2.45**	**4**	*eP*	**Pn**	**16 12 03.7**	**-0.8**
MOIG				*i* S	**Sn**	**16 12 33.5**	**-0.8**
YAIG	**Yautepec**	**2.73**	**53**	*eP*	**Pn**	**16 12 08.0**	**-0.2**
YAIG				*i* S	**Sn**	**16 12 41.7**	**+0.7**
YAIG	**Yautepec**	**2.73**	**53**	*eP*	**Pn**	**16 12 08.0**	**-0.2**
YAIG				*i* S	**Sn**	**16 12 41.7**	**+0.7**
MZVM		**2.82**	**46**	*eP*	**Pn**	**16 12 10.9**	**+0.9**
MZVM				*i* S	**Sn**	**16 12 42.6**	**-0.5**
UNM	**Universidad Na**	**2.95**	**44**	*i* P	**Pn**	**16 12 12.1**	**+0.6**
UNM				*i* S	**Sn**	**16 12 47.8**	**+1.1**
UNM	**Universidad Na**	**2.95**	**44**	*i* P	**Pn**	**16 12 12.1**	**+0.6**
UNM				*i* S	**Sn**	**16 12 47.8**	**+1.1**
EZ5V		**3.09**	**317**	*eP*	**Pn**	**16 12 13.6**	**+0.2**
EZ5V				*i* S	**Sn**	**16 12 50.1**	**-0.2**
PBVM	**Pinon**	**3.09**	**44**	*i* P	**Pn**	**16 12 12.6**	**-0.6**
PBVM				*i* S	**Sn**	**16 12 50.4**	**+0.5**
PBVM	**Pinon**	**3.09**	**44**	*i* P	**Pn**	**16 12 12.6**	**-0.6**
PBVM				*i* S	**Sn**	**16 12 50.4**	**+0.5**
R15V		**3.16**	**308**	*eP*	**Pn**	**16 12 13.3**	**-0.8**
R15V				*i* S	**Sn**	**16 12 50.3**	**-1.2**
PTVM	**Pico Tres Padr**	**3.18**	**42**	*eP*	**Pn**	**16 12 15.2**	**+0.6**
PTVM				*i* S	**Sn**	**16 12 52.2**	**-0.3**
PTVM	**Pico Tres Padr**	**3.18**	**42**	*eP*	**Pn**	**16 12 15.2**	**+0.6**
PTVM				*i* S	**Sn**	**16 12 52.2**	**-0.3**
PPM	**Popocatepetl**	**3.19**	**54**	*eP*	**Pn**	**16 12 15.1**	**+0.2**
PPM	**Popocatepetl**	**3.19**	**54**	*eP*	**Pn**	**16 12 15.1**	**+0.2**
PNIG	**Pinotepa**	**3.21**	**104**	*eP*	**Pn**	**16 12 14.6**	**-0.2**
PNIG	**Pinotepa**	**3.21**	**104**	*eP*	**Pn**	**16 12 14.6**	**-0.2**
IIO	**Organos**	**3.44**	**46**	*eP*	**Pn**	**16 12 18.1**	**-0.2**
IIO				*i* S	**Sn**	**16 12 59.0**	**0.0**
IIO	**Organos**	**3.44**	**46**	*eP*	**Pn**	**16 12 18.1**	**-0.2**
IIO				*i* S	**Sn**	**16 12 59.0**	**0.0**
UTMO	**Huajuapan**	**3.45**	**79**	*i* P	**Pn**	**16 12 19.2**	**+0.9**
UTMO				*i* S	**Sn**	**16 12 59.4**	**+0.4**
UTMO	**Huajuapan**	**3.45**	**79**	*i* P	**Pn**	**16 12 19.2**	**+0.9**
UTMO				*i* S	**Sn**	**16 12 59.4**	**+0.4**
SFJM	**Santa Fe**	**3.62**	**334**	*i* P	**Pn**	**16 12 22.0**	**+1.5**
SFJM	**Santa Fe**	**3.62**	**334**	*i* P	**Pn**	**16 12 22.0**	**+1.5**
DEIG	**Demacu**	**3.78**	**35**	*eP*	**Pn**	**16 12 22.3**	**-0.5**
DEIG				*i* S	**Sn**	**16 13 07.8**	**+0.7**
DEIG	**Demacu**	**3.78**	**35**	*eP*	**Pn**	**16 12 22.3**	**-0.5**
DEIG				*i* S	**Sn**	**16 13 07.8**	**+0.7**
TPIG	**Tehuac#an**	**4.00**	**72**	*i* P	**Pn**	**16 12 26.5**	**+0.8**
TPIG				*i* S	**Sn**	**16 13 12.6**	**+0.2**
TPIG	**Tehuac#an**	**4.00**	**72**	*i* P	**Pn**	**16 12 26.5**	**+0.8**
TPIG				*i* S	**Sn**	**16 13 12.6**	**+0.2**
CJM	**Chamela**	**4.17**	**304**	*eP*	**Pn**	**16 12 27.2**	**-0.7**
CJM				*i* S	**Sn**	**16 13 15.3**	**-1.0**
CJM	**Chamela**	**4.17**	**304**	*eP*	**Pn**	**16 12 27.2**	**-0.7**
CJM				*i* S	**Sn**	**16 13 15.3**	**-1.0**
VHO	**Vista Hermosa**	**4.43**	**91**	*i* P	**Pn**	**16 12 33.3**	**+1.6**
VHO				*i* S	**Sn**	**16 13 23.6**	**+0.5**
VHO	**Vista Hermosa**	**4.43**	**91**	*i* P	**Pn**	**16 12 33.3**	**+1.6**
VHO				*i* S	**Sn**	**16 13 23.6**	**+0.5**
ANIG	**Ahuacatlan**	**4.84**	**322**	*i* P	**Pn**	**16 12 38.7**	**+1.4**
ANIG	**Ahuacatlan**	**4.84**	**322**	*i* P	**Pn**	**16 12 38.7**	**+1.4**
HUIG	**Huatulco**	**5.24**	**105**	*i* P	**Pn**	**16 12 43.9**	**+1.2**
HUIG				*i* S	**Sn**	**16 13 43.6**	**+0.6**
HUIG	**Huatulco**	**5.24**	**105**	*i* P	**Pn**	**16 12 43.9**	**+1.2**
HUIG				*i* S	**Sn**	**16 13 43.6**	**+0.6**
ZAIG	**Zacatecas**	**5.64**	**349**	*i* P	Pn	16 12 53.1	+4.7
ZAIG				*i* S	**Sn**	**16 13 50.3**	**-2.7**
ZAIG	**Zacatecas**	**5.64**	**349**	*i* P	Pn	16 12 53.1	+4.7
ZAIG				*i* S	**Sn**	**16 13 50.3**	**-2.7**
CMIG	**Matias Romero**	**6.20**	**90**	Pn	**Pn**	**16 12 56.5**	**+0.7**
	2.8nm,0.3s,baz=265,slow=10,SNR=18						
CMIG				Lg	Lg	16 14 39.4	
	18nm,0.3s,baz=196,slow=19,SNR=9.4						
CMIG	**Matias Romero**	**6.20**	**90**	*i* P	**Pn**	**16 12 56.5**	**+0.7**
CMIG				Lg	Lg	16 14 39.4	
CMIG	**Matias Romero**	**6.20**	**90**	*i* P	**Pn**	**16 12 56.5**	**+0.7**
PCIG		**7.96**	**100**	*i* P	**Pn**	**16 13 22.8**	**+2.8**
PCIG		**7.96**	**100**	*i* P	**Pn**	**16 13 22.8**	**+2.8**
CCIG	**Comitan**	**8.89**	**95**	*i* P	**Pn**	**16 13 33.5**	**+0.6**
CCIG	**Comitan**	**8.89**	**95**	*i* P	**Pn**	**16 13 33.5**	**+0.6**
TXAR	**Lajitas Array**	**12.24**	**350**	Pn	**Pn**	**16 14 21.6**	**+2.8**
	0.0nm,0.3s,baz=164,slow=14,SNR=4.1						
TXAR				Lg	Lg	16 17 52.2	
	0.1nm,0.3s,baz=162,slow=28,SNR=4.2						
TXAR				LR	LR	16 19 35.0	
	comp=Z,805nm,18.6s,baz=240,slow=40						
TXAR	**Lajitas Array**	**12.24**	**350**	Pn	**Pn**	**16 14 21.6**	**+2.8**
TXAR				Lg	Lg	16 17 52.2	
628A	**Black Gap, Mar**	**12.29**	**354**	⇑P	Pn	16 14 28.9	+9.4
	baz=12						
628A				⇑P	Pn	16 14 28.9	+9.4
	baz=12						
627A	**Terlingua Ranc**	**12.32**	**352**	⇑P	Pn	16 14 29.1	+9.3
	baz=12,SNR=6.6						
627A				⇑P	Pn	16 14 29.1	+9.3
	baz=12,SNR=6.6						
626A	**Big Bend Ranch**	**12.54**	**349**	⇓P	Pn	16 14 31.6	+8.7
	baz=13						
626A				⇓P	Pn	16 14 31.6	+8.7
	baz=13						
TEIG	**Tepich**	**12.75**	**74**	Sn	**Sn**	**16 16 43.9**	**-3.6**
	0.2nm,0.3s,baz=163,slow=20,SNR=3.3						
TEIG	**Tepich**	**12.75**	**74**	Sn	**Sn**	**16 16 43.9**	**-3.6**
528A	**Cox Ranch, San**	**12.95**	**354**	⇑P	Pn	16 14 37.2	+8.7
	baz=13						
528A				⇑P	Pn	16 14 37.2	+8.7
	baz=13						
526A	**Mary Lane Ranc**	**13.02**	**349**	⇓P	**P**	**16 14 37.8**	**-2.1**
	baz=13,SNR=7.0						
526A				⇓P	**P**	**16 14 37.8**	**-2.1**
	baz=13,SNR=7.0						
527A	**Woodward Ranch**	**13.03**	**351**	⇑P	**P**	**16 14 37.9**	**-2.1**
	baz=13,SNR=5.3						
527A				⇑P	**P**	**16 14 37.9**	**-2.1**
	baz=13,SNR=5.3						
428A	**Kincaid Ranch,**	**13.50**	**355**	⇓P	**P**	**16 14 43.2**	**-2.0**
	baz=14,SNR=11						
428A				⇓P	**P**	**16 14 43.2**	**-2.0**
	baz=14,SNR=11						
426A	**McDonald Obser**	**13.61**	**350**	⇓P	**P**	**16 14 44.8**	**-1.7**
	baz=14,SNR=15						
426A				⇓P	**P**	**16 14 44.8**	**-1.7**
	baz=14,SNR=15						
427A	**Hayter Ranch,**	**13.70**	**353**	⇑P	**P**	**16 14 46.5**	**-0.8**
	baz=14,SNR=6.2						
427A				⇑P	**P**	**16 14 46.5**	**-0.8**
	baz=14,SNR=6.2						
425A	**Indio Mountain**	**13.90**	**347**	⇓P	**P**	**16 14 49.1**	**-0.6**
	baz=14						
425A				⇓P	**P**	**16 14 49.1**	**-0.6**
	baz=14						
328A	**Wristen Ranch,**	**14.16**	**355**	⇑P	**P**	**16 14 52.5**	**0.0**
	baz=14						
328A				⇑P	**P**	**16 14 52.5**	**0.0**
	baz=14						
326A	**Caldwell Ranch**	**14.23**	**351**	⇑P	**P**	**16 14 52.5**	**-0.8**
	baz=14,SNR=11						
326A				⇑P	**P**	**16 14 52.5**	**-0.8**
	baz=14,SNR=11						
CGIG		**14.41**	**336**	*i* P	**P**	**16 14 54.7**	**-0.7**
CGIG		**14.41**	**336**	*i* P	**P**	**16 14 54.7**	**-0.7**
325A	**Bean Ranch, Si**	**14.47**	**348**	⇓P	**P**	**16 14 55.4**	**-0.6**
	baz=14,SNR=9.9						
325A				⇓P	**P**	**16 14 55.4**	**-0.6**
	baz=14,SNR=9.9						
324A	**Moseley Ranch,**	**14.65**	**346**	⇑P	**P**	**16 14 57.4**	**-0.6**
	baz=15,SNR=14						
324A				⇑P	**P**	**16 14 57.4**	**-0.6**
	baz=15,SNR=14						
MNTX	**Cornudas Mount**	**14.87**	**347**	*eP*	**P**	**16 15 01.0**	**+0.7**
	5.1nm,1.0s						
226A	**Malaga, Loving**	**14.98**	**351**	⇓P	**P**	**16 15 02.6**	**+0.9**
	baz=15,SNR=9.6						
226A				⇓P	**P**	**16 15 02.6**	**+0.9**
	baz=15,SNR=9.6						
CLNB	**Carlsbad**	**15.15**	**352**	*eP*	**P**	**16 15 03.9**	**+0.4**
	5.8nm,1.1s						
225A	**Deer Hill, Car**	**15.15**	**349**	⇑P	**P**	**16 15 02.4**	**-1.2**
	baz=15,SNR=13						
225A				⇑P	**P**	**16 15 02.4**	**-1.2**
	baz=15,SNR=13						
GDL2	**Guadalupe Moun**	**15.16**	**350**	*eP*	**P**	**16 15 03.4**	**-0.3**
	58nm,0.9s						
224A	**Cornudas Mount**	**15.26**	**346**	⇑P	**P**	**16 15 03.4**	**-1.5**
	baz=15,SNR=10						
224A				⇑P	**P**	**16 15 03.4**	**-1.5**
	baz=15,SNR=10						
127A	**Arkansas Junct**	**15.50**	**354**	⇓P	**P**	**16 15 06.9**	**-0.5**
	baz=16						
127A				⇓P	**P**	**16 15 06.9**	**-0.5**
	baz=16						
319A	**Douglas**	**15.82**	**334**	⇓P	**P**	**16 15 12.2**	**+1.2**
	baz=16						
319A				⇓P	**P**	**16 15 12.2**	**+1.2**
	baz=16						
124A	**Stringfield Ra**	**15.85**	**347**	⇓P	**P**	**16 15 11.6**	**+0.1**
	baz=16,SNR=12						
124A				⇓P	**P**	**16 15 11.6**	**+0.1**
	baz=16,SNR=12						
CPRX	**Cap Rock**	**15.90**	**352**	*eP*	**Pn**	**16 15 10.7**	**+2.4**
	22nm,1.1s						
220A	**Playas Peak, P**	**16.00**	**337**	⇓P	**P**	**16 15 13.4**	**+0.4**
	baz=16						
220A				⇓P	**P**	**16 15 13.4**	**+0.4**
	baz=16						
Z27A	**Tatum**	**16.11**	**354**	⇓P	**Pn**	**16 15 12.9**	**+1.9**
	baz=16,SNR=11						
Z27A				⇓P	**Pn**	**16 15 12.9**	**+1.9**
	baz=16,SNR=11						
Z26A	**Caprock**	**16.16**	**352**	⇓P	**P**	**16 15 14.9**	**+0.2**
	baz=16,SNR=10						
Z26A				⇓P	**P**	**16 15 14.9**	**+0.2**
	baz=16,SNR=10						
318A	**Bisbee**	**16.18**	**333**	⇓P	**P**	**16 15 16.7**	**+1.7**
	baz=16						
318A				⇓P	**P**	**16 15 16.7**	**+1.7**
	baz=16						
Z25A	**Roswell**	**16.27**	**350**	⇑P	**P**	**16 15 15.8**	**-0.2**
	baz=16						
Z25A				⇑P	**P**	**16 15 15.8**	**-0.2**
	baz=16						
121A	**Cookes Peak, D**	**16.31**	**340**	⇓P	**P**	**16 15 17.3**	**+0.7**
	baz=16						
121A				⇓P	**P**	**16 15 17.3**	**+0.7**
	baz=16						
219A	**White Tail Can**	**16.36**	**336**	⇓P	**P**	**16 15 18.4**	**+1.3**
	baz=16						
219A				⇓P	**P**	**16 15 18.4**	**+1.3**
	baz=16						
Z24A	**Sheeppen Canyo**	**16.44**	**348**	⇑P	**P**	**16 15 19.2**	**+1.2**
	baz=16,SNR=7.9						
Z24A				⇑P	**P**	**16 15 19.2**	**+1.2**
	baz=16,SNR=7.9						
Z23A	**Rita Site, Whi**	**16.57**	**346**	⇑P	**P**	**16 15 20.0**	**+0.8**
	baz=17						
Z23A				⇑P	**P**	**16 15 20.0**	**+0.8**
	baz=17						
120A	**U Bar Ranch, L**	**16.61**	**338**	⇑P	**P**	**16 15 20.4**	**+0.6**
	baz=17						
120A				⇑P	**P**	**16 15 20.4**	**+0.6**
	baz=17						
218A	**Dragoon**	**16.66**	**333**	⇓P	**P**	**16 15 22.4**	**+2.0**
	baz=17						
218A				⇓P	**P**	**16 15 22.4**	**+2.0**
	baz=17						
Y27A	**Causey**	**16.67**	**355**	⇑P	**P**	**16 15 20.1**	**-0.4**
	baz=17						
Y27A				⇑P	**P**	**16 15 20.1**	**-0.4**
	baz=17						
MSTX	**Muleshoe**	**16.73**	**356**	⇑P	**P**	**16 15 21.8**	**+0.8**
	baz=17,SNR=6.2						
MSTX				⇑P	**P**	**16 15 21.8**	**+0.8**
	baz=17,SNR=6.2						
Z22A	**Elephant Butte**	**16.75**	**344**	⇑P	**P**	**16 15 22.4**	**+1.1**
	baz=17,SNR=6.9						
Z22A				⇑P	**P**	**16 15 22.4**	**+1.1**
	baz=17,SNR=6.9						
Y26A	**Elida**	**16.78**	**353**	⇓P	**P**	**16 15 22.4**	**+0.8**
	baz=17,SNR=5.4						
Y26A				⇓P	**P**	**16 15 22.4**	**+0.8**
	baz=17,SNR=5.4						
Y25A	**Mesa, Roswell**	**16.90**	**350**	⇑P	**P**	**16 15 23.2**	**+0.2**
	baz=17						
Y25A				⇑P	**P**	**16 15 23.2**	**+0.2**
	baz=17						
Z21A	**St. Cloud Mine**	**17.00**	**342**	⇑P	**P**	**16 15 26.5**	**+2.4**
	baz=17,SNR=6.6						
Z21A				⇑P	**P**	**16 15 26.5**	**+2.4**
	baz=17,SNR=6.6						
Y24A	**Capitan**	**17.03**	**348**	⇓P	**P**	**16 15 25.9**	**+1.4**
	baz=17,SNR=7.8						
Y24A				⇓P	**P**	**16 15 25.9**	**+1.4**
	baz=17,SNR=7.8						
Z20A	**Nine Sixteen R**	**17.11**	**339**	⇓P	**P**	**16 15 27.0**	**+1.6**
	baz=17						
Z20A				⇓P	**P**	**16 15 27.0**	**+1.6**
	baz=17						
Y22A	**Socorro**	**17.39**	**344**	⇑P	**P**	**16 15 29.9**	**+1.5**
	baz=17,SNR=9.4						
Y22A				⇑P	**P**	**16 15 29.9**	**+1.5**
	baz=17,SNR=9.4						
X26A	**CR and CF Fran**	**17.40**	**353**	⇓P	**P**	**16 15 29.5**	**+1.0**
	baz=17						
X26A				⇓P	**P**	**16 15 29.5**	**+1.0**
	baz=17						
X27A	**F and S Farms,**	**17.43**	**355**	⇑P	**P**	**16 15 30.1**	**+1.3**
	baz=18						
X27A				⇑P	**P**	**16 15 30.1**	**+1.3**
	baz=18						
BNM	**Barren Site**	**17.51**	**345**	*eP*	**P**	**16 15 30.3**	**+0.5**
	4.2nm,1.0s						
AMTX	**Amarillo**	**17.59**	**359**	*eP*	**Pn**	**16 15 29.5**	**-0.2**
	5.8nm,0.5s						
AMTX	**Amarillo**	**17.59**	**359**	⇑P	**Pn**	**16 15 30.1**	**+0.5**
	baz=18						
AMTX				⇑P	**Pn**	**16 15 30.1**	**+0.5**
	baz=18						
AMTX				⇑P	**Pn**	**16 15 30.1**	**+0.5**
	baz=18						
LENM	**Lemitar**	**17.61**	**344**	*eP*	**P**	**16 15 32.5**	**+1.6**
	10.0nm,1.1s						
Y21A	**Point of Rocks**	**17.65**	**342**	⇑P	**P**	**16 15 32.3**	**+0.9**
	baz=18						
Y21A				⇑P	**P**	**16 15 32.3**	**+0.9**
	baz=18						
X24A	**Lazy VL Ranch,**	**17.65**	**349**	⇑P	**Pn**	**16 15 30.3**	**-0.2**
	baz=18						
X24A				⇑P	**Pn**	**16 15 30.3**	**-0.2**
	baz=18						
LPM	**Los Pinos Moun**	**17.66**	**345**	*eP*	**P**	**16 15 33.8**	**+2.3**
	6.0nm,1.1s						
Y20A	**Horse Springs,**	**17.77**	**341**	⇑P	**P**	**16 15 34.0**	**+1.3**
	baz=18						
Y20A				⇑P	**P**	**16 15 34.0**	**+1.3**
	baz=18						
X23A	**Hourglass Bar**	**17.82**	**347**	⇓P	**P**	**16 15 34.1**	**+0.9**
	baz=18						
X23A				⇓P	**P**	**16 15 34.1**	**+0.9**
	baz=18						
214A	**Organ Pipe Nat**	**17.97**	**327**	⇑P	**P**	**16 15 37.2**	**+2.5**
	baz=18						
214A				⇑P	**P**	**16 15 37.2**	**+2.5**
	baz=18						
Z17A	**San Carlos Hig**	**17.99**	**335**	⇓P	**P**	**16 15 36.8**	**+1.9**
	baz=18						
Z17A				⇓P	**P**	**16 15 36.8**	**+1.9**
	baz=18						
X21A	**Alamocita Cree**	**18.09**	**343**	⇑P	**P**	**16 15 37.0**	**+0.7**
	baz=18						
X21A				⇑P	**P**	**16 15 37.0**	**+0.7**
	baz=18						
Y19A	**Nutrioso**	**18.11**	**338**	⇑P	**P**	**16 15 37.6**	**+1.1**
	baz=18						
Y19A				⇑P	**P**	**16 15 37.6**	**+1.1**
	baz=18						
W25A	**X Bar L Ranch,**	**18.14**	**352**	⇓P	**Pn**	**16 15 36.8**	**+0.4**
	baz=18,SNR=7.8						
W25A				⇓P	**Pn**	**16 15 36.8**	**+0.4**
	baz=18,SNR=7.8						
W24A	**Lazy 6 Ranch,**	**18.28**	**349**	⇓P	**P**	**16 15 39.3**	**+1.0**
	baz=18,SNR=15						
W24A				⇓P	**P**	**16 15 39.3**	**+1.0**
	baz=18,SNR=15						
W23A	**Werner Place,**	**18.37**	**347**	⇑P	**P**	**16 15 40.0**	**+0.7**
	baz=18						
W23A				⇑P	**P**	**16 15 40.0**	**+0.7**
	baz=18						
X20A	**Quemado**	**18.39**	**341**	⇑P	**Pn**	**16 15 40.5**	**+0.9**
	baz=18						
X20A				⇑P	**Pn**	**16 15 40.5**	**+0.9**
	baz=18						
Y17A	**Roosevelt**	**18.49**	**334**	⇓P	**Pn**	**16 15 42.8**	**+2.2**
	baz=18,SNR=5.3						
Y17A				⇓P	**Pn**	**16 15 42.8**	**+2.2**
	baz=18,SNR=5.3						
X19A	**St. Johns**	**18.55**	**339**	⇑P	**Pn**	**16 15 42.7**	**+1.3**
	baz=19						
X19A				⇑P	**Pn**	**16 15 42.7**	**+1.3**
	baz=19						
114A	**Black Gap (USA**	**18.64**	**328**	⇓P	**Pn**	**16 15 44.6**	**+2.3**
	baz=19,SNR=6.2						
114A				⇓P	**Pn**	**16 15 44.6**	**+2.3**
	baz=19,SNR=6.2						
V24A	**Rampart Ranch,**	**18.76**	**350**	⇑P	**P**	**16 15 44.5**	**+1.0**
	baz=19,SNR=9.0						
V24A				⇑P	**P**	**16 15 44.5**	**+1.0**
	baz=19,SNR=9.0						
W20A	**Ramah**	**18.94**	**342**	⇑P	**P**	**16 15 46.6**	**+1.0**
	baz=19						
W20A				⇑P	**P**	**16 15 46.6**	**+1.0**
	baz=19						
V23A	**Ortiz Mt. (NFS**	**18.94**	**348**	⇓P	**P**	**16 15 46.3**	**+0.7**
	baz=19						
V23A				⇓P	**P**	**16 15 46.3**	**+0.7**
	baz=19						
X17A	**Forest Lakes**	**19.03**	**335**	⇓P	**Pn**	**16 15 48.5**	**+1.2**
	baz=19						
X17A				⇓P	**Pn**	**16 15 48.5**	**+1.2**
	baz=19						
113A	**Mohawk Valley,**	**19.11**	**326**	⇓P	**Pn**	**16 15 49.4**	**+1.5**
	baz=19,SNR=7.2						
113A				⇓P	**Pn**	**16 15 49.4**	**+1.5**
	baz=19,SNR=7.2						
U26A	**Atchley Ranch,**	**19.22**	**354**	⇑P	**P**	**16 15 48.7**	**+0.1**
	baz=19,SNR=10						
U26A				⇑P	**P**	**16 15 48.7**	**+0.1**
	baz=19,SNR=10						
U25A	**Circle Dot Ran**	**19.30**	**353**	⇓P	**P**	**16 15 49.8**	**+0.3**
	baz=19						
U25A				⇓P	**P**	**16 15 49.8**	**+0.3**
	baz=19						
X16A	**Lo Mia Camp, P**	**19.36**	**334**	⇑P	**Pn**	**16 15 52.1**	**+0.9**
	baz=19						
X16A				⇑P	**Pn**	**16 15 52.1**	**+0.9**
	baz=19						
Z13A	**Yuma Proving G**	**19.39**	**327**	⇓P	**Pn**	**16 15 53.6**	**+2.2**
	baz=19						
Z13A				⇓P	**Pn**	**16 15 53.6**	**+2.2**
	baz=19						
U23A	**El Rito**	**19.51**	**348**	⇓P	**P**	**16 15 52.7**	**+0.9**
	baz=20,SNR=5.6						
U23A				⇓P	**P**	**16 15 52.7**	**+0.9**
	baz=20,SNR=5.6						
Y14A	**Wickenburg**	**19.66**	**330**	⇓P	**Pn**	**16 15 55.6**	**+1.0**
	baz=20						
Y14A				⇓P	**Pn**	**16 15 55.6**	**+1.0**
	baz=20						
T27A	**Campo**	**19.80**	**357**	⇑P	**P**	**16 15 55.1**	**+0.3**
	baz=20						
T27A				⇑P	**P**	**16 15 55.1**	**+0.3**
	baz=20						
GLA	**Glamis**	**19.89**	**325**	⇑P	**Pn**	**16 15 59.7**	**+2.2**
	baz=20						
GLA				⇑P	**Pn**	**16 15 59.7**	**+2.2**
	baz=20						
U21A	**Nageezi**	**19.93**	**345**	⇓P	**P**	**16 15 56.8**	**+0.4**
	baz=20						
U21A			

SWSC ⇑P Pn 16 16 04.1 +1.3
baz=20
S26A Kim 20.41 355 ⇓P **P 16 16 01.3 -0.2**
baz=20,SNR=5.6
S26A ⇓P **P 16 16 01.3 -0.2**
baz=20,SNR=5.6
T21A Navajo Lake 20.44 346 ⇑P **P 16 16 02.2 +0.3**
baz=20
T21A ⇑P **P 16 16 02.2 +0.3**
baz=20
PDMCI Parker Dam,Lak 20.50 328 ⇑P Pn 16 16 04.8 +0.2
baz=20,SNR=7.0
PDMCI ⇑P Pn 16 16 04.8 +0.2
baz=20,SNR=7.0
S25A Robets Cordova 20.54 353 ⇓P **P 16 16 03.8 +0.8**
baz=21,SNR=15
S25A ⇓P **P 16 16 03.8 +0.8**
baz=21,SNR=15
U18A Rough Rock, Ch 20.56 340 ⇑P **P 16 16 04.4 +1.2**
baz=21
U18A ⇑P **P 16 16 04.4 +1.2**
baz=21
S24A Houchin Ranch, 20.62 351 ⇑P **P 16 16 05.1 +1.1**
baz=21,SNR=23
S24A ⇑P **P 16 16 05.1 +1.1**
baz=21,SNR=23
T19A Beclabito 20.68 342 ⇑P **P 16 16 05.8 +1.4**
baz=21,SNR=12
T19A ⇑P **P 16 16 05.8 +1.4**
baz=21,SNR=12
MONP Monument Peak 20.68 322 ⇑P Pn 16 16 07.2 +0.2
baz=21,SNR=5.3
MONP ⇑P Pn 16 16 07.2 +0.2
baz=21,SNR=5.3
BAR Barrett 20.69 321 P **P 16 16 05.3 +0.9**
14nm,1.3s
BC3 Big Chuckawall 20.69 325 ⇑P **P 16 16 06.5 +1.9**
baz=21,SNR=7.0
BC3 ⇑P **P 16 16 06.5 +1.9**
baz=21,SNR=7.0
U16A Tuba City 20.75 337 ⇑P **P 16 16 07.1 +1.9**
baz=21,SNR=7.5
U16A ⇑P **P 16 16 07.1 +1.9**
baz=21,SNR=7.5
S23A Nye Farm, Mont 20.81 350 ⇑P **P 16 16 06.8 +0.8**
baz=21
S23A ⇑P **P 16 16 06.8 +0.8**
baz=21
MVCO Mesa Verde 20.89 344 *e*P **P 16 16 07.4 +0.6**
15nm,0.8s
MVCO Mesa Verde 20.89 344 ⇑P **P 16 16 07.6 +0.8**
baz=21,SNR=7.3
MVCO ⇑P **P 16 16 07.6 +0.8**
baz=21,SNR=7.3
IRM Iron Mountain 20.91 326 ⇑P **P 16 16 09.0 +2.1**
baz=21,SNR=9.0
IRM ⇑P **P 16 16 09.0 +2.1**
baz=21,SNR=9.0
U17A Shonto 20.99 339 ⇑P **P 16 16 09.2 +1.4**
baz=21,SNR=6.1
U17A ⇑P **P 16 16 09.2 +1.4**
baz=21,SNR=6.1
R25A Fountain Ranch 21.01 354 ⇑P **P 16 16 08.4 +0.4**
baz=21,SNR=6.9
R25A ⇑P **P 16 16 08.4 +0.4**
baz=21,SNR=6.9
S22A 4UR Ranch, Cre 21.01 348 ⇑P **P 16 16 08.7 +0.6**
baz=21,SNR=11
S22A ⇑P **P 16 16 08.7 +0.6**
baz=21,SNR=11
W13A Hualapai Mount 21.02 330 ⇓P **P 16 16 10.8 +2.5**
baz=21,SNR=7.8
W13A ⇓P **P 16 16 10.8 +2.5**
baz=21,SNR=7.8
R27A Eads 21.02 357 ⇓P **P 16 16 08.5 +0.4**
baz=21,SNR=8.0
R27A ⇓P **P 16 16 08.5 +0.4**
baz=21,SNR=8.0
R26A Arlington 21.08 355 ⇑P **P 16 16 08.7 -0.1**
baz=21,SNR=14
R26A ⇑P **P 16 16 08.7 -0.1**
baz=21,SNR=14
NEE2 Needles Airpor 21.11 328 ⇓P **P 16 16 11.3 +2.4**
baz=21
NEE2 ⇓P **P 16 16 11.3 +2.4**
baz=21
S21A Coal Bank Pass 21.14 346 ⇓P **P 16 16 09.9 +0.4**
baz=21,SNR=13
S21A ⇓P **P 16 16 09.9 +0.4**
baz=21,SNR=13
R24A Sanders Place, 21.19 352 ⇓P **P 16 16 10.3 +0.3**
baz=21,SNR=9.3
R24A ⇓P **P 16 16 10.3 +0.3**
baz=21,SNR=9.3
T18A Mexican Hat 21.21 341 ⇓P **P 16 16 10.8 +0.6**
baz=21,SNR=12
T18A ⇓P **P 16 16 10.8 +0.6**
baz=21,SNR=12
PFO Pinyon Flat Ob 21.22 323 ⇑P **P 16 16 12.7 +2.4**
baz=21,SNR=6.1
PFO ⇑P **P 16 16 12.7 +2.4**
baz=21,SNR=6.1
BELC Belle Mtn. Jos 21.25 325 ⇓P **P 16 16 12.7 +2.1**
baz=21
BELC ⇓P **P 16 16 12.7 +2.1**
baz=21
R23A Moffat 21.26 350 ⇓P **P 16 16 11.4 +0.6**
baz=21,SNR=15
R23A ⇓P **P 16 16 11.4 +0.6**
baz=21,SNR=15
T17A Navajo Res., N 21.39 339 ⇓P **P 16 16 13.1 +0.9**
baz=21,SNR=6.1
T17A ⇓P **P 16 16 13.1 +0.9**
baz=21,SNR=6.1
S20A Disappointment 21.43 345 ⇑P **P 16 16 13.5 +0.8**
baz=22,SNR=8.6
S20A ⇑P **P 16 16 13.5 +0.8**
baz=22,SNR=8.6
U15A North Rim 21.44 335 ⇓P **P 16 16 14.5 +1.6**
baz=22,SNR=7.8
U15A ⇓P **P 16 16 14.5 +1.6**
baz=22,SNR=7.8
R22A Saguache, Gunn 21.46 348 ⇓P **P 16 16 13.9 +0.9**
baz=22,SNR=12
R22A ⇓P **P 16 16 13.9 +0.9**
baz=22,SNR=12
S19A Harvey Farm, M 21.56 343 ⇓P **P 16 16 14.6 +0.6**
baz=22,SNR=18
S19A ⇓P **P 16 16 14.6 +0.6**
baz=22,SNR=18
MURC Murrieta 21.65 322 ⇓P **P 16 16 17.6 +2.9**
baz=22
MURC ⇓P **P 16 16 17.6 +2.9**
baz=22
GMRC Granite Mounta 21.66 327 ⇑P **P 16 16 16.7 +1.8**
baz=22,SNR=5.7
GMRC ⇑P **P 16 16 16.7 +1.8**
baz=22,SNR=5.7
R21A Cimarron 21.76 347 ⇓P **P 16 16 16.2 +0.1**
baz=22
R21A ⇓P **P 16 16 16.2 +0.1**
baz=22
S18A Hurst Farm, Bl 21.76 341 ⇓P **P 16 16 16.8 +0.6**
baz=22,SNR=9.7
S18A ⇓P **P 16 16 16.8 +0.6**
baz=22,SNR=9.7
PV01 Paradox Valley 21.77 345 *e*P **P 16 16 17.6 +1.2**
686nm,1.0s
S17A Black Ridge (B 21.97 340 ⇑P **P 16 16 19.2 +0.8**
baz=22,SNR=11
S17A ⇑P **P 16 16 19.2 +0.8**
baz=22,SNR=11
HEC Hector,Ludlow 22.05 326 ⇑P **P 16 16 21.7 +2.5**
baz=22
HEC ⇑P **P 16 16 21.7 +2.5**
baz=22
Q22A Crested Butte, 22.10 348 ⇑P **P 16 16 20.4 +0.5**
baz=22,SNR=5.4
Q22A ⇑P **P 16 16 20.4 +0.5**
baz=22,SNR=5.4
PV04 Paradox Valley 22.11 344 *e*P **P 16 16 20.5 +0.7**
R19A Curley Farm, L 22.11 343 ⇓P **P 16 16 20.2 +0.3**
baz=22,SNR=5.3
R19A ⇓P **P 16 16 20.2 +0.3**
baz=22,SNR=5.3
S16A Weppner Ranch, 22.32 338 ⇓P **P 16 16 22.9 +0.7**
baz=22
S16A ⇓P **P 16 16 22.9 +0.7**
baz=22
BFSC Mount Baldy Ra 22.37 322 ⇑P **P 16 16 25.6 +2.9**
baz=22
BFSC ⇑P **P 16 16 25.6 +2.9**
baz=22
R18A Canyonlands Na 22.37 342 ⇓P **P 16 16 22.9 +0.2**
baz=22,SNR=19
R18A ⇓P **P 16 16 22.9 +0.2**
baz=22,SNR=19
SMCO Snowmass 22.42 349 *e*P **P 16 16 23.0 -0.5**
26nm,1.2s
GSC Goldstone 22.66 326 ⇓P **P 16 16 28.2 +2.5**
baz=23,SNR=7.7
GSC ⇓P **P 16 16 28.2 +2.5**
baz=23,SNR=7.7
Q19A Hogan Spring (22.73 344 ⇓P **P 16 16 26.7 +0.3**
baz=23
Q19A ⇓P **P 16 16 26.7 +0.3**
baz=23
R16A Teasdale 22.79 339 ⇑P **P 16 16 27.4 +0.3**
baz=23
R16A ⇑P **P 16 16 27.4 +0.3**
baz=23
ISCO Idaho Springs 22.80 352 ⇑P **P 16 16 26.7 -0.6**
baz=23,SNR=6.8
ISCO ⇑P **P 16 16 26.7 -0.6**
baz=23,SNR=6.8
EDW2 Edwards Air Fo 23.02 323 ⇓P **P 16 16 31.6 +2.2**
baz=23
EDW2 ⇓P **P 16 16 31.6 +2.2**
baz=23
ARUT Antelope Range 23.08 335 *e*P **P 16 16 31.4 +1.3**
35nm,1.0s
Q18A Rafter H Ranch 23.11 342 ⇑P **P 16 16 30.5 +0.2**
baz=23
Q18A ⇑P **P 16 16 30.5 +0.2**
baz=23
SRU San Rafael 23.23 342 ⇑P **P 16 16 31.7 0.0**
baz=23
SRU ⇑P **P 16 16 31.7 0.0**
baz=23
MSU Marysvale 23.23 338 *e*P **P 16 16 32.6 +0.9**
2.2nm,0.7s
O23A Lake Granby, G 23.25 351 ⇓P **P 16 16 31.7 -0.3**
baz=23,SNR=7.2
O23A ⇓P **P 16 16 31.7 -0.3**
baz=23,SNR=7.2
Q16A Castle Valley 23.25 340 ⇑P **P 16 16 32.1 +0.2**
baz=23
Q16A ⇑P **P 16 16 32.1 +0.2**
baz=23
LRMC Laurel Mountai 23.28 325 ⇓P **P 16 16 34.4 +2.3**
baz=23
LRMC ⇓P **P 16 16 34.4 +2.3**
baz=23
P19A Cripple Cowboy 23.30 345 ⇑P **P 16 16 32.3 0.0**
baz=23,SNR=5.4
P19A ⇑P **P 16 16 32.3 0.0**
baz=23,SNR=5.4
O22A Kremmling 23.30 350 ⇑P **P 16 16 32.0 -0.5**
baz=23,SNR=6.5
O22A ⇑P **P 16 16 32.0 -0.5**
baz=23,SNR=6.5
MPMC Manual Prospec 23.60 326 ⇑P **P 16 16 36.6 +1.2**
baz=24
MPMC ⇑P **P 16 16 36.6 +1.2**
baz=24
TMUT Trail Mountain 23.61 341 *e*P **P 16 16 36.6 +1.1**
4.7nm,0.5s
R13A O'Grain Ranch, 23.63 335 ⇑P **P 16 16 37.1 +1.4**
baz=24,SNR=8.1
R13A ⇑P **P 16 16 37.1 +1.4**
baz=24,SNR=8.1
ISA Isabella 23.85 324 ⇓P **P 16 16 39.6 +1.9**
baz=24,SNR=6.3
ISA ⇓P **P 16 16 39.6 +1.9**
baz=24,SNR=6.3
N23A Red Feather La 23.92 351 ⇓P **P 16 16 37.9 -0.7**
baz=24
N23A ⇓P **P 16 16 37.9 -0.7**
baz=24
O19A Miners Draw (B 23.96 345 ⇑P **P 16 16 38.7 -0.1**
baz=24
O19A ⇑P **P 16 16 38.7 -0.1**
baz=24
N21A Black Mountain 24.05 348 ⇓P **P 16 16 40.2 +0.5**
baz=24,SNR=13
N21A ⇓P **P 16 16 40.2 +0.5**
baz=24,SNR=13
TKL Tuckaleechee C 24.12 37 P **P 16 16 37.9 -2.3**
5.9nm,0.8s,baz=197,slow=11,SNR=4.9
TKL LR LR 16 30 10.4
comp=Z,134nm,18.2s,baz=64,slow=47
TKL Tuckaleechee C 24.12 37 P **P 16 16 37.9 -2.3**
N20A Spence Gulch, 24.27 347 ⇑P **P 16 16 41.4 -0.4**
baz=24
N20A ⇑P **P 16 16 41.4 -0.4**
baz=24
O17A Robinson Place 24.29 342 ⇑P **P 16 16 41.2 -0.7**
baz=24,SNR=6.5
O17A ⇑P **P 16 16 41.2 -0.7**
baz=24,SNR=6.5
M23A Laramie 24.45 352 ⇑P **P 16 16 42.7 -0.7**
baz=24
M23A ⇑P **P 16 16 42.7 -0.7**
baz=24
R11A Troy Canyon, C 24.46 332 ⇓P **P 16 16 44.5 +1.0**
baz=24,SNR=9.1
R11A ⇓P **P 16 16 44.5 +1.0**
baz=24,SNR=9.1
M22A Cedar Creek Ra 24.52 350 ⇑P **P 16 16 43.3 -0.7**
baz=25
M22A ⇑P **P 16 16 43.3 -0.7**
baz=25
N19A John Jarvie Ra 24.54 346 ⇑P **P 16 16 44.4 +0.3**
baz=25
N19A ⇑P **P 16 16 44.4 +0.3**
baz=25
M21A Separation Pea 24.84 349 ⇑P **P 16 16 47.0 +0.1**
baz=25,SNR=6.0
M21A ⇑P **P 16 16 47.0 +0.1**
baz=25,SNR=6.0
M20A Sweetwater, Wa 24.89 348 ⇓P **P 16 16 47.8 +0.5**
baz=25
M20A ⇓P **P 16 16 47.8 +0.5**
baz=25
DUG Dugway 24.95 339 *e*P **P 16 16 47.4 -0.5**
11nm,1.2s
DUG Dugway 24.95 339 ⇓P **P 16 16 48.5 +0.7**
baz=25,SNR=7.6
DUG ⇓P **P 16 16 48.5 +0.7**
baz=25,SNR=7.6
N17A Moffit Pass 25.01 343 ⇑P **P 16 16 49.0 +0.5**
baz=25
N17A ⇑P **P 16 16 49.0 +0.5**
baz=25
L22A Ellis Ranch, M 25.11 351 ⇑P **P 16 16 49.9 +0.6**
baz=25
L22A ⇑P **P 16 16 49.9 +0.6**
baz=25
L20A Wamsutter 25.42 348 ⇓P **P 16 16 51.9 -0.2**
baz=26
L20A ⇓P **P 16 16 51.9 -0.2**
baz=26
L19A Farson 25.73 346 ⇓P **P 16 16 55.6 +0.7**
baz=26,SNR=7.7
L19A ⇓P **P 16 16 55.6 +0.7**
baz=26,SNR=7.7
K22A Casper 25.73 351 ⇓P **P 16 16 54.9 +0.1**
baz=26
K22A ⇓P **P 16 16 54.9 +0.1**
baz=26
NVAR Mina Array Bea 25.82 328 P **P 16 16 57.6 +1.9**
18nm,0.9s,baz=149,slow=9.4,SNR=62
NVAR Mina Array Bea 25.82 328 P **P 16 16 57.6 +1.9**
K21A Alcova 25.82 350 ⇓P **P 16 16 56.1 +0.4**
baz=26,SNR=5.9
K21A ⇓P **P 16 16 56.1 +0.4**
baz=26,SNR=5.9
M15A Larsen Ranch, 25.97 341 ⇓P **P 16 16 57.3 +0.3**
baz=26
M15A ⇓P **P 16 16 57.3 +0.3**
baz=26
BW06 Boulder Array 26.41 346 ⇓P **P 16 17 01.5 +0.4**
baz=26,SNR=8.2
BW06 ⇓P **P 16 17 01.5 +0.4**
baz=26,SNR=8.2
PDAR Pinedale Array 26.41 346 P **P 16 17 01.2 +0.2**
6.1nm,0.9s,baz=159,slow=9.3,SNR=36
PDAR PcP **PcP 16 20 25.9 -0.5**
0.9nm,0.9s,baz=132,slow=6.2,SNR=4.5
PDAR Pinedale Array 26.41 346 P **P 16 17 01.2 +0.2**
PDAR PcP **PcP 16 20 25.9 -0.5**
PD02 Pinedale Array 26.42 346 *e*P **P 16 17 02.0 +0.9**
PD01 Pinedale Array 26.42 346 *e*P **P 16 17 00.6 -0.6**
L15A Malad City 26.45 341 ⇓P **P 16 17 01.9 +0.6**
baz=26
L15A ⇓P **P 16 17 01.9 +0.6**
baz=26
J22A Midwest 26.47 352 ⇓P **P 16 17 01.9 +0.3**
baz=26
J22A ⇓P **P 16 17 01.9 +0.3**
baz=26
J20A Shoshoni 26.67 349 ⇓P **P 16 17 03.8 +0.5**
baz=27
J20A ⇓P **P 16 17 03.8 +0.5**
baz=27
K17A Gardner Place, 26.72 344 ⇓P **P 16 17 04.0 +0.1**
baz=27
K17A ⇓P **P 16 17 04.0 +0.1**
baz=27
L14A Malta 26.74 340 ⇓P **P 16 17 05.1 +1.0**
baz=27,SNR=6.8
L14A ⇓P **P 16 17 05.1 +1.0**
baz=27,SNR=6.8
J19A Crowheart 26.77 347 ⇓P **P 16 17 04.9 +0.6**
baz=27
J19A ⇓P **P 16 17 04.9 +0.6**
baz=27
J18A Kendall Valley 26.93 346 ⇑P **P 16 17 06.3 +0.5**
baz=27
J18A ⇑P **P 16 17 06.3 +0.5**
baz=27
I21A Big Trails, Te 26.98 351 ⇑P **P 16 17 06.8 +0.7**
baz=27
I21A ⇑P **P 16 17 06.8 +0.7**
baz=27
K15A Arbon 27.11 342 ⇑P **P 16 17 07.8 +0.4**
baz=27,SNR=5.9
K15A ⇑P **P 16 17 07.8 +0.4**
baz=27,SNR=5.9
K14A Jones Ranch, D 27.18 341 ⇓P **P 16 17 08.8 +0.9**
baz=27,SNR=5.2
K14A ⇓P **P 16 17 08.8 +0.9**
baz=27,SNR=5.2
WCN Washoe City 27.22 328 *e*P **P 16 17 10.8 +2.5**
8.9nm,1.2s
WCN Washoe City 27.22 328 ⇑P **P 16 17 10.3 +1.9**
baz=27
WCN ⇑P **P 16 17 10.3 +1.9**
baz=27
J17A Brown Place, J 27.24 345 ⇓P **P 16 17 09.1 +0.6**
baz=27
J17A ⇓P **P 16 17 09.1 +0.6**
baz=27
I20A Worland 27.25 349 ⇑P **P 16 17 09.3 +0.7**
baz=27
I20A ⇑P **P 16 17 09.3 +0.7**
baz=27
I18A Diamond G Ranc 27.35 347 ⇓P **P 16 17 10.3 +0.7**
baz=27
I18A ⇓P **P 16 17 10.3 +0.7**
baz=27
RRI2 Red Ridge 27.38 344 *e*P **P 16 17 09.3 -0.6**
5.9nm,0.8s
J16A Bone 27.39 344 ⇓P **P 16 17 10.5 +0.6**
baz=27,SNR=8.8
J16A ⇓P **P 16 17 10.5 +0.6**
baz=27,SNR=8.8
I17A Pilgrim Ck. 27.73 346 ⇓P **P 16 17 13.8 +0.8**
baz=28
I17A ⇓P **P 16 17 13.8 +0.8**
baz=28
J14A Carey 27.99 341 ⇓P **P 16 17 15.4 +0.2**
baz=28
J14A ⇓P **P 16 17 15.4 +0.2**
baz=28
G22A Birney 28.22 353 ⇑P **P 16 17 17.4 +0.3**
baz=28
G22A ⇑P **P 16 17 17.4 +0.3**
baz=28
J13A Cove Ranch, Pi 28.27 340 ⇓P **P 16 17 17.9 +0.2**
baz=28
J13A ⇓P **P 16 17 17.9 +0.2**
baz=28
HLID Hailey 28.50 340 ⇑P **P 16 17 20.0 +0.3**
baz=28
HLID ⇑P **P 16 17 20.0 +0.3**
baz=28
I14A Mackay 28.52 342 ⇓P **P 16 17 20.6 +0.6**
baz=29
I14A ⇓P **P 16 17 20.6 +0.6**
baz=29
H16A Russell Place, 28.63 345 ⇑P **P 16 17 21.7 +0.7**
baz=29
H16A ⇑P **P 16 17 21.7 +0.7**
baz=29
H15A Lima 28.92 343 ⇑P **P 16 17 24.5 +1.0**
baz=29
H15A ⇑P **P 16 17 24.5 +1.0**
baz=29
I12A Atlanta 28.94 339 ⇓P **P 16 17 24.3 +0.5**
baz=29
I12A ⇓P **P 16 17 24.3 +0.5**
baz=29
MCMT McKenzie Canyo 29.17 343 *e*P **P 16 17 26.9 +1.1**
1.0nm,0.7s
H12A Diamond D Ranc 29.52 340 ⇑P **P 16 17 29.5 +0.7**
baz=30
H12A ⇑P **P 16 17 29.5 +0.7**
baz=30
BOZ Bozeman (W) 29.61 345 ⇑P **P 16 17 29.9 +0.3**
baz=30
BOZ ⇑P **P 16 17 29.9 +0.3**
baz=30
BOZ ⇑P **P 16 17 29.9 +0.3**
baz=30
BOZ ⇑P **P 16 17 29.9 +0.3**
baz=30
G14A Jackson 29.72 343 ⇑P **P 16 17 31.3 +0.7**
baz=30,SNR=10
G14A ⇑P **P 16 17 31.3 +0.7**
baz=30,SNR=10
F16A Kennard Place, 29.74 345 ⇓P **P 16 17 31.5 +0.8**
baz=30
F16A ⇓P **P 16 17 31.5 +0.8**
baz=30
G13A Cobalt 29.81 341 ⇓P **P 16 17 32.1 +0.7**
baz=30,SNR=5.6
G13A ⇓P **P 16 17 32.1 +0.7**
baz=30,SNR=5.6
F15A Butte 30.01 344 ⇑P **P 16 17 33.3 +0.1**
baz=30
F15A ⇑P **P 16 17 33.3 +0.1**
baz=30
D22A Cohagen 30.11 353 ⇑P **P 16 17 33.6 -0.3**
baz=30,SNR=6.8
D22A ⇑P **P 16 17 33.6 -0.3**
baz=30,SNR=6.8
D20A Manuel Ranch, 30.31 351 ⇑P **P 16 17 35.7 +0.1**
baz=30
D20A ⇑P **P 16 17 35.7 +0.1**
baz=30
E16A East Helena 30.46 346 ⇓P **P 16 17 37.7 +0.6**
baz=30
E16A ⇓P **P 16 17 37.7 +0.6**
baz=30
F13A Darby 30.47 342 ⇑P **P 16 17 37.7 +0.5**
baz=30,SNR=11
F13A ⇑P **P 16 17 37.7 +0.5**
baz=30,SNR=11
D19A Cripps Ranch, 30.50 350 ⇑P **P 16 17 37.6 +0.3**
baz=30
D19A ⇑P **P 16 17 37.6 +0.3**
baz=30
C23A Lambert 30.66 355 ⇑P **P 16 17 39.0 +0.3**
baz=31
C23A ⇑P **P 16 17 39.0 +0.3**
baz=31
F12A Elk City 30.72 341 ⇓P **P 16 17 39.9 +0.5**
baz=31,SNR=12
F12A ⇓P **P 16 17 39.9 +0.5**

baz=31,SNR=12
E14A Clinton 30.81 344 ⇑P **P** **16 17 40.6 +0.4**
baz=31
E14A ⇑P **P** **16 17 40.6 +0.4**
baz=31
D17A Six Diamond Ra 30.83 348 ⇓P **P** **16 17 40.5 +0.2**
baz=31
D17A ⇓P **P** **16 17 40.5 +0.2**
baz=31
E13A Victor 31.02 343 ⇓P **P** **16 17 42.3 +0.3**
baz=31
E13A ⇓P **P** **16 17 42.3 +0.3**
baz=31
C19A Slack Wire Ran 31.08 350 ⇑P **P** **16 17 42.6 +0.2**
baz=31
C19A ⇑P **P** **16 17 42.6 +0.2**
baz=31
D15A Lincoln 31.14 345 ⇓P **P** **16 17 43.3 +0.3**
baz=31
D15A ⇓P **P** **16 17 43.3 +0.3**
baz=31
B23A Brockton 31.30 355 ⇓P **P** **16 17 44.9 +0.5**
baz=31
B23A ⇓P **P** **16 17 44.9 +0.5**
baz=31
D14A Greenough 31.42 344 ⇓P **P** **16 17 45.9 +0.3**
baz=32
D14A ⇓P **P** **16 17 45.9 +0.3**
baz=32
EGMT Eagleton 31.48 349 ⇓P **P** **16 17 46.8 +0.8**
baz=32
EGMT ⇓P **P** **16 17 46.8 +0.8**
baz=32
C16A Fuhringer Ranc 31.67 347 ⇓P **P** **16 17 47.3 -0.4**
baz=32
C16A ⇓P **P** **16 17 47.3 -0.4**
baz=32
D13A Huson 31.70 343 ⇑P **P** **16 17 47.7 -0.2**
baz=32,SNR=7.6
D13A ⇑P **P** **16 17 47.7 -0.2**
baz=32,SNR=7.6
D12A Red Ives Fores 31.92 342 ⇑P **P** **16 17 50.2 +0.3**
baz=32
D12A ⇑P **P** **16 17 50.2 +0.3**
baz=32
A20A Cobblestone Ra 32.03 352 ⇑P **P** **16 17 50.9 +0.2**
baz=32
A20A ⇑P **P** **16 17 50.9 +0.2**
baz=32
A19A Klindworth Far 32.19 351 ⇑P **P** **16 17 52.4 +0.1**
baz=32
A19A ⇑P **P** **16 17 52.4 +0.1**
baz=32
B15A Bradely Ranch, 32.34 346 ⇑P **P** **16 17 53.5 0.0**
baz=32
B15A ⇑P **P** **16 17 53.5 0.0**
baz=32
A18A Metzger Ranch, 32.36 350 ⇑P **P** **16 17 53.4 -0.3**
baz=32
A18A ⇑P **P** **16 17 53.4 -0.3**
baz=32
A17A Triple J Farms 32.54 349 ⇑P **P** **16 17 55.2 -0.1**
baz=33
A17A ⇑P **P** **16 17 55.2 -0.1**
baz=33
A16A West Butte Ran 32.72 347 ⇑P **P** **16 17 56.8 -0.2**
baz=33
A16A ⇑P **P** **16 17 56.8 -0.2**
baz=33
B13A Whitefish 32.87 344 ⇑P **P** **16 17 58.9 +0.7**
baz=33
B13A ⇑P **P** **16 17 58.9 +0.7**
baz=33
A14A Double T Ranch 33.16 345 ⇑P **P** **16 18 00.6 -0.1**
baz=33
A14A ⇑P **P** **16 18 00.6 -0.1**
baz=33
ULM Lac du Bonnet 33.24 6 P **P** **16 18 01.1 -0.2**
2.3nm,0.6s,baz=187,slow=12,SNR=4.3
ULM LR LR 16 32 47.4
comp=Z,115nm,19.4s,baz=34,slow=38
ULM Lac du Bonnet 33.24 6 P **P** **16 18 01.1 -0.2**
NEW Newport 33.54 341 ⇑P **P** **16 18 04.1 +0.1**
baz=34
NEW ⇑P **P** **16 18 04.1 +0.1**
baz=34
ETW Entiat 34.08 337 *e*P **P** **16 18 10.2 +1.4**
10.0nm,1.1s
FFC Flin Flon 37.44 359 *e*P **P** **16 18 36.1 -1.2**
5.7nm,1.0s
SCHQ Schefferville 45.93 27 P **P** **16 19 45.3 -1.6**
6.5nm,0.8s,baz=250,slow=8.0,SNR=9.7
SCHQ Schefferville 45.93 27 P **P** **16 19 45.3 -1.6**
YKA Yellowknife Ar 46.17 352 P **P** **16 19 48.6 0.0**
4.3nm,0.8s,baz=160,slow=7.3,SNR=59
YKA PcP **PcP** **16 21 24.8 +0.5**
1.2nm,0.7s,baz=154,slow=3.5,SNR=13
YKA Yellowknife Ar 46.17 352 P **P** **16 19 48.6 0.0**
YKA PcP **PcP** **16 21 24.8 +0.5**
DLBC Dease Lake 46.26 340 LR LR 16 41 05.1
comp=Z,222nm,20.5s,baz=344,slow=38
SIV San Ignacio 51.64 128 P **P** **16 20 29.5 -1.8**
2.8nm,0.7s,baz=319,slow=9.3,SNR=12
SIV San Ignacio 51.64 128 P **P** **16 20 29.5 -1.8**
RKT Rikitea 51.84 220 *e*T T 17 16 25.8
10nm,0.3s
INK Inuvik 54.97 346 *e*P **P** **16 20 55.4 +0.4**
14nm,1.1s
PMOR Pomariorio Ree 55.97 238 *e*T T 17 21 39.1
9.9nm,0.2s
ILAR Eielson Array 56.44 338 P **P** **16 21 06.7 +1.1**
2.4nm,0.9s,baz=152,slow=5.8,SNR=22
ILAR PcP **PcP** **16 22 03.3 +0.8**
0.8nm,0.7s,baz=156,slow=2.7,SNR=5.8
ILAR Eielson Array 56.44 338 P **P** **16 21 06.7 +1.1**
ILAR PcP **PcP** **16 22 03.3 +0.8**
TRF Thorofare Moun 56.97 336 *e*P **P** **16 21 09.7 +0.1**
6.4nm,0.6s
RES Resolute Bay 57.59 2 P **P** **16 21 13.3 -0.3**
3.0nm,0.8s,baz=195,slow=12,SNR=17
RES Resolute Bay 57.59 2 P **P** **16 21 13.3 -0.3**
PPT2 Papeete2 58.73 236 *e*LR LR 16 38 42.8
82nm,24.5s
BDFB Brasilia 61.91 119 P **P** **16 21 45.2 +0.7**
1.5nm,0.4s,baz=256,slow=14,SNR=3.1
BDFB Brasilia 61.91 119 P **P** **16 21 45.2 +0.7**
TBI Tubuai 61.92 231 *e*LR LR 16 40 11.2
86nm,28.5s
SUMG Summit 65.69 17 *i* P **P** **16 22 09.3 +0.5**
9.6nm,1.0s
DAG Danmarks Havn 71.68 14 *i* P **P** **16 22 44.6 -1.0**
34nm,0.9s
WRA Warramunga Arr 127.33 258 PKP **PKPdf** **16 30 28.6 -1.1**
0.4nm,0.8s,baz=85,slow=2.9,SNR=4.7
WRA Warramunga Arr 127.33 258 PKP **PKPdf** **16 30 28.6 -1.1**
ASAR Alice Springs 128.08 253 PKP **PKPdf** **16 30 31.6 +0.4**
0.5nm,0.9s,baz=80,slow=2.3,SNR=4.7
ASAR Alice Springs 128.08 253 PKP **PKPdf** **16 30 31.6 +0.4**
CMAR Chiang Mai Arr 139.31 330 PKP **PKPdf** **16 30 53.1 +0.8**
0.9nm,0.8s,baz=348,slow=2.5,SNR=4.8
CMAR Chiang Mai Arr 139.31 330 PKP **PKPdf** **16 30 53.1 +0.8**
HYB Hyderabad 145.58 0 *i* PKP **PKPdf** **16 31 02.0 -1.5**

WEL 19 16:12:47.5±0.3, 38.19S×176.01E, h180km±2km, ML3.5/14, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.87**	**95**	PN	Pn	16 13 14.1	-0.1
URZ				SN	Sn	16 13 34.7	-0.1
BKZ	**Black Stump Fm**	**1.05**	**159**	PN	Pn	16 13 15.8	+0.2
BKZ				SN	Sn	16 13 37.1	-0.3
NMHZ	**Naumai**	**1.10**	**146**	PN	Pn	16 13 17.1	+1.1
TUVZ	**Tukino**	**1.11**	**194**	PN	Pn	16 13 16.5	+0.3
FWVZ	**Far West T-bar**	**1.12**	**198**	PN	Pn	16 13 16.5	+0.1
MWZ	**Matawai**	**1.20**	**97**	PN	Pn	16 13 16.8	0.0
MWZ				*e*SN	Sn	16 13 39.2	-0.3
PKVZ	**Pokaka**	**1.22**	**205**	PN	Pn	16 13 17.1	+0.2
MOVZ	**Moawhango**	**1.23**	**189**	PN	Pn	16 13 16.8	-0.2
BHHZ	**Black Hill Sta**	**1.30**	**178**	PN	Pn	16 13 17.6	0.0
MCHZ	**McNeill Hill**	**1.36**	**157**	PN	Pn	16 13 19.0	+0.9
KNZ	**Kokohu**	**1.54**	**123**	PN	Pn	16 13 20.0	+0.2
PNHZ	**Pukenui**	**1.73**	**175**	PN	Pn	16 13 21.4	-0.3
KAHZ	**Kahuranaki**	**1.74**	**157**	PN	Pn	16 13 22.0	+0.2
WAZ	**Wanganui**	**1.76**	**207**	PN	Pn	16 13 21.7	-0.3
MHGZ	**Mahia Peninsul**	**1.77**	**124**	PN	Pn	16 13 22.3	+0.3
TSZ	**Takapari Road**	**1.87**	**181**	PN	Pn	16 13 22.5	-0.6
WPHZ	**Waipukurau**	**1.90**	**170**	PN	Pn	16 13 22.9	-0.5
PXZ	**Pawanui**	**1.96**	**160**	PN	Pn	16 13 23.5	-0.4
DVHZ	**Dannevirke**	**2.11**	**177**	PN	Pn	16 13 24.7	-1.0
PRHZ	**Porangahau**	**2.13**	**167**	PN	Pn	16 13 25.1	-0.8
MRZ	**Mangatainoka R**	**2.49**	**188**	PN	Pn	16 13 28.2	-1.8
MRZ				SN	Sn	16 14 00.1	-3.2
BFZ	**Birch Farm**	**2.50**	**176**	PN	Pn	16 13 28.4	-1.6
OGWZ	**Otaki Gorge**	**2.71**	**194**	PN	Pn	16 13 30.7	-1.8
HOWZ	**Holdsworth Sta**	**2.73**	**188**	PN	Pn	16 13 30.8	-2.1
KIW	**Kapiti Island**	**2.80**	**197**	PN	Pn	16 13 31.5	-2.2
TMWZ	**Te Maipa**	**2.92**	**182**	PN	Pn	16 13 33.3	-1.8
MTW	**Mount Morrison**	**2.99**	**187**	PN	Pn	16 13 33.2	-2.7
CAW	**Cannon Point**	**3.00**	**194**	PN	Pn	16 13 33.7	-2.4
MSWZ	**Moikau Station**	**3.27**	**190**	PN	Pn	16 13 36.5	-2.9
SNZO	**South Karori**	**3.27**	**197**	PN	Pn	16 13 36.5	-2.8
TCW	**Tory Channel**	**3.30**	**203**	PN	Pn	16 13 37.1	-2.6
PLWZ	**Palliser**	**3.43**	**190**	PN	Pn	16 13 38.2	-3.1
TUWZ	**Tuamarina**	**3.61**	**206**	PN	Pn	16 13 40.6	-2.9
NNZ	**Nelson**	**3.64**	**213**	PN	Pn	16 13 40.7	-3.3
QRZ	**Quartz Range**	**3.77**	**225**	PN	Pn	16 13 41.7	-3.8
THZ	**Tophouse**	**4.29**	**213**	PN	Pn	16 13 49.0	-3.3
KHZ	**Kahutara**	**4.63**	**203**	PN	Pn	16 13 53.2	-3.2
DSZ	**Denniston Nort**	**4.80**	**221**	*e*PN	Pn	16 13 54.0	-4.8
LTZ	**Lake Taylor**	**5.40**	**211**	PN	Pn	16 14 02.2	-4.4

IDC 19 16:15:41.3±3.0, 23.00S×171.09E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=106.6km s-min=41.1km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.39**	**281**	Pn	Pn	16 16 49.8	+0.4
	4.5nm,0.3s,baz=159,slow=21,SNR=155						
DZM				Sn	Sn	16 17 36.2	-5.2
	5.9nm,0.3s,baz=76,slow=19,SNR=6.3						
ASAR	**Alice Springs**	**34.09**	**261**	P	P	16 22 27.9	0.0
	0.7nm,0.7s,baz=89,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**34.27**	**268**	P	P	16 22 28.2	-1.3
	0.6nm,0.8s,baz=97,slow=8.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**81.61**	**294**	P	P	16 28 03.0	+1.4
	0.5nm,0.5s,baz=136,slow=4.6,SNR=4.8						
SONM	**Songino Array**	**91.25**	**322**	P	P	16 28 48.6	0.0
	0.2nm,0.5s,baz=138,slow=4.7,SNR=4.1						
GERES	**GERESS Array B**	**148.60**	**331**	PKPbc	PKPbc	16 35 29.0	-1.3
	0.6nm,0.6s,baz=29,slow=2.2,SNR=5.4						

*NNC **19** 16:15:48.4±0.8, 42.92N×77.65E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=6.5km s-min=3.6km az=179.0*
*IDC **19** 16:15:49.3±0.9, 42.88N×77.50E, h0km, mb3.6/6, mb1 3.9/10, mb1mx3.6/30, mbtmp3.7/10, ML3.8/4, Error ellipse: s-maj=16.9km s-min=12.1km az=102.0*
*ISCJB **19** 16:15:51.0±0.5, 42.98N±0.05×77.59E±0.05, h14km, mb3.7/5, Error ellipse: s-maj=7.3km s-min=4.3km az=155.7*
*BJI **19** 16:15:51.8, 42.90N×77.73E, h13km, ML3.4/8*
ISC 19 16:15:51.3±0.7, 42.83N±0.04×77.47E±0.05, h14km, n34, σ1.972/52, mb3.8/5, 15C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.54**	**316**	⇑P	**Pg**	**16 16 00.5**	**-1.4**
	138nm,0.3s						
KNDC				⇑S	**Sg**	**16 16 08.2**	**-1.0**
	1µm,0.4s						
ULHL	**Ulahol**	**1.08**	**238**	P	**Pn**	**16 16 11.3**	**-0.9**
	SNR=130						
ULHL				P	**Pn**	**16 16 11.3**	**-0.9**
	SNR=130						
TKM2	**Tokmak 2**	**1.38**	**274**	P	**Pn**	**16 16 16.1**	**-0.2**
	SNR=138						
TKM2				P	**Pn**	**16 16 16.1**	**-0.2**
	SNR=138						
TKM2	**Tokmak 2**	**1.38**	**274**	⇓P	**Pn**	**16 16 16.3**	**-0.1**
	33nm,0.3s						
TKM2				⇑S	**Sb**	**16 16 36.1**	**+1.5**
	345nm,0.5s						
KZA	**Kyzart**	**1.81**	**246**	P	**Pb**	**16 16 24.7**	**+0.2**
	SNR=354						
KZA				P	**Pb**	**16 16 24.7**	**+0.2**
	SNR=354						
KBK	**Karagaybulak**	**1.87**	**266**	P	**Pb**	**16 16 24.5**	**-0.8**
	SNR=356						
KBK				P	**Pb**	**16 16 24.5**	**-0.8**
	SNR=356						
CHMS	**Chumysh**	**2.01**	**276**	P	**Pb**	**16 16 27.1**	**-0.5**
	SNR=56						
CHMS				P	**Pb**	**16 16 27.1**	**-0.5**
	SNR=56						
AAK	**Ala-Archa**	**2.20**	**266**	P	**Pb**	**16 16 31.0**	**0.0**
	SNR=358						
AAK				P	**Pb**	**16 16 31.0**	**0.0**
	SNR=358						
USP	**Ospenovka**	**2.22**	**282**	P	**Pb**	**16 16 30.4**	**-0.9**
	SNR=350						
USP				P	**Pb**	**16 16 30.4**	**-0.9**
	SNR=350						
UCH	**Uchtor**	**2.27**	**256**	P	**Pb**	**16 16 32.6**	**+0.3**
	SNR=61						
UCH				P	**Pb**	**16 16 32.6**	**+0.3**
	SNR=61						
EKS2	**Erkin-Say**	**2.73**	**268**	P	**Pb**	**16 16 39.0**	**-1.0**
	SNR=70						
EKS2				P	**Pb**	**16 16 39.0**	**-1.0**
	SNR=70						
AML	**Almayashu**	**2.88**	**257**	P	**Pb**	**16 16 41.8**	**-0.9**
	SNR=192						
AML				P	**Pb**	**16 16 41.8**	**-0.9**
	SNR=192						
KSH	**Kashi**	**3.50**	**199**	Pn	**Pg**	**16 16 56.3**	**-2.0**
KSH				Sn	**Sg**	**16 17 44.5**	**+0.8**
KSH				smax	smax		
	comp=N,55nm,0.7s						
KSH				smax	smax		
	comp=E,110nm,0.6s						
KK31	**Karatay Array**	**5.12**	**275**	⇓Pg	**Pb**	**16 17 23.1**	**+2.5**
	comp=E,7.4nm,0.5s,baz=90,slow=16,SNR=26						
KK31				⇓Lg	Lg	16 18 30.5	
	comp=E,13nm,0.5s,baz=82,slow=26,SNR=23						
MK31	**Makanchi Array**	**5.24**	**39**	Pn	**Pn**	**16 17 09.9**	**+0.7**
	comp=E,3.1nm,0.3s,baz=219,slow=16,SNR=128						
MK31				⇓Pg	Pb	16 17 25.9	+3.3
	comp=E,6.8nm,0.5s,baz=218,slow=15,SNR=5.0						
MK31				⇑Sn	**Sn**	**16 18 09.6**	**+0.2**
	comp=E,4.0nm,0.3s						
MK31				⇑Lg	Lg	16 18 27.2	
	comp=E,11nm,0.6s,baz=222,slow=27,SNR=4.8						
MKAR	**Makanchi Array**	**5.24**	**39**	Pn	**Pn**	**16 17 10.1**	**+0.9**
	comp=E,3.1nm,0.3s,baz=217,slow=14,SNR=113						
MKAR				Sn	**Sn**	**16 18 10.2**	**+0.9**
	comp=E,2.2nm,0.3s,baz=220,slow=26,SNR=3.9						
MKAR				Lg	Lg	16 18 27.6	
	comp=E,4.8nm,0.3s,baz=221,slow=26,SNR=8.3						
KURBB	**Kurchatov Arra**	**7.83**	**5**	⇓Pn	**Pn**	**16 17 44.1**	**-0.5**
	comp=E,0.4nm,0.5s						
KURBB				⇑Sn	**Sn**	**16 19 08.6**	**-4.4**
	comp=E,1.8nm,0.5s						
KURBB				⇓Lg	Lg	16 19 52.9	
	comp=E,4.2nm,0.6s						
KURK	**Kurchatov**	**7.93**	**5**	Pn	**Pn**	**16 17 44.5**	**-1.6**
	comp=E,0.5nm,0.3s,baz=188,slow=12,SNR=21						
KURK				Sn	Sn	16 19 09.4	-6.0
	comp=E,0.3nm,0.3s,baz=180,slow=14,SNR=3.4						
KURK				Lg	Lg	16 19 52.0	
	comp=E,0.8nm,0.3s,baz=174,slow=30,SNR=7.5						
KURK	**Kurchatov**	**7.93**	**5**	⇑Pn	**Pn**	**16 17 44.8**	**-1.2**
	comp=E,3.1nm,0.8s						
KURK				⇓Lg	Lg	16 19 55.1	
	comp=E,63nm,0.9s						
VOSK	**Vostochnaya**	**10.81**	**338**	⇑Pn	**Pn**	**16 18 23.8**	**-1.8**
	comp=E,3.1nm,0.8s						
VOSK				⇓Lg	Lg	16 21 34.1	
	comp=E,19nm,0.8s						
BVA0	**Borovoye Array**	**11.25**	**338**	⇓Pn	**Pn**	**16 18 29.5**	**-2.0**
	comp=E,0.7nm,1.2s,baz=149,slow=14,SNR=5.0						
BVA0				⇓Sn	**Sn**	**16 20 40.3**	**+3.4**
	comp=E,0.5nm,0.9s,baz=149,slow=26,SNR=3.6						
BVA0				⇑Lg	Lg	16 21 41.1	
	comp=E,1.7nm,0.8s,baz=146,slow=28,SNR=3.6						
BVAR	**Borovoye Array**	**11.25**	**338**	Pn	**Pn**	**16 18 29.7**	**-1.8**
	comp=E,0.6nm,0.3s,baz=139,slow=13,SNR=18						
BVAR				Sn	Sn	16 20 46.5	+10
	comp=E,0.2nm,0.3s,baz=149,slow=20,SNR=3.1						
BVAR				Lg	Lg	16 21 44.6	
	comp=E,0.9nm,0.3s,baz=166,slow=31,SNR=3.8						
BRVK	**Borovoye**	**11.31**	**337**	⇑Pn	**Pn**	**16 18 30.1**	**-2.2**
	comp=E,4.9nm,0.7s						
BRVK				⇑Sn	**Sn**	**16 20 35.4**	**-2.9**
	comp=E,4.7nm,0.7s						
BRVK				⇑Lg	Lg	16 21 42.0	
	comp=E,42nm,1.2s						
ZRNK	**Zerenda**	**11.60**	**334**	⇓Pn	**Pn**	**16 18 34.2**	**-2.1**
	comp=E,1.8nm,0.5s						
ZRNK				⇓Lg	Lg	16 21 52.7	
	comp=E,11nm,0.7s						
ZALV	**Zalesovo Beam**	**12.14**	**21**	Pn	**Pn**	**16 18 42.8**	**-0.9**
	comp=E,0.5nm,0.3s,baz=212,slow=15,SNR=10.0						
ZALV				Sn	Sn	16 21 09.7	+11
	comp=E,0.2nm,0.3s,baz=210,slow=20,SNR=3.9						
ZALV				Lg	Lg	16 22 13.0	
	comp=E,0.1nm,0.3s,baz=202,slow=26,SNR=3.8						
AB31	**Akbulak array**	**13.75**	**304**	Pn	**Pn**	**16 19 05.7**	**0.0**
	comp=E,0.6nm,0.6s,baz=112,slow=16,SNR=8.8						
AB31				⇓Sn	Sn	16 21 44.5	+6.3
	comp=E,0.8nm,0.6s						
AB31				⇑Lg	Lg	16 23 11.3	
	comp=E,0.6nm,0.5s						
AKTO	**Aktyubinsk**	**15.35**	**306**	Sn	**Sn**	**16 22 23.5**	**+6.5**
	comp=E,0.1nm,0.3s,baz=196,slow=18,SNR=2.0						
AKTO	**Aktyubinsk**	**15.35**	**306**	⇑Pn	**Pn**	**16 19 26.2**	**-1.1**
	comp=E,0.2nm,0.9s						
AKTO				⇓Sn	**Sn**	**16 22 19.8**	**+2.8**
	comp=E,0.2nm,1.1s						
AKTO				⇑Lg	Lg	16 23 58.3	
	comp=E,1.2nm,1.3s						
SONM	**Songino Array**	**20.87**	**66**	P	Pn	16 20 33.9	-1.5
	comp=E,0.8nm,0.9s,baz=285,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**67.26**	**19**	P	**P**	**16 26 45.8**	**+1.0**
	comp=E,0.5nm,0.8s,baz=313,slow=5.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**70.78**	**270**	P	**P**	**16 27 07.5**	**+0.1**
	comp=E,1.0nm,0.5s,baz=42,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**74.58**	**6**	P	**P**	**16 27 29.9**	**+0.7**
	comp=E,1.2nm,0.7s,baz=347,slow=6.1,SNR=11						
WRA	**Warramunga Ar**	**81.45**	**127**	P	**P**	**16 28 07.7**	**-0.2**
	comp=E,0.3nm,0.8s,baz=331,slow=5.4,SNR=3.3						
ASAR	**Alice Springs**	**84.11**	**130**	P	**P**	**16 28 21.4**	**-0.3**
	comp=E,0.7nm,1.1s,baz=327,slow=5.1,SNR=5.0						

IDC 19 16:33:29.2±2.9, 0.59S×133.55E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=151.2km s-min=26.0km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.25**	**178**	P	P	16 37 55.1	-0.3
	0.1nm,0.3s,baz=357,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.94**	**179**	P	P	16 38 35.6	+0.3
	0.4nm,0.4s,baz=354,slow=11,SNR=20						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	16 44 11.2	-0.1
	0.2nm,0.9s,baz=116,slow=6.6,SNR=3.3						

*SZGRF **19** 16:41:55.0, 23.17S×172.49E, h33km, Southeast of Loyalty Islands*
*IDC **19** 16:41:56.1±1.0, 22.75S×171.05E, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, ML4.5/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/28, Error ellipse: s-maj=36.1km s-min=18.6km az=162.0*
*NOU **19** 16:41:57.7±2.6, 20.14S×170.68E, h10km, MD3.2, ML3.2*
*ISCJB **19** 16:42:01.3±0.6, 22.75S±0.1×170.85E±0.04, h42km, mb4.4/17, MS3.8/4, Error ellipse: s-maj=16.0km s-min=5.8km az=178.1*
*NEIC **19** 16:42:02.1±0.6, 22.73S×170.88E, h35km, mb4.7/8, Error ellipse: s-maj=19.0km s-min=10.7km az=163.0*
ISC 19 16:42:02.7±0.6, 22.75S±0.1×170.93E±0.07, h42km, n94, σ0.997/96, mb4.4/17, MS3.6/4, 3C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.77**	**277**	*e*S	**Sn**	**16 43 41.1**	**-0.5**
PLUM	**Mont Dore**	**3.98**	**275**	*e*P	**Pn**	**16 43 00.1**	**-1.2**
PLUM				*e*S	**Sn**	**16 43 48.4**	**+1.6**
NORM	**Noumea**	**4.13**	**275**	*e*P	**Pn**	**16 43 01.9**	**-1.4**
NORM				*e*S	**Sn**	**16 43 50.3**	**-0.2**
DZM	**Mont Dzumac**	**4.19**	**277**	*e*Pn	**Pn**	**16 43 03.1**	**-1.1**
	62nm,0.2s						
DZM				*e*Sn	**Sn**	**16 43 49.7**	**-2.3**
	233nm,0.4s						
DZM				*e*LR	LR	16 43 54.8	
	621nm,22.3s						
DZM	**Mont Dzumac**	**4.19**	**277**	Pn	**Pn**	**16 43 04.1**	**-0.1**
	14nm,0.3s,baz=110,slow=13,SNR=229						
DZM				Sn	**Sn**	**16 43 54.9**	**+2.9**
	14nm,0.3s,baz=143,slow=20,SNR=9.6						
DZM	**Mont Dzumac**	**4.19**	**277**	*e*P	**Pn**	**16 43 03.4**	**-0.9**
DZM				Sn	**Sn**	**16 43 54.9**	**+2.9**
NOUC	**Port Laguerre**	**4.32**	**277**	*e*P	**Pn**	**16 43 04.3**	**-1.5**
NOUC				*e*S	**Sn**	**16 43 53.2**	**-1.8**
NOUC				AMP		16 44 06.1	
	comp=Z,91nm,4.7s						
MSVF	**Nonsavu**	**8.29**	**55**	*e*P	Pn	16 44 03.5	+3.0
	comp=Z,63nm,0.9s						
HNR	**Honiara**	**16.85**	**320**	Pn	**P**	**16 45 56.2**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=200,slow=11,SNR=4.8						
HNR				LR	LR	16 51 39.3	
	comp=Z,218nm,19.3s,baz=142,slow=34						
HNR	**Honiara**	**16.85**	**320**	P	**Pn**	**16 45 56.1**	**+0.5**
	comp=Z,68nm,0.9s						
AFI	**Afiamalu**	**18.57**	**65**	LR	LR	16 51 39.8	
	comp=Z,297nm,21.3s,baz=182,slow=32						
RPZ	**Rata Peaks**	**21.00**	**180**	LR	LR	16 53 34.2	
	comp=Z,326nm,21.3s,baz=216,slow=33						
CTA	**Charters Tower**	**23.11**	**272**	P	**P**	**16 47 06.0**	**+0.8**
	comp=Z,5.4nm,0.8s,baz=96,slow=10,SNR=3.0						
CTA				LR	LR	16 55 29.7	
	comp=Z,182nm,18.2s,baz=85,slow=35						
CTA	**Charters Tower**	**23.11**	**272**	P	**P**	**16 47 06.0**	**+0.8**
CTAO	**Charters Tower**	**23.11**	**272**	P	**P**	**16 47 06.2**	**+1.0**
PMG	**Port Moresby**	**26.32**	**296**	P	**P**	**16 47 34.5**	**-0.3**
	comp=Z,12nm,0.9s,baz=132,slow=3.4,SNR=6.7						
PMG	**Port Moresby**	**26.32**	**296**	*e*P	**P**	**16 47 34.9**	**+0.2**
STKA	**Stephens Creek**	**27.57**	**244**	P	**P**	**16 47 46.3**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=80,slow=12,SNR=4.1						
STKA				LR	LR	16 57 09.1	
	comp=Z,165nm,21.3s,baz=225,slow=33						
STKA	**Stephens Creek**	**27.57**	**244**	*e*P	**P**	**16 47 47.7**	**+1.8**
	comp=Z,3.1nm,0.8s						
STKA	**Stephens Creek**	**27.57**	**244**	*e*P	**P**	**16 47 47.2**	**+1.3**
COEN	**Coen**	**27.69**	**283**	*e*P	**P**	**16 47 48.3**	**+1.2**
	comp=Z,53nm,0.9s						
AS31	**Alice Springs**	**33.99**	**261**	*e*P	**P**	**16 48 42.0**	**-0.7**
ASAR	**Alice Springs**	**33.99**	**261**	P	**P**	**16 48 42.3**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=86,slow=8.8,SNR=33						
ASAR	**Alice Springs**	**33.99**	**261**	P	**P**	**16 48 42.3**	**-0.4**
WB2	**Warramunga Ar**	**34.13**	**268**	*e*P	**P**	**16 48 42.4**	**-1.5**
WRAB	**Tennant Creek**	**34.13**	**268**	*e*P	**P**	**16 48 42.7**	**-1.2**
WRA	**Warramunga Ar**	**34.14**	**268**	P	**P**	**16 48 42.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=98,slow=8.6,SNR=9.5						
WRA	**Warramunga Arr**	**34.14**	**268**	P	**P**	**16 48 42.3**	**-1.7**
TBI	**Tubuai**	**36.39**	**99**	*e*LR	LR	16 58 56.6	
	comp=Z,98nm,25.2s						
PPT2	**Papeete

CHTO	**Chiang Mai**	**81.50**	**294**	*e*P	**P**	**16 54 17.2**	**+1.1**
	comp=Z,8.3nm,1.0s							
NVAR	**Mina Array Bea**	**89.89**	**48**	P	**P**	**16 54 57.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=226,slow=9.0,SNR=14							
NVAR	**Mina Array Bea**	**89.89**	**48**	P	**P**	**16 54 57.0**	**-0.6**
ULN	**Ulaanbaatar**	**90.53**	**323**	*e*P	**P**	**16 55 00.1**	**-0.2**
	comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**90.89**	**323**	P	**P**	**16 55 02.0**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=138,slow=4.1,SNR=24							
SONM	**Songino Array**	**90.89**	**323**	P	**P**	**16 55 02.0**	**+0.1**
ILAR	**Eielson Array**	**93.03**	**17**	P	**P**	**16 55 12.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=231,slow=5.0,SNR=6.5							
ILAR				PP	**PP**	**16 58 55.3**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=220,slow=5.2,SNR=4.8							
ILAR	**Eielson Array**	**93.03**	**17**	P	**P**	**16 55 12.5**	**+1.2**
ILAR				PP	**PP**	**16 58 55.3**	**+0.4**
MKAR	**Makanchi Array**	**105.26**	**315**	PP	PP	17 00 26.2	-2.5
	comp=Z,0.5nm,0.9s,baz=92,slow=6.1,SNR=3.6							
MKAR	**Makanchi Array**	**105.26**	**315**	PP	PP	17 00 26.2	-2.5
BVAR	**Borovoye Array**	**114.04**	**319**	PKP	PKPdf	17 00 35.9	-1.1
	comp=Z,0.7nm,0.8s,baz=75,slow=1.6,SNR=3.3							
BVAR	**Borovoye Array**	**114.04**	**319**	PKP	PKPdf	17 00 35.9	-1.1
BRTR	**Keskin Array B**	**140.11**	**305**	PKhKP	PKPpre	17 01 22.8		
	comp=Z,0.5nm,0.8s,baz=90,slow=1.4,SNR=3.1							
BRTR	**Keskin Array B**	**140.11**	**305**	PKPpre	PKPpre	17 01 22.8		
CRVS	**Cervenica-Dubn**	**144.37**	**325**	*e*PKP	**PKPdf**	**17 01 36.2**	**+2.0**
SZH	**Strazhica**	**144.52**	**314**	*e*P	PKPbc	17 01 33.7	+0.4
OKC	**Ostrava-Krasne**	**145.47**	**329**	*e*PKP	**PKPdf**	**17 01 35.7**	**-0.3**
MPEP	**Malo Peshtene**	**145.93**	**315**	P	**PKPab**	**17 01 38.0**	**0.0**
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKP	**PKPab**	**17 01 38.2**	**-0.1**
UPC	**Upice**	**146.00**	**331**	*e*PKP	**PKPab**	**17 01 38.1**	**-0.2**
VYHS	**Vyhne**	**146.00**	**326**	*e*PKP	**PKPab**	**17 01 38.1**	**-0.3**
KOLL	**Kolacno**	**146.17**	**327**	*e*PKP	**PKPab**	**17 01 38.2**	**+0.2**
PVCC	**Panska Ves**	**146.61**	**332**	*e*PKP	**PKPab**	**17 01 40.2**	**-0.5**
BRG	**Berggiesshubel**	**146.62**	**333**	*i* P	**PKPbc**	**17 01 39.4**	**-0.2**
	comp=Z,20nm,1.0s							
BRG	**Berggiesshubel**	**146.62**	**333**	*e*PKPbc	**PKPbc**	**17 01 39.7**	**+0.1**
CLL	**Collm**	**146.67**	**335**	*e*PKPbc	**PKPbc**	**17 01 39.8**	**+0.1**
CLL	**Collm**	**146.67**	**335**	⇑*i*PKPbc	**PKPbc**	**17 01 39.1**	**-0.6**
	comp=Z,23nm,0.9s							
CLL				*e*(PKiKP)		17 01 46.0		
MMB	**Musomiste**	**146.69**	**312**	*e*P	**PKPbc**	**17 01 39.8**	**-0.3**
PRU	**Pruhonice**	**147.02**	**332**	*e*PKP	**PKPbc**	**17 01 40.1**	**-0.6**
PRU				*e*pPKP	**pPKPdf**	**17 01 51.8**	**-0.1**
ZST	**Bratislava**	**147.07**	**327**	*e*PKP	**PKPab**	**17 01 41.9**	**-0.6**
TREC	**Trest**	**147.10**	**330**	*e*PKP	**PKPbc**	**17 01 40.2**	**-0.8**
CLZ	**Clausthal**	**147.23**	**338**	*e*PKPbc	**PKPbc**	**17 01 41.8**	**+0.5**
IBBN	**Ibbenbueren**	**147.70**	**341**	*e*PKPbc	**PKPbc**	**17 01 42.6**	**+0.1**
NKC	**Novy Kostel**	**147.73**	**334**	*e*PKP	**PKPbc**	**17 01 42.9**	**+0.2**
NKC				*e*pPKP	**pPKPdf**	**17 01 50.6**	**-2.5**
MOX	**Moxa**	**147.74**	**335**	*e*PKPbc	**PKPbc**	**17 01 42.8**	**+0.1**
CONA	**Conrad Observa**	**147.87**	**328**	⇓*i*PKPbc	**PKPbc**	**17 01 43.6**	**+0.3**
	comp=Z,8.4nm,1.0s							
KHC	**Kasperske Hory**	**148.08**	**331**	*e*PKP	**PKPbc**	**17 01 43.8**	**+0.1**
KHC				*e*pPKP	**pPKPdf**	**17 01 54.1**	**+0.4**
KHC				*e*sPKP		17 02 02.5		
ROTZ	**Rotzenmuhle**	**148.19**	**333**	*e*PKPbc	**PKPbc**	**17 01 44.5**	**+0.6**
GEC2	**GERESS Array S**	**148.24**	**331**	*e*PKPbc	**PKPbc**	**17 01 44.3**	**+0.1**
GERES	**GERESS Array B**	**148.24**	**331**	PKP	**PKPdf**	**17 01 40.8**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=321,slow=2.7,SNR=12							
GERES				PKPbc	**PKPbc**	**17 01 44.2**	**0.0**
	comp=Z,6.8nm,0.8s,baz=43,slow=2.5,SNR=28							
GERES	**GERESS Array B**	**148.24**	**331**	PKP	**PKPdf**	**17 01 40.8**	**-0.1**
GERES				PKPbc	**PKPbc**	**17 01 44.2**	**0.0**
WET	**Wettzell**	**148.38**	**332**	*e*PKPbc	**PKPbc**	**17 01 45.0**	**+0.5**
GRF	**Grafenberg Arr**	**148.64**	**334**	*e*PKPbc	**PKPbc**	**17 01 45.4**	**+0.3**
STU	**Stuttgart**	**150.18**	**335**	*e*PKPbc	**PKPbc**	**17 01 49.1**	**+0.2**
ABTA	**Abfaltersbach**	**150.32**	**329**	*i* PKPbc	**PKPbc**	**17 01 48.6**	**-0.8**
	comp=Z,12nm,0.9s,SNR=6.6							
WTTA	**Wettenberg**	**150.34**	**331**	⇓*i*PKPbc	**PKPbc**	**17 01 49.5**	**-0.1**
	comp=Z,26nm,1.0s							
WLF	**Walferdange**	**150.50**	**340**	*e*PKPbc	**PKPbc**	**17 01 50.3**	**+0.6**
MOTA	**Moqsalm**	**150.51**	**332**	⇑*i*PKPbc	**PKPbc**	**17 01 49.1**	**-0.9**
	comp=Z,19nm,0.9s							
BFO	**Black Forest**	**150.87**	**336**	*e*PKPbc	**PKPbc**	**17 01 50.4**	**-0.2**
FETA	**Feichten**	**150.93**	**332**	*i* PKPbc	**PKPbc**	**17 01 50.8**	**-0.2**
	comp=Z,22nm,0.9s,SNR=13							
DAVA	**Damuels**	**151.09**	**333**	⇑*i*PKPbc	**PKPbc**	**17 01 51.1**	**-0.3**
	comp=Z,22nm,1.2s							
TORD	**Torodi Ar. Bea**	**166.06**	**229**	PKP	**PKPdf**	**17 02 03.6**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=131,slow=0.5,SNR=6.0							
TORD				PKPab	**PKPab**	**17 03 04.0**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=145,slow=6.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**166.06**	**229**	PKP	**PKPdf**	**17 02 03.6**	**-0.4**
TORD				PKPab	**PKPab**	**17 03 04.0**	**-0.3**

MAN 19 16:46:48.9±0.37N×125.19E±0.19E, h1km±1km, mb5.4, ML4.3, MS4.6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.58**	**133**	*e*P	Pg	16 46 59.5	+0.2
MSLP	**Maasin**	**0.83**	**337**	*e*P	Pg	16 47 04.2	+0.3
CGP	**Cagayan de Oro**	**1.03**	**208**	*e*P	Pb	16 47 08.2	-0.4
CGP				*i* S	Sn	16 47 24.6	-0.1
TBP	**Tagbilaran**	**1.35**	**284**	*e*P	Pb	16 47 14.2	+0.1
TBP				*e*S	Sn	16 47 32.9	+0.3
BUKP	**Musuan**	**1.49**	**185**	*e*P	Pn	16 47 15.8	-0.1
OCLP	**Ormoc**	**1.77**	**341**	*e*P	Pn	16 47 19.3	-0.4
PLP	**Palo**	**1.80**	**353**	⇓*e*P	Pn	16 47 19.9	-0.2
PLP				*e*S	Sn	16 47 39.2	-4.5
DCPH	**Dipolog City**	**1.98**	**247**	⇑*e*P	Pn	16 47 22.6	0.0
DCPH				*e*S	Sn	16 47 47.2	-0.8
DMPH	**Davao City--Mi**	**2.29**	**172**	⇑*e*P	Pn	16 47 26.8	-0.3
DMPH				*e*S	Sn	16 47 48.5	-7.4
CTBH	**Cotabato--PC H**	**2.33**	**204**	⇑*i*P	Pb	16 47 30.1	-0.8
PAGZ	**Pagadian**	**2.34**	**230**	*e*P	Pn	16 47 28.5	+0.8
MATI	**Mati**	**2.63**	**156**	*e*P	Pn	16 47 33.7	+2.1
GUIM	**Jordan**	**2.85**	**296**	*e*P	Pn	16 47 35.0	+0.4
IPIL	**Ipil**	**3.03**	**239**	*e*P	Pn	16 47 39.4	+2.3

*ISK **19** 16:49:05.7, 37.25N×28.28E, h22km, ML1.6*
*CSEM **19** 16:49:05.7±0.4, 36.91N×28.27E, h2km, MD2.6, Error ellipse: s-maj=8.4km s-min=5.2km az=177.0*
*DDA **19** 16:49:06.3, 36.97N×28.21E, h7km, MD2.6*

ISC 19 16:49:05.7±1.1, 36.93N±0.04×28.27E±0.03, h6km±9km, n16, σ0.86/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**3**	*e*Pg	**Pg**	**16 49 10.3**	**+0.5**
YER				*e*Sg	**Sg**	**16 49 13.6**	**+0.9**
YER	**Yerkesik**	**0.21**	**3**	*e*Pg	**Pg**	**16 49 10.3**	**+0.5**
YER				*e*Sg	**Sg**	**16 49 13.6**	**+0.9**
TURN	**Turunc**	**0.27**	**101**	*i* P	**Pg**	**16 49 10.6**	**-0.4**
TURN				*i* S	**Sg**	**16 49 13.7**	**-1.0**
TURN	**Turunc**	**0.27**	**101**	*i* P	**Pg**	**16 49 10.6**	**-0.4**
TURN				*i* S	**Sg**	**16 49 13.7**	**-1.0**
BDRM	**Kayabasi**	**0.67**	**282**	*i* P	**Pg**	**16 49 18.1**	**-0.5**
BDRM				*i* S	**Sg**	**16 49 27.5**	**+0.1**
BDRM	**Kayabasi**	**0.67**	**282**	*i* P	**Pg**	**16 49 18.1**	**-0.5**
BDRM				*i* S	**Sg**	**16 49 27.5**	**+0.1**
FETY	**Fethiye**	**0.72**	**114**	*e*PG	**Pn**	**16 49 23.5**	**+1.2**
FETY	**Fethiye**	**0.72**	**114**	*e*Pg	**Pn**	**16 49 23.5**	**+1.2**
BODT	**Bodrum**	**0.78**	**280**	*e*PG	**Pb**	**16 49 21.7**	**+0.1**
BODT				*e*SG	**Sb**	**16 49 33.4**	**+1.0**
BODT	**Bodrum**	**0.78**	**280**	*e*Pg	**Pb**	**16 49 21.7**	**+0.1**
BODT				*e*Sg	**Sb**	**16 49 33.4**	**+1.0**
AYDN	**Tasoluk**	**0.80**	**337**	*i* P	**Pb**	**16 49 21.1**	**-0.8**
AYDN				*i* S	**Sg**	**16 49 29.5**	**-1.8**
AYDN	**Tasoluk**	**0.80**	**337**	*i* P	**Pb**	**16 49 21.1**	**-0.8**
AYDN				*i* S	**Sg**	**16 49 29.5**	**-1.8**
DNZL	**Cakiroluk**	**0.98**	**39**	*i* P	**Pb**	**16 49 25.4**	**+0.2**
DNZL				*i* S	**Sn**	**16 49 39.9**	**-0.6**
DNZL	**Cakiroluk**	**0.98**	**39**	*i* P	**Pb**	**16 49 25.4**	**+0.2**
DNZL				*i* S	**Sn**	**16 49 39.9**	**-0.6**
GCAM	**G?zelcaml?**	**1.13**	**313**	*i* P	**Pb**	**16 49 27.3**	**-0.3**
GCAM				*i* S	**Sb**	**16 49 41.9**	**-0.6**
GCAM	**G?zelcaml?**	**1.13**	**313**	*i* P	**Pb**	**16 49 27.3**	**-0.3**
GCAM				*i* S	**Sb**	**16 49 41.9**	**-0.6**

IDC 19 16:49:26.9±1.3, 29.40N×140.92E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=43.8km s-min=21.7km az=55.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.55**	**154**	Pn	Pn	16 50 10.2	+0.7
	17nm,0.3s,baz=307,slow=20,SNR=28						
CBIJ				Sn	Sn	16 50 41.3	0.0
	18nm,0.3s,baz=282,slow=20,SNR=12						
CBIJ				LR	LR	16 50 45.6	
	comp=Z,298nm,21.1s,baz=4.2,slow=31						
SONM	**Songino Array**	**32.30**	**314**	P	P	16 55 59.4	+1.8
	0.8nm,0.9s,baz=111,slow=10.0,SNR=2.6						
MKAR	**Makanchi Array**	**48.17**	**308**	P	P	16 58 08.3	-0.6
	0.1nm,0.4s,baz=93,slow=7.4,SNR=5.8						
KURK	**Kurchatov**	**50.59**	**313**	P	P	16 58 26.4	-0.9
	0.3nm,0.3s,baz=82,slow=6.6,SNR=3.4						
ILAR	**Eielson Array**	**56.25**	**29**	P	P	16 59 08.5	-0.1
	0.7nm,1.0s,baz=261,slow=4.5,SNR=3.9						

*IDC **19** 16:59:49.1±1.0, 28.33N×86.26E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/27, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=35.9km s-min=17.6km az=61.0*
*ISCJB **19** 16:59:54.8±0.4, 28.45N±0.05×86.35E±0.04, h57km, mb3.6/7, Error ellipse: s-maj=7.3km s-min=4.2km az=14.0*
*BJI **19** 16:59:54.1, 28.62N×86.79E, h11km, ML3.5/1*
*NDI **19** 16:59:56.3±3.1, 28.66N×86.61E, h33km±25km, ML4.1*

ISC 19 16:59:56.3±0.7, 28.45N±0.08×86.38E±0.05, h57km, n23, σ2.33/27, mb3.5/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**2.27**	**119**	*e*P	**Pn**	**17 00 31.0**	**-0.5**
GTK				*e*S	**Sn**	**17 00 55.5**	**-3.0**
LSA	**Lhasa**	**4.35**	**72**	Pg	**Pn**	**17 01 02.3**	**+2.0**
LSA				Sg	**Sn**	**17 01 49.6**	**-0.4**
LSA				*s*max	*s*max		
	comp=E,110nm,0.5s						
BOK	**Bokaro**	**4.66**	**186**	*i* P	Pn	17 01 08.5	+4.4
BOK				*i* S	**Sn**	**17 01 59.5**	**+2.6**
PTH	**Pithoragarh**	**5.51**	**283**	*e*P	Pn	17 01 20.9	+4.9
PTH				*e*S	**Sn**	**17 02 21.3**	**+3.2**
SHL	**Shillong**	**5.68**	**119**	*e*P	Pn	17 01 24.0	+5.7
SHL				*e*S	**Sn**	**17 02 24.0**	**+1.6**
DDI	**Dehra Dun**	**7.50**	**286**	*e*P	**Pn**	**17 01 45.5**	**+2.4**
DDI				*e*S	**Sn**	**17 03 05.2**	**-1.6**
AGRA	**Agra**	**7.57**	**263**	*e*S	**Sn**	**17 03 07.0**	**-1.3**
AGRA				AML	AML	17 03 13.8	
	comp=N,193nm,0.3s						
AGRA				AML	AML	17 03 14.5	
	comp=E,167nm,0.3s						
BISR	**Bishrakh**	**7.87**	**273**	*e*S	**Sn**	**17 03 15.4**	**-0.3**
BISR				AML	AML	17 03 17.2	
	comp=Z,141nm,0.2s						
NDI	**New Delhi**	**8.06**	**274**	*ex*	**Sn**	**17 03 15.0**	**-5.5**
AYAN	**Aya Nagar**	**8.15**	**272**	*ex*	**Sn**	**17 03 18.3**	**-4.3**
AYAN				AML	AML	17 03 21.2	
	comp=Z,63nm,0.4s						
KHET	**Khetri**	**9.34**	**270**	*e*P	**Pn**	**17 02 10.4**	**+2.2**
KHET				*e*S	**Sn**	**17 03 47.0**	**-4.7**
KHET				AML	AML	17 03 52.3	
	comp=E,58nm,0.2s						
KHET				AML	AML	17 03 52.6	
	comp=N,54nm,0.1s						
CHCP	**Chirah Chowk**	**12.38**	**298**	P	**Pn**	**17 02 50.0**	**+0.2**
THW	**Thamme Wali**	**13.33**	**293**	P	**Pn**	**17 03 01.7**	**-1.0**
CEP	**Cherat**	**13.50**	**297**	P	**Pn**	**17 03 04.8**	**-0.3**
CEP				S	Sn	17 05 24.0	-10
CMAR	**Chiang Mai Arr**	**15.21**	**128**	Pn	**Pn**	**17 03 25.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=310,slow=13,SNR=7.9						
MKAR	**Makanchi Array**	**18.59**	**351**	P	**P**	**17 04 08.9**	**+0.2**
	comp=N,0.2nm,0.3s,baz=177,slow=9.8,SNR=12						
KURK	**Kurchatov**	**23.00**	**347**	P	**P**	**17 04 55.5**	**-0.6**
	comp=N,0.5nm,0.5s,baz=167,slow=10,SNR=2.9						
SONM	**Songino Array**	**24.81**	**33**	P	**P**	**17 05 13.8**	**+0.7**
	comp=N,0.4nm,0.4s,baz=219,slow=10,SNR=7.3						
ZALV	**Zalesovo Beam**	**25.50**	**358**	P	**P**	**17 05 21.0**	**+1.9**
	comp=N,0.4nm,0.5s,baz=179,slow=7.2,SNR=2.3						
FINES	**FINESS Array B**	**51.30**	**328**	P	**P**	**17 08 54.6**	**+0.3**
	comp=N,2.4nm,1.0s,baz=77,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**66.79**	**131**	P	**P**	**17 10 42.8**	**+0.7**
	comp=N,0.7nm,0.4s,baz=325,slow=6.5,SNR=25						
ASAR	**Alice Springs**	**69.14**	**134**	P	**P**	**17 10 57.5**	**+0.7**
	comp=N,0.4nm,0.6s,baz=320,slow=5.9,SNR=9.9						
TORD	**Torodi Ar. Bea**	**79.25**	**279**	P	**P**	**17 11 56.3**	**+0.3**
	comp=N,0.5nm,0.5s,baz=56,slow=2.7,SNR=5.2						

*NIED **19** 17:07:00, 24.10N×125.10E, h32km, Mw4.4 Best double couple: M0 4.43000×10^15 NP1:φs 18.00000°, δ83.00000°, λ-173.00000°. NP2:φs 287.00000°, δ83.00000°, λ-7.00000°.*
*BJI **19** 17:07:42.6, 23.87N×125.54E, h35km, mB4.8/4, mb4.2/11, Ms4.4/1, Ms7 4.1/1*
*IDC **19** 17:07:43.4±0.6, 24.26N×125.07E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.2/25, mbtmp4.1/21, ML3.8/1, MS3.3/2, Ms1 3.4/2, ms1mx2.8/41, Error ellipse: s-maj=18.1km s-min=14.4km az=79.0*
*JMA **19** 17:07:48.3±0.2, 24.13N×125.13E, h40km, M4.6*
JMA Felt I J1.
*NEIC **19** 17:07:49.5±1.3, 24.23N×125.19E, h46km±12km, mb4.7/14, MW4.4(NIED), Error ellipse: s-maj=8.8km s-min=8.1km az=155.0*
NEIC Recorded [1 JMA] on Miyako-jima.

ISC 19 17:07:44.8±2.0, 24.12N±0.06×125.24E±0.04, h13km±12km, n97, σ1.35/104, mb4.3/34, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.66**	**13**	P	**Pn**	**17 08 01.4**	**+1.5**
JOGS				S	**Sn**	**17 08 11.4**	**+1.3**
JMJ	**Miyako jima 2**	**0.70**	**4**	P	**Pn**	**17 08 01.6**	**+1.2**
JMJ				S	**Sn**	**17 08 11.2**	**+0.1**
JTJ	**Tarama**	**0.72**	**317**	P	**Pn**	**17 08 00.6**	**-0.1**
JTJ				S	**Sb**	**17 08 09.8**	**+0.9**
JIJ	**Ishigaki jima**	**1.03**	**284**	P	**Pn**	**17 08 05.1**	**+0.1**
JIJ				S	**Sb**	**17 08 18.0**	**0.0**
JKRS	**Kuro-shima**	**1.13**	**276**	P	**Pn**	**17 08 07.0**	**+0.7**
JKRS				*e*S	**Sb**	**17 08 21.0**	**+0.1**
HATJ	**Hateruma jima**	**1.31**	**268**	P	**Pg**	**17 08 09.0**	**-1.1**
IRIF	**Iriomote-Funau**	**1.40**	**279**	P	**Pb**	**17 08 10.4**	**-0.3**
YOJ	**Yonaguni jima**	**2.06**	**280**	P	**Pn**	**17 08 19.5**	**+0.3**
JKE	**Kume jima 2**	**2.61**	**32**	P	**Pn**	**17 08 27.9**	**+1.2**
JJT2	**Tamagusuku 2**	**3.04**	**48**	P	**Pn**	**17 08 34.9**	**+2.3**
NAH1	**Naha**	**3.04**	**46**	P	**Pb**	**17 08 36.5**	**-2.3**
JAGN	**Aguni-jima**	**3.06**	**36**	P	**Pn**	**17 08 34.8**	**+2.0**
JIH	**Iheya**	**3.81**	**40**	P	**Pn**	**17 08 44.6**	**+1.4**
JOW	**Kunigami**	**3.85**	**45**	Pn	**Pn**	**17 08 45.0**	**+1.2**
	14nm,0.3s,baz=196,slow=11,SNR=78						
JOW				Sn	**Sn**	**17 09 27.1**	**-1.8**
	24nm,0.3s,baz=120,slow=26,SNR=3.8						
JOW	**Kunigami**	**3.85**	**45**	*e*P	**Pn**	**17 08 44.9**	**+1.2**
JOW				Sn	**Sn**	**17 09 27.1**	**-1.8**
JOW	**Kunigami**	**3.85**	**45**	P	**Pn**	**17 08 45.2**	**+1.4**
JTK	**Tokunoshima**	**4.95**	**42**	P	**Pn**	**17 08 59.2**	**+0.3**
JTK				S	**Sn**	**17 09 54.6**	**-1.4**
JMZ	**Minamidaito 2**	**5.69**	**71**	P	**Pn**	**17 09 08.3**	**-0.7**
JMZ				*e*S	**Sn**	**17 10 09.1**	**-5.1**
JAM	**Amami Oshima**	**5.80**	**42**	P	**Pn**	**17 09 10.4**	**-0.2**
JAM				S	**Sn**	**17 10 12.3**	**-4.7**
QZH	**Quanzhou**	**6.11**	**279**	P	**Pn**	**17 09 14.8**	**0.0**
KSAR	**Wonju Array Be**	**13.48**	**9**	Pn	**Pn**	**17 10 58.0**	**+2.2**
KSRS	**Korea Array**	**13.49**	**9**	Pn	**Pn**	**17 10 58.0**	**+2.0**
	0.2nm,0.3s,baz=190,slow=13,SNR=12						
ENH	**Enshi**	**15.29**	**297**	*e*P	**P**	**17 11 25.2**	**-0.1**
	6.4nm,0.7s						
CBIJ	**Chichi jima**	**15.57**	**75**	LR	LR	17 15 33.0	
	comp=Z,121nm,19.7s,baz=359,slow=30						
MJAR	**Matsushiro Arr**	**16.67**	**39**	Pn	**P**	**17 11 43.2**	**+2.7**
	0.4nm,0.3s,baz=231,slow=11,SNR=7.0						
MJAR	**Matsushiro Arr**	**16.67**	**39**	Pn	**P**	**17 11 43.2**	**+2.7**
USRK	**Ussuriysk Arra**	**20.79**	**14**	P	**P**	**17 12 24.8**	**-0.8**
	2.7nm,0.5s,baz=193,slow=8.1,SNR=7.2						
ASAJ	**Asahikawa**	**24.49**	**31**	P	**P**	**17 13 02.3**	**-1.4**
	3.6nm,0.5s,baz=102,slow=22,SNR=6.7						
ASAJ	**Asahikawa**	**24.49**	**31**	P	**P**	**17 13 02.3**	**-1.4**
CHTO	**Chiang Mai**	**25.02**	**263**	*e*P	**P**	**17 13 09.3**	**+0.6**
	4.5nm,0.9s						
CM31	**Chiang Mai Arr**	**25.12**	**262**	*e*P	**P**	**17 13 09.5**	**-0.2**
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.12**	**262**	P	**P**	**17 13 09.6**	**-0.1**
	1.7nm,0.9s,baz=59,slow=8.4,SNR=17						
CMAR				LR	LR	17 23 22.0	
	comp=Z,50nm,18.4s,baz=50,slow=38						
CMAR	**Chiang Mai Arr**	**25.12**	**262**	P	**P**	**17 13 09.6**	**-0.1**
GTA	**Gaotai**	**26.33**	**311**	*e*P	**P**	**17 13 19.8**	**-0.8**
GTA				*p*max	*p*max		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**28.01**	**332**	P	**P**	**17 13 34.0**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=155,slow=9.7,SNR=16						
SONM	**Songino Array**	**28.01**	**332**	P	**P**	**17 13 34.0**	**-1.6**
TAPN	**Taplejung**	**33.88**	**284**	*e*P	**P**	**17 14 28.5**	**+0.7**
	comp=Z,10nm,0.7s						
TAPN	**Taplejung**	**33.88**	**284**	*e*P	**P**	**17 14 28.5**	**+0.7**
	comp=Z,10nm,0.7s						
ODAN	**Odare**	**34.20**	**283**	*e*P	**P**	**17 14 30.5**	**0.0**
ODAN	**Odare**	**34.20**	**283**	*e*P	**P**	**17 14 30.5**	**0.0**
KKN	**Kakani**	**36.01**	**285**	*e*P	**P**	**17 14 46.5**	**+0.4**
	comp=Z,11nm,0.8s						
KKN	**Kakani**	**36.01**	**285**	*e*P	**P**	**17 14 46.5**	**+0.4**
	comp=Z,11nm,0.8s						
DMN	**Daman**	**36.17**	**284**	*e*P	**P**	**17 14 47.5**	**0.0**
DMN	**Daman**	**36.17**	**284**	*e*P	**P**	**17 14 47.5**	**0.0**
GKN	**Gorkha**	**36.56**	**285**	*e*P	**P**	**17 14 51.0**	**+0.2**
GKN	**Gorkha**	**36.56**	**285**	*e*P	**P**	**17 14 51.0**	**+0.2**
DANN	**Dangsing**	**37.32**	**286**	*e*P	**P**	**17 14 58.2**	**+0.9**
	comp=Z,62nm,1.6s						
DANN	**Dangsing**	**37.32**	**286**	*e*P	**P**	**17 14 58.2**	**+0.9**
	comp=Z,62nm,1.6s						
PETK	**Petropavlovsk-**	**37.91**	**32**	P	**P**	**17 15 01.9**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=188,slow=4.7,SNR=11						
PETK	**Petropavlovsk-**	**37.91**	**32**	P	**P**	**17 15 01.9**	**+0.2**
MK31	**Makanchi Array**	**41.00**	**314**	*e*P	**P**	**17 15 26.8**	**-0.8**
MKAR	**Makanchi Array**	**41.00**	**314**	P	**P**	**17 15 26.9**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=100,slow=8.2,SNR=52						
MKAR	**Makanchi Array**	**41.00**	**314**	P	**P**	**17 15 26.9**	**-0.7**
ZAA0	**Zalesovo Array**	**42.36**	**325**	*e*P	**P**	**17 15 36.6**	**-1.9**
ZALV	**Zalesovo Beam**	**42.36**	**325**	P	**P**	**17 15 36.9**	**-1.6**
	comp=Z,3.2nm,0.5s,baz=109,slow=8.7,SNR=20						
ZALV	**Zalesovo Beam**	**42.36**	**325**	P	**P**	**17 15 36.9**	**-1.6**
KURK	**Kurchatov**	**44.55**	**319**	P	**P**	**17 15 55.7**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=109,slow=8.6,SNR=23						
KURK	**Kurchatov**	**44.55**	**319**	*e*P	**P**	**17 15 54.7**	**-1.6**
	comp=Z,2.9nm,0.3s						
WRAB	**Tennant Creek**	**44.67**	**168**	*e*P	**P**	**17 15 57.5**	**0.0**
WRA	**Warramunga Arr**	**44.68**	**168**	P	**P**	**17 15 58.9**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=348,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**44.68**	**168**	P	**P**	**17 15 58.9**	**+1.3**
TKM2	**Tokmak 2**	**44.74**	**307**	*e*P	**P**	**17 15 58.5**	**+0.3**
	comp=Z,6.9nm,0.6s						
AAK	**Ala-Archa**	**45.50**	**307**	*e*P	**P**	**17 16 04.2**	**0.0**
	comp=Z,12nm,1.0s						
ASAR	**Alice Springs**	**48.24**	**169**	P	**P**	**17 16 27.4**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=357,slow=9.0,SNR=30						
ASAR	**Alice Springs**	**48

	baz=294							
NNS	**Nan Shan**	**0.94**	**250**	*e*P	**Pb**	**17**	**16**	**51.2 -0.5**
	baz=251							
NNS				*e*S	**Sb**	**17**	**17**	**03.9 -0.3**
	baz=251							
TWD	**Chiawan**	**0.96**	**225**	*e*P	**Pb**	**17**	**16**	**52.0 -0.1**
	baz=230							
TWD				*e*S	**Sb**	**17**	**17**	**04.1 -0.6**
	baz=230							
HWA	**Hwalien**	**1.03**	**221**	*e*P	**Pg**	**17**	**16**	**54.0 +0.6**
	baz=227							
NCU	**National Centr**	**1.07**	**281**	*e*P	**Pb**	**17**	**16**	**54.0 0.0**
	baz=283							
NCU				*e*S	**Sn**	**17**	**17**	**10.0 +1.0**
	baz=283							
WHF	**Hehuan Shan**	**1.15**	**238**	*e*P	**Pn**	**17**	**16**	**55.5 -0.4**
	baz=246							
WHF				*e*S	**Sb**	**17**	**17**	**10.3 -0.5**
	baz=246							
TWT	**Tachien**	**1.17**	**245**	*e*P	**Pb**	**17**	**16**	**56.2 +0.4**
	baz=245							
TWT				*e*S	**Sb**	**17**	**17**	**11.3 +0.2**
	baz=245							
NSTT	**Nanjuang**	**1.22**	**264**	*e*P	**Pg**	**17**	**16**	**57.2 +0.1**
	baz=266							
NSTT				*e*S	**Sg**	**17**	**17**	**13.2 +0.1**
	baz=266							
HSN	**Hsinchu**	**1.25**	**272**	*e*P	**Pg**	**17**	**16**	**57.5 0.0**
	baz=274							
ESL	**Shilin**	**1.25**	**221**	*e*P	**Pn**	**17**	**16**	**57.1 +0.2**
	baz=205							
IRIF	**Iriomote-Funau**	**1.34**	**108**	P	**Pn**	**17**	**16**	**57.0 -1.0**
NSY	**Sanyi**	**1.48**	**257**	*e*P	**Pg**	**17**	**17**	**02.7 +0.8**
	baz=275							
TWQ1	**Liyutan**	**1.48**	**254**	*e*P	**Pg**	**17**	**17**	**02.9 +0.8**
	baz=267							
TWQ1				*e*S	**Sg**	**17**	**17**	**22.4 +1.0**
	baz=267							
HATJ	**Hateruma jima**	**1.51**	**117**	P	**Pn**	**17**	**17**	**00.3 -0.1**
HATJ				*e*S	**Sn**	**17**	**17**	**19.0 -1.0**
EHY	**Hungye**	**1.56**	**217**	*e*P	**Pn**	**17**	**17**	**01.4 +0.3**
	baz=202							
EHY				*e*S	**Sn**	**17**	**17**	**21.5 +0.3**
	baz=202							
SMLT	**Sun Moon Lake**	**1.58**	**237**	*e*P	**Pb**	**17**	**17**	**03.7 +0.9**
	baz=242							
SMLT				*e*S	**Sb**	**17**	**17**	**23.4 +0.8**
	baz=242							
TYC	**Yuchr**	**1.60**	**238**	*e*P	**Pb**	**17**	**17**	**03.5 +0.5**
	baz=249							
TYC				*e*S	**Sb**	**17**	**17**	**22.8 -0.3**
	baz=249							
JKRS	**Kuro-shima**	**1.61**	**109**	P	**Pn**	**17**	**17**	**01.4 -0.4**
JKRS				*e*S	**Sn**	**17**	**17**	**21.9 -0.5**
TCU	**Taichung**	**1.63**	**248**	*e*P	**Pg**	**17**	**17**	**05.3 +0.3**
	baz=249							
JIJ	**Ishigaki jima**	**1.69**	**103**	P	**Pn**	**17**	**17**	**02.4 -0.5**
JIJ				*e*S	**Sn**	**17**	**17**	**23.7 -0.7**
TWF1	**Yuli**	**1.69**	**214**	*e*P	**Pn**	**17**	**17**	**03.0 0.0**
	baz=213							
WNT	**Mingjian**	**1.75**	**240**	*e*P	**Pg**	**17**	**17**	**07.1 0.0**
	baz=261							
WNT				*e*S	**Sg**	**17**	**17**	**30.9 +1.1**
	baz=261							
YUS	**Yu-Shan**	**1.79**	**225**	*e*P	**Pb**	**17**	**17**	**06.2 -0.4**
	baz=225							
ALS	**Alishan**	**1.87**	**229**	*e*P	**Pb**	**17**	**17**	**08.5 +0.6**
	baz=213							
CHKT	**Chengkung**	**1.88**	**208**	*e*P	**Pn**	**17**	**17**	**05.1 -0.4**
	baz=194							
CHN5	**Tsauling**	**1.91**	**233**	*e*P	**Pb**	**17**	**17**	**08.9 +0.5**
	baz=215							
CHN5				*e*S	**Sg**	**17**	**17**	**34.4 -0.6**
	baz=215							
WGK	**Gukeng**	**1.94**	**237**	*e*P	**Pb**	**17**	**17**	**09.2 +0.3**
	baz=256							
WGK				*e*S	**Sg**	**17**	**17**	**35.4 -0.7**
	baz=256							
ELDTW	**Lidau**	**1.98**	**218**	*e*P	**Pn**	**17**	**17**	**07.7 +0.7**
	baz=205							
CHN2	**Minshiung**	**2.10**	**235**	*e*P	**Pb**	**17**	**17**	**11.2 -0.3**
	baz=218							
CHN2				*e*S	**Sg**	**17**	**17**	**39.7 -1.3**
	baz=218							
CHN4	**Tsaushan**	**2.12**	**229**	*e*P	**Pb**	**17**	**17**	**11.2 -0.8**
	baz=213							
STYT	**Tauyuan**	**2.15**	**223**	*e*P	**Pn**	**17**	**17**	**10.5 +1.3**
	baz=206							
STYT				*e*S	**Sb**	**17**	**17**	**38.6 -0.5**
	baz=206							
JTJ	**Tarama**	**2.15**	**93**	P	**Pn**	**17**	**17**	**09.7 +0.5**
WTP	**Ta-pu**	**2.18**	**227**	*e*P	**Pb**	**17**	**17**	**11.7 -1.4**
	baz=211							
WTP				*e*S	**Sb**	**17**	**17**	**40.7 +0.7**
	baz=211							
WSF	**Szhu**	**2.23**	**240**	*e*P	**Pb**	**17**	**17**	**13.4 -0.4**
	baz=259							
WSF				*e*S	**Sb**	**17**	**17**	**42.3 +0.9**
	baz=259							
TWK	**Hsinying**	**2.25**	**229**	*e*P	**Pb**	**17**	**17**	**13.1 -1.1**
	baz=213							
CHN1	**Nanshi**	**2.28**	**227**	*e*P	**Pb**	**17**	**17**	**14.2 -0.5**
	baz=212							
CHN1				*e*S	**Sb**	**17**	**17**	**42.8 -0.1**
	baz=212							
SGST	**Jiashian**	**2.32**	**224**	*e*P	**Pb**	**17**	**17**	**14.2 -1.1**
	baz=208							
CHN8	**Yiju**	**2.40**	**235**	*e*P	**Pb**	**17**	**17**	**15.0 -1.7**
	baz=234							
ECL	**Taimali**	**2.50**	**211**	*e*P	**Pn**	**17**	**17**	**13.2 -0.8**
	baz=210							
SSD	**Sandimen**	**2.54**	**218**	*e*P	**Pn**	**17**	**17**	**16.3 +1.7**
	baz=204							
TWM1	**Shoushan**	**2.61**	**223**	*e*P	**Pn**	**17**	**17**	**17.0 +1.5**
	baz=222							
EAST	**Anshuo**	**2.73**	**210**	*e*P	**Pn**	**17**	**17**	**17.4 +0.1**
	baz=210							
LAY	**Lan-yu**	**2.81**	**195**	*e*P	**Pn**	**17**	**17**	**17.6 -0.7**
	baz=194							
SCZT	**Fangliau**	**2.85**	**214**	*e*P	**Pn**	**17**	**17**	**20.5 +1.6**
	baz=200							
KSRS	**Korea Array**	**13.52**	**19**	P	P	17	19	58.1 +3.8
	0.1nm,0.3s,baz=199,slow=12,SNR=3.1							
SONM	**Songino Array**	**26.27**	**335**	P	P	17	22	15.4 +6.6
	0.6nm,1.0s,baz=156,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**38.67**	**315**	P	P	17	24	06.3 +9.3
	0.5nm,0.9s,baz=120,slow=5.8,SNR=3.2							
WRA	**Warramunga Arr**	**45.94**	**164**	P	**P**	**17**	**24**	**57.0 +0.5**
	1.1nm,0.5s,baz=346,slow=8.7,SNR=12							
ASAR	**Alice Springs**	**49.43**	**166**	P	**P**	**17**	**25**	**24.6 +1.1**
	0.3nm,0.4s,baz=348,slow=6.9,SNR=16							

*DJA **19** 17:23:58,2˚.44S×120˚.07E,h10km,MLv3.9/8*
IDC 19 17:23:51.9±1.4,2˚.12S×120˚.18E,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/19,mbtmp3.5/5,ML3.9/1,Error ellipse: s-maj=52.2km s-min=19.5km az=65.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KAPI	**Kappang**	**2.91**	**189**	Pn		Pn	17	24	39.5	+0.1
	16nm,0.3s,baz=346,slow=7.6,SNR=40									
KAPI				Sn		Sn	17	25	15.2	+0.1
	9.0nm,0.3s,baz=191,slow=19,SNR=3.5									
WRA	**Warramunga Arr**	**22.47**	**143**	P		P	17	28	52.8	-0.2
	1.9nm,1.0s,baz=319,slow=11,SNR=6.8									
ASAR	**Alice Springs**	**25.20**	**149**	P		P	17	29	19.8	+0.3
	1.0nm,1.2s,baz=326,slow=8.9,SNR=5.9									
CMAR	**Chiang Mai Arr**	**29.25**	**315**	P		P	17	29	56.5	+0.7
	0.5nm,0.9s,baz=158,slow=6.0,SNR=5.5									
MKAR	**Makanchi Array**	**58.99**	**331**	P		P	17	33	52.6	-0.8
	0.2nm,0.5s,baz=130,slow=8.5,SNR=3.6									

IDC 19 17:25:03.0±6.4,24˚.57S×177˚.36W,h101km±48km, mb3.6/7,mb1 4.0/8,mb1mx3.8/18,mbtmp3.7/8,Error ellipse: s-maj=81.5km s-min=19.5km az=153.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AFI	**Afiamalu**	**11.84**	**27**	P		Pn	17	27	48.2	-0.5
	7.0nm,0.3s,baz=304,slow=0.2,SNR=12									
AFI				S		Sn	17	29	46.7	-12
	3.3nm,0.3s,baz=49,slow=19,SNR=3.8									
ASAR	**Alice Springs**	**44.30**	**261**	P		P	17	33	03.1	0.0
	0.5nm,0.4s,baz=92,slow=6.7,SNR=21									
WRA	**Warramunga Arr**	**44.77**	**266**	P		P	17	33	06.7	-0.1
	0.9nm,0.5s,baz=104,slow=8.0,SNR=9.9									
PETK	**Petropavlovsk-**	**80.34**	**345**	P		P	17	37	03.4	+0.8
	2.9nm,0.7s,baz=157,slow=8.0,SNR=4.7									
NVAR	**Mina Array Bea**	**83.58**	**43**	P		P	17	37	20.3	0.0
	0.6nm,0.6s,baz=225,slow=8.7,SNR=6.2									
TXAR	**Lajitas Array**	**88.75**	**57**	P		P	17	37	46.4	+0.7
	0.3nm,0.8s,baz=213,slow=8.8,SNR=4.4									
PDAR	**Pinedale Array**	**91.51**	**43**	P		P	17	37	58.3	-0.1
	0.3nm,0.5s,baz=216,slow=4.5,SNR=2.9									
ILAR	**Eielson Array**	**92.14**	**13**	P		P	17	38	00.0	-0.4
	0.5nm,0.8s,baz=224,slow=3.5,SNR=4.5									
AKASG	**Malin Array Be**	**146.81**	**329**	PKPbc		PKPdf	17	44	31.8	+0.6
	1.4nm,0.5s,baz=44,slow=4.7,SNR=5.9									
BRTR	**Keskin Array B**	**149.90**	**308**	PKPbc		PKPbc	17	44	40.5	-1.2
	0.9nm,0.7s,baz=134,slow=4.2,SNR=4.4									

*MOS **19** 17:28:56.8±1.2,7˚.62N×126˚.73E,h33km,mb5.2/33, MS4.3/4,Error ellipse: s-maj=11.8km s-min=5.6km az=112.7*
*MAN **19** 17:28:58,7˚.71N×127˚.19E,h93km,mb5.7,ML4.7,MS5.1*
*NEIC **19** 17:28:58.7±0.2,7˚.65N×126˚.79E,h35km,mb5.2/35,Error ellipse: s-maj=6.8km s-min=4.0km az=67.0*
NEIC Felt [II PIVS] at Davao.
*IDC **19** 17:28:59.2±0.4,7˚.67N×126˚.77E,h37km±3km,mb4.5/34, mb1 4.6/35,mb1mx4.6/36,mbtmp4.5/35,ML4.7/1,MS4.5/24, Ms1 4.5/24,ms1mx4.3/39,Error ellipse: s-maj=14.3km s-min=7.5km az=71.0*
*BJI **19** 17:28:59.9,7˚.37N×127˚.08E,h80km,mB5.1/39,mb4.9/49, Ms4.9/50,Ms7 4.7/47*
*ISCJB **19** 17:29:01.1±0.4,7˚.70N±0˚.02×127˚.02E±0˚.03,h70km±3km, mb4.9/112,Error ellipse: s-maj=5.1km s-min=3.1km az=158.7*
*DJA **19** 17:29:03,7˚.65N×127˚.17E,h50km,Mw5.0/33*
ISC 19 17:29:03.5±0.3,7˚.67N±0˚.02×126˚.95E±0˚.03,h75km±2km, h75km:pP-P,n384,σ1§69/433,mb5.0/111,25C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MATI	**Mati**	**0.99**	**224**	*e*P		Pn	17	29	17.1	-5.0
DAV	**Davao City (W)**	**1.48**	**246**	Pn		**Pn**	**17**	**29**	**26.7**	**-1.6**
	1µm,0.3s,baz=58,slow=2.1,SNR=116									
DAV				Sn		**Sn**	**17**	**29**	**49.0**	**+1.9**
	2µm,0.3s,baz=287,slow=19,SNR=29									
DAV	**Davao City (W)**	**1.48**	**246**	*e*Pn		**Pn**	**17**	**29**	**27.0**	**-1.3**
DAV				Sn		**Sn**	**17**	**29**	**49.0**	**+1.9**
DAV	**Davao City (W)**	**1.48**	**246**	P		**Pn**	**17**	**29**	**28.3**	**-0.1**
DMPH	**Davao City--Mi**	**1.54**	**248**	*e*P		**Pn**	**17**	**29**	**28.6**	**-0.5**
DMPH				*e*S		**Sn**	**17**	**29**	**51.6**	**+3.0**
BUTP	**Butuan**	**1.84**	**315**	*e*P		**Pn**	**17**	**29**	**31.2**	**-2.0**
BUKP	**Musuan**	**1.88**	**277**	*e*P		**Pn**	**17**	**29**	**32.8**	**-0.9**
KCP	**Kidapawan**	**1.95**	**251**	*i*P		Pn	17	29	38.1	+3.4
KCP				*i* S		**Sn**	**17**	**30**	**03.9**	**+5.5**
CGP	**Cagayan de Oro**	**2.36**	**290**	*e*P		**Pn**	**17**	**29**	**38.3**	**-1.8**
CGP				*e*S			18	29	09.8	
GSPH	**General Santos**	**2.53**	**232**	*i*P		Pn	17	29	39.0	-3.6
GSPH				*i* S		**Sn**	**17**	**30**	**08.9**	**-3.5**
CTBH	**Cotabato--PC H**	**2.71**	**261**	*i*P		**Pn**	**17**	**29**	**43.2**	**-1.7**
CTBH				*i* S		**Sn**	**17**	**30**	**16.4**	**-0.3**
MSLP	**Maasin**	**3.20**	**320**	*e*P		**Pn**	**17**	**29**	**49.3**	**-2.2**
PAGZ	**Pagadian**	**3.54**	**273**	*e*P		**Pn**	**17**	**29**	**55.1**	**-1.0**
TBP	**Tagbilaran**	**3.65**	**304**	*e*P		**Pn**	**17**	**29**	**57.3**	**-0.4**
TBP				*e*S		**Sn**	**17**	**30**	**42.3**	**+2.7**
DCPH	**Dipolog City**	**3.67**	**285**	*e*P		**Pn**	**17**	**29**	**58.1**	**+0.1**
DCPH				*e*S		**Sn**	**17**	**30**	**41.8**	**+1.7**
PLP	**Palo**	**3.98**	**331**	*e*P		**Pn**	**17**	**30**	**03.0**	**+0.8**
PLP				*e*S		**Sn**	**17**	**30**	**47.5**	**-0.1**
OCLP	**Ormoc**	**4.08**	**326**	*e*P		**Pn**	**17**	**30**	**01.1**	**-2.4**
SGSI	**Sangihe**	**4.20**	**200**	P		**Pn**	**17**	**30**	**06.1**	**+1.0**
IPIL	**Ipil**	**4.34**	**272**	*e*P		**Pn**	**17**	**30**	**07.6**	**+0.6**
ZMPH	**Zamboanga City**	**4.89**	**262**	*e*P		**Pn**	**17**	**30**	**13.3**	**-1.3**
ZMPH				*e*S		Sn	17	31	40.3	+30
GUIM	**Jordan**	**5.21**	**305**	*e*P		**Pn**	**17**	**30**	**17.7**	**-1.2**
RCP	**Roxas**	**5.67**	**313**	*e*P		**Pn**	**17**	**30**	**23.1**	**-2.1**
RCP				*e*S		**Sn**	**17**	**31**	**30.1**	**+1.1**
PVCP	**Virac**	**6.50**	**335**	*e*P		**Pn**	**17**	**30**	**36.4**	**-0.1**
CUYO	**Cuyo Island**	**6.65**	**299**	*e*P		**Pn**	**17**	**30**	**37.6**	**-1.0**
OTRP	**Odiongan**	**6.73**	**314**	*e*P		**Pn**	**17**	**30**	**41.4**	**+1.7**
TNTI	**Ternate**	**6.86**	**176**	P		**Pn**	**17**	**30**	**40.2**	**-1.3**
	614nm,0.8s,7µm2.4nm									
AUQP	**San Andres**	**7.02**	**324**	*e*P		Pn	17	30	49.8	+6.2
KMSI	**Cibinong**	**7.64**	**203**	P		**Pn**	**17**	**30**	**54.1**	**+1.9**
	1µm,1.2s,11µm5.1nm									
BUSP	**Coron**	**7.92**	**303**	*e*P		**Pn**	**17**	**30**	**55.5**	**-0.5**
ENPP	**El Nido**	**8.21**	**296**	*e*P		**Pn**	**17**	**30**	**58.7**	**-1.2**
LBMI	**Labuha**	**8.27**	**176**	P		**Pn**	**17**	**30**	**58.9**	**-1.9**
	424nm,0.9s,5µm									
TGY	**Tagaytay City**	**8.70**	**318**	Pn		Pn	17	31	10.8	+4.1
	6.8nm,0.3s,baz=313,slow=3.9,SNR=12									
TGY	**Tagaytay City**	**8.70**	**318**	P		Pn	17	31	10.8	+4.1
TGY	**Tagaytay City**	**8.70**	**318**	Pn		Pn	17	31	10.8	+4.1
MRSI	**Marisa**	**8.71**	**215**	P		**Pn**	**17**	**31**	**07.2**	**+0.4**
	359nm,0.8s,3µm									
MYLDM	**Lahad Datu**	**8.75**	**254**	P		**Pn**	**17**	**31**	**08.1**	**+0.8**
LUBP	**Lubang**	**8.93**	**313**	*e*P		Pn	17	31	13.4	+3.7
BATP	**Bataraza**	**9.12**	**278**	*e*P		Pn	17	31	20.5	+8.1
LUWI	**Luwuk**	**9.60**	**206**	P		Pn	17	31	21.7	+2.7
TSM	**Tawau**	**9.62**	**250**	P		**Pn**	**17**	**31**	**19.5**	**+0.2**
SDKM	**Sandakan**	**9.89**	**259**	P		**Pn**	**17**	**31**	**24.5**	**+1.5**
KDM	**Kudat**	**10.06**	**266**	P		**Pn**	**17**	**31**	**27.9**	**+2.7**
CAUP	**Cauayan**	**10.49**	**332**	*e*P		Pn	17	31	25.9	-5.1
SCZP	**Santa Cruz**	**10.60**	**320**	*e*P		**Pn**	**17**	**31**	**35.0**	**+2.4**
KKM	**Kota Kinabalu**	**10.78**	**262**	P		**Pn**	**17**	**31**	**37.1**	**+2.0**
BOLP	**Bolinao**	**11.06**	**322**	*e*P		Pn	17	31	41.3	+2.5
MSAI	**Masohi**	**11.12**	**170**	P		**Pn**	**17**	**31**	**40.1**	**+0.4**
AAI	**Ambon**	**11.35**	**174**	P		**Pn**	**17**	**31**	**39.8**	**-3.0**
	147nm,1.1s,1µm									
FAKI	**Fak Fak**	**11.77**	**153**	P		Pn	17	31	45.4	-3.2
	269nm,1.2s,2µm									
BAKI	**Biak**	**12.69**	**134**	P		**P**	**17**	**32**	**06.4**	**-3.1**
SPSI	**Sidrap Palu**	**13.59**	**212**	P		**Pn**	**17**	**32**	**13.5**	**+0.4**
	60nm,1.0s,2µm									
BTM	**Bintulu**	**14.49**	**253**	P		**Pn**	**17**	**32**	**26.4**	**+1.4**
KAPI	**Kappang**	**14.50**	**210**	Pn		**Pn**	**17**	**32**	**22.2**	**-2.7**
	3.4nm,0.3s,baz=18,slow=5.9,SNR=11									
KAPI	**Kappang**	**14.50**	**210**	*e*P		Pn	17	32	19.7	-5.3
	58nm,0.9s									
KAPI	**Kappang**	**14.50**	**210**	P		**Pn**	**17**	**32**	**23.5**	**-1.5**
	75nm,1.0s									
BKSI	**Bulukumba**	**14.59**	**208**	P		**P**	**17**	**32**	**29.1**	**-1.5**
SMPI	**Sarmi**	**15.16**	**129**	P		**Pn**	**17**	**32**	**32.5**	**-1.0**
KBKI	**Kotabaru**	**15.31**	**225**	P		**P**	**17**	**32**	**39.6**	**+1.0**
BBKI	**Banjar Baru**	**16.37**	**228**	P		**P**	**17**	**32**	**52.8**	**+2.4**
TPUB	**Ta-pu**	**16.69**	**339**	*e*Pn		**Pn**	**17**	**32**	**48.4**	**-4.3**
	77nm,1.0s									
TPUB				*e*Sn		**Sn**	**17**	**35**	**57.9**	**+0.4**
MMRI	**Maumere**	**16.86**	**196**	P		**P**	**17**	**32**	**57.0**	**+1.2**
STKI	**Sintang**	**17.17**	**245**	P		**P**	**17**	**33**	**03.7**	**+4.4**
KSM	**Kuching**	**17.68**	**250**	P		**P**	**17**	**33**	**07.1**	**+2.2**
PBKI	**Pangkalan Bun**	**18.40**	**237**	P		**Pn**	**17**	**33**	**14.5**	**+0.9**
	148nm,1.1s,2µm									
GUMO	**Guam**	**18.57**	**70**	LR		LR	17	38	48.0	
	comp=Z,907nm,19.3s,baz=242,slow=31									
QZH	**Quanzhou**	**18.95**	**336**	P		**Pn**	**17**	**33**	**20.0**	**-0.1**
QZH				S		**Sn**	**17**	**36**	**53.0**	**+1.1**
QZH				LR		LR				
	comp=N,730nm,7.1s									
QZH				LR		LR				
	comp=E,1µm,11.0s									
QZH				LR		LR				
	comp=Z,3µm,16.0s									
JOW	**Kunigami**	**19.10**	**4**	P		**Pn**	**17**	**33**	**21.9**	**0.0**
	comp=Z,8.3nm,0.3s,baz=198,slow=8.5,SNR=22									
JOW				LR		LR	17	39	00.8	
	comp=Z,1µm,20.4s,baz=142,slow=32									
JOW	**Kunigami**	**19.10**	**4**	*e*P		**Pn**	**17**	**33**	**21.2**	**-0.7**
	comp=Z,182nm,1.3s									
MTNI	**Mataram**	**19.43**	**214**	P		**Pn**	**17**	**33**	**26.0**	**+0.1**
	comp=Z,199nm,0.9s,comp=Z,3µm									
KMMI	**Kalianget**	**19.52**	**222**	P		**Pn**	**17**	**33**	**28.6**	**+1.6**
	comp=Z,232nm,1.2s									
QIZ	**Qiongzhong**	**20.09**	**306**	P		**P**	**17**	**33**	**29.0**	**-2.2**
QIZ				sP		**sP**	**17**	**33**	**55.5**	**-0.4**
QIZ				S		**S**	**17**	**37**	**11.8**	**-1.2**
QIZ				pmax		pmax				
	comp=Z,190nm,0.8s									
QIZ				pmax		pmax				
	comp=Z,550nm,10.2s									
QIZ				LR		LR				
	comp=N,2µm,14.5s									
QIZ				LR		LR				
	comp=E,940nm,16.1s									
QIZ				LR		LR				
	comp=Z,3µm,17.4s									
BLJI	**Banyuglugur**	**20.29**	**221**	P		Pn	17	33	38.2	+2.2
JAGI	**Jajag, Banyuwa**	**20.48**	**219**	P		Pn	17	33	38.4	+0.1
	comp=Z,116nm,1.4s									
KRKI	**Karangkates**	**21.35**	**223**	P		pP	17	33	57.6	-2.6
SJI	**Sawahan**	**21.52**	**225**	P		**P**	**17**	**33**	**48.9**	**+2.2**
	comp=Z,76nm,1.0s									
PWJI	**Pagerwojo**	**21.70**	**224**	P		**P**	**17**	**33**	**49.9**	**+1.4**
	comp=Z,72nm,0.9s									
MYKOM	**Kota Tinggi**	**23.74**	**257**	P		**P**	**17**	**34**	**13.6**	**+4.4**
SSE	**Sheshan**	**23.92**	**348**	P		**P**	**17**	**34**	**08.3**	**-2.3**
SSE				S		**S**	**17**	**38**	**20.8**	**-1.0**
SSE				pmax		pmax				
	comp=Z,12nm,1.0s									
SSE				pmax		pmax				
	comp=Z,190nm,5.4s									
SSE				LR		LR				
	comp=N,560nm,14.6s									
SSE				LR		LR				
	comp=E,700nm,14.6s									
SSE				LR		LR				
	comp=Z,1µm,17.7s									
LEM	**Lembang**	**24.06**	**234**	P		**P**	**17**	**34**	**15.9**	**+3.7**
	comp=Z,133nm,1.7s,comp=Z,2µm									
CBIJ	**Chichi jima**	**24.13**	**35**	P		**P**	**17**	**34**	**11.4**	**-1.2**
	comp=Z,47nm,0.7s,baz=276,slow=18,SNR=3.1									
CBIJ	**Chichi jima**	**24.13**	**35**	P		**P**	**17**	**34**	**11.4**	**-1.2**
KGM	**Kluang**	**24.19**	**258**	P		**P**	**17**	**34**	**17.8**	**+4.5**
CISI	**Cisompet, Garu**	**24.34**	**232**	P		**P**	**17**	**34**	**16.0**	**+1.4**
	comp=Z,71nm,1.2s,comp=Z,1µm									
CBJI	**Citeko**	**24.45**	**236**	P		**P**	**17**	**34**	**16.6**	**+1.1**
KLI	**Kotabumi**	**25.31**	**241**	P		pP	17	34	40.0	-0.8
NJ2	**Nanjing**	**25.41**	**344**	*e*P		**P**	**17**	**34**	**24.5**	**+0.4**
NJ2				pP		**pP**	**17**	**34**	**40.3**	**-1.2**
NJ2				sP		**sP**	**17**	**34**	**49.6**	**-0.7**
NJ2				PP		PP	17	35	03.8	
NJ2				S		**S**	**17**	**38**	**40.5**	**-5.0**
NJ2				pmax		pmax				
	comp=Z,170nm,0.9s									
NJ2				pmax		pmax				
	comp=Z,180nm,9.9s									
NJ2				LR		LR				
	comp=N,1µm,17.8s									
NJ2				LR		LR				
	comp=E,820nm,16.5s									
NJ2				LR		LR				
	comp=Z,1µm,18.1s									
CGJI	**Cibinong**	**25.51**	**237**	P		**P**	**17**	**34**	**28.9**	**+3.7**
	comp=Z,56nm,1.6s,comp=Z,920nm									
FRIM	**Kepong**	**25.58**	**261**	P		P	17	34	30.7	+4.8
JNU	**Nakatsue**	**25.59**	**8**	*e*P		**P**	**17**	**34**	**25.2**	**-0.6**
	comp=Z,78nm,0.9s									
FITZ	**Fitzroy Crossi**	**25.64**	**183**	P		**P**	**17**	**34**	**25.8**	**-0.5**
	comp=Z,36nm,0.6s,baz=2.3,slow=10,SNR=96									
FITZ	**Fitzroy Crossi**	**25.64**	**183**	*e*P		**P**	**17**	**34**	**25.7**	**-0.6**
	comp=Z,65nm,0.5s									
FITZ				*e*S		S	17	39	00.4	+11
FITZ	**Fitzroy Crossi**	**25.64**	**183**	*e*P		**P**	**17**	**34**	**25.2**	**-1.0**
	comp=Z,52nm,0.8s									
WHN	**Wuhan**	**25.64**	**334**	P		**P**	**17**	**34**	**27.8**	**+1.6**
WHN				LR		LR				
	comp=N,2µm,16.6s									
WHN				LR		LR				
	comp=E,1µm,12.4s									
WHN				LR		LR				
	comp=Z,4µm,20.8s									
IPM	**Ipoh**	**25.96**	**265**	P		P	17	34	34.5	+5.1
LWLI	**Liwa**	**26.08**	**242**	P		**P**	**17**	**34**	**34.3**	**+3.8**
	comp=Z,130nm,0.8s,comp=Z,3µm

KSRS pPcP 17 38 17.3
comp=Z,3.5nm,0.9s,baz=172,slow=4.3,SNR=5.5
KSRS LR LR 17 47 01.9
comp=Z,349nm,18.2s,baz=351,slow=36
MAT Matsushiro 30.52 18 P **P 17 35 08.5 -1.3**
MAT S **S 17 40 06.0 0.0**
MJAR Matsushiro Arr 30.52 18 P **P 17 35 08.1 -1.7**
comp=Z,4.1nm,0.7s,baz=194,slow=9.4,SNR=15
MJAR PcP **PcP 17 38 07.9 +0.7**
comp=Z,2.2nm,0.9s,baz=214,slow=4.6,SNR=3.0
MJAR pPcP 17 38 19.4
comp=Z,5.7nm,0.9s,baz=181,slow=2.5,SNR=6.1
MJAR LR LR 17 46 47.1
comp=Z,804nm,18.9s,baz=200,slow=35
MJAR Matsushiro Arr 30.52 18 P **P 17 35 08.1 -1.7**
MJAR 17 38 07.9
MJAR Matsushiro Arr 30.52 18 P **P 17 35 08.1 -1.7**
MJAR PcP **PcP 17 38 07.9 +0.7**
MJAR pPcP 17 38 19.4
DL2 Dalian 31.47 352 *e*P P 17 35 21.6 +3.6
DL2 S **S 17 40 24.3 +3.6**
DL2 LR LR
comp=N,440nm,20.8s
DL2 LR LR
comp=E,420nm,16.4s
DL2 LR LR
comp=Z,440nm,20.4s
CD2 Chengdu 31.70 320 P P 17 35 23.8 +3.6
CD2 pP pP 17 35 42.8 +4.9
CD2 sP sP 17 35 53.5 +6.8
CD2 PP PP 17 36 31.4 -1.7
CD2 S **S 17 40 26.0 +1.4**
CD2 sS sS 17 40 59.0 +4.0
CD2 SS SS 17 42 20.8 -22
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,220nm,7.1s
CD2 LR LR
comp=E,2μm,16.7s
CD2 LR LR
comp=Z,2μm,16.6s
AS31 Alice Springs 31.87 168 *e*P **P 17 35 20.2 -1.6**
ASAR Alice Springs 31.88 168 P **P 17 35 20.6 -1.2**
comp=Z,6.2nm,0.6s,baz=357,slow=8.7,SNR=95
ASAR PcP **PcP 17 38 11.9 +0.8**
comp=Z,4.2nm,0.5s,baz=346,slow=2.0,SNR=8.5
ASAR pPcP 17 38 23.7
comp=Z,6.8nm,0.6s,baz=348,slow=2.7,SNR=6.3
ASAR Alice Springs 31.88 168 P **P 17 35 20.6 -1.2**
ASAR 17 38 11.9
ASAR Alice Springs 31.88 168 P **P 17 35 20.6 -1.2**
ASAR PcP **PcP 17 38 11.9 +0.8**
ASAR pPcP 17 38 23.7
CTA Charters Tower 33.49 146 P **P 17 35 36.7 +0.7**
comp=Z,28nm,0.7s,baz=328,slow=11,SNR=24
CTA LR LR 17 49 23.7
comp=Z,1μm,18.8s,baz=328,slow=36
CTA Charters Tower 33.49 146 *e*P **P 17 35 36.7 +0.7**
comp=Z,23nm,0.7s
CTA Charters Tower 33.49 146 P **P 17 35 36.7 +0.7**
CTA Charters Tower 33.49 146 P **P 17 35 36.7 +0.7**
BJI Beijing 33.65 345 P **P 17 35 36.3 -0.8**
BJI S **S 17 40 55.0 +0.5**
BJI sS **sS 17 41 25.5 +0.5**
BJI pmax pmax
comp=Z,15nm,0.9s
BJI pmax pmax
comp=Z,330nm,5.0s
BJI LR LR
comp=N,410nm,18.5s
BJI LR LR
comp=E,950nm,18.5s
BJI LR LR
comp=Z,480nm,21.4s
LZH Lanzhou 35.29 327 *e*P P 17 35 56.1 +4.5
LZH pP pP 17 36 16.5 +7.1
LZH sP sP 17 36 25.3 +7.2
LZH *e*S **S 17 41 19.8 -0.6**
LZH sS sS 17 41 54.0 +3.0
LZH SS SS 17 43 44.0 -13
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,220nm,7.7s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=E,2μm,14.7s
LZH LR LR
comp=Z,2μm,15.8s
VLA Vladivostok 35.58 6 *e*P **P 17 35 53.0 -0.7**
VLA pmax pmax
comp=Z,29nm,1.0s
HHC Hu-ho-hao-te 35.77 340 *e*P **P 17 35 56.6 +1.0**
HHC pP **pP 17 36 16.4 +3.0**
HHC sP sP 17 36 25.5 +3.4
HHC PP PP 17 37 19.8 +1.6
HHC PcP **PcP 17 38 22.3 +0.3**
HHC S **S 17 41 27.8 +0.3**
HHC sS **ScP 17 41 59.8 -1.9**
HHC ScP ScP 17 42 01.1 -0.6
HHC PcS **PcS 17 42 09.6 +0.2**
HHC SS SS 17 43 52.8 -14
HHC ScS **ScS 17 46 05.1 -1.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=N,800nm,15.7s
HHC LR LR
comp=E,660nm,14.2s
HHC LR LR
comp=Z,890nm,13.6s
CN2 Changchun 36.02 358 *e*P **P 17 36 00.0 +2.6**
CN2 *epP* pP 17 36 19.8 +4.5
CN2 *eS* **S 17 41 33.9 +3.0**
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=Z,600nm,17.0s
USRK Ussuriysk Arra 36.66 6 P **P 17 36 03.6 +0.8**
comp=Z,66nm,0.9s,baz=187,slow=7.9,SNR=36
USRK pP pP 17 36 14.9 -5.9
comp=Z,123nm,0.9s,baz=194,slow=9.7,SNR=22
MDJ Mudanjiang 36.88 3 P **P 17 36 04.9 +0.1**
MDJ pP **pP 17 36 23.8 +1.1**
MDJ sP **sP 17 36 33.1 +1.7**
MDJ PP PP 17 37 30.8 +0.6
MDJ PcP **PcP 17 38 23.8 -1.2**
MDJ S **S 17 41 45.3 +1.3**
MDJ sS sS 17 42 18.3 +3.5
MDJ ScS **ScS 17 46 10.1 -2.5**
MDJ pmax pmax
comp=Z,48nm,1.5s
MDJ pmax pmax
comp=Z,180nm,4.2s
MDJ LR LR
comp=N,440nm,14.8s
MDJ LR LR
comp=E,360nm,15.8s
MDJ LR LR
comp=Z,530nm,11.5s
HNR Honiara 37.00 117 P **P 17 36 05.8 -0.4**
comp=Z,26nm,0.8s,baz=354,slow=10,SNR=3.5
HNR LR LR 17 49 15.3
comp=Z,384nm,21.7s,baz=293,slow=33
HNR Honiara 37.00 117 P **P 17 36 05.8 -0.4**
HNR Honiara 37.00 117 P **P 17 36 05.8 -0.4**
SHL Shillong 37.85 302 *e*P P 17 36 17.0 +3.5
SHL *e*S S 17 42 06.0 +6.4
FORT Forrest 38.24 178 *e*P **P 17 36 16.1 -0.3**
comp=Z,97nm,0.5s
FORT Forrest 38.24 178 P **P 17 36 16.2 -0.3**
comp=Z,137nm,0.6s
ASAJ Asahikawa 38.80 18 P **P 17 36 23.2 +2.3**
comp=Z,18nm,0.5s,baz=233,slow=8.0,SNR=24
ASAJ LR LR 17 51 50.5
comp=Z,744nm,18.2s,baz=236,slow=35
ASAJ Asahikawa 38.80 18 *e*P **P 17 36 22.5 +1.6**
comp=Z,54nm,1.3s
GTA Gaotai 39.90 327 *e*P P 17 36 34.4 +4.0
GTA pP pP 17 36 54.5 +6.0
GTA sP sP 17 37 02.6 +5.5
GTA S **S 17 42 31.9 +1.9**
GTA sS sS 17 43 08.5 +7.5
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,200nm,7.1s
GTA LR LR
comp=N,770nm,18.0s
GTA LR LR
comp=E,870nm,15.7s
GTA LR LR
comp=Z,1μm,16.2s
KLBR Kellerberrin 40.01 192 *e*P **P 17 36 31.2 0.0**
comp=Z,101nm,1.2s
LSA Lhasa 40.11 308 P **P 17 36 32.3 -0.4**
LSA S **S 17 42 29.4 -4.7**
LSA LR LR
comp=N,370nm,16.9s
LSA LR LR
comp=Z,800nm,16.9s
EIDS Eidsvold 40.37 145 *e*P **P 17 36 33.4 -0.8**
comp=Z,17nm,1.0s
BBOO Buckleboo 41.18 168 *e*P **P 17 36 40.0 -0.8**
comp=Z,622nm,0.6s
HABR Khabarovsk 41.24 8*c e*P **P 17 36 42.6 +1.5**
HABR *e**PP **pP 17 36 58.1 -1.2**
HABR *e* 17 38 36.0
HABR *e*PPP PPP 17 38 46.1
HABR *e*S **S 17 42 51.0 +1.6**
HABR *e*SS SS 17 45 57.8 +2.4
HABR *e* 17 46 34.6
HABR pmax pmax
comp=Z,227nm,1.8s
HABR pmax pmax
comp=N,102nm,1.8s
HABR pmax pmax
comp=E,120nm,1.8s
HABR MLR MLR
comp=Z,233nm,16.0s
NWAO Narrogin (SRO) 41.41 192 P **P 17 36 43.2 +0.5**
comp=Z,74nm,1.0s,baz=21,slow=7.9,SNR=32
NWAO Narrogin (SRO) 41.41 192 *e*P **P 17 36 42.9 +0.2**
NWAO pmax pmax
comp=Z,161nm,1.3s
NWAO Narrogin (SRO) 41.41 192 *e*P **P 17 36 42.9 +0.2**
comp=Z,161nm,1.3s
YSS Yuzh-Sakhalins 41.42 16 *e*P **P 17 36 44.3 +1.7**
YSS *e* 17 36 55.8
YSS Yuzh-Sakhalins 41.42 16 P **P 17 36 41.7 -0.9**
KLR Kul'dur 41.62 5 *e*P P 17 36 40.2 -4.0
KLR *e* 17 38 36.8
KLR *e*S **S 17 42 53.0 -2.1**
KLR pmax pmax
comp=Z,150nm,2.0s
STKA Stephens Creek 41.74 161 P **P 17 36 44.9 -0.5**
comp=Z,26nm,0.7s,baz=338,slow=7.9,SNR=73
STKA LR LR 17 55 40.7
comp=Z,562nm,19.5s,baz=348,slow=38
STKA Stephens Creek 41.74 161 *e*P **P 17 36 44.6 -0.8**
comp=Z,26nm,0.9s
STKA Stephens Creek 41.74 161 *e*P **P 17 36 44.6 -0.8**
STKA pmax pmax
comp=Z,8.0nm,0.9s
STKA Stephens Creek 41.74 161 *e*P **P 17 36 44.6 -0.8**
comp=Z,8.0nm,0.9s
TAPN Taplejung 41.98 303 *e*P **P 17 36 46.8 -1.0**
comp=Z,59nm,0.7s
TAPN Taplejung 41.98 303 *e*P **P 17 36 46.8 -1.0**
comp=Z,59nm,0.7s
ODAN Odare 42.08 302 *e*P **P 17 36 47.3 -1.3**
ODAN Odare 42.08 302 *e*P **P 17 36 47.3 -1.3**
RAMN Ramite 42.77 302 *e*P **P 17 36 53.5 -0.7**
comp=Z,40nm,0.8s
RAMN Ramite 42.77 302 *e*P **P 17 36 53.5 -0.7**
comp=Z,40nm,0.8s
JIRN Jiri 43.35 302 *e*P **P 17 36 57.8 -1.3**
comp=Z,39nm,0.6s
JIRN Jiri 43.35 302 *e*P **P 17 36 57.8 -1.3**
comp=Z,39nm,0.6s
ULN Ulaanbaatar 43.48 341 *e*P **P 17 36 56.9 -2.6**
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 43.48 341 *e*P **P 17 36 56.9 -2.6**
comp=Z,8.2nm,0.9s
ULN Ulaanbaatar 43.48 341 P **P 17 37 02.5 +3.0**
SONM Songino Array 43.68 340 P **P 17 37 00.4 -0.6**
comp=Z,1.0nm,0.6s,baz=156,slow=10.0,SNR=8.1
SONM PcP **PcP 17 38 47.5 +0.4**
comp=Z,2.0nm,0.9s,baz=160,slow=4.6,SNR=2.3
SONM pPcP 17 38 58.9
comp=Z,4.9nm,0.9s,baz=161,slow=4.4,SNR=6.1
SONM LR LR 17 57 27.0
comp=Z,771nm,20.1s,baz=66,slow=39
SONM Songino Array 43.68 340 P **P 17 37 00.4 -0.6**
SONM 17 38 47.5
SONM Songino Array 43.68 340 P **P 17 37 00.4 -0.6**
SONM PcP **PcP 17 38 47.5 +0.4**
SONM pPcP 17 38 58.9
GUN Gumba 43.69 303 *e*P **P 17 37 00.7 -1.1**
comp=Z,126nm,0.8s
GUN Gumba 43.69 303 *e*P **P 17 37 00.7 -1.1**
comp=Z,126nm,0.8s
PKI Pulchoki 43.98 302 *e*P **P 17 37 02.6 -1.4**
PKI Pulchoki 43.98 302 *e*P **P 17 37 02.6 -1.4**
PKI Pulchoki 43.98 302 *e*P **P 17 37 02.6 -1.4**
KKN Kakani 44.15 302 *e*P **P 17 37 03.6 -1.7**
comp=Z,26nm,0.7s
KKN Kakani 44.15 302 *e*P **P 17 37 03.6 -1.7**
KKN pmax pmax
comp=Z,26nm,0.7s
KKN Kakani 44.15 302 *e*P **P 17 37 03.6 -1.7**
comp=Z,26nm,0.7s
DMN Daman 44.24 302 *e*P **P 17 37 04.6 -1.5**
DMN Daman 44.24 302 *e*P **P 17 37 04.6 -1.5**
ARMA Armidale 44.67 149 *e*P **P 17 37 09.6 +0.4**
ARMA Armidale 44.67 149 *e*P **P 17 37 08.5 -0.7**
comp=Z,50nm,1.2s
GKN Gorkha 44.76 302 *e*P **P 17 37 08.4 -1.7**
GKN Gorkha 44.76 302 *e*P **P 17 37 08.4 -1.7**
KOLN Koldanda 45.56 302 *e*P **P 17 37 14.6 -1.9**
comp=Z,33nm,0.6s
KOLN Koldanda 45.56 302 *e*P **P 17 37 14.6 -1.9**
comp=Z,33nm,0.6s
DANN Dangsing 45.60 302 *e*P **P 17 37 15.4 -1.5**
comp=Z,36nm,0.6s
DANN Dangsing 45.60 302 *e*P **P 17 37 15.4 -1.5**
comp=Z,36nm,0.6s
ZAK Zakamensk 46.92 339 *e*P **P 17 37 26.6 -0.1**
ZAK *e* 17 39 05.3
ZAK pmax pmax
comp=Z,3.0nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,1.0s
CAN Canberra 47.55 155 *e*P **P 17 37 32.2 +0.5**
CAN pmax pmax
comp=Z,66nm,1.2s
CAN Canberra 47.55 155 *e*P **P 17 37 32.2 +0.5**
comp=Z,66nm,1.2s
CNB Canberra Magne 47.70 155 *e*P **P 17 37 33.7 +0.9**
comp=Z,156nm,1.1s
TLY Talaya 47.90 341 *e*P **P 17 37 34.0 -0.1**
TLY *e* 17 39 05.0
TLY *e*PPP PPP 17 40 08.4
TLY *e*S **S 17 44 30.4 +4.5**
TLY *e*SSS SSS 17 49 13.6
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY MLR MLR
comp=Z,596nm,21.0s
TLY Talaya 47.90 341 *e*P **P 17 37 32.2 -1.9**
comp=Z,11nm,0.8s
HYB Hyderabad 48.10 286 *i* P **P 17 37 35.0 -1.3**
TOO Toolangi 48.23 160 *e*P **P 17 37 37.6 +0.8**
comp=Z,72nm,1.3s
DZM Mont Dzumac 48.70 128 *e*LR LR 17 51 30.1
comp=Z,902nm,23.1s
DZM Mont Dzumac 48.70 128 P **P 17 37 42.3 +1.5**
comp=Z,8.6nm,0.6s,baz=63,slow=2.3,SNR=4.8
DZM Mont Dzumac 48.70 128 P **P 17 37 42.3 +1.5**
MOY Mondy 48.80 339 *e*P **P 17 37 40.4 -0.7**
CLNS Chul'man 49.07 359 *e*P **P 17 37 43.4 +0.3**
CLNS pmax pmax
comp=Z,19nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.3s
CLNS pmax pmax
comp=N,16nm,1.2s
WMQ Urumqi 49.68 323 P **P 17 37 47.3 -0.7**
WMQ pP **pP 17 38 06.0 -0.7**
WMQ sP **sP 17 38 15.3 +0.1**
WMQ *e*S **S 17 44 48.4 -2.9**
WMQ SS SS 17 48 17.6 -7.0
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ LR LR
comp=N,800nm,20.7s
WMQ LR LR
comp=E,420nm,21.6s
WMQ LR LR
comp=Z,600nm,18.0s
DDI Dehra Dun 50.94 303 *ex* **P 17 37 55.5 -2.2**
BOD Bodaibo 51.03 351 *e*P **P 17 37 57.4 -0.4**
BOD pmax pmax
comp=Z,17nm,1.1s
PEA0B Petropavlovsk- 51.74 23 *e*P **P 17 38 04.8 +1.6**
PETK Petropavlovsk- 51.74 23 P **P 17 38 03.8 +0.6**
comp=Z,10nm,0.6s,baz=201,slow=7.9,SNR=11
PETK pP pP 17 38 15.7 -6.3
comp=Z,32nm,0.8s,baz=183,slow=5.9,SNR=13
PETK Petropavlovsk- 51.74 23 P **P 17 38 03.8 +0.6**
PETK *PP pP 17 38 15.7 -6.3
PETK Petropavlovsk- 51.74 23 P **P 17 38 03.8 +0.6**
PETK pP pP 17 38 15.7 -6.3
PET Petropavlovsk 52.05 24 *e*P **P 17 38 07.7 +2.2**
PET *e*S **S 17 45 27.3 +3.8**
PET MLR MLR
comp=Z,300nm,16.0s
YAK Yakutsk 54.29 2 *e*P **P 17 38 21.4 -0.3**
YAK *e**PP pP 17 38 31.7 -9.0
YAK *e* 17 39 24.9
YAK *e* 17 40 26.0
YAK *e*PPP PPP 17 41 37.3
YAK *e*S **S 17 45 53.1 -0.6**
YAK *e* 17 48 02.2
YAK pmax pmax
comp=Z,28nm,1.2s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=Z,25nm,2.0s
YAK pmax pmax
comp=N,21nm,1.8s
YAK pmax pmax
comp=E,33nm,1.9s
YAK smax smax
comp=N,43nm,1.9s
YAK smax smax
comp=E,117nm,2.3s
YAK Yakutsk 54.29 2 *e*P **P 17 38 21.5 -0.3**
YAK pmax pmax
comp=Z,122nm,0.9s
YAK Yakutsk 54.29 2 *e*P **P 17 38 21.5 -0.3**
comp=Z,122nm,0.9s
MK31 Makanchi Array 54.50 324 *i* P **P 17 38 22.6 -1.0**
MK31 pmax pmax
comp=Z,28nm,0.7s
MK31 Makanchi Array 54.50 324 *e*P **P 17 38 22.4 -1.2**
MKAR Makanchi Array 54.50 324 P **P 17 38 22.8 -0.8**
comp=Z,5.0nm,0.6s,baz=122,slow=8.2,SNR=72
MKAR ScP **ScP 17 43 19.1 +0.9**
comp=Z,1.6nm,0.8s,baz=103,slow=6.5,SNR=4.0
MKAR S **S 17 45 59.6 +2.5**
comp=Z,2.4nm,1.1s,baz=119,slow=13,SNR=9.0
MKAR LR LR 18 03 43.4
comp=Z,896nm,18.5s,baz=121,slow=38
MKAR Makanchi Array 54.50 324*c e*P **P 17 38 22.7 -0.9**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 54.50 324 P **P 17 38 22.8 -0.8**
MKAR ScP **ScP 17 43 19.1 +0.9**
MKAR S **S 17 45 59.6 +2.5**
KSH Kashi 55.47 313 P **P 17 38 32.8 +1.9**
KSH *e*pP **pP 17 38 51.8 +1.9**
KSH *e*sP **sP 17 39 00.6 +2.2**
KSH *e*PcP **PcP 17 39 32.1 +1.8**
KSH PP PP 17 40 38.9 +3.3
KSH *e*ScP **ScP 17 43 22.6 -0.1**
KSH *e*PcS **PcS 17 43 30.8 +0.2**
KSH *e*S **S 17 46 09.5 -1.1**
KSH *e*ScS **ScS 17 48 11.1 -2.5**
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,220nm,6.2s
KSH LR LR
comp=N,540nm,10.7s
KSH LR LR
comp=E,910nm,12.8s
KSH LR LR
comp=Z,1μm,15.8s
MSVF Nonsavu 56.42 117 *e*P **P 17 38 38.2 +0.2**
MSVF pmax pmax
comp=Z,28nm,1.1s
MSVF Nonsavu 56.42 117 *e*P **P 17 38 38.2 +0.2**
comp=Z,28nm,1.1s
MSVF Nonsavu 56.42 117 P **P 17 38 40.0 +2.0**
comp=Z,141nm,1.0s,SNR=5.8
KZA Kyzart 56.92 316 P P 17 38 46.3 +4.8
SNR=5.3
KZA P P 17 38 46.3 +4.8
SNR=5.3
TKM2 Tokmak 2 57.00 317 P **P 17 38 41.6 -0.2**
SNR=6.4
TKM2 P **P 17 38 41.6 -0.2**
SNR=6.4
TKM2 Tokmak 2 57.00 317 *i* P **P 17 38 41.6 -0.2**
TKM2 Tokmak 2 57.00 317 *e*P **P 17 38 40.2 -1.6**
comp=Z,8.1nm,0.8s
ZAA0 Zalesovo Array 57.22 332 *e*P **P 17 38 40.1 -2.7**
ZALV Zalesovo Beam 57.22 332 P **P 17 38 41.1 -1.7**
comp=Z,4.9nm,1.0s,baz=116,slow=6.5,SNR=16
ZALV S **S 17 46 32.7 -0.2**
comp=Z,1.2nm,0.9s,baz=130,slow=2.3,SNR=4.1
ZALV LR LR 18 04 23.6
comp=Z,297nm,18.2s,baz=69,slow=37
ZALV Zalesovo Beam 57.22 332 P **P 17 38 41.2 -1.7**
ZALV S **S 17 46 32.7 -0.2**
ZALV Zalesovo Beam 57.22 332 P **P 17 38 41.1 -1.7**
ZALV S **S 17 46 32.7 -0.2**
KBK Karagaybulak 57.34 316 P P 17 38 49.0 +4.8
SNR=6.1
KBK P P 17 38 49.0 +4.8
SNR=6.1
AAK Ala-Archa 57.64 316 *e*P **P 17 38 43.6 -2.7**
AAK pmax pmax
comp=Z,9.0nm,1.1s
USP Ospenovka 57.87 317 P P 17 38 52.1 +4.3
SNR=5.6
USP P P 17 38 52.1 +4.3
SNR=5.6
AML Almayashu 58.02 315 P P 17 38 53.1 +3.9
SNR=8.3
AML P P 17 38 53.1 +3.9
SNR=8.3
EKS2 Erkin-Say 58.15 316 P P 17 38 54.5 +4.7
SNR=9.1
EKS2 P P 17 38 54.5 +4.7
SNR=9.1
SEY Seymchan 58.18 13*c i*P **P 17 38 52.0 +2.6**
NVS Novosibirsk 58.50 332 *i* P **P 17 38 50.0 -1.8**
NVS *i* S **S 17 46 50.4 +0.8**
NVS pmax pmax
comp=Z,23nm,1.2s
NVS pmax pmax
comp=N,13nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS smax smax
comp=E,47nm,2.1s
NVS smax smax
comp=N,38nm,2.3s
KURK Kurchatov 58.58 326 P **P 17 38 51.5 -1.0**
comp=N,4.4nm,0.5s,baz=121,slow=6.9,SNR=20
KURK LR LR 18 06 23.9
comp=N,395nm,19.0s,baz=105,slow=38
KURK Kurchatov 58.58 326*c i*P **P 17 38 51.2 -1.3**
KURK pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 58.58 326 *e*P **P 17 38 51.0 -1.5**

	comp=Z,32nm,0.9s								
KURK	**Kurchatov**	**58.58**	**326**		P		**P**	**17 38 51.1**	**-1.4**
	comp=Z,177nm,0.7s,SNR=7.2								
FX1	**Attu Island--F**	**58.60**	**31**		P		**P**	**17 38 53.6**	**+1.1**
	comp=Z,17nm,0.6s,baz=333,slow=14,SNR=7.2								
FX1					pP		pP	17 39 04.9	-6.9
	comp=Z,110nm,0.9s,baz=307,slow=3.3,SNR=12								
FX1	**Attu Island--F**	**58.60**	**31**		P		**P**	**17 38 53.7**	**+1.1**
FX1					*PP		pP	17 39 04.9	-6.9
FX1	**Attu Island--F**	**58.60**	**31**		P		**P**	**17 38 53.6**	**+1.1**
FX1					pP		pP	17 39 04.9	-6.9
KBL	**Kabul**	**59.37**	**306**	*e*	P		**P**	**17 38 55.8**	**-2.7**
KBL					pmax		pmax		
	comp=Z,9.0nm,0.6s								
KBL	**Kabul**	**59.37**	**306**	*e*	P		**P**	**17 38 55.8**	**-2.7**
	comp=Z,8.8nm,0.6s								
KK31	**Karatay Array**	**60.55**	**316**	*i*	P		**P**	**17 39 05.1**	**-1.2**
KK31					pmax		pmax		
	comp=Z,10.0nm,0.6s								
KKAR	**Karatay Array**	**60.55**	**316**	*e*	P		**P**	**17 39 04.5**	**-1.8**
KKAR					pmax		pmax		
	comp=Z,13nm,0.7s								
KKAR	**Karatay Array**	**60.55**	**316**	*e*	P		**P**	**17 39 04.5**	**-1.8**
	comp=Z,13nm,0.7s								
BVA0	**Borovoye Array**	**64.18**	**326**	*i*	P		**P**	**17 39 28.9**	**-1.3**
BVA0					pmax		pmax		
	comp=Z,2.0nm,1.0s								
BVAR	**Borovoye Array**	**64.18**	**326**		P		**P**	**17 39 29.1**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=124,slow=7.8,SNR=19								
BVAR	**Borovoye Array**	**64.18**	**326**		P		**P**	**17 39 29.1**	**-1.1**
BVAR	**Borovoye Array**	**64.18**	**326**		P		**P**	**17 39 29.1**	**-1.1**
BRVK	**Borovoye**	**64.25**	**326**	*c*	*i* P		**P**	**17 39 29.5**	**-1.2**
BRVK					pmax		pmax		
	comp=Z,17µm,0.9s								
BRVK	**Borovoye**	**64.25**	**326**	*e*	P		**P**	**17 39 27.9**	**-2.8**
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**64.25**	**326**		P		**P**	**17 39 29.5**	**-1.2**
	comp=Z,110nm,0.9s,SNR=5.4								
RPZ	**Rata Peaks**	**64.86**	**146**		P		**P**	**17 39 35.2**	**+0.4**
	comp=Z,12nm,0.8s,baz=277,slow=4.2,SNR=3.7								
RPZ	**Rata Peaks**	**64.86**	**146**		P		**P**	**17 39 35.2**	**+0.4**
BILL	**Bilibino**	**65.72**	**15**	ǁ*e*	P		**P**	**17 39 41.7**	**+1.7**
BILL				*e*				17 42 07.1	
BILL					eS		**S**	**17 48 25.0**	**+4.9**
BILL					pmax		pmax		
	comp=Z,10.0nm,1.7s								
BILL					MLR		MLR		
	comp=Z,200nm,20.0s								
AB31	**Akbulak array**	**69.28**	**320**	*i*	P		**P**	**17 40 01.2**	**-1.5**
AB31					pmax		pmax		
	comp=Z,10.0nm,0.6s								
ABKAR	**Akbulak array**	**69.28**	**320**	*e*	P		**P**	**17 40 01.1**	**-1.7**
	comp=Z,10nm,0.7s								
ABKAR				*e*				17 40 07.1	
GAMB	**Gambell**	**70.74**	**24**	*e*	P		**P**	**17 40 10.7**	**-0.7**
	comp=Z,52nm,1.5s								
AKTO	**Aktyubinsk**	**70.75**	**321**		P		**P**	**17 40 10.4**	**-1.3**
	comp=Z,11nm,0.8s,baz=115,slow=11,SNR=6.9								
AKTO	**Aktyubinsk**	**70.75**	**321**		P		**P**	**17 40 10.4**	**-1.3**
AKTO	**Aktyubinsk**	**70.75**	**321**		P		**P**	**17 40 10.4**	**-1.3**
SVE	**Sverdlovsk**	**70.75**	**328**	*e*	P		**P**	**17 40 10.5**	**-1.1**
SVE					pmax		pmax		
	comp=Z,14nm,0.7s								
ARU	**Arti**	**71.76**	**327**	*e*	P		**P**	**17 40 16.9**	**-0.8**
ARU								17 42 51.5	
ARU					S		**S**	**17 49 30.7**	**-1.3**
ARU	**Arti**	**71.76**	**327**	*e*	P		**P**	**17 40 14.9**	**-2.8**
	comp=Z,9.1nm,0.6s								
RDF	**Al-Radifah**	**77.08**	**298**	*e*	P		**P**	**17 40 47.9**	**-1.3**
RDF					AMb		AMB	17 41 01.5	
	comp=Z,73nm,1.5s								
MIB	**Mutribah**	**77.23**	**299**	*e*	P		**P**	**17 40 48.6**	**-1.4**
MIB					AMb		AMB	17 40 54.3	
	comp=Z,51nm,0.7s								
NAY	**Al-Naaiem**	**77.33**	**298**	*e*	P		**P**	**17 40 48.7**	**-1.9**
NAY					AMb		AMB	17 41 03.9	
	comp=Z,20nm,1.5s								
KDAK	**Kodiak Island**	**78.47**	**33**		P		**P**	**17 40 57.7**	**+1.5**
	comp=Z,10nm,0.5s,baz=287,slow=5.7,SNR=18								
KDAK	**Kodiak Island**	**78.47**	**33**	*i*	P		P	17 40 59.2	+2.9
KDAK	**Kodiak Island**	**78.47**	**33**		P		**P**	**17 40 57.7**	**+1.5**
GNI	**Garni**	**79.15**	**309**		LR		LR	18 21 18.2	
	comp=Z,238nm,19.1s,baz=82,slow=40								
GNI	**Garni**	**79.15**	**309**	*e*	P		**P**	**17 41 02.1**	**+1.5**
GNI					pmax		pmax		
	comp=Z,21nm,1.2s								
RAYN	**Ar Rayn**	**79.17**	**292**		P		**P**	**17 41 00.8**	**-0.1**
	comp=Z,212nm,0.6s,SNR=10								
ZEI	**Tsey**	**79.75**	**312**	*e*	P		**P**	**17 41 04.2**	**+0.3**
ZEI					pmax		pmax		
	comp=Z,8.0nm,1.3s								
KIV	**Kislovodsk**	**80.60**	**313**	*e*	P		**P**	**17 41 06.6**	**-1.7**
KIV					pmax		pmax		
	comp=Z,14nm,1.0s								
VRHR	**Novokhopersk**	**81.15**	**321**	*e*	P		**P**	**17 41 10.8**	**-0.1**
VRHR					eS		**S**	**17 51 12.1**	**-2.8**
VRHR					pmax		pmax		
	comp=Z,20nm,0.6s								
VRHR					pmax		pmax		
	comp=N,3.0nm,0.3s								
VRHR					pmax		pmax		
	comp=E,7.0nm,0.6s								
VRHR					smax		smax		
	comp=N,60nm,1.1s								
VRHR					smax		smax		
	comp=E,70nm,1.1s								
VRHR					smax		smax		
	comp=Z,20nm,1.1s								
ILAR	**Eielson Array**	**81.48**	**26**		P		**P**	**17 41 12.1**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=257,slow=4.7,SNR=28								
ILAR					pP		**PcP**	**17 41 22.6**	**+4.3**
	comp=Z,3.4nm,0.5s,baz=243,slow=5.0,SNR=15								
ILAR	**Eielson Array**	**81.48**	**26**		P		**P**	**17 41 12.1**	**-0.3**
ILAR					*PP		**PcP**	**17 41 22.6**	**+4.3**
ILAR	**Eielson Array**	**81.48**	**26**		P		**P**	**17 41 12.1**	**-0.3**
ILAR					pP		**PcP**	**17 41 22.6**	**+4.3**
VSR	**Storozhevoye**	**82.69**	**321**	*e*	P		**P**	**17 41 19.4**	**+0.4**
VSR					eS		**S**	**17 51 25.9**	**-4.8**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.9s								
VSR					pmax		pmax		
	comp=N,2.0nm,0.4s								
VSR					pmax		pmax		
	comp=E,10.0nm,0.9s								
VSR					pmax		pmax		
	comp=N,1.0nm,0.6s								
VSR					pmax		pmax		
	comp=E,2.0nm,0.6s								
VSR					pmax		pmax		
	comp=Z,7.0nm,0.6s								
VSR					smax		smax		
	comp=Z,20nm,1.3s								
VSR					smax		smax		
	comp=N,3.0nm,0.5s								
VSR					smax		smax		
	comp=E,9.0nm,0.5s								
VSR					smax		smax		
	comp=N,30nm,1.6s								
VSR					smax		smax		
	comp=E,20nm,1.6s								
VSR					smax		smax		
	comp=Z,20nm,1.6s								
OBN	**Obninsk**	**83.99**	**325**	ǁ*e*	P		**P**	**17 41 24.4**	**-1.1**
OBN					eS		**S**	**17 51 48.9**	**+5.3**
OBN					pmax		pmax		
	comp=Z,10.0nm,0.8s								
OBN					MLR		MLR		
	comp=Z,600nm,18.0s								
JOF	**Joensuu**	**85.80**	**333**	*e*	P		**P**	**17 41 33.7**	**-0.8**
JOF					pmax		pmax		
	comp=Z,20nm,0.6s								
JOF	**Joensuu**	**85.80**	**333**	*ep*	P		**P**	**17 41 33.7**	**-0.8**
	comp=Z,20nm,0.6s								
JOF	**Joensuu**	**85.80**	**333**	*ep*	P		**P**	**17 41 33.7**	**-0.8**
	comp=Z,20nm,0.6s								
PPT2	**Papeete2**	**86.12**	**108**	*e*	S		**S**	**17 52 07.7**	**+1.4**
	comp=Z,149nm,24.2s								
PPT2					eLR		LR	18 08 56.4	
	comp=Z,350nm,22.0s,baz=292								
KEV	**Kevo**	**86.29**	**340**	*e*	P		**P**	**17 41 34.0**	**-2.8**
KEV					pmax		pmax		
	comp=Z,6.0nm,0.8s								
KEV	**Kevo**	**86.29**	**340**	*ep*	P		**P**	**17 41 34.0**	**-2.8**
	comp=Z,6.1nm,0.8s								
KEV	**Kevo**	**86.29**	**340**	*ep*	P		**P**	**17 41 34.0**	**-2.8**
	comp=Z,6.1nm,0.8s								
INK	**Inuvik**	**86.45**	**22**		P		**P**	**17 41 38.2**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=301,slow=5.1,SNR=7.8								
INK					pP		pP	17 41 49.5	-8.4
	comp=Z,6.2nm,1.0s,baz=286,slow=7.4,SNR=9.0								
INK	**Inuvik**	**86.45**	**22**		P		**P**	**17 41 38.3**	**+0.7**
INK					*PP		pP	17 41 49.5	-8.4
INK	**Inuvik**	**86.45**	**22**		P		**P**	**17 41 38.2**	**+0.7**
INK					pP		pP	17 41 49.5	-8.4
ARCES	**ARCESS Array B**	**86.85**	**340**		P		**P**	**17 41 39.0**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=62,slow=5.6,SNR=12								
ARCES					pP		PcP	17 41 49.2	+7.5
	comp=Z,10.0nm,0.8s,baz=77,slow=6.3,SNR=6.4								
ARCES	**ARCESS Array B**	**86.85**	**340**		P		**P**	**17 41 39.0**	**-0.6**
ARCES					*PP		PcP	17 41 49.2	+7.5
ARCES	**ARCESS Array B**	**86.85**	**340**		P		**P**	**17 41 39.0**	**-0.6**
ARCES					pP		PcP	17 41 49.2	+7.5
MMAI	**Mount Meron Ar**	**87.17**	**303**		LR		LR	18 25 58.8	
	comp=Z,103nm,18.0s,baz=285,slow=39								
TBI	**Tubuai**	**87.17**	**114**	*e*	LR		LR	18 09 32.9	
	comp=Z,439nm,26.0s								
MAW	**Mawson**	**87.50**	**200**		LR		LR	18 17 54.5	
	comp=Z,231nm,18.7s,baz=213,slow=34								
BRTR	**Keskin Array B**	**87.69**	**310**		P		**P**	**17 41 43.0**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=130,slow=5.9,SNR=6.2								
BRTR					LR		LR	18 30 25.3	
	comp=Z,170nm,19.2s,baz=232,slow=42								
BRTR	**Keskin Array B**	**87.69**	**310**	*i*	P		**P**	**17 41 45.7**	**+1.3**
BRTR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**87.69**	**310**		P		**P**	**17 41 43.0**	**-1.4**
EIL	**Elat**	**87.98**	**300**		LR		LR	18 29 33.1	
	comp=Z,260nm,18.2s,baz=187,slow=41								
KAF	**Kangasniemi**	**88.23**	**332**	*e*	P		**P**	**17 41 46.4**	**+0.1**
KAF					pmax		pmax		
	comp=Z,10.0nm,0.8s								
KAF	**Kangasniemi**	**88.23**	**332**	*ep*	P		**P**	**17 41 46.4**	**+0.1**
	comp=Z,9.5nm,0.8s								
KAF	**Kangasniemi**	**88.23**	**332**	*ep*	P		**P**	**17 41 46.4**	**+0.1**
	comp=Z,9.5nm,0.8s								
FINES	**FINESS Array B**	**88.49**	**332**		P		**P**	**17 41 46.1**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=62,slow=4.1,SNR=9.2								
FINES					LR		LR	18 27 09.6	
	comp=Z,463nm,18.1s,baz=134,slow=40								
FINES	**FINESS Array B**	**88.49**	**332**		P		**P**	**17 41 46.1**	**-1.4**
FINES	**FINESS Array B**	**88.49**	**332**		P		**P**	**17 41 46.1**	**-1.4**
AKASG	**Malin Array Be**	**88.99**	**321**		P		**P**	**17 41 48.6**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=64,slow=3.3,SNR=7.7								
AKASG					LR		LR	18 25 22.0	
	comp=Z,181nm,18.1s,baz=80,slow=38								
AKASG	**Malin Array Be**	**88.99**	**321**		P		**P**	**17 41 48.6**	**-1.5**
AKASG	**Malin Array Be**	**88.99**	**321**		P		**P**	**17 41 48.6**	**-1.5**
MLR	**Muntele Rosu**	**92.23**	**316**		LR		LR	18 27 33.8	
	comp=Z,46nm,19.6s,baz=268,slow=38								
DAG	**Danmarks Havn**	**93.40**	**353**	*i*	P		**P**	**17 42 08.5**	**-1.6**
DAG				*i*				17 42 19.9	
DAG	**Danmarks Havn**	**93.40**	**353**	*i*	P		**P**	**17 42 08.5**	**-1.6**
DAG				*i*				17 42 19.9	
UZH	**Uzhgorod**	**93.85**	**320**	*e*	P		**P**	**17 42 13.0**	**+0.3**
RES	**Resolute Bay**	**93.93**	**10**		P		**P**	**17 42 13.2**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=310,slow=3.7,SNR=6.8								
RES					pP		pP	17 42 24.3	-8.7
	comp=Z,14nm,0.9s,baz=325,slow=6.1,SNR=23								
RES	**Resolute Bay**	**93.93**	**10**		P		**P**	**17 42 13.2**	**+0.7**
RES					*PP		pP	17 42 24.3	-8.7
RES	**Resolute Bay**	**93.93**	**10**		P		**P**	**17 42 13.2**	**+0.7**
RES					pP		pP	17 42 24.3	-8.7
HFS	**Hagfors**	**94.65**	**333**		LR		LR	18 31 17.8	
	comp=Z,445nm,20.3s,baz=260,slow=40								
NB2	**NORSAR Subarra**	**95.37**	**334**		P		P	17 42 23.6	+4.1
	comp=Z,9.8nm,1.2s,baz=65,slow=4.6								
NOA	**NORSAR Array B**	**95.37**	**334**		P		**P**	**17 42 18.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=65,slow=4.5,SNR=3.3								
NOA	**NORSAR Array B**	**95.37**	**334**		P		**P**	**17 42 18.4**	**-1.1**
NOA	**NORSAR Array B**	**95.37**	**334**		P		**P**	**17 42 18.4**	**-1.1**
YKA	**Yellowknife Ar**	**95.85**	**24**		P		**P**	**17 42 22.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=299,slow=4.5,SNR=16								
YKA					PKKP		**PKKPdf**	**17 59 08.8**	**-3.7**
	comp=Z,0.3nm,0.6s,baz=118,slow=2.8,SNR=6.0								
YKA					LR		LR	18 27 18.7	
	comp=Z,13nm,18.1s,baz=100,slow=36								
YKA	**Yellowknife Ar**	**95.85**	**24**		P		**P**	**17 42 22.2**	**+0.7**
YKA	**Yellowknife Ar**	**95.85**	**24**		P		**P**	**17 42 22.1**	**+0.7**
YKA					PKKP		**PKKPdf**	**17 59 08.8**	**-3.7**
SYO	**Syowa Base**	**96.15**	**201**	ǁ*e*	P		**P**	**17 42 22.0**	**-0.6**
VRAC	**Vranov**	**97.20**	**322**		LR		LR	18 33 01.1	
	comp=Z,309nm,20.7s,baz=262,slow=40								
GERES	**GERESS Array B**	**99.14**	**322**		P		**Pdif**	**17 42 36.4**	**-0.5**
	comp=Z,2.7nm,1.0s,baz=69,slow=3.3,SNR=4.0								
GERES					LR		LR	18 34 09.5	
	comp=Z,350nm,18.7s,baz=317,slow=40								
GERES	**GERESS Array B**	**99.14**	**322**		P		**Pdif**	**17 42 36.4**	**-0.5**
GERES	**GERESS Array B**	**99.14**	**322**		P		**Pdif**	**17 42 36.4**	**-0.5**
SUMG	**Summit**	**99.36**	**356**	*i*	P		**Pdif**	**17 42 40.4**	**+2.7**
SUMG				*e*				17 42 49.6	
SUMG	**Summit**	**99.36**	**356**	*i*	P		**Pdif**	**17 42 40.4**	**+2.7**
SUMG				*e*				17 42 49.6	
NVAR	**Mina Array Bea**	**104.12**	**47**		Pdiff		**Pdif**	**17 43 01.7**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=310,slow=2.1,SNR=2.1								
NVAR	**Mina Array Bea**	**104.12**	**47**		Pdif		**Pdif**	**17 43 01.7**	**+2.3**
PDAR	**Pinedale Array**	**108.25**	**40**		PKKP		**PKKPdf**	**17 58 52.0**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=120,slow=6.6,SNR=7.6								
S20A	**Disappointment**	**111.46**	**44**	⇑	P		**PKiKP**	**17 47 31.0**	**+1.0**
	baz=112								
S21A	**Coal Bank Pass**	**111.93**	**44**	⇓	P		**PKiKP**	**17 47 32.8**	**+1.8**
	baz=112								
W20A	**Ramah**	**112.64**	**47**	⇑	P		**PKiKP**	**17 47 33.3**	**+1.0**
	baz=113								
X21A	**Alamocita Cree**	**113.48**	**47**	⇑	P		**PKiKP**	**17 47 34.5**	**+0.6**
	baz=114								
W24A	**Lazy 6 Ranch,**	**114.81**	**46**	⇓	P		PKPdf	17 47 36.5	+0.1
	baz=115								
V25A	**Rancho No Teng**	**115.05**	**45**	⇓	P		**PKPdf**	**17 47 37.7**	**+0.8**
	baz=115								
T26A	**Comanche Natio**	**115.05**	**43**	⇑	P		**PKPdf**	**17 47 37.3**	**+0.5**
	baz=115								
Y24A	**Capitan**	**115.43**	**47**	⇓	P		**PKPdf**	**17 47 38.7**	**+1.0**
	baz=115								
Y25A	**Mesa, Roswell**	**115.97**	**46**	⇑	P		**PKPdf**	**17 47 39.2**	**+0.7**
	baz=116								
124A	**Stringfield Ra**	**116.02**	**48**	⇑	P		**PKPdf**	**17 47 39.8**	**+1.0**
	baz=116								
425A	**Indio Mountain**	**117.29**	**50**	⇓	P		**PKPdf**	**17 47 41.5**	**+0.2**
	baz=117								
226A	**Malaga, Loving**	**117.33**	**48**	⇓	P		**PKPdf**	**17 47 42.2**	**+1.0**
	baz=117								
Z27A	**Tatum**	**117.34**	**46**	⇑	P		**PKPdf**	**17 47 42.1**	**+0.9**
	baz=117								
526A	**Mary Lane Ranc**	**118.31**	**50**	⇓	P		**PKPdf**	**17 47 43.8**	**+0.6**
	baz=118								
427A	**Hayter Ranch,**	**118.45**	**49**	⇑	P		**PKPdf**	**17 47 43.9**	**+0.5**
	baz=118								
527A	**Woodward Ranch**	**118.64**	**50**	⇓	P		**PKPdf**	**17 47 44.7**	**+0.9**
	baz=119								
TXAR	**Lajitas Array**	**118.99**	**50**		PKP		**PKPdf**	**17 47 45.7**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=265,slow=0.6,SNR=18								
TXAR					pPKP		pPKPdf	17 47 57.2	-8.5
	comp=Z,1.8nm,0.6s,baz=269,slow=0.4,SNR=11								
TXAR					PKKPbc		**PKKPab**	**17 58 01.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=108,slow=4.1,SNR=4.1								
TXAR	**Lajitas Array**	**118.99**	**50**		PKIKP		**PKPdf**	**17 47 45.7**	**+1.2**
TXAR								17 47 57.2	
TXAR	**Lajitas Array**	**118.99**	**50**		PKP		**PKPdf**	**17 47 45.7**	**+1.2**
TXAR					pPKP		pPKPdf	17 47 57.2	-8.5
TXAR					PKKPbc		**PKKPab**	**17 58 01.4**	**-0.9**
428A	**Kincaid Ranch,**	**119.04**	**49**	⇑	P		**PKPdf**	**17 47 46.0**	**+1.5**
	baz=119								
627A	**Terlingua Ranc**	**119.14**	**50**	⇑	P		**PKPdf**	**17 47 45.5**	**+0.7**
	baz=119								
528A	**Cox Ranch, San**	**119.25**	**49**	⇑	P		**PKPdf**	**17 47 45.5**	**+0.5**
	baz=119								
628A	**Black Gap, Mar**	**119.51**	**50**	⇓	P		**PKPdf**	**17 47 46.3**	**+0.9**
	baz=120								
TORD	**Torodi Ar. Bea**	**121.82**	**291**		PKP		**PKPdf**	**17 47 50.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=38,slow=2.1,SNR=8.6								
TORD					pPKP		pPKPdf	17 48 02.1	-9.3
	comp=Z,2.9nm,0.7s,baz=64,slow=2.0,SNR=9.3								
TORD	**Torodi Ar. Bea**	**121.82**	**291**		PKP		**PKPdf**	**17 47 50.0**	**-0.2**
TORD					pPKP		pPKPdf	17 48 02.1	-9.3
TKL	**Tuckaleechee C**	**128.10**	**32**		PKP		**PKPdf**	**17 48 02.1**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=117,slow=6.6,SNR=3.4								
TKL					pPKP		pPKPdf	17 48 14.2	-8.7
	comp=Z,9.3nm,0.9s,baz=142,slow=5.2,SNR=5.3								
TKL	**Tuckaleechee C**	**128.10**	**32**		PKIKP		**PKPdf**	**17 48 02.1**	**+0.4**
TKL								17 48 14.2	
TKL	**Tuckaleechee C**	**128.10**	**32**		PKP		**PKPdf**	**17 48 02.1**	**+0.4**
TKL					pPKP		pPKPdf	17 48 14.2	-8.7
CFAA	**Coronel Fontan**	**152.29**	**151**		PKPbc		**PKPbc**	**17 48 52.4**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=184,slow=4.3,SNR=18								
CFAA					pPKPbc		**PKPab**	**17 49 02.8**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=216,slow=3.0,SNR=9.3								
CFAA	**Coronel Fontan**	**152.29**	**151**		PKPbc		**PKPbc**	**17 48 52.4**	**+0.8**
CFAA					pPKPbc		**PKPab**	**17 49 02.8**	**+1.3**
LPAZ	**La Paz**	**162.96**	**122**		PKP		**PKPdf**	**17 49 00.8**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=347,slow=1.3,SNR=5.8								
LPAZ					pPKP		pPKPdf	17 49 11.4	-9.0
	comp=Z,2.6nm,0.8s,baz=0.3,slow=4.1,SNR=6.1								
LPAZ	**La Paz**	**162.96**	**122**		PKP		**PKPdf**	**17 49 00.8**	**+1.8**
LPAZ					pPKP		pPKPdf	17 49 11.4	-9.0
SIV	**San Ignacio**	**168.60**	**137**		PKP		**PKPdf**	**17 49 04.0**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=239,slow=2.4,SNR=7.3								
SIV					pPKP		pPKPdf	17 49 15.1	-9.1
	comp=Z,4.9nm,1.1s,baz=140,slow=3.9,SNR=6.3								
SIV	**San Ignacio**	**168.60**	**137**		PKP		**PKPdf**	**17 49 04.0**	**+1.2**
SIV					pPKP		pPKPdf	17 49 15.1	-9.1

ATH ***19*** *17:40:17.6, 38.1N×27.0E, h28km, MD2.7/3*
ISCJB ***19*** *17:40:19.2±0.7, 38.1N±0.03×26.8E±0.04, h11km±5km, Error ellipse: s-maj=6.0km s-min=4.1km az=159.0*
CSEM ***19*** *17:40:19.5±0.2, 38.1ON×26.8E, h15km, MD2.7, Error ellipse: s-maj=6.0km s-min=4.5km az=71.0*
DDA ***19*** *17:40:19.3, 38.1ZN×26.9E, h5km, MD2.7*

ISC 19 17:40:19.2±1.0, 38.11N±0.03×26.91E±0.03, h13km±9km, n20, σ0960/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.36**	**316**	*i*	P	**Pg**	**17 40 26.8**	**+0.3**
URLA				*i*	S	**Sg**	**17 40 31.3**	**-0.1**
URLA	**Izmir**	**0.36**	**316**	*i*	P	**Pg**	**17 40 26.8**	**+0.3**
URLA				*i*	S	**Sg**	**17 40 31.3**	**-0.1**
SMG	**Samos**	**0.40**	**189**	*e*	PB	**Pg**	**17 40 27.0**	**-0.2**
SMG				*e*	SB	**Sb**	**17 40 34.0**	**-0.2**
SMG	**Samos**	**0.40**	**189**	*e*	Pb	**Pg**	**17 40 27.0**	**-0.2**
SMG				*e*	Sb	**Sb**	**17 40 34.0**	**-0.2**
GCAM	**G?zelcaml?**	**0.48**	**148**	*i*	P	**Pg**	**17 40 28.7**	**+0.1**
GCAM				*i*	S	**Sg**	**17 40 35.2**	**+0.2**
GCAM	**G?zelcaml?**	**0.48**	**148**	*i*	P	**Pg**	**17 40 28.7**	**+0.1**
GCAM				*i*	S	**Sg**	**17 40 35.2**	**+0.2**
CHOS	**Chios island**	**0.73**	**293**	*e*	PN	**Pg**	**17 40 33.5**	**0.0**
CHOS				*e*	SN	**Sb**	**17 40 45.0**	**+1.2**
CHOS	**Chios island**	**0.73**	**293**	*e*	Pn	**Pg**	**17 40 33.5**	**0.0**
CHOS				*e*	Sn	**Sb**	**17 40 45.0**	**+1.2**
AYDN	**Tasoluk**	**0.88**	**120**	*i*	P	**Pg**	**17 40 36.4**	**+0.1**
AYDN				*i*	S	**Sb**	**17 40 48.8**	**+0.6**
AYDN	**Tasoluk**	**0.88**	**120**	*i*	P	**Pg**	**17 40 36.4**	**+0.1**
AYDN				*i*	S	**Sb**	**17 40 48.8**	**+0.6**
AKHS	**Akhisar**	**1.05**	**42**	*i*	P	**Pn**	**17 40 39.9**	**+0.3**
AKHS				*i*	S	**Sg**	**17 40 53.3**	**+0.2**
AKHS	**Akhisar**	**1.05**	**42**	*i*	P	**Pn**	**17 40 39.9**	**+0.3**
AKHS				*i*	S	**Sg**	**17 40 53.3**	**+0.2**
BDRM	**Kayabasi**	**1.12**	**158**	*i*	P	**Pg**	**17 40 42.2**	**+1.4**
BDRM				*i*	S	**Sb**	**17 40 55.7**	**+0.8**
BDRM	**Kayabasi**	**1.12**	**158**	*i*	P	**Pg**	**17 40 42.2**	**+1.4**
BDRM				*i*	S	**Sb**	**17 40 55.7**	**+0.8**
APE	**Apeiranthos**	**1.

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.45**	**355**	P	P	18 17 25.4	+1.5
	0.4nm,0.6s,baz=185,slow=8.0,SNR=6.0						
ASAR	**Alice Springs**	**37.31**	**125**	P	P	18 19 37.4	+0.1
	0.1nm,0.3s,baz=300,slow=7.7,SNR=5.7						
SONM	**Songino Array**	**51.89**	**5**	P	P	18 21 32.8	-0.7
	0.2nm,0.8s,baz=201,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**53.25**	**344**	P	P	18 21 42.6	-0.8
	0.4nm,1.0s,baz=144,slow=5.2,SNR=4.4						

IDC 19 18:15:52.4±2.5,0.49S×131.70E,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.4/18,mbtmp3.6/4,ML3.4/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/19,Error ellipse: s-maj=119.9km s-min=24.5km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**12.74**	**249**	LR	LR	18 23 16.0	
	comp=Z,44nm,21.6s,baz=176,slow=35						
FITZ	**Fitzroy Crossi**	**18.48**	**198**	P	Pn	18 20 10.7	+0.5
	0.1nm,0.3s,baz=27,slow=9.0,SNR=2.6						
WRA	**Warramunga Arr**	**19.50**	**173**	P	Pn	18 20 22.0	-0.6
	0.1nm,0.3s,baz=352,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**23.14**	**175**	P	P	18 20 59.8	-0.8
	1.8nm,0.9s,baz=358,slow=9.1,SNR=17						
MKAR	**Makanchi Array**	**63.84**	**324**	P	P	18 26 26.9	0.0
	0.3nm,0.9s,baz=106,slow=8.1,SNR=3.4						

*ISK **19** 18:21:35.4,40.68N×35.31E,h9km,MD2.9*
*DDA **19** 18:21:35.5,40.69N×35.28E,h6km,ML3.1*
*CSEM **19** 18:21:35.9±0.2,40.68N×35.30E,h2km,ML3.1,Error ellipse: s-maj=4.0km s-min=3.0km az=165.0*

ISC 19 18:21:36.1±1.0,40.69N±0.03×35.31E±0.02,h13km±10km, n41,σ0=69/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.40**	**261**	*i* P	**Pg**	**18 21 43.6**	**-0.5**
CTKT				*i* S	**Sg**	**18 21 50.5**	**+0.9**
CTKT	**Corum**	**0.40**	**261**	*i* P	**Pg**	**18 21 43.6**	**-0.5**
CTKT				*i* S	**Sg**	**18 21 50.4**	**+0.9**
HAVZ	**Havza**	**0.50**	**38**	*i* P	**Pg**	**18 21 45.9**	**0.0**
HAVZ				*i* S	**Sg**	**18 21 53.3**	**+0.7**
HAVZ	**Havza**	**0.50**	**38**	*i* P	**Pg**	**18 21 45.9**	**0.0**
HAVZ				*i* S	**Sg**	**18 21 53.3**	**+0.7**
CORM	**Corum**	**0.72**	**226**	*e*PG	**Pg**	**18 21 50.0**	**-0.2**
CORM				*e*SG	**Sb**	**18 22 00.3**	**-0.2**
CORM	**Corum**	**0.72**	**226**	*e*Pg	**Pg**	**18 21 50.0**	**-0.2**
CORM				*e*Sg	**Sb**	**18 22 00.4**	**-0.2**
TOKA	**Tokat**	**0.96**	**112**	*i* P	**Pg**	**18 21 54.6**	**-0.1**
TOKA				*i* S	**Sb**	**18 22 08.3**	**+0.9**
TOKA	**Tokat**	**0.96**	**112**	*i* P	**Pg**	**18 21 54.6**	**-0.1**
TOKA				*i* S	**Sb**	**18 22 08.3**	**+0.9**
DIKM	**Dikmen**	**0.96**	**358**	*e*PG	**Pg**	**18 21 54.3**	**-0.4**
DIKM	**Dikmen**	**0.96**	**358**	*e*Pg	**Pg**	**18 21 54.3**	**-0.4**
TOS	**Tosya**	**1.04**	**290**	*e*PG	**Pb**	**18 21 55.9**	**-0.1**
TOS	**Tosya**	**1.04**	**290**	*e*Pg	**Pb**	**18 21 55.9**	**-0.1**
YOZ	**Yozgat**	**1.04**	**180**	*e*PG	**Pg**	**18 21 55.8**	**-0.4**
YOZ	**Yozgat**	**1.04**	**180**	*e*Pg	**Pg**	**18 21 55.8**	**-0.4**
ERBA	**Erbaa**	**1.10**	**90**	*i* P	**Pg**	**18 21 55.9**	**-1.4**
ERBA				*i* S	**Sb**	**18 22 12.1**	**+0.8**
ERBA	**Erbaa**	**1.10**	**90**	*i* P	**Pg**	**18 21 55.9**	**-1.4**
ERBA				*i* S	**Sb**	**18 22 12.1**	**+0.8**
CDAG	**Cicekdag**	**1.28**	**214**	*i* P	**Pn**	**18 21 59.7**	**-0.1**
CDAG				*i* S	**Sb**	**18 22 16.9**	**+0.3**
CDAG	**Cicekdag**	**1.28**	**214**	*i* P	**Pn**	**18 21 59.7**	**-0.1**
CDAG				*i* S	**Sb**	**18 22 16.9**	**+0.3**
CANT	**Cankiri**	**1.29**	**267**	*e*PN	**Pn**	**18 21 59.7**	**-0.2**
ELDT	**Eldivan**	**1.45**	**263**	*i* P	**Pn**	**18 22 02.5**	**+0.3**
ELDT				*i* S	**Sg**	**18 22 22.3**	**-0.4**
ELDT	**Eldivan**	**1.45**	**263**	*i* P	**Pn**	**18 22 02.5**	**+0.3**
ELDT				*i* S	**Sg**	**18 22 22.3**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.56**	**100**	*e*PN	**Pn**	**18 22 04.0**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.56**	**100**	*e*Pn	**Pn**	**18 22 04.0**	**+0.3**
BZK	**Bozkurt**	**1.61**	**323**	*e*PN	**Pb**	**18 22 05.2**	**-0.5**
BZK	**Bozkurt**	**1.61**	**323**	*e*Pn	**Pb**	**18 22 05.2**	**-0.5**
BALT	**Daday**	**1.68**	**301**	*i* P	**Pb**	**18 22 06.5**	**-0.6**
BALT				*i* S	**Sg**	**18 22 30.1**	**-0.2**
BALT	**Daday**	**1.68**	**301**	*i* P	**Pb**	**18 22 06.5**	**-0.6**
BALT				*i* S	**Sg**	**18 22 30.1**	**-0.2**
KAMT	**Kaman**	**1.80**	**223**	*e*PN	**Pn**	**18 22 07.6**	**+0.6**
KAMT	**Kaman**	**1.80**	**223**	*e*Pn	**Pn**	**18 22 07.6**	**+0.6**
BNN	**Bunyan**	**1.88**	**167**	*e*PN	**Pn**	**18 22 08.8**	**+0.7**
BNN	**Bunyan**	**1.88**	**167**	*e*Pn	**Pn**	**18 22 08.8**	**+0.7**
AVNT	**Avonos**	**1.94**	**191**	*i* P	**Pg**	**18 22 12.5**	**-0.8**
AVNT				*i* S	**Sb**	**18 22 36.5**	**+1.0**
BBAL	**Bala**	**2.03**	**236**	*i* P	**Pn**	**18 22 11.5**	**+1.3**
BBAL				*i* S	**Sg**	**18 22 40.9**	**-0.4**
BBAL	**Bala**	**2.03**	**236**	*i* P	**Pn**	**18 22 11.5**	**+1.3**
AFSR	**Af˙ar-Bala (A**	**2.12**	**235**	*e*PN	**Pn**	**18 22 12.2**	**+0.9**
AFSR	**Af˙ar-Bala (A**	**2.12**	**235**	*e*Pn	**Pn**	**18 22 12.2**	**+0.9**
SUSE	**Susehri**	**2.26**	**101**	*i* P	**Pb**	**18 22 16.7**	**-0.2**
SUSE	**Susehri**	**2.26**	**101**	*i* P	**Pb**	**18 22 16.7**	**-0.2**
SULT	**Sultanhani-AKS**	**2.84**	**210**	*e*PN	**Pn**	**18 22 22.1**	**+0.7**
SULT	**Sultanhani-AKS**	**2.84**	**210**	*e*Pn	**Pn**	**18 22 22.1**	**+0.7**
KELT	**Kelkit**	**3.06**	**99**	*i* P	**Pg**	**18 22 32.9**	**-1.9**
KELT				*i* S	**Sg**	**18 23 13.8**	**-0.6**

IDC 19 18:29:13.9±0.8,0.68S×133.08E,h0km,mb4.0/9, mb1 4.2/11,mb1mx4.0/20,mbtmp4.0/11,ML4.4/2, MS3.5/1,Ms1 3.4/1,ms1mx2.4/29,Error ellipse: s-maj=38.0km s-min=11.4km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.79**	**202**	P	Pn	18 33 35.3	-0.1
	0.4nm,0.3s,baz=40,slow=14,SNR=7.7						
FITZ				S	Sn	18 36 56.0	-10
	0.3nm,0.3s,baz=270,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**19.18**	**176**	P	Pn	18 33 41.2	+1.1
	1.8nm,0.3s,baz=354,slow=12,SNR=52						
WRA				S	Sn	18 37 07.0	-8.9
	0.7nm,0.3s,baz=1.9,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**22.86**	**178**	P	P	18 34 20.9	+1.9
	26nm,0.9s,baz=4.2,slow=10,SNR=95						
ASAR				S	S	18 38 29.1	-0.8
	0.5nm,0.7s,baz=46,slow=51,SNR=2.9						
CTA	**Charters Tower**	**23.20**	**147**	P	P	18 34 22.5	-0.1
	3.7nm,0.6s,baz=0.0,slow=8.1,SNR=2.0						
STKA	**Stephens Creek**	**32.05**	**166**	P	P	18 35 43.3	+0.8
	8.8nm,0.8s,baz=345,slow=7.1,SNR=18						
STKA				LR	LR	18 50 01.7	
	comp=Z,89nm,20.2s,baz=206,slow=39						
CMAR	**Chiang Mai Arr**	**38.57**	**301**	P	P	18 36 38.9	+0.1
	0.3nm,0.7s,baz=138,slow=6.3,SNR=3.5						
SONM	**Songino Array**	**53.62**	**338**	P	P	18 38 38.2	+1.1
	0.1nm,0.6s,baz=154,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	18 39 54.4	-0.2
	0.8nm,0.7s,baz=116,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**67.42**	**331**	P	P	18 40 10.2	-1.0
	0.7nm,0.7s,baz=100,slow=8.1,SNR=4.2						
BVAR	**Borovoye Array**	**74.47**	**326**	P	P	18 40 54.1	0.0
	1.8nm,0.8s,baz=86,slow=6.7,SNR=8.3						
AKTO	**Aktyubinsk**	**81.04**	**321**	P	P	18 41 30.5	-0.3
	0.4nm,0.5s,baz=153,slow=2.3,SNR=3.2						
ILAR	**Eielson Array**	**86.36**	**25**	P	P	18 41 57.0	-0.8
	0.2nm,0.5s,baz=248,slow=4.8,SNR=3.8						

*NOU **19** 18:56:53.1±1.0,18.82S×168.45E,h30km,MD2.8,ML3.2*
*ISCJB **19** 18:56:54.9±2.2,19.1S±0.1×168.4E±0.2,h92km±19km, mb3.7/5,Error ellipse: s-maj=32.3km s-min=20.1km az=26.3*
*IDC **19** 18:56:56.4±6.0,19.12S×168.46E,h91km±46km,mb3.7/5, mb1 3.8/6,mb1mx3.6/17,mbtmp3.7/6,MS3.0/1,Ms1 3.0/1, ms1mx2.5/22,Error ellipse: s-maj=45.2km s-min=32.9km az=45.0*

ISC 19 18:56:55.7±4.1,19.1S±0.2×168.5E±0.3,h87km±33km,n10, σ0=55/15,mb3.8/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.38**	**206**	*e*P	**Pn**	**18 57 45.4**	**-0.8**
BAYA				*e*S	**Sn**	**18 58 25.0**	**-0.3**
BAYA				AMP		18 58 28.1	
	comp=Z,36nm,0.7s						
DZM	**Mont Dzumac**	**3.51**	**213**	P	**Pn**	**18 57 48.8**	**+0.7**
	comp=Z,19nm,0.3s,baz=57,slow=16,SNR=319						
DZM				S	**Sn**	**18 58 29.5**	**+0.8**
	comp=Z,99nm,0.3s,baz=123,slow=23,SNR=12						
DZM				LR	LR	18 58 34.3	
	comp=Z,212nm,20.9s,baz=210,slow=28						
PLUM	**Mont Dore**	**3.59**	**209**	*e*P	**Pn**	**18 57 49.4**	**+0.3**
PLUM				*e*S	**Sn**	**18 58 30.8**	**+0.5**
PLUM				AMP		18 58 31.7	
	comp=Z,452nm,2.6s						
NOUC	**Port Laguerre**	**3.61**	**214**	*e*P	**Pn**	**18 57 49.5**	**+0.1**
NOUC				*e*S	**Sn**	**18 58 30.5**	**-0.4**
NOUC				AMP		18 58 34.9	
	comp=Z,215nm,9.3s						
NORM	**Noumea**	**3.62**	**211**	*e*P	**Pn**	**18 57 49.4**	**-0.2**
NORM				*e*S	**Sn**	**18 58 31.0**	**-0.2**
RPZ	**Rata Peaks**	**24.61**	**176**	P	**P**	**19 02 08.0**	**+0.2**
	comp=Z,15nm,0.9s,baz=350,slow=5.7,SNR=6.5						
STKA	**Stephens Creek**	**27.32**	**237**	P	**P**	**19 02 32.2**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=75,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**32.18**	**263**	P	**P**	**19 03 14.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=89,slow=8.2,SNR=2.9						
ASAR	**Alice Springs**	**32.48**	**256**	P	**P**	**19 03 18.6**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=84,slow=8.5,SNR=39						
SONM	**Songino Array**	**86.71**	**323**	P	**P**	**19 09 30.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=142,slow=3.7,SNR=5.9						

IDC 19 18:57:33.7±51.0,22.30S×174.42W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/18,mbtmp3.8/3,Error ellipse: s-maj=970.1km s-min=162.6km az=87.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.08**	**247**	P	P	19 05 09.9	-1.1
	0.8nm,0.4s,baz=112,slow=13,SNR=10						
ASAR	**Alice Springs**	**47.38**	**258**	P	P	19 06 10.1	0.0
	0.4nm,0.6s,baz=96,slow=6.3,SNR=6.7						
WRA	**Warramunga Arr**	**47.67**	**263**	P	P	19 06 12.9	+0.6
	0.7nm,0.4s,baz=99,slow=8.3,SNR=14						

*ISK **19** 18:58:18.4,37.43N×29.81E,h7km,MD3.3*
*DDA **19** 18:58:18.3,37.51N×29.83E,h23km,ML3.3*
*CSEM **19** 18:58:18.8±0.1,37.46N×29.79E,h2km,MD3.3,Error ellipse: s-maj=3.0km s-min=2.6km az=47.0*

ISC 19 18:58:19.1±1.1,37.46N±0.02×29.79E±0.02,h4km±10km, n69,σ1=00/87,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.63**	**291**	*i* P	**Pg**	**18 58 30.6**	**-0.7**
DNZL				*i* S	**Sg**	**18 58 40.7**	**+1.1**
DNZL	**Cakiroluk**	**0.63**	**291**	*i* P	**Pg**	**18 58 30.6**	**-0.7**
DNZL				*i* S	**Sg**	**18 58 40.7**	**+1.1**
BCK	**Bucak**	**0.64**	**90**	*e*PG	**Pg**	**18 58 30.8**	**-0.6**
BCK	**Bucak**	**0.64**	**90**	*e*Pg	**Pg**	**18 58 30.8**	**-0.6**
KORT	**Korkueli**	**0.64**	**136**	*i* P	**Pg**	**18 58 31.4**	**-0.1**
KORT				*i* S	**Sn**	**18 58 43.8**	**-2.0**
KORT	**Korkueli**	**0.64**	**136**	*i* P	**Pg**	**18 58 31.4**	**-0.1**
ELL	**Elmali**	**0.72**	**172**	*e*PG	**Pg**	**18 58 32.1**	**-0.9**
ELL				*e*SG	**Sg**	**18 58 41.9**	**-0.4**
ELL	**Elmali**	**0.72**	**172**	*e*Pg	**Pg**	**18 58 32.1**	**-0.9**
ELL				*e*Sg	**Sg**	**18 58 41.9**	**-0.4**
KHL	**Karahalli**	**0.88**	**346**	*e*PG	**Pg**	**18 58 36.5**	**+0.4**
KHL	**Karahalli**	**0.88**	**346**	*e*Pg	**Pg**	**18 58 36.5**	**+0.4**
ANTB	**Antalya**	**0.89**	**129**	*e*PG	**Pg**	**18 58 35.5**	**-0.7**
ANTB	**Antalya**	**0.89**	**129**	*e*Pg	**Pg**	**18 58 35.5**	**-0.7**
KHAL	**Karahalli**	**0.94**	**345**	*i* P	**Pg**	**18 58 36.3**	**-0.8**
KHAL				*i* S	**Sb**	**18 58 50.6**	**-0.2**
KHAL	**Karahalli**	**0.94**	**345**	*i* P	**Pg**	**18 58 36.3**	**-0.8**
KHAL				*i* S	**Sb**	**18 58 50.6**	**-0.2**
FETY	**Fethiye**	**1.00**	**215**	*e*PG	**Pg**	**18 58 37.7**	**-0.6**
FETY				*e*SG	**Sb**	**18 58 52.5**	**0.0**
FETY	**Fethiye**	**1.00**	**215**	*e*Pg	**Pg**	**18 58 37.7**	**-0.6**
FETY				*e*Sg	**Sb**	**18 58 52.5**	**0.0**
TURN	**Turunc**	**1.12**	**239**	*i* P	Pn	18 58 45.3	+3.8
TURN				*i* S	Sn	18 59 05.7	+8.4
AKAS	**Kas**	**1.24**	**187**	*i* P	**Pg**	**18 58 43.3**	**+0.5**
AKAS				*i* S	**Sn**	**18 59 05.7**	**+5.2**
AKAS	**Kas**	**1.24**	**187**	*i* P	**Pg**	**18 58 43.3**	**+0.5**
SHUT	**Suhut-Afyon**	**1.24**	**29**	*e*PN	**Pn**	**18 58 42.9**	**-0.5**
SHUT	**Suhut-Afyon**	**1.24**	**29**	*e*Pn	**Pn**	**18 58 42.9**	**-0.5**
YER	**Yerkesik**	**1.25**	**255**	*e*PN	**Pn**	**18 58 42.7**	**-0.7**
YER	**Yerkesik**	**1.25**	**255**	*e*Pn	**Pn**	**18 58 42.7**	**-0.7**
KULA	**Kula-Manisa**	**1.38**	**320**	*e*PN	**Pn**	**18 58 45.1**	**-0.1**
KULA	**Kula-Manisa**	**1.38**	**320**	*e*Pn	**Pn**	**18 58 45.1**	**-0.1**
MANT	**Manisa**	**1.42**	**317**	*i* P	**Pn**	**18 58 43.9**	**-1.9**
MANT				*i* S	**Sn**	**18 59 03.8**	**-1.2**
MANT	**Manisa**	**1.42**	**317**	*i* P	**Pn**	**18 58 43.9**	**-1.9**
MANT				*i* S	**Sn**	**18 59 03.8**	**-1.2**
AYDN	**Tasoluk**	**1.53**	**278**	*i* P	**Pn**	**18 58 47.2**	**-0.1**
AYDN				*i* S	**Sn**	**18 59 07.2**	**-0.5**
AYDN	**Tasoluk**	**1.53**	**278**	*i* P	**Pn**	**18 58 47.2**	**-0.1**
AYDN				*i* S	**Sn**	**18 59 07.2**	**-0.5**
ALT	**Altintas**	**1.61**	**9**	*e*PN	**Pn**	**18 58 48.5**	**+0.1**
ALT	**Altintas**	**1.61**	**9**	*e*Pn	**Pn**	**18 58 48.5**	**+0.1**
DEMI	**Demirci**	**1.79**	**332**	*i* P	**Pn**	**18 58 50.1**	**-0.8**
DEMI				*i* S	**Sb**	**18 59 15.4**	**0.0**
DEMI	**Demirci**	**1.79**	**332**	*i* P	**Pn**	**18 58 50.1**	**-0.8**
DEMI				*i* S	**Sb**	**18 59 15.4**	**0.0**
BDRM	**Kayabasi**	**1.91**	**259**	*i* P	**Pb**	**18 58 54.0**	**-0.6**
BDRM				*i* S	**Sg**	**18 59 20.6**	**0.0**
BDRM	**Kayabasi**	**1.91**	**259**	*i* P	**Pb**	**18 58 54.0**	**-0.6**
BDRM				*i* S	**Sg**	**18 59 20.6**	**0.0**
GCAM	**G?zelcaml?**	**2.04**	**277**	*i* P	**Pn**	**18 58 53.4**	**-0.9**
GCAM	**G?zelcaml?**	**2.04**	**277**	*i* P	**Pn**	**18 58 53.4**	**-0.9**
KONT	**Konya--Tatoy**	**2.10**	**76**	*e*PN	**Pn**	**18 58 54.6**	**-0.4**
KONT	**Konya--Tatoy**	**2.10**	**76**	*e*Pn	**Pn**	**18 58 54.6**	**-0.4**
AKHS	**Akhisar**	**2.10**	**313**	*i* P	**Pn**	**18 58 54.2**	**-0.9**
AKHS				*i* S	**Sg**	**18 59 30.8**	**+4.1**
AKHS	**Akhisar**	**2.10**	**313**	*i* P	**Pn**	**18 58 54.2**	**-0.9**
AKS	**Akhisar**	**2.10**	**313**	*e*PN	**Pn**	**18 58 55.1**	**0.0**
AKS	**Akhisar**	**2.10**	**313**	*e*Pn	**Pn**	**18 58 55.1**	**0.0**
LADK	**Ladik-KONYA**	**2.17**	**69**	*e*PN	**Pn**	**18 58 55.9**	**-0.2**
LADK	**Ladik-KONYA**	**2.17**	**69**	*e*Pn	**Pn**	**18 58 55.9**	**-0.2**
KIZT	**Kizilcal**	**2.17**	**49**	*e*PN	**Pn**	**18 58 56.1**	**-0.1**
KIZT	**Kizilcal**	**2.17**	**49**	*e*Pn	**Pn**	**18 58 56.1**	**-0.1**
IZM	**Izmir**	**2.21**	**296**	*e*PN	**Pn**	**18 58 56.8**	**+0.3**
IZM	**Izmir**	**2.21**	**296**	*e*Pn	**Pn**	**18 58 56.8**	**+0.3**
ESKT	**Eskisehir**	**2.22**	**22**	*e*PN	**Pn**	**18 58 56.8**	**0.0**
ESKT	**Eskisehir**	**2.22**	**22**	*e*Pn	**Pn**	**18 58 56.8**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.40**	**34**	*e*PN	**Pn**	**18 58 59.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.40**	**34**	*e*Pn	**Pn**	**18 58 59.5**	**+0.2**
BALB	**Balikesir**	**2.64**	**326**	*e*PN	**Pn**	**18 59 03.2**	**+0.7**
BALB	**Balikesir**	**2.64**	**326**	*e*Pn	**Pn**	**18 59 03.2**	**+0.7**
CAVI	**Cavuskoy**	**2.74**	**1**	*e*PN	**Pn**	**18 59 04.5**	**+0.7**
CAVI	**Cavuskoy**	**2.74**	**1**	*e*Pn	**Pn**	**18 59 04.5**	**+0.7**
KCTX	**Karacabey (Bur**	**3.01**	**339**	*e*PN	**Pn**	**18 59 08.0**	**+0.4**
KCTX	**Karacabey (Bur**	**3.01**	**339**	*e*Pn	**Pn**	**18 59 08.0**	**+0.4**
SULT	**Sultanhani-AKS**	**3.04**	**75**	*e*PN	**Pn**	**18 59 08.5**	**+0.5**
SULT	**Sultanhani-AKS**	**3.04**	**75**	*e*Pn	**Pn**	**18 59 08.5**	**+0.5**
GONE	**Gonen-Balikesi**	**3.06**	**328**	*e*PN	**Pn**	**18 59 08.8**	**+0.5**
GONE	**Gonen-Balikesi**	**3.06**	**328**	*e*Pn	**Pn**	**18 59 08.8**	**+0.5**
AFSR	**Af˙ar-Bala (A**	**3.25**	**51**	*e*PN	**Pn**	**18 59 11.3**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**3.25**	**51**	*e*Pn	**Pn**	**18 59 11.3**	**+0.3**
APE	**Apeiranthos**	**3.42**	**265**	*e*PN	**Pn**	**18 59 14.2**	**+0.9**
APE	**Apeiranthos**	**3.42**	**265**	*e*Pn	**Pn**	**18 59 14.2**	**+0.9**
CSS	**Prodhromos**	**3.80**	**130**	*e*PN	**Pn**	**18 59 18.9**	**+0.6**
CSS	**Prodhromos**	**3.80**	**130**	*e*Pn	**Pn**	**18 59 19.0**	**+0.6**

*NIED **19** 19:04:00,34.60N×141.90E,h14km,Mw4.1 Best double couple: Mo1.70000×10^15 NP1:φs159.00000°,δ59.00000°, λ-94.00000°. NP2:φs347.00000°,δ31.00000°, λ-83.00000°.*
*IDC **19** 19:04:24.2±0.5,34.63N×141.76E,h0km,mb4.1/20, mb1 4.3/24,mb1mx4.3/28,mbtmp4.1/24,ML3.4/2,MS3.2/1, Ms1 3.2/1,ms1mx2.4/41,Error ellipse: s-maj=15.0km s-min=14.3km az=77.0*
*JMA **19** 19:04:26.3±0.2,34.64N×141.86E,h43km±3km,M4.4*
*ISCJB **19** 19:04:26.6±1.1,34.64N±0.04×141.78E±0.04,h29km±7km, mb4.4/43,MS3.7/1,Error ellipse: s-maj=6.2km s-min=5.0km az=7.6*
*NEIC **19** 19:04:28.6±2.4,34.62N×141.70E,h31km±16km,mb4.8/18, MW4.1(NIED),Error ellipse: s-maj=7.7km s-min=6.6km az=61.0*
*MOS **19** 19:04:30.0±1.1,35.15N×141.66E,h33km,mb4.7/12,Error ellipse: s-maj=11.3km s-min=7.6km az=113.4*

ISC 19 19:04:28.3±1.5,34.66N±0.05×141.75E±0.05,h28km±10km, n146,σ1=04/162,mb4.4/43,8C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.63**	**270**	P	**Pb**	**19 04 40.2**	**-0.3**
BSO1				S	**Sn**	**19 04 49.4**	**-0.4**
BSO2	**Boso 2**	**0.82**	**277**	S	**Sn**	**19 04 56.9**	**+2.1**
BSO3	**Boso 3**	**1.03**	**278**	P	**Pn**	**19 04 46.3**	**-0.3**
BSO3				S	**Sb**	**19 05 01.3**	**+1.0**
BSO4	**Boso 4**	**1.21**	**286**	⇑P	**Pn**	**19 04 49.3**	**+0.1**
BSO4				S	**Sb**	**19 05 06.4**	**+0.9**
CHOJ	**Chosi**	**1.27**	**325**	P	**Pn**	**19 04 49.2**	**-1.0**
CHOJ				S	**Sn**	**19 05 05.4**	**-0.9**
KTR	**Katsuura**	**1.27**	**293**	P	**Pn**	**19 04 49.7**	**-0.5**
KTR				S	**Sn**	**19 05 06.0**	**-0.4**
JIM2	**Oshima 3**	**1.91**	**272**	P	**Pn**	**19 04 57.8**	**-1.2**
JIM2				S	**Sn**	**19 05 21.0**	**-1.1**
JMY	**Miyakejima3**	**1.94**	**253**	P	**Pn**	**19 04 58.4**	**-1.0**
JMY				S	**Sn**	**19 05 23.8**	**-1.0**
JHJ2	**Mitsune**	**2.23**	**227**	P	**Pn**	**19 05 02.6**	**-0.7**
JHJ2				S	**Sn**	**19 05 29.8**	**-0.1**
JOD2	**Odawara 2**	**2.27**	**286**	P	**Pn**	**19 05 02.8**	**-1.1**
JOD2				S	**Sn**	**19 05 29.3**	**-1.6**
JIZS	**Izushimoda**	**2.37**	**272**	P	**Pn**	**19 05 04.3**	**-0.9**
JIZS				S	**Sn**	**19 05 33.0**	**-0.3**
JAG	**Ashikaga**	**2.57**	**314**	P	**Pn**	**19 05 07.8**	**-0.2**
JRY	**Ryogami san**	**2.69**	**301**	P	**Pn**	**19 05 09.8**	**0.0**
JYN	**Shimob**	**2.76**	**289**	P	**Pn**	**19 05 10.1**	**-0.6**
MJAR	**Matsushiro Arr**	**3.44**	**304**	Pn	**Pn**	**19 05 20.1**	**+0.1**
	9.8nm,0.3s,baz=214,slow=8.3,SNR=105						
MJAR				Sn	**Sn**	**19 06 02.2**	**+2.3**
	20nm,0.3s,baz=336,slow=29,SNR=8.9						
MJAR	**Matsushiro Arr**	**3.44**	**304**	P	**Pn**	**19 05 20.1**	**+0.1**
MJAR						19 06 02.2	
MJAR	**Matsushiro Arr**	**3.44**	**304**	Pn	**Pn**	**19 05 20.1**	**+0.1**
MJAR				Sn	**Sn**	**19 06 02.2**	**+2.3**
MAJO	**Matsushiro**	**3.44**	**304**	*e*P	**Pn**	**19 05 20.3**	**+0.2**
MAJO	**Matsushiro**	**3.44**	**304**	*e*P	**Pn**	**19 05 20.3**	**+0.2**
MAT	**Matsushiro**	**3.44**	**304**	P	**Pn**	**19 05 20.2**	**+0.1**
MAT				S	**Sn**	**19 05 59.5**	**-0.5**
ERM	**Erimo**	**7.43**	**8**	*e*P	**Pn**	**19 06 11.9**	**-2.8**
CBIJ	**Chichi jima**	**7.55**	**177**	Pn	**Pn**	**19 06 14.1**	**-2.3**
	12nm,0.3s,baz=298,slow=20,SNR=25						
CBIJ				Sn	Sn	19 07 33.1	-8.0
	9.3nm,0.3s,baz=255,slow=20,SNR=4.9						
CBIJ	**Chichi jima**	**7.55**	**177**	Pn	**Pn**	**19 06 14.1**	**-2.3**
CBIJ				Sn	Sn	19 07 33.1	-8.0
JNU	**Nakatsue**	**9.16**	**263**	*e*P	**Pn**	**19 06 40.4**	**+1.7**
	6.7nm,0.8s						
ASAJ	**Asahikawa**	**9.47**	**4**	Pn	**Pn**	**19 06 39.8**	**-3.0**
	4.1nm,0.3s,baz=225,slow=12,SNR=7.7						
ASAJ				Sn	Sn	19 08 21.5	-6.7
	4.3nm,0.3s,baz=95,slow=26,SNR=6.4						
ASAJ				LR	LR	19 11 31.7	
	comp=Z,133nm,18.9s,baz=5.6,slow=45						
ASAJ	**Asahikawa**	**9.47**	**4**	P	**Pn**	**19 06 39.8**	**

	comp=Z,28nm,0.8s									
KOLN	**Koldanda**	**49.62**	**279**	*e*P		**P**		**19 13 17.2**	**-0.4**	
	comp=Z,3.2nm,0.4s									
KOLN	**Koldanda**	**49.62**	**279**	*e*P		**P**		**19 13 17.2**	**-0.4**	
	comp=Z,3.2nm,0.4s									
TKM2	**Tokmak 2**	**51.03**	**300**	*e*P		**P**		**19 13 27.6**	**-0.5**	
TKM2				pmax	pmax					
	comp=Z,2.0nm,0.6s									
TKM2	**Tokmak 2**	**51.03**	**300**	*e*P		**P**		**19 13 27.6**	**-0.5**	
	comp=Z,2.2nm,0.6s									
ILAR	**Eielson Array**	**51.37**	**31**	P		**P**		**19 13 30.1**	**+0.1**	
	comp=Z,3.7nm,0.8s,baz=261,slow=6.0,SNR=50									
ILAR	**Eielson Array**	**51.37**	**31**	P		**P**		**19 13 30.1**	**+0.1**	
ILAR	**Eielson Array**	**51.37**	**31**	P		**P**		**19 13 30.1**	**+0.1**	
AAK	**Ala-Archa**	**51.88**	**300**	*e*P		**P**		**19 13 35.2**	**+0.8**	
AAK				pmax	pmax					
	comp=Z,11nm,2.5s									
BRVK	**Borovoye**	**52.45**	**314**	*e*P		**P**		**19 13 38.9**	**+0.7**	
BRVK				pmax	pmax					
	comp=Z,1.0nm,0.8s									
KKAR	**Karatay Array**	**54.58**	**302**	*e*P		**P**		**19 13 54.3**	**+0.3**	
KKAR				pmax	pmax					
	comp=Z,3.0nm,0.8s									
KKAR	**Karatay Array**	**54.58**	**302**	*e*P		**P**		**19 13 54.3**	**+0.3**	
	comp=Z,3.4nm,0.8s									
WRAB	**Tennant Creek**	**54.74**	**189**	*e*P		**P**		**19 13 55.3**	**0.0**	
WRAB				pmax	pmax					
	comp=Z,5.0nm,0.8s									
WRAB	**Tennant Creek**	**54.74**	**189**	*e*P		**P**		**19 13 55.3**	**0.0**	
	comp=Z,5.1nm,0.8s									
WB2	**Warramunga Arr**	**54.75**	**189**	*e*P		**P**		**19 13 55.2**	**-0.1**	
WRA	**Warramunga Arr**	**54.75**	**189**	P		**P**		**19 13 55.4**	**0.0**	
	comp=Z,4.6nm,0.8s,baz=6.3,slow=7.7,SNR=31									
WRA	**Warramunga Arr**	**54.75**	**189**	P		**P**		**19 13 55.4**	**0.0**	
WRA	**Warramunga Arr**	**54.75**	**189**	P		**P**		**19 13 55.4**	**0.0**	
ARU	**Arti**	**58.33**	**320**	*c* iP		**P**		**19 14 20.7**	**+0.2**	
ARU				S		**S**		**19 22 18.4**	**-2.5**	
ARU				SS		**SS**		**19 26 07.7**	**-4.9**	
ARU				pmax	pmax					
	comp=Z,9.0nm,1.3s									
ARU	**Arti**	**58.33**	**320**	*e*P		**P**		**19 14 20.0**	**-0.5**	
	comp=Z,5.4nm,1.3s									
AS31	**Alice Springs**	**58.48**	**188**	P		**P**		**19 14 23.2**	**+1.3**	
ASAR	**Alice Springs**	**58.48**	**188**	P		**P**		**19 14 22.1**	**+0.2**	
	comp=Z,1.9nm,0.7s,baz=16,slow=10,SNR=21									
ASAR	**Alice Springs**	**58.48**	**188**	P		**P**		**19 14 22.1**	**+0.2**	
ASAR	**Alice Springs**	**58.48**	**188**	P		**P**		**19 14 22.1**	**+0.2**	
ABKAR	**Akbulak array**	**59.69**	**311**	*e*P		**P**		**19 14 29.2**	**-0.8**	
	comp=Z,1.2nm,0.5s									
RES	**Resolute Bay**	**64.83**	**14**	*e*P		**P**		**19 15 04.3**	**+0.3**	
RES				pmax	pmax					
	comp=Z,3.0nm,0.4s									
RES	**Resolute Bay**	**64.83**	**14**	*e*P		**P**		**19 15 04.3**	**+0.3**	
	comp=Z,2.7nm,0.4s									
YKA	**Yellowknife Ar**	**65.73**	**30**	P		**P**		**19 15 10.1**	**+0.1**	
	comp=Z,1.2nm,0.7s,baz=296,slow=6.2,SNR=18									
YKA	**Yellowknife Ar**	**65.73**	**30**	P		**P**		**19 15 10.1**	**+0.1**	
YKA	**Yellowknife Ar**	**65.73**	**30**	P		**P**		**19 15 10.1**	**+0.1**	
STKA	**Stephens Creek**	**66.18**	**180**	P		**P**		**19 15 14.0**	**+0.8**	
	comp=Z,2.0nm,0.9s,baz=330,slow=6.5,SNR=2.9									
STKA	**Stephens Creek**	**66.18**	**180**	P		**P**		**19 15 14.0**	**+0.8**	
STKA	**Stephens Creek**	**66.18**	**180**	P		**P**		**19 15 14.0**	**+0.8**	
FINES	**FINESS Array B**	**71.04**	**333**	P		**P**		**19 15 43.5**	**+0.2**	
	comp=Z,2.9nm,0.9s,baz=12,slow=7.1,SNR=3.3									
FINES	**FINESS Array B**	**71.04**	**333**	P		**P**		**19 15 43.5**	**+0.2**	
FINES	**FINESS Array B**	**71.04**	**333**	P		**P**		**19 15 43.5**	**+0.2**	
KIV	**Kislovodsk**	**72.67**	**312**	*e*P		**P**		**19 15 55.2**	**+1.6**	
KIV				pmax	pmax					
	comp=Z,7.0nm,1.1s									
ANN	**Anapa**	**75.38**	**315**	*e*P		P		19 16 21.6	+12	
FFC	**Flin Flon**	**75.56**	**32**	*c e*P		**P**		**19 16 10.8**	**+0.8**	
FFC	**Flin Flon**	**75.56**	**32**	*e*P		**P**		**19 16 10.3**	**+0.2**	
	comp=Z,5.5nm,0.9s									
LRM	**Limekiln Ridge**	**75.66**	**44**	*e*P		**P**		**19 16 11.9**	**+0.8**	
	comp=Z,34nm,0.8s									
NVAR	**Mina Array Bea**	**76.20**	**53**	P		**P**		**19 16 15.8**	**+1.5**	
	comp=Z,2.5nm,0.7s,baz=288,slow=5.8,SNR=20									
NVAR	**Mina Array Bea**	**76.20**	**53**	P		**P**		**19 16 15.8**	**+1.5**	
AKASG	**Malin Array Be**	**76.34**	**323**	P		**P**		**19 16 14.1**	**-0.5**	
	comp=Z,0.6nm,0.5s,baz=50,slow=5.9,SNR=4.5									
AKASG	**Malin Array Be**	**76.34**	**323**	*c e*P		**P**		**19 16 15.8**	**+1.2**	
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.5s									
AKASG	**Malin Array Be**	**76.34**	**323**	P		**P**		**19 16 14.1**	**-0.5**	
NB2	**NORSAR Subarra**	**76.48**	**338**	P		**P**		**19 16 15.1**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=41,slow=5.9									
NOA	**NORSAR Array B**	**76.48**	**338**	P		**P**		**19 16 15.2**	**-0.1**	
	comp=Z,2.2nm,0.8s,baz=40,slow=5.7,SNR=5.5									
NOA	**NORSAR Array B**	**76.48**	**338**	P		**P**		**19 16 15.2**	**-0.1**	
NOA	**NORSAR Array B**	**76.48**	**338**	P		**P**		**19 16 15.2**	**-0.1**	
PDAR	**Pinedale Array**	**79.14**	**45**	P		**P**		**19 16 31.2**	**+0.5**	
	comp=Z,0.8nm,0.8s,baz=297,slow=1.3,SNR=4.4									
PDAR	**Pinedale Array**	**79.14**	**45**	P		**P**		**19 16 31.2**	**+0.5**	
BRTR	**Keskin Array B**	**80.63**	**312**	P		**P**		**19 16 39.8**	**+1.1**	
	comp=Z,0.6nm,0.7s,baz=29,slow=3.3,SNR=1.8									
BRTR	**Keskin Array B**	**80.63**	**312**	P		**P**		**19 16 39.8**	**+1.1**	
BRTR	**Keskin Array B**	**80.63**	**312**	P		**P**		**19 16 39.8**	**+1.1**	
ULM	**Lac du Bonnet**	**81.34**	**33**	P		**P**		**19 16 41.9**	**-0.1**	
	comp=Z,1.0nm,0.4s,baz=6.5,slow=8.3,SNR=3.2									
ULM	**Lac du Bonnet**	**81.34**	**33**	P		**P**		**19 16 41.9**	**-0.1**	
ULM	**Lac du Bonnet**	**81.34**	**33**	P		**P**		**19 16 41.9**	**-0.1**	
GERES	**GERESS Array B**	**84.87**	**329**	P		**P**		**19 17 00.4**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=30,slow=6.1,SNR=2.7									
GERES	**GERESS Array B**	**84.87**	**329**	P		**P**		**19 17 00.4**	**-0.1**	
GERES	**GERESS Array B**	**84.87**	**329**	P		**P**		**19 17 00.4**	**-0.1**	
SCHQ	**Schefferville**	**87.54**	**16**	P		**P**		**19 17 13.8**	**+0.4**	
	comp=Z,2.7nm,0.7s,baz=308,slow=12,SNR=5.9									
SCHQ	**Schefferville**	**87.54**	**16**	P		**P**		**19 17 13.8**	**+0.4**	
TXAR	**Lajitas Array**	**91.35**	**53**	P		**P**		**19 17 32.5**	**+0.7**	
	comp=Z,0.7nm,0.6s,baz=300,slow=4.2,SNR=9.8									
TXAR	**Lajitas Array**	**91.35**	**53**	P		**P**		**19 17 32.6**	**+0.7**	
TXAR	**Lajitas Array**	**91.35**	**53**	P		**P**		**19 17 32.5**	**+0.7**	
LPAZ	**La Paz**	**147.59**	**63**	PKPbc		**PKPbc**		**19 24 12.0**	**+0.8**	
	comp=Z,2.7nm,0.6s,baz=337,slow=1.0,SNR=10									
LPAZ	**La Paz**	**147.59**	**63**	PKP2		**PKPbc**		**19 24 12.0**	**+0.8**	
LPAZ				pmax	pmax					
	comp=Z,3.0nm,0.6s									
LPAZ	**La Paz**	**147.59**	**63**	*e*PKPab		**PKPbc**		**19 24 11.4**	**+0.2**	
LPAZ				PKPbc		**PKPbc**		**19 24 12.0**	**+0.8**	

MEX 19 19:10:41.3±0.4, 16.87N×100.22W, h13km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**346**	*i* P		Pg	19 10 45.2	-0.3
CAIG				*e*S		Sg	19 10 47.8	-0.6
ACX	**Acapulco**	**0.35**	**90**	*i* P		Pg	19 10 47.0	-1.4
ACX				*e*S		Sg	19 10 51.2	-2.0
ZIIG	**Zihuatanejo**	**1.40**	**302**	*i* P		Pn	19 11 02.5	-4.0
ZIIG				*e*S		Sn	19 11 20.1	-4.7
PLIG	**Platanillo**	**1.66**	**24**	*i* P		Pn	19 11 06.9	-3.4
PLIG				*e*S		Sn	19 11 27.1	-4.5
PNIG	**Pinotepa**	**2.06**	**103**	*i* P		Pn	19 11 13.0	-2.7
PNIG				*i* S		Sn	19 11 36.9	-4.5
UTMO	**Huajuapan**	**2.50**	**67**	*i* P		Pn	19 11 19.4	-2.6
UTMO				*i* S		Sn	19 11 47.7	-4.8

IDC 19 19:13:16.8±59.0, 22.95S×178.78W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=1065.0km s-min=154.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.12**	**247**	P		P	19 20 19.9	-0.8
	0.4nm,0.4s,baz=70,slow=12,SNR=2.9							
ASAR	**Alice Springs**	**43.30**	**259**	P		P	19 21 20.7	-0.1
	0.1nm,0.3s,baz=97,slow=7.8,SNR=14							
WRA	**Warramunga Arr**	**43.60**	**265**	P		P	19 21 23.6	+0.5
	0.5nm,0.4s,baz=99,slow=7.5,SNR=11							

*DDA **19** 19:17:17.3, 38.62N×27.00E, h7km, ML3.9*
*THE **19** 19:17:17.9, 38.59N×27.05E, h8km±1km, ML3.0/5, Error ellipse: s-maj=1.8km s-min=0.8km az=198.0*
*ISK **19** 19:17:17.1, 38.60N×27.00E, h17km, ML3.7*
*CSEM **19** 19:17:17.4±0.1, 38.61N×27.00E, h8km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.8km az=176.0*
*ISCJB **19** 19:17:17.2±0.4, 38.61N±0.01×26.98E±0.02, h12km±3km, Error ellipse: s-maj=2.2km s-min=2.2km az=136.9*

*ATH **19** 19:17:18.2, 38.63N×26.88E, h32km±1km, ML3.1*
ISC 19 19:17:18.0±0.9, 38.61N±0.02×27.00E±0.02, h10km±7km, n241, σ0.87/297, 12C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BLCB	**Balcova**	**0.23**	**171**	PG		**Pg**	**19 17 22.7**	**0.0**
BLCB				*e*SG		**Sg**	**19 17 26.4**	**+0.5**
BLCB	**Balcova**	**0.23**	**171**	*i* Pg		**Pg**	**19 17 22.7**	**0.0**
BLCB				*e*Sg		**Sg**	**19 17 26.4**	**+0.5**
IZM	**Izmir**	**0.30**	**136**	PG		**Pg**	**19 17 24.0**	**0.0**
IZM	**Izmir**	**0.30**	**136**	*i* Pg		**Pg**	**19 17 24.0**	**0.0**
URLA	**Izmir**	**0.40**	**232**	*i* P		**Pg**	**19 17 25.7**	**-0.3**
URLA				*i* S		**Sb**	**19 17 32.8**	**-0.6**
URLA	**Izmir**	**0.40**	**232**	*i* P		**Pg**	**19 17 25.7**	**-0.3**
URLA				*i* S		**Sb**	**19 17 32.8**	**-0.6**
AKS	**Akhisar**	**0.69**	**67**	PG		**Pg**	**19 17 31.4**	**+0.1**
AKS	**Akhisar**	**0.69**	**67**	*i* Pg		**Pg**	**19 17 31.5**	**+0.1**
AKHS	**Akhisar**	**0.69**	**67**	*i* P		**Pg**	**19 17 30.9**	**-0.5**
AKHS				*i* S		**Sg**	**19 17 40.4**	**0.0**
AKHS	**Akhisar**	**0.69**	**67**	*i* P		**Pg**	**19 17 30.9**	**-0.5**
AKHS				*i* S		**Sg**	**19 17 40.4**	**0.0**
AYVA	**Ayvalik**	**0.74**	**341**	*i* P		**Pg**	**19 17 31.9**	**-0.3**
AYVA				*i* S		**Sg**	**19 17 41.6**	**-0.2**
AYVA	**Ayvalik**	**0.74**	**341**	*i* P		**Pg**	**19 17 31.9**	**-0.3**
AYVA				*i* S		**Sg**	**19 17 41.6**	**-0.2**
CHOS	**Chios island**	**0.77**	**253**	P		**Pg**	**19 17 32.6**	**-0.3**
CHOS				S		**Sn**	**19 17 45.8**	**-0.9**
CHOS	**Chios island**	**0.77**	**253**	*e*PN		**Pg**	**19 17 32.7**	**-0.2**
CHOS				*e*SN		**Sg**	**19 17 42.7**	**-0.4**
CHOS	**Chios island**	**0.77**	**253**	P		**Pg**	**19 17 32.6**	**-0.3**
CHOS				*e*Sn		**Sg**	**19 17 42.7**	**-0.4**
CHOS				S		**Sn**	**19 17 45.8**	**-0.9**
PRK	**Paraskevi**	**0.85**	**318**	*e*PN		**Pg**	**19 17 33.5**	**-0.9**
PRK				*e*SN		**Sg**	**19 17 45.7**	**+0.2**
PRK	**Paraskevi**	**0.85**	**318**	*e*Pn		**Pg**	**19 17 33.5**	**-0.9**
PRK				*e*Sn		**Sg**	**19 17 45.7**	**+0.2**
SMG	**Samos**	**0.91**	**188**	*e*PB		**Pg**	**19 17 35.2**	**-0.3**
SMG				*e*Pb		**Sb**	**19 17 49.1**	**+1.1**
SMG				*e*Sn		**Sb**	**19 17 49.1**	**+1.1**
GCAM	**G?zelcaml?**	**0.93**	**168**	*i* P		**Pg**	**19 17 35.3**	**-0.6**
GCAM				*i* S		**Sg**	**19 17 47.6**	**-0.3**
GCAM	**G?zelcaml?**	**0.93**	**168**	*i* P		**Pg**	**19 17 35.3**	**-0.6**
GCAM				*i* S		**Sg**	**19 17 47.6**	**-0.3**
AYDN	**Tasoluk**	**1.18**	**144**	*i* P		**Pb**	**19 17 39.6**	**-0.8**
AYDN				*i* S		**Sb**	**19 17 55.3**	**-0.4**
AYDN	**Tasoluk**	**1.18**	**144**	*i* P		**Pb**	**19 17 39.6**	**-0.8**
AYDN				*i* S		**Sb**	**19 17 55.3**	**-0.4**
BALY	**Balya**	**1.23**	**23**	*i* P		**Pn**	**19 17 40.5**	**-0.7**
BALY				*i* S		**Sg**	**19 17 57.7**	**+0.2**
BALY	**Balya**	**1.23**	**23**	*i* P		**Pn**	**19 17 40.5**	**-0.7**
BALY				*i* S		**Sg**	**19 17 57.7**	**+0.2**
MANT	**Manisa**	**1.23**	**95**	*i* P		**Pn**	**19 17 40.5**	**-0.9**
MANT				*i* S		**Sb**	**19 17 56.7**	**-0.7**
MANT	**Manisa**	**1.23**	**95**	*i* P		**Pn**	**19 17 40.5**	**-0.9**
MANT				*i* S		**Sb**	**19 17 56.7**	**-0.7**
BALB	**Balikesir**	**1.23**	**33**	PN		**Pn**	**19 17 40.4**	**-0.9**
BALB				*e*SN		**Sb**	**19 17 57.3**	**0.0**
BALB	**Balikesir**	**1.23**	**33**	*i* Pn		**Pn**	**19 17 40.4**	**-0.9**
BALB				*e*Sn		**Sb**	**19 17 57.3**	**0.0**
KULA	**Kula-Manisa**	**1.31**	**94**	PN		**Pn**	**19 17 41.7**	**-0.6**
KULA	**Kula-Manisa**	**1.31**	**94**	*i* Pn		**Pn**	**19 17 41.7**	**-0.6**
EZN	**Ezine**	**1.32**	**337**	*e*PN		**Pn**	**19 17 41.7**	**-0.7**
EZN	**Ezine**	**1.32**	**337**	*e*Pn		**Pn**	**19 17 41.7**	**-0.7**
DEMI	**Demirci**	**1.41**	**72**	*i* P		**Pb**	**19 17 44.2**	**-0.2**
DEMI				*i* S		**Sn**	**19 18 01.7**	**-0.7**
DEMI	**Demirci**	**1.41**	**72**	*i* P		**Pb**	**19 17 44.2**	**-0.2**
DEMI				*i* S		**Sn**	**19 18 01.7**	**-0.7**
BOZC	**Bozcaada**	**1.43**	**329**	*i* P		**Pn**	**19 17 43.1**	**-0.9**
BOZC				*i* S		**Sn**	**19 18 02.2**	**-0.6**
DURS	**Dursunbey**	**1.51**	**49**	*i* P		**Pn**	**19 17 44.2**	**-1.0**
DURS				*i* S		**Sn**	**19 18 04.4**	**-0.6**
DURS	**Dursunbey**	**1.51**	**49**	*i* P		**Pn**	**19 17 44.2**	**-1.0**
DURS				*i* S		**Sn**	**19 18 04.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.53**	**20**	*e*PN		**Pn**	**19 17 44.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.53**	**20**	*e*Pn		**Pn**	**19 17 44.9**	**-0.4**
BODT	**Bodrum**	**1.57**	**171**	*e*PN		**Pn**	**19 17 45.0**	**-0.8**
BODT	**Bodrum**	**1.57**	**171**	*e*Pn		**Pn**	**19 17 45.0**	**-0.8**
BDRM	**Kayabasi**	**1.58**	**167**	*i* P		**Pn**	**19 17 44.8**	**-1.3**
BDRM	**Kayabasi**	**1.58**	**167**	*i* P		**Pn**	**19 17 44.8**	**-1.3**
LPK	**Lapseki**	**1.77**	**354**	*e*PN		**Pn**	**19 17 48.1**	**-0.4**
LPK	**Lapseki**	**1.77**	**354**	*e*Pn		**Pn**	**19 17 48.2**	**-0.4**
YER	**Yerkesik**	**1.79**	**145**	*e*PN		**Pn**	**19 17 48.3**	**-0.7**
YER	**Yerkesik**	**1.79**	**145**	*e*Pn		**Pn**	**19 17 48.3**	**-0.7**
KRBG	**Karabiga-Canak**	**1.79**	**7**	*e*PN		**Pn**	**19 17 48.0**	**-0.9**
KRBG	**Karabiga-Canak**	**1.79**	**7**	*e*Pn		**Pn**	**19 17 48.0**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.83**	**347**	*e*PN		**Pn**	**19 17 49.1**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.83**	**347**	*e*Pn		**Pn**	**19 17 49.1**	**-0.3**
EDC	**Edincik**	**1.86**	**21**	*e*PN		**Pn**	**19 17 48.7**	**-1.1**
EDC	**Edincik**	**1.86**	**21**	*e*Pn		**Pn**	**19 17 48.7**	**-1.1**
DNZL	**Cakiroluk**	**1.86**	**119**	P		**Pn**	**19 17 49.8**	**-0.2**
DNZL				*i* S		**Sg**	**19 18 19.0**	**+1.2**
DNZL	**Cakiroluk**	**1.86**	**119**	*i* P		**Pn**	**19 17 49.8**	**-0.2**
BNT	**Bandirma**	**1.88**	**22**	*e*PN		**Pn**	**19 17 48.7**	**-1.5**
BNT	**Bandirma**	**1.88**	**22**	*e*Pn		**Pn**	**19 17 48.7**	**-1.5**
LIA	**Limnos Island**	**1.91**	**313**	*e*PN		**Pn**	**19 17 49.1**	**-1.4**
LIA	**Limnos Island**	**1.91**	**313**	*e*Pn		**Pn**	**19 17 49.1**	**-1.4**
APE	**Apeiranthos**	**1.93**	**217**	*e*PN		**Pn**	**19 17 49.4**	**-1.5**
APE	**Apeiranthos**	**1.93**	**217**	*e*PB		**Pn**	**19 17 50.8**	**-0.1**
APE	**Apeiranthos**	**1.93**	**217**	⇑*i*P		**Pn**	**19 17 50.1**	**-0.8**
APE	**Apeiranthos**	**1.93**	**217**	*e*Pn		**Pn**	**19 17 49.4**	**-1.5**
APE	**Apeiranthos**	**1.93**	**217**	⇑*i*P		**Pn**	**19 17 50.1**	**-0.8**
APE	**Apeiranthos**	**1.93**	**217**	*e*Pb		**Pn**	**19 17 50.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*PN		**Pn**	**19 17 50.0**	**-1.3**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*Pn		**Pn**	**19 17 50.0**	**-1.3**
KHAL	**Karahalli**	**1.97**	**96**	*i* P		**Pn**	**19 17 51.2**	**-0.3**
KHAL				*i* S		**Sn**	**19 18 16.7**	**+0.4**
KHAL	**Karahalli**	**1.97**	**96**	*i* P		**Pn**	**19 17 51.2**	**-0.3**
KHAL				*i* S		**Sn**	**19 18 16.7**	**+0.4**
GDZ	**Gediz**	**2.00**	**75**	*i* P		**Sn**	**19 18 11.1**	**-5.9**
GDZ				*i* S		**Sg**	**19 18 22.4**	**+0.2**
KHL	**Karahalli**	**2.00**	**97**	*e*PN		**Pn**	**19 17 51.3**	**-0.6**
KHL	**Karahalli**	**2.00**	**97**	*e*Pn		**Pn**	**19 17 51.3**	**-0.6**
NIS1	**Nisyros Isl.**	**2.01**	**176**	P		**Pn**	**19 17 51.1**	**-0.9**
NIS1				S		**Sn**	**19 18 15.7**	**-1.4**
NIS1	**Nisyros Isl.**	**2.01**	**176**	P		**Pn**	**19 17 51.1**	**-0.9**
NIS1				S		**Sn**	**19 18 15.7**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.08**	**4**	*e*PN		**Pn**	**19 17 52.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.08**	**4**	*e*Pn		**Pn**	**19 17 52.4**	**-0.5**
SART	**Tekirdag**	**2.08**	**4**	*i* P		**Pn**	**19 17 52.3**	**-0.6**
SART				*i* S		**Sn**	**19 18 19.1**	**+0.2**
SART	**Tekirdag**	**2.08**	**4**	*i* P		**Pn**	**19 17 52.3**	**-0.6**
SART				*i* S		**Sn**	**19 18 19.1**	**+0.2**
ERIK	**Erikli-Kesan**	**2.09**	**350**	*e*PN		**Pn**	**19 17 52.8**	**-0.2**
ERIK	**Erikli-Kesan**	**2.09**	**350**	*e*Pn		**Pn**	**19 17 52.8**	**-0.2**
MRMA	**Marmari**	**2.13**	**256**	P		**Pn**	**19 17 52.8**	**-0.8**
MRMA				S		**Sn**	**19 18 20.4**	**+0.3**
MRMA	**Marmari**	**2.13**	**256**	P		**Pn**	**19 17 52.8**	**-0.8**
MRMA				S		**Sn**	**19 18 20.4**	**+0.3**
TURN	**Turunc**	**2.15**	**143**	*i* P		**Pn**	**19 17 51.5**	**-2.3**
TURN	**Turunc**	**2.15**	**143**	*i* P		**Pn**	**19 17 51.6**	**-2.3**
MFT	**Murefte**	**2.18**	**6**	*e*PN		**Pn**	**19 17 53.7**	**-0.7**
MFT	**Murefte**	**2.18**	**6**	*e*Pn		**Pn**	**19 17 53.7**	**-0.7**
ENEZ	**Enez**	**2.22**	**343**	*e*PN		**Pn**	**19 17 54.7**	**-0.1**
ENEZ	**Enez**	**2.22**	**343**	*e*Pn		**Pn**	**19 17 54.7**	**-0.1**
ULDT	**Uludag**	**2.25**	**47**	*i* P		**Pn**	**19 17 54.5**	**-0.9**
ULDT	**Uludag**	**2.25**	**47**	*i* P		**Pn**	**19 17 54.5**	**-0.9**
MDNY	**Mudanya-Bursa**	**2.28**	**39**	*e*PN		**Pn**	**19 17 54.4**	**-1.3**
MDNY	**Mudanya-Bursa**	**2.28**	**39**	*e*Pn		**Pn**	**19 17 54.4**	**-1.3**
ALN	**Alexandroupoli**	**2.40**	**342**	P		**Pn**	**19 17 56.6**	**-0.6**
ALN				S		**Sn**	**19 18 26.5**	**-0.1**
ALN	**Alexandroupoli**	**2.40**	**342**	*e*PN		**Pn**	**19 17 56.7**	**-0.5**
ALN	**Alexandroupoli**	**2.40**	**342**	*e*Pn		**Pn**	**19 17 56.7**	**-0.5**
ALN				S		**Sn**	**19 18 26.5**	**-0.1**
TKR	**Tekirdag**	**2.41**	**10**	*e*PN		**Pn**	**19 17 57.4**	**0.0**
TKR	**Tekirdag**	**2.41**	**10**	*e*Pn		**Pn**	**19 17 57.4**	**0.0**
ARMT	**Armutlu**	**2.42**	**36**	*e*PN		**Pn**	**19 17 56.4**	**-1.2**
ARMT	**Armutlu**	**2.42**	**36**	*e*Pn		**Pn**	**19 17 56.4**	**-1.2**
ALT	**Altintas**	**2.47**	**79**	*e*PN		**Pn**	**19 17 58.2**	**-0.2**
ALT	**Altintas**	**2.47**	**79**	*e*Pn		**Pn**	**19 17 58.2**	**-0.2**
GEMT	**Gemlik**	**2.49**	**42**	*e*PN		**Pn**	**19 17 58.2**	**-0.3**
GEMT	**Gemlik**	**2.49**	**42**	*e*Pn		**Pn**	**19 17 58.2**	**-0.3**
THR2	**Thira island,**	**2.49**	**210**	P		**Pn**	**19 17 57.2**	**-1.4**
THR2	**Thira island,**	**2.49**	**210**	P		**Pn**	**19 17 57.2**	**-1.4**
AOS	**Alonnisos**	**2.50**	**284**	P		**Pn**	**19 17 58.0**	**-0.6**
AOS				S		**Sn**	**19 18 29.6**	**+0.5**
AOS	**Alonnisos**	**2.50**	**284**	P		**Pn**	**19 17 58.0**	**-0.6**
AOS				S		**Sn**	**19 18 29.6**	**+0.5**
THR1	**Thera Island**	**2.55**	**209**	P		**Pn**	**19 17 58.1**	**-1.3**
THR1	**Thera Island**	**2.55**	**209**	P		**Pn**	**19 17 58.1**	**-1.3**
ARG	**Arkhangelos**	**2.55**	**159**	*e*PN		**Pn**	**19 18 00.5**	**+1.1**
ARG				*e*SN		**Sn**	**19 18 31.4**	**+0.9**
ARG	**Arkhangelos**	**2.55**	**159**	*e*Pn		**Pn**	**19 18 00.5**	**+1.1**
ARG				*e*Sn		**Sn**	**19 18 31.4**	**+0.9**
FETY	**Fethiye**	**2.58**	**139**	*e*PN		**Pn**	**19 17 59.3**	**-0.4**
FETY	**Fethiye**	**2.58**	**139**	*e*Pn		**Pn**	**19 17 59.3**	**-0.4**
CRLT	**Corlu**	**2.58**	**12**	*e*PN		**Pn**	**19 18 00.2**	**+0.5**
CRLT	**Corlu**	**2.58**	**12**	*e*Pn		**Pn**	**19 18 00.2**	**+0.5**
ATH	**Athens Observa**	**2.66**	**257**	*e*PN		**Pn**	**19 17 59.5**	**-1.3**
ATH	**Athens Observa**	**2.66**	**257**	*e*Pn		**Pn**	**19 17 59.5**	**-1.3**
YLV	**Yalova**	**2.68**	**42**	*e*PN		**Pn**	**19 17 60.0**	**-1.2**
YLV	**Yalova**	**2.68**	**42**	*e*Pn		**Pn**	**19 18 00.0**	**-1.2**
CAVI	**Cavuskoy**	**2.72**	**53**	*e*PN		**Pn**	**19 18 00.7**	**-1.0**
CAVI	**Cavuskoy**	**2.72**	**53**	*e*Pn		**Pn**	**19 18 00.7**	**-1.0**
SLVT	**Silivri**	**2.78**	**19**	*e*PN		**Pn**	**19 18 02.3**	**-0.1**
SLVT	**Silivri**	**2.78**

TWD				*i* S		Sg	19 18 55.0	-1.0
	baz=256							
HWA	**Hwalien**	**0.18**	**226**	P		Pg	19 18 54.7	+0.5
	baz=220							
EHP	**Heping Village**	**0.21**	**359**	*i* P		Pg	19 18 54.6	-0.1
	baz=10.0							
EHP				S		Sg	19 18 58.1	+0.2
	baz=10.0							
ESF	**Shoufeng Towns**	**0.31**	**223**	*e*P		Pg	19 18 56.6	+0.1
	baz=219							
ENA	**Nanau**	**0.33**	**360⇑**	*i*P		Pb	19 18 56.9	-0.9
	baz=6.0							
ENA				S		Sb	19 19 01.3	0.0
	baz=6.0							
ESL	**Shilin**	**0.40**	**225**	*i* P		Pg	19 18 58.1	0.0
	baz=233							
WHF	**Hehuan Shan**	**0.44**	**276⇑**	*i*P		Pg	19 18 58.6	-0.4
	baz=274							
WHF				*e*S		Sg	19 19 04.0	-1.0
	baz=274							
NNS	**Nan Shan**	**0.48**	**315⇑**	*i*P		Pb	19 18 59.4	-1.0
	baz=316							
NNS				*i* S		Sb	19 19 05.5	-0.5
	baz=316							
TWC	**Suao**	**0.52**	**11⇑**	*i*P		Pb	19 19 00.6	-0.4
	baz=8.0							
TWC				S		Sb	19 19 07.5	-0.9
	baz=8.0							
TWT	**Tachien**	**0.54**	**286**	P		Pb	19 19 00.9	-0.6
	baz=284							
TWT				*i* S		Sb	19 19 08.5	-0.8
	baz=284							
ENTT	**Nioudou**	**0.56**	**343⇑**	*i*P		Pb	19 19 01.3	-0.5
	baz=345							
ENTT				*e*S		Sb	19 19 08.8	-0.9
	baz=345							
TWE	**Neicheng**	**0.62**	**354⇑**	*i*P		Pb	19 19 02.6	-0.2
	baz=356							
TWE				S		Sb	19 19 10.6	-0.8
	baz=356							
ILA	**Ilan**	**0.66**	**0**	*e*P		Pn	19 19 03.6	-1.6
	baz=2.0							
ILA				*e*S		Sn	19 19 12.8	+1.0
	baz=2.0							
NSK	**Sanguang**	**0.67**	**329⇑**	*i*P		Pb	19 19 03.4	-0.3
	baz=329							
NSK				S		Sb	19 19 12.1	-0.9
	baz=329							
EHY	**Hungye**	**0.71**	**213**	P		Pg	19 19 03.5	-0.4
	baz=221							
EHY				*e*S		Sb	19 19 14.5	+0.6
	baz=221							
SMLT	**Sun Moon Lake**	**0.80**	**255**	P		Pg	19 19 05.5	-0.2
	baz=253							
SMLT				*e*S		Sg	19 19 15.6	-0.6
	baz=253							
TYC	**Yuchr**	**0.83**	**257**	P		Pg	19 19 06.1	-0.1
	baz=256							
TYC				S		Sb	19 19 16.8	-0.7
	baz=256							
TWF1	**Yuli**	**0.85**	**209**	*e*P		Pb	19 19 05.7	-1.0
	baz=223							
NSTT	**Nanjuang**	**0.86**	**308**	P		Pn	19 19 06.8	-1.0
	baz=308							
NSTT				S		Sg	19 19 17.6	-0.4
	baz=308							
TWA	**Mucha**	**0.89**	**351**	*e*P		Pn	19 19 07.5	-0.7
	baz=349							
TWQ1	**Liyutan**	**0.92**	**286⇓**	*e*P		Pn	19 19 08.5	-0.3
	baz=285							
TWB1	**Santiao Chiao**	**0.93**	**14**	P		Pn	19 19 08.6	-0.3
	baz=3.0							
YUS	**Yu-Shan**	**0.95**	**230**	⇓P		Pn	19 19 09.8	+0.3
	baz=231							
YUS				*e*S		Sn	19 19 22.8	-0.3
	baz=231							
NSY	**Sanyi**	**0.95**	**290**	*e*P		Pn	19 19 08.9	-0.2
	baz=289							
TAP1	**Taipei**	**0.96**	**348**	*e*P		Pn	19 19 09.0	-0.2
	baz=337							
TAP1				*e*S		Sn	19 19 21.4	-1.2
	baz=337							
NWF	**Wu-fen Shan**	**0.97**	**2**	⇑P		Pn	19 19 09.3	-0.1
	baz=352							
NWF				*e*S		Sn	19 19 21.8	-1.3
	baz=352							
TCU	**Taichung**	**0.98**	**273**	*e*P		Pn	19 19 10.0	+0.5
	baz=264							
TCU				*e*S		Sn	19 19 23.5	+0.4
	baz=264							
HSN	**Hsinchu**	**0.99**	**315**	*e*P		Pn	19 19 10.6	+0.9
	baz=316							
WNT	**Mingjian**	**0.99**	**257**	⇑P		Pn	19 19 10.3	+0.6
	baz=252							
WNT				*e*S		Sn	19 19 23.8	+0.2
	baz=252							
NCU	**National Centr**	**1.00**	**330**	*e*P		Pn	19 19 10.4	+0.6
	baz=336							
NCU				*e*S		Sn	19 19 24.1	+0.2
	baz=336							
TWS1	**Kuangyinshan**	**1.04**	**343**	*e*P		Pg	19 19 10.8	+0.7
	baz=343							
TWS1				*e*S		Sn	19 19 24.2	-0.5
	baz=343							
ALS	**Alishan**	**1.04**	**236⇑**	*e*P		Pg	19 19 11.4	+1.2
	baz=236							
ALS				*e*S		Sn	19 19 26.2	+1.0
	baz=236							
CHKT	**Chengkung**	**1.05**	**199**	P		Pb	19 19 09.7	-0.4
	baz=191							
CHKT				*e*S		Sn	19 19 25.4	+0.3
	baz=191							
CHN5	**Tsauling**	**1.10**	**243⇑**	*i*P		Pg	19 19 11.8	+0.6
	baz=243							
CHN5				S		Sg	19 19 27.4	+1.8
	baz=243							
ELDTW	**Lidau**	**1.12**	**216**	*e*P		Pn	19 19 10.4	-1.2
	baz=209							
WGK	**Gukeng**	**1.16**	**249**	*e*P		Pg	19 19 12.8	+0.4
	baz=250							
WGK				*e*S		Sg	19 19 28.8	+1.3
	baz=250							
TWY	**Chenhua**	**1.18**	**354**	*e*P		Pg	19 19 13.3	+0.6
	baz=337							
YOJ	**Yonaguni jima**	**1.21**	**72**	*e*P		Pg	19 19 13.3	-0.1
	baz=80							
YOJ	**Yonaguni jima**	**1.21**	**72**	P		Pg	19 19 13.2	-0.2
YOJ				*e*S		Sg	19 19 31.1	+1.9
CHN4	**Tsaushan**	**1.29**	**235**	P		Pg	19 19 15.0	+0.1
	baz=225							
CHN4				S		Sg	19 19 33.2	+1.5
	baz=225							
CHN2	**Minshiung**	**1.29**	**244**	*e*P		Pg	19 19 15.7	+0.7
	baz=245							
CHN2				*e*S		Sg	19 19 33.4	+1.7
	baz=245							
STYT	**Tauyuan**	**1.30**	**224**	⇑P		Pb	19 19 14.1	-0.3
	baz=230							
STYT				*e*S		Sb	19 19 31.1	+0.1
	baz=230							
WTP	**Ta-pu**	**1.34**	**231⇑**	*i*P		Pg	19 19 15.4	-0.5
	baz=233							
WTP				*e*S		Sg	19 19 34.3	+1.0
	baz=233							
CHY	**Chiayi**	**1.35**	**244**	*e*P		Pg	19 19 16.9	+0.9
	baz=245							
CHY				*e*S		Sg	19 19 35.0	+1.4
	baz=245							
WTCT	**Ta-ch'eng**	**1.36**	**260**	*e*P		Pg	19 19 15.5	-0.7
	baz=260							
WTCT				*e*S		Sg	19 19 35.3	+1.4
	baz=260							
TWG	**Pinlang**	**1.42**	**206**	*e*P		Pn	19 19 14.0	-1.5
	baz=211							
TWK	**Hsinying**	**1.42**	**234**	*e*P		Pg	19 19 17.1	-0.3
	baz=237							
TWK				*e*S		Sg	19 19 35.3	-0.6
	baz=237							
CHN1	**Nanshi**	**1.44**	**231**	*e*P		Pg	19 19 17.3	-0.5
	baz=234							
CHN1				*e*S		Sg	19 19 37.1	+0.6
	baz=234							
WSF	**Szhu**	**1.47**	**252**	*e*P		Pg	19 19 18.1	-0.2
	baz=252							
WSF				*e*S		Sg	19 19 38.0	+0.7
	baz=252							
CHN8	**Yiju**	**1.59**	**242**	*e*P		Pb	19 19 19.4	+0.1
	baz=246							
CHN3	**Shinhua**	**1.62**	**231**	*e*P		Pb	19 19 20.3	+0.4
	baz=237							
ECL	**Taimali**	**1.66**	**206**	*e*P		Pn	19 19 17.1	-1.9
	baz=196							
SSD	**Sandimen**	**1.69**	**217**	*e*P		Pb	19 19 20.1	-1.0
	baz=235							
SCLT	**Jiali**	**1.69**	**237**	*e*P		Pg	19 19 21.8	-0.8
	baz=242							
TWM1	**Shoushan**	**1.76**	**224**	*e*P		Pb	19 19 22.8	+0.6
	baz=229							
SGLT	**Jiouru**	**1.79**	**220**	*e*P		Pb	19 19 22.9	+0.2
	baz=214							
IRIF	**Iriomote-Funau**	**1.83**	**82**	P		Pb	19 19 22.1	-1.3
IRIF				*e*S		Sb	19 19 46.3	+0.1
EAST	**Anshuo**	**1.90**	**206**	*e*P		Pn	19 19 21.1	-1.1
	baz=198							
SCZT	**Fangliau**	**2.01**	**211**	*e*P		Pb	19 19 25.5	-0.9
	baz=201							
SCZT				*e*S		Sb	19 19 52.9	+1.6
	baz=201							
LAY	**Lan-yu**	**2.06**	**185**	*e*P		Pn	19 19 22.2	-2.2
	baz=192							
PNG	**Penghu**	**2.07**	**256**	*e*P		Pb	19 19 26.0	-1.5
	baz=258							
JKRS	**Kuro-shima**	**2.07**	**86**	P		Pb	19 19 26.7	-0.9
JKRS				*e*S		Sb	19 19 54.4	+1.1
WDGT	**Dungji**	**2.08**	**247**	*e*P		Pb	19 19 26.2	-1.5
	baz=236							
WDGT				*e*S		Sb	19 19 52.5	-1.1
	baz=236							
TWP	**Hsiaoliuchiu**	**2.16**	**216**	*e*P		Pg	19 19 31.2	-0.3
	baz=241							
JIJ	**Ishigaki jima**	**2.21**	**83**	P		Pn	19 19 27.3	+0.9
JIJ				*e*S		Sb	19 19 55.1	-2.0
TWK1	**Hengchun**	**2.31**	**202**	*e*P		Pb	19 19 29.7	-2.0
	baz=194							
KNM	**Kinmen**	**3.04**	**277**	*e*P		Pb	19 19 40.6	-3.4
	baz=276							
JOW	**Kunigami**	**6.50**	**64**	Pn		Pn	19 20 25.0	-0.4
	0.8nm,0.3s,baz=299,slow=10,SNR=4.8							
KSRS	**Korea Array**	**14.32**	**20**	Pn		P	19 22 21.3	+1.6
	0.3nm,0.3s,baz=204,slow=12,SNR=11							
MKAR	**Makanchi Array**	**38.75**	**316**	P		P	19 26 14.2	+0.1
	0.5nm,0.7s,baz=111,slow=9.4,SNR=7.7							
ZALV	**Zalesovo Beam**	**40.59**	**327**	P		P	19 26 29.6	+0.3
	0.5nm,0.5s,baz=108,slow=9.5,SNR=3.8							

IDC 19 19:23:01.9±1.8, 0.67S×133.09E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=78.2km s-min=22.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		P		19 27 23.0	-0.2
	0.1nm,0.3s,baz=33,slow=13,SNR=4.2								
WRA	**Warramunga Arr**	**19.19**	**176**	P		Pn		19 27 28.3	0.0
	0.3nm,0.3s,baz=355,slow=11,SNR=20								
WRA				S		Sn		19 30 51.7	-12
	0.1nm,0.3s,baz=0.4,slow=24,SNR=5.1								
ASAR	**Alice Springs**	**22.87**	**178**	P		P		19 28 07.6	+0.4
	2.1nm,0.3s,baz=358,slow=12,SNR=88								
STKA	**Stephens Creek**	**32.06**	**166**	P		P		19 29 29.8	-0.8
	0.9nm,0.4s,baz=339,slow=9.9,SNR=10								
MKAR	**Makanchi Array**	**64.80**	**324**	P		P		19 33 42.5	0.0
	0.4nm,0.4s,baz=107,slow=8.5,SNR=8.8								

*ATH **19** 19:30:47.3, 38.62Nx26.75E, h92km±3km*
*DDA **19** 19:30:48.3, 38.61Nx27.02E, h5km, ML3.0*
*ISCJB **19** 19:30:49.8±0.5, 38.62N±0.02x27.02E±0.03, h9km±4km, Error ellipse: s-maj=3.5km s-min=3.2km az=22.4*
*ISK **19** 19:30:49.7, 38.62Nx27.02E, h9km, MD3.0*
*CSEM **19** 19:30:49.6±0.1, 38.62Nx27.02E, h2km, MD3.0, Error ellipse: s-maj=3.1km s-min=2.5km az=88.0*

ISC 19 19:30:49.8±0.8, 38.62N±0.02x27.02E±0.02, h15km±7km, n69, σ0.87/100, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BLCB	**Balcova**	**0.24**	**177**	*e*PG		Pg		19 30 54.8	-0.3
BLCB				*e*SG		Sg		19 30 58.6	0.0
BLCB	**Balcova**	**0.24**	**177**	*e*Pg		Pg		19 30 54.8	-0.3
BLCB				*e*Sg		Sg		19 30 58.6	0.0
IZM	**Izmir**	**0.29**	**140**	*e*PG		Pg		19 30 56.1	+0.1
IZM				*e*SG		Sg		19 31 00.4	+0.1
IZM	**Izmir**	**0.29**	**140**	*e*Pg		Pg		19 30 56.1	+0.1
IZM				*e*Sg		Sg		19 31 00.4	+0.1
URLA	**Izmir**	**0.43**	**232**	*i* P		Pg		19 30 57.9	-0.5
URLA				*i* S		Sg		19 31 04.8	+0.6
URLA	**Izmir**	**0.43**	**232**	*i* P		Pg		19 30 57.9	-0.5
URLA				*i* S		Sg		19 31 04.8	+0.6
AKHS	**Akhisar**	**0.67**	**67**	*i* P		Pg		19 31 01.4	-1.5
AKHS				*i* S		Sg		19 31 11.3	-0.4
AKHS	**Akhisar**	**0.67**	**67**	*i* P		Pg		19 31 01.4	-1.5
AKHS				*i* S		Sg		19 31 11.3	-0.4
AKS	**Akhisar**	**0.67**	**67**	*e*PG		Pb		19 31 03.1	0.0
AKS				*e*SG		Sb		19 31 13.0	+0.8
AKS	**Akhisar**	**0.67**	**67**	*e*Pg		Pb		19 31 03.1	0.0
AKS				*e*Sg		Sb		19 31 13.0	+0.8
AYVA	**Ayvalik**	**0.73**	**339**	*i* P		Pb		19 31 03.9	-0.3
AYVA				*i* S		Sb		19 31 14.5	+0.5
AYVA	**Ayvalik**	**0.73**	**339**	*i* P		Pb		19 31 03.9	-0.3
AYVA				*i* S		Sb		19 31 14.5	+0.5
CHOS	**Chios island**	**0.80**	**253**	*e*P		Pg		19 31 03.9	-1.4
CHOS				*e*S		Sg		19 31 15.2	-0.6
CHOS	**Chios island**	**0.80**	**253**	*e*P		Pg		19 31 03.9	-1.4
CHOS				*e*S		Sg		19 31 15.2	-0.6
PRK	**Paraskevi**	**0.85**	**317**	*e*P		Pg		19 31 04.6	-1.8
PRK				*e*S		Sb		19 31 17.8	+0.2
PRK	**Paraskevi**	**0.85**	**317**	*e*P		Pg		19 31 04.6	-1.8
PRK				*e*S		Sb		19 31 17.8	+0.2
SMG	**Samos**	**0.93**	**189**	*e*P		Pg		19 31 07.0	-0.7
SMG				*e*S		Sn		19 31 21.0	-0.2
SMG	**Samos**	**0.93**	**189**	*e*P		Pg		19 31 07.0	-0.7
SMG				*e*S		Sn		19 31 21.0	-0.2
GCAM	**G?zelcaml?**	**0.94**	**170**	*i* P		Pg		19 31 07.1	-0.8
GCAM				*i* S		Sg		19 31 19.3	-0.9
GCAM	**G?zelcaml?**	**0.94**	**170**	*i* P		Pg		19 31 07.1	-0.8
GCAM				*i* S		Sg		19 31 19.3	-0.9
AYDN	**Tasoluk**	**1.17**	**145**	*i* P		Pb		19 31 11.2	-0.6
AYDN				*i* S		Sb		19 31 27.0	+0.2
AYDN	**Tasoluk**	**1.17**	**145**	*i* P		Pb		19 31 11.2	-0.6
AYDN				*i* S		Sb		19 31 27.0	+0.2
BALY	**Balya**	**1.21**	**22**	*i* P		Pn		19 31 11.6	-0.6
BALY				*i* S		Sn		19 31 29.6	+1.3
BALY	**Balya**	**1.21**	**22**	*i* P		Pn		19 31 11.6	-0.6
BALY				*i* S		Sn		19 31 29.6	+1.3
MANT	**Manisa**	**1.21**	**96**	*i* P		Pn		19 31 12.6	+0.3
MANT				*i* S		Sb		19 31 27.3	-0.7
MANT	**Manisa**	**1.21**	**96**	*i* P		Pn		19 31 12.6	+0.3
MANT				*i* S		Sb		19 31 27.3	-0.7
BALB	**Balikesir**	**1.21**	**33**	*e*PN		Pg		19 31 12.9	-0.3
BALB	**Balikesir**	**1.21**	**33**	*e*Pn		Pg		19 31 12.9	-0.3
KULA	**Kula-Manisa**	**1.29**	**94**	*e*PN		Pn		19 31 13.5	+0.2
KULA	**Kula-Manisa**	**1.29**	**94**	*e*Pn		Pn		19 31 13.5	+0.2
EZN	**Ezine**	**1.32**	**336**	*e*PN		Pb		19 31 14.4	+0.2
EZN	**Ezine**	**1.32**	**336**	*e*Pn		Pb		19 31 14.4	+0.2
DEMI	**Demirci**	**1.39**	**72**	*i* P		Pb		19 31 15.9	+0.5
DEMI				*i* S		Sn		19 31 32.6	-0.1
DEMI	**Demirci**	**1.39**	**72**	*i* P		Pb		19 31 15.9	+0.5
DEMI				*i* S		Sn		19 31 32.6	-0.1
DURS	**Dursunbey**	**1.49**	**49**	*i* P		Pn		19 31 16.2	+0.1
DURS				*i* S		Sn		19 31 35.6	+0.3
DURS	**Dursunbey**	**1.49**	**49**	*i* P		Pn		19 31 16.2	+0.1
DURS				*i* S		Sn		19 31 35.6	+0.3
GONE	**Gonen-Balikesi**	**1.51**	**20**	*e*PN		Pn		19 31 16.8	+0.5
GONE	**Gonen-Balikesi**	**1.51**	**20**	*e*Pn		Pn		19 31 16.8	+0.5
BODT	**Bodrum**	**1.58**	**172**	*e*PN		Pb		19 31 18.6	0.0
BODT	**Bodrum**	**1.58**	**172**	*e*Pn		Pb		19 31 18.6	0.0
LPK	**Lapseki**	**1.76**	**353**	*e*PN		Pb		19 31 21.1	-0.7
LPK	**Lapseki**	**1.76**	**353**	*e*Pn		Pb		19 31 21.1	-0.7
KRBG	**Karabiga-Canak**	**1.78**	**7**	*e*PN		Pb		19 31 21.9	-0.2
KRBG	**Karabiga-Canak**	**1.78**	**7**	*e*Pn		Pb		19 31 21.9	-0.2
YER	**Yerkesik**	**1.79**	**146**	*e*PN		Pn		19 31 21.0	+0.8
YER	**Yerkesik**	**1.79**	**146**	*e*Pn		Pn		19 31 21.0	+0.8
GELI	**Tayfur-Gelibol**	**1.82**	**347**	*e*PN		Pb		19 31 22.5	-0.3
GELI	**Tayfur-Gelibol**	**1.82**	**347**	*e*Pn		Pb		19 31 22.5	-0.3
EDC	**Edincik**	**1.84**	**20**	*e*PN		Pb		19 31 22.8	-0.3
EDC	**Edincik**	**1.84**	**20**	*e*Pn		Pb		19 31 22.8	-0.3
BNT	**Bandirma**	**1.86**	**22**	*e*PN		Pb		19 31 23.1	-0.5
BNT	**Bandirma**	**1.86**	**22**	*e*Pn		Pb		19 31 23.1	-0.5
KCTX	**Karacabey (Bur**	**1.94**	**32**	*e*PN		Pn		19 31 23.6	+1.4
KCTX	**Karacabey (Bur**	**1.94**	**32**	*e*Pn		Pn		19 31 23.6	+1.4
APE	**Apeiranthos**	**1.95**	**218**	*e*P		Pn		19 31 18.5	-3.9
KHAL	**Karahalli**	**1.95**	**97**	*i* P		Pb		19 31 25.2	+0.1
KHAL				*i* S		Sg		19 31 51.7	-0.9
KHAL	**Karahalli**	**1.95**	**97**	*i* P		Pb		19 31 25.2	+0.1
KHAL				*i* S		Sg		19 31 51.7	-0.9
KHL	**Karahalli**	**1.98**	**98**	*e*PN		Pb		19 31 25.0	-0.7
KHL	**Karahalli**	**1.98**	**98**	*e*Pn		Pb		19 31 25.0	-0.7
ERIK	**Erikli-Kesan**	**2.08**	**349**	*e*PN		Pn		19 31 25.7	+1.6
ERIK	**Erikli-Kesan**	**2.08**	**349**	*e*Pn		Pn		19 31 25.7	+1.6
MFT	**Murefte**	**2.17**	**5**	*e*PN		Pb		19 31 27.8	-1.0
MFT	**Murefte**	**2.17**	**5**	*e*Pn		Pb		19 31 27.8	-1.0
ENEZ	**Enez**	**2.21**	**343**	*e*PN		Pn		19 31 27.6	+1.6
ENEZ	**Enez**	**2.21**	**343**	*e*Pn		Pn		19 31 27.6	+1.6
ARMT	**Armutlu**	**2.40**	**36**	*e*PN		Pn		19 31 30.1	+1.6
ARMT	**Armutlu**	**2.40**	**36**	*e*Pn		Pn		19 31 30.2	+1.6
YLV	**Yalova**	**2.66**	**42**	*e*PN		Pn		19 31 34.8	+2.7
YLV	**Yalova**	**2.66**	**42**	*e*Pn		Pn		19 31 34.8	+2.7

IDC 19 19:39:14.0±61.0, 17.18S×178.64E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=1091.0km s-min=140.6km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**36.54**	**239**	P		P		19 46 21.9	+0.2
	0.3nm,0.3s,baz=85,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**42.00**	**259**	P		P		19 47 07.0	-0.4
	0.3nm,0.3s,baz=94,slow=7.8,SNR=12								
ASAR	**Alice Springs**	**42.29**	**254**	P		P		19 47 09.5	-0.2
	2.7nm,0.5s,baz=88,slow=8.0,SNR=66								

*MDD **19** 19:41:42.7±2.5, 37.17Nx13.21W, h0km, mb3.8/7, Error ellipse: s-maj=25.6km s-min=21.6km az=163.0, PRXIMO*
*INMG **19** 19:41:43.9±0.9, 36.97Nx13.62W, h10km, ML2.3, Error ellipse: s-maj=11.7km s-min=7.2km az=162.0*
*CSEM **19** 19:41:44.7±0.5, 37.21Nx13.03W, h10km, mb3.8/7, Error ellipse: s-maj=13.2km s-min=10.1km az=178.0*

ISC 19 19:41:43.9±4.1, 37.2N±0.1x13.1W±0.2, h10km, n39, σ1.01/69, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMAFR	**Mafra**	**3.44**	**59**	*e*Pn		Pn		19 42 38.7	+1.1
PMAFR	**Mafra**	**3.44**	**59**	P		Pn		19 42 38.6	+1.0
	1.6nm,0.1s,SNR=7.9								
PMAFR				S		Sn		19 43 19.2	+0.8
	9.2nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**3.44**	**59**	*e*Pn		Pn		19 42 38.7	+1.1
PMAFR				S		Sn		19 43 19.2	+0.8
	9.2nm,0.2s,SNR=7.9								
PNCL	**Nicolau / Gran**	**3.70**	**75**	*e*Pn		Pn		19 42 42.4	+1.3
PNCL				*e*Sn		Sn		19 43 25.7	+1.0
PNCL	**Nicolau / Gran**	**3.70**	**75**	*e*Pn		Pn		19 42 42.4	+1.3
PNCL				*e*Sn		Sn		19 43 25.7	+1.0
MOE	**Montemor**	**3.94**	**69**	*e*Pn		Pn		19 42 45.3	+0.8
MOE	**Montemor**	**3.94**	**69**	P		Pn		19 42 45.3	+0.8
MOE	**Montemor**	**3.94**	**69**	P		Pn		19 42 45.3	+0.8
PCVE	**Castro Verde**	**4.01**	**83**	*e*Pn		Pn		19 42 45.7	+0.3
PCVE				*e*Sn		Sn		19 43 32.7	+0.2
PCVE				A		A		19 43 38.2	
	4.0nm,0.8s								
PCVE	**Castro Verde**	**4.01**	**83**	P		Pn		19 42 45.7	+0.3
PCVE				S		Sn		19 43 32.7	+0.2
	4.0nm,0.8s								
PCVE	**Castro Verde**	**4.01**	**83**	P		Pn		19 42 45.7	+0.3
PCVE				S		Sn		19 43 32.7	+0.2
	4.0nm,0.8s								
PBDV	**Barranco-do-Ve**	**4.09**	**88**	*e*Pn		Pn		19 42 47.1	+0.6
PBDV				*e*Sn		Sn		19 43 33.8	-0.6
PBDV				A		A		19 43 37.3	
	2.7nm,0.3s								
PBDV	**Barranco-do-Ve**	**4.09**	**88**	P		Pn		19 42 47.1	+0.6
PBDV				S		Sn		19 43 33.8	-0.6
	2.7nm,0.3s								
PBDV	**Barranco-do-Ve**	**4.09**	**88**	P		Pn		19 42 47.1	+0.6
PBDV				S		Sn		19 43 33.8	-0.6
	2.7nm,0.3s								
EVO	**Evora**	**4.20**	**70**	*e*Pn		Pn		19 42 49.4	+1.4
EVO				*e*Sn		Sn		19 43 37.9	+0.9
EVO				A		A		19 43 39.0	
	2.5nm,0.2s								
EVO	**Evora**	**4.20**	**70**	P		Pn		19 42 49.4	+1.4
EVO				S		Sn		19 43 37.9	+0.9
	2.5nm,0.2s								
EVO	**Evora**	**4.20**	**70**	P		Pn		19 42 49.4	+1.4
EVO				S		Sn		19 43 37.9	+0.9
	2.5nm,0.2s								
PVAQ	**Vaqueiros**	**4.26**	**86**	*e*Pn		Pn		19 42 49.4	+0.6
PVAQ				*e*Sn		Sn		19 43 38.3	-0.3
PVAQ				A		A		19 43 41.6	
	3.0nm,0.2s								
PVAQ	**Vaqueiros**	**4.26**	**86**	P		Pn		19 42 49.4	+0.6
PVAQ				S		Sn		19 43 38.3	-0.3
	3.0nm,0.2s								
PVAQ	**Vaqueiros**	**4.26**	**86**	P		Pn		19 42 49.4	+0.6
PVAQ				S		Sn		19 43 38.3	-0.3
	3.0nm,0

EADA	**Adamuz**	**6.79**	**79**	P		**Pn**	**19 43 23.8**	**+0.2**
	0.2nm,0.1s,SNR=7.9								
EADA				S		**Sn**	**19 44 40.0**	**-0.9**
	1.0nm,0.1s,SNR=7.9								

*DDA **19** 19:49:21.9, 38.58N×27.01E, h5km, MD2.8*
*ISCJB **19** 19:49:24.5±0.4, 38.59N±0.02×26.99E±0.04, h12km, Error ellipse: s-maj=4.3km s-min=3.0km az=171.8*
*ISK **19** 19:49:24.0, 38.62N×26.95E, h10km, MD2.8*
*CSEM **19** 19:49:25.0±0.2, 38.55N×26.98E, h20km, MD2.8, Error ellipse: s-maj=4.8km s-min=2.8km az=74.0*

ISC 19 19:49:24.5±0.8, **38.60N**±0.02×**27.03E**±0.03, **h12**km, **n48, σ1§00/66, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.21**	**178**	*e*PG	**Pg**	**19 49 29.7**	**+0.7**
BLCB				*e*SG	**Sg**	**19 49 33.3**	**+1.2**
BLCB	**Balcova**	**0.21**	**178**	*e*Pg	**Pg**	**19 49 29.7**	**+0.7**
BLCB				*e*Sg	**Sg**	**19 49 33.3**	**+1.2**
IZM	**Izmir**	**0.27**	**137**	*e*PG	**Pg**	**19 49 31.0**	**+0.9**
IZM				*e*SG	**Sg**	**19 49 36.2**	**+2.4**
IZM	**Izmir**	**0.27**	**137**	*e*Pg	**Pg**	**19 49 31.0**	**+0.9**
IZM				*e*Sg	**Sg**	**19 49 36.2**	**+2.4**
URLA	**Izmir**	**0.41**	**236**	*i* P	Pg	19 49 29.3	-3.5
URLA				*i* S	**Sg**	**19 49 40.2**	**+1.9**
URLA	**Izmir**	**0.41**	**236**	*i* P	Pg	19 49 29.3	-3.5
URLA				*i* S	**Sg**	**19 49 40.2**	**+1.9**
AKHS	**Akhisar**	**0.67**	**65**	*i* P	**Pg**	**19 49 34.7**	**-2.9**
AKHS				*i* S	**Sb**	**19 49 48.2**	**+0.6**
AKHS	**Akhisar**	**0.67**	**65**	*i* P	**Pg**	**19 49 34.7**	**-2.9**
AKHS				*i* S	**Sb**	**19 49 48.2**	**+0.6**
AYVA	**Ayvalik**	**0.76**	**340**	*i* P	**Pg**	**19 49 39.0**	**-0.2**
AYVA				*i* S	**Sb**	**19 49 49.7**	**-0.4**
AYVA	**Ayvalik**	**0.76**	**340**	*i* P	**Pg**	**19 49 39.0**	**-0.2**
AYVA				*i* S	**Sb**	**19 49 49.7**	**-0.4**
GCAM	**G?zelcaml?**	**0.91**	**170**	*i* P	**Pg**	**19 49 40.5**	**-1.6**
GCAM				*i* S	**Sg**	**19 49 52.8**	**-1.1**
GCAM	**G?zelcaml?**	**0.91**	**170**	*i* P	**Pg**	**19 49 40.4**	**-1.6**
GCAM				*i* S	**Sg**	**19 49 52.8**	**-1.1**
AYDN	**Tasoluk**	**1.15**	**144**	*i* P	**Pb**	**19 49 44.5**	**-1.8**
AYDN				*i* S	**Sb**	**19 50 00.6**	**-0.7**
AYDN	**Tasoluk**	**1.15**	**144**	*i* P	**Pb**	**19 49 44.5**	**-1.8**
AYDN				*i* S	**Sb**	**19 50 00.6**	**-0.7**
MANT	**Manisa**	**1.20**	**95**	*i* P	Pn	19 49 44.1	-3.3
MANT				*i* S	**Sb**	**19 50 03.4**	**+0.4**
MANT	**Manisa**	**1.20**	**95**	*i* P	Pn	19 49 44.1	-3.3
MANT				*i* S	**Sb**	**19 50 03.4**	**+0.4**
BALY	**Balya**	**1.23**	**22**	*i* P	**Pn**	**19 49 47.4**	**-0.2**
BALY				*i* S	**Sg**	**19 50 05.0**	**+0.8**
BALY	**Balya**	**1.23**	**22**	*i* P	**Pn**	**19 49 47.4**	**-0.2**
BALY				*i* S	**Sg**	**19 50 05.0**	**+0.8**
BALB	**Balikesir**	**1.23**	**32**	*e*PN	**Pg**	**19 49 48.3**	**0.0**
BALB	**Balikesir**	**1.23**	**32**	*e*Pn	**Pg**	**19 49 48.3**	**0.0**
KULA	**Kula-Manisa**	**1.28**	**93**	*e*PN	**Pb**	**19 49 49.0**	**+0.4**
KULA	**Kula-Manisa**	**1.28**	**93**	*e*Pn	**Pb**	**19 49 49.0**	**+0.4**
EZN	**Ezine**	**1.35**	**336**	*e*PN	**Pn**	**19 49 48.6**	**-0.6**
EZN	**Ezine**	**1.35**	**336**	*e*Pn	**Pn**	**19 49 48.6**	**-0.6**
DEMI	**Demirci**	**1.39**	**71**	*e*P	**Pg**	**19 49 51.1**	**-0.1**
DEMI				*i* S	**Sb**	**19 50 08.5**	**+0.2**
DEMI	**Demirci**	**1.39**	**71**	*e*P	**Pg**	**19 49 51.1**	**-0.1**
DEMI				*i* S	**Sb**	**19 50 08.5**	**+0.2**
DURS	**Dursunbey**	**1.51**	**48**	*i* P	**Pn**	**19 49 51.8**	**+0.3**
DURS				*i* S	**Sn**	**19 50 11.3**	**+0.2**
DURS	**Dursunbey**	**1.51**	**48**	*i* P	**Pn**	**19 49 51.8**	**+0.3**
DURS				*i* S	**Sn**	**19 50 11.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.54**	**19**	*e*PN	**Pn**	**19 49 52.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.54**	**19**	*e*Pn	**Pn**	**19 49 52.2**	**+0.4**
BODT	**Bodrum**	**1.55**	**172**	*e*Pn	**Pb**	**19 49 52.7**	**-0.4**
BODT	**Bodrum**	**1.55**	**172**	*e*Pn	**Pb**	**19 49 52.7**	**-0.4**
LPK	**Lapseki**	**1.79**	**353**	*e*PN	**Pn**	**19 49 55.4**	**+0.1**
LPK	**Lapseki**	**1.79**	**353**	*e*Pn	**Pn**	**19 49 55.4**	**+0.1**
KRBG	**Karabiga-Canak**	**1.81**	**6**	*e*PN	**Pn**	**19 49 55.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.81**	**6**	*e*Pn	**Pn**	**19 49 55.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.85**	**347**	*e*PN	**Pn**	**19 49 56.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.85**	**347**	*e*Pn	**Pn**	**19 49 56.1**	**-0.1**
EDC	**Edincik**	**1.86**	**20**	*e*PN	**Pn**	**19 49 56.9**	**+0.6**
EDC	**Edincik**	**1.86**	**20**	*e*Pn	**Pn**	**19 49 56.9**	**+0.6**
KCTX	**Karacabey (Bur**	**1.96**	**31**	*e*PN	**Pn**	**19 49 58.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.96**	**31**	*e*Pn	**Pn**	**19 49 58.2**	**+0.6**
ERIK	**Erikli-Kesan**	**2.11**	**349**	*e*PN	**Pn**	**19 50 00.1**	**+0.4**
ERIK	**Erikli-Kesan**	**2.11**	**349**	*e*Pn	**Pn**	**19 50 00.1**	**+0.4**
MFT	**Murefte**	**2.20**	**5**	*e*PN	**Pn**	**19 50 01.1**	**+0.1**
MFT	**Murefte**	**2.20**	**5**	*e*Pn	**Pn**	**19 50 01.1**	**+0.1**
ENEZ	**Enez**	**2.24**	**343**	*e*PN	**Pn**	**19 50 01.2**	**-0.3**
ENEZ	**Enez**	**2.24**	**343**	*e*Pn	**Pn**	**19 50 01.2**	**-0.3**

IDC 19 20:03:15.7±1.8, **48.94N×153.63E, h0**km, **mb3.8/6, mb1 3.9/7, mb1mx3.5/26, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=38.9km s-min=28.2km az=98.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.90**	**30**	Pn	Pn	20 04 29.4	-1.2
	1.3nm,0.3s,baz=187,slow=14,SNR=19						
KSRS	**Korea Array**	**21.87**	**248**	P	P	20 08 08.9	-1.0
	1.7nm,0.6s,baz=47,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**41.65**	**304**	P	P	20 11 04.6	-0.8
	0.3nm,0.4s,baz=75,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**46.28**	**296**	P	P	20 11 43.0	+0.3
	0.7nm,0.6s,baz=68,slow=8.3,SNR=12						
KURK	**Kurchatov**	**46.47**	**302**	P	P	20 11 45.2	+1.1
	1.9nm,0.6s,baz=68,slow=8.4,SNR=17						
BVAR	**Borovoye Array**	**49.76**	**308**	P	P	20 12 09.9	+0.3
	0.5nm,0.5s,baz=48,slow=8.0,SNR=7.5						
WRA	**Warramunga Arr**	**70.69**	**199**	P	P	20 14 33.5	+0.3
	0.4nm,0.3s,baz=15,slow=6.6,SNR=5.8						

*IDC **19** 20:15:14.9±1.1, 21.25S×70.39W, h44km±6km, mb3.6/5, mb1 3.9/7, mb1mx3.7/17, mbtmp3.6/7, ML4.1/2, Error ellipse: s-maj=36.3km s-min=23.9km az=3.0*
*ISCJB **19** 20:15:16.7±0.8, 20.98S±0.04×70.15W±0.1, h69km±9km, mb3.6/5, Error ellipse: s-maj=15.8km s-min=6.2km az=9.7*
*GUC **19** 20:15:16.3±1.0, 21.01S×70.47W, h66km±21km, ML4.0*
*NEIC **19** 20:15:16.3, 21.01S×70.47W, h66km, mb4.1/1, After GUC. NEIC Felt [III] at Alto Hospicio and Iquique.*

ISC 19 20:15:15.9±0.9, **20.99S**±0.05×**70.53W**±0.08, **h49**km±8km, **n36, σ1§55/49, mb3.7/5, 10C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.95**	**141**	⇑*i*P	**Pn**	**20 15 34.3**	**+1.3**
PB07				*i* S	**Sn**	**20 15 47.3**	**+1.7**
PB07				AML	AML	20 15 47.5	
	comp=E,10μm,0.4s						
PB01	**Plate Boundary**	**0.97**	**93**	⇑*i*P	**Pn**	**20 15 34.2**	**+0.9**
PB01				*e*S	**Sn**	**20 15 47.4**	**+1.3**
PB01				AML	AML	20 15 48.6	
	comp=E,19μm,0.3s						
MACH	**Maria Elena**	**1.40**	**149**	⇑*i*P	**Pn**	**20 15 40.3**	**+1.1**
MACH				*i* S	**Sn**	**20 15 58.0**	**+1.4**
MACH	**Maria Elena**	**1.40**	**149**	⇑*i*P	**Pn**	**20 15 40.3**	**+1.1**
MACH				*i* S	**Sn**	**20 15 58.0**	**+1.4**
PB09	**Plate Boundary**	**1.44**	**124**	⇑*i*P	**Pn**	**20 15 41.8**	**+2.1**
PB09				*i* S	**Sn**	**20 16 00.7**	**+3.0**
PB09				AML	AML	20 16 04.6	
	comp=N,8μm,0.6s						
PB04	**Plate Boundary**	**1.60**	**143**	⇑*i*P	**Pn**	**20 15 40.0**	**-1.7**
PB04				*i* S	**Sn**	**20 15 57.6**	**-3.5**
PB04				AML	AML	20 16 01.8	
	comp=E,3μm,0.1s						
PB06	**Plate Boundary**	**1.93**	**153**	⇑*i*P	**Pn**	**20 15 47.3**	**+0.9**
PB06				*i* S	**Sn**	**20 16 10.8**	**+1.4**
PB06				AML	AML	20 16 24.6	
	comp=N,1μm,0.7s						
MNMC	**Minimini**	**2.04**	**25**	⇑*i*P	**Pn**	**20 15 48.1**	**0.0**
MNMC				*i* S	**Sn**	**20 16 12.7**	**+0.1**
MECH	**Mejillones**	**2.11**	**178**	⇑*i*P	**Pn**	**20 15 49.8**	**+1.1**
MECH				*i* S	**Sn**	**20 16 15.1**	**+1.4**
MECH	**Mejillones**	**2.11**	**178**	⇑*i*P	**Pn**	**20 15 49.8**	**+1.1**
MECH				*i* S	**Sn**	**20 16 15.1**	**+1.4**
MECH				AML	AML	20 16 24.0	
	comp=N,936nm,0.4s						
CEN1	**Los Morros**	**2.41**	**173**	⇓*i*P	Pn	20 15 56.5	+3.6
CEN1				AML	AML	20 16 26.8	
	comp=E,350nm,0.6s						

LPAZ	**La Paz**	**5.20**	**26**	P		**Pn**	**20 16 34.9**	**+3.2**
	comp=E,2.1nm,0.3s,baz=223,slow=6.9,SNR=34								
LPAZ	**La Paz**	**5.20**	**26**	P		**Pn**	**20 16 34.9**	**+3.2**
SIV	**San Ignacio**	**10.25**	**63**	P		**Pn**	**20 17 39.2**	**-1.3**
	comp=E,1.3nm,0.3s,baz=252,slow=10,SNR=17								
SIV	**San Ignacio**	**10.25**	**63**	P		**Pn**	**20 17 39.2**	**-1.3**
TRQA	**Tornquist**	**18.55**	**158**	*e*P		**P**	**20 19 24.9**	**-3.6**
	comp=E,17nm,1.3s								
RCBR	**Riachuelo**	**36.78**	**71**	P		**P**	**20 22 18.3**	**-0.9**
	comp=E,5.8nm,0.8s,baz=235,slow=14,SNR=3.0								
RCBR	**Riachuelo**	**36.78**	**71**	P		**P**	**20 22 18.3**	**-0.9**
PDAR	**Pinedale Array**	**72.93**	**331**	P		**P**	**20 26 41.2**	**+1.0**
	comp=E,0.3nm,0.7s,baz=142,slow=9.2,SNR=2.6								
PDAR	**Pinedale Array**	**72.93**	**331**	P		**P**	**20 26 41.2**	**+1.0**
NVAR	**Mina Array Bea**	**74.17**	**323**	P		**P**	**20 26 48.8**	**+1.1**
	comp=E,0.5nm,0.7s,baz=123,slow=5.5,SNR=6.0								
NVAR	**Mina Array Bea**	**74.17**	**323**	P		**P**	**20 26 48.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P		**P**	**20 27 12.4**	**-0.6**
	comp=E,0.5nm,0.6s,baz=251,slow=5.6,SNR=6.6								
TORD				pP		**PcP**	**20 27 23.9**	**+2.0**
	comp=E,1.6nm,0.6s,baz=251,slow=5.8,SNR=9.8								
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P		**P**	**20 27 12.4**	**-0.6**
TORD				pP		**PcP**	**20 27 23.9**	**+2.0**
YKA	**Yellowknife Ar**	**90.21**	**341**	P		**P**	**20 28 10.5**	**-0.1**
	comp=E,0.3nm,0.6s,baz=134,slow=4.9,SNR=6.3								
YKA				pP		**pP**	**20 28 23.8**	**-1.2**
	comp=E,0.1nm,0.5s,baz=138,slow=4.4,SNR=1.8								
YKA	**Yellowknife Ar**	**90.21**	**341**	P		**P**	**20 28 10.6**	**-0.1**
YKA				pP		**pP**	**20 28 23.8**	**-1.2**
ASAR	**Alice Springs**	**129.64**	**209**	PKP		**PKPdf**	**20 34 19.0**	**-1.3**
	comp=E,0.5nm,1.0s,baz=123,slow=1.5,SNR=3.6								
ASAR	**Alice Springs**	**129.64**	**209**	PKP		**PKPdf**	**20 34 19.0**	**-1.3**
WRA	**Warramunga Arr**	**132.60**	**213**	PKP		**PKPdf**	**20 34 26.3**	**+0.3**
	comp=E,0.3nm,1.0s,baz=148,slow=1.7,SNR=5.2								
WRA	**Warramunga Arr**	**132.60**	**213**	PKP		**PKPdf**	**20 34 26.3**	**+0.3**
ZALV	**Zalesovo Beam**	**142.11**	**24**	PKP		**PKPdf**	**20 34 42.3**	**-0.1**
	comp=E,0.4nm,0.5s,baz=328,slow=1.9,SNR=3.5								
ZALV	**Zalesovo Beam**	**142.11**	**24**	PKP		**PKPdf**	**20 34 42.3**	**-0.1**
MKAR	**Makanchi Array**	**146.08**	**34**	PKPbc		**PKPbc**	**20 34 50.2**	**-0.3**
	comp=E,0.9nm,0.7s,baz=323,slow=3.4,SNR=12								
MKAR				pPKPbc		pPKPbc	20 35 05.0	-0.2	
	comp=E,0.6nm,0.6s,baz=325,slow=2.9,SNR=6.7								
MKAR	**Makanchi Array**	**146.08**	**34**	PKPbc		**PKPbc**	**20 34 50.2**	**-0.3**
MKAR				pPKPbc		pPKPbc	20 35 05.0	-0.2	
SONM	**Songino Array**	**153.10**	**5**	PKPbc		**PKPbc**	**20 35 08.7**	**+0.5**
	comp=E,0.3nm,0.4s,baz=11,slow=0.9,SNR=5.4								
SONM	**Songino Array**	**153.10**	**5**	PKPbc		**PKPbc**	**20 35 08.7**	**+0.5**

IDC 19 20:33:54.9±1.9, **15.19S×173.49W, h0**km, **mb3.7/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.7/8, ML2.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/34, Error ellipse: s-maj=113.9km s-min=19.5km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**53**	Pn	Pn	20 34 30.2	-1.1
	242nm,0.3s,baz=94,slow=1.3,SNR=70						
AFI				Sn	Sn	20 34 49.7	-8.4
	326nm,0.3s,baz=0.5,slow=16,SNR=13						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	20 42 49.4	-0.6
	0.3nm,0.5s,baz=90,slow=6.9,SNR=4.5						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	20 42 51.5	-0.6
	1.4nm,0.6s,baz=86,slow=8.2,SNR=26						
FX1	**Attu Island--F**	**68.77**	**351**	LR	LR	21 10 13.4	
	comp=Z,18nm,19.4s,baz=258,slow=32						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	P	20 45 33.7	-0.5
	0.8nm,0.7s,baz=232,slow=8.4,SNR=6.6						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	20 46 10.8	+1.1
	0.4nm,0.7s,baz=213,slow=9.5,SNR=4.2						
PDAR	**Pinedale Array**	**82.17**	**42**	P	P	20 46 18.1	0.0
	0.9nm,0.9s,baz=198,slow=4.4,SNR=5.7						
ILAR	**Eielson Array**	**82.26**	**11**	P	P	20 46 17.6	-0.1
	0.3nm,0.7s,baz=237,slow=6.1,SNR=5.4						
ILAR				LR	LR	21 22 48.3	
	comp=Z,70nm,18.9s,baz=153,slow=36						
USHA	**Ushuaia**	**86.14**	**146**	LR	LR	21 17 51.0	
	comp=Z,101nm,20.5s,baz=262,slow=31						
YKA	**Yellowknife Ar**	**89.94**	**23**	P	P	20 46 54.6	-1.1
	0.1nm,0.3s,baz=236,slow=5.0,SNR=3.5						
GERES	**GERESS Array B**	**145.92**	**352**	PKPbc	PKPab	20 53 37.0	0.0
	0.5nm,0.9s,baz=14,slow=2.8,SNR=5.3						
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	PKPab	20 53 37.7	+0.2
	1.1nm,0.9s,baz=74,slow=5.3,SNR=5.4						

*IDC **19** 20:50:47.9±6.6, 21.54S×169.29E, h94km±39km, mb3.6/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=99.1km s-min=48.8km az=138.0*

ISC 19 20:50:36.7±1.4, **22.55S**±0.04×**169.96E**±0.1, **h21**km, **n11, σ1§53/11, mb3.9/4, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.22**	**277**	P	Pb	20 51 29.9	-3.3
	56nm,0.3s,baz=84,slow=23,SNR=389						
DZM				LR	LR	20 52 07.0	
	comp=Z,405nm,20.5s,baz=212,slow=29						
DZM				S	**Sb**	**20 52 12.0**	**0.0**
	32nm,0.3s,baz=97,slow=21,SNR=14						
DZM	**Mont Dzumac**	**3.22**	**277**	*e*P	**Pn**	**20 51 28.1**	**+2.0**
DZM				*e*S	**Sb**	**20 52 11.6**	**-0.4**
NOUC	**Port Laguerre**	**3.34**	**276**	*e*P	**Pn**	**20 51 30.4**	**+2.6**
NOUC				*e*S	**Sb**	**20 52 13.3**	**-2.3**
ASAR	**Alice Springs**	**33.07**	**261**	P	**P**	**20 57 10.7**	**-0.5**
	0.8nm,0.6s,baz=74,slow=9.4,SNR=18						
WRA	**Warramunga Arr**	**33.19**	**268**	P	**P**	**20 57 10.9**	**-1.4**
	0.2nm,0.3s,baz=96,slow=8.5,SNR=9.7						
CMAR	**Chiang Mai Arr**	**80.39**	**295**	P	**P**	**21 02 46.5**	**-0.5**
	1.1nm,0.7s,baz=140,slow=4.6,SNR=9.9						
VNA3	**Neumayer Olymp**	**86.52**	**180**	*e*	**P**	**21 03 17.9**	**+0.2**
VNA2	**Neumayer--Watz**	**86.82**	**181**	*e*	**P**	21 03 15.7	-3.5
VNA1	**Neumayer--Stat**	**87.10**	**181**	*e*	**P**	**21 03 20.5**	**0.0**
SONM	**Songino Array**	**90.17**	**323**	P	P	21 03 32.1	-3.4
	1.0s,baz=128,slow=5.3,SNR=5.7						
GERES	**GERESS Array B**	**147.62**	**330**	PKPbc	**PKPdf**	**21 10 16.4**	**-0.4**
	1.0nm,0.8s,baz=64,slow=3.1,SNR=8.2						

IDC 19 21:02:15.2±0.8, **15.10S×173.63W, h0**km, **mb3.8/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, Error ellipse: s-maj=45.5km s-min=17.6km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**57**	Pn	Pn	21 02 51.1	-1.3
	117nm,0.3s,baz=86,slow=1.0,SNR=36						
AFI				Sn	Sn	21 03 10.8	-9.0
	148nm,0.3s,baz=79,slow=5.3,SNR=5.0						
STKA	**Stephens Creek**	**44.00**	**240**	P	P	21 10 22.9	-1.8
	1.8nm,0.6s,baz=106,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	21 11 09.4	-0.2
	1.0nm,0.9s,baz=97,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	21 11 12.0	+0.2
	3.5nm,0.6s,baz=86,slow=8.0,SNR=46						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	P	21 13 55.4	+0.8
	0.3nm,0.5s,baz=225,slow=8.8,SNR=3.2						
QSPA	**South Pole Qui**	**74.95**	**180**	P	P	21 13 58.6	+0.4
	0.5nm,0.3s,baz=33,slow=2.1,SNR=4.9						
PDAR	**Pinedale Array**	**82.19**	**42**	P	P	21 14 38.5	-0.1
	0.6nm,0.8s,baz=235,slow=4.7,SNR=5.3						
ILAR	**Eielson Array**	**82.19**	**11**	P	P	21 14 37.0	-0.8
	0.4nm,0.8s,baz=224,slow=7.5,SNR=5.0						
YKA	**Yellowknife Ar**	**89.91**	**23**	P	P	21 15 15.3	-0.5
	0.2nm,0.7s,baz=261,slow=4.9,SNR=4.0						
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc	PKPbc	21 21 56.9	0.0
	1.0nm,0.8s,baz=108,slow=4.0,SNR=6.2						
GERES	**GERESS Array B**	**145.81**	**351**	PKPbc	PKPbc	21 21 56.6	0.0
	0.8nm,0.8s,baz=354,slow=1.3,SNR=5.4						

*CSEM **19** 21:05:04.7±0.5, 43.41N×17.26E, h2km, ML2.4/9, Error ellipse: s-maj=11.8km s-min=6.3km az=56.0*
*BEO **19** 21:05:04.2±0.7, 43.52N×17.13E, h0km, ML2.5/4*
*PDG **19** 21:05:05.8±0.3, 43.28N×17.27E, h4km±1km, ML2.4/9, Error ellipse: s-maj=1.6km s-min=2.2km az=0.0*

ISC 19 21:05:03.3±1.2, **43.44N**±0.03×**17.21E**±0.04, **h0**km±12km, **n38, σ1§11/61, 6C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.67**	**148**	*i* Pg	**Pg**	**21 05 15.3**	**-0.9**
STON				Sg	**Sg**	**21 05 25.6**	**+0.7**
STON	**Ston**	**0.67**	**148**	*i* Pg	**Pg**	**21 05 15.2**	**-0.9**
STON				Sg	**Sg**	**21 05 25.5**	**+0.7**

BRY	**Bratogost**	**1.11**	**119**	⇓*i*Pg		**Pb**	**21 05 24.2**	**-1.2**
BRY				*e*Sg		**Sn**	**21 05 40.8**	**-1.5**
BRY	**Bratogost**	**1.11**	**119**	⇓*i*Pg		**Pb**	**21 05 24.2**	**-1.2**
BRY				*e*Sg		**Sn**	**21 05 40.8**	**-1.5**
UPM	**Unac-Piva**	**1.26**	**100**	⇑*i*Pg		**Pn**	**21 05 27.5**	**-0.8**
UPM				*e*Sg		**Sn**	**21 05 46.8**	**+0.8**
UPM	**Unac-Piva**	**1.26**	**100**	⇑*i*Pg		**Pn**	**21 05 27.5**	**-0.8**
BLY	**Banja Luka**	**1.31**	**359**	*e*Pn		**Pg**	**21 05 29.5**	**+1.1**
BLY				*e*Sg		**Sb**	**21 05 44.3**	**-1.8**
BLY	**Banja Luka**	**1.31**	**359**	*e*Pn		**Pg**	**21 05 29.5**	**+1.1**
BLY				*e*Sg		**Sb**	**21 05 44.3**	**-1.8**
HCY	**Herceg Novi**	**1.37**	**136**	⇑*i*Pg		**Pn**	**21 05 28.7**	**-0.9**
HCY				*e*Sg		**Sg**	**21 05 48.0**	**+0.8**
HCY	**Herceg Novi**	**1.37**	**136**	⇑*i*Pg		**Pn**	**21 05 28.7**	**-0.9**
HCY				*e*Sg		**Sg**	**21 05 48.0**	**+0.8**
NKY	**Niksic**	**1.45**	**115**	⇑*i*Pg		**Pb**	**21 05 31.0**	**-0.2**
NKY				*e*Sg		**Sg**	**21 05 52.3**	**+2.6**
NKY	**Niksic**	**1.45**	**115**	⇑*i*Pg		**Pb**	**21 05 31.0**	**-0.2**
BUM	**Brajici-Budva**	**1.68**	**132**	⇓*i*Pg		**Pb**	**21 05 34.6**	**-0.5**
BUM				*e*Sg		**Sg**	**21 05 57.7**	**+0.4**
BUM	**Brajici-Budva**	**1.68**	**132**	⇓*i*Pg		**Pb**	**21 05 34.6**	**-0.5**
BUM				*e*Sg		**Sg**	**21 05 57.7**	**+0.4**
PDG	**Podgorica**	**1.81**	**123**	*e*Pn		**Pb**	**21 05 37.4**	**+0.1**
PDG				*e*Sn		**Sg**	**21 06 02.2**	**+0.8**
PDG	**Podgorica**	**1.81**	**123**	*e*Pn		**Pb**	**21 05 37.4**	**+0.1**
PDG				*e*Sn		**Sg**	**21 06 02.2**	**+0.8**
TTG	**Podgorica**	**1.81**	**123**	⇓*i*Pn		**Pb**	**21 05 37.0**	**-0.3**
TTG				*e*Sn		**Sg**	**21 06 02.8**	**+1.3**
NVLJ	**Novalja**	**2.03**	**304**	*e*Pn		**Pb**	**21 05 41.1**	**0.0**
NVLJ				Sn		**Sg**	**21 06 08.3**	**-0.2**
NVLJ	**Novalja**	**2.03**	**304**	*e*Pn		**Pb**	**21 05 41.0**	**0.0**
NVLJ				Sn		**Sg**	**21 06 08.3**	**-0.2**
BEY	**Berane**	**2.04**	**105**	⇓*i*Pn		**Pb**	**21 05 41.5**	**+0.2**
IVA	**Berane**	**2.04**	**105**	⇓*i*Pn		**Pb**	**21 05 41.5**	**+0.1**
IVA				*e*Sn		**Sg**	**21 06 09.2**	**+0.2**
ULC	**Ulcinj**	**2.10**	**134**	⇓*i*Pn		**Pb**	**21 05 41.6**	**-0.7**
ULC				*e*Sn		**Sb**	**21 06 09.4**	**+0.4**
ULC	**Ulcinj**	**2.10**	**134**	⇓*i*Pn		**Pb**	**21 05 41.6**	**-0.7**
DIVS	**Divibare**	**2.12**	**71**	*e*Pn		**Pb**	**21 05 40.9**	**-1.7**
DIVS				*e*Sn		**Sb**	**21 06 09.2**	**-0.3**
DIVS	**Divibare**	**2.12**	**71**	*e*Pn		**Pb**	**21 05 40.9**	**-1.7**
DIVS				*e*Sn		**Sb**	**21 06 09.2**	**-0.3**
PVY	**Plav**	**2.18**	**112**	⇓*i*Pn		**Pb**	**21 05 43.6**	**-0.2**
PVY				*e*Sn		**Sg**	**21 06 12.9**	**-0.5**
PVY	**Plav**	**2.18**	**112**	⇓*i*Pn		**

IDC 19 21:34:34.8±6.5, 2°50'S×139°51'E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=262.9km s-min=31.2km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.06**	**196**	P	Pn	21 38 46.6	-0.8
	0.2nm,0.3s,baz=13,slow=13,SNR=8.7						
ASAR	**Alice Springs**	**21.73**	**194**	P	P	21 39 28.4	+0.5
	1.1nm,0.8s,baz=24,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**70.11**	**322**	P	P	21 45 49.1	-0.1
	0.3nm,0.8s,baz=112,slow=7.8,SNR=4.0						

ISCJB 19 21:42:07.6±0.2, 45°.09N±0°.01×106°.93W±0°.02, h0km, Error ellipse: s-maj=2.0km s-min=1.7km az=167.8
NEIC 19 21:42:07.4±0.6, 44°.97N×106°.78W, h0km, ML2.6, Error ellipse: s-maj=7.7km s-min=5.7km az=89.0, Suspected Mining explosion.
NEIC 25 km [15 miles] NNE of Sheridan.
IDC 19 21:42:07.4±1.3, 44°.94N×106°.79W, h0km, mb1 3.3/3, mb1mx3.2/26, mbtmp3.0/3, ML3.3/2, Error ellipse: s-maj=40.5km s-min=9.3km az=134.0

ISC 19 21:42:07.3±0.6, 45°02N±0°02×106°84W±0°02, h0km, n66, σ1829/127, 31C-28D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G21A	**Lodge Grass**	**0.33**	**309**	P	**Pg**	**21 42 13.0**	**-0.6**
	baz=0.4,SNR=79						
G21A				⇑S	**Sg**	**21 42 15.9**	**-2.1**
	baz=0.4						
H21A	**Big Horn, Sher**	**0.42**	**200**	⇑P	**Pb**	**21 42 17.5**	**0.0**
	baz=0.4						
H21A				⇑S	**Sb**	**21 42 24.8**	**+0.4**
	baz=0.4						
G22A	**Birney**	**0.44**	**62**	⇑P	**Pb**	**21 42 17.1**	**-0.9**
	baz=0.4,SNR=15						
G22A				⇓S	**Sb**	**21 42 23.5**	**-1.6**
	baz=0.4						
H22A	**Clearmont**	**0.55**	**140**	⇑P	**Pn**	**21 42 20.6**	**-1.8**
	baz=0.5,SNR=9.5						
H22A				⇑S	**Sb**	**21 42 29.9**	**+1.6**
	baz=0.5						
F21A	**Absaloka Mine,**	**0.83**	**346**	⇓S	**Sg**	**21 42 32.8**	**-1.2**
	baz=0.9						
F22A	**Rosebud**	**0.87**	**28**	⇑P	**Pg**	**21 42 23.6**	**-0.2**
	baz=0.9,SNR=13						
F22A				⇓S	**Sg**	**21 42 34.1**	**-1.0**
	baz=0.9						
H20A	**Greybull**	**0.98**	**238**	⇓P	**Pg**	**21 42 25.9**	**-0.2**
	baz=1.0,SNR=13						
H20A				⇓S	**Sg**	**21 42 39.6**	**+0.8**
	baz=1.0						
G20A	**Bridger**	**0.99**	**282**	P	**Pg**	**21 42 25.0**	**-1.3**
	baz=1.0,SNR=68						
G20A				⇑S	**Sg**	**21 42 37.2**	**-2.0**
	baz=1.0						
G23A	**Biddle**	**1.04**	**79**	⇑P	**Pn**	**21 42 28.5**	**-0.8**
	baz=1.0,SNR=36						
G23A				⇓S	**Sn**	**21 42 43.6**	**-1.0**
	baz=1.0						
H23A	**Clabaugh Cattl**	**1.12**	**113**	⇓S	**Sn**	**21 42 47.1**	**+0.6**
	baz=1.1						
I22A	**9 Mile Ranch,**	**1.15**	**167**	⇓P	**Pn**	**21 42 31.4**	**+0.6**
	baz=1.1,SNR=39						
I22A				⇑S	**Sn**	**21 42 49.2**	**+1.9**
	baz=1.1						
F20A	**Billings**	**1.21**	**311**	⇓P	**Pg**	**21 42 28.6**	**-1.9**
	baz=1.3						
F20A				⇑S	**Sg**	**21 42 44.5**	**-1.7**
	baz=1.3						
F23A	**Volborg**	**1.23**	**55**	⇑P	**Pg**	**21 42 30.7**	**-0.2**
	baz=1.2						
F23A				⇑S	**Sb**	**21 42 47.9**	**-0.1**
	baz=1.2						
I21A	**Big Trails, Te**	**1.25**	**195**	⇑P	**Pn**	**21 42 31.9**	**-0.2**
	baz=1.2,SNR=42						
I21A				⇑S	**Sn**	**21 42 49.7**	**-0.1**
	baz=1.2						
I20A	**Worland**	**1.41**	**221**	⇑P	**Pb**	**21 42 34.7**	**+0.1**
	baz=1.4,SNR=12						
I20A				⇓S	**Sn**	**21 42 54.3**	**+0.6**
	baz=1.4						
E21A	**Keefer Ranch,**	**1.53**	**354**	⇑P	**Pn**	**21 42 34.6**	**-1.3**
	baz=1.6,SNR=23						
E21A				⇑S	**Sn**	**21 42 54.7**	**-2.0**
	baz=1.6						
E22A	**Miles City**	**1.55**	**23**	⇓P	**Pn**	**21 42 35.3**	**-0.9**
	baz=1.6						
E22A				⇓S	**Sn**	**21 42 56.3**	**-0.8**
	baz=1.6						
H19A	**Powell**	**1.57**	**258**	⇓P	**Pn**	**21 42 36.5**	**0.0**
	baz=1.6,SNR=23						
H19A				⇓Sb	**Sn**	**21 42 58.2**	**+0.6**
	baz=1.6						
J22A	**Midwest**	**1.62**	**171**	⇑P	**Pg**	**21 42 39.0**	**+0.6**
	baz=1.6,SNR=38						
J22A				⇑S	**Sg**	**21 43 02.0**	**+2.6**
	baz=1.6						
H24A	**Dirks Ranch, A**	**1.65**	**99**	⇓P	**Pg**	**21 42 38.9**	**+0.1**
	baz=1.6,SNR=41						
H24A				⇑S	**Sg**	**21 43 01.4**	**+1.2**
	baz=1.6						
F19A	**Roth Farm, Mol**	**1.70**	**300**	⇑P	**Pn**	**21 42 37.4**	**-0.9**
	baz=1.8,SNR=30						
F19A				⇓S	**Sn**	**21 42 59.0**	**-1.9**
	baz=1.8						
RLMT	**Red Lodge**	**1.72**	**274**	*e*Pn	**Pn**	**21 42 38.5**	**-0.3**
RLMT				*e*Sn	**Sn**	**21 43 01.3**	**-0.3**
RLMT	**Red Lodge**	**1.72**	**274**	⇓P	**Pn**	**21 42 38.4**	**-0.3**
	baz=1.8,SNR=51						
RLMT				⇓P	**Pn**	**21 42 38.4**	**-0.3**
	baz=1.8,SNR=51						
RLMT				⇑S	**Sn**	**21 43 00.6**	**-0.9**
	baz=1.8						
RLMT				⇑S	**Sn**	**21 43 00.6**	**-0.9**
	baz=1.8						
J21A	**Lysite**	**1.73**	**195**	⇓P	**Pg**	**21 42 40.2**	**-0.2**
	baz=1.7,SNR=13						
J21A				⇑S	**Sg**	**21 43 03.9**	**+1.2**
	baz=1.7						
E20A	**Meyer Farm, Mu**	**1.74**	**329**	⇑P	**Pn**	**21 42 37.4**	**-1.4**
	baz=1.8,SNR=17						
E20A				⇓S	**Sn**	**21 42 59.5**	**-2.2**
	baz=1.8						
G24A	**Alzada**	**1.74**	**79**	⇓S	**Sg**	**21 43 03.9**	**+0.7**
	baz=1.7						
I19A	**Meeteetse**	**1.83**	**238**	⇓P	**Pn**	**21 42 40.5**	**+0.3**
	baz=1.8,SNR=9.6						
I19A				⇑S	**Sb**	**21 43 05.0**	**-0.2**
	baz=1.8						
E23A	**Ismay**	**1.83**	**35**	⇑Sb	**Sb**	**21 43 05.5**	**+0.3**
	baz=1.8						
G18A	**Lazy EL Ranch,**	**1.95**	**280**	⇓P	**Pn**	**21 42 41.3**	**-0.5**
	baz=2.0,SNR=35						
G18A				⇓S	**Sn**	**21 43 06.4**	**-0.7**
	baz=2.0						
I24A	**Kuemmerle Ranc**	**1.96**	**125**	⇑P	**Pg**	**21 42 43.7**	**-1.2**
	baz=1.9,SNR=8.7						
E19A	**Rath Farm, Rou**	**1.99**	**317**	⇑S	**Sn**	**21 43 06.6**	**-1.3**
	baz=2.0						
H18A	**Shoshone NF, C**	**2.04**	**261**	⇓P	**Pn**	**21 42 43.0**	**-0.1**
	baz=2.1,SNR=35						
GCMT	**Greycliff**	**2.14**	**292**	*e*Pn	**Pn**	**21 42 44.6**	**+0.3**
GCMT				*e*Sn	**Sn**	**21 43 12.3**	**+0.7**
D22A	**Cohagen**	**2.18**	**12**	⇑P	**Pn**	**21 42 44.7**	**-0.2**
	baz=2.2,SNR=14						
F18A	**Big Timber**	**2.21**	**295**	⇓P	**Pn**	**21 42 44.8**	**-0.5**
	baz=2.3,SNR=13						
D20A	**Manuel Ranch,**	**2.26**	**337**	⇓P	**Pn**	**21 42 45.1**	**-0.9**
	baz=2.3,SNR=12						
YNR	**Norris Junctio**	**2.75**	**265**	*e*Pn	**Pn**	**21 42 53.5**	**+0.7**
YNR				*e*Sn	**Sn**	**21 43 27.5**	**+0.6**
F17A	**Fitzpatrick Pl**	**2.83**	**290**	⇓P	**Pn**	**21 42 53.9**	**0.0**
	baz=2.9,SNR=7.5						
YFT	**Old Faithful**	**2.90**	**260**	*e*Pn	**Pn**	**21 42 54.9**	**-0.1**
YFT				*e*Sn	**Sn**	**21 43 31.3**	**+0.6**
YMR	**Madison River**	**2.96**	**265**	*e*Pn	**Pn**	**21 42 57.0**	**+1.3**
YMR				*e*Sn	**Sn**	**21 43 32.4**	**+0.4**
PD02	**Pinedale Array**	**2.98**	**222**	*e*Pn	**Pn**	**21 42 56.5**	**+0.4**
PD02				*e*Sn	**Sb**	**21 43 38.1**	**-0.3**
PDAR	**Pinedale Array**	**2.99**	**222**	Pn	**Pb**	**21 42 58.9**	**-2.6**
	0.8nm,0.3s,baz=50,slow=18,SNR=34						
PDAR				Lg	Lg	21 43 39.1	
	2.2nm,0.3s,baz=43,slow=33,SNR=15						
PDAR	**Pinedale Array**	**2.99**	**222**	Pn	**Pb**	**21 42 58.9**	**-2.6**
PDAR				Lg	Lg	21 43 39.1	
PD01	**Pinedale Array**	**2.99**	**222**	*e*Pn	**Pn**	**21 42 57.4**	**+1.2**
PD01				*e*Sn	**Sb**	**21 43 38.8**	**0.0**
MOOW	**Moose Ponds**	**3.07**	**247**	*e*Pn	**Pn**	**21 42 57.9**	**+0.6**
MOOW				*e*Pg	**Pg**	**21 43 05.8**	**-0.4**
MOOW				*e*Sn	**Sn**	**21 43 35.6**	**+0.7**
IMW	**Indian Meadow**	**3.14**	**251**	*e*Pn	**Pn**	**21 42 58.1**	**-0.2**
IMW				*e*Pg	**Pg**	**21 43 07.4**	**-0.1**
IMW				*e*Sn	**Sn**	**21 43 35.3**	**-1.4**
IMW				*e*Sg	**Sg**	**21 43 48.7**	**+0.5**
QLMT	**Earthquake Lak**	**3.27**	**268**	*e*Pn	**Pn**	**21 43 00.5**	**+0.5**
QLMT				*e*Sn	**Sb**	**21 43 44.8**	**-1.9**
REDW	**Red Top Meadow**	**3.33**	**242**	*e*Pn	**Pn**	**21 43 01.4**	**+0.6**
RWWY	**Rawlins**	**3.34**	**185**	*e*Pn	**Pn**	**21 42 60.0**	**-1.0**
RWWY				*e*Pg	**Pg**	**21 43 09.7**	**-1.6**
RWWY				*e*Sg	**Sg**	**21 43 54.6**	**+0.1**
DCID1	**Drake Creek**	**3.43**	**247**	*e*Pn	**Pn**	**21 43 02.6**	**+0.4**
DCID1				*e*Sn	**Sb**	**21 43 49.8**	**-1.4**
BOZ	**Bozeman (W)**	**3.44**	**282**	*e*Pn	**Pn**	**21 43 03.4**	**+1.2**
BOZ				*e*Sn	**Sn**	**21 43 44.7**	**+1.0**
BOZ				*e*Sg	**Sg**	**21 43 57.8**	**+0.2**
EGMT	**Eagleton**	**3.62**	**327**	*e*Pn	**Pn**	**21 43 04.7**	**+0.1**
EGMT				*e*Sg	**Sb**	**21 44 01.3**	**+4.7**
RRI2	**Red Ridge**	**3.63**	**244**	*e*Pn	**Pn**	**21 43 05.7**	**+0.8**
RRI2				*e*Pg	**Pg**	**21 43 16.7**	**-0.2**
RRI2				*e*Sn	**Sn**	**21 43 48.2**	**-0.5**
PHWY	**Pilot Hill**	**3.85**	**164**	*e*Pn	**Pn**	**21 43 05.9**	**-2.1**
PHWY				*e*Pg	**Pg**	**21 43 18.9**	**-2.2**
PHWY				*e*Sg	**Sg**	**21 44 09.0**	**-1.9**
HRY	**Holter Researc**	**3.88**	**298**	*e*Pn	**Pn**	**21 43 07.3**	**-0.9**
HRY				*e*Pg	**Pb**	**21 43 16.4**	**-0.2**
HRY				*e*Sn	**Sb**	**21 44 08.2**	**+4.1**
DGMT	**Dagmar**	**3.90**	**27**	*e*Pn	**Pn**	**21 43 09.2**	**+0.6**
DGMT				*e*Pg	**Pb**	**21 43 18.8**	**+1.8**
DGMT				*e*Sn	**Sn**	**21 43 57.2**	**+2.2**
DLMT	**Dillon**	**4.08**	**277**	*e*Pn	**Pn**	**21 43 11.6**	**+0.4**
DLMT				*e*Sn	**Sn**	**21 44 00.7**	**+1.0**
MCMT	**McKenzie Canyo**	**4.27**	**270**	*e*Pn	**Pn**	**21 43 14.9**	**+1.1**
MCMT				*e*Pg	**Pb**	**21 43 23.4**	**0.0**
MCMT				*e*Sg	**Sg**	**21 44 25.0**	**+0.5**
CHMT	**Chamberlain Mo**	**4.86**	**295**	*e*Pn	**Pn**	**21 43 22.6**	**+0.8**
CHMT				*e*Pg	Pb	21 43 37.4	+4.1
CHMT				*e*Sn	**Sb**	**21 44 34.3**	**+1.9**
SLMT	**Seeley Lake**	**5.13**	**298**	*e*Pn	**Pn**	**21 43 26.3**	**+0.8**
	12nm,1.0s						
SLMT				*e*Pg	**Pb**	**21 43 38.6**	**+0.6**
SLMT				*e*Sg	**Sb**	**21 44 42.9**	**+2.6**
JTMT	**Jette**	**5.83**	**301**	*e*Pn	**Pn**	**21 43 35.7**	**+0.6**
	4.2nm,0.9s						
JTMT				*e*Sn	**Sn**	**21 44 44.2**	**+1.6**
JTMT				*e*Sg	**Sb**	**21 45 01.9**	**+1.7**
BSMT	**Bassoo Peak**	**6.18**	**300**	*e*Pn	**Pn**	**21 43 41.3**	**+1.3**
	4.0nm,1.1s						
BSMT				*e*S	Sb	21 45 19.1	+8.7
ULM	**Lac du Bonnet**	**9.06**	**51**	Pn	**Pn**	**21 44 17.3**	**-2.0**
	0.1nm,0.3s,baz=244,slow=11,SNR=3.2						
ULM				Lg	Lg	21 46 47.2	
	0.1nm,0.3s,baz=204,slow=17,SNR=3.2						
ULM	**Lac du Bonnet**	**9.06**	**51**	Pn	**Pn**	**21 44 17.3**	**-2.0**
ULM				Lg	Lg	21 46 47.2	
YKA	**Yellowknife Ar**	**18.08**	**348**	P	**P**	**21 46 22.1**	**+2.1**
	0.1nm,0.3s,baz=161,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**18.08**	**348**	P	**P**	**21 46 22.1**	**+2.1**

ISK 19 22:01:06.5, 40°.68N×35°.33E, h5km, MD2.7
DDA 19 22:01:06.5, 40°.68N×35°.29E, h7km, ML3.1
CSEM 19 22:01:07.1±0.1, 40°.69N×35°.31E, h2km, ML3.1, Error ellipse: s-maj=3.7km s-min=2.9km az=167.0

ISC 19 22:01:07.3±1.0, 40°68N±0°02×35°30E±0°02, h11km±10km, n43, σ0957/67, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.39**	**261**	*i* P	**Pg**	**22 01 14.9**	**-0.2**
CTKT				*i* S	**Sg**	**22 01 21.3**	**+0.9**
CTKT	**Corum**	**0.39**	**261**	*i* P	**Pg**	**22 01 14.9**	**-0.2**
CTKT				*i* S	**Sg**	**22 01 21.3**	**+0.9**
HAVZ	**Havza**	**0.50**	**39**	*i* P	**Pg**	**22 01 17.2**	**+0.1**
HAVZ				*i* S	**Sg**	**22 01 24.3**	**+0.5**
HAVZ	**Havza**	**0.50**	**39**	*i* P	**Pg**	**22 01 17.2**	**+0.1**
HAVZ				*i* S	**Sg**	**22 01 24.3**	**+0.5**
KVT	**Kavak**	**0.69**	**55**	PG	**Pg**	**22 01 20.1**	**-0.6**
KVT				*e*SG	**Sg**	**22 01 29.4**	**-0.4**
KVT	**Kavak**	**0.69**	**55**	*i* Pg	**Pg**	**22 01 20.1**	**-0.6**
KVT				*e*Sg	**Sg**	**22 01 29.4**	**-0.4**
CORM	**Corum**	**0.72**	**226**	*e*PG	**Pg**	**22 01 21.1**	**-0.1**
CORM				*e*SG	**Sb**	**22 01 31.6**	**-0.2**
CORM	**Corum**	**0.72**	**226**	*e*Pg	**Pg**	**22 01 21.1**	**-0.1**
CORM				*e*Sg	**Sb**	**22 01 31.6**	**-0.2**
DIKM	**Dikmen**	**0.97**	**358**	*e*PG	**Pg**	**22 01 25.4**	**-0.5**
DIKM	**Dikmen**	**0.97**	**358**	*e*Pg	**Pg**	**22 01 25.4**	**-0.5**
TOKA	**Tokat**	**0.97**	**111**	*i* P	**Pb**	**22 01 25.9**	**-0.2**
TOKA				*i* S	**Sb**	**22 01 38.8**	**-0.1**
TOKA	**Tokat**	**0.97**	**111**	*i* P	**Pb**	**22 01 25.9**	**-0.2**
TOKA				*i* S	**Sb**	**22 01 38.8**	**-0.1**
TOS	**Tosya**	**1.03**	**290**	*e*PG	**Pb**	**22 01 27.3**	**+0.1**
TOS	**Tosya**	**1.03**	**290**	*e*Pg	**Pb**	**22 01 27.3**	**+0.1**
YOZ	**Yozgat**	**1.04**	**179**	*e*PG	**Pg**	**22 01 26.4**	**-0.9**
YOZ	**Yozgat**	**1.04**	**179**	*e*Pg	**Pg**	**22 01 26.4**	**-0.9**
ERBA	**Erbaa**	**1.11**	**90**	*i* P	**Pg**	**22 01 27.2**	**-1.4**
ERBA				*i* S	**Sb**	**22 01 43.4**	**+0.5**
ERBA	**Erbaa**	**1.11**	**90**	*i* P	**Pg**	**22 01 27.2**	**-1.4**
ERBA				*i* S	**Sb**	**22 01 43.4**	**+0.5**
CDAG	**Cicekdag**	**1.27**	**214**	*i* P	**Pn**	**22 01 31.0**	**-0.1**
CDAG				*i* S	**Sb**	**22 01 48.1**	**+0.4**
CDAG	**Cicekdag**	**1.27**	**214**	*i* P	**Pn**	**22 01 31.0**	**-0.1**
CDAG				*i* S	**Sb**	**22 01 48.1**	**+0.4**
CANT	**Cankiri**	**1.28**	**267**	*e*PN	**Pn**	**22 01 30.9**	**-0.3**
KAST	**KASTAMONU**	**1.31**	**308**	*e*P	**Pn**	**22 01 30.9**	**-0.7**
KAST				*i* S	**Sg**	**22 01 49.4**	**-0.2**
KAST	**KASTAMONU**	**1.31**	**308**	*e*P	**Pn**	**22 01 30.9**	**-0.7**
KAST				*i* S	**Sg**	**22 01 49.4**	**-0.2**
ELDT	**Eldivan**	**1.44**	**263**	*i* P	**Pn**	**22 01 33.6**	**+0.2**
ELDT				*i* S	**Sg**	**22 01 53.4**	**-0.2**
ELDT	**Eldivan**	**1.44**	**263**	*i* P	**Pn**	**22 01 33.6**	**+0.2**
ELDT				*i* S	**Sg**	**22 01 53.4**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.57**	**100**	*e*PN	**Pn**	**22 01 35.4**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.57**	**100**	*e*Pn	**Pn**	**22 01 35.4**	**+0.3**
BZK	**Bozkurt**	**1.61**	**323**	*e*PN	**Pn**	**22 01 36.3**	**+0.8**
BZK	**Bozkurt**	**1.61**	**323**	*e*Pn	**Pn**	**22 01 36.3**	**+0.8**
SCER	**sogukcermik**	**1.62**	**120**	*i* P	**Pb**	**22 01 37.5**	**+0.2**
SCER				*i* S	**Sg**	**22 02 00.2**	**+0.8**
SCER	**sogukcermik**	**1.62**	**120**	*i* P	**Pb**	**22 01 37.5**	**+0.2**
SCER				*i* S	**Sg**	**22 02 00.2**	**+0.8**
BALT	**Daday**	**1.68**	**301**	*i* P	**Pb**	**22 01 38.6**	**+0.3**
BALT				*i* S	**Sg**	**22 02 01.0**	**-0.3**
BALT	**Daday**	**1.68**	**301**	*i* P	**Pb**	**22 01 38.6**	**+0.3**
BALT				*i* S	**Sg**	**22 02 01.0**	**-0.3**
KAMT	**Kaman**	**1.79**	**223**	*e*PN	**Pn**	**22 01 39.1**	**+0.9**
KAMT	**Kaman**	**1.79**	**223**	*e*Pn	**Pn**	**22 01 39.1**	**+0.9**
BNN	**Bunyan**	**1.88**	**167**	*e*PN	**Pn**	**22 01 40.3**	**+0.9**
BNN	**Bunyan**	**1.88**	**167**	*e*Pn	**Pn**	**22 01 40.3**	**+0.9**
AVNT	**Avonos**	**1.93**	**190**	*i* P	**Pb**	**22 01 42.8**	**+0.2**
AVNT				*i* S	**Sg**	**22 02 09.1**	**-0.3**
AVNT	**Avonos**	**1.93**	**190**	*i* P	**Pb**	**22 01 42.8**	**+0.2**
BBAL	**Bala**	**2.02**	**236**	*i* P	**Pb**	**22 01 44.1**	**0.0**
BBAL				*i* S	**Sg**	**22 02 12.1**	**-0.1**
BBAL	**Bala**	**2.02**	**236**	*i* P	**Pb**	**22 01 44.1**	**0.0**
AFSR	**Afˇar-Bala (A**	**2.11**	**235**	*e*PN	**Pb**	**22 01 44.4**	**-1.2**
AFSR	**Afˇar-Bala (A**	**2.11**	**235**	*e*Pn	**Pb**	**22 01 44.4**	**-1.2**

KRSC 19 22:02:24.5±1.2, 53°01N×162°90E, h52km±51km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.74**	**274**	*e*P	Pn	22 02 53.6	+1.4
SPN				*i* S	Sn	22 03 14.8	+1.5
SDLR	**Sedlovina**	**2.43**	**278**	*e*P	Pn	22 03 04.3	+2.4
SDLR				*e*S	Sn	22 03 33.0	+2.4
UGLR	**Uglovaya**	**2.46**	**276**	*e*P	Pn	22 03 05.0	+2.7
UGLR				*e*S	Sn	22 03 34.3	+3.0
SMAR	**Somma**	**2.48**	**277**	*e*P	Pn	22 03 05.1	+2.4
AVH	**Avacha**	**2.52**	**277**	*e*P	Pn	22 03 05.8	+2.8
AVH				*i* S	Sn	22 03 36.1	+3.5
KOK	**Koryaka**	**2.58**	**278**	*e*P	Pn	22 03 06.1	+2.2
KOK				*i* S	Sn	22 03 36.4	+2.2
RUS	**Russkaya**	**2.73**	**260**	*e*P	Pn	22 03 07.4	+1.6
RUS				*i* S	Sn	22 03 38.3	+0.8
MTVR	**Mutnovka**	**2.92**	**261**	*e*P	Pn	22 03 10.7	+2.2
MTVR				*i* S	Sn	22 03 44.3	+1.8
ASAK	**Asacha**	**3.11**	**260**	*e*P	Pn	22 03 13.5	+2.4
ASAK				*i* S	Sn	22 03 49.1	+2.1
KMNR	**Kamenistaya**	**3.16**	**332**	P	Pn	22 03 13.2	+1.3
KBTR	**Krutoberegovo**	**3.21**	**359**	*e*P	Pn	22 03 12.4	+0.1

CSEM 19 22:04:56.7±0.2, 40°.69N×35°.32E, h2km, ML2.3, Error ellipse: s-maj=5.7km s-min=3.8km az=152.0
DDA 19 22:04:56.1, 40°.67N×35°.31E, h7km, MD2.5, ML2.3

ISK 19 22:04:55.9, 40°.70N×35°.31E, h4km, ML2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.40**	**260**	*i* P	Pg	22 05 04.8	+0.8
CTKT				*i* S	Sg	22 05 10.6	+1.2
CTKT	**Corum**	**0.40**	**260**	*i* P	Pg	22 05 04.8	+0.9
CTKT				*i* S	Sg	22 05 10.6	+1.2
HAVZ	**Havza**	**0.49**	**39**	*i* P	Pb	22 05 06.9	-0.3
HAVZ				*i* S	Sb	22 05 13.8	-0.9
HAVZ	**Havza**	**0.49**	**39**	*i* P	Pb	22 05 06.9	-0.2
HAVZ				*i* S	Sb	22 05 13.8	-0.9
KVT	**Kavak**	**0.68**	**55**	*e*PG	Pg	22 05 09.6	+0.6
KVT				*e*SG	Sb	22 05 19.5	-0.7
KVT	**Kavak**	**0.68**	**55**	*e*Pg	Pg	22 05 09.6	+0.6
KVT				*e*Sg	Sb	22 05 19.5	-0.7
CORM	**Corum**	**0.73**	**225**	*e*PG	Pb	22 05 10.8	-0.6
CORM				*e*SG	Sb	22 05 21.2	-0.7
CORM	**Corum**	**0.73**	**225**	*e*Pg	Pb	22 05 10.8	-0.6
CORM				*e*Sg	Sb	22 05 21.2	-0.7
DIKM	**Dikmen**	**0.95**	**358**	*e*PG	Pg	22 05 14.3	+0.1
DIKM				*e*SG	Sb	22 05 28.7	+0.6
DIKM	**Dikmen**	**0.95**	**358**	*e*Pg	Pg	22 05 14.3	+0.1
DIKM				*e*Sg	Sb	22 05 28.7	+0.7
TOKA	**Tokat**	**0.96**	**112**	*i* P	Pb	22 05 15.4	+0.1
TOKA				*i* S	Sg	22 05 27.4	+0.3
TOKA	**Tokat**	**0.96**	**112**	*i* P	Pb	22 05 15.4	+0.1
TOKA				*i* S	Sg	22 05 27.4	+0.3
ERBA	**Erbaa**	**1.10**	**90**	*i* P	Pg	22 05 16.8	-0.2
ERBA				*i* S	Sb	22 05 32.4	+0.1
ERBA	**Erbaa**	**1.10**	**90**	*i* P	Pg	22 05 16.8	-0.3
ERBA				*i* S	Sb	22 05 32.4	+0.1
CDAG	**Cicekdag**	**1.29**	**214**	*i* P	Pg	22 05 20.6	-0.2
CDAG				*i* S	Sg	22 05 37.7	+0.1
CDAG	**Cicekdag**	**1.29**	**214**	*i* P	Pg	22 05 20.6	-0.2
CDAG				*i* S	Sg	22 05 37.7	0.0
KAST	**KASTAMONU**	**1.31**	**308**	*i* P	Pn	22 05 20.4	-0.7
KAST				*i* S	Sn	22 05 39.7	+0.6
KAST	**KASTAMONU**	**1.31**	**308**	*i* P	Pn	22 05 20.4	-0.7
KAST				*i* S	Sn	22 05 39.7	+0.6
BBAL	**Bala**	**2.04**	**236**	*i* P	Pg	22 05 34.5	-0.7
BBAL				*i* S	Sg	22 06 01.6	0.0
BBAL	**Bala**	**2.04**	**236**	*i* P	Pg	22 05 34.5	-0.6

TAP 19 22:05:17.9, 24°.79N×122°.20E, h103km, ML3.0, C
JMA 19 22:05:17.9±0.2, 24°.77N×122°.24E, h108km, M2.1
ISCJB 19 22:05:18.2±0.8, 24°.80N±0°.06×122°.23E±0°.03, h100km±6km, Error ellipse: s-maj=10.4km s-min=4.3km az=169.7

ISC 19 22:05:18.6±1.9, 24°79N±0°09×122°23E±0°04, h98km±12km, n26, σ0963/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.31**	**315**	*e*P	**Pn**	**22 05 33.3**	**+0.3**
	baz=311						
TWB1				*e*S	**Sn**	**22 05 43.4**	**-0.3**
	baz=311						
TWC	**Suao**	**0.39**	**243**	P	**Pn**	**22 05 33.1**	**-0.3**
	baz=242						
TWC				S	**Sn**	**22 05 44.2**	**-0.3**
	baz=242						
NWF	**Wu-fen Shan**	**0.50**	**305**	*e*P	**Pn**	**22 05 33.7**	**-0.5**
	baz=300						
TWE	**Neicheng**	**0.52**	**263**	*e*P	**Pn**	**22 05 34.4**	**+0.1**
	baz=265						
TWE				*e*S	**Sn**	**22 05 45.8**	**-0.3**
	baz=265						
ENA	**Nanau**	**0.57**	**231**	P	**Pn**	**22 05 34.9**	**+0.1**
	baz=223						
ENA				*e*S	**

EFP					S		Sg	22 08 29.0	0.0
UPR	**University Cam**	**0.12**	**228**		P		Pg	22 08 28.6	-0.7
UPR	**University Cam**	**0.12**	**228**		P		Pg	22 08 28.6	-0.7
TRIZ	**Trizonia**	**0.13**	**91**		P		Pg	22 08 29.4	-0.1
TRIZ					S		Sg	22 08 32.2	+1.0
TRIZ	**Trizonia**	**0.13**	**91**		P		Pg	22 08 29.4	-0.1
TRIZ					S		Sg	22 08 32.2	+1.0
LAKA	**Lakka**	**0.14**	**155**		P		Pg	22 08 29.3	-0.4
LAKA					S		Sg	22 08 32.5	+0.9
LAKA	**Lakka**	**0.14**	**155**		P		Pg	22 08 29.3	-0.4
LAKA					S		Sg	22 08 32.5	+0.9
KALE	**Kalithea**	**0.19**	**83**		P		Pg	22 08 30.2	-0.4
KALE					S		Sg	22 08 33.5	+0.3
KALE	**Kalithea**	**0.19**	**83**		P		Pg	22 08 30.2	-0.4
KALE					S		Sg	22 08 33.5	+0.3
DSF	**Desfina**	**0.49**	**85**		P		Pg	22 08 35.4	-1.1
DSF					S		Sg	22 08 43.7	+0.8
DSF	**Desfina**	**0.49**	**85**		P		Pg	22 08 35.4	-1.1
DSF					S		Sg	22 08 43.7	+0.8
GUR	**Goura**	**0.55**	**141**		P		Pg	22 08 36.8	-0.9
GUR	**Goura**	**0.55**	**141**		*e*PG		Pg	22 08 36.9	-0.8
GUR					*e*SB		Sg	22 08 45.1	+0.2
GUR	**Goura**	**0.55**	**141**		*e*Pg		Pg	22 08 36.9	-0.8
GUR					*e*Sb		Sg	22 08 45.1	+0.2
EVR	**Evrytania**	**0.55**	**352**		*e*PB		Pg	22 08 37.7	0.0
EVR					*e*SB		Sg	22 08 45.4	+0.4
EVR	**Evrytania**	**0.55**	**352**		*e*Pb		Pg	22 08 37.7	0.0
EVR					*e*Sb		Sg	22 08 45.4	+0.4
MAKR	**Makrakomi, Fth**	**0.67**	**15**		P		Pg	22 08 39.1	-0.7
MAKR					S		Sb	22 08 50.1	-1.1
MAKR	**Makrakomi, Fth**	**0.67**	**15**		P		Pg	22 08 39.1	-0.7
MAKR					S		Sb	22 08 50.1	-1.1
LKR	**Lokris**	**0.91**	**71**		*e*PG		Pg	22 08 42.8	-1.5
LKR					*e*SB		Sg	22 08 55.7	-0.4
LKR	**Lokris**	**0.91**	**71**		*e*Pg		Pg	22 08 42.8	-1.5
LKR					*e*Sb		Sg	22 08 55.7	-0.4
LTK	**Loutraki**	**0.91**	**112**		P		Pg	22 08 43.9	-0.4
LTK	**Loutraki**	**0.91**	**112**		P		Pg	22 08 43.9	-0.4
KFL	**Anninata**	**0.92**	**254**		P		Pg	22 08 43.8	-0.7
KFL					S		Sb	22 08 58.3	+0.2
KFL	**Anninata**	**0.92**	**254**		P		Pg	22 08 43.8	-0.7
KFL					S		Sb	22 08 58.3	+0.2
THL	**Klokotos Trika**	**1.20**	**4**		*e*PB		Pg	22 08 49.8	-0.1
THL					*e*SB		Sg	22 09 05.7	+0.2
THL	**Klokotos Trika**	**1.20**	**4**		*e*Pb		Pg	22 08 49.8	-0.1
THL					*e*Sb		Sg	22 09 05.7	+0.2
DID	**Didima**	**1.36**	**129**		P		Pn	22 08 52.5	-0.5
DID					S		Sb	22 09 11.2	+0.2
DID	**Didima**	**1.36**	**129**		*e*PB		Pn	22 08 52.6	-0.4
DID	**Didima**	**1.36**	**129**		*e*Pb		Pn	22 08 52.6	-0.4

ISCJB ***19*** *22:08:48.1±0.6, 10°.77N±0°.05×62°.45W±0°.03, h86km±8km, Error ellipse: s-maj=8.3km s-min=4.7km az=159.2*
FUNV ***19*** *22:08:51.2, 10°.67N×62°.42W, h74km, MW2.9*
TRN ***19*** *22:08:52.9, 10°.91N×62°.19W, h78km, MD3.1*

ISC 19 22:08:48.0±1.4, 10°.75N±0°.05×62°.41W±0°.04, h92km±10km, n16, σ1°67/27, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**118**	⇑*i*P	**Pn**	**22 09 02.1**	**+0.7**
GUIV				*e*S	**Sn**	**22 09 09.8**	**-1.4**
GUNV	**Guanoco**	**0.78**	**222**	*e*P	**Pn**	**22 09 07.1**	**+1.5**
GUNV				*e*S	**Sn**	**22 09 18.5**	**-0.2**
CRUV	**Carupano**	**0.81**	**265**	⇓*e*P	**Pn**	**22 09 07.1**	**+1.2**
CRUV				*e*S	**Sn**	**22 09 17.5**	**-1.7**
TRN	**Trinidad (W)**	**1.00**	**96**	⇑*e*P	**Pn**	**22 09 09.7**	**+1.9**
TRN				*e*S	**Sn**	**22 09 22.3**	**-0.4**
TBH	**Brigand Hill**	**1.35**	**101**	*e*P	**Pn**	**22 09 13.5**	**+1.5**
TBH				*e*S	**Sn**	**22 09 29.8**	**-0.4**
GRW	**Mount Saint Ca**	**1.59**	**28**	*e*P	**Pn**	**22 09 15.4**	**+0.3**
GRW				*e*S	**Sn**	**22 09 33.1**	**-2.4**
GRHS	**Sauteurs**	**1.65**	**27**	*e*P	**Pn**	**22 09 18.0**	**+2.2**
GRHS				*e*S	**Sn**	**22 09 35.1**	**-1.8**
GRSS	**Sisters**	**1.73**	**27**	*e*P	**Pn**	**22 09 18.7**	**+1.8**
TOSP	**Speyside**	**1.92**	**73**	*e*P	**Pn**	**22 09 20.9**	**+1.6**
TOSP				*e*S	**Sn**	**22 09 40.6**	**-2.5**
PCRV	**Puerto La Cruz**	**2.26**	**256**	*e*P	**Pn**	**22 09 25.8**	**+2.0**
PCRV				*e*S	**Sn**	**22 09 49.6**	**-1.6**
RIOV	**Rio Grande**	**2.73**	**167**	*e*P	**Pn**	**22 09 31.6**	**+1.6**
GURV	**El Guri**	**3.04**	**193**	*e*P	**Pn**	**22 09 34.5**	**+0.3**
CUPV	**Cœpira**	**3.39**	**259**	*e*P	**Pn**	**22 09 41.1**	**+2.1**
CUPV				*e*S	**Sn**	**22 10 16.7**	**-1.7**
BIRV	**Birongo**	**3.80**	**266**	*e*P	**Pn**	**22 09 46.3**	**+1.9**
BIRV				*e*S	**Sn**	**22 10 26.6**	**-1.5**
LUEV	**Luepa**	**4.96**	**169**	*e*P	**Pn**	**22 10 00.2**	**-0.2**
BAUV	**El Baul**	**5.83**	**253**	*e*P	**Pn**	**22 10 12.5**	**+0.4**

NIED ***19*** *22:11:00, 47°.00N×153°.10E, h32km, Mw4.2 Best double couple: M0 1.89000×10^15 NP1:φ=304.00000°, δ=88.00000°, λ=15.00000°. NP2:φ=213.00000°, δ=75.00000°, λ=178.00000°.*
JMA ***19*** *22:11:16.6±0.6, 47°.01N×153°.12E, h30km, M4.7*
SKHL ***19*** *22:11:16.6±0.7, 46°.83N×153°.45E, h59km±17km, mb5.0/5*
ISCJB ***19*** *22:11:17.5±0.8, 46°.93N±0°.06×152°.93E±0°.08, h52km±6km, mb4.5/46, MS4.5/1, Error ellipse: s-maj=12.7km s-min=4.8km az=136.0*
MOS ***19*** *22:11:17.2±1.0, 47°.01N×152°.95E, h49km, mb4.6/12, Error ellipse: s-maj=9.9km s-min=7.1km az=72.8*
IDC ***19*** *22:11:19.0±0.7, 46°.96N×152°.82E, h50km±6km, mb3.8/23, mb1 4.0/26, mb1mx4.0/31, mbtmp3.8/26, MS3.4/3, Ms1 3.4/3, ms1mx2.9/58, Error ellipse: s-maj=16.8km s-min=10.8km az=147.0*
NEIC ***19*** *22:11:20.6±0.9, 46°.97N×152°.91E, h64km±8km, mb4.7/13, Error ellipse: s-maj=12.6km s-min=5.6km az=141.0*

ISC 19 22:11:18.8±0.6, 46°.85N±0°.08×152°.98E±0°.06, h54km±5km, h53km:pP-P, n201, σ1°21/208, mb4.4/46, 10C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**247**	⇑*i*PN	**Pn**	**22 12 18.1**	**+1.8**
KUR				*e*S	**Sn**	**22 13 04.0**	**+3.1**
KUR	comp=Z,240nm,0.8s			pmax	pmax		
KUR	comp=N,900nm,0.8s			smax	smax		
KUR	comp=E,590nm,0.8s			smax	smax		
KUR	**Kuril'sk**	**3.91**	**247**	⇑*i*P	**Pn**	**22 12 18.1**	**+1.8**
KUR				AMB	AMB	22 12 18.9	
KUR	comp=E,240nm,0.8s			*e*S	**Sn**	**22 13 04.0**	**+3.1**
KUR				A	A	22 13 23.2	
KUR	comp=E,900nm,0.8s			A	A	22 13 23.2	
KUR	comp=E,590nm,0.8s			A	A	22 13 23.2	
SKR	**Severo-Kuril's**	**4.36**	**27**	*e*PN	Pn	22 12 18.5	-4.0
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	**Severo-Kuril's**	**4.36**	**27**	*e*P	Pn	22 12 18.5	-4.0
SKR	comp=Z,80nm,0.5s			AMB	AMB	22 12 20.5	
SKR				*e*S	Sn	22 13 05.5	-6.5
SKR	comp=Z,290nm,0.3s			A	A	22 13 11.5	
SKR	comp=Z,240nm,0.3s			A	A	22 13 11.5	
SKR	comp=Z,90nm,0.3s			A	A	22 13 11.5	
YUK	**Yuzh-Kuril'sk**	**5.75**	**243**	*d i*PN	Pn	22 12 43.9	+2.5
YUK				*e*S	**Sn**	**22 13 49.0**	**+3.1**
YUK	comp=Z,262nm,0.2s			pmax	pmax		
YUK	comp=E,96nm,0.2s			pmax	pmax		
YUK	comp=N,74nm,0.1s			pmax	pmax		
YUK	comp=N,226nm,0.4s			smax	smax		
YUK	comp=E,552nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**5.75**	**243**	⇓*i*P	Pn	22 12 44.0	+2.5
YUK				AMB	AMB	22 12 47.4	
YUK	comp=E,340nm,0.2s			*e*S	**Sn**	**22 13 49.1**	**+3.1**
YUK				A	A	22 14 12.1	
YUK	comp=E,350nm,0.5s			A	A	22 14 12.1	
	comp=E,530nm,0.5s						
NEM2	**Nemuro 2**		**6.19**	**238**	P	**Pn**	**22 12 47.4**	**-0.2**
NEM2					*e*S	**Sn**	**22 13 54.9**	**-2.1**
JNK	**Nakash**		**6.68**	**244**	P	**Pn**	**22 12 56.0**	**+1.7**
PEA0B	**Petropavlovsk-**		**6.97**	**24**	*e*Pn	**Pn**	**22 12 59.2**	**+1.1**
PEA0B					*e*Sn	**Sn**	**22 14 16.6**	**+0.7**
PETK	**Petropavlovsk-**		**6.97**	**24**	P	**Pn**	**22 12 58.1**	**0.0**
PETK	comp=E,0.7nm,0.3s,baz=182,slow=14,SNR=14				LR	LR	22 15 34.2	
	comp=E,69nm,20.0s,baz=291,slow=37							
PETK	**Petropavlovsk-**		**6.97**	**24**	PN	**Pn**	**22 12 58.1**	**0.0**
PETK	**Petropavlovsk-**		**6.97**	**24**	P	**Pn**	**22 12 58.1**	**0.0**
JTKR	**Abashiri--Toko**		**7.00**	**249**	P	Pn	22 13 01.1	+2.4
YSS	**Yuzh-Sakhalins**		**7.01**	**275**	*e*PN	Pn	22 13 03.7	+5.0
YSS	**Yuzh-Sakhalins**		**7.01**	**275**	*e*P	Pn	22 13 03.7	+5.0
JAK	**Akkeshi**		**7.03**	**240**	P	**Pn**	**22 12 58.6**	**-0.4**
JAK					*e*S	**Sn**	**22 14 14.6**	**-2.9**
JMP	**Maruseppu**		**7.34**	**251**	P	Pn	22 13 06.9	+3.6
JAR	**Ashorobuto**		**7.42**	**245**	P	**Pn**	**22 13 06.2**	**+1.8**
JAR					*e*S	**Sn**	**22 14 29.0**	**+1.8**
JOB	**Onbets**		**7.60**	**242**	P	**Pn**	**22 13 07.5**	**+0.7**
ASAJ	**Asahikawa**		**7.79**	**253**	P	Pn	22 13 13.3	+3.8
	comp=E,3.5nm,0.3s,baz=46,slow=12,SNR=11							
ASAJ					LR	LR	22 15 51.2	
	comp=E,145nm,19.1s,baz=17,slow=35							
ASAJ	**Asahikawa**		**7.79**	**253**	PN	Pn	22 13 13.3	+3.8
ASAJ	comp=Z,4.0nm,0.3s				pmax	pmax		
ASAJ	comp=Z,145nm,19.1s				MLR	MLR		
ASAJ	**Asahikawa**		**7.79**	**253**	P	Pn	22 13 13.3	+3.8
ASAJ	**Asahikawa**		**7.79**	**253**	P	Pn	22 13 13.5	+4.0
JKK2	**Kamakawa 2**		**7.80**	**251**	P	Pn	22 13 12.8	+3.2
JWK2	**Keihoku**		**7.86**	**263**	P	Pn	22 13 16.8	+6.4
TYV	**Tymovskoe**		**7.91**	**304**	*e*P	**Pn**	**22 13 13.2**	**+2.2**
TYV	comp=Z,11nm,0.8s				AMB	AMB	22 13 15.0	
TYV	comp=Z,22nm,1.0s				AMB	AMB	22 13 15.0	
TYV	comp=Z,26nm,1.0s				AMB	AMB	22 13 15.0	
JCH	**Churui**		**8.05**	**242**	P	**Pn**	**22 13 12.9**	**-0.1**
JCH					*e*S	**Sn**	**22 14 38.7**	**-3.8**
JFR	**Furan**		**8.23**	**247**	P	Pn	22 13 17.9	+2.4
JEM	**Erimo**		**8.53**	**239**	*e*S	**Sn**	**22 14 51.8**	**-2.4**
ERM	**Erimo**		**8.53**	**239**	*e*PN	**Pn**	**22 13 21.7**	**+2.2**
ERM	**Erimo**		**8.53**	**239**	*e*P	**Pn**	**22 13 21.7**	**+2.2**
JBT2	**Biratori 2**		**8.57**	**246**	P	**Pn**	**22 13 21.4**	**+1.2**
JBT2					*e*S	**Sn**	**22 14 56.3**	**+0.9**
JNBK	**Urakawa-nobuka**		**8.61**	**242**	P	**Pn**	**22 13 20.0**	**-0.7**
JNBK					*e*S	**Sn**	**22 14 52.6**	**-3.7**
JNB	**Noboribetsu**		**9.57**	**247**	P	**Pn**	**22 13 34.9**	**+1.1**
JNB					*e*S	**Sn**	**22 15 19.1**	**-0.7**
JKB	**Kayabe**		**9.89**	**244**	P	**Pn**	**22 13 37.8**	**-0.3**
JKB					*e*S	**Sn**	**22 15 22.2**	**-5.3**
JSH	**Shimam**		**10.12**	**250**	P	**Pn**	**22 13 43.0**	**+1.7**
NKL	**Nikolayevsk**		**10.12**	**313**	*e*P	**Pn**	**22 13 39.0**	**-2.2**
NKL	comp=Z,10.0nm,1.0s				AMB	AMB	22 13 41.8	
NKL	comp=Z,20nm,1.0s				AMB	AMB	22 13 41.8	
JYM2	**Yakumo 2**		**10.18**	**247**	P	**Pn**	**22 13 42.3**	**+0.2**
JTM	**Tenmabayashi**		**10.52**	**239**	P	**Pn**	**22 13 44.6**	**-2.2**
JTM					*e*S	Sn	22 15 34.6	-8.5
JANG	**Nango**		**10.53**	**236**	P	Pn	22 13 43.5	-3.4
JANG					*e*S	Sn	22 15 33.3	-10
JTH	**Tanohata**		**10.63**	**233**	*e*S	Sn	22 15 36.0	-10
OFUJ	**Ofunato**		**11.35**	**231**	*e*S	Sn	22 15 54.1	-9.2
JRG	**Rokugo**		**11.69**	**235**	P	**Pn**	**22 14 00.7**	**-2.1**
JIO	**Ouri**		**11.98**	**230**	*e*S	Sn	22 16 09.2	-9.4
HABR	**Khabarovsk**		**12.20**	**284**	*e*PN	**Pn**	**22 14 09.1**	**-0.6**
HABR					*e*		22 16 27.2	
HABR	comp=N,81nm,2.6s				pmax	pmax		
HABR	comp=Z,66nm,2.6s				pmax	pmax		
HABR	comp=E,107nm,2.6s				pmax	pmax		
HABR	comp=Z,68nm,17.0s				MLR	MLR		
KLR	**Kul'dur**		**14.40**	**287**	*e*P	**P**	**22 14 46.9**	**+1.9**
USRK	**Ussuriysk Arra**		**14.94**	**267**	P	**Pn**	**22 14 47.4**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=73,slow=11,SNR=18							
MAJO	**Matsushiro**		**15.07**	**232**	*e*P	**Pn**	**22 14 47.6**	**-0.7**
MAJO	**Matsushiro**		**15.07**	**232**	*e*Pn	**Pn**	**22 14 47.5**	**-0.7**
MJAR	**Matsushiro Arr**		**15.07**	**232**	P	**Pn**	**22 14 49.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=28,slow=16,SNR=3.5							
MJAR	**Matshiro Arr**		**15.07**	**232**	P	**Pn**	**22 14 49.2**	**+0.9**
MJAR	**Matsushiro Arr**		**15.07**	**232**	P	**Pn**	**22 14 49.2**	**+0.9**
KSRS	**Korea Array**		**20.74**	**252**	P	Pn	22 15 56.6	-1.0
	comp=Z,2.4nm,0.5s,baz=53,slow=11,SNR=8.4							
KSRS	**Korea Array**		**20.74**	**252**	P	Pn	22 15 56.7	-1.0
KSRS	comp=Z,2.0nm,0.5s				pmax	pmax		
KSAR	**Wonju Array Be**		**20.77**	**252**	P	Pn	22 15 56.7	-1.4
KSAR	**Wonju Array Be**		**20.77**	**252**	P	Pn	22 15 56.6	-1.4
SONM	**Songino Array**		**31.22**	**289**	P	**P**	**22 17 32.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=133,slow=6.5,SNR=4.1							
SONM	**Songino Array**		**31.22**	**289**	P	**P**	**22 17 32.3**	**-0.7**
SONM	**Songino Array**		**31.22**	**289**	P	**P**	**22 17 32.3**	**-0.7**
ILAR	**Eielson Array**		**36.53**	**39**	P	**P**	**22 18 18.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=265,slow=8.6,SNR=17							
ILAR					pP	**pP**	**22 18 31.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=302,slow=8.0,SNR=3.7							
ILAR	**Eielson Array**		**36.53**	**39**	P	**P**	**22 18 18.8**	**+0.1**
ILAR					*PP	**pP**	**22 18 31.8**	**-0.7**
ILAR	**Eielson Array**		**36.53**	**39**	P	**P**	**22 18 18.8**	**+0.1**
ILAR					pP	**pP**	**22 18 31.8**	**-0.7**
LZH	**Lanzhou**		**37.80**	**272**	*e*P	**P**	**22 18 31.8**	**+1.9**
LZH	comp=Z,18nm,1.3s				pmax	pmax		
GTA	**Gaotai**		**38.87**	**279**	*e*P	P	22 18 43.9	+5.0
GTA	comp=Z,3.0nm,0.8s				pmax	pmax		
INK	**Inuvik**		**41.62**	**32**	P	**P**	**22 19 02.0**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=285,slow=7.9,SNR=13							
INK	**Inuvik**		**41.62**	**32**	P	**P**	**22 19 02.0**	**+1.0**
INK	comp=Z,2.0nm,0.5s				pmax	pmax		
INK	**Inuvik**		**41.62**	**32**	*e*P	**P**	**22 19 01.7**	**+0.7**
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**		**42.48**	**306**	P	**P**	**22 19 07.0**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=63,slow=6.8,SNR=5.2							
ZALV					PcP	**PcP**	**22 21 00.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=42,slow=2.5,SNR=6.0							
ZALV	**Zalesovo Beam**		**42.48**	**306**	P	**P**	**22 19 07.0**	**-1.3**
ZALV							22 21 00.4	
ZALV	**Zalesovo Beam**		**42.48**	**306**	P	**P**	**22 19 07.0**	**-1.3**
ZALV					PcP	**PcP**	**22 21 00.4**	**+0.2**
MK31	**Makanchi Array**		**46.82**	**297**	*e*P	**P**	**22 19 42.1**	**-0.9**
MK31	**Makanchi Array**		**46.82**	**297**	*e*P	**P**	**22 19 42.1**	**-0.9**
MKAR	**Makanchi Array**		**46.82**	**297**	P	**P**	**22 19 42.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=63,slow=6.6,SNR=17							
MKAR					PcP	**PcP**	**22 21 15.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=64,slow=2.2,SNR=6.4							
MKAR	**Makanchi Array**		**46.82**	**297**	*ce*P	P	22 19 50.7	+7.7
MKAR	**Makanchi Array**		**46.82**	**297**	P	**P**	**22 19 42.6**	**-0.4**
MKAR					PcP	**PcP**	**22 21 15.4**	**+0.1**
KURK	**Kurchatov**		**47.24**	**304**	P	**P**	**22 19 45.1**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=69,slow=8.2,SNR=6.9							
KURK	**Kurchatov**		**47.24**	**304**	*e*P	**P**	**22 19 46.2**	**+0.1**
KURK	comp=Z,8.0nm,2.5s				pmax	pmax		
KURK	**Kurchatov**		**47.24**	**304**	*e*P	**P**	**22 19 45.1**	**-1.0**
	comp=Z,1.7nm,0.4s							
LSA	**Lhasa**		**50.18**	**273**	*e*P	**P**	**22 20 10.3**	**+0.7**
LSA	comp=Z,3.0nm,0.6s				pmax	pmax		
LSA	**Lhasa**		**50.18**	**273**	*e*P	**P**	**22 20 10.3**	**+0.7**
	comp=Z,3.3nm,0.6s							
BVAR	**Borovoye Array**		**50.73**	**309**	P	**P**	**22 20 11.3**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=49,slow=7.9,SNR=11							
BVAR					PcP	**PcP**	**22 21 29.5**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=56,slow=1.8,SNR=8.4							
BVAR	**Borovoye Array**		**50.73**	**309**	P	**P**	**22 20 11.3**	**-1.5**
BVAR							22 21 29.5	
BVAR	**Borovoye Array**		**50.73**	**309**	P	**P**	**22 20 11.3**	**-1.5**
BVAR					PcP	**PcP**	**22 21 29.5**	**+0.2**
RES	**Resolute Bay**		**50.77**	**19**	P	**P**	**22 20 13.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=282,slow=5.0,SNR=8.2							
RES	**Resolute Bay**		**50.77**	**19**	P	**P**	**22 20 13.4**	**+0.6**
RES	**Resolute Bay**		**50.77**	**19**	P	**P**	**22 20 13.4**	**+0.6**
YKA	**Yellowknife Ar**		**50.90**	**37**	P	**P**	**22 20 14.7**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=296,slow=7.2,SNR=29							
YKA					pP	**pP**	**22 20 28.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=297,slow=7.1,SNR=8.9							
YKA					PcP	**PcP**	**22 21 29.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.7,SNR=4.0							
YKA	**Yellowknife Ar**		**50.90**	**37**	P	**P**	**22 20 14.7**	**+0.7**
YKA					*PP	**pP**	**22 20 28.3**	**0.0**
YKA							22 21 29.9	
YKA	**Yellowknife Ar**		**50.90**	**37**	P	**P**	**22 20 14.7**	**+0.7**
YKA					pP	**pP**	**22 20 28.3**	**0.0**
YKA					PcP	**PcP**	**22 21 29.9**	**+0.2**
CHTO	**Chiang Mai**		**52.05**	**256**	*e*P	**P**	**22 20 23.3**	**+0.1**
CHTO	comp=Z,2.0nm,0.7s				pmax	pmax		
CHTO	**Chiang Mai**		**52.05**	**256**	*e*P	**P**	**22 20 23.3**	**+0.1**
	comp=Z,2.4nm,0.7s							
CMAR	**Chiang Mai Arr**		**52.31**	**256**	P	**P**	**22 20 24.6**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=40,slow=7.0,SNR=15							
CMAR	**Chiang Mai Arr**		**52.31**	**256**	P	**P**	**22 20 24.6**	**-0.5**
CMAR	**Chiang Mai Arr**		**52.31**	**256**	P	**P**	**22 20 24.6**	**-0.5**
TAPN	**Taplejung**		**54.00**	**273**	*e*P	**P**	**22 20 38.9**	**+1.1**
	comp=Z,9.3nm,0.7s							
TAPN	**Taplejung**		**54.00**	**273**	*e*P	**P**	**22 20 38.9**	**+1.1**
	comp=Z,9.3nm,0.7s							
ODAN	**Odare**		**54.53**	**273**	*e*P	**P**	**22 20 43.3**	**+1.7**
ODAN	**Odare**		**54.53**	**273**	*e*P	**P**	**22 20 43.3**	**+1.7**
JIRN	**Jiri**		**54.85**	**274**	*e*P	**P**	**22 20 44.7**	**+0.7**
	comp=Z,14nm,0.5s							
JIRN	**Jiri**		**54.85**	**274**	*e*P	**P**	**22 20 44.7**	**+0.7**
	comp=Z,14nm,0.5s							
GUN	**Gumba**		**54.90**	**275**	*e*P	**P**	**22 20 45.6**	**+1.2**
	comp=Z,6.1nm,0.4s							
GUN	**Gumba**		**54.90**	**275**	*e*P	**P**	**22 20 45.6**	**+1.2**
	comp=Z,6.1nm,0.4s							
RAMN	**Ramite**		**55.02**	**273**	*e*P	**P**	**22 20 46.1**	**+1.0**
RAMN	**Ramite**		**55.02**	**273**	*e*P	**P**	**22 20 46.1**	**+1.0**
KKN	**Kakani**		**55.39**	**275**	*e*P	**P**	**22 20 49.4**	**+1.7**
	comp=Z,11nm,0.6s							
KKN	**Kakani**		**55.39**	**275**	*e*P	**P**	**22 20 49.4**	**+1.7**
KKN	comp=Z,11nm,0.6s				pmax	pmax		
KKN	**Kakani**		**55.39**	**275**	*e*P	**P**	**22 20 49.4**	**+1.7**
	comp=Z,11nm,0.6s							
PKI	**Pulchoki**		**55.44**	**275**	*e*P	**P**	**22 20 48.9**	**+0.7**
PKI	**Pulchoki**		**55.44**	**275**	*e*P	**P**	**22 20 48.9**	**+0.7**
PKI	**Pulchoki**		**55.44**	**275**	*e*P	**P**	**22 20 48.9**	**+0.7**
DMN	**Daman**		**55.62**	**275**	*e*P	**P**	**22 20 50.5**	**+1.0**
DMN	**Daman**		**55.62**	**275**	*e*P	**P**	**22 20 50.5**	**+1.0**
GKN	**Gorkha**		**55.69**	**276**	*e*P	**P**	**22 20 51.0**	**+1.2**
	comp=Z,8.5nm,0.5s							
GKN	**Gorkha**		**55.69**	**276**	*e*P	**P**	**22 20 51.0**	**+1.2**
	comp=Z,8.5nm,0.5s							
DANN	**Dangsing**		**56.07**	**277**	*e*P	**P**	**22 20 54.1**	**+1.4**
DANN	**Dangsing**		**56.07**	**277**	*e*P	**P**	**22 20 54.1**	**+1.4**
KOLN	**Koldanda**		**56.55**	**276**	*e*P	**P**	**22 20 57.1**	**+1.1**
	comp=Z,8.7nm,0.7s							
KOLN	**Koldanda**		**56.55**	**276**	*e*P	**P**	**22 20 57.1**	**+1.1**
	comp=Z,8.7nm,0.6s							
ARCES	**ARCESS Array B**		**57.73**	**341**	P	**P**	**22 21 03.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=18,slow=7.0,SNR=11							
ARCES	**ARCESS Array B**		**57.73**	**341**	P	**P**	**22 21 03.6**	**+0.1**
ARCES	**ARCESS Array B**		**57.73**	**341**	P	**P**	**22 21 03.6**	**+0.1**
ABKAR	**Akbulak array**		**58.30**	**310**	*e*P	**P**	**22 21 06.0**	**-1.7**
	comp=Z,0.9nm,0.4s							
KAPI	**Kappang**		**59.41**	**219**	*e*Pn	**P**	**22 21 12.9**	**-2.9**
	comp=Z,15nm,0.3s							
SUMG	**Summit**		**60.61**	**4**	*i* P	**P**	**22 21 23.7**	**-0.1**
SUMG	comp=Z,10.0nm,0.8s				pmax	pmax		
SUMG	**Summit**		**60.61**	**4**	*i* P	**P**	**22 21 23.7**	**-0.1**
	comp=Z,9.7nm,0.8s							
JOF	**Joensuu**		**61.21**	**334**	*e*P	**P**	**22 21 25.6**	**-1.9**
JOF	comp=Z,2.0nm,0.5s				pmax	pmax		
JOF	**Joensuu**		**61.21**	**334**	*ep*	**P**	**22 21 25.6**	**-1.9**
	comp=Z,1.7nm,0.5s							
JOF	**Joensuu**		**61.21**	**334**	*ep*	**P**	**22 21 25.6**	**-1.9**
	comp=Z,1.7nm,0.5s							
KBL	**Kabul**		**61.95**	**292**	*e

TXAR				pP	pP	22 23 24.0	-0.1	
ZST	**Bratislava**	**77.83**	**332**	*e*P	P	22 23 10.3	+0.1	
ZST				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ZST	**Bratislava**	**77.83**	**332**	*e*P	P	22 23 10.3	+0.1	
SADO	**Sadowa**	**77.86**	**35**	LR	LR	22 57 31.1		
	comp=Z,249nm,20.7s,baz=54,slow=36							
KHC	**Kasperske Hory**	**78.11**	**334**	*e*P	P	22 23 12.0	+0.2	
KHC	**Kasperske Hory**	**78.11**	**334**	*e*P	P	22 23 12.0	+0.2	
BR131	**Keskin Array S**	**78.26**	**317**	*e*P	P	22 23 12.1	-0.8	
	comp=Z,1.3nm,0.8s							
BRTR	**Keskin Array B**	**78.26**	**317**	P	P	22 23 13.4	+0.6	
	comp=Z,1.6nm,0.8s,baz=60,slow=4.6,SNR=9.7							
BRTR	**Keskin Array B**	**78.26**	**317**	P	P	22 23 13.5	+0.6	
BRTR	**Keskin Array B**	**78.26**	**317**	P	P	22 23 13.4	+0.6	
GERES	**GERESS Array B**	**78.33**	**334**	P	P	22 23 13.0	-0.1	
	comp=Z,0.9nm,0.5s,baz=30,slow=5.4,SNR=9.6							
GERES	**GERESS Array B**	**78.33**	**334**	P	P	22 23 13.0	-0.1	
GERES	**GERESS Array B**	**78.33**	**334**	P	P	22 23 13.0	-0.1	
BZS	**Buzias**	**78.48**	**327**	⇑P	P	22 23 13.9	+0.1	
BZS	**Buzias**	**78.48**	**327**	⇑*i*P	P	22 23 13.9	+0.1	
UMR	**Umm Al-Rimmam**	**78.50**	**301**	*e*P	P	22 23 14.5	+0.3	
UMR				AMb	AMB	22 23 15.8		
	comp=Z,28nm,0.6s							
MIB	**Mutribah**	**78.54**	**301**	*e*P	P	22 23 14.9	+0.5	
MIB				AMb	AMB	22 23 15.8		
	comp=Z,37nm,0.7s							
NAY	**Al-Naaiem**	**79.00**	**301**	*e*P	P	22 23 17.4	+0.4	
NAY				AMb	AMB	22 23 17.8		
	comp=Z,15nm,1.0s							
VTS	**Vitosha**	**80.44**	**325**	⇓*i*P	P	22 23 25.0	+0.3	

ISK ***19*** *22:11:54.7, 40.70N×35.30E, h12km, MD2.9*
DDA ***19*** *22:11:55.1, 40.70N×35.28E, h13km, ML3.1*
CSEM ***19*** *22:11:55.3±0.1, 40.70N×35.30E, h5km, ML3.1, Error ellipse: s-maj=3.6km s-min=2.9km az=163.0*

ISC 19 22:11:55.5±0.9, 40.70N±0.02×35.31E±0.02, h14km±8km, n49, σ0s40/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.40**	**260**	*i* P		**Pg**	**22 12 03.2**	**-0.3**
CTKT				*i* S		**Sg**	**22 12 09.3**	**+0.3**
CTKT	**Corum**	**0.40**	**260**	*i* P		**Pg**	**22 12 03.2**	**-0.3**
CTKT				*i* S		**Sg**	**22 12 09.3**	**+0.3**
HAVZ	**Havza**	**0.49**	**39**	*i* P		**Pg**	**22 12 05.3**	**+0.1**
HAVZ				*i* S		**Sg**	**22 12 12.5**	**+0.7**
HAVZ	**Havza**	**0.49**	**39**	*i* P		**Pg**	**22 12 05.3**	**+0.1**
HAVZ				*i* S		**Sg**	**22 12 12.5**	**+0.7**
KVT	**Kavak**	**0.68**	**55**	PG		**Pg**	**22 12 08.6**	**-0.2**
KVT				*e*SG		**Sg**	**22 12 17.3**	**-0.5**
KVT	**Kavak**	**0.68**	**55**	*i* Pg		**Pg**	**22 12 08.6**	**-0.2**
KVT				*e*Sg		**Sg**	**22 12 17.3**	**-0.5**
CORM	**Corum**	**0.73**	**225**	*e*PG		**Pg**	**22 12 09.6**	**-0.1**
CORM				*e*SG		**Sb**	**22 12 19.9**	**0.0**
CORM	**Corum**	**0.73**	**225**	*e*Pg		**Pg**	**22 12 09.6**	**-0.1**
CORM				*e*Sg		**Sb**	**22 12 19.9**	**0.0**
DIKM	**Dikmen**	**0.95**	**358**	*e*PG		**Pb**	**22 12 13.2**	**-0.6**
DIKM				*e*SG		**Sb**	**22 12 26.9**	**+0.5**
DIKM	**Dikmen**	**0.95**	**358**	*e*Pg		**Pb**	**22 12 13.2**	**-0.6**
DIKM				*e*Sg		**Sb**	**22 12 26.9**	**+0.5**
TOKA	**Tokat**	**0.97**	**112**	*i* P		**Pg**	**22 12 14.2**	**0.0**
TOKA				*i* S		**Sn**	**22 12 28.0**	**-0.3**
TOKA	**Tokat**	**0.97**	**112**	*i* P		**Pg**	**22 12 14.2**	**0.0**
TOKA				*i* S		**Sn**	**22 12 28.0**	**-0.3**
TOS	**Tosya**	**1.03**	**290**	*e*PG		**Pb**	**22 12 14.8**	**-0.4**
TOS	**Tosya**	**1.03**	**290**	*e*Pg		**Pb**	**22 12 14.8**	**-0.4**
YOZ	**Yozgat**	**1.05**	**179**	*e*PG		**Pb**	**22 12 15.2**	**-0.4**
YOZ	**Yozgat**	**1.05**	**179**	*e*Pg		**Pb**	**22 12 15.2**	**-0.4**
ERBA	**Erbaa**	**1.10**	**90**	*i* P		**Pb**	**22 12 15.6**	**-0.8**
ERBA				*i* S		**Sg**	**22 12 31.1**	**0.0**
ERBA	**Erbaa**	**1.10**	**90**	*i* P		**Pb**	**22 12 15.6**	**-0.8**
ERBA				*i* S		**Sg**	**22 12 31.1**	**0.0**
CANT	**Cankiri**	**1.29**	**267**	*e*PN		**Pn**	**22 12 18.7**	**-0.4**
CDAG	**Cicekdag**	**1.29**	**214**	*i* P		**Pn**	**22 12 19.2**	**0.0**
CDAG				*i* S		**Sn**	**22 12 36.4**	**+0.1**
CDAG	**Cicekdag**	**1.29**	**214**	*i* P		**Pn**	**22 12 19.2**	**0.0**
CDAG				*i* S		**Sn**	**22 12 36.4**	**+0.1**
KAST	**KASTAMONU**	**1.31**	**308**	*i* P		**Pb**	**22 12 19.7**	**-0.2**
KAST				*i* S		**Sg**	**22 12 38.1**	**+0.4**
KAST	**KASTAMONU**	**1.31**	**308**	*i* P		**Pb**	**22 12 19.7**	**-0.2**
KAST				*i* S		**Sg**	**22 12 38.1**	**+0.4**
ELDT	**Eldivan**	**1.45**	**262**	*i* P		**Pb**	**22 12 21.9**	**-0.4**
ELDT				*i* S		**Sg**	**22 12 41.6**	**-0.5**
ELDT	**Eldivan**	**1.45**	**262**	*i* P		**Pb**	**22 12 21.9**	**-0.4**
ELDT				*i* S		**Sg**	**22 12 41.6**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.57**	**100**	*e*PN		**Pn**	**22 12 23.3**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.57**	**100**	*e*Pn		**Pn**	**22 12 23.3**	**+0.3**
BZK	**Bozkurt**	**1.60**	**323**	*e*PN		**Pn**	**22 12 23.5**	**+0.1**
BZK	**Bozkurt**	**1.60**	**323**	*e*Pn		**Pn**	**22 12 23.5**	**+0.1**
SCER	**sogukcermik**	**1.62**	**120**	*i* P		**Pg**	**22 12 26.3**	**-0.4**
SCER				*i* S		**Sg**	**22 12 48.8**	**+1.0**
SCER	**sogukcermik**	**1.62**	**120**	*i* P		**Pg**	**22 12 26.3**	**-0.4**
BALT	**Daday**	**1.68**	**301**	*i* P		**Pb**	**22 12 26.4**	**+0.2**
BALT				*i* S		**Sg**	**22 12 49.3**	**-0.2**
BALT	**Daday**	**1.68**	**301**	*i* P		**Pb**	**22 12 26.4**	**+0.2**
BALT				*i* S		**Sg**	**22 12 49.3**	**-0.2**
KAMT	**Kaman**	**1.80**	**223**	*e*PN		**Pn**	**22 12 26.6**	**+0.3**
KAMT	**Kaman**	**1.80**	**223**	*e*Pn		**Pn**	**22 12 26.6**	**+0.3**
BNN	**Bunyan**	**1.89**	**167**	*e*PN		**Pn**	**22 12 27.8**	**+0.3**
BNN	**Bunyan**	**1.89**	**167**	*e*Pn		**Pn**	**22 12 27.8**	**+0.3**
AVNT	**Avonos**	**1.94**	**190**	*i* P		**Pb**	**22 12 31.0**	**+0.2**
AVNT				*i* S		**Sg**	**22 12 58.2**	**+0.2**
AVNT	**Avonos**	**1.94**	**190**	*i* P		**Pb**	**22 12 31.0**	**+0.2**
BBAL	**Bala**	**2.03**	**236**	*i* P		**Pb**	**22 12 32.0**	**-0.3**
BBAL				*i* S		**Sg**	**22 13 00.5**	**-0.3**
BBAL	**Bala**	**2.03**	**236**	*i* P		**Pb**	**22 12 32.0**	**-0.3**
SAFT	**Safranbolu**	**2.06**	**286**	*e*PN		**Pn**	**22 12 30.1**	**+0.4**
SAFT	**Safranbolu**	**2.06**	**286**	*e*Pn		**Pn**	**22 12 30.1**	**+0.4**
LOD	**Lodumlu**	**2.10**	**248**	*e*PN		**Pn**	**22 12 30.7**	**+0.3**
LOD	**Lodumlu**	**2.10**	**248**	*e*Pn		**Pn**	**22 12 30.7**	**+0.3**
AFSR	**Af ar-Bala (A**	**2.12**	**235**	*e*PN		**Pn**	**22 12 31.0**	**+0.4**
AFSR	**Af ar-Bala (A**	**2.12**	**235**	*e*Pn		**Pn**	**22 12 31.0**	**+0.4**
SULT	**Sultanhani-AKS**	**2.85**	**210**	*e*PN		**Pn**	**22 12 41.4**	**+0.7**
SULT	**Sultanhani-AKS**	**2.85**	**210**	*e*Pn		**Pn**	**22 12 41.4**	**+0.7**

ISK ***19*** *22:16:26.8, 39.49N×27.56E, h9km, MD2.9*
ISCJB ***19*** *22:16:27.2±0.4, 39.51N±0.02×27.54E±0.03, h3km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=4.5*
DDA ***19*** *22:16:27.3, 39.52N×27.54E, h7km, ML2.9*
CSEM ***19*** *22:16:27.6±0.1, 39.51N×27.55E, h8km, ML2.9, Error ellipse: s-maj=2.6km s-min=2.1km az=84.0*

ISC 19 22:16:27.6±0.9, 39.50N±0.02×27.55E±0.02, h10km±9km, n54, σ0s39/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.24**	**13**	*i* P		**Pg**	**22 16 32.5**	**-0.1**
BALY				*i* S		**Sg**	**22 16 36.2**	**+0.2**
BALY	**Balya**	**0.24**	**13**	*i* P		**Pg**	**22 16 32.5**	**-0.1**
BALY				*i* S		**Sg**	**22 16 36.2**	**+0.2**
BALB	**Balikesir**	**0.29**	**62**	*e*PG		**Pg**	**22 16 33.4**	**-0.1**
BALB				*e*SG		**Sg**	**22 16 37.5**	**+0.2**
BALB	**Balikesir**	**0.29**	**62**	*e*Pg		**Pg**	**22 16 33.4**	**-0.1**
BALB				*e*Sg		**Sg**	**22 16 37.6**	**+0.2**
GONE	**Gonen-Balikesi**	**0.55**	**11**	*e*PG		**Pg**	**22 16 38.0**	**-0.4**
GONE				*e*SG		**Sg**	**22 16 46.0**	**+0.3**
GONE	**Gonen-Balikesi**	**0.55**	**11**	*e*Pg		**Pg**	**22 16 38.0**	**-0.4**
GONE				*e*Sg		**Sg**	**22 16 46.0**	**+0.3**
AKS	**Akhisar**	**0.66**	**162**	*e*PG		**Pg**	**22 16 39.6**	**-0.7**
AKS				*e*SG		**Sg**	**22 16 48.9**	**0.0**
AKS	**Akhisar**	**0.66**	**162**	*e*Pg		**Pg**	**22 16 39.6**	**-0.7**
AKS				*e*Sg		**Sg**	**22 16 48.9**	**0.0**
AKHS	**Akhisar**	**0.66**	**162**	*i* P		**Pb**	**22 16 41.2**	**0.0**
AKHS				*i* S		**Sg**	**22 16 49.6**	**+0.7**
AKHS	**Akhisar**	**0.66**	**162**	*i* P		**Pb**	**22 16 41.2**	**0.0**
AKHS				*i* S		**Sg**	**22 16 49.6**	**+0.7**
AYVA	**Ayvalik**	**0.69**	**254**	*i* P		**Pg**	**22 16 40.9**	**-0.2**
AYVA				*i* S		**Sg**	**22 16 50.3**	**+0.2**
AYVA	**Ayvalik**	**0.69**	**254**	*i* P		**Pg**	**22 16 40.9**	**-0.2**
AYVA				*i* S		**Sg**	**22 16 50.3**	**+0.2**
DURS	**Dursunbey**	**0.72**	**82**	*i* P		**Pg**	**22 16 41.3**	**-0.3**
DURS				*i* S		**Sg**	**22 16 51.2**	**+0.2**
DURS	**Dursunbey**	**0.72**	**82**	*i* P		**Pg**	**22 16 41.3**	**-0.3**
DURS				*i* S		**Sg**	**22 16 51.2**	**+0.2**
EDC	**Edincik**	**0.88**	**16**	*e*PG		**Pg**	**22 16 44.2**	**-0.3**
EDC	**Edincik**	**0.88**	**16**	*e*Pg		**Pg**	**22 16 44.2**	**-0.3**
BNT	**Bandirma**	**0.90**	**18**	*e*PG		**Pg**	**22 16 44.4**	**-0.5**
BNT	**Bandirma**	**0.90**	**18**	*e*Pg		**Pg**	**22 16 44.4**	**-0.5**
KRBG	**Karabiga-Canak**	**0.91**	**348**	*e*PG		**Pg**	**22 16 44.9**	**-0.3**
KRBG	**Karabiga-Canak**	**0.91**	**348**	*e*Pg		**Pg**	**22 16 44.9**	**-0.3**
KCTX	**Karacabey (Bur**	**0.98**	**39**	*e*PG		**Pg**	**22 16 46.0**	**-0.6**
KCTX				*e*SG		**Sb**	**22 17 00.0**	**+0.2**
KCTX	**Karacabey (Bur**	**0.98**	**39**	*e*Pg		**Pg**	**22 16 46.0**	**-0.6**
KCTX				*e*Sg		**Sb**	**22 17 00.0**	**+0.2**
DEMI	**Demirci**	**1.01**	**117**	*i* P		**Pb**	**22 16 47.6**	**+0.2**
DEMI				*i* S		**Sb**	**22 17 01.2**	**+0.4**
DEMI	**Demirci**	**1.01**	**117**	*i* P		**Pb**	**22 16 47.6**	**+0.2**
DEMI				*i* S		**Sb**	**22 17 01.2**	**+0.4**
LPK	**Lapseki**	**1.06**	**325**	*e*PG		**Pb**	**22 16 47.8**	**-0.3**
LPK	**Lapseki**	**1.06**	**325**	*e*Pg		**Pb**	**22 16 47.8**	**-0.3**
IZM	**Izmir**	**1.13**	**192**	*e*PN		**Pb**	**22 16 48.3**	**-1.0**
IZM	**Izmir**	**1.13**	**192**	*e*Pn		**Pb**	**22 16 48.3**	**-1.0**
BLCB	**Balcova**	**1.19**	**200**	*e*PN		**Pn**	**22 16 50.0**	**-0.3**
BLCB	**Balcova**	**1.19**	**200**	*e*Pn		**Pn**	**22 16 50.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.22**	**347**	*e*PN		**Pb**	**22 16 50.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.22**	**347**	*e*Pn		**Pb**	**22 16 50.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.22**	**318**	*e*PN		**Pb**	**22 16 50.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.22**	**318**	*e*Pn		**Pb**	**22 16 50.8**	**0.0**
MANT	**Manisa**	**1.28**	**142**	*i* P		**Pg**	**22 16 52.6**	**+0.3**
MANT				*i* S		**Sb**	**22 17 09.0**	**+0.4**
MANT	**Manisa**	**1.28**	**142**	*i* P		**Pg**	**22 16 52.6**	**+0.3**
MANT				*i* S		**Sb**	**22 17 09.0**	**+0.4**
MFT	**Murefte**	**1.30**	**351**	*e*PN		**Pg**	**22 16 52.4**	**-0.2**
MFT	**Murefte**	**1.30**	**351**	*e*Pn		**Pg**	**22 16 52.4**	**-0.2**
KULA	**Kula-Manisa**	**1.31**	**138**	*e*PN		**Pn**	**22 16 51.6**	**-0.5**
KULA	**Kula-Manisa**	**1.31**	**138**	*e*Pn		**Pn**	**22 16 51.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.34**	**49**	*e*PN		**Pn**	**22 16 52.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.34**	**49**	*e*Pn		**Pn**	**22 16 52.3**	**-0.1**
URLA	**Izmir**	**1.36**	**213**	*i* P		**Pg**	**22 16 53.8**	**0.0**
URLA				*i* S		**Sg**	**22 17 12.1**	**+0.6**
URLA	**Izmir**	**1.36**	**213**	*i* P		**Pg**	**22 16 53.8**	**0.0**
URLA				*i* S		**Sg**	**22 17 12.1**	**+0.6**
ERIK	**Erikli-Kesan**	**1.41**	**326**	*e*PN		**Pb**	**22 16 53.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.41**	**326**	*e*Pn		**Pb**	**22 16 53.9**	**-0.2**
ARMT	**Armutlu**	**1.46**	**43**	*e*PN		**Pn**	**22 16 53.9**	**-0.2**
ARMT	**Armutlu**	**1.46**	**43**	*e*Pn		**Pn**	**22 16 53.9**	**-0.2**
GDZ	**Gediz**	**1.55**	**105**	*i* P		**Pg**	**22 16 57.3**	**-0.2**
GDZ				*i* S		**Sb**	**22 17 17.1**	**+0.7**
GDZ	**Gediz**	**1.55**	**105**	*i* P		**Pg**	**22 16 57.3**	**-0.2**
GDZ				*i* S		**Sb**	**22 17 17.1**	**+0.7**
GEMT	**Gemlik**	**1.57**	**53**	*e*PN		**Pn**	**22 16 55.0**	**-0.6**
GEMT	**Gemlik**	**1.57**	**53**	*e*Pn		**Pn**	**22 16 55.0**	**-0.6**
ENEZ	**Enez**	**1.63**	**319**	*e*PN		**Pn**	**22 16 56.9**	**+0.4**
ENEZ	**Enez**	**1.63**	**319**	*e*Pn		**Pn**	**22 16 56.9**	**+0.4**

IDC ***19*** *22:17:39.8±1.8, 43.44N×105.25W, h0km, mb1 3.7/4, mb1mx3.4/27, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=41.1km s-min=9.0km az=151.0*
ISCJB ***19*** *22:17:41.8±0.2, 43.77N±0.01×105.34W±0.02, h0km, Error ellipse: s-maj=1.9km s-min=1.6km az=163.2*
NEIC ***19*** *22:17:42.0±0.4, 43.80N×105.21W, h0km, ML3.1, Error ellipse: s-maj=5.8km s-min=4.6km az=76.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 19 22:17:41.4±0.6, 43.73N±0.02×105.28W±0.02, h0km, n134, σ1s61/203, 48C-50D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**330**	P		**Pg**	**22 17 47.7**	**+1.1**
	baz=0.2,SNR=189							
I23A				⇑S		**Sg**	**22 17 50.1**	**0.0**
	baz=0.2							
J23A	**Dilts Ranch, B**	**0.38**	**212**	P		**Pb**	**22 17 49.9**	**-1.2**
	baz=0.5,SNR=96							
J23A				⇓S		**Sg**	**22 17 55.0**	**+1.4**
	baz=0.5							
I24A	**Kuemmerle Ranc**	**0.49**	**74**	P		**Pb**	**22 17 52.2**	**-0.8**
	baz=0.4,SNR=300							
I24A				⇑S		**Sg**	**22 17 59.3**	**+2.1**
	baz=0.4							
J24A	**Dixon Ranch, L**	**0.60**	**131**	P		**Pb**	**22 17 54.2**	**-0.6**
	baz=0.6,SNR=92							
J24A				⇑S		**Sb**	**22 18 03.2**	**-0.6**
	baz=0.6							
H23A	**Clabaugh Cattl**	**0.84**	**354**	P		**Pg**	**22 17 57.7**	**+0.2**
	baz=0.8,SNR=26							
H23A				⇓S		**Sg**	**22 18 08.6**	**+0.2**
	baz=0.8							
I22A	**9 Mile Ranch,**	**0.89**	**281**	P		**Pg**	**22 17 58.6**	**+0.1**
	baz=0.9,SNR=577							
I22A				⇑S		**Sg**	**22 18 10.0**	**+0.1**
	baz=0.9							
J22A	**Midwest**	**0.93**	**251**	P		**Pg**	**22 17 59.0**	**-0.2**
	baz=1.0,SNR=200							
K24A	**Anderson Ranch**	**1.06**	**161**	⇓P		**Pb**	**22 18 02.3**	**-0.4**
	baz=1.1,SNR=79							
K24A				⇓S		**Sb**	**22 18 17.9**	**+0.7**
	baz=1.1							
H24A	**Dirks Ranch, A**	**1.15**	**27**	⇓P		**Pg**	**22 18 03.1**	**-0.3**
	baz=1.1							
H24A				⇓S		**Sb**	**22 18 19.9**	**+0.3**
	baz=1.1							
H22A	**Clearmont**	**1.16**	**319**	⇓P		**Pg**	**22 18 03.4**	**-0.3**
	baz=1.1,SNR=19							
K22A	**Casper**	**1.41**	**221**	P		**Pn**	**22 18 08.0**	**-0.5**
	baz=1.5,SNR=132							
I21A	**Big Trails, Te**	**1.46**	**274**	⇑P		**Pn**	**22 18 07.8**	**-1.4**
	baz=1.5							
I21A				⇑S		**Sg**	**22 18 28.1**	**-0.3**
	baz=1.5							
G23A	**Biddle**	**1.48**	**357**	⇓P		**Pn**	**22 18 08.8**	**-0.5**
	baz=1.4							
G23A				⇓S		**Sn**	**22 18 29.8**	**+0.3**
	baz=1.4							
K25A	**Mack Ranch, Ha**	**1.52**	**137**	⇑P		**Pg**	**22 18 11.2**	**+0.7**
	baz=1.5,SNR=15							
H21A	**Big Horn, Sher**	**1.56**	**306**	P		**Pn**	**22 18 10.6**	**+0.1**
	baz=1.6,SNR=74							
H21A				⇓S		**Sn**	**22 18 31.6**	**+0.1**
	baz=1.6							
J21A	**Lysite**	**1.62**	**257**	P		**Pn**	**22 18 10.8**	**-0.6**
	baz=1.7,SNR=66							
J21A				⇓S		**Sn**	**22 18 33.2**	**+0.1**
	baz=1.7							
L23A	**Garrett**	**1.64**	**191**	P		**Pb**	**22 18 12.2**	**-0.5**
	baz=1.7,SNR=408							
L23A				⇑S		**Sg**	**22 18 34.8**	**+0.7**
	baz=1.7							
G22A	**Birney**	**1.66**	**334**	P		**Pn**	**22 18 12.3**	**+0.4**
	baz=1.8,SNR=104							
L24A	**Wheatland**	**1.70**	**171**	⇑P		**Pb**	**22 18 13.3**	**-0.4**
	baz=1.8,SNR=42							
L24A				⇑S		**Sg**	**22 18 37.1**	**+1.1**
	baz=1.8							
G24A	**Alzada**	**1.72**	**21**	⇓P		**Pn**	**22 18 13.2**	**+0.5**
	baz=1.6,SNR=16							
G24A				⇑S		**Sb**	**22 18 36.5**	**+0.4**
	baz=1.6							
K21A	**Alcova**	**1.81**	**234**	P		**Pn**	**22 18 14.8**	**+0.7**
	baz=1.9,SNR=96							
K21A				⇓S		**Sb**	**22 18 38.9**	**+0.1**
	baz=1.9							
L25A	**Engebretsen Ra**	**1.84**	**148**	⇑P		**Pb**	**22 18 16.1**	**0.0**
	baz=1.9							
K26A	**Motz Farm, Whi**	**1.84**	**123**	⇓P		**Pb**	**22 18 16.0**	**-0.1**
	baz=1.8,SNR=20							
K26A				⇓Sb		**Sg**	**22 18 43.0**	**+2.3**
	baz=1.8							
L22A	**Ellis Ranch, M**	**1.90**	**207**	⇓P		**Pb**	**22 18 16.3**	**-0.7**
	baz=2.0							
L22A				⇓S		**Sb**	**22 18 41.4**	**+0.1**
	baz=2.0							
F23A	**Volborg**	**2.00**	**357**	P		**Pn**	**22 18 17.1**	**+0.6**
	baz=1.9,SNR=134							
F23A				⇑Sb		**Sb**	**22 18 45.2**	**+1.0**
	baz=1.9							
G21A	**Lodge Grass**	**2.04**	**318**	⇓P		**Pn**	**22 18 17.4**	**+0.3**
	baz=2.0,SNR=98							
I20A	**Worland**	**2.07**	**277**	⇓P		**Pn**	**22 18 18.3**	**+0.7**
	baz=2.1,SNR=172							
I20A				⇓S		**Sn**	**22 18 45.4**	**+1.1**
	baz=2.1							
J20A	**Shoshoni**	**2.07**	**261**	⇑Pb		**Pb**	**22 18 19.8**	**-0.2**
	baz=2.1							
J20A				⇑Sb		**Sb**	**22 18 47.2**	**+0.8**
	baz=2.1							
H20A	**Greybull**	**2.10**	**292**	⇑P		**Pn**	**22 18 18.0**	**0.0**
	baz=2.1,SNR=25							
F22A	**Rosebud**	**2.17**	**342**	⇑P		**Pn**	**22 18 18.8**	**-0.1**
	baz=2.1,SNR=78							
F22A				⇑Sb		**Sb**	**22 18 49.8**	**+0.8**
	baz=2.1							
F24A	**Ekalaka**	**2.20**	**15**	⇓P		**Pn**	**22 18 20.1**	**+0.8**
	baz=2.1							
M23A	**Laramie**	**2.28**	**188**	⇑P		**Pn**	**22 18 21.9**	**+1.3**
	baz=2.4							
M24A	**Cheyenne**	**2.28**	**171**	⇓P		**Pb**	**22 18 22.3**	**-1.2**
	baz=2.3							
M24A				⇓Sb		**Sg**	**22 18 55.6**	**+0.9**
	baz=2.3							
L21A	**Rawlins**	**2.34**	**222**	⇓P		**Pn**	**22 18 22.3**	**+1.0**
	baz=2.4,SNR=67							
PHWY	**Pilot Hill**	**2.43**	**183**	*e*Pn		**Pn**	**22 18 23.8**	**+1.2**
PHWY				*e*Sn		**Sb**	**22 18 57.2**	**+0.5**
K27A	**Flueckinger Fa**	**2.45**	**114**	⇑P		**Pb**	**22 18 25.0**	**-1.4**
	baz=2.4							
M25A	**Palm-Egli Farm**	**2.46**	**158**	⇑P		**Pb**	**22 18 25.0**	**-1.6**
	baz=2.5							
K20A	**Yellowstone Ra**	**2.48**	**246**	⇑P		**Pb**	**22 18 25.2**	**-1.7**
	baz=2.5							
RWWY	**Rawlins**	**2.48**	**216**	*e*Pn		**Pb**	**22 18 25.7**	**-1.4**
RWWY				*e*Sn		**Sb**	**22 18 58.7**	**+0.4**
M22A	**Cedar Creek Ra**	**2.52**	**203**	⇑P		**Pn**	**22 18 25.6**	**+1.8**
	baz=2.6							
G20A	**Bridger**	**2.58**	**306**	P		**Pn**	**22 18 24.4**	**-0.2**
	baz=2.6,SNR=161							
M21A	**Separation Pea**	**2.62**	**217**	⇑P		**Pb**	**22 18 27.3**	**-2.0**
	baz=2.7							
I19A	**Meeteetse**	**2.71**	**278**	⇓P		**Pn**	**22 18 27.5**	**+1.2**
	baz=2.7,SNR=82							
E22A	**Miles City**	**2.75**	**350**	⇑P		**Pn**	**22 18 26.7**	**-0.2**
	baz=2.7,SNR=15							
M26A	**McRoberts Ranc**	**2.75**	**144**	⇑P		**Pb**	**22 18 29.1**	**-2.5**
	baz=2.8							
K19A	**Absolon Red Bu**	**2.76**	**252**	⇑P		**Pn**	**22 18 27.8**	**+0.8**
	baz=2.8							
J19A	**Crowheart**	**2.79**	**262**	⇑P		**Pn**	**22 18 29.3**	**+1.9**
	baz=2.8							
H19A	**Powell**	**2.83**	**291**	⇓P		**Pn**	**22 18 28.2**	**+0.2**
	baz=2.8,SNR=18							
L20A	**Wamsutter**	**2.83**	**234**	⇓Pb		**Pb**	**22 18 32.8**	**-0.2**
	baz=2.9							
F20A	**Billings**	**2.91**	**316**	⇑P		**Pn**	**22 18 28.6**	**-0.5**
	baz=2.9,SNR=35							
E24A	**Baker**	**2.92**	**13**	⇑P		**Pn**	**22 18 30.1**	**+0.9**
	baz=2.8,SNR=9.9							
N22A	**Wattenberg Ran**	**3.05**	**197**	⇑P		**Pn**	**22 18 31.7**	**+0.6**
	baz=3.1							
E21A	**Keefer Ranch,**	**3.09**	**336**	⇑P		**Pn**	**22 18 30.9**	**-0.6**
	baz=3.0							
M20A	**Sweetwater, Wa**	**3.10**	**225**	⇑Pb		**Pb**	**22 18 37.7**	**+0.2**
	baz=3.2							
RLMT	**Red Lodge**	**3.18**	**297**	*e*Pn		**Pn**	**22 18 33.4**	**+0.5**
RLMT				*e*Sn		**Sn**	**22 19 07.4**	**-4.3**
RLMT	**Red Lodge**	**3.18**	**297**	⇓P		**Pn**	**22 18 33.5**	**+0.

baz=5.2,SNR=6.5
EGMT Eagleton 5.31 326 *e*Pn **Pn 22 19 00.9 -1.2**
16nm,0.5s
EGMT *e*Pg **Pg 22 19 20.8 -2.4**
EGMT *e*Sn Sn 22 19 54.5 -10
EGMT *e*Sg **Sb 22 20 24.9 +5.4**
A21A Bergtoll Ranch 5.39 348 ⇓P **Pn 22 19 02.8 -0.3**
baz=5.3,SNR=6.9
C17A Wharram Farm, 5.48 317 ⇓P **Pn 22 19 04.5 +0.1**
baz=5.4,SNR=11
DLMT Dillon 5.48 290 *e*Pn **Pn 22 19 05.5 +1.1**
2.5nm,0.4s
DLMT *e*Sn **Sn 22 20 09.5 +1.2**
HRY Holter Researc 5.51 305 *e*Pn **Pn 22 19 05.4 +0.6**
7.2nm,0.3s
HRY *e*Pg **Pb 22 19 18.4 -0.1**
HRY *e*Pg **Pg 22 19 26.1 -0.8**
HRY *e*Sg **Sb 22 20 28.3 +3.1**
DAU Daniels Canyon 5.54 235 *e*Pn **Pn 22 19 06.4 +1.0**
6.5nm,0.5s
DAU *e*Sn **Sn 22 20 15.0 +5.0**
MCMT McKenzie Canyo 5.55 284 *e*Pn **Pn 22 19 04.7 -0.8**
1.4nm,0.4s
MCMT *e*Pg **Pg 22 19 26.4 -1.3**
MCMT *e*Sn **Sn 22 20 10.5 +0.5**
JLU Jordanelle 5.55 238 *e*Pn **Pn 22 19 06.3 +0.8**
5.1nm,0.5s
JLU *e*Pg **Pg 22 19 28.5 +0.8**
JLU *e*S **Sb 22 20 28.3 +1.9**
PV04 Paradox Valley 5.99 208 *e*Pn **Pn 22 19 11.4 -0.1**
PV04 *e*Sn Sb 22 20 32.4 -6.7
SRU San Rafael 6.07 222 *e*Pn **Pn 22 19 13.8 +1.2**
11nm,0.6s
SRU *e*Sn Sn 22 20 31.7 +9.0
D15A Lincoln 6.08 306 ⇓P **Pn 22 19 13.1 +0.4**
baz=6.1,SNR=6.8
PV01 Paradox Valley 6.12 205 *e*Pn **Pn 22 19 15.8 +2.6**
577nm,1.0s
PV01 *e*Sn Sb 22 20 35.4 -7.4
TMUT Trail Mountain 6.28 227 *e*Pn **Pn 22 19 17.2 +1.7**
4.5nm,0.5s
TMUT *e*Sn Sn 22 20 36.4 +8.3
TMUT *e*Sg **Sg 22 20 57.0 -6.0**
ECSD EROS Data Cent 6.28 87 *e*Pn **Pn 22 19 13.7 -1.5**
5.6nm,0.4s
ECSD *e*Sg **Sg 22 21 00.5 -2.5**
R18A Canyonlands Na 6.37 215 ⇓P **Pn 22 19 17.5 +0.8**
baz=6.5,SNR=11
CHMT Chamberlain Mo 6.46 302 *e*Pn **Pn 22 19 17.9 -0.1**
1.4nm,0.4s
CHMT *e*Sn **Sn 22 20 28.1 -4.4**
CHMT Sg Sb 22 21 00.8 +8.1
B16A M & M Farms, S 6.48 319 ⇓P **Pn 22 19 17.7 -0.3**
baz=6.4,SNR=11
DUG Dugway 6.63 240 *e*Pn **Pn 22 19 21.8 +1.5**
5.5nm,1.0s
DUG *e*Sn **Sn 22 20 40.4 +3.8**
D14A Greenough 6.69 303 ⇓P **Pn 22 19 20.9 -0.2**
baz=6.7,SNR=11
B15A Bradely Ranch, 6.84 315 ⇓P **Pn 22 19 22.5 -0.5**
baz=6.8,SNR=7.2
S18A Hurst Farm, Bl 7.01 212 ⇑P **Pn 22 19 26.4 +0.8**
baz=7.1,SNR=9.8
MSU Marysvale 7.36 227 *e*Pn **Pn 22 19 31.6 +1.3**
1.8nm,0.4s
MSU *e*Sg **Sg 22 21 40.7 +2.8**
YBMT Yellow Bay 7.37 307 *e*Pn **Pn 22 19 30.8 +0.4**
3.1nm,0.3s
ULM Lac du Bonnet 9.15 41 Pn **Pn 22 19 54.4 -0.3**
1.1nm,0.3s,baz=230,slow=10,SNR=9.1
ULM Pg 22 20 27.6
1.0nm,0.3s,baz=226,slow=16,SNR=6.1
ULM Lg Lg 22 22 26.6
0.3nm,0.3s,baz=306,slow=22,SNR=4.1
ULM Lac du Bonnet 9.15 41 *e*Pn Pn 22 19 48.3 -6.3
1.9nm,0.4s
ULM Pg 22 20 27.6
ULM Lg Lg 22 22 26.6
NVAR Mina Array Bea 11.16 246 Pn **Pn 22 20 20.6 -1.8**
0.5nm,0.3s,baz=59,slow=19,SNR=5.6
NVAR Mina Array Bea 11.16 246 Pn **Pn 22 20 20.6 -1.8**
FFC Flin Flon 11.22 10 *e*Pn **Pn 22 20 20.9 -2.0**
1.8nm,0.4s
YKA Yellowknife Ar 19.58 347 P **P 22 22 10.4 -0.3**
0.1nm,0.3s,baz=166,slow=11,SNR=4.4
YKA Yellowknife Ar 19.58 347 P **P 22 22 10.3 -0.3**

IDC 19 22:25:18.2±2.3, 0°20'S×133°09'E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=149.1km s-min=20.9km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.66**	**177**	P		P	22 29 48.5	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**23.34**	**178**	P		P	22 30 28.6	+0.3
	0.8nm,0.5s,baz=355,slow=11,SNR=14						
MKAR	**Makanchi Array**	**64.43**	**324**	P		P	22 35 56.4	-0.1
	0.1nm,0.6s,baz=115,slow=8.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**67.01**	**331**	P		P	22 36 13.0	+0.1
	0.4nm,0.6s,baz=115,slow=10,SNR=2.9						
KURK	**Kurchatov**	**68.49**	**326**	P		P	22 36 22.7	+0.4
	0.4nm,1.0s,baz=101,slow=4.8,SNR=3.1						
BVAR	**Borovoye Array**	**74.08**	**326**	P		P	22 36 55.8	-0.4
	0.1nm,0.5s,baz=123,slow=5.3,SNR=2.4						

SZGRF ***19*** *22:26:50.5, 23°.47S×171°.55E, h33km, Southeast of Loyalty Islands*
IDC ***19*** *22:26:51.6±0.4, 22°.83S×170°.75E, h0km, mb4.8/22, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, ML4.2/3, MS5.0/25, Ms1 5.0/25, ms1mx4.9/32, Error ellipse: s-maj=15.6km s-min=12.9km az=174.0*
BJI ***19*** *22:26:54.0, 22°.10S×171°.02E, h13km, mB5.7/39, mb5.1/50, Ms5.4/48, Ms7 5.0/45*
ISCJB ***19*** *22:26:55.4±1.6, 22°.83S±0°.04×170°.69E±0°.03, h31km±11km, mb5.3/91, MS5.2/178, Error ellipse: s-maj=6.3km s-min=4.3km az=172.9*
MOS ***19*** *22:26:56.7±1.4, 22°.68S×170°.72E, h33km, mb5.6/35, MS5.2/18, Error ellipse: s-maj=9.7km s-min=8.5km az=6.5*
NEIC ***19*** *22:26:57.4±0.1, 22°.79S×170°.74E, h35km, mb5.5/51, MS5.3/139, Error ellipse: s-maj=4.2km s-min=4.0km az=151.0*
NOU ***19*** *22:26:59.9±0.7, 18°.93S×168°.46E, h30km, MD3.6, ML3.3*
DJA ***19*** *22:27:13, 22°.91S×170°.18E, h148km, Mw5.3/37*
ISC 19 22:26:54.6±0.3, 22°.81S±0°.04×170°.77E±0°.04, h17km±1km, h16km:pP-P, n756, σ1s24/867, mb5.5/90, MS5.2/179, 161C-173D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLUM	**Mont Dore**	**3.85**	**277**	*e*S	**Sn**	**22 28 37.2**	**-0.9**
NORM	**Noumea**	**4.00**	**277**	*e*S	**Sn**	**22 28 37.3**	**-4.5**
DZM	**Mont Dzumac**	**4.06**	**280**	*e*Pn	**Pn**	**22 27 54.4**	**-1.8**
	163nm,0.3s						
DZM				*e*Sn	**Sn**	**22 28 40.9**	**-2.6**
	204nm,0.2s						
DZM	**Mont Dzumac**	**4.06**	**280**	Pn	**Pn**	**22 27 55.6**	**-0.6**
	20nm,0.3s,baz=109,slow=15,SNR=94						
DZM				Sn	**Sn**	**22 28 41.6**	**-1.9**
	35nm,0.3s,baz=131,slow=22,SNR=3.8						
DZM	**Mont Dzumac**	**4.06**	**280**	*e*P	**Pn**	**22 27 54.3**	**-1.9**
DZM	**Mont Dzumac**	**4.06**	**280**	Pn	**Pn**	**22 27 55.6**	**-0.6**
DZM				*e*Sn	**Sn**	**22 28 46.5**	**+3.0**
NOUC	**Port Laguerre**	**4.19**	**279**	*e*P	**Pn**	**22 27 56.5**	**-1.3**
NOUC				AMP		22 29 05.1	
	comp=Z,166nm,1.7s						
MSVF	**Nonsavu**	**8.50**	**55**	*e*P	Pn	22 29 01.5	+4.4
MSVF				*e*		22 30 37.0	
MSVF	**Nonsavu**	**8.50**	**55**	*e*Pn	Pn	22 29 01.5	+4.4
MSVF				*e*Sn	**Sn**	**22 30 37.0**	**+4.3**
OUZ	**Omahuta**	**12.61**	**169**	*e*Pn	**Pn**	**22 29 55.0**	**+1.6**
URZ	**Urewera**	**16.34**	**162**	*e*Pn	**P**	**22 30 45.3**	**-0.8**
	comp=Z,400nm,1.5s						
FUNA	**Funafuti**	**16.35**	**31**	*e*Pn	**P**	**22 30 45.8**	**-0.5**
	comp=Z,456nm,1.4s						
HNR	**Honiara**	**16.86**	**320**	Pn	**Pn**	**22 30 50.6**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=222,slow=5.4,SNR=40						
HNR				LR	LR	22 36 24.7	
	comp=Z,5μm,20.9s,baz=272,slow=34						
HNR	**Honiara**	**16.86**	**320**	*e*P	**P**	**22 30 52.7**	**+0.6**
HNR				pmax	pmax		
	comp=Z,2μm,1.4s						
HNR	**Honiara**	**16.86**	**320**	*e*Pn	**P**	**22 30 52.7**	**+0.6**
	comp=Z,2μm,1.4s						
EIDS	**Eidsvold**	**18.15**	**258**	*e*P	**P**	**22 31 07.7**	**+1.4**
	comp=Z,412nm,1.6s						
EIDS				*e*S	**S**	**22 34 31.5**	**-2.3**
ARMA	**Armidale**	**18.70**	**242**	*e*P	**Pn**	**22 31 15.1**	**+2.3**
ARMA				*e*S	**Sn**	**22 34 41.9**	**+0.2**
ARMA	**Armidale**	**18.70**	**242**	*e*Pn	**Pn**	**22 31 13.5**	**+0.7**
	comp=Z,170nm,1.5s						
SNZO	**South Karori**	**18.75**	**171**	*e*P	**Pn**	**22 31 13.0**	**-0.1**
	comp=Z,512nm,1.7s						
AFI	**Afiamalu**	**18.77**	**65**	P	**P**	**22 31 12.7**	**-0.6**
	comp=Z,7.3nm,0.3s,baz=53,slow=22,SNR=5.7						
AFI				LR	LR	22 36 54.9	
	comp=Z,4μm,19.3s,baz=237,slow=32						
AFI	**Afiamalu**	**18.77**	**65**	*e*P	**P**	**22 31 12.6**	**-0.6**
AFI				pmax	pmax		
	comp=Z,173nm,0.9s						
AFI	**Afiamalu**	**18.77**	**65**	*e*Pn	**P**	**22 31 12.6**	**-0.6**
	comp=Z,173nm,0.9s						
KHZ	**Kahutara**	**19.69**	**174**	*e*P	**Pn**	**22 31 23.9**	**-0.6**
	comp=Z,354nm,1.5s						
RPZ	**Rata Peaks**	**20.86**	**179**	P	**P**	**22 31 35.3**	**-0.4**
	comp=Z,80nm,1.0s,baz=13,slow=5.0,SNR=9.7						
RPZ				LR	LR	22 38 34.5	
	comp=Z,3μm,19.3s,baz=276,slow=34						
RPZ	**Rata Peaks**	**20.86**	**179**	*e*P	Pn	22 31 36.9	-1.3
	comp=Z,519nm,1.6s						
ODZ	**Otahua Downs**	**22.18**	**180**	*e*P	**P**	**22 31 50.7**	**+0.7**
	comp=Z,414nm,1.3s						
CNB	**Canberra Magne**	**22.42**	**231**	*e*P	**P**	**22 31 50.5**	**-2.2**
	comp=Z,451nm,1.5s						
CAN	**Canberra**	**22.69**	**232**	*e*P	**P**	**22 31 55.6**	**+0.1**
CAN				*e*		22 35 48.4	
CAN				pmax	pmax		
	comp=Z,140nm,1.4s						
CAN				MLR	MLR		
	comp=Z,5μm,21.0s						
CAN	**Canberra**	**22.69**	**232**	*e*P	**P**	**22 31 55.6**	**+0.1**
	comp=Z,140nm,1.4s						
CAN				*e*PcP	**PcP**	**22 35 48.4**	**+0.6**
CAN				LR	LR		
	comp=Z,5μm,21.0s						
CTA	**Charters Tower**	**22.97**	**272**	P	**P**	**22 31 58.8**	**+0.3**
	comp=Z,13nm,0.8s,baz=93,slow=11,SNR=6.4						
CTA				LR	LR	22 39 44.9	
	comp=Z,4μm,20.7s,baz=95,slow=34						
CTA	**Charters Tower**	**22.97**	**272**	*e*P	**P**	**22 31 59.2**	**+0.7**
	comp=Z,40nm,1.5s						
CTA				*e*S	**S**	**22 36 09.8**	**+1.5**
CTA	**Charters Tower**	**22.97**	**272**	P	**P**	**22 31 58.8**	**+0.3**
CTA	**Charters Tower**	**22.97**	**272**	P	**P**	**22 31 58.8**	**+0.3**
CTAO	**Charters Tower**	**22.97**	**272**	*e*P	**P**	**22 31 59.3**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,160nm,1.5s						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s						
CTAO	**Charters Tower**	**22.97**	**272**	*e*P	**P**	**22 31 59.3**	**+0.8**
	comp=Z,160nm,1.5s						
CTAO				LR	LR		
	comp=Z,4μm,19.0s						
WHZ	**Wether Hill Ro**	**23.15**	**185**	*e*P	**P**	**22 32 01.2**	**+1.1**
TARA	**Tarawa**	**24.11**	**5**	PFAKE		22 32 20.0	+10
TARA				LR	LR		
	comp=Z,8μm,21.0s						
TOO	**Toolangi**	**26.23**	**230**	*e*P	**P**	**22 32 29.9**	**+1.0**
	comp=Z,128nm,1.1s						
PMG	**Port Moresby**	**26.25**	**297**	P	**P**	**22 32 29.2**	**0.0**
	comp=Z,19nm,1.0s,baz=102,slow=7.9,SNR=15						
PMG	**Port Moresby**	**26.25**	**297**	*e*P	**P**	**22 32 29.0**	**-0.2**
PMG				pmax	pmax		
	comp=Z,157nm,1.4s						
PMG				MLR	MLR		
	comp=Z,5μm,19.0s						
PMG	**Port Moresby**	**26.25**	**297**	*e*P	**P**	**22 32 29.0**	**-0.2**
	comp=Z,157nm,1.4s						
PMG				LR	LR		
	comp=Z,5μm,19.0s						
RAR	**Rarotonga**	**27.34**	**92**	P	**P**	**22 32 39.8**	**+0.8**
	comp=Z,4.3nm,0.3s,baz=80,slow=24,SNR=3.4						
RAR				LR	LR	22 40 38.3	
	comp=Z,2μm,21.0s,baz=268,slow=30						
RAR	**Rarotonga**	**27.34**	**92**	P	**P**	**22 32 39.8**	**+0.8**
RAR	**Rarotonga**	**27.34**	**92**	P	**P**	**22 32 39.8**	**+0.8**
STKA	**Stephens Creek**	**27.37**	**244**	P	**P**	**22 32 38.4**	**-0.8**
	comp=Z,26nm,1.0s,baz=75,slow=9.0,SNR=16						
STKA				LR	LR	22 42 17.8	
	comp=Z,4μm,20.7s,baz=73,slow=34						
STKA	**Stephens Creek**	**27.37**	**244**	*e*P	**P**	**22 32 38.4**	**-0.8**
	comp=Z,33nm,1.3s						
STKA	**Stephens Creek**	**27.37**	**244**	*e*P	**P**	**22 32 38.5**	**-0.8**
STKA				pmax	pmax		
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**27.37**	**244**	*e*P	**P**	**22 32 38.5**	**-0.7**
	comp=Z,22nm,1.4s						
COEN	**Coen**	**27.58**	**284**	*e*P	**P**	**22 32 42.2**	**+1.0**
	comp=Z,694nm,1.3s						
MOO	**Moorlands**	**27.73**	**220**	*e*P	**P**	**22 32 43.4**	**+1.1**
	comp=Z,181nm,1.1s						
TAU	**Tasmania Unive**	**27.94**	**219**	PFAKE		22 33 00.0	+16
TAU				LR	LR		
	comp=Z,6μm,20.0s						
BBOO	**Buckleboo**	**32.15**	**244**	*e*P	**P**	**22 33 21.4**	**-0.1**
	comp=Z,1μm,1.1s						
AS31	**Alice Springs**	**33.82**	**261**	*e*P	**P**	**22 33 35.4**	**-0.9**
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**22 33 35.5**	**-0.8**
	comp=Z,16nm,1.0s,baz=84,slow=8.3,SNR=59						
ASAR				ScP	**ScP**	**22 40 01.9**	**+2.4**
	comp=Z,2.1nm,1.1s,baz=130,slow=5.1,SNR=4.4						
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**22 33 35.6**	**-0.8**
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**22 33 35.5**	**-0.8**
ASAR				ScP	**ScP**	**22 40 01.9**	**+2.4**
WRAB	**Tennant Creek**	**33.98**	**268**	*e*P	**P**	**22 33 38.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,310nm,2.7s						
WRAB				MLR	MLR		
	comp=Z,4μm,22.0s						
WRAB	**Tennant Creek**	**33.98**	**268**	*e*P	**P**	**22 33 38.0**	**+0.4**
	comp=Z,310nm,2.7s						
WRAB				LR	LR		
	comp=Z,4μm,22.0s						
WRA	**Warramunga Arr**	**33.99**	**268**	P	**P**	**22 33 35.4**	**-2.4**
	comp=Z,2.2nm,0.6s,baz=93,slow=8.4,SNR=18						
WRA				LR	LR	22 45 54.2	
	comp=Z,4μm,20.1s,baz=90,slow=34						
WRA	**Warramunga Arr**	**33.99**	**268**	P	**P**	**22 33 35.4**	**-2.4**
WRA	**Warramunga Arr**	**33.99**	**268**	P	**P**	**22 33 35.4**	**-2.4**
TBI	**Tubuai**	**36.52**	**99**	*e*S	**S**	**22 39 38.5**	**-2.7**
	comp=Z,572nm,25.2s						
TBI				*e*LQ	LQ	22 42 01.4	
	comp=Z,2μm,27.2s						
TBI				*e*LR	LR	22 43 44.9	
	comp=Z,1μm,30.0s						
PPT2	**Papeete2**	**37.50**	**89**	*e*S	S	22 39 48.8	-7.6
	comp=Z,571nm,24.5s						
PPT2				*e*LQ	LQ	22 42 36.3	
	comp=Z,2μm,29.8s						
PPT2				*e*LR	LR	22 44 15.0	
	comp=Z,1μm,21.5s						
FORT	**Forrest**	**38.76**	**249**	*e*P	**P**	**22 34 16.4**	**-1.9**
	comp=Z,53nm,1.2s						
FORT	**Forrest**	**38.76**	**249**	*e*P	**P**	**22 34 18.5**	**+0.2**
	comp=Z,171nm,1.4s						
WAKE	**Wake Island**	**42.03**	**354**	PFAKE		22 35 00.0	+15
WAKE				LR	LR		
	comp=Z,4μm,20.0s						
FITZ	**Fitzroy Crossi**	**42.42**	**268**	P	**P**	**22 34 47.6**	**-1.1**
	comp=Z,34nm,1.0s,baz=109,slow=8.4,SNR=19						
FITZ				LR	LR	22 51 17.8	
	comp=Z,3μm,20.1s,baz=104,slow=35						
FITZ	**Fitzroy Crossi**	**42.42**	**268**	*e*P	**P**	**22 34 47.7**	**-1.1**
	comp=Z,57nm,0.9s						
FITZ				*e*S	**S**	**22 41 04.0**	**-5.9**
FITZ	**Fitzroy Crossi**	**42.42**	**268**	*e*P	**P**	**22 34 48.5**	**-0.2**
	comp=Z,68nm,1.2s						
JOHN	**Johnston Islan**	**43.77**	**28**	PFAKE		22 35 10.0	+10
JOHN				LR	LR		
	comp=Z,4.0nm,21.0s						
MBWA	**Marble Bar**	**47.16**	**262**	*e*P	**P**	**22 35 26.1**	**-0.4**
	comp=Z,108nm,1.4s						
MBWA				LR	LR		
	comp=Z,4μm,21.0s						
KLBR	**Kellerberrin**	**47.57**	**247**	*e*P	**P**	**22 35 28.0**	**-1.6**
	comp=Z,120nm,1.4s						
NWAO	**Narrogin (SRO)**	**47.95**	**246**	P	**P**	**22 35 31.4**	**-1.2**
	comp=Z,33nm,1.1s,baz=116,slow=8.3,SNR=6.4						
NWAO				LR	LR	22 55 06.5	
	comp=Z,5μm,18.7s,baz=96,slow=35						
NWAO	**Narrogin (SRO)**	**47.95**	**246**	*e*P	**P**	**22 35 32.0**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,63nm,1.2s						
NWAO	**Narrogin (SRO)**	**47.95**	**246**	*e*P	**P**	**22 35 32.0**	**-0.6**
	comp=Z,63nm,1.2s						
DRV	**Dumont d'Urvil**	**47.98**	**196**	PP	PP	22 37 10.0	-14
DRV				S	S	22 42 17.0	-12
DRV				SS	**SS**	**22 45 58.0**	**+0.3**
DRV				R		22 49 00.0	
RKT	**Rikitea**	**49.71**	**102**	*e*S	**S**	**22 42 53.0**	**-1.7**
	comp=Z,683nm,25.2s						
RKT				*e*LQ	LQ	22 47 26.9	
	comp=Z,1μm,27.2s						
RKT				*e*LR	LR	22 49 46.9	
	comp=Z,2μm,36.2s						
LUWI	**Luwuk**	**51.36**	**288**	P	P	22 36 08.8	+10
	comp=Z,181nm,1.4s,comp=Z,2μmcomp=Z,0.7nm						
BKSI	**Bulukumba**	**51.82**	**282**	P	P	22 36 09.0	+6.8
	comp=Z,48nm,1.2s,comp=Z,1μmcomp=Z,0.2nm						
KAPI	**Kappang**	**52.28**	**282**	P	**P**	**22 36 05.1**	**-0.5**
	comp=Z,27nm,0.9s,baz=125,slow=8.4,SNR=5.3						
KAPI				LR	LR	22 56 46.2	
	comp=Z,1μm,18.6s,baz=40,slow=34						
KAPI	**Kappang**	**52.28**	**282**	*e*P	**P**	**22 36 05.8**	**+0.2**
KAPI	**Kappang**	**52.28**	**282**	P	**P**	**22 36 06.2**	**+0.6**
	comp=Z,103nm,1.3s,comp=Z,2μmcomp=Z,0.4nm						
KAPI	**Kappang**	**52.28**	**282**	P	**P**	**22 36 06.2**	**+0.6**
	comp=Z,103nm,1.3s,comp=Z,2μm						
DAV	**Davao City (W)**	**53.25**	**299**	*e*P	**P**	**22 36 13.1**	**+0.4**
DAV				LR	LR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**54.94**	**182**	PFAKE		22 36 40.0	+16
VNDA				LR	LR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**55.13**	**181**	PFAKE		22 36 40.0	+14
SBA				LR	LR		
	comp=Z,2μm,20.0s						
GMJI	**Gumukmas**	**56.76**	**275**	P	P	22 36 47.3	+9.1
	comp=Z,80nm,1.2s,comp=Z,2μmcomp=Z,0.3nm						
CBIJ	**Chichi jima**	**56.79**	**329**	LR	LR	22 57 17.2	
	comp=Z,1μm,20.0s,baz=138,slow=32						
CASY	**Casey**	**57.46**	**205**	PFAKE		22 37 00.0	+18
CASY				LR	LR		
	comp=Z,2μm,20.0s						
SJI	**Sawahan**	**58.50**	**275**	P	**P**	**22 36 53.4**	**+2.8**
	comp=Z,66nm,1.5s,comp=Z,3μm						
PCJI	**Pacitan**	**58.87**	**274**	P	P	22 36 59.1	+6.1
	comp=Z,147nm,1.3s						
CISI	**Cisompet, Garu**	**62.20**	**273**	P	P	22 37 19.8	+3.9
	comp=Z,136nm,1.6s,comp=Z,1μm						
LEM	**Lembang**	**62.65**	**274**	P	**P**	**22 37 21.1**	**+2.1**
	comp=Z,135nm,1.6s,comp=Z,2μm						
CBJI	**Citeko**	**63.51**	**274**	P	P	22 37 33.6	+9.1
	comp=Z,212nm,1.5s,comp=Z,9μm						
JOW	**Kunigami**	**64.22**	**318**	LR	LR	23 00 45.3	
	comp=Z,1μm,19.8s,baz=329,slow=32						
MJAR	**Matsushiro Arr**	**66.56**	**332**	P	**P**	**22 37 42.8**	**-1.1**
	comp=Z,13nm,1.2s,baz=165,slow=6.9,SNR=8.5						
MJAR				LR	LR	23 03 55.4	
	comp=Z,836nm,20.4s,baz=170,slow=33						
MJAR	**Matsushiro Arr**	**66.56**	**332**	P	**P**	**22 37 42.8**	**-1.1**
MJAR	**Matsushiro Arr**	**66.56**	**332**	P	**P**	**22 37 42.8**	**-1.1**
MAJO	**Matsushiro**	**66.56**	**332**	PFAKE		22 38 00.0	+16
MAJO				LR	LR		
	comp=Z,1μm,20.0s						
LWLI	**Liwa**	**66.61**	**274**	P	P	22 37 49.5	+4.7
	comp=Z,80nm,1.5s						
NACB	**Ninganchiao**	**66.79**	**311**	*e*P	**P**	**22 37 44.8**	**-0.8**
	comp=Z,162nm,1.8s						
QSPA	**South Pole Qui**	**67.27**	**180**	P	**P**	**22 37 47.2**	**-1.0**
	comp=Z,14nm,1.1s,baz=28,slow=3.4,SNR=14						
QSPA	**South Pole Qui**	**67.27**	**180**	*e*P	**P**	**22 37 48.8**	**+0.6**
	comp=Z,44nm,1.1s						
QSPA				LR	LR		
	comp=Z,1μm,20.0s						
YHNB	**Yeheng**	**67.27**	**312**	*e*P	**P**	**22 37 48.5**	**-0.2**
	comp=Z,73nm,1.3s						
YHNB				LR	LR		
	comp=Z,1μm,19.0s						
JNU	**Nakatsue**	**67.38**	**324**	*e*P	**P**	**22 37 48.1**	**-1.1**
	comp=Z,26nm,1.4s						
TATO	**Taipei**	**67.39**	**312**	PFAKE		22 38 00.0	+11
TATO				LR	LR		
	comp=Z,1μm,20.0s						
KSI	**Kapahiang**	**68.48**	**275**	P	**P**	**22 37 56.9**	**+0.3**
ERM	**Erimo**	**69.37**	**338**	PFAKE		22 38 10.0	+8.6
ERM				LR	LR		
	comp=Z,2μm,19.0s						
QZH	**Quanzhou**	**69.39**	**310** ⇓	*i*P	P	22 38 06.6	+4.8
QZH				S	S	22 47 15.5	+7.1
QZH				LR	LR		
	comp=Z,1μm,23.8s						
YUK	**Yuzh-Kuril'sk**	**70.33**	**341**	*d i*P	**P**	**22 38 06.7**	**-0.5**
YUK						22 40 51.2	
YUK				S	**S**	**22 47 15.5**	**-3.1**
YUK				pmax	pmax		
	comp=Z,1μm,1.8s						
YUK				pmax	pmax		
	comp=N,153nm,0.9s						
YUK				pmax	pmax		
	comp=E,520nm,1.8s						
YUK				pmax	pmax		
	comp=Z,417nm,5.2s						
COCO	**West Island**	**70.69**	**265**	PFAKE		22 38 20.0	+10
COCO				LR	LR		
	comp=Z,2μm,19.0s						
ASAJ	**Asahikawa**	**71.43**	**339**	LR	LR	23 03 49.9	
	comp=Z,2μm,21.6s,baz=170,slow=31						
BKNI	**Bangkinang**	**71.48**	**278**	P	P	22 38 21.8	+6.8
	comp=Z,115nm,1.7s,comp=Z,1μm						
SSE	**Sheshan**	**71.63**	**317**	P	**P**	**22 38 15.5**	**+0.1**
SSE				S	**S**	**22 47 32.8**	**-1.5**
SSE				sS	**sS**	**22 47 46.9**	**+3.6**
SSE				pmax	pmax		
	comp=Z,18nm,1.1s						
SSE				pmax	pmax		
	comp=Z,290nm,9.0s						
SSE				LR	LR		
	comp=N,410nm,15.2s						
SSE				LR	LR		
	comp=E,360nm,15.2s						
SSE				LR	LR		
	comp=Z,610nm,16.6s						
PPI	**Padang Panjang**	**71.76**	**277**	P	P	22 38 25.4	+8.8
KSRS	**Korea Array**	**72.24**	**325**	P	**P**	**22 38 18.3**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=147,slow=6.5,SNR=16						
KSRS				LR	LR	23 09 04.2	
	comp=Z,533nm,18.2s,baz=132,slow=35						
KSAR	**Wonju Array Be**	**72.25**	**325**	P	**P**	**22 38 18.3**	**-0.7**
KSAR	**Wonju Array Be**	**72.25**	**325**	P	**P**	**22 38 18.3**	**-0.7**
QIZ	**Qiongzhong**	**72.58**	**300**	P	**P**	**22 38 22.5**	**+1.1**
QIZ				sP	**sP**	**22 38 27.3**	**-1.6**
QIZ

NJ2 LR LR
comp=Z,420nm,13.3s
YSS Yuzh-Sakhalins 73.90 340⇑ *eP* **P 22 38 30.0 +1.4**
YSS Yuzh-Sakhalins 73.90 340 PFAKE 22 38 40.0 +11
YSS LR LR
comp=Z,589nm,21.0s
PSI Prapat 74.42 280 P **P 22 38 32.1 -0.5**
comp=Z,22nm,1.4s,comp=Z,784nm
FX1 Attu Island--F 75.40 2 LR LR 23 05 52.7
comp=Z,782nm,19.6s,baz=202,slow=31
USRK Ussuriysk Arra 75.54 332 P **P 22 38 37.5 -0.7**
comp=Z,9.6nm,1.1s,baz=144,slow=4.2,SNR=10
USRK LR LR 23 10 23.2
comp=Z,509nm,18.9s,baz=318,slow=35
MAW Mawson 75.68 202 LR LR 23 09 59.5
comp=Z,825nm,18.2s,baz=98,slow=34
WHN Wuhan 75.79 312 ⇓P **P 22 38 40.1 +0.2**
WHN S **S 22 48 20.4 -1.0**
WHN pmax pmax
comp=Z,1μm,8.3s
WHN LR LR
comp=Z,1μm,14.7s
PET Petropavlovsk 76.24 353 *eP* P 22 38 46.7 +4.8
PET *eS* **S 22 48 28.2 +2.8**
PET *eSS* **SS 22 53 17.1 -2.8**
PET pmax pmax
comp=Z,500nm,14.1s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 76.24 353 PFAKE 22 38 50.0 +8.1
PET LR LR
comp=Z,2μm,21.0s
PETK Petropavlovsk- 76.44 352 P **P 22 38 43.4 +0.3**
comp=Z,15nm,0.8s,baz=148,slow=9.5,SNR=10
PETK LR LR 23 05 57.3
comp=Z,2μm,21.8s,baz=155,slow=31
PETK Petropavlovsk- 76.44 352 P **P 22 38 43.4 +0.3**
PETK Petropavlovsk- 76.44 352 P **P 22 38 43.4 +0.3**
MDJ Mudanjiang 76.92 331 P **P 22 38 46.0 0.0**
MDJ pP **pP 22 38 49.3 -2.2**
MDJ sP **sP 22 38 50.5 -3.0**
MDJ PcP **PcP 22 38 57.1 +0.1**
MDJ PP **PP 22 41 38.0 -1.6**
MDJ S **S 22 48 33.3 +0.1**
MDJ ScS **ScS 22 49 01.6 -0.4**
MDJ SS **SS 22 53 29.1 -1.5**
MDJ pmax pmax
comp=Z,21nm,2.0s
MDJ pmax pmax
comp=Z,470nm,6.6s
MDJ LR LR
comp=N,550nm,16.8s
MDJ LR LR
comp=E,530nm,17.8s
MDJ LR LR
comp=Z,690nm,20.6s
MDJ Mudanjiang 76.92 331 *eP* **P 22 38 45.9 -0.1**
comp=Z,48nm,1.5s
MDJ LR LR
comp=Z,812nm,20.0s
HABR Khabarovsk 77.83 337 *eP* **P 22 38 49.5 -1.4**
HABR *e* 22 38 59.4
HABR *e*SP sP 22 39 04.0 +5.6
HABR *eS* **S 22 48 38.9 -3.9**
HABR *e* 22 49 04.9
HABR *eSS* **SS 22 53 39.4 -4.7**
HABR *eSSS* SSS 22 57 03.9
HABR pmax pmax
comp=E,55nm,1.9s
HABR pmax pmax
comp=N,29nm,2.2s
HABR pmax pmax
comp=Z,57nm,1.6s
HABR MLR MLR
comp=Z,265nm,16.0s
CN2 Changchun 78.23 328 ⇓P **P 22 38 53.1 -0.2**
CN2 *es*P **sP 22 38 58.9 -1.9**
CN2 *eS* **S 22 48 47.6 +0.2**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,700nm,18.0s
CN2 LR LR
comp=Z,800nm,21.0s
GYA Guiyang 79.02 305⇑ *iP* **P 22 39 01.0 +2.8**
GYA PP **PP 22 42 02.5 +4.9**
GYA S **S 22 48 51.8 -5.1**
GYA SKS **SKSac 22 49 12.4 -1.3**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.6s
GYA LR LR
comp=N,740nm,18.9s
GYA LR LR
comp=E,610nm,19.2s
GYA LR LR
comp=Z,850nm,18.8s
ENH Enshi 79.03 309 *eP* **P 22 38 57.8 -0.3**
comp=Z,261nm,1.8s
ENH LR LR
comp=Z,729nm,21.0s
KLR Kul'dur 79.69 335 *eP* P 22 38 56.8 -4.4
KLR *eS* **S 22 49 02.0 -0.8**
KLR pmax pmax
comp=Z,140nm,1.8s
KLR pmax pmax
comp=Z,1μm,11.4s
BJT Baijiatuau 80.58 321 *eP* **P 22 39 05.8 -0.4**
BJT pmax pmax
comp=Z,95nm,1.7s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 80.58 321 *eP* **P 22 39 05.8 -0.4**
comp=Z,95nm,1.7s
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 80.59 321 P **P 22 39 05.6 -0.7**
BJI PP **PP 22 42 05.8 -4.5**
BJI S **S 22 49 16.8 +4.2**
BJI pmax pmax
comp=Z,20nm,1.9s
BJI pmax pmax
comp=Z,570nm,8.1s
BJI LR LR
comp=N,810nm,16.5s
BJI LR LR
comp=E,910nm,23.9s
BJI LR LR
comp=Z,710nm,21.6s
CM31 Chiang Mai Arr 81.26 294 PFAKE 22 39 20.0 +10
CM31 LR LR
comp=Z,656nm,19.0s
CMAR Chiang Mai Arr 81.26 294 P **P 22 39 11.2 +0.8**
comp=Z,6.1nm,0.9s,baz=135,slow=3.8,SNR=24
CMAR PKKPbc **PKKPbc 22 57 49.4 +3.6**
comp=Z,0.7nm,0.5s,baz=286,slow=4.1,SNR=6.0
CMAR Chiang Mai Arr 81.26 294 P **P 22 39 11.2 +0.8**
CMAR Chiang Mai Arr 81.26 294 P **P 22 39 11.2 +0.8**
CMAR PKKPbc **PKKPbc 22 57 49.4 +3.6**
KMI Kunming 81.36 302 P **P 22 39 11.8 +0.8**
KMI pP **PcP 22 39 19.5 +2.4**
KMI sP **sP 22 39 21.9 +3.3**
KMI PP **PP 22 42 21.5 +4.3**
KMI S **S 22 49 23.1 +1.3**
KMI SS **SS 22 54 40.6 +2.2**
KMI pmax pmax
comp=Z,47nm,1.8s
KMI pmax pmax
comp=Z,450nm,3.8s
KMI LR LR
comp=N,240nm,16.3s
KMI LR LR
comp=E,830nm,18.3s
KMI LR LR
comp=Z,490nm,18.3s
TIY Taiyuan 81.41 317 *eP* **P 22 39 13.3 +2.5**
TIY S **S 22 49 26.8 +5.3**
TIY pmax pmax
comp=Z,570nm,6.7s
CHTO Chiang Mai 81.42 294 *eP* **P 22 39 12.5 +1.3**
CHTO *e* 22 39 22.6
CHTO pmax pmax
comp=Z,114nm,1.2s
CHTO MLR MLR
comp=Z,609nm,19.0s
CHTO Chiang Mai 81.42 294 *eP* **P 22 39 12.5 +1.3**
comp=Z,114nm,1.2s
CHTO *e* 22 39 22.6
CHTO LR LR
comp=Z,609nm,19.0s
CHTO Chiang Mai 81.42 294 P **P 22 39 12.5 +1.3**
XAN Xi'an 81.56 312 P **P 22 39 11.6 -0.1**
XAN S **S 22 49 24.9 +1.8**
XAN pmax pmax
comp=Z,9.0nm,1.9s
XAN pmax pmax
comp=Z,130nm,8.1s
XAN LR LR
comp=N,260nm,16.9s
XAN LR LR
comp=E,120nm,15.7s
XAN LR LR
comp=Z,160nm,16.9s
SYO Syowa Base 81.92 196⇑ *eP* **P 22 39 10.8 -2.1**
SYO Syowa Base 81.92 196⇑ *eP* P 22 39 21.8 +8.9
PMSA Palmer Station 83.09 159 PFAKE 22 39 30.0 +11
PMSA LR LR
comp=Z,959nm,20.0s
CD2 Chengdu 83.52 307 P **P 22 39 22.6 +0.6**
CD2 pP **pP 22 39 27.3 -0.3**
CD2 sP **sP 22 39 29.6 +0.1**
CD2 PP **PP 22 42 37.1 +2.4**
CD2 SKS **S 22 49 41.4 -2.0**
CD2 S **SKSac 22 49 43.6 -0.5**
CD2 sS **sS 22 49 51.1 -1.4**
CD2 SS **SS 22 55 13.0 +2.9**
CD2 pmax pmax
comp=Z,30nm,1.9s
CD2 pmax pmax
comp=Z,600nm,8.3s
CD2 LR LR
comp=E,570nm,14.3s
CD2 LR LR
comp=Z,520nm,16.7s
HHC Hu-ho-hao-te 83.84 319 *eP* **P 22 39 24.0 +0.5**
HHC sP **sP 22 39 30.1 -0.9**
HHC PP **PP 22 42 39.4 +2.2**
HHC SKS **SKSac 22 49 41.9 -3.9**
HHC S **S 22 49 46.1 -0.2**
HHC sS **SKKSac 22 49 52.9 +2.2**
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,520nm,7.0s
HHC LR LR
comp=N,520nm,17.7s
HHC LR LR
comp=E,420nm,17.0s
HHC LR LR
comp=Z,690nm,17.3s
BTO Baotou 84.64 318 *eP* **P 22 39 28.0 +0.5**
HIA Hailar 84.89 329 PFAKE 22 39 40.0 +11
HIA LR LR
comp=Z,784nm,20.0s
MAIT Maitri 85.51 187 *eP* **P 22 39 32.0 +0.7**
SNAA Sanae 85.67 182 *e* P 22 39 28.9 -3.4
SNAA *e* 22 39 33.5
SNAA Sanae 85.67 182 *eP* P 22 39 28.9 -3.4
SNAA pmax pmax
comp=Z,28nm,1.0s
SNAA Sanae 85.67 182 *eP* P 22 39 28.9 -3.4
comp=Z,28nm,1.0s
KDAK Kodiak Island 85.92 19 PFAKE 22 39 40.0 +6.7
KDAK LR LR
comp=Z,1μm,22.0s
LZH Lanzhou 86.16 312 ⇓P **P 22 39 36.8 +1.5**
LZH pP **pP 22 39 41.0 +0.1**
LZH sP **sP 22 39 44.3 +1.4**
LZH SKS **SKSac 22 50 00.5 -0.5**
LZH S **SKKSac 22 50 07.0 -1.6**
LZH sS **ScS 22 50 17.0 -1.4**
LZH SS **SS 22 55 51.3 +2.3**
LZH pmax pmax
comp=Z,110nm,1.8s
LZH pmax pmax
comp=Z,520nm,6.1s
LZH LR LR
comp=N,310nm,9.9s
LZH LR LR
comp=E,540nm,15.0s
LZH LR LR
comp=Z,690nm,16.5s
VNA3 Neumayer Olymp 86.20 180 *e* **P 22 39 34.5 -0.3**
VNA2 Neumayer--Watz 86.52 181 *e* **P 22 39 36.5 +0.1**
VNA2 *e* 22 39 41.2
SEY Seymchan 86.68 352 *eP* **P 22 39 36.0 -1.0**
VNA1 Neumayer--Stat 86.80 180 *e* **P 22 39 37.1 -0.6**
SAO San Andreas Ge 87.11 48 *eP* **P 22 39 39.9 +0.2**
SAO pmax pmax
comp=Z,18nm,0.9s
SAO San Andreas Ge 87.11 48 *eP* **P 22 39 39.9 +0.2**
comp=Z,18nm,0.9s
HOPS Hopland 87.19 46 *eP* **P 22 39 39.7 -0.3**
comp=Z,33nm,1.1s
KCPM Cahto Peak 87.22 45 *eP* **P 22 39 40.5 +0.1**
comp=Z,19nm,0.9s
PKM Peak Mountain 87.30 50 ⇓P **P 22 39 41.1 +0.2**
baz=88,SNR=7.8
PKM ⇓P **P 22 39 41.1 +0.2**
baz=88,SNR=7.8
PKM ⇓P **P 22 39 41.1 +0.2**
baz=88,SNR=7.8
KIPM Iron Peak 87.36 45 *eP* **P 22 39 41.1 0.0**
comp=Z,40nm,1.0s
GAMB Gambell 87.39 8 *eP* **P 22 39 38.0 -2.3**
comp=Z,56nm,1.5s
CIS Catalina Islan 87.58 52 ⇓P **P 22 39 42.1 0.0**
baz=88
CIS ⇓P **P 22 39 42.1 0.0**
baz=88
CIS ⇓P **P 22 39 42.1 0.0**
baz=88
KHMM Horse Mountain 87.77 44 *eP* **P 22 39 43.0 -0.1**
comp=Z,30nm,1.0s
KHMM *e* 22 39 53.0
PASC Pasadena Art C 88.11 52 *eP* **P 22 39 43.5 -1.1**
CLNS Chul'man 88.22 337 *eP* **P 22 39 44.8 +0.2**
CLNS *e* 22 39 53.8
CLNS *e* 22 43 16.0
CLNS *eS* **SKSac 22 50 08.3 -4.0**
CLNS pmax pmax
comp=Z,64nm,1.4s
CLNS pmax pmax
comp=E,12nm,1.6s
CLNS pmax pmax
comp=N,54nm,1.8s
CLNS pmax pmax
comp=Z,7.0nm,1.7s
CLNS pmax pmax
comp=N,9.0nm,1.8s
CLNS pmax pmax
comp=E,5.0nm,1.5s
CLNS smax smax
comp=N,439nm,13.4s
CLNS smax smax
comp=E,366nm,13.0s
VES Vestal, Richgr 88.29 50 ⇑P **P 22 39 45.8 +0.4**
baz=88
VES ⇑P **P 22 39 45.8 +0.4**
baz=88
VES ⇑P **P 22 39 45.8 +0.4**
baz=88
CMB Columbia Colle 88.48 47 *eP* **P 22 39 45.2 -1.2**
CMB *e* 22 39 55.1
CMB Columbia Colle 88.48 47 *eP* **P 22 39 45.2 -1.2**
CMB *e* 22 39 55.1
BFSC Mount Baldy Ra 88.53 52 ⇑P **P 22 39 46.0 -0.7**
baz=89,SNR=8.4
BFSC ⇑P **P 22 39 46.0 -0.7**
baz=89,SNR=8.4
BFSC ⇑P **P 22 39 46.0 -0.7**
baz=89,SNR=8.4
MURC Murrieta 88.55 53 ⇓P **P 22 39 46.2 -0.6**
baz=89
MURC ⇓P **P 22 39 46.2 -0.6**
baz=89
EDW2 Edwards Air Fo 88.60 51 ⇓P **P 22 39 46.1 -0.9**
baz=89,SNR=11
EDW2 ⇓P **P 22 39 46.1 -0.9**
baz=89,SNR=11
EDW2 ⇓P **P 22 39 46.1 -0.9**
baz=89,SNR=11
ISA Isabella 88.63 50 *eP* **P 22 39 47.0 -0.2**
ISA *e* 22 39 57.3
ISA pmax pmax
comp=Z,35nm,1.0s
ISA Isabella 88.63 50 *eP* **P 22 39 47.0 -0.2**
comp=Z,35nm,1.0s
ISA *e* 22 39 57.2
ISA Isabella 88.63 50 ⇑P **P 22 39 47.2 0.0**
baz=89,SNR=24
ISA ⇑P **P 22 39 47.2 0.0**
baz=89,SNR=24
ISA ⇑P **P 22 39 47.2 0.0**
baz=89,SNR=24
MONP Monument Peak 88.79 54 ⇓P **P 22 39 48.0 -0.1**
baz=89
MONP ⇓P **P 22 39 48.0 -0.1**
baz=89
MONP ⇓P **P 22 39 48.0 -0.1**
baz=89
LRMC Laurel Mountai 89.10 51 ⇓P **P 22 39 49.5 +0.1**
baz=89,SNR=12
LRMC ⇓P **P 22 39 49.5 +0.1**
baz=89,SNR=12
LRMC ⇓P **P 22 39 49.5 +0.1**
baz=89,SNR=12
PFO Pinyon Flat Ob 89.11 53 *eP* **P 22 39 49.9 +0.4**
PFO pmax pmax
comp=Z,40nm,1.6s
PFO MLR MLR
comp=Z,1μm,19.0s
PFO Pinyon Flat Ob 89.11 53 *eP* **P 22 39 49.9 +0.4**
comp=Z,40nm,1.6s
PFO LR LR
comp=Z,1μm,19.0s
PFO Pinyon Flat Ob 89.11 53 ⇓P **P 22 39 49.6 +0.1**
baz=89
PFO ⇓P **P 22 39 49.6 +0.1**
baz=89
PFO ⇓P **P 22 39 49.6 +0.1**
baz=89
HUMO Hull Mountain 89.19 43 *eP* **P 22 39 49.9 +0.4**
comp=Z,28nm,1.1s
SWSC Sam W. Stewart 89.28 54 ⇑P **P 22 39 50.2 0.0**
baz=90
SWSC ⇑P **P 22 39 50.2 0.0**
baz=90
SWSC ⇑P **P 22 39 50.2 0.0**
baz=90
CWC Cottonwood Cre 89.29 50 ⇓P **P 22 39 50.5 +0.2**
baz=90,SNR=15
CWC ⇓P **P 22 39 50.5 +0.2**
baz=90,SNR=15
CWC ⇓P **P 22 39 50.5 +0.2**
baz=90,SNR=15
MPMC Manual Prospec 89.52 50 ⇓P **P 22 39 51.6 +0.1**
baz=90,SNR=13
MPMC ⇓P **P 22 39 51.6 +0.1**
baz=90,SNR=13
MPMC ⇓P **P 22 39 51.6 +0.1**
baz=90,SNR=13
WCN Washoe City 89.55 47 ⇑P **P 22 39 51.5 0.0**
baz=90
WCN ⇑P **P 22 39 51.5 0.0**
baz=90
WCN ⇑P **P 22 39 51.5 0.0**
baz=90
DAC Darwin (Calif) 89.55 50 PFAKE 22 40 00.0 +8.4
DAC LR LR
comp=Z,1μm,19.0s
BELC Belle Mtn. Jos 89.62 53 ⇓P **P 22 39 52.1 +0.2**
baz=90,SNR=8.0
BELC ⇓P **P 22 39 52.1 +0.2**
baz=90,SNR=8.0
BELC ⇓P **P 22 39 52.1 +0.2**
baz=90,SNR=8.0
GSC Goldstone 89.65 51 *eP* **P 22 39 51.9 0.0**
GSC pmax pmax
comp=Z,30nm,1.4s
GSC Goldstone 89.65 51 *eP* **P 22 39 51.9 0.0**
comp=Z,30nm,1.4s
GSC Goldstone 89.65 51 ⇑P **P 22 39 52.2 +0.2**
baz=90,SNR=8.5
GSC ⇑P **P 22 39 52.2 +0.2**
baz=90,SNR=8.5
GSC ⇑P **P 22 39 52.2 +0.2**
baz=90,SNR=8.5
CIT Chita 89.67 329 *eP* **P 22 39 51.6 0.0**
CIT *e* 22 39 58.3
CIT *e* 22 40 04.5
CIT pmax pmax
comp=Z,170nm,1.6s
HEC Hector,Ludlow 89.77 52 ⇑P **P 22 39 52.5 -0.1**
baz=90
HEC ⇑P **P 22 39 52.5 -0.1**
baz=90
HEC ⇑P **P 22 39 52.5 -0.1**
baz=90
BC3 Big Chuckawall 89.86 53 ⇓P **P 22 39 52.6 -0.4**
baz=90
BC3 ⇓P **P 22 39 52.6 -0.4**
baz=90
BC3 ⇓P **P 22 39 52.6 -0.4**
baz=90
GLA Glamis 90.05 54 *eP* **P 22 39 54.3 +0.5**
GLA *e* 22 40 04.1
GLA pmax pmax
comp=Z,46nm,1.0s
GLA Glamis 90.05 54 *eP* **P 22 39 54.3 +0.5**
comp=Z,46nm,1.0s
GLA *e* 22 40 04.1
GRAC Grapevine Rang 90.06 50 ⇑P **P 22 39 53.7 0.0**
baz=90
GRAC ⇑P **P 22 39 53.7 0.0**
baz=90
GRAC ⇑P **P 22 39 53.7 0.0**
baz=90
NVAR Mina Array Bea 90.10 48 P **P 22 39 54.0 -0.1**
comp=Z,4.6nm,0.7s,baz=228,slow=7.7,SNR=36
NVAR LR LR 23 16 06.1
comp=Z,1μm,18.0s,baz=112,slow=33
NVAR Mina Array Bea 90.10 48 P **P 22 39 54.0 -0.1**
FURC Furnace Creek, 90.17 50 ⇓P **P 22 39 54.3 +0.2**
baz=90,SNR=5.9
FURC ⇓P **P 22 39 54.3 +0.2**
baz=90,SNR=5.9
FURC ⇓P **P 22 39 54.3 +0.2**
baz=90,SNR=5.9
GMRC Granite Mounta 90.23 52 ⇓P **P 22 39 54.9 +0.1**
baz=90
GMRC ⇓P **P 22 39 54.9 +0.1**
baz=90
GMRC ⇓P **P 22 39 54.9 +0.1**
baz=90
SHL Shillong 90.27 298 *eP* P 22 40 00.0 +4.8
SHL *eSKS* **SKSac 22 50 32.0 +5.8**
SHOC Shoshone 90.31 51 ⇓P **P 22 39 55.2 +0.3**
baz=90
SHOC ⇓P **P 22 39 55.2 +0.3**
baz=90
SHOC ⇓P **P 22 39 55.2 +0.3**
baz=90
IRM Iron Mountain 90.32 53 ⇓P **P 22 39 55.5 +0.5**
baz=90,SNR=6.2
IRM ⇓P **P 22 39 55.5 +0.5**
baz=90,SNR=6.2
IRM ⇓P **P 22 39 55.5 +0.5**
baz=90,SNR=6.2
TUQ Turquoise Moun 90.35 51 ⇓P **P 22 39 55.4 +0.1**
baz=90
TUQ ⇓P **P 22 39 55.4 +0.1**
baz=90
TUQ ⇓P **P 22 39 55.4 +0.1**
baz=90
ULN Ulaanbaatar 90.56 323 *eP* **P 22 39 56.0 0.0**
ULN pmax pmax
comp=Z,33nm,1.1s
ULN MLR MLR
comp=Z,632nm,20.0s
ULN Ulaanbaatar 90.56 323 *eP* **P 22 39 56.0 0.0**

ULN LR LR
comp=Z,632nm,20.0s
GTA Gaotai 90.60 313 *e*P **P** **22 39 57.0 +0.7**
GTA pP **pP** **22 40 01.1 -0.8**
GTA sP **sP** **22 40 04.1 +0.2**
GTA SKS **SKSac** **22 50 27.9 +0.6**
GTA S **S** **22 50 52.6 +1.1**
GTA sS **sS** **22 50 59.3 -1.4**
GTA pmax pmax
comp=Z,11nm,1.6s
GTA pmax pmax
comp=Z,280nm,6.7s
GTA LR LR
comp=N,290nm,15.2s
GTA LR LR
comp=E,300nm,17.6s
GTA LR LR
comp=Z,420nm,20.0s
Y12C Blythe 90.60 53 ⇓P **P** **22 39 56.9 +0.6**
baz=91
Y12C ⇓P **P** **22 39 56.9 +0.6**
baz=91
Y12C ⇓P **P** **22 39 56.9 +0.6**
baz=91
BILL Bilibino 90.64 358 ⇓*e*P **P** **22 39 55.4 -0.2**
BILL *e* 22 43 29.6
BILL *e*S **SKSac** **22 50 29.5 +3.5**
BILL *i* PS **PnS** **22 52 01.4 +1.2**
BILL pmax pmax
comp=Z,33nm,1.8s
BILL Bilibino 90.64 358 *e*P **P** **22 39 54.8 -0.8**
comp=Z,15nm,0.8s
BILL LR LR
comp=Z,818nm,21.0s
TPH Tonopah 90.68 49 PFAKE 22 40 10.0 +13
TPH LR LR
comp=Z,1μm,21.0s
YAK Yakutsk 90.69 342 *e*P **P** **22 39 54.0 -2.0**
YAK *e*PPP PPP 22 45 29.3
YAK *e* 22 50 51.2
YAK *e*SS SS 22 56 48.7 -4.8
YAK *e*SSS SSS 23 00 24.1
YAK pmax pmax
comp=Z,27nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=Z,167nm,5.6s
YAK pmax pmax
comp=N,251nm,4.8s
YAK pmax pmax
comp=E,227nm,5.3s
YAK Yakutsk 90.69 342 *e*P **P** **22 39 55.7 -0.3**
comp=E,67nm,1.2s
YAK LR LR
comp=Z,801nm,19.0s
113A Mohawk Valley, 90.72 55 ⇑P **P** **22 39 56.7 -0.1**
baz=91
113A ⇑P **P** **22 39 56.7 -0.1**
baz=91
113A ⇑P **P** **22 39 56.7 -0.1**
baz=91
LDFC Landfair 90.77 52 *e*P **P** **22 39 57.1 -0.1**
LDFC *e* 22 40 07.6
SONM Songino Array 90.91 323 P **P** **22 39 57.5 0.0**
comp=Z,13nm,1.1s,baz=137,slow=2.8,SNR=43
SONM PP PP 22 43 41.4 +7.3
comp=Z,1.3nm,1.1s,baz=135,slow=6.0,SNR=3.7
SONM LR LR 23 23 05.3
comp=Z,829nm,18.0s,baz=131,slow=37
SONM Songino Array 90.91 323 P **P** **22 39 57.5 0.0**
SONM 22 43 41.4
SONM Songino Array 90.91 323 P **P** **22 39 57.5 0.0**
SONM PP PP 22 43 41.4 +7.3
Z13A Yuma Proving G 91.00 54 ⇓P **P** **22 39 58.2 +0.1**
baz=91
Z13A ⇓P **P** **22 39 58.2 +0.1**
baz=91
Z13A ⇓P **P** **22 39 58.2 +0.1**
baz=91
214A Organ Pipe Nat 91.08 56 ⇓P **P** **22 39 58.9 +0.2**
baz=91
214A ⇓P **P** **22 39 58.9 +0.2**
baz=91
214A ⇓P **P** **22 39 58.9 +0.2**
baz=91
PDMCI Parker Dam,Lak 91.13 53 ⇓P **P** **22 39 59.3 +0.5**
baz=91
PDMCI ⇓P **P** **22 39 59.3 +0.5**
baz=91
PDMCI ⇓P **P** **22 39 59.3 +0.5**
baz=91
NLWA Neilton Lookou 91.23 38 PFAKE 22 40 10.0 +11
NLWA LR LR
comp=Z,2μm,19.0s
114A Black Gap (USA 91.38 55 ⇑P **P** **22 40 00.2 +0.3**
baz=92
114A ⇑P **P** **22 40 00.2 +0.3**
baz=92
114A ⇑P **P** **22 40 00.2 +0.3**
baz=92
Z14A Wintersburg 91.60 54 ⇓P **P** **22 40 01.3 +0.3**
baz=92
Z14A ⇓P **P** **22 40 01.3 +0.3**
baz=92
Z14A ⇓P **P** **22 40 01.3 +0.3**
baz=92
W13A Hualapai Mount 91.68 53 ⇑P **P** **22 40 01.7 +0.1**
baz=92,SNR=5.5
W13A ⇑P **P** **22 40 01.7 +0.1**
baz=92,SNR=5.5
W13A ⇑P **P** **22 40 01.7 +0.1**
baz=92,SNR=5.5
BMN Battle Mountai 91.80 47 *e*P **P** **22 40 01.8 -0.1**
BMN pmax pmax
comp=Z,69nm,1.6s
BMN MLR MLR
comp=Z,2μm,19.0s
BMN Battle Mountai 91.80 47 *e*P **P** **22 40 01.8 -0.1**
comp=Z,69nm,1.6s
BMN LR LR
comp=Z,2μm,19.0s
R11A Troy Canyon, C 91.94 49 ⇑P **P** **22 40 02.3 -0.4**
baz=92
R11A ⇑P **P** **22 40 02.3 -0.4**
baz=92
R11A ⇑P **P** **22 40 02.3 -0.4**
baz=92
WRAK Wrangell Islan 92.31 28 PFAKE 22 40 20.0 +16
WRAK LR LR
comp=Z,2μm,20.0s
LSA Lhasa 92.59 301 P **P** **22 40 05.5 -0.7**
LSA Lhasa 92.59 301 *e*P **P** **22 40 05.5 -0.7**
LSA pmax pmax
comp=Z,32nm,1.3s
LSA MLR MLR
comp=Z,326nm,19.0s
LSA Lhasa 92.59 301 *e*P **P** **22 40 05.5 -0.7**
comp=Z,32nm,1.3s
LSA LR LR
comp=Z,326nm,19.0s
TUC Tucson 92.78 56 *e*P **P** **22 40 06.4 -0.1**
TUC pmax pmax
comp=Z,15nm,1.2s
TUC MLR MLR
comp=Z,999nm,19.0s
TUC Tucson 92.78 56 *e*P **P** **22 40 06.4 -0.1**
comp=Z,15nm,1.2s
TUC LR LR
comp=Z,999nm,19.0s
R13A O'Grain Ranch, 93.00 50 ⇑P **P** **22 40 07.8 +0.2**
baz=93
R13A ⇑P **P** **22 40 07.8 +0.2**
baz=93
R13A ⇑P **P** **22 40 07.8 +0.2**
baz=93
318A Bisbee 93.03 57 ⇓P **P** **22 40 07.8 0.0**
baz=93
318A ⇓P **P** **22 40 07.8 0.0**
baz=93
318A ⇓P **P** **22 40 07.8 0.0**
baz=93
COLA College 93.03 16 PFAKE 22 40 20.0 +13
COLA LR LR
comp=Z,549nm,20.0s
BOD Bodaibo 93.15 333 *e*P **P** **22 40 06.4 -1.1**
BOD *e* 22 50 39.0
BOD pmax pmax
comp=Z,18nm,1.8s
X16A Lo Mia Camp, P 93.19 54 ⇑P **P** **22 40 08.8 +0.3**
baz=93,SNR=7.0
X16A ⇑P **P** **22 40 08.8 +0.3**
baz=93,SNR=7.0
X16A ⇑P **P** **22 40 08.8 +0.3**
baz=93,SNR=7.0
ILAR Eielson Array 93.21 17 P **P** **22 40 06.1 -1.5**
comp=Z,2.6nm,1.1s,baz=232,slow=6.0,SNR=10
ILAR PKKPbc **PKKPdf** **22 57 15.6 -2.0**
comp=Z,0.6nm,0.9s,baz=344,slow=2.1,SNR=6.4
ILAR LR LR 23 20 24.8
comp=Z,647nm,19.7s,baz=43,slow=34
ILAR Eielson Array 93.21 17 P **P** **22 40 06.1 -1.5**
ILAR Eielson Array 93.21 17 P **P** **22 40 06.1 -1.5**
ILAR PKKPbc **PKKPdf** **22 57 15.6 -2.0**
HAWA Hanford 93.25 41 PFAKE 22 40 20.0 +12
HAWA LR LR
comp=Z,2μm,19.0s
Y17A Roosevelt 93.33 55 ⇓P **P** **22 40 09.0 -0.1**
baz=94
Y17A ⇓P **P** **22 40 09.0 -0.1**
baz=94
Y17A ⇓P **P** **22 40 09.0 -0.1**
baz=94
U15A North Rim 93.42 52 ⇓P **P** **22 40 09.9 +0.3**
baz=94,SNR=10
U15A ⇓P **P** **22 40 09.9 +0.3**
baz=94,SNR=10
U15A ⇓P **P** **22 40 09.9 +0.3**
baz=94,SNR=10
X17A Forest Lakes 93.63 54 ⇑P **P** **22 40 10.2 -0.4**
baz=94
X17A ⇑P **P** **22 40 10.2 -0.4**
baz=94
X17A ⇑P **P** **22 40 10.2 -0.4**
baz=94
WUAZ Wupatki 93.70 53 PFAKE 22 40 20.0 +9.1
WUAZ LR LR
comp=Z,1μm,19.0s
WUAZ Wupatki 93.70 53 ⇓P **P** **22 40 10.8 0.0**
baz=94
WUAZ ⇓P **P** **22 40 10.8 0.0**
baz=94
WUAZ ⇓P **P** **22 40 10.8 0.0**
baz=94
BMO Blue Mountains 93.86 43 PFAKE 22 40 20.0 +8.8
BMO LR LR
comp=Z,578nm,21.0s
ZAK Zakamensk 94.01 324 *e*P **P** **22 40 10.6 -1.2**
ZAK *e* 22 40 19.9
ZAK pmax pmax
comp=Z,15nm,1.5s
MFID Camas Ranch 94.12 44 ⇓P **P** **22 40 13.2 +0.7**
baz=94
MFID ⇓P **P** **22 40 13.2 +0.7**
baz=94
MFID ⇓P **P** **22 40 13.2 +0.7**
baz=94
U16A Tuba City 94.15 53 ⇑P **P** **22 40 13.1 +0.3**
baz=94,SNR=5.9
U16A ⇑P **P** **22 40 13.1 +0.3**
baz=94,SNR=5.9
U16A ⇑P **P** **22 40 13.1 +0.3**
baz=94,SNR=5.9
X18A Snowflake 94.35 54 ⇑P **P** **22 40 14.1 +0.3**
baz=94
X18A ⇑P **P** **22 40 14.1 +0.3**
baz=94
X18A ⇑P **P** **22 40 14.1 +0.3**
baz=94
220A Playas Peak, P 94.36 57 ⇑P **P** **22 40 13.9 0.0**
baz=94
220A ⇑P **P** **22 40 13.9 0.0**
baz=94
220A ⇑P **P** **22 40 13.9 0.0**
baz=94
MVU Marysvale 94.38 50 PFAKE 22 40 30.0 +16
MVU LR LR
comp=Z,1μm,21.0s
EFI East Falkland 94.40 152 PFAKE 22 40 20.0 +6.4
EFI LR LR
comp=Z,876nm,21.0s
TAPN Taplejung 94.41 298 *e*P **P** **22 40 14.7 +0.3**
comp=Z,77nm,1.2s
TAPN Taplejung 94.41 298 *e*P **P** **22 40 14.7 +0.3**
comp=Z,77nm,1.2s
ODAN Odare 94.48 297 *e*P **P** **22 40 14.9 +0.2**
ODAN Odare 94.48 297 *e*P **P** **22 40 14.9 +0.2**
S16A Weppner Ranch, 94.48 51 ⇓P **P** **22 40 14.5 +0.1**
baz=95
S16A ⇓P **P** **22 40 14.5 +0.1**
baz=95
S16A ⇓P **P** **22 40 14.5 +0.1**
baz=95
TLY Talaya 94.49 325 *e*P **P** **22 40 13.6 -0.3**
TLY pmax pmax
comp=Z,36nm,1.8s
TLY MLR MLR
comp=Z,703nm,22.0s
TLY Talaya 94.49 325 *e*P **P** **22 40 13.6 -0.3**
comp=Z,36nm,1.8s
TLY LR LR
comp=Z,703nm,22.0s
120A U Bar Ranch, L 94.54 57 ⇑P **P** **22 40 15.0 +0.2**
baz=95
120A ⇑P **P** **22 40 15.0 +0.2**
baz=95
120A ⇑P **P** **22 40 15.0 +0.2**
baz=95
DLBC Dease Lake 94.55 27 LR LR 23 12 44.9
comp=Z,1μm,21.7s,baz=329,slow=29
Y19A Nutrioso 94.64 55 ⇑P **P** **22 40 15.4 +0.1**
baz=95,SNR=6.1
Y19A ⇑P **P** **22 40 15.4 +0.1**
baz=95,SNR=6.1
Y19A ⇑P **P** **22 40 15.4 +0.1**
baz=95,SNR=6.1
U17A Shonto 94.69 52 ⇑P **P** **22 40 15.6 +0.2**
baz=95
U17A ⇑P **P** **22 40 15.6 +0.2**
baz=95
U17A ⇑P **P** **22 40 15.6 +0.2**
baz=95
DUG Dugway 94.69 48 PFAKE 22 40 30.0 +15
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway 94.69 48 ⇓P **P** **22 40 15.6 +0.4**
baz=95
DUG ⇓P **P** **22 40 15.6 +0.4**
baz=95
DUG ⇓P **P** **22 40 15.6 +0.4**
baz=95
I12A Atlanta 94.75 44 ⇓P **P** **22 40 16.2 +0.7**
baz=95
I12A ⇓P **P** **22 40 16.2 +0.7**
baz=95
I12A ⇓P **P** **22 40 16.2 +0.7**
baz=95
T17A Navajo Res., N 94.75 52 ⇑P **P** **22 40 16.0 +0.3**
baz=95
T17A ⇑P **P** **22 40 16.0 +0.3**
baz=95
T17A ⇑P **P** **22 40 16.0 +0.3**
baz=95
DGAR Diego Garcia 94.76 260 PFAKE 22 40 30.0 +14
DGAR LR LR
comp=Z,2μm,19.0s
Z20A Nine Sixteen R 94.80 56 ⇓P **P** **22 40 15.7 -0.3**
baz=95
Z20A ⇓P **P** **22 40 15.7 -0.3**
baz=95
Z20A ⇓P **P** **22 40 15.7 -0.3**
baz=95
R16A Teasdale 94.80 51 ⇓P **P** **22 40 16.2 +0.3**
baz=95
R16A ⇓P **P** **22 40 16.2 +0.3**
baz=95
R16A ⇓P **P** **22 40 16.2 +0.3**
baz=95
EGAK Eagle 94.82 19 PFAKE 22 40 30.0 +15
EGAK LR LR
comp=Z,961nm,19.0s
PLCA Paso Flores 94.94 138 P **P** **22 40 16.2 -0.2**
comp=Z,2.7nm,0.9s,baz=227,slow=5.3,SNR=5.7
PLCA LR LR 23 16 33.1
comp=Z,243nm,18.4s,baz=232,slow=31
PLCA Paso Flores 94.94 138 P **P** **22 40 16.3 -0.2**
PLCA Paso Flores 94.94 138 P **P** **22 40 16.2 -0.2**
W19A Sanders 95.01 54 ⇓P **P** **22 40 17.0 +0.1**
baz=95
W19A ⇓P **P** **22 40 17.0 +0.1**
baz=95
W19A ⇓P **P** **22 40 17.0 +0.1**
baz=95
S17A Black Ridge (B 95.02 51 ⇑P **P** **22 40 16.5 -0.3**
baz=95
S17A ⇑P **P** **22 40 16.5 -0.3**
baz=95
S17A ⇑P **P** **22 40 16.5 -0.3**
baz=95
HLID Hailey 95.11 45 PFAKE 22 40 30.0 +13
HLID LR LR
comp=Z,1μm,19.0s
HLID Hailey 95.11 45 ⇓P **P** **22 40 17.2 +0.1**
baz=95
HLID ⇓P **P** **22 40 17.2 +0.1**
baz=95
HLID ⇓P **P** **22 40 17.2 +0.1**
baz=95
RAMN Ramite 95.16 297 *e*P **P** **22 40 18.1 +0.3**
comp=Z,75nm,1.4s
RAMN Ramite 95.16 297 *e*P **P** **22 40 18.1 +0.3**
comp=Z,75nm,1.4s
121A Cookes Peak, D 95.19 57 ⇑P **P** **22 40 17.9 +0.2**
baz=95
121A ⇑P **P** **22 40 17.9 +0.2**
baz=95
121A ⇑P **P** **22 40 17.9 +0.2**
baz=95
J13A Cove Ranch, Pi 95.19 45 ⇓P **P** **22 40 17.6 +0.1**
baz=95
J13A ⇓P **P** **22 40 17.6 +0.1**
baz=95
J13A ⇓P **P** **22 40 17.6 +0.1**
baz=95
U18A Rough Rock, Ch 95.19 53 ⇓P **P** **22 40 17.6 -0.1**
baz=95
U18A ⇓P **P** **22 40 17.6 -0.1**
baz=95
U18A ⇓P **P** **22 40 17.6 -0.1**
baz=95
H12A Diamond D Ranc 95.27 44 ⇑P **P** **22 40 17.8 0.0**
baz=96
H12A ⇑P **P** **22 40 17.8 0.0**
baz=96
H12A ⇑P **P** **22 40 17.8 0.0**
baz=96
Y20A Horse Springs, 95.28 56 ⇓P **P** **22 40 18.4 +0.1**
baz=95,SNR=7.1
Y20A ⇓P **P** **22 40 18.4 +0.1**
baz=95,SNR=7.1
Y20A ⇓P **P** **22 40 18.4 +0.1**
baz=95,SNR=7.1
X20A Quemado 95.45 55 ⇑P **P** **22 40 19.2 +0.3**
baz=96
X20A ⇑P **P** **22 40 19.2 +0.3**
baz=96
X20A ⇑P **P** **22 40 19.2 +0.3**
baz=96
T18A Mexican Hat 95.48 52 ⇓P **P** **22 40 19.3 +0.4**
baz=96
T18A ⇓P **P** **22 40 19.3 +0.4**
baz=96
T18A ⇓P **P** **22 40 19.3 +0.4**
baz=96
M15A Larsen Ranch, 95.49 47 ⇑P **P** **22 40 18.9 0.0**
baz=96
M15A ⇑P **P** **22 40 18.9 0.0**
baz=96
M15A ⇑P **P** **22 40 18.9 0.0**
baz=96
F12A Elk City 95.56 43 ⇑P **P** **22 40 19.5 +0.4**
baz=96
F12A ⇑P **P** **22 40 19.5 +0.4**
baz=96
F12A ⇑P **P** **22 40 19.5 +0.4**
baz=96
Z21A St. Cloud Mine 95.58 56 ⇑P **P** **22 40 20.0 +0.4**
baz=96
Z21A ⇑P **P** **22 40 20.0 +0.4**
baz=96
Z21A ⇑P **P** **22 40 20.0 +0.4**
baz=96
J14A Carey 95.59 45 ⇑P **P** **22 40 19.7 +0.4**
baz=96
J14A ⇑P **P** **22 40 19.7 +0.4**
baz=96
J14A ⇑P **P** **22 40 19.7 +0.4**
baz=96
NEW Newport 95.59 40 PFAKE 22 40 30.0 +11
NEW LR LR
comp=Z,2μm,19.0s
S18A Hurst Farm, Bl 95.62 52 ⇓P **P** **22 40 19.9 +0.2**
baz=96
S18A ⇓P **P** **22 40 19.9 +0.2**
baz=96
S18A ⇓P **P** **22 40 19.9 +0.2**
baz=96
U19A Dine' College, 95.63 53 ⇑P **P** **22 40 20.2 +0.5**
baz=96
U19A ⇑P **P** **22 40 20.2 +0.5**
baz=96
U19A ⇑P **P** **22 40 20.2 +0.5**
baz=96
H13A Challis 95.66 44 ⇑P **P** **22 40 20.2 +0.6**
baz=96
H13A ⇑P **P** **22 40 20.2 +0.6**
baz=96
H13A ⇑P **P** **22 40 20.2 +0.6**
baz=96
W20A Ramah 95.68 54 ⇑P **P** **22 40 20.5 +0.5**
baz=96
W20A ⇑P **P** **22 40 20.5 +0.5**
baz=96
W20A ⇑P **P** **22 40 20.5 +0.5**
baz=96
SRU San Rafael 95.83 50 ⇑P **P** **22 40 20.4 -0.1**
baz=96
SRU ⇑P **P** **22 40 20.4 -0.1**
baz=96
SRU ⇑P **P** **22 40 20.4 -0.1**
baz=96
Y21A Point of Rocks 95.86 56 ⇑P **P** **22 40 21.0 +0.1**
baz=96
Y21A ⇑P **P** **22 40 21.0 +0.1**
baz=96
Y21A ⇑P **P** **22 40 21.0 +0.1**
baz=96
I14A Mackay 95.90 45 ⇓P **P** **22 40 21.0 +0.3**
baz=96
I14A ⇓P **P** **22 40 21.0 +0.3**
baz=96
I14A ⇓P **P** **22 40 21.0 +0.3**
baz=96
MOY Mondy 95.90 324 *e*P **P** **22 40 20.8 +0.4**
G13A Cobalt 95.91 43 ⇑P **P** **22 40 21.0 +0.4**
baz=96
G13A ⇑P **P** **22 40 21.0 +0.4**
baz=96
G13A ⇑P **P** **22 40 21.0 +0.4**
baz=96
X21A Alamocita Cree 95.95 55 ⇓P **P** **22 40 21.4 +0.1**
baz=96
X21A ⇓P **P** **22 40 21.4 +0.1**
baz=96
X21A ⇓P **P** **22 40 21.4 +0.1**
baz=96
R18A Canyonlands Na 95.98 51 ⇓P **P** **22 40 21.4 +0.2**
baz=96
R18A ⇓P **P** **22 40 21.4 +0.2**
baz=96
R18A ⇓P **P** **22 40 21.4 +0.2**
baz=96
Z22A Elephant Butte 96.11 57 ⇑P **P** **22 40 21.9 +0.1**
baz=96
Z22A ⇑P **P** **22 40 21.9 +0.1**
baz=96
Z22A ⇑P **P** **22 40 21.9 +0.1**
baz=96
O17A Robinson Place 96.13 49 ⇑P **P** **22 40 21.9 0.0**
baz=96
O17A ⇑P **P** **22 40 21.9 0.0**

baz=96
O17A ⇑P **P** **22 40 21.9 0.0**
baz=96
PKI Pulchoki 96.38 297 *e*P **P** **22 40 23.7 +0.2**
PKI Pulchoki 96.38 297 *e*P **P** **22 40 23.7 +0.2**
PKI Pulchoki 96.38 297 *e*P **P** **22 40 23.7 +0.2**
MVCO Mesa Verde 96.52 52 PFAKE 22 40 40.0 +16
MVCO LR LR
comp=Z,889nm,19.0s
324A Moseley Ranch, 96.56 59 ⇓P **P** **22 40 24.3 +0.3**
baz=97
324A ⇓P **P** **22 40 24.3 +0.3**
baz=97
324A ⇓P **P** **22 40 24.3 +0.3**
baz=97
DMN Daman 96.64 297 *e*P **P** **22 40 25.5 +0.9**
DMN Daman 96.64 297 *e*P **P** **22 40 25.5 +0.9**
425A Indio Mountain 96.70 60 ⇑P **P** **22 40 24.7 +0.1**
baz=97
425A ⇑P **P** **22 40 24.7 +0.1**
baz=97
425A ⇑P **P** **22 40 24.7 +0.1**
baz=97
MNTX Cornudas Mount 96.74 59 PFAKE 22 40 40.0 +15
MNTX LR LR
comp=Z,741nm,21.0s
224A Cornudas Mount 96.77 58 ⇑P **P** **22 40 25.5 +0.6**
baz=97
224A ⇑P **P** **22 40 25.5 +0.6**
baz=97
224A ⇑P **P** **22 40 25.5 +0.6**
baz=97
MSO Missoula 96.86 42 PFAKE 22 40 40.0 +15
MSO LR LR
comp=Z,801nm,19.0s
626A Big Bend Ranch 96.92 61 ⇓P **P** **22 40 25.3 -0.3**
baz=97
626A ⇓P **P** **22 40 25.3 -0.3**
baz=97
626A ⇓P **P** **22 40 25.3 -0.3**
baz=97
ANMO Albuquerque 97.15 55 PFAKE 22 40 40.0 +13
ANMO LR LR
comp=Z,795nm,20.0s
TXAR Lajitas Array 97.22 61 P **P** **22 40 26.6 -0.4**
comp=Z,1.0nm,0.9s,baz=237,slow=4.3,SNR=4.7
TXAR PKKPbc **PKKPbc** **22 57 06.5 +0.1**
comp=Z,0.6nm,0.8s,baz=94,slow=3.9,SNR=4.3
TXAR Lajitas Array 97.22 61 P **P** **22 40 26.6 -0.4**
TXAR Lajitas Array 97.22 61 P **P** **22 40 26.6 -0.4**
TXAR PKKPbc **PKKPbc** **22 57 06.5 +0.1**
BOZ Bozeman (W) 97.80 44 PFAKE 22 40 40.0 +11
BOZ LR LR
comp=Z,1μm,19.0s
J18A Kendall Valley 97.86 46 ⇓P Pdif 22 40 30.2 +0.5
baz=98
J18A ⇓P Pdif 22 40 30.2 +0.5
baz=98
J18A ⇓P Pdif 22 40 30.2 +0.5
baz=98
L19A Farson 97.86 48 ⇑P Pdif 22 40 30.2 +0.5
baz=98
L19A ⇑P Pdif 22 40 30.2 +0.5
baz=98
L19A ⇑P Pdif 22 40 30.2 +0.5
baz=98
S22A 4UR Ranch, Cre 97.95 53 ⇑P **P** **22 40 30.2 -0.1**
baz=98
S22A ⇑P **P** **22 40 30.2 -0.1**
baz=98
S22A ⇑P **P** **22 40 30.2 -0.1**
baz=98
BW06 Boulder Array 97.99 47 PFAKE 22 40 40.0 +10
BW06 LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 97.99 47 ⇑P Pdif 22 40 30.7 +0.4
baz=98
BW06 ⇑P Pdif 22 40 30.7 +0.4
baz=98
BW06 ⇑P Pdif 22 40 30.7 +0.4
baz=98
BW06 ⇑P Pdif 22 40 30.7 +0.4
baz=98
BW06 ⇑P Pdif 22 40 30.7 +0.4
baz=98
BW06 ⇑P Pdif 22 40 30.7 +0.4
baz=98
PDAR Pinedale Array 97.99 47 P Pdif 22 40 31.3 +1.0
comp=Z,1.6nm,1.0s,baz=224,slow=3.9,SNR=6.4
PDAR PP **PP** **22 44 28.6 -1.0**
comp=Z,1.1nm,1.0s,baz=213,slow=11,SNR=4.1
PDAR LR LR 23 22 08.9
comp=Z,1μm,18.2s,baz=257,slow=34
PDAR Pinedale Array 97.99 47 P Pdif 22 40 31.3 +1.0
PDAR PP **PP** **22 44 28.6 -1.0**
LKWY Lake 98.15 45 PFAKE 22 40 40.0 +8.9
LKWY LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 99.11 45 PFAKE 22 40 50.0 +15
RLMT LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 99.60 51 PFAKE 22 40 50.0 +12
ISCO LR LR
comp=Z,793nm,19.0s
EGMT Eagleton 99.94 42 PFAKE 22 40 50.0 +11
EGMT LR LR
comp=Z,1μm,19.0s
WMQ Urumqi 100.68 313 P **Pdif** **22 40 43.1 +1.0**
WMQ PP **PP** **22 44 53.6 +3.8**
WMQ S **Sdif** **22 52 13.1 -5.7**
WMQ SS **SS** **22 59 14.3 -2.1**
WMQ pmax pmax
comp=Z,8.0nm,1.8s
WMQ LR LR
comp=N,290nm,21.4s
WMQ LR LR
comp=E,430nm,18.4s
WMQ LR LR
comp=Z,350nm,23.0s
JCT Junction City 100.76 61 PFAKE 22 40 50.0 +7.3
JCT LR LR
comp=Z,658nm,19.0s
AMTX Amarillo 100.78 57 PFAKE 22 40 50.0 +7.2
AMTX LR LR
comp=Z,846nm,19.0s
KVTX Kingsville 101.33 65 PFAKE 22 41 00.0 +15
KVTX LR LR
comp=Z,769nm,20.0s
LCO Las Campanas 101.54 128 PFAKE 22 41 00.0 +13
LCO LR LR
comp=Z,540nm,19.0s
TRQA Tornquist 101.79 140 PFAKE 22 41 00.0 +13
TRQA LR LR
comp=Z,444nm,19.0s
OGNE Ogallala 102.56 51 PFAKE 22 41 00.0 +9.5
OGNE LR LR
comp=Z,913nm,22.0s
WMOK Wichita Mounta 102.98 58 PFAKE 22 41 00.0 +7.5
WMOK LR LR
comp=Z,995nm,19.0s
YKA Yellowknife Ar 103.17 27 Pdiff **Pdif** **22 40 52.7 +0.2**
comp=Z,0.2nm,0.4s,baz=262,slow=4.3,SNR=3.7
YKA PP **PKiKP** **22 45 11.6 -0.4**
comp=Z,0.1nm,0.4s,baz=251,slow=7.5,SNR=5.3
YKA PKKPbc PKKPbc 22 56 44.6 -5.7
comp=Z,0.2nm,0.8s,baz=61,slow=3.7,SNR=4.3
YKA Yellowknife Ar 103.17 27 P **Pdif** **22 40 52.8 +0.2**
YKA 22 45 11.6
YKA Yellowknife Ar 103.17 27 Pdif **Pdif** **22 40 52.8 +0.2**
YKA PP **PKiKP** **22 45 11.6 -0.4**
YKA PKKPbc PKKPbc 22 56 44.6 -5.7
DGMT Dagmar 103.57 43 PFAKE 22 41 10.0 +15
DGMT LR LR
comp=Z,1μm,19.0s
MK31 Makanchi Array 105.26 315 *e*P **Pdif** **22 41 01.3 -1.0**
MK31 Makanchi Array 105.26 315 *e*Pdif **Pdif** **22 41 01.3 -1.0**
MKAR Makanchi Array 105.26 315 Pdiff **Pdif** **22 41 04.0 +1.7**
comp=Z,0.3nm,0.5s,baz=97,slow=3.6,SNR=5.9
MKAR PKiKP **PKiKP** **22 45 16.9 +0.6**
comp=Z,1.3nm,1.1s,baz=101,slow=2.5,SNR=3.5
MKAR PKKPbc **PKKPbc** **22 56 41.0 -2.6**
comp=Z,0.5nm,0.9s,baz=268,slow=8.5,SNR=4.4
MKAR Makanchi Array 105.26 315 P **Pdif** **22 41 04.0 +1.7**
MKAR Makanchi Array 105.26 315 Pdif **Pdif** **22 41 04.0 +1.7**
MKAR PKiKP **PKiKP** **22 45 16.9 +0.6**
MKAR PKKPbc **PKKPbc** **22 56 41.0 -2.6**

NNA Nana 105.33 110 PFAKE 22 45 30.0
NNA LR LR
comp=Z,435nm,20.0s
NATX Nacogdoches 105.34 62 PFAKE 22 45 30.0
NATX LR LR
comp=Z,927nm,20.0s
ZALV Zalesovo Beam 105.80 322 Pdiff **Pdif** **22 41 05.2 +0.8**
comp=Z,0.3nm,0.4s,baz=154,slow=4.4,SNR=5.0
ZALV PP **PP** **22 45 25.8 -1.9**
comp=Z,0.7nm,0.7s,baz=104,slow=4.8,SNR=4.4
ZALV Zalesovo Beam 105.80 322 P **Pdif** **22 41 05.2 +0.8**
ZALV 22 45 25.8
ZALV Zalesovo Beam 105.80 322 Pdif **Pdif** **22 41 05.2 +0.8**
ZALV PP **PP** **22 45 25.8 -1.9**
KSU1 Kansas State U 105.96 54 PFAKE 22 45 30.0
KSU1 LR LR
comp=Z,1μm,19.0s
TGUH Tegucigalpa,Un 106.18 81 PFAKE 22 45 30.0
TGUH LR LR
comp=Z,278nm,19.0s
FFC Flin Flon 106.76 37 PFAKE 22 45 30.0
FFC LR LR
comp=Z,1μm,21.0s
JTS JuntasAbangare 107.00 86 PFAKE 22 45 30.0
JTS LR LR
comp=Z,440nm,19.0s
MIAR Mount Ida 107.02 59 PFAKE 22 45 30.0
MIAR LR LR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 107.22 49 PFAKE 22 45 30.0
ECSD LR LR
comp=Z,1μm,20.0s
TEIG Tepich 107.29 75 PFAKE 22 45 30.0
TEIG LR LR
comp=Z,443nm,19.0s
NIL Nilore 108.25 299 PFAKE 22 45 30.0
NIL LR LR
comp=Z,216nm,20.0s
KURK Kurchatov 108.63 318 PKiKP **PKiKP** **22 45 20.8 -1.6**
comp=Z,1.0nm,0.8s,baz=103,slow=2.4,SNR=8.5
KURK PKKPbc **PKKPbc** **22 56 31.3 -1.8**
comp=Z,0.5nm,0.9s,baz=292,slow=3.9,SNR=5.3
KURK Kurchatov 108.63 318 *e*PKiKP **PKiKP** **22 45 22.4 0.0**
KURK PKKPbc **PKKPbc** **22 56 31.3 -1.8**
KURK LR LR
comp=Z,703nm,21.0s
TKM2 Tokmak 2 108.82 309 PFAKE 22 45 30.0
TKM2 LR LR
comp=Z,436nm,20.0s
AGMN Agassiz Nation 108.85 45 PFAKE 22 45 30.0
AGMN LR LR
comp=Z,1μm,19.0s
SCIA State Center 109.19 52 PFAKE 22 45 40.0
SCIA LR LR
comp=Z,1μm,19.0s
OTAV Otavalo 109.21 98 PFAKE 22 45 40.0
OTAV LR LR
comp=Z,375nm,19.0s
ULM Lac du Bonnet 109.28 43 PFAKE 22 45 40.0
ULM LR LR
comp=Z,668nm,19.0s
AAK Ala-Archa 109.54 309 PFAKE 22 45 40.0
AAK LR LR
comp=Z,685nm,19.0s
EKS2 Erkin-Say 110.06 309 PFAKE 22 45 40.0
EKS2 LR LR
comp=Z,452nm,19.0s
OXF Oxford 110.33 60 PFAKE 22 45 40.0
OXF LR LR
comp=Z,695nm,19.0s
LPAZ La Paz 110.51 119 PFAKE 22 45 40.0
LPAZ LR LR
comp=Z,289nm,19.0s
ABPO Ambohimpanom 110.94 238 PFAKE 22 45 40.0
ABPO LR LR
comp=Z,866nm,22.0s
MSEY Mahe Island 111.20 255 PFAKE 22 45 40.0
MSEY LR LR
comp=Z,979nm,20.0s
BRAL Brewton 111.39 64 PFAKE 22 45 40.0
BRAL LR LR
comp=Z,648nm,20.0s
PLAL Pickwick Lake 111.51 60 PFAKE 22 45 40.0
PLAL LR LR
comp=Z,808nm,20.0s
JFWS Jewell Farm 111.55 51 PFAKE 22 45 40.0
JFWS LR LR
comp=Z,1μm,19.0s
EYMN Ely 111.65 46 PFAKE 22 45 40.0
EYMN LR LR
comp=Z,1μm,21.0s
HDIL Hopedale 111.78 54 PFAKE 22 45 40.0
HDIL LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 111.93 62 PFAKE 22 45 40.0
LRAL LR LR
comp=Z,600nm,22.0s
RES Resolute Bay 112.96 17 PKiKP **PKiKP** **22 45 29.3 -0.6**
comp=Z,1.1nm,0.9s,baz=170,slow=2.6,SNR=3.6
RES Resolute Bay 112.96 17 PKiKP 22 45 29.3
RES Resolute Bay 112.96 17 PKiKP **PKiKP** **22 45 29.3 -0.6**
BVAR Borovoye Array 114.05 319 PKiKP PKPdf 22 45 31.8 -0.9
comp=Z,1.5nm,0.8s,baz=157,slow=1.9,SNR=7.5
BVAR Borovoye Array 114.05 319 PKIKP PKPdf 22 45 31.8 -0.9
BVAR Borovoye Array 114.05 319 PKiKP PKPdf 22 45 31.8 -0.9
BRVK Borovoye 114.12 319 *e*PKiKP PKPdf 22 45 32.4 -0.4
BRVK MLR MLR
comp=Z,836nm,20.0s
BRVK Borovoye 114.12 319 *e*PKiKP PKPdf 22 45 32.4 -0.4
BRVK LR LR
comp=Z,836nm,20.0s
GOGA Godfrey 114.90 63 PFAKE 22 45 50.0 +15
GOGA LR LR
comp=Z,971nm,19.0s
GLMI Grayling 115.88 50 PFAKE 22 45 50.0 +14
GLMI LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 116.25 53 PFAKE 22 45 50.0 +13
AAM LR LR
comp=Z,1μm,19.0s
MTDJ Mount Denham 116.37 80 PFAKE 22 45 50.0 +12
MTDJ LR LR
comp=Z,238nm,19.0s
ACSO Alum Creek Sta 116.47 55 PFAKE 22 45 50.0 +12
ACSO LR LR
comp=Z,1μm,20.0s
BLA Blacksburg 118.01 59 PFAKE 22 45 50.0 +9.1
BLA LR LR
comp=Z,980nm,19.0s
SUR Sutherland 118.06 209 PFAKE 22 45 50.0 +8.6
SUR LR LR
comp=Z,1μm,20.0s
SAML Samuel 118.49 115 PFAKE 22 45 50.0 +7.6
SAML LR LR
comp=Z,490nm,20.0s
ERPA Erie 118.94 53 PFAKE 22 45 50.0 +7.6
ERPA LR LR
comp=Z,991nm,20.0s
BOSA Boshof 119.02 215 PFAKE 22 45 50.0 +6.7
BOSA LR LR
comp=Z,785nm,20.0s
SDV Santo Domingo 119.71 93 PFAKE 22 46 00.0 +15
SDV LR LR
comp=Z,166nm,19.0s
CNNC Cliffs of the 119.76 61 PFAKE 22 46 00.0 +16
CNNC LR LR
comp=Z,568nm,21.0s
ABKAR Akbulak array 120.40 315 *e*PKPdf **PKPdf** **22 45 44.5 -0.5**
CBN Corbin 120.54 58 PFAKE 22 46 00.0 +14
CBN LR LR
comp=Z,1μm,21.0s
SPB Sao Paulo 120.79 139 PFAKE 22 46 00.0 +13
SPB LR LR
comp=Z,539nm,22.0s
ARU Arti 120.94 323 *e*PKiKP **PKPdf** **22 45 45.2 -0.6**
ARU MLR MLR
comp=Z,798nm,22.0s
ARU Arti 120.94 323 *e*PKPdf **PKPdf** **22 45 45.2 -0.6**
ARU LR LR
comp=Z,798nm,22.0s
SOKR Solikamsk 121.51 327 ⇓*i*PKIKP PKPdf 22 45 56.8 +10
SOKR pmax pmax
comp=Z,20nm,1.4s
AKTO Aktyubinsk 121.63 316 PKP **PKPdf** **22 45 46.9 -0.4**
comp=Z,3.3nm,0.9s,baz=138,slow=0.6,SNR=11

AKTO Aktyubinsk 121.63 316 PKIKP **PKPdf** **22 45 46.9 -0.4**
AKTO Aktyubinsk 121.63 316 PKP **PKPdf** **22 45 46.9 -0.4**
LBTB Lobatse 121.68 218 PFAKE 22 46 00.0 +12
LBTB LR LR
comp=Z,668nm,19.0s
BINY Binghamton 121.91 54 PFAKE 22 46 00.0 +12
BINY LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 122.27 81 PFAKE 22 46 00.0 +10
SDDR LR LR
comp=Z,321nm,19.0s
KBS Kingsbay 122.99 355 PFAKE 22 46 00.0 +11
KBS LR LR
comp=Z,505nm,19.0s
LONY Lake Ozonia 123.00 51 PFAKE 22 46 00.0 +10
LONY LR LR
comp=Z,1μm,20.0s
FRB Frobisher Bay 123.69 27 PKP **PKPdf** **22 45 48.6 -2.2**
comp=Z,12nm,1.1s,baz=342,slow=2.6,SNR=9.4
FRB Frobisher Bay 123.69 27 PKIKP **PKPdf** **22 45 48.6 -2.2**
FRB Frobisher Bay 123.69 27 PKP **PKPdf** **22 45 48.6 -2.2**
LBNH Lisbon 124.91 51 PFAKE 22 46 10.0 +16
LBNH LR LR
comp=Z,2μm,19.0s
DAG Danmarks Havn 125.78 3 *i* PKIKP **PKPdf** **22 45 53.6 -1.0**
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 125.78 3 *i* P **PKPdf** **22 45 53.6 -1.0**
comp=Z,70nm,0.9s
BDFB Brasilia 126.14 132 PKP **PKPdf** **22 45 55.8 -1.4**
comp=Z,0.8nm,0.3s,baz=100,slow=12,SNR=2.6
BDFB Brasilia 126.14 132 PKIKP **PKPdf** **22 45 55.8 -1.4**
BDFB Brasilia 126.14 132 PKP **PKPdf** **22 45 55.8 -1.4**
SJG San Juan 126.74 84 PKP **PKPdf** **22 45 56.6 -1.4**
comp=Z,26nm,0.9s,baz=271,slow=13,SNR=3.5
SJG San Juan 126.74 84 PKIKP **PKPdf** **22 45 56.6 -1.4**
SJG San Juan 126.74 84 PKP **PKPdf** **22 45 56.6 -1.4**
SJG *e*PKPdf **PKiKP** **22 45 57.8 -0.7**
SCHQ Schefferville 126.90 38 PFAKE 22 46 10.0 +13
SCHQ LR LR
comp=Z,3μm,22.0s
LVZ Lovozero 127.48 341 PFAKE 22 46 10.0 +12
LVZ LR LR
comp=Z,903nm,20.0s
SUMG Summit 127.60 11 *e*PKIKP **PKPdf** **22 45 57.8 -0.9**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 127.60 11 *i* P **PKPdf** **22 45 57.8 -0.9**
comp=Z,8.5nm,1.1s
ARCES ARCESS Array B 128.86 345 PKP **PKPdf** **22 46 00.0 -0.6**
comp=Z,6.4nm,0.9s,baz=21,slow=2.7,SNR=9.4
ARCES ARCESS Array B 128.86 345 PKIKP **PKPdf** **22 46 00.0 -0.6**
ARCES ARCESS Array B 128.86 345 PKP **PKPdf** **22 46 00.0 -0.6**
KMBO Kilima Mbogo 128.88 249 PFAKE 22 46 10.0 +7.3
KMBO LR LR
comp=Z,631nm,19.0s
TSUM Tsumeb 130.71 214 PFAKE 22 46 20.0 +14
TSUM LR LR
comp=Z,928nm,21.0s
GNI Garni 131.57 304 PFAKE 22 46 20.0 +13
GNI LR LR
comp=Z,329nm,19.0s
JOF Joensuu 131.57 337 *e*p **SKPbc** **22 49 30.0 -0.6**
comp=Z,12nm,1.0s
JOF Joensuu 131.57 337 *e*p **SKPbc** **22 49 30.0 -0.6**
comp=Z,12nm,1.0s
SCO Scoresbysund 131.72 6 *e*PKIKP **PKPdf** **22 46 06.6 +0.6**
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 131.72 6 *i* P **PKPdf** **22 46 06.6 +0.6**
comp=Z,5.1nm,0.9s
VRHR Novokhopersk 131.79 319 *e*PKIKP **PKPdf** **22 46 03.9 -2.8**
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 131.95 308 *i* PKIKP PKPdf 22 46 16.6 +9.0
ZEI pmax pmax
comp=Z,17nm,1.6s
BHD Baghdad 131.99 295 *e*PKP **PKPdf** **22 46 09.0 +1.4**
BHD *e*PP **PP** **22 48 34.0 +4.7**
BHD *i* SKP 22 49 38.0
BHD *i* PKS PKSdf 22 49 56.0 +12
BHD *i* PPS PPP 22 51 35.0
HAKT HAKKARI 132.52 301 *i* P **PKPdf** **22 46 10.7 +1.9**
KIV Kislovodsk 132.66 309 *i* PKIKP **PKPdf** **22 46 08.7 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 132.66 309 PFAKE 22 46 20.0 +11
KIV LR LR
comp=Z,534nm,19.0s
VSR Storozhevoye 133.23 320 *e*PKIKP **PKPdf** **22 46 09.1 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.2s
OBN Obninsk 133.24 326 ⇓*i*PKIKP **PKPdf** **22 46 10.2 +0.9**
OBN pmax pmax
comp=Z,56nm,2.3s
KAF Kangasniemi 133.88 338 *e*p **SKPbc** **22 49 39.2 +0.6**
comp=Z,2.6nm,0.7s
KAF Kangasniemi 133.88 338 *e*p **SKPbc** **22 49 39.2 +0.6**
comp=Z,2.6nm,0.7s
FINES FINESS Array B 134.41 337 PKP **PKPdf** **22 46 11.2 -0.1**
comp=Z,5.4nm,1.0s,baz=84,slow=3.4,SNR=6.7
FINES SKPbc **SKPbc** **22 49 41.6 +1.2**
comp=Z,24nm,1.1s,baz=58,slow=4.7,SNR=14
FINES FINESS Array B 134.41 337 PKIKP **PKPdf** **22 46 11.2 -0.1**
FINES FINESS Array B 134.41 337 PKP **PKPdf** **22 46 11.2 -0.1**
FINES SKPbc **SKPbc** **22 49 41.6 +1.2**
MBAR Mbarara 134.68 245 PFAKE 22 46 30.0 +16
MBAR LR LR
comp=Z,862nm,21.0s
ELZG Elazig 136.17 302 *i* P **PKPdf** **22 46 18.7 +3.1**
ANN Anapa 136.18 312 *i* PKIKP **PKPdf** **22 46 17.1 +2.0**
ANN pmax pmax
comp=Z,103nm,1.1s
MALT Malatya 136.62 302 PFAKE 22 46 30.0 +14
MALT LR LR
comp=Z,23nm,22.0s
MICGM Minsk 137.92 328 *e* **PKPdf** **22 46 20.0 +2.0**
MNK Minsk 137.95 328 *e*PKIKP **PKPdf** **22 46 20.0 +1.9**
IZAR Zarasai 137.97 331 *e*P **PKSdf** **22 49 54.2 +0.3**
IZAR AMB AMB 22 49 56.6
comp=Z,14nm,1.5s
IDID Didziasalis 138.00 330 *e*P **PKSdf** **22 49 54.1 +0.1**
IDID AMB AMB 22 49 56.8
comp=Z,8.7nm,1.4s
ISAL Salakas 138.13 330 *e*P **PKSdf** **22 49 54.6 +0.3**
ISAL AMB AMB 22 49 56.0
comp=Z,15nm,2.1s
IIGN Ignalina 138.22 330 *e*P **PKSdf** **22 49 54.8 +0.3**
IIGN AMB AMB 22 49 57.3
comp=Z,9.5nm,1.2s
AKASG Malin Array Be 139.19 323 PKP **PKPdf** **22 46 19.4 -1.0**
comp=Z,1.3nm,0.7s,baz=55,slow=2.0,SNR=5.9
AKASG SKPbc **SKiKP** **22 49 57.3 -1.0**
comp=Z,7.4nm,0.9s,baz=49,slow=3.1,SNR=12
AKASG Malin Array Be 139.19 323*c* *i*PKIKP **PKPdf** **22 46 21.0 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 139.19 323 PKP **PKPdf** **22 46 19.4 -1.0**
AKASG SKPbc **SKiKP** **22 49 57.3 -1.0**
KIEV Kiev 139.21 323 PFAKE 22 46 30.0 +9.5
KIEV LR LR
comp=Z,716nm,20.0s
NB2 NORSAR Subarra139.24 345 PKP **PKPdf** **22 46 16.6 -3.8**
comp=Z,4.3nm,1.0s,baz=16,slow=3.2
NOA NORSAR Array B 139.24 345 PKP **PKPdf** **22 46 20.3 -0.1**
comp=Z,2.7nm,1.0s,baz=23,slow=3.9,SNR=4.2
NOA SKPbc **SKPbc** **22 49 56.3 +1.4**
comp=Z,6.5nm,1.1s,baz=16,slow=4.3,SNR=3.6
NOA NORSAR Array B 139.24 345 PKIKP **PKPdf** **22 46 20.3 -0.1**
NOA NORSAR Array B 139.24 345 PKP **PKPdf** **22 46 20.3 -0.1**
NOA SKPbc **SKPbc** **22 49 56.3 +1.4**
KSDI Kefar Szold 139.30 295 *e*P PKPdf 22 46 30.5 +9.2
GULE Gulek 139.62 301 *i* P **PKPdf** **22 46 21.8 -0.2**
EIL Elat 139.97 289 *e*P PKPdf 22 46 31.5 +8.9
BR131 Keskin Array S 140.07 305 *e*PKPdf **PKPdf** **22 46 22.3 -0.4**
BRTR Keskin Array B 140.07 305 PKP **PKPdf** **22 46 23.0 +0.3**
comp=Z,7.0nm,1.1s,baz=126,slow=2.1,SNR=8.5

BRTR SKPbc **SKiKP** **22 50 01.9 +1.2**
comp=Z,2.1nm,1.0s,baz=162,slow=0.8,SNR=4.7
BRTR Keskin Array B 140.07 305*c* iPKIKP **PKPdf** **22 46 25.7 +3.0**
BRTR pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 140.07 305 PKP **PKPdf** **22 46 23.0 +0.3**
BRTR SKPbc **SKiKP** **22 50 01.9 +1.2**
CSS Prodhromos 141.08 298 *e*PKPdf **PKPdf** **22 46 24.9 +0.4**
CSS LR LR
comp=Z,415nm,19.0s
CSS Prodhromos 141.08 298 *e*P **PKPdf** **22 46 27.0 +2.5**
ERMK Ermenek 141.19 301 *i* P **PKPdf** **22 46 22.4 -2.5**
RCBR Riachuelo 141.40 134 PKP **PKPdf** **22 46 26.4 +0.7**
comp=Z,15nm,1.1s,baz=117,slow=4.5,SNR=3.5
RCBR Riachuelo 141.40 134 PKP **PKPdf** **22 46 26.4 +0.7**
RCBR LR LR
comp=Z,604nm,20.0s
LVV L'vov 142.50 324 *e*PKIKP PKPdf 22 46 35.5 +9.0
VRI Vrincioaia 142.90 317 ⇑PKIKP PKPdf 22 46 34.9 +7.5
VRI Vrincioaia 142.90 317 ⇑*i*P PKPdf 22 46 34.9 +7.5
BUR08 Bucovina Ar. S 142.99 321 *e*PKPdf **PKPdf** **22 46 27.8 +0.2**
KORT Korkueli 143.16 302 *i* P PKPbc 22 46 24.9 -0.3
KWP Kalwaria Pacla 143.32 325 *e*PKIKP **PKPdf** **22 46 28.1 +0.1**
KWP MLR MLR
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 143.32 325 *e*PKPdf **PKPdf** **22 46 28.1 +0.1**
KWP LR LR
comp=Z,1μm,19.0s
ELBA Catalca 143.54 309 *i* P PKPab 22 46 25.2 +0.2
MLR Muntele Rosu 143.56 317 ⇑PKIKP PKPbc 22 46 26.5 +0.4
MLR Muntele Rosu 143.56 317 ⇑*i*P PKPbc 22 46 26.5 +0.4
AKAS Kas 143.89 301 *i* P PKPab 22 46 25.2 -1.5
DEMI Demirci 143.94 306 *i* P PKPab 22 46 26.4 -0.4
KOLS Kolonicke sedl 143.95 324 *e*PKIKP **PKPdf** **22 46 28.9 -0.2**
KOLS Kolonicke sedl 143.95 324 *e*PKP **PKPdf** **22 46 28.9 -0.2**
KOLS *e*SKP **SKPdf** **22 50 08.7 +5.8**
BMR Baia Mare 143.97 322 ⇑PKIKP PKPbc **22 46 27.8 +0.8**
BMR Baia Mare 143.97 322 ⇑*i*P **PKPdf** **22 46 27.8 -1.4**
DURS Dursunbey 143.97 307 *i* P PKPab 22 46 26.7 -0.2
DNZL Cakiroluk 144.03 303 *i* P PKPbc 22 46 27.8 0.0
UZH Uzhgorod 144.11 324 *e*PKIKP **PKPab** **22 46 26.4 -0.6**
VOIR 144.15 317 ⇓PKIKP **PKPab** **22 46 27.4 +0.1**
VOIR 144.15 317 ⇓*i*P **PKPab** **22 46 27.4 +0.1**
MANT Manisa 144.21 305 *i* P **PKPab** **22 46 27.8 -0.2**
STHS Stebnicka Huta 144.22 325 *e*PKIKP **PKPdf** **22 46 32.2 +2.6**
STHS Stebnicka Huta 144.22 325 *e*PKP **PKPdf** **22 46 32.2 +2.6**
STHS *e*SKP **SKPdf** **22 50 07.9 +4.5**
TRPA Tarpa 144.26 323⇓*e*PKPdf **PKPdf** **22 46 28.1 -1.5**
CRVS Cervenica-Dubn 144.41 325 *e*PKIKP PKPbc 22 46 29.1 +0.7
CRVS Cervenica-Dubn 144.41 325 *e*PKP PKPbc 22 46 29.0 +0.6
CRVS *e*SKP SKPdf 22 50 12.5 +8.8
BALY Balya 144.56 307 *i* P **PKPab** **22 46 27.8 -1.2**
SART Tekirdag 144.58 309 *i* P PKPbc 22 46 29.2 -0.1
HUMR Humele 144.60 316⇓*i*P **PKPab** **22 46 29.0 +0.1**
AKHS Akhisar 144.66 306 *i* P **PKPab** **22 46 28.9 -0.4**
NIE Niedzica 144.70 326 *e*PKPdf **PKPdf** **22 46 30.1 -0.3**
NIE Niedzica 144.70 326 *e*PKIKP **PKPdf** **22 46 30.1 -0.3**
DRGR 144.89 321 ⇓PKIKP PKPbc 22 46 30.3 +0.2
DRGR 144.89 321 ⇓*i*P PKPbc 22 46 30.3 +0.2
AYDN Tasoluk 144.93 304 *i* P **PKPab** **22 46 29.5 -1.0**
LOT Lotru 144.93 318⇓*i*P **PKPdf** **22 46 30.6 -0.5**
ARG Arkhangelos 145.07 301 *e*P **PKPdf** **22 46 31.5 +0.1**
ALN Alexandroupoli 145.32 310 *e*P **PKPbc** **22 46 30.0 -1.5**
AYVA Ayvalik 145.38 307 *i* P **PKPbc** **22 46 31.2 -0.5**
BDRM Kayabasi 145.41 303 *i* P **PKPbc** **22 46 30.9 -1.1**
GCAM G?zelcaml? 145.42 304 *i* P **PKPbc** **22 46 30.6 -1.3**
OKC Ostrava-Krasne 145.51 328 *e*PKIKP **PKPdf** **22 46 31.8 0.0**
OKC Ostrava-Krasne 145.51 328 *e*PKP **PKPdf** **22 46 31.8 0.0**
OKC *e*PKS PKSdf 22 50 14.5 +7.4
RUE Ruedersdorf 145.53 335 *e*PKPdf **PKPbc** **22 46 31.9 +0.1**
GZR Gura Zlata 145.57 319 ⇓PKIKP **PKPdf** **22 46 32.2 +0.1**
GZR Gura Zlata 145.57 319⇓*i*P **PKPdf** **22 46 32.2 +0.1**
BSEG Bad Segeberg 145.59 340 *e*PKPbc **PKPab** **22 46 32.1 -0.1**
BSEG Bad Segeberg 145.59 340 *e*PKIKP **PKPab** **22 46 32.1 -0.1**
BOZC Bozcaada 145.68 308 *i* P **PKPdf** **22 46 31.8 -0.6**
KSP Ksiaz 145.69 331 *e*PKP **PKPbc** **22 46 32.3 -0.1**
KSP *e*PP PP 22 50 15.1 +22
KSP Ksiaz 145.69 331 *e*PKP2 **PKPdf** **22 46 32.2 +0.2**
KSP MLR MLR
comp=Z,2μm,28.4s
PRK Paraskevi 145.70 307 *e*P **PKPab** **22 46 33.0 -0.1**
SMG Samos 145.72 304 *e*P **PKPbc** **22 46 33.0 +0.1**
URLA Izmir 145.72 305 *i* P **PKPdf** **22 46 31.2 -1.3**
PSZ Piszkesteto 145.83 324 ⇑PKP2 **PKPbc** **22 46 32.9 -0.1**
PSZ Piszkesteto 145.83 324 *e*PKPdf **PKPdf** **22 46 32.3 -0.2**
PSZ LR LR
comp=Z,877nm,19.0s
PSZ Piszkesteto 145.83 324⇑*i*P **PKPbc** **22 46 32.9 -0.1**
PSZ Piszkesteto 145.83 324⇓*e*PKPdf **PKPbc** **22 46 33.2 +0.2**
MORC Moravsky Berou 145.84 329 ⇓PKP2 **PKPbc** **22 46 32.9 -0.1**
MORC Moravsky Berou 145.84 329 *e*PKPdf **PKPdf** **22 46 31.8 -0.6**
MORC Moravsky Berou 145.84 329⇓*i*P **PKPbc** **22 46 32.9 -0.1**
KARP Karpathos 145.97 300 *e*P **PKPab** **22 46 34.5 +0.1**
KRLC Kraliky 146.00 330 *e*PKP **PKPbc** **22 46 33.7 +0.2**
DPC Dobruska-Polom 146.02 330 *e*PKP2 **PKPdf** **22 46 33.0 +0.3**
DPC Dobruska-Polom 146.02 330 *e*PKP **PKPdf** **22 46 33.0 +0.3**
DPC *e*pPKP **pPKPdf** **22 46 40.3 +1.9**
DPC *e*PKS PKSdf 22 50 16.3 +8.3
VYHS Vyhne 146.03 326 *e*PKP2 **PKPbc** **22 46 33.4 -0.2**
VYHS Vyhne 146.03 326 *e*PKP **PKPbc** **22 46 33.4 -0.2**
VYHS *e*SKP SKPdf 22 50 14.3 +8.0
UPC Upice 146.05 331 *e*PKP2 **PKPbc** **22 46 33.5 0.0**
UPC Upice 146.05 331 *e*PKP **PKPbc** **22 46 33.5 0.0**
UPC *e*pPKP **pPKPdf** **22 46 40.4 +2.0**
UPC *e*PKS PKSdf 22 50 16.2 +8.3
CHOS Chios island 146.12 305 *e*P **PKPbc** **22 46 34.0 -0.2**
BZS Buzias 146.15 320 ⇓PKP2 **PKPbc** **22 46 33.9 -0.1**
BZS Buzias 146.15 320⇓*i*P **PKPbc** **22 46 33.9 -0.1**
KOLL Kolacno 146.20 326 *e*PKP2 **PKPbc** **22 46 34.3 +0.3**
KOLL Kolacno 146.20 326 *e*PKP **PKPbc** **22 46 34.3 +0.3**
LIA Limnos Island 146.29 308 *e*P **PKPbc** **22 46 34.5 -0.1**
BUD Budapest 146.56 324⇓*e*PKPdf **PKPbc** **22 46 35.4 +0.3**
VTS Vitosha 146.61 314 ⇓PKP2 **PKPbc** **22 46 35.9 +0.2**
VTS Vitosha 146.61 314⇓*i*P **PKPdf** **22 46 35.8 +1.7**
VRAC Vranov 146.62 329 ⇑PKIKP **PKPdf** **22 46 33.9 +0.2**
VRAC Vranov 146.62 329⇑*i*P **PKPdf** **22 46 33.9 +0.2**
PVCC Panska Ves 146.67 332 *e*PKP2 **PKPbc** **22 46 35.3 -0.1**
PVCC Panska Ves 146.67 332 *e*PKP **PKPbc** **22 46 35.3 -0.1**
PVCC *e*pPKP **pPKPdf** **22 46 42.5 +3.0**
BRG Berggiesshubel 146.68 333 *i* PKP **PKPdf** **22 46 34.1 +0.4**
comp=Z,74nm,1.6s
BRG *i* PKS PKSdf 22 50 15.2 +6.3
comp=Z,27nm,1.3s
BRG Berggiesshubel 146.68 333 *e*PKPbc **PKPbc** **22 46 35.5 +0.1**
BRG Berggiesshubel 146.68 333 *i* PKP2 **PKPdf** **22 46 34.1 +0.4**
BRG pmax pmax
comp=Z,74nm,1.7s
BRG pmax pmax
comp=Z,27nm,1.3s
NVR Nevrokopi 146.69 312 *e*P **PKPbc** **22 46 35.0 -0.8**
CLL Collm 146.74 334 *e*PKPbc **PKPbc** **22 46 35.4 -0.1**
CLL Collm 146.74 334 *e*PKP2 **PKPbc** **22 46 35.0 -0.5**
CLL pmax pmax
comp=Z,380nm,2.3s
CLL pmax pmax
comp=Z,31nm,1.4s
CLL Collm 146.74 334 *e*PKPbc **PKPbc** **22 46 35.0 -0.5**
comp=Z,380nm,2.3s
CLL *e* 22 46 43.0
CLL *e*pPKPbc pPKPbc 22 46 45.0 +3.8
CLL *i* PKSbc **PKSbc** **22 50 16.7 +1.5**
comp=Z,31nm,1.4s
CLL *e*SS SS 23 09 30.0 +33
CLL *e* 23 12 30.0
SMOL Smolenice 146.74 327 *e*PKP2 **PKPab** **22 46 36.4 -0.4**
SMOL Smolenice 146.74 327 *e*PKP **PKPab** **22 46 36.4 -0.4**
NRDL Niedersach Rie 146.86 338 *e*PKPbc **PKPbc** **22 46 35.9 +0.2**
APE Apeiranthos 146.89 303 ⇓PKP2 **PKPab** **22 46 39.6 +1.7**
APE Apeiranthos 146.89 303 *e*P **PKPdf** **22 46 35.0 +0.4**
APE Apeiranthos 146.89 303⇓*i*P **PKPab** **22 46 39.6 +1.7**
MSKU Masuku 147.03 225 PKPbc **PKPdf** **22 46 36.5 +0.9**
comp=Z,69nm,0.9s,baz=148,slow=0.4,SNR=19
MSKU Masuku 147.03 225 PKPbc **PKPdf** **22 46 36.5 +0.9**
PRU Pruhonice 147.08 331 *e*PKIKP **PKPdf** **22 46 34.2 -0.2**
PRU *e* 22 46 41.0
PRU Pruhonice 147.08 331 *e*PKP **PKPdf** **22 46 34.2 -0.2**
PRU *ex* x 22 46 41.0
PRU *e*PKS PKSdf 22 50 17.2 +7.7
ZST Bratislava 147.11 327 *e*PKP2 **PKPab** **22 46 37.8 -0.5**
ZST Bratislava 147.11 327 *e*PKP **PKPab** **22 46 37.8 -0.5**
ZST *e*SKP 22 50 18.3

TREC Trest 147.15 330 *e*PKP2 **PKPbc** **22 46 36.8 0.0**
TREC Trest 147.15 330 *e*PKP **PKPbc** **22 46 36.8 0.0**
TREC *e*PKS PKSdf 22 50 18.3 +8.6
ESK Eskdalemuir 147.22 354 *e*PKIKP **PKPdf** **22 46 35.2 +0.7**
ESK Eskdalemuir 147.22 354 *e*PKPdf **PKPdf** **22 46 35.2 +0.7**
SOH Sokhos 147.25 311 *e*P **PKPbc** **22 46 38.0 +0.6**
NPS Neapolis 147.27 300 *e*P **PKPdf** **22 46 33.5 -1.7**
CLZ Clausthal 147.31 337 *e*PKPbc **PKPbc** **22 46 37.4 +0.2**
CLZ Clausthal 147.31 337 *e*PKP2 **PKPbc** **22 46 37.4 +0.2**
PLG Polygyros 147.36 310 *e*P **PKPbc** **22 46 37.0 -0.7**
PKSM Moragy 147.54 323 ⇓PKP2 **PKPbc** **22 46 38.0 +0.1**
PKSM Moragy 147.54 323⇓*i*P **PKPbc** **22 46 38.0 +0.1**
PKSM Moragy 147.54 323⇓*e*PKPdf **PKPbc** **22 46 37.8 -0.1**
VAY Valandovo 147.59 312 *i* PKP **PKPbc** **22 46 37.6 -0.6**
SOP Sopron 147.73 327⇓*e*PKPdf **PKPbc** **22 46 38.7 +0.3**
IBBN Ibbenburen 147.78 340 *e*PKPbc **PKPab** **22 46 39.8 -0.9**
NKC Novy Kostel 147.79 334 *e*PKP2 **PKPbc** **22 46 37.5 -1.0**
NKC Novy Kostel 147.79 334 *e*PKP **PKPbc** **22 46 37.5 -1.0**
MOX Moxa 147.80 335 *e*PKPbc **PKPbc** **22 46 38.4 -0.1**
MOX Moxa 147.80 335 *e*PKP2 **PKPbc** **22 46 38.4 -0.1**
PTL Penteli 147.87 306 *e*P **PKPbc** **22 46 38.0 -1.1**
CONA Conrad Observa 147.91 328⇓*i*P **PKPbc** **22 46 38.8 -0.3**
CONA Conrad Observa 147.91 328⇓*i*PKPbc **PKPbc** **22 46 38.8 -0.3**
comp=Z,64nm,1.5s,SNR=16
NEO Neokhori 147.91 308 *e*P **PKPbc** **22 46 38.0 -1.2**
SIVA Sivas 147.97 300 *e*P **PKPbc** **22 46 40.5 +1.1**
VLY Voula,Athens 147.98 306 *e*P **PKPbc** **22 46 39.0 -0.4**
ATH Athens Observa 148.00 306 *e*P **PKPbc** **22 46 39.5 +0.1**
SKO Skopje 148.06 314 *i* PKP **PKPdf** **22 46 39.5 +3.2**
KHC Kasperske Hory 148.14 331 *e*PKP2 **PKPbc** **22 46 38.1 -1.4**
KHC Kasperske Hory 148.14 331 *e*PKPdf **PKPdf** **22 46 37.3 +1.0**
KHC Kasperske Hory 148.14 331 *e*PKP **PKPbc** **22 46 38.1 -1.4**
KHC *ex* x 22 46 41.0
KHC *e*pPKP PKPab 22 46 49.0 +6.6
KHC *e*PKS PKSdf 22 50 22.4 +11
NAIG Nisos Aigina 148.24 306 *e*P **PKPbc** **22 46 38.5 -1.6**
ROTZ Rotzenmuhle 148.25 333 *e*PKPbc **PKPbc** **22 46 40.0 +0.3**
UBBA Unterbreizbach 148.28 337 *e*PKPbc **PKPbc** **22 46 40.7 +1.1**
GEC2 GERESS Array S 148.29 331 *e*PKPbc **PKPbc** **22 46 40.2 +0.2**
GEC2 GERESS Array S 148.29 331 *e*PKP2 **PKPbc** **22 46 40.2 +0.2**
GERES GERESS Array B 148.29 331 PKPbc **PKPbc** **22 46 39.7 -0.3**
comp=Z,15nm,1.0s,baz=42,slow=2.0,SNR=40
GERES SKPbc **SKiKP** **22 50 20.5 +3.3**
comp=Z,2.0nm,1.0s,baz=130,slow=2.1,SNR=5.5
GERES GERESS Array B 148.29 331 PKP2 **PKPbc** **22 46 39.7 -0.3**
GERES GERESS Array B 148.29 331 PKPbc **PKPbc** **22 46 39.7 -0.3**
GERES SKPbc **SKiKP** **22 50 20.5 +3.3**
LKR Lokris 148.31 307 *e*P **PKPbc** **22 46 39.0 -1.2**
VAM Vamos 148.36 301 *e*P **PKPbc** **22 46 41.5 +1.0**
WTSB Winterswijk 148.37 341 *e*PKP **PKPbc** **22 46 38.4 -1.5**
BEHE Becsehely 148.40 325⇓*e*PKPdf **PKPbc** **22 46 40.3 +0.1**
WET Wettzell 148.44 332 *e*PKPbc **PKPbc** **22 46 40.5 +0.2**
WET Wettzell 148.44 332 *e*PKP2 **PKPbc** **22 46 40.5 +0.2**
DID Didima 148.51 305 *e*P **PKPbc** **22 46 39.5 -1.4**
LTK Loutraki 148.55 306 *e*P **PKPbc** **22 46 39.5 -1.4**
BIA Bitola 148.56 312 *e*PKP **PKPdf** **22 46 39.9 +2.7**
THL Klokotos Trika 148.68 310 *e*P **PKPbc** **22 46 41.5 +0.3**
BUG Bochum--Univer 148.69 340 *e*PKPbc **PKPbc** **22 46 40.4 -0.4**
GRF Grafenberg Arr 148.71 334 *e*PKPbc **PKPbc** **22 46 41.3 +0.4**
GRF Grafenberg Arr 148.71 334 *e*PKP2 **PKPbc** **22 46 41.3 +0.4**
GRFO Grafenberg 148.71 334 *e*PKIKP **PKPdf** **22 46 37.1 0.0**
GRFO Grafenberg 148.71 334 *e*PKPdf **PKPdf** **22 46 37.1 0.0**
MOA Molln 148.74 329⇑*i*P **PKPbc** **22 46 41.3 +0.2**
MOA Molln 148.74 329⇑*i*PKPbc **PKPbc** **22 46 41.3 +0.2**
comp=Z,49nm,1.4s
VLI Velíai 148.98 304 *e*P **PKPbc** **22 46 41.5 -0.5**
GUR Goura 149.04 306 *e*P **PKPbc** **22 46 42.0 -0.3**
EVR Evrytania 149.08 308 *e*P **PKPbc** **22 46 43.0 +0.7**
PERS Pernice 149.16 326 *e*PKPbc **PKPbc** **22 46 41.7 -0.6**
SOKA Soboth 149.17 326⇓*i*P **PKPbc** **22 46 42.1 -0.2**
SOKA Soboth 149.17 326⇓*i*PKPbc **PKPbc** **22 46 42.1 -0.2**
comp=Z,62nm,1.5s
EFP Efpalio 149.19 308 *e*P **PKPab** **22 46 45.0 -1.9**
VLX Vlachokerasia 149.20 305 *e*P **PKPbc** **22 46 43.0 +0.3**
TNS Taunus Mts 149.33 338 *e*PKPbc **PKPbc** **22 46 42.7 +0.2**
TNS Taunus Mts 149.33 338 *e*PKP2 **PKPbc** **22 46 42.7 +0.2**
TIR Tirane 149.40 314 *e*PKHKP **PKPdf** **22 46 39.6 +1.1**
TIR MLR MLR
comp=Z,1μm,19.0s
TIR Tirane 149.40 314 *e*PKPdf **PKPdf** **22 46 39.6 +1.1**
TIR LR LR
comp=Z,1μm,19.0s
JAN Janina 149.47 310 *e*P **PKPbc** **22 46 43.5 +0.3**
DLF Lyons Farm 149.49 357 *e*P **PKPab** **22 46 46.0 -1.6**
RJOB Jochberg 149.51 330 *e*PKPbc **PKPbc** **22 46 42.7 -0.4**
ITM Ithomi 149.61 305 *e*P **PKPbc** **22 46 43.5 -0.1**
RLS Riolos of Patr 149.65 307 *e*P **PKPbc** **22 46 43.0 -0.6**
HGN Heimansgroeve 149.69 341 *e*PKP **PKPdf** **22 46 41.8 +3.1**
TOM Tromm 149.71 336 *e*PKP2 **PKPbc** **22 46 44.5 +1.0**
TOD Tromm 149.71 336 *e*P **PKPbc** **22 46 44.5 +1.0**
KBA Koelnbreinsper 149.73 329⇑*i*PKHKP **PKPdf** **22 46 40.2 +1.1**
KBA Koelnbreinsper 149.73 329⇑*i*P **PKPdf** **22 46 40.2 +1.1**
KBA Koelnbreinsper 149.73 329⇑*i*PKPdf **PKPdf** **22 46 40.2 +1.1**
comp=Z,30nm,0.8s
BEBN Eben Emael 149.74 341 PKPbc **PKPbc** **22 46 44.0 +0.6**
MEM Membach 149.80 341 PKPbc PKPdf 22 46 44.2 +5.3
BOJS Bojanci 149.83 325 *e*PKPbc **PKPbc** **22 46 44.1 +0.2**
PYL PYLOS 149.84 305 *e*P **PKPbc** **22 46 45.0 +0.8**
LJU Ljubljana 149.86 326 *e*PKPbc **PKPbc** **22 46 43.6 -0.3**
FUR Furstenfeldbru 149.87 332 *e*PKPbc **PKPbc** **22 46 43.9 0.0**
FUR Furstenfeldbru 149.87 332 *e*PKP2 **PKPbc** **22 46 43.9 0.0**
ABH Alteburg 149.93 338 *e*P **PKPbc** **22 46 44.9 +0.9**
CADS Cadrg 150.13 327 *e*PKPbc **PKPbc** **22 46 43.9 -0.7**
KEK Kerkira 150.18 311 *e*P **PKPdf** **22 46 44.0 +4.2**
BCLA Clavier 150.18 341 PKPbc PKPdf 22 46 44.9 +5.5
VOY Vojsko 150.19 327 *e*PKPdf **PKPdf** **22 46 37.8 -1.9**
VOY *e*PKPbc **PKPbc** **22 46 43.8 -1.0**
VOY *e* 22 46 52.6
VOY *e* 22 47 00.2
VOY *e* 22 47 06.5
KTD Kalmit 150.21 337 *e*PKIKP **PKPbc** **22 46 45.4 +0.7**
KTD Kalmit 150.21 337 *e*P **PKPbc** **22 46 45.4 +0.7**
VLS Valsamata 150.24 308 *e*P PKPdf 22 46 34.5 -5.5
STU Stuttgart 150.25 335 *e*PKPbc **PKPbc** **22 46 44.7 -0.1**
STU Stuttgart 150.25 335 *e*PKIKP **PKPdf** **22 46 40.2 +0.6**
STU Stuttgart 150.25 335 *e*P **PKPdf** **22 46 40.2 +0.6**
RUP Ruppelstein 150.25 338 *e*PKIKP **PKPbc** **22 46 45.9 +1.1**
RUP Ruppelstein 150.25 338 *e*P **PKPbc** **22 46 45.9 +1.1**
ABTA Abfaltersbach 150.37 329⇑*i*P **PKPbc** **22 46 44.0 -1.2**
ABTA Abfaltersbach 150.37 329⇑*i*PKPbc **PKPbc** **22 46 44.0 -1.2**
comp=Z,71nm,1.3s,SNR=5.4
WATA Walderalm 150.37 331⇑*i*PKIKP **PKPbc** **22 46 44.6 -0.7**
WATA Walderalm 150.37 331⇑*i*P **PKPbc** **22 46 44.6 -0.7**
WATA Walderalm 150.37 331⇑*i*PKPbc **PKPbc** **22 46 44.6 -0.7**
comp=Z,25nm,0.8s,SNR=5.7
WTTA Wattenberg 150.39 331⇓*i*PKIKP **PKPbc** **22 46 45.0 -0.4**
WTTA Wattenberg 150.39 331⇓*i*P **PKPbc** **22 46 45.0 -0.4**
WTTA Wattenberg 150.39 331⇓*i*PKPbc **PKPbc** **22 46 45.0 -0.4**
comp=Z,106nm,1.6s,SNR=13
SNF Seneffe 150.40 342 PKPbc **PKPbc** **22 46 45.3 +0.3**
MOTA Moosalm 150.57 331⇑*i*PKIKP **PKPbc** **22 46 45.0 -0.8**
MOTA Moosalm 150.57 331⇑*i*P **PKPbc** **22 46 45.0 -0.8**
MOTA Moosalm 150.57 331⇑*i*PKPbc **PKPbc** **22 46 45.0 -0.8**
comp=Z,41nm,0.9s,SNR=11
WLF Walferdange 150.58 339 PKPbc PKPdf 22 46 46.8 +6.7
WLF Walferdange 150.58 339 *e*PKPbc **PKPbc** **22 46 46.1 +0.6**
WLF Walferdange 150.58 339 *e*PKIKP **PKPdf** **22 46 40.3 +0.2**
WLF Walferdange 150.58 339 *e*PKPdf **PKPdf** **22 46 40.3 +0.2**
LANF Langenberg 150.60 337 *e*PKIKP **PKPbc** **22 46 46.4 +0.8**
LANF Langenberg 150.60 337 *e*P **PKPbc** **22 46 46.4 +0.8**
LANF Langenberg 150.60 337 *e*P **PKPbc** **22 46 46.4 +0.8**
DOU Dourbes 150.68 342 PKPbc **PKPbc** **22 46 46.0 +0.3**
BFO Black Forest 150.94 336 *e*PKPbc **PKPbc** **22 46 46.1 -0.4**
BFO Black Forest 150.94 336 *e*PKIKP **PKPdf** **22 46 41.7 +0.9**
BFO Black Forest 150.94 336 *e*PKPdf **PKPdf** **22 46 41.6 +0.9**
SPAK Spaichingen-Ko 150.95 335 *e*P **PKPbc** **22 46 47.1 +0.5**
FETA Feichten 150.98 331⇓*i*P **PKPbc** **22 46 46.3 -0.5**
FETA Feichten 150.98 331⇓*i*PKPbc **PKPbc** **22 46 46.3 -0.5**
comp=Z,82nm,1.3s,SNR=6.4
FELD Feldberg im Sc 151.44 335 *e*P **PKPbc** **22 46 49.8 +2.0**
ECH Echery 151.47 337 *e*PKIKP **PKPbc** **22 46 49.6 +1.9**
ECH Echery 151.47 337 *e*P **PKPbc** **22 46 49.6 +1.9**
ECH Echery 151.47 337 *e*P **PKPbc** **22 46 49.6 +1.9**
MOF Molkenrain 151.79 336 *e*PKIKP **PKPbc** **22 46 49.8 +1.3**
MOF Molkenrain 151.79 336 *e*P **PKPbc** **22 46 49.8 +1.3**
MOF Molkenrain 151.79 336 *e*P **PKPbc** **22 46 49.8 +1.3**
TUE Stuetta 152.01 332 *e*PKPdf **PKPdf** **22 46 44.2 +1.5**
LOMF Lomont 152.32 336 *e*PKIKP **PKPbc** **22 46 52.0 +2.3**
LOMF Lomont 152.32 336 *e*P **PKPbc** **22 46 52.0 +2.3**
LOMF Lomont 152.32 336 *e*P **PKPbc** **22 46 52.0 +2.3**
TIP Timpagrande 152.52 312 PFAKE 22 46 50.0 -0.4
TIP LR LR
comp=Z,650nm,20.0s
CUC Castrocucco 152.74 315 PFAKE 22 46 50.0 -0.9
CUC LR LR
comp=Z,489nm,20.0s
CEL Celeste 153.55 311 PFAKE 22 47 00.0 -5.2
CEL LR LR
comp=Z,537nm,20.0s
BNI Bardonecchia 154.27 333 PFAKE 22 47 00.0 +5.9
BNI LR LR
comp=Z,1μm,21.0s
WDD Wield Dalam 155.62 308 PFAKE 22 47 00.0 +12
WDD LR LR
comp=Z,637nm,19.0s
ESDC Sonseca Array 162.60 346 PKPab **PKPab** **22 47 42.4 -1.7**
comp=Z,8.5nm,1.2s,baz=38,slow=3.3,SNR=7.6
ESDC Sonseca Array 162.60 346 PKPab **PKPab** **22 47 42.4 -1.7**
DBIC Dimbokro 163.41 195 PKPab **PKPab** **22 47 47.7 -0.4**
comp=Z,6.5nm,1.1s,baz=107,slow=5.9,SNR=4.1
DBIC Dimbokro 163.41 195 PKPab **PKPab** **22 47 47.7 -0.4**
DBIC LR LR
comp=Z,877nm,22.0s
SACV Santiago Islan 164.33 117 PFAKE 22 47 10.0 +12
SACV LR LR
comp=Z,850nm,22.0s
TORD Torodi Ar. Bea 165.85 229 PKP **PKPdf** **22 46 58.9 -0.7**
comp=Z,2.7nm,1.1s,baz=301,slow=1.9,SNR=9.9
TORD PKPab **PKPab** **22 47 59.2 +0.2**
comp=Z,3.8nm,1.0s,baz=116,slow=2.8,SNR=4.3
TORD Torodi Ar. Bea 165.85 229 PKP **PKPdf** **22 46 58.9 -0.7**
TORD PKPab **PKPdf** **22 47 59.2 +0.2**
TAM Tamanrasset 166.39 273 *e*PKPdf **PKPdf** **22 47 00.9 +0.9**
TAM LR LR
comp=Z,861nm,20.0s
RTC Rabat Centre 168.67 350 PFAKE 22 47 10.0 +9.0
RTC LR LR
comp=Z,1μm,20.0s

*ISCJB **19** 22:34:37.4± 1.6, 36.72N± 0.09× 27.65E± 0.08, h10km, Error ellipse: s-maj=14.5km s-min=5.4km az=31.5*
*CSEM **19** 22:34:38.3± 1.2, 36.75N× 27.66E, h2km, MD2.5, Error ellipse: s-maj=27.0km s-min=9.4km az=29.0*
*DDA **19** 22:34:40.1, 36.81N× 27.50E, h7km, MD2.5*
ISC 19 22:34:38.9± 1.5, 36.9N± 0.1× 27.75E± 0.04, h10km, n12, σ1°07/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**309**	*i* P		**Pg**	**22 34 45.0**	**-0.1**
BDRM				*i* S		**Sg**	**22 34 48.9**	**-0.4**
BDRM	**Kayabasi**	**0.31**	**309**	*i* P		**Pg**	**22 34 45.0**	**-0.1**
BDRM				*i* S		**Sg**	**22 34 48.9**	**-0.4**
BODT	**Bodrum**	**0.40**	**299**	PG		**Pg**	**22 34 45.6**	**-1.1**
BODT				SG		**Sg**	**22 34 50.8**	**-1.2**
BODT	**Bodrum**	**0.40**	**299**	*i* Pg		**Pg**	**22 34 45.6**	**-1.1**
BODT				*i* Sg		**Sg**	**22 34 50.8**	**-1.2**
TURN	**Turunc**	**0.69**	**89**	*i* P		**Pg**	**22 34 51.1**	**-1.0**
TURN				*i* S		**Sg**	**22 35 00.3**	**-0.8**
TURN	**Turunc**	**0.69**	**89**	*i* P		**Pg**	**22 34 51.1**	**-1.0**
TURN				*i* S		**Sg**	**22 35 00.3**	**-0.8**
AYDN	**Tasoluk**	**0.80**	**8**	*i* P		**Pn**	**22 34 57.1**	**+0.8**
AYDN				*i* S		**Sn**	**22 35 08.4**	**+0.2**
AYDN	**Tasoluk**	**0.80**	**8**	*i* P		**Pn**	**22 34 57.1**	**+0.8**
AYDN				*i* S		**Sn**	**22 35 08.4**	**+0.2**
GCAM	**G?zelcaml?**	**0.93**	**334**	*i* P		**Pn**	**22 34 59.0**	**+1.1**
GCAM				*i* S		**Sn**	**22 35 11.8**	**+0.5**
GCAM	**G?zelcaml?**	**0.93**	**334**	*i* P		**Pn**	**22 34 59.0**	**+1.1**
GCAM				*i* S		**Sn**	**22 35 11.8**	**+0.5**
FETY	**Fethiye**	**1.10**	**102**	*e*PG		**Pn**	**22 35 02.3**	**+2.0**
FETY	**Fethiye**	**1.10**	**102**	*e*Pg		**Pn**	**22 35 02.3**	**+2.0**

FUNV 19 22:34:49.1, 10.45N× 63.66W, h11km, MW3.6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.47**	**62**	⇑*e*P		Pg	22 34 58.2	-0.2
CRUV				*e*S		Sg	22 35 05.5	+0.9
GUNV	**Guanoco**	**0.76**	**112**	*e*P		Pb	22 35 04.2	-0.2
GUNV				*e*S		Sg	22 35 13.4	-0.4
PCRV	**Puerto La Cruz**	**1.00**	**254**	*e*P		Pg	22 35 06.9	-1.6
PCRV				*e*S		Sg	22 35 20.3	-1.2
GUIV	**Guiria**	**1.42**	**82**	*e*P		Pn	22 35 14.8	-0.1
GUIV				*e*S		Sb	22 35 34.3	+0.4
CUPV	**Cœpira**	**2.13**	**260**	*e*P		Pn	22 35 23.8	-1.0
BIRV	**Birongo**	**2.57**	**271**	*e*P		Pn	22 35 29.6	-1.1
BIRV				*e*S		Sn	22 35 60.0	-2.0
GURV	**El Guri**	**2.73**	**168**	*e*P		Pn	22 35 31.6	-1.4
GURV				*e*S		Sn	22 36 04.2	-1.8
MERV	**Las Mercedes**	**2.86**	**246**	*e*P		Pn	22 35 33.7	-1.0
RIOV	**Rio Grande**	**2.99**	**142**	*e*P		Pn	22 35 35.2	-1.3
TURV	**Turiamo**	**4.11**	**270**	*e*P		Pn	22 35 50.5	-1.4
MAPV	**Macapo**	**4.76**	**263**	*e*P		Pn	22 35 59.5	-1.5
**LUE

ARCES	**ARCESS Array B**	129.28	345	PKP		**PKPdf**	22 56 52.1	-0.7
	9.3nm,1.1s,baz=35,slow=4.4,SNR=5.0							
ARCES	**ARCESS Array B**	129.28	345	PKP		**PKPdf**	22 56 52.1	-0.7
GERES	**GERESS Array B**	148.66	330	PKPbc		**PKPbc**	22 57 32.4	0.0
	0.2nm,0.4s,baz=58,slow=3.7,SNR=3.1							
GERES	**GERESS Array B**	148.66	330	PKPbc		**PKPbc**	22 57 32.4	0.0

IDC ***19*** *22:46:40.2±6.5,23°.66N×126°.92E,h0km,mb3.6/5, mb1 3.6/6,mb1mx3.4/23,mbtmp3.6/6,ML3.5/1,Error ellipse: s-maj=122.8km s-min=35.8km az=162.0*

JMA ***19*** *22:46:57.9±0.1,25°.46N×126°.38E,h0km,M3.3*

ISC 19 22:46:58.3±1.2,25°.20N±0°.07×126°.72E±0°.06,h54km±14km, n18,σ1$91/23,mb3.4/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.12**	**3**	P		**Pn**		**22 47 16.2**	**-1.6**
JKE				S		**Sn**		**22 47 29.8**	**-2.4**
JOGS	**Gusukube**	**1.27**	**250**	P		**Pn**		**22 47 19.8**	**+0.1**
JOGS				S		**Sn**		**22 47 35.7**	**0.0**
JJT2	**Tamagusuku 2**	**1.32**	**44**	P		Pn		22 47 25.1	+4.7
JMJ	**Miyako jima 2**	**1.35**	**254**	P		**Pn**		**22 47 20.5**	**-0.3**
JMJ				*e*S		**Sn**		**22 47 36.4**	**-1.3**
JAGN	**Aguni-jima**	**1.46**	**19**	P		**Pn**		**22 47 23.3**	**+1.0**
JAGN				*e*S		**Sn**		**22 47 42.2**	**+1.8**
JTJ	**Tarama**	**1.92**	**254**	P		**Pn**		**22 47 29.9**	**+1.4**
JTJ				*e*S		**Sn**		**22 47 53.1**	**+1.6**
JIH	**Iheya**	**2.15**	**31**	P		**Pn**		**22 47 34.0**	**+2.4**
JOW	**Kunigami**	**2.15**	**40**	Pn		**Pn**		**22 47 34.5**	**+2.9**
	9.1nm,0.3s,baz=166,slow=16,SNR=21								
JOW					Sn		Sn	22 48 06.5	+9.4
	7.5nm,0.3s,baz=119,slow=26,SNR=6.6								
JOW	**Kunigami**	**2.15**	**40**	P		Pn		22 47 35.0	+3.4
JIJ	**Ishigaki jima**	**2.49**	**251**	P		**Pn**		**22 47 35.9**	**-0.4**
JIJ				*e*S		**Sn**		**22 48 07.5**	**+2.0**
IRIF	**Iriomote-Funau**	**2.85**	**253**	P		**Pn**		**22 47 41.8**	**+0.5**
JAM	**Amami Oshima**	**4.11**	**38**	P		**Pn**		**22 47 59.4**	**+0.9**
JMZ	**Minamidaito 2**	**4.11**	**80**	P		**Pn**		**22 47 58.8**	**+0.2**
JMZ				*e*S		**Sn**		**22 48 43.2**	**-2.2**
SONM	**Songino Array**	**27.72**	**330**	P		**P**		**22 52 43.2**	**+1.6**
	0.3nm,0.5s,baz=151,slow=11,SNR=4.8								
PETK	**Petropavlovsk-**	**36.28**	**32**	P		**P**		**22 53 55.5**	**-0.8**
	1.4nm,0.4s,baz=80,slow=11,SNR=4.3								
MKAR	**Makanchi Array**	**41.23**	**313**	P		**P**		**22 54 36.9**	**-1.0**
	0.4nm,0.4s,baz=99,slow=9.4,SNR=18								
ZALV	**Zalesovo Beam**	**42.26**	**324**	P		**P**		**22 54 45.4**	**-0.7**
	0.2nm,0.3s,baz=123,slow=10,SNR=2.3								
KURK	**Kurchatov**	**44.65**	**318**	P		**P**		**22 55 04.5**	**-0.9**
	0.2nm,0.3s,baz=108,slow=9.3,SNR=6.8								

SZGRF ***19*** *23:01:51.4,34°.09N×26°.69E,h33km,mb4.4, Crete, Greece*

HLW ***19*** *23:02:01.0,35°.26N×24°.76E,h33km±20km,Md0.0,Ml4.5*

ISCJB ***19*** *23:02:01.4±0.7,34°.48N±0°.02×24°.87E±0°.02,h5km±4km, mb4.6/70,MS4.6/7,Error ellipse: s-maj=3.3km s-min=2.1km az=15.1*

IDC ***19*** *23:02:03.6±0.5,34°.81N×24°.67E,h0km,mb4.4/26, mb1 4.4/32,mb1mx4.4/35,mbtmp4.3/32,ML3.8/3,MS3.4/3, Ms1 3.4/3,ms1mx3.1/41,Error ellipse: s-maj=14.9km s-min=11.6km az=145.0*

THE ***19*** *23:02:04.6,34°.73N×24°.81E,h1km±1km,ML4.2/2,Error ellipse: s-maj=2.1km s-min=0.9km az=182.0*

CSEM ***19*** *23:02:04.1±0.1,34°.60N×24°.86E,h2km,mb5.0/19,Mw4.2, Error ellipse: s-maj=3.7km s-min=2.5km az=10.0*

BJI ***19*** *23:02:05.2,34°.92N×24°.69E,h19km,mB5.3/19,mb4.8/28, Ms5.0/14,Ms7 4.6/13*

ATH ***19*** *23:02:06.4,34°.85N×24°.86E,h13km±1km,ML4.2*

NEIC ***19*** *23:02:06.4,34°.85N×24°.86E,h13km,mb4.5/14, ML4.2(ATH),After ATH.*

NEIC Felt at Irakleion and Palaiokhora.

MOS ***19*** *23:02:06.9±1.4,34°.67N×24°.86E,h36km,mb4.8/22,Error ellipse: s-maj=5.2km s-min=2.5km az=94.7*

NIC ***19*** *23:02:07.1±0.2,34°.17N×25°.08E,h25km,mb4.8,ML4.3, MW3.9*

NSSC ***19*** *23:02:22.8±12.0,35°.05N×26°.85E,h5km±999km,ML3.6*

ISC 19 23:02:05.6±0.4,34°.65N±0°.03×24°.88E±0°.02,h15km±2km, h14km:pP-P,n1039,σ1$51/1016,mb4.7/70,MS4.6/7, 31C-13D,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.37**	**352**	P		**Pg**		**23 02 10.7**	**-2.3**
SIVA				S		**Sg**		**23 02 15.2**	**-2.9**
SIVA	**Sivas**	**0.37**	**352**	P		**Pg**		**23 02 10.7**	**-2.3**
SIVA				S		**Sg**		**23 02 15.2**	**-2.9**
GVD	**Gavdhos**	**0.67**	**286**	P		**Pg**		**23 02 17.5**	**-1.2**
GVD	**Gavdhos**	**0.67**	**286**	*e*PB		**Pg**		**23 02 19.1**	**+0.3**
GVD	**Gavdhos**	**0.67**	**286**	P		**Pg**		**23 02 17.5**	**-1.2**
GVD	**Gavdhos**	**0.67**	**286**	*e*Pb		**Pg**		**23 02 19.1**	**+0.3**
NPS	**Neapolis**	**0.86**	**45**	P		**Pb**		**23 02 19.5**	**-2.7**
NPS	**Neapolis**	**0.86**	**45**	P		**Pb**		**23 02 19.5**	**-2.7**
NPS	**Neapolis**	**0.86**	**45**	*e*PB		**Pb**		**23 02 19.8**	**-2.4**
NPS				*e*SB		**Sb**		**23 02 30.7**	**-2.8**
NPS	**Neapolis**	**0.86**	**45**	P		**Pb**		**23 02 19.5**	**-2.7**
NPS				*e*Sb		**Sb**		**23 02 30.7**	**-2.8**
KARN	**Karanos**	**1.08**	**314**	P		**Pb**		**23 02 23.2**	**-2.8**
KARN				S		**Sb**		**23 02 38.0**	**-2.0**
KARN	**Karanos**	**1.08**	**314**	P		**Pb**		**23 02 23.2**	**-2.8**
KARN				S		**Sb**		**23 02 38.0**	**-2.0**
ZKR	**Zakros**	**1.20**	**67**	P		**Pn**		**23 02 25.5**	**-2.3**
ZKR	**Zakros**	**1.20**	**67**	P		**Pn**		**23 02 26.8**	**-1.0**
ZKR	**Zakros**	**1.20**	**67**	P		**Pn**		**23 02 26.8**	**-1.0**
THR1	**Thera Island**	**1.78**	**15**	P		**Pn**		**23 02 34.9**	**-0.9**
THR1	**Thera Island**	**1.78**	**15**	P		**Pn**		**23 02 34.9**	**-0.9**
THR2	**Thira island,**	**1.85**	**14**	P		**Pn**		**23 02 35.9**	**-0.8**
THR2	**Thira island,**	**1.85**	**14**	P		**Pn**		**23 02 35.9**	**-0.8**
KARP	**Karpathos**	**2.08**	**64**	*e*PN		**Pb**		**23 02 42.5**	**-0.5**
KARP	**Karpathos**	**2.08**	**64**	*e*Pn		**Pb**		**23 02 42.5**	**-0.5**
KYTH	**Kithira**	**2.21**	**318**	*e*PN		**Pn**		**23 02 43.4**	**+1.6**
KYTH	**Kithira**	**2.21**	**318**	*e*Pn		**Pn**		**23 02 43.4**	**+1.6**
APE	**Apeiranthos**	**2.47**	**12**	*e*PN		**Pn**		**23 02 45.7**	**+0.5**
APE	**Apeiranthos**	**2.47**	**12**	P		**Pn**		**23 02 44.1**	**-1.2**
APE	**Apeiranthos**	**2.47**	**12**	P		**Pn**		**23 02 44.1**	**-1.2**
APE	**Apeiranthos**	**2.47**	**12**	*e*PN		**Pn**		**23 02 45.8**	**+0.5**
APE				*e*SN		**Sn**		**23 03 15.3**	**+0.1**
APE	**Apeiranthos**	**2.47**	**12**	P		**Pn**		**23 02 44.1**	**-1.2**
APE	**Apeiranthos**	**2.47**	**12**	*e*Pn		**Pn**		**23 02 45.8**	**+0.5**
APE				*e*Sn		**Sn**		**23 03 15.3**	**+0.1**
VLI	**Veliai**	**2.59**	**323**	P		**Pn**		**23 02 47.8**	**+0.8**
VLI	**Veliai**	**2.59**	**323**	*e*PN		**Pn**		**23 02 48.0**	**+1.0**
VLI	**Veliai**	**2.59**	**323**	P		**Pn**		**23 02 47.8**	**+0.8**
NIS1	**Nisyros Isl.**	**2.70**	**43**	P		**Pn**		**23 02 49.4**	**+0.9**
NIS1	**Nisyros Isl.**	**2.70**	**43**	P		**Pn**		**23 02 48.2**	**-0.3**
NIS1				S		**Sn**		**23 03 21.9**	**+0.9**
NIS1	**Nisyros Isl.**	**2.70**	**43**	P		**Pn**		**23 02 49.4**	**+0.9**
NIS1				S		**Sn**		**23 03 21.9**	**+0.9**
ARG	**Arkhangelos**	**3.08**	**59**	*e*PN		**Pn**		**23 02 56.0**	**+2.3**
ARG				*e*SN		**Sn**		**23 03 32.8**	**+2.6**
ARG	**Arkhangelos**	**3.08**	**59**	*e*Pn		**Pn**		**23 02 56.0**	**+2.3**
ARG				*e*Sn		**Sn**		**23 03 32.8**	**+2.6**
BODT	**Bodrum**	**3.11**	**39**	*e*PN		**Pn**		**23 02 54.5**	**+0.4**
BODT	**Bodrum**	**3.11**	**39**	P		**Pn**		**23 02 54.1**	**0.0**
BODT	**Bodrum**	**3.11**	**39**	P		**Pn**		**23 02 54.1**	**0.0**
BODT	**Bodrum**	**3.11**	**39**	*e*Pn		**Pn**		**23 02 54.5**	**+0.4**
DID	**Didima**	**3.14**	**335**	P		**Pn**		**23 02 54.8**	**+0.2**
DID	**Didima**	**3.14**	**335**	*e*PN		**Pn**		**23 02 55.0**	**+0.4**
DID	**Didima**	**3.14**	**335**	P		**Pn**		**23 02 54.8**	**+0.2**
SLUM		**3.17**	**175**	P		**Pn**		**23 02 55.2**	**+0.3**
BDRM	**Kayabasi**	**3.18**	**40**	*i* P		**Pn**		**23 02 57.0**	**+1.9**
BDRM	**Kayabasi**	**3.18**	**40**	*i* P		**Pn**		**23 02 57.0**	**+1.9**
NAIG	**Nisos Aigina**	**3.29**	**341**	*e*PN		**Pn**		**23 02 57.9**	**+1.3**
NAIG	**Nisos Aigina**	**3.29**	**341**	*e*Pn		**Pn**		**23 02 57.9**	**+1.3**
VLY	**Voula,Athens**	**3.31**	**345**	P		**Pn**		**23 02 58.7**	**+1.9**
VLY	**Voula,Athens**	**3.31**	**345**	*e*PN		**Pn**		**23 02 58.0**	**+1.2**
VLY	**Voula,Athens**	**3.31**	**345**	*e*Pn		**Pn**		**23 02 58.0**	**+1.2**
VLY	**Voula,Athens**	**3.31**	**345**	P		**Pn**		**23 02 58.7**	**+1.9**
VLX	**Vlachokerasia**	**3.38**	**324**	P		**Pn**		**23 02 59.0**	**+1.1**
VLX	**Vlachokerasia**	**3.38**	**324**	*e*PN		**Pn**		**23 02 59.7**	**+1.8**
VLX	**Vlachokerasia**	**3.38**	**324**	P		**Pn**		**23 02 59.0**	**+1.1**
VLX	**Vlachokerasia**	**3.38**	**324**	*e*Pn		**Pn**		**23 02 59.7**	**+1.8**
PYL	**PYLOS**	**3.39**	**312**	P		**Pn**		**23 02 56.6**	**-1.3**
PYL				S		**Sn**		**23 03 37.2**	**-0.7**
PYL	**PYLOS**	**3.39**	**312**	*e*PN		**Pn**		**23 02 59.3**	**+1.4**
PYL	**PYLOS**	**3.39**	**312**	P		**Pn**		**23 02 56.6**	**-1.3**
PYL	**PYLOS**	**3.39**	**312**	*e*Pn		**Pn**		**23 02 59.3**	**+1.4**
PYL				S		**Sn**		**23 03 37.2**	**-0.7**
MRMA	**Marmari**	**3.42**	**353**	P		**Pn**		**23 02 59.6**	**+1.2**
MRMA	**Marmari**	**3.42**	**353**	P		**Pn**		**23 02 59.6**	**+1.2**
SMG	**Samos**	**3.44**	**27**	P		**Pn**		**23 02 59.1**	**+0.5**
SMG	**Samos**	**3.44**	**27**	*e*PN		**Pn**		**23 02 59.5**	**+0.9**
SMG	**Samos**	**3.44**	**27**	P		**Pn**		**23 02 59.1**	**+0.5**
SMG	**Samos**	**3.44**	**27**	*e*Pn		**Pn**		**23 02 59.5**	**+0.9**
ATH	**Athens Observa**	**3.44**	**345**	P		Pn		23 03 02.2	+3.6
ATH	**Athens Observa**	**3.44**	**345**	P		Pn		23 03 02.2	+3.6
ATH	**Athens Observa**	**3.44**	**345**	*e*PN		**Pn**		**23 03 00.0**	**+1.4**
ATH	**Athens Observa**	**3.44**	**345**	*e*Pn		**Pn**		**23 03 00.0**	**+1.4**
ATH	**Athens Observa**	**3.44**	**345**	P		Pn		23 03 02.2	+3.6
ITM	**Ithomi**	**3.48**	**317**	P		**Pn**		**23 02 59.8**	**+0.7**
ITM	**Ithomi**	**3.48**	**317**	*e*PN		**Pn**		**23 03 00.6**	**+1.5**
ITM	**Ithomi**	**3.48**	**317**	P		**Pn**		**23 02 59.8**	**+0.7**
ITM	**Ithomi**	**3.48**	**317**	*e*Pn		**Pn**		**23 03 00.6**	**+1.5**
PTL	**Penteli**	**3.48**	**347**	P		**Pn**		**23 03 00.4**	**+1.2**
PTL	**Penteli**	**3.48**	**347**	*e*PN		**Pn**		**23 03 00.5**	**+1.2**
PTL	**Penteli**	**3.48**	**347**	P		**Pn**		**23 03 00.4**	**+1.2**
GCAM	**G?zelcaml?**	**3.59**	**31**	*i* P		**Pn**		**23 03 01.5**	**+0.8**
GCAM	**G?zelcaml?**	**3.59**	**31**	*i* P		**Pn**		**23 03 01.5**	**+0.8**
LTK	**Loutraki**	**3.70**	**336**	P		**Pn**		**23 03 03.2**	**+1.1**
LTK	**Loutraki**	**3.70**	**336**	P		**Pn**		**23 03 02.8**	**+0.6**
LTK	**Loutraki**	**3.70**	**336**	*e*PN		**Pn**		**23 03 03.3**	**+1.1**
LTK	**Loutraki**	**3.70**	**336**	P		**Pn**		**23 03 02.8**	**+0.6**
LTK	**Loutraki**	**3.70**	**336**	*e*Pn		**Pn**		**23 03 03.3**	**+1.1**
YER	**Yerkesik**	**3.71**	**47**	*e*PN		**Pn**		**23 03 02.9**	**+0.5**
YER	**Yerkesik**	**3.71**	**47**	P		**Pn**		**23 03 02.6**	**+0.2**
YER	**Yerkesik**	**3.71**	**47**	P		**Pn**		**23 03 02.6**	**+0.2**
YER	**Yerkesik**	**3.71**	**47**	P		**Pn**		**23 03 02.6**	**+0.2**
YER	**Yerkesik**	**3.71**	**47**	*e*Pn		**Pn**		**23 03 02.6**	**+0.2**
YER	**Yerkesik**	**3.71**	**47**	*e*Pn		**Pn**		**23 03 02.9**	**+0.5**
CHOS	**Chios island**	**3.84**	**14**	P		**Pn**		**23 03 04.7**	**+0.4**
CHOS	**Chios island**	**3.84**	**14**	*e*PN		**Pn**		**23 03 05.7**	**+1.4**
CHOS	**Chios island**	**3.84**	**14**	P		**Pn**		**23 03 04.7**	**+0.4**
CHOS	**Chios island**	**3.84**	**14**	*e*Pn		**Pn**		**23 03 05.7**	**+1.4**
GUR	**Goura**	**3.86**	**329**	P		**Pn**		**23 03 05.4**	**+0.9**
GUR	**Goura**	**3.86**	**329**	*e*PN		**Pn**		**23 03 05.4**	**+0.9**
GUR	**Goura**	**3.86**	**329**	*e*Pn		**Pn**		**23 03 05.4**	**+0.9**
ERET	**Eretria**	**3.88**	**347**	P		**Pn**		**23 03 06.1**	**+1.4**
ERET	**Eretria**	**3.88**	**347**	P		**Pn**		**23 03 06.1**	**+1.4**
URLA	**Izmir**	**3.95**	**20**	*i* P		**Pn**		**23 03 05.0**	**-0.7**
URLA	**Izmir**	**3.95**	**20**	*i* P		**Pn**		**23 03 05.0**	**-0.7**
FETY	**Fethiye**	**3.96**	**59**	*e*PN		**Pn**		**23 03 05.9**	**+0.1**
FETY	**Fethiye**	**3.96**	**59**	P		**Pn**		**23 03 05.9**	**+0.1**
FETY	**Fethiye**	**3.96**	**59**	*e*Pn		**Pn**		**23 03 05.9**	**+0.1**
HMAT	**Matruh**	**4.01**	**152**	P		**Pn**		**23 03 06.9**	**+0.4**
BLCB	**Balcova**	**4.11**	**24**	*e*PN		**Pn**		**23 03 08.8**	**+0.9**
BLCB	**Balcova**	**4.11**	**24**	P		**Pn**		**23 03 08.3**	**+0.4**
BLCB	**Balcova**	**4.11**	**24**	P		**Pn**		**23 03 08.3**	**+0.4**
BLCB	**Balcova**	**4.11**	**24**	*e*Pn		**Pn**		**23 03 08.8**	**+0.9**
AKAS	**Kas**	**4.17**	**66**	*i* P		**Pn**		**23 03 10.7**	**+1.9**
AKAS	**Kas**	**4.17**	**66**	*i* P		**Pn**		**23 03 10.7**	**+1.9**
MRKA	**Markates**	**4.17**	**346**	P		**Pn**		**23 03 09.6**	**+0.9**
MRKA	**Markates**	**4.17**	**346**	P		**Pn**		**23 03 09.6**	**+0.9**
DESF	**Desfina**	**4.20**	**334**	P		**Pn**		**23 03 09.5**	**+0.4**
DESF	**Desfina**	**4.20**	**334**	P		**Pn**		**23 03 09.5**	**+0.4**
DSF	**Desfina**	**4.20**	**334**	P		**Pn**		**23 03 11.5**	**+2.4**
DSF	**Desfina**	**4.20**	**334**	P		**Pn**		**23 03 10.6**	**+1.5**
DSF	**Desfina**	**4.20**	**334**	P		**Pn**		**23 03 10.6**	**+1.5**
IZM	**Izmir**	**4.20**	**27**	*e*PN		**Pn**		**23 03 10.3**	**+1.1**
IZM	**Izmir**	**4.20**	**27**	P		**Pn**		**23 03 10.3**	**+1.1**
IZM	**Izmir**	**4.20**	**27**	P		**Pn**		**23 03 10.3**	**+1.1**
IZM	**Izmir**	**4.20**	**27**	P		**Pn**		**23 03 10.3**	**+1.1**
LKR	**Lokris**	**4.26**	**340**	P		**Pn**		**23 03 10.8**	**+0.8**
LKR	**Lokris**	**4.26**	**340**	*e*PN		**Pn**		**23 03 10.8**	**+0.8**
LKR	**Lokris**	**4.26**	**340**	*e*Pn		**Pn**		**23 03 10.8**	**+0.8**
LAKA	**Lakka**	**4.27**	**328**	P		**Pn**		**23 03 12.3**	**+2.1**
LAKA	**Lakka**	**4.27**	**328**	P		**Pn**		**23 03 12.2**	**+2.1**
LAKA	**Lakka**	**4.27**	**328**	P		**Pn**		**23 03 12.2**	**+2.1**
ATAL	**Atalanti**	**4.30**	**340**	P		**Pn**		**23 03 11.6**	**+1.1**
ATAL	**Atalanti**	**4.30**	**340**	P		**Pn**		**23 03 11.5**	**+1.1**
ATAL	**Atalanti**	**4.30**	**340**	P		**Pn**		**23 03 11.5**	**+1.1**
KALE	**Kalithea**	**4.33**	**330**	P		**Pn**		**23 03 12.9**	**+2.0**
KALE	**Kalithea**	**4.33**	**330**	P		**Pn**		**23 03 11.9**	**+1.0**
KALE	**Kalithea**	**4.33**	**330**	P		**Pn**		**23 03 11.9**	**+1.0**
TRIZ	**Trizonia**	**4.34**	**329**	P		**Pn**		**23 03 11.7**	**+0.8**
TRIZ	**Trizonia**	**4.34**	**329**	P		**Pn**		**23 03 11.7**	**+0.8**
UPR	**University Cam**	**4.39**	**326**	*e*PN		**Pn**		**23 03 13.6**	**+1.9**
UPR	**University Cam**	**4.39**	**326**	*e*Pn		**Pn**		**23 03 13.6**	**+1.9**
EFP	**Efpalio**	**4.46**	**328**	P		**Pn**		**23 03 13.3**	**+0.7**
EFP	**Efpalio**	**4.46**	**328**	*e*PN		**Pn**		**23 03 14.9**	**+2.3**
EFP	**Efpalio**	**4.46**	**328**	P		**Pn**		**23 03 13.3**	**+0.7**
EFP	**Efpalio**	**4.46**	**328**	*e*Pn		**Pn**		**23 03 14.9**	**+2.3**
DNZL	**Cakiroluk**	**4.53**	**47**	*i* P		**Pn**		**23 03 16.2**	**+2.4**
DNZL	**Cakiroluk**	**4.53**	**47**	*i* P		**Pn**		**23 03 16.2**	**+2.4**
AOS	**Alonnisos**	**4.58**	**350**	P		**Pn**		**23 03 15.2**	**+1.5**
AOS	**Alonnisos**	**4.58**	**350**	P		**Pn**		**23 03 15.2**	**+0.9**
AOS	**Alonnisos**	**4.58**	**350**	P		**Pn**		**23 03 15.2**	**+0.9**
ELL	**Elmali**	**4.60**	**62**	*e*PN		**Pn**		**23 03 14.8**	**+0.1**
ELL	**Elmali**	**4.60**	**62**	P		**Pn**		**23 03 14.8**	**+0.1**
ELL	**Elmali**	**4.60**	**62**	P		**Pn**		**23 03 14.8**	**+0.1**
ELL	**Elmali**	**4.60**	**62**	*e*Pn		**Pn**		**23 03 14.8**	**+0.1**
SKIA	**Skiathos**	**4.64**	**346**	P		**Pn**		**23 03 16.4**	**+1.2**
SKIA	**Skiathos**	**4.64**	**346**	P		**Pn**		**23 03 16.4**	**+1.2**
PRK	**Paraskevi**	**4.72**	**13**	P		**Pn**		**23 03 17.8**	**+1.6**
PRK	**Paraskevi**	**4.72**	**13**	P		**Pn**		**23 03 17.8**	**+1.6**
PRK	**Paraskevi**	**4.72**	**13**	*e*PN		**Pn**		**23 03 17.1**	**+0.9**
PRK	**Paraskevi**	**4.72**	**13**	*e*Pn		**Pn**		**23 03 17.1**	**+0.9**
PRK	**Paraskevi**	**4.72**	**13**	P		**Pn**		**23 03 17.8**	**+1.6**
KFL	**Anninata**	**4.77**	**317**	P		**Pn**		**23 03 17.5**	**+0.6**
KFL	**Anninata**	**4.77**	**317**	P		**Pn**		**23 03 17.5**	**+0.6**
NEO	**Neokhori**	**4.83**	**345**	P		**Pn**		**23 03 19.9**	**+2.2**
NEO	**Neokhori**	**4.83**	**345**	*e*PN		**Pn**		**23 03 19.2**	**+1.5**
NEO	**Neokhori**	**4.83**	**345**	*e*Pn		**Pn**		**23 03 19.2**	**+1.5**
NEO	**Neokhori**	**4.83**	**345**	P		**Pn**		**23 03 19.9**	**+2.2**
AKHS	**Akhisar**	**4.83**	**28**	*i* P		**Pn**		**23 03 18.8**	**+1.0**
AKHS	**Akhisar**	**4.83**	**28**	*i* P		**Pn**		**23 03 18.8**	**+1.0**
AKS	**Akhisar**	**4.83**	**28**	*e*PN		**Pn**		**23 03 19.0**	**+1.3**
AKS	**Akhisar**	**4.83**	**28**	P		**Pn**		**23 03 18.8**	**+1.0**
AKS	**Akhisar**	**4.83**	**28**	P		**Pn**		**23 03 18.8**	**+1.0**
MANT	**Manisa**	**4.84**	**37**	*i* P		**Pn**		**23 03 20.7**	**+2.6**
MANT	**Manisa**	**4.84**	**37**	*i* P		**Pn**		**23 03 20.7**	**+2.6**
MAKR	**Makrakomi, Fth**	**4.88**	**334**	P		**Pn**		**23 03 21.1**	**+2.7**
MAKR	**Makrakomi, Fth**	**4.88**	**334**	P		**Pn**		**23 03 20.6**	**+2.2**
MAKR	**Makrakomi, Fth**	**4.88**	**334**	P		**Pn**		**23 03 20.6**	**+2.2**
XOR	**Xorichti**	**4.89**	**345**	P		**Pn**		**23 03 19.0**	**+0.4**
XOR	**Xorichti**	**4.89**	**345**	P		**Pn**		**23 03 19.9**	**+1.3**
XOR	**Xorichti**	**4.89**	**345**	P		**Pn**		**23 03 19.9**	**+1.3**
KULA	**Kula-Manisa**	**4.91**	**37**	*e*PN		**Pn**		**23 03 20.1**	**+1.1**
KULA	**Kula-Manisa**	**4.91**	**37**	P		**Pn**		**23 03 20.0**	**+1.1**
KULA	**Kula-Manisa**	**4.91**	**37**	P		**Pn**		**23 03 20.0**	**+1.1**
VLS	**Valsamata**	**4.93**	**317**	P		**Pn**		**23 03 21.7**	**+2.6**
VLS	**Valsamata**	**4.93**	**317**	P		**Pn**		**23 03 21.7**	**+2.6**
VLS	**Valsamata**	**4.93**	**317**	P		**Pn**		**23 03 21.7**	**+2.6**
KORT	**Korkueli**	**5.03**	**61**	*i* P		**Pn**		**23 03 22.5**	**+1.9**
KORT	**Korkueli**	**5.03**	**61**	*i* P		**Pn**		**23 03 22.5**	**+1.9**
ANTB	**Antalya**	**5.20**	**63**	*e*PN		**Pn**		**23 03 23.5**	**+0.6**
ANTB	**Antalya**	**5.20**	**63**	*e*Pn		**Pn**		**23 03 23.5**	**+0.6**
KHL	**Karahalli**	**5.24**	**44**	*e*PN		**Pn**		**23 03 24.9**	**+1.5**
KHL	**Karahalli**	**5.24**	**44**	P		**Pn**		**23 03 24.9**	**+1.5**
KHL	**Karahalli**	**5.24**	**44**	P		**Pn**		**23 03 24.9**	**+1.5**
KHAL	**Karahalli**	**5.25**	**44**	*i* P		**Pn**		**23 03 25.1**	**+1.5**
KHAL	**Karahalli**	**5.25**	**44**	*i* P		**Pn**		**23 03 25.1**	**+1.5**
EZN	**Ezine**	**5.29**	**12**	*e*PN		**Pn**		**23 03 25.3**	**+1.3**
EZN	**Ezine**	**5.29**	**12**	P		**Pn**		**23 03 25.3**	**+1.3**
EZN	**Ezine**	**5.29**	**12**	P		**Pn**		**23 03 25.3**	**+1.3**
EZN	**Ezine**	**5.29**	**12**	P		**Pn**		**23 03 25.3**	**+1.3**
PAIG	**Paliouri**	**5.35**	**350**	P		Pn		23 03 28.0	+3.1
PAIG	**Paliouri**	**5.35**	**350**	P		Pn		23 03 28.0	+3.1
PAIG	**Paliouri**	**5.35**	**350**	P		**Pn**		**23 03 25.2**	**+0.3**
PAIG	**Paliouri**	**5.35**	**350**	P		**Pn**		**23 03 25.2**	**+0.3**
DEMI	**Demirci**	**5.35**	**34**	*i* P		**Pn**		**23 03 27.2**	**+2.1**
BCK	**Bucak**	**5.41**	**57**	*e*PN		**Pn**		**23 03 27.0**	**+1.1**
BCK	**Bucak**	**5.41**	**57**	P		**Pn**		**23 03 26.9**	**+1.1**
BCK	**Bucak**	**5.41**	**57**	P		**Pn**		**23 03 26.9**	**+1.1**
BCK	**Bucak**	**5.41**	**57**	P		**Pn**		**23 03 26.9**	**+1.1**
SWA2		**5.42**	**175**	P		**Pn**		**23 03 26.3**	**+0.5**
LJBD	**Adjabya**	**5.42**	**228**	*e*P		**Pn**		**23 03 24.8**	**-1.1**
	SNR=23								
BALB	**Balikesir**	**5.52**	**25**	*e*PN		**Pn**		**23 03 29.0**	**+1.7**
BALB	**Balikesir**	**5.52**	**25**	P		**Pn**		**23 03 28.9**	**+1.7**
BALB	**Balikesir**	**5.52**	**25**	P		**Pn**		**23 03 28.9**	**+1.7**
BALY	**Balya**	**5.53**	**23**	*i* P		**Pn**		**23 03 28.7**	**+1.3**
DURS	**Dursunbey**	**5.71**	**29**	*i* P		**Pn**		**23 03 30.8**	**+0.9**
OUR	**Ouranopolis**	**5.71**	**353**	P		**Pn**		**23 03 30.9**	**+1.0**
OUR	**Ouranopolis**	**5.71**	**353**	P		**Pn**		**23 03 30.9**	**+1.0**
OUR	**Ouranopolis**	**5.71**	**353**	P		**Pn**		**23 03 31.2**	**+1.3**
OUR	**Ouranopolis**	**5.71**	**353**	P		**Pn**		**23 03 31.2**	**+1.3**
LIT	**Litokhoron**	**5.76**	**341**	P		**Pn**		**23 03 32.6**	**+2.1**
LIT	**Litokhoron**	**5.76**	**341**	P		**Pn**		**23 03 32.6**	**+2.1**
LIT	**Litokhoron**	**5.76**	**341**	P		**Pn

SLVT	Silivri	7.07	21	P		Pn	23 03 50.0	+1.5		
SLVT	Silivri	7.07	21	P		Pn	23 03 50.0	+1.5		
LFK	Lefkose	7.13	83	*e*P		Pn	23 03 48.4	-1.1		
LFK	Lefkose	7.13	83	P		Pn	23 03 48.4	-1.1		
LFK	Lefkose	7.13	83	P		Pn	23 03 48.4	-1.1		
SVRH	Sivrihisar-ESK	7.15	46	*e*P		Pn	23 03 50.4	+0.7		
SVRH	Sivrihisar-ESK	7.15	46	P		Pn	23 03 50.4	+0.7		
SVRH	Sivrihisar-ESK	7.15	46	P		Pn	23 03 50.4	+0.7		
CTKS	Kestanelik-??a	7.17	23	*e*P		Pn	23 03 51.6	+1.8		
CTKS	Kestanelik-??a	7.17	23	P		Pn	23 03 51.6	+1.8		
CTKS	Kestanelik-??a	7.17	23	P		Pn	23 03 51.6	+1.8		
FYM	Al Fayyum	7.20	132	S		Sn	23 05 08.1	-3.7		
ISK	Istanbul-Kandi	7.20	26	*e*P		Pn	23 03 51.6	+1.3		
ISK	Istanbul-Kandi	7.20	26	P		Pn	23 03 51.6	+1.3		
ISK	Istanbul-Kandi	7.20	26	P		Pn	23 03 51.6	+1.3		
ISK	Istanbul-Kandi	7.20	26	P		Pn	23 03 51.6	+1.3		
BGKT	Bogazkoy	7.21	24	*e*P		Pn	23 03 52.1	+1.7		
BGKT	Bogazkoy	7.21	24	P		Pn	23 03 52.0	+1.7		
BGKT	Bogazkoy	7.21	24	P		Pn	23 03 52.0	+1.7		
HRT	Hereke	7.23	30	*e*P		Pn	23 03 51.6	+0.8		
HRT	Hereke	7.23	30	P		Pn	23 03 51.6	+0.8		
HRT	Hereke	7.23	30	P		Pn	23 03 51.6	+0.8		
HRT	Hereke	7.23	30	P		Pn	23 03 51.6	+0.8		
GULT	Gulveren	7.30	36	*e*P		Pn	23 03 53.3	+1.5		
GULT	Gulveren	7.30	36	P		Pn	23 03 53.2	+1.5		
GULT	Gulveren	7.30	36	P		Pn	23 03 53.2	+1.5		
CTYL	Yal??k??y-??at	7.32	21	*e*P		Pn	23 03 53.3	+1.3		
CTYL	Yal??k??y-??at	7.32	21	P		Pn	23 03 53.2	+1.3		
CTYL	Yal??k??y-??at	7.32	21	P		Pn	23 03 53.2	+1.3		
EDRB	Edirne	7.33	11	*e*P		Pn	23 03 52.5	+0.4		
EDRB	Edirne	7.33	11	P		Pn	23 03 52.4	+0.4		
EDRB	Edirne	7.33	11	P		Pn	23 03 52.4	+0.4		
KKB	Krupnik	7.34	349	P		Pn	23 03 57.4	+5.2		
KKB	Krupnik	7.34	349	*i* P		Px	23 04 36.5			
KLYT	Kilyos	7.36	25	*e*P		Pn	23 03 53.7	+1.1		
KLYT	Kilyos	7.36	25	P		Pn	23 03 53.6	+1.1		
KLYT	Kilyos	7.36	25	P		Pn	23 03 53.6	+1.1		
DIM	Dimitrovgrad	7.40	4	P		Pn	23 03 58.2	+5.2		
DIM	Dimitrovgrad	7.40	4	P		Px	23 04 31.8			
PLD	Plovdiv	7.44	359	P		Pn	23 03 55.3	+1.7		
PLD	Plovdiv	7.44	359	P		Pn	23 03 55.3	+1.7		
PLD	Plovdiv	7.44	359	P		Pn	23 03 58.9	+5.3		
PLD	Plovdiv	7.44	359	P		Px	23 04 33.0			
PLD	Plovdiv	7.44	359	P		Pn	23 03 55.3	+1.7		
SILT	Sile	7.50	29	*e*P		Pn	23 03 55.7	+1.3		
SILT	Sile	7.50	29	P		Pn	23 03 55.7	+1.3		
SILT	Sile	7.50	29	P		Pn	23 03 55.7	+1.3		
PHNC	Paralimni 6.6nm,0.7s	7.54	85	P		Pn	23 03 56.2	+1.3		
PHNC				S		Sn	23 05 17.8	-2.3		
PHNC	Paralimni 6.6nm,0.7s	7.54	85	P		Pn	23 03 56.2	+1.3		
PHNC				S		Sn	23 05 17.8	-2.3		
KOT	Kottamia	7.54	127	P		Pn	23 03 53.8	-1.2		
EREN	Erenkoy	7.67	81	*e*P		Pn	23 03 55.7	-1.0		
EREN	Erenkoy	7.67	81	P		Pn	23 03 55.7	-1.0		
EREN	Erenkoy	7.67	81	P		Pn	23 03 55.7	-1.0		
MDUB	Mudurnu	7.67	39	*e*P		Pn	23 03 57.3	+0.4		
MDUB	Mudurnu	7.67	39	P		Pn	23 03 57.3	+0.4		
MDUB	Mudurnu	7.67	39	P		Pn	23 03 57.3	+0.4		
GLL	Jalalah	7.69	129	P		Pn	23 03 56.8	-0.3		
LSRT	Sirt 28nm,1.3s,SNR=22	7.78	245	*e*P		Pn	23 03 56.3	-1.9		
SULT	Sultanhani-AKS	7.81	61	*e*P		Pn	23 03 59.3	+0.6		
SULT	Sultanhani-AKS	7.81	61	P		Pn	23 03 59.3	+0.6		
SULT	Sultanhani-AKS	7.81	61	P		Pn	23 03 59.3	+0.6		
PGB	Panagyurishte	7.90	356	P		Pn	23 04 07.9	+7.9		
PGB	Panagyurishte	7.90	356	*i* P		Px	23 04 33.3			
JMB	Yambol	7.91	9	P		Pn	23 03 58.0	-2.1		
JMB	Yambol	7.91	9	P		Pn	23 03 58.0	-2.1		
JMB	Yambol	7.91	9	P		Pn	23 04 06.5	+6.4		
JMB	Yambol	7.91	9	*i* P		Pb	23 04 29.5	+7.1		
JMB	Yambol	7.91	9	P		Pn	23 03 58.0	-2.1		
TIP	Timpagrande	7.91	307	*e*Pn		Pn	23 03 59.5	-0.7		
TIP				*e*Sn		Sn	23 05 32.1	+2.6		
TIP	Timpagrande	7.91	307	*e*Pn		Pn	23 03 59.5	-0.7		
TIP				*e*Sn		Sn	23 05 32.1	+2.6		
VTS	Vitosha	8.03	351	⇑P		Pn	23 04 06.0	+4.2		
VTS	Vitosha	8.03	351	P		Pn	23 04 05.3	+3.5		
VTS	Vitosha	8.03	351	⇑*i*P		Pn	23 04 06.0	+4.2		
VTS	Vitosha	8.03	351	P		Pn	23 04 06.0	+4.2		
VTS	Vitosha	8.03	351	P		Px	23 04 35.9			
VTS	Vitosha	8.03	351	P		Pn	23 04 05.3	+3.5		
AFSR	Af˙ar-Bala (A	8.11	51	*e*P		Pn	23 04 04.2	+1.3		
MERS	Mersin	8.15	72	*e*P		Pn	23 04 03.0	-0.4		
LOD	Lodumlu	8.17	48	*e*P		Pn	23 04 04.2	+0.5		
LOD	Lodumlu	8.17	48	P		Pn	23 04 04.2	+0.5		
LOD	Lodumlu	8.17	48	P		Pn	23 04 04.2	+0.5		
BBAL	Bala	8.20	51	*i* P		Pn	23 04 06.3	+2.2		
TAR1	Taranto	8.40	316	*e*Pn		Pn	23 04 07.8	+1.0		
KAMT	Kaman	8.49	54	*e*P		Pn	23 04 08.7	+0.5		
KAMT	Kaman	8.49	54	P		Pn	23 04 08.6	+0.5		
KAMT	Kaman	8.49	54	P		Pn	23 04 08.6	+0.5		
PE1	Pezze di Greco	8.52	318	*e*Pn		Pn	23 04 08.0	-0.3		
PVL	Pavlikeni	8.56	2	P		Pn	23 04 17.6	+8.7		
PVL	Pavlikeni	8.56	2	P		Px	23 04 31.6			
BRTR	Keskin Array B 0.4nm,0.3s,baz=227,slow=14,SNR=18	8.63	52	Pn		Pn	23 04 10.3	+0.3		
BRTR	Keskin Array B	8.63	52	P		Pn	23 04 10.4	+0.3		
BRTR	Keskin Array B	8.63	52	P		Pn	23 04 11.8	+1.8		
BRTR	Keskin Array B	8.63	52	P		Pn	23 04 10.4	+0.3		
SZH	Strazhica	8.64	5	*e*P		Px	23 04 25.2			
SZH	Strazhica	8.64	5	P		Px	23 04 28.7			
LZLA	Zalla 36nm,1.3s,SNR=22	8.71	228	*e*P		Pn	23 04 07.6	-3.4		
MPEP	Malo Peshtene	8.73	355	P		Pn	23 04 15.7	+4.4		
MPEP	Malo Peshtene	8.73	355	P		Px	23 04 33.8			
KRTS	Karatas	8.76	74	*e*P		Pn	23 04 11.1	-0.6		
KZIT	Kziot	8.84	112	P		Pn	23 04 11.2	-1.7		
KZIT	Kziot	8.84	112	P		Pn	23 04 11.2	-1.7		
MMAI	Mount Meron Ar 4.9nm,0.3s,baz=292,slow=12,SNR=16	8.91	98	Pn		Pn	23 04 11.9	-2.0		
MMAI				Sn		Sn	23 05 49.4	-4.6		
MMAI	Mount Meron Ar 2.9nm,0.3s,baz=272,slow=15,SNR=2.6	8.91	98	Pn		Pn	23 04 11.9	-2.0		
MMAI				Sn		Sn	23 05 49.4	-4.6		
MMAI	Mount Meron Ar	8.91	98	Pn		Pn	23 04 11.9	-2.0		
MMAI				Sn		Sn	23 05 49.4	-4.6		
BHL	Bhannes	8.95	92	*e*P		Pn	23 04 19.0	+4.6		
CUC	Castrocucco	8.97	309	*e*Pn		Pn	23 04 14.8	+0.2		
CUC	Castrocucco	8.97	309	*e*Pn		Pn	23 04 14.8	+0.2		
SAFT	Safranbolu	9.01	41	*e*P		Pn	23 04 15.9	+0.8		
SAFT	Safranbolu	9.01	41	P		Pn	23 04 15.9	+0.8		
SAFT	Safranbolu	9.01	41	P		Pn	23 04 15.9	+0.8		
BAI	Bari	9.02	318	*e*Pn		Pn	23 04 18.1	+2.9		
MMLI	Mount Malkishu	9.08	101	P		Pn	23 04 13.9	-2.2		
MMLI	Mount Malkishu	9.08	101	P		Pn	23 04 13.9	-2.2		
KSDI	Kefar Szold	9.08	96	P		Pn	23 04 13.7	-2.4		
KSDI	Kefar Szold	9.08	96	P		Pn	23 04 13.7	-2.4		
CEYT	Ceyhan	9.14	72	*e*P		Pn	23 04 16.4	-0.5		
CEYT	Ceyhan	9.14	72	P		Pn	23 04 16.3	-0.5		
CEYT	Ceyhan	9.14	72	P		Pn	23 04 16.3	-0.5		
HWQ	Hawqa	9.15	89	*e*P		Pn	23 04 16.5	-0.7		
RCY	Rachaya	9.17	94	*e*P		Pn	23 04 16.1	-1.3		
BRBR	Barbar	9.28	95	*e*P		Pn	23 04 16.6	-2.4		
BRBR				*e*S		Sn	23 05 54.2	-9.0		
BRBR	comp=N,45nm,0.6s			AML		AML	23 06 17.4			
BRBR	comp=E,101nm,0.8s			AML		AML	23 06 28.3			
BRBR	Barbar	9.28	95	*e*P		Pn	23 04 16.6	-2.4		
BRBR				*e*S		Sn	23 05 41.0	-22		
BRBR	comp=N,47nm,0.8s			AML		AML	23 06 17.3			
BRBR	comp=E,102nm,0.7s			AML		AML	23 06 28.3			
KOZT	Kozan	9.30	69	*e*P		Pn	23 04 18.4	-0.8		
CDT	Castel del Mon	9.35	316	*e*Pn		Pn	23 04 18.4	-1.3		
TCHB	Talchebab	9.46	99	*e*P		Pn	23 04 19.5	-1.8		
TCHB				*e*S		Sn	23 05 42.7	-25		
TCHB	comp=N,235nm,0.7s			AML		AML	23 06 16.4			
TCHB	comp=E,100nm,0.7s			AML		AML	23 06 16.6			
TCHB	Talchebab SNR=90	9.46	99	*e*P		Pn	23 04 19.5	-1.8		
LJFR	Jufra comp=E,12nm,1.5s,SNR=22	9.48	237	*e*P		Pn	23 04 18.2	-3.5		
HAWK	Haweek	9.51	88	*e*P		Pn	23 04 19.7	-2.4		
HAWK				*e*S		Sn	23 05 51.6	-17		
HAWK				AML		AML	23 06 10.9			
	comp=E,30nm,0.6s									
HAWK				AML		AML	23 06 22.3			
HAWK	comp=N,47nm,0.7s Haweek	9.51	88	*e*P		Pn	23 04 19.7	-2.4		
HAWK				*e*S		Sn	23 05 49.1	-20		
HAWK				AML		AML	23 06 10.9			
HAWK	comp=E,30nm,0.6s			AML		AML	23 06 22.3			
HAWK	comp=N,47nm,0.6s Haweek SNR=90	9.51	88	*e*P		Pn	23 04 19.7	-2.4		
CORM	Corum	9.52	52	*e*P		Pn	23 04 21.6	-0.6		
FKH	Fakeheh	9.54	89	*e*P		Pn	23 04 20.6	-1.9		
BNN	Bunyan	9.75	61	*e*P		Pn	23 04 24.9	-0.5		
EIL	Elat	9.88	117	Pn		Pn	23 04 26.2	-0.8		
EIL	comp=N,6.7nm,0.3s,baz=327,slow=17,SNR=8.6			Sn		Sn	23 06 10.9	-6.8		
EIL	comp=N,2.0nm,0.3s,baz=331,slow=16,SNR=2.8	9.88	117	Pn		Pn	23 04 26.2	-0.8		
EIL				Sn		Sn	23 06 10.9	-6.8		
EIL	Elat	9.88	117	Pn		Pn	23 04 26.2	-0.8		
EIL				Sn		Sn	23 06 10.9	-6.8		
STON	Ston	9.93	328	*e*Pn		Pn	23 04 25.1	-2.6		
STON				Sn		Sn	23 06 08.5	-10		
SALA	Sala	10.07	98	*e*P		Pn	23 04 28.4	-1.4		
SALA				*e*S		Sn	23 06 18.8	-3.9		
SALA	comp=N,58nm,0.7s			AML		AML	23 06 30.6			
SALA	comp=E,3.9nm,0.7s			AML		AML	23 06 30.8			
SALA	Sala	10.07	98	*e*P		Pn	23 04 28.7	-1.1		
SALA				*e*S		Sn	23 06 17.8	-4.9		
SALA	Sala SNR=90	10.07	98	*e*P		Pn	23 04 28.7	-1.1		
SALA	comp=E,133nm,20.2s,baz=348,slow=47 SNR=90			*e*S		Sn	23 06 17.8	-4.9		
KUZU	Kuzuini	10.14	74	*i* P		Pn	23 04 33.5	+2.8		
TIRR	Tirgusor	10.16	15	⇑P		Pn	23 04 34.2	+3.3		
TIRR	Tirgusor	10.16	15	*e*Pn		Pn	23 04 33.6	+2.7		
TIRR	Tirgusor	10.16	15	⇑*i*P		Pn	23 04 34.2	+3.3		
TIRR	Tirgusor	10.16	15	*e*Pn		Pn	23 04 33.6	+2.7		
TIRR	Tirgusor	10.16	15	P		Pn	23 04 34.2	+3.3		
ASF	Jabal al Asfar comp=E,2.0nm,0.3s,baz=152,slow=11,SNR=25	10.35	100	Pn		Pn	23 04 31.5	-2.1		
ASF				Sn		Sn	23 06 25.6	-3.7		
ASF	comp=E,0.7nm,0.3s,baz=61,slow=19,SNR=3.2			LR		LR	23 10 19.3			
ASF	comp=E,133nm,20.2s,baz=348,slow=47	10.35	100	P		Pn	23 04 31.5	-2.1		
ASF							23 06 25.6			
ASF	Jabal al Asfar	10.35	100	Pn		Pn	23 04 31.5	-2.1		
ASF				Sn		Sn	23 06 25.6	-3.7		
ZALF	Zalf	10.51	96	*e*P		Pn	23 04 34.4	-1.4		
ZALF				*e*S		Sn	23 06 20.1	-13		
ZALF	Zalf SNR=90	10.51	96	*e*P		Pn	23 04 34.4	-1.4		
ISR	Istrita	10.53	6	⇓P		Pn	23 04 39.6	+3.6		
ISR	Istrita	10.53	6	⇓*i*P		Pn	23 04 39.6	+3.6		
ISR	Istrita	10.53	6	P		Pn	23 04 39.6	+3.6		
DIKM	Dikmen	10.75	46	*e*P		Pn	23 04 39.4	+0.5		
VOIR		10.77	1	⇑P		Pn	23 04 45.9	+6.6		
VOIR		10.77	1	⇑*i*P		Pn	23 04 45.9	+6.6		
CFR	Carcaliu	10.80	12	⇓P		Pn	23 04 44.8	+5.2		
CFR	Carcaliu	10.80	12	⇓*i*P		Pn	23 04 44.8	+5.2		
LOT	Lotru	10.81	356	⇑*i*P		Pn	23 04 42.3	+2.4		
GZR	Gura Zlata	10.85	352	⇑P		Pn	23 04 45.2	+4.9		
GZR	Gura Zlata	10.85	352	⇑*i*P		Pn	23 04 45.2	+4.9		
MLR	Muntele Rosu comp=E,0.0nm,0.3s,baz=196,slow=9.4,SNR=12	10.86	4	Pn		Pn	23 04 40.7	+0.2		
MLR				LR		LR	23 09 29.3			
MLR	comp=E,65nm,20.2s,baz=207,slow=42 Muntele Rosu	10.86	4	⇑P		Pn	23 04 45.9	+5.4		
MLR	Muntele Rosu	10.86	4	Pn		Pn	23 04 40.7	+0.2		
MLR	Muntele Rosu	10.86	4	⇑*i*P		Pn	23 04 45.9	+5.4		
MLR	Muntele Rosu	10.86	4	Pn		Pn	23 04 40.7	+0.2		
AKCD	Akcadag	11.11	67	*i* P		Pn	23 04 44.5	+0.4		
BZS	Buzias	11.23	348	⇓P		Pn	23 04 47.6	+2.1		
BZS	Buzias	11.23	348	⇓*i*P		Pn	23 04 47.6	+2.1		
BZS	Buzias	11.23	348	P		Pn	23 04 47.6	+2.1		
PLOR	Plostina	11.27	6	⇑P		Pn	23 04 51.9	+5.9		
PLOR	Plostina	11.27	6	⇑*i*P		Pn	23 04 51.9	+5.9		
VRI	Vrincioaia	11.29	7	⇓P		Pn	23 04 49.1	+2.8		
VRI	Vrincioaia	11.29	7	P		Pn	23 04 48.4	+2.1		
VRI	Vrincioaia	11.29	7	⇓*i*P		Pn	23 04 49.1	+2.8		
VRI	Vrincioaia	11.29	7	P		Pn	23 04 48.4	+2.1		
KEMA	Kemaliye	11.82	63	*i* P		Pn	23 04 58.5	+4.8		
TESR		11.92	6	⇓*i*P		Pn	23 05 00.6	+5.7		
LUMB	Murzuk SNR=22	12.18	229	*e*P		Pn	23 04 54.0	-4.5		
DRGR		12.23	353	⇓P		Pn	23 05 00.5	+1.2		
DRGR		12.23	353	P		Pn	23 04 59.7	+0.4		
DRGR		12.23	353	⇓*i*P		Pn	23 05 00.5	+1.2		
DRGR		12.23	353	P		Pn	23 05 00.5	+1.2		
SIM	Simferopol'	12.49	32	*e*P		Px	23 05 17.7			
SIM	comp=Z,111nm,0.8s			pmax		pmax				
NVLJ	Novalja	12.54	325	*e*Pn		Pn	23 05 00.6	-2.7		
NVLJ				Sn		Sn	23 07 13.2	-9.4		
KELT	Kelkit	12.68	60	*e*P		Pn	23 05 09.4	+3.9		
KEST	Kesra comp=Z,0.0nm,0.3s,baz=24,slow=3.2,SNR=7.0	12.75	279	Pn		Pn	23 05 05.6	-0.8		
KEST	Kesra	12.75	279	*e*Pn		Pn	23 05 08.9	+2.5		
KEST	Kesra	12.75	279	*e*Pn		Pn	23 05 08.9	+2.5		
BURAR	Bucovina Array	12.95	1	⇑*i*P		Px	23 05 23.8			
PSZ	Piszkesteto	13.77	346	P		Pn	23 05 23.7	+3.5		
PSZ	Piszkesteto	13.77	346	P		Pn	23 05 23.7	+3.5		
PSZ	Piszkesteto	13.77	346	P		Pn	23 05 23.7	+3.5		
UZH	Uzhgorod	14.10	353	*e*P		Pn	23 05 25.2	+0.6		
KOLS	Kolonicke sedl	14.40	353	*e*P		P	23 05 34.8	-0.9		
KOLS	Kolonicke sedl	14.40	353	*e*P		P	23 05 34.8	-0.9		
KOLS	Kolonicke sedl	14.40	353	*e*P		P	23 05 34.8	-0.9		
SOP	Sopron	14.43	337	P		P	23 05 33.7	-2.3		
SOP	Sopron	14.43	337	P		P	23 05 33.7	-2.3		
SOP	Sopron	14.43	337	P		P	23 05 33.7	-2.3		
CRVS	Cervenica-Dubn	14.46	351	*e*P		P	23 05 35.2	-1.2		
CRVS	Cervenica-Dubn	14.46	351	*e*P		P	23 05 35.2	-1.2		
CRVS	Cervenica-Dubn	14.46	351	*e*P		P	23 05 35.2	-1.2		
VYHS	Vyhne	14.54	344	*e*P		P	23 05 40.1	+2.8		
VYHS	Vyhne	14.54	344	*e*P		P	23 05 40.0	+2.8		
SOC	Sochi	14.55	48	*e*P		P	23 05 35.2	-2.2		
SOC	comp=Z,246nm,9.0s			MLR		MLR				
SOC	Sochi comp=Z,246nm,9.0s	14.55	48	*e*P		P	23 05 35.2	-2.2		
PGF	Pioggiola	14.69	307	*e*P		Pn	23 05 31.2	-1.7		
ZST	Bratislava	14.72	339	*e*P		P	23 05 41.4	+2.2		
ZST	Bratislava	14.72	339	*e*P		P	23 05 41.4	+2.2		
ZST	Bratislava	14.72	339	*e*P		P	23 05 41.4	+2.2		
KOLL	Kolacno	14.72	343	*e*P		P	23 05 42.0	+2.7		
KOLL	Kolacno	14.72	343	*e*P		P	23 05 42.0	+2.7		
SMOL	Smolenice	14.91	340	*e*P		P	23 05 41.9	+0.5		
SMOL	Smolenice	14.91	340	*e*P		P	23 05 41.9	+0.5		
SMOL	Smolenice	14.91	340	*e*P		P	23 05 41.9	+0.5		
KWP	Kalwaria Pacla	15.05	355	*e*P		P	23 05 44.1	+1.2		
KWP	Kalwaria Pacla	15.05	355	*e*P		P	23 05 44.1	+1.2		
KWP	Kalwaria Pacla	15.05	355	*e*P		P	23 05 44.1	+1.2		
KBA	Koelnbreinsper	15.15	328	P		P	23 05 42.5	-1.7		
KBA	Koelnbreinsper	15.15	328	P		P	23 05 42.5	-1.7		
KBA	Koelnbreinsper comp=Z,15nm,1.0s	15.15	328	⇑*i*P		P	23 05 42.9	-1.3		
KBA	Koelnbreinsper	15.15	328	P		P	23 05 42.5	-1.7		
ABTA	Abfaltersbach comp=Z,9.4nm,0.7s	15.27	326	⇑*i*P		P	23 05 44.4	-1.0		
ABTA	Abfaltersbach comp=Z,9.4nm,0.7s	15.27	326	⇑*i*P		P	23 05 44.4	-1.0		
ABTA	Abfaltersbach comp=Z,9.4nm,0.7s	15.27	326	⇑*i*P		P	23 05 44.4	-1.0		
MOA	Molln	15.39	332	P		Pn	23 05 44.1	+2.0		
MOA	Molln comp=Z,13nm,0.8s	15.39	332	⇓*i*P		P	23 05 45.0	-1.7		
MOA	Molln	15.39	332	P		Pn	23 05 44.1	+2.0		
VRAC	Vranov comp=Z,0.4nm,0.3s,baz=130,slow=10,SNR=14	15.87	340	Pn		Pn	23 05 49.3	+1.0		
VRAC	Vranov	15.87	340	⇑P		P	23 05 51.5	-0.5		
VRAC	Vranov	15.87	340	P		P	23 05 50.4	-1.6		
VRAC	Vranov	15.87	340	⇑*i*P		P	23 05 51.5	-0.5		
VRAC	Vranov	15.87	340	P		P	23 05 51.5	-0.5		
OKC	Ostrava-Krasne	15.96	344	*e*P		P	23 05 56.5	+3.5		
OKC	Ostrava-Krasne	15.96	344	*e*P		P	23 05 56.5	+3.5		
MORC	Moravsky Berou	16.05	343	⇑P		P	23 05 53.3	-0.7		
MORC	Moravsky Berou comp=Z,9.2nm,1.0s	16.05	343	*e*P		P	23 05 54.8	+0.8		
MORC	Moravsky Berou	16.05	343	⇑*i*P		P	23 05 53.3	-0.7		
MORC	Moravsky Berou comp=Z,9.2nm,1.0s	16.05	343	*e*P		P	23 05 54.8	+0.8		
WTTA	Wattenberg	16.05	326	P		P	23 05 53.2	-1.1		
WTTA	Wattenberg	16.05	326	P		P	23 05 53.2	-1.1		
WTTA	Wattenberg	16.05	326	P		P	23 05 53.2	-1.1		
AKH	Akhalkalaki	16.13	60	P		P	23 05 58.0	+2.8		
TREC	Trest	16.19	337	*e*P		P	23 05 56.4	+0.8		
TREC	Trest	16.19	337	*e*P		P	23 05 56.4	+0.8		
TREC	Trest	16.19	337	*e*P		P	23 05 56.4	+0.8		
FUORN	Ofenpass-Fuorn comp=Z,47nm,1.0s	16.27	322	*e*Pn		Pn	23 05 54.2	+0.4		
FUORN	Ofenpass-Fuorn comp=Z,47nm,1.0s	16.27	322	*e*Pn		Pn	23 05 54.2	+0.4		
KIEV	Kiev	16.34	10	*c i*P		Pn	23 05 55.1	+0.8		
KIEV	Kiev comp=Z,78nm,0.8s	16.34	10	*e*Pn		P	23 05 56.0	-1.1		
KIEV	Kiev	16.34	10	*i* P		Pn	23 05 55.1	+0.8		
KIEV	Kiev comp=Z,78nm,0.8s	16.34	10	*e*Pn		P	23 05 56.0	-1.1		
AKASG	Malin Array Be comp=Z,2.4nm,0.3s,baz=202,slow=11,SNR=37	16.35	10	Pn		Pn	23 05 53.7	-0.7		
AKASG	Malin Array Be	16.35	10	*c e*P		Pn	23 05 52.5	-1.9		
AKASG	comp=Z,18nm,0.6s			pmax		pmax				
AKASG	Malin Array Be	16.35	10	Pn		Pn	23 05 53.7	-0.7		
AKASG	Malin Array Be	16.35	10	Pn		Pn	23 05 53.7	-0.7		
GEC2	GERESS Array S comp=Z,18nm,0.8s	16.42	333	*e*P		P	23 05 58.4	+0.2		
GEC2	GERESS Array S comp=Z,18nm,0.8s	16.42	333	*e*P		P	23 05 58.4	+0.2		
GEC2				pmax		pmax				
GEC2	GERESS Array S comp=Z,18nm,0.8s	16.42	333	*e*P		P	23 05 58.4	+0.2		
GERES	GERESS Array B comp=Z,0.6nm,0.3s,baz=149,slow=12,SNR=47	16.42	333	Pn		Pn	23 05 55.6	+0.1		
GERES	GERESS Array B	16.42	333	P		Pn	23 05 55.6	+0.1		
GERES	GERESS Array B	16.42	333	Pn		Pn	23 05 55.6	+0.1		
GERES	GERESS Array B	16.42	333	Pn		Pn	23 05 55.6	+0.1		
ONI	Oni	16.52	56	P		P	23 05 59.2	-0.1		
DAVOX	Davos/Dischmat comp=Z,0.1nm,0.3s,baz=153,slow=16,SNR=2.9	16.58	321	Pn		Pn	23 05 58.0	+0.4		
DAVOX	Davos/Dischmat	16.58	321	P		Pn	23 05 58.0	+0.4		
DA

CLL *i* sP **sP** **23 06 29.9 +0.2**
comp=Z,13nm,0.9s
CLL Collm 18.73 336 *e*P **Pn** **23 06 24.0 0.0**
LASF Ste Croix 18.73 306 *e*P **P** **23 06 22.2 -1.5**
HINF Hinteralfeld 18.82 320 *e*P **P** **23 06 24.6 -0.1**
comp=Z,40nm,1.1s
HINF Hinteralfeld 18.82 320 P **Pn** **23 06 25.2 0.0**
HINF Hinteralfeld 18.82 320 P **Pn** **23 06 25.2 0.0**
HINF Hinteralfeld 18.82 320 P **Pn** **23 06 25.2 0.0**
ECH Echery 18.91 321 P **P** **23 06 24.8 -0.8**
ECH Echery 18.91 321 P **P** **23 06 24.8 -0.8**
ECH Echery 18.91 321 P **P** **23 06 24.8 -0.8**
CDF Champ du Feu 18.98 322 *e*P **P** **23 06 25.4 -1.0**
comp=Z,51nm,1.2s
CDF Champ du Feu 18.98 322 P **P** **23 06 26.6 +0.2**
CDF Champ du Feu 18.98 322 P **P** **23 06 26.6 +0.2**
CDF Champ du Feu 18.98 322 P **P** **23 06 26.6 +0.2**
HAU Haudompre 19.21 320 *e*P **P** **23 06 28.5 -0.4**
comp=Z,52nm,1.0s
HAU Haudompre 19.21 320 P **P** **23 06 28.2 -0.7**
HAU Haudompre 19.21 320 P **P** **23 06 28.2 -0.7**
HAU Haudompre 19.21 320 P **P** **23 06 28.2 -0.7**
GKP Gorka Klasztor 19.38 346 *e*P **Pn** **23 06 33.1 +1.2**
GKP Gorka Klasztor 19.38 346 *e*P **Pn** **23 06 33.1 +1.2**
GKP Gorka Klasztor 19.38 346 *e*P **Pn** **23 06 33.1 +1.2**
SUW Suwalki 19.39 357 *e*P **P** **23 06 30.4 -0.4**
SUW Suwalki 19.39 357 *e*P **P** **23 06 30.4 -0.4**
SUW Suwalki 19.39 357 *e*P **P** **23 06 28.6 -2.2**
comp=Z,102nm,0.9s
SUW Suwalki 19.39 357 *e*P **P** **23 06 28.6 -2.2**
comp=Z,102nm,0.9s
UBBA Unterbreizbach 19.44 331 *e*P **Pn** **23 06 34.6 +2.1**
comp=Z,10.0nm,1.1s
VSR Storozhevoye 19.52 28 *e*P **Pn** **23 06 33.1 -0.4**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 19.52 28 *e*P **Pn** **23 06 33.1 -0.4**
MTLF Montolieu 19.59 303 *e*P **P** **23 06 32.0 -1.0**
MIB Mutribah 19.60 98 *e*P **P** **23 06 33.5 +0.3**
MIB AMb AMB 23 06 47.1
comp=Z,87nm,0.7s
TNS Taunus Mts 19.65 327 P **P** **23 06 33.8 0.0**
TNS Taunus Mts 19.65 327 P **P** **23 06 33.8 0.0**
TNS Taunus Mts 19.65 327 P **P** **23 06 33.8 0.0**
NAY Al-Naaiem 19.72 100 *e*P **Pn** **23 06 35.2 -0.8**
NAY AMb AMB 23 06 40.8
comp=Z,48nm,0.6s
PAGF Fort de Pagny 19.87 320 *e*P **P** **23 06 36.6 +0.5**
comp=Z,21nm,1.1s
SMF Signal de Mont 19.88 313 P **Pn** **23 06 38.6 +0.7**
SMF Signal de Mont 19.88 313 P **Pn** **23 06 38.6 +0.7**
SMF Signal de Mont 19.88 313 P **Pn** **23 06 38.6 +0.7**
UMR Umm Al-Rimmam 19.99 98 *e*P **P** **23 06 37.9 +0.3**
UMR AMb AMB 23 06 43.9
comp=Z,203nm,0.6s
SFTF Sexfontaines 20.03 318 *e*P **P** **23 06 38.1 +0.2**
comp=Z,112nm,1.2s
RDF Al-Radifah 20.09 100 *e*P Pn 23 06 39.6 -0.8
RDF AMb AMB 23 06 48.5
comp=Z,85nm,1.1s
LOR Lormes 20.19 315 *e*P **P** **23 06 39.2 -0.4**
comp=Z,21nm,0.7s
LOR Lormes 20.19 315 P **P** **23 06 39.4 -0.2**
LOR Lormes 20.19 315 P **P** **23 06 39.4 -0.2**
LOR Lormes 20.19 315 P **P** **23 06 39.4 -0.2**
MEZF Maizieres J'vi 20.20 319 *e*P **P** **23 06 39.1 -0.6**
MEZF Maizieres J'vi 20.20 319 P **P** **23 06 39.5 -0.2**
MEZF Maizieres J'vi 20.20 319 P **P** **23 06 39.5 -0.2**
CAF Calviac 20.25 307 *e*P **P** **23 06 41.2 +0.9**
AVF Avril sur Loir 20.25 313 P Pn 23 06 42.0 -0.2
AVF Avril sur Loir 20.25 313 P Pn 23 06 42.0 -0.2
AVF Avril sur Loir 20.25 313 P Pn 23 06 42.0 -0.2
NACGM Naroch 20.29 3 *e* **P** **23 06 37.0 -3.5**
SSF Saint Saulge 20.29 314 *e*P **P** **23 06 39.9 -0.8**
SSF Saint Saulge 20.29 314 P **P** **23 06 41.2 +0.5**
SSF Saint Saulge 20.29 314 P **P** **23 06 41.2 +0.5**
SSF Saint Saulge 20.29 314 P **P** **23 06 41.2 +0.5**
WLF Walferdange 20.35 323 P Pn 23 06 43.2 -0.2
comp=Z,38nm,1.9s
WLF Walferdange 20.35 323 *e*P **P** **23 06 41.7 +0.4**
WLF pmax pmax
comp=Z,27nm,0.9s
WLF Walferdange 20.35 323 *e*Pn **P** **23 06 41.7 +0.4**
comp=Z,27nm,0.9s
WLF Walferdange 20.35 323 *e*Pn **P** **23 06 41.7 +0.4**
comp=Z,27nm,0.9s
VRHR Novokhopersk 20.43 31 *e*P Pn 23 06 44.0 -0.3
VRHR *e*S **S** **23 10 31.0 +0.7**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR smax smax
comp=E,50nm,1.4s
VRHR smax smax
comp=Z,20nm,1.4s
VRHR smax smax
comp=N,10.0nm,0.7s
VRHR Novokhopersk 20.43 31 *e*P Pn 23 06 44.0 -0.3
BGF Bois d'Agland 20.44 312 *e*P **P** **23 06 41.8 -0.6**
comp=N,31nm,0.8s
TAM Tamanrasset 20.64 240 P **P** **23 06 46.0 +1.2**
TAM Tamanrasset 20.64 240 P **P** **23 06 46.0 +1.2**
TAM Tamanrasset 20.64 240 P **P** **23 06 46.0 +1.2**
TCF Toulx Ste Croi 20.71 311 *e*P **P** **23 06 44.8 -0.5**
RJF Les Rejaudoux 20.75 308 *e*P **P** **23 06 44.6 -1.1**
comp=N,58nm,1.0s
EPF Esparros 20.81 301 *e*P **P** **23 06 45.1 -1.3**
comp=N,109nm,1.4s
MEM Membach 21.05 325 P **P** **23 06 49.0 +0.2**
comp=Z,18nm,1.2s
MEM Membach 21.05 325 P **P** **23 06 48.6 -0.2**
MEM Membach 21.05 325 P **P** **23 06 48.6 -0.2**
MEM Membach 21.05 325 P **P** **23 06 48.6 -0.2**
LFF La Frestale 21.13 306 P **P** **23 06 52.5 +2.8**
LFF La Frestale 21.13 306 P **P** **23 06 52.5 +2.8**
LFF La Frestale 21.13 306 P **P** **23 06 52.5 +2.8**
HGN Heimansgroeve 21.18 325 P **P** **23 06 49.0 -1.3**
HGN Heimansgroeve 21.18 325 P **P** **23 06 49.0 -1.3**
BCLA Clavier 21.26 324 P **P** **23 06 52.3 +1.2**
comp=Z,50nm,3.2s
DOU Dourbes 21.40 322 P **P** **23 06 52.5 -0.1**
ETSF Etsaut 21.41 300 *e*P **P** **23 06 51.3 -1.6**
comp=Z,83nm,1.3s
BAIF Baives 21.58 322 *e*P **P** **23 06 52.2 -2.3**
comp=Z,80nm,1.1s
BAIF Baives 21.58 322 P **P** **23 06 53.4 -1.1**
BAIF Baives 21.58 322 P **P** **23 06 53.4 -1.1**
BAIF Baives 21.58 322 P **P** **23 06 53.4 -1.1**
WTSB Winterswijk 21.63 329 P **P** **23 06 55.3 +0.2**
WTSB Winterswijk 21.63 329 P **P** **23 06 55.3 +0.2**
SNF Seneffe 21.82 323 P **P** **23 06 57.3 +0.2**
comp=Z,26nm,2.1s
BSEG Bad Segeberg 21.83 336 *e*P **P** **23 06 55.6 -1.6**
comp=Z,37nm,0.8s
BSEG Bad Segeberg 21.83 336 *e*P **P** **23 06 55.6 -1.6**
BSEG pmax pmax
comp=Z,37nm,0.8s
SJPF Ste Jean 21.94 300 *e*P **P** **23 06 57.4 -1.1**
comp=Z,88nm,1.2s
OBN Obninsk 22.01 18⇑ *e*P **P** **23 06 59.1 0.0**
OBN *e* 23 07 22.5
OBN *e*S **S** **23 11 03.1 +1.7**
OBN pmax pmax
comp=Z,29nm,0.7s
OBN Obninsk 22.01 18 *e*P **P** **23 07 01.1 +1.9**
comp=Z,31nm,0.7s
OBN Obninsk 22.01 18 *e*P **P** **23 06 59.1 0.0**
comp=Z,29nm,0.7s
MFF Saint Martin d 22.33 310 *e*P **P** **23 07 01.2 -1.4**
comp=Z,52nm,0.9s
MOS Moscow 22.84 19 *e*P **P** **23 07 09.8 +1.8**
MOS *e* 23 07 19.6
MOS *e* 23 07 34.7
MOS *e* 23 11 06.7
MOS pmax pmax
comp=Z,39nm,1.0s
MOS Moscow 22.84 19 *e*P **P** **23 07 09.8 +1.8**
comp=Z,39nm,1.0s
LDF La Druitiere 23.17 315 *e*P **P** **23 07 08.8 -2.7**
comp=Z,15nm,0.6s
LDF La Druitiere 23.17 315 P **P** **23 07 10.8 -0.7**
LDF La Druitiere 23.17 315 P **P** **23 07 10.8 -0.7**
LDF La Druitiere 23.17 315 P **P** **23 07 10.8 -0.7**
FLN La Foliniere 23.46 315 *e*P **P** **23 07 12.3 -2.1**
FLN La Foliniere 23.46 315 P **P** **23 07 12.4 -2.0**
FLN La Foliniere 23.46 315 P **P** **23 07 12.4 -2.0**
FLN La Foliniere 23.46 315 P **P** **23 07 12.4 -2.0**
ESDC Sonseca Array 23.47 291 P **P** **23 07 12.2 -2.5**
comp=Z,7.0nm,0.8s,baz=80,slow=9.4,SNR=22
ESDC Sonseca Array 23.47 291 P **P** **23 07 12.2 -2.5**
ESDC Sonseca Array 23.47 291 P **P** **23 07 12.1 -2.5**
VSU Vasula 23.85 2 *e*P **P** **23 07 18.1 +0.1**
VSU pmax pmax
comp=Z,11nm,1.2s
VSU Vasula 23.85 2 P **P** **23 07 18.2 +0.2**
VSU Vasula 23.85 2 P **P** **23 07 18.2 +0.2**
QUIF Quistinic 24.73 311 P **P** **23 07 28.7 +2.5**
QUIF Quistinic 24.73 311 P **P** **23 07 28.7 +2.5**
QUIF Quistinic 24.73 311 P **P** **23 07 28.7 +2.5**
PBAR Barrancos 25.85 287 *e*P **P** **23 07 36.5 0.0**
comp=Z,46nm,1.7s
PBAR Barrancos 25.85 287 *e*P **P** **23 07 36.5 0.0**
comp=Z,46nm,1.7s
MVO Moncorvo 25.90 294 *e*P **P** **23 07 37.7 +0.7**
comp=Z,54nm,1.9s
MVO Moncorvo 25.90 294 P **P** **23 07 37.9 +0.9**
MVO Moncorvo 25.90 294 *e*P **P** **23 07 37.7 +0.7**
comp=Z,54nm,1.9s
PESTR Estremoz 26.27 289 *e*P **P** **23 07 41.3 +1.0**
comp=Z,47nm,1.3s
PESTR Estremoz 26.27 289 P **P** **23 07 41.3 +1.0**
PESTR Estremoz 26.27 289 *e*P **P** **23 07 41.3 +1.0**
comp=Z,47nm,1.3s
PBEJ Beja 26.51 287 *e*P **P** **23 07 45.1 +2.6**
comp=Z,33nm,1.9s
PBEJ Beja 26.51 287 *e*P **P** **23 07 45.1 +2.6**
comp=Z,33nm,1.9s
HFS Hagfors 26.52 347 P **P** **23 07 40.2 -2.0**
comp=Z,3.9nm,0.5s,baz=160,slow=14,SNR=10
HFS Hagfors 26.52 347 P **P** **23 07 40.2 -2.0**
HFS Hagfors 26.52 347 P **P** **23 07 40.2 -2.0**
PBDV Barranco-do-Ve 26.61 285 *e*P **P** **23 07 43.1 -0.3**
comp=Z,74nm,1.4s
PBDV Barranco-do-Ve 26.61 285 *e*P **P** **23 07 43.1 -0.3**
comp=Z,74nm,1.4s
PCAB Cabril 26.69 295 *e*P **P** **23 07 44.0 -0.1**
comp=Z,82nm,0.9s
PCAB Cabril 26.69 295 *e*P **P** **23 07 44.0 -0.1**
comp=Z,82nm,0.9s
FINES FINESS Array B 26.82 1 P **P** **23 07 43.2 -1.8**
comp=Z,7.8nm,0.8s,baz=167,slow=10,SNR=13
FINES FINESS Array B 26.82 1 P **P** **23 07 43.2 -1.8**
FINES FINESS Array B 26.82 1 P **P** **23 07 43.2 -1.8**
KAF Kangasniemi 27.49 1 *e*P **P** **23 07 48.7 -2.3**
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 27.49 1 *e*p **P** **23 07 48.7 -2.3**
comp=Z,8.2nm,0.7s
KAF Kangasniemi 27.49 1 *e*p **P** **23 07 48.7 -2.3**
comp=Z,8.2nm,0.7s
NB2 NORSAR Subarra 27.83 346 P **P** **23 07 53.7 -0.4**
comp=Z,2.9nm,0.8s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.83 346 P **P** **23 07 53.7 -0.4**
comp=Z,2.9nm,0.8s,SNR=5.3
NOA NORSAR Array B 27.83 346 P **P** **23 07 51.1 -3.0**
comp=Z,3.5nm,0.9s,baz=155,slow=8.8,SNR=7.5
NOA NORSAR Array B 27.83 346 P **P** **23 07 51.1 -3.0**
NOA NORSAR Array B 27.83 346 P **P** **23 07 51.1 -3.0**
JOF Joensuu 28.57 6 *e*P **P** **23 07 58.9 -1.8**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 28.57 6 *e*p **P** **23 07 58.9 -1.8**
comp=Z,5.2nm,0.5s
JOF Joensuu 28.57 6 *e*p **P** **23 07 58.9 -1.8**
comp=Z,5.2nm,0.5s
AKTK Aktyubinsk 28.77 47 P **P** **23 08 01.8 -0.7**
AKTK Aktyubinsk 28.77 47 P **P** **23 08 01.8 -0.7**
AKTO Aktyubinsk 28.77 47 P **P** **23 08 01.5 -1.0**
comp=Z,7.3nm,0.8s,baz=239,slow=5.0,SNR=11
AKTO Aktyubinsk 28.77 47 *i* P **P** **23 08 01.8 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 28.77 47 P **P** **23 08 01.5 -1.0**
AB31 Akbulak array 29.58 50 *i* P **P** **23 08 09.9 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 Akbulak array 29.58 50 P **P** **23 08 09.0 -0.7**
AB31 Akbulak array 29.58 50 P **P** **23 08 09.0 -0.7**
ABKAR Akbulak array 29.58 50 *e*P **P** **23 08 10.3 +0.5**
ABKAR Akbulak array 29.58 50 *e*P **P** **23 08 10.3 +0.5**
TORD Torodi Ar. Bea 29.99 230 P **P** **23 08 13.8 +0.1**
comp=Z,13nm,0.6s,baz=38,slow=9.0,SNR=85
TORD Torodi Ar. Bea 29.99 230 P **P** **23 08 13.8 +0.1**
TORD Torodi Ar. Bea 29.99 230 P **P** **23 08 13.8 +0.1**
ARU Arti 31.60 36 *d* iP **P** **23 08 28.6 +1.1**
ARU S **S** **23 13 36.8 +1.1**
ARU SS **SnSn** **23 15 18.6 -2.8**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 31.60 36 P **P** **23 08 28.3 +0.8**
ARU Arti 31.60 36 P **P** **23 08 28.3 +0.8**
SVE Sverdlovsk 32.80 36 *e*P **P** **23 08 39.5 +1.5**
SVE pmax pmax
comp=Z,24nm,0.8s
APA Apatity 33.33 6⇑ *i* P **P** **23 08 43.0 +0.5**
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 34.94 0 P **P** **23 08 53.7 -2.8**
comp=Z,3.4nm,0.7s,baz=171,slow=9.8,SNR=17
ARCES ARCESS Array B 34.94 0 P **P** **23 08 53.7 -2.8**
ARCES ARCESS Array B 34.94 0 P **P** **23 08 53.7 -2.8**
KEV Kevo 35.17 1 *e*P **P** **23 08 56.9 -1.6**
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 35.17 1 *e*p **P** **23 08 56.9 -1.6**
comp=Z,4.4nm,0.7s
KEV Kevo 35.17 1 *e*p **P** **23 08 56.9 -1.6**
comp=Z,4.4nm,0.7s
KK31 Karatay Array 36.14 63 P **P** **23 09 08.4 +1.2**
KK31 Karatay Array 36.14 63 P **P** **23 09 08.4 +1.2**
KK31 Karatay Array 36.14 63 P **P** **23 09 08.4 +1.2**
KKAR Karatay Array 36.14 63 *e*P **P** **23 09 08.5 +1.3**
KKAR Karatay Array 36.14 63 *e*P **P** **23 09 08.5 +1.3**
KKAR Karatay Array 36.14 63 *e*P **P** **23 09 08.5 +1.3**
BRVK Borovoye 36.81 46 *c e*P **P** **23 09 13.4 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 36.81 46 *e*P **P** **23 09 14.7 +2.0**
comp=Z,7.4nm,1.1s
BRVK Borovoye 36.81 46 *e*P **P** **23 09 14.7 +2.0**
comp=Z,7.4nm,1.1s
BVAR Borovoye Array 36.87 46 P **P** **23 09 14.6 +1.4**
comp=Z,2.5nm,1.0s,baz=241,slow=5.9,SNR=9.7
BVAR Borovoye Array 36.87 46 P **P** **23 09 14.6 +1.4**
BVAR Borovoye Array 36.87 46 P **P** **23 09 14.6 +1.4**
BVAR Borovoye Array 36.87 46 P **P** **23 09 14.6 +1.4**
EKS2 Erkin-Say 38.56 63 *e*P **P** **23 09 29.3 +1.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 38.56 63 *e*P **P** **23 09 29.3 +1.4**
comp=Z,7.3nm,0.7s
EKS2 Erkin-Say 38.56 63 *e*P **P** **23 09 29.3 +1.4**
comp=Z,7.3nm,0.7s
DBIC Dimbokro 39.07 231 P **P** **23 09 31.9 -0.3**
comp=Z,4.2nm,0.5s,baz=19,slow=8.9,SNR=21
DBIC Dimbokro 39.07 231 P **P** **23 09 31.9 -0.3**
DBIC Dimbokro 39.07 231 P **P** **23 09 31.9 -0.3**
DBIC Dimbokro 39.07 231 P **P** **23 09 31.9 -0.3**
AAK Ala-Archa 39.09 63 *e*P **P** **23 09 34.2 +1.9**
AAK pmax pmax
comp=Z,21nm,0.8s
FRU Bishkek 39.16 63 *e*P P 23 09 38.0 +5.2
LIC Lamto 39.52 231 *e*P **P** **23 09 35.5 -0.4**
comp=Z,26nm,0.8s
KURK Kurchatov 41.68 50 P **P** **23 09 53.4 0.0**
comp=Z,8.3nm,0.7s,baz=272,slow=8.5,SNR=38
KURK PP PP 23 11 30.4 +0.8
comp=Z,13nm,1.0s,baz=277,slow=10,SNR=4.7
KURK Kurchatov 41.68 50 P **P** **23 09 53.4 0.0**
KURK 23 11 30.4
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 41.68 50 *e*P **P** **23 09 54.4 +1.0**
comp=Z,8.1nm,0.8s
KURK PP PP 23 11 30.4 +0.8
KURK Kurchatov 41.68 50 *e*P **P** **23 09 54.4 +1.0**
comp=Z,8.1nm,0.8s
KURK Kurchatov 41.68 50 PP PP 23 11 30.4 +0.7
MK31 Makanchi Array 44.25 56 P **P** **23 10 14.0 -0.3**
MK31 Makanchi Array 44.25 56 P **P** **23 10 14.0 -0.3**
MK31 Makanchi Array 44.25 56 P **P** **23 10 14.0 -0.3**
MKAR Makanchi Array 44.25 56 P **P** **23 10 14.2 -0.1**
comp=Z,6.8nm,0.6s,baz=279,slow=6.7,SNR=50
MKAR Makanchi Array 44.25 56 *c e*P **P** **23 10 14.1 -0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 44.25 56 P **P** **23 10 14.2 -0.1**
MKAR Makanchi Array 44.25 56 P **P** **23 10 14.2 -0.1**
NVS Novosibirsk 44.61 45 *e*P **P** **23 10 17.5 +0.5**
NVS *e* 23 11 57.3
NVS *e*S **S** **23 16 49.4 -3.0**
NVS pmax pmax
comp=Z,44nm,2.1s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,33nm,1.9s
NVS smax smax
comp=N,18nm,2.5s
ZALV Zalesovo Beam 45.52 46 P **P** **23 10 24.4 +0.1**
comp=N,6.0nm,0.4s,baz=271,slow=8.2,SNR=16
ZALV Zalesovo Beam 45.52 46 P **P** **23 10 24.4 +0.1**
ZALV Zalesovo Beam 45.52 46 P **P** **23 10 24.4 +0.1**
ZALV Zalesovo Beam 45.52 46 P **P** **23 10 24.4 +0.1**
WMQ Urumqi 48.46 59 P P 23 10 43.8 -3.7
WMQ sP sP 23 10 48.8 -5.2
WMQ PP pP 23 10 50.8 -1.4
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ LR LR
comp=N,290nm,18.6s
WMQ LR LR
comp=E,430nm,20.4s
WMQ LR LR
comp=Z,350nm,23.4s
DANN Dangsing 49.99 80 *e*P **P** **23 11 01.0 +1.3**
comp=Z,86nm,0.7s
DANN Dangsing 49.99 80 *e*P **P** **23 11 01.0 +1.3**
comp=Z,86nm,0.7s
DANN Dangsing 49.99 80 *e*P **P** **23 11 01.0 +1.3**
comp=Z,86nm,0.7s
KOLN Koldanda 50.09 81 *e*P **P** **23 11 01.0 +0.6**
comp=Z,16nm,0.6s
KOLN Koldanda 50.09 81 *e*P **P** **23 11 01.0 +0.6**
comp=Z,16nm,0.6s
KOLN Koldanda 50.09 81 *e*P **P** **23 11 01.0 +0.6**
comp=Z,16nm,0.6s
HYB Hyderabad 50.61 96 *i* P **P** **23 11 06.0 +1.8**
GKN Gorkha 50.84 80 *e*P **P** **23 11 06.6 +0.6**
comp=Z,29nm,0.7s
GKN Gorkha 50.84 80 *e*P **P** **23 11 06.6 +0.6**
comp=Z,29nm,0.7s
GKN Gorkha 50.84 80 *e*P **P** **23 11 06.6 +0.6**
comp=Z,29nm,0.7s
DMN Daman 51.38 80 *e*P **P** **23 11 10.9 +0.7**
comp=Z,57nm,0.9s
DMN Daman 51.38 80 *e*P **P** **23 11 10.9 +0.7**
comp=Z,57nm,0.9s
DMN Daman 51.38 80 *e*P **P** **23 11 10.9 +0.7**
comp=Z,57nm,0.9s
KKN Kakani 51.45 80 *e*P **P** **23 11 11.0 +0.4**
comp=Z,20nm,0.7s
KKN Kakani 51.45 80 *e*P **P** **23 11 11.0 +0.4**
KKN pmax pmax
comp=Z,20nm,0.7s
KKN Kakani 51.45 80 *e*P **P** **23 11 11.0 +0.4**
comp=Z,20nm,0.7s
KKN Kakani 51.45 80 *e*P **P** **23 11 11.0 +0.4**
comp=Z,20nm,0.7s
PKI Pulchoki 51.64 80 *e*P **P** **23 11 13.0 +0.8**
comp=Z,42nm,0.9s
PKI Pulchoki 51.64 80 *e*P **P** **23 11 13.0 +0.8**
PKI pmax pmax
comp=Z,42nm,0.9s
PKI Pulchoki 51.64 80 *e*P **P** **23 11 13.0 +0.8**
comp=Z,42nm,0.9s
PKI Pulchoki 51.64 80 *e*P **P** **23 11 13.0 +0.8**
comp=Z,42nm,0.9s
GUN Gumba 51.89 80 *e*P **P** **23 11 13.7 -0.4**
GUN Gumba 51.89 80 *e*P **P** **23 11 13.7 -0.4**
GUN Gumba 51.89 80 *e*P **P** **23 11 13.7 -0.4**
JIRN Jiri 52.24 80 *e*P **P** **23 11 17.3 +0.6**
JIRN Jiri 52.24 80 *e*P **P** **23 11 17.3 +0.6**
JIRN Jiri 52.24 80 *e*P **P** **23 11 17.3 +0.6**
RAMN Ramite 52.86 80 *e*P **P** **23 11 22.0 +0.8**
RAMN Ramite 52.86 80 *e*P **P** **23 11 22.0 +0.8**
RAMN Ramite 52.86 80 *e*P **P** **23 11 22.0 +0.8**
TAPN Taplejung 53.60 79 *e*P **P** **23 11 26.8 +0.1**
comp=Z,8.5nm,0.5s
TAPN Taplejung 53.60 79 *e*P **P** **23 11 26.8 +0.1**
comp=Z,8.5nm,0.5s
TAPN Taplejung 53.60 79 *e*P **P** **23 11 26.8 +0.1**
comp=Z,8.5nm,0.5s
LSA Lhasa 55.42 75 P P 23 11 35.9 -4.2
ZAK Zakamensk 57.25 48 *e*P **P** **23 11 53.1 +0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
GTA Gaotai 58.41 61 *e*P **P** **23 12 01.8 +1.1**
GTA pP **pP** **23 12 05.9 +0.4**
GTA sP **sP** **23 12 08.8 +1.5**
GTA S **S** **23 20 04.3 +1.0**
GTA SS **SS** **23 23 58.5 +3.3**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA LR LR
comp=N,390nm,19.0s
GTA LR LR
comp=E,400nm,17.6s
GTA LR LR
comp=Z,430nm,18.0s
SONM Songino Array 59.99 50 P **P** **23 12 11.2 -0.3**
comp=Z,2.7nm,0.7s,baz=290,slow=7.4,SNR=26
SONM Songino Array 59.99 50 P **P** **23 12 11.2 -0.3**
SONM Songino Array 59.99 50 P **P** **23 12 11.2 -0.3**
SONM Songino Array 59.99 50 P **P** **23 12 11.2 -0.3**
ULN Ulaanbaatar 60.39 50 P **P** **23 12 13.9 -0.5**
ULN Ulaanbaatar 60.39 50 P **P** **23 12 13.9 -0.5**
ULN Ulaanbaatar 60.39 50 P **P** **23 12 13.9 -0.5**
BOD Bodaibo 61.00 38 *e*P **P** **23 12 16.3 -1.8**
BOD pmax pmax
comp=Z,6.0nm,2.5s
LZH Lanzhou 62.63 64 *e*P P 23 12 33.5 +3.8
LZH pP pP 23 12 39.5 +5.0
LZH sP sP 23 12 43.0 +6.7
LZH pmax pmax
comp=Z,21nm,1.5s
LZH pmax pmax
comp=Z,110nm,4.3s
LZH LR LR
comp=N,240nm,15.2s
LZH LR LR
comp=E,320nm,17.9s
LZH LR LR
comp=Z,330nm,19.7s
BOSA Boshof 62.93 180 P **P** **23 12 31.1 -0.3**
comp=Z,5.4nm,0.8s,baz=349,slow=5.5,SNR=6.6
BOSA Boshof 62.93 180 P **P** **23 12 31.1 -0.3**
BOSA Boshof 62.93 180 P **P** **23 12 31.1 -0.3**
BOSA Boshof 62.93 180 P **P** **23 12 31.1 -0.3**
SCHQ Schefferville 63.42 320 P **P** **23 12 32.7 -1.7**
comp=Z,4.5nm,0.7s,baz=58,slow=9.9,SNR=12
SCHQ Schefferville 63.42 320 P **P** **23 12 32.7 -1.7**
RES Resolute Bay 64.09 345 P **P** **23 12 37.7 -0.8**
comp=Z,4.2nm,0.7s,baz=26,slow=9.6,SNR=7.9
RES Resolute Bay 64.09 345 P **P** **23 12 37.7 -0.8**
RES Resolute Bay 64.09 345 P **P** **23 12 37.7 -0.8**
CD2 Chengdu 64.79 69 P **P** **23 12 45.8 +2.0**
CD2 pP **pP** **23 12 50.4 +1.8**
CD2 sP **sP** **23 12 52.8 +2.4**
CD2 PP **PP** **23 15 10.0 +3.8**
CD2 S **S** **23 21 24.6 +0.3**
CD2 SS **SS** **23 25 37.3 +2.1**
CD2 pmax pmax

	comp=Z,20nm,0.9s						
CD2					pmax	pmax	
	comp=Z,520nm,10.7s						
CD2					LR	LR	
	comp=N,520nm,13.7s						
CD2					LR	LR	
	comp=Z,380nm,14.9s						
HHC	**Hu-ho-hao-te**	**66.11**	**56**	*e*P	**P**	**23 12 53.5 +1.2**	
HHC				sP	**sP**	**23 12 59.8 +0.9**	
HHC				PcP	**PcP**	**23 13 24.4 +1.7**	
HHC				PP	**PP**	**23 15 20.8 +3.2**	
HHC				ScP		23 17 25.0	
HHC				PcS		23 17 26.6	
HHC				S	**S**	**23 21 38.9 -1.5**	
HHC				ScS	**SKSac**	**23 22 44.8 -3.3**	
HHC				SS	**SS**	**23 25 56.3 +0.8**	
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,540nm,6.3s						
HHC				LR	LR		
	comp=N,400nm,16.9s						
HHC				LR	LR		
	comp=E,370nm,16.2s						
HHC				LR	LR		
	comp=Z,400nm,16.4s						
KMI	**Kunming**	**66.67**	**75**	P	**P**	**23 12 58.8 +2.5**	
KMI				pP	**pP**	**23 13 01.0 -0.1**	
KMI				sP	**sP**	**23 13 02.5 -0.3**	
CHTO	**Chiang Mai**	**66.69**	**83**	P	**P**	**23 12 54.5 -1.7**	
CHTO	**Chiang Mai**	**66.69**	**83**	P	**P**	**23 12 54.5 -1.7**	
CMAR	**Chiang Mai Arr**	**66.86**	**83**	P	**P**	**23 12 59.9 +2.6**	
	comp=Z,2.4nm,0.8s,baz=294,slow=7.0,SNR=12						
CMAR				PP	**PP**	**23 15 21.4 -3.2**	
	comp=Z,1.1nm,0.3s,baz=296,slow=7.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**66.86**	**83**	P	**P**	**23 12 59.9 +2.6**	
CMAR						23 15 21.4	
CMAR	**Chiang Mai Arr**	**66.86**	**83**	P	**P**	**23 12 59.9 +2.6**	
CMAR				PP	**PP**	**23 15 21.4 -3.2**	
CMAR	**Chiang Mai Arr**	**66.86**	**83**	P	**P**	**23 12 59.9 +2.6**	
GYA	**Guiyang**	**69.12**	**72**	P	**P**	**23 13 13.3 +1.7**	
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL	**Bilibino**	**73.61**	**14**⇑	*e*P	**P**	**23 13 36.7 -1.1**	
BILL				*e*		23 16 19.9	
BILL				*e*SS	SS	23 27 48.4 -0.8	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s						
BILL	**Bilibino**	**73.61**	**14**	P	**P**	**23 13 36.3 -1.5**	
SEY	**Seymchan**	**74.11**	**22**	P	**P**	**23 13 39.6 -1.2**	
SEY	**Seymchan**	**74.11**	**22**	P	**P**	**23 13 39.6 -1.2**	
USRK	**Ussuriysk Arra**	**77.37**	**45**	P	**P**	**23 14 01.1 +1.3**	
	comp=Z,4.0nm,0.8s,baz=288,slow=5.7,SNR=9.8						
YKA	**Yellowknife Ar**	**77.86**	**342**	P	**P**	**23 14 01.2 -1.0**	
	comp=Z,0.9nm,0.5s,baz=31,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**77.86**	**342**	P	**P**	**23 14 01.2 -1.0**	
YKA	**Yellowknife Ar**	**77.86**	**342**	P	**P**	**23 14 01.2 -1.0**	
KSAR	**Wonju Array Be**	**78.76**	**52**	P	**P**	**23 14 07.9 +0.2**	
KSAR	**Wonju Array Be**	**78.76**	**52**	P	**P**	**23 14 07.8 +0.2**	
KSAR	**Wonju Array Be**	**78.76**	**52**	P	**P**	**23 14 07.8 +0.2**	
KSRS	**Korea Array**	**78.78**	**52**	P	**P**	**23 14 07.8 +0.2**	
	comp=Z,1.6nm,0.7s,baz=307,slow=5.0,SNR=4.6						
KSRS	**Korea Array**	**78.78**	**52**	P	**P**	**23 14 07.9 +0.2**	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FFC	**Flin Flon**	**79.97**	**332**	P	**P**	**23 14 11.7 -2.2**	
FFC	**Flin Flon**	**79.97**	**332**	P	**P**	**23 14 11.7 -2.2**	
ULM	**Lac du Bonnet**	**80.60**	**326**	P	**P**	**23 14 17.0 -0.4**	
	comp=Z,1.8nm,0.7s,baz=72,slow=3.2,SNR=2.6						
ULM	**Lac du Bonnet**	**80.60**	**326**	P	**P**	**23 14 17.0 -0.4**	
ULM	**Lac du Bonnet**	**80.60**	**326**	P	**P**	**23 14 17.0 -0.4**	
ILAR	**Eielson Array**	**80.69**	**356**	P	**P**	**23 14 17.6 -0.1**	
	comp=Z,1.8nm,0.9s,baz=348,slow=3.2,SNR=12						
ILAR	**Eielson Array**	**80.69**	**356**	P	**P**	**23 14 17.6 -0.1**	
ILAR	**Eielson Array**	**80.69**	**356**	P	**P**	**23 14 17.6 -0.1**	
ILAR	**Eielson Array**	**80.69**	**356**	P	**P**	**23 14 17.5 -0.1**	
BDFB	**Brasilia**	**85.30**	**248**	P	**P**	**23 14 42.7 +0.4**	
	comp=Z,2.2nm,0.6s,baz=191,slow=5.0,SNR=5.8						
BDFB	**Brasilia**	**85.30**	**248**	P	**P**	**23 14 42.7 +0.4**	
BDFB	**Brasilia**	**85.30**	**248**	P	**P**	**23 14 42.7 +0.4**	
BDFB	**Brasilia**	**85.30**	**248**	P	**P**	**23 14 42.7 +0.4**	
ECSD	**EROS Data Cent**	**85.54**	**322**	P	**P**	**23 14 42.7 -0.4**	
ECSD	**EROS Data Cent**	**85.54**	**322**	P	**P**	**23 14 42.7 -0.4**	
MJAR	**Matsushiro Arr**	**85.84**	**48**	P	**P**	**23 14 46.9 +2.1**	
	comp=Z,3.5nm,1.1s,baz=285,slow=8.7,SNR=4.1						
MJAR	**Matsushiro Arr**	**85.84**	**48**	P	**P**	**23 14 46.9 +2.1**	
MJAR	**Matsushiro Arr**	**85.84**	**48**	P	**P**	**23 14 46.9 +2.1**	
MJAR	**Matsushiro Arr**	**85.84**	**48**	P	**P**	**23 14 46.9 +2.1**	
PDAR	**Pinedale Array**	**92.41**	**328**	P	**P**	**23 15 16.4 +0.3**	
	comp=Z,0.4nm,0.7s,baz=72,slow=4.8,SNR=3.9						
PDAR	**Pinedale Array**	**92.41**	**328**	P	**P**	**23 15 16.4 +0.3**	
PDAR	**Pinedale Array**	**92.41**	**328**	P	**P**	**23 15 16.4 +0.3**	
TXAR	**Lajitas Array**	**99.94**	**316**	P	**Pdif**	**23 15 51.2 +0.9**	
	comp=Z,0.1nm,0.5s,baz=80,slow=7.4,SNR=2.7						
TXAR	**Lajitas Array**	**99.94**	**316**	P	**Pdif**	**23 15 51.2 +0.9**	
TXAR	**Lajitas Array**	**99.94**	**316**	P	**Pdif**	**23 15 51.2 +0.9**	
TXAR	**Lajitas Array**	**99.94**	**316**	P	**Pdif**	**23 15 51.2 +0.9**	
WRA	**Warramunga Arr**	**116.77**	**97**	PKP	**PKPdf**	**23 20 51.6 +1.8**	
	comp=Z,0.7nm,0.8s,baz=314,slow=1.9,SNR=8.8						
WRA	**Warramunga Arr**	**116.77**	**97**	PKIKP	**PKPdf**	**23 20 51.6 +1.8**	
WRA	**Warramunga Arr**	**116.77**	**97**	PKP	**PKPdf**	**23 20 51.6 +1.8**	
WRA	**Warramunga Arr**	**116.77**	**97**	PKIKP	**PKPdf**	**23 20 51.6 +1.8**	
ASAR	**Alice Springs**	**118.19**	**100**	PKP	**PKPdf**	**23 20 54.9 +2.4**	
	comp=Z,0.6nm,0.5s,baz=339,slow=1.7,SNR=6.6						
ASAR	**Alice Springs**	**118.19**	**100**	PKIKP	**PKPdf**	**23 20 54.9 +2.4**	
ASAR	**Alice Springs**	**118.19**	**100**	PKP	**PKPdf**	**23 20 54.9 +2.4**	
ASAR	**Alice Springs**	**118.19**	**100**	PKIKP	**PKPdf**	**23 20 54.9 +2.4**	

NNC 19 23:14:18.6±13.0, 37.36N×70.31E, h0km, mb3.6, mpv3.3, 1C-2D, Error ellipse: s-maj=214.3km s-min=111.7km az=84.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.74**	**2**	Pn	Pn	23 15 48.2	+3.1
	0.5nm,0.3s,baz=174,slow=12,SNR=15						
KK31				⇓Sn	Sn	23 16 58.1	+6.4
	0.5nm,0.3s,baz=352,slow=39,SNR=5.5						
TKM2	**Tokmak 2**	**6.87**	**34**	⇑Pn	Pn	23 16 00.8	-0.1
	2.3nm,0.5s						
AB31	**Akbulak array**	**14.06**	**331**	⇓Pn	Pn	23 17 34.9	-4.1
	0.2nm,0.3s,baz=150,slow=13,SNR=16						

*IDC **19** 23:16:28.6±0.9, 22.67S×170.72E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.3/9, ML4.2/1, MS4.1/1, Ms1 4.0/1, ms1mx3.4/27, Error ellipse: s-maj=30.5km s-min=21.3km az=157.0*

*NEIC **19** 23:16:29.8±3.8, 22.67S×170.71E, h8km±24km, mb4.3/6, Error ellipse: s-maj=12.6km s-min=9.6km az=166.0*

*ISCJB **19** 23:16:32.8±0.6, 22.72S±0.10×170.66E±0.07, h42km, mb4.4/13, MS4.0/1, Error ellipse: s-maj=14.4km s-min=8.1km az=14.3*

ISC 19 23:16:34.8±0.6, 22.8S±0.1×170.68E±0.08, h42km, n52, σ1§30/57, mb4.3/13, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**279**	Pn	**Pn**	**23 17 31.6**	**-1.8**
	14nm,0.3s,baz=91,slow=18,SNR=67						
DZM				Sn	**Sn**	**23 18 21.1**	**+2.3**
	9.3nm,0.3s,baz=4.3,slow=23,SNR=4.1						
DZM	**Mont Dzumac**	**3.98**	**279**	*e*P	**Pn**	**23 17 30.4**	**-2.9**
DZM	**Mont Dzumac**	**3.98**	**279**	Pn	**Pn**	**23 17 31.6**	**-1.8**
DZM				Sn	**Sn**	**23 18 21.1**	**+2.3**
NOUC	**Port Laguerre**	**4.10**	**278**	*e*P	**Pn**	**23 17 32.9**	**-2.1**
NOUC				*e*S	**Sn**	**23 18 20.1**	**-1.6**
MSVF	**Nonsavu**	**8.53**	**56**	*e*Pn	Pn	23 18 32.8	-3.1
	52nm,0.8s						
URZ	**Urewera**	**16.42**	**162**	*e*Pn	**Pn**	**23 20 21.0**	**-1.1**
	21nm,0.9s						
RPZ	**Rata Peaks**	**20.91**	**179**	P	**P**	**23 21 14.4**	**+0.7**
	14nm,0.7s,baz=339,slow=3.3,SNR=7.3						
RPZ	**Rata Peaks**	**20.91**	**179**	P	**P**	**23 21 14.3**	**+0.7**
YNG	**Young**	**22.66**	**235**	*e*P	**P**	**23 21 34.3**	**+1.8**
	7.1nm,0.9s						
CMSA	**Cobar Meteorol**	**23.85**	**243**	*e*P	**P**	**23 21 44.7**	**+0.4**
	292nm,0.7s						
STKA	**Stephens Creek**	**27.32**	**244**	P	**P**	**23 22 15.7**	**-0.1**
	4.6nm,0.7s,baz=85,slow=10,SNR=9.4						
STKA				LR	LR	23 32 57.3	
	comp=Z,407nm,20.6s,baz=18,slow=36						
STKA	**Stephens Creek**	**27.32**	**244**	*e*P	**P**	**23 22 16.2**	**+0.4**
	3.6nm,0.6s						
STKA	**Stephens Creek**	**27.32**	**244**	*e*Pn	**P**	**23 22 15.9**	**+0.2**
	0.9nm,0.7s						
AS31	**Alice Springs**	**33.75**	**261**	*e*P	**P**	**23 23 12.2**	**-0.4**
ASAR	**Alice Springs**	**33.75**	**261**	P	**P**	**23 23 12.4**	**-0.3**
	6.0nm,0.8s,baz=88,slow=9.1,SNR=48						
ASAR	**Alice Springs**	**33.75**	**261**	P	**P**	**23 23 12.4**	**-0.3**
WRAB	**Tennant Creek**	**33.90**	**268**	*e*P	**P**	**23 23 13.0**	**-0.9**
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**33.91**	**268**	P	**P**	**23 23 12.9**	**-1.1**
	0.5nm,0.4s,baz=96,slow=8.3,SNR=18						
WRA	**Warramunga Arr**	**33.91**	**268**	P	**P**	**23 23 12.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**42.34**	**268**	*e*P	**P**	**23 24 25.0**	**0.0**
	21nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.34**	**268**	*e*P	**P**	**23 24 24.9**	**0.0**
	8.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.16**	**294**	P	**P**	**23 28 48.2**	**+1.8**
	3.5nm,0.9s,baz=138,slow=4.1,SNR=17						
CMAR	**Chiang Mai Arr**	**81.16**	**294**	P	**P**	**23 28 48.2**	**+1.8**
CHTO	**Chiang Mai**	**81.33**	**295**	*e*P	**P**	**23 28 46.9**	**-0.4**
	3.9nm,0.8s						
NVAR	**Mina Array Bea**	**90.12**	**48**	P	**P**	**23 29 29.3**	**-1.5**
	1.0nm,0.8s,baz=220,slow=8.9,SNR=7.4						
NVAR	**Mina Array Bea**	**90.12**	**48**	P	**P**	**23 29 29.3**	**-1.5**
ULN	**Ulaanbaatar**	**90.47**	**323**	*e*P	**P**	**23 29 31.8**	**-0.3**
	6.6nm,1.2s						
SONM	**Songino Array**	**90.82**	**323**	P	**P**	**23 29 32.5**	**-1.1**
	3.9nm,1.1s,baz=128,slow=3.0,SNR=11						
SONM	**Songino Array**	**90.82**	**323**	P	**P**	**23 29 32.5**	**-1.1**
ILAR	**Eielson Array**	**93.18**	**17**	P	**P**	**23 29 44.9**	**+0.8**
	0.3nm,0.8s,baz=240,slow=5.1,SNR=2.8						
ILAR	**Eielson Array**	**93.18**	**17**	P	**P**	**23 29 44.9**	**+0.8**
ARCES	**ARCESS Array B**	**128.79**	**345**	PKP	**PKPdf**	**23 35 37.7**	**+0.8**
	3.3nm,0.9s,baz=29,slow=2.8,SNR=5.0						
ARCES	**ARCESS Array B**	**128.79**	**345**	PKP	**PKPdf**	**23 35 37.7**	**+0.8**
BRTR	**Keskin Array B**	**139.97**	**305**	PKP	**PKPdf**	**23 36 00.5**	**+1.6**
	0.5nm,0.8s,baz=147,slow=2.5,SNR=3.8						
BRTR	**Keskin Array B**	**139.97**	**305**	PKP	**PKPdf**	**23 36 00.5**	**+1.6**
DPC	**Dobruska-Polom**	**145.93**	**330**	*e*PKP	**PKPbc**	**23 36 09.6**	**-0.1**
VYHS	**Vyhne**	**145.94**	**326**	*e*PKP	**PKPbc**	**23 36 09.8**	**+0.1**
UPC	**Upice**	**145.96**	**331**	*e*PKP	**PKPbc**	**23 36 09.8**	**+0.1**
KOLL	**Kolacno**	**146.11**	**326**	*e*PKP	**PKPbc**	**23 36 10.4**	**+0.2**
PVCC	**Panska Ves**	**146.58**	**332**	*e*PKP	**PKPab**	**23 36 12.9**	**+0.3**
SMOL	**Smolenice**	**146.65**	**327**	*e*PKP	**PKPab**	**23 36 13.5**	**+0.6**
CLL	**Collm**	**146.65**	**334**	*e*PKPbc	**PKPbc**	**23 36 12.0**	**+0.3**
CLL				*e*(PKiKP)		23 36 15.0	
PRU	**Pruhonice**	**146.99**	**331**	*e*PKP	**PKPbc**	**23 36 13.4**	**+0.7**
ZST	**Bratislava**	**147.02**	**327**	*e*PKP	**PKPab**	**23 36 17.9**	**+3.5**
NKC	**Novy Kostel**	**147.70**	**334**	*e*PKP	**PKPab**	**23 36 18.3**	**+1.2**
KHC	**Kasperske Hory**	**148.05**	**331**	*e*PKP	**PKPbc**	**23 36 16.1**	**+0.4**
KHC				*e*pPKP	**PKPab**	**23 36 21.0**	**+2.5**
GERES	**GERESS Array B**	**148.20**	**331**	PKP	**PKPdf**	**23 36 11.3**	**-1.6**
	1.5nm,0.9s,baz=129,slow=3.6,SNR=3.5						
GERES				PKPbc	**PKPbc**	**23 36 15.9**	**-0.3**
	3.7nm,0.7s,baz=52,slow=2.2,SNR=13						
GERES	**GERESS Array B**	**148.20**	**331**	PKP	**PKPdf**	**23 36 11.3**	**-1.6**
GERES				PKPbc	**PKPbc**	**23 36 15.9**	**-0.3**
ABTA	**Abfaltersbach**	**150.27**	**329**⇓	*i*PKPbc	**PKPbc**	**23 36 20.5**	**-0.9**
	3.2nm,0.6s						
FETA	**Feichten**	**150.89**	**331**⇑	*i*PKPbc	**PKPbc**	**23 36 22.3**	**-0.7**
	5.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**165.83**	**229**	PKPab	**PKPab**	**23 37 35.5**	**+0.1**
	2.1nm,1.0s,baz=136,slow=4.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**165.83**	**229**	PKPab	**PKPab**	**23 37 35.5**	**+0.1**

IDC 19 23:29:24.2±15.0, 0.73S×132.86E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/9/4, ML3.7/2, Error ellipse: s-maj=229.1km s-min=98.5km az=163.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.67**	**202**	P	P	23 33 42.9	-1.1
	0.2nm,0.3s,baz=42,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**19.15**	**176**	P	P	23 33 49.7	+0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=14						
WRA				S	Sn	23 37 16.7	-8.8
	0.1nm,0.3s,baz=359,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	23 34 30.1	+1.1
	3.2nm,0.8s,baz=5.0,slow=12,SNR=28						
STKA	**Stephens Creek**	**32.06**	**166**	P	P	23 35 52.1	-0.9
	0.6nm,0.3s,baz=346,slow=9.7,SNR=4.0						

*ISCJB **19** 23:31:53.8±0.4, 24.24S±0.04×66.76W±0.09, h169km, mb3.7/8, Error ellipse: s-maj=11.2km s-min=5.7km az=0.4*

*IDC **19** 23:31:55.2±1.4, 24.24S×66.82W, h173km±12km, mb3.6/8, mb1 3.9/13, mb1mx3.8/18, mbtmp3.7/13, MS2.5/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=17.4km s-min=12.7km az=83.0*

*NEIC **19** 23:31:55.4±0.6, 24.22S×66.81W, h176km±7km, mb4.3/9, Error ellipse: s-maj=9.3km s-min=6.7km az=94.0*

ISC 19 23:31:54.9±0.5, 24.25S±0.05×66.82W±0.09, h169km, n42, σ1§24/46, mb3.9/8, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**5.88**	**215**	*e*Pn	**Pn**	**23 33 20.9**	**+0.6**
	80nm,0.9s						
LCO				*e*Sn	Sn	23 34 17.7	-10
CFAA	**Coronel Fontan**	**7.43**	**189**	P	**P**	**23 33 42.4**	**+1.7**
	0.8nm,0.3s,baz=4.7,slow=11,SNR=37						
CFAA				S	**Sn**	**23 35 02.5**	**-1.7**
	1.3nm,0.3s,baz=241,slow=18,SNR=12						
CFAA	**Coronel Fontan**	**7.43**	**189**	P	**Pn**	**23 33 42.4**	**+1.7**
CFAA				S	**Sn**	**23 35 02.5**	**-1.7**
LPAZ	**La Paz**	**8.02**	**351**	P	**Pn**	**23 33 49.8**	**+0.7**
	5.7nm,0.3s,baz=168,slow=8.2,SNR=68						
LPAZ				S	**Sn**	**23 35 16.6**	**-2.4**
	baz=198,slow=20,SNR=3.4						
LPAZ				LR	LR	23 36 23.5	
	comp=Z,38nm,21.1s,baz=241,slow=34						
LPAZ	**La Paz**	**8.02**	**351**	*e*Pn	**Pn**	**23 33 49.4**	**+0.3**
	16nm,0.5s						
LPAZ				*e*Sn	**Sn**	**23 35 20.2**	**+1.2**
SIV	**San Ignacio**	**9.83**	**34**	P	**Pn**	**23 34 12.0**	**-0.4**
	1.0nm,0.3s,baz=253,slow=12,SNR=28						
SIV	**San Ignacio**	**9.83**	**34**	P	**Pn**	**23 34 12.0**	**-0.4**
TRQA	**Tornquist**	**14.37**	**164**	*e*Pn	**Pn**	**23 35 10.7**	**+0.1**
	10nm,0.7s						
NNA	**Nana**	**15.46**	**320**	P	**Pn**	**23 35 24.9**	**+0.7**
	1.0nm,0.3s,baz=166,slow=16,SNR=6.3						
NNA	**Nana**	**15.46**	**320**	*e*Pn	**Pn**	**23 35 24.1**	**-0.2**
	7.0nm,0.5s						
SAML	**Samuel**	**15.61**	**13**	*e*Pn	**Pn**	**23 35 25.0**	**-1.0**
	8.1nm,0.8s						
SPB	**Sao Paulo**	**17.74**	**92**	*e*P	**P**	**23 35 50.2**	**+0.2**
	44nm,1.2s						
BDFB	**Brasilia**	**19.62**	**68**	P	**P**	**23 36 12.4**	**+1.8**
	2.0nm,0.3s,baz=240,slow=11,SNR=59						
BDFB	**Brasilia**	**19.62**	**68**	P	**P**	**23 36 12.4**	**+1.8**
VNA3	**Neumayer Olymp**	**56.86**	**161**	*e*	**P**	**23 41 23.8**	**+2.3**
VNA1	**Neumayer--Stat**	**57.06**	**160**	*e*	**P**	**23 41 25.7**	**+2.9**
VNA2	**Neumayer--Watz**	**57.43**	**160**	*e*	**P**	**23 41 27.8**	**+2.4**
VNA2				*e*		23 43 10.5	
SNAA	**Sanae**	**59.06**	**161**	*e*	**P**	**23 41 35.7**	**-1.1**
TXAR	**Lajitas Array**	**63.98**	**324**	P	**P**	**23 42 10.5**	**+0.2**
	0.7nm,0.7s,baz=154,slow=8.2,SNR=7.3						
TXAR	**Lajitas Array**	**63.98**	**324**	P	**P**	**23 42 10.5**	**+0.2**
DBIC	**Dimbokro**	**67.72**	**71**	P	**P**	**23 42 34.4**	**-0.1**
	0.9nm,0.4s,baz=209,slow=7.3,SNR=4.2						
DBIC	**Dimbokro**	**67.72**	**71**	*e*P	**P**	**23 42 33.9**	**-0.6**
	3.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**23 43 25.4**	**-1.3**
	1.4nm,0.5s,baz=268,slow=6.2,SNR=11						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**23 43 25.4**	**-1.3**
PDAR	**Pinedale Array**	**77.44**	**329**	P	**P**	**23 43 32.0**	**+0.4**
	0.5nm,0.6s,baz=128,slow=7.6,SNR=3.6						
PDAR	**Pinedale Array**	**77.44**	**329**	P	**P**	**23 43 32.0**	**+0.4**
ULM	**Lac du Bonnet**	**78.52**	**341**	P	**P**	**23 43 36.5**	**-0.4**
	1.1nm,0.4s,baz=142,slow=9.0,SNR=4.9						
ULM	**Lac du Bonnet**	**78.52**	**341**	*e*P	**P**	**23 43 36.6**	**-0.4**
	1.5nm,0.6s						
NVAR	**Mina Array Bea**	**78.83**	**321**	P	**P**	**23 43 39.8**	**+0.5**
	0.5nm,0.7s,baz=151,slow=6.3,SNR=5.1						
NVAR	**Mina Array Bea**	**78.83**	**321**	P	**P**	**23 43 39.8**	**+0.5**
BOSA	**Boshof**	**80.47**	**117**	P	**P**	**23 43 48.7**	**+0.3**
	2.3nm,0.6s,baz=264,slow=12,SNR=7.9						
BOSA	**Boshof**	**80.47**	**117**	*e*P	**P**	**23 43 48.1**	**-0.4**
	2.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.41**	**340**	P	**P**	**23 44 54.7**	**-0.3**
	0.5nm,0.6s,baz=133,slow=4.6,SNR=13						
YKA	**Yellowknife Ar**	**94.41**	**340**	P	**P**	**23 44 54.7**	**-0.3**
ASAR	**Alice Springs**	**128.30**	**204**	PKP	**PKPdf**	**23 50 41.6**	**-0.4**
	0.5nm,0.9s,baz=119,slow=1.4,SNR=5.8						
ASAR	**Alice Springs**	**128.30**	**204**	PKP	**PKPdf**	**23 50 41.6**	**-0.4**
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKPdf**	**23 50 47.9**	**-0.1**
	0.2nm,0.4s,baz=157,slow=1.8,SNR=8.9						
WRA				SKPbc	**SKPbc**	**23 53 55.4**	**-2.2**
	1.0nm,0.8s,baz=150,slow=3.4,SNR=10						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKPdf**	**23 50 47.9**	**-0.1**
WRA				SKPbc	**SKPbc**	**23 53 55.4**	**-2.2**
ZALV	**Zalesovo Beam**	**143.53**	**28**	PKP	PKPbc	23 51 07.7	+0.8
	0.9nm,0.5s,baz=287,slow=4.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**143.53**	**28**	PKP	PKPbc	23 51 07.7	+0.8
MKAR	**Makanchi Array**	**146.61**	**40**	PKPbc	**PKPdf**	**23 51 15.7**	**+1.0**
	1.8nm,0.6s,baz=339,slow=2.0,SNR=28						
MKAR	**Makanchi Array**	**146.61**	**40**	PKPbc	**PKPdf**	**23 51 15.7**	**+1.0**

*IDC **19** 23:50:46.1±0.6, 22.90N×111.15W, h0km, mb4.7/23, mb1 4.8/27, mb1mx4.7/29, mbtmp4.6/27, ML4.5/4, MS4.5/26, Ms1 4.5/26, ms1mx4.4/35, Error ellipse: s-maj=19.0km s-min=13.4km az=62.0*

*BJI **19** 23:50:46.0, 22.80N×111.10W, h10km, mB5.6/10, mb5.4/4, Ms5.4/10, Ms7 5.0/10*

*MOS **19** 23:50:46.1±1.1, 22.80N×111.09W, h10km, mb5.2/19, Error ellipse: s-maj=8.5km s-min=4.2km az=89.5*

*ISCJB **19** 23:50:46.6±0.2, 22.82N±0.02×111.06W±0.02, h10km, mb5.0/106, MS4.6/28, Error ellipse: s-maj=3.6km s-min=2.5km az=35.2*

*NEIC **19** 23:50:48.0±0.3, 22.77N×111.09W, h10km, mb5.1/111, MD5.1(MEX), Error ellipse: s-maj=5.3km s-min=3.1km az=222.0*

NEIC Felt [II] at Cabo San Lucas. Also felt at La Paz and Los Cabos.

*MEX **19** 23:50:51.0±0.3, 23.04N×111.09W, h15km, MD5.1*

ISC 19 23:50:47.3±0.4, 22.80N±0.05×111.13W±0.05, h10km, n744, σ1§19/1127, mb5.1/107, MS4.6/28, 341C-393D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.50**	**30**	*i*P	Pn	23 51 10.7	-3.5
LPIG				*e*S	Sn	23 51 26.0	-7.8
LPIG	**La Paz**	**1.50**	**30**	*i*P	Pn	23 51 10.7	-3.5
LPIG				*e*S	Sn	23 51 26.0	-7.8
SRIG	**Santa Rosalia**	**4.61**	**348**	*i*P	**Pn**	**23 51 55.0**	**-2.0**
SRIG				*e*S	Sn	23 52 44.2	-6.4
SRIG	**Santa Rosalia**	**4.61**	**348**	*i*P	**Pn**	**23 51 55.0**	**-2.0**
SRIG				*e*S	Sn	23 52 44.2	-6.4
HSIG		**6.19**	**1**	*i*P	**Pn**	**23 52 17.6**	**-1.2**
HSIG				*e*S	Sn	23 53 23.8	-5.9
HSIG		**6.19**	**1**	*i*P	**Pn**	**23 52 17.6**	**-1.2**
HSIG				*e*S	Sn	23 53 23.8	-5.9
ANIG	**Ahuacatlan**	**6.38**	**105**	*e*P	**Pn**	**23 52 22.9**	**+1.4**
ANIG				*i*S	**Sn**	**23 53 34.9**	**+0.6**
ANIG	**Ahuacatlan**	**6.38**	**105**	*e*P	**Pn**	**23 52 22.9**	**+1.4**
ANIG				*i*S	**Sn**	**23 53 34.9**	**+0.6**
318A	**Bisbee**	**8.66**	**6**	⇓P	**Pn**	**23 52 53.3**	**+0.4**
	baz=8.7,SNR=106						
318A				⇓P	**Pn**	**23 52 53.3**	**+0.4**
	baz=8.7,SNR=106						
319A	**Douglas**	**8.70**	**11**	⇑P	**Pn**	**23 52 53.7**	**+0.5**
	baz=8.8,SNR=19						
319A				⇑P	**Pn**	**23 52 53.7**	**+0.5**

Z17A					⇑P		Pn	23 53 18.9	+1.4
	baz=10,SNR=6.2								
224A	**Cornudas Mount**	**10.49**	**27**	⇑P			Pn	23 53 18.6	+0.7
	baz=10,SNR=12								
224A					⇑P		Pn	23 53 18.6	+0.7
	baz=10,SNR=12								
122A	**Conniff Cattle**	**10.51**	**19**	⇑P			Pn	23 53 19.3	+1.2
	baz=11								
122A					⇑P		Pn	23 53 19.3	+1.2
	baz=11								
Z20A	**Nine Sixteen R**	**10.51**	**12**	⇑P			Pn	23 53 19.3	+1.1
	baz=11,SNR=14								
Z20A					⇑P		Pn	23 53 19.3	+1.1
	baz=11,SNR=14								
427A	**Hayter Ranch,**	**10.57**	**39**	⇓P			Pn	23 53 19.6	+0.7
	baz=11,SNR=12								
427A					⇓P		Pn	23 53 19.6	+0.7
	baz=11,SNR=12								
Z13A	**Yuma Proving G**	**10.60**	**348**	⇓P			Pn	23 53 20.6	+1.4
	baz=11,SNR=33								
Z13A					⇓P		Pn	23 53 20.6	+1.4
	baz=11,SNR=33								
326A	**Caldwell Ranch**	**10.60**	**35**	⇓P			Pn	23 53 19.9	+0.6
	baz=11,SNR=35								
326A					⇓P		Pn	23 53 19.9	+0.6
	baz=11,SNR=35								
Z14A	**Wintersburg**	**10.64**	**352**	⇓P			Pn	23 53 21.2	+1.3
	baz=11,SNR=15								
Z14A					⇓P		Pn	23 53 21.2	+1.3
	baz=11,SNR=15								
GLA	**Glamis**	**10.72**	**343**	*e*P			Pn	23 53 22.6	+1.7
GLA	**Glamis**	**10.72**	**343**	*e*Pn			Pn	23 53 22.6	+1.7
GLA	**Glamis**	**10.72**	**343**	⇓P			Pn	23 53 22.4	+1.5
	baz=11,SNR=11								
GLA					⇓P		Pn	23 53 22.4	+1.5
	baz=11,SNR=11								
DVTC	**Desert V Tower**	**10.76**	**337**	⇓P			Pn	23 53 22.7	+1.2
	baz=11								
DVTC					⇓P		Pn	23 53 22.7	+1.2
	baz=11								
225A	**Deer Hill, Car**	**10.83**	**30**	⇓P			Pn	23 53 23.1	+0.5
	baz=11								
225A					⇓P		Pn	23 53 23.1	+0.5
	baz=11								
Y17A	**Roosevelt**	**10.86**	**1**	⇑P			Pn	23 53 24.1	+1.3
	baz=11,SNR=23								
Y17A					⇑P		Pn	23 53 24.1	+1.3
	baz=11,SNR=23								
Z21A	**St. Cloud Mine**	**10.90**	**15**	⇑P			Pn	23 53 24.6	+1.0
	baz=11,SNR=7.9								
Z21A					⇑P		Pn	23 53 24.6	+1.0
	baz=11,SNR=7.9								
327A	**Balmorhea Ranc**	**10.91**	**37**	⇑P			Pn	23 53 23.9	+0.4
	baz=11								
327A					⇑P		Pn	23 53 23.9	+0.4
	baz=11								
SWSC	**Sam W. Stewart**	**10.91**	**339**	⇓P			Pn	23 53 24.6	+1.1
	baz=11,SNR=10								
SWSC					⇓P		Pn	23 53 24.6	+1.1
	baz=11,SNR=10								
428A	**Kincaid Ranch,**	**10.91**	**42**	⇓P			Pn	23 53 23.8	+0.2
	baz=11,SNR=20								
428A					⇓P		Pn	23 53 23.8	+0.2
	baz=11,SNR=20								
Y18A	**Canyon Day Jun**	**10.98**	**5**	⇑P			Pn	23 53 25.8	+1.2
	baz=11								
Y18A					⇑P		Pn	23 53 25.8	+1.2
	baz=11								
BAR	**Barrett**	**10.99**	**335**	*e*Pn			Pn	23 53 26.4	+1.7
Z22A	**Elephant Butte**	**11.04**	**19**	⇑P			Pn	23 53 26.3	+0.9
	baz=11,SNR=12								
Z22A					⇑P		Pn	23 53 26.3	+0.9
	baz=11,SNR=12								
124A	**Stringfield Ra**	**11.06**	**26**	⇓P			Pn	23 53 26.7	+0.9
	baz=11,SNR=19								
124A					⇓P		Pn	23 53 26.7	+0.9
	baz=11,SNR=19								
MONP	**Monument Peak**	**11.08**	**336**	⇓P			Pn	23 53 27.3	+1.2
	baz=11,SNR=22								
MONP					⇓P		Pn	23 53 27.3	+1.2
	baz=11,SNR=22								
GDL2	**Guadalupe Moun**	**11.12**	**31**	*e*Pn			Pn	23 53 28.3	+1.8
226A	**Malaga, Loving**	**11.13**	**33**	⇓P			Pn	23 53 27.4	+0.8
	baz=11								
226A					⇓P		Pn	23 53 27.4	+0.8
	baz=11								
Y14A	**Wickenburg**	**11.22**	**352**	⇓P			Pn	23 53 29.1	+1.3
	baz=11,SNR=15								
Y14A					⇓P		Pn	23 53 29.1	+1.3
	baz=11,SNR=15								
Y19A	**Nutrioso**	**11.23**	**8**	⇓P			Pn	23 53 29.6	+1.5
	baz=11								
Y19A					⇓P		Pn	23 53 29.6	+1.5
	baz=11								
Z23A	**Rita Site, Whi**	**11.28**	**21**	⇓P			Pn	23 53 30.0	+1.4
	baz=11,SNR=10								
Z23A					⇓P		Pn	23 53 30.0	+1.4
	baz=11,SNR=10								
328A	**Wristen Ranch,**	**11.30**	**39**	⇓P			Pn	23 53 29.9	+0.9
	baz=11								
328A					⇓P		Pn	23 53 29.9	+0.9
	baz=11								
Y12C	**Blythe**	**11.31**	**345**	⇑P			Pn	23 53 30.4	+1.5
	baz=11,SNR=14								
Y12C					⇑P		Pn	23 53 30.4	+1.5
	baz=11,SNR=14								
Y20A	**Horse Springs,**	**11.32**	**12**	⇓P			Pn	23 53 30.7	+1.3
	baz=11,SNR=6.6								
Y20A					⇓P		Pn	23 53 30.7	+1.3
	baz=11,SNR=6.6								
109C	**Camp Elliot, M**	**11.35**	**334**	⇓P			Pn	23 53 30.9	+1.4
	baz=11								
109C					⇓P		Pn	23 53 30.9	+1.4
	baz=11								
CLNB	**Carlsbad**	**11.40**	**33**	*e*Pn			Pn	23 53 32.1	+1.7
	5.9nm,0.2s								
BC3	**Big Chuckawall**	**11.46**	**342**	⇓P			Pn	23 53 32.8	+1.6
	baz=12,SNR=30								
BC3					⇓P		Pn	23 53 32.8	+1.6
	baz=12,SNR=30								
X17A	**Forest Lakes**	**11.50**	**1**	⇑P			Pn	23 53 32.9	+1.1
	baz=12,SNR=11								
X17A					⇑P		Pn	23 53 32.9	+1.1
	baz=12,SNR=11								
Y21A	**Point of Rocks**	**11.57**	**14**	⇓P			Pn	23 53 33.9	+1.1
	baz=12,SNR=7.9								
Y21A					⇓P		Pn	23 53 33.9	+1.1
	baz=12,SNR=7.9								
X16A	**Lo Mia Camp, P**	**11.58**	**359**	⇑P			Pn	23 53 34.1	+1.3
	baz=12,SNR=16								
X16A					⇑P		Pn	23 53 34.1	+1.3
	baz=12,SNR=16								
Z24A	**Sheeppen Canyo**	**11.65**	**25**	⇑P			Pn	23 53 34.9	+1.1
	baz=12,SNR=12								
Z24A					⇑P		Pn	23 53 34.9	+1.1
	baz=12,SNR=12								
Y22A	**Socorro**	**11.68**	**17**	⇓P			Pn	23 53 35.3	+1.1
	baz=12,SNR=9.1								
Y22A					⇓P		Pn	23 53 35.3	+1.1
	baz=12,SNR=9.1								
X18A	**Snowflake**	**11.73**	**5**	⇓P			Pn	23 53 36.6	+1.8
	baz=12,SNR=16								
X18A					⇓P		Pn	23 53 36.6	+1.8
	baz=12,SNR=16								
PFO	**Pinyon Flat Ob**	**11.74**	**338**	*e*P			Pn	23 53 36.1	+1.1
PFO					pmax		pmax		
	comp=Z,26nm,1.1s								
PFO	**Pinyon Flat Ob**	**11.74**	**338**	*e*Pn			Pn	23 53 36.0	+1.1
	comp=Z,26nm,1.1s								
PFO	**Pinyon Flat Ob**	**11.74**	**338**	⇓P			Pn	23 53 36.4	+1.4
	baz=12,SNR=15								
PFO					⇓P		Pn	23 53 36.4	+1.4
	baz=12,SNR=15								
PDMCI	**Parker Dam,Lak**	**11.76**	**348**	⇑P			Pn	23 53 37.1	+2.1
	baz=12								
PDMCI					⇑P		Pn	23 53 37.1	+2.1
	baz=12								
IRM	**Iron Mountain**	**11.85**	**344**	⇑P			Pn	23 53 38.0	+1.6
	baz=12,SNR=59								
IRM					⇑P		Pn	23 53 38.0	+1.6
	baz=12,SNR=59								
LENM	**Lemitar**	**11.89**	**17**	*e*Pn			Pn	23 53 37.4	+0.3
X20A	**Quemado**	**11.92**	**11**	⇑P			Pn	23 53 39.0	+1.5
	baz=12								
X20A					⇑P		Pn	23 53 39.0	+1.5
	baz=12								
BELC	**Belle Mtn. Jos**	**11.95**	**340**	⇑P			Pn	23 53 39.7	+1.9
	baz=12,SNR=62								
BELC					⇑P		Pn	23 53 39.7	+1.9
	baz=12,SNR=62								
X21A	**Alamocita Cree**	**11.96**	**13**	⇓P			Pn	23 53 39.6	+1.5
	baz=12,SNR=17								
X21A					⇓P		Pn	23 53 39.6	+1.5
	baz=12,SNR=17								
BNM	**Barren Site**	**11.97**	**18**	*e*Pn			Pn	23 53 38.2	-0.1
	comp=Z,24nm,1.4s								
BNM					*e*Sn		Sn	23 55 52.5	+0.5
127A	**Arkansas Junct**	**12.00**	**33**	⇑P			Pn	23 53 39.6	+1.1
	baz=12								
127A					⇑P		Pn	23 53 39.6	+1.1
	baz=12								
MURC	**Murrieta**	**12.01**	**335**	⇓P			Pn	23 53 40.2	+1.6
	baz=12,SNR=18								
MURC					⇓P		Pn	23 53 40.2	+1.6
	baz=12,SNR=18								
CPRX	**Cap Rock**	**12.04**	**31**	*e*Pn			Pn	23 53 40.8	+1.8
	comp=Z,43nm,0.9s								
SCI	**San Clemente I**	**12.07**	**329**	⇑P			Pn	23 53 41.1	+1.7
	baz=12,SNR=10								
SCI					⇑P		Pn	23 53 41.1	+1.7
	baz=12,SNR=10								
LAZ	**Ladron**	**12.07**	**16**	*e*Pn			Pn	23 53 41.1	+1.5
	comp=Z,22nm,1.5s								
LPM	**Los Pinos Moun**	**12.12**	**18**	*e*Pn			Pn	23 53 41.8	+1.5
W17A	**Winslow**	**12.24**	**2**	⇓P			Pn	23 53 43.8	+2.0
	baz=12								
W17A					⇓P		Pn	23 53 43.8	+2.0
	baz=12								
NEE2	**Needles Airpor**	**12.31**	**346**	⇓P			Pn	23 53 44.6	+2.0
	baz=12								
NEE2					⇓P		Pn	23 53 44.6	+2.0
	baz=12								
CIS	**Catalina Islan**	**12.36**	**330**	⇑P			Pn	23 53 44.7	+1.4
	baz=12								
CIS					⇑P		Pn	23 53 44.7	+1.4
	baz=12								
W19A	**Sanders**	**12.36**	**7**	⇓P			Pn	23 53 44.8	+1.3
	baz=12								
W19A					⇓P		Pn	23 53 44.8	+1.3
	baz=12								
Y25A	**Mesa, Roswell**	**12.44**	**26**	⇓P			Pn	23 53 45.9	+1.4
	baz=12,SNR=12								
Y25A					⇓P		Pn	23 53 45.9	+1.4
	baz=12,SNR=12								
W13A	**Hualapai Mount**	**12.49**	**349**	⇑P			Pn	23 53 46.9	+1.6
	baz=13,SNR=31								
W13A					⇑P		Pn	23 53 46.9	+1.6
	baz=13,SNR=31								
W20A	**Ramah**	**12.49**	**10**	⇑P			Pn	23 53 46.8	+1.5
	baz=13,SNR=12								
W20A					⇑P		Pn	23 53 46.8	+1.5
	baz=13,SNR=12								
BBRC	**Big Bear Solar**	**12.50**	**337**	⇓P			Pn	23 53 47.4	+1.9
	baz=13								
BBRC					⇓P		Pn	23 53 47.4	+1.9
	baz=13								
BBRC					⇑S		Sn	23 56 13.4	+8.6
	baz=13								
BBRC					⇑S		Sn	23 56 13.4	+8.6
	baz=13								
GMRC	**Granite Mounta**	**12.57**	**343**	⇑P			Pn	23 53 47.9	+1.5
	baz=13,SNR=16								
GMRC					⇑P		Pn	23 53 47.9	+1.5
	baz=13,SNR=16								
Z27A	**Tatum**	**12.58**	**32**	⇓P			Pn	23 53 47.7	+1.2
	baz=13,SNR=11								
Z27A					⇓P		Pn	23 53 47.7	+1.2
	baz=13,SNR=11								
WUAZ	**Wupatki**	**12.67**	**359**	*e*Pn			Pn	23 53 50.1	+2.4
WUAZ	**Wupatki**	**12.67**	**359**	⇓P			Pn	23 53 49.7	+1.9
	baz=13,SNR=10								
WUAZ					⇓P		Pn	23 53 49.7	+1.9
	baz=13,SNR=10								
JCT	**Junction City**	**12.68**	**51**	*e*P			Pn	23 53 50.1	+2.3
JCT					pmax		pmax		
	comp=Z,33nm,1.1s								
JCT	**Junction City**	**12.68**	**51**	*e*Pn			Pn	23 53 50.1	+2.3
	comp=Z,33nm,1.1s								
LDFC	**Landfair**	**12.72**	**345**	*e*Pn			Pn	23 53 50.4	+2.1
	comp=Z,127nm,1.2s								
BFSC	**Mount Baldy Ra**	**12.75**	**335**	⇓P			Pn	23 53 50.8	+1.9
	baz=13								
BFSC					⇓P		Pn	23 53 50.8	+1.9
	baz=13								
ANMO	**Albuquerque**	**12.77**	**18**	*e*P			Pn	23 53 50.7	+1.6
ANMO	**Albuquerque**	**12.77**	**18**	*e*Pn			Pn	23 53 50.7	+1.6
V17A	**Tonalea, Kykot**	**12.78**	**1**	⇓P			Pn	23 53 51.1	+1.9
	baz=13,SNR=16								
V17A					⇓P		Pn	23 53 51.1	+1.9
	baz=13,SNR=16								
W22A	**Albuquerque**	**12.78**	**16**	⇑P			Pn	23 53 51.3	+2.1
	baz=13								
W22A					⇑P		Pn	23 53 51.3	+2.1
	baz=13								
HEC	**Hector,Ludlow**	**12.82**	**340**	⇑P			Pn	23 53 51.7	+2.0
	baz=13,SNR=8.6								
HEC					⇑P		Pn	23 53 51.7	+2.0
	baz=13,SNR=8.6								
V18A	**Ganado**	**12.90**	**4**	⇑P			Pn	23 53 53.0	+2.0
	baz=13,SNR=7.3								
V18A					⇑P		Pn	23 53 53.0	+2.0
	baz=13,SNR=7.3								
PASC	**Pasadena Art C**	**12.91**	**333**	*e*Pn			Pn	23 53 52.5	+1.6
X25A	**Clemmons Ranch**	**12.98**	**24**	⇑P			Pn	23 53 54.1	+2.1
	baz=13,SNR=5.1								
X25A					⇑P		Pn	23 53 54.1	+2.1
	baz=13,SNR=5.1								
V19A	**Window Rock**	**12.99**	**8**	⇓P			Pn	23 53 54.1	+1.9
	baz=13								
V19A					⇓P		Pn	23 53 54.1	+1.9
	baz=13								
DECC	**Green Verdugo**	**13.04**	**333**	⇑P			Pn	23 53 54.3	+1.7
	baz=13								
DECC					⇑P		Pn	23 53 54.3	+1.7
	baz=13								
RRX	**Edison Barstow**	**13.08**	**338**	⇓P			Pn	23 53 55.2	+2.0
	baz=13								
RRX					⇓P		Pn	23 53 55.2	+2.0
	baz=13								
V20A	**Brimhall**	**13.16**	**10**	⇑P			Pn	23 53 56.1	+1.7
	baz=13,SNR=12								
V20A					⇑P		Pn	23 53 56.1	+1.7
	baz=13,SNR=12								
BLG	**Laguna Peak**	**13.24**	**330**	⇓P			Pn	23 53 57.0	+1.6
	baz=13								
BLG					⇓P		Pn	23 53 57.0	+1.6
	baz=13								
TUQ	**Turquoise Moun**	**13.26**	**343**	⇓P			Pn	23 53 57.3	+1.5
	baz=13,SNR=8.5								
TUQ					⇓P		Pn	23 53 57.3	+1.5
	baz=13,SNR=8.5								
U16A	**Tuba City**	**13.29**	**360**	⇑P			Pn	23 53 58.3	+2.1
	baz=13,SNR=20								
U16A					⇑P		Pn	23 53 58.3	+2.1
	baz=13,SNR=20								
V21A	**Milan**	**13.31**	**12**	⇓P			Pn	23 53 58.5	+2.0
	baz=13,SNR=7.5								
V21A					⇓P		Pn	23 53 58.5	+2.0
	baz=13,SNR=7.5								
MSTX	**Muleshoe**	**13.33**	**32**	⇓P			Pn	23 53 57.6	+0.9
	baz=13								
MSTX					⇓P		Pn	23 53 57.6	+0.9
	baz=13								
W24A	**Lazy 6 Ranch,**	**13.33**	**21**	⇓P			Pn	23 53 58.1	+1.3
	baz=13,SNR=8.9								
W24A					⇓P		Pn	23 53 58.1	+1.3
	baz=13,SNR=8.9								
X26A	**CR and CF Fran**	**13.34**	**27**	⇓P			Pn	23 53 58.2	+1.3
	baz=13,SNR=6.9								
X26A					⇓P		Pn	23 53 58.2	+1.3
	baz=13,SNR=6.9								
GSC	**Goldstone**	**13.40**	**340**	*e*P			Pn	23 53 59.7	+2.1
GSC	**Goldstone**	**13.40**	**340**	*e*Pn			Pn	23 53 59.6	+2.1
GSC	**Goldstone**	**13.40**	**340**	⇑P			Pn	23 53 59.8	+2.1
	baz=14								
GSC					⇑P		Pn	23 53 59.8	+2.1
	baz=14								
BSC	**Santa Cruz Isl**	**13.42**	**328**	⇓P			Pn	23 54 00.0	+2.2
	baz=14,SNR=12								
BSC					⇓P		Pn	23 54 00.0	+2.2
	baz=14,SNR=12								
EDW2	**Edwards Air Fo**	**13.45**	**335**	⇑P			Pn	23 53 59.9	+1.7
	baz=14,SNR=11								
EDW2					⇑P		Pn	23 53 59.9	+1.7
	baz=14,SNR=11								
OSI	**Osito Adit**	**13.52**	**332**	⇓P			Pn	23 54 01.0	+1.8
	baz=14								
OSI					⇓P		Pn	23 54 01.0	+1.8
	baz=14								
U19A	**Dine' College,**	**13.55**	**7**	⇑P			Pn	23 54 01.5	+1.7
	baz=14,SNR=15								
U19A					⇑P		Pn	23 54 01.5	+1.7
	baz=14,SNR=15								
V23A	**Ortiz Mt. (NFS**	**13.60**	**17**	⇓P			Pn	23 54 02.1	+1.8
	baz=14,SNR=7.3								
V23A					⇓P		Pn	23 54 02.1	+1.8
	baz=14,SNR=7.3								
U18A	**Rough Rock, Ch**	**13.61**	**4**	⇑P			Pn	23 54 02.8	+2.2
	baz=14,SNR=8.9								
U18A					⇑P		Pn	23 54 02.8	+2.2
	baz=14,SNR=8.9								
U15A	**North Rim**	**13.62**	**356**	⇓P			Pn	23 54 02.7	+1.9
	baz=14								
U15A					⇓P		Pn	23 54 02.7	+1.9
	baz=14								
W25A	**X Bar L Ranch,**	**13.67**	**24**	⇓P			Pn	23 54 02.5	+1.2
	baz=14,SNR=8.7								
W25A					⇓P		Pn	23 54 02.5	+1.2
	baz=14,SNR=8.7								
U20A	**Newcomb**	**13.71**	**9**	⇓P			Pn	23 54 03.9	+2.0
	baz=14								
U20A					⇓P		Pn	23 54 03.9	+2.0
	baz=14								
U17A	**Shonto**	**13.76**	**2**	⇓P			Pn	23 54 04.6	+2.0
	baz=14,SNR=6.7								
U17A					⇓P		Pn	23 54 04.6	+2.0
	baz=14,SNR=6.7								
SHOC	**Shoshone**	**13.80**	**342**	⇑P			Pn	23 54 04.9	+1.9
	baz=14								
SHOC					⇑P		Pn	23 54 04.9	+1.9
	baz=14								
W26A	**Owens Ranch, T**	**13.83**	**26**	⇑P			Pn	23 54 05.3	+1.8
	baz=14								
W26A					⇑P		Pn	23 54 05.3	+1.8
	baz=14								
LRMC	**Laurel Mountai**	**13.86**	**337**	⇓P			Pn	23 54 05.3	+1.3
	baz=14,SNR=38								
LRMC					⇓P		Pn	23 54 05.3	+1.3
	baz=14,SNR=38								
U21A	**Nageezi**	**13.91**	**12**	⇓P			Pn	23 54 06.5	+1.9
	baz=14,SNR=34								
U21A					⇓P		Pn	23 54 06.5	+1.9
	baz=14,SNR=34								
ARVC	**Arvin**	**14.00**	**333**	⇑P			Pn	23 54 07.8	+2.1
	baz=14								
ARVC					⇑P		Pn	23 54 07.8	+2.1
	baz=14								
T19A	**Beclabito**	**14.10**	**7**	⇑P			Pn	23 54 09.0	+1.8
	baz=14								
T19A					⇑P		Pn	23 54 09.0	+1.8
	baz=14								
U23A	**El Rito**	**14.14**	**17**	⇑P			Pn	23 54 09.8	+1.9
	baz=14,SNR=11								
U23A					⇑P		Pn	23 54 09.8	+1.9
	baz=14,SNR=11								
T17A	**Navajo Res., N**	**14.15**	**1**	⇓P			Pn	23 54 09.6	+1.6
	baz=14,SNR=6.3								
T17A					⇓P		Pn	23 54 09.6	+1.6
	baz=14,SNR=6.3								
PKM	**Peak Mountain**	**14.24**	**330**	⇑P			Pn	23 54 10.3	+1.0
	baz=14,SNR=39								
PKM					⇑P		Pn	23 54 10.3	+1.0
	baz=14,SNR=39								
MPMC	**Manual Prospec**	**14.32**	**339**	⇑P			Pn	23 54 11.4	+1.1
	baz=14,SNR=21								
MPMC					⇑P		Pn	23 54 11.4	+1.1
	baz=14,SNR=21								
ISA	**Isabella**	**14.32**	**335**	*e*P			Pn	23 54 11.4	+1.2
ISA	**Isabella**	**14.32**	**335**	*e*Pn			Pn	23 54 11.4	+1.2
ISA	**Isabella**	**14.32**	**335**	⇑P			Pn	23 54 11.5	+1.3
	baz=14,SNR=19								
ISA					⇑P		Pn	23 54 11.5	+1.3
	baz=14,SNR=19								
T18A	**Mexican Hat**	**14.33**	**4**	⇑P			Pn	23 54 11.9	+1.5
	baz=14,SNR=34								
T18A					⇑P		Pn	23 54 11.9	+1.5
	baz=14,SNR=34								
U24A	**Moreno Valley**	**14.48**	**19**	⇓P			Pn	23 54 13.6	+1.0
	baz=14								
U24A					⇓P		Pn	23 54 13.6	+1.0
	baz=14								
T21A	**Navajo Lake**	**14.48**	**12**	⇓P			Pn	23 54 13.8	+1.3
	baz=14								
T21A					⇓P		Pn	23 54 13.8	+1.3
	baz=14								
FURC	**Furnace Creek,**	**14.50**	**341**	⇑P			Pn	23 54 14.3	+1.8
	baz=15								
FURC					⇑P		Pn	23 54 14.3	+1.8
	baz=15								
MVCO	**Mesa Verde**	**14.54**	**8**	*e*Pn			Pn	23 54 15.2	+1.9
MVCO	**Mesa Verde**	**14.54**	**8**	⇓P			Pn	23 54 14.5	+1.2
	baz=15,SNR=11								
MVCO					⇓P		Pn	23 54 14.5	+1.2
	baz=15,SNR=11								
AMTX	**Amarillo**	**14.60**	**32**	*e*Pn			Pn	23 54 15.6	+1.6
AMTX	**Amarillo**	**14.60**	**32**	⇑P			Pn	23 54 14.9	+0.9
	baz=15								
AMTX					⇑P		Pn	23 54 14.9	+0.9
	baz=15								
AMTX					⇑P		Pn	23 54 14.9	+0.9
	baz=15								
AMTX					⇑P		Pn	23 54 14.9	+0.9
	baz=15								
T22A	**Edith**	**14.62**	**14**	⇓P			Pn	23 54 16.1	+1.6
	baz=15,SNR=25								
T22A					⇓P		Pn	23 54 16.1	+1.6
	baz=15,SNR=25								
VES	**Vestal, Richgr**	**14.72**	**334**	⇓P			Pn	23 54 16.7	+1.2
	baz=15,SNR=8.2								
VES					⇓P		Pn	23 54 16.7	+1.2
	baz=15,SNR=8.2								
U25A	**Circle Dot Ran**	**14.75**	**22**	⇓P			Pn	23 54 16.7	+0.6
	baz=15,SNR=13								
U25A					⇓P		Pn	23 54 16.7	+0.6
	baz=15,SNR=13								
S17A	**Black Ridge (B**	**14.79**	**1**	⇓P			P

baz=15,SNR=36
R15A Junction 15.39 357 ⇑P Pn 23 54 26.4 +1.7
baz=16,SNR=7.6
R15A ⇑P Pn 23 54 26.4 +1.7
baz=16,SNR=7.6
T25A Trinidad 15.42 21 ⇓P Pn 23 54 26.4 +1.3
baz=16,SNR=23
T25A ⇓P Pn 23 54 26.4 +1.3
baz=16,SNR=23
R16A Teasdale 15.43 359 ⇑P Pn 23 54 27.0 +1.6
baz=16,SNR=26
R16A ⇑P Pn 23 54 27.0 +1.6
baz=16,SNR=26
HKT Hockley 15.44 59 eP Pn 23 54 24.9 -0.2
HKT pmax pmax
comp=Z,66nm,1.4s
HKT Hockley 15.44 59 ePn Pn 23 54 24.9 -0.2
comp=Z,66nm,1.4s
PV01 Paradox Valley 15.44 8 ePn Pn 23 54 26.0 +0.6
comp=Z,2µm,1.1s
TIN Tinemaha 15.47 338 ⇑P Pn 23 54 27.1 +1.4
baz=16
TIN ⇑P Pn 23 54 27.1 +1.4
baz=16
S23A Nye Farm, Mont 15.49 15 ⇑P Pn 23 54 27.6 +1.5
baz=16
S23A ⇑P Pn 23 54 27.6 +1.5
baz=16
R20A Redvale 15.52 8 ⇑P Pn 23 54 27.5 +1.1
baz=16,SNR=28
R20A ⇑P Pn 23 54 27.5 +1.1
baz=16,SNR=28
R13A O'Grain Ranch, 15.52 352 ⇓P Pn 23 54 28.0 +1.6
baz=16,SNR=43
R13A ⇓P Pn 23 54 28.0 +1.6
baz=16,SNR=43
R19A Curley Farm, L 15.52 5 ⇓P Pn 23 54 27.7 +1.3
baz=16,SNR=12
R19A ⇓P Pn 23 54 27.7 +1.3
baz=16,SNR=12
R18A Canyonlands Na 15.57 4 ⇑P Pn 23 54 28.4 +1.3
baz=16,SNR=39
R18A ⇑P Pn 23 54 28.4 +1.3
baz=16,SNR=39
R17A Hanksville Air 15.57 1 ⇓P Pn 23 54 28.5 +1.5
baz=16,SNR=19
R17A ⇓P Pn 23 54 28.5 +1.5
baz=16,SNR=19
S24A Houchin Ranch, 15.64 18 ⇑P Pn 23 54 29.5 +1.4
baz=16,SNR=23
S24A ⇑P Pn 23 54 29.5 +1.4
baz=16,SNR=23
PV04 Paradox Valley 15.66 6 ePn Pn 23 54 29.9 +1.7
MSU Marysvale 15.69 357 eP Pn 23 54 30.8 +2.2
MSU Marysvale 15.69 357 ePn Pn 23 54 30.8 +2.2
R21A Cimarron 15.81 10 ⇓P Pn 23 54 31.6 +1.3
baz=16,SNR=69
R21A ⇓P Pn 23 54 31.6 +1.3
baz=16,SNR=69
R22A Saguache, Gunn 15.83 13 ⇓P Pn 23 54 31.8 +1.3
baz=16,SNR=6.3
R22A ⇓P Pn 23 54 31.8 +1.3
baz=16,SNR=6.3
MTUM Tungsten Hills 15.86 338 ePn Pn 23 54 32.9 +2.1
T27A Campo 15.96 25 ⇓P Pn 23 54 33.3 +1.3
baz=16
T27A ⇓P Pn 23 54 33.3 +1.3
baz=16
R11A Troy Canyon, C 15.96 347 ⇓P Pn 23 54 33.7 +1.6
baz=16,SNR=51
R11A ⇓P Pn 23 54 33.7 +1.6
baz=16,SNR=51
R23A Moffat 16.00 15 ⇓P Pn 23 54 34.4 +1.8
baz=16,SNR=6.1
R23A ⇓P Pn 23 54 34.4 +1.8
baz=16,SNR=6.1
WMOK Wichita Mounta 16.06 40 eP Pn 23 54 32.8 -0.5
WMOK pmax pmax
comp=Z,125nm,1.8s
WMOK Wichita Mounta 16.06 40 ePn Pn 23 54 32.8 -0.5
comp=Z,125nm,1.8s
Q16A Castle Valley 16.06 360 ⇓P Pn 23 54 34.8 +1.4
baz=16,SNR=9.5
Q16A ⇓P Pn 23 54 34.8 +1.4
baz=16,SNR=9.5
S26A Kim 16.17 22 ⇑P Pn 23 54 36.0 +1.2
baz=16,SNR=10
S26A ⇑P Pn 23 54 36.0 +1.2
baz=16,SNR=10
Q19A Hogan Spring (16.18 5 ⇑P Pn 23 54 36.1 +1.3
baz=16,SNR=49
Q19A ⇑P Pn 23 54 36.1 +1.3
baz=16,SNR=49
MLAC Mammoth Lakes 16.20 338 ⇓P Pn 23 54 36.5 +1.3
baz=16
MLAC ⇓P Pn 23 54 36.5 +1.3
baz=16
R24A Sanders Place, 16.22 17 ⇓P Pn 23 54 36.8 +1.3
baz=16,SNR=21
R24A ⇓P Pn 23 54 36.8 +1.3
baz=16,SNR=21
SRU San Rafael 16.27 2 eP Pn 23 54 37.4 +1.4
SRU pmax pmax
comp=Z,262nm,1.9s
SRU San Rafael 16.27 2 ePn Pn 23 54 37.4 +1.4
comp=Z,262nm,1.9s
SRU San Rafael 16.27 2 ⇓P Pn 23 54 36.7 +0.7
baz=16,SNR=36
SRU ⇓P Pn 23 54 36.7 +0.7
baz=16,SNR=36
Q21A Lamborn Mesa, 16.27 10 ⇑P Pn 23 54 37.5 +1.5
baz=16,SNR=21
Q21A ⇑P Pn 23 54 37.5 +1.5
baz=16,SNR=21
Q18A Rafter H Ranch 16.27 3 ⇑P Pn 23 54 36.7 +0.6
baz=16,SNR=17
Q18A ⇑P Pn 23 54 36.7 +0.6
baz=16,SNR=17
Q20A Ridgley Place, 16.28 8 ⇑P Pn 23 54 37.4 +1.2
baz=16,SNR=15
Q20A ⇑P Pn 23 54 37.4 +1.2
baz=16,SNR=15
CMIG Matias Romero 16.29 107 Pn P 23 54 38.2 -1.1
comp=Z,0.3nm,0.3s,baz=300,slow=12,SNR=14
CMIG LR LR 00 00 24.3
comp=Z,3µm,19.4s,baz=275,slow=35
CMIG Matias Romero 16.29 107 Pn P 23 54 38.2 -1.1
RFTA Plano 16.30 48 ePn P 23 54 37.5 -1.8
R25A Fountain Ranch 16.38 19 ⇑P P 23 54 39.0 -1.3
baz=16,SNR=9.2
R25A ⇑P P 23 54 39.0 -1.3
baz=16,SNR=9.2
Q22A Crested Butte, 16.41 12 ⇓P Pn 23 54 38.7 +0.7
baz=16,SNR=20
Q22A ⇓P Pn 23 54 38.7 +0.7
baz=16,SNR=20
S27A Las Animas 16.43 24 ⇓P Pn 23 54 39.0 +0.9
baz=16
S27A ⇓P Pn 23 54 39.0 +0.9
baz=16
TMUT Trail Mountain 16.44 360 ePn Pn 23 54 39.6 +1.2
comp=Z,185nm,1.9s
SAO San Andreas Ge 16.53 330 eP Pn 23 54 39.8 +0.5
SAO pmax pmax
comp=Z,68nm,1.3s
SAO San Andreas Ge 16.53 330 ePn Pn 23 54 39.8 +0.5
comp=Z,68nm,1.3s
P17A Butcher Ranch, 16.62 1 ⇓P Pn 23 54 41.5 +1.0
baz=17,SNR=13
P17A ⇓P Pn 23 54 41.5 +1.0
baz=17,SNR=13
Q23A Hartsel 16.68 15 ⇑P Pn 23 54 42.5 +1.2
baz=17
Q23A ⇑P Pn 23 54 42.5 +1.2
baz=17
SMCO Snowmass 16.70 11 ePn P 23 54 44.1 0.0
comp=Z,72nm,1.3s
NVAR Mina Array Bea 16.75 340 Pn P 23 54 43.8 -0.7
comp=Z,0.3nm,0.3s,baz=163,slow=11,SNR=38
NVAR PcP PcP 23 59 32.2 +1.3
comp=Z,0.0nm,0.3s,baz=177,slow=2.8,SNR=4.7
NVAR LR LR 00 00 52.8
comp=Z,3µm,19.4s,baz=210,slow=36
NVAR Mina Array Bea 16.75 340 Pn P 23 54 43.8 -0.7
NVAR PcP PcP 23 59 32.2 +1.3
P15A Leamington 16.75 357 ⇓P P 23 54 43.6 -0.8
baz=17
P15A ⇓P P 23 54 43.6 -0.8
baz=17
P16A Fountain Green 16.76 359 ⇑P P 23 54 43.8 -0.8
baz=17
P16A ⇑P P 23 54 43.8 -0.8
baz=17
P18A Preston Nutter 16.79 2 P Pn 23 54 44.1 +1.3
baz=17,SNR=66
P18A P Pn 23 54 44.1 +1.3
baz=17,SNR=66
R26A Arlington 16.79 21 ⇑P Pn 23 54 43.7 +1.0
baz=17,SNR=15
R26A ⇑P Pn 23 54 43.7 +1.0
baz=17,SNR=15
P20A De Beque 16.81 7 ⇓P Pn 23 54 43.8 +0.9
baz=17,SNR=21
P20A ⇓P Pn 23 54 43.8 +0.9
baz=17,SNR=21
P19A Cripple Cowboy 16.88 6 ⇓P Pn 23 54 44.8 +0.9
baz=17,SNR=39
P19A ⇓P Pn 23 54 44.8 +0.9
baz=17,SNR=39
Q24A Divide 16.90 16 ⇑P P 23 54 45.4 -0.9
baz=17,SNR=16
Q24A ⇑P P 23 54 45.4 -0.9
baz=17,SNR=16
P21A Newcastle 16.96 10 ⇑P P 23 54 46.3 -0.5
baz=17,SNR=16
P21A ⇑P P 23 54 46.3 -0.5
baz=17,SNR=16
R27A Eads 17.00 23 ⇑P P 23 54 46.3 -0.9
baz=17,SNR=9.8
R27A ⇑P P 23 54 46.3 -0.9
baz=17,SNR=9.8
Q25A Bedland, Calha 17.10 19 ⇑P P 23 54 48.1 -0.3
baz=17
Q25A ⇑P P 23 54 48.1 -0.3
baz=17
P23A Jefferson 17.12 14 ⇑P P 23 54 48.7 -0.1
baz=17
P23A ⇑P P 23 54 48.7 -0.1
baz=17
NATX Nacogdoches 17.12 55 ePn P 23 54 49.4 +1.0
comp=Z,84nm,1.1s
CMB Columbia Colle 17.14 334 eP P 23 54 48.7 +0.1
CMB pmax pmax
comp=Z,15nm,1.0s
CMB Columbia Colle 17.14 334 ePn P 23 54 48.7 +0.1
comp=Z,15nm,1.0s
P22A Eagle 17.15 12 ⇑P P 23 54 48.6 -0.3
baz=17,SNR=17
P22A ⇑P P 23 54 48.6 -0.3
baz=17,SNR=17
MPU Maple Canyon 17.17 359 eP P 23 54 50.2 +1.1
comp=Z,110nm,1.5s
Q26A Hugo 17.33 20 ⇓P P 23 54 50.6 -0.3
baz=17
Q26A ⇓P P 23 54 50.6 -0.3
baz=17
O17A Robinson Place 17.34 1 ⇓P P 23 54 51.2 +0.2
baz=17,SNR=14
O17A ⇓P P 23 54 51.2 +0.2
baz=17,SNR=14
O16A Springville 17.35 359 ⇑P P 23 54 51.3 +0.1
baz=17,SNR=6.6
O16A ⇑P P 23 54 51.3 +0.1
baz=17,SNR=6.6
DUG Dugway 17.40 356 eP P 23 54 51.8 +0.2
DUG pmax pmax
comp=Z,471nm,2.8s
DUG Dugway 17.40 356 ePn P 23 54 51.8 +0.2
comp=Z,471nm,2.8s
DUG Dugway 17.40 356 ⇑P P 23 54 51.7 +0.2
baz=18,SNR=19
DUG ⇑P P 23 54 51.7 +0.2
baz=18,SNR=19
O18A Roosevelt 17.44 3 ⇑P P 23 54 52.1 +0.1
baz=18,SNR=13
O18A ⇑P P 23 54 52.1 +0.1
baz=18,SNR=13
O20A White River Ci 17.45 7 ⇓P P 23 54 52.5 +0.2
baz=18,SNR=17
O20A ⇓P P 23 54 52.5 +0.2
baz=18,SNR=17
O15A The Old Anders 17.46 357 ⇑P P 23 54 53.1 +0.8
baz=18
O15A ⇑P P 23 54 53.1 +0.8
baz=18
P24A Kohler Place, 17.48 16 ⇓P P 23 54 52.8 +0.3
baz=18
P24A ⇓P P 23 54 52.8 +0.3
baz=18
O19A Miners Draw (B 17.52 5 ⇓P P 23 54 53.0 0.0
baz=18,SNR=27
O19A ⇓P P 23 54 53.0 0.0
baz=18,SNR=27
DAU Daniels Canyon 17.56 360 eP P 23 54 54.4 +0.9
DAU Daniels Canyon 17.56 360 eP P 23 54 54.4 +0.9
ISCO Idaho Springs 17.58 14 eP P 23 54 54.7 +0.9
ISCO pmax pmax
comp=Z,64nm,1.5s
ISCO Idaho Springs 17.58 14 eP P 23 54 54.7 +0.9
comp=Z,64nm,1.5s
ISCO Idaho Springs 17.58 14 ⇓P P 23 54 54.2 +0.5
baz=18,SNR=24
ISCO ⇓P P 23 54 54.2 +0.5
baz=18,SNR=24
O21A Pagoda 17.63 9 ⇓P P 23 54 54.9 +0.5
baz=18
O21A ⇓P P 23 54 54.9 +0.5
baz=18
P25A Willow Gulch B 17.68 18 ⇑P P 23 54 55.0 +0.3
baz=18,SNR=17
P25A ⇑P P 23 54 55.0 +0.3
baz=18,SNR=17
KSCO Kaye Shedlock' 17.71 22 ⇓P P 23 54 55.1 0.0
baz=18
KSCO ⇓P P 23 54 55.1 0.0
baz=18
O22A Kremmling 17.74 12 ⇓P P 23 54 56.2 +0.7
baz=18,SNR=12
O22A ⇓P P 23 54 56.2 +0.7
baz=18,SNR=12
JLU Jordanelle 17.75 359 eP P 23 54 56.8 +1.2
comp=Z,190nm,2.3s
O23A Lake Granby, G 17.91 13 ⇓P P 23 54 58.9 +1.5
baz=18,SNR=27
O23A ⇓P P 23 54 58.9 +1.5
baz=18,SNR=27
P26A Davis Ranch, A 17.97 20 ⇑P P 23 54 58.4 +0.5
baz=18,SNR=18
P26A ⇑P P 23 54 58.4 +0.5
baz=18,SNR=18
O24A Longmont 18.01 15 ⇓P P 23 54 59.8 +1.4
baz=18
O24A ⇓P P 23 54 59.8 +1.4
baz=18
WCN Washoe City 18.02 338 eP P 23 55 01.5 +3.0
WCN pmax pmax
comp=Z,53nm,1.2s
WCN Washoe City 18.02 338 eP P 23 55 01.5 +3.0
comp=Z,53nm,1.2s
WCN Washoe City 18.02 338 ⇓P P 23 54 59.7 +1.2
baz=18,SNR=8.6
WCN ⇓P P 23 54 59.7 +1.2
baz=18,SNR=8.6
N16A Rees Ranch, Co 18.03 359 ⇑P P 23 54 59.8 +1.1
baz=18
N16A ⇑P P 23 54 59.8 +1.1
baz=18
N15A Stansbury Isla 18.07 357 ⇓P P 23 55 00.0 +1.0
baz=18,SNR=12
N15A ⇓P P 23 55 00.0 +1.0
baz=18,SNR=12
N17A Moffit Pass 18.09 1 ⇓P P 23 55 00.4 +1.0
baz=18
N17A ⇓P P 23 55 00.4 +1.0
baz=18
N19A John Jarvie Ra 18.11 5 ⇑P P 23 55 00.3 +0.8
baz=18
N19A ⇑P P 23 55 00.3 +0.8
baz=18
N20A Spence Gulch, 18.14 7 ⇓P P 23 55 01.4 +1.6
baz=18,SNR=29
N20A ⇓P P 23 55 01.4 +1.6
baz=18,SNR=29
N21A Black Mountain 18.16 9 ⇑P P 23 55 01.5 +1.4
baz=18,SNR=18
N21A ⇑P P 23 55 01.5 +1.4
baz=18,SNR=18
ELK Elko 18.22 350 eP P 23 55 01.9 +1.1
ELK Elko 18.22 350 ePn P 23 55 01.9 +1.1
O25A Wiggins 18.25 17 ⇓P P 23 55 02.1 +1.1
baz=18,SNR=6.6
O25A ⇓P P 23 55 02.1 +1.1
baz=18,SNR=6.6
BMN Battle Mountai 18.32 345 eP P 23 55 04.4 +2.6
BMN pmax pmax
comp=Z,36nm,1.4s
BMN Battle Mountai 18.32 345 ePn P 23 55 04.3 +2.6
comp=Z,36nm,1.4s
N22A Wattenberg Ran 18.37 11 ⇓P Pn 23 55 03.7 +1.3
baz=18,SNR=20
N22A ⇓P Pn 23 55 03.7 +1.3
baz=18,SNR=20
N23A Red Feather La 18.56 12 ⇓P Pn 23 55 05.8 +1.1
baz=19,SNR=14
N23A ⇓P Pn 23 55 05.8 +1.1
baz=19,SNR=14
M18A Lyman 18.59 2 ⇓P Pn 23 55 05.9 +0.9
baz=19
M18A ⇓P Pn 23 55 05.9 +0.9
baz=19
O26A Horse Wrangler 18.60 19 ⇑P Pn 23 55 05.8 +0.7
baz=19,SNR=5.5
O26A ⇑P Pn 23 55 05.8 +0.7
baz=19,SNR=5.5
M17A Scullys Gap (B 18.62 1 ⇓P Pn 23 55 06.4 +1.0
baz=19,SNR=6.0
M17A ⇓P Pn 23 55 06.4 +1.0
baz=19,SNR=6.0
M15A Larsen Ranch, 18.64 357 P Pn 23 55 07.0 +1.4
baz=19,SNR=36
M15A P Pn 23 55 07.0 +1.4
baz=19,SNR=36
TUL1 Tulsa 18.66 42 ⇑P Pn 23 55 05.7 +0.1
baz=19
TUL1 ⇑P Pn 23 55 05.7 +0.1
baz=19
OHCM Honcut 18.69 334 ePn Pn 23 55 07.7 +1.7
M19A Rock Springs 18.72 5 ⇓P Pn 23 55 07.3 +0.6
baz=19
M19A ⇓P Pn 23 55 07.3 +0.6
baz=19
N24A Carr 18.73 15 ⇑P Pn 23 55 07.8 +1.2
baz=19,SNR=5.5
N24A ⇑P Pn 23 55 07.8 +1.2
baz=19,SNR=5.5
M20A Sweetwater, Wa 18.80 7 ⇓P Pn 23 55 08.7 +1.1
baz=19,SNR=6.2
M20A ⇓P Pn 23 55 08.7 +1.1
baz=19,SNR=6.2
O27A Beecher Island 18.82 21 ⇓P Pn 23 55 08.3 +0.6
baz=19
O27A ⇓P Pn 23 55 08.3 +0.6
baz=19
N25A Grover 18.91 17 ⇓P Pn 23 55 09.4 +0.5
baz=19
N25A ⇓P Pn 23 55 09.4 +0.5
baz=19
M22A Cedar Creek Ra 18.93 11 ⇑P Pn 23 55 09.9 +0.6
baz=19
M22A ⇑P Pn 23 55 09.9 +0.6
baz=19
HVU Hansel Valley 18.97 356 eP Pn 23 55 11.0 +1.4
HVU pmax pmax
comp=Z,186nm,2.1s
HVU Hansel Valley 18.97 356 ePn Pn 23 55 11.0 +1.4
comp=Z,186nm,2.1s
M21A Separation Pea 19.01 9 ⇑P Pn 23 55 10.4 +0.2
baz=19
M21A ⇑P Pn 23 55 10.4 +0.2
baz=19
PHWY Pilot Hill 19.05 13 ePn Pn 23 55 11.7 +1.0
comp=Z,16nm,0.8s
HOPS Hopland 19.09 330 ePn Pn 23 55 14.2 +3.4
comp=Z,151nm,1.8s
L18A Fontenelle, Gr 19.09 2 ⇓P Pn 23 55 11.2 +0.1
baz=19,SNR=14
L18A ⇓P Pn 23 55 11.2 +0.1
baz=19,SNR=14
RWWY Rawlins 19.12 9 eP Pn 23 55 11.7 +0.2
comp=Z,68nm,1.6s
M23A Laramie 19.16 12 ⇑P Pn 23 55 12.3 +0.4
baz=19,SNR=13
M23A ⇑P Pn 23 55 12.3 +0.4
baz=19,SNR=13
L16A Fish Haven 19.16 359 ⇑P Pn 23 55 12.2 +0.3
baz=19,SNR=16
L16A ⇑P Pn 23 55 12.2 +0.3
baz=19,SNR=16
N26A Koester Ranch, 19.17 19 ⇑P Pn 23 55 12.0 +0.1
baz=19
N26A ⇑P Pn 23 55 12.0 +0.1
baz=19
L15A Malad City 19.18 357 ⇑P Pn 23 55 12.3 +0.2
baz=19,SNR=24
L15A ⇑P Pn 23 55 12.3 +0.2
baz=19,SNR=24
L17A Cokeville 19.24 1 ⇓P Pn 23 55 12.7 -0.2
baz=19,SNR=7.7
L17A ⇓P Pn 23 55 12.7 -0.2
baz=19,SNR=7.7
L14A Malta 19.26 355 ⇓P Pn 23 55 13.0 0.0
baz=19,SNR=11
L14A ⇓P Pn 23 55 13.0 0.0
baz=19,SNR=11
L20A Wamsutter 19.29 6 ⇑P Pn 23 55 13.2 -0.3
baz=19
L20A ⇑P Pn 23 55 13.2 -0.3
baz=19
L19A Farson 19.30 4 ⇑P Pn 23 55 13.7 +0.1
baz=19,SNR=9.1
L19A ⇑P Pn 23 55 13.7 +0.1
baz=19,SNR=9.1
MIAR Mount Ida 19.31 49 eP P 23 55 12.3 -0.2
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR Mount Ida 19.31 49 eP P 23 55 12.3 -0.2
comp=Z,19nm,0.9s
M24A Cheyenne 19.35 14 ⇓P Pn 23 55 13.9 -0.3
baz=19
M24A ⇓P Pn 23 55 13.9 -0.3
baz=19
N27A Anderson Farm, 19.36 20 ⇑P P 23 55 13.6 +0.5
baz=19
N27A ⇑P P 23 55 13.6 +0.5
baz=19
L21A Rawlins 19.36 8 ⇓P P 23 55 13.6 +0.3
baz=19,SNR=8.5
L21A ⇓P P 23 55 13.6 +0.3
baz=19,SNR=8.5
M25A Palm-Egli Farm 19.50 16 ⇑P Pn 23 55 15.9 -0.1
baz=20
M25A ⇑P Pn 23 55 15.9 -0.1
baz=20
L22A Ellis Ranch, M 19.57 10 ⇓P Pn 23 55 17.1 +0.2
baz=20
L22A ⇓P Pn 23 55 17.1 +0.2
baz=20
OGNE Ogallala 19.65 21 eP Pn 23 55 17.0 -0.7
comp=Z,41nm,0.8s
OGNE Ogallala 19.65 21 ⇓P Pn 23 55 17.2 -0.4
baz=20
OGNE ⇓P Pn 23 55 17.2 -0.4
baz=20
K14A Jones Ranch, D 19.76 356 ⇓P Pn 23 55 19.3 +0.2
baz=20,SNR=34
K14A ⇓P Pn 23 55 19.3 +0.2
baz=20,SNR=34
M26A McRoberts Ranc 19.78 18 ⇑P Pn 23 55 18.8 -0.5
baz=20
M26A ⇑P Pn 23 55 18.8 -0.5
baz=20
L23A Garrett 19.78 12 ⇑P Pn 23 55 18.9 -0.5
baz=20,SNR=16
L23A ⇑P Pn 23 55 18.9 -0.5
baz=20,SNR=16
K18A Toltan Ranch, 19.80 2 ⇓P Pn 23 55 19.0 -0.6
baz=20,SNR=16
K18A ⇓P Pn 23 55 19.0 -0.6
baz=20,SNR=16
K15A Arbon 19.86 357 ⇓P Pn 23 55 19.8 -0.4
baz=20,SNR=62
K15A ⇓P Pn 23 55 19.8 -0.4
baz=20,SNR=62
L24A Wheatland 19.87 14 ⇓P Pn 23 55 19.7 -0.7

baz=20
L24A ⇓P Pn 23 55 19.7 -0.7
baz=20
KCPM Cahto Peak 19.88 331 *e*Pn Pn 23 55 21.4 +1.0
comp=Z,104nm,1.7s
K17A Gardner Place, 19.89 0 ⇑P P 23 55 19.8 +0.8
baz=20,SNR=8.1
K17A ⇑P P 23 55 19.8 +0.8
baz=20,SNR=8.1
KIPM Iron Peak 19.93 331 *e*P Pn 23 55 20.9 -0.2
comp=Z,314nm,2.1s
K20A Yellowstone Ra 19.94 6 ⇑P P 23 55 20.2 +0.7
baz=20,SNR=12
K20A ⇑P P 23 55 20.2 +0.7
baz=20,SNR=12
LBCM Butte Creek Ri 19.94 337 P Pn 23 55 21.6 +0.4
BW06 Boulder Array 19.95 3 *e*P P 23 55 20.3 +0.6
comp=Z,137nm,1.8s
BW06 Boulder Array 19.95 3 P P 23 55 20.6 +0.8
baz=20,SNR=27
BW06 P P 23 55 20.6 +0.8
baz=20,SNR=27
BW06 P P 23 55 20.6 +0.8
baz=20,SNR=27
BW06 P P 23 55 20.6 +0.8
baz=20,SNR=27
PDAR Pinedale Array 19.95 3 P P 23 55 20.4 +0.7
comp=Z,0.5nm,0.3s,baz=177,slow=11,SNR=96
PDAR PcP PcP 23 59 35.9 -0.4
comp=Z,0.1nm,0.3s,baz=178,slow=2.7,SNR=3.7
PDAR LR LR 00 02 58.2
comp=Z,2μm,18.6s,baz=196,slow=37
PDAR Pinedale Array 19.95 3 P P 23 55 20.4 +0.7
PDAR PcP PcP 23 59 35.9 -0.4
PD01 Pinedale Array 19.96 3 *e*P P 23 55 20.2 +0.3
PD02 Pinedale Array 19.96 3 *e*P P 23 55 20.3 +0.4
K16A Soda Springs 19.98 359 ⇑P Pn 23 55 21.1 -0.7
baz=20,SNR=18
K16A ⇑P Pn 23 55 21.1 -0.7
baz=20,SNR=18
K21A Alcova 20.04 8 ⇑P P 23 55 21.2 +0.6
baz=20,SNR=14
K21A ⇑P P 23 55 21.2 +0.6
baz=20,SNR=14
K19A Absolon Red Bu 20.06 5 ⇑P P 23 55 21.3 +0.5
baz=20,SNR=18
K19A ⇑P P 23 55 21.3 +0.5
baz=20,SNR=18
M27A Reverse DX Ran 20.06 19 ⇑P P 23 55 21.6 +0.8
baz=20
M27A ⇑P P 23 55 21.6 +0.8
baz=20
K22A Casper 20.16 10 ⇑P P 23 55 22.9 +1.0
baz=20
K22A ⇑P P 23 55 22.9 +1.0
baz=20
WDC Whiskeytown Da 20.18 334 *e*P P 23 55 22.5 +0.6
WDC pmax pmax
comp=Z,81nm,1.8s
WDC Whiskeytown Da 20.18 334 *e*P P 23 55 22.5 +0.6
comp=Z,81nm,1.8s
L25A Engebretsen Ra 20.20 16 ⇑P P 23 55 23.1 +0.8
baz=20
L25A ⇑P P 23 55 23.1 +0.8
baz=20
UALR University of 20.29 50 *e*P Pn 23 55 24.4 -0.8
comp=Z,29nm,0.9s
L26A Underwood Farm 20.33 17 ⇓P P 23 55 24.6 +0.9
baz=20
L26A ⇓P P 23 55 24.6 +0.9
baz=20
J18A Kendall Valley 20.37 2 ⇑P P 23 55 25.3 +0.9
baz=20,SNR=47
J18A ⇑P P 23 55 25.3 +0.9
baz=20,SNR=47
K23A Bowen Ranch, D 20.42 12 ⇑P P 23 55 25.6 +0.9
baz=20,SNR=14
K23A ⇑P P 23 55 25.6 +0.9
baz=20,SNR=14
J16A Bone 20.42 359 P Pn 23 55 26.3 -0.7
baz=20,SNR=33
J16A P Pn 23 55 26.3 -0.7
baz=20,SNR=33
KSU1 Kansas State U 20.42 34 *e*P P 23 55 25.0 +0.4
comp=Z,86nm,1.0s
J19A Crowheart 20.48 4 P P 23 55 26.2 +0.8
baz=21,SNR=55
J19A P P 23 55 26.2 +0.8
baz=21,SNR=55
RRI2 Red Ridge 20.49 360 *e*P Pn 23 55 26.9 -1.0
comp=Z,156nm,1.6s
REDW Red Top Meadow 20.51 1 *e*P Pn 23 55 27.1 -0.9
comp=Z,289nm,2.0s
J17A Brown Place, J 20.51 1 ⇓P P 23 55 26.7 +1.0
baz=21
J17A ⇓P P 23 55 26.7 +1.0
baz=21
K24A Anderson Ranch 20.55 13 ⇑P P 23 55 26.9 +0.8
baz=21
K24A ⇑P P 23 55 26.9 +0.8
baz=21
J14A Carey 20.56 355 ⇓P Pn 23 55 28.5 -0.1
baz=21,SNR=32
J14A ⇓P Pn 23 55 28.5 -0.1
baz=21,SNR=32
J15A Blackfoot 20.57 357 ⇑P Pn 23 55 27.9 -0.7
baz=21,SNR=41
J15A ⇑P Pn 23 55 27.9 -0.7
baz=21,SNR=41
L27A T5 Ranch, Ells 20.59 19 ⇑P P 23 55 26.9 +0.4
baz=21
L27A ⇑P P 23 55 26.9 +0.4
baz=21
SNOW Snow King Moun 20.61 1 *e*P Pn 23 55 28.4 -0.8
comp=Z,337nm,2.1s
J20A Shoshoni 20.65 6 ⇓P P 23 55 28.1 +0.9
baz=21,SNR=74
J20A ⇓P P 23 55 28.1 +0.9
baz=21,SNR=74
K25A Mack Ranch, Ha 20.66 15 ⇓P P 23 55 28.1 +0.8
baz=21
K25A ⇓P P 23 55 28.1 +0.8
baz=21
J13A Cove Ranch, Pi 20.70 354 ⇑P Pn 23 55 29.2 -0.9
baz=21,SNR=28
J13A ⇑P Pn 23 55 29.2 -0.9
baz=21,SNR=28
J21A Lysite 20.71 8 ⇓P P 23 55 28.7 +0.7
baz=21,SNR=15
J21A ⇓P P 23 55 28.7 +0.7
baz=21,SNR=15
DCID1 Drake Creek 20.74 360 *e*P Pn 23 55 30.4 -0.2
comp=Z,238nm,1.4s
LOHW Long Hollow 20.76 1 *e*P P 23 55 29.5 +1.0
comp=Z,223nm,1.9s
I18A Diamond G Ranc 20.87 3 ⇓P P 23 55 30.3 +0.6
baz=21,SNR=30
I18A ⇓P P 23 55 30.3 +0.6
baz=21,SNR=30
HLID Hailey 20.88 353 *e*P Pn 23 55 31.5 -0.9
comp=Z,46nm,1.1s
HLID Hailey 20.88 353 ⇓P P 23 55 31.0 +1.2
baz=21,SNR=41
HLID ⇓P P 23 55 31.0 +1.2
baz=21,SNR=41
MOOW Moose Ponds 20.89 1 *e*P P 23 55 31.1 +1.1
comp=Z,255nm,2.1s
J22A Midwest 20.91 10 ⇑P P 23 55 30.7 +0.6
baz=21,SNR=24
J22A ⇑P P 23 55 30.7 +0.6
baz=21,SNR=24
KHMM Horse Mountain 20.92 332 *e*P Pn 23 55 32.1 -0.6
comp=Z,163nm,1.6s
K26A Motz Farm, Whi 20.92 17 ⇑P P 23 55 30.7 +0.6
baz=21
K26A ⇑P P 23 55 30.7 +0.6
baz=21
MFID Camas Ranch 20.92 350 *e*P Pn 23 55 31.8 -0.9
comp=Z,202nm,1.8s
MFID Camas Ranch 20.92 350 ⇑P Pn 23 55 31.6 -1.1
baz=21,SNR=21
MFID ⇑P Pn 23 55 31.6 -1.1
baz=21,SNR=21
I16A Newdale 21.02 359 ⇓P P 23 55 32.7 +1.4
baz=21,SNR=43
I16A ⇓P P 23 55 32.7 +1.4
baz=21,SNR=43
IMW Indian Meadow 21.04 0 *e*P P 23 55 32.8 +1.2
comp=Z,287nm,1.8s
J23A Dilts Ranch, B 21.06 11 ⇓P P 23 55 32.7 +1.1
baz=21
J23A ⇓P P 23 55 32.7 +1.1
baz=21
I17A Pilgrim Ck. 21.07 1 ⇓P P 23 55 32.9 +1.1
baz=21,SNR=36
I17A ⇓P P 23 55 32.9 +1.1
baz=21,SNR=36
I14A Mackay 21.16 355 ⇑P P 23 55 34.2 +1.4
baz=21,SNR=11
I14A ⇑P P 23 55 34.2 +1.4
baz=21,SNR=11
J24A Dixon Ranch, L 21.16 13 ⇑P P 23 55 33.8 +1.1
baz=21,SNR=8.3
J24A ⇑P P 23 55 33.8 +1.1
baz=21,SNR=8.3
I15A Monteview 21.17 357 ⇑P P 23 55 34.4 +1.5
baz=21,SNR=7.6
I15A ⇑P P 23 55 34.4 +1.5
baz=21,SNR=7.6
K27A Flueckinger Fa 21.18 18 ⇑P P 23 55 33.5 +0.6
baz=21,SNR=12
K27A ⇑P P 23 55 33.5 +0.6
baz=21,SNR=12
I21A Big Trails, Te 21.19 8 ⇑P P 23 55 33.5 +0.4
baz=21,SNR=27
I21A ⇑P P 23 55 33.5 +0.4
baz=21,SNR=27
I12A Atlanta 21.20 352 ⇑P P 23 55 34.5 +1.3
baz=21,SNR=24
I12A ⇑P P 23 55 34.5 +1.3
baz=21,SNR=24
I13A Wildhorse Cree 21.20 354 ⇓P P 23 55 35.0 +1.8
baz=21,SNR=37
I13A ⇓P P 23 55 35.0 +1.8
baz=21,SNR=37
YBH Yreka Blue Hor 21.23 335 *e*P P 23 55 32.8 -0.6
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 21.23 335 *e*P P 23 55 32.8 -0.6
comp=Z,6.1nm,0.9s
I20A Worland 21.24 6 P P 23 55 34.8 +1.3
baz=21,SNR=52
I20A P P 23 55 34.8 +1.3
baz=21,SNR=52
I19A Meeteetse 21.25 4 ⇓P P 23 55 34.9 +1.2
baz=21,SNR=70
I19A ⇓P P 23 55 34.9 +1.2
baz=21,SNR=70
I22A 9 Mile Ranch, 21.38 9 ⇓P P 23 55 36.0 +1.0
baz=22,SNR=14
I22A ⇓P P 23 55 36.0 +1.0
baz=22,SNR=14
TEIG Tepich 21.41 93 LR LR 00 05 16.6
comp=Z,700nm,20.4s,baz=22,slow=41
BGNE Belgrade 21.52 27 ⇑P P 23 55 37.2 +0.7
baz=22
BGNE ⇑P P 23 55 37.2 +0.7
baz=22
H17A Grant Village 21.54 1 ⇓P P 23 55 38.0 +1.0
baz=22,SNR=20
H17A ⇓P P 23 55 38.0 +1.0
baz=22,SNR=20
YFT Old Faithful 21.59 1 *e*P P 23 55 39.3 +1.8
comp=Z,52nm,1.2s
I23A Meade Ranch, G 21.61 11 ⇑P P 23 55 38.4 +0.9
baz=22
I23A ⇑P P 23 55 38.4 +0.9
baz=22
KTRM Thompson Ridge 21.64 335 P P 23 55 39.5 +1.7
I24A Kuemmerle Ranc 21.68 13 ⇓P P 23 55 39.0 +0.7
baz=22,SNR=8.7
I24A ⇓P P 23 55 39.0 +0.7
baz=22,SNR=8.7
H20A Greybull 21.78 6 P P 23 55 40.0 +0.6
baz=22,SNR=15
H20A P P 23 55 40.0 +0.6
baz=22,SNR=15
H15A Lima 21.80 357 P P 23 55 41.3 +1.7
baz=22,SNR=29
H15A P P 23 55 41.3 +1.7
baz=22,SNR=29
YMR Madison River 21.81 0 *e*P P 23 55 40.5 +0.7
comp=Z,190nm,1.5s
H14A Leadore 21.84 356 ⇑P P 23 55 41.9 +1.9
baz=22,SNR=41
H14A ⇑P P 23 55 41.9 +1.9
baz=22,SNR=41
H16A Russell Place, 21.85 360 P P 23 55 41.6 +1.5
baz=22,SNR=64
H16A P P 23 55 41.6 +1.5
baz=22,SNR=64
H18A Shoshone NF, C 21.85 3 ⇓P P 23 55 40.9 +0.7
baz=22,SNR=33
H18A ⇓P P 23 55 40.9 +0.7
baz=22,SNR=33
H13A Challis 21.86 354 ⇑P P 23 55 41.6 +1.4
baz=22,SNR=39
H13A ⇑P P 23 55 41.6 +1.4
baz=22,SNR=39
YNR Norris Junctio 21.86 1 *e*P P 23 55 41.5 +1.1
comp=Z,69nm,1.4s
H19A Powell 21.88 4 P P 23 55 41.8 +1.4
baz=22,SNR=74
H19A P P 23 55 41.8 +1.4
baz=22,SNR=74
H12A Diamond D Ranc 21.91 353 ⇓P P 23 55 42.0 +1.2
baz=22,SNR=52
H12A ⇓P P 23 55 42.0 +1.2
baz=22,SNR=52
QLMT Earthquake Lak 21.97 359 *e*P P 23 55 43.2 +1.7
MCMT McKenzie Canyo 22.02 357 *e*P P 23 55 43.6 +1.6
comp=Z,27nm,1.2s
H21A Big Horn, Sher 22.03 8 ⇓P P 23 55 42.2 +0.2
baz=22
H21A ⇓P P 23 55 42.2 +0.2
baz=22
HUMO Hull Mountain 22.07 336 *e*P P 23 55 44.6 +2.3
comp=Z,24nm,1.4s
H22A Clearmont 22.09 9 ⇓P P 23 55 43.3 +0.7
baz=22,SNR=34
H22A ⇓P P 23 55 43.3 +0.7
baz=22,SNR=34
MET Memphis--Engin 22.18 52 *e*P P 23 55 44.5 +0.9
H23A Clabaugh Cattl 22.21 11 ⇑P P 23 55 44.3 +0.4
baz=22
H23A ⇑P P 23 55 44.3 +0.4
baz=22
KBO Bosley Butte 22.23 334 *e*P P 23 55 45.2 +1.0
comp=Z,153nm,1.5s
OXF Oxford 22.29 54 *e*P P 23 55 45.6 +0.8
OXF pmax pmax
comp=Z,143nm,1.1s
OXF Oxford 22.29 54 *e*P P 23 55 45.6 +0.8
comp=Z,143nm,1.1s
RLMT Red Lodge 22.32 3 *e*P P 23 55 46.1 +0.9
comp=Z,49nm,1.1s
RLMT Red Lodge 22.32 3 ⇓P P 23 55 45.8 +0.6
baz=22,SNR=34
RLMT ⇓P P 23 55 45.8 +0.6
baz=22,SNR=34
RLMT ⇓P P 23 55 45.8 +0.6
baz=22,SNR=34
RLMT ⇓P P 23 55 45.8 +0.6
baz=22,SNR=34
G15A Dillon 22.34 357 P P 23 55 46.9 +1.5
baz=22,SNR=17
G15A P P 23 55 46.9 +1.5
baz=22,SNR=17
G16A Moss Hill, Enn 22.38 359 ⇑P P 23 55 47.2 +1.4
baz=22,SNR=23
G16A ⇑P P 23 55 47.2 +1.4
baz=22,SNR=23
G13A Cobalt 22.38 354 P P 23 55 47.1 +1.3
baz=22,SNR=28
G13A P P 23 55 47.1 +1.3
baz=22,SNR=28
G17A Pierce Place, 22.46 1 ⇓P P 23 55 48.1 +1.4
baz=23,SNR=6.0
G17A ⇓P P 23 55 48.1 +1.4
baz=23,SNR=6.0
G14A Jackson 22.47 356 ⇑P P 23 55 47.6 +0.7
baz=23,SNR=7.6
G14A ⇑P P 23 55 47.6 +0.7
baz=23,SNR=7.6
G20A Bridger 22.49 5 P P 23 55 46.9 -0.1
baz=23,SNR=51
G20A P P 23 55 46.9 -0.1
baz=23,SNR=51
G18A Lazy EL Ranch, 22.50 3 P P 23 55 48.1 +1.0
baz=23,SNR=44
G18A P P 23 55 48.1 +1.0
baz=23,SNR=44
GNAR Gosnell 22.53 50 *e*P P 23 55 46.5 -0.8
comp=Z,2μm,1.3s
DLMT Dillon 22.54 357 *e*P P 23 55 49.2 +1.7
comp=Z,35nm,1.1s
H24A Dirks Ranch, A 22.54 12 P P 23 55 48.1 +0.6
baz=23,SNR=53
H24A P P 23 55 48.1 +0.6
baz=23,SNR=53
BMO Blue Mountains 22.57 348 *e*P P 23 55 48.3 +0.5
comp=Z,84nm,1.9s
G21A Lodge Grass 22.59 7 ⇓P P 23 55 48.4 +0.4
baz=23,SNR=28
G21A ⇓P P 23 55 48.4 +0.4
baz=23,SNR=28
G22A Birney 22.71 9 ⇓P P 23 55 49.7 +0.4
baz=23,SNR=22
G22A ⇓P P 23 55 49.7 +0.4
baz=23,SNR=22
BOZ Bozeman (W) 22.79 359 *e*P P 23 55 50.9 +0.7
BOZ pmax pmax
comp=Z,99nm,1.9s
BOZ Bozeman (W) 22.79 359 *e*P P 23 55 50.9 +0.7
comp=Z,99nm,1.9s
BOZ Bozeman (W) 22.79 359 ⇓P P 23 55 50.9 +0.7
baz=23,SNR=20
BOZ ⇓P P 23 55 50.9 +0.7
baz=23,SNR=20
BOZ ⇓P P 23 55 50.9 +0.7
baz=23,SNR=20
BOZ ⇓P P 23 55 50.9 +0.7
baz=23,SNR=20
KEBM Edson Butte 22.83 334 *e*P P 23 55 52.6 +2.1
comp=Z,131nm,1.2s
G23A Biddle 22.83 10 ⇓P P 23 55 51.0 +0.4
baz=23,SNR=12
G23A ⇓P P 23 55 51.0 +0.4
baz=23,SNR=12
F16A Kennard Place, 22.93 359 ⇓P P 23 55 52.4 +0.8
baz=23,SNR=30
F16A ⇓P P 23 55 52.4 +0.8
baz=23,SNR=30
GCMT Greycliff 22.96 3 *e*P P 23 55 52.8 +0.8
comp=Z,41nm,1.1s
HALT Halls 22.98 51 *e*P P 23 55 52.5 +0.4
LRM Limekiln Ridge 22.99 358 *e*P P 23 55 53.1 +0.7
F15A Butte 23.01 358 ⇑P P 23 55 53.2 +0.7
baz=23,SNR=11
F15A ⇑P P 23 55 53.2 +0.7
baz=23,SNR=11
VIPM Ingram Point 23.01 342 P P 23 55 54.3 +1.8
VIPM Ingram Point 23.01 342 P P 23 55 54.3 +1.8
F14A Wisdom 23.03 356 ⇓P P 23 55 53.1 +0.5
baz=23,SNR=13
F14A ⇓P P 23 55 53.1 +0.5
baz=23,SNR=13
F17A Fitzpatrick Pl 23.05 1 ⇓P P 23 55 54.1 +1.2
baz=23,SNR=30
F17A ⇓P P 23 55 54.1 +1.2
baz=23,SNR=30
F19A Roth Farm, Mol 23.06 4 ⇓P P 23 55 53.8 +0.8
baz=23,SNR=32
F19A ⇓P P 23 55 53.8 +0.8
baz=23,SNR=32
PARMO Parma 23.07 48 *e*P P 23 55 55.1 +2.1
F20A Billings 23.07 5 ⇓P P 23 55 53.0 0.0
baz=23,SNR=16
F20A ⇓P P 23 55 53.0 0.0
baz=23,SNR=16
F18A Big Timber 23.07 3 ⇑P P 23 55 53.9 +0.8
baz=23,SNR=38
F18A ⇑P P 23 55 53.9 +0.8
baz=23,SNR=38
F13A Darby 23.08 354 ⇓P P 23 55 53.5 +0.3
baz=23,SNR=38
F13A ⇓P P 23 55 53.5 +0.3
baz=23,SNR=38
G24A Alzada 23.13 12 ⇓P P 23 55 54.1 +0.4
baz=23
G24A ⇓P P 23 55 54.1 +0.4
baz=23
F12A Elk City 23.14 353 ⇑P P 23 55 54.2 +0.4
baz=23,SNR=39
F12A ⇑P P 23 55 54.2 +0.4
baz=23,SNR=39
GLAT Glass 23.19 50 *e*P P 23 55 55.0 +0.7
F21A Absaloka Mine, 23.20 7 ⇑P P 23 55 54.3 0.0
baz=23
F21A ⇑P P 23 55 54.3 0.0
baz=23
F22A Rosebud 23.26 9 ⇓P P 23 55 54.6 -0.4
baz=23,SNR=6.9
F22A ⇓P P 23 55 54.6 -0.4
baz=23,SNR=6.9
FVM French Village 23.33 45 *e*P P 23 55 56.4 +0.8
FVM pmax pmax
comp=Z,95nm,1.8s
FVM French Village 23.33 45 *e*P P 23 55 56.4 +0.8
comp=Z,95nm,1.8s
F23A Volborg 23.33 10 ⇓P P 23 55 55.4 -0.2
baz=23,SNR=33
F23A ⇓P P 23 55 55.4 -0.2
baz=23,SNR=33
UTMT University of 23.53 50 *e*P P 23 55 58.2 +0.6
LRAL Lakeview Retre 23.58 59 *e*P P 23 55 59.6 +1.4
comp=Z,64nm,1.0s
E15A Deer Lodge 23.60 357 P P 23 55 58.9 +0.5
baz=24,SNR=25
E15A P P 23 55 58.9 +0.5
baz=24,SNR=25
E17A Martinsdale 23.61 0 P P 23 55 59.6 +1.1
baz=24,SNR=51
E17A P P 23 55 59.6 +1.1
baz=24,SNR=51
F24A Ekalaka 23.62 12 ⇓P P 23 55 58.9 +0.3
baz=24,SNR=14
F24A ⇓P P 23 55 58.9 +0.3
baz=24,SNR=14
E14A Clinton 23.64 356 ⇑P P 23 55 59.2 +0.4
baz=24,SNR=25
E14A ⇑P P 23 55 59.2 +0.4
baz=24,SNR=25
E19A Rath Farm, Rou 23.68 4 ⇓P P 23 55 59.9 +0.8
baz=24,SNR=61
E19A ⇓P P 23 55 59.9 +0.8
baz=24,SNR=61
E16A East Helena 23.68 359 ⇓P P 23 55 59.5 +0.3
baz=24,SNR=31
E16A ⇓P P 23 55 59.5 +0.3
baz=24,SNR=31
E13A Victor 23.71 355 ⇓P P 23 55 59.6 +0.1
baz=24,SNR=15
E13A ⇓P P 23 55 59.6 +0.1
baz=24,SNR=15
E18A Harlowton 23.73 2 ⇓P P 23 56 00.2 +0.5
baz=24,SNR=46
E18A ⇓P P 23 56 00.2 +0.5
baz=24,SNR=46
E20A Meyer Farm, Mu 23.77 5 ⇓P P 23 56 00.4 +0.5
baz=24,SNR=71
E20A ⇓P P 23 56 00.4 +0.5
baz=24,SNR=71
BRSD Miller 23.79 22 ⇑P P 23 56 00.8 +0.6
baz=24
BRSD ⇑P P 23 56 00.8 +0.6
baz=24
SLM Saint Louis 23.82 44 *e*P P 23 56 00.4 0.0
SLM pmax pmax
comp=Z,27nm,0.8s
SLM Saint Louis 23.82 44 *e*P P 23 56 00.4 0.0
comp=Z,27nm,0.8s
E21A Keefer Ranch, 23.91 7 P P 23 56 02.1 +0.8
baz=24,SNR=26
E21A P P 23 56 02.1 +0.8
baz=24,SNR=26
MPOR Mary's Peak 23.93 338 P P 23 56 03.4 +1.8
E22A Miles City 23.95 9 ⇓P P 23 56 01.6 -0.1
baz=24,SNR=17
E22A ⇓P P 23 56 01.6 -0.1
baz=24,SNR=17
SIUC Southern Illin 23.98 47 *e*P P 23 56 02.3 +0.3
comp=Z,37nm,0.9s
VFP Flag Point 24.00 342 P P 23 56 03.0 +0.8

ECSD EROS Data Cent 24.07 26 *e*P P 23 56 02.6 -0.3
comp=Z,49nm,0.8s
MSO Missoula 24.08 355 *e*P P 23 56 03.6 +0.6
comp=Z,176nm,2.6s
MSO Missoula 24.08 355 ⇓P P 23 56 02.9 -0.1
baz=24,SNR=18
MSO ⇓P P 23 56 02.9 -0.1
baz=24,SNR=18
E23A Ismay 24.11 10 ⇑P P 23 56 03.1 0.0
baz=24
E23A ⇑P P 23 56 03.1 0.0
baz=24
CHMT Chamberlain Mo 24.12 356 *e*P P 23 56 04.0 +0.5
D16A Dana Ranch, Ca 24.18 359 ⇓P P 23 56 04.2 +0.3
baz=24,SNR=14
D16A ⇓P P 23 56 04.2 +0.3
baz=24,SNR=14
D15A Lincoln 24.21 358 P P 23 56 04.8 +0.6
baz=24,SNR=12
D15A P P 23 56 04.8 +0.6
baz=24,SNR=12
TGUH Tegucigalpa,Un 24.22 107 *e*P P 23 56 03.8 -0.5
comp=Z,38nm,0.8s
SCIA State Center 24.24 34 *e*P P 23 56 05.5 +1.1
comp=Z,176nm,1.6s
D17A Six Diamond Ra 24.30 1 P P 23 56 05.3 +0.3
baz=24,SNR=33
D17A P P 23 56 05.3 +0.3
baz=24,SNR=33
D14A Greenough 24.30 356 P P 23 56 05.2 +0.2
baz=24,SNR=58
D14A P P 23 56 05.2 +0.2
baz=24,SNR=58
E24A Baker 24.34 11 ⇑P P 23 56 05.0 -0.2
baz=24
E24A ⇑P P 23 56 05.0 -0.2
baz=24
D20A Manuel Ranch, 24.35 5 ⇓P P 23 56 05.7 +0.3
baz=24,SNR=25
D20A ⇓P P 23 56 05.7 +0.3
baz=24,SNR=25
D18A Linhart Farms, 24.36 2 ⇑P P 23 56 05.9 +0.3
baz=24,SNR=6.9
D18A ⇑P P 23 56 05.9 +0.3
baz=24,SNR=6.9
D19A Cripps Ranch, 24.37 4 ⇓P P 23 56 05.8 +0.2
baz=24,SNR=24
D19A ⇓P P 23 56 05.8 +0.2
baz=24,SNR=24
D13A Huson 24.39 354 ⇑P P 23 56 05.4 -0.3
baz=24,SNR=16
D13A ⇑P P 23 56 05.4 -0.3
baz=24,SNR=16
D12A Red Ives Fores 24.43 353 ⇓P P 23 56 06.0 -0.2
baz=24
D12A ⇓P P 23 56 06.0 -0.2
baz=24
D21A La Casta Ranch 24.44 7 ⇑P P 23 56 06.8 +0.6
baz=24,SNR=16
D21A ⇑P P 23 56 06.8 +0.6
baz=24,SNR=16
SLMT Seeley Lake 24.46 356 *e*P P 23 56 06.8 +0.3
HAWA Hanford 24.50 346 *e*P P 23 56 06.6 -0.1
comp=Z,107nm,1.8s
D22A Cohagen 24.62 8 ⇑P P 23 56 08.7 +0.9
baz=25,SNR=58
D22A ⇑P P 23 56 08.7 +0.9
baz=25,SNR=58
SWMT Swartz Lake 24.76 355 *e*P P 23 56 09.0 -0.2
C17A Wharram Farm, 24.78 1 P P 23 56 09.9 +0.6
baz=25,SNR=36
C17A P P 23 56 09.9 +0.6
baz=25,SNR=36
D24A Glendive 24.87 11 ⇑P P 23 56 10.2 +0.1
baz=25,SNR=21
D24A ⇑P P 23 56 10.2 +0.1
baz=25,SNR=21
KMOR Kings Mountain 24.91 339 P P 23 56 13.1 +2.7
C19A Slack Wire Ran 24.93 3 P P 23 56 11.6 +0.9
baz=25,SNR=60
C19A P P 23 56 11.6 +0.9
baz=25,SNR=60
C15A Salmond Ranch, 24.95 358 ⇑P P 23 56 11.1 +0.2
baz=25,SNR=23
C15A ⇑P P 23 56 11.1 +0.2
baz=25,SNR=23
C16A Fuhringer Ranc 24.95 359 ⇑P P 23 56 11.1 +0.2
baz=25,SNR=30
C16A ⇑P P 23 56 11.1 +0.2
baz=25,SNR=30
C13A Hot Springs 24.98 354 ⇓P P 23 56 10.7 -0.3
baz=25
C13A ⇓P P 23 56 10.7 -0.3
baz=25
C20A Veseth Ranch, 24.98 5 ⇑P P 23 56 11.8 +0.8
baz=25,SNR=19
C20A ⇑P P 23 56 11.8 +0.8
baz=25,SNR=19
JTMT Jette 25.02 355 *e*P P 23 56 11.4 -0.1
C12B Naegeli Ranch, 25.09 353 P P 23 56 12.2 +0.1
baz=25,SNR=8.9
C12B P P 23 56 12.2 +0.1
baz=25,SNR=8.9
USIN University of 25.16 48 *e*P P 23 56 13.6 +0.8
comp=Z,60nm,0.9s
BSMT Bassoo Peak 25.16 354 *e*P P 23 56 12.9 0.0
SWET Sewanee 25.19 55 *e*P P 23 56 13.5 +0.4
comp=Z,58nm,1.0s
EGMT Eagleton 25.19 2 *e*P P 23 56 13.5 +0.5
EGMT Eagleton 25.19 2 ⇓P P 23 56 13.4 +0.4
baz=25,SNR=29
EGMT ⇓P P 23 56 13.4 +0.4
baz=25,SNR=29
C22A Vida 25.24 8 ⇑P P 23 56 14.2 +0.8
baz=25,SNR=38
C22A ⇑P P 23 56 14.2 +0.8
baz=25,SNR=38
C24A Savage 25.25 11 ⇓P P 23 56 13.8 +0.3
baz=25,SNR=24
C24A ⇓P P 23 56 13.8 +0.3
baz=25,SNR=24
OLIL Olney 25.27 46 *e*P P 23 56 14.2 +0.5
comp=Z,23nm,0.8s
OD2 Odessa Site #2 25.28 348 *e*P P 23 56 14.4 +0.7
BLMT Blacktail Moun 25.29 355 *e*P P 23 56 14.1 +0.1
comp=Z,5.3nm,0.8s
C23A Lambert 25.39 9 ⇑P P 23 56 15.1 +0.3
baz=26,SNR=34
C23A ⇑P P 23 56 15.1 +0.3
baz=26,SNR=34
LON Longmire 25.40 343 *e*P P 23 56 15.9 +1.0
LON pmax pmax
comp=Z,20nm,1.0s
LON Longmire 25.40 343 *e*P P 23 56 15.9 +1.0
comp=Z,20nm,1.0s
B17A L&G Farms, Che 25.44 1 ⇓P P 23 56 15.1 -0.1
baz=26,SNR=33
B17A ⇓P P 23 56 15.1 -0.1
baz=26,SNR=33
B15A Bradely Ranch, 25.48 358 ⇑P P 23 56 15.7 0.0
baz=26,SNR=12
B15A ⇑P P 23 56 15.7 0.0
baz=26,SNR=12
HDIL Hopedale 25.55 41 *e*P P 23 56 16.1 -0.1
comp=Z,148nm,1.8s
B16A M & M Farms, S 25.56 359 ⇑P P 23 56 16.0 -0.3
baz=26,SNR=9.7
B16A ⇑P P 23 56 16.0 -0.3
baz=26,SNR=9.7
B18A Beardsley Farm 25.56 2 ⇓P P 23 56 16.5 +0.2
baz=26,SNR=16
B18A ⇓P P 23 56 16.5 +0.2
baz=26,SNR=16
B14A Marquette Ranc 25.56 357 ⇓P P 23 56 16.2 -0.2
baz=26,SNR=14
B14A ⇓P P 23 56 16.2 -0.2
baz=26,SNR=14
BMW Boistfort Moun 25.57 340 *e*P P 23 56 17.1 +0.7
BMW Boistfort Moun 25.57 340 *e*P P 23 56 17.1 +0.7
B13A Whitefish 25.66 355 ⇓P P 23 56 17.0 -0.2
baz=26,SNR=12
B13A ⇓P P 23 56 17.0 -0.2
baz=26,SNR=12
B19A Brinkman Farms 25.66 3 ⇑P P 23 56 17.6 +0.4
baz=26,SNR=7.4
B19A ⇑P P 23 56 17.6 +0.4
baz=26,SNR=7.4
B20A Solberg Farm, 25.70 5 ⇑P P 23 56 17.8 +0.3
baz=26,SNR=15
B20A ⇑P P 23 56 17.8 +0.3
baz=26,SNR=15
B22A Reddig Ranch S 25.77 8 ⇑P P 23 56 19.1 +0.9
baz=26
B22A ⇑P P 23 56 19.1 +0.9
baz=26
B21A Ellsworth Farm 25.78 6 ⇓P P 23 56 18.6 +0.3
baz=26
B21A ⇓P P 23 56 18.6 +0.3
baz=26
ETW Entiat 25.82 346 *e*P P 23 56 20.2 +1.4
NEW Newport 25.85 351 *e*P P 23 56 19.5 +0.5
NEW pmax pmax
comp=Z,18nm,0.8s
NEW Newport 25.85 351 *e*P P 23 56 19.4 +0.5
comp=Z,18nm,0.8s
NEW Newport 25.85 351 ⇓P P 23 56 18.9 -0.1
baz=26,SNR=13
NEW ⇓P P 23 56 18.9 -0.1
baz=26,SNR=13
B23A Brockton 26.07 9 ⇓P P 23 56 21.3 +0.3
baz=26,SNR=14
B23A ⇓P P 23 56 21.3 +0.3
baz=26,SNR=14
A18A Metzger Ranch, 26.08 2 ⇓P P 23 56 21.1 0.0
baz=26,SNR=8.8
A18A ⇓P P 23 56 21.1 0.0
baz=26,SNR=8.8
A17A Triple J Farms 26.09 1 ⇓P P 23 56 21.3 +0.2
baz=26,SNR=27
A17A ⇓P P 23 56 21.3 +0.2
baz=26,SNR=27
A19A Klindworth Far 26.14 4 ⇓P P 23 56 22.0 +0.4
baz=26,SNR=11
A19A ⇓P P 23 56 22.0 +0.4
baz=26,SNR=11
A20A Cobblestone Ra 26.15 5 ⇑P P 23 56 21.6 0.0
baz=26,SNR=13
A20A ⇑P P 23 56 21.6 0.0
baz=26,SNR=13
A15A Johnson Ranch, 26.15 358 ⇑P P 23 56 21.2 -0.5
baz=26,SNR=14
A15A ⇑P P 23 56 21.2 -0.5
baz=26,SNR=14
A14A Double T Ranch 26.18 357 ⇓P P 23 56 21.9 -0.1
baz=26,SNR=19
A14A ⇓P P 23 56 21.9 -0.1
baz=26,SNR=19
DGMT Dagmar 26.20 10 *e*P P 23 56 22.9 +0.8
comp=Z,136nm,1.3s
DGMT Dagmar 26.20 10 ⇓P P 23 56 22.6 +0.5
baz=26,SNR=11
DGMT ⇓P P 23 56 22.6 +0.5
baz=26,SNR=11
A13A Flathead Natio 26.21 355 ⇑P P 23 56 22.2 -0.1
baz=26
A13A ⇑P P 23 56 22.2 -0.1
baz=26
WALA Waterton Lakes 26.30 356 *e*P P 23 56 23.2 +0.2
comp=Z,2.0nm,1.8s
A12A Yaak River Ran 26.32 353 ⇓P P 23 56 25.2 +1.9
baz=26
A12A ⇓P P 23 56 25.2 +1.9
baz=26
A21A Bergtoll Ranch 26.35 6 ⇓P P 23 56 23.6 +0.2
baz=26,SNR=17
A21A ⇓P P 23 56 23.6 +0.2
baz=26,SNR=17
CPCT Cooper Cave 26.35 55 *e*P P 23 56 24.1 +0.5
A22A Carney Farms, 26.46 8 ⇓P P 23 56 24.7 +0.3
baz=26,SNR=12
A22A ⇓P P 23 56 24.7 +0.3
baz=26,SNR=12
JFWS Jewell Farm 26.51 36 *e*P P 23 56 25.1 +0.1
JFWS pmax pmax
comp=Z,61nm,1.3s
JFWS Jewell Farm 26.51 36 *e*P P 23 56 25.1 +0.1
comp=Z,62nm,1.3s
GOGA Godfrey 26.51 60 *e*P P 23 56 25.2 +0.1
GOGA pmax pmax
comp=Z,51nm,1.2s
GOGA Godfrey 26.51 60 *e*P P 23 56 25.2 +0.1
comp=Z,51nm,1.2s
BLO Bloomington 26.54 46 *e*P P 23 56 29.0 +3.7
BLO pmax pmax
comp=Z,17nm,0.9s
BLO Bloomington 26.54 46 *e*P P 23 56 29.0 +3.7
comp=Z,17nm,0.9s
A23A Redstone 26.57 9 ⇑P P 23 56 26.3 +0.9
baz=27
A23A ⇑P P 23 56 26.3 +0.9
baz=27
NLWA Neilton Lookou 26.59 340 *e*P P 23 56 26.4 +0.9
comp=Z,63nm,1.5s
MDND Maddock 26.64 17 ⇑P P 23 56 26.1 +0.1
baz=27,SNR=7.2
MDND ⇑P P 23 56 26.1 +0.1
baz=27,SNR=7.2
A24A Westby 26.67 11 ⇓P P 23 56 26.9 +0.5
baz=27
A24A ⇓P P 23 56 26.9 +0.5
baz=27
JCW Jim Creek 26.76 344 *e*P P 23 56 27.3 +0.1
SFIN Scholer Farm 26.81 44 ⇑P P 23 56 27.4 -0.2
baz=27,SNR=24
SFIN ⇑P P 23 56 27.4 -0.2
baz=27,SNR=24
RPW Rockport 26.90 345 *e*P P 23 56 28.3 -0.1
comp=Z,6.5nm,0.7s
SPMN St. Paul 26.91 29 ⇑P P 23 56 28.6 +0.1
baz=27
SPMN ⇑P P 23 56 28.6 +0.1
baz=27
TKL Tuckaleechee C 26.99 56 P P 23 56 30.2 +0.9
comp=Z,7.4nm,0.7s,baz=208,slow=11,SNR=8.6
TKL LR LR 00 07 16.3
comp=Z,2μm,18.4s,baz=253,slow=37
TKL Tuckaleechee C 26.99 56 *e*P P 23 56 30.8 +1.5
TKL Tuckaleechee C 26.99 56 *e*P P 23 56 30.8 +1.5
TZTN Tazewell 27.48 54 *e*P P 23 56 35.2 +1.4
comp=Z,52nm,1.3s
JTS JuntasAbangare 27.95 112 LR LR 00 07 10.7
comp=Z,425nm,18.6s,baz=182,slow=35
JTS JuntasAbangare 27.95 112 *e*P P 23 56 42.6 +4.5
JTS JuntasAbangare 27.95 112 *e*P P 23 56 34.1 -4.0
comp=Z,28nm,1.2s
AGMN Agassiz Nation 28.20 22 *e*P P 23 56 40.1 +0.1
comp=Z,20nm,1.1s
ACSO Alum Creek Sta 29.45 47 *e*P P 23 56 51.5 +0.3
comp=Z,33nm,1.2s
EYMN Ely 29.59 27 *e*P P 23 56 52.1 -0.3
comp=Z,36nm,1.0s
ULM Lac du Bonnet 29.89 20 P P 23 56 54.3 -0.7
comp=Z,11nm,0.9s,baz=214,slow=10,SNR=15
ULM PcP PcP 23 59 56.1 -1.7
comp=Z,3.3nm,0.7s,baz=236,slow=1.8,SNR=3.9
ULM LR LR 00 08 59.1
comp=Z,1μm,18.0s,baz=189,slow=37
ULM Lac du Bonnet 29.89 20 *e*P P 23 56 54.4 -0.6
ULM 23 59 56.1
ULM pmax pmax
comp=Z,24nm,1.3s
ULM Lac du Bonnet 29.89 20 *e*P P 23 56 54.4 -0.6
comp=Z,24nm,1.3s
ULM PcP PcP 23 59 56.1 -1.7
AAM Ann Arbor 30.03 43 *e*P P 23 56 56.7 +0.4
AAM pmax pmax
comp=Z,37nm,0.8s
AAM Ann Arbor 30.03 43 *e*P P 23 56 56.7 +0.4
comp=Z,37nm,0.8s
GLMI Grayling 30.87 38 *e*P P 23 57 02.6 -1.1
comp=Z,50nm,0.8s
MTDJ Mount Denham 31.75 92 *e*P P 23 57 13.0 +1.1
comp=Z,82nm,1.1s
FFC Flin Flon 32.61 10 *ce*P P 23 57 18.7 -0.2
FFC Flin Flon 32.61 10 *e*P P 23 57 17.3 -1.6
comp=Z,48nm,0.9s
FFC Flin Flon 32.61 10 P P 23 57 18.1 -0.8
comp=Z,305nm,0.9s,SNR=23
SSPA Standing Stone 33.14 50 *e*P P 23 57 23.3 -0.5
comp=Z,49nm,1.2s
SDMD Soldier's Deli 33.45 52 *e*P P 23 57 26.7 +0.2
comp=Z,15nm,0.8s
GTBY Guantanamo Bay 33.61 88 *e*P P 23 57 29.3 +1.2
comp=Z,128nm,1.1s
SADO Sadowa 34.11 42 P P 23 57 31.8 -0.3
comp=Z,5.3nm,0.7s,baz=256,slow=13,SNR=5.1
SADO Sadowa 34.11 42 P P 23 57 31.8 -0.3
PAL Palisades 36.10 51 *e*P P 23 57 49.3 0.0
PAL pmax pmax
comp=Z,507nm,3.0s
PAL Palisades 36.10 51 *e*P P 23 57 49.2 0.0
comp=Z,507nm,3.0s
MSNY Massena 36.92 44 *e*P P 23 57 56.1 -0.2
comp=Z,246nm,1.0s
LONY Lake Ozonia 36.95 45 *e*P P 23 57 56.4 -0.1
comp=Z,202nm,2.6s
SDDR Presa de Saban 37.34 88 *e*P P 23 58 02.4 +2.2
comp=Z,41nm,0.8s
MDV Middlebury 37.64 47 *e*P P 23 58 01.5 -0.8
DLBC Dease Lake 38.10 344 P P 23 58 07.1 +0.9
comp=Z,11nm,1.1s,baz=157,slow=5.6,SNR=7.0
DLBC PcP PcP 00 00 21.8 +0.6
comp=Z,1.6nm,0.4s,baz=182,slow=7.1,SNR=5.8
DLBC LR LR 00 13 22.9
comp=Z,2μm,20.8s,baz=156,slow=36
DLBC Dease Lake 38.10 344 P P 23 58 07.1 +0.9
DLBC PcP PcP 00 00 21.8 +0.6
OTAV Otavalo 38.89 121 *e*P P 23 58 15.2 +1.3
comp=Z,55nm,1.3s
YKA Yellowknife Ar 39.74 357 P P 23 58 19.5 -0.2
comp=Z,4.7nm,0.9s,baz=182,slow=8.4,SNR=77
YKA PcP PcP 00 00 25.6 -0.4
comp=Z,0.2nm,0.3s,baz=246,slow=30,SNR=4.4
YKA LR LR 00 15 36.7
comp=Z,143nm,19.3s,baz=265,slow=38
YKA Yellowknife Ar 39.74 357 P P 23 58 19.6 -0.2
YKA 00 00 25.6
YKA Yellowknife Ar 39.74 357 P P 23 58 19.6 -0.2
YKA PcP PcP 00 00 25.6 -0.4
ROSC El Rosal 39.76 111 P P 23 58 23.3 +2.3
comp=Z,2.8nm,0.4s,baz=110,slow=23,SNR=5.2
ROSC LR LR 00 14 59.0
comp=Z,323nm,18.4s,baz=352,slow=36
ROSC El Rosal 39.76 111 *e*P P 23 58 22.2 +1.2
SDV Santo Domingo 41.19 103 *e*P P 23 58 34.6 +2.0
comp=Z,99nm,1.0s
AGP Aguadilla 41.29 88 *e*P P 23 58 35.8 +2.6
comp=Z,291nm,1.3s
LSP Las Mesas 41.40 88 *e*P P 23 58 34.9 +0.8
CRPR Cabo Rojo, PR 41.42 88 *e*P P 23 58 37.0 +2.8
comp=Z,53nm,1.3s
LRS Lares 41.59 88 *e*P P 23 58 36.8 +1.1
OBIP Obispado Ponce 41.88 88 *e*P P 23 58 36.4 -1.6
comp=Z,63nm,0.8s
CELP Cerrillos 41.89 88 *e*P P 23 58 39.1 +1.0
ICM Isla Caja Muer 41.99 88 *e*P P 23 58 38.2 -0.7
SJG San Juan 42.28 88 *e*P P 23 58 42.4 +1.2
SJG pmax pmax
comp=Z,206nm,1.5s
SJG San Juan 42.28 88 *e*P P 23 58 42.4 +1.2
comp=Z,206nm,1.5s
CBYP Canovanas 42.51 87 *e*P P 23 58 44.7 +1.5
comp=Z,23nm,0.8s
HUMP Col San Antoni 42.55 88 *e*P P 23 58 42.2 -1.2
comp=Z,24nm,0.8s
MTP Monte Pirata 42.83 88 *e*P P 23 58 46.4 +0.6
comp=Z,37nm,1.3s
CDVI St. Croix 43.64 88 *e*P P 23 58 53.2 +0.9
comp=Z,150nm,0.9s
DAWY Dawson 45.29 343 *e*P P 23 59 05.0 0.0
SCHQ Schefferville 45.86 34 P P 23 59 09.1 -0.4
comp=Z,12nm,0.8s,baz=236,slow=7.9,SNR=17
SCHQ Schefferville 45.86 34 *e*P P 23 59 09.7 +0.2
comp=Z,25nm,1.0s
KDAK Kodiak Island 45.90 330 LR LR 00 15 51.2
comp=Z,667nm,21.2s,baz=120,slow=33
EGAK Eagle 46.33 343 *e*P P 23 59 14.7 +1.6
comp=Z,12nm,0.9s
INK Inuvik 47.55 349 P P 23 59 22.4 -0.1
comp=Z,9.9nm,1.0s,baz=148,slow=9.4,SNR=25
INK Inuvik 47.55 349 P P 23 59 22.4 -0.1
INK Inuvik 47.55 349 P P 23 59 22.4 -0.1
SPU Mount Spurr 47.55 335 *e*P P 23 59 25.0 +2.2
MCK McKinley 47.97 338 *e*P P 23 59 27.4 +1.5
MCK pmax pmax
comp=Z,20nm,1.2s
MCK McKinley 47.97 338 *e*P P 23 59 27.4 +1.5
comp=Z,20nm,1.2s
ILAR Eielson Array 48.00 340 P P 23 59 27.1 +0.9
comp=Z,8.1nm,0.7s,baz=146,slow=6.9,SNR=150
ILAR LR LR 00 19 46.7
comp=Z,552nm,19.1s,baz=142,slow=36
ILAR Eielson Array 48.00 340 P P 23 59 27.1 +0.9
ILAR Eielson Array 48.00 340 P P 23 59 27.1 +0.9
NNA Nana 48.20 132 *ce*P P 23 59 31.4 +3.0
TRF Thorofare Moun 48.26 338 *e*P P 23 59 28.8 +0.4
comp=Z,140nm,1.7s
COLA College 48.38 340 *e*P P 23 59 29.0 0.0
COLA pmax pmax
comp=Z,48nm,1.7s
COLA College 48.38 340 *e*P P 23 59 28.9 0.0
comp=Z,48nm,1.7s
PPLA Purkeypile 48.60 336 *e*P P 23 59 32.2 +1.2
comp=Z,119nm,1.4s
SVW2 Sparrevohn 48.94 333 *e*P P 23 59 34.5 +1.1
comp=Z,63nm,1.8s
FRB Frobisher Bay 49.66 23 P P 23 59 38.3 -0.5
comp=Z,6.9nm,0.7s,baz=232,slow=9.4,SNR=19
FRB PcP PcP 00 00 59.6 -0.5
comp=Z,12nm,0.8s,baz=221,slow=3.1,SNR=8.2
FRB Frobisher Bay 49.66 23 P P 23 59 38.3 -0.5
FRB 00 00 59.6
FRB Frobisher Bay 49.66 23 P P 23 59 38.3 -0.5
FRB PcP PcP 00 00 59.6 -0.5
COLD Coldfoot 50.67 342 *e*P P 23 59 48.4 +1.9
comp=Z,14nm,1.0s
AKUT Akutan 51.26 322 *e*P P 23 59 51.5 +0.5
comp=Z,375nm,1.4s
RES Resolute Bay 52.63 5 P P 00 00 00.5 -0.5
comp=Z,5.2nm,1.0s,baz=183,slow=11,SNR=16
RES PcP PcP 00 01 10.9 0.0
comp=Z,10nm,0.8s,baz=186,slow=7.3,SNR=11
RES Resolute Bay 52.63 5 P P 00 00 00.5 -0.5
RES 00 01 10.9
RES Resolute Bay 52.63 5 P P 00 00 00.5 -0.5
RES PcP PcP 00 01 10.9 0.0
PPT2 Papeete2 55.00 226 *e*S S 00 08 06.0 +4.4
comp=Z,204nm,25.5s
PPT2 *e*LR LR 00 15 54.1
comp=Z,846nm,31.0s
LPAZ La Paz 57.27 129 P P 00 00 37.4 +1.3
comp=Z,4.9nm,0.9s,baz=345,slow=9.0,SNR=11
LPAZ La Paz 57.27 129 *e*P P 00 00 37.2 +1.1
LPAZ pmax pmax
comp=Z,15nm,0.9s
LPAZ La Paz 57.27 129 *e*P P 00 00 37.2 +1.1
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 57.80 24 *i*P P 00 00 38.5 +0.1
comp=Z,8.5nm,1.0s
TBI Tubuai 59.11 222 *e*LR LR 00 17 58.5
comp=Z,418nm,31.8s
ALE Alert 62.49 6 P P 00 01 08.8 -1.6
comp=Z,57nm,1.3s,SNR=5.2
SUMG Summit 63.24 19 *e*P P 00 01 15.7 -0.3
SUMG pmax pmax
comp=Z,325nm,2.8s
SUMG Summit 63.24 19 *e*P P 00 01 15.7 -0.3
comp=Z,324nm,2.8s
SUMG Summit 63.24 19 *i*P P 00 01 15.3 -0.7
comp=Z,13nm,0.9s
FX1 Attu Island--F 63.60 319 LR LR 00 25 23.0
comp=Z,267nm,18.3s,baz=274,slow=33
LCO Las Campanas 64.57 141 *e*P P 00 01 28.2 +3.0
comp=Z,16nm,1.0s
BILL Bilibino 66.31 336 ⇓*e*P P 00 01 36.3 +0.7
BILL *e*S S 00 10 30.1 +5.2
BILL pmax pmax
comp=Z,38nm,1.7s
BILL MLR MLR
comp=Z,300nm,20.0s
SCO Scoresbysund 68.44 21 *i*P P 00 01 48.7 -0.3
comp=Z,71nm,0.9s
DAG Danmarks Havn 68.54 14 *i*P P 00 01 49.1 -0.5
comp=Z,139nm,1.0s
BDFB Brasilia 72.61 116 P P 00 02 16.3 +0.8
comp=Z,4.8nm,0.9s,baz=285,slow=5.8,SNR=8.2
BDFB LR LR 00 34 13.2
comp=Z,344nm,19.4s,baz=220,slow=36
BDFB Brasilia 72.61 116 P P 00 02 16.3 +0.8
BDFB Brasilia 72.61 116 P P 00 02 16.3 +0.8
PETK Petropavlovsk- 72.78 321 P P 00 02 16.6 +0.8
comp=Z,15nm,0.9s,baz=105,slow=9.3,SNR=8.9

PETK				LR	LR	00 26 56.0			
	comp=Z,165nm,20.2s,baz=263,slow=30								
PETK	**Petropavlovsk-**	**72.78**	**321**	P	**P**	**00 02 16.6**	**+0.8**		
PETK	**Petropavlovsk-**	**72.78**	**321**	P	**P**	**00 02 16.6**	**+0.8**		
SEY	**Seymchan**	**72.84**	**332**	*ceP*	**P**	**00 02 17.1**	**+1.1**		
PLCA	**Paso Flores**	**73.61**	**149**	P	**P**	**00 02 22.9**	**+2.0**		
	comp=Z,4.9nm,1.0s,baz=316,slow=5.0,SNR=9.9								
PLCA				LR	LR	00 28 38.0			
	comp=Z,330nm,18.8s,baz=135,slow=31								
PLCA	**Paso Flores**	**73.61**	**149**	P	**P**	**00 02 22.9**	**+2.0**		
PLCA	**Paso Flores**	**73.61**	**149**	P	**P**	**00 02 22.9**	**+2.0**		
TRQA	**Tornquist**	**76.12**	**142**	*eP*	**P**	**00 02 36.9**	**+1.6**		
	comp=Z,18nm,1.0s								
YAK	**Yakutsk**	**82.67**	**335**	*eP*	**P**	**00 03 09.8**	**-0.9**		
YAK				pmax	pmax				
	comp=Z,20nm,0.9s								
ARCES	**ARCESS Array B**	**82.83**	**14**	P	**P**	**00 03 10.9**	**-0.6**		
	comp=Z,11nm,0.8s,baz=315,slow=3.6,SNR=27								
ARCES	**ARCESS Array B**	**82.83**	**14**	P	**P**	**00 03 10.9**	**-0.6**		
ARCES	**ARCESS Array B**	**82.83**	**14**	P	**P**	**00 03 10.9**	**-0.6**		
KEV	**Kevo**	**82.99**	**14**	*eP*	**P**	**00 03 12.2**	**-0.1**		
KEV	**Kevo**	**82.99**	**14**	*ep*	**P**	**00 03 12.2**	**-0.1**		
KEV	**Kevo**	**82.99**	**14**	*ep*	**P**	**00 03 12.2**	**-0.1**		
NB2	**NORSAR Subarra**	**84.47**	**24**	P	**P**	**00 03 20.1**	**0.0**		
	comp=Z,3.7nm,0.8s,baz=307,slow=5.3								
NOA	**NORSAR Array B**	**84.47**	**24**	P	**P**	**00 03 19.8**	**-0.3**		
	comp=Z,6.4nm,0.8s,baz=306,slow=4.6,SNR=13								
NOA				LR	LR	00 41 12.4			
	comp=Z,440nm,18.6s,baz=310,slow=36								
NOA	**NORSAR Array B**	**84.47**	**24**	P	**P**	**00 03 19.8**	**-0.3**		
NOA	**NORSAR Array B**	**84.47**	**24**	P	**P**	**00 03 19.8**	**-0.3**		
ASAJ	**Asahikawa**	**85.35**	**316**	LR	LR	00 38 25.9			
	comp=Z,199nm,18.5s,baz=1,6,slow=34								
ESDC	**Sonseca Array**	**88.00**	**48**	P	**P**	**00 03 36.4**	**-1.5**		
	comp=Z,0.4nm,0.6s,baz=288,slow=4.1,SNR=6.1								
ESDC	**Sonseca Array**	**88.00**	**48**	P	**P**	**00 03 36.4**	**-1.5**		
KAF	**Kangasniemi**	**88.82**	**19**	*eP*	**P**	**00 03 40.7**	**-0.6**		
KAF	**Kangasniemi**	**88.82**	**19**	*ep*	**P**	**00 03 40.7**	**-0.6**		
KAF	**Kangasniemi**	**88.82**	**19**	*ep*	**P**	**00 03 40.7**	**-0.6**		
FINES	**FINESS Array B**	**89.28**	**19**	P	**P**	**00 03 42.9**	**-0.5**		
	comp=Z,15nm,0.8s,baz=329,slow=3.1,SNR=35								
FINES	**FINESS Array B**	**89.28**	**19**	P	**P**	**00 03 42.9**	**-0.5**		
FINES	**FINESS Array B**	**89.28**	**19**	P	**P**	**00 03 42.9**	**-0.5**		
JOF	**Joensuu**	**89.55**	**16**	*eP*	**P**	**00 03 43.4**	**-1.3**		
JOF	**Joensuu**	**89.55**	**16**	*ep*	**P**	**00 03 43.4**	**-1.3**		
JOF	**Joensuu**	**89.55**	**16**	*ep*	**P**	**00 03 43.4**	**-1.3**		
BOD	**Bodaibo**	**91.31**	**338**	⇑*iP*	**P**	**00 03 51.9**	**-1.1**		
BOD				pmax	pmax				
	comp=Z,12nm,1.5s								
DZM	**Mont Dzumac**	**91.79**	**247**	*e*LR	LR	00 33 20.3			
	comp=Z,559nm,25.9s								
DZM	**Mont Dzumac**	**91.79**	**247**	LR	LR	00 34 52.4			
	comp=Z,297nm,19.8s,baz=37,slow=29								
USRK	**Ussuriysk Arra**	**91.85**	**320**	P	**P**	**00 03 55.4**	**-0.3**		
	comp=Z,3.5nm,1.0s,baz=108,slow=4.3,SNR=3.8								
MJAR	**Matsushiro Arr**	**91.94**	**311**	P	**P**	**00 03 56.0**	**-0.4**		
	comp=Z,0.5nm,0.3s,baz=288,slow=30,SNR=4.7								
MJAR				LR	LR	00 37 53.5			
	comp=Z,300nm,19.6s,baz=85,slow=31								
MJAR	**Matsushiro Arr**	**91.94**	**311**	P	**P**	**00 03 56.0**	**-0.4**		
MJAR	**Matsushiro Arr**	**91.94**	**311**	P	**P**	**00 03 56.0**	**-0.4**		
HNR	**Honiara**	**92.62**	**261**	LR	LR	00 37 15.9			
	comp=Z,364nm,20.0s,baz=137,slow=30								
GERES	**GERESS Array B**	**93.37**	**33**	LR	LR	00 47 32.1			
	comp=Z,278nm,19.6s,baz=210,slow=36								
RPZ	**Rata Peaks**	**97.14**	**226**	LR	LR	00 41 42.8			
	comp=Z,173nm,19.1s,baz=135,slow=32								
OBN	**Obninsk**	**97.62**	**18**	⇑*eP*	Pdif	00 04 23.6	+1.6		
OBN				*eS*	**SKSac**	**00 14 55.2**	**-4.3**		
OBN				pmax	pmax				
	comp=Z,9.0nm,1.7s								
KSRS	**Korea Array**	**98.30**	**316**	P	**P**	**00 04 23.8**	**-1.5**		
	comp=Z,0.4nm,0.4s,baz=62,slow=31,SNR=4.4								
KSRS				LR	LR	00 41 50.3			
	comp=Z,164nm,19.1s,baz=41,slow=31								
KSAR	**Wonju Array Be**	**98.33**	**316**	P	**P**	**00 04 23.8**	**-1.7**		
KSAR	**Wonju Array Be**	**98.33**	**316**	P	**P**	**00 04 23.8**	**-1.7**		
AKASG	**Malin Array Be**	**98.88**	**24**	P	**P**	**00 04 25.7**	**-2.0**		
	comp=Z,1.4nm,0.6s,baz=303,slow=3.4,SNR=4.8								
AKASG	**Malin Array Be**	**98.88**	**24**	P	**P**	**00 04 25.7**	**-2.0**		
AKASG	**Malin Array Be**	**98.88**	**24**	P	**P**	**00 04 25.7**	**-2.0**		
KEST	**Kesra**	**99.02**	**45**	LR	LR	00 51 16.3			
	comp=Z,103nm,19.4s,baz=294,slow=37								
ZAK	**Zakamensk**	**101.03**	**338**	*eP*	**Pdif**	**00 04 38.3**	**+0.9**		
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
SONM	**Songino Array**	**102.02**	**335**	P	**Pdif**	**00 04 42.0**	**+0.1**		
	comp=Z,0.8nm,0.9s,baz=27,slow=3.4,SNR=5.2								
SONM	**Songino Array**	**102.02**	**335**	P	**Pdif**	**00 04 42.0**	**+0.1**		
SONM	**Songino Array**	**102.02**	**335**	P	**Pdif**	**00 04 42.0**	**+0.1**		
ZALV	**Zalesovo Beam**	**102.33**	**350**	P	**Pdif**	**00 04 42.9**	**-0.1**		
	comp=Z,0.9nm,0.5s,baz=20,slow=3.6,SNR=7.4								
ZALV	**Zalesovo Beam**	**102.33**	**350**	P	**Pdif**	**00 04 42.9**	**-0.1**		
ZALV	**Zalesovo Beam**	**102.33**	**350**	P	**Pdif**	**00 04 42.9**	**-0.1**		
HHC	**Hu-ho-hao-te**	**105.27**	**328**	Pdif	**Pdif**	**00 04 56.3**	**-0.2**		
HHC				PP	**PP**	**00 09 19.8**	**+2.9**		
HHC				SS	SS	00 24 12.9	+0.6		
HHC				AMB	AMB				
	comp=Z,100nm,9.1s								
HHC				LR	LR				
	comp=N,360nm,18.8s								
HHC				LR	LR				
	comp=E,300nm,18.3s								
HHC				LR	LR				
	comp=Z,280nm,18.6s								
KURK	**Kurchatov**	**106.30**	**354**	PKKPbc	PKKPbc	00 20 36.6	+2.6		
	comp=Z,0.5nm,0.8s,baz=198,slow=2.6,SNR=3.8								
KURK	**Kurchatov**	**106.30**	**354**	PKKPbc	PKKPbc	00 20 36.6	+2.6		
MKAR	**Makanchi Array**	**109.68**	**350**	PKKPbc	PKKPbc	00 20 22.2	-1.2		
	comp=Z,0.9nm,0.9s,baz=205,slow=6.6,SNR=6.7								
MKAR	**Makanchi Array**	**109.68**	**350**	PKKPbc	PKKPbc	00 20 22.2	-1.2		
WMQ	**Urumqi**	**111.49**	**345**	*e*PKP	**PKiKP**	**00 09 22.9**	**+0.8**		
WMQ				LR	LR				
	comp=N,280nm,21.2s								
WMQ				LR	LR				
	comp=E,270nm,24.3s								
WMQ				LR	LR				
	comp=Z,310nm,26.8s								
LZH	**Lanzhou**	**112.74**	**330**	*e*PKP	**PKiKP**	**00 09 23.0**	**-1.8**		
LZH				sPKP		00 09 29.0			
LZH				PP	PP	00 10 17.0	+5.8		
LZH				SKKS		00 17 07.0			
LZH				SS	**SS**	**00 25 52.0**	**-0.8**		
LZH				AMB	AMB				
	comp=Z,110nm,4.8s								
LZH				LR	LR				
	comp=N,380nm,17.3s								
LZH				LR	LR				
	comp=E,220nm,15.8s								
LZH				LR	LR				
	comp=Z,470nm,18.9s								
CD2	**Chengdu**	**116.98**	**327**	PKP	**PKPdf**	**00 09 31.9**	**-1.1**		
CD2				PP	**PP**	**00 10 45.3**	**+4.3**		
CD2				PKS	**PKSdf**	**00 13 07.3**	**-2.5**		
CD2				SKS	**SKSdf**	**00 16 41.8**	**-3.7**		
CD2				SKKS	**SKKSac**	**00 17 37.0**	**-6.5**		
CD2				SS	**SS**	**00 26 48.3**	**-0.3**		
CD2				AMB	AMB				
	comp=Z,180nm,9.5s								
CD2				LR	LR				
	comp=E,360nm,7.7s								
CD2				LR	LR				
	comp=Z,240nm,11.3s								
DRV	**Dumont d'Urvil**	**118.18**	**205**	PP	PP	00 10 11.0	-39		
GYA	**Guiyang**	**118.88**	**321**	Pdif	**Pdif**	**00 05 56.0**	**-1.3**		
GYA				PKP	**PKPdf**	**00 09 35.4**	**-1.4**		
GYA				PP	**PP**	**00 10 58.3**	**+3.8**		
GYA				PKS	**PKSdf**	**00 13 11.0**	**-2.8**		
GYA				SKKS		00 17 49.8			
GYA				SS	**SS**	**00 27 14.3**	**+0.5**		
GYA				AMB	AMB				
	comp=Z,120nm,7.8s								
GYA				LR	LR				
	comp=N,140nm,20.9s								
GYA				LR	LR				
	comp=E,120nm,21.2s								
GYA				LR	LR				
	comp=Z,130nm,20.8s								
WRA	**Warramunga Arr**	**119.41**	**259**	PKP	**PKPdf**	**00 09 37.0**	**-0.7**		
	comp=Z,1.9nm,0.8s,baz=68,slow=2.0,SNR=14								
WRA	**Warramunga Arr**	**119.41**	**259**	PKIKP	**PKPdf**	**00 09 37.1**	**-0.7**		
WRA	**Warramunga Arr**	**119.41**	**259**	PKP	**PKPdf**	**00 09 37.0**	**-0.7**		
ASAR	**Alice Springs**	**120.73**	**255**	PKP	**PKPdf**	**00 09 39.5**	**-0.8**		
	comp=Z,2.0nm,0.8s,baz=79,slow=1.7,SNR=16								
ASAR	**Alice Springs**	**120.73**	**255**	PKIKP	**PKPdf**	**00 09 39.5**	**-0.8**		
ASAR	**Alice Springs**	**120.73**	**255**	PKP	**PKPdf**	**00 09 39.5**	**-0.8**		
CMAR	**Chiang Mai Arr**	**129.55**	**322**	PKP	**PKPdf**	**00 09 58.2**	**+1.0**		
	comp=Z,1.0nm,0.4s,baz=333,slow=2.6,SNR=9.0								
CMAR	**Chiang Mai Arr**	**129.55**	**322**	PKIKP	**PKPdf**	**00 09 58.3**	**+1.0**		
CMAR	**Chiang Mai Arr**	**129.55**	**322**	PKP	**PKPdf**	**00 09 58.2**	**+1.0**		

NNC ***20*** *00:11:27.2±1.0, 39.°45N×71.°33E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=7.7km s-min=5.1km az=11.0*
comp=Z,1.0nm,0.4s,baz=333,slow=2.6,SNR=9.0

ISC 20 00:11:26.4±3.2, 39.0N±0.2×71.6E±0.1, h43km, n12,
σ0s83/24, 7C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.62**	**29**	P		**Pn**		**00 12 20.6**	**+0.4**
	SNR=35								
AML				P		**Pn**		**00 12 20.6**	**+0.4**
	SNR=35								
EKS2	**Erkin-Say**	**4.11**	**26**	P		**Pn**		**00 12 27.1**	**+0.4**
	SNR=5.8								
EKS2				P		**Pn**		**00 12 27.1**	**+0.4**
	SNR=5.8								
KK31	**Karatay Array**	**4.17**	**351**	Pn		**Pn**		**00 12 28.6**	**+1.2**
	3.1nm,0.4s,baz=172,slow=13,SNR=60								
KK31				⇑Sn		**Sn**		**00 13 16.6**	**+1.7**
	1.3nm,0.3s,baz=165,slow=25,SNR=4.5								
KK31				⇑Lg		Lg		00 13 25.1	
	3.7nm,0.4s,baz=169,slow=30,SNR=6.0								
KZA	**Kyzart**	**4.29**	**43**	P		**Pn**		**00 12 30.1**	**+0.7**
	SNR=13								
KZA				P		**Pn**		**00 12 30.1**	**+0.7**
	SNR=13								
AAK	**Ala-Archa**	**4.36**	**32**	P		**Pn**		**00 12 30.5**	**+0.3**
	SNR=9.7								
AAK				P		**Pn**		**00 12 30.5**	**+0.3**
	SNR=9.7								
KBK	**Karagaybulak**	**4.57**	**35**	P		**Pn**		**00 12 34.2**	**+1.1**
	SNR=7.8								
KBK				P		**Pn**		**00 12 34.2**	**+1.1**
	SNR=7.8								
CHMS	**Chumysh**	**4.76**	**32**	P		**Pn**		**00 12 36.1**	**+0.4**
	SNR=11								
CHMS				P		**Pn**		**00 12 36.1**	**+0.4**
	SNR=11								
USP	**Ospenovka**	**4.89**	**28**	P		**Pn**		**00 12 37.4**	**-0.1**
	SNR=20								
USP				P		**Pn**		**00 12 37.4**	**-0.1**
	SNR=20								
TKM2	**Tokmak 2**	**5.08**	**38**	P		**Pn**		**00 12 40.2**	**+0.1**
	SNR=9.9								
TKM2				P		**Pn**		**00 12 40.2**	**+0.1**
	SNR=9.9								
TKM2	**Tokmak 2**	**5.08**	**38**	⇑Pn		**Pn**		**00 12 39.7**	**-0.4**
	2.2nm,0.4s								
TKM2				⇑Sn		**Sn**		**00 13 37.1**	**-0.5**
	5.4nm,0.7s								
TKM2				⇑Lg		Lg		00 13 57.5	
	3.1nm,0.5s								
AB31	**Akbulak array**	**13.12**	**325**	⇑Pn		**Pn**		**00 14 29.3**	**-0.7**
	0.1nm,0.3s,baz=162,slow=7.1,SNR=15								
AB31				⇑Sn		**Sn**		**00 16 52.7**	**-1.8**
	1.4nm,0.8s,baz=135,slow=25,SNR=2.7								
AKTO	**Aktyubinsk**	**14.84**	**325**	⇓Pn		**Pn**		**00 14 53.7**	**+0.5**
	0.5nm,1.1s								
AKTO				⇓Sn		**Sn**		**00 17 35.2**	**-1.1**
	0.3nm,1.2s								

DJA ***20*** *00:26:50, 7.°83S×106.°06E, h10km, MLv3.7/5*

IDC 20 00:26:46.5±2.5, 7.°58S×106.°34E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=142.3km s-min=20.1km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.50**	**121**	P		P	P	00 31 37.7	+0.6
	3.4nm,0.8s,baz=278,slow=5.9,SNR=5.5								
WRA	**Warramunga Arr**	**29.78**	**117**	P		P	P	00 32 55.4	+0.2
	0.9nm,0.9s,baz=288,slow=12,SNR=7.0								
ASAR	**Alice Springs**	**30.89**	**124**	P		P	P	00 33 04.9	-0.2
	0.2nm,0.6s,baz=295,slow=7.2,SNR=1.4								
STKA	**Stephens Creek**	**40.75**	**131**	P		P	P	00 34 28.9	-0.5
	1.5nm,0.6s,baz=318,slow=12,SNR=3.7								
MKAR	**Makanchi Array**	**58.21**	**341**	P		P	P	00 36 42.8	+0.2
	0.3nm,0.7s,baz=141,slow=7.8,SNR=4.9								
BVAR	**Borovoye Array**	**67.65**	**337**	P		P	P	00 37 45.0	-0.2
	0.3nm,0.5s,baz=147,slow=8.6,SNR=3.1								

ISCJB ***20*** *00:35:33.2±0.3, 45.°87N±0.°02×15.°13E±0.°02, h10km, Error ellipse: s-maj=2.5km s-min=2.2km az=3.6*
LJU ***20*** *00:35:33.5, 45.°87N×15.°12E, h7km, ML2.0*
VIE ***20*** *00:35:33.2±0.2, 45.°87N×15.°12E, h11km±2km, mb1.9/4, ML2.2/5, Error ellipse: s-maj=1.7km s-min=1.3km az=170.0 30 km WSW of Krsko*
CSEM ***20*** *00:35:33.3±0.1, 45.°86N×15.°13E, h12km, ML2.7/12, Error ellipse: s-maj=1.7km s-min=1.4km az=161.0*

ISC 20 00:35:33.6±0.8, 45.°88N±0.°02×15.°14E±0.°02, h10km, n59,
σ0s78/96, 17C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LEGS	**Legarje**	**0.15**	**60**	⇓*iPg*		**Pg**		**00 35 36.5**	**-0.5**
LEGS				*eSg*		**Sg**		**00 35 38.9**	**-0.4**
LEGS	**Legarje**	**0.15**	**60**	⇓*iPg*		**Pg**		**00 35 36.5**	**-0.5**
LEGS				*eSg*		**Sg**		**00 35 38.9**	**-0.4**
PDKS	**Podkum**	**0.21**	**333**	*iPg*		**Pg**		**00 35 38.2**	**+0.1**
PDKS				*iSg*		**Sg**		**00 35 41.7**	**+0.6**
PDKS									
	comp=Z,476nm,0.2s								
PDKS	**Podkum**	**0.21**	**333**	*iPg*		**Pg**		**00 35 38.2**	**+0.1**
PDKS				*iSg*		**Sg**		**00 35 41.7**	**+0.6**
	comp=Z,476nm,0.2s								
VISS	**Visnje**	**0.22**	**251**	⇑*iPg*		**Pg**		**00 35 37.5**	**-0.7**
VISS				*eSg*		**Sg**		**00 35 41.2**	**-0.1**
VISS									
	comp=Z,139nm,0.1s								
VISS	**Visnje**	**0.22**	**251**	⇑*iPg*		**Pg**		**00 35 37.5**	**-0.7**
VISS				*eSg*		**Sg**		**00 35 41.2**	**-0.1**
	comp=Z,139nm,0.1s								
CRES	**Cresnjev**	**0.23**	**102**	⇑*iPg*		**Pg**		**00 35 37.8**	**-0.6**
CRES									
	comp=Z,67nm,0.1s								
CRES	**Cresnjev**	**0.23**	**102**	⇑*iPg*		**Pg**		**00 35 37.8**	**-0.6**
	comp=Z,67nm,0.1s								
CESS	**Cesta pri Krsk**	**0.25**	**67**	*iPg*		**Pg**		**00 35 38.7**	**-0.1**
CESS				*eSg*		**Sg**		**00 35 43.3**	**+1.1**
CESS									
	comp=Z,220nm,0.2s								
CESS	**Cesta pri Krsk**	**0.25**	**67**	*iPg*		**Pg**		**00 35 38.7**	**-0.1**
CESS				*eSg*		**Sg**		**00 35 43.3**	**+1.1**
	comp=Z,220nm,0.2s								
GCIS	**Gornji Cirnik**	**0.34**	**91**	*ePg*		**Pg**		**00 35 40.4**	**-0.1**
GCIS									
	comp=Z,66nm,0.1s								
GCIS	**Gornji Cirnik**	**0.34**	**91**	*ePg*		**Pg**		**00 35 40.4**	**-0.1**
	comp=Z,66nm,0.1s								
DOBS	**Dobrina**	**0.36**	**40**	⇓*iPg*		**Pg**		**00 35 40.8**	**0.0**
DOBS	**Dobrina**	**0.36**	**40**	⇓*iPg*		**Pg**		**00 35 40.8**	**0.0**
GOLS	**Golise**	**0.37**	**68**	*i Sg*		**Sg**		**00 35 46.7**	**+0.9**
GOLS									
	comp=Z,83nm,0.2s								
GOLS	**Golise**	**0.37**	**68**	*i Sg*		**Sg**		**00 35 46.7**	**+0.9**
	comp=Z,83nm,0.2s								
VNDS	**Vrh nad Dolski**	**0.38**	**307**	*iPg*		**Pg**		**00 35 41.3**	**+0.1**
BOJS	**Bojanci**	**0.38**	**168**	⇓*iPg*		**Pg**		**00 35 39.9**	**-1.2**
BOJS				*i Sg*		**Sg**		**00 35 46.4**	**+0.2**
BOJS									
	comp=Z,192nm,0.3s								
BOJS	**Bojanci**	**0.38**	**168**	⇓*iPg*		**Pg**		**00 35 39.9**	**-1.2**
BOJS				*i Sg*		**Sg**		**00 35 46.4**	**+0.2**
	comp=Z,192nm,0.3s								
GBRS	**Gornja Briga**	**0.41**	**214**	*iPg*		**Pg**		**00 35 41.5**	**-0.3**
GBRS				*eSg*		**Sg**		**00 35 47.2**	**0.0**
LJU	**Ljubljana**	**0.46**	**292**	⇓*iPg*		**Pg**		**00 35 42.7**	**+0.1**
LJU				*i Sg*		**Sg**		**00 35 49.0**	**+0.4**
LJU	**Ljubljana**	**0.46**	**292**	⇓*iPg*		**Pg**		**00 35 42.7**	**+0.1**
LJU				*i Sg*		**Sg**		**00 35 49.0**	**+0.4**
CEY	**Cerknica**	**0.51**	**255**	*iPg*		**Pg**		**00 35 43.5**	**-0.2**
CEY				*i Sg*		**Sg**		**00 35 50.9**	**+0.5**
CEY									
	comp=Z,26nm,0.1s								
CEY	**Cerknica**	**0.51**	**255**	*iPg*		**Pg**		**00 35 43.5**	**-0.2**
CEY				*i Sg*		**Sg**		**00 35 50.9**	**+0.5**
	comp=Z,26nm,0.1s								
KNDS	**Knezji Dol**	**0.63**	**237**	*iPg*		**Pg**		**00 35 45.5**	**-0.4**
KNDS	**Knezji Dol**	**0.63**	**237**	*iPg*		**Pg**		**00 35 45.5**	**-0.4**
MOZS	**Mozjanca**	**0.64**	**311**	⇑*iPg*		**Pb**		**00 35 46.2**	**-0.7**
MOZS				*i Sg*		**Sb**		**00 35 55.7**	**-0.2**
MOZS									
	comp=Z,17nm,0.1s								
MOZS	**Mozjanca**	**0.64**	**311**	⇑*iPg*		**Pb**		**00 35 46.2**	**-0.7**
MOZS				*i Sg*		**Sb**		**00 35 55.7**	**-0.2**
	comp=Z,17nm,0.1s								
CRNS	**Crni Vrh**	**0.64**	**289**	*iPg*		**Pg**		**00 35 46.0**	**-0.2**
CRNS				*i Sg*		**Sb**		**00 35 55.9**	**-0.1**
CRNS									
	comp=Z,37nm,0.2s								
JAVS	**Javornik**	**0.75**	**272**	*iPg*		**Pg**		**00 35 47.4**	**-0.7**
JAVS	**Javornik**	**0.75**	**272**	*iPg*		**Pg**		**00 35 47.4**	**-0.7**
OBKA	**Obir**	**0.75**	**327**	⇑*iPg*		**Pb**		**00 35 48.3**	**-0.6**
OBKA				⇓*iSg*		**Sb**		**00 35 58.8**	**-0.4**
	comp=Z,26nm,0.2s								
OBKA	**Obir**	**0.75**	**327**	⇑*iPg*		**Pb**		**00 35 48.3**	**-0.6**
OBKA				Sg		**Sb**		**00 35 58.8**	**-0.4**
	comp=Z,26nm,0.2s								
PERS	**Pernice**	**0.76**	**359**	*iPg*		**Pg**		**00 35 48.5**	**-0.5**
PERS	**Pernice**	**0.76**	**359**	*iPg*		**Pg**		**00 35 48.5**	**-0.5**
SOKA	**Soboth**	**0.81**	**355**	⇑*iPg*		**Pg**		**00 35 49.1**	**-0.1**
SOKA				⇓*iSg*		**Sb**		**00 35 60.0**	**-0.7**
	comp=Z,17nm,0.4s								
SOKA	**Soboth**	**0.81**	**355**	⇑*iPg*		**Pg**		**00 35 49.1**	**-0.1**
SOKA				Sg		**Sb**		**00 36 00.0**	**-0.7**
	comp=Z,17nm,0.4s								
SKDS	**Skadanscina**	**0.85**	**248**	*iPg*		**Pg**		**00 35 49.5**	**-0.5**
SKDS				*i Sg*		**Sb**		**00 36 01.4**	**-0.5**
SKDS									
	comp=Z,17nm,0.1s								
SKDS	**Skadanscina**	**0.85**	**248**	*iPg*		**Pg**		**00 35 49.5**	**-0.5**
SKDS				*i Sg*		**Sb**		**00 36 01.4**	**-0.5**
	comp=Z,17nm,0.1s								
VOY	**Vojsko**	**0.88**	**281**	*e*Sg		**Sb**		**00 36 03.5**	**+0.6**
VOJS	**Vojsko**	**0.89**	**281**	*iPg*		**Pg**		**00 35 50.1**	**-0.7**
VOJS	**Vojsko**	**0.89**	**281**	*iPg*		**Pg**		**00 35 50.1**	**-0.7**
GORS	**Gorjuse**	**0.91**	**299**	*iPg*		**Pg**		**00 35 50.8**	**-0.3**
GORS									
	comp=Z,16nm,0.1s								
GORS	**Gorjuse**	**0.91**	**299**	*iPg*		**Pg**		**00 35 50.8**	**-0.3**
	comp=Z,16nm,0.1s								
SISC	**Sisak**	**0.96**	**115**	*ePg*		**Pb**		**00 35 52.5**	**+0.2**
SISC				Sg		**Sn**		**00 36 08.0**	**+1.3**
KOGS	**Kog**	**0.96**	**53**	*iPg*		**Pn**		**00 35 52.7**	**-0.5**
KOGS	**Kog**	**0.96**	**53**	*iPg*		**Pn**		**00 35 52.7**	**-0.5**
CADS	**Cadrg**	**1.04**	**290**	*iPg*		**Pg**		**00 35 53.3**	**-0.3**
CADS				*i Sg*		**Sn**		**00 36 09.7**	**+0.9**
CADS									
	comp=Z,15nm,0.1s								
CADS	**Cadrg**	**1.04**	**290**	*iPg*		**Pg**		**00 35 53.3**	**-0.3**
CADS				*e*Sg		**Sn**		**00 36 09.7**	**+0.9**
MYKA	**Terra Mystica**	**1.28**	**307**	⇑*iPg*		**Pg**		**00 35 57.9**	**-0.4**
MYKA				⇑*iSg*		**Sg**		**00 36 15.4**	**+0.5**
	comp=Z,6.6nm,0.2s								
MYKA	**Terra Mystica**	**1.28**	**307**	⇑*iPg*		**Pg**		**00 35 57.9**	**-0.4**
MYKA				Sg		**Sg**		**00 36 15.4**	**+0.5**
	comp=Z,6.6nm,0.2s								
NVLJ	**Novalja**	**1.32**	**188**	*ePg*		**Pg**		**00 35 59.5**	**+0.4**
NVLJ				Sg		**Sg**		**00 36 18.6**	**+2.4**
NVLJ	**Novalja**	**1.32**	**188**	*ePg*		**Pg**		**00 35 59.4**	**+0.4**
NVLJ				Sg		**Sg**		**00 36 18.6**	**+2.

	1.8nm,0.2s								
PVAQ	**Vaqueiros**	**4.44**	**87**	P		**Pn**	**00 51 19.1**	**+0.3**	
PVAQ				S		**Sn**	**00 52 10.2**	**-0.4**	
	1.8nm,0.2s								
PVAQ	**Vaqueiros**	**4.44**	**87**	P		**Pn**	**00 51 19.1**	**+0.3**	
PVAQ				S		**Sn**	**00 52 10.2**	**-0.4**	
	1.8nm,0.2s								
EGRO	**El Granado**	**4.63**	**86**	P		**Pn**	**00 51 21.5**	**+0.1**	
EGRO	0.5nm,0.1s,SNR=7.9			S		**Sn**	**00 52 14.3**	**-0.8**	
	0.9nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**4.63**	**86**	P		**Pn**	**00 51 21.5**	**+0.1**	
EGRO	0.5nm,0.1s,SNR=7.9			S		**Sn**	**00 52 14.3**	**-0.8**	
	0.9nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**4.75**	**69**	*e*Sn		**Sn**	**00 52 19.8**	**+1.5**	
PESTR	**Estremoz**	**4.75**	**69**	S		**Sn**	**00 52 19.8**	**+1.5**	
PESTR	**Estremoz**	**4.75**	**69**	S		**Sn**	**00 52 19.8**	**+1.5**	
PBAR	**Barrancos**	**5.03**	**78**	*e*Pn		**Pn**	**00 51 27.8**	**+0.9**	
PBAR				*e*Sn		**Sn**	**00 52 24.4**	**-0.6**	
PBAR	**Barrancos**	**5.03**	**78**	P		**Pn**	**00 51 27.8**	**+0.9**	
PBAR				S		**Sn**	**00 52 24.4**	**-0.6**	
PBAR	**Barrancos**	**5.03**	**78**	P		**Pn**	**00 51 27.8**	**+0.9**	
PBAR				S		**Sn**	**00 52 24.4**	**-0.6**	
EBAD	**Badajoz**	**5.16**	**72**	P		**Pn**	**00 51 28.2**	**-0.5**	
EBAD	0.4nm,0.1s,SNR=7.9			S		**Sn**	**00 52 27.3**	**-0.9**	
	0.4nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**5.16**	**72**	P		**Pn**	**00 51 28.2**	**-0.5**	
EBAD	0.4nm,0.1s,SNR=7.9			S		**Sn**	**00 52 27.3**	**-0.9**	
	0.4nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.28**	**83**	P		**Pn**	**00 51 30.6**	**+0.3**	
EMIN	0.1nm,0.1s,SNR=7.9			S		**Sn**	**00 52 30.3**	**-0.9**	
	0.2nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.28**	**83**	P		**Pn**	**00 51 30.6**	**+0.3**	
EMIN	0.1nm,0.1s,SNR=7.9			S		**Sn**	**00 52 30.3**	**-0.9**	
	0.2nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.27**	**62**	P		**Pn**	**00 51 44.0**	**+0.1**	
EPLA	0.3nm,0.2s,SNR=7.9			S		**Sn**	**00 52 54.0**	**-1.7**	
	0.7nm,0.3s,SNR=7.9								
EPLA	**Plasencia**	**6.27**	**62**	P		**Pn**	**00 51 44.0**	**+0.1**	
EPLA	0.3nm,0.2s,SNR=7.9			S		**Sn**	**00 52 54.0**	**-1.7**	
	0.7nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**6.96**	**80**	P		**Pn**	**00 51 53.0**	**-0.4**	
EADA	0.2nm,0.1s,SNR=7.9			S		**Sn**	**00 53 11.3**	**-1.3**	
	0.1nm,0.1s,SNR=4.0								
EADA	**Adamuz**	**6.96**	**80**	P		**Pn**	**00 51 53.0**	**-0.4**	
EADA	0.2nm,0.1s,SNR=7.9			S		**Sn**	**00 53 11.3**	**-1.3**	
	0.1nm,0.1s,SNR=4.0								
ESDC	**Sonseca Array**	**7.68**	**69**	P		**Pn**	**00 52 03.0**	**-0.4**	
	1.2nm,0.1s,baz=257,slow=13,SNR=7.9								
ESDC	**Sonseca Array**	**7.68**	**69**	P		**Pn**	**00 52 03.0**	**-0.4**	
	1.2nm,0.1s,baz=257,slow=13,SNR=7.9								

PRE 20 00:55:06.8±1.8,0.66N×30.70E,h10km,ML3.6,Uganda

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**1.26**	**178**	*e*P	Pn	00 55 29.1	-1.6
MBAR				*e*S	Sb	00 55 47.1	-0.2
KIG	**Kigali**	**2.69**	**194**	*e*P	Pn	00 55 51.4	+1.0
KIG				*e*S	Sn	00 56 23.7	+0.6
KIG				AML	AML	00 56 41.8	
	comp=Z,214nm,0.5s						
KMBO	**Kilima Mbogo**	**6.79**	**105**	*e*P	Pn	00 56 46.8	-0.1
KMBO				*e*S	Sn	00 58 02.1	-2.5

IDC ***20*** *00:59:30.7±0.9,35.70S×104.06W,h0km,mb4.2/11, mb1 4.4/11,mb1mx4.3/18,mbtmp4.2/11,MS4.1/14, Ms1 4.1/14,ms1mx3.9/24,Error ellipse: s-maj=26.0km s-min=20.7km az=40.0*

ISCJB ***20*** *00:59:31.2±1.0,35.7S±0.2×103.9W±0.2,h10km,mb4.2/17, MS4.0/15,Error ellipse: s-maj=28.3km s-min=14.8km az=34.8*

NEIC ***20*** *00:59:34.8±0.6,35.29S×103.59W,h10km,mb4.5/9,Error ellipse: s-maj=18.4km s-min=11.7km az=221.0*

ISC 20 00:59:32.1±0.8,35.7S±0.2×104.0W±0.2,h10km,n46, σ1$03/36,mb4.3/17,MS4.0/15,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**26.61**	**111**	P	**P**	**01 05 12.0**	**+1.3**
	4.3nm,1.0s,baz=267,slow=10,SNR=5.6						
PLCA				LR	LR	01 12 52.5	
	comp=Z,186nm,18.2s,baz=272,slow=30						
PLCA	**Paso Flores**	**26.61**	**111**	*e*P	**P**	**01 05 10.7**	**0.0**
	4.4nm,0.8s						
CFAA	**Coronel Fontan**	**29.90**	**92**	P	**pP**	**01 05 41.4**	**-1.8**
	0.5nm,0.9s,baz=249,slow=7.1,SNR=4.8						
CFAA				LR	LR	01 14 42.1	
	comp=Z,18nm,20.1s,baz=255,slow=30						
CFAA	**Coronel Fontan**	**29.90**	**92**	P	pP	01 05 41.4	-1.8
USHA	**Ushuaia**	**30.98**	**139**	LR	LR	01 15 12.8	
	comp=Z,482nm,18.9s,baz=290,slow=30						
NNA	**Nana**	**34.04**	**53**	LR	LR	01 16 51.8	
	comp=Z,562nm,18.2s,baz=306,slow=30						
ATAH	**Atahualpa**	**36.85**	**46**	P	**P**	**01 06 41.6**	**+0.4**
	2.3nm,0.7s,baz=170,slow=22,SNR=2.1						
ATAH				LR	LR	01 17 57.6	
	comp=Z,349nm,19.6s,baz=261,slow=30						
ATAH	**Atahualpa**	**36.85**	**46**	P	**P**	**01 06 41.6**	**+0.4**
LPAZ	**La Paz**	**37.28**	**68**	P	**P**	**01 06 45.8**	**+0.7**
	3.0nm,0.9s,baz=232,slow=6.9,SNR=7.0						
LPAZ				LR	LR	01 17 36.9	
	comp=Z,121nm,20.5s,baz=43,slow=29						
LPAZ	**La Paz**	**37.28**	**68**	*e*P	**P**	**01 06 43.6**	**-1.5**
	13nm,1.4s						
PMSA	**Palmer Station**	**37.55**	**153**	LR	LR	01 17 33.5	
	comp=Z,386nm,19.5s,baz=272,slow=29						
SIV	**San Ignacio**	**42.89**	**74**	P	**P**	**01 07 30.2**	**-0.8**
	1.1nm,0.8s,baz=224,slow=11,SNR=5.6						
SIV				LR	LR	01 22 38.1	
	comp=Z,174nm,18.5s,slow=32						
SIV	**San Ignacio**	**42.89**	**74**	P	**P**	**01 07 30.2**	**-0.8**
ROSC	**El Rosal**	**49.01**	**41**	LR	LR	01 25 17.6	
	comp=Z,179nm,20.9s,baz=122,slow=32						
JTS	**JuntasAbangare**	**49.16**	**25**	LR	LR	01 23 53.3	
	comp=Z,181nm,20.6s,baz=327,slow=30						
CMIG	**Matias Romero**	**53.23**	**11**	LR	LR	01 25 52.6	
	comp=Z,136nm,18.8s,baz=168,slow=30						
QSPA	**South Pole Qui**	**54.48**	**180**	P	**P**	**01 09 00.7**	**+1.1**
	1.7nm,0.7s,baz=125,slow=4.7,SNR=7.1						
QSPA	**South Pole Qui**	**54.48**	**180**	*e*P	pP	01 09 06.8	+4.0
	3.1nm,0.7s						
TEIG	**Tepich**	**57.60**	**17**	LR	LR	01 29 39.0	
	comp=Z,129nm,19.6s,baz=355,slow=31						
RPZ	**Rata Peaks**	**63.14**	**234**	LR	LR	01 31 36.6	
	comp=Z,230nm,18.7s,baz=101,slow=30						
SJG	**San Juan**	**64.42**	**40**	P	**P**	**01 10 08.8**	**+0.2**
	6.8nm,0.7s,baz=272,slow=5.5,SNR=2.2						
SJG	**San Juan**	**64.42**	**40**	P	**P**	**01 10 08.8**	**+0.2**
TXAR	**Lajitas Array**	**64.72**	**0**	P	**P**	**01 10 11.3**	**+0.9**
	3.0nm,0.8s,baz=179,slow=7.6,SNR=18						
TXAR	**Lajitas Array**	**64.72**	**0**	P	**P**	**01 10 11.3**	**+0.9**
NVAR	**Mina Array Bea**	**74.98**	**348**	P	**P**	**01 11 14.6**	**+1.0**
	4.0nm,0.9s,baz=181,slow=5.5,SNR=5.9						
NVAR	**Mina Array Bea**	**74.98**	**348**	P	**P**	**01 11 14.6**	**+1.0**
DAU	**Daniels Canyon**	**76.07**	**354**	*e*P	**P**	**01 11 20.4**	**+0.5**
	11nm,1.0s						
PDAR	**Pinedale Array**	**78.29**	**356**	P	**P**	**01 11 31.9**	**-0.3**
	3.8nm,0.9s,baz=163,slow=5.4,SNR=22						
PDAR	**Pinedale Array**	**78.29**	**356**	P	**P**	**01 11 31.9**	**-0.3**
PD01	**Pinedale Array**	**78.30**	**356**	*e*P	**P**	**01 11 32.0**	**-0.3**
PD02	**Pinedale Array**	**78.30**	**356**	*e*P	**P**	**01 11 32.0**	**-0.4**
HLID	**Hailey**	**79.49**	**352**	*e*P	**P**	**01 11 38.9**	**+0.2**
	8.5nm,1.0s						
MCMT	**McKenzie Canyo**	**80.59**	**354**	*e*P	**P**	**01 11 45.2**	**+0.5**
	1.9nm,1.1s						
CHMT	**Chamberlain Mo**	**82.70**	**354**	*e*P	**P**	**01 11 56.6**	**+0.8**
	0.4nm,0.6s						
SLMT	**Seeley Lake**	**83.04**	**353**	*e*P	**P**	**01 11 58.0**	**+0.5**
	5.8nm,1.1s						
ETW	**Entiat**	**84.25**	**349**	*e*P	**P**	**01 12 03.6**	**0.0**
	6.3nm,1.0s						
ULM	**Lac du Bonnet**	**85.91**	**5**	P	**P**	**01 12 11.5**	**-0.2**
	1.0nm,0.6s,baz=204,slow=11,SNR=2.4						
ULM	**Lac du Bonnet**	**85.91**	**5**	P	**P**	**01 12 11.5**	**-0.2**
STKA	**Stephens Creek**	**88.91**	**231**	LR	LR	01 45 47.8	
	comp=Z,141nm,19.7s,baz=96,slow=31						
SCHQ	**Schefferville**	**95.67**	**21**	LR	LR	01 54 51.1	
	comp=Z,128nm,18.5s,baz=264,slow=35						
BRTR	**Keskin Array B**	**146.45**	**70**	PKPbc	**PKPbc**	**01 19 14.0**	**+0.5**
	0.2nm,0.5s,baz=284,slow=29,SNR=3.2						
BRTR	**Keskin Array B**	**146.45**	**70**	PKPbc	**PKPbc**	**01 19 14.0**	**+0.5**
SONM	**Songino Array**	**154.52**	**308**	PKPbc	**PKPbc**	**01 19 31.0**	**-1.8**
	1.0nm,0.8s,baz=108,slow=2.0,SNR=7.5						
SONM				PKPab	**PKPab**	**01 19 45.2**	**-2.1**
	1.2nm,0.8s,baz=93,slow=2.0,SNR=5.5						
SONM	**Songino Array**	**154.52**	**308**	PKPbc	**PKPbc**	**01 19 31.0**	**-1.8**
SONM				PKPab	**PKPab**	**01 19 45.2**	**-2.1**
ZALV	**Zalesovo Beam**	**160.78**	**344**	PKPab	**PKPab**	**01 20 15.2**	**+1.3**
	0.3nm,0.3s,baz=2.9,slow=3.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**160.78**	**344**	PKPab	**PKPab**	**01 20 15.2**	**+1.3**

DJA ***20*** *01:05:39,0.93S×133.73E,h16km,MLv4.0/3*

IDC 20 01:05:37.2±1.2,1.42S×133.97E,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.7/18,mbtmp3.7/6,ML3.7/2,Error ellipse: s-maj=54.5km s-min=21.0km az=84.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.41**	**179**	P	P	01 09 54.6	+0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=23						
FITZ	**Fitzroy Crossi**	**18.48**	**206**	P	Pn	01 09 56.3	+1.3
	0.2nm,0.3s,baz=28,slow=14,SNR=2.1						
ASAR	**Alice Springs**	**22.11**	**180**	P	P	01 10 34.3	-0.2
	1.0nm,0.5s,baz=3.6,slow=11,SNR=10						
STKA	**Stephens Creek**	**31.14**	**167**	P	P	01 11 57.0	-0.8
	0.9nm,0.6s,baz=4.9,slow=7.7,SNR=2.0						
MKAR	**Makanchi Array**	**65.92**	**324**	P	P	01 16 24.3	-0.9
	0.2nm,0.5s,baz=116,slow=6.6,SNR=3.7						
ILAR	**Eielson Array**	**86.65**	**25**	P	P	01 18 23.6	+1.1
	0.6nm,1.0s,baz=255,slow=3.9,SNR=3.4						

IDC 20 01:06:01.9±2.2,22.50S×170.79E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.7/16,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=123.1km s-min=26.5km az=168.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.05**	**275**	Pn	Pn	01 07 06.5	+1.2
	4.3nm,0.3s,baz=116,slow=16,SNR=34						
DZM				Sn	Sn	01 07 52.3	-1.2
	7.7nm,0.3s,baz=38,slow=22,SNR=6.9						
NOUC	**Port Laguerre**	**4.17**	**275**	*e*P	Pn	01 07 07.3	+0.4
NOUC				*e*S	Sn	01 07 53.6	-2.7
ASAR	**Alice Springs**	**33.89**	**261**	P	P	01 12 45.7	-1.0
	0.2nm,0.3s,baz=81,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**34.02**	**267**	P	P	01 12 47.7	-0.1
	0.1nm,0.4s,baz=97,slow=8.6,SNR=1.9						
NVAR	**Mina Array Bea**	**89.88**	**48**	P	P	01 19 02.1	-1.1
	0.3nm,0.7s,baz=230,slow=7.0,SNR=3.3						
GERES	**GERESS Array B**	**148.03**	**331**	PKPbc	PKPbc	01 25 50.4	+1.0
	0.3nm,0.5s,baz=2.6,slow=2.2,SNR=3.3						

GUC 20 01:10:19.5±0.7,27.56S×71.01W,h26km±9km,ML3.7, 2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.52**	**19**	*e*P	Pb	01 10 29.4	-0.6
CDCH				*i* S	Sb	01 10 37.0	-0.2
CDCH				AML	AML	01 10 37.3	
	comp=E,7μm,0.4s						
CPCH	**Copiapo**	**0.61**	**71**	↓*i*P	Pb	01 10 31.1	-0.6
CPCH				*i* S	Sb	01 10 40.3	+0.3
CPCH				AML	AML	01 10 41.1	
	comp=E,21μm,0.1s						
VACH	**Vallenar**	**1.04**	**168**	↑*i*P	Pn	01 10 38.6	+0.1
VACH				*i* S	Sb	01 10 52.0	-0.1
VACH				AML	AML	01 10 55.4	
	comp=E,4μm,0.4s						
LCO	**Las Campanas**	**1.47**	**170**	↑*i*P	Pn	01 10 45.4	+0.6
LCO				*i* S	Sb	01 11 05.0	-0.2
LCO				AML	AML	01 11 09.1	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**2.61**	**176**	*e*P	Pn	01 11 01.9	+1.5
TLL				AML	AML	01 11 53.4	
	comp=N,458nm,0.7s						

IDC ***20*** *01:11:05.3±1.8,19.28N×66.36W,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.4/21,mbtmp3.3/3,Error ellipse: s-maj=79.6km s-min=21.6km az=71.0*

ISCJB ***20*** *01:11:09.0±0.9,19.25N±0.06×66.53W±0.03,h36km±15km, mb3.3/3,Error ellipse: s-maj=9.8km s-min=5.2km az=2.1*

RSPR ***20*** *01:11:09.3,19.33N×66.56W,h19km±5km,MD3.7/14*

NEIC ***20*** *01:11:09.3,19.33N×66.56W,h19km,MD3.7(RSPR), After RSPR.*

ISC 20 01:11:10.1±1.5,19.16N±0.06×66.53W±0.03,h30km±12km, n50,σ0$75/68,mb3.4/3,18C-7D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.84**	**195**	↑*e*P	**Pn**	**01 11 25.4**	**-0.5**
AOPR	**Arecibo Observ**	**0.84**	**195**	*e*S	**Sn**	**01 11 38.0**	**+0.7**
AOPR	**Arecibo Observ**	**0.84**	**195**	↑*e*P	**Pn**	**01 11 25.4**	**-0.5**
AOPR				*e*S	**Sn**	**01 11 38.0**	**+0.7**
AGPR	**Aguadilla, PR**	**0.89**	**219**	↑*e*P	**Pn**	**01 11 25.2**	**-1.3**
AGPR				*e*S	**Sn**	**01 11 38.1**	**-0.3**
AGPR	**Aguadilla, PR**	**0.89**	**219**	*e*Pg	**Pb**	**01 11 27.1**	**+0.1**
AGPR				*e*S	**Sb**	**01 11 39.5**	**+1.0**
LRS	**Lares**	**0.92**	**199**	↓*i*P	**Pn**	**01 11 26.4**	**-0.6**
LRS	**Lares**	**0.92**	**199**	*e*Pg	**Pn**	**01 11 26.4**	**-0.6**
CELP	**Cerrillos**	**1.08**	**183**	↑*e*P	**Pn**	**01 11 28.9**	**-0.3**
CELP	**Cerrillos**	**1.08**	**183**	↑*e*P	**Pn**	**01 11 28.9**	**-0.3**
CBYP	**Canovanas**	**1.09**	**144**	↑*e*P	**Pn**	**01 11 29.1**	**-0.3**
CBYP	**Canovanas**	**1.09**	**144**	*e*S	**Sb**	**01 11 44.6**	**+0.3**
CBYP	**Canovanas**	**1.09**	**144**	*e*Pn	**Sn**	**01 11 29.0**	**-0.4**
CBYP				*e*S	**Sn**	**01 11 44.1**	**+0.6**
SJG	**San Juan**	**1.10**	**161**	↑*i*P	**Pn**	**01 11 29.1**	**-0.4**
SJG	**San Juan**	**1.10**	**161**	Pn	**Pn**	**01 11 29.1**	**-0.4**
	26nm,0.3s,baz=270,slow=1.3,SNR=132						
SJG				Sn	**Sn**	**01 11 42.5**	**-1.3**
	68nm,0.3s,baz=270,slow=8.1,SNR=27						
SJG	**San Juan**	**1.10**	**161**	*e*Pn	**Pn**	**01 11 29.1**	**-0.4**
SJG				Sn	**Sn**	**01 11 42.5**	**-1.3**
LSP	**Las Mesas**	**1.12**	**208**	↑*e*P	**Pn**	**01 11 29.4**	**-0.3**
LSP	**Las Mesas**	**1.12**	**208**	*e*Pn	**Pn**	**01 11 29.4**	**-0.3**
LSP				*e*S	**Sb**	**01 11 45.5**	**+0.5**
OBIP	**Obispado Ponce**	**1.12**	**184**	↓*e*P	**Pn**	**01 11 29.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.12**	**184**	*e*S	**Sn**	**01 11 45.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.12**	**184**	↓*e*P	**Pn**	**01 11 29.8**	**+0.1**
OBIP				*e*S	**Sb**	**01 11 45.1**	**+0.1**
HUMP	**Col San Antoni**	**1.20**	**148**	↑*e*P	**Pn**	**01 11 30.3**	**-0.6**
HUMP	**Col San Antoni**	**1.20**	**148**	*e*S	**Sn**	**01 11 47.2**	**+1.0**
HUMP	**Col San Antoni**	**1.20**	**148**	↑*e*P	**Pn**	**01 11 30.3**	**-0.6**
HUMP				*e*S	**Sn**	**01 11 47.2**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.23**	**196**	↓*e*P	**Pb**	**01 11 31.9**	**-0.8**
GBPR	**Guanica, Bosqu**	**1.23**	**196**	↓*e*P	**Pb**	**01 11 31.9**	**-0.8**
CPD	**Cerro la Pandu**	**1.26**	**153**	↑*e*P	**Pn**	**01 11 31.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.26**	**153**	*e*S	**Sn**	**01 11 48.9**	**+1.2**
CPD	**Cerro la Pandu**	**1.26**	**153**	↑*e*P	**Pn**	**01 11 31.8**	**+0.1**
CPD				*e*S	**Sn**	**01 11 48.9**	**+1.2**
ICM	**Isla Caja Muer**	**1.26**	**180**	↑*e*P	**Pn**	**01 11 31.9**	**+0.1**
ICM	**Isla Caja Muer**	**1.26**	**180**	*e*S	**Sb**	**01 11 49.1**	**-0.1**
ICM	**Isla Caja Muer**	**1.26**	**180**	↑*e*P	**Pn**	**01 11 31.9**	**+0.1**
ICM				*e*S	**Sb**	**01 11 49.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.28**	**206**	↑*e*P	**Pn**	**01 11 32.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.28**	**206**	*e*S	**Sn**	**01 11 48.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.28**	**206**	↑*e*P	**Pn**	**01 11 32.0**	**+0.1**
CRPR				*e*S	**Sn**	**01 11 48.8**	**+0.7**
MTP	**Monte Pirata**	**1.41**	**139**	↑*e*P	**Pn**	**01 11 33.1**	**-0.5**
MTP	**Monte Pirata**	**1.41**	**139**	*e*S	**Sn**	**01 11 51.7**	**+0.5**
MTP	**Monte Pirata**	**1.41**	**139**	*e*Pn	**Pn**	**01 11 32.8**	**-0.9**
MTP				*e*S	**Sb**	**01 11 52.7**	**-0.5**
STVI	**Saint Thomas**	**1.69**	**118**	↑*e*P	**Pn**	**01 11 36.9**	**-0.8**
STVI	**Saint Thomas**	**1.69**	**118**	*e*S	**Sn**	**01 11 58.9**	**+0.6**
STVI	**Saint Thomas**	**1.69**	**118**	↑*e*P	**Pn**	**01 11 36.9**	**-0.8**
STVI				*e*S	**Sn**	**01 11 58.9**	**+0.6**
TBVI	**Tortola**	**1.96**	**112**	↓*e*P	**Pn**	**01 11 41.1**	**-0.2**
TBVI				*e*S	**Sn**	**01 12 04.0**	**-0.8**
TBVI	**Tortola**	**1.96**	**112**	↓*e*P	**Pn**	**01 11 41.1**	**-0.2**
TBVI				*e*S	**Sn**	**01 12 04.0**	**-0.8**
CDVI	**St. Croix**	**2.18**	**130**	*e*Pn	**Pn**	**01 11 45.8**	**+1.5**
CDVI				*e*S	**Sb**	**01 12 18.3**	**+2.8**
SDDR	**Presa de Saban**	**4.51**	**268**	*e*Pn	**Pn**	**01 12 17.5**	**+1.1**
SDDR				*e*S	**Sn**	**01 13 07.4**	**-0.5**
TXAR	**Lajitas Array**	**35.22**	**294**	P	**P**	**01 18 02.5**	**+0.5**
	0.4nm,0.7s,baz=118,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**35.22**	**294**	P	**P**	**01 18 02.5**	**+0.5**
YKA	**Yellowknife Ar**	**54.39**	**335**	P	**P**	**01 20 33.7**	**-0.3**
	0.2nm,0.7s,baz=113,slow=7.6,SNR=4.9						
YKA	**Yellowknife Ar**	**54.39**	**335**	P	**P**	**01 20 33.7**	**-0.3**
ILAR	**Eielson Array**	**68.74**	**333**	P	**P**	**01 22 10.3**	**-0.5**
	0.2nm,0.6s,baz=103,slow=4.2,SNR=5.1						
ILAR	**Eielson Array**	**68.74**	**333**	P	**P**	**01 22 10.3**	**-0.5**

NIED ***20*** *01:14:00,38.60N×143.20E,h23km,Mw3.8 Best double couple: M0 5.67000×10^14 NP1:φ=24.00000°,δ63.00000°, λ,86.00000°. NP2:φ=212.00000°,δ27.00000°,λ,97.00000°.*

IDC ***20*** *01:14:08.4±2.5,38.65N×143.46E,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.5/24,mbtmp3.7/6,ML3.4/1,Error ellipse: s-maj=65.2km s-min=27.0km az=69.0*

ISCJB ***20*** *01:14:10.2±1.7,38.57N±0.04×143.25E±0.07, h17km±12km,mb3.7/5,Error ellipse: s-maj=8.9km s-min=7.1km az=6.8*

JMA ***20*** *01:14:10.8±0.1,38.57N×143.16E,h14km±3km,M3.9*

ISC 20 01:14:10.6±2.5,38.61N±0.05×143.07E±0.09,h4km±13km, n21,σ1$44/30,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.19**	**294**	P	**Pg**	**01 14 34.0**	**+0.5**
OFUJ				*e*S	**Sn**	**01 14 50.4**	**-0.3**
JIO	**Ouri**	**1.36**	**264**	P	**Pb**	**01 14 36.2**	**-0.4**
JIO				*e*S	**Sg**	**01 14 54.8**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.37**	**315**	P	**Pb**	**01 14 36.5**	**-0.3**
MIYJ				*e*S	**Sg**	**01 14 55.3**	**+0.6**
JMK	**Ichinoseki**	**1.49**	**284**	P	**Pb**	**01 14 38.7**	**-0.1**
JMK				*e*S	**Sg**	**01 14 58.9**	**+0.5**
JOM	**Ohasama**	**1.63**	**302**	P	**Pb**	**01 14 40.8**	**-0.5**
JOM				*e*S	**Sg**	**01 15 02.5**	**-0.6**
JOU	**Okura**	**1.90**	**263**	P	**Pb**	**01 14 44.7**	**-1.2**
JOU				*e*S	**Sb**	**01 15 09.8**	**-0.3**
JMM	**Marumori**	**1.94**	**248**	*e*S	**Sb**	**01 15 09.3**	**-1.8**
JRG	**Rokugo**	**2.05**	**293**	P	**Pb**	**01 14 47.2**	**-1.3**
JRG				*e*S	**Sb**	**01 15 14.4**	**0.0**
JANG	**Nango**	**2.13**	**326**	*e*S	**Sb**	**01 15 14.7**	**-2.0**
JFK	**Kawauchi**	**2.13**	**235**	P	**Pn**	**01 14 46.8**	**-0.2**
JFK				*e*S	**Sn**	**01 15 13.3**	**-0.7**
JYK	**Kaneyama**	**2.14**	**279**	P	**Pb**	**01 14 48.7**	**-1.3**
JYS	**Shirataka**	**2.39**	**262**	*e*S	**Sb**	**01 15 21.7**	**-2.4**
JFT	**Otama**	**2.42**	**244**	*e*S	**Sb**	**01 15 22.3**	**-2.5**
JAH	**Hinai**	**2.46**	**311**	*e*S	**Sb**	**01 15 24.6**	**-1.4**
MJAR	**Matsushiro Arr**	**4.38**	**243**	Pn	**Pn**	**01 15 20.1**	**+2.2**
	1.8nm,0.3s,baz=64,slow=9.2,SNR=11						
MAT	**Matsushiro**	**4.38**	**243**	P	**Pn**	**01 15 18.9**	**+1.0**
MAT				*e*S	**Sn**	**01 16 13.6**	**+4.2**
SONM	**Songino Array**	**28.05**	**301**	P	**P**	**01 20 03.7**	**+0.7**
	1.1nm,0.8s,baz=104,slow=8.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.85**	**311**	P	**P**	**01 22 01.1**	**-0.3**
	0.5nm,0.4s,baz=99,slow=7.7,SNR=2.7						
MKAR	**Makanchi Array**	**44.41**	**301**	P	**P**	**01 22 22.6**	**+0.2**
	0.3nm,0.5s,baz=88,slow=11,SNR=5.7						
KURK	**Kurchatov**	**46.01**	**307**	P	**P**	**01 22 35.5**	**+0.6**
	1.7nm,0.6s,baz=80,slow=8.2,SNR=9.4						
WRA	**Warramunga Arr**	**58.81**	**190**	P	**P**	**01 24 09.2**	**-1.0**
	0.7nm,0.8s,baz=6.9,slow=7.1,SN

TLY	**Talaya**	**31.78**	**318**	*eP*	**P**		**01 28 54.5**	**+1.1**
TLY				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TLY	**Talaya**	**31.78**	**318**	*eP*	**P**		**01 28 54.5**	**+1.1**
	comp=Z,6.3nm,1.0s							
BILL	**Bilibino**	**39.57**	**16**	*eP*	**P**		**01 29 59.3**	**+0.7**
BILL				pmax	pmax			
	comp=Z,18nm,1.7s							
BILL	**Bilibino**	**39.57**	**16**	*eP*	**P**		**01 29 59.0**	**+0.3**
	comp=Z,8.9nm,1.2s							
ZAA0	**Zalesovo Array**	**43.35**	**316**	*eP*	**P**		**01 30 28.3**	**-0.9**
ZALV	**Zalesovo Beam**	**43.35**	**316**	P	**P**		**01 30 28.4**	**-0.7**
	comp=Z,5.2nm,0.4s,baz=80,slow=8.5,SNR=37							
ZALV	**Zalesovo Beam**	**43.35**	**316**	P	**P**		**01 30 28.5**	**-0.7**
ZALV	**Zalesovo Beam**	**43.35**	**316**	P	**P**		**01 30 28.4**	**-0.7**
TAPN	**Taplejung**	**43.60**	**277**	*eP*	**P**		**01 30 32.0**	**0.0**
	comp=Z,17nm,0.5s							
TAPN	**Taplejung**	**43.60**	**277**	*eP*	**P**		**01 30 32.0**	**0.0**
	comp=Z,17nm,0.5s							
ODAN	**Odare**	**44.03**	**277**	*eP*	**P**		**01 30 35.2**	**-0.1**
	comp=Z,39nm,0.6s							
ODAN	**Odare**	**44.03**	**277**	*eP*	**P**		**01 30 35.2**	**-0.1**
	comp=Z,39nm,0.6s							
NVS	**Novosibirsk**	**44.39**	**318**	*eP*	**P**		**01 30 36.0**	**-1.4**
MK31	**Makanchi Array**	**44.54**	**306**	*ceP*	**P**		**01 30 38.4**	**-0.3**
MK31				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MK31	**Makanchi Array**	**44.54**	**306**	*eP*	**P**		**01 30 38.3**	**-0.4**
MKAR	**Makanchi Array**	**44.54**	**306**	P	**P**		**01 30 38.4**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=87,slow=9.5,SNR=64							
MKAR				ScP	**ScP**		**01 35 31.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=81,slow=4.3,SNR=7.6							
MKAR	**Makanchi Array**	**44.54**	**306**	*eP*	**P**		**01 30 38.4**	**-0.3**
MKAR	**Makanchi Array**	**44.54**	**306**	*eP*	**P**		**01 30 38.4**	**-0.3**
MKAR				ScP	**ScP**		**01 35 31.4**	**-0.8**
RAMN	**Ramite**	**44.66**	**277**	*eP*	**P**		**01 30 39.9**	**-0.4**
	comp=Z,71nm,0.7s							
RAMN	**Ramite**	**44.66**	**277**	*eP*	**P**		**01 30 39.9**	**-0.4**
	comp=Z,71nm,0.7s							
JIRN	**Jiri**	**44.78**	**278**	*eP*	**P**		**01 30 41.6**	**+0.3**
JIRN	**Jiri**	**44.78**	**278**	*eP*	**P**		**01 30 41.6**	**+0.3**
GUN	**Gumba**	**44.96**	**279**	*eP*	**P**		**01 30 42.8**	**+0.1**
	comp=Z,65nm,0.6s							
GUN	**Gumba**	**44.96**	**279**	*eP*	**P**		**01 30 42.8**	**+0.1**
	comp=Z,65nm,0.6s							
PKI	**Pulchoki**	**45.46**	**279**	*eP*	**P**		**01 30 46.1**	**-0.5**
	comp=Z,26nm,0.6s							
PKI	**Pulchoki**	**45.46**	**279**	*eP*	**P**		**01 30 46.1**	**-0.5**
PKI				pmax	pmax			
	comp=Z,26nm,0.6s							
PKI	**Pulchoki**	**45.46**	**279**	*eP*	**P**		**01 30 46.1**	**-0.5**
	comp=Z,26nm,0.6s							
KKN	**Kakani**	**45.50**	**279**	*eP*	**P**		**01 30 46.5**	**-0.2**
	comp=Z,46nm,0.8s							
KKN	**Kakani**	**45.50**	**279**	*eP*	**P**		**01 30 46.5**	**-0.2**
KKN				pmax	pmax			
	comp=Z,46nm,0.8s							
KKN	**Kakani**	**45.50**	**279**	*eP*	**P**		**01 30 46.5**	**-0.2**
	comp=Z,46nm,0.8s							
DMN	**Daman**	**45.70**	**279**	*eP*	**P**		**01 30 48.2**	**-0.2**
	comp=Z,22nm,0.6s							
DMN	**Daman**	**45.70**	**279**	*eP*	**P**		**01 30 48.2**	**-0.2**
	comp=Z,22nm,0.6s							
GKN	**Gorkha**	**45.97**	**279**	*eP*	**P**		**01 30 50.2**	**-0.1**
	comp=Z,48nm,0.7s							
GKN	**Gorkha**	**45.97**	**279**	*eP*	**P**		**01 30 50.2**	**-0.1**
	comp=Z,48nm,0.7s							
DANN	**Dangsing**	**46.59**	**280**	*eP*	**P**		**01 30 55.5**	**+0.2**
DANN	**Dangsing**	**46.59**	**280**	*eP*	**P**		**01 30 55.5**	**+0.2**
KOLN	**Koldanda**	**46.91**	**280**	*eP*	**P**		**01 30 57.6**	**0.0**
KOLN	**Koldanda**	**46.91**	**280**	*eP*	**P**		**01 30 57.6**	**0.0**
KURK	**Kurchatov**	**46.92**	**312**	P	**P**		**01 30 56.6**	**-0.4**
	comp=Z,5.1nm,0.5s,baz=91,slow=9.0,SNR=78							
KURK	**Kurchatov**	**46.92**	**312**	*deP*	**P**		**01 30 56.1**	**-0.9**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KURK	**Kurchatov**	**46.92**	**312**	*eP*	**P**		**01 30 55.8**	**-1.2**
	comp=Z,7.5nm,0.7s							
TKM2	**Tokmak 2**	**49.63**	**301**	*eP*	**P**		**01 31 18.1**	**+0.2**
TKM2				pmax	pmax			
	comp=Z,12nm,1.5s							
TKM2	**Tokmak 2**	**49.63**	**301**	*eP*	**P**		**01 31 18.1**	**+0.2**
	comp=Z,12nm,1.5s							
AAK	**Ala-Archa**	**50.48**	**301**	*ceP*	**P**		**01 31 24.1**	**-0.1**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
WRA	**Warramunga Arr**	**51.84**	**184**	P	**P**		**01 31 34.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=0.6,slow=7.7,SNR=19							
WRA	**Warramunga Arr**	**51.84**	**184**	P	**P**		**01 31 34.6**	**+0.4**
WRA	**Warramunga Arr**	**51.84**	**184**	P	**P**		**01 31 34.6**	**+0.4**
BVA0	**Borovoye Array**	**51.92**	**315**	*i* P	**P**		**01 31 33.7**	**-0.7**
BRVK	**Borovoye**	**51.98**	**315**	*ceP*	**P**		**01 31 34.4**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KDAK	**Kodiak Island**	**52.70**	**39**	P	**P**		**01 31 40.0**	**+0.1**
	comp=Z,3.8nm,0.4s,baz=272,slow=6.5,SNR=10.0							
KDAK	**Kodiak Island**	**52.70**	**39**	*ceP*	**P**		**01 31 39.9**	**0.0**
KDAK	**Kodiak Island**	**52.70**	**39**	P	**P**		**01 31 40.0**	**+0.1**
ZRNK	**Zerenda**	**52.76**	**315**	*i* P	**P**		**01 31 39.7**	**-0.8**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KK31	**Karatay Array**	**53.26**	**302**	*ceP*	**P**		**01 31 44.1**	**-0.2**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**53.26**	**302**	*eP*	**P**		**01 31 44.3**	**-0.1**
KKAR	**Karatay Array**	**53.26**	**302**	*eP*	**P**		**01 31 44.2**	**-0.1**
ILAR	**Eielson Array**	**55.19**	**30**	P	**P**		**01 31 57.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=269,slow=5.8,SNR=16							
ILAR	**Eielson Array**	**55.19**	**30**	P	**P**		**01 31 57.3**	**-0.4**
ILAR	**Eielson Array**	**55.19**	**30**	P	**P**		**01 31 57.3**	**-0.4**
HYB	**Hyderabad**	**55.29**	**270**	*i* P	**P**		**01 31 57.5**	**-1.6**
ASAR	**Alice Springs**	**55.57**	**185**	P	**P**		**01 32 02.1**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=12,slow=14,SNR=9.3							
ASAR	**Alice Springs**	**55.57**	**185**	P	**P**		**01 32 02.1**	**+1.2**
ASAR	**Alice Springs**	**55.57**	**185**	P	**P**		**01 32 02.1**	**+1.2**
KBL	**Kabul**	**56.62**	**293**	*eP*	**P**		**01 32 07.7**	**-0.8**
KBL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KBL	**Kabul**	**56.62**	**293**	*eP*	**P**		**01 32 07.7**	**-0.8**
	comp=Z,8.1nm,0.9s							
ARU	**Arti**	**58.26**	**320**	*d* iP	**P**		**01 32 18.3**	**-0.9**
ARU							01 34 29.0	
ARU				S	**S**		**01 39 51.8**	**-0.6**
ARU				SS	**SS**		**01 43 52.2**	**+1.9**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AB31	**Akbulak array**	**59.03**	**312**	*ceP*	**P**		**01 32 24.1**	**-0.5**
AB31				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ABKAR	**Akbulak array**	**59.03**	**312**	*eP*	**P**		**01 32 24.1**	**-0.5**
STKA	**Stephens Creek**	**63.70**	**177**	P	**P**		**01 32 57.1**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=358,slow=6.1,SNR=5.3							
STKA	**Stephens Creek**	**63.70**	**177**	P	**P**		**01 32 57.1**	**+1.5**
STKA	**Stephens Creek**	**63.70**	**177**	P	**P**		**01 32 57.1**	**+1.5**
ARCES	**ARCESS Array B**	**67.63**	**339**	P	**P**		**01 33 19.3**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=35,slow=4.6,SNR=4.1							
ARCES	**ARCESS Array B**	**67.63**	**339**	P	**P**		**01 33 19.3**	**-0.7**
ARCES	**ARCESS Array B**	**67.63**	**339**	P	**P**		**01 33 19.3**	**-0.7**
RES	**Resolute Bay**	**68.08**	**13**	*eP*	**P**		**01 33 22.9**	**+0.2**
RES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
RES	**Resolute Bay**	**68.08**	**13**	*eP*	**P**		**01 33 22.9**	**+0.2**
	comp=Z,1.5nm,0.4s							
YKA	**Yellowknife Ar**	**69.50**	**28**	P	**P**		**01 33 31.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=299,slow=6.3,SNR=27							
YKA	**Yellowknife Ar**	**69.50**	**28**	P	**P**		**01 33 31.6**	**0.0**
YKA	**Yellowknife Ar**	**69.50**	**28**	P	**P**		**01 33 31.6**	**0.0**
OBN	**Obninsk**	**70.36**	**323**	*eP*	**P**		**01 33 36.6**	**-0.3**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**		**01 33 45.3**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=65,slow=5.6,SNR=21							
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**		**01 33 45.3**	**-0.4**
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**		**01 33 45.3**	**-0.4**
KIV	**Kislovodsk**	**72.00**	**311**	*eP*	**P**		**01 33 47.9**	**+0.9**
KIV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KIV	**Kislovodsk**	**72.00**	**311**	*eP*	**P**		**01 33 47.5**	**+0.5**
	comp=Z,5.1nm,0.7s							
AKASG	**Malin Array Be**	**76.45**	**322**	P	**P**		**01 34 11.8**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=50,slow=5.7,SNR=15							
AKASG	**Malin Array Be**	**76.45**	**322**	P	**P**		**01 34 11.8**	**-0.4**
AKASG	**Malin Array Be**	**76.45**	**322**	P	**P**		**01 34 11.8**	**-0.4**
NOA	**NORSAR Array B**	**77.62**	**336**	P	**P**		**01 34 18.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=112,slow=8.8,SNR=1.2							
NOA	**NORSAR Array B**	**77.62**	**336**	P	**P**		**01 34 18.1**	**-0.4**
NOA	**NORSAR Array B**	**77.62**	**336**	P	**P**		**01 34 18.1**	**-0.4**
LRM	**Limekiln Ridge**	**79.69**	**42**	*eP*	**P**		**01 34 31.4**	**+1.1**
BR131	**Keskin Array S**	**79.96**	**311**	*eP*	**P**		**01 34 31.1**	**-0.6**
	comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**79.96**	**311**	P	**P**		**01 34 31.8**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=103,slow=4.3,SNR=15							
BRTR	**Keskin Array B**	**79.96**	**311**	*ceP*	**P**		**01 34 31.7**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRTR	**Keskin Array B**	**79.96**	**311**	P	**P**		**01 34 31.8**	**+0.1**
NVAR	**Mina Array Bea**	**80.27**	**51**	P	**P**		**01 34 34.5**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=292,slow=5.4,SNR=13							
NVAR	**Mina Array Bea**	**80.27**	**51**	P	**P**		**01 34 34.5**	**+1.0**
IMW	**Indian Meadow**	**81.69**	**43**	*eP*	**P**		**01 34 42.8**	**+1.9**
	comp=Z,37nm,2.7s							
DUG	**Dugway**	**82.77**	**47**	*eP*	**P**		**01 34 47.8**	**+1.5**
DUG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DUG	**Dugway**	**82.77**	**47**	*eP*	**P**		**01 34 47.8**	**+1.5**
	comp=Z,4.1nm,0.9s							
PDAR	**Pinedale Array**	**83.18**	**43**	P	**P**		**01 34 48.9**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=283,slow=2.0,SNR=9.3							
PDAR	**Pinedale Array**	**83.18**	**43**	P	**P**		**01 34 48.9**	**+0.4**
SRU	**San Rafael**	**84.83**	**47**	*eP*	**P**		**01 34 57.3**	**+0.5**
SRU				pmax	pmax			
	comp=Z,4.0nm,0.6s							
SRU	**San Rafael**	**84.83**	**47**	*eP*	**P**		**01 34 57.3**	**+0.5**
	comp=Z,3.6nm,0.6s							
TXAR	**Lajitas Array**	**95.42**	**51**	P	**P**		**01 35 47.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=292,slow=2.9,SNR=4.5							
TXAR	**Lajitas Array**	**95.42**	**51**	P	**P**		**01 35 47.3**	**+1.1**
TXAR	**Lajitas Array**	**95.42**	**51**	P	**P**		**01 35 47.3**	**+1.1**
LPAZ	**La Paz**	**151.57**	**63**	PKPbc	**PKPbc**		**01 42 15.6**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=332,slow=5.3,SNR=4.4							
LPAZ	**La Paz**	**151.57**	**63**	PKIKP	**PKPbc**		**01 42 15.6**	**+0.7**
LPAZ	**La Paz**	**151.57**	**63**	PKPbc	**PKPbc**		**01 42 15.6**	**+0.7**

ISCJB ***20*** *01:57:44.8±0.6, 37.00N±0.02×29.16E±0.03, h3km±5km, Error ellipse: s-maj=3.9km s-min=3.5km az=155.2*
ISK ***20*** *01:57:44.3, 36.99N×29.16E, h8km, MD3.2*
CSEM ***20*** *01:57:44.9±0.1, 37.00N×29.17E, h5km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.6km az=24.0*
DDA ***20*** *01:57:45.1, 37.02N×29.14E, h8km, ML3.5*

ISC 20 01:57:45.0±1.1, 37.02N±0.02×29.17E±0.02, h2km±10km, n54, σ0.8 s75/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FETY	**Fethiye**	**0.39**	**190**	*eP*	**G**		**01 57 51.6**	**-0.9**
FETY				*eS*	**G**		**01 57 57.2**	**-0.3**
FETY	**Fethiye**	**0.39**	**190**	*eP*	**G**		**01 57 51.6**	**-0.9**
FETY				*eS*	**G**		**01 57 57.2**	**-0.3**
TURN	**Turunc**	**0.48**	**252**	*i* P	**G**		01 57 59.3	+5.2
TURN				*i* S	**G**		01 58 10.2	+10
ELL	**Elmali**	**0.65**	**114**	*eP*	**G**		**01 57 56.4**	**-1.1**
ELL				*eS*	**G**		**01 58 06.9**	**+0.9**
ELL	**Elmali**	**0.65**	**114**	*eP*	**G**		**01 57 56.4**	**-1.1**
ELL				*eS*	**G**		**01 58 06.9**	**+0.9**
DNZL	**Cakiroluk**	**0.68**	**352**	*i* P	**G**		**01 57 57.5**	**-0.5**
DNZL				*i* S	**S**		**01 58 09.3**	**-0.3**
DNZL	**Cakiroluk**	**0.68**	**352**	*i* P	**G**		**01 57 57.5**	**-0.5**
DNZL				*i* S	**S**		**01 58 09.3**	**-0.3**
YER	**Yerkesik**	**0.72**	**279**	*eP*	**G**		**01 57 59.0**	**+0.2**
YER				*eS*	**G**		**01 58 08.7**	**+0.6**
YER	**Yerkesik**	**0.72**	**279**	*eP*	**G**		**01 57 59.0**	**+0.2**
YER				*eS*	**G**		**01 58 08.7**	**+0.6**
AKAS	**Kas**	**0.86**	**156**	*i* P	**G**		**01 58 01.2**	**-0.3**
AKAS				*i* S	**S**		**01 58 20.0**	**+2.5**
AKAS	**Kas**	**0.86**	**156**	*i* P	**G**		**01 58 01.2**	**-0.3**
KORT	**Korkueli**	**0.95**	**91**	*i* P	**G**		**01 58 04.4**	**+0.2**
KORT				*i* S	**S**		**01 58 18.8**	**-0.9**
KORT	**Korkueli**	**0.95**	**91**	*i* P	**G**		**01 58 04.4**	**+0.2**
KORT				*i* S	**S**		**01 58 18.8**	**-0.9**
ARG	**Arkhangelos**	**1.16**	**227**	*eP*	**G**		**01 58 06.3**	**-0.9**
ARG				*eS*	**S**		**01 58 21.8**	**-0.5**
ANTB	**Antalya**	**1.20**	**95**	*ePN*	**G**		**01 58 07.5**	**-0.4**
ANTB	**Antalya**	**1.20**	**95**	*ePn*	**G**		**01 58 07.5**	**-0.4**
AYDN	**Tasoluk**	**1.21**	**302**	*i* P	**G**		**01 58 08.0**	**-0.2**
AYDN				*i* S	**S**		**01 58 23.4**	**-0.5**
AYDN	**Tasoluk**	**1.21**	**302**	*i* P	**G**		**01 58 08.0**	**-0.2**
AYDN				*i* S	**S**		**01 58 23.4**	**-0.5**
BCK	**Bucak**	**1.22**	**68**	*ePN*	**G**		**01 58 08.4**	**+0.1**
BCK	**Bucak**	**1.22**	**68**	*ePn*	**G**		**01 58 08.4**	**+0.1**
KHL	**Karahalli**	**1.33**	**12**	*ePN*	**Pn**		**01 58 09.9**	**-0.9**
KHL	**Karahalli**	**1.33**	**12**	*ePn*	**Pn**		**01 58 09.9**	**-0.9**
KHAL	**Karahalli**	**1.37**	**11**	*i* P	**Pn**		**01 58 11.0**	**-0.3**
KHAL				*i* S	**Sg**		**01 58 30.6**	**+1.5**
KHAL	**Karahalli**	**1.37**	**11**	*i* P	**Pn**		**01 58 11.0**	**-0.3**
KHAL				*i* S	**Sg**		**01 58 30.6**	**+1.5**
BDRM	**Kayabasi**	**1.38**	**272**	*i* P	**Pb**		**01 58 11.6**	**0.0**
BDRM				*i* S	**Sg**		**01 58 31.5**	**+2.1**
BDRM	**Kayabasi**	**1.38**	**272**	*i* P	**Pb**		**01 58 11.6**	**0.0**
BDRM				*i* S	**Sg**		**01 58 31.5**	**+2.1**
BODT	**Bodrum**	**1.49**	**272**	*ePN*	**Pn**		**01 58 12.8**	**0.0**
BODT	**Bodrum**	**1.49**	**272**	*ePn*	**Pn**		**01 58 12.8**	**0.0**
KULA	**Kula-Manisa**	**1.54**	**345**	*ePN*	**Pn**		**01 58 12.9**	**-0.8**
KULA	**Kula-Manisa**	**1.54**	**345**	*ePn*	**Pn**		**01 58 12.9**	**-0.8**
MANT	**Manisa**	**1.55**	**342**	*i* P	**Pn**		**01 58 13.1**	**-0.7**
MANT				*i* S	**Sb**		**01 58 34.4**	**-0.2**
MANT	**Manisa**	**1.55**	**342**	*i* P	**Pn**		**01 58 13.1**	**-0.7**
MANT				*i* S	**Sb**		**01 58 34.4**	**-0.2**
GCAM	**G?zelcaml?**	**1.69**	**294**	*i* P	**Pn**		**01 58 15.4**	**-0.1**
GCAM				*i* S	**Sn**		**01 58 37.5**	**-0.2**
GCAM	**G?zelcaml?**	**1.69**	**294**	*i* P	**Pn**		**01 58 15.4**	**-0.1**
GCAM				*i* S	**Sn**		**01 58 37.5**	**-0.2**
SHUT	**Suhut-Afyon**	**1.88**	**35**	*ePN*	**Pn**		**01 58 18.1**	**-0.3**
SHUT	**Suhut-Afyon**	**1.88**	**35**	*ePn*	**Pn**		**01 58 18.1**	**-0.3**
SMG	**Samos**	**1.98**	**291**	*eP*	**Pn**		**01 58 19.5**	**-0.1**
SMG				*eS*	**Sn**		**01 58 44.3**	**-0.7**
IZM	**Izmir**	**2.04**	**313**	*ePN*	**Pn**		**01 58 20.0**	**-0.5**
IZM	**Izmir**	**2.04**	**313**	*ePn*	**Pn**		**01 58 20.0**	**-0.5**
ALT	**Altintas**	**2.16**	**20**	*ePN*	**Pn**		**01 58 22.4**	**+0.2**
ALT	**Altintas**	**2.16**	**20**	*ePn*	**Pn**		**01 58 22.4**	**+0.2**
BLCB	**Balcova**	**2.17**	**310**	*ePN*	**Pn**		**01 58 21.7**	**-0.4**
BLCB	**Balcova**	**2.17**	**310**	*ePn*	**Pn**		**01 58 21.7**	**-0.4**
KARP	**Karpathos**	**2.19**	**228**	*eP*	**Pn**		**01 58 23.2**	**+0.7**
KARP				*eS*	**Sb**		**01 58 51.8**	**-1.2**
KONT	**Konya--Tatoy**	**2.70**	**69**	*ePN*	**Pn**		**01 58 29.9**	**+0.4**
KONT	**Konya--Tatoy**	**2.70**	**69**	*ePn*	**Pn**		**01 58 29.9**	**+0.4**
LADK	**Ladik-KONYA**	**2.80**	**64**	*ePN*	**Pn**		**01 58 31.3**	**+0.4**
LADK	**Ladik-KONYA**	**2.80**	**64**	*ePn*	**Pn**		**01 58 31.3**	**+0.4**
APE	**Apeiranthos**	**2.91**	**272**	*ePN*	**Pn**		**01 58 32.2**	**-0.2**
APE	**Apeiranthos**	**2.91**	**272**	*eP*	**Pn**		**01 58 32.7**	**+0.3**
APE				*eS*	**Sn**		**01 59 07.8**	**-0.2**
APE	**Apeiranthos**	**2.91**	**272**	*ePn*	**Pn**		**01 58 32.2**	**-0.2**
ZKR	**Zakros**	**3.06**	**232**	*eP*	**Pn**		**01 58 35.7**	**+1.3**
NPS	**Neapolis**	**3.37**	**240**	*eP*	**Pn**		**01 58 39.2**	**+0.5**
KARN	**Karanos**	**4.54**	**251**	*eP*	**Pn**		**01 58 55.5**	**+0.7**

IDC ***20*** *02:24:50.5±0.9, 7.71S×106.25E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.2/21, mbtmp4.3/10, MS3.6/5, Ms1 3.6/5, ms1mx3.2/34, Error ellipse: s-maj=45.1km s-min=14.3km az=50.0*
DJA ***20*** *02:24:53, 7.95S×106.06E, h10km, MLv4.5/19*
ISCJB ***20*** *02:24:55.0±1.2, 7.86S±0.09×106.11E±0.07, h53km±8km, mb4.4/21, MS3.6/5, Error ellipse: s-maj=18.0km s-min=5.7km az=38.4*
NEIC ***20*** *02:24:55.1±0.4, 7.85S×106.09E, h35km, mb4.5/9, Error ellipse: s-maj=16.1km s-min=6.2km az=222.0*

ISC 20 02:24:56.9±0.9, 7.79S±0.08×106.27E±0.07, h45km±7km, n76, σ1.8 s34/81, mb4.5/21, MS3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKJI	**Sukabumi**	**0.82**	**20**	P	**Pn**		**02 25 10.2**	**-2.0**
SKJI				S	**Sn**		**02 25 24.5**	**+1.2**
CGJI	**Cibinong**	**1.30**	**334**	P	**Pn**		**02 25 17.3**	**-1.4**
CISI	**Cisompet, Garu**	**1.55**	**82**	P	**Pn**		**02 25 20.1**	**-2.0**
LEM	**Lembang**	**1.64**	**55**	P	**Pn**		**02 25 25.2**	**+1.7**
TNG	**Tangerang**	**1.65**	**13**	P	Pn		02 25 30.7	+7.3
TNG	**Tangerang**	**1.65**	**13**	P	Pn		02 25 30.7	+7.3
SBJI	**Serang**	**1.66**	**355**	P	**Pn**		**02 25 23.9**	**+0.3**
SBJI				S	**Sn**		**02 25 40.7**	**-3.0**
RBSI	**Rajabasa**	**2.00**	**345**	P	**Pn**		**02 25 28.6**	**+0.3**
KLI	**Kotabumi**	**3.23**	**334**	P	Pn		02 25 59.0	+14
BJII	**Banjamegara**	**3.44**	**83**	P	**Pn**		**02 25 50.1**	**+2.0**
LWLI	**Liwa**	**3.52**	**321**	P	**Pn**		**02 25 49.5**	**+0.2**
SMRI	**Semarang**	**4.20**	**80**	P	**Pn**		**02 26 00.6**	**+2.1**
UGM	**Wanagama**	**4.21**	**92**	P	**Pn**		**02 25 59.5**	**+0.8**
PCJI	**Pacitan**	**4.87**	**95**	P	**Pn**		**02 26 08.3**	**+0.5**
SJI	**Sawahan**	**5.45**	**90**	P	**Pn**		**02 26 17.8**	**+2.1**
	141nm,0.6s,0.5nm							
PWJI	**Pagerwojo**	**5.48**	**93**	P	**Pn**		**02 26 17.4**	**+1.3**
	120nm,0.6s,0.6nm							
PWJI				S	**Sn**		**02 27 15.1**	**-2.9**
	120nm,0.6s,0.6nm							
KSI	**Kapahiang**	**5.50**	**318**	P	**Pn**		**02 26 19.0**	**+2.6**
	130nm,0.9s,0.9nm							
KRKI	**Karangkates**	**6.13**	**94**	P	Pn		02 26 32.8	+7.8
GMJI	**Gumukmas**	**7.12**	**94**	P	**Pn**		**02 26 41.6**	**+3.0**
	73nm,1.0s,0.3nm							
JAGI	**Jajag, Banyuwa**	**7.83**	**96**	P	**Pn**		**02 26 50.3**	**+1.9**
	102nm,0.5s,2μm0.5nm							
BYJI	**Banyuwangi**	**8.02**	**94**	P	Pn		02 26 55.2	+4.3
	203nm,0.7s,89μm4.8nm							
NBBI	**Negara**	**8.29**	**95**	P	Pn		02 26 58.6	+4.0
	315nm,0.5s,1.3nm							
MTNI	**Mataram**	**9.83**	**96**	P	**Pn**		**02 27 15.8**	**0.0**
	100nm,0.7s,17μm							
KAPI	**Kappang**	**13.67**	**79**	Pn	**Pn**		**02 28 11.2**	**+2.8**
	0.6nm,0.3s,baz=232,slow=19,SNR=2.4							
KAPI	**Kappang**	**13.67**	**79**	Pn	**Pn**		**02 28 11.2**	**+2.8**
MMRI	**Maumere**	**15.82**	**94**	P	**P**		**02 28 39.3**	**-0.7**
	152nm,0.8s							
KDI	**Kendari**	**16.70**	**78**	P	**P**		**02 28 50.8**	**+1.2**
	34nm,1.2s							
MRSI	**Marisa**	**17.65**	**63**	P	**P**		**02 29 02.4**	**+2.2**
	34nm,0.7s							
NLAI	**Namlea**	**21.21**	**79**	P	**P**		**02 29 39.9**	**+0.8**
	62nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.46**	**120**	P	**P**		**02 29 42.0**	**+0.4**
	15nm,0.8s,baz=284,slow=5.5,SNR=23							
FITZ	**Fitzroy Crossi**	**21.46**	**120**	*eP*	**P**		**02 29 41.5**	**-0.1**
	29nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.46**	**120**	*eP*	**P**		**02 29 41.6**	**-0.1**
	11nm,0.7s							
LBMI	**Labuha**	**22.32**	**72**	P	**P**		**02 29 53.0**	**+2.0**
	73nm,0.9s							
TNTI	**Ternate**	**22.69**	**69**	P	**P**		**02 29 57.2**	**+2.3**
	92nm,1.1s							
NWAO	**Narrogin (SRO)**	**27.00**	**159**	LR	LR		02 39 45.2	
	comp=

PLIG	**Platanillo**	**1.35**	**21**	*i* P		Pn	02 32 42.0	-3.3
PLIG				*e*S		Sb	02 32 58.6	-4.6
ZIIG	**Zihuatanejo**	**1.47**	**289**	*i* P		Pn	02 32 42.9	-3.9
ZIIG				*i* S		Sn	02 33 01.2	-5.2
PNIG	**Pinotepa**	**1.95**	**112**	*i* P		Pn	02 32 50.0	-3.3
PNIG				*i* S		Sn	02 33 13.5	-4.7

MAN 20 02:35:00.17°38N×119°43E, *h*30km, mb4.4, ML3.3, MS3.1, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.09**	**155**	*e*P	Pb	02 35 20.1	-0.2
SIPP	**Brgy, Tapao**	**1.13**	**61**	i P	Pn	02 35 19.1	-0.6
SIPP				*e*S	Sn	02 35 30.3	-3.9
ABRA	**Dolores**	**1.26**	**77**	*e*P	Pn	02 35 21.0	-0.5
PIP	**Pasuquin**	**1.48**	**50**	i P	Pn	02 35 17.3	-7.3
PIP				*e*S	Sn	02 35 25.3	-18
BCPH	**Baguio City Da**	**1.48**	**132**	i P	Pn	02 35 24.1	-0.8
BCPH				*i* S	Sn	02 35 35.0	-8.5
SCZP	**Santa Cruz**	**1.66**	**164**	*e*P	Pn	02 35 27.8	+0.7
CAUP	**Cauayan**	**2.33**	**100**	*e*P	Pn	02 35 38.7	+2.4
BALP	**Baler**	**2.63**	**128**	*e*P	Pn	02 35 42.4	+2.0

IDC 20 03:03:44.1±4.8, 19°55S×176°05W, *h*0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/18, mbtmp4.2/3, Error ellipse: s-maj=238.2km s-min=51.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.42**	**263**	P	P	03 10 43.4	+1.2
	1.9nm,0.6s,baz=82,slow=7.1,SNR=3.6						
ASAR	**Alice Springs**	**46.52**	**256**	P	P	03 12 13.2	-0.6
	1.9nm,0.5s,baz=93,slow=7.6,SNR=19						
WRA	**Warramunga Arr**	**46.55**	**261**	P	P	03 12 13.2	-0.8
	1.5nm,0.3s,baz=96,slow=7.6,SNR=61						
AKASG	**Malin Array Be**	**143.03**	**333**	PKP	PKPbc	03 23 17.3	+0.7
	0.3nm,0.3s,baz=40,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**147.52**	**315**	PKPbc	PKPbc	03 23 30.5	-0.2
	0.5nm,0.8s,baz=100,slow=3.2,SNR=3.1						

*NEIC **20** 03:04:00.2, 19°27N×66°51W, h35km, MD3.2(RSPR), After RSPR.*

RSPR 20 03:04:00.2, 19°27N×66°51W, h35±16km, MD3.2/16, 27C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.95**	**194**	e P	Pn	03 04 15.5	-1.6
AOPR	**Arecibo Observ**	**0.95**	**194**	*e*S	Sn	03 04 27.7	-1.8
AOPR	**Arecibo Observ**	**0.95**	**194**	e P	Pn	03 04 15.5	-1.6
AOPR				*e*S	Sn	03 04 27.7	-1.8
AGPR	**Aguadilla, PR**	**0.98**	**215**	e P	Pn	03 04 16.3	-1.2
AGPR	**Aguadilla, PR**	**0.98**	**215**	*e*S	Sn	03 04 27.8	-2.4
AGPR	**Aguadilla, PR**	**0.98**	**215**	e P	Pn	03 04 16.3	-1.2
AGPR				*e*S	Sn	03 04 27.8	-2.4
LRS	**Lares**	**1.02**	**198**	e P	Pn	03 04 16.4	-1.7
LRS				*e*S	Sn	03 04 29.8	-1.6
LRS	**Lares**	**1.02**	**198**	*e*Pn	Pn	03 04 16.3	-1.9
LRS				*e*S	Sn	03 04 29.8	-1.6
CBYP	**Canovanas**	**1.17**	**148**	e P	Pn	03 04 18.9	-1.3
CBYP	**Canovanas**	**1.17**	**148**	*e*S	Sn	03 04 34.1	-1.0
CBYP	**Canovanas**	**1.17**	**148**	e P	Pn	03 04 18.9	-1.3
CBYP				*e*S	Sn	03 04 34.1	-1.0
CELP	**Cerrillos**	**1.19**	**183**	e P	Pn	03 04 18.9	-1.5
CELP	**Cerrillos**	**1.19**	**183**	*e*Pn	Pn	03 04 18.8	-1.6
SJG	**San Juan**	**1.20**	**163**	e P	Pn	03 04 19.1	-1.5
SJG	**San Juan**	**1.20**	**163**	*e*S	Sn	03 04 34.8	-0.9
SJG	**San Juan**	**1.20**	**163**	e P	Pn	03 04 19.2	-1.4
SJG	**San Juan**	**1.20**	**163**	*e*Pn	Pn	03 04 19.1	-1.5
SJG				*e*S	Sn	03 04 32.7	-3.0
LSP	**Las Mesas**	**1.22**	**207**	e P	Pn	03 04 19.7	-1.1
LSP	**Las Mesas**	**1.22**	**207**	*e*Pn	Pn	03 04 20.4	-0.4
LSP				*e*S	Sn	03 04 37.0	+0.9
OBIP	**Obispado Ponce**	**1.23**	**184**	e P	Pn	03 04 20.0	-0.9
OBIP	**Obispado Ponce**	**1.23**	**184**	*e*S	Sn	03 04 35.2	-1.0
OBIP	**Obispado Ponce**	**1.23**	**184**	e P	Pn	03 04 20.0	-0.9
OBIP				*e*S	Sn	03 04 35.2	-1.0
HUMP	**Col San Antoni**	**1.29**	**151**	e P	Pn	03 04 20.3	-1.4
HUMP	**Col San Antoni**	**1.29**	**151**	*e*S	Sn	03 04 36.6	-1.1
HUMP	**Col San Antoni**	**1.29**	**151**	e P	Pn	03 04 20.3	-1.4
HUMP				*e*S	Sn	03 04 36.6	-1.1
CPD	**Cerro la Pandu**	**1.35**	**155**	e P	Pn	03 04 21.2	-1.5
CPD	**Cerro la Pandu**	**1.35**	**155**	*e*S	Sn	03 04 37.6	-1.8
CPD	**Cerro la Pandu**	**1.35**	**155**	e P	Pn	03 04 21.2	-1.5
CPD				*e*S	Sn	03 04 37.6	-1.8
ICM	**Isla Caja Muer**	**1.37**	**180**	e P	Pn	03 04 22.1	-0.7
ICM	**Isla Caja Muer**	**1.37**	**180**	*e*S	Sn	03 04 37.9	-1.9
ICM	**Isla Caja Muer**	**1.37**	**180**	e P	Pn	03 04 22.1	-0.7
ICM				*e*S	Sn	03 04 37.9	-1.9
CRPR	**Cabo Rojo, PR**	**1.38**	**204**	e P	Pn	03 04 21.8	-1.2
CRPR	**Cabo Rojo, PR**	**1.38**	**204**	*e*S	Sn	03 04 38.6	-1.4
CRPR	**Cabo Rojo, PR**	**1.38**	**204**	e P	Pn	03 04 21.8	-1.2
CRPR				*e*S	Sn	03 04 38.6	-1.4
MTP	**Monte Pirata**	**1.48**	**142**	e P	Pn	03 04 22.9	-1.5
MTP	**Monte Pirata**	**1.48**	**142**	*e*S	Sn	03 04 41.7	-0.9
MTP	**Monte Pirata**	**1.48**	**142**	e P	Pn	03 04 22.9	-1.5
MTP				*e*S	Sn	03 04 41.7	-0.9
STVI	**Saint Thomas**	**1.74**	**122**	e P	Pn	03 04 26.9	-1.0
STVI	**Saint Thomas**	**1.74**	**122**	*e*S	Sn	03 04 48.2	-0.7
STVI	**Saint Thomas**	**1.74**	**122**	e P	Pn	03 04 26.9	-1.0
STVI				*e*S	Sn	03 04 48.2	-0.7
TBVI	**Tortola**	**1.99**	**115**	e P	Pn	03 04 30.0	-1.4
TBVI				*e*S	Sn	03 04 53.3	-1.7
TBVI	**Tortola**	**1.99**	**115**	e P	Pn	03 04 30.0	-1.4
TBVI				*e*S	Sn	03 04 53.3	-1.7
DR12	**Loma Pena Alta**	**2.76**	**260**	e P	Pn	03 04 42.0	-0.1
DR12				*e*S	Sn	03 05 09.1	-5.1
DR12	**Loma Pena Alta**	**2.76**	**260**	e P	Pn	03 04 42.0	-0.1
DR12				*e*S	Sn	03 05 09.1	-5.1
SDDR	**Presa de Saban**	**4.52**	**267**	*e*Pn	Pn	03 05 07.7	+1.3

*IDC **20** 03:16:04.6±1.8, 7°75S×106°16E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/22, mbtmp3.8/7, MS3.6/2, Ms1 3.6/2, ms1mx2.9/40, Error ellipse: s-maj=104.1km s-min=18.0km az=44.0*
*DJA **20** 03:16:06, 8°15S×106°22E, h10km, MLv4.1/8*
*ISCJB **20** 03:16:08.5±0.7, 7°97S±0°06×106°12E±0°05, h31km, mb3.8/7, MS3.5/2, Error ellipse: s-maj=9.9km s-min=5.5km az=37.8*

ISC 20 03:16:09.8±1.0, 7°83S±0°08×106°18E±0°06, h31km, n28, σ1°57/21, mb3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.90**	**24**	P	**Pn**	**03 16 25.2**	**-1.1**
SKJI				S	**Sb**	**03 16 39.4**	**+0.9**
CGJI	**Cibinong**	**1.30**	**338**	P	**Pn**	**03 16 32.5**	**+0.6**
CGJI				S	**Sb**	**03 16 50.9**	**+0.9**
CISI	**Cisompet, Garu**	**1.64**	**81**	P	**Pn**	**03 16 35.6**	**-1.0**
CISI				S	**Sn**	**03 16 57.3**	**+0.6**
SBJI	**Serang**	**1.70**	**358**	P	Pb	03 16 51.2	+11
LEM	**Lembang**	**1.74**	**55**	P	**Pb**	**03 16 40.5**	**-0.7**
RBSI	**Rajabasa**	**2.02**	**347**	P	**Pn**	**03 16 43.8**	**+2.1**
KLI	**Kotabumi**	**3.23**	**336**	P	Pb	03 17 16.6	+10
LWLI	**Liwa**	**3.50**	**323**	P	Pb	03 17 15.6	+4.4
BJII	**Banjamegara**	**3.53**	**82**	P	**Pn**	**03 17 05.1**	**+2.5**
SMRI	**Semarang**	**4.29**	**80**	P	**Pn**	**03 17 14.7**	**+1.6**
UGM	**Wanagama**	**4.30**	**91**	P	**Pn**	**03 17 14.6**	**+1.4**
MNAI	**Manna**	**4.71**	**317**	P	**Pn**	**03 17 21.9**	**+3.1**
SJI	**Sawahan**	**5.54**	**89**	P	**Pn**	**03 17 33.0**	**+2.8**
	54nm,0.6s,0.4nm						
PWJI	**Pagerwojo**	**5.57**	**92**	P	**Pn**	**03 17 32.2**	**+1.6**
	42nm,0.5s,0.2nm						
GMJI	**Gumukmas**	**7.21**	**94**	P	Pn	03 17 56.5	+3.4
	39nm,0.8s,0.2nm						
JAGI	**Jajag, Banyuwa**	**7.92**	**95**	P	Pn	03 18 06.1	+3.2
	62nm,0.8s,0.3nm						
RGRI	**Rengat**	**8.36**	**333**	P	Pn	03 18 12.7	+3.7
NBBI	**Negara**	**8.37**	**94**	P	Pn	03 18 14.5	+5.4
FITZ	**Fitzroy Crossi**	**21.51**	**120**	P	**P**	**03 20 56.6**	**+0.2**
	5.5nm,0.7s,baz=284,slow=5.5,SNR=9.5						
NWAO	**Narrogin (SRO)**	**27.00**	**159**	LR	LR	03 30 27.6	
	comp=Z,66nm,20.5s,baz=104,slow=32						
WRA	**Warramunga Arr**	**29.81**	**117**	P	**P**	**03 22 13.9**	**-0.4**
	0.8nm,0.4s,baz=292,slow=10,SNR=20						
ASAR	**Alice Springs**	**30.89**	**124**	P	**P**	**03 22 23.6**	**-0.2**
	0.6nm,0.8s,baz=296,slow=7.7,SNR=6.7						
SONM	**Songino Array**	**55.42**	**0**	LR	LR	03 53 17.8	
	comp=Z,90nm,19.4s,baz=98,slow=40						
MKAR	**Makanchi Array**	**58.39**	**341**	P	**P**	**03 26 01.9**	**-0.4**
	0.4nm,0.6s,baz=166,slow=8.3,SNR=8.5						
ZALV	**Zalesovo Beam**	**64.13**	**346**	P	**P**	**03 26 39.4**	**-1.6**
	0.5nm,0.4s,baz=143,slow=4.7,SNR=4.3						
BVAR	**Borovoye Array**	**67.81**	**338**	P	**P**	**03 27 03.9**	**-0.8**
	0.9nm,0.6s,baz=148,slow=8.6,SNR=6.8						
BRTR	**Keskin Array B**	**81.77**	**312**	P	**P**	**03 28 25.4**	**-0.6**
	0.4nm,0.7s,baz=129,slow=6.0,SNR=2.9						
TXAR	**Lajitas Array**	**144.72**	**49**	PKP	PKPbc	03 35 43.5	+0.2
	0.6nm,0.8s,baz=0.0,slow=0.3,SNR=8.0						

*IDC **20** 03:28:07.1±6.8, 38°32N×20°81E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.3/26, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=111.7km s-min=52.3km az=74.0*
*ISCJB **20** 03:28:15.3±0.4, 38°88N±0°01×21°63E±0°02, h8km±3km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.3km az=172.0*
*THE **20** 03:28:15.7, 38°86N×21°65E, h5km±1km, ML3.1/15, Error ellipse: s-maj=1.4km s-min=0.5km az=215.0*
*ATH **20** 03:28:15.8, 38°91N×21°68E, h15km±1km, ML2.9*
*CSEM **20** 03:28:15.5±0.1, 38°90N×21°66E, h2km, ML3.0, Error ellipse: s-maj=2.9km s-min=2.1km az=77.0*

ISC 20 03:28:16.0±0.9, 38°89N±0°01×21°65E±0°02, h7km±7km, n151, σ0°85/207, 2C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.13**	**76**	*e*PB	**Pg**	**03 28 19.1**	**+0.3**
EVR	**Evrytania**	**0.13**	**76**	P	**Pg**	**03 28 19.0**	**+0.3**
EVR				S	**Sg**	**03 28 20.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.40**	**71**	P	**Pg**	**03 28 23.9**	**+0.2**
MAKR				S	**Sg**	**03 28 29.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.40**	**71**	P	**Pg**	**03 28 23.9**	**+0.2**
MAKR				S	**Sg**	**03 28 29.8**	**+0.8**
EFP	**Efpalio**	**0.50**	**156**	P	**Pg**	**03 28 24.9**	**-0.7**
EFP				S	**Sg**	**03 28 31.4**	**-0.8**
EFP	**Efpalio**	**0.50**	**156**	*e*PN	**Pg**	**03 28 25.4**	**-0.2**
EFP				*e*SN	**Sb**	**03 28 33.3**	**-1.4**
EFP	**Efpalio**	**0.50**	**156**	P	**Pg**	**03 28 25.0**	**-0.7**
EFP	**Efpalio**	**0.50**	**156**	*e*Pn	**Pg**	**03 28 25.4**	**-0.2**
EFP				S	**Sg**	**03 28 31.4**	**-0.8**
EFP				*e*Sn	**Sb**	**03 28 33.3**	**-1.4**
UPR	**University Cam**	**0.61**	**170**	P	**Pg**	**03 28 26.9**	**-0.9**
UPR	**University Cam**	**0.61**	**170**	*e*PN	**Pb**	**03 28 28.2**	**-0.8**
UPR				*e*SN	**Sb**	**03 28 37.2**	**-0.6**
UPR	**University Cam**	**0.61**	**170**	P	**Pg**	**03 28 26.9**	**-0.9**
UPR	**University Cam**	**0.61**	**170**	*e*Pn	**Pb**	**03 28 28.2**	**-0.8**
UPR				S	**Sb**	**03 28 37.0**	**-0.8**
TRIZ	**Trizonia**	**0.62**	**147**	P	**Pg**	**03 28 26.7**	**-1.2**
TRIZ				S	**Sg**	**03 28 36.1**	**+0.2**
TRIZ	**Trizonia**	**0.62**	**147**	P	**Pg**	**03 28 26.7**	**-1.2**
TRIZ				S	**Sg**	**03 28 36.1**	**+0.2**
KALE	**Kalithea**	**0.63**	**142**	P	**Pg**	**03 28 26.9**	**-1.2**
KALE				S	**Sg**	**03 28 35.6**	**-0.6**
KALE	**Kalithea**	**0.63**	**142**	P	**Pg**	**03 28 26.9**	**-1.2**
KALE				S	**Sg**	**03 28 35.6**	**-0.6**
LAKA	**Lakka**	**0.69**	**158**	P	**Pg**	**03 28 28.4**	**-1.0**
LAKA				S	**Sg**	**03 28 38.5**	**+0.1**
LAKA	**Lakka**	**0.69**	**158**	P	**Pg**	**03 28 28.4**	**-1.0**
LAKA				S	**Sg**	**03 28 38.5**	**+0.1**
THL	**Klokotos Trika**	**0.73**	**23**	*e*PN	**Pg**	**03 28 29.6**	**-0.5**
THL				*e*SN	**Sg**	**03 28 39.1**	**-0.6**
THL	**Klokotos Trika**	**0.73**	**23**	*e*Pn	**Pg**	**03 28 29.6**	**-0.5**
THL				*e*Sn	**Sg**	**03 28 39.1**	**-0.6**
LKD2	**Lefkada island**	**0.78**	**263**	P	**Pg**	**03 28 30.3**	**-0.7**
LKD2				S	**Sb**	**03 28 41.6**	**-1.1**
LKD2	**Lefkada island**	**0.78**	**263**	*e*PN	**Pg**	**03 28 30.4**	**-0.6**
LKD2				*e*SN	**Sb**	**03 28 42.6**	**-0.1**
LKD2	**Lefkada island**	**0.78**	**263**	P	**Pg**	**03 28 30.3**	**-0.7**
LKD2				S	**Sb**	**03 28 41.6**	**-1.1**
LKD2				*e*Sn	**Sb**	**03 28 42.6**	**-0.1**
DSF	**Desfina**	**0.84**	**124**	P	**Pg**	**03 28 30.3**	**-1.7**
DSF				S	**Sg**	**03 28 42.5**	**-0.4**
DSF	**Desfina**	**0.84**	**124**	P	**Pg**	**03 28 30.5**	**-1.5**
DSF				S	**Sg**	**03 28 42.7**	**-0.2**
RLS	**Riolos of Patr**	**0.84**	**190**	*e*PB	**Pg**	**03 28 31.7**	**-0.4**
RLS				*e*SN	**Sb**	**03 28 45.2**	**+0.8**
RLS	**Riolos of Patr**	**0.84**	**190**	*e*Pn	**Pg**	**03 28 31.7**	**-0.4**
RLS				*e*Sn	**Sb**	**03 28 45.2**	**+0.8**
MEV	**Metsovon**	**0.95**	**340**	P	**Pg**	**03 28 33.5**	**-0.8**
MEV				S	**Sb**	**03 28 48.4**	**+0.5**
MEV	**Metsovon**	**0.95**	**340**	P	**Pg**	**03 28 33.5**	**-0.8**
MEV				S	**Sb**	**03 28 48.4**	**+0.5**
JAN	**Janina**	**0.99**	**321**	*e*PN	**Pg**	**03 28 34.3**	**-0.6**
JAN				*e*SN	**Sb**	**03 28 48.5**	**-0.2**
JAN	**Janina**	**0.99**	**321**	*e*Pn	**Pg**	**03 28 34.3**	**-0.6**
JAN				*e*Sn	**Sb**	**03 28 48.5**	**-0.2**
KFL	**Anninata**	**1.03**	**221**	P	**Pg**	**03 28 34.3**	**-1.4**
KFL				S	**Sg**	**03 28 48.6**	**-0.4**
KFL	**Anninata**	**1.03**	**221**	P	**Pg**	**03 28 34.7**	**-1.0**
KFL				S	**Sg**	**03 28 48.6**	**-0.4**
LKR	**Lokris**	**1.08**	**102**	*e*PN	**Pg**	**03 28 35.7**	**-1.1**
LKR				*e*SN	**Sg**	**03 28 51.2**	**+0.4**
LKR	**Lokris**	**1.08**	**102**	*e*Pn	**Pg**	**03 28 35.7**	**-1.1**
LKR				*e*Sn	**Sg**	**03 28 51.2**	**+0.4**
ATAL	**Atalanti**	**1.09**	**100**	P	**Pg**	**03 28 35.6**	**-1.3**
ATAL				S	**Sg**	**03 28 51.5**	**+0.4**
ATAL	**Atalanti**	**1.09**	**100**	P	**Pg**	**03 28 35.6**	**-1.3**
ATAL				S	**Sg**	**03 28 51.5**	**+0.4**
VLS	**Valsamata**	**1.09**	**230**	*e*PN	**Pb**	**03 28 37.1**	**-0.1**
VLS	**Valsamata**	**1.09**	**230**	*e*Pn	**Pb**	**03 28 37.1**	**-0.1**
GUR	**Goura**	**1.09**	**150**	P	**Pg**	**03 28 36.0**	**-0.9**
GUR				S	**Sb**	**03 28 51.7**	**-0.2**
GUR	**Goura**	**1.09**	**150**	*e*PN	**Pg**	**03 28 36.7**	**-0.3**
GUR				*e*SN	**Sb**	**03 28 51.9**	**0.0**
GUR	**Goura**	**1.09**	**150**	P	**Pg**	**03 28 36.1**	**-0.9**
GUR	**Goura**	**1.09**	**150**	*e*Pn	**Pg**	**03 28 36.7**	**-0.3**
GUR				S	**Sb**	**03 28 51.7**	**-0.2**
RGA	**Parga**	**1.10**	**294**	P	**Pb**	**03 28 36.9**	**-0.4**
RGA	**Parga**	**1.10**	**294**	P	**Pb**	**03 28 36.9**	**-0.4**
IGT	**Igoumenitsa**	**1.21**	**303**	P	**Pg**	**03 28 38.3**	**-0.9**
IGT				S	**Sg**	**03 28 57.3**	**+1.3**
IGT	**Igoumenitsa**	**1.21**	**303**	P	**Pg**	**03 28 38.3**	**-0.9**
IGT				S	**Sg**	**03 28 57.3**	**+1.3**
XOR	**Xorichti**	**1.29**	**68**	P	**Pg**	**03 28 39.5**	**-1.3**
XOR				S	**Sb**	**03 28 58.0**	**+0.5**
XOR	**Xorichti**	**1.29**	**68**	P	**Pg**	**03 28 39.5**	**-1.3**
XOR				S	**Sb**	**03 28 58.0**	**+0.5**
NEO	**Neokhori**	**1.30**	**71**	*e*PN	**Pg**	**03 28 40.0**	**-0.8**
NEO				*e*SN	**Sg**	**03 28 57.0**	**-0.7**
NEO	**Neokhori**	**1.30**	**71**	*e*Pn	**Pg**	**03 28 40.0**	**-0.8**
NEO				*e*Sn	**Sg**	**03 28 57.0**	**-0.7**
LTK	**Loutraki**	**1.35**	**129**	P	**Pg**	**03 28 40.7**	**-1.1**
LTK	**Loutraki**	**1.35**	**129**	*e*PN	**Pb**	**03 28 41.6**	**0.0**
LTK	**Loutraki**	**1.35**	**129**	P	**Pg**	**03 28 40.8**	**-1.1**
LTK	**Loutraki**	**1.35**	**129**	*e*Pn	**Pb**	**03 28 41.6**	**0.0**
LIT	**Litokhoron**	**1.38**	**28**	P	**Pn**	**03 28 40.8**	**-0.9**
LIT				S	**Sb**	**03 29 00.5**	**+0.6**
LIT	**Litokhoron**	**1.38**	**28**	*e*PN	**Pn**	**03 28 41.2**	**-0.5**
LIT				*e*SN	**Sg**	**03 28 59.4**	**-0.9**
LIT	**Litokhoron**	**1.38**	**28**	P	**Pn**	**03 28 40.8**	**-0.9**
LIT	**Litokhoron**	**1.38**	**28**	*e*Pn	**Pn**	**03 28 41.2**	**-0.5**
LIT				*e*Sn	**Sg**	**03 28 59.4**	**-0.9**
LIT				S	**Sb**	**03 29 00.5**	**+0.6**
KZN	**Kozani**	**1.42**	**4**	*e*PN	**Pn**	**03 28 41.6**	**-0.8**
KZN	**Kozani**	**1.42**	**4**	*e*Pn	**Pn**	**03 28 41.6**	**-0.8**
SKIA	**Skiathos**	**1.44**	**78**	P	**Pn**	**03 28 42.4**	**-0.2**
SKIA				S	**Sn**	**03 29 02.7**	**+0.9**
SKIA	**Skiathos**	**1.44**	**78**	P	**Pn**	**03 28 42.4**	**-0.2**
SKIA				S	**Sn**	**03 29 02.7**	**+0.9**
MRKA	**Markates**	**1.53**	**96**	P	**Pn**	**03 28 43.0**	**-0.7**
MRKA	**Markates**	**1.53**	**96**	P	**Pn**	**03 28 43.0**	**-0.7**
NEST	**Nestorio**	**1.59**	**343**	P	**Pn**	**03 28 44.6**	**-0.2**
NEST	**Nestorio**	**1.59**	**343**	P	**Pn**	**03 28 44.6**	**-0.2**
VLX	**Vlachokerasia**	**1.62**	**159**	*e*PN	**Pb**	**03 28 46.3**	**0.0**
VLX	**Vlachokerasia**	**1.62**	**159**	P	**Pn**	**03 28 45.5**	**+0.4**
VLX	**Vlachokerasia**	**1.62**	**159**	*e*Pn	**Pb**	**03 28 46.3**	**0.0**
KEK	**Kerkira**	**1.66**	**300**	*e*PN	**Pg**	**03 28 47.1**	**-0.6**
KEK	**Kerkira**	**1.66**	**300**	*e*Pn	**Pg**	**03 28 47.1**	**-0.6**
ITM	**Ithomi**	**1.72**	**173**	*e*PN	**Pg**	**03 28 48.3**	**-0.6**
ITM	**Ithomi**	**1.72**	**173**	*e*Pn	**Pg**	**03 28 48.3**	**-0.6**
ERET	**Eretria**	**1.75**	**104**	P	**Pn**	**03 28 46.3**	**-0.5**
ERET	**Eretria**	**1.75**	**104**	P	**Pn**	**03 28 46.3**	**-0.5**
AOS	**Alonnisos**	**1.76**	**80**	P	**Pn**	**03 28 45.7**	**-1.2**
AOS	**Alonnisos**	**1.76**	**80**	P	**Pn**	**03 28 45.7**	**-1.2**
NAIG	**Nisos Aigina**	**1.83**	**127**	*e*PN	**Pn**	**03 28 48.9**	**+1.0**
NAIG	**Nisos Aigina**	**1.83**	**127**	*e*Pn	**Pn**	**03 28 48.9**	**+1.0**
DID	**Didima**	**1.86**	**137**	*e*PN	**Pn**	**03 28 48.7**	**+0.3**
DID	**Didima**	**1.86**	**137**	P	**Pn**	**03 28 48.7**	**+0.3**
DID				S	**Sn**	**03 29 13.0**	**+0.8**
ATH	**Athens Observa**	**1.86**	**119**	*e*PN	**Pn**	**03 28 49.2**	**+0.9**
ATH	**Athens Observa**	**1.86**	**119**	*e*Pn	**Pn**	**03 28 49.2**	**+0.9**
PAIG	**Paliouri**	**1.89**	**56**	P	**Pn**	**03 28 47.4**	**-1.3**
PAIG	**Paliouri**	**1.89**	**56**	P	**Pn**	**03 28 47.4**	**-1.3**
FNA	**Florina**	**1.91**	**354**	P	**Pn**	**03 28 49.2**	**+0.2**
FNA	**Florina**	**1.91**	**354**	P	**Pn**	**03 28 49.2**	**+0.2**
PTL	**Penteli**	**1.93**	**115**	*e*PN	**Pn**	**03 28 49.4**	**+0.1**
PTL	**Penteli**	**1.93**	**115**	*e*Pn	**Pn**	**03 28 49.4**	**+0.1**
VLY	**Voula,Athens**	**1.98**	**121**	*e*PN	**Pn**	**03 28 50.9**	**+1.0**
VLY				*e*SN	**Sn**	**03 29 16.2**	**+1.2**
VLY	**Voula,Athens**	**1.98**	**121**	*e*Pn	**Pn**	**03 28 50.9**	**+1.0**
VLY				*e*Sn	**Sn**	**03 29 16.2**	**+1.2**
PYL	**PYLOS**	**1.99**	**178**	*e*PN	**Pb**	**03 28 51.6**	**-0.9**
PYL	**PYLOS**	**1.99**	**178**	*e*Pn	**Pb**	**03 28 51.6**	**-0.9**
THE	**Thessaloniki**	**2.02**	**30**	P	**Pn**	**03 28 49.3**	**-1.2**
THE	**Thessaloniki**	**2.02**	**30**	P	**Pn**	**03 28 49.3**	**-1.2**
HORT	**Hortiatis**	**2.04**	**33**	P	**Pn**	**03 28 49.6**	**-1.3**
HORT	**Hortiatis**	**2.04**	**33**	P	**Pn**	**03 28 49.6**	**-1.3**
BIA	**Bitola**	**2.15**	**353**	*e*Pn	**Pn**	**03 28 52.9**	**+0.6**
BIA	**Bitola**	**2.15**	**353**	*e*Pn	**Pn**	**03 28 52.9**	**+0.6**
GRG	**Griva**	**2.15**	**15**	P	**Pn**	**03 28 51.8**	**-0.5**
GRG	**Griva**	**2.15**	**15**	P	**Pn**	**03 28 51.8**	**-0.5**
MRMA	**Marmari**	**2.30**	**110**	P	**Pn**	**03 28 54.2**	**-0.1**
MRMA	**Marmari**	**2.30**	**110**	P	**Pn**	**03 28 54.2**	**-0.1**
OUR	**Ouranopolis**	**2.31**	**51**	P	**Pn**	**03 28 54.0**	**-0.5**
OUR				S	**Sn**	**03 29 23.4**	**+0.2**
OUR	**Ouranopolis**	**2.31**	**51**	P	**Pn**	**03 28 54.0**	**-0.5**
OUR				S	**Sn**	**03 29 23.4**	**+0.2**
SOH	**Sokhos**	**2.34**	**34**	P	**Pn**	**03 28 54.9**	**0.0**
SOH				S	**Sn**	**03 29 24.4**	**+0.5**
SOH	**Sokhos**	**2.34**	**34**	*e*PB	**Pn**	**03 28 54.9**	**0.0**
SOH				*e*SN	**Sn**	**03 29 24.4**	**+0.5**
SOH	**Sokhos**	**2.34**	**34**	P	**Pn**	**03 28 54.9**	**0.0**
SOH				S	**Sn**	**03 29 24.4**	**+0.5**
VLI	**Veliai**	**2.39**	**154**	*e*PB	**Pn**	**03 28 56.6**	**+1.0**
VLI	**Veliai**	**2.39**	**154**	*e*Pb	**Pn**	**03 28 56.6**	**+1.0**
KNT	**Kendrikon**	**2.47**	**23**	P	**Pn**	**03 28 57.0**	**+0.3**
KNT	**Kendrikon**	**2.47**	**23**	P	**Pn**	**03 28 57.0**	**+0.3**
VAY	**Valandovo**	**2.53**	**16**	*i* Pn	**Pn**	**03 28 57.2**	**-0.4**
VAY	**Valandovo**	**2.53**	**16**	*i* Pn	**Pn**	**03 28 57.6**	**0.0**
SRS	**Serrai**	**2.68**	**33**	P	**Pn**	**03 28 59.1**	**-0.5**
SRS	**Serrai**	**2.

PLCA	**Paso Flores**	**1.95**	**46**	*e*Pn	**Pb**	**03 46 09.7**	**-0.4**
PLCA				Pg	**Pg**	**03 46 11.3**	**-0.7**
PLCA				Lg	Lg	03 46 36.6	
PLCA				*e*S	**Sg**	**03 46 38.3**	**+0.9**
TRQA	**Tornquist**	**8.95**	**67**	*e*Pn	**Pn**	**03 47 45.6**	**+1.9**
	comp=E,8.3nm,0.6s						
TRQA				*e*S	Sn	03 49 16.5	-8.0
CFAA	**Coronel Fontan**	**10.99**	**19**	Pn	**Pn**	**03 48 11.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=203,slow=12,SNR=18						
CFAA				LR	LR	03 52 17.1	
	comp=E,74nm,20.3s,baz=191,slow=36						
CFAA	**Coronel Fontan**	**10.99**	**19**	Pn	**Pn**	**03 48 11.8**	**0.0**
	comp=E,517nm,19.1s,baz=328,slow=39						
USHA	**Ushuaia**	**13.01**	**170**	LR	LR	03 53 57.8	
	comp=E,134nm,18.3s,baz=271,slow=35						
PMSA	**Palmer Station**	**23.21**	**171**	LR	LR	03 59 01.5	
	comp=E,13nm,1.1s,baz=170,slow=7.2,SNR=14						
LPAZ	**La Paz**	**25.99**	**9**	P	**P**	**03 51 09.8**	**+1.9**
	comp=E,2.8nm,0.8s,baz=224,slow=11,SNR=6.3						
LPAZ	**La Paz**	**25.99**	**9**	P	**P**	**03 51 09.8**	**+1.9**
SIV	**San Ignacio**	**27.79**	**24**	P	**P**	**03 51 23.3**	**-0.2**
	comp=E,2.8nm,0.8s,baz=224,slow=11,SNR=6.3						
SIV				LR	LR	04 04 09.9	
	comp=E,169nm,18.4s,slow=40						
SIV	**San Ignacio**	**27.79**	**24**	P	**P**	**03 51 23.3**	**-0.2**
BDFB	**Brasilia**	**33.70**	**46**	P	**P**	**03 52 14.7**	**-1.2**
	comp=E,2.9nm,0.8s,baz=156,slow=1.9,SNR=4.3						
BDFB				LR	LR	04 07 04.1	
	comp=E,334nm,18.0s,baz=168,slow=38						
BDFB	**Brasilia**	**33.70**	**46**	P	**P**	**03 52 14.7**	**-1.2**
SAML	**Samuel**	**34.01**	**16**	*e*P	**P**	**03 52 18.4**	**+0.1**
	comp=E,7.1nm,1.1s						
QSPA	**South Pole Qui**	**48.15**	**180**	P	**P**	**03 54 16.8**	**+2.4**
	comp=E,20nm,1.0s,baz=152,slow=5.4,SNR=21						
QSPA	**South Pole Qui**	**48.15**	**180**	*e*P	**P**	**03 54 16.8**	**+2.4**
	comp=E,22nm,1.0s						
RCBR	**Riachuelo**	**48.51**	**52**	P	**P**	**03 54 17.5**	**0.0**
	comp=E,8.7nm,0.9s,baz=135,slow=9.3,SNR=3.5						
RCBR	**Riachuelo**	**48.51**	**52**	P	**P**	**03 54 17.5**	**0.0**
MAW	**Mawson**	**65.52**	**163**	LR	LR	04 25 54.1	
	comp=E,85nm,18.5s,baz=122,slow=37						
BOSA	**Boshof**	**76.64**	**116**	P	**P**	**03 57 24.9**	**-0.7**
	comp=E,7.1nm,1.0s,baz=217,slow=3.3,SNR=4.2						
BOSA	**Boshof**	**76.64**	**116**	P	**P**	**03 57 24.9**	**-0.7**
TXAR	**Lajitas Array**	**76.71**	**332**	P	**P**	**03 57 26.8**	**+1.1**
	comp=E,0.8nm,0.7s,baz=154,slow=7.4,SNR=11						
TXAR				LR	LR	04 24 26.4	
	comp=E,111nm,19.2s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**76.71**	**332**	P	**P**	**03 57 26.8**	**+1.1**
DBIC	**Dimbokro**	**78.16**	**70**	P	**P**	**03 57 34.4**	**+0.4**
	comp=E,2.2nm,0.7s,baz=172,slow=8.9,SNR=4.7						
DBIC	**Dimbokro**	**78.16**	**70**	P	**P**	**03 57 34.4**	**+0.4**
LBTB	**Lobatse**	**79.23**	**114**	P	**P**	**03 57 39.6**	**-0.4**
	comp=E,4.6nm,1.0s,baz=242,slow=22,SNR=4.4						
LBTB				LR	LR	04 29 34.6	
	comp=E,76nm,18.8s,baz=102,slow=33						
LBTB	**Lobatse**	**79.23**	**114**	P	**P**	**03 57 39.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**87.27**	**70**	P	**P**	**03 58 20.9**	**-0.5**
	comp=E,1.1nm,0.8s,baz=234,slow=3.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**87.27**	**70**	P	**P**	**03 58 20.9**	**-0.5**
ECSD	**EROS Data Cent**	**88.17**	**343**	*e*P	**P**	**03 58 25.0**	**0.0**
	comp=E,5.1nm,1.0s						
NVAR	**Mina Array Bea**	**90.39**	**326**	P	**P**	**03 58 36.2**	**+0.4**
	comp=E,0.4nm,0.7s,baz=189,slow=5.3,SNR=3.2						
NVAR	**Mina Array Bea**	**90.39**	**326**	P	**P**	**03 58 36.2**	**+0.4**
PDAR	**Pinedale Array**	**90.87**	**334**	P	**P**	**03 58 37.2**	**-0.7**
	comp=E,1.0nm,0.8s,baz=145,slow=5.4,SNR=6.9						
PDAR	**Pinedale Array**	**90.87**	**334**	P	**P**	**03 58 37.2**	**-0.7**
GERES	**GERESS Array B**	**117.91**	**48**	PKP	**PKPdf**	**04 04 20.4**	**-0.1**
	comp=E,0.4nm,0.6s,baz=308,slow=3.2,SNR=3.6						
GERES	**GERESS Array B**	**117.91**	**48**	PKP	**PKPdf**	**04 04 20.4**	**-0.1**
ILAR	**Eielson Array**	**121.21**	**331**	PKP	**PKPdf**	**04 04 27.0**	**+0.7**
	comp=E,0.5nm,0.8s,baz=196,slow=3.1,SNR=5.9						
ILAR	**Eielson Array**	**121.21**	**331**	PKP	**PKPdf**	**04 04 27.0**	**+0.7**
HFS	**Hagfors**	**123.57**	**37**	PKP	**PKPdf**	**04 04 28.8**	**-2.1**
	comp=E,3.5nm,0.9s,baz=149,slow=17,SNR=2.7						
HFS	**Hagfors**	**123.57**	**37**	PKP	**PKPdf**	**04 04 28.8**	**-2.1**
BRTR	**Keskin Array B**	**125.72**	**66**	PKP	**PKPdf**	**04 04 35.6**	**-0.3**
	comp=E,0.7nm,0.8s,baz=116,slow=2.9,SNR=4.7						
BRTR	**Keskin Array B**	**125.72**	**66**	PKP	**PKPdf**	**04 04 35.6**	**-0.3**
HYB	**Hyderabad**	**145.07**	**126**	*i* PKP	**PKPdf**	**04 05 12.0**	**-0.3**
PETK	**Petropavlovsk-**	**145.16**	**306**	PKPbc	**PKPdf**	**04 05 11.2**	**0.0**
	comp=E,3.6nm,0.8s,baz=135,slow=9.0,SNR=3.6						
PETK	**Petropavlovsk-**	**145.16**	**306**	PKPbc	**PKPdf**	**04 05 11.2**	**0.0**
AKTO	**Aktyubinsk**	**145.29**	**59**	PKPbc	**PKPbc**	**04 05 10.5**	**-0.9**
	comp=E,3.7nm,0.8s,baz=245,slow=2.5,SNR=13						
AKTO	**Aktyubinsk**	**145.29**	**59**	PKPbc	**PKPbc**	**04 05 10.5**	**-0.9**
ARU	**Arti**	**145.74**	**48**	*e*PKPdf	**PKPdf**	**04 05 12.1**	**0.0**
ABKAR	**Akbulak array**	**146.41**	**61**	*e*PKPbc	**PKPbc**	**04 05 14.7**	**-0.2**
KURK	**Kurchatov**	**158.35**	**57**	PKP	**PKPdf**	**04 05 30.4**	**-0.7**
	comp=E,0.4nm,0.7s,baz=293,slow=1.3,SNR=4.3						
KURK	**Kurchatov**	**158.35**	**57**	PKP	**PKPdf**	**04 05 30.4**	**-0.7**
ZALV	**Zalesovo Beam**	**160.80**	**44**	PKP	**PKPdf**	**04 05 33.9**	**+0.1**
	comp=E,0.4nm,0.4s,baz=201,slow=1.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**160.80**	**44**	PKP	**PKPdf**	**04 05 33.9**	**+0.1**
MKAR	**Makanchi Array**	**161.37**	**67**	PKP	**PKPdf**	**04 05 34.8**	**+0.2**
	comp=E,0.5nm,0.9s,baz=282,slow=2.4,SNR=3.6						
MKAR				PKPab	**PKPab**	**04 06 18.9**	**-0.1**
	comp=E,1.2nm,0.7s,baz=270,slow=3.2,SNR=9.9						
MKAR	**Makanchi Array**	**161.37**	**67**	PKP	**PKPdf**	**04 05 34.8**	**+0.2**
MKAR				PKPab	**PKPab**	**04 06 18.9**	**-0.1**

*BJI **20** 04:03:01.2,22.˝14N×101.˝25E,h10km,mB4.6/2,mb4.2/7, ML4.5/9,Ms4.2/5,Ms7 3.9/4*
*PLV **20** 04:03:02.1±1.3,22.˝30N×101.˝33E,h10km±10km,MD3.2*
*NEIC **20** 04:03:03.4±3.6,22.˝23N×101.˝40E,h12km±25km,mb4.0/4, Error ellipse: s-maj=10.7km s-min=9.4km az=155.0*
*IDC **20** 04:03:04.8±1.0,22.˝39N×100.˝71E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.7/27,mbtmp3.8/11,ML3.9/1,MS3.4/2, Ms1 3.4/2,ms1mx3.0/33,Error ellipse: s-maj=31.6km s-min=16.6km az=87.0*

ISC 20 04:03:03.9±0.9,22.˝16N±0.˝04×101.˝34E±0.˝04,h14km±7km, n42,σ1§43/55,mb3.9/14,MS3.4/3,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCVN	**Lai Chau**	**1.69**	**94**	*e*Pn	**Pn**	**04 03 32.1**	**-1.0**
LCVN				*e*Pg	**Pb**	**04 03 34.3**	**-0.6**
LCVN				*e*Sg	**Sg**	**04 03 58.1**	**-0.3**
DBV	**Dienbien**	**1.75**	**116**	*e*Pg	**Pg**	**04 03 37.2**	**-0.3**
DBV				*e*Sg	**Sg**	**04 04 01.1**	**+0.9**
TGV	**Tuan Giao**	**2.02**	**106**	*e*Pn	**Pn**	**04 03 36.4**	**-1.1**
TGV				*e*Pg	**Pg**	**04 03 42.2**	**-0.4**
TGV				*e*Sg	**Sg**	**04 04 08.2**	**-0.6**
SLVN	**Son La**	**2.53**	**108**	*e*Pg	**Pg**	**04 03 51.6**	**-0.8**
SLVN				*e*Sg	**Sg**	**04 04 24.8**	**-0.3**
KMI	**Kunming**	**3.22**	**23**	Pg	**Pg**	**04 04 04.8**	**-0.9**
KMI				Sg	**Sg**	**04 04 45.0**	**-2.5**
KMI				smax	smax		
	comp=N,220nm,1.1s						
KMI				smax	smax		
	comp=E,240nm,1.2s						
CHTO	**Chiang Mai**	**4.01**	**214**	*e*Pn	**Pn**	**04 04 06.4**	**+1.4**
CHTO				Sn	**Sb**	**04 05 00.5**	**-2.3**
CM31	**Chiang Mai Arr**	**4.31**	**212**	*e*Pn	Pb	04 04 14.8	-4.7
CM31				*e*Pg	**Pg**	**04 04 26.0**	**-0.6**
CM31				*e*Sg	**Sg**	**04 05 24.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**4.31**	**212**	Pn	**Pn**	**04 04 08.8**	**-0.3**
	comp=E,1.9nm,0.3s,baz=26,slow=12,SNR=15						
CMAR				Pg	**Pg**	**04 04 25.1**	**-1.5**
	comp=E,10.0nm,0.3s,baz=36,slow=17,SNR=66						
CMAR				Lg	Lg	04 05 19.2	
	comp=E,6.9nm,0.3s,baz=30,slow=26,SNR=5.9						
CMAR	**Chiang Mai Arr**	**4.31**	**212**	Pn	**Pn**	**04 04 08.8**	**-0.3**
CMAR				Pg	**Pg**	**04 04 25.1**	**-1.5**
CMAR				Lg	Lg	04 05 19.2	
GYA	**Guiyang**	**6.48**	**48**	Pn	**Pn**	**04 04 37.1**	**-1.8**
GYA				Sn	**Sn**	**04 05 55.5**	**+2.8**
GYA				Sg	**Sg**	**04 06 31.8**	**-0.1**
GYA				smax	smax		
	comp=N,180nm,0.8s						
GYA				smax	smax		
	comp=E,100nm,0.9s						
QIZ	**Qiongzhong**	**8.55**	**110**	P	**Pn**	**04 05 06.4**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,18nm,0.7s						
QIZ				pmax	pmax		
	comp=Z,110nm,4.4s						
QIZ				LR	LR		
	comp=N,690nm,12.7s						
QIZ				LR	LR		
	comp=Z,450nm,9.7s						
QIZ	**Qiongzhong**	**8.55**	**110**	*e*Pn	**Pn**	**04 05 06.4**	**-1.0**
	comp=Z,13nm,0.5s						
ENH	**Enshi**	**10.90**	**40**	*e*P	**Pn**	**04 05 38.3**	**-1.2**
	comp=Z,4.7nm,0.5s						
LSA	**Lhasa**	**11.85**	**311**	*e*P	**Pn**	**04 05 52.7**	**-0.2**
GTA	**Gaotai**	**17.25**	**356**	*e*P	**P**	**04 07 06.8**	**+0.8**
GTA				pP	**pP**	**04 07 12.5**	**+2.5**
GTA				sP	sP	04 07 16.1	+4.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.55**	**23**	*e*P	**P**	**04 07 39.4**	**-2.7**
HHC				PP	**PnPn**	**04 08 01.1**	**+1.4**
HHC				S	S	04 11 24.5	-7.1
HHC				SS	**SnSn**	**04 11 55.4**	**+4.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,5.8s						
HHC				LR	LR		
	comp=N,300nm,10.3s						
HHC				LR	LR		
	comp=E,330nm,9.0s						
HHC				LR	LR		
	comp=Z,220nm,9.9s						
SONM	**Songino Array**	**25.94**	**8**	P	**P**	**04 08 36.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=180,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**25.94**	**8**	P	**P**	**04 08 36.4**	**+0.5**
ULN	**Ulaanbaatar**	**26.06**	**9**	*e*P	**P**	**04 08 36.5**	**-0.5**
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**29.01**	**332**	*e*P	**P**	**04 09 02.4**	**-0.9**
MKAR	**Makanchi Array**	**29.01**	**332**	P	**P**	**04 09 01.8**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=140,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**29.01**	**332**	P	**P**	**04 09 01.8**	**-1.6**
KURK	**Kurchatov**	**33.58**	**334**	P	**P**	**04 09 41.5**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=142,slow=8.2,SNR=4.1						
KURK				LR	LR	04 24 13.5	
	comp=Z,51nm,18.2s,baz=325,slow=38						
KURK	**Kurchatov**	**33.58**	**334**	*e*P	**P**	**04 09 42.4**	**-1.1**
	comp=Z,1.6nm,0.9s						
ZALV	**Zalesovo Beam**	**34.12**	**343**	P	**P**	**04 09 47.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=148,slow=8.9,SNR=6.8						
ZALV				LR	LR	04 26 05.3	
	comp=Z,80nm,20.4s,baz=340,slow=41						
ZALV	**Zalesovo Beam**	**34.12**	**343**	P	**P**	**04 09 47.6**	**-0.5**
BVAR	**Borovoye Array**	**38.82**	**330**	P	**P**	**04 10 27.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.8,SNR=7.5						
BVAR	**Borovoye Array**	**38.82**	**330**	P	**P**	**04 10 27.7**	**-0.5**
ABKAR	**Akbulak array**	**42.36**	**320**	*e*P	**P**	**04 10 57.1**	**-0.4**
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**43.98**	**321**	P	**P**	**04 11 11.2**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=118,slow=5.8,SNR=7.8						
AKTO	**Aktyubinsk**	**43.98**	**321**	P	**P**	**04 11 11.2**	**+0.6**
WRA	**Warramunga Arr**	**52.83**	**140**	P	P	04 12 27.4	+8.2
	comp=Z,7.1nm,0.7s,baz=331,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**52.83**	**140**	P	P	04 12 27.4	+8.2
PMG	**Port Moresby**	**54.79**	**120**	*e*P	P	04 12 37.8	+4.1
	comp=Z,3.9nm,0.6s						
FINES	**FINESS Array B**	**63.76**	**329**	P	**P**	**04 13 35.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=104,slow=8.0,SNR=7.2						
FINES	**FINESS Array B**	**63.76**	**329**	P	**P**	**04 13 35.1**	**+0.1**
HFS	**Hagfors**	**69.89**	**328**	P	**P**	**04 14 14.1**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=183,slow=3.0,SNR=7.3						
HFS	**Hagfors**	**69.89**	**328**	P	**P**	**04 14 14.1**	**-0.1**
GERES	**GERESS Array B**	**72.13**	**316**	P	**P**	**04 14 27.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=46,slow=7.0,SNR=2.3						
GERES	**GERESS Array B**	**72.13**	**316**	P	**P**	**04 14 27.9**	**-0.2**
YKA	**Yellowknife Ar**	**90.94**	**16**	P	**P**	**04 16 09.4**	**+2.3**
	comp=Z,0.1nm,0.8s,baz=328,slow=3.9,SNR=3.7						
YKA	**Yellowknife Ar**	**90.94**	**16**	P	**P**	**04 16 09.4**	**+2.3**

*BJI **20** 04:06:51.4,0.˝02N×121.˝04E,h78km,mB5.2/23,mb4.9/36, Ms4.8/17,Ms7 4.5/15*
*DJA **20** 04:06:56,0.˝67N×120.˝75E,h63km,MLv5.1/12*
*ISCJB **20** 04:06:56.5±0.5,0.˝45N±0.˝03×120.˝92E±0.˝04,h95km±5km, mb4.8/66,Error ellipse: s-maj=6.1km s-min=4.9km az=178.2*
*NEIC **20** 04:06:57.2±1.2,0.˝47N×120.˝99E,h88km±11km,mb5.1/30, Error ellipse: s-maj=9.9km s-min=4.0km az=60.0*
NEIC Felt [III] at Tolitoli.
*IDC **20** 04:06:58.4±2.1,0.˝45N×120.˝88E,h97km±19km,mb4.2/18, mb1 4.3/20,mb1mx4.2/28,mbtmp4.2/20,MS3.2/6, Ms1 3.2/6,ms1mx2.9/33,Error ellipse: s-maj=22.0km s-min=9.3km az=72.0*
*MOS **20** 04:06:59.2±0.8,0.˝52N×121.˝06E,h124km,mb4.7/20,Error ellipse: s-maj=17.3km s-min=6.9km az=112.6*

ISC 20 04:06:57.5±0.5,0.˝48N±0.˝04×120.˝86E±0.˝04,h89km±4km, n195,σ1§23/212,mb4.8/66,2C-1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.08**	**90**	P	**Pn**	**04 07 17.3**	**-0.7**
MRSI				S	**Sn**	**04 07 32.3**	**-1.1**
APSI	**Ampana**	**1.59**	**150**	S	**Sn**	**04 07 47.9**	**+3.2**
PCI	**Palu**	**1.72**	**217**	P	Pn	04 07 30.4	+4.4
LUWI	**Luwuk**	**2.43**	**128**	P	**Pn**	**04 07 36.7**	**+1.3**
LUWI				S	**Sn**	**04 08 07.7**	**+3.2**
KMSI	**Cibinong**	**3.12**	**88**	P	**Pn**	**04 07 46.6**	**+2.0**
KMSI				S	**Sn**	**04 08 24.9**	**+3.9**
SMKI	**Samarinda**	**3.77**	**256**	P	**Pn**	**04 07 52.9**	**-0.6**
SMKI				S	**Sn**	**04 08 34.9**	**-1.9**
MNI	**Manado**	**4.09**	**76**	P	**Pn**	**04 07 57.0**	**-0.8**
MNI				S	**Sn**	**04 08 40.9**	**-3.7**
SPSI	**Sidrap Palu**	**4.55**	**194**	P	**Pn**	**04 08 04.3**	**+0.3**
SPSI				S	**Sn**	**04 08 57.7**	**+2.0**
KDI	**Kendari**	**4.74**	**158**	P	**Pn**	**04 08 06.8**	**+0.1**
KAPI	**Kappang**	**5.57**	**191**	P	**Pn**	**04 08 17.2**	**-0.7**
	11nm,0.3s,baz=2.2,slow=4.6,SNR=22						
KAPI				S	**Sn**	**04 09 21.8**	**+1.2**
	baz=107,slow=23,SNR=2.3						
KAPI				LR	LR	04 10 56.0	
	comp=Z,270nm,19.5s,baz=16,slow=43						
KAPI	**Kappang**	**5.57**	**191**	*e*Pn	**Pn**	**04 08 17.0**	**-0.9**
KAPI				*e*S	Sn	04 09 30.8	+10
KAPI	**Kappang**	**5.57**	**191**	P	**Pn**	**04 08 17.0**	**-0.9**
	70nm,0.9s,1μm0.3nm						
BKSI	**Bulukumba**	**5.81**	**187**	P	**Pn**	**04 08 22.0**	**+0.8**
	83nm,0.8s,780nm0.3nm						
KBKI	**Kotabaru**	**6.01**	**231**	P	**Pn**	**04 08 22.5**	**-1.4**
	73nm,0.7s,3μm						
BBSI	**Bau Bau**	**6.17**	**164**	P	**Pn**	**04 08 25.2**	**-0.9**
	157nm,0.8s,0.6nm						
TNTI	**Ternate**	**6.51**	**87**	P	**Pn**	**04 08 30.3**	**-0.5**
	111nm,0.8s,2μm0.5nm						
ZMPH	**Zamboanga City**	**6.54**	**11**	*i* P	**Pn**	**04 08 28.9**	**-2.4**
ZMPH				*i* S	Sn	04 09 39.0	-5.4
LBMI	**Labuha**	**6.73**	**99**	P	**Pn**	**04 08 33.2**	**-0.6**
	352nm,0.6s,9μm3.1nm						
NLAI	**Namlea**	**7.24**	**121**	P	**Pn**	**04 08 41.7**	**+0.9**
	110nm,0.7s,3μm0.8nm						
DAV	**Davao City (W)**	**8.06**	**36**	LR	LR	04 12 05.2	
	comp=Z,108nm,19.9s,baz=217,slow=38						
AAI	**Ambon**	**8.41**	**120**	P	Pn	04 09 04.5	+7.8
MSAI	**Masohi**	**8.91**	**115**	P	**Pn**	**04 09 06.2**	**+2.7**
FITZ	**Fitzroy Crossi**	**19.05**	**166**	P	**Pn**	**04 11 13.7**	**-0.8**
	2.0nm,0.3s,baz=2.5,slow=7.3,SNR=44						
FITZ				LR	LR	04 18 34.2	
	comp=Z,75nm,20.0s,baz=322,slow=37						
FITZ	**Fitzroy Crossi**	**19.05**	**166**	*e*P	**P**	**04 11 13.5**	**+0.7**
	48nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.05**	**166**	*e*Pn	**P**	**04 11 13.3**	**+0.5**
	31nm,0.8s						
MBWA	**Marble Bar**	**21.53**	**183**	*e*P	P	04 11 33.9	-5.8
YULB	**Yu-li**	**22.78**	**1**	*e*P	**P**	**04 11 52.1**	**-0.8**
	53nm,1.5s						
WRAB	**Tennant Creek**	**24.21**	**148**	*e*P	**P**	**04 12 05.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,58nm,1.2s						
WRAB	**Tennant Creek**	**24.21**	**148**	*e*P	**P**	**04 12 05.4**	**-0.7**
	comp=Z,58nm,1.2s						
WRAB	**Tennant Creek**	**24.21**	**148**	P	**P**	**04 12 05.0**	**-1.1**
	comp=Z,262nm,0.6s,SNR=60						
WRA	**Warramunga Arr**	**24.21**	**148**	P	**P**	**04 12 05.1**	**-1.0**
	comp=Z,26nm,0.5s,baz=328,slow=10,SNR=210						
WRA	**Warramunga Arr**	**24.21**	**148**	P	**P**	**04 12 05.1**	**-1.0**
WRA	**Warramunga Arr**	**24.21**	**148**	P	**P**	**04 12 05.1**	**-1.0**
WB2	**Warramunga Arr**	**24.22**	**148**	*e*P	**P**	**04 12 05.4**	**-0.8**
COEN	**Coen**	**26.34**	**124**	*e*P	**P**	**04 12 24.2**	**-1.3**
	comp=Z,49nm,1.1s						
AS31	**Alice Springs**	**27.14**	**153**	*e*P	**P**	**04 12 32.2**	**-0.4**
ASAR	**Alice Springs**	**27.14**	**153**	P	**P**	**04 12 32.1**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=346,slow=14,SNR=61						
ASAR				PcP	**PcP**	**04 15 50.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=340,slow=1.9,SNR=4.3						
ASAR				ScP	**ScP**	**04 19 22.5**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=330,slow=2.0,SNR=5.5						
ASAR	**Alice Springs**	**27.14**	**153**	P	**P**	**04 12 32.2**	**-0.4**
ASAR						04 15 50.1	
ASAR	**Alice Springs**	**27.14**	**153**	P	**P**	**04 12 32.1**	**-0.4**
ASAR				PcP	**PcP**	**04 15 50.1**	**-1.2**
ASAR				ScP	**ScP**	**04 19 22.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**27.98**	**311**	P	**P**	**04 12 41.0**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=142,slow=7.9,SNR=4.7						
CMAR				LR	LR	04 23 02.8	
	comp=Z,82nm,18.5s,baz=138,slow=34						
CMAR	**Chiang Mai Arr**	**27.98**	**311**	P	**P**	**04 12 41.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**27.98**	**311**	P	**P**	**04 12 41.0**	**+0.9**
GYA	**Guiyang**	**29.23**	**333**	P	**P**	**04 12 53.3**	**+2.1**
GYA				pP	**pP**	**04 13 13.8**	**+2.3**
GYA				PP	PP	04 13 52.8	-6.0
GYA				S	**S**	**04 17 40.4**	**+2.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,740nm,17.9s						
GYA				LR	LR		
	comp=E,620nm,18.2s						
GYA				LR	LR		
	comp=E,730nm,17.8s						
KMI	**Kunming**	**30.12**	**326**	P	**P**	**04 13 01.0**	**+1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WHN	**Wuhan**	**30.54**	**349**	P	P	04 12 55.8	-6.7
NJ2	**Nanjing**	**31.46**	**357**	*e*P	**P**	**04 13 11.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**31.54**	**341**	*e*P	**P**	**04 13 12.2**	**+0.6**
	comp=Z,5.7nm,0.6s						
FORT	**Forrest**	**31.83**	**168**	*e*P	**P**	**04 13 13.7**	**-0.3**
	comp=Z,8.8nm,0.5s						
FORT	**Forrest**	**31.83**	**168**	*e*P	**P**	**04 13 13.9**	**-0.1**
	comp=Z,48nm,1.4s						
KLBR	**Kellerberrin**	**32.03**	**185**	*e*P	**P**	**04 13 14.9**	**-0.8**
	comp=Z,726nm,4.1s						
CTA	**Charters Tower**	**32.19**	**131**	LR	LR	04 25 54.3	
	comp=Z,61nm,19.0s,baz=52,slow=35						
NWAO	**Narrogin (SRO)**	**33.40**	**186**	P	**P**	**04 13 27.5**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=44,slow=14,SNR=7.0						
NWAO	**Narrogin (SRO)**	**33.40**	**186**	P	**P**	**04 13 27.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**33.40**	**186**	P	**P**	**04 13 27.5**	**-0.2**
CD2	**Chengdu**	**34.34**	**333**	P	**P**	**04 13 36.3**	**+0.4**
CD2				pP	**pP**	**04 13 56.8**	**+0.3**
CD2				sP	**sP**	**04 14 07.3**	**+0.5**
CD2				PP	PP	04 14 55.0	-0.5
CD2				S	**S**	**04 18 57.8**	**+0.6**
CD2				SS	SS	04 21 14.4	-15
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,4.2s						
CD2				LR	LR		
	comp=N,370nm,6.5s						
CD2				LR	LR		
	comp=E,240nm,7.1s						
BBOO	**Buckleboo**	**36.08**	**158**	*e*P	**P**	**04 13 50.6**	**-0.2**
	comp=Z,166nm,0.8s						
KSAR	**Wonju Array Be**	**37.35**	**9**	P	**P**	**04 14 02.7**	**+1.2**
KSAR	**Wonju Array Be**	**37.35**	**9**	P	**P**	**04 14 02.6**	**+1.2**
KSRS	**Korea Array**	**37.37**	**9**	P	**P**	**04 14 02.6**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=186,slow=9.8,SNR=12						
KSRS				LR	LR	04 28 23.3	
	comp=Z,15nm,21.4s,baz=220,

MDJ pmax pmax
comp=Z,170nm,4.3s
USRK Ussuriysk Arra 44.65 11 P **P** **04 15 01.3 +0.1**
comp=Z,3.8nm,0.5s,baz=190,slow=7.5,SNR=9.7
KOLN Koldanda 44.84 310 *eP* **P** **04 15 04.1 +0.7**
comp=Z,39nm,0.8s
KOLN Koldanda 44.84 310 *eP* **P** **04 15 04.1 +0.7**
comp=Z,39nm,0.8s
HYB Hyderabad 44.89 294 *i* P **P** **04 15 03.0 -0.7**
DANN Dangsing 45.02 311 *eP* **P** **04 15 05.3 +0.4**
comp=Z,36nm,0.7s
DANN Dangsing 45.02 311 *eP* **P** **04 15 05.3 +0.4**
comp=Z,36nm,0.7s
ERM Erimo 45.97 23 *eP* **P** **04 15 10.7 -1.1**
ASAJ Asahikawa 47.56 21 *eP* **P** **04 15 22.8 -1.4**
comp=Z,204nm,2.7s
ULN Ulaanbaatar 48.70 348 *eP* **P** **04 15 33.7 +0.6**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 48.70 348 *eP* **P** **04 15 33.7 +0.6**
comp=Z,8.2nm,0.8s
SONM Songino Array 48.82 347 P **P** **04 15 34.7 +0.8**
comp=Z,6.0nm,0.7s,baz=168,slow=8.2,SNR=44
SONM Songino Array 48.82 347 P **P** **04 15 34.7 +0.8**
SONM Songino Array 48.82 347 P **P** **04 15 34.7 +0.8**
ZAK Zakamensk 51.93 346 *eP* **P** **04 15 56.3 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 52.30 330 *eP* **P** **04 16 01.1 +1.0**
WMQ pmax pmax
comp=Z,13nm,0.8s
TLY Talaya 53.05 347 *eP* **P** **04 16 06.6 +1.1**
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY Talaya 53.05 347 *eP* **P** **04 16 06.6 +1.1**
comp=Z,5.7nm,0.7s
MK31 Makanchi Array 57.10 329 *eP* **P** **04 16 35.5 +0.8**
MK31 Makanchi Array 57.10 329 *eP* **P** **04 16 35.5 +0.8**
MKAR Makanchi Array 57.10 329 P **P** **04 16 35.6 +0.9**
comp=Z,4.3nm,0.4s,baz=126,slow=9.0,SNR=66
MKAR Makanchi Array 57.10 329 *eP* **P** **04 16 35.7 +0.9**
MKAR Makanchi Array 57.10 329 *eP* **P** **04 16 35.6 +0.9**
BOD Bodaibo 57.43 356 *eP* **P** **04 16 35.9 -0.9**
BOD pmax pmax
comp=Z,5.0nm,1.4s
KZA Kyzart 58.25 321 P **P** **04 16 44.8 +1.4**
SNR=5.1
KZA P **P** **04 16 44.8 +1.4**
SNR=5.1
TKM2 Tokmak 2 58.49 322 P **P** **04 16 45.9 +1.1**
SNR=9.7
TKM2 P **P** **04 16 45.9 +1.1**
SNR=9.7
TKM2 Tokmak 2 58.49 322 *eP* **P** **04 16 45.9 +1.1**
TKM2 pmax pmax
comp=Z,21nm,1.4s
TKM2 Tokmak 2 58.49 322 *eP* **P** **04 16 45.9 +1.1**
comp=Z,21nm,1.4s
KBK Karagaybulak 58.75 322 P **P** **04 16 48.8 +2.3**
SNR=5.4
KBK P **P** **04 16 48.8 +2.3**
SNR=5.4
KBL Kabul 59.01 311 *eP* **P** **04 16 48.7 +0.2**
KBL pmax pmax
comp=Z,19nm,1.3s
KBL Kabul 59.01 311 *eP* **P** **04 16 48.7 +0.2**
comp=Z,20nm,1.3s
AAK Ala-Archa 59.02 321 P **P** **04 16 49.9 +1.5**
SNR=5.7
AAK P **P** **04 16 49.9 +1.5**
SNR=5.7
AAK Ala-Archa 59.02 321 *eP* **P** **04 16 49.3 +0.9**
AAK pmax pmax
comp=Z,40nm,1.1s
AAK Ala-Archa 59.02 321 *eP* **P** **04 16 49.2 +0.9**
comp=Z,40nm,1.1s
AAK Ala-Archa 59.02 321 P **P** **04 16 49.9 +1.5**
comp=Z,57nm,0.5s,SNR=5.0
AML Almayashu 59.26 321 P **P** **04 16 51.6 +1.2**
SNR=6.2
AML P **P** **04 16 51.6 +1.2**
SNR=6.2
EKS2 Erkin-Say 59.48 321 P **P** **04 16 52.9 +1.4**
SNR=6.2
EKS2 P **P** **04 16 52.9 +1.4**
SNR=6.2
EKS2 Erkin-Say 59.48 321 *eP* **P** **04 16 52.8 +1.2**
EKS2 pmax pmax
comp=Z,9.0nm,1.2s
EKS2 Erkin-Say 59.48 321 *eP* **P** **04 16 52.8 +1.2**
comp=Z,9.2nm,1.2s
ZAA0 Zalesovo Array 61.01 337 *eP* **P** **04 17 01.2 -0.3**
ZALV Zalesovo Beam 61.01 337 P **P** **04 17 01.2 -0.4**
comp=Z,6.1nm,0.8s,baz=123,slow=5.5,SNR=26
ZALV Zalesovo Beam 61.01 337 P **P** **04 17 01.2 -0.4**
ZALV Zalesovo Beam 61.01 337 P **P** **04 17 01.2 -0.4**
PET Petropavlovsk 61.06 25 *eP* **P** **04 16 59.8 -2.1**
PET pmax pmax
comp=Z,100nm,1.5s
PET Petropavlovsk 61.06 25 *eP* **P** **04 16 59.8 -2.1**
comp=Z,100nm,1.5s
KURK Kurchatov 61.51 331 P **P** **04 17 05.3 +0.4**
comp=Z,4.4nm,0.5s,baz=136,slow=6.9,SNR=51
KURK Kurchatov 61.51 331 *eP* **P** **04 17 05.5 +0.5**
KURK Kurchatov 61.51 331 *eP* **P** **04 17 05.5 +0.5**
KURK Kurchatov 61.51 331 P **P** **04 17 05.4 +0.4**
comp=Z,103nm,0.6s,SNR=11
YAK Yakutsk 61.76 5 *eP* P 04 17 11.8 +5.4
YAK pmax pmax
comp=Z,18nm,0.6s
YAK Yakutsk 61.76 5 *eP* P 04 17 11.8 +5.4
comp=Z,18nm,0.6s
KKAR Karatay Array 61.77 320 *eP* **P** **04 17 07.0 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 61.77 320 *eP* **P** **04 17 07.0 0.0**
comp=Z,3.1nm,0.8s
WHZ Wether Hill Ro 61.99 145 *eP* **P** **04 17 08.1 -0.2**
NVS Novosibirsk 62.30 336 *eP* **P** **04 17 08.8 -1.4**
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.6s
RPZ Rata Peaks 62.71 141 P **P** **04 17 13.8 +0.6**
comp=E,33nm,0.8s,baz=220,slow=2.2,SNR=14
RPZ Rata Peaks 62.71 141 *eP* **P** **04 17 13.8 +0.6**
comp=E,38nm,0.9s
MCQ Macquarie Isla 63.11 156 *eP* P 04 17 09.8 -5.8
MCQ Macquarie Isla 63.11 156 *eP* P 04 17 09.8 -5.8
comp=E,13µm,1.1s
KHZ Kahutara 63.68 139 *eP* **P** **04 17 19.6 +0.1**
comp=E,33nm,1.1s
SNZO South Karori 63.96 137 *eP* **P** **04 17 19.1 -2.3**
comp=E,106nm,1.3s
URZ Urewera 64.39 133 *eP* P 04 17 18.1 -6.2
comp=E,148nm,2.5s
VOSK Vostochnaya 66.52 330 P **P** **04 17 37.3 -0.5**
VOSK pmax pmax
comp=Z,8.0nm,1.1s
BVA0 Borovoye Array 66.98 330 *i* P **P** **04 17 40.8 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 66.98 330 P **P** **04 17 41.0 +0.3**
comp=Z,4.4nm,0.8s,baz=141,slow=9.6,SNR=27
BVAR Borovoye Array 66.98 330 P **P** **04 17 41.0 +0.3**
BVAR Borovoye Array 66.98 330 P **P** **04 17 41.0 +0.3**
BRVK Borovoye 67.05 330 *c iP* **P** **04 17 42.0 +0.8**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 67.05 330 *eP* **P** **04 17 41.5 +0.4**
comp=Z,19nm,1.2s
BRVK Borovoye 67.05 330 P **P** **04 17 41.6 +0.4**
comp=Z,75nm,0.7s,SNR=7.3
ZRNK Zerenda 67.65 329 *i* P **P** **04 17 44.6 -0.4**
ZRNK pmax pmax
comp=Z,13nm,0.8s
AB31 Akbulak array 71.05 323 *i* P **P** **04 18 06.0 0.0**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 71.05 323 *eP* **P** **04 18 06.1 +0.1**
ABKAR *ePcP* **PcP** **04 18 24.9 -0.9**
AKTO Aktyubinsk 72.65 323 P **P** **04 18 16.0 +0.4**
comp=Z,8.8nm,0.7s,baz=113,slow=6.3,SNR=38
AKTO Aktyubinsk 72.65 323 P **P** **04 18 16.0 +0.4**
AKTO Aktyubinsk 72.65 323 P **P** **04 18 16.0 +0.4**
SVE Sverdlovsk 73.75 330 *eP* **P** **04 18 22.5 +0.6**
SVE pmax pmax
comp=Z,18nm,0.9s
ARU Arti 74.63 329 *d iP* **P** **04 18 26.5 -0.5**
ARU 04 21 10.3
ARU S **S** **04 27 54.5 -1.1**
ARU pmax pmax
comp=Z,9.0nm,1.0s
DGRG David-gareji 78.83 312 P **P** **04 18 52.3 +1.2**
GNI Garni 79.10 311 *eP* **P** **04 18 54.2 +1.5**
GNI pmax pmax
comp=Z,6.0nm,1.0s
TBLG Delisi 79.34 312 *eP* **P** **04 18 54.4 +0.6**
TBLG Delisi 79.34 312 P **P** **04 18 54.4 +0.6**
ZEI Tsey 80.11 313 *eP* **P** **04 18 58.0 -0.3**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
AKH Akhalkalaki 80.22 312 P **P** **04 18 60.0 +1.2**
VNDA Vanda 81.02 172 *eP* **P** **04 19 01.1 -1.0**
VNDA pmax pmax
comp=Z,97nm,2.5s
VNDA Vanda 81.02 172 *eP* **P** **04 19 01.1 -1.0**
comp=Z,97nm,2.5s
BR131 Keskin Array S 87.56 310 *eP* **P** **04 19 35.4 -0.8**
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 87.56 310 P **P** **04 19 35.4 -0.8**
comp=Z,1.5nm,0.7s,baz=127,slow=6.4,SNR=12
BRTR Keskin Array B 87.56 310 P **P** **04 19 35.4 -0.8**
BRTR Keskin Array B 87.56 310 P **P** **04 19 35.4 -0.8**
SPITS Spitsbergen Ar 92.49 348 P **P** **04 19 57.0 -1.3**
comp=Z,2.7nm,0.8s,baz=141,slow=13,SNR=8.0
SPITS Spitsbergen Ar 92.49 348 P **P** **04 19 57.0 -1.3**
SPITS Spitsbergen Ar 92.49 348 P **P** **04 19 57.0 -1.3**
INK Inuvik 95.30 21 P **P** **04 20 10.4 -0.8**
comp=Z,0.3nm,0.4s,baz=280,slow=8.7,SNR=4.4
INK Inuvik 95.30 21 P **P** **04 20 10.4 -0.8**
INK Inuvik 95.30 21 P **P** **04 20 10.4 -0.8**
OHCM Honcut 110.77 47 *e*Pdif Pdif 04 21 33.3 +12
TORD Torodi Ar. Bea 118.22 285 PKP **PKPdf** **04 25 33.5 -1.9**
comp=Z,0.6nm,0.6s,baz=41,slow=2.6,SNR=10
TORD Torodi Ar. Bea 118.22 285 PKP **PKPdf** **04 25 33.5 -1.9**
TXAR Lajitas Array 128.20 51 PKP **PKPdf** **04 25 54.6 +0.2**
comp=Z,0.3nm,0.7s,baz=114,slow=0.4,SNR=4.7
TXAR Lajitas Array 128.20 51 PKIKP **PKPdf** **04 25 54.6 +0.2**
TXAR Lajitas Array 128.20 51 PKP **PKPdf** **04 25 54.6 +0.2**

IDC 20 04:18:37.2±4.2, 19.78S×169.37E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=131.4km s-min=42.5km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.57**	**230**	Pn	Pn	04 19 34.4	+0.4
	4.9nm,0.3s,baz=166,slow=14,SNR=25						
DZM				Sn	Sb	04 20 21.6	-3.6
	6.3nm,0.3s,baz=139,slow=20,SNR=13						
DZM	**Mont Dzumac**	**3.57**	**230**	*e*P	Pn	04 19 33.2	-0.7
DZM				*e*S	Sb	04 20 21.2	-4.1
WRA	**Warramunga Arr**	**32.92**	**264**	P	P	04 25 12.5	-1.1
	0.2nm,0.4s,baz=96,slow=8.4,SNR=8.3						
ASAR	**Alice Springs**	**33.12**	**257**	P	P	04 25 16.1	+0.7
	0.2nm,0.3s,baz=82,slow=9.5,SNR=4.2						
GERES	**GERESS Array B**	**145.02**	**332**	PKPbc	PKPbc	04 38 15.2	-0.7
	0.4nm,0.7s,baz=92,slow=3.3,SNR=3.3						

*IDC **20** 04:25:29.5±0.9, 22.66S×171.16E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/18, mbtmp4.2/8, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/25, Error ellipse: s-maj=28.1km s-min=26.1km az=99.0*
*SZGRF **20** 04:25:30.6, 21.95S×172.14E, h33km, Southeast of Loyalty Islands*
*ISCJB **20** 04:25:33.9±0.6, 22.65S±0.10×171.02E±0.05, h42km, mb4.2/10, MS3.4/1, Error ellipse: s-maj=14.1km s-min=7.2km az=0.7*
*NEIC **20** 04:25:35.0±0.5, 22.66S×171.03E, h35km, mb4.3/4, Error ellipse: s-maj=12.2km s-min=9.4km az=164.0*
ISC 20 04:25:35.6±0.6, 22.7S±0.1×171.00E±0.07, h42km, n61, σ1§03/64, mb4.2/10, 5C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.84**	**277**	*e*S	**Sn**	**04 27 17.1**	**+1.0**
DZM	**Mont Dzumac**	**4.25**	**277**	Pn	**Pn**	**04 26 38.3**	**+0.2**
	6.2nm,0.3s,baz=99,slow=20,SNR=8.8						
DZM				Sn	**Sn**	**04 27 27.1**	**+0.6**
	3.3nm,0.3s,baz=23,slow=23,SNR=2.4						
DZM				LR	LR	04 28 07.2	
	comp=Z,382nm,19.9s,baz=205,slow=36						
DZM	**Mont Dzumac**	**4.25**	**277**	Pn	**Pn**	**04 26 38.3**	**+0.2**
DZM				Sn	**Sn**	**04 27 27.1**	**+0.6**
NOUC	**Port Laguerre**	**4.38**	**276**	*e*P	**Pn**	**04 26 38.5**	**-1.1**
NOUC				*e*S	**Sn**	**04 27 25.7**	**-3.8**
MSVF	**Nonsavu**	**8.23**	**55**	*e*Pn	**Pn**	**04 27 32.7**	**0.0**
	37nm,1.0s						
HNR	**Honiara**	**16.88**	**319**	Pn	**Pn**	**04 29 28.0**	**-1.0**
RPZ	**Rata Peaks**	**21.01**	**180**	P	**P**	**04 30 15.0**	**-0.5**
	9.8nm,0.8s,baz=181,slow=19,SNR=3.1						
RPZ				LR	LR	04 37 13.3	
	comp=Z,152nm,19.0s,baz=358,slow=34						
RPZ	**Rata Peaks**	**21.01**	**180**	P	**P**	**04 30 15.0**	**-0.5**
CTAO	**Charters Tower**	**23.18**	**272**	*e*P	**P**	**04 30 39.6**	**+0.8**
	3.9nm,0.7s						
STKA	**Stephens Creek**	**27.63**	**244**	*e*P	**P**	**04 31 20.1**	**+0.7**
	0.9nm,1.0s						
COEN	**Coen**	**27.75**	**283**	*e*P	**P**	**04 31 20.1**	**-0.6**
	31nm,0.8s						
AS31	**Alice Springs**	**34.06**	**261**	*e*P	**P**	**04 32 16.6**	**+0.4**
ASAR	**Alice Springs**	**34.06**	**261**	P	**P**	**04 32 16.6**	**+0.4**
	1.9nm,0.8s,baz=87,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**34.06**	**261**	P	**P**	**04 32 16.6**	**+0.4**
QSPA	**South Pole Qui**	**67.42**	**180**	P	**P**	**04 36 26.7**	**0.0**
	3.0nm,0.8s,baz=22,slow=2.4,SNR=8.1						
QSPA	**South Pole Qui**	**67.42**	**180**	*e*P	**P**	**04 36 26.1**	**-0.6**
	6.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.39**	**294**	P	**P**	**04 37 50.0**	**+1.5**
	1.6nm,0.6s,baz=135,slow=4.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**81.39**	**294**	P	**P**	**04 37 50.0**	**+1.5**
NVAR	**Mina Array Bea**	**89.84**	**48**	P	**P**	**04 38 30.7**	**+0.4**
	0.9nm,0.7s,baz=221,slow=8.3,SNR=8.7						
NVAR	**Mina Array Bea**	**89.84**	**48**	P	**P**	**04 38 30.7**	**+0.4**
SONM	**Songino Array**	**90.92**	**323**	P	**P**	**04 38 35.6**	**+0.6**
	1.7nm,1.0s,baz=128,slow=4.4,SNR=7.8						
SONM	**Songino Array**	**90.92**	**323**	P	**P**	**04 38 35.6**	**+0.6**
ILAR	**Eielson Array**	**93.00**	**17**	P	**P**	**04 38 42.8**	**-1.3**
	0.7nm,1.0s,baz=215,slow=8.0,SNR=3.8						
ILAR	**Eielson Array**	**93.00**	**17**	P	**P**	**04 38 42.8**	**-1.3**
KOLS	**Kolonicke sedl**	**143.95**	**324**	*e*	PKPab	04 44 56.2	-7.5
STHS	**Stebnicka Huta**	**144.21**	**326**	*e*PKP	**PKPab**	**04 44 59.9**	**-4.8**
CRVS	**Cervenica-Dubn**	**144.40**	**325**	*e*PKP	PKPbc	04 45 05.7	0.0
DRGR		**144.90**	**321**	*i*P	**PKPdf**	**04 45 08.4**	**+0.2**
BSEG	**Bad Segeberg**	**145.51**	**340**	*e*PKPbc	**PKPab**	**04 45 09.8**	**+0.5**
GZR	**Gura Zlata**	**145.59**	**319**	*i*P	**PKPab**	**04 45 10.7**	**+0.7**
MORC	**Moravsky Berou**	**145.82**	**329**	*i*P	**PKPbc**	**04 45 10.1**	**-0.1**
DPC	**Dobruska-Polom**	**145.99**	**331**	*e*PKP	**PKPab**	**04 45 11.6**	**+0.3**
UPC	**Upice**	**146.02**	**331**	*e*PKP	**PKPab**	**04 45 11.4**	**+0.1**
VYHS	**Vyhne**	**146.03**	**326**	*e*PKP	**PKPab**	**04 45 12.5**	**+1.0**
KOLL	**Kolacno**	**146.19**	**327**	*e*PKP	**PKPdf**	**04 45 09.8**	**-0.5**
VRAC	**Vranov**	**146.59**	**329**	*i*P	**PKPab**	**04 45 14.4**	**+0.8**
BRG	**Berggiesshubel**	**146.64**	**333**	*i* P	**PKPbc**	**04 45 13.1**	**+0.6**
	12nm,1.0s						
BRG	**Berggiesshubel**	**146.64**	**333**	*e*PKPbc	**PKPab**	**04 45 13.3**	**-0.4**
CLL	**Collm**	**146.69**	**335**	*e*PKPbc	**PKPab**	**04 45 13.3**	**-0.6**
CLL	**Collm**	**146.69**	**335**	*i*PKPbc	**PKPbc**	**04 45 13.0**	**+0.3**
	comp=Z,10.0nm,0.9s						
CLL				*i* pPKPbc	pPKPbc	04 45 20.8	-4.9
CLL				*es*PKPbc	sPKPbc	04 45 29.0	-1.4
PRU	**Pruhonice**	**147.05**	**332**	*e*PKP	**PKPbc**	**04 45 14.4**	**+0.7**
CLZ	**Clausthal**	**147.24**	**338**	*e*PKPbc	**PKPbc**	**04 45 15.2**	**+0.9**
NEUB	**Neuenburg**	**147.25**	**336**	*e*PKPbc	**PKPbc**	**04 45 15.1**	**+0.9**
WERD	**Werda**	**147.64**	**334**	*e*PKPbc	**PKPbc**	**04 45 16.2**	**+0.8**
NKC	**Novy Kostel**	**147.75**	**334**	*e*PKP	**PKPbc**	**04 45 14.4**	**-1.3**
NKC				*ex*	x	04 45 16.1	
KHC	**Kasperske Hory**	**148.10**	**331**	*e*PKP	**PKPbc**	**04 45 17.5**	**+0.8**
GEC2	**GERESS Array S**	**148.26**	**331**	*e*PKPbc	**PKPbc**	**04 45 17.9**	**+0.7**
GERES	**GERESS Array B**	**148.26**	**331**	PKPbc	**PKPbc**	**04 45 17.7**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=14,slow=1.7,SNR=20						
GERES	**GERESS Array B**	**148.26**	**331**	PKPbc	**PKPbc**	**04 45 17.7**	**+0.5**
GRB3	**Grafenberg Arr**	**148.70**	**333**	*e*PKPbc	**PKPbc**	**04 45 19.0**	**+0.8**
SOKA	**Soboth**	**149.16**	**327**	*i*P	**PKPbc**	**04 45 19.9**	**+0.4**
SOKA	**Soboth**	**149.16**	**327**	*i*PKPbc	**PKPbc**	**04 45 19.9**	**+0.4**
	comp=Z,9.5nm,1.3s						
STU	**Stuttgart**	**150.20**	**335**	*e*PKPbc	**PKPbc**	**04 45 22.7**	**+0.8**
WTTA	**Wattenberg**	**150.36**	**331**	*i*P	**PKPbc**	**04 45 22.9**	**+0.3**
WTTA	**Wattenberg**	**150.36**	**331**	*i*PKiKP	**PKPbc**	**04 45 22.9**	**+0.3**
	comp=Z,13nm,1.1s						
MOTA	**Moosalm**	**150.54**	**332**	*i*P	**PKPbc**	**04 45 23.3**	**+0.3**
MOTA	**Moosalm**	**150.54**	**332**	*i*PKiKP	**PKPbc**	**04 45 23.3**	**+0.3**
	comp=Z,5.7nm,0.7s						
FETA	**Feichten**	**150.95**	**332**	*i*P	**PKPbc**	**04 45 24.4**	**+0.4**
FETA	**Feichten**	**150.95**	**332**	*i*PKiKP	**PKPbc**	**04 45 24.4**	**+0.4**
	comp=Z,14nm,1.3s						
TORD	**Torodi Ar. Bea**	**166.12**	**229**	PKP	**PKPdf**	**04 45 37.0**	**0.0**
	comp=Z,1.2nm,1.1s,baz=70,slow=1.0,SNR=4.1						
TORD				PKPab	**PKPab**	**04 46 37.3**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=88,slow=2.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**166.12**	**229**	PKP	**PKPdf**	**04 45 37.0**	**0.0**
TORD				PKPab	**PKPab**	**04 46 37.3**	**-0.3**

*IDC **20** 04:27:34.7±0.9, 3.24S×142.84E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/18, mbtmp4.0/12, ML3.7/2, Error ellipse: s-maj=32.5km s-min=16.3km az=88.0*
*ISCJB **20** 04:27:36.9±0.6, 3.24S±0.06×142.6E±0.1, h22km, mb3.9/10, Error ellipse: s-maj=15.1km s-min=7.8km az=165.4*
*NEIC **20** 04:27:39.9±1.9, 3.30S×142.91E, h38km±20km, mb4.1/4, Error ellipse: s-maj=16.6km s-min=10.0km az=106.0*
ISC 20 04:27:38.4±0.7, 3.21S±0.08×142.7E±0.1, h22km, n30, σ1§41/32, mb3.9/10, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**144**	Pn	**Pn**	**04 29 25.4**	**-2.4**
	1.2nm,0.3s,baz=225,slow=11,SNR=2.8						
PMG				Sn	**Sn**	**04 30 56.7**	**+3.6**
	0.7nm,0.3s,baz=333,slow=18,SNR=2.8						
PMG	**Port Moresby**	**7.58**	**144**	Pn	**Pn**	**04 29 25.4**	**-2.4**
PMG				Sn	**Sn**	**04 30 56.7**	**+3.6**
WRAB	**Tennant Creek**	**18.50**	**205**	*e*P	**Pn**	**04 31 53.7**	**+0.2**
	6.6nm,0.6s						
WB2	**Warramunga Arr**	**18.51**	**205**	*e*P	**P**	**04 31 53.2**	**-0.2**
WRA	**Warramunga Arr**	**18.52**	**205**	P	**P**	**04 31 52.7**	**-0.8**
	0.7nm,0.3s,baz=16,slow=11,SNR=31						
WRA	**Warramunga Arr**	**18.52**	**205**	P	**P**	**04 31 52.7**	**-0.8**
AS31	**Alice Springs**	**22.04**	**202**	*e*P	**P**	**04 32 31.3**	**-0.4**
ASAR	**Alice Springs**	**22.04**	**202**	P	**P**	**04 32 32.3**	**+0.5**
	1.5nm,0.7s,baz=34,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**22.04**	**202**	P	**P**	**04 32 32.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.32**	**227**	*e*P	**P**	**04 32 34.5**	**-0.2**
	7.5nm,0.5s,baz=44,slow=11,SNR=20						
FITZ	**Fitzroy Crossi**	**22.32**	**227**	*e*P	**P**	**04 32 35.6**	**+0.9**
	7.7nm,0.8s						
STKA	**Stephens Creek**	**28.53**	**182**	P	**P**	**04 33 32.5**	**-0.1**
	3.0nm,0.8s,baz=338,slow=9.7,SNR=3.9						
STKA	**Stephens Creek**	**28.53**	**182**	*e*P	**P**	**04 33 30.3**	**-2.3**
	0.5nm,0.6s						
KSRS	**Korea Array**	**42.73**	**343**	P	**P**	**04 35 35.1**	**+1.2**
	0.4nm,0.2s,baz=152,slow=9.3,SNR=5.2						
KSAR	**Wonju Array Be**	**42.73**	**343**	P	**P**	**04 35 35.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**48.16**	**298**	P	**P**	**04 36 18.6**	**+1.2**
	0.7nm,0.3s,baz=122,slow=6.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**48.16**	**298**	P	**P**	**04 36 18.6**	**+1.2**
SONM	**Songino Array**	**59.93**	**333**	P	**P**	**04 37 41.9**	**-1.1**
	0.5nm,0.6s,baz=152,slow=8.1,SNR=5.3						
SONM	**Songino Array**	**59.93**	**333**	P	**P**	**04 37 41.9**	**-1.1**
MK31	**Makanchi Array**	**72.64**	**321**	*e*P	**P**	**04 39 04.7**	**+0.2**
MKAR	**Makanchi Array**	**72.64**	**321**	P	**P**	**04 39 05.2**	**+0.8**
	1.1nm,0.8s,baz=108,slow=7.0,SNR=9.3						
MKAR	**Makanchi Array**	**72.64**	**321**	P	**P**	**04 39 05.2**	**+0.8**
ZALV	**Zalesovo Beam**	**74.40**	**329**	P	**P**	**04 39 14.8**	**+0.3**
	0.4nm,0.3s,baz=96,slow=4.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**74.40**	**329**	P	**P**	**04 39 14.8**	**+0.3**
ILAR	**Eielson Array**	**84.66**	**24**	P	**P**	**04 40 09.9**	**-0.3**
	1.0nm,0.7s,baz=262,slow=4.9,SNR=15						
ILAR	**Eielson Array**	**84.66**	**24**	P	**P**	**04 40 09.9**	**-0.3**
QSPA	**South Pole Qui**	**86.73**	**180**	P	**P**	**04 40 19.7**	**-1.0**
	2.3nm,0.7s,baz=0.6,slow=3.3,SNR=6.9						
QSPA	**South Pole Qui**	**86.73**	**180**	*e*P	**P**	**04 40 19.4**	**-1.2**
	5.0nm,1.1s						
DBIC	**Dimbokro**	**147.49**	**277**	PKPbc	**PKPbc**	**04 47 22.4**	**+0.4**
	4.3nm,0.6s,baz=98,slow=3.5,SNR=15						
DBIC	**Dimbokro**	**147.49**	**277**	PKPbc	**PKPbc**	**04 47 22.4**	**+0.4**

*IDC **20** 04:31:43.0±1.6, 2.89S×139.35E, h0km, mb3.7/3, mb1 4.2/4, mb1mx3.8/14, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=73.9km s-min=27.1km az=96.0*
*ISCJB **20** 04:31:49.0±0.8, 2.85S±0.1×139.38E±0.09, h46km, mb3.8/3, Error ellipse: s-maj=15.3km s-min=11.7km az=159.7*
*DJA **20** 04:31:49.4±0.7, 3.5S±5×13.9E±, h16km±12km, M4.5/5, mB5.3/4, mb4.7/5, MLv4.3/4, Mw(mB)4.8/4*
ISC 20 04:31:49.1±1.0, 2.84S±0.08×139.36E±0.07, h46km, n11, σ2§03/9, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**1.06**	**322**	P	**Pn**	**04 32 08.6**	**+1.0**
WAMI	**Wamena**	**1.23**	**212**	P	**Pn**	**04 32 11.8**	**+2.0**
JAY	**Jayapura**	**1.38**	**77**	P	**Pn**	**04 32 12.7**	**+0.7**
BAKI	**Biak**	**3.64**	**297**	P	Pn	04 32 59.5	+17
BAKI				S	**Sn**	**04 33 22.3**	**-2.3**
FAKI	**Fak Fak**	**7.10**	**269**	P	**Pn**	**04 33 31.9**	**+1.4**
	77nm,0.9s,3µm0.8nm						
TLE	**Tual**	**7.16**	**247**	P	Pn	04 33 41.3	+10
MSAI	**Masohi**	**10.43**	**267**	P	Pn	04 34 20.1	+4.0
	12nm,0.3s,2µm						
WRA	**Warramunga Arr**	**17.70**	**196**	P	**Pn**	**04 35 49.2**	**-3.2**
	0.8nm,0.3s,baz=14,slow=12,SNR=25						
ASAR	**Alice Springs**	**21.37**	**194**	P	**P**	**04 36 32.2**	**-0.6**
	2.7nm,0.5s,baz=23,slow=9.1,SNR=24						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**04 42 58.7**	**+0.9**
	0.3nm,0.4s,baz=101,slow=8.0,SNR=7.7						
ILAR	**Eielson Array**	**85.68**	**24**	P	**P**	**04 44 23.6**	**+0.8**
	0.6nm,0.9s,baz=261,slow=4.5,SNR=5.4						

*IDC **20** 04:32:28.1±1.5, 2.91S×136.96E, h0km, mb4.1/3, mb1 4.5/5, mb1mx4.1/13, mbtmp4.3/5, ML4.4/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/23, Error ellipse: s-maj=64.2km s-min=22.6km az=94.0*
*ISCJB **20** 04:32:30.5±0.7, 2.96S±0.07×136.9E±0.1, h32km, mb3.7/4, MS3.6/2, Error ellipse: s-maj=18.8km s-min=8.3km az=164.1*
*NEIC **20** 04:32:33.1±0.6, 2.96S×136.89E, h35km, mb4.1/4, Error ellipse: s-maj=20.5km s-min=8.9km az=

comp=Z,54nm,18.5s,baz=145,slow=37
PET Petropavlovsk 58.76 15 eP P 04 42 26.5 -0.7
MKAR Makanchi Array 68.87 323 P P 04 43 34.4 +0.3
0.5nm,0.6s,baz=107,slow=8.7,SNR=5.2
MKAR Makanchi Array 68.87 323 P P 04 43 34.4 +0.3
ILAR Eielson Array 86.87 25 P P 04 45 13.6 -0.1
0.6nm,0.8s,baz=258,slow=4.5,SNR=5.3
ILAR Eielson Array 86.87 25 P P 04 45 13.6 -0.1

*ISCJB **20** 04:52:13.7±0.3,52°.69N±0°.07×177°.71W±0°.06,h250km, mb3.6/14, Error ellipse: s-maj=9.8km s-min=5.1km az=4.3*
*NEIC **20** 04:52:14.6±0.3,52°.53N×177°.68W,h253km±3km, mb4.0/4, Error ellipse: s-maj=12.9km s-min=6.1km az=168.0*
*IDC **20** 04:52:14.8±1.5,52°.76N×177°.75W,h250km±14km, mb3.3/12, mb1 3.6/16, mb1mx3.4/30, mbtmp3.4/16, Error ellipse: s-maj=21.8km s-min=8.7km az=167.0*
ISC 20 04:52:14.4±0.6, 52°.6N±0°.1×177°.72W±0°.04, h250km, n56, σ1§05/61, mb3.6/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KIKV	Kanaga Island	0.76	153	P		Pn	04 52 48.6	+0.3
KIRH	Kanaga Island	0.76	149	P		Pn	04 52 48.8	+0.5
KIMD	Kanaga Island	0.85	159	P		Pn	04 52 48.6	0.0
ADAG	Mount Adagdak	0.90	129	P		Pn	04 52 49.1	+0.3
GANE	Gareloi Northe	0.98	222	P		Pn	04 52 49.9	+0.5
GAEA	Gareloi East	1.00	220	P		Pn	04 52 49.9	+0.5
GALAA	Gareloi Lava P	1.02	220	P		Pn	04 52 50.2	+0.6
ETKA	Kagalaska Isla	1.07	130	P		Pn	04 52 49.7	-0.1
ETKA				S		S	04 53 16.5	-1.2
GSTD	Great Sitkin T	1.09	117	P		Pn	04 52 49.7	-0.3
GSTD				S		S	04 53 17.3	-0.7
GSCK	Great Sitkin C	1.10	119	P		Pn	04 52 50.0	-0.1
GSTR	Great Sitkin T	1.12	114	eP		Pn	04 52 49.8	-0.3
GSTR				eS		S	04 53 18.6	+0.4
GSMY	Great Sitkin M	1.15	116	P		Pn	04 52 50.0	-0.2
KOWE	Korovin West	2.13	94	P		Pn	04 52 59.0	+0.9
KOKL	Mount Kliuchef	2.17	95	P		Pn	04 52 59.4	+1.0
ATKA	Atka Island	2.19	98	P		Pn	04 52 58.2	-0.3
ATKA				S		S	04 53 31.6	-1.8
KOFP	Korovin Flat P	2.24	96	P		Pn	04 52 59.8	+0.8
KOSE	Korovin Southe	2.26	94	P		Pn	04 53 00.5	+1.2
FX1	Attu Island--F	5.55	277	P		Pn	04 53 37.3	+0.5
	14nm,0.3s,baz=66,slow=3.5,SNR=63							
FX1				S		S	04 54 40.5	-2.1
	16nm,0.3s,baz=325,slow=21,SNR=20							
FX1	Attu Island--F	5.55	277	P		Pn	04 53 37.3	+0.5
FX1				S		S	04 54 40.5	-2.1
TNA	Tin City	13.96	17	ePn		P	04 55 23.8	+1.5
	4.2nm,0.9s							
PETK	Petropavlovsk-	14.85	282	P		Pn	04 55 33.0	+0.4
	1.5nm,0.3s,baz=94,slow=13,SNR=10							
PETK	Petropavlovsk-	14.85	282	P		Pn	04 55 33.0	+0.4
KDAK	Kodiak Island	15.24	60	P		P	04 55 34.7	-1.8
	6.8nm,0.3s,baz=262,slow=5.3,SNR=77							
KDAK	Kodiak Island	15.24	60	P		P	04 55 34.7	-1.8
PPLA	Purkeypile	16.99	42	eP		Pn	04 55 58.0	0.0
	13nm,0.6s							
ILAR	Eielson Array	19.91	40	P		P	04 56 25.1	-2.0
	0.3nm,0.3s,baz=242,slow=9.8,SNR=31							
ILAR	Eielson Array	19.91	40	P		P	04 56 25.1	-2.0
INK	Inuvik	26.11	36	P		P	04 57 24.4	-0.7
	1.1nm,0.4s,baz=244,slow=9.9,SNR=15							
INK	Inuvik	26.11	36	P		P	04 57 24.4	-0.7
YKA	Yellowknife Ar	33.94	48	P		P	04 58 33.9	+0.2
	1.9nm,0.5s,baz=280,slow=7.7,SNR=76							
YKA				ScP		ScP	05 04 23.6	-2.4
	0.3nm,0.6s,baz=285,slow=3.3,SNR=7.2							
YKA	Yellowknife Ar	33.94	48	P		P	04 58 33.9	+0.2
YKA				ScP		ScP	05 04 23.6	-2.4
MJAR	Matsushiro Arr	34.63	260	P		P	04 58 41.1	+1.1
	0.8nm,0.3s,baz=19,slow=32,SNR=4.1							
MJAR	Matsushiro Arr	34.63	260	P		P	04 58 41.1	+1.1
HUMO	Hull Mountain	37.42	83	eP		P	04 59 11.9	+8.4
	2.5nm,0.6s							
KTRM	Thompson Ridge	37.56	84	P		P	04 59 03.0	-1.8
KSRS	Korea Array	40.29	270	P		P	04 59 28.5	+1.3
	1.9nm,0.6s,baz=54,slow=7.9,SNR=8.7							
KSAR	Wonju Array Be	40.33	270	P		P	04 59 28.5	+1.0
NVAR	Mina Array Bea	42.76	85	P		P	04 59 48.7	+1.2
	1.4nm,0.7s,baz=286,slow=8.1,SNR=12							
NVAR	Mina Array Bea	42.76	85	P		P	04 59 48.7	+1.2
PDAR	Pinedale Array	45.33	74	P		P	05 00 07.5	-0.3
	0.9nm,0.4s,baz=357,slow=2.7,SNR=10							
PDAR	Pinedale Array	45.33	74	P		P	05 00 07.5	-0.3
GSC	Goldstone	45.70	87	eP		P	05 00 11.4	+0.8
	6.8nm,0.8s							
SONM	Songino Array	46.72	296	P		P	05 00 18.5	+0.2
	0.7nm,0.6s,baz=53,slow=8.5,SNR=6.7							
SONM	Songino Array	46.72	296	P		P	05 00 18.5	+0.2
TXAR	Lajitas Array	57.83	83	P		P	05 01 40.1	+0.2
	0.4nm,0.3s,baz=307,slow=6.1,SNR=16							
TXAR	Lajitas Array	57.83	83	P		P	05 01 40.1	+0.2
MKAR	Makanchi Array	59.82	308	P		P	05 01 52.6	-0.7
	0.9nm,0.4s,baz=48,slow=6.0,SNR=37							
MKAR	Makanchi Array	59.82	308	P		P	05 01 52.6	-0.7
WRA	Warramunga Arr	83.32	225	P		P	05 04 13.3	+0.2
	0.2nm,0.3s,baz=32,slow=5.7,SNR=7.1							
WRA	Warramunga Arr	83.32	225	P		P	05 04 13.3	+0.2
BRTR	Keskin Array B	84.14	336	P		P	05 04 16.9	-0.6
	0.5nm,0.7s,baz=35,slow=5.0,SNR=4.1							
BRTR	Keskin Array B	84.14	336	P		P	05 04 16.9	-0.6
ASAR	Alice Springs	86.80	223	P		P	05 04 30.9	+0.6
	0.4nm,0.5s,baz=28,slow=5.4,SNR=3.9							
ASAR	Alice Springs	86.80	223	P		P	05 04 30.9	+0.6
TORD	Torodi Ar. Bea	114.57	1	PKP		PKPdf	05 10 23.4	-1.4
	0.3nm,1.0s,baz=322,slow=3.8,SNR=4.1							
TORD	Torodi Ar. Bea	114.57	1	PKP		PKPdf	05 10 23.4	-1.4

JMA 20 05:03:35.0±0.2, 26°.32N×126°.33E, h118km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.41	89	P		Pn	05 03 52.3	+0.1
JKE				eS		Sn	05 04 05.3	+0.2
JAGN	Aguni-jima	0.86	72	P		Pn	05 03 55.7	+0.2
JAGN				S		Sn	05 04 11.3	+0.3
JIH	Iheya	1.63	64	P		Pn	05 04 04.2	+0.4
JIH				eS		Sn	05 04 26.3	+0.6
JOW	Kunigami	1.81	73	P		Pn	05 04 06.5	+0.4
JOW				eS		Sn	05 04 29.4	-0.4
JTK	Tokunoshima	2.75	57	P		Pn	05 04 17.5	-0.5
JAM	Amami Oshima	3.58	54	P		Pn	05 04 27.9	-1.0
JMZ	Minamidaito 2	4.43	95	P		Pn	05 04 40.7	+0.5
NACB	Ninganchiao	4.79	245	ePn		Pn	05 04 44.1	-1.0
YULB	Yu-li	5.42	239	ePn		Pn	05 04 48.5	-5.2
SSLB	Suanglung	5.49	244	ePn		Pn	05 04 52.4	-2.2
TPUB	Ta-pu	5.99	241	ePn		Pn	05 04 58.6	-2.7
	24nm,0.6s							

*NIED **20** 05:03:00, 24°.40N×127°.30E, h11km, Mw4.0 Best double couple: M0 9.60000×10^14 NP1:φ=270.00000°, δ=79.00000°, λ=87.00000°. NP2:φ=108.00000°, δ=11.00000°, λ=107.00000°.*
*IDC **20** 05:03:34.3±0.9, 24°.44N×126°.54E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.8/23, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=35.2km s-min=18.4km az=71.0*
*NEIC **20** 05:03:39.3±0.6, 24°.42N×126°.48E, h35km, mb4.0/3, Error ellipse: s-maj=13.0km s-min=9.3km az=148.0*
ISC 20 05:03:38.4±0.9, 24°.6N±0°.1×127°.0E±0°.2, h30km, n22, σ1§14/21, mb3.9/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOW	Kunigami	2.48	28	Pn		Pb	05 04 21.4	-1.0
	17nm,0.3s,baz=177,slow=12,SNR=18							
JOW	Kunigami	2.48	28	ePn		Pb	05 04 21.3	-1.0
ULN	Ulaanbaatar	28.05	331	eP		P	05 09 31.2	+4.1
	2.8nm,1.0s							
SONM	Songino Array	28.32	330	P		P	05 09 29.4	-0.1
	1.3nm,0.4s,baz=146,slow=11,SNR=13							
SONM	Songino Array	28.32	330	P		P	05 09 29.4	-0.1
MKAR	Makanchi Array	41.78	314	P		P	05 11 24.7	-0.4
	0.5nm,0.4s,baz=99,slow=10,SNR=15							
MKAR	Makanchi Array	41.78	314	P		P	05 11 24.7	-0.4
ZALV	Zalesovo Beam	42.85	324	P		P	05 11 32.4	-1.3
	1.1nm,0.4s,baz=126,slow=9.4,SNR=5.9							
ZALV	Zalesovo Beam	42.85	324	P		P	05 11 32.4	-1.3
WRA	Warramunga Arr	44.89	170	P		P	05 11 50.0	-0.3
	1.1nm,0.7s,baz=351,slow=8.4,SNR=6.8							
WRA	Warramunga Arr	44.89	170	P		P	05 11 50.0	-0.3
KURK	Kurchatov	45.22	318	P		P	05 11 51.7	-1.0
	0.4nm,0.4s,baz=108,slow=9.6,SNR=4.1							
KURK	Kurchatov	45.22	318	eP		P	05 11 52.1	-0.6
	1.3nm,0.3s							
ASAR	Alice Springs	48.48	172	P		P	05 12 17.3	-1.2
	0.3nm,0.6s,baz=10,slow=5.8,SNR=4.7							
ASAR	Alice Springs	48.48	172	P		P	05 12 17.3	-1.2
ABKAR	Akbulak array	56.92	314	eP		P	05 13 20.9	+0.2
	0.9nm,0.6s							
FINES	FINESS Array B	73.69	331	P		P	05 15 09.9	+0.9
	4.9nm,1.1s,baz=108,slow=6.2,SNR=4.0							
FINES	FINESS Array B	73.69	331	P		P	05 15 09.9	+0.9
BRTR	Keskin Array B	77.12	308	P		P	05 15 29.2	-0.2
	1.2nm,1.0s,baz=95,slow=6.2,SNR=5.4							
BRTR	Keskin Array B	77.12	308	P		P	05 15 29.2	-0.2
YKA	Yellowknife Ar	80.44	24	P		P	05 15 49.3	+2.4
	0.4nm,0.9s,baz=296,slow=4.7,SNR=5.0							
YKA	Yellowknife Ar	80.44	24	P		P	05 15 49.4	+2.4

*ISCJB **20** 05:15:43.5±0.4,39°.20N±0°.02×29°.45E±0°.02,h3km±4km, mb3.4/3, MS3.7/1, Error ellipse: s-maj=2.8km s-min=2.7km az=154.2*
*IDC **20** 05:15:43.2±1.4,39°.22N×29°.27E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/25, mbtmp3.3/4, ML2.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/12, Error ellipse: s-maj=35.3km s-min=17.3km az=163.0*
*DDA **20** 05:15:43.6,39°.19N×29°.45E, h14km, ML3.8*
*ISK **20** 05:15:43.4,39°.19N×29°.47E, h6km, ML3.7*
*CSEM **20** 05:15:44.0±0.1,39°.20N×29°.46E, h2km, ML3.8, Error ellipse: s-maj=2.1km s-min=2.0km az=74.0*
ISC 20 05:15:44.2±0.9, 39°.20N±0°.02×29°.45E±0°.02, h8km±6km, n170, σ0§91/197, mb3.5/3, 11C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.12	169	i P		Pg	05 15 47.1	+0.1
GDZ				i S		Sg	05 15 49.3	+0.3
GDZ	Gediz	0.12	169	i P		Pg	05 15 47.1	+0.1
GDZ				i S		Sg	05 15 49.3	+0.3
ALT	Altintas	0.53	106	ePG		Pg	05 15 54.0	-0.6
ALT				eSG		Sg	05 16 01.2	-0.4
ALT	Altintas	0.53	106	ePg		Pg	05 15 54.0	-0.6
ALT				eSg		Sg	05 16 01.2	-0.4
DEMI	Demirci	0.59	255	i P		Pg	05 15 55.7	-0.1
DEMI				i S		Sg	05 16 03.5	0.0
DEMI	Demirci	0.59	255	i P		Pg	05 15 55.7	-0.1
DEMI				i S		Sg	05 16 03.5	0.0
KHAL	Karahalli	0.83	178	i P		Pg	05 15 59.5	-0.8
KHAL				i S		Sg	05 16 10.4	-0.7
KHAL	Karahalli	0.83	178	i P		Pg	05 15 59.5	-0.8
KHAL				i S		Sg	05 16 10.4	-0.7
KHL	Karahalli	0.88	176	ePG		Pg	05 16 00.4	-0.8
KHL				eSG		Sg	05 16 12.2	-0.4
KHL	Karahalli	0.88	176	ePg		Pg	05 16 00.4	-0.8
KHL				eSg		Sg	05 16 12.2	-0.4
KULA	Kula-Manisa	0.92	222	ePG		Pg	05 16 01.2	-0.8
KULA				eSG		Sg	05 16 12.1	-2.0
KULA	Kula-Manisa	0.92	222	ePg		Pg	05 16 01.2	-0.8
KULA				eSg		Sg	05 16 12.1	-2.0
ULDT	Uludag	0.97	346	i P		Pg	05 16 02.6	-0.3
ULDT				i S		Sg	05 16 15.9	+0.4
ULDT	Uludag	0.97	346	i P		Pg	05 16 02.6	-0.3
ULDT				i S		Sg	05 16 15.9	+0.4
MANT	Manisa	1.00	225	i P		Pg	05 16 02.5	-0.9
MANT				i S		Sg	05 16 15.2	-1.2
MANT	Manisa	1.00	225	i P		Pg	05 16 02.5	-0.9
MANT				i S		Sg	05 16 15.2	-1.2
CAVI	Cavuskoy	1.04	17	ePG		Pg	05 16 04.1	-0.2
CAVI				eSG		Sn	05 16 19.6	-0.3
CAVI	Cavuskoy	1.04	17	ePg		Pg	05 16 04.1	-0.2
CAVI				eSg		Sn	05 16 19.6	-0.3
SHUT	Suhut-Afyon	1.08	127	ePG		Pg	05 16 05.1	+0.2
SHUT	Suhut-Afyon	1.08	127	ePg		Pg	05 16 05.1	+0.2
ESKT	Eskisehir	1.13	73	ePN		Pg	05 16 05.3	-0.6
ESKT	Eskisehir	1.13	73	ePn		Pg	05 16 05.3	-0.6
SEYT	Eskypehyr	1.13	73	i P		Pg	05 16 05.3	-0.6
SEYT				i S		Sg	05 16 20.5	-0.1
SEYT	Eskypehyr	1.13	73	i P		Pg	05 16 05.3	-0.6
SEYT				i S		Sg	05 16 20.5	-0.1
MDNY	Mudanya-Bursa	1.24	340	ePN		Pg	05 16 07.8	-0.3
MDNY	Mudanya-Bursa	1.24	340	ePn		Pg	05 16 07.8	-0.3
ADVT	Abdulvahap	1.25	10	ePN		Pb	05 16 07.9	-0.1
ADVT	Abdulvahap	1.25	10	ePn		Pb	05 16 07.9	-0.1
BOLV	Bolvadin	1.27	112	i P		Pn	05 16 07.7	-0.6
BOLV				i S		Sb	05 16 25.1	+0.2
BOLV	Bolvadin	1.27	112	i P		Pn	05 16 07.7	-0.6
BOLV				i S		Sb	05 16 25.1	+0.2
BALB	Balikesir	1.29	290	ePN		Pg	05 16 09.0	-0.1
BALB	Balikesir	1.29	290	ePn		Pg	05 16 09.0	-0.1
AKHS	Akhisar	1.32	256	i P		Pn	05 16 08.1	-0.8
AKHS				i S		Sn	05 16 27.1	+0.4
AKHS	Akhisar	1.32	256	i P		Pn	05 16 08.1	-0.8
AKHS				i S		Sn	05 16 27.0	+0.4
AKS	Akhisar	1.32	256	ePN		Pb	05 16 09.2	0.0
AKS	Akhisar	1.32	256	ePn		Pb	05 16 09.2	0.0
KCTX	Karacabey (Bur	1.36	322	ePN		Pb	05 16 09.6	-0.3
KCTX	Karacabey (Bur	1.36	322	ePn		Pb	05 16 09.6	-0.3
YLV	Yalova	1.36	357	ePN		Pn	05 16 09.2	-0.4
YLV	Yalova	1.36	357	ePn		Pn	05 16 09.2	-0.4
ARMT	Armutlu	1.43	342	ePN		Pb	05 16 11.0	+0.2
ARMT	Armutlu	1.43	342	ePn		Pb	05 16 11.0	-0.2
GULT	Gulveren	1.48	33	ePN		Pn	05 16 11.3	+0.2
GULT	Gulveren	1.48	33	ePn		Pn	05 16 11.3	+0.2
DNZL	Cakiroluk	1.54	192	i P		Pn	05 16 11.3	-0.9
DNZL				i S		Sg	05 16 35.8	+1.9
DNZL	Cakiroluk	1.54	192	i P		Pn	05 16 11.3	-0.9
DNZL				i S		Sg	05 16 35.8	+1.9
GONE	Gonen-Balikesi	1.60	302	ePN		Pn	05 16 12.8	0.0
GONE	Gonen-Balikesi	1.60	302	ePn		Pn	05 16 12.8	0.0
SPNC	Sapanca-Adapaz	1.62	24	ePN		Pn	05 16 13.0	-0.1
SPNC	Sapanca-Adapaz	1.62	24	ePn		Pn	05 16 13.0	-0.1
HRT	Hereke	1.62	6	ePN		Pn	05 16 12.8	-0.4
HRT	Hereke	1.62	6	ePn		Pn	05 16 12.8	-0.4
SVRH	Sivrihisar-ESK	1.62	81	ePN		Pn	05 16 13.1	-0.1
SVRH	Sivrihisar-ESK	1.62	81	ePn		Pn	05 16 13.1	-0.1
BNT	Bandirma	1.65	315	ePN		Pn	05 16 13.6	+0.1
BNT	Bandirma	1.65	315	ePn		Pn	05 16 13.6	+0.1
EDC	Edincik	1.67	314	ePN		Pn	05 16 13.4	-0.4
EDC	Edincik	1.67	314	ePn		Pn	05 16 13.4	-0.4
MDUB	Mudurnu	1.85	46	ePN		Pn	05 16 16.9	+0.7
MDUB	Mudurnu	1.85	46	ePn		Pn	05 16 17.0	+0.7
ISK	Istanbul-Kandi	1.88	351	ePN		Pn	05 16 16.0	-0.7
ISK	Istanbul-Kandi	1.88	351	ePn		Pn	05 16 16.0	-0.7
IZM	Izmir	1.89	245	ePN		Pn	05 16 17.6	+0.8
IZM	Izmir	1.89	245	ePn		Pn	05 16 17.6	+0.8
KIZT	Kizilcal	1.92	99	ePN		Pn	05 16 17.7	+0.4
KIZT	Kizilcal	1.92	99	ePn		Pn	05 16 17.7	+0.4
SILT	Sile	1.95	4	ePN		Pn	05 16 17.7	+0.1
SILT	Sile	1.95	4	ePn		Pn	05 16 17.7	+0.1
BCK	Bucak	1.96	152	ePN		Pn	05 16 18.2	+0.4
BCK	Bucak	1.96	152	ePn		Pn	05 16 18.2	+0.4
HENT	Hendek	1.96	34	i P		Pn	05 16 18.2	+0.4
HENT	Hendek	1.96	34	i P		Pn	05 16 18.2	+0.4
AYDN	Tasoluk	1.97	219	i P		Pn	05 16 17.5	-0.5
AYDN				i S		Sg	05 16 47.8	+0.1
AYDN	Tasoluk	1.97	219	i P		Pn	05 16 17.5	-0.5
KRBG	Karabiga-Canak	2.04	306	ePN		Pb	05 16 20.3	-1.2
KRBG	Karabiga-Canak	2.04	306	ePn		Pb	05 16 20.3	-1.2
BGKT	Bogazkoy	2.04	345	ePN		Pn	05 16 18.8	-0.1
BGKT	Bogazkoy	2.04	345	ePn		Pn	05 16 18.8	-0.1
BLCB	Balcova	2.05	247	ePN		Pn	05 16 20.3	+1.3
BLCB	Balcova	2.05	247	ePn		Pn	05 16 20.3	+1.3
KLYT	Kilyos	2.07	351	ePN		Pn	05 16 19.1	-0.1
KLYT	Kilyos	2.07	351	ePn		Pn	05 16 19.1	-0.1
CTKS	Kestanelik-??a	2.16	341	ePN		Pb	05 16 22.0	-1.5
CTKS	Kestanelik-??a	2.16	341	ePn		Pb	05 16 22.0	-1.5
SLVT	Silivri	2.24	335	ePN		Pn	05 16 22.6	+1.1
SLVT	Silivri	2.24	335	ePn		Pn	05 16 22.6	+1.1
YER	Yerkesik	2.26	204	ePN		Pn	05 16 22.6	+0.7
YER	Yerkesik	2.26	204	ePn		Pn	05 16 22.6	+0.7
RKY	Sarkoy-Tekirda	2.29	311	ePN		Pb	05 16 24.0	-1.8
RKY	Sarkoy-Tekirda	2.29	311	ePn		Pb	05 16 24.0	-1.8
MFT	Murefte	2.30	314	ePN		Pn	05 16 23.6	+1.1
MFT	Murefte	2.30	314	ePn		Pn	05 16 23.6	+1.1
KORT	Korkueli	2.31	162	i P		Pn	05 16 23.1	+0.4
KORT	Korkueli	2.31	162	i P		Pn	05 16 23.1	+0.4
TKR	Tekirdag	2.31	321	ePN		Pb	05 16 24.3	-1.8
TKR	Tekirdag	2.31	321	ePn		Pb	05 16 24.3	-1.8
CRLT	Corlu	2.33	326	ePN		Pb	05 16 24.6	-1.9
CRLT	Corlu	2.33	326	ePn		Pb	05 16 24.6	-1.9
LPK	Lapseki	2.38	300	ePN		Pn	05 16 25.1	+1.6
LPK	Lapseki	2.38	300	ePn		Pn	05 16 25.1	+1.6
TURN	Turunc	2.42	196	i P		Pb	05 16 26.5	-1.5
TURN	Turunc	2.42	196	i P		Pb	05 16 26.5	-1.5
CTYL	Yal??k??y-??at	2.44	339	ePN		Pn	05 16 24.2	-0.1
CTYL	Yal??k??y-??at	2.44	339	ePn		Pn	05 16 24.2	-0.1
ELL	Elmali	2.48	171	ePN		Pn	05 16 25.6	+0.6
ELL	Elmali	2.48	171	ePn		Pn	05 16 25.6	+0.6
LADK	Ladik-KONYA	2.49	113	ePN		Pn	05 16 26.3	+1.2
LADK	Ladik-KONYA	2.49	113	ePn		Pn	05 16 26.3	+1.2
EZN	Ezine	2.50	285	ePN		Pn	05 16 26.3	+1.2
EZN	Ezine	2.50	285	ePn		Pn	05 16 26.3	+1.2
FETY	Fethiye	2.58	187	ePN		Pn	05 16 26.5	+0.2
FETY	Fethiye	2.58	187	ePn		Pn	05 16 26.5	+0.2
GELI	Tayfur-Gelibol	2.58	298	ePN		Pn	05 16 26.8	+0.5
GELI	Tayfur-Gelibol	2.58	298	ePn		Pn	05 16 26.8	+0.5
KDZE	Karadeniz Ereo	2.60	35	ePN		Pn	05 16 27.8	+1.2
KDZE	Karadeniz Ereo	2.60	35	ePn		Pn	05 16 27.8	+1.2
KONT	Konya--Tatoy	2.60	118	ePN		Pn	05 16 27.3	+0.7
KONT	Konya--Tatoy	2.60	118	ePn		Pn	05 16 27.3	+0.7
LOD	Lodumlu	2.65	74	ePN		Pn	05 16 28.5	+1.2
LOD	Lodumlu	2.65	74	ePn		Pn	05 16 28.5	+1.2
ERIK	Erikli-Kesan	2.69	304	ePN		Pn	05 16 29.6	+1.8
ERIK	Erikli-Kesan	2.69	304	ePn		Pn	05 16 29.6	+1.8
BODT	Bodrum	2.72	219	ePN		Pn	05 16 29.0	+0.7
BODT	Bodrum	2.72	219	ePn		Pn	05 16 29.0	+0.7
AFSR	Af ar-Bala (A	2.82	84	ePN		Pn	05 16 30.7	+1.1
AFSR	Af ar-Bala (A	2.82	84	ePn		Pn	05 16 30.7	+1.1
ENEZ	Enez	2.96	302	ePN		Pn	05 16 32.6	+1.1
ENEZ	Enez	2.96	302	ePn		Pn	05 16 32.6	+1.1
AKAS	Kas	2.97	178	i P		Pn	05 16 32.3	+0.6
AKAS	Kas	2.97	178	i P		Pn	05 16 32.3	+0.6
SAFT	Safranbolu	3.21	50	ePN		Pn	05 16 35.9	+1.0
SAFT	Safranbolu	3.21	50	ePn		Pn	05 16 35.9	+1.0
BRTR	Keskin Array B	3.28	80	Pn		Pn	05 16 36.6	+0.5
	1.1nm,0.3s,baz=253,slow=13,SNR=33							
BRTR				Pg		Pg	05 16 46.5	-0.7
	2.0nm,0.3s,baz=256,slow=17,SNR=37							
BRTR				Lg		Lg	05 17 34.0	
	1.6nm,0.3s,baz=262,slow=25,SNR=8.6							
KAMT	Kaman	3.31	86	ePN		Pn	05 16 37.1	+0.7
KAMT	Kaman	3.31	86	ePn		Pn	05 16 37.1	+0.7
SULT	Sultanhani-AKS	3.33	106	ePN		Pn	05 16 38.1	+1.4
SULT	Sultanhani-AKS	3.33	106	ePn		Pn	05 16 38.1	+1.4
EDRB	Edirne	3.35	323	ePN		Pn	05 16 37.2	+0.4
EDRB	Edirne	3.35	323	ePn		Pn	05 16 37.2	+0.4
APE	Apeiranthos	3.75	237	ePN		Pn	05 16 44.4	+2.0
APE	Apeiranthos	3.75	237	i P		Pb	05 16 52.1	+1.3
APE	Apeiranthos	3.75	237	ePn		Pn	05 16 44.4	+2.0
TOS	Tosya	3.95	61	ePN		Pn	05 16 46.2	+1.0
TOS	Tosya	3.95	61	ePn		Pn	05 16 46.2	+1.0
CORM	Corum	4.11	75	ePN		Pn	05 16 49.1	+1.7
CORM	Corum	4.11	75	ePn		Pn	05 16 49.1	+1.7
NIG	Nigde	4.18	104	ePN		Pn	05 16 49.3	+0.8
NIG	Nigde	4.18	104	ePn		Pn	05

CMAR	Chiang Mai Arr	38.19	301	P	P	05 39 30.1	+0.2
SONM	Songino Array	53.05	338	P	P	05 41 26.3	-0.8
	0.4nm,0.5s,baz=153,slow=8.2,SNR=3.7						
SONM				LR	LR	06 02 44.0	
	comp=Z,85nm,21.3s,baz=340,slow=35						
SONM	Songino Array	53.05	338	P	P	05 41 26.3	-0.8
RPZ	Rata Peaks	55.10	147	LR	LR	06 05 16.4	
	comp=Z,204nm,18.0s,baz=83,slow=36						
AFI	Afiamalu	56.36	107	LR	LR	06 00 41.8	
	comp=Z,12nm,20.3s,baz=38,slow=30						
MK31	Makanchi Array	64.28	324	*e*P	P	05 42 44.6	-0.5
MKAR	Makanchi Array	64.28	324	P	P	05 42 45.1	-0.1
	2.3nm,0.6s,baz=114,slow=7.8,SNR=29						
MKAR	Makanchi Array	64.28	324	P	P	05 42 45.1	-0.1
ZALV	Zalesovo Beam	66.87	331	P	P	05 43 01.7	0.0
	0.2nm,0.3s,baz=109,slow=8.0,SNR=3.8						
ZALV	Zalesovo Beam	66.87	331	P	P	05 43 01.7	0.0
KURK	Kurchatov	68.35	326	*e*P	P	05 43 10.4	-0.7
	5.9nm,1.1s						
KKAR	Karatay Array	70.29	316	*e*P	P	05 43 23.1	-0.2
	2.8nm,0.8s						
BRVK	Borovoye	74.02	326	*e*P	P	05 43 45.1	-0.2
	2.2nm,0.8s						
ABKAR	Akbulak array	79.06	320	*e*P	P	05 44 15.5	+1.5
	1.7nm,0.9s						
ILAR	Eielson Array	85.89	25	P	P	05 44 50.4	+1.1
	0.4nm,0.8s,baz=261,slow=3.6,SNR=4.5						
ILAR	Eielson Array *	85.89	25	P	P	05 44 50.4	+1.1
TORD	Torodi Ar. Bea	130.03	287	PKP	PKPdf	05 51 21.2	+0.7
	0.6nm,0.8s,baz=60,slow=2.1,SNR=3.5						
TORD	Torodi Ar. Bea	130.03	287	PKP	PKPdf	05 51 21.2	+0.7

IDC 20 05:43:11.1±3.2, 0°52'S×133°63'E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=168.6km s-min=26.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.32	178	P	P	05 47 38.0	0.0
	0.1nm,0.3s,baz=357,slow=11,SNR=6.0						
ASAR	Alice Springs	23.01	179	P	P	05 48 17.9	0.0
	0.5nm,0.4s,baz=354,slow=12,SNR=7.6						
MKAR	Makanchi Array	65.00	324	P	P	05 53 53.0	0.0
	0.1nm,0.5s,baz=116,slow=9.8,SNR=3.5						

*IDC **20** 05:49:20.6±0.7, 4°59N×128°01E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/24, mbtmp4.3/16, ML4.4/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/37, Error ellipse: s-maj=37.6km s-min=12.7km az=71.0*

*NEIC **20** 05:49:25.7±0.3, 4°52N×127°99E, h35km, mb4.5/10, Error ellipse: s-maj=17.7km s-min=5.3km az=70.0*

*ISCJB **20** 05:49:27.2±0.4, 4°49N±0°04×127°90E±0°06, h66km, mb4.2/23, Error ellipse: s-maj=8.4km s-min=5.1km az=3.5*

*DJA **20** 05:49:32, 4°34N×127°61E, h78km, MLv4.9/6*

ISC 20 05:49:29.3±0.6, 4°54N±0°05×127°86E±0°09, h66km, n57, σ1s27/56, mb4.3/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	2.47	250	P	Pn	05 50 05.1	-2.2
DAV	Davao City (W)	3.38	318	Pn	Pn	05 50 17.1	-2.6
	40nm,0.3s,baz=198,slow=20,SNR=1.8						
DAV				Sn	Sn	05 51 01.3	+2.6
	52nm,0.3s,baz=294,slow=20,SNR=3.1						
DAV	Davao City (W)	3.38	318	Pn	Pn	05 50 17.1	-2.6
DAV				Sn	Sn	05 51 01.3	+2.6
TNTI	Ternate	3.77	187	P	Pn	05 50 25.0	-0.1
MNI	Manado	4.30	224	P	Pn	05 50 30.5	-1.8
MNI				S	Sn	05 51 18.6	-2.7
LBMI	Labuha	5.16	184	P	Pn	05 50 43.6	-0.4
	117nm,0.8s,2µm0.6nm						
KMSI	Cibinong	5.52	225	P	Pn	05 50 48.7	-0.3
	620nm,0.6s,7µm2.7nm						
KMSI				S	Sn	05 51 53.4	+2.2
	620nm,0.6s,7µm2.7nm						
MRSI	Marisa	7.16	236	P	Pn	05 51 11.1	-0.2
	150nm,0.5s,2µm0.6nm						
LUWI	Luwuk	7.52	223	P	Pn	05 51 17.7	+1.4
KAPI	Kappang	12.47	221	LR	LR	05 57 53.5	
	comp=Z,55nm,18.4s,baz=24,slow=41						
GUMO	Guam	19.04	61	LR	LR	05 59 20.4	
	comp=Z,106nm,18.2s,baz=102,slow=32						
FITZ	Fitzroy Crossi	22.60	185	P	P	05 54 24.6	0.0
	3.4nm,0.6s,baz=22,slow=8.0,SNR=6.9						
FITZ	Fitzroy Crossi	22.60	185	P	P	05 54 24.6	0.0
WRAB	Tennant Creek	25.14	165	*e*P	P	05 54 47.4	-1.1
	9.5nm,0.9s						
WRA	Warramunga Arr	25.15	166	P	P	05 54 46.7	-1.8
	4.3nm,0.4s,baz=344,slow=10,SNR=46						
WRA	Warramunga Arr *	25.15	166	P	P	05 54 46.7	-1.8
WB2	Warramunga Arr	25.15	166	*e*P	P	05 54 47.0	-1.5
CBIJ	Chichi jima	26.27	30	LR	LR	06 04 52.0	
	comp=Z,14nm,18.5s,baz=132,slow=36						
ASAR	Alice Springs	28.65	168	P	P	05 55 18.6	-1.4
	1.1nm,0.5s,baz=350,slow=7.6,SNR=13						
ASAR	Alice Springs *	28.65	168	P	P	05 55 18.6	-1.4
CMAR	Chiang Mai Arr	31.45	298	P	P	05 55 45.4	+0.5
	0.9nm,0.3s,baz=114,slow=5.5,SNR=5.3						
CMAR	Chiang Mai Arr *	31.45	298	P	P	05 55 45.4	+0.5
KSAR	Wonju Array Be	32.75	0	P	P	05 55 55.3	-0.6
KSRS	Korea Array	32.75	0	P	P	05 55 55.3	-0.6
	1.8nm,0.8s,baz=175,slow=10,SNR=7.4						
KSRS				LR	LR	06 09 03.0	
	comp=Z,20nm,18.6s,baz=170,slow=36						
MJAR	Matsushiro Arr	33.24	15	LR	LR	06 07 35.4	
	comp=Z,66nm,18.7s,baz=270,slow=33						
FORT	Forrest	35.12	180	*e*P	P	05 56 15.0	-1.5
	44nm,1.1s						
STKA	Stephens Creek	38.51	161	P	P	05 56 46.6	+1.3
	9.1nm,0.7s,baz=336,slow=8.3,SNR=18						
STKA	Stephens Creek *	38.51	161	*e*P	P	05 56 44.2	-1.1
	1.9nm,0.8s						
USRK	Ussuriysk Arra	39.67	5	LR	LR	06 12 56.7	
	comp=Z,52nm,19.2s,baz=329,slow=36						
ULN	Ulaanbaatar	46.71	341	*e*P	P	05 57 53.0	+1.1
	2.2nm,0.6s						
SONM	Songino Array	46.91	340	P	P	05 57 53.9	+0.6
	1.2nm,0.7s,baz=156,slow=9.1,SNR=7.7						
SONM	Songino Array *	46.91	340	P	P	05 57 53.9	+0.6
MK31	Makanchi Array	57.54	324	*e*P	P	05 59 13.1	+1.0
MKAR	Makanchi Array	57.54	324	P	P	05 59 13.2	+1.1
	2.9nm,0.5s,baz=113,slow=7.7,SNR=84						
MKAR	Makanchi Array *	57.54	324	P	P	05 59 13.2	+1.1
TKM2	Tokmak 2	59.90	318	*e*P	P	05 59 29.7	+1.0
	1.8nm,0.6s						
ZALV	Zalesovo Beam	60.39	332	P	P	05 59 31.2	-0.4
	0.9nm,0.4s,baz=111,slow=9.1,SNR=5.9						
ZALV	Zalesovo Beam *	60.39	332	P	P	05 59 31.2	-0.4
AAK	Ala-Archa	60.52	317	*e*P	P	05 59 33.7	+0.7
	5.6nm,0.4s						
KURK	Kurchatov	61.67	327	P	P	05 59 41.0	+0.7
	6.4nm,0.5s,baz=129,slow=6.3,SNR=60						
KURK	Kurchatov *	61.67	327	*e*P	P	05 59 40.8	+0.5
	10nm,0.6s						
KKAR	Karatay Array *	63.42	316	*e*P	P	05 59 52.8	+0.7
	1.6nm,0.7s						
BVAR	Borovoye Array	67.26	326	P	P	06 00 17.3	+0.5
	1.9nm,0.6s,baz=131,slow=8.1,SNR=13						
BVAR	Borovoye Array *	67.26	326	P	P	06 00 17.3	+0.5
BRVK	Borovoye	67.33	326	*e*P	P	06 00 17.8	+0.5
	5.3nm,0.9s						
ABKAR	Akbulak array *	72.24	320	*e*P	P	06 00 47.4	0.0
	1.2nm,0.6s						
AKTO	Aktyubinsk	73.73	321	P	P	06 00 55.6	-0.7
	1.5nm,0.6s,baz=85,slow=6.5,SNR=7.9						
AKTO	Aktyubinsk *	73.73	321	P	P	06 00 55.6	-0.7
ILAR	Eielson Array *	83.89	25	P	P	06 01 51.9	+0.1
	0.5nm,0.7s,baz=252,slow=5.5,SNR=12						
ILAR	Eielson Array *	83.89	25	P	P	06 01 51.9	+0.1
ARCES	ARCESS Array B	90.08	340	P	P	06 02 20.6	-1.0
	3.7nm,1.0s,baz=94,slow=7.8,SNR=4.3						
ARCES	ARCESS Array B *	90.08	340	P	P	06 02 20.6	-1.0
FINES	FINESS Array B	91.65	332	P	P	06 02 28.5	-0.5
	2.0nm,0.8s,baz=79,slow=8.6,SNR=3.1						
FINES	FINESS Array B *	91.65	332	P	P	06 02 28.5	-0.5
TORD	Torodi Ar. Bea	123.73	289	PKP	PKPdf	06 08 21.7	+1.1
	0.6nm,1.0s,baz=83,slow=0.9,SNR=2.7						
TORD	Torodi Ar. Bea *	123.73	289	PKP	PKPdf	06 08 21.8	+1.1
ALLY	Alegheny Colle	127.42	26	*e*PKPdf	PKPdf	06 08 28.1	+1.1

*ISCJB **20** 05:58:00.7±0.6, 17°8S±0°1×175°1W±0°1, h228km, mb4.3/15, Error ellipse: s-maj=21.3km s-min=7.9km az=135.9*

*IDC **20** 05:58:03.9±2.5, 17°97S×174°98W, h247km±20km, mb3.9/7, mb1 4.0/9, mb1mx3.7/20, mbtmp3.9/9, Error ellipse: s-maj=49.9km s-min=14.1km az=145.0*

*NEIC **20** 05:58:05.2±1.2, 17°90S×174°96W, h264km±10km, mb4.5/10, Error ellipse: s-maj=20.4km s-min=9.7km az=143.0*

ISC 20 05:58:02.0±0.7, 17°8S±0°1×175°0W±0°1, h228km, n45, σ1s05/46, mb4.4/15, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	5.00	39	P	Pn	05 59 20.4	+3.1
	18nm,0.3s,baz=54,slow=2.9,SNR=31						
AFI				S	S	06 00 14.4	-2.5
	50nm,0.3s,baz=40,slow=22,SNR=20						
AFI	Afiamalu	5.00	39	*e*Pn	Pn	05 59 20.1	+2.8
	200nm,0.6s						
AFI				*e*Sn	S	06 00 14.2	-2.6
MSVF	Nonsavu	6.58	270	*e*Pn	Pn	05 59 44.4	+7.2
	46nm,1.0s						
DZM	Mont Dzumac	17.91	253	P	Pn	06 01 58.0	+0.3
	0.4nm,0.3s,baz=77,slow=18,SNR=6.0						
DZM	Mont Dzumac *	17.91	253	P	Pn	06 01 58.0	+0.3
URZ	Urewera	21.49	197	*e*P	P	06 02 33.3	+0.4
	8.3nm,0.6s						
ARMA	Armidale	32.77	241	↓*i*P	P	06 04 14.5	+0.6
ARMA	Armidale	32.77	241	*e*P	P	06 04 14.6	+0.6
	9.5nm,0.8s						
PMG	Port Moresby	37.62	278	P	P	06 04 55.0	-0.3
	4.8nm,0.4s,baz=78,slow=3.8,SNR=4.2						
PMG	Port Moresby *	37.62	278	P	P	06 04 55.0	-0.3
CMSA	Cobar Meteorol	37.99	241	*e*P	P	06 04 57.9	-0.4
	44nm,0.7s						
QLP	Quilpie	38.56	250	↓*i*P	P	06 05 02.6	-0.5
COEN	Coen	40.31	269	*e*P	P	06 05 17.6	0.0
	26nm,0.5s						
COEN	Coen *	40.31	269	*e*P	P	06 05 17.4	-0.2
	40nm,0.6s						
STKA	Stephens Creek	41.49	242	P	P	06 05 27.3	+0.3
	6.0nm,0.8s,baz=85,slow=10,SNR=9.9						
STKA	Stephens Creek *	41.49	242	*e*P	P	06 05 27.0	0.0
	5.2nm,0.9s						
STKA	Stephens Creek *	41.49	242	*e*P	P	06 05 27.0	0.0
	20nm,1.6s						
WB2	Warramunga Arr	47.79	259	*e*P	P	06 06 15.6	-1.3
WRAB	Tennant Creek	47.79	259	*e*P	P	06 06 15.8	-1.1
	98nm,1.7s						
WRA	Warramunga Arr	47.80	259	P	P	06 06 16.1	-0.8
	5.3nm,0.5s,baz=96,slow=7.1,SNR=136						
WRA	Warramunga Arr *	47.80	259	P	P	06 06 16.1	-0.8
AS31	Alice Springs	47.90	254	*e*P	P	06 06 17.1	-0.6
ASAR	Alice Springs	47.90	254	P	P	06 06 17.3	-0.4
	36nm,0.7s,baz=87,slow=8.7,SNR=26						
ASAR	Alice Springs *	47.90	254	P	P	06 06 17.3	-0.4
QSPA	South Pole Qui	72.23	180	*e*P	P	06 09 02.1	0.0
	13nm,1.3s						
KSRS	Korea Array	76.80	317	P	P	06 09 30.1	+1.5
	0.9nm,0.3s,baz=132,slow=6.5,SNR=7.3						
KSAR	Wonju Array Be	76.82	317	P	P	06 09 30.1	+1.4
MCK	McKinley	83.79	11	*e*P	P	06 10 05.5	+0.2
	3.8nm,0.8s						
COLA	College	85.03	11	*e*P	P	06 10 11.5	+0.2
	4.9nm,0.8s						
ILAR	Eielson Array	85.12	12	P	P	06 10 11.8	-0.1
	1.0nm,0.6s,baz=226,slow=6.1,SNR=31						
ILAR	Eielson Array *	85.12	12	P	P	06 10 11.8	-0.1
YKA	Yellowknife Ar	92.94	24	P	P	06 10 48.4	-0.3
	0.3nm,0.8s,baz=227,slow=4.4,SNR=8.7						
YKA	Yellowknife Ar *	92.94	24	P	P	06 10 48.5	-0.3
ARCES	ARCESS Array B	126.76	351	PKP	PKPdf	06 16 37.0	-0.8
	4.1nm,0.9s,baz=139,slow=0.8,SNR=7.5						
ARCES	ARCESS Array B *	126.76	351	PKP	PKPdf	06 16 37.0	-0.8
CLL	Collm	145.98	351	*e*PKPbc	PKPbc	06 17 15.0	+0.3
	comp=Z,7.0nm,1.0s						
BR131	Keskin Array S	146.95	317	*e*PKPbc	PKPbc	06 17 18.1	0.0
BRTR	Keskin Array B	146.95	317	PKPbc	PKPbc	06 17 18.1	+0.1
	comp=Z,2.2nm,0.8s,baz=138,slow=3.5,SNR=12						
BRTR	Keskin Array B *	146.95	317	PKPbc	PKPbc	06 17 18.1	+0.1
GERES	GERESS Array B	148.25	349	PKPbc	PKPbc	06 17 20.6	-0.6
	comp=Z,0.2nm,0.3s,baz=29,slow=3.0,SNR=7.6						
GERES	GERESS Array B *	148.25	349	PKPbc	PKPbc	06 17 20.6	-0.6
DAVOX	Davos/Dischmat	150.84	353	PKPbc	PKPbc	06 17 27.9	+0.2
	comp=Z,2.3nm,0.4s,baz=300,slow=12,SNR=6.9						
DAVOX	Davos/Dischmat *	150.84	353	PKPbc	PKPbc	06 17 27.9	+0.2
TORD	Torodi Ar. Bea	174.39	145	PKP	PKPdf	06 17 43.8	-1.4
	comp=Z,0.3nm,0.6s,baz=358,slow=3.1,SNR=2.1						
TORD	Torodi Ar. Bea *	174.39	145	PKP	PKPdf	06 17 43.8	-1.4

IDC 20 05:58:50.5±2.9, 18°72N×145°46E, h632km±40km, mb2.9/12, mb1 3.0/13, mb1mx3.0/24, mbtmp2.9/13, Error ellipse: s-maj=24.4km s-min=11.7km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	18.86	342	P	P	06 02 33.7	+1.2
	0.7nm,0.3s,baz=172,slow=9.8,SNR=4.2						
KSRS	Korea Array	24.16	324	P	P	06 03 19.1	-0.5
	1.5nm,0.6s,baz=148,slow=9.1,SNR=7.2						
USRK	Ussuriysk Arra	27.80	339	P	P	06 03 51.1	-0.3
	0.6nm,0.6s,baz=141,slow=12,SNR=4.5						
WRA	Warramunga Arr	39.94	196	P	P	06 05 32.7	0.0
	0.9nm,0.6s,baz=20,slow=8.5,SNR=11						
FITZ	Fitzroy Crossi	41.45	209	P	P	06 05 44.6	0.0
	1.6nm,0.5s,baz=39,slow=16,SNR=5.9						
SONM	Songino Array	42.98	321	P	P	06 05 56.9	+0.6
	1.0nm,0.6s,baz=126,slow=6.3,SNR=8.1						
ASAR	Alice Springs	43.61	195	P	P	06 06 01.3	-0.1
	0.2nm,0.5s,baz=11,slow=7.9,SNR=4.3						
ZALV	Zalesovo Beam	57.86	323	P	P	06 07 43.1	-0.5
	0.6nm,0.4s,baz=98,slow=7.4,SNR=3.3						
MKAR	Makanchi Array	58.28	314	P	P	06 07 47.2	+0.6
	0.7nm,0.5s,baz=88,slow=8.3,SNR=11						
KURK	Kurchatov	61.10	318	P	P	06 08 05.7	+0.6
	3.9nm,0.7s,baz=96,slow=7.3,SNR=30						
ILAR	Eielson Array	63.73	26	P	P	06 08 21.3	-0.5
	0.4nm,0.5s,baz=248,slow=6.2,SNR=12						
YKA	Yellowknife Ar	78.08	28	P	P	06 09 46.2	+0.8
	0.3nm,0.4s,baz=287,slow=5.1,SNR=14						
FINES	FINESS Array B	86.77	335	P	P	06 10 27.7	-1.3
	2.3nm,0.9s,baz=354,slow=1.9,SNR=3.7						

*ISCJB **20** 06:05:59.0±0.5, 36°62N±0°04×121°47W±0°05, h12km, Error ellipse: s-maj=7.3km s-min=3.5km az=135.3*

*NEIC **20** 06:06:00.5, 36°70N×121°33W, h6km, MW3.9(BRK), After NCEDC.*

NEIC Felt [III] at Hollister and [II] at Ben Lomond, Carmel, Marina, Monterey, Pacific Grove, Salinas, Santa Cruz, Scotts Valley and Seaside. Also felt at Boulder Creek, Carmel-by-the-Sea, Carmel Valley, Felton, Gilroy, Gonzales, Los Gatos, Milpitas, Morgan Hill, Mount Hermon, San Jose, San Juan Bautista, Santa Clara, Soquel and Watsonville.

ISC 20 06:05:58.6±1.1, 36°63N±0°04×121°41W±0°05, h12km, n32, σ1s78/39, 7C-5D, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAO	San Andreas Ge	0.13	346	*e*Pg	Pg	06 06 02.6	+0.6
SAC	San Andreas	1.24	320	*e*Pn	Pn	06 06 22.4	+0.5
SAC				*e*Sg	Sg	06 06 39.3	+0.6
CMB	Columbia Colle	1.62	30	*e*Pn	Pn	06 06 27.5	+0.4
CMB				*e*Sn	Sn	06 06 47.1	-0.8
SMMC	Simmler	1.75	139	↓P	Pn	06 06 29.7	+0.9
	baz=1.8						
RCTC	Rector, Farmer	1.78	100	↑P	Pb	06 06 30.4	-0.7
	baz=1.7						
MCCM	Marconi Confer	1.91	323	*e*Pn	Pn	06 06 31.0	0.0
VES	Vestal, Richgr	2.04	112	↑P	Pn	06 06 34.1	+1.4
	baz=2.0						
VES				↑S	Sn	06 06 59.6	+1.5
	baz=2.0						
PKM	Peak Mountain	2.16	143	↓P	Pn	06 06 36.1	+1.4
	baz=2.2						
MLAC	Mammoth Lakes	2.28	63	↑P	Pb	06 06 39.1	-0.8
	baz=2.2						
ISA	Isabella	2.56	111	*e*Pn	Pn	06 06 42.0	+1.9
ISA				*e*Sn	Sb	06 07 13.9	-2.2
ISA	Isabella	2.56	111	↑P	Pn	06 06 42.1	+2.1
	baz=2.5						
ARVC	Arvin	2.58	125	↑P	Pn	06 06 41.8	+1.6
	baz=2.6						
TIN	Tinemaha	2.58	80	↓Pb	Pb	06 06 46.2	+1.2
	baz=2.5						
TIN				↑Sb	Sb	06 07 18.4	+1.7
	baz=2.5						
HOPS	Hopland	2.70	331	*e*Pn	Pn	06 06 42.2	+0.3
WCN	Washoe City	2.97	26	*e*Pn	Pn	06 06 48.2	+2.5
WCN				*e*Sn	Sb	06 07 24.6	-3.2
WCN	Washoe City	2.97	26	↓P	Pn	06 06 48.1	+2.4
	baz=2.9						
OSI	Osito Adit	2.97	132	*e*Pn	Pb	06 06 49.5	-2.1
MPMC	Manual Prospec	3.21	99	↓Pb	Pb	06 06 55.1	-0.7
	baz=3.2						
KCPM	Cahto Peak	3.50	331	*e*Pn	Pn	06 06 53.9	+0.9
KIPM	Iron Peak	3.56	333	*e*Pn	Pn	06 06 55.5	+1.7
PASC	Pasadena Art C	3.60	132	*e*Pn	Pn	06 06 55.8	+1.5
GSC	Goldstone	3.96	108	*e*Pn	Pn	06 07 01.2	+1.9
WDC	Whiskeytown Da	4.04	348	*e*Pn	Pn	06 07 03.3	+3.1
KHMM	Horse Mountain	4.61	337	*e*Pn	Pn	06 07 11.0	+2.8
BMN	Battle Mountai	5.01	40	*e*Pg	Pg	06 07 35.4	+0.7
BMN				*e*Sg	Sg	06 08 36.3	-3.2
PFO	Pinyon Flat Ob	5.06	125	*e*Pn	Pn	06 07 16.5	+2.1
	14nm,0.8s						
BAR	Barrett	5.55	134	*e*Pn	Pn	06 07 21.9	+0.9
	4.3nm,0.4s						
ARUT	Antelope Range	6.46	77	*e*Pg	Pg	06 07 59.9	-2.5
	9.9nm,0.7s						
CCUT	Cedar City	6.50	80	*e*Pn	Pn	06 07 37.5	+3.3
	5.7nm,0.8s						
CCUT				*e*Pg	Pg	06 08 03.8	+0.8
CCUT				*e*Sg	Sg	06 09 27.5	+0.4
MSU	Marysvale	7.57	73	*e*Pg	Pg	06 08 21.0	-2.5
	11nm,1.2s						
MSU				*e*Sg	Sg	06 10 02.7	+1.2
WUAZ	Wupatki	8.20	95	*e*Pn	Pn	06 08 02.8	+5.2
	4.7nm,0.8s						
JTMT	Jette	12.29	23	*e*Pn	P	06 09 01.3	-4.5
	3.4nm,0.9s						

*ISK **20** 06:06:45.3, 36°83N×29°35E, h16km, MD2.8*

*DDA **20** 06:06:45.6, 36°90N×29°32E, h9km, MD3.0*

*CSEM **20** 06:06:45.7±0.2, 36°90N×29°34E, h2km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.3km az=15.0*

ISC 20 06:06:45.9±1.2, 36°91N±0°03×29°34E±0°03, h2km±14km, n16, σ0s79/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	Fethiye	0.34	217	PG	Pg	06 06 51.3	-1.0
FETY				*e*SG	Sg	06 06 57.0	+0.3
FETY	Fethiye	0.34	217	*i* Pg	Pg	06 06 51.3	-1.0
FETY				*e*Sg	Sg	06 06 57.0	+0.3
ELL	Elmali	0.49	109	*e*PG	Pg	06 06 55.0	-0.2
ELL				*e*SG	Sg	06 07 01.8	+0.3
ELL	Elmali	0.49	109	*e*Pg	Pg	06 06 55.0	-0.2
ELL				*e*Sg	Sg	06 07 01.8	+0.3
AKAS	Kas	0.70	162	*i* P	Pg	06 06 59.3	-0.1
AKAS				*i* S	Sb	06 07 13.5	+2.3
AKAS	Kas	0.70	162	*i* P	Pg	06 06 59.3	-0.1
DNZL	Cakiroluk	0.82	344	*i* P	Pg	06 07 01.2	-0.3
DNZL				*i* S	Sg	06 07 13.2	+1.1
DNZL	Cakiroluk	0.82	344	*i* P	Pg	06 07 01.2	-0.3
DNZL				*i* S	Sg	06 07 13.2	+1.1
KORT	Korkueli	0.82	83	*i* P	Pg	06 07 01.3	-0.2
KORT				*i* S	Sb	06 07 14.2	-0.3
KORT	Korkueli	0.82	83	*i* P	Pg	06 07 01.3	-0.2
KORT				*i* S	Sb	06 07 14.2	-0.3
YER	Yerkesik	0.87	285	*e*PG	Pb	06 07 03.6	-0.2
YER	Yerkesik	0.87	285	*e*Pg	Pb	06 07 03.6	-0.2
KHL	Karahalli	1.42	6	*e*PN	Pn	06 07 12.2	-0.7
KHL	Karahalli	1.42	6	*e*Pn	Pn	06 07 12.2	-0.7
BDRM	Kayabasi	1.52	277	*i* P	Pn	06 07 13.9	-0.3
BDRM				*i* S	Sg	06 07 35.9	+1.1
BDRM	Kayabasi	1.52	277	*i* P	Pn	06 07 13.9	-0.3
BDRM				*i* S	Sg	06 07 35.9	+1.1

*IDC **20** 06:17:55.6±2.4, 36°30N×68°67E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.4/29, mbtmp3.4/7, ML3.2/4, Error ellipse: s-maj=51.9km s-min=25.9km az=139.0*

*NNC **20** 06:18:03.1±0.9, 37°36N×68°29E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.6km s-min=7.2km az=84.0*

ISC 20 06:17:57.5±2.4, 36°7N±0°2×68°3E±0°1, h24km, n13, σ2s12/15, 2C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.60	14	↓Pn	Pn	06 19 35.7	+2.6
	0.6nm,0.3s,baz=196,slow=14,SNR=25						
KK31				↑Pg	Pb	06 19 52.6	+1.0
	0.7nm,0.3s,baz=178,slow=12,SNR=6.0						
KK31				↓Sn	Sn	06 20 48.5	+1.0
	1.6nm,0.5s,baz=210,slow=25,SNR=5.6						
KK31				↓Lg	Lg	06 21 11.4	
	5.0nm,0.6s,baz=190,slow=30,SNR=4.

	13nm,0.8s,baz=113,slow=7.8,SNR=28						
NVAR	Mina Array Bea	91.11	44	P	P	06 38 53.8	+1.5
	0.6nm,0.7s,baz=217,slow=7.1,SNR=4.1						
MKAR	Makanchi Array	116.97	310	PKP	PKPdf	06 44 28.3	+0.9
	0.2nm,0.7s,baz=61,slow=3.5,SNR=3.7						
ARCES	ARCESS Array B	139.65	346	PKhKP	PKPpre	06 45 03.9	
	3.8nm,0.9s,baz=78,slow=2.1,SNR=3.6						
KAF	Kangasniemi	145.23	338	ep	PKPdf	06 45 19.0	-0.5
KAF	Kangasniemi	145.23	338	ep	PKPdf	06 45 19.0	-0.5
FINES	FINESS Array B	145.79	337	PKPbc	PKPdf	06 45 21.1	+0.6
	3.0nm,0.5s,baz=67,slow=3.5,SNR=11						
NB2	NORSAR Subarra	149.95	348	PKP	PKPbc	06 45 30.9	-2.1
	comp=Z,3.0nm,1.0s,baz=8.7,slow=2.6						
NOA	NORSAR Array B	149.95	348	PKPbc	PKPbc	06 45 31.4	-1.6
	comp=Z,0.9nm,0.7s,baz=28,slow=3.5,SNR=3.4						
AKASG	Malin Array Be	151.04	319	PKPbc	PKPbc	06 45 36.8	+1.0
	comp=Z,1.7nm,0.7s,baz=52,slow=2.8,SNR=5.2						
TORD	Torodi Ar. Bea	161.03	188	PKPab	PKPab	06 46 29.0	-1.5
	comp=Z,0.8nm,1.0s,baz=192,slow=2.3,SNR=3.7						

IDC 20 06:35:52.1±0.8,22°.79S×171°.06E,h0km,mb4.2/8, mb1 4.4/9,mb1mx4.2/18,mbtmp4.2/9,ML3.9/1,MS3.2/1, Ms1 3.1/1,ms1mx2.7/24,Error ellipse: s-maj=28.6km s-min=21.8km az=3.0
ISCJB 20 06:35:55.3±0.6,23°.0S±0°.1×170°.93E±0°.06,h31km, mb4.3/12,MS3.1/1,Error ellipse: s-maj=20.5km s-min=7.5km az=178.1
NEIC 20 06:35:57.4±0.6,23°.00S×170°.94E,h35km,mb4.5/5,Error ellipse: s-maj=23.2km s-min=10.1km az=165.0
ISC 20 06:35:56.7±0.7,22°.9S±0°.2×171°.05E±0°.08,h31km,n38, σ1s.07/43,mb4.4/12,2C-2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.33	279	Pn	Pn	06 37 00.8	+1.3
	5.9nm,0.3s,baz=109,slow=20,SNR=61						
DZM				Sn	Sn	06 37 49.8	-0.2
	1.7nm,0.3s,baz=93,slow=16,SNR=3.0						
DZM	Mont Dzumac	4.33	279	eP	Pn	06 36 59.6	-1.0
DZM				eS	Sn	06 37 50.1	+0.1
DZM	Mont Dzumac	4.33	279	ePn	Pn	06 36 59.2	-1.3
DZM				eSn	Sn	06 37 54.0	+3.9
NOUC	Port Laguerre	4.45	279	eP	Pn	06 37 00.9	-1.2
NOUC				eS	Sn	06 37 51.4	-1.5
MSVF	Nonsavu	8.31	53	ePn	Pn	06 37 59.7	+4.5
	64nm,1.3s						
PMG	Port Moresby	26.50	296	P	P	06 41 31.8	+0.1
	6.3nm,0.7s,baz=125,slow=7.9,SNR=4.0						
PMG	Port Moresby	26.50	296	P	P	06 41 31.8	+0.1
STKA	Stephens Creek	27.59	245	LR	LR	06 51 44.5	
	comp=Z,56nm,21.4s,baz=27,slow=34						
COEN	Coen	27.85	284	eP	P	06 41 44.0	+0.3
	30nm,0.8s						
AS31	Alice Springs	34.07	261	eP	P	06 42 38.4	-0.2
ASAR	Alice Springs	34.07	261	P	P	06 42 38.2	-0.4
	2.9nm,0.8s,baz=89,slow=9.1,SNR=32						
ASAR	Alice Springs	34.07	261	P	P	06 42 38.2	-0.4
WB2	Warramunga Arr	34.23	268	eP	P	06 42 38.7	-1.3
WRAB	Tennant Creek	34.24	268	eP	P	06 42 39.0	-1.1
	6.7nm,1.3s						
WRA	Warramunga Arr	34.25	268	P	P	06 42 38.8	-1.3
	0.6nm,0.4s,baz=99,slow=8.3,SNR=18						
WRA	Warramunga Arr	34.25	268	P	P	06 42 38.8	-1.3
FITZ	Fitzroy Crossi	42.68	268	eP	P	06 43 50.8	-0.1
	13nm,1.2s						
QSPA	South Pole Qui	67.22	180	P	P	06 46 48.9	+1.1
	3.8nm,0.7s,baz=29,slow=1.9,SNR=20						
QSPA	South Pole Qui	67.22	180	eP	P	06 46 47.9	0.0
	3.9nm,0.8s						
CMAR	Chiang Mai Arr	81.52	294	P	P	06 48 13.6	+1.9
	1.6nm,0.3s,baz=138,slow=4.0,SNR=8.6						
CMAR	Chiang Mai Arr	81.52	294	P	P	06 48 13.6	+1.9
ISA	Isabella	88.46	50	eP	P	06 48 46.1	-0.1
	3.5nm,1.2s						
NVAR	Mina Array Bea	89.94	48	P	P	06 48 52.9	-0.4
	1.1nm,0.7s,baz=223,slow=8.7,SNR=12						
NVAR	Mina Array Bea	89.94	48	P	P	06 48 52.9	-0.4
SONM	Songino Array	91.11	322	P	P	06 48 57.9	-0.5
	1.0nm,0.8s,baz=152,slow=6.5,SNR=7.0						
SONM	Songino Array	91.11	322	P	P	06 48 57.9	-0.5
ILAR	Eielson Array	93.18	17	P	P	06 49 07.3	-0.1
	0.4nm,1.0s,baz=218,slow=4.5,SNR=4.0						
ILAR	Eielson Array	93.18	17	P	P	06 49 07.3	-0.1
BRG	Berggiesshubel	146.84	333	eP	PKPbc	06 55 35.5	-0.2
	8.3nm,0.9s						
CLL	Collm	146.89	335	i PKPbc	PKPbc	06 55 35.5	-0.3
	comp=Z,15nm,1.1s						
CLL				ePKiKP	PKiKP	06 55 40.0	+1.6
CONA	Conrad Observa	148.09	328⇑	iPKPbc	PKPbc	06 55 39.6	+0.3
	comp=Z,4.3nm,0.8s						
GERES	GERESS Array B	148.46	331	PKPbc	PKPbc	06 55 40.3	+0.1
	comp=Z,3.6nm,0.9s,baz=52,slow=2.2,SNR=18						
GERES	GERESS Array B	148.46	331	PKPbc	PKPbc	06 55 40.3	+0.1
ABTA	Abfaltersbach	150.54	329⇓	iPKPbc	PKPbc	06 55 44.6	-0.9
	comp=Z,8.5nm,0.7s						
MOTA	Moosalm	150.74	332⇓	iPKPbc	PKPbc	06 55 45.6	-0.4
	comp=Z,8.7nm,0.8s						
FETA	Feichten	151.15	331⇑	iPKPbc	PKPbc	06 55 46.8	-0.2
	comp=Z,8.0nm,0.9s						
TORD	Torodi Ar. Bea	166.02	228	PKP	PKPdf	06 55 58.1	-1.4
	comp=Z,1.2nm,1.0s,baz=3.2,slow=1.9,SNR=4.3						
TORD				PKPab	PKPab	06 57 00.0	+0.4
	comp=Z,1.4nm,0.9s,baz=126,slow=4.3,SNR=6.0						
TORD	Torodi Ar. Bea	166.02	228	PKP	PKPdf	06 55 58.1	-1.4
TORD				PKPab	PKPab	06 57 00.0	+0.4

IDC 20 06:41:08.1±2.6,22°.62S×171°.01E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/16,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=112.4km s-min=39.6km az=171.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.26	277	Pn	Pn	06 42 16.4	+2.1
	2.9nm,0.3s,baz=94,slow=19,SNR=29						
DZM				Sn	Sn	06 43 05.2	+0.3
	baz=148,slow=18,SNR=2.9						
DZM	Mont Dzumac	4.26	277	eP	Pn	06 42 15.4	+1.0
DZM				eS	Sn	06 43 05.7	+0.8
ASAR	Alice Springs	34.07	261	P	P	06 47 54.4	-0.1
	0.9nm,0.7s,baz=90,slow=9.2,SNR=6.8						
WRA	Warramunga Arr	34.22	267	P	P	06 47 54.5	-1.2
	0.2nm,0.4s,baz=99,slow=8.4,SNR=7.0						
GERES	GERESS Array B	148.24	331	PKPbc	PKPbc	07 00 55.9	-0.3
	0.4nm,0.2s,baz=57,slow=3.6,SNR=5.0						

ISK 20 06:42:47.6,39°.45N×40°.38E,h5km,MD2.9
ISCJB 20 06:42:48.9±0.5,39°.43N±0°.03×40°.39E±0°.05,h10km,Error ellipse: s-maj=5.5km s-min=4.0km az=172.9
DDA 20 06:42:48.8,39°.41N×40°.26E,h8km,MD3.0
CSEM 20 06:42:48.7±0.3,39°.42N×40°.40E,h5km,MD2.9,Error ellipse: s-maj=9.1km s-min=5.4km az=110.0
ISC 20 06:42:49.5±0.9,39°.43N±0°.03×40°.40E±0°.03,h10km,n19, σ1s.36/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bing˘¶l	0.48	154	PG	Pg	06 42 58.5	-0.5
BNGB				eSG	Sg	06 43 06.8	+1.4
ERZN	Erzincan	0.55	287	ePG	Pg	06 42 59.5	-0.7
BINT	Bingol	0.56	173	i Pg	Pg	06 42 58.5	-1.8
BINT				eSg	Sg	06 43 06.8	-0.8
KOPT	Kop Dagi	0.59	7	i P	Pg	06 43 00.4	-0.7
KOPT				i S	Sb	06 43 11.0	+0.3
KOPT	Kop Dagi	0.59	7	i P	Pg	06 43 00.4	-0.7
KOPT				i S	Sb	06 43 11.0	+0.3
BNGL	BINGOL	0.75	129	i P	Pb	06 43 04.3	-0.4
BNGL				i S	Sn	06 43 17.2	+3.5
EZM	Erzurum	0.88	57	ePG	Pg	06 43 05.3	-1.1
PTK	Pertek	0.95	236	ePG	Pg	06 43 06.8	-1.0
PTK				eSG	Sb	06 43 20.5	-0.4
PTK	Pertek	0.95	236	ePg	Pg	06 43 06.8	-1.0
PTK				eSg	Sb	06 43 20.5	-0.4
BAYT	Ayd¯ntepe-Bay	0.99	348	ePG	Pg	06 43 07.3	-1.1
BAYT	Ayd¯ntepe-Bay	0.99	348	ePg	Pg	06 43 07.3	-1.1
GUMT	Gumushane	1.25	326	ePN	Pn	06 43 12.1	-1.1
GUMT	Gumushane	1.25	326	ePn	Pn	06 43 12.1	-1.1
SVRC	Sivrice-ELAZID	1.35	220	ePN	Pg	06 43 14.8	-0.7
SVRC	Sivrice-ELAZID	1.35	220	ePn	Pg	06 43 14.8	-0.7
ILIC	ilic-Erzincan	1.42	272	ePN	Pg	06 43 15.8	-0.9
ILIC	ilic-Erzincan	1.42	272	ePn	Pg	06 43 15.8	-0.9
KEMA	Kemaliye	1.49	264	i P	Pg	06 43 16.9	-1.2
KEMA				i S	Sg	06 43 39.9	+2.5
KEMA	Kemaliye	1.49	264	i P	Pg	06 43 16.9	-1.2
KEMA				i S	Sg	06 43 39.9	+2.5

ISK 20 06:49:17.6,37°.08N×35°.90E,h22km,ML2.2
DDA 20 06:49:17.8,37°.08N×35°.88E,h8km,MD2.9
CSEM 20 06:49:18.4±0.2,37°.09N×35°.86E,h20km,ML2.2,Error ellipse: s-maj=5.3km s-min=5.1km az=29.0
ISC 20 06:49:18.4±1.1,37°.08N±0°.04×35°.87E±0°.03,h18km±4km, n17,σ0s.56/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.12	233	ePG	Pg	06 49 22.1	-0.2
CEYT				eSG	Sg	06 49 25.4	+0.5
CEYT	Ceyhan	0.12	233	ePg	Pg	06 49 22.1	-0.2
CEYT				eSg	Sg	06 49 25.4	+0.5
KOZT	Kozan	0.40	356	ePG	Pb	06 49 27.2	+0.2
KOZT				eSG	Sb	06 49 33.2	+0.3
KOZT	Kozan	0.40	356	ePg	Pb	06 49 27.2	+0.2
KOZT				eSg	Sb	06 49 33.2	+0.3
GULE	Gulek	0.89	283	i P	Pb	06 49 34.3	-1.2
GULE				i S	Sn	06 49 49.5	+0.7
GULE	Gulek	0.89	283	i P	Pb	06 49 34.3	-1.2
GULE				i S	Sn	06 49 49.5	+0.7
KMRS	Kahramanmaras	0.93	63	ePG	Pb	06 49 35.0	-1.0
KMRS				eSG	Sb	06 49 47.7	-0.3
KMRS	Kahramanmaras	0.93	63	ePg	Pb	06 49 35.0	-1.0
KMRS				eSg	Sb	06 49 47.7	-0.3
HTY	Hatay	0.98	167	ePG	Pb	06 49 36.5	-0.4
HTY				eSG	Sg	06 49 51.1	+0.6
HTY	Hatay	0.98	167	ePg	Pb	06 49 36.5	-0.4
HTY				eSg	Sg	06 49 51.1	+0.6
KUZU	Kuzuini	1.02	107	i P	Pn	06 49 37.8	0.0
KUZU				i S	Sn	06 49 51.5	-0.2
KUZU	Kuzuini	1.02	107	i P	Pn	06 49 37.8	0.0
KUZU				i S	Sn	06 49 51.5	-0.2
YAYL	Yayladag	1.06	169	i P	Pb	06 49 38.1	-0.3
YAYL				i S	Sg	06 49 53.6	+0.6
YAYL	Yayladag	1.06	169	i P	Pb	06 49 38.1	-0.3
YAYL				i S	Sg	06 49 53.6	+0.6
GAZ	Gaziantep	1.08	85	ePG	Pb	06 49 38.2	-0.4
GAZ				eSG	Sb	06 49 52.5	+0.1
GAZ	Gaziantep	1.08	85	ePg	Pb	06 49 38.2	-0.4
GAZ				eSg	Sb	06 49 52.5	+0.1
GZT	Gaziantep	1.38	78	i P	Pb	06 49 43.9	+0.1
GZT				i S	Sb	06 50 01.9	+0.7

ISCJB 20 06:51:03.8±0.8,49°.16N±0°.03×3°.26W±0°.05,h8km±5km, Error ellipse: s-maj=5.6km s-min=4.6km az=38.4
CSEM 20 06:51:04.2±0.1,49°.18N×3°.29W,h12km,ML3.1/5,Error ellipse: s-maj=2.3km s-min=1.6km az=130.0
LDG 20 06:51:04.6±0.2,49°.19N×3°.34W,h5km,Md2.4/3,Ml3.0/6, Error ellipse: s-maj=3.7km s-min=1.6km az=135.0
BGS 20 06:51:05.9±0.4,49°.20N×3°.23W,h13km±88km,ML2.1
ISC 20 06:51:04.4±1.2,49°.18N±0°.03×3°.28W±0°.04,h14km±9km, n52,σ0s.28/91,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSA	Saint Aubin	0.72	89	P	Pg	06 51 18.6	+0.2
JSA				S	Sg	06 51 27.6	-0.4
JSA				AML	AML	06 51 28.4	
	52nm,0.1s						
JSA				AML	AML	06 51 28.4	
	77nm,0.2s						
JSA	Saint Aubin	0.72	89	eP	Pg	06 51 18.6	+0.2
JSA				eS	Sg	06 51 27.6	-0.4
JSA				AML	AML	06 51 28.4	
	comp=E,52nm,0.1s						
JSA				AML	AML	06 51 28.4	
	comp=N,77nm,0.2s						
JSA	Saint Aubin	0.72	89	P	Pg	06 51 18.6	+0.2
JSA				S	Sg	06 51 27.6	-0.4
JSA				AML	AML	06 51 28.4	
	comp=N,52nm,0.1s						
JSA				AML	AML	06 51 28.4	
	comp=N,77nm,0.2s						
JSA	Saint Aubin	0.72	89	eP	Pg	06 51 18.6	+0.2
JSA				eS	Sg	06 51 27.6	-0.4
JSA				AML	AML	06 51 28.4	
	comp=E,52nm,0.1s						
JSA				AML	AML	06 51 28.4	
	comp=N,77nm,0.2s						
JSA	Saint Aubin	0.72	89	eP	Pg	06 51 18.6	+0.2
JSA				eS	Sg	06 51 27.6	-0.4
	comp=N,77nm,0.2s						
JLP	Les Platons	0.77	85	P	Pb	06 51 19.6	0.0
JLP	Les Platons	0.77	85	eP	Pb	06 51 19.6	0.0
JLP	Les Platons	0.77	85	P	Pb	06 51 19.6	0.0
JLP	Les Platons	0.77	85	eP	Pb	06 51 19.6	0.0
JLP	Les Platons	0.77	85	eP	Pb	06 51 19.6	0.0
JRS	Jersey	0.78	89	P	Pb	06 51 19.6	0.0
JRS				S	Sg	06 51 29.7	0.0
JRS				AML	AML	06 51 30.0	
	comp=N,77nm,0.2s						
JRS	Jersey	0.78	89	eP	Pb	06 51 19.6	0.0
JRS				eS	Sg	06 51 29.7	0.0
JRS				AML	AML	06 51 30.0	
	comp=E,77nm,0.2s						
JRS	Jersey	0.78	89	P	Pb	06 51 19.6	0.0
JRS				S	Sg	06 51 29.7	0.0
JRS				AML	AML	06 51 30.0	
	comp=E,77nm,0.2s						
JRS	Jersey	0.78	89	eP	Pb	06 51 19.6	0.0
JRS				eS	Sg	06 51 29.7	0.0
JRS				AML	AML	06 51 30.0	
	comp=E,77nm,0.2s						
JRS	Jersey	0.78	89	eP	Pb	06 51 19.6	0.0
JRS				eS	Sg	06 51 29.7	0.0
	comp=E,77nm,0.2s						
JDC	Jersey Dam (Cr	0.81	89	P	Pb	06 51 20.2	0.0
JDC				S	Sg	06 51 30.7	+0.1
JDC	Jersey Dam (Cr	0.81	89	eP	Pb	06 51 20.2	0.0
JDC				eS	Sg	06 51 30.7	+0.1
JDC	Jersey Dam (Cr	0.81	89	P	Pb	06 51 20.2	0.0
JDC				S	Sg	06 51 30.7	+0.1
JDC	Jersey Dam (Cr	0.81	89	eP	Pb	06 51 20.2	0.0
JDC				eS	Sg	06 51 30.7	+0.1
JDC	Jersey Dam (Cr	0.81	89	eP	Pb	06 51 20.2	0.0
JDC				eS	Sg	06 51 30.7	+0.1
JDG	Jersey Dam (Ga	0.81	89	P	Pg	06 51 20.1	+0.1
JDG				S	Sg	06 51 30.5	-0.1
JDG	Jersey Dam (Ga	0.81	89	eP	Pg	06 51 20.1	+0.1
JDG				eS	Sg	06 51 30.5	-0.1
JDG	Jersey Dam (Ga	0.81	89	P	Pg	06 51 20.1	+0.1
JDG				S	Sg	06 51 30.5	-0.1
JDG	Jersey Dam (Ga	0.81	89	eP	Pg	06 51 20.1	+0.1
JDG				eS	Sg	06 51 30.5	-0.1
JDG	Jersey Dam (Ga	0.81	89	eP	Pg	06 51 20.1	+0.1
JDG				eS	Sg	06 51 30.5	-0.1
ROSF	Rostrenen	0.85	180	ePg	Pg	06 51 20.6	-0.1
ROSF	Rostrenen	0.85	180	ePn	Pn	06 51 21.9	0.0
ROSF				eSg	Sg	06 51 31.6	-0.2
ROSF				eSn	Sn	06 51 34.1	0.0
	comp=E,50nm,0.3s						
ROSF	Rostrenen	0.85	180	ePg	Pg	06 51 20.6	-0.1
ROSF	Rostrenen	0.85	180	ePn	Pn	06 51 21.9	0.0
ROSF				eSg	Sg	06 51 31.6	-0.2
ROSF				eSn	Sn	06 51 34.1	0.0
	comp=E,25nm,0.3s						
SGMF	Saint Gilles	1.04	153	ePn	Pb	06 51 24.3	+0.1
SGMF	Saint Gilles	1.04	153	ePg	Pn	06 51 24.9	+0.3
SGMF				eSg	Sg	06 51 38.6	+0.5
SGMF	Saint Gilles	1.04	153	ePn	Pb	06 51 24.3	+0.1
SGMF	Saint Gilles	1.04	153	ePg	Pn	06 51 24.9	+0.3
SGMF				eSg	Sg	06 51 38.6	+0.5
QUIF	Quistinic	1.27	177	ePn	Pn	06 51 27.4	-0.2
QUIF	Quistinic	1.27	177	ePg	Pg	06 51 28.5	-0.2
QUIF				eSg	Sn	06 51 44.8	+0.3
	comp=E,39nm,0.2s						
QUIF	Quistinic	1.27	177	ePn	Pn	06 51 27.4	-0.2
QUIF	Quistinic	1.27	177	ePg	Pg	06 51 28.5	-0.2
QUIF				eSg	Sn	06 51 44.8	+0.3
	comp=E,20nm,0.2s						
DYA	Yadsworthy	1.32	342	P	Pn	06 51 28.5	0.0
DYA				S	Sn	06 51 46.0	0.0
DYA				AML	AML	06 51 48.3	
	comp=E,48nm,0.3s						
DYA				AML	AML	06 51 48.5	
	comp=E,33nm,0.5s						
DYA	Yadsworthy	1.32	342	eP	Pn	06 51 28.5	0.0
DYA				eS	Sn	06 51 46.0	0.0
DYA				AML	AML	06 51 48.3	
	comp=E,48nm,0.3s						
DYA				AML	AML	06 51 48.5	
	comp=N,33nm,0.5s						
DYA	Yadsworthy	1.32	342	P	Pn	06 51 28.5	0.0
DYA				S	Sn	06 51 46.0	0.0
DYA				AML	AML	06 51 48.3	
	comp=N,48nm,0.3s						
DYA				AML	AML	06 51 48.5	
	comp=N,33nm,0.5s						
DYA	Yadsworthy	1.32	342	eP	Pn	06 51 28.5	0.0
DYA				eS	Sn	06 51 46.0	0.0
DYA				AML	AML	06 51 48.3	
	comp=E,48nm,0.3s						
DYA				AML	AML	06 51 48.5	
	comp=N,33nm,0.5s						
DYA	Yadsworthy	1.32	342	eP	Pn	06 51 28.5	0.0
DYA				eS	Sn	06 51 46.0	0.0
	comp=N,33nm,0.5s						
GRR	Gorron	1.79	115	eP	Pb	06 51 37.2	+0.4
GRR				eSn	Sn	06 51 56.8	-0.4
	comp=N,15nm,0.2s						
GRR	Gorron	1.79	115	eP	Pb	06 51 37.2	+0.4
GRR				eSn	Sn	06 51 56.8	-0.4
	comp=N,7.6nm,0.2s						
FLN	La Foliniere	1.89	102	ePn	Pn	06 51 36.5	+0.3
FLN	La Foliniere	1.89	102	ePg	Pg	06 51 40.1	-0.5
FLN				eSg	Sg	06 52 06.1	+1.0
	comp=N,17nm,0.2s						
FLN	La Foliniere	1.89	102	ePn	Pn	06 51 36.5	+0.3
FLN	La Foliniere	1.89	102	ePg	Pg	06 51 40.1	-0.5
FLN				eSg	Sg	06 52 06.1	+1.0
	comp=N,8.3nm,0.2s						
LDF	La Druitiere	2.16	105	ePn	Pn	06 51 40.1	+0.1
LDF	La Druitiere	2.16	105	ePg	Pg	06 51 45.3	-0.5
LDF				eSn	Sn	06 52 06.1	-0.5
	comp=N,16nm,0.4s						
LDF	La Druitiere	2.16	105	ePn	Pn	06 51 40.1	+0.1
LDF	La Druitiere	2.16	105	ePg	Pg	06 51 45.3	-0.5
LDF				eSn	Sn	06 52 06.1	-0.5
	comp=N,8.0nm,0.4s						

TRN 20 06:54:49.1,18°.76N×64°.30W,h32km,MD3.1(RSPR)
NEIC 20 06:54:50.4,18°.86N×64°.21W,h29km,MD3.1(RSPR), After RSPR.
RSPR 20 06:54:50.4,18°.86N×64°.21W,h29km,MD3.1/5,12C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.18	221⇓	eP	Pb	06 54 55.9	-0.4
ABV				eS	Sb	06 54 59.9	-0.4
ABV	Anegada	0.18	221⇓	eP	Pb	06 54 55.9	-0.4
ABV				eS	Sb	06 54 59.9	-0.4
ABVI	Anegada Island	0.18	221⇓	eP	Pb	06 54 55.9	-0.4
ABVI				eS	Sb	06 54 59.9	-0.4
TBVI	Tortola	0.59	221⇓	eP	Pb	06 55 00.7	-1.5
TBVI				eS	Sb	06 55 09.2	-1.1
TBVI	Tortola	0.59	221⇓	eP	Pb	06 55 00.7	-1.5
TBVI				eS	Sb	06 55 09.2	-1.1
TBVI	Tortola	0.59	221⇓	eP	Pb	06 55 00.7	-1.5
TBVI				eS	Sb	06 55 09.2	-1.1
STVI	Saint Thomas	0.87	234	eS	Sb	06 55 16.1	-2.2
STVI	Saint Thomas	0.87	234⇑	eP	Pn	06 55 04.7	-2.0
STVI	Saint Thomas	0.87	234⇑	eP	Pn	06 55 04.7	-2.0
STVI				eS	Sb	06 55 16.1	-2.2
STVI	Saint Thomas	0.87	234⇑	eP	Pn	06 55 04.7	-2.0
STVI				eS	Sb	06 55 16.1	-2.2
MTP	Monte Pirata	1.48	239⇑	eP	Pn	06 55 13.3	-1.8
MTP	Monte Pirata	1.48	239	eS	Sn	06 55 31.2	-2.4
MTP	Monte Pirata	1.48	239⇑	eP	Pn	06 55 13.3	-1.8
MTP				eS	Sn	06 55 31.2	-2.4
MTP	Monte Pirata	1.48	239⇑	eP	Pn	06 55 13.3	-1.8
MTP				eS	Sn	06 55 31.2	-2.4
CBYP	Canovanas	1.67	250⇑	eP	Pn	06 55 16.1	-1.6
CBYP	Canovanas	1.67	250	eS	Sn	06 55 35.9	-2.4
CBYP	Canovanas	1.67	250⇑	eP	Pn	06 55 16.1	-1.6
CBYP				eS	Sn	06 55 35.9	-2.4
CBYP	Canovanas	1.67	250⇑	eP	Pn	06 55 16.1	-1.6
CBYP				eS	Sn	06 55 35.9	-2.4
CPD	Cerro la Pandu	1.81	243⇑	eP	Pn	06 55 18.3	-1.4
CPD	Cerro la Pandu	1.81	243	eS	Sn	06 55 39.8	-2.0
CPD	Cerro la Pandu	1.81	243⇑	eP	Pn	06 55 18.3	-1.4
CPD				eS	Sn	06 55 39.8	-2.0
CPD	Cerro la Pandu	1.81	243⇑	eP	Pn	06 55 18.3	-1.4
CPD				eS	Sn	06 55 39.8	-2.0

IDC 20 07:05:03.1±2.8,0°.31S×133°.52E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,MS3.2/1,Ms1 3.2/1, ms1mx2.4/29,Error ellipse: s-maj=143.1km s-min=25.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.53	178	P	P	07 09 32.2	-0.2
	0.2nm,0.3s,baz=357,slow=11,SNR=11						
WRA				LR	LR	07 15 28.1	
	comp=Z,76nm,21.1s,baz=115,slow=32						
ASAR	Alice Springs	23.22	179	P	P	07 10 12.3	+0.2
	1.8nm,0.6s,baz=354,slow=11,SNR=22						
MKAR	Makanchi Array	64.77	324	P	P	07 15 43.5	0.0
	0.1nm,0.5s,baz=123,slow=6.0,SNR=3.3						

IDC 20 07:12:35.3±2.5,2°.82S×129°.56E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,ML3.3/1,MS3.2/1, Ms1 3.2/1,ms1mx1.5/23,Error ellipse: s-maj=178.8km s-min=26.7km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.64	165	P	Pn	07 16 41.4	-1.4
	0.1nm,0.3s,baz=348,slow=13,SNR=7.9						
ASAR	Alice Springs	21.14	169	P	P	07 17 22.9	+0.8
	1.2nm,0.5s,baz=345,slow=9.6,SNR=14						
CTA	Charters Tower	23.67	138	LR	LR	07 28 16.3	
	comp=Z,57nm,18.5s,baz=223,slow=40						
MKAR	Makanchi Array	64.52	326	P	P	07 23 14.1	-0.1
	0.1nm,0.6s,baz=111,slow=7.5,SNR=3.3						

IDC 20 07:25:06.1±2.6,0°.85S×130°.68E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.5/18,mbtmp3.6/4,ML3.7/2,Error ellipse: s-maj=130.3km s-min=27.2km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.85	196	P	Pn	07 29 15.4	-0.7
	0.2nm,0.3s,baz=22,slow=5.4,SNR=4.5						
WRA	Warramunga Arr	19.31	170	P	P	07 29 32.8	-0.2
	0.3nm,0.3s,baz=353,slow=12,SNR=11						
WRA				S	Sn	07 33 01.3	-10
	0.1nm,0.3s,baz=351,slow=24,SNR=4.5						
ASAR	Alice Springs	22.90	172	P	P	07 30 12.2	+0.5
	1.1nm,0.3s,baz=351,slow=9.4,SNR=15						
MKAR	Makanchi Array	63.54	325	P	P	07 35 38.5	-0.1
	0.4nm,0.7s,baz=111,slow=8.5,SNR=3.2						

ISK 20 07:29:58.6,38°.64N×39°.22E,h26km,MD2.6
ISCJB 20 07:29:59.7±1.4,38°.66N±0°.04×39°.15E±0°.07,h18km±15km, Error ellipse: s-maj=10.1km s-min=7.2km az=18.1
CSEM 20 07:29:59.6±0.3,38°.68N×39°.13E,h2km,MD2.6,Error ellipse: s-maj=7.9km s-min=6.3km az=91.0
DDA 20 07:30:00.1,38°.66N×39°.07E,h7km,MD2.5
ISC 20 07:29:59.7±1.0,38°.66N±0°.03×39°.10E±0°.04,h13km±10km, n14,σ0s.77/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.19	208	i P	Pg	07 30 03.6	-0.5
ELZG				i S	Sg	07 30 07.5	+0.4
ELZG	Elazig	0.19	208	i P	Pg	07 30 03.6	-0.5
ELZG				i S	Sg	07 30 07.5	+0.4

PTK	**Pertek**	**0.32**	**45**	*e*PG	**Pg**	07 30 05.9	-0.5
PTK				*e*SG	**Sg**	07 30 11.5	+0.5
PTK	**Pertek**	**0.32**	**45**	*e*Pg	**Pg**	07 30 05.9	-0.5
PTK				*e*Sg	**Sg**	07 30 11.5	+0.5
SVRC	**Sivrice-ELAZID**	**0.33**	**150**	*e*PG	**Pg**	07 30 05.3	-1.2
SVRC				*e*SG	**Sg**	07 30 11.3	+0.3
SVRC	**Sivrice-ELAZID**	**0.33**	**150**	*e*Pg	**Pg**	07 30 05.3	-1.2
SVRC				*e*Sg	**Sg**	07 30 11.4	+0.3
MYA	**Malataya**	**0.63**	**238**	*e*PG	**Pb**	07 30 13.0	+0.4
MYA	**Malataya**	**0.63**	**238**	*e*Pg	**Pb**	07 30 13.0	+0.4
MALT	**Malatya**	**0.63**	**237**	*e*PG	**Pb**	07 30 13.3	+0.6
MALT	**Malatya**	**0.63**	**237**	*e*Pg	**Pb**	07 30 13.3	+0.6
KEMA	**Kemaliye**	**0.77**	**322**	*i* P	**Pg**	07 30 13.3	-1.4
KEMA				*i* S	**Sb**	07 30 25.7	+0.3
KEMA	**Kemaliye**	**0.77**	**322**	*i* P	**Pg**	07 30 13.3	-1.4
KEMA				*i* S	**Sb**	07 30 25.7	+0.3
ILIC	**ilic-Erzincan**	**0.89**	**332**	*e*PG	**Pg**	07 30 16.3	-0.7
ILIC	**ilic-Erzincan**	**0.89**	**332**	*e*Pg	**Pg**	07 30 16.3	-0.7

IDC 20 07:35:03.9±3.3, 0.°04S×133.°28E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML3.2/1, Error ellipse: s-maj=180.4km s-min=27.6km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**177**	P	P	07 39 35.7	-0.5
	0.1nm,0.3s,baz=356,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**23.50**	**179**	P	P	07 40 15.9	+0.4
	0.2nm,0.5s,baz=353,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**64.41**	**324**	P	P	07 45 42.0	0.0
	0.2nm,0.5s,baz=120,slow=8.5,SNR=3.9						

NNC 20 07:37:01.8±4.4, 53.°80N×86.°08E, h0km, mb3.5, mpv3.0, 5C-3D, Error ellipse: s-maj=37.4km s-min=22.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.53**	**239**	⇑Pn	Pn	07 38 25.6	+0.3
KURK	1.0nm,0.5s			⇑Lg	Lg	07 39 57.4	
KURBB	2.4nm,0.7s **Kurchatov Arra**	**5.63**	**239**	⇑Pn	Pn	07 38 26.7	+0.1
KURBB	0.3nm,0.3s			Sn	Sn	07 39 33.3	+1.4
MK31	0.4nm,0.6s **Makanchi Array**	**7.42**	**201**	Pn	Pn	07 38 55.1	+3.8
MK31	0.7nm,0.6s,baz=25,slow=14,SNR=24			⇓Sn	Sn	07 40 22.1	+5.8
MK31	0.3nm,0.5s,baz=23,slow=26			⇑Lg	Lg	07 40 54.3	
VOSK	0.5nm,0.6s **Vostochnaya**	**9.12**	**269**	⇓Pn	Pn	07 39 12.7	-1.8
ZRNK	0.8nm,0.6s **Zerenda**	**10.24**	**272**	⇑Pn	Pn	07 39 27.4	-2.6
ZRNK	1.4nm,0.6s			⇓Sn	Sn	07 41 25.8	+0.4
	1.9nm,1.1s						

*ISCJB **20** 07:39:23.5±0.7, 58.°32S×0.°09×22.°0W±0.°2, h10km, mb4.4/8, MS3.6/4, Error ellipse: s-maj=17.5km s-min=10.0km az=143.5*
*IDC **20** 07:39:24.1±0.8, 58.°16S×22.°01W, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.2/15, mbtmp4.4/6, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=30.4km s-min=22.0km az=171.0*
*NEIC **20** 07:39:24.9±0.5, 58.°37S×21.°93W, h10km, mb4.7/6, Error ellipse: s-maj=17.0km s-min=13.1km az=209.0*
ISC 20 07:39:25.2±0.6, 58.°3S×22.°0W±0.°1, h10km, n31, σ1§21/30, mb4.5/8, MS3.5/4, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.70**	**161**	*e*P	**Pn**	07 42 39.7	+0.5
VNA3	**Neumayer Olymp**	**13.99**	**163**	*e*P	**Pn**	07 42 42.8	-0.4
VNA2	**Neumayer--Watz**	**14.09**	**160**	*e*P	**Pn**	07 42 44.4	-0.2
	baz=323,slow=17						
SNAA	**Sanae**	**15.57**	**157**	*e*P	**Pn**	07 43 01.5	-3.0
SNAA	**Sanae**	**15.57**	**157**	*e*Pn	**Pn**	07 43 01.1	-3.4
	25nm,0.4s						
EFI	**East Falkland**	**21.53**	**272**	*e*P	**P**	07 44 13.7	-0.4
	30nm,0.8s						
USHA	**Ushuaia**	**25.43**	**258**	P	**P**	07 44 53.9	+1.3
	11nm,0.9s,baz=61,slow=5.7,SNR=3.3						
USHA				LR	LR	07 52 35.6	
	comp=Z,125nm,19.0s,baz=47,slow=31						
USHA	**Ushuaia**	**25.43**	**258**	P	**P**	07 44 53.9	+1.3
QSPA	**South Pole Qui**	**31.97**	**180**	P	**P**	07 45 52.7	+1.6
	3.9nm,1.1s,baz=212,slow=2.3,SNR=6.0						
QSPA	**South Pole Qui**	**31.97**	**180**	*e*P	**P**	07 45 51.7	+0.6
	12nm,1.4s						
PLCA	**Paso Flores**	**35.16**	**278**	P	**P**	07 46 18.1	-0.8
	9.4nm,0.9s,baz=146,slow=7.6,SNR=21						
PLCA				LR	LR	07 59 15.2	
	comp=Z,48nm,19.1s,baz=116,slow=34						
PLCA	**Paso Flores**	**35.16**	**278**	*e*P	**P**	07 46 17.9	-1.0
	10nm,0.9s						
BOSA	**Boshof**	**43.95**	**68**	P	**P**	07 47 33.7	+1.4
	2.6nm,0.7s,baz=36,slow=12,SNR=4.1						
BOSA				LR	LR	08 01 44.6	
	comp=Z,61nm,22.0s,baz=83,slow=30						
BOSA	**Boshof**	**43.95**	**68**	P	**P**	07 47 33.7	+1.4
LPAZ	**La Paz**	**53.97**	**301**	*e*P	**P**	07 48 51.0	+1.2
	6.9nm,0.6s,baz=160,slow=7.1,SNR=27						
LPAZ	**La Paz**	**53.97**	**301**	*e*P	**P**	07 48 50.7	+0.9
	29nm,1.4s						
SAML	**Samuel**	**58.40**	**310**	*e*P	**P**	07 49 20.6	-0.1
	3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.77**	**24**	P	**P**	07 50 58.9	-0.4
	0.6nm,0.4s,baz=203,slow=6.2,SNR=9.3						
TORD	**Torodi Ar. Bea**	**73.77**	**24**	P	**P**	07 50 58.9	-0.4
STKA	**Stephens Creek**	**89.14**	**166**	LR	LR	08 28 48.5	
	comp=Z,85nm,18.3s,baz=206,slow=33						
MKAR	**Makanchi Array**	**134.94**	**70**	PKP	**PKPdf**	07 58 44.1	+0.8
	0.4nm,0.8s,baz=300,slow=2.7,SNR=4.4						
MKAR	**Makanchi Array**	**134.94**	**70**	PKP	**PKPdf**	07 58 44.1	+0.8
YKA	**Yellowknife Ar**	**139.74**	**314**	PKP	**PKPdf**	07 58 51.1	-0.6
	0.5nm,0.7s,baz=126,slow=2.5,SNR=14						
YKA	**Yellowknife Ar**	**139.74**	**314**	PKP	**PKPdf**	07 58 51.1	-0.6
SONM	**Songino Array**	**148.04**	**86**	PKPbc	**PKPbc**	07 59 09.4	-0.6
	2.5nm,0.7s,baz=218,slow=3.1,SNR=21						
SONM	**Songino Array**	**148.04**	**86**	PKPbc	**PKPbc**	07 59 09.4	-0.6
ULN	**Ulaanbaatar**	**148.40**	**87**	*e*PKPdf	**PKPdf**	07 59 06.3	-1.1
INK	**Inuvik**	**149.34**	**317**	PKPbc	**PKPbc**	07 59 12.1	-0.4
	1.8nm,0.6s,baz=75,slow=2.9,SNR=17						
INK	**Inuvik**	**149.34**	**317**	*e*PKPbc	**PKPbc**	07 59 11.8	-0.6
ILAR	**Eielson Array**	**153.72**	**307**	PKPbc	**PKPbc**	07 59 22.2	-0.5
	0.4nm,0.5s,baz=127,slow=1.9,SNR=13						
ILAR	**Eielson Array**	**153.72**	**307**	PKPbc	**PKPbc**	07 59 22.2	-0.5

*ISCJB **20** 07:43:45.2±0.3, 43.°36N±0.°04×135.°57E±0.°06, h366km, mb3.2/9, Error ellipse: s-maj=7.1km s-min=4.9km az=135.0*
*SKHL **20** 07:43:45.3±0.0, 43.°08N×133.°28E, h240km, mb4.3/1, msha4.1/1*
*IDC **20** 07:43:46.9±1.2, 43.°33N×135.°37E, h368km±13km, mb3.0/10, mb1 3.1/13, mb1mx2.9/29, mbtmp3.0/13, Error ellipse: s-maj=17.9km s-min=14.0km az=178.0*
*JMA **20** 07:43:49.6±0.5, 43.°14N×136.°11E, h384km, M3.4*
ISC 20 07:43:45.5±0.6, 43.°26N±0.°06×135.°67E±0.°07, h366km, n36, σ1§89/37, mb3.2/9, 1C-3D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.90**	**21**	⇑*i*P	**Pn**	07 44 38.8	+1.4
TEY	37nm,0.6s			AMB	AMB	07 44 39.8	
TEY				*i* S	**S**	07 45 20.0	+0.7
TEY	29nm,0.7s			A	A	07 45 20.6	
GRTR	**Gornotajezhnoj**	**2.59**	**281**	*i* P	Pn	07 44 20.3	-22
USRK	**Ussuriysk Arra**	**2.82**	**291**	P	**Pn**	07 44 44.3	-0.1
	0.7nm,0.3s,baz=100,slow=7.3,SNR=12						
JKB	**Kayabe**	**4.19**	**107**	P	**Pn**	07 44 59.7	+2.3
JOT	**Ohata**	**4.41**	**113**	P	**Pn**	07 45 01.6	+2.0
JHR	**Hokuryu**	**4.43**	**82**	P	**Pn**	07 45 02.6	+2.8
JWK2	**Keihoku**	**4.92**	**63**	P	Pn	07 45 08.3	+3.4
ASAJ	**Asahikawa**	**5.10**	**78**	P	**Pn**	07 45 09.1	+2.2
	3.7nm,0.3s,baz=245,slow=8.2,SNR=14						
KHBR	**Khabarovsk**	**5.23**	**356**	⇓*i*P	Pn	07 45 13.1	+5.0
JRG	**Rokugo**	**5.38**	**134**	P	**Pn**	07 45 11.9	+1.9
JCH	**Churui**	**5.69**	**94**	P	**Pn**	07 45 13.7	+0.4
JCH				*e*S	**S**	07 46 21.6	-3.0
JMK	**Ichinoseki**	**6.01**	**134**	P	**Pn**	07 45 18.0	+1.0
JTKR	**Abashiri--Toko**	**6.03**	**80**	P	**Pn**	07 45 19.1	+2.1
JMM	**Marumori**	**6.65**	**142**	P	**Pn**	07 45 26.0	+1.7
JMM				*e*S	**S**	07 46 43.5	-1.2
MAT	**Matsushiro**	**6.99**	**163**	P	**Pn**	07 45 30.1	+1.9
JNG	**Nsakai**	**7.10**	**164**	P	**Pn**	07 45 32.6	+3.0
JFK	**Kawauchi**	**7.11**	**144**	P	**Pn**	07 45 30.4	+0.8
JFK				*e*S	**S**	07 46 51.2	-3.1
NEM2	**Nemuro 2**	**7.35**	**86**	P	**Pn**	07 45 32.9	+0.7
NEM2				*e*S	**S**	07 46 56.3	-3.0
JWT	**Wachi**	**7.97**	**182**	P	Pn	07 45 43.0	+3.4
KSRS	**Korea Array**	**8.28**	**228**	P	**Pn**	07 45 45.0	+1.8
	0.2nm,0.3s,baz=40,slow=11,SNR=9.3						
JIE	**Ise**	**8.89**	**174**	P	**P**	07 45 53.0	+1.0
BSO1	**Boso 1**	**9.54**	**153**	*e*S	**S**	07 47 42.1	-3.7
EKMR	**Ekimchan**	**9.98**	**351**	*e*P	**Pn**	07 46 02.5	-0.5
YASR	**Yasnyy**	**11.26**	**336**	⇓*e*P	**P**	07 46 15.4	-2.6
YASR				AMB	AMB	07 46 16.1	
	7.0nm,0.5s						
ZEA	**Zeya**	**11.87**	**335**	⇓*e*P	**P**	07 46 24.0	-0.7
BMKR	**Bomnak**	**12.29**	**341**	*e*P	**P**	07 46 28.2	-1.2
BMKR				AMB	AMB	07 46 29.1	
	4.0nm,0.6s						
SONM	**Songino Array**	**20.94**	**293**	P	**P**	07 48 00.8	0.0
	0.9nm,0.5s,baz=84,slow=8.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**34.57**	**306**	P	**P**	07 49 59.2	-1.5
	0.5nm,0.3s,baz=92,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**37.29**	**294**	P	**P**	07 50 22.5	-1.3
	0.4nm,0.5s,baz=85,slow=11,SNR=11						
KURK	**Kurchatov**	**38.76**	**302**	P	**P**	07 50 35.1	-0.6
	1.9nm,0.5s,baz=80,slow=9.0,SNR=11						
BVAR	**Borovoye Array**	**43.22**	**307**	P	**P**	07 51 11.0	-0.7
	0.9nm,0.3s,baz=76,slow=10,SNR=11						
ILAR	**Eielson Array**	**46.76**	**35**	P	**P**	07 51 41.6	+2.6
	0.3nm,0.5s,baz=292,slow=9.0,SNR=7.5						
INK	**Inuvik**	**50.94**	**29**	P	**P**	07 52 11.8	+1.4
	0.2nm,0.4s,baz=276,slow=19,SNR=3.3						
AKTO	**Aktyubinsk**	**51.32**	**307**	P	**P**	07 52 13.2	-0.3
	1.2nm,0.5s,baz=98,slow=8.1,SNR=7.0						
FINES	**FINESS Array B**	**61.24**	**329**	P	**P**	07 53 22.0	-0.5
	3.8nm,1.0s,baz=81,slow=8.6,SNR=4.3						
WRA	**Warramunga Arr**	**62.90**	**181**	P	**P**	07 53 35.3	+1.3
	0.6nm,0.9s,baz=0.0,slow=7.2,SNR=3.8						

IDC 20 07:45:53.3±2.0, 54.°01N×86.°35E, h0km, mb1 3.1/2, mb1mx2.9/28, mbtmp3.1/2, ML3.2/2, Error ellipse: s-maj=17.2km s-min=7.0km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.91**	**267**	Pg	Pg	07 46 08.9	-1.8
	1.6nm,0.3s,baz=74,slow=16,SNR=21						
ZALV				Lg	Lg	07 46 23.8	
	1.9nm,0.3s,baz=77,slow=29,SNR=12						
KURK	**Kurchatov**	**5.77**	**238**	Pn	Pn	07 47 22.7	+2.7
	0.3nm,0.3s,baz=54,slow=13,SNR=18						
KURK				Lg	Lg	07 49 05.5	
	0.0nm,0.3s,baz=60,slow=31,SNR=4.9						
MKAR	**Makanchi Array**	**7.67**	**201**	Pn	Pn	07 47 46.6	+0.4
	0.2nm,0.3s,baz=26,slow=14,SNR=19						
MKAR				Sn	Sn	07 49 15.7	+1.8
	0.1nm,0.3s,baz=14,slow=20,SNR=3.4						
MKAR				Lg	Lg	07 50 08.1	
	0.0nm,0.3s,baz=28,slow=28,SNR=4.1						
BVAR	**Borovoye Array**	**9.56**	**271**	Sn	Sn	07 49 55.1	-5.1
	0.1nm,0.3s,baz=234,slow=38,SNR=3.4						

IDC 20 08:09:00.4±1.4, 14.°88S×166.°88E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/12, Error ellipse: s-maj=44.1km s-min=27.1km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.16**	**183**	Pn	Pn	08 10 46.8	+0.3
	1.5nm,0.3s,baz=21,slow=16,SNR=12						
DZM				Sn	Sn	08 12 07.9	-0.9
	1.5nm,0.3s,baz=146,slow=24,SNR=3.3						
HNR	**Honiara**	**8.68**	**308**	LR	LR	08 13 57.7	
	comp=Z,116nm,18.7s,baz=301,slow=34						
WRA	**Warramunga Arr**	**31.42**	**256**	P	P	08 15 23.3	-0.4
	0.5nm,0.8s,baz=82,slow=7.5,SNR=3.1						
ASAR	**Alice Springs**	**32.27**	**249**	P	P	08 15 31.3	+0.2
	0.2nm,0.4s,baz=72,slow=9.5,SNR=3.4						
ILAR	**Eielson Array**	**86.79**	**18**	P	P	08 21 45.8	-0.4
	0.3nm,0.5s,baz=239,slow=5.0,SNR=9.9						
ARCES	**ARCESS Array B**	**120.31**	**345**	PKP	PKPdf	08 27 53.5	+0.4
	3.7nm,0.9s,baz=45,slow=2.4,SNR=6.6						

*NEIC **20** 08:14:42.5, 36.°70N×121.°33W, h5km, MW3.8(BRK), After NCEDC.*
ISC 20 08:14:41.6±1.4, 36.°66N±0.°05×121.°43W±0.°04, h8km±9km, n26, σ1§16/35, 3C-7D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.11**	**354**	*e*Pg	**Pg**	08 14 44.6	+0.6
SAC	**San Andreas**	**1.21**	**320**	*e*Pn	**Pb**	08 15 04.2	-0.5
SAC				*e*Sn	**Sn**	08 15 22.9	+1.5
CMB	**Columbia Colle**	**1.61**	**31**	*e*Pn	**Pn**	08 15 09.6	-0.7
CMB				*e*Sn	**Sn**	08 15 29.6	-1.7
SMMC	**Simmler**	**1.78**	**139**	⇑P	**Pn**	08 15 12.8	+0.2
	baz=1.8						
MCCM	**Marconi Confer**	**1.88**	**323**	*e*Pn	**Pn**	08 15 13.5	-0.5
VES	**Vestal, Richgr**	**2.07**	**113**	⇓P	**Pn**	08 15 16.2	-0.4
	baz=2.0						
VES				⇓S	**Sn**	08 15 41.8	-0.7
	baz=2.0						
PKM	**Peak Mountain**	**2.19**	**143**	⇑P	**Pn**	08 15 18.5	0.0
	baz=2.2						
MLAC	**Mammoth Lakes**	**2.29**	**64**	⇓P	**Pn**	08 15 21.1	+1.2
	baz=2.2						
MLAC				⇓Sb	**Sb**	08 15 52.1	+0.2
	baz=2.2						
ISA	**Isabella**	**2.59**	**112**	*e*Pn	**Pn**	08 15 24.2	+0.3
ISA				*e*Sn	**Sn**	08 15 56.6	+1.0
ISA	**Isabella**	**2.59**	**112**	⇓P	**Pn**	08 15 24.1	+0.2
	baz=2.5						
TIN	**Tinemaha**	**2.60**	**80**	⇓Sb	Sb	08 16 00.7	-0.2
	baz=2.5						
HOPS	**Hopland**	**2.67**	**331**	*e*Pn	**Pn**	08 15 24.3	-0.5
WCN	**Washoe City**	**2.95**	**26**	*e*Pn	**Pn**	08 15 30.3	+1.4
WCN				*e*Sg	**Sb**	08 16 11.7	+0.8
WCN	**Washoe City**	**2.95**	**26**	⇓P	**Pn**	08 15 30.3	+1.4
	baz=2.9						
OSI	**Osito Adit**	**3.01**	**132**	*e*Pn	**Pn**	08 15 31.2	+1.6
BSC	**Santa Cruz Isl**	**3.04**	**150**	⇑P	**Pn**	08 15 30.3	+0.4
	baz=3.0						
KCPM	**Cahto Peak**	**3.46**	**331**	*e*Pn	**Pn**	08 15 36.5	+0.6
KCPM				*e*Pg	**Pg**	08 15 47.2	-0.8
KIPM	**Iron Peak**	**3.53**	**333**	*e*Pn	**Pn**	08 15 37.9	+1.0
PASC	**Pasadena Art C**	**3.63**	**132**	*e*Pn	**Pn**	08 15 39.5	+1.4
GSC	**Goldstone**	**3.99**	**108**	*e*Pn	**Pn**	08 15 43.4	+0.3
WDC	**Whiskeytown Da**	**4.01**	**348**	*e*Pn	**Pn**	08 15 45.0	+1.7
PFO	**Pinyon Flat Ob**	**5.09**	**125**	*e*Pn	**Pn**	08 15 58.3	+0.1
	8.6nm,0.8s						
MOD	**Modoc**	**5.31**	**9**	*e*Pn	**Pn**	08 15 59.3	-2.0
	10nm,0.8s						
MOD				*e*Pg	Pb	08 16 19.1	+4.4
BAR	**Barrett**	**5.58**	**134**	*e*Pn	**Pn**	08 16 04.8	-0.1
	3.1nm,0.4s						
ARUT	**Antelope Range**	**6.48**	**78**	*e*Pn	**Pn**	08 16 20.1	+2.8
	6.3nm,0.7s						
ARUT				*e*Pg	**Pg**	08 16 45.2	-0.4
ARUT				*e*Sg	**Sg**	08 18 09.9	+0.4
MSU	**Marysvale**	**7.58**	**73**	*e*Pn	**Pn**	08 16 32.9	+0.4
	16nm,1.7s						
MSU				*e*Pg	Pg	08 17 03.1	-3.6
MSU				*e*Sg	**Sg**	08 18 42.5	-2.4

*IDC **20** 08:32:34.7±0.9, 13.°39N×120.°37E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=20.5km s-min=15.6km az=90.0*

*ISCJB **20** 08:32:40.9±0.5, 13.°40N±0.°05×120.°45E±0.°08, h70km, mb4.0/8, Error ellipse: s-maj=10.8km s-min=7.0km az=165.1*
*NEIC **20** 08:32:40.9±1.4, 13.°47N×120.°53E, h50km±16km, mb4.6/2, Error ellipse: s-maj=21.8km s-min=7.3km az=61.0*
ISC 20 08:32:42.2±0.8, 13.°41N±0.°05×120.°51E±0.°09, h70km, n28, σ1§63/30, mb4.2/8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**322**	*e*P	Pn	08 32 42.9	-11
TGY	**Tagaytay City**	**0.80**	**31**	Pn	**Pn**	08 32 55.4	-3.0
	641nm,0.3s,baz=209,slow=5.2,SNR=36						
TGY				Sn	**Sn**	08 33 09.1	-1.3
	757nm,0.3s,baz=118,slow=23,SNR=23						
TGY	**Tagaytay City**	**0.80**	**31**	Pn	**Pn**	08 32 55.4	-3.0
TGY				Sn	**Sn**	08 33 09.1	-1.3
TGY	**Tagaytay City**	**0.80**	**31**	⇑*e*P	**Pn**	08 32 55.4	-3.0
TGY				*e*S	**Sn**	08 33 09.3	-1.1
BOAC	**Boac**	**1.30**	**88**	*e*P	**Pn**	08 33 05.3	+0.7
BUSP	**Coron**	**1.43**	**192**	*e*P	**Pn**	08 33 02.5	-3.8
OTRP	**Odiongan**	**1.81**	**125**	*e*P	**Pn**	08 33 13.1	+1.8
CUYO	**Cuyo Island**	**2.59**	**169**	*e*P	**Pn**	08 33 19.1	-2.9
BOLP	**Bolinao**	**3.01**	**349**	*e*P	**Pn**	08 33 28.8	+1.3
GUIM	**Jordan**	**3.44**	**143**	*e*P	**Pn**	08 33 33.1	-0.3
CMAR	**Chiang Mai Arr**	**21.32**	**286**	P	**P**	08 37 23.9	+0.3
	1.0nm,0.3s,baz=99,slow=8.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**21.32**	**286**	P	**P**	08 37 23.9	+0.3
WRAB	**Tennant Creek**	**35.83**	**157**	*e*P	**P**	08 39 36.0	+0.7
	5.4nm,0.8s						
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	08 39 36.1	+0.8
	3.1nm,0.6s,baz=336,slow=9.5,SNR=22						
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	08 39 36.1	+0.8
WB2	**Warramunga Arr**	**35.84**	**157**	*e*P	**P**	08 39 35.8	+0.4
SONM	**Songino Array**	**36.28**	**344**	P	**P**	08 39 39.0	0.0
	1.9nm,0.7s,baz=162,slow=9.7,SNR=17						
SONM	**Songino Array**	**36.28**	**344**	P	**P**	08 39 39.0	0.0
AS31	**Alice Springs**	**39.11**	**160**	*e*P	**P**	08 40 04.7	+1.7
ASAR	**Alice Springs**	**39.11**	**160**	P	**P**	08 40 04.4	+1.4
	2.6nm,0.6s,baz=337,slow=6.6,SNR=40						
ASAR	**Alice Springs**	**39.11**	**160**	P	**P**	08 40 04.4	+1.4
MK31	**Makanchi Array**	**46.15**	**324**	*e*P	**P**	08 41 00.1	+0.3
MKAR	**Makanchi Array**	**46.15**	**324**	P	**P**	08 41 00.5	+0.7
	0.8nm,0.8s,baz=136,slow=8.7,SNR=7.4						
MKAR	**Makanchi Array**	**46.15**	**324**	P	**P**	08 41 00.5	+0.7
KURK	**Kurchatov**	**50.32**	**327**	P	**P**	08 41 32.4	+0.6
	0.4nm,0.4s,baz=128,slow=7.8,SNR=4.0						
KURK	**Kurchatov**	**50.32**	**327**	*e*P	**P**	08 41 32.6	+0.7
	6.7nm,1.0s						
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	08 42 13.5	+0.7
	0.5nm,0.6s,baz=115,slow=9.7,SNR=3.6						
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	08 42 13.5	+0.7

*IDC **20** 08:52:07.7±1.0, 13.°37N×120.°29E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=24.9km s-min=16.5km az=94.0*
*ISCJB **20** 08:52:08.8±0.7, 13.°41N±0.°05×120.°10E±0.°07, h16km, mb3.8/5, Error ellipse: s-maj=11.1km s-min=6.6km az=27.7*
*MAN **20** 08:52:08, 13.°53N×120.°04E, h19km, mb4.1, ML2.8, MS2.5*
ISC 20 08:52:10.0±0.9, 13.°40N±0.°05×120.°26E±0.°09, h16km, n12, σ0§56/14, mb3.8/5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.33**	**358**	*e*P	**Pg**	08 52 15.9	-1.0
TGY	**Tagaytay City**	**0.96**	**43**	Pn	**Pn**	08 52 29.1	+0.2
	854nm,0.3s,baz=203,slow=5.2,SNR=23						
TGY				Sn	**Sn**	08 52 42.9	+0.7
	394nm,0.3s,baz=127,slow=22,SNR=18						
TGY	**Tagaytay City**	**0.96**	**43**	⇑*e*P	**Pb**	08 52 28.4	+0.1
TGY				*i* S	**Sn**	08 52 42.5	+0.3
BUSP	**Coron**	**1.39**	**182**	*e*P	**Pn**	08 52 35.2	+0.4
BOAC	**Boac**	**1.54**	**88**	*e*P	**Pb**	08 52 38.1	-0.1
OTRP	**Odiongan**	**2.00**	**121**	*e*P	**Pb**	08 52 46.1	-0.1
CUYO	**Cuyo Island**	**2.64**	**164**	*e*P	**Pn**	08 52 52.0	0.0
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	08 59 09.2	-0.6
	1.4nm,0.5s,baz=336,slow=9.5,SNR=12						
SONM	**Songino Array**	**36.22**	**344**	P	**P**	08 59 12.0	-0.3
	0.7nm,0.6s,baz=163,slow=9.9,SNR=7.7						
ASAR	**Alice Springs**	**39.18**	**160**	P	**P**	08 59 37.5	0.0
	1.1nm,0.6s,baz=338,slow=6.8,SNR=23						
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	09 00 33.9	+1.0
	0.4nm,0.8s,baz=132,slow=8.3,SNR=5.3						
KURK	**Kurchatov**	**50.20**	**327**	P	**P**	09 01 05.4	+0.4
	0.6n

FITZ	**Fitzroy Crossi**	**18.86**	**203**	P		P	09 08 29.6	+0.2
	0.1nm,0.3s,baz=24,slow=10.0,SNR=4.2							
WRA	**Warramunga Arr**	**19.20**	**177**	P		P	09 08 33.4	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**22.88**	**178**	P		P	09 09 12.8	-0.2
	0.4nm,0.3s,baz=360,slow=11,SNR=21							
MKAR	**Makanchi Array**	**64.85**	**324**	P		P	09 14 48.8	+0.2
	0.4nm,0.7s,baz=115,slow=8.0,SNR=4.0							
KURK	**Kurchatov**	**68.92**	**326**	P		P	09 15 14.1	-0.3
	0.4nm,0.7s,baz=119,slow=5.1,SNR=4.5							

*NEIC **20** 09:12:26.9, 36˚.69N× 121˚.32W, h6km, MW3.8(BRK), After NCEDC.*

NEIC Felt [II] at Gilroy, Hollister, Salinas and Soledad. Also felt at Aptos, Carmel Valley, Castroville, Los Altos, Los Gatos, Monterey and Santa Cruz.

*IDC **20** 09:12:30.1±2.4, 36˚.62N× 121˚.12W, h0km, mb2.7/1, mb1 3.5/3, mb1mx3.3/24, mbtmp3.1/3, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/5, Error ellipse: s-maj=29.5km s-min=21.4km az=131.0*

ISC 20 09:12:26.0±1.3, 36˚.66N±0˚.04×121˚.33W±0˚.03, h3km±10km, n37, σ1°51/47, 9C-1D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.14**	**317**	*e*Pg		**Pg**	**09 12 29.3**	**+0.5**
SAO				*e*Sg		**Sg**	**09 12 31.4**	**+0.8**
SAC	**San Andreas**	**1.26**	**317**	*e*Pg		**Pn**	**09 12 48.9**	**-1.7**
SAC				*e*Sg		**Sn**	**09 13 09.9**	**+1.8**
CMB	**Columbia Colle**	**1.56**	**28**	*e*Pn		**Pn**	**09 12 54.2**	**-0.6**
CMB				*e*Sn		**Sn**	**09 13 14.0**	**-1.6**
SMMC	**Simmler**	**1.73**	**141**	⇑Pb		**Pg**	**09 12 59.1**	**0.0**
	baz=1.7							
MCCM	**Marconi Confer**	**1.93**	**321**	*e*Pn		**Pn**	**09 12 57.8**	**-1.9**
MCCM				*e*Sn		**Sn**	**09 13 23.1**	**-1.4**
VES	**Vestal, Richgr**	**1.99**	**114**	⇑P		**Pn**	**09 13 00.4**	**-0.2**
	baz=2.0							
VES				⇑S		**Sn**	**09 13 25.9**	**-0.1**
	baz=2.0							
PKM	**Peak Mountain**	**2.15**	**145**	⇑P		**Pn**	**09 13 03.1**	**+0.2**
	baz=2.2							
ISA	**Isabella**	**2.52**	**113**	*e*Pn		**Pn**	**09 13 08.5**	**+0.5**
ISA				*e*Sn		**Sb**	**09 13 40.5**	**-2.8**
ISA	**Isabella**	**2.52**	**113**	⇑P		**Pn**	**09 13 08.4**	**+0.5**
	baz=2.5							
TIN	**Tinemaha**	**2.52**	**80**	⇑Sb		**Sg**	**09 13 45.7**	**-1.2**
	baz=2.5							
ARVC	**Arvin**	**2.54**	**126**	⇓P		**Pn**	**09 13 08.5**	**+0.3**
	baz=2.6							
HOPS	**Hopland**	**2.71**	**330**	*e*Pn		**Pn**	**09 13 08.9**	**-1.5**
WCN	**Washoe City**	**2.91**	**25**	*e*Pn		**Pn**	**09 13 14.7**	**+1.2**
WCN				*e*Sg		**Sb**	**09 13 56.6**	**+1.8**
OSI	**Osito Adit**	**2.95**	**133**	*e*Pn		**Pn**	**09 13 14.4**	**+0.7**
OSI				*e*Sn		**Sn**	**09 13 46.3**	**-3.4**
NVAR	**Mina Array Bea**	**2.98**	**53**	Pn		**Pb**	**09 13 18.6**	**-1.3**
	4.1nm,0.3s,baz=230,slow=15,SNR=53							
NVAR				Pg		**Pg**	**09 13 21.8**	**-1.3**
	5.5nm,0.3s,baz=230,slow=19,SNR=34							
NVAR				Lg		Lg	09 14 00.3	
	11nm,0.3s,baz=226,slow=30,SNR=13							
NVAR	**Mina Array Bea**	**2.98**	**53**	Pn		**Pb**	**09 13 18.6**	**-1.3**
NVAR				Pg		**Pg**	**09 13 21.8**	**-1.3**
NVAR				Lg		Lg	09 14 00.3	
LRMC	**Laurel Mountai**	**3.18**	**111**	⇑P		**Pn**	**09 13 17.6**	**+0.5**
	baz=3.2							
KCPM	**Cahto Peak**	**3.50**	**330**	*e*Pn		**Pn**	**09 13 21.4**	**-0.1**
KIPM	**Iron Peak**	**3.57**	**332**	*e*Pn		Pn	09 13 25.1	+2.7
GSC	**Goldstone**	**3.91**	**109**	*e*Pn		**Pn**	**09 13 27.5**	**+0.4**
GSC				*e*Sn		**Sn**	**09 14 13.7**	**+0.1**
WDC	**Whiskeytown Da**	**4.02**	**347**	*e*Pn		**Pn**	**09 13 29.7**	**+1.2**
CIS	**Catalina Islan**	**4.04**	**143**	⇑P		**Pn**	**09 13 27.8**	**-1.0**
	baz=4.1							
BMN	**Battle Mountai**	**4.95**	**39**	*e*Pg		**Pg**	**09 14 01.2**	**+0.3**
BMN				*e*Sg		**Sg**	**09 15 03.4**	**-1.6**
GMRC	**Granite Mounta**	**4.98**	**110**	⇑P		**Pn**	**09 13 41.5**	**-0.4**
	baz=5.0							
PFO	**Pinyon Flat Ob**	**5.02**	**126**	*e*Pn		**Pn**	**09 13 42.5**	**+0.1**
	12nm,1.0s							
BAR	**Barrett**	**5.52**	**135**	*e*Pn		**Pn**	**09 13 49.5**	**+0.3**
	7.1nm,0.9s							
WVOR	**Wild Horse Val**	**6.13**	**19**	Pn		**Pn**	**09 13 59.7**	**+2.2**
	7.4nm,0.9s							
ARUT	**Antelope Range**	**6.39**	**78**	*e*Pn		**Pn**	**09 13 59.0**	**-2.3**
	2.5nm,0.8s							
ARUT				*e*Sg		**Sg**	**09 15 55.5**	**+4.1**
CCUT	**Cedar City**	**6.43**	**80**	*e*Pg		**Pg**	**09 14 30.3**	**+1.1**
	9.8nm,1.1s							
CCUT				*e*Sn		**Sn**	**09 15 15.5**	**-0.3**
MSU	**Marysvale**	**7.50**	**73**	*e*Pg		**Pg**	**09 14 50.4**	**+0.8**
	9.8nm,1.1s							
DUG	**Dugway**	**7.56**	**60**	*e*Pg		**Pg**	**09 14 50.3**	**-0.4**
	6.6nm,1.1s							
WUAZ	**Wupatki**	**8.14**	**95**	*e*Pn		Pn	09 14 30.4	+5.1
	6.4nm,1.0s							
WUAZ				*e*Sn		**Sn**	**09 16 00.5**	**+2.6**
TXAR	**Lajitas Array**	**16.51**	**111**	Pn		**P**	**09 16 22.9**	**+1.5**
	0.0nm,0.3s,baz=297,slow=6.9,SNR=6.8							
TXAR	**Lajitas Array**	**16.51**	**111**	Pn		**P**	**09 16 22.9**	**+1.5**
DLBC	**Dease Lake**	**22.52**	**348**	LR		LR	09 26 47.8	
	comp=Z,88nm,20.3s,baz=152,slow=38							
YKA	**Yellowknife Ar**	**26.19**	**7**	P		P	09 18 06.1	+4.5
	0.1nm,0.7s,baz=193,slow=8.0,SNR=3.0							
YKA	**Yellowknife Ar**	**26.19**	**7**	P		P	09 18 06.0	+4.5

*ISCJB **20** 09:12:31.4±0.3, 43˚.12N±0˚.03×3˚.65W±0˚.02, h10km, Error ellipse: s-maj=3.7km s-min=1.7km az=166.9*

*CSEM **20** 09:12:33.5±0.1, 43˚.13N×3˚.63W, h12km, ML3.0/27, Error ellipse: s-maj=3.3km s-min=1.7km az=164.0*

*LDG **20** 09:12:34.8±0.1, 43˚.17N×3˚.64W, h8km, Md2.7/1, Ml2.9/13, Error ellipse: s-maj=1.6km s-min=1.0km az=164.0*

*INMG **20** 09:12:35.1±1.3, 43˚.11N×3˚.63W, h6km±5km, ML2.6, Error ellipse: s-maj=2.9km s-min=2.3km az=152.0*

*MDD **20** 09:12:35.2±0.2, 43˚.20N×3˚.62W, h15km±2km, mbLg2.5/28, Error ellipse: s-maj=4.4km s-min=2.5km az=169.0, PRXIMO*

ISC 20 09:12:32.9±0.7, 43°21N±0˚.03×3°63W±0˚.01, h10km, n121, σ1°78/189, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.15**	**83**	⇑Pg		**Pg**	**09 12 38.6**	**+2.4**
	116nm,0.1s,SNR=18							
ELAN				Lg		Lg	09 12 41.4	
	1µm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**0.15**	**83**	Pg		**Pg**	**09 12 38.6**	**+2.4**
	116nm,0.1s,SNR=18							
ELAN				Lg		Lg	09 12 41.4	
	1µm,0.2s,SNR=7.9							
EARI	**Arriondas**	**1.16**	**275**	Pg		**Pg**	**09 12 56.6**	**+1.5**
	7.4nm,0.1s,SNR=48							
EARI				Lg		Lg	09 13 12.6	
	66nm,0.2s,SNR=18							
EARI	**Arriondas**	**1.16**	**275**	Pg		**Pg**	**09 12 56.6**	**+1.5**
	7.4nm,0.1s,SNR=48							
EARI				Lg		Lg	09 13 12.6	
	66nm,0.2s,SNR=18							
EALK	**Alkurruntz**	**1.56**	**89**	Pg		**Pb**	**09 13 02.6**	**+0.9**
	0.7nm,0.1s,SNR=4.8							
EALK				Lg		Lg	09 13 23.2	
	26nm,0.3s,SNR=15							
EALK	**Alkurruntz**	**1.56**	**89**	Pg		**Pb**	**09 13 02.6**	**+0.9**
	0.7nm,0.1s,SNR=4.8							
EALK				Lg		Lg	09 13 23.2	
	26nm,0.3s,SNR=15							
EARA	**Aranguren**	**1.57**	**106**	Lg		Lg	09 13 24.3	
	16nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**1.57**	**106**	Lg		Lg	09 13 24.3	
	16nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**1.72**	**103**	Lg		Lg	09 13 28.9	
	5.2nm,0.2s,SNR=7.1							
IPRE	**Itoiz**	**1.72**	**103**	Lg		Lg	09 13 28.9	
	5.2nm,0.2s,SNR=7.1							
EORO	**Oroz-Betelu**	**1.73**	**100**	Pg		**Pg**	**09 13 07.3**	**+1.1**
	0.4nm,0.1s,SNR=4.0							
EORO				Lg		Lg	09 13 28.7	
	35nm,0.3s,SNR=12							
EORO	**Oroz-Betelu**	**1.73**	**100**	Pg		**Pg**	**09 13 07.3**	**+1.1**
	0.4nm,0.1s,SNR=4.0							
EORO				Lg		Lg	09 13 28.7	
	35nm,0.3s,SNR=12							
SJPF	**Ste Jean**	**1.77**	**92**	*e*P		**Pb**	**09 13 06.3**	**+0.9**
SJPF	**Ste Jean**	**1.77**	**92**	*e*Pg		**Pg**	**09 13 07.9**	**+1.2**
SJPF				*e*Sn		**Sn**	**09 13 25.2**	**-0.9**
SJPF				*e*Sg		**Sg**	**09 13 30.8**	**+1.2**
	19nm,0.2s							
SJPF	**Ste Jean**	**1.77**	**92**	*e*P		**Pb**	**09 13 06.3**	**+0.9**
SJPF	**Ste Jean**	**1.77**	**92**	Pg		**Pg**	**09 13 07.9**	**+1.2**
SJPF				Sn		**Sn**	**09 13 25.2**	**-0.9**
SJPF				*e*Sg		**Sg**	**09 13 30.8**	**+1.2**
	9.3nm,0.2s							
IEPA	**Eparoz**	**1.79**	**103**	Pg		**Pg**	**09 13 08.6**	**+1.4**
	0.1nm,0.1s,SNR=7.9							
IEPA				Lg		Lg	09 13 31.2	
	25nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**1.79**	**103**	Pg		**Pg**	**09 13 08.6**	**+1.4**
	0.1nm,0.1s,SNR=7.9							
IEPA				Lg		Lg	09 13 31.2	
	25nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**1.80**	**101**	Pg		**Pg**	**09 13 07.3**	**-0.1**
	0.3nm,0.1s,SNR=7.9							
IELO				Sn		**Sn**	**09 13 26.3**	**-0.6**
	5.7nm,0.2s,SNR=7.9							
IELO				Lg		Lg	09 13 31.2	
	15nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**1.80**	**101**	Pg		**Pg**	**09 13 07.3**	**-0.1**
	0.3nm,0.1s,SNR=7.9							
IELO				Sn		**Sn**	**09 13 26.3**	**-0.6**
	5.7nm,0.2s,SNR=7.9							
IELO				Lg		Lg	09 13 31.2	
	15nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**2.27**	**97**	*e*Pn		**Pn**	**09 13 10.7**	**+0.1**
ETSF	**Etsaut**	**2.27**	**97**	*e*P		**Pb**	**09 13 13.3**	**-0.8**
ETSF	**Etsaut**	**2.27**	**97**	*e*Pg		**Pg**	**09 13 17.4**	**+0.9**
ETSF				*e*Sn		**Sn**	**09 13 37.3**	**-1.4**
ETSF				*e*Sg		**Sg**	**09 13 46.0**	**0.0**
	13nm,0.4s							
ETSF	**Etsaut**	**2.27**	**97**	Pn		**Pn**	**09 13 10.7**	**+0.1**
ETSF	**Etsaut**	**2.27**	**97**	*e*P		**Pb**	**09 13 13.3**	**-0.8**
ETSF	**Etsaut**	**2.27**	**97**	Pg		**Pg**	**09 13 17.4**	**+0.9**
ETSF				Sn		**Sn**	**09 13 37.3**	**-1.4**
ETSF				*e*Sg		**Sg**	**09 13 46.0**	**0.0**
	6.5nm,0.4s							
EPON	**Pontenova**	**2.57**	**274**	Pn		**Pn**	**09 13 16.1**	**+1.5**
	0.4nm,0.1s,SNR=7.9							
EPON				Pg		**Pg**	**09 13 21.8**	**-0.3**
	0.2nm,0.1s,SNR=7.6							
EPON				Sn		**Sn**	**09 13 45.3**	**-0.7**
	16nm,0.2s,SNR=4.9							
EPON				Lg		Lg	09 13 54.2	
	25nm,0.2s,SNR=604							
EPON	**Pontenova**	**2.57**	**274**	Pn		**Pn**	**09 13 16.1**	**+1.5**
	0.4nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**2.60**	**189**	Pg		**Pb**	**09 13 21.2**	**+1.6**
	16nm,0.3s,SNR=23							
GUD				Sn		**Sn**	**09 13 44.9**	**-1.9**
	0.6nm,0.2s,SNR=4.0							
GUD				Lg		Lg	09 13 54.5	
	16nm,0.4s,SNR=11							
GUD	**Guadarrama**	**2.60**	**189**	Pg		**Pb**	**09 13 21.2**	**+1.6**
	16nm,0.3s,SNR=23							
GUD				Sn		**Sn**	**09 13 44.9**	**-1.9**
	0.6nm,0.2s,SNR=4.0							
GUD				Lg		Lg	09 13 54.5	
	16nm,0.4s,SNR=11							
ECAL	**Calabor**	**2.62**	**242**	Pn		**Pn**	**09 13 16.2**	**+0.8**
	1.6nm,0.1s,SNR=5.7							
ECAL				Pg		**Pb**	**09 13 22.0**	**+2.0**
	4.4nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**09 13 45.7**	**-1.5**
	8.7nm,0.1s,SNR=5.0							
ECAL				Lg		Lg	09 13 55.9	
	31nm,0.2s,SNR=677							
ECAL	**Calabor**	**2.62**	**242**	Pn		**Pn**	**09 13 16.2**	**+0.8**
	1.6nm,0.1s,SNR=5.7							
ETOR	**Torete**	**2.67**	**153**	Pn		**Pn**	**09 13 18.2**	**+2.2**
	1.3nm,0.1s,SNR=4.0							
ETOR				Pg		**Pb**	**09 13 21.6**	**+0.9**
	1.2nm,0.1s,SNR=8.2							
ETOR				Sn		**Sn**	**09 13 47.6**	**-0.8**
	4.3nm,0.2s,SNR=4.0							
ETOR				Lg		Lg	09 13 57.2	
	32nm,0.5s,SNR=7.9							
PBRG	**Braganca**	**2.69**	**240**	*e*Pn		**Pn**	**09 13 17.1**	**+0.8**
PBRG				*e*Sg		**Sb**	**09 13 57.2**	**+2.8**
PBRG				A		A	09 14 00.1	
	32nm,0.5s							
PBRG	**Braganca**	**2.69**	**240**	Pn		**Pn**	**09 13 17.1**	**+0.8**
PBRG				Lg		Lg	09 13 57.2	
	16nm,0.5s							
PBRG	**Braganca**	**2.69**	**240**	Pn		**Pn**	**09 13 17.1**	**+0.8**
PBRG				*e*Sg		**Sb**	**09 13 57.2**	**+2.8**
	32nm,0.5s							
ESAC	**San Caprasio**	**2.77**	**121**	Pn		**Pn**	**09 13 18.6**	**+1.1**
	3.7nm,0.2s,SNR=7.9							
ESAC				Sn		**Sn**	**09 13 49.4**	**-1.7**
	13nm,0.3s,SNR=4.0							
ESAC				Lg		Lg	09 14 00.3	
	96nm,0.4s,SNR=6.5							
ESAC	**San Caprasio**	**2.77**	**121**	Pn		**Pn**	**09 13 18.6**	**+1.1**
	3.7nm,0.2s,SNR=7.9							
ESAC				Sn		**Sn**	**09 13 49.4**	**-1.7**
	13nm,0.3s,SNR=4.0							
ESAC				Lg		Lg	09 14 00.3	
	96nm,0.4s,SNR=6.5							
EBIE	**Bielsa**	**2.82**	**99**	Pn		**Pn**	**09 13 18.9**	**+0.6**
	0.3nm,0.1s,SNR=7.9							
EBIE				Sn		**Sn**	**09 13 50.8**	**-1.6**
	1.1nm,0.3s,SNR=7.9							
EBIE				Lg		Lg	09 14 01.3	
	4.1nm,0.3s,SNR=4.0							
EBIE	**Bielsa**	**2.82**	**99**	Pn		**Pn**	**09 13 18.9**	**+0.6**
	0.3nm,0.1s,SNR=7.9							
EBIE				Sn		**Sn**	**09 13 50.8**	**-1.6**
	1.1nm,0.3s,SNR=7.9							
EBIE				Lg		Lg	09 14 01.3	
	4.1nm,0.3s,SNR=4.0							
EPF	**Esparros**	**2.92**	**92**	*e*Pn		**Pn**	**09 13 19.8**	**+0.4**
EPF	**Esparros**	**2.92**	**92**	*e*P		**Pn**	**09 13 22.3**	**+2.9**
EPF	**Esparros**	**2.92**	**92**	*e*Pg		**Pg**	**09 13 29.0**	**+0.3**
EPF				*e*Sg		**Sg**	**09 14 06.4**	**-0.1**
	5.2nm,0.3s							
EPF	**Esparros**	**2.92**	**92**	Pn		**Pn**	**09 13 19.8**	**+0.4**
EPF	**Esparros**	**2.92**	**92**	*e*P		**Pn**	**09 13 22.3**	**+2.9**
EPF	**Esparros**	**2.92**	**92**	Pg		**Pg**	**09 13 29.0**	**+0.3**
EPF				*e*Sg		**Sg**	**09 14 06.4**	**-0.1**
	2.6nm,0.3s							
MVO	**Moncorvo**	**3.25**	**232**	*e*Pn		**Pn**	**09 13 24.3**	**+0.3**
MVO	**Moncorvo**	**3.25**	**232**	*e*Pg		**Pg**	**09 13 34.4**	**-0.7**
MVO				*e*Sn		**Sn**	**09 14 00.3**	**-2.4**
MVO				*e*Sg		**Sg**	**09 14 15.9**	**-1.3**
MVO				A		A	09 14 20.1	
	16nm,0.3s							
MVO	**Moncorvo**	**3.25**	**232**	Pn		**Pn**	**09 13 24.4**	**+0.3**
	1.2nm,0.1s,SNR=7.9							
MVO				Pg		**Pb**	**09 13 33.2**	**+2.5**
	3.8nm,0.2s,SNR=7.9							
MVO				Sn		**Sn**	**09 14 00.3**	**-2.4**
	0.1nm,0.1s,SNR=7.9							
MVO				Lg		Lg	09 14 15.7	
	14nm,0.2s,SNR=6.4							
MVO	**Moncorvo**	**3.25**	**232**	*e*Pn		**Pn**	**09 13 24.3**	**+0.3**
MVO	**Moncorvo**	**3.25**	**232**	*e*Pg		**Pg**	**09 13 34.4**	**-0.7**
MVO				Sn		**Sn**	**09 14 00.3**	**-2.4**
	0.1nm,0.1s,SNR=7.9							
MVO				Lg		Lg	09 14 15.7	
	14nm,0.2s,SNR=6.4							
MVO				*e*Sg		**Sg**	**09 14 15.9**	**-1.3**
	16nm,0.3s							
ELOB	**Lobios**	**3.54**	**249**	Pn		**Pn**	**09 13 28.4**	**+0.4**
	0.4nm,0.1s,SNR=7.9							
ELOB				Pg		**Pg**	**09 13 43.0**	**+2.3**
	2.9nm,0.4s,SNR=7.9							
ELOB				Sn		**Sn**	**09 14 08.1**	**-1.7**
	0.9nm,0.1s,SNR=7.9							
ELOB				Lg		Lg	09 14 22.3	
	18nm,0.3s,SNR=5.2							
ELOB	**Lobios**	**3.54**	**249**	Pn		**Pn**	**09 13 28.4**	**+0.4**
	0.4nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**3.54**	**184**	Pn		**Pn**	**09 13 27.7**	**-0.3**
	0.7nm,0.1s,baz=1.0,slow=12,SNR=9.5							
ESDC				Sn		**Sn**	**09 14 06.9**	**-3.1**
	2.7nm,0.2s,baz=5.4,slow=24,SNR=7.9							
ESDC				Lg		Lg	09 14 22.9	
	1.7nm,0.2s,baz=9.2,slow=29,SNR=10.0							
ESDC	**Sonseca Array**	**3.54**	**184**	Pn		**Pn**	**09 13 27.7**	**-0.3**
	0.7nm,0.1s,slow=12,SNR=9.5							
ESDC				Sn		**Sn**	**09 14 06.9**	**-3.1**
	2.7nm,0.2s,baz=5.4,slow=24,SNR=7.9							
ESDC				Lg		Lg	09 14 22.9	
	1.7nm,0.2s,slow=29,SNR=10.0							
PCAB	**Cabril**	**3.58**	**247**	*e*Pn		**Pn**	**09 13 29.6**	**+1.1**
PCAB				*e*Sn		**Sn**	**09 14 11.3**	**+0.4**
PCAB				*e*Sg		**Sg**	**09 14 27.0**	**-0.9**
PCAB				A		A	09 14 29.9	
	11nm,0.3s							
PCAB	**Cabril**	**3.58**	**247**	Pn		**Pn**	**09 13 29.6**	**+1.1**
PCAB				Sn		**Sn**	**09 14 11.3**	**+0.4**
PCAB				Lg		Lg	09 14 27.0	
	5.3nm,0.3s							
PCAB	**Cabril**	**3.58**	**247**	Pn		**Pn**	**09 13 29.6**	**+1.1**
PCAB				Sn		**Sn**	**09 14 11.3**	**+0.4**
PCAB				*e*Sg		**Sg**	**09 14 27.0**	**-0.9**
	11nm,0.3s							
POLO	**Lamas de Olo**	**3.59**	**241**	*e*Pn		**Pn**	**09 13 29.2**	**+0.5**
POLO				*e*Sn		**Sn**	**09 14 09.6**	**-1.6**
POLO				*e*Sg		**Sg**	**09 14 27.3**	**-0.9**
POLO				A		A	09 14 29.5	
	6.0nm,0.8s							
POLO	**Lamas de Olo**	**3.59**	**241**	*e*Pn		**Pn**	**09 13 29.2**	**+0.5**
POLO				*e*Sn		**Sn**	**09 14 09.6**	**-1.6**
POLO				*e*Sg		**Sg**	**09 14 27.3**	**-0.9**
	6.0nm,0.8s							
LFF	**La Frestale**	**3.59**	**60**	*e*Pn		**Pn**	**09 13 29.6**	**+1.0**
LFF	**La Frestale**	**3.59**	**60**	Pn		**Pn**	**09 13 29.6**	**+1.0**
PVRL	**Vila Real**	**3.60**	**239**	*e*Sg		**Sg**	**09 14 26.7**	**-1.7**
PVRL				A		A	09 14 30.2	
	17nm,0.6s							
PVRL	**Vila Real**	**3.60**	**239**	Lg		Lg	09 14 26.7	
	8.6nm,0.6s							
PVRL	**Vila Real**	**3.60**	**239**	*e*Sg		**Sg**	**09 14 26.7**	**-1.7**
	17nm,0.6s							
CSOR	**Sort**	**3.61**	**102**	Pg		**Pb**	**09 13 39.5**	**+2.7**
	0.1nm,0.1s,SNR=7.9							
CSOR				Sn		**Sn**	**09 14 09.6**	**-2.0**
	0.4nm,0.2s,SNR=7.9							
CSOR				Lg		Lg	09 14 25.5	
	10.0nm,0.7s,SNR=7.9							
EPLA	**Plasencia**	**3.64**	**211**	Pn		**Pn**	**09 13 28.8**	**-0.6**
	1.2nm,0.1s,SNR=7.9							
EPLA				Sn		**Sn**	**09 14 08.8**	**-3.6**
	0.8nm,0.1s,SNR=7.9							
EPLA				Lg		Lg	09 14 26.6	
	8.1nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**3.64**	**211**	Pn		**Pn**	**09 13 28.8**	**-0.6**
	1.2nm,0.1s,SNR=7.9							
EPLA				Sn		**Sn**	**09 14 08.8**	**-3.6**
	0.8nm,0.1s,SNR=7.9							
EPLA				Lg		Lg	09 14 26.6	
	8.1nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**3.64**	**252**	*e*Pn		**Pn**	**09 13 30.6**	**+1.2**
PGAV				*e*Sn		**Sn**	**09 14 12.0**	**-0.5**
PGAV				*e*Sg		**Sg**	**09 14 29.2**	**-0.7**
PGAV				A		A	09 14 32.0	
	9.4nm,0.9s							
PGAV	**Gavieira, Arco**	**3.64**	**252**	*e*Pn		**Pn**	**09 13 30.6**	**+1.2**
PGAV				*e*Sn		**Sn**	**09 14 12.0**	**-0.5**
PGAV				*e*Sg		**Sg**	**09 14 29.2**	**-0.7**
	9.4nm,0.9s							
EMOS	**Mosqueruela**	**3.70**	**139**	Pn		**Pn**	**09 13 32.7**	**+2.4**
	0.0nm,0.0s,SNR=7.9							
EMOS				Sn		**Sn**	**09 14 10.3**	**-3.7**
	4.5nm,0.3s,SNR=4.0							
EMOS				Lg		Lg	09 14 28.1	
	0.7nm,0.2s,SNR=7.9							
EZAM	**Zamans**	**3.88**	**256**	Pn		**Pn**	**09 13 33.1**	**+0.5**
	2.7nm,0.2s,SNR=7.9							
EZAM				Sn		**Sn**	**09 14 16.5**	**-1.7**
	8.0nm,0.3s,SNR=7.9							
EZAM	**Zamans**	**3.88**	**256**	Pn		**Pn**	**09 13 33.1**	**+0.5**
	2.7nm,0.2s,SNR=7.9							
EZAM				Sn		**Sn**	**09 14 16.5**	**-1.7**
	8.0nm,0.3s,SNR=7.9							
EMAZ	**Mazaricos**	**3.92**	**268**	Sn		**Sn**	**09 14 17.4**	**-1.9**
	1.8nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**3.92**	**268**	Sn		**Sn**	**09 14 17.4**	**-1.9**
	1.8nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**3.96**	**116**	Pn		**Pn**	**09 13 34.6**	**+0.9**
	0.0nm,0.0s,SNR=7.9							
EPOB				Sn		**Sn**	**09 14 17.6**	**-2.7**
	2.7nm,0.3s,SNR=7.9							
EPOB				Lg		Lg	09 14 36.4	
	0.5nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**3.96**	**116**	Pn		**Pn**	**09 13 34.6**	**+0.9**
	SNR=7.9							
EPOB				Sn		**Sn**	**09 14

ROSF	**Rostrenen**	**5.13**	**3**	*e*Sn	**Sn**	09 14 45.4	-3.6
	1.5nm,0.2s						
EBAD	**Badajoz**	**5.13**	**211**	Pn	**Pn**	09 13 48.9	-1.0
	0.1nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	09 14 43.8	-5.3
	0.1nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	09 15 11.9	
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.13**	**211**	Pn	**Pn**	09 13 48.9	-1.0
	0.1nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	09 15 11.9	
	0.3nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**5.17**	**52**	*e*Pn	**Pn**	09 13 50.6	+0.2
TCF	**Toulx Ste Croi**	**5.17**	**52**	*e*Pg	**Pg**	09 14 10.6	-1.4
TCF				*e*Sn	**Sn**	09 14 47.1	-3.0
	5.5nm,0.4s						
TCF	**Toulx Ste Croi**	**5.17**	**52**	Pn	**Pn**	09 13 50.6	+0.2
TCF	**Toulx Ste Croi**	**5.17**	**52**	*e*Pg	**Pg**	09 14 10.6	-1.4
TCF				*e*Sn	**Sn**	09 14 47.1	-3.0
	2.8nm,0.4s						
LASF	**Ste Croix**	**5.50**	**78**	*e*Sn	**Sn**	09 14 55.0	-3.3
GRR	**Gorron**	**5.53**	**20**	*e*Sn	**Sn**	09 14 54.6	-4.1
	2.6nm,0.2s						
BGF	**Bois d'Agland**	**5.69**	**52**	*e*Pn	**Pn**	09 13 57.7	+0.3
BGF	**Bois d'Agland**	**5.69**	**52**	Pn	**Pn**	09 13 57.7	+0.3
EMIN	**Mina Concepcio**	**5.91**	**204**	Pn	**Pn**	09 14 01.1	+0.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	09 15 02.7	-5.6
	0.4nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	09 15 36.5	
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.91**	**204**	Pn	**Pn**	09 14 01.1	+0.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	09 15 36.5	
	0.5nm,0.2s,SNR=7.9						
LDF	**La Druitiere**	**5.91**	**23**	*e*Sn	**Sn**	09 15 03.3	-4.9
	1.6nm,0.2s						
AVF	**Avril sur Loir**	**6.11**	**52**	*e*Pn	**Pn**	09 14 03.1	-0.1
AVF	**Avril sur Loir**	**6.11**	**52**	Pn	**Pn**	09 14 03.1	-0.1
VIVF	**Saint-Julien-l**	**6.21**	**72**	*e*Sn	**Sn**	09 15 12.0	-3.6
SSF	**Saint Saulge**	**6.35**	**50**	*e*Pn	**Pn**	09 14 07.3	+0.8
SSF	**Saint Saulge**	**6.35**	**50**	Pn	**Pn**	09 14 07.3	+0.8

*IDC **20** 09:17:22.3±1.4, 1.°42N×128.°10E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=101.1km s-min=17.6km az=69.0*

*ISCJB **20** 09:17:28.9±0.9, 1.°52N±0.°07×128.°44E±0.°06, h69km, mb3.8/5, Error ellipse: s-maj=10.4km s-min=8.4km az=18.5*

*DJA **20** 09:17:36.6±1.0, 1.°N±7.°×12.°8E±.°, h87km±9km, M4.1/5, MLv4.1/5*

ISC 20 09:17:30.7±1.3, 1.°48N±0.°09×128.°42E±0.°09, h69km, n11, σ1°32/15, mb4.1/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**237**	P	**Pn**	**09 17 53.7**	**+1.1**
TNTI				S	**Sn**	**09 18 09.7**	**+0.7**
LBMI	**Labuha**	**2.29**	**204**	P	**Pn**	**09 18 08.2**	**+1.9**
LBMI				S	**Sn**	**09 18 32.0**	**-1.5**
MNI	**Manado**	**3.58**	**270**	P	**Pn**	**09 18 25.3**	**+1.4**
MNI				S	**Sn**	**09 19 04.1**	**-0.9**
KMSI	**Cibinong**	**4.53**	**259**	P	**Pn**	**09 18 38.5**	**+1.7**
KMSI				S	**Sn**	**09 19 26.6**	**-1.7**
AAI	**Ambon**	**5.13**	**183**	P	**Pn**	**09 18 46.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.65**	**188**	P	**P**	**09 21 52.6**	**-1.4**
	0.1nm,0.3s,baz=22,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**22.06**	**165**	P	**P**	**09 22 19.8**	**-0.3**
	2.2nm,0.7s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.55**	**168**	P	**P**	**09 22 52.7**	**-0.6**
	0.5nm,0.6s,baz=346,slow=8.2,SNR=8.3						
STKA	**Stephens Creek**	**35.44**	**160**	P	**P**	**09 24 20.4**	**-0.1**
	1.8nm,0.7s,baz=334,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**60.36**	**325**	P	**P**	**09 27 32.6**	**0.0**
	1.1nm,0.4s,baz=120,slow=8.5,SNR=16						
KURK	**Kurchatov**	**64.54**	**327**	P	**P**	**09 28 00.1**	**-0.3**
	2.2nm,0.6s,baz=127,slow=6.0,SNR=17						

*PGC **20** 09:21:48.3±4.9, 59.°98N×138.°01W, h1km, ML3.3/3, 89km Ssw of Haines Jct., Yt Southeastern Alaska*

NEIC 20 09:21:47.5, 59.°98N×138.°01W, h3km, ML3.3(PGC)**, ML3.1**(AEIC)**, 4D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.77**	**247**	P	Pg	09 22 01.9	-0.3
PNL				S	Sg	09 22 12.3	0.0
YKU2	**Yakutat**	**0.96**	**242**	P	Pg	09 22 05.0	-0.9
SAMH	**Samovar Hills**	**1.40**	**277**	P	Pn	09 22 12.9	-1.2
SAMH				S	Sn	09 22 33.2	+0.1
SKAG	**Skagway**	**1.46**	**110**	P	Pn	09 22 14.0	-0.7
CHX	**Chaix Hills**	**1.56**	**274**	P	Pn	09 22 16.0	-0.3
TABL	**Table Mountain**	**1.63**	**288**	P	Pn	09 22 16.7	-0.7
TABL				S	Sb	09 22 39.6	-0.1
RKAV	**Rock Avalanche**	**1.70**	**282**	P	Pn	09 22 18.3	0.0
RKAV				S	Sb	09 22 41.3	-0.3
WHY	**Whitehorse**	**1.70**	**65**	P	Pn	09 22 17.7	-0.6
WHY				S	Sn	09 22 40.6	-0.1
WHY	**Whitehorse**	**1.70**	**65**	⇓Pn	Pn	09 22 17.8	-0.5
WHY				⇓Sg	Sn	09 22 40.2	-0.4
MESA	**MESA**	**1.98**	**278**	P	Pn	09 22 22.1	-0.2
MESA				S	Sn	09 22 47.7	-0.2
BAGL	**Bagley Icefiel**	**2.10**	**286**	P	Pn	09 22 23.7	+0.2
BAGL				S	Sn	09 22 51.0	+0.8
BESE	**Bessie Mountai**	**2.14**	**130**	P	Pn	09 22 23.6	-0.7
ISLE	**Juniper Island**	**2.25**	**288**	P	Pn	09 22 25.6	-0.1
ISLE				S	Sn	09 22 54.9	+0.7
BARK	**Barkley Ridge**	**2.28**	**283**	P	Pn	09 22 26.1	-0.1
BALM	**Baldy**	**2.39**	**298**	P	Pn	09 22 27.5	-0.3
KHIT	**Khitrov Hills**	**2.66**	**282**	P	Pn	09 22 31.3	-0.1
MCARA	**McCarthy VSAT**	**2.84**	**302**	P	Pn	09 22 34.4	+0.6
SIT	**Sitka**	**3.25**	**153**	P	Pn	09 22 40.5	+1.1
BCA3	**Beaver Creek A**	**3.59**	**331**	P	Pn	09 22 43.6	-0.5
DIV	**Divide**	**4.00**	**290**	*e*Pn	Pn	09 22 49.0	-0.8
DIV				*e*Sn	Sn	09 23 36.7	-0.6
MENT	**Mentasta**	**4.04**	**320**	*e*Pn	Pn	09 22 50.5	+0.2
MENT				*e*Sg	Sg	09 23 56.5	-0.8
DAWY	**Dawson**	**4.15**	**352**	P	Pn	09 22 52.1	+0.3
DAWY	**Dawson**	**4.15**	**352**	⇑Pn	Pn	09 22 51.5	-0.3
DAWY				⇓Sn	Sn	09 23 39.9	-1.0
DAWY				⇓Sg	Sg	09 23 56.9	-4.1
KLU	**Klutina**	**4.17**	**295**	P	Pn	09 22 52.3	+0.2
DLBC	**Dease Lake**	**4.38**	**107**	⇑Pn	Pn	09 22 54.9	-0.2
DLBC				⇑Sg	Sb	09 24 03.2	+4.6
EGAK	**Eagle**	**5.04**	**344**	*e*Pn	Pn	09 23 03.8	0.0

*NEIC **20** 09:22:38.3, 39.°34S×173.°57E, h7km, ML3.7(WEL), After WEL.*

NEIC Felt at Taranaki.

WEL 20 09:22:37.3±0.3, 39.°31S×173.°50E, h5km, ML3.8/37**, Error ellipse: s-maj=2.7km s-min=1.8km az=90.0, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWEZ	**Newall Road**	**0.28**	**82**	PG	Pg	09 22 43.3	+0.5
NWEZ				SG	Sg	09 22 46.9	+0.3
NWEZ	**Newall Road**	**0.28**	**82**	Pg	Pg	09 22 43.3	+0.5
NWEZ				Sg	Sg	09 22 47.0	+0.3
NRZ	**Ngariki Road**	**0.33**	**94**	PG	Pg	09 22 44.0	+0.2
NRZ	**Ngariki Road**	**0.33**	**94**	Pg	Pg	09 22 44.0	+0.2
PKE	**Pukeiti**	**0.39**	**73**	PG	Pg	09 22 45.8	+0.9
PKE				SG	Sg	09 22 50.6	+0.4
PKE	**Pukeiti**	**0.39**	**73**	Pg	Pg	09 22 45.9	+0.9
PKE				Sg	Sg	09 22 50.6	+0.4
NEZ	**North Egmont**	**0.46**	**85**	PG	Pg	09 22 46.6	+0.3
NEZ	**North Egmont**	**0.46**	**85**	Pg	Pg	09 22 46.3	+0.3
DFE	**Dawson Falls**	**0.47**	**92**	PG	Pg	09 22 46.3	-0.1
DFE	**Dawson Falls**	**0.47**	**92**	Pg	Pg	09 22 46.3	-0.1
DREZ	**Durham Road**	**0.56**	**77**	PG	Pg	09 22 48.5	+0.5
DREZ	**Durham Road**	**0.56**	**77**	P*	Pg	09 22 48.5	+0.5
MHEZ	**Mangahewa**	**0.68**	**70**	P*	Pg	09 22 50.8	+0.5
RAEZ	**Rainy Point**	**0.69**	**88**	P*	Pg	09 22 50.9	+0.3
RAEZ	**Rainy Point**	**0.69**	**88**	P*	Pg	09 22 50.9	+0.3
VRZ	**Vera Road**	**0.99**	**80**	P*	Pg	09 22 55.8	-0.5
VRZ				S*	Sg	09 23 08.6	-0.6
WAZ	**Wanganui**	**1.23**	**112**	P*	Pg	09 22 59.9	-1.0
HIZ	**Hauiti**	**1.32**	**53**	P*	Pn	09 23 01.5	-0.9
PKVZ	**Pokaka**	**1.43**	**90**	PN	Pn	09 23 03.0	-1.0
DUWZ	**D'Urville Isla**	**1.52**	**168**	PN	Pg	09 23 06.5	0.0
TWVZ	**Taurewa**	**1.52**	**82**	PN	Pn	09 23 04.2	-1.1
MTVZ	**Mangateitei**	**1.53**	**93**	PN	Pn	09 23 04.4	-0.9
TRVZ	**Turoa**	**1.59**	**90**	PN	Pn	09 23 05.6	-0.8
WPVZ	**Whakapapa**	**1.59**	**87**	PN	Pn	09 23 05.6	-0.7
FWVZ	**Far West T-bar**	**1.59**	**89**	PN	Pn	09 23 05.5	-0.9
FWVZ				SN	Sn	09 23 25.8	-1.8
FWVZ	**Far West T-bar**	**1.59**	**89**	Pn	Pn	09 23 05.5	-0.9
FWVZ				Sn	Sn	09 23 25.8	-1.8
DRZ	**Dome Shelter**	**1.60**	**89**	PN	Pn	09 23 06.0	-0.6
WNVZ	**Wahianoa**	**1.62**	**91**	*e*PN	Pn	09 23 06.2	-0.6
WTVZ	**West Tongariro**	**1.63**	**84**	PN	Pn	09 23 06.3	-0.6
NGZ	**Ngauruhoe**	**1.64**	**86**	Pn	Pn	09 23 06.4	-0.5
TUVZ	**Tukino**	**1.67**	**89**	*e*PN	Pn	09 23 07.1	-0.3
KRVZ	**Karewarewa**	**1.68**	**83**	PN	Pn	09 23 06.9	-0.6
OTVZ	**Oturere**	**1.69**	**86**	PN	Pn	09 23 07.2	-0.4
QRZ	**Quartz Range**	**1.69**	**206**	*e*PN	Pn	09 23 07.9	+0.5
KATZ	**Kakaramea**	**1.74**	**80**	PN	Pn	09 23 07.9	-0.4
MOVZ	**Moawhango**	**1.75**	**94**	PN	Pn	09 23 08.1	-0.3
RATZ	**Rangitukua**	**1.82**	**77**	PN	Pn	09 23 08.9	-0.4
WATZ	**Wairara**	**1.84**	**72**	PN	Pn	09 23 09.3	-0.3
RITZ	**Rihia Road**	**1.86**	**80**	PN	Pn	09 23 10.2	+0.3
KIW	**Kapiti Island**	**1.89**	**146**	PN	Pb	09 23 11.3	-0.9
KIW				SN	Sn	09 23 34.4	0.0
KIW	**Kapiti Island**	**1.89**	**146**	Pn	Pb	09 23 11.3	-0.9
KIW				Sn	Sn	09 23 34.4	0.0
NNZ	**Nelson**	**1.91**	**183**	PN	Pb	09 23 12.1	-0.4
OGWZ	**Otaki Gorge**	**1.97**	**140**	PN	Pb	09 23 12.9	-0.8
TCW	**Tory Channel**	**1.99**	**163**	PN	Pb	09 23 13.1	-0.8
TCW	**Tory Channel**	**1.99**	**163**	Pn	Pb	09 23 13.2	-0.8
BHHZ	**Black Hill Sta**	**1.99**	**96**	PN	Pb	09 23 11.9	+0.2
TSZ	**Takapari Road**	**2.04**	**112**	*e*PN	Pb	09 23 13.6	-1.2
POWZ	**Post Office Ro**	**2.05**	**122**	*e*PN	Pb	09 23 14.2	-0.8
MRZ	**Mangatainoka R**	**2.09**	**131**	PN	Pn	09 23 14.2	+1.3
MRZ	**Mangatainoka R**	**2.09**	**131**	Pn	Pn	09 23 14.2	+1.3
TUWZ	**Tuamarina**	**2.14**	**171**	*e*PN	Pn	09 23 14.4	+0.7
CAW	**Cannon Point**	**2.16**	**147**	PN	Pb	09 23 15.5	-1.4
CAW	**Cannon Point**	**2.16**	**147**	Pn	Pb	09 23 15.5	-1.4
PNHZ	**Pukenui**	**2.17**	**107**	*e*PN	Pb	09 23 15.6	-1.5
SNZO	**South Karori**	**2.20**	**156**	PN	Pb	09 23 16.9	-0.6
TOZ	**Tahuroa Road**	**2.23**	**45**	*e*PN	Pn	09 23 14.6	-0.2
DVHZ	**Dannevirke**	**2.28**	**117**	*e*PN	Pb	09 23 17.6	-1.3
BKZ	**Black Stump Fm**	**2.33**	**87**	*e*PN	Pn	09 23 16.3	0.0
TIWZ	**Tintock**	**2.34**	**129**	PN	Pb	09 23 18.9	-1.1
TIWZ	**Tintock**	**2.34**	**129**	Pn	Pb	09 23 18.9	-1.1
TIWZ				Sn	Sb	09 23 48.9	-0.4
WPHZ	**Waipukurau**	**2.39**	**109**	*e*PN	Pb	09 23 19.5	-1.3
MTW	**Mount Morrison**	**2.40**	**141**	PN	Pb	09 23 19.5	-1.4
BSWZ	**Blackbirch Sta**	**2.42**	**173**	*e*PN	Pb	09 23 20.7	-0.6
MCHZ	**McNeill Hill**	**2.48**	**94**	PN	Pb	09 23 22.7	+0.4
MSWZ	**Moikau Station**	**2.49**	**148**	*e*PN	Pb	09 23 21.0	-1.5
THZ	**Tophouse**	**2.49**	**190**	*e*PN	Pb	09 23 21.0	-1.6
BFZ	**Birch Farm**	**2.51**	**124**	PN	Pb	09 23 21.7	-1.2
BFZ	**Birch Farm**	**2.51**	**124**	Pn	Pb	09 23 21.7	-1.2
WTAZ	**Waiatarua**	**2.52**	**20**	PN	Pn	09 23 20.3	+1.4
MKAZ	**Moumakai**	**2.56**	**31**	PN	Pn	09 23 20.4	+1.0
RVAZ	**Riverhead Bore**	**2.68**	**19**	*e*PN	Pn	09 23 22.0	+1.0
DSZ	**Denniston Nort**	**2.75**	**208**	PN	Pn	09 23 24.1	+1.9
KUZ	**Kuaotunu**	**3.10**	**35**	PN	Pn	09 23 27.0	+0.1
MWZ	**Matawai**	**3.29**	**74**	*e*PN	Pn	09 23 30.4	+0.8
WCZ	**Waipu Caves**	**3.43**	**11**	*e*PN	Pn	09 23 32.7	+1.3
OUZ	**Omahuta**	**4.09**	**1**	PN	Pn	09 23 42.3	+1.9
WVZ	**Waitaha Valley**	**4.30**	**208**	PN	Pn	09 23 45.4	+2.1
FOZ	**Fox Glacier**	**5.12**	**213**	*e*PN	Pn	09 23 55.8	+1.1

*IDC **20** 09:25:06.2±3.2, 42.°89S×72.°46W, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.9/14, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=81.3km s-min=22.6km az=136.0*

GUC 20 09:25:06.2±0.6, 42.°66S×72.°81W, h2km±8km, ML3.1, 1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.41**	**46**	*e*P	Pg	09 25 14.1	+0.1
HUNY				*i* S	Sg	09 25 19.5	+0.2
HUNY				AML	AML	09 25 24.5	
	comp=E,1μm,0.7s						
QLLN	**Quelln**	**0.74**	**233**	⇓P	Pg	09 25 19.6	-0.8
QLLN				*i* S	Sg	09 25 30.4	+0.4
QLLN				AML	AML	09 25 34.6	
	comp=E,3μm,0.6s						
PLCA	**Paso Flores**	**2.57**	**42**	Pn	Pn	09 25 49.9	+1.1
	comp=E,11nm,0.3s,baz=212,slow=16,SNR=149						
PLCA				Lg	Lg	09 26 28.2	
	comp=E,17nm,0.3s,baz=124,slow=21,SNR=13						
COYC	**Coyhaique**	**2.96**	**170**	AML	AML	09 26 37.1	
	comp=N,69nm,0.8s						
TXAR	**Lajitas Array**	**77.06**	**333**	P		09 37 03.1	+2.4
	comp=N,1.2nm,1.2s,baz=165,slow=10.0,SNR=4.9						
PDAR	**Pinedale Array**	**91.23**	**334**	P	P	09 38 14.1	+1.3
	comp=N,0.3nm,0.7s,baz=145,slow=8.3,SNR=3.6						

*ISCJB **20** 09:26:09.3±0.4, 35.°94N±0.°02×69.°78E±0.°03, h72km±4km, mb4.4/42, Error ellipse: s-maj=4.1km s-min=3.3km az=147.3*

*MOS **20** 09:26:11.6±1.1, 36.°00N×69.°88E, h92km, mb4.7/17, Error ellipse: s-maj=9.1km s-min=5.0km az=93.9*

*BJI **20** 09:26:11.9, 36.°13N×69.°67E, h89km, mB5.0/12, mb4.6/25, Ms4.6/8, Ms7 4.3/7*

*NNC **20** 09:26:12.4±1.0, 36.°61N×69.°67E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=9.9km s-min=6.9km az=62.0*

*NEIC **20** 09:26:12.2±0.7, 35.°87N×69.°93E, h92km±7km, mb5.2/14, Error ellipse: s-maj=7.8km s-min=5.0km az=49.0*

NEIC Felt at Kabul.

*IDC **20** 09:26:13.5±0.8, 35.°89N×69.°78E, h103km±7km, mb3.9/16, mb1 4.1/19, mb1mx4.0/28, mbtmp4.0/19, MS3.3/2, Ms1 3.3/2, ms1mx2.6/42, Error ellipse: s-maj=17.4km s-min=11.4km az=27.0*

*TEH **20** 09:26:14.0, 36.°10N×64.°74E, h86km, ML4.5*

ISC 20 09:26:13.4±0.4, 36.°06N±0.°04×69.°80E±0.°04, h94km±2km, h93km:pP-P, n214, σ2°12/255, mb4.5/41**, 23C-11D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.64**	**203**	*e*PN	**Pn**	**09 26 41.1**	**-0.2**
KBL				*e*		09 27 04.4	
KBL	**Kabul**	**1.64**	**203**	*e*Pn	**Pn**	**09 26 41.1**	**-0.2**
KBL				*e*Sn	**Sn**	**09 27 04.4**	**+2.0**
CEP	**Cherat**	**2.82**	**142**	⇓P	**Pn**	**09 26 56.9**	**+0.1**
CEP				S	Sn	09 27 43.0	+13
THW	**Thamme Wali**	**3.63**	**153**	⇓P	**Pn**	**09 27 06.2**	**-1.3**
CHCP	**Chirah Chowk**	**3.72**	**129**	⇓P	**Pn**	**09 27 08.8**	**+0.1**
SARP	**Sargodha**	**4.76**	**149**	P	**Pn**	**09 27 20.8**	**-2.1**
KSH	**Kashi**	**5.98**	**53**	*e*P	**Pn**	**09 27 37.1**	**-2.4**
KSH				*e*sP	**sPn**	**09 27 57.9**	**-4.9**
KSH				*e*S	**Sn**	**09 28 41.0**	**-5.6**
KSH				pmax	pmax		
	comp=Z,130nm,0.5s						
DLH	**Dalhousie**	**6.19**	**123**	*e*P	**Pn**	**09 27 40.0**	**-2.5**
DLH				*ex*	x	09 27 45.0	
AML	**Almayashu**	**6.78**	**25**	P	**Pn**	**09 27 51.0**	**+0.4**
	SNR=129						
AML				P			
	SNR=129						
KK31	**Karatay Array**	**7.06**	**4**	⇓Pn	**Pn**	**09 27 52.7**	**-1.3**
	comp=Z,28nm,0.7s,baz=195,slow=16,SNR=219						
KK31				⇑Sn	**Sn**	**09 29 11.0**	**-1.7**
	comp=Z,87nm,0.6s,baz=196,slow=20,SNR=9.4						
KK31	**Karatay Array**	**7.06**	**4**	*e*PN	**Pn**	**09 27 54.1**	**+0.1**
KK31				pmax	pmax		
	comp=Z,15nm,0.2s						
KKAR	**Karatay Array**	**7.06**	**4**	*e*PN	**Pn**	**09 27 54.3**	**+0.3**
KKAR	**Karatay Array**	**7.06**	**4**	*e*Pn	**Pn**	**09 27 54.3**	**+0.3**
KKAR				*e*Sn	**Sn**	**09 29 12.1**	**-0.6**
UCH	**Uchtor**	**7.16**	**29**	P	**Pn**	**09 27 56.8**	**+0.9**
	SNR=35						
UCH				P	**Pn**	**09 27 56.8**	**+0.9**
	SNR=35						
BHK	**Bhakra**	**7.19**	**128**	*e*P	**Pn**	**09 27 55.0**	**-0.9**
BHK				*ex*	x	09 28 55.4	
EKS2	**Erkin-Say**	**7.28**	**24**	P	**Pn**	**09 27 58.0**	**+0.9**
	SNR=35						
EKS2				P	**Pn**	**09 27 58.0**	**+0.9**
	SNR=35						
EKS2	**Erkin-Say**	**7.28**	**24**	*e*PN	**Pn**	**09 27 58.1**	**+1.0**
EKS2	**Erkin-Say**	**7.28**	**24**	*e*Pn	**Pn**	**09 27 58.1**	**+1.0**
EKS2				*e*Sn	**Sn**	**09 29 20.3**	**+2.1**
KZA	**Kyzart**	**7.35**	**34**	P	**Pn**	**09 27 58.5**	**+0.1**
	SNR=76						
KZA				P	**Pn**	**09 27 58.5**	**+0.1**
	SNR=76						
AAK	**Ala-Archa**	**7.50**	**28**	P	**Pn**	**09 28 01.0**	**+0.8**
	SNR=66						
AAK				P	**Pn**	**09 28 01.0**	**+0.8**
	SNR=66						
AAK	**Ala-Archa**	**7.50**	**28**	*c i*PN	**Pn**	**09 28 00.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,94nm,0.6s						
AAK	**Ala-Archa**	**7.50**	**28**	*e*Pn	**Pn**	**09 28 00.7**	**+0.4**
	comp=Z,289nm,0.4s						
AAK				*e*Sn	**Sn**	**09 29 25.4**	**+1.7**
KBK	**Karagaybulak**	**7.70**	**30**	P	**Pn**	**09 28 02.9**	**0.0**
	SNR=34						
KBK				P	**Pn**	**09 28 02.9**	**0.0**
	SNR=34						
FRU	**Bishkek**	**7.72**	**27**	*e*PN	**Pn**	**09 28 04.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,150nm,2.0s						
IMYA	**Miami**	**7.85**	**275**	*e*Pn	**Pn**	**09 28 03.0**	**-2.0**
CHMS	**Chumysh**	**7.91**	**27**	P	**Pn**	**09 28 06.1**	**+0.4**
	SNR=56						
CHMS				P	**Pn**	**09 28 06.1**	**+0.4**
	SNR=56						
ULHL	**Ulahol**	**7.95**	**37**	P	**Pn**	**09 28 07.5**	**+1.2**
	SNR=13						
ULHL				P	**Pn**	**09 28 07.5**	**+1.2**
	SNR=13						
USP	**Ospenovka**	**8.06**	**25**	P	**Pn**	**09 28 07.8**	**+0.2**
	SNR=11						
USP				P	**Pn**	**09 28 07.8**	**+0.2**
	SNR=11						
TKM2	**Tokmak 2**	**8.18**	**31**	P	**Pn**	**09 28 09.8**	**+0.2**
	SNR=83						
TKM2				P	**Pn**	**09 28 09.8**	**+0.2**
	SNR=83						
TKM2	**Tokmak 2**	**8.18**	**31**	⇓Pn	**Pn**	**09 28 07.4**	**-2.2**
	comp=Z,51nm,0.7s						
TKM2				⇑Sn	**Sn**	**09 29 37.8**	**-2.6**
	comp=Z,40nm,0.6s						
TKM2	**Tokmak 2**	**8.18**	**31**	*e*PN	**Pn**	**09 28 09.8**	**+0.2**
TKM2	**Tokmak 2**	**8.18**	**31**	*e*Pn	**Pn**	**09 28 09.8**	**+0.2**
TKM2				*e*Sn	**Sn**	**09 29 41.8**	**+1.4**
ISRO	**Mashad**	**8.36**	**275**	*e*Pn	**Pn**	**09 28 09.3**	**-2.6**
KKR	**Kurukshetra**	**8.46**	**134**	*e*P	**Pn**	**09 28 10.2**	**-3.0**
KKR				*e*S	Sn	09 29 35.0	-12
IMOG	**Moghan**	**8.47**	**273**	*e*Pn	**Pn**	**09 28 11.3**	**-2.3**
IPAY	**Payeh**	**8.74**	**276**	*e*Pn	**Pn**	**09 28 14.9**	**-2.3**
IAKL	**Akhelmad**	**8.93**	**277**	*e*Pn	**Pn**	**09 28 17.0**	**-2.9**
DDI	**Dehra Dun**	**8.97**	**127**	*e*P	**Pn**	**09 28 17.5**	**-2.7**
DDI				*ex*	x	09 30 30.8	
IEMG	**Emamgholi**	**9.05**	**282**	*e*Pn	Pn	09 28 17.9	-3.6
IKRD	**Kardeh**	**9.13**	**278**	*e*Pn	Pn	09 28 09.6	-13
KHET	**Khetri**	**9.45**	**146**	*e*P	Pn	09 28 22.4	-4.3
KHET				AMb	AMB	09 28 23.7	
	comp=Z,14nm,0.0s						
KHET				*e*S	Sn	09 29 56.4	-15
ABKT	**Ailbek**	**9.53**	**285**	Pn	**Pn**	**09 28 25.1**	**-2.7**
	comp=Z,298nm,0.5s,SNR=11						
ISFR	**Sfrayin**	**9.55**	**279**	*e*Pn	**Pn**	**09 28 25.9**	**-2.3**
NDI	**New Delhi**	**9.66**	**137**	*e*P	Pn	09 28 25.0	-4.5
	comp=Z,47nm,0.7s						
NDI				*ex*	x	09 30 07.5	
AYAN	**Aya Nagar**	**9.77**	**139**	*e*P	Pn	09 28 26.8	-4.2
AYAN				AMb	AMB	09 28 28.9	
	comp=Z,109nm,1.1s						
AYAN				*e*S	Sn	09 30 03.5	-15
ISHV	**Shirvan**	**9.82**	**282**	*e*Pn	**Pn**	**09 28 28.7**	**-3.1**
BISR	**Bishrakh**	**9.87**	**137**	*e*P	**Pn**	**09 28 29.2**	**-3.1**
BISR				*e*S	Sn	09 30 07.7	-14
AGRA	**Agra**	**11.20**	**140**	*e*P	Pn	09 28 45.7	-4.7
AGRA				*e*S	Sn	09 30 36.4	-17
IGLO	**Ghaloghah**	**12.90**	**277**	*e*Pn	**Pn**	**09 29 12.8**	**-0.6**
DANN	**Dangsing

comp=Z,2.4nm,0.3s,baz=146,slow=14,SNR=69
AKTO S Sn 09 32 57.5 -9.3
comp=Z,0.9nm,0.3s,baz=44,slow=20,SNR=5.3
AKTO LR LR 09 37 32.5
comp=Z,132nm,21.5s,baz=89,slow=40
AKTO Aktyubinsk 16.71 333 ⇑Pn **Pn 09 30 00.5 -1.1**
comp=Z,7.4nm,0.8s
AKTO ⇑Sn **Sn 09 33 01.7 -5.1**
comp=Z,2.9nm,0.8s
AKTO Aktyubinsk 16.71 333 P **Pn 09 30 01.6 0.0**
AKTO S Sn 09 32 57.5 -9.3
AKTO Aktyubinsk 16.71 333 P **Pn 09 30 01.6 0.0**
AKTO S Sn 09 32 57.5 -9.3
ZRNK Zerenda 16.90 358 ⇑Pn **Pn 09 30 03.4 -0.5**
comp=Z,16nm,0.8s
ZRNK ⇑Sn **Sn 09 33 05.4 -5.9**
comp=Z,10nm,0.9s
ZRNK ⇑Lg Lg 09 34 51.5
comp=Z,8.9nm,0.8s
ZRNK Zerenda 16.90 358 P **Pn 09 30 03.4 -0.5**
ZRNK pmax pmax
comp=Z,16nm,0.8s
RAMN Ramite 16.94 118 *e*P **Pn 09 30 01.0 -3.9**
comp=Z,207nm,0.5s
RAMN Ramite 16.94 118 *e*P **Pn 09 30 01.0 -3.9**
comp=Z,207nm,0.5s
BVA0 Borovoye Array 16.97 1 ⇑Pn **Pn 09 30 03.9 -0.9**
comp=Z,2.0nm,0.6s,baz=174,slow=13,SNR=96
BVA0 ⇓Sn **Sn 09 33 08.0 -5.0**
comp=Z,1.1nm,0.9s,baz=189,slow=22,SNR=4.3
BVA0 ⇓Lg Lg 09 34 54.5
comp=Z,3.5nm,1.4s
BVA0 Borovoye Array 16.97 1 *i* P **P 09 30 05.2 0.0**
BVA0 *i* S **Sn 09 33 05.9 -7.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVA0 smax smax
comp=N,3.0nm,2.3s
BVAR Borovoye Array 16.97 1 P **Pn 09 30 04.9 +0.2**
comp=N,2.9nm,0.3s,baz=168,slow=10,SNR=48
BVAR S **Sn 09 33 07.8 -5.2**
comp=N,0.6nm,0.3s,baz=183,slow=22,SNR=4.6
BVAR Borovoye Array 16.97 1 P **Pn 09 30 04.9 +0.2**
BVAR S **Sn 09 33 07.8 -5.2**
BVAR Borovoye Array 16.97 1 P **Pn 09 30 04.9 +0.2**
BVAR S **Sn 09 33 07.8 -5.2**
BRVK Borovoye 17.00 1 ⇑Pn **Pn 09 30 04.3 -0.8**
comp=N,25nm,0.6s
BRVK ⇑Sn **Sn 09 33 08.5 -5.3**
comp=N,10nm,0.8s
BRVK ⇓Lg Lg 09 34 55.0
comp=N,46nm,1.2s
BRVK Borovoye 17.00 1*ce*P **Pn 09 30 04.5 -0.6**
BRVK pmax pmax
comp=Z,43nm,1.7s
BRVK Borovoye 17.00 1 *e*Pn **P 09 30 06.4 +0.9**
comp=Z,19nm,0.6s
BRVK *e*Sn **Sn 09 33 11.9 -1.9**
TAPN Taplejung 17.52 115 *e*P **P 09 30 08.9 -2.9**
comp=Z,174nm,0.7s
TAPN Taplejung 17.52 115 *e*P **P 09 30 08.9 -2.9**
comp=Z,174nm,0.7s
ODAN Odare 17.56 117 *e*P **P 09 30 10.0 -2.2**
comp=Z,139nm,0.6s
ODAN Odare 17.56 117 *e*P **P 09 30 10.0 -2.2**
comp=Z,139nm,0.6s
POO Poona 17.82 167 *e*P **P 09 30 15.0 +0.1**
POO *ex* x 09 34 01.0
LSA Lhasa 19.00 103 P **Pn 09 30 29.4 -0.5**
LSA Lhasa 19.00 103 *e*P **P 09 30 26.2 -2.0**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 19.00 103 *e*P **P 09 30 26.2 -2.0**
comp=Z,15nm,0.7s
GNI Garni 20.12 289 P Pn 09 30 43.3 +0.6
comp=Z,31nm,0.6s,baz=2.5,slow=2.4,SNR=23
GNI Garni 20.12 289*c i*P Pn 09 30 42.9 +0.3
GNI pmax pmax
comp=Z,36nm,0.7s
GNI Garni 20.12 289 *e*P **P 09 30 40.8 +0.8**
comp=Z,37nm,0.8s
GNI P Pn 09 30 43.3 +0.7
HYB Hyderabad 20.12 155 *i* P **P 09 30 38.0 -2.0**
HYB *e*S **S 09 34 15.0 -6.0**
TBLG Delisi 20.28 294 P Pn 09 30 43.7 -0.6
TBLG Delisi 20.28 294 P Pn 09 30 43.7 -0.6
ZAA0 Zalesovo Array 20.72 26 *e*P **P 09 30 47.1 +1.0**
ZALV Zalesovo Beam 20.72 26 P **P 09 30 47.2 +1.1**
comp=Z,31nm,0.4s,baz=219,slow=11,SNR=182
ZALV Zalesovo Beam 20.72 26 P **P 09 30 47.2 +1.1**
ZALV Zalesovo Beam 20.72 26 P **P 09 30 47.2 +1.1**
NVS Novosibirsk 20.95 22 *i* P **P 09 30 49.5 +1.0**
NVS *e*S **S 09 34 36.8 +0.4**
NVS pmax pmax
comp=Z,106nm,1.1s
NVS pmax pmax
comp=N,68nm,1.0s
NVS pmax pmax
comp=E,20nm,0.9s
NVS smax smax
comp=E,10.0nm,1.3s
ZEI Tsey 21.06 296 *e*P **P 09 30 50.9 +0.8**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
AKH Akhalkalaki 21.17 293 P **P 09 30 54.2 +3.0**
ONI Oni 21.36 296 P **P 09 30 56.1 +3.1**
SHL Shillong 21.61 113 *e*P P 09 31 01.0 +5.0
SHL *e*S **S 09 34 54.0 +3.7**
SVE Sverdlovsk 21.68 346 ⇑*e*P **P 09 30 57.9 +1.7**
SVE *e* 09 31 27.5
SVE *e*S **S 09 34 53.4 +2.7**
SVE pmax pmax
comp=Z,48nm,1.3s
ARU Arti 21.75 343 *e*P **P 09 30 58.8 +1.7**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 21.75 343 *e*P **P 09 30 58.8 +1.7**
comp=Z,32nm,1.0s
VIS Vishakhapatnam 21.84 143 *i* P P 09 30 47.4 -11
VIS *i* S S 09 34 42.8 -12
KIV Kislovodsk 22.15 299 *e*P **P 09 31 02.9 +1.4**
KIV *e*S **S 09 34 58.8 -0.9**
KIV pmax pmax
comp=Z,21nm,1.0s
HVS Khovu-Aksy 22.80 41 ⇑*e*P **P 09 31 10.2 +1.9**
HVS pmax pmax
comp=Z,84nm,1.2s
GTA Gaotai 23.92 73 *e*P **P 09 31 20.4 +1.6**
GTA sP **sP 09 31 52.8 +2.3**
GTA S **S 09 35 31.6 +3.1**
GTA sS **sS 09 36 02.9 -1.5**
GTA pmax pmax
comp=Z,5.0nm,0.5s
GTA pmax pmax
comp=Z,220nm,8.1s
VRHR Novokhopersk 25.15 316 *e*P **P 09 31 29.5 -0.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa 26.00 300 *e*P P 09 31 46.5 +9.1
ANN *e**PP pP 09 32 11.4 +13
ANN pmax pmax
comp=Z,205nm,1.2s
VSR Storozhevoye 26.61 314 *e*P **P 09 31 43.2 +0.4**
VSR *e**PP **pP 09 32 05.0 +1.3**
VSR *e**SP **sP 09 32 16.4 +1.7**
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,6.0nm,0.5s
LZH Lanzhou 27.43 80 *e*P **P 09 31 54.4 +3.8**
LZH pP **pP 09 32 13.4 +1.8**
LZH sP **sP 09 32 20.6 -1.9**
LZH PP PP 09 32 44.0 -10
LZH sS **sS 09 37 04.0 +3.1**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.2s
LZH LR LR
comp=N,300nm,12.8s
LZH LR LR
comp=E,250nm,13.5s
LZH LR LR
comp=Z,560nm,14.2s
ZAK Zakamensk 28.01 49 *e*P P 09 32 01.6 +6.1
ZAK *e* 09 33 01.4
ZAK pmax pmax
comp=Z,2.0nm,1.2s
BR131 Keskin Array S 28.65 288 *e*P **P 09 32 02.1 +0.8**
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 28.65 288 P **P 09 32 01.8 +0.4**
comp=Z,2.2nm,0.7s,baz=101,slow=9.1,SNR=15
BRTR Keskin Array B 28.65 288 P **P 09 32 01.8 +0.4**
BRTR Keskin Array B 28.65 288 P **P 09 32 01.8 +0.4**
CD2 Chengdu 28.69 90 P **P 09 32 03.9 +2.2**
CD2 pP **pP 09 32 23.6 +0.8**
CD2 sP **sP 09 32 34.3 +0.6**
CD2 PP PP 09 32 59.6 -8.4
CD2 S **S 09 36 45.1 +1.2**
CD2 sS **sS 09 37 19.5 -1.1**
CD2 SS SS 09 38 17.8 -31
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=E,350nm,5.9s
CD2 LR LR
comp=Z,240nm,7.7s
SONM Songino Array 29.38 55 P **P 09 32 09.1 +1.4**
comp=Z,1.4nm,0.7s,baz=262,slow=8.8,SNR=11
SONM Songino Array 29.38 55 P **P 09 32 09.1 +1.4**
SONM Songino Array 29.38 55 P **P 09 32 09.1 +1.4**
OBN Obninsk 29.65 320*c i*P **P 09 32 10.3 +0.5**
OBN pmax pmax
comp=Z,23nm,1.2s
EIL Elat 29.85 268 LR LR 09 45 54.0
comp=Z,46nm,20.0s,baz=270,slow=40
CMAR Chiang Mai Arr 31.11 117 P **P 09 32 23.3 +0.2**
comp=Z,1.2nm,0.3s,baz=302,slow=8.6,SNR=6.8
CMAR Chiang Mai Arr 31.11 117 P **P 09 32 23.3 +0.2**
CMAR Chiang Mai Arr 31.11 117 P **P 09 32 23.3 +0.2**
AKASG Malin Array Be 32.48 310 P **P 09 32 34.8 +0.1**
comp=Z,3.1nm,0.5s,baz=82,slow=7.5,SNR=12
AKASG Malin Array Be 32.48 310 P **P 09 32 34.8 +0.1**
AKASG Malin Array Be 32.48 310 P **P 09 32 34.8 +0.1**
GYA Guiyang 32.77 96 *e*P **P 09 32 40.0 +2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 32.82 69 *e*P **P 09 32 38.3 +0.3**
HHC pP **pP 09 33 00.5 +1.2**
HHC sP **sP 09 33 12.1 +1.9**
HHC PP PP 09 33 52.0 -1.8
HHC S **S 09 37 47.8 -0.7**
HHC sS **sS 09 38 26.9 +1.6**
HHC SS SS 09 39 55.1 -18
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,170nm,6.4s
HHC LR LR
comp=N,220nm,11.2s
HHC LR LR
comp=E,490nm,11.2s
HHC LR LR
comp=Z,230nm,11.6s
JOF Joensuu 35.77 331 *e*P **P 09 33 03.7 +0.6**
JOF Joensuu 35.77 331 *ep* P **P 09 33 03.7 +0.6**
JOF Joensuu 35.77 331 *ep* P **P 09 33 03.7 +0.6**
BOD Bodaibo 36.30 39 *e*P **P 09 33 08.0 +0.4**
BOD pmax pmax
comp=Z,7.0nm,1.3s
BJI Beijing 36.41 69 P **P 09 33 10.1 +1.3**
BJI PP PP 09 34 34.3 +1.0
BJI S **S 09 38 45.9 +2.5**
BJI pmax pmax
comp=Z,7.0nm,0.5s
BJI LR LR
comp=N,370nm,15.5s
BJI LR LR
comp=E,240nm,15.3s
FINES FINESS Array B 37.32 327 P **P 09 33 16.6 +0.4**
comp=E,6.8nm,0.7s,baz=116,slow=7.6,SNR=9.1
FINES pP **pP 09 33 40.6 +2.8**
comp=E,3.9nm,0.8s,baz=115,slow=8.6,SNR=2.7
FINES FINESS Array B 37.32 327 P **P 09 33 16.6 +0.4**
FINES *PP **pP 09 33 40.6 +2.8**
FINES FINESS Array B 37.32 327 P **P 09 33 16.6 +0.4**
FINES pP **pP 09 33 40.6 +2.8**
KAF Kangasniemi 37.48 328 *e*P **P 09 33 18.2 +0.6**
KAF Kangasniemi 37.48 328 *ep* P **P 09 33 18.2 +0.6**
KAF Kangasniemi 37.48 328 *ep* P **P 09 33 18.2 +0.6**
VYHS Vyhne 39.01 305 *e*P P 09 33 39.6 +8.9
VYHS pmax pmax
comp=Z,23nm,2.5s
VYHS Vyhne 39.01 305 *e*P P 09 33 39.6 +8.9
NJ2 Nanjing 40.49 81 *e*P **P 09 33 46.0 +2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KEV Kevo 40.86 339 *e*P **P 09 33 46.3 +0.7**
KEV Kevo 40.86 339 *ep* P **P 09 33 46.3 +0.7**
KEV Kevo 40.86 339 *ep* P **P 09 33 46.3 +0.7**
ARCES ARCESS Array B 41.19 338 P **P 09 33 49.1 +0.8**
comp=Z,16nm,0.7s,baz=118,slow=9.6,SNR=68
ARCES ARCESS Array B 41.19 338 P **P 09 33 49.1 +0.8**
ARCES ARCESS Array B 41.19 338 P **P 09 33 49.1 +0.8**
GERES GERESS Array B 42.40 306 P **P 09 33 59.0 +0.4**
comp=Z,0.3nm,0.2s,baz=84,slow=10,SNR=4.0
GERES GERESS Array B 42.40 306 P **P 09 33 59.0 +0.4**
GERES GERESS Array B 42.40 306 P **P 09 33 59.0 +0.4**
CN2 Changchun 42.67 62 *e*P P 09 34 04.0 +3.3
CLL Colim 42.72 309 *e*P **P 09 33 59.0 -2.0**
NB2 NORSAR Subarra 44.15 323 P **P 09 34 11.4 -1.1**
comp=Z,1.1nm,0.9s,baz=98,slow=7.9
NOA NORSAR Array B 44.15 323 P **P 09 34 11.9 -0.5**
comp=Z,4.8nm,0.6s,baz=99,slow=7.9,SNR=15
NOA NORSAR Array B 44.15 323 P **P 09 34 11.9 -0.5**
NOA NORSAR Array B 44.15 323 P **P 09 34 11.9 -0.5**
YAK Yakutsk 44.88 35 *e*P **P 09 34 20.0 +1.8**
YAK pmax pmax
comp=Z,18nm,0.8s
MDJ Mudanjiang 45.46 60 P **P 09 34 24.0 +1.0**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ pmax pmax
comp=Z,75nm,5.1s
KSAR Wonju Array Be 45.91 70 P **P 09 34 26.6 0.0**
KSAR Wonju Array Be 45.91 70 P **P 09 34 26.6 0.0**
KSRS Korea Array 45.94 70 P **P 09 34 26.6 -0.2**
comp=Z,0.3nm,0.3s,baz=274,slow=8.2,SNR=4.1
KSRS Korea Array 45.94 70 P **P 09 34 26.6 -0.2**
KEST Kesra 48.26 288 P **P 09 34 46.0 +1.0**
comp=Z,1.1nm,0.7s,baz=20,slow=6.1,SNR=5.4
KEST Kesra 48.26 288 P **P 09 34 46.0 +1.0**
DAG Danmarks Havn 54.88 344 *e*P **P 09 35 31.4 -2.2**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 54.88 344 *i* P **P 09 35 31.4 -2.2**
comp=Z,47nm,0.7s
BILL Bilibino 59.42 26 *e*P **P 09 36 06.8 +1.0**
BILL pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 61.16 341 *e*P **P 09 36 19.9 +1.9**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 61.16 341 *i* P **P 09 36 19.9 +1.9**
comp=Z,8.3nm,0.9s
TORD Torodi Ar. Bea 64.74 268 P **P 09 36 39.8 -2.3**
comp=Z,2.7nm,0.7s,baz=45,slow=5.8,SNR=18
TORD Torodi Ar. Bea 64.74 268 P **P 09 36 39.8 -2.3**
COLD Coldfoot 72.65 15 *e*P **P 09 37 30.8 +0.3**
comp=Z,7.0nm,0.9s
INK Inuvik 74.49 9 *e*P **P 09 37 41.4 +0.2**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 74.49 9 *e*P **P 09 37 41.4 +0.2**
comp=Z,13nm,1.0s
ILAR Eielson Array 75.46 15 P **P 09 37 46.0 -0.8**
comp=Z,2.6nm,0.9s,baz=323,slow=4.4,SNR=15
ILAR Eielson Array 75.46 15 P **P 09 37 46.0 -0.8**
ILAR Eielson Array 75.46 15 P **P 09 37 46.0 -0.8**
YKA Yellowknife Ar 81.72 2 P **P 09 38 20.8 -0.4**
comp=Z,3.0nm,0.8s,baz=350,slow=5.3,SNR=59
YKA Yellowknife Ar 81.72 2 P **P 09 38 20.8 -0.4**
YKA Yellowknife Ar 81.72 2 P **P 09 38 20.8 -0.4**
WRA Warramunga Arr 82.58 121 P **P 09 38 24.5 -1.8**
comp=Z,0.8nm,0.5s,baz=326,slow=4.9,SNR=17
WRA pP **pP 09 38 51.3 +0.5**
comp=Z,3.1nm,0.8s,baz=322,slow=5.2,SNR=10
WRA Warramunga Arr 82.58 121 P **P 09 38 24.5 -1.8**
WRA *PP **pP 09 38 51.3 +0.5**
WRA Warramunga Arr 82.58 121 P **P 09 38 24.5 -1.8**
WRA pP **pP 09 38 51.3 +0.5**
ASAR Alice Springs 84.80 124 P **P 09 38 36.0 -1.6**
comp=Z,0.7nm,0.5s,baz=316,slow=4.5,SNR=19
ASAR pP **pP 09 39 02.8 +0.6**
comp=Z,3.9nm,0.9s,baz=319,slow=5.5,SNR=11
ASAR Alice Springs 84.80 124 P **P 09 38 36.0 -1.6**
ASAR *PP **pP 09 39 02.8 +0.6**
ASAR Alice Springs 84.80 124 P **P 09 38 36.0 -1.6**
ASAR pP **pP 09 39 02.8 +0.6**
FFC Flin Flon 89.31 355*ce*P **P 09 39 01.0 +2.1**

WEL 20 09:39:26.1±0.5, 35°21'S×178°32'E, h213km±13km, ML3.6/9, Error ellipse: s-maj=15.4km s-min=9.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.39**	**190**	PN	Pn	09 40 09.7	+0.3
MXZ				SN	S	09 40 42.6	-0.6
PUZ	**Puketiti**	**2.89**	**189**	PN	Pn	09 40 15.5	+0.4
PUZ				SN	S	09 40 52.6	-0.8
MWZ	**Matawai**	**3.29**	**198**	PN	Pn	09 40 19.8	+0.1
MWZ				SN	S	09 41 02.1	+0.5
CNGZ	**Carnagh Statio**	**3.31**	**188**	PN	Pn	09 40 20.3	+0.4
URZ	**Urewera**	**3.34**	**204**	PN	Pn	09 40 20.5	+0.2
BKZ	**Black Stump Fm**	**4.37**	**205**	*e*PN	Pn	09 40 32.1	-0.7
PXZ	**Pawanui**	**5.06**	**197**	PN	Pn	09 40 39.3	-2.1
TSZ	**Takapari Road**	**5.35**	**204**	PN	Pn	09 40 43.3	-1.8
BFZ	**Birch Farm**	**5.83**	**200**	*e*PN	Pn	09 40 49.4	-1.9
MRZ	**Mangatainoka R**	**6.02**	**204**	PN	Pn	09 40 51.1	-2.6
OGWZ	**Otaki Gorge**	**6.30**	**206**	PN	Pn	09 40 54.5	-2.8
KIW	**Kapiti Island**	**6.43**	**208**	PN	Pn	09 40 56.0	-3.0
PLWZ	**Palliser**	**6.94**	**203**	PN	Pn	09 41 02.1	-3.5
THZ	**Tophouse**	**8.02**	**214**	*e*PN	Pn	09 41 16.4	-3.1
KHZ	**Kahutara**	**8.29**	**208**	PN	Pn	09 41 19.4	-3.5

DJA 20 09:42:21.9±0.4, 1°S±6°×12°2E±°, h7km±6km, M3.5/4, MLv3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.51**	**101**	P	Pg	09 42 31.8	0.0
LUWI				S	Sg	09 42 39.6	+1.1
APSI	**Ampana**	**0.62**	**273**	P	Pg	09 42 33.5	-0.4
APSI				S	Sg	09 42 42.9	+0.9
MRSI	**Marisa**	**1.45**	**347**	P	Pn	09 42 47.0	-1.5
SPSI	**Sidrap Palu**	**3.91**	**220**	P	Pn	09 43 22.2	-0.2

IDC 20 09:47:41.6±2.1, 20°10S×177°67W, h523km±27km, mb3.2/8, mb1 3.4/9, mb1mx3.2/18, mbtmp3.2/9, Error ellipse: s-maj=56.8km s-min=14.9km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.35**	**43**	P	P	09 49 43.2	+0.9
	4.8nm,0.3s,baz=177,slow=22,SNR=12						
AFI				S	S	09 51 20.2	-1.0
	4.2nm,0.3s,baz=272,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**38.24**	**244**	P	P	09 54 17.0	+0.1
	2.3nm,0.5s,baz=94,slow=9.8,SNR=8.8						
ASAR	**Alice Springs**	**44.91**	**256**	P	P	09 55 09.8	-0.1
	1.7nm,0.5s,baz=89,slow=9.3,SNR=52						
WRA	**Warramunga Arr**	**44.97**	**262**	P	P	09 55 09.6	-0.7
	2.1nm,0.3s,baz=96,slow=7.8,SNR=82						
FITZ	**Fitzroy Crossi**	**53.39**	**262**	P	P	09 56 12.3	-0.2
	2.4nm,0.8s,baz=72,slow=4.5,SNR=3.6						
MJAR	**Matsushiro Arr**	**70.08**	**323**	P	P	09 58 00.8	-0.3
	1.5nm,0.5s,baz=162,slow=6.2,SNR=7.4						
USRK	**Ussuriysk Arra**	**78.81**	**326**	P	P	09 58 51.3	+1.3
	1.8nm,0.8s,baz=182,slow=7.1,SNR=4.1						
NVAR	**Mina Array Bea**	**80.52**	**43**	P	P	09 58 59.8	+0.2
	0.3nm,0.8s,baz=201,slow=7.2,SNR=2.6						
ILAR	**Eielson Array**	**87.86**	**13**	P	P	09 59 33.9	-0.8
	0.6nm,0.9s,baz=218,slow=6.5,SNR=7.6						
AKASG	**Malin Array Be**	**142.82**	**332**	PKhKP	PKPpre	10 06 11.1	
	0.7nm,0.4s,baz=43,slow=4.6,SNR=6.0						

*IDC **20** 09:53:27.6±0.6, 0°.73S×133°.32E, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.5/19, mbtmp4.5/13, ML4.5/2, MS3.9/11, Ms1 3.9/11, ms1mx3.5/34, Error ellipse: s-maj=30.6km s-min=11.1km az=82.0*

*BJI **20** 09:53:28.1, 1°.26S×133°.32E, h35km, mB5.2/22, mb4.8/35, Ms4.9/19, Ms7 4.4/16*

*MOS **20** 09:53:31.2±1.1, 0°.69S×133°.20E, h33km, mb5.1/19, Error ellipse: s-maj=17.5km s-min=6.9km az=116.3*

*ISCJB **20** 09:53:32.6±0.7, 0°.73S±0°.03×133°.27E±0°.03, h45km±7km, mb4.7/55, MS4.1/14, Error ellipse: s-maj=6.1km s-min=4.8km az=28.7*

*DJA **20** 09:53:32, 0°.71S×133°.36E, h20km, mb5.1/11*

*NEIC **20** 09:53:33.2±0.3, 0°.68S×133°.31E, h35km, mb4.8/19, Error ellipse: s-maj=12.8km s-min=5.9km az=70.0*

NEIC Felt [III] at Manokwari.

ISC 20 09:53:33.4±0.4, 0°.76S±0°.04×133°.29E±0°.04, h35km±1km, h35km:pP-P,n165,σ1§46/205, mb4.9/55, MS4.1/14, 7C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.38**	**206**	P	**Pn**	**09 54 11.8**	**+1.7**
FAKI				S	**Sb**	**09 54 41.5**	**-3.3**
BAKI	**Biak**	**2.85**	**99**	P	**Pn**	**09 54 16.7**	**+0.3**
BAKI				S	**Sn**	**09 54 50.7**	**+1.2**
TLE	**Tual**	**4.88**	**187**	P	**Pn**	**09 54 46.8**	**+2.4**
TLE				S	**Sn**	**09 55 41.4**	**+1.7**
MSAI	**Masohi**	**5.06**	**239**	P	Pn	09 54 50.0	+3.1
	89nm,0.8s,2μm0.8nm						
MSAI				S	**Sn**	**09 55 47.4**	**+3.2**
	89nm,0.8s,2μm0.8nm						
LBMI	**Labuha**	**5.79**	**271**	P	**Pn**	**09 54 56.8**	**-0.2**
	272nm,1.0s,3μm0.9nm						
LBMI				S	**Sn**	**09 56 02.8**	**+0.5**
	272nm,1.0s,3μm0.9nm						
AAI	**Ambon**	**5.87**	**240**	P	**Pn**	**09 54 58.9**	**+0.9**
	347nm,0.6s,5μm1.2nm						
AAI				S	**Sn**	**09 56 03.4**	**-0.7**
	347nm,0.6s,5μm1.2nm						
TNTI	**Ternate**	**6.12**	**284**	P	**Pn**	**09 55 02.0**	**+0.5**
	90nm,1.1s,0.3nm						
TNTI				S	**Sn**	**09 56 10.3**	**0.0**
	90nm,1.1s,0.3nm						
NLAI	**Namlea**	**6.66**	**248**	P	**Pn**	**09 55 10.1**	**+1.2**
	183nm,0.7s,3μm1.2nm						
JAY	**Jayapura**	**7.61**	**103**	P	Pn	09 55 16.9	-5.1
LUWI	**Luwuk**	**10.52**	**268**	P	**Pn**	**09 56 01.2**	**-0.7**
	192nm,1.2s,2μm						
DAV	**Davao City (W)**	**10.94**	**315**	LR	LR	09 59 12.3	
	comp=Z,218nm,21.2s,baz=210,slow=32						
KDI	**Kendari**	**11.13**	**253**	P	Pn	09 56 18.2	+8.0
SPSI	**Sidrap Palu**	**13.88**	**257**	P	**Pn**	**09 56 49.9**	**+2.1**
	29nm,1.3s						
BKSI	**Bulukumba**	**13.91**	**251**	P	P	09 56 59.6	+3.7
KAPI	**Kappang**	**14.17**	**252**	Pn	P	09 56 55.4	-3.4
	1.0nm,0.3s,baz=18,slow=6.5,SNR=6.2						
KAPI	**Kappang**	**14.17**	**252**	Pn	P	09 56 55.4	-3.4
KAPI	**Kappang**	**14.17**	**252**	P	Pn	09 56 54.7	+2.9
	32nm,1.3s						
PMG	**Port Moresby**	**16.25**	**122**	⇓*e*P	**Pn**	**09 57 19.4**	**+0.1**
PMG				pmax	pmax		
	comp=Z,16nm,1.2s						
COEN	**Coen**	**16.36**	**144**	*e*Pn	**P**	**09 57 22.1**	**-1.1**
	comp=Z,89nm,0.9s						
GUMO	**Guam**	**18.30**	**38**	LR	LR	10 04 05.7	
	comp=Z,130nm,20.7s,baz=166,slow=35						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	P	**P**	**09 57 49.6**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=40,slow=11,SNR=19						
FITZ				S	Sn	10 01 08.5	-12
	comp=Z,0.7nm,0.3s,baz=61,slow=6.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	*e*P	**P**	**09 57 47.8**	**-2.3**
	comp=Z,48nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.80**	**203**	*e*P	**P**	**09 57 48.5**	**-1.7**

comp=Z,26nm,0.9s
FITZ eS Sn 10 01 08.1 -12
FITZ S S 10 01 08.5 -14
WRAB Tennant Creek 19.08 177 eP **P** **09 57 53.1 -0.1**
WRAB pmax pmax
comp=Z,31nm,0.9s
WRAB Tennant Creek 19.08 177 eP **P** **09 57 53.1 -0.1**
comp=Z,31nm,0.9s
WRA Warramunga Arr 19.09 177 P **P** **09 57 53.1 -0.2**
comp=Z,1.3nm,0.3s,baz=356,slow=13,SNR=60
WRA S Sn 10 01 18.2 -9.1
comp=Z,0.5nm,0.3s,baz=353,slow=23,SNR=5.4
WRA Warramunga Arr 19.09 177 P **P** **09 57 53.1 -0.2**
WRA S Sn 10 01 18.3 -9.1
WRA Warramunga Arr 19.09 177 P **P** **09 57 53.1 -0.2**
WRA S Sn 10 01 18.2 -9.1
WB2 Warramunga Arr 19.09 177 eP **P** **09 57 53.3 0.0**
WB2 eS **Sn** **10 01 20.3 -7.1**
KHKl Kahang-Kahang 19.17 246 P **Pn** **09 57 56.1 +0.8**
comp=Z,91nm,1.1s
BLJI Banyuglugur 20.82 250 P Pn 09 58 17.8 +3.0
AS31 Alice Springs 22.78 179 eP **P** **09 58 33.4 +0.3**
ASAR Alice Springs 22.78 179 P **P** **09 58 33.2 +0.1**
comp=Z,34nm,0.8s,baz=1.8,slow=9.7,SNR=209
ASAR S **S** **10 02 41.6 +1.7**
comp=Z,7.2nm,1.1s,baz=0.3,slow=19,SNR=7.1
ASAR Alice Springs 22.78 179 P **P** **09 58 33.3 +0.1**
ASAR S **S** **10 02 41.6 +1.7**
ASAR Alice Springs 22.78 179 P **P** **09 58 33.2 +0.1**
ASAR S **S** **10 02 41.6 +1.7**
CTA Charters Tower 23.02 147 P **P** **09 58 37.8 +2.2**
comp=Z,11nm,0.9s,baz=338,slow=12,SNR=7.9
CTA Charters Tower 23.02 147 eP **P** **09 58 37.0 +1.4**
comp=Z,12nm,0.8s
CTA Charters Tower 23.02 147 P **P** **09 58 37.8 +2.1**
CTA Charters Tower 23.02 147 P **P** **09 58 37.8 +2.1**
CTAO Charters Tower 23.02 147 eP **P** **09 58 37.7 +2.1**
CTAO pmax pmax
comp=Z,19nm,0.9s
CTAO Charters Tower 23.02 147 eP **P** **09 58 37.7 +2.1**
comp=Z,19nm,0.9s
MBWA Marble Bar 24.21 212 eP **P** **09 58 48.3 +1.2**
comp=Z,82nm,1.4s
BJII Banjamegara 24.40 254 P **P** **09 58 51.3 +2.3**
comp=Z,101nm,1.2s
CISI Cisompet, Garu 26.28 254 P **P** **09 59 06.0 0.0**
YULB Yu-li 26.69 335 eP **P** **09 59 12.0 +2.4**
comp=Z,3.8nm,0.6s
JOW Kunigami 27.86 350 LR LR 10 07 58.7
comp=Z,428nm,21.6s,baz=176,slow=31
STKA Stephens Creek 31.93 167 P **P** **09 59 56.1 +0.1**
comp=Z,4.6nm,0.5s,baz=336,slow=8.6,SNR=14
STKA LR LR 10 14 25.5
comp=Z,554nm,18.4s,baz=9.3,slow=39
STKA Stephens Creek 31.93 167 eP **P** **09 59 55.8 -0.1**
comp=Z,4.3nm,0.6s
STKA Stephens Creek 31.93 167 eP **P** **09 59 56.0 +0.1**
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 31.93 167 eP **P** **09 59 56.0 +0.1**
comp=Z,0.9nm,0.6s
NJ2 Nanjing 35.38 339 eP **P** **10 00 27.8 +1.8**
NJ2 pmax pmax
comp=Z,20nm,1.0s
NWAO Narrogin (SRO) 35.39 204 LR LR 10 14 24.8
comp=Z,86nm,20.6s,baz=224,slow=36
GYA Guiyang 37.30 318 P **P** **10 00 44.3 +1.7**
GYA pP **pP** **10 00 53.8 +1.1**
GYA PcP **PcP** **10 03 03.5 +1.8**
GYA S **S** **10 06 29.1 +0.9**
GYA sS **ScP** **10 06 46.0 -0.4**
GYA SS SS 10 09 01.8 -11
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.2s
GYA LR LR
comp=N,510nm,16.8s
GYA LR LR
comp=E,490nm,17.6s
GYA LR LR
comp=Z,500nm,17.2s
MJAR Matsushiro Arr 37.39 7 P **P** **10 00 40.9 -2.3**
comp=Z,1.5nm,0.8s,baz=185,slow=6.6,SNR=4.2
MJAR LR LR 10 13 15.3
comp=Z,127nm,19.3s,baz=180,slow=32
MJAR Matsushiro Arr 37.39 7 P **P** **10 00 40.9 -2.3**
MJAR Matsushiro Arr 37.39 7 P **P** **10 00 40.9 -2.3**
KSRS Korea Array 38.35 353 LR LR 10 15 57.3
comp=Z,121nm,19.2s,baz=22,slow=35
CMAR Chiang Mai Arr 38.79 301 P **P** **10 00 54.5 -0.6**
comp=Z,0.7nm,0.3s,baz=114,slow=6.6,SNR=8.3
CMAR Chiang Mai Arr 38.79 301 P **P** **10 00 54.6 -0.6**
CMAR Chiang Mai Arr 38.79 301 P **P** **10 00 54.5 -0.6**
KMI Kunming 39.20 313 P **P** **10 01 01.8 +3.1**
KMI pmax pmax
comp=Z,7.0nm,1.2s
XAN Xi'an 41.50 329 P **P** **10 01 16.3 -1.1**
XAN pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 42.18 321 P **P** **10 01 24.3 +1.2**
CD2 pP **pP** **10 01 34.4 +1.1**
CD2 sP **sP** **10 01 38.8 +1.4**
CD2 PP PP 10 03 05.5 +4.2
CD2 S **S** **10 07 41.8 +0.7**
CD2 sS **sS** **10 07 58.9 +1.0**
CD2 SS SS 10 10 44.9 -5.1
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,110nm,7.1s
CD2 LR LR
comp=N,230nm,6.6s
CD2 LR LR
comp=Z,320nm,6.5s
BJT Baijiatuau 43.50 341 eP **P** **10 01 33.4 -0.2**
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 43.50 341 eP **P** **10 01 33.4 -0.2**
comp=Z,10nm,0.6s
BJI Beijing 43.52 341 P **P** **10 01 35.5 +1.9**
BJI pmax pmax
comp=Z,180nm,4.7s
USRK Ussuriysk Arra 44.78 359 P **P** **10 01 42.6 -1.1**
comp=Z,1.8nm,0.8s,baz=165,slow=10,SNR=5.5
USRK LR LR 10 17 12.5
comp=Z,172nm,21.2s,baz=40,slow=32
CN2 Changchun 44.92 352 eP P 10 01 48.3 +3.5
CN2 esP sP 10 02 03.0 +3.8
CN2 eS **S** **10 08 24.3 +3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s
CN2 LR LR
comp=E,400nm,11.0s
CN2 LR LR
comp=Z,300nm,13.0s
MDJ Mudanjiang 45.30 356 P **P** **10 01 50.3 +2.4**
MDJ pmax pmax
comp=Z,3.0nm,0.5s
MDJ pmax pmax
comp=Z,170nm,4.7s
LZH Lanzhou 45.77 326 eP **P** **10 01 52.5 +0.5**
LZH pP **pP** **10 02 01.1 -1.1**
LZH sP **sP** **10 02 05.3 -1.1**
LZH eS **S** **10 08 36.1 +2.6**
LZH sS **sS** **10 08 54.0 +3.6**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=N,290nm,12.5s
LZH LR LR
comp=E,230nm,8.9s
LZH LR LR
comp=Z,360nm,12.6s
HHC Hu-ho-hao-te 45.89 337 eP **P** **10 01 53.0 +0.2**
HHC pP **pP** **10 02 02.9 -0.1**
HHC sP **sP** **10 02 06.8 -0.4**
HHC PP PP 10 03 41.0 +0.2
HHC S **S** **10 08 35.8 +0.9**
HHC sS **sS** **10 08 51.5 -0.4**
HHC SS SS 10 11 52.8 -7.4
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.9s
HHC LR LR
comp=N,210nm,12.3s
HHC LR LR
comp=E,240nm,10.0s
HHC LR LR
comp=Z,250nm,11.3s
HABR Khabarovsk 49.06 2 eP **P** **10 02 14.9 -2.2**
HABR e 10 04 08.7
HABR eS **S** **10 09 18.6 -0.9**
HABR e*SS **sS** **10 09 35.2 -1.3**
HABR e 10 12 04.5
HABR eSSS SSS 10 14 09.3
HABR pmax pmax
comp=E,126nm,2.6s
HABR pmax pmax
comp=Z,90nm,2.6s
HABR pmax pmax
comp=N,69nm,3.2s
HABR MLR MLR
comp=Z,72nm,18.0s
LSA Lhasa 50.31 311 P **P** **10 02 27.1 -0.5**
LSA Lhasa 50.31 311 eP **P** **10 02 27.6 0.0**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 50.31 311 eP **P** **10 02 27.6 0.0**
comp=Z,3.4nm,0.7s
GTA Gaotai 50.37 326 eP **P** **10 02 27.3 -0.2**
GTA pP **pP** **10 02 37.0 -0.8**
GTA sP **sP** **10 02 41.9 0.0**
GTA pmax pmax
comp=Z,6.0nm,1.3s
RAMN Ramite 52.68 305 eP **P** **10 02 44.1 -1.0**
comp=Z,16nm,0.6s
RAMN Ramite 52.68 305 eP **P** **10 02 44.1 -1.0**
comp=Z,16nm,0.6s
JIRN Jiri 53.30 306 eP **P** **10 02 48.4 -1.4**
JIRN Jiri 53.30 306 eP **P** **10 02 48.4 -1.4**
ULN Ulaanbaatar 53.55 338 eP **P** **10 02 51.2 +0.2**
ULN pmax pmax
comp=Z,23nm,1.9s
ULN Ulaanbaatar 53.55 338 eP **P** **10 02 51.2 +0.2**
comp=Z,23nm,1.9s
GUN Gumba 53.65 306 eP **P** **10 02 51.1 -1.3**
comp=Z,15nm,0.6s
GUN Gumba 53.65 306 eP **P** **10 02 51.1 -1.3**
comp=Z,15nm,0.6s
SONM Songino Array 53.77 338 P **P** **10 02 52.3 -0.2**
comp=Z,1.1nm,0.6s,baz=154,slow=7.5,SNR=9.4
SONM PcP **PcP** **10 03 57.9 -0.3**
comp=Z,1.9nm,0.7s,baz=153,slow=3.7,SNR=9.2
SONM LR LR 10 26 01.8
comp=Z,118nm,22.0s,baz=1.7,slow=36
SONM Songino Array 53.77 338 P **P** **10 02 52.3 -0.2**
SONM 10 03 57.9
SONM Songino Array 53.77 338 P **P** **10 02 52.3 -0.2**
SONM PcP **PcP** **10 03 57.9 -0.3**
PKI Pulchoki 53.90 305 eP **P** **10 02 52.7 -1.5**
PKI Pulchoki 53.90 305 eP **P** **10 02 52.7 -1.5**
PKI Pulchoki 53.90 305 eP **P** **10 02 52.7 -1.5**
KKN Kakani 54.09 306 eP **P** **10 02 53.4 -2.0**
KKN Kakani 54.09 306 eP **P** **10 02 53.4 -2.0**
KKN Kakani 54.09 306 eP **P** **10 02 53.4 -2.0**
DMN Daman 54.16 305 eP **P** **10 02 54.8 -1.2**
comp=Z,10nm,0.6s
DMN Daman 54.16 305 eP **P** **10 02 54.8 -1.2**
comp=Z,10nm,0.6s
RPZ Rata Peaks 54.39 147 LR LR 10 25 44.7
comp=Z,233nm,19.3s,baz=114,slow=36
GKN Gorkha 54.70 306 eP **P** **10 02 58.5 -1.3**
GKN Gorkha 54.70 306 eP **P** **10 02 58.5 -1.3**
KOLN Koldanda 55.45 305 eP **P** **10 03 04.3 -1.0**
comp=Z,28nm,0.7s
KOLN Koldanda 55.45 305 eP **P** **10 03 04.3 -1.0**
comp=Z,28nm,0.7s
DANN Dangsing 55.55 306 eP **P** **10 03 04.9 -1.1**
comp=Z,21nm,0.6s
DANN Dangsing 55.55 306 eP **P** **10 03 04.9 -1.1**
comp=Z,21nm,0.6s
ZAK Zakamensk 57.03 338 eP **P** **10 03 16.4 +0.4**
ZAK e 10 04 10.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 60.18 323 P **P** **10 03 38.4 +0.4**
WMQ pP **pP** **10 03 48.4 -0.2**
WMQ sP **sP** **10 03 52.4 -0.2**
WMQ PcP **PcP** **10 04 25.4 +2.0**
WMQ pmax pmax
comp=Z,29nm,0.9s
BOD Bodaibo 60.40 348 eP **P** **10 03 37.2 -1.9**
BOD pmax pmax
comp=Z,6.0nm,1.3s
HVS Khovu-Aksy 61.63 333 *de*P **P** **10 03 47.7 0.0**
MK31 Makanchi Array 64.99 324 *ce*P **P** **10 04 09.5 -0.5**
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 64.99 324 eP **P** **10 04 09.9 -0.1**
MKAR Makanchi Array 64.99 324 P **P** **10 04 09.9 -0.1**
comp=Z,14nm,0.7s,baz=115,slow=7.9,SNR=213
MKAR Makanchi Array 64.99 324 *ce*P **P** **10 04 09.8 -0.1**
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 64.99 324 eP **P** **10 04 10.0 -0.1**
SEY Seymchan 65.13 9 *ce*P **P** **10 04 11.0 +0.5**
KSH Kashi 65.84 314 eP **P** **10 04 17.0 +1.2**
KSH epP **pP** **10 04 27.5 +1.0**
KSH esP **sP** **10 04 31.3 +0.8**
KSH ePcP **PcP** **10 04 47.9 +1.3**
KSH ePP **PP** **10 06 44.3 +3.3**
KSH eScP 10 08 47.1
KSH ePcS 10 08 50.9
KSH eS **S** **10 12 58.5 -2.1**
KSH esS **sS** **10 13 16.8 -1.4**
KSH eScS **SKSac** **10 14 06.5 -2.8**
KSH eSS **SS** **10 17 16.1 +0.2**
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,420nm,6.6s
KSH LR LR
comp=N,230nm,6.8s
KSH LR LR
comp=E,310nm,6.3s
KSH LR LR
comp=Z,300nm,8.1s
KZA Kyzart 67.34 317 P **P** **10 04 26.0 +0.3**
SNR=19
KZA P **P** **10 04 26.0 +0.3**
SNR=19
TKM2 Tokmak 2 67.44 318 P **P** **10 04 26.0 -0.1**
SNR=13
TKM2 P **P** **10 04 26.0 -0.1**
SNR=13
TKM2 Tokmak 2 67.44 318 eP **P** **10 04 26.0 -0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 67.44 318 eP **P** **10 04 26.0 -0.1**
comp=Z,9.8nm,0.8s
ZAA0 Zalesovo Array 67.59 331 eP **P** **10 04 25.4 -1.1**
ZALV Zalesovo Beam 67.59 331 P **P** **10 04 25.6 -0.9**
comp=Z,5.3nm,0.9s,baz=104,slow=6.3,SNR=18
ZALV Zalesovo Beam 67.59 331 P **P** **10 04 25.6 -0.9**
ZALV Zalesovo Beam 67.59 331 P **P** **10 04 25.6 -0.9**
AAK Ala-Archa 68.08 317 *l* eP **P** **10 04 30.2 +0.2**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 68.08 317 eP **P** **10 04 29.9 -0.2**
comp=Z,13nm,0.8s
USP Ospenovka 68.32 318 P **P** **10 04 31.3 -0.1**
SNR=17
USP P **P** **10 04 31.3 -0.1**
SNR=17
AML Almayashu 68.43 316 P **P** **10 04 32.9 +0.4**
SNR=21
AML P **P** **10 04 32.9 +0.4**
SNR=21
EKS2 Erkin-Say 68.58 317 P **P** **10 04 33.5 +0.4**
SNR=18
EKS2 P **P** **10 04 33.5 +0.4**
SNR=18
EKS2 Erkin-Say 68.58 317 eP **P** **10 04 33.4 +0.4**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 68.58 317 eP **P** **10 04 33.4 +0.3**
comp=Z,11nm,0.8s
NVS Novosibirsk 68.86 332 eP **P** **10 04 33.1 -1.3**
NVS pmax pmax
comp=Z,27nm,1.9s
NVS pmax pmax
comp=N,11nm,1.6s
KURK Kurchatov 69.06 326 *c* iP **P** **10 04 35.0 -0.7**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK Kurchatov 69.06 326 eP **P** **10 04 35.2 -0.5**
comp=Z,23nm,0.8s
KK31 Karatay Array 70.97 316 *ce*P **P** **10 04 46.9 -0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 70.97 316 eP **P** **10 04 47.3 -0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 70.97 316 eP **P** **10 04 47.3 -0.4**
comp=Z,4.7nm,0.4s
VOSK Vostochnaya 74.21 326 P **P** **10 05 04.8 -1.9**
VOSK pmax pmax
comp=Z,6.0nm,0.6s
BVA0 Borovoye Array 74.66 326 P **P** **10 05 08.2 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
BRVK Borovoye 74.73 326 *c* iP **P** **10 05 09.0 -0.7**
BRVK pmax pmax
comp=Z,16nm,1.7s
AB31 Akbulak array 79.76 320 *i* P **P** **10 05 36.1 -1.9**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 79.76 320 eP **P** **10 05 37.0 -1.0**
comp=Z,1.9nm,0.5s
AKTO Aktyubinsk 81.23 321 *i* P **P** **10 05 43.3 -2.6**
AKTO pmax pmax
comp=Z,2.0nm,2.2s
KDAK Kodiak Island 82.22 31 *i* P **P** **10 05 51.5 +0.6**
ARU Arti 82.22 327 *d* iP **P** **10 05 50.3 -0.7**
ARU 10 08 59.6
ARU S **S** **10 16 05.5 +1.7**
ARU SS **SS** **10 21 17.9 -6.3**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 82.22 327 eP **P** **10 05 50.0 -1.0**
comp=Z,79nm,2.4s
MCK McKinley 85.27 26 eP **P** **10 06 05.9 -0.6**
MCK pmax pmax
comp=Z,46nm,1.9s
MCK McKinley 85.27 26 eP **P** **10 06 05.9 -0.6**
comp=Z,46nm,1.9s
OPO Ambohidratompo 86.07 252 P **P** **10 06 11.9 +0.4**
comp=Z,4.7nm,0.8s,baz=102,slow=8.0,SNR=3.9
OPO Ambohidratompo 86.07 252 P **P** **10 06 11.9 +0.4**
ILAR Eielson Array 86.34 25 P **P** **10 06 10.2 -1.5**
comp=Z,2.1nm,0.6s,baz=250,slow=5.0,SNR=41
ILAR Eielson Array 86.34 25 P **P** **10 06 10.3 -1.5**
ILAR Eielson Array 86.34 25 P **P** **10 06 10.2 -1.5**
QSPA South Pole Qui 89.17 180 eP **P** **10 06 25.9 +0.4**
comp=Z,7.0nm,0.9s
QSPA epP **pP** **10 06 36.4 -0.1**
QSPA esP **sP** **10 06 40.2 -0.2**
DLBC Dease Lake 94.15 32 LR LR 10 46 53.6
comp=Z,105nm,19.3s,baz=340,slow=34
ARCES ARCESS Array B 96.88 340 P **P** **10 06 58.4 -2.3**
comp=Z,6.8nm,0.8s,baz=73,slow=5.2,SNR=10
ARCES ARCESS Array B 96.88 340 P **P** **10 06 58.4 -2.3**
ARCES ARCESS Array B 96.88 340 P **P** **10 06 58.4 -2.3**
YKA Yellowknife Ar 100.74 26 P **Pdif** **10 07 17.2 -0.9**
comp=Z,0.5nm,0.7s,baz=292,slow=4.6,SNR=9.6
YKA Yellowknife Ar 100.74 26 P **Pdif** **10 07 17.2 -0.9**
YKA Yellowknife Ar 100.74 26 P **Pdif** **10 07 17.2 -0.9**
KOLS Kolonicke sedl 104.27 321 eP **Pdif** **10 07 34.6 +0.4**
KOLS Kolonicke sedl 104.27 321 PDIF **Pdif** **10 07 34.6 +0.4**
TORD Torodi Ar. Bea 130.51 287 PKP **PKPdf** **10 12 40.6 -1.0**
comp=Z,1.0nm,0.7s,baz=61,slow=2.2,SNR=6.2
TORD Torodi Ar. Bea 130.51 287 PKP **PKPdf** **10 12 40.6 -1.0**
LPAZ La Paz 152.91 130 PKPbc **PKPbc** **10 13 29.8 +0.9**
comp=Z,2.5nm,0.9s,baz=178,slow=2.2,SNR=6.0
LPAZ PKPab **PKPab** **10 13 41.1 +1.2**
comp=Z,2.9nm,0.9s,baz=50,slow=3.6,SNR=6.0
LPAZ La Paz 152.91 130 PKIKP **PKPbc** **10 13 29.8 +0.9**
LPAZ 10 13 41.1
LPAZ La Paz 152.91 130 PKPbc **PKPbc** **10 13 29.8 +0.9**
LPAZ PKPab **PKPab** **10 13 41.1 +1.2**

*ISK **20** 10:02:16.5, 37.˚15N×36.˚34E, h5km, MD3.1*
*DDA **20** 10:02:17.8, 37.˚13N×36.˚35E, h7km, MD3.2*
*CSEM **20** 10:02:17.9±0.1, 37.˚14N×36.˚32E, h2km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.8km az=133.0*
*NSSC **20** 10:02:21.1±1.3, 37.˚00N×36.˚40E, h7km±19km, ML2.6*
ISC 20 10:02:17.8±1.2, 37.˚14N±0.˚02×36.˚34E±0.˚02, h3km±12km, n46, σ0s57/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.49**	**255**	*e*PG	**Pg**		**10 02 26.8**	**-0.4**
CEYT	**Ceyhan**	**0.49**	**255**	*e*Pg	**Pg**		**10 02 26.8**	**-0.4**
KOZT	**Kozan**	**0.54**	**310**	*e*PG	**Pg**		**10 02 27.9**	**-0.1**
KOZT				*e*SG	**Sg**		**10 02 36.2**	**+1.2**
KOZT	**Kozan**	**0.54**	**310**	*e*Pg	**Pg**		**10 02 27.9**	**-0.1**
KOZT				*e*Sg	**Sg**		**10 02 36.2**	**+1.2**
KMRS	**Kahramanmaras**	**0.58**	**50**	*e*PG	**Pg**		**10 02 28.7**	**-0.2**
KMRS				*e*SG	**Sg**		**10 02 35.7**	**-0.8**
KMRS	**Kahramanmaras**	**0.58**	**50**	*e*Pg	**Pg**		**10 02 28.7**	**-0.2**
KMRS				*e*Sg	**Sg**		**10 02 35.7**	**-0.8**
COBT	**Iskenderun**	**0.62**	**186**	*i* P	**Pg**		**10 02 29.8**	**+0.1**
COBT	**Iskenderun**	**0.62**	**186**	*i* P	**Pg**		**10 02 29.7**	**+0.1**
KUZU	**Kuzuini**	**0.69**	**121**	*i* P	**Pg**		**10 02 31.4**	**+0.4**
KUZU				*i* S	**Sb**		**10 02 41.1**	**-1.3**
KUZU	**Kuzuini**	**0.69**	**121**	*i* P	**Pg**		**10 02 31.4**	**+0.4**
KUZU				*i* S	**Sb**		**10 02 41.1**	**-1.3**
GAZ	**Gaziantep**	**0.70**	**87**	*e*PG	**Pg**		**10 02 31.1**	**0.0**
GAZ				*e*SG	**Sb**		**10 02 41.9**	**-0.7**
GAZ	**Gaziantep**	**0.70**	**87**	*e*Pg	**Pg**		**10 02 31.1**	**0.0**
GAZ				*e*Sg	**Sb**		**10 02 41.9**	**-0.7**
KRTS	**Karatas**	**0.95**	**234**	*e*PG	**Pg**		**10 02 36.3**	**+0.2**
KRTS	**Karatas**	**0.95**	**234**	*e*Pg	**Pg**		**10 02 36.3**	**+0.2**
GZT	**Gaziantep**	**1.00**	**77**	*i* P	**Pg**		**10 02 36.9**	**-0.1**
HTY	**Hatay**	**1.02**	**189**	*e*PG	**Pg**		**10 02 37.7**	**+0.3**
HTY	**Hatay**	**1.02**	**189**	*e*Pg	**Pg**		**10 02 37.7**	**+0.3**
BTCH	**Batrach**	**1.10**	**175**	*e*P	**Pg**		**10 02 39.1**	**+0.3**
BTCH				*e*S	**Sb**		**10 02 54.3**	**+0.1**
BTCH				AML	AML		10 02 58.6	
	comp=N,155nm,0.2s							
BTCH				AML	AML		10 02 59.4	
	comp=E,347nm,0.3s							
BTCH	**Batrach**	**1.10**	**175**	*e*P	**Pg**		**10 02 39.1**	**+0.3**
	SNR=67							
BTCH				*e*S	**Sb**		**10 02 54.3**	**+0.1**
	comp=E,347nm,0.3s,SNR=59							
YAYL	**Yayladag**	**1.11**	**190**	*i* P	**Pb**		**10 02 39.7**	**0.0**
YAYL	**Yayladag**	**1.11**	**190**	*i* P	**Pb**		**10 02 39.7**	**0.0**
ARNB	**Al Arnab**	**1.30**	**193**	*e*P	**Pn**		**10 02 42.3**	**-0.6**
ARNB				*e*S	**Sg**		**10 02 59.8**	**+0.1**
ARNB				AML	AML		10 03 03.1	
	comp=E,99nm,0.3s							
ARNB				AML	AML		10 03 05.8	
	comp=N,102nm,0.3s							
ARNB	**Al Arnab**	**1.30**	**193**	*e*P	**Pn**		**10 02 42.3**	**-0.6**
	SNR=57							
ARNB				*e*S	**Sg**		**10 02 59.8**	**+0.1**
	comp=N,102nm,0.3s,SNR=49							
MERS	**Mersin**	**1.48**	**260**	*e*PN	**Pn**		**10 02 45.0**	**-0.3**
MERS	**Mersin**	**1.48**	**260**	*e*Pn	**Pn**		**10 02 45.0**	**-0.3**
SLMH	**Al Salmeh**	**1.57**	**125**	*e*P	**Pg**		**10 02 48.0**	**+0.1**
SLMH				*e*S	**Sb**		**10 03 07.5**	**-0.3**
SLMH				AML	AML		10 03 10.9	
	comp=Z,54nm,0.4s							
ATAB	**Bozova**	**1.59**	**77**	*i* P	**Pg**		**10 02 48.3**	**0.0**
ATAB	**Bozova**	**1.59**	**77**	*i* P	**Pg**		**10 02 48.3**	**0.0**
NIG	**Nigde**	**1.68**	**306**	*e*PN	**Pn**		**10 02 48.1**	**-0.2**
NIG	**Nigde**	**1.68**	**306**	*e*Pn	**Pn**		**10 02 48.1**	**-0.2**
BNN	**Bunyan**	**1.76**	**347**	*e*PN	**Pn**		**10 02 49.4**	**+0.2**
BNN	**Bunyan**	**1.76**	**347**	*e*Pn	**Pn**		**10 02 49.4**	**+0.2**
KFRA	**Kufra**	**1.95**	**169**	*e*P	**Pb**		**10 02 53.5**	**-0.6**
KFRA				*e*S	**Sn**		**10 03 17.6**	**+0.7**
KFRA				AML	AML		10 03 28.7	
	comp=N,210nm,0.6s							
KFRA				AML	AML		10 03 29.1	
	comp=E,224nm,0.3s							

URFA	**Urfa**	**2.00**	**80**	*e*PN	**Pn**	**10 02 53.2**	**+0.7**
URFA	**Urfa**	**2.00**	**80**	*e*Pn	**Pn**	**10 02 53.3**	**+0.7**
MALT	**Malatya**	**2.03**	**54**	*e*PN	**Pn**	**10 02 53.8**	**+0.8**
MALT	**Malatya**	**2.03**	**54**	*e*Pn	**Pn**	**10 02 53.8**	**+0.8**
MYA	**Malatya**	**2.04**	**54**	*e*PN	**Pn**	**10 02 53.4**	**+0.4**
MYA	**Malatya**	**2.04**	**54**	*e*Pn	**Pn**	**10 02 53.4**	**+0.4**
DARE	**Darende-Malaty**	**2.15**	**32**	*e*PN	Pn	10 02 48.5	-6.1
SVRC	**Sivrice-ELAZID**	**2.66**	**61**	*e*PN	**Pn**	**10 03 02.4**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.66**	**61**	*e*Pn	**Pn**	**10 03 02.4**	**+0.8**
ILIC	**ilic-Erzincan**	**2.90**	**36**	*e*PN	**Pn**	**10 03 05.6**	**+0.7**
ILIC	**ilic-Erzincan**	**2.90**	**36**	*e*Pn	**Pn**	**10 03 05.6**	**+0.7**
PTK	**Pertek**	**2.98**	**53**	*e*PN	**Pn**	**10 03 06.9**	**+0.8**
PTK	**Pertek**	**2.98**	**53**	*e*Pn	**Pn**	**10 03 06.9**	**+0.8**

*ISCJB **20** 10:18:24.4±0.7, 59°.36N±0°.03×27°.03E±0°.09, h0km, Error ellipse: s-maj=6.4km s-min=3.6km az=11.7*
*HEL **20** 10:18:25.6±0.3, 59°.26N×27°.21E, h0km, ML1.9, ML2.3(NAO), Explosion*
*CSEM **20** 10:18:25.6±0.3, 59°.33N×27°.12E, h1km, ML2.3, Error ellipse: s-maj=8.1km s-min=4.2km az=95.0, Mining explosion.*
*NAO **20** 10:18:25.9±1.1, 59°.31N×26°.98E, ML2.3*
*BER **20** 10:18:26.8±1.8, 59°.33N×27°.00E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **20** 10:18:28.0±1.9, 59°.45N×27°.19E, h0km, mb1 3.3/4, mb1mx3.1/27, mbtmp3.3/4, ML2.7/3, Error ellipse: s-maj=16.2km s-min=9.6km az=129.0*

ISC 20 10:18:25.1±0.8, 59°.32N±0°.02×27°.00E±0°.04, h0km, n37, σ1$40/54, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VSU	**Vasula**	**0.87**	**189**	Pg		**Pb**	**10 18 42.3**	**-0.7**
VSU				Lg		Lg	10 18 54.5	
VSU	**Vasula**	**0.87**	**189**	*i* PG		**Pb**	**10 18 42.3**	**-0.7**
VSU				*i* SG		**Sb**	**10 18 54.5**	**-0.7**
VSU	**Vasula**	**0.87**	**189**	*e*P		**Pg**	**10 18 41.8**	**+0.1**
	SNR=90							
VSU	**Vasula**	**0.87**	**189**	Pg		**Pb**	**10 18 42.3**	**-0.7**
VSU				*e*S		**Sg**	**10 18 53.3**	**+0.3**
	673nm,0.8s,SNR=90							
VSU				Sg		**Sb**	**10 18 54.4**	**-0.7**
VSU				Lg		Lg	10 18 54.5	
VJF	**Virojoki**	**1.26**	**13**	PG		**Pg**	**10 18 48.4**	**-0.8**
VJF				SG		**Sg**	**10 19 05.3**	**-0.1**
VJF				MSG			10 19 05.3	
	comp=Z,12nm,0.1s							
VJF	**Virojoki**	**1.26**	**13**	Pg		**Pg**	**10 18 48.3**	**-0.8**
VJF				Sg		**Sg**	**10 19 05.3**	**-0.1**
PVF	**Pernaja**	**1.36**	**335**	PG		**Pn**	**10 18 51.3**	**0.0**
PVF				SG		**Sb**	**10 19 09.5**	**+0.3**
PVF	**Pernaja**	**1.36**	**335**	Pg		**Pn**	**10 18 51.2**	**0.0**
PVF				Sg		**Sb**	**10 19 09.5**	**+0.3**
MEF	**Metsahovi**	**1.60**	**305**	PG		**Pg**	**10 18 56.1**	**+0.4**
MEF				SG		**Sg**	**10 19 17.7**	**+1.3**
MEF				MSG			10 19 17.7	
	comp=Z,6.3nm,0.2s							
MEF	**Metsahovi**	**1.60**	**305**	Pg		**Pg**	**10 18 56.0**	**+0.4**
MEF	**Metsahovi**	**1.60**	**305**	*e*P		**Pg**	**10 18 56.3**	**+0.6**
	SNR=50							
MEF				Sg		**Sg**	**10 19 17.6**	**+1.3**
MTSE	**Matsula**	**1.76**	**251**	PN		**Pg**	**10 18 58.6**	**-0.1**
MTSE				SG		**Sg**	**10 19 22.9**	**+1.5**
MTSE	**Matsula**	**1.76**	**251**	Pn		**Pg**	**10 18 58.6**	**-0.1**
MTSE				Sg		**Sg**	**10 19 22.9**	**+1.5**
FIA0	**FINESS Array S**	**2.18**	**348**	Pn		**Pn**	**10 19 03.5**	**+1.0**
	baz=170,slow=16							
FIA0				Lg		Lg	10 19 34.8	
	baz=167,slow=28							
FIA0				Rg		Rg	10 19 46.8	
	baz=163,slow=37							
FIA0	**FINESS Array S**	**2.18**	**348**	PN		**Pn**	**10 19 03.4**	**+0.8**
	baz=167							
FIA0				SG		**Sb**	**10 19 34.2**	**+1.3**
FIA0				MSG			10 19 34.2	
	comp=Z,5.5nm,0.3s							
FIA0	**FINESS Array S**	**2.18**	**348**	Pn		**Pn**	**10 19 03.4**	**+0.8**
FIA0				Sg		**Sb**	**10 19 34.2**	**+1.3**
FIA0				Lg		Lg	10 19 34.8	
	baz=167,slow=28,SNR=99							
FINES	**FINESS Array B**	**2.18**	**348**	Pn		**Pn**	**10 19 03.5**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=166,slow=16,SNR=24							
FINES				Pg		**Pb**	**10 19 04.9**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=165,slow=16,SNR=24							
FINES				Sn		**Sn**	**10 19 31.0**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=165,slow=23,SNR=3.5							
FINES				Lg		Lg	10 19 34.4	
	comp=Z,3.8nm,0.3s,baz=167,slow=27,SNR=20							
KAF	**Kangasniemi**	**2.83**	**353**	PN		**Pn**	**10 19 13.0**	**+1.6**
KAF				SG		**Sg**	**10 19 53.9**	**-1.9**
KAF				MSG			10 19 53.9	
	comp=Z,5.5nm,0.4s							
KAF	**Kangasniemi**	**2.83**	**353**	Pn		**Pn**	**10 19 13.0**	**+1.6**
SLIT	**Slitere, Latvi**	**3.00**	**238**	*e*P		**Pb**	**10 19 18.0**	**-1.3**
	SNR=50							
KEF	**Keuruu**	**3.04**	**341**	SG		**Sb**	**10 20 00.3**	**+2.6**
KEF				MSG			10 20 00.3	
	comp=Z,3.1nm,0.4s							
RAF	**Rauma**	**3.13**	**305**	PN		**Pb**	**10 19 18.5**	**-3.0**
	baz=121							
RAF	**Rauma**	**3.13**	**305**	Pn		**Pb**	**10 19 18.5**	**-3.0**
RAF				*e*S		**Sb**	**10 19 57.2**	**-2.9**
	comp=Z,7.4nm,0.6s,SNR=50							
SUF	**Sumiainen**	**3.44**	**353**	PN		**Pn**	**10 19 22.7**	**+2.9**
SUF				SG		**Sb**	**10 20 11.7**	**+2.6**
SUF				MSG			10 20 11.7	
	comp=Z,4.0nm,0.4s							
SUF	**Sumiainen**	**3.44**	**353**	Pn		**Pn**	**10 19 22.7**	**+2.9**
JOF	**Joensuu**	**4.17**	**28**	PN		**Pn**	**10 19 31.2**	**+1.2**
JOF				SG		**Sb**	**10 20 31.0**	**+0.8**
JOF				MSG			10 20 31.0	
	comp=Z,1.7nm,0.4s							
JOF	**Joensuu**	**4.17**	**28**	Pn		**Pn**	**10 19 31.1**	**+1.2**
HFS	**Hagfors**	**6.78**	**283**	Lg		Lg	10 21 55.4	
	baz=94,slow=37							
HFS	**Hagfors**	**6.78**	**283**	Pn		**Pn**	**10 20 06.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=105,slow=22,SNR=2.7							
HFS				Sn		**Sn**	**10 21 22.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=88,slow=18,SNR=3.0							
HFS				Lg		Lg	10 21 59.3	
	comp=Z,0.9nm,0.3s,baz=95,slow=30,SNR=10							
HFS	**Hagfors**	**6.78**	**283**	Lg		Lg	10 21 55.4	
	baz=94,slow=37							
HFS	**Hagfors**	**6.78**	**283**	SG		Sg	10 21 55.4	-7.2
HFS	**Hagfors**	**6.78**	**283**	Lg		Lg	10 21 55.4	
	baz=94,slow=31,SNR=5.9							
NOA	**NORSAR Array B**	**8.06**	**289**	Pn		**Pn**	**10 20 24.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=81,slow=19,SNR=2.4							
NOA				Sn		**Sn**	**10 21 53.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=13,slow=6.5,SNR=3.4							
NOA				Lg		Lg	10 22 42.1	
	comp=Z,0.5nm,0.3s,baz=33,slow=21,SNR=5.7							
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		**Pn**	**10 20 52.4**	**-1.2**
	baz=175,slow=14							
ARA0				Sn		Sn	10 22 41.8	-7.6
	baz=172,slow=28							
ARA0	**ARCESS Array S**	**10.28**	**357**	PN		**Pn**	**10 20 52.4**	**-1.2**
ARA0				SN		Sn	10 22 41.8	-7.6
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		**Pn**	**10 20 52.4**	**-1.2**
	baz=175,slow=13,SNR=1.0							
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn		**Pn**	**10 20 52.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=7.6							
ARCES				Lg		Lg	10 23 43.4	
	comp=Z,0.4nm,0.3s,baz=164,slow=33,SNR=6.2							

*IDC **20** 10:39:12.7±1.5, 53°.73N×163°.75W, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.5/30, mbtmp3.5/10, ML3.6/3, Error ellipse: s-maj=39.5km s-min=14.3km az=165.0*
*ISCJB **20** 10:39:13.6±1.9, 53°.45N±0°.08×163°.47W±0°.06, h24km±15km, mb3.5/6, Error ellipse: s-maj=13.9km s-min=4.9km az=164.3*
*NEIC **20** 10:39:13.8±0.7, 53°.58N×163°.58W, h10km, ML3.3(AEIC), Error ellipse: s-maj=12.6km s-min=4.5km az=162.0*

ISC 20 10:39:16.9±1.1, 53°.5N±0°.1×163°.55W±0°.05, h37km±2km, n38, σ1$49/42, mb3.7/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WESE	**West Dahl East**	**1.16**	**329**	P		**Pn**	**10 39 35.3**	**-1.4**
FALS	**False Pass**	**1.37**	**3**	*e*Pn		**Pn**	**10 39 38.5**	**-1.0**
FALS				*e*Sn		**Sn**	**10 40 00.9**	**+4.5**
AKSA	**Akutan Strait**	**1.43**	**298**	P		**Pn**	**10 39 38.9**	**-1.3**
AKSA				S		**Sn**	**10 39 58.5**	**+0.8**
AKUT	**Akutan**	**1.47**	**297**	P		**Pn**	**10 39 39.4**	**-1.3**
AKUT				S		**Sn**	**10 39 59.9**	**+1.2**
AHB	**Akutan Harbor**	**1.48**	**296**	P		**Pn**	**10 39 39.5**	**-1.5**
ZRO	**Akutan Zero**	**1.56**	**294**	P		**Pn**	**10 39 40.8**	**-1.3**
DRIA	**Deer Island**	**1.66**	**27**	P		**Pn**	**10 39 41.7**	**-1.8**
DT1	**Dutton Round H**	**1.79**	**24**	P		**Pn**	**10 39 43.8**	**-1.4**
UNV	**Unalaska Valle**	**1.79**	**283**	P		**Pn**	**10 39 43.5**	**-1.8**
UNV				S		**Sn**	**10 40 07.6**	**+0.9**
MREP	**Makushin Rep't**	**1.93**	**281**	P		**Pn**	**10 39 46.5**	**-0.7**
DOL	**Dolgoi Island**	**1.94**	**30**	P		**Pn**	**10 39 46.2**	**-1.0**
MCIR	**Makushin Cirqu**	**2.04**	**284**	P		**Pn**	**10 39 48.2**	**-0.6**
MSOM	**Makushin Julie**	**2.05**	**281**	P		**Pn**	**10 39 48.2**	**-0.6**
PS4A	**Pavlof South-4**	**2.11**	**27**	P		**Pn**	**10 39 49.1**	**-0.5**
SDPT	**Sand Point**	**2.59**	**43**	P		**Pn**	**10 39 55.3**	**-0.9**
SDPT				S		**Sn**	**10 40 26.2**	**-0.2**
OKSP	**Okmok Steeple**	**2.85**	**267**	P		**Pn**	**10 39 59.0**	**-0.8**
VNHG	**Veniaminof 1**	**3.73**	**41**	P		**Pn**	**10 40 12.5**	**+0.5**
CHGN	**Chignik**	**4.09**	**44**	*e*Pn		**Pn**	**10 40 16.2**	**-0.6**
CHGN				*e*Sn		**Sn**	**10 41 02.8**	**-0.6**
KDAK	**Kodiak Island**	**7.55**	**51**	Pn		**Pn**	**10 41 01.5**	**-2.8**
	0.8nm,0.3s,baz=236,slow=7.6,SNR=12							
KDAK				Sn		Sn	10 42 21.8	-6.6
	0.3nm,0.3s,baz=155,slow=23,SNR=9.5							
KDAK	**Kodiak Island**	**7.55**	**51**	Pn		**Pn**	**10 41 01.5**	**-2.8**
KDAK				Sn		Sn	10 42 21.8	-6.6
FX1	**Attu Island--F**	**13.96**	**277**	Pn		**Pn**	**10 42 32.3**	**+0.3**
	1.6nm,0.3s,baz=81,slow=23,SNR=6.6							
FX1	**Attu Island--F**	**13.96**	**277**	Pn		**Pn**	**10 42 32.3**	**+0.3**
ILAR	**Eielson Array**	**14.12**	**30**	Pn		Pn	10 42 30.4	-3.6
	0.0nm,0.3s,baz=218,slow=14,SNR=3.4							
ILAR	**Eielson Array**	**14.12**	**30**	Pn		Pn	10 42 30.4	-3.6
INK	**Inuvik**	**20.50**	**32**	P		**P**	**10 43 49.5**	**-1.8**
	0.8nm,0.5s,baz=239,slow=11,SNR=9.4							
INK	**Inuvik**	**20.50**	**32**	P		**P**	**10 43 49.5**	**-1.8**
PETK	**Petropavlovsk-**	**22.98**	**285**	P		**P**	**10 44 17.4**	**-0.5**
	6.7nm,1.0s,baz=83,slow=14,SNR=7.6							
PETK	**Petropavlovsk-**	**22.98**	**285**	P		**P**	**10 44 17.4**	**-0.5**
YKA	**Yellowknife Ar**	**26.83**	**51**	P		**P**	**10 44 54.5**	**+1.2**
	0.2nm,0.4s,baz=270,slow=9.3,SNR=9.1							
YKA	**Yellowknife Ar**	**26.83**	**51**	P		**P**	**10 44 54.5**	**+1.2**
KSRS	**Korea Array**	**48.73**	**280**	P		**P**	**10 47 58.9**	**+1.3**
	0.7nm,0.8s,baz=56,slow=14,SNR=3.3							
KSAR	**Wonju Array Be**	**48.76**	**280**	P		**P**	**10 47 58.9**	**+1.0**
TXAR	**Lajitas Array**	**49.26**	**95**	P		**P**	**10 48 03.7**	**+1.8**
	0.1nm,0.5s,baz=287,slow=5.9,SNR=4.6							
TXAR	**Lajitas Array**	**49.26**	**95**	P		**P**	**10 48 03.7**	**+1.8**
SONM	**Songino Array**	**53.69**	**303**	P		**P**	**10 48 34.7**	**-0.2**
	0.6nm,0.8s,baz=53,slow=6.5,SNR=5.0							
SONM	**Songino Array**	**53.69**	**303**	P		**P**	**10 48 34.7**	**-0.2**
MKAR	**Makanchi Array**	**65.51**	**316**	P		**P**	**10 49 55.0**	**-1.1**
	0.2nm,0.3s,baz=39,slow=6.1,SNR=7.3							
MKAR	**Makanchi Array**	**65.51**	**316**	P		**P**	**10 49 55.0**	**-1.1**

*ISCJB **20** 10:43:21.8±0.5, 37°.84N±0°.03×27°.58E±0°.05, h6km±8km, Error ellipse: s-maj=6.6km s-min=4.8km az=164.7*
*DDA **20** 10:43:21.8, 37°.82N×27°.57E, h7km, MD2.9*
*ISK **20** 10:43:21.6, 37°.85N×27°.58E, h8km, MD2.8*
*CSEM **20** 10:43:22.0±0.1, 37°.83N×27°.59E, h8km, MD2.9, Error ellipse: s-maj=4.1km s-min=2.6km az=91.0*

ISC 20 10:43:22.3±1.0, 37°.84N±0°.02×27°.57E±0°.03, h9km±10km, n24, σ0$44/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AYDN	**Tasoluk**	**0.30**	**126**	*i* P		**Pg**	**10 43 28.3**	**0.0**
AYDN				*i* S		**Sg**	**10 43 32.3**	**0.0**
AYDN	**Tasoluk**	**0.30**	**126**	*i* P		**Pg**	**10 43 28.3**	**0.0**
AYDN				*i* S		**Sg**	**10 43 32.3**	**0.0**
GCAM	**G?zelcaml?**	**0.30**	**243**	*i* P		**Pg**	**10 43 28.1**	**-0.2**
GCAM				*i* S		**Sg**	**10 43 32.0**	**-0.3**
GCAM	**G?zelcaml?**	**0.30**	**243**	*i* P		**Pg**	**10 43 28.1**	**-0.2**
GCAM				*i* S		**Sg**	**10 43 32.0**	**-0.3**
IZM	**Izmir**	**0.61**	**337**	PG		**Pg**	**10 43 33.8**	**-0.4**
IZM				*e*SG		**Sg**	**10 43 42.6**	**+0.4**
IZM	**Izmir**	**0.61**	**337**	*i* Pg		**Pg**	**10 43 33.8**	**-0.4**
IZM				*e*Sg		**Sg**	**10 43 42.6**	**+0.4**
BLCB	**Balcova**	**0.69**	**323**	*e*PG		**Pg**	**10 43 35.4**	**-0.2**
BLCB	**Balcova**	**0.69**	**323**	*e*Pg		**Pg**	**10 43 35.4**	**-0.2**
BDRM	**Kayabasi**	**0.78**	**188**	*e*P		**Pg**	**10 43 36.6**	**-0.6**
BDRM	**Kayabasi**	**0.78**	**188**	*e*P		**Pg**	**10 43 36.6**	**-0.6**
BODT	**Bodrum**	**0.80**	**195**	*e*PG		**Pg**	**10 43 37.6**	**-0.1**
BODT				*e*SG		**Sb**	**10 43 49.4**	**0.0**
BODT	**Bodrum**	**0.80**	**195**	*e*Pg		**Pg**	**10 43 37.6**	**-0.1**
BODT				*e*Sg		**Sb**	**10 43 49.4**	**0.0**
YER	**Yerkesik**	**0.90**	**141**	*e*PG		**Pg**	**10 43 39.3**	**-0.3**
YER	**Yerkesik**	**0.90**	**141**	*e*Pg		**Pg**	**10 43 39.3**	**-0.3**
MANT	**Manisa**	**1.01**	**50**	*e*P		**Pg**	**10 43 41.1**	**-0.7**
MANT	**Manisa**	**1.01**	**50**	*e*P		**Pg**	**10 43 41.1**	**-0.7**
AKHS	**Akhisar**	**1.06**	**10**	*i* P		**Pg**	**10 43 42.3**	**-0.4**
AKHS				*i* S		**Sn**	**10 43 57.7**	**-0.6**
AKHS	**Akhisar**	**1.06**	**10**	*i* P		**Pg**	**10 43 42.3**	**-0.4**
AKHS				*i* S		**Sn**	**10 43 57.7**	**-0.6**
AKS	**Akhisar**	**1.06**	**10**	*e*PG		**Pg**	**10 43 42.2**	**-0.5**
AKS	**Akhisar**	**1.06**	**10**	*e*Pg		**Pg**	**10 43 42.2**	**-0.5**
KULA	**Kula-Manisa**	**1.09**	**51**	*e*PN		**Pg**	**10 43 42.8**	**-0.5**
KULA	**Kula-Manisa**	**1.09**	**51**	*e*Pn		**Pg**	**10 43 42.8**	**-0.5**
KCTX	**Karacabey (Bur**	**2.50**	**14**	*e*PN		**Pn**	**10 44 03.9**	**+0.7**
KCTX	**Karacabey (Bur**	**2.50**	**14**	*e*Pn		**Pn**	**10 44 03.9**	**+0.7**

*BJI **20** 10:46:44.6, 5°.13S×130°.17E, h124km, mB5.5/32, mb5.9/68*
*MOS **20** 10:46:51.2±1.0, 4°.64S×129°.72E, h139km, mb5.8/36, Error ellipse: s-maj=11.5km s-min=5.2km az=114.3*
*TEH **20** 10:46:52.0, 4°.63S×129°.87E, h124km, ML5.5*
*NEIC **20** 10:46:53.2±0.8, 4°.67S×129°.81E, h144km±7km, mb5.7/43, MW5.5, MW5.4, Error ellipse: s-maj=6.2km s-min=3.6km az=60.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^17^Nm; Mrr0.46; Mθθ0.06; Mϕϕ-0.52; Mrθ0.50; Mθϕ0.53; Mϕr1.24; Best double couple: M0 1.50000×10^17^ NP1:ϕs120.00000°, δ26.00000°, λ20.00000°. NP2: ϕs12.00000°, δ82.00000°, λ115.00000°. Principal axes: T 1.6300, Plg47.0000°, Azm308.0000°; N -0.2500, Plg24.0000°, Azm188.0000°; P -1.3800, Plg32.0000°, Azm81.0000°;*
*ISCJB **20** 10:46:53.7±0.3, 4°.66S±0°.02×129°.84E±0°.02, h166km±2km, mb5.7/145 Error ellipse: s-maj=3.6km s-min=3.0km az=41.9*
*DJA **20** 10:46:55, 4°.43S×129°.89E, h174km, Mw5.5/52*
*IDC **20** 10:46:55.2±0.5, 4°.71S×129°.78E, h162km±4km, mb5.2/19, mb1 5.2/24, mb1mx5.2/24, mbtmp5.2/24, MS4.1/8, Ms1 4.2/8, ms1mx3.8/25, Error ellipse: s-maj=10.5km s-min=6.3km az=67.0*
*NEIC **20** 10:47:03.9±0.0, 4°.84S×130°.26E, h141km, Moment Tensor Solution. s153 Moment tensor: Scale 10^17^Nm; Mrr0.67; Mθθ0.33; Mϕϕ-1.00; Mrθ0.42; Mθϕ0.95; Mϕr1.44; Best double couple: M0 2.00000×10^17^ NP1:ϕs8.00000°, δ78.00000°, λ124.00000°. NP2:ϕs116.00000°, δ36.00000°, λ21.00000°. Principal axes: T 1.9600, Plg45.0000°, Azm313.0000°; N 0.0400, Plg33.0000°, Azm180.0000°; P -2.0000, Plg24.0000°, Azm72.0000°;*

ISC 20 10:46:52.9±0.3, 4°.61S±0°.03×129°.81E±0°.03, h144km±1km, h144km:pP-P, n600, σ1$64/797, mb5.7/144, 108C-104D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSAI	**Masohi**	**1.53**	**325**	P		Pn	10 47 26.3	+3.9
MSAI				S		**Sn**	**10 47 49.0**	**+4.1**
AAI	**Ambon**	**1.85**	**300**	P		Pn	10 47 30.4	+4.5
AAI				S		**Sn**	**10 47 56.3**	**+5.0**
FAKI	**Fak Fak**	**2.96**	**55**	P		**Pn**	**10 47 41.8**	**+2.3**
FAKI				S		**Sn**	**10 48 16.2**	**+0.7**
NLAI	**Namlea**	**3.03**	**297**	P		Pn	10 47 44.1	+3.7
NLAI				S		**Sn**	**10 48 22.8**	**+5.7**
TLE	**Tual**	**3.09**	**109**	P		Pn	10 47 44.7	+3.6
TLE				S		**Sn**	**10 48 19.8**	**+1.4**
LBMI	**Labuha**	**4.57**	**330**	P		Pn	10 48 04.2	+3.7
LBMI				S		**Sn**	**10 48 55.4**	**+2.2**
TNTI	**Ternate**	**5.88**	**335**	P		**Pn**	**10 48 20.2**	**+2.3**
	2µm,0.7s,31µm15µm11nm							
BAKI	**Biak**	**7.15**	**62**	P		**Pn**	**10 48 36.6**	**+1.7**
	3µm,1.2s,40µm16nm							
KDI	**Kendari**	**7.20**	**275**	P		Pn	10 48 39.6	+4.0
	734nm,1.1s,14µm3.2nm							
KDI				S		**Sn**	**10 49 58.0**	**+1.8**
	734nm,1.1s,14µm3.2nm							
BBSI	**Bau Bau**	**7.26**	**263**	P		Pn	10 48 41.9	+5.4
	1µm,1.1s,16µm12µm4.6nm							
KMSI	**Cibinong**	**7.78**	**311**	P		**Pn**	**10 48 45.3**	**+2.0**
	5µm,1.0s,34µm28µm56nm							
KMSI				S		**Sn**	**10 50 11.1**	**+1.1**
	5µm,1.0s,34µm28µm56nm							
MNI	**Manado**	**7.80**	**320**	P		**Pn**	**10 48 45.9**	**+2.2**
	1µm,0.9s,29µm15nm							
MNI				S		**Sn**	**10 50 10.2**	**-0.5**
	1µm,0.9s,29µm15nm							
LUWI	**Luwuk**	**7.87**	**297**	P		**Pn**	**10 48 47.7**	**+3.1**
	1µm,1.0s,31µm39µm17nm							
LUWI				S		**Sn**	**10 50 14.1**	**+1.7**
	1µm,1.0s,31µm39µm17nm							
MMRI	**Maumere**	**8.52**	**242**	P		Pn	10 48 57.7	+4.4
	870nm,1.1s,7µm							
SMPI	**Sarmi**	**9.26**	**74**	P		**Pn**	**10 49 03.6**	**+0.4**
	474nm,1.1s							
SGSI	**Sangihe**	**9.29**	**333**	P		**Pn**	**10 49 05.0**	**+1.5**
	1µm,0.9s,15µm							
BKSI	**Bulukumba**	**9.68**	**265**	P		Pn	10 49 12.7	+4.0
	410nm,1.1s,5µm							
KAPI	**Kappang**	**10.03**	**267**	P		**Pn**	**10 49 16.0**	**+2.5**
	6.4nm,0.3s,baz=99,slow=6.0,SNR=15							
KAPI				S		**Sn**	**10 51 05.8**	**+1.3**
	baz=244,slow=19,SNR=1.2							
KAPI	**Kappang**	**10.03**	**267**	*e*Pn		**Pn**	**10 49 15.8**	**+2.3**
KAPI				P			10 49 16.0	
KAPI				S		**Sn**	**10 51 05.8**	**+1.3**
KAPI				*e*Sn		Sn	10 51 10.6	+6.1
KAPI	**Kappang**	**10.03**	**267**	P		Pn	10 49 16.8	+3.3
	400nm,1.3s,4µm							
SPSI	**Sidrap Palu**	**10.03**	**273**	P		Pn	10 49 17.3	+3.8
	531nm,0.9s,5µm							
MJSI	**Majene**	**10.85**	**275**	P		Pn	10 49 30.5	+6.1
	718nm,1.2s,10µm							
JAY	**Jayapura**	**11.07**	**80**	P		**Pn**	**10 49 29.5**	**+2.2**
	148nm,1.9s,4µm							
DAV	**Davao City (W)**	**12.35**	**340**	P		**Pn**	**10 49 46.3**	**+2.4**
	33nm,0.3s,baz=231,slow=7.2,SNR=5.4							
DAV				S		**Sn**	**10 51 57.7**	**-2.8**
	25nm,0.3s,baz=66,slow=17,SNR=1.4							
DAV	**Davao City (W)**	**12.35**	**340**	P		**Pn**	**10 49 46.4**	**+2.4**
DAV				S		**Sn**	**10 51 57.7**	**-2.8**
DAV	**Davao City (W)**	**12.35**	**340**	*i*P		**Pn**	**10 49 46.0**	**+2.0**
CTBH	**Catabato--PC H**	**13.00**	**335**	*i*P		**Pn**	**10 49 53.6**	**+1.2**
SMKI	**Samarinda**	**13.25**	**288**	P		**P**	**10 50 00.1**	**-0.1**
	1µm,1.2s,14µm							
KBKI	**Kotabaru**	**13.67**	**275**	P		**P**	**10 50 03.5**	**-1.3**
	536nm,1.2s,5µm							
PAGZ	**Pagadian**	**13.94**	**333**	*e*P		P	10 50 11.5	+3.7
FITZ	**Fitzroy Crossi**	**14.01**	**197**	P		**Pn**	**10 50 04.6**	**-0.6**
	3.7nm,0.3s,baz=30,slow=12,SNR=57							
FITZ				S		**Sn**	**10 52 35.2**	**-5.3**
	15nm,0.3s,baz=63,slow=23,SNR=4.3							
FITZ				LR		LR	10 55 42.6	
	comp=Z,620nm,20.0s,baz=20,slow=38							
FITZ	**Fitzroy Crossi**	**14.01**	**197**	*e*P		**Pn**	**10 50 03.7**	**-1.6**
	100nm,0.5s							
FITZ				*e*S		Sn	10 52 29.6	-11
FITZ	**Fitzroy Crossi**	**14.01**	**197**	P		**Pn**	**10 50 04.6**	**-0.6**
FITZ				S		**Sn**	**10 52 35.2**	**-5.3**
MTNI	**Mataram**	**14.12**	**253**	P		**Pn**	**10 50 07.8**	**+1.1**
	455nm,0.8s,12µm							
KHKI	**Kahang-Kahang**	**14.59**	**254**	P		**P**	**10 50 14.0**	**-1.1**
	362nm,1.3s,5µm							
TSM	**Tawau**	**14.85**	**306**	P		**P**	**10 50 17.9**	**-0.1**
MYLDM	**Lahad Datu**	**14.91**	**311**	P		**P**	**10 50 20.1**	**+1.6**
BBKI	**Banjar Baru**	**14.97**	**274**	P		**P**	**10 50 20.4**	**+1.1**

comp=Z,661nm,0.8s
BJII Banjamegara 20.17 261 P P 10 51 16.4 0.0
comp=Z,226nm,1.4s,comp=Z,7µm
KSM Kuching 20.40 287 P P 10 51 20.6 +1.9
LUBP Lubang 20.55 333 *eP* Pn 10 51 23.1 -1.0
TGY Tagaytay City 20.57 335 P Pn 10 51 23.5 -1.0
comp=Z,1µm,1.0s,baz=197,slow=3.3,SNR=45
TGY Tagaytay City 20.57 335 P Pn 10 51 23.5 -0.9
TGY Tagaytay City 20.57 335 P Pn 10 51 23.5 -1.0
BALP Baler 21.80 338 *eP* **P 10 51 34.6 +0.9**
CISI Cisompet, Garu 22.06 261 P P 10 51 33.7 -2.8
comp=Z,1µm,0.9s,comp=Z,11µm
LEM Lembang 22.19 263 P P 10 51 36.1 -1.7
comp=Z,589nm,1.1s,comp=Z,8µm
CTA Charters Tower 22.20 135 P P 10 51 38.6 +0.9
comp=Z,398nm,0.9s,baz=321,slow=12,SNR=146
CTA S **S 10 55 33.8 +1.7**
comp=Z,35nm,0.9s,baz=221,slow=14,SNR=4.0
CTA Charters Tower 22.20 135 ⇓ *iP* **P 10 51 38.4 +0.7**
comp=Z,297nm,0.8s
CTA *es*P sP 10 52 15.5 -6.5
CTA Charters Tower 22.20 135 P P 10 51 38.6 +0.9
CTA S **S 10 55 33.8 +1.7**
CTA Charters Tower 22.20 135 P P 10 51 38.6 +0.9
CTA S **S 10 55 33.8 +1.7**
CTAO Charters Tower 22.20 135 *eP* **P 10 51 38.0 +0.2**
CTAO pmax pmax
comp=Z,485nm,0.9s
CTAO Charters Tower 22.20 135 *eP* **P 10 51 38.0 +0.2**
comp=Z,485nm,0.9s
SCZP Santa Cruz 22.50 334 *eP* **P 10 51 39.3 -1.3**
CAUP Cauayan 22.83 340 *eP* **P 10 51 44.7 +1.1**
CBJI Citeko 22.92 264 P P 10 51 42.1 -2.5
comp=Z,542nm,0.8s
BOLP Bolinao 23.04 335 *eP* **P 10 51 45.8 +0.1**
SKJI Sukabumi 23.25 263 P P 10 51 44.5 -3.2
comp=Z,485nm,1.1s,comp=Z,8µm
SBJI Serang 23.62 265 P P 10 51 50.5 -0.6
comp=Z,180nm,1.3s,comp=Z,6µm
PPBI Pangkal Pinang 23.75 275 P P 10 51 51.9 -0.4
comp=Z,166nm,1.0s,comp=Z,10µm
RBSI Rajabasa 24.00 266 P P 10 51 53.8 -0.7
comp=Z,124nm,0.7s
CGJI Cibinong 24.08 264 P P 10 51 51.2 -4.0
comp=Z,194nm,0.9s,comp=Z,4µm
KLI Kotabumi 24.87 268 P P 10 52 03.2 +0.8
comp=Z,178nm,0.9s,comp=Z,7µm
LWLI Liwa 25.66 268 P P 10 52 12.6 +2.9
comp=Z,145nm,0.7s,comp=Z,7µm
FORT Forrest 26.08 183 *eP* **P 10 52 13.1 0.0**
comp=Z,66nm,0.7s
FORT *es*P sP 10 52 52.2 -7.9
FORT Forrest 26.08 183 *eP* **P 10 52 13.7 +0.6**
comp=Z,989nm,1.8s
MYKOM Kota Tinggi 26.71 283 P P 10 52 20.5 +1.5
KGM Kluang 27.28 283 P P 10 52 25.4 +1.4
KRJI Kerinci 28.41 274 P P 10 52 34.4 +0.2
comp=Z,361nm,0.9s
BBOO Buckleboo 28.66 169 *eP* **P 10 52 36.3 +0.2**
comp=Z,5µm,1.7s
BBOO *es* sS 10 58 14.0 +5.9
EIDS Eidsvold 29.03 137 *eP* **P 10 52 39.0 -0.5**
comp=Z,44nm,0.9s
KLBR Kellerberrin 29.13 201 *eP* **P 10 52 40.0 -0.3**
comp=Z,149nm,0.6s
TPUB Ta-pu 29.15 342 *eP* **P 10 52 40.6 0.0**
comp=Z,57nm,0.9s
BKNI Bangkinang 29.16 279 P P 10 52 41.7 +0.9
comp=Z,94nm,1.1s
FRIM Kepong 29.22 285 P P 10 52 42.5 +1.2
STKA Stephens Creek 29.29 159 P P 10 52 42.1 +0.4
comp=Z,34nm,0.4s,baz=335,slow=8.4,SNR=135
STKA LR LR 11 04 22.7
comp=Z,324nm,21.5s,baz=95,slow=36
STKA Stephens Creek 29.29 159 *eP* **P 10 52 41.9 +0.2**
comp=Z,27nm,0.4s
STKA Stephens Creek 29.29 159 *eP* **P 10 52 42.1 +0.4**
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 29.29 159 *eP* **P 10 52 42.1 +0.4**
comp=Z,1.0nm,0.6s
SSLB Suanglung 29.52 343 *eP* **P 10 52 43.1 -0.7**
comp=Z,66nm,1.1s
PPI Padang Panjang 29.67 277 P P 10 52 44.0 -1.3
comp=Z,196nm,0.9s,comp=Z,1µm
IPM Ipoh 30.14 287 P P 10 52 50.6 +1.1
YHNB Yeheng 30.24 345 *eP* **P 10 52 50.0 -0.3**
comp=Z,81nm,1.1s
HNR Honiara 30.28 101 P P 10 52 50.4 -0.3
comp=Z,504nm,0.9s,baz=223,slow=2.5,SNR=12
HNR Honiara 30.28 101 *eP* **P 10 52 51.1 +0.4**
HNR pmax pmax
comp=Z,580nm,1.0s
HNR Honiara 30.28 101 *eP* **P 10 52 51.1 +0.4**
comp=Z,580nm,1.0s
NWAO Narrogin (SRO) 30.52 201 P P 10 52 51.8 -0.8
comp=Z,67nm,0.6s,baz=29,slow=8.3,SNR=104
NWAO Narrogin (SRO) 30.52 201 *eP* **P 10 52 52.9 +0.3**
NWAO pmax pmax
comp=Z,86nm,0.9s
NWAO Narrogin (SRO) 30.52 201 *eP* **P 10 52 52.9 +0.3**
comp=Z,86nm,0.9s
QIZ Qiongzhong 30.64 321 P P 10 52 54.6 +0.9
QIZ S **S 10 57 47.8 +2.2**
QIZ sS **sS 10 58 37.9 -1.7**
QIZ pmax pmax
comp=Z,100nm,1.4s
QIZ LR LR
comp=N,610nm,18.4s
QIZ LR LR
comp=Z,550nm,19.7s
QIZ Qiongzhong 30.64 321 *eP* **P 10 52 54.3 +0.6**
comp=Z,253nm,1.4s
MNSI Mandailing Nat 30.68 279 P P 10 52 52.9 -1.3
comp=Z,100nm,0.6s
SISI Saibi 30.85 275 P P 10 52 56.4 +0.7
comp=Z,96nm,0.6s,comp=Z,16µm
JOW Kunigami 31.29 357 P P 10 53 00.7 +1.2
comp=Z,167nm,1.1s,baz=178,slow=7.9,SNR=18
JOW Kunigami 31.29 357 *eP* **P 10 53 01.1 +1.7**
comp=Z,114nm,1.2s
QZH Quanzhou 31.34 340 ⇓ *iP* **P 10 52 59.8 0.0**
QZH S **S 10 57 54.1 -2.3**
QZH pmax pmax
comp=Z,160nm,0.8s
QZH pmax pmax
comp=Z,2µm,3.1s
PSI Prapat 31.73 283 P P 10 53 02.7 -0.9
comp=Z,79nm,1.0s,comp=Z,775nm
ARMA Armidale 32.90 144 ⇓ *iP* **P 10 53 14.1 +0.5**
ARMA Armidale 32.90 144 *eP* **P 10 53 15.0 +1.4**
comp=Z,114nm,1.4s
CAN Canberra 35.33 152 *eP* **P 10 53 36.0 +1.6**
CAN pmax pmax
comp=Z,158nm,0.8s
CAN Canberra 35.33 152 *eP* **P 10 53 36.0 +1.6**
comp=Z,158nm,0.8s
CNB Canberra Magne 35.50 152 *eP* **P 10 53 36.9 +1.0**
comp=Z,342nm,0.8s
CNB *es*P **sP 10 54 20.0 -3.6**
TOO Toolangi 35.80 158 *eP* **P 10 53 40.0 +1.6**
comp=Z,537nm,1.3s
BSI Banda Aceh 35.90 286 P P 10 53 37.7 -1.8
comp=Z,120nm,1.5s,comp=Z,2µm
SSE Sheshan 36.45 347 ⇑ P **P 10 53 44.8 +0.9**
SSE pP **pP 10 54 10.8 -4.4**
SSE sP sP 10 54 25.3 -6.3
SSE S **S 10 59 16.0 +1.0**
SSE pmax pmax
comp=Z,95nm,1.1s
SSE pmax pmax
comp=Z,240nm,8.2s
SSE LR LR
comp=N,79nm,24.3s
SSE LR LR
comp=E,120nm,24.3s
SSE LR LR
comp=Z,120nm,22.0s
JNU Nakatsue 37.54 1 *eP* **P 10 53 53.6 +0.5**
comp=Z,142nm,1.4s
NJ2 Nanjing 37.92 345 *eP* **P 10 53 57.6 +1.3**
NJ2 pP **pP 10 54 25.3 -2.5**
NJ2 sP **sP 10 54 39.8 -4.4**
NJ2 PP PP 10 55 28.8 +2.8
NJ2 S **ScP 10 59 44.0 +0.3**
NJ2 sS **sS 11 00 31.0 -1.3**
NJ2 pmax pmax
comp=Z,220nm,1.0s
NJ2 pmax pmax
comp=Z,550nm,8.2s
NJ2 LR LR
comp=N,190nm,18.8s
NJ2 LR LR
comp=E,690nm,25.0s
NJ2 LR LR
comp=Z,500nm,26.2s
WHN Wuhan 37.96 338 ⇑ P **P 10 53 58.0 +1.4**
WHN PP PP 10 55 31.9 +5.5
WHN S **S 10 59 37.3 -0.6**
WHN pmax pmax
comp=Z,490nm,1.0s
WHN LR LR
comp=Z,710nm,21.2s
CM31 Chiang Mai Arr 38.09 308 *eP* **P 10 53 59.8 +1.8**
comp=Z,227nm,1.0s
CMAR Chiang Mai Arr 38.09 308 P P 10 53 59.2 +1.3
comp=Z,126nm,0.9s,baz=138,slow=7.5,SNR=535
CMAR PcP **PcP 10 56 10.9 +0.7**
comp=Z,22nm,1.0s,baz=161,slow=3.0,SNR=8.1
CMAR ScP **ScP 10 59 42.7 -2.0**
comp=Z,8.5nm,0.8s,baz=152,slow=3.1,SNR=13
CMAR LR LR 11 10 13.4
comp=Z,415nm,18.6s,baz=131,slow=37
CMAR Chiang Mai Arr 38.09 308 P P 10 53 59.3 +1.3
CMAR 10 56 10.9
CMAR 10 59 42.7
CMAR Chiang Mai Arr 38.09 308 P P 10 53 59.2 +1.3
CMAR PcP **PcP 10 56 10.9 +0.7**
CMAR ScP **ScP 10 59 42.7 -2.0**
GYA Guiyang 38.16 325 ⇑ *iP* **P 10 53 59.1 +0.5**
GYA pP **pP 10 54 30.6 +0.5**
GYA sP **sP 10 54 45.3 -1.2**
GYA PP PP 10 55 35.8 +6.9
GYA PcP **PcP 10 56 11.8 +1.3**
GYA S **ScP 10 59 47.0 +2.0**
GYA sS **sS 11 00 36.4 0.0**
GYA pmax pmax
comp=Z,240nm,0.9s
GYA pmax pmax
comp=Z,560nm,4.9s
CHTO Chiang Mai 38.29 308 *eP* **P 10 54 00.8 +1.2**
CHTO pmax pmax
comp=Z,312nm,0.9s
CHTO Chiang Mai 38.29 308 *eP* **P 10 54 00.8 +1.2**
comp=Z,312nm,0.9s
CHTO Chiang Mai 38.29 308 P P 10 54 00.4 +0.8
NOUC Port Laguerre 39.37 120 *eP* **P 10 54 06.7 -1.9**
DZM Mont Dzumac 39.48 119 *eP* **P 10 54 09.9 +0.3**
comp=Z,273nm,1.2s
DZM *e*LR LR 11 05 09.9
comp=Z,756nm,24.1s
DZM Mont Dzumac 39.48 119 P P 10 54 11.1 +1.4
comp=Z,66nm,0.7s,baz=285,slow=6.9,SNR=54
DZM Mont Dzumac 39.48 119 P P 10 54 11.1 +1.4
KMI Kunming 39.57 320 ⇑ P **P 10 54 12.1 +1.7**
KMI pP **pP 10 54 42.5 +0.4**
KMI sP **sP 10 54 57.1 -1.4**
KMI PP PP 10 55 51.4 +7.0
KMI S **S 11 00 08.3 +5.6**
KMI sS **sS 11 00 58.1 +0.1**
KMI SS SS 11 03 02.8 -1.0
KMI ScS **ScS 11 04 06.1 +2.5**
KMI pmax pmax
comp=Z,250nm,1.1s
KMI pmax pmax
comp=Z,820nm,4.4s
KMI LR LR
comp=N,350nm,13.1s
KMI LR LR
comp=E,400nm,13.1s
KMI LR LR
comp=Z,510nm,12.8s
LASL Noumea 39.62 120 *eP* **P 10 54 10.7 0.0**
ENH Enshi 39.77 332 *eP* **P 10 54 12.4 +0.6**
comp=Z,210nm,0.9s
MJAR Matsushiro Arr 41.69 10 P P 10 54 27.3 -0.1
comp=Z,57nm,1.0s,baz=192,slow=11,SNR=87
MJAR Matsushiro Arr 41.69 10 P P 10 54 27.3 -0.1
MAJO Matsushiro 41.69 10 *eP* **P 10 54 27.6 +0.2**
MAJO pmax pmax
comp=Z,70nm,0.9s
MAJO Matsushiro 41.69 10 *eP* **P 10 54 27.6 +0.2**
comp=Z,70nm,0.9s
MAT Matsushiro 41.69 10 P P 10 54 26.9 -0.5
MAT S S 11 00 27.0 -6.4
KSAR Wonju Array Be 41.88 358 P P 10 54 30.3 +1.4
KSAR 10 56 22.9
KSAR Wonju Array Be 41.88 358 P P 10 54 30.2 +1.4
KSAR PcP **PcP 10 56 22.9 +0.9**
KSAR ScP **ScP 10 59 57.0 -2.1**
KSRS Korea Array 41.89 358 P P 10 54 30.2 +1.3
comp=Z,23nm,1.0s,baz=176,slow=12,SNR=88
KSRS PcP **PcP 10 56 22.9 +0.9**
comp=Z,6.1nm,0.7s,baz=177,slow=4.0,SNR=7.2
KSRS ScP **ScP 10 59 57.0 -2.1**
comp=Z,4.7nm,1.0s,baz=178,slow=4.2,SNR=6.7
KSRS LR LR 11 10 05.5
comp=Z,214nm,20.4s,baz=180,slow=33
KSRS Korea Array 41.89 358 P P 10 54 30.3 +1.3
KSRS 10 56 22.9
KSRS pmax pmax
comp=Z,23nm,1.0s
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KSRS pmax pmax
comp=N,5.0nm,1.0s
INCN Inchon 41.98 356 *eP* **P 10 54 31.6 +1.8**
comp=N,225nm,1.3s
CD2 Chengdu 43.21 327 ⇑ *iP* **P 10 54 39.9 +0.1**
CD2 pP **pP 10 55 08.3 -3.7**
CD2 sP sP 10 55 22.8 -5.4
CD2 PP PP 10 56 24.6 +1.3
CD2 S **S 11 00 58.1 +2.1**
CD2 sS **sS 11 01 47.8 -4.1**
CD2 SS SS 11 04 08.3 -6.7
CD2 pmax pmax
comp=Z,250nm,1.0s
CD2 pmax pmax
comp=Z,560nm,3.7s
CD2 LR LR
comp=E,470nm,8.9s
CD2 LR LR
comp=Z,350nm,11.9s
XAN Xi'an 43.21 334 P P 10 54 39.8 0.0
XAN pmax pmax
comp=Z,80nm,1.1s
XAN pmax pmax
comp=Z,140nm,8.8s
XAN LR LR
comp=N,170nm,11.4s
XAN LR LR
comp=E,36nm,8.5s
XAN LR LR
comp=Z,63nm,9.7s
TIY Taiyuan 45.10 340 *eP* **P 10 54 55.5 +0.6**
TIY pP **pP 10 55 24.3 -3.0**
TIY S **S 11 01 18.8 -4.5**
TIY pmax pmax
comp=Z,200nm,0.8s
TIY pmax pmax
comp=Z,560nm,3.5s
BJT Baijiatuau 46.15 345 *eP* **P 10 55 03.4 +0.5**
BJT pmax pmax
comp=Z,420nm,1.2s
BJT Baijiatuau 46.15 345 *eP* **P 10 55 03.4 +0.5**
comp=Z,420nm,1.2s
BJI Beijing 46.17 345 P P 10 55 03.5 +0.5
BJI S **S 11 01 33.8 -4.5**
BJI pmax pmax
comp=Z,260nm,1.2s
BJI pmax pmax
comp=Z,620nm,3.5s
BJI LR LR
comp=N,340nm,20.0s
BJI LR LR
comp=E,290nm,16.3s
BJI LR LR
comp=Z,120nm,21.8s
SNY Shenyang 46.57 354 ⇑ P **P 10 55 06.8 +0.7**
SNY S **S 11 01 41.8 -2.1**
SNY pmax pmax
comp=Z,88nm,0.9s
SNY pmax pmax
comp=Z,640nm,3.5s
SNY LR LR
comp=E,570nm,8.0s
SNY LR LR
comp=Z,330nm,18.1s
LZH Lanzhou 47.23 331 ⇑ P **P 10 55 12.8 +1.2**
LZH pP pP 10 55 38.4 -5.9
LZH sP sP 10 55 54.8 -5.6
LZH PP PP 10 57 05.6 +1.6
LZH ScP **ScP 11 00 20.1 -1.2**
LZH *e*S **S 11 01 56.1 +2.2**
LZH sS **sS 11 02 46.3 -4.2**
LZH pmax pmax
comp=Z,220nm,1.2s
LZH pmax pmax
comp=Z,1µm,3.6s
LZH LR LR
comp=N,430nm,11.5s
LZH LR LR
comp=E,390nm,10.7s
LZH LR LR
comp=Z,490nm,12.2s
SHL Shillong 47.48 311 *ex* **P 10 55 16.2 +2.4**
SHL *ex* x 11 00 42.0
VLA Vladivostok 47.55 2 ⇑ *iP* **P 10 55 13.9 +0.2**
VLA *i* 10 56 40.4
VLA *e* 10 57 06.8
VLA *e*S **S 11 01 56.5 -1.3**
VLA pmax pmax
comp=Z,225nm,1.7s
HHC Hu-ho-hao-te 48.23 341 ⇑ *iP* **P 10 55 20.3 +1.1**
HHC pP **pP 10 55 49.3 -2.7**
HHC sP **sP 10 56 03.8 -4.2**
HHC PP PP 10 57 14.4 +1.4
HHC S **S 11 02 11.3 +3.5**
HHC sS **sS 11 03 01.9 -2.7**
HHC SS SS 11 05 38.8 -0.5
HHC pmax pmax
comp=Z,120nm,1.3s
HHC pmax pmax
comp=Z,190nm,5.2s
CN2 Changchun 48.35 356 ⇑ *iP* **P 10 55 20.3 +0.4**
CN2 *es*P sP 10 56 03.8 -4.9
CN2 PcP **PcP 10 56 45.3 +1.0**
CN2 PP PP 10 57 15.0 +1.1
CN2 ScP **ScP 11 00 23.8 -1.8**
CN2 *e*S **S 11 02 11.3 +2.2**
CN2 ScS **ScS 11 04 55.6 -2.3**
CN2 SS SS 11 05 38.1 -2.8
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
BTO Baotou 48.52 340 *eP* **P 10 55 20.8 -0.6**
USRK Ussuriysk Arra 48.63 2 P **P 10 55 23.2 +1.2**
comp=Z,27nm,0.5s,baz=186,slow=7.2,SNR=92
USRK ScP **ScP 11 00 24.5 -2.3**
comp=Z,4.2nm,0.9s,baz=208,slow=3.4,SNR=4.1
CAL Calcutta 48.70 305 *eP* **P 10 55 23.6 +0.7**
MSVF Nonsavu 48.94 109 *eP* **P 10 55 27.0 +2.1**
MSVF pmax pmax
comp=Z,75nm,1.3s
MSVF Nonsavu 48.94 109 *eP* **P 10 55 27.0 +2.1**
comp=Z,75nm,1.3s
MSVF Nonsavu 48.94 109 P P 10 55 26.6 +1.7
comp=Z,248nm,1.3s,SNR=6.4
MDJ Mudanjiang 49.01 360 P P 10 55 26.3 +1.4
MDJ pP **pP 10 55 52.9 -4.9**
MDJ sP sP 10 56 08.0 -5.8
MDJ PcP **PcP 10 56 50.3 +3.7**
MDJ PP PP 10 57 18.8 -1.1
MDJ S **S 11 02 14.1 -4.2**
MDJ SS SS 11 05 49.6 -1.8
MDJ pmax pmax
comp=Z,75nm,0.9s
MDJ pmax pmax
comp=Z,330nm,3.8s
MDJ LR LR
comp=Z,230nm,25.6s
MDJ Mudanjiang 49.01 360 *eP* **P 10 55 26.1 +1.3**
comp=Z,320nm,1.8s
ASAJ Asahikawa 49.85 12 *eP* **P 10 55 33.0 +1.7**
comp=Z,56nm,1.4s
LSA Lhasa 50.37 315 P P 10 55 37.3 +1.3
LSA pmax pmax
comp=Z,200nm,1.0s
LSA Lhasa 50.37 315 *eP* **P 10 55 37.3 +1.3**
LSA pmax pmax
comp=Z,180nm,0.8s
LSA Lhasa 50.37 315 *eP* **P 10 55 37.3 +1.3**
comp=Z,180nm,0.8s
ODAN Odare 51.58 310 *eP* **P 10 55 45.0 +0.1**
comp=Z,561nm,0.9s
ODAN Odare 51.58 310 *eP* **P 10 55 45.0 +0.1**
comp=Z,561nm,0.9s
TAPN Taplejung 51.59 310 *eP* **P 10 55 45.4 +0.4**
comp=Z,315nm,0.5s
TAPN Taplejung 51.59 310 *eP* **P 10 55 45.4 +0.4**
comp=Z,315nm,0.5s
GTA Gaotai 51.81 330 ⇑ P **P 10 55 47.3 +1.1**
GTA pP **pP 10 56 17.3 -2.1**
GTA sP sP 10 56 29.5 -5.9
GTA PcP **PcP 10 56 58.8 +1.5**
GTA ScP **ScP 11 00 39.6 -1.2**
GTA PcS **PcS 11 00 54.9 -0.7**
GTA S **S 11 02 55.0 -2.5**
GTA ScS **ScS 11 05 19.3 -2.7**
GTA pmax pmax
comp=Z,200nm,1.0s
GTA pmax pmax
comp=Z,400nm,5.7s
GTA LR LR
comp=N,250nm,17.6s
GTA LR LR
comp=E,230nm,19.0s
GTA LR LR
comp=Z,370nm,22.3s
RAMN Ramite 52.23 309 *eP* **P 10 55 50.1 +0.4**
RAMN Ramite 52.23 309 *eP* **P 10 55 50.1 +0.4**
YSS Yuzh-Sakhalins 52.60 11 ⇑ *eP* **P 10 55 53.2 +1.4**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 52.60 11 *eP* **P 10 55 52.9 +1.2**
comp=Z,29nm,0.6s
JIRN Jiri 52.90 310 *eP* **P 10 55 55.0 +0.2**
JIRN Jiri 52.90 310 *eP* **P 10 55 55.0 +0.2**
HABR Khabarovsk 53.06 4 *i* P **P 10 55 54.9 -0.2**
HABR *PP **pP 10 56 30.0 +1.6**
HABR *e* 10 56 59.6
HABR *e* 10 57 54.9
HABR PPP PPP 10 59 05.3
HABR *e*S **S 11 03 13.4 -0.5**
HABR *i* 11 03 36.7
HABR *e* 11 05 26.5
HABR *e*SS SS 11 06 54.6 -0.8
HABR pmax pmax
comp=N,79nm,1.8s
HABR pmax pmax
comp=Z,178nm,1.5s
HABR pmax pmax
comp=E,102nm,1.8s
HABR MLR MLR
comp=Z,136nm,18.0s
RPZ Rata Peaks 53.24 143 *eP* **P 10 55 57.7 +1.1**
comp=Z,46nm,0.9s
GUN Gumba 53.27 310 *eP* **P 10 55 57.5 +0.1**
comp=Z,938nm,0.9s
GUN Gumba 53.27 310 *eP* **P 10 55 57.5 +0.1**
comp=Z,938nm,0.9s
PKI Pulchoki 53.46 309 *eP* **P 10 55 58.8 0.0**
PKI Pulchoki 53.46 309 *eP* **P 10 55 58.8 0.0**
PKI Pulchoki 53.46 309 *eP* **P 10 55 58.8 0.0**
KLR Kul'dur 53.65 2 ⇓ *iP* **P 10 55 56.8 -2.6**
KLR *e*S S 11 03 15.5 -6.3
KLR pmax pmax
comp=N,70nm,1.8s
KLR pmax pmax
comp=Z,320nm,1.8s
KKN Kakani 53.66 310 *eP* **P 10 56 00.4 +0.2**

KKN **Kakani** 53.66 310 *eP* **P** 10 56 00.4 +0.2
KKN **Kakani** 53.66 310 *eP* **P** 10 56 00.4 +0.2
DMN **Daman** 53.71 309 *eP* **P** 10 56 00.9 +0.3
DMN **Daman** 53.71 309 *eP* **P** 10 56 00.9 +0.3
GKN **Gorkha** 54.26 309 *eP* **P** 10 56 04.4 -0.1
comp=Z,787nm,0.9s
GKN **Gorkha** 54.26 309 *eP* **P** 10 56 04.4 -0.1
comp=Z,787nm,0.9s
TRD **Trivandrum** 54.29 284 *eP* **P** 10 56 05.5 +0.8
TRD AMb AMB 10 56 06.8
comp=Z,24nm,0.6s
HIA **Hailar** 54.37 352 *eP* **P** 10 56 05.7 +1.0
HIA pmax pmax
comp=Z,28nm,1.1s
HIA **Hailar** 54.37 352 *eP* **P** 10 56 05.7 +1.0
comp=Z,28nm,1.1s
URZ **Urewera** 54.45 135 *eP* **P** 10 56 05.4 0.0
comp=Z,33nm,0.8s
KOLN **Koldanda** 54.95 309 *eP* **P** 10 56 09.8 +0.3
KOLN **Koldanda** 54.95 309 *eP* **P** 10 56 09.8 +0.3
DANN **Dangsing** 55.11 309 *eP* **P** 10 56 10.7 0.0
DANN **Dangsing** 55.11 309 *eP* **P** 10 56 10.7 0.0
HYB **Hyderabad** 55.12 295 *i* P **P** 10 56 10.0 -0.7
comp=Z,71nm,0.5s
HYB *ep*P **pP** 10 56 46.0 +1.8
HYB *e*S S 11 03 36.0 -6.8
NGP **Nagpur** 55.95 299 *eP* **P** 10 56 15.7 -0.8
NGP AMb AMB 10 56 16.6
comp=Z,204nm,1.1s
ULN **Ulaanbaatar** 55.95 342 *eP* **P** 10 56 17.5 +1.3
ULN pmax pmax
comp=Z,238nm,1.1s
ULN **Ulaanbaatar** 55.95 342 *eP* **P** 10 56 17.5 +1.3
comp=Z,238nm,1.1s
SONM **Songino Array** 56.13 341 P **P** 10 56 18.6 +1.2
comp=Z,82nm,0.9s,baz=166,slow=4.4,SNR=280
SONM PcP **PcP** 10 57 14.5 +0.9
comp=Z,5.5nm,1.0s,baz=165,slow=5.2,SNR=4.1
SONM ScP **ScP** 11 00 57.5 -2.0
comp=Z,3.8nm,1.0s,baz=142,slow=5.1,SNR=4.1
SONM LR LR 11 22 39.2
comp=Z,158nm,18.2s,baz=141,slow=38
SONM **Songino Array** 56.13 341 P **P** 10 56 18.6 +1.2
SONM 10 57 14.5
SONM **Songino Array** 56.13 341 P **P** 10 56 18.6 +1.2
SONM PcP **PcP** 10 57 14.5 +0.9
SONM ScP **ScP** 11 00 57.5 -2.0
CIT **Chita** 58.09 348 *eP* **P** 10 56 32.5 +1.5
CIT *e* 10 57 22.7
CIT *e* 10 58 40.7
CIT pmax pmax
comp=Z,299nm,1.8s
AFI **Afiamalu** 58.26 103 *eP* **P** 10 56 34.9 +2.0
AFI pmax pmax
comp=Z,213nm,1.3s
AFI **Afiamalu** 58.26 103 *eP* **P** 10 56 34.9 +2.0
comp=Z,213nm,1.3s
AGRA **Agra** 59.22 305 *eP* **P** 10 56 38.2 -1.0
AGRA AMb AMB 10 56 39.1
comp=Z,170nm,0.4s
ZAK **Zakamensk** 59.36 341 ⇓ *i* P **P** 10 56 40.5 +0.6
ZAK pmax pmax
comp=Z,50nm,1.2s
POO **Poona** 59.72 294 *ex* **P** 10 56 41.7 -1.2
POO AMb AMB 10 56 43.3
comp=Z,172nm,1.5s
BISR **Bishrakh** 60.18 307 *eP* **P** 10 56 45.0 -0.8
BISR AMb AMB 10 56 45.9
comp=Z,837nm,0.8s
TLY **Talaya** 60.36 342 *eP* **P** 10 56 48.1 +1.5
TLY pmax pmax
comp=Z,96nm,1.2s
TLY **Talaya** 60.36 342 *eP* **P** 10 56 48.1 +1.5
comp=Z,96nm,1.2s
TLY **Talaya** 60.36 342 P **P** 10 56 48.6 +2.0
comp=Z,356nm,1.1s,SNR=20
AYAN **Aya Nagar** 60.39 306 *eP* **P** 10 56 46.1 -1.2
AYAN AMb AMB 10 56 47.4
comp=Z,214nm,1.1s
NDI **New Delhi** 60.40 307 *ex* **P** 10 56 45.8 -1.5
NDI AMb AMB 10 56 46.7
comp=Z,189nm,2.0s
DDI **Dehra Dun** 60.43 309 *ex* **P** 10 56 45.0 -2.6
DDI *ex* x 10 58 55.0
IRK **Irkutsk** 60.66 342 ⇑ *i* P **P** 10 56 49.7 +1.1
IRK *e* 11 04 53.0
IRK pmax pmax
comp=Z,242nm,1.6s
MOY **Mondy** 61.22 340 *eP* **P** 10 56 53.7 +1.2
MOY pmax pmax
comp=Z,268nm,2.5s
KKR **Kurukshetra** 61.25 308 *eP* **P** 10 56 52.9 -0.1
KKR AMb AMB 10 56 54.2
comp=Z,539nm,0.8s
KHET **Khetri** 61.30 305 *eP* **P** 10 56 52.8 -0.6
KHET AMb AMB 10 56 54.4
comp=Z,202nm,1.2s
WMQ **Urumqi** 61.31 326 P **P** 10 56 54.5 +1.3
WMQ pP **pP** 10 57 25.5 -2.0
WMQ PcP **PcP** 10 57 35.5 +1.2
WMQ sP **sP** 10 57 38.5 -4.7
WMQ pmax pmax
comp=Z,37nm,0.8s
WMQ pmax pmax
comp=Z,420nm,5.0s
CLNS **Chul'man** 61.37 357 *eP* **P** 10 56 54.5 +1.1
CLNS *e* 10 57 33.4
CLNS *e*S S 11 05 15.9 +13
CLNS pmax pmax
comp=Z,80nm,1.0s
CLNS pmax pmax
comp=N,53nm,1.0s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=Z,12nm,1.3s
CLNS smax smax
comp=N,51nm,11.2s
CLNS smax smax
comp=E,287nm,15.4s
PEA0B **Petropavlovsk-** 62.13 19 *eP* **P** 10 57 00.7 +2.2
PETK **Petropavlovsk-** 62.13 19 P **P** 10 57 00.1 +1.6
comp=E,10nm,0.6s,baz=178,slow=6.7,SNR=11
PETK **Petropavlovsk-** 62.13 19 P **P** 10 57 00.1 +1.6
PETK **Petropavlovsk-** 62.13 19 P **P** 10 57 00.1 +1.6
DRV **Dumont d'Urvil** 62.35 175 S **pS** 11 05 49.0 -4.0
DRV L L 11 14 00.0
DRV R 11 19 00.0
PET **Petropavlovsk** 62.37 19 *eP* **P** 10 57 02.4 +2.4
PET *e*S **S** 11 05 14.2 -0.9
PET pmax pmax
comp=Z,100nm,8.5s
DLH **Dalhousie** 63.00 310 *eP* **P** 10 57 04.0 -0.9
CASY **Casey** 63.02 189 *eP* pP 10 57 40.8 +2.3
BOD **Bodaibo** 63.52 351 ⇓ *i* P **P** 10 57 08.2 +0.6
BOD pmax pmax
comp=Z,118nm,1.5s
HVS **Khovu-Aksy** 63.55 336 *c i* P **P** 10 57 09.0 +1.0
HVS pmax pmax
comp=Z,2μm,1.2s
MK31 **Makanchi Array** 66.14 326 *ceP* **P** 10 57 25.4 +0.6
MK31 pmax pmax
comp=Z,412nm,0.9s
MK31 **Makanchi Array** 66.14 326 *eP* **P** 10 57 25.6 +0.8
MKAR **Makanchi Array** 66.14 326 P **P** 10 57 25.6 +0.8
comp=Z,249nm,0.7s,baz=121,slow=8.1,SNR=2035
MKAR **Makanchi Array** 66.14 326 P **P** 10 57 25.6 +0.8
MKAR **Makanchi Array** 66.14 326 P **P** 10 57 25.6 +0.8
KSH **Kashi** 66.15 317 ⇑ *i* P **P** 10 57 26.5 +1.4
KSH *e*S **S** 11 06 00.1 -2.4
KSH pmax pmax
comp=Z,120nm,0.9s
KSH LR LR
comp=N,270nm,6.2s
KSH LR LR
comp=E,310nm,7.1s
KSH LR LR
comp=Z,380nm,8.2s
YAK **Yakutsk** 66.45 360 *eP* **P** 10 57 27.2 +0.8
YAK pmax pmax
comp=Z,355nm,0.8s
YAK **Yakutsk** 66.45 360 *eP* **P** 10 57 27.2 +0.8
comp=Z,355nm,0.8s
MIR **Mirnyy** 66.88 195 *eP* **P** 10 57 29.0 -0.1
MIR pmax pmax
comp=Z,43nm,1.2s
ULHL **Ulahol** 67.29 320 P **P** 10 57 33.6 +1.2
SNR=5.9
ULHL P **P** 10 57 33.6 +1.2
SNR=5.9
KZA **Kyzart** 67.85 319 P **P** 10 57 37.3 +1.1
SNR=213
KZA P **P** 10 57 37.3 +1.1
SNR=213
TKM2 **Tokmak 2** 68.04 320 P **P** 10 57 37.9 +0.8
SNR=155
TKM2 P **P** 10 57 37.9 +0.8
SNR=155
TKM2 **Tokmak 2** 68.04 320 *i* P **P** 10 57 37.9 +0.8
TKM2 **Tokmak 2** 68.04 320 *eP* **P** 10 57 37.8 +0.8
comp=Z,136nm,0.8s
KBK **Karagaybulak** 68.33 320 P **P** 10 57 40.0 +1.1
SNR=59
KBK P **P** 10 57 40.0 +1.1
SNR=59
UCH **Uchtor** 68.41 319 P **P** 10 57 40.7 +1.0
SNR=23
UCH P **P** 10 57 40.7 +1.0
SNR=23
AAK **Ala-Archa** 68.61 319 P **P** 10 57 41.6 +1.0
SNR=79
AAK P **P** 10 57 41.6 +1.0
SNR=79
AAK **Ala-Archa** 68.61 319 *eP* **P** 10 57 41.7 +1.0
AAK pmax pmax
comp=Z,721nm,1.1s
AAK **Ala-Archa** 68.61 319 *eP* **P** 10 57 41.6 +1.0
comp=Z,721nm,1.1s
AAK **Ala-Archa** 68.61 319 P **P** 10 57 41.0 +0.4
comp=Z,543nm,1.1s,SNR=63
CHMS **Chumysh** 68.62 320 P **P** 10 57 41.0 +0.6
SNR=18
CHMS P **P** 10 57 41.0 +0.6
SNR=18
FRU **Bishkek** 68.63 320 ⇑ *i* P **P** 10 57 41.0 +0.5
FRU *i* 10 58 04.0
FRU pmax pmax
comp=Z,200nm,2.0s
AML **Almayashu** 68.90 319 P **P** 10 57 44.2 +1.5
SNR=15
AML P **P** 10 57 44.2 +1.5
SNR=15
USP **Ospenovka** 68.91 320 P **P** 10 57 43.0 +0.7
SNR=178
USP P **P** 10 57 43.0 +0.7
SNR=178
EKS2 **Erkin-Say** 69.09 319 P **P** 10 57 44.8 +1.2
SNR=145
EKS2 P **P** 10 57 44.8 +1.2
SNR=145
EKS2 **Erkin-Say** 69.09 319 *eP* **P** 10 57 44.7 +1.2
EKS2 pmax pmax
comp=Z,148nm,0.9s
EKS2 **Erkin-Say** 69.09 319 *eP* **P** 10 57 44.7 +1.2
comp=Z,148nm,0.9s
KBL **Kabul** 69.10 310 *eP* **P** 10 57 44.1 +0.3
KBL pmax pmax
comp=Z,149nm,0.9s
KBL **Kabul** 69.10 310 *eP* **P** 10 57 44.1 +0.3
comp=Z,149nm,0.9s
ZAA0 **Zalesovo Array** 69.37 333 *eP* **P** 10 57 44.9 0.0
ZALV **Zalesovo Beam** 69.37 333 P **P** 10 57 45.1 +0.3
comp=Z,196nm,1.0s,baz=113,slow=4.8,SNR=453
ZALV pP pP 10 58 25.5 +5.6
comp=Z,42nm,1.1s,baz=116,slow=6.6,SNR=1.9
ZALV **Zalesovo Beam** 69.37 333 P **P** 10 57 45.1 +0.3
ZALV **Zalesovo Beam** 69.37 333 P **P** 10 57 45.1 +0.3
ZALV pP pP 10 58 25.5 +5.6
SEY **Seymchan** 69.51 11 *c i* P **P** 10 57 47.0 +1.5
KURK **Kurchatov** 70.40 328 *c i* P **P** 10 57 51.7 +0.5
KURK pmax pmax
comp=Z,768nm,1.2s
KURK **Kurchatov** 70.40 328 *eP* **P** 10 57 51.8 +0.7
comp=Z,520nm,0.9s
KURK **Kurchatov** 70.40 328 P **P** 10 57 52.9 +1.7
comp=Z,3μm,0.9s
NVS **Novosibirsk** 70.66 334 ⇑ *i* P **P** 10 57 52.7 +0.1
NVS *i* S **S** 11 06 51.1 -3.9
NVS pmax pmax
comp=Z,428nm,1.5s
NVS pmax pmax
comp=N,192nm,1.6s
NVS pmax pmax
comp=E,171nm,1.4s
NVS smax smax
comp=E,234nm,2.1s
NVS smax smax
comp=N,130nm,2.3s
KK31 **Karatay Array** 71.44 318 *ceP* **P** 10 57 57.9 +0.2
KK31 pmax pmax
comp=Z,154nm,1.1s
KKAR **Karatay Array** 71.44 318 *eP* **P** 10 57 58.2 +0.5
KKAR pmax pmax
comp=Z,164nm,1.1s
KKAR **Karatay Array** 71.44 318 *eP* **P** 10 57 58.2 +0.5
comp=Z,164nm,1.1s
RER **Riviere de l'E** 73.49 249 *eP* **P** 10 58 11.5 +1.1
comp=Z,104nm,0.8s
VOSK **Vostochnaya** 75.50 327 P **P** 10 58 21.4 +0.2
VOSK pmax pmax
comp=Z,213nm,0.8s
IDAH **Dahanechah** 75.81 305 ⇓ *eP* **P** 10 58 26.4 +2.7
BRVK **Borovoye** 76.03 328 *eP* **P** 10 58 24.7 +0.5
BRVK pmax pmax
comp=Z,240nm,1.0s
BRVK **Borovoye** 76.03 328 *eP* **P** 10 58 24.6 +0.5
comp=Z,240nm,1.0s
BRVK **Borovoye** 76.03 328 P **P** 10 58 24.1 -0.1
comp=Z,1μm,0.9s
IMON **Monand** 76.09 306 *eP* **P** 10 58 28.1 +2.8
ITEG **Tejag** 76.76 305 *eP* **P** 10 58 31.5 +2.5
BILL **Bilibino** 76.85 13 *eP* **P** 10 58 28.0 -0.5
BILL *i* 10 58 39.2
BILL *e* 11 01 27.0
BILL pmax pmax
comp=Z,21nm,2.2s
BILL **Bilibino** 76.85 13 *eP* **P** 10 58 28.9 +0.4
comp=Z,6.5nm,0.9s
MAW **Mawson** 77.09 201 P **P** 10 58 30.0 +0.1
comp=Z,11nm,0.5s,baz=78,slow=5.1,SNR=19
MAW pP **pP** 10 59 10.1 +4.6
comp=Z,23nm,1.1s,baz=73,slow=8.8,SNR=3.5
MAW LR LR 11 30 26.1
comp=Z,181nm,18.6s,baz=185,slow=34
MAW **Mawson** 77.09 201 *eP* **P** 10 58 30.0 +0.1
comp=Z,9.0nm,0.5s
MAW *es*P **pP** 10 59 10.3 +4.7
MAW **Mawson** 77.09 201 P **P** 10 58 30.0 +0.1
MAW **Mawson** 77.09 201 P **P** 10 58 30.0 +0.1
MAW pP **pP** 10 59 10.1 +4.6
IBND **Bandar-abas** 77.39 299 *eP* **P** 10 58 34.3 +1.9
IAKL **Akhelmad** 77.70 309 ⇑ *eP* **P** 10 58 35.0 +0.7
IEMG **Emamgholi** 78.00 310 *eP* **P** 10 58 36.9 +1.0
ISFR **Sfrayin** 78.40 309 *eP* **P** 10 58 38.9 +0.7
ABKT **Ailbek** 78.54 310 P **P** 10 58 39.9 +1.3
comp=Z,784nm,1.0s,SNR=26
PPT2 **Papeete2** 79.69 107 *e*S S 11 08 30.1 -6.3
comp=Z,246nm,27.0s
PPT2 *e*LR LR 11 23 58.7
comp=Z,539nm,36.5s
TBI **Tubuai** 79.69 113 *e*S **S** 11 08 33.2 -2.8
comp=Z,379nm,29.0s
TBI *e*LR LR 11 24 02.5
comp=Z,144nm,37.8s
TIAR **Tiarei** 79.91 107 *eP* **P** 10 58 49.1 +2.7
comp=Z,78nm,0.8s
AB31 **Akbulak array** 80.53 321 *ceP* **P** 10 58 48.9 -0.1
ISRV **Sarvestan** 80.72 301 *eP* **P** 10 58 51.6 +0.7
IPAR **Pars** 80.86 301 *eP* **P** 10 58 51.9 +0.3
IANJ **Anjilo** 81.25 307 *eP* **P** 10 58 53.5 0.0
PMOR **Pomariorio Ree** 81.39 104 *eP* **P** 10 58 56.7 +2.4
comp=Z,130nm,1.1s
IGLO **Ghaloghah** 81.53 308 *eP* **P** 10 58 56.2 +1.3
IKIA **Kiasar** 81.58 307 *eP* **P** 10 58 55.2 0.0
ISHM **Shahmirzad** 81.81 307 *eP* **P** 10 58 56.8 +0.3
AKTO **Aktyubinsk** 82.08 322 *i* P **P** 10 58 56.9 -0.3
AKTO pmax pmax
comp=Z,33nm,1.4s
MUKL **Al Mukalla** 82.24 285 *i* P **P** 10 59 00.5 +1.7
IALA **Alasht** 82.25 307 *eP* **P** 10 58 58.7 -0.1
SVE **Sverdlovsk** 82.64 329 *d i* P **P** 10 59 00.4 +0.5
SVE pmax pmax
comp=Z,296nm,1.4s
IPRN **Peran** 82.66 307 *eP* **P** 10 59 00.9 +0.2
IKLH **Kolahrood** 82.73 304 *eP* **P** 10 59 01.8 +0.5
IPIR **Pirpir** 83.19 304 *eP* **P** 10 59 04.2 +0.5
ARU **Arti** 83.59 328 *c i* P **P** 10 59 04.7 -0.1
ARU *PP **pP** 10 59 44.9 +3.9
ARU 11 02 19.0
ARU S **S** 11 09 11.2 -3.6
ARU SS **SS** 11 14 45.8 +1.3
ARU pmax pmax
comp=Z,379nm,1.7s
ARU **Arti** 83.59 328 P **P** 10 59 04.4 -0.4
comp=Z,986nm,1.0s,SNR=10
QRN **Al-Qurain** 85.11 299 *eP* **P** 10 59 12.6 -0.5
QRN AMb AMB 10 59 14.0
comp=Z,318nm,0.7s
QSPA **South Pole Qui** 85.35 180 P **P** 10 59 13.5 -0.2
comp=Z,4.1nm,0.8s,baz=328,slow=3.0,SNR=10
QSPA pP **pP** 10 59 53.7 +3.7
comp=Z,20nm,0.8s,baz=285,slow=1.3,SNR=8.0
QSPA **South Pole Qui** 85.35 180 P **P** 10 59 13.5 -0.2
QSPA pP **pP** 10 59 53.7 +3.7
KBD **Kabd** 85.36 300 *eP* **P** 10 59 14.1 -0.3
KBD AMb AMB 10 59 15.8
comp=Z,125nm,1.1s
UMR **Umm Al-Rimmam** 85.40 300 *eP* **P** 10 59 14.6 0.0
UMR AMb AMB 10 59 15.9
comp=Z,329nm,1.1s
SOKR **Solikamsk** 85.44 331 *c i* P **P** 10 59 13.3 -0.7
SOKR pmax pmax
comp=Z,120nm,1.1s
MIB **Mutribah** 85.75 300 *eP* **P** 10 59 16.0 -0.3
MIB AMb AMB 10 59 17.6
comp=Z,499nm,1.2s
NAY **Al-Naaiem** 85.77 300 *eP* **P** 10 59 16.0 -0.4
NAY AMb AMB 10 59 17.6
comp=Z,314nm,0.9s
SYO **Syowa Base** 85.81 201 ⇑ *eX* **P** 10 59 13.8 -1.9
SYO **Syowa Base** 85.81 201 *eSH* **SKSac** 11 09 30.6 +3.1
LBOS 85.83 284 ⇓ *iP* **P** 10 59 19.0 +1.7
ISRB **Sarab** 86.61 308 *eP* **P** 10 59 20.5 -0.1
RAYN **Ar Rayn** 86.61 294 P **P** 10 59 21.0 +0.3
comp=Z,1μm,0.8s,SNR=48
DHBB **Dhamar BB** 86.73 285 *i* P **P** 10 59 23.3 +1.6
IHRS **Heris** 87.17 309 *eP* **P** 10 59 23.4 +0.1
IBST **Bostanabad** 87.20 308 *eP* **P** 10 59 22.7 -0.8
KDAK **Kodiak Island** 87.30 32 *ceP* P 10 59 26.7 +3.6
IAZR **Azarshahr** 87.91 308 ⇓ *eP* **P** 10 59 27.5 +0.6
IMRD **Marand** 88.26 309 *eP* **P** 10 59 29.2 +0.8
BHD **Baghdad** 88.69 303 *eP* **P** 10 59 30.0 -0.3
BHD *e*SKS **SKSac** 11 09 41.0 -5.5
BHD *e*S **S** 11 10 02.0 -3.2
GNI **Garni** 89.18 310 *c i* P **P** 10 59 33.3 +0.6
GNI pmax pmax
comp=Z,60nm,1.3s
TBLG **Delisi** 89.36 312 P **P** 10 59 34.0 +0.7
TBLG **Delisi** 89.36 312 P **P** 10 59 34.0 +0.7
KIV **Kislovodsk** 91.10 314 *eP* **P** 10 59 41.2 -0.2
KIV pmax pmax
comp=Z,13nm,1.0s
ILAR **Eielson Array** 91.28 25 P **P** 10 59 40.8 -0.9
comp=Z,2.1nm,1.0s,baz=267,slow=4.0,SNR=21
ILAR pP **pP** 11 00 22.4 +4.0
comp=Z,2.6nm,0.8s,baz=264,slow=4.8,SNR=4.9
ILAR LR LR 11 35 19.9
comp=Z,100nm,20.6s,baz=270,slow=32
ILAR **Eielson Array** 91.28 25 P **P** 10 59 40.8 -0.9
ILAR **Eielson Array** 91.28 25 P **P** 10 59 40.8 -0.9
ILAR pP **pP** 11 00 22.4 +4.0
VRHR **Novokhopersk** 92.41 321 *eP* **P** 10 59 45.5 -1.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
RKT **Rikitea** 93.00 113 *e*SKSac **SKSac** 11 10 11.2 -0.4
comp=Z,312nm,24.0s
RKT *e*LR LR 11 29 45.2
comp=Z,180nm,38.2s
VSR **Storozhevoye** 93.96 321 *eP* **P** 10 59 53.1 -1.3
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR pmax pmax
comp=Z,8.0nm,0.4s
ANN **Anapa** 94.91 314 *eP* P 11 00 08.6 +10
ANN pmax pmax
comp=Z,224nm,1.2s
MOS **Moscow** 95.01 325 *eP* **P** 10 59 56.6 -2.4
MOS *e* 11 03 49.2
MOS pmax pmax
comp=Z,74nm,1.0s
OBN **Obninsk** 95.61 325 *eP* **P** 11 00 00.5 -1.2
OBN *i* 11 03 53.8
OBN pmax pmax
comp=Z,103nm,1.6s
APA **Apatity** 96.69 337 ⇑ *iP* **P** 11 00 06.0 -0.4
APA pmax pmax
comp=Z,36nm,1.0s
APA MLR MLR
comp=Z,1μm,15.0s
INK **Inuvik** 96.73 22 P **P** 11 00 06.3 -0.3
comp=Z,6.5nm,1.0s,baz=283,slow=5.7,SNR=16
INK **Inuvik** 96.73 22 P **P** 11 00 06.3 -0.3
INK **Inuvik** 96.73 22 P **P** 11 00 06.3 -0.3
BRTR **Keskin Array B** 97.67 309 P **P** 11 00 10.6 -1.1
comp=Z,6.9nm,0.9s,baz=119,slow=4.9,SNR=28
BRTR PP **PP** 11 04 10.2 -1.2
comp=Z,4.0nm,1.1s,baz=97,slow=6.3,SNR=4.9
BRTR LR LR 11 54 18.6
comp=Z,81nm,18.1s,baz=256,slow=41
BRTR **Keskin Array B** 97.67 309 P **P** 11 00 10.6 -1.1
BRTR 11 04 10.2
BRTR **Keskin Array B** 97.67 309 P **P** 11 00 10.6 -1.1
BRTR PP **PP** 11 04 10.2 -1.2
JOF **Joensuu** 97.96 333 *eP* **P** 11 00 11.0 -1.2
JOF pmax pmax
comp=Z,35nm,1.0s
JOF **Joensuu** 97.96 333 *ep* **P** 11 00 11.0 -1.2
comp=Z,35nm,1.0s
JOF **Joensuu** 97.96 333 *ep* **P** 11 00 11.0 -1.2
comp=Z,35nm,1.0s
KEV **Kevo** 98.73 340 *eP* Pdif 11 00 15.9 +0.4
KEV **Kevo** 98.73 340 *ep* Pdif 11 00 15.9 +0.4
KEV **Kevo** 98.73 340 *ep* Pdif 11 00 15.9 +0.4
ARCES **ARCESS Array B** 99.29 340 P **Pdif** 11 00 17.0 -1.1
comp=Z,20nm,0.8s,baz=91,slow=5.7,SNR=24
ARCES **ARCESS Array B** 99.29 340 P **Pdif** 11 00 17.0 -1.1
ARCES **ARCESS Array B** 99.29 340 P **Pdif** 11 00 17.0 -1.1
AKASG **Malin Array Be** 100.26 321 P **Pdif** 11 00 21.3 -1.5
comp=Z,1.0nm,0.5s,baz=72,slow=4.2,SNR=6.0
AKASG PP **PP** 11 04 29.7 -0.8
comp=Z,4.6nm,0.9s,baz=74,slow=6.8,SNR=5.0
AKASG **Malin Array Be** 100.26 321 P **Pdif** 11 00 21.3 -1.5
AKASG 11 04 29.7
AKASG **Malin Array Be** 100.26 321 P **Pdif** 11 00 21.3 -1.5
AKASG PP **PP** 11 04 29.7 -0.8
KAF **Kangasniemi** 100.37 332 *eP* **Pdif** 11 00 22.2 -0.8
KAF pmax pmax
comp=Z,12nm,0.8s
KAF **Kangasniemi** 100.37 332 *ep* **Pdif** 11 00 22.2 -0.8
comp=Z,12nm,0.8s
KAF **Kangasniemi** 100.37 332 *ep* **Pdif** 11 00 22.2 -0.8
comp=Z,12nm,0.8s
BOSA **Boshof** 100.50 240 P **Pdif** 11 00 24.1 -0.5
comp=Z,16nm,0.8s,baz=108,slow=4.3,SNR=21
BOSA **Boshof** 100.50 240 P **Pdif** 11 00 24.1 -0.5
BOSA **Boshof** 100.50 240 P **Pdif** 11 00 24.1 -0.5
FINES **FINESS Array B** 100.59 332 P **Pdif** 11 00 22.7 -1.3
comp=Z,11nm,0.7s,baz=108,slow=6.2,SNR=19
FINES **FINESS Array B** 100.59 332 P **Pdif** 11 00 22.7 -1.3
FINES **FINESS Array B** 100.59 332 P **Pdif** 11 00 22.6 -1.3
KIS **Kishinev** 100.86 317 *e* UNK 11 04 38.0 +2.9
NACGM **Naroch** 101.25 325 *e* **Pdif** 11 00 23.0 -4.0
VRI **Vrincioaia** 102.40 316 ⇑ *iP* **PKiKP** 11 04 51.7 -1.7
PLOR **Plostina** 102.46 316 ⇑ *iP* **PKiKP** 11 04 52.2 -1.3
MLR **Muntele Rosu** 102.99 316 ⇓ *iP* **PKiKP** 11 04 54.9 +0.3

BURAR **Bucovina Array** 103.22 318 ⇓*i*P **Pdif** 11 00 36.8 +0.6
BURAR **Bucovina Array** 103.22 318 ⇑*i*P **PKiKP** 11 04 59.4 +4.5
SUW **Suwalki** 103.46 324 *e*P **Pdif** 11 00 36.9 -0.1
SUW **Suwalki** 103.46 324 *e*P **Pdif** 11 00 36.9 -0.1
KWP **Kalwaria Pacla** 104.55 320 *e*P **Pdif** 11 00 42.4 +0.5
KWP **Kalwaria Pacla** 104.55 320 *e*P **Pdif** 11 00 42.4 +0.5
UZH **Uzhgorod** 105.00 319 ⇑*i*P **Pdif** 11 00 44.2 +0.3
DRGR 105.03 317 ⇓P **Pdif** 11 00 44.4 +0.2
DRGR 105.03 317 ⇓*i*P **Pdif** 11 00 44.4 +0.2
DRGR 105.03 317 ⇓*i*P **PP** 11 05 14.2 +7.8
CRVS **Cervenica-Dubn** 105.49 319 *e*P **Pdif** 11 00 46.1 0.0
CRVS **Cervenica-Dubn** 105.49 319 PDIF **Pdif** 11 00 46.1 0.0
YKA **Yellowknife Ar** 105.70 26 Pdiff **Pdif** 11 00 45.1 -1.6
comp=Z,0.2nm,0.7s,baz=297,slow=4.9,SNR=4.0
YKA pPdiff **pPdif** 11 01 29.2 +5.8
comp=Z,0.3nm,0.9s,baz=286,slow=4.9,SNR=6.3
YKA PKiKP **PKiKP** 11 04 58.6 -0.2
comp=Z,0.8nm,0.6s,baz=294,slow=1.6,SNR=27
YKA PKKPbc **PKKPbc** 11 16 22.4 -3.3
comp=Z,0.9nm,0.8s,baz=107,slow=2.6,SNR=8.1
YKA Yellowknife Ar 105.70 26 P **Pdif** 11 00 45.1 -1.6
YKA Yellowknife Ar 105.70 26 Pdif **Pdif** 11 00 45.1 -1.6
YKA *e* 11 01 29.2
YKA PKiKP **PKiKP** 11 04 58.6 -0.2
YKA PKKPbc **PKKPbc** 11 16 22.4 -3.3
VYHS **Vyhne** 107.28 319 *e*P **Pdif** 11 00 54.7 +0.6
VYHS **Vyhne** 107.28 319 PDIF **Pdif** 11 00 54.7 +0.6
NB2 **NORSAR Subarra** 107.58 333 P **Pdif** 11 00 54.2 -1.0
comp=Z,5.5nm,0.8s,baz=70,slow=4.3
NOA **NORSAR Array B** 107.58 333 Pdiff **Pdif** 11 00 54.2 -1.0
comp=Z,4.7nm,0.9s,baz=68,slow=4.5,SNR=6.5
NOA NORSAR Array B 107.58 333 P **Pdif** 11 00 54.2 -1.0
NOA NORSAR Array B 107.58 333 Pdif **Pdif** 11 00 54.2 -1.0
BRG **Berggiesshubel** 109.72 323 *e*(P) **PP** 11 05 40.0 -0.2
comp=Z,39nm,1.9s
NVAR **Mina Array Bea** 109.95 51 PP **PP** 11 05 42.4 -0.3
comp=Z,0.7nm,0.7s,baz=253,slow=4.5,SNR=3.6
NVAR Mina Array Bea 109.95 51 PP **PP** 11 05 42.4 -0.3
CLL **Collm** 110.14 323 *e*PP **PP** 11 05 45.0 +1.7
PERS **Pernice** 110.17 318 *i* PKiKP **PKiKP** 11 05 07.9 +0.1
PERS *i* PP **PP** 11 05 48.1 +4.3
BOJS **Bojanci** 110.37 317 *i* PKiKP **PKiKP** 11 05 08.7 +0.6
BOJS *i* PP **PP** 11 05 35.3 -10
GERES **GERESS Array B** 110.47 321 PKiKP **PKiKP** 11 05 08.3 0.0
comp=Z,3.2nm,0.6s,baz=52,slow=1.3,SNR=15
GERES PP **PP** 11 05 47.4 +1.5
comp=Z,3.3nm,0.9s,baz=77,slow=5.8,SNR=6.6
GERES GERESS Array B 110.47 321 PKiKP **PKiKP** 11 05 08.4 0.0
GERES 11 05 47.4
GERES GERESS Array B 110.47 321 PKiKP **PKiKP** 11 05 08.3 0.0
GERES PP **PP** 11 05 47.4 +1.5
JAVS **Javornik** 111.07 318 *i* PKiKP **PKiKP** 11 05 11.4 +1.8
B15A **Bradely Ranch,** 111.59 40 ⇓P **PKiKP** 11 05 10.7 +0.1
baz=112
B15A ⇓P **PKiKP** 11 05 10.7 +0.1
baz=112
C15A **Salmond Ranch,** 111.73 40 ⇓P **PKiKP** 11 05 11.0 +0.1
baz=112
C15A ⇓P **PKiKP** 11 05 11.0 +0.1
baz=112
ABTA **Abfaltersbach** 111.86 319 ⇑*i*P **PKiKP** 11 05 10.9 -0.2
ABTA **Abfaltersbach** 111.86 319 ⇑*i*PKiKP **PKiKP** 11 05 10.9 -0.2
comp=Z,10nm,0.8s
WTTA **Wattenberg** 112.27 320 ⇑*i*PKiKP **PKiKP** 11 05 12.2 +0.2
WTTA **Wattenberg** 112.27 320 ⇑*i*P **PKiKP** 11 05 12.2 +0.2
WTTA **Wattenberg** 112.27 320 ⇑*i*PKiKP **PKiKP** 11 05 12.2 +0.2
comp=Z,15nm,0.5s
WATA **Walderalm** 112.29 320 ⇑*i*PKiKP **PKiKP** 11 05 11.9 0.0
WATA **Walderalm** 112.29 320 ⇑*i*P **PKiKP** 11 05 11.9 0.0
WATA **Walderalm** 112.29 320 ⇑*i*PKiKP **PKiKP** 11 05 11.9 0.0
comp=Z,3.6nm,0.5s
A17A **Triple J Farms** 112.56 38 ⇑P **PKiKP** 11 05 12.5 +0.2
baz=113
A17A ⇑P **PKiKP** 11 05 12.5 +0.2
baz=113
MOTA **Moosalm** 112.59 320 ⇓*i*PKiKP **PKiKP** 11 05 12.3 -0.2
MOTA **Moosalm** 112.59 320 ⇓*i*P **PKiKP** 11 05 12.3 -0.2
MOTA **Moosalm** 112.59 320 ⇓*i*PKiKP **PKiKP** 11 05 12.3 -0.2
comp=Z,4.8nm,0.5s
FETA **Feichten** 112.94 320 ⇑*i*P **PKiKP** 11 05 13.5 +0.3
FETA **Feichten** 112.94 320 ⇑*i*PKiKP **PKiKP** 11 05 13.5 +0.3
comp=Z,5.3nm,0.8s
A18A **Metzger Ranch,** 113.09 38 ⇑P **PKiKP** 11 05 13.6 +0.3
baz=113
A18A ⇑P **PKiKP** 11 05 13.6 +0.3
baz=113
K15A **Arbon** 113.28 45 ⇓P **PKiKP** 11 05 14.9 +0.9
baz=113
K15A ⇓P **PKiKP** 11 05 14.9 +0.9
baz=113
DAVA **Damuels** 113.40 320 ⇑*i*P **PKiKP** 11 05 14.4 +0.4
DAVA **Damuels** 113.40 320 ⇑*i*PKiKP **PKiKP** 11 05 14.4 +0.4
comp=Z,8.8nm,0.6s
F17A **Fitzpatrick Pl** 113.59 42 ⇑P **PKiKP** 11 05 15.1 +0.6
baz=114
F17A ⇑P **PKiKP** 11 05 15.1 +0.6
baz=114
B19A **Brinkman Farms** 113.82 38 ⇑P **PKiKP** 11 05 15.3 +0.7
baz=114
B19A ⇑P **PKiKP** 11 05 15.3 +0.7
baz=114
C19A **Slack Wire Ran** 114.01 39 ⇑P **PKiKP** 11 05 15.6 +0.5
baz=114
C19A ⇑P **PKiKP** 11 05 15.6 +0.5
baz=114
F18A **Big Timber** 114.22 41 ⇓P PKPdf 11 05 16.3 +0.6
baz=114
F18A ⇓P PKPdf 11 05 16.3 +0.6
baz=114
D19A **Cripps Ranch,** 114.32 40 ⇓P PKPdf 11 05 16.2 +0.5
baz=114
D19A ⇓P PKPdf 11 05 16.2 +0.5
baz=114
E19A **Rath Farm, Rou** 114.63 40 ⇑P PKPdf 11 05 16.7 +0.3
baz=115
E19A ⇑P PKPdf 11 05 16.7 +0.3
baz=115
A21A **Bergtoll Ranch** 114.85 37 ⇑P PKPdf 11 05 17.0 +0.4
baz=115
A21A ⇑P PKPdf 11 05 17.0 +0.4
baz=115
HINF **Hinteralfeld** 115.12 321 *e*PKiKP **PKPdf** 11 05 16.7 -0.5
S16A **Weppner Ranch,** 115.28 50 ⇑P **PKPdf** 11 05 18.5 +0.5
baz=115
S16A ⇑P **PKPdf** 11 05 18.5 +0.5
baz=115
PDAR **Pinedale Array** 115.34 45 PKP **PKPdf** 11 05 18.5 +0.4
comp=Z,0.7nm,0.7s,baz=215,slow=0.7,SNR=6.1
PDAR PKKPbc **PKKPbc** 11 15 52.9 -1.1
comp=Z,3.8nm,0.9s,baz=245,slow=2.5,SNR=13
PDAR Pinedale Array 115.34 45 PKP **PKPdf** 11 05 18.5 +0.4
PDAR PKKPbc **PKKPbc** 11 15 52.9 -1.1
G20A **Bridger** 115.44 42 ⇓P **PKPdf** 11 05 18.2 +0.2
baz=115
G20A ⇓P **PKPdf** 11 05 18.2 +0.2
baz=115
R17A **Hanksville Air** 115.77 49 ⇓P **PKPdf** 11 05 19.4 +0.5
baz=116
R17A ⇓P **PKPdf** 11 05 19.4 +0.5
baz=116
BAIF **Baives** 115.79 324 *e*PKiKP **PKPdf** 11 05 18.7 +0.4
comp=Z,11nm,0.7s
H20A **Greybull** 115.84 42 ⇑P **PKPdf** 11 05 19.1 +0.3
baz=116
H20A ⇑P **PKPdf** 11 05 19.1 +0.3
baz=116
I20A **Worland** 115.94 43 ⇑P **PKPdf** 11 05 19.0 0.0
baz=116
I20A ⇑P **PKPdf** 11 05 19.0 0.0
baz=116
MEZF **Maizieres J'vi** 115.95 323 *e*PKiKP **PKPdf** 11 05 19.4 +0.7
C22A **Vida** 115.98 38 ⇓P **PKPdf** 11 05 19.1 +0.2
baz=116
C22A ⇓P **PKPdf** 11 05 19.1 +0.2
baz=116
U16A **Tuba City** 116.03 52 ⇓P **PKPdf** 11 05 19.8 +0.3
baz=116
U16A ⇓P **PKPdf** 11 05 19.8 +0.3
baz=116
D22A **Cohagen** 116.04 39 ⇓P **PKPdf** 11 05 19.7 +0.7
baz=116
D22A ⇓P **PKPdf** 11 05 19.7 +0.7
baz=116
LPG **La Plagne** 116.05 319 *e*PKiKP **PKPdf** 11 05 19.4 0.0
comp=Z,28nm,0.9s
LPL **La Plagne** 116.06 319 *e*PKiKP **PKPdf** 11 05 19.3 0.0
comp=Z,27nm,0.8s
CABF **La Chapelle** 116.06 320 *e*PKiKP **PKPdf** 11 05 19.2 +0.1
comp=Z,35nm,0.8s
B23A **Brockton** 116.23 37 ⇑P **PKPdf** 11 05 19.8 +0.5
baz=116
B23A ⇑P **PKPdf** 11 05 19.8 +0.5
baz=116
MBDF **Montbardon** 116.32 318 *e*PKiKP **PKPdf** 11 05 19.3 -0.5
comp=Z,18nm,0.9s
C23A **Lambert** 116.39 38 ⇑P **PKPdf** 11 05 20.6 +0.9
baz=116
C23A ⇑P **PKPdf** 11 05 20.6 +0.9
baz=116
R18A **Canyonlands Na** 116.40 49 ⇑P **PKPdf** 11 05 20.7 +0.5
baz=116
R18A ⇑P **PKPdf** 11 05 20.7 +0.5
baz=116
F22A **Rosebud** 116.52 40 ⇑P **PKPdf** 11 05 20.3 +0.3
baz=116
F22A ⇑P **PKPdf** 11 05 20.3 +0.3
baz=116
D23A **Lindsay** 116.64 39 ⇑P **PKPdf** 11 05 20.9 +0.7
baz=117
D23A ⇑P **PKPdf** 11 05 20.9 +0.7
baz=117
ORIF **Oris-en-Rattie** 116.84 319 *e*PKiKP **PKPdf** 11 05 20.4 -0.3
comp=Z,13nm,0.7s
N20A **Spence Gulch,** 116.87 46 ⇑P **PKPdf** 11 05 21.7 +0.6
baz=117
N20A ⇑P **PKPdf** 11 05 21.7 +0.6
baz=117
I22A **9 Mile Ranch,** 117.07 42 ⇓P **PKPdf** 11 05 21.4 +0.2
baz=117
I22A ⇓P **PKPdf** 11 05 21.4 +0.2
baz=117
O20A **White River Ci** 117.11 47 ⇑P **PKPdf** 11 05 21.7 +0.2
baz=117
O20A ⇑P **PKPdf** 11 05 21.7 +0.2
baz=117
LOR **Lormes** 117.20 322 *e*PKiKP **PKPdf** 11 05 21.1 -0.1
comp=Z,8.6nm,0.7s
D24A **Glendive** 117.21 38 ⇑P **PKPdf** 11 05 21.6 +0.3
baz=117
D24A ⇑P **PKPdf** 11 05 21.6 +0.3
baz=117
KEST **Kesra** 117.23 308 PKP **PKPdf** 11 05 22.3 +0.6
comp=Z,2.2nm,0.9s,baz=282,slow=7.9,SNR=4.0
KEST PP **PP** 11 06 32.1 -2.0
comp=Z,8.5nm,1.0s,baz=296,slow=2.3,SNR=8.7
KEST Kesra 117.23 308 PKP **PKPdf** 11 05 22.3 +0.6
KEST PP **PP** 11 06 32.1 -2.0
J22A **Midwest** 117.25 43 ⇑P **PKPdf** 11 05 21.5 -0.1
baz=117
J22A ⇑P **PKPdf** 11 05 21.5 -0.1
baz=117
SMRF **Simiane la Rot** 117.40 318 *e*PKiKP **PKPdf** 11 05 22.0 +0.3
comp=Z,15nm,0.7s
N21A **Black Mountain** 117.43 46 ⇓P **PKPdf** 11 05 22.6 +0.5
baz=117
N21A ⇓P **PKPdf** 11 05 22.6 +0.5
baz=117
E24A **Baker** 117.45 39 ⇓P **PKPdf** 11 05 22.2 +0.4
baz=117
E24A ⇓P **PKPdf** 11 05 22.2 +0.4
baz=117
SSF **Saint Saulge** 117.50 322 *e*PKiKP **PKPdf** 11 05 21.8 0.0
comp=Z,18nm,0.8s
VIVF **Saint-Julien-l** 117.66 319 *e*PKiKP **PKPdf** 11 05 22.0 -0.2
comp=Z,7.8nm,0.5s
AVF **Avril sur Loir** 117.71 321 *e*PKiKP **PKPdf** 11 05 21.8 -0.3
comp=Z,19nm,1.0s
MVCO **Mesa Verde** 117.79 50 ⇑P **PKPdf** 11 05 23.8 +0.9
baz=118
MVCO ⇑P **PKPdf** 11 05 23.8 +0.9
baz=118
BGF **Bois d'Agland** 118.13 321 *e*PKiKP **PKPdf** 11 05 23.1 +0.1
comp=Z,46nm,0.9s
S21A **Coal Bank Pass** 118.19 49 ⇓P **PKPdf** 11 05 24.9 +1.1
baz=118
S21A ⇓P **PKPdf** 11 05 24.9 +1.1
baz=118
LASF **Ste Croix** 118.50 318 *e*PKiKP **PKPdf** 11 05 23.7 -0.1
TCF **Toulx Ste Croi** 118.64 321 *e*PKiKP **PKPdf** 11 05 24.1 +0.1
comp=Z,13nm,0.6s
319A **Douglas** 118.64 57 ⇓P **PKPdf** 11 05 25.1 +0.5
baz=119
319A ⇓P **PKPdf** 11 05 25.1 +0.5
baz=119
U21A **Nageezi** 118.66 51 ⇑P **PKPdf** 11 05 25.3 +0.7
baz=119
U21A ⇑P **PKPdf** 11 05 25.3 +0.7
baz=119
O23A **Lake Granby, G** 118.77 46 ⇓P **PKPdf** 11 05 25.5 +0.7
baz=119
O23A ⇓P **PKPdf** 11 05 25.5 +0.7
baz=119
R22A **Saguache, Gunn** 118.80 49 ⇓P **PKPdf** 11 05 26.0 +1.1
baz=119
R22A ⇓P **PKPdf** 11 05 26.0 +1.1
baz=119
S22A **4UR Ranch, Cre** 118.90 49 ⇓P **PKPdf** 11 05 26.0 +0.8
baz=119
S22A ⇓P **PKPdf** 11 05 26.0 +0.8
baz=119
FLN **La Foliniere** 119.11 325 *e*PKiKP **PKPdf** 11 05 25.3 +0.5
X21A **Alamocita Cree** 119.11 53 ⇓P **PKPdf** 11 05 26.0 +0.5
baz=119
X21A ⇓P **PKPdf** 11 05 26.0 +0.5
baz=119
220A **Playas Peak, P** 119.15 56 ⇓P **PKPdf** 11 05 25.7 +0.1
baz=119
220A ⇓P **PKPdf** 11 05 25.7 +0.1
baz=119
CAF **Calviac** 119.32 320 *e*PKiKP **PKPdf** 11 05 25.7 +0.3
V22A **San Miguel Ran** 119.39 51 ⇓P **PKPdf** 11 05 26.8 +0.8
baz=119
V22A ⇓P **PKPdf** 11 05 26.8 +0.8
baz=119
R23A **Moffat** 119.51 48 ⇓P **PKPdf** 11 05 26.8 +0.6
baz=120
R23A ⇓P **PKPdf** 11 05 26.8 +0.6
baz=120
T23A **Casias Ranch,** 119.72 50 ⇑P **PKPdf** 11 05 28.0 +1.3
baz=120
T23A ⇑P **PKPdf** 11 05 28.0 +1.3
baz=120
MTLF **Montolieu** 119.89 318 *e*PKiKP **PKPdf** 11 05 26.3 -0.2
Y22A **Socorro** 119.90 53 ⇓P **PKPdf** 11 05 27.7 +0.7
baz=120
Y22A ⇓P **PKPdf** 11 05 27.7 +0.7
baz=120
MFF **Saint Martin d** 119.95 322 *e*PKiKP **PKPdf** 11 05 26.4 -0.1
comp=Z,20nm,0.6s
Z22A **Elephant Butte** 120.08 54 ⇓P **PKPdf** 11 05 28.0 +0.6
baz=120
Z22A ⇓P **PKPdf** 11 05 28.0 +0.6
baz=120
Q25A **Bedland, Calha** 120.43 47 ⇓P **PKPdf** 11 05 28.7 +0.7
baz=120
Q25A ⇓P **PKPdf** 11 05 28.7 +0.7
baz=120
ULM **Lac du Bonnet** 120.55 32 PKP **PKPdf** 11 05 27.0 -0.5
comp=Z,2.4nm,0.7s,baz=307,slow=3.1,SNR=6.0
ULM SKP **SKPdf** 11 08 47.1 -2.5
comp=Z,2.4nm,0.8s,baz=198,slow=1.5,SNR=2.9
ULM PKKPbc **PKKPab** 11 15 34.2 -1.0
comp=Z,2.6nm,0.7s,baz=123,slow=4.9,SNR=5.5
ULM Lac du Bonnet 120.55 32 PKiKP **PKPdf** 11 05 27.0 -0.5
ULM Lac du Bonnet 120.55 32 PKP **PKPdf** 11 05 27.0 -0.5
ULM SKP **SKPdf** 11 08 47.1 -2.5
ULM PKKPbc **PKKPab** 11 15 34.2 -1.0
SGMF **Saint Gilles** 120.55 325 *e*PKiKP **PKPdf** 11 05 27.4 -0.2
comp=Z,12nm,0.5s
O26A **Horse Wrangler** 120.62 45 ⇑P **PKPdf** 11 05 28.4 +0.3
baz=121
O26A ⇑P **PKPdf** 11 05 28.4 +0.3
baz=121
R25A **Fountain Ranch** 120.67 48 ⇓P **PKPdf** 11 05 28.6 +0.3
baz=121
R25A ⇓P **PKPdf** 11 05 28.6 +0.3
baz=121
V24A **Rampart Ranch,** 120.71 51 ⇑P **PKPdf** 11 05 29.1 +0.5
baz=121
V24A ⇑P **PKPdf** 11 05 29.1 +0.5
baz=121
S25A **Robets Cordova** 120.72 49 ⇓P **PKPdf** 11 05 29.1 +0.6
baz=121
S25A ⇓P **PKPdf** 11 05 29.1 +0.6
baz=121
W24A **Lazy 6 Ranch,** 120.76 52 ⇑P **PKPdf** 11 05 29.8 +1.1
baz=121
W24A ⇑P **PKPdf** 11 05 29.8 +1.1
baz=121
T25A **Trinidad** 120.91 49 ⇓P **PKPdf** 11 05 29.5 +0.6
baz=121
T25A ⇓P **PKPdf** 11 05 29.5 +0.6
baz=121
Y24A **Capitan** 121.12 53 ⇓P **PKPdf** 11 05 29.8 +0.4
baz=121
Y24A ⇓P **PKPdf** 11 05 29.8 +0.4
baz=121
V25A **Rancho No Teng** 121.18 51 ⇓P **PKPdf** 11 05 29.6 +0.1
baz=121
V25A ⇓P **PKPdf** 11 05 29.6 +0.1
baz=121
R26A **Arlington** 121.23 48 ⇓P **PKPdf** 11 05 29.7 +0.4
baz=121
R26A ⇓P **PKPdf** 11 05 29.7 +0.4
baz=121
EPF **Esparros** 121.26 319 *e*PKiKP **PKPdf** 11 05 29.3 +0.1
comp=Z,6.0nm,0.5s
Z24A **Sheeppen Canyo** 121.35 54 ⇓P **PKPdf** 11 05 30.3 +0.4
baz=121
Z24A ⇓P **PKPdf** 11 05 30.3 +0.4
baz=121
S26A **Kim** 121.45 48 ⇑P **PKPdf** 11 05 30.5 +0.7
baz=121
S26A ⇑P **PKPdf** 11 05 30.5 +0.7
baz=121
Y25A **Mesa, Roswell** 121.71 53 ⇓P **PKPdf** 11 05 30.5 +0.1
baz=122
Y25A ⇓P **PKPdf** 11 05 30.5 +0.1
baz=122
324A **Moseley Ranch,** 121.77 56 ⇑P **PKPdf** 11 05 30.6 -0.1
baz=122
324A ⇑P **PKPdf** 11 05 30.6 -0.1
baz=122
Z25A **Roswell** 121.88 53 ⇓P **PKPdf** 11 05 31.1 +0.3
baz=122
Z25A ⇓P **PKPdf** 11 05 31.1 +0.3
baz=122
425A **Indio Mountain** 122.36 56 ⇑P **PKPdf** 11 05 31.8 0.0
baz=122
425A ⇑P **PKPdf** 11 05 31.8 0.0
baz=122
226A **Malaga, Loving** 122.73 55 ⇑P **PKPdf** 11 05 32.6 +0.2
baz=123
226A ⇑P **PKPdf** 11 05 32.6 +0.2
baz=123
Y27A **Causey** 122.94 52 ⇓P **PKPdf** 11 05 33.2 +0.5
baz=123
Y27A ⇓P **PKPdf** 11 05 33.2 +0.5
baz=123
326A **Caldwell Ranch** 123.05 55 ⇓P **PKPdf** 11 05 33.3 +0.3
baz=123
326A ⇓P **PKPdf** 11 05 33.3 +0.3
baz=123
Z27A **Tatum** 123.07 53 ⇓P **PKPdf** 11 05 33.3 +0.2
baz=123
Z27A ⇓P **PKPdf** 11 05 33.3 +0.2
baz=123
526A **Mary Lane Ranc** 123.30 57 ⇓P **PKPdf** 11 05 34.0 +0.4
baz=123
526A ⇓P **PKPdf** 11 05 34.0 +0.4
baz=123
626A **Big Bend Ranch** 123.39 58 ⇓P **PKPdf** 11 05 34.2 +0.5
baz=123
626A ⇓P **PKPdf** 11 05 34.2 +0.5
baz=123
527A **Woodward Ranch** 123.67 57 ⇓P **PKPdf** 11 05 34.8 +0.5
baz=124
527A ⇓P **PKPdf** 11 05 34.8 +0.5
baz=124
TXAR **Lajitas Array** 123.84 58 PKP **PKPdf** 11 05 35.2 +0.6
comp=Z,0.8nm,0.7s,baz=230,slow=1.2,SNR=13
TXAR PKKPbc **PKKPab** 11 15 21.0 -0.6
comp=Z,3.9nm,1.1s,baz=117,slow=5.2,SNR=15
TXAR Lajitas Array 123.84 58 PKiKP **PKPdf** 11 05 35.2 +0.6
TXAR Lajitas Array 123.84 58 PKP **PKPdf** 11 05 35.2 +0.6
TXAR PKKPbc **PKKPab** 11 15 21.0 -0.6
328A **Wristen Ranch,** 123.98 55 ⇓P **PKPdf** 11 05 35.2 +0.5
baz=124
328A ⇓P **PKPdf** 11 05 35.2 +0.5
baz=124
627A **Terlingua Ranc** 124.05 57 ⇓P **PKPdf** 11 05 35.1 +0.1
baz=124
627A ⇓P **PKPdf** 11 05 35.1 +0.1
baz=124
ESDC **Sonseca Array** 125.66 317 PKP **PKPdf** 11 05 38.3 +0.5
comp=Z,0.5nm,0.3s,baz=18,slow=5.2,SNR=5.7
ESDC PP **PP** 11 07 26.4 -4.6
comp=Z,0.4nm,0.3s,baz=69,slow=8.1,SNR=4.0
ESDC Sonseca Array 125.66 317 PKP **PKPdf** 11 05 38.3 +0.5
ESDC PP **PP** 11 07 26.4 -4.6
JCT **Junction City** 126.72 55 ⇑P **PKPdf** 11 05 40.3 +0.3
baz=127
JCT ⇑P **PKPdf** 11 05 40.3 +0.3
baz=127
TORD **Torodi Ar. Bea** 128.13 283 PKhKP PKPpre 11 05 39.3
comp=Z,9.9nm,0.8s,baz=174,slow=3.3,SNR=28
TORD PKP **PKiKP** 11 05 43.4 -0.3
comp=Z,11nm,0.8s,baz=80,slow=1.8,SNR=40
TORD pPKP pPKPdf 11 06 24.6 +3.3
comp=Z,3.4nm,0.8s,baz=90,slow=1.5,SNR=2.3
TORD PP **PP** 11 07 42.2 -6.1
comp=Z,3.6nm,0.8s,baz=63,slow=5.7,SNR=4.6
TORD SKPbc SKiKP 11 08 46.1 -20
comp=Z,18nm,0.8s,baz=73,slow=3.0,SNR=14
TORD Torodi Ar. Bea 128.13 283 PKPpre PKPpre 11 05 39.3
TORD PKP **PKiKP** 11 05 43.4 -0.3
TORD pPKP pPKPdf 11 06 24.6 +3.3
TORD PP **PP** 11 07 42.2 -6.1
TORD SKPbc SKiKP 11 08 46.1 -20
SCHQ **Schefferville** 128.15 12 PKP **PKPdf** 11 05 41.9 -0.1
comp=Z,10nm,1.1s,baz=58,slow=3.4,SNR=7.6
SCHQ PKKPab PKKPdf 11 15 02.6 -51
comp=Z,2.9nm,1.0s,baz=158,slow=9.3,SNR=4.7
SCHQ Schefferville 128.15 12 PKP **PKPdf** 11 05 41.9 -0.1
SCHQ PKKPab PKKPdf 11 15 02.6 -51
PLCA **Paso Flores** 131.17 159 PKP **PKPdf** 11 05 48.9 +0.6
comp=Z,4.0nm,0.7s,baz=224,slow=1.2,SNR=14
PLCA pPKP **pPKPdf** 11 06 29.3 +2.7
comp=Z,1.6nm,0.7s,baz=215,slow=4.8,SNR=1.7
PLCA SKPbc **SKPbc** 11 08 57.7 -2.1
comp=Z,21nm,0.9s,baz=209,slow=4.6,SNR=22
PLCA Paso Flores 131.17 159 PKiKP **PKPdf** 11 05 48.9 +0.6
PLCA 11 06 29.3
PLCA Paso Flores 131.17 159 PKP **PKPdf** 11 05 48.9 +0.6
PLCA pPKP **pPKPdf** 11 06 29.3 +2.7
PLCA SKPbc **SKPbc** 11 08 57.7 -2.1
DBIC **Dimbokro** 134.85 275 PKhKP PKPpre 11 05 47.1
comp=Z,4.9nm,0.6s,baz=102,slow=2.2,SNR=8.1
DBIC PP **PP** 11 08 31.2 -0.5
comp=Z,4.4nm,1.0s,baz=64,slow=8.5,SNR=3.6
DBIC SKPbc **SKPbc** 11 09 09.8 -3.2
comp=Z,14nm,0.9s,baz=64,slow=3.5,SNR=8.1
DBIC Dimbokro 134.85 275 PKHKP PKPpre 11 05 47.2
DBIC 11 08 31.2
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC pmax pmax
comp=N,14nm,0.9s
LIC **Lamto** 135.02 274 *e*PKiKP **PKPdf** 11 05 56.6 +0.5
comp=N,25nm,0.7s
CFAA **Coronel Fontan** 140.09 156 PKhKP PKPpre 11 06 00.3
comp=N,1.2nm,0.8s,baz=247,slow=2.8,SNR=16
CFAA SKPbc **SKPbc** 11 09 25.4 -2.5
comp=N,1.0nm,0.8s,baz=258,slow=1.8,SNR=6.4
CFAA Coronel Fontan 140.09 156 PKPpre PKPpre 11 06 00.3
CFAA SKPbc **SKPbc** 11 09 25.4 -2.5
NNA Nana 148.78 122 *e i*PKP2 **PKPbc** 11 06 26.3 +1.8
LPAZ La Paz 152.68 140 PKP **PKPdf** 11 06 27.9 +0.7
comp=N,2.0nm,0.8s,baz=262,slow=1.8,SNR=4.5
LPAZ PKPbc **PKPbc** 11 06 34.0 -0.4
comp=N,2.8nm,0.4s,baz=17,slow=3.3,SNR=8.1
LPAZ PKPab **PKPab** 11 06 45.2 -0.2
comp=N,7.0nm,0.6s,baz=169,slow=3.4,SNR=9.1
LPAZ pPKPbc **pPKPbc** 11 07 17.3 +4.7
comp=N,10nm,0.9s,baz=327,slow=2.0,SNR=3.3
LPAZ La Paz 152.68 140 PKiKP **PKPdf** 11 06 27.9 +0.7
LPAZ 11 06 45.2
LPAZ 11 07 17.3
LPAZ La Paz 152.68 140 PKP **PKPdf** 11 06 27.9 +0.7

LPAZ PKPbc **PKPbc** **11 06 34.0 -0.4**
LPAZ PKPab **PKPab** **11 06 45.2 -0.2**
LPAZ pPKPbc **pPKPbc** **11 07 17.3 +4.7**
ROSC El Rosal 155.94 88 PKPab **PKPab** **11 07 01.7 +2.4**
comp=N,5.8nm,0.4s,baz=75,slow=20,SNR=5.1
ROSC El Rosal 155.94 88 PKPab **PKPab** **11 07 01.7 +2.4**
SIV San Ignacio 156.87 152 PKP **PKPdf** **11 06 33.0 +0.8**
comp=N,1.7nm,0.8s,baz=245,slow=1.8,SNR=5.9
SIV PKPab **PKPab** **11 07 03.0 +0.5**
comp=N,4.3nm,0.8s,baz=228,slow=4.2,SNR=9.0
SIV San Ignacio 156.87 152 PKP **PKPdf** **11 06 33.0 +0.8**
SIV PKPab **PKPab** **11 07 03.0 +0.5**
BDFB Brasilia 159.76 186 PKP **PKPdf** **11 06 36.6 +0.8**
comp=N,1.0nm,0.3s,baz=15,slow=23,SNR=3.4
BDFB Brasilia 159.76 186 PKIKP **PKPdf** **11 06 36.6 +0.8**
BDFB Brasilia 159.76 186 PKP **PKPdf** **11 06 36.6 +0.8**
RCBR Riachuelo 162.36 234 PKPab **PKPab** **11 07 27.4 +0.8**
comp=N,11nm,0.7s,baz=118,slow=7.3,SNR=7.8
RCBR Riachuelo 162.36 234 PKPab **PKPab** **11 07 27.4 +0.8**

*IDC **20** 11:02:59.0±0.5,56°.83S×25°.03W,h0km,mb4.5/10, mb1 4.5/10,mb1mx4.4/15,mbtmp4.5/10,Error ellipse: s-maj=19.7km s-min=17.9km az=180.0*
*ISCJB **20** 11:03:00.5±0.5,56°.89S±0°.07×25°.0W±0°.2,h22km, mb4.5/12,Error ellipse: s-maj=13.4km s-min=9.6km az=153.2*

ISC 20 11:03:02.3±0.5,56°.9S±0°.1×25°.0W±0°.1,h22km,n30, σ0°77/30,mb4.5/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
VNA1	**Neumayer--Stat**	**15.58**	**159**	*eP*		**Pn**	**11 06 38.8**	**-1.4**
VNA3	**Neumayer Olymp**	**15.82**	**162**	*eP*		**Pn**	**11 06 43.5**	**+0.2**
VNA3				*e*			11 06 44.8	
VNA2	**Neumayer--Watz**	**15.97**	**159**	*eP*		**Pn**	**11 06 44.7**	**-0.6**
	baz=326,slow=14							
VNA2				*e*			11 06 46.4	
SNAA	**Sanae**	**17.50**	**157**	*eP*		**Pn**	**11 07 03.3**	**-1.2**
SNAA				*e*			11 07 05.4	
PMSA	**Palmer Station**	**20.31**	**231**	P		**P**	**11 07 36.9**	**+0.6**
	26nm,0.6s,baz=80,slow=8.4,SNR=14							
MAIT	**Maitri**	**20.87**	**146**	*eP*		Pn	11 07 48.1	+3.2
USHA	**Ushuaia**	**24.17**	**256**	P		**P**	**11 08 16.5**	**-0.1**
	13nm,0.7s,baz=53,slow=7.1,SNR=4.1							
QSPA	**South Pole Qui**	**33.38**	**180**	P		**P**	**11 09 38.8**	**+0.1**
	11nm,0.5s,baz=233,slow=1.4,SNR=54							
CFAA	**Coronel Fontan**	**39.00**	**292**	P		**P**	**11 10 25.8**	**-1.1**
	0.3nm,0.4s,baz=153,slow=16,SNR=4.2							
BDFB	**Brasilia**	**44.70**	**328**	P		P	11 11 17.6	+4.0
	1.2nm,0.3s,baz=139,slow=11,SNR=2.8							
BOSA	**Boshof**	**45.01**	**73**	P		**P**	**11 11 16.2**	**+0.1**
	2.8nm,0.8s,baz=177,slow=10,SNR=3.1							
LBTB	**Lobatse**	**48.10**	**70**	P		**P**	**11 11 40.5**	**+0.2**
	2.5nm,0.7s,baz=219,slow=6.5,SNR=2.6							
SIV	**San Ignacio**	**49.03**	**311**	P		**P**	**11 11 47.0**	**-0.5**
	2.5nm,0.5s,baz=162,slow=6.8,SNR=8.0							
LPAZ	**La Paz**	**51.85**	**303**	P		**P**	**11 12 09.9**	**+0.5**
	30nm,0.5s,baz=143,slow=5.9,SNR=44							
DBIC	**Dimbokro**	**65.44**	**22**	P		**P**	**11 13 43.2**	**0.0**
	3.1nm,0.8s,baz=173,slow=12,SNR=3.4							
TORD	**Torodi Ar. Bea**	**73.20**	**27**	P		**P**	**11 14 31.4**	**+0.2**
	5.7nm,0.8s,baz=196,slow=6.6,SNR=26							
STKA	**Stephens Creek**	**90.87**	**169**	P		**P**	**11 16 05.2**	**+1.2**
	1.5nm,0.7s,baz=157,slow=7.7,SNR=3.1							
ASAR	**Alice Springs**	**97.82**	**161**	P		**P**	**11 16 35.6**	**-0.3**
	0.8nm,0.6s,baz=185,slow=4.2,SNR=14							
WRA	**Warramunga Arr**	**101.53**	**160**	P		**Pdif**	**11 16 51.8**	**-0.7**
	0.3nm,0.5s,baz=195,slow=4.1,SNR=4.9							
PDAR	**Pinedale Array**	**121.81**	**300**	PKP		**PKPdf**	**11 21 53.4**	**-0.5**
	0.3nm,0.6s,baz=174,slow=4.5,SNR=2.6							
NVAR	**Mina Array Bea**	**122.84**	**291**	PKP		**PKPdf**	**11 21 57.4**	**+1.4**
	0.3nm,0.7s,baz=125,slow=1.4,SNR=2.7							
CMAR	**Chiang Mai Arr**	**123.64**	**109**	PKP		**PKPdf**	**11 21 58.8**	**+0.9**
	1.2nm,0.7s,baz=231,slow=3.5,SNR=7.5							
FINES	**FINESS Array B**	**124.55**	**27**	PKP		**PKPdf**	**11 21 58.7**	**+0.5**
	1.5nm,0.6s,baz=163,slow=5.2,SNR=2.1							
MKAR	**Makanchi Array**	**136.00**	**71**	PKP		**PKPdf**	**11 22 18.9**	**-1.6**
	0.2nm,0.7s,baz=261,slow=1.8,SNR=2.7							
YKA	**Yellowknife Ar**	**137.61**	**316**	PKhKP		PKPpre	11 22 08.8	
	0.1nm,0.6s,baz=105,slow=4.5,SNR=2.7							
YKA				PKP		**PKPdf**	**11 22 23.2**	**+0.3**
	1.3nm,0.6s,baz=126,slow=2.3,SNR=32							
YKA				SKPbc		**SKPbc**	**11 25 54.3**	**-0.4**
	0.6nm,0.7s,baz=126,slow=2.5,SNR=8.0							
ZALV	**Zalesovo Beam**	**141.64**	**64**	PKhKP		PKPpre	11 22 24.5	
	0.6nm,0.5s,baz=247,slow=4.7,SNR=3.5							
ZALV				PKP		**PKiKP**	**11 22 32.5**	**-0.8**
	0.5nm,0.3s,baz=232,slow=1.6,SNR=3.2							
SONM	**Songino Array**	**149.56**	**86**	PKPbc		**PKPbc**	**11 22 49.1**	**+0.2**
	3.3nm,0.6s,baz=225,slow=3.0,SNR=40							
SONM				PKKP		PKKPdf	11 31 42.6	+9.2
	0.3nm,0.7s,baz=73,slow=5.1,SNR=3.8							
ILAR	**Eielson Array**	**151.58**	**310**	PKPbc		**PKPbc**	**11 22 53.2**	**+0.2**
	4.7nm,0.8s,baz=138,slow=5.3,SNR=40							
KSAR	**Wonju Array Be**	**153.50**	**126**	PKPab		**PKPab**	**11 23 10.3**	**-0.3**
KSRS	**Korea Array**	**153.53**	**126**	PKPbc		**PKPbc**	**11 22 59.1**	**+0.9**
	0.6nm,0.7s,baz=228,slow=1.5,SNR=4.2							
KSRS				PKPab		**PKPab**	**11 23 10.3**	**-0.4**
	0.7nm,0.6s,baz=204,slow=2.7,SNR=5.6							

*MOS **20** 11:02:55.6±0.7,10°.56S×166°.02E,h136km,mb4.9/20, Error ellipse: s-maj=13.2km s-min=10.1km az=58.6*
*IDC **20** 11:02:59.1±1.2,10°.72S×166°.32E,h164km±9km,mb4.3/20, mb1 4.5/22,mb1mx4.5/23,mbtmp4.4/22,Error ellipse: s-maj=13.9km s-min=10.8km az=103.0*
*BJI **20** 11:03:01.0,10°.47S×166°.68E,h199km,mB5.1/18, mb4.6/28*
*ISCJB **20** 11:03:03.6±0.9,10°.67S±0°.04×166°.04E±0°.03,h207km±8km, mb4.6/84,Error ellipse: s-maj=6.5km s-min=5.1km az=3.5*
*NEIC **20** 11:03:03.5±0.1,10°.67S×166°.10E,mb4.8/46,Error ellipse: s-maj=6.4km s-min=4.3km az=141.0*

ISC 20 11:03:03.4±0.4,10°.77S±0°.04×166°.15E±0°.05,h201km±2km, h201km:pP-P,n417,σ1s90/488,mb4.7/84,104C-84D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HNR	**Honiara**	**6.25**	**282**	P		**Pn**	**11 04 33.4**	**-0.5**
	23nm,0.3s,baz=193,slow=0.8,SNR=19							
HNR	**Honiara**	**6.25**	**282**	P		**Pn**	**11 04 33.4**	**-0.5**
HNR	**Honiara**	**6.25**	**282**	P		**Pn**	**11 04 33.4**	**-0.5**
HNR				*e*Pn		Pn	11 04 33.6	-0.4
HNR				*e*Sn		**S**	**11 05 43.7**	**-1.6**
DZM	**Mont Dzumac**	**11.24**	**179**	P		**P**	**11 05 42.4**	**-2.3**
	13nm,0.3s,baz=37,slow=14,SNR=126							
DZM				S		**S**	**11 07 43.3**	**-1.1**
	0.8nm,0.3s,baz=139,slow=19,SNR=3.6							
DZM	**Mont Dzumac**	**11.24**	**179**	*e*Pn		**P**	**11 05 42.0**	**-2.7**
DZM				S		**S**	**11 07 43.3**	**-1.1**
DZM				*e*Sn			11 07 47.0	
NOUC	**Port Laguerre**	**11.27**	**179**	*eP*		**P**	**11 05 42.2**	**-2.7**
NOUC				*eS*		**S**	**11 07 45.4**	**+0.5**
BAYA	**Yate Dam**	**11.35**	**177**	*eP*		**Pn**	**11 05 41.8**	**+1.8**
PMG	**Port Moresby**	**18.74**	**272**	P		**P**	**11 07 08.5**	**+1.0**
	0.6nm,0.3s,baz=95,slow=4.1,SNR=6.8							
PMG	**Port Moresby**	**18.74**	**272**	*c iP*		**P**	**11 07 08.7**	**+1.3**
PMG					pmax	pmax		
	comp=Z,61nm,1.7s							
PMG	**Port Moresby**	**18.74**	**272**	*eP*		**P**	**11 07 08.1**	**+0.7**
	comp=Z,29nm,0.9s							
PMG				*eS*		**S**	**11 10 27.0**	**-3.3**
EIDS	**Eidsvold**	**20.36**	**223**	*eP*		**P**	**11 07 26.1**	**+1.3**
	comp=Z,28nm,0.8s							
CTA	**Charters Tower**	**21.27**	**242**	P		**P**	**11 07 35.0**	**+0.6**
	comp=Z,14nm,1.1s,baz=79,slow=12,SNR=5.0							
CTA				pP		**pP**	**11 08 05.1**	**-3.3**
	comp=Z,22nm,0.9s,baz=58,slow=12,SNR=7.7							
CTA	**Charters Tower**	**21.27**	**242**	*eP*		pP	11 08 05.0	-3.3
	comp=Z,16nm,0.9s							
CTA	**Charters Tower**	**21.27**	**242**	P		**P**	**11 07 35.0**	**+0.6**
CTA				*PP		**pP**	**11 08 05.1**	**-3.3**
CTA	**Charters Tower**	**21.27**	**242**	P		**P**	**11 07 35.0**	**+0.6**
CTA				pP		**pP**	**11 08 05.1**	**-3.3**
ARMA	**Armidale**	**23.76**	**213**	*eP*		**P**	**11 07 59.4**	**+1.6**
ARMA	**Armidale**	**23.76**	**213**	*eP*		**P**	**11 07 59.5**	**+1.6**
	comp=Z,39nm,0.8s							
URZ	**Urewera**	**29.09**	**162**	*eP*		**P**	**11 08 46.6**	**+1.4**
	comp=Z,15nm,0.3s							
STKA	**Stephens Creek**	**30.91**	**223**	P		**P**	**11 09 02.6**	**+1.1**
	comp=Z,24nm,0.8s,baz=42,slow=9.6,SNR=19							
STKA				PcP		**PcP**	**11 11 53.2**	**+0.2**
	comp=Z,6.8nm,1.0s,baz=9.0,slow=4.3,SNR=3.5							
STKA	**Stephens Creek**	**30.91**	**223**	*eP*		**P**	**11 09 02.6**	**+1.1**
STKA	**Stephens Creek**	**30.91**	**223**	P		**P**	**11 09 02.6**	**+1.1**
STKA				PcP		**PcP**	**11 11 53.2**	**+0.2**
WRAB	**Tennant Creek**	**31.93**	**250**	*eP*		**P**	**11 09 10.7**	**+0.1**
WRAB					pmax	pmax		
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**31.93**	**250**	*eP*		**P**	**11 09 10.7**	**+0.1**
	comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**31.95**	**250**	P		**P**	**11 09 10.7**	**0.0**
	comp=Z,14nm,0.6s,baz=82,slow=8.9,SNR=76							
WRA				pP		pP	11 09 45.3	-6.6
	comp=Z,3.3nm,0.9s,baz=78,slow=8.5,SNR=2.0							
WRA				PcP		**PcP**	**11 11 56.7**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=75,slow=3.1,SNR=14							
WRA				S		**S**	**11 14 07.0**	**-0.2**
	comp=Z,5.4nm,1.1s,baz=84,slow=14,SNR=10							
WRA				ScP		**ScP**	**11 15 25.1**	**+4.5**
	comp=Z,1.6nm,0.9s,baz=75,slow=3.9,SNR=6.9							
WRA	**Warramunga Arr**	**31.95**	**250**	P		**P**	**11 09 10.7**	**0.0**
WRA							11 11 56.7	
WRA				S		**S**	**11 14 07.0**	**-0.2**
WRA	**Warramunga Arr**	**31.95**	**250**	P		**P**	**11 09 10.7**	**0.0**
WRA				pP		pP	11 09 45.3	-6.6
WRA				PcP		**PcP**	**11 11 56.7**	**+0.6**
WRA				S		**S**	**11 14 07.0**	**-0.2**
WRA				ScP		**ScP**	**11 15 25.1**	**+4.5**
RPZ	**Rata Peaks**	**33.10**	**173**	P		**P**	**11 09 19.5**	**-0.9**
	comp=Z,53nm,0.7s,baz=115,slow=3.0,SNR=23							
RPZ	**Rata Peaks**	**33.10**	**173**	*eP*		**P**	**11 09 19.7**	**-0.7**
	comp=Z,56nm,0.8s							
AS31	**Alice Springs**	**33.27**	**243**	*eP*		**P**	**11 09 21.8**	**-0.4**
AS31				*e*PcP		**PcP**	**11 11 59.9**	**+0.2**
ASAR	**Alice Springs**	**33.27**	**243**	P		**P**	**11 09 21.7**	**-0.5**
	comp=Z,14nm,0.8s,baz=74,slow=9.2,SNR=70							
ASAR				pP		pP	11 09 56.5	-7.0
	comp=Z,1.7nm,0.6s,baz=82,slow=8.2,SNR=1.9							
ASAR				PcP		**PcP**	**11 11 60.0**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=73,slow=2.6,SNR=14							
ASAR				ScP		**ScP**	**11 15 29.7**	**+4.5**
	comp=Z,1.3nm,0.9s,baz=78,slow=3.1,SNR=6.2							
ASAR	**Alice Springs**	**33.27**	**243**	P		**P**	**11 09 21.7**	**-0.5**
ASAR							11 12 00.0	
ASAR	**Alice Springs**	**33.27**	**243**	P		**P**	**11 09 21.7**	**-0.5**
ASAR				pP		pP	11 09 56.5	-7.0
ASAR				PcP		**PcP**	**11 11 60.0**	**+0.2**
ASAR				ScP		**ScP**	**11 15 29.7**	**+4.5**
BBOO	**Buckleboo**	**35.30**	**227**	*eP*		**P**	**11 09 40.1**	**+0.6**
	comp=Z,99nm,0.6s							
TAU	**Tasmania Unive**	**35.98**	**204**	*eP*		**P**	**11 09 46.6**	**+1.6**
TAU					pmax	pmax		
	comp=Z,82nm,1.4s							
TAU	**Tasmania Unive**	**35.98**	**204**	*eP*		**P**	**11 09 46.6**	**+1.6**
	comp=Z,82nm,1.4s							
FITZ	**Fitzroy Crossi**	**39.83**	**255**	P		**P**	**11 10 17.8**	**+0.2**
	comp=Z,13nm,0.8s,baz=81,slow=7.5,SNR=18							
FITZ				PcP		**PcP**	**11 12 20.5**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=112,slow=5.2,SNR=4.5							
FITZ	**Fitzroy Crossi**	**39.83**	**255**	*eP*		**P**	**11 10 17.8**	**+0.2**
	comp=Z,23nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.83**	**255**	P		**P**	**11 10 17.8**	**+0.2**
FITZ				PcP		**PcP**	**11 12 20.5**	**+0.9**
FORT	**Forrest**	**40.52**	**235**	*eP*		**P**	**11 10 23.7**	**+0.5**
	comp=Z,28nm,0.7s							
KLBR	**Kellerberrin**	**49.19**	**237**	*eP*		**P**	**11 11 31.2**	**-0.3**
	comp=Z,6.5nm,0.4s							
NWAO	**Narrogin (SRO)**	**49.94**	**236**	*eP*		**P**	**11 11 37.3**	**+0.1**
NWAO					pmax	pmax		
	comp=Z,21nm,0.7s							
NWAO	**Narrogin (SRO)**	**49.94**	**236**	*eP*		**P**	**11 11 37.3**	**+0.1**
	comp=Z,20nm,0.7s							
MJAR	**Matsushiro Arr**	**53.91**	**332**	P		**P**	**11 12 04.8**	**-1.5**
	comp=Z,3.4nm,0.7s,baz=169,slow=8.7,SNR=12							
MJAR	**Matsushiro Arr**	**53.91**	**332**	P		**P**	**11 12 04.8**	**-1.5**
MJAR	**Matsushiro Arr**	**53.91**	**332**	P		**P**	**11 12 04.8**	**-1.5**
MAT	**Matsushiro**	**53.91**	**332**	P		**P**	**11 12 04.9**	**-1.4**
KSRS	**Korea Array**	**59.87**	**325**	P		**P**	**11 12 48.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=136,slow=7.0,SNR=12							
KSRS				PcP		**PcP**	**11 13 33.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=142,slow=6.3,SNR=4.7							
KSAR	**Wonju Array Be**	**59.88**	**325**	P		**P**	**11 12 48.0**	**-0.2**
KSAR							11 13 33.1	
KSAR	**Wonju Array Be**	**59.88**	**325**	P		**P**	**11 12 48.0**	**-0.2**
KSAR				PcP		**PcP**	**11 13 33.0**	**+0.6**
NJ2	**Nanjing**	**62.10**	**315**	*eP*		**P**	**11 13 03.8**	**+0.6**
NJ2					pmax	pmax		
	comp=Z,20nm,0.5s							
USRK	**Ussuriysk Arra**	**62.87**	**333**	P		**P**	**11 13 08.5**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=130,slow=5.0,SNR=7.4							
PETK	**Petropavlovsk-**	**64.03**	**354**	P		**P**	**11 13 15.6**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=151,slow=9.5,SNR=4.2							
PETK	**Petropavlovsk-**	**64.03**	**354**	P		**P**	**11 13 15.6**	**+0.1**
PETK	**Petropavlovsk-**	**64.03**	**354**	P		**P**	**11 13 15.6**	**+0.1**
MDJ	**Mudanjiang**	**64.29**	**332**	P		**P**	**11 13 17.8**	**+0.4**
MDJ				pP		**pP**	**11 14 03.9**	**0.0**
MDJ				sP		**sP**	**11 14 25.8**	**+0.2**
MDJ				PP		**PP**	**11 15 39.3**	**-2.3**
MDJ				S		**S**	**11 21 39.3**	**+0.3**
MDJ				ScS		**SKSac**	**11 22 51.5**	**-0.2**
MDJ				sS		**sS**	**11 23 01.3**	**+1.1**
MDJ				SS		**SS**	**11 25 54.4**	**+1.5**
MDJ				pmax		pmax		
	comp=Z,9.0nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,130nm,6.4s							
WHN	**Wuhan**	**64.50**	**311**	P		**P**	**11 13 19.0**	**0.0**
HABR	**Khabarovsk**	**65.08**	**338**	*eP*		**P**	**11 13 21.3**	**-1.0**
HABR				*e*PP		**pP**	**11 14 07.6**	**-1.4**
HABR							11 15 47.1	
HABR				*e*PPP		PPP	11 17 22.8	
HABR				S		**S**	**11 21 48.3**	**-0.1**
HABR				*e*			11 22 56.2	
HABR				*e*SS		**SS**	**11 26 05.5**	**+0.5**
HABR				pmax		pmax		
	comp=E,26nm,1.8s							
HABR				pmax		pmax		
	comp=Z,35nm,2.5s							
HABR				pmax		pmax		
	comp=N,13nm,1.4s							
HABR				MLR		MLR		
	comp=Z,57nm,16.0s							
CN2	**Changchun**	**65.71**	**329**	*eP*		**P**	**11 13 26.5**	**0.0**
CN2				*e*sP		**sP**	**11 14 35.0**	**+0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
ENH	**Enshi**	**68.03**	**309**	*eP*		**P**	**11 13 40.8**	**-0.7**
	comp=Z,5.1nm,0.6s							
GYA	**Guiyang**	**68.59**	**304**	P		**P**	**11 13 47.0**	**+1.8**
GYA				pP		**pP**	**11 14 34.8**	**+2.5**
GYA				sP		**sP**	**11 14 56.0**	**+2.1**
GYA				ScP			11 17 52.3	
GYA				S		**S**	**11 22 32.0**	**+0.3**
GYA				SKS		**SKSac**	**11 23 22.8**	**-2.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**70.23**	**312**	P		**P**	**11 13 55.0**	**0.0**
XAN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KMI	**Kunming**	**71.31**	**301**	P		P	11 14 05.4	+3.5
KMI				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**71.88**	**319**	*eP*		**P**	**11 14 05.1**	**+0.3**
HHC				pP		**pP**	**11 14 53.8**	**+1.4**
HHC				sP		**sP**	**11 15 15.8**	**+2.0**
HHC				PP		**PP**	**11 16 49.9**	**+2.5**
HHC				S		**S**	**11 23 08.3**	**-1.0**
HHC				sS		**sS**	**11 24 33.3**	**+1.1**
HHC				SS		**SS**	**11 27 51.8**	**+1.5**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,240nm,7.1s							
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P		**P**	**11 14 08.8**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=118,slow=4.4,SNR=28							
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P		**P**	**11 14 08.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P		**P**	**11 14 08.8**	**+0.8**
CD2	**Chengdu**	**72.75**	**307**	P		**P**	**11 14 10.4**	**+0.3**
CD2				pP		**pP**	**11 14 58.5**	**+0.7**
CD2				sP		**sP**	**11 15 20.0**	**+0.8**
CD2				PP		**PP**	**11 16 57.3**	**+2.3**
CD2				S		**S**	**11 23 18.3**	**-1.1**
CD2				SS		**SS**	**11 28 05.3**	**+1.4**
CD2				pmax		pmax		
	comp=Z,20nm,1.0s							
CD2				pmax		pmax		
	comp=Z,190nm,6.9s							
SEY	**Seymchan**	**74.24**	**354**	*ieP*		**P**	**11 14 17.9**	**-0.1**
LZH	**Lanzhou**	**74.86**	**312**	*eP*		**P**	**11 14 24.5**	**+2.1**
LZH				pP		**pP**	**11 15 09.5**	**-0.9**
LZH				pmax		pmax		
	comp=Z,22nm,1.2s							
LZH				pmax		pmax		
	comp=Z,200nm,4.6s							
LZH				LR		LR		
	comp=N,270nm,9.6s							
LZH				LR		LR		
	comp=E,260nm,8.1s							
LZH				LR		LR		
	comp=Z,380nm,10.2s							
YAK	**Yakutsk**	**77.94**	**343**	*c iP*		**P**	**11 14 38.5**	**-0.4**
YAK					pmax	pmax		
	comp=Z,24nm,1.2s							
RSO	**Redoubt Volc**	**78.13**	**19**	*eP*		**P**	**11 14 39.5**	**-0.8**
	comp=Z,26nm,0.8s							
ULN	**Ulaanbaatar**	**78.31**	**324**	*eP*		**P**	**11 14 41.9**	**+0.4**
ULN					pmax	pmax		
	comp=Z,12nm,1.3s							
ULN	**Ulaanbaatar**	**78.31**	**324**	*eP*		**P**	**11 14 41.9**	**+0.4**
	comp=Z,12nm,1.3s							
BILL	**Bilibino**	**78.60**	**0**	*eP*		**P**	**11 14 42.5**	**+0.1**
BILL					pmax	pmax		
	comp=Z,21nm,0.8s							
BILL	**Bilibino**	**78.60**	**0**	*eP*		**P**	**11 14 42.4**	**0.0**
	comp=Z,20nm,1.0s							
SONM	**Songino Array**	**78.68**	**324**	P		**P**	**11 14 43.5**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=142,slow=5.7,SNR=23							
SONM	**Songino Array**	**78.68**	**324**	P		**P**		
SONM	**Songino Array**	**78.68**	**324**	P		**P**	**11 14 43.5**	**+0.1**
GTA	**Gaotai**	**79.15**	**314**	*eP*		**P**	**11 14 43.5**	**+0.1**
GTA					pmax	pmax	**11 14 47.3**	**+1.1**
	comp=Z,10.0nm,1.1s							
QSPA	**South Pole Qui**	**79.23**	**180**	P		**P**	**11 14 46.6**	**+0.4**
	comp=Z,16nm,0.7s,baz=3.1,slow=1.1,SNR=33							
QSPA	**South Pole Qui**	**79.23**	**180**	P		**P**	**11 14 46.6**	**+0.4**
BOD	**Bodaibo**	**80.45**	**335**	*eP*		**P**	**11 14 51.7**	**-0.9**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.8s							
TRF	**Thorofare Moun**	**81.14**	**18**	*eP*		**P**	**11 14 54.8**	**-1.6**
	comp=Z,4.9nm,0.6s							
BMRM	**Bremner River**	**81.33**	**22**	*eP*		**P**	**11 14 56.4**	**-0.8**
	comp=Z,13nm,0.8s							
ZAK	**Zakamensk**	**81.70**	**325**	*eP*		**P**	**11 14 59.2**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MCK	**McKinley**	**81.76**	**19**	*eP*		**P**	**11 14 59.0**	**-0.4**
MCK					pmax	pmax		
	comp=Z,25nm,1.1s							
MCK	**McKinley**	**81.76**	**19**	*eP*		**P**	**11 14 59.0**	**-0.4**
	comp=Z,25nm,1.1s							
KIPM	**Iron Peak**	**82.19**	**47**	*eP*		**P**	**11 15 03.3**	**+1.0**
	comp=Z,27nm,1.1s							
HOPS	**Hopland**	**82.20**	**48**	*eP*		**P**	**11 15 02.9**	**+0.6**
	comp=Z,26nm,1.1s							
COLA	**College**	**82.90**	**18**	*eP*		**P**	**11 15 05.2**	**0.0**
COLA					pmax	pmax		
	comp=Z,20nm,0.8s							
COLA	**College**	**82.90**	**18**	*eP*		**P**	**11 15 05.2**	**0.0**
	comp=Z,20nm,0.8s							
MENT	**Mentasta**	**82.93**	**21**	*eP*		**P**	**11 15 05.8**	**+0.3**
ILAR	**Eielson Array**	**83.13**	**18**	P		**P**	**11 15 05.8**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=238,slow=5.1,SNR=208							
ILAR	**Eielson Array**	**83.13**	**18**	P		**P**	**11 15 05.8**	**-0.6**
ILAR	**Eielson Array**	**83.13**	**18**	P		**P**	**11 15 05.8**	**-0.6**
PKM	**Peak Mountain**	**83.31**	**53**	⇑P		**P**	**11 15 09.0**	**+0.7**
	baz=83							
YBH	**Yreka Blue Hor**	**83.42**	**45**	*eP*		**P**	**11 15 09.2**	**+0.6**
YBH					pmax	pmax		
	comp=Z,17nm,1.0s							
YBH	**Yreka Blue Hor**	**83.42**	**45**	*eP*		**P**	**11 15 09.2**	**+0.6**
	comp=Z,17nm,1.0s							
HUMO	**Hull Mountain**	**83.56**	**45**	*eP*		**P**	**11 15 10.3**	**+1.2**
	comp=Z,16nm,0.9s							
CMB	**Columbia Colle**	**83.86**	**50**	*eP*		**P**	**11 15 11.1**	**+0.2**
CMB			

WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 86.51 46 *e*P P 11 15 24.7 +0.7
comp=Z,13nm,1.1s
TUQ Turquoise Moun 86.52 53 ⇑P P 11 15 24.7 +0.4
baz=87
GUN Gumba 86.53 299 *e*P P 11 15 24.6 -0.1
GUN Gumba 86.53 299 *e*P P 11 15 24.6 -0.1
GMRC Granite Mounta 86.56 54 ⇑P P 11 15 24.4 0.0
baz=87,SNR=8.2
GLA Glamis 86.77 56 ⇓P P 11 15 26.1 +0.7
baz=87
IRM Iron Mountain 86.80 55 ⇑P P 11 15 25.9 +0.4
baz=87,SNR=12
PKI Pulchoki 86.85 299 *e*P P 11 15 25.9 -0.3
PKI Pulchoki 86.85 299 *e*P P 11 15 25.9 -0.3
PKI Pulchoki 86.85 299 *e*P P 11 15 25.9 -0.3
KKN Kakani 87.01 299 *e*P P 11 15 26.6 -0.3
KKN Kakani 87.01 299 *e*P P 11 15 26.6 -0.3
KKN Kakani 87.01 299 *e*P P 11 15 26.6 -0.3
ETW Entiat 87.02 41 *e*P P 11 15 26.6 +0.2
comp=Z,9.8nm,1.0s
DMN Daman 87.12 299 *e*P P 11 15 27.6 +0.2
comp=Z,24nm,0.8s
DMN Daman 87.12 299 *e*P P 11 15 27.6 +0.2
comp=Z,24nm,0.8s
Y12C Blythe 87.20 55 ⇑P P 11 15 28.0 +0.7
baz=87,SNR=8.7
113A Mohawk Valley, 87.56 56 ⇑P P 11 15 29.7 +0.6
baz=88,SNR=8.3
R11A Troy Canyon, C 87.57 50 ⇑P P 11 15 29.5 +0.3
baz=88,SNR=11
GKN Gorkha 87.61 299 *e*P P 11 15 29.1 -0.6
comp=Z,26nm,1.0s
GKN Gorkha 87.61 299 *e*P P 11 15 29.1 -0.6
comp=Z,26nm,1.0s
PDMCI Parker Dam,Lak 87.64 55 ⇑P P 11 15 30.1 +0.7
baz=88,SNR=8.1
Z13A Yuma Proving G 87.76 56 ⇑P P 11 15 30.8 +0.7
baz=88,SNR=18
W13A Hualapai Mount 88.05 54 ⇑P P 11 15 32.2 +0.6
baz=88,SNR=9.1
114A Black Gap (USA 88.28 56 ⇓P P 11 15 33.3 +0.8
baz=88
DANN Dangsing 88.45 299 *e*P P 11 15 32.9 -0.8
comp=Z,14nm,0.7s
DANN Dangsing 88.45 299 *e*P P 11 15 32.9 -0.8
comp=Z,14nm,0.7s
KOLN Koldanda 88.46 298 *e*P P 11 15 32.7 -1.0
comp=Z,11nm,0.7s
KOLN Koldanda 88.46 298 *e*P P 11 15 32.7 -1.0
comp=Z,11nm,0.7s
Y14A Wickenburg 88.47 55 ⇓P P 11 15 34.0 +0.5
baz=88
R13A O'Grain Ranch, 88.75 51 ⇑P P 11 15 35.6 +0.7
baz=89,SNR=8.2
MFID Camas Ranch 88.77 45 ⇓P P 11 15 35.2 +0.5
baz=89
ARUT Antelope Range 89.06 51 *e*P P 11 15 37.4 +1.1
ARUT pmax pmax
comp=Z,6.0nm,0.9s
ARUT Antelope Range 89.06 51 *e*P P 11 15 37.4 +1.1
comp=Z,6.0nm,0.9s
CCUT Cedar City 89.06 52 *e*P P 11 15 37.3 +0.9
comp=Z,13nm,1.1s
WMQ Urumqi 89.18 315 *e*P P 11 15 36.0 -0.5
NEW Newport 89.28 41 ⇑P P 11 15 36.9 +0.1
baz=89,SNR=5.3
I12A Atlanta 89.36 45 ⇓P P 11 15 37.9 +0.4
baz=89,SNR=6.9
U15A North Rim 89.63 53 ⇓P P 11 15 39.9 +0.8
baz=90,SNR=14
F12A Elk City 89.80 43 ⇓P P 11 15 39.0 -0.5
baz=90,SNR=20
HLID Hailey 89.80 46 *e*P P 11 15 40.1 +0.5
comp=Z,6.7nm,0.8s
HLID Hailey 89.80 46 ⇑P P 11 15 39.7 +0.1
baz=90,SNR=10
X16A Lo Mia Camp, P 89.84 55 ⇓P P 11 15 41.0 +1.0
baz=90,SNR=16
TUC Tucson 89.91 57 *e*P P 11 15 41.5 +1.3
TUC pmax pmax
comp=Z,13nm,1.4s
TUC Tucson 89.91 57 *e*P P 11 15 41.5 +1.3
comp=Z,13nm,1.4s
J13A Cove Ranch, Pi 89.93 46 ⇓P P 11 15 40.5 +0.4
baz=90,SNR=14
R15A Junction 90.06 51 ⇑P P 11 15 42.1 +1.2
baz=90,SNR=6.6
D12A Red Ives Fores 90.09 42 ⇑P P 11 15 40.9 +0.2
baz=90
I13A Wildhorse Cree 90.10 45 ⇑P P 11 15 41.7 +0.7
baz=90,SNR=19
DUG Dugway 90.12 49 *e*P P 11 15 41.5 +0.4
DUG pmax pmax
comp=Z,3.0nm,0.7s
DUG Dugway 90.12 49 *e*P P 11 15 41.5 +0.4
comp=Z,3.0nm,0.7s
DUG Dugway 90.12 49 ⇑P P 11 15 41.5 +0.4
baz=90,SNR=7.8
WUAZ Wupatki 90.14 54 *e*P P 11 15 42.6 +1.3
comp=Z,14nm,1.0s
WUAZ *e*pP pP 11 16 32.2 +1.2
WUAZ Wupatki 90.14 54 ⇓P P 11 15 42.5 +1.2
baz=90,SNR=12
Y17A Roosevelt 90.16 56 ⇑P P 11 15 42.0 +0.6
baz=90,SNR=6.7
H13A Challis 90.17 45 ⇑P P 11 15 41.7 +0.4
baz=90,SNR=16
C12B Naegeli Ranch, 90.19 41 ⇓P P 11 15 41.6 +0.5
baz=90
MSU Marysvale 90.20 51 *e*P P 11 15 43.0 +1.3
MSU *e**PP pP 11 16 33.0 +1.8
MSU pmax pmax
comp=Z,13nm,0.9s
MSU Marysvale 90.20 51 *e*P P 11 15 43.0 +1.3
comp=Z,13nm,0.9s
MSU *e*pP pP 11 16 33.0 +1.8
L14A Malta 90.25 47 ⇑P P 11 15 42.3 +0.6
baz=90,SNR=18
B12A Libby 90.32 41 ⇑P P 11 15 42.2 +0.5
baz=90
G13A Cobalt 90.32 44 ⇑P P 11 15 42.2 +0.3
baz=90,SNR=16
X17A Forest Lakes 90.33 55 ⇑P P 11 15 43.5 +1.1
baz=90,SNR=16
P15A Leamington 90.37 50 ⇓P P 11 15 42.7 +0.4
baz=90,SNR=5.1
J14A Carey 90.38 46 ⇑P P 11 15 43.0 +0.7
baz=90,SNR=6.5
318A Bisbee 90.38 58 ⇑P P 11 15 43.5 +0.9
baz=90,SNR=8.3
Z17A San Carlos Hig 90.38 56 ⇑P P 11 15 43.0 +0.6
baz=90
O15A The Old Anders 90.40 49 ⇓P P 11 15 42.8 +0.4
baz=90
A12A Yaak River Ran 90.40 40 ⇑P P 11 15 42.6 +0.5
baz=90
K14A Jones Ranch, D 90.43 47 ⇑P P 11 15 43.1 +0.6
baz=90,SNR=14
F13A Darby 90.44 43 ⇓P P 11 15 42.5 +0.1
baz=90,SNR=35
S16A Weppner Ranch, 90.47 52 ⇑P P 11 15 43.3 +0.4
baz=90,SNR=7.5
U16A Tuba City 90.47 53 ⇓P P 11 15 43.7 +0.8
baz=90,SNR=11
N15A Stansbury Isla 90.50 49 ⇑P P 11 15 43.4 +0.6
baz=91,SNR=8.6
HVU Hansel Valley 90.53 48 *e*P P 11 15 43.8 +0.8
HVU *e**PP pP 11 16 34.2 +1.6
HVU pmax pmax
comp=Z,20nm,1.1s
HVU Hansel Valley 90.53 48 *e*P P 11 15 43.8 +0.8
comp=Z,20nm,1.1s
HVU *e*pP pP 11 16 34.2 +1.6
HVU *e*sP sP 11 17 00.1 +6.5
I14A Mackay 90.57 45 ⇓P P 11 15 43.9 +0.7
baz=91,SNR=13
W17A Winslow 90.57 55 ⇓P P 11 15 44.4 +1.0
baz=91
V17A Tonalea, Kykot 90.62 54 ⇓P P 11 15 44.6 +1.0
baz=91,SNR=11
BSMT Bassoo Peak 90.67 41 *e*P P 11 15 43.9 +0.3
comp=Z,8.8nm,0.8s
R16A Teasdale 90.68 51 ⇑P P 11 15 44.9 +1.0
baz=91,SNR=8.6
E13A Victor 90.70 43 ⇑P P 11 15 43.1 -0.5
baz=91,SNR=14
C13A Hot Springs 90.76 42 ⇑P P 11 15 43.3 -0.5
baz=91,SNR=7.9
H14A Leadore 90.80 45 ⇑P P 11 15 44.7 +0.5
baz=91,SNR=23
Y18A Canyon Day Jun 90.84 56 ⇑P P 11 15 45.5 +0.9
baz=91,SNR=7.3
P16A Fountain Green 90.85 50 ⇑P P 11 15 45.6 +1.1
baz=91
L15A Malad City 90.87 47 ⇓P P 11 15 44.7 +0.2
baz=91,SNR=9.3
G14A Jackson 90.89 44 ⇑P P 11 15 44.9 +0.2
baz=91,SNR=24
T17A Navajo Res., N 90.92 53 ⇑P P 11 15 45.7 +0.8
baz=91,SNR=5.9
K15A Arbon 90.92 47 ⇑P P 11 15 45.2 +0.5
baz=91,SNR=8.8
U17A Shonto 90.94 53 ⇓P P 11 15 46.0 +0.8
baz=91
319A Douglas 90.96 58 ⇑P P 11 15 44.9 -0.3
baz=91
MSO Missoula 90.96 43 ⇓P P 11 15 44.8 0.0
baz=91
B13A Whitefish 91.01 41 ⇑P P 11 15 45.0 +0.1
baz=91,SNR=5.5
Q16A Castle Valley 91.06 51 ⇓P P 11 15 46.8 +1.2
baz=91
S17A Black Ridge (B 91.06 52 ⇓P P 11 15 45.5 0.0
baz=91
X18A Snowflake 91.07 55 ⇓P P 11 15 46.3 +0.6
baz=91,SNR=6.9
F14A Wisdom 91.09 44 ⇓P P 11 15 45.3 -0.3
baz=91,SNR=12
E14A Clinton 91.16 43 ⇑P P 11 15 45.8 0.0
baz=91,SNR=17
A13A Flathead Natio 91.19 40 ⇓P P 11 15 46.2 +0.4
baz=91,SNR=7.8
MCMT McKenzie Canyo 91.21 45 *e*P P 11 15 47.0 +0.8
comp=Z,1.4nm,0.6s
I15A Monteview 91.27 46 ⇓P P 11 15 47.2 +0.9
baz=91
H15A Lima 91.30 45 ⇓P P 11 15 47.2 +0.7
baz=91,SNR=8.2
R17A Hanksville Air 91.30 51 ⇑P P 11 15 47.4 +0.7
baz=91,SNR=6.8
N16A Rees Ranch, Co 91.30 49 ⇓P P 11 15 47.2 +0.6
baz=91,SNR=6.9
D14A Greenough 91.31 42 ⇑P P 11 15 46.2 -0.3
baz=91,SNR=5.4
V18A Ganado 91.33 54 ⇓P P 11 15 47.9 +0.9
baz=91
W18A Petrified Fore 91.36 55 ⇓P P 11 15 47.8 +0.7
baz=91
DLMT Dillon 91.51 44 *e*P P 11 15 48.2 +0.7
DLMT comp=Z,17nm,1.1s *e*pP pP 11 16 37.4 +0.3
Y19A Nutrioso 91.51 56 ⇑P P 11 15 47.8 -0.1
baz=92,SNR=6.7
U18A Rough Rock, Ch 91.53 53 ⇑P P 11 15 48.3 +0.5
baz=92
G15A Dillon 91.54 44 ⇑P P 11 15 48.0 +0.3
baz=92,SNR=11
L16A Fish Haven 91.56 48 ⇓P P 11 15 48.2 +0.3
baz=92,SNR=6.1
320A Kipp Ranch, An 91.58 59 ⇓P P 11 15 48.9 +0.8
baz=92
SRU San Rafael 91.59 51 *e*P P 11 15 48.8 +0.8
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU San Rafael 91.59 51 *e*P P 11 15 48.8 +0.8
comp=Z,9.3nm,1.1s
K16A Soda Springs 91.63 47 ⇑P P 11 15 48.6 +0.5
baz=92,SNR=7.0
W19A Sanders 91.64 55 ⇓P P 11 15 48.7 +0.3
baz=92
O17A Robinson Place 91.67 50 ⇓P P 11 15 49.3 +0.9
baz=92,SNR=8.1
T18A Mexican Hat 91.68 53 ⇓P P 11 15 48.8 +0.5
baz=92
F15A Butte 91.69 44 ⇑P P 11 15 48.6 +0.2
baz=92,SNR=12
S18A Hurst Farm, Bl 91.70 52 ⇑P P 11 15 48.9 +0.3
baz=92,SNR=6.2
J16A Bone 91.72 46 ⇓P P 11 15 49.1 +0.6
baz=92,SNR=7.7
E15A Deer Lodge 91.73 43 ⇑P P 11 15 48.5 0.0
baz=92,SNR=13
N17A Moffit Pass 91.76 49 ⇓P P 11 15 49.4 +0.5
baz=92
B14A Marquette Ranc 91.78 41 ⇑P P 11 15 48.7 +0.1
baz=92,SNR=10.0
A14A Double T Ranch 91.83 41 ⇑P P 11 15 49.2 +0.4
baz=92
Q18A Rafter H Ranch 91.89 51 ⇑P P 11 15 50.2 +0.9
baz=92
R18A Canyonlands Na 91.92 51 ⇑P P 11 15 49.5 -0.1
baz=92,SNR=5.6
I16A Newdale 91.94 46 ⇓P P 11 15 50.5 +1.1
baz=92,SNR=7.5
RRI2 Red Ridge 91.94 46 *e*P P 11 15 50.5 +0.8
comp=Z,3.2nm,0.7s
D15A Lincoln 91.96 43 ⇓P P 11 15 49.6 +0.2
baz=92
L17A Cokeville 91.98 48 ⇓P P 11 15 49.4 -0.4
baz=92
M17A Scullys Gap (B 92.00 48 ⇓P P 11 15 50.0 +0.1
baz=92
G16A Moss Hill, Enn 92.02 44 ⇑P P 11 15 50.1 +0.2
baz=92,SNR=9.9
U19A Dine' College, 92.03 54 ⇑P P 11 15 50.7 +0.5
baz=92,SNR=6.1
C15A Salmond Ranch, 92.07 42 ⇓P P 11 15 49.9 -0.1
baz=92,SNR=23
DCID1 Drake Creek 92.09 46 *e*P P 11 15 51.0 +0.8
comp=Z,11nm,1.0s
Y20A Horse Springs, 92.22 56 ⇓P P 11 15 51.6 +0.5
baz=92
B15A Bradely Ranch, 92.23 41 ⇑P P 11 15 50.4 -0.2
baz=92,SNR=6.9
O18A Roosevelt 92.23 50 ⇑P P 11 15 51.8 +0.8
baz=92
BOZ Bozeman (W) 92.24 44 *e*P P 11 15 51.4 +0.6
BOZ *e**PP pP 11 16 39.5 -0.9
BOZ pmax pmax
comp=Z,17nm,1.6s
BOZ Bozeman (W) 92.24 44 *e*P P 11 15 51.4 +0.6
comp=Z,17nm,1.6s
BOZ *e*pP pP 11 16 39.5 -0.9
BOZ Bozeman (W) 92.24 44 ⇓P P 11 15 51.0 +0.2
baz=92,SNR=8.2
BOZ ⇓P P 11 15 51.0 +0.2
baz=92,SNR=8.2
X20A Quemado 92.24 55 ⇑P P 11 15 52.3 +1.1
baz=92
F16A Kennard Place, 92.27 44 ⇓P P 11 15 51.4 +0.5
baz=92,SNR=16
A15A Johnson Ranch, 92.28 41 ⇑P P 11 15 51.0 +0.1
baz=92
H16A Russell Place, 92.29 45 ⇓P P 11 15 51.9 +0.8
baz=92,SNR=11
HRY Holter Researc 92.34 43 *e*P P 11 15 51.9 +0.6
comp=Z,10nm,0.6s
W20A Ramah 92.36 55 ⇑P P 11 15 52.3 +0.6
baz=92
J17A Brown Place, J 92.38 46 ⇑P P 11 15 52.3 +0.7
baz=92
R19A Curley Farm, L 92.39 52 ⇓P P 11 15 52.0 +0.2
baz=92
E16A East Helena 92.41 43 ⇓P P 11 15 51.8 +0.3
baz=92,SNR=7.1
121A Cookes Peak, D 92.43 58 ⇑P P 11 15 53.0 +1.0
baz=92
I17A Pilgrim Ck. 92.59 46 ⇑P P 11 15 53.3 +0.7
baz=93
D16A Dana Ranch, Ca 92.60 43 ⇓P P 11 15 52.7 +0.3
baz=93
C16A Fuhringer Ranc 92.64 42 ⇑P P 11 15 52.3 -0.3
baz=93,SNR=10
Z21A St. Cloud Mine 92.68 57 ⇑P P 11 15 53.8 +0.6
baz=93
H17A Grant Village 92.69 45 ⇓P P 11 15 54.2 +1.2
baz=93
K18A Toltan Ranch, 92.70 47 ⇑P P 11 15 53.8 +0.7
baz=93
G17A Pierce Place, 92.78 45 ⇑P P 11 15 54.6 +1.3
baz=93
Y21A Point of Rocks 92.81 56 ⇑P P 11 15 54.6 +0.8
baz=93
J18A Kendall Valley 92.84 47 ⇑P P 11 15 53.5 -0.2
baz=93,SNR=5.0
P19A Cripple Cowboy 92.87 50 ⇓P P 11 15 54.0 0.0
baz=93
O19A Miners Draw (B 92.90 50 ⇑P P 11 15 53.9 -0.1
baz=93
E17A Martinsdale 92.94 43 ⇓P P 11 15 54.8 +0.7
baz=93
F17A Fitzpatrick Pl 92.96 44 ⇓P P 11 15 55.0 +0.9
baz=93,SNR=7.2
A16A West Butte Ran 93.00 41 ⇓P P 11 15 54.4 +0.2
baz=93
PD01 Pinedale Array 93.06 47 *e*P P 11 15 53.0 -1.8
PD02 Pinedale Array 93.07 47 *e*P P 11 15 52.6 -2.2
PDAR Pinedale Array 93.08 47 PKKP PKKPdf 11 32 53.7 -9.2
comp=Z,0.9nm,1.1s,baz=191,slow=1.5,SNR=3.9
D17A Six Diamond Ra 93.20 43 ⇑P P 11 15 55.7 +0.5
baz=93
C17A Wharram Farm, 93.26 42 ⇑P P 11 15 55.6 +0.2
baz=93,SNR=12
U21A Nageezi 93.28 54 ⇑P P 11 15 56.3 +0.4
baz=93,SNR=7.0
P20A De Beque 93.29 51 ⇑P P 11 15 56.6 +0.8
baz=93
B17A L&G Farms, Che 93.37 42 ⇓P P 11 15 55.9 0.0
baz=93,SNR=5.1
T21A Navajo Lake 93.48 53 ⇑P P 11 15 57.1 +0.3
baz=94
J19A Crowheart 93.54 47 ⇓P P 11 15 57.2 +0.3
baz=94
ZAA0 Zalesovo Array 93.56 324 *e*P P 11 15 55.9 -0.5
ZALV Zalesovo Beam 93.56 324 P P 11 15 55.2 -1.2
comp=Z,2.5nm,0.5s,baz=111,slow=4.0,SNR=16
ZALV Zalesovo Beam 93.56 324 P P 11 15 55.2 -1.2
ZALV Zalesovo Beam 93.56 324 P P 11 15 55.2 -1.2
A17A Triple J Farms 93.58 41 ⇑P P 11 15 56.9 +0.1
baz=94,SNR=7.0
MK31 Makanchi Array 93.59 317 *e*P P 11 15 56.8 -0.1
MK31 *e**PP pP 11 16 42.0 -4.5
MK31 Makanchi Array 93.59 317 *e*P P 11 15 56.8 -0.1
MK31 *e*pP pP 11 16 42.0 -4.5
MKAR Makanchi Array 93.59 317 P P 11 15 56.7 -0.1
comp=Z,7.2nm,0.6s,baz=91,slow=6.4,SNR=95
MKAR pP pP 11 16 40.6 -5.9
comp=Z,0.9nm,0.8s,baz=106,slow=3.0,SNR=1.9
MKAR PKKPbc PKKPdf 11 33 00.1 -1.7
comp=Z,1.2nm,0.7s,baz=283,slow=2.9,SNR=14
MKAR Makanchi Array 93.59 317 P P 11 15 56.7 -0.1
MKAR Makanchi Array 93.59 317 P P 11 15 56.7 -0.1
MKAR pP pP 11 16 40.6 -5.9
MKAR PKKPbc PKKPdf 11 33 00.1 -1.7
E18A Harlowton 93.60 43 ⇑P P 11 15 57.9 +0.9
baz=94
I19A Meeteetse 93.73 46 ⇓P P 11 15 58.4 +0.6
baz=94
D18A Linhart Farms, 93.80 43 ⇓P P 11 15 58.1 +0.2
baz=94
H19A Powell 93.86 45 ⇑P P 11 15 58.8 +0.5
baz=94
EGMT Eagleton 94.00 42 *e*P P 11 15 59.0 +0.2
comp=Z,9.8nm,0.7s
EGMT Eagleton 94.00 42 ⇓P P 11 15 58.6 -0.2
baz=94,SNR=6.8
B18A Beardsley Farm 94.06 42 ⇑P P 11 15 58.9 -0.2
baz=94
A18A Metzger Ranch, 94.12 41 ⇑P P 11 15 59.5 +0.3
baz=94
324A Moseley Ranch, 94.16 59 ⇓P P 11 16 00.2 +0.2
baz=94
S22A 4UR Ranch, Cre 94.17 53 ⇓P P 11 16 00.7 +0.7
baz=94
224A Cornudas Mount 94.23 58 ⇑P P 11 16 01.0 +0.7
baz=94
Q22A Crested Butte, 94.31 51 ⇑P P 11 16 01.4 +0.7
baz=94
124A Stringfield Ra 94.40 58 ⇓P P 11 16 01.3 +0.1
baz=94
D19A Cripps Ranch, 94.41 43 ⇓P P 11 16 00.7 0.0
baz=94,SNR=8.8
YKA Yellowknife Ar 94.55 27 P P 11 15 59.1 -1.6
comp=Z,2.2nm,0.6s,baz=258,slow=4.6,SNR=65
YKA PKiKP PKiKP 11 20 42.0 -0.5
comp=Z,0.2nm,0.6s,baz=260,slow=1.2,SNR=6.5
YKA Yellowknife Ar 94.55 27 P P 11 15 59.2 -1.6
YKA Yellowknife Ar 94.55 27 P P 11 15 59.1 -1.6
YKA PKiKP PKiKP 11 20 42.0 -0.5
B19A Brinkman Farms 94.62 42 ⇓P P 11 16 01.8 +0.2
baz=95
T23A Casias Ranch, 94.67 53 ⇓P P 11 16 02.6 +0.3
baz=95
A19A Klindworth Far 94.84 41 ⇓P P 11 16 03.0 +0.4
baz=95
W24A Lazy 6 Ranch, 94.86 55 ⇓P P 11 16 03.2 +0.1
baz=95
D20A Manuel Ranch, 94.90 43 ⇓P P 11 16 02.9 0.0
baz=95,SNR=5.2
V24A Rampart Ranch, 95.06 55 ⇑P P 11 16 04.6 +0.5
baz=95
C20A Veseth Ranch, 95.10 43 ⇓P P 11 16 04.4 +0.7
baz=95
TXAR Lajitas Array 95.35 61 P P 11 16 03.4 -2.0
comp=Z,1.1nm,0.9s,baz=216,slow=4.5,SNR=4.5
TXAR PKKPbc PKKPdf 11 33 00.8 +2.6
comp=Z,0.5nm,1.0s,baz=115,slow=4.7,SNR=3.5
TXAR Lajitas Array 95.35 61 P P 11 16 03.4 -2.0
TXAR Lajitas Array 95.35 61 P P 11 16 03.4 -2.0
TXAR PKKPbc PKKPdf 11 33 00.8 +2.6
S24A Houchin Ranch, 95.42 53 ⇓P P 11 16 06.0 +0.2
baz=96
A21A Bergtoll Ranch 96.03 41 ⇑P P 11 16 08.1 +0.2
baz=96,SNR=8.7
U26A Atchley Ranch, 96.38 54 ⇑P P 11 16 10.0 -0.1
baz=96
KURK Kurchatov 96.68 320 ⇓*e*P P 11 16 10.5 -0.2
KURK pmax pmax
comp=Z,12nm,3.6s
C23A Lambert 96.99 43 ⇓P P 11 16 12.7 +0.3
baz=97
B23A Brockton 97.21 42 ⇓P Pdif 11 16 13.5 +0.2
baz=97
VNA3 Neumayer Olymp 98.13 181 *e* P 11 16 16.8 -0.2
VNA2 Neumayer--Watz 98.38 182 *e* Pdif 11 16 18.3 +0.2
baz=180,slow=4.5
FFC Flin Flon 99.78 36 *i*P Pdif 11 16 24.4 -0.2
ARCES ARCESS Array B 116.17 346 PKP PKPdf 11 21 21.6 -0.6
comp=Z,2.9nm,0.5s,baz=65,slow=1.8,SNR=50
ARCES ARCESS Array B 116.17 346 PKIKP PKPdf 11 21 21.6 -0.6
ARCES ARCESS Array B 116.17 346 PKP PKPdf 11 21 21.6 -0.6
SCHQ Schefferville 119.58 32 PKP PKPdf 11 21 28.4 -0.8
comp=Z,2.5nm,0.8s,baz=224,slow=9.1,SNR=3.9
SCHQ Schefferville 119.58 32 PKP PKPdf 11 21 28.4 -0.8
LPAZ La Paz 119.95 116 PKP PKPdf 11 21 31.7 -0.1
comp=Z,0.8nm,0.4s,baz=304,slow=1.7,SNR=5.6
LPAZ La Paz 119.95 116 PKIKP PKPdf 11 21 31.7 -0.1
LPAZ La Paz 119.95 116 PKP PKPdf 11 21 31.7 -0.1
FINES FINESS Array B 121.66 339 PKP PKPdf 11 21 32.2 -0.7
comp=Z,2.4nm,0.6s,baz=66,slow=2.3,SNR=6.3
FINES FINESS Array B 121.66 339 PKIKP PKPdf 11 21 32.2 -0.7
FINES FINESS Array B 121.66 339 PKP PKPdf 11 21 32.2 -0.7
SDV Santo Domingo 124.09 87 *e*PKPdf PKPdf 11 21 38.8 -0.4
BOSA Boshof 125.58 223 PKP PKPdf 11 21 42.1 +0.4
comp=Z,8.1nm,0.8s,baz=138,slow=1.8,SNR=14
BOSA Boshof 125.58 223 PKIKP PKPdf 11 21 42.1 +0.4
BOSA Boshof 125.58 223 PKP PKPdf 11 21 42.1 +0.4
SIV San Ignacio 126.23 119 PKP PKPdf 11 21 42.7 -0.4
comp=Z,2.4nm,0.7s,baz=279,slow=1.3,SNR=10
SIV San Ignacio 126.23 119 PKP PKPdf 11 21 42.7 -0.4
NB2 NORSAR Subarra 126.54 345 PKPdf PKPdf 11 21 42.0 -0.4
comp=Z,1.6nm,0.7s,baz=33,slow=1.8
NOA NORSAR Array B 126.54 345 PKP PKPdf 11 21 41.9 -0.5
comp=Z,2.2nm,0.7s,baz=32,slow=2.0,SNR=5.8
NOA NORSAR Array B 126.54 345 PKIKP PKPdf 11 21 41.9 -0.5
NOA NORSAR Array B 126.54 345 PKP PKPdf 11 21 41.9 -0.5
AKASG Malin Array Be 126.84 327 PKP PKPdf 11 21 42.2 -1.0
comp=Z,0.3nm,0.4s,baz=56,slow=3.5,SNR=3.8
AKASG Malin Array Be 126.84 327 PKIKP PKPdf 11 21 42.2 -1.0
AKASG Malin Array Be 126.84 327 PKP PKPdf 11 21 42.2 -1.0
LBTB Lobatse 127.61 227 PKP PKPdf 11 21 45.8 +0.2
comp=Z,2.9nm,0.7s,baz=122,slow=5.1,SNR=4.1
LBTB Lobatse 127.61 227 PKIKP PKPdf 11 21 45.8 +0.2
LBTB Lobatse 127.61 227 PKP PKPdf 11 21 45.8 +0.2
BRTR Keskin Array B 129.06 313 PKP PKPdf 11 21 47.8 -0.2
comp=Z,0.2nm,0.3s,baz=90,slow=1.2,SNR=3.6
BRTR Keskin Array B 129.06 313 *c i*PKIKP PKPdf 11 21 48.7 +0.7
BRTR Keskin Array B 129.06 313 PKP PKPdf 11 21 47.8 -0.2
VYHS Vyhne 133.53 330 *e*PKIKP PKPdf 11 21 57.4 +1.4

VYHS	**Vyhne**	**133.53**	**330**	*e*PKP		**PKPdf**	**11 21 57.4**	**+1.4**
GERES	**GERESS Array B**	**135.63**	**334**	PKP		**PKPdf**	**11 21 59.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=22,slow=1.4,SNR=7.1							
GERES	**GERESS Array B**	**135.63**	**334**	PKIKP		**PKPdf**	**11 21 59.8**	**-0.2**
GERES	**GERESS Array B**	**135.63**	**334**	PKP		**PKPdf**	**11 21 59.8**	**-0.2**
BDFB	**Brasilia**	**137.19**	**127**	PKP		**PKPdf**	**11 22 03.9**	**0.0**
	comp=Z,4.2nm,0.9s,baz=125,slow=3.7,SNR=4.6							
BDFB	**Brasilia**	**137.19**	**127**	PKIKP		**PKPdf**	**11 22 03.9**	**0.0**
BDFB	**Brasilia**	**137.19**	**127**	PKP		**PKPdf**	**11 22 03.9**	**0.0**
KEST	**Kesra**	**147.43**	**323**	PKPbc		**PKPbc**	**11 22 24.6**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=113,slow=1.3,SNR=12							
KEST	**Kesra**	**147.43**	**323**	PKPbc		**PKPbc**	**11 22 24.6**	**+0.4**
ESDC	**Sonseca Array**	**149.90**	**345**	PKP		**PKPdf**	**11 22 25.9**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=22,slow=1.8,SNR=2.8							
ESDC				PKPbc		**PKPbc**	**11 22 30.3**	**0.0**
	comp=Z,2.6nm,0.6s,baz=15,slow=1.9,SNR=6.4							
ESDC				PKPab		**PKPab**	**11 22 36.5**	**0.0**
	comp=Z,3.8nm,0.6s,baz=10,slow=4.5,SNR=7.8							
ESDC	**Sonseca Array**	**149.90**	**345**	PKP		**PKPdf**	**11 22 25.9**	**+0.6**
ESDC				PKPbc		**PKPbc**	**11 22 30.3**	**0.0**
ESDC				PKPab		**PKPab**	**11 22 36.5**	**0.0**
RCBR	**Riachuelo**	**152.55**	**126**	PKPbc		**PKPbc**	**11 22 35.9**	**-1.3**
	comp=Z,10nm,1.0s,baz=136,slow=8.5,SNR=4.1							
RCBR	**Riachuelo**	**152.55**	**126**	PKPbc		**PKPbc**	**11 22 35.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**164.60**	**280**	PKP		**PKPdf**	**11 22 43.8**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=53,slow=1.5,SNR=8.0							
TORD				PKPab		**PKPab**	**11 23 40.2**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=72,slow=1.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**164.60**	**280**	PKP		**PKPdf**	**11 22 43.8**	**-0.3**
TORD				PKPab		**PKPab**	**11 23 40.2**	**-0.3**

MAN 20 11:30:55.9±1.5N×125°6.7E, h14km, mb4.4, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.19**	**196**	*e*P		Pb	11 31 00.8	+0.6
BUTP				*e*S		Sb	11 31 10.1	+6.3
CGP	**Cagayan de Oro**	**1.19**	**235**	*e*P		Pn	11 31 16.4	-0.8
CGP				*i* S		Sn	11 31 33.1	-0.1
MSLP	**Maasin**	**1.26**	**321**	*e*P		Pn	11 31 16.6	-1.7
MSLP				*e*S		Sg	11 31 36.6	+0.7
TBP	**Tagbilaran**	**1.87**	**287**	*e*P		Pn	11 31 26.4	-0.1
TBP				*e*S		Sn	11 31 50.1	+0.2
PLP	**Palo**	**2.12**	**341**	⇓*e*P		Pn	11 31 30.9	+0.9
PLP				*e*S		Sn	11 31 57.3	+1.2
PAGZ	**Pagadian**	**2.61**	**240**	*e*P		Pn	11 31 38.3	+1.5

*ISCJB **20** 11:50:16.0±0.3, 5°39S±0°04×35°69E±0°04, h9km, mb4.6/32, MS4.1/14, Error ellipse: s-maj=6.3km s-min=4.8km az=156.3*
*IDC **20** 11:50:15.7±0.7, 5°50S×35°83E, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.4/24, mbtmp4.4/16, MS4.0/15, Ms1 4.1/15, ms1mx3.9/34, Error ellipse: s-maj=18.5km s-min=16.5km az=136.0*
*BJI **20** 11:50:15.4, 5°40S×35°60E, h10km, mB5.1/4, mb4.7/11*
*DJA **20** 11:50:16, 5°27S×35°28E, h10km, mb4.9/7*
*NEIC **20** 11:50:17.7±0.4, 5°41S×35°74E, h10km, mb4.9/10, Error ellipse: s-maj=10.9km s-min=8.7km az=107.0*
NEIC Felt at Arusha and Dodoma.
ISC 20 11:50:17.6±0.4, 5°44S±0°05×35°76E±0°05, h9km, n75, σ1°9/19°75, mb4.8/32, MS4.0/14, 3C, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMBO	**Kilima Mbogo**	**4.53**	**19**	⇑*i*P		**Pn**	**11 51 24.6**	**-2.1**
KMBO				*e*S		**Sn**	**11 52 18.7**	**-1.0**
KMBO	**Kilima Mbogo**	**4.53**	**19**	*e*Pn		**Pn**	**11 51 23.9**	**-2.8**
KMBO				*e*Sn		**Sn**	**11 52 20.4**	**+0.6**
KIG	**Kigali**	**6.65**	**301**	*e*P		**Pn**	**11 51 55.3**	**-0.4**
KIG				*e*S		**Sn**	**11 53 10.0**	**-1.7**
MBAR	**Mbarara**	**6.94**	**314**	*e*P		**Pn**	**11 51 58.7**	**-1.0**
MBAR				*e*S		**Sn**	**11 53 18.3**	**-0.7**
OPO	**Ambohidratompo**	**17.17**	**140**	P		**P**	**11 54 20.0**	**+0.2**
	1.8nm,0.3s,baz=293,slow=14,SNR=6.4							
OPO				S		**Sn**	**11 57 28.4**	**-1.0**
	0.7nm,0.3s,baz=248,slow=19,SNR=3.1							
OPO	**Ambohidratompo**	**17.17**	**140**	P		**P**	**11 54 20.0**	**+0.2**
OPO				S		**Sn**	**11 57 28.4**	**-1.0**
MSNA	**Messina**	**17.70**	**198**	*e*P		**Pn**	**11 54 24.6**	**0.0**
MSNA				*e*S		**S**	**11 57 47.9**	**-1.5**
ATD	**Arta Tunnel**	**18.27**	**23**	Lg		Lg	11 59 48.8	
	1.1nm,0.3s,baz=299,slow=23,SNR=4.6							
ATD				LR		LR	12 01 54.8	
	comp=Z,354nm,21.5s,baz=196,slow=38							
SLR	**Silverton**	**21.42**	**199**	*e*P		**P**	**11 55 08.5**	**+2.3**
SLR				*e*S		**S**	**11 59 04.7**	**+0.6**
LBTB	**Lobatse**	**21.77**	**206**	P		**P**	**11 55 08.4**	**-1.5**
	60nm,1.0s,baz=29,slow=12,SNR=29							
LBTB				S		Sn	11 59 40.1	+20
	11nm,1.0s,baz=16,slow=15,SNR=3.2							
LBTB				Lg		Lg	12 01 29.9	
	36nm,1.0s,baz=294,slow=20,SNR=3.3							
LBTB				LR		LR	12 03 54.9	
	comp=Z,585nm,18.6s,baz=40,slow=38							
LBTB	**Lobatse**	**21.77**	**206**	*e*P		**P**	**11 55 08.5**	**-1.5**
LBTB				AMB		AMB	11 55 15.1	
	comp=Z,94nm,1.2s							
LBTB				*e*S		Sn	11 59 37.8	+17
LBTB	**Lobatse**	**21.77**	**206**	*e*P		**P**	**11 55 08.5**	**-1.5**
	comp=Z,0.5nm,0.3s							
LBTB				S		Sn	11 59 40.1	+20
LBTB				Lg		Lg	12 01 29.9	
POGA	**Pongola**	**22.17**	**190**	*e*P		**P**	**11 55 13.2**	**-0.8**
POGA				AMB		AMB	11 55 20.5	
	comp=Z,66nm,1.2s							
TSUM	**Tsumeb**	**22.38**	**231**	⇑*i*P		**P**	**11 55 16.7**	**+0.2**
TSUM	**Tsumeb**	**22.38**	**231**	*e*P		**P**	**11 55 16.6**	**0.0**
	comp=Z,44nm,1.4s							
MSKU	**Masuku**	**22.41**	**279**	P		**P**	**11 55 17.0**	**+0.1**
	comp=Z,45nm,0.6s,baz=110,slow=8.7,SNR=20							
MSKU				S		Sn	11 59 39.9	+4.0
	comp=Z,13nm,0.7s,baz=156,slow=20,SNR=1.8							
MSKU				Lg		Lg	12 02 03.6	
	comp=Z,43nm,0.9s,baz=0.0,slow=20,SNR=3.1							
MSKU				LR		LR	12 03 45.6	
	comp=Z,572nm,20.0s,baz=104,slow=36							
MSKU	**Masuku**	**22.41**	**279**	P		**P**	**11 55 17.0**	**+0.1**
MSKU				S		Sn	11 59 39.9	+4.0
MSKU				Lg		Lg	12 02 03.6	
PRYS	**Parys**	**22.82**	**200**	⇑*i*P		**P**	**11 55 20.4**	**-0.8**
PRYS				AMB		AMB	11 55 26.1	
	comp=Z,90nm,1.4s							
PRYS				AML		AML	12 02 28.3	
	comp=Z,24nm,0.8s							
SEK	**Senekal**	**24.04**	**198**	*e*P		**P**	**11 55 32.6**	**-0.7**
SEK				AMB		AMB	11 55 33.7	
	comp=Z,83nm,2.0s							
BOSA	**Boshof**	**25.11**	**202**	P		**P**	**11 55 41.5**	**-1.6**
	comp=Z,27nm,1.0s,baz=24,slow=10,SNR=18							
BOSA				Lg		Lg	12 03 12.2	
	comp=Z,79nm,1.1s,baz=322,slow=21,SNR=5.7							
BOSA	**Boshof**	**25.11**	**202**	*e*P		**P**	**11 55 41.6**	**-1.4**
BOSA				AMB		AMB	11 55 49.3	
	comp=Z,53nm,5.2s							
BOSA	**Boshof**	**25.11**	**202**	*e*P		**P**	**11 55 42.1**	**-1.0**
	comp=Z,51nm,1.2s							
BOSA				Lg		Lg	12 03 12.2	
GRM	**Grahamstown**	**29.04**	**196**	*e*P		Px	11 57 09.2	
SUR	**Sutherland**	**30.23**	**206**	Lg		Lg	12 05 53.5	
	comp=Z,31nm,1.1s,baz=301,slow=22,SNR=5.7							
SUR				LR		LR	12 07 04.9	
	comp=Z,189nm,22.0s,baz=221,slow=33							
TORD	**Torodi Ar. Bea**	**38.54**	**299**	P		**P**	**11 57 41.2**	**+0.3**
	comp=Z,6.1nm,1.1s,baz=115,slow=7.0,SNR=20							
TORD				LR		LR	12 12 42.7	
	comp=Z,309nm,19.2s,baz=10.0,slow=35							
TORD	**Torodi Ar. Bea**	**38.54**	**299**	P		**P**	**11 57 41.2**	**+0.3**
DBIC	**Dimbokro**	**42.28**	**286**	P		**P**	**11 58 12.3**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=70,slow=11,SNR=4.2							
DBIC				LR		LR	12 15 58.0	
	comp=Z,253nm,18.2s,baz=108,slow=36							
DBIC	**Dimbokro**	**42.28**	**286**	P		**P**	**11 58 12.3**	**+0.4**
BRTR	**Keskin Array B**	**44.98**	**358**	P		**P**	**11 58 33.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=174,slow=12,SNR=8.4							
BRTR	**Keskin Array B**	**44.98**	**358**	P		**P**	**11 58 33.1**	**-0.3**
KEST	**Kesra**	**47.88**	**331**	LR		LR	12 19 09.1	
	comp=Z,92nm,21.4s,baz=340,slow=36							
BBTS	**Babate**	**55.55**	**292**	LR		LR	12 24 51.9	
	comp=Z,184nm,18.8s,baz=84,slow=37							
AKASG	**Malin Array Be**	**56.20**	**355**	P		**P**	**11 59 57.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=176,slow=6.1,SNR=7.7							
AKASG	**Malin Array Be**	**56.20**	**355**	P		**P**	**11 59 57.2**	**-0.6**
GERES	**GERESS Array B**	**57.39**	**343**	P		**P**	**12 00 06.7**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=156,slow=6.7,SNR=8.4							
GERES	**GERESS Array B**	**57.39**	**343**	P		**P**	**12 00 06.7**	**+0.2**
KKAR	**Karatay Array**	**57.66**	**30**	*e*P		**P**	**12 00 10.4**	**+2.0**
	comp=Z,7.3nm,0.8s							
ESDC	**Sonseca Array**	**57.91**	**324**	P		**P**	**12 00 11.5**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=139,slow=6.2,SNR=4.7							
ESDC	**Sonseca Array**	**57.91**	**324**	P		**P**	**12 00 11.5**	**+1.2**
GRFO	**Grafenberg**	**58.90**	**342**	*e*P		**P**	**12 00 16.8**	**-0.1**
	comp=Z,28nm,0.8s							
AAK	**Ala-Archa**	**59.37**	**32**	*e*P		**P**	**12 00 21.8**	**+1.3**
	comp=Z,97nm,1.8s							
TKM2	**Tokmak 2**	**60.15**	**33**	*e*P		**P**	**12 00 25.2**	**-0.8**
	comp=Z,9.7nm,1.0s							
ARU	**Arti**	**64.43**	**14**	*e*P		**P**	**12 00 56.0**	**+1.9**
	comp=Z,7.4nm,0.9s							
BVAR	**Borovoye Array**	**65.18**	**22**	LR		LR	12 31 47.8	
	comp=Z,198nm,18.4s,baz=105,slow=38							
MK31	**Makanchi Array**	**66.29**	**33**	*e*P		**P**	**12 01 05.0**	**-1.4**
MKAR	**Makanchi Array**	**66.29**	**33**	P		**P**	**12 01 05.5**	**-0.9**
	comp=Z,6.3nm,0.7s,baz=232,slow=6.0,SNR=39							
MKAR				LR		LR	12 30 57.5	
	comp=Z,108nm,21.4s,baz=134,slow=37							
MKAR	**Makanchi Array**	**66.29**	**33**	P		**P**	**12 01 05.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**66.63**	**67**	P		**P**	**12 01 08.4**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=258,slow=7.8,SNR=36							
CMAR				LR		LR	12 32 18.2	
	comp=Z,77nm,18.1s,baz=77,slow=38							
CMAR	**Chiang Mai Arr**	**66.63**	**67**	P		**P**	**12 01 08.4**	**-0.7**
CHTO	**Chiang Mai**	**66.72**	**67**	P		**P**	**12 01 10.6**	**+0.9**
	comp=Z,10nm,1.5s							
KURK	**Kurchatov**	**66.97**	**28**	LR		LR	12 33 21.7	
	comp=Z,102nm,18.4s,baz=285,slow=39							
WMQ	**Urumqi**	**67.71**	**38**	P		**P**	**12 01 17.3**	**+1.7**
WMQ				pP		**pP**	**12 01 22.3**	**+3.8**
WMQ				sP		sP	12 01 24.3	+4.7
WMQ				pmax		pmax		
	comp=Z,8.0nm,1.2s							
NOA	**NORSAR Array B**	**68.99**	**347**	P		**P**	**12 01 23.5**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=156,slow=5.8,SNR=2.7							
NOA	**NORSAR Array B**	**68.99**	**347**	P		**P**	**12 01 23.5**	**+0.4**
ZALV	**Zalesovo Beam**	**71.96**	**28**	P		**P**	**12 01 39.6**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=237,slow=5.1,SNR=11							
ZALV				LR		LR	12 38 51.1	
	comp=Z,74nm,20.9s,baz=257,slow=40							
ZALV	**Zalesovo Beam**	**71.96**	**28**	P		**P**	**12 01 39.6**	**-1.8**
GTA	**Gaotai**	**73.87**	**46**	*e*P		**P**	**12 01 55.0**	**+1.8**
GTA				pP		PcP	12 02 03.0	-5.7
GTA				sP		sP	12 02 07.8	+11
GTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
LZH	**Lanzhou**	**75.77**	**51**	*e*P		**P**	**12 02 06.5**	**+2.1**
LZH				pP		**PcP**	**12 02 15.5**	**-1.6**
LZH				sP		sP	12 02 18.3	+10
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
SONM	**Songino Array**	**81.21**	**40**	P		**P**	**12 02 34.2**	**0.0**
	comp=Z,3.7nm,0.8s,baz=244,slow=5.2,SNR=19							
SONM				LR		LR	12 42 08.0	
	comp=Z,134nm,18.1s,baz=3.0,slow=38							
SONM	**Songino Array**	**81.21**	**40**	P		**P**	**12 02 34.2**	**0.0**
ULN	**Ulaanbaatar**	**81.64**	**40**	*e*P		**P**	**12 02 36.8**	**+0.4**
	comp=Z,2.4nm,0.8s							
ULN	**Ulaanbaatar**	**81.64**	**40**	P		P	12 02 39.1	+2.7
	comp=Z,7.5nm,1.6s							
SPB4	**Spitsbergen Ar**	**84.17**	**356**	*e*P		P	12 02 45.2	-3.6
QSPA	**South Pole Qui**	**84.62**	**180**	*e*P		**P**	**12 02 51.0**	**-0.5**
	comp=Z,7.4nm,1.0s							
ASAR	**Alice Springs**	**95.27**	**114**	P		**P**	**12 03 43.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=268,slow=3.9,SNR=4.3							
ASAR	**Alice Springs**	**95.27**	**114**	P		**P**	**12 03 43.0**	**+0.4**
WRA	**Warramunga Arr**	**96.19**	**111**	P		**P**	**12 03 47.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=268,slow=2.8,SNR=8.2							
WRA	**Warramunga Arr**	**96.19**	**111**	P		**P**	**12 03 47.3**	**+0.4**
WB2	**Warramunga Arr**	**96.20**	**111**	*e*P		**P**	**12 03 46.5**	**-0.4**
WRAB	**Tennant Creek**	**96.20**	**111**	*e*P		**P**	**12 03 48.1**	**+1.1**
	comp=Z,3.6nm,1.0s							
PLCA	**Paso Flores**	**98.70**	**228**	LR		LR	12 44 06.8	
	comp=Z,113nm,19.0s,baz=267,slow=33							
YKA	**Yellowknife Ar**	**119.02**	**345**	PKP		**PKPdf**	**12 09 06.3**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=28,slow=2.3,SNR=5.3							
YKA	**Yellowknife Ar**	**119.02**	**345**	PKP		**PKPdf**	**12 09 06.3**	**-0.3**
NVAR	**Mina Array Bea**	**139.59**	**328**	PKP		**PKPdf**	**12 09 45.9**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=77,slow=1.2,SNR=5.1							
NVAR	**Mina Array Bea**	**139.59**	**328**	PKP		**PKPdf**	**12 09 45.9**	**-0.6**

IDC 20 11:56:08.8±7.4, 18°98S×176°72W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=323.8km s-min=34.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**46.02**	**260**	P		P	12 04 33.6	-0.9
	0.4nm,0.5s,baz=97,slow=8.5,SNR=5.7							
ASAR	**Alice Springs**	**46.05**	**255**	P		P	12 04 35.2	+0.5
	2.9nm,0.5s,baz=90,slow=8.5,SNR=74							
ILAR	**Eielson Array**	**86.58**	**12**	P		P	12 08 53.4	-0.1
	0.3nm,0.4s,baz=224,slow=5.0,SNR=15							

*ATH **20** 12:04:33.5, 35°81N×22°75E, h27km±2km, MD3.0/6*
*CSEM **20** 12:04:34.5±0.7, 35°89N×22°79E, h15km, MD3.0, Error ellipse: s-maj=20.4km s-min=9.3km az=47.0*
ISC 20 12:04:32.9±1.4, 35°75N±0°07×22°60E±0°07, h10km, n22, σ1°57/30, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KYTH	**Kithira**	**0.64**	**34**	*e*PN		**Pb**	**12 04 44.8**	**-1.3**
KYTH	**Kithira**	**0.64**	**34**	*e*Pn		**Pb**	**12 04 44.8**	**-1.3**
VLI	**Veliai**	**1.01**	**16**	*e*PN		**Pb**	**12 04 51.4**	**-1.0**
VLI				*e*SN		**Sg**	**12 05 04.1**	**-1.2**
VLI	**Veliai**	**1.01**	**16**	*e*Pn		**Pb**	**12 04 51.4**	**-1.0**
VLI				*e*Sn		**Sg**	**12 05 04.1**	**-1.2**
KARN	**Karanos**	**1.13**	**107**	P		**Pn**	**12 04 54.1**	**-0.6**
KARN				S		**Sn**	**12 05 14.5**	**+4.2**
KARN	**Karanos**	**1.13**	**107**	P		**Pn**	**12 04 54.1**	**-0.6**
PYL	**PYLOS**	**1.34**	**329**	P		**Pn**	**12 04 52.9**	**-4.7**
PYL				S		**Sg**	**12 05 16.6**	**+0.6**
PYL	**PYLOS**	**1.34**	**329**	*e*PN		**Pg**	**12 04 58.4**	**-0.2**
PYL				*e*SN		**Sg**	**12 05 16.9**	**+0.9**
PYL	**PYLOS**	**1.34**	**329**	*e*Pn		**Pg**	**12 04 58.4**	**-0.2**
PYL				S		**Sg**	**12 05 16.6**	**+0.6**
PYL				*e*Sn		**Sg**	**12 05 16.9**	**+0.9**
VAM	**Vamos**	**1.35**	**104**	*e*PN		**Pb**	**12 04 57.1**	**-1.1**
VAM	**Vamos**	**1.35**	**104**	*e*Pn		**Pb**	**12 04 57.1**	**-1.1**
ITM	**Ithomi**	**1.53**	**339**	*e*PN		**Pb**	**12 05 00.9**	**-0.4**
ITM	**Ithomi**	**1.53**	**339**	*e*Pn		**Pb**	**12 05 00.9**	**-0.4**
VLX	**Vlachokerasia**	**1.63**	**354**	P		**Pn**	**12 05 01.7**	**0.0**
VLX				S		**Sg**	**12 05 28.5**	**+3.2**
VLX	**Vlachokerasia**	**1.63**	**354**	*e*PN		**Pn**	**12 05 01.7**	**0.0**
VLX	**Vlachokerasia**	**1.63**	**354**	P		**Pn**	**12 05 01.7**	**0.0**
DID	**Didima**	**1.83**	**16**	*e*PN		**Pn**	**12 05 04.3**	**-0.1**
DID	**Didima**	**1.83**	**16**	*e*Pn		**Pn**	**12 05 04.3**	**-0.1**
GUR	**Goura**	**2.19**	**355**	*e*PB		**Pn**	**12 05 10.1**	**+0.6**
GUR	**Goura**	**2.19**	**355**	*e*Pb		**Pn**	**12 05 10.1**	**+0.6**
LTK	**Loutraki**	**2.29**	**7**	*e*PB		**Pn**	**12 05 11.3**	**+0.6**
LTK	**Loutraki**	**2.29**	**7**	*e*Pb		**Pn**	**12 05 11.3**	**+0.6**

IDC 20 12:04:43.9±7.5, 23°91S×178°88E, h575km±81km, mb3.1/5, mb1 3.3/5, mb1mx3.0/16, mbtmp3.1/5, Error ellipse: s-maj=48.3km s-min=42.6km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**30.45**	**271**	P		P	12 10 11.2	+0.2
	2.8nm,0.4s,baz=85,slow=13,SNR=9.0							
STKA	**Stephens Creek**	**33.77**	**248**	P		P	12 10 39.5	+0.6
	1.8nm,0.4s,baz=96,slow=9.0,SNR=5.5							
ASAR	**Alice Springs**	**41.02**	**261**	P		P	12 11 38.0	-0.3
	0.8nm,0.4s,baz=93,slow=7.9,SNR=31							
WRA	**Warramunga Arr**	**41.38**	**267**	P		P	12 11 40.2	-0.9
	1.3nm,0.5s,baz=92,slow=8.4,SNR=26							
TXAR	**Lajitas Array**	**91.31**	**58**	P		P	12 16 48.9	-0.2
	0.2nm,0.7s,baz=241,slow=5.0,SNR=3.1							
AKASG	**Malin Array Be**	**144.42**	**326**	PKP		PKPdf	12 23 13.9	-1.0
	0.6nm,0.4s,baz=49,slow=4.9,SNR=4.6							
BRTR	**Keskin Array B**	**146.76**	**307**	PKPbc		PKPbc	12 23 22.2	-0.2
	0.4nm,0.6s,baz=119,slow=5.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**168.97**	**194**	PKPab		PKPab	12 25 00.8	-0.6
	0.6nm,0.9s,baz=191,slow=2.2,SNR=2.1							

*IDC **20** 12:08:09.1±1.1, 21°18N×121°37E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.3/21, mbtmp3.2/5, Error ellipse: s-maj=77.5km s-min=22.5km az=69.0*
*TAP **20** 12:08:10.2, 21°04N×121°36E, h53km±3km, ML3.5, D*
ISC 20 12:08:12.1±1.7, 21°13N±0°07×121°29E±0°07, h20km±7km, n32, σ0°82/50, mb3.2/5, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSEB	**Hengchuen, Pin**	**0.85**	**335**	P		**Pg**	**12 08 28.8**	**0.0**
	baz=330							
TSEB				*e*S		**Sn**	**12 08 42.1**	**+1.3**
	baz=330							
TWK1	**Hengchun**	**0.93**	**331**	⇓*i*P		**Pb**	**12 08 29.4**	**-0.2**
	baz=330							
TWK1				S		**Sn**	**12 08 43.3**	**+0.5**
	baz=330							
LAY	**Lan-yu**	**0.94**	**15**	P		**Pb**	**12 08 29.2**	**-0.6**
	baz=10.0							
LAY				S		**Sg**	**12 08 42.7**	**-0.2**
	baz=10.0							
HEN	**Hengchun**	**1.02**	**330**	*e*P		**Pb**	**12 08 30.6**	**-0.4**
	baz=328							
HEN				*e*S		**Sg**	**12 08 45.8**	**+0.6**
	baz=328							
EAST	**Anshuo**	**1.32**	**342**	*e*P		**Pn**	**12 08 33.5**	**-1.9**
	baz=340							
EAST				*e*S		**Sb**	**12 08 52.7**	**0.0**
	baz=340							
ECL	**Taimali**	**1.50**	**348**	*e*P		**Pn**	**12 08 36.3**	**-1.6**
	baz=346							
TWG	**Pinlang**	**1.70**	**353**	*e*P		**Pn**	**12 08 40.6**	**0.0**
	baz=351							
SSD	**Sandimen**	**1.73**	**339**	*e*P		**Pn**	**12 08 39.9**	**-1.1**
	baz=338							
TWM1	**Shoushan**	**1.87**	**335**	*e*P		**Pn**	**12 08 42.9**	**-0.1**
	baz=333							
TWM1				*e*S		**Sn**	**12 09 06.2**	**+0.1**
	baz=333							
CHKT	**Chengkung**	**1.97**	**2**	*e*P		**Pn**	**12 08 44.1**	**-0.2**
CHKT				*e*S		**Sn**	**12 09 08.9**	**+0.5**
SGST	**Jiashian**	**2.06**	**342**	*e*P		**Pn**	**12 08 44.8**	**-0.7**
	baz=340							
SGST				*e*S		**Sn**	**12 09 11.3**	**+0.7**
	baz=340							
ELDTW	**Lidau**	**2.07**	**353**	*e*P		**Pn**	**12 08 45.9**	**0.0**
	baz=351							
CHN1	**Nanshi**	**2.17**	**341**	*e*P		**Pn**	**12 08 46.1**	**-1.0**
	baz=340							
CHN1				*e*S		**Sn**	**12 09 13.5**	**+0.1**
	baz=340							
WTP	**Ta-pu**	**2.20**	**344**	*e*P		**Pn**	**12 08 46.6**	**-1.0**
	baz=342							
WTP				*e*S		**Sn**	**12 09 15.0**	**+0.7**
	baz=342							
TWF1	**Yuli**	**2.22**	**0**	*e*P		**Pn**	**12 08 48.6**	**+0.8**
	baz=358							
TWF1				*e*S		**Sn**	**12 09 14.9**	**+0.2**
	baz=358							
TWK	**Hsinying**	**2.26**	**341**	*e*P		**Pn**	**12 08 48.9**	**+0.5**
	baz=340							
CHN4	**Tsaushan**	**2.31**	**344**	*e*P		**Pn**	**12 08 51.0**	**+2.0**
	baz=342							
CHN4				*e*S		**Sn**	**12 09 18.4**	**+1.5**
	baz=342							
EHY	**Hungye**	**2.37**	**1**	*e*P		**Pn**	**12 08 50.4**	**+0.6**
	baz=359							
EHY				*e*S		**Sn**	**12 09 18.4**	**0.0**
	baz=359							
ALS	**Alishan**	**2.42**	**349**	*e*P		**Pn**	**12 08 50.4**	**-0.4**

GONE	**Gonen-Balikesi**	**1.53**	**20**	*e*PN	**Pn**	**12**	**25**	**25.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.53**	**20**	*e*Pn	**Pn**	**12**	**25**	**25.0**	**+0.3**
BODT	**Bodrum**	**1.56**	**171**	*e*PN	**Pn**	**12**	**25**	**25.6**	**+0.4**
BODT	**Bodrum**	**1.56**	**171**	*e*Pn	**Pn**	**12**	**25**	**25.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*PN	**Pn**	**12**	**25**	**31.4**	**+0.8**
KCTX	**Karacabey (Bur**	**1.96**	**32**	*e*Pn	**Pn**	**12**	**25**	**31.4**	**+0.8**

IDC 20 12:30:24.6±2.9, 2°50S×101°52E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, Error ellipse: s-maj=137.9km s-min=18.0km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.43**	**121**	P	P	12 37 30.4	-1.0
	0.4nm,0.4s,baz=299,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**37.73**	**127**	P	P	12 37 43.0	+0.6
	0.9nm,0.5s,baz=304,slow=8.0,SNR=43						
STKA	**Stephens Creek**	**47.69**	**132**	P	P	12 39 03.1	-0.1
	1.1nm,0.7s,baz=321,slow=6.5,SNR=2.8						
SONM	**Songino Array**	**50.31**	**4**	P	P	12 39 23.4	+0.3
	0.9nm,0.5s,baz=188,slow=9.5,SNR=8.5						
MKAR	**Makanchi Array**	**51.93**	**343**	P	P	12 39 35.5	+0.3
	0.2nm,0.3s,baz=155,slow=8.7,SNR=7.5						
KURK	**Kurchatov**	**56.52**	**343**	P	P	12 40 08.1	-0.5
	0.4nm,0.8s,baz=157,slow=6.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**57.95**	**348**	P	P	12 40 17.8	-0.8
	0.7nm,0.3s,baz=166,slow=6.9,SNR=6.9						

*BJI **20** 12:34:25.7, 11°.46S×115°.50E, h35km, mB5.2/22, mb4.8/34, Ms4.8/17, Ms7 4.5/17*
*IDC **20** 12:34:29.9±0.5, 10°.54S×115°.04E, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.7/18, mbtmp4.6/15, MS3.6/5, Ms1 3.6/5, ms1mx3.2/28, Error ellipse: s-maj=24.3km s-min=13.6km az=68.0*
*MOS **20** 12:34:32.9±1.0, 10°.48S×115°.16E, h33km, mb5.2/19, Error ellipse: s-maj=16.6km s-min=7.2km az=116.6*
*ISCJB **20** 12:34:34.7±0.6, 10°.58S±0°.04×115°.04E±0°.04, h50km±4km, mb4.9/71, MS4.1/10, Error ellipse: s-maj=7.3km s-min=4.9km az=33.1*
*NEIC **20** 12:34:34.0±0.3, 10°.69S×115°.03E, mb5.1/29, Error ellipse: s-maj=12.3km s-min=5.7km az=51.0*
*DJA **20** 12:34:37, 10°.60S×114°.95E, h49km, mb4.9/24*
ISC 20 12:34:34.9±0.3, 10°66S±0°04×115°06E±0°05, h38km±1km, h38km; pP-P, n270,c61s50/328, mb5.0/70, MS4.2/10, 28C-24D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.83**	**3**	P	**Pn**	**12**	**35**	**04.1**	**+0.3**
MTNI	**Mataram**	**2.29**	**29**	P	**Pn**	**12**	**35**	**11.7**	**+1.6**
NBBI	**Negara**	**2.32**	**349**	P	**Pn**	**12**	**35**	**12.8**	**+2.3**
KHKI	**Kahang-Kahang**	**2.34**	**13**	P	**Pn**	**12**	**35**	**12.1**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.35**	**338**	P	**Pn**	**12**	**35**	**10.3**	**-0.7**
BYJI	**Banyuwangi**	**2.53**	**344**	P	**Pn**	**12**	**35**	**14.8**	**+1.4**
GMJI	**Gumukmas**	**2.86**	**326**	P	**Pn**	**12**	**35**	**16.9**	**-1.0**
BLJI	**Banyuglugur**	**3.24**	**333**	P	**Pn**	**12**	**35**	**23.9**	**+0.8**
KRKI	**Karangkates**	**3.58**	**314**	P	**Pn**	**12**	**35**	**27.4**	**-0.4**
KMMI	**Kalianget**	**3.75**	**343**	P	sPn	12	35	42.0	-1.2
PWJI	**Pagerwojo**	**4.15**	**309**	P	**Pn**	**12**	**35**	**34.8**	**-0.8**
SJI	**Sawahan**	**4.36**	**312**	P	**Pn**	**12**	**35**	**38.9**	**+0.2**
PCJI	**Pacitan**	**4.55**	**302**	P	**Pn**	**12**	**35**	**41.9**	**+0.8**
UGM	**Wanagama**	**5.24**	**301**	*e*Pn	**Pn**	**12**	**35**	**51.5**	**+0.7**
BJII	**Banjamegara**	**6.23**	**302**	P	**Pn**	**12**	**36**	**05.8**	**+1.4**
	116nm,0.9s,0.4nm								
BBKI	**Banjar Baru**	**7.15**	**358**	P	Pn	12	36	24.8	+7.8
KAPI	**Kappang**	**7.29**	**40**	Pn	**Pn**	**12**	**36**	**20.1**	**+1.4**
	14nm,0.3s,baz=217,slow=5.1,SNR=30								
KAPI				Sn	**Sn**	**12**	**37**	**37.5**	**-2.7**
	2.9nm,0.3s,baz=47,slow=22,SNR=7.9								
KAPI				LR	LR	12	39	49.1	
	comp=Z,377nm,18.8s,baz=218,slow=44								
KAPI	**Kappang**	**7.29**	**40**	*e*Pn	**Pn**	**12**	**36**	**19.8**	**+1.0**
KAPI				Pn	Pn	12	36	20.1	+1.4
KAPI				Sn	**Sn**	**12**	**37**	**37.5**	**-2.7**
KAPI				*e*Sn	Sn	12	37	41.3	+1.1
KAPI	**Kappang**	**7.29**	**40**	P	**Pn**	**12**	**36**	**20.5**	**+1.7**
	91nm,0.7s,944nm0.4nm								
BKSI	**Bulukumba**	**7.30**	**44**	P	**Pn**	**12**	**36**	**21.3**	**+2.3**
	207nm,0.5s,2µm0.8nm								
MMRI	**Maumere**	**7.36**	**75**	P	Pn	12	36	23.5	+3.7
	169nm,0.8s,2µm0.6nm								
KBKI	**Kotabaru**	**7.39**	**9**	P	Pn	12	36	25.3	+5.0
	30nm,0.9s,1µm0.1nm								
CISI	**Cisompet, Garu**	**7.79**	**293**	P	**Pn**	**12**	**36**	**24.4**	**-1.4**
	192nm,0.7s,2µm0.6nm								
SPSI	**Sidrap Palu**	**8.13**	**35**	P	Pn	12	36	35.6	+5.3
	51nm,0.9s,0.2nm								
LEM	**Lembang**	**8.28**	**297**	P	**Pn**	**12**	**36**	**35.4**	**+2.8**
	64nm,0.9s,0.3nm								
CBJI	**Citeko**	**9.14**	**297**	P	**Pn**	**12**	**36**	**43.3**	**-1.0**
	301nm,0.9s,1.2nm								
CGJI	**Cibinong**	**10.09**	**293**	P	**Pn**	**12**	**36**	**55.0**	**-2.3**
	83nm,0.7s,1µm								
MBWA	**Marble Bar**	**11.36**	**157**	*e*Pn	Pn	12	37	08.5	-6.2
LWLI	**Liwa**	**12.25**	**296**	P	Pn	12	37	31.9	+4.9
FITZ	**Fitzroy Crossi**	**12.64**	**127**	Pn	**Pn**	**12**	**37**	**29.1**	**-3.0**
	0.8nm,0.3s,baz=289,slow=7.1,SNR=20								
FITZ				Sn	Sn	12	39	39.4	-12
	4.5nm,0.3s,baz=108,slow=19,SNR=14								
FITZ	**Fitzroy Crossi**	**12.64**	**127**	*e*P	**Pn**	**12**	**37**	**28.9**	**-3.2**
	20nm,0.8s								
FITZ				*e*S	Sn	12	39	37.0	-15
FITZ	**Fitzroy Crossi**	**12.64**	**127**	Pn	**Pn**	**12**	**37**	**29.1**	**-3.0**
FITZ				*e*Pn	P	12	37	30.2	-13
FITZ				Sn	Sn	12	39	39.4	-12
FITZ				*e*Sn	S	12	39	40.7	-37
KSI	**Kapahiang**	**14.19**	**298**	P	Pn	12	37	50.2	-3.2
	180nm,1.1s,4µm								
LBMI	**Labuha**	**15.88**	**52**	P	P	12	38	32.2	+13
PPI	**Padang Panjang**	**17.75**	**304**	P	**Pn**	**12**	**38**	**39.1**	**-0.1**
	51nm,1.1s								
TLE	**Tual**	**18.19**	**75**	P	**P**	**12**	**38**	**44.5**	**-0.1**
	55nm,1.0s								
FAKI	**Fak Fak**	**18.71**	**67**	P	**P**	**12**	**38**	**49.2**	**-1.1**
	97nm,0.8s,685nm								
DAV	**Davao City (W)**	**20.49**	**31**	LR	LR	12	47	52.8	
	comp=Z,85nm,19.6s,baz=192,slow=39								
WRA	**Warramunga Arr**	**20.74**	**119**	P	**P**	**12**	**39**	**13.2**	**+0.8**
	20nm,0.9s,baz=296,slow=12,SNR=86								
WRA				S	S	12	42	50.0	-12
	1.8nm,0.7s,baz=291,slow=24,SNR=4.3								
WRA	**Warramunga Arr**	**20.74**	**119**	P	**P**	**12**	**39**	**13.2**	**+0.8**
WRA				S	S	12	42	50.0	-12
WRA	**Warramunga Arr**	**20.74**	**119**	P	**P**	**12**	**39**	**13.2**	**+0.8**
WRA				S	S	12	42	50.0	-12
WRAB	**Tennant Creek**	**20.75**	**119**	*e*P	**P**	**12**	**39**	**13.5**	**+1.0**
WRAB				pmax	pmax				
	comp=Z,18nm,0.8s								
WRAB	**Tennant Creek**	**20.75**	**119**	*e*P	**P**	**12**	**39**	**13.5**	**+1.0**
	comp=Z,18nm,0.8s								
WB2	**Warramunga Arr**	**20.75**	**119**	*e*P	**P**	**12**	**39**	**13.2**	**+0.7**
PSI	**Prapat**	**20.90**	**309**	P	Pn	12	39	16.1	-0.9
	comp=Z,16nm,1.1s								
KLBR	**Kellerberrin**	**20.98**	**174**	*e*P	Pn	12	39	18.1	+0.5
	comp=Z,24nm,1.2s								
KLBR				*e*S	S	12	42	46.4	-20
TSI	**Tuntungan**	**21.62**	**310**	P	**P**	**12**	**39**	**23.0**	**+1.1**
	comp=Z,184nm,0.9s								
AS31	**Alice Springs**	**22.13**	**128**	*e*P	**P**	**12**	**39**	**28.3**	**+0.9**
AS31				*e*S	**S**	**12**	**43**	**25.8**	**-3.5**
ASAR	**Alice Springs**	**22.13**	**128**	P	**P**	**12**	**39**	**28.1**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=303,slow=9.5,SNR=52								
ASAR				S	**S**	**12**	**43**	**25.7**	**-3.6**
	comp=Z,2.7nm,0.8s,baz=304,slow=22,SNR=4.8								
ASAR	**Alice Springs**	**22.13**	**128**	P	**P**	**12**	**39**	**28.2**	**+0.8**
ASAR				S	**S**	**12**	**43**	**25.7**	**-3.6**
ASAR	**Alice Springs**	**22.13**	**128**	P	**P**	**12**	**39**	**28.1**	**+0.8**
ASAR				S	**S**	**12**	**43**	**25.7**	**-3.6**
NWAO	**Narrogin (SRO)**	**22.25**	**175**	P	**P**	**12**	**39**	**29.4**	**+0.9**
	comp=Z,12nm,0.9s,baz=180,slow=2.5,SNR=3.1								
NWAO				S	S	12	43	19.1	-12
	comp=Z,15nm,0.5s,baz=206,slow=14,SNR=4.3								
NWAO	**Narrogin (SRO)**	**22.25**	**175**	P	**P**	**12**	**39**	**29.4**	**+0.9**
NWAO				S	S	12	43	19.1	-12
NWAO	**Narrogin (SRO)**	**22.25**	**175**	P	**P**	**12**	**39**	**29.4**	**+0.9**
NWAO				S	S	12	43	19.1	-12
BAKI	**Biak**	**22.93**	**67**	P	P	12	39	42.2	+6.3
	comp=Z,112nm,1.2s								
FORT	**Forrest**	**23.38**	**151**	*e*P	**P**	**12**	**39**	**40.3**	**+0.1**
	comp=Z,49nm,0.8s								

FORT				*e*S	**S**	**12**	**43**	**50.6**	**0.0**
FORT	**Forrest**	**23.38**	**151**	*e*P	**P**	**12**	**39**	**40.4**	**+0.2**
	comp=Z,65nm,0.9s								
FORT				*e*S	**S**	**12**	**43**	**51.2**	**+0.5**
COEN	**Coen**	**27.66**	**100**	*e*P	**P**	**12**	**40**	**19.1**	**-0.3**
	comp=Z,63nm,0.8s								
STKA	**Stephens Creek**	**32.35**	**135**	P	**P**	**12**	**41**	**02.1**	**+1.3**
	comp=Z,13nm,0.8s,baz=303,slow=8.9,SNR=21								
STKA				PcP	**PcP**	**12**	**43**	**48.7**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=274,slow=4.9,SNR=3.1								
STKA				LR	LR	12	52	32.8	
	comp=Z,130nm,20.8s,baz=204,slow=33								
STKA	**Stephens Creek**	**32.35**	**135**	*e*P	**P**	**12**	**41**	**02.0**	**+1.3**
	comp=Z,10nm,0.9s								
STKA	**Stephens Creek**	**32.35**	**135**	*e*P	**P**	**12**	**41**	**02.1**	**+1.3**
STKA						12	43	48.7	
STKA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
STKA	**Stephens Creek**	**32.35**	**135**	*e*P	**P**	**12**	**41**	**02.1**	**+1.3**
	comp=Z,3.2nm,0.9s								
STKA				PcP	**PcP**	**12**	**43**	**48.7**	**+0.6**
CM31	**Chiang Mai Arr**	**33.02**	**331**	*e*P	**P**	**12**	**41**	**07.2**	**+0.6**
	comp=Z,12nm,0.9s								
CMAR	**Chiang Mai Arr**	**33.02**	**331**	P	**P**	**12**	**41**	**07.3**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=161,slow=8.3,SNR=43								
CMAR				PcP	**PcP**	**12**	**43**	**51.5**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=185,slow=3.0,SNR=4.6								
CMAR				LR	LR	12	57	47.0	
	comp=Z,83nm,18.5s,baz=175,slow=42								
CMAR	**Chiang Mai Arr**	**33.02**	**331**	P	**P**	**12**	**41**	**07.3**	**+0.6**
CMAR						12	43	51.5	
CMAR	**Chiang Mai Arr**	**33.02**	**331**	P	**P**	**12**	**41**	**07.3**	**+0.6**
CMAR				PcP	**PcP**	**12**	**43**	**51.5**	**+1.5**
CHTO	**Chiang Mai**	**33.32**	**331**	*e*P	**P**	**12**	**41**	**10.1**	**+0.8**
CHTO				pmax	pmax				
	comp=Z,8.0nm,1.2s								
CHTO	**Chiang Mai**	**33.32**	**331**	*e*P	**P**	**12**	**41**	**10.1**	**+0.8**
	comp=Z,8.1nm,1.2s								
CHTO	**Chiang Mai**	**33.32**	**331**	P	**P**	**12**	**41**	**10.1**	**+0.8**
	comp=Z,9.9nm,0.9s								
KMI	**Kunming**	**37.54**	**341**	P	**P**	**12**	**41**	**48.0**	**+2.2**
KMI				pP	**pP**	**12**	**41**	**57.3**	**+0.7**
KMI				sP	**sP**	**12**	**42**	**01.0**	**-0.1**
KMI				PP	PP	12	43	18.6	+6.6
KMI				S	**S**	**12**	**47**	**36.1**	**+3.4**
KMI				pmax	pmax				
	comp=Z,20nm,0.9s								
KMI				pmax	pmax				
	comp=Z,100nm,3.1s								
KMI				LR	LR				
	comp=N,180nm,13.7s								
KMI				LR	LR				
	comp=E,180nm,19.9s								
KMI				LR	LR				
	comp=Z,180nm,11.6s								
GYA	**Guiyang**	**37.79**	**348**	P	**P**	**12**	**41**	**48.3**	**+0.6**
GYA				pP	**pP**	**12**	**42**	**01.6**	**+3.1**
GYA				PP	PP	12	43	21.4	+6.8
GYA				S	**S**	**12**	**47**	**40.3**	**+4.1**
GYA				sS	**sS**	**12**	**47**	**58.0**	**+3.9**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,110nm,4.8s								
GYA				LR	LR				
	comp=N,520nm,16.4s								
GYA				LR	LR				
	comp=E,480nm,17.0s								
GYA				LR	LR				
	comp=Z,530nm,17.5s								
ENH	**Enshi**	**41.05**	**353**	*e*P	**P**	**12**	**42**	**14.4**	**-0.3**
	comp=Z,22nm,1.2s								
SHL	**Shillong**	**42.50**	**328**	*i*P	P	12	42	33.0	+6.1
CD2	**Chengdu**	**42.73**	**346**	P	**P**	**12**	**42**	**28.3**	**-0.2**
CD2				pP	**pP**	**12**	**42**	**38.6**	**-0.9**
CD2				sP	**sP**	**12**	**42**	**42.8**	**-1.2**
CD2				PP	PP	12	44	10.8	+2.5
CD2				S	**S**	**12**	**48**	**50.5**	**+0.7**
CD2				pmax	pmax				
	comp=Z,40nm,0.8s								
CD2				pmax	pmax				
	comp=Z,50nm,3.7s								
CD2				LR	LR				
	comp=N,290nm,7.7s								
CD2				LR	LR				
	comp=Z,240nm,8.3s								
XAN	**Xi'an**	**44.83**	**353**	P	**P**	**12**	**42**	**44.5**	**-0.9**
XAN				pmax	pmax				
	comp=Z,3.0nm,1.1s								
HYB	**Hyderabad**	**45.60**	**307**	*i*P	**P**	**12**	**42**	**50.0**	**-1.7**
ODAN	**Odare**	**45.97**	**325**	*e*P	**P**	**12**	**42**	**54.4**	**-0.3**
ODAN	**Odare**	**45.97**	**325**	*e*P	**P**	**12**	**42**	**54.4**	**-0.3**
TAPN	**Taplejung**	**46.16**	**325**	*e*P	**P**	**12**	**42**	**56.3**	**0.0**
	comp=Z,71nm,0.9s								
TAPN	**Taplejung**	**46.16**	**325**	*e*P	**P**	**12**	**42**	**56.3**	**0.0**
	comp=Z,71nm,0.9s								
LSA	**Lhasa**	**46.27**	**331**	P	**P**	**12**	**42**	**57.8**	**+0.4**
LSA	**Lhasa**	**46.27**	**331**	*e*P	**P**	**12**	**42**	**57.7**	**+0.4**
LSA				pmax	pmax				
	comp=Z,13nm,0.8s								
LSA	**Lhasa**	**46.27**	**331**	*e*P	**P**	**12**	**42**	**57.7**	**+0.4**
	comp=Z,13nm,0.8s								
RAMN	**Ramite**	**46.48**	**324**	*e*P	**P**	**12**	**42**	**58.4**	**-0.4**
	comp=Z,47nm,1.0s								
RAMN	**Ramite**	**46.48**	**324**	*e*P	**P**	**12**	**42**	**58.4**	**-0.4**
	comp=Z,47nm,1.0s								
JIRN	**Jiri**	**47.26**	**324**	*e*P	**P**	**12**	**43**	**04.8**	**-0.2**
	comp=Z,95nm,0.7s								
JIRN	**Jiri**	**47.26**	**324**	*e*P	**P**	**12**	**43**	**04.8**	**-0.2**
	comp=Z,95nm,0.7s								
GUN	**Gumba**	**47.63**	**324**	*e*P	**P**	**12**	**43**	**07.5**	**-0.3**
	comp=Z,93nm,0.7s								
GUN	**Gumba**	**47.63**	**324**	*e*P	**P**	**12**	**43**	**07.5**	**-0.3**
	comp=Z,93nm,0.7s								
PKI	**Pulchoki**	**47.65**	**324**	*e*P	**P**	**12**	**43**	**07.1**	**-0.9**
PKI	**Pulchoki**	**47.65**	**324**	*e*P	**P**	**12**	**43**	**07.1**	**-0.9**
PKI	**Pulchoki**	**47.65**	**324**	*e*P	**P**	**12**	**43**	**07.1**	**-0.9**
LZH	**Lanzhou**	**47.68**	**348**	*e*P	**P**	**12**	**43**	**08.6**	**+0.7**
LZH				pP	**pP**	**12**	**43**	**18.8**	**-0.2**
LZH				sP	**sP**	**12**	**43**	**22.3**	**-1.1**
LZH				PP	PP	12	44	59.8	-0.2
LZH				*e*S	**S**	**12**	**50**	**04.3**	**+2.8**
LZH				sS	sS	12	50	26.1	+6.4
LZH				pmax	pmax				
	comp=Z,18nm,1.0s								
LZH				pmax	pmax				
	comp=Z,100nm,4.8s								
LZH				LR	LR				
	comp=N,250nm,10.6s								
LZH				LR	LR				
	comp=E,240nm,8.7s								
LZH				LR	LR				
	comp=Z,310nm,11.8s								
DMN	**Daman**	**47.85**	**323**	*e*P	**P**	**12**	**43**	**08.9**	**-0.6**
	comp=Z,71nm,0.8s								
DMN	**Daman**	**47.85**	**323**	*e*P	**P**	**12**	**43**	**08.9**	**-0.6**
	comp=Z,71nm,0.8s								
KKN	**Kakani**	**47.88**	**324**	*e*P	**P**	**12**	**43**	**09.0**	**-0.7**
	comp=Z,40nm,0.9s								
KKN	**Kakani**	**47.88**	**324**	*e*P	**P**	**12**	**43**	**09.0**	**-0.7**
KKN				pmax	pmax				
	comp=Z,40nm,0.9s								
KKN	**Kakani**	**47.88**	**324**	*e*P	**P**	**12**	**43**	**09.0**	**-0.7**
	comp=Z,40nm,0.9s								
GKN	**Gorkha**	**48.42**	**323**	*e*P	**P**	**12**	**43**	**13.1**	**-0.6**
GKN	**Gorkha**	**48.42**	**323**	*e*P	**P**	**12**	**43**	**13.1**	**-0.6**
KOLN	**Koldanda**	**48.87**	**322**	*e*P	**P**	**12**	**43**	**16.5**	**-0.7**
	comp=Z,46nm,0.7s								
KOLN	**Koldanda**	**48.87**	**322**	*e*P	**P**	**12**	**43**	**16.5**	**-0.7**
	comp=Z,46nm,0.7s								
DANN	**Dangsing**	**49.20**	**323**	*e*P	**P**	**12**	**43**	**19.2**	**-0.7**
	comp=Z,76nm,0.7s								
DANN	**Dangsing**	**49.20**	**323**	*e*P	**P**	**12**	**43**	**19.2**	**-0.7**
	comp=Z,76nm,0.7s								
KSAR	**Wonju Array Be**	**49.34**	**13**	P	**P**	**12**	**43**	**20.2**	**-0.2**
KSAR						12	44	44.7	
KSAR	**Wonju Array Be**	**49.34**	**13**	P	**P**	**12**	**43**	**20.2**	**-0.2**
KSAR				PcP	**PcP**	**12**	**44**	**44.7**	**+2.1**
KSRS	**Korea Array**	**49.36**	**14**	P	P	**12**	**43**	**20.2**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=193,slow=7.4,SNR=36								
KSRS				PcP	**PcP**	**12**	**44**	**44.7**	**+2.0**
	comp=Z,2.3nm,0.7s,baz=190,slow=3.7,SNR=6.5								
HHC	**Hu-ho-hao-te**	**51.35**	**357**	*e*P	**P**	**12**	**43**	**37.3**	**+1.6**
HHC				pP	**pP**	**12**	**43**	**47.3**	**+0.4**
HHC				sP	**sP**	**12**	**43**	**51.1**	**-0.2**
HHC				PP	PP	12	45	36.1	+2.9
HHC				S	**S**	**12**	**50**	**55.1**	**+2.6**
HHC				sS	**sS**	**12**	**51**	**11.1**	**+0.1**
HHC				SS	SS	12	54	28.6	-0.4
HHC				pmax	pmax				
	comp=Z,17nm,0.9s								
HHC				pmax	pmax				
	comp=Z,210nm,7.0s								
HHC				LR	LR				
	comp=N,220nm,14.4s								
HHC				LR	LR				
	comp=E,250nm,12.5s								
HHC				LR	LR				
	comp=Z,200nm,13.3s								
MAJO	**Matsushiro**	**51.76**	**24**	*e*P	**P**	**12**	**43**	**36.8**	**-2.0**
MAJO				pmax	pmax				
	comp=Z,73nm,1.8s								
MAJO	**Matsushiro**	**51.76**	**24**	*e*P	**P**	**12**	**43**	**36.8**	**-2.0**
	comp=Z,73nm,1.8s								
MAT	**Matsushiro**	**51.76**	**24**	P	**P**	**12**	**43**	**36.7**	**-2.1**
MJAR	**Matsushiro Arr**	**51.76**	**24**	P	**P**	**12**	**43**	**37.1**	**-1.6**
	comp=Z,14nm,0.8s,baz=204,slow=8.7,SNR=55								
MJAR	**Matsushiro Arr**	**51.76**	**24**	P	**P**	**12**	**43**	**37.1**	**-1.6**
MJAR	**Matsushiro Arr**	**51.76**	**24**	P	**P**	**12**	**43**	**37.1**	**-1.6**
GTA	**Gaotai**	**51.79**	**345**	*e*P	**P**	**12**	**43**	**39.3**	**+0.2**
GTA				pP	**pP**	**12**	**43**	**47.8**	**-2.4**
GTA				sP	**sP**	**12**	**43**	**51.8**	**-2.9**
GTA				S	**S**	**12**	**50**	**58.8**	**+0.1**
GTA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GTA				LR	LR				
	comp=N,140nm,14.2s								
GTA				LR	LR				
	comp=E,140nm,15.7s								
GTA				LR	LR				
	comp=Z,180nm,17.1s								
CN2	**Changchun**	**55.02**	**9**	*e*P	**P**	**12**	**44**	**00.9**	**-1.6**
CN2				*es*P	**sP**	**12**	**44**	**14.9**	**-3.3**
CN2				*e*S	**S**	**12**	**51**	**40.6**	**-1.5**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,300nm,11.0s								
CN2				LR	LR				
	comp=E,300nm,11.0s								
CN2				LR	LR				
	comp=Z,300nm,13.0s								
MDJ	**Mudanjiang**	**56.57**	**12**	P	**P**	**12**	**44**	**13.3**	**-0.3**
MDJ				PcP	**PcP**	**12**	**45**	**09.3**	**-0.5**
MDJ				PP	**PP**	**12**	**46**	**18.8**	**-1.1**
MDJ				ScP	**ScP**	**12**	**49**	**04.6**	**-1.9**
MDJ				S	**S**	**12**	**52**	**07.4**	**+4.7**
MDJ				ScS	**ScS**	**12**	**53**	**57.9**	**-1.9**
MDJ				SS	**SS**	**12**	**55**	**49.8**	**-1.2**
MDJ				pmax	pmax				
	comp=Z,25nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,130nm,4.7s								
USRK	**Ussuriysk Arra**	**56.73**	**15**	P	**P**	**12**	**44**	**14.1**	**-0.6**
	comp=Z,11nm,0.6s,baz=185,slow=6.5,SNR=34								
ULN	**Ulaanbaatar**	**58.70**	**354**	*e*P	**P**	**12**	**44**	**28.3**	**-0.4**
ULN				pmax	pmax				
	comp=Z,7.0nm,0.9s								
ULN	**Ulaanbaatar**	**58.70**	**354**	*e*P	**P**	**12**	**44**	**28.3**	**-0.4**
	comp=Z,6.6nm,0.9s								
SONM	**Songino Array**	**58.74**	**353**	P	**P**	**12**	**44**	**28.6**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=173,slow=8.5,SNR=32								
SONM				PcP	**PcP**	**12**	**45**	**19.8**	**+1.3**
	comp=Z,6.0nm,0.9s,baz=165,slow=5.2,SNR=6.3								
SONM				PP	**PP**	**12**	**46**	**40.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=245,slow=6.4,SNR=4.5								
SONM	**Songino Array**	**58.74**	**353**	P	**P**	**12**	**44**	**28.6**	**-0.4**
SONM						12	45	19.8	
SONM						12	46	40.4	
SONM	**Songino Array**	**58.74**	**353**	P	**P**	**12**	**44**	**28.6**	**-0.4**
SONM				PcP	**PcP**	**12**	**45**	**19.8**	**+1.3**
SONM				PP	**PP**	**12**	**46**	**40.4**	**+1.0**
WMQ	**Urumqi**	**59.66**	**337**	*e*P	**P**	**12

EKS2	**Erkin-Say**	**65.12**	**328**	*e*P		**P**	**12 45 12.5**	**+0.6**
	comp=Z,18nm,1.0s								
USP	**Ospenovka**	**65.17**	**328**	P		**P**	**12 45 12.4**	**+0.2**
	SNR=10.0								
USP				P		**P**	**12 45 12.4**	**+0.2**
	SNR=10.0								
KKAR	**Karatay Array**	**67.17**	**326**	*e*P		**P**	**12 45 24.7**	**-0.3**
KKAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KKAR	**Karatay Array**	**67.17**	**326**	*e*P		**P**	**12 45 24.7**	**-0.3**
	comp=Z,3.1nm,0.7s								
BOD	**Bodaibo**	**68.24**	**359**	*e*P		**P**	**12 45 30.8**	**-0.6**
BOD				pmax		pmax			
	comp=Z,8.0nm,1.3s								
KURK	**Kurchatov**	**68.85**	**336**	*d i*P		**P**	**12 45 35.1**	**-0.2**
KURK				pmax		pmax			
	comp=Z,19nm,1.7s								
KURK	**Kurchatov**	**68.85**	**336**	*e*P		**P**	**12 45 35.4**	**0.0**
	comp=Z,8.0nm,0.8s								
ZAA0	**Zalesovo Array**	**69.28**	**341**	*e*P		**P**	**12 45 37.0**	**-1.0**
ZALV	**Zalesovo Beam**	**69.28**	**341**	P		**P**	**12 45 37.1**	**-0.9**
	comp=Z,8.1nm,0.6s,baz=147,slow=4.4,SNR=54								
ZALV	**Zalesovo Beam**	**69.28**	**341**	P		**P**	**12 45 37.1**	**-0.9**
ZALV	**Zalesovo Beam**	**69.28**	**341**	P		**P**	**12 45 37.1**	**-0.9**
NVS	**Novosibirsk**	**70.54**	**341**	*e*P		**P**	**12 45 43.8**	**-1.8**
NVS				pmax		pmax			
	comp=Z,25nm,2.1s								
PETK	**Petropavlovsk-**	**73.18**	**25**	P		**P**	**12 46 01.5**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=249,slow=7.5,SNR=4.7								
PETK	**Petropavlovsk-**	**73.18**	**25**	P		**P**	**12 46 01.5**	**-0.1**
PETK	**Petropavlovsk-**	**73.18**	**25**	P		**P**	**12 46 01.5**	**-0.1**
YAK	**Yakutsk**	**73.36**	**7**	*e*P		**P**	**12 46 01.0**	**-1.4**
YAK				pmax		pmax			
	comp=Z,13nm,1.5s								
BVA0	**Borovoye Array**	**73.99**	**334**	*i* P		**P**	**12 46 06.0**	**-0.3**
BVA0				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BRVK	**Borovoye**	**74.06**	**334**	*d i*P		**P**	**12 46 06.7**	**0.0**
BRVK				pmax		pmax			
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**74.06**	**334**	*e*P		**P**	**12 46 07.0**	**+0.3**
	comp=Z,14nm,1.0s								
UMR	**Umm Al-Rimmam**	**76.13**	**304**	*e*P		**P**	**12 46 18.6**	**-0.6**
UMR				AMb		AMB	12 46 20.0		
	comp=Z,51nm,1.6s								
NAY	**Al-Naaiem**	**76.41**	**304**	*e*P		**P**	**12 46 20.2**	**-0.6**
NAY				AMb		AMB	12 46 27.7		
	comp=Z,29nm,1.8s								
MIB	**Mutribah**	**76.53**	**304**	*e*P		**P**	**12 46 20.8**	**-0.6**
MIB				AMb		AMB	12 46 22.1		
	comp=Z,25nm,1.6s								
AB31	**Akbulak array**	**76.73**	**326**	*c e*P		**P**	**12 46 22.1**	**-0.1**
AB31				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ABKAR	**Akbulak array**	**76.73**	**326**	*e*P		**P**	**12 46 22.4**	**+0.3**
	comp=Z,9.1nm,0.7s								
ABKAR				*e*pP		**PcP**	**12 46 32.3**	**-1.0**
AKTO	**Aktyubinsk**	**78.42**	**327**	*i* P		**P**	**12 46 31.9**	**+0.3**
AKTO				pmax		pmax			
	comp=Z,2.0nm,1.0s								
SEY	**Seymchan**	**78.80**	**16⇑**	*e*P		**P**	**12 46 34.1**	**+0.7**
QSPA	**South Pole Qui**	**79.35**	**180**	*e*P		**P**	**12 46 38.1**	**+1.5**
	comp=Z,20nm,1.2s								
QSPA				*e*pP		**pP**	**12 46 47.4**	**-0.9**
SVE	**Sverdlovsk**	**80.74**	**333**	*e*P		**P**	**12 46 44.5**	**+0.5**
SVE				pmax		pmax			
	comp=Z,19nm,0.8s								
ARU	**Arti**	**81.45**	**332**	*d i*P		**P**	**12 46 47.9**	**+0.1**
ARU							12 49 53.9		
ARU				S		**S**	**12 56 57.4**	**+1.0**
ARU				pmax		pmax			
	comp=Z,33nm,1.7s								
ARU	**Arti**	**81.45**	**332**	*e*P		**P**	**12 46 48.0**	**+0.2**
	comp=Z,21nm,1.2s								
ARU				*e*pP		**pP**	**12 46 58.0**	**-1.6**
GNI	**Garni**	**82.20**	**313⇑**	*e*P		**P**	**12 46 53.7**	**+1.3**
GNI				pmax		pmax			
	comp=Z,18nm,1.7s								
ZEI	**Tsey**	**83.72**	**315**	*e*P		**P**	**12 47 01.0**	**+0.7**
ZEI				pmax		pmax			
	comp=Z,13nm,1.1s								
BOSA	**Boshof**	**84.81**	**242**	P		**P**	**12 47 06.1**	**+0.1**
	comp=Z,6.4nm,1.0s,baz=58,slow=5.2,SNR=4.4								
BOSA				LR		LR	13 21 33.9		
	comp=Z,58nm,18.1s,baz=161,slow=33								
BOSA	**Boshof**	**84.81**	**242**	P		**P**	**12 47 06.1**	**+0.1**
BOSA	**Boshof**	**84.81**	**242**	P		**P**	**12 47 06.1**	**+0.1**
KIV	**Kislovodsk**	**84.96**	**316**	*e*P		**P**	**12 47 07.3**	**+0.9**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
VRHR	**Novokhopersk**	**88.05**	**323**	*e*P		**P**	**12 47 21.5**	**+0.4**
VRHR				*e**PP		**pP**	**12 47 31.2**	**-1.8**
VRHR				pmax		pmax			
	comp=N,7.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,30nm,0.8s								
SNAA	**Sanae**	**88.35**	**196**	*e*		**P**	**12 47 21.3**	**-1.1**
SNAA	**Sanae**	**88.35**	**196**	*e*P		**P**	**12 47 21.4**	**-1.0**
SNAA				pmax		pmax			
	comp=Z,12nm,1.1s								
SNAA	**Sanae**	**88.35**	**196**	*e*P		**P**	**12 47 21.4**	**-1.0**
	comp=Z,12nm,1.1s								
VSR	**Storozhevoye**	**89.55**	**322**	*e*P		**P**	**12 47 28.3**	**+0.1**
VSR				*e**PP		**pP**	**12 47 38.2**	**-1.9**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR				pmax		pmax			
	comp=N,1.0nm,0.3s								
VSR				pmax		pmax			
	comp=E,7.0nm,0.6s								
VNA2	**Neumayer--Watz**	**89.99**	**196**	*e*		**P**	**12 47 31.9**	**+1.9**
BRTR	**Keskin Array B**	**90.22**	**310**	P		**P**	**12 47 32.2**	**+0.4**
	comp=E,2.1nm,1.0s,baz=123,slow=4.6,SNR=9.0								
BRTR	**Keskin Array B**	**90.22**	**310**	P		**P**	**12 47 32.3**	**+0.4**
BRTR	**Keskin Array B**	**90.22**	**310**	P		**P**	**12 47 32.2**	**+0.4**
VNA3	**Neumayer Olymp**	**90.42**	**195**	*e*		**P**	**12 47 33.9**	**+1.9**
AKASG	**Malin Array Be**	**95.53**	**320**	P		**P**	**12 47 55.3**	**-0.6**
	comp=E,0.9nm,0.6s,baz=79,slow=5.5,SNR=4.8								
AKASG	**Malin Array Be**	**95.53**	**320**	P		**P**	**12 47 55.3**	**-0.6**
AKASG	**Malin Array Be**	**95.53**	**320**	P		**P**	**12 47 55.3**	**-0.6**
BUR08	**Bucovina Ar. S**	**97.69**	**317**	*e*P		Pdif	12 48 06.1	+0.2
WRAK	**Wrangell Islan**	**111.26**	**33**	*e*Pdif		**Pdif**	**12 49 06.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**114.92**	**280**	PKP		PKPdf	12 53 13.2	+0.5
	comp=E,0.8nm,0.6s,baz=81,slow=1.8,SNR=6.0								
TORD	**Torodi Ar. Bea**	**114.92**	**280**	PKP		PKPdf	12 53 13.2	+0.5
YKA	**Yellowknife Ar**	**117.27**	**23**	PKIKP		**PKPdf**	**12 53 16.6**	**+0.9**
	comp=E,1.2nm,0.7s,baz=312,slow=2.0,SNR=32								
YKA	**Yellowknife Ar**	**117.27**	**23**	PKIKP		**PKPdf**	**12 53 16.7**	**+0.9**
YKA	**Yellowknife Ar**	**117.27**	**23**	PKP		**PKPdf**	**12 53 16.6**	**+0.9**
BSMT	**Bassoo Peak**	**124.25**	**39**	*e*PKPdf		**PKPdf**	**12 53 31.4**	**+1.4**
C13A	**Hot Springs**	**124.45**	**39**	⇓P		**PKPdf**	**12 53 30.7**	**+0.5**
	baz=124								
D13A	**Huson**	**124.77**	**39**	⇓P		**PKPdf**	**12 53 31.6**	**+0.8**
	baz=125								
F12A	**Elk City**	**124.80**	**41**	⇑P		**PKPdf**	**12 53 31.6**	**+0.6**
	baz=125								
NVAR	**Mina Array Bea**	**125.06**	**50**	PKP		**PKPdf**	**12 53 34.2**	**+2.4**
	comp=E,0.8nm,0.7s,baz=262,slow=1.8,SNR=11								
NVAR	**Mina Array Bea**	**125.06**	**50**	PKP		**PKPdf**	**12 53 34.2**	**+2.4**
E13A	**Victor**	**125.20**	**40**	⇑P		**PKPdf**	**12 53 33.1**	**+1.4**
	baz=125								
B15A	**Bradely Ranch,**	**125.39**	**37**	⇑P		**PKPdf**	**12 53 32.9**	**+0.9**
	baz=125								
H12A	**Diamond D Ranc**	**125.53**	**42**	⇓P		**PKPdf**	**12 53 33.8**	**+1.3**
	baz=126								
C15A	**Salmond Ranch,**	**125.61**	**38**	⇑P		**PKPdf**	**12 53 33.4**	**+0.9**
	baz=126								
ISA	**Isabella**	**125.62**	**54**	⇓P		**PKPdf**	**12 53 34.2**	**+1.4**
	baz=126								
I12A	**Atlanta**	**125.62**	**43**	⇓P		**PKPdf**	**12 53 34.3**	**+1.6**
	baz=126								
H13A	**Challis**	**125.92**	**42**	⇑P		**PKPdf**	**12 53 34.7**	**+1.6**
	baz=126								
C16A	**Fuhringer Ranc**	**126.11**	**37**	⇑P		**PKPdf**	**12 53 34.5**	**+1.1**
	baz=126								
A17A	**Triple J Farms**	**126.18**	**36**	⇑P		**PKPdf**	**12 53 34.8**	**+1.4**
	baz=126								
EDW2	**Edwards Air Fo**	**126.19**	**54**	⇓P		**PKPdf**	**12 53 36.5**	**+2.6**
	baz=126								
HLID	**Hailey**	**126.19**	**43**	⇓P		**PKPdf**	**12 53 36.4**	**+2.6**
	baz=126								
I13A	**Wildhorse Cree**	**126.26**	**43**	⇓P		**PKPdf**	**12 53 36.8**	**+2.9**
	baz=126								
MPMC	**Manual Prospec**	**126.30**	**53**	⇓P		**PKPdf**	**12 53 36.4**	**+2.1**
	baz=126								
J13A	**Cove Ranch, Pi**	**126.42**	**43**	⇑P		**PKPdf**	**12 53 36.8**	**+2.6**
	baz=126								
F15A	**Butte**	**126.53**	**40**	⇑P		**PKPdf**	**12 53 36.4**	**+2.1**
	baz=126								
D16A	**Dana Ranch, Ca**	**126.58**	**38**	⇑P		**PKPdf**	**12 53 36.5**	**+2.2**
	baz=127								
DLMT	**Dillon**	**126.67**	**41**	*e*PKPdf		**PKPdf**	**12 53 37.3**	**+2.7**
A18A	**Metzger Ranch,**	**126.68**	**35**	⇑P		**PKPdf**	**12 53 36.2**	**+1.8**
	baz=127								
I14A	**Mackay**	**126.70**	**42**	⇑P		**PKPdf**	**12 53 37.0**	**+2.3**
	baz=127								
C17A	**Wharram Farm,**	**126.78**	**37**	⇓P		**PKPdf**	**12 53 35.4**	**+0.8**
	baz=127								
J14A	**Carey**	**126.89**	**43**	⇓P		**PKPdf**	**12 53 37.6**	**+2.5**
	baz=127								
H15A	**Lima**	**126.95**	**41**	⇑P		**PKPdf**	**12 53 37.1**	**+1.9**
	baz=127								
B18A	**Beardsley Farm**	**126.98**	**36**	⇑P		**PKPdf**	**12 53 36.8**	**+1.8**
	baz=127								
F16A	**Kennard Place,**	**127.10**	**40**	⇑P		**PKPdf**	**12 53 37.2**	**+1.8**
	baz=127								
R11A	**Troy Canyon, C**	**127.13**	**50**	⇑P		**PKPdf**	**12 53 38.1**	**+2.4**
	baz=127								
BOZ	**Bozeman (W)**	**127.16**	**40**	⇓P		**PKPdf**	**12 53 37.3**	**+1.8**
	baz=127								
BOZ				⇓P		**PKPdf**	**12 53 37.3**	**+1.8**
	baz=127								
EGMT	**Eagleton**	**127.18**	**36**	⇑P		**PKPdf**	**12 53 36.6**	**+1.2**
	baz=127								
G16A	**Moss Hill, Enn**	**127.23**	**40**	⇑P		**PKPdf**	**12 53 38.2**	**+2.5**
	baz=127								
B19A	**Brinkman Farms**	**127.43**	**36**	⇑P		**PKPdf**	**12 53 37.4**	**+1.6**
	baz=127								
J15A	**Blackfoot**	**127.58**	**43**	⇓P		**PKPdf**	**12 53 38.2**	**+1.8**
	baz=128								
F17A	**Fitzpatrick Pl**	**127.64**	**39**	⇓P		**PKPdf**	**12 53 38.2**	**+1.8**
	baz=128								
GMRC	**Granite Mounta**	**128.07**	**54**	⇑P		**PKPdf**	**12 53 40.6**	**+3.0**
	baz=128								
F18A	**Big Timber**	**128.23**	**39**	⇓P		**PKPdf**	**12 53 39.8**	**+2.3**
	baz=128								
DUG	**Dugway**	**128.55**	**47**	⇑P		**PKPdf**	**12 53 41.3**	**+3.0**
	baz=129								
D20A	**Manuel Ranch,**	**128.60**	**37**	⇑P		**PKPdf**	**12 53 40.1**	**+2.0**
	baz=129								
K18A	**Toltan Ranch,**	**129.50**	**43**	⇑P		**PKPdf**	**12 53 43.0**	**+2.8**
	baz=130								
D22A	**Cohagen**	**129.70**	**36**	⇓P		**PKPdf**	**12 53 42.7**	**+2.5**
	baz=130								
L18A	**Fontenelle, Gr**	**129.80**	**43**	⇓P		**PKPdf**	**12 53 43.5**	**+2.7**
	baz=130								
S16A	**Weppner Ranch,**	**130.31**	**49**	⇓P		**PKPdf**	**12 53 43.8**	**+1.9**
	baz=130								
R18A	**Canyonlands Na**	**131.32**	**48**	⇑P		**PKPdf**	**12 53 46.1**	**+2.3**
	baz=131								
T18A	**Mexican Hat**	**131.80**	**49**	⇓P		**PKPdf**	**12 53 47.3**	**+2.7**
	baz=132								
TXAR	**Lajitas Array**	**139.39**	**57**	PKhKP		PKPpre	12 53 51.7		
	comp=E,0.7nm,0.8s,baz=264,slow=0.9,SNR=7.0								
TXAR				PKP		**PKPdf**	**12 53 57.5**	**-1.4**
	comp=E,0.4nm,0.8s,baz=349,slow=3.7,SNR=4.2								
TXAR	**Lajitas Array**	**139.39**	**57**	PKHKP		PKPpre	12 53 51.7		
TXAR							12 53 57.6		
TXAR	**Lajitas Array**	**139.39**	**57**	PKPpre		PKPpre	12 53 51.7		
TXAR				PKP		**PKPdf**	**12 53 57.5**	**-1.4**
JCT	**Junction City**	**142.10**	**53**	*e*PKIKP		**PKPdf**	**12 54 01.7**	**-2.0**
JCT	**Junction City**	**142.10**	**53**	*e*PKPdf		**PKPdf**	**12 54 01.6**	**-2.0**
MIAR	**Mount Ida**	**144.68**	**43**	*e*PKIKP		**PKPdf**	**12 54 08.7**	**+0.7**
MIAR	**Mount Ida**	**144.68**	**43**	*e*PKPbc		**PKPdf**	**12 54 08.7**	**+0.7**
LONY	**Lake Ozonia**	**145.16**	**12**	*e*PKPbc		**PKPdf**	**12 54 09.4**	**+0.8**
OLIL	**Olney**	**145.22**	**33**	*e*PKPbc		**PKPdf**	**12 54 10.0**	**+1.2**
ERPA	**Erie**	**146.00**	**20**	*e*PKPbc		**PKPab**	**12 54 12.4**	**+1.0**
MDV	**Middlebury**	**146.03**	**11**	*e*PKPdf		**PKPab**	**12 54 12.4**	**+1.1**
ACSO	**Alum Creek Sta**	**146.49**	**25**	*e*PKPbc		**PKPab**	**12 54 13.7**	**+0.4**
WVT	**Waverly**	**147.25**	**36**	*e*PKP2		**PKPab**	**12 54 16.0**	**-0.4**
WVT	**Waverly**	**147.25**	**36**	*e*PKPbc		**PKPab**	**12 54 16.0**	**-0.4**
BDFB	**Brasilia**	**148.95**	**213**	PKPbc		**PKPbc**	**12 54 20.6**	**+0.7**
	comp=E,12nm,1.0s,baz=170,slow=1.8,SNR=12								
BDFB	**Brasilia**	**148.95**	**213**	PKP2		**PKPbc**	**12 54 20.6**	**+0.7**
BDFB	**Brasilia**	**148.95**	**213**	PKPbc		**PKPbc**	**12 54 20.6**	**+0.7**
TKL	**Tuckaleechee C**	**149.80**	**32**	*e*PKP2		**PKPbc**	**12 54 23.3**	**+2.0**
TKL	**Tuckaleechee C**	**149.80**	**32**	*e*PKPbc		**PKPbc**	**12 54 23.3**	**+2.0**
LPAZ	**La Paz**	**153.04**	**173**	PKPbc		**PKPbc**	**12 54 31.4**	**+1.3**
	comp=E,2.6nm,0.9s,baz=163,slow=4.8,SNR=5.7								
LPAZ				PKPab		**PKPab**	**12 54 42.3**	**+1.0**
	comp=E,2.4nm,0.8s,baz=207,slow=9.3,SNR=5.2								
LPAZ	**La Paz**	**153.04**	**173**	PKIKP		**PKPbc**	**12 54 31.4**	**+1.3**
LPAZ							12 54 42.3		
LPAZ	**La Paz**	**153.04**	**173**	PKPbc		**PKPbc**	**12 54 31.4**	**+1.3**
LPAZ				PKPab		**PKPab**	**12 54 42.3**	**+1.0**

*ISCJB **20** 12:37:39.6±0.6,38.°62N±0.°03×27.°02E±0.°04,h9km±6km, Error ellipse: s-maj=5.6km s-min=5.2km az=146.8*
*ISK **20** 12:37:39.2,38.°60N×26.°99E,h16km, MD2.6*
*DDA **20** 12:37:39.3,38.°60N×27.°02E,h8km, MD2.8*
*CSEM **20** 12:37:39.6±0.1,38.°61N×27.°00E,h15km, MD2.6, Error ellipse: s-maj=1.9km s-min=1.5km az=95.0*

ISC 20 12:37:39.4±1.0,**38.°60N**±0.°02×**27.°01E**±0.°03,**h18**km±2km, **n24**,σ0**s36**/40,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BLCB	**Balcova**	**0.21**	**172**	*e*PG		**Pg**	**12 37 44.5**		**-0.1**
BLCB				*e*SG		**Sg**	**12 37 48.3**		**+0.2**
BLCB	**Balcova**	**0.21**	**172**	*e*Pg		**Pg**	**12 37 44.5**		**-0.1**
BLCB				*e*Sg		**Sg**	**12 37 48.3**		**+0.2**
IZM	**Izmir**	**0.28**	**135**	*e*PG		**Pb**	**12 37 45.8**		**-0.1**
IZM				*e*SG		**Sb**	**12 37 50.6**		**+0.4**
IZM	**Izmir**	**0.28**	**135**	*e*Pg		**Pb**	**12 37 45.8**		**-0.1**
IZM				*e*Sg		**Sb**	**12 37 50.6**		**+0.4**
URLA	**Izmir**	**0.40**	**234**	*e*P		**Pb**	**12 37 47.6**		**-0.4**
URLA				*e*S		**Sb**	**12 37 53.9**		**+0.1**
URLA	**Izmir**	**0.40**	**234**	*e*P		**Pb**	**12 37 47.6**		**-0.4**
URLA				*e*S		**Sb**	**12 37 53.9**		**+0.1**
AKS	**Akhisar**	**0.69**	**66**	*e*PG		**Pb**	**12 37 53.3**		**+0.5**
AKS	**Akhisar**	**0.69**	**66**	*e*Pg		**Pb**	**12 37 53.3**		**+0.5**
AKHS	**Akhisar**	**0.69**	**66**	*e*P		**Pb**	**12 37 53.0**		**+0.1**
AKHS				*e*S		**Sg**	**12 38 01.6**		**-0.7**
AKHS	**Akhisar**	**0.69**	**66**	*e*P		**Pb**	**12 37 53.0**		**+0.1**
AKHS				*e*S		**Sg**	**12 38 01.6**		**-0.7**
AYVA	**Ayvalik**	**0.75**	**341**	*e*P		**Pg**	**12 37 53.9**		**-0.2**
AYVA				*e*S		**Sg**	**12 38 04.6**		**+0.5**
AYVA	**Ayvalik**	**0.75**	**341**	*e*P		**Pg**	**12 37 53.9**		**-0.2**
AYVA				*e*S		**Sg**	**12 38 04.6**		**+0.5**
AYDN	**Tasoluk**	**1.16**	**143**	*e*P		**Pb**	**12 38 01.3**		**+0.4**
AYDN				*e*S		**Sg**	**12 38 17.1**		**0.0**
AYDN	**Tasoluk**	**1.16**	**143**	*e*P		**Pb**	**12 38 01.3**		**+0.4**
AYDN				*e*S		**Sg**	**12 38 17.1**		**0.0**
MANT	**Manisa**	**1.22**	**95**	*e*P		**Pg**	**12 38 02.6**		**-0.5**
MANT				*e*S		**Sn**	**12 38 18.0**		**+0.1**
MANT	**Manisa**	**1.22**	**95**	*e*P		**Pg**	**12 38 02.6**		**-0.5**
MANT				*e*S		**Sn**	**12 38 18.0**		**+0.1**
BALY	**Balya**	**1.24**	**23**	*e*P		**Pb**	**12 38 02.4**		**+0.2**
BALY				*e*S		**Sg**	**12 38 18.8**		**-0.7**
BALY	**Balya**	**1.24**	**23**	*e*P		**Pb**	**12 38 02.4**		**+0.2**
BALY				*e*S		**Sg**	**12 38 18.8**		**-0.7**
BALB	**Balikesir**	**1.24**	**33**	*e*PN		**Pb**	**12 38 02.6**		**+0.3**
BALB	**Balikesir**	**1.24**	**33**	*e*Pn		**Pb**	**12 38 02.6**		**+0.3**
KULA	**Kula-Manisa**	**1.30**	**93**	*e*PN		**Pb**	**12 38 03.5**		**+0.2**
KULA	**Kula-Manisa**	**1.30**	**93**	*e*Pn		**Pb**	**12 38 03.5**		**+0.2**
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*PN		**Pn**	**12 38 05.9**		**0.0**
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*Pn		**Pn**	**12 38 05.9**		**0.0**

*THR **20** 12:46:07.9±0.7,36.°81N×55.°02E,h14km±6km, ML3.7*
*CSEM **20** 12:46:07.7±0.2,36.°82N×54.°98E,h2km, ML3.7, Error ellipse: s-maj=6.1km s-min=2.6km az=160.0*
*TEH **20** 12:46:08.1,36.°88N×54.°96E,h4km, ML3.7*

ISC 20 12:46:06.8±1.2,**36.°94N**±0.°05×**54.°87E**±0.°04,**h14**km±11km, **n61**,σ1**s34**/71,**1C-3D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
IMIN	**Minoodasht**	**0.36**	**55**	*e*Pg		**Pn**	**12 46 18.4**		**+0.9**
IGLO	**Ghaloghah**	**0.94**	**243**	*e*Pg		**Pg**	**12 46 23.8**		**-1.2**
IGLO				*e*			12 46 47.3		
	comp=Z,25μm,0.2s								
MRVT	**Maraveh tapeh**	**1.21**	**53**	*e*Pg		**Pg**	**12 46 29.8**		**-0.4**
MRVT				*e*Sg		**Sn**	**12 46 46.7**		**+1.1**
MRVT				AML		AML	12 46 51.9		
	comp=E,2μm,0.1s								
MRVT	**Maraveh tapeh**	**1.21**	**53**	*e*Pg		**Pg**	**12 46 29.8**		**-0.4**
MRVT				*e*Sg		**Sn**	**12 46 46.7**		**+1.1**
IANJ	**Anjilo**	**1.66**	**208**	*e*Pn		**Pn**	**12 46 35.7**		**+0.1**
IANJ				*e*			12 47 04.5		
	comp=Z,5μm,0.2s								
IANJ	**Anjilo**	**1.66**	**208**	*e*Pn		**Pn**	**12 46 35.7**		**+0.1**
ISHM	**Shahmirzad**	**1.70**	**229**	*e*Pn		**Pb**	**12 46 38.6**		**+0.7**
ISHM				*e*			12 47 10.9		
	comp=Z,16μm,0.2s								
ISHM	**Shahmirzad**	**1.70**	**229**	*e*Pn		**Pb**	**12 46 38.6**		**+0.7**
IALA	**Alasht**	**1.86**	**243**	*e*Pn		**Pb**	**12 46 40.3**		**-0.4**
IALA				*e*Sg		**Sg**	**12 47 08.0**		**+1.2**
IALA				*e*			12 47 11.2		
	comp=Z,31μm,0.1s								
IALA	**Alasht**	**1.86**	**243**	*e*Pn		**Pb**	**12 46 40.3**		**-0.4**
IALA				*e*Sg		**Sg**	**12 47 08.0**		**+1.2**
IFIR	**Firoozkooh**	**2.14**	**233**	*e*Pn		**Pb**	**12 46 44.9**		**-0.6**
IFIR				*e*			12 46 47.2		
	comp=Z,10μm,0.1s								
IFIR				*e*Sg		**Sg**	**12 47 16.5**		**+0.8**
IFIR	**Firoozkooh**	**2.14**	**233**	*e*Pn		**Pb**	**12 46 44.9**		**-0.6**
IFIR				*e*Sg		**Sg**	**12 47 16.5**		**+0.8**
ILAS	**Lasjerd**	**2.19**	**225**	*e*Pn		**Pb**	**12 46 45.5**		**-0.8**
ILAS				*e*Sg		**Sg**	**12 47 16.3**		**-0.9**
ILAS				*e*			12 47 28.4		
	comp=Z,4μm,0.2s								
ILAS	**Lasjerd**	**2.19**	**225**	*e*Pn		**Pb**	**12 46 45.5**		**-0.8**
ILAS				*e*Sg		**Sg**	**12 47 16.3**		**-0.9**
ISHV	**Shirvan**	**2.34**	**74**	*e*Pn		**Pn**	**12 46 46.8**		**+1.8**
ISHV				*e*			12 47 27.8		
	comp=Z,12μm,0.2s								
ISHV	**Shirvan**	**2.34**	**74**	*e*Pn		**Pn**	**12 46 46.8**		**+1.8**
ISFR	**Sfrayin**	**2.51**	**86**	*e*Pn		**Pn**	**12 46 48.9**		**+1.5**
ISFR				*e*Sg		**Sb**	**12 47 23.5**		**+0.8**
ISFR				*e*			12 47 42.1		
	comp=Z,4μm,0.3s								
ISFR	**Sfrayin**	**2.51**	**86**	*e*Pn		**Pn**	**12 46 48.9**		**+1.5**
IDMV	**Damavand**	**2.66**	**240**	*e*Pn		**Pn**	**12 46 52.4**		**+2.9**
IDMV				*e*			12 46 55.2		
	comp=Z,4μm,0.2s								
IDMV				*e*Sg		**Sg**	**12 47 32.7**		**+0.3**
IDMV	**Damavand**	**2.66**	**240**	*e*Pn		**Pn**	**12 46 52.4**		**+2.9**
IDMV				*e*Sg		**Sg**	**12 47 32.7**		**+0.3**
DAMV	**Damavand**	**2.68**	**242**	*e*Pn		**Pb**	**12 46 53.7**		**-0.9**
DAMV				*e*Sg		**Sg**	**12 47 33.4**		**+0.5**
DAMV				AML		AML	12 47 37.4		
	comp=E,249nm,0.5s								
DAMV				AML		AML	12 47 38.8		
	comp=N,196nm,0.4s								
DAMV	**Damavand**	**2.68**	**242**	*e*Pn		**Pb**	**12 46 53.7**		**-0.9**
DAMV				*e*Sg		**Sg**	**12 47 33.4**		**+0.5**
IKRD	**Kardeh**	**2.93**	**92**	*e*			12 47 07.0		
	com

0.4nm,0.5s,baz=180,slow=8.6,SNR=2.5
MKAR Makanchi Array 64.47 335 P **P** **12 59 07.8 -1.3**
0.7nm,0.4s,baz=150,slow=7.3,SNR=24
ZALV Zalesovo Beam 69.44 341 P **P** **12 59 38.8 -1.7**
1.0nm,0.5s,baz=156,slow=5.1,SNR=6.1
YKA Yellowknife Ar 116.98 24 PKP **PKPdf** **13 07 18.6 +1.7**
0.1nm,0.6s,baz=307,slow=1.8,SNR=4.7
NVAR Mina Array Bea 124.56 50 PKP **PKPdf** **13 07 36.6 +4.1**
0.3nm,0.6s,baz=250,slow=4.2,SNR=2.7

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*DJA **20** 13:00:04.0˝05S×132°98E, h39km, mb4.7/8*
IDC 20 13:00:01.8±2.0, 0°39S×132°86E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx1.9/24, Error ellipse: s-maj=71.6km s-min=20.4km az=68.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P	P	13 04 24.2	-0.7
	0.4nm,0.3s,baz=11,slow=9.1,SNR=7.7						
FITZ				S	Sn	13 07 46.0	-13
	0.1nm,0.3s,baz=121,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**19.48**	**176**	P	P	13 04 30.8	+0.3
	0.4nm,0.3s,baz=355,slow=12,SNR=18						
WRA				S	Sn	13 08 00.4	-11
	0.3nm,0.3s,baz=0.8,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**23.16**	**178**	P	P	13 05 10.6	+0.6
	6.2nm,0.8s,baz=358,slow=10,SNR=66						
ASAR				S	S	13 09 26.3	+3.4
	0.8nm,0.8s,baz=360,slow=28,SNR=3.8						
STKA	**Stephens Creek**	**32.38**	**166**	P	P	13 06 32.9	-0.4
	3.3nm,0.7s,baz=341,slow=11,SNR=5.6						
KSRS	**Korea Array**	**37.94**	**354**	LR	LR	13 21 25.6	
	comp=Z,11nm,18.4s,baz=300,slow=34						
CMAR	**Chiang Mai Arr**	**38.23**	**301**	P	P	13 07 23.9	0.0
	0.2nm,0.3s,baz=119,slow=6.5,SNR=6.4						
MKAR	**Makanchi Array**	**64.44**	**324**	P	P	13 10 40.0	-0.1
	0.3nm,0.6s,baz=134,slow=6.6,SNR=4.4						

BJI 20 13:15:28.7, 21°50N×117°52E, h14km, ML3.8/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**3.57**	**16**	Pn	Pn	13 16 25.0	+1.4
QZH				Sn	Sn	13 17 07.4	+1.8
QZH				smax	smax		
	comp=N,170nm,1.0s						
QZH				smax	smax		
	comp=E,220nm,0.6s						
GZH	**Guangzhou**	**4.18**	**293**	Pn	Pn	13 16 33.6	+1.6
GZH				smax	smax		
	comp=N,240nm,0.6s						
GZH				smax	smax		
	comp=E,230nm,0.6s						
HHC	**Hu-ho-hao-te**	**19.94**	**347**	*eP*	Pn	13 20 03.3	+1.2

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*ISK **20** 13:45:38.3, 41°66N×35°51E, h9km, ML2.4*
*CSEM **20** 13:45:39.6±0.4, 41°61N×35°44E, h2km, ML2.4, Error ellipse: s-maj=11.0km s-min=4.7km az=26.0*
*DDA **20** 13:45:40.3, 41°53N×35°41E, h13km, MD3.2*
ISC 20 13:45:40.3±1.0, 41°57N±0°04×35°42E±0°03, h8km±9km, n31, σ0°93/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIKM	**Dikmen**	**0.14**	**302**	PG	**Pg**	**13 45 42.8**	**-0.6**
DIKM				*e*SG	**Sg**	**13 45 46.1**	**+0.7**
DIKM	**Dikmen**	**0.14**	**302**	*i* Pg	**Pg**	**13 45 42.8**	**-0.6**
DIKM				*e*Sg	**Sg**	**13 45 46.2**	**+0.7**
BYBT	**Boyabat**	**0.50**	**258**	*e*PG	**Pg**	**13 45 49.7**	**-0.3**
BYBT				*e*SG	**Sb**	**13 45 58.6**	**-0.1**
BYBT	**Boyabat**	**0.50**	**258**	*e*Pg	**Pg**	**13 45 49.7**	**-0.3**
BYBT				*e*Sg	**Sb**	**13 45 58.6**	**-0.1**
HAVZ	**Havza**	**0.55**	**156**	*i* P	**Pg**	**13 45 50.3**	**-0.6**
HAVZ				*i* S	**Sg**	**13 45 58.6**	**+0.5**
HAVZ	**Havza**	**0.55**	**156**	*i* P	**Pg**	**13 45 50.3**	**-0.6**
HAVZ				*i* S	**Sg**	**13 45 58.6**	**+0.5**
KVT	**Kavak**	**0.68**	**136**	*e*PG	**Pg**	**13 45 52.3**	**-1.1**
KVT	**Kavak**	**0.68**	**136**	*e*Pg	**Pg**	**13 45 52.3**	**-1.1**
CTKT	**Corum**	**1.06**	**207**	*i* P	**Pb**	**13 45 59.9**	**-1.1**
CTKT				*i* S	**Sb**	**13 46 14.5**	**-0.6**
CTKT	**Corum**	**1.06**	**207**	*i* P	**Pb**	**13 45 59.9**	**-1.1**
CTKT				*i* S	**Sb**	**13 46 14.5**	**-0.6**
BZK	**Bozkurt**	**1.13**	**290**	*e*PN	**Pb**	**13 46 00.9**	**-1.1**
BZK	**Bozkurt**	**1.13**	**290**	*e*Pn	**Pb**	**13 46 00.9**	**-1.1**
TOS	**Tosya**	**1.18**	**243**	*e*PN	**Pn**	**13 46 02.6**	**-0.6**
TOS	**Tosya**	**1.18**	**243**	*e*Pn	**Pn**	**13 46 02.6**	**-0.6**
ERBA	**Erbaa**	**1.35**	**131**	*i* P	**Pn**	**13 46 05.2**	**-0.2**
ERBA				*i* S	**Sg**	**13 46 24.7**	**+1.1**
ERBA	**Erbaa**	**1.35**	**131**	*i* P	**Pn**	**13 46 05.2**	**-0.2**
ERBA				*i* S	**Sg**	**13 46 24.7**	**+1.1**
TOKA	**Tokat**	**1.48**	**147**	*e*P	**Pb**	**13 46 08.2**	**+0.1**
TOKA				*e*S	**Sb**	**13 46 27.3**	**+0.2**
TOKA	**Tokat**	**1.48**	**147**	*e*P	**Pb**	**13 46 08.2**	**+0.1**
TOKA				*e*S	**Sb**	**13 46 27.3**	**+0.2**
CORM	**Corum**	**1.52**	**203**	*e*PN	**Pb**	**13 46 08.6**	**-0.1**
CORM	**Corum**	**1.52**	**203**	*e*Pn	**Pb**	**13 46 08.6**	**-0.1**
BALT	**Daday**	**1.53**	**269**	*e*P	**Pb**	**13 46 08.8**	**-0.1**
BALT				*e*S	**Sg**	**13 46 33.2**	**+3.9**
BALT	**Daday**	**1.53**	**269**	*e*P	**Pb**	**13 46 08.8**	**-0.1**
YOZ	**Yozgat**	**1.93**	**182**	*e*PN	**Pn**	**13 46 13.7**	**+0.1**
YOZ	**Yozgat**	**1.93**	**182**	*e*Pn	**Pn**	**13 46 13.7**	**+0.1**
CDAG	**Cicekdag**	**2.10**	**203**	*e*P	**Pb**	**13 46 18.7**	**-0.1**
CDAG				*e*S	**Sb**	**13 46 46.0**	**+0.9**
CDAG	**Cicekdag**	**2.10**	**203**	*e*P	**Pb**	**13 46 18.7**	**-0.1**
CDAG				*e*S	**Sb**	**13 46 46.0**	**+0.9**
SCER	**sogukcermik**	**2.15**	**142**	*e*P	**Pn**	**13 46 17.4**	**+0.9**
SCER	**sogukcermik**	**2.15**	**142**	*e*P	**Pn**	**13 46 17.4**	**+0.9**
SUSE	**Susehri**	**2.51**	**122**	*e*P	**Pn**	**13 46 21.8**	**+0.3**
SUSE	**Susehri**	**2.51**	**122**	*e*P	**Pn**	**13 46 21.8**	**+0.3**
AVNT	**Avonos**	**2.83**	**189**	*e*P	**Pb**	**13 46 32.1**	**+1.0**
AVNT				*e*S	**Sg**	**13 47 09.3**	**-1.8**

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*DJA **20** 13:48:00, 10°40S×114°87E, h93km, MLv3.7/6*
IDC 20 13:47:52.8±2.6, 10°32S×115°36E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/20, mbtmp3.7/9, ML3.6/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=192.8km s-min=16.6km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.61**	**129**	Pn	Pn	13 50 51.7	-2.0
	0.2nm,0.3s,baz=322,slow=12,SNR=5.8						
FITZ				Sn	Sn	13 53 01.8	-13
	0.3nm,0.3s,baz=127,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**20.65**	**120**	P	P	13 52 35.2	+0.9
	1.3nm,0.8s,baz=293,slow=11,SNR=7.8						
WRA				S	S	13 56 16.6	-9.5
	0.6nm,0.8s,baz=285,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**22.11**	**129**	P	P	13 52 50.5	+0.3
	0.5nm,0.8s,baz=300,slow=8.9,SNR=9.4						
ASAR				S	S	13 56 47.2	-7.8
	0.4nm,0.9s,baz=294,slow=22,SNR=3.1						
STKA	**Stephens Creek**	**32.38**	**135**	P	P	13 54 24.3	-0.1
	1.8nm,0.8s,baz=343,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**32.87**	**330**	P	P	13 54 29.9	+1.2
	0.3nm,0.4s,baz=161,slow=9.1,SNR=3.6						
CMAR				LR	LR	14 08 56.0	
	comp=Z,15nm,18.6s,baz=320,slow=38						
MKAR	**Makanchi Array**	**64.07**	**335**	P	P	13 58 28.2	-0.4
	0.5nm,0.4s,baz=147,slow=7.3,SNR=19						
KURK	**Kurchatov**	**68.66**	**336**	P	P	13 58 57.4	-0.5
	0.2nm,0.4s,baz=155,slow=5.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**69.06**	**341**	P	P	13 58 59.5	-0.8
	0.5nm,0.4s,baz=139,slow=5.3,SNR=3.6						
BVAR	**Borovoye Array**	**73.82**	**334**	P	P	13 59 29.4	+0.3
	0.3nm,0.6s,baz=95,slow=9.6,SNR=2.7						

IDC 20 14:07:43.2±2.7, 57°41S×25°18W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.9/11, mbtmp4.2/2, Error ellipse: s-maj=103.3km s-min=46.9km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**52.06**	**304**	P	P	14 16 55.3	0.0
	5.2nm,0.6s,baz=148,slow=6.4,SNR=20						
TORD	**Torodi Ar. Bea**	**73.72**	**27**	P	P	14 19 18.8	+0.1
	0.7nm,1.0s,baz=201,slow=7.0,SNR=3.0						
YKA	**Yellowknife Ar**	**137.92**	**316**	PKP	PKPdf	14 27 08.8	+0.8
	0.2nm,0.7s,baz=119,slow=2.4,SNR=4.1						
INK	**Inuvik**	**147.56**	**319**	PKPbc	PKPdf	14 27 25.7	+0.9
	0.6nm,0.6s,baz=94,slow=1.5,SNR=4.0						
ILAR	**Eielson Array**	**151.84**	**309**	PKPbc	PKPbc	14 27 38.5	+0.3
	0.4nm,0.6s,baz=118,slow=2.6,SNR=8.6						

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*IDC **20** 14:14:31.8±2.4, 57°00S×24°85W, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/13, mbtmp4.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/17, Error ellipse: s-maj=86.9km s-min=42.0km az=179.0*
ISC 20 14:14:34.8±1.0, 57°1S±0°2×24°9W±0°3, h22km, n11, σ0°54/10, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.32**	**159**	*e*	**P**	**14 18 13.2**	**-0.6**
VNA3	**Neumayer Olymp**	**15.55**	**161**	*e*	**P**	**14 18 16.0**	**-0.4**
VNA2	**Neumayer--Watz**	**15.71**	**159**	*e*	**P**	**14 18 17.9**	**-0.3**
SNAA	**Sanae**	**17.23**	**156**	*e*	**P**	**14 18 36.2**	**+1.1**
PMSA	**Palmer Station**	**20.17**	**232**	LR	LR	14 25 23.0	
	comp=Z,129nm,18.4s,baz=210,slow=32						
SIV	**San Ignacio**	**49.24**	**311**	P	**P**	**14 23 21.5**	**0.0**
	0.9nm,0.5s,baz=168,slow=20,SNR=7.1						
LPAZ	**La Paz**	**52.03**	**303**	P	**P**	**14 23 43.1**	**-0.1**
	10.0nm,0.6s,baz=157,slow=5.4,SNR=39						
TORD	**Torodi Ar. Bea**	**73.42**	**27**	P	**P**	**14 26 04.8**	**-0.2**
	0.6nm,0.8s,baz=199,slow=7.0,SNR=3.7						
YKA	**Yellowknife Ar**	**137.83**	**316**	PKP	**PKPdf**	**14 33 56.1**	**+0.4**
	0.2nm,0.6s,baz=129,slow=2.5,SNR=7.1						
INK	**Inuvik**	**147.45**	**319**	PKPbc	**PKPbc**	**14 34 15.1**	**0.0**
	0.6nm,0.4s,baz=117,slow=2.6,SNR=7.5						
ILAR	**Eielson Array**	**151.78**	**310**	PKPbc	**PKPbc**	**14 34 26.2**	**+0.3**
	1.4nm,0.9s,baz=88,slow=0.6,SNR=20						

IDC 20 14:19:31.8±1.1, 46°93N×155°44E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/25, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=33.8km s-min=20.6km az=108.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.36**	**12**	Pn	Pn	14 21 05.5	-1.1
	0.5nm,0.3s,baz=184,slow=11,SNR=20						
PETK				Sn	Sn	14 22 23.2	+3.3
	0.2nm,0.3s,baz=182,slow=22,SNR=2.5						
ASAJ	**Asahikawa**	**9.45**	**257**	Pn	Pn	14 21 50.3	+1.3
	0.3nm,0.3s,baz=82,slow=15,SNR=3.7						
ILAR	**Eielson Array**	**35.41**	**39**	P	P	14 26 29.0	+0.1
	0.5nm,1.0s,baz=255,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**43.80**	**306**	P	P	14 27 38.0	-0.9
	0.6nm,0.4s,baz=58,slow=7.0,SNR=4.8						
MKAR	**Makanchi Array**	**48.27**	**298**	P	P	14 28 14.2	-0.2
	0.2nm,0.6s,baz=74,slow=7.6,SNR=3.0						
FINES	**FINESS Array B**	**64.55**	**336**	P	P	14 30 10.6	+0.5
	2.9nm,0.9s,baz=22,slow=7.8,SNR=5.0						
WRA	**Warramunga Arr**	**69.23**	**201**	P	P	14 30 39.7	-0.6
	0.4nm,0.7s,baz=21,slow=7.5,SNR=3.4						
ASAR	**Alice Springs**	**72.91**	**201**	P	P	14 31 03.0	+0.4
	0.4nm,0.5s,baz=17,slow=5.8,SNR=8.5						

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*NOU **20** 14:20:55.8±0.6, 17°88S×168°28E, h30km, MD3.0, ML3.6*
*ISCJB **20** 14:20:57.5±1.2, 18°11S±0°07×168°07E±0°10, h88km±14km, mb4.4/8, Error ellipse: s-maj=16.1km s-min=10.3km az=26.2*
*IDC **20** 14:20:58.1±5.2, 18°12S×168°34E, h96km±29km, mb4.0/6, mb1 4.2/8, mb1mx3.8/19, mbtmp4.2/8, Error ellipse: s-maj=66.1km s-min=23.0km az=89.0*
*NEIC **20** 14:20:58.6±1.2, 18°09S×168°01E, h78km±16km, mb4.0/4, Error ellipse: s-maj=17.7km s-min=13.7km az=219.0*
NEIC Felt at Port-Vila.
ISC 20 14:20:59.1±0.9, 18°10S±0°07×168°1E±0°1, h83km±10km, n30, σ1°08/34, mb4.3/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.19**	**195**	*e*P	**Pn**	**14 22 00.1**	**-0.5**
BAYA				*e*S	**Sn**	**14 22 48.0**	**-0.4**
BAYA				AMP		14 23 07.4	
	comp=Z,25nm,0.7s						
DZM	**Mont Dzumac**	**4.24**	**201**	P	**Pn**	**14 22 01.8**	**+0.3**
	comp=Z,52nm,0.3s,baz=137,slow=19,SNR=191						
DZM				S	**Sn**	**14 22 51.0**	**+1.2**
	comp=Z,103nm,0.3s,baz=321,slow=23,SNR=26						
DZM	**Mont Dzumac**	**4.24**	**201**	*e*Pn	**Pn**	**14 22 00.1**	**-1.4**
DZM				S	**Sn**	**14 22 51.0**	**+1.2**
NOUC	**Port Laguerre**	**4.32**	**202**	*e*P	**Pn**	**14 22 02.1**	**-0.3**
NOUC				*e*S	**Sn**	**14 22 51.4**	**-0.2**
NOUC				AMP		14 22 58.0	
	comp=Z,155nm,3.4s						
PLUM	**Mont Dore**	**4.37**	**198**	*e*P	**Pn**	**14 22 02.6**	**-0.5**
PLUM				*e*S	**Sn**	**14 22 51.5**	**-1.3**
PLUM				AMP		14 22 56.7	
	comp=Z,554nm,0.3s						
NORM	**Noumea**	**4.37**	**200**	*e*P	**Pn**	**14 22 02.9**	**-0.3**
NORM				*e*S	**Sn**	**14 22 52.5**	**-0.5**
NORM				AMP		14 22 55.6	
	comp=Z,903nm,1.1s						
MSVF	**Nonsavu**	**9.50**	**89**	P	**Pn**	**14 23 12.9**	**-0.3**
HNR	**Honiara**	**11.69**	**316**	P	**Pn**	**14 23 44.1**	**+1.1**
	comp=Z,7.8nm,0.3s,baz=135,slow=4.3,SNR=3.3						
HNR	**Honiara**	**11.69**	**316**	P	**Pn**	**14 23 42.2**	**-0.7**
CTA	**Charters Tower**	**20.72**	**261**	P	Pn	14 25 35.3	-0.8
	comp=Z,4.3nm,0.7s,baz=107,slow=11,SNR=6.6						
CTA	**Charters Tower**	**20.72**	**261**	*e*P	Pn	14 25 36.0	-0.1
	comp=Z,5.2nm,0.9s						
CTA	**Charters Tower**	**20.72**	**261**	P	Pn	14 25 35.3	-0.8
CTAO	**Charters Tower**	**20.72**	**261**	*e*P	Pn	14 25 35.4	-0.8
	comp=Z,6.4nm,0.8s						
URZ	**Urewera**	**21.58**	**160**	*e*P	**P**	**14 25 44.1**	**+2.1**
PMG	**Port Moresby**	**22.06**	**290**	P	**P**	**14 25 49.0**	**+1.6**
	comp=Z,3.0nm,0.5s,baz=72,slow=6.4,SNR=4.1						
PMG	**Port Moresby**	**22.06**	**290**	*e*P	**P**	**14 25 49.0**	**+1.6**
	comp=Z,5.1nm,0.7s						
STKA	**Stephens Creek**	**27.56**	**235**	P	**P**	**14 26 39.0**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=56,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**27.56**	**235**	*e*P	**P**	**14 26 39.0**	**+0.6**
	comp=Z,3.9nm,0.6s						
STKA	**Stephens Creek**	**27.56**	**235**	*e*P	**P**	**14 26 38.9**	**+0.6**
	comp=Z,0.9nm,0.7s						
WB2	**Warramunga Arr**	**31.91**	**261**	*e*P	**P**	**14 27 15.7**	**-1.3**
WRAB	**Tennant Creek**	**31.91**	**261**	*e*P	**P**	**14 27 15.3**	**-1.7**
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**31.92**	**261**	P	**P**	**14 27 15.4**	**-1.7**
	comp=Z,2.2nm,0.4s,baz=89,slow=8.7,SNR=46						
WRA	**Warramunga Arr**	**31.92**	**261**	P	**P**	**14 27 15.4**	**-1.7**
AS31	**Alice Springs**	**32.36**	**254**	*e*P	**P**	**14 27 20.1**	**-0.8**
ASAR	**Alice Springs**	**32.36**	**254**	P	**P**	**14 27 19.9**	**-1.0**
	comp=Z,10nm,0.6s,baz=80,slow=8.6,SNR=286						
ASAR	**Alice Springs**	**32.36**	**254**	P	**P**	**14 27 19.9**	**-1.0**
FORT	**Forrest**	**38.36**	**243**	*e*P	**P**	**14 28 11.9**	**-0.4**
	comp=Z,14nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.27**	**263**	*e*P	**P**	**14 28 28.3**	**-0.1**
	comp=Z,26nm,0.7s						
CMAR	**Chiang Mai Arr**	**77.04**	**294**	P	**P**	**14 32 42.6**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=122,slow=3.9,SNR=9.4						
CMAR				pP	**pP**	**14 33 05.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=143,slow=4.7,SNR=2.6						
CMAR	**Chiang Mai Arr**	**77.04**	**294**	P	**P**	**14 32 42.6**	**-1.0**
CMAR				pP	**pP**	**14 33 05.6**	**+0.1**

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*IDC **20** 14:38:21.1±1.8, 57°15S×24°72W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/12, mbtmp4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/16, Error ellipse: s-maj=77.1km s-min=41.3km az=6.0*
ISC 20 14:38:23.3±2.0, 57°2S±0°6×24°8W±0°3, h15km, n9, σ1°21/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**15.47**	**162**	*e*P	P	14 42 08.2	+3.1
VNA2	**Neumayer--Watz**	**15.63**	**159**	*e*P	P	14 42 09.0	+2.1
	baz=330,slow=16						
SNAA	**Sanae**	**17.16**	**156**	*e*P	P	14 42 26.6	+2.8
LBTB	**Lobatse**	**48.10**	**70**	LR	LR	15 05 58.5	
	comp=Z,55nm,18.1s,baz=312,slow=34						
LPAZ	**La Paz**	**52.12**	**303**	P	**P**	**14 47 33.1**	**-0.5**
	4.0nm,0.6s,baz=152,slow=6.2,SNR=18						
TORD	**Torodi Ar. Bea**	**73.43**	**27**	P	**P**	**14 49 54.8**	**+0.1**
	0.4nm,0.7s,baz=187,slow=6.9,SNR=2.8						
YKA	**Yellowknife Ar**	**137.92**	**316**	PKP	**PKPdf**	**14 57 45.9**	**+0.3**
	0.2nm,0.7s,baz=129,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**149.46**	**87**	PKPbc	**PKPbc**	**14 58 09.9**	**-1.0**
	0.5nm,0.6s,baz=255,slow=4.3,SNR=3.2						
ILAR	**Eielson Array**	**151.87**	**310**	PKPbc	**PKPbc**	**14 58 17.2**	**+1.3**
	0.6nm,0.8s,baz=130,slow=1.4,SNR=7.6						

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*DJA **20** 14:47:38, 6°34S×129°04E, h325km, mb3.7/6*
IDC 20 14:47:41.9±4.2, 6°61S×128°46E, h336km±48km, mb3.1/5, mb1 3.3/8, mb1mx3.1/16, mbtmp3.1/8, Error ellipse: s-maj=50.6km s-min=14.6km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.75**	**193**	P	Pn	14 50 20.5	-0.4
	0.7nm,0.3s,baz=38,slow=13,SNR=17						
FITZ				S	S	14 52 30.1	-1.9
	0.2nm,0.3s,baz=94,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**14.43**	**157**	P	P	14 50 49.4	-1.6
	0.7nm,0.3s,baz=337,slow=12,SNR=28						
WRA				S	S	14 53 25.7	-2.3
	0.1nm,0.3s,baz=340,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**17.74**	**163**	P	P	14 51 27.4	+0.4
	1.7nm,0.3s,baz=343,slow=12,SNR=282						
ASAR				S	S	14 54 34.2	+0.5
	0.1nm,0.3s,baz=348,slow=24,SNR=4.5						
STKA	**Stephens Creek**	**27.97**	**156**	P	P	14 53 03.7	+1.0
	0.9nm,0.6s,baz=312,slow=12,SNR=2.9						
KSRS	**Korea Array**	**43.84**	**359**	P	P	14 55 15.2	-0.7
	0.7nm,0.5s,baz=176,slow=8.7,SNR=5.6						
SONM	**Songino Array**	**57.60**	**343**	P	P	14 56 58.3	+0.5
	0.5nm,0.5s,baz=167,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**67.07**	**327**	P	P	14 58 00.2	+0.2
	0.4nm,0.5s,baz=127,slow=6.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**70.57**	**334**	P	P	14 58 20.6	-0.5
	0.5nm,0.4s,baz=122,slow=5.4,SNR=4.8						

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*ISK **20** 14:52:43.0, 39°65N×29°41E, h5km, MD2.8*
*CSEM **20** 14:52:44.2±0.1, 39°65N×29°42E, h5km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.9km az=51.0*
ISC 20 14:52:44.0±1.3, 39°66N±0°02×29°41E±0°02, h2km±11km, n58, σ0°87/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORLT	**Orhaneli**	**0.56**	**315**	*e*PG	**Pg**	**14 52 55.0**	**+0.4**
ORLT				*e*SG	**Sb**	**14 53 03.9**	**-1.0**
ORLT	**Orhaneli**	**0.56**	**315**	*e*Pg	**Pg**	**14 52 55.1**	**+0.4**
ORLT				*e*Sg	**Sb**	**14 53 03.9**	**-1.0**
GDZ	**Gediz**	**0.57**	**175**	*i* P	**Pg**	**14 52 54.7**	**-0.2**
GDZ				*i* S	**Sb**	**14 53 04.2**	**-1.2**
GDZ				*i* S	**Sb**	**14 53 04.2**	**-1.2**
GDZ	**Gediz**	**0.57**	**175**	*i* P	**Pg**	**14 52 54.7**	**-0.2**
GDZ				*i* S	**Sb**	**14 53 04.2**	**-1.2**
DST	**Dursunbey**	**0.61**	**265**	*e*PG	**Pg**	**14 52 56.0**	**+0.2**
DST				*e*SG	**Sb**	**14 53 05.5**	**-1.1**
DST	**Dursunbey**	**0.61**	**265**	*e*Pg	**Pg**	**14 52 56.0**	**+0.2**
DST				*e*Sg	**Sb**	**14 53 05.5**	**-1.1**
CAVI	**Cavuskoy**	**0.64**	**31**	*e*PG	**Pg**	**14 52 56.3**	**+0.1**
CAVI				*e*SG	**Sb**	**14 53 06.3**	**-1.0**
CAVI	**Cavuskoy**	**0.64**	**31**	*e*Pg	**Pg**	**14 52 56.3**	**+0.1**
CAVI				*e*Sg	**Sb**	**14 53 06.3**	**-1.0**
DURS	**Dursunbey**	**0.73**	**266**	*i* P	**Pg**	**14 52 57.4**	**-0.5**
DURS				*i* S	**Sb**	**14 53 08.8**	**-1.1**
DURS	**Dursunbey**	**0.73**	**266**	*i* P	**Pg**	**14 52 57.4**	**-0.5**
DURS				*i* S	**Sb**	**14 53 08.8**	**-1.1**
ALT	**Altintas**	**0.81**	**138**	*e*PG	**Pg**	**14 52 59.0**	**-0.5**
ALT	**Altintas**	**0.81**	**138**	*e*Pg	**Pg**	**14 52 59.0**	**-0.5**
ADVT	**Abdulvahap**	**0.82**	**18**	*e*PG	**Pg**	**14 52 59.2**	**-0.5**
ADVT	**Abdulvahap**	**0.82**	**18**	*e*Pg	**Pg**	**14 52 59.2**	**-0.5**
YLV	**Yalova**	**0.91**	**358**	*e*PG	**Pb**	**14 53 02.3**	**-0.3**
YLV	**Yalova**	**0.91**	**358**	*e*Pg	**Pb**	**14 53 02.3**	**-0.3**
ARMT	**Armutlu**	**1.00**	**335**	*e*PG	**Pb**	**14 53 03.4**	**-0.7**
ARMT	**Armutlu**	**1.00**	**335**	*e*Pg	**Pb**	**14 53 03.4**	**-0.7**
KCTX	**Karacabey (Bur**	**1.01**	**307**	*e*PG	**Pb**	**14 53 03.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.01**	**307**	*e*Pg	**Pb**	**14 53 03.8**	**-0.5**
ESKT	**Eskisehir**	**1.12**	**97**	*e*PN	**Pb**	**14 53 05.8**	**-0.3**
ESKT	**Eskisehir**	**1.12**	**97**	*e*Pn	**Pb**	**14 53 05.8**	**-0

MTO2	Montecristo 2	2.25	344	*e*P	Pn	15 04 13.2	-0.5
TGUH	Tegucigalpa,Un	2.30	38	*e*P	Pn	15 04 14.7	+0.6
GBS3	Finca Las Im˜¡	3.50	114	*i* P	Pn	15 04 31.6	+0.9
LAPC	Finca la Perla	3.53	114	*i* P	Pn	15 04 30.6	-0.5
LAPC				*i* S	Sn	15 05 09.2	-2.4
LIM1	Limonal	3.72	114	*i* P	Pn	15 04 34.1	+0.5
MESS	Mesas	3.75	113	*i* P	Pn	15 04 35.0	+0.8
CUI	Cuipilapa	3.81	114	*i* P	Pn	15 04 35.0	0.0
JTS	JuntasAbangare	4.16	117	Pn	Pn	15 04 38.3	-1.5
	8.5nm,0.3s,baz=308,slow=19,SNR=28						
JTS				Sn	Sn	15 05 26.8	-0.4
	24nm,0.3s,baz=283,slow=18,SNR=9.3						
JTS	JuntasAbangare	4.16	117	*e*P	Pn	15 04 39.5	-0.3
JTS				S	Sn	15 05 26.8	-0.4
JCR	Jicaral	4.25	123↑	*e*P	Pn	15 04 40.2	-0.8
JCR				*e*S	Sn	15 05 27.6	-1.9
LAJ	Bijagual	5.08	117	*e*P	Pn	15 04 48.7	-3.9
LAJ				*e*S	Sn	15 05 41.3	-8.8
QCR	Quepos	5.27	121	*e*P	Pn	15 04 54.5	-0.4
QCR				*e*S	Sn	15 05 51.3	-3.1
URSC	Urasca	5.40	116	*e*P	Pn	15 04 58.6	+1.8
URSC				*e*S	Sn	15 06 00.2	+2.3
ACR	Cerro Adams	6.51	123	*e*P	Pn	15 05 12.8	+0.7
CMIG	Matias Romero	7.68	310	Pn	Pn	15 05 27.2	-0.8
	0.6nm,0.3s,baz=107,slow=10,SNR=6.4						
CMIG	Matias Romero	7.68	310	Pn	Pn	15 05 27.2	-0.8
TEIG	Tepich	7.97	3	LR	LR	15 08 54.8	
	comp=Z,425nm,19.4s,baz=124,slow=42						
ROSC	El Rosal	15.99	116	LR	LR	15 12 51.6	
	comp=Z,53nm,19.4s,baz=16,slow=35						
HKT	Hockley	18.83	341	*e*P	Pn	15 07 56.1	+0.6
JCT	Junction City	20.87	332	⇓P	P	15 08 17.6	+0.7
	baz=21						
628A	Black Gap, Mar	21.65	325	⇑P	P	15 08 26.3	+1.1
	baz=22,SNR=8.3						
ATAH	Atahualpa	21.80	151	P	P	15 08 29.1	+1.7
	3.6nm,0.5s,baz=328,slow=12,SNR=3.6						
ATAH				LR	LR	15 15 23.1	
	comp=Z,163nm,21.9s,baz=107,slow=32						
ATAH	Atahualpa	21.80	151	P	P	15 08 29.1	+1.7
627A	Terlingua Ranc	21.91	324	⇓P	P	15 08 29.4	+1.3
	baz=22,SNR=19						
TXAR	Lajitas Array	21.98	323	P	P	15 08 29.8	+0.9
	4.8nm,0.8s,baz=147,slow=11,SNR=36						
TXAR	Lajitas Array	21.98	323	P	P	15 08 29.8	+0.9
528A	Cox Ranch, San	22.11	326	⇑P	P	15 08 31.2	+0.9
	baz=22						
626A	Big Bend Ranch	22.42	323	⇑P	P	15 08 35.0	+1.3
	baz=22,SNR=5.8						
428A	Kincaid Ranch,	22.49	327	⇓P	P	15 08 35.1	+0.8
	baz=22						
527A	Woodward Ranch	22.56	325	⇑P	P	15 08 36.2	+1.1
	baz=23						
UALR	University of	22.69	352	*e*P	P	15 08 36.9	+0.6
	31nm,0.9s						
526A	Mary Lane Ranc	22.77	324	⇓P	P	15 08 38.2	+0.8
	baz=23						
427A	Hayter Ranch,	22.98	326	⇑P	P	15 08 39.9	+0.5
	baz=23						
JSC	Jenkinsville	22.98	16	*e*P	P	15 08 40.9	+1.6
328A	Wristen Ranch,	23.08	328	⇓P	P	15 08 41.0	+0.6
	baz=23,SNR=7.1						
426A	McDonald Obser	23.19	325	⇓P	P	15 08 42.5	+0.8
	baz=23						
326A	Caldwell Ranch	23.65	326	⇓P	P	15 08 46.2	+0.3
	baz=24						
TKL	Tuckaleechee C	23.75	10	P	P	15 08 46.3	-0.4
	21nm,1.0s,baz=193,slow=12,SNR=9.8						
TKL				LR	LR	15 20 57.6	
	comp=Z,90nm,18.3s,baz=75,slow=44						
TKL	Tuckaleechee C	23.75	10	*e*P	P	15 08 46.8	0.0
KMSC	Kings Mountain	23.78	15	⇑P	P	15 08 47.4	+0.5
	baz=24						
WVT	Waverly	23.81	2	*e*P	P	15 08 46.7	-0.6
425A	Indio Mountain	23.82	323	⇑P	P	15 08 48.4	+0.7
	baz=24						
325A	Bean Ranch, Si	24.25	324	⇑P	P	15 08 51.7	+0.1
	baz=24,SNR=7.5						
226A	Malaga, Loving	24.29	327	⇑P	P	15 08 52.6	+0.7
	baz=24						
TUL1	Tulsa	24.43	346	⇓P	P	15 08 53.3	+0.3
	baz=24						
324A	Moseley Ranch,	24.59	324	⇑P	P	15 08 54.8	+0.1
	baz=25,SNR=8.2						
225A	Deer Hill, Car	24.72	326	⇓P	P	15 08 56.1	+0.3
	baz=25						
Z27A	Tatum	24.83	330	⇓P	P	15 08 56.4	-0.3
	baz=25						
MSTX	Muleshoe	25.15	332	⇑P	P	15 08 59.7	0.0
	baz=25						
Z26A	Caprock	25.18	329	⇑P	P	15 08 59.9	0.0
	baz=25						
Y27A	Causey	25.27	331	⇑P	P	15 09 00.5	-0.3
	baz=25						
AMTX	Amarillo	25.44	335	*e*P	P	15 09 01.6	-0.7
	33nm,1.1s						
AMTX	Amarillo	25.44	335	⇑P	P	15 09 02.2	-0.1
	baz=26,SNR=9.2						
AMTX				⇑P	P	15 09 02.2	-0.1
	baz=26,SNR=9.2						
124A	Stringfield Ra	25.51	326	⇑P	P	15 09 03.3	+0.2
	baz=26						
123A	Bell Site, Whi	25.92	324	⇑P	P	15 09 07.4	+0.8
	baz=26						
Z24A	Sheeppen Canyo	25.94	327	⇓P	P	15 09 07.5	+0.5
	baz=26						
Y25A	Mesa, Roswell	26.05	329	⇓P	P	15 09 08.5	+0.7
	baz=26						
X26A	CR and CF Fran	26.12	331	⇓P	P	15 09 09.1	+0.6
	baz=26						
W27A	Bowe Ranch, En	26.20	333	⇓P	P	15 09 09.6	+0.5
	baz=26						
Z23A	Rita Site, Whi	26.36	325	⇑P	P	15 09 11.8	+1.1
	baz=26						
X25A	Clemmons Ranch	26.52	329	⇓P	P	15 09 12.4	+0.3
	baz=26,SNR=5.7						
121A	Cookes Peak, D	26.73	322	⇓P	P	15 09 15.2	+1.1
	baz=27						
220A	Playas Peak, P	26.75	320	⇓P	P	15 09 15.8	+1.5
	baz=27						
X24A	Lazy VL Ranch,	26.93	328	⇑P	P	15 09 16.7	+0.7
	baz=27						
W25A	X Bar L Ranch,	26.97	331	⇓P	P	15 09 16.8	+0.6
	baz=27						
318A	Bisbee	27.39	318	⇓P	P	15 09 21.1	+1.1
	baz=27						
W24A	Lazy 6 Ranch,	27.43	329	⇓P	P	15 09 20.9	+0.5
	baz=27						
V25A	Rancho No Teng	27.55	331	⇓P	P	15 09 21.8	+0.4
	baz=28						
U26A	Atchley Ranch,	27.61	333	⇑P	P	15 09 22.6	+0.6
	baz=28						
Z20A	Nine Sixteen R	27.62	322	⇓P	P	15 09 23.1	+1.0
	baz=28						
Y21A	Point of Rocks	27.73	325	⇓P	P	15 09 23.8	+0.7
	baz=28						
218A	Dragoon	27.77	318	⇓P	P	15 09 24.3	+0.9
	baz=28						
V24A	Rampart Ranch,	27.77	330	⇑P	P	15 09 24.0	+0.5
	baz=28						
U25A	Circle Dot Ran	27.91	332	⇓P	P	15 09 25.5	+0.8
	baz=28						
X21A	Alamocita Cree	28.11	325	⇓P	P	15 09 27.6	+1.2
	baz=28						
T25A	Trinidad	28.53	333	⇓P	P	15 09 30.8	+0.6
	baz=28						
T24A	Torres, Weston	28.76	332	⇓P	P	15 09 33.9	+1.6
	baz=29						
S22A	4UR Ranch, Cre	30.14	331	⇓P	P	15 09 45.4	+0.9
	baz=30						
X16A	Lo Mia Camp, P	30.25	321	⇓P	P	15 09 46.3	+0.8
	baz=30						
Z13A	Yuma Proving G	30.92	317	⇓P	P	15 09 52.3	+1.2
	baz=31						
T17A	Navajo Res., N	31.64	325	⇓P	P	15 09 58.8	+1.1
	baz=32						
S18A	Hurst Farm, Bl	31.70	327	⇑P	P	15 09 59.2	+0.9
	baz=32						
O22A	Kremmling	31.96	334	⇑P	P	15 10 01.4	+0.8
	baz=32						
BC3	Big Chuckawall	32.40	316	⇑P	P	15 10 05.6	+1.3
	baz=32						
R17A	Hanksville Air	32.62	327	⇑P	P	15 10 07.7	+1.5
	baz=33						
MONP	Monument Peak	32.65	314	⇑P	P	15 10 07.1	+0.5
	baz=33						
BELC	Belle Mtn. Jos	32.97	316	⇓P	P	15 10 10.9	+1.6
	baz=33						
PFO	Pinyon Flat Ob	33.07	315	⇑P	P	15 10 11.5	+1.4
	baz=33						
SPMN	St. Paul	33.07	355	⇓P	P	15 10 09.0	-0.8
	baz=33,SNR=5.4						
GMRC	Granite Mounta	33.19	317	⇓P	P	15 10 12.4	+1.1
	baz=33						
N20A	Spence Gulch,	33.27	332	⇑P	P	15 10 13.1	+1.2
	baz=33						
P18A	Preston Nutter	33.28	329	⇓P	P	15 10 13.1	+1.0
	baz=33						
SADO	Sadowa	33.45	12	P	P	15 10 11.9	-1.2
	4.0nm,0.6s,baz=221,slow=11,SNR=4.4						
SADO	Sadowa	33.45	12	P	P	15 10 11.9	-1.2
BFSC	Mount Baldy Ra	34.25	315	⇓P	P	15 10 22.3	+1.9
	baz=34						
J22A	Midwest	34.66	337	⇑P	P	15 10 24.5	+0.6
	baz=35						
EDW2	Edwards Air Fo	34.83	315	⇓P	P	15 10 26.3	+1.0
	baz=35						
M17A	Scullys Gap (B	34.89	331	⇑P	P	15 10 26.7	+0.7
	baz=35						
LRMC	Laurel Mountai	34.95	316	⇓P	P	15 10 27.4	+0.9
	baz=35						
J21A	Lysite	34.98	336	⇓P	P	15 10 27.1	+0.4
	baz=35						
DUG	Duway	35.03	327	⇓P	P	15 10 27.9	+0.8
	baz=35						
I22A	9 Mile Ranch,	35.07	337	⇓P	P	15 10 26.9	-0.5
	baz=35						
H24A	Dirks Ranch, A	35.13	340	⇑P	P	15 10 28.1	+0.3
	baz=35						
MPMC	Manual Prospec	35.15	317	⇑P	P	15 10 29.0	+0.7
	baz=35						
I21A	Big Trails, Te	35.31	336	⇑P	P	15 10 30.5	+1.0
	baz=35						
R11A	Troy Canyon, C	35.34	322	⇓P	P	15 10 30.9	+1.1
	baz=35						
PDAR	Pinedale Array	35.40	333	P	P	15 10 30.0	-0.3
	0.3nm,0.6s,baz=142,slow=10,SNR=3.0						
PDAR				PcP	PcP	15 13 01.1	+1.6
	1.3nm,1.0s,baz=116,slow=4.1,SNR=4.2						
PDAR	Pinedale Array	35.40	333	P	P	15 10 30.0	-0.3
PDAR				PcP	PcP	15 13 01.1	+1.6
J19A	Crowheart	35.58	334	⇑P	P	15 10 32.1	+0.3
	baz=36						
L16A	Fish Haven	35.68	330	⇓P	P	15 10 32.7	0.0
	baz=36						
EYMN	Ely	35.68	357	*e*P	P	15 10 30.8	-1.7
	7.1nm,0.9s						
I20A	Worland	35.76	336	⇓P	P	15 10 34.2	+0.9
	baz=36						
M15A	Larsen Ranch,	35.76	329	⇓P	P	15 10 33.9	+0.6
	baz=36						
J18A	Kendall Valley	35.95	333	⇓P	P	15 10 35.3	+0.1
	baz=36						
PKM	Peak Mountain	36.11	314	⇓P	P	15 10 36.9	+0.5
	baz=36						
L15A	Malad City	36.13	330	⇑P	P	15 10 36.9	+0.4
	baz=36						
I18A	Diamond G Ranc	36.26	334	⇓P	P	15 10 37.8	+0.1
	baz=36						
F23A	Volborg	36.28	340	⇑P	P	15 10 38.0	+0.3
	baz=36						
AGMN	Agassiz Nation	36.45	352	P	P	15 10 37.0	-2.0
	9.1nm,0.9s						
MDND	Maddock	36.66	348	⇑P	P	15 10 41.8	+1.0
	baz=37						
E24A	Baker	36.67	342	⇓P	P	15 10 41.9	+1.0
	baz=37						
K15A	Arbon	36.72	330	⇓P	P	15 10 42.2	+0.7
	baz=37						
J16A	Bone	36.73	332	⇓P	P	15 10 42.3	+0.7
	baz=37						
G20A	Bridger	36.85	337	⇑P	P	15 10 43.2	+0.6
	baz=37						
K14A	Jones Ranch, D	36.93	329	⇑P	P	15 10 43.7	+0.4
	baz=37						
H18A	Shoshone NF, C	36.98	335	⇓P	P	15 10 43.9	+0.1
	baz=37						
NVAR	Mina Array Bea	37.07	320	P	P	15 10 46.8	+2.2
	2.5nm,1.0s,baz=139,slow=7.4,SNR=11						
NVAR				PcP	PcP	15 13 07.0	+2.4
	1.3nm,0.8s,baz=136,slow=3.9,SNR=6.8						
NVAR	Mina Array Bea	37.07	320	P	P	15 10 46.8	+2.2
NVAR				PcP	PcP	15 13 07.0	+2.4
RLMT	Red Lodge	37.19	336	⇓P	P	15 10 45.6	+0.1
	baz=37						
RLMT				⇓P	P	15 10 45.6	+0.1
	baz=37						
G18A	Lazy EL Ranch,	37.47	336	⇓P	P	15 10 48.0	+0.1
	baz=38						
E21A	Keefer Ranch,	37.56	339	⇑P	P	15 10 49.0	+0.5
	baz=38						
F19A	Roth Farm, Mol	37.66	337	⇓P	P	15 10 49.7	+0.3
	baz=38						
J14A	Carey	37.67	330	⇓P	P	15 10 49.7	+0.1
	baz=38						
H16A	Russell Place,	37.68	333	⇑P	P	15 10 49.9	+0.2
	baz=38						
D22A	Cohagen	37.79	340	⇑P	P	15 10 51.0	+0.6
	baz=38						
E20A	Meyer Farm, Mu	37.90	338	⇑P	P	15 10 52.1	+0.7
	baz=38						
G17A	Pierce Place,	37.95	335	⇑P	P	15 10 52.2	+0.3
	baz=38						
F18A	Big Timber	38.01	336	⇓P	P	15 10 52.6	+0.2
	baz=38						
C23A	Lambert	38.05	342	⇑P	P	15 10 53.0	+0.4
	baz=38						
J13A	Cove Ranch, Pi	38.05	329	⇓P	P	15 10 53.5	+0.6
	baz=38						
I14A	Mackay	38.09	331	⇑P	P	15 10 53.5	+0.3
	baz=38						
E19A	Rath Farm, Rou	38.11	337	⇓P	P	15 10 53.5	+0.3
	baz=38						
C22A	Vida	38.22	341	⇓P	P	15 10 54.5	+0.5
	baz=38						
DGMT	Dagmar	38.37	343	⇓P	P	15 10 55.8	+0.5
	baz=38						
ULM	Lac du Bonnet	38.37	353	P	P	15 10 53.9	-1.3
	3.6nm,0.8s,baz=170,slow=10,SNR=6.4						
ULM				LR	LR	15 26 28.9	
	comp=Z,85nm,20.7s,baz=54,slow=36						
ULM	Lac du Bonnet	38.37	353	P	P	15 10 53.9	-1.3
F17A	Fitzpatrick Pl	38.39	335	⇓P	P	15 10 56.1	+0.4
	baz=38						
I13A	Wildhorse Cree	38.40	330	⇑P	P	15 10 55.9	0.0
	baz=38						
D20A	Mauel Ranch,	38.41	339	⇓P	P	15 10 56.4	+0.8
	baz=38						
MCMT	McKenzie Canyo	38.49	332	*e*P	P	15 10 57.8	+1.2
	1.7nm,1.0s						
H14A	Leadore	38.57	331	⇑P	P	15 10 57.8	+0.6
	baz=39						
BOZ	Bozeman (W)	38.59	334	⇑P	P	15 10 57.9	+0.6
	baz=39						
BOZ				⇑P	P	15 10 57.9	+0.6
	baz=39						
A24A	Westby	38.73	344	⇓P	P	15 10 58.5	+0.3
	baz=39						
I12A	Atlanta	38.82	329	⇑P	P	15 10 59.8	+0.5
	baz=39						
H13A	Challis	38.95	331	⇓P	P	15 11 01.3	+0.9
	baz=39						
D18A	Linhart Farms,	39.11	337	⇓P	P	15 11 01.9	+0.3
	baz=39						
F15A	Butte	39.12	333	⇑P	P	15 11 02.4	+0.6
	baz=39						
SIV	San Ignacio	39.17	135	P	P	15 11 02.8	+0.5
	6.7nm,0.9s,baz=298,slow=6.2,SNR=5.3						
SIV	San Ignacio	39.17	135	P	P	15 11 02.8	+0.5
C19A	Slack Wire Ran	39.28	338	⇓P	P	15 11 03.3	+0.3
	baz=39						
E16A	East Helena	39.31	335	⇓P	P	15 11 03.7	+0.4
	baz=39						
G13A	Cobalt	39.33	331	⇑P	P	15 11 03.8	+0.3
	baz=39						
A22A	Carney Farms,	39.34	342	⇓P	P	15 11 03.7	+0.3
	baz=39						
D17A	Six Diamond Ra	39.42	336	⇑P	P	15 11 04.9	+0.7
	baz=39						
A21A	Bergtoll Ranch	39.65	341	⇑P	P	15 11 06.6	+0.7
	baz=40						
EGMT	Eagleton	39.78	338	⇓P	P	15 11 07.3	+0.2
	baz=40						
C17A	Wharram Farm,	39.84	337	⇑P	P	15 11 07.9	+0.2
	baz=40						
B19A	Brinkman Farms	39.85	339	⇑P	P	15 11 08.2	+0.5
	baz=40						
A20A	Cobblestone Ra	39.87	340	⇑P	P	15 11 08.3	+0.4
	baz=40						
F13A	Darby	39.90	332	⇓P	P	15 11 08.6	+0.4
	baz=40						
D15A	Lincoln	40.07	335	⇓P	P	15 11 10.0	+0.4
	baz=40						
B18A	Beardsley Farm	40.10	338	⇓P	P	15 11 10.1	+0.4
	baz=40						
F12A	Elk City	40.31	331	⇓P	P	15 11 12.2	+0.6
	baz=40						
E13A	Victor	40.33	333	⇑P	P	15 11 11.9	+0.2
	baz=40						
C16A	Fuhringer Ranc	40.36	336	⇓P	P	15 11 12.6	+0.6
	baz=40						
C15A	Salmond Ranch,	40.69	335	⇑P	P	15 11 14.9	+0.2
	baz=41						
D13A	Huson	40.95	333	⇑P	P	15 11 17.4	+0.6
	baz=41						
A14A	Double T Ranch	41.97	336	⇑P	P	15 11 25.1	-0.1
	baz=42						
SCHQ	Schefferville	45.85	17	P	P	15 11 55.2	-0.9
	10.0nm,0.8s,baz=216,slow=7.6,SNR=12						
SCHQ				LR	LR	15 32 10.6	
	comp=Z,136nm,18.1s,baz=288,slow=38						
SCHQ	Schefferville	45.85	17	*e*P	P	15 11 54.7	-1.5
	7.9nm,0.8s						
BDFB	Brasilia	48.88	123	LR	LR	15 34 53.0	
	comp=Z,70nm,19.6s,baz=3.8,slow=38						
YKA	Yellowknife Ar	53.51	345	P	P	15 12 53.5	-0.6
	3.4nm,1.0s,baz=142,slow=7.4,SNR=41						
YKA				PcP	PcP	15 14 02.1	+1.6
	1.1nm,0.8s,baz=144,slow=4.1,SNR=5.7						
YKA	Yellowknife Ar	53.51	345	P	P	15 12 53.5	-0.6
YKA				PcP	PcP	15 14 02.1	+1.6
INK	Inuvik	63.05	343	*e*P	P	15 14 00.7	0.0
	9.3nm,1.5s						
ILAR	Eielson Array	65.73	336	P	P	15 14 18.2	0.0
	1.3nm,1.0s,baz=135,slow=4.3,SNR=10						
ILAR	Eielson Array	65.73	336	P	P	15 14 18.2	0.0
TRF	Thorofare Moun	66.60	334	*e*P	P	15 14 23.4	-0.7
VNA3	Neumayer Olymp	97.99	161	*e*	P	15 17 07.4	-2.0
VNA3				*e*		15 21 06.0	
VNA2	Neumayer--Watz	98.64	161	*e*	P	15 17 10.2	-2.1
VNA2				*e*		15 21 12.8	
CN2	Changchun	116.14	333	*e*PKP	PKPdf	15 22 17.4	+0.4
MKAR	Makanchi Array	120.70	7	PKP	PKPdf	15 22 26.4	+0.7
	0.2nm,0.6s,baz=358,slow=3.5,SNR=3.5						
MKAR	Makanchi Array	120.70	7	PKP	PKPdf	15 22 26.4	+0.7
HHC	Hu-ho-hao-te	123.95	342	*e*PKP	PKPdf	15 22 24.8	-7.5
HHC				sPKP		15 23 02.1	
HHC				PKS	PKSdf	15 26 00.5	-8.5
HHC				AMB	AMB		
	comp=Z,140nm,8.6s						
HHC				LR	LR		
	comp=Z,170nm,20.2s						
LZH	Lanzhou	130.50	347	*e*PKP	PKPdf	15 22 42.5	-2.5
CD2	Chengdu	135.47	345	PKP	PKPdf	15 22 51.8	-2.5
WRA	Warramunga Arr	138.02	254	PKP	PKPdf	15 23 00.6	+1.4
	comp=Z,0.4nm,0.7s,baz=108,slow=3.4,SNR=7.2						
WRA	Warramunga Arr	138.02	254	PKP	PKPdf	15 23 00.6	+1.4
ASAR	Alice Springs	138.04	248	PKP	PKPdf	15 23 00.1	+0.9
	comp=Z,0.5nm,0.9s,baz=112,slow=3.9,SNR=4.6						
ASAR	Alice Springs	138.04	248	PKP	PKPdf	15 23 00.1	+0.9
GYA	Guiyang	138.74	339	*e*Pdif	Pdif	15 20 08.0	-3.9
GYA				PKP	PKPdf	15 22 57.6	-3.0
GYA				sPKP		15 23 25.4	
GYA				PP	PP	15 25 52.0	+1.5
GYA				AMB	AMB		
	comp=Z,90nm,7.6s						
CMAR	Chiang Mai Arr	148.59	346	PKP	PKPdf	15 23 17.8	-0.1
	comp=Z,0.9nm,0.3s,baz=149,slow=3.0,SNR=7.6						
CMAR				PKPbc	PKiKP	15 23 23.1	+0.2
	comp=Z,2.6nm,0.9s,baz=331,slow=2.9,SNR=13						
CMAR	Chiang Mai Arr	148.59	346	PKP	PKPdf	15 23 17.8	-0.1
CMAR				PKPbc	PKiKP	15 23 23.1	+0.2

MAN 20 15:11:30.5˚45N×125˚19E,h33km,mb4.3,ML3.2,MS3.0, 1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.68	339	⇓*i*P	Pn	15 11 40.5	-3.0
GSPH				*i* S	Sb	15 11 47.7	-5.3
KCP	Kidapawan	1.55	356↑	*e*P	Pb	15 11 57.3	-1.0
KCP				*i* S	Sb	15 12 16.6	-1.1
DMPH	Davao City--Mi	1.65	11	⇓*e*P	Pn	15 11 57.7	+0.9
DMPH				*e*S	Sn	15 12 17.6	+0.7
MATI	Mati	1.82	35	*e*P	Pn	15 11 59.5	+0.3
CTBH	Cotabato--PC H	2.00	332	⇓*e*P	Pn	15 12 02.1	+0.6
CTBH				*i* S	Sn	15 12 25.0	-0.3
BUKP	Musuan	2.42	357	*e*P	Pn	15 12 09.8	+2.4
BUKP				*e*S	Sn	15 12 37.8	+1.9
PAGZ	Pagadian	2.99	323	*e*P	Pn	15 12 16.8	+1.7

IGQ 20 15:14:27.2,3.06S×80.11W,h12km±44km,Mb4.4,Ms4.2, 2C-4D,Error ellipse: s-maj=13.2km s-min=7.0km az=7.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.14	43	S	Sb	15 15 33.3	-0.5
IGUA	Igualata	2.14	43	P	Pn	15 15 03.8	+0.2
BMAS	Trigal station	2.25	46	P	Pb	15 15 07.2	-1.0
ARRY	Arrayan	2.26	47	P	Pn	15 15 06.0	+1.1
PAT1	Patacocha	2.27	47	P	Pn	15 15 06.7	+1.5
BBIL	Ulba Tungurahu	2.28	45	⇓P	Pb	15 15 08.3	-0.4
RETU	Refugio	2.31	46	P	Pn	15 15 06.9	+1.2
BULB	Ulba Tungurahu	2.34	46	P	Pb	15 15 09.8	0.0
BULB	Ulba Tungurahu	2.34	46	S	Sb	15 15 40.6	+1.5
RUN5	Runtun	2.35	46	P	Pb	15 15 09.0	-0.8
RUN5	Runtun	2.35	46	S	Sb	15 15 40.0	+0.8
BRUN	Tungurahua Vol	2.35	46	S	Sb	15 15 38.3	-1.1
BRUN	Tungurahua Vol	2.35	46	P	Pb	15 15 08.5	-1.5
PISA	Pisayambo	2.63	41	⇑S	Sb	15 15 46.3	-1.4
PISA	Pisayambo	2.63	41	⇑P	Pn	15 15 12.0	+1.9
BMOR	Cotopaxi Volca	2.84	35	S	Sn	15 15 50.6	+2.8
BMOR	Cotopaxi Volca	2.84	35	P	Pn	15 15 15.4	+2.2
CAMI	Rancho Maria	2.86	34	P	Pn	15 15 15.8	+2.6
MOV1	Cotopaxi Vol s	2.87	36

ADVT	Abdulvahap	0.41	91	ePG	Pg	15 31 13.2	-0.8
ADVT	Abdulvahap	0.41	91	ePg	Pg	15 31 13.2	-0.8
BUY	Buyukada	0.41	351	iP	Pg	15 31 13.6	-0.5
BUY				iS	Sg	15 31 20.4	+0.9
BUY	Buyukada	0.41	351	iP	Pg	15 31 13.6	-0.5
BUY				iS	Sg	15 31 20.4	+0.9
HRT	Hereke	0.52	43	ePG	Pg	15 31 15.6	-0.5
HRT	Hereke	0.52	43	ePg	Pg	15 31 15.6	-0.5
CAVI	Cavuskoy	0.54	116	ePG	Pg	15 31 15.8	-0.7
CAVI	Cavuskoy	0.54	116	ePg	Pg	15 31 15.9	-0.7
ISK	Istanbul-Kandi	0.63	350	ePG	Pg	15 31 17.2	-1.1
ISK	Istanbul-Kandi	0.63	350	ePg	Pg	15 31 17.2	-1.1
KCTX	Karacabey (Bur	0.67	255	ePG	Pg	15 31 18.5	-0.5
KCTX	Karacabey (Bur	0.67	255	ePg	Pg	15 31 18.5	-0.5
SILT	Sile	0.78	25	ePG	Pg	15 31 20.6	-0.6
SILT	Sile	0.78	25	ePg	Pg	15 31 20.6	-0.6
KLYT	Kilyos	0.82	351	ePG	Pg	15 31 21.2	-0.7
KLYT	Kilyos	0.82	351	ePg	Pg	15 31 21.2	-0.7
DST	Dursunbey	0.95	208	ePG	Pg	15 31 23.5	-0.9
DST	Dursunbey	0.95	208	ePg	Pg	15 31 23.5	-0.9
CTKS	Kestanelik-??a	0.95	327	ePG	Pg	15 31 23.4	-1.0
CTKS	Kestanelik-??a	0.95	327	ePg	Pg	15 31 23.4	-1.0
GULT	Gulveren	1.00	90	ePG	Pg	15 31 24.6	-0.8
GULT	Gulveren	1.00	90	ePg	Pg	15 31 24.6	-0.8
DURS	Dursunbey	1.01	214	iP	Pb	15 31 26.6	+0.3
DURS				iS	Sn	15 31 42.3	+0.4
DURS	Dursunbey	1.01	214	iP	Pb	15 31 26.6	+0.3
DURS				iS	Sn	15 31 42.3	+0.4
EDC	Edincik	1.03	265	ePG	Pg	15 31 24.6	-1.3
EDC	Edincik	1.03	265	ePg	Pg	15 31 24.6	-1.3
SLVT	Silivri	1.09	317	ePN	Pg	15 31 26.1	-1.0
SLVT	Silivri	1.09	317	ePn	Pg	15 31 26.1	-1.0
GONE	Gonen-Balikesi	1.23	252	ePN	Pg	15 31 28.5	-1.2
GONE	Gonen-Balikesi	1.23	252	ePn	Pg	15 31 28.5	-1.2
CTYL	Yal??k??y-??at	1.24	326	ePN	Pg	15 31 29.0	-1.0
CTYL	Yal??k??y-??at	1.24	326	ePn	Pg	15 31 29.0	-1.0
GDZ	Gediz	1.37	171	iP	Pn	15 31 31.4	-0.8
GDZ				iS	Sn	15 31 52.6	+1.8
GDZ	Gediz	1.37	171	iP	Pn	15 31 31.4	-0.8
GDZ				iS	Sn	15 31 52.6	+1.8
KRBG	Karabiga-Canak	1.46	269	ePN	Pn	15 31 32.3	-1.0
KRBG	Karabiga-Canak	1.46	269	ePn	Pn	15 31 32.3	-1.0
MFT	Murefte	1.50	284	ePN	Pn	15 31 33.9	-0.1
MFT	Murefte	1.50	284	ePn	Pn	15 31 33.9	-0.1
MDUB	Mudurnu	1.52	88	ePN	Pn	15 31 33.3	-1.0
MDUB	Mudurnu	1.52	88	ePn	Pn	15 31 33.3	-1.0
ALT	Altintas	1.55	153	ePN	Pn	15 31 33.7	-1.0
ALT	Altintas	1.55	153	ePn	Pn	15 31 33.7	-1.0
RKY	Sarkoy-Tekirda	1.56	280	ePN	Pn	15 31 33.6	-1.2
RKY	Sarkoy-Tekirda	1.56	280	ePn	Pn	15 31 33.6	-1.2

TAP 20 15:51:03.8, 24°.06N × 121°.49E, h22km, ML3.7, 9C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=76	0.10	75	⇑iP	Pb	15 51 08.2	+0.1
TWD				iS	Sb	15 51 11.2	+0.3
HWA	**Hwalien** baz=126	0.13	127	⇑iP	Pb	15 51 08.6	+0.1
HWA				S	Sb	15 51 12.4	+0.5
ESF	**Shoufeng Towns** baz=182	0.18	175	P	Pb	15 51 08.7	-0.3
ESF				S	Sb	15 51 12.7	+0.1
WHF	**Hehuan Shan** baz=288	0.23	293	⇓iP	Pb	15 51 10.1	0.0
WHF				eS	Sb	15 51 14.5	0.0
ESL	**Shilin** baz=196	0.25	192	⇑iP	Pb	15 51 09.5	-0.3
ESL				eS	Sb	15 51 13.5	-0.5
TEGC	**Jichi Village** baz=171	0.35	173	eP	Pb	15 51 11.3	0.0
TWT	**Tachien** baz=302	0.35	304	⇓iP	Pb	15 51 12.3	+0.7
TWT				S	Sb	15 51 17.6	+0.6
NNS	**Nan Shan** baz=349	0.40	344	⇑iP	Pb	15 51 12.5	+0.1
NNS				S	Sb	15 51 18.2	0.0
ENA	**Nanau** baz=39	0.44	32	⇑iP	Pb	15 51 12.5	-0.3
ENA				eS	Sb	15 51 18.8	-0.2
SMLT	**Sun Moon Lake** baz=249	0.57	253	⇑iP	Pb	15 51 15.4	+0.1
SMLT				eS	Sb	15 51 23.3	+0.3
EHY	**Hungye** baz=190	0.57	196	eP	Pb	15 51 13.6	-1.5
EHY				eS	Sb	15 51 22.6	-0.2
ENTT	**Nioudou** baz=17	0.59	7	eP	Pb	15 51 15.3	-0.1
TYC	**Yuchr** baz=250	0.60	256	⇑iP	Pb	15 51 15.7	+0.1
TYC				S	Sb	15 51 23.6	-0.1
NSK	**Sanguang** baz=350	0.63	349	⇑iP	Pb	15 51 16.5	+0.3
NSK				eS	Sb	15 51 24.7	-0.1
TWC	**Suao** baz=31	0.64	31	P	Pb	15 51 16.1	-0.3
TWC				S	Sb	15 51 24.8	-0.1
TWF1	**Yuli** baz=192	0.72	194	eP	Pb	15 51 15.7	-2.0
NSTT	**Nanjuang** baz=323	0.73	322	eP	Pn	15 51 18.4	-0.3
NSTT				eS	Sb	15 51 27.9	+0.6
YUS	**Yu-Shan** baz=212	0.75	221	eP	Pn	15 51 19.4	-0.2
YUS				eS	Sb	15 51 29.1	+0.1
TCU	**Taichung** baz=277	0.75	277	eP	Pn	15 51 19.7	+0.7
TCU				eS	Sn	15 51 30.5	+0.8
NSY	**Sanyi** baz=304	0.76	298	iP	Pn	15 51 19.9	+0.8
NSY				eS	Sn	15 51 30.4	+0.5
WNT	**Mingjian** baz=256	0.76	257	eP	Pn	15 51 19.4	+0.2
WNT				eS	Sn	15 51 30.6	+0.7
ALS	**Alishan** baz=213	0.83	229	⇓iP	Pn	15 51 20.9	+0.4
CHN5	**Tsauling** baz=238	0.87	239	eP	Pn	15 51 21.1	+0.3
CHN5				S	Sn	15 51 33.6	+0.7
HSN	**Hsinchu** baz=338	0.88	328	eP	Pn	15 51 22.4	+1.6
HSN				eS	Sn	15 51 35.5	+2.5
TWA	**Mucha** baz=15	0.93	5	eP	Pn	15 51 21.9	+0.4
WGK	**Gukeng** baz=245	0.93	247	eP	Pn	15 51 22.2	+0.8
WGK				eS	Sn	15 51 35.8	+1.7
NCU	**National Centr** baz=344	0.95	343	eP	Pn	15 51 23.1	+1.3
NCU				eS	Sn	15 51 37.2	+2.4
CHKT	**Chengkung** baz=186	0.96	187	eP	Pb	15 51 20.1	-1.6
ELDTW	**Lidau** baz=196	0.96	207	eP	Pb	15 51 20.1	-1.8
TAP1	**Taipei** baz=17	0.98	2	eP	Pn	15 51 22.2	0.0
TWS1	**Kuangyinshan** baz=8.0	1.04	356	eP	Pb	15 51 23.6	+0.4
TWS1				eS	Sn	15 51 39.0	+2.0
NWF	**Wu-fen Shan** baz=15	1.04	15	eP	Pb	15 51 23.3	0.0
NWF				eS	Sn	15 51 37.3	+0.1
TWB1	**Santiao Chiao** baz=27	1.05	25	eP	Pb	15 51 23.4	+0.1
TWB1				eS	Sn	15 51 37.9	+0.7
CHN2	**Minshiung** baz=237	1.07	241	eP	Pb	15 51 24.4	+0.9
CHN4	**Tsaushan** baz=228	1.08	230	eP	Pb	15 51 24.7	+0.9
CHN4				eS	Sn	15 51 40.7	+2.8
WTCT	**Ta-ch'eng** baz=259	1.12	260	eP	Pb	15 51 24.9	+0.4
WTCT				eS	Sn	15 51 41.2	+2.3
CHY	**Chiayi** baz=239	1.12	241	eP	Pb	15 51 25.3	+0.8
CHY				eS	Sn	15 51 41.1	+2.2
WTP	**Ta-pu** baz=223	1.14	225	⇑iP	Pb	15 51 25.6	+0.8
WTP				eS	Sn	15 51 41.8	+2.4
TWK	**Hsinying** baz=227	1.21	230	eP	Pb	15 51 26.8	+0.7
TWK				eS	Sb	15 51 43.4	+2.1
TWY	**Chenhua** baz=9.0	1.22	5	eP	Pb	15 51 27.1	+0.9
WSF	**Szhu** baz=249	1.23	251	eP	Pn	15 51 25.6	-0.1
WSF				eS	Sb	15 51 44.2	+2.3
CHN1	**Nanshi** baz=224	1.24	226	eP	Pb	15 51 27.1	+0.6
CHN1				eS	Sb	15 51 43.6	+1.6
SGST	**Jiashian** baz=205	1.28	221	eP	Pb	15 51 28.0	+0.8
SGST				eS	Sb	15 51 45.8	+2.6
TWG	**Pinlang** baz=181	1.29	197	eP	Pn	15 51 24.5	-1.9
CHN8	**Yiju** baz=223	1.37	239	eP	Pb	15 51 29.1	+0.4
CHN8				eS	Sb	15 51 47.7	+1.9
CHN3	**Shinhua** baz=219	1.42	227	eP	Pn	15 51 28.8	+0.6
YOJ	**Yonaguni jima** baz=75	1.45	73	eP	Pn	15 51 28.2	-0.3
SCLT	**Jiali** baz=231	1.48	234	eP	Pb	15 51 30.1	-0.4
SCLT				eS	Sb	15 51 51.0	+2.2
SSD	**Sandimen** baz=223	1.52	211	eP	Pn	15 51 30.2	+0.6
SSD				eS	Sb	15 51 51.7	+1.5
ECL	**Taimali** baz=185	1.53	199	eP	Pn	15 51 27.8	-1.9
TWM1	**Shoushan** baz=211	1.57	219	eP	Pb	15 51 32.5	+0.3
EAST	**Anshuo** baz=188	1.77	200	eP	Pb	15 51 34.5	-1.0
PNG	**Penghu** baz=249	1.84	255	eP	Pn	15 51 34.3	+0.4
WDGT	**Dungji** baz=242	1.86	245	eP	Pn	15 51 33.9	-0.3
WDGT				eS	Sb	15 51 59.0	-0.8
SCZT	**Fangliau** baz=188	1.86	206	eP	Pn	15 51 35.2	+1.0
LAY	**Lan-yu** baz=168	2.01	178	eP	Pn	15 51 34.8	-1.6
TWK1	**Hengchun** baz=183	2.19	197	eP	Pn	15 51 40.5	+1.6
QZH	**Quanzhou** comp=N,70nm,0.8s	2.79	289	Pn Sn smax	Pn Sn smax	15 51 46.9 15 52 18.6	-0.1 -1.3
QZH	comp=E,60nm,0.8s			smax	smax		

ISCJB **20** *15:51:34.5±0.3, 36°.49N±0°.03 × 70°.32E±0°.05, h204km, mb3.5/12, Error ellipse: s-maj=5.9km s-min=3.6km az=153.1*
IDC **20** *15:51:34.4±3.8, 36°.35N × 70°.26E, h196km±37km, mb3.4/13, mb1 3.4/17, mb1mx3.3/32, mbtmp3.4/17, Error ellipse: s-maj=19.9km s-min=14.1km az=21.0*
NNC **20** *15:51:39.6±4.8, 36°.94N × 70°.03E, h174km±57km, mb3.0, mpv4.0, Error ellipse: s-maj=40.4km s-min=26.7km az=19.0*

ISC 20 15:51:35.6±0.5, **36°.53N**±0°.05 × **70°.33E**±0°.06, **h204**km, **n57**, σ1°**15**/73, **mb3.6**/12, **7C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	3.00	154	⇓P	Pn	15 52 25.9	+0.3
CEP				S	S	15 53 03.0	-1.1
CHCP	**Chirah Chowk**	3.75	139	P	Pn	15 52 35.1	+0.7
THW	**Thamme Wali**	3.91	162	⇓P	Pn	15 52 36.3	-0.1
SARP	**Sargodha**	4.99	156	P	Pn	15 52 49.3	-0.7
AML	**Almayashu** SNR=222	6.17	24	P	Pn	15 53 05.7	+0.3
AML	SNR=222			P	Pn	15 53 05.7	+0.3
UCH	**Uchtor** SNR=30	6.54	28	P	S	15 54 23.1	-2.1
UCH	SNR=30			P	S	15 54 23.1	-2.1
KK31	**Karatay Array** 2.0nm,0.3s,baz=176,slow=11,SNR=59	6.56	1	Pn	Pn	15 53 10.2	+0.1
KK31	8.0nm,0.4s,baz=185,slow=22,SNR=6.4			Sn	S	15 54 21.2	-3.7
EKS2	**Erkin-Say** SNR=9.2	6.67	22	P	Pn	15 53 12.3	+0.7
EKS2	SNR=9.2			P	Pn	15 53 12.3	+0.7
KZA	**Kyzart** SNR=14	6.72	33	P	Pn	15 53 12.7	+0.2
KZA	SNR=14			P	Pn	15 53 12.7	+0.2
AAK	**Ala-Archa** SNR=17	6.89	27	P	Pn	15 53 15.4	+1.0
AAK	SNR=17			P	Pn	15 53 15.4	+1.0
KBK	**Karagaybulak** SNR=5.6	7.08	29	P	Pn	15 53 18.3	+1.4
KBK	SNR=5.6			P	Pn	15 53 18.3	+1.4
ULHL	**Ulahol** SNR=7.7	7.31	37	P	Pn	15 53 21.2	+1.2
ULHL	SNR=7.7			P	Pn	15 53 21.2	+1.2
USP	**Ospenovka** SNR=8.0	7.45	24	P	Pn	15 53 21.8	+0.2
USP	SNR=8.0			P	Pn	15 53 21.8	+0.2
TKM2	**Tokmak 2** SNR=24	7.56	31	P	Pn	15 53 24.0	+0.9
TKM2	SNR=24			P	Pn	15 53 24.0	+0.9
TKM2	**Tokmak 2** 9.1nm,0.6s	7.56	31	⇑Pn	Pn	15 53 24.1	+0.9
TKM2	24nm,0.8s			⇑Sn	S	15 54 47.1	-1.7
NDI	**New Delhi**	9.75	141	eP	Pn	15 53 49.5	-2.0
NDI				eS	S	15 55 29.0	-12
MK31	**Makanchi Array** 1.9nm,0.5s,baz=218,slow=12,SNR=52	13.59	37	Pn	P	15 54 43.8	+1.4
MKAR	**Makanchi Array** 0.9nm,0.3s,baz=206,slow=10,SNR=29	13.59	37	P	Pn	15 54 40.0	-0.1
DANN	**Dangsing**	13.96	122	eP	Pn	15 54 44.0	-1.2
KOLN	**Koldanda** 14nm,0.2s	14.23	124	eP	Pn	15 54 47.2	-1.2
GKN	**Gorkha** 39nm,0.3s	14.78	121	eP	Pn	15 54 54.4	-0.7
AB31	**Akbulak array** 1.4nm,0.3s,baz=154,slow=13,SNR=191	14.80	332	Pn	Pn	15 54 54.6	-0.3
AB31				⇑Sn	S	15 57 33.5	-5.4
DMN	**Daman** 1.5nm,0.6s,baz=152,slow=25,SNR=4.1	15.35	121	eP	Pn	15 55 01.5	-0.7
KKN	**Kakani** 46nm,0.3s	15.36	120	eP	Pn	15 55 01.3	-0.9
KURK	**Kurchatov** 0.1nm,0.3s,baz=208,slow=12,SNR=6.0	15.38	20	P	Pn	15 55 00.5	-1.5
PKI	**Pulchoki** 89nm,0.5s	15.59	121	eP	P	15 55 05.0	0.0
GUN	**Gumba** 44nm,0.4s	15.71	119	eP	P	15 55 05.3	-1.1
JIRN	**Jiri** 121nm,0.5s	16.08	119	eP	P	15 55 10.6	+0.1
VOSK	**Vostochnaya** 0.6nm,0.3s	16.19	1	⇑Pn	P	15 55 12.2	+1.0
VOSK	2.1nm,1.2s			⇑Sn	S	15 58 09.8	-0.6
ZRNK	**Zerenda** 1.0nm,0.4s	16.44	357	⇑Pn	P	15 55 14.8	+0.9
ZRNK	2.4nm,1.1s			⇓Sn	S	15 58 15.8	+0.4
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=144,slow=9.6,SNR=11	16.48	331	P	P	15 55 15.1	+0.8
AKTO	0.1nm,0.3s,baz=308,slow=19,SNR=2.6			S	S	15 58 13.9	-2.4
AKTO	**Aktyubinsk** 0.3nm,0.6s	16.48	331	⇓Pn	Pn	15 55 15.9	+0.6
AKTO	1.0nm,1.4s			⇑Sn	S	15 58 14.7	-1.6
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=192,slow=11,SNR=7.9	16.49	0	P	P	15 55 15.2	+0.8
RAMN	**Ramite** 51nm,0.6s	16.80	120	eP	P	15 55 18.5	+0.2
TAPN	**Taplejung** 27nm,0.5s	17.34	117	eP	Pn	15 55 26.1	+0.1
ODAN	**Odare** 47nm,0.7s	17.41	119	eP	Pn	15 55 26.6	-0.1
ZALV	**Zalesovo Beam** 3.2nm,0.3s,baz=212,slow=11,SNR=27	20.11	25	P	P	15 55 54.7	+1.1
UMR	**Umm Al-Rimmam** comp=Z,18nm,0.4s	20.17	256	eP AMb	P AMB	15 55 54.9 15 56 02.0	+0.5
MIB	**Mutribah** comp=Z,23nm,1.0s	20.36	257	eP AMb	P AMB	15 55 56.6 15 56 00.1	+0.2
GNI	**Garni** comp=Z,3.6nm,0.4s,baz=316,slow=3.2,SNR=8.6	20.37	288	P	P	15 55 57.3	+0.7
NAY	**Al-Naaiem**	20.67	256	eP	P	15 55 59.8	0.0
BRTR	**Keskin Array B** comp=Z,0.5nm,0.5s,baz=101,slow=9.7,SNR=4.2	28.91	288	P	P	15 57 14.1	-1.5
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.5s,baz=287,slow=7.2,SNR=4.5	30.95	118	P	P	15 57 33.8	+0.2
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,baz=79,slow=7.9,SNR=7.0	32.50	309	P	P	15 57 47.2	+0.4
JOF	**Joensuu** comp=Z,3.9nm,0.4s	35.57	330	ep	P	15 58 14.5	+1.5
JOF	**Joensuu** comp=Z,3.9nm,0.4s	35.57	330	ep	P	15 58 14.5	+1.5
FINES	**FINESS Array B** comp=Z,2.8nm,0.6s,baz=122,slow=10,SNR=12	37.15	326	P	P	15 58 26.6	+0.2
KEV	**Kevo**	40.57	338	ep	P	15 58 56.2	+1.6
KEV	**Kevo**	40.57	338	ep	P	15 58 56.2	+1.6
ARCES	**ARCESS Array B** comp=Z,4.0nm,0.8s,baz=72,slow=16,SNR=19	40.91	338	P	P	15 58 58.6	+1.2
HFS	**Hagfors** comp=Z,1.9nm,0.4s,baz=98,slow=11,SNR=10	42.70	322	P	P	15 59 13.1	+1.0
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,baz=98,slow=7.9	44.03	323	P	P	15 59 23.1	+0.4
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=97,slow=7.8,SNR=4.1	44.03	323	P	P	15 59 23.0	+0.3
SPITS	**Spitsbergen Ar** comp=Z,0.8nm,0.4s,baz=116,slow=13,SNR=5.9	47.34	347	P	P	15 59 50.5	+2.2
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.4s,baz=48,slow=5.4,SNR=12	65.18	268	P	P	16 01 53.7	-1.5
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.8s,baz=351,slow=5.3,SNR=7.6	81.23	2	P	P	16 03 28.7	+0.5
WRA	**Warramunga Arr** comp=Z,0.2nm,0.7s,baz=328,slow=5.1,SNR=5.0	82.47	121	P	P	16 03 34.1	-1.3

ISCJB **20** *15:57:06.5±0.5, 50°.31N±0°.04 × 18°.82E±0°.03, h0km, Error ellipse: s-maj=5.4km s-min=2.6km az=12.1*
CSEM **20** *15:57:07.5±0.2, 50°.30N × 18°.82E, h2km, ML2.9/5, Error ellipse: s-maj=6.2km s-min=2.8km az=4.0*
IPEC **20** *15:57:07.2±0.2, 50°.25N × 18°.91E, h3km±1km, ML2.3/3, Error ellipse: s-maj=2.6km s-min=1.1km az=168.0*
WAR **20** *15:57:07.1, 50°.23N × 18°.93E*
PRU **20** *15:57:08.1, 50°.29N × 18°.82E, h0km*

ISC 20 15:57:07.1±0.8, **50°.24N**±0°.03 × **18°.90E**±0°.02, **h0**km, **n32**, σ0°**99**/57, **2C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	0.58	92	iPg	Pg	15 57 18.3	+0.1
OJC				eSg	Sg	15 57 26.4	+0.8
OJC	**Ojcow** baz=274	0.58	92	ePg	Pg	15 57 18.2	+0.1
OJC				eSg	Sg	15 57 26.4	+0.8
OKC	**Ostrava-Krasne** comp=Z,32nm,0.5s	0.63	230	ePG	Pg	15 57 19.6	+0.5
OKC				eSG	Sg	15 57 28.4	+1.1
OKC	**Ostrava-Krasne** baz=49	0.63	230	ePg	Pg	15 57 19.6	+0.5
OKC	32nm,0.5s			Sg	Sg	15 57 28.4	+1.1
MORC	**Moravsky Berou** baz=61	0.99	242	⇓iP	Pg	15 57 26.8	+0.8
MORC				S	Sg	15 57 39.0	+0.1
MORC	**Moravsky Berou** baz=61	0.99	242	ePg	Pg	15 57 26.1	+0.1
MORC	49nm,0.4s,baz=61			eSg	Sg	15 57 38.8	-0.1
NIE	**Niedzica**	1.23	131	ePg	Pg	15 57 30.5	-0.2
NIE				eSg	Sn	15 57 48.7	-0.3
KRLC	**Kraliky**	1.37	264	ePG	Pn	15 57 31.9	-1.6
KRLC				eSG	Sg	15 57 50.1	-1.0
KRLC	**Kraliky**	1.37	264	Pg	Pn	15 57 31.9	-1.6
KRLC				Sg	Sg	15 57 50.1	-1.0
DPC	**Dobruska-Polom**	1.66	275	ePG	Pn	15 57 36.8	-0.6
DPC				eSG	Sn	15 57 59.4	0.0
DPC	**Dobruska-Polom** baz=92	1.66	275	ePn	Pn	15 57 37.0	-0.4
DPC	baz=92			eSg	Sn	15 57 59.4	0.0
KOLL	**Kolacno**	1.70	191	ePN	Pg	15 57 40.6	+1.0
KOLL				eSN	Sg	15 58 01.5	0.0
STHS	**Stebnicka Huta**	1.73	118	ePN	Pg	15 57 40.1	-0.1
STHS				eSN	Sg	15 58 04.3	+1.7
STHS	**Stebnicka Huta**	1.73	118	ePn	Pg	15 57 40.1	-0.1
STHS				eSn	Sg	15 58 04.3	+1.7
VYHS	**Vyhne**	1.75	181	ePN	Pb	15 57 39.7	-0.4
VYHS				eSN	Sn	15 58 01.5	-0.2
VRAC	**Vranov**	1.76	239	⇓iP	Pb	15 57 40.1	-0.2
VRAC	**Vranov** baz=57	1.76	239	ePn	Pn	15 57 38.8	-0.1
VRAC	**Vranov**	1.76	239	⇓iP	Pb	15 57 40.1	-0.2
VRAC				S	Sn	15 58 02.3	+0.3
VRAC	33nm,0.5s,baz=57			eSg	Sb	15 58 02.7	-0.2
KSP	**Ksiaz**	1.77	291	ePn	Pb	15 57 40.8	+0.5
KSP				eSn	Sb	15 58 03.2	+0.1
KSP				eSg	Sg	15 58 06.4	+2.6
KSP	**Ksiaz**	1.77	291	ePg	Pb	15 57 40.4	+0.1
KSP				eSg	Sb	15 58 04.0	+1.0
KSP	**Ksiaz**	1.77	291	ePg	Pb	15 57 40.4	+0.1
KSP				eSg	Sb	15 58 04.0	+1.0
KRUC	**Moravsky** baz=53	2.01	235	ePn	Pn	15 57 42.6	+0.4
KRUC	14nm,0.4s,baz=53			eSn	Sn	15 58 08.9	+0.8
CRVS	**Cervenica-Dubn**	2.14	128	ePN	Pb	15 57 46.8	+0.1
CRVS				eSN	Sb	15 58 13.5	-0.3
CRVS	**Cervenica-Dubn**	2.14	128	ePn	Pb	15 57 46.8	+0.1
CRVS				eSn	Sb	15 58 13.5	-0.3
KWP	**Kalwaria Pacla**	2.54	103	⇑iP	Pg	15 57 54.4	-1.3
KWP	**Kalwaria Pacla**	2.54	103	⇑iP	Pg	15 57 54.4	-1.3
PRU	**Pruhonice** comp=Z,6.3nm,0.4s	2.81	266	eSG	Sb	15 58 34.3	+1.1
PRU	**Pruhonice** 6.3nm,0.4s	2.81	266	Sg	Sb	15 58 34.3	+1.1
BRG	**Berggiesshubel**	3.22	283	PG	Pb	15 58 06.0	+0.9
BRG				SG	Sg	15 58 49.2	-1.3

3.6nm,0.5s
KHC Kasperske Hory 3.63 254 *e*SG **Sg 15 59 00.8 -2.8**
comp=Z,9.6nm,0.6s
KHC Kasperske Hory 3.63 254 Sg **Sg 15 59 00.8 -2.8**
9.6nm,0.6s
CLL Collm 3.89 288 *e*Sg **Sg 15 59 12.0 0.0**

*ISCJB **20** 16:10:34.1±1.2,33°.65N±0°.05×141°.51E±0°.09, h40km±13km, mb3.4/3, Error ellipse: s-maj=12.6km s-min=8.7km az=170.7*
*JMA **20** 16:10:34.2±0.3,33°.68N×141°.49E, h53km, M2.9*
*IDC **20** 16:10:35.2±4.5,33°.16N×140°.25E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.2/4, ML3.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/19, Error ellipse: s-maj=178.9km s-min=22.4km az=70.0*
ISC 20 16:10:36.0±1.7,33°.65N±0°.09×141°.5E±0°.2, h36km±5km, n15,σ1§09/24, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.08**	**338**	P	**Pn**	**16 10 53.1**	**-1.0**
BSO1				*e*S	**Sn**	**16 11 07.5**	**-0.1**
BSO3	**Boso 3**	**1.39**	**326**	P	**Pn**	**16 10 57.5**	**-1.2**
BSO3				*e*S	**Sn**	**16 11 15.3**	**-0.4**
JHJ2	**Mitsune**	**1.48**	**249**	P	**Pn**	**16 10 59.6**	**-0.5**
JHJ2				*e*S	**Sn**	**16 11 18.7**	**+0.6**
BSO4	**Boso 4**	**1.63**	**326**	P	**Pn**	**16 11 02.0**	**-0.1**
KTR	**Katsuura**	**1.77**	**328**	P	**Pn**	**16 11 03.4**	**-0.7**
KTR				*e*S	**Sn**	**16 11 25.7**	**+0.4**
JIM2	**Oshima 3**	**1.99**	**303**	P	**Pn**	**16 11 05.6**	**-1.6**
JIM2				*e*S	**Sn**	**16 11 31.5**	**+0.6**
JIZS	**Izushimoda**	**2.39**	**297**	P	**Pn**	**16 11 12.0**	**-0.7**
JIZS				*e*S	**Sn**	**16 11 39.6**	**-1.1**
JOD2	**Odawara 2**	**2.54**	**310**	P	**Pn**	**16 11 13.4**	**-1.3**
JOD2				*e*S	**Sn**	**16 11 42.5**	**-1.8**
JYN	**Shimob**	**3.03**	**308**	P	**Pn**	**16 11 20.9**	**-0.6**
JYN				*e*S	**Sn**	**16 11 57.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.93**	**318**	Pn	**Pn**	**16 11 33.6**	**-0.2**
	1.8nm,0.3s,baz=164,slow=13,SNR=27						
MJAR				Sn	**Sn**	**16 12 21.0**	**+2.4**
	0.8nm,0.3s,baz=184,slow=21,SNR=4.3						
MAT	**Matsushiro**	**3.93**	**318**	P	**Pn**	**16 11 34.3**	**+0.5**
MAT				S	**Sn**	**16 12 20.1**	**+1.4**
JOW	**Kunigami**	**13.26**	**243**	LR	LR	16 17 24.9	
	comp=Z,32nm,21.5s,baz=34,slow=34						
MKAR	**Makanchi Array**	**46.02**	**305**	P	**P**	**16 18 56.0**	**+0.1**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**53.72**	**188**	P	**P**	**16 19 53.5**	**-1.1**
	0.2nm,0.4s,baz=5.0,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**57.45**	**188**	P	**P**	**16 20 22.3**	**+1.0**
	0.3nm,0.9s,baz=2.8,slow=6.7,SNR=5.5						

KRSC 20 16:11:14.2±0.4,52°.49N×162°.00E, h12km±11km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.35**	**298**	*e*P	Pn	16 11 38.7	-0.1
SPN				*i* S	Sn	16 11 56.7	+0.1
NLC	**Nalytchevo**	**1.75**	**294**	*e*P	Pn	16 11 44.8	+0.5
NLC				*i* S	Sb	16 12 07.7	-0.4
SDLR	**Sedlovina**	**2.05**	**294**	P	Pn	16 11 49.8	+1.2
SDLR				*i* S	Sb	16 12 16.2	-0.8
UGLR	**Uglovaya**	**2.06**	**292**	*e*P	Pb	16 11 50.2	-1.4
UGLR				*i* S	Sb	16 12 16.7	-0.5
MKZ	**Mys Kozlova**	**2.08**	**356**	*e*P	Pn	16 11 49.4	+0.6
MKZ				*i* S	Sn	16 12 14.5	-0.1
SMAR	**Somma**	**2.09**	**293**	*e*P	Pn	16 11 49.8	+0.5
SMAR				*i* S	Sn	16 12 15.5	+0.1
PET	**Petropavlovsk**	**2.10**	**286**	*e*P	Pn	16 11 49.8	+0.6
PET				*i* S	Sn	16 12 16.4	+1.2
AVH	**Avacha**	**2.12**	**293**	*e*P	Pn	16 11 51.0	+1.4
AVH				*i* S	Sb	16 12 18.6	-0.5
RUS	**Russkaya**	**2.13**	**270**	*e*P	Pn	16 11 50.4	+0.8
RUS				*i* S	Sn	16 12 16.0	0.0
KOK	**Koryaka**	**2.19**	**293**	*e*P	Pn	16 11 52.0	+1.5
KOK				*i* S	Sb	16 12 19.6	-1.5
MTVR	**Mutnovka**	**2.33**	**271**	*e*P	Pn	16 11 53.5	+0.9
MTVR				*i* S	Sn	16 12 21.3	0.0
ASAK	**Asacha**	**2.51**	**269**	*e*P	Pn	16 11 56.0	+1.1
ASAK				*i* S	Sn	16 12 26.7	+1.1
TUMR	**Tumrok**	**3.01**	**339**	*e*P	Pn	16 12 03.5	+1.7
TUMR				*i* S	Sn	16 12 40.3	+2.5
MIPR	**Malaya Ipel'ka**	**3.22**	**268**	*e*P	Pn	16 12 07.3	+2.7
KMNR	**Kamenistaya**	**3.43**	**343**	*e*P	Pn	16 12 10.0	+2.4
KMNR				*i* S	Sn	16 12 50.3	+2.0
KBTR	**Krutoberegovo**	**3.76**	**7**	*e*P	Pn	16 12 11.7	-0.2
KBTR				*i* S	Sn	16 12 53.4	-2.6
KLY	**Klyuchi**	**3.91**	**349**	*e*P	Pn	16 12 16.0	+2.0
KLY				*e*S	Sn	16 13 01.6	+1.8
SRDR	**Sredinnyy**	**4.06**	**342**	*e*P	Pn	16 12 18.1	+1.9
SMKR	**Semkarok**	**4.11**	**356**	*e*P	Pn	16 12 19.3	+2.4
SMKR				*i* S	Sn	16 13 07.6	+2.6
SRKR	**Sorokina**	**4.20**	**354**	*e*P	Pn	16 12 20.6	+2.5

*CSEM **20** 16:24:58.1±0.5,36°.86N×27°.90E, h2km, MD2.7, Error ellipse: s-maj=10.9km s-min=4.8km az=14.0*
*DDA **20** 16:25:00.3,36°.97N×27°.78E, h7km, MD2.7*
ISC 20 16:24:55.2±2.2,36°.75N±0°.09×27°.84E±0°.04, h5km±16km, n12,σ0§63/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.45**	**315**	*i* P	**Pb**	**16 25 06.1**	**+0.5**
BDRM				*i* S	**Sg**	**16 25 10.6**	**+0.9**
BDRM	**Kayabasi**	**0.45**	**315**	*i* P	**Pb**	**16 25 06.1**	**+0.5**
BDRM				*i* S	**Sg**	**16 25 10.6**	**+0.9**
BODT	**Bodrum**	**0.53**	**307**	*e*PG	**Pn**	**16 25 08.6**	**-0.8**
BODT				*e*SG	**Sb**	**16 25 14.7**	**-0.1**
BODT	**Bodrum**	**0.53**	**307**	*e*Pg	**Pn**	**16 25 08.6**	**-0.8**
BODT				*e*Sg	**Sb**	**16 25 14.7**	**-0.1**
YER	**Yerkesik**	**0.53**	**43**	*e*PG	**Pn**	**16 25 09.5**	**0.0**
YER				*e*SG	**Sb**	**16 25 15.8**	**+0.9**
YER	**Yerkesik**	**0.53**	**43**	*e*Pg	**Pn**	**16 25 09.5**	**0.0**
TURN	**Turunc**	**0.63**	**78**	*i* P	**Pb**	**16 25 08.8**	**+0.1**
TURN				*i* S	**Sg**	**16 25 15.1**	**-0.3**
TURN	**Turunc**	**0.63**	**78**	*i* P	**Pb**	**16 25 08.8**	**+0.1**
TURN				*i* S	**Sg**	**16 25 15.1**	**-0.3**
AYDN	**Tasoluk**	**0.91**	**2**	*i* P	**Pn**	**16 25 14.6**	**-0.1**
AYDN				*i* S	**Sg**	**16 25 23.8**	**-0.8**
AYDN	**Tasoluk**	**0.91**	**2**	*i* P	**Pn**	**16 25 14.6**	**-0.1**
AYDN				*i* S	**Sg**	**16 25 23.8**	**-0.8**
GCAM	**G?zelcaml?**	**1.06**	**333**	*i* P	**Pn**	**16 25 16.8**	**0.0**
GCAM				*i* S	**Sg**	**16 25 28.6**	**-0.9**
GCAM	**G?zelcaml?**	**1.06**	**333**	*i* P	**Pn**	**16 25 16.8**	**0.0**
GCAM				*i* S	**Sg**	**16 25 28.6**	**-0.9**

*DJA **20** 16:35:32,0°.38S×131°.78E, h10km, MLv4.0/6*
IDC 20 16:35:29.9±1.2,0°.43S×131°.77E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/17, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=81.0km s-min=22.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.55**	**173**	P	P	16 39 59.5	+0.1
	0.2nm,0.3s,baz=350,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.19**	**175**	P	P	16 40 38.4	-0.1
	1.4nm,0.6s,baz=351,slow=9.7,SNR=16						
MKAR	**Makanchi Array**	**63.84**	**324**	P	P	16 46 03.8	-0.4
	0.6nm,0.8s,baz=116,slow=8.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**66.58**	**332**	P	P	16 46 22.5	+0.6
	0.6nm,0.7s,baz=145,slow=5.3,SNR=4.1						
ILAR	**Eielson Array**	**86.69**	**25**	P	P	16 48 15.2	-0.3
	0.6nm,1.1s,baz=243,slow=6.0,SNR=4.2						

IDC 20 16:46:18.4±0.8,29°.41N×141°.49E, h0km, mb3.3/9, mb1 3.5/11, mb1mx3.5/23, mbtmp3.3/11, ML3.2/1, Error ellipse: s-maj=30.1km s-min=16.6km az=79.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.38**	**165**	Pn	Pb	16 47 00.6	-1.7
	6.7nm,0.3s,baz=288,slow=19,SNR=4.6						
CBIJ				Sn	Sn	16 47 29.1	+0.5
	16nm,0.3s,baz=287,slow=21,SNR=6.2						

MJAR	**Matsushiro Arr**	**7.63**	**340**	Pn	Pn	16 48 12.7	+1.8
	0.4nm,0.3s,baz=162,slow=12,SNR=8.7						
ZALV	**Zalesovo Beam**	**47.36**	**318**	P	P	16 54 54.7	+0.7
	0.2nm,0.4s,baz=116,slow=3.4,SNR=2.3						
MKAR	**Makanchi Array**	**48.55**	**308**	P	P	16 55 03.0	-0.5
	0.2nm,0.7s,baz=96,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**49.55**	**189**	P	P	16 55 10.4	-0.8
	0.3nm,0.6s,baz=8.7,slow=8.0,SNR=8.3						
ASAR	**Alice Springs**	**53.27**	**189**	P	P	16 55 39.1	+0.1
	0.1nm,0.6s,baz=7.5,slow=7.9,SNR=3.0						
BVAR	**Borovoye Array**	**55.94**	**316**	P	P	16 55 58.4	+0.2
	0.6nm,0.5s,baz=98,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**55.99**	**29**	P	P	16 55 57.4	-1.0
	0.2nm,0.7s,baz=255,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**70.41**	**29**	P	P	16 57 33.5	-0.6
	0.1nm,0.5s,baz=287,slow=6.4,SNR=3.1						
FINES	**FINESS Array B**	**75.61**	**333**	P	P	16 58 05.1	+0.2
	6.6nm,1.1s,baz=90,slow=3.8,SNR=3.5						
NVAR	**Mina Array Bea**	**79.57**	**52**	P	P	16 58 28.5	+0.7
	0.2nm,0.6s,baz=292,slow=5.6,SNR=3.4						
BRTR	**Keskin Array B**	**83.99**	**312**	P	P	16 58 49.8	-1.2
	0.4nm,0.6s,baz=63,slow=4.5,SNR=3.2						

*TRN **20** 17:03:47.5, 18°.08N×64°.06W, h32km, MD2.7(RSPR)*
*NEIC **20** 17:03:49.0, 18°.04N×63°.93W, h25km, MD2.7(RSPR), After RSPR.*
RSPR 20 17:03:49.0,18°.04N×63°.93W, h25km±36km, MD2.7/3, 12D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.76**	**300**	‖*e*P	Pb	17 04 01.1	-2.4
TBVI	**Tortola**	**0.76**	**300**	‖*e*P	Pb	17 04 01.1	-2.4
TBVI	**Tortola**	**0.76**	**300**	‖*e*P	Pb	17 04 01.1	-2.4
ABV	**Anegada**	**0.79**	**331**	*e*S	Sb	17 04 13.6	-0.8
ABV	**Anegada**	**0.79**	**331**	*e*S	Sb	17 04 13.6	-0.8
CDVI	**St. Croix**	**0.85**	**251**	*e*S	Sb	17 04 14.4	-1.7
CDVI	**St. Croix**	**0.85**	**251**	‖*e*P	Pb	17 04 03.3	-1.8
CDVI	**St. Croix**	**0.85**	**251**	‖*e*P	Pb	17 04 03.3	-1.8
CDVI				*e*S	Sb	17 04 14.4	-1.7
CDVI	**St. Croix**	**0.85**	**251**	‖*e*P	Pb	17 04 03.3	-1.8
CDVI				*e*S	Sb	17 04 14.4	-1.7
STVI	**Saint Thomas**	**1.02**	**288**	*e*S	Sb	17 04 17.7	-3.5
STVI	**Saint Thomas**	**1.02**	**288**	‖*e*P	Pn	17 04 04.9	-3.0
STVI	**Saint Thomas**	**1.02**	**288**	‖*e*P	Pn	17 04 04.9	-3.0
STVI				*e*S	Sb	17 04 17.7	-3.5
STVI	**Saint Thomas**	**1.02**	**288**	‖*e*P	Pn	17 04 04.9	-3.0
STVI				*e*S	Sb	17 04 17.7	-3.5
MTP	**Monte Pirata**	**1.55**	**272**	‖*e*P	Pn	17 04 13.3	-1.7
MTP	**Monte Pirata**	**1.55**	**272**	*e*S	Sn	17 04 32.0	-2.4
MTP	**Monte Pirata**	**1.55**	**272**	‖*e*P	Pn	17 04 13.3	-1.7
MTP				*e*S	Sn	17 04 32.0	-2.4
MTP	**Monte Pirata**	**1.55**	**272**	‖*e*P	Pn	17 04 13.3	-1.7
MTP				*e*S	Sn	17 04 32.0	-2.4

*ISCJB **20** 17:08:48.1±0.6,56°.81N±0°.05×154°.78W±0°.07, h61km±5km, mb4.0/23, Error ellipse: s-maj=8.9km s-min=4.9km az=147.9*
*IDC **20** 17:08:48.5±0.8,56°.94N×155°.07W, h39km±4km, mb3.7/21, mb1 3.9/22, mb1mx3.8/30, mbtmp3.7/22, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/37, Error ellipse: s-maj=21.6km s-min=11.6km az=7.0*
*NEIC **20** 17:08:48.2,56°.73N×154°.73W, h15km, mb4.2/3, ML3.8(AEIC), After AEIC.*
NEIC Felt at Akhiok.
ISC 20 17:08:47.8±0.6,56°.74N±0°.07×154°.92W±0°.05, h41km±3km, h40km:pP-P, n98,σ1§22/120, mb4.0/23, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	**Peulik 4**	**1.19**	**319**	P	**Pn**	**17 09 09.1**	**+1.1**
CAHL	**Cahill**	**1.33**	**351**	P	**Pn**	**17 09 10.4**	**+0.5**
PLK1	**Peulik 1**	**1.40**	**320**	P	**Pn**	**17 09 12.4**	**+1.6**
MGLS	**Mageik Landsli**	**1.41**	**355**	P	**Pn**	**17 09 11.3**	**+0.4**
ANCK	**Angle Creek**	**1.50**	**348**	P	**Pn**	**17 09 13.1**	**+0.9**
ANCK				S	**Sn**	**17 09 31.6**	**+1.1**
PLWL	**Peulik Whale M**	**1.52**	**330**	P	**Pn**	**17 09 14.0**	**+1.6**
KABU	**Katmai Buttres**	**1.55**	**353**	P	**Pn**	**17 09 14.0**	**+1.1**
KABU				S	**Sn**	**17 09 33.4**	**+1.6**
KAKN	**Katmai Knife C**	**1.56**	**357**	P	**Pn**	**17 09 13.7**	**+0.6**
KAKN				S	**Sn**	**17 09 34.7**	**+2.5**
KDAK	**Kodiak Island**	**1.65**	**50**	Pn	**Pn**	**17 09 13.7**	**-0.5**
	10nm,0.3s,baz=226,slow=6.6,SNR=234						
KDAK				Sn	**Sn**	**17 09 38.9**	**+4.8**
	45nm,0.3s,baz=87,slow=17,SNR=15						
KDAK				LR	LR	17 09 42.1	
	comp=Z,1μm,20.9s,baz=128,slow=34						
KDAK	**Kodiak Island**	**1.65**	**50**	Sn	Sn	17 09 38.9	+4.8
ANPK	**Aniakchak Peak**	**1.77**	**275**	P	**Pn**	**17 09 18.0**	**+2.1**
ANNW	**Aniakchak Nort**	**1.82**	**279**	P	**Pn**	**17 09 19.4**	**+2.8**
KAPH	**Katmai Pasha**	**1.89**	**9**	P	**Pn**	**17 09 18.6**	**+1.0**
KAPH				S	**Sn**	**17 09 42.2**	**+2.1**
CHGN	**Chignik**	**1.98**	**259**	*e*Pn	**Pn**	**17 09 19.2**	**+0.4**
FOPK	**Fourpeaked Vol**	**2.17**	**20**	P	**Pn**	**17 09 21.7**	**+0.3**
FOSS	**Fourpeaked Sta**	**2.17**	**17**	P	**Pn**	**17 09 22.1**	**+0.7**
VNSG	**Veniaminof 6**	**2.39**	**257**	P	**Pn**	**17 09 26.7**	**+2.2**
VNHG	**Veniaminof 1**	**2.41**	**259**	P	**Pn**	**17 09 26.7**	**+2.0**
VNFG	**Veniaminof 2**	**2.60**	**262**	P	**Pn**	**17 09 30.1**	**+2.6**
AUNW	**Augustine NWes**	**2.76**	**16**	P	**Pn**	**17 09 30.7**	**+1.3**
OPT	**Oil Point**	**3.06**	**16**	P	**Pn**	**17 09 35.0**	**+1.5**
SDPT	**Sand Point**	**3.41**	**248**	*e*Pn	Pn	17 09 42.7	+4.3
ILW	**Iliamna West**	**3.46**	**15**	P	**Pn**	**17 09 40.4**	**+1.2**
INE	**Iliamna NE**	**3.47**	**16**	P	**Pn**	**17 09 41.4**	**+1.0**
BRLK	**Bradley Lake**	**3.71**	**33**	P	**Pn**	**17 09 42.0**	**-0.6**
RSO	**Redoubt South**	**3.90**	**16**	P	**Pn**	**17 09 46.3**	**+1.0**
SEW	**Seward**	**4.43**	**38**	P	**Pn**	**17 09 51.8**	**-0.6**
BKG	**Blockade Glaci**	**4.56**	**16**	P	**Pn**	**17 09 55.1**	**+0.9**
CKL	**Chakachamna La**	**4.67**	**16**	P	**Pn**	**17 09 56.9**	**+1.2**
SPBG	**Spurr Blockage**	**4.72**	**15**	P	**Pn**	**17 09 57.7**	**+1.2**
SPNW	**Spurr Northwes**	**4.77**	**14**	P	**Pn**	**17 09 56.9**	**-0.2**
STLK	**Strandline Lak**	**5.03**	**17**	P	**Pn**	**17 10 01.5**	**+0.8**
SUA	**Susitna One**	**5.20**	**23**	P	**Pn**	**17 10 03.2**	**+0.1**
SKT	**Skwentna**	**5.54**	**17**	P	**Pn**	**17 10 08.7**	**+1.2**
TT01	**Tatalina**	**6.21**	**355**	P	**Pn**	**17 10 17.5**	**+0.7**
VLZ	**Valdez**	**6.26**	**42**	P	**Pn**	**17 10 16.5**	**-0.9**
PPLA	**Purkeypile**	**6.33**	**11**	P	**Pn**	**17 10 20.0**	**+1.4**
SCM	**Sheep Creek Mo**	**6.42**	**34**	P	**Pn**	**17 10 19.0**	**-0.8**
KLU	**Klutina**	**6.64**	**40**	P	**Pn**	**17 10 22.1**	**-0.7**
BMRM	**Bremner River**	**6.83**	**47**	*e*Pn	**Pn**	**17 10 24.5**	**-0.8**
	23nm,0.9s						
TRF	**Thorofare Moun**	**7.12**	**17**	P	**Pn**	**17 10 28.9**	**-0.5**
RND	**Reindeer**	**7.34**	**22**	P	**Pn**	**17 10 32.8**	**+0.5**
DHY	**Denali Highway**	**7.40**	**28**	P	**Pn**	**17 10 33.6**	**+0.4**
HARP	**HAARP**	**7.54**	**37**	P	**Pn**	**17 10 36.4**	**+1.4**
BALM	**Baldy**	**7.80**	**51**	P	**Pn**	**17 10 38.0**	**-0.7**
DDM	**Donnelly Dome**	**8.37**	**29**	P	**Pn**	**17 10 46.9**	**+0.4**
CCB	**Clear Creek Bu**	**8.66**	**21**	P	**Pn**	**17 10 48.8**	**-1.5**
ILAR	**Eielson Array**	**8.96**	**23**	Pn	**Pn**	**17 10 52.5**	**-2.0**
	0.5nm,0.3s,baz=216,slow=14,SNR=34						
ILAR				Sn	Sn	17 12 27.1	-6.7
	0.4nm,0.3s,baz=202,slow=23,SNR=4.6						
ILAR				LR	LR	17 14 38.8	
	comp=Z,150nm,20.0s,baz=301,slow=40						
ILAR	**Eielson Array**	**8.96**	**23**	Pn	**Pn**	**17 10 52.5**	**-2.0**
ILAR				Sn	Sn	17 12 27.1	-6.7
COLD	**Coldfoot**	**10.75**	**10**	*e*Pn	**Pn**	**17 11 19.0**	**0.0**
DLBC	**Dease Lake**	**13.44**	**72**	LR	LR	17 16 26.7	
	comp=Z,145nm,18.8s,baz=326,slow=34						
INK	**Inuvik**	**15.11**	**31**	Pn	**Pn**	**17 12 18.5**	**+0.4**
	0.5nm,0.3s,baz=229,slow=16,SNR=8.9						
INK	**Inuvik**	**15.11**	**31**	Pn	**Pn**	**17 12 18.5**	**+0.4**
YKA	**Yellowknife Ar**	**20.91**	**57**	P	**P**	**17 13 26.5**	**+0.2**
	1.7nm,0.8s,baz=271,slow=9.9,SNR=34						
YKA				sP	**sP**	**17 13 41.9**	**+0.3**
	1.5nm,0.7s,baz=271,slow=10,SNR=8.3						
YKA	**Yellowknife Ar**	**20.91**	**57**	P	**P**	**17 13 26.6**	**+0.2**
YKA				sP	**sP**	**17 13 41.9**	**+0.3**
PETK	**Petropavlovsk-**	**27.04**	**283**	P	**P**	**17 14 25.4**	**-0.3**
	0.8nm,0.4s,baz=71,slow=10,SNR=11						
PETK				sP	**sP**	**17 14 40.1**	**-1.7**
	2.7nm,0.6s,baz=76,slow=12,SNR=3.3						
PETK	**Petropavlovsk-**	**27.04**	**283**	P	**P**	**17 14 25.4**	**-0.3**
PETK				sP	**sP**	**17 14 40.1**	**-1.7**
RES	**Resolute Bay**	**28.64**	**29**	P	**P**	**17 14 39.8**	**-0.1**
	0.6nm,0.9s,baz=259,slow=10,SNR=2.7						
RES	**Resolute Bay**	**28.64**	**29**	P	**P**	**17 14 39.8**	**-0.1**
NVAR	**Mina Array Bea**	**30.24**	**112**	P	**P**	**17 14 56.3**	**+1.6**
	1.1nm,0.7s,baz=300,slow=8.3,SNR=7.5						
NVAR	**Mina Array Bea**	**30.24**	**112**	P	**P**	**17 14 56.3**	**+1.6**

FLWY	**Flagg Ranch**	**30.33**	**96**	*e*P	**P**	**17 14 58.1**	**+2.6**
	2.8nm,0.8s						
PDAR	**Pinedale Array**	**31.82**	**96**	P	**P**	**17 15 10.6**	**+1.9**
	1.7nm,0.8s,baz=328,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**31.82**	**96**	P	**P**	**17 15 10.6**	**+1.9**
ULM	**Lac du Bonnet**	**34.74**	**75**	P	**P**	**17 15 34.0**	**+0.4**
	2.9nm,1.0s,baz=317,slow=7.8,SNR=3.4						
ULM	**Lac du Bonnet**	**34.74**	**75**	P	**P**	**17 15 34.0**	**+0.4**
WUAZ	**Wupatki**	**36.06**	**107**	P	**P**	**17 15 46.7**	**+1.4**
	7.0nm,0.6s						
TXAR	**Lajitas Array**	**44.94**	**105**	P	P	**17 17 00.6**	**+2.0**
	1.1nm,0.7s,baz=311,slow=5.8,SNR=8.4						
TXAR	**Lajitas Array**	**44.94**	**105**	P	**P**	**17 17 00.6**	**+2.0**
SPITS	**Spitsbergen Ar**	**45.23**	**3**	P	**P**	**17 16 58.8**	**-1.5**
	1.5nm,0.5s,baz=123,slow=7.2,SNR=11						
SPITS	**Spitsbergen Ar**	**45.23**	**3**	P	**P**	**17 16 58.8**	**-1.5**
KSRS	**Korea Array**	**52.93**	**283**	P	**P**	**17 17 59.9**	**+0.4**
	0.7nm,0.9s,baz=44,slow=6.7,SNR=3.7						
KSAR	**Wonju Array Be**	**52.96**	**284**	P	**P**	**17 17 59.9**	**+0.1**
ARCES	**ARCESS Array B**	**54.03**	**360**	P	**P**	**17 18 06.9**	**-0.3**
	3.6nm,0.8s,baz=18,slow=9.5,SNR=3.2						
ARCES	**ARCESS Array B**	**54.03**	**360**	P	**P**	**17 18 06.9**	**-0.3**
SONM	**Songino Array**	**55.90**	**306**	P	**P**	**17 18 21.8**	**+0.6**
	1.0nm,0.6s,baz=57,slow=5.3,SNR=2.9						
SONM				pP	**pP**	**17 18 33.4**	**+0.3**
	3.1nm,0.9s,baz=23,slow=8.0,SNR=4.9						
SONM	**Songino Array**	**55.90**	**306**	P	**P**	**17 18 21.8**	**+0.6**
SONM				pP	**pP**	**17 18 33.4**	**+0.3**
ZALV	**Zalesovo Beam**	**59.41**	**324**	P	**P**	**17 18 45.7**	**+0.1**
	1.0nm,0.7s,baz=48,slow=6.4,SNR=5.9						
ZALV				pP	**pP**	**17 18 56.9**	**-0.6**
	0.7nm,0.7s,baz=53,slow=7.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**59.41**	**324**	P	**P**	**17 18 45.7**	**+0.1**
ZALV				pP	**pP**	**17 18 56.9**	**-0.6**
NOA	**NORSAR Array B**	**62.05**	**8**	P	**P**	**17 19 03.7**	**+0.2**
	0.8nm,0.8s,baz=349,slow=6.4,SNR=2.8						
NOA				pP	**pP**	**17 19 15.1**	**-0.4**
	2.1nm,0.9s,baz=351,slow=6.7,SNR=4.1						
NOA	**NORSAR Array B**	**62.05**	**8**	P	**P**	**17 19 03.7**	**+0.2**
NOA				pP	**pP**	**17 19 15.1**	**-0.4**
FINES	**FINESS Array B**	**62.15**	**359**	P	**P**	**17 19 02.9**	**-1.2**
	2.5nm,0.8s,baz=296,slow=6.1,SNR=4.2						
FINES	**FINESS Array B**	**62.15**	**359**	P	**P**	**17 19 02.9**	**-1.2**
KURK	**Kurchatov**	**64.15**	**325**	P	**P**	**17 19 17.0**	**-0.5**
	0.7nm,0.4s,baz=28,slow=6.2,SNR=3.0						
KURK				pP	**pP**	**17 19 29.7**	**+0.2**
	0.6nm,0.4s,baz=29,slow=6.7,SNR=2.0						
KURK	**Kurchatov**	**64.15**	**325**	P	**P**	**17 19 17.0**	**-0.5**
KURK				pP	**pP**	**17 19 29.7**	**+0.2**
BVAR	**Borovoye Array**	**64.47**	**332**	P	**P**	**17 19 18.6**	**-1.0**
	1.3nm,0.8s,baz=38,slow=7.5,SNR=8.3						
BVAR				pP	**pP**	**17 19 30.1**	**-1.5**
	1.9nm,0.7s,baz=34,slow=5.8,SNR=7.9						
BVAR	**Borovoye Array**	**64.47**	**332**	P	**P**	**17 19 18.6**	**-1.0**
BVAR				pP	**pP**	**17 19 30.1**	**-1.5**
MKAR	**Makanchi Array**	**66.34**	**321**	P	**P**	**17 19 30.8**	**-1.0**
	0.6nm,0.8s,baz=47,slow=7.1,SNR=7.9						
MKAR				pP	**pP**	**17 19 42.6**	**-1.2**
	0.5nm,0.7s,baz=45,slow=5.3,SNR=4.9						
MKAR	**Makanchi Array**	**66.34**	**321**	P	**P**	**17 19 30.8**	**-1.0**
MKAR				pP	**pP**	**17 19 42.6**	**-1.2**
ABKAR	**Akbulak array**	**70.48**	**337**	*e*P	**P**	**

mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=38.6km s-min=22.5km az=125.0

*NEIC **20** 17:20:24.1±0.6, 5.38S×35.73E, h10km, mb4.4/3, Error ellipse: s-maj=24.8km s-min=11.0km az=113.0*

ISC 20 17:20:23.7±0.8, 5.425±0.09×35.7E±0.2, h9km, n15, σ1995/18, mb3.8/7, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**4.54**	**20**	*e*Pn		**Pn**	**17 21 32.0**	**-0.8**
KMBO				*e*Sn		**Sn**	**17 22 20.7**	**-5.2**
KMBO				*e*Sg		**Sb**	**17 22 42.4**	**+3.8**
LBTB	**Lobatse**	**21.77**	**205**	P		**P**	**17 25 15.5**	**-0.5**
	6.8nm,0.8s,baz=39,slow=10,SNR=7.0							
LBTB	**Lobatse**	**21.77**	**205**	P		**P**	**17 25 15.5**	**-0.5**
LBTB				*e*P		**pP**	**17 25 16.4**	**-2.2**
BOSA	**Boshof**	**25.11**	**202**	P		**P**	**17 25 49.6**	**+0.5**
	5.7nm,1.0s,baz=42,slow=10,SNR=4.2							
BOSA	**Boshof**	**25.11**	**202**	*e*P		**P**	**17 25 49.7**	**+0.5**
	12nm,1.3s							
TORD	**Torodi Ar. Bea**	**38.50**	**299**	P		**P**	**17 27 47.8**	**+1.1**
	0.2nm,0.6s,baz=117,slow=8.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**38.50**	**299**	P		P	**17 27 47.8**	**+1.1**
MAW	**Mawson**	**64.78**	**169**	P		**P**	**17 31 02.7**	**+0.4**
	2.3nm,0.8s							
MK31	**Makanchi Array**	**66.30**	**33**	*e*P		**P**	**17 31 10.8**	**-1.7**
MKAR	**Makanchi Array**	**66.30**	**33**	P		**P**	**17 31 13.0**	**+0.4**
	0.5nm,0.7s,baz=229,slow=5.7,SNR=4.8							
MKAR	**Makanchi Array**	**66.30**	**33**	P		P	**17 31 13.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.66**	**67**	P		**P**	**17 31 16.9**	**+1.4**
	0.2nm,0.4s,baz=251,slow=7.5,SNR=4.9							
CMAR	**Chiang Mai Arr**	**66.66**	**67**	P		P	**17 31 16.9**	**+1.4**
KURK	**Kurchatov**	**66.97**	**28**	P		**P**	**17 31 16.6**	**-0.2**
	0.2nm,0.4s,baz=229,slow=6.9,SNR=3.1							
KURK	**Kurchatov**	**66.97**	**28**	P		P	**17 31 16.6**	**-0.2**

IDC 20 17:20:31.0±14.0, 47.91N×154.99E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.2/26, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=289.2km s-min=47.3km az=141.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.49**	**17**	Pn		Pn	17 21 54.0	0.0
	0.2nm,0.3s,baz=202,slow=14,SNR=12							
ZALV	**Zalesovo Beam**	**42.97**	**305**	P		P	17 28 31.0	-0.5
	0.2nm,0.3s,baz=83,slow=12,SNR=2.6							
MKAR	**Makanchi Array**	**47.54**	**297**	P		P	17 29 08.0	0.0
	0.3nm,0.6s,baz=68,slow=6.7,SNR=4.1							
KURK	**Kurchatov**	**47.79**	**303**	P		P	17 29 10.5	+0.8
	0.2nm,0.5s,baz=68,slow=8.6,SNR=4.7							
BVAR	**Borovoye Array**	**51.11**	**309**	P		P	17 29 35.1	+0.1
	0.2nm,0.4s,baz=46,slow=6.2,SNR=2.3							

*ISCJB **20** 17:25:39.8±1.7, 21.7S±0.2×174.3W±0.3, h30km, mb4.5/7, Error ellipse: s-maj=37.8km s-min=21.1km az=17.5*

*IDC **20** 17:25:41.7±17.0, 21.43S×174.87W, h0km, mb4.3/5, mb1 4.5/5, mb1mx3.9/20, mbtmp4.3/5, Error ellipse: s-maj=326.9km s-min=141.6km az=80.0*

*NEIC **20** 17:25:42.4±1.5, 21.65S×174.26W, h35km, mb4.8/2, Error ellipse: s-maj=34.0km s-min=19.3km az=108.0*

ISC 20 17:25:41.7±1.9, 21.7S±0.2×174.2W±0.3, h30km, n14, σ0997/14, mb4.5/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**8.27**	**203**	P		**Pn**	**17 27 40.0**	**+0.3**
CTA	**Charters Tower**	**36.90**	**265**	P		**P**	**17 32 48.9**	**+0.9**
	7.0nm,0.4s,baz=94,slow=10,SNR=26							
CTA	**Charters Tower**	**36.90**	**265**	P		P	**17 32 48.9**	**+0.9**
STKA	**Stephens Creek**	**40.51**	**246**	P		**P**	**17 33 17.2**	**-0.9**
	1.3nm,0.6s,baz=104,slow=12,SNR=5.7							
STKA	**Stephens Creek**	**40.51**	**246**	P		P	**17 33 17.2**	**-0.9**
AS31	**Alice Springs**	**47.70**	**257**	*e*P		**P**	**17 34 14.9**	**-1.1**
ASAR	**Alice Springs**	**47.70**	**257**	P		**P**	**17 34 15.3**	**-0.7**
	1.5nm,0.4s,baz=95,slow=7.3,SNR=83							
ASAR	**Alice Springs**	**47.70**	**257**	P		P	**17 34 15.3**	**-0.7**
WRAB	**Tennant Creek**	**47.93**	**262**	*e*P		**P**	**17 34 17.1**	**-0.7**
	3.9nm,0.7s							
WRA	**Warramunga Arr**	**47.94**	**262**	P		**P**	**17 34 17.4**	**-0.4**
	2.3nm,0.3s,baz=92,slow=8.5,SNR=114							
WRA	**Warramunga Arr**	**47.94**	**262**	P		P	**17 34 17.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**56.37**	**262**	P		**P**	**17 35 22.0**	**+1.5**
	0.9nm,0.4s,baz=107,slow=11,SNR=4.9							
FITZ	**Fitzroy Crossi**	**56.37**	**262**	P		P	**17 35 22.0**	**+1.5**
PMR	**Palmer**	**85.37**	**12**	*e*P		**P**	**17 38 15.5**	**0.0**
	16nm,1.1s							

IDC 20 17:27:45.8±1.0, 5.59S×35.77E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/23, mbtmp3.9/5, Error ellipse: s-maj=35.8km s-min=22.7km az=128.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBTB	**Lobatse**	**21.64**	**206**	P		P	17 32 37.8	-0.2
	12nm,0.8s,baz=43,slow=13,SNR=6.7							
BOSA	**Boshof**	**24.98**	**202**	P		P	17 33 11.1	-0.3
	4.7nm,0.8s,baz=30,slow=11,SNR=5.1							
TORD	**Torodi Ar. Bea**	**38.63**	**299**	P		P	17 35 11.8	+0.6
	0.4nm,0.7s,baz=116,slow=9.8,SNR=2.8							
MKAR	**Makanchi Array**	**66.41**	**33**	P		P	17 38 35.5	-1.3
	0.8nm,0.7s,baz=235,slow=5.6,SNR=12							
CMAR	**Chiang Mai Arr**	**66.68**	**67**	P		P	17 38 40.5	+1.4
	0.6nm,0.7s,baz=254,slow=7.9,SNR=7.2							

IDC 20 17:29:00.2±1.8, 5.83N×122.34E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.7/3, Error ellipse: s-maj=226.3km s-min=24.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.20**	**156**	P		P	17 34 54.0	-0.7
	0.4nm,0.3s,baz=332,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**31.41**	**159**	P		P	17 35 23.9	+0.6
	0.5nm,0.5s,baz=344,slow=7.2,SNR=12							
MKAR	**Makanchi Array**	**53.38**	**327**	P		P	17 38 21.5	-0.1
	0.6nm,0.5s,baz=122,slow=8.5,SNR=24							

*BJI **20** 17:34:10.8, 8.30S×112.00E, h120km, mB5.0/5, mb4.5/6*

*ISCJB **20** 17:34:12.1±0.3, 8.19S±0.05×112.07E±0.03, h132km±3km, mb4.4/34, Error ellipse: s-maj=9.3km s-min=4.5km az=16.4*

*NEIC **20** 17:34:12.7±1.2, 8.08S×112.10E, h118km±10km, mb4.5/21, Error ellipse: s-maj=13.7km s-min=5.9km az=47.0*

*IDC **20** 17:34:13.0±0.8, 8.07S×112.06E, h116km±5km, mb4.1/12, mb1 4.2/14, mb1mx4.2/19, mbtmp4.1/14, MS2.6/1, Ms1 2.6/1, ms1mx2.2/24, Error ellipse: s-maj=25.0km s-min=10.9km az=55.0*

*DJA **20** 17:34:13, 8.46S×112.06E, h82km, MLv4.9/28*

ISC 20 17:34:12.6±0.6, 8.22S±0.07×112.04E±0.05, h119km±4km, h118km:pP-P, n128, σ1915/140, mb4.6/34, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.31**	**309**	P		**Pn**	**17 34 28.4**	**-1.0**
KRKI	**Karangkates**	**0.41**	**82**	P		**Pn**	**17 34 29.9**	**+0.1**
SJI	**Sawahan**	**0.55**	**330**	P		**Pn**	**17 34 30.7**	**-0.1**
PCJI	**Pacitan**	**0.86**	**271**	P		**Pn**	**17 34 33.2**	**+0.1**
GMJI	**Gumukmas**	**1.39**	**92**	P		**Pn**	**17 34 38.2**	**-0.4**
UGM	**Wanagama**	**1.54**	**281**	P		**Pn**	**17 34 40.5**	**+0.1**
BLJI	**Banyuglugur**	**1.61**	**73**	P		**Pn**	**17 34 41.5**	**+0.4**
YOGI	**Yogyakarta**	**1.78**	**283**	P		**Pn**	**17 34 43.3**	**+0.1**
SMRI	**Semarang**	**1.97**	**306**	P		**Pn**	**17 34 46.7**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.10**	**97**	P		**Pn**	**17 34 46.6**	**-0.6**
KMMI	**Kalianget**	**2.23**	**59**	P		**Pn**	**17 34 49.5**	**+0.6**
BYJI	**Banyuwangi**	**2.29**	**90**	P		**Pn**	**17 34 50.5**	**+0.9**
BJII	**Banjamegara**	**2.47**	**291**	P		**Pn**	**17 34 52.9**	**+0.8**
NBBI	**Negara**	**2.55**	**94**	P		**Pn**	**17 34 53.9**	**+0.9**
IGBI	**Denpasar**	**3.12**	**101**	P		**Pn**	**17 35 00.6**	**+0.1**
KHKI	**Kahang-Kahang**	**3.53**	**93**	P		**Pn**	**17 35 05.1**	**-0.7**
MTNI	**Mataram**	**4.10**	**96**	P		**Pn**	**17 35 13.0**	**-0.5**
CISI	**Cisompet, Garu**	**4.24**	**279**	P		**Pn**	**17 35 16.1**	**+0.7**
LEM	**Lembang**	**4.60**	**287**	P		**Pn**	**17 35 22.3**	**+2.0**
CBJI	**Citeko**	**5.45**	**289**	P		**Pn**	**17 35 31.4**	**-0.2**
	754nm,0.7s,11μm3.4nm							
BBKI	**Banjar Baru**	**5.48**	**31**	P		**Pn**	**17 35 34.8**	**+2.8**
	583nm,0.7s,5μm2.1nm							
PBKI	**Pangkalan Bun**	**5.49**	**356**	P		Pn	17 35 35.8	+3.7
	265nm,0.9s,0.9nm							
SKJI	**Sukabumi**	**5.57**	**282**	P		**Pn**	**17 35 36.1**	**+2.8**
	427nm,0.6s,6μm1.9nm							
SBJI	**Serang**	**6.23**	**289**	P		Pn	17 35 48.8	+6.7
	216nm,1.0s,4μm0.7nm							
KBKI	**Kotabaru**	**6.38**	**40**	P		**Pn**	**17 35 46.7**	**+2.5**
	43nm,0.9s,0.1nm							
CGJI	**Cibinong**	**6.50**	**284**	P		**Pn**	**17 35 48.0**	**+2.2**
	820nm,0.6s,9μm2.7nm							
RBSI	**Rajabasa**	**6.68**	**290**	P		**Pn**	**17 35 51.0**	**+2.7**
	194nm,0.6s,2μm0.7nm							
STKI	**Sintang**	**8.25**	**356**	P		Pn	17 36 12.7	+3.2
	59nm,1.1s,0.4nm							
KAPI	**Kappang**	**8.29**	**68**	P		**Pn**	**17 36 10.9**	**+0.8**
	3.4nm,0.3s,baz=260,slow=11,SNR=11							
KAPI						LR	LR	
	comp=Z,40nm,18.9s,baz=213,slow=45							
KAPI	**Kappang**	**8.29**	**68**	*e*P		**Pn**	**17 36 09.2**	**-0.9**
	24nm,0.8s							
PPBI	**Pangkal Pinang**	**8.41**	**315**	P		Pn	17 36 22.6	+11
	40nm,1.2s,0.1nm							
BKSI	**Bulukumba**	**8.52**	**71**	P		**Pn**	**17 36 16.3**	**+3.1**
	60nm,0.7s,448nm0.2nm							
LWLI	**Liwa**	**8.54**	**291**	P		**Pn**	**17 36 16.2**	**+2.6**
	296nm,0.6s,7μm1.6nm							
KSI	**Kapahiang**	**10.44**	**295**	P		**Pn**	**17 36 40.2**	**+1.1**
	373nm,0.7s,3μm							
MRSI	**Marisa**	**13.11**	**49**	P		**P**	**17 37 20.6**	**+0.5**
	59nm,0.8s,550nm							
MBWA	**Marble Bar**	**14.85**	**151**	*e*Pn		Pn	17 37 33.6	-3.1
FITZ	**Fitzroy Crossi**	**16.47**	**128**	P		**Pn**	**17 37 56.9**	**0.0**
	1.6nm,0.3s,baz=316,slow=7.6,SNR=27							
FITZ						S	Sn	17 40 46.6	-13
	1.0nm,0.3s,baz=214,slow=18,SNR=5.6							
FITZ	**Fitzroy Crossi**	**16.47**	**128**	*e*P		**Pn**	**17 37 57.1**	**+0.3**
	35nm,0.9s							
FITZ						*e*S	Sn	17 40 46.1	-14
FITZ	**Fitzroy Crossi**	**16.47**	**128**	P		**Pn**	**17 37 56.9**	**0.0**
FITZ						S	Sn	17 40 46.6	-13
AAI	**Ambon**	**16.68**	**75**	P		**P**	**17 38 02.6**	**+2.9**
	74nm,0.7s							
WRA	**Warramunga Arr**	**24.53**	**121**	P		**P**	**17 39 21.9**	**+0.6**
	18nm,0.9s,baz=295,slow=12,SNR=76							
WRA	**Warramunga Arr**	**24.53**	**121**	P		**P**	**17 39 21.9**	**+0.6**
WRAB	**Tennant Creek**	**24.53**	**121**	*e*P		**P**	**17 39 22.1**	**+0.8**
	24nm,0.9s							
WB2	**Warramunga Arr**	**24.54**	**121**	*e*P		**P**	**17 39 21.9**	**+0.5**
ASAR	**Alice Springs**	**25.97**	**129**	P		**P**	**17 39 35.6**	**+1.2**
	12nm,0.5s,baz=304,slow=8.3,SNR=129							
ASAR						pP	**pP**	**17 40 01.4**	**+1.5**
	5.0nm,0.8s,baz=302,slow=8.5,SNR=3.0							
ASAR						PcP	**PcP**	**17 43 01.1**	**+1.1**
	1.8nm,0.6s,baz=324,slow=1.7,SNR=7.5							
ASAR						ScP	**ScP**	**17 46 28.6**	**-0.4**
	1.3nm,0.7s,baz=307,slow=2.7,SNR=5.2							
ASAR	**Alice Springs**	**25.97**	**129**	P		**P**	**17 39 35.6**	**+1.2**
ASAR						pP	**pP**	**17 40 01.4**	**+1.5**
ASAR						PcP	**PcP**	**17 43 01.1**	**+1.1**
ASAR						ScP	**ScP**	**17 46 28.6**	**-0.4**
AS31	**Alice Springs**	**25.97**	**129**	*e*P		**P**	**17 39 35.4**	**+1.0**
CM31	**Chiang Mai Arr**	**29.49**	**334**	*e*P		**P**	**17 40 06.7**	**+1.0**
	1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.49**	**334**	P		**P**	**17 40 06.7**	**+1.0**
	0.7nm,0.5s,baz=167,slow=7.9,SNR=12							
CMAR						PcP	**PcP**	**17 43 10.2**	**+1.7**
	1.1nm,0.8s,baz=182,slow=2.9,SNR=6.0							
CMAR						ScP	**ScP**	**17 46 40.4**	**+0.7**
	0.6nm,0.6s,baz=196,slow=3.7,SNR=6.4							
CMAR	**Chiang Mai Arr**	**29.49**	**334**	P		**P**	**17 40 06.7**	**+1.0**
CMAR						PcP	**PcP**	**17 43 10.2**	**+1.7**
CMAR						ScP	**ScP**	**17 46 40.4**	**+0.7**
YHNB	**Yeheng**	**33.93**	**15**	P		**P**	**17 40 46.0**	**+1.4**
PMG	**Port Moresby**	**34.71**	**95**	P		**P**	**17 40 49.9**	**-1.6**
STKA	**Stephens Creek**	**36.18**	**135**	P		**P**	**17 41 05.5**	**+1.7**
	3.2nm,0.6s,baz=306,slow=8.3,SNR=16							
STKA						pP	**pP**	**17 41 31.0**	**+0.8**
	5.7nm,0.6s,baz=315,slow=7.9,SNR=5.3							
STKA						PcP	**PcP**	**17 43 27.2**	**+0.3**
	2.7nm,0.4s,baz=333,slow=4.2,SNR=4.8							
STKA	**Stephens Creek**	**36.18**	**135**	*e*P		**P**	**17 41 05.5**	**+1.7**
	2.3nm,0.3s							
STKA	**Stephens Creek**	**36.18**	**135**	*e*P		**P**	**17 41 05.0**	**+1.1**
STKA						pP	**pP**	**17 41 31.0**	**+0.8**
STKA						PcP	**PcP**	**17 43 27.2**	**+0.3**
ENH	**Enshi**	**38.34**	**356**	P		**P**	**17 41 21.4**	**-0.8**
ODAN	**Odare**	**42.28**	**326**	*e*P		**P**	**17 41 55.0**	**+0.1**
	12nm,0.6s							
ODAN	**Odare**	**42.28**	**326**	*e*P		**P**	**17 41 55.0**	**+0.1**
	12nm,0.6s							
TAPN	**Taplejung**	**42.49**	**327**	*e*P		**P**	**17 41 56.5**	**-0.2**
	15nm,0.7s							
TAPN	**Taplejung**	**42.49**	**327**	*e*P		**P**	**17 41 56.5**	**-0.2**
	15nm,0.7s							
LSA	**Lhasa**	**42.72**	**333**	P		**P**	**17 41 57.8**	**-0.9**
LSA	**Lhasa**	**42.72**	**333**	*e*P		**P**	**17 41 60.0**	**+1.3**
	3.4nm,0.7s							
RAMN	**Ramite**	**42.79**	**326**	*e*P		**P**	**17 41 59.2**	**+0.2**
	2.3nm,0.2s							
RAMN	**Ramite**	**42.79**	**326**	*e*P		**P**	**17 41 59.2**	**+0.2**
	2.3nm,0.2s							
JIRN	**Jiri**	**43.57**	**326**	*e*P		**P**	**17 42 05.6**	**+0.2**
	14nm,0.6s							
JIRN	**Jiri**	**43.57**	**326**	*e*P		**P**	**17 42 05.6**	**+0.2**
	14nm,0.6s							
GUN	**Gumba**	**43.93**	**326**	*e*P		**P**	**17 42 08.4**	**+0.1**
	7.7nm,0.4s							
GUN	**Gumba**	**43.93**	**326**	*e*P		**P**	**17 42 08.4**	**+0.1**
	7.7nm,0.4s							
DMN	**Daman**	**44.14**	**325**	*e*P		**P**	**17 42 09.5**	**-0.3**
	7.4nm,0.6s							
DMN	**Daman**	**44.14**	**325**	*e*P		**P**	**17 42 09.5**	**-0.3**
	7.4nm,0.6s							
GKN	**Gorkha**	**44.71**	**325**	*e*P		**P**	**17 42 13.9**	**-0.3**
	7.8nm,0.3s							
GKN	**Gorkha**	**44.71**	**325**	*e*P		**P**	**17 42 13.9**	**-0.3**
	7.8nm,0.3s							
KOLN	**Koldanda**	**45.13**	**323**	*e*P		**P**	**17 42 17.3**	**-0.4**
KOLN	**Koldanda**	**45.13**	**323**	*e*P		**P**	**17 42 17.3**	**-0.4**
DANN	**Dangsing**	**45.47**	**324**	*e*P		**P**	**17 42 20.0**	**-0.5**
	3.7nm,0.3s							
DANN	**Dangsing**	**45.47**	**324**	*e*P		**P**	**17 42 20.0**	**-0.5**
	3.7nm,0.3s							
KSAR	**Wonju Array Be**	**47.78**	**17**	P		**P**	**17 42 38.4**	**+0.5**
KSRS	**Korea Array**	**47.80**	**17**	P		**P**	**17 42 38.4**	**+0.3**
	2.4nm,0.6s,baz=199,slow=8.2,SNR=14							
MAJO	**Matsushiro**	**50.85**	**27**	*e*P		**P**	**17 42 59.4**	**-1.9**
MAT	**Matsushiro**	**50.85**	**27**	P		**P**	**17 42 59.5**	**-1.8**
MJAR	**Matsushiro Arr**	**50.85**	**27**	P		**P**	**17 42 59.7**	**-1.6**
	5.0nm,0.6s,baz=205,slow=8.5,SNR=20							
MJAR	**Matsushiro Arr**	**50.85**	**27**	P		P	**17 42 59.7**	**-1.6**
USRK	**Usuriysk Arra**	**55.21**	**17**	P		**P**	**17 43 31.9**	**-1.2**
	5.0nm,0.9s,baz=195,slow=2.7,SNR=7.4							
ULN	**Ulaanbaatar**	**56.01**	**356**	*e*P		**P**	**17 43 38.5**	**-0.5**
	2.6nm,0.8s							
SONM	**Songino Array**	**56.03**	**355**	P		**P**	**17 43 39.0**	**-0.1**
	1.2nm,0.6s,baz=192,slow=11,SNR=3.1							
SONM	**Songino Array**	**56.03**	**355**	P		**P**	**17 43 39.0**	**-0.1**
TKM2	**Tokmak 2**	**60.75**	**330**	*e*P		**P**	**17 44 11.1**	**-1.0**
	0.9nm,0.4s							
MK31	**Makanchi Array**	**60.84**	**337**	*e*P		**P**	**17 44 11.3**	**-1.1**
MKAR	**Makanchi Array**	**60.84**	**337**	P		**P**	**17 44 11.8**	**-0.5**
	2.9nm,0.3s,baz=150,slow=7.0,SNR=57							
MKAR	**Makanchi Array**	**60.84**	**337**	P		P	**17 44 11.8**	**-0.5**
AAK	**Ala-Archa**	**61.10**	**329**	*e*P		**P**	**17 44 13.8**	**-0.6**
	4.8nm,0.8s							
EKS2	**Erkin-Say**	**61.48**	**329**	*e*P		**P**	**17 44 16.4**	**-0.6**
	1.6nm,0.8s							
KURK	**Kurchatov**	**65.44**	**337**	*e*P		**P**	**17 44 40.1**	**-2.5**
	3.8nm,0.8s							
ZAA0	**Zalesovo Array**	**66.06**	**343**	*e*P		**P**	**17 44 45.0**	**-1.5**
ZALV	**Zalesovo Beam**	**66.06**	**343**	P		**P**	**17 44 45.7**	**-0.8**
	4.1nm,0.3s,baz=157,slow=4.6,SNR=28							
ZALV						pP	**PcP**	**17 45 16.1**	**-0.1**
	1.1nm,0.5s,baz=151,slow=5.0,SNR=1.6							
ZALV	**Zalesovo Beam**	**66.06**	**343**	P		P	**17 44 45.7**	**-0.8**
ZALV						pP	**PcP**	**17 45 16.1**	**-0.1**
BRVK	**Borovoye**	**70.58**	**335**	P		P	17 45 10.4	-4.4
YAK	**Yakutsk**	**71.36**	**9**	*e*P		**P**	**17 45 16.3**	**-3.0**
UMR	**Umm Al-Rimmam**	**72.30**	**304**	*e*P		**P**	**17 45 24.5**	**-1.1**
UMR						AMb	AMB	17 45 25.6	
	comp=Z,33nm,0.7s							
NAY	**Al-Naaiem**	**72.59**	**304**	*e*P		**P**	**17 45 25.8**	**-1.5**
NAY						AMb	AMB	17 45 31.8	
	comp=Z,19nm,1.8s							
MIB	**Mutribah**	**72.70**	**305**	*e*P		**P**	**17 45 26.5**	**-1.4**
MIB						AMb	AMB	17 45 37.3	
	comp=Z,18nm,1.5s							
ABKAR	**Akbulak array**	**73.07**	**327**	*e*P		**P**	**17 45 28.8**	**-0.9**
	comp=Z,11nm,0.6s							
ABKAR				*e*			17 45 57.3	
ARU	**Arti**	**77.92**	**333**	*e*P		**P**	**17 45 56.1**	**-1.2**
	comp=Z,2.9nm,0.6s							
QSPA	**South Pole Qui**	**81.78**	**180**	P		**P**	**17 46 19.3**	**+1.1**
	comp=Z,4.8nm,1.2s							
LBTB	**Lobatse**	**83.38**	**246**	*e*P		**P**	**17 46 27.8**	**+0.5**
BR131	**Keskin Array S**	**86.38**	**311**	*e*P		**P**	**17 46 40.9**	**-1.1**
	comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**86.38**	**311**	P		**P**	**17 46 41.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=132,slow=7.1,SNR=15							
BRTR	**Keskin Array B**	**86.38**	**311**	P		P	**17 46 41.8**	**-0.3**
AKASG	**Malin Array Be**	**91.77**	**321**	P		**P**	**17 47 05.2**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=87,slow=4.7,SNR=4.0							
AKASG	**Malin Array Be**	**91.77**	**321**	P		**P**	**17 47 05.2**	**-1.7**
VYHS	**Vyhne**	**98.21**	**318**	PDIF		P	17 47 30.6	-5.8
TORD	**Torodi Ar. Bea**	**111.56**	**281**	PKiKP		**PKiKP**	**17 52 34.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=141,slow=0.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**111.56**	**281**	PKiKP		**PKiKP**	**17 52 34.3**	**+0.3**
YKA	**Yellowknife Ar**	**116.18**	**22**	PKP		**PKiKP**	**17 52 41.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=320,slow=1.9,SNR=12							
YKA				pPKP		pPKPdf	17 53 11.7	-1.9
	comp=Z,0.5nm,0.7s,baz=318,slow=2.0,SNR=5.2							
YKA	**Yellowknife Ar**	**116.18**	**22**	PKP		**PKiKP**	**17 52 41.7**	**+0.2**
YKA				pPKP		pPKPdf	17 53 11.7	-1.9
NVAR	**Mina Array Bea**	**125.73**	**48**	PKP		**PKiKP**	**17 53 02.5**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=263,slow=2.4,SNR=5.3							
NVAR				pPKP		**pPKPdf**	**17 53 32.8**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=234,slow=1.9,SNR=4.2							
NVAR	**Mina Array Bea**	**125.73**	**48**	PKP		**PKiKP**	**17 53 02.5**	**+1.1**
NVAR				pPKP		**pPKPdf**	**17 53 32.8**	**-0.2**
PDAR	**Pinedale Array**	**129.88**	**40**	PKP		**PKiKP**	**17 53 09.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=247,slow=3.7,SNR=3.8							
PDAR				SKPbc		SKPbc	17 56 20.1	-0.5
	comp=Z,1.1nm,1.0s,baz=222,slow=2.0,SNR=5.3							
PDAR	**Pinedale Array**	**129.88**	**40**	PKP		**PKiKP**	**17 53 09.5**	**0.0**
PDAR				SKPbc		SKPbc	17 56 20.1	-0.5
ULM	**Lac du Bonnet**	**132.09**	**24**	SKPbc		**SKPab**	**17 56 28.9**	**0.0**
	comp=Z,3.1nm,0.6s,baz=305,slow=5.0,SNR=6.8							
ULM	**Lac du Bonnet**	**132.09**	**24**	SKPbc		**SKPab**	**17 56 28.9**	**0.0**
TXAR	**Lajitas Array**	**140.44**	**53**	PKhKP		PKPpre	17 53 23.4	
	comp=Z,0.2nm,0.5s,baz=257,slow=3.6,SNR=3.6							
TXAR	**Lajitas Array**	**140.44**	**53**	PKPpre		PKPpre	17 53 23.4	
ACSO	**Alum Creek Sta**	**145.41**	**20**	*e*PKPbc		**PKPbc**	**17 53 37.0**	**-0.1**
WVT	**Waverly**	**146.82**	**30**	*e*PKPdf		**PKPdf**	**17 53 37.2**	**-2.2**
WVT				*e*PKPbc		**PKPbc**	**17 53 41.4**	**0.0**
OXF	**Oxford**	**147.23**	**34**	*e*PKPbc		**PKPbc**	**17 53 42.5**	**-0.1**
TKL	**Tuckaleechee C**	**149.09**	**26**	PKPbc		**PKPbc**	**17 53 48.3**	**+0.8**
	comp=Z,11nm,0.6s,baz=173,slow=3.4,SNR=11							
TKL				pPKPbc		**pPKPbc**	**17 54 17.9**	**-1.5**
	comp=Z,5.8nm,0.6s,baz=234,slow=8.0,SNR=2.7							
TKL	**Tuckaleechee C**	**149.09**	**26**

SEG	**Port Louis**	**2.04**	**328**	*e*P	Pn	18 36 03.4 +1.1
GRSS	**Sisters**	**2.65**	**207**	*e*P	Pn	18 36 13.1 +2.4
GRSS				*e*S	Sn	18 36 42.9 +1.3
GRHS	**Sauteurs**	**2.73**	**207**	*e*P	Pn	18 36 14.2 +2.5
GRHS				*e*S	Sn	18 36 45.0 +1.5
GRW	**Mount Saint Ca**	**2.80**	**207**	⇓*e*P	Pn	18 36 15.4 +2.6
GRW				*e*S	Sn	18 36 46.0 +0.6
TOSP	**Speyside**	**3.36**	**183**	*e*P	Pn	18 36 23.0 +2.6
TOSP				*e*S	Sn	18 37 01.1 +2.1
SKI	**Saint Kitts**	**3.50**	**320**	⇑*i*P	Pn	18 36 24.4 +2.1
SKI				*e*S	Sn	18 37 03.7 +1.2

IDC ***20*** *18:37:10.6±3.8, 36°.78N×71°.93E, h71km±28km, mb3.5/4, mb1 3.7/9, mb1mx3.3/29, mbtmp3.7/9, Error ellipse: s-maj=54.3km s-min=17.4km az=132.0*
ISCJB ***20*** *18:37:16.6±0.3, 37°.24N±0°.02×71°.97E±0°.05, h130km, mb3.5/5, Error ellipse: s-maj=5.9km s-min=3.0km az=169.4*
NEIC ***20*** *18:37:18.1±0.6, 37°.09N×72°.04E, h138km±8km, mb4.7/11, Error ellipse: s-maj=9.1km s-min=4.5km az=61.0*
NNC ***20*** *18:37:25.0±1.5, 37°.75N×71°.77E, h177km±16km, mb3.2, mpv4.5, Error ellipse: s-maj=13.4km s-min=7.9km az=17.0*

ISC 20 18:37:17.7±0.5, 37°.21N±0°.03×71°.80E±0°.06, h130km, n77, σ2§39/88, mb3.8/5, 10C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.38**	**179**	⇓P	**Pn**	**18 38 11.1**	**+1.6**
CEP				S	**Sn**	**18 38 51.0**	**+1.5**
KBL	**Kabul**	**3.48**	**221**	*e*Pn	**Pn**	**18 38 13.4**	**+2.5**
KBL				*e*Sn	**Sn**	**18 38 51.9**	**0.0**
CHCP	**Chirah Chowk**	**3.74**	**161**	P	**Pn**	**18 38 16.2**	**+2.1**
THW	**Thamme Wali**	**4.41**	**181**	P	**Pn**	**18 38 23.8**	**+0.8**
AML	**Almayashu** SNR=252	**5.12**	**16**	P	**Pn**	**18 38 34.8**	**+2.1**
AML	SNR=252			P	**Pn**	**18 38 34.8**	**+2.1**
UCH	**Uchtor** SNR=12	**5.42**	**22**	P	**Pn**	**18 38 39.1**	**+2.2**
UCH	SNR=12			P	**Pn**	**18 38 39.1**	**+2.2**
KZA	**Kyzart** SNR=50	**5.54**	**28**	P	**Pn**	**18 38 39.8**	**+1.5**
KZA	SNR=50			P	**Pn**	**18 38 39.8**	**+1.5**
EKS2	**Erkin-Say** SNR=75	**5.65**	**15**	P	**Pn**	**18 38 41.9**	**+2.3**
EKS2	SNR=75			P	**Pn**	**18 38 41.9**	**+2.3**
EKS2	**Erkin-Say** 38nm,0.6s	**5.65**	**15**	*e*Pn	**Pn**	**18 38 41.5**	**+2.0**
EKS2				*e*S	**Sn**	**18 39 40.2**	**-3.1**
AAK	**Ala-Archa** SNR=106	**5.79**	**20**	P	**Pn**	**18 38 43.8**	**+2.3**
AAK	SNR=106			P	**Pn**	**18 38 43.8**	**+2.3**
AAK	**Ala-Archa** 326nm,0.4s	**5.79**	**20**	*e*Pn	**Pn**	**18 38 43.8**	**+2.3**
AAK				*e*Sn	**Sn**	**18 39 41.8**	**-5.1**
KBK	**Karagaybulak** SNR=30	**5.95**	**23**	P	**Pn**	**18 38 46.0**	**+2.4**
KBK	SNR=30			P	**Pn**	**18 38 46.0**	**+2.4**
KK31	**Karatay Array** 42nm,0.5s,baz=176,slow=13,SNR=993	**5.97**	**351**	⇑Pn	**Pn**	**18 38 45.6**	**+1.9**
KK31	23nm,0.3s,baz=169,slow=21,SNR=16			⇑Sn	**Sn**	**18 39 49.3**	**-1.6**
KKAR	**Karatay Array** 64nm,0.4s	**5.97**	**351**	*e*Pn	**Pn**	**18 38 45.8**	**+2.1**
KKAR				*e*Sn	Sn	18 39 44.4	-6.5
ULHL	**Ulahol** SNR=26	**6.08**	**33**	P	**Pn**	**18 38 47.1**	**+1.7**
ULHL	SNR=26			P	**Pn**	**18 38 47.1**	**+1.7**
CHMS	**Chumysh** SNR=64	**6.20**	**20**	P	**Pn**	**18 38 49.1**	**+2.2**
CHMS	SNR=64			P	**Pn**	**18 38 49.1**	**+2.2**
USP	**Ospenovka** SNR=22	**6.39**	**18**	P	**Pn**	**18 38 51.0**	**+1.6**
USP	SNR=22			P	**Pn**	**18 38 51.0**	**+1.6**
TKM2	**Tokmak 2** SNR=57	**6.40**	**26**	P	**Pn**	**18 38 51.3**	**+1.6**
TKM2	SNR=57			P	**Pn**	**18 38 51.3**	**+1.6**
TKM2	**Tokmak 2** 24nm,0.6s	**6.40**	**26**	⇑Pn	**Pn**	**18 38 51.2**	**+1.5**
TKM2	11nm,1.1s			⇓Sn	**Sn**	**18 39 59.6**	**-2.0**
TKM2	**Tokmak 2** 29nm,0.6s	**6.40**	**26**	*e*Pn	**Pn**	**18 38 51.2**	**+1.5**
MK31	**Makanchi Array** 2.6nm,0.8s,baz=217,slow=14,SNR=14	**12.34**	**36**	Pn	**Pn**	**18 40 10.0**	**+1.1**
MK31	**Makanchi Array**	**12.34**	**36**	*e*Pn	**Pn**	**18 40 09.0**	**+0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=214,slow=14,SNR=14	**12.34**	**36**	P	**Pn**	**18 40 08.5**	**-0.4**
MKAR	**Makanchi Array**	**12.34**	**36**	P	**Pn**	**18 40 08.5**	**-0.4**
DANN	**Dangsing** 12nm,0.3s	**13.38**	**128**	*e*P	Pn	18 40 19.8	-3.0
DANN	**Dangsing** 12nm,0.3s	**13.38**	**128**	*e*P	Pn	18 40 19.8	-3.0
KOLN	**Koldanda** 14nm,0.4s	**13.69**	**130**	*e*P	Pn	18 40 23.6	-3.1
KOLN	**Koldanda** 14nm,0.4s	**13.69**	**130**	*e*P	Pn	18 40 23.6	-3.1
GKN	**Gorkha** 27nm,0.5s	**14.18**	**127**	*e*P	Pn	18 40 29.6	-3.2
GKN	**Gorkha** 27nm,0.5s	**14.18**	**127**	*e*P	Pn	18 40 29.6	-3.2
KURBB	**Kurchatov Arra** 1.2nm,1.1s	**14.24**	**18**	Pn	**Pn**	**18 40 32.1**	**-1.2**
KURK	**Kurchatov** 0.1nm,0.3s,baz=207,slow=12,SNR=14	**14.35**	**18**	P	**Pn**	**18 40 31.6**	**-3.1**
KURK	**Kurchatov** 8.3nm,1.1s	**14.35**	**18**	⇑Pn	**Pn**	**18 40 33.5**	**-1.2**
KURK	**Kurchatov**	**14.35**	**18**	P	**Pn**	**18 40 31.6**	**-3.1**
KKN	**Kakani**	**14.74**	**126**	*e*P	Pn	18 40 36.0	-3.9
KKN	**Kakani**	**14.74**	**126**	*e*P	Pn	18 40 36.0	-3.9
DMN	**Daman**	**14.75**	**127**	*e*P	Pn	18 40 36.9	-3.2
DMN	**Daman**	**14.75**	**127**	*e*P	Pn	18 40 36.9	-3.2
AB31	**Akbulak array** 1.2nm,0.4s,baz=134,slow=15,SNR=72	**14.79**	**328**	Pn	**Pn**	**18 40 39.9**	**-0.4**
AB31	3.8nm,0.5s,baz=315,slow=28,SNR=4.1			⇑Sn	**Sn**	**18 43 19.9**	**-4.0**
ABKAR	**Akbulak array** 2.1nm,0.3s	**14.79**	**328**	*e*Pn	**Pn**	**18 40 41.5**	**+1.2**
PKI	**Pulchoki** 7.2nm,0.2s	**14.97**	**126**	*e*P	Pn	18 40 39.8	-3.2
PKI	**Pulchoki** 7.2nm,0.2s	**14.97**	**126**	*e*P	Pn	18 40 39.8	-3.2
GUN	**Gumba**	**15.05**	**124**	*e*P	**Pn**	**18 40 41.2**	**-2.8**
GUN	**Gumba**	**15.05**	**124**	*e*P	**Pn**	**18 40 41.2**	**-2.8**
JIRN	**Jiri** 28nm,0.4s	**15.42**	**124**	*e*P	**Pn**	**18 40 45.6**	**-3.0**
JIRN	**Jiri** 28nm,0.4s	**15.42**	**124**	*e*P	**Pn**	**18 40 45.6**	**-3.0**
VOSK	**Vostochnaya** 2.9nm,0.8s	**15.52**	**358**	⇓Pn	**Pn**	**18 40 48.0**	**-1.3**
VOSK	2.4nm,1.1s			⇓Sn	**Sn**	**18 43 35.5**	**-5.9**
BVA0	**Borovoye Array** 0.7nm,0.8s,baz=154,slow=12,SNR=23	**15.84**	**357**	Pn	**Pn**	**18 40 51.7**	**-1.6**
BVA0	0.3nm,1.0s			⇓Sn	**Sn**	**18 43 42.9**	**-6.1**
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=154,slow=12,SNR=13	**15.84**	**357**	P	**Pn**	**18 40 53.4**	**+0.1**
BVAR	0.1nm,0.3s,baz=170,slow=26,SNR=6.6			S	Sn	18 43 41.6	-7.5
BVAR	**Borovoye Array**	**15.84**	**357**	P	**Pn**	**18 40 53.4**	**+0.1**
BVAR				S	Sn	18 43 41.6	-7.5
ZRNK	**Zerenda** 4.1nm,0.8s	**15.86**	**354**	⇓Pn	**Pn**	**18 40 51.7**	**-1.7**
ZRNK	2.5nm,1.0s			⇑Sn	**Sn**	**18 43 43.3**	**-6.2**
BRVK	**Borovoye** 14nm,1.5s	**15.88**	**357**	⇑Pn	**Pn**	**18 40 53.8**	**+0.1**
BRVK	2.1nm,0.8s			⇑Sn	**Sn**	**18 43 43.8**	**-6.1**
BRVK	**Borovoye** 3.5nm,0.8s	**15.88**	**357**	*e*Pn	**Pn**	**18 40 53.2**	**-0.5**
RAMN	**Ramite**	**16.16**	**125**	*e*P	**Pn**	**18 40 55.1**	**-2.6**
RAMN	**Ramite**	**16.16**	**125**	*e*P	**Pn**	**18 40 55.1**	**-2.6**
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=122,slow=8.8,SNR=15	**16.50**	**328**	P	**P**	**18 41 02.9**	**+1.2**
AKTO	0.3nm,0.3s,baz=24,slow=22,SNR=7.3			S	Sn	18 43 56.6	-8.4
AKTO	**Aktyubinsk** 0.5nm,0.6s	**16.50**	**328**	⇑Pn	**Pn**	**18 40 59.8**	**-1.7**
AKTO	0.7nm,0.7s			⇑Sn	**Sn**	**18 44 01.0**	**-3.9**
AKTO	**Aktyubinsk**	**16.50**	**328**	P	**P**	**18 41 02.9**	**+1.2**
AKTO				S	Sn	18 43 56.6	-8.4
TAPN	**Taplejung**	**16.64**	**122**	*e*P	**Pn**	**18 41 00.6**	**-3.0**
TAPN	**Taplejung**	**16.64**	**122**	*e*P	**Pn**	**18 41 00.6**	**-3.0**
ODAN	**Odare**	**16.75**	**124**	*e*P	**Pn**	**18 41 03.1**	**-1.7**
ODAN	**Odare**	**16.75**	**124**	*e*P	**Pn**	**18 41 03.1**	**-1.7**
LSA	**Lhasa** 1.8nm,0.6s	**17.78**	**109**	*e*Pn	**Pn**	**18 41 17.6**	**+0.2**
ZAA0	**Zalesovo Array**	**19.00**	**24**	*e*P	**Pn**	**18 41 30.4**	**-0.8**
ZALV	**Zalesovo Beam** 1.7nm,0.3s,baz=212,slow=11,SNR=42	**19.00**	**24**	P	**Pn**	**18 41 30.5**	**-0.7**
ZALV	0.1nm,0.3s,baz=215,slow=18,SNR=5.3			S	**Sn**	**18 45 06.2**	**+1.6**
ZALV	**Zalesovo Beam**	**19.00**	**24**	P	**Pn**	**18 41 30.5**	**-0.7**
ZALV				S	**Sn**	**18 45 06.2**	**+1.6**
ARU	**Arti** 3.6nm,0.8s	**21.18**	**339**	*e*P	**P**	**18 41 53.9**	**+1.5**
CHTO	**Chiang Mai**	**30.00**	**120**	P	P	18 43 11.0	-3.2
FINES	**FINESS Array B** 1.0nm,0.6s,baz=134,slow=11,SNR=4.3	**37.26**	**325**	P	**P**	**18 44 18.7**	**+2.3**
FINES	**FINESS Array B**	**37.26**	**325**	P	**P**	**18 44 18.7**	**+2.3**
ARCES	**ARCESS Array B** 4.6nm,1.0s,baz=108,slow=7.8,SNR=5.9	**40.74**	**337**	P	**P**	**18 44 47.5**	**+2.2**
ARCES	**ARCESS Array B**	**40.74**	**337**	P	**P**	**18 44 47.5**	**+2.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=47,slow=6.3,SNR=2.7	**66.38**	**269**	P	**P**	**18 47 53.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.38**	**269**	P	**P**	**18 47 53.0**	**+0.1**
INK	**Inuvik**	**73.10**	**10**	P	**P**	**18 48 34.1**	**+1.0**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=348,slow=5.4,SNR=5.8	**80.50**	**3**	P	**P**	**18 49 16.2**	**+1.4**
YKA	**Yellowknife Ar**	**80.50**	**3**	P	**P**	**18 49 16.2**	**+1.4**

IDC 20 18:38:26.2±2.0, 20°.72S×69°.84W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=56.0km s-min=33.4km az=9.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 1.2nm,0.3s,baz=196,slow=4.7,SNR=23	**4.70**	**20**	Pn	Pn	18 39 37.8	-1.4
SIV	**San Ignacio** 1.3nm,0.3s,baz=266,slow=12,SNR=19	**9.56**	**62**	Pn	Pn	18 40 46.5	+1.3
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=172,slow=8.0,SNR=3.6	**59.50**	**326**	P	P	18 48 32.9	+1.5
TORD	**Torodi Ar. Bea** 0.6nm,0.4s,baz=251,slow=5.4,SNR=20	**77.92**	**71**	P	P	18 50 26.7	+0.2
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=137,slow=5.1,SNR=9.6	**90.17**	**341**	P	P	18 51 25.9	-2.0
ZALV	**Zalesovo Beam** 0.4nm,0.6s,baz=329,slow=5.0,SNR=2.8	**141.61**	**24**	PKP	PKPdf	18 57 56.6	-2.6
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=299,slow=3.6,SNR=4.3	**145.50**	**35**	PKPbc	PKPdf	18 58 06.0	-0.4

IDC 20 18:57:24.8±1.1, 19°.80N×121°.55E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/15, Error ellipse: s-maj=75.9km s-min=20.7km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami** comp=Z,57nm,18.7s,baz=167,slow=37	**9.33**	**40**	LR	LR	19 03 06.2	
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=343,slow=9.1,SNR=11	**41.43**	**162**	P	P	19 05 12.9	-0.5
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=98,slow=11,SNR=3.2	**41.80**	**319**	P	P	19 05 16.4	+0.2
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=134,slow=6.2,SNR=2.1	**44.14**	**329**	P	P	19 05 34.4	-0.7
ASAR	**Alice Springs** 0.2nm,0.3s,baz=346,slow=8.1,SNR=6.3	**44.85**	**164**	P	P	19 05 41.3	+0.3
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=307,slow=4.5,SNR=4.6	**86.86**	**23**	P	P	19 10 11.4	+0.2

MEX 20 19:08:32.4±0.9, 16°.88N×95°.25W, h119km±13km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**59**	*i* P	Pn	19 08 48.9	-0.8
CMIG				*e*S	Sn	19 09 00.3	-2.4
HUIG	**Huatulco**	**1.38**	**217**	*i* P	Pn	19 08 57.7	-0.7
HUIG				*e*S	Sn	19 09 17.1	-1.0
VHO	**Vista Hermosa**	**1.44**	**278**	*i* P	Pn	19 08 58.7	-0.6
VHO				*e*S	Sn	19 09 18.0	-1.7
UTMO	**Huajuapan**	**2.62**	**292**	*i* P	Pn	19 09 12.9	-1.1
UTMO				*e*S	Sn	19 09 43.2	-2.7
PNIG	**Pinotepa**	**2.81**	**260**	*i* P	Pn	19 09 14.1	-2.0
PNIG				*e*S	Sn	19 09 48.0	-1.8

IDC 20 19:19:51.6±2.8, 0°.07S×133°.15E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, Error ellipse: s-maj=141.9km s-min=27.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=11,SNR=5.8	**19.79**	**177**	P	P	19 24 23.7	0.0
ASAR	**Alice Springs** 0.3nm,0.4s,baz=356,slow=12,SNR=15	**23.47**	**178**	P	P	19 25 03.1	+0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=104,slow=7.6,SNR=5.4	**64.35**	**324**	P	P	19 30 29.3	-0.1

ISCJB ***20*** *19:55:03.2±0.9, 46°.8N±0°.2×150°.2E±0°.2, h162km, mb3.5/15, Error ellipse: s-maj=24.8km s-min=10.2km az=151.3*
IDC ***20*** *19:55:06.2±2.2, 46°.68N×150°.17E, h189km±20km, mb3.3/15, mb1 3.4/17, mb1mx3.3/27, mbtmp3.2/17, Error ellipse: s-maj=17.0km s-min=12.3km az=146.0*

ISC 20 19:55:04.5±1.0, 46°.8N±0°.2×150°.3E±0°.1, h162km, n24, σ1§15/23, mb3.4/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=346,slow=17,SNR=2.9	**6.02**	**246**	P	**Pn**	**19 56 33.8**	**+2.3**
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=182,slow=12,SNR=12	**7.92**	**35**	P	**Pn**	**19 56 58.2**	**+1.5**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=268,slow=7.1,SNR=16	**37.73**	**39**	P	**P**	**20 02 04.2**	**+0.3**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=82,slow=10,SNR=2.5	**40.97**	**305**	P	**P**	**20 02 30.1**	**-0.8**
INK	**Inuvik** 0.8nm,0.3s,baz=287,slow=12,SNR=8.5	**42.65**	**32**	P	**P**	**20 02 45.3**	**+1.0**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=65,slow=8.4,SNR=9.9	**45.16**	**296**	P	**P**	**20 03 04.5**	**-0.2**
KURK	**Kurchatov** 0.7nm,0.5s,baz=68,slow=8.4,SNR=6.0	**45.68**	**303**	P	**P**	**20 03 08.5**	**-0.2**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=46,slow=11,SNR=3.7	**49.29**	**308**	P	**P**	**20 03 36.1**	**-0.4**
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=300,slow=7.0,SNR=8.7	**52.04**	**36**	P	**P**	**20 03 57.0**	**+0.2**
JIRN	**Jiri**	**52.98**	**273**	*e*P	**P**	**20 04 05.6**	**+0.9**
GUN	**Gumba**	**53.03**	**273**	*e*P	**P**	**20 04 05.5**	**+0.4**
RAMN	**Ramite**	**53.15**	**272**	*e*P	**P**	**20 04 06.2**	**+0.4**
DMN	**Daman**	**53.75**	**273**	*e*P	**P**	**20 04 11.1**	**+0.8**
GKN	**Gorkha**	**53.83**	**274**	*e*P	**P**	**20 04 11.3**	**+0.6**
DANN	**Dangsing** 8.0nm,0.5s	**54.21**	**275**	*e*P	**P**	**20 04 14.3**	**+0.7**
KOLN	**Koldanda**	**54.68**	**274**	*e*P	**P**	**20 04 17.7**	**+0.8**
FINES	**FINESS Array B** 2.2nm,0.7s,baz=42,slow=8.9,SNR=7.6	**63.13**	**334**	P	**P**	**20 05 12.7**	**-1.6**
NOA	**NORSAR Array B** 0.9nm,0.7s,baz=38,slow=6.7,SNR=3.3	**67.51**	**340**	P	**P**	**20 05 41.7**	**-0.8**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=12,slow=6.8,SNR=3.6	**67.98**	**196**	P	P	20 05 42.8	-3.0
AKASG	**Malin Array Be** 1.3nm,0.5s,baz=34,slow=5.8,SNR=5.6	**70.38**	**325**	P	**P**	**20 05 58.0**	**-2.3**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=9.7,slow=6.2,SNR=5.1	**71.69**	**196**	P	**P**	**20 06 06.5**	**-2.0**
SCHQ	**Schefferville**	**73.99**	**21**	P	**P**	**20 06 21.2**	**-0.5**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=94,slow=4.3,SNR=3.3	**76.97**	**315**	P	**P**	**20 06 39.9**	**+0.7**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=343,slow=2.8,SNR=2.8	**79.16**	**59**	P	**P**	**20 06 52.0**	**+0.6**

IDC ***20*** *20:07:26.3±1.9, 22°.72S×171°.03E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/28, Error ellipse: s-maj=69.4km s-min=36.4km az=177.0*
NEIC ***20*** *20:07:32.3±1.0, 22°.84S×170°.87E, h35km, mb4.4/3, Error ellipse: s-maj=30.8km s-min=16.8km az=206.0*

ISC 20 20:07:30.9±1.2, 22°.8S±0°.3×171°.0E±0°.1, h31km, n20, σ1§12/21, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 7.3nm,0.3s,baz=127,slow=18,SNR=39	**4.31**	**279**	Pn	**Pn**	**20 08 34.4**	**-0.1**
DZM	8.7nm,0.3s,baz=98,slow=20,SNR=4.7			Sn	**Sn**	**20 09 26.0**	**+2.3**
DZM	comp=Z,113nm,20.7s,baz=149,slow=35			LR	LR	20 09 55.6	
DZM	**Mont Dzumac**	**4.31**	**279**	*e*Pn	**Pn**	**20 08 32.9**	**-1.6**
DZM				*e*Sn	**Sn**	**20 09 21.8**	**-1.9**
DZM				Sn	**Sn**	**20 09 26.0**	**+2.3**
HNR	**Honiara** comp=Z,77nm,19.1s,baz=108,slow=35	**17.01**	**320**	LR	LR	20 17 12.3	
STKA	**Stephens Creek** comp=Z,59nm,20.6s,baz=204,slow=36	**27.61**	**244**	LR	LR	20 23 58.4	
COEN	**Coen** 32nm,0.9s	**27.82**	**284**	*e*P	**P**	**20 13 17.9**	**+0.3**
ASAR	**Alice Springs** 1.4nm,0.8s,baz=92,slow=9.0,SNR=16	**34.08**	**261**	P	**P**	**20 14 12.4**	**-0.4**
ASAR	**Alice Springs**	**34.08**	**261**	P	**P**	**20 14 12.4**	**-0.4**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=97,slow=8.5,SNR=6.0	**34.24**	**268**	P	**P**	**20 14 12.9**	**-1.3**
WRA	**Warramunga Arr**	**34.24**	**268**	P	**P**	**20 14 12.9**	**-1.3**
FITZ	**Fitzroy Crossi** 2.7nm,0.8s,baz=68,slow=5.4,SNR=4.3	**42.67**	**268**	P	**P**	**20 15 24.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.67**	**268**	P	**P**	**20 15 24.9**	**-0.2**
QSPA	**South Pole Qui** 2.0nm,0.8s	**67.29**	**180**	P	**P**	**20 18 22.9**	**+0.4**
CMAR	**Chiang Mai Arr** 0.8nm,0.8s,baz=138,slow=4.8,SNR=7.4	**81.48**	**294**	P	**P**	**20 19 46.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**81.48**	**294**	P	**P**	**20 19 46.0**	**+0.4**
CHTO	**Chiang Mai** 1.9nm,0.8s	**81.64**	**294**	P	**P**	**20 19 47.3**	**+0.8**
CLL	**Collm** comp=Z,6.0nm,1.2s	**146.82**	**335**	*e*PKPbc	**PKPbc**	**20 27 10.0**	**+0.2**
CLL				*e*pPKPbc	pPKPbc	20 27 22.0	+2.0
GERES	**GERESS Array B** comp=Z,1.1nm,0.9s,baz=27,slow=3.3,SNR=5.9	**148.39**	**331**	PKPbc	**PKPbc**	**20 27 14.0**	**-0.3**
GERES	**GERESS Array B**	**148.39**	**331**	PKPbc	**PKPbc**	**20 27 14.0**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=155,slow=4.8,SNR=3.2	**166.06**	**228**	PKPab	**PKPab**	**20 28 34.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**166.06**	**228**	PKPab	**PKPab**	**20 28 34.5**	**+0.5**

IDC 20 20:07:55.9±7.0, 30°.28S×177°.76W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=291.4km s-min=55.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.4nm,0.6s,baz=106,slow=7.5,SNR=7.7	**43.32**	**267**	P	P	20 15 59.7	-0.2
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=110,slow=8.2,SNR=32	**44.30**	**272**	P	P	20 16 07.7	-0.1
FINES	**FINESS Array B** 0.8nm,0.5s,baz=45,slow=5.7,SNR=8.5	**145.10**	**340**	PKPbc	PKPbc	20 27 33.2	-0.9

IDC 20 20:11:50.0±5.1, 0°.67S×131°.32E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=354.1km s-min=26.9km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=352,slow=11,SNR=4.0	**19.38**	**171**	P	P	20 16 17.3	-0.3
ASAR	**Alice Springs** 0.8nm,0.7s,baz=356,slow=11,SNR=12	**23.00**	**174**	P	P	20 16 56.9	+0.2
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=112,slow=7.8,SNR=5.2	**63.77**	**325**	P	P	20 22 23.9	0.0

TRN 20 20:25:16.1, 15°.86N×61°.61W, h3km, MD2.5, M2.1(FDF), 3C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.03**	**255**	⇓*i*P	Pg	20 25 16.9	-0.1
HMG	**Houelmont**	**0.15**	**325**	*e*P	Pg	20 25 19.2	+0.1
PHG	**Guadaloupe-2**	**0.16**	**349**	⇑*i*P	Pg	20 25 19.7	+0.4
DOG	**Dongo Capester**	**0.17**	**358**	⇑*i*P	Pg	20 25 19.9	+0.3
SCG	**Saint Claude**	**0.18**	**338**	*e*P	Pg	20 25 20.0	+0.2
BCG	**Bois Riant Cap**	**0.22**	**358**	*e*P	Pg	20 25 20.6	+0.1
MGG	**Marie-Galante**	**0.29**	**79**	⇑*i*P	Pg	20 25 21.6	-0.1
LZG	**Guadaloupe-1**	**0.32**	**331**	⇓*i*P	Pg	20 25 22.2	-0.1
SEG	**Port Louis**	**0.55**	**11**	*e*P	Pg	20 25 26.3	-0.4
MDN	**Morne-Daniel**	**0.58**	**159**	*e*P	Pg	20 25 26.7	-0.6
MDN				*e*S	Sg	20 25 34.3	-0.5
DPMT	**Pointe Michel**	**0.64**	**159**	*e*S	Sg	20 25 36.3	-0.4
DBCT	**Belle View Cho**	**0.64**	**156**	*e*S	Sg	20 25 36.7	-0.2
DFBT	**Forest Bistro**	**0.67**	**158**	*e*P	Pg	20 25 28.8	-0.1
DFBT				*e*S	Sg	20 25 36.3	-1.3
DSHT	**Scott's Head**	**0.68**	**160**	*e*S	Sg	20 25 36.6	-1.6
DEG	**La Desirade**	**0.70**	**50**	*e*P	Pg	20 25 28.0	-1.6

NNC ***20*** *20:28:41.8±1.9, 39°.14N×70°.25E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.7km s-min=12.2km az=28.0*

ISC 20 20:28:38.0±2.7, 38°.7N±0°.2×70°.3E±0°.1, h13km, n10, σ1§11/19, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=25	**4.32**	**36**	P	**Pn**	**20 29 43.6**	**-0.3**
AML	SNR=25			P	**Pn**	**20 29 43.6**	**-0.3**
KK31	**Karatay Array** 0.6nm,0.3s,baz=183,slow=13,SNR=27	**4

IDC 20 20:32:45.8±0.9, **19°33'N×145°19'E, h0**km, **mb3.7**/6, **mb1 4.0/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=76.3km s-min=20.5km az=109.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.45**	**196**	P	P	20 40 26.4	0.0
	1.6nm,0.5s,baz=17,slow=8.9,SNR=29						
ASAR	**Alice Springs**	**44.13**	**195**	P	P	20 40 55.9	-0.4
	0.5nm,0.5s,baz=14,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**63.29**	**26**	P	P	20 43 15.4	-0.8
	0.2nm,0.8s,baz=235,slow=7.6,SNR=2.2						
YKA	**Yellowknife Ar**	**77.66**	**28**	P	P	20 44 44.4	+0.5
	0.1nm,0.5s,baz=287,slow=5.6,SNR=3.6						
NVAR	**Mina Array Bea**	**83.13**	**52**	P	P	20 45 14.6	+0.4
	0.4nm,0.5s,baz=286,slow=6.2,SNR=4.4						
FINES	**FINESS Array B**	**86.11**	**335**	P	P	20 45 28.6	+0.2
	1.7nm,0.7s,baz=95,slow=4.8,SNR=5.3						

*CSEM **20** 20:51:22.6±0.2, 40.°69N×35.°30E, h20km, MD2.6, Error ellipse: s-maj=5.6km s-min=3.3km az=137.0*
*DDA **20** 20:51:22.1, 40.°61N×35.°35E, h7km, MD2.6*
*ISK **20** 20:51:22.0, 40.°71N×35.°29E, h19km, ML1.7*
*ISCJB **20** 20:51:23.2±0.5, 40.°70N±0.°05×35.°29E±0.°05, h27km±7km, Error ellipse: s-maj=8.7km s-min=4.5km az=144.6*

ISC 20 20:51:22.6±1.1, **40.69N**±0.°03×**35.30E**±0.°03, **h16**km±11km, **n18**, σ0**°76**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.39**	**260**	*e*P	**Pg**	**20 51 30.8**	**+0.1**
CTKT				*e*S	**Sb**	**20 51 37.0**	**-0.1**
CTKT	**Corum**	**0.39**	**260**	*e*P	**Pg**	**20 51 30.8**	**+0.1**
CTKT				*e*S	**Sb**	**20 51 37.0**	**-0.1**
HAVZ	**Havza**	**0.50**	**39**	*e*P	**Pb**	**20 51 33.2**	**+0.2**
HAVZ				*e*S	**Sb**	**20 51 40.7**	**+0.6**
HAVZ	**Havza**	**0.50**	**39**	*e*P	**Pb**	**20 51 33.2**	**+0.2**
HAVZ				*e*S	**Sb**	**20 51 40.7**	**+0.6**
KVT	**Kavak**	**0.69**	**55**	*e*PG	**Pg**	**20 51 36.0**	**-0.1**
KVT				*e*SG	**Sg**	**20 51 45.7**	**+0.4**
KVT	**Kavak**	**0.69**	**55**	*e*Pg	**Pg**	**20 51 36.0**	**-0.1**
KVT				*e*Sg	**Sg**	**20 51 45.7**	**+0.4**
CORM	**Corum**	**0.72**	**225**	*e*PG	**Pg**	**20 51 36.8**	**0.0**
CORM				*e*SG	**Sb**	**20 51 47.7**	**+1.2**
CORM	**Corum**	**0.72**	**225**	*e*Pg	**Pg**	**20 51 36.8**	**0.0**
CORM				*e*Sg	**Sb**	**20 51 47.7**	**+1.2**
DIKM	**Dikmen**	**0.96**	**358**	*e*PG	**Pg**	**20 51 40.5**	**-0.7**
DIKM				*e*SG	**Sb**	**20 51 54.1**	**+0.9**
DIKM	**Dikmen**	**0.96**	**358**	*e*Pg	**Pg**	**20 51 40.5**	**-0.7**
DIKM				*e*Sg	**Sb**	**20 51 54.2**	**+0.9**
TOS	**Tosya**	**1.03**	**290**	*e*PG	**Pg**	**20 51 41.8**	**-0.7**
TOS	**Tosya**	**1.03**	**290**	*e*Pg	**Pg**	**20 51 41.8**	**-0.7**
YOZ	**Yozgat**	**1.05**	**179**	*e*PG	**Pg**	**20 51 42.7**	**-0.2**
YOZ	**Yozgat**	**1.05**	**179**	*e*Pg	**Pg**	**20 51 42.7**	**-0.2**
ERBA	**Erbaa**	**1.11**	**90**	*e*P	**Pb**	**20 51 41.5**	**-1.9**
ERBA				*e*S	**Sb**	**20 51 58.4**	**+0.8**
ERBA	**Erbaa**	**1.11**	**90**	*e*P	**Pb**	**20 51 41.5**	**-1.9**
ERBA				*e*S	**Sb**	**20 51 58.4**	**+0.8**
CDAG	**Cicekdag**	**1.28**	**214**	*e*P	**Pn**	**20 51 45.9**	**0.0**
CDAG				*e*S	**Sb**	**20 52 02.7**	**+0.1**
CDAG	**Cicekdag**	**1.28**	**214**	*e*P	**Pn**	**20 51 45.9**	**0.0**
CDAG				*e*S	**Sb**	**20 52 02.7**	**+0.1**

*ISK **20** 20:51:50.7, 40.°65N×35.°34E, h2km, ML1.7*
*DDA **20** 20:51:51.2, 40.°66N×35.°31E, h7km, MD2.7*
*CSEM **20** 20:51:51.7±0.2, 40.°65N×35.°34E, h2km, MD2.7, Error ellipse: s-maj=5.5km s-min=2.7km az=146.0*

ISC 20 20:51:51.6±1.1, **40.64N**±0.°05×**35.35E**±0.°03, **h8**km±12km, **n16**, σ0**°40**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.43**	**268**	*e*P	**Pg**	**20 51 59.6**	**-0.4**
CTKT				*e*S	**Sg**	**20 52 05.2**	**-0.4**
CTKT	**Corum**	**0.43**	**268**	*e*P	**Pg**	**20 51 59.6**	**-0.4**
CTKT				*e*S	**Sg**	**20 52 05.2**	**-0.4**
HAVZ	**Havza**	**0.52**	**33**	*e*P	**Pg**	**20 52 01.8**	**+0.2**
HAVZ				*e*S	**Sg**	**20 52 09.2**	**+0.8**
HAVZ	**Havza**	**0.52**	**33**	*e*P	**Pg**	**20 52 01.8**	**+0.2**
HAVZ				*e*S	**Sg**	**20 52 09.2**	**+0.8**
KVT	**Kavak**	**0.69**	**50**	*e*PG	**Pg**	**20 52 04.4**	**-0.4**
KVT				*e*SG	**Sb**	**20 52 15.3**	**-0.3**
KVT	**Kavak**	**0.69**	**50**	*e*Pg	**Pg**	**20 52 04.4**	**-0.4**
KVT				*e*Sg	**Sb**	**20 52 15.3**	**-0.3**
CORM	**Corum**	**0.72**	**230**	*e*PG	**Pg**	**20 52 05.7**	**+0.3**
CORM				*e*SG	**Sb**	**20 52 16.2**	**-0.3**
CORM	**Corum**	**0.72**	**230**	*e*Pg	**Pg**	**20 52 05.7**	**+0.3**
CORM				*e*Sg	**Sb**	**20 52 16.2**	**-0.3**
YOZ	**Yozgat**	**1.00**	**181**	*e*PG	**Pb**	**20 52 11.2**	**-0.1**
YOZ	**Yozgat**	**1.00**	**181**	*e*Pg	**Pb**	**20 52 11.2**	**-0.1**
ERBA	**Erbaa**	**1.07**	**87**	*e*P	**Pg**	**20 52 11.6**	**-0.5**
ERBA				*e*S	**Sn**	**20 52 28.1**	**+0.1**
ERBA	**Erbaa**	**1.07**	**87**	*e*P	**Pg**	**20 52 11.6**	**-0.5**
ERBA				*e*S	**Sn**	**20 52 28.1**	**+0.1**
CDAG	**Cicekdag**	**1.26**	**217**	*e*P	**Pb**	**20 52 15.9**	**+0.2**
CDAG				*e*S	**Sb**	**20 52 32.7**	**+0.5**
CDAG	**Cicekdag**	**1.26**	**217**	*e*P	**Pb**	**20 52 15.9**	**+0.2**
CDAG				*e*S	**Sb**	**20 52 32.7**	**+0.5**
ELDT	**Eldivan**	**1.47**	**265**	*e*P	**Pg**	**20 52 19.7**	**-0.2**
ELDT				*e*S	**Sb**	**20 52 38.3**	**0.0**
ELDT	**Eldivan**	**1.47**	**265**	*e*P	**Pg**	**20 52 19.7**	**-0.2**
ELDT				*e*S	**Sb**	**20 52 38.3**	**0.0**

*IDC **20** 21:04:19.8±0.6, 7.°42N×127.°21E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/23, mbtmp4.0/10, Error ellipse: s-maj=21.2km s-min=14.5km az=86.0*
*ISCJB **20** 21:04:25.9±1.4, 7.°34N±0.°06×127.°1E±0.°1, h60km±14km, mb4.0/11, Error ellipse: s-maj=16.7km s-min=9.7km az=176.9*
*MAN **20** 21:04:26, 7.°40N×126.°81E, h1km, mb4.8, ML3.7, MS3.8*
*NEIC **20** 21:04:27.5±2.1, 7.°34N×126.°93E, h60km±19km, mb4.1/4, Error ellipse: s-maj=24.5km s-min=9.7km az=80.0*

ISC 20 21:04:29.9±2.0, **7.°32N**±0.°06×**126.°9E**±0.°2, **h80**km±18km, **n40**, σ1**°48**/48, **mb3.9**/11, **3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.74**	**240**	*e*P	Pn	21 04 40.4	-5.6
DAV	**Davao City (W)**	**1.33**	**260**	Pn	**Pn**	**21 04 52.3**	**-0.8**
	299nm,0.3s,baz=231,slow=2.1,SNR=31						
DAV				Sn	**Sn**	**21 05 14.9**	**+4.4**
	124nm,0.3s,baz=98,slow=22,SNR=7.9						
DAV	**Davao City (W)**	**1.33**	**260**	*e*Pn	**Pn**	**21 04 50.7**	**-2.3**
DAV				Sn	**Sn**	**21 05 14.9**	**+4.4**
DMPH	**Davao City--Mi**	**1.40**	**261⇑**	*e*P	**Pn**	**21 04 52.7**	**-1.2**
DMPH				*e*S	**Sn**	**21 05 12.6**	**+0.6**
KCP	**Kidapawan**	**1.82**	**260⇑**	*i*P	**Pn**	**21 04 59.5**	**0.0**
KCP				*i* S	**Sn**	**21 05 23.0**	**+1.0**
BUKP	**Musuan**	**1.91**	**287**	*e*P	**Pn**	**21 04 59.0**	**-1.6**
BUTP	**Butuan**	**2.07**	**322**	*e*P	**Pn**	**21 05 02.0**	**-0.8**
GSPH	**General Santos**	**2.29**	**238⇑**	*i*P	Pn	21 05 01.8	-4.0
GSPH				*e*S	**Sn**	**21 05 29.0**	**-4.3**
CGP	**Cagayan de Oro**	**2.46**	**298**	*e*P	**Pn**	**21 05 06.2**	**-1.7**
CGP				*i* S	**Sn**	**21 05 36.5**	**-0.7**
CTBH	**Cotabato--PC H**	**2.63**	**268**	*i*P	**Pn**	**21 05 08.2**	**-2.0**
MSLP	**Maasin**	**3.45**	**324**	*e*P	**Pn**	**21 05 20.2**	**-1.1**
TBP	**Tagbilaran**	**3.82**	**308**	*e*P	**Pn**	**21 05 26.0**	**-0.4**
TBP				*e*S	sPg	21 05 56.0	
FITZ	**Fitzroy Crossi**	**25.29**	**183**	P	**P**	**21 09 49.0**	**0.0**
	2.4nm,0.5s,baz=14,slow=15,SNR=10						
FITZ	**Fitzroy Crossi**	**25.29**	**183**	*e*P	**P**	**21 09 48.9**	**-0.1**
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**28.06**	**165**	P	**P**	**21 10 13.0**	**-0.9**
	0.7nm,0.3s,baz=339,slow=11,SNR=17						
WRA				PcP	**PcP**	**21 13 27.8**	**+0.8**
	0.5nm,0.5s,baz=335,slow=2.4,SNR=7.1						
WRA	**Warramunga Arr**	**28.06**	**165**	P	**P**	**21 10 13.0**	**-0.9**
WRA				PcP	**PcP**	**21 13 27.8**	**+0.8**
MJAR	**Matsushiro Arr**	**30.87**	**18**	P	**P**	**21 10 37.3**	**-1.4**
	1.3nm,0.7s,baz=196,slow=9.1,SNR=5.9						
MJAR	**Matsushiro Arr**	**30.87**	**18**	P	**P**	**21 10 37.3**	**-1.4**
ASAR	**Alice Springs**	**31.54**	**168**	P	**P**	**21 10 44.2**	**-0.5**
	0.9nm,0.4s,baz=339,slow=7.0,SNR=23						
ASAR				PcP	**PcP**	**21 13 36.8**	**+0.9**
	1.0nm,0.5s,baz=343,slow=2.6,SNR=14						
ASAR	**Alice Springs**	**31.54**	**168**	P	**P**	**21 10 44.2**	**-0.5**
ASAR				PcP	**PcP**	**21 13 36.8**	**+0.9**
FORT	**Forrest**	**37.89**	**178**	*e*P	**P**	**21 11 39.8**	**+0.5**
	14nm,0.3s						
NWAO	**Narrogin (SRO)**	**41.06**	**192**	P	**P**	**21 12 06.3**	**+0.6**
	6.9nm,0.5s,baz=7.2,slow=5.4,SNR=11						
NWAO	**Narrogin (SRO)**	**41.06**	**192**	*e*P	**P**	**21 12 06.3**	**+0.6**
	7.5nm,0.6s						
STKA	**Stephens Creek**	**41.42**	**161**	P	**P**	**21 12 08.5**	**-0.1**
	2.7nm,0.7s,baz=329,slow=7.3,SNR=8.2						
STKA	**Stephens Creek**	**41.42**	**161**	*e*P	**P**	**21 12 08.6**	**-0.1**
	2.7nm,0.9s						
STKA	**Stephens Creek**	**41.42**	**161**	*e*P	**P**	**21 12 08.1**	**-0.5**
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**54.75**	**324**	P	**P**	**21 13 50.8**	**-0.5**
	0.3nm,0.4s,baz=120,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**54.75**	**324**	P	**P**	**21 13 50.8**	**-0.5**
KURK	**Kurchatov**	**58.85**	**326**	P	**P**	**21 14 19.3**	**-0.8**
	0.4nm,0.3s,baz=125,slow=6.5,SNR=4.3						
KURK	**Kurchatov**	**58.85**	**326**	*e*P	**P**	**21 14 19.6**	**-0.5**
	2.2nm,1.0s						
ILAR	**Eielson Array**	**81.81**	**26**	P	**P**	**21 16 40.4**	**+0.5**
	0.7nm,0.6s,baz=246,slow=5.1,SNR=12						
ILAR	**Eielson Array**	**81.81**	**26**	P	**P**	**21 16 40.4**	**+0.5**
YKA	**Yellowknife Ar**	**96.18**	**24**	P	**P**	**21 17 49.5**	**+0.7**
	0.4nm,0.7s,baz=299,slow=4.4,SNR=9.7						
YKA	**Yellowknife Ar**	**96.18**	**24**	P	**P**	**21 17 49.5**	**+0.7**
TXAR	**Lajitas Array**	**119.24**	**51**	PKP	**PKPdf**	**21 23 12.0**	**+1.4**
	0.1nm,0.3s,baz=204,slow=2.0,SNR=3.2						
TXAR	**Lajitas Array**	**119.24**	**51**	PKP	**PKPdf**	**21 23 12.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**121.90**	**290**	PKP	**PKPdf**	**21 23 15.6**	**-0.4**
	0.5nm,0.7s,baz=50,slow=1.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**121.90**	**290**	PKP	**PKPdf**	**21 23 15.6**	**-0.4**
PLCA	**Paso Flores**	**143.26**	**158**	PKP	**PKPdf**	**21 23 55.5**	**+0.1**
	2.0nm,0.9s,baz=222,slow=5.0,SNR=3.7						
PLCA	**Paso Flores**	**143.26**	**158**	PKP	**PKPdf**	**21 23 55.5**	**+0.1**

*BJI **20** 21:09:28.4, 11.°21S×115.°49E, h35km, mb4.6/6*
*IDC **20** 21:09:31.5±0.8, 10.°46S×115.°14E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.4/20, mbtmp4.3/16, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=30.8km s-min=15.4km az=53.0*
*ISCJB **20** 21:09:33.2±0.3, 10.°74S±0.°04×115.°01E±0.°04, h31km, mb4.6/32, Error ellipse: s-maj=7.4km s-min=4.9km az=42.1*
*DJA **20** 21:09:35, 10.°73S×114.°98E, h20km, MLv4.6/16*
*NEIC **20** 21:09:36.0±0.3, 10.°61S×115.°07E, h35km, mb4.5/9, Error ellipse: s-maj=10.6km s-min=4.8km az=47.0*

ISC 20 21:09:35.2±0.5, **10.69S**±0.°06×**115.°07E**±0.°06, **h31**km, **n105**, σ1**°23**/104, **mb4.5**/31, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**1.86**	**2**	P	**Pn**	**21 10 05.7**	**+0.7**
IGBI				S	**Sn**	**21 10 29.1**	**+1.6**
MTNI	**Mataram**	**2.31**	**28**	P	**Pn**	**21 10 13.0**	**+1.8**
NBBI	**Negara**	**2.35**	**349**	P	**Pn**	**21 10 14.4**	**+2.7**
KHKI	**Kahang-Kahang**	**2.37**	**13**	P	**Pn**	**21 10 13.4**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.39**	**338**	P	**Pn**	**21 10 12.2**	**0.0**
GMJI	**Gumukmas**	**2.89**	**326**	P	**Pn**	**21 10 18.6**	**-0.5**
BLJI	**Banyuglugur**	**3.27**	**333**	P	**Pn**	**21 10 25.7**	**+1.3**
KRKI	**Karangkates**	**3.61**	**314**	P	**Pn**	**21 10 29.6**	**+0.6**
PWJI	**Pagerwojo**	**4.18**	**309**	P	**Pn**	**21 10 36.0**	**-0.8**
SJI	**Sawahan**	**4.39**	**312**	P	Pn	21 10 44.8	+4.9
UGM	**Wanagama**	**5.27**	**301**	*e*Pn	**Pn**	**21 10 52.6**	**+0.7**
BJII	**Banjamegara**	**6.26**	**302**	P	**Pn**	**21 11 08.0**	**+2.4**
	60nm,0.8s,0.2nm						
KAPI	**Kappang**	**7.30**	**40**	Pn	**Pn**	**21 11 20.8**	**+1.0**
	baz=215,slow=8.7						
KAPI				Sn	**Sn**	**21 12 40.1**	**-1.6**
	2.4nm,0.3s,baz=53,slow=20,SNR=4.9						
KAPI				LR	LR	21 14 39.9	
	comp=Z,113nm,18.3s,baz=47,slow=44						
KAPI	**Kappang**	**7.30**	**40**	Pn	**Pn**	**21 11 20.8**	**+1.0**
KAPI				Sn	**Sn**	**21 12 40.1**	**-1.6**
KAPI	**Kappang**	**7.30**	**40**	P	**Pn**	**21 11 22.1**	**+2.3**
	42nm,0.6s,798nm0.2nm						
BKSI	**Bulukumba**	**7.31**	**44**	P	**Pn**	**21 11 22.5**	**+2.6**
	11nm,0.5s,1µm0.4nm						
CISI	**Cisompet, Garu**	**7.81**	**293**	P	**Pn**	**21 11 28.3**	**+1.4**
	83nm,0.8s,0.3nm						
SPSI	**Sidrap Palu**	**8.15**	**35**	P	Pn	21 11 38.7	+7.3
CGJI	**Cibinong**	**10.12**	**293**	P	**Pn**	**21 11 57.5**	**-1.0**
	64nm,0.4s,1µm						
MBWA	**Marble Bar**	**11.33**	**157**	*e*Pn	Pn	21 12 09.1	-5.9
FITZ	**Fitzroy Crossi**	**12.61**	**127**	Pn	**Pn**	**21 12 30.8**	**-1.7**
	0.6nm,0.3s,baz=311,slow=8.1,SNR=6.6						
FITZ				Sn	Sn	21 14 39.8	-12
	1.8nm,0.3s,baz=112,slow=17,SNR=12						
FITZ	**Fitzroy Crossi**	**12.61**	**127**	Pn	**Pn**	**21 12 30.8**	**-1.7**
FITZ				Sn	Sn	21 14 39.8	-12
KSI	**Kapahiang**	**14.21**	**299**	P	**Pn**	**21 12 52.3**	**-2.3**
	58nm,0.8s,1µm						
PPI	**Padang Panjang**	**17.78**	**304**	P	P	21 13 50.8	+10
FAKI	**Fak Fak**	**18.71**	**67**	P	**P**	**21 13 50.6**	**-0.7**
	29nm,0.8s						
WRA	**Warramunga Arr**	**20.71**	**119**	P	Pn	21 14 14.5	-1.2
	7.2nm,0.9s,baz=296,slow=11,SNR=30						
WRA				S	S	21 17 54.7	-8.4
	0.6nm,0.7s,baz=285,slow=24,SNR=5.4						
WRA	**Warramunga Arr**	**20.71**	**119**	P	Pn	21 14 14.5	-1.2
WRA				S	S	21 17 54.7	-8.4
WRAB	**Tennant Creek**	**20.72**	**119**	*e*P	Pn	21 14 14.6	-1.2
	6.7nm,0.7s						
WRAB				*e*S	**S**	**21 17 58.4**	**-4.8**
ASAR	**Alice Springs**	**22.10**	**128**	P	**P**	**21 14 29.6**	**+1.5**
	2.3nm,0.7s,baz=306,slow=9.9,SNR=18						
ASAR				S	**S**	**21 18 29.0**	**-1.3**
	1.1nm,0.8s,baz=303,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**22.10**	**128**	P	**P**	**21 14 29.6**	**+1.5**
ASAR				S	**S**	**21 18 29.0**	**-1.3**
AS31	**Alice Springs**	**22.10**	**128**	*e*P	**P**	**21 14 29.3**	**+1.2**
AS31				*e*S	**S**	**21 18 29.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**22.22**	**175**	S	S	21 18 20.9	-11
	6.9nm,0.5s,baz=269,slow=19,SNR=4.5						
NWAO	**Narrogin (SRO)**	**22.22**	**175**	*e*P	**P**	**21 14 30.2**	**+1.0**
NWAO				S	S	21 18 20.9	-11
FORT	**Forrest**	**23.35**	**151**	*e*P	**P**	**21 14 42.0**	**+1.0**
	24nm,0.9s						
STKA	**Stephens Creek**	**32.32**	**135**	P	**P**	**21 16 03.1**	**+1.5**
	5.0nm,0.8s,baz=323,slow=7.4,SNR=10.0						
STKA	**Stephens Creek**	**32.32**	**135**	P	**P**	**21 16 03.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**33.05**	**331**	P	**P**	**21 16 08.6**	**+0.5**
	1.7nm,0.6s,baz=161,slow=8.7,SNR=17						
CMAR	**Chiang Mai Arr**	**33.05**	**331**	P	**P**	**21 16 08.6**	**+0.5**
ODAN	**Odare**	**46.00**	**325**	*e*P	**P**	**21 17 55.6**	**-0.6**
ODAN	**Odare**	**46.00**	**325**	*e*P	**P**	**21 17 55.6**	**-0.6**
TAPN	**Taplejung**	**46.20**	**325**	*e*P	**P**	**21 17 57.6**	**-0.2**
	21nm,0.8s						
TAPN	**Taplejung**	**46.20**	**325**	*e*P	**P**	**21 17 57.6**	**-0.2**
	21nm,0.8s						
LSA	**Lhasa**	**46.30**	**331**	P	**P**	**21 17 57.8**	**-1.0**
LSA	**Lhasa**	**46.30**	**331**	*e*P	**P**	**21 17 59.5**	**+0.6**
	5.7nm,0.9s						
RAMN	**Ramite**	**46.52**	**324**	*e*P	**P**	**21 17 59.8**	**-0.5**
	18nm,0.9s						
RAMN	**Ramite**	**46.52**	**324**	*e*P	**P**	**21 17 59.8**	**-0.5**
	18nm,0.9s						
JIRN	**Jiri**	**47.30**	**324**	*e*P	**P**	**21 18 06.0**	**-0.5**
	40nm,0.6s						
JIRN	**Jiri**	**47.30**	**324**	*e*P	**P**	**21 18 06.0**	**-0.5**
	40nm,0.6s						
GUN	**Gumba**	**47.66**	**324**	*e*P	**P**	**21 18 08.9**	**-0.4**
	35nm,0.6s						
GUN	**Gumba**	**47.66**	**324**	*e*P	**P**	**21 18 08.9**	**-0.4**
	35nm,0.6s						
PKI	**Pulchoki**	**47.68**	**324**	*e*P	**P**	**21 18 08.3**	**-1.1**
PKI	**Pulchoki**	**47.68**	**324**	*e*P	**P**	**21 18 08.3**	**-1.1**
DMN	**Daman**	**47.88**	**323**	*e*P	**P**	**21 18 10.0**	**-0.9**
	25nm,0.7s						
DMN	**Daman**	**47.88**	**323**	*e*P	**P**	**21 18 10.0**	**-0.9**
	25nm,0.7s						
KKN	**Kakani**	**47.92**	**324**	*e*P	**P**	**21 18 10.2**	**-0.9**
	12nm,0.7s						
KKN	**Kakani**	**47.92**	**324**	*e*P	**P**	**21 18 10.2**	**-0.9**
	12nm,0.7s						
GKN	**Gorkha**	**48.45**	**323**	*e*P	**P**	**21 18 14.4**	**-0.8**
	12nm,0.5s						
GKN	**Gorkha**	**48.45**	**323**	*e*P	**P**	**21 18 14.4**	**-0.8**
	12nm,0.5s						
KOLN	**Koldanda**	**48.90**	**322**	*e*P	**P**	**21 18 17.7**	**-1.0**
	19nm,0.6s						
KOLN	**Koldanda**	**48.90**	**322**	*e*P	**P**	**21 18 17.7**	**-1.0**
	19nm,0.6s						
DANN	**Dangsing**	**49.23**	**323**	*e*P	**P**	**21 18 20.4**	**-0.9**
	33nm,0.6s						
DANN	**Dangsing**	**49.23**	**323**	*e*P	**P**	**21 18 20.4**	**-0.9**
	33nm,0.6s						
KSAR	**Wonju Array Be**	**49.37**	**13**	P	**P**	**21 18 21.4**	**-0.3**
KSRS	**Korea Array**	**49.39**	**13**	P	**P**	**21 18 21.4**	**-0.5**
	2.3nm,0.8s,baz=196,slow=6.6,SNR=11						
MAT	**Matsushiro**	**51.79**	**24**	P	**P**	**21 18 38.2**	**-1.9**
MJAR	**Matsushiro Arr**	**51.79**	**24**	P	**P**	**21 18 38.3**	**-1.8**
	4.4nm,0.7s,baz=204,slow=8.7,SNR=19						
MJAR				PcP	**PcP**	**21 19 54.4**	**+1.4**
	0.6nm,0.5s,baz=217,slow=2.3,SNR=2.8						
MJAR	**Matsushiro Arr**	**51.79**	**24**	P	**P**	**21 18 38.3**	**-1.8**
MJAR				PcP	**PcP**	**21 19 54.4**	**+1.4**
GTA	**Gaotai**	**51.83**	**345**	*e*P	**P**	**21 18 41.3**	**+0.8**
GTA				pP	**pP**	**21 18 50.9**	**+0.9**
GTA				sP	**sP**	**21 18 54.8**	**+1.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
USRK	**Ussuriysk Arra**	**56.75**	**15**	P	**P**	**21 19 14.6**	**-1.5**
	comp=Z,4.4nm,0.6s,baz=190,slow=7.5,SNR=12						
ULN	**Ulaanbaatar**	**58.73**	**354**	*e*P	**P**	**21 19 30.0**	**-0.2**
	comp=Z,3.4nm,1.0s						
SONM	**Songino Array**	**58.77**	**353**	P	**P**	**21 19 30.0**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=175,slow=8.0,SNR=4.2						
SONM				PcP	**PcP**	**21 20 21.1**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=159,slow=4.3,SNR=3.0						
SONM	**Songino Array**	**58.77**	**353**	P	**P**	**21 19 30.0**	**-0.4**
SONM				PcP	**PcP**	**21 20 21.1**	**+1.2**
KBL	**Kabul**	**62.66**	**318**	*e*P	**P**	**21 19 56.6**	**-0.7**
	comp=Z,3.5nm,0.9s						
MK31	**Makanchi Array**	**64.29**	**336**	*e*P	**P**	**21 20 07.0**	**-0.6**
MKAR	**Makanchi Array**	**64.29**	**336**	P	**P**	**21 20 07.2**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=149,slow=7.3,SNR=72						
MKAR	**Makanchi Array**	**64.29**	**336**	P	**P**	**21 20 07.2**	**-0.4**
TKM2	**Tokmak 2**	**64.39**	**329**	*e*P	**P**	**21 20 08.8**	**+0.3**
	comp=Z,18nm,1.9s						
EKS2	**Erkin-Say**	**65.15**	**328**	*e*P	**P**	**21 20 14.0**	**+0.6**
	comp=Z,5.2nm,0.9s						
KURK	**Kurchatov**	**68.88**	**336**	P	**P**	**21 20 36.5**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=153,slow=5.6,SNR=15						
KURK	**Kurchatov**	**68.88**	**336**	*e*P	**P**	**21 20 35.4**	**-1.4**
	comp=Z,2.3nm,0.6s						
ZAA0	**Zalesovo Array**	**69.32**	**341**	*e*P	**P**	**21 20 38.0**	**-1.4**
ZALV	**Zalesovo Beam**	**69.32**	**341**	P	**P**	**21 20 38.4**	**-1.0**
	comp=Z,3.3nm,0.5s,baz=154,slow=4.7,SNR=21						
ZALV	**Zalesovo Beam**	**69.32**	**341**	P	**P**	**21 20 38.4**	**-1.0**
PETK	**Petropavlovsk-**	**73.21**	**25**	P	**P**	**21 21 03.9**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=210,slow=8.1,SNR=3.1						
PETK	**Petropavlovsk-**	**73.21**	**25**	P	**P**	**21 21 03.9**	**+0.9**
BVAR	**Borovoye Array**	**74.03**	**334**	P	**P**	**21 21 08.1**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=140,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**74.03**	**334**	P	**P**	**21 21 08.1**	**+0.3**
BRVK	**Borovoye**	**74.09**	**334**	*e*P	**P**	**21 21 08.6**	**+0.4**
	comp=Z,3.8nm,1.0s						
ABKAR	**Akbulak array**	**76.77**	**326**	*e*P	**P**	**21 21 23.8**	**+0.2**
AKTO	**Aktyubinsk**	**78.46**	**327**	P	**P**	**21 21 33.4**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=92,slow=6.0,SNR=13						
AKTO	**Aktyubinsk**	**78.46**	**327**	P	**P**	**21

comp=Z,0.1nm,0.3s,baz=7.0,slow=11,SNR=7.6
CMAR Chiang Mai Arr 14.17 201 Pn Pn 21 24 01.9 +2.8
TAPN Taplejung 15.13 257 *eP* **Pn 21 24 11.6 -0.8**
TAPN Taplejung 15.13 257 *eP* **Pn 21 24 11.6 -0.8**
ODAN Odare 15.57 256 *eP* **Pn 21 24 16.3 -1.9**
comp=Z,13nm,0.8s
ODAN Odare 15.57 256 *eP* **Pn 21 24 16.3 -1.9**
comp=Z,13nm,0.8s
SONM Songino Array 16.07 5 Pn **Pn 21 24 23.5 -0.8**
comp=Z,0.2nm,0.3s,baz=185,slow=7.2,SNR=2.8
SONM Songino Array 16.07 5 Pn **Pn 21 24 23.5 -0.8**
ULN Ulaanbaatar 16.16 7 *ePn* **Pn 21 24 24.6 -0.9**
comp=Z,3.8nm,1.1s
JIRN Jiri 16.29 260 *eP* **Pn 21 24 25.5 -2.0**
JIRN Jiri 16.29 260 *eP* **Pn 21 24 25.5 -2.0**
GUN Gumba 16.47 261 *eP* **Pn 21 24 28.7 -1.1**
GUN Gumba 16.47 261 *eP* **Pn 21 24 28.7 -1.1**
PKI Pulchoki 16.97 260 *eP* **Pn 21 24 34.2 -2.0**
PKI Pulchoki 16.97 260 *eP* **Pn 21 24 34.2 -2.0**
KKN Kakani 17.01 261 *eP* **Pn 21 24 35.0 -1.5**
comp=Z,7.9nm,0.4s
DMN Daman 17.21 261 *eP* **Pn 21 24 36.9 -2.2**
DMN Daman 17.21 261 *eP* **Pn 21 24 36.9 -2.2**
GKN Gorkha 17.49 262 *eP* **Pn 21 24 41.1 -1.3**
GKN Gorkha 17.49 262 *eP* **Pn 21 24 41.1 -1.3**
DANN Dangsing 18.13 264 *eP* **Pn 21 24 48.5 -2.0**
DANN Dangsing 18.13 264 *eP* **Pn 21 24 48.5 -2.0**
KOLN Koldanda 18.43 263 *eP* **P 21 24 51.6 -2.5**
comp=Z,8.4nm,0.7s
KOLN Koldanda 18.43 263 *eP* **P 21 24 51.6 -2.5**
comp=Z,8.4nm,0.7s
KSAR Wonju Array Be 20.16 67 P **P 21 25 12.3 -0.3**
KSRS Korea Array 20.19 67 P **P 21 25 12.3 -0.6**
comp=Z,5.3nm,0.9s,baz=255,slow=9.8,SNR=13
KSRS LR LR 21 34 02.7
comp=Z,24nm,18.6s,baz=335,slow=40
CN2 Changchun 20.46 48 *eP* Pn 21 25 18.1 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.5s
JOW Kunigami 21.45 97 LR LR 21 34 03.0
comp=Z,49nm,18.1s,baz=216,slow=38
MK31 Makanchi Array 22.57 318 *eP* **P 21 25 38.8 +0.2**
MKAR Makanchi Array 22.57 318 P **P 21 25 39.1 +0.5**
comp=Z,4.6nm,0.8s,baz=114,slow=12,SNR=51
MKAR PcP **PcP 21 29 32.0 +0.3**
comp=Z,0.2nm,0.5s,baz=103,slow=3.3,SNR=3.5
MKAR Makanchi Array 22.57 318 P **P 21 25 39.1 +0.5**
MKAR PcP **PcP 21 29 32.0 +0.3**
TKM2 Tokmak 2 25.26 304 *eP* **P 21 26 05.3 +0.7**
comp=Z,3.1nm,0.9s
AAK Ala-Archa 25.96 303 *eP* **P 21 26 11.5 +0.5**
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 26.16 333 P **P 21 26 12.7 +0.2**
comp=Z,2.6nm,0.7s,baz=133,slow=9.8,SNR=19
ZALV Zalesovo Beam 26.16 333 P **P 21 26 12.7 +0.2**
KURK Kurchatov 26.79 322 P **P 21 26 18.7 +0.5**
comp=Z,4.0nm,0.8s,baz=127,slow=8.8,SNR=23
KURK Kurchatov 26.79 322 *eP* **P 21 26 18.6 +0.4**
comp=Z,6.3nm,1.0s
BVAR Borovoye Array 32.35 321 P **P 21 27 08.4 +0.9**
comp=Z,0.9nm,0.6s,baz=113,slow=10,SNR=8.1
BVAR Borovoye Array 32.35 321 P **P 21 27 08.4 +0.9**
ABKAR Akbulak array 37.34 311 *eP* **P 21 27 50.8 +0.2**
comp=Z,1.9nm,0.8s
AKTO Aktyubinsk 38.79 312 P **P 21 28 03.2 +0.4**
comp=Z,1.0nm,0.5s,baz=109,slow=14,SNR=2.3
AKTO Aktyubinsk 38.79 312 P **P 21 28 03.2 +0.4**
ARU Arti 39.98 322 *eP* **P 21 28 12.6 -0.1**
comp=Z,7.7nm,0.8s
BRTR Keskin Array B 56.55 299 P **P 21 30 19.8 -1.3**
comp=Z,0.5nm,0.6s,baz=103,slow=8.9,SNR=4.4
BRTR Keskin Array B 56.55 299 P **P 21 30 19.8 -1.3**
ARCES ARCESS Array B 56.68 336 P **P 21 30 20.8 -0.5**
comp=Z,7.5nm,1.1s,baz=78,slow=6.5,SNR=9.1
ARCES ARCESS Array B 56.68 336 P **P 21 30 20.8 -0.5**
KAF Kangasniemi 56.89 327 *ep* **P 21 30 22.7 -0.2**
KAF Kangasniemi 56.89 327 *ep* **P 21 30 22.7 -0.2**
AKASG Malin Array Be 57.03 313 P **P 21 30 23.4 -0.7**
comp=Z,0.9nm,0.4s,baz=68,slow=7.0,SNR=3.6
AKASG Malin Array Be 57.03 313 P **P 21 30 23.4 -0.7**
FINES FINESS Array B 57.08 326 P **P 21 30 24.1 0.0**
comp=Z,1.7nm,0.5s,baz=80,slow=7.7,SNR=18
FINES FINESS Array B 57.08 326 P **P 21 30 24.1 0.0**
WRAB Tennant Creek 58.96 147 *eP* **P 21 30 38.5 +0.6**
comp=Z,10nm,1.4s
WRA Warramunga Array 58.97 147 P **P 21 30 38.6 +0.7**
comp=Z,3.0nm,0.7s,baz=338,slow=7.5,SNR=20
WRA Warramunga Arr 58.97 147 P **P 21 30 38.6 +0.7**
ASAR Alice Springs 62.01 149 P **P 21 30 59.4 +0.7**
comp=Z,1.3nm,0.6s,baz=336,slow=6.5,SNR=14
ASAR Alice Springs 62.01 149 P **P 21 30 59.4 +0.7**
NB2 NORSAR Subarra 64.16 327 P **P 21 31 11.7 -0.9**
comp=Z,0.3nm,0.5s,baz=69,slow=6.9
NOA NORSAR Array B 64.16 327 P **P 21 31 11.6 -0.9**
comp=Z,0.7nm,0.6s,baz=88,slow=4.1,SNR=11
NOA NORSAR Array B 64.16 327 P **P 21 31 11.6 -0.9**
GERES GERESS Array B 67.18 314 P **P 21 31 32.3 -0.1**
comp=Z,0.3nm,0.5s,baz=74,slow=4.9,SNR=4.3
GERES GERESS Array B 67.18 314 P **P 21 31 32.3 -0.1**
ILAR Eielson Array 69.11 26 P **P 21 31 43.5 -0.5**
comp=Z,0.6nm,1.1s,baz=281,slow=4.3,SNR=5.5
ILAR Eielson Array 69.11 26 P **P 21 31 43.5 -0.5**
STKA Stephens Creek 72.51 147 P **P 21 32 04.3 -0.7**
comp=Z,1.2nm,0.8s,baz=8.1,slow=7.1,SNR=3.4
STKA Stephens Creek 72.51 147 *eP* **P 21 32 05.4 +0.4**
comp=Z,0.4nm,0.9s
LPG La Plagne 72.90 313 *eP* **P 21 32 08.1 +0.3**
comp=Z,6.0nm,0.6s
LPL La Plagne 72.90 313 *eP* **P 21 32 08.1 +0.4**
comp=Z,5.3nm,0.6s
YKA Yellowknife Ar 80.95 17 P **P 21 32 52.4 0.0**
comp=Z,0.5nm,0.7s,baz=330,slow=5.3,SNR=12
YKA Yellowknife Ar 80.95 17 P **P 21 32 52.4 0.0**

*DJA **20** 21:36:57,0.11S×132.75E,h79km,MLv3.8/3*
IDC 20 21:36:54.0±5.1,0.49S×131.79E,h0km,mb3.4/2,
mb1 3.6/3,mb1mx3.4/17,mbtmp3.3/3,ML3.3/1,Error
ellipse: s-maj=333.9km s-min=27.5km az=73.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.49**	**173**	P	P	21 41 22.8	-0.1
	0.1nm,0.3s,baz=352,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.13**	**175**	P	P	21 42 02.1	+0.1
	1.0nm,0.7s,baz=3.4,slow=10,SNR=13						
MKAR	**Makanchi Array**	**63.89**	**324**	P	P	21 47 28.7	0.0
	0.2nm,0.5s,baz=110,slow=8.9,SNR=4.6						

*NNC **20** 21:37:38.2±2.0,39.2N×70.7E×2.0,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=15.9km s-min=12.0km az=10.0
ISC 20 21:37:40.2±2.7,39.2N±0.2×70.35E±0.09,h13km,n10,
σ1§54/20,4C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.86**	**40**	P	**Pn**	**21 38 40.3**	**+0.5**
	SNR=18						
AML				P	**Pn**	**21 38 40.3**	**+0.5**
	SNR=18						
KK31	**Karatay Array**	**3.88**	**2**	⇑Pn	**Pn**	**21 38 41.8**	**+2.2**
	1.4nm,0.3s,baz=181,slow=17,SNR=9.5						
KK31				⇑Sn	**Sb**	**21 39 31.9**	**-3.5**
	2.3nm,0.3s,baz=180,slow=28,SNR=4.6						
AAK	**Ala-Archa**	**4.63**	**41**	P	**Pn**	**21 38 51.7**	**+1.6**
	SNR=8.8						
AAK				P	**Pn**	**21 38 51.7**	**+1.6**
	SNR=8.8						
KZA	**Kyzart**	**4.69**	**51**	P	**Pn**	**21 38 50.8**	**-0.4**
	SNR=13						
KZA				P	**Pn**	**21 38 50.8**	**-0.4**
	SNR=13						
KBK	**Karagaybulak**	**4.89**	**44**	P	**Pn**	**21 38 53.3**	**-0.3**
	SNR=14						
KBK				P	**Pn**	**21 38 53.3**	**-0.3**
	SNR=14						
USP	**Ospenovka**	**5.11**	**36**	P	**Pn**	**21 38 56.9**	**+0.4**
	SNR=8.2						
USP				P	**Pn**	**21 38 56.9**	**+0.4**
	SNR=8.2						
TKM2	**Tokmak 2**	**5.42**	**45**	P	**Pn**	**21 38 59.6**	**-1.4**
	SNR=11						
TKM2				P	**Pn**	**21 38 59.6**	**-1.4**
	SNR=11						
TKM2	**Tokmak 2**	**5.42**	**45**	⇓Pn	**Pn**	**21 39 00.9**	**-0.1**
	2.6nm,0.4s						
TKM2				⇑Sn	**Sn**	**21 40 06.7**	**+3.4**
	4.2nm,0.6s						
AB31	**Akbulak array**	**12.49**	**327**	Pn	**Pn**	**21 40 37.2**	**-0.3**
	0.7nm,0.4s,baz=142,slow=11,SNR=47						
AB31				⇑Sn	**Sn**	**21 42 56.9**	**+0.4**
	1.1nm,0.5s,baz=154,slow=22,SNR=12						
AKTO	**Aktyubinsk**	**14.20**	**326**	⇓Pn	**Pn**	**21 40 59.9**	**-1.1**
	0.3nm,1.1s						
AKTO				⇓Sn	**Sn**	**21 43 38.7**	**+0.5**
	0.4nm,0.8s						

*HLW **20** 21:41:47.8,35.61N×31.21E,h33km±20km,Md3.4,Ml3.1*
*CSEM **20** 21:41:49.1±0.3,35.54N×31.34E,h20km,MD3.5, Error*
ellipse: s-maj=7.9km s-min=5.8km az=32.0
*ISCJB **20** 21:41:50.4±2.5,35.68N±0.05×31.48E±0.04,h28km±26km,*
Error ellipse: s-maj=9.2km s-min=4.6km az=26.6
*ISK **20** 21:41:50.0,35.81N×31.59E,h14km,MD3.5*
ISC 20 21:41:49.2±1.2,35.49N±0.04×31.34E±0.03,h33km±5km,
n65,σ1§10/77,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEF	**Lefka**	**1.32**	**106**	*e*PN	**Pb**	**21 42 13.6**	**+0.2**
LEF				*e*SN	**Sb**	**21 42 30.6**	**+0.6**
LEF	**Lefka**	**1.32**	**106**	*e*Pn	**Pb**	**21 42 13.6**	**+0.2**
LEF				*e*Sn	**Sb**	**21 42 30.6**	**+0.6**
ANTB	**Antalya**	**1.52**	**339**	*e*PN	**Pn**	**21 42 14.8**	**+0.9**
ANTB	**Antalya**	**1.52**	**339**	*e*Pn	**Pn**	**21 42 14.9**	**+0.9**
AKAS	**Kas**	**1.60**	**298**	*e*P	**Pn**	**21 42 16.0**	**+0.7**
AKAS				*e*S	**Sb**	**21 42 38.2**	**+0.2**
AKAS	**Kas**	**1.60**	**298**	*e*P	**Pn**	**21 42 16.0**	**+0.7**
AKAS				*e*S	**Sb**	**21 42 38.2**	**+0.2**
KORT	**Korkueli**	**1.71**	**332**	*e*P	**Pb**	**21 42 19.2**	**-0.9**
KORT				*e*S	**Sb**	**21 42 42.5**	**+1.2**
KORT	**Korkueli**	**1.71**	**332**	*e*P	**Pb**	**21 42 19.2**	**-0.9**
KORT				*e*S	**Sb**	**21 42 42.5**	**+1.2**
CSS	**Prodhromos**	**1.71**	**107**	*e*PN	**Pb**	**21 42 19.0**	**-1.0**
CSS	**Prodhromos**	**1.71**	**107**	*e*Pn	**Pb**	**21 42 19.0**	**-1.0**
ELL	**Elmali**	**1.71**	**318**	*e*PN	**Pb**	**21 42 19.2**	**-1.0**
ELL	**Elmali**	**1.71**	**318**	*e*Pn	**Pb**	**21 42 19.2**	**-1.0**
ERMK	**Ermenek**	**1.71**	**47**	*e*P	**Pb**	**21 42 19.6**	**-0.6**
ERMK				*e*S	**Sb**	**21 42 44.1**	**+2.5**
ERMK	**Ermenek**	**1.71**	**47**	*e*P	**Pb**	**21 42 19.6**	**-0.6**
ERMK				*e*S	**Sb**	**21 42 44.1**	**+2.5**
LFK	**Lefkose**	**1.80**	**96**	*e*PN	**Pb**	**21 42 21.0**	**-0.6**
LFK	**Lefkose**	**1.80**	**96**	*e*Pn	**Pb**	**21 42 21.0**	**-0.6**
BCK	**Bucak**	**2.06**	**343**	*e*PN	**Pn**	**21 42 22.5**	**+0.9**
BCK				*e*SN	**Sn**	**21 42 45.5**	**-0.7**
BCK	**Bucak**	**2.06**	**343**	*e*Pn	**Pn**	**21 42 22.5**	**+0.9**
BCK				*e*Sn	**Sn**	**21 42 45.5**	**-0.7**
FETY	**Fethiye**	**2.16**	**303**	*e*PN	**Pb**	**21 42 27.2**	**-0.5**
EREN	**Erenkoy**	**2.31**	**88**	*e*PN	**Pn**	**21 42 25.4**	**+0.5**
EREN	**Erenkoy**	**2.31**	**88**	*e*Pn	**Pn**	**21 42 25.4**	**+0.5**
ISP	**Isparta**	**2.42**	**344**	*e*PN	**Pn**	**21 42 27.6**	**+1.0**
ISP	**Isparta**	**2.42**	**344**	*e*Pn	**Pn**	**21 42 27.6**	**+1.0**
KONT	**Konya--Tatoy**	**2.58**	**18**	*e*PN	**Pn**	**21 42 27.6**	**-1.2**
KONT	**Konya--Tatoy**	**2.58**	**18**	*e*Pn	**Pn**	**21 42 27.6**	**-1.2**
TURN	**Turunc**	**2.61**	**303**	*e*P	**Pn**	**21 42 31.6**	**+2.5**
TURN				*e*S	**Sn**	**21 43 00.7**	**+1.0**
TURN	**Turunc**	**2.61**	**303**	*e*P	**Pn**	**21 42 31.6**	**+2.5**
TURN				*e*S	**Sn**	**21 43 00.7**	**+1.0**
LADK	**Ladik-KONYA**	**2.83**	**17**	*e*PN	**Pn**	**21 42 30.8**	**-1.4**
LADK	**Ladik-KONYA**	**2.83**	**17**	*e*Pn	**Pn**	**21 42 30.8**	**-1.4**
DNZL	**Cakiroluk**	**2.87**	**321**	*e*P	**Pb**	**21 42 38.1**	**-1.8**
DNZL				*e*S	**Sb**	**21 43 16.2**	**+1.5**
DNZL	**Cakiroluk**	**2.87**	**321**	*e*P	**Pb**	**21 42 38.1**	**-1.8**
MERS	**Mersin**	**2.92**	**61**	*e*PN	**Pn**	**21 42 32.4**	**-1.0**
MERS	**Mersin**	**2.92**	**61**	*e*Pn	**Pn**	**21 42 32.4**	**-1.0**
YER	**Yerkesik**	**2.97**	**305**	*e*PN	**Pb**	**21 42 38.6**	**-2.9**
SHUT	**Suhut-Afyon**	**3.12**	**349**	*e*PN	**Pn**	**21 42 36.7**	**+0.4**
SHUT	**Suhut-Afyon**	**3.12**	**349**	*e*Pn	**Pn**	**21 42 36.7**	**+0.4**
KIZT	**Kizilcal**	**3.41**	**7**	*e*PN	**Pn**	**21 42 40.5**	**+0.2**
KIZT	**Kizilcal**	**3.41**	**7**	*e*Pn	**Pn**	**21 42 40.5**	**+0.2**
KRTS	**Karatas**	**3.44**	**70**	*e*PN	**Pn**	**21 42 41.8**	**+1.3**
KRTS	**Karatas**	**3.44**	**70**	*e*Pn	**Pn**	**21 42 41.8**	**+1.3**
BDRM	**Kayabasi**	**3.52**	**298**	*e*P	**Pn**	**21 42 41.0**	**-0.6**
BDRM				*e*S	Sn	21 43 17.3	-4.8
BDRM	**Kayabasi**	**3.52**	**298**	*e*P	**Pn**	**21 42 41.0**	**-0.6**
AYDN	**Tasoluk**	**3.53**	**309**	*e*P	**Pn**	**21 42 41.5**	**-0.3**
AYDN				*e*S	Sn	21 43 15.8	-6.7
AYDN	**Tasoluk**	**3.53**	**309**	*e*P	**Pn**	**21 42 41.5**	**-0.3**
BODT	**Bodrum**	**3.62**	**297**	*e*PN	Pb	21 42 48.2	-4.2
ALT	**Altintas**	**3.69**	**345**	*e*PN	**Pn**	**21 42 45.3**	**+1.2**
ALT	**Altintas**	**3.69**	**345**	*e*Pn	**Pn**	**21 42 45.3**	**+1.2**
CEYT	**Ceyhan**	**3.87**	**66**	*e*PN	**Pn**	**21 42 47.5**	**+1.1**
CEYT	**Ceyhan**	**3.87**	**66**	*e*Pn	**Pn**	**21 42 47.5**	**+1.1**
HTY	**Hatay**	**3.95**	**79**	*e*PN	**Pn**	**21 42 48.0**	**+0.5**
HTY	**Hatay**	**3.95**	**79**	*e*Pn	**Pn**	**21 42 48.0**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.95**	**2**	*e*PN	**Pn**	**21 42 48.0**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.95**	**2**	*e*Pn	**Pn**	**21 42 48.0**	**+0.3**
ESKT	**Eskisehir**	**4.04**	**355**	*e*PN	**Pn**	**21 42 49.0**	**+0.1**
ESKT	**Eskisehir**	**4.04**	**355**	*e*Pn	**Pn**	**21 42 49.1**	**+0.1**
KOZT	**Kozan**	**4.12**	**60**	*e*PN	**Pn**	**21 42 49.6**	**-0.3**
KOZT	**Kozan**	**4.12**	**60**	*e*Pn	**Pn**	**21 42 49.6**	**-0.3**
AFSR	**Af˙ar-Bala (A**	**4.18**	**19**	*e*PN	**Pn**	**21 42 50.4**	**-0.4**
AFSR	**Af˙ar-Bala (A**	**4.18**	**19**	*e*Pn	**Pn**	**21 42 50.4**	**-0.4**
KMRS	**Kahramanmaras**	**4.91**	**64**	*e*PN	**Pn**	**21 43 00.6**	**-0.1**
KMRS	**Kahramanmaras**	**4.91**	**64**	*e*Pn	**Pn**	**21 43 00.6**	**-0.1**
SUZ		**5.77**	**167**	P	Pn	21 43 16.1	+3.5
HNKL	**Nakhl**	**5.97**	**157**	P	**Pn**	**21 43 16.7**	**+1.3**
HNKL				S	**Sn**	**21 44 21.4**	**-1.2**
SLUM		**6.49**	**234**	P	**Pn**	**21 43 21.6**	**-0.8**
HFRF	**Wahat Farafira**	**8.71**	**198**	P	**Pn**	**21 43 53.2**	**+0.3**

IDC 20 22:14:45.7±2.1,25.01S×71.12W,h0km,mb3.9/2,
mb1 3.8/3,mb1mx3.5/15,mbtmp3.6/3,ML3.4/1,Error
ellipse: s-maj=70.5km s-min=61.5km az=73.0,Off coast
of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**9.12**	**18**	Pn	Pn	22 16 59.9	+0.4
	0.2nm,0.3s,baz=202,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**80.44**	**71**	P	P	22 26 58.9	-0.9
	1.4nm,0.6s,baz=255,slow=5.4,SNR=6.4						
YKA	**Yellowknife Ar**	**93.83**	**341**	P	P	22 28 02.8	-1.5
	0.1nm,0.6s,baz=125,slow=5.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**145.98**	**26**	PKPbc	PKPab	22 34 27.7	+0.1
	0.8nm,0.6s,baz=320,slow=1.6,SNR=4.9						
MKAR	**Makanchi Array**	**149.65**	**37**	PKPbc	PKPbc	22 34 37.7	+0.4
	0.5nm,0.5s,baz=318,slow=2.9,SNR=14						

IDC 20 22:18:46.5±8.4,6.35S×141.38E,h0km,mb3.7/1,
mb1 3.8/3,mb1mx3.5/13,mbtmp3.6/3,MS3.3/2,Ms1 3.3/2,
ms1mx2.6/28,Error ellipse: s-maj=305.7km
s-min=35.1km az=94.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.15**	**206**	Pn	Pn	22 22 20.2	-1.7
	0.1nm,0.3s,baz=30,slow=13,SNR=4.7						
WRA				Lg	Lg	22 26 55.4	
	0.0nm,0.3s,baz=29,slow=28,SNR=3.0						
ASAR	**Alice Springs**	**18.66**	**202**	P	Pn	22 23 06.9	+0.5
	0.2nm,0.3s,baz=27,slow=13,SNR=20						
ASAR				Lg	Lg	22 28 49.1	
	0.1nm,0.3s,baz=20,slow=30,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.30**	**231**	LR	LR	22 30 54.3	
	comp=Z,34nm,18.3s,baz=227,slow=38						
PETK	**Petropavlovsk-**	**60.83**	**11**	LR	LR	22 53 21.0	
	comp=Z,58nm,19.6s,baz=261,slow=34						
MKAR	**Makanchi Array**	**74.27**	**322**	P	P	22 30 25.6	0.0
	0.7nm,0.9s,baz=110,slow=6.3,SNR=6.2						

IDC 20 22:33:17.7±2.8,0.81S×133.16E,h0km,mb3.0/2,
mb1 3.2/3,mb1mx3.2/17,mbtmp3.1/3,ML3.0/1,Error
ellipse: s-maj=146.6km s-min=26.2km az=75.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.05**	**177**	P	P	22 37 41.0	-0.7
	0.1nm,0.3s,baz=356,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**22.73**	**178**	P	P	22 38 22.2	+0.7
	0.3nm,0.6s,baz=356,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	22 43 59.2	-0.1
	0.2nm,0.7s,baz=132,slow=6.7,SNR=2.7						

IDC 20 22:36:40.0±2.9,0.61S×133.51E,h0km,mb3.0/2,
mb1 3.2/3,mb1mx3.2/17,mbtmp3.0/3,ML2.9/1,Error
ellipse: s-maj=146.1km s-min=26.4km az=75.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**178**	P	P	22 41 04.2	-1.8
	0.0nm,0.3s,baz=357,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**22.92**	**179**	P	P	22 41 47.1	+1.3
	0.2nm,0.5s,baz=358,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**65.00**	**324**	P	P	22 47 21.9	0.0
	0.2nm,0.7s,baz=125,slow=7.6,SNR=2.6						

*ISK **20** 22:42:40.7,38.64N×26.99E,h14km,MD2.7*
*ISCJB **20** 22:42:41.2±0.7,38.66N±0.05×26.99E±0.05,h10km±7km,*
Error ellipse: s-maj=8.4km s-min=6.0km az=159.1
*DDA **20** 22:42:41.7,38.63N×27.02E,h7km,MD2.9*
*CSEM **20** 22:42:41.4±0.2,38.65N×26.99E,h12km,MD2.7, Error*
ellipse: s-maj=4.7km s-min=3.4km az=117.0
ISC 20 22:42:41.6±1.1,38.63N±0.06×27.01E±0.03,h15km±10km,
n26,σ0§35/38,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.24**	**174**	*e*PG	**Pg**	**22 42 46.8**	**-0.1**
BLCB				*e*SG	**Sg**	**22 42 50.5**	**0.0**
BLCB	**Balcova**	**0.24**	**174**	*e*Pg	**Pg**	**22 42 46.8**	**-0.1**
BLCB				*e*Sg	**Sg**	**22 42 50.5**	**0.0**
IZM	**Izmir**	**0.30**	**139**	*e*PG	**Pg**	**22 42 48.0**	**+0.1**
IZM	**Izmir**	**0.30**	**139**	*e*Pg	**Pg**	**22 42 48.0**	**+0.1**
URLA	**Izmir**	**0.42**	**231**	*i* P	**Pg**	**22 42 49.9**	**-0.1**
URLA				*i* S	**Sb**	**22 42 56.9**	**0.0**
URLA	**Izmir**	**0.42**	**231**	*i* P	**Pg**	**22 42 49.9**	**-0.1**
URLA				*i* S	**Sb**	**22 42 56.9**	**0.0**
AKS	**Akhisar**	**0.68**	**68**	*e*PG	**Pb**	**22 42 55.2**	**+0.1**
AKS				*e*SG	**Sb**	**22 43 04.1**	**-0.1**
AKS	**Akhisar**	**0.68**	**68**	*e*Pg	**Pb**	**22 42 55.2**	**+0.1**
AKS				*e*Sg	**Sb**	**22 43 04.1**	**-0.1**
BALB	**Balikesir**	**1.22**	**33**	*e*PN	**Pn**	**22 43 03.3**	**-0.7**
BALB	**Balikesir**	**1.22**	**33**	*e*Pn	**Pn**	**22 43 03.3**	**-0.7**
KULA	**Kula-Manisa**	**1.30**	**94**	*e*PN	**Pn**	**22 43 05.1**	**-0.1**
KULA				*e*SN	**Sg**	**22 43 23.4**	**-0.1**
KULA	**Kula-Manisa**	**1.30**	**94**	*e*Pn	**Pn**	**22 43 05.1**	**-0.1**
KULA				*e*Sn	**Sg**	**22 43 23.4**	**-0.1**
DEMI	**Demirci**	**1.40**	**72**	*i* P	**Pg**	**22 43 08.2**	**-0.2**
DEMI				*i* S	**Sb**	**22 43 25.6**	**+0.6**
DEMI	**Demirci**	**1.40**	**72**	*i* P	**Pg**	**22 43 08.2**	**-0.2**
DEMI				*i* S	**Sb**	**22 43 25.6**	**+0.6**
DURS	**Dursunbey**	**1.50**	**49**	*i* P	**Pn**	**22 43 08.4**	**+0.4**
DURS				*i* S	**Sb**	**22 43 28.4**	**+0.4**
DURS	**Dursunbey**	**1.50**	**49**	*i* P	**Pn**	**22 43 08.4**	**+0.4**
DURS				*i* S	**Sb**	**22 43 28.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.51**	**20**	*e*PN	**Pn**	**22 43 07.8**	**-0.3**
GONE	**Gonen-Balikesi**	**1.51**	**20**	*e*Pn	**Pn**	**22 43 07.8**	**-0.3**
DST	**Dursunbey**	**1.59**	**52**	*e*PN	**Pn**	**22 43 08.5**	**-0.7**
DST	**Dursunbey**	**1.59**	**52**	*e*Pn	**Pn**	**22 43 08.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.78**	**7**	*e*PN	**Pn**	**22 43 11.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.78**	**7**	*e*Pn	**Pn**	**22 43 11.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.82**	**347**	*e*PN	**Pn**	**22 43 12.3**	**0.0**
GELI	**Tayfur-Gelibol**	**1.82**	**347**	*e*Pn	**Pn**	**22 43 12.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.06**	**4**	*e*PN	**Pn**	**22 43 16.1**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.06**	**4**	*e*Pn	**Pn**	**22 43 16.1**	**+0.4**

MAN 20 22:42:56,8.63N×124.83E,h1km,mb3.8,ML2.5,MS2.1,
1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.22**	**219**	⇓*e*P	Pg	22 43 00.9	+0.6
CGP				*i* S	Sg	22 43 03.2	+0.1
BUKP	**Musuan**	**0.78**	**163**	*e*P	Pb	22 43 11.8	-0.6
BUKP				*e*S	Sn	22 43 33.7	+7.2
MSLP	**Maasin**	**1.50**	**1**	*e*P	Pn	22 43 24.0	-0.1
CTBH	**Cotabato--PC H**	**1.51**	**203**	⇑*i*P	Pb	22 43 24.9	+0.1
PAGZ	**Pagadian**	**1.63**	**242**	*e*P	Pn	22 43 24.3	-1.6

*ISCJB **20** 22:45:00.4±0.6,9.82N±0.04×85.83W±0.04,h43km±5km,*
mb4.3/21,MS3.9/6,Error ellipse: s-maj=7.8km
s-min=4.3km az=36.3
*CASC **20** 22:45:00.5±1.9,9.86N×85.81W,h20km±6km,MD4.0,*
MW4.8,mb4.5(NEIC),Fault plane solution: NP1:
ϕs228.11000°,δ85.03000°,λ83.98000°.
*NEIC **20** 22:45:04.8±1.1,10.06N×85.51W,h54km±8km,mb4.5/12,*
*Error ellipse: s-maj=16.4km s-min=6.9km az=

TEIG	**Tepich**	**10.53**	**347**	LR	LR	22 51 40.8		
	comp=Z,296nm,21.8s,baz=227,slow=40							
TEIG	**Tepich**	**10.53**	**347**	*e*Pn	**Pn**	**22 47 31.8**	**+1.6**	
CMIG	**Matias Romero**	**11.38**	**310**	Pn	**Pn**	**22 47 43.0**	**+1.1**	
	1.1nm,0.3s,baz=128,slow=8.6,SNR=8.4							
CMIG				LR	LR	22 52 53.2		
	comp=Z,222nm,21.2s,baz=327,slow=41							
CMIG	**Matias Romero**	**11.38**	**310**	Pn	**Pn**	**22 47 43.0**	**+1.1**	
ROSC	**El Rosal**	**12.39**	**113**	LR	LR	22 52 29.8		
	comp=Z,110nm,21.1s,baz=351,slow=36							
SDV	**Santo Domingo**	**14.96**	**93**	*e*Pn	**Pn**	**22 48 29.8**	**-1.2**	
ATAH	**Atahualpa**	**18.46**	**156**	LR	LR	22 54 55.3		
	comp=Z,78nm,21.1s,baz=155,slow=31							
GOGA	**Godfrey**	**23.47**	**5**	*e*P	**P**	**22 50 09.1**	**+0.5**	
	18nm,0.7s							
JCT	**Junction City**	**24.28**	**329**	*e*P	**P**	**22 50 16.9**	**+0.5**	
	5.7nm,0.6s							
JSC	**Jenkinsville**	**24.59**	**9**	*e*P	**P**	**22 50 19.1**	**+0.1**	
SWET	**Sewanee**	**25.18**	**360**	*e*P	**P**	**22 50 24.1**	**-0.3**	
	17nm,0.6s							
MIAR	**Mount Ida**	**25.53**	**345**	*e*P	**P**	**22 50 28.5**	**+0.9**	
	11nm,0.6s							
TXAR	**Lajitas Array**	**25.57**	**322**	P	**P**	**22 50 30.0**	**+1.8**	
	4.8nm,0.4s,baz=142,slow=9.0,SNR=36							
TXAR				PcP	**PcP**	**22 54 03.4**	**+4.3**	
	0.5nm,0.7s,baz=136,slow=4.0,SNR=4.5							
TXAR				LR	LR	23 02 44.9		
	comp=Z,66nm,19.9s,baz=0.0,slow=42							
TXAR	**Lajitas Array**	**25.57**	**322**	P	**P**	**22 50 30.0**	**+1.8**	
TXAR				PcP	**PcP**	**22 54 03.4**	**+4.3**	
TKL	**Tuckaleechee C**	**25.68**	**4**	P	**P**	**22 50 25.6**	**-3.3**	
	5.7nm,0.9s,baz=162,slow=6.4,SNR=3.0							
TKL	**Tuckaleechee C**	**25.68**	**4**	*e*P	**P**	**22 50 28.6**	**-0.4**	
GNAR	**Gosnell**	**26.21**	**352**	*e*P	**P**	**22 50 33.1**	**-0.6**	
WMOK	**Wichita Mounta**	**27.42**	**336**	*e*P	**P**	**22 50 44.3**	**-0.4**	
	4.7nm,0.8s							
ANMO	**Albuquerque**	**31.27**	**326**	LR	LR	23 07 14.6		
	comp=Z,99nm,20.1s,baz=131,slow=43							
LPAZ	**La Paz**	**31.34**	**146**	LR	LR	23 04 16.8		
	comp=Z,131nm,18.2s,baz=82,slow=36							
TUC	**Tucson**	**32.11**	**318**	P	**P**	**22 51 27.6**	**+1.2**	
	3.0nm,1.0s							
WUAZ	**Wupatki**	**34.54**	**322**	*e*P	**P**	**22 51 50.0**	**+2.4**	
	23nm,1.8s							
ECSD	**EROS Data Cent**	**34.98**	**346**	P	**P**	**22 51 50.8**	**-0.4**	
	3.3nm,0.7s							
LONY	**Lake Ozonia**	**35.89**	**14**	*e*P	**P**	**22 51 58.5**	**-0.5**	
	14nm,0.7s							
NVAR	**Mina Array Bea**	**40.69**	**320**	P	**P**	**22 52 41.8**	**+2.1**	
	5.1nm,0.6s,baz=128,slow=7.4,SNR=30							
NVAR	**Mina Array Bea**	**40.69**	**320**	P	**P**	**22 52 41.8**	**+2.1**	
ULM	**Lac du Bonnet**	**41.07**	**350**	P	**P**	**22 52 39.9**	**-2.5**	
	1.5nm,0.5s,baz=162,slow=7.4,SNR=3.5							
ULM	**Lac du Bonnet**	**41.07**	**350**	P	**P**	**22 52 39.9**	**-2.5**	
YBH	**Yreka Blue Hor**	**45.35**	**321**	*e*P	**P**	**22 53 17.9**	**+0.7**	
	2.0nm,0.6s							
SCHQ	**Schefferville**	**47.25**	**15**	P	**P**	**22 53 28.8**	**-3.0**	
	6.1nm,0.6s,baz=212,slow=6.8,SNR=28							
SCHQ				LR	LR	23 14 28.5		
	comp=Z,130nm,19.1s,baz=265,slow=38							
SCHQ	**Schefferville**	**47.25**	**15**	*e*P	**P**	**22 53 29.7**	**-2.1**	
	3.5nm,0.6s							
FRB	**Frobisher Bay**	**55.12**	**9**	P	P	22 54 26.3	-4.4	
	1.3nm,0.5s,baz=183,slow=11,SNR=4.5							
FRB				LR	LR	23 19 01.1		
	comp=Z,274nm,18.1s,baz=92,slow=38							
FRB	**Frobisher Bay**	**55.12**	**9**	P	P	22 54 26.3	-4.4	
YKA	**Yellowknife Ar**	**56.48**	**344**	P	**P**	**22 54 38.9**	**-1.6**	
	0.7nm,0.4s,baz=145,slow=6.9,SNR=21							
YKA	**Yellowknife Ar**	**56.48**	**344**	P	**P**	**22 54 38.9**	**-1.6**	
RES	**Resolute Bay**	**64.94**	**357**	P	**P**	**22 55 35.6**	**-2.3**	
	0.9nm,0.7s,baz=181,slow=7.5,SNR=5.6							
RES	**Resolute Bay**	**64.94**	**357**	P	**P**	**22 55 35.6**	**-2.3**	
ILAR	**Eielson Array**	**68.99**	**336**	P	**P**	**22 56 03.6**	**-0.3**	
	1.0nm,0.7s,baz=132,slow=4.7,SNR=18							
ILAR	**Eielson Array**	**68.99**	**336**	P	**P**	**22 56 03.6**	**-0.3**	
MCK	**McKinley**	**69.44**	**335**	*e*P	**P**	**22 56 07.4**	**+0.6**	
	8.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**85.33**	**78**	P	**P**	**22 57 35.8**	**-0.8**	
	0.2nm,0.6s,baz=285,slow=5.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**85.33**	**78**	P	**P**	**22 57 35.8**	**-0.8**	
ZALV	**Zalesovo Beam**	**115.88**	**6**	PKP	**PKPdf**	**23 03 42.2**	**+0.8**	
	0.3nm,0.3s,baz=333,slow=1.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**115.88**	**6**	PKP	**PKPdf**	**23 03 42.2**	**+0.8**	
MDJ	**Mudanjiang**	**117.01**	**332**	PKP	**PKPdf**	**23 03 44.5**	**+0.7**	
CN2	**Changchun**	**119.48**	**334**	*e*PKP	**PKPdf**	**23 03 52.3**	**+3.7**	
MKAR	**Makanchi Array**	**122.54**	**10**	PKP	**PKPdf**	**23 03 55.0**	**+0.5**	
	0.3nm,0.4s,baz=334,slow=1.8,SNR=8.8							
MKAR	**Makanchi Array**	**122.54**	**10**	PKP	**PKPdf**	**23 03 55.0**	**+0.5**	
KSRS	**Korea Array**	**123.28**	**328**	PKP	**PKPdf**	**23 03 59.0**	**+2.9**	
	1.5nm,0.6s,baz=10,slow=0.7,SNR=8.1							
KSAR	**Wonju Array Be**	**123.31**	**328**	PKP	**PKPdf**	**23 03 59.0**	**+2.8**	
HHC	**Hu-ho-hao-te**	**127.01**	**344**	*e*PKP	**PKPdf**	**23 03 59.3**	**-4.0**	
HHC				sPKP		23 04 36.3		
HHC				PP	PP	23 06 11.6	+11	
HHC				PKS	PKSdf	23 07 34.5	-5.5	
HHC				SKS	SKSdf	23 10 59.4	-15	
HHC				SKKS	**SKKSac**	**23 12 52.3**	**-5.7**	
HHC				SS	SS	23 23 18.8	+13	
HHC				AMB	AMB			
	comp=Z,150nm,8.8s							
HHC				LR	LR			
	comp=N,220nm,21.0s							
HHC				LR	LR			
	comp=E,250nm,20.0s							
HHC				LR	LR			
	comp=Z,230nm,21.4s							
LZH	**Lanzhou**	**133.35**	**349**	*e*PKP	**PKPdf**	**23 04 16.1**	**+0.5**	
CD2	**Chengdu**	**138.39**	**348**	PKP	**PKPdf**	**23 04 24.0**	**-0.9**	
ASAR	**Alice Springs**	**139.80**	**245**	PKhKP	PKPpre	23 04 27.4		
	comp=Z,0.3nm,0.5s,baz=110,slow=2.8,SNR=4.0							
ASAR	**Alice Springs**	**139.80**	**245**	PKPpre	PKPpre	23 04 27.4		
WRA	**Warramunga Arr**	**140.09**	**251**	PKhKP	PKPpre	23 04 28.4		
	comp=Z,0.7nm,0.8s,baz=94,slow=2.6,SNR=6.4							
WRA	**Warramunga Arr**	**140.09**	**251**	PKPpre	PKPpre	23 04 28.4		
GYA	**Guiyang**	**141.88**	**342**	*e*PKPbc	**PKPdf**	**23 04 31.0**	**-0.5**	
GYA				sPKP		23 04 52.3		
GYA				PP	**PP**	**23 07 38.6**	**+4.0**	
GYA				AMB	AMB			
	comp=Z,80nm,7.9s							
CMAR	**Chiang Mai Arr**	**151.42**	**351**	PKP	**PKPdf**	**23 04 50.7**	**+3.3**	
	comp=Z,0.6nm,0.3s,baz=318,slow=1.2,SNR=3.9							
CMAR				PKPbc	**PKiKP**	**23 04 54.9**	**+0.8**	
	comp=Z,1.9nm,0.9s,baz=336,slow=3.1,SNR=12							
CMAR				PKPab	**PKPab**	**23 05 01.8**	**+0.2**	
	comp=Z,4.5nm,1.0s,baz=324,slow=2.0,SNR=12							
CMAR	**Chiang Mai Arr**	**151.42**	**351**	PKP	**PKPdf**	**23 04 50.8**	**+3.3**	
CMAR				PKPbc	**PKiKP**	**23 04 54.9**	**+0.8**	
CMAR				PKPab	**PKPab**	**23 05 01.8**	**+0.2**	

*NEIC **20** 22:53:52.5, 15.70N×93.08W, h120km, MD4.0(MEX), After MEX.*

MEX 20 22:53:52.5±0.6, 15.70N×93.08W, h120km±5km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PCIG		**0.13**	**271**	*i*	P	Pn	22 54 07.3		-1.6
PCIG				*i*	S	Sn	22 54 19.3		-1.9
PCIG		**0.13**	**271**	*i*	P	Pn	22 54 07.3		-1.6
PCIG				*i*	S	Sn	22 54 19.3		-1.9
TGIG		**1.07**	**358**	*i*	P	Pn	22 54 13.9		-1.4
TGIG				*e*	S	Sn	22 54 30.9		-1.7
TGIG		**1.07**	**358**	*i*	P	Pn	22 54 13.9		-1.4
TGIG				*e*	S	Sn	22 54 30.9		-1.7
CCIG	**Comitan**	**1.08**	**57**	*i*	P	Pn	22 54 14.2		-1.3
CCIG				*e*	S	Sn	22 54 30.8		-2.1
CCIG	**Comitan**	**1.08**	**57**	*i*	P	Pn	22 54 14.2		-1.3
CCIG				*e*	S	Sn	22 54 30.8		-2.1
THIG		**1.11**	**135**	*i*	P	Pn	22 54 14.1		-1.6
THIG				*e*	S	Sn	22 54 32.4		-0.8
THIG		**1.11**	**135**	*i*	P	Pn	22 54 14.1		-1.6
THIG				*e*	S	Sn	22 54 32.4		-0.8
CMIG	**Matias Romero**	**2.21**	**309**	*i*	P	Pn	22 54 27.7		-1.0
CMIG				*e*	S	Sn	22 54 54.9		-1.4
CMIG	**Matias Romero**	**2.21**	**309**	*i*	P	Pn	22 54 27.7		-1.0
CMIG				*e*	S	Sn	22 54 54.9		-1.4
HUIG	**Huatulco**	**2.92**	**272**	*i*	P	Pn	22 54 35.0		-2.7
HUIG				*i*	S	Sn	22 55 10.0		-2.5
HUIG	**Huatulco**	**2.92**	**272**	*i*	P	Pn	22 54 35.0		-2.7
HUIG				*i*	S	Sn	22 55 10.0		-2.5

*KRSC **20** 23:03:32.1±2.5, 53.98N×155.56E, h568km±68km, ML4.4*
*MOS **20** 23:03:36.6±0.9, 54.41N×154.66E, h483km, mb4.5/1, Error ellipse: s-maj=34.9km s-min=26.2km az=132.2*
*ISCJB **20** 23:03:37.7±0.5, 54.3N±0.1×154.8E±0.2, h490km±7km, mb3.1/9, Error ellipse: s-maj=20.6km s-min=14.4km az=43.9*
*IDC **20** 23:03:38.5±1.3, 54.26N×154.51E, h488km±17km, mb2.7/9, mb1 3.0/10, mb1mx2.8/28, mbtmp2.7/10, Error ellipse: s-maj=19.9km s-min=15.0km az=157.0*

ISC 20 23:03:38.4±0.9, 54.3N±0.1×155.0E±0.1, h486km±11km, n37, σ1§72/45, mb3.2/9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PETK	**Petropavlovsk-**	**1.96**	**125**	P	**P**		**23 04 43.6**		**+1.6**
	3.9nm,0.3s,baz=180,slow=1.4,SNR=27								
PETK	**Petropavlovsk-**	**1.96**	**125**	PN	**P**		**23 04 43.6**		**+1.6**
PETK				pmax	pmax				
	comp=Z,4.0nm,0.3s								
MIPR	**Malaya Ipel'ka**	**2.24**	**152**	*e*P	**P**		**23 04 44.6**		**+1.1**
KOK	**Koryaka**	**2.35**	**113**	*e*P	**P**		**23 04 46.3**		**+2.1**
AVH	**Avacha**	**2.42**	**113**	*e*P	**P**		**23 04 46.3**		**+1.8**
SMAR	**Somma**	**2.45**	**112**	*e*P	**P**		**23 04 47.0**		**+2.1**
UGLR	**Uglovaya**	**2.49**	**113**	*e*P	**P**		**23 04 46.9**		**+1.9**
SDLR	**Sedlovina**	**2.49**	**112**	*e*P	**P**		**23 04 46.4**		**+1.4**
ASAK	**Asacha**	**2.55**	**136**	*e*P	**P**		**23 04 47.1**		**+1.7**
MTVR	**Mutnovka**	**2.59**	**132**	*e*P	**P**		**23 04 47.6**		**+1.9**
RUS	**Russkaya**	**2.78**	**130**	PN	**P**		**23 04 47.0**		**+0.3**
RUS				*S*	**S**		**23 05 41.7**		**-0.6**
RUS	**Russkaya**	**2.78**	**130**	*e*P	**P**		**23 04 47.0**		**+0.3**
RUS				*e*S	**S**		**23 05 41.7**		**-0.6**
NLC	**Nalytchevo**	**2.79**	**111**	*e*S	**S**		**23 05 40.3**		**-2.1**
TUMR	**Tumrok**	**3.14**	**69**	*e*P	**P**		**23 04 52.0**		**+2.8**
SPN	**Mys Shipunski**	**3.19**	**109**	PN	**P**		**23 04 49.3**		**-0.2**
SPN				*S*	**S**		**23 05 45.6**		**-1.9**
SPN	**Mys Shipunski**	**3.19**	**109**	*e*P	**P**		**23 04 49.3**		**-0.2**
SPN				*e*S	**S**		**23 05 45.6**		**-1.9**
KMNR	**Kamenistaya**	**3.36**	**61**	*e*P	**P**		**23 04 52.6**		**+1.8**
SRDR	**Sredinnyy**	**3.39**	**50**	*e*P	**P**		**23 04 53.3**		**+2.4**
MKZ	**Mys Kozlova**	**3.93**	**83**	PN	**P**		**23 04 55.0**		**-0.1**
MKZ				*S*	**S**		**23 05 56.0**		**-1.8**
MKZ	**Mys Kozlova**	**3.93**	**83**	P	**P**		**23 04 55.0**		**-0.1**
MKZ				*e*S	**S**		**23 05 56.0**		**-1.8**
KBTR	**Krutoberegovo**	**4.87**	**63**	PN	**P**		**23 05 02.8**		**-0.4**
KBTR				*S*	**S**		**23 06 09.7**		**-3.0**
KBTR	**Krutoberegovo**	**4.87**	**63**	*e*P	**P**		**23 05 02.8**		**-0.4**
KBTR				*e*S	**S**		**23 06 09.7**		**-3.0**
ILAR	**Eielson Array**	**30.17**	**46**	P	**P**		**23 09 09.2**		**+1.7**
	comp=Z,0.4nm,0.6s,baz=277,slow=9.6,SNR=9.9								
INK	**Inuvik**	**34.81**	**38**	P	**P**		**23 09 47.7**		**+0.9**
	comp=Z,0.3nm,0.4s,baz=301,slow=9.3,SNR=3.7								
YKA	**Yellowknife Ar**	**44.32**	**42**	P	**P**		**23 11 06.0**		**+2.3**
	comp=Z,0.2nm,0.5s,baz=304,slow=7.5,SNR=4.3								
KURK	**Kurchatov**	**44.54**	**298**	P	**P**		**23 11 03.9**		**-1.6**
	comp=Z,0.2nm,0.3s,baz=54,slow=8.4,SNR=4.1								
KURK	**Kurchatov**	**44.54**	**298**	P	**P**		**23 11 03.9**		**-1.6**
MKAR	**Makanchi Array**	**44.92**	**292**	P	**P**		**23 11 06.6**		**-2.0**
	comp=Z,0.2nm,0.4s,baz=60,slow=6.0,SNR=14								
MKAR	**Makanchi Array**	**44.92**	**292**	P	**P**		**23 11 06.6**		**-2.0**
BVAR	**Borovoye Array**	**47.28**	**305**	P	**P**		**23 11 24.2**		**-2.2**
	comp=Z,0.9nm,0.4s,baz=59,slow=7.3,SNR=10								
BVAR	**Borovoye Array**	**47.28**	**305**	P	**P**		**23 11 24.2**		**-2.2**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**72.89**	**64**	P	**P**		**23 14 18.4**		**+1.0**
	comp=Z,0.2nm,0.5s,baz=331,slow=7.2,SNR=3.3								
TXAR	**Lajitas Array**	**72.89**	**64**	P	**P**		**23 14 18.4**		**+1.0**
WRA	**Warramunga Arr**	**76.00**	**200**	P	**P**		**23 14 33.8**		**-1.0**
	comp=Z,0.8nm,0.8s,baz=14,slow=5.9,SNR=5.7								
WRA	**Warramunga Arr**	**76.00**	**200**	P	**P**		**23 14 33.8**		**-1.0**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**79.71**	**200**	P	**P**		**23 14 54.8**		**0.0**
	comp=Z,0.4nm,0.4s,baz=11,slow=5.2,SNR=7.3								
ASAR	**Alice Springs**	**79.71**	**200**	P	**P**		**23 14 54.8**		**0.0**

*NNC **20** 23:13:09.1±1.1, 39.14N×70.25E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=8.0km s-min=6.5km az=15.0*

ISC 20 23:13:12.0±2.7, 39.2N±0.2×70.34E±0.09, h13km, n12, σ1§17/24, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
AML	**Almayashu**	**3.88**	**40**	P	**Pn**		**23 14 11.1**		**-0.7**
	SNR=33								
AML				P	**Pn**		**23 14 11.1**		**-0.7**
	SNR=33								
KK31	**Karatay Array**	**3.90**	**2**	Pn	**Pn**		**23 14 14.0**		**+2.3**
	1.0nm,0.3s,baz=172,slow=12,SNR=40								
KK31				⇑Sn	**Sb**		**23 15 04.9**		**-2.9**
	15nm,0.6s								
KK31				⇑Lg	Lg		23 15 13.6		
	16nm,0.6s,baz=179,slow=29,SNR=3.7								
EKS2	**Erkin-Say**	**4.33**	**36**	P	**Pn**		**23 14 17.8**		**+0.1**
	SNR=6.5								
EKS2				P	**Pn**		**23 14 17.8**		**+0.1**
	SNR=6.5								
AAK	**Ala-Archa**	**4.65**	**41**	P	**Pn**		**23 14 22.7**		**+0.5**
	SNR=18								
AAK				P	**Pn**		**23 14 22.7**		**+0.5**
	SNR=18								
KZA	**Kyzart**	**4.71**	**51**	P	**Pn**		**23 14 23.1**		**-0.2**
	SNR=6.3								
KZA				P	**Pn**		**23 14 23.1**		**-0.2**
	SNR=6.3								
KBK	**Karagaybulak**	**4.91**	**44**	P	**Pn**		**23 14 25.7**		**0.0**
	SNR=19								
KBK				P	**Pn**		**23 14 25.7**		**0.0**
	SNR=19								
CHMS	**Chumysh**	**5.05**	**40**	P	**Pn**		**23 14 27.3**		**-0.2**
	SNR=11								
CHMS				P	**Pn**		**23 14 27.3**		**-0.2**
	SNR=11								
USP	**Ospenovka**	**5.13**	**36**	P	**Pn**		**23 14 28.1**		**-0.5**
	SNR=12								
USP				P	**Pn**		**23 14 28.1**		**-0.5**
	SNR=12								
TKM2	**Tokmak 2**	**5.44**	**45**	P	**Pn**		**23 14 33.5**		**+0.5**
	SNR=15								
TKM2				P	**Pn**		**23 14 33.5**		**+0.5**
	SNR=15								
TKM2	**Tokmak 2**	**5.44**	**45**	⇑Pn	**Pn**		**23 14 32.3**		**-0.7**
	4.2nm,0.3s								
TKM2				⇑Sn	**Sn**		**23 15 38.8**		**+3.2**
	6.4nm,0.7s								
AB31	**Akbulak array**	**12.50**	**327**	Pn	**Pn**		**23 16 08.6**		**-1.0**
	0.4nm,0.4s,baz=138,slow=15,SNR=32								
AB31				⇑Sn	**Sn**		**23 18 29.2**		**+0.6**
	1.3nm,0.6s,baz=154,slow=19,SNR=7.2								
AKTO	**Aktyubinsk**	**14.21**	**326**	⇓Pn	**Pn**		**23 16 32.4**		**-0.5**
	0.4nm,0.8s								
AKTO				⇑Sn	**Sn**		**23 19 10.7**		**+0.3**
	0.3nm,0.6s								

*IDC **20** 23:17:36.4±1.0, 17.63N×79.38W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML4.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=37.2km s-min=25.3km az=26.0*
*NEIC **20** 23:17:37.5±0.4, 17.60N×79.35W, h10km, mb4.2/1, Error ellipse: s-maj=8.6km s-min=6.0km az=168.0*
*ISCJB **20** 23:17:38.8±0.5, 17.50N±0.08×79.39W±0.04, h33km, mb3.6/8, Error ellipse: s-maj=11.1km s-min=5.5km az=164.8*
*JSN **20** 23:17:40.4±4.0, 18.34N×79.42W, h127km±89km, MD4.6*

ISC 20 23:17:41.0±0.6, 17.59N±0.10×79.37W±0.07, h35km, n38, σ1§02/43, mb3.5/8, 1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MCJ	**Malvern**	**1.63**	**78**	*i*	P	**Pn**	**23 18 08.9**		**+1.5**
MBJ	**Montego Bay**	**1.64**	**60**	*e*	P	**Pn**	**23 18 07.7**		**+0.3**
MBJ				*i*	S	**Sn**	**23 18 27.4**		**0.0**
MTDJ	**Mount Denham**	**1.85**	**70**	*e*	Pn	**Pn**	**23 18 09.1**		**-1.3**
MTDJ				*e*	Sn	**Sn**	**23 18 33.0**		**+0.3**
PCJ	**Portland Cotta**	**2.11**	**86**	*e*	P	Pn	23 18 17.2		+3.3
BBJ	**Bamboo Saint A**	**2.15**	**68**	*i*	P	**Pn**	**23 18 15.1**		**+0.7**
STH	**Stony Hill**	**2.48**	**78**	*e*	P	**Pn**	**23 18 18.6**		**-0.4**
HOJ	**Hope**	**2.53**	**80**	*e*	P	**Pn**	**23 18 18.6**		**-1.0**
GWJ	**Greenwich**	**2.56**	**79**	*e*	P	**Pn**	**23 18 19.0**		**-1.2**
YHJ	**Yallahs**	**2.75**	**83**	*i*	P	Pn	23 18 27.5		+4.7
CMJ	**Castle Mountai**	**2.90**	**79**	*e*	P	**Pn**	**23 18 24.4**		**-0.4**
GTBY	**Guantanamo Bay**	**4.65**	**59**	*e*	Pn	**Pn**	**23 18 47.1**		**-1.7**
GTBY				*e*	Sn	**Sn**	**23 19 39.2**		**-2.4**
SDDR	**Presa de Saban**	**7.80**	**79**	*e*	Pn	**Pn**	**23 19 30.8**		**-1.3**
BCIP	**Isla Barro Col**	**8.39**	**183**	*e*	Pn	**Pn**	**23 19 39.4**		**-0.8**
GRTK	**Grand Turk**	**8.69**	**62**	*e*	Pn	**Pn**	**23 19 43.0**		**-1.2**
TEIG	**Tepich**	**8.83**	**289**		Pn	**Pn**	**23 19 44.6**		**-1.6**
	5.5nm,0.3s,baz=89,slow=4.4,SNR=11								
TEIG					Sn	Sn	23 21 16.9		-7.6
	baz=112,slow=5.4,SNR=1.7								
TEIG	**Tepich**	**8.83**	**289**	*e*	Pn	**Pn**	**23 19 44.3**		**-1.9**
TEIG					Sn	Sn	23 21 16.9		-7.6
JTS	**JuntasAbangare**	**9.06**	**217**		LR	LR	23 23 00.6		
	comp=Z,70nm,19.1s,baz=337,slow=36								
JTS	**JuntasAbangare**	**9.06**	**217**	*e*	Pn	**Pn**	**23 19 48.8**		**-0.7**
IGUA	**Igualata**	**18.98**	**178**	⇓	S	S	23 25 34.0		-0.6
JCT	**Junction City**	**22.60**	**308**	*e*	P	**P**	**23 22 39.2**		**+0.5**
	9.9nm,1.0s								
TXAR	**Lajitas Array**	**25.11**	**302**	P		**P**	**23 23 02.5**		**-0.3**
	0.8nm,0.7s,baz=112,slow=11,SNR=11								
TXAR				PcP		**PcP**	**23 26 37.6**		**+1.0**
	0.3nm,0.8s,baz=106,slow=5.9,SNR=3.6								
TXAR	**Lajitas Array**	**25.11**	**302**	P		**P**	**23 23 02.5**		**-0.3**
TXAR				PcP		**PcP**	**23 26 37.6**		**+1.0**
PDAR	**Pinedale Array**	**35.87**	**321**	P		**P**	**23 24 38.1**		**+0.2**
	0.4nm,0.8s,baz=123,slow=9.8,SNR=3.2								
PDAR	**Pinedale Array**	**35.87**	**321**	P		**P**	**23 24 38.1**		**+0.2**
NVAR	**Mina Array Bea**	**39.77**	**309**	P		**P**	**23 25 12.6**		**+1.7**
	0.3nm,0.5s,baz=120,slow=8.3,SNR=6.1								
NVAR	**Mina Array Bea**	**39.77**	**309**	P		**P**	**23 25 12.6**		**+1.7**
YKA	**Yellowknife Ar**	**51.11**	**340**	P		**P**	**23 26 39.6**		**-0.4**
	0.5nm,0.8s,baz=132,slow=8.2,SNR=9.9								
YKA	**Yellowknife Ar**	**51.11**	**340**	P		**P**	**23 26 39.6**		**-0.4**
ILAR	**Eielson Array**	**64.68**	**334**	P		**P**	**23 28 15.3**		**+0.2**
	0.6nm,0.6s,baz=113,slow=4.3,SNR=14								
ILAR	**Eielson Array**	**64.68**	**334**	P		**P**	**23 28 15.3**		**+0.2**
TORD	**Torodi Ar. Bea**	**77.74**	**80**	P		**P**	**23 29 35.8**		**+0.8**
	0.3nm,0.7s,baz=305,slow=5.1,SNR=3.0								
TORD	**Torodi Ar. Bea**	**77.74**	**80**	P		**P**	**23 29 35.8**		**+0.8**
FINES	**FINESS Array B**	**81.87**	**28**	P		**P**	**23 29 57.9**		**+1.4**
	2.4nm,0.8s,baz=243,slow=2.1,SNR=7.4								
FINES	**FINESS Array B**	**81.87**	**28**	P		**P**	**23 29 57.9**		**+1.4**
WRA	**Warramunga Arr**	**148.03**	**260**	PKP		**PKPdf**	**23 37 20.7**		**+0.1**
	1.8nm,0.8s,baz=88,slow=2.9,SNR=12								
WRA				PKPbc		**PKPbc**	**23 37 24.3**		**+0.5**
	1.7nm,0.8s,baz=84,slow=2.1,SNR=13								
WRA	**Warramunga Arr**	**148.03**	**260**	PKP		**PKPdf**	**23 37 20.7**		**+0.1**
WRA				PKPbc		**PKPbc**	**23 37 24.3**		**+0.5**
ASAR	**Alice Springs**	**148.33**	**253**	PKP		**PKPdf**	**23 37 21.5**		**+0.5**
	1.5nm,0.7s,baz=103,slow=2.7,SNR=9.4								
ASAR				PKPbc		**PKPbc**	**23 37 24.7**		**+0.2**
	1.6nm,0.7s,baz=100,slow=2.8,SNR=16								
ASAR	**Alice Springs**	**148.33**	**253**	PKP		**PKPdf**	**23 37 21.5**		**+0.5**
ASAR				PKPbc		**PKPbc**	**23 37 24.7**		**+0.2**

*NIED **20** 23:23:00,

ILAR	**Eielson Array**	**57.39**	**28**	P		**P**	**23 33 31.2**	**-1.2**
	1.6nm,0.9s,baz=259,slow=6.0,SNR=16								
ILAR	**Eielson Array**	**57.39**	**28**	P		**P**	**23 33 31.2**	**-1.2**
KKAR	**Karatay Array**	**60.63**	**306**	*eP*		**P**	**23 33 56.3**	**+1.0**
	2.7nm,0.8s								
INK	**Inuvik**	**62.82**	**24**	P		**P**	**23 34 09.3**	**-0.3**
	1.4nm,0.9s,baz=281,slow=4.2,SNR=4.9								
INK	**Inuvik**	**62.82**	**24**	*eP*		**P**	**23 34 08.9**	**-0.7**
	0.6nm,0.4s								
KBL	**Kabul**	**63.64**	**297**	*eP*		**P**	**23 34 16.0**	**+0.1**
	5.9nm,1.4s								
ABKAR	**Akbulak array**	**66.55**	**315**	*eP*		**P**	**23 34 34.1**	**-0.1**
	0.8nm,0.6s								
YKA	**Yellowknife Ar**	**71.82**	**29**	P		**P**	**23 35 06.6**	**0.0**
	0.6nm,0.7s,baz=291,slow=5.9,SNR=8.7								
YKA	**Yellowknife Ar**	**71.82**	**29**	P		**P**	**23 35 06.7**	**0.0**
FINES	**FINESS Array B**	**79.06**	**334**	P		**P**	**23 35 50.0**	**+1.8**
	8.1nm,1.2s,baz=72,slow=8.9,SNR=3.8								
FINES	**FINESS Array B**	**79.06**	**334**	P		**P**	**23 35 50.0**	**+1.8**

IGQ 20 23:24:53.6, 2°.18S×79°.66W, h21km±72km, Mb4.0, Ms3.8, 2C-1D, Error ellipse: s-maj=9.1km s-min=3.0km az=4.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
IGUA	**Igualata**	**1.23**	**56**	⇓P	Pb		23 25 17.1	+0.2
BMAS	**Trigal station**	**1.36**	**60**	P	Pb		23 25 19.0	+0.2
ARRY	**Arrayan**	**1.38**	**61**	P	Pb		23 25 18.7	-0.4
BBIL	**Ulba Tungurahu**	**1.38**	**58**	S	Sb		23 25 37.7	+1.0
BBIL	**Ulba Tungurahu**	**1.38**	**58**	P	Pb		23 25 20.8	+1.7
PAT1	**Patacocha**	**1.39**	**61**	S	Sb		23 25 37.7	+0.4
PAT1	**Patacocha**	**1.39**	**61**	P	Pb		23 25 19.3	-0.2
RETU	**Refugio**	**1.41**	**59**	P	Pb		23 25 19.6	-0.3
BULB	**Ulba Tungurahu**	**1.45**	**59**	P	Pb		23 25 22.0	+1.5
BULB	**Ulba Tungurahu**	**1.45**	**59**	S	Sb		23 25 40.6	+1.8
PISA	**Pisayambo**	**1.69**	**49**	P	Pb		23 25 24.8	0.0
BMOR	**Cotopaxi Volca**	**1.88**	**40**	P	Pb		23 25 27.0	-0.9
CAMI	**Rancho Maria**	**1.89**	**38**	P	Pb		23 25 28.0	0.0
MOV1	**Cotopaxi Vol s**	**1.90**	**40**	P	Pb		23 25 27.4	-1.0
BNAS	**Cotopaxi Volca**	**1.91**	**38**	⇑P	Pb		23 25 28.3	-0.1
BREF	**Cotopaxi Volca**	**1.93**	**39**	P	Pb		23 25 28.9	-0.1
BTAM	**Cotopaxi Volca**	**1.96**	**40**	P	Pb		23 25 28.8	-0.5
BVC2	**Cotopaxi Volca**	**1.96**	**39**	P	Pb		23 25 28.8	-0.6
VC1	**Cotopaxi 1**	**1.98**	**39**	⇑P	Pb		23 25 28.9	-0.8
COV1	**Cotopaxi Volc**	**2.00**	**41**	P	Pn		23 25 28.5	+1.5
TERV	**Terraza Guagua**	**2.26**	**28**	S	Sb		23 26 00.7	-1.7
TERV	**Terraza Guagua**	**2.26**	**28**	P	Pn		23 25 32.2	+1.8
GGP	**Refugio Guagua**	**2.26**	**28**	P	Pn		23 25 32.1	+1.6

IDC 20 23:26:37.1±2.9, 22°.18S×170°.86E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/16, mbtmp3.5/3, ML3.7/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/12, Error ellipse: s-maj=119.5km s-min=41.1km az=167.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BAYA	**Yate Dam**	**3.68**	**270**	*eS*	Sn		23 28 17.2	-2.2
DZM	**Mont Dzumac**	**4.09**	**271**	Pn	Pn		23 27 43.1	+2.0
	4.4nm,0.3s,baz=88,slow=21,SNR=56							
DZM				Sn	Sn		23 28 29.0	-0.8
	13nm,0.3s,baz=119,slow=19,SNR=18							
NOUC	**Port Laguerre**	**4.22**	**270**	*eP*	Pn		23 27 43.8	+1.1
NOUC				*eS*	Sn		23 28 30.7	-2.0
RPZ	**Rata Peaks**	**21.48**	**180**	LR	LR		23 38 07.9	
	comp=Z,62nm,19.9s,baz=36,slow=32							
STKA	**Stephens Creek**	**27.72**	**243**	LR	LR		23 42 52.3	
	comp=Z,63nm,18.3s,baz=26,slow=35							
ASAR	**Alice Springs**	**34.01**	**260**	P	P		23 33 22.8	-0.2
	0.7nm,0.7s,baz=88,slow=9.3,SNR=9.7							
WRA	**Warramunga Arr**	**34.10**	**267**	P	P		23 33 22.7	-1.0
	0.1nm,0.3s,baz=100,slow=8.4,SNR=2.4							
KAPI	**Kappang**	**52.24**	**281**	LR	LR		23 55 00.6	
	comp=Z,91nm,19.9s,baz=91,slow=33							
GERES	**GERESS Array B**	**147.78**	**331**	PKPbc	PKPbc		23 46 23.5	-0.4
	1.0nm,0.7s,baz=30,slow=3.8,SNR=3.9							

IDC 20 23:28:11.5±2.2, 13°.36S×66°.82E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, MS3.9/4, Ms1 3.8/4, ms1mx3.3/33, Error ellipse: s-maj=83.8km s-min=26.3km az=50.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BOSA	**Boshof**	**41.44**	**242**	LR	LR		23 50 48.8	
	comp=Z,68nm,22.0s,baz=172,slow=33							
BRTR	**Keskin Array B**	**61.18**	**331**	P	P		23 38 27.4	-0.8
	0.3nm,0.4s,baz=150,slow=6.0,SNR=3.8							
MKAR	**Makanchi Array**	**61.47**	**12**	P	P		23 38 29.6	-0.3
	0.3nm,0.7s,baz=204,slow=7.4,SNR=4.3							
ASAR	**Alice Springs**	**63.95**	**110**	P	P		23 38 47.2	+0.2
	0.3nm,0.6s,baz=263,slow=5.8,SNR=3.8							
KURK	**Kurchatov**	**64.64**	**8**	P	P		23 38 50.6	-0.2
	0.3nm,0.6s,baz=207,slow=7.2,SNR=4.2							
WRA	**Warramunga Arr**	**64.66**	**106**	P	P		23 38 51.2	-0.5
	1.0nm,0.9s,baz=272,slow=5.7,SNR=5.6							
ZALV	**Zalesovo Beam**	**68.78**	**11**	P	P		23 39 17.3	0.0
	0.4nm,0.4s,baz=203,slow=6.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**69.70**	**290**	LR	LR		00 06 58.1	
	comp=Z,112nm,18.0s,baz=330,slow=33							
DBIC	**Dimbokro**	**73.89**	**281**	LR	LR		00 08 28.4	
	comp=Z,99nm,21.9s,baz=91,slow=33							
CTA	**Charters Tower**	**75.75**	**108**	LR	LR		00 09 06.0	
	comp=Z,81nm,19.0s,baz=230,slow=32							
PDAR	**Pinedale Array**	**150.53**	**355**	PKPbc	PKPbc		23 48 06.2	+0.4
	1.4nm,0.9s,baz=92,slow=2.7,SNR=8.7							

*IDC **20** 23:32:09.7±1.0, 38°.14N×22°.59E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/25, mbtmp3.7/8, Error ellipse: s-maj=39.4km s-min=20.0km az=143.0*
*ISCJB **20** 23:32:11.5±0.3, 38°.18N±0°.02×22°.67E±0°.02, h20km±3km, mb3.7/8, Error ellipse: s-maj=3.1km s-min=2.6km az=41.0*
*CSEM **20** 23:32:11.3±0.1, 38°.16N×22°.68E, h10km, ML3.6/8, Error ellipse: s-maj=3.4km s-min=3.0km az=12.0*
*ATH **20** 23:32:11.4, 38°.14N×22°.62E, h24km±1km, ML3.7*
*THE **20** 23:32:12.0, 38°.14N×22°.61E, h8km±1km, ML3.6/8, Error ellipse: s-maj=1.4km s-min=0.6km az=220.0*

ISC 20 23:32:11.8±0.9, 38°.15N±0°.02×22°.64E±0°.01, h12km±6km, n189, σ1°.14/223, mb3.8/8, 9C, Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DSF	**Desfina**	**0.27**	**341**	P	**Pg**		**23 32 17.2**	**-0.2**
DSF				S	**Sg**		**23 32 21.8**	**+0.5**
DSF	**Desfina**	**0.27**	**341**	P	**Pg**		23 32 17.2	-0.2
DSF				S	**Sg**		**23 32 21.7**	**+0.5**
LTK	**Loutraki**	**0.29**	**117**	P	**Pg**		**23 32 17.9**	**+0.2**
LTK				S	**Sb**		**23 32 23.1**	**+0.7**
LTK	**Loutraki**	**0.29**	**117**	*e*PB	**Pg**		**23 32 17.9**	**+0.2**
LTK				*e*SB	**Sb**		**23 32 23.9**	**+0.1**
LTK	**Loutraki**	**0.29**	**117**	P	**Pg**		**23 32 17.9**	**+0.2**
LTK				S	**Sg**		**23 32 22.4**	**+0.7**
LTK				*e*Sb	**Sb**		**23 32 23.9**	**+0.1**
GUR	**Goura**	**0.32**	**227**	P	**Pg**		23 32 17.9	-0.4
GUR				S	**Sg**		23 32 22.0	-0.6
GUR	**Goura**	**0.32**	**227**	P	**Pg**		23 32 17.9	-0.4
GUR				S	**Sg**		23 32 22.0	-0.6
KALE	**Kalithea**	**0.46**	**301**	P	**Pg**		23 32 20.5	-0.3
KALE				S	**Sg**		**23 32 27.5**	**+0.6**
KALE	**Kalithea**	**0.46**	**301**	P	**Pg**		23 32 20.5	-0.3
KALE				S	**Sg**		**23 32 27.5**	**+0.6**
TRIZ	**Trizonia**	**0.49**	**296**	P	**Pg**		23 32 21.1	-0.3
TRIZ	**Trizonia**	**0.49**	**296**	P	**Pg**		23 32 21.1	-0.3
LAKA	**Lakka**	**0.53**	**280**	P	**Pg**		23 32 21.7	-0.4
LAKA				S	**Sg**		23 32 28.7	-0.4
LAKA	**Lakka**	**0.53**	**280**	P	**Pg**		23 32 21.7	-0.4
LAKA				S	**Sg**		23 32 28.7	-0.4
LKR	**Lokris**	**0.57**	**30**	*e*PN	**Pg**		23 32 22.3	-0.6
LKR				*e*SN	**Sb**		23 32 31.9	0.0
LKR	**Lokris**	**0.57**	**30**	*e*Pn	**Pg**		23 32 22.3	-0.6
LKR				*e*Sn	**Sb**		23 32 31.9	0.0
EFP	**Efpalio**	**0.64**	**296**	P	**Pg**		23 32 23.7	-0.4
EFP				S	**Sb**		23 32 33.4	-0.4
EFP	**Efpalio**	**0.64**	**296**	*e*PN	**Pg**		23 32 23.7	-0.4
EFP				*e*SN	**Sb**		23 32 33.3	-0.5
EFP	**Efpalio**	**0.64**	**296**	P	**Pg**		23 32 23.8	-0.4
EFP				*e*Sn	**Sb**		23 32 33.3	-0.5
UPR	**University Cam**	**0.68**	**281**	P	**Pg**		23 32 24.9	-0.1
UPR	**University Cam**	**0.68**	**281**	*e*PN	**Pb**		23 32 25.3	-0.4
UPR	**University Cam**	**0.68**	**281**	*e*Pn	**Pb**		23 32 25.3	-0.4
NAIG	**Nisos Aigina**	**0.78**	**120**	*e*PN	**Pg**		23 32 27.1	+0.2
NAIG	**Nisos Aigina**	**0.78**	**120**	*e*Pn	**Pg**		23 32 27.1	+0.2
DID	**Didima**	**0.80**	**144**	P	**Pg**		23 32 26.6	-0.7
DID				S	**Sb**		23 32 39.0	+0.5
DID	**Didima**	**0.80**	**144**	*e*PN	**Pg**		23 32 26.8	-0.5
DID				*e*SN	**Sb**		23 32 39.1	+0.5
DID	**Didima**	**0.80**	**144**	P	**Pg**		23 32 26.7	-0.5
DID				S	**Sg**		23 32 38.1	+0.3
DID				*e*Sn	**Sb**		23 32 39.1	+0.5
VLX	**Vlachokerasia**	**0.81**	**195**	P	**Pg**		23 32 26.8	-0.6
VLX	**Vlachokerasia**	**0.81**	**195**	*e*PN	**Pg**		23 32 26.8	-0.6
VLX				*e*SN	**Sg**		23 32 37.6	-0.4
VLX	**Vlachokerasia**	**0.81**	**195**	P	**Pg**		23 32 26.8	-0.6
VLX				*e*Sn	**Sg**		23 32 37.6	-0.4
VLX				S	**Sb**		23 32 38.2	-0.6
ATH	**Athens Observa**	**0.87**	**102**	*e*PN	**Pb**		23 32 29.1	+0.2
ATH				*e*SN	**Sb**		23 32 41.0	+0.5
ATH	**Athens Observa**	**0.87**	**102**	*e*Pn	**Pb**		23 32 29.1	+0.2
ATH				*e*Sn	**Sb**		23 32 41.0	+0.5
MRKA	**Markates**	**0.93**	**53**	P	**Pg**		23 32 28.5	-1.2
MRKA				S	**Sn**		23 32 45.1	+1.1
MRKA	**Markates**	**0.93**	**53**	P	**Pg**		23 32 28.5	-1.2
RLS	**Riolos of Patr**	**0.93**	**264**	*e*PB	**Pg**		23 32 28.4	-1.3
RLS	**Riolos of Patr**	**0.93**	**264**	*e*Pb	**Pg**		23 32 28.4	-1.3
MAKR	**Makrakomi, Fth**	**0.94**	**335**	P	**Pg**		23 32 29.7	-0.3
MAKR	**Makrakomi, Fth**	**0.94**	**335**	P	**Pg**		23 32 29.7	-0.3
VLY	**Voula,Athens**	**0.96**	**108**	*e*PN	**Pg**		23 32 30.8	+0.5
VLY				*e*SN	**Sb**		23 32 43.2	+0.1
VLY	**Voula,Athens**	**0.96**	**108**	*e*Pn	**Pg**		23 32 30.8	+0.5
VLY				*e*Sn	**Sb**		23 32 43.3	+0.1
ERET	**Eretria**	**0.96**	**72**	P	**Pb**		23 32 29.7	-0.8
ERET				S	**Sn**		23 32 45.7	+0.7
ERET	**Eretria**	**0.96**	**72**	P	**Pb**		23 32 29.7	-0.8
PTL	**Penteli**	**0.97**	**96**	*e*PN	**Pb**		23 32 30.6	0.0
PTL				*e*SN	**Sg**		23 32 43.9	+0.7
PTL	**Penteli**	**0.97**	**96**	*e*Pn	**Pb**		23 32 30.6	0.0
PTL				*e*Sn	**Sg**		23 32 43.9	+0.7
EVR	**Evrytania**	**1.00**	**320**	*e*PN	**Pn**		23 32 31.5	-0.3
EVR	**Evrytania**	**1.00**	**320**	*e*Pn	**Pn**		23 32 31.5	-0.3
ITM	**Ithomi**	**1.12**	**210**	*e*PN	**Pb**		23 32 32.2	-1.0
ITM	**Ithomi**	**1.12**	**210**	*e*Pn	**Pb**		23 32 32.2	-1.0
SKIA	**Skiathos**	**1.20**	**32**	P	**Pn**		23 32 34.4	-0.1
SKIA	**Skiathos**	**1.20**	**32**	P	**Pn**		23 32 34.4	-0.1
NEO	**Neokhori**	**1.24**	**22**	*e*PN	**Pn**		23 32 34.7	-0.3
NEO	**Neokhori**	**1.24**	**22**	*e*Pn	**Pn**		23 32 34.7	-0.3
XOR	**Xorichti**	**1.29**	**20**	P	**Pn**		23 32 35.4	-0.3
XOR	**Xorichti**	**1.29**	**20**	P	**Pn**		23 32 35.4	-0.3
MRMA	**Marmari**	**1.38**	**93**	P	**Pn**		23 32 37.2	+0.3
MRMA	**Marmari**	**1.38**	**93**	P	**Pn**		23 32 37.2	+0.3
AOS	**Alonnisos**	**1.41**	**43**	P	**Pn**		23 32 36.7	-0.6
AOS				S	**Sg**		23 32 59.6	+2.5
AOS	**Alonnisos**	**1.41**	**43**	P	**Pn**		23 32 36.7	-0.6
DYR	**Agios Nikonas**	**1.41**	**190**	P	**Pn**		23 32 37.2	-0.2
PYL	**PYLOS**	**1.44**	**210**	P	**Pn**		23 32 38.1	+0.2
PYL	**PYLOS**	**1.44**	**210**	*e*PN	**Pn**		23 32 38.0	+0.2
PYL	**PYLOS**	**1.44**	**210**	*e*Pn	**Pn**		23 32 38.0	+0.2
VLI	**Veliai**	**1.45**	**170**	*e*PN	**Pn**		23 32 38.0	+0.1
VLI				*e*SN	**Sb**		23 32 57.2	0.0
VLI	**Veliai**	**1.45**	**170**	*e*Pn	**Pn**		23 32 38.0	+0.1
VLI				*e*Sn	**Sb**		23 32 57.2	0.0
KFL	**Anninata**	**1.46**	**269**	P	**Pg**		23 32 39.9	+0.1
KFL	**Anninata**	**1.46**	**269**	P	**Pg**		23 32 39.5	-0.3
THL	**Klokotos Trika**	**1.49**	**341**	*e*PN	**Pb**		23 32 39.2	-0.2
THL	**Klokotos Trika**	**1.49**	**341**	*e*Pn	**Pb**		23 32 39.2	-0.2
LIT	**Valsamata**	**1.61**	**271**	*e*PN	**Pn**		23 32 40.7	+0.5
VLS	**Valsamata**	**1.61**	**271**	*e*Pn	**Pn**		23 32 40.7	+0.5
LKD2	**Lefkada island**	**1.68**	**293**	*e*PN	**Pb**		23 32 43.2	+0.5
LKD2	**Lefkada island**	**1.68**	**293**	*e*Pn	**Pb**		23 32 43.2	+0.5
KYTH	**Kithira**	**1.90**	**170**	*e*PN	**Pb**		23 32 45.3	-1.1
KYTH	**Kithira**	**1.90**	**170**	*e*Pn	**Pb**		23 32 45.3	-1.1
LIT	**Litokhoron**	**1.95**	**357**	P	**Pn**		23 32 44.9	+0.1
LIT	**Litokhoron**	**1.95**	**357**	*e*PB	**Pn**		23 32 44.9	+0.1
LIT	**Litokhoron**	**1.95**	**357**	P	**Pn**		23 32 44.9	+0.1
PAIG	**Paliouri**	**1.95**	**24**	P	**Pn**		23 32 44.5	-0.2
PAIG	**Paliouri**	**1.95**	**24**	P	**Pn**		23 32 44.5	-0.2
JAN	**Janina**	**2.05**	**318**	*e*PB	**Pb**		23 32 47.8	-1.2
JAN				*e*SN	**Sn**		23 33 12.2	+0.5
JAN	**Janina**	**2.05**	**318**	*e*Pb	**Pb**		23 32 47.8	-1.2
JAN				*e*Sn	**Sn**		23 33 12.2	+0.5
KZN	**Kozani**	**2.25**	**343**	*e*PN	**Pn**		23 32 49.1	+0.1
KZN	**Kozani**	**2.25**	**343**	*e*Pn	**Pn**		23 32 49.1	+0.1
HORT	**Hortiatis**	**2.47**	**8**	P	**Pn**		23 32 52.0	0.0
HORT	**Hortiatis**	**2.47**	**8**	P	**Pn**		23 32 52.0	0.0
APE	**Apeiranthos**	**2.54**	**114**	*e*PN	**Pn**		23 32 52.6	-0.3
APE	**Apeiranthos**	**2.54**	**114**	*e*PN	**Pn**		23 32 53.3	+0.4
APE	**Apeiranthos**	**2.54**	**114**	*e*Pn	**Pn**		23 32 53.3	+0.4
KEK	**Kerkira**	**2.71**	**306**	*e*PN	**Pn**		23 32 55.8	+0.6
KEK	**Kerkira**	**2.71**	**306**	*e*Pn	**Pn**		23 32 55.8	+0.6
SOH	**Sokhos**	**2.72**	**12**	P	**Pn**		23 32 55.9	+0.5
SOH	**Sokhos**	**2.72**	**12**	*e*PN	**Pn**		23 32 55.9	+0.5
SOH	**Sokhos**	**2.72**	**12**	P	**Pn**		23 32 55.9	+0.5
FNA	**Florina**	**2.80**	**340**	P	**Pn**		23 32 57.7	+1.2
FNA	**Florina**	**2.80**	**340**	P	**Pn**		23 32 57.7	+1.2
GRG	**Griva**	**2.81**	**356**	P	**Pn**		23 32 56.9	+0.3
GRG	**Griva**	**2.81**	**356**	P	**Pn**		23 32 56.9	+0.3
KARN	**Karanos**	**2.93**	**159**	P	**Pn**		23 32 59.1	+0.8
KARN	**Karanos**	**2.93**	**159**	P	**Pn**		23 32 59.1	+0.8
KNT	**Kendrikon**	**3.01**	**4**	P	**Pn**		23 33 00.6	+1.2
KNT	**Kendrikon**	**3.01**	**4**	P	**Pn**		23 33 00.6	+1.2
VAM	**Vamos**	**3.02**	**155**	*e*PN	**Pn**		23 33 00.3	+0.9
VAM	**Vamos**	**3.02**	**155**	*e*Pn	**Pn**		23 33 00.3	+0.9
PRK	**Paraskevi**	**3.04**	**68**	*e*PN	**Pn**		23 33 01.2	+1.4
PRK	**Paraskevi**	**3.04**	**68**	*e*Pn	**Pn**		23 33 01.2	+1.4
SRS	**Serrai**	**3.05**	**14**	P	**Pn**		23 33 00.1	+0.2
SRS	**Serrai**	**3.05**	**14**	P	**Pn**		23 33 00.1	+0.2
VAY	**Valandovo**	**3.16**	**359**	*e*PN	**Pn**		23 32 02.9	+1.4
VAY	**Valandovo**	**3.16**	**359**	*e*Pn	**Pn**		23 33 01.3	-0.1
EZN	**Ezine**	**3.32**	**59**	*e*P	**Pn**		23 33 00.8	-2.8
EZN	**Ezine**	**3.32**	**59**	*e*P	**Pn**		23 33 00.8	-2.8
BLCB	**Balcova**	**3.47**	**85**	*e*P	**Pn**		23 33 03.2	-2.4
BLCB	**Balcova**	**3.47**	**85**	*e*P	**Pn**		23 33 03.3	-2.4
IZM	**Izmir**	**3.65**	**85**	*e*P	**Pn**		23 33 05.9	-2.3
IZM	**Izmir**	**3.65**	**85**	*e*P	**Pn**		23 33 05.9	-2.3
GELI	**Tayfur-Gelibol**	**3.73**	**52**	*e*P	**Pn**		23 33 06.8	-2.4
GELI	**Tayfur-Gelibol**	**3.73**	**52**	*e*P	**Pn**		23 33 06.8	-2.4
NPS	**Neapolis**	**3.75**	**139**	*e*PN	**Pn**		23 33 10.5	+1.0
NPS	**Neapolis**	**3.75**	**139**	*e*Pn	**Pn**		23 33 10.5	+1.0
ENEZ	**Enez**	**3.75**	**45**	*e*P	**Pn**		23 33 07.5	-2.1
ENEZ	**Enez**	**3.75**	**45**	*e*P	**Pn**		23 33 07.4	-2.1
BODT	**Bodrum**	**3.87**	**105**	*e*P	**Pn**		23 33 10.9	-0.2
BODT	**Bodrum**	**3.87**	**105**	*e*P	**Pn**		23 33 10.9	-0.2
LPK	**Lapseki**	**3.89**	**54**	*e*P	**Pn**		23 33 09.0	-2.4
LPK	**Lapseki**	**3.89**	**54**	*e*P	**Pn**		23 33 09.0	-2.4
ERIK	**Erikli-Kesan**	**3.92**	**49**	*e*P	**Pn**		23 33 09.5	-2.2
ERIK	**Erikli-Kesan**	**3.92**	**49**	*e*P	**Pn**		23 33 09.5	-2.2
BDRM	**Kayabasi**	**3.97**	**104**	*i* P	**Pg**		23 33 28.8	+1.0
BALY	**Balya**	**4.19**	**66**	*i* P	**Pn**		23 33 17.0	+1.3
BALY	**Balya**	**4.19**	**66**	*i* P	**Pn**		23 33 17.0	+1.3
KRBG	**Karabiga-Canak**	**4.25**	**57**	*e*P	**Pn**		23 33 14.1	-2.3
KRBG	**Karabiga-Canak**	**4.25**	**57**	*e*P	**Pn**		23 33 14.1	-2.3
RKY	**Sarkoy-Tekirda**	**4.33**	**53**	*e*P	**Pn**		23 33 15.3	-2.3
RKY	**Sarkoy-Tekirda**	**4.33**	**53**	*e*P	**Pn**		23 33 15.3	-2.3
GONE	**Gonen-Balikesi**	**4.36**	**63**	*e*P	**Pn**		23 33 15.6	-2.2
GONE	**Gonen-Balikesi**	**4.36**	**63**	*e*P	**Pn**		23 33 15.6	-2.2
MFT	**Murefte**	**4.45**	**52**	*e*P	**Pn**		23 33 17.5	-1.7
MFT	**Murefte**	**4.45**	**52**	*e*P	**Pn**		23 33 17.5	-1.7
YER	**Yerkesik**	**4.59**	**101**	*e*P	**Pn**		23 33 20.8	-0.4
YER	**Yerkesik**	**4.59**	**101**	*e*P	**Pn**		23 33 20.8	-0.4
BNT	**Bandirma**	**4.65**	**60**	*e*P	**Pn**		23 33 19.2	-2.7
BNT	**Bandirma**	**4.65**	**60**	*e*P	**Pn**		23 33 19.2	-2.7
KULA	**Kula-Manisa**	**4.75**	**84**	*e*P	**Pn**		23 33 21.1	-2.2
KULA	**Kula-Manisa**	**4.75**	**84**	*e*P	**Pn**		23 33 21.1	-2.2
DURS	**Dursunbey**	**4.78**	**71**	*i* P	**Pn**		23 33 25.0	+1.3
DURS	**Dursunbey**	**4.78**	**71**	*i* P	**Pn**		23 33 25.0	+1.3
EDRB	**Edirne**	**4.85**	**39**	*e*P	**Pn**		23 33 24.0	-0.6
EDRB	**Edirne**	**4.85**	**39**	*e*P	**Pn**		23 33 24.0	-0.6
FETY	**Fethiye**	**5.35**	**104**	*e*P	**Pn**		23 33 31.8	+0.3
FETY	**Fethiye**	**5.35**	**104**	*e*P	**Pn**		23 33 31.8	+0.3
KHAL	**Karahalli**	**5.40**	**86**	*i* P	**Pn**		23 33 34.8	+2.5
KHAL	**Karahalli**	**5.40**	**86**	*i* P	**Pn**		23 33 34.8	+2.5
CTKS	**Kestanelik-??a**	**5.47**	**54**	*e*P	**Pn**		23 33 31.5	-1.6
CTKS	**Kestanelik-??a**	**5.47**	**54**	*e*P	**Pn**		23 33 31.5	-1.6
YLV	**Yalova**	**5.75**	**63**	*e*P	**Pn**		23 33 36.2	-0.8
YLV	**Yalova**	**5.75**	**63**	*e*P	**Pn**		23 33 36.2	-0.8
ALT	**Altintas**	**5.92**	**79**	*e*P	**Pn**		23 33 38.0	-1.5
ALT	**Altintas**	**5.92**	**79**	*e*P	**Pn**		23 33 38.0	-1.5
ELL	**Elmali**	**5.95**	**101**	*e*P	**Pn**		23 33 40.0	+0.1
ELL	**Elmali**	**5.95**	**101**	*e*P	**Pn**		**23 33 40.0**	**+0.1**
SILT	**Sile**	**6.18**	**59**	*e*P	**Pn**		23 33 41.5	-1.4
SILT	**Sile**	**6.18**	**59**	*e*P	**Pn**		23 33 41.5	-1.4
GULT	**Gulveren**	**6.52**	**67**	*e*P	**Pn**		23 33 46.2	-1.4
GULT	**Gulveren**	**6.52**	**67**	*e*P	**Pn**		23 33 46.3	-1.4
SEYT	**Eskypehyr**	**6.55**	**75**	*i* P	**Pn**		**23 33 50.6**	**+2.5**
MDUB	**Mudurnu**	**7.03**	**68**	*e*P	**Pn**		23 33 53.5	-1.1
MDUB	**Mudurnu**	**7.03**	**68**	*e*P	**Pn**		23 33 53.5	-1.1
VOIR		**7.50**	**13**	⇑*i*P	**Pn**		23 34 00.6	-0.4
VOIR		**7.50**	**13**	S			23 34 08.8	
VOIR		**7.50**	**13**	⇑*i*P	**Pn**		**23 34 00.6**	**-0.4**
VOIR				*i* S			23 34 08.8	
VOIR		**7.50**	**13**	⇑*i*P	**Pn**		23 34 00.6	-0.4
ISR	**Istrita**	**7.55**	**22**	⇑*i*P	**Pn**		**23 34 03.4**	**+1.7**
ISR	**Istrita**	**7.55**	**22**	⇑*i*P	**Pn**		23 34 03.4	+1.7
ISR	**Istrita**	**7.55**	**22**	⇑*i*P	**Pn**		**23 34 03.4**	**+1.7**
MLR	**Muntele Rosu**	**7.74**	**18**	⇑*i*P	**Pn**		**23 34 02.3**	**-2.1**
MLR	**Muntele Rosu**	**7.74**	**18**	S			23 34 13.4	
MLR	**Muntele Rosu**

MKAR	Makanchi Array	30.57	41	P		P		00 23 17.6	0.0	
	0.3nm,0.9s,baz=232,slow=7.1,SNR=2.3									
ZALV	Zalesovo Beam	35.93	32	P		P		00 24 04.0	-0.2	
	0.7nm,0.5s,baz=240,slow=9.7,SNR=5.6									
TORD	Torodi Ar. Bea	49.93	265	P		P		00 25 58.1	-0.1	
	0.4nm,0.8s,baz=68,slow=5.5,SNR=2.7									

*DJA **21** 00:20:09,0.78S×133.25E,h15km,MLv4.0/3*
IDC 21 00:20:04.0±1.1,0.65S×133.45E,h0km,mb3.9/5, mb1 4.0/7,mb1mx3.8/18,mbtmp3.9/7,ML4.1/2,Error ellipse: s-maj=56.0km s-min=14.8km az=83.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.97	203	P	P	00 24 27.1	+0.1
	0.6nm,0.3s,baz=36,slow=16,SNR=9.9						
FITZ				S	Sn	00 27 45.8	-15
	0.2nm,0.3s,baz=177,slow=13,SNR=2.4						
WRA	Warramunga Arr	19.19	177	P	Pn	00 24 30.1	-0.3
	0.4nm,0.3s,baz=358,slow=13,SNR=20						
WRA				S	Sn	00 27 56.3	-10
	0.1nm,0.3s,baz=347,slow=23,SNR=5.3						
ASAR	Alice Springs	22.88	179	P	P	00 25 10.3	+0.9
	1.7nm,0.4s,baz=359,slow=12,SNR=32						
ASAR				S	S	00 29 20.4	0.0
	0.3nm,0.8s,baz=358,slow=22,SNR=3.0						
STKA	Stephens Creek	32.00	167	P	P	00 26 32.5	+0.4
	1.5nm,0.6s,baz=338,slow=6.0,SNR=3.8						
MKAR	Makanchi Array	65.00	324	P	P	00 30 46.0	+0.1
	2.0nm,0.7s,baz=109,slow=8.4,SNR=27						
ZALV	Zalesovo Beam	67.57	331	P	P	00 31 01.9	-0.3
	0.4nm,0.7s,baz=112,slow=6.6,SNR=3.5						
ILAR	Eielson Array	86.17	25	P	P	00 32 46.7	-0.3
	0.3nm,0.6s,baz=256,slow=5.1,SNR=9.3						

*CSEM **21** 00:28:52.6,64.60N×20.66W,h2km,ML3.5,After REY*
REY 21 00:28:52.6,64.60N×20.66W,h2km,ML2.6,ML3.5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IASB	`sbjarnarst	0.32	297	P	Pg	00 28 58.9	+0.2
IASB				S	Sg	00 29 03.6	+0.7
IGYG	Gygjarholskot	0.38	149	P	Pg	00 28 59.8	0.0
IGYG				S	Sg	00 29 05.1	+0.4
IHEI	Heioarbar	0.47	212	P	Pg	00 29 01.5	-0.2
IHEI				S	Sg	00 29 08.5	+0.7
IHVE	Hveravellir	0.54	60	P	Pg	00 29 02.3	-1.8
IHVE				S	Sg	00 29 09.5	-0.7
IKRO	Krokur	0.54	202	P	Pg	00 29 02.7	-0.3
IKRO				S	Sg	00 29 10.9	+0.8
IKUD	Kuludalsa	0.60	242	P	Pg	00 29 03.4	-0.6
IKUD				S	Sg	00 29 11.5	-0.2
ISAU	Saurbar	0.62	170	P	Pg	00 29 03.8	-0.7
ISAU				S	Sg	00 29 12.3	-0.3
ISAN	Sandskeio	0.68	216	P	Pg	00 29 04.7	-0.9
ISAN				S	Sg	00 29 13.9	-0.4
ISOL	Solvholt	0.69	190	P	Pg	00 29 04.9	-0.8
ISOL				S	Sg	00 29 14.4	-0.2
IHAU	Haukadalur	0.71	154	P	Pg	00 29 05.3	-0.8
IHAU				S	Sg	00 29 15.1	-0.1
IBJA	Bjarnastaoir	0.72	203	P	Pg	00 29 05.8	-0.5
IBJA				S	Sg	00 29 16.0	+0.5
IASM	Asmuli	0.77	178	P	Pg	00 29 06.2	-1.2
IASM				S	Sg	00 29 16.9	-0.4
IKAS	Kald??rsel	0.78	222	P	Pg	00 29 06.5	-1.0
IVAT	Vatnsfell	0.87	118	P	Pg	00 29 08.1	-1.2
IVAT				S	Sg	00 29 20.0	-0.5
IVOS	Vogsosar	0.88	212	P	Pg	00 29 08.1	-1.3
IVOS				S	Sg	00 29 20.2	-0.6
IKRI	Krysuvik	0.95	221	P	Pg	00 29 09.6	-1.3
ISKR	Skrokkalda	0.98	91	P	Pg	00 29 10.1	-1.5
ISKR				S	Sg	00 29 23.7	-0.7
IVOG	Vogar	0.99	231	P	Pg	00 29 10.1	-1.4
IVOG				S	Sg	00 29 24.0	-0.2
IMID	Miomork	1.01	160	P	Pg	00 29 10.5	-1.4
IMID				S	Sg	00 29 24.0	-0.9
IGRV	Grindav??k	1.08	227	P	Pg	00 29 11.9	-1.4
INYL	Nylenda	1.10	236	S	Sg	00 29 26.4	-1.6
IGOD	Go??abunga	1.11	148	P	Pg	00 29 12.6	-1.5
IGOD				S	Sg	00 29 27.9	-0.8
IESK	Eystri-Skogar	1.21	153	P	Pg	00 29 13.7	-2.0
IESK				S	Sg	00 29 29.8	-1.5
ISNB	Snabyli	1.25	133	P	Pg	00 29 14.1	-2.4
IHVO	Lagu-Hvolar	1.34	143	P	Pn	00 29 15.9	-2.4
IKAL	Kalfafell	1.46	115	P	Pn	00 29 17.6	-2.2
IKAL				S	Sb	00 29 36.8	-2.4
IHRN	Hraun	1.53	8	P	Pn	00 29 18.2	-2.6
IHRN				S	Sn	00 29 38.2	-3.0
ISVA	Svartarkot	1.63	62	P	Pn	00 29 20.2	-2.0
ISVA				S	Sn	00 29 41.8	-1.9
IHLA	Hella	1.65	34	P	Pn	00 29 20.4	-2.1
IHLA				S	Sn	00 29 42.0	-2.3
ISIG	Siglufjorour	1.70	25	S	Sn	00 29 43.1	-2.4
IASK	Askja	1.77	73	P	Pn	00 29 22.6	-1.8
IASK				S	Sn	00 29 45.9	-1.6
IKRE	Kreppuhraun	1.85	82	P	Pn	00 29 23.4	-1.9
IKRE				S	Sn	00 29 48.5	-0.8
IGRA	Granastaoir	1.85	43	P	Pn	00 29 23.9	-1.3
IMKO	Mokollar	1.89	77	P	Pn	00 29 24.1	-1.8
IFAG	Fagurholsmyri	1.90	111	P	Pn	00 29 24.3	-1.6
IREN	Reynihlio	1.90	55	P	Pn	00 29 24.4	-1.6
IREN				S	Sn	00 29 49.7	-0.8
IKVO	Krokottuvotn	1.95	53	P	Pn	00 29 25.3	-1.4
IBRU	Bruarjokull	1.98	81	P	Pn	00 29 25.8	-1.3
IHED	Heoinshofoi	2.04	42	P	Pn	00 29 26.6	-1.3
IDIM	Dimmadals`js	2.08	47	P	Pn	00 29 27.3	-1.1
IDIM				S	Sn	00 29 54.6	-0.2
IHVA	Hvannstoosfjol	2.08	78	P	Pn	00 29 27.2	-1.4
IHVA				S	Sn	00 29 55.3	+0.2
IVSH	V-Sauoahnukur	2.13	82	P	Pn	00 29 28.0	-1.2
IVSH				S	Sn	00 29 55.9	-0.3
IGRS	Grimsstaoir	2.18	60	P	Pn	00 29 28.8	-1.1
IGRS				S	Sn	00 29 57.8	+0.4
IADA	Aoalbol	2.22	77	P	Pn	00 29 29.3	-1.0
IADA				S	Sn	00 29 58.8	+0.5
IGLU	Glumsstadir	2.42	78	P	Pn	00 29 32.8	-0.2

IDC 21 00:37:19.8±2.7,0.50S×132.50E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.3/17,mbtmp3.2/3,ML3.3/1,Error ellipse: s-maj=135.9km s-min=28.9km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.41	175	P	P	00 41 47.2	-0.6
	0.1nm,0.3s,baz=355,slow=11,SNR=8.8						
ASAR	Alice Springs	23.07	177	P	P	00 42 27.6	+0.4
	0.4nm,0.5s,baz=355,slow=9.6,SNR=9.1						
MKAR	Makanchi Array	64.32	324	P	P	00 47 57.3	0.0
	0.5nm,1.0s,baz=115,slow=7.7,SNR=3.1						

*IDC **21** 00:46:19.6±6.1,62.95N×148.45W,h75km±50km,mb2.9/1, mb1 3.2/2,mb1mx2.9/23,mbtmp3.0/2,ML3.2/1,Error ellipse: s-maj=50.2km s-min=25.9km az=29.0*
*ISCJB **21** 00:46:20.8±0.3,63.05N±0.02×148.43W±0.05,h91km±4km, mb3.3/1,Error ellipse: s-maj=3.6km s-min=3.1km az=36.9*
*NEIC **21** 00:46:21.8,63.04N×148.48W,h80km,MG3.6(AEIC), After AEIC.*
NEIC Felt at Denali National Park.
ISC 21 00:46:21.8±0.9,63.05N±0.03×148.44W±0.03,h82km±7km, n87,σ0.58/100,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	Reindeer	0.40	333	P	Pn	00 46 35.1	+0.1
RND				S	Sn	00 46 44.8	0.0
DHY	Denali Highway	0.49	86	P	Pn	00 46 35.7	-0.1
DHY				S	Sn	00 46 46.3	+0.1
HUR	Hurricane	0.55	263	P	Pn	00 46 35.8	-0.3
MCK	McKinley	0.72	342	P	Pn	00 46 38.0	+0.2
MCK				S	Sn	00 46 49.9	+0.1
TRF	Thorofare Moun	0.93	297	P	Pn	00 46 39.8	-0.5
TRF				S	Sn	00 46 53.8	-0.2
CUT	Chulitna	1.06	233	P	Pn	00 46 41.5	-0.1
TRAP	Trapper Creek	1.10	230	P	Pn	00 46 41.9	-0.1
TRAP				S	Sn	00 46 57.5	+0.2
SML	Sawmill	1.25	178	P	Pn	00 46 44.0	0.0
SML				S	Sn	00 47 00.7	0.0
GHO	Glory Hole Cre	1.30	190	P	Pn	00 46 44.8	+0.1
SCM	Sheep Creek Mo	1.33	156	P	Pn	00 46 45.2	+0.2
PAX	Paxson	1.36	92	P	Pn	00 46 45.9	+0.5
PAX				S	Sn	00 47 04.1	+0.8
DDM	Donnelly Dome	1.38	56	P	Pn	00 46 47.0	+1.4
WRH	Wood River Hil	1.44	6	P	Pn	00 46 46.5	+0.1
PMR	Palmer	1.50	193	P	Pn	00 46 47.1	0.0
HDA	Harding Lake	1.52	25	P	Pn	00 46 47.7	+0.4
NEA	Nenana	1.56	350	P	Pn	00 46 47.8	-0.1
CCB	Clear Creek Bu	1.63	10	P	Pn	00 46 48.9	+0.1
KNK	Knik Glacier	1.64	180	P	Pn	00 46 49.4	+0.4
HARP	HAARP	1.65	112	P	Pn	00 46 49.7	+0.6
PPLA	Purkeypile	1.72	267	P	Pn	00 46 50.5	+0.4
PPLA				S	Sn	00 47 12.4	+0.8
SKT	Skwentna	1.79	235	P	Pn	00 46 51.0	+0.1
SKT				S	Sn	00 47 13.6	+0.5
COLA	College	1.85	8	P	Pn	00 46 51.4	-0.3
COLA				S	Sn	00 47 13.9	-0.5
IL1	Eielson Array	1.86	21	P	Pn	00 46 52.0	+0.2
ILAR	Eielson Array	1.86	21	P	Pn	00 46 51.8	-0.1
	67nm,0.3s,baz=203,slow=14,SNR=5077						
ILAR				S	Sn	00 47 14.8	0.0
	66nm,0.3s,baz=201,slow=24,SNR=48						
ILAR	Eielson Array	1.86	21	P	Pn	00 46 51.8	-0.1
ILAR				S	Sn	00 47 14.8	0.0
SUA	Susitna One	1.92	215	P	Pn	00 46 53.7	+0.9
MDM	Murphy Dome	1.92	3	P	Pn	00 46 53.0	+0.3
CHUM	Lake Minchumin	1.93	297	P	Pn	00 46 52.9	+0.2
KLU	Klutina	1.96	142	P	Pn	00 46 53.1	-0.1
GLM	Gilmore Dome	2.00	13	P	Pn	00 46 54.0	+0.3
FIB	Fire Island	2.06	204	P	Pn	00 46 55.8	+1.4
DOT	Dot Lake	2.07	71	P	Pn	00 46 54.7	+0.1
MENT	Mentasta	2.16	91	*e*Pn	Pn	00 46 56.4	+0.5
MENT				*e*Sn	Sn	00 47 22.2	+0.3
VLZ	Valdez	2.17	152	P	Pn	00 46 55.4	-0.5
MLY	Manley	2.23	334	P	Pn	00 46 57.2	+0.4
DIV	Divide	2.30	146	P	Pn	00 46 55.3	-2.5
SPCG	Spurr Capps Gl	2.43	225	P	Pn	00 47 00.3	+0.7
FID	Port Fidalgo	2.49	157	P	Pn	00 47 00.3	0.0
SPBG	Spurr Blockage	2.57	227	P	Pn	00 47 02.6	+1.2
SPNW	Spurr Northwes	2.59	231	P	Pn	00 47 02.1	+0.4
CKL	Chakachamna La	2.61	226	P	Pn	00 47 02.4	+0.4
BKG	Blockade Glaci	2.68	224	P	Pn	00 47 03.4	+0.6
SLKM	Skilak Lake	2.69	199	P	Pn	00 47 03.5	+0.6
BMRM	Bremner River	2.76	137	P	Pn	00 47 03.5	-0.4
PRP	Porcupine Dome	2.79	26	P	Pn	00 47 04.9	+0.6
EYAK	Cordova Ski Ar	2.82	152	P	Pn	00 47 04.6	0.0
SGAM	Sherman Glacie	2.98	148	P	Pn	00 47 07.3	+0.4
SEW	Seward	2.99	190	P	Pn	00 47 07.6	+0.6
BCA3	Beaver Creek A	3.03	87	P	Pn	00 47 07.5	-0.1
GOAT	Goat Mountain	3.04	143	P	Pn	00 47 08.2	+0.5
RDN	Redoubt North	3.27	221	P	Pn	00 47 11.6	+0.7
RSO	Redoubt South	3.31	220	P	Pn	00 47 12.3	+0.9
TT01	Tatalina	3.46	271	P	Pn	00 47 12.9	-0.4
BERG	Berg Lake	3.49	138	P	Pn	00 47 13.8	0.0
BRLK	Bradley Lake	3.50	201	P	Pn	00 47 14.3	+0.4
BALM	Baldy	3.51	122	P	Pn	00 47 13.8	-0.3
NICHA	Nichawak Mount	3.54	141	P	Pn	00 47 14.3	-0.2
KHIT	Khitrov Hills	3.60	134	P	Pn	00 47 14.8	-0.5
EGAK	Eagle	3.66	58	P	Pn	00 47 16.6	+0.6
GRIN	Grindle Hills	3.70	136	P	Pn	00 47 17.0	+0.4
INE	Iliamna NE	3.72	218	P	Pn	00 47 17.1	0.0
IM3	Indian Mountai	3.73	324	P	Pn	00 47 17.1	+0.1
ILW	Iliamna West	3.75	219	P	Pn	00 47 18.1	+0.7
ISLE	Juniper Island	3.79	128	P	Pn	00 47 16.9	-1.1
BARK	Barkley Ridge	3.88	130	P	Pn	00 47 19.0	-0.1
KULT	Kultieth River	3.92	133	P	Pn	00 47 19.7	+0.1
GCSA	Galena City Sc	4.10	298	P	Pn	00 47 22.1	+0.2
OPT	Oil Point	4.11	216	P	Pn	00 47 23.2	+0.9
DAWY	Dawson	4.18	72	P	Pn	00 47 23.4	+0.3
MESA	MESA	4.23	130	P	Pn	00 47 23.5	-0.5
COLD	Coldfoot	4.26	351	P	Pn	00 47 25.2	+1.0
TABL	Table Mountain	4.35	124	P	Pn	00 47 25.1	-0.5
AUE	Augustine Isla	4.40	215	P	Pn	00 47 26.7	+0.6
AUW	Augustine West	4.42	216	P	Pn	00 47 27.2	+0.9
BM3	Burnt Mountain	4.68	18	P	Pn	00 47 30.3	+0.4
FOPK	Fourpeaked Vol	4.96	212	P	Pn	00 47 33.8	+0.1
KDAK	Kodiak Island	5.67	203	P	Pn	00 47 42.5	-0.8
KAKN	Katmai Knife C	5.77	217	P	Pn	00 47 44.3	0.0
KCE	Katmai Mt Cerb	5.85	218	P	Pn	00 47 46.3	+0.5
KABU	Katmai Buttres	5.85	218	P	Pn	00 47 46.3	+0.4
MGLS	Mageik Landsli	5.94	217	P	Pn	00 47 47.4	+0.4
CAHL	Cahill	6.04	217	P	Pn	00 47 48.7	+0.1
INK	Inuvik	8.09	43	P	Pn	00 48 16.3	-0.1
YKA	Yellowknife Ar	15.40	77	P	Pn	00 49 54.4	+0.4
	0.1nm,0.3s,baz=285,slow=9.9,SNR=8.5						
YKA	Yellowknife Ar	15.40	77	P	Pn	00 49 54.4	+0.4
MKAR	Makanchi Array	63.34	323	P	P	00 56 40.7	-1.2
	0.2nm,0.5s,baz=27,slow=6.3,SNR=4.1						
MKAR	Makanchi Array	63.34	323	P	P	00 56 40.7	-1.2

*DJA **21** 00:48:48,1.09N×126.19E,h50km,MLv3.8/3*
IDC 21 00:48:42.0±1.8,0.96N×125.82E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=164.0km s-min=23.1km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.38	159	P	P	00 53 40.9	-1.2
	1.3nm,0.5s,baz=337,slow=11,SNR=27						
ASAR	Alice Springs	25.70	163	P	P	00 54 15.1	+0.9
	1.1nm,0.6s,baz=337,slow=7.2,SNR=14						
MKAR	Makanchi Array	59.33	327	P	P	00 58 45.8	-0.1
	0.3nm,0.4s,baz=122,slow=8.0,SNR=16						

IDC 21 00:50:25.7±3.0,21.55S×69.24W,h0km,mb3.5/1, mb1 3.7/3,mb1mx3.5/16,mbtmp3.7/3,ML3.8/2,Error ellipse: s-maj=77.3km s-min=55.9km az=102.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.34	12	Pn	Pn	00 51 47.6	+0.3
	1.0nm,0.3s,baz=191,slow=4.6,SNR=12						
SIV	San Ignacio	9.51	56	Pn	Pn	00 52 43.4	-0.6
	1.1nm,0.3s,baz=251,slow=13,SNR=21						
TORD	Torodi Ar. Bea	77.66	70	P	P	01 02 25.1	+0.4
	0.3nm,0.7s,baz=250,slow=5.9,SNR=4.6						
MKAR	Makanchi Array	145.85	36	PKPbc	PKPdf	01 10 05.8	-0.7
	0.3nm,0.5s,baz=306,slow=2.7,SNR=6.5						

*ATH **21** 01:22:48.8,39.07N×23.44E,h21km±1km,ML3.5*
*ISCJB **21** 01:22:49.7±0.4,39.06N±0.01×23.42E±0.03,h14km±2km, mb3.4/3,Error ellipse: s-maj=3.3km s-min=2.0km az=179.9*
*CSEM **21** 01:22:49.6±0.1,39.05N×23.38E,h10km,ML3.4/13,Error ellipse: s-maj=3.3km s-min=2.2km az=95.0*
*IDC **21** 01:22:49.3±1.5,39.00N×23.45E,h0km,mb3.5/3, mb1 3.4/6,mb1mx3.2/27,mbtmp3.3/6,ML3.0/3,Error ellipse: s-maj=32.7km s-min=18.7km az=108.0*
*THE **21** 01:22:50.0,39.04N×23.39E,h12km,ML3.4/13,Error ellipse: s-maj=0.7km s-min=0.4km az=97.0*
*SOF **21** 01:22:55.7,39.67N×23.64E,h24km,MD3.2*
ISC 21 01:22:50.2±0.8,39.05N±0.01×23.39E±0.02,h12km±5km, n127,σ0.82/180,mb3.4/3,5C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	Skiathos	0.13	28	P	Pg	01 22 53.5	0.0
SKIA				S	Sg	01 22 56.0	+0.1
SKIA	Skiathos	0.13	28	P	Pg	01 22 53.5	0.0
NEO	Neokhori	0.28	333	*e*PB	Pg	01 22 55.8	-0.3
NEO				*e*SB	Sg	01 23 00.0	-0.1
NEO	Neokhori	0.28	333	*e*Pb	Pg	01 22 55.8	-0.3
NEO				*e*Sb	Sg	01 23 00.0	-0.1
XOR	Xorichti	0.35	334	P	Pg	01 22 56.9	-0.4
XOR				S	Sg	01 23 02.2	+0.2
XOR	Xorichti	0.35	334	P	Pg	01 22 56.9	-0.4
XOR				S	Sg	01 23 02.2	+0.2
MRKA	Markates	0.38	156	P	Pg	01 22 57.3	-0.6
MRKA				S	Sg	01 23 02.8	-0.1
MRKA	Markates	0.38	156	P	Pg	01 22 57.3	-0.6
MRKA				S	Sg	01 23 02.8	-0.1
AOS	Alonnisos	0.40	73	P	Pg	01 22 57.5	-0.7
AOS				S	Sg	01 23 03.6	0.0
LKR	Lokris	0.50	217	*e*PN	Pg	01 22 59.5	-0.6
LKR				*e*SN	Sg	01 23 06.6	-0.2
LKR	Lokris	0.50	217	*e*Pn	Pg	01 22 59.5	-0.6
LKR				*e*Sn	Sg	01 23 06.6	-0.2
ERET	Eretria	0.69	152	P	Pg	01 23 03.2	-0.5
ERET				S	Sb	01 23 13.1	-0.7
ERET	Eretria	0.69	152	P	Pg	01 23 03.2	-0.5
ERET				S	Sb	01 23 13.1	-0.7
PAIG	Paliouri	0.90	14	P	Pb	01 23 07.5	-0.3
PAIG				S	Sn	01 23 20.8	-0.9
PAIG	Paliouri	0.90	14	P	Pb	01 23 07.5	-0.3
PAIG				S	Sn	01 23 20.8	-0.9
DSF	Desfina	0.93	227	P	Pg	01 23 06.7	-1.5
DSF				S	Sb	01 23 20.4	-0.2
DSF	Desfina	0.93	227	P	Pg	01 23 06.7	-1.5
DSF				S	Sb	01 23 20.4	-0.2
MAKR	Makrakomi, Fth	0.98	268	P	Pg	01 23 07.9	-1.2
MAKR				S	Sn	01 23 23.0	-0.7
MAKR	Makrakomi, Fth	0.98	268	P	Pg	01 23 07.9	-1.2
MAKR				S	Sn	01 23 23.0	-0.7
LTK	Loutraki	1.08	198	P	Pb	01 23 09.6	-1.3
LTK				S	Sn	01 23 25.6	-0.5
LTK	Loutraki	1.08	198	*e*PN	Pb	01 23 10.5	-0.4
LTK				*e*SN	Sn	01 23 25.4	-0.7
LTK	Loutraki	1.08	198	P	Pb	01 23 09.6	-1.3
LTK	Loutraki	1.08	198	*e*Pn	Pb	01 23 10.5	-0.4
LTK				*e*Sn	Sn	01 23 25.4	-0.7
ATH	Athens Observa	1.11	166	*e*PN	Pb	01 23 10.6	-0.7
ATH				*e*SN	Sb	01 23 25.1	-0.6
ATH	Athens Observa	1.11	166	*e*Pn	Pb	01 23 10.6	-0.7
ATH				*e*Sn	Sb	01 23 25.1	-0.6
KALE	Kalithea	1.18	236	P	Pb	01 23 11.1	-1.5
KALE				S	Sb	01 23 27.8	0.0
KALE	Kalithea	1.18	236	P	Pb	01 23 11.1	-1.5
KALE				S	Sb	01 23 27.8	0.0
THL	Klokotos Trika	1.18	296	*e*PN	Pb	01 23 11.4	-1.2
THL				*e*SN	Sn	01 23 29.2	+0.6
THL	Klokotos Trika	1.18	296	*e*Pn	Pb	01 23 11.4	-1.2
THL				*e*Sn	Sn	01 23 29.2	+0.6
TRIZ	Trizonia	1.24	237	P	Pn	01 23 11.9	-1.4
TRIZ				S	Sn	01 23 29.9	0.0
TRIZ	Trizonia	1.24	237	P	Pn	01 23 11.9	-1.4
TRIZ				S	Sn	01 23 29.9	0.0
EVR	Evrytania	1.24	264	*e*PN	Pn	01 23 13.2	-0.3
EVR	Evrytania	1.24	264	*e*Pn	Pn	01 23 13.2	-0.3
VLY	Voula,Athens	1.24	165	*e*PN	Pn	01 23 12.9	-0.5
VLY				*e*SN	Sb	01 23 29.0	-0.5
VLY	Voula,Athens	1.24	165	*e*Pn	Pn	01 23 12.9	-0.5
VLY				*e*Sn	Sb	01 23 29.0	-0.5
LIT	Litokhoron	1.26	327	P	Pn	01 23 12.8	-0.8
LIT				S	Sb	01 23 30.1	+0.1
LIT	Litokhoron	1.26	327	*e*PN	Pn	01 23 12.9	-0.7
LIT				*e*SN	Sb	01 23 29.9	-0.1
LIT	Litokhoron	1.26	327	*e*Pn	Pn	01 23 12.9	-0.7
LIT				*e*Sn	Sb	01 23 29.9	-0.1
MRMA	Marmari	1.26	142	P	Pn	01 23 13.0	-0.7
MRMA				S	Sb	01 23 29.7	-0.4
MRMA	Marmari	1.26	142	P	Pn	01 23 13.0	-0.7
MRMA				S	Sb	01 23 29.7	-0.4
NAIG	Nisos Aigina	1.29	176	*e*PN	Pn	01 23 13.8	-0.3
NAIG	Nisos Aigina	1.29	176	*e*Pn	Pn	01 23 13.8	-0.3
EFP	Efpalio	1.32	242	*e*PN	Pn	01 23 13.7	-0.7
EFP	Efpalio	1.32	242	*e*Pn	Pn	01 23 13.7	-0.7
PLG	Polygyros	1.32	2	*e*PN	Pn	01 23 13.6	-0.9
PLG				*e*SN	Sb	01 23 30.4	-1.5
PLG	Polygyros	1.32	2	*e*Pn	Pn	01 23 13.6	-0.9
PLG				*e*Sn	Sb	01 23 30.4	-1.5
OUR	Ouranopolis	1.36	19	P	Pn	01 23 14.5	-0.5
OUR				S	Sb	01 23 32.6	-0.3
OUR	Ouranopolis	1.36	19	P	Pn	01 23 14.5	-0.5
OUR				S	Sb	01 23 32.6	-0.3
GUR	Goura	1.39	217	*e*PN	Pn	01 23 15.1	-0.4
GUR	Goura	1.39	217	*e*Pn	Pn	01 23 15.1	-0.4
DID	Didima	1.55	184	P	Pn	01 23 17.0	-0.6
DID				S	Sn	01 23 37.5	-0.2
DID	Didima	1.55	184	*e*PN	Pn	01 23 17.1	-0.6
DID				*e*SN	Sn	01 23 37.7	0.0
DID	Didima	1.55	184	*e*Pn	Pn	01 23 17.1	-0.6
DID				S	Sn	01 23 37.5	-0.2
HORT	Hortiatis	1.56	352	P	Pn	01 23 17.3	-0.6
HORT				S	Sn	01 23 37.6	-0.4
HORT	Hortiatis	1.56	352	P	Pn	01 23 17.3	-0.6
HORT				S	Sn	01 23 37.6	-0.4
THE	Thessaloniki	1.61	348	P	Pn	01 23 17.7	-0.8
THE				S	Sn	01 23 39.6	+0.5
THE	Thessaloniki	1.61	348	P	Pn	01 23 17.7	-0.8
THE				S	Sn	01 23 39.6	+0.5
SOH	Sokhos	1.77	359	P	Pn	01 23 20.6	-0.1
SOH				S	Sn	01 23 42.5	-0.6
SOH	Sokhos	1.77	359	*e*PN	Pn	01 23 20.4	-0.3
SOH				*e*SN	Sn	01 23 42.5	-0.6
SOH	Sokhos	1.77	359	*e*Pn	Pn	01 23 20.4	-0.3
SOH				*e*Sn	Sn	01 23 42.5	-0.6

MLR	**Muntele Rosu**	**6.71**	**16**⇑	*iP*		**Pn**	**01 24 31.0**	**+2.4**
PLOR	**Plostina**	**7.21**	**18**⇓	*iP*		**Pn**	**01 24 38.2**	**+2.8**
VRI	**Vrincioaia**	**7.24**	**19**⇓	*iP*		Pn	01 24 39.0	+3.1
BRTR	**Keskin Array B**	**7.97**	**82**	Pn		**Pn**	**01 24 46.9**	**+0.9**
	0.1nm,0.3s,baz=264,slow=11,SNR=3.6							
MMAI	**Mount Meron Ar**	**11.44**	**118**	Pn		**Pn**	**01 25 34.1**	**+0.7**
	0.2nm,0.3s,baz=299,slow=13,SNR=2.9							
TORD	**Torodi Ar. Bea**	**32.16**	**223**	P		**P**	**01 29 18.8**	**+1.0**
	0.2nm,0.4s,baz=38,slow=9.0,SNR=5.0							
MKAR	**Makanchi Array**	**42.92**	**60**	P		**P**	**01 30 48.8**	**+0.1**
	0.4nm,0.9s,baz=270,slow=7.3,SNR=4.1							
ZALV	**Zalesovo Beam**	**43.43**	**49**	P		**P**	**01 30 52.5**	**-0.1**
	0.8nm,0.6s,baz=268,slow=8.0,SNR=4.5							

GUC 21 01:25:13.3±0.7, 32.49S×71.72W, h28km±3km, MD3.7, ML3.0, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.54**	**173**	*eP*		Pb	01 25 23.9	-0.5
IHA				*i* S		Sb	01 25 32.1	+0.2
CHNG	**Los Chungos**	**0.63**	**17**⇓	*iP*		Pb	01 25 25.6	-0.2
CHNG				*i* S		Sb	01 25 34.5	+0.2
CHNG				AML	AML	01 25 35.0		
	comp=E,508nm,0.3s							
PTCH	**Petorca**	**0.70**	**72**⇓	*iP*		Pb	01 25 27.1	-0.1
PTCH				*i* S		Sb	01 25 36.5	0.0
PTCH				AML	AML	01 25 40.8		
	comp=N,1μm,0.2s							
ROCH	**El Roble**	**0.77**	**129**⇓	*iP*		Pb	01 25 27.8	-0.7
ROCH				*i* S		Sb	01 25 38.4	-0.5
ROCH				AML	AML	01 25 40.7		
	comp=E,662nm,0.4s							
JACH	**Jahuel**	**0.97**	**102**⇓	*iP*		Pn	01 25 31.0	-0.2
JACH				*i* S		Sn	01 25 44.1	-0.1
PEL	**Peldehue**	**1.09**	**127**⇑	*iP*		Pn	01 25 33.0	+0.2
PEL				*i* S		Sb	01 25 47.5	-0.1
PEL				AML	AML	01 25 48.4		
	comp=E,1μm,0.5s							
RCDM	**Rinconada Maip**	**1.26**	**143**	*i* S		Sb	01 25 52.0	-0.4
RCDM				AML	AML	01 25 54.8		
	comp=E,762nm,0.2s							
SAN	**Santiago**	**1.31**	**138**	*eP*		Pn	01 25 36.4	+0.5
SAN				*eS*		Sb	01 25 53.5	-0.4
SAN				AML	AML	01 26 00.3		
	comp=N,289nm,0.4s							
TACH	**Talagante**	**1.34**	**151**	*eP*		Pn	01 25 36.8	+0.7
CLCH	**Cerro Calan**	**1.35**	**133**	*eP*		Pn	01 25 36.5	+0.2
CLCH				*i* S		Sb	01 25 54.6	-0.3
CLCH				AML	AML	01 25 56.6		
	comp=N,341nm,0.6s							
ANTU	**Antumapu**	**1.42**	**140**	*i* S		Sb	01 25 56.2	-0.7
ANTU				AML	AML	01 26 00.9		
	comp=N,407nm,0.3s							
CMCH	**Combarbala**	**1.45**	**25**⇑	*iP*		Pn	01 25 38.2	+0.5
CMCH				*eS*		Sb	01 25 57.1	-0.6
CMCH				AML	AML	01 26 02.0		
	comp=N,1μm,0.9s							
FCH	**Farellones**	**1.47**	**125**⇓	*iP*		Pn	01 25 34.4	-3.9
FCH				*i* S		Sn	01 25 54.2	-2.8
FCH				AML	AML	01 25 54.8		
	comp=N,362nm,0.3s							
LNV	**Longovilo**	**1.49**	**170**	*eP*		Pn	01 25 37.9	-0.3
PCH	**Pirque**	**1.52**	**138**⇓	*iP*		Pn	01 25 39.6	+0.8
PCH				*i* S		Sb	01 25 59.5	-0.4
CHCH	**Chadas Angostu**	**1.70**	**148**	*eP*		Pn	01 25 42.5	+1.3
CHCH				*i* S		Sb	01 26 04.6	-0.4
LMEL	**Las Melosas**	**1.86**	**137**⇑	*iP*		Pn	01 25 45.0	+1.4
LMEL				*i* S		Sb	01 26 09.0	-0.9
LMEL				AML	AML	01 26 12.5		
	comp=N,280nm,0.2s							
CACH	**El Canelo**	**1.88**	**150**⇓	*iP*		Pb	01 25 45.7	-1.4
CACH				*i* S		Sb	01 26 10.8	+0.5

*ISCJB **21** 01:42:18.8±1.0, 15.56N±0.04×96.06E±0.03, h7km±6km, mb4.6/77, MS4.5/30, Error ellipse: s-maj=7.2km s-min=4.7km az=165.4*
*IDC **21** 01:42:19.1±0.6, 15.49N×96.04E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, ML5.2/1, MS4.3/18, Ms1 4.3/18, ms1mx4.1/42, Error ellipse: s-maj=15.4km s-min=13.7km az=56.0*
*BJI **21** 01:42:19.6, 15.20N×96.04E, h34km, mB4.8/28, mb4.6/40, Ms5.0/41, Ms7 4.8/36*
*MOS **21** 01:42:22.7±0.9, 15.60N×96.14E, h33km, mb4.9/33, MS4.6/5, Error ellipse: s-maj=9.4km s-min=5.6km az=108.3*
*NEIC **21** 01:42:24.6±0.4, 15.65N×96.04E, h35km, mb4.7/23, Error ellipse: s-maj=9.6km s-min=6.8km az=207.0*

ISC 21 01:42:24.6±0.5, 15.60N±0.05×96.06E±0.04, h34km±1km, h35km: pP-P, n247, σ1§55/288, mb4.7/77, MS4.5/31, 19C-8D, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**3.96**	**44**	*eP*n		**Pn**	**01 43 22.4**	**-0.5**
CM31				*eS*n		**Sn**	**01 44 05.5**	**-2.7**
CMAR	**Chiang Mai Arr**	**3.96**	**44**	Pn		**Pn**	**01 43 21.8**	**-1.1**
	39nm,0.3s,baz=233,slow=15,SNR=117							
CMAR				Pg			01 43 36.9	
	23nm,0.3s,baz=227,slow=19,SNR=28							
CMAR				Sn		**Sn**	**01 44 04.6**	**-3.6**
	15nm,0.3s,baz=270,slow=39,SNR=2.3							
CMAR				Lg		Lg	01 44 30.0	
	20nm,0.3s,baz=228,slow=32,SNR=4.5							
CMAR				LR		LR	01 45 10.9	
	comp=Z,3μm,21.6s,baz=224,slow=42							
CMAR	**Chiang Mai Arr**	**3.96**	**44**	P		**Pn**	**01 43 21.8**	**-1.1**
CMAR							01 44 04.6	
CMAR	**Chiang Mai Arr**	**3.96**	**44**	Pn		**Pn**	**01 43 21.8**	**-1.1**
CMAR				Pg			01 43 36.9	
CMAR				Sn		**Sn**	**01 44 04.6**	**-3.6**
CMAR				Lg		Lg	01 44 30.0	
CHTO	**Chiang Mai**	**4.22**	**40**	*eP*		**Pn**	**01 43 25.7**	**-0.8**
CHTO				*e*			01 44 09.7	
CHTO	**Chiang Mai**	**4.22**	**40**	*eP*n		**Pn**	**01 43 25.7**	**-0.8**
CHTO				*eS*n		**Sn**	**01 44 09.7**	**-4.9**
AGT	**Agartala**	**9.40**	**332**	*ex*		Pn	01 44 31.0	-6.7
AGT				*ex*		x	01 45 34.0	
CAL	**Calcutta**	**10.05**	**315**	*eP*		Pn	01 44 43.0	-3.6
CAL				*ex*		x	01 46 04.4	
SHL	**Shillong**	**10.66**	**339**	*eP*		**Pn**	**01 44 54.6**	**-0.5**
SHL				*ex*		x	01 46 57.5	
KMI	**Kunming**	**11.35**	**32**	P		Pn	01 45 09.8	+5.1
KMI				S		Sn	01 47 16.4	+5.9
KMI				LR		LR		
	comp=N,6μm,11.8s							
KMI				LR		LR		
	comp=E,8μm,14.2s							
KMI				LR		LR		
	comp=Z,3μm,7.6s							
VIS	**Vishakhapatnam**	**12.38**	**282**	*eP*		Pn	01 45 10.3	-8.3
VIS				AMb		AMB	01 45 22.3	
	comp=Z,30nm,1.1s							
VIS				*i* S		Sn	01 47 12.8	-23
ODAN	**Odare**	**13.81**	**326**	*eP*		Pn	01 45 34.2	-4.1
	comp=Z,58nm,0.5s							
ODAN	**Odare**	**13.81**	**326**	*eP*		Pn	01 45 34.2	-4.1
	comp=Z,58nm,0.5s							
TAPN	**Taplejung**	**14.03**	**328**	*eP*		Pn	01 45 38.1	-3.3
	comp=Z,30nm,0.5s							
TAPN	**Taplejung**	**14.03**	**328**	*eP*		Pn	01 45 38.1	-3.3
	comp=Z,30nm,0.5s							
RAMN	**Ramite**	**14.32**	**324**	*eP*		Pn	01 45 40.9	-4.3
RAMN	**Ramite**	**14.32**	**324**	*eP*		Pn	01 45 40.9	-4.3
GYA	**Guiyang**	**14.64**	**41**⇑	*iP*		**Pn**	**01 45 51.5**	**+2.0**
GYA				*pP*		P	01 45 59.0	+3.6
GYA				PP			01 46 03.5	
GYA				S		Sn	01 48 37.9	+7.2
GYA				sS		**S**	**01 48 44.8**	**-4.1**
GYA				SS			01 48 50.1	
GYA				pmax		pmax		
	comp=Z,20nm,1.2s							
GYA				pmax		pmax		
	comp=Z,40nm,3.1s							
GYA				LR		LR		
	comp=N,2μm,10.9s							
GYA				LR		LR		
	comp=E,2μm,10.6s							
GYA				LR		LR		
	comp=Z,3μm,13.9s							

LSA	**Lhasa**	**14.74**	**343**	*eP*		Pn	01 45 46.6	-4.6
LSA					pmax	pmax			
	comp=Z,20nm,0.7s								
LSA	**Lhasa**	**14.74**	**343**	*e*Pn		Pn	01 45 46.5	-4.6
	comp=Z,20nm,0.7s								
JIRN	**Jiri**	**15.10**	**324**	*eP*		**Pn**	**01 45 52.1**	**-3.7**
	comp=Z,137nm,0.7s								
JIRN	**Jiri**	**15.10**	**324**	*eP*		**Pn**	**01 45 52.1**	**-3.7**
	comp=Z,137nm,0.7s								
GUN	**Gumba**	**15.46**	**324**	*eP*		**Pn**	**01 45 57.1**	**-3.5**
	comp=Z,119nm,0.8s								
GUN	**Gumba**	**15.46**	**324**	*eP*		**Pn**	**01 45 57.1**	**-3.5**
	comp=Z,119nm,0.8s								
PKI	**Pulchoki**	**15.48**	**322**	*eP*		**Pn**	**01 45 57.4**	**-3.4**
	comp=Z,117nm,0.7s								
PKI	**Pulchoki**	**15.48**	**322**	*eP*		**Pn**	**01 45 57.4**	**-3.4**
PKI					pmax	pmax			
	comp=Z,117nm,0.7s								
PKI	**Pulchoki**	**15.48**	**322**	*eP*		**Pn**	**01 45 57.4**	**-3.4**
	comp=Z,117nm,0.7s								
DMN	**Daman**	**15.69**	**321**	*eP*		**Pn**	**01 46 01.0**	**-2.5**
	comp=Z,153nm,0.7s								
DMN	**Daman**	**15.69**	**321**	*eP*		**Pn**	**01 46 01.0**	**-2.5**
	comp=Z,153nm,0.7s								
KKN	**Kakani**	**15.72**	**322**	*eP*		**Pn**	**01 46 00.5**	**-3.3**
KKN	**Kakani**	**15.72**	**322**	*eP*		**Pn**	**01 46 00.5**	**-3.3**
KKN	**Kakani**	**15.72**	**322**	*eP*		**Pn**	**01 46 00.5**	**-3.3**
GKN	**Gorkha**	**16.26**	**321**	*eP*		**Pn**	**01 46 07.8**	**-2.9**
GKN	**Gorkha**	**16.26**	**321**	*eP*		**Pn**	**01 46 07.8**	**-2.9**
KOLN	**Koldanda**	**16.74**	**318**	*eP*		**Pn**	**01 46 16.9**	**+0.1**
	comp=Z,284nm,0.8s								
KOLN	**Koldanda**	**16.74**	**318**	*eP*		**Pn**	**01 46 16.9**	**+0.1**
	comp=Z,284nm,0.8s								
CD2	**Chengdu**	**16.79**	**23**	P		**Pn**	**01 46 17.3**	**+0.1**
CD2				*p*P		**pP**	**01 46 25.3**	**-2.8**
CD2				*s*P		**sP**	**01 46 30.0**	**-2.5**
CD2				PP		PP	01 46 31.8		
CD2				S		**Sn**	**01 49 22.6**	**-0.1**
CD2				*s*S		**S**	**01 49 35.1**	**+2.4**
CD2				SS			01 49 43.4		
CD2				pmax		pmax			
	comp=Z,40nm,1.2s								
CD2				pmax		pmax			
	comp=Z,170nm,5.5s								
CD2				LR		LR			
	comp=N,3μm,8.3s								
CD2				LR		LR			
	comp=Z,4μm,9.5s								
HYB	**Hyderabad**	**16.89**	**279**	*i* P		**P**	**01 46 20.0**	**-0.3**
HYB				*e*S		**Sn**	**01 49 23.0**	**-2.3**
DANN	**Dangsing**	**17.05**	**320**	*eP*		**Pn**	**01 46 19.2**	**-1.5**
	comp=Z,195nm,0.9s								
DANN	**Dangsing**	**17.05**	**320**	*eP*		**Pn**	**01 46 19.2**	**-1.5**
	comp=Z,195nm,0.9s								
NGP	**Nagpur**	**17.06**	**291**	*eP*		**Pn**	**01 46 19.4**	**-1.3**
NGP				*ex*		x	01 46 40.0		
	comp=Z,46nm,1.2s								
NGP				*ex*		x	01 49 39.5		
LATR	**Latur**	**18.86**	**281**	*eP*		**Pn**	**01 46 42.6**	**-0.2**
LATR					AMb	AMB	01 46 47.5		
	comp=Z,20nm,0.8s								
ENH	**Enshi**	**19.11**	**38**	*eP*		**Pn**	**01 46 46.0**	**+0.3**
	comp=Z,60nm,1.3s								
TRD	**Trivandrum**	**19.96**	**252**	*eP*		**P**	**01 46 54.1**	**0.0**
POO	**Poona**	**21.43**	**281**	*eP*		**P**	**01 47 09.7**	**-0.3**
POO					AMb	AMB	01 47 25.6		
	comp=Z,43nm,1.8s								
POO				*i* x		x	01 51 13.5		
LZH	**Lanzhou**	**21.55**	**17**	⇑P		**P**	**01 47 13.1**	**+1.8**
LZH				*p*P		**pP**	**01 47 22.9**	**+2.5**
LZH				*s*P		**sP**	**01 47 27.8**	**+3.1**
LZH				PP		PP	01 47 38.3		
LZH				S		**S**	**01 51 12.5**	**+4.0**
LZH				*s*S		**sS**	**01 51 26.3**	**+3.4**
LZH				pmax		pmax			
	comp=Z,41nm,1.1s								
LZH				pmax		pmax			
	comp=Z,130nm,5.0s								
LZH				LR		LR			
	comp=N,2μm,10.2s								
LZH				LR		LR			
	comp=E,4μm,12.7s								
LZH				LR		LR			
	comp=Z,5μm,12.8s								
XAN	**Xi'an**	**21.72**	**30**	P		**P**	**01 47 11.9**	**-1.0**
XAN				*p*P		**pP**	**01 47 21.1**	**-1.0**
XAN				*s*P		**sP**	**01 47 25.3**	**-1.1**
XAN				S		**S**	**01 51 06.0**	**-5.5**
XAN				*s*S		Sn	01 51 20.8	-0.8
XAN				SS			01 51 44.0		
XAN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
XAN				pmax		pmax			
	comp=Z,21nm,4.8s								
XAN				LR		LR			
	comp=N,2μm,11.3s								
XAN				LR		LR			
	comp=E,820nm,11.3s								
XAN				LR		LR			
	comp=Z,710nm,9.5s								
NDI	**New Delhi**	**21.74**	**310**	*eP*		**P**	**01 47 12.9**	**-0.2**
NDI					AMb	AMB	01 47 14.8		
	comp=Z,62nm,1.0s								
NDI				*ex*		x	01 51 13.0		
DDI	**Dehra Dun**	**22.08**	**315**	*eP*		**P**	**01 47 16.8**	**-0.1**
WHN	**Wuhan**	**22.41**	**45**	P		**P**	**01 47 21.3**	**+1.0**
WHN				S		**S**	**01 51 29.8**	**+5.4**
WHN				LR		LR			
	comp=N,5μm,13.1s								
WHN				LR		LR			
	comp=E,5μm,14.3s								
WHN				LR		LR			
	comp=Z,7μm,11.4s								
GTA	**Gaotai**	**23.95**	**7**	*eP*		**P**	**01 47 37.4**	**+1.6**
GTA				*p*P		**pP**	**01 47 48.3**	**+2.7**
GTA				*s*P		**sP**	**01 47 52.3**	**+2.5**
GTA				PP		PP	01 48 12.3		
GTA				S		**S**	**01 51 51.3**	**+1.0**
GTA				*s*S		**sS**	**01 52 06.8**	**+0.4**
GTA				SS		SS	01 52 43.9		
GTA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,92nm,4.3s								
GTA				LR		LR			
	comp=N,1μm,16.6s								
GTA				LR		LR			
	comp=E,2μm,11.9s								
GTA				LR		LR			
	comp=Z,1μm,15.7s								
TPUB	**Ta-pu**	**24.37**	**68**	*eP*		**P**	**01 47 38.1**	**-1.7**
	comp=Z,43nm,1.0s								
SSLB	**Suanglung**	**24.78**	**67**	*eP*		**P**	**01 47 42.9**	**-0.6**
	comp=Z,50nm,1.1s								
NJ2	**Nanjing**	**26.42**	**48**	*eP*		**P**	**01 47 59.0**	**+0.7**
NJ2				*p*P		**pP**	**01 48 07.0**	**-1.0**
NJ2				*s*P		**sP**	**01 48 10.8**	**-1.4**
NJ2				pmax		pmax			
	comp=Z,30nm,0.8s								
NJ2				pmax		pmax			
	comp=Z,100nm,11.8s								
NJ2				LR		LR			
	comp=N,3μm,11.8s								
NJ2				LR		LR			
	comp=E,2μm,13.6s								
NJ2				LR		LR			
	comp=Z,3μm,13.5s								
HHC	**Hu-ho-hao-te**	**28.53**	**25**	*eP*		**P**	**01 48 17.3**	**+0.1**
HHC				*p*P		**pP**	**01 48 26.8**	**-0.3**
HHC				*s*P		**sP**	**01 48 30.9**	**-0.3**
HHC				PP		PP	01 49 09.9	-12
HHC				S		**S**	**01 53 02.0**	**-1.0**
HHC				*s*S		**sS**	**01 53 18.1**	**-1.2**
HHC				SS		SS	01 54 28.4	-36
HHC				pmax		pmax			
	comp=Z,13nm,0.8s								
HHC				pmax		pmax			
	comp=Z,130nm,6.8s								
HHC				LR		LR			
	comp=N,2μm,10.4s								
HHC				LR		LR			
	comp=E,880nm,10.2s								
HHC				LR		LR			
	comp=Z,1μm,10.8s								
WMQ	**Urumqi**	**29.02**	**347**	P		**P**	**01 48 22.5**	**+1.1**

WMQ					pP	**pP**	**01 48 32.0**	**+0.7**	
WMQ					sP	**sP**	**01 48 36.0**	**+0.6**	
WMQ					PP	PP	01 49 15.5	-12	
WMQ				*e*S		**S**	**01 53 11.0**	**+0.5**	
WMQ					ScS	**ScS**	**01 59 00.5**	**-1.8**	
WMQ					pmax	pmax			
	comp=Z,25nm,1.0s								
WMQ					pmax	pmax			
	comp=Z,560nm,8.1s								
WMQ					LR	LR			
	comp=N,760nm,20.0s								
WMQ					LR	LR			
	comp=E,550nm,19.3s								
WMQ					LR	LR			
	comp=Z,600nm,16.8s								
KSH	**Kashi**	**29.61**	**327**	P		**P**	**01 48 26.3**	**-0.5**	
KSH				*ep*P		**pP**	**01 48 35.5**	**-1.2**	
KSH				*es*P		**sP**	**01 48 39.3**	**-1.5**	
KSH				*e*PP		PP	01 49 21.8	-12	
KSH				*e*PcP		**PcP**	**01 51 31.8**	**+0.8**	
KSH				*e*S		**S**	**01 53 15.9**	**-4.1**	
KSH				*es*S		**sS**	**01 53 32.3**	**-4.0**	
KSH				*e*ScP		**ScP**	**01 55 09.5**	**-1.0**	
KSH				*e*PcS		**PcS**	**01 55 13.6**	**-0.7**	
KSH				*e*ScS		**ScS**	**01 59 02.8**	**-2.6**	
KSH				pmax		pmax			
	comp=Z,12nm,0.7s								
KSH				pmax		pmax			
	comp=Z,180nm,5.8s								
KSH				LR		LR			
	comp=N,570nm,10.5s								
KSH				LR		LR			
	comp=E,520nm,9.0s								
KSH				LR		LR			
	comp=Z,360nm,9.0s								
KBL	**Kabul**	**30.74**	**313**	*eP*		**P**	**01 48 37.2**	**+0.2**	
KBL					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KBL	**Kabul**	**30.74**	**313**	*eP*		**P**	**01 48 37.2**	**+0.2**	
	comp=Z,7.3nm,1.0s								
KZA	**Kyzart**	**31.90**	**330**	P		**P**	**01 48 48.6**	**+1.3**	
	SNR=8.1								
KZA				P		**P**	**01 48 48.6**	**+1.3**	
	SNR=8.1								
TKM2	**Tokmak 2**	**32.38**	**331**	P		**P**	**01 48 52.3**	**+1.0**	
	SNR=11								
TKM2				P		**P**	**01 48 52.3**	**+1.0**	
	SNR=11								
TKM2	**Tokmak 2**	**32.38**	**331**	*i* P		**P**	**01 48 52.3**	**+1.0**	
TKM2	**Tokmak 2**	**32.38**	**331**	*eP*		**P**	**01 48 52.6**	**+1.3**	
	comp=Z,8.2nm,0.9s								
KBK	**Karagaybulak**	**32.48**	**330**	P		**P**	**01 48 53.9**	**+1.7**	
	SNR=16								
KBK				P		**P**	**01 48 53.9**	**+1.7**	
	SNR=16								
AAK	**Ala-Archa**	**32.68**	**330**	P		**P**	**01 48 55.8**	**+1.9**	
	SNR=12								
AAK				P		**P**	**01 48 55.8**	**+1.9**	
	SNR=12								
AAK	**Ala-Archa**	**32.68**	**330**	*d iP*		**P**	**01 48 55.5**	**+1.6**	
AAK					pmax	pmax			
	comp=Z,63nm,1.3s								
AML	**Almayashu**	**32.70**	**328**	P		**P**	**01 48 55.7**	**+1.3**	
	SNR=11								
AML				P		**P**	**01 48 55.7**	**+1.3**	
	SNR=11								
FRU	**Bishkek**	**32.77**	**330**	*eP*		**P**	**01 48 56.0**	**+1.4**	
FRU					pmax	pmax			
	comp=Z,67nm,1.2s								
CHMS	**Chumysh**	**32.84**	**331**	P		**P**	**01 48 56.3**	**+1.2**	
	SNR=5.5								
CHMS				P		**P**	**01 48 56.3**	**+1.2**	
	SNR=5.5								
EKS2	**Erkin-Say**	**33.05**	**329**	P		**P**	**01 48 58.8**	**+1.6**	
	SNR=18								
EKS2				P		**P**	**01 48 58.8**	**+1.6**	
	SNR=18								
EKS2	**Erkin-Say**	**33.05**	**329**	*eP*		**P**	**01 48 58.7**	**+1.6**	
EKS2					pmax	pmax			
	comp=Z,11nm,0.8s								
EKS2	**Erkin-Say**	**33.05**	**329**	*eP*		**P**	**01 48 58.6**	**+1.5**	
	comp=Z,11nm,0.8s								
MK31	**Makanchi Array**	**33.15**	**343**	*ceP*		**P**	**01 48 57.9**	**+0.1**	
MK31					pmax	pmax			
	comp=Z,8.0nm,0.7s								
MK31	**Makanchi Array**	**33.15**	**343**	*eP*		**P**	**01 48 58.5**	**+0.7**	
MKAR	**Makanchi Array**	**33.15**	**343**	P		**P**	**01 48 58.3**	**+0.5**	
	comp=Z,6.7nm,0.7s,baz=151,slow=9.9,SNR=77								
MKAR					PcP	**PcP**	**01 51 42.0**	**+1.7**	
	comp=Z,1.0nm,0.7s,baz=202,slow=1.6,SNR=4.1								
MKAR					LR	LR	02 06 27.0		
	comp=Z,375nm,20.6s,baz=166,slow=44								
MKAR	**Makanchi Array**	**33.15**	**343**	*eP*		**P**	**01 48 58.7**	**+0.9**	
MKAR							01 51 42.0		
MKAR	**Makanchi Array**	**33.15**	**343**	*eP*		**P**	**01 48 58.7**	**+0.9**	
MKAR					PcP	**PcP**	**01 51 42.0**	**+1.7**	
USP	**Ospenovka**	**33.16**	**331**	P		**P**	**01 48 58.9**	**+0.9**	
	SNR=22								
USP				P		**P**	**01 48 58.9**	**+0.9**	
	SNR=22								
SONM	**Songino Array**	**33.26**	**13**	P		**P**	**01 49 00.6**	**+1.8**	
	comp=Z,1.6nm,1.0s,baz=190,slow=7.5,SNR=4.6								
SONM	**Songino Array**	**33.26**	**13**	P		**P**	**01 49 00.7**	**+1.8**	
SONM	**Songino Array**	**33.26**	**13**	P		**P**	**01 49 00.7**	**+1.8**	
ULN	**Ulaanbaatar**	**33.43**	**13**	*eP*		**P**	**01 49 00.5**	**+0.2**	
ULN					pmax	pmax			
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**33.43**	**13**	*eP*		**P**	**01 49 00.5**	**+0.2**	
	comp=Z,18nm,1.7s								
KK31	**Karatay Array**	**35.04**	**327**	*ceP*		**P**	**01 49 13.9**	**-0.4**	
KKAR	**Karatay Array**	**35.04**	**327**	*eP*		**P**	**01 49 14.7**	**+0.4**	
KKAR	**Karatay Array**	**35.04**	**327**	*eP*		**P**	**01 49 14.7**	**+0.4**	
ZAK	**Zakamensk**	**35.18**	**8**	*eP*		**pP**	**01 49 26.8**	**+1.4**	
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
KSAR	**Wonju Array Be**	**35.56**	**46**	P		**P**	**01 49 18.2**	**-0.5**	
KSAR	**Wonju Array Be**	**35.56**	**46**	P		**P**	**01 49 18.2**	**-0.5**	
KSRS	**Korea Array**	**35.59**	**46**	P		**P**	**01 49 18.2**	**-0.8**	
	comp=Z,1.9nm,0.8s,baz=238,slow=8.7,SNR=9.0								
KSRS					LR	LR	02 05 06.4		
	comp=Z,706nm,18.1s,baz=239,slow=38								
KSRS	**Korea Array**	**35.59**	**46**	P		**P**	**01 49 18.2**	**-0.8**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KSRS					MLR	MLR			
	comp=Z,706nm,18.1s								
CN2	**Changchun**	**37.60**	**36**	*eP*		**P**	**01 49 37.1**	**+1.1**	
CN2				*ep*P		**pP**	**01 49 46.9**	**+0.9**	
CN2				*eS*		**S**	**01 55 24.0**	**+0.7**	
CN2				pmax		pm

MDJ pP **pP** **01 50 08.8 -1.3**
MDJ sP **sP** **01 50 12.6 -1.6**
MDJ ScP **ScP** **01 55 49.1 -0.2**
MDJ PcS **PcS** **01 55 52.8 0.0**
MDJ S **S** **01 56 07.5 +1.0**
MDJ pmax pmax
comp=Z,5.0nm,1.6s
MDJ pmax pmax
comp=Z,49nm,5.0s
MDJ LR LR
comp=N,880nm,14.4s
MDJ LR LR
comp=E,330nm,12.9s
MDJ LR LR
comp=Z,820nm,18.9s
USRK Ussuriysk Arra 41.68 39 P **P** **01 50 09.9 -0.1**
comp=Z,3.1nm,0.8s,baz=236,slow=8.4,SNR=5.3
USRK LR LR 02 10 41.4
comp=Z,255nm,18.1s,baz=193,slow=41
VOSK Vostochnaya 42.01 337 P **P** **01 50 12.2 -0.4**
VOSK pmax pmax
comp=Z,12nm,0.8s
BVA0 Borovoye Array 42.47 337 *i* P **P** **01 50 16.1 -0.2**
BVAR Borovoye Array 42.47 337 P **P** **01 50 16.1 -0.3**
comp=Z,1.8nm,0.6s,baz=135,slow=11,SNR=17
BVAR Borovoye Array 42.47 337 P **P** **01 50 16.1 -0.3**
BVAR Borovoye Array 42.47 337 P **P** **01 50 16.1 -0.3**
BRVK Borovoye 42.54 337⇓ *eP* **P** **01 50 17.1 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 42.54 337 *eP* **P** **01 50 16.9 0.0**
comp=Z,4.9nm,0.8s
MAJO Matsushiro 42.79 53 *eP* **P** **01 50 18.5 -0.7**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 42.79 53 *eP* **P** **01 50 18.5 -0.7**
comp=Z,7.1nm,0.8s
MJAR Matsushiro Arr 42.79 53 P **P** **01 50 19.2 0.0**
comp=Z,2.4nm,0.7s,baz=264,slow=12,SNR=6.6
MJAR LR LR 02 09 04.9
comp=Z,352nm,18.1s,baz=245,slow=37
MJAR Matsushiro Arr 42.79 53 P **P** **01 50 19.2 0.0**
MJAR Matsushiro Arr 42.79 53 P **P** **01 50 19.2 0.0**
ZRNK Zerenda 42.94 336 *i* P **P** **01 50 19.4 -0.8**
ZRNK pmax pmax
comp=Z,7.0nm,0.9s
BOD Bodaibo 44.24 14 *eP* pP 01 50 41.6 +1.0
KLR Kul'dur 44.37 33 *eP* **P** **01 50 30.6 -1.1**
AB31 Akbulak array 44.61 327 *ce*P **P** **01 50 33.9 +0.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 44.61 327 *eP* **P** **01 50 33.6 0.0**
AKTO Aktyubinsk 46.31 327 P **P** **01 50 47.4 +0.3**
comp=Z,7.0nm,0.7s,baz=120,slow=7.9,SNR=41
AKTO Aktyubinsk 46.31 327 *i* P **P** **01 50 46.9 -0.2**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 46.31 327 P **P** **01 50 47.4 +0.3**
RDF Al-Radifah 46.51 295 *eP* **P** **01 50 48.8 -0.2**
RDF AMb AMB 01 50 53.2
comp=Z,66nm,1.1s
CLNS Chul'man 46.59 21 *eP* **P** **01 50 49.1 -0.1**
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.2s
CLNS MLR MLR
comp=N,496nm,14.0s
CLNS MLR MLR
comp=Z,653nm,13.0s
CLNS MLR MLR
comp=E,534nm,12.0s
MIB Mutribah 46.79 296 *eP* **P** **01 50 50.5 -0.6**
MIB AMb AMB 01 50 51.3
comp=Z,32nm,0.8s
NAY Al-Naaiem 46.81 296 *eP* **P** **01 50 50.7 -0.7**
NAY AMb AMB 01 50 55.7
comp=Z,35nm,1.0s
SVE Sverdlovsk 49.09 335⇑ *iP* **P** **01 51 09.5 +1.0**
SVE pmax pmax
comp=Z,24nm,1.1s
ARU Arti 49.69 334 *eP* **P** **01 51 13.4 +0.3**
ARU pmax pmax
comp=Z,23nm,1.5s
ARU Arti 49.69 334 *eP* **P** **01 51 13.4 +0.3**
comp=Z,23nm,1.5s
DGRG David-gareji 50.57 311 P **P** **01 51 21.6 +1.5**
YUK Yuzh-Kuril'sk 50.67 45*c i*P **P** **01 51 19.2 -1.5**
YUK *e* 01 53 16.6
YUK *e*PPP PPP 01 54 14.6
YUK S **S** **01 58 33.4 -0.1**
YUK *e*SS SS 02 02 09.0 +0.9
YUK *e*SSS SSS 02 03 41.9
YUK pmax pmax
comp=Z,261nm,5.7s
YUK MLR MLR
comp=Z,865nm,18.0s
GNI Garni 50.71 309 *eP* **P** **01 51 22.4 +1.1**
GNI pmax pmax
comp=Z,17nm,0.8s
GNI Garni 50.71 309 *eP* **P** **01 51 22.4 +1.1**
comp=Z,17nm,0.8s
TBLG Delisi 51.10 311 *eP* **P** **01 51 24.7 +0.7**
TBLG Delisi 51.10 311 P **P** **01 51 24.8 +0.7**
WRA Warramunga Arr 51.61 132 P **P** **01 51 27.3 -0.8**
comp=Z,2.4nm,0.7s,baz=312,slow=7.6,SNR=26
WRA LR LR 02 16 18.9
comp=Z,273nm,20.6s,baz=310,slow=40
WRA Warramunga Arr 51.61 132 P **P** **01 51 27.3 -0.8**
WRA Warramunga Arr 51.61 132 P **P** **01 51 27.3 -0.8**
WB2 Warramunga Arr 51.62 132 *eP* **P** **01 51 27.2 -0.9**
AKH Akhalkalaki 51.93 311 P **P** **01 51 32.3 +1.9**
ZEI Tsey 51.97 312 *eP* **P** **01 51 30.9 +0.1**
ZEI pmax pmax
comp=Z,26nm,0.8s
SOKR Solikamsk 52.43 336 *eP* **P** **01 51 34.5 +1.0**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,500nm,21.0s
KIV Kislovodsk 53.13 314 *eP* **P** **01 51 39.8 +0.6**
KIV pmax pmax
comp=Z,83nm,1.1s
KIV Kislovodsk 53.13 314 *eP* **P** **01 51 40.1 +0.9**
comp=Z,60nm,0.8s
ASAR Alice Springs 53.77 136 P **P** **01 51 43.2 -0.9**
comp=Z,0.7nm,0.5s,baz=317,slow=6.8,SNR=12
ASAR Alice Springs 53.77 136 P **P** **01 51 43.2 -0.9**
ASAR Alice Springs 53.77 136 P **P** **01 51 43.1 -0.9**
COEN Coen 55.06 120 *eP* **P** **01 51 52.7 -0.9**
VRHR Novokhopersk 55.89 322 *eP* **P** **01 51 58.5 -0.4**
VRHR pmax pmax
comp=N,5.0nm,0.3s
VRHR pmax pmax
comp=E,1.0nm,0.3s
VRHR pmax pmax
comp=Z,4.0nm,0.3s
VSR Storozhevoye 57.40 321 *eP* **P** **01 52 10.9 +1.2**
VSR *e*S **S** **02 00 00.1 -4.1**
BR131 Keskin Array S 59.06 307 *eP* **P** **01 52 21.4 -0.4**
comp=Z,5.5nm,0.9s
BRTR Keskin Array B 59.06 307 P **P** **01 52 21.0 -0.7**
comp=Z,6.1nm,0.9s,baz=124,slow=6.2,SNR=28
BRTR LR LR 02 20 19.8
comp=Z,229nm,21.3s,baz=96,slow=39
BRTR Keskin Array B 59.06 307*ce*P **P** **01 52 21.2 -0.5**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 59.06 307 P **P** **01 52 21.1 -0.7**
OBN Obninsk 60.01 325 P **P** **01 52 30.0 +2.2**
OBN *e**PP **pP** **01 52 38.3 +0.1**
OBN *SP **sP** **01 52 44.0 +1.7**
OBN 01 53 16.0
OBN pmax pmax
comp=Z,44nm,2.5s
OBN MLR MLR
comp=Z,400nm,20.0s
KLMR Klimovskoe 60.45 332 *eP* **P** **01 52 30.1 -0.6**
KLMR pmax pmax
comp=Z,25nm,1.3s
PETK Petropavlovsk- **60.71 37** LR LR 02 21 25.6
comp=Z,330nm,18.4s,baz=60,slow=39
AKASG Malin Array Be 63.43 319 P **P** **01 52 50.7 -0.2**
comp=Z,0.8nm,0.5s,baz=81,slow=6.7,SNR=4.1
AKASG Malin Array Be 63.43 319 P **P** **01 52 50.7 -0.2**
AKASG Malin Array Be 63.43 319 P **P** **01 52 50.7 -0.2**
CFR Carcaliu 63.57 313⇑ *i*P **P** **01 52 52.2 +0.3**
STKA Stephens Creek 64.29 138 P **P** **01 52 56.9 +0.1**
comp=Z,3.3nm,0.9s,baz=308,slow=15,SNR=6.0
STKA Stephens Creek 64.29 138 P **P** **01 52 56.9 +0.1**
STKA Stephens Creek 64.29 138 P **P** **01 52 56.9 +0.1**
VRI Vrincioaia 64.61 314⇓ *i*P **P** **01 52 59.8 +1.0**
PLUR Plostina 64.66 314⇑ *i*P **P** **01 53 00.6 +1.4**
TESR 64.70 314⇓ *i*P **P** **01 53 00.6 +1.2**
JOF Joensuu 64.80 333 *eP* **P** **01 52 59.7 0.0**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 64.80 333 *ep* **P** **01 52 59.7 0.0**
comp=Z,3.4nm,0.7s
JOF Joensuu 64.80 333 *ep* **P** **01 52 59.7 0.0**
comp=Z,3.4nm,0.7s
MLR Muntele Rosu 65.14 313⇑ *i*P **P** **01 53 03.4 +1.0**
BURAR Bucovina Array 65.75 315⇓ *i*P **P** **01 53 06.3 0.0**
VOIR 65.76 313⇑ *i*P **P** **01 53 07.7 +1.3**
BUR08 Bucovina Ar. S 65.76 316 *eP* **P** **01 53 06.5 +0.1**
FINES FINESS Array B 66.87 331 P **P** **01 53 13.4 +0.4**
comp=Z,4.4nm,0.7s,baz=109,slow=7.6,SNR=14
FINES LR LR 02 26 17.5
comp=Z,273nm,21.5s,baz=316,slow=39
FINES FINESS Array B 66.87 331 P **P** **01 53 13.4 +0.4**
FINES FINESS Array B 66.87 331 P **P** **01 53 13.4 +0.4**
KAF Kangasniemi 66.88 331 *eP* **P** **01 53 15.2 +2.1**
KAF pmax pmax
comp=Z,5.0nm,0.9s
KAF Kangasniemi 66.88 331 *ep* **P** **01 53 15.2 +2.1**
comp=Z,4.7nm,0.9s
KAF Kangasniemi 66.88 331 *ep* **P** **01 53 15.2 +2.1**
comp=Z,4.7nm,0.9s
VTS Vitosha 67.05 310⇑ *i*P **P** **01 53 14.7 0.0**
DRGR 67.43 315⇑ *i*P **P** **01 53 14.5 -2.5**
KWP Kalwaria Pacla 67.51 318 *eP* **P** **01 53 17.4 0.0**
KWP pmax pmax
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 67.51 318 *eP* **P** **01 53 17.4 0.0**
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 67.51 318⇓ *i*P **P** **01 53 18.3 +0.9**
TRPA Tarpa 67.57 316⇓ *i*P **P** **01 53 19.2 +1.5**
UZH Uzhgorod 67.75 317 *eP* **P** **01 53 19.8 +1.0**
UZH *i* 01 53 31.0
BZS Buzias 68.18 313⇑ *i*P **P** **01 53 23.0 +1.4**
BILL Bilibino 68.26 22 P **P** **01 53 24.0 +2.3**
BILL pmax pmax
comp=Z,12nm,2.5s
ARCES ARCESS Array B 68.72 339 P **P** **01 53 26.1 +1.5**
comp=Z,3.0nm,0.7s,baz=98,slow=8.7,SNR=6.4
ARCES LR LR 02 28 37.4
comp=Z,162nm,19.6s,baz=217,slow=40
ARCES ARCESS Array B 68.72 339 P **P** **01 53 26.1 +1.5**
ARCES ARCESS Array B 68.72 339 P **P** **01 53 26.1 +1.5**
NIE Niedzica 69.06 317 *eP* **P** **01 53 30.6 +3.5**
PSZ Piszkesteto 69.35 316 *eP* **P** **01 53 28.8 -0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 69.35 316 *eP* **P** **01 53 28.8 -0.1**
comp=Z,7.2nm,0.9s
VYHS Vyhne 70.05 316 *eP* **P** **01 53 35.4 +2.2**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 70.05 316 *eP* **P** **01 53 35.3 +2.1**
VYHS *ep*P **pP** **01 53 45.0 +1.2**
MORC Moravsky Berou 70.86 318 *eP* **P** **01 53 38.3 +0.1**
MORC pmax pmax
comp=Z,8.0nm,1.3s
MORC Moravsky Berou 70.86 318 *eP* **P** **01 53 38.3 +0.1**
comp=Z,7.9nm,1.3s
SOKA Soboth 72.71 315⇑ *i*pP pP 01 54 00.1 +0.1
comp=Z,7.7nm,1.0s
HFS Hagfors 72.82 329 LR LR 02 27 14.6
comp=Z,341nm,18.8s,baz=273,slow=37
BRG Berggiesshubel 73.11 319 *eP* pP 01 54 04.1 +1.8
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 73.11 319 *eP* **pP** **01 54 04.1 +1.8**
BRG pmax pmax
comp=Z,5.0nm,0.8s
MOA Molln 73.13 316⇓ *i*sP sP 01 54 04.2 -2.2
comp=Z,3.7nm,0.8s
GERES GERESS Array B 73.43 317 P **P** **01 53 54.1 +0.5**
comp=Z,2.7nm,0.9s,baz=78,slow=5.8,SNR=14
GERES LR LR 02 27 30.2
comp=Z,204nm,21.3s,baz=168,slow=37
GERES GERESS Array B 73.43 317 P **P** **01 53 54.1 +0.5**
GERES GERESS Array B 73.43 317 P **P** **01 53 54.1 +0.5**
NB2 NORSAR Subarra 74.00 330 P **P** **01 53 56.2 -0.5**
comp=Z,1.1nm,0.7s,baz=87,slow=6.2
NOA NORSAR Array B 74.00 330 P **P** **01 53 56.5 -0.1**
comp=Z,3.1nm,0.9s,baz=88,slow=5.9,SNR=5.7
NOA LR LR 02 29 55.3
comp=Z,177nm,20.0s,baz=285,slow=39
NOA NORSAR Array B 74.00 330 P **P** **01 53 56.6 -0.1**
NOA NORSAR Array B 74.00 330 P **P** **01 53 56.5 -0.1**
FETA Feichten 75.61 315⇑ *i*P **P** **01 54 05.2 -1.2**
comp=Z,4.7nm,1.1s
FETA Feichten 75.61 315⇑ *i*P **P** **01 54 05.2 -1.2**
comp=Z,4.7nm,1.1s
KEST Kesra 78.45 304 P **P** **01 54 23.0 +0.5**
comp=Z,2.9nm,1.0s,baz=94,slow=16,SNR=2.8
KEST Kesra 78.45 304 P **P** **01 54 23.0 +0.5**
LPG La Plagne 78.57 314 *eP* **P** **01 54 23.8 +0.6**
comp=Z,83nm,1.7s
LPL La Plagne 78.58 314 *eP* **P** **01 54 23.7 +0.5**
LBTB Lobatse 79.63 240 *eP* **P** **01 54 28.9 -0.2**
LBTB pmax pmax
comp=Z,6.0nm,1.0s
LBTB Lobatse 79.63 240 *eP* **P** **01 54 28.9 -0.2**
comp=Z,6.5nm,1.0s
BOSA Boshof 81.30 237 P **P** **01 54 37.3 -0.8**
comp=Z,2.1nm,0.6s,baz=80,slow=6.6,SNR=11
BOSA LR LR 02 26 02.7
comp=Z,161nm,18.2s,baz=351,slow=32
BOSA Boshof 81.30 237 *eP* **P** **01 54 37.9 -0.1**
BOSA pmax pmax
comp=Z,19nm,1.4s
BOSA Boshof 81.30 237 *eP* **P** **01 54 37.9 -0.1**
comp=Z,19nm,1.4s
EPF Esparros 83.61 313 *eP* P 01 54 46.7 -3.1
TAM Tamanrasset 84.57 292 *eP* **P** **01 54 55.8 +0.6**
TAM Tamanrasset 84.57 292 *eP* **P** **01 54 55.8 +0.6**
SJPF Ste Jean 84.69 313 *eP* **P** **01 54 55.1 -0.2**
comp=Z,96nm,1.3s
MCK McKinley 86.67 24 *eP* **P** **01 55 04.4 -0.3**
MCK pmax pmax
comp=Z,2.0nm,0.7s
MCK McKinley 86.67 24 *eP* **P** **01 55 04.4 -0.3**
comp=Z,2.4nm,0.7s
ILAR Eielson Array 86.92 22 P **P** **01 55 04.8 -1.1**
comp=Z,0.8nm,0.9s,baz=291,slow=3.9,SNR=8.9
ILAR LR LR 02 38 27.0
comp=Z,261nm,19.3s,baz=305,slow=39
ILAR Eielson Array 86.92 22 P **P** **01 55 04.8 -1.1**
ILAR Eielson Array 86.92 22 P **P** **01 55 04.8 -1.1**
INK Inuvik 89.09 16 LR LR 02 36 28.5
comp=Z,173nm,19.0s,baz=150,slow=36
INK Inuvik 89.09 16 *eP* **P** **01 55 16.2 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 89.09 16 *eP* **P** **01 55 16.2 +0.1**
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 90.64 284 P **P** **01 55 24.8 +0.4**
comp=Z,1.8nm,1.2s,baz=56,slow=3.8,SNR=4.1
TORD Torodi Ar. Bea 90.64 284 P **P** **01 55 24.8 +0.4**
DLBC Dease Lake 97.14 22 LR LR 02 46 07.3
comp=Z,262nm,18.3s,baz=347,slow=39
TXAR Lajitas Array 131.43 23 PKP **PKPdf** **02 01 35.2 +0.8**
comp=Z,0.2nm,0.6s,baz=274,slow=3.5,SNR=2.8
TXAR Lajitas Array 131.43 23 PKIKP **PKPdf** **02 01 35.2 +0.8**
TXAR Lajitas Array 131.43 23 PKP **PKPdf** **02 01 35.2 +0.8**
BDFB Brasilia 145.43 265 PKPbc **PKPab** **02 02 00.3 -0.1**
comp=Z,10nm,1.0s,baz=171,slow=2.0,SNR=6.9
BDFB Brasilia 145.43 265 PKP2 **PKPab** **02 02 00.3 -0.1**
BDFB Brasilia 145.43 265 PKPbc **PKPab** **02 02 00.3 -0.1**
PLCA Paso Flores 152.39 202 PKPbc **PKPbc** **02 02 15.4 -2.0**
comp=Z,1.1nm,0.8s,baz=256,slow=12,SNR=2.9
PLCA Paso Flores 152.39 202 PKIKP **PKPbc** **02 02 15.5 -2.0**
PLCA Paso Flores 152.39 202 PKPbc **PKPbc** **02 02 15.4 -2.0**

*IDC **21** 02:06:37.3±1.2, 11°.54S×165°.22E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=40.7km s-min=22.8km az=130.0*
*ISCJB **21** 02:06:39.2±0.8, 11°.7S±0°.1×165°.2E±0°.2, h24km, mb3.9/9, Error ellipse: s-maj=23.0km s-min=15.4km az=9.1*
*NEIC **21** 02:06:42.4±0.6, 11°.63S×165°.25E, h35km, mb4.2/1, Error ellipse: s-maj=19.1km s-min=12.7km az=100.0*
ISC 21 02:06:40.9±0.8, 11°.6S±0°.1×165°.3E±0°.2, h24km, n19, σ0s68/19, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.47**	**174**	Pn	**Pn**	**02 09 09.4**	**-0.4**
	0.8nm,0.3s,baz=328,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**10.47**	**174**	Pn	**Pn**	**02 09 09.4**	**-0.4**
STKA	**Stephens Creek**	**29.71**	**224**	P	**P**	**02 12 46.5**	**+1.2**
	3.1nm,1.0s,baz=90,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**29.71**	**224**	P	**P**	**02 12 46.5**	**+1.2**
WRA	**Warramunga Arr**	**30.85**	**251**	P	**P**	**02 12 55.1**	**-0.5**
	1.6nm,0.9s,baz=82,slow=8.9,SNR=11						
WRA	**Warramunga Arr**	**30.85**	**251**	P	**P**	**02 12 55.1**	**-0.5**
ASAR	**Alice Springs**	**32.12**	**244**	P	**P**	**02 13 05.8**	**-1.0**
	0.9nm,0.9s,baz=76,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**32.12**	**244**	P	**P**	**02 13 05.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**71.90**	**294**	P	**P**	**02 18 03.3**	**+0.6**
	0.6nm,0.4s,baz=125,slow=5.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**71.90**	**294**	P	**P**	**02 18 03.3**	**+0.6**
ULN	**Ulaanbaatar**	**78.47**	**324**	*e*P	**P**	**02 18 39.4**	**-0.7**
	2.1nm,0.8s						
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**02 19 09.8**	**-0.1**
	0.5nm,0.5s,baz=238,slow=5.2,SNR=23						
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**02 19 09.8**	**-0.1**
NVAR	**Mina Array Bea**	**86.74**	**50**	P	**P**	**02 19 23.9**	**+0.4**
	0.5nm,0.8s,baz=238,slow=8.4,SNR=3.3						
NVAR	**Mina Array Bea**	**86.74**	**50**	P	**P**	**02 19 23.9**	**+0.4**
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**02 19 55.3**	**+0.1**
	0.5nm,0.7s,baz=91,slow=6.8,SNR=7.0						
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**02 19 55.3**	**+0.1**
ZALV	**Zalesovo Beam**	**93.73**	**324**	P	**P**	**02 19 55.1**	**-0.4**
	0.3nm,0.4s,baz=126,slow=3.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**93.73**	**324**	P	**P**	**02 19 55.1**	**-0.4**

IDC 21 02:16:45.7±28.0, 21°.11S×68°.82W, h88km±174km, mb3.3/4, mb1 3.6/6, mb1mx3.4/16, mbtmp3.4/6, ML3.9/2, Error ellipse: s-maj=336.2km s-min=31.1km az=24.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.84**	**8**	P	Pn	02 17 58.1	+1.1
	2.3nm,0.3s,baz=192,slow=7.9,SNR=33						
SIV	**San Ignacio**	**8.94**	**57**	P	Pn	02 18 50.7	-1.4
	1.1nm,0.3s,baz=254,slow=13,SNR=21						
TXAR	**Lajitas Array**	**60.36**	**325**	P	P	02 26 45.6	-0.3
	0.1nm,0.6s,baz=153,slow=8.0,SNR=2.6						
ULM	**Lac du Bonnet**	**74.97**	**342**	P	P	02 28 16.4	-0.8
	1.1nm,0.5s,baz=192,slow=7.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	P	02 28 30.4	+0.1
	0.6nm,0.5s,baz=254,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**90.85**	**341**	P	P	02 29 39.5	+0.6
	0.1nm,0.5s,baz=134,slow=4.9,SNR=5.4						
YKA				pP	pP	02 30 08.5	+6.2
	0.3nm,0.7s,baz=136,slow=4.7,SNR=6.4						
MKAR	**Makanchi Array**	**145.27**	**36**	PKPbc	PKPbc	02 36 13.2	0.0
	0.4nm,0.6s,baz=321,slow=3.1,SNR=6.2						

*IDC **21** 02:19:09.8±0.5, 22°.75S×171°.12E, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.5/22, mbtmp4.4/19, ML4.0/2, MS4.5/27, Ms1 4.5/27, ms1mx4.4/35, Error ellipse: s-maj=13.0km s-min=9.4km az=161.0*
*NOU **21** 02:19:12.1±1.0, 20°.24S×170°.76E, h10km, MD3.6, ML3.1*
*ISCJB **21** 02:19:13.9±1.9, 22°.81S±0°.06×170°.92E±0°.04, h32km±13km, mb4.7/42, MS4.6/30, Error ellipse: s-maj=9.8km s-min=5.7km az=0.0*
*SZGRF **21** 02:19:14.2, 22°.58S×172°.38E, h33km, Southeast of Loyalty Islands*
*NEIC **21** 02:19:15.4±0.3, 22°.75S×171°.02E, h35km, mb4.9/16, Error ellipse: s-maj=9.1km s-min=7.4km az=167.0*
*MOS **21** 02:19:16.9±1.6, 22°.23S×170°.63E, h33km, mb5.0/10, Error ellipse: s-maj=14.3km s-min=10.3km az=176.1*
ISC 21 02:19:15.8±0.5, 22°.71S±0°.05×171°.05E±0°.04, h35km±1km, h34km:pP-P, n312, σ1s54/344, mb4.8/41, MS4.7/31, 37C-14D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.89**	**277**	*e*P	**Pn**	**02 20 11.9**	**-1.3**
BAYA				*e*S	**Sn**	**02 20 55.6**	**-2.1**
BAYA				AMP		02 21 01.9	
	comp=Z,24nm,0.7s						
NORM	**Noumea**	**4.25**	**276**	*e*P	**Pn**	**02 20 16.2**	**-2.0**
NORM				*e*S	**Sn**	**02 21 03.3**	**-3.3**
NORM				AMP		02 21 06.3	
	comp=Z,223nm,1.2s						
DZM	**Mont Dzumac**	**4.31**	**278**	*e*Pn	**Pn**	**02 20 16.9**	**-2.1**
	comp=Z,139nm,0.3s						
DZM				*e*Sn	**Sn**	**02 21 04.9**	**-3.3**
	comp=Z,252nm,0.3s						
DZM				*e*LR	LR	02 21 18.4	
	comp=Z,5μm,22.3s						
DZM	**Mont Dzumac**	**4.31**	**278**	Pn	**Pn**	**02 20 17.8**	**-1.2**
	comp=Z,29nm,0.3s,baz=126,slow=13,SNR=97						
DZM				Sn	**Sn**	**02 21 09.2**	**+1.1**
	comp=Z,25nm,0.3s,baz=339,slow=21,SNR=6.0						
DZM				LR	LR	02 21 47.3	
	comp=Z,5μm,19.6s,baz=307,slow=36						
DZM	**Mont Dzumac**	**4.31**	**278**	*e*P	**Pn**	**02 20 16.5**	**-2.6**
DZM				AMP		02 21 16.0	
	comp=Z,2μm,6.4s						
DZM	**Mont Dzumac**	**4.31**	**278**	Pn	**Pn**	**02 20 17.8**	**-1.2**
DZM				Sn	**Sn**	**02 21 09.2**	**+1.1**
NOUC	**Port Laguerre**	**4.43**	**277**	*e*P	**Pn**	**02 20 18.4**	**-2.2**
NOUC				*e*S	**Sn**	**02 21 09.0**	**-2.1**
NOUC				AMP		02 21 19.7	
	comp=Z,96nm,0.0s						
MSVF	**Nonsavu**	**8.22**	**54**	*e*P	Pn	02 21 18.0	+5.2
MSVF	**Nonsavu**	**8.22**	**54**	*e*Pn	Pn	02 21 18.0	+5.2
OUZ	**Omahuta**	**12.66**	**170**	*e*Pn	**Pn**	**02 22 13.0**	**-0.4**
URZ	**Urewera**	**16.35**	**163**	*e*Pn	**P**	**02 23 06.5**	**+1.3**
	comp=Z,557nm,2.4s						
HNR	**Honiara**	**16.96**	**319**	P	**P**	**02 23 12.8**	**+0.7**
	comp=Z,5.8nm,0.3s,baz=303,slow=6.6,SNR=3.6						
HNR				S	**S**	**02 26 22.8**	**-4.4**
	comp=Z,9.4nm,0.3s,baz=177,slow=23,SNR=2.2						
HNR				LR	LR	02 28 43.2	
	comp=Z,1μm,21.8s,baz=339,slow=34						
HNR	**Honiara**	**16.96**	**319**	P	**P**	**02 23 12.8**	**+0.7**
HNR	**Honiara**	**16.96**	**319**	P	**P**	**02 23 12.8**	**+0.7**
HNR				S	**S**	**02 26 22.9**	**-4.4**
EIDS	**Eidsvold**	**18.43**	**258**	*e*P	**P**	**02 23 28.5**	**+0.1**
	comp=Z,88nm,1.7s						
AFI	**Afiamalu**	**18.49**	**65**	P	**P**	**02 23 28.5**	**-0.6**
	comp=Z,8.2nm,0.3s,baz=27,slow=17,SNR=4.1						
AFI				S	**Sn**	**02 26 54.5**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=55,slow=24,SNR=2.3						
AFI				LR	LR	02 29 02.2	
	comp=Z,1μm,18.7s,baz=71,slow=32						
AFI	**Afiamalu**	**18.49**	**65**	*e*P	**Pn**	**02 23 32.8**	**+3.3**
AFI				S	**Sn**	**02 26 54.5**	**-0.7**
AFI				pmax	pmax		
	comp=Z,71nm,1.1s						
AFI	**Afiamalu**	**18.49**	**65**	*e*P	**Pn**	**02 23 32.8**	**+3.3**
	comp=Z,71nm,1.1s						
AFI				S	**Sn**	**02 26 54.5**	**-0.7**
ARMA	**Armidale**	**18.98**	**242**	*e*P	**Pn**	**02 23 37.0**	**+1.7**
ARMA	**Armidale**	**18.98**	**242**	*e*P	**P**	**02 23 33.2**	**-1.3**
	comp=Z,328nm,2.5s						
RPZ	**Rata Peaks**	**20.95**	**180**	P	**P**	**02 23 55.1**	**-0.6**
	comp=Z,17nm,0.8s,baz=356,slow=3.3,SNR=6.0						
RPZ				S	**S**	**02 27 47.5**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=282,slow=0.6,SNR=1.9						
RPZ				LR	LR	02 29 09.1	
	comp=Z,330nm,20.8s,baz=267,slow=29						
RPZ	**Rata Peaks**	**20.95**	**180**	P	**P**	**02 23 55.1**	**-0.6**
RPZ				S	**S**	**02 27 47.5**	**+0.2**
CNB	**Canberra Magne**	**22.69**	**232**	*e*P	**P**	**02 24 16.3**	**+1.8**
	comp=Z,76nm,1.0s						
CTA	**Charters Tower**	**23.23**	**272**	P	**P**	**02 24 20.6**	**+0.5**
	comp=Z,6.4nm,0.7s,baz=93,slow=10.0,SNR=8.3						
CTA				S	**S**	**02 28 33.4**	**+3.5**
	comp=Z,4.9nm,1.1s,baz=38,slow=19,SNR=2.7						
CTA				LR	LR	02 32 43.4	
	comp=Z,1μm,18.4s,baz=94,slow=35						
CTA	**Charters Tower**	**23.23**	**272**	*e*P	**P**	**02 24 20.4**	**+0.3**

comp=Z,6.2nm,0.8s
CTA Charters Tower 23.23 272 P **P** **02 24 20.6 +0.5**
CTA Charters Tower 23.23 272 P **P** **02 24 20.6 +0.5**
CTA S **S** **02 28 33.4 +3.5**
CTAO Charters Tower 23.23 272 *e*P **P** **02 24 18.5 -1.6**
CTAO pmax pmax
comp=Z,7.0nm,0.7s
CTAO Charters Tower 23.23 272 *e*P **P** **02 24 18.5 -1.6**
comp=Z,7.3nm,0.7s
PMG Port Moresby 26.44 296 P **P** **02 24 48.9 -0.8**
comp=Z,10nm,0.8s,baz=137,slow=9.8,SNR=5.0
PMG S **S** **02 29 26.9 +5.6**
comp=Z,1.3nm,0.3s,baz=260,slow=22,SNR=1.9
PMG Port Moresby 26.44 296⇑ *e*P **P** **02 24 48.5 -1.2**
PMG pmax pmax
comp=Z,13nm,1.0s
PMG Port Moresby 26.44 296 *e*P **P** **02 24 48.8 -0.8**
comp=Z,24nm,1.0s
PMG S **S** **02 29 26.9 +5.6**
TOO Toolangi 26.50 230 *e*P **P** **02 24 50.0 -0.1**
comp=Z,36nm,0.7s
RAR Rarotonga 27.08 92 LR LR 02 33 10.2
comp=Z,930nm,18.3s,baz=269,slow=31
STKA Stephens Creek 27.65 244 P **P** **02 24 59.8 -0.7**
comp=Z,3.0nm,0.7s,baz=76,slow=11,SNR=5.2
STKA S **S** **02 29 45.5 +5.3**
comp=Z,0.5nm,0.5s,baz=156,slow=18,SNR=1.4
STKA LR LR 02 35 09.6
comp=Z,1µm,19.2s,baz=72,slow=35
STKA Stephens Creek 27.65 244 *e*P **P** **02 25 01.7 +1.2**
comp=Z,8.4nm,0.9s
STKA Stephens Creek 27.65 244 *e*P **P** **02 24 59.7 -0.7**
STKA S **S** **02 29 45.5 +5.3**
STKA pmax pmax
comp=Z,8.0nm,1.5s
STKA Stephens Creek 27.65 244 *e*P **P** **02 24 59.7 -0.7**
comp=Z,8.1nm,1.5s
STKA S **S** **02 29 45.5 +5.3**
COEN Coen 27.82 283 *e*P **P** **02 25 02.8 +0.8**
AS31 Alice Springs 34.10 261 *e*P **P** **02 25 56.2 -1.2**
ASAR Alice Springs 34.10 261 P **P** **02 25 56.5 -1.0**
comp=Z,5.8nm,0.8s,baz=92,slow=9.3,SNR=53
ASAR Alice Springs 34.10 261 P **P** **02 25 56.5 -1.0**
ASAR Alice Springs 34.10 261 P **P** **02 25 56.5 -1.0**
WB2 Warramunga Arr 34.24 268 *e*P **P** **02 25 56.4 -2.3**
WRAB Tennant Creek 34.25 268 *e*P **P** **02 25 56.5 -2.2**
WRAB pmax pmax
comp=Z,16nm,1.4s
WRAB Tennant Creek 34.25 268 *e*P **P** **02 25 56.5 -2.2**
comp=Z,16nm,1.4s
WRA Warramunga Arr 34.26 268 P **P** **02 25 56.8 -2.0**
comp=Z,1.4nm,0.4s,baz=97,slow=8.5,SNR=68
WRA LR LR 02 39 56.9
comp=Z,1µm,18.5s,baz=105,slow=36
WRA Warramunga Arr 34.26 268 P **P** **02 25 56.8 -2.0**
WRA Warramunga Arr 34.26 268 P **P** **02 25 56.8 -2.0**
TBI Tubuai 36.27 99 *e*S **S** **02 31 56.4 +1.9**
comp=Z,192nm,23.2s
TBI *e*LR LR 02 36 07.9
comp=Z,672nm,25.0s
PPT2 Papeete2 37.23 89 *e*S **S** **02 32 13.0 +3.5**
comp=Z,171nm,25.0s
PPT2 *e*LR LR 02 36 34.6
comp=Z,714nm,23.2s,baz=248
FORT Forrest 39.04 249 *e*P **P** **02 26 40.3 +0.9**
comp=Z,10nm,0.7s
FORT Forrest 39.04 249 *e*P **P** **02 26 39.9 +0.5**
comp=Z,23nm,1.0s
FITZ Fitzroy Crossi 42.69 268 LR LR 02 45 07.3
comp=Z,954nm,18.1s,baz=104,slow=36
FITZ Fitzroy Crossi 42.69 268 *e*P **P** **02 27 08.9 -0.7**
comp=Z,28nm,0.8s
GUMO Guam 44.26 322 LR LR 02 44 07.3
comp=Z,322nm,21.1s,baz=112,slow=34
MBWA Marble Bar 47.44 262 *e*P **P** **02 27 46.4 -1.0**
comp=Z,17nm,0.9s
KLBR Kellerberrin 47.85 247 *e*P **P** **02 27 49.0 -1.5**
comp=Z,59nm,1.2s
RKT Rikitea 49.47 102 *e*LR LR 02 42 08.7
comp=Z,525nm,30.2s
KAPI Kappang 52.52 282 P **P** **02 28 24.9 -1.2**
comp=Z,3.4nm,0.5s,baz=182,slow=11,SNR=6.7
KAPI LR LR 02 51 16.5
comp=Z,434nm,18.2s,baz=102,slow=37
KAPI Kappang 52.52 282 *e*P **P** **02 28 24.1 -1.9**
comp=Z,27nm,1.0s
DAV Davao City (W) 53.43 298 LR LR 02 49 42.0
comp=Z,162nm,18.8s,baz=162,slow=34
CBIJ Chichi jima 56.84 329 LR LR 02 50 03.6
comp=Z,336nm,18.0s,baz=140,slow=33
QSPA South Pole Qui 67.36 180 P **P** **02 30 06.8 -0.6**
comp=Z,3.9nm,0.7s,baz=35,slow=3.3,SNR=14
QSPA LR LR 02 58 03.1
comp=Z,625nm,18.2s,baz=55,slow=35
QSPA South Pole Qui 67.36 180 P **P** **02 30 06.8 -0.6**
YUK Yuzh-Kuril'sk 70.32 341 *c i*P P 02 30 21.6 -4.1
YUK *e* 02 33 04.1
YUK *e*PPP 02 34 44.3
YUK *e*S **S** **02 39 34.3 -1.1**
YUK pmax pmax
comp=Z,226nm,4.7s
ASAJ Asahikawa 71.43 339 LR LR 02 58 46.5
comp=Z,467nm,20.3s,baz=352,slow=33
KSRS Korea Array 72.31 325 P **P** **02 30 37.2 -0.6**
comp=Z,1.4nm,0.7s,baz=139,slow=6.0,SNR=7.1
KSRS LR LR 03 01 40.3
comp=Z,294nm,18.9s,baz=140,slow=35
KSAR Wonju Array Be 72.32 325 P **P** **02 30 37.2 -0.7**
KSAR Wonju Array Be 72.32 325 P **P** **02 30 37.2 -0.7**
NJ2 Nanjing 73.86 316 *e*P **P** **02 30 50.0 +2.8**
NJ2 pP **PcP** **02 31 01.4 -1.2**
NJ2 S S 02 40 24.5 +7.9
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=N,220nm,12.9s
NJ2 LR LR
comp=E,420nm,23.1s
NJ2 LR LR
comp=Z,270nm,24.0s
FX1 Attu Island--F 75.29 1 LR LR 02 59 01.1
comp=Z,288nm,18.7s,baz=21,slow=32
USRK Ussuriysk Arra 75.58 332 P **P** **02 30 56.3 -0.5**
comp=Z,3.6nm,1.2s,baz=119,slow=7.2,SNR=3.6
USRK LR LR 03 00 11.0
comp=Z,175nm,18.4s,baz=223,slow=32
MAW Mawson 75.87 202 LR LR 03 02 14.3
comp=Z,398nm,18.3s,baz=96,slow=34
PETK Petropavlovsk- 76.38 352 P **P** **02 31 00.5 -0.8**
comp=Z,1.9nm,0.5s,baz=137,slow=11,SNR=4.6
PETK LR LR 03 02 15.5
comp=Z,360nm,19.0s,baz=152,slow=34
PETK Petropavlovsk- 76.38 352 P **P** **02 31 00.5 -0.8**
PETK Petropavlovsk- 76.38 352 P **P** **02 31 00.5 -0.8**
MDJ Mudanjiang 76.97 331 P **P** **02 31 06.5 +1.8**
MDJ pP **PcP** **02 31 15.9 +0.3**
MDJ sP **sP** **02 31 19.8 +0.2**
MDJ S **S** **02 40 53.3 +2.8**
MDJ sS **sS** **02 41 10.0 +1.6**
MDJ ScS **ScS** **02 41 21.3 +2.4**
MDJ pmax pmax
comp=Z,5.0nm,1.3s
MDJ pmax pmax
comp=Z,230nm,4.4s
MDJ LR LR
comp=N,120nm,30.5s
MDJ LR LR
comp=E,90nm,30.5s
MDJ LR LR
comp=Z,150nm,34.8s
CN2 Changchun 78.29 328 *e*P **P** **02 31 11.6 -0.5**
CN2 *e*pP **pP** **02 31 22.0 -1.0**
CN2 *e*S **S** **02 41 04.8 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,300nm,16.0s
GYA Guiyang 79.18 305 *e*P **P** **02 31 19.0 +1.4**
GYA pP **pP** **02 31 30.8 +2.3**
GYA sP **sP** **02 31 36.9 +4.4**
GYA PP **PP** **02 34 20.0 +2.3**
GYA S **S** **02 41 15.6 +0.3**
GYA SKS **SKSac** **02 41 27.4 -4.0**
GYA SS **SS** **02 46 25.3 +2.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,520nm,18.9s
GYA LR LR
comp=E,480nm,19.6s
GYA LR LR
comp=Z,580nm,18.9s
KLR Kul'dur 79.71 335 *e*P P 02 31 15.0 -4.8
KLR pmax pmax
comp=Z,42nm,1.8s
CMAR Chiang Mai Arr 81.46 294 P **P** **02 31 31.1 +1.2**
comp=Z,3.7nm,0.7s,baz=136,slow=4.0,SNR=12
CMAR Chiang Mai Arr 81.46 294 P **P** **02 31 31.1 +1.2**
CMAR Chiang Mai Arr 81.46 294 P **P** **02 31 31.1 +1.2**
KMI Kunming 81.53 302 P **P** **02 31 31.5 +1.1**
KMI pmax pmax
comp=Z,17nm,1.7s
CHTO Chiang Mai 81.62 294 *e*P **P** **02 31 31.2 +0.4**
CHTO pmax pmax
comp=Z,89nm,2.2s
CHTO Chiang Mai 81.62 294 *e*P **P** **02 31 31.1 +0.4**
comp=Z,89nm,2.2s
XAN Xi'an 81.69 312 P **P** **02 31 30.8 0.0**
XAN pP **pP** **02 31 40.9 -0.8**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,57nm,7.8s
PMSA Palmer Station 83.08 159 LR LR 03 05 02.4
comp=Z,290nm,18.2s,baz=113,slow=33
CD2 Chengdu 83.67 307 P **P** **02 31 42.1 +0.8**
CD2 pP **pP** **02 31 53.1 +0.9**
CD2 sP **sP** **02 31 57.3 +1.1**
CD2 PP **PP** **02 34 57.3 +2.6**
CD2 SKS **SKSac** **02 41 58.4 -3.2**
CD2 S **S** **02 42 01.3 -0.3**
CD2 sS **sS** **02 42 19.6 -0.1**
CD2 SS **SS** **02 47 32.0 +2.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,330nm,11.3s
CD2 LR LR
comp=N,280nm,7.7s
CD2 LR LR
comp=Z,200nm,14.9s
HHC Hu-ho-hao-te 83.94 319 *e*P **P** **02 31 42.4 0.0**
HHC pP **pP** **02 31 52.5 -0.9**
HHC sP **sP** **02 31 57.3 -0.1**
HHC PP **PP** **02 34 58.9 +2.2**
HHC S **S** **02 42 04.3 +0.3**
HHC SS **SS** **02 47 35.6 +2.5**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.3s
HHC LR LR
comp=N,210nm,18.2s
HHC LR LR
comp=E,270nm,17.6s
HHC LR LR
comp=Z,320nm,17.8s
SNAA Sanae 85.78 182 *e* P 02 31 47.5 -3.7
SNAA Sanae 85.78 182 *e*P P 02 31 46.3 -4.9
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 85.78 182 *e*P P 02 31 46.3 -4.9
comp=Z,6.2nm,1.0s
LZH Lanzhou 86.29 312 *e*P **P** **02 31 54.3 -0.1**
LZH pP **pP** **02 32 02.8 -2.6**
LZH sP **sP** **02 32 06.3 -3.1**
LZH PP **PP** **02 35 22.0 +6.0**
LZH SKS **SKSac** **02 42 20.1 +1.8**
LZH S **S** **02 42 31.0 +3.4**
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,97nm,4.4s
LZH LR LR
comp=N,260nm,11.9s
LZH LR LR
comp=E,240nm,9.7s
LZH LR LR
comp=Z,300nm,12.3s
VNA3 Neumayer Olymp 86.30 180 *e* **P** **02 31 52.9 -0.9**
VNA2 Neumayer--Watz 86.62 181 *e* **P** **02 31 53.8 -1.5**
baz=140,slow=3.8
SEY Seymchan 86.62 352⇑ *i*P **P** **02 31 55.2 0.0**
CLNS Chul'man 88.23 337 *e*P **P** **02 32 02.2 -0.9**
CLNS pmax pmax
comp=Z,14nm,1.6s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.2s
ISA Isabella 88.36 50 *e*P **P** **02 32 04.1 -0.3**
ISA pmax pmax
comp=Z,10.0nm,1.2s
ISA Isabella 88.36 50 *e*P **P** **02 32 04.0 -0.3**
comp=Z,9.8nm,1.2s
NVAR Mina Array Bea 89.84 48 P **P** **02 32 11.4 0.0**
comp=Z,2.8nm,0.8s,baz=226,slow=8.3,SNR=20
NVAR LR LR 03 06 46.2
comp=Z,386nm,18.2s,baz=111,slow=32
NVAR Mina Array Bea 89.84 48 P **P** **02 32 11.4 0.0**
SHL Shillong 90.46 297 *e*P P 02 32 20.5 +6.0
BILL Bilibino 90.55 358 P **P** **02 32 14.0 +0.3**
BILL pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 90.64 323 *e*P **P** **02 32 14.5 -0.3**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 90.64 323 *e*P **P** **02 32 14.5 -0.3**
comp=Z,8.0nm,1.0s
GTA Gaotai 90.72 313 *e*P **P** **02 32 15.8 +0.4**
GTA pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 90.99 322 P **P** **02 32 16.1 -0.3**
comp=Z,4.0nm,0.9s,baz=127,slow=4.9,SNR=13
SONM Songino Array 90.99 322 P **P** **02 32 16.1 -0.3**
SONM Songino Array 90.99 322 P **P** **02 32 16.1 -0.3**
COLA College 92.86 16 *e*P **P** **02 32 24.8 +0.4**
COLA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 92.86 16 *e*P **P** **02 32 24.8 +0.4**
comp=Z,1.6nm,0.4s
ILAR Eielson Array 93.04 17 P **P** **02 32 23.3 -2.0**
comp=Z,0.5nm,0.7s,baz=228,slow=4.6,SNR=6.7
ILAR LR LR 03 14 58.2
comp=Z,283nm,18.5s,baz=127,slow=36
ILAR Eielson Array 93.04 17 P **P** **02 32 23.3 -2.0**
ILAR Eielson Array 93.04 17 P **P** **02 32 23.3 -2.0**
ZAK Zakamensk 94.08 324 *e*P **P** **02 32 29.4 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
PLCA Paso Flores 94.83 138 LR LR 03 05 01.9
comp=Z,152nm,19.1s,baz=116,slow=29
TXAR Lajitas Array 96.94 61 P **P** **02 32 43.0 -1.1**
comp=Z,0.4nm,0.8s,baz=217,slow=6.1,SNR=6.2
TXAR LR LR 03 09 00.1
comp=Z,257nm,19.4s,baz=185,slow=31
TXAR Lajitas Array 96.94 61 P **P** **02 32 43.0 -1.1**
TXAR Lajitas Array 96.94 61 P **P** **02 32 43.0 -1.1**
PDAR Pinedale Array 97.73 47 P Pdif 02 32 48.0 +0.3
comp=Z,0.3nm,0.7s,baz=186,slow=13,SNR=2.3
PDAR LR LR 03 12 41.1
comp=Z,221nm,18.6s,baz=264,slow=33
PDAR Pinedale Array 97.73 47 P Pdif 02 32 48.0 +0.3
INK Inuvik 99.30 18 LR LR 03 11 08.5
comp=Z,247nm,20.0s,baz=335,slow=31
MKAR Makanchi Array 105.38 315 Pdiff **Pdif** **02 33 22.7 +1.4**
comp=Z,0.6nm,0.8s,baz=86,slow=3.8,SNR=3.2
MKAR PKiKP **PKiKP** **02 37 33.5 -1.5**
comp=Z,0.2nm,0.7s,baz=138,slow=6.7,SNR=2.7
MKAR Makanchi Array 105.38 315 P **Pdif** **02 33 22.7 +1.4**
MKAR Makanchi Array 105.38 315 Pdif **Pdif** **02 33 22.7 +1.4**
MKAR PKiKP **PKiKP** **02 37 33.5 -1.5**
ZALV Zalesovo Beam 105.89 322 PKiKP **PKiKP** **02 37 36.8 +1.2**
comp=Z,0.4nm,0.4s,baz=97,slow=5.8,SNR=2.6
ZALV Zalesovo Beam 105.89 322 PKiKP **PKiKP** **02 37 36.8 +1.2**
KURK Kurchatov 108.73 318 PKiKP **PKiKP** **02 37 39.8 -1.2**
comp=Z,0.4nm,0.7s,baz=106,slow=1.8,SNR=3.9
KURK Kurchatov 108.73 318 PKiKP **PKiKP** **02 37 39.8 -1.2**
BVAR Borovoye Array 114.15 319 PKP PKPdf 02 37 50.5 -0.7
comp=Z,0.4nm,0.4s,baz=122,slow=1.8,SNR=4.0
BVAR Borovoye Array 114.15 319 PKiKP PKPdf 02 37 50.6 -0.6
BVAR Borovoye Array 114.15 319 PKP PKPdf 02 37 50.5 -0.7
BOSA Boshof 119.25 215 PKP **PKPdf** **02 38 03.7 +1.6**
comp=Z,1.5nm,1.0s,baz=132,slow=18,SNR=1.8
BOSA Boshof 119.25 215 PKiKP **PKPdf** **02 38 03.7 +1.6**
BOSA Boshof 119.25 215 PKP **PKPdf** **02 38 03.7 +1.6**
ARU Arti 121.02 323 *i* PKiKP **PKPdf** **02 38 03.1 -1.2**
ARU 02 39 33.6
ARU 02 44 58.4
ARU Arti 121.02 323 *e*PKPdf **PKPdf** **02 38 04.0 -0.3**
AKTO Aktyubinsk 121.75 316 PKP **PKPdf** **02 38 04.5 -1.4**
comp=Z,1.0nm,0.5s,baz=95,slow=2.1,SNR=8.9
AKTO Aktyubinsk 121.75 316 PKiKP **PKPdf** **02 38 04.5 -1.4**
AKTO Aktyubinsk 121.75 316 PKP **PKPdf** **02 38 04.5 -1.4**
SPITS Spitsbergen Ar 123.21 354 PKP **PKPdf** **02 38 06.6 -1.4**
comp=Z,3.7nm,0.7s,baz=153,slow=8.2,SNR=3.8
SPITS Spitsbergen Ar 123.21 354 PKiKP **PKPdf** **02 38 06.7 -1.4**
SPITS Spitsbergen Ar 123.21 354 PKP **PKPdf** **02 38 06.7 -1.4**
ARCES ARCESS Array B 128.84 345 PKP **PKPdf** **02 38 18.4 -0.6**
comp=Z,5.0nm,0.8s,baz=41,slow=3.9,SNR=6.7
ARCES ARCESS Array B 128.84 345 PKiKP **PKPdf** **02 38 18.4 -0.6**
ARCES ARCESS Array B 128.84 345 PKP **PKPdf** **02 38 18.4 -0.6**
GNI Garni 131.73 304 *e*PKiKP **PKPdf** **02 38 26.1 +0.6**
GNI Garni 131.73 304 *e*PKPdf **PKPdf** **02 38 26.1 +0.6**
OBN Obninsk 133.31 326 *i* PKiKP **PKPdf** **02 38 26.0 -1.8**
OBN *e* 02 38 38.4
FINES FINESS Array B 134.42 337 PKhKP PKPpre 02 38 22.8
comp=Z,2.9nm,0.9s,baz=153,slow=21,SNR=3.2
FINES FINESS Array B 134.42 337 PKiKP PKPpre 02 38 22.8
FINES FINESS Array B 134.42 337 PKPpre PKPpre 02 38 22.8
AKASG Malin Array Be 139.28 323 PKP **PKPdf** **02 38 38.6 -0.4**
comp=Z,0.4nm,0.4s,baz=45,slow=1.5,SNR=5.1
AKASG Malin Array Be 139.28 323 PKiKP **PKPdf** **02 38 38.6 -0.4**
AKASG Malin Array Be 139.28 323 PKP **PKPdf** **02 38 38.6 -0.4**
KIEV Kiev 139.29 323 *e*PKiKP **PKPdf** **02 38 38.8 -0.2**
KIEV Kiev 139.29 323 *e*PKPdf **PKPdf** **02 38 38.8 -0.2**
BR131 Keskin Array S 140.23 305 *e*PKPdf **PKPdf** **02 38 40.6 -0.8**
BRTR Keskin Array B 140.23 305 PKP **PKPdf** **02 38 38.2 -3.1**
comp=Z,0.8nm,0.8s,baz=145,slow=4.5,SNR=6.0
BRTR Keskin Array B 140.23 305 PKiKP **PKPdf** **02 38 38.3 -3.1**
BRTR Keskin Array B 140.23 305 PKP **PKPdf** **02 38 38.2 -3.1**
LVV L'vov 142.58 325 *e*PKiKP **PKPdf** **02 38 44.7 -0.3**
BUR08 Bucovina Ar. S 143.09 321 *e*PKPdf **PKPdf** **02 38 46.3 +0.1**
BURAR Bucovina Array 143.09 321⇑ *i*P **PKPdf** **02 38 44.5 -1.6**
MLR Muntele Rosu 143.67 317 PKP **PKPdf** **02 38 46.8 -0.4**
comp=Z,0.6nm,0.6s,baz=60,slow=7.0,SNR=4.0
MLR Muntele Rosu 143.67 317 PKiKP **PKPdf** **02 38 46.8 -0.4**
MLR Muntele Rosu 143.67 317 PKP **PKPdf** **02 38 46.8 -0.4**
MLR Muntele Rosu 143.67 317⇑ *i*P **PKPdf** **02 38 46.1 -1.2**
UZH Uzhgorod 144.19 324 *c i*PKiKP PKPbc 02 38 46.2 +0.1
UZH *i* 02 38 54.0
VOIR 144.25 318⇑ PKiKP **PKPdf** **02 38 47.9 -0.3**
VOIR 144.25 318⇑ *i*P **PKPdf** **02 38 47.9 -0.3**
TRPA Tarpa 144.34 323⇑ *i*P **PKPab** **02 38 46.2 0.0**
TRPA Tarpa 144.34 323⇑ *e*SKKPbc **PKPdf** **02 38 45.9 -2.2**
DRGR 144.98 321 ⇑PKiKP PKPbc 02 38 48.5 -0.3
DRGR 144.98 321⇑ *i*P PKPbc 02 38 48.5 -0.3
OKC Ostrava-Krasne 145.57 329 *e*PKiKP **PKPdf** **02 38 49.8 -0.4**
OKC Ostrava-Krasne 145.57 329 *e*PKP **PKPdf** **02 38 49.8 -0.4**
BSEG Bad Segeberg 145.59 340 *e*PKPbc **PKPdf** **02 38 49.7 -0.4**
BSEG Bad Segeberg 145.59 340 *e*PKP2 **PKPdf** **02 38 49.7 -0.4**
GZR Gura Zlata 145.67 319 ⇑PKiKP **PKPab** **02 38 52.0 +0.7**
GZR Gura Zlata 145.67 319⇑ *i*P **PKPab** **02 38 52.0 +0.7**
KSP Ksiaz 145.73 331 *e*PKP **PKPbc** **02 38 50.7 -0.2**
KSP Ksiaz 145.73 331⇑ *i*PKiKP **PKPbc** **02 38 50.7 -0.2**
KSP *e* 02 38 58.0
MORC Moravsky Berou 145.90 329⇑ PKP2 **PKPdf** **02 38 51.0 +0.1**
MORC Moravsky Berou 145.90 329 *e*PKPbc **PKPdf** **02 38 50.8 -0.1**
MORC Moravsky Berou 145.90 329⇑ *i*P **PKPdf** **02 38 51.0 +0.1**
PSZ Piszkesteto 145.90 325⇓ PKP2 **PKPdf** **02 38 51.0 0.0**
PSZ Piszkesteto 145.90 325 *e*PKPbc **PKPdf** **02 38 50.6 -0.3**
PSZ Piszkesteto 145.90 325⇓ *i*P **PKPdf** **02 38 51.0 0.0**
PSZ Piszkesteto 145.90 325⇑ *e* **PKPbc** **02 38 51.2 -0.5**
KRLC Kraliky 146.05 330 *e*PKP **PKPdf** **02 38 51.0 -0.1**
KRLC *ex* 02 38 57.8
DPC Dobruska-Polom 146.07 331 *e*PKP2 **PKPdf** **02 38 50.7 -0.4**
DPC Dobruska-Polom 146.07 331 *e*PKP **PKPdf** **02 38 50.7 -0.4**
DPC *ep*PKP **PKiKP** **02 38 58.2 +2.9**
UPC Upice 146.09 331 *e*PKP2 **PKPdf** **02 38 51.3 +0.2**
UPC Upice 146.09 331 *e*PKP **PKPdf** **02 38 51.3 +0.2**
UPC *ep*PKP **PKiKP** **02 38 57.7 +2.4**
VYHS Vyhne 146.10 326 *e*PKiKP **PKPbc** **02 38 51.7 -0.5**
VYHS *e* 02 46 00.2
VYHS Vyhne 146.10 326 *e*PKP **PKPbc** **02 38 51.7 -0.5**
VYHS *e*SKSDF 02 46 00.2
BZS Buzias 146.25 320⇑ PKP2 **PKPab** **02 38 57.1 +3.7**
BZS Buzias 146.25 320⇑ *i*P **PKPab** **02 38 57.1 +3.7**
KOLL Kolacno 146.27 327 *e*PKP2 **PKPbc** **02 38 52.8 +0.2**
KOLL Kolacno 146.27 327 *e*PKP **PKPbc** **02 38 52.8 +0.2**
BUD Budapest 146.64 325⇓ *e* **PKPbc** **02 38 53.7 0.0**
VRAC Vranov 146.67 329 PKPbc **PKPbc** **02 38 54.1 +0.4**
comp=Z,3.9nm,0.8s,baz=58,slow=3.6,SNR=6.9
VRAC Vranov 146.67 329⇑ PKP2 **PKPbc** **02 38 54.2 +0.4**
VRAC Vranov 146.67 329 PKPbc **PKPbc** **02 38 54.1 +0.4**
VRAC Vranov 146.67 329⇑ *i*P **PKPbc** **02 38 54.2 +0.4**
PVCC Panska Ves 146.71 332 *e*PKP2 **PKPbc** **02 38 53.8 0.0**
PVCC Panska Ves 146.71 332 *e*PKP **PKPbc** **02 38 53.8 0.0**
BRG Berggiesshubel 146.71 333 *i* PKP **PKPbc** **02 38 53.1 -0.8**
comp=Z,24nm,1.0s
BRG Berggiesshubel 146.71 333 *e*PKPbc **PKPbc** **02 38 53.2 -0.6**
BRG Berggiesshubel 146.71 333 *i* PKP2 **PKPbc** **02 38 53.1 -0.8**
BRG pmax pmax
comp=Z,24nm,1.0s
BRG smax smax
comp=N,3.0nm,0.4s
VTS Vitosha 146.73 314⇓ PKP2 **PKPbc** **02 38 54.1 -0.3**
VTS Vitosha 146.73 314⇓ *i*P **PKPbc** **02 38 54.1 -0.3**
CLL Collm 146.76 335 *e*PKPbc **PKPbc** **02 38 52.9 -1.1**
CLL Collm 146.76 335⇑ *i*PKP2 **PKPbc** **02 38 53.3 -0.7**
CLL pmax pmax
comp=Z,28nm,1.1s
CLL Collm 146.76 335⇑ *i*PKPbc **PKPbc** **02 38 53.3 -0.7**
comp=Z,28nm,1.1s
CLL *ep*PKPbc **PKiKP** **02 39 00.0 +3.4**
SMOL Smolenice 146.80 327 *e*PKP2 **PKPab** **02 38 55.0 -0.5**
SMOL Smolenice 146.80 327 *e*PKP **PKPab** **02 38 54.9 -0.5**
NRDL Niedersach Rie 146.86 339 *e*PKPbc **PKPbc** **02 38 53.4 -0.7**
PRU Pruhonice 147.12 332 *e*PKiKP **PKPbc** **02 38 54.1 -0.9**
PRU Pruhonice 147.12 332 *e*PKP **PKPbc** **02 38 54.1 -0.9**
ESK Eskdalemuir 147.15 354 *e*PKiKP **PKPbc** **02 38 53.8 -1.1**
ESK Eskdalemuir 147.15 354 *e*PKPbc **PKPbc** **02 38 53.8 -1.1**
ZST Bratislava 147.17 327 *e*PKP2 **PKPbc** **02 38 55.5 +0.3**
ZST Bratislava 147.17 327 *e*PKP **PKPbc** **02 38 55.5 +0.3**
TREC Trest 147.20 330 *e*PKP2 **PKPbc** **02 38 54.7 -0.6**
TREC Trest 147.20 330 *e*PKP **PKPbc** **02 38 54.7 -0.6**
CLZ Clausthal 147.31 338 *e*PKPbc **PKPbc** **02 38 55.2 -0.4**
CLZ Clausthal 147.31 338 *e*PKP2 **PKPbc** **02 38 55.2 -0.4**
PKSM Moragy 147.62 323⇑ PKP2 **PKPbc** **02 38 56.6 0.0**
PKSM Moragy 147.62 323⇑ *i*P **PKPbc** **02 38 56.5 0.0**
PKSM Moragy 147.62 323⇑ *e* **PKPdf** **02 38 53.9 +0.1**
TANN Tannenbergstha 147.67 334 *e*PKPbc **PKPbc** **02 38 55.9 -0.7**
VAY Valandovo 147.71 313 *e*PKP **PKPab** **02 38 58.2 -1.1**
IBBN Ibbenburen 147.78 341 *e*PKPbc **PKPbc** **02 38 55.8 -0.9**
SOP Sopron 147.79 327⇓ *e* **PKPdf** **02 38 53.7 -0.3**
NKC Novy Kostel 147.82 334 *e*PKP2 **PKPbc** **02 38 56.6 -0.4**
NKC Novy Kostel 147.82 334 *e*PKP **PKPbc** **02 38 56.6 -0.4**
MOX Moxa 147.83 335 *e*PKPbc **PKPbc** **02 38 55.8 -1.2**
MOX Moxa 147.83 335 *e*PKiKP **PKPbc** **02 38 55.8 -1.2**
CSNA Conrad Observa 147.97 328⇑ *i*P **PKPbc** **02 38 55.9 -1.7**
CSNA Conrad Observa 147.97 328⇑ *i*PKPbc **PKPbc** **02 38 55.9 -1.7**
comp=Z,17nm,1.6s
KHC Kasperske Hory 148.18 331 *e*PKP2 **PKPbc** **02 38 57.3 -0.7**
KHC Kasperske Hory 148.18 331 *e*PKPbc **PKPbc** **02 38 57.0 -1.0**
KHC Kasperske Hory 148.18 331 *e*PKP **PKPbc** **02 38 57.3 -0.7**
KHC *ep*PKP **pPKPdf** **02 39 03.7 -2.4**
SKO Skopje 148.18 314 *e*PKP **PKPbc** **02 38 58.3 +0.1**
ROTZ Rotzenmuhle 148.28 334 *e*PKPbc **PKPbc** **02 38 57.9 -0.3**
UBBA Unterbreizbach 148.29 337 *e*PKPbc **PKPbc** **02 38 58.3 +0.3**
GEC2 GERESS Array S 148.33 331 *e*PKPbc **PKPbc** **02 38 57.9 -0.6**
GEC2 GERESS Array S 148.33 331 *e*PKP2 **PKPbc** **02 38 57.9 -0.6**
GERES GERESS Array B 148.33 331 PKP **PKPdf** **02 38 53.7 -1.3**
comp=Z,8.7nm,0.9s,baz=273,slow=2.5,SNR=8.2
GERES PKPbc **PKPbc** **02 38 58.6 +0.1**
comp=Z,4.0nm,0.7s,baz=35,slow=3.3,SNR=10

GERES	**GERESS Array B**	**148.33 331**	PKHKP	**PKPdf**	**02 38 53.7**	**-1.3**
GERES			02 38 58.6			
GERES	**GERESS Array B**	**148.33 331**	PKP	**PKPdf**	**02 38 53.7**	**-1.3**
GERES			PKPbc	**PKPbc**	**02 38 58.6**	**+0.1**
WET	**Wettzell**	**148.47 332**	*e*PKPbc	**PKPbc**	**02 38 58.2**	**-0.5**
WET	**Wettzell**	**148.47 332**	*e*PKP2	**PKPbc**	**02 38 58.2**	**-0.5**
BUG	**Bochum--Univer**	**148.68 340**	*e*PKPbc	**PKPbc**	**02 38 58.4**	**-0.7**
GRF	**Grafenberg Arr**	**148.74 334**	*e*PKPbc	**PKPbc**	**02 38 58.9**	**-0.5**
GRF	**Grafenberg Arr**	**148.74 334**	*e*PKP2	**PKPbc**	**02 38 58.9**	**-0.5**
GVD	**Gavdhos**	**148.76 300**	*e*PKPbc	**PKPbc**	**02 38 59.8**	**-0.1**
MOA	**Molln**	**148.79 329** ⇑*i*P		**PKPbc**	**02 38 59.6**	**-0.1**
MOA	**Molln**	**148.79 329** ⇑*i*PKiKP		**PKPbc**	**02 38 59.6**	**-0.1**
	comp=Z,6.3nm,0.7s					
SOKA	**Soboth**	**149.24 327** ⇓*i*P		**PKPbc**	**02 39 00.1**	**-0.7**
SOKA	**Soboth**	**149.24 327** ⇓*i*PKPbc		**PKPbc**	**02 39 00.1**	**-0.7**
	comp=Z,26nm,1.7s					
TNS	**Taunus Mts**	**149.34 338** *e*PKPbc		**PKPbc**	**02 39 00.3**	**-0.6**
TNS	**Taunus Mts**	**149.34 338** *e*PKIKP		**PKPbc**	**02 39 00.3**	**-0.6**
RJOB	**Jochberg**	**149.56 330** *e*PKPbc		**PKPbc**	**02 39 00.7**	**-0.9**
TOD	**Tromm**	**149.73 337** PKP2		**PKPbc**	**02 39 01.6**	**-0.3**
TOD	**Tromm**	**149.73 337** PKP		**PKPbc**	**02 39 01.6**	**-0.3**
KBA	**Koelnbreinsper**	**149.78 329** ⇑*i*PKHKP		**PKPbc**	**02 39 00.9**	**-1.4**
KBA	**Koelnbreinsper**	**149.78 329** ⇑*i*P		**PKPbc**	**02 39 00.8**	**-1.4**
KBA	**Koelnbreinsper**	**149.78 329** ⇑*i*PKPbc		**PKPbc**	**02 39 00.8**	**-1.4**
	comp=Z,12nm,1.0s					
MEM	**Membach**	**149.80 341** PKPbc		**PKPbc**	**02 39 01.6**	**-0.4**
ABH	**Altenburg**	**149.94 338** PKP		**PKPbc**	**02 39 02.3**	**-0.1**
BCLA	**Clavier**	**150.18 342** PKPbc		**PKPbc**	**02 39 02.4**	**-0.5**
RUP	**Ruppelstein**	**150.25 339** PKP2		**PKPbc**	**02 39 03.3**	**+0.1**
RUP	**Ruppelstein**	**150.25 339** PKP		**PKPbc**	**02 39 03.3**	**+0.1**
STU	**Stuttgart**	**150.27 335** *e*PKPbc		**PKPbc**	**02 39 02.7**	**-0.5**
STU	**Stuttgart**	**150.27 335** *e*PKHKP		**PKPbc**	**02 39 02.7**	**-0.5**
STU	**Stuttgart**	**150.27 335** *e*PKPbc		**PKPbc**	**02 39 02.7**	**-0.5**
ABTA	**Abfaltersbach**	**150.42 329** ⇓*i*P		**PKPbc**	**02 39 02.1**	**-1.6**
ABTA	**Abfaltersbach**	**150.42 329** ⇓*i*PKPbc		**PKPbc**	**02 39 02.1**	**-1.6**
	comp=Z,17nm,0.9s					
WLF	**Walferdange**	**150.58 340** PKPbc		**PKPbc**	**02 39 03.8**	**-0.1**
WLF	**Walferdange**	**150.58 340** *e*PKPbc		**PKPbc**	**02 39 03.8**	**-0.1**
WLF	**Walferdange**	**150.58 340** *e*PKHKP		**PKPbc**	**02 39 03.7**	**-0.1**
WLF	**Walferdange**	**150.58 340** *e*PKPbc		**PKPbc**	**02 39 03.7**	**-0.2**
LANF	**Langenberg**	**150.61 337** PKIKP		**PKPbc**	**02 39 04.2**	**+0.2**
LANF	**Langenberg**	**150.61 337** PKP		**PKPbc**	**02 39 04.2**	**+0.2**
LANF	**Langenberg**	**150.61 337** PKP		**PKPbc**	**02 39 04.2**	**+0.2**
MOTA	**Moosalm**	**150.61 332** ⇑*i*PKIKP		**PKPbc**	**02 39 03.0**	**-1.3**
MOTA	**Moosalm**	**150.61 332** ⇑*i*P		**PKPbc**	**02 39 03.0**	**-1.3**
MOTA	**Moosalm**	**150.61 332** ⇑*i*PKPbc		**PKPbc**	**02 39 03.0**	**-1.3**
	comp=Z,20nm,0.8s,SNR=10					
RETA	**Reutte**	**150.65 332** ⇓*i*P		**PKPbc**	**02 39 03.6**	**-0.7**
RETA	**Reutte**	**150.65 332** ⇓*i*PKPbc		**PKPbc**	**02 39 03.6**	**-0.7**
	comp=Z,11nm,0.9s					
DOU	**Dourbes**	**150.67 342** PKPbc		**PKPbc**	**02 39 03.8**	**-0.3**
BFO	**Black Forest**	**150.96 336** *e*PKPbc		**PKPbc**	**02 39 03.7**	**-1.2**
BFO	**Black Forest**	**150.96 336** *e*PKIKP		**PKPbc**	**02 39 03.7**	**-1.2**
SPAK	**Spaichingen-Ko**	**150.97 335** PKP		**PKPbc**	**02 39 03.3**	**-1.7**
FETA	**Feichten**	**151.02 332** ⇓*i*P		**PKPbc**	**02 39 05.0**	**-0.3**
FETA	**Feichten**	**151.02 332** ⇓*i*PKiKP		**PKPbc**	**02 39 05.0**	**-0.3**
	comp=Z,22nm,0.9s					
FELD	**Feldberg im Sc**	**151.46 336** PKP		**PKPbc**	**02 39 05.5**	**-0.7**
DAVOX	**Davos/Dischmat**	**151.58 332** PKPbc		**PKPbc**	**02 39 06.3**	**-0.3**
	comp=Z,17nm,0.7s,baz=56,slow=0.9,SNR=28					
DAVOX	**Davos/Dischmat**	**151.58 332** PKPbc		**PKPbc**	**02 39 06.3**	**-0.3**
TUE	**Stuetta**	**152.05 332** *e*PKPbc		**PKPbc**	**02 39 06.7**	**-1.0**
LOMF	**Lomont**	**152.34 337** PKIKP		**PKPbc**	**02 39 07.2**	**-0.9**
LOMF	**Lomont**	**152.34 337** PKP		**PKPbc**	**02 39 07.2**	**-0.9**
LOMF	**Lomont**	**152.34 337** PKP		**PKPbc**	**02 39 07.2**	**-0.9**
BNI	**Bardonecchia**	**154.30 334** *e*PKIKP		**PKPbc**	**02 39 12.0**	**-0.6**
BNI	**Bardonecchia**	**154.30 334** *e*PKPbc		**PKPbc**	**02 39 12.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.12 229** PKP		**PKPdf**	**02 39 17.1**	**-1.0**
TORD	comp=Z,2.0nm,1.0s,baz=331,slow=0.8,SNR=7.4		PKPab	**PKPab**	**02 40 17.9**	**-0.7**
TORD	comp=Z,2.9nm,1.0s,baz=115,slow=4.6,SNR=8.5		PKPab	**PKPab**	**02 40 17.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**166.12 229** PKP		**PKPdf**	**02 39 17.1**	**-1.0**
TORD			PKPab	**PKPab**	**02 40 17.9**	**-0.7**

*IDC **21** 02:19:46.0±13.0, 36.°43N×71.°42E, h199km±138km, mb3.1/1, mb1 2.9/5, mb1mx2.7/28, mbtmp2.9/5, Error ellipse: s-maj=86.2km s-min=55.6km az=173.0*
*NNC **21** 02:19:51.8±2.5, 37.°11N×71.°21E, h181km±26km, mb2.6, mpv3.6, Error ellipse: s-maj=22.5km s-min=12.5km az=9.0*
ISC 21 02:19:42.5±2.8, 36.°6N±0.°2×71.°1E±0.°2, h106km, n13, σ1ᵖ39/13, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KK31	**Karatay Array**	**6.50**	**356**	Pn	Pn	02 21 19.2	+3.6
	2.2nm,0.3s,baz=177,slow=12,SNR=98						
KK31				⇑Sn	**Sn**	**02 22 28.0**	**-0.2**
	4.0nm,0.3s,baz=181,slow=22,SNR=6.9						
TKM2	**Tokmak 2**	**7.20**	**28**	⇑Pn	**Pn**	**02 21 27.9**	**+2.6**
	3.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**02 22 44.6**	**-1.0**
	1.9nm,0.6s						
MK31	**Makanchi Array**	**13.17**	**36**	⇑P	**Pn**	**02 22 46.2**	**+0.9**
	0.4nm,0.6s,baz=219,slow=13,SNR=7.6						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**02 22 45.3**	**0.0**
	0.1nm,0.3s,baz=217,slow=13,SNR=4.8						
AB31	**Akbulak array**	**15.02**	**331**	⇑P	**Pn**	**02 23 08.9**	**-0.1**
	0.2nm,0.3s,baz=156,slow=11,SNR=7.6						
KURK	**Kurchatov**	**15.11**	**19**	P	**Pn**	**02 23 08.4**	**-1.7**
	0.1nm,0.3s,baz=206,slow=10,SNR=6.4						
VOSK	**Vostochnaya**	**16.11**	**360**	⇑P	**Pn**	**02 23 21.6**	**-1.0**
	0.7nm,0.6s						
ZRNK	**Zerenda**	**16.40**	**356**	⇑P	**Pn**	**02 23 26.2**	**-0.1**
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**16.42**	**359**	P	**Pn**	**02 23 26.6**	**+0.1**
	0.2nm,0.3s,baz=157,slow=10,SNR=6.4						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**P**	**02 23 30.9**	**+0.3**
	0.6nm,0.3s,baz=138,slow=10,SNR=26						
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓P	**P**	**02 23 30.8**	**+0.2**
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**P**	**02 24 01.6**	**-2.6**
	0.6nm,0.3s,baz=225,slow=11,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	P	02 30 11.8	-4.8
	0.5nm,0.8s,baz=56,slow=5.9,SNR=5.8						

*IDC **21** 02:26:17.5±1.0, 22.°92S×171.°12E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.9/17, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=40.1km s-min=25.1km az=175.0*
*ISCJB **21** 02:26:20.3±1.2, 23.°0S±0.°3×171.°0E±0.°1, h31km, mb3.9/4, Error ellipse: s-maj=38.3km s-min=11.7km az=14.7*
ISC 21 02:26:21.8±1.1, 22.°8S±0.°3×171.°0E±0.°1, h31km, n11, σ1ᵖ30/13, mb3.8/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NORM	**Noumea**	**4.26**	**277**	*e*P	**Pn**	**02 27 24.2**	**-0.4**
DZM	**Mont Dzumac**	**4.32**	**279**	Pn	**Pn**	**02 27 26.4**	**+0.8**
	10nm,0.3s,baz=113,slow=18,SNR=95						
DZM				Sn	**Sn**	**02 28 16.9**	**+2.0**
	17nm,0.3s,baz=3.0,slow=22,SNR=8.7						
NOUC	**Port Laguerre**	**4.45**	**279**	*e*P	**Pn**	**02 27 26.7**	**-0.5**
NOUC				*e*S	**Sn**	**02 28 15.0**	**-2.8**
ASAR	**Alice Springs**	**34.07**	**261**	P	**P**	**02 33 04.6**	**+0.9**
	0.9nm,0.7s,baz=91,slow=9.5,SNR=9.1						
WRA	**Warramunga Arr**	**34.24**	**268**	P	**P**	**02 33 05.0**	**-0.2**
	0.2nm,0.3s,baz=98,slow=8.4,SNR=6.0						
QSPA	**South Pole Qui**	**67.23**	**180**	P	**P**	**02 37 12.3**	**-0.8**
	1.0nm,0.3s,baz=293,slow=1.6,SNR=2.6						
NVAR	**Mina Array Bea**	**89.94**	**48**	P	**PcP**	**02 39 18.9**	**-0.8**
	0.5nm,0.8s,baz=224,slow=6.3,SNR=3.6						
VRAC	**Vranov**	**146.78**	**329**	PKPbc	**PKPab**	**02 46 01.8**	**-0.1**
	1.4nm,0.6s,baz=16,slow=19,SNR=3.7						
GERES	**GERESS Array B**	**148.44 331**		PKPbc	**PKPbc**	**02 46 05.6**	**+0.3**
	1.5nm,0.9s,baz=64,slow=3.1,SNR=9.6						
DAVOX	**Davos/Dischmat**	**151.59 332**		PKPbc	**PKPbc**	**02 46 13.9**	**+0.5**
	5.0nm,0.9s,baz=323,slow=7.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**166.02 228**		PKPab	**PKPab**	**02 47 26.0**	**+1.3**
	1.4nm,1.2s,baz=171,slow=1.9,SNR=3.4						

IDC 21 02:27:44.0±1.5, 22.°70S×171.°13E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=79.1km s-min=27.5km az=167.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.38**	**277**	Pn	Pn	02 28 52.3	+0.2
	baz=96,slow=17,SNR=3.9						
CTA	**Charters Tower**	**23.30**	**272**	P	P	02 32 55.0	+1.2
	2.6nm,0.6s,baz=89,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**34.33**	**268**	P	P	02 34 31.0	-1.7
	0.5nm,0.4s,baz=95,slow=8.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**42.76**	**268**	P	P	02 35 43.6	0.0
	2.2nm,0.6s,baz=122,slow=11,SNR=5.4						
NVAR	**Mina Array Bea**	**89.78**	**48**	P	P	02 40 44.7	-0.2
	0.5nm,0.7s,baz=231,slow=9.2,SNR=4.5						
CLL	**Collm**	**146.79**	**335**	*i* (PKP)	PKPbc	02 47 27.4	-0.5
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**148.36 331**		PKPbc	PKPbc	02 47 32.3	-0.1
	comp=Z,1.2nm,0.8s,baz=2.7,slow=2.8,SNR=5.9						
DAVOX	**Davos/Dischmat**	**151.61 332**		PKPbc	PKPbc	02 47 40.3	-0.2
	comp=Z,3.5nm,0.8s,baz=90,slow=1.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**166.18 228**		PKPab	PKPab	02 48 52.1	-0.5
	comp=Z,0.8nm,1.0s,baz=170,slow=3.1,SNR=3.2						

*DJA **21** 02:29:23.0±70.5×133.°21E, h13km, MLv3.9/4*
IDC 21 02:29:18.5±1.5, 0.°51S×133.°58E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=78.8km s-min=18.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.14**	**204**	P	Pn	02 33 44.1	-0.1
	0.2nm,0.3s,baz=48,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**19.32**	**178**	P	P	02 33 46.0	+0.4
	0.4nm,0.3s,baz=355,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.02**	**179**	P	P	02 34 25.0	-0.4
	2.1nm,0.3s,baz=357,slow=12,SNR=29						
STKA	**Stephens Creek**	**32.10**	**167**	P	P	02 35 47.1	-0.4
	1.0nm,0.3s,baz=331,slow=8.2,SNR=4.2						
SONM	**Songino Array**	**53.65**	**338**	P	P	02 38 40.8	-1.2
	0.7nm,0.5s,baz=190,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	02 40 00.7	+0.5
	0.4nm,0.7s,baz=120,slow=6.6,SNR=5.3						
KURK	**Kurchatov**	**69.01**	**326**	P	P	02 40 26.7	+0.8
	0.3nm,0.5s,baz=121,slow=5.9,SNR=4.4						

IDC 21 02:29:42.3±3.5, 21.°66S×170.°57E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.6/4, Error ellipse: s-maj=223.0km s-min=28.5km az=161.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.85**	**263**	Pn	Pn	02 30 41.7	-1.3
	baz=120,slow=20,SNR=5.3						
ASAR	**Alice Springs**	**33.84**	**260**	P	P	02 36 26.7	0.0
	0.7nm,0.7s,baz=93,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**33.87**	**266**	P	P	02 36 26.8	-0.2
	0.2nm,0.3s,baz=95,slow=8.5,SNR=3.9						
NVAR	**Mina Array Bea**	**89.47**	**48**	P	P	02 42 40.8	-1.0
	0.2nm,0.5s,baz=228,slow=8.1,SNR=3.5						
GERES	**GERESS Array B**	**147.21 331**		PKPbc	PKPab	02 49 28.6	-0.7
	0.7nm,0.8s,baz=28,slow=3.5,SNR=4.5						

*SZGRF **21** 02:30:13.1, 22.°73S×172.°58E, h33km, Southeast of Loyalty Islands*
*IDC **21** 02:30:14.0±0.7, 22.°61S×171.°07E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, ML4.4/1, Error ellipse: s-maj=28.7km s-min=19.2km az=162.0*
*ISCJB **21** 02:30:19.6±0.4, 22.°57S±0.°08×170.°85E±0.°05, h42km, mb4.4/21, Error ellipse: s-maj=11.5km s-min=6.5km az=179.3*
*NEIC **21** 02:30:19.8±0.4, 22.°50S×171.°01E, h35km, mb4.6/13, Error ellipse: s-maj=12.0km s-min=9.4km az=170.0*
ISC 21 02:30:20.5±0.5, 22.°49S±0.°10×170.°93E±0.°07, h42km, n109, σ1ᵖ09/122, mb4.4/21, 10C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BAYA	**Yate Dam**	**3.76**	**274**	*e*S	**Sn**	**02 31 58.9**	**-0.1**
DZM	**Mont Dzumac**	**4.17**	**275**	Pn	**Pn**	**02 31 22.0**	**+0.2**
	20nm,0.3s,baz=116,slow=22,SNR=11						
DZM				Sn	**Sn**	**02 32 06.6**	**-2.8**
	8.8nm,0.3s,baz=65,slow=15,SNR=3.1						
DZM	**Mont Dzumac**	**4.17**	**275**	*e*P	**Pn**	**02 31 20.5**	**-1.3**
DZM				*e*S	**Sn**	**02 32 08.4**	**-1.0**
DZM	**Mont Dzumac**	**4.17**	**275**	Pn	**Pn**	**02 31 22.0**	**+0.2**
DZM				Sn	**Sn**	**02 32 06.6**	**-2.8**
MSVF	**Nonsavu**	**8.20**	**56**	*e*Pn	Pn	02 32 21.9	+4.9
	60nm,0.8s						
URZ	**Urewera**	**16.59**	**163**	*e*Pn	**Pn**	**02 34 09.9**	**-0.1**
	13nm,0.9s						
EIDS	**Eidsvold**	**18.36**	**257**	*e*P	**Pn**	**02 34 33.0**	**+0.9**
	21nm,1.2s						
ARMA	**Armidale**	**18.98**	**241**	*e*P	**Pn**	**02 34 40.5**	**+0.9**
ARMA	**Armidale**	**18.98**	**241**	*e*P	**Pn**	**02 34 39.8**	**+0.1**
	25nm,1.3s						
RPZ	**Rata Peaks**	**21.17**	**180**	P	**P**	**02 35 03.4**	**+1.2**
	20nm,0.9s,baz=63,slow=6.3,SNR=8.7						
RPZ	**Rata Peaks**	**21.17**	**180**	P	**P**	**02 35 03.4**	**+1.2**
CTAO	**Charters Tower**	**23.11**	**271**	*e*P	**P**	**02 35 25.1**	**+2.1**
	4.7nm,0.8s						
PMG	**Port Moresby**	**26.24**	**296**	P	**P**	**02 35 52.9**	**+1.0**
	3.3nm,0.3s,baz=147,slow=12,SNR=3.8						
PMG	**Port Moresby**	**26.24**	**296**	*e*P	**P**	**02 35 52.6**	**+0.7**
	10.0nm,0.8s						
STKA	**Stephens Creek**	**27.64**	**244**	P	**P**	**02 36 04.7**	**+0.3**
	0.7nm,0.3s,baz=158,slow=16,SNR=2.5						
STKA	**Stephens Creek**	**27.64**	**244**	P	**P**	**02 36 04.7**	**+0.3**
COEN	**Coen**	**27.65**	**283**	*e*P	**P**	**02 36 06.3**	**+1.7**
	46nm,1.0s						
AS31	**Alice Springs**	**34.02**	**261**	*e*P	**P**	**02 37 01.1**	**+0.3**
ASAR	**Alice Springs**	**34.02**	**261**	P	**P**	**02 37 00.3**	**-0.5**
	2.6nm,0.7s,baz=89,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**34.02**	**261**	P	**P**	**02 37 00.3**	**-0.5**
WB2	**Warramunga Arr**	**34.14**	**267**	*e*P	**P**	**02 37 03.7**	**+2.0**
WRAB	**Tennant Creek**	**34.14**	**267**	*e*P	**P**	**02 37 00.2**	**-1.6**
	5.2nm,1.0s						
WRA	**Warramunga Arr**	**34.15**	**267**	P	**P**	**02 37 00.6**	**-1.3**
	0.7nm,0.4s,baz=98,slow=8.3,SNR=8.9						
WRA	**Warramunga Arr**	**34.15**	**267**	P	**P**	**02 37 00.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**42.58**	**267**	P	**P**	**02 38 13.4**	**+0.7**
	4.4nm,0.6s,baz=132,slow=8.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**42.58**	**267**	*e*P	**P**	**02 38 13.9**	**+1.2**
	8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.58**	**267**	P	**P**	**02 38 13.4**	**+0.7**
MBWA	**Marble Bar**	**47.35**	**261**	*e*P	**P**	**02 38 50.2**	**-0.5**
	25nm,1.3s						
KAPI	**Kappang**	**52.36**	**281**	*e*P	**P**	**02 39 28.9**	**+0.1**
	20nm,2.2s						
QSPA	**South Pole Qui**	**67.58**	**180**	P	**P**	**02 41 11.8**	**-0.8**
	3.8nm,0.8s,baz=336,slow=3.2,SNR=6.3						
QSPA	**South Pole Qui**	**67.58**	**180**	*e*P	**P**	**02 41 10.8**	**-1.9**
	12nm,1.0s						
PETK	**Petropavlovsk-**	**76.15**	**352**	P	**P**	**02 42 04.9**	**+1.1**
	2.0nm,0.7s,baz=41,slow=11,SNR=3.0						
PETK	**Petropavlovsk-**	**76.15**	**352**	P	**P**	**02 42 04.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**81.27**	**294**	P	**P**	**02 42 34.4**	**+1.6**
	2.0nm,0.5s,baz=141,slow=4.2,SNR=9.6						
CMAR	**Chiang Mai Arr**	**81.27**	**294**	P	**P**	**02 42 34.4**	**+1.6**
CHTO	**Chiang Mai**	**81.43**	**294**	*e*P	**P**	**02 42 35.4**	**+1.8**
	2.1nm,0.3s						
ISA	**Isabella**	**88.32**	**50**	*e*P	**P**	**02 43 08.0**	**+0.1**
	4.4nm,0.9s						
NVAR	**Mina Array Bea**	**89.78**	**48**	P	**P**	**02 43 15.2**	**+0.2**
	1.6nm,0.7s,baz=225,slow=7.9,SNR=13						
NVAR	**Mina Array Bea**	**89.78**	**48**	P	**P**	**02 43 15.2**	**+0.2**
ULN	**Ulaanbaatar**	**90.40**	**323**	*e*P	**P**	**02 43 18.1**	**+0.6**
	4.4nm,0.9s						
SONM	**Songino Array**	**90.75**	**323**	P	**P**	**02 43 19.8**	**+0.7**
	3.9nm,1.0s,baz=135,slow=3.8,SNR=7.4						
SONM	**Songino Array**	**90.75**	**323**	P	**P**	**02 43 19.8**	**+0.7**
ILAR	**Eielson Array**	**92.86**	**17**	P	**P**	**02 43 26.8**	**-1.6**
	0.2nm,0.9s,baz=231,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**92.86**	**17**	P	**P**	**02 43 26.8**	**-1.6**
TXAR	**Lajitas Array**	**96.93**	**61**	P	**P**	**02 43 48.1**	**+0.1**
	0.2nm,0.7s,baz=204,slow=2.2,SNR=3.0						
TXAR	**Lajitas Array**	**96.93**	**61**	P	**P**	**02 43 48.1**	**+0.1**
MKAR	**Makanchi Array**	**105.14**	**315**	Pdiff	**Pdif**	**02 44 25.3**	**+1.2**
	0.2nm,0.8s,baz=116,slow=6.6,SNR=2.3						
MKAR				PKiKP	**PKiKP**	**02 48 37.2**	**-1.1**
	0.1nm,0.8s,baz=129,slow=3.9,SNR=3.7						
MKAR	**Makanchi Array**	**105.14**	**315**	Pdif	**Pdif**	**02 44 25.3**	**+1.2**
MKAR				PKiKP	**PKiKP**	**02 48 37.2**	**-1.1**
BVAR	**Borovoye Array**	**113.91**	**319**	PKP	**PKiKP**	**02 48 55.6**	**+1.0**
	0.4nm,0.5s,baz=217,slow=0.7,SNR=4.2						
BVAR	**Borovoye Array**	**113.91**	**319**	PKP	**PKiKP**	**02 48 55.6**	**+1.0**
ARU	**Arti**	**120.78**	**323**	*e*PKPdf	**PKPdf**	**02 49 07.5**	**-0.1**
AKTO	**Aktyubinsk**	**121.51**	**316**	PKP	**PKPdf**	**02 49 08.0**	**-1.3**
	0.7nm,0.7s,baz=32,slow=5.2,SNR=4.9						

AKTO	**Aktyubinsk**	**121.51**	**316**	PKP		**PKPdf**	**02 49 08.0**	**-1.3**
SPITS	**Spitsbergen Ar**	**122.98**	**354**	PKP		**PKPdf**	**02 49 10.6**	**-0.8**
	2.8nm,0.7s,baz=106,slow=4.4,SNR=5.0							
SPITS	**Spitsbergen Ar**	**122.98**	**354**	PKP		**PKPdf**	**02 49 10.6**	**-0.8**
ARCES	**ARCESS Array B**	**128.60**	**345**	PKP		**PKPdf**	**02 49 21.7**	**-0.6**
	2.3nm,0.8s,baz=168,slow=2.2,SNR=5.5							
ARCES	**ARCESS Array B**	**128.60**	**345**	PKP		**PKPdf**	**02 49 21.7**	**-0.6**
BRTR	**Keskin Array B**	**140.01**	**306**	PKP		**PKPdf**	**02 49 46.9**	**+2.1**
	0.8nm,1.0s,baz=245,slow=2.6,SNR=3.6							
BRTR	**Keskin Array B**	**140.01**	**306**	PKP		**PKPdf**	**02 49 46.9**	**+2.1**
BURAR	**Bucovina Array**	**142.85**	**321**	⇑*i*P		**PKPdf**	**02 49 45.2**	**-4.3**
VOIR		**144.01**	**318**	⇑*i*P		**PKPdf**	**02 49 52.8**	**+1.2**
DRGR		**144.74**	**321**	⇑*i*P		**PKPdf**	**02 49 52.9**	**+0.1**
OKC	**Ostrava-Krasne**	**145.32**	**329**	*e*PKP		**PKPab**	**02 49 53.9**	**+0.3**
OKC				*e*pPKP		**pPKPdf**	**02 50 03.2**	**-3.6**
BSEG	**Bad Segeberg**	**145.34**	**340**	*e*PKPbc		**PKPab**	**02 49 54.0**	**+0.5**
KSP	**Ksiaz**	**145.48**	**331**	*e*PX		**PKPdf**	**02 49 54.5**	**+0.7**
MORC	**Moravsky Berou**	**145.65**	**329**	*e*PKPbc		**PKPbc**	**02 49 54.6**	**+0.1**
MORC	**Moravsky Berou**	**145.65**	**329**	⇑*i*P		**PKPbc**	**02 49 54.7**	**+0.1**
PSZ	**Piszkesteto**	**145.66**	**325**	*e*PKPbc		**PKPab**	**02 49 55.2**	**+0.1**
KRLC	**Kraliky**	**145.80**	**330**	*e*PKP		**PKPab**	**02 49 55.6**	**+0.1**
DPC	**Dobruska-Polom**	**145.82**	**331**	*e*PKP		**PKPab**	**02 49 55.2**	**+0.1**
DPC				*e*pPKP		**pPKPdf**	**02 50 06.8**	**-0.9**
UPC	**Upice**	**145.85**	**331**	*e*PKP		**PKPab**	**02 49 55.8**	**+0.2**
VRAC	**Vranov**	**146.42**	**329**	⇑*i*P		**PKPab**	**02 49 58.0**	**+0.2**
PVCC	**Panska Ves**	**146.46**	**332**	*e*PKP		**PKPab**	**02 49 57.7**	**-0.2**
BRG	**Berggiesshubel**	**146.47**	**333**	*e*PKP		**PKPbc**	**02 49 56.9**	**0.0**
	16nm,0.9s							
BRG	**Berggiesshubel**	**146.47**	**333**	*e*PKPbc		**PKPab**	**02 49 57.7**	**-0.2**
VTS	**Vitosha**	**146.50**	**314**	⇓*i*P		**PKPab**	**02 49 58.1**	**-0.4**
CLL	**Collm**	**146.52**	**335**	*e*PKPbc		**PKPab**	**02 49 57.5**	**-0.6**
CLL	**Collm**	**146.52**	**335**	*e*PKPdf		**PKPdf**

WB2	Warramunga Arr	34.14	268	*e*P		P	02 45 41.7	-1.5
WRAB	Tennant Creek	34.15	268	*e*P		P	02 45 41.7	-1.5
	comp=Z,1.7nm,0.5s							
WRA	Warramunga Arr	34.16	267	P		P	02 45 41.8	-1.5
	comp=Z,1.0nm,0.4s,baz=98,slow=8.4,SNR=41							
WRA	Warramunga Arr	34.16	267	P		P	02 45 41.8	-1.5
TBI	Tubuai	36.39	99	*e*LR		LR	02 55 50.4	
	comp=Z,161nm,23.2s							
PPT2	Papeete2	37.34	90	*e*LR		LR	02 56 20.4	
	comp=Z,155nm,23.0s							
FITZ	Fitzroy Crossi	42.59	267	P		P	02 46 54.2	0.0
	comp=Z,6.3nm,0.7s,baz=116,slow=9.6,SNR=16							
FITZ	Fitzroy Crossi	42.59	267	*e*P		P	02 46 54.5	+0.4
	comp=Z,8.3nm,0.6s							
FITZ	Fitzroy Crossi	42.59	267	P		P	02 46 54.2	0.0
MBWA	Marble Bar	47.35	262	*e*P		P	02 47 31.7	-0.3
	comp=Z,13nm,1.0s							
KAPI	Kappang	52.40	282	P		P	02 48 10.6	+0.2
	comp=Z,4.2nm,0.3s,baz=174,slow=14,SNR=3.7							
KAPI	Kappang	52.40	282	P		P	02 48 10.6	+0.2
QSPA	South Pole Qui	67.45	180	P		P	02 49 53.0	-0.2
	comp=Z,2.5nm,0.9s,baz=344,slow=3.1,SNR=2.7							
QSPA	South Pole Qui	67.45	180	*e*P		P	02 49 51.5	-1.8
	comp=Z,10.0nm,1.2s							
PETK	Petropavlovsk-	76.28	352	P		P	02 50 46.3	+0.4
	comp=Z,3.8nm,1.0s,baz=142,slow=4.5,SNR=3.6							
PETK	Petropavlovsk-	76.28	352	P		P	02 50 46.3	+0.4
CMAR	Chiang Mai Arr	81.33	294	P		P	02 51 16.9	+2.4
	comp=Z,1.7nm,0.3s,baz=136,slow=4.0,SNR=8.0							
CMAR	Chiang Mai Arr	81.33	294	P		P	02 51 16.9	+2.4
CHTO	Chiang Mai	81.49	294	*e*P		P	02 51 16.7	+1.4
	comp=Z,4.5nm,0.8s							
ISA	Isabella	88.39	50	*e*P		P	02 51 49.5	-0.1
	comp=Z,4.7nm,1.0s							
NVAR	Mina Array Bea	89.86	48	P		P	02 51 56.5	-0.2
	comp=Z,1.2nm,0.7s,baz=229,slow=8.0,SNR=9.2							
NVAR	Mina Array Bea	89.86	48	P		P	02 51 56.5	-0.2
ULN	Ulaanbaatar	90.51	323	*e*P		P	02 51 59.6	+0.2
	comp=Z,6.8nm,1.2s							
SONM	Songino Array	90.86	323	P		P	02 52 01.9	+0.9
	comp=Z,2.0nm,0.9s,baz=131,slow=4.5,SNR=7.3							
SONM	Songino Array	90.86	323	P		P	02 52 01.9	+0.9
ILAR	Eielson Array	92.98	17	P		P	02 52 09.2	-1.0
	comp=Z,0.2nm,0.8s,baz=200,slow=4.6,SNR=3.2							
ILAR	Eielson Array	92.98	17	P		P	02 52 09.2	-1.0
TXAR	Lajitas Array	96.98	61	P		P	02 52 29.1	-0.5
	comp=Z,0.3nm,0.8s,baz=261,slow=2.4,SNR=3.4							
TXAR	Lajitas Array	96.98	61	P		P	02 52 29.1	-0.5
MKAR	Makanchi Array	105.24	315	PKiKP		PKiKP	02 57 19.5	-0.3
	comp=Z,0.1nm,0.8s,baz=116,slow=3.4,SNR=2.8							
MKAR	Makanchi Array	105.24	315	PKiKP		PKiKP	02 57 19.5	-0.3
ARU	Arti	120.89	323	*e*PKPdf		PKPdf	02 57 49.3	+0.1
AKTO	Aktyubinsk	121.61	316	PKP		PKPdf	02 57 50.4	-0.5
	comp=Z,0.4nm,0.5s,baz=145,slow=2.9,SNR=4.1							
AKTO	Aktyubinsk	121.61	316	PKP		PKPdf	02 57 50.4	-0.5
ARCES	ARCESS Array B	128.72	345	PKP		PKPdf	02 58 04.2	+0.3
	comp=Z,4.7nm,1.0s,baz=48,slow=3.6,SNR=5.2							
ARCES	ARCESS Array B	128.72	345	PKP		PKPdf	02 58 04.2	+0.3
FINES	FINESS Array B	134.30	337	PKP		PKPdf	02 58 14.7	0.0
	comp=Z,3.6nm,0.9s,baz=354,slow=1.9,SNR=3.5							
FINES	FINESS Array B	134.30	337	PKP		PKPdf	02 58 14.7	0.0
BRTR	Keskin Array B	140.09	305	PKP		PKPdf	02 58 28.2	+1.9
	comp=Z,0.8nm,1.0s,baz=134,slow=3.6,SNR=4.8							
BRTR	Keskin Array B	140.09	305	PKP		PKPdf	02 58 28.2	+1.9
BUR08	Bucovina Ar. S	142.95	321	*e*PKPdf		PKPdf	02 58 31.9	+0.8
TRPA	Tarpa	144.20	323	⇑*i*P		PKPdf	02 58 32.0	-1.1
DRGR		144.84	321	⇓*i*P		PKPdf	02 58 34.3	-0.1
OKC	Ostrava-Krasne	145.43	329	*e*PKP		PKPab	02 58 35.2	-0.2
BSEG	Bad Segeberg	145.46	340	*e*PKPbc		PKPab	02 58 35.6	+0.3
KSP	Ksiaz	145.60	331	*e*PX		PKPab	02 58 36.1	+0.1
MORC	Moravsky Berou	145.76	329	*e*PKPbc		PKPbc	02 58 35.8	-0.5
MORC	Moravsky Berou	145.76	329	⇑*i*P		PKPab	02 58 36.3	-0.4
PSZ	Piszkesteto	145.77	325	*e*PKPbc		PKPab	02 58 36.4	-0.4
KRLC	Kraliky	145.92	330	*e*PKP		PKPab	02 58 36.8	-0.5
DPC	Dobruska-Polom	145.94	331	*e*PKP		PKPab	02 58 36.7	-0.7
UPC	Upice	145.96	331	*e*PKP		PKPab	02 58 37.5	+0.1
VYHS	Vyhne	145.97	326	*e*PKP		PKPab	02 58 36.9	-0.6
KOLL	Kolacno	146.13	327	*e*PKP		PKPab	02 58 38.5	+0.4
VRAC	Vranov	146.54	329	⇑*i*P		PKPab	02 58 39.7	+0.1
PVCC	Panska Ves	146.58	332	*e*PKP		PKPab	02 58 39.3	-0.4
BRG	Berggiesshubel	146.59	333	*e*P		PKPab	02 58 39.0	-0.8
	comp=Z,16nm,1.1s							
BRG	Berggiesshubel	146.59	333	*e*PKPbc		PKPab	02 58 39.3	-0.5
VTS	Vitosha	146.59	314	⇑*i*P		PKPab	02 58 40.0	-0.3
CLL	Collm	146.63	335	*e*PKPbc		PKPab	02 58 39.1	-0.8
CLL	Collm	146.63	335	*i* PKPbc		PKPbc	02 58 38.7	-0.1
	comp=Z,10.0nm,0.8s							
CLL				*i*			02 58 59.6	
PRU	Pruhonice	146.99	332	*e*PKP		PKPab	02 58 40.2	-1.2
ZST	Bratislava	147.04	327	*e*PKP		PKPbc	02 58 39.5	-0.6
TREC	Trest	147.06	330	*e*PKP		PKPbc	02 58 40.4	-1.3
CLZ	Clausthal	147.19	338	*e*PKPbc		PKPab	02 58 41.0	-1.1
PKSM	Moragy	147.48	323	⇓*i*P		PKPab	02 58 42.4	-1.0
TANN	Tannenbergstha	147.54	334	*e*PKPbc		PKPab	02 58 42.1	-1.5
IBBN	Ibbenburen	147.66	341	*e*PKPbc		PKPbc	02 58 42.0	+0.4
NKC	Novy Kostel	147.69	334	*e*PKP		PKPbc	02 58 42.3	+0.5
CONA	Conrad Observa	147.84	328	⇓*i*P		PKPab	02 58 43.2	-1.7
CONA	Conrad Observa	147.84	328	⇓*i*sPKPdf		PKPab	02 58 43.2	-1.7
	comp=Z,6.0nm,1.2s							
KHC	Kasperske Hory	148.05	331	*e*PKPbc		PKPbc	02 58 43.0	+0.1
KHC	Kasperske Hory	148.05	331	*e*PKP		PKPbc	02 58 43.2	+0.4
ROTZ	Rotzenmuhle	148.15	334	*e*PKPbc		PKPbc	02 58 43.8	+0.8
UBBA	Unterbreizbach	148.16	337	*e*PKPbc		PKPab	02 58 44.4	-1.4
GEC2	GERESS Array S	148.20	331	*e*PKPbc		PKPbc	02 58 43.7	+0.4
GERES	GERESS Array B	148.20	331	PKPbc		PKPbc	02 58 43.4	+0.1
	comp=Z,3.6nm,0.9s,baz=36,slow=2.5,SNR=22							
GERES	GERESS Array B	148.20	331	PKPbc		PKPbc	02 58 43.4	+0.1
WET	Wettzell	148.34	332	*e*PKPbc		PKPbc	02 58 44.3	+0.7
BUG	Bochum--Univer	148.56	340	*e*PKPbc		PKPbc	02 58 44.1	+0.1
GRF	Grafenberg Arr	148.61	334	*e*PKPbc		PKPbc	02 58 44.8	+0.5
TNS	Taunus Mts	149.21	338	*e*PKPbc		PKPbc	02 58 46.2	+0.4
STU	Stuttgart	150.14	335	*e*PKPbc		PKPbc	02 58 48.5	+0.4
ABTA	Abfaltersbach	150.28	329	⇓*i*P		PKPbc	02 58 47.6	-1.0
ABTA	Abfaltersbach	150.28	329	⇓*i*sPKPdf		PKPbc	02 58 47.6	-1.0
	comp=Z,8.3nm,0.9s							
MOTA	Moosalm	150.48	332	⇑*i*P		PKPbc	02 58 48.4	-0.7
MOTA	Moosalm	150.48	332	⇑*i*PKPbc		PKPbc	02 58 48.4	-0.7
	comp=Z,11nm,0.8s							
FETA	Feichten	150.89	332	⇓*i*P		PKPbc	02 58 50.3	+0.1
FETA	Feichten	150.89	332	⇓*i*PKiKP		PKPbc	02 58 50.3	+0.1
	comp=Z,17nm,1.2s							
TUE	Stuetta	151.92	332	*e*PKPbc		PKPbc	02 58 52.6	0.0
TUE				*e*PKPab		PKPab	02 59 01.7	-0.1
TORD	Torodi Ar. Bea	166.10	229	PKP		PKPdf	02 59 02.5	-0.8
	comp=Z,1.8nm,1.1s,baz=354,slow=0.4,SNR=5.3							
TORD				PKPab		PKPab	03 00 03.1	-0.6
	comp=Z,3.2nm,1.1s,baz=115,slow=1.9,SNR=7.7							
TORD	Torodi Ar. Bea	166.10	229	PKP		PKPdf	02 59 02.5	-0.8
TORD				PKPab		PKPab	03 00 03.1	-0.6

CSEM ***21*** *02:44:50.9, 12°.31N×45°.70E, h13km, ML3.9, After DHMR*
DHMR 21 02:44:50.9±1.3, 12°.31N×45°.70E, h13km±8km, ML3.9, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	Aden	0.84	303	*i* P	Pg	02 45 07.0	-0.2
ADEN				*i* S	Sg	02 45 18.2	0.0
ADEN				AML	AML	02 45 26.7	
	comp=N,4μm,0.6s						
ADEN	Aden	0.84	303	*i* P	Pg	02 45 07.0	-0.2
ADEN				*i* S	Sg	02 45 18.2	-0.1
	comp=N,2μm,0.6s						
LBOS		1.61	344	*i* P	Pb	02 45 20.7	-0.3
LBOS				*i* S	Sb	02 45 42.1	+0.6
BDHA	Al Bayda'	1.66	355	*i* P	Pn	02 45 20.6	+0.5
BDHA				*i* S	Sb	02 45 43.7	+0.9
BDHA				AML	AML	02 45 53.9	
	comp=E,2μm,0.5s						
BDHA	Al Bayda'	1.66	355	*i* P	Pn	02 45 20.6	+0.5
BDHA				*i* S	Sb	02 45 43.7	+0.9
	comp=E,948nm,0.5s						
TRBA	At Turbah	1.80	301	*i* P	Pn	02 45 22.1	+0.1
TRBA				*i* S	Sb	02 45 48.0	+1.3
TRBA				AML	AML	02 45 59.8	
	comp=N,2μm,0.7s						
UDYN	Al 'Udayn	2.36	314	*i* P	Pn	02 45 30.8	+1.2
UDYN				*i* S	Sb	02 46 03.2	+0.4
DHBB	Dhamar BB	2.58	331	*i* P	Pb	02 45 35.3	-2.3
DHBB				*i* S	Sb	02 46 10.0	+0.4
DHBB	Dhamar BB	2.58	331	*i* P	Pb	02 45 35.3	-2.3
DHBB				*i* S	Sb	02 46 10.0	+0.5
MUKL	Al Mukalla	3.89	56	*i* P	Pn	02 45 52.4	+2.0
MUKL				*i* S	Sb	02 46 41.5	-5.1

IDC 21 03:01:00.6±1.2, 46°.90N×155°.34E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/26, mbtmp3.5/9, ML3.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/46, Error ellipse: s-maj=30.4km s-min=23.2km az=161.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.39	13	Pn	Pn	03 02 35.1	-0.9
	0.5nm,0.3s,baz=174,slow=15,SNR=5.0						
ASAJ	Asahikawa	9.37	257	LR	LR	03 07 19.9	
	comp=Z,119nm,18.8s,baz=169,slow=40						
INK	Inuvik	40.70	33	P	P	03 08 43.3	+0.9
	0.7nm,0.8s,baz=269,slow=4.7,SNR=3.1						
ZALV	Zalesovo Beam	43.75	306	P	P	03 09 07.2	-0.2
	0.2nm,0.3s,baz=77,slow=6.2,SNR=3.2						
DLBC	Dease Lake	44.39	46	LR	LR	03 26 50.7	
	comp=Z,241nm,18.7s,baz=240,slow=35						
MKAR	Makanchi Array	48.22	298	P	P	03 09 42.4	-0.4
	0.2nm,0.7s,baz=54,slow=7.3,SNR=2.7						
KURK	Kurchatov	48.54	304	P	P	03 09 46.0	+0.8
	0.6nm,0.5s,baz=66,slow=8.2,SNR=6.3						
YKA	Yellowknife Ar	49.88	37	P	P	03 09 53.7	-1.5
	0.2nm,0.9s,baz=307,slow=8.5,SNR=3.8						
FINES	FINESS Array B	64.54	336	P	P	03 11 39.1	+0.2
	2.1nm,0.9s,baz=28,slow=8.6,SNR=4.8						
ASAR	Alice Springs	72.86	201	P	P	03 12 31.1	-0.1
	0.3nm,0.8s,baz=17,slow=4.7,SNR=4.0						
TXAR	Lajitas Array	76.08	62	P	P	03 12 50.4	+0.2
	0.1nm,0.7s,baz=31,slow=2.1,SNR=2.8						

IDC 21 03:09:12.5±13.0, 11°.71S×166°.95E, h145km±122km, mb3.5/8, mb1 3.7/8, mb1mx3.5/19, mbtmp3.5/8, Error ellipse: s-maj=71.4km s-min=35.3km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	21.56	245	P	P	03 13 52.2	+1.4
	1.7nm,0.5s,baz=57,slow=15,SNR=2.7						
WRA	Warramunga Arr	32.38	251	P	P	03 15 28.4	-0.3
	0.5nm,0.4s,baz=83,slow=9.0,SNR=14						
ASAR	Alice Springs	33.57	245	P	P	03 15 38.0	-1.0
	0.7nm,0.6s,baz=71,slow=9.6,SNR=10						
FITZ	Fitzroy Crossi	40.36	256	P	P	03 16 36.9	+0.5
	0.9nm,0.3s,baz=63,slow=9.2,SNR=7.8						
MJAR	Matsushiro Ar	55.10	332	P	P	03 18 28.5	-1.2
	1.4nm,1.0s,baz=157,slow=9.8,SNR=4.2						
ILAR	Eielson Array	83.76	18	P	P	03 21 25.8	+0.7
	1.5nm,0.6s,baz=246,slow=5.2,SNR=46						
MKAR	Makanchi Array	94.81	317	P	P	03 22 19.0	+1.1
	0.3nm,0.6s,baz=101,slow=6.5,SNR=4.7						
YKA	Yellowknife Ar	95.01	27	P	P	03 22 17.5	-0.9
	0.1nm,0.4s,baz=254,slow=4.5,SNR=5.2						
ARCES	ARCESS Array B	117.26	346	PKP	PKPdf	03 27 39.3	-0.9
	1.2nm,0.6s,baz=46,slow=1.2,SNR=7.6						

CSEM ***21*** *03:27:07.6, 64°.60N×20°.67W, h3km, ML3.7, After REY*
REY 21 03:27:07.6, 64°.60N×20°.67W, h3km, ML2.8, ML3.7, Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IASB	`sbjarnarst	0.32	298	P	Pg	03 27 13.9	+0.2
IASB				S	Sg	03 27 18.7	+0.9
IGYG	Gygjarholskot	0.38	148	P	Pg	03 27 14.9	+0.1
IGYG				S	Sg	03 27 20.1	+0.4
IHEI	Heioarbar	0.47	212	P	Pg	03 27 16.4	-0.2
IHEI				S	Sg	03 27 23.4	+0.7
IKRO	Krokur	0.54	201	P	Pg	03 27 17.6	-0.3
IKRO				S	Sg	03 27 25.2	+0.3
IHVE	Hveravellir	0.55	60	P	Pg	03 27 17.4	-0.8
IHVE				S	Sg	03 27 24.7	-0.6
IKUD	Kuludalsa	0.59	242	P	Pg	03 27 18.3	-0.6
IKUD				S	Sg	03 27 26.4	-0.2
ISAU	Saurbar	0.62	169	P	Pg	03 27 18.8	-0.7
ISAN	Sandskeio	0.67	216	P	Pg	03 27 19.6	-0.9
ISAN				S	Sg	03 27 28.9	-0.3
ISOL	Solvholt	0.68	190	P	Pg	03 27 19.9	-0.8
ISOL				S	Sg	03 27 29.2	-0.3
IHAU	Haukadalur	0.70	154	P	Pg	03 27 20.4	-0.7
IHAU				S	Sg	03 27 30.0	-0.2
IBJA	Bjarnastaoir	0.71	203	P	Pg	03 27 20.6	-0.6
IASM	Asmuli	0.77	178	P	Pg	03 27 21.4	-0.9
IASM				S	Sg	03 27 31.8	-0.5
IKAS	Kald??rsel	0.77	222	P	Pg	03 27 21.4	-1.0
IKAS				S	Sg	03 27 32.5	+0.1
IVAT	Vatnsfell	0.87	118	P	Pg	03 27 23.1	-1.2
IVAT				S	Sg	03 27 35.1	-0.5
IVOS	Vogsosar	0.88	211	P	Pg	03 27 23.1	-1.2
IVOS				S	Sg	03 27 35.2	-0.4
IKRI	Krysuvik	0.95	221	P	Pg	03 27 24.2	-1.6
IKRI				S	Sg	03 27 37.0	-1.1
IVOG	Vogar	0.98	231	P	Pg	03 27 24.8	-1.6
IVOG				S	Sg	03 27 39.2	+0.1
ISKR	Skrokkalda	0.99	91	P	Pg	03 27 25.1	-1.5
ISKR				S	Sg	03 27 38.7	-0.8
IMID	Miomork	1.01	160	P	Pg	03 27 25.4	-1.5
IMID				S	Sg	03 27 39.2	-0.7
IGRV	Grindav??k	1.08	227	P	Pg	03 27 26.7	-1.5
INYL	Nylenda	1.10	236	P	Pg	03 27 26.8	-1.8
INYL				S	Sg	03 27 41.3	-1.5
IGOD	Go??abunga	1.11	147	P	Pg	03 27 27.5	-1.6
IGOD				S	Sg	03 27 43.6	-0.1
IVES	Vestmannaeyjar	1.17	171	P	Pg	03 27 28.4	-1.7
IVES				S	Sg	03 27 45.3	+0.1
IESK	Eystri-Skogar	1.21	153	P	Pg	03 27 28.7	-2.0
IESK				S	Sg	03 27 45.5	-0.8
ISNB	Snabyli	1.25	133	P	Pg	03 27 29.1	-2.4
IHVO	Lagu-Hvolar	1.34	143	P	Pn	03 27 30.9	-2.4
IKAL	Kalfafell	1.46	115	P	Pn	03 27 32.6	-2.2
IKAL				S	Sb	03 27 52.0	-2.3
IHRN	Hraun	1.53	8	P	Pn	03 27 33.3	-2.6
IHRN				S	Sn	03 27 53.5	-2.8
ISVA	Svartarkot	1.63	61	P	Pn	03 27 35.0	-2.3
ISVA				S	Sn	03 27 57.0	-1.8
IHLA	Hella	1.66	34	P	Pn	03 27 35.5	-2.1
IHLA				S	Sn	03 27 57.5	-1.8
ISIG	Siglufjorour	1.71	25	P	Pn	03 27 36.2	-2.0
ISIG				S	Sn	03 27 58.5	-2.0
IASK	Askja	1.78	73	P	Pn	03 27 37.6	-1.8
IASK				S	Sn	03 28 01.6	-1.0
IKRE	Kreppuhraun	1.85	82	P	Pn	03 27 38.5	-1.9
IKRE				S	Sn	03 28 04.0	-0.4
IGRA	Granastaoir	1.86	43	P	Pn	03 27 39.0	-1.3
IMKO	Mokollar	1.89	76	P	Pn	03 27 39.2	-1.7
IMKO				S	Sn	03 28 04.3	-1.0
IFAG	Fagurholsmyri	1.90	111	P	Pn	03 27 39.5	-1.4
IFAG				S	Sn	03 28 04.7	-0.6
IREN	Reynihlio	1.91	55	P	Pn	03 27 39.7	-1.4
IREN				S	Sn	03 28 05.2	-0.4
IBRU	Bruarjokull	1.98	81	P	Pn	03 27 40.6	-1.5
IDIM	Dimmadals¨js	2.08	47	P	Pn	03 27 42.5	-1.0
IHVA	Hvannstoosfjol	2.09	78	P	Pn	03 27 42.2	-1.4
IVSH	V-Sauoahnukur	2.13	82	P	Pn	03 27 43.0	-1.2
IGRS	Grimsstaoir	2.19	60	P	Pn	03 27 44.4	-0.5
IADA	Aoalbol	2.22	77	P	Pn	03 27 44.4	-1.0
IGLU	Glumsstadir	2.42	78	P	Pn	03 27 47.8	-0.3

IDC ***21*** *03:27:49.7±1.2, 35°.47N×82°.68E, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.4/28, mbtmp3.5/8, ML3.4/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/31, Error ellipse: s-maj=46.4km s-min=21.2km az=66.0*
ISCJB ***21*** *03:27:53.1±0.9, 35°.5N±0°.1×82°.5E±0°.2, h33km, mb3.5/5, MS3.7/2, Error ellipse: s-maj=26.3km s-min=13.4km az=156.7*
BJI ***21*** *03:27:54.6, 35°.69N×82°.69E, h21km, mb4.2/6, ML3.6/4*
ISC 21 03:27:54.9±1.1, 35°.5N±0°.1×82°.5E±0°.2, h35km, n12, σ1977/9, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	Urumqi	9.21	24	*e*P	Pn	03 30 11.3	+6.1
WMQ				pP		03 30 16.3	
WMQ				sP		03 30 19.0	
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR	Makanchi Array	11.28	359	Pn	Pn	03 30 33.3	-0.1
	comp=Z,0.2nm,0.3s,baz=182,slow=12,SNR=16						
KURK	Kurchatov	15.46	351	Pn	Pn	03 31 26.5	-3.6
	comp=Z,0.0nm,0.3s,baz=174,slow=12,SNR=3.9						
ZALV	Zalesovo Beam	18.51	4	P	Pn	03 32 09.0	+0.8
	comp=Z,0.3nm,0.3s,baz=186,slow=11,SNR=7.4						
BVAR	Borovoye Array	19.50	338	P	Pn	03 32 20.3	+0.1
	comp=Z,0.2nm,0.3s,baz=152,slow=9.6,SNR=6.0						
SONM	Songino Array	21.58	48	LR	LR	03 42 50.4	
	comp=Z,139nm,19.1s,baz=294,slow=42						
CMAR	Chiang Mai Arr	22.37	135	P	P	03 32 49.5	-0.5
	comp=Z,0.5nm,0.3s,baz=309,slow=10.0,SNR=4.2						
HHC	Hu-ho-hao-te	23.39	68	*e*P	P	03 33 02.1	+1.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
JMIC	Jan Mayen	57.21	337	LR	LR	04 02 20.2	
	comp=Z,127nm,20.3s,baz=229,slow=36						
WRA	Warramunga Arr	73.84	130	P	P	03 39 25.1	-1.0
	comp=Z,0.5nm,1.1s,baz=325,slow=6.1,SNR=3.5						
TORD	Torodi Ar. Bea	75.08	276	P	P	03 39 34.8	+1.3
	comp=Z,0.2nm,0.7s,baz=62,slow=4.2,SNR=2.4						
YKA	Yellowknife Ar	81.36	8	P	P	03 40 06.9	-0.5
	comp=Z,0.3nm,0.6s,baz=338,slow=5.2,SNR=7.8						

JMA ***21*** *03:37:05.9±0.2, 24°.68N×122°.63E, h95km, M2.1*
ISCJB ***21*** *03:37:06.4±0.7, 24°.52N±0°.04×122°.59E±0°.02, h87km±7km, Error ellipse: s-maj=6.7km s-min=3.2km az=174.2*
TAP ***21*** *03:37:06.0, 24°.59N×122°.52E, h99km, ML3.5, C*
ISC 21 03:37:07.0±1.6, 24°.50N±0°.06×122°.59E±0°.03, h84km±12km, n37, σ0992/65, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.39	96	P	Pn	03 37 20.6	+0.3
YOJ				S	Sn	03 37 31.5	+1.4
TWC	Suao	0.68	279	P	Pn	03 37 22.4	-0.4
	baz=270						
TWC				S	Sn	03 37 34.2	-0.3
	baz=270						
TWB1	Santiao Chiao	0.74	313	*e*P	Pn	03 37 22.4	-1.0
	baz=306						
TWB1				*e*S	Sn	03 37 35.0	-0.7
	baz=306						
ENA	Nanau	0.78	265	P	Pn	03 37 23.8	+0.1
	baz=253						
ENA				*e*S	Sn	03 37 36.6	+0.3
	baz=253						
TWE	Neicheng	0.87	285	*e*P	Pn	03 37 24.9	+0.1
	baz=282						
TWE				*e*S	Sn	03 37 37.8	-0.2
	baz=282						
NWF	Wu-fen Shan	0.93	308	*i* P	Pn	03 37 25.2	-0.3
	baz=298						
NWF				S	Sn	03 37 38.8	-0.6
	baz=298						
ENTT	Nioudou	0.94	279	*e*P	Pn	03 37 25.9	+0.3
	baz=272						
ENTT				*e*S	Sn	03 37 40.2	+0.7
	baz=272						
TWD	Chiawan	1.00	245	P	Pn	03 37 25.9	-0.4
	baz=235						
TWD				S	Sn	03 37 40.5	-0.2
	baz=235						
TWA	Mucha	1.03	298	*e*S	Sn	03 37 40.3	-1.1
	baz=287						
IRIF	Iriomote-Funau	1.05	99	P	Pn	03 37 26.5	-0.4
IRIF				S	Sn	03 37 42.4	+0.6
NNS	Nan Shan	1.11	267	*e*S	Sn	03 37 43.9	+0.7
	baz=257						
NSK	Sanguang	1.13	279	*e*P	Pn	03 37 28.0	0.0
	baz=275						
NSK				*e*S	Sn	03 37 43.4	-0.3
	baz=275						
HATJ	Hateruma jima	1.20	112	S	Sn	03 37 46.9	+2.0
ESL	Shilin	1.26	237	*e*P	Pn	03 37 29.0	-0.4
	baz=228						
ESL				*e*S	Sn	03 37 45.7	-0.6
	ba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.91**	**101**	P	Pn	03 38 08.2	+7.8
TLE				S	Sn	03 38 36.6	+12
MSAI	**Masohi**	**2.71**	**315**	P	**Pn**	**03 38 09.8**	**-1.2**
FAKI	**Fak Fak**	**2.72**	**31**	P	Pn	03 38 09.7	-1.5
FAKI				S	Sn	03 38 38.9	-4.5
AAI	**Ambon**	**3.08**	**301**	P	Pn	03 38 11.4	-4.6
NLAI	**Namlea**	**4.25**	**298**	P	**Pn**	**03 38 29.5**	**-2.3**
BBSI	**Bau Bau**	**8.25**	**268**	P	**Pn**	**03 39 28.3**	**+2.1**
KDI	**Kendari** 49nm,1.2s,668nm0.1nm	**8.31**	**279**	P	**Pn**	**03 39 26.9**	**-0.1**
KAPI	**Kappang** 1.1nm,0.3s,baz=92,slow=16,SNR=3.6	**11.06**	**271**	P	**Pn**	**03 40 04.5**	**+0.1**
KAPI	0.5nm,0.3s,baz=297,slow=20,SNR=2.6			S	**Sn**	**03 42 06.2**	**-0.1**
KAPI	**Kappang**	**11.06**	**271**	*e*Pn	**Pn**	**03 40 03.4**	**-1.1**
KAPI				S	**Sn**	**03 42 06.2**	**-0.1**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=50,slow=11,SNR=12	**13.73**	**201**	P	**Pn**	**03 40 39.8**	**-0.2**
FITZ	0.6nm,0.3s,baz=134,slow=15,SNR=3.7			S	**Sn**	**03 43 06.0**	**-5.2**
FITZ	comp=Z,38nm,20.4s,baz=165,slow=38			LR	LR	03 46 18.3	
FITZ	**Fitzroy Crossi** 3.5nm,0.4s	**13.73**	**201**	*e*P	**Pn**	**03 40 41.3**	**+1.3**
FITZ				*e*S	Sn	03 43 02.9	-8.2
FITZ	**Fitzroy Crossi**	**13.73**	**201**	P	**Pn**	**03 40 39.8**	**-0.2**
FITZ				S	**Sn**	**03 43 06.0**	**-5.2**
COEN	**Coen** 78nm,0.6s	**14.89**	**126**	*e*P	**P**	**03 40 59.4**	**+1.0**
COEN				*e*S	**Sn**	**03 43 36.6**	**-2.8**
COEN	**Coen** 95nm,0.6s	**14.89**	**126**	*e*Pn	**P**	**03 40 59.5**	**+1.0**
COEN				*e*P	P	03 41 04.7	+6.3
COEN				*e*Sn	**Sn**	**03 43 37.2**	**-2.2**
WRAB	**Tennant Creek** 2.7nm,0.4s	**14.96**	**167**	*e*Pn	**Pn**	**03 40 58.2**	**+2.3**
WRAB				*e*Sn	**Sn**	**03 43 37.3**	**-3.8**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=352,slow=13,SNR=20	**14.97**	**167**	P	**Pn**	**03 40 56.4**	**+0.4**
WRA	1.4nm,0.3s,baz=347,slow=22,SNR=9.2			S	**Sn**	**03 43 39.5**	**-1.7**
WRA	**Warramunga Arr**	**14.97**	**167**	P	**Pn**	**03 40 56.4**	**+0.4**
WRA				S	**Sn**	**03 43 39.5**	**-1.7**
WB2	**Warramunga Arr**	**14.97**	**167**	*e*Pn	**P**	**03 40 58.8**	**-0.5**
WB2				*e*Sn	**Sn**	**03 43 37.0**	**-4.2**
PMG	**Port Moresby** 1.3nm,0.3s,baz=294,slow=15,SNR=3.9	**16.68**	**105**	P	P	03 41 25.5	+7.1
PMG	**Port Moresby** 11nm,0.9s	**16.68**	**105**	*e*P	P	03 41 24.1	+5.8
QIS	**Mount Isa**	**17.41**	**152**	*e*P	Pn	03 41 32.2	+5.8
AS31	**Alice Springs**	**18.52**	**171**	*e*P	**Pn**	**03 41 43.6**	**+3.8**
ASAR	**Alice Springs** 1.3nm,0.3s,baz=350,slow=9.8,SNR=90	**18.52**	**171**	P	**Pn**	**03 41 43.6**	**+3.8**
ASAR	0.9nm,0.3s,baz=352,slow=9.6,SNR=5.3			pP	pP	03 42 03.5	+7.2
ASAR	0.3nm,0.3s,baz=3.0,slow=27,SNR=7.0			S	**S**	**03 45 04.6**	**-0.3**
ASAR	**Alice Springs**	**18.52**	**171**	P	**Pn**	**03 41 43.6**	**+3.8**
ASAR				pP	pP	03 42 03.5	+7.2
ASAR				S	**S**	**03 45 04.6**	**-0.3**
CTA	**Charters Tower** 6.4nm,0.6s,baz=319,slow=11,SNR=6.9	**21.01**	**136**	P	P	03 42 12.0	+6.5
CTA	**Charters Tower**	**21.01**	**136**	P	P	03 42 12.0	+6.5
CTAO	**Charters Tower** 9.5nm,0.8s	**21.01**	**136**	*e*P	P	03 42 11.8	+6.3
STKA	**Stephens Creek** 2.9nm,0.4s,baz=339,slow=7.9,SNR=19	**28.32**	**160**	P	P	03 43 18.9	+4.7
STKA	**Stephens Creek** 2.4nm,0.3s	**28.32**	**160**	*e*P	P	03 43 18.7	+4.4
STKA	**Stephens Creek**	**28.32**	**160**	P	P	03 43 18.9	+4.7
MJAR	**Matsushiro Arr** 2.8nm,0.8s,baz=187,slow=10,SNR=8.6	**42.16**	**9**	P	**P**	**03 45 10.7**	**-2.1**
MJAR	**Matsushiro Arr**	**42.16**	**9**	P	**P**	**03 45 10.7**	**-2.1**
MAJO	**Matsushiro** 4.1nm,0.5s	**42.16**	**9**	*e*P	**P**	**03 45 11.0**	**-1.7**
KSAR	**Wonju Array Be**	**42.59**	**357**	P	**P**	**03 45 14.7**	**-1.4**
KSRS	**Korea Array** 0.4nm,0.3s,baz=170,slow=7.4,SNR=3.2	**42.60**	**357**	P	**P**	**03 45 14.7**	**-1.4**
KSRS	comp=Z,24nm,20.2s,baz=325,slow=33			LR	LR	04 00 40.1	
SONM	**Songino Array** 1.1nm,0.7s,baz=145,slow=5.4,SNR=3.0	**57.09**	**341**	P	**P**	**03 47 05.6**	**-0.5**
SONM	**Songino Array**	**57.09**	**341**	P	**P**	**03 47 05.6**	**-0.5**
MK31	**Makanchi Array**	**67.27**	**326**	*e*P	**P**	**03 48 12.5**	**-1.5**
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=116,slow=8.0,SNR=26	**67.27**	**326**	P	**P**	**03 48 12.7**	**-1.2**
MKAR	0.6nm,0.4s,baz=118,slow=8.1,SNR=2.8			pP	**pP**	**03 48 38.6**	**+1.0**
MKAR	**Makanchi Array**	**67.27**	**326**	P	**P**	**03 48 12.7**	**-1.2**
MKAR				pP	**pP**	**03 48 38.6**	**+1.0**
TKM2	**Tokmak 2** 1.1nm,0.8s	**69.21**	**320**	*e*P	**P**	**03 48 24.6**	**-1.8**
EKS2	**Erkin-Say** 2.9nm,1.1s	**70.27**	**319**	*e*P	**P**	**03 48 31.1**	**-1.7**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=107,slow=5.0,SNR=5.9	**70.43**	**333**	P	**P**	**03 48 31.6**	**-1.7**
ZALV	0.8nm,0.7s,baz=123,slow=5.5,SNR=3.0			pP	**pP**	**03 48 57.9**	**+0.8**
ZALV	**Zalesovo Beam**	**70.43**	**333**	P	**P**	**03 48 31.6**	**-1.7**
ZALV				pP	**pP**	**03 48 57.9**	**+0.8**
KURK	**Kurchatov** 3.7nm,1.1s	**71.50**	**328**	*e*P	**P**	**03 48 38.3**	**-1.6**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=152,slow=6.7,SNR=4.5	**77.07**	**327**	P	**P**	**03 49 11.2**	**-1.1**
BVAR	0.7nm,0.6s,baz=127,slow=11,SNR=2.9			pP	**pP**	**03 49 38.2**	**+1.8**
BVAR	**Borovoye Array**	**77.07**	**327**	P	**P**	**03 49 11.2**	**-1.1**
BVAR				pP	**pP**	**03 49 38.2**	**+1.8**
BRVK	**Borovoye** 1.9nm,0.6s	**77.14**	**327**	*e*P	**P**	**03 49 11.9**	**-0.8**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=246,slow=4.6,SNR=4.8	**91.44**	**25**	P	**P**	**03 50 24.1**	**-0.7**
ILAR	**Eielson Array**	**91.44**	**25**	P	**P**	**03 50 24.1**	**-0.7**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=228,slow=3.2,SNR=3.5	**123.31**	**58**	PKP	**PKPdf**	**03 56 17.8**	**+1.5**
TXAR	**Lajitas Array**	**123.31**	**58**	PKP	**PKPdf**	**03 56 17.8**	**+1.5**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=106,slow=1.3,SNR=5.0	**129.28**	**283**	PKP	**PKPdf**	**03 56 27.6**	**-0.3**
TORD	0.8nm,0.8s,baz=80,slow=3.0,SNR=4.8			SKPbc	SKPab	03 59 38.2	-2.2
TORD	**Torodi Ar. Bea**	**129.28**	**283**	PKP	**PKPdf**	**03 56 27.6**	**-0.3**
TORD				SKPbc	SKPab	03 59 38.2	-2.2
LPAZ	**La Paz** 1.2nm,0.4s,baz=104,slow=1.2,SNR=11	**151.51**	**139**	PKPbc	**PKPbc**	**03 57 17.0**	**+2.6**
LPAZ	1.2nm,0.6s,baz=166,slow=3.7,SNR=7.2			PKPab	**PKPab**	**03 57 27.4**	**+4.5**
LPAZ	**La Paz**	**151.51**	**139**	PKPbc	**PKPbc**	**03 57 17.0**	**+2.6**
LPAZ				PKPab	**PKPab**	**03 57 27.4**	**+4.5**

*IDC **21** 03:40:48.8±1.1,0°.23S×133°.00E,h0km,mb4.0/5,*
mb1 4.2/7,mb1mx3.9/18,mbtmp4.0/7,ML4.3/2,Error
ellipse: s-maj=60.3km s-min=13.3km az=83.0
*ISCJB **21** 03:40:52.0±0.8,0°.31S±0°.09×132°.8E±0°.3,h32km,mb4.0/6,*
Error ellipse: s-maj=38.7km s-min=11.6km az=170.4
*NEIC **21** 03:40:54.1±0.6,0°.29S×132°.92E,h35km,mb4.2/1,Error*
ellipse: s-maj=30.3km s-min=8.6km az=80.0

ISC 21 03:40:53.5±0.9,0°.24S±0°.09×132°.9E±0°.3,h32km±9.1km,n19,
σ0°.75/21,mb4.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=38,slow=13,SNR=3.4	**19.12**	**201**	P	**P**	**03 45 13.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.12**	**201**	P	**P**	**03 45 13.1**	**-0.9**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=356,slow=12,SNR=7.1	**19.63**	**176**	P	**P**	**03 45 20.1**	**+0.4**
WRA	0.2nm,0.3s,baz=358,slow=23,SNR=4.6			S	**Sn**	**03 49 01.9**	**+1.1**
WRA	**Warramunga Arr**	**19.63**	**176**	P	**P**	**03 45 20.1**	**+0.4**
WRA				S	**Sn**	**03 49 01.9**	**+1.1**
AS31	**Alice Springs**	**23.30**	**178**	*e*P	**P**	**03 45 58.7**	**-0.3**
ASAR	**Alice Springs** 14nm,1.0s,baz=3.6,slow=11,SNR=18	**23.31**	**178**	P	**P**	**03 45 59.5**	**+0.6**
ASAR	**Alice Springs**	**23.31**	**178**	P	**P**	**03 45 59.5**	**+0.6**
STKA	**Stephens Creek** 2.8nm,0.8s,baz=316,slow=5.2,SNR=4.5	**32.53**	**166**	P	**P**	**03 47 20.9**	**-0.8**
STKA	**Stephens Creek**	**32.53**	**166**	P	**P**	**03 47 20.9**	**-0.8**
MK31	**Makanchi Array**	**64.33**	**324**	*e*P	**P**	**03 51 26.8**	**+0.6**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=116,slow=7.6,SNR=6.9	**64.33**	**324**	P	**P**	**03 51 27.2**	**+1.0**
MKAR	**Makanchi Array**	**64.33**	**324**	P	**P**	**03 51 27.2**	**+1.0**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=152,slow=6.4,SNR=2.7	**66.94**	**331**	P	**P**	**03 51 42.9**	**+0.1**
ZALV	**Zalesovo Beam**	**66.94**	**331**	P	**P**	**03 51 42.9**	**+0.1**
EKS2	**Erkin-Say** 1.1nm,0.6s	**67.91**	**317**	*e*P	**P**	**03 51 50.5**	**+1.1**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=248,slow=4.7,SNR=6.6	**86.06**	**25**	P	**P**	**03 53 30.7**	**-0.1**
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**03 53 30.7**	**-0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.9s,baz=63,slow=1.2,SNR=2.5	**129.96**	**287**	PKP	**PKiKP**	**04 00 01.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**129.96**	**287**	PKP	**PKiKP**	**04 00 01.6**	**-0.3**

*KRSC **21** 03:46:04.4±1.6,51°.59N×153°.26E,h566km±55km,ML4.7*
*MOS **21** 03:46:08.9±1.0,52°.40N×152°.35E,h473km,mb4.2/12,*
Error ellipse: s-maj=19.0km s-min=13.5km az=84.3
*ISCJB **21** 03:46:10.2±0.5,52°.41N±0°.09×152°.5E±0°.1,h489km±7km,*
mb3.4/18,Error ellipse: s-maj=16.4km s-min=11.5km
az=137.2
*IDC **21** 03:46:11.0±0.9,52°.34N×152°.50E,h488km±11km,*
mb2.9/15,mb1 3.2/18,mb1mx3.1/26,mbtmp3.0/18,Error
ellipse: s-maj=15.4km s-min=12.7km az=126.0

ISC 21 03:46:11.1±0.8,52°.5N±0°.1×152°.6E±0°.1,h487km±10km,
n55,σ1°.44/62,mb3.5/18,2C-1D,Northwest of Kuril
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.54**	**92**	P	**P**	**03 47 18.0**	**+0.1**
MIPR				S	**S**	**03 48 11.5**	**-0.9**
SKR	**Severo-Kuril's**	**2.80**	**128**	*e*PN	P	03 47 14.4	-5.2
SKR				*e*		03 48 13.0	
PETK	**Petropavlovsk-** 4.2nm,0.3s,baz=237,slow=3.5,SNR=32	**3.15**	**76**	P	**P**	**03 47 23.0**	**+1.1**
PETK	baz=254,slow=15,SNR=2.2			S	**S**	**03 48 21.2**	**+1.4**
PETK	**Petropavlovsk-**	**3.15**	**76**	PN	P	**03 47 23.0**	**+1.1**
PETK				S	**S**	**03 48 21.2**	**+1.4**
PETK	comp=Z,4.0nm,0.3s			pmax	pmax		
RUS	**Russkaya**	**3.60**	**88**	PN	P	**03 47 24.9**	**-0.4**
RUS				S	**S**	**03 48 23.6**	**-2.2**
RUS	**Russkaya**	**3.60**	**88**	P	**P**	**03 47 24.9**	**-0.4**
RUS				S	**S**	**03 48 23.6**	**-2.2**
KOK	**Koryaka**	**3.74**	**75**	P	**P**	**03 47 28.4**	**+1.9**
AVH	**Avacha**	**3.79**	**75**	*e*S	**S**	**03 48 29.4**	**+0.6**
SMAR	**Somma**	**3.83**	**75**	*e*P	**P**	**03 47 27.9**	**+0.6**
UGLR	**Uglovaya**	**3.83**	**76**	P	**P**	**03 47 28.2**	**+1.0**
SDLR	**Sedlovina**	**3.88**	**75**	P	**P**	**03 47 28.4**	**+0.8**
SDLR				S	**S**	**03 48 29.5**	**-0.7**
KMNR	**Kamenistaya**	**5.57**	**50**	P	P	03 47 45.5	+3.0
MKZ	**Mys Kozlova**	**5.83**	**65**	PN	**P**	**03 47 45.7**	**+0.8**
MKZ				S	**S**	**03 48 57.7**	**-4.1**
MKZ	**Mys Kozlova**	**5.83**	**65**	P	**P**	**03 47 45.7**	**+0.8**
MKZ				*e*S	**S**	**03 48 57.7**	**-4.1**
KBTR	**Krutoberegovo**	**7.05**	**54**	PN	**P**	**03 47 56.4**	**-0.6**
KBTR				S	**S**	**03 49 20.3**	**-3.8**
KBTR	**Krutoberegovo**	**7.05**	**54**	P	**P**	**03 47 56.4**	**-0.6**
KBTR				*e*S	**S**	**03 49 20.3**	**-3.8**
FX1	**Attu Island--F** comp=Z,1.6nm,0.3s,baz=153,slow=20,SNR=5.5	**12.47**	**80**	P	**P**	**03 48 56.4**	**+2.1**
FX1	**Attu Island--F**	**12.47**	**80**	PN	**P**	**03 48 56.6**	**+2.1**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**18.88**	**218**	P	**P**	**03 49 58.6**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.3s,baz=11,slow=8.0,SNR=12	**18.88**	**218**	P	**P**	**03 49 58.9**	**-1.3**
MJAR	**Matsushiro Arr**	**18.88**	**218**	P	**P**	**03 49 58.9**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=281,slow=12,SNR=8.9	**32.46**	**44**	P	**P**	**03 52 01.5**	**+1.7**
ILAR	**Eielson Array**	**32.46**	**44**	P	**P**	**03 52 01.5**	**+1.7**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=57,slow=6.4,SNR=3.1	**39.24**	**300**	P	**P**	**03 52 56.4**	**+0.1**
ZALV	**Zalesovo Beam**	**39.24**	**300**	P	**P**	**03 52 56.4**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**44.14**	**299**	*e*P	**P**	**03 53 34.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
MKAR	**Makanchi Array** comp=Z,0.7nm,0.4s,baz=62,slow=6.9,SNR=19	**44.27**	**292**	P	**P**	**03 53 36.4**	**+0.1**
MKAR	**Makanchi Array**	**44.27**	**292**	*e*P	**P**	**03 53 36.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,baz=303,slow=7.2,SNR=8.2	**46.63**	**40**	P	**P**	**03 53 55.3**	**+1.3**
YKA	**Yellowknife Ar**	**46.63**	**40**	P	**P**	**03 53 55.3**	**+1.3**
BRVK	**Borovoye**	**47.18**	**305**	*e*P	P	03 53 53.9	-4.4
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B** comp=Z,8nm,0.9s,baz=23,slow=6.6,SNR=5.3	**52.38**	**339**	P	**P**	**03 54 36.4**	**-0.1**
ARCES	**ARCESS Array B**	**52.38**	**339**	P	**P**	**03 54 36.4**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	**Joensuu**	**56.12**	**332**	*e*P	**P**	**03 55 03.1**	**+0.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu** comp=Z,1.4nm,0.6s	**56.12**	**332**	*ep*	**P**	**03 55 03.1**	**+0.2**
JOF	**Joensuu** comp=Z,1.4nm,0.6s	**56.12**	**332**	*ep*	**P**	**03 55 03.1**	**+0.2**
FINES	**FINESS Array B** comp=Z,1.3nm,0.4s,baz=32,slow=7.4,SNR=24	**58.77**	**333**	P	**P**	**03 55 21.2**	**+0.2**
FINES	**FINESS Array B**	**58.77**	**333**	P	**P**	**03 55 21.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=0.0,slow=4.4,SNR=3.2	**61.72**	**56**	P	**P**	**03 55 42.1**	**+0.9**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.8s,baz=26,slow=6.5,SNR=3.1	**62.74**	**340**	P	**P**	**03 55 47.6**	**+0.3**
NOA	**NORSAR Array B**	**62.74**	**340**	P	**P**	**03 55 47.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,baz=33,slow=6.6,SNR=3.6	**66.67**	**325**	P	**P**	**03 56 11.6**	**-0.7**
AKASG	**Malin Array Be**	**66.67**	**325**	P	**P**	**03 56 11.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**66.68**	**325**	*e*P	**P**	**03 56 12.0**	**-0.4**
SCHQ	**Schefferville** comp=Z,0.7nm,0.3s,baz=6.3,slow=9.2,SNR=5.2	**68.18**	**23**	P	**P**	**03 56 21.1**	**-0.5**
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=45,slow=6.0,SNR=4.6	**73.21**	**333**	P	**P**	**03 56 51.2**	**-0.3**
GERES	**GERESS Array B**	**73.21**	**333**	P	**P**	**03 56 51.3**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=15,slow=6.2,SNR=8.0	**73.83**	**198**	P	**P**	**03 56 53.9**	**-1.3**
WRA	**Warramunga Arr**	**73.83**	**198**	P	**P**	**03 56 53.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B** comp=Z,0.8nm,0.9s,baz=32,slow=4.8,SNR=3.2	**74.06**	**315**	P	**P**	**03 56 57.0**	**+0.4**
BRTR	**Keskin Array B**	**74.06**	**315**	P	**P**	**03 56 57.0**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=279,slow=6.9,SNR=2.6	**75.00**	**61**	P	**P**	**03 57 02.9**	**+0.9**
TXAR	**Lajitas Array**	**75.00**	**61**	P	**P**	**03 57 02.9**	**+0.9**
ASAR	**Alice Springs** comp=Z,0.6nm,0.5s,baz=10,slow=5.0,SNR=10.0	**77.54**	**198**	P	**P**	**03 57 15.2**	**-0.6**
ASAR	**Alice Springs**	**77.54**	**198**	*e*P	**P**	**03 57 15.2**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

CASC 21 03:48:42.2±1.7,9°.12N×83°.96W,h12km±13km,MD3.7,
ML3.7,2C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.36**	**326**	*i*P	Pg	03 48 49.7	+0.2
QCR				*e*S	Sb	03 48 55.5	-0.9
BUS	**Buena Vista**	**0.47**	**25**	*i*P	Pg	03 48 52.4	+0.3
URSC	**Urasca**	**0.73**	**141**	*e*P	Pg	03 48 56.2	-0.5
URSC				*e*S	Sg	03 49 05.7	-0.7
LAJ	**Bijagual**	**0.76**	**348**	*e*P	Pg	03 48 57.3	+0.2
SJS	**Escuela Geolog**	**0.82**	**353**	*i*P	Pg	03 48 57.7	-0.6
SJS				*e*S	Sn	03 49 11.9	-0.2
ACR	**Cerro Adams**	**0.91**	**121**	*e*P	Pg	03 48 58.3	-1.6
ACR				*e*S	Sg	03 49 11.4	-0.4
BRU2	**Volcan**	**1.29**	**104**	*i* P	Pn	03 49 05.4	-0.9
BRU2				AML	AML	03 49 07.0	
	comp=Z,1μm,0.1s						
BRU2				*i* S	Sb	03 49 23.2	-0.3
TBS2		**1.33**	**104**	*e*P	Pn	03 49 07.1	+0.2
TBS2				*i* S	Sn	03 49 24.6	-0.1
JCR	**Jicaral**	**1.35**	**303**	*e*P	Pg	03 49 09.5	+1.3
PTP	**Ponta Puerca**	**19.98**	**61**	*e*P	x	03 49 10.5	
PTP				*i* S	x	03 49 26.7	

*ISK **21** 03:52:33.3,36°.08N×40°.83E,h3km,MD3.6*
*NSSC **21** 03:52:36.7±2.1,36°.37N×40°.85E,h20km±10km,MD2.2,*
ML2.8
*CSEM **21** 03:52:37.1±0.4,36°.30N×40°.83E,h10km,ML2.9,Error*
ellipse: s-maj=9.0km s-min=6.0km az=145.0
*DDA **21** 03:52:38.0,36°.52N×40°.88E,h30km,MD3.3*

ISC 21 03:52:35.3±1.1,36°.37N±0°.02×40°.87E±0°.02,h1km±10km,
n61,σ1°.23/82,3C-2D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.57**	**198**	*e*P	**Pg**	**03 52 47.0**	**+0.8**
MZRK				*e*S	**Sb**	**03 52 55.9**	**-0.9**
MZRK				AML	AML	03 53 12.3	
	comp=Z,650nm,0.6s						
MZRK	**Al-Mazaregh** SNR=94	**0.57**	**198**	*e*P	**Pg**	**03 52 47.3**	**+1.0**
MZRK				*e*S	**Sb**	**03 52 55.9**	**-0.9**
	comp=Z,650nm,0.6s,SNR=98						
SFNV	**Sufian**	**0.61**	**274**	*e*P	**Pb**	**03 52 48.1**	**-0.8**
SFNV				*e*S	**Sb**	**03 52 58.1**	**+0.1**
SFNV				AML	AML	03 53 14.0	
	comp=Z,624nm,0.8s						
SFNV	**Sufian** SNR=94	**0.61**	**274**	*e*P	**Pb**	**03 52 48.1**	**-0.8**
SFNV				*e*S	**Sb**	**03 52 58.1**	**+0.1**
	comp=Z,624nm,0.8s,SNR=98						
KBSD	**Kabsdagh**	**0.68**	**337**	*e*P	**Pg**	**03 52 49.0**	**+0.7**
KBSD				*e*S	**Sb**	**03 52 59.3**	**-0.5**
KBSD				AML	AML	03 53 13.1	
	comp=Z,450nm,0.6s						
MARD	**Mardin**	**0.94**	**355**	*i* P	**Pg**	**03 52 53.9**	**+0.5**
MARD				*i* S	**Sb**	**03 53 07.9**	**+0.5**
MNKR	**ALMNKUR**	**1.37**	**252**	*e*P	**Pb**	**03 53 02.0**	**+0.5**
MNKR				*e*S	**Sg**	**03 53 19.0**	**-0.1**
MNKR				AML	AML	03 53 27.4	
	comp=Z,1μm,0.2s						
MNKR	**ALMNKUR** SNR=66	**1.37**	**252**	*e*P	**Pb**	**03 53 02.1**	**+0.5**
MNKR				*e*S	**Sg**	**03 53 19.0**	**-0.1**
	comp=Z,1μm,0.2s,SNR=62						
BEST	**Besiri**	**1.55**	**12**	*i* P	**Pn**	**03 53 04.5**	**+0.4**
BEST				*i* S	**Sn**	**03 53 23.1**	**-1.6**
DIYA	**Diyarbakir**	**1.66**	**339**	*i* P	**Pn**	**03 53 05.9**	**+0.4**
DIYA				*i* S	**Sn**	**03 53 26.0**	**-1.5**
DIYA	**Diyarbakir**	**1.66**	**339**	*i* P	**Pn**	**03 53 05.9**	**+0.4**
DIYA				*i* S	**Sn**	**03 53 26.0**	**-1.5**
SIRN	**S¨¨rnak**	**1.67**	**47**	*i* P	**Pn**	**03 53 05.8**	**+0.1**
SIRN				*i* S	**Sn**	**03 53 28.0**	**+0.3**
SIRN	**S¨¨rnak**	**1.67**	**47**	*i* P	**Pn**	**03 53 05.8**	**+0.1**
SIRN				*i* S	**Sn**	**03 53 28.0**	**+0.3**
URFA	**Urfa**	**1.96**	**304**	*e*PN	**Pn**	**03 53 10.0**	**+0.3**
URFA				*e*SN	**Sg**	**03 53 37.8**	**-0.4**
URFA	**Urfa**	**1.96**	**304**	*e*Pn	**Pn**	**03 53 10.0**	**+0.3**
URFA				*e*Sn	**Sg**	**03 53 37.8**	**-0.4**
JHLN	**Al Jahlan**	**2.09**	**251**	*e*P	**Pn**	**03 53 12.2**	**+0.8**
JHLN				*e*S	**Sn**	**03 53 37.2**	**-0.9**
JHLN				AML	AML	03 54 00.3	
	comp=Z,70nm,0.7s						
JHLN	**Al Jahlan** SNR=51	**2.09**	**251**	*e*P	**Pn**	**03 53 12.7**	**+1.3**
JHLN				*e*S	**Sn**	**03 53 37.2**	**-0.9**
	comp=Z,70nm,0.7s,SNR=49						
SVRC	**Sivrice-ELAZID**	**2.36**	**329**	*e*PN	**Pb**	**03 53 17.6**	**-1.0**
SVRC	**Sivrice-ELAZID**	**2.36**	**329**	*e*Pn	**Pb**	**03 53 17.6**	**-1.0**
CUKT	**Cukurca**	**2.36**	**68**	*e*PN	**Pn**	**03 53 16.6**	**+1.4**
CUKT				*e*SN	**Sb**	**03 53 47.9**	**-0.5**
CUKT	**Cukurca**	**2.36**	**68**	*e*Pn	**Pn**	**03 53 16.6**	**+1.4**
CUKT				*e*Sn	**Sb**	**03 53 47.9**	**-0.5**
BINT	**Bingol**	**2.52**	**353**	*e*Pn	**Pn**	**03 53 19.3**	**+1.9**
HAKT	**HAKKARI**	**2.56**	**62**	*i* P	**Pn**	**03 53 18.5**	**+0.4**
HAKT				*i* S	**Sn**	**03 53 50.0**	**+0.1**
HAKT	**HAKKARI**	**2.56**	**62**	*i* P	**Pn**	**03 53 18.5**	**+0.4**
BNGL	**BINGOL**	**2.58**	**5**	*e*P	**Pb**	**03 53 23.8**	**+1.3**
BNGL				*i* S	**Sg**	**03 53 58.5**	**+0.2**
ELZG	**Elazig**	**2.60**	**325**	*e*P	**Pn**	**03 53 19.3**	**+0.7**
ELZG				*i* S	**Sg**

	baz=296								
EAST				*e*S		**Sb**	**03 53 07.0**	**-2.0**
	baz=296								
TWK1	**Hengchun**	**0.64**	**254**	*i* P		**Pb**	**03 52 59.9**	**-1.0**
	baz=260								
TWK1				*e*S		**Sb**	**03 53 07.7**	**-1.7**
	baz=260								
ECL	**Taimali**	**0.67**	**315**	*i* P		**Pb**	**03 52 60.0**	**-1.3**
	baz=319								
ECL				*e*S		**Sb**	**03 53 07.7**	**-2.5**
	baz=319								
HEN	**Hengchun**	**0.69**	**260**	*i* P		**Pb**	**03 53 00.8**	**-0.8**
	baz=267								
HEN				*i* S		**Sb**	**03 53 09.4**	**-1.3**
	baz=267								
TTN	**Taitung**	**0.69**	**335**	*e*P		**Pb**	**03 53 01.7**	**0.0**
	baz=349								
TWG	**Pinlang**	**0.78**	**332**	P		**Pb**	**03 53 01.9**	**-1.3**
	baz=324								
SCZT	**Fangliau**	**0.82**	**288**⇑	*i* P		**Pb**	**03 53 02.7**	**-1.2**
	baz=296								
CHKT	**Chengkung**	**0.97**	**355**	*e*P		**Pn**	**03 53 04.7**	**-1.6**
	baz=6.0								
CHKT				*e*S		**Sb**	**03 53 18.0**	**-1.0**
	baz=6.0								
SSD	**Sandimen**	**0.99**	**309**	*e*P		**Pn**	**03 53 05.1**	**-1.4**
	baz=311								
TWP	**Hsiaoliuchiu**	**1.05**	**282**	*e*P		**Pb**	**03 53 09.0**	**+1.3**
	baz=283								
TWP				*e*S		**Sn**	**03 53 24.6**	**+3.5**
	baz=283								
SGLT	**Jiouru**	**1.08**	**304**	*e*P		**Pb**	**03 53 08.6**	**+0.3**
	baz=314								
ELDTW	**Lidau**	**1.14**	**339**	*e*P		**Pn**	**03 53 07.6**	**-1.0**
	baz=342								
KAU	**Kaohsiung**	**1.16**	**293**	*e*P		**Pb**	**03 53 10.1**	**+0.5**
	baz=294								
TWM1	**Shoushan**	**1.19**	**306**	*e*P		**Pb**	**03 53 10.6**	**+0.4**
	baz=316								
TWF1	**Yuli**	**1.23**	**353**	*e*P		**Pn**	**03 53 09.2**	**-0.6**
	baz=5.0								
SGST	**Jiashian**	**1.25**	**320**	*e*P		**Pn**	**03 53 10.6**	**+0.4**
	baz=325								
SGST				S		**Sb**	**03 53 27.9**	**+0.9**
	baz=325								
CHN1	**Nanshi**	**1.36**	**321**	P		**Pb**	**03 53 12.8**	**-0.3**
	baz=322								
CHN1				*e*S		**Sb**	**03 53 30.6**	**+0.4**
	baz=322								
WTP	**Ta-pu**	**1.36**	**325**⇑	*i* P		**Pb**	**03 53 12.5**	**-0.6**
	baz=338								
WTP				*e*S		**Sb**	**03 53 30.5**	**+0.2**
	baz=338								
EHY	**Hungye**	**1.38**	**354**	*e*P		**Pn**	**03 53 11.5**	**-0.4**
	baz=346								
CHN3	**Shinhua**	**1.39**	**313**	*e*P		**Pb**	**03 53 13.3**	**-0.3**
	baz=315								
YUS	**Yu-Shan**	**1.44**	**341**	*e*P		**Pn**	**03 53 13.4**	**+0.3**
	baz=344								
TWK	**Hsinying**	**1.45**	**322**	⇑P		**Pb**	**03 53 14.2**	**-0.4**
	baz=323								
TWK				*e*S		**Sb**	**03 53 32.7**	**0.0**
	baz=323								
CHN4	**Tsaushan**	**1.46**	**327**	*e*P		**Pb**	**03 53 14.4**	**-0.4**
	baz=339								
CHN4				*e*S		**Sb**	**03 53 33.5**	**+0.5**
	baz=339								
ALS	**Alishan**	**1.51**	**336**	*e*P		**Pn**	**03 53 14.7**	**+0.8**
	baz=339								
CHN5	**Tsauling**	**1.64**	**334**	*e*P		**Pb**	**03 53 17.2**	**-0.6**
	baz=336								
CHN5				*e*S		**Sb**	**03 53 39.5**	**+1.4**
	baz=336								
CHY	**Chiayi**	**1.67**	**325**	*e*P		**Pn**	**03 53 15.3**	**-0.6**
	baz=326								
CHY				*e*S		**Sb**	**03 53 38.7**	**-0.3**
	baz=326								
CHN2	**Minshiung**	**1.67**	**327**	*e*P		**Pn**	**03 53 16.7**	**+0.8**
	baz=328								
CHN2				*e*S		**Sb**	**03 53 40.5**	**+1.5**
	baz=328								
ESL	**Shilin**	**1.68**	**359**	*e*P		**Pn**	**03 53 16.4**	**+0.4**
	baz=351								
SMLT	**Sun Moon Lake**	**1.82**	**343**	*e*P		**Pb**	**03 53 19.9**	**-1.2**
	baz=345								
SMLT				*e*S		**Sb**	**03 53 43.1**	**-0.4**
	baz=345								
TYC	**Yuchr**	**1.86**	**343**	*e*P		**Pb**	**03 53 20.1**	**-1.4**
	baz=344								
TYC				*e*S		**Sb**	**03 53 44.4**	**+0.1**
	baz=344								
WNT	**Mingjian**	**1.89**	**338**	*e*P		**Pb**	**03 53 20.7**	**-1.4**
	baz=323								
TWD	**Chiawan**	**1.95**	**3**	*e*P		**Pn**	**03 53 19.7**	**0.0**
	baz=15								
WDGT	**Dungji**	**2.01**	**304**⇑	*i* P		**Pn**	**03 53 20.2**	**-0.4**
	baz=305								
WDGT				*e*S		**Sn**	**03 53 43.3**	**-1.7**
	baz=305								
WHF	**Hehuan Shan**	**2.02**	**355**	*e*P		**Pn**	**03 53 22.2**	**+1.1**
	baz=7.0								
TWT	**Tachien**	**2.13**	**353**	*e*P		**Pn**	**03 53 24.2**	**+1.8**
	baz=4.0								
TWT				*e*S		**Sn**	**03 53 50.0**	**+1.8**
	baz=4.0								
TCU	**Taichung**	**2.14**	**340**	*e*P		**Pn**	**03 53 23.9**	**+1.6**
	baz=326								
PNG	**Penghu**	**2.27**	**309**	⇑P		**Pn**	**03 53 23.8**	**-0.3**
	baz=310								
PNG				*e*S		**Sn**	**03 53 49.8**	**-1.5**
	baz=310								
TWQ1	**Liyutan**	**2.30**	**344**	*e*P		**Pn**	**03 53 26.4**	**+1.8**
	baz=328								
TWQ1				*e*S		**Sb**	**03 53 55.4**	**-1.7**
	baz=328								
ENA	**Nanau**	**2.31**	**6**	*e*P		**Pn**	**03 53 25.1**	**+0.5**
	baz=356								
NNS	**Nan Shan**	**2.31**	**358**	*e*P		**Pn**	**03 53 26.6**	**+1.8**
	baz=8.0								
NSY	**Sanyi**	**2.37**	**344**	*e*P		**Pn**	**03 53 27.5**	**+2.0**
	baz=330								
TWC	**Suao**	**2.50**	**8**	*e*P		**Pn**	**03 53 27.8**	**+0.6**
	baz=356								
TWC				*e*S		**Sn**	**03 53 57.5**	**+0.6**
	baz=356								
ENTT	**Nioudou**	**2.50**	**2**	*e*P		**Pn**	**03 53 29.2**	**+1.9**
	baz=4.0								
NSTT	**Nanjuang**	**2.53**	**350**	*e*P		**Pb**	**03 53 30.6**	**-2.3**
	baz=336								
NSK	**Sanguang**	**2.54**	**358**	*e*P		**Pn**	**03 53 29.8**	**+1.8**
	baz=359								
NSK				*e*S		**Sn**	**03 53 59.3**	**+1.2**
	baz=359								
TWE	**Neicheng**	**2.59**	**4**	*e*P		**Pn**	**03 53 30.5**	**+2.0**
	baz=357								
YOJ	**Yonaguni jima**	**2.72**	**31**	*e*P		**Pn**	**03 53 31.1**	**+0.7**
	baz=31								
YOJ	**Yonaguni jima**	**2.72**	**31**	P		**Pn**	**03 53 31.1**	**+0.7**
YOJ				S		**Sn**	**03 54 01.7**	**-0.8**
TWA	**Mucha**	**2.84**	**2**	*e*P		**Pn**	**03 53 33.8**	**+1.8**
	baz=4.0								
HATJ	**Hateruma jima**	**2.89**	**48**	P		**Pn**	**03 53 33.2**	**+0.6**
HATJ				S		**Sn**	**03 54 05.7**	**-0.8**
NWF	**Wu-fen Shan**	**2.95**	**6**	*e*P		**Pn**	**03 53 36.0**	**+2.4**
	baz=357								
NWF				*e*S		**Sn**	**03 54 10.1**	**+2.0**
	baz=357								
IRIF	**Iriomote-Funau**	**3.03**	**43**	P		**Pn**	**03 53 35.6**	**+1.1**
IRIF				S		**Sn**	**03 54 09.5**	**-0.5**
JKRS	**Kuro-shima**	**3.15**	**48**	P		**Pn**	**03 53 37.3**	**+1.1**
JKRS				S		**Sn**	**03 54 10.3**	**-2.6**
JIJ	**Ishigaki jima**	**3.32**	**47**	P		**Pn**	**03 53 39.0**	**+0.4**
JIJ				S		**Sn**	**03 54 15.2**	**-2.0**
KNM	**Kinmen**	**3.60**	**310**	*e*P		**Pn**	**03 53 43.3**	**+0.8**
	baz=308								
KNM				*e*S		**Sn**	**03 54 24.6**	**+0.5**
	baz=308								
QZH	**Quanzhou**	**3.85**	**317**	Pn		**Pn**	**03 53 45.9**	**0.0**
QZH				Sn		**Sn**	**03 54 27.9**	**-2.4**
QZH				smax		smax			
	comp=N,80nm,0.8s								
QZH				smax		smax			
	comp=E,80nm,0.8s								
JTJ	**Tarama**	**3.89**	**49**	P		**Pn**	**03 53 47.3**	**+0.9**
JTJ				S		**Sn**	**03 54 29.7**	**-1.5**
JOGS	**Gusukube**	**4.47**	**53**	*e*S		**Sn**	**03 54 45.1**	**-0.5**
JOW	**Kunigami**	**7.77**	**52**	Pn		**Pn**	**03 54 39.9**	**+0.1**
	comp=E,1.4nm,0.3s,baz=143,slow=17,SNR=3.7								
JOW				Sn		**Sn**	**03 56 02.3**	**-4.7**
	comp=E,0.9nm,0.3s,baz=110,slow=24,SNR=2.9								
JOW				LR		LR	03 58 03.7		
	comp=E,100nm,18.1s,baz=288,slow=41								
KSRS	**Korea Array**	**16.26**	**19**	Pn		**P**	**03 56 37.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=5.0								
MJAR	**Matsushiro Arr**	**20.43**	**42**	P		Pn	03 57 30.4	+4.5	
	comp=E,1.1nm,0.7s,baz=233,slow=12,SNR=4.7								
MKAR	**Makanchi Array**	**40.01**	**318**	P		**P**	**04 00 22.9**	**+1.9**
	comp=E,0.8nm,0.7s,baz=114,slow=9.3,SNR=11								
ZALV	**Zalesovo Beam**	**42.12**	**328**	P		**P**	**04 00 40.3**	**+2.2**
	comp=E,0.5nm,0.3s,baz=106,slow=7.6,SNR=6.1								
WRA	**Warramunga Arr**	**43.66**	**162**	P		**P**	**04 00 49.5**	**-1.5**
	comp=E,0.5nm,0.6s,baz=344,slow=8.9,SNR=6.3								
ASAR	**Alice Springs**	**47.10**	**164**	P		**P**	**04 01 18.7**	**+0.5**
	comp=E,0.2nm,0.3s,baz=344,slow=7.4,SNR=2.9								
GERES	**GERESS Array B**	**84.59**	**321**	P		P	04 05 23.5	+3.9	
	comp=E,0.2nm,0.7s,baz=6.3,slow=9.9,SNR=2.8								

IDC ***21*** *03:58:50.0±2.3, 8.91°N×126.94°E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/21, mbtmp3.8/4, Error ellipse: s-maj=165.3km s-min=24.0km az=71.0*
MAN ***21*** *03:59:02, 8.54°N×126.18°E, h35km, mb4.4, ML3.3, MS3.1*

ISC 21 03:58:58.1±1.3, 8.68°N±0.09°×126.4°E±0.1°, h53km, n9, σ1°§86/8, mb3.7/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.86**	**290**	*e*P		Pn	03 59 16.8	+2.7
BUTP				*e*S		**Sn**	**03 59 23.9**	**-1.9**
BUKP	**Musuan**	**1.58**	**240**	*e*P		**Pn**	**03 59 26.4**	**+2.6**
BUKP				*e*S		Sn	03 59 35.9	-7.3
CGP	**Cagayan de Oro**	**1.74**	**263**	*e*P		Pn	03 59 28.9	+3.0
CGP				*i* S		Sn	03 59 53.4	+6.3
DAV	**Davao City (W)**	**1.81**	**208**	Sn		Sn	03 59 55.8	+7.0
	54nm,0.3s,baz=64,slow=23,SNR=5.8							
DMPH	**Davao City--Mi**	**1.84**	**210**⇑	*e*P		**Pn**	**03 59 28.2**	**+0.9**
DMPH				*e*S		**Sn**	**03 59 47.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**26.62**	**182**	P		**P**	**04 04 31.9**	**+0.1**
	1.5nm,0.8s,baz=333,slow=11,SNR=2.7							
WRA	**Warramunga Arr**	**29.49**	**165**	P		**P**	**04 04 57.5**	**+0.1**
	0.2nm,0.7s,baz=348,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**53.39**	**323**	P		**P**	**04 08 12.7**	**+0.3**
	0.4nm,0.4s,baz=103,slow=6.5,SNR=15							
FINES	**FINESS Array B**	**87.36**	**332**	P		**P**	**04 11 38.3**	**-0.9**
	2.6nm,0.9s,baz=54,slow=7.1,SNR=6.1							

IDC 21 04:04:44.0±2.4, 0.21°S×133.08°E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=97.1km s-min=24.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.22**	**202**	P		Pn	04 09 10.8	0.0
	0.1nm,0.3s,baz=21,slow=14,SNR=2.7							
WRA	**Warramunga Arr**	**19.65**	**176**	P		P	04 09 14.7	+0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**23.33**	**178**	P		P	04 09 53.4	-0.6
	1.5nm,0.9s,baz=356,slow=9.1,SNR=11							
MKAR	**Makanchi Array**	**64.43**	**324**	P		P	04 15 22.3	0.0
	0.1nm,0.6s,baz=102,slow=6.1,SNR=2.1							

IDC ***21*** *04:07:31.5±0.8, 8.50°N×126.46°E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, Error ellipse: s-maj=51.0km s-min=17.0km az=73.0*
ISCJB ***21*** *04:07:38.7±1.1, 8.40°N±0.05°×126.74°E±0.09°, h69km±8km, mb3.8/10, Error ellipse: s-maj=15.1km s-min=7.4km az=166.5*
MAN ***21*** *04:07:38, 8.37°N×126.75°E, h49km, mb4.7, ML3.6, MS3.6*

ISC 21 04:07:39.7±1.8, 8.45°N±0.05°×126.7°E±0.1°, h64km±16km, n28, σ1°§46/32, mb3.9/10, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.22**	**295**	*e*P		**Pn**	**04 07 59.0**	**-1.8**
BUTP				*e*S		**Sn**	**04 08 17.2**	**+0.6**
MATI	**Mati**	**1.57**	**198**	*e*P		**Pn**	**04 08 03.8**	**-1.8**
BUKP	**Musuan**	**1.76**	**251**	*e*P		**Pn**	**04 08 08.6**	**+0.5**
DAV	**Davao City (W)**	**1.79**	**220**	Pn		**Pn**	**04 08 06.7**	**-1.8**
	24nm,0.3s,baz=31,slow=12,SNR=1.7							
DAV				Sn		**Sn**	**04 08 34.9**	**+4.5**
	136nm,0.3s,baz=258,slow=20,SNR=7.4							
DMPH	**Davao City--Mi**	**1.83**	**222**⇓	*e*P		**Pn**	**04 08 10.7**	**+1.6**
DMPH				*e*S		**Sn**	**04 08 28.4**	**-2.9**
CGP	**Cagayan de Oro**	**2.03**	**270**	*e*P		**Pn**	**04 08 11.3**	**-0.3**
CGP				*i* S		**Sn**	**04 08 35.7**	**-0.3**
MSLP	**Maasin**	**2.50**	**312**	*e*P		**Pn**	**04 08 18.4**	**+0.3**
CTBH	**Cotabato--PC H**	**2.76**	**244**⇓	*i* P		**Pn**	**04 08 21.3**	**-0.4**
PLP	**Palo**	**3.21**	**327**⇓	*e*P		Pn	04 08 29.3	+1.5
PLP				*e*S		**Sn**	**04 09 07.2**	**+2.4**
WRA	**Warramunga Arr**	**29.19**	**165**	P		**P**	**04 13 34.8**	**-0.7**
	0.2nm,0.5s,baz=348,slow=9.3,SNR=2.8							
ASAR	**Alice Springs**	**32.68**	**168**	P		**P**	**04 14 07.6**	**+1.4**
	0.2nm,0.4s,baz=335,slow=6.9,SNR=3.4							
USRK	**Ussuriysk Arra**	**35.90**	**6**	P		**P**	**04 14 33.5**	**-0.3**
	2.1nm,0.6s,baz=184,slow=8.3,SNR=6.4							
TAPN	**Taplejung**	**41.39**	**302**	*e*P		**P**	**04 15 20.9**	**+0.5**
	7.5nm,0.4s							
ODAN	**Odare**	**41.50**	**301**	*e*P		**P**	**04 15 21.4**	**+0.2**
	12nm,0.4s							
STKA	**Stephens Creek**	**42.54**	**161**	P		**P**	**04 15 31.1**	**+1.8**
	1.4nm,0.8s,baz=23,slow=2.5,SNR=3.5							
JIRN	**Jiri**	**42.77**	**302**	*e*P		**P**	**04 15 32.1**	**+0.4**
	11nm,0.4s							
GUN	**Gumba**	**43.11**	**302**	*e*P		**P**	**04 15 35.0**	**+0.6**
	14nm,0.4s							
PKI	**Pulchoki**	**43.40**	**301**	*e*P		**P**	**04 15 36.8**	**+0.1**
	7.6nm,0.4s							
DMN	**Daman**	**43.66**	**301**	*e*P		**P**	**04 15 38.8**	**0.0**
	6.2nm,0.5s							
KOLN	**Koldanda**	**44.99**	**301**	*e*P		**P**	**04 15 49.3**	**0.0**
	18nm,0.4s							
DANN	**Dangsing**	**45.02**	**302**	*e*P		**P**	**04 15 49.5**	**-0.2**
	21nm,0.4s							
MKAR	**Makanchi Array**	**53.75**	**323**	P		**P**	**04 16 55.0**	**-0.6**
	0.9nm,0.4s,baz=106,slow=6.3,SNR=29							
ZALV	**Zalesovo Beam**	**56.44**	**332**	P		**P**	**04 17 13.7**	**-1.1**
	0.4nm,0.3s,baz=114,slow=7.3,SNR=4.4							
ILAR	**Eielson Array**	**80.86**	**26**	P		**P**	**04 19 47.4**	**+0.7**
	0.4nm,0.9s,baz=260,slow=5.6,SNR=5.6							
ARCES	**ARCESS Array B**	**86.05**	**340**	P		**P**	**04 20 13.2**	**0.0**
	4.1nm,0.9s,baz=71,slow=8.0,SNR=5.5							
BRTR	**Keskin Array B**	**87.04**	**310**	P		**P**	**04 20 17.1**	**-1.8**
	0.3nm,0.4s,baz=147,slow=2.8,SNR=4.5							
FINES	**FINESS Array B**	**87.70**	**332**	P		**P**	**04 20 20.9**	**-0.5**
	1.5nm,0.5s,baz=74,slow=4.3,SNR=14							
TORD	**Torodi Ar. Bea**	**121.36**	**291**	PKP		**PKPdf**	**04 26 26.7**	**-0.2**
	0.2nm,0.4s,baz=76,slow=1.5,SNR=9.4							

IDC 21 04:29:48.0±65.0, 17.62°S×177.92°W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=1191.0km s-min=177.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.18**	**241**	P		P	04 37 18.2	+0.4
	0.4nm,0.3s,baz=80,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**45.14**	**259**	P		P	04 38 06.4	-0.4
	0.4nm,0.4s,baz=96,slow=8.1,SNR=7.7							
ASAR	**Alice Springs**	**45.32**	**254**	P		P	04 38 07.8	-0.3
	1.1nm,0.7s,baz=86,slow=8.7,SNR=13							

NIED ***21*** *04:33:00, 24.20°N×125.20°E, h20km, Mw3.9 Best double couple: M0 8.74000×10^14 NP1:φs 49.00000°, δ 70.00000°, λ 83.00000°. NP2:φs 249.00000°, δ 21.00000°, λ 109.00000°.*
IDC ***21*** *04:33:15.6±0.8, 24.27°N×124.97°E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/42, Error ellipse: s-maj=26.4km s-min=18.9km az=69.0*
JMA ***21*** *04:33:19.9±0.3, 24.24°N×125.19°E, h25km, M3.8*
ISCJB ***21*** *04:33:20.4±0.8, 24.33°N±0.08°×125.19°E±0.06°, h48km±6km, mb3.7/9, Error ellipse: s-maj=15.6km s-min=6.4km az=152.8*

ISC 21 04:33:21.6±1.3, 24.4°N±0.1°×125.14°E±0.06°, h41km±11km, n20, σ1°§11/25, mb3.8/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.43**	**34**	P		**Pn**	**04 33 31.0**	**-0.4**
JOGS				S		**Sn**	**04 33 39.3**	**+1.0**
JMJ	**Miyako jima 2**	**0.43**	**18**	P		**Pn**	**04 33 31.1**	**-0.4**
JMJ				*e*S		**Sn**	**04 33 39.5**	**+1.1**
JTJ	**Tarama**	**0.47**	**301**	P		**Pn**	**04 33 31.4**	**-0.5**
JTJ				*e*S		**Sn**	**04 33 39.5**	**+0.4**
JIJ	**Ishigaki jima**	**0.91**	**268**	P		**Pn**	**04 33 37.2**	**-0.7**
JIJ				*e*S		**Sn**	**04 33 51.9**	**+2.0**
JKRS	**Kuro-shima**	**1.05**	**261**	P		**Pn**	**04 33 40.1**	**+0.3**
HATJ	**Hateruma jima**	**1.27**	**255**	P		**Pn**	**04 33 42.2**	**-0.6**
HATJ				S		**Sn**	**04 33 59.1**	**+0.5**
IRIF	**Iriomote-Funau**	**1.29**	**267**	P		**Pn**	**04 33 43.3**	**+0.2**
YOJ	**Yonaguni jima**	**1.94**	**272**	P		**Pn**	**04 33 52.3**	**+0.2**
JOW	**Kunigami**	**3.72**	**49**	Pn		**Pn**	**04 34 16.7**	**+0.2**
	3.1nm,0.3s,baz=140,slow=23,SNR=6.6							
JOW				LR		LR	04 36 07.4	
	comp=Z,171nm,18.9s,baz=168,slow=44							
KSRS	**Korea Array**	**13.23**	**10**	Pn		**P**	**04 36 33.0**	**-2.8**
	0.2nm,0.3s,baz=191,slow=12,SNR=5.4							
KSRS				LR		LR	04 42 03.0	
	comp=Z,36nm,20.2s,baz=295,slow=39							
MJAR	**Matsushiro Arr**	**16.51**	**40**	Pn		**P**	**04 37 13.6**	**+1.2**
	0.5nm,0.3s,baz=226,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**40.73**	**314**	P		**P**	**04 40 58.8**	**+0.3**
	1.7nm,0.4s,baz=102,slow=9.7,SNR=65							
ZALV	**Zalesovo Beam**	**42.08**	**325**	P		**P**	**04 41 08.2**	**-1.1**
	1.1nm,0.4s,baz=122,slow=7.7,SNR=6.9							
KURK	**Kurchatov**	**44.28**	**319**	P		**P**	**04 41 26.5**	**-0.7**
	1.0nm,0.6s,baz=108,slow=8.5,SNR=7.4							
WRA	**Warramunga Arr**	**44.98**	**168**	P		**P**	**04 41 31.6**	**-1.4**
	0.7nm,0.5s,baz=348,slow=8.9,SNR=9.7							
ASAR	**Alice Springs**	**48.53**	**169**	P		**P**	**04 41 60.0**	**-0.9**
	0.2nm,0.5s,baz=354,slow=12,SNR=6.0							
ILAR	**Eielson Array**	**67.35**	**28**	P		**P**	**04 44 13.8**	**+1.6**
	0.2nm,0.5s,baz=295,slow=9.3,SNR=12							
FINES	**FINESS Array B**	**73.07**	**330**	P		**P**	**04 44 47.1**	**-0.1**
	2.5nm,0.6s,baz=65,slow=6.5,SNR=10							
BRTR	**Keskin Array B**	**75.93**	**307**	P		**P**	**04 45 05.3**	**+0.9**
	0.3nm,0.7s,baz=124,slow=7.2,SNR=2.5							
YKA	**Yellowknife Ar**	**81.34**	**24**	P		**P**	**04 45 34.2**	**+0.7**
	0.3nm,0.5s,baz=304,slow=5.5,SNR=7.7							

IDC 21 04:39:42.6±3.7, 5.34°S×150.23°E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=148.7km s-min=41.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.05**	**217**	Pn		Pn	04 41 01.7	+1.9
	1.0nm,0.3s,baz=34,slow=3.6,SNR=3.9							
WRA	**Warramunga Arr**	**21.20**	**225**	P		P	04 44 29.8	-0.3
	0.4nm,0.5s,baz=51,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**24.07**	**219**	P		P	04 44 59.0	-0.8
	0.2nm,0.4s,baz=56,slow=9.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**148.02**	**286**	PKPbc		PKPbc	04 59 30.7	-0.5
	0.9nm,0.7s,baz=86,slow=2.6,SNR=14							

ISK ***21*** *04:41:49.3, 39.02°N×41.81°E, h5km, MD3.4*
ISCJB ***21*** *04:41:51.0±0.5, 39.05°N±0.04°×41.81°E±0.04°, h8km, Error ellipse: s-maj=6.5km s-min=4.1km az=172.8*
CSEM ***21*** *04:41:50.7±0.2, 39.07°N×41.84°E, h2km, MD3.4, Error ellipse: s-maj=7.3km s-min=4.7km az=20.0*
DDA ***21*** *04:41:51.1, 39.06°N×41.82°E, h7km, MD3.3*

ISC 21 04:41:51.3±0.9, 39.06°N±0.03°×41.87°E±0.03°, h8km, n31, σ1°§22/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.34**	**288**	*e*PG		**Pg**	**04 41 56.8**	**-1.2**
VRTB	**Varto-Mus**	**0.34**	**288**	*e*Pg		**Pg**	**04 41 56.8**	**-1.2**
BNGL	**BINGOL**	**0.57**	**260**	*e*P		**Pg**	**04 42 01.1**	**-1.3**
BNGL				*i* S		**Sb**	**04 42 17.5**	**+5.4**
TATV	**Tatvan**	**0.63**	**150**	*e*P		**Pg**	**04 42 03.4**	**-0.1**
TATV	**Tatvan**	**0.63**	**150**	*e*P		**Pg**	**04 42 03.4**	**-0.1**
TUTA	**Tutak**	**0.81**	**64**	*e*P		**Pg**	**04 42 06.8**	**-0.2**
TUTA				*i* S		**Sb**	**04 42 20.1**	**+1.0**
TUTA	**Tutak**	**0.81**	**64**	*e*P		**Pg**	**04 42 06.8**	**-0.2**
TUTA				*i* S		**Sb**	**04 42 20.1**	**+1.0**
BNGB	**Bing¶‖**	**0.93**	**266**	*e*PG		**Pg**	**04 42 07.3**	**-1.8**
ERZM	**Erzurum**	**0.93**	**336**	*e*P		**Pg**	**04 42 08.3**	**-1.0**
ERZM	**Erzurum**	**0.93**	**336**	*e*P		**Pg**	**04 42 08.3**	**-1.0**
EZM	**Erzurum**	**0.94**	**335**	*e*PG		**Pg**	**04 42 08.3**	**-1.0**
AGRB	**Hanur-Agry**	**1.01**	**59**	*e*P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.36**	**104**	*e*P	**Pn**	**04 57 20.0**	**+0.2**
ABRA				*e*S	**Sn**	**04 57 24.6**	**-2.4**
PIP	**Pasuquin**	**0.64**	**24**	⇓*i*P	**Pn**	**04 57 22.3**	**-0.6**
PIP				*e*S	**Sn**	**04 57 32.8**	**+0.3**
BCPH	**Baguio City Da**	**1.37**	**170**	⇑*i*P	**Pn**	**04 57 32.7**	**0.0**
BCPH				*i* S	**Sn**	**04 57 51.6**	**+1.8**
BOLP	**Bolinao**	**1.41**	**197**	*e*P	**Pn**	**04 57 32.6**	**-0.5**
BOLP				*e*S	Sn	04 57 44.3	-6.3
CAUP	**Cauayan**	**1.62**	**119**	*e*P	**Pn**	**04 57 38.8**	**+2.8**
SGCP	**Mt. Cagua**	**1.70**	**73**	*e*P	**Pn**	**04 57 38.1**	**+1.2**
SCZP	**Santa Cruz**	**1.99**	**192**	*e*P	**Pn**	**04 57 40.1**	**-0.9**
BALP	**Baler**	**2.31**	**149**	*e*P	**Pn**	**04 57 47.4**	**+2.1**
TGY	**Tagaytay City**	**3.66**	**171**	Pn	**Pn**	**04 58 05.2**	**+1.2**
	135nm,0.3s,baz=203,slow=3.1,SNR=13						
TGY	**Tagaytay City**	**3.66**	**171**	P	**Pn**	**04 58 05.2**	**+1.2**
TGY	**Tagaytay City**	**3.66**	**171**	Pn	**Pn**	**04 58 05.2**	**+1.2**
TGY	**Tagaytay City**	**3.66**	**171**	⇑*e*P	Pn	04 58 08.4	+4.5
LQP	**Lukban**	**3.79**	**162**	*e*P	**Pn**	**04 58 08.3**	**+2.5**
LUBP	**Lubang**	**3.98**	**181**	*e*P	Pn	04 58 13.9	+5.6
TWG	**Pinlang**	**5.10**	**8**	*e*Pn	**Pn**	**04 58 24.6**	**+1.0**
TWG				*e*Sn	**Sn**	**04 59 19.9**	**-1.3**
PVCP	**Virac**	**5.52**	**138**	*e*P	**Pn**	**04 58 30.9**	**+1.6**
TPUB	**Ta-pu**	**5.54**	**3**	*e*Pn	**Pn**	**04 58 30.8**	**+1.1**
YULB	**Yu-li**	**5.70**	**9**	*e*Pn	**Pn**	**04 58 33.4**	**+1.6**
	54nm,0.5s						
YULB				*e*Sn	**Sn**	**04 59 34.7**	**-1.2**
BUSP	**Coron**	**5.70**	**181**	*e*P	**Pn**	**04 58 33.2**	**+1.3**
SSLB	**Suanglung**	**6.05**	**5**	*e*Pn	**Pn**	**04 58 39.0**	**+2.4**
SSLB				*e*Sn	**Sn**	**04 59 39.9**	**-4.6**
NACB	**Ninganchiao**	**6.51**	**10**	*e*Pn	**Pn**	**04 58 44.0**	**+1.1**
NACB				*e*Sn	**Sn**	**04 59 53.6**	**-2.3**
YHNB	**Yeheng**	**6.96**	**8**	*e*Pn	**Pn**	**04 58 51.4**	**+2.1**
	73nm,0.4s						
YHNB				*e*Sn	**Sn**	**05 00 06.0**	**-1.2**
QZH	**Quanzhou**	**7.35**	**347**	P	**Pn**	**04 58 53.6**	**-0.9**
QZH				S	**Sn**	**05 00 11.1**	**-5.4**
QZH				smax	smax		
	comp=N,110nm,0.6s						
QZH				smax	smax		
	comp=E,150nm,0.6s						
QIZ	**Qiongzhong**	**10.05**	**279**	*e*Pn	**Pn**	**04 59 28.9**	**-2.5**
	comp=E,13nm,0.4s						
QIZ				*e*Sn	Sn	05 01 16.1	-6.7
JOW	**Kunigami**	**11.65**	**38**	Pn	**Pn**	**04 59 51.6**	**-1.6**
	comp=E,4.1nm,0.3s,baz=209,slow=13,SNR=9.3						
JOW	**Kunigami**	**11.65**	**38**	*e*Pn	**Pn**	**04 59 53.2**	**-0.1**
DAV	**Davao City (W)**	**11.77**	**154**	LR	LR	05 04 59.9	
	comp=E,238nm,20.5s,baz=288,slow=42						
GYA	**Guiyang**	**15.35**	**307**	P	**Pn**	**05 00 43.3**	**+0.2**
GYA				pP	**pP**	**05 00 53.6**	**-5.2**
GYA				S	**Sn**	**05 03 34.5**	**+2.3**
GYA				sS	**S**	**05 03 48.3**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,50nm,3.9s						
GYA				LR	LR		
	comp=N,2μm,10.8s						
GYA				LR	LR		
	comp=E,2μm,10.9s						
GYA				LR	LR		
	comp=Z,3μm,14.1s						
ENH	**Enshi**	**15.92**	**324**	*e*Pn	**Pn**	**05 00 50.6**	**+0.2**
	comp=Z,19nm,0.9s						
KMI	**Kunming**	**17.95**	**297**	P	**Pn**	**05 01 18.5**	**+2.7**
KMI				S	**Sn**	**05 04 35.4**	**+0.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,300nm,4.0s						
KMI				LR	LR		
	comp=N,220nm,12.5s						
KMI				LR	LR		
	comp=E,280nm,16.6s						
KMI				LR	LR		
	comp=Z,340nm,16.0s						
JNU	**Nakatsue**	**18.01**	**30**	*e*P	**Pn**	**05 01 17.0**	**+0.7**
	comp=Z,9.4nm,0.9s						
XAN	**Xi'an**	**19.19**	**330**	P	**Pn**	**05 01 30.3**	**-0.1**
XAN				pP	**pP**	**05 01 42.9**	**+1.8**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,32nm,8.6s						
CD2	**Chengdu**	**19.97**	**314**	P	**Pn**	**05 01 39.8**	**0.0**
CD2				pP	**pP**	**05 01 51.3**	**+1.5**
CD2				PP	pwP	05 02 01.0	+11
CD2				S	**S**	**05 05 18.3**	**-1.3**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,110nm,6.9s						
CD2				LR	LR		
	comp=N,320nm,9.5s						
CD2				LR	LR		
	comp=Z,220nm,10.1s						
CHTO	**Chiang Mai**	**20.35**	**276**	*e*P	Pn	05 01 43.5	-0.8
CHTO				*e**PP	pP	05 01 56.3	+2.4
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**20.35**	**276**	*e*P	Pn	05 01 43.5	-0.8
	comp=Z,15nm,0.9s						
CHTO				*e*pP	pP	05 01 56.3	+2.4
CM31	**Chiang Mai Arr**	**20.35**	**275**	*e*P	Pn	05 01 44.0	-0.4
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.35**	**275**	P	**P**	**05 01 41.1**	**-0.7**
	comp=Z,18nm,0.9s,baz=82,slow=10,SNR=65						
CMAR				LR	LR	05 09 40.3	
	comp=Z,109nm,20.6s,baz=90,slow=37						
CMAR	**Chiang Mai Arr**	**20.35**	**275**	P	**P**	**05 01 41.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**20.35**	**275**	P	**P**	**05 01 41.1**	**-0.7**
KSAR	**Wonju Array Be**	**20.72**	**17**	P	**P**	**05 01 45.7**	**0.0**
KSAR	**Wonju Array Be**	**20.72**	**17**	P	**P**	**05 01 45.6**	**0.0**
KSRS	**Korea Array**	**20.74**	**17**	P	**P**	**05 01 45.6**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=198,slow=12,SNR=15						
KSRS				LR	LR	05 10 43.4	
	comp=Z,36nm,18.7s,baz=180,slow=39						
CBIJ	**Chichi jima**	**22.21**	**61**	P	**P**	**05 01 59.9**	**-1.8**
	comp=Z,60nm,0.5s,baz=277,slow=9.5,SNR=8.6						
CBIJ				LR	LR	05 09 24.4	
	comp=Z,76nm,19.5s,baz=67,slow=33						
CBIJ	**Chichi jima**	**22.21**	**61**	P	**P**	**05 01 59.9**	**-1.8**
BJT	**Baijiatuan**	**22.50**	**352**	*e*P	**P**	**05 02 05.1**	**+0.4**
BJT				pmax	pmax		
	comp=Z,25nm,0.6s						
BJT	**Baijiatuan**	**22.50**	**352**	*e*P	**P**	**05 02 05.0**	**+0.4**
	comp=Z,25nm,0.6s						
BJI	**Beijing**	**22.52**	**352**	P	**P**	**05 02 05.6**	**+0.7**
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				pmax	pmax		
	comp=Z,170nm,4.3s						
BJI				LR	LR		
	comp=N,230nm,5.6s						
BJI				LR	LR		
	comp=E,260nm,9.5s						
LZH	**Lanzhou**	**23.40**	**325**	⇓P	**P**	**05 02 16.0**	**+1.9**
LZH				pP	**pP**	**05 02 26.4**	**-0.4**
LZH				sP	**sP**	**05 02 31.5**	**-1.9**
LZH				PP	pwP	05 02 49.8	+23
LZH				sS	Sn	05 06 42.0	-3.9
LZH				pmax	pmax		
	comp=Z,40nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,4.8s						
LZH				LR	LR		
	comp=N,280nm,6.8s						
LZH				LR	LR		
	comp=E,260nm,6.0s						
LZH				LR	LR		
	comp=Z,350nm,9.8s						
GUMO	**Guam**	**23.97**	**96**	LR	LR	05 09 40.0	
	comp=Z,130nm,19.5s,baz=4.2,slow=32						
HHC	**Hu-ho-hao-te**	**24.24**	**344**	*e*P	**P**	**05 02 21.6**	**-0.1**
HHC				pP	**pP**	**05 02 35.9**	**+0.6**
HHC				sP	**sP**	**05 02 43.4**	**+1.7**
HHC				PP	pwP	05 02 59.8	+25
HHC				S	**S**	**05 06 35.0**	**-1.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.5s						
HHC				LR	LR		
	comp=N,200nm,9.0s						
HHC				LR	LR		
	comp=E,230nm,8.2s						
HHC				LR	LR		
	comp=Z,180nm,9.0s						
MJAR	**Matsushiro Arr**	**24.49**	**37**	P	**P**	**05 02 22.5**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=226,slow=3.8,SNR=6.2						
MJAR	**Matsushiro Arr**	**24.49**	**37**	P	**P**	**05 02 22.5**	**-1.5**
MJAR	**Matsushiro Arr**	**24.49**	**37**	P	**P**	**05 02 22.5**	**-1.5**
CN2	**Changchun**	**26.34**	**8**	*e*P	**P**	**05 02 43.8**	**+3.2**
CN2				*e*pP	**pP**	**05 02 58.3**	**+4.2**
CN2				*e*S	**S**	**05 07 10.8**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
SHL	**Shillong**	**27.53**	**291**	*e*P	**P**	**05 02 54.0**	**+2.3**
MDJ	**Mudanjiang**	**27.90**	**14**	P	**P**	**05 02 55.0**	**+0.4**
MDJ				pP	**pP**	**05 03 08.0**	**-0.2**
MDJ				sP	**sP**	**05 03 14.0**	**-0.5**
MDJ				S	**S**	**05 07 36.6**	**+2.2**
MDJ				sS	**sS**	**05 07 58.9**	**+1.5**
MDJ				ScP	**ScP**	**05 09 45.3**	**-0.3**
MDJ				PcS	**PcS**	**05 09 50.8**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,49nm,3.1s						
MDJ				LR	LR		
	comp=N,43nm,21.8s						
MDJ				LR	LR		
	comp=E,88nm,23.6s						
GTA	**Gaotai**	**28.00**	**325**	*e*P	**P**	**05 02 57.3**	**+1.6**
GTA				pP	**pP**	**05 03 10.8**	**+1.5**
GTA				sP	**sP**	**05 03 15.5**	**-0.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
USRK	**Ussuriysk Arra**	**28.15**	**18**	P	**P**	**05 02 55.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=212,slow=6.9,SNR=4.6						
LSA	**Lhasa**	**29.17**	**299**	*e*P	**P**	**05 03 08.4**	**+1.8**
LSA				pmax	pmax		
	comp=Z,44nm,1.1s						
LSA	**Lhasa**	**29.17**	**299**	*e*P	**P**	**05 03 08.4**	**+1.8**
	comp=Z,44nm,1.1s						
TAPN	**Taplejung**	**31.54**	**294**	*e*P	**P**	**05 03 28.3**	**+0.9**
	comp=Z,18nm,0.7s						
TAPN	**Taplejung**	**31.54**	**294**	*e*P	**P**	**05 03 28.3**	**+0.9**
	comp=Z,18nm,0.7s						
ODAN	**Odare**	**31.73**	**293**	*e*P	**P**	**05 03 29.9**	**+0.9**
	comp=Z,38nm,0.6s						
ODAN	**Odare**	**31.73**	**293**	*e*P	**P**	**05 03 29.9**	**+0.9**
	comp=Z,38nm,0.6s						
ULN	**Ulaanbaatar**	**31.96**	**343**	*e*P	**P**	**05 03 32.2**	**+1.6**
ULN				pmax	pmax		
	comp=Z,12nm,1.6s						
ULN	**Ulaanbaatar**	**31.96**	**343**	*e*P	**P**	**05 03 32.2**	**+1.6**
	comp=Z,12nm,1.6s						
SONM	**Songino Array**	**32.12**	**342**	P	**P**	**05 03 33.2**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=159,slow=9.3,SNR=6.9						
SONM	**Songino Array**	**32.12**	**342**	P	**P**	**05 03 33.2**	**+1.2**
SONM	**Songino Array**	**32.12**	**342**	P	**P**	**05 03 33.2**	**+1.2**
ASAJ	**Asahikawa**	**32.29**	**31**	P	**P**	**05 03 33.2**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=222,slow=12,SNR=3.1						
ASAJ	**Asahikawa**	**32.29**	**31**	P	**P**	**05 03 33.2**	**-0.1**
RAMN	**Ramite**	**32.44**	**292**	*e*P	**P**	**05 03 36.4**	**+1.1**
	comp=Z,69nm,0.7s						
RAMN	**Ramite**	**32.44**	**292**	*e*P	**P**	**05 03 36.4**	**+1.1**
	comp=Z,69nm,0.7s						
KLR	**Kul'dur**	**32.74**	**14**	*e*P	**P**	**05 03 35.1**	**-2.2**
KLR				pmax	pmax		
	comp=Z,35nm,1.8s						
JIRN	**Jiri**	**32.92**	**294**	*e*P	**P**	**05 03 40.6**	**+1.0**
	comp=Z,38nm,0.7s						
JIRN	**Jiri**	**32.92**	**294**	*e*P	**P**	**05 03 40.6**	**+1.0**
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**33.24**	**294**	*e*P	**P**	**05 03 43.2**	**+0.9**
	comp=Z,101nm,0.7s						
GUN	**Gumba**	**33.24**	**294**	*e*P	**P**	**05 03 43.2**	**+0.9**
	comp=Z,101nm,0.7s						
PKI	**Pulchoki**	**33.59**	**293**	*e*P	**P**	**05 03 45.6**	**+0.2**
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**33.59**	**293**	*e*P	**P**	**05 03 45.6**	**+0.2**
PKI				pmax	pmax		
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**33.59**	**293**	*e*P	**P**	**05 03 45.6**	**+0.2**
	comp=Z,20nm,0.7s						
KKN	**Kakani**	**33.74**	**294**	*e*P	**P**	**05 03 46.9**	**+0.4**
KKN	**Kakani**	**33.74**	**294**	*e*P	**P**	**05 03 46.9**	**+0.4**
KKN	**Kakani**	**33.74**	**294**	*e*P	**P**	**05 03 46.9**	**+0.4**
DMN	**Daman**	**33.86**	**293**	*e*P	**P**	**05 03 47.9**	**+0.2**
DMN	**Daman**	**33.86**	**293**	*e*P	**P**	**05 03 47.9**	**+0.2**
GKN	**Gorkha**	**34.34**	**294**	*e*P	**P**	**05 03 51.8**	**+0.1**
	comp=Z,51nm,0.7s						
GKN	**Gorkha**	**34.34**	**294**	*e*P	**P**	**05 03 51.8**	**+0.1**
	comp=Z,51nm,0.7s						
DANN	**Dangsing**	**35.16**	**294**	*e*P	**P**	**05 03 59.1**	**+0.2**
	comp=Z,38nm,0.6s						
DANN	**Dangsing**	**35.16**	**294**	*e*P	**P**	**05 03 59.1**	**+0.2**
	comp=Z,38nm,0.6s						
KOLN	**Koldanda**	**35.21**	**293**	*e*P	**P**	**05 03 59.5**	**+0.3**
	comp=Z,26nm,0.7s						
KOLN	**Koldanda**	**35.21**	**293**	*e*P	**P**	**05 03 59.5**	**+0.3**
	comp=Z,26nm,0.7s						
ZAK	**Zakamensk**	**35.32**	**341**	⇑*i*P	**P**	**05 04 00.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOY	**Mondy**	**37.16**	**340**	*e*P	**P**	**05 04 17.2**	**+1.7**
WMQ	**Urumqi**	**37.83**	**320**	P	**P**	**05 04 23.4**	**+2.2**
WMQ				pP	**pP**	**05 04 35.8**	**+0.7**
WMQ				sP	**sP**	**05 04 40.4**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,17nm,0.8s						
HVS	**Khovu-Aksy**	**39.48**	**334**	⇓*e*P	**P**	**05 04 36.7**	**+1.8**
HVS				pmax	pmax		
	comp=Z,49nm,1.2s						
BOD	**Bodaibo**	**40.30**	**355**	*e*P	**P**	**05 04 41.9**	**+0.4**
MK31	**Makanchi Array**	**42.64**	**321**	*ce*P	**P**	**05 05 01.8**	**+0.9**
MK31				pmax	pmax		
	comp=Z,28nm,1.1s						
MK31	**Makanchi Array**	**42.64**	**321**	*e*P	**P**	**05 05 02.3**	**+1.4**
MKAR	**Makanchi Array**	**42.64**	**321**	P	**P**	**05 05 02.4**	**+1.5**
	comp=Z,4.6nm,0.6s,baz=115,slow=7.9,SNR=55						
MKAR	**Makanchi Array**	**42.64**	**321**	P	**P**	**05 05 02.4**	**+1.5**
MKAR	**Makanchi Array**	**42.64**	**321**	P	**P**	**05 05 02.4**	**+1.5**
KSH	**Kashi**	**44.03**	**309**	*e*P	P	05 05 15.8	+3.4
KSH				*e*pP	pP	05 05 27.8	+1.3
KSH				*e*sP	sP	05 05 33.3	+0.5
KSH				*e*PcP	**PcP**	**05 06 59.3**	**+2.1**
KSH				*e*PP	PP	05 07 00.8	+5.0
KSH				*e*ScP	**ScP**	**05 10 46.3**	**+1.7**
KSH				*e*PcS	**PcS**	**05 10 51.0**	**+0.6**
KSH				*e*S	**S**	**05 11 45.6**	**+4.6**
KSH				*e*sS	sS	05 12 07.3	+2.5
KSH				*e*SS	SS	05 14 57.5	-2.2
KSH				*e*ScS	**ScS**	**05 15 07.1**	**+0.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,230nm,5.7s						
KSH				LR	LR		
	comp=N,310nm,7.9s						
KSH				LR	LR		
	comp=E,230nm,5.7s						
KSH				LR	LR		
	comp=Z,410nm,6.7s						
YAK	**Yakutsk**	**44.73**	**6**	*e*P	**P**	**05 05 16.7**	**-0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
ZAA0	**Zalesovo Array**	**45.35**	**331**	*e*P	**P**	**05 05 22.9**	**+0.4**
ZALV	**Zalesovo Beam**	**45.35**	**331**	P	**P**	**05 05 22.7**	**+0.2**
	comp=E,2.5nm,0.6s,baz=120,slow=8.7,SNR=14						
ZALV	**Zalesovo Beam**	**45.35**	**331**	P	**P**	**05 05 22.7**	**+0.2**
ZALV	**Zalesovo Beam**	**45.35**	**331**	P	**P**	**05 05 22.7**	**+0.2**
TKM2	**Tokmak 2**	**45.36**	**313**	*i* P	**P**	**05 05 24.4**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2	**Tokmak 2**	**45.36**	**313**	*e*P	**P**	**05 05 24.5**	**+1.5**
	comp=Z,3.3nm,0.6s						
PETK	**Petropavlovsk-**	**45.71**	**31**	P	**P**	**05 05 25.2**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=204,slow=3.3,SNR=6.3						
PETK	**Petropavlovsk-**	**45.71**	**31**	P	**P**	**05 05 25.2**	**-0.1**
PETK	**Petropavlovsk-**	**45.71**	**31**	P	**P**	**05 05 25.2**	**-0.1**
EKS2	**Erkin-Say**	**46.54**	**312**	*e*P	**P**	**05 05 32.8**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKS2	**Erkin-Say**	**46.54**	**312**	*e*P	**P**	**05 05 32.8**	**+0.6**
	comp=Z,2.3nm,0.8s						
NVS	**Novosibirsk**	**46.63**	**331**	*e*P	**P**	**05 05 31.0**	**-1.5**
KURK	**Kurchatov**	**46.69**	**324**	*c i*P	**P**	**05 05 34.0**	**+1.0**
KURK				*i* *PP	**pP**	**05 05 51.4**	**+4.1**
KURK				pmax	pmax		
	comp=Z,35nm,0.8s						
KURK	**Kurchatov**	**46.69**	**324**	*e*P	**P**	**05 05 33.6**	**+0.6**
	comp=Z,29nm,0.8s						
HNR	**Honiara**	**47.53**	**121**	LR	LR	05 21 47.9	
	comp=Z,80nm,19.4s,baz=337,slow=31						
KBL	**Kabul**	**48.48**	**301**	*e*P	**P**	**05 05 48.2**	**+0.7**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBL	**Kabul**	**48.48**	**301**	*e*P	**P**	**05 05 48.2**	**+0.7**
	comp=Z,9.1nm,0.8s						
FORT	**Forrest**	**48.80**	**171**	*e*P	**P**	**05 05 47.4**	**-2.2**
	comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**48.97**	**312**	*ce*P	**P**	**05 05 51.6**	**+0.7**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**48.97**	**312**	*e*P	**P**	**05 05 51.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**48.97**	**312**	*e*P	**P**	**05 05 51.3**	**+0.4**
	comp=Z,7.2nm,0.6s						
SEY	**Seymchan**	**50.29**	**18**	⇓*e*P	**P**	**05 06 01.8**	**+1.2**
BRVK	**Borovoye**	**52.36**	**324**	*e*P	**P**	**05 06 16.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**52.36**	**324**	*e*P	**P**	**05 06 16.8**	**+0.6**
	comp=Z,8.1nm,0.6s						
STKA	**Stephens Creek**	**53.38**	**157**	P	**P**	**05 06 21.0**	**-2.9**
	comp=Z,3.5nm,0.7s,baz=329,slow=7.8,SNR=4.9						
STKA	**Stephens Creek**	**53.38**	**157**	P	**P**	**05 06 21.0**	**-2.9**
STKA	**Stephens Creek**	**53.38**	**157**	P	**P**	**05 06 21.0**	**-2.9**
AB31	**Akbulak array**	**57.51**	**318**	*ce*P	**P**	**05 06 53.7**	**+0.3**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ABKAR	**Akbulak array**	**57.51**	**318**	*e*P	**P**	**05 06 53.7**	**+0.3**
	comp=Z,6.7nm,0.6s						
BILL	**Bilibino**	**58.00**	**19**	P	**P**	**05 06 57.0**	**+0.4**
BILL				pmax	pmax		
	comp=Z,12nm,2.5s						
BILL	**Bilibino**	**58.00**	**19**	*e*P	**P**	**05 06 56.3**	**-0.3**
	comp=Z,2.5nm,0.6s						
SVE	**Sverdlovsk**	**58.85**	**326**	⇑*i*P	**P**	**05 07 03.5**	**+0.8**
SVE				*e*S	**S**	**05 15 04.2**	**-0.1**
SVE				pmax	pmax		
	comp=Z,22nm,0.9s						
AKTO	**Aktyubinsk**	**58.94**	**319**	P	**P**	**05 07 03.2**	**-0.3**
	baz=99,slow=3.3						
AKTO	**Aktyubinsk**	**58.94**	**319**	P	**P**	**05 07 03.2**	**-0.3**
AKTO	**Aktyubinsk**	**58.94**	**319**	P	**P**	**05 07 03.2**	**-0.3**
ARU	**Arti**	**59.86**	**326**	*e*P	**P**	**05 07 09.6**	**-0.1**
ARU				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**59.86**	**326**	*e*P	**P**	**05 07 09.6**	**-0.1**
	comp=Z,16nm,0.8s						
RDF	**Al-Radifah**	**66.87**	**294**	*e*P	**P**	**05 07 55.9**	**-0.6**
RDF				AMb	AMB	05 07 58.9	
	comp=Z,84nm,1.5s						
MIB	**Mutribah**	**66.93**	**295**	*e*P	**P**	**05 07 55.8**	**-1.1**
MIB				AMb	AMB	05 07 56.1	
	comp=Z,28nm,1.3s						
NAY	**Al-Naaiem**	**67.09**	**295**	*e*P	**P**	**05 07 56.8**	**-1.2**
NAY				AMb	AMB	05 07 58.4	
	comp=Z,22nm,0.6s						
DGRG	**David-gareji**	**67.33**	**308**	P	**P**	**05 08 00.4**	**+1.1**
GNI	**Garni**	**67.91**	**307**	*e*P	**P**	**05 08 03.6**	**+0.5**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GNI	**Garni**	**67.91**	**307**	*e*P	**P**	**05 08 03.6**	**+0.5**
	comp=Z,7.9nm,0.9s						
ZEI	**Tsey**	**68.32**	**310**	*e*P	**P**	**05 08 05.2**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ONI	**Oni**	**68.66**	**309**	P	**P**	**05 08 08.5**	**+0.8**
AKH	**Akhalkalaki**	**68.74**	**308**	P	**P**	**05 08 09.5**	**+1.2**
KIV	**Kislovodsk**	**69.11**	**311**	*i* P	**P**	**05 08 10.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,20nm,0.8s						
KIV	**Kislovodsk**	**69.11**	**311**	*e*P	**P**	**05 08 10.9**	**+0.4**
	comp=Z,14nm,0.6s						
KLMR	**Klimovskoe**	**70.22**	**329**	*e*P	**P**	**05 08 14.1**	**-2.7**
KLMR				pmax	pmax		
	comp=Z,31nm,1.6s						
OBN	**Obninsk**	**72.11**	**323**	⇑*e*P	**P**	**05 08 27.5**	**-0.8**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KDAK	**Kodiak Island**	**73.64**	**34**	P	**P**	**05 08 36.6**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=307,slow=9.9,SNR=6.2						
KDAK	**Kodiak Island**	**73.64**	**34**	*i* P	**P**	**05 08 39.2**	**+1.9**
KDAK	**Kodiak Island**	**73.64**	**34**	P	**P**	**05 08 36.6**	**-0.7**
JOF	**Joensuu**	**73.94**	**332**	*e*P	**P**	**05 08 38.4**	**-0.6**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JOF	**Joensuu**	**73.94**	**332**	*e*p	**P**	**05 08 38.4**	**-0.6**
	comp=Z,7.8nm,0.5s						
JOF	**Joensuu**	**73.94**	**332**	*e*p	**P**	**05 08 38.4**	**-0.6**
	comp=Z,7.8nm,0.5s						
MCK	**McKinley**	**74.58**	**27**	*e*P	**P**	**05 08 42.8**	**-0.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MCK	**McKinley**	**74.58**

	comp=Z,3.0nm,0.7s							
INK	**Inuvik**	**79.48**	**21**	*e*P		**P**	**05 09 09.7**	**-0.5**
	comp=Z,3.5nm,0.7s							
TESR		**79.83**	**316**	⇑*i*P		**P**	**05 09 13.2**	**+0.7**
VRI	**Vrincioaia**	**79.94**	**315**	⇓P		**P**	**05 09 14.0**	**+0.8**
VRI	**Vrincioaia**	**79.94**	**315**	⇓*i*P		**P**	**05 09 14.0**	**+0.8**
PLOR	**Plostina**	**80.00**	**315**	⇓P		**P**	**05 09 13.7**	**+0.2**
PLOR	**Plostina**	**80.00**	**315**	⇓*i*P		**P**	**05 09 13.7**	**+0.2**
BURAR	**Bucovina Array**	**80.48**	**317**	⇑P		**P**	**05 09 16.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**80.48**	**317**	*e*P		**P**	**05 09 15.9**	**-0.2**
MLR	**Muntele Rosu**	**80.57**	**315**	P		**P**	**05 09 15.2**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=213,slow=3.5,SNR=9.4							
MLR				LR		LR	05 49 59.2	
	comp=Z,10nm,19.3s,baz=163,slow=39							
MLR	**Muntele Rosu**	**80.57**	**315**	⇓P		**P**	**05 09 17.2**	**+0.5**
MLR	**Muntele Rosu**	**80.57**	**315**	P		**P**	**05 09 15.2**	**-1.5**
MLR	**Muntele Rosu**	**80.57**	**315**	⇓*i*P		**P**	**05 09 17.2**	**+0.5**
VOIR		**81.19**	**315**	⇑P		**P**	**05 09 19.8**	**-0.2**
VOIR		**81.19**	**315**	⇑*i*P		**P**	**05 09 19.8**	**-0.2**
HUMR	**Humele**	**81.49**	**314**	⇓*i*P		**P**	**05 09 21.3**	**-0.2**
KWP	**Kalwaria Pacla**	**81.50**	**319**	⇑P		**P**	**05 09 21.6**	**+0.2**
KWP	**Kalwaria Pacla**	**81.50**	**319**	*e*P		**P**	**05 09 21.1**	**-0.3**
	comp=Z,17nm,0.8s							
KWP	**Kalwaria Pacla**	**81.50**	**319**	⇑*i*P		**P**	**05 09 21.6**	**+0.2**
TRPA	**Tarpa**	**82.06**	**318**	⇑*i*P		**P**	**05 09 25.1**	**+0.8**
DRGR		**82.35**	**317**	⇓P		**P**	**05 09 24.9**	**-1.1**
DRGR		**82.35**	**317**	⇓*i*P		**P**	**05 09 24.9**	**-1.1**
DAG	**Danmarks Havn**	**82.59**	**351**	*i* P		**P**	**05 09 25.9**	**-0.7**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
DAG	**Danmarks Havn**	**82.59**	**351**	*i* P		**P**	**05 09 25.9**	**-0.7**
	comp=Z,43nm,0.8s							
OJC	**Ojcow**	**83.11**	**320**	*e*P		**P**	**05 09 29.6**	**-0.2**
OJC	**Ojcow**	**83.11**	**320**	*e*P		**P**	**05 09 29.6**	**-0.2**
VTS	**Vitosha**	**83.29**	**312**	⇑P		**P**	**05 09 31.2**	**+0.1**
VTS	**Vitosha**	**83.29**	**312**	⇑*i*P		**P**	**05 09 31.2**	**+0.1**
NB2	**NORSAR Subarra**	**83.54**	**332**	P		**P**	**05 09 30.8**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=64,slow=5.3							
NOA	**NORSAR Array B**	**83.54**	**332**	P		**P**	**05 09 30.9**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=65,slow=4.9,SNR=9.0							
NOA	**NORSAR Array B**	**83.54**	**332**	P		**P**	**05 09 30.9**	**-0.9**
NOA	**NORSAR Array B**	**83.54**	**332**	P		**P**	**05 09 30.9**	**-0.9**
PSZ	**Piszkesteto**	**83.81**	**318**	*e*P		**P**	**05 09 33.3**	**-0.2**
PSZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PSZ	**Piszkesteto**	**83.81**	**318**	*e*P		**P**	**05 09 33.3**	**-0.2**
	comp=Z,4.0nm,0.9s							
VYHS	**Vyhne**	**84.28**	**319**	*e*P		**P**	**05 09 35.7**	**-0.1**
VYHS	**Vyhne**	**84.28**	**319**	*e*P		**P**	**05 09 35.7**	**-0.1**
DLBC	**Dease Lake**	**84.89**	**30**	P		**P**	**05 09 39.5**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=270,slow=14,SNR=3.2							
DLBC	**Dease Lake**	**84.89**	**30**	P		**P**	**05 09 39.5**	**+0.7**
KSP	**Ksiaz**	**84.98**	**322**	*e*P		**P**	**05 09 39.6**	**+0.3**
RES	**Resolute Bay**	**85.12**	**9**	P		**P**	**05 09 39.9**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=307,slow=5.4,SNR=17							
RES	**Resolute Bay**	**85.12**	**9**	*e*P		**PcP**	**05 09 41.0**	**-1.6**
RES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
RES	**Resolute Bay**	**85.12**	**9**	*e*P		**PcP**	**05 09 41.0**	**-1.6**
	comp=Z,4.3nm,0.8s							
DPC	**Dobruska-Polom**	**85.15**	**321**	*e*P		**P**	**05 09 40.5**	**+0.3**
DPC	**Dobruska-Polom**	**85.15**	**321**	*e*P		**P**	**05 09 40.5**	**+0.3**
VRAC	**Vranov**	**85.37**	**320**	P		**P**	**05 09 42.0**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=69,slow=3.7,SNR=5.3							
VRAC	**Vranov**	**85.37**	**320**	⇓P		**P**	**05 09 42.1**	**+0.8**
VRAC	**Vranov**	**85.37**	**320**	P		**P**	**05 09 42.0**	**+0.8**
VRAC	**Vranov**	**85.37**	**320**	⇓*i*P		**P**	**05 09 42.1**	**+0.8**
TREC	**Trest**	**86.05**	**321**	*e*P		**P**	**05 09 45.0**	**+0.3**
TREC	**Trest**	**86.05**	**321**	*e*P		**P**	**05 09 45.0**	**+0.3**
GERES	**GERESS Array B**	**87.30**	**321**	P		**P**	**05 09 50.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.1,SNR=6.1							
GERES	**GERESS Array B**	**87.30**	**321**	P		**P**	**05 09 50.3**	**-0.6**
GERES	**GERESS Array B**	**87.30**	**321**	P		**P**	**05 09 50.3**	**-0.6**
YKA	**Yellowknife Ar**	**89.19**	**22**	P		**P**	**05 09 59.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=309,slow=4.6,SNR=21							
YKA	**Yellowknife Ar**	**89.19**	**22**	P		**P**	**05 09 59.5**	**0.0**
YKA	**Yellowknife Ar**	**89.19**	**22**	P		**P**	**05 09 59.5**	**0.0**
DAVOX	**Davos/Dischmat**	**90.52**	**320**	P		**P**	**05 10 05.6**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=347,slow=21,SNR=3.8							
DAVOX	**Davos/Dischmat**	**90.52**	**320**	P		**P**	**05 10 05.6**	**-0.6**
TXAR	**Lajitas Array**	**116.80**	**43**	PKIKP		**PKPdf**	**05 15 48.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=203,slow=1.5,SNR=5.5							
TXAR	**Lajitas Array**	**116.80**	**43**	PKIKP		**PKPdf**	**05 15 48.4**	**-0.6**
TXAR	**Lajitas Array**	**116.80**	**43**	PKP		**PKPdf**	**05 15 48.4**	**-0.6**
WVT	**Waverly**	**120.16**	**26**	*e*PKIKP		**PKiKP**	**05 15 55.1**	**-0.1**
WVT	**Waverly**	**120.16**	**26**	*e*PKPdf		**PKiKP**	**05 15 55.1**	**-0.1**
SDV	**Santo Domingo**	**151.41**	**23**	*e*PKPbc		**PKPbc**	**05 16 59.5**	**+0.7**
LCO	**Las Campanas**	**164.89**	**140**	*e*PKPdf		**PKPdf**	**05 17 08.0**	**-0.7**

*DJA **21** 04:57:40.6±1.3,6˚S±7˚×13˚4E±1˚4, h10km, M4.8/5, mb4.7/2, mB5.4/2, MLv4.8/5, Mw(mB)4.8/2*
*ISCJB **21** 04:57:45.2±0.9,6˚55S±0˚06×133˚6E±0˚1, h33km, mb3.8/3, Error ellipse: s-maj=18.5km s-min=6.9km az=159.8*
*IDC **21** 04:57:45.0±1.6,6˚68S×133˚65E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, ML3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=71.0km s-min=20.6km az=78.0*

ISC 21 04:57:46.4±1.1, 6˚61S±0˚08×133˚56E±0˚09, h35km, n13, σ2s80/13, mb3.9/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.27**	**320**	P	**Pn**	**04 58 04.7**	**-3.0**
FAKI	**Fak Fak**	**3.90**	**340**	P	Pn	04 58 37.1	-6.8
BNDI	**Bandanaira**	**4.19**	**300**	P	**Pn**	**04 58 46.1**	**-1.8**
MSAI	**Masohi**	**5.64**	**305**	P	Pn	04 59 11.8	+3.9
	22nm,0.5s,1µm0.1nm						
SWI	**Sorong**	**6.16**	**338**	P	**Pn**	**04 59 15.6**	**+0.6**
COEN	**Coen**	**11.94**	**128**	*e*P	**Pn**	**05 00 35.0**	**+0.7**
	39nm,0.3s						
COEN				*e*S	**Sn**	**05 02 40.6**	**-5.8**
WRA	**Warramunga Arr**	**13.27**	**177**	Pn	Pn	05 00 55.8	+3.3
	0.8nm,0.3s,baz=3.9,slow=13,SNR=36						
WRA				Sn	**Sn**	**05 03 20.2**	**+1.3**
	1.4nm,0.3s,baz=356,slow=24,SNR=5.2						
FITZ	**Fitzroy Crossi**	**13.79**	**213**	Pn	**Pn**	**05 01 00.9**	**+1.4**
	0.4nm,0.3s,baz=36,slow=12,SNR=16						
FITZ				Sn	**Sn**	**05 03 29.4**	**-2.1**
	1.5nm,0.3s,baz=164,slow=14,SNR=6.9						
FITZ				LR	LR	05 06 20.7	
	comp=Z,56nm,18.5s,baz=39,slow=37						
FITZ	**Fitzroy Crossi**	**13.79**	**213**	*e*P	**Pn**	**05 01 01.8**	**+2.3**
	6.1nm,0.3s						
FITZ				*e*S	**Sn**	**05 03 28.8**	**-2.7**
ASAR	**Alice Springs**	**16.96**	**179**	Pn	**P**	**05 01 43.4**	**+0.6**
	0.4nm,0.3s,baz=358,slow=14,SNR=15						
ASAR				Sn	**Sn**	**05 04 49.9**	**+1.2**
	0.6nm,0.3s,baz=4.4,slow=30,SNR=5.5						
STKA	**Stephens Creek**	**26.23**	**164**	P	**P**	**05 03 21.3**	**+3.1**
	0.7nm,0.3s,baz=355,slow=7.8,SNR=6.5						
MKAR	**Makanchi Array**	**69.89**	**325**	P	P	05 08 58.9	+5.0
	0.8nm,0.6s,baz=112,slow=8.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**72.85**	**332**	P	P	05 09 15.6	+4.0
	0.9nm,0.7s,baz=122,slow=7.0,SNR=3.9						

*IDC **21** 05:02:24.9±2.0, 62˚06N×151˚52W, h68km±23km, mb3.2/4, mb1 3.4/8, mb1mx3.2/27, mbtmp3.3/8, Error ellipse: s-maj=25.5km s-min=14.3km az=109.0*
*ISCJB **21** 05:02:26.2±0.3, 62˚10N±0˚03×151˚17W±0˚06, h99km±4km, mb3.5/4, Error ellipse: s-maj=4.8km s-min=4.2km az=12.4*
*NEIC **21** 05:02:28.4, 62˚09N×151˚21W, h85km, MG3.0(AEIC), After AEIC.*

ISC 21 05:02:27.2±0.8, 62˚08N±0˚03×151˚21W±0˚04, h92km±6km, n66, σ1s16/81, mb3.7/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKT	**Skwentna**	**0.18**	**236**	P	**Pn**	**05 02 39.9**	**-0.5**
SKT				S	**Sn**	**05 02 49.6**	**-0.6**
TRAP	**Trapper Creek**	**0.52**	**60**	P	**Pn**	**05 02 42.3**	**0.0**
CUT	**Chulitna**	**0.55**	**53**	P	**Pn**	**05 02 42.5**	**0.0**
SUA	**Susitna One**	**0.66**	**160**	P	**Pn**	**05 02 43.8**	**+0.1**
SUA				S	**Sn**	**05 02 56.1**	**+0.2**
NCG	**North Capps Gl**	**0.81**	**214**	P	**Pn**	**05 02 45.1**	**0.0**
CGLM	**Capps Glacier**	**0.86**	**206**	P	**Pn**	**05 02 45.8**	**+0.2**
SPCG	**Spurr Capps Gl**	**0.88**	**206**	P	**Pn**	**05 02 45.8**	**0.0**
SPCG				S	**Sn**	**05 03 00.0**	**+0.2**
PPLA	**Purkeypile**	**0.94**	**332**	P	**Pn**	**05 02 46.5**	**0.0**
PPLA				S	**Sn**	**05 03 00.4**	**-0.5**
SPBG	**Spurr Blockage**	**0.99**	**214**	P	**Pn**	**05 02 47.3**	**+0.3**
SPBG				S	**Sn**	**05 03 03.2**	**+1.4**
CKL	**Chakachamna La**	**1.04**	**212**	P	**Pn**	**05 02 47.5**	**0.0**
FIB	**Fire Island**	**1.04**	**151**	P	**Pn**	**05 02 48.7**	**+1.3**
FIB				S	**Sn**	**05 03 05.9**	**+3.2**
PMR	**Palmer**	**1.10**	**115**	P	**Pn**	**05 02 47.6**	**-0.5**
PMR				S	**Sn**	**05 03 03.6**	**-0.4**
BKG	**Blockade Glaci**	**1.13**	**207**	P	**Pn**	**05 02 48.5**	**-0.1**
SML	**Sawmill**	**1.39**	**100**	P	**Pn**	**05 02 51.6**	**-0.1**
SML				S	**Sn**	**05 03 10.2**	**0.0**
TRF	**Thorofare Moun**	**1.44**	**17**	P	**Pn**	**05 02 52.2**	**-0.2**
TRF				S	**Sn**	**05 03 10.9**	**-0.6**
SLKM	**Skilak Lake**	**1.65**	**163**	*e*Pn	**Pn**	**05 02 55.8**	**+0.9**
SLKM				*e*Sn	**Sn**	**05 03 15.1**	**-0.9**
RSO	**Redoubt South**	**1.79**	**205**	P	**Pn**	**05 02 57.4**	**+0.5**
SCM	**Sheep Creek Mo**	**1.85**	**96**	P	**Pn**	**05 02 57.4**	**-0.2**
CHUM	**Lake Minchumin**	**1.88**	**345**	P	**Pn**	**05 02 58.2**	**+0.5**
MCK	**McKinley**	**1.96**	**31**	P	**Pn**	**05 02 59.5**	**+0.5**
DHY	**Denali Highway**	**2.04**	**59**	P	**Pn**	**05 03 00.3**	**+0.2**
SEW	**Seward**	**2.16**	**156**	P	**Pn**	**05 03 01.8**	**+0.3**
ILW	**Iliamna West**	**2.23**	**206**	P	**Pn**	**05 03 03.5**	**+0.9**
BRLK	**Bradley Lake**	**2.33**	**176**	P	**Pn**	**05 03 04.3**	**+0.5**
TT01	**Tatalina**	**2.38**	**293**	P	**Pn**	**05 03 04.5**	**+0.1**
VLZ	**Valdez**	**2.52**	**110**	P	**Pn**	**05 03 05.5**	**-0.7**
KLU	**Klutina**	**2.58**	**101**	P	**Pn**	**05 03 06.8**	**-0.4**
DIV	**Divide**	**2.77**	**108**	P	**Pn**	**05 03 07.7**	**-2.0**
PAX	**Paxson**	**2.81**	**69**	P	**Pn**	**05 03 10.6**	**+0.4**
HARP	**HAARP**	**2.85**	**81**	P	**Pn**	**05 03 11.3**	**+0.6**
DDM	**Donnelly Dome**	**2.99**	**53**	P	**Pn**	**05 03 13.5**	**+1.0**
CCB	**Clear Creek Bu**	**3.00**	**29**	P	**Pn**	**05 03 12.6**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.05**	**118**	P	**Pn**	**05 03 12.5**	**-0.9**
COLA	**College**	**3.18**	**27**	P	**Pn**	**05 03 15.4**	**+0.3**
MDM	**Murphy Dome**	**3.18**	**24**	P	**Pn**	**05 03 15.2**	**0.0**
ILAR	**Eielson Array**	**3.33**	**34**	P	**Pn**	**05 03 16.9**	**-0.1**
	1.7nm,0.3s,baz=219,slow=14,SNR=118						
ILAR				S	**Sn**	**05 03 52.4**	**-3.2**
	7.5nm,0.3s,baz=218,slow=26,SNR=20						
ILAR	**Eielson Array**	**3.33**	**34**	P	**Pn**	**05 03 16.9**	**-0.1**
ILAR				S	**Sn**	**05 03 52.4**	**-3.2**
IL1	**Eielson Array**	**3.33**	**34**	P	**Pn**	**05 03 17.1**	**0.0**
BMRM	**Bremner River**	**3.36**	**106**	P	**Pn**	**05 03 16.5**	**-1.1**
MENT	**Mentasta**	**3.58**	**73**	*e*Pn	**Pn**	**05 03 20.3**	**-0.2**
MENT				*e*Sn	**Sn**	**05 04 03.5**	**+1.7**
DOT	**Dot Lake**	**3.63**	**61**	P	**Pn**	**05 03 21.2**	**0.0**
GCSA	**Galena City Sc**	**3.69**	**319**	P	**Pn**	**05 03 22.9**	**+0.9**
IM3	**Indian Mountai**	**4.07**	**345**	P	**Pn**	**05 03 27.6**	**+0.4**
KDAK	**Kodiak Island**	**4.37**	**190**	P	**Pn**	**05 03 29.4**	**-1.7**
	0.3nm,0.3s,baz=31,slow=8.7,SNR=6.6						
KDAK				S	**Sn**	**05 04 17.1**	**-3.6**
	0.8nm,0.3s,baz=349,slow=17,SNR=6.1						
KDAK	**Kodiak Island**	**4.37**	**190**	P	**Pn**	**05 03 30.6**	**-0.5**
KDAK				S	**Sn**	**05 04 17.1**	**-3.6**
BALM	**Baldy**	**4.37**	**100**	P	**Pn**	**05 03 30.8**	**-0.5**
BCA3	**Beaver Creek A**	**4.47**	**73**	P	**Pn**	**05 03 32.4**	**-0.2**
ISLE	**Juniper Island**	**4.52**	**105**	P	**Pn**	**05 03 33.1**	**-0.3**
BAGL	**Bagley Icefiel**	**4.68**	**106**	P	**Pn**	**05 03 35.7**	**+0.4**
COLD	**Coldfoot**	**5.19**	**4**	*e*Pn	**Pn**	**05 03 43.2**	**+1.0**
	5.2nm,0.5s						
EGAK	**Eagle**	**5.26**	**55**	P	**Pn**	**05 03 43.1**	**-0.1**
DAWY	**Dawson**	**5.73**	**64**	P	**Pn**	**05 03 49.4**	**-0.3**
BM3	**Burnt Mountain**	**6.06**	**25**	P	**Pn**	**05 03 53.4**	**-0.7**
PNL	**Peninsula**	**6.26**	**107**	P	**Pn**	**05 03 56.7**	**-0.1**
INK	**Inuvik**	**9.68**	**42**	P	**Pn**	**05 04 41.1**	**-2.1**
	0.2nm,0.3s,baz=242,slow=16,SNR=14						
INK	**Inuvik**	**9.68**	**42**	P	**Pn**	**05 04 41.1**	**-2.1**
YKA	**Yellowknife Ar**	**16.89**	**72**	P	**Pn**	**05 06 17.6**	**+0.1**
	0.1nm,0.3s,baz=282,slow=11,SNR=9.6						
YKA	**Yellowknife Ar**	**16.89**	**72**	P	**Pn**	**05 06 17.6**	**+0.1**
FRB	**Frobisher Bay**	**35.22**	**50**	P	**P**	**05 09 11.9**	**-0.1**
	0.9nm,0.6s,baz=315,slow=10.0,SNR=4.1						
FRB	**Frobisher Bay**	**35.22**	**50**	P	**P**	**05 09 11.9**	**-0.1**
TXAR	**Lajitas Array**	**44.97**	**114**	P	**P**	**05 10 35.4**	**+2.4**
	0.3nm,0.9s,baz=314,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array**	**44.97**	**114**	P	**P**	**05 10 35.4**	**+2.4**
ZALV	**Zalesovo Beam**	**56.21**	**324**	P	**P**	**05 11 57.0**	**0.0**
	0.7nm,0.5s,baz=39,slow=7.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.21**	**324**	P	**P**	**05 11 57.0**	**0.0**
MKAR	**Makanchi Array**	**63.34**	**322**	P	**P**	**05 12 45.7**	**-0.3**
	0.2nm,0.4s,baz=35,slow=6.3,SNR=5.4						
MKAR	**Makanchi Array**	**63.34**	**322**	P	**P**	**05 12 45.7**	**-0.3**

*IDC **21** 05:10:01.8±6.6, 36˚34N×71˚22E, h154km±60km, mb3.3/4, mb1 3.5/9, mb1mx3.2/29, mbtmp3.4/9, Error ellipse: s-maj=35.8km s-min=24.7km az=8.0*
*NNC **21** 05:10:15.0±11.0, 37˚34N×71˚50E, h197km±112km, mb2.8, mpv3.9, Error ellipse: s-maj=106.2km s-min=52.5km az=5.0*

ISC 21 05:10:07.2±3.0, 36˚7N±0˚2×71˚4E±0˚2, h188km, n24, σ1s47/26, mb3.4/4, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**18**	P	**Pn**	**05 11 31.5**	**+1.1**
	SNR=94						
AML				P	**Pn**	**05 11 31.5**	**+1.1**
	SNR=94						
UCH	**Uchtor**	**5.99**	**23**	P	**Sn**	**05 12 42.4**	**-1.1**
	SNR=18						
UCH				P	**Sn**	**05 12 42.4**	**-1.1**
	SNR=18						
KZA	**Kyzart**	**6.12**	**28**	P	Pn	05 11 39.9	+3.8
	SNR=8.2						
KZA				P	Pn	05 11 39.9	+3.8
	SNR=8.2						
EKS2	**Erkin-Say**	**6.19**	**17**	P	**Pn**	**05 11 38.6**	**+1.7**
	SNR=14						
EKS2				P	**Pn**	**05 11 38.6**	**+1.7**
	SNR=14						
AAK	**Ala-Archa**	**6.36**	**21**	P	**Pn**	**05 11 40.8**	**+1.7**
	SNR=13						
AAK				P	**Pn**	**05 11 40.8**	**+1.7**
	SNR=13						
KK31	**Karatay Array**	**6.38**	**354**	⇓P	**Pn**	**05 11 39.9**	**+0.6**
	4.3nm,0.3s,baz=172,slow=12,SNR=107						
KK31				⇓S	Sn	05 12 48.8	-3.3
	23nm,0.5s,baz=180,slow=22,SNR=5.9						
KBK	**Karagaybulak**	**6.52**	**24**	P	**Pn**	**05 11 43.3**	**+2.2**
	SNR=6.3						
KBK				P	**Pn**	**05 11 43.3**	**+2.2**
	SNR=6.3						
USP	**Ospenovka**	**6.94**	**19**	P	**Pn**	**05 11 47.9**	**+1.3**
	SNR=5.7						
USP				P	**Pn**	**05 11 47.9**	**+1.3**
	SNR=5.7						
TKM2	**Tokmak 2**	**6.97**	**26**	P	**Pn**	**05 11 48.7**	**+1.6**
	SNR=8.4						
TKM2				P	**Pn**	**05 11 48.7**	**+1.6**
	SNR=8.4						
TKM2	**Tokmak 2**	**6.97**	**26**	⇓P	**Pn**	**05 11 48.4**	**+1.3**
	7.0nm,0.6s						
TKM2				⇑S	Sn	05 12 57.9	-8.3
	7.0nm,0.7s						
MK31	**Makanchi Array**	**12.92**	**36**	⇑P	**P**	**05 13 05.5**	**-2.1**
	0.5nm,0.4s,baz=229,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**12.92**	**36**	P	**Pn**	**05 13 05.0**	**+1.0**
	0.3nm,0.3s,baz=236,slow=16,SNR=17						
KURK	**Kurchatov**	**14.90**	**18**	P	**Pn**	**05 13 28.1**	**-0.5**
	0.1nm,0.3s,baz=204,slow=11,SNR=8.1						
AB31	**Akbulak array**	**15.02**	**330**	P	**P**	**05 13 29.1**	**-1.8**
	1.3nm,0.5s,baz=143,slow=14,SNR=52						
VOSK	**Vostochnaya**	**15.98**	**359**	⇓P	**Pn**	**05 13 42.5**	**+0.9**
	1.7nm,0.4s						
BVA0	**Borovoye Array**	**16.29**	**358**	⇓P	**Pn**	**05 13 46.7**	**+1.3**
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**16.29**	**358**	P	**Pn**	**05 13 46.7**	**+1.3**
	1.1nm,0.3s,baz=219,slow=12,SNR=21						
ARCES	**ARCESS Array B**	**41.03**	**337**	P	P	05 17 32.3	+0.6
	4.7nm,1.0s,baz=113,slow=8.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	P	05 20 31.2	-2.7
	0.6nm,0.5s,baz=51,slow=5.7,SNR=17						
YKA	**Yellowknife Ar**	**80.99**	**3**	P	P	05 22 00.9	+0.5
	0.1nm,0.5s,baz=350,slow=5.4,SNR=6.0						
WRA	**Warramunga Arr**	**81.87**	**122**	P	P	05 22 03.8	-1.9
	0.2nm,0.4s,baz=327,slow=4.8,SNR=3.5						

IDC 21 05:11:26.8±4.5, 21˚47S×148˚33E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.3/15, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=54.7km s-min=23.9km az=59.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.38**	**305**	Pn	Pn	05 12 07.3	+0.2
	5.0nm,0.3s,baz=126,slow=18,SNR=39						
CTA				Lg	Lg	05 12 42.1	
	11nm,0.3s,baz=57,slow=22,SNR=16						
STKA	**Stephens Creek**	**11.98**	**209**	Pn	Pn	05 14 17.9	-1.0
	0.1nm,0.3s,baz=35,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**13.18**	**274**	Pn	Pn	05 14 34.0	-1.4
	0.1nm,0.3s,baz=97,slow=13,SNR=5.0						
WRA				Lg	Lg	05 18 27.6	
	0.0nm,0.3s,baz=99,slow=28,SNR=3.0						
ASAR	**Alice Springs**	**13.50**	**258**	Pn	Pn	05 14 38.0	-1.9
	0.1nm,0.3s,baz=81,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**21.61**	**275**	P	P	05 16 19.9	+1.3
	1.4nm,0.8s,baz=100,slow=11,SNR=3.7						

IDC 21 05:14:59.5±3.8, 30˚45S×138˚48E, h0km, mb1 3.1/3, mb1mx3.0/13, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=94.1km s-min=15.6km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.03**	**119**	Pn	Pn	05 15 48.3	-0.4
	0.5nm,0.3s,baz=301,slow=13,SNR=4.5						
STKA				Pg	Pb	05 15 55.2	+0.9
	0.7nm,0.3s,baz=290,slow=16,SNR=7.2						
STKA				Lg		05 16 35.6	
	2.1nm,0.3s,baz=331,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**7.89**	**328**	Pn	Pn	05 16 55.9	+0.2
	0.1nm,0.3s,baz=154,slow=12,SNR=4.5						
ASAR				Sn	Sn	05 18 21.9	-3.8
	0.2nm,0.3s,baz=152,slow=21,SNR=4.1						
ASAR				Lg	Lg	05 19 10.6	
	0.1nm,0.3s,baz=148,slow=26,SNR=4.0						
WRA	**Warramunga Arr**	**11.11**	**339**	Pn	Pn	05 17 39.2	-0.5
	0.1nm,0.3s,baz=162,slow=11,SNR=5.6						

IDC 21 05:17:57.7±1.4, 23˚73S×69˚60E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.8/6, MS3.4/2, Ms1 3.5/2, ms1mx2.9/33, Error ellipse: s-maj=53.5km s-min=24.0km az=31.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**39.92**	**253**	LR	LR	05 39 13.9	
	comp=Z,67nm,18.5s,baz=348,slow=32						
CMAR	**Chiang Mai Arr**	**50.78**	**37**	LR	LR	05 44 38.5	
	comp=Z,30nm,18.8s,baz=315,slow=32						
ASAR	**Alice Springs**	**58.39**	**104**	P	P	05 27 55.6	+0.2
	1.1nm,0.7s,baz=252,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**59.76**	**100**	P	P	05 28 04.5	-0.4
	1.6nm,0.8s,baz=255,slow=6.7,SNR=13						
MKAR	**Makanchi Array**	**71.13**	**9**	P	P	05 29 17.8	0.0
	0.8nm,0.6s,baz=196,slow=5.1,SNR=11						
BRTR	**Keskin Array B**	**71.50**	**331**	P	P	05 29 20.6	+0.1
	0.5nm,0.6s,baz=164,slow=7.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.80**	**291**	P	P	05 29 46.1	0.0
	0.3nm

AML					P		Pn	05 58 58.6	+0.8
	SNR=31								
KZA	**Kyzart**	**2.89**	**17**		P		**Pn**	05 59 00.2	+1.6
	SNR=15								
KZA					P		**Pn**	05 59 00.2	+1.6
	SNR=15								
UCH	**Uchtor**	**2.92**	**6**		P		**Pn**	05 59 00.1	+0.9
	SNR=14								
UCH					P		**Pn**	05 59 00.1	+0.9
	SNR=14								
AAK	**Ala-Archa**	**3.32**	**5**		P		**Pn**	05 59 05.7	+1.2
	SNR=36								
AAK					P		**Pn**	05 59 05.7	+1.2
	SNR=36								
AAK	**Ala-Archa**	**3.32**	**5**		*e*PN		**Pn**	05 59 05.6	+1.2
AAK					*e*			05 59 43.0	
AAK	**Ala-Archa**	**3.32**	**5**		*e*Pn		**Pn**	05 59 05.6	+1.2
AAK					*e*Sn		**Sn**	05 59 43.0	0.0
ULHL	**Ulahol**	**3.34**	**28**		P		Pb	05 59 08.2	-4.5
	SNR=9.1								
ULHL					P		Pb	05 59 08.2	-4.5
	SNR=9.1								
EKS2	**Erkin-Say**	**3.35**	**356**		P		**Pn**	05 59 05.6	+0.8
	SNR=21								
EKS2					P		**Pn**	05 59 05.6	+0.8
	SNR=21								
EKS2	**Erkin-Say**	**3.35**	**356**		*e*PN		**Pn**	05 59 05.5	+0.8
EKS2	**Erkin-Say**	**3.35**	**356**		*e*Pn		**Pn**	05 59 05.5	+0.7
EKS2					*e*Sn		**Sn**	05 59 41.5	-2.1
KBK	**Karagaybulak**	**3.39**	**10**		P		**Pn**	05 59 07.1	+1.7
	SNR=21								
KBK					P		**Pn**	05 59 07.1	+1.7
	SNR=21								
CHMS	**Chumysh**	**3.71**	**7**		P		**Pn**	05 59 11.2	+1.7
	SNR=8.6								
CHMS					P		**Pn**	05 59 11.2	+1.7
	SNR=8.6								
TKM2	**Tokmak 2**	**3.77**	**17**		P		**Pn**	05 59 12.3	+1.7
	SNR=12								
TKM2					P		**Pn**	05 59 12.3	+1.7
	SNR=12								
TKM2	**Tokmak 2**	**3.77**	**17**		⇑Pn		**Pn**	05 59 11.7	+1.2
	comp=E,22nm,0.7s								
TKM2					⇓Lg		Lg	06 00 09.0	
	comp=E,40nm,0.8s								
TKM2	**Tokmak 2**	**3.77**	**17**		*e*PN		**Pn**	05 59 11.9	+1.4
TKM2					*e*			05 59 56.7	
TKM2	**Tokmak 2**	**3.77**	**17**		*e*Pn		**Pn**	05 59 11.9	+1.4
TKM2					*e*Sn		**Sn**	05 59 56.7	+2.6
USP	**Ospenovka**	**3.96**	**4**		P		**Pn**	05 59 14.6	+1.6
	SNR=9.4								
USP					P		**Pn**	05 59 14.6	+1.6
	SNR=9.4								
KK31	**Karatay Array**	**4.66**	**325**		⇑Pn		**Pn**	05 59 22.6	-0.1
	comp=E,10nm,0.6s,baz=146,slow=15,SNR=7.9								
KK31					⇑Sn		**Sn**	**06 00 13.5**	**-2.4**
	comp=E,28nm,0.6s,baz=131,slow=19,SNR=4.9								
KK31					⇓Lg		Lg	06 00 30.4	
	comp=E,31nm,0.6s,baz=138,slow=29,SNR=3.9								
KKAR	**Karatay Array**	**4.66**	**325**		*e*PN		**Pn**	05 59 21.8	-0.9
KKAR	**Karatay Array**	**4.66**	**325**		*e*Pn		**Pn**	05 59 21.8	-0.9
CHCP	**Chirah Chowk**	**5.69**	**187**		P		Pb	05 59 47.6	-5.1
CEP	**Cherat**	**5.77**	**199**		P		Pb	05 59 47.8	-6.3
CEP					S		**Sb**	**06 01 00.0**	**-2.7**
KBL	**Kabul**	**6.27**	**222**		*e*PN		**Pn**	05 59 46.8	+1.9
KBL					pmax		pmax		
	comp=Z,6.0nm,0.6s								
KBL	**Kabul**	**6.27**	**222**		*e*Pn		**Pn**	05 59 46.8	+1.9
	comp=Z,6.0nm,0.6s								
THW	**Thamme Wali**	**6.79**	**197**		P		Pn	06 00 00.6	+8.7
MKAR	**Makanchi Array**	**9.56**	**36**		Pn		**Pn**	**06 00 31.2**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=201,slow=13,SNR=4.9								
MKAR					Lg		Lg	06 03 14.3	
	comp=Z,0.1nm,0.3s,baz=217,slow=32,SNR=5.5								
MKAR	**Makanchi Array**	**9.56**	**36**		P		**Pn**	**06 00 31.2**	**+1.3**
MKAR	**Makanchi Array**	**9.56**	**36**		Pn		**Pn**	**06 00 31.2**	**+1.3**
MKAR					Lg		Lg	06 03 14.3	
KURK	**Kurchatov**	**11.83**	**14**		Lg		Lg	06 04 18.5	
	baz=202,slow=28,SNR=8.4								
KURK	**Kurchatov**	**11.83**	**14**		P		Pn	06 00 57.4	-3.5
KURK					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KURK	**Kurchatov**	**11.83**	**14**		Pn		Pn	06 00 57.4	-3.5
	comp=Z,2.3nm,0.8s								
KURK					Lg		Lg	06 04 18.5	
BVAR	**Borovoye Array**	**13.95**	**351**		Pn		**Pn**	**06 01 27.5**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=3.9								
BVAR					Lg		Lg	06 05 24.8	
	comp=Z,0.1nm,0.3s,baz=157,slow=24,SNR=4.0								
BVAR	**Borovoye Array**	**13.95**	**351**		P		**Pn**	**06 01 27.5**	**-2.3**
BVAR	**Borovoye Array**	**13.95**	**351**		Pn		**Pn**	**06 01 27.5**	**-2.3**
BVAR					Lg		Lg	06 05 24.8	
ABKAR	**Akbulak array**	**14.19**	**319**		*e*Pn		**Pn**	**06 01 30.6**	**-2.4**
	comp=Z,4.4nm,0.8s								
AKTO	**Aktyubinsk**	**15.90**	**320**		Pn		**Pn**	**06 01 53.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=6.7								
AKTO	**Aktyubinsk**	**15.90**	**320**		P		**Pn**	**06 01 53.8**	**-1.9**
AKTO	**Aktyubinsk**	**15.90**	**320**		Pn		**Pn**	**06 01 53.8**	**-1.9**
ZAA0	**Zalesovo Array**	**16.34**	**23**		*e*Pn		**P**	**06 02 02.3**	**-1.8**
ZALV	**Zalesovo Beam**	**16.34**	**23**		Pn		**Pn**	**06 02 01.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=215,slow=9.0,SNR=8.2								
ZALV	**Zalesovo Beam**	**16.34**	**23**		P		**Pn**	**06 02 01.2**	**-0.2**
ZALV	**Zalesovo Beam**	**16.34**	**23**		Pn		**Pn**	**06 02 01.2**	**-0.2**
NVS	**Novosibirsk**	**16.70**	**19**		*e*P		**P**	**06 02 08.2**	**+0.2**
NVS					pmax		pmax		
	comp=Z,17nm,1.7s								
NVS					pmax		pmax		
	comp=N,7.0nm,1.3s								
GTA	**Gaotai**	**19.85**	**82**		*e*P		Pn	06 02 49.6	+5.0
GTA					pP		pP	06 02 52.8	+2.3
GTA					sP		sP	06 02 55.4	+1.3
GTA					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ZAK	**Zakamensk**	**23.29**	**52**		*e*P		**P**	**06 03 20.9**	**+1.3**
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.7s								
SONM	**Songino Array**	**24.73**	**59**		P		**P**	**06 03 33.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=268,slow=16,SNR=3.8								
SONM	**Songino Array**	**24.73**	**59**		P		**P**	**06 03 33.9**	**+0.8**
SONM	**Songino Array**	**24.73**	**59**		P		**P**	**06 03 33.9**	**+0.8**
HHC	**Hu-ho-hao-te**	**28.55**	**75**		*e*P		**P**	**06 04 06.1**	**-1.4**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.6s								
HHC					pmax		pmax		
	comp=Z,210nm,5.6s								
BRTR	**Keskin Array B**	**31.05**	**284**		P		**P**	**06 04 30.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=105,slow=9.4,SNR=4.2								
BRTR	**Keskin Array B**	**31.05**	**284**		P		**P**	**06 04 30.4**	**+0.6**
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**31.05**	**284**		P		**P**	**06 04 30.4**	**+0.6**
AKASG	**Malin Array Be**	**33.23**	**305**		P		**P**	**06 04 47.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=81,slow=7.4,SNR=5.3								
AKASG	**Malin Array Be**	**33.23**	**305**		P		**P**	**06 04 47.6**	**-1.0**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**33.23**	**305**		P		**P**	**06 04 47.6**	**-1.0**
FINES	**FINESS Array B**	**36.62**	**323**		P		**P**	**06 05 16.6**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=101,slow=9.9,SNR=4.8								
FINES	**FINESS Array B**	**36.62**	**323**		P		**P**	**06 05 16.6**	**-1.0**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.5s								
FINES	**FINESS Array B**	**36.62**	**323**		P		**P**	**06 05 16.6**	**-1.0**
HFS	**Hagfors**	**42.45**	**320**		LR		LR	06 27 00.0	
	comp=Z,180nm,20.1s,baz=269,slow=41								
GERES	**GERESS Array B**	**43.39**	**303**		P		**P**	**06 06 15.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=66,slow=7.5,SNR=7.8								
GERES	**GERESS Array B**	**43.39**	**303**		P		**P**	**06 06 15.0**	**+0.9**
GERES					pmax		pmax		
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**43.39**	**303**		P		**P**	**06 06 15.0**	**+0.9**
NB2	**NORSAR Subarra**	**43.68**	**321**		P		**P**	**06 06 15.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=90,slow=8.6								
NOA	**NORSAR Array B**	**43.68**	**321**		P		**P**	**06 06 15.4**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=91,slow=8.0,SNR=4.3								
NOA	**NORSAR Array B**	**43.68**	**321**		P		**P**	**06 06 15.5**	**-0.7**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**43.68**	**321**		P		**P**	**06 06 15.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**68.24**	**269**		P		**P**	**06 09 13.0**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=47,slow=4.9,SNR=11								
TORD	**Torodi Ar. Bea**	**68.24**	**269**		P		**P**	**06 09 13.0**	**+0.4**
ILAR	**Eielson Array**	**71.38**	**17**		P		**P**	**06 09 30.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=310,slow=5.2,SNR=11								
ILAR	**Eielson Array**	**71.38**	**17**		P		**P**	**06 09 31.0**	**-0.1**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**71.38**	**17**		P		**P**	**06 09 30.9**	**-0.1**
DBIC	**Dimbokro**	**77.29**	**268**		P		**P**	**06 10 06.3**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=54,slow=6.4,SNR=3.6								
DBIC	**Dimbokro**	**77.29**	**268**		P		**P**	**06 10 06.3**	**+0.1**
DBIC					pmax		pmax		
	comp=Z,2.0nm,1.0s								
DBIC	**Dimbokro**	**77.29**	**268**		P		**P**	**06 10 06.3**	**+0.1**
YKA	**Yellowknife Ar**	**78.29**	**4**		P		**P**	**06 10 11.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=348,slow=5.7,SNR=12								
YKA	**Yellowknife Ar**	**78.29**	**4**		P		**P**	**06 10 11.0**	**-0.1**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**78.29**	**4**		P		**P**	**06 10 11.0**	**-0.1**
WRA	**Warramunga Arr**	**81.45**	**124**		P		P	06 10 31.4	+2.7
	comp=Z,0.6nm,0.6s,baz=325,slow=5.0,SNR=12								
WRA	**Warramunga Arr**	**81.45**	**124**		P		P	06 10 31.5	+2.7
WRA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**81.45**	**124**		P		P	06 10 31.4	+2.7
WRAB	**Tennant Creek**	**81.45**	**124**		*e*P		**P**	**06 10 30.6**	**+1.8**
WRAB					pmax		pmax		
	comp=Z,6.0nm,1.2s								
WRAB	**Tennant Creek**	**81.45**	**124**		*e*P		**P**	**06 10 30.6**	**+1.8**
	comp=Z,6.1nm,1.2s								
BOSA	**Boshof**	**81.49**	**222**		LR		LR	06 46 11.6	
	comp=Z,234nm,19.0s,baz=99,slow=35								
ASAR	**Alice Springs**	**83.91**	**127**		P		P	06 10 44.1	+2.6
	comp=Z,0.3nm,0.6s,baz=308,slow=4.5,SNR=5.6								
ASAR	**Alice Springs**	**83.91**	**127**		P		P	06 10 44.1	+2.6
ASAR	**Alice Springs**	**83.91**	**127**		P		P	06 10 44.1	+2.6

*ISCJB **21** 05:59:13.5±0.5, 39.˚04N±0.˚02×23.˚39E±0.˚04, h11km±4km, Error ellipse: s-maj=5.5km s-min=3.4km az=167.2*
*THE **21** 05:59:13.6, 39.˚04N×23.˚38E, h11km, ML2.2/5, Error ellipse: s-maj=1.0km s-min=0.4km az=105.0*
*ATH **21** 05:59:13.1, 39.˚06N×23.˚36E, h20km±2km, MD3.3/9*
*CSEM **21** 05:59:13.4±0.1, 39.˚05N×23.˚38E, h10km, ML2.2/5, Error ellipse: s-maj=3.0km s-min=2.1km az=89.0*

ISC 21 05:59:13.5±0.8, 39.˚05N±0.˚02×23.˚38E±0.˚03, h16km±6km, n36, σ0s33/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKIA	**Skiathos**	**0.13**	**31**	P		**Pg**	**05 59 17.2**	**-0.1**
SKIA				S		**Sg**	**05 59 19.7**	**-0.1**
SKIA	**Skiathos**	**0.13**	**31**	P		**Pg**	**05 59 17.2**	**-0.1**
SKIA				S		**Sg**	**05 59 19.7**	**-0.1**
NEO	**Neokhori**	**0.28**	**334**	*e*PB		**Pg**	**05 59 19.5**	**-0.1**
NEO				*e*SB		**Sg**	**05 59 23.8**	**+0.1**
NEO	**Neokhori**	**0.28**	**334**	*e*Pb		**Pg**	**05 59 19.5**	**-0.1**
NEO				*e*Sb		**Sg**	**05 59 23.8**	**+0.1**
XOR	**Xorichti**	**0.34**	**335**	P		**Pg**	**05 59 20.6**	**-0.1**
XOR				S		**Sg**	**05 59 25.7**	**+0.2**
XOR	**Xorichti**	**0.34**	**335**	P		**Pg**	**05 59 20.6**	**-0.1**
XOR				S		**Sg**	**05 59 25.7**	**+0.2**
MRKA	**Markates**	**0.38**	**155**	P		**Pg**	**05 59 21.1**	**-0.3**
MRKA				S		**Sg**	**05 59 26.5**	**-0.2**
MRKA	**Markates**	**0.38**	**155**	P		**Pg**	**05 59 21.1**	**-0.3**
MRKA				S		**Sg**	**05 59 26.5**	**-0.2**
AOS	**Alonnisos**	**0.41**	**73**	P		**Pg**	**05 59 21.2**	**-0.6**
AOS				S		**Sg**	**05 59 27.3**	**-0.1**
AOS	**Alonnisos**	**0.41**	**73**	P		**Pg**	**05 59 21.2**	**-0.6**
AOS				S		**Sg**	**05 59 27.3**	**-0.1**
LKR	**Lokris**	**0.50**	**216**	*e*PB		**Pg**	**05 59 23.1**	**-0.4**
LKR				*e*SB		**Sg**	**05 59 30.3**	**+0.1**
LKR	**Lokris**	**0.50**	**216**	*e*Pb		**Pg**	**05 59 23.1**	**-0.4**
LKR				*e*Sb		**Sg**	**05 59 30.3**	**+0.1**
PAIG	**Paliouri**	**0.90**	**15**	P		**Pn**	**05 59 31.5**	**-0.1**
PAIG				S		**Sn**	**05 59 44.2**	**-0.2**
PAIG	**Paliouri**	**0.90**	**15**	P		**Pn**	**05 59 31.5**	**-0.1**
PAIG				S		**Sn**	**05 59 44.2**	**-0.2**
DSF	**Desfina**	**0.93**	**226**	P		**Pg**	**05 59 30.6**	**-0.9**
DSF				S		**Sb**	**05 59 44.2**	**+0.8**
DSF	**Desfina**	**0.93**	**226**	P		**Pg**	**05 59 30.6**	**-0.9**
DSF				S		**Sb**	**05 59 44.2**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.97**	**268**	P		**Pb**	**05 59 31.8**	**-0.3**
MAKR				S		**Sn**	**05 59 46.2**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.97**	**268**	P		**Pb**	**05 59 31.8**	**-0.3**
MAKR				S		**Sn**	**05 59 46.2**	**+0.1**
PTL	**Penteli**	**1.07**	**159**	*e*PN		**Pn**	**05 59 34.3**	**+0.3**
PTL				*e*SN		**Sg**	**05 59 47.9**	**-0.4**
PTL	**Penteli**	**1.07**	**159**	*e*Pn		**Pn**	**05 59 34.3**	**+0.3**
PTL				*e*Sn		**Sg**	**05 59 47.9**	**-0.4**
LTK	**Loutraki**	**1.08**	**198**	*e*PN		**Pn**	**05 59 34.3**	**+0.2**
LTK				*e*SN		**Sn**	**05 59 49.1**	**+0.3**
LTK	**Loutraki**	**1.08**	**198**	*e*Pn		**Pn**	**05 59 34.3**	**+0.2**
LTK				*e*Sn		**Sn**	**05 59 49.1**	**+0.3**
THL	**Klokotos Trika**	**1.18**	**296**	*e*PN		**Pn**	**05 59 34.8**	**-0.6**
THL	**Klokotos Trika**	**1.18**	**296**	*e*Pn		**Pn**	**05 59 34.8**	**-0.6**
VLY	**Voula,Athens**	**1.24**	**165**	*e*PN		**Pb**	**05 59 36.7**	**0.0**
VLY				*e*SN		**Sg**	**05 59 53.5**	**-0.2**
VLY	**Voula,Athens**	**1.24**	**165**	*e*Pn		**Pb**	**05 59 36.7**	**0.0**
VLY				*e*Sn		**Sg**	**05 59 53.5**	**-0.2**
LIT	**Litokhoron**	**1.25**	**327**	P		**Pn**	**05 59 36.7**	**+0.2**
LIT				S		**Sg**	**05 59 53.8**	**-0.2**
LIT	**Litokhoron**	**1.25**	**327**	P		**Pn**	**05 59 36.7**	**+0.2**
LIT				S		**Sg**	**05 59 53.8**	**-0.2**
NAIG	**Nisos Aigina**	**1.30**	**176**	*e*PN		**Pg**	**05 59 38.6**	**+0.1**
NAIG	**Nisos Aigina**	**1.30**	**176**	*e*Pn		**Pg**	**05 59 38.6**	**+0.1**
PLG	**Polygyros**	**1.32**	**2**	*e*PN		**Pn**	**05 59 37.6**	**+0.2**
PLG	**Polygyros**	**1.32**	**2**	*e*Pn		**Pn**	**05 59 37.6**	**+0.2**
GUR	**Goura**	**1.38**	**216**	*e*PN		**Pb**	**05 59 39.0**	**-0.1**
GUR	**Goura**	**1.38**	**216**	*e*Pn		**Pb**	**05 59 39.0**	**-0.1**
DID	**Didima**	**1.55**	**184**	*e*PN		**Pb**	**05 59 41.8**	**-0.1**
DID	**Didima**	**1.55**	**184**	*e*Pn		**Pb**	**05 59 41.8**	**-0.1**

*IDC **21** 06:04:59.0±2.5, 22.˚86S×171.˚02E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, ML4.0/1, MS3.5/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=98.5km s-min=41.2km az=174.0*
*NOU **21** 06:05:01.3±1.6, 20.˚35S×170.˚85E, h10km, MD3.2, ML3.1*

ISC 21 06:05:02.7±2.4, 22.˚6S±0.˚8×171.˚1E±0.˚1, h42km, n10, σ0s75/10, mb3.6/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**3.91**	**276**	*e*S		**Sn**	**06 06 44.7**	**-0.4**
BAYA				AMP			06 06 49.7	
	comp=Z,8.0nm,0.7s							
NORM	**Noumea**	**4.28**	**274**	*e*P		**Pn**	**06 06 05.2**	**-0.1**
NORM				*e*S		**Sn**	**06 06 54.3**	**+0.4**
NORM				AMP			06 06 55.1	
	comp=Z,107nm,0.7s							
DZM	**Mont Dzumac**	**4.33**	**276**	Pn		Pn	06 06 07.7	+1.6
	comp=Z,8.0nm,0.3s,baz=106,slow=18,SNR=21							
DZM				Sn		**Sn**	**06 06 56.3**	**+0.9**
	comp=Z,8.7nm,0.3s,baz=105,slow=22,SNR=5.3							
DZM	**Mont Dzumac**	**4.33**	**276**	*e*P		**Pn**	**06 06 06.5**	**+0.4**
DZM				*e*S		**Sn**	**06 06 54.5**	**-0.9**
DZM				AMP			06 07 05.8	
	comp=Z,685nm,0.7s							
NOUC	**Port Laguerre**	**4.46**	**275**	*e*P		**Pn**	**06 06 08.8**	**+1.0**
NOUC				*e*S		**Sn**	**06 06 57.5**	**-0.9**
NOUC				AMP			06 07 05.3	
	comp=Z,39nm,1.7s							
STKA	**Stephens Creek**	**27.74**	**244**	LR		LR	06 20 16.0	
	comp=Z,89nm,18.1s,baz=27,slow=33							
ASAR	**Alice Springs**	**34.15**	**261**	P			06 11 45.9	+1.8
	comp=Z,0.6nm,0.7s,baz=92,slow=9.5,SNR=7.7							
WRA	**Warramunga Arr**	**34.29**	**267**	P		**P**	**06 11 45.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=97,slow=8.4,SNR=6.9							
FITZ	**Fitzroy Crossi**	**42.73**	**267**	P		P	06 12 57.5	+1.5
	comp=Z,2.1nm,0.8s,baz=101,slow=5.2,SNR=5.2							
GERES	**GERESS Array B**	**148.24**	**331**	PKPbc		**PKPab**	**06 24 47.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=29,slow=2.2,SNR=4.9							

*BJI **21** 06:27:52.5, 20.˚34S×65.˚97E, h10km, mB5.2/31, mb4.9/42, Ms5.1/34, Ms7 4.6/33*
*ISCJB **21** 06:27:56.9±0.3, 20.˚09S±0.˚05×66.˚49E±0.˚05, h15km, mb4.9/77, MS4.5/27, Error ellipse: s-maj=7.2km s-min=6.5km az=171.7*
*IDC **21** 06:27:56.2±0.4, 20.˚09S×66.˚52E, h0km, mb4.5/28, mb1 4.6/29, mb1mx4.6/32, mbtmp4.5/29, ML3.5/1, MS4.4/16, Ms1 4.4/16, ms1mx4.2/29, Error ellipse: s-maj=16.5km s-min=11.4km az=14.0*

*TEH **21** 06:27:57.0, 20.˚20S×66.˚37E, h10km, ML5.1*
*NEIC **21** 06:27:57.5±0.2, 20.˚18S×66.˚41E, h10km, mb5.2/38, Error ellipse: s-maj=6.8km s-min=5.2km az=167.0*
*DJA **21** 06:27:58, 19.˚96S×66.˚29E, h10km, mb5.0/10*

ISC 21 06:27:58.3±0.4, 20.˚22S±0.˚06×66.˚36E±0.˚06, h14km±1km, n243, σ1s33/298, mb5.0/77, MS4.5/27, 22C-30D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRIV	**Mauritius Mete**	**8.32**	**268**	*e*Pn		**Pn**	**06 29 56.4**	**-2.2**
RER	**Riviere de l'E**	**9.98**	**263**	*e*Pn		**Pn**	**06 30 19.9**	**-1.5**
	91nm,0.7s							
DGAR	**Diego Garcia**	**14.03**	**26**	*e*Pn		**Pn**	**06 31 15.4**	**-1.4**
	271nm,1.4s							
OPO	**Ambohidratompo**	**18.16**	**272**	P		**P**	**06 32 10.7**	**0.0**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.0							
OPO				LR		LR	06 37 26.3	
	comp=Z,2μm,22.0s,baz=249,slow=31							
OPO	**Ambohidratompo**	**18.16**	**272**	P		**P**	**06 32 10.7**	**0.0**
KAAM	**Kaadhehdhoo**	**21.59**	**18**	P		**P**	**06 32 47.7**	**0.0**
	341nm,1.4s							
KMBO	**Kilima Mbogo**	**34.20**	**300**	*e*P		**P**	**06 34 44.7**	**+0.8**
	15nm,1.6s							
LSZ	**Lusaka**	**36.63**	**271**	P		**P**	**06 35 04.9**	**+0.2**
	baz=91,slow=16,SNR=2.3							
LSZ	**Lusaka**	**36.63**	**271**	P		**P**	**06 35 04.9**	**+0.2**
LBTB	**Lobatse**	**37.83**	**255**	P		**P**	**06 35 16.2**	**+1.4**
	2.8nm,0.7s,baz=108,slow=12,SNR=5.1							
LBTB	**Lobatse**	**37.83**	**255**	*e*P		**P**	**06 35 15.9**	**+1.1**
	20nm,1.0s							
BOSA	**Boshof**	**38.20**	**249**	P		**P**	**06 35 19.6**	**+1.6**
	2.3nm,0.7s,baz=70,slow=7.0,SNR=4.2							
BOSA	**Boshof**	**38.20**	**249**	P		**P**	**06 35 19.6**	**+1.6**
ATD	**Arta Tunnel**	**39.13**	**322**	P		**P**	**06 35 25.1**	**-0.6**
	11nm,0.8s,baz=270,slow=20,SNR=2.9							
ATD	**Arta Tunnel**	**39.13**	**322**	P		**P**	**06 35 25.1**	**-0.6**
HYB	**Hyderabad**	**39.27**	**19**	*i* P		**P**	**06 35 24.5**	**-2.2**
MAW	**Mawson**	**47.43**	**182**	LR		LR	06 51 16.8	
	comp=Z,796nm,20.5s,baz=350,slow=29							
CM31	**Chiang Mai Arr**	**49.98**	**42**	*e*P		**P**	**06 36 52.0**	**-0.2**
	20nm,0.8s							
CMAR	**Chiang Mai Arr**	**49.98**	**42**	P		**P**	**06 36 52.1**	**-0.2**
	19nm,0.9s,baz=237,slow=8.4,SNR=86							
CMAR				LR		LR	06 54 30.0	
	comp=Z,368nm,21.3s,baz=233,slow=32							
CMAR	**Chiang Mai Arr**	**49.98**	**42**	P		**P**	**06 36 52.1**	**-0.2**
CHTO	**Chiang Mai**	**50.25**	**42**	*e*P		**P**	**06 36 53.3**	**-1.0**
	14nm,1.0s							
CHTO	**Chiang Mai**	**50.25**	**42**	P		**P**	**06 36 54.0**	**-0.3**
	16nm,1.0s							
KOLN	**Koldanda**	**50.54**	**20**	*e*P		**P**	**06 36 56.4**	**-0.2**
	52nm,0.8s							
KOLN	**Koldanda**	**50.54**	**20**	*e*P		**P**	**06 36 56.4**	**-0.2**
	52nm,0.8s							
RAMN	**Ramite**	**50.83**	**23**	*e*P		**P**	**06 36 58.8**	**0.0**
	130nm,1.1s							
RAMN	**Ramite**	**50.83**	**23**	*e*P		**P**	**06 36 58.8**	**0.0**
	130nm,1.1s							
DMN	**Daman**	**50.89**	**22**	*e*P		**P**	**06 36 59.1**	**-0.2**
	79nm,1.1s							
DMN	**Daman**	**50.89**	**22**	*e*P		**P**	**06 36 59.1**	**-0.2**
	79nm,1.1s							
PKI	**Pulchoki**	**50.96**	**22**	*e*P		**P**	**06 36 59.

GYA PP **PP** **06 40 22.3 -1.1**
GYA S S 06 46 19.4 -6.4
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,110nm,6.6s
GYA LR LR
comp=N,510nm,18.6s
GYA LR LR
comp=E,470nm,19.6s
GYA LR LR
comp=Z,520nm,18.3s
IMRD Marand 61.74 342 *e*P **P** **06 38 17.0 +0.6**
ASAR Alice Springs 62.22 107 P **P** **06 38 19.1 -0.9**
comp=Z,8.8nm,0.9s,baz=267,slow=5.6,SNR=31
ASAR Alice Springs 62.22 107 P **P** **06 38 19.1 -0.9**
AS31 Alice Springs 62.22 107 *e*P **P** **06 38 18.8 -1.2**
CD2 Chengdu 62.25 36 P **P** **06 38 18.4 -1.5**
CD2 pP **pP** **06 38 23.0 -1.5**
CD2 sP **sP** **06 38 25.4 -0.9**
CD2 PP **PP** **06 40 37.8 +0.7**
CD2 S **S** **06 46 44.0 -1.5**
CD2 SS **SS** **06 50 50.3 +1.0**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,140nm,5.3s
CD2 LR LR
comp=N,390nm,7.7s
CD2 LR LR
comp=Z,210nm,9.5s
AML Almayashu 62.40 6 P **P** **06 38 20.6 -0.5**
SNR=11
AML P **P** **06 38 20.6 -0.5**
SNR=11
KZA Kyzart 62.52 7 P **P** **06 38 21.8 -0.1**
SNR=6.5
KZA P **P** **06 38 21.8 -0.1**
SNR=6.5
ULHL Ulahol 62.82 8 P **P** **06 38 23.4 -0.2**
SNR=6.2
ULHL P **P** **06 38 23.4 -0.2**
SNR=6.2
EKS2 Erkin-Say 62.94 6 P **P** **06 38 24.3 0.0**
SNR=12
EKS2 P **P** **06 38 24.3 0.0**
SNR=12
EKS2 Erkin-Say 62.94 6 *e*P **P** **06 38 24.3 0.0**
comp=Z,16nm,0.9s
AAK Ala-Archa 62.98 7 P **P** **06 38 24.9 +0.2**
SNR=10
AAK P **P** **06 38 24.9 +0.2**
SNR=10
AAK Ala-Archa 62.98 7 *e*P **P** **06 38 24.1 -0.6**
comp=Z,111nm,1.3s
AAK Ala-Archa 62.98 7 P **P** **06 38 24.5 -0.2**
comp=Z,85nm,0.9s,SNR=9.9
KBK Karagaybulak 63.06 7 P **P** **06 38 24.9 -0.3**
SNR=6.7
KBK P **P** **06 38 24.9 -0.3**
SNR=6.7
KKAR Karatay Array 63.12 3 *e*P **P** **06 38 25.0 -0.4**
comp=Z,7.5nm,1.0s
GNI Garni 63.35 342 *e*P **P** **06 38 28.2 +1.0**
comp=Z,38nm,1.2s
TKM2 Tokmak 2 63.40 8 P **P** **06 38 26.6 -0.9**
SNR=17
TKM2 P **P** **06 38 26.6 -0.9**
SNR=17
TKM2 Tokmak 2 63.40 8 *e*P **P** **06 38 26.6 -0.9**
comp=Z,16nm,0.8s
WRA Warramunga Arr 63.40 103 P **P** **06 38 26.9 -1.0**
comp=Z,9.9nm,0.9s,baz=259,slow=6.0,SNR=28
WRA LR LR 07 03 04.3
comp=Z,339nm,18.3s,baz=270,slow=33
WRA Warramunga Arr 63.40 103 P **P** **06 38 26.9 -1.0**
WB2 Warramunga Arr 63.41 103 *e*P **P** **06 38 26.9 -1.0**
WRAB Tennant Creek 63.41 103 *e*P **P** **06 38 27.4 -0.6**
comp=Z,22nm,1.1s
WRAB Tennant Creek 63.41 103 P **P** **06 38 27.2 -0.7**
comp=Z,93nm,1.1s,SNR=7.7
USP Ospenovka 63.61 7 P **P** **06 38 28.0 -0.6**
SNR=15
USP P **P** **06 38 28.0 -0.6**
SNR=15
SNAA Sanae 64.44 199 *e* **P** **06 38 31.6 -2.3**
SNAA Sanae 64.44 199 *e*P **P** **06 38 33.9 0.0**
comp=Z,3.9nm,0.7s
ENH Enshi 65.12 41 *e*P **P** **06 38 37.3 -1.5**
comp=Z,50nm,1.4s
VNA2 Neumayer--Watz 65.74 200 *e* P 06 38 47.7 +5.4
baz=72,slow=4.8
LZH Lanzhou 66.29 33 *e*P **P** **06 38 45.8 -0.6**
LZH pP **pP** **06 38 50.6 -0.5**
LZH sP **sP** **06 38 52.5 -0.3**
LZH PP **PP** **06 41 17.3 +4.6**
LZH *e*S **S** **06 47 35.4 -0.2**
LZH sS sS 06 47 49.3 +6.0
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,150nm,6.0s
LZH LR LR
comp=N,230nm,12.0s
LZH LR LR
comp=E,200nm,13.4s
LZH LR LR
comp=Z,430nm,16.5s
VNA3 Neumayer Olymp 66.52 200 *e* **P** **06 38 49.1 +1.8**
VNA3 *e* 06 41 09.6
WMQ Urumqi 66.66 17 P **P** **06 38 48.0 -0.5**
WMQ pP **pP** **06 38 53.0 -0.2**
WMQ sP **sP** **06 38 55.0 +0.1**
WMQ PcP PcP 06 39 12.0 -5.6
WMQ *e*S **S** **06 47 37.6 -2.1**
WMQ SS **SS** **06 51 57.0 -0.8**
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,200nm,4.4s
WMQ LR LR
comp=N,250nm,18.2s
WMQ LR LR
comp=E,300nm,18.0s
WMQ LR LR
comp=Z,250nm,23.7s
BRTR Keskin Array B 67.00 333 P **P** **06 38 51.1 +0.2**
comp=Z,3.7nm,0.9s,baz=152,slow=6.5,SNR=15
BRTR LR LR 07 07 13.4
comp=Z,164nm,18.4s,baz=238,slow=35
BRTR Keskin Array B 67.00 333 P **P** **06 38 51.1 +0.2**
BR131 Keskin Array S 67.01 333 *e*P **P** **06 38 50.6 -0.3**
comp=Z,2.7nm,0.7s
GTA Gaotai 67.06 28 *e*P **P** **06 38 51.0 -0.2**
GTA pP **pP** **06 38 57.8 +1.9**
GTA sP **sP** **06 39 00.6 +2.9**
GTA PP **PP** **06 41 22.4 +3.1**
GTA S **S** **06 47 46.3 +1.5**
GTA sS **sS** **06 47 53.8 +1.3**
GTA SS **SS** **06 52 08.9 +4.7**
GTA pmax pmax
comp=Z,20nm,1.0s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=N,500nm,18.5s
GTA LR LR
comp=E,660nm,19.9s
GTA LR LR
comp=Z,310nm,21.4s
STKA Stephens Creek 67.41 117 P **P** **06 38 54.1 +0.5**
comp=Z,6.6nm,1.1s,baz=341,slow=2.1,SNR=7.4
STKA LR LR 07 03 23.9
comp=Z,468nm,21.7s,baz=214,slow=32
STKA Stephens Creek 67.41 117 P **P** **06 38 54.1 +0.5**
KIV Kislovodsk 67.45 342 *e*P **P** **06 38 52.2 -1.4**
comp=Z,14nm,0.9s
XAN Xi'an 67.48 37 P **P** **06 38 52.5 -1.4**
XAN pP **pP** **06 38 59.3 +0.7**
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,30nm,6.9s
QIS Mount Isa 68.06 105 *e*P **P** **06 38 59.6 +1.7**
MK31 Makanchi Array 68.23 12 *e*P **P** **06 38 57.1 -1.2**
MKAR Makanchi Array 68.23 12 P **P** **06 38 56.5 -1.8**
comp=Z,7.3nm,0.9s,baz=197,slow=6.2,SNR=67
MKAR LR LR 07 07 21.3
comp=Z,246nm,20.3s,baz=194,slow=35
MKAR Makanchi Array 68.23 12 *e*P **P** **06 38 57.2 -1.2**
TPUB Ta-pu 68.34 53 *e*P **P** **06 38 58.9 -0.7**
comp=Z,14nm,0.8s
ABKAR Akbulak array 69.39 356 *e*P **P** **06 39 04.7 -0.8**
comp=Z,6.2nm,0.6s
QSPA South Pole Qui 69.89 180 P **P** **06 39 09.5 +0.8**
comp=Z,5.1nm,1.0s,baz=280,slow=6.3,SNR=9.2
QSPA South Pole Qui 69.89 180 P **P** **06 39 09.5 +0.8**
QLP Quilpie 70.76 112 *e*P **P** **06 39 16.4 +1.9**
KURK Kurchatov 71.44 8 P **P** **06 39 16.3 -1.6**
comp=Z,9.0nm,0.9s,baz=205,slow=6.7,SNR=56
KURK Kurchatov 71.44 8 *e*P **P** **06 39 17.0 -1.0**
KURK Kurchatov 71.44 8 P **P** **06 39 17.6 -0.4**
comp=Z,79nm,0.9s,SNR=7.7
TORD Torodi Ar. Bea 71.71 292 P **P** **06 39 20.8 +0.4**
comp=Z,1.7nm,0.9s,baz=94,slow=4.9,SNR=9.1
TORD LR LR 07 07 45.5
comp=Z,202nm,21.4s,baz=75,slow=33
TORD Torodi Ar. Bea 71.71 292 P **P** **06 39 20.8 +0.4**
NJ2 Nanjing 72.30 45 *e*P **P** **06 39 22.8 -0.7**
NJ2 pP **pP** **06 39 26.6 -1.6**
NJ2 sP **sP** **06 39 29.4 -0.6**
NJ2 S **S** **06 48 50.0 +3.7**
NJ2 pmax pmax
comp=Z,20nm,1.4s
NJ2 pmax pmax
comp=Z,120nm,9.3s
NJ2 LR LR
comp=N,110nm,13.0s
NJ2 LR LR
comp=E,260nm,17.1s
NJ2 LR LR
comp=Z,230nm,6.1s
BVAR Borovoye Array 73.02 3 LR LR 07 10 45.8
comp=Z,292nm,18.1s,baz=221,slow=35
BRVK Borovoye 73.05 2 *e*P **P** **06 39 26.4 -1.1**
comp=Z,9.4nm,0.9s
BRVK Borovoye 73.05 2 P **P** **06 39 26.8 -0.7**
comp=Z,60nm,0.8s,SNR=5.7
CFR Carcaliu 73.80 333 ⇑*i*P **P** **06 39 32.7 +0.6**
HHC Hu-ho-hao-te 73.85 34 *e*P **P** **06 39 33.4 +0.7**
HHC pP **pP** **06 39 38.0 +0.6**
HHC sP **sP** **06 39 40.4 +1.3**
HHC PP **PP** **06 42 20.9 +3.1**
HHC S **S** **06 49 04.9 +0.9**
HHC sS **sS** **06 49 13.3 +1.5**
HHC SS **SS** **06 53 53.3 +4.6**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=N,270nm,17.5s
HHC LR LR
comp=E,490nm,18.8s
HHC LR LR
comp=Z,250nm,15.9s
CTA Charters Tower 74.20 106 P **P** **06 39 34.6 -0.6**
comp=Z,2.9nm,0.5s,baz=326,slow=3.6,SNR=2.0
CTA LR LR 07 09 52.6
comp=Z,366nm,18.4s,baz=236,slow=34
CTA Charters Tower 74.20 106 *e*P **P** **06 39 35.0 -0.2**
comp=Z,7.4nm,1.1s
CTA Charters Tower 74.20 106 P **P** **06 39 34.6 -0.6**
CTAO Charters Tower 74.20 106 P **P** **06 39 35.8 +0.7**
comp=Z,26nm,1.4s
LIC Lamto 74.87 283 *e*P **P** **06 39 39.6 +0.5**
comp=Z,27nm,0.8s
DBIC Dimbokro 74.89 283 P **P** **06 39 39.7 +0.5**
comp=Z,3.2nm,0.8s,baz=60,slow=5.4,SNR=4.4
DBIC LR LR 07 09 11.4
comp=Z,314nm,18.1s,baz=98,slow=33
DBIC Dimbokro 74.89 283 *e*P **P** **06 39 39.3 +0.1**
comp=Z,10nm,1.1s
VRI Vrincioaia 74.95 333 ⇓*i*P **P** **06 39 39.9 +1.0**
MLR Muntele Rosu 75.00 332 P **P** **06 39 39.4 +0.1**
comp=Z,1.9nm,1.0s,baz=340,slow=5.0,SNR=5.1
MLR Muntele Rosu 75.00 332 ⇓*i*P P 06 39 43.3 +4.0
MLR Muntele Rosu 75.00 332 ⇓*i*P **P** **06 39 41.5 +0.2**
VOIR 75.36 331 ⇑*i*P **P** **06 39 40.6 -1.5**
ZAA0 Zalesovo Array 75.56 11 *e*P **P** **06 39 40.6 -1.5**
ZALV Zalesovo Beam 75.56 11 P **P** **06 39 40.9 -1.2**
comp=Z,9.5nm,0.8s,baz=207,slow=5.0,SNR=54
ZALV LR LR 07 11 40.9
comp=Z,163nm,19.7s,baz=63,slow=35
ZALV Zalesovo Beam 75.56 11 P **P** **06 39 40.9 -1.2**
BJI Beijing 75.81 37 P **P** **06 39 44.5 +0.6**
BJI S **S** **06 49 28.4 +2.8**
BJI SS **SS** **06 54 21.4 +3.1**
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI pmax pmax
comp=Z,120nm,5.5s
BJI LR LR
comp=N,230nm,18.0s
BJI LR LR
comp=E,290nm,18.9s
BJI LR LR
comp=Z,60nm,23.2s
ARU Arti 76.63 356 *e*P **P** **06 39 47.5 -0.6**
comp=Z,19nm,1.1s
SONM Songino Array 76.67 26 P **P** **06 39 47.8 -1.0**
comp=Z,5.5nm,0.8s,baz=213,slow=5.4,SNR=21
SONM LR LR 07 12 33.8
comp=Z,203nm,18.4s,baz=7.3,slow=35
SONM Songino Array 76.67 26 P **P** **06 39 47.8 -1.0**
ULN Ulaanbaatar 76.97 27 *e*P **P** **06 39 50.0 -0.5**
comp=Z,6.8nm,0.9s
BUR08 Bucovina Ar. S 77.00 333 *e*P **P** **06 39 51.4 +0.8**
BZS Buzias 77.09 330 ⇓*i*P P 06 39 54.6 +3.6
DRGR 77.45 331 ⇓*i*P P 06 39 57.5 +4.4
KEST Kesra 77.51 316 P **P** **06 39 55.4 +1.7**
comp=Z,1.2nm,1.0s,baz=113,slow=7.7,SNR=2.0
KEST Kesra 77.51 316 P **P** **06 39 55.4 +1.7**
AKASG Malin Array Be 77.82 337 P **P** **06 39 54.6 -0.4**
comp=Z,4.0nm,0.8s,baz=139,slow=4.6,SNR=12
AKASG LR LR 07 14 02.7
comp=Z,72nm,19.9s,baz=300,slow=36
AKASG Malin Array Be 77.82 337 P **P** **06 39 54.6 -0.4**
AKBB Malin Array Si 77.82 337 *e*P **P** **06 39 54.6 -0.4**
KIEV Kiev 77.82 337 *e*P **P** **06 39 54.9 -0.1**
comp=Z,15nm,0.9s
PMG Port Moresby 78.23 96 P **P** **06 39 58.5 +0.4**
comp=Z,5.2nm,0.3s,baz=264,slow=17,SNR=4.9
PMG Port Moresby 78.23 96 *e*P **P** **06 39 58.4 +0.2**
comp=Z,18nm,0.9s
PMG Port Moresby 78.23 96 P P 06 40 01.5 +3.4
VYHS Vyhne 80.48 330 *e*P **P** **06 40 11.6 +1.9**
ZST Bratislava 81.10 329 *e*P P 06 40 16.1 +3.2
KSAR Wonju Array Be 81.47 45 P **P** **06 40 14.5 -0.6**
KSRS Korea Array 81.50 45 P **P** **06 40 14.5 -0.8**
comp=Z,4.1nm,0.9s,baz=239,slow=5.5,SNR=15
CONA Conrad Observa 81.52 328 ⇓*i*P **P** **06 40 17.1 +1.8**
comp=Z,18nm,1.6s
CONA Conrad Observa 81.52 328 ⇓*i*P **P** **06 40 17.1 +1.8**
comp=Z,18nm,1.6s
MORC Moravsky Berou 81.99 330 ⇓*i*P P 06 40 25.2 +7.5
ABTA Abfaltersbach 82.44 326 ⇑*i*P P 06 40 23.4 +3.2
comp=Z,12nm,1.3s
ABTA Abfaltersbach 82.44 326 ⇑*i*pP **P** **06 40 23.4 +3.2**
comp=Z,12nm,1.3s
GERES GERESS Array B 83.20 328 P **P** **06 40 24.4 +0.3**
comp=Z,0.6nm,0.8s,baz=146,slow=14,SNR=3.6
GERES GERESS Array B 83.20 328 P **P** **06 40 24.4 +0.3**
CN2 Changchun 83.55 39 *e*P **P** **06 40 27.1 +1.3**
CN2 *es*P **sP** **06 40 34.1 +1.8**
CN2 *e*S **SKSac** **06 50 48.4 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,15.0s
TUE Stuetta 83.97 324 *e*P P 06 40 34.9 +6.7
comp=Z,20nm,1.4s
MBDF Montbardon 84.38 322 *e*P **P** **06 40 30.6 +0.3**
comp=Z,19nm,1.0s
MDJ Mudanjiang 86.47 40 P **P** **06 40 40.0 -0.5**
MDJ pP **PcP** **06 40 43.3 +0.4**
MDJ sP **sP** **06 40 44.5 -2.5**
MDJ S **S** **06 51 16.4 +0.1**
MDJ sS **sS** **06 51 22.5 -1.7**
MDJ pmax pmax
comp=Z,5.0nm,0.9s
MDJ pmax pmax
comp=Z,73nm,3.4s
MDJ LR LR
comp=N,96nm,34.0s
MDJ LR LR
comp=E,65nm,37.5s
MDJ LR LR
comp=Z,140nm,36.1s
USRK Ussuriysk Arra 87.71 41 P **P** **06 40 44.9 -1.6**
comp=Z,1.3nm,0.7s,baz=238,slow=3.5,SNR=3.5
MAJO Matsushiro 88.17 50 *e*P **P** **06 40 48.5 -0.5**
comp=Z,20nm,1.2s
MAT Matsushiro 88.17 50 P **P** **06 40 48.1 -0.8**
MJAR Matsushiro Arr 88.17 50 P **P** **06 40 47.9 -1.1**
comp=Z,6.5nm,0.9s,baz=233,slow=5.9,SNR=15
MJAR Matsushiro Arr 88.17 50 P **P** **06 40 47.9 -1.1**
ESDC Sonseca Array 88.53 313 P **P** **06 40 51.8 +1.1**
comp=Z,0.3nm,0.3s,baz=120,slow=2.0,SNR=2.9
ESDC Sonseca Array 88.53 313 P **P** **06 40 51.8 +1.1**
ARCES ARCESS Array B 94.12 347 P **P** **06 41 17.1 +1.2**
comp=Z,4.7nm,0.9s,baz=147,slow=5.2,SNR=3.8
ARCES ARCESS Array B 94.12 347 P **P** **06 41 17.1 +1.2**
RES Resolute Bay 124.58 354 PKP **PKPdf** **06 46 57.7 +1.3**
comp=Z,1.1nm,0.6s,baz=38,slow=3.8,SNR=5.5
RES Resolute Bay 124.58 354 PKP **PKPdf** **06 46 57.7 +1.3**
ILAR Eielson Array 130.32 18 PKP **PKPdf** **06 47 07.3 -0.3**
comp=Z,0.7nm,1.0s,baz=322,slow=2.1,SNR=4.8
ILAR PP **PP** **06 49 21.9 +0.8**
comp=Z,0.7nm,1.0s,baz=292,slow=3.6,SNR=4.8
ILAR Eielson Array 130.32 18 PKP **PKPdf** **06 47 07.3 -0.3**
ILAR PP **PP** **06 49 21.9 +0.8**
INK Inuvik 130.34 10 PKP **PKPdf** **06 47 09.2 +1.7**
comp=Z,1.4nm,0.7s,baz=343,slow=5.2,SNR=6.8
INK Inuvik 130.34 10 PKP **PKPdf** **06 47 09.2 +1.7**
YKA Yellowknife Ar 137.75 1 PKP **PKPdf** **06 47 20.4 -1.2**
comp=Z,0.7nm,0.9s,baz=358,slow=2.3,SNR=8.3
YKA PP **PP** **06 50 06.3 -1.7**
comp=Z,0.9nm,0.9s,baz=356,slow=6.5,SNR=9.9
YKA Yellowknife Ar 137.75 1 PKP **PKPdf** **06 47 20.4 -1.2**
YKA PP **PP** **06 50 06.3 -1.7**
FFC Flin Flon 144.43 348 *e*PKPdf **PKPab** **06 47 31.6 -0.4**
ULM Lac du Bonnet 146.88 339 PKPbc **PKPdf** **06 47 38.5 +0.3**
comp=Z,5.5nm,0.7s,baz=35,slow=5.1,SNR=9.4
ULM Lac du Bonnet 146.88 339 PKPbc **PKPdf** **06 47 38.5 +0.3**
ULM *e*PKPdf **PKPbc** **06 47 38.7 -1.4**
EYMN Ely 147.05 332 *e*PKPdf **PKPdf** **06 47 38.6 0.0**
SFIN Scholer Farm 149.71 317 ⇓P **PKPbc** **06 47 48.2 +0.4**
baz=150
A22A Carney Farms, 150.63 350 ⇓P **PKPbc** **06 47 48.6 -1.2**
baz=150
A21A Bergtoll Ranch 150.79 351 ⇑P **PKPdf** **06 47 44.4 -0.3**
baz=151
A20A Cobblestone Ra 151.04 352 ⇑P **PKPbc** **06 47 50.9 +0.1**
baz=151
A19A Klindworth Far 151.09 353 ⇑P **PKPbc** **06 47 51.2 +0.2**
baz=151
RPW Rockport 151.13 11 *e*PKPbc **PKPbc** **06 47 50.2 -0.8**
A17A Triple J Farms 151.24 356 ⇓P **PKPbc** **06 47 51.7 +0.4**
baz=151
A16A West Butte Ran 151.29 357 ⇓P **PKPbc** **06 47 51.7 +0.2**
baz=151
A15A Johnson Ranch, 151.30 359 ⇓P **PKPbc** **06 47 51.2 -0.3**
baz=151
JCW Jim Creek 151.30 12 *e*PKPbc **PKPbc** **06 47 50.3 -1.1**
A12A Yaak River Ran 151.31 3 ⇓P **PKPbc** **06 47 51.9 +0.5**
baz=151
A14A Double T Ranch 151.31 360 ⇑P **PKPbc** **06 47 51.4 -0.1**
baz=151
B20A Solberg Farm, 151.48 352 ⇓P **PKPbc** **06 47 52.9 +1.0**
baz=151
B19A Brinkman Farms 151.58 353 ⇑P **PKPbc** **06 47 52.6 +0.5**
baz=152
B16A M & M Farms, S 151.83 357 ⇓P **PKPbc** **06 47 52.4 -0.3**
baz=152
NEW Newport 151.88 5 ⇑P **PKPbc** **06 47 53.0 +0.2**
baz=152
B14A Marquette Ranc 151.92 359 ⇓P **PKPbc** **06 47 52.7 -0.3**
baz=152
B15A Bradely Ranch, 151.96 358 ⇑P **PKPbc** **06 47 52.5 -0.5**
baz=152
EGMT Eagleton 152.08 354 ⇓P **PKPbc** **06 47 53.2 -0.1**
baz=152
ETW Entiat 152.15 10 *e*PKPbc **PKPbc** **06 47 52.8 -0.7**
C19A Slack Wire Ran 152.30 353 ⇓P **PKPbc** **06 47 53.8 0.0**
baz=152
C16A Fuhringer Ranc 152.44 357 ⇓P **PKPbc** **06 47 53.5 -0.7**
baz=152
D22A Cohagen 152.46 349 ⇑P **PKPbc** **06 47 54.1 -0.1**
baz=152
C14A Swan Lake 152.52 0 ⇑P **PKPbc** **06 47 54.5 +0.2**
baz=152
C17A Wharram Farm, 152.55 356 ⇑P **PKPbc** **06 47 54.0 -0.4**
baz=152
ECSD EROS Data Cent 152.57 333 *e*PKPbc **PKPbc** **06 47 56.1 +1.7**
C13A Hot Springs 152.59 1 ⇓P **PKPbc** **06 47 54.4 0.0**
baz=152
D20A Manuel Ranch, 152.82 352 ⇓P **PKPbc** **06 47 55.2 +0.2**
baz=153
D19A Cripps Ranch, 152.84 353 ⇓P **PKPbc** **06 47 55.3 +0.3**
baz=153
D17A Six Diamond Ra 153.03 356 ⇑P **PKPbc** **06 47 55.1 -0.4**
baz=153
D14A Greenough 153.20 360 ⇓P **PKPbc** **06 47 55.7 -0.2**
baz=153
D15A Lincoln 153.23 358 ⇓P **PKPbc** **06 47 56.3 +0.3**
baz=153
G14A Jackson 155.04 360 ⇓P PKPdf 06 47 59.3 +8.1
baz=155
H20A Greybull 155.35 350 ⇓P PKPdf 06 48 00.0 +8.5
baz=155
MCMT McKenzie Canyo 155.45 359 *e*PKPdf **PKPdf** **06 47 52.0 +0.2**
I14A Mackay 156.36 360 ⇓P **PKPab** **06 48 19.9 -1.2**
baz=156
J19A Crowheart 156.70 352 ⇓P **PKPab** **06 48 21.9 -0.7**
baz=157
PDAR Pinedale Array 157.26 352 PKP **PKPdf** **06 47 53.4 -0.8**
comp=Z,0.3nm,0.7s,baz=92,slow=4.5,SNR=2.8
PDAR Pinedale Array 157.26 352 PKP **PKPdf** **06 47 53.4 -0.8**
NVAR Mina Array Bea 161.41 12 PKP **PKPdf** **06 48 00.1 +1.0**
comp=Z,0.3nm,0.8s,baz=90,slow=0.9,SNR=2.2
NVAR PKPab **PKPab** **06 48 42.4 -0.8**
comp=Z,1.0nm,1.0s,baz=314,slow=2.3,SNR=3.6
NVAR Mina Array Bea 161.41 12 PKP **PKPdf** **06 48 00.1 +1.0**
NVAR PKPab **PKPab** **06 48 42.4 -0.8**
R18A Canyonlands Na 161.61 351 ⇑P **PKPab** **06 48 43.3 -0.7**
baz=162
R11A Troy Canyon, C 161.85 5 ⇓P **PKPab** **06 48 43.6 -1.5**
baz=162
S20A Disappointment 161.86 346 ⇑P **PKPab** **06 48 43.9 -1.3**
baz=162
S16A Weppner Ranch, 162.47 355 ⇑P **PKPab** **06 48 46.6 -1.1**
baz=162
T18A Mexican Hat 162.82 350 ⇑P **PKPab** **06 48 48.5 -0.8**
baz=163
U18A Rough Rock, Ch 163.52 349 ⇑P **PKPab** **06 48 52.5 +0.1**
baz=163
324A Moseley Ranch, 166.63 328 ⇑P **PKPab** **06 49 06.2 -0.1**
baz=167
TXAR Lajitas Array 167.19 317 PKP **PKPdf** **06 48 06.5 +2.0**
comp=Z,0.1nm,0.5s,baz=176,slow=3.6,SNR=2.6
TXAR PKPab **PKPab** **06 49 10.7 +1.9**
comp=Z,3.8nm,0.9s,baz=72,slow=4.1,SNR=9.3
TXAR Lajitas Array 167.19 317 PKP **PKPdf** **06 48 06.5 +2.0**
TXAR PKPab **PKPab** **06 49 10.7 +1.9**

MEX 21 06:35:48.0±0.8,17°00N×94°86W,h127km±10km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.09**	**347**	*i* P	Pn	06 36 03.9	-1.5
CMIG				*e*S	Sn	06 36 16.1	-2.4
TGIG		**1.68**	**97**	*i* P	Pn	06 36 17.4	-0.7
TGIG				*e*S	Sn	06 36 39.3	-1.7
HUIG	**Huatulco**	**1.71**	**224**	*i* P	Pn	06 36 16.4	-2.0
HUIG				*e*S	Sn	06 36 40.3	-1.2
VHO	**Vista Hermosa**	**1.79**	**273**	*i* P	Pn	06 36 18.9	-0.7
VHO				*e*S	Sn	06 36 42.5	-1.1
PNIG	**Pinotepa**	**3.19**	**260**	*e*P	Pn	06 36 34.6	-2.4
PNIG				*e*S	Sn	06 37 12.8	-2.1

CSEM ***21*** *06:40:58.5±0.1, 32°.49N×34°.43E, h10km, Mw3.2, Error ellipse: s-maj=2.4km s-min=1.7km az=102.0*
ISCJB ***21*** *06:40:58.6±0.6, 32°.49N±0°.02×34°.39E±0°.03, h23km±6km, mb3.9/4, Error ellipse: s-maj=4.8km s-min=2.7km az=23.8*
IDC ***21*** *06:40:59.0±1.5, 32°.50N×34°.54E, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.2/27, mbtmp3.3/5, ML3.6/3, Error ellipse: s-maj=12.5km s-min=11.5km az=92.0*
GRAL ***21*** *06:41:00.4±0.8, 32°.50N×34°.44E, h22km±3km, MD3.6*
HLW ***21*** *06:41:01.0, 32°.53N×34°.56E, h32km±19km, Md0.0, Ml3.7*
NSSC ***21*** *06:41:01.5±1.2, 32°.73N×34°.29E, h38km±77km, MD2.6, ML3.3*
NIC ***21*** *06:41:02.3±0.2, 32°.72N×34°.57E, h66km, ML3.4, MW3.2*

ISC 21 06:40:58.9±1.3, 32°50N±0°.03×34°43E±0°.03, h16km±10km, n110, σ1§33/136, mb4.2/4, 2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BLGI	**Bet Lehem HaGe**	**0.69**	**70**	Pg	**Pg**		**06 41 12.1**	**-0.2**
NAQL	**Naqoura**	**0.86**	**44**	*eP*	**Pg**		**06 41 15.3**	**-0.3**
NAQL				*eS*	**Sg**		**06 41 26.2**	**-0.7**
MMC6	**Mount Meron ar**	**0.96**	**58**	Pg	**Pb**		**06 41 16.8**	**-0.4**
MMC7	**Mount Meron ar**	**0.97**	**57**	Pg	**Pb**		**06 41 16.9**	**-0.4**
MMAI	**Mount Meron Ar**	**0.97**	**58**	Pg	**Pb**		**06 41 16.8**	**-0.6**
	553nm,0.3s,baz=232,slow=14,SNR=1228							
MMAI				Lg	Lg		06 41 28.4	
	1µm,0.3s,baz=232,slow=26,SNR=67							
MATL	**Matarih**	**1.24**	**37**	*eP*	**Pn**		**06 41 21.4**	**-0.2**
MATL	**Matarih**	**1.24**	**37**	*eP*	**Pn**		**06 41 21.4**	**-0.2**
YTIR	**Yattir**	**1.28**	**152**	Pg	**Pn**		**06 41 22.7**	**+0.5**
RCY	**Rachaya**	**1.54**	**50**	*eP*	**Pn**		**06 41 25.8**	**-0.2**
BRBR	**Barbar**	**1.57**	**54**	*eP*	**Pn**		**06 41 26.8**	**+0.5**
BRBR				*eS*	**Sn**		**06 41 46.5**	**+0.1**
BRBR				AML	AML		06 41 47.5	
	comp=N,1µm,0.3s							
BRBR				AML	AML		06 41 49.8	
	comp=E,1µm,0.4s							
BEYL	**Beirut**	**1.63**	**33**	*eP*	**Pn**		**06 41 26.8**	**-0.2**
BEYL	**Beirut**	**1.63**	**33**	*eP*	**Pn**		**06 41 26.8**	**-0.2**
BHL	**Bhannes**	**1.74**	**36**	*eP*	**Pn**		**06 41 28.1**	**-0.4**
BHL				*eS*	**Sn**		**06 41 48.8**	**-1.7**
BHL	**Bhannes**	**1.74**	**36**	*eP*	**Pn**		**06 41 28.1**	**-0.4**
BHL				*eS*	**Sn**		**06 41 48.8**	**-1.7**
QASN	**Qassioun**	**1.86**	**56**	*eP*	**Pn**		**06 41 31.6**	**+1.3**
QASN				*eS*	**Sn**		**06 41 54.8**	**+1.2**
QASN				AML	AML		06 41 56.6	
	comp=N,1µm,0.2s							
QASN				AML	AML		06 41 56.8	
	comp=E,2µm,0.3s							
QASN	**Qassioun**	**1.86**	**56**	*eP*	**Pn**		**06 41 31.6**	**+1.3**
	SNR=45							
QASN				*eS*	**Sn**		**06 41 54.8**	**+1.2**
	comp=E,2µm,0.3s,SNR=40							
ASF	**Jabal al Asfar**	**2.12**	**98**	Pn	**Pn**		**06 41 34.8**	**+1.0**
	comp=E,3.6nm,0.3s,baz=166,slow=7.0,SNR=34							
ASF				Lg	Lg		06 42 03.2	
	comp=E,31nm,0.3s,baz=324,slow=17,SNR=20							
HWQ	**Hawqa**	**2.18**	**35**	*eP*	**Pn**		**06 41 34.6**	**-0.1**
HWQ	**Hawqa**	**2.18**	**35**	*eP*	**Pn**		**06 41 34.6**	**-0.1**
FKH	**Fakeheh**	**2.40**	**43**	*eP*	**Pn**		**06 41 38.5**	**+0.8**
FKH	**Fakeheh**	**2.40**	**43**	*eP*	**Pn**		**06 41 38.5**	**+0.8**
ZALF	**Zalf**	**2.49**	**80**	*eP*	**Pn**		**06 41 40.6**	**+1.8**
ZALF				*eS*	**Sb**		**06 42 13.0**	**-0.7**
ZALF				AML	AML		06 42 21.9	
	comp=N,260nm,0.5s							
ZALF				AML	AML		06 42 22.4	
	comp=E,252nm,0.6s							
ZALF	**Zalf**	**2.49**	**80**	*eP*	**Pn**		**06 41 40.6**	**+1.8**
	SNR=45							
ZALF				*eS*	**Sb**		**06 42 13.0**	**-0.7**
	comp=E,252nm,0.6s,SNR=40							
PHNC	**Paralimni**	**2.52**	**353**	P	**Pn**		**06 41 38.8**	**-0.4**
	comp=E,5.2nm,0.6s							
PHNC				S	**Sn**		**06 42 06.9**	**-2.6**
PHNC	**Paralimni**	**2.52**	**353**	P	**Pn**		**06 41 38.8**	**-0.4**
	comp=E,5.2nm,0.6s							
PHNC				S	**Sn**		**06 42 06.9**	**-2.6**
SZAC	**Souni-Zanaja**	**2.59**	**331**	P	**Pn**		**06 41 40.7**	**+0.5**
SZAC				S	**Sn**		**06 42 11.1**	**-0.3**
SZAC	**Souni-Zanaja**	**2.59**	**331**	P	**Pn**		**06 41 40.7**	**+0.5**
SZAC				S	**Sn**		**06 42 11.1**	**-0.3**
HNKL	**Nakhl**	**2.59**	**189**	P	**Pn**		**06 41 39.2**	**-1.1**
HAWK	**Haweek**	**2.60**	**39**	*i* P	**Pn**		**06 41 40.8**	**+0.3**
HAWK				*eS*	**Sn**		**06 42 11.2**	**-0.7**
HAWK				AML	AML		06 42 25.2	
	comp=N,144nm,0.8s							
HAWK				AML	AML		06 42 26.4	
	comp=E,117nm,0.6s							
HAWK	**Haweek**	**2.60**	**39**	*i* P	**Pn**		**06 41 40.8**	**+0.3**
	SNR=45							
HAWK				*eS*	**Sn**		**06 42 11.2**	**-0.7**
	comp=E,117nm,0.6s,SNR=40							
CSS	**Prodhromos**	**2.62**	**340**	P	**Pn**		**06 41 40.5**	**-0.1**
CSS				S	**Sn**		**06 42 10.5**	**-1.6**
CSS	**Prodhromos**	**2.62**	**340**	*e*PN	**Pn**		**06 41 40.7**	**+0.1**
CSS	**Prodhromos**	**2.62**	**340**	P	**Pn**		**06 41 40.5**	**-0.1**
CSS				S	**Sn**		**06 42 10.5**	**-1.6**
MAMC	**Mammari**	**2.84**	**340**	‖P	**Pn**		**06 41 44.1**	**+0.4**
MAMC	**Mammari**	**2.84**	**340**	‖P	**Pn**		**06 41 44.1**	**+0.4**
EIL	**Elat**	**2.86**	**171**	Pn	**Pn**		**06 41 43.9**	**0.0**
	comp=E,7.8nm,0.3s,baz=6.7,slow=5.9,SNR=61							
EIL				Lg	Lg		06 42 31.5	
	comp=E,18nm,0.3s,baz=353,slow=23,SNR=6.0							
EIL	**Elat**	**2.86**	**171**	Pn	**Pn**		**06 41 44.1**	**+0.2**
LFK	**Lefkose**	**2.87**	**345**	*e*PN	**Pn**		**06 41 44.4**	**+0.3**
LFK	**Lefkose**	**2.87**	**345**	*e*Pn	**Pn**		**06 41 44.4**	**+0.3**
LEF	**Lefka**	**2.91**	**334**	*e*PN	**Pn**		**06 41 45.8**	**+1.3**
LEF	**Lefka**	**2.91**	**334**	*e*Pn	**Pn**		**06 41 45.8**	**+1.3**
PPCY	**Paphos**	**2.94**	**324**	P	**Pn**		**06 41 45.8**	**+0.8**
PPCY	**Paphos**	**2.94**	**324**	P	**Pn**		**06 41 45.8**	**+0.8**
BIDA	**Albida**	**2.96**	**32**	*e*P	**Pn**		**06 41 45.6**	**+0.2**
BIDA				*eS*	**Sn**		**06 42 18.5**	**-2.2**
BIDA				AML	AML		06 42 23.5	
	comp=E,186nm,0.3s							
BIDA				AML	AML		06 42 25.4	
	comp=N,130nm,0.2s							
BIDA	**Albida**	**2.96**	**32**	*e*P	**Pn**		**06 41 45.6**	**+0.2**
	SNR=45							
SUZ		**2.98**	**208**	P	**Pn**		**06 41 45.7**	**+0.1**
EREN	**Erenkoy**	**3.03**	**356**	*e*PN	**Pn**		**06 41 46.5**	**+0.3**
EREN	**Erenkoy**	**3.03**	**356**	*e*Pn	**Pn**		**06 41 46.5**	**+0.3**
ALFC	**Alevga**	**3.05**	**331**	P	**Pn**		**06 41 47.0**	**+0.4**
	comp=N,21nm,0.2s							
ALFC				S	**Sn**		**06 42 22.2**	**-0.6**
ALFC	**Alevga**	**3.05**	**331**	P	**Pn**		**06 41 47.0**	**+0.4**
	comp=N,21nm,0.2s							
ALFC				S	**Sn**		**06 42 22.2**	**-0.6**
HHAG	**Hagoal**	**3.23**	**219**	P	**Pn**		**06 41 49.3**	**+0.3**
HBST	**Basata**	**3.29**	**175**	P	**Pn**		**06 41 49.8**	**0.0**
ZNM		**3.39**	**204**	P	**Pn**		**06 41 51.2**	**0.0**
KOT	**Kottamia**	**3.40**	**222**	P	**Pn**		**06 41 51.4**	**+0.1**
KOT				S	**Sn**		**06 42 28.4**	**-2.9**
ZAF		**3.59**	**207**	P	**Pn**		**06 41 54.2**	**+0.2**
GLL	**Jalalah**	**3.73**	**219**	P	**Pn**		**06 41 56.3**	**+0.3**
HDHB	**Dhahab**	**3.77**	**177**	P	**Pn**		**06 41 55.8**	**-0.6**
HSAF	**As Saff**	**3.79**	**221**	P	**Pn**		**06 41 56.8**	**+0.1**
YAYL	**Yayladag**	**3.79**	**21**	*i* P	**Pn**		**06 41 56.8**	**0.0**
YAYL				*i* S	**Sn**		**06 42 37.3**	**-3.8**
YAYL	**Yayladag**	**3.79**	**21**	*i* P	**Pn**		**06 41 56.8**	**0.0**
YAYL				*i* S	**Sn**		**06 42 37.3**	**-3.8**
SQR		**3.81**	**227**	P	**Pn**		**06 41 57.6**	**+0.7**
HTY	**Hatay**	**3.88**	**21**	*e*PN	**Pn**		**06 41 58.2**	**+0.3**
HTY	**Hatay**	**3.88**	**21**	*e*Pn	**Pn**		**06 41 58.2**	**+0.3**
AYT	**Al 'Ayyat**	**3.96**	**226**	P	**Pn**		**06 41 59.4**	**+0.4**
HKAT	**Jabal Katrina**	**3.98**	**185**	P	**Pn**		**06 41 59.2**	**-0.4**
FYM	**Al Fayyum**	**4.03**	**227**	P	**Pn**		**06 42 00.8**	**+0.8**
FYM				S	**Sn**		**06 42 44.1**	**-2.9**
KRTS	**Karatas**	**4.13**	**11**	*e*PN	**Pn**		**06 42 01.8**	**+0.4**
KRTS	**Karatas**	**4.13**	**11**	*e*Pn	**Pn**		**06 42 01.8**	**+0.4**
TR2		**4.15**	**189**	P	**Pn**		**06 42 01.2**	**-0.4**
COBT	**Iskenderun**	**4.28**	**20**	*i* P	**Pn**		**06 42 03.8**	**+0.2**
COBT				*i* S	Sn		06 42 46.2	-7.1
COBT	**Iskenderun**	**4.28**	**20**	*i* P	**Pn**		**06 42 03.8**	**+0.2**
ERMK	**Ermenek**	**4.31**	**344**	*i* P	**Pn**		**06 42 06.2**	**+2.1**
ERMK				*i* S	Sn		06 42 48.0	-6.2
ERMK	**Ermenek**	**4.31**	**344**	*i* P	**Pn**		**06 42 06.2**	**+2.1**
HNAT	**Natroun**	**4.34**	**230**	P	**Pn**		**06 42 04.7**	**+0.4**
MERS	**Mersin**	**4.36**	**1**	*e*PN	**Pn**		**06 42 04.7**	**+0.2**
MERS	**Mersin**	**4.36**	**1**	*e*Pn	**Pn**		**06 42 04.7**	**+0.2**
GRB	**Gharib**	**4.45**	**199**	P	**Pn**		**06 42 05.0**	**-0.8**
HBNS	**Bani Suwayf**	**4.49**	**219**	P	**Pn**		**06 42 06.6**	**+0.3**
TR1		**4.50**	**185**	P	**Pn**		**06 42 05.9**	**-0.6**
SHRM		**4.60**	**183**	P	**Pn**		**06 42 07.2**	**-0.7**
CEYT	**Ceyhan**	**4.63**	**13**	*e*PN	**Pn**		**06 42 08.8**	**+0.7**
CEYT	**Ceyhan**	**4.63**	**13**	*e*Pn	**Pn**		**06 42 08.8**	**+0.7**
GULE	**Gulek**	**4.78**	**3**	*i* P	**Pn**		**06 42 10.3**	**-0.1**
GULE				*i* S	**Sn**		**06 43 00.7**	**-4.9**
GULE	**Gulek**	**4.78**	**3**	*i* P	**Pn**		**06 42 10.3**	**-0.1**
KUZU	**Kuzuini**	**4.79**	**26**	*i* P	**Pn**		**06 42 10.9**	**+0.5**
KUZU				*i* S	**Sn**		**06 43 03.7**	**-2.0**
KUZU	**Kuzuini**	**4.79**	**26**	*i* P	**Pn**		**06 42 10.9**	**+0.5**
KUZU				*i* S	**Sn**		**06 43 03.7**	**-2.0**
KOZT	**Kozan**	**5.10**	**13**	*e*PN	**Pn**		**06 42 16.5**	**+1.8**
KOZT	**Kozan**	**5.10**	**13**	*e*Pn	**Pn**		**06 42 16.5**	**+1.8**
HHRG	**Al Ghardaqah**	**5.32**	**188**	P	**Pn**		**06 42 18.2**	**+0.5**
AKAS	**Kas**	**5.45**	**314**	*i* P	**Pn**		**06 42 22.2**	**+2.6**
AKAS				*i* S	Sn		06 43 16.3	-5.9
AKAS	**Kas**	**5.45**	**314**	*i* P	**Pn**		**06 42 22.2**	**+2.6**
KORT	**Korkueli**	**5.60**	**324**	*i* P	**Pn**		**06 42 22.0**	**+0.3**
KORT				*i* S	**Sn**		**06 43 21.4**	**-4.4**
KORT	**Korkueli**	**5.60**	**324**	*i* P	**Pn**		**06 42 22.0**	**+0.3**
ASUT		**5.66**	**207**	P	**Pn**		**06 42 22.4**	**0.0**
GOLH	**Golhisar**	**6.19**	**321**	*i* P	**Pn**		**06 42 32.0**	**+2.3**
GOLH	**Golhisar**	**6.19**	**321**	*i* P	**Pn**		**06 42 32.0**	**+2.3**
AWBH		**6.33**	**230**	P	**Pn**		**06 42 32.0**	**+0.4**
PINB	**Pinarbasi**	**6.37**	**14**	*i* P	**Pn**		**06 42 33.8**	**+1.4**
PINB	**Pinarbasi**	**6.37**	**14**	*i* P	**Pn**		**06 42 33.8**	**+1.4**
AKCD	**Akcadag**	**6.45**	**25**	*i* P	**Pn**		**06 42 34.4**	**+1.1**
AKCD	**Akcadag**	**6.45**	**25**	*i* P	**Pn**		**06 42 34.4**	**+1.1**
BRTR	**Keskin Array B**	**7.24**	**355**	Pn	**Pn**		**06 42 46.5**	**+2.3**
	comp=N,0.5nm,0.3s,baz=170,slow=17,SNR=11							
AYDN	**Tasoluk**	**7.43**	**316**	*i* P	**Pn**		**06 42 45.4**	**-1.4**
AYDN	**Tasoluk**	**7.43**	**316**	*i* P	**Pn**		**06 42 45.4**	**-1.4**
AKASG	**Malin Array Be**	**18.59**	**350**	P	**Pn**		**06 45 17.6**	**+2.2**
	comp=N,0.4nm,0.3s,baz=169,slow=12,SNR=3.4							
GERES	**GERESS Array B**	**22.55**	**322**	P	**P**		**06 46 00.7**	**+2.4**
	comp=N,1.2nm,1.0s,baz=122,slow=10,SNR=3.8							
MBDF	**Montbardon**	**24.69**	**308**	*e*P	**P**		**06 46 21.3**	**+2.0**
	comp=N,16nm,1.0s							
LPG	**La Plagne**	**24.98**	**309**	*e*P	**P**		**06 46 23.7**	**+1.6**
	comp=N,8.8nm,0.9s							
LPL	**La Plagne**	**25.00**	**309**	*e*P	**P**		**06 46 23.8**	**+1.6**
	comp=N,8.0nm,0.6s							
EPF	**Esparros**	**28.74**	**301**	*e*P	P		06 47 01.0	+5.3

CASC 21 06:46:29.1±2.0, 9°57N×83°95W, h6km±11km, MD3.4, ML3.7, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.19**	**95**	*i*P		Pg	06 46 33.0	-0.5
QCR	**Quepos**	**0.26**	**236**	*e*P		Pg	06 46 34.3	+0.1
QCR				*e*S		Sg	06 46 38.3	+0.6
URSC	**Urasca**	**0.31**	**32**	‖*i*P		Pg	06 46 35.7	+0.2
URSC				*e*S		Sg	06 46 40.7	+1.0
SJS	**Escuela Geolog**	**0.38**	**344**	*e*P		Pg	06 46 37.0	+0.3
SJS				*e*S		Sg	06 46 43.1	+1.2
BRU2	**Volcan**	**1.46**	**122**	*e*P		Pn	06 46 55.4	-0.8
BRU2				AML	AML		06 46 56.1	
	comp=Z,1µm,0.1s							
BRU2				*i* S		Sn	06 47 14.9	-1.0
TBS2		**1.49**	**121**	*e*P		Pn	06 46 56.3	-0.4
TBS2				*i* S		Sn	06 47 15.8	-0.8
BCIP	**Isla Barro Col**	**4.08**	**95**	*e*Pn		Pn	06 47 32.2	+0.1
PTP	**Ponta Puerca**	**19.75**	**62**	*i* P		x	06 47 01.4	
PTP				*i* S		x	06 47 25.3	

IDC 21 06:50:24.4±6.8, 11°57S×167°04E, h123km±61km, mb3.7/5, mb1 3.8/6, mb1mx3.5/18, mbtmp3.7/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=44.6km s-min=41.1km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.29**	**286**	LR		LR	06 54 48.6	
	comp=Z,59nm,18.7s,baz=67,slow=36							
DZM	**Mont Dzumac**	**10.46**	**183**	P		Pn	06 52 52.7	+1.5
	1.2nm,0.3s,baz=139,slow=21,SNR=11							
DZM				S		Sn	06 54 43.4	-3.2
	0.4nm,0.3s,baz=232,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**32.51**	**251**	P		P	06 56 43.8	+0.1
	0.6nm,0.7s,baz=84,slow=9.4,SNR=5.5							
WRA				PcP		PcP	06 59 27.9	0.0
	1.2nm,0.9s,baz=78,slow=2.9,SNR=7.9							
ASAR	**Alice Springs**	**33.71**	**245**	P		P	06 56 54.0	-0.1
	0.2nm,0.3s,baz=72,slow=9.3,SNR=8.2							
ASAR				PcP		PcP	06 59 31.1	-0.1
	0.8nm,0.6s,baz=68,slow=2.8,SNR=8.8							
QSPA	**South Pole Qui**	**78.44**	**180**	LR		LR	07 31 12.7	
	comp=Z,61nm,21.9s,baz=140,slow=31							
SONM	**Songino Array**	**79.84**	**323**	P		P	07 02 19.3	0.0
	1.0nm,0.5s,baz=147,slow=6.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**94.72**	**324**	P		P	07 03 30.5	-1.1
	0.3nm,0.4s,baz=116,slow=3.4,SNR=3.7							
MKAR	**Makanchi Array**	**94.77**	**317**	P		P	07 03 31.9	-0.2
	2.0nm,0.6s,baz=90,slow=6.5,SNR=28							
ARCES	**ARCESS Array B**	**117.15**	**346**	PKP		PKPdf	07 08 54.5	+0.1
	3.8nm,0.9s,baz=341,slow=2.6,SNR=6.0							

ISCJB ***21*** *06:54:28.6±0.5, 40°.37N±0°.02×25°.81E±0°.03, h0km±4km, Error ellipse: s-maj=3.5km s-min=3.3km az=166.1*
ISK ***21*** *06:54:28.6, 40°.39N×25°.81E, h8km, MD3.0*
DDA ***21*** *06:54:28.4, 40°.38N×25°.84E, h16km, MD3.1*
CSEM ***21*** *06:54:28.9±0.1, 40°.38N×25°.79E, h10km, MD3.0, Error ellipse: s-maj=3.4km s-min=2.8km az=175.0*
ATH ***21*** *06:54:29.0, 40°.36N×25°.80E, h4km, MD3.2/7*

ISC 21 06:54:29.1±1.0, 40°37N±0°.02×25°80E±0°.02, h12km±9km, n53, σ0§57/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**36**	*e*PG	**Pg**		**06 54 37.1**	**-0.9**
ENEZ				*e*SG	**Sg**		**06 54 44.9**	**+0.8**
ENEZ	**Enez**	**0.45**	**36**	*e*Pg	**Pg**		**06 54 37.1**	**-0.9**
ENEZ				*e*Sg	**Sg**		**06 54 44.9**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.51**	**87**	*e*PG	**Pg**		**06 54 39.3**	**+0.2**
GELI				*e*SG	**Sb**		**06 54 46.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.51**	**87**	*e*Pg	**Pg**		**06 54 39.3**	**+0.2**
GELI				*e*Sg	**Sb**		**06 54 46.9**	**-0.5**
ALN	**Alexandroupoli**	**0.56**	**19**	*e*PG	**Pg**		**06 54 39.6**	**-0.4**
ALN				*e*SG	**Sg**		**06 54 47.4**	**0.0**
ALN	**Alexandroupoli**	**0.56**	**19**	*e*Pg	**Pg**		**06 54 39.6**	**-0.4**
ALN				*e*Sg	**Sg**		**06 54 47.4**	**0.0**
BOZC	**Bozcaada**	**0.56**	**160**	*i* P	**Pg**		**06 54 40.1**	**+0.1**
BOZC				*i* S	**Sg**		**06 54 48.0**	**+0.6**
ERIK	**Erikli-Kesan**	**0.62**	**61**	*e*PG	**Pg**		**06 54 40.7**	**-0.4**
ERIK				*e*SG	**Sg**		**06 54 49.8**	**+0.5**
ERIK	**Erikli-Kesan**	**0.62**	**61**	*e*Pg	**Pg**		**06 54 40.7**	**-0.4**
ERIK				*e*Sg	**Sg**		**06 54 49.8**	**+0.5**
LIA	**Limnos Island**	**0.67**	**225**	*e*PG	**Pg**		**06 54 41.7**	**-0.3**
LIA				*e*SG	**Sg**		**06 54 50.9**	**+0.1**
LIA	**Limnos Island**	**0.67**	**225**	*e*Pg	**Pg**		**06 54 41.7**	**-0.3**
LIA				*e*Sg	**Sg**		**06 54 50.9**	**+0.1**
EZN	**Ezine**	**0.68**	**143**	*e*PG	**Pb**		**06 54 43.0**	**+0.2**
EZN				*e*SG	**Sb**		**06 54 52.2**	**+0.2**
EZN	**Ezine**	**0.68**	**143**	*e*Pg	**Pb**		**06 54 43.0**	**+0.2**
EZN				*e*Sg	**Sb**		**06 54 52.2**	**+0.2**
LPK	**Lapseki**	**0.73**	**89**	*e*PG	**Pg**		**06 54 43.2**	**0.0**
LPK				*e*SG	**Sb**		**06 54 53.5**	**-0.1**
LPK	**Lapseki**	**0.73**	**89**	*e*Pg	**Pg**		**06 54 43.3**	**0.0**
LPK				*e*Sg	**Sb**		**06 54 53.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.09**	**73**	*e*PN	**Pb**		**06 54 49.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.09**	**73**	*e*Pn	**Pb**		**06 54 49.3**	**-0.7**
SART	**Tekirdag**	**1.10**	**73**	*i* P	**Pb**		**06 54 49.4**	**-0.6**
SART				*i* S	**Sg**		**06 55 04.7**	**+0.2**
SART	**Tekirdag**	**1.10**	**73**	*i* P	**Pb**		**06 54 49.4**	**-0.6**
SART				*i* S	**Sg**		**06 55 04.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.14**	**88**	*e*PN	**Pb**		**06 54 50.2**	**-0.5**
KRBG	**Karabiga-Canak**	**1.14**	**88**	*e*Pn	**Pb**		**06 54 50.2**	**-0.5**
PRK	**Paraskevi**	**1.18**	**162**	*e*PB	**Pb**		**06 54 51.1**	**-0.2**
PRK				*e*SB	**Sg**		**06 55 06.9**	**-0.1**
PRK	**Paraskevi**	**1.18**	**162**	*e*Pb	**Pb**		**06 54 51.1**	**-0.2**
PRK				*e*Sb	**Sg**		**06 55 06.9**	**-0.1**
MFT	**Murefte**	**1.20**	**69**	*e*PN	**Pg**		**06 54 52.0**	**-0.2**
MFT	**Murefte**	**1.20**	**69**	*e*Pn	**Pg**		**06 54 52.0**	**-0.2**
AYVA	**Ayvalik**	**1.26**	**147**	*i* P	**Pn**		**06 54 52.4**	**-0.1**
AYVA				*i* S	**Sn**		**06 55 09.5**	**+0.2**
AYVA	**Ayvalik**	**1.26**	**147**	*i* P	**Pn**		**06 54 52.4**	**-0.1**
AYVA				*i* S	**Sn**		**06 55 09.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.48**	**102**	*e*Pn	**Pb**		**06 54 56.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.48**	**102**	*e*Pn	**Pb**		**06 54 56.1**	**-0.4**
BALY	**Balya**	**1.53**	**114**	*i* P	**Pn**		**06 54 55.7**	**-0.5**
BALY				*i* S	**Sn**		**06 55 15.5**	**-0.5**
BALY	**Balya**	**1.53**	**114**	*i* P	**Pn**		**06 54 55.7**	**-0.5**
BALY				*i* S	**Sn**		**06 55 15.5**	**-0.5**
EDC	**Edincik**	**1.57**	**90**	*e*PN	**Pn**		**06 54 57.3**	**+0.5**
EDC	**Edincik**	**1.57**	**90**	*e*Pn	**Pn**		**06 54 57.3**	**+0.5**
EDRB	**Edirne**	**1.64**	**25**	*e*PN	**Pn**		**06 54 58.3**	**+0.6**
EDRB	**Edirne**	**1.64**	**25**	*e*Pn	**Pn**		**06 54 58.3**	**+0.6**
BALB	**Balikesir**	**1.75**	**114**	*e*PN	**Pb**		**06 55 00.4**	**-0.8**
BALB	**Balikesir**	**1.75**	**114**	*e*Pn	**Pb**		**06 55 00.4**	**-0.8**
NVR	**Nevrokopi**	**1.77**	**304**	*e*PB	**Pg**		**06 55 02.3**	**-0.7**
NVR				*e*SB	**Sg**		**06 55 26.0**	**0.0**
NVR	**Nevrokopi**	**1.77**	**304**	*e*Pb	**Pg**		**06 55 02.3**	**-0.7**
NVR				*e*Sb	**Sg**		**06 55 26.0**	**0.0**
PLG	**Polygyros**	**1.80**	**271**	*e*PG	**Pb**		**06 55 02.4**	**+0.4**
PLG				*e*SB	**Sg**		**06 55 26.4**	**-0.6**
PLG	**Polygyros**	**1.80**	**271**	*e*Pg	**Pb**		**06 55 02.4**	**+0.4**
PLG				*e*Sb	**Sg**		**06 55 26.4**	**-0.6**
SOH	**Sokhos**	**1.92**	**284**	*e*PG	**Pb**		**06 55 04.8**	**+0.8**
SOH				*e*SN	**Sg**		**06 55 30.4**	**-0.4**
SOH	**Sokhos**	**1.92**	**284**	*e*Pg	**Pb**		**06 55 04.8**	**+0.8**
KCTX	**Karacabey (Bur**	**1.96**	**92**	*e*PN	**Pn**		**06 55 02.7**	**+0.6**
KCTX	**Karacabey (Bur**	**1.96**	**92**	*e*Pn	**Pn**		**06 55 02.7**	**+0.6**
CHOS	**Chios island**	**1.99**	**174**	*e*PN	**Pb**		**06 55 05.2**	**0.0**
CHOS				*e*SN	**Sg**		**06 55 32.4**	**-0.6**
CHOS	**Chios island**	**1.99**	**174**	*e*Pn	**Pb**		**06 55 05.2**	**0.0**
CHOS				*e*Sn	**Sg**		**06 55 32.4**	**-0.6**
DURS	**Dursunbey**	**2.19**	**110**	*i* P	**Pn**		**06 55 05.2**	**-0.2**
DURS				*i* S	**Sb**		**06 55 36.7**	**+0.9**
DURS	**Dursunbey**	**2.19**	**110**	*i* P	**Pn**		**06 55 05.2**	**-0.2**
DURS				*i* S	**Sb**		**06 55 36.7**	**+0.9**
CTKS	**Kestanelik-??a**	**2.23**	**66**	*e*PN	**Pn**		**06 55 06.6**	**+0.8**
CTKS	**Kestanelik-??a**	**2.23**	**66**	*e*Pn	**Pn**		**06 55 06.6**	**+0.8**
DST	**Dursunbey**	**2.29**	**109**	*e*PN	**Pn**		**06 55 08.5**	**+1.8**
DST	**Dursunbey**	**2.29**	**109**	*e*Pn	**Pn**		**06 55 08.5**	**+1.8**

NIED ***21*** *07:09:00, 37°.80N×142°.00E, h35km, Mw4.0 Best double couple: Ms1.33000×10¹⁵ NP1:φ0=40.00000°, δ72.00000°,

ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 41.78 312 P **P** **07 17 14.9 +0.4**
MK31 Makanchi Array 44.16 302 *e*P **P** **07 17 34.0 0.0**
MK31 Makanchi Array 44.16 302 *e*P **P** **07 17 34.0 0.0**
MKAR Makanchi Array 44.16 302 P **P** **07 17 34.0 +0.1**
comp=Z,1.5nm,0.6s,baz=83,slow=9.6,SNR=18
MKAR Makanchi Array 44.16 302 *c*e**P** **P** **07 17 34.0 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.16 302 P **P** **07 17 34.0 +0.1**
KURK Kurchatov 45.87 308 P **P** **07 17 48.0 +0.5**
comp=Z,5.8nm,0.5s,baz=81,slow=8.0,SNR=16
KURK Kurchatov 45.87 308 *e*P **P** **07 17 47.3 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 45.87 308 P **P** **07 17 47.0 -0.4**
comp=Z,13nm,0.9s
ILAR Eielson Array 48.53 33 P **P** **07 18 08.7 +0.7**
comp=Z,0.8nm,0.6s,baz=262,slow=5.8,SNR=15
ILAR Eielson Array 48.53 33 P **P** **07 18 08.7 +0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 48.53 33 P **P** **07 18 08.7 +0.7**
TKM2 Tokmak 2 49.73 298 *e*P **P** **07 18 18.4 +0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 49.73 298 *e*P **P** **07 18 18.4 +0.6**
comp=Z,5.0nm,0.6s
BRVK Borovoye 50.49 312 *e*P **P** **07 18 22.7 -0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 50.59 298 P **P** **07 18 24.2 0.0**
comp=Z,1.7nm,0.7s,baz=60,slow=8.1,SNR=3.6
AAK Ala-Archa 50.59 298 *e*P **P** **07 18 23.9 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 50.59 298 P **P** **07 18 24.2 0.0**
KKAR Karatay Array 53.19 300 *e*P **P** **07 18 43.5 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 53.19 300 *e*P **P** **07 18 43.5 +0.1**
comp=Z,3.0nm,0.8s
INK Inuvik 53.42 27 P **P** **07 18 45.9 +1.2**
comp=Z,0.4nm,0.5s,baz=304,slow=5.0,SNR=4.7
INK Inuvik 53.42 27 P **P** **07 18 45.9 +1.2**
INK Inuvik 53.42 27 P **P** **07 18 45.9 +1.2**
ARU Arti 56.12 318 *d* i**P** **P** **07 19 04.8 +0.4**
ARU 07 21 08.9
ARU S **S** **07 26 51.8 +1.4**
ARU SS **SS** **07 30 32.3 -4.2**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 57.84 310 *e*P **P** **07 19 16.3 -0.3**
comp=Z,2.5nm,0.6s
WRA Warramunga Arr 57.93 189 P **P** **07 19 16.7 -0.9**
comp=Z,1.6nm,0.6s,baz=6.1,slow=7.2,SNR=23
WRA Warramunga Arr 57.93 189 P **P** **07 19 16.7 -0.9**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 57.93 189 P **P** **07 19 16.7 -0.9**
AKTO Aktyubinsk 58.54 312 P **P** **07 19 20.3 -1.3**
comp=Z,2.7nm,0.8s,baz=74,slow=8.6,SNR=5.0
AKTO Aktyubinsk 58.54 312 P **P** **07 19 20.3 -1.3**
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 58.54 312 P **P** **07 19 20.3 -1.3**
ASAR Alice Springs 61.66 189 P **P** **07 19 41.4 -1.8**
comp=Z,0.4nm,0.6s,baz=10,slow=7.6,SNR=5.4
ASAR Alice Springs 61.66 189 P **P** **07 19 41.4 -1.8**
ASAR Alice Springs 61.66 189 P **P** **07 19 41.4 -1.8**
YKA Yellowknife Ar 62.84 31 P **P** **07 19 51.2 +0.6**
comp=Z,0.5nm,0.6s,baz=303,slow=6.4,SNR=14
YKA Yellowknife Ar 62.84 31 P **P** **07 19 51.3 +0.6**
YKA Yellowknife Ar 62.84 31 P **P** **07 19 51.2 +0.6**
ARCES ARCESS Array B 63.44 339 P **P** **07 19 54.2 -0.3**
comp=Z,4.9nm,1.0s,baz=58,slow=11,SNR=3.2
ARCES ARCESS Array B 63.44 339 P **P** **07 19 54.2 -0.3**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 63.44 339 P **P** **07 19 54.2 -0.3**
FINES FINESS Array B 68.36 332 P **P** **07 20 25.5 -0.7**
comp=Z,3.1nm,0.9s,baz=59,slow=11,SNR=4.5
FINES FINESS Array B 68.36 332 P **P** **07 20 25.5 -0.7**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 68.36 332 P **P** **07 20 25.5 -0.7**
KIV Kislovodsk 70.79 311 *e*P **P** **07 20 41.0 -0.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 73.65 337 P **P** **07 20 58.2 -0.2**
comp=Z,1.1nm,0.7s,baz=39,slow=5.8,SNR=3.1
NOA NORSAR Array B 73.65 337 P **P** **07 20 58.2 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 73.65 337 P **P** **07 20 58.2 -0.2**
AKASG Malin Array Be 73.99 322 P **P** **07 20 59.9 -0.6**
comp=Z,1.1nm,0.4s,baz=44,slow=6.3,SNR=9.3
AKASG Malin Array Be 73.99 322 P **P** **07 20 59.9 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 73.99 322 P **P** **07 20 59.9 -0.6**
FRB Frobisher Bay 75.87 14 P **P** **07 21 11.1 0.0**
comp=Z,3.1nm,0.5s,baz=337,slow=7.3,SNR=10
FRB Frobisher Bay 75.87 14 P **P** **07 21 11.1 0.0**
FRB pmax pmax
comp=Z,3.0nm,0.5s
FRB Frobisher Bay 75.87 14 P **P** **07 21 11.1 0.0**
PDAR Pinedale Array 76.72 46 P **P** **07 21 17.4 +0.7**
comp=Z,0.6nm,0.6s,baz=282,slow=2.0,SNR=5.8
PDAR Pinedale Array 76.72 46 P **P** **07 21 17.4 +0.7**
BRTR Keskin Array B 78.72 312 P **P** **07 21 28.6 +0.8**
comp=Z,0.8nm,0.9s,baz=95,slow=5.1,SNR=3.5
BRTR Keskin Array B 78.72 312 P **P** **07 21 28.6 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 78.72 312 P **P** **07 21 28.6 +0.8**
GERES GERESS Array B 82.31 329 P **P** **07 21 46.0 -0.8**
comp=Z,0.5nm,0.4s,baz=15,slow=5.5,SNR=5.4
GERES GERESS Array B 82.31 329 P **P** **07 21 46.0 -0.8**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 82.31 329 P **P** **07 21 46.0 -0.8**
TXAR Lajitas Array 89.20 53 P **P** **07 22 22.0 +0.7**
comp=Z,0.3nm,0.5s,baz=296,slow=2.4,SNR=6.6
TXAR Lajitas Array 89.20 53 P **P** **07 22 22.0 +0.7**
TXAR Lajitas Array 89.20 53 P **P** **07 22 22.0 +0.7**
LPAZ La Paz 145.82 59 PKPbc **PKPab** **07 29 05.8 0.0**
comp=Z,1.2nm,0.6s,baz=29,slow=2.3,SNR=6.9
LPAZ La Paz 145.82 59 PKP2 **PKPab** **07 29 05.9 0.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 145.82 59 PKPbc **PKPab** **07 29 05.8 0.0**
SIV San Ignacio 150.15 49 PKPbc **PKPbc** **07 29 15.8 -0.5**
comp=Z,1.3nm,1.0s,baz=332,slow=3.1,SNR=3.7
SIV San Ignacio 150.15 49 PKPbc **PKPbc** **07 29 15.8 -0.5**

SKHL 21 07:14:54.1±0.8, 53.68N×142.59E, h10km, mb4.0/3, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OKH	**Okha**	**0.24**	**122**	*e*Pg		Pg	07 14 58.8	-0.2
OKH				↓*i*Pg		Pg	07 14 58.8	-0.2
OKH					AMB	AMB	07 14 59.3	
	400nm,0.3s							
OKH				↓*i*Sg		Sg	07 15 02.0	-0.3
OKH					A	A	07 15 02.2	
	4μm,0.1s							
OKH					A	A	07 15 02.2	
	4μm,0.1s							
OKH					A	A	07 15 03.8	
	2μm,0.8s							
NKL	**Nikolayevsk**	**1.26**	**246**	*i* Pg		Pg	07 15 19.0	+0.7
NKL					AMB	AMB	07 15 19.5	
	10.0nm,0.3s							
NKL					AMB	AMB	07 15 19.5	
	28nm,0.3s							
NKL					AMB	AMB	07 15 19.5	
	32nm,0.3s							
NKL				*e*Sg		Sn	07 15 37.0	+2.3
NKL					A	A	07 15 38.0	
	180nm,0.4s							
TYV	**Tymovskoe**	**2.82**	**179**	*e*Pg		Pg	07 15 50.5	+2.3
TYV					AMB	AMB	07 15 51.5	
	5.0nm,0.5s							
TYV				*e*Sg		Sg	07 16 29.5	+4.8
TYV					A	A	07 16 31.0	
	7.0nm,0.7s							
GRNR	**Gornyy**	**4.78**	**235**	*e*Sg		Sg	07 17 34.0	+6.3
GRNR					A	A	07 17 41.0	
	16nm,0.5s							
EKMR	**Ekimchan**	**5.80**	**268**	*e*Pg		Pg	07 16 49.3	+4.1
EKMR					AMB	AMB	07 16 53.0	
	4.0nm,0.7s							
EKMR				*e*Sg		Sg	07 18 07.5	+7.1
EKMR					A	A	07 18 08.5	
	4.0nm,0.5s							

KRSC 21 07:15:30.5±0.3, 52.00N×159.22E, h23km±22km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RUS	**Russkaya**	**0.61**	**315**	P		Pn	07 15 43.6	-0.2
RUS				*i* S		Sn	07 15 52.5	-0.5
MTVR	**Mutnovka**	**0.80**	**308**	*e*P		Pn	07 15 46.4	-0.2
MTVR				*i* S		Sn	07 15 57.6	-0.3
GRL	**Gorelyy**	**0.90**	**309**	P		Pn	07 15 48.2	+0.3
GRL				*i* S		Sn	07 16 00.7	+0.5
ASAK	**Asacha**	**0.90**	**296**	P		Pn	07 15 47.7	-0.1
ASAK				*i* S		Sb	07 15 59.5	+0.3
PET	**Petropavlovsk**	**1.08**	**342**	*e*P		Pb	07 15 50.7	+0.2
PET				*i* S		Sn	07 16 05.3	+0.8
NLC	**Nalytchevo**	**1.18**	**4**	P		Pn	07 15 50.7	-0.8
NLC				*i* S		Sn	07 16 05.7	-1.1
SPN	**Mys Shipunski**	**1.20**	**24**	*e*P		Pb	07 15 53.9	+1.3
SPN				*i* S		Sb	07 16 11.4	+3.7
UGLR	**Uglovaya**	**1.23**	**349**	P		Pb	07 15 53.2	-0.1
UGLR				*i* S		Sb	07 16 10.7	+1.8
SMAR	**Somma**	**1.29**	**349**	P		Pn	07 15 53.8	+0.4
SDLR	**Sedlovina**	**1.30**	**351**	*e*P		Pn	07 15 53.7	+0.3
SDLR				*i* S		Sb	07 16 11.3	+0.6
AVH	**Avacha**	**1.30**	**347**	*e*P		Pb	07 15 54.4	0.0
AVH				*i* S		Sb	07 16 12.2	+1.5
KOK	**Koryaka**	**1.34**	**345**	P		Pb	07 15 55.1	0.0
KOK				*i* S		Sb	07 16 12.2	+0.2
MIPR	**Malaya Ipel'ka**	**1.54**	**281**	P		Pn	07 15 56.8	+0.2
MKZ	**Mys Kozlova**	**2.97**	**29**	P		Pn	07 16 17.9	+1.7
MKZ				*i* S		Sn	07 16 53.7	+2.7
KBTR	**Krutoberegovo**	**4.72**	**25**	P		Pn	07 16 43.3	+3.1
KBTR				*i* S		Sn	07 17 36.0	+1.9

*ISCJB **21** 07:38:53.8±0.9, 17.93N±0.08×64.01W±0.04, h116km±8km, Error ellipse: s-maj=12.8km s-min=6.1km az=15.4*
*TRN **21** 07:38:53.5, 17.95N×63.99W, h109km, MD3.5(RSPR)*
*RSPR **21** 07:38:55.7, 17.99N×64.05W, h112km, MD3.5/4*
*NEIC **21** 07:38:55.7, 17.99N×64.05W, h112km, MD3.5(RSPR), After RSPR.*

ISC 21 07:38:54.1±1.7, 17.96N±0.07×63.98W±0.05, h117km±11km, n48, σ0°47/67, 19C-21D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TBVI	**Tortola**	**0.76**	**307**	↑*e*P		Pn	07 39 13.5	-0.1
TBVI				*e*S		Sn	07 39 27.4	-0.9
TBVI	**Tortola**	**0.76**	**307**	↑*e*P		Pn	07 39 13.5	-0.1
TBVI				*e*S		Sn	07 39 27.4	-0.9
TBVI	**Tortola**	**0.76**	**307**	↑*e*P		Pn	07 39 13.5	-0.1
TBVI				*e*S		Sn	07 39 27.4	-0.9
CDVI	**St. Croix**	**0.77**	**255**	↓*e*P		Pn	07 39 14.1	+0.4
CDVI	**St. Croix**	**0.77**	**255**	*e*S		Sn	07 39 28.4	-0.1
CDVI	**St. Croix**	**0.77**	**255**	↓*e*P		Pn	07 39 14.1	+0.4
CDVI				*e*S		Sn	07 39 28.4	-0.1
CDVI	**St. Croix**	**0.77**	**255**	↓*e*P		Pn	07 39 14.5	+0.8
CDVI				*e*S		Sn	07 39 28.4	-0.1
ABV	**Anegada**	**0.84**	**337**	↓*i*P		Pn	07 39 14.7	+0.4
ABV				*e*S		Sn	07 39 29.7	+0.1
ABV	**Anegada**	**0.84**	**337**	↓*i*P		Pn	07 39 14.7	+0.4
ABV				*e*S		Sn	07 39 29.7	+0.1
ABVI	**Anegada Island**	**0.84**	**337**	↓*i*P		Pn	07 39 14.7	+0.4
ABVI				*e*S		Sn	07 39 29.7	+0.1
STVI	**Saint Thomas**	**1.00**	**293**	↓*e*P		Pn	07 39 16.1	+0.3
STVI	**Saint Thomas**	**1.00**	**293**	*e*S		Sn	07 39 31.6	-0.7
STVI	**Saint Thomas**	**1.00**	**293**	↓*e*P		Pn	07 39 16.1	+0.3
STVI				*e*S		Sn	07 39 31.6	-0.7
STVI	**Saint Thomas**	**1.00**	**293**	↓*e*P		Pn	07 39 16.8	+1.0
STVI				*e*S		Sn	07 39 31.6	-0.7
SKI	**Saint Kitts**	**1.34**	**117**	*e*P		Pn	07 39 19.6	+0.2
SKI				*e*S		Sn	07 39 39.0	+0.3
MTP	**Monte Pirata**	**1.50**	**276**	↓*e*P		Pn	07 39 21.6	+0.4
MTP	**Monte Pirata**	**1.50**	**276**	*e*S		Sn	07 39 42.0	0.0
MTP	**Monte Pirata**	**1.50**	**276**	↓*e*P		Pn	07 39 21.6	+0.4
MTP				*e*S		Sn	07 39 42.0	0.0
MTP	**Monte Pirata**	**1.50**	**276**	↓*e*P		Pn	07 39 21.6	+0.4
MTP				*e*S		Sn	07 39 42.0	0.0
HUMP	**Col San Antoni**	**1.79**	**276**	↑*e*P		Pn	07 39 24.9	+0.2
HUMP	**Col San Antoni**	**1.79**	**276**	*e*S		Sn	07 39 47.9	-0.2
HUMP	**Col San Antoni**	**1.79**	**276**	↑*e*P		Pn	07 39 24.9	+0.2
HUMP				*e*S		Sn	07 39 47.9	-0.2
HUMP	**Col San Antoni**	**1.79**	**276**	↑*e*P		Pn	07 39 24.9	+0.2
HUMP				*e*S		Sn	07 39 47.9	-0.2
CBYP	**Canovanas**	**1.81**	**280**	↑*e*P		Pn	07 39 25.2	+0.1
CBYP	**Canovanas**	**1.81**	**280**	↑*e*P		Pn	07 39 25.2	+0.1
CBYP	**Canovanas**	**1.81**	**280**	↑*e*P		Pn	07 39 25.2	+0.1
CPD	**Cerro la Pandu**	**1.84**	**273**	↓*e*P		Pn	07 39 25.7	+0.3
CPD	**Cerro la Pandu**	**1.84**	**273**	↓*e*P		Pn	07 39 25.7	+0.3
CPD	**Cerro la Pandu**	**1.84**	**273**	↓*e*P		Pn	07 39 25.7	+0.3
SJG	**San Juan**	**2.07**	**275**	↑*e*P		Pn	07 39 28.6	+0.4
SJG	**San Juan**	**2.07**	**275**	↑*e*P		Pn	07 39 28.6	+0.4
SJG	**San Juan**	**2.07**	**275**	↑*e*P		Pn	07 39 28.6	+0.4
CELP	**Cerrillos**	**2.47**	**273**	↓*e*P		Pn	07 39 33.7	+0.3
CELP	**Cerrillos**	**2.47**	**273**	↓*e*P		Pn	07 39 33.7	+0.3
CELP	**Cerrillos**	**2.47**	**273**	↓*e*P		Pn	07 39 33.7	+0.3
OBIP	**Obispado Ponce**	**2.50**	**272**	↓*e*P		Pn	07 39 34.1	+0.5
OBIP	**Obispado Ponce**	**2.50**	**272**	↓*e*P		Pn	07 39 34.1	+0.5
OBIP	**Obispado Ponce**	**2.50**	**272**	↓*e*P		Pn	07 39 34.1	+0.5
AOPR	**Arecibo Observ**	**2.66**	**279**	↓*e*P		Pn	07 39 36.2	+0.3
AOPR	**Arecibo Observ**	**2.66**	**279**	↓*e*P		Pn	07 39 36.2	+0.3
AOPR	**Arecibo Observ**	**2.66**	**279**	↓*e*P		Pn	07 39 36.2	+0.3
LRS	**Lares**	**2.74**	**277**	*e*Pn		Pn	07 39 36.6	-0.3
LRS				*e*Sn		Sn	07 40 08.3	-1.6
LZG	**Guadaloupe-1**	**2.78**	**130**	↑*i*P		Pn	07 39 37.1	-0.3
CRPR	**Cabo Rojo, PR**	**2.98**	**271**	*e*Pn		Pn	07 39 39.1	-0.8
CRPR				*e*Sn		Sn	07 40 15.4	+0.1
AGPR	**Aguadilla, PR**	**3.02**	**280**	↑*e*P		Pn	07 39 41.0	+0.6
AGPR	**Aguadilla, PR**	**3.02**	**280**	*e*S		Sn	07 40 16.3	0.0
AGPR	**Aguadilla, PR**	**3.02**	**280**	↑*e*P		Pn	07 39 41.0	+0.6
AGPR				*e*S		Sn	07 40 16.3	0.0
AGPR	**Aguadilla, PR**	**3.02**	**280**	↑*e*P		Pn	07 39 41.4	+0.9
AGPR				*e*S		Sn	07 40 16.3	0.0

*IDC **21** 07:39:24.2±1.1, 51.45N×168.52W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/28, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=33.1km s-min=18.8km az=178.0*
*ISCJB **21** 07:39:26.5±0.6, 51.53N±0.05×168.45W±0.09, h23km, mb3.8/8, Error ellipse: s-maj=8.4km s-min=6.7km az=23.1*
*NEIC **21** 07:39:28.9, 51.59N×168.43W, h13km, mb4.0/4, After AEIC.*

ISC 21 07:39:28.0±0.8, 51.56N±0.09×168.46W±0.07, h23km, n37, σ0°91/40, mb3.9/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIKO	**Nikolski**	**1.43**	**350**	P		Pn	07 39 51.6	-1.0
NIKO				S		Sn	07 40 10.4	-0.2
OKSO	**Okmok South**	**1.81**	**6**	P		Pn	07 39 57.2	-0.5
OKSO				S		Sn	07 40 19.5	-0.4
OKCE	**Okmok Cone E**	**1.88**	**5**	P		Pn	07 39 58.5	-0.1
OKFG	**Magazine Ridge**	**1.88**	**10**	P		Pn	07 39 58.5	-0.2
OKWE	**Okmok W'ng Wal**	**1.92**	**4**	P		Pn	07 39 59.7	+0.5
OKRE	**Okmok R'deer P**	**1.97**	**5**	P		Pn	07 40 00.7	+0.8
MSOM	**Makushin Julie**	**2.44**	**22**	P		Pn	07 40 06.0	-0.4
MREP	**Makushin Rep't**	**2.48**	**24**	P		Pn	07 40 07.4	+0.4
MSW	**Makushin Switc**	**2.57**	**23**	P		Pn	07 40 08.1	-0.1
MSW				S		Sn	07 40 38.7	+0.1
UNV	**Unalaska Valle**	**2.58**	**27**	P		Pn	07 40 07.7	-0.6
UNV				S		Sn	07 40 39.0	+0.2
KOFP	**Korovin Flat P**	**3.56**	**284**	P		Pn	07 40 22.9	+1.0
ATKA	**Atka Island**	**3.61**	**282**	P		Pn	07 40 21.9	-0.5
KDAK	**Kodiak Island**	**11.09**	**50**	Pn		Pn	07 42 02.9	-2.0
	1.3nm,0.3s,baz=129,slow=21,SNR=17							
KDAK	**Kodiak Island**	**11.09**	**50**	Pn		**Pn**	**07 42 02.9**	**-2.0**
BMRM	**Bremner River**	**16.16**	**45**	*e*Pn		**Pn**	**07 43 13.4**	**-0.1**
	13nm,1.0s							
ILAR	**Eielson Array**	**17.32**	**32**	P		**Pn**	**07 43 27.9**	**0.0**
	0.1nm,0.3s,baz=233,slow=11,SNR=7.9							
ILAR	**Eielson Array**	**17.32**	**32**	P		**Pn**	**07 43 27.9**	**0.0**
EGAK	**Eagle**	**19.34**	**36**	*e*P		**Pn**	**07 43 54.5**	**+2.0**
	2.1nm,0.6s							
SKAG	**Skagway**	**20.18**	**54**	*e*P		Pn	07 44 02.2	-0.2
	5.2nm,0.6s							
PETK	**Petropavlovsk-**	**20.63**	**288**	P		**P**	**07 44 03.7**	**-1.8**
	2.9nm,1.0s,baz=112,slow=11,SNR=3.0							
PETK	**Petropavlovsk-**	**20.63**	**288**	P		**P**	**07 44 03.7**	**-1.8**
INK	**Inuvik**	**23.72**	**32**	P		**P**	**07 44 38.6**	**+0.7**
	4.7nm,0.5s,baz=222,slow=10,SNR=18							
INK	**Inuvik**	**23.72**	**32**	*e*P		**P**	**07 44 38.8**	**+0.9**
	9.5nm,0.9s							
YKA	**Yellowknife Ar**	**30.36**	**48**	P		**P**	**07 45 38.2**	**+0.6**
	1.0nm,0.6s,baz=268,slow=7.8,SNR=22							
YKA	**Yellowknife Ar**	**30.36**	**48**	P		**P**	**07 45 38.2**	**+0.6**
NVAR	**Mina Array Bea**	**37.09**	**91**	P		**P**	**07 46 37.4**	**+0.8**
	1.4nm,0.7s,baz=294,slow=8.8,SNR=12							
NVAR	**Mina Array Bea**	**37.09**	**91**	P		**P**	**07 46 37.4**	**+0.8**
PDAR	**Pinedale Array**	**40.01**	**79**	P		**P**	**07 47 01.1**	**+0.1**
	0.6nm,0.8s,baz=285,slow=3.2,SNR=5.8							
PDAR	**Pinedale Array**	**40.01**	**79**	P		**P**	**07 47 01.1**	**+0.1**
ULM	**Lac du Bonnet**	**44.03**	**62**	P		**P**	**07 47 33.2**	**-0.3**
	1.4nm,0.7s,baz=270,slow=6.1,SNR=3.3							
ULM	**Lac du Bonnet**	**44.03**	**62**	P		**P**	**07 47 33.2**	**-0.3**
TXAR	**Lajitas Array**	**52.20**	**89**	P		**P**	**07 48 36.4**	**-0.6**
	0.7nm,0.5s,baz=301,slow=6.3,SNR=16							
TXAR	**Lajitas Array**	**52.20**	**89**	P		**P**	**07 48 36.4**	**-0.6**
MKAR	**Makanchi Array**	**64.77**	**314**	P		**P**	**07 50 05.4**	**+1.0**
	0.2nm,0.7s,baz=37,slow=8.0,SNR=2.7							
MKAR	**Makanchi Array**	**64.77**	**314**	P		**P**	**07 50 05.4**	**+1.0**
ASAR	**Alice Springs**	**90.31**	**231**	P		**P**	**07 52 26.4**	**-0.5**
	0.6nm,0.9s,baz=36,slow=4.5,SNR=5.8							
ASAR	**Alice Springs**	**90.31**	**231**	P		**P**	**07 52 26.4**	**-0.5**

*IDC **21** 07:49:40.5±0.7, 0.53S×132.83E, h0km, mb4.2/10, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, ML4.3/3, MS3.6/8, Ms1 3.7/8, ms1mx3.3/32, Error ellipse: s-maj=30.8km s-min=11.2km az=78.0*
*ISCJB **21** 07:49:43.3±0.4, 0.44S±0.05×132.97E±0.06, h32km, mb4.3/14, MS3.7/6, Error ellipse: s-maj=8.7km s-min=6.6km az=165.9*
*NEIC **21** 07:49:45.8±0.3, 0.51S×132.90E, h35km, mb4.5/7, Error ellipse: s-maj=9.9km s-min=5.8km az=70.0*
*DJA **21** 07:49:49, 0.61S×132.80E, h41km, mb5.0/11*

ISC 21 07:49:45.6±0.6, 0.47S±0.06×132.85E±0.06, h32km, n55, σ1°903/50, mb4.3/14, MS3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SWI	**Sorong**	**1.64**	**256**	P		**Pn**	**07 50 12.2**	**-0.1**
FAKI	**Fak Fak**	**2.50**	**194**	P		**Pn**	**07 50 25.5**	**+1.3**
BAKI	**Biak**	**3.33**	**102**	P		**Pn**	**07 50 37.5**	**+2.0**
MSAI	**Masohi**	**4.85**	**234**	P		Pn	07 51 00.6	+4.1
BNDI	**Bandanaira**	**4.99**	**216**	P		**Pn**	**07 50 59.7**	**+1.4**
TLE	**Tual**	**5.13**	**181**	P		Pn	07 51 02.5	+2.2
	741nm,0.8s,11μm3.9nm							
LBMI	**Labuha**	**5.36**	**268**	P		**Pn**	**07 51 04.6**	**+1.2**
	195nm,0.8s,2μm0.6nm							
AAI	**Ambon**	**5.64**	**236**	P		Pn	07 51 10.0	+2.6
	762nm,0.8s,7μm2.9nm							
DAV	**Davao City (W)**	**10.43**	**316**	LR		LR	07 56 43.8	
	comp=Z,368nm,18.6s,baz=209,slow=40							
KAPI	**Kappang**	**13.84**	**251**	Pn		**Pn**	**07 53 00.8**	**+1.1**
	2.9nm,0.3s,baz=158,slow=15,SNR=11							
KAPI	**Kappang**	**13.84**	**251**	*e*Pn		**Pn**	**07 53 00.4**	**+0.7**
	16nm,0.7s							
PMG	**Port Moresby**	**16.78**	**122**	Pn		**Pn**	**07 53 38.6**	**+0.3**
	0.7nm,0.3s,baz=284,slow=11,SNR=21							
PMG	**Port Moresby**	**16.78**	**122**	*e*Pn		**Pn**	**07 53 37.5**	**-0.8**
	34nm,0.8s							
COEN	**Coen**	**16.85**	**143**	*e*P		**Pn**	**07 53 37.1**	**-2.1**
	53nm,0.6s							
COEN	**Coen**	**16.85**	**143**	*e*Pn		**Pn**	**07 53 37.8**	**-1.4**
	72nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.90**	**202**	P		**P**	**07 54 01.9**	**-1.7**
	0.7nm,0.3s,baz=38,slow=11,SNR=10							
FITZ				S		Sn	07 57 19.5	-16
	0.9nm,0.3s,baz=139,slow=14,SNR=6.0							
FITZ				LR		LR	08 01 42.6	
	comp=Z,54nm,20.5s,baz=29,slow=38							
FITZ	**Fitzroy Crossi**	**18.90**	**202**	*e*P		**P**	**07 54 02.0**	**-1.7**
	33nm,1.3s							
FITZ				*e*S		Sn	07 57 18.9	-16
FITZ	**Fitzroy Crossi**	**18.90**	**202**	P		**P**	**07 54 01.9**	**-1.7**
FITZ				S		Sn	07 57 19.5	-16
WRAB	**Tennant Creek**	**19.39**	**176**	*e*P		**P**	**07 54 08.0**	**-1.1**
	17nm,0.6s							
WRAB				*e*S		S	07 57 33.3	-14
WRA	**Warramunga Arr**	**19.40**	**176**	P		**P**	**07 54 08.7**	**-0.6**
	2.2nm,0.3s,baz=360,slow=11,SNR=112							
WRA				S		S	07 57 33.0	-14
	1.2nm,0.3s,baz=351,slow=24,SNR=6.7							
WRA	**Warramunga Arr**	**19.40**	**176**	P		**P**	**07 54 08.7**	**-0.6**
WRA				S		S	07 57 33.0	-14
WB2	**Warramunga Arr**	**19.40**	**176**	*e*P		**P**	**07 54 08.4**	**-0.8**
WB2				*e*S		S	07 57 30.7	-16
AS31	**Alice Springs**	**23.08**	**178**	*e*P		**P**	**07 54 48.3**	**-0.4**
ASAR	**Alice

ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	08 02 23.0		**-1.0**

GUC 21 08:03:23.7±0.6, 33°.85S×70°.04W, **h7**km±3km, **MD3.7, ML2.4,5C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.14**	**272**	*e*P	Pg	08 03 26.7	-0.1
LMEL				*i* S	Sg	08 03 29.2	+0.3
LMEL				AML	AML	08 03 30.6	
	comp=N,5μm,0.2s						
SJCH	**San Jose de Ma**	**0.34**	**309**	*e*P	Pg	08 03 29.6	-0.9
SJCH				*i* S	Sg	08 03 34.7	-0.3
SJCH				AML	AML	08 03 35.4	
	comp=N,1μm,0.2s						
PCH	**Pirque**	**0.46**	**300**⇑	*i* P	Pg	08 03 32.7	0.0
PCH				*i* S	Sg	08 03 39.5	+0.6
CHCH	**Chadas Angostu**	**0.52**	**261**⇑	*i* P	Pg	08 03 33.7	-0.1
CACH	**El Canelo**	**0.54**	**240**⇓	*i* P	Pg	08 03 34.0	-0.2
FSR	**Penalolen**	**0.55**	**312**	*e*P	Pg	08 03 34.5	0.0
FSR				*e*S	Sg	08 03 42.3	+0.5
FSR				AML	AML	08 03 42.8	
	comp=E,191nm,0.4s						
FCH	**Farellones**	**0.56**	**338**	*i* P	Pg	08 03 35.5	+0.4
FCH				*e*S	Sg	08 03 43.5	+0.7
FCH				AML	AML	08 03 43.8	
	comp=N,322nm,0.2s						
ANTU	**Antumapu**	**0.57**	**299**	*e*P	Pg	08 03 34.5	-0.3
ANTU				*i* S	Sg	08 03 42.9	+0.6
ANTU				AML	AML	08 03 43.3	
	comp=E,380nm,0.4s						
CLCH	**Cerro Calan**	**0.62**	**317**⇑	*i* P	Pg	08 03 35.4	-0.3
CLCH				*i* S	Sg	08 03 44.5	+0.7
CLCH				AML	AML	08 03 45.0	
	comp=E,493nm,0.6s						
TACH	**Talagante**	**0.78**	**285**⇑	*i* P	Pg	08 03 38.2	-0.4
TACH				*i* S	Sg	08 03 49.0	+0.3
PEL	**Peldehue**	**0.89**	**322**⇑	*i* P	Pg	08 03 40.0	-0.9
PEL				*i* S	Sg	08 03 52.4	-0.1
PEL				AML	AML	08 03 55.2	
	comp=N,218nm,0.3s						
LNV	**Longovilo**	**1.15**	**264**⇓	*i* P	Pg	08 03 44.5	-1.3

ISC 21 08:21:38.0±2.0, 37°.1N±0°.1×71°.4E±0°.2, **h106**km, **n16, σ1⁰93/26, 3C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.31**	**19**	P	**Pn**	**08 22 57.3**	**+2.0**
	SNR=28						
AML				P	**Pn**	**08 22 57.3**	**+2.0**
	SNR=28						
KZA	**Kyzart**	**5.78**	**30**	P	**Pn**	**08 23 03.2**	**+1.6**
	SNR=8.2						
KZA				P	**Pn**	**08 23 03.2**	**+1.6**
	SNR=8.2						
EKS2	**Erkin-Say**	**5.83**	**18**	P	**Pn**	**08 23 04.4**	**+2.3**
	SNR=5.2						
EKS2				P	**Pn**	**08 23 04.4**	**+2.3**
	SNR=5.2						
AAK	**Ala-Archa**	**6.00**	**23**	P	**Pn**	**08 23 06.5**	**+2.1**
	SNR=13						
AAK				P	**Pn**	**08 23 06.5**	**+2.1**
	SNR=13						
KK31	**Karatay Array**	**6.01**	**354**	⇑Pn	**Pn**	**08 23 06.2**	**+1.8**
	0.4nm,0.2s,baz=176,slow=13,SNR=6.2						
KK31				Sn	**Sn**	**08 24 09.0**	**-2.9**
	6.2nm,0.6s,baz=170,slow=24,SNR=8.8						
ULHL	**Ulahol**	**6.34**	**35**	P	**Pn**	**08 23 11.6**	**+2.5**
	SNR=6.0						
ULHL				P	**Pn**	**08 23 11.6**	**+2.5**
	SNR=6.0						
CHMS	**Chumysh**	**6.41**	**23**	P	**Pn**	**08 23 11.7**	**+1.8**
	SNR=5.6						
CHMS				P	**Pn**	**08 23 11.7**	**+1.8**
	SNR=5.6						
USP	**Ospenovka**	**6.58**	**20**	P	**Pn**	**08 23 13.6**	**+1.4**
	SNR=8.8						
USP				P	**Pn**	**08 23 13.6**	**+1.4**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.63**	**28**	P	**Pn**	**08 23 14.8**	**+1.8**
	SNR=8.8						
TKM2				P	**Pn**	**08 23 14.8**	**+1.8**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.63**	**28**	⇑Pn	**Pn**	**08 23 14.8**	**+1.8**
	5.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**08 24 25.0**	**-2.2**
	1.7nm,0.6s						
DANN	**Dangsing**	**13.59**	**126**	*e*P	**Pn**	**08 24 45.9**	**-0.8**
	6.5nm,0.3s						
KOLN	**Koldanda**	**13.89**	**129**	*e*P	**Pn**	**08 24 50.1**	**-0.4**
	6.6nm,0.4s						
GKN	**Gorkha**	**14.39**	**125**	*e*P	**Pn**	**08 24 55.7**	**-1.2**
KKN	**Kakani**	**14.96**	**124**	*e*P	**Pn**	**08 25 03.2**	**-0.9**
DMN	**Daman**	**14.97**	**125**	*e*P	**Pn**	**08 25 03.3**	**-1.0**
JIRN	**Jiri**	**15.65**	**123**	*e*P	**Pn**	**08 25 12.7**	**-0.3**
	9.4nm,0.4s						

DDA **21** *08:23:27.2, 38°.60N×33°.37E, h22km, MD3.5*
ISK **21** *08:23:28.6, 38°.71N×33°.33E, h5km, MD3.8*
CSEM **21** *08:23:30.1±0.1, 38°.72N×33°.33E, h2km, MD3.8, Error ellipse: s-maj=3.1km s-min=3.0km az=99.0*

ISC 21 08:23:29.1±1.1, **38°.72N**±0°.02×**33°.33E**±0°.02, **h8**km±10km, **n125, σ1⁰63/135, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	**Sultanhani-AKS**	**0.54**	**164**	*e*PG	**Pb**	**08 23 40.0**	**-0.7**
SULT				*e*SG	**Sb**	**08 23 49.1**	**+0.5**
SULT	**Sultanhani-AKS**	**0.54**	**164**	*e*Pg	**Pb**	**08 23 40.0**	**-0.7**
SULT				*e*Sg	**Sb**	**08 23 49.1**	**+0.5**
KAMT	**Kaman**	**0.72**	**24**	*e*PG	**Pb**	**08 23 42.9**	**-1.0**
KAMT	**Kaman**	**0.72**	**24**	*e*Pg	**Pb**	**08 23 42.9**	**-1.0**
AFSR	**Afˆar-Bala (A**	**0.76**	**344**	*e*PG	**Pn**	**08 23 45.0**	**-1.2**
AFSR				*e*SG	**Sb**	**08 23 56.3**	**+1.2**
AFSR	**Afˆar-Bala (A**	**0.76**	**344**	*e*Pg	**Pn**	**08 23 45.0**	**-1.2**
AFSR				*e*Sg	**Sb**	**08 23 56.3**	**+1.2**
BBAL	**Bala**	**0.84**	**349**	*i* P	**Pb**	**08 23 46.1**	**+0.1**
BBAL				*i* S	**Sn**	**08 23 59.6**	**-0.4**
BBAL	**Bala**	**0.84**	**349**	*i* P	**Pb**	**08 23 46.1**	**+0.1**
BBAL				*i* S	**Sn**	**08 23 59.6**	**-0.4**
LADK	**Ladik-KONYA**	**0.92**	**236**	*e*PG	**Pb**	**08 23 46.8**	**-0.5**
LADK				*e*SG	**Sb**	**08 23 59.8**	**+0.1**
LADK	**Ladik-KONYA**	**0.92**	**236**	*e*Pg	**Pb**	**08 23 46.8**	**-0.5**
LADK				*e*Sg	**Sb**	**08 23 59.8**	**+0.1**
KDHN	**Kadinhani**	**0.97**	**259**	*i* P	**Pg**	**08 23 45.9**	**-1.8**
KDHN				*i* S	**Sn**	**08 24 01.9**	**-1.2**
KDHN	**Kadinhani**	**0.97**	**259**	*i* P	**Pg**	**08 23 45.9**	**-1.8**
KDHN				*i* S	**Sn**	**08 24 01.9**	**-1.2**
BSTP	**Nigde**	**0.98**	**141**	*i* P	**Pn**	**08 23 48.8**	**-0.4**
KONT	**Konya--Tatoy**	**1.08**	**225**	*e*PG	**Pn**	**08 23 49.7**	**-0.8**
KONT				*e*SG	**Sn**	**08 24 05.8**	**0.0**
KONT	**Konya--Tatoy**	**1.08**	**225**	*e*Pg	**Pn**	**08 23 49.7**	**-0.8**
KONT				*e*Sg	**Sn**	**08 24 05.8**	**0.0**
KIZT	**Kizilcal**	**1.15**	**279**	*e*PN	**Pn**	**08 23 52.3**	**+0.8**
KIZT	**Kizilcal**	**1.15**	**279**	*e*Pn	**Pn**	**08 23 52.3**	**+0.8**
NIG	**Nigde**	**1.17**	**121**	*e*PN	**Pg**	**08 23 50.8**	**-0.7**
AVNT	**Avonos**	**1.19**	**86**	*i* P	**Pg**	**08 23 49.9**	**-2.0**
AVNT				*i* S	**Sn**	**08 24 08.9**	**+0.3**
AVNT	**Avonos**	**1.19**	**86**	*i* P	**Pg**	**08 23 49.9**	**-2.0**
AVNT				*i* S	**Sn**	**08 24 08.9**	**+0.3**
CDAG	**Cicekdag**	**1.21**	**41**	*i* P	**Pg**	**08 23 50.9**	**-1.5**
CDAG				*i* S	**Sb**	**08 24 08.4**	**+0.2**
CDAG	**Cicekdag**	**1.21**	**41**	*i* P	**Pg**	**08 23 50.9**	**-1.5**
CDAG				*i* S	**Sb**	**08 24 08.4**	**+0.2**
LOD	**Lodumlu**	**1.25**	**340**	*e*PN	**Pn**	**08 23 53.8**	**+0.9**
LOD	**Lodumlu**	**1.25**	**340**	*e*Pn	**Pn**	**08 23 53.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.59**	**298**	*e*PN	**Pg**	**08 23 59.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.59**	**298**	*e*Pn	**Pg**	**08 23 59.1**	**-0.4**
CORM	**Corum**	**1.77**	**34**	*e*PN	**Pb**	**08 24 01.8**	**-0.1**
CORM	**Corum**	**1.77**	**34**	*e*Pn	**Pb**	**08 24 01.8**	**-0.1**
ELDT	**Eldivan**	**1.77**	**2**	*i* P	**Pn**	**08 24 00.4**	**+0.2**
ELDT				*i* S	**Sg**	**08 24 26.9**	**+0.8**
ELDT	**Eldivan**	**1.77**	**2**	*i* P	**Pn**	**08 24 00.4**	**+0.2**
ELDT				*i* S	**Sg**	**08 24 26.9**	**+0.8**
YOZ	**Yozgat**	**1.80**	**58**	*e*PN	**Pb**	**08 24 01.6**	**-0.7**
YOZ	**Yozgat**	**1.80**	**58**	*e*Pn	**Pb**	**08 24 01.6**	**-0.7**
GULE	**Gulek**	**1.83**	**141**	*i* P	**Pn**	**08 24 00.9**	**0.0**
GULE				*i* S	**Sg**	**08 24 30.9**	**+3.1**
GULE	**Gulek**	**1.83**	**141**	*i* P	**Pn**	**08 24 00.9**	**0.0**
GULE				*i* S	**Sg**	**08 24 30.9**	**+3.1**
BOLV	**Bolvadin**	**1.86**	**271**	*i* P	**Pg**	**08 24 05.4**	**+0.6**
BOLV				*i* S	**Sg**	**08 24 31.4**	**+2.4**
BOLV	**Bolvadin**	**1.86**	**271**	*i* P	**Pg**	**08 24 05.4**	**+0.6**
BOLV				*i* S	**Sg**	**08 24 31.4**	**+2.4**
CANT	**Cankiri**	**1.90**	**7**	*e*PN	**Pb**	**08 24 03.7**	**-0.3**
BNN	**Bunyan**	**1.97**	**85**	*e*PN	**Pb**	**08 24 04.5**	**-0.7**
BNN	**Bunyan**	**1.97**	**85**	*e*Pn	**Pb**	**08 24 04.5**	**-0.7**
MERS	**Mersin**	**2.07**	**153**	*e*PN	**Pb**	**08 24 06.0**	**-0.9**
MERS	**Mersin**	**2.07**	**153**	*e*Pn	**Pb**	**08 24 06.0**	**-0.9**
ESKT	**Eskisehir**	**2.09**	**293**	*e*PN	**Pb**	**08 24 06.6**	**-0.7**
ESKT	**Eskisehir**	**2.09**	**293**	*e*Pn	**Pb**	**08 24 06.6**	**-0.7**
SEYT	**Eskypehyr**	**2.09**	**293**	*i* P	**Pb**	**08 24 05.4**	**-1.9**
SEYT				*i* S	**Sg**	**08 24 40.8**	**+4.6**
SEYT	**Eskypehyr**	**2.09**	**293**	*i* P	**Pb**	**08 24 05.4**	**-1.9**
ERMK	**Ermenek**	**2.10**	**189**	*i* P	**Pb**	**08 24 05.6**	**-1.8**
ERMK	**Ermenek**	**2.10**	**189**	*i* P	**Pb**	**08 24 05.6**	**-1.8**
SHUT	**Suhut-Afyon**	**2.19**	**267**	*e*PN	**Pb**	**08 24 07.8**	**-1.1**
SHUT	**Suhut-Afyon**	**2.19**	**267**	*e*Pn	**Pb**	**08 24 07.8**	**-1.1**
CTKT	**Corum**	**2.21**	**30**	*i* P	**Pb**	**08 24 08.4**	**-1.0**
CTKT	**Corum**	**2.21**	**30**	*i* P	**Pb**	**08 24 08.4**	**-1.0**
KOZT	**Kozan**	**2.32**	**121**	*e*PN	**Pb**	**08 24 09.4**	**-1.8**
KOZT	**Kozan**	**2.32**	**121**	*e*Pn	**Pb**	**08 24 09.4**	**-1.8**
TOS	**Tosya**	**2.38**	**13**	*e*PN	**Pb**	**08 24 10.3**	**-1.9**
TOS	**Tosya**	**2.38**	**13**	*e*Pn	**Pb**	**08 24 10.3**	**-1.9**
ISP	**Isparta**	**2.38**	**249**	*e*PN	**Pb**	**08 24 10.7**	**-1.6**
ISP	**Isparta**	**2.38**	**249**	*e*Pn	**Pb**	**08 24 10.7**	**-1.6**
PINB	**Pinarbasi**	**2.40**	**90**	*i* P	**Pn**	**08 24 08.7**	**-0.2**
PINB	**Pinarbasi**	**2.40**	**90**	*i* P	**Pn**	**08 24 08.7**	**-0.2**
MDUB	**Mudurnu**	**2.41**	**317**	*e*PN	**Pb**	**08 24 10.7**	**-2.0**
MDUB	**Mudurnu**	**2.41**	**317**	*e*Pn	**Pb**	**08 24 10.7**	**-2.0**
BCK	**Bucak**	**2.50**	**241**	*e*PN	**Pb**	**08 24 12.3**	**-2.0**
BCK	**Bucak**	**2.50**	**241**	*e*Pn	**Pb**	**08 24 12.3**	**-2.0**
ALT	**Altintas**	**2.54**	**279**	*e*PN	**Pb**	**08 24 12.6**	**-2.3**
ALT	**Altintas**	**2.54**	**279**	*e*Pn	**Pb**	**08 24 12.6**	**-2.3**
CEYT	**Ceyhan**	**2.56**	**131**	*e*PN	**Pb**	**08 24 13.0**	**-2.2**
CEYT	**Ceyhan**	**2.56**	**131**	*e*Pn	**Pb**	**08 24 13.0**	**-2.2**
SAFT	**Safranbolu**	**2.57**	**349**	*e*PN	**Pb**	**08 24 13.2**	**-2.2**
SAFT	**Safranbolu**	**2.57**	**349**	*e*Pn	**Pb**	**08 24 13.2**	**-2.2**
KRTS	**Karatas**	**2.68**	**142**	*e*PN	**Pb**	**08 24 14.7**	**-2.6**
KRTS	**Karatas**	**2.68**	**142**	*e*Pn	**Pb**	**08 24 14.7**	**-2.6**
GULT	**Gulveren**	**2.77**	**309**	*e*PN	**Pb**	**08 24 16.3**	**-2.6**
GULT	**Gulveren**	**2.77**	**309**	*e*Pn	**Pb**	**08 24 16.3**	**-2.6**
BALT	**Daday**	**2.82**	**1**	*i* P	**Pn**	**08 24 15.4**	**+0.9**
BALT				*i* S	**Sb**	**08 24 52.8**	**-1.6**
BALT	**Daday**	**2.82**	**1**	*i* P	**Pn**	**08 24 15.4**	**+0.9**
BALT				*i* S	**Sb**	**08 24 52.8**	**-1.6**
HENT	**Hendek**	**2.82**	**319**	*i* P	**Pb**	**08 24 16.8**	**-2.9**
HENT	**Hendek**	**2.82**	**319**	*i* P	**Pb**	**08 24 16.8**	**-2.9**
BYBT	**Boyabat**	**2.96**	**21**	*e*PN	**Pn**	**08 24 18.6**	**+2.3**
BYBT	**Boyabat**	**2.96**	**21**	*e*Pn	**Pn**	**08 24 18.6**	**+2.3**
HAVZ	**Havza**	**2.99**	**37**	*i* P	**Pn**	**08 24 18.1**	**+1.4**
HAVZ				*i* S	**Sg**	**08 25 05.0**	**0.0**
HAVZ	**Havza**	**2.99**	**37**	*i* P	**Pn**	**08 24 18.1**	**+1.4**
KMRS	**Kahramanmaras**	**3.06**	**112**	*e*PN	**Pn**	**08 24 19.9**	**+2.1**
KMRS	**Kahramanmaras**	**3.06**	**112**	*e*Pn	**Pn**	**08 24 19.9**	**+2.1**
KVT	**Kavak**	**3.15**	**41**	*e*PN	**Pn**	**08 24 21.5**	**+2.5**
KVT	**Kavak**	**3.15**	**41**	*e*Pn	**Pn**	**08 24 21.5**	**+2.5**
SCER	**sogukcermik**	**3.16**	**68**	*i* P	**Pn**	**08 24 20.2**	**+1.0**
SCER				*i* S	**Sg**	**08 25 09.4**	**-1.1**
SCER	**sogukcermik**	**3.16**	**68**	*i* P	**Pn**	**08 24 20.2**	**+1.0**
COBT	**Iskenderun**	**3.19**	**132**	*i* P	**Pn**	**08 24 21.4**	**+1.7**
COBT	**Iskenderun**	**3.19**	**132**	*i* P	**Pn**	**08 24 21.4**	**+1.7**
EREN	**Erenkoy**	**3.25**	**168**	*e*PN	Pb	08 24 22.9	-4.1
EREN	**Erenkoy**	**3.25**	**168**	*e*Pn	Pb	08 24 22.9	-4.1
BZK	**Bozkurt**	**3.28**	**9**	*e*PN	**Pn**	**08 24 23.3**	**+2.6**
BZK	**Bozkurt**	**3.28**	**9**	*e*Pn	**Pn**	**08 24 23.3**	**+2.6**
DIKM	**Dikmen**	**3.28**	**26**	*e*PN	**Pn**	**08 24 23.1**	**+2.4**
DIKM	**Dikmen**	**3.28**	**26**	*e*Pn	**Pn**	**08 24 23.1**	**+2.4**
ERBA	**Erbaa**	**3.29**	**52**	*i* P	**Pn**	**08 24 22.0**	**+1.1**
ERBA				*i* S	**Sg**	**08 25 16.1**	**+1.4**
ERBA	**Erbaa**	**3.29**	**52**	*i* P	**Pn**	**08 24 22.0**	**+1.1**
HTY	**Hatay**	**3.42**	**138**	*e*PN	Pb	08 24 25.6	-4.2
HTY	**Hatay**	**3.42**	**138**	*e*Pn	Pb	08 24 25.6	-4.2
GAZ	**Gaziantep**	**3.43**	**115**	*e*PN	**Pn**	**08 24 25.2**	**+2.3**
GAZ	**Gaziantep**	**3.43**	**115**	*e*Pn	**Pn**	**08 24 25.2**	**+2.3**
LFK	**Lefkose**	**3.43**	**177**	*e*PN	Pn	08 24 25.3	+2.4
LFK	**Lefkose**	**3.43**	**177**	*e*Pn	Pn	08 24 25.3	+2.4
YAYL	**Yayladag**	**3.47**	**140**	*i* P	Pb	08 24 26.6	-4.2
YAYL	**Yayladag**	**3.47**	**140**	*i* P	Pb	08 24 26.6	-4.2
RSDY	**Resadiye-TOKAT**	**3.52**	**60**	*e*PN	**Pn**	**08 24 26.4**	**+2.4**
RSDY	**Resadiye-TOKAT**	**3.52**	**60**	*e*Pn	**Pn**	**08 24 26.4**	**+2.4**
ULDT	**Uludag**	**3.55**	**295**	*i* P	**Pn**	**08 24 26.1**	**+1.5**
ULDT	**Uludag**	**3.55**	**295**	*i* P	**Pn**	**08 24 26.1**	**+1.5**
AKCD	**Akcadag**	**3.62**	**95**	*i* P	**Pn**	**08 24 26.9**	**+1.3**
AKCD	**Akcadag**	**3.62**	**95**	*i* P	**Pn**	**08 24 26.9**	**+1.3**
MALT	**Malatya**	**4.02**	**94**	*e*PN	Pn	08 24 33.6	+2.6
MALT	**Malatya**	**4.02**	**94**	*e*Pn	Pn	08 24 33.6	+2.6
SUSE	**Susehri**	**4.05**	**67**	*i* P	**Pn**	**08 24 33.1**	**+1.6**
SUSE	**Susehri**	**4.05**	**67**	*i* P	**Pn**	**08 24 33.1**	**+1.6**
ILIC	**ilic-Erzincan**	**4.14**	**78**	*e*PN	Pn	08 24 35.4	+2.7
ILIC	**ilic-Erzincan**	**4.14**	**78**	*e*Pn	Pn	08 24 35.4	+2.7
PTK	**Pertek**	**4.74**	**86**	*e*PN	**Pn**	**08 24 43.3**	**+2.4**
PTK	**Pertek**	**4.74**	**86**	*e*Pn	**Pn**	**08 24 43.3**	**+2.4**
ERZN	**Erzincan**	**5.04**	**78**	*e*PN	Pn	08 24 48.2	+3.1
GUMT	**Gumushane**	**5.06**	**68**	*e*PN	Pn	08 24 48.5	+3.2
GUMT	**Gumushane**	**5.06**	**68**	*e*Pn	Pn	08 24 48.5	+3.2
BAYT	**Ayd¯–ntepe-Bay**	**5.52**	**70**	*e*PN	Pn	08 24 55.2	+3.5
BAYT	**Ayd¯–ntepe-Bay**	**5.52**	**70**	*e*Pn	Pn	08 24 55.2	+3.5
BNGB	**Bing¯¶l**	**5.74**	**85**	*e*PN	Pn	08 24 58.1	+3.4

DDA **21** *08:32:10.8, 35°.45N×35°.09E, h7km, MD3.2*
CSEM **21** *08:32:11.0±0.2, 35°.15N×35°.37E, h20km, ML3.3, Error ellipse: s-maj=8.2km s-min=2.7km az=89.0*
NSSC **21** *08:32:12.0±1.6, 35°.19N×35°.46E, h15km±10km, MD2.4, ML2.7*
GRAL **21** *08:32:13.2±0.3, 35°.07N×35°.32E, h24km±2km, MD3.3*

ISC 21 08:32:10.8±1.2, **35°.15N**±0°.02×**35°.38E**±0°.06, **h22**km±6km, **n28, σ0⁰90/51, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIDA	**Albida**	**0.79**	**100**	*e*P	**Pb**	**08 32 26.3**	**+0.5**
BIDA				*e*S	**Sb**	**08 32 36.1**	**+0.1**
BIDA				AML	AML	08 32 39.3	
	comp=E,955nm,0.5s						
BIDA				AML	AML	08 32 40.6	
	comp=N,729nm,0.5s						
ARNB	**Al Arnab**	**0.86**	**34**	*e*P	**Pb**	**08 32 26.5**	**-0.6**
ARNB				*e*S	**Sb**	**08 32 37.9**	**-0.4**
ARNB				AML	AML	08 32 40.9	
	comp=E,248nm,0.9s						
ARNB				AML	AML	08 32 41.8	
	comp=N,353nm,0.3s						
WRDH	**Warideh**	**0.92**	**67**	*e*P	**Pb**	**08 32 28.4**	**+0.3**
WRDH				*e*S	**Sb**	**08 32 39.9**	**0.0**
WRDH				AML	AML	08 32 43.3	
	comp=N,494nm,0.2s						
WRDH				AML	AML	08 32 44.4	
	comp=E,280nm,0.2s						
HWQ	**Hawqa**	**0.99**	**151**	*e*P	**Pn**	**08 32 29.7**	**+0.2**
HWQ				*e*S	**Sb**	**08 32 41.9**	**0.0**
HWQ	**Hawqa**	**0.99**	**151**	*e*P	**Pn**	**08 32 29.7**	**+0.2**
HWQ				*e*S	**Sb**	**08 32 41.9**	**0.0**
HAWK	**Haweek**	**1.05**	**126**	*e*P	**Pn**	**08 32 30.2**	**-0.2**
HAWK				*e*S	**Sn**	**08 32 44.5**	**+0.1**
HAWK				AML	AML	08 32 48.2	
	comp=N,192nm,0.4s						
HAWK				AML	AML	08 32 48.9	
	comp=E,217nm,0.3s						
YAYL	**Yayladag**	**1.07**	**34**	*i* P	**Pn**	**08 32 29.9**	**-0.6**
YAYL				*i* S	**Sn**	**08 32 45.3**	**+0.4**
YAYL	**Yayladag**	**1.07**	**34**	*i* P	**Pn**	**08 32 30.0**	**-0.6**
YAYL				*i* S	**Sn**	**08 32 45.3**	**+0.4**
KFRA	**Kufra**	**1.17**	**86**	*e*P	**Pb**	**08 32 32.6**	**+0.3**
KFRA				*e*S	**Sb**	**08 32 47.0**	**0.0**
KFRA				AML	AML	08 32 51.1	
	comp=N,1μm,0.7s						
KFRA				AML	AML	08 32 52.1	
	comp=E,1μm,0.3s						
FKH	**Fakeheh**	**1.24**	**136**	*e*P	**Pb**	**08 32 34.0**	**+0.4**
FKH	**Fakeheh**	**1.24**	**136**	*e*P	**Pb**	**08 32 34.0**	**+0.4**
BTCH	**Batrach**	**1.25**	**44**	*e*P	**Pn**	**08 32 33.0**	**-0.2**
BTCH				*e*S	**Sb**	**08 32 49.7**	**+0.2**
BTCH				AML	AML	08 32 53.1	
	comp=N,360nm,0.4s						
BTCH				AML	AML	08 32 56.4	
	comp=E,672nm,0.4s						
BHL	**Bhannes**	**1.26**	**169**	*e*P	**Pb**	**08 32 33.8**	**-0.2**
BHL				*e*S	**Sn**	**08 32 48.7**	**-0.9**
BHL	**Bhannes**	**1.26**	**169**	*e*P	**Pb**	**08 32 33.8**	**-0.2**
BHL				*e*S	**Sn**	**08 32 48.7**	**-0.9**
BEYL	**Beirut**	**1.28**	**176**	*e*P	**Pn**	**08 32 33.7**	**+0.3**
BEYL	**Beirut**	**1.28**	**176**	*e*P	**Pn**	**08 32 33.7**	**+0.3**
COBT	**Iskenderun**	**1.54**	**27**	*i* P	**Pn**	**08 32 37.4**	**+0.2**
COBT				*i* S	**Sn**	**08 32 56.6**	**-0.1**
COBT	**Iskenderun**	**1.54**	**27**	*i* P	**Pn**	**08 32 37.4**	**+0.2**
COBT				*i* S	**Sn**	**08 32 56.6**	**-0.1**
RCY	**Rachaya**	**1.69**	**167**	*e*P	**Pn**	**08 32 39.6**	**+0.4**
RCY				*e*S	**Sn**	**08 32 59.0**	**-1.2**
RCY	**Rachaya**	**1.69**	**167**	*e*P	**Pn**	**08 32 39.6**	**+0.4**
RCY				*e*S	**Sn**	**08 32 59.0**	**-1.2**
QASN	**Qassioun**	**1.77**	**155**	*e*P	**Pb**	**08 32 42.9**	**+0.1**
QASN				*e*S	**Sb**	**08 33 08.0**	**+3.5**
QASN				AML	AML	08 33 13.1	
	comp=E,164nm,0.3s						
QASN				AML	AML	08 33 14.1	
	comp=N,71nm,0.4s						
BRBR	**Barbar**	**1.80**	**165**	*e*P	**Pn**	**08 32 41.8**	**+1.1**
BRBR				*e*S	**Sb**	**08 33 06.8**	**+1.5**
BRBR				AML	AML	08 33 14.4	
	comp=N,48nm,0.4s						
BRBR				AML	AML	08 33 17.2	
	comp=E,64nm,0.3s						
TOTH	**TOTAH**	**1.98**	**154**	*e*P	**Pb**	**08 32 45.9**	**-0.4**
TOTH				*e*S	**Sb**	**08 33 12.1**	**+1.6**
TOTH				AML	AML	08 33 14.6	
	comp=E,72nm,0.5s						
TOTH				AML	AML	08 33 15.4	
	comp=N,26nm,0.6s						
GULE	**Gulek**	**2.19**	**347**	*i* P	**Pn**	**08 32 46.6**	**+0.5**
GULE				*i* S	**Sn**	**08 33 12.7**	**+0.2**
GULE	**Gulek**	**2.19**	**347**	*i* P	**Pn**	**08 32 46.6**	**+0.5**
GULE				*i* S	**Sn**	**08 33 12.7**	**+0.2**
SALA	**Sala**	**2.68**	**155**	*e*P	**Pb**	**08 32 56.5**	**-1.7**
SALA				*e*S	**Sb**	**08 33 29.1**	**-1.5**
SALA				AML	AML	08 33 40.9	
	comp=N,45nm,0.4s						
SALA				AML	AML	08 33 48.6	
	comp=E,3.7nm,0.4s						
ZALF	**Zalf**	**2.75**	**143**	*e*P	**Pn**	**08 32 55.3**	**+1.6**
ZALF				*e*S	**Sb**	**08 33 30.7**	**-1.9**
ZALF				AML	AML	08 33 44.1	
	comp=E,55nm,0.8s						
ZALF				AML	AML	08 33 46.3	
	comp=N,38nm,0.8s						
GZT	**Gaziantep**	**2.82**	**38**	*i* P	**Pn**	**08 32 54.4**	**-0.4**

ISK **21** *09:23:21.8, 39°.41N×33°.08E, h6km, MD2.8*
CSEM **21** *09:23:22.0±0.1, 39°.40N×33°.06E, h2km, MD3.0, Error ellipse: s-maj=3.6km s-min=3.3km az=173.0*
DDA **21** *09:23:22.3, 39°.42N×33°.10E, h5km, MD3.0*

ISC 21 09:23:22.5±1.1, **39°.41N**±0°.03×**33°.08E**±0°.03, **h6**km±9km, **n32, σ0⁰56/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.14**	**15**	*i* P	**Pg**	**09 23 25.3**	**-0.2**
BBAL				*i* S	**Sg**	**09 23 27.4**	**-0.1**
BBAL	**Bala**	**0.14**	**15**	*i* P	**Pg**	**09 23

DZM eLR LR 09 42 10.9
1µm,25.1s
DZM Mont Dzumac 16.56 297 *e*Pn P 09 38 16.5 +6.5
ODZ Otahua Downs 17.19 209 *e*Pn **P 09 38 19.6 +2.9**
555nm,2.1s
RAR Rarotonga 18.53 64 P **P 09 38 31.6 -0.1**
1.9nm,0.3s,baz=170,slow=15,SNR=3.1
RAR Rarotonga 18.53 64 P **P 09 38 31.6 -0.1**
TBI Tubuai 26.06 81 eLR LR 09 46 12.5
471nm,27.0s
TBI *e*T T 10 06 50.6
24nm,0.3s
ARMA Armidale 26.46 262 *e*P **P 09 39 54.9 +3.0**
ARMA Armidale 26.46 262 *e*P **P 09 39 55.5 +3.6**
12nm,0.8s
CNB Canberra Magne 28.04 251 *e*P P 09 40 09.3 +3.3
83nm,0.8s
PAE Paea 28.54 70 *e*T T 10 09 44.8
4.7nm,0.2s
PPT2 Papeete2 28.58 70 eLR LR 09 47 17.4
465nm,26.0s
HNR Honiara 29.62 310 LR LR 09 49 35.4
comp=Z,113nm,19.3s,baz=172,slow=31
TOO Toolangi 31.21 247 *e*P **P 09 40 36.1 +2.1**
45nm,0.9s
CTA Charters Tower 34.13 279 P **P 09 41 00.7 +1.0**
43nm,0.8s,baz=101,slow=10,SNR=40
CTA LR LR 09 52 17.9
comp=Z,292nm,21.3s,baz=50,slow=32
CTA Charters Tower 34.13 279 *e*P **P 09 41 00.7 +1.0**
36nm,0.9s
CTA Charters Tower 34.13 279 P **P 09 41 00.7 +1.0**
CTAO Charters Tower 34.13 279 *e*P **P 09 41 00.4 +0.7**
40nm,0.8s
STKA Stephens Creek 34.76 257 P **P 09 41 07.4 +2.3**
24nm,0.7s,baz=95,slow=9.0,SNR=42
STKA LR LR 09 54 06.3
comp=Z,240nm,18.8s,baz=27,slow=34
STKA Stephens Creek 34.76 257 *e*P **P 09 41 07.1 +2.1**
18nm,0.7s
STKA Stephens Creek 34.76 257 *e*P **P 09 41 07.3 +2.3**
5.2nm,0.8s
RKT Rikitea 38.60 90 eLR LR 09 52 01.3
710nm,32.5s
PMG Port Moresby 38.94 295 P **P 09 41 39.7 -1.0**
7.0nm,0.9s,baz=22,slow=5.6,SNR=3.1
PMG Port Moresby 38.94 295 P **P 09 41 39.7 -1.0**
BBOO Buckleboo 39.24 254 *e*P **P 09 41 44.5 +1.4**
277nm,0.8s
AS31 Alice Springs 43.42 267 *e*P **P 09 42 17.7 +0.2**
ASAR Alice Springs 43.42 267 P **P 09 42 17.4 0.0**
7.6nm,0.6s,baz=102,slow=7.4,SNR=138
ASAR Alice Springs 43.42 267 P **P 09 42 17.4 0.0**
WRAB Tennant Creek 44.41 272 *e*P **P 09 42 25.1 -0.4**
27nm,0.8s
WRA Warramunga Arr 44.42 272 P **P 09 42 25.7 +0.2**
21nm,0.7s,baz=111,slow=7.9,SNR=40
WRA Warramunga Arr 44.42 272 P **P 09 42 25.7 +0.2**
FITZ Fitzroy Crossi 52.68 270 *e*P **P 09 43 28.8 -0.2**
19nm,0.7s
FITZ Fitzroy Crossi 52.68 270 *e*P **P 09 43 28.1 -0.9**
10.0nm,0.8s
GUMO Guam 56.78 315 LR LR 10 03 38.3
comp=Z,160nm,18.8s,baz=94,slow=31
QSPA South Pole Qui 59.60 180 P P 09 44 22.9 +5.0
6.1nm,0.7s,baz=54,slow=2.0,SNR=16
QSPA South Pole Qui 59.60 180 P P 09 44 22.9 +5.0
SYO Syowa Base 77.08 193 *e*P **P 09 46 07.8 +0.9**
SYO Syowa Base 77.08 193 *e*PcP **PcP 09 46 14.8 -2.8**
SYO Syowa Base 77.08 193 *es*P sP 09 46 23.6 -1.9
SNAA Sanae 78.03 178 *e* **P 09 46 12.0 -0.3**
SNAA *e* 09 46 19.1
SNAA Sanae 78.03 178 *e*P **P 09 46 11.7 -0.6**
6.0nm,0.9s
VNA3 Neumayer Olymp 78.17 176 *e* P 09 46 16.1 +3.1
VNA3 *e* 09 46 24.3
MJAR Matsushiro Arr 78.52 325 P **P 09 46 14.2 -1.1**
3.5nm,1.2s,baz=174,slow=5.7,SNR=5.6
MJAR LR LR 10 17 44.7
comp=Z,34nm,19.3s,baz=10.0,slow=33
MJAR Matsushiro Arr 78.52 325 P **P 09 46 14.2 -1.1**
VNA2 Neumayer--Watz 78.61 177 *e* P 09 46 18.9 +3.5
baz=167,slow=4.2
VNA2 *e* 09 46 26.6
VNA1 Neumayer--Stat 78.84 176 *e* P 09 46 20.6 +4.0
VNA1 *e* 09 46 28.5
PLCA Paso Flores 82.20 133 P P 09 46 38.5 +3.1
3.3nm,0.9s,baz=227,slow=6.5,SNR=7.9
PLCA Paso Flores 82.20 133 P P 09 46 38.5 +3.1
KSRS Korea Array 84.64 319 P **P 09 46 47.1 -0.4**
1.2nm,0.7s,baz=134,slow=6.2,SNR=6.0
KSRS pP **pP 09 47 02.3 +1.2**
1.5nm,1.0s,baz=152,slow=5.5,SNR=3.8
KSRS LR LR 10 24 19.1
comp=Z,31nm,18.7s,baz=345,slow=36
KSAR Wonju Array Be 84.65 319 P **P 09 46 47.1 -0.5**
KSAR pP **pP 09 47 02.3 +1.1**
PKM Peak Mountain 84.83 44 ⇓P **P 09 46 49.7 +0.9**
baz=85
MURC Murrieta 85.57 47 ⇑P **P 09 46 53.3 +0.9**
baz=86
MONP Monument Peak 85.60 48 ⇓P **P 09 46 53.7 +0.9**
baz=86
BFSC Mount Baldy Ra 85.71 46 ⇑P **P 09 46 54.0 +0.8**
baz=86,SNR=5.3
VES Vestal, Richgr 85.91 44 ⇓P **P 09 46 54.9 +1.0**
baz=86
EDW2 Edwards Air Fo 85.93 45 ⇑P **P 09 46 55.2 +1.0**
baz=86,SNR=6.0
PETK Petropavlovsk- 86.00 345 P **P 09 46 53.7 -0.3**
5.3nm,0.9s,baz=164,slow=6.9,SNR=4.9
PETK Petropavlovsk- 86.00 345 P **P 09 46 53.7 -0.3**
SWSC Sam W. Stewart 86.04 48 ⇓P **P 09 46 55.6 +0.9**
baz=86
PFO Pinyon Flat Ob 86.05 47 ⇑P **P 09 46 55.8 +0.9**
baz=86
ISA Isabella 86.16 44 ⇓P **P 09 46 56.5 +1.2**
baz=86,SNR=7.3
LRMC Laurel Mountai 86.51 45 ⇓P **P 09 46 58.3 +1.2**
baz=87,SNR=5.1
BELC Belle Mtn. Jos 86.59 47 ⇑P **P 09 46 58.8 +1.2**
baz=87,SNR=8.1
BC3 Big Chuckawall 86.72 48 ⇑P **P 09 46 59.6 +1.5**
baz=87,SNR=5.6
CWC Cottonwood Cre 86.91 44 ⇑P **P 09 47 00.1 +1.0**
baz=87
HEC Hector,Ludlow 86.92 46 ⇓P **P 09 47 00.2 +1.1**
baz=87,SNR=6.9
GSC Goldstone 86.94 46 ⇑P **P 09 47 00.4 +1.2**
baz=87,SNR=7.0
MPMC Manual Prospec 87.02 45 ⇑P **P 09 47 00.7 +1.1**
baz=87,SNR=5.6
IRM Iron Mountain 87.23 47 ⇓P **P 09 47 02.1 +1.5**
baz=87,SNR=6.6
GMRC Granite Mounta 87.31 47 ⇓P **P 09 47 02.2 +1.2**
baz=87
Y12C Blythe 87.37 48 ⇓P **P 09 47 02.9 +1.7**
baz=87
USRK Usuriysk Arra 87.43 326 P **P 09 47 00.1 -1.0**
0.6nm,0.5s,baz=170,slow=28,SNR=5.3
TUQ Turquoise Moun 87.57 46 ⇑P **P 09 47 03.6 +1.3**
baz=88
Z13A Yuma Proving G 87.58 49 ⇑P **P 09 47 03.8 +1.6**
baz=88,SNR=6.1
SHOC Shoshone 87.65 45 ⇓P **P 09 47 03.8 +1.3**
baz=88
FURC Furnace Creek, 87.67 45 ⇑P **P 09 47 03.6 +1.1**
baz=88
GRAC Grapevine Rang 87.71 44 ⇑P **P 09 47 04.2 +1.4**
baz=88
114A Black Gap (USA 87.81 50 ⇓P **P 09 47 04.4 +1.1**
baz=88
WCN Washoe City 87.86 41 ⇓P **P 09 47 04.7 +1.1**
baz=88
PDMCI Parker Dam,Lak 87.97 48 ⇓P **P 09 47 05.6 +1.6**
baz=88
NVAR Mina Array Bea 88.11 43 P **P 09 47 05.5 +0.6**
2.6nm,0.7s,baz=221,slow=8.4,SNR=23
NVAR pP **pP 09 47 21.4 +2.8**
2.4nm,0.7s,baz=221,slow=8.4,SNR=9.6
NVAR Mina Array Bea 88.11 43 P **P 09 47 05.5 +0.6**
NVAR pP **pP 09 47 21.4 +2.8**
Z14A Wintersburg 88.15 49 ⇑P **P 09 47 06.6 +1.6**
baz=88
Y14A Wickenburg 88.47 49 ⇑P **P 09 47 07.9 +1.4**
baz=88,SNR=5.5
W13A Hualapai Mount 88.63 47 ⇑P **P 09 47 09.0 +1.5**
baz=89,SNR=6.3
MDJ Mudanjiang 88.90 325 P **P 09 47 07.1 -1.0**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,65nm,3.7s
TUC Tucson 88.93 51 *e*P **P 09 47 10.7 +1.9**
comp=Z,5.2nm,1.3s
TUC *ep*P **pP 09 47 21.7 -0.7**
TUC *es*P **sP 09 47 26.7 -0.8**
319A Douglas 89.39 53 ⇑P **P 09 47 12.4 +1.4**
baz=90
Y17A Roosevelt 89.73 50 ⇓P **P 09 47 14.4 +2.0**
baz=90,SNR=6.3
Z17A San Carlos Hig 89.74 51 ⇓P **P 09 47 14.5 +2.0**
baz=90
X16A Lo Mia Camp, P 89.78 49 ⇓P **P 09 47 14.8 +2.0**
baz=90,SNR=10
320A Kipp Ranch, An 89.89 53 ⇑P **P 09 47 15.3 +2.0**
baz=90
X17A Forest Lakes 90.15 50 ⇑P **P 09 47 16.5 +1.9**
baz=90
220A Playas Peak, P 90.22 53 ⇓P **P 09 47 16.7 +1.8**
baz=90,SNR=5.6
Y18A Canyon Day Jun 90.32 50 ⇓P **P 09 47 17.3 +2.0**
baz=90,SNR=11
CN2 Changchun 90.42 323 *e*P **P 09 47 14.3 -1.0**
CN2 *es*P sP 09 47 28.8 -5.3
CN2 *e*S **S 09 58 05.1 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
U15A North Rim 90.47 47 ⇑P **P 09 47 18.0 +1.9**
baz=90
WUAZ Wupatki 90.50 48 ⇓P **P 09 47 18.0 +1.9**
baz=91
R13A O'Grain Ranch, 90.53 45 ⇓P **P 09 47 17.7 +1.4**
baz=91
120A U Bar Ranch, L 90.53 52 ⇓P **P 09 47 18.2 +1.9**
baz=91,SNR=5.2
W17A Winslow 90.66 49 ⇓P **P 09 47 18.9 +2.1**
baz=91
221A Mesquite Ranch 90.80 53 ⇑P **P 09 47 19.4 +1.9**
baz=91
X18A Snowflake 90.83 50 ⇓P **P 09 47 19.6 +1.9**
baz=91
Z20A Nine Sixteen R 90.89 52 ⇑P **P 09 47 19.7 +1.7**
baz=91,SNR=5.2
V17A Tonalea, Kykot 90.94 49 ⇓P **P 09 47 19.8 +1.6**
baz=91
Y19A Nutrioso 90.95 51 ⇓P **P 09 47 20.3 +1.9**
baz=91,SNR=8.0
U16A Tuba City 91.04 48 ⇑P **P 09 47 20.1 +1.5**
baz=91
121A Cookes Peak, D 91.10 52 ⇓P **P 09 47 20.4 +1.5**
baz=91
Y20A Horse Springs, 91.51 51 ⇓P **P 09 47 22.7 +1.8**
baz=92,SNR=8.3
V18A Ganado 91.55 49 ⇓P **P 09 47 22.5 +1.4**
baz=92
U17A Shonto 91.62 48 ⇑P **P 09 47 23.2 +1.9**
baz=92
Z21A St. Cloud Mine 91.63 52 ⇑P **P 09 47 23.4 +1.9**
baz=92
S16A Weppner Ranch, 91.71 46 ⇑P **P 09 47 23.1 +1.4**
baz=92
T17A Navajo Res., N 91.77 47 ⇓P **P 09 47 23.5 +1.5**
baz=92
X20A Quemado 91.80 51 ⇓P **P 09 47 23.8 +1.6**
baz=92
GYA Guiyang 91.88 300 *e*P **P 09 47 23.0 +0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
626A Big Bend Ranch 91.97 57 ⇑P **P 09 47 24.1 +1.2**
baz=92
U18A Rough Rock, Ch 92.02 48 ⇑P **P 09 47 24.2 +1.1**
baz=92
Y21A Point of Rocks 92.04 51 ⇓P **P 09 47 25.2 +1.9**
baz=92
425A Indio Mountain 92.05 55 ⇓P **P 09 47 24.7 +1.3**
baz=92
324A Moseley Ranch, 92.07 54 ⇓P **P 09 47 24.3 +0.8**
baz=92
Z22A Elephant Butte 92.08 52 ⇑P **P 09 47 24.6 +1.1**
baz=92
W20A Ramah 92.14 50 ⇓P **P 09 47 25.7 +1.9**
baz=92
TXAR Lajitas Array 92.18 57 P **P 09 47 25.2 +1.3**
comp=Z,1.3nm,1.0s,baz=205,slow=5.5,SNR=8.7
TXAR pP **pP 09 47 41.0 +3.3**
comp=Z,1.3nm,1.0s,baz=198,slow=7.5,SNR=6.3
TXAR Lajitas Array 92.18 57 P **P 09 47 25.2 +1.3**
TXAR pP **pP 09 47 41.0 +3.3**
X21A Alamocita Cree 92.22 51 ⇑P **P 09 47 26.1 +1.9**
baz=92
526A Mary Lane Ranc 92.28 56 ⇑P **P 09 47 25.6 +1.1**
baz=92
MNTX Cornudas Mount 92.29 54 ⇑P **P 09 47 25.4 +1.1**
baz=92
MNTX ⇑P P 09 47 25.4 +1.1
baz=92
224A Cornudas Mount 92.40 54 ⇓P **P 09 47 26.2 +1.2**
baz=92
P15A Leamington 92.43 45 ⇓P **P 09 47 26.1 +1.2**
baz=92
T18A Mexican Hat 92.44 48 ⇓P **P 09 47 26.2 +1.2**
baz=92
627A Terlingua Ranc 92.45 57 ⇓P **P 09 47 26.2 +1.0**
baz=92
DUG Dugway 92.49 44 ⇑P **P 09 47 26.4 +1.2**
baz=92
426A McDonald Obser 92.66 56 ⇑P **P 09 47 27.0 +0.7**
baz=93
527A Woodward Ranch 92.67 56 ⇓P **P 09 47 27.1 +0.9**
baz=93
R17A Hanksville Air 92.69 46 ⇓P **P 09 47 27.3 +1.1**
baz=93
MFID Camas Ranch 92.80 40 ⇑P **P 09 47 27.1 +0.6**
baz=93
124A Stringfield Ra 92.80 53 ⇓P **P 09 47 27.3 +0.4**
baz=93
N15A Stansbury Isla 93.10 44 ⇑P **P 09 47 28.9 +1.0**
baz=93
427A Hayter Ranch, 93.21 56 ⇑P **P 09 47 29.3 +0.6**
baz=93
BJI Beijing 93.23 315 P **P 09 47 28.5 +0.1**
BJI S **S 09 58 34.3 +2.4**
BJI SS **SS 10 04 52.9 +3.9**
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI pmax pmax
comp=Z,160nm,4.9s
BJI LR LR
comp=N,170nm,18.0s
BJI LR LR
comp=E,220nm,15.7s
BJI LR LR
comp=Z,55nm,16.1s
528A Cox Ranch, San 93.28 57 ⇑P **P 09 47 29.4 +0.4**
baz=93
S19A Harvey Farm, M 93.28 48 ⇑P **P 09 47 30.1 +1.1**
baz=93
I12A Atlanta 93.43 40 ⇑P **P 09 47 30.4 +0.9**
baz=94
U21A Nageezi 93.46 49 ⇓P **P 09 47 30.9 +1.0**
baz=94
M15A Larsen Ranch, 93.50 43 ⇓P **P 09 47 30.7 +0.9**
baz=94
Y24A Capitan 93.51 52 ⇓P **P 09 47 31.2 +1.1**
baz=94
Z25A Roswell 93.64 53 ⇑P **P 09 47 31.3 +0.6**
baz=94
HLID Hailey 93.68 41 ⇑P **P 09 47 31.6 +0.9**
baz=94
J13A Cove Ranch, Pi 93.71 41 ⇓P **P 09 47 31.7 +0.9**
baz=94
N16A Rees Ranch, Co 93.75 44 ⇑P **P 09 47 31.4 +0.4**
baz=94
K14A Jones Ranch, D 93.75 42 ⇑P **P 09 47 31.4 +0.5**
baz=94
O17A Robinson Place 93.75 45 ⇓P **P 09 47 31.6 +0.6**
baz=94
L15A Malad City 93.87 43 ⇓P **P 09 47 32.1 +0.6**
baz=94
Y25A Mesa, Roswell 94.02 53 ⇓P **P 09 47 32.8 +0.4**
baz=94
J14A Carey 94.04 41 ⇑P **P 09 47 33.3 +1.0**
baz=94
I13A Wildhorse Cree 94.07 40 ⇓P **P 09 47 33.1 +0.6**
baz=94
N17A Moffit Pass 94.14 44 ⇓P **P 09 47 33.6 +0.6**
baz=94
Z26A Caprock 94.15 54 ⇓P **P 09 47 33.5 +0.5**
baz=94
KMI Kunming 94.16 297 P **P 09 47 35.1 +1.8**
KMI pmax pmax
comp=Z,5.0nm,0.7s
K15A Arbon 94.21 42 ⇓P **P 09 47 34.0 +1.0**
baz=94
T22A Edith 94.29 49 ⇑P **P 09 47 33.8 +0.1**
baz=94
H13A Challis 94.41 40 ⇑P **P 09 47 34.5 +0.6**
baz=94
L16A Fish Haven 94.44 43 ⇓P **P 09 47 34.6 +0.4**
baz=94
I14A Mackay 94.45 41 ⇓P **P 09 47 34.8 +0.6**
baz=94
F12A Elk City 94.62 38 ⇓P **P 09 47 35.8 +0.9**
baz=95
J15A Blackfoot 94.70 42 ⇓P **P 09 47 36.2 +0.9**
baz=95
Z27A Tatum 94.71 54 ⇓P **P 09 47 35.9 +0.4**
baz=95
G13A Cobalt 94.75 39 ⇑P **P 09 47 35.8 +0.4**
baz=95
S22A 4UR Ranch, Cre 94.76 49 ⇑P **P 09 47 36.2 +0.3**
baz=95
E12A Beaver Dam Sad 94.88 38 ⇑P **P 09 47 36.7 +0.7**
baz=95
J16A Bone 95.10 42 ⇓P **P 09 47 37.7 +0.5**
baz=95
K17A Gardner Place, 95.19 43 ⇓P **P 09 47 38.1 +0.5**
baz=95
W26A Owens Ranch, T 95.30 52 ⇑P **P 09 47 38.3 0.0**
baz=95
I16A Newdale 95.54 42 ⇓P **P 09 47 40.2 +1.1**
baz=96
K18A Toltan Ranch, 95.63 43 ⇑P **P 09 47 40.3 +0.6**
baz=96
N20A Spence Gulch, 95.64 46 ⇑P **P 09 47 40.4 +0.6**
baz=96
J17A Brown Place, J 95.68 42 ⇑P **P 09 47 40.3 +0.5**
baz=96
G15A Dillon 95.76 40 ⇑P **P 09 47 40.9 +0.8**
baz=96
E14A Clinton 95.99 39 ⇓P **P 09 47 42.2 +1.1**
baz=96
J18A Kendall Valley 95.99 43 ⇑P **P 09 47 42.0 +0.7**
baz=96
PDAR Pinedale Array 96.00 43 P **P 09 47 41.2 -0.1**
comp=Z,0.5nm,0.8s,baz=150,slow=3.3,SNR=4.5
PDAR PKKPbc **PKKPbc 10 04 30.6 +0.4**
comp=Z,0.4nm,0.6s,baz=108,slow=4.8,SNR=3.9
PDAR LR LR 10 23 14.6
comp=Z,89nm,20.0s,baz=203,slow=31
PDAR Pinedale Array 96.00 43 P **P 09 47 41.2 -0.1**
PDAR PKKPbc **PKKPbc 10 04 30.6 +0.4**
N21A Black Mountain 96.06 46 ⇓P **P 09 47 42.5 +0.8**
baz=96
H16A Russell Place, 96.18 41 ⇑P **P 09 47 42.8 +0.7**
baz=96
G16A Moss Hill, Enn 96.18 40 ⇑P **P 09 47 42.7 +0.6**
baz=96
CD2 Chengdu 96.42 302 P **P 09 47 44.0 +0.7**
CD2 pP **pP 09 47 55.1 -1.9**
CD2 sP **sP 09 47 59.3 -2.8**
CD2 PP **PP 09 51 41.5 +3.6**
CD2 SKS **SKSac 09 58 16.8 +0.5**
CD2 S **S 09 58 59.5 -0.8**
CD2 sS sS 09 59 18.1 -5.3
CD2 SS **SS 10 05 38.6 +3.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,180nm,6.5s
CD2 LR LR
comp=N,280nm,5.3s
CD2 LR LR
comp=Z,170nm,5.9s
HHC Hu-ho-hao-te 96.54 314 *e*P **P 09 47 42.6 -1.1**
HHC pP **pP 09 47 53.3 -4.1**
HHC sP sP 09 47 57.1 -5.4
HHC PP **PP 09 51 40.6 +1.8**
HHC SKS **SKSac 09 58 15.8 -0.9**
HHC S **S 09 58 59.3 -1.7**
HHC sS sS 09 59 15.8 -8.3
HHC SS **SS 10 05 37.8 +1.4**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.5s
HHC LR LR
comp=N,190nm,18.8s
HHC LR LR
comp=E,540nm,19.4s
HHC LR LR
comp=Z,240nm,18.8s
J19A Crowheart 96.59 43 ⇓P **P 09 47 43.7 -0.2**
baz=97
A14A Double T Ranch 97.62 37 ⇓P Pdif 09 47 48.6 +0.1
baz=98
ILAR Eielson Array 97.97 13 P **P 09 47 48.5 -0.9**
comp=Z,0.5nm,1.0s,baz=215,slow=5.2,SNR=4.7
ILAR Eielson Array 97.97 13 P **P 09 47 48.5 -0.9**
LZH Lanzhou 99.05 307 *e*P **Pdif 09 47 53.5 -1.7**
LZH pP pP 09 48 02.8 -6.1
LZH sP sP 09 48 06.9 -7.1
LZH pmax pmax
comp=Z,13nm,1.0s
YKA Yellowknife Ar 105.41 25 PKiKP **PKiKP 09 52 34.9 -1.0**
comp=Z,0.2nm,0.6s,baz=264,slow=1.7,SNR=6.6
YKA PKKPbc **PKKPbc 10 04 02.5 -0.7**
comp=Z,0.3nm,0.7s,baz=40,slow=2.9,SNR=8.2
YKA Yellowknife Ar 105.41 25 PKiKP **PKiKP 09 52 35.0 -1.0**
YKA PKKPbc **PKKPbc 10 04 02.5 -0.7**
MK31 Makanchi Array 118.09 310 *e*PKPdf **PKPdf 09 52 59.4 -1.2**
MKAR Makanchi Array 118.09 310 PKP **PKPdf 09 52 59.4 -1.2**
comp=Z,1.3nm,0.8s,baz=214,slow=1.3,SNR=17
MKAR Makanchi Array 118.09 310 PKP **PKPdf 09 52 59.4 -1.2**
ZALV Zalesovo Beam 118.33 318 PKP **PKPdf 09 52 59.3 -1.5**
comp=Z,0.8nm,0.6s,baz=113,slow=1.1,SNR=5.9
ZALV Zalesovo Beam 118.33 318 PKP **PKPdf 09 52 59.3 -1.5**
AAK Ala-Archa 122.44 304 PKPdf **PKPdf 09 53 05.7 -3.6**
KKAR Karatay Array 125.40 303 *e*PKPdf **PKPdf 09 53 14.1 -0.7**
JOF Joensuu 142.64 339 *ep* PKPdf 09 53 38.7 -7.5
comp=Z,2.6nm,0.7s
JOF Joensuu 142.64 339 *ep* PKPdf 09 53 38.7 -7.5
comp=Z,2.6nm,0.7s
KAF Kangasniemi 144.76 341 *ep* **PKPab 09 53 46.6 -2.3**
comp=Z,7.4nm,0.6s
KAF Kangasniemi 144.76 341 *ep* **PKPab 09 53 46.6 -2.3**
comp=Z,7.4nm,0.6s
HAKT HAKKARI 145.25 293 *i* P **PKPbc 09 53 51.5 -0.2**
FINES FINESS Array B 145.36 340 PKP **PKPbc 09 53 49.5 -1.4**
comp=Z,32nm,0.6s,baz=51,slow=3.1,SNR=66
FINES FINESS Array B 145.36 340 PKP **PKPbc 09 53 49.5 -1.4**
TUTA Tutak 145.92 296 *i* P **PKPbc 09 53 53.8 0.0**
NOA NORSAR Array B 148.91 352 PKPbc **PKPbc 09 54 00.2 -0.8**
comp=Z,6.0nm,0.8s,baz=18,slow=3.9,SNR=14
NOA NORSAR Array B 148.91 352 PKPbc **PKPbc 09 54 00.2 -0.8**
SUSE Susehri 149.39 298 *i* P **PKPbc 09 54 03.4 +0.3**
GZT Gaziantep 150.14 293 *i* P **PKPbc 09 54 02.8 -2.2**
AKASG Malin Array Be 151.58 323 PKPbc **PKPbc 09 54 06.8 -0.9**
comp=Z,13nm,0.7s,baz=49,slow=2.8,SNR=32
AKASG PKPab **PKPab 09 54 17.2 +0.8**
comp=Z,3.2nm,0.6s,baz=62,slow=2.3,SNR=5.5
AKASG Malin Array Be 151.58 323 PKPbc **PKPbc 09 54 06.8 -0.9**
AKASG PKPab **PKPab 09 54 17.2 +0.8**
AKBB Malin Array Si 151.58 323 *e*PKPbc **PKPbc 09 54 07.0 -0.7**
KIEV Kiev 151.59 323 *e*PKPbc **PKPbc 09 54 06.9 -0.9**
GULE Gulek 152.36 293 *i* P **PKPbc 09 54 10.5 +0.4**
BR131 Keskin Array S 152.93 298 *e*PKPbc **PKPbc 09 54 11.0 -0.4**
BRTR Keskin Array B 152.93 298 PKPbc **PKPbc 09 54 10.7 -0.6**
comp=Z,3.5nm,1.0s,baz=116,slow=2.9,SNR=13
BRTR pPKPbc **pPKPbc 09 54 27.6 +2.2**
comp=Z,1.5nm,0.6s,baz=115,slow=4.4,SNR=3.6
BRTR Keskin Array B 152.93 298 PKPbc **PKPbc 09 54 10.7 -0.6**
BRTR pPKPbc **pPKPbc 09 54 27.6 +2.2**
GERES GERESS Array B 159.76 338 PKPab **PKPab 09 54 52.3 +0.7**
comp=Z,0.2nm,0.2s,baz=305,slow=4.7,SNR=4.4
GERES GERESS Array B 159.76 338 PKPab **PKPab 09 54 52.3 +0.7**
TORD Torodi Ar. Bea 162.71 178 PKPab **PKPab 09 55 07.5 +2.5**
comp=Z,3.4nm,0.8s,baz=187,slow=3.7,SNR=13

TORD	**Torodi Ar. Bea**	**162.71**	**178**	PKPab	**PKPab**	**09 55 07.5**	**+2.5**

CASC 21 10:05:15.9±2.1,6°.99N×82°.63W,h0km±10km,MD4.0,2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.73**	**342**	*e*P	Pn	10 05 45.9	-1.5
ACR				*e*S	Sb	10 06 10.7	-0.4
TBS2		**1.79**	**359**	*e*P	Pb	10 05 49.2	-0.6
TBS2				*i* S	Sg	10 06 14.0	+0.1
BRU2	**Volcan**	**1.79**	**358**	*i* P	Pn	10 05 48.1	-0.2
BRU2				*i* S	Sg	10 06 13.4	-0.4
BUS	**Buena Vista**	**2.78**	**336**	*e*P	Pn	10 06 02.2	-0.1
BUS				*e*S	Sn	10 06 39.2	+2.3
QCR	**Quepos**	**2.85**	**328**	*e*P	Pn	10 06 02.3	-0.4
QCR				*e*S	Sn	10 06 39.6	+1.8
URSC	**Urasca**	**3.04**	**338**	*e*P	Pn	10 06 06.4	+0.8
BCIP	**Isla Barro Col**	**3.51**	**52**	*i* P	Pn	10 06 07.5	-4.3
BCIP				*i* S	Sn	10 06 55.7	+1.7
JCR	**Jicaral**	**3.75**	**319**	*e*P	Pn	10 06 15.5	+0.3
PTP	**Ponta Puerca**	**19.99**	**54**	*i* P	x	10 05 39.1	
PTP				*i* S	x	10 05 58.0	

IDC 21 10:16:26.7±28.0,23°.28S×173°.09W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.8/19,mbtmp4.1/4,Error ellipse: s-maj=526.4km s-min=162.1km az=77.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.83**	**267**	P	P	10 23 45.7	+0.4
	3.6nm,0.3s,baz=93,slow=10.0,SNR=7.5						
STKA	**Stephens Creek**	**40.83**	**248**	P	P	10 24 10.3	0.0
	0.4nm,0.3s,baz=94,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**48.38**	**258**	P	P	10 25 10.8	0.0
	0.3nm,0.3s,baz=103,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**48.78**	**263**	P	P	10 25 12.9	-0.9
	2.1nm,0.5s,baz=102,slow=8.2,SNR=4.3						

*NEIC **21** 10:25:06.6±0.4,20°.91S×69°.00W,mb4.3/7,Error ellipse: s-maj=13.8km s-min=9.0km az=92.0*
*IDC **21** 10:25:07.5±0.6,20°.71S×69°.03W,h98km±3km,mb3.8/11, mb1 4.0/12,mb1mx3.9/17,mbtmp3.8/12,MS3.4/2, Ms1 3.4/2,ms1mx2.8/24,Error ellipse: s-maj=22.9km s-min=14.2km az=15.0*
ISC 21 10:25:06.2±0.4,20°.94S±0°.06×69°.12W±0°.08,h96km±3km, h95km:pP-P,n227,σ1°22/253,mb4.2/15,83C-84D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.72**	**12**	P	**Pn**	**10 26 16.6**	**+0.9**
	26nm,0.3s,baz=203,slow=5.4,SNR=336						
LPAZ	**La Paz**	**4.72**	**12**	*e*Pn	**Pn**	**10 26 16.4**	**+0.6**
LCO	**Las Campanas**	**8.16**	**190**	*e*Pn	**Pn**	**10 26 59.6**	**-2.6**
	32nm,0.5s						
LCO				*e*Sn	**Sn**	**10 28 28.8**	**-4.0**
SIV	**San Ignacio**	**9.09**	**59**	P	**Pn**	**10 27 12.2**	**-2.4**
	4.5nm,0.3s,baz=254,slow=12,SNR=43						
SIV	**San Ignacio**	**9.09**	**59**	P	**Pn**	**10 27 12.2**	**-2.4**
CFAA	**Coronel Fontan**	**10.65**	**176**	P	**Pn**	**10 27 34.5**	**-1.3**
	0.9nm,0.3s,baz=358,slow=15,SNR=66						
CFAA	**Coronel Fontan**	**10.65**	**176**	P	**Pn**	**10 27 34.5**	**-1.3**
NNA	**Nana**	**11.58**	**319**	P	Pn	10 27 42.7	-5.7
	0.9nm,0.3s,baz=119,slow=19,SNR=1.9						
NNA				S	**Sn**	**10 29 51.2**	**-4.6**
	0.9nm,0.3s,baz=209,slow=19,SNR=2.3						
NNA	**Nana**	**11.58**	**319**	P	Pn	10 27 42.7	-5.7
NNA				S	**Sn**	**10 29 51.2**	**-4.6**
SAML	**Samuel**	**13.23**	**27**	*e*Pn	**Pn**	**10 28 08.3**	**-2.1**
	6.4nm,0.6s						
ATAH	**Atahualpa**	**16.40**	**326**	LR	LR	10 35 05.3	
	comp=Z,39nm,21.5s,baz=172,slow=37						
TRQA	**Tornquist**	**18.14**	**162**	*e*P	**Pn**	**10 29 13.7**	**+1.9**
	55nm,1.6s						
PLCA	**Paso Flores**	**19.77**	**183**	P	**Pn**	**10 29 31.7**	**+0.6**
	6.1nm,0.8s,baz=359,slow=12,SNR=10						
PLCA	**Paso Flores**	**19.77**	**183**	P	**Pn**	**10 29 31.7**	**+0.6**
BDFB	**Brasilia**	**20.72**	**79**	P	**P**	**10 29 37.5**	**-1.7**
	2.3nm,0.4s,baz=237,slow=11,SNR=5.3						
BDFB	**Brasilia**	**20.72**	**79**	P	**P**	**10 29 37.5**	**-1.7**
OTAV	**Otavalo**	**22.94**	**335**	*e*P	**P**	**10 30 04.1**	**+1.2**
	7.1nm,0.6s						
SDV	**Santo Domingo**	**29.68**	**357**	*e*P	**P**	**10 31 01.2**	**-2.1**
	4.7nm,0.5s						
USHA	**Ushuaia**	**33.84**	**179**	LR	LR	10 46 53.8	
	comp=Z,230nm,18.8s,baz=219,slow=38						
RCBR	**Riachuelo**	**35.53**	**70**	P	**P**	**10 31 54.2**	**-0.1**
	5.8nm,0.6s,baz=221,slow=7.2,SNR=8.5						
RCBR	**Riachuelo**	**35.53**	**70**	P	**P**	**10 31 54.2**	**-0.1**
CELP	**Cerrillos**	**38.86**	**4**	*e*P	**P**	**10 32 19.6**	**-2.7**
628A	**Black Gap, Mar**	**59.77**	**326**	⇓P	**P**	**10 35 01.5**	**+0.1**
	baz=60						
TXAR	**Lajitas Array**	**60.06**	**325**	P	**P**	**10 35 03.4**	**-0.1**
	0.4nm,0.6s,baz=152,slow=8.8,SNR=6.4						
TXAR				pP	**pP**	**10 35 27.8**	**+0.6**
	0.8nm,0.8s,baz=156,slow=9.3,SNR=5.4						
TXAR				sP	**sP**	**10 35 38.2**	**+0.4**
	0.7nm,0.9s,baz=190,slow=6.4,SNR=3.2						
TXAR	**Lajitas Array**	**60.06**	**325**	P	**P**	**10 35 03.4**	**-0.1**
TXAR				pP	**pP**	**10 35 27.8**	**+0.6**
TXAR				sP	**sP**	**10 35 38.2**	**+0.4**
626A	**Big Bend Ranch**	**60.48**	**325**	⇓P	**P**	**10 35 06.9**	**+0.6**
	baz=61						
428A	**Kincaid Ranch,**	**60.65**	**327**	⇑P	**P**	**10 35 07.8**	**+0.4**
	baz=61						
527A	**Woodward Ranch**	**60.67**	**326**	⇑P	**P**	**10 35 07.9**	**+0.2**
	baz=61						
526A	**Mary Lane Ranc**	**60.86**	**325**	⇑P	**P**	**10 35 09.4**	**+0.5**
	baz=61						
VNA1	**Neumayer--Stat**	**60.87**	**161**	*e*	P	10 35 11.6	+3.3
427A	**Hayter Ranch,**	**61.12**	**326**	⇑P	**P**	**10 35 10.4**	**-0.2**
	baz=61						
VNA2	**Neumayer--Watz**	**61.24**	**161**	*e*	**P**	**10 35 13.7**	**+2.9**
	baz=299,slow=7.2						
328A	**Wristen Ranch,**	**61.24**	**327**	⇑P	**P**	**10 35 11.5**	**+0.1**
	baz=62						
426A	**McDonald Obser**	**61.30**	**326**	⇓P	**P**	**10 35 12.0**	**0.0**
	baz=62						
326A	**Caldwell Ranch**	**61.79**	**326**	⇑P	**P**	**10 35 15.4**	**+0.2**
	baz=62						
425A	**Indio Mountain**	**61.90**	**325**	⇓P	**P**	**10 35 16.2**	**+0.2**
	baz=62						
325A	**Bean Ranch, Si**	**62.35**	**326**	⇑P	**P**	**10 35 19.0**	**+0.1**
	baz=63						
226A	**Malaga, Loving**	**62.45**	**327**	⇓P	**P**	**10 35 19.1**	**-0.3**
	baz=63						
324A	**Moseley Ranch,**	**62.68**	**325**	⇓P	**P**	**10 35 20.9**	**-0.3**
	baz=63						
MNTX	**Cornudas Mount**	**62.83**	**325**	⇑P	**P**	**10 35 21.8**	**-0.1**
	baz=63						
MNTX				⇑P	**P**	**10 35 21.8**	**-0.1**
	baz=63						
225A	**Deer Hill, Car**	**62.86**	**326**	⇑P	**P**	**10 35 22.1**	**-0.3**
	baz=63						
SNAA	**Sanae**	**62.87**	**161**	*e*	**P**	**10 35 20.5**	**-1.2**
Z27A	**Tatum**	**63.00**	**328**	⇓P	**P**	**10 35 22.7**	**-0.5**
	baz=63						
224A	**Cornudas Mount**	**63.20**	**326**	⇑P	**P**	**10 35 24.3**	**-0.3**
	baz=64						
MSTX	**Muleshoe**	**63.32**	**329**	⇑P	**P**	**10 35 24.8**	**-0.5**
	baz=64						
124A	**Stringfield Ra**	**63.65**	**326**	⇓P	**P**	**10 35 27.6**	**0.0**
	baz=64						
Z25A	**Roswell**	**63.73**	**327**	⇓P	**P**	**10 35 27.5**	**-0.5**
	baz=64						
Z24A	**Sheeppen Canyo**	**64.10**	**327**	⇑P	**P**	**10 35 30.6**	**+0.1**
	baz=64						
X26A	**CR and CF Fran**	**64.29**	**329**	⇑P	**P**	**10 35 31.6**	**-0.1**
	baz=65						
220A	**Playas Peak, P**	**64.70**	**323**	⇑P	**P**	**10 35 35.5**	**+1.1**
	baz=65						
319A	**Douglas**	**64.73**	**322**	⇑P	**P**	**10 35 35.6**	**+1.1**
	baz=65						
121A	**Cookes Peak, D**	**64.76**	**324**	⇑P	**P**	**10 35 35.9**	**+1.1**
	baz=65						
120A	**U Bar Ranch, L**	**65.24**	**324**	⇑P	**P**	**10 35 38.8**	**+0.9**
	baz=66						
Z21A	**St. Cloud Mine**	**65.29**	**325**	⇓P	**P**	**10 35 39.0**	**+0.7**
	baz=66						
Z20A	**Nine Sixteen R**	**65.64**	**324**	⇑P	**P**	**10 35 42.0**	**+1.5**
	baz=66						
V25A	**Rancho No Teng**	**65.72**	**329**	⇑P	**P**	**10 35 41.9**	**+0.9**
	baz=66						
U26A	**Atchley Ranch,**	**65.75**	**330**	⇓P	**P**	**10 35 41.2**	**+0.1**
	baz=66						
U25A	**Circle Dot Ran**	**66.07**	**329**	⇑P	**P**	**10 35 43.9**	**+0.8**
	baz=66						
Y20A	**Horse Springs,**	**66.13**	**325**	⇓P	**P**	**10 35 45.4**	**+1.7**
	baz=66						
X21A	**Alamocita Cree**	**66.23**	**326**	⇓P	**P**	**10 35 45.2**	**+0.9**
	baz=66						
Y19A	**Nutrioso**	**66.64**	**324**	⇑P	**P**	**10 35 48.7**	**+1.7**
	baz=67						
X20A	**Quemado**	**66.68**	**325**	⇑P	**P**	**10 35 48.3**	**+1.1**
	baz=67						
V22A	**San Miguel Ran**	**66.91**	**327**	⇓P	**P**	**10 35 49.6**	**+0.9**
	baz=67						
Y18A	**Canyon Day Jun**	**66.94**	**324**	⇑P	**P**	**10 35 49.9**	**+1.2**
	baz=67						
S25A	**Robets Cordova**	**67.10**	**330**	⇓P	**P**	**10 35 50.1**	**+0.4**
	baz=67						
W20A	**Ramah**	**67.12**	**326**	⇓P	**P**	**10 35 51.4**	**+1.4**
	baz=67						
R26A	**Arlington**	**67.17**	**331**	⇓P	**P**	**10 35 50.1**	**+0.1**
	baz=68						
Y17A	**Roosevelt**	**67.33**	**323**	⇓P	**P**	**10 35 52.8**	**+1.7**
	baz=68						
SDCO	**Great Sand Dun**	**67.67**	**329**	⇓P	**P**	**10 35 54.1**	**+0.7**
	baz=68						
SDCO				⇓P	**P**	**10 35 54.1**	**+0.7**
	baz=68						
U21A	**Nageezi**	**67.69**	**327**	⇓P	**P**	**10 35 54.4**	**+0.9**
	baz=68						
T22A	**Edith**	**67.77**	**328**	⇓P	**P**	**10 35 55.2**	**+1.2**
	baz=68						
X17A	**Forest Lakes**	**67.78**	**324**	⇑P	**P**	**10 35 55.5**	**+1.3**
	baz=68						
V19A	**Window Rock**	**67.86**	**326**	⇓P	**P**	**10 35 55.9**	**+1.2**
	baz=68						
R24A	**Sanders Place,**	**67.87**	**330**	⇑P	**P**	**10 35 55.1**	**+0.5**
	baz=68						
U20A	**Newcomb**	**68.09**	**326**	⇑P	**P**	**10 35 56.8**	**+0.8**
	baz=68						
R23A	**Moffat**	**68.18**	**330**	⇓P	**P**	**10 35 57.5**	**+0.9**
	baz=68						
V18A	**Ganado**	**68.33**	**325**	⇑P	**P**	**10 35 58.1**	**+0.6**
	baz=69						
113A	**Mohawk Valley,**	**68.35**	**320**	⇑P	**P**	**10 35 58.6**	**+1.2**
	baz=69						
U19A	**Dine' College,**	**68.39**	**326**	⇓P	**P**	**10 35 58.3**	**+0.4**
	baz=69						
T19A	**Beclabito**	**68.70**	**326**	⇓P	**P**	**10 36 01.1**	**+1.3**
	baz=69						
MVCO	**Mesa Verde**	**68.72**	**327**	⇓P	**P**	**10 36 00.9**	**+1.0**
	baz=69						
V17A	**Tonalea, Kykot**	**68.73**	**324**	⇑P	**P**	**10 36 01.5**	**+1.5**
	baz=69						
Y14A	**Wickenburg**	**68.74**	**322**	⇑P	**P**	**10 36 01.2**	**+1.3**
	baz=69						
DBIC	**Dimbokro**	**68.77**	**74**	P	**P**	**10 36 00.6**	**+0.1**
	4.6nm,0.7s,baz=228,slow=7.5,SNR=8.2						
DBIC				pP	**pP**	**10 36 25.6**	**+0.9**
	3.7nm,0.6s,baz=163,slow=5.4,SNR=3.8						
DBIC	**Dimbokro**	**68.77**	**74**	P	**P**	**10 36 00.6**	**+0.1**
DBIC				pP	**pP**	**10 36 25.6**	**+0.9**
U18A	**Rough Rock, Ch**	**68.83**	**326**	⇓P	**P**	**10 36 01.7**	**+1.1**
	baz=69						
WUAZ	**Wupatki**	**68.97**	**324**	⇑P	**P**	**10 36 03.3**	**+1.9**
	baz=69						
S20A	**Disappointment**	**69.13**	**328**	⇑P	**P**	**10 36 03.8**	**+1.3**
	baz=69						
R21A	**Cimarron**	**69.15**	**328**	⇓P	**P**	**10 36 03.5**	**+0.9**
	baz=69						
Q22A	**Crested Butte,**	**69.23**	**329**	⇑P	**P**	**10 36 03.9**	**+0.8**
	baz=70						
U16A	**Tuba City**	**69.30**	**325**	⇓P	**P**	**10 36 05.0**	**+1.6**
	baz=70						
ISCO	**Idaho Springs**	**69.37**	**331**	⇓P	**P**	**10 36 04.7**	**+0.8**
	baz=70						
T18A	**Mexican Hat**	**69.37**	**326**	⇑P	**P**	**10 36 04.8**	**+0.9**
	baz=70						
R20A	**Redvale**	**69.42**	**328**	⇓P	**P**	**10 36 05.4**	**+1.2**
	baz=70						
S19A	**Harvey Farm, M**	**69.46**	**327**	⇑P	**P**	**10 36 05.4**	**+0.9**
	baz=70						
T17A	**Navajo Res., N**	**69.76**	**325**	⇑P	**P**	**10 36 07.5**	**+1.2**
	baz=70						
O23A	**Lake Granby, G**	**69.84**	**331**	⇓P	**P**	**10 36 07.2**	**+0.4**
	baz=70						
S18A	**Hurst Farm, Bl**	**69.86**	**326**	⇑P	**P**	**10 36 08.2**	**+1.2**
	baz=70						
R19A	**Curley Farm, L**	**69.94**	**327**	⇑P	**P**	**10 36 08.1**	**+0.7**
	baz=70						
BC3	**Big Chuckawall**	**69.98**	**320**	⇑P	**P**	**10 36 09.3**	**+1.6**
	baz=70						
W13A	**Hualapai Mount**	**70.07**	**322**	⇑P	**P**	**10 36 10.0**	**+1.6**
	baz=70						
O22A	**Kremmling**	**70.09**	**330**	⇑P	**P**	**10 36 09.2**	**+0.8**
	baz=70						
U15A	**North Rim**	**70.14**	**324**	⇓P	**P**	**10 36 10.6**	**+1.8**
	baz=70						
S17A	**Black Ridge (B**	**70.23**	**326**	⇓P	**P**	**10 36 10.5**	**+1.4**
	baz=70						
R18A	**Canyonlands Na**	**70.33**	**327**	⇓P	**P**	**10 36 10.9**	**+1.1**
	baz=71						
Q19A	**Hogan Spring (**	**70.45**	**328**	⇓P	**P**	**10 36 11.6**	**+1.2**
	baz=71						
S16A	**Weppner Ranch,**	**70.72**	**325**	⇑P	**P**	**10 36 13.4**	**+1.3**
	baz=71						
R17A	**Hanksville Air**	**70.78**	**326**	⇓P	**P**	**10 36 13.5**	**+1.1**
	baz=71						
P19A	**Cripple Cowboy**	**70.83**	**328**	⇑P	**P**	**10 36 14.1**	**+1.2**
	baz=71						
O20A	**White River Ci**	**70.86**	**329**	⇑P	**P**	**10 36 13.4**	**+0.4**
	baz=71						
GMRC	**Granite Mounta**	**70.88**	**321**	⇓P	**P**	**10 36 15.2**	**+2.1**
	baz=71						
SRU	**San Rafael**	**71.20**	**327**	⇑P	**P**	**10 36 15.8**	**+0.8**
	baz=72						
Q16A	**Castle Valley**	**71.39**	**327**	⇓P	**P**	**10 36 18.4**	**+2.3**
	baz=72						
O19A	**Miners Draw (B**	**71.41**	**329**	⇓P	**P**	**10 36 17.0**	**+0.7**
	baz=72						
N20A	**Spence Gulch,**	**71.42**	**330**	⇑P	**P**	**10 36 17.5**	**+1.1**
	baz=72						
R15A	**Junction**	**71.44**	**325**	⇑P	**P**	**10 36 18.2**	**+1.7**
	baz=72						
P18A	**Preston Nutter**	**71.45**	**328**	⇓P	**P**	**10 36 17.9**	**+1.2**
	baz=72						
P17A	**Butcher Ranch,**	**71.58**	**327**	⇑P	**P**	**10 36 18.3**	**+0.9**
	baz=72						
MSU	**Marysvale**	**71.61**	**326**	*e*P	**P**	**10 36 19.1**	**+1.5**
	2.5nm,0.7s						
MSU				*e*pP	**pP**	**10 36 43.3**	**+1.3**
BFSC	**Mount Baldy Ra**	**71.72**	**319**	⇓P	**P**	**10 36 20.9**	**+2.7**
	baz=72						
RRX	**Edison Barstow**	**71.75**	**320**	⇑P	**P**	**10 36 20.7**	**+2.5**
	baz=72						
ARUT	**Antelope Range**	**71.76**	**324**	*e*P	**P**	**10 36 20.4**	**+2.0**
	2.4nm,0.7s						
ARUT				*e*pP	**pP**	**10 36 44.6**	**+1.8**
L21A	**Rawlins**	**71.89**	**331**	⇓P	**P**	**10 36 19.9**	**+0.7**
	baz=72						
N19A	**John Jarvie Ra**	**71.90**	**329**	⇓P	**P**	**10 36 20.2**	**+1.0**
	baz=72						
R13A	**O'Grain Ranch,**	**72.33**	**324**	⇓P	**P**	**10 36 24.5**	**+2.6**
	baz=73						
K21A	**Alcova**	**72.37**	**331**	⇓P	**P**	**10 36 22.9**	**+0.9**
	baz=73						
N17A	**Moffit Pass**	**72.74**	**328**	⇑P	**P**	**10 36 25.6**	**+1.2**
	baz=73						
FURC	**Furnace Creek,**	**72.76**	**321**	⇓P	**P**	**10 36 26.6**	**+2.5**
	baz=73						
L18A	**Fontenelle, Gr**	**73.11**	**329**	⇑P	**P**	**10 36 27.0**	**+0.6**
	baz=73						
ISA	**Isabella**	**73.17**	**320**	⇑P	**P**	**10 36 28.2**	**+1.5**
	baz=73						
DUG	**Dugway**	**73.18**	**326**	⇑P	**P**	**10 36 27.9**	**+1.1**
	baz=74						
R11A	**Troy Canyon, C**	**73.34**	**323**	⇓P	**P**	**10 36 29.4**	**+1.6**
	baz=74						
BW06	**Boulder Array**	**73.53**	**330**	⇑P	**P**	**10 36 28.2**	**-0.7**
	baz=74						
BW06				⇑P	**P**	**10 36 28.2**	**-0.7**
	baz=74						
PDAR	**Pinedale Array**	**73.53**	**330**	P	**P**	**10 36 29.3**	**+0.4**
	0.4nm,0.8s,baz=121,slow=8.7,SNR=3.4						
PDAR				pP	**pP**	**10 36 53.2**	**-0.2**
	1.3nm,0.6s,baz=133,slow=6.4,SNR=8.1						
PDAR	**Pinedale Array**	**73.53**	**330**	P	**P**	**10 36 29.3**	**+0.4**
PDAR				pP	**pP**	**10 36 53.2**	**-0.2**
N15A	**Stansbury Isla**	**73.55**	**327**	⇓P	**P**	**10 36 29.9**	**+1.0**
	baz=74						
L17A	**Cokeville**	**73.64**	**329**	⇓P	**P**	**10 36 29.7**	**+0.2**
	baz=74						
K18A	**Toltan Ranch,**	**73.66**	**330**	⇓P	**P**	**10 36 29.8**	**+0.2**
	baz=74						
J19A	**Crowheart**	**73.69**	**331**	⇑P	**P**	**10 36 30.0**	**+0.3**
	baz=74						
F24A	**Ekalaka**	**73.80**	**335**	⇓P	**P**	**10 36 30.4**	**+0.2**
	baz=74						
L16A	**Fish Haven**	**73.85**	**329**	⇓P	**P**	**10 36 31.9**	**+1.2**
	baz=74						
J18A	**Kendall Valley**	**74.09**	**330**	⇓P	**P**	**10 36 32.5**	**+0.4**
	baz=74						
K17A	**Gardner Place,**	**74.16**	**329**	⇓P	**P**	**10 36 33.6**	**+1.1**
	baz=74						
L15A	**Malad City**	**74.31**	**328**	⇑P	**P**	**10 36 34.2**	**+0.8**
	baz=75						
I18A	**Diamond G Ranc**	**74.37**	**331**	⇑P	**P**	**10 36 34.4**	**+0.6**
	baz=75						
K16A	**Soda Springs**	**74.54**	**329**	⇑P	**P**	**10 36 35.6**	**+0.9**
	baz=75						
ULM	**Lac du Bonnet**	**74.73**	**343**	P	**P**	**10 36 34.8**	**-0.6**
	1.3nm,0.5s,baz=182,slow=3.3,SNR=3.3						
ULM				pP	**pP**	**10 37 00.1**	**+0.1**
	1.9nm,0.5s,baz=114,slow=4.8,SNR=2.7						
ULM	**Lac du Bonnet**	**74.73**	**343**	P	**P**	**10 36 34.8**	**-0.6**
ULM				pP	**pP**	**10 37 00.1**	**+0.1**
K15A	**Arbon**	**74.89**	**328**	⇑P	**P**	**10 36 37.7**	**+1.0**
	baz=75						
NVAR	**Mina Array Bea**	**74.93**	**322**	P	**P**	**10 36 37.2**	**+0.1**
	0.6nm,0.7s,baz=174,slow=7.6,SNR=6.3						
NVAR				pP	**pP**	**10 37 02.4**	**+0.6**
	1.2nm,0.7s,baz=159,slow=8.4,SNR=7.0						
NVAR	**Mina Array Bea**	**74.93**	**322**	P	**P**	**10 36 37.2**	**+0.1**
NVAR				pP	**pP**	**10 37 02.4**	**+0.6**
H18A	**Shoshone NF, C**	**75.06**	**331**	⇑P	**P**	**10 36 38.4**	**+0.6**
	baz=75						
K14A	**Jones Ranch, D**	**75.10**	**328**	⇓P	**P**	**10 36 38.8**	**+0.9**
	baz=75						
RLMT	**Red Lodge**	**75.23**	**332**	⇑P	**P**	**10 36 38.8**	**+0.1**
	baz=76						
RLMT				⇑P	**P**	**10 36 38.8**	**+0.1**
	baz=76						
J15A	**Blackfoot**	**75.38**	**329**	⇓P	**P**	**10 36 40.6**	**+1.1**
	baz=76						
SCHQ	**Schefferville**	**75.49**	**1**	P	**P**	**10 36 39.1**	**-0.5**
	2.0nm,1.0s,baz=180,slow=7.1,SNR=3.7						
SCHQ	**Schefferville**	**75.49**	**1**	P	**P**	**10 36 39.1**	**-0.5**
G18A	**Lazy EL Ranch,**	**75.51**	**332**	⇑P	**P**	**10 36 41.2**	**+1.0**
	baz=76						
F19A	**Roth Farm, Mol**	**75.66**	**332**	⇓P	**P**	**10 36 41.7**	**+0.7**
	baz=76						
H16A	**Russell Place,**	**75.80**	**330**	⇑P	**P**	**10 36 43.4**	**+1.5**
	baz=76						
D21A	**La Casta Ranch**	**75.81**	**334**	⇓P	**P**	**10 36 42.6**	**+0.9**
	baz=76						
E20A	**Meyer Farm, Mu**	**75.83**	**333**	⇓P	**P**	**10 36 42.9**	**+1.0**
	baz=76						
J14A	**Carey**	**75.85**	**328**	⇑P	**P**	**10 36 44.2**	**+2.1**
	baz=76						
I15A	**Monteview**	**75.85**	**329**	⇑P	**P**	**10 36 43.9**	**+1.8**
	baz=76						
C22A	**Vida**	**75.93**	**335**	⇑P	**P**	**10 36 43.0**	**+0.6**
	baz=76						
F18A	**Big Timber**	**76.04**	**332**	⇑P	**P**	**10 36 44.4**	**+1.2**
	baz=76						
E19A	**Rath Farm, Rou**	**76.08**	**333**	⇑P	**P**	**10 36 43.9**	**+0.6**
	baz=76						
I14A	**Mackay**	**76.26**	**329**	⇑P	**P**	**10 36 46.0**	**+1.4**
	baz=76						
HLID	**Hailey**	**76.47**	**328**	⇓P	**P**	**10 36 46.6**	**+0.9**
	baz=77						
I13A	**Wildhorse Cree**	**76.58**	**328**	⇓P	**P**	**10 36 47.7**	**+1.4**
	baz=77						
MCMT	**McKenzie Canyo**	**76.64**	**330**	*e*P	**P**	**10 36 47.3**	**+0.6**
	0.5nm,0.7s						
MCMT				*e*pP	**pP**	**10 37 12.2**	**+0.8**
G15A	**Dillon**	**76.73**	**330**	⇓P	**P**	**10 36 48.6**	**+1.5**
	baz=77						
A22A	**Carney Farms,**	**76.96**	**336**	⇓P	**P**	**10 36 48.8**	**+0.6**
	baz=77						
E17A	**Martinsdale**	**76.97**	**332**	⇓P	**P**	**10 36 49.5**	**+1.0**
	baz=77						
I12A	**Atlanta**	**76.99**	**328**	⇓P	**P**	**10 36 50.3**	**+1.6**
	baz=77						
MFID	**Camas Ranch**	**77.07**	**327**	⇓P	**P**	**10 36 50.9**	**+1.9**
	baz=77						
H13A	**Challis**	**77.12**	**329**	⇑P	**P**	**10 36 50.8**	**+1.5**
	baz=77						
C19A	**Slack Wire Ran**	**77.19**	**334**	⇑P	**P**	**10 36 50.2**	**+0.7**
	baz=78						
B20A	**Solberg Farm,**	**77.33**	**335**	⇑P	**P**	**10 36 50.8**	**+0.6**
	baz=78						
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	**P**	**10 36 50.6**	**-0.4**
	3.2nm,0.6s,baz=251,slow=5.6,SNR=39						
TORD				pP	**pP**	**10 37 17.1**	**+1.2**
	17nm,0.9s,baz=250,slow=5.4,SNR=23						
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	**P**	**10 36 50.6**	**-0.4**
TORD				pP	**pP**	**10 37 17.1**	**+1.2**
D17A	**Six Diamond Ra**	**77.43**	**332**	⇑P	**P**	**10 36 51.5**	**+0.6**
	baz=78						
G13A	**Cobalt**	**77.50**	**329**	⇓P	**P**	**10 36 53.0**	**+1.6**
	baz=78						
F14A	**Wisdom**	**77.62**	**330**

ZALV	**Zalesovo Beam**	**141.53**	**25**	PKP	**PKPdf**	**10 44 26.9**	**+1.1**
	2.8nm,0.6s,baz=291,slow=2.5,SNR=12								
ZALV	**Zalesovo Beam**	**141.53**	**25**	PKP	**PKPdf**	**10 44 26.9**	**+1.1**
MK31	**Makanchi Array**	**145.30**	**35**	*e*PKPbc	**PKPab**	**10 44 33.5**	**+0.6**
MKAR	**Makanchi Array**	**145.30**	**35**	PKPbc	**PKPab**	**10 44 33.8**	**+0.8**
	2.6nm,0.7s,baz=326,slow=2.4,SNR=22								
MKAR				pPKPbc	pPKPbc	10 45 00.3	+1.4
	1.2nm,0.6s,baz=316,slow=3.3,SNR=4.4								
MKAR	**Makanchi Array**	**145.30**	**35**	PKPbc	**PKPab**	**10 44 33.8**	**+0.8**
MKAR				pPKPbc	pPKPbc	10 45 00.3	+1.4
USRK	**Ussuriysk Arra**	**150.93**	**328**	PKPbc	**PKPbc**	**10 44 48.8**	**+1.0**
	2.5nm,0.7s,baz=3.5,slow=2.4,SNR=11								
USRK				pPKPbc	**pPKPbc**	**10 45 15.4**	**+1.3**
	5.5nm,1.0s,baz=18,slow=2.1,SNR=5.4								
MJAR	**Matsushiro Arr**	**151.57**	**309**	PKPbc	**PKPbc**	**10 44 50.1**	**+0.5**
	2.9nm,0.7s,baz=95,slow=1.2,SNR=11								
MJAR	**Matsushiro Arr**	**151.57**	**309**	PKPbc	**PKPbc**	**10 44 50.1**	**+0.5**
SONM	**Songino Array**	**152.93**	**7**	PKPbc	**PKPbc**	**10 44 51.7**	**-0.7**
	1.8nm,0.5s,baz=316,slow=1.6,SNR=9.8								
SONM				pPKPbc	**pPKPbc**	**10 45 18.9**	**+0.1**
	1.4nm,0.5s,baz=320,slow=2.9,SNR=5.0								
SONM	**Songino Array**	**152.93**	**7**	PKPbc	**PKPbc**	**10 44 51.7**	**-0.7**
SONM				pPKPbc	**pPKPbc**	**10 45 18.9**	**+0.1**
KSRS	**Korea Array**	**157.88**	**322**	PKP	**PKPdf**	**10 44 53.7**	**+1.8**
	1.0nm,0.8s,baz=60,slow=1.2,SNR=6.1								
KSRS				PKPab	**PKPab**	**10 45 25.6**	**+0.5**
	0.8nm,0.5s,baz=49,slow=4.5,SNR=4.5								
KSAR	**Wonju Array Be**	**157.91**	**322**	PKP	**PKPdf**	**10 44 53.7**	**+1.8**
KSAR				PKPab	**PKPab**	**10 45 25.6**	**+0.3**

IDC 21 10:26:08.4±3.5, 0.05N×133.69E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=186.5km s-min=26.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.88**	**178**	P	P	10 30 41.8	+0.3
	baz=358,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**22.58**	**180**	P	P	10 31 20.9	-0.1
	1.3nm,0.6s,baz=358,slow=11,SNR=26						
MKAR	**Makanchi Array**	**64.57**	**324**	P	P	10 36 47.6	0.0
	0.4nm,0.6s,baz=114,slow=7.8,SNR=7.0						

*ATH **21** 10:31:13.9, 40.09N×21.68E, h21km±3km, MD3.2/5*
*ISCJB **21** 10:31:14.3±0.6, 40.07N±0.02×21.73E±0.04, h7km±6km, Error ellipse: s-maj=5.7km s-min=3.9km az=159.6*
*THE **21** 10:31:14.8, 40.06N×21.74E, h4km±1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=0.5km az=309.0*
*CSEM **21** 10:31:14.5±0.2, 40.06N×21.71E, h10km, MD3.2, Error ellipse: s-maj=4.3km s-min=3.1km az=69.0*
ISC 21 10:31:14.8±0.9, 40.07N±0.02×21.72E±0.03, h13km±7km, n26, σ0962/47, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.24**	**9**	*e*PB	**Pg**	**10 31 19.8**	**-0.2**
KZN				*e*SB	**Sg**	**10 31 24.0**	**+0.5**
KZN	**Kozani**	**0.24**	**9**	*e*Pb	**Pg**	**10 31 19.8**	**-0.2**
KZN				*e*Sb	**Sg**	**10 31 24.0**	**+0.5**
MEV	**Metsovon**	**0.47**	**233**	P	**Pg**	**10 31 24.5**	**+0.3**
MEV	**Metsovon**	**0.47**	**233**	P	**Pg**	**10 31 24.5**	**+0.3**
THL	**Klokotos Trika**	**0.55**	**156**	*e*PN	**Pg**	**10 31 24.9**	**-0.7**
THL				*e*SN	**Sb**	**10 31 34.3**	**+0.2**
THL	**Klokotos Trika**	**0.55**	**156**	*e*Pn	**Pg**	**10 31 24.9**	**-0.7**
THL				*e*Sn	**Sb**	**10 31 34.3**	**+0.2**
LIT	**Litokhoron**	**0.59**	**87**	P	**Pg**	**10 31 25.6**	**-0.8**
LIT				S	**Sg**	**10 31 34.6**	**+0.4**
LIT	**Litokhoron**	**0.59**	**87**	*e*PN	**Pg**	**10 31 26.1**	**-0.3**
LIT				*e*SN	**Sg**	**10 31 34.9**	**+0.7**
LIT	**Litokhoron**	**0.59**	**87**	P	**Pg**	**10 31 25.6**	**-0.8**
LIT	**Litokhoron**	**0.59**	**87**	*e*Pn	**Pg**	**10 31 26.1**	**-0.3**
LIT				S	**Sg**	**10 31 34.6**	**+0.4**
LIT				*e*Sn	**Sg**	**10 31 34.9**	**+0.7**
NEST	**Nestorio**	**0.62**	**304**	P	**Pg**	**10 31 26.4**	**-0.5**
NEST				S	**Sb**	**10 31 36.4**	**+0.3**
NEST	**Nestorio**	**0.62**	**304**	P	**Pg**	**10 31 26.4**	**-0.5**
NEST				S	**Sb**	**10 31 36.4**	**+0.3**
FNA	**Florina**	**0.76**	**340**	P	**Pg**	**10 31 28.8**	**-0.8**
FNA				S	**Sb**	**10 31 40.5**	**+0.3**
FNA	**Florina**	**0.76**	**340**	P	**Pg**	**10 31 28.8**	**-0.8**
FNA				S	**Sb**	**10 31 40.5**	**+0.3**
BIA	**Bitola**	**0.99**	**342**	*i* Pg	**Pb**	**10 31 32.4**	**-1.5**
BIA				*i* Sg	**Sb**	**10 31 48.1**	**+1.1**
GRG	**Griva**	**1.03**	**30**	P	**Pb**	**10 31 34.1**	**-0.3**
GRG				S	**Sn**	**10 31 49.0**	**-0.2**
GRG	**Griva**	**1.03**	**30**	P	**Pb**	**10 31 34.1**	**-0.3**
GRG				S	**Sn**	**10 31 49.0**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.10**	**163**	P	**Pb**	**10 31 35.1**	**-0.6**
MAKR				S	**Sg**	**10 31 50.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.10**	**163**	P	**Pb**	**10 31 35.1**	**-0.6**
MAKR				S	**Sg**	**10 31 50.8**	**+0.4**
EVR	**Evrytania**	**1.15**	**177**	*e*PB	**Pb**	**10 31 35.5**	**-1.1**
EVR				*e*SN	**Sn**	**10 31 53.4**	**+1.0**
EVR	**Evrytania**	**1.15**	**177**	*e*Pb	**Pb**	**10 31 35.5**	**-1.1**
EVR				*e*Sn	**Sn**	**10 31 53.4**	**+1.0**
XOR	**Xorichti**	**1.33**	**121**	P	**Pn**	**10 31 39.1**	**0.0**
XOR				S	**Sg**	**10 31 58.2**	**+0.4**
XOR	**Xorichti**	**1.33**	**121**	P	**Pn**	**10 31 39.1**	**0.0**
XOR				S	**Sg**	**10 31 58.2**	**+0.4**
VAY	**Valandovo**	**1.41**	**27**	*i* Pn	**Pb**	**10 31 41.5**	**+0.6**
SOH	**Sokhos**	**1.46**	**58**	*e*PN	**Pb**	**10 31 41.6**	**-0.1**
SOH	**Sokhos**	**1.46**	**58**	*e*Pn	**Pb**	**10 31 41.6**	**-0.1**

*ISCJB **21** 10:40:25.9±0.4, 31.60S±0.03×69.52W±0.05, h119km±4km, mb3.8/6, Error ellipse: s-maj=7.2km s-min=4.4km az=2.1*
*GUC **21** 10:40:25.9±0.6, 31.63S×69.83W, h150km±4km, ML4.2*
*NEIC **21** 10:40:26.5±0.3, 31.64S×69.48W, mb4.3/1, MD4.3(SJA), Error ellipse: s-maj=6.6km s-min=4.5km az=104.0*
NEIC Felt [III] at San Juan.
*IDC **21** 10:40:27.0±0.8, 31.73S×69.42W, h116km±6km, mb3.6/6, mb1 3.9/9, mb1mx3.8/18, mbtmp3.7/9, Error ellipse: s-maj=15.7km s-min=14.6km az=6.0*
ISC 21 10:40:26.8±0.6, 31.59S±0.03×69.53W±0.04, h116km±5km, h116km:pP-P, n68, σ1§29/109, mb3.7/6, 18C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.10**	**91**	P	**Pn**	**10 40 49.0**	**-0.6**
	36nm,0.3s,baz=266,slow=9.6,SNR=2340						
CFAA				S	**Sn**	**10 41 05.9**	**-0.9**
	76nm,0.3s,baz=278,slow=17,SNR=176						
CFAA	**Coronel Fontan**	**1.10**	**91**	P	**Pn**	**10 40 49.0**	**-0.6**
CFAA				S	**Sn**	**10 41 05.9**	**-0.9**
CMCH	**Combarbala**	**1.32**	**288**	*i* P	**Pn**	**10 40 51.9**	**-0.1**
CMCH				*i* S	**Sn**	**10 41 11.5**	**+0.3**
CMCH	**Combarbala**	**1.32**	**288**	*i* P	**Pn**	**10 40 51.9**	**-0.1**
CMCH				*i* S	**Sn**	**10 41 11.5**	**+0.3**
CMCH				AML	AML	10 41 13.1	
	comp=N,13μm,0.8s						
PTCH	**Petorca**	**1.36**	**240**	*i* P	**Pn**	**10 40 52.2**	**-0.2**
PTCH				*i* S	**Sn**	**10 41 11.8**	**-0.1**
PTCH	**Petorca**	**1.36**	**240**	*i* P	**Pn**	**10 40 52.2**	**-0.2**
PTCH				*i* S	**Sn**	**10 41 11.8**	**-0.1**
PTCH				AML	AML	10 41 14.5	
	comp=E,7μm,0.2s						
JACH	**Jahuel**	**1.41**	**219**	*e*P	**Pn**	**10 40 53.2**	**+0.1**
JACH				*i* S	**Sn**	**10 41 14.3**	**+1.3**
JACH	**Jahuel**	**1.41**	**219**	*e*P	**Pn**	**10 40 53.2**	**+0.1**
JACH				*i* S	**Sn**	**10 41 14.3**	**+1.3**
CHNG	**Los Chungos**	**1.70**	**260**	*e*P	**Pn**	**10 40 55.4**	**-1.0**
CHNG				*e*S	**Sn**	**10 41 16.9**	**-1.9**
CHNG	**Los Chungos**	**1.70**	**260**	*e*P	**Pn**	**10 40 55.4**	**-1.0**
CHNG				*e*S	**Sn**	**10 41 16.9**	**-1.9**
CHNG				AML	AML	10 41 23.9	
	comp=E,978nm,0.5s						
OVCH	**Ovalle**	**1.73**	**304**	*i* P	**Pn**	**10 40 56.6**	**-0.2**
OVCH				*i* S	**Sn**	**10 41 19.6**	**0.0**
OVCH	**Ovalle**	**1.73**	**304**	*i* P	**Pn**	**10 40 56.6**	**-0.2**
OVCH				*i* S	**Sn**	**10 41 19.6**	**0.0**
OVCH				AML	AML	10 41 20.8	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**1.79**	**322**	*i* P	**Pn**	**10 40 58.1**	**+0.4**
TLL	**Tololo Astrono**	**1.79**	**322**	*i* P	**Pn**	**10 40 58.1**	**+0.4**
TLL				AML	AML	10 41 25.6	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.83**	**212**	*i* P	**Pn**	**10 40 57.7**	**-0.2**
PEL				*i* S	**Sn**	**10 41 21.8**	**0.0**
PEL				AML	AML	10 41 22.9	
	comp=E,5μm,0.5s						
FCH	**Farellones**	**1.85**	**200**	*i* P	Pn	10 41 03.0	+4.5
FCH				*i* S	**Sn**	**10 41 28.3**	**+5.7**
FCH				AML	AML	10 41 35.4	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**1.86**	**222**	*e*P	**Pn**	**10 40 58.0**	**-0.5**
ROCH				*i* S	**Sn**	**10 41 22.4**	**-0.3**
ROCH	**El Roble**	**1.86**	**222**	*e*P	**Pn**	**10 40 58.0**	**-0.5**
ROCH				*i* S	**Sn**	**10 41 22.4**	**-0.3**
ROCH				AML	AML	10 41 24.9	
	comp=N,3μm,0.4s						
CLCH	**Cerro Calan**	**1.99**	**205**	*i* P	**Pn**	**10 41 00.1**	**+0.1**
CLCH				*i* S	**Sn**	**10 41 25.9**	**+0.5**
CLCH				AML	AML	10 41 28.1	
	comp=E,4μm,0.5s						
FSR	**Penalolen**	**2.06**	**204**	*i* P	**Pn**	**10 41 01.2**	**+0.3**
FSR				*i* S	**Sn**	**10 41 27.7**	**+0.8**
FSR	**Penalolen**	**2.06**	**204**	*i* P	**Pn**	**10 41 01.2**	**+0.3**
FSR				*i* S	**Sn**	**10 41 27.7**	**+0.8**
FSR				AML	AML	10 41 29.8	
	comp=N,570nm,0.4s						
SAN	**Santiago**	**2.09**	**207**	*i* P	**Pn**	**10 41 00.9**	**-0.3**
SAN				*e*S	**Sn**	**10 41 27.3**	**-0.2**
SAN	**Santiago**	**2.09**	**207**	*i* P	**Pn**	**10 41 00.9**	**-0.3**
SAN				*e*S	**Sn**	**10 41 27.3**	**-0.2**
SAN				AML	AML	10 41 29.0	
	comp=N,1μm,0.5s						
SJCH	**San Jose de Ma**	**2.16**	**199**	AML	AML	10 41 33.0	
	comp=N,763nm,0.6s						
ANTU	**Antumapu**	**2.18**	**205**	*i* P	**Pn**	**10 41 02.1**	**-0.2**
ANTU				*i* S	**Sn**	**10 41 29.6**	**-0.1**
ANTU	**Antumapu**	**2.18**	**205**	*i* P	**Pn**	**10 41 02.1**	**-0.2**
ANTU				*i* S	**Sn**	**10 41 29.6**	**-0.1**
ANTU				AML	AML	10 41 31.4	
	comp=E,3μm,0.3s						
PCH	**Pirque**	**2.19**	**202**	*i* P	**Pn**	**10 41 02.4**	**-0.1**
PCH				*i* S	**Sn**	**10 41 30.1**	**+0.3**
PCH	**Pirque**	**2.19**	**202**	*i* P	**Pn**	**10 41 02.4**	**-0.1**
PCH				*i* S	**Sn**	**10 41 30.1**	**+0.3**
IHA	**Instituto Hidr**	**2.29**	**231**	*i* P	**Pn**	**10 41 02.2**	**-1.4**
IHA				*i* S	**Sn**	**10 41 29.8**	**-2.2**
IHA	**Instituto Hidr**	**2.29**	**231**	*i* P	**Pn**	**10 41 02.2**	**-1.4**
IHA				*i* S	**Sn**	**10 41 29.8**	**-2.2**
LMEL	**Las Melosas**	**2.32**	**194**	*i* P	**Pn**	**10 41 04.4**	**+0.2**
LMEL				*i* S	**Sn**	**10 41 33.9**	**+0.9**
LMEL	**Las Melosas**	**2.32**	**194**	*i* P	**Pn**	**10 41 04.4**	**+0.2**
LMEL				*i* S	**Sn**	**10 41 33.9**	**+0.9**
LMEL				AML	AML	10 41 39.4	
	comp=N,1μm,0.4s						
TACH	**Talagante**	**2.37**	**210**	*i* P	**Pn**	**10 41 04.0**	**-0.8**
TACH				*i* S	**Sn**	**10 41 33.2**	**-0.8**
TACH	**Talagante**	**2.37**	**210**	*i* P	**Pn**	**10 41 04.0**	**-0.8**
TACH				*i* S	**Sn**	**10 41 33.2**	**-0.8**
CACH	**El Canelo**	**2.67**	**199**	*i* P	**Pn**	**10 41 08.8**	**0.0**
CACH				*i* S	**Sn**	**10 41 41.7**	**+0.6**
CACH	**El Canelo**	**2.67**	**199**	*i* P	**Pn**	**10 41 08.8**	**0.0**
CACH				*i* S	**Sn**	**10 41 41.7**	**+0.6**
LCO	**Las Campanas**	**2.76**	**338**	*i* P	**Pn**	**10 41 10.0**	**-0.1**
LCO				*i* S	**Sn**	**10 41 44.1**	**+0.7**
LCO	**Las Campanas**	**2.76**	**338**	*i* P	**Pn**	**10 41 10.0**	**-0.1**
LCO				AML	AML	10 41 43.9	
	comp=E,1μm,0.3s						
LCO				*i* S	**Sn**	**10 41 44.1**	**+0.7**
TRQA	**Tornquist**	**8.95**	**138**	*e*Pn	**Pn**	**10 42 30.5**	**-2.6**
	comp=E,30nm,0.6s						
PLCA	**Paso Flores**	**9.16**	**185**	P	**Pn**	**10 42 33.6**	**-2.3**
	comp=E,0.3nm,0.3s,baz=1.7,slow=12,SNR=6.1						
PLCA				S	**Sn**	**10 44 11.8**	**-5.3**
	comp=E,0.9nm,0.3s,baz=123,slow=20,SNR=8.7						
PLCA	**Paso Flores**	**9.16**	**185**	P	**Pn**	**10 42 33.6**	**-2.3**
PLCA				S	**Sn**	**10 44 11.8**	**-5.3**
PLCA				*e*Sn	Sn	10 44 12.5	-4.8
LPAZ	**La Paz**	**15.29**	**5**	P	**Pn**	**10 43 58.1**	**+1.1**
	comp=E,1.6nm,0.3s,baz=176,slow=7.5,SNR=50						
LPAZ	**La Paz**	**15.29**	**5**	*e*Pn	**Pn**	**10 43 57.9**	**+0.9**
	comp=E,10nm,0.6s						
SIV	**San Ignacio**	**17.34**	**28**	P	**P**	**10 44 21.1**	**-0.2**
	comp=E,1.2nm,0.3s,baz=217,slow=11,SNR=44						
SIV	**San Ignacio**	**17.34**	**28**	P	**P**	**10 44 21.1**	**-0.2**
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**10 50 12.5**	**+1.0**
	comp=E,1.7nm,0.7s,baz=150,slow=2.6,SNR=5.4						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**10 50 12.6**	**+1.0**
TXAR	**Lajitas Array**	**68.73**	**328**	P	**P**	**10 51 19.7**	**+1.6**
	comp=E,0.5nm,0.6s,baz=155,slow=8.5,SNR=8.1						
TXAR				pP	**pP**	**10 51 48.7**	**+1.8**
	comp=E,0.4nm,0.7s,baz=150,slow=8.2,SNR=3.5						
TXAR	**Lajitas Array**	**68.73**	**328**	P	**P**	**10 51 19.7**	**+1.6**
TXAR				pP	**pP**	**10 51 48.7**	**+1.8**
LBTB	**Lobatse**	**81.37**	**114**	P	**P**	**10 52 30.0**	**-1.1**
	comp=E,2.3nm,0.8s,baz=312,slow=2.2,SNR=3.9						
LBTB	**Lobatse**	**81.37**	**114**	P	**P**	**10 52 30.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**81.39**	**69**	P	**P**	**10 52 31.1**	**+0.1**
	comp=E,1.7nm,0.8s,baz=279,slow=6.4,SNR=10.0						
TORD				pP	**pP**	**10 52 59.7**	**-0.9**
	comp=E,1.0nm,0.7s,baz=264,slow=4.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**81.39**	**69**	P	**P**	**10 52 31.1**	**+0.1**
TORD				pP	**pP**	**10 52 59.7**	**-0.9**
PDAR	**Pinedale Array**	**82.62**	**331**	P	**P**	**10 52 37.5**	**+0.5**
	comp=E,0.5nm,0.6s,baz=130,slow=4.6,SNR=4.3						
PDAR	**Pinedale Array**	**82.62**	**331**	P	**P**	**10 52 37.5**	**+0.5**
NVAR	**Mina Array Bea**	**83.16**	**323**	P	**P**	**10 52 40.8**	**+0.9**
	comp=E,0.3nm,0.5s,baz=147,slow=5.1,SNR=3.4						
NVAR	**Mina Array Bea**	**83.16**	**323**	P	**P**	**10 52 40.9**	**+0.9**
ASAR	**Alice Springs**	**120.65**	**205**	PKP	**PKPdf**	**10 59 04.2**	**-1.3**
	comp=E,0.2nm,0.7s,baz=161,slow=2.0,SNR=2.8						
ASAR	**Alice Springs**	**120.65**	**205**	PKP	**PKPdf**	**10 59 04.2**	**-1.3**
ARCES	**ARCESS Array B**	**120.95**	**24**	PKP	**PKPdf**	**10 59 04.8**	**+0.3**
	comp=E,5.0nm,1.0s,baz=253,slow=2.7,SNR=2.7						
ARCES	**ARCESS Array B**	**120.95**	**24**	PKP	**PKPdf**	**10 59 04.8**	**+0.3**
AAK	**Ala-Archa**	**149.48**	**59**	PKPbc	**PKPbc**	**11 00 03.2**	**+0.8**
	comp=E,1.8nm,0.6s,baz=207,slow=2.3,SNR=6.4						
AAK				pPKPbc	**pPKPbc**	**11 00 34.3**	**+0.6**
	comp=E,1.7nm,0.8s,baz=180,slow=1.0,SNR=2.6						
AAK	**Ala-Archa**	**149.48**	**59**	PKPbc	**PKPbc**	**11 00 03.2**	**+0.8**
AAK				pPKPbc	**pPKPbc**	**11 00 34.3**	**+0.6**
KURK	**Kurchatov**	**149.68**	**42**	PKPbc	**PKPbc**	**11 00 01.6**	**-0.7**
	comp=E,2.5nm,0.8s,baz=305,slow=3.2,SNR=5.7						
KURK	**Kurchatov**	**149.68**	**42**	PKPbc	**PKPbc**	**11 00 01.6**	**-0.7**
ZAA0	**Zalesovo Array**	**151.07**	**32**	*e*PKPbc	**PKPbc**	**11 00 06.2**	**+0.6**
ZALV	**Zalesovo Beam**	**151.07**	**32**	PKPbc	**PKPbc**	**11 00 06.2**	**+0.6**
	comp=E,7.0nm,0.5s,baz=311,slow=3.1,SNR=19						
ZALV	**Zalesovo Beam**	**151.07**	**32**	PKPbc	**PKPbc**	**11 00 06.2**	**+0.6**

NNC 21 10:41:21.9±6.6, 50.95N×73.63E, h0km, mb2.7, mpv2.4, 4C-4D, Error ellipse: s-maj=106.7km s-min=28.5km az=24.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.42**	**318**	⇓P	Pn	10 42 00.9	-1.8
	1.4nm,0.3s						
VOSK				⇓Sn	Sn	10 42 33.2	+0.1
	4.2nm,0.6s						
BVA0	**Borovoye Array**	**2.89**	**317**	⇓Pn	Pn	10 42 08.7	-0.5
	0.2nm,0.5s,baz=135,slow=16,SNR=4.2						
BVA0				⇑Sn	Sb	10 42 50.5	+0.3
	0.6nm,0.5s,baz=124,slow=25,SNR=7.7						
KURK	**Kurchatov**	**3.17**	**92**	⇑Pn	Pn	10 42 09.7	-3.3
	0.9nm,0.5s						
KURK				⇑Sn	Sb	10 42 56.0	-2.3
	5.0nm,0.6s						
ZRNK	**Zerenda**	**3.49**	**307**	⇓Pn	Pn	10 42 12.7	-4.8
	0.4nm,0.3s						
ZRNK				⇑Lg	Lg	10 43 07.2	
	2.3nm,0.5s						

*IDC **21** 10:41:35.5±1.3, 37.12N×70.11E, h0km, mb3.6/5, mb1 3.9/10, mb1mx3.6/29, mbtmp3.7/10, ML3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/41, Error ellipse: s-maj=28.2km s-min=19.8km az=70.0*
*NNC **21** 10:41:42.7±4.8, 37.70N×70.05E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=37.8km s-min=31.6km az=162.0*
ISC 21 10:41:42.1±1.7, 37.6N±0.1×69.7E±0.1, h30km, n24, σ2§07/31, mb3.6/5, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.48**	**33**	P	**Pn**	**10 43 03.7**	**+1.7**
	SNR=44						
KK31	**Karatay Array**	**5.55**	**6**	⇓Pn	Pn	10 43 06.1	+3.4
	3.0nm,0.3s,baz=183,slow=14,SNR=149						
KK31				⇑Sn	**Sn**	**10 44 08.1**	**+2.6**
	3.7nm,0.2s,baz=188,slow=19,SNR=5.8						
KK31				⇑Lg	Lg	10 44 39.8	
	22nm,0.6s,baz=186,slow=27,SNR=5.3						
EKS2	**Erkin-Say**	**5.95**	**30**	P	**Pn**	**10 43 10.7**	**+2.5**
	SNR=17						
EKS2				P	**Pn**	**10 43 10.7**	**+2.5**
	SNR=17						
KZA	**Kyzart**	**6.18**	**42**	P	**Pn**	**10 43 13.7**	**+2.0**
	SNR=14						
KZA				P	**Pn**	**10 43 13.7**	**+2.0**
	SNR=14						
AAK	**Ala-Archa**	**6.23**	**34**	P	**Pn**	**10 43 14.2**	**+2.1**
	SNR=35						
AAK				P	**Pn**	**10 43 14.2**	**+2.1**
	SNR=35						
KBK	**Karagaybulak**	**6.46**	**37**	P	**Pn**	**10 43 17.8**	**+2.6**
	SNR=13						
KBK				P	**Pn**	**10 43 17.8**	**+2.6**
	SNR=13						
CHMS	**Chumysh**	**6.64**	**34**	P	**Pn**	**10 43 19.2**	**+1.7**
	SNR=14						
CHMS				P	**Pn**	**10 43 19.2**	**+1.7**
	SNR=14						
USP	**Ospenovka**	**6.75**	**31**	P	**Pn**	**10 43 20.6**	**+1.5**
	SNR=17						
USP				P	**Pn**	**10 43 20.6**	**+1.5**
	SNR=17						
ULHL	**Ulahol**	**6.84**	**45**	P	**Pn**	**10 43 21.1**	**+0.6**
	SNR=7.4						
ULHL				P	**Pn**	**10 43 21.1**	**+0.6**
	SNR=7.4						
TKM2	**Tokmak 2**	**6.97**	**38**	P	**Pn**	**10 43 24.1**	**+1.8**
	SNR=14						
TKM2				P	**Pn**	**10 43 24.1**	**+1.8**
	SNR=14						
TKM2	**Tokmak 2**	**6.97**	**38**	⇑Pn	Pn	**10 43 23.6**	**+1.3**
	11nm,0.4s						
TKM2				⇑Sn	**Sn**	**10 44 40.1**	**-0.6**
	7.0nm,0.8s						
TKM2				⇑Lg	Lg	10 45 17.1	
	8.2nm,0.6s						
MKAR	**Makanchi Array**	**13.08**	**41**	Pn	**Pn**	**10 44 45.0**	**-0.7**
	0.3nm,0.3s,baz=228,slow=12,SNR=12						
AB31	**Akbulak array**	**13.66**	**332**	⇑P	**Pn**	**10 44 54.1**	**+0.5**
	1.0nm,0.3s,baz=155,slow=12,SNR=82						
KURK	**Kurchatov**	**14.59**	**23**	Pn	Pn	10 45 01.4	-4.8
	0.1nm,0.3s,baz=214,slow=12,SNR=5.5						
KURK					Sn	10 47 35.0	-12
	0.1nm,0.3s,baz=306,slow=33,SNR=5.0						
AKTO	**Aktyubinsk**	**15.35**	**331**	Pn	**Pn**	**10 45 18.0**	**+1.7**
	0.3nm,0.3s,baz=145,slow=12,SNR=6.2						
AKTO					Sn	**10 47 59.6**	**-5.7**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.8						
BVA0	**Borovoye Array**	**15.46**	**1**	⇑P	**P**	**10 45 20.0**	**-2.0**
	0.1nm,0.3s,baz=165,slow=8.1,SNR=4.4						
BVAR	**Borovoye Array**	**15.46**	**1**	Pn	**Pn**	**10 45 17.4**	**-0.4**
	0.9nm,0.3s,baz=163,slow=12,SNR=8.9						
ZALV	**Zalesovo Beam**	**19.39**	**28**	P	**P**	**10 46 04.0**	**-1.5**
	1.7nm,0.3s,baz=213,slow=10,SNR=18						
GNI	**Garni**	**19.61**	**285**	LR	LR	10 54 37.5	
	comp=Z,58nm,21.6s,baz=277,slow=39						
SONM	**Songino Array**	**28.58**	**57**	P	**P**	**10 47 34.1**	**-1.3**
	0.5nm,0.4s,baz=263,slow=11,SNR=3.4						
NOA	**NORSAR Array B**	**42.91**	**322**	P	**P**	**10 49 39.0**	**+1.3**
	1.0nm,0.8s,baz=100,slow=7.8,SNR=3.6						
YKA	**Yellowknife Ar**	**80.21**	**2**	P	**P**	**10 53 49.5**	**+0.3**
	0.6nm,0.5s,baz=351,slow=5.4,SNR=24						
WRA	**Warramunga Arr**	**83.42**	**121**	P	P	10 54 01.9	-4.8
	0.4nm,0.9s,baz=326,slow=4.7,SNR=3.2						
ASAR	**Alice Springs**	**85.70**	**124**	P	P	10 54 14.5	-3.7
	0.2nm,0.6s,baz=306,slow=5.6,SNR=4.1						

NSSC 21 10:59:23.9±0.9, 34.54N×36.86E, h38km±654km, MD2.0, ML1.7, Jordan - Syria region

| Code | Station

KUR					smax	smax			
	comp=E,400nm,1.0s								
KUR					smax	smax			
	comp=E,350nm,0.7s								
SKR	**Severo-Kuril's**	**5.19**	**24**	*e*PN		Pn	11 12 05.8	-3.4	
SKR				*e*S		Sn	11 13 01.9	-6.1	
SKR					pmax	pmax			
	comp=Z,50nm,0.5s								
SKR					smax	smax			
	comp=N,60nm,0.5s								
SKR					smax	smax			
	comp=E,80nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.27**	**251**	*d* iPN		Pn	11 12 14.1	+3.8	
YUK					pmax	pmax			
	comp=N,15nm,0.3s								
YUK					pmax	pmax			
	comp=E,20nm,0.1s								
YUK					pmax	pmax			
	comp=Z,95nm,0.3s								
NEM2	**Nemuro 2**	**5.65**	**245**	P		**Pn**	**11 12 17.1**	**+1.6**	
NEM2				*e*S		**Sn**	**11 13 17.6**	**-1.7**	
JNK	**Nakash**	**6.21**	**250**	P		Pn	11 12 26.8	+3.6	
JNK				*e*S		**Sn**	**11 13 33.4**	**+0.4**	
JAK	**Akkeshi**	**6.50**	**245**	P		**Pn**	**11 12 28.8**	**+1.6**	
JAK				*e*S		**Sn**	**11 13 37.8**	**-2.4**	
JTKR	**Abashiri--Toko**	**6.59**	**255**	P		Pn	11 12 32.2	+3.7	
JMP	**Maruseppu**	**6.95**	**257**	P		Pn	11 12 37.6	+4.2	
JAR	**Ashorobuto**	**6.95**	**250**	P		Pn	11 12 37.1	+3.6	
JAR				*e*S		**Sn**	**11 13 53.6**	**+2.1**	
JOB	**Onbets**	**7.09**	**247**	P		Pn	11 12 38.1	+2.8	
JOB				*e*S		**Sn**	**11 13 55.1**	**+0.3**	
JKK2	**Kamakawa 2**	**7.41**	**257**	P		Pn	11 12 44.4	+4.6	
ASAJ	**Asahikawa**	**7.43**	**259**	P		Pn	11 12 45.1	+5.0	
	comp=Z,1.2nm,0.3s,baz=74,slow=30,SNR=7.6								
ASAJ				S		Sb	11 14 21.1	-9.0	
	comp=Z,0.1nm,0.3s,baz=169,slow=19,SNR=2.4								
ASAJ	**Asahikawa**	**7.43**	**259**	PN		Pn	11 12 45.1	+5.0	
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JCH	**Churui**	**7.54**	**247**	P		Pn	11 12 43.9	+2.4	
JCH				*e*S		**Sn**	**11 14 04.1**	**-1.7**	
JFR	**Furan**	**7.79**	**252**	P		Pn	11 12 49.6	+4.7	
PETK	**Petropavlovsk-**	**7.80**	**23**	P		**Pn**	**11 12 46.1**	**+1.0**	
	comp=Z,0.5nm,0.3s,baz=189,slow=17,SNR=6.5								
PETK	**Petropavlovsk-**	**7.80**	**23**	PN		**Pn**	**11 12 46.1**	**+1.0**	
PETK				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JAB	**Ashibetsu**	**7.90**	**255**	P		Pn	11 12 53.0	+6.6	
JEM	**Erimo**	**7.98**	**243**	*e*S		**Sn**	**11 14 14.6**	**-2.1**	
JNBK	**Urakawa-nobuka**	**8.10**	**246**	P		**Pn**	**11 12 50.9**	**+1.8**	
JNBK				*e*S		**Sn**	**11 14 18.2**	**-1.3**	
JBT2	**Biratori 2**	**8.11**	**250**	P		Pn	11 12 51.8	+2.5	
JBT2				*e*S		**Sn**	**11 14 19.1**	**-0.7**	
JNB	**Noboribetsu**	**9.12**	**251**	P		Pn	11 13 05.8	+2.7	
JNB				*e*S		**Sn**	**11 14 44.1**	**-0.6**	
JKB	**Kayabe**	**9.40**	**248**	P		**Pn**	**11 13 08.7**	**+1.7**	
JKB				*e*S		Sn	11 14 47.3	-4.2	
JYM2	**Yakumo 2**	**9.72**	**251**	P		Pn	11 13 13.8	+2.4	
JANG	**Nango**	**9.95**	**240**	P		**Pn**	**11 13 13.9**	**-0.6**	
JANG				*e*S		Sn	11 14 57.9	-7.1	
JTM	**Tenmabayashi**	**9.97**	**243**	P		**Pn**	**11 13 15.7**	**+0.9**	
JTM				*e*S		Sn	11 14 58.7	-6.9	
JTH	**Tanohata**	**10.02**	**237**	*e*S		Sn	11 14 58.1	-8.6	
JOSM	**Okushiri--Mats**	**10.33**	**252**	P		Pn	11 13 22.0	+2.3	
OFUJ	**Ofunato**	**10.70**	**234**	P		**Pn**	**11 13 25.6**	**+0.7**	
JIO	**Ouri**	**11.32**	**232**	*e*S		Sn	11 15 27.3	-11	
ILAR	**Eielson Array**	**37.29**	**38**	P		**P**	**11 18 02.2**	**-0.3**	
	comp=Z,0.3nm,1.0s,baz=246,slow=6.8,SNR=3.2								
ILAR	**Eielson Array**	**37.29**	**38**	P		**P**	**11 18 02.2**	**-0.3**	
INK	**Inuvik**	**42.42**	**32**	P		**P**	**11 18 43.4**	**-1.6**	
	comp=Z,0.5nm,0.6s,baz=346,slow=4.8,SNR=5.3								
INK	**Inuvik**	**42.42**	**32**	P		**P**	**11 18 43.4**	**-1.6**	
INK					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**47.07**	**298**	P		**P**	**11 19 21.9**	**-0.4**	
	comp=Z,0.4nm,0.6s,baz=68,slow=7.3,SNR=5.2								
MKAR	**Makanchi Array**	**47.07**	**298**	P		**P**	**11 19 21.9**	**-0.4**	
BVAR	**Borovoye Array**	**51.14**	**310**	P		**P**	**11 19 53.7**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=38,slow=7.3,SNR=3.6								
BVAR	**Borovoye Array**	**51.14**	**310**	P		**P**	**11 19 53.7**	**+0.3**	
YKA	**Yellowknife Ar**	**51.67**	**36**	P		**P**	**11 19 58.7**	**+1.5**	
	comp=Z,0.1nm,0.5s,baz=276,slow=6.7,SNR=3.1								
YKA	**Yellowknife Ar**	**51.67**	**36**	P		**P**	**11 19 58.7**	**+1.5**	
FINES	**FINESS Array B**	**64.61**	**335**	P		**P**	**11 21 27.3**	**-0.4**	
	comp=Z,6.3nm,1.1s,baz=29,slow=9.1,SNR=7.8								
FINES	**FINESS Array B**	**64.61**	**335**	P		**P**	**11 21 27.3**	**-0.4**	
FINES					pmax	pmax			
	comp=Z,6.0nm,1.1s								
NOA	**NORSAR Array B**	**68.85**	**341**	P		**P**	**11 21 55.2**	**+0.5**	
	comp=Z,1.3nm,0.6s,baz=29,slow=6.4,SNR=4.9								
NOA	**NORSAR Array B**	**68.85**	**341**	P		**P**	**11 21 55.3**	**+0.5**	
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**72.03**	**326**	P		**P**	**11 22 13.2**	**-1.1**	
	comp=Z,1.0nm,0.5s,baz=35,slow=6.1,SNR=3.9								
AKASG	**Malin Array Be**	**72.03**	**326**	P		**P**	**11 22 13.2**	**-1.1**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								

KRSC 21 11:26:05.3±0.2, 53°.36N×160°.11E, h57^{km}±47^{km}, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPN	**Mys Shipunski**	**0.27**	**191**	*e*P		Pn	11 26 15.4	+0.6
SPN				*i* S		Sn	11 26 22.4	+0.7
NLC	**Nalytchevo**	**0.50**	**248**	*e*P		Pn	11 26 17.2	+0.3
NLC				*i* S		Sn	11 26 26.1	+0.7
SDLR	**Sedlovina**	**0.74**	**264**	P		Pn	11 26 20.2	+0.2
SDLR				*i* S		Sn	11 26 31.4	+0.6
KII	**Karymskiy**	**0.78**	**330**	*e*P		Pn	11 26 20.9	+0.4
KII				*i* S		Sn	11 26 32.7	+1.0
UGLR	**Uglovaya**	**0.79**	**259**	*e*P		Pn	11 26 21.0	+0.4
UGLR				*i* S		Sn	11 26 32.5	+0.7
SMAR	**Somma**	**0.79**	**263**	P		Pn	11 26 20.8	0.0
SMAR				*i* S		Sn	11 26 32.3	+0.2
AVH	**Avacha**	**0.83**	**264**	P		Pn	11 26 21.6	+0.5
AVH				*i* S		Sn	11 26 33.9	+1.2
KOK	**Koryaka**	**0.89**	**266**	P		Pn	11 26 22.2	+0.3
KOK				*i* S		Sn	11 26 34.4	+0.3
PET	**Petropavlovsk**	**0.94**	**250**	*e*P		Pn	11 26 22.5	+0.1
PET				*i* S		Sn	11 26 35.0	0.0
RUS	**Russkaya**	**1.34**	**227**	P		Pn	11 26 27.5	-0.2
RUS				*i* S		Sn	11 26 43.7	-0.8
MTVR	**Mutnovka**	**1.46**	**234**	*e*P		Pn	11 26 29.8	+0.2
MTVR				*i* S		Sn	11 26 47.7	-0.1
GRL	**Gorelyy**	**1.47**	**238**	P		Pn	11 26 30.5	+0.8
GRL				*i* S		Sn	11 26 48.8	+0.7
MKZ	**Mys Kozlova**	**1.53**	**38**	P		Pn	11 26 30.8	+0.5
MKZ				*i* S		Sn	11 26 49.5	+0.3
ASAK	**Asacha**	**1.66**	**235**	*e*P		Pn	11 26 33.0	+0.8
ASAK				*i* S		Sn	11 26 53.9	+1.4
TUMR	**Tumrok**	**1.93**	**1**	*e*P		Pn	11 26 37.5	+1.6
TUMR				*i* S		Sn	11 27 01.7	+2.6
MIPR	**Malaya Ipel'ka**	**2.31**	**243**	*e*P		Pn	11 26 41.3	+0.4
KMNR	**Kamenistaya**	**2.40**	**2**	*e*P		Pn	11 26 44.3	+2.0
KMNR				*i* S		Sn	11 27 12.2	+1.6
BZMR	**Bezymyannaya**	**2.59**	**5**	P		Pn	11 26 47.1	+2.2
KIRR	**Kirishev**	**2.60**	**3**	*e*P		Pn	11 26 47.1	+2.0
KIRR				*e*S		Sn	11 27 17.3	+1.7
BZGR	**Bezymyannyi-Gr**	**2.61**	**7**	P		Pn	11 26 46.9	+1.8
BZGR				*i* S		Sn	11 27 17.8	+2.1
KPT	**Kopyto**	**2.61**	**1**	*e*P		Pn	11 26 46.8	+1.6
BZWR	**Bezymyannyi-We**	**2.62**	**5**	*e*P		Pn	11 26 47.9	+2.5
ZLN	**Zelenaya**	**2.69**	**8**	*e*P		Pn	11 26 47.5	+1.2
ZLN				*e*S		Sn	11 27 18.1	+0.3
ESO	**Esso**	**2.70**	**343**	*e*P		Pn	11 26 47.3	+1.1
KOZ	**Kozyrevsk**	**2.71**	**357**	*e*P		Pn	11 26 48.2	+1.8
KRSR	**Krestovskiy**	**2.88**	**5**	*e*P		Pn	11 26 50.3	+1.5
SRDR	**Srednnyy**	**2.97**	**356**	*e*P		Pn	11 26 51.0	+1.0
KLY	**Klyuchi**	**2.98**	**6**	*e*P		Pn	11 26 52.8	+2.8
KLY				*i* S		Sn	11 27 28.0	+3.6
KBTR	**Krutoberegovo**	**3.26**	**28**	*e*P		Pn	11 26 55.3	+1.5
KBTR				*i* S		Sn	11 27 32.4	+1.1
SMKR	**Semkarok**	**3.32**	**13**	*e*P		Pn	11 26 56.2	+1.4
SRKR	**Sorokina**	**3.36**	**10**	*e*P		Pn	11 26 57.8	+2.5
BKI	**Bering**	**3.90**	**59**	*e*P		Pn	11 27 03.2	+0.6
BKI				*i* S		Sn	11 27 43.8	-3.3

IDC 21 11:48:36.1±6.9, 19°.51S×178°.01W, h0^{km}, mb3.8/3,
mb1 4.2/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=301.5km s-min=36.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**44.73**	**261**	P		P	11 56 51.5	-0.1
	0.9nm,0.3s,baz=97,slow=7.8,SNR=35							
ASAR	**Alice Springs**	**44.74**	**256**	P		P	11 56 51.4	-0.2
	1.5nm,0.6s,baz=94,slow=7.5,SNR=35							
ILAR	**Eielson Array**	**87.36**	**13**	P		P	12 01 24.5	0.0
	0.3nm,0.9s,baz=218,slow=5.6,SNR=3.2							

*ATH **21** 11:49:20.8, 39°.02N×23°.40E, h20^{km}±1^{km}, ML3.6*
*ISCJB **21** 11:49:21.3±0.4, 39°.01N±0°.01×23°.37E±0°.03, h12^{km}±3^{km}, Error ellipse: s-maj=3.3km s-min=2.3km az=13.6*
*CSEM **21** 11:49:21.2±0.1, 38°.99N×23°.36E, h10^{km}, ML3.4/12, Error ellipse: s-maj=2.4km s-min=1.7km az=103.0*
*THE **21** 11:49:21.5, 39°.00N×23°.34E, h12^{km}, ML3.4/12, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0*
*SOF **21** 11:49:27.9, 39°.56N×23°.57E, h13^{km}, MD2.8*
ISC 21 11:49:21.6±0.8, 38°.99N±0°.02×23°.35E±0°.02, h13^{km}±6^{km}, n94, σ0^{s}56/137, 7C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKIA	**Skiathos**	**0.20**	**28**	P		**Pg**	**11 49 26.1**	**+0.1**
SKIA				S		**Sg**	**11 49 29.2**	**+0.2**
SKIA	**Skiathos**	**0.20**	**28**	P		**Pg**	**11 49 26.1**	**+0.1**
SKIA				S		**Sg**	**11 49 29.2**	**+0.2**
NEO	**Neokhori**	**0.33**	**343**	*e*PB		**Pg**	**11 49 28.3**	**0.0**
NEO				*e*SB		**Sg**	**11 49 32.4**	**-0.4**
NEO	**Neokhori**	**0.33**	**343**	*e*Pb		**Pg**	**11 49 28.3**	**0.0**
NEO				*e*Sb		**Sg**	**11 49 32.4**	**-0.4**
MRKA	**Markates**	**0.34**	**147**	P		**Pg**	**11 49 28.3**	**-0.3**
MRKA				S		**Sg**	**11 49 33.1**	**-0.2**
MRKA	**Markates**	**0.34**	**147**	P		**Pg**	**11 49 28.3**	**-0.3**
MRKA				S		**Sg**	**11 49 33.1**	**-0.2**
XOR	**Xorichti**	**0.39**	**342**	P		**Pg**	**11 49 29.3**	**-0.2**
XOR				S		**Sg**	**11 49 34.5**	**-0.2**
XOR	**Xorichti**	**0.39**	**342**	P		**Pg**	**11 49 29.3**	**-0.2**
XOR				S		**Sg**	**11 49 34.5**	**-0.2**
ATAL	**Atalanti**	**0.39**	**220**	P		**Pg**	**11 49 29.3**	**-0.2**
ATAL				S		**Sg**	**11 49 34.7**	**-0.1**
ATAL	**Atalanti**	**0.39**	**220**	P		**Pg**	**11 49 29.3**	**-0.2**
ATAL				S		**Sg**	**11 49 34.7**	**-0.1**
LKR	**Lokris**	**0.44**	**218**	*e*PB		**Pg**	**11 49 30.2**	**-0.1**
LKR				*e*SB		**Sg**	**11 49 36.6**	**+0.5**
LKR	**Lokris**	**0.44**	**218**	*e*Pb		**Pg**	**11 49 30.2**	**-0.1**
LKR				*e*Sb		**Sg**	**11 49 36.6**	**+0.5**
AOS	**Alonnisos**	**0.45**	**67**	P		**Pg**	**11 49 29.8**	**-0.8**
AOS				S		**Sg**	**11 49 36.3**	**-0.3**
AOS	**Alonnisos**	**0.45**	**67**	P		**Pg**	**11 49 29.8**	**-0.8**
AOS				S		**Sg**	**11 49 36.3**	**-0.3**
ERET	**Eretria**	**0.66**	**147**	P		**Pg**	**11 49 34.4**	**-0.1**
ERET				S		**Sb**	**11 49 44.5**	**+0.3**
ERET	**Eretria**	**0.66**	**147**	P		**Pg**	**11 49 34.4**	**-0.1**
ERET				S		**Sb**	**11 49 44.5**	**+0.3**
DSF	**Desfina**	**0.87**	**228**	P		**Pg**	**11 49 37.2**	**-1.2**
DSF				S		**Sg**	**11 49 49.6**	**-0.1**
DSF	**Desfina**	**0.87**	**228**	P		**Pg**	**11 49 37.2**	**-1.2**
DSF				S		**Sg**	**11 49 49.6**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.95**	**272**	P		**Pb**	**11 49 39.0**	**-0.9**
MAKR				S		**Sg**	**11 49 53.3**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.95**	**272**	P		**Pb**	**11 49 39.0**	**-0.9**
MAKR				S		**Sg**	**11 49 53.3**	**+1.0**
PAIG	**Paliouri**	**0.97**	**15**	P		**Pb**	**11 49 40.0**	**-0.3**
PAIG				S		**Sg**	**11 49 53.1**	**+0.2**
PAIG	**Paliouri**	**0.97**	**15**	P		**Pb**	**11 49 40.0**	**-0.3**
PAIG				S		**Sg**	**11 49 53.1**	**+0.2**
LTK	**Loutraki**	**1.01**	**197**	P		**Pb**	**11 49 40.4**	**-0.7**
LTK				S		**Sn**	**11 49 55.4**	**-0.4**
LTK	**Loutraki**	**1.01**	**197**	P		**Pb**	**11 49 40.4**	**-0.7**
LTK				S		**Sn**	**11 49 55.4**	**-0.4**
PTL	**Penteli**	**1.03**	**157**	*e*PN		**Pb**	**11 49 40.8**	**-0.5**
PTL				*e*SN		**Sb**	**11 49 54.5**	**-0.2**
PTL	**Penteli**	**1.03**	**157**	*e*Pn		**Pb**	**11 49 40.8**	**-0.5**
PTL				*e*Sn		**Sb**	**11 49 54.5**	**-0.2**
ATH	**Athens Observa**	**1.06**	**164**	*e*PN		**Pb**	**11 49 41.7**	**-0.2**
ATH	**Athens Observa**	**1.06**	**164**	*e*Pn		**Pb**	**11 49 41.7**	**-0.2**
KALE	**Kalithea**	**1.12**	**238**	P		**Pb**	**11 49 41.8**	**-1.1**
KALE				S		**Sb**	**11 49 57.4**	**0.0**
KALE	**Kalithea**	**1.12**	**238**	P		**Pb**	**11 49 41.8**	**-1.1**
KALE				S		**Sb**	**11 49 57.4**	**0.0**
TRIZ	**Trizonia**	**1.18**	**238**	P		**Pn**	**11 49 42.7**	**-1.1**
TRIZ				S		**Sg**	**11 49 59.8**	**+0.2**
TRIZ	**Trizonia**	**1.18**	**238**	P		**Pn**	**11 49 42.7**	**-1.1**
TRIZ				S		**Sg**	**11 49 59.8**	**+0.2**
THL	**Klokotos Trika**	**1.18**	**299**	*e*PN		**Pn**	**11 49 43.2**	**-0.7**
THL				*e*SN		**Sg**	**11 49 59.9**	**+0.2**
THL	**Klokotos Trika**	**1.18**	**299**	*e*Pn		**Pn**	**11 49 43.2**	**-0.7**
THL				*e*Sn		**Sg**	**11 49 59.9**	**+0.2**
VLY	**Voula,Athens**	**1.19**	**163**	*e*PN		**Pn**	**11 49 43.9**	**-0.2**
VLY	**Voula,Athens**	**1.19**	**163**	*e*Pn		**Pn**	**11 49 43.9**	**-0.2**
EVR	**Evrytania**	**1.20**	**267**	*e*PN		**Pg**	**11 49 45.1**	**+0.3**
EVR	**Evrytania**	**1.20**	**267**	*e*Pn		**Pg**	**11 49 45.1**	**+0.3**
MRMA	**Marmari**	**1.24**	**139**	P		**Pn**	**11 49 44.3**	**-0.4**
MRMA				S		**Sb**	**11 50 00.4**	**-0.4**
MRMA	**Marmari**	**1.24**	**139**	P		**Pn**	**11 49 44.3**	**-0.4**
MRMA				S		**Sb**	**11 50 00.4**	**-0.4**
NAIG	**Nisos Aigina**	**1.24**	**175**	*e*PN		**Pn**	**11 49 44.6**	**-0.1**
NAIG	**Nisos Aigina**	**1.24**	**175**	*e*Pn		**Pn**	**11 49 44.6**	**-0.1**
EFP	**Efpalio**	**1.26**	**244**	P		**Pn**	**11 49 44.6**	**-0.4**
EFP				S		**Sg**	**11 50 02.3**	**0.0**
EFP	**Efpalio**	**1.26**	**244**	P		**Pn**	**11 49 44.6**	**-0.4**
EFP				S		**Sg**	**11 50 02.3**	**0.0**
LIT	**Litokhoron**	**1.29**	**329**	*e*PN		**Pn**	**11 49 45.1**	**-0.3**
LIT	**Litokhoron**	**1.29**	**329**	*e*Pn		**Pn**	**11 49 45.1**	**-0.3**
LAKA	**Lakka**	**1.31**	**235**	P		**Pn**	**11 49 45.4**	**-0.3**
LAKA				S		**Sn**	**11 50 03.1**	**0.0**
LAKA	**Lakka**	**1.31**	**235**	P		**Pn**	**11 49 45.4**	**-0.3**
LAKA				S		**Sn**	**11 50 03.1**	**0.0**
GUR	**Goura**	**1.32**	**217**	P		**Pn**	**11 49 45.9**	**0.0**
GUR				S		**Sb**	**11 50 03.0**	**-0.2**
GUR	**Goura**	**1.32**	**217**	P		**Pn**	**11 49 45.9**	**0.0**
GUR				S		**Sb**	**11 50 03.0**	**-0.2**
PLG	**Polygyros**	**1.38**	**3**	*e*PN		**Pn**	**11 49 46.0**	**-0.7**
PLG	**Polygyros**	**1.38**	**3**	*e*Pn		**Pn**	**11 49 46.0**	**-0.7**
OUR	**Ouranopolis**	**1.43**	**20**	P		**Pn**	**11 49 46.8**	**-0.4**
OUR				S		**Sn**	**11 50 04.9**	**-1.0**
OUR	**Ouranopolis**	**1.43**	**20**	P		**Pn**	**11 49 46.8**	**-0.4**
OUR				S		**Sn**	**11 50 04.9**	**-1.0**
DID	**Didima**	**1.49**	**183**	P		**Pn**	**11 49 47.9**	**-0.3**
DID				S		**Sn**	**11 50 06.9**	**-0.6**
DID	**Didima**	**1.49**	**183**	P		**Pn**	**11 49 47.9**	**-0.3**
DID				S		**Sn**	**11 50 06.9**	**-0.6**
HORT	**Hortiatis**	**1.61**	**353**	P		**Pn**	**11 49 49.7**	**-0.2**
HORT	**Hortiatis**	**1.61**	**353**	P		**Pn**	**11 49 49.7**	**-0.2**
RLS	**Riolos of Patr**	**1.75**	**238**	*e*PN		**Pb**	**11 49 54.0**	**+0.5**
RLS	**Riolos of Patr**	**1.75**	**238**	*e*Pn		**Pb**	**11 49 54.0**	**+0.5**
KZN	**Kozani**	**1.79**	**318**	*e*PN		**Pn**	**11 49 53.1**	**+0.8**
KZN	**Kozani**	**1.79**	**318**	*e*Pn		**Pn**	**11 49 53.1**	**+0.8**
SOH	**Sokhos**	**1.82**	**0**	*e*PN		**Pn**	**11 49 52.9**	**+0.1**
SOH	**Sokhos**	**1.82**	**0**	*e*Pn		**Pn**	**11 49 52.9**	**+0.1**
LKD2	**Lefkada island**	**2.11**	**265**	*e*PN		**Pb**	**11 49 59.3**	**-0.4**
LKD2	**Lefkada island**	**2.11**	**265**	*e*Pn		**Pb**	**11 49 59.3**	**-0.4**
CHOS	**Chios island**	**2.21**	**105**	*e*PN		**Pn**	**11 49 58.2**	**+0.2**
CHOS	**Chios island**	**2.21**	**105**	*e*Pn		**Pn**	**11 49 58.2**	**+0.2**
VLI	**Veliai**	**2.29**	**188**	*e*PN		**Pn**	**11 49 59.6**	**+0.4**
VLI	**Veliai**	**2.29**	**188**	*e*Pn		**Pn**	**11 49 59.6**	**+0.4**
VAY	**Valandovo**	**2.40**	**346**	*i* Pn		**Pn**	**11 50 01.2**	**+0.6**
APE	**Apeiranthos**	**2.58**	**137**	*e*PN		**Pn**	**11 50 03.2**	**0.0**
APE	**Apeiranthos**	**2.58**	**137**	i*P		**Pn**	**11 50 04.6**	**+1.4**
APE	**Apeiranthos**	**2.58**	**137**	S			11 50 42.4	
APE	**Apeiranthos**	**2.58**	**137**	*e*Pn		**Pn**	**11 50 03.2**	**0.0**
APE	**Apeiranthos**	**2.58**	**137**	i*P		**Pn**	**11 50 04.6**	**+1.4**
MMB	**Musomiste**	**2.61**	**6**	*i* P		**Pn**	**11 50 03.1**	**-0.5**
MMB	**Musomiste**	**2.61**	**6**	*i* Pn		**Pn**	**11 50 03.1**	**-0.5**
KYTH	**Kithira**	**2.72**	**185**	*e*PN		**Pn**	**11 50 06.2**	**+1.1**
KYTH	**Kithira**	**2.72**	**185**	*e*Pn		**Pn**	**11 50 06.2**	**+1.1**
KKB	**Krupnik**	**2.88**	**356**	*i* P		**Pn**	**11 50 07.2**	**0.0**
KKB	**Krupnik**	**2.88**	**356**	*i* P		**Pn**	**11 50 07.2**	**0.0**
RZN	**Rozhen**	**2.89**	**21**	*i* P		**Pn**	**11 50 07.3**	**-0.2**
RZN	**Rozhen**	**2.89**	**21**	*i* P		**Pn**	**11 50 07.3**	**-0.2**
KDZ	**Kurdzhali**	**3.09**	**30**	P		**Pn**	**11 50 09.6**	**-0.6**
KDZ	**Kurdzhali**	**3.09**	**30**	P		**Pn**	**11 50 09.6**	**-0.6**
VTS	**Vitosha**	**3.59**	**358**	i*P		**Pn**	**11 50 18.5**	**+1.3**
VTS	**Vitosha**	**3.59**	**358**	P		**Pn**	**11 50 18.3**	**+1.1**
VTS	**Vitosha**	**3.59**	**358**	P		**Pn**	**11 50 18.3**	**+1.1**
VTS				S		**Sn**	**11 50 59.6**	**-0.1**
VOIR		**6.56**	**11**	i*P		**Pn**	**11 50 58.1**	**+0.2**
BZS	**Buzias**	**6.74**	**350**	i*P		**Pn**	**11 50 59.5**	**-0.8**
MLR	**Muntele Rosu**	**6.77**	**16**	i*P		**Pn**	**11 51 02.3**	**+1.5**
PLOR	**Plostina**	**7.27**	**19**	i*P		**Pn**	**11 51 09.0**	**+1.3**
VRI	**Vrincioaia**	**7.31**	**19**	i*P		Pn	11 51 11.6	+3.5

*ISCJB **21** 12:01:46.7±1.0, 51°.53N±0°.05×16°.13E±0°.04, h0^{km}, Error ellipse: s-maj=7.5km s-min=3.6km az=15.0*
*CSEM **21** 12:01:48.9±0.5, 51°.50N×16°.11E, h2^{km}, ML3.1/4, Error ellipse: s-maj=8.8km s-min=4.5km az=3.0*
*PRU **21** 12:01:50.1, 51°.46N×16°.12E, h0^{km}*
*WAR **21** 12:01:51.3, 51°.44N×16°.20E*
ISC 21 12:01:50.0±1.3, 51°.47N±0°.06×16°.19E±0°.03, h0^{km}, n22, σ0^{s}94/40, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.64**	**174**	*e*Pg		**Pg**	**12 02 02.5**	**+0.3**
KSP				*e*Sg		**Sb**	**12 02 12.0**	**-1.4**
KSP	**Ksiaz**	**0.64**	**174**	*e*Pg		**Pg**	**12 02 02.5**	**+0.3**
KSP				*e*Sg		**Sb**	**12 02 12.0**	**-1.4**
UPC	**Upice**	**0.97**	**187**	*e*PG		**Pg**	**12 02 08.5**	**-0.2**
UPC	**Upice**	**0.97**	**187**	Pg		**Pg**	**12 02 08.5**	**-0.2**
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*PG		**Pg**	**12 02 11.4**	**-0.3**
DPC				*e*SG		**Sg**	**12 02 26.6**	**+0.3**
	comp=Z,14nm,0.4s							
DPC	**Dobruska-Polom**	**1.13**	**176**	Pg		**Pg**	**12 02 11.4**	**-0.3**
DPC				Sg		**Sg**	**12 02 26.6**	**+0.3**
	14nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG		**Pg**	**12 02 15.8**	**-1.0**
PVCC				*e*SG		**Sg**	**12 02 34.1**	**-0.7**
	comp=Z,45nm,0.3s							
PVCC	**Panska Ves**	**1.40**	**228**	Pg		**Pg**	**12 02 15.8**	**-1.0**
PVCC				Sg		**Sg**	**12 02 34.1**	**-0.7**
	45nm,0.3s							
KRLC	**Kraliky**	**1.45**	**165**	*e*PG		**Pn**	**12 02 17.5**	**-0.1**
KRLC				*e*SG		**Sb**	**12 02 36.9**	**0.0**
KRLC	**Kraliky**	**1.45**	**165**	Pg		**Pn**	**12 02 17.5**	**-0.1**
KRLC				Sg		**Sb**	**12 02 36.9**	**0.0**
BRG	**Berggiesshubel**	**1.54**	**248**	PG		**Pn**	**12 02 17.5**	**-1.2**
BRG				SG		**Sb**	**12 02 38.3**	**

SART	Tekirdag	1.95	69	*i* P		Pn	12 10 08.9	+0.5
KRBG	Karabiga-Canak	1.96	78	*e*PN		Pn	12 10 09.4	+0.9
KRBG	Karabiga-Canak	1.96	78	*e*Pn		Pn	12 10 09.4	+0.9
GRG	Griva	2.05	298	P		Pn	12 10 10.3	+0.5
GRG	Griva	2.05	298	P		Pn	12 10 10.3	+0.5
MFT	Murefte	2.05	67	*e*PN		Pn	12 10 09.4	-0.5
MFT	Murefte	2.05	67	*e*Pn		Pn	12 10 09.4	-0.5
BALY	Balya	2.20	96	*i* P		Pb	12 10 14.3	-0.9
BALY				*i* S		Sn	12 10 39.5	+0.7
BALY	Balya	2.20	96	*i* P		Pb	12 10 14.3	-0.9
KKB	Krupnik	2.26	326	*i* P		Pn	12 10 12.9	+0.3
KKB	Krupnik	2.26	326	*i* P		Pn	12 10 12.9	+0.3
EDC	Edincik	2.38	81	*e*PN		Pb	12 10 17.3	-0.9
EDC	Edincik	2.38	81	*e*Pn		Pb	12 10 17.3	-0.9
KCTX	Karacabey (Bur	2.75	84	*e*PN		Pb	12 10 23.0	-1.6
KCTX	Karacabey (Bur	2.75	84	*e*Pn		Pb	12 10 23.0	-1.6
VTS	Vitosha	2.84	336	‖ *i*P		Pg	12 10 28.9	-1.1
ARMT	Armutlu	3.16	79	*e*PN		Pb	12 10 28.1	-3.5
ARMT	Armutlu	3.16	79	*e*Pn		Pb	12 10 28.1	-3.5
VOIR		5.42	2	‖ *i*P		Pn	12 10 58.3	+2.1
VOIR		5.42	2	‖ *i*P		Pn	12 10 58.3	+2.1
MLR	Muntele Rosu	5.54	8	‖ *i*P		Pn	12 10 58.9	+1.1
MLR	Muntele Rosu	5.54	8	‖ *i*P		Pn	12 10 58.9	+1.1
GZR	Gura Zlata	5.58	345	‖ *i*P		Pn	12 11 02.0	+3.7
BZS	Buzias	6.07	338	‖ *i*P		Pn	12 11 10.6	+5.7

IDC ***21*** *12:12:31.6±1.2, 11°.46N×122°.93E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/21, mbtmp3.7/6, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=65.2km s-min=20.1km az=80.0*

ISCJB ***21*** *12:12:33.8±1.0, 11°.2N±0°.1×122°.20E±0°.09, h28km, mb3.6/5, Error ellipse: s-maj=17.4km s-min=11.3km az=21.5*

ISC 21 12:12:35.5±1.0, 11°.3N±0°.1×122°.2E±0°.1, h28km, n9, σ1°26/9, mb3.5/5, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	2.25	135	*e*P	Pb	12 13 16.0	+0.5
PLP	Palo	2.69	92	‖ *e*P	Pn	12 13 17.8	+0.9
PLP				*e*S	Sn	12 13 49.0	+0.5
TGY	Tagaytay City baz=138,slow=14	3.08	336	Pn	Pn	12 13 24.1	+1.8
KAPI	Kappang comp=Z,24nm,18.3s,baz=268,slow=42	16.38	189	LR	LR	12 24 17.6	
WRA	Warramunga Arr 0.2nm,0.5s,baz=340,slow=9.0,SNR=4.0	33.24	159	P	P	12 19 10.0	-0.5
WRA				PcP	PcP	12 21 52.3	-0.4
USRK	Ussuriysk Arra 1.4nm,0.6s,baz=224,slow=8.1,SNR=4.1	33.86	13	P	P	12 19 13.4	-2.1
ASAR	Alice Springs 0.2nm,0.3s,baz=339,slow=7.1,SNR=14	36.56	162	P	P	12 19 39.2	0.0
ILAR	Eielson Array 0.6nm,1.0s,baz=260,slow=5.4,SNR=5.4	80.25	26	P	P	12 24 40.7	-2.7
YKA	Yellowknife Ar 0.3nm,0.8s,baz=303,slow=4.4,SNR=7.7	94.40	23	P	P	12 25 52.7	+0.1

DJA ***21*** *12:31:07, 6°.09S×130°.97E, h172km, MLv3.8/7*

IDC 21 12:30:52.7±2.1, 6°.50S×130°.79E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=85.4km s-min=24.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 1.3nm,0.3s,baz=37,slow=12,SNR=34	12.58	203	Pn	Pn	12 33 51.7	-1.3
FITZ				Sn	Sn	12 35 59.5	-14
WRA	0.5nm,0.3s,baz=221,slow=20,SNR=5.3 Warramunga Arr 0.4nm,0.3s,baz=335,slow=13,SNR=16	13.80	166	Pn	Pn	12 34 09.9	+0.1
WRA				Sn	Sn	12 36 35.0	-8.9
ASAR	0.8nm,0.3s,baz=334,slow=22,SNR=7.9 Alice Springs 0.2nm,0.3s,baz=7.3,slow=12,SNR=23	17.33	170	P	P	12 34 57.1	-0.5
ASAR				S	Sn	12 37 59.5	-10
CMAR	0.2nm,0.3s,baz=343,slow=24,SNR=5.5 Chiang Mai Arr 0.5nm,0.4s,baz=142,slow=7.1,SNR=6.7	40.02	309	P	P	12 38 29.9	+0.1
MKAR	Makanchi Array 1.5nm,0.5s,baz=128,slow=8.0,SNR=35	68.25	326	P	P	12 41 55.5	+0.2
KURK	Kurchatov 0.4nm,0.5s,baz=122,slow=5.0,SNR=6.3	72.51	328	P	P	12 42 20.9	-0.4

ISCJB ***21*** *12:32:49.4±0.6, 6°.85N±0°.07×73°.01W±0°.07, h166km±5km, mb3.4/7, Error ellipse: s-maj=15.3km s-min=7.7km az=135.1*

IDC ***21*** *12:32:50.2±1.9, 6°.68N×72°.99W, h166km±19km, mb3.2/7, mb1 3.5/8, mb1mx3.3/21, mbtmp3.3/8, Error ellipse: s-maj=27.1km s-min=21.2km az=65.0*

FUNV ***21*** *12:32:53.1, 6°.96N×72°.98W, h165km, MW3.7*

ISC 21 12:32:50.1±0.9, 6°.87N±0°.07×72°.97W±0°.07, h161km±8km, n24, σ1°69/31, mb3.3/7, 5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.19	33	‖ *i*P	Pn	12 33 19.5	+1.7
CAPV				*e*S	Sn	12 33 40.0	+0.9
ROSC	El Rosal 29nm,0.3s,baz=267,slow=23,SNR=42	2.41	214	P	Pn	12 33 31.1	-0.1
ROSC				S	Sn	12 34 00.2	-2.7
SOCV	Socops	2.52	56	‖ *e*P	Pn	12 33 34.0	+1.8
SOCV				*e*S	Sn	12 34 04.0	-0.6
VIGV	El Vigia	2.52	39	‖ *e*P	Pn	12 33 33.8	+1.7
VIGV				*e*S	Sn	12 34 03.5	-1.1
ELOV	Elorza	3.46	88	‖ *i*P	Pn	12 33 45.4	+1.6
VIRV	Villa del Rosa	3.66	9	*e*P	Pn	12 33 46.1	-0.2
VIRV				*e*S	Sn	12 34 26.6	-3.4
SANV	Sanarito	4.29	52	*e*P	Pn	12 33 55.5	+1.0
SANV				*e*S	Sn	12 34 41.6	-3.2
CURV	Curarigua	4.32	43	‖ *e*P	Pn	12 33 56.0	+1.1
TEPV	Terepaima	4.84	50	*e*P	Pn	12 34 02.6	+0.9
BAUV	El Baul	5.30	67	*e*P	Pn	12 34 07.7	0.0
MAPV	Macapo	5.35	56	*e*P	Pn	12 34 09.3	+0.9
MAPV				*e*S	Sn	12 35 05.1	-4.5
IMOV	Isla Los Monje	5.83	20	*e*P	Pn	12 34 15.6	+0.9
TURV	Turiamo	6.20	55	*e*P	Pn	12 34 20.4	+0.9
CUPV	Cepira	7.78	65	*e*P	Pn	12 34 41.5	+0.9
TXAR	Lajitas Array 0.4nm,0.6s,baz=129,slow=9.3,SNR=7.4	36.55	312	P	P	12 39 41.1	+0.5
SCHQ	Schefferville 1.6nm,0.6s,baz=210,slow=9.3,SNR=6.9	48.08	5	P	P	12 41 15.2	+1.9
PDAR	Pinedale Array 0.2nm,0.5s,baz=105,slow=6.8,SNR=3.0	48.13	324	P	P	12 41 13.7	-0.4
NVAR	Mina Array Bea 0.2nm,0.5s,baz=93,slow=6.3,SNR=2.8	51.56	315	P	P	12 41 40.9	+0.8
YKA	Yellowknife Ar 0.2nm,0.4s,baz=134,slow=6.5,SNR=7.3	63.27	340	P	P	12 43 01.6	+0.3
TORD	Torodi Ar. Bea 0.3nm,0.7s,baz=284,slow=6.3,SNR=4.5	73.58	78	P	P	12 44 05.6	-0.7
ARCES	ARCESS Array B 5.6nm,1.1s,baz=280,slow=5.3,SNR=2.9	86.58	20	P	P	12 45 14.9	0.0
ASAR	Alice Springs 0.3nm,0.5s,baz=121,slow=3.7,SNR=8.1	149.26	234	PKPbc	PKPbc	12 52 19.8	-1.0
WRA	Warramunga Arr 0.4nm,0.5s,baz=108,slow=2.3,SNR=7.8	150.49	241	PKPbc	PKPbc	12 52 22.9	-0.9
CMAR	Chiang Mai Arr 0.4nm,0.5s,baz=327,slow=4.3,SNR=3.5	153.60	17	PKPbc	PKPbc	12 52 31.1	+0.4

NEIC ***21*** *12:40:34.8, 61°.88N×142°.80W, h0km, ML3.3(AEIC), After AEIC.*

PGC ***21*** *12:40:35.2±8.5, 61°.88N×142°.91W, h1km, ML3.7/2, 200km Ene of Valdez, Ak Southern Alaska*

IDC ***21*** *12:40:36.2±1.0, 62°.01N×142°.73W, h0km, mb3.6/1, mb1 3.4/6, mb1mx3.2/28, mbtmp3.3/6, ML3.0/5, Error ellipse: s-maj=15.7km s-min=9.6km az=38.0*

ISC 21 12:40:34.5±1.2, 61°.89N±0°.02×142°.70W±0°.03, h4km±10km, n69, σ1°45/84, 5D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCARA	McCarthy VSAT	0.53	197	P	Pg	12 40 44.6	0.0
MCARA				S	Sg	12 40 51.7	+0.3
BALM	Baldy	0.87	169	P	Pg	12 40 50.9	-0.2
MENT	Mentasta	1.16	336	P	Pg	12 40 56.0	-0.7
BCA3	Beaver Creek A	1.26	19	P	Pn	12 40 59.4	+0.5
HARP	HAARP	1.27	295	P	Pg	12 40 57.6	-1.2
BMRM	Bremner River	1.30	226	P	Pg	12 40 58.2	-1.2
ISLE	Juniper Island	1.30	172	P	Pg	12 40 58.5	-0.8
BAGL	Bagley Icefiel	1.43	168	P	Pn	12 41 00.7	-0.4
KHIT	Khitrov Hills	1.47	191	P	Pn	12 41 01.4	-0.4
KHIT				S	Sn	12 41 22.4	+0.9
BARK	Barkley Ridge	1.49	176	P	Pn	12 41 02.1	0.0
BERG	Berg Lake	1.58	198	P	Pn	12 41 03.0	-0.2
KLU	Klutina	1.59	257	P	Pn	12 41 02.3	-1.1
TABL	Table Mountain	1.64	152	P	Pn	12 41 04.9	+0.8
GOAT	Goat Mountain	1.64	218	P	Pn	12 41 03.6	-0.4
GRIN	Grindle Hills	1.64	191	P	Pn	12 41 04.7	+0.7
GRIN				S	Sb	12 41 26.4	+0.2
KULT	Kultieth River	1.64	180	P	Pb	12 41 05.5	+0.1
DIV	Divide	1.66	244	*e*Pn	Pn	12 41 01.4	-2.9
DIV				*e*Sn	Sn	12 41 25.7	-0.4
PAX	Paxson	1.69	311	P	Pn	12 41 04.2	-0.6
PAX				S	Sn	12 41 26.3	-0.5
RKAV	Rock Avalanche	1.72	157	P	Pn	12 41 06.3	+1.0
MESA	MESA	1.75	168	P	Pb	12 41 07.2	0.0
NICHA	Nichawak Mount	1.77	201	P	Pb	12 41 07.0	-0.4
NICHA				S	Sb	12 41 30.3	+0.5
BGLC	Bering Glacier	1.79	189	P	Pb	12 41 08.2	+0.4
SGAM	Sherman Glacie	1.85	222	P	Pn	12 41 06.8	0.0
DOT	Dot Lake	1.88	341	P	Pn	12 41 07.6	+0.3
WRG	White River Gl	1.88	170	P	Pb	12 41 10.0	+0.6
VLZ	Valdez	1.90	248	P	Pn	12 41 07.5	-0.1
CHX	Chaix Hills	1.98	156	P	Pb	12 41 11.7	+0.5
SAMH	Samovar Hills	1.99	151	P	Pb	12 41 11.8	+0.5
EYAK	Cordova Ski Ar	2.00	229	P	Pb	12 41 10.2	-1.1
FID	Port Fidalgo	2.15	240	P	Pb	12 41 13.4	-0.5
SCM	Sheep Creek Mo	2.20	271	P	Pn	12 41 12.1	+0.3
DDM	Donnelly Dome	2.40	324	P	Pn	12 41 15.3	+0.9
DHY	Denali Highway	2.48	301	P	Pn	12 41 16.5	+0.8
DAWY	Dawson	2.66	33	P	Pn	12 41 19.5	+1.4
DAWY	Dawson	2.66	33	‖ Pn	Pn	12 41 19.4	+1.3
DAWY				‖ Sg	Sg	12 41 59.6	-0.1
SML	Sawmill	2.67	271	P	Pn	12 41 19.8	+1.5
PNL	Peninsula	2.75	143	P	Pb	12 41 22.4	-1.8
EGAK	Eagle	2.98	13	*e*Pn	Pn	12 41 24.2	+1.7
PMR	Palmer	3.08	267	P	Pn	12 41 25.6	+1.9
MCK	McKinley	3.41	306	P	Pn	12 41 30.3	+2.0
IL1	Eielson Array	3.46	329	P	Pn	12 41 28.4	-0.7
ILAR	Eielson Array 0.6nm,0.3s,baz=149,slow=12,SNR=56	3.46	329	Pn	Pn	12 41 28.4	-0.6
ILAR				Pg	Pb	12 41 36.1	0.0
ILAR	5.3nm,0.3s,baz=152,slow=16,SNR=66			Lg	Lg	12 42 21.4	
ILAR	8.3nm,0.3s,baz=150,slow=30,SNR=8.9	3.46	329	Pn	Pn	12 41 28.4	-0.6
ILAR	Eielson Array			Pg	Pb	12 41 36.1	0.0
ILAR				Lg	Lg	12 42 21.4	
SEW	Seward	3.74	244	P	Pn	12 41 34.4	+1.5
COLA	College	3.79	325	Pn	Pn	12 41 33.7	+0.2
TRF	Thorofare Moun	3.84	297	P	Pn	12 41 36.1	+1.7
SLKM	Skilak Lake	3.90	253	*e*Pn	Pn	12 41 35.6	+0.6
SLKM				*e*Sn	Sn	12 42 24.9	+3.8
WHY	Whitehorse	3.97	105	‖ Pn	Pn	12 41 38.0	+1.9
WHY				‖ Sg	Sg	12 42 40.8	-1.0
SKT	Skwentna	4.18	275	P	Pn	12 41 40.6	+1.7
SKAG	Skagway	4.36	121	*e*Pn	Pn	12 41 44.1	+2.6
SKAG				*e*Sg	Sg	12 42 54.7	+0.2
PPLA	Purkeypile	4.53	287	P	Pn	12 41 45.7	+1.9
BRLK	Bradley Lake	4.54	246	P	Pn	12 41 45.3	+1.4
RSO	Redoubt South	5.07	258	P	Pn	12 41 52.8	+1.4
BM3	Burnt Mountain	5.62	352	P	Pn	12 41 59.9	+1.2
COLD	Coldfoot	6.26	332	P	Pn	12 42 08.4	+1.0
TT01	Tatalina	6.28	285	P	Pn	12 42 07.8	+0.1
IM3	Indian Mountai	6.37	315	P	Pn	12 42 10.7	+1.7
KDAK	Kodiak Island 1.1nm,0.3s,baz=7.1,slow=12,SNR=16	6.46	235	Pn	Pn	12 42 11.2	+1.0
KDAK				Sn	Sn	12 43 20.6	-3.6
KDAK	baz=3.9,slow=12,SNR=2.4 Kodiak Island	6.46	235	Pn	Pn	12 42 11.2	+1.0
KDAK				Sn	Sn	12 43 20.6	-3.6
DLBC	Dease Lake 0.1nm,0.3s,baz=342,slow=16,SNR=2.8	7.20	113	Pn	Pn	12 42 24.5	+4.0
DLBC				Lg	Lg	12 44 24.1	
DLBC	0.6nm,0.3s,baz=66,slow=20,SNR=4.3 Dease Lake	7.20	113	Pn	Pn	12 42 24.5	+4.0
DLBC				Lg	Lg	12 44 24.1	
DLBC	Dease Lake	7.20	113	⇑ Pg	Pg	12 42 46.4	-5.9
DLBC				⇑ Sg	Sg	12 44 21.8	-3.7
INK	Inuvik 0.4nm,0.3s,baz=237,slow=16,SNR=14	7.51	27	Pn	Pn	12 42 25.0	+0.4
INK				Sn	Sn	12 43 46.6	-3.4
INK	0.5nm,0.3s,baz=195,slow=23,SNR=3.7			Lg	Lg	12 44 25.4	
INK	0.6nm,0.3s,baz=138,slow=27,SNR=3.8						
INK	Inuvik	7.51	27	Pn	Pn	12 42 25.0	+0.4
INK				Sn	Sn	12 43 46.6	-3.4
INK				Lg	Lg	12 44 25.4	
INK	Inuvik	7.51	27	‖ Pn	Pn	12 42 24.8	+0.2
INK				‖ Sn	Sn	12 43 47.4	-2.6
YKA	Yellowknife Ar 0.1nm,0.3s,baz=276,slow=13,SNR=4.8	13.09	75	Pn	Pn	12 43 42.3	+1.5
YKA	Yellowknife Ar	13.09	75	Pn	Pn	12 43 42.3	+1.5
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=34,slow=4.8,SNR=4.2	58.58	329	P	P	12 50 32.4	+0.7
ZALV	Zalesovo Beam	58.58	329	P	P	12 50 32.4	+0.7

IDC 21 12:42:49.8±9.6, 18°.95N×145°.56E, h250km±92km, mb3.4/10, mb1 3.6/10, mb1mx3.3/22, mbtmp3.4/10, Error ellipse: s-maj=31.7km s-min=16.3km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 2.8nm,0.5s,baz=16,slow=9.0,SNR=71	40.19	196	P	P	12 50 02.4	+0.1
WRA				PcP	PcP	12 52 01.1	-0.1
FITZ	0.6nm,0.5s,baz=16,slow=3.4,SNR=7.1 Fitzroy Crossi 2.3nm,0.2s,baz=50,slow=9.7,SNR=35	41.70	209	P	P	12 50 14.6	0.0
ASAR	Alice Springs 0.8nm,0.5s,baz=11,slow=6.9,SNR=40	43.86	196	P	P	12 50 31.6	-0.2
ASAR				PcP	PcP	12 52 13.4	-0.1
CMAR	0.5nm,0.8s,baz=33,slow=2.2,SNR=4.7 Chiang Mai Arr 0.4nm,0.6s,baz=63,slow=5.5,SNR=4.6	44.06	277	P	P	12 50 34.9	+1.3
STKA	Stephens Creek 0.5nm,0.4s,baz=326,slow=9.0,SNR=4.7	50.68	184	P	P	12 51 22.9	-1.2
MKAR	Makanchi Array 0.2nm,0.4s,baz=100,slow=6.0,SNR=3.5	58.20	314	P	P	12 52 17.0	-1.0
YKA	Yellowknife Ar 0.3nm,0.6s,baz=288,slow=5.3,SNR=5.7	77.83	28	P	P	12 54 19.4	-0.1
ARCES	ARCESS Array B 4.6nm,1.0s,baz=64,slow=6.3,SNR=3.4	82.21	342	P	P	12 54 43.3	+0.5
NVAR	Mina Array Bea 0.7nm,0.6s,baz=271,slow=6.4,SNR=8.0	83.09	52	P	P	12 54 49.1	+1.0
FINES	FINESS Array B 1.0nm,0.5s,baz=79,slow=4.1,SNR=4.8	86.60	335	P	P	12 55 03.7	-1.2

WEL 21 13:02:32.3±0.4, 38°.20S×175°.94E, h186km±3km, ML3.8/12, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.92	94	PN	Pn	13 02 59.7	-0.3
URZ				SN	Sn	13 03 19.8	-1.6
TWVZ	Taurewa	0.95	204	PN	Pn	13 03 00.6	+0.2
WTVZ	West Tongariro	0.95	197	PN	Pn	13 03 00.5	+0.2
OTVZ	Oturere	0.98	193	PN	Pn	13 03 00.8	+0.2
OTVZ				SN	Sn	13 03 23.0	+0.3
NGZ	Ngauruhoe	1.01	195	PN	Pn	13 03 00.6	-0.1
WPVZ	Whakapapa	1.05	197	PN	Pn	13 03 01.2	+0.2
BKZ	Black Stump Fm	1.05	156	PN	Pn	13 03 00.8	-0.2
BKZ				SN	Sn	13 03 21.6	-1.8
TUVZ	Tukino	1.09	192	PN	Pn	13 03 01.4	+0.1
TUVZ				SN	Sn	13 03 23.8	-0.2
FWVZ	Far West T-bar	1.09	196	PN	Pn	13 03 01.5	0.0
DRZ	Dome Shelter	1.11	195	PN	Pn	13 03 02.0	+0.2
NMHZ	Naumai	1.12	143	PN	Pn	13 03 02.3	+0.8
NMHZ				SN	Sn	13 03 24.3	0.0
TRVZ	Turoa	1.14	195	PN	Pn	13 03 01.9	+0.1
RAHZ	Arahi	1.15	129	PN	Pn	13 03 02.2	+0.5
RAHZ				SN	Sn	13 03 24.4	-0.1
WNVZ	Wahianoa	1.16	193	PN	Pn	13 03 01.9	0.0
MOVZ	Moawhango	1.21	187	PN	Pn	13 03 01.8	-0.4
MTVZ	Mangateitei	1.24	197	PN	Pn	13 03 02.5	+0.1
MWZ	Matawai	1.26	97	PN	Pn	13 03 02.4	-0.2
BHHZ	Black Hill Sta	1.29	176	PN	Pn	13 03 02.5	-0.4
MCHZ	McNeill Hill	1.37	155	PN	Pn	13 03 04.1	+0.5
KNZ	Kokohu	1.58	122	PN	Pn	13 03 05.4	0.0
PRGZ	Paritu Road	1.69	116	PN	Pn	13 03 06.6	+0.1
CKHZ	Cape Kidnapper	1.70	149	PN	Pn	13 03 06.7	+0.1
CKHZ				SN	Sn	13 03 32.0	-1.4
WAZ	Wanganui	1.72	205	PN	Pn	13 03 06.6	-0.3
PNHZ	Pukenui	1.72	173	PN	Pn	13 03 06.2	-0.7
KAHZ	Kahuranaki	1.75	156	PN	Pn	13 03 07.1	-0.1
CNGZ	Carnagh Statio	1.81	100	PN	Pn	13 03 08.1	+0.4
MHGZ	Mahia Peninsul	1.81	122	PN	Pn	13 03 07.6	-0.1
PUZ	Puketiti	1.83	87	PN	Pn	13 03 07.4	-0.5
TSZ	Takapari Road	1.85	180	PN	Pn	13 03 07.4	-0.8
WPHZ	Waipukurau	1.90	168	PN	Pn	13 03 07.9	-0.7
PXZ	Pawanui	1.96	159	PN	Pn	13 03 08.6	-0.7
MXZ	Matakaoa Point	1.98	72	PN	Pn	13 03 09.3	-0.1
DVHZ	Dannevirke	2.10	175	PN	Pn	13 03 09.5	-1.3
PRHZ	Porangahau	2.13	166	PN	Pn	13 03 10.1	-1.0
POWZ	Post Office Ro	2.19	183	PN	Pn	13 03 10.4	-1.3
MRZ	Mangatainoka R	2.47	186	PN	Pn	13 03 13.1	-1.8
BFZ	Birch Farm	2.49	175	PN	Pn	13 03 13.3	-1.8
TIWZ	Tintock	2.57	181	PN	Pn	13 03 14.2	-2.0
OGWZ	Otaki Gorge	2.68	193	PN	Pn	13 03 15.5	-1.8
HOWZ	Holdsworth Sta	2.71	187	PN	Pn	13 03 15.5	-2.3
KIW	Kapiti Island	2.77	196	PN	Pn	13 03 16.3	-2.2
MTW	Mount Morrison	2.97	186	PN	Pn	13 03 18.1	-2.7
CAW	Cannon Point	2.98	193	PN	Pn	13 03 18.5	-2.4
DUWZ	D'Urville Isla	3.03	210	PN	Pn	13 03 19.2	-2.3
PAWZ	Paruwai Farm	3.20	187	PN	Pn	13 03 20.7	-2.9
WEL	Wellington	3.21	196	PN	Pn	13 03 21.1	-2.5
SNZO	South Karori	3.25	197	PN	Pn	13 03 21.4	-2.7
MSWZ	Moikau Station	3.25	189	PN	Pn	13 03 21.3	-2.9
TCW	Tory Channel	3.27	203	PN	Pn	13 03 21.9	-2.4
BHW	Baring Head	3.31	194	PN	Pn	13 03 22.0	-2.8
PLWZ	Palliser	3.41	189	PN	Pn	13 03 22.9	-3.2
TUWZ	Tuamarina	3.57	205	PN	Pn	13 03 25.1	-3.0
NNZ	Nelson	3.60	212	PN	Pn	13 03 25.5	-3.0
QRZ	Quartz Range	3.72	224	PN	Pn	13 03 26.6	-3.4
BSWZ	Blackbirch Sta	3.85	204	PN	Pn	13 03 28.9	-2.7
THZ	Tophouse	4.25	212	PN	Pn	13 03 33.5	-3.3
KHZ	Kahutara	4.59	203	PN	Pn	13 03 37.9	-3.1
DSZ	Denniston Nort	4.76	221	PN	Pn	13 03 40.3	-2.9
LTZ	Lake Taylor	5.36	210	PN	Pn	13 03 46.9	-4.1
MQZ	McQueen's Vall	6.04	203	PN	Pn	13 03 54.8	-4.9
RPZ	Rata Peaks	6.63	212	PN	Pn	13 04 03.5	-4.1

DDA ***21*** *13:05:09.6, 37°.16N×36°.32E, h8km, MD3.1*

ISCJB ***21*** *13:05:10.3±0.6, 37°.16N±0°.03×36°.30E±0°.03, h3km±5km, Error ellipse: s-maj=4.5km s-min=4.1km az=169.1*

CSEM ***21*** *13:05:10.6±0.2, 37°.15N×36°.27E, h8km, ML2.0, Error ellipse: s-maj=4.4km s-min=4.1km az=18.0*

ISK ***21*** *13:05:12.2, 37°.34N×36°.35E, h10km, ML2.0*

ISC 21 13:05:10.2±1.0, 37°.16N±0°.03×36°.29E±0°.02, h9km±9km, n31, σ0°66/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.49	311	*e*PG	Pg	13 05 20.5	+0.7
KOZT				*e*SG	Sb	13 05 28.9	+0.5
KOZT	Kozan	0.49	311	*e*Pg	Pg	13 05 20.5	+0.7
KOZT				*e*Sg	Sb	13 05 28.9	+0.5
KMRS	Kahramanmaras	0.59	54	*e*PG	Pg	13 05 21.9	+0.1
KMRS				*e*SG	Sg	13 05 28.6	-0.9
KMRS	Kahramanmaras	0.59	54	*e*Pg	Pg	13 05 21.9	+0.1
KMRS				*e*Sg	Sg	13 05 28.7	-0.9
COBT	Iskenderun	0.64	183	*i* P	Pg	13 05 22.5	-0.1
COBT				*i* S	Sg	13 05 30.7	-0.3
COBT	Iskenderun	0.64	183	*i* P	Pg	13 05 22.5	-0.1
COBT				*i* S	Sg	13 05 30.7	-0.3
GAZ	Gaziantep	0.73	89	*e*PG	Pb	13 05 25.3	+0.1
GAZ				*e*SG	Sn	13 05 37.3	-0.9
GAZ	Gaziantep	0.73	89	*e*Pg	Pb	13 05 25.3	+0.1
GAZ				*e*Sg	Sn	13 05 37.3	-0.9
KUZU	Kuzuini	0.73	121	*i* P	Pg	13 05 24.6	+0.2
KUZU				*i* S	Sg	13 05 34.0	0.0
KUZU	Kuzuini	0.73	121	*i* P	Pg	13 05 24.6	+0.2
KUZU				*i* S	Sg	13 05 34.0	0.0
GZT	Gaziantep	1.03	79	*i* P	Pb	13 05 29.9	-0.5
GZT				*i* S	Sg	13 05 43.5	0.0
YAYL	Yayladag	1.13	188	*i* P	Pb	13 05 32.0	0.0
YAYL				*i* S	Sn	13 05 48.7	+0.6
YAYL	Yayladag	1.13	188	*i* P	Pb	13 05 32.0	0.0
YAYL				*i* S	Sn	13 05 48.7	+0.6
GULE	Gulek	1.22	276	*i* P	Pn	13 05 32.7	-0.9
GUL

comp=Z,37nm,18.3s,baz=335,slow=33
CMAR Chiang Mai Arr 38.31 301 P **P 13 16 39.4 +0.4**
0.5nm,0.9s,baz=122,slow=6.0,SNR=8.0
MKAR Makanchi Array 64.53 324 P **P 13 19 55.8 +0.9**
0.8nm,0.5s,baz=111,slow=8.1,SNR=13
ZALV Zalesovo Beam 67.15 331 P P 13 20 11.3 -0.2
0.3nm,0.3s,baz=104,slow=10,SNR=2.6
KDAK Kodiak Island 82.17 31 LR LR 13 57 49.6
comp=Z,90nm,18.6s,baz=322,slow=35
ILAR Eielson Array 86.24 25 P P 13 21 58.5 -0.7
0.7nm,0.8s,baz=254,slow=5.3,SNR=8.4

IDC 21 13:22:22.9±0.9, 54.10S×133.28W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, MS4.1/9, Ms1 4.1/9, ms1mx3.8/23, Error ellipse: s-maj=35.0km s-min=25.6km az=155.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**30.96**	**357**	*eT*	T	14 00 59.6	
	7.2nm,0.3s						
QSPA	**South Pole Qui**	**36.07**	**180**	P	P	13 29 26.4	+0.4
	4.8nm,0.9s,baz=79,slow=3.9,SNR=15						
RAR	**Rarotonga**	**38.51**	**318**	LR	LR	13 43 08.2	
	comp=Z,219nm,18.9s,baz=127,slow=32						
PPT2	**Papeete2**	**38.57**	**335**	*e*LR	LR	13 40 17.5	
	476nm,25.5s						
PLCA	**Paso Flores**	**43.08**	**99**	LR	LR	13 43 26.7	
	comp=Z,153nm,20.4s,baz=118,slow=29						
AFI	**Afiamalu**	**50.16**	**308**	LR	LR	13 46 38.2	
	comp=Z,148nm,20.3s,baz=154,slow=29						
STKA	**Stephens Creek**	**62.14**	**254**	P	P	13 32 45.7	0.0
	2.0nm,0.7s,baz=125,slow=9.2,SNR=4.6						
STKA				LR	LR	13 54 49.5	
	comp=Z,163nm,18.6s,baz=206,slow=31						
LPAZ	**La Paz**	**62.42**	**79**	P	P	13 32 47.2	-1.2
	1.0nm,0.7s,baz=156,slow=3.1,SNR=3.8						
LPAZ				LR	LR	13 52 50.1	
	comp=Z,109nm,20.1s,baz=56,slow=29						
CTA	**Charters Tower**	**68.43**	**265**	LR	LR	13 58 19.3	
	comp=Z,98nm,18.1s,baz=68,slow=32						
ASAR	**Alice Springs**	**72.78**	**253**	P	P	13 33 52.5	-0.7
	1.1nm,0.9s,baz=141,slow=6.3,SNR=15						
BDFB	**Brasilia**	**74.73**	**96**	LR	LR	14 02 56.7	
	comp=Z,113nm,18.7s,baz=90,slow=33						
WRA	**Warramunga Arr**	**75.47**	**256**	P	P	13 34 08.2	-0.6
	1.0nm,0.7s,baz=144,slow=5.1,SNR=16						
FITZ	**Fitzroy Crossi**	**81.84**	**251**	LR	LR	14 05 07.3	
	comp=Z,108nm,21.4s,baz=154,slow=31						
TXAR	**Lajitas Array**	**86.95**	**26**	P	P	13 35 10.3	+0.7
	0.5nm,0.8s,baz=188,slow=8.6,SNR=5.4						
PDAR	**Pinedale Array**	**98.61**	**17**	LR	LR	14 12 11.9	
	comp=Z,129nm,18.8s,baz=320,slow=30						
ILAR	**Eielson Array**	**119.01**	**353**	PKP	PKPdf	13 41 11.6	-0.4
	0.4nm,0.9s,baz=196,slow=2.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**126.64**	**249**	PKP	PKPdf	13 41 28.9	+0.8
	0.2nm,0.3s,baz=132,slow=3.8,SNR=4.2						
MKAR	**Makanchi Array**	**156.40**	**267**	PKPab	PKPab	13 42 47.4	+0.1
	0.7nm,0.8s,baz=116,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**157.80**	**285**	PKPab	PKPab	13 42 53.5	+0.4
	0.8nm,0.6s,baz=104,slow=6.1,SNR=6.0						

WEL 21 13:31:00.6±0.3, 37.65S×176.32E, h149km±4km, ML3.5/15, Error ellipse: s-maj=4.8km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.88**	**134**	PN	Pn	13 31 24.0	-0.2
URZ				SN	Sn	13 31 42.3	0.0
MWZ	**Matawai**	**1.18**	**126**	PN	Pn	13 31 26.7	-0.2
RAHZ	**Arahi**	**1.40**	**155**	PN	Pn	13 31 29.3	+0.2
RAHZ				SN	Sn	13 31 50.2	-0.8
NMNZ	**Naumai**	**1.50**	**165**	SN	Sn	13 31 52.8	0.0
BKZ	**Black Stump Fm**	**1.52**	**175**	PN	Pn	13 31 29.9	-0.4
MXZ	**Matakaoa Point**	**1.58**	**87**	PN	Pn	13 31 31.3	+0.4
MXZ				SN	Sn	13 31 54.2	0.0
PUZ	**Puketiti**	**1.59**	**106**	PN	Pn	13 31 30.6	-0.5
TUVZ	**Tukino**	**1.70**	**198**	PN	Pn	13 31 32.8	+0.4
CNGZ	**Carnagh Statio**	**1.71**	**120**	PN	Pn	13 31 32.5	+0.2
FWVZ	**Far West T-bar**	**1.71**	**200**	PN	Pn	13 31 32.8	+0.2
WNVZ	**Wahianoa**	**1.77**	**198**	PN	Pn	13 31 33.4	+0.2
MOVZ	**Moawhango**	**1.81**	**194**	PN	Pn	13 31 33.1	-0.5
MCHZ	**McNeill Hill**	**1.81**	**171**	PN	Pn	13 31 33.6	+0.1
BHHZ	**Black Hill Sta**	**1.85**	**186**	PN	Pn	13 31 33.3	-0.6
MTVZ	**Mangateitei**	**1.85**	**201**	PN	Pn	13 31 34.3	+0.3
MHGZ	**Mahia Peninsul**	**1.95**	**141**	PN	Pn	13 31 34.7	-0.4
KAHZ	**Kahuranaki**	**2.19**	**169**	PN	Pn	13 31 37.0	-0.9
PNHZ	**Pukenui**	**2.26**	**182**	PN	Pn	13 31 37.4	-1.3
WPHZ	**Waipukurau**	**2.41**	**178**	PN	Pn	13 31 39.1	-1.5
PXZ	**Pawanui**	**2.42**	**170**	PN	Pn	13 31 39.1	-1.5
PRHZ	**Porangahau**	**2.62**	**175**	PN	Pn	13 31 41.5	-1.7
DVHZ	**Dannevirke**	**2.65**	**182**	PN	Pn	13 31 41.5	-2.0
POWZ	**Post Office Ro**	**2.77**	**189**	PN	Pn	13 31 43.1	-1.9
BFZ	**Birch Farm**	**3.03**	**181**	PN	Pn	13 31 45.7	-2.5
MRZ	**Mangatainoka R**	**3.06**	**191**	PN	Pn	13 31 46.2	-2.5
MRZ				SN	Sn	13 32 21.3	-4.6
TIWZ	**Tintock**	**3.14**	**186**	PN	Pn	13 31 47.2	-2.4
OGWZ	**Otaki Gorge**	**3.29**	**195**	PN	Pn	13 31 49.0	-2.4
HOWZ	**Holdsworth Sta**	**3.30**	**191**	PN	Pn	13 31 48.8	-2.9
KIW	**Kapiti Island**	**3.39**	**198**	PN	Pn	13 31 50.2	-2.6
MTW	**Mount Morrison**	**3.56**	**190**	PN	Pn	13 31 51.6	-3.4
CAW	**Cannon Point**	**3.59**	**195**	PN	Pn	13 31 52.2	-3.1
TRWZ	**Traveller**	**3.77**	**187**	PN	Pn	13 31 54.3	-3.5
PAWZ	**Paruwai Farm**	**3.79**	**190**	PN	Pn	13 31 54.2	-3.8
WEL	**Wellington**	**3.82**	**198**	PN	Pn	13 31 55.3	-3.1
MSWZ	**Moikau Station**	**3.85**	**192**	PN	Pn	13 31 55.0	-3.8
SNZO	**South Karori**	**3.86**	**198**	PN	Pn	13 31 55.7	-3.2
TCW	**Tory Channel**	**3.89**	**203**	PN	Pn	13 31 56.4	-2.9
PLWZ	**Palliser**	**4.00**	**191**	PN	Pn	13 31 56.7	-4.0
TUWZ	**Tuamarina**	**4.20**	**205**	PN	Pn	13 31 60.0	-3.3
QRZ	**Quartz Range**	**4.32**	**222**	PN	Pn	13 32 02.0	-2.9
THZ	**Tophouse**	**4.88**	**212**	PN	Pn	13 32 08.7	-3.6
KHZ	**Kahutara**	**5.22**	**203**	PN	Pn	13 32 12.5	-4.2

*ISCJB **21** 13:44:10.7±1.7, 39.32N±0.09×33.17E±0.09, h8km±6km, Error ellipse: s-maj=17.3km s-min=6.8km az=35.0*
*CSEM **21** 13:44:10.6±0.3, 39.33N×33.16E, h8km, MD2.5, Error ellipse: s-maj=7.3km s-min=3.8km az=12.0*
*ISK **21** 13:44:11.0, 39.37N×33.19E, h7km, MD2.5*
*DDA **21** 13:44:11.0, 39.35N×33.24E, h7km, MD2.6, ML2.9*
ISC 21 13:44:11.5±1.4, 39.38N±0.08×33.20E±0.05, h9km±9km, n14, σ0.946/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afˇar-Bala (A**	**0.12**	**306**	*e*PG	**Pg**	**13 44 14.1**	**-0.4**
AFSR				*e*SG	**Sg**	**13 44 16.4**	**-0.1**
AFSR	**Afˇar-Bala (A**	**0.12**	**306**	*e*Pg	**Pg**	**13 44 14.1**	**-0.4**
AFSR				*e*Sg	**Sg**	**13 44 16.4**	**-0.1**
BBAL	**Bala**	**0.18**	**341**	*i* P	**Pg**	**13 44 15.4**	**0.0**
BBAL				*i* S	**Sg**	**13 44 18.4**	**+0.4**
BBAL	**Bala**	**0.18**	**341**	*i* P	**Pg**	**13 44 15.4**	**0.0**
BBAL				*i* S	**Sg**	**13 44 18.4**	**+0.4**
KAMT	**Kaman**	**0.40**	**91**	*e*PG	**Pg**	**13 44 19.4**	**0.0**
KAMT				*e*SG	**Sg**	**13 44 25.5**	**+0.8**
KAMT	**Kaman**	**0.40**	**91**	*e*Pg	**Pg**	**13 44 19.4**	**0.0**
KAMT				*e*Sg	**Sg**	**13 44 25.5**	**+0.8**
CDAG	**Cicekdag**	**0.94**	**74**	*i* P	**Pg**	**13 44 28.7**	**-0.9**
CDAG				*i* S	**Sg**	**13 44 41.6**	**-0.3**
CDAG	**Cicekdag**	**0.94**	**74**	*i* P	**Pg**	**13 44 28.7**	**-0.9**
CDAG				*i* S	**Sg**	**13 44 41.6**	**-0.3**
ELDT	**Eldivan**	**1.13**	**9**	*i* P	**Pg**	**13 44 33.0**	**-0.2**
ELDT				*i* S	**Sn**	**13 44 49.2**	**-0.1**
ELDT	**Eldivan**	**1.13**	**9**	*i* P	**Pg**	**13 44 33.0**	**-0.2**
ELDT				*i* S	**Sn**	**13 44 49.2**	**-0.1**
CORM	**Corum**	**1.36**	**54**	*e*PN	**Pb**	**13 44 37.2**	**-0.1**
CORM	**Corum**	**1.36**	**54**	*e*Pn	**Pb**	**13 44 37.2**	**-0.1**
YOZ	**Yozgat**	**1.66**	**80**	*e*PN	**Pn**	**13 44 41.4**	**+0.4**
YOZ	**Yozgat**	**1.66**	**80**	*e*Pn	**Pn**	**13 44 41.4**	**+0.4**

*ISK **21** 13:45:07.8, 39.60N×27.75E, h6km, ML2.2*
*DDA **21** 13:45:07.4, 39.62N×27.81E, h7km, MD2.9, ML3.2*
*ISCJB **21** 13:45:08.1±0.4, 39.60N±0.02×27.79E±0.03, h10km±3km, Error ellipse: s-maj=4.6km s-min=3.1km az=140.5*
*CSEM **21** 13:45:08.2±0.1, 39.61N×27.79E, h10km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.1km az=56.0*
ISC 21 13:45:08.0±0.8, 39.60N±0.02×27.79E±0.02, h13km±5km, n38, σ0.841/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.08**	**61**	*e*PG	**Pg**	**13 45 10.8**	**+0.1**
BALB				*e*SG	**Sg**	**13 45 12.6**	**-0.1**
BALB	**Balikesir**	**0.08**	**61**	*e*Pg	**Pg**	**13 45 10.8**	**+0.1**
BALB				*e*Sg	**Sg**	**13 45 12.6**	**-0.1**
BALY	**Balya**	**0.19**	**315**	*i* P	**Pg**	**13 45 12.4**	**+0.1**
BALY				*i* S	**Sg**	**13 45 15.3**	**-0.1**
BALY	**Balya**	**0.19**	**315**	*i* P	**Pg**	**13 45 12.4**	**+0.1**
BALY				*i* S	**Sg**	**13 45 15.3**	**-0.1**
GONE	**Gonen-Balikesi**	**0.45**	**349**	*e*PG	**Pg**	**13 45 17.2**	**+0.3**
GONE				*e*SG	**Sg**	**13 45 23.6**	**+0.7**
GONE	**Gonen-Balikesi**	**0.45**	**349**	*e*Pg	**Pg**	**13 45 17.2**	**+0.3**
GONE				*e*Sg	**Sg**	**13 45 23.7**	**+0.7**
DURS	**Dursunbey**	**0.53**	**90**	*i* P	**Pg**	**13 45 18.2**	**-0.1**
DURS				*i* S	**Sg**	**13 45 25.8**	**+0.5**
DURS	**Dursunbey**	**0.53**	**90**	*i* P	**Pg**	**13 45 18.2**	**-0.1**
DURS				*i* S	**Sg**	**13 45 25.8**	**+0.5**
AKHS	**Akhisar**	**0.72**	**179**	*i* P	**Pg**	**13 45 22.1**	**+0.1**
AKHS				*i* S	**Sb**	**13 45 32.2**	**-0.1**
AKHS	**Akhisar**	**0.72**	**179**	*i* P	**Pg**	**13 45 22.1**	**+0.1**
AKHS				*i* S	**Sb**	**13 45 32.2**	**-0.1**
AKS	**Akhisar**	**0.72**	**179**	*e*PG	**Pb**	**13 45 22.4**	**0.0**
AKS				*e*SG	**Sb**	**13 45 32.5**	**+0.2**
AKS	**Akhisar**	**0.72**	**179**	*e*Pg	**Pb**	**13 45 22.4**	**0.0**
AKS				*e*Sg	**Sb**	**13 45 32.5**	**+0.2**
KRBG	**Karabiga-Canak**	**0.88**	**334**	*e*PG	**Pg**	**13 45 24.9**	**0.0**
KRBG				*e*SG	**Sg**	**13 45 36.6**	**+0.2**
KRBG	**Karabiga-Canak**	**0.88**	**334**	*e*Pg	**Pg**	**13 45 24.9**	**0.0**
KRBG				*e*Sg	**Sg**	**13 45 36.6**	**+0.2**
AYVA	**Ayvalik**	**0.90**	**251**	*i* P	**Pb**	**13 45 26.0**	**+0.5**
AYVA				*i* S	**Sg**	**13 45 36.9**	**-0.3**
AYVA	**Ayvalik**	**0.90**	**251**	*i* P	**Pn**	**13 45 26.0**	**-0.4**
DEMI	**Demirci**	**0.91**	**128**	*i* P	**Pb**	**13 45 25.8**	**+0.2**
DEMI				*i* S	**Sg**	**13 45 37.6**	**+0.1**
DEMI	**Demirci**	**0.91**	**128**	*i* P	**Pb**	**13 45 25.8**	**+0.2**
DEMI				*i* S	**Sg**	**13 45 37.6**	**+0.1**
LPK	**Lapseki**	**1.10**	**314**	*e*PN	**Pb**	**13 45 28.9**	**-0.1**
LPK				*e*SN	**Sn**	**13 45 44.2**	**0.0**
LPK	**Lapseki**	**1.10**	**314**	*e*Pn	**Pb**	**13 45 28.9**	**-0.1**
LPK				*e*Sn	**Sn**	**13 45 44.2**	**0.0**
ULDT	**Uludag**	**1.17**	**62**	*i* P	**Pb**	**13 45 29.6**	**-0.5**
ULDT				*i* S	**Sb**	**13 45 44.7**	**-0.5**
ULDT	**Uludag**	**1.17**	**62**	*i* P	**Pb**	**13 45 29.6**	**-0.5**
ULDT				*i* S	**Sb**	**13 45 44.7**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.18**	**337**	*e*PN	**Pb**	**13 45 30.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.18**	**337**	*e*Pn	**Pb**	**13 45 30.5**	**+0.2**
SART	**Tekirdag**	**1.18**	**337**	*i* P	**Pg**	**13 45 30.8**	**+0.1**
SART				*i* S	**Sg**	**13 45 46.4**	**+0.3**
SART	**Tekirdag**	**1.18**	**337**	*i* P	**Pg**	**13 45 30.8**	**+0.1**
SART				*i* S	**Sg**	**13 45 46.4**	**+0.3**
MANT	**Manisa**	**1.26**	**152**	*i* P	**Pn**	**13 45 31.8**	**+0.3**
MANT				*i* S	**Sb**	**13 45 46.3**	**-1.6**
MANT	**Manisa**	**1.26**	**152**	*i* P	**Pn**	**13 45 31.8**	**+0.3**
MANT				*i* S	**Sb**	**13 45 46.3**	**-1.6**
KULA	**Kula-Manisa**	**1.28**	**148**	*e*PN	**Pg**	**13 45 33.2**	**+0.6**
KULA	**Kula-Manisa**	**1.28**	**148**	*e*Pn	**Pg**	**13 45 33.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.29**	**308**	*e*PN	**Pg**	**13 45 32.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.29**	**308**	*e*Pn	**Pg**	**13 45 32.5**	**-0.2**
GDZ	**Gediz**	**1.41**	**111**	*i* P	**Pg**	**13 45 34.8**	**-0.2**
GDZ				*i* S	**Sb**	**13 45 52.4**	**+0.4**
GDZ	**Gediz**	**1.41**	**111**	*i* P	**Pg**	**13 45 34.8**	**-0.2**
GDZ				*i* S	**Sb**	**13 45 52.4**	**+0.4**
ERIK	**Erikli-Kesan**	**1.45**	**318**	*e*PN	**Pb**	**13 45 34.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.45**	**318**	*e*Pn	**Pb**	**13 45 34.8**	**0.0**
CAVI	**Cavuskoy**	**1.69**	**69**	*e*PN	**Pb**	**13 45 39.0**	**+0.1**
CAVI	**Cavuskoy**	**1.69**	**69**	*e*Pn	**Pb**	**13 45 39.0**	**+0.1**

IDC 21 13:45:29.1±2.6, 0.65S×133.36E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=97.4km s-min=27.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.93**	**203**	P	P	13 49 51.2	-0.5
	0.1nm,0.3s,baz=47,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**19.20**	**177**	P	P	13 49 54.9	+0.2
	0.1nm,0.3s,baz=357,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**22.89**	**179**	P	P	13 50 34.9	+0.4
	1.2nm,0.8s,baz=359,slow=12,SNR=11						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	13 56 10.6	-0.1
	0.2nm,0.5s,baz=112,slow=8.8,SNR=3.6						

IDC 21 13:45:29.4±1.6, 22.76S×174.39W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.2/11, ML4.7/1, Error ellipse: s-maj=56.0km s-min=22.6km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.65**	**86**	Pn	Pn	13 48 42.2	-2.1
	3.7nm,0.3s,baz=256,slow=10,SNR=9.8						
RAR				Sn	Sn	13 51 00.5	-16
	0.9nm,0.3s,baz=117,slow=9.0,SNR=2.9						
CTA	**Charters Tower**	**36.66**	**267**	P	P	13 52 37.5	-0.6
	0.5nm,1.1s,baz=80,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**39.92**	**247**	P	P	13 53 07.2	+1.8
	0.9nm,0.5s,baz=95,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**47.31**	**258**	P	P	13 54 04.4	-0.7
	2.7nm,0.7s,baz=95,slow=7.8,SNR=22						
WRA	**Warramunga Arr**	**47.64**	**263**	P	P	13 54 06.2	-1.5
	1.3nm,0.5s,baz=92,slow=8.5,SNR=41						
FITZ	**Fitzroy Crossi**	**56.07**	**263**	P	P	13 55 10.4	-0.3
	1.3nm,0.6s,baz=76,slow=8.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**74.03**	**322**	P	P	13 57 05.8	-1.3
	0.5nm,0.4s,baz=160,slow=6.8,SNR=4.3						
PETK	**Petropavlovsk-**	**79.34**	**343**	P	P	13 57 36.2	-0.5
	3.6nm,0.8s,baz=116,slow=10,SNR=4.5						
USRK	**Ussuriysk Arra**	**82.72**	**324**	P	P	13 57 56.4	+1.5
	3.0nm,0.8s,baz=150,slow=4.2,SNR=5.5						
ILAR	**Eielson Array**	**89.80**	**11**	P	P	13 58 29.6	+0.3
	0.8nm,1.0s,baz=206,slow=6.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**94.02**	**288**	P	P	13 58 51.6	+1.7
	1.7nm,0.8s,baz=124,slow=2.9,SNR=14						
AKASG	**Malin Array Be**	**146.58**	**332**	PKPbc	PKPbc	14 05 12.8	+0.2
	0.9nm,0.5s,baz=41,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**150.83**	**312**	PKPbc	PKPbc	14 05 23.1	-1.1
	0.7nm,0.8s,baz=113,slow=2.8,SNR=3.7						

*ISCJB **21** 14:14:28.8±0.5, 54.3S±0.1×133.2W±0.2, h10km, mb4.6/15, MS4.8/14, Error ellipse: s-maj=18.8km s-min=13.2km az=158.7*
*IDC **21** 14:14:28.3±0.6, 54.17S×133.14W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.5/13, mbtmp4.4/9, MS4.7/14, Ms1 4.7/14, ms1mx4.6/17, Error ellipse: s-maj=27.2km s-min=18.6km az=171.0*
*NEIC **21** 14:14:30.3±0.4, 54.29S×133.17W, h10km, mb4.8/9, Error ellipse: s-maj=18.1km s-min=12.4km az=159.0*
ISC 21 14:14:30.2±0.5, 54.2S±0.2×133.1W±0.1, h10km, n54, σ1.21/43, mb4.7/15, MS4.8/14, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**32.24**	**42**	LR	LR	14 30 59.7	
	comp=Z,1μm,18.1s,baz=206,slow=31						
TBI	**Tubuai**	**33.20**	**332**	*e*S	S	14 26 22.8	-3.8
	201nm,29.2s						
TBI				*e*LQ	LQ	14 28 30.1	
	538nm,31.0s						
TBI				*e*LR	LR	14 29 38.1	
	4μm,28.2s,baz=164						
PMSA	**Palmer Station**	**34.78**	**135**	LR	LR	14 31 26.5	
	comp=Z,2μm,21.2s,baz=243,slow=29						
QSPA	**South Pole Qui**	**35.93**	**180**	P	**P**	**14 21 31.7**	**+1.2**
	11nm,1.1s,baz=84,slow=4.1,SNR=14						
QSPA				PcP	**PcP**	**14 23 58.7**	**+1.7**
	2.5nm,0.8s,baz=100,slow=2.3,SNR=4.6						
QSPA	**South Pole Qui**	**35.93**	**180**	P	**P**	**14 21 31.7**	**+1.2**
QSPA				PcP	**PcP**	**14 23 58.7**	**+1.7**
USHA	**Ushuaia**	**36.34**	**118**	P	**P**	**14 21 34.4**	**+0.5**
	15nm,1.0s,baz=151,slow=10,SNR=3.1						
USHA				LR	LR	14 31 21.3	
	comp=Z,388nm,20.3s,baz=227,slow=28						
USHA	**Ushuaia**	**36.34**	**118**	P	**P**	**14 21 34.4**	**+0.5**
RPZ	**Rata Peaks**	**37.19**	**263**	LR	LR	14 32 37.2	
	comp=Z,2μm,21.0s,baz=264,slow=29						
RAR	**Rarotonga**	**38.67**	**318**	T	T	15 02 58.9	
	88nm,0.5s,baz=84,slow=19,SNR=13						
PPT2	**Papeete2**	**38.73**	**334**	*e*S	S	14 27 45.6	-5.9
	340nm,25.8s						
PPT2				*e*LR	LR	14 32 24.9	
	4μm,25.5s,baz=169						
PLCA	**Paso Flores**	**42.97**	**98**	P	**P**	**14 22 27.9**	**-1.4**
	1.9nm,0.8s,baz=212,slow=8.5,SNR=4.1						
PLCA				LR	LR	14 35 45.1	
	comp=Z,1μm,20.5s,baz=228,slow=30						
PLCA	**Paso Flores**	**42.97**	**98**	P	**P**	**14 22 28.8**	**-0.5**
	8.4nm,1.3s						
SNAA	**Sanae**	**49.61**	**162**	P	P	14 23 16.6	-4.5
MAW	**Mawson**	**57.89**	**187**	LR	LR	14 49 00.6	
	comp=Z,454nm,18.3s,baz=161,slow=36						
STKA	**Stephens Creek**	**62.19**	**253**	P	**P**	**14 24 52.1**	**+0.6**
	5.1nm,0.8s,baz=125,slow=5.6,SNR=10						
STKA				LR	LR	14 47 35.0	
	comp=Z,1μm,18.9s,baz=82,slow=32						
STKA	**Stephens Creek**	**62.19**	**253**	*e*P	**P**	**14 24 52.2**	**+0.6**
	1.7nm,1.0s						
LPAZ	**La Paz**	**62.36**	**79**	P	**P**	**14 24 52.5**	**-1.1**
	3.3nm,0.9s,baz=199,slow=3.9,SNR=8.4						
LPAZ				LR	LR	14 45 37.4	
	comp=Z,410nm,21.5s,baz=185,slow=30						
LPAZ	**La Paz**	**62.36**	**79**	*e*P	**P**	**14 24 52.3**	**-1.4**
	35nm,1.5s						
HNR	**Honiara**	**68.97**	**283**	LR	LR	14 48 56.3	
	comp=Z,289nm,20.8s,baz=146,slow=30						
OTAV	**Otavalo**	**70.36**	**60**	*e*P	**P**	**14 25 46.8**	**+2.0**
	26nm,1.5s						
ASAR	**Alice Springs**	**72.83**	**253**	P	**P**	**14 25 57.8**	**-1.3**
	5.2nm,0.8s,baz=141,slow=5.0,SNR=42						
ASAR	**Alice Springs**	**72.83**	**253**	P	**P**	**14 25 57.8**	**-1.3**
AS31	**Alice Springs**	**72.83**	**253**	*e*P	**P**	**14 25 59.5**	**+0.4**
BDFB	**Brasilia**	**74.63**	**95**	LR	LR	14 55 50.3	
	comp=Z,513nm,18.8s,baz=206,slow=33						
WB2	**Warramunga Arr**	**75.51**	**256**	*e*P	**P**	**14 26 15.3**	**+0.6**
WRA	**Warramunga Arr**	**75.52**	**256**	P	**P**	**14 26 13.6**	**-1.1**
	3.9nm,0.9s,baz=146,slow=5.1,SNR=28						
WRA				LR	LR	14 56 19.4	
	comp=Z,1μm,20.0s,baz=135,slow=33						
WRA	**Warramunga Arr**	**75.52**	**256**	P	**P**	**14 26 13.6**	**-1.1**
WRAB	**Tennant Creek**	**75.52**	**256**	*e*P	**P**	**14 26 13.9**	**-0.9**
	5.1nm,0.9s						
ROSC	**El Rosal**	**76.41**	**61**	LR	LR	14 53 19.2	
	comp=Z,490nm,20.7s,baz=22,slow=30						
TXAR	**Lajitas Array**	**87.04**	**25**	P	**P**	**14 27 14.8**	**-0.8**
	0.7nm,0.7s,baz=202,slow=4.5,SNR=5.8						
TXAR	**Lajitas Array**	**87.04**	**25**	P	**P**	**14 27 14.8**	**-0.8**
TUC	**Tucson**	**88.33**	**19**	P	**P**	**14 27 22.8**	**+1.1**
	2.8nm,1.0s						
PFO	**Pinyon Flat Ob**	**88.67**	**14**	P	**P**	**14 27 24.0**	**+0.7**
	18nm,1.5s						
MNTX	**Cornudas Mount**	**88.89**	**23**	*e*P	**P**	**14 27 24.3**	**+0.1**
	6.6nm,1.4s						
JCT	**Junction City**	**89.15**	**28**	*e*P	**P**	**14 27 26.8**	**+1.3**
	32nm,1.4s						
NVAR	**Mina Array Bea**	**93.18**	**12**	P	**P**	**14 27 45.5**	**+1.2**
	0.8nm,0.8s,baz=193,slow=6.1,SNR=4.5						
NVAR				LR	LR	15 00 38.8	
	comp=Z,515nm,19.2s,baz=167,slow=30						
NVAR	**Mina Array Bea**	**93.18**	**12**	P	**P**	**14 27 45.5**	**+1.2**
PDAR	**Pinedale Array**	**98.72**	**17**	LR	LR	15 04 48.2	
	comp=Z,390nm,19.2s,baz=215,slow=31						
DIB	**Dawson Inlet,**	**107.08**	**0**	T	T	16 28 32.6	
	SNR=5.1						
YKA	**Yellowknife Ar**	**117.30**	**10**	PKP	**PKPdf**	**14 33 15.3**	**+1.0**
	0.3nm,0.7s,baz=188,slow=2.9,SNR=7.8						
YKA	**Yellowknife Ar**	**117.30**	**10**	PKP	**PKPdf**	**14 33

MJAR	**Matsushiro Arr**	**52.73**	**39**	P		**P**	**14 34 19.3**	**-1.4**
	comp=Z,3.1nm,0.9s,baz=218,slow=8.4,SNR=8.2							
USRK	**Ussuriysk Arra**	**54.68**	**28**	P		**P**	**14 34 35.2**	**+0.4**
	comp=Z,13nm,0.8s,baz=226,slow=6.1,SNR=23							
KURK	**Kurchatov**	**56.20**	**344**	P		**P**	**14 34 45.8**	**+0.2**
	comp=Z,7.1nm,0.9s,baz=161,slow=7.0,SNR=40							
ZALV	**Zalesovo Beam**	**57.77**	**349**	P		**P**	**14 34 57.0**	**+0.3**
	comp=Z,7.0nm,0.8s,baz=174,slow=5.4,SNR=19							
BVAR	**Borovoye Array**	**60.77**	**340**	P		**P**	**14 35 16.6**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=146,slow=8.8,SNR=6.2							
AKTO	**Aktyubinsk**	**63.91**	**332**	P		P	14 35 37.8	-0.8
	comp=Z,0.9nm,0.6s,baz=115,slow=18,SNR=3.5							
MAW	**Mawson**	**69.71**	**194**	P		P	14 36 13.9	-1.2
	comp=Z,6.1nm,0.7s,baz=23,slow=9.6,SNR=6.0							
BRTR	**Keskin Array B**	**73.76**	**313**	P		P	14 36 39.5	-0.8
	comp=Z,1.0nm,0.8s,baz=144,slow=10.0,SNR=3.9							
BRTR				LR		LR	15 10 00.1	
	comp=Z,76nm,21.5s,baz=8.2,slow=36							
FX1	**Attu Island--F**	**81.97**	**36**	LR		LR	15 10 44.4	
	comp=Z,298nm,20.4s,baz=71,slow=33							
FINES	**FINESS Array B**	**84.67**	**332**	P		**P**	**14 37 39.4**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=132,slow=2.8,SNR=4.6							
ARCES	**ARCESS Array B**	**87.06**	**340**	P		**P**	**14 37 51.2**	**+0.3**
	comp=Z,5.4nm,1.0s,baz=101,slow=4.7,SNR=6.1							
YKA	**Yellowknife Ar**	**114.94**	**17**	PKP	PKPdf		14 43 44.6	-1.6
	comp=Z,0.1nm,0.3s,baz=354,slow=2.0,SNR=5.3							
TXAR	**Lajitas Array**	**145.16**	**38**	PKPbc		**PKPab**	**14 44 43.5**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=243,slow=1.8,SNR=46							

*OMAN **21** 14:26:13.7±6.9, 27.°90N×58.°00E, h0km, Error ellipse: s-maj=75.7km s-min=12.6km az=21.0*
*ISCJB **21** 14:26:21.2±0.4, 27.°53N±0.°03×57.°79E±0.°05, h30km, mb3.8/12, MS3.2/2, Error ellipse: s-maj=5.9km s-min=4.2km az=0.8*
*CSEM **21** 14:26:23.5±0.2, 27.°46N×57.°62E, h20km, Ms4.1, Error ellipse: s-maj=6.8km s-min=3.8km az=85.0*
*TEH **21** 14:26:24.6, 27.°84N×57.°43E, h1km, ML3.8*
*IDC **21** 14:26:24.2±0.9, 27.°47N×57.°66E, h55km±5km, mb3.5/12, mb1 3.6/13, mb1mx3.4/29, mbtmp3.5/13, MS3.3/2, Ms1 3.2/2, ms1mx2.6/39, Error ellipse: s-maj=21.1km s-min=16.7km az=162.0*
*THR **21** 14:26:30.6±0.3, 27.°88N×56.°94E, h24km±9km, ML3.6*

ISC 21 14:26:23.4±0.7, 27.°65N±0.°06×57.°58E±0.°07, h30km, n73, σ1§86/41, mb3.8/12, 4C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.94**	**258**	⇓*e*Pg		**Pb**		**14 26 42.2**	**+1.0**
IBND				*e*				14 26 42.5	
	comp=Z,77μm,0.1s								
IBND				*e*Sg		**Sb**		**14 26 56.0**	**+2.6**
IBND	**Bandar-abas**	**0.94**	**258**	⇓*e*Pg		**Pb**		**14 26 42.2**	**+1.0**
IBND				*e*Sg		**Sb**		**14 26 56.0**	**+2.6**
BNDS	**Bandar-Abbas**	**1.27**	**259**	*e*Pg		**Pb**		**14 26 46.3**	**-0.6**
BNDS	**Bandar-Abbas**	**1.27**	**259**	*e*Pg		**Pb**		**14 26 46.3**	**-0.6**
BANOM	**Banah**	**2.07**	**214**	⇓P		**Pn**		**14 26 54.9**	**-1.2**
BANOM				⇑P		**Pn**		**14 26 55.3**	**-0.8**
BANOM				ml				14 27 20.7	
	SNR=525								
BANOM	**Banah**	**2.07**	**214**	P		**Pn**		**14 26 55.3**	**-0.8**
BANOM				S		**Sn**		**14 27 18.1**	**-2.8**
NAZ	**Nazwa, Dubai**	**3.16**	**213**	⇑P		**Pn**		**14 27 10.7**	**-0.5**
NAZ				⇑P		Pb		14 27 10.8	-8.1
	SNR=10								
NAZ				ml				14 27 58.6	
	SNR=29								
NAZ				ml				14 28 05.5	
	SNR=33								
NAZ	**Nazwa, Dubai**	**3.16**	**213**	P		**Pn**		**14 27 10.7**	**-0.5**
ASHO	**Ashiyiah**	**3.25**	**205**	⇓P		**Pn**		**14 27 11.9**	**-0.6**
ASHO				⇓P		Pb		14 27 12.0	-8.6
	SNR=16								
ASHO				ml				14 27 53.8	
	SNR=159								
ASHO	**Ashiyiah**	**3.25**	**205**	P		**Pn**		**14 27 11.9**	**-0.6**
FAQ	**Al Faqa, Dubai**	**3.40**	**212**	P		**Pn**		**14 27 13.7**	**-0.7**
ZHSF	**Zahedan**	**3.42**	**54**	*e*Pn		Pb		14 27 29.8	+6.3
ZHSF					AML	AML		14 27 47.7	
	comp=E,65nm,0.3s								
ASUD	**Al Ashush, Dub**	**3.63**	**214**	⇓P		**Pn**		**14 27 17.4**	**-0.3**
	SNR=9.8								
ASUD				ml				14 27 59.1	
	SNR=73								
ASUD	**Al Ashush, Dub**	**3.63**	**214**	P		**Pn**		**14 27 17.3**	**-0.3**
HOQ	**Hoqain**	**4.06**	**183**	P		Pn		14 27 20.6	-2.9
	SNR=11								
HOQ				ml				14 28 07.0	
	SNR=103								
HOQ	**Hoqain**	**4.06**	**183**	P		Pn		14 27 20.6	-2.9
	SNR=11								
GHIR	**Ghir-Karzin**	**4.11**	**280**	*e*PN5				14 27 26.0	
GHIR					AML	AML		14 28 21.5	
	comp=E,180nm,0.4s								
ISRV	**Sarvestan**	**4.29**	**295**	*e*Pn		Pn		14 27 28.9	+1.9
ISRV				*e*				14 28 23.4	
	comp=Z,3μm,0.2s								
ISRV	**Sarvestan**	**4.29**	**295**	*e*Pn		Pn		14 27 28.9	+1.9
IBAF	**Bafgh**	**4.30**	**336**	*e*		**Sn**		**14 28 12.5**	**-3.7**
	comp=Z,780nm,0.2s								
ARQ	**Araqi**	**4.40**	**193**	P		Pn		14 27 27.6	-0.6
	SNR=48								
ARQ				ml				14 28 17.1	
	SNR=52								
ARQ	**Araqi**	**4.40**	**193**	P		Pn		14 27 27.6	-0.6
	SNR=48								
IMEH	**Mehriz**	**4.54**	**326**	*e*Pn		Pb		14 27 33.5	-9.0
IMEH				*e*				14 28 02.7	
	comp=Z,666nm,0.1s								
IMEH	**Mehriz**	**4.54**	**326**	*e*Pn		Pb		14 27 33.5	-9.0
IPAR	**Pars**	**4.54**	**300**	*e*Pn		Pn		14 27 32.9	+2.5
IPAR				*e*				14 28 26.6	
	comp=Z,786nm,0.1s								
IPAR	**Pars**	**4.54**	**300**	*e*Pn		Pn		14 27 32.9	+2.5
SMDO	**Samad**	**4.59**	**175**	P		Pn		14 27 28.6	-2.4
	SNR=41								
SMDO				ml				14 28 19.2	
	SNR=40								
SMDO	**Samad**	**4.59**	**175**	P		Pn		14 27 28.6	-2.4
	SNR=41								
BSY	**Bisya**	**4.90**	**184**	P		Pn		14 27 34.2	-0.9
	SNR=56								
BSYO	**Bisya**	**4.91**	**184**	P		Pn		14 27 34.2	-1.0
	SNR=56								
IKOO	**Kooshah**	**4.92**	**14**	*e*Pn		Pn		14 27 39.9	+4.4
IKOO	**Kooshah**	**4.92**	**14**	*e*Pn		Pn		14 27 39.9	+4.4
WBK	**Wadi Bani Khal**	**5.17**	**166**	⇑P		Pn		14 27 36.2	-2.7
	SNR=15								
WBK	**Wadi Bani Khal**	**5.17**	**166**	P		Pn		14 27 36.2	-2.7
	SNR=15								
JMDO	**Jabal Madar**	**5.28**	**175**	⇓P		Pn		14 27 38.8	-1.5
JMDO	**Jabal Madar**	**5.28**	**175**	P		Pn		14 27 38.8	-1.5
ITEG	**Tejag**	**5.33**	**11**	*e*Pn		Pn		14 27 44.9	+3.8
ITEG				*e*				14 28 11.2	
	comp=Z,685nm,0.2s								
ITEG	**Tejag**	**5.33**	**11**	*e*Pn		Pn		14 27 44.9	+3.8
ICHK	**Chekchek**	**5.34**	**330**	*e*Pn		Pn		14 27 44.2	+2.9
ICHK				*e*				14 28 13.5	
	comp=Z,321nm,0.2s								
ICHK	**Chekchek**	**5.34**	**330**	*e*Pn		Pn		14 27 44.2	+2.9
ISAD	**Sadrabad**	**5.43**	**322**	*e*Pn		Pn		14 27 46.0	+3.4
ISAD				*e*				14 28 54.1	
	comp=Z,484nm,0.1s								
ISAD	**Sadrabad**	**5.43**	**322**	*e*Pn		Pn		14 27 46.0	+3.4
IDAH	**Dahanechah**	**5.45**	**21**	*e*Pn		Pn		14 27 47.3	+4.5
IDAH				*e*				14 28 21.9	
	comp=Z,390nm,0.2s								
IDAH	**Dahanechah**	**5.45**	**21**	*e*Pn		Pn		14 27 47.3	+4.5
NASN	**Na'in**	**6.58**	**322**	*e*Pn		Pn		14 28 01.4	+2.9
IGAR	**Gharneh**	**6.74**	**316**	*e*				14 28 06.6	
	comp=Z,706nm,0.1s								
IGAR				*e*Pn		Pn		14 28 03.2	+2.6
IZEF	**Zefreh**	**6.92**	**320**	*e*				14 28 13.8	
	comp=Z,126nm,0.1s								
IZEF				*e*Pn		Pn		14 28 05.6	+2.5
IKLH	**Kolahrood**	**7.66**	**319**	*e*Pn		Pn		14 28 16.3	+3.1
IKLH				*e*				14 28 21.1	
	comp=Z,198nm,0.1s								
IKLH	**Kolahrood**	**7.66**	**319**	*e*Pn		Pn		14 28 16.3	+3.1
KBD	**Kabd**	**8.84**	**282**	*e*P		**Pn**		**14 28 27.8**	**-1.3**
KBD					AML	AML		14 30 00.7	
	comp=Z,32nm,0.3s								
RDF	**Al-Radifah**	**8.93**	**281**	*e*P		**Pn**		**14 28 28.3**	**-2.1**
RDF					AML	AML		14 30 03.3	
	comp=Z,58nm,0.3s								
NAY	**Al-Naaiem**	**9.24**	**282**	*e*P		**Pn**		**14 28 33.1**	**-1.5**
MIB	**Mutribah**	**9.24**	**286**	*e*P		**Pn**		**14 28 33.2**	**-1.4**
MIB					AML	AML		14 30 11.4	
	comp=Z,52nm,0.4s								
IKOM	**Komasi**	**10.81**	**309**	*e*Pn		**Pn**		**14 28 56.5**	**+0.1**
IKOM				*e*				14 28 58.0	
	comp=Z,572nm,0.1s								
IKOM	**Komasi**	**10.81**	**309**	*e*Pn		**Pn**		**14 28 56.5**	**+0.1**
IVIS	**Veis**	**11.46**	**309**	*e*				14 29 12.8	
	comp=Z,235nm,0.1s								
IVIS				*e*Pn		**Pn**		**14 29 04.6**	**-0.6**
IGHG	**Ghaleghazi**	**11.55**	**308**	*e*		Pn		14 29 09.4	+2.9
	comp=Z,438nm,0.1s								
MMAI	**Mount Meron Ar**	**19.86**	**291**	P		**Pn**		**14 30 53.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=116,slow=9.8,SNR=3.1								
EIL	**Elat**	**19.96**	**281**	P		**Pn**		**14 30 53.4**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=90,slow=8.1,SNR=3.7								
AKTO	**Aktyubinsk**	**22.76**	**1**	P		**P**		**14 31 24.1**	**+1.0**
	comp=Z,3.0nm,0.5s,baz=172,slow=10,SNR=7.8								
BRTR	**Keskin Array B**	**23.20**	**307**	P		**P**		**14 31 29.6**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=134,slow=8.8,SNR=5.3								
GUN	**Gumba**	**25.02**	**83**	*e*P		**P**		**14 31 45.0**	**-0.3**
	comp=Z,29nm,0.6s								
BVAR	**Borovoye Array**	**27.08**	**17**	P		**P**		**14 32 02.6**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=198,slow=9.0,SNR=10.0								
BVAR					sP	sP		14 32 23.5	+7.9
	comp=Z,0.9nm,0.5s,baz=199,slow=8.6,SNR=4.3								
BVAR					LR	LR		14 42 56.0	
	comp=Z,95nm,19.9s,baz=130,slow=36								
MKAR	**Makanchi Array**	**27.24**	**39**	P		**P**		**14 32 03.7**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=223,slow=6.6,SNR=6.2								
MKAR					pP	**pP**		**14 32 17.6**	**+4.0**
	comp=Z,0.3nm,0.4s,baz=238,slow=7.0,SNR=3.0								
MKAR					sP	sP		14 32 24.5	+7.3
	comp=Z,0.7nm,0.7s,baz=235,slow=9.9,SNR=3.9								
KURK	**Kurchatov**	**28.03**	**29**	P		**P**		**14 32 10.5**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=229,slow=8.4,SNR=8.5								
KURK					pP	**pP**		**14 32 23.4**	**+2.8**
	comp=Z,0.5nm,0.5s,baz=231,slow=8.5,SNR=2.2								
KURK					sP	sP		14 32 30.8	+6.6
	comp=Z,0.8nm,0.7s,baz=227,slow=8.7,SNR=3.2								
KURK					LR	LR		14 44 56.0	
	comp=Z,52nm,20.9s,baz=290,slow=40								
ZALV	**Zalesovo Beam**	**33.01**	**30**	P		**P**		**14 32 54.6**	**-1.1**
	comp=Z,4.6nm,0.3s,baz=230,slow=8.7,SNR=44								
ZALV					pP	**pP**		**14 33 08.5**	**+4.0**
	comp=Z,1.2nm,0.5s,baz=235,slow=10,SNR=3.0								
FINES	**FINESS Array B**	**39.80**	**337**	pP		pP		14 34 06.7	+4.3
	comp=Z,1.6nm,0.8s,baz=144,slow=11,SNR=1.3								
ARCES	**ARCESS Array B**	**45.85**	**345**	P		**P**		**14 34 42.8**	**+0.3**
	comp=Z,4.0nm,1.0s,baz=140,slow=10,SNR=3.5								
TORD	**Torodi Ar. Bea**	**53.91**	**266**	P		P		14 35 41.1	-3.4
	comp=Z,1.4nm,0.5s,baz=61,slow=8.0,SNR=12								
ILAR	**Eielson Array**	**85.93**	**10**	P		**P**		**14 38 57.4**	**-2.9**
	comp=Z,0.1nm,0.5s,baz=336,slow=4.0,SNR=4.8								
WRA	**Warramunga Arr**	**88.02**	**114**	P		P		14 39 08.7	-2.4
	comp=Z,0.5nm,0.8s,baz=314,slow=4.3,SNR=3.6								
WRA					pP	pP		14 39 24.7	+3.9
	comp=Z,0.4nm,0.7s,baz=316,slow=4.0,SNR=2.6								
ASAR	**Alice Springs**	**89.54**	**117**	P		P		14 39 16.1	-2.1
	comp=Z,0.3nm,0.8s,baz=309,slow=6.8,SNR=3.2								
YKA	**Yellowknife Ar**	**89.95**	**356**	P		**P**		**14 39 18.3**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=355,slow=4.3,SNR=3.8								
YKA					pP	**pP**		**14 39 33.4**	**+4.2**
	comp=Z,0.3nm,0.7s,baz=1.7,slow=5.1,SNR=5.2								

IDC 21 15:04:16.7±1.5, 15.°42S×177.°98W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/17, mbtmp3.9/7, MS3.8/5, Ms1 3.7/5, ms1mx3.4/26, Error ellipse: s-maj=110.3km s-min=20.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.21**	**111**	LR		LR		15 13 11.4	
	comp=Z,294nm,20.8s,baz=99,slow=29								
HNR	**Honiara**	**22.35**	**283**	LR		LR		15 16 40.2	
	comp=Z,306nm,19.9s,baz=137,slow=33								
STKA	**Stephens Creek**	**40.22**	**239**	P		P		15 11 56.1	+0.9
	3.0nm,1.0s,baz=91,slow=13,SNR=3.3								
STKA					LR	LR		15 26 30.4	
	comp=Z,148nm,18.7s,baz=26,slow=33								
WRA	**Warramunga Arr**	**45.53**	**257**	P		P		15 12 38.1	-0.5
	1.6nm,1.1s,baz=87,slow=8.4,SNR=6.1								
ASAR	**Alice Springs**	**45.90**	**252**	P		P		15 12 41.0	-0.5
	3.3nm,1.0s,baz=85,slow=8.6,SNR=17								
GUMO	**Guam**	**46.70**	**306**	LR		LR		15 32 14.6	
	comp=Z,65nm,18.3s,baz=234,slow=36								
KSRS	**Korea Array**	**73.14**	**318**	LR		LR		15 41 30.4	
	comp=Z,38nm,21.0s,baz=340,slow=30								
NVAR	**Mina Array Bea**	**77.36**	**44**	P		P		15 16 13.7	-0.2
	0.8nm,0.9s,baz=246,slow=6.8,SNR=4.2								
ILAR	**Eielson Array**	**83.39**	**13**	P		P		15 16 46.2	+0.8
	1.6nm,1.1s,baz=223,slow=6.0,SNR=6.5								
TXAR	**Lajitas Array**	**84.33**	**58**	P		P		15 16 51.5	+0.3
	0.1nm,0.4s,baz=204,slow=2.0,SNR=3.8								
PDAR	**Pinedale Array**	**85.28**	**43**	P		P		15 16 55.3	-0.6
	0.3nm,0.6s,baz=224,slow=3.8,SNR=3.0								
BRTR	**Keskin Array B**	**143.28**	**317**	PKP		PKPbc		15 23 51.5	+1.0
	1.6nm,1.0s,baz=4.4,slow=1.9,SNR=6.9								

*ISCJB **21** 15:13:45.7±0.7, 32.°70N±0.°06×141.°9E±0.°1, h10km, mb3.7/7, Error ellipse: s-maj=16.6km s-min=5.7km az=155.0*
*IDC **21** 15:13:45.9±1.1, 32.°66N×141.°86E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/26, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=34.8km s-min=17.0km az=77.0*
*JMA **21** 15:13:49.1±0.3, 32.°79N×141.°70E, h17km, M3.4*

ISC 21 15:13:47.1±0.9, 32.°72N±0.°07×141.°9E±0.°1, h10km, n19, σ1§24/25, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.81**	**283**	P		**Pn**		**15 14 17.1**	**-1.3**
BSO1	**Boso 1**	**2.08**	**338**	P		**Pn**		**15 14 22.3**	**+0.6**
BSO3	**Boso 3**	**2.39**	**331**	P		**Pn**		**15 14 26.6**	**+0.5**
BSO4	**Boso 4**	**2.62**	**330**	*e*S		**Sn**		**15 15 00.8**	**-0.5**
JOD2	**Odawara 2**	**3.46**	**318**	P		**Pn**		**15 14 42.3**	**+1.2**
JOD2				*e*S		**Sn**		**15 15 19.4**	**-2.8**
JYN	**Shimob**	**3.94**	**316**	P		**Pn**		**15 14 48.4**	**+0.6**
JRY	**Ryogami san**	**4.13**	**324**	P		**Pn**		**15 14 51.2**	**+0.9**
JRY				*e*S		**Sn**		**15 15 38.0**	**-0.7**
JAG	**Ashikaga**	**4.22**	**332**	P		**Pn**		**15 14 52.4**	**+0.8**
JAG				*e*S		**Sn**		**15 15 40.6**	**-0.3**
MJAR	**Matsushiro Arr**	**4.89**	**322**	Pn		**Pn**		**15 15 01.2**	**+0.4**
	0.7nm,0.3s,baz=154,slow=12,SNR=14								
MJAR					Sn	**Sn**		**15 15 57.3**	**-0.1**
	0.8nm,0.3s,baz=144,slow=19,SNR=3.4								
MAT	**Matsushiro**	**4.89**	**322**	P		**Pn**		**15 15 01.8**	**+1.0**
MAT					S	**Sn**		**15 15 57.6**	**+0.1**
CBIJ	**Chichi jima**	**5.61**	**178**	Pn		**Pn**		**15 15 10.5**	**-0.1**
	6.6nm,0.3s,baz=243,slow=15,SNR=9.4								
CBIJ					Sn	Sn		15 16 10.1	-4.9
	4.7nm,0.3s,baz=287,slow=19,SNR=2.9								
ASAJ	**Asahikawa**	**11.40**	**2**	Pn		**Pn**		**15 16 29.3**	**-0.6**
	0.4nm,0.3s,baz=95,slow=31,SNR=7.4								
ASAJ					Sn	**Sn**		**15 18 33.7**	**-3.6**
	0.1nm,0.3s,baz=102,slow=20,SNR=2.8								
SONM	**Songino Array**	**30.71**	**310**	P		**P**		**15 20 04.1**	**+1.8**
	0.9nm,0.7s,baz=109,slow=7.8,SNR=3.9								
ZALV	**Zalesovo Beam**	**45.21**	**316**	P		**P**		**15 22 04.1**	**0.0**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.8								
MKAR	**Makanchi Array**	**46.87**	**306**	P		**P**		**15 22 17.5**	**0.0**
	1.1nm,0.7s,baz=89,slow=9.7,SNR=16								
KURK	**Kurchatov**	**49.00**	**311**	P		**P**		**15 22 33.8**	**-0.1**
	0.6nm,0.5s,baz=88,slow=7.8,SNR=10								
WRA	**Warramunga Arr**	**52.86**	**189**	P		**P**		**15 23 02.5**	**-0.6**
	1.2nm,0.5s,baz=5.9,slow=7.7,SNR=13								
ILAR	**Eielson Array**	**52.95**	**31**	P		**P**		**15 23 04.6**	**+1.2**
	0.2nm,0.7s,baz=266,slow=7.0,SNR=3.8								
ASAR	**Alice Springs**	**56.59**	**189**	P		**P**		**15 23 30.1**	**-0.1**
	0.3nm,0.5s,baz=14,slow=11,SNR=6.9								

MEX 21 15:19:06.5±0.4, 15.°75N×96.°66W, h15km±6km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.53**	**88**	*i* P		Pg		15 19 15.1	-1.9
HUIG				*e*S		Sg		15 19 22.5	-1.7
VHO	**Vista Hermosa**	**1.31**	**357**	*i* P		Pn		15 19 26.8	-3.9
VHO				*e*S		Sb		15 19 42.4	-5.6
PNIG	**Pinotepa**	**1.55**	**294**	*i* P		Pn		15 19 30.2	-3.4
PNIG				*e*S		Sn		15 19 48.6	-4.9
CMIG	**Matias Romero**	**2.16**	**52**	*i* P		Pn		15 19 39.6	-2.4
CMIG				*e*S		Sn		15 20 04.1	-4.4
TPIG	**Tehuac#an**	**2.73**	**346**	*i* P		Pn		15 19 47.6	-2.5
TPIG				*i* S		Sn		15 20 18.9	-4.3
PLIG	**Platanillo**	**3.78**	**314**	*i* P		Pn		15 20 01.1	-3.3
PLIG				*i* S		Sn		15 20 44.5	-4.2
YAIG	**Yautepec**	**3.85**	**324**	*e*P		Pn		15 20 03.6	-1.9
YAIG				*i* S		Sn		15 20 47.2	-3.4

*ISCJB **21** 15:54:09.6±0.5, 32.°27N±0.°05×105.°14E±0.°06, h10km, mb3.4/6, Error ellipse: s-maj=9.6km s-min=4.9km az=43.4*
*IDC **21** 15:54:10.3±1.0, 32.°25N×105.°02E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/25, mbtmp3.4/7, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=50.9km s-min=19.0km az=61.0*
*BJI **21** 15:54:13.8, 32.°17N×105.°22E, h13km, mb3.8/1, ML3.8/18, Ms3.7/3, Ms7 3.5/3*

ISC 21 15:54:12.0±0.7, 32.°18N±0.°05×105.°23E±0.°05, h10km, n15, σ2§14/20, mb3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.79**	**225**	Pg		**Pn**		**15 54 45.3**	**+2.3**
CD2				Sg		**Sb**		**15 55 08.8**	**+1.4**
CD2				smax	smax				
	comp=N,1μm,0.4s								
CD2				smax	smax				
	comp=E,3μm,0.5s								
XAN	**Xi'an**	**3.61**	**58**	Pn		**Pb**		**15 55 13.8**	**-2.1**
XAN				Pg		**Pg**		**15 55 20.3**	**-0.8**
XAN				Sn		**Sb**		**15 56 00.3**	**+0.5**
XAN				Sg		**Sg**		**15 56 10.1**	**+2.2**
XAN				smax	smax				
	comp=N,210nm,0.7s								
XAN				smax	smax				
	comp=E,130nm,0.7s								
LZH	**Lanzhou**	**4.06**	**344**	*e*Pn		Pn		15 55 18.5	+4.2
LZH				Pg		**Pb**		**15 55 25.3**	**+1.6**
LZH				Sg		**Sb**		**15 56 12.5**	**-0.4**
LZH				smax	smax				
	comp=N,320nm,0.6s								
LZH				smax	smax				
	comp=E,150nm,0.5s								
LZH				LR	LR				
	comp=N,340nm,4.1s								
LZH				LR	LR				
	comp=E,330nm,4.6s								
LZH				LR	LR				
	comp=Z,440nm,6.2s								
GYA	**Guiyang**	**5.84**	**167**	Pn		**Pn**		**15 55 41.8**	**+3.0**
GYA				Pg		Pb		15 55 58.6	+4.6
GYA				Sn		**Sn**		**15 56 42.6**	**-3.3**
GYA				smax	smax				
	comp=N,100nm,0.8s								
GYA				smax	smax				
	comp=E,40nm,0.8s								
GTA	**Gaotai**	**8.45**	**330**	*e*P		**Pn**		**15 56 13.1**	**-1.4**
GTA				pP		Pb		15 56 19.8	-19
GTA				sP				15 56 23.8	
GTA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**10.03**	**29**	*e*P		**Pn**		**15 56 37.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**14.80**	**204**	Pn		**Pn**		**15 57 40.1**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=9.3,slow=13,SNR=2.8								
SONM	**Songino Array**	**15.66**	**3**	LR		LR		16 04 22.9	
	comp=Z,158nm,19.4s,baz=298,slow=39								
KSRS	**Korea Array**	**19.34**	**68**	P		**Pn**		**15 58 43.2**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=256,slow=10,SNR=2.9								
MKAR	**Makanchi Array**	**22.83**	**316**	P		**P**		**15 59 13.3**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=116,slow=10,SNR=8.2								
ZALV	**Zalesovo Beam**	**26

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.94**	**43**	P	P	16 47 34.4	-0.7
	1.4nm,0.3s,baz=241,slow=19,SNR=2.6						
AFI				S	S	16 49 14.7	-4.0
	3.2nm,0.3s,baz=204,slow=20,SNR=3.9						
CTA	**Charters Tower**	**33.41**	**264**	*eP*	P	16 51 26.4	+0.7
	3.6nm,0.6s						
STKA	**Stephens Creek**	**37.70**	**244**	*eP*	P	16 52 01.7	+0.4
	0.7nm,0.4s,baz=114,slow=7.3,SNR=6.7						
STKA	**Stephens Creek**	**37.70**	**244**	*eP*	P	16 52 02.0	+0.7
	2.6nm,1.3s						
ASAR	**Alice Springs**	**44.43**	**257**	P	P	16 52 55.0	-0.1
	4.7nm,0.6s,baz=92,slow=8.3,SNR=120						
ASAR				PcP	pP	16 54 27.6	+0.2
	0.7nm,0.7s,baz=106,slow=3.7,SNR=5.1						
WRA	**Warramunga Arr**	**44.52**	**262**	P	P	16 52 55.1	-0.7
	3.0nm,0.5s,baz=97,slow=8.5,SNR=86						
FITZ	**Fitzroy Crossi**	**52.95**	**262**	*eP*	P	16 53 58.5	0.0
	8.2nm,1.5s						
MJAR	**Matsushiro Arr**	**70.21**	**324**	P	P	16 55 50.9	-0.4
	0.7nm,0.5s,baz=156,slow=6.5,SNR=4.7						
ASAJ	**Asahikawa**	**73.74**	**332**	P	P	16 56 12.3	+0.7
	4.8nm,1.1s,baz=60,slow=20,SNR=5.2						
PETK	**Petropavlovsk-**	**76.30**	**345**	P	P	16 56 25.6	-0.2
	3.8nm,0.8s,baz=131,slow=7.3,SNR=6.7						
KSRS	**Korea Array**	**76.88**	**319**	P	P	16 56 30.0	+0.8
	0.5nm,0.6s,baz=138,slow=5.3,SNR=2.8						
NVAR	**Mina Array Bea**	**81.11**	**43**	P	P	16 56 52.3	+0.1
	0.6nm,0.7s,baz=213,slow=9.7,SNR=4.3						
TXAR	**Lajitas Array**	**87.15**	**57**	P	P	16 57 23.2	+1.2
	0.2nm,0.4s,baz=225,slow=4.8,SNR=3.7						
ILAR	**Eielson Array**	**88.38**	**13**	P	P	16 57 25.8	-1.0
	0.4nm,0.5s,baz=217,slow=5.5,SNR=10						
PDAR	**Pinedale Array**	**89.05**	**43**	P	P	16 57 30.9	+0.1
	0.3nm,0.7s,baz=257,slow=6.2,SNR=2.3						
CMAR	**Chiang Mai Arr**	**90.06**	**290**	P	P	16 57 36.6	+1.0
	1.4nm,0.9s,baz=115,slow=2.7,SNR=13						
MKAR	**Makanchi Array**	**111.18**	**313**	PKiKP	PKiKP	17 03 04.0	-1.5
	0.1nm,0.4s,baz=170,slow=0.6,SNR=3.4						
AKASG	**Malin Array Be**	**143.02**	**331**	PKhKP	PKPpre	17 04 01.7	
	2.7nm,0.6s,baz=44,slow=4.2,SNR=13						
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc	PKPdf	17 04 13.7	+1.2
	0.7nm,0.6s,baz=133,slow=4.3,SNR=4.6						
GERES	**GERESS Array B**	**150.23**	**344**	PKPbc	PKPbc	17 04 22.4	-0.9
	0.3nm,0.5s,baz=40,slow=3.8,SNR=5.0						

IDC 21 16:54:00.9±2.8, 49°57'S×117°53'E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML1.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/20, Error ellipse: s-maj=66.5km s-min=56.8km az=139.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.63**	**359**	Pn	P	16 57 56.7	-1.1
	0.2nm,0.3s,baz=166,slow=17,SNR=2.4						
NWAO				LR	LR	17 03 02.3	
	comp=Z,84nm,19.1s,baz=155,slow=33						
ASAR	**Alice Springs**	**28.87**	**32**	P	P	17 00 00.7	-0.5
	0.3nm,0.7s,baz=205,slow=7.5,SNR=5.4						
WRA	**Warramunga Arr**	**32.47**	**30**	P	P	17 00 33.0	+0.1
	0.4nm,0.7s,baz=201,slow=8.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**69.70**	**341**	P	P	17 05 12.1	-0.3
	0.6nm,0.8s,baz=196,slow=4.5,SNR=6.3						
YKA	**Yellowknife Ar**	**149.07**	**45**	PKPbc	PKPbc	17 13 49.5	-0.2
	0.3nm,0.6s,baz=270,slow=2.1,SNR=7.0						

IDC 21 16:59:26.7±1.8, 0°78'N×125°65'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, Error ellipse: s-maj=166.5km s-min=24.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**158**	P	P	17 04 25.2	-0.6
	0.5nm,0.4s,baz=336,slow=11,SNR=19						
ASAR	**Alice Springs**	**25.59**	**162**	P	P	17 04 58.2	+0.4
	0.2nm,0.3s,baz=342,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**59.38**	**327**	P	P	17 09 30.9	-0.1
	0.1nm,0.3s,baz=122,slow=6.0,SNR=3.5						

SZGRF ***21*** *17:08:37.6, 23°.07S×173°.22E, h33km, mb6.0, Southeast of Loyalty Islands*

NOU ***21*** *17:08:38.2±1.3, 19°.94S×170°.82E, h10km, MD3.7, ML3.2*

IDC ***21*** *17:08:39.2±0.4, 22°.62S×171°.00E, h0km, mb5.0/24, mb1 5.0/27, mb1mx5.0/28, mbtmp5.0/27, ML4.4/3, MS5.6/27, Ms1 5.6/27, ms1mx5.5/37, Error ellipse: s-maj=15.0km s-min=13.0km az=169.0*

LDG ***21*** *17:08:41.1±0.1, 21°.96S×171°.25E, h10km, Mb5.6/4, Ms5.8/10, Error ellipse: s-maj=10.7km s-min=3.7km az=172.0*

DJA ***21*** *17:08:42, 22°.60S×171°.10E, h17km, Mw5.9/51*

ISCJB ***21*** *17:08:42.8±0.1, 22°.64S±0°.03×170°.98E±0°.02, h30km, mb5.4/140, MS5.8/242, Error ellipse: s-maj=4.7km s-min=2.6km az=172.6*

NEIC ***21*** *17:08:43.0±0.1, 22°.69S×171°.04E, h24km, mb5.4/76, ME5.4, MS5.8/167, MW6.1, MW5.9, Error ellipse: s-maj=5.3km s-min=4.6km az=153.0 Broadband fault plane solution: P waves. NP1:φs100.00000°, δ70.00000°, λ90.00000°. NP2:φs280.00000°, δ20.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm10.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm190.0000°; Moment Tensor Solution. s49 Moment tensor: Scale 10^17 Nm; Mrr7.61; Mθθ-7.32; Mφφ-0.29; Mrθ4.35; Mθφ3.41; Mφr-1.95; Best double couple: Mo9.50000×10^17 NP1: φs291.00000°, δ30.00000°, λ88.00000°. NP2: φs113.00000°, δ60.00000°, λ91.00000°. Principal axes: T 8.9000, Plg74.0000°, Azm26.0000°; N 1.0800, Plg1.0000°, Azm292.0000°; P -9.9900, Plg15.0000°, Azm202.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

BJI ***21*** *17:08:43.5, 21°.79S×171°.42E, h25km, mB6.0/57, mb5.3/57, Ms5.9/67, Ms7 5.6/62*

MOS ***21*** *17:08:44.4±1.2, 22°.40S×170°.97E, h33km, mb5.6/49, MS5.8/62, Error ellipse: s-maj=9.3km s-min=8.2km az=127.1*

TEH ***21*** *17:08:45.0, 22°.73S×170°.98E, h35km, ML5.9*

BGS ***21*** *17:08:45.7±5.1, 22°.69S×171°.04E, h24km, mb5.4(NEIC)*

NEIC ***21*** *17:09:07.5±0.0, 22°.16S×170°.65E, h10km, Moment Tensor Solution. s169 Moment tensor: Scale 10^18Nm; Mrr1.45; Mθθ-1.29; Mφφ-0.16; Mrθ1.23; Mθφ0.41; Mφr-0.90; Best double couple: Mo2.10000×10^18 NP1:φs121.00000°, δ69.00000°, λ99.00000°. NP2:φs277.00000°, δ23.00000°, λ68.00000°. Principal axes: T 2.1400, Plg65.0000°, Azm46.0000°; N -0.1000, Plg8.0000°, Azm297.0000°; P -2.0400, Plg23.0000°, Azm203.0000°;*

ISC 21 17:08:43.6±0.3, 22°.68S±0°.04×171°.15E±0°.04, h29km±1km, h29km:pP-P, n1127, σ1°32/1304, mb5.4/136, MS5.8/244, 321C-270D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.98**	**277**	*eP*	**Pn**	**17 09 41.2**	**-1.5**
BAYA				*eS*	**Sn**	**17 10 25.3**	**-3.1**
BAYA				AMP		17 10 43.6	
	comp=Z,95nm,2.1s						
PLUM	**Mont Dore**	**4.19**	**275**	*eP*	**Pn**	**17 09 42.9**	**-2.7**
PLUM				*eS*	**Sn**	**17 10 32.6**	**-0.9**
PLUM				AMP		17 10 43.9	
	comp=Z,742nm,5.6s						
NORM	**Noumea**	**4.34**	**275**	*eP*	**Pn**	**17 09 45.0**	**-2.6**
NORM				*eS*	**Sn**	**17 10 35.1**	**-2.1**
NORM				AMP		17 10 52.9	
	comp=Z,1μm,8.5s						
DZM	**Mont Dzumac**	**4.40**	**277**	*e*Pn	**Pn**	**17 09 46.3**	**-2.2**
	comp=Z,357nm,0.2s						
DZM				*e*Sn	**Sn**	**17 10 34.2**	**-4.6**
	comp=Z,806nm,0.3s						
DZM				*e*LR	LR	17 11 01.9	
	comp=Z,79μm,21.8s						
DZM	**Mont Dzumac**	**4.40**	**277**	Pn	**Pn**	**17 09 47.1**	**-1.5**
	comp=Z,64nm,0.3s,baz=130,slow=11,SNR=348						
DZM				Sn	**Sn**	**17 10 41.4**	**+2.6**
	comp=Z,88nm,0.3s,baz=150,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**4.40**	**277**	Pn	**Pn**	**17 09 47.1**	**-1.5**
DZM				Sn	**Sn**	**17 10 41.4**	**+2.6**
NOUC	**Port Laguerre**	**4.52**	**276**	*e*P	**Pn**	**17 09 47.6**	**-2.6**
NOUC				*e*S	**Sn**	**17 10 38.8**	**-3.0**
NOUC				AMP		17 10 55.6	
	comp=Z,334nm,8.5s						
MSVF	**Nonsavu**	**8.13**	**54**	*e*P	Pn	17 10 46.7	+6.8
MSVF	**Nonsavu**	**8.13**	**54**	*e*Pn	Pn	17 10 46.7	+6.8
MSVF	**Nonsavu**	**8.13**	**54**	Pn	Pn	17 10 48.0	+8.1
	comp=Z,4μm,1.0s,SNR=53						
OUZ	**Ouahuta**	**12.68**	**171**	*e*Pn	**Pn**	**17 11 41.0**	**-1.0**
FUNA	**Funafuti**	**16.05**	**30**	*e*P	**P**	**17 12 31.8**	**+1.2**
	comp=Z,702nm,1.8s						
HIZ	**Hauiti**	**16.10**	**169**	PN	**P**	**17 12 30.5**	**-0.4**
URZ	**Urewera**	**16.35**	**163**	*e*P	**Pn**	**17 12 29.0**	**-2.1**
	comp=Z,469nm,1.4s						
HNR	**Honiara**	**17.00**	**319**	Pn	**Pn**	**17 12 38.8**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=226,slow=4.0,SNR=23						
HNR				LR	LR	17 18 05.0	
	comp=Z,11μm,21.3s,baz=140,slow=34						
HNR	**Honiara**	**17.00**	**319**	P	**Pn**	**17 12 38.8**	**-0.5**
HNR	**Honiara**	**17.00**	**319**	Pn	**Pn**	**17 12 38.8**	**-0.5**
BKZ	**Black Stump Fm**	**17.06**	**166**	PN	**P**	**17 12 44.4**	**+2.8**
KNZ	**Kokohu**	**17.22**	**163**	PN	**P**	**17 12 44.5**	**+1.2**
MRZ	**Mangatainoka R**	**18.32**	**169**	PN	**Pn**	**17 12 55.6**	**+0.1**
AFI	**Afiamalu**	**18.39**	**65**	P	**Pn**	**17 12 57.2**	**+0.5**
	comp=Z,8.2nm,0.3s,baz=252,slow=20,SNR=12						
AFI				LR	LR	17 18 36.9	
	comp=Z,13μm,20.3s,baz=72,slow=32						
AFI	**Afiamalu**	**18.39**	**65**	*e*P	**Pn**	**17 12 57.0**	**+0.3**
AFI	**Afiamalu**	**18.39**	**65**	*e*P	**Pn**	**17 12 57.0**	**+0.3**
EIDS	**Eidsvold**	**18.53**	**258**	*e*Pn	**P**	**17 12 57.2**	**-0.6**
	comp=Z,298nm,1.5s						
SNZO	**South Karori**	**18.82**	**172**	*e*Pn	**Pn**	**17 13 03.0**	**+1.4**
ARMA	**Armidale**	**19.07**	**242**	*e*P	**Pn**	**17 13 06.0**	**+1.1**
ARMA				*e*S	S	17 16 46.6	+7.9
ARMA	**Armidale**	**19.07**	**242**	*e*Pn	**Pn**	**17 13 05.7**	**+0.8**
KHZ	**Kahutara**	**19.79**	**175**	*e*P	**P**	**17 13 11.6**	**+0.1**
RIV	**Riverview**	**20.78**	**233**	*e*P	Pn	17 13 24.5	-0.4
RPZ	**Rata Peaks**	**20.98**	**180**	P	**P**	**17 13 25.0**	**+0.5**
	comp=Z,57nm,1.1s,baz=17,slow=6.1,SNR=11						
RPZ				LR	LR	17 20 50.4	
	comp=Z,15μm,18.2s,baz=267,slow=35						
RPZ	**Rata Peaks**	**20.98**	**180**	*e*P	Pn	17 13 25.9	-1.3
ODZ	**Otahua Downs**	**22.32**	**181**	*e*P	**P**	**17 13 38.9**	**+0.1**
CNB	**Canberra Magne**	**22.78**	**232**	*e*P	**P**	**17 13 45.1**	**+1.2**
	comp=Z,936nm,2.0s						
CNB				*e*S	**S**	**17 17 57.5**	**+6.3**
CAN	**Canberra**	**23.05**	**232**	*e*P	**P**	**17 13 47.0**	**+0.3**
CAN				pmax	pmax		
	comp=Z,628nm,1.9s						
CAN				MLR	MLR		
	comp=Z,25μm,19.0s						
CAN	**Canberra**	**23.05**	**232**	*e*P	**P**	**17 13 47.0**	**+0.3**
	comp=Z,628nm,1.9s						
CAN				LR	LR		
	comp=Z,25μm,19.0s						
CTA	**Charters Tower**	**23.32**	**272**	P	**P**	**17 13 47.5**	**-2.0**
	comp=Z,16nm,0.7s,baz=84,slow=12,SNR=18						
CTA				LR	LR	17 22 15.5	
	comp=Z,19μm,18.5s,baz=95,slow=35						
CTA	**Charters Tower**	**23.32**	**272**	*e*P	**P**	**17 13 50.0**	**+0.5**
	comp=Z,16nm,0.6s						
CTA				*e*S	**S**	**17 18 02.6**	**+2.2**
CTA	**Charters Tower**	**23.32**	**272**	P	**P**	**17 13 47.5**	**-2.0**
CTA	**Charters Tower**	**23.32**	**272**	P	**P**	**17 13 47.5**	**-2.0**
CTAO	**Charters Tower**	**23.32**	**272**	*e*P	**P**	**17 13 49.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,223nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,14μm,21.0s						
CTAO	**Charters Tower**	**23.32**	**272**	*e*P	**P**	**17 13 49.8**	**+0.3**
	comp=Z,223nm,1.6s						
CTAO				LR	LR		
	comp=Z,14μm,21.0s						
PMG	**Port Moresby**	**26.51**	**296**	P	**P**	**17 14 18.0**	**-0.8**
	comp=Z,43nm,0.9s,baz=131,slow=5.7,SNR=15						
PMG				LR	LR	17 23 14.1	
	comp=Z,20μm,19.5s,baz=102,slow=33						
PMG	**Port Moresby**	**26.51**	**296**	*ei*P	**P**	**17 14 18.0**	**-0.8**
PMG				pmax	pmax		
	comp=Z,65nm,1.0s						
PMG	**Port Moresby**	**26.51**	**296**	*e*P	**P**	**17 14 18.6**	**-0.2**
	comp=Z,76nm,0.9s						
PMG	**Port Moresby**	**26.51**	**296**	P	**P**	**17 14 19.0**	**+0.2**
	comp=Z,64nm,1.0s,comp=Z,3μmcomp=Z,11μm						
TOO	**Toolangi**	**26.59**	**230**	*e*P	**P**	**17 14 19.7**	**+0.3**
	comp=Z,107nm,0.7s						
TOO				*e*S	**S**	**17 18 56.5**	**+4.2**
RAR	**Rarotonga**	**26.99**	**92**	LR	LR	17 22 33.2	
	comp=Z,4μm,21.6s,baz=264,slow=31						
STKA	**Stephens Creek**	**27.75**	**244**	P	**P**	**17 14 28.6**	**-1.2**
	comp=Z,11nm,1.0s,baz=66,slow=10,SNR=8.4						
STKA				LR	LR	17 24 42.3	
	comp=Z,20μm,19.3s,baz=73,slow=35						
STKA	**Stephens Creek**	**27.75**	**244**	*e*P	**P**	**17 14 29.8**	**0.0**
	comp=Z,59nm,1.9s						
STKA				*e*S	**S**	**17 19 06.6**	**-4.1**
STKA	**Stephens Creek**	**27.75**	**244**	*e*P	**P**	**17 14 29.3**	**-0.5**
STKA				pmax	pmax		
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**27.75**	**244**	*e*P	**P**	**17 14 29.3**	**-0.5**
	comp=Z,24nm,1.4s						
COEN	**Coen**	**27.90**	**283**	*e*P	**P**	**17 14 32.0**	**+0.7**
	comp=Z,398nm,1.0s						
MOO	**Moorlands**	**28.05**	**220**	*e*P	**P**	**17 14 33.3**	**+0.9**
	comp=Z,214nm,1.1s						
TAU	**Tasmania Unive**	**28.26**	**219**	PFAKE		17 14 50.0	+16
TAU				LR	LR		
	comp=Z,27μm,19.0s						
BBOO	**Buckleboo**	**32.53**	**244**	*e*P	**P**	**17 15 10.2**	**-1.9**
	comp=Z,1μm,1.1s						
AS31	**Alice Springs**	**34.19**	**261**	*e*P	**P**	**17 15 25.5**	**-1.3**
ASAR	**Alice Springs**	**34.19**	**261**	P	**P**	**17 15 25.8**	**-1.0**
	comp=Z,16nm,0.8s,baz=87,slow=9.0,SNR=132						
ASAR				ScP	**ScP**	**17 21 49.1**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=105,slow=4.2,SNR=3.7						
ASAR				PKiKP	**PKiKP**	**17 25 26.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=80,slow=1.6,SNR=4.3						
ASAR	**Alice Springs**	**34.19**	**261**	P	**P**	**17 15 25.8**	**-1.0**
ASAR	**Alice Springs**	**34.19**	**261**	P	**P**	**17 15 25.8**	**-1.0**
ASAR				ScP	**ScP**	**17 21 49.1**	**+2.7**
ASAR				PKiKP	**PKiKP**	**17 25 26.9**	**-0.3**
WB2	**Warramunga Arr**	**34.34**	**268**	*e*P	**P**	**17 15 25.6**	**-2.5**
WRAB	**Tennant Creek**	**34.34**	**268**	*e*P	**P**	**17 15 25.6**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,103nm,1.5s						
WRAB				MLR	MLR		
	comp=Z,19μm,19.0s						
WRAB	**Tennant Creek**	**34.34**	**268**	*e*P	**P**	**17 15 25.6**	**-2.5**
	comp=Z,103nm,1.5s						
WRAB				LR	LR		
	comp=Z,19μm,19.0s						
WRAB	**Tennant Creek**	**34.34**	**268**	P	**P**	**17 15 26.0**	**-2.0**
	comp=Z,73nm,1.2s,SNR=15						
WRA	**Warramunga Arr**	**34.35**	**268**	P	**P**	**17 15 25.2**	**-2.9**
	comp=Z,3.8nm,0.5s,baz=97,slow=8.3,SNR=69						
WRA				ScP	**ScP**	**17 21 51.2**	**+4.2**
	comp=Z,1.6nm,1.0s,baz=99,slow=4.6,SNR=3.6						
WRA				PKiKP	**PKiKP**	**17 25 27.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=99,slow=3.0,SNR=5.4						
WRA				LR	LR	17 29 28.8	
	comp=Z,21μm,18.5s,baz=105,slow=36						
WRA	**Warramunga Arr**	**34.35**	**268**	P	**P**	**17 15 25.2**	**-2.9**
WRA	**Warramunga Arr**	**34.35**	**268**	P	**P**	**17 15 25.2**	**-2.9**
WRA				ScP	**ScP**	**17 21 51.1**	**+4.2**
WRA				PKiKP	**PKiKP**	**17 25 27.8**	**+0.3**
JAY	**Jayapura**	**35.69**	**300**	P	P	17 15 46.0	+6.3
TBI	**Tubuai**	**36.19**	**99**	*e*S	S	17 21 28.9	+6.7
	comp=Z,2μm,26.2s						
TBI				*e*LQ	LQ	17 23 46.4	
	comp=Z,10μm,28.0s						
TBI				*e*LR	LR	17 25 25.5	
	comp=Z,4μm,29.2s						
PPT2	**Papeete2**	**37.14**	**89**	*e*S	**S**	**17 21 42.6**	**+5.5**
	comp=Z,4μm,26.2s						
PPT2				*e*LR	LR	17 26 08.7	
	comp=Z,5μm,22.8s						
SMPI	**Sarmi**	**37.60**	**299**	P	P	17 15 59.4	+3.4
	comp=Z,208nm,0.9s,comp=Z,3μm						
FORT	**Forrest**	**39.13**	**249**	*e*P	**P**	**17 16 07.6**	**-1.1**
	comp=Z,40nm,0.7s						
FORT				*e*S	**S**	**17 22 11.5**	**+4.7**
FORT	**Forrest**	**39.13**	**249**	*e*P	**P**	**17 16 07.4**	**-1.3**
	comp=Z,69nm,0.8s						
MTN	**Manton Dam**	**39.24**	**277**	*e*P	**P**	**17 16 08.6**	**-1.2**
XMAS	**Kiritimati**	**39.27**	**55**	PFAKE		17 16 20.0	+10
XMAS				LR	LR		
	comp=Z,11μm,20.0s						
BAKI	**Biak**	**40.19**	**297**	P	**P**	**17 16 19.6**	**+1.9**
	comp=Z,324nm,1.1s,comp=Z,6μm						
TLE	**Tual**	**40.74**	**289**	P	**P**	**17 16 22.8**	**+0.5**
	comp=Z,246nm,0.8s,comp=Z,6μm						
WAKE	**Wake Island**	**41.94**	**354**	PFAKE		17 16 40.0	+8.2
WAKE				LR	LR		
	comp=Z,11μm,19.0s						
FITZ	**Fitzroy Crossi**	**42.78**	**267**	P	**P**	**17 16 37.8**	**-1.1**
	comp=Z,42nm,0.7s,baz=118,slow=7.5,SNR=44						
FITZ				LR	LR	17 34 39.5	
	comp=Z,13μm,18.2s,baz=103,slow=37						
FITZ	**Fitzroy Crossi**	**42.78**	**267**	*e*P	**P**	**17 16 38.2**	**-0.7**
	comp=Z,75nm,0.7s						
FITZ				*e*S	**S**	**17 23 02.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**42.78**	**267**	*e*P	**P**	**17 16 38.2**	**-0.7**
	comp=Z,44nm,0.8s						
BNDI	**Bandanaira**	**43.75**	**288**	P	**P**	**17 16 48.2**	**+1.4**
	comp=Z,188nm,1.6s,comp=Z,3μmcomp=Z,8μm						
SWI	**Sorong**	**44.41**	**294**	P	**P**	**17 16 51.8**	**-0.3**
	comp=Z,147nm,1.5s,comp=Z,3μm						
MBWA	**Marble Bar**	**47.53**	**262**	*e*P	**P**	**17 17 15.5**	**-1.2**
	comp=Z,102nm,1.3s						
MBWA				LR	LR		
	comp=Z,12μm,20.0s						
LBMI	**Labuha**	**47.74**	**291**	P	**P**	**17 17 20.3**	**+2.0**
	comp=Z,97nm,1.7s,comp=Z,3μm						
KLBR	**Kellerberrin**	**47.95**	**247**	*e*P	**P**	**17 17 18.5**	**-1.3**
	comp=Z,128nm,1.3s						
DRV	**Dumont d'Urvil**	**48.20**	**196**	P	P	17 17 12.0	-9.1
DRV	**Dumont d'Urvil**	**48.20**	**196**	PP	PP	17 19 08.0	-5.4
DRV				S	**S**	**17 24 13.0**	**-5.3**
DRV				SS	**SS**	**17 27 52.0**	**+4.5**
DRV				R		17 31 00.0	
NWAO	**Narrogin (SRO)**	**48.33**	**245**	P	**P**	**17 17 21.6**	**-1.0**
	comp=Z,19nm,1.0s,baz=72,slow=20,SNR=4.3						
NWAO				LR	LR	17 36 03.6	
	comp=Z,21μm,22.0s,baz=96,slow=34						
NWAO	**Narrogin (SRO)**	**48.33**	**245**	*e*P	**P**	**17 17 22.0**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,80nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.33**	**245**	*e*P	**P**	**17 17 22.0**	**-0.7**
	comp=Z,80nm,1.2s						
TNTI	**Ternate**	**48.58**	**293**	P	P	17 17 32.0	+7.2
	comp=Z,197nm,0.9s,comp=Z,3μm						
RKT	**Rikitea**	**49.39**	**102**	*e*S	S	17 24 43.5	+7.3
	comp=Z,3μm,33.8s						
RKT				*e*LQ	LQ	17 29 13.5	
	comp=Z,8μm,29.5s						
RKT				*e*LR	LR	17 31 45.4	
	comp=Z,3μm,26.8s						
MNI	**Manado**	**51.08**	**292**	P	**P**	**17 17 43.9**	**0.0**
	comp=Z,168nm,1.0s,comp=Z,3μm						
KMSI	**Cibinong**	**51.39**	**290**	P	**P**	**17 17 46.8**	**+0.7**
	comp=Z,269nm,1.1s,comp=Z,3μm						
LUWI	**Luwuk**	**51.66**	**288**	P	**P**	**17 17 49.4**	**+1.2**
	comp=Z,230nm,1.1s,comp=Z,3μm						
MIDW	**Midway**	**51.80**	**13**	PFAKE		17 18 00.0	+11
MIDW				LR	LR		
	comp=Z,8μm,19.0s						
BKSI	**Bulukumba**	**52.14**	**281**	P	**P**	**17 17 51.9**	**+0.1**
	comp=Z,49nm,1.3s,comp=Z,1μm						
KAPI	**Kappang**	**52.60**	**281**	P	**P**	**17 17 53.3**	**-1.9**
	comp=Z,66nm,1.2s,baz=128,slow=5.6,SNR=20						
KAPI	**Kappang**	**52.60**	**281**	*e*P	**P**	**17 17 54.6**	**-0.6**
	comp=Z,100nm,1.0s						
KAPI				LR	LR		
	comp=Z,7μm,19.0s						
SPSI	**Sidrap Palu**	**53.03**	**283**	P	**P**	**17 17 58.1**	**-0.2**
	comp=Z,63nm,1.3s,comp=Z,2μm						
MRSI	**Marisa**	**53.12**	**289**	P	**P**	**17 17 58.4**	**-0.6**
	comp=Z,44nm,1.3s,comp=Z,1μm						
KIP	**Kipapa**	**53.15**	**37**	PFAKE		17 18 10.0	+11
KIP				LR	LR		
	comp=Z,10μm,20.0s						
DAV	**Davao City (W)**	**53.50**	**298**	PFAKE		17 18 10.0	+8.2
DAV				LR	LR		
	comp=Z,3μm,20.0s						
MTNI	**Mataram**	**54.46**	**276**	P	**P**	**17 18 09.2**	**+0.4**
CTBH	**Cotabato--PC H**	**54.67**	**297**	*ii*P	**P**	**17 18 10.0**	**-0.4**
VNDA	**Vanda**	**55.08**	**182**	*e*P	**P**	**17 18 09.8**	**-2.6**
VNDA				MLR	MLR		
	comp=Z,9μm,19.0s						
VNDA	**Vanda**	**55.08**	**182**	*e*P	**P**	**17 18 09.8**	**-2.6**
VNDA				LR	LR		
	comp=Z,9μm,19.0s						
SBA	**Scott Base**	**55.27**	**181**	*e*P	**P**	**17 18 12.8**	**-0.9**
SBA				MLR	MLR		
	comp=Z,6μm,20.0s						
SBA	**Scott Base**	**55.27**	**181**	*e*P	**P**	**17 18 12.8**	**-0.9**
SBA				LR	LR		
	comp=Z,6μm,20.0s						
KBKI	**Kotabaru**	**56.56**	**282**	P	**P**	**17 18 24.5**	**+0.5**
CBIJ	**Chichi jima**	**56.86**	**329**	P	**P**	**17 18 25.5**	**-0.2**
	comp=Z,29nm,0.5s,baz=108,slow=20,SNR=4.9						
CBIJ				LR	LR	17 39 25.6	
	comp=Z,5μm,20.8s,baz=14,slow=32						
CBIJ	**Chichi jima**	**56.86**	**329**	P	**P**	**17 18 25.5**	**-0.2**
SMKI	**Samarinda**	**56.87**	**285**	P	**P**	**17 18 29.0**	**+2.9**
CASY	**Casey**	**

comp=Z,131nm,1.2s
QSPA LR LR
comp=Z,4μm,19.0s
YHNB Yeheng 67.45 311 *e*P **P 17 19 37.4 +0.4**
comp=Z,91nm,1.1s
YHNB LR LR
comp=Z,3μm,19.0s
TATO Taipei 67.57 312 PFAKE 17 19 50.0 +12
TATO LR LR
comp=Z,4μm,19.0s
KSI Kapahiang 68.83 275 P **P 17 19 45.3 -0.6**
comp=Z,124nm,0.9s,comp=Z,3μm
ERM Erimo 69.38 338 PFAKE 17 20 00.0 +11
ERM LR LR
comp=Z,10μm,20.0s
QZH Quanzhou 69.58 310⇑ *i*P **P 17 19 51.1 +1.0**
QZH S **S 17 29 01.6 +5.1**
QZH pmax pmax
comp=Z,80nm,1.3s
QZH pmax pmax
comp=Z,2μm,8.0s
QZH LR LR
comp=N,2μm,14.7s
QZH LR LR
comp=E,2μm,13.6s
QZH LR LR
comp=Z,8μm,39.2s
MYKOM Kota Tinggi 69.86 281 P **P 17 19 52.9 +0.8**
YUK Yuzh-Kuril'sk 70.32 341 *c i*P P 17 19 47.7 -6.6
YUK *i* 17 22 31.2
YUK *i* PPP PPP 17 24 08.0
YUK *i* S **S 17 28 59.3 -5.2**
YUK *i* SS **SS 17 33 36.8 +0.8**
YUK pmax pmax
comp=Z,2μm,6.7s
YUK pmax pmax
comp=E,115nm,1.1s
YUK pmax pmax
comp=N,89nm,1.1s
YUK pmax pmax
comp=Z,127nm,1.1s
KGM Kluang 70.43 281 P **P 17 19 56.7 +1.0**
COCO West Island 71.06 264 PFAKE 17 20 10.0 +10
COCO LR LR
comp=Z,9μm,20.0s
ASAJ Asahikawa 71.44 339 LR LR 17 48 09.0
comp=Z,8μm,20.6s,baz=165,slow=33
ASAJ Asahikawa 71.44 339 *e*P **P 17 20 01.5 +0.5**
comp=Z,22nm,1.4s
SSE Sheshan 71.78 316⇓ P **P 17 20 04.4 +1.0**
SSE PcP **PcP 17 20 23.0 +0.7**
SSE S **S 17 29 22.4 +0.4**
SSE pmax pmax
comp=Z,24nm,1.2s
SSE pmax pmax
comp=Z,560nm,6.1s
SSE LR LR
comp=N,2μm,19.4s
SSE LR LR
comp=E,1μm,19.4s
SSE LR LR
comp=Z,3μm,20.1s
BKNI Bangkinang 71.82 278 P **P 17 20 06.0 +1.9**
GZH Guangzhou 72.32 305 P **P 17 20 08.4 +1.5**
GZH S **S 17 29 33.5 +5.0**
GZH LR LR
comp=N,690nm,16.2s
GZH LR LR
comp=E,1μm,18.4s
GZH LR LR
comp=Z,2μm,20.5s
KSRS Korea Array 72.34 325 P **P 17 20 06.6 0.0**
comp=Z,14nm,1.1s,baz=146,slow=6.5,SNR=34
KSRS LR LR 17 51 04.3
comp=Z,4μm,19.1s,baz=134,slow=35
KSAR Wonju Array Be 72.35 325 P **P 17 20 06.6 -0.1**
KSAR Wonju Array Be 72.35 325 P **P 17 20 06.6 -0.1**
FRIM Kepong 72.48 281 P **P 17 20 08.2 +0.1**
QIZ Qiongzhong 72.83 300 P **P 17 20 10.8 +0.8**
QIZ pP **pP 17 20 20.8 +1.6**
QIZ S **S 17 29 36.0 +1.5**
QIZ sS **sS 17 29 48.0 -1.7**
QIZ pmax pmax
comp=Z,42nm,1.2s
QIZ pmax pmax
comp=Z,1μm,8.3s
QIZ LR LR
comp=N,840nm,19.3s
QIZ LR LR
comp=Z,1μm,21.3s
QIZ Qiongzhong 72.83 300 *e*P **P 17 20 11.2 +1.2**
comp=Z,70nm,1.3s
QIZ LR LR
comp=Z,1μm,20.0s
INCN Inchon 73.05 324 *e*P **P 17 20 10.8 -0.2**
comp=Z,96nm,1.3s
INCN LR LR
comp=Z,3μm,20.0s
IPM Ipoh 73.54 282 P **P 17 20 14.8 +0.4**
YSS Yuzh-Sakhalins 73.90 340⇑ *e*P **P 17 20 16.5 +0.8**
YSS *e**PP **pP 17 20 27.0 +2.1**
YSS *e* 17 20 29.3
YSS *e* 17 20 33.0
YSS *e*S **S 17 29 50.0 +4.5**
YSS *e*PS **PnS 17 30 12.0 -9.4**
YSS *e*PPS PPS 17 30 27.0
YSS pmax pmax
comp=Z,20nm,0.6s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS smax smax
comp=E,1μm,12.0s
YSS MLR MLR
comp=N,4μm,19.0s
YSS MLR MLR
comp=Z,4μm,19.0s
YSS MLR MLR
comp=E,2μm,16.0s
YSS Yuzh-Sakhalins 73.90 340 *e*P **P 17 20 14.6 -1.0**
comp=E,44nm,0.9s
YSS LR LR
comp=Z,3μm,20.0s
NJ2 Nanjing 73.91 316 *e*P **P 17 20 15.9 -0.1**
NJ2 pP **pP 17 20 21.5 -3.8**
NJ2 sP **sP 17 20 30.8 +2.1**
NJ2 S **S 17 29 47.5 +1.3**
NJ2 pmax pmax
comp=Z,40nm,1.1s
NJ2 pmax pmax
comp=Z,1μm,8.2s
NJ2 LR LR
comp=N,2μm,23.9s
NJ2 LR LR
comp=E,2μm,21.2s
NJ2 LR LR
comp=Z,2μm,23.7s
FX1 Attu Island--F 75.26 1 LR LR 17 48 02.7
comp=Z,5μm,21.0s,baz=180,slow=31
USRK Ussuriysk Arra 75.59 332 P **P 17 20 25.1 -0.4**
comp=Z,13nm,1.1s,baz=132,slow=5.4,SNR=12
USRK LR LR 17 50 05.1
comp=Z,2μm,20.2s,baz=122,slow=33
MAW Mawson 75.93 202 LR LR 17 52 06.1
comp=Z,6μm,18.5s,baz=90,slow=34
MAW Mawson 75.93 202 *e*P **P 17 20 27.6 +0.4**
MAW Mawson 75.93 202 *e*P **P 17 20 27.6 +0.4**
WHN Wuhan 75.97 312⇓ P **P 17 20 28.3 +0.3**
WHN LR LR
comp=N,2μm,12.1s
WHN LR LR
comp=E,4μm,17.2s
WHN LR LR
comp=Z,6μm,18.6s
PET Petropavlovsk 76.16 352 *e*P **P 17 20 30.4 +1.9**
PET *e*S **S 17 30 12.1 +1.8**
PET *e*PS **PnS 17 30 51.4 +0.9**
PET *e*PPS PPS 17 31 04.1
PET pmax pmax
comp=Z,28nm,0.7s
PET pmax pmax
comp=Z,2μm,5.7s
PET pmax pmax
comp=Z,2μm,16.9s
PET Petropavlovsk 76.16 352 PFAKE 17 20 40.0 +11
PET LR LR
comp=Z,7μm,19.0s

PETK Petropavlovsk- 76.37 352 P **P 17 20 29.5 -0.2**
comp=Z,13nm,0.9s,baz=144,slow=5.6,SNR=29
PETK LR LR 17 50 40.8
comp=Z,5μm,19.6s,baz=154,slow=33
PETK Petropavlovsk- 76.37 352 P **P 17 20 29.5 -0.2**
PETK Petropavlovsk- 76.37 352 P **P 17 20 29.5 -0.2**
DL2 Dalian 76.82 322⇑ *i*P **P 17 20 32.8 +0.2**
DL2 S **S 17 30 20.8 +2.6**
DL2 pmax pmax
comp=Z,40nm,1.2s
DL2 pmax pmax
comp=Z,520nm,5.5s
DL2 LR LR
comp=E,1μm,19.1s
DL2 LR LR
comp=Z,1μm,21.5s
MDJ Mudanjiang 76.98 331 P **P 17 20 33.0 -0.4**
MDJ pP **pP 17 20 39.5 -3.2**
MDJ sP **sP 17 20 42.3 -3.9**
MDJ S **S 17 30 19.8 0.0**
MDJ sS **sS 17 30 30.9 -4.2**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ pmax pmax
comp=Z,600nm,5.5s
MDJ LR LR
comp=N,2μm,21.9s
MDJ LR LR
comp=E,1μm,20.5s
MDJ LR LR
comp=Z,4μm,20.5s
MDJ Mudanjiang 76.98 331 *e*P **P 17 20 33.6 +0.2**
comp=Z,39nm,1.4s
MDJ LR LR
comp=Z,4μm,21.0s
TIA Tai'an 77.69 318 P **P 17 20 37.5 -0.1**
TIA S **S 17 30 32.0 +4.2**
TIA SS **SS 17 35 23.3 -5.3**
TIA pmax pmax
comp=Z,80nm,1.1s
TIA pmax pmax
comp=Z,2μm,14.5s
TIA LR LR
comp=N,4μm,16.7s
TIA LR LR
comp=E,3μm,16.8s
TIA LR LR
comp=Z,5μm,17.1s
SNY Shenyang 77.82 326⇑ P **P 17 20 36.3 -1.9**
SNY S S 17 30 18.3 -11
SNY pmax pmax
comp=Z,13nm,1.9s
SNY pmax pmax
comp=Z,1μm,14.5s
SNY LR LR
comp=N,2μm,19.6s
SNY LR LR
comp=E,1μm,19.2s
SNY LR LR
comp=Z,3μm,19.8s
HABR Khabarovsk 77.85 336 *d i*P **P 17 20 36.6 -1.6**
HABR *e* 17 20 45.8
HABR *e* 17 23 32.5
HABR *e*S **S 17 30 25.3 -3.6**
HABR *e*S **SKSac 17 30 46.2 -3.5**
HABR *e* 17 30 50.3
HABR SS **SS 17 35 27.8 -2.7**
HABR pmax pmax
comp=Z,33nm,1.3s
HABR pmax pmax
comp=E,33nm,1.8s
HABR pmax pmax
comp=N,9.0nm,1.3s
HABR MLR MLR
comp=N,1μm,16.0s
HABR MLR MLR
comp=E,692nm,13.0s
HABR MLR MLR
comp=Z,2μm,18.0s
CN2 Changchun 78.31 328⇑ P **P 17 20 39.8 -1.1**
CN2 *e*sP **sP 17 20 54.1 +0.5**
CN2 *e*S **S 17 30 32.9 -1.2**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,1μm,12.0s
CN2 LR LR
comp=N,3μm,21.0s
CN2 LR LR
comp=E,2μm,21.0s
CN2 LR LR
comp=Z,3μm,21.0s
ENH Enshi 79.22 309 *e*P **P 17 20 45.9 -0.4**
comp=Z,54nm,1.0s
ENH LR LR
comp=Z,2μm,20.0s
GYA Guiyang 79.24 305 P **P 17 20 46.8 +0.3**
GYA pP **pP 17 20 57.1 +1.2**
GYA sP **sP 17 21 01.0 +1.7**
GYA PP **PP 17 23 51.6 +4.9**
GYA S **S 17 30 48.8 +3.7**
GYA SKS **SKSac 17 30 57.1 -3.8**
GYA pmax pmax
comp=Z,120nm,1.1s
GYA pmax pmax
comp=Z,850nm,6.8s
GYA LR LR
comp=N,1μm,17.6s
GYA LR LR
comp=E,1μm,19.8s
GYA LR LR
comp=Z,2μm,19.5s
KLR Kul'dur 79.73 335 *e*P P 17 20 45.0 -3.5
KLR *e*S **S 17 30 54.0 +5.0**
KLR *e*SS **SS 17 36 00.0 +1.3**
KLR pmax pmax
comp=Z,420nm,2.8s
KLR pmax pmax
comp=Z,2μm,13.5s
PAF Port-aux-Franc 79.90 221 PFAKE 17 21 00.0 +10
PAF LR LR
comp=Z,9μm,20.0s
BJT Baijiatuau 80.71 320 *e*P **P 17 20 53.6 -0.4**
BJT pmax pmax
comp=Z,29nm,0.8s
BJT MLR MLR
comp=Z,4μm,22.0s
BJT Baijiatuau 80.71 320 *e*P **P 17 20 53.6 -0.4**
comp=Z,29nm,0.8s
BJT LR LR
comp=Z,4μm,22.0s
BJI Beijing 80.72 320 P **P 17 20 54.3 +0.3**
BJI S **S 17 31 03.1 +3.3**
BJI pmax pmax
comp=Z,24nm,0.8s
BJI pmax pmax
comp=Z,1μm,5.1s
BJI LR LR
comp=N,3μm,20.4s
BJI LR LR
comp=E,4μm,21.6s
BJI LR LR
comp=Z,4μm,23.3s
CM31 Chiang Mai Arr 81.53 294 *e*P **P 17 21 00.7 +1.8**
comp=Z,66nm,1.2s
CM31 LR LR
comp=Z,2μm,20.0s
CMAR Chiang Mai Arr 81.53 294 P **P 17 20 59.8 +0.9**
comp=Z,32nm,1.1s,baz=134,slow=4.0,SNR=123
CMAR PKKPbc **PKKPbc 17 39 29.4 -2.7**
comp=Z,0.8nm,0.4s,baz=286,slow=5.3,SNR=5.3
CMAR Chiang Mai Arr 81.53 294 P **P 17 20 59.8 +0.9**
CMAR Chiang Mai Arr 81.53 294 P **P 17 20 59.8 +0.9**
CMAR PKKPbc **PKKPbc 17 39 29.4 -2.7**
KMI Kunming 81.59 302⇑ P **P 17 21 01.0 +1.6**
KMI pP **pP 17 21 11.9 +3.2**
KMI PP **PP 17 24 11.1 +4.7**
KMI S **S 17 31 07.4 -2.6**
KMI SKS **SKSac 17 31 13.4 -4.1**
KMI sS **ScS 17 31 27.3 +0.1**
KMI SS **SS 17 36 30.0 +2.0**
KMI pmax pmax
comp=Z,65nm,1.4s
KMI pmax pmax
comp=Z,1μm,5.5s
KMI LR LR
comp=N,2μm,17.6s
KMI LR LR
comp=E,2μm,16.4s
KMI LR LR
comp=Z,2μm,17.6s
CHTO Chiang Mai 81.69 294 *e*P **P 17 21 01.3 +1.6**
CHTO pmax pmax
comp=Z,62nm,1.1s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 81.69 294 *e*P **P 17 21 01.3 +1.6**
comp=Z,62nm,1.1s
CHTO LR LR
comp=Z,2μm,20.0s
XAN Xi'an 81.73 312 P **P 17 20 59.3 -0.4**
XAN pP **pP 17 21 07.3 -1.7**
XAN sP **sP 17 21 10.4 -2.1**
XAN PP PP 17 24 12.4 +5.2
XAN S **SKSac 17 31 15.8 -1.9**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,320nm,8.0s
XAN LR LR
comp=N,1μm,16.4s
XAN LR LR
comp=E,600nm,17.4s
XAN LR LR
comp=Z,690nm,18.2s
SYO Syowa Base 82.14 196⇓ *e*P **P 17 21 00.0 -1.2**
PMSA Palmer Station 83.08 159 PFAKE 17 21 20.0 +14
PMSA LR LR
comp=Z,3μm,20.0s
CD2 Chengdu 83.73 307 P **P 17 21 10.6 +0.5**
CD2 pP **pP 17 21 21.6 +2.1**
CD2 sP **sP 17 21 25.8 +2.9**
CD2 PP **PP 17 24 25.8 +2.2**
CD2 SKS **SKSac 17 31 26.9 -4.2**
CD2 S **S 17 31 29.8 -1.5**
CD2 sS **sS 17 31 48.1 +1.3**
CD2 SS **SS 17 37 00.4 +1.2**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,1μm,7.7s
CD2 LR LR
comp=N,2μm,17.8s
CD2 LR LR
comp=Z,2μm,21.4s
HHC Hu-ho-hao-te 83.98 319⇑ P **P 17 21 11.8 +0.6**
HHC pP **pP 17 21 22.1 +1.5**
HHC sP **sP 17 21 26.0 +2.0**
HHC PP **PP 17 24 28.5 +3.0**
HHC S **S 17 31 33.3 -0.2**
HHC sS **sS 17 31 49.9 +0.9**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,1μm,6.0s
HHC LR LR
comp=N,2μm,16.7s
HHC LR LR
comp=E,2μm,17.1s
HHC LR LR
comp=Z,3μm,17.3s
BTO Baotou 84.78 318 *e*P **P 17 21 14.6 -0.7**
HIA Hailar 84.97 329 *e*P **P 17 21 13.7 -2.2**
HIA pmax pmax
comp=Z,9.0nm,1.1s
HIA MLR MLR
comp=Z,4μm,22.0s
HIA Hailar 84.97 329 *e*P **P 17 21 13.7 -2.2**
comp=Z,9.5nm,1.1s
HIA LR LR
comp=Z,4μm,22.0s
NVL N'lazarevskaya 85.68 187⇓ *i*P P 17 21 23.7 +4.4
NVL *e**PP pP 17 21 31.2 +2.5
NVL *e**SP sP 17 21 37.4 +5.3
NVL *e* 17 24 40.1
NVL *i* 17 26 42.1
NVL *e*S **SKSac 17 31 42.1 -0.3**
NVL *e*SSS SSS 17 41 02.7
NVL MLR MLR
comp=Z,7μm,19.0s
MAIT Maitri 85.68 187 *e*P **P 17 21 19.6 +0.3**
KDAK Kodiak Island 85.69 19 LR LR 17 56 13.9
comp=Z,4μm,19.6s,baz=134,slow=33
SNAA Sanae 85.81 182 *e* P 17 21 15.9 -4.1
SNAA Sanae 85.81 182 *e*P P 17 21 15.4 -4.6
SNAA pmax pmax
comp=Z,36nm,1.2s
SNAA Sanae 85.81 182 *e*P P 17 21 15.4 -4.6
comp=Z,36nm,1.2s
VNA3 Neumayer Olymp 86.33 180 *e* **P 17 21 22.2 -0.3**
LZH Lanzhou 86.34 312⇑ P **P 17 21 24.0 +0.7**
LZH pP **pP 17 21 33.3 +0.6**
LZH sP **sP 17 21 37.1 +1.0**
LZH PP **PP 17 24 47.0 +2.1**
LZH SKS **SKSac 17 31 42.0 -5.8**
LZH S **S 17 32 00.1 +2.9**
LZH pmax pmax
comp=Z,89nm,1.1s
LZH pmax pmax
comp=Z,950nm,5.0s
LZH LR LR
comp=N,2μm,15.6s
LZH LR LR
comp=E,2μm,17.4s
LZH LR LR
comp=Z,2μm,18.9s
SEY Seymchan 86.61 352⇑ *i*P **P 17 21 22.9 -0.8**
BSC Santa Cruz Isl 86.62 51⇓ P **P 17 21 25.5 +1.0**
baz=87
BSC ⇓P **P 17 21 25.5 +1.0**
baz=87
BSC ⇓P **P 17 21 25.5 +1.0**
baz=87
VNA2 Neumayer--Watz 86.65 180 *e* **P 17 21 24.0 -0.1**
VNA2 *e* 17 21 35.1
VNA2 *e* 17 24 45.9
VNA2 *e* 17 26 30.1
SAO San Andreas Ge 86.76 48 *e*P **P 17 21 25.2 +0.1**
SAO pmax pmax
comp=Z,25nm,1.1s
SAO San Andreas Ge 86.76 48 *e*P **P 17 21 25.2 +0.1**
comp=Z,25nm,1.1s
SBC Santa Barbara 86.79 51⇑ P **P 17 21 26.2 +0.9**
baz=87
SBC ⇑P **P 17 21 26.2 +0.9**
baz=87
SBC ⇑P **P 17 21 26.2 +0.9**
baz=87
KCPM Cahto Peak 86.88 45 *e*P **P 17 21 27.2 +1.5**
comp=Z,31nm,1.2s
SCI San Clemente I 86.91 52⇑ P **P 17 21 26.7 +0.8**
baz=87
SCI ⇑P **P 17 21 26.7 +0.8**
baz=87
SCI ⇑P **P 17 21 26.7 +0.8**
baz=87
VNA1 Neumayer--Stat 86.93 180 *e* **P 17 21 26.1 +0.7**
PKM Peak Mountain 86.94 50⇓ P **P 17 21 26.7 +0.4**
baz=87,SNR=8.9
PKM ⇓P **P 17 21 26.7 +0.4**
baz=87,SNR=8.9
PKM ⇓P **P 17 21 26.7 +0.4**
baz=87,SNR=8.9
KIPM Iron Peak 87.02 45 *e*P **P 17 21 27.2 +0.8**
comp=Z,39nm,1.1s
SMMC Simmler 87.02 50⇓ P **P 17 21 27.6 +1.1**
baz=87
SMMC ⇓P **P 17 21 27.6 +1.1**
baz=87
SMMC ⇓P **P 17 21 27.6 +1.1**
baz=87
BLG Laguna Peak 87.09 51⇓ P **P 17 21 27.4 +0.6**
baz=87
BLG ⇓P **P 17 21 27.4 +0.6**
baz=87
BLG ⇓P **P 17 21 27.4 +0.6**
baz=87
GAMB Gambell 87.21 8 *e*P **P 17 21 25.9 -0.6**
comp=Z,22nm,1.3s
CIS Catalina Islan 87.22 52⇑ P **P 17 21 27.7 +0.2**
baz=88
CIS ⇑P **P 17 21 27.7 +0.2**

	baz=88								
CIS				⇑P		**P**	**17 21 27.7**	**+0.2**	
	baz=88								
KHMM	**Horse Mountain**	**87.43**	**44**	*e*P		**P**	**17 21 28.9**	**+0.4**	
	comp=Z,19nm,0.8s								
FMP	**Fort Macarthur**	**87.45**	**52**	⇓P		**P**	**17 21 29.1**	**+0.6**	
	baz=88								
FMP				⇓P		**P**	**17 21 29.1**	**+0.6**	
	baz=88								
FMP				⇓P		**P**	**17 21 29.1**	**+0.6**	
	baz=88								
OSI	**Osito Adit**	**87.58**	**51**	P		**P**	**17 21 30.8**	**+1.6**	
OSI	**Osito Adit**	**87.58**	**51**	⇑P		**P**	**17 21 29.6**	**+0.4**	
	baz=88								
OSI				⇑P		**P**	**17 21 29.6**	**+0.4**	
	baz=88								
OSI				⇑P		**P**	**17 21 29.6**	**+0.4**	
	baz=88								
ARVC	**Arvin**	**87.76**	**50**	⇑P		**P**	**17 21 31.1**	**+1.1**	
	baz=88								
ARVC				⇑P		**P**	**17 21 31.1**	**+1.1**	
	baz=88								
ARVC				⇑P		**P**	**17 21 31.1**	**+1.1**	
	baz=88								
VES	**Vestal, Richgr**	**87.93**	**50**	⇓P		**P**	**17 21 31.3**	**+0.5**	
	baz=88								
VES				⇓P		**P**	**17 21 31.3**	**+0.5**	
	baz=88								
VES				⇓P		**P**	**17 21 31.3**	**+0.5**	
	baz=88								
WDC	**Whiskeytown Da**	**88.04**	**44**	*e*P		**P**	**17 21 32.1**	**+1.0**	
WDC				pmax		pmax			
	comp=Z,23nm,1.1s								
WDC	**Whiskeytown Da**	**88.04**	**44**	*e*P		**P**	**17 21 32.1**	**+1.0**	
	comp=Z,23nm,1.1s								
CMB	**Columbia Colle**	**88.14**	**47**	*e*P		**P**	**17 21 32.3**	**+0.5**	
CMB				pmax		pmax			
	comp=Z,37nm,1.3s								
CMB	**Columbia Colle**	**88.14**	**47**	*e*P		**P**	**17 21 32.3**	**+0.5**	
	comp=Z,37nm,1.3s								
BFSC	**Mount Baldy Ra**	**88.17**	**52**	⇑P		**P**	**17 21 32.4**	**+0.2**	
	baz=88,SNR=9.6								
BFSC				⇑P		**P**	**17 21 32.4**	**+0.2**	
	baz=88,SNR=9.6								
BFSC				⇑P		**P**	**17 21 32.4**	**+0.2**	
	baz=88,SNR=9.6								
MURC	**Murrieta**	**88.19**	**52**	⇑P		**P**	**17 21 32.5**	**+0.4**	
	baz=88								
MURC				⇑P		**P**	**17 21 32.5**	**+0.4**	
	baz=88								
MURC				⇑P		**P**	**17 21 32.5**	**+0.4**	
	baz=88								
EDW2	**Edwards Air Fo**	**88.24**	**51**	⇑P		**P**	**17 21 32.8**	**+0.5**	
	baz=88,SNR=11								
EDW2				⇑P		**P**	**17 21 32.8**	**+0.5**	
	baz=88,SNR=11								
EDW2				⇑P		**P**	**17 21 32.8**	**+0.5**	
	baz=88,SNR=11								
CLNS	**Chul'man**	**88.24**	**337**	*e*P		**P**	**17 21 31.4**	**-0.4**	
CLNS				*e**PP		**pP**	**17 21 43.4**	**+2.2**	
CLNS				*e*			17 24 58.2		
CLNS				*e*PPP		PPP	17 26 53.8		
CLNS				*e*S		S	17 31 57.4	-17	
CLNS				*e*			17 33 12.1		
CLNS				*e*SS		**SS**	**17 38 04.5**	**+0.1**	
CLNS				pmax		pmax			
	comp=Z,41nm,1.3s								
CLNS				pmax		pmax			
	comp=N,27nm,1.4s								
CLNS				pmax		pmax			
	comp=E,11nm,1.0s								
CLNS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CLNS				pmax		pmax			
	comp=E,3.0nm,1.1s								
CLNS				pmax		pmax			
	comp=N,4.0nm,0.9s								
CLNS				smax		smax			
	comp=E,624nm,12.7s								
CLNS				smax		smax			
	comp=N,460nm,12.3s								
CLNS				MLR		MLR			
	comp=Z,2µm,23.0s								
ISA	**Isabella**	**88.28**	**50**	*e*P		**P**	**17 21 33.6**	**+1.1**	
ISA				pmax		pmax			
	comp=Z,43nm,1.1s								
ISA	**Isabella**	**88.28**	**50**	*e*P		**P**	**17 21 33.6**	**+1.1**	
	comp=Z,43nm,1.1s								
ISA	**Isabella**	**88.28**	**50**	⇓P		**P**	**17 21 33.3**	**+0.7**	
	baz=88,SNR=38								
ISA				⇓P		**P**	**17 21 33.3**	**+0.7**	
	baz=88,SNR=38								
ISA				⇓P		**P**	**17 21 33.3**	**+0.7**	
	baz=88,SNR=38								
MONP	**Monument Peak**	**88.43**	**53**	⇓P		**P**	**17 21 34.3**	**+0.8**	
	baz=89								
MONP				⇓P		**P**	**17 21 34.3**	**+0.8**	
	baz=89								
MONP				⇓P		**P**	**17 21 34.3**	**+0.8**	
	baz=89								
YBH	**Yreka Blue Hor**	**88.54**	**43**	*e*P		**P**	**17 21 34.9**	**+1.3**	
YBH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
YBH	**Yreka Blue Hor**	**88.54**	**43**	*e*P		**P**	**17 21 34.9**	**+1.3**	
	comp=Z,10nm,0.8s								
BBRC	**Big Bear Solar**	**88.71**	**52**	⇑P		**P**	**17 21 34.9**	**+0.1**	
	baz=89								
BBRC				⇑P		**P**	**17 21 34.9**	**+0.1**	
	baz=89								
BBRC				⇑P		**P**	**17 21 34.9**	**+0.1**	
	baz=89								
LRMC	**Laurel Mountai**	**88.74**	**51**	⇑P		**P**	**17 21 35.5**	**+0.7**	
	baz=89,SNR=6.1								
LRMC				⇑P		**P**	**17 21 35.5**	**+0.7**	
	baz=89,SNR=6.1								
LRMC				⇑P		**P**	**17 21 35.5**	**+0.7**	
	baz=89,SNR=6.1								
PFO	**Pinyon Flat Ob**	**88.74**	**53**	*e*P		P	17 21 30.7	-4.1	
PFO				pmax		pmax			
	comp=Z,17nm,1.3s								
PFO				MLR		MLR			
	comp=Z,4µm,22.0s								
PFO	**Pinyon Flat Ob**	**88.74**	**53**	*e*P		P	17 21 30.7	-4.1	
	comp=Z,17nm,1.3s								
PFO				LR		LR			
	comp=Z,4µm,22.0s								
PFO	**Pinyon Flat Ob**	**88.74**	**53**	⇑P		**P**	**17 21 35.8**	**+0.9**	
	baz=89								
PFO				⇑P		**P**	**17 21 35.8**	**+0.9**	
	baz=89								
PFO				⇑P		**P**	**17 21 35.8**	**+0.9**	
	baz=89								
HUMO	**Hull Mountain**	**88.86**	**42**	*e*P		**P**	**17 21 36.1**	**+1.1**	
	comp=Z,16nm,1.0s								
SWSC	**Sam W. Stewart**	**88.92**	**54**	⇓P		**P**	**17 21 36.3**	**+0.9**	
	baz=89,SNR=7.4								
SWSC				⇓P		**P**	**17 21 36.3**	**+0.9**	
	baz=89,SNR=7.4								
SWSC				⇓P		**P**	**17 21 36.3**	**+0.9**	
	baz=89,SNR=7.4								
CWC	**Cottonwood Cre**	**88.94**	**50**	⇓P		**P**	**17 21 36.1**	**+0.4**	
	baz=89,SNR=16								
CWC				⇓P		**P**	**17 21 36.1**	**+0.4**	
	baz=89,SNR=16								
CWC				⇓P		**P**	**17 21 36.1**	**+0.4**	
	baz=89,SNR=16								
MLAC	**Mammoth Lakes**	**88.99**	**48**	⇓P		**P**	**17 21 36.8**	**+0.7**	
	baz=89								
MLAC				⇓P		**P**	**17 21 36.8**	**+0.7**	
	baz=89								
MLAC				⇓P		**P**	**17 21 36.8**	**+0.7**	
	baz=89								
TIN	**Tinemaha**	**89.13**	**49**	⇓P		**P**	**17 21 36.8**	**+0.2**	
	baz=89								
TIN				⇓P		**P**	**17 21 36.8**	**+0.2**	
	baz=89								
TIN				⇓P		**P**	**17 21 36.8**	**+0.2**	
	baz=89								
MPMC	**Manual Prospec**	**89.17**	**50**	⇓P		**P**	**17 21 37.4**	**+0.6**	
	baz=89,SNR=22								
MPMC				⇓P		**P**	**17 21 37.4**	**+0.6**	
	baz=89,SNR=22								
MPMC				⇓P		**P**	**17 21 37.4**	**+0.6**	
	baz=89,SNR=22								
DAC	**Darwin (Calif)**	**89.20**	**50**	PFAKE			17 21 50.0	+13	
DAC				LR		LR			
	comp=Z,4µm,20.0s								
WCN	**Washoe City**	**89.20**	**46**	*e*P		**P**	**17 21 38.4**	**+1.5**	
WCN				pmax		pmax			
	comp=Z,21nm,1.2s								
WCN	**Washoe City**	**89.20**	**46**	*e*P		**P**	**17 21 38.4**	**+1.5**	
	comp=Z,21nm,1.2s								
WCN	**Washoe City**	**89.20**	**46**	⇓P		**P**	**17 21 37.6**	**+0.7**	
	baz=90								
WCN				⇓P		**P**	**17 21 37.6**	**+0.7**	
	baz=90								
WCN				⇓P		**P**	**17 21 37.6**	**+0.7**	
	baz=90								
BELC	**Belle Mtn. Jos**	**89.26**	**53**	⇑P		**P**	**17 21 38.1**	**+0.8**	
	baz=90,SNR=28								
BELC				⇑P		**P**	**17 21 38.1**	**+0.8**	
	baz=90,SNR=28								
BELC				⇑P		**P**	**17 21 38.1**	**+0.8**	
	baz=90,SNR=28								
GSC	**Goldstone**	**89.29**	**51**	*e*P		**P**	**17 21 38.4**	**+1.1**	
GSC				pmax		pmax			
	comp=Z,28nm,1.3s								
GSC	**Goldstone**	**89.29**	**51**	*e*P		**P**	**17 21 38.4**	**+1.1**	
	comp=Z,28nm,1.3s								
GSC	**Goldstone**	**89.29**	**51**	⇑P		**P**	**17 21 37.9**	**+0.5**	
	baz=90,SNR=7.5								
GSC				⇑P		**P**	**17 21 37.9**	**+0.5**	
	baz=90,SNR=7.5								
GSC				⇑P		**P**	**17 21 37.9**	**+0.5**	
	baz=90,SNR=7.5								
HEC	**Hector,Ludlow**	**89.41**	**52**	⇓P		**P**	**17 21 38.5**	**+0.6**	
	baz=90,SNR=23								
HEC				⇓P		**P**	**17 21 38.5**	**+0.6**	
	baz=90,SNR=23								
HEC				⇓P		**P**	**17 21 38.5**	**+0.6**	
	baz=90,SNR=23								
BC3	**Big Chuckawall**	**89.50**	**53**	⇓P		**P**	**17 21 39.3**	**+0.9**	
	baz=90,SNR=15								
BC3				⇓P		**P**	**17 21 39.3**	**+0.9**	
	baz=90,SNR=15								
BC3				⇓P		**P**	**17 21 39.3**	**+0.9**	
	baz=90,SNR=15								
GLA	**Glamis**	**89.69**	**54**	*e*P		**P**	**17 21 40.7**	**+1.5**	
GLA				pmax		pmax			
	comp=Z,53nm,1.1s								
GLA	**Glamis**	**89.69**	**54**	*e*P		**P**	**17 21 40.7**	**+1.5**	
	comp=Z,53nm,1.1s								
GLA	**Glamis**	**89.69**	**54**	⇑P		**P**	**17 21 40.3**	**+1.1**	
	baz=90,SNR=10								
GLA				⇑P		**P**	**17 21 40.3**	**+1.1**	
	baz=90,SNR=10								
GLA				⇑P		**P**	**17 21 40.3**	**+1.1**	
	baz=90,SNR=10								
GRAC	**Grapevine Rang**	**89.70**	**49**	⇓P		**P**	**17 21 39.6**	**+0.4**	
	baz=90								
GRAC				⇓P		**P**	**17 21 39.6**	**+0.4**	
	baz=90								
GRAC				⇓P		**P**	**17 21 39.6**	**+0.4**	
	baz=90								
CIT	**Chita**	**89.75**	**329**	*e*P		**P**	**17 21 38.4**	**-0.6**	
CIT				*e*			17 21 56.0		
CIT				*e*			17 32 01.6		
CIT				pmax		pmax			
	comp=Z,144nm,1.6s								
NVAR	**Mina Array Bea**	**89.75**	**48**	P		**P**	**17 21 40.6**	**+1.0**	
	comp=Z,14nm,0.8s,baz=226,slow=7.2,SNR=50								
NVAR				LR		LR	17 54 25.1		
	comp=Z,6µm,20.1s,baz=112,slow=30								
NVAR	**Mina Array Bea**	**89.75**	**48**	P		**P**	**17 21 40.6**	**+1.0**	
FURC	**Furnace Creek,**	**89.81**	**50**	⇑P		**P**	**17 21 40.3**	**+0.7**	
	baz=90								
FURC				⇑P		**P**	**17 21 40.3**	**+0.7**	
	baz=90								
FURC				⇑P		**P**	**17 21 40.3**	**+0.7**	
	baz=90								
GMRC	**Granite Mounta**	**89.88**	**52**	⇑P		**P**	**17 21 40.7**	**+0.6**	
	baz=90,SNR=19								
GMRC				⇑P		**P**	**17 21 40.7**	**+0.6**	
	baz=90,SNR=19								
GMRC				⇑P		**P**	**17 21 40.7**	**+0.6**	
	baz=90,SNR=19								
DIB	**Dawson Inlet,**	**89.92**	**30**	T		T	19 01 26.5		
SHOC	**Shoshone**	**89.95**	**51**	⇑P		**P**	**17 21 40.8**	**+0.5**	
	baz=90,SNR=10								
SHOC				⇑P		**P**	**17 21 40.8**	**+0.5**	
	baz=90,SNR=10								
SHOC				⇑P		**P**	**17 21 40.8**	**+0.5**	
	baz=90,SNR=10								
IRM	**Iron Mountain**	**89.96**	**53**	⇑P		**P**	**17 21 41.3**	**+0.9**	
	baz=90,SNR=23								
IRM				⇑P		**P**	**17 21 41.3**	**+0.9**	
	baz=90,SNR=23								
IRM				⇑P		**P**	**17 21 41.3**	**+0.9**	
	baz=90,SNR=23								
TUQ	**Turquoise Moun**	**89.99**	**51**	⇑P		**P**	**17 21 41.1**	**+0.5**	
	baz=90,SNR=23								
TUQ				⇑P		**P**	**17 21 41.1**	**+0.5**	
	baz=90,SNR=23								
TUQ				⇑P		**P**	**17 21 41.1**	**+0.5**	
	baz=90,SNR=23								
MOD	**Modoc**	**90.17**	**44**	*e*P		**P**	**17 21 42.0**	**+0.7**	
	comp=Z,19nm,1.1s								
Y12C	**Blythe**	**90.23**	**53**	⇑P		**P**	**17 21 42.1**	**+0.5**	
	baz=90,SNR=8.4								
Y12C				⇑P		**P**	**17 21 42.1**	**+0.5**	
	baz=90,SNR=8.4								
Y12C				⇑P		**P**	**17 21 42.1**	**+0.5**	
	baz=90,SNR=8.4								
TPH	**Tonopah**	**90.33**	**49**	PFAKE			17 21 50.0	+7.8	
TPH				LR		LR			
	comp=Z,5µm,21.0s								
AGT	**Agartala**	**90.35**	**296**	*e*P		**P**	**17 21 43.0**	**+0.6**	
AGT				*ex*		x	17 22 01.0		
113A	**Mohawk Valley,**	**90.36**	**55**	⇑P		**P**	**17 21 42.9**	**+0.7**	
	baz=91,SNR=5.8								
113A				⇑P		**P**	**17 21 42.9**	**+0.7**	
	baz=91,SNR=5.8								
113A				⇑P		**P**	**17 21 42.9**	**+0.7**	
	baz=91,SNR=5.8								
LDFC	**Landfair**	**90.41**	**52**	*e*P		**P**	**17 21 44.2**	**+1.5**	
	comp=Z,83nm,1.2s								
BILL	**Bilibino**	**90.52**	**358**	P		**P**	**17 21 43.0**	**+0.9**	
BILL				*e*			17 21 59.2		
BILL				*e*			17 25 21.2		
BILL				pmax		pmax			
	comp=Z,23nm,1.2s								
BILL	**Bilibino**	**90.52**	**358**	*e*P		**P**	**17 21 43.2**	**+1.1**	
	comp=Z,24nm,1.2s								
BILL				LR		LR			
	comp=Z,2µm,21.0s								
SHL	**Shillong**	**90.53**	**297**	*e*P		**P**	**17 21 43.0**	**-0.4**	
SHL				*ex*		x	17 32 22.0		
Z13A	**Yuma Proving G**	**90.63**	**54**	⇓P		**P**	**17 21 44.1**	**+0.5**	
	baz=91,SNR=23								
Z13A				⇓P		**P**	**17 21 44.1**	**+0.5**	
	baz=91,SNR=23								
Z13A				⇓P		**P**	**17 21 44.1**	**+0.5**	
	baz=91,SNR=23								
ULN	**Ulaanbaatar**	**90.67**	**323**	*e*P		**P**	**17 21 43.8**	**+0.3**	
ULN				pmax		pmax			
	comp=Z,63nm,1.3s								
ULN				MLR		MLR			
	comp=Z,3µm,20.0s								
ULN	**Ulaanbaatar**	**90.67**	**323**	*e*P		**P**	**17 21 43.8**	**+0.3**	
	comp=Z,63nm,1.3s								
ULN				LR		LR			
	comp=Z,3µm,20.0s								
YAK	**Yakutsk**	**90.68**	**342**	*e*P		**P**	**17 21 41.8**	**-1.2**	
YAK				*e**PP		**pP**	**17 21 50.1**	**-2.3**	
YAK				*e*			17 25 24.3		
YAK				*e*PPP		x	17 27 15.4		
YAK				*e*S		**SKSac**	**17 32 10.0**	**-2.1**	
YAK				*e**SS		**SKKSac**	**17 32 29.4**	**+2.9**	
YAK				*e*SS		**SS**	**17 38 35.2**	**-4.2**	
YAK				pmax		pmax			
	comp=Z,32nm,1.2s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.2s								
YAK				pmax		pmax			
	comp=N,8.0nm,1.2s								
YAK				pmax		pmax			
	comp=Z,182nm,4.0s								
YAK				pmax		pmax			
	comp=N,110nm,4.5s								
YAK				pmax		pmax			
	comp=E,166nm,4.5s								
YAK				smax		smax			
	comp=N,142nm,2.7s								
YAK				smax		smax			
	comp=E,49nm,2.8s								
YAK				MLR		MLR			
	comp=Z,3µm,19.0s								
YAK				MLR		MLR			
	comp=N,2µm,18.0s								
YAK				MLR		MLR			
	comp=E,1µm,19.0s								
YAK	**Yakutsk**	**90.68**	**342**	*e*P		**P**	**17 21 42.0**	**-0.9**	
	comp=E,22nm,0.8s								
YAK				LR		LR			
	comp=Z,3µm,21.0s								
BMRM	**Bremner River**	**90.68**	**20**	P		**P**	**17 21 42.4**	**-0.7**	
214A	**Organ Pipe Nat**	**90.72**	**56**	⇑P		**P**	**17 21 44.7**	**+0.7**	
	baz=91								
214A				⇑P		**P**	**17 21 44.7**	**+0.7**	
	baz=91								
214A				⇑P		**P**	**17 21 44.7**	**+0.7**	
	baz=91								
PDMCI	**Parker Dam,Lak**	**90.77**	**53**	⇓P		**P**	**17 21 45.1**	**+1.0**	
	baz=91,SNR=11								
PDMCI				⇓P		**P**	**17 21 45.1**	**+1.0**	
	baz=91,SNR=11								
PDMCI				⇓P		**P**	**17 21 45.1**	**+1.0**	
	baz=91,SNR=11								
GTA	**Gaotai**	**90.77**	**313**	⇓P		**P**	**17 21 45.4**	**+1.2**	
GTA				pP		**pP**	**17 21 56.6**	**+3.0**	
GTA				PP		**PP**	**17 25 25.4**	**+5.1**	
GTA				SKS		**SKSac**	**17 32 14.0**	**0.0**	
GTA				S		**S**	**17 32 40.1**	**+1.3**	
GTA				pmax		pmax			
	comp=Z,22nm,1.4s								
GTA				pmax		pmax			
	comp=Z,920nm,10.0s								
GTA				LR		LR			
	comp=N,1µm,19.5s								
GTA				LR		LR			
	comp=E,2µm,19.5s								
GTA				LR		LR			
	comp=Z,2µm,21.9s								
NLWA	**Neilton Lookou**	**90.91**	**38**	*e*P		**P**	**17 21 42.7**	**-1.8**	
	comp=Z,8.6nm,0.9s								
NLWA				LR		LR			
	comp=Z,6µm,20.0s								
114A	**Black Gap (USA**	**91.01**	**55**	⇓P		**P**	**17 21 46.2**	**+0.9**	
	baz=91,SNR=7.6								
114A				⇓P		**P**	**17 21 46.2**	**+0.9**	
	baz=91,SNR=7.6								
114A				⇓P		**P**	**17 21 46.2**	**+0.9**	
	baz=91,SNR=7.6								
SONM	**Songino Array**	**91.03**	**322**	P		**P**	**17 21 44.8**	**-0.3**	
	comp=Z,37nm,1.1s,baz=137,slow=4.3,SNR=85								
SONM				PKKPbc		**PKKPbc**	**17 39 10.0**	**-0.8**	
	comp=Z,0.7nm,0.9s,baz=170,slow=0.9,SNR=4.4								
SONM				LR		LR	18 04 38.6		
	comp=Z,3µm,18.5s,baz=116,slow=37								
SONM	**Songino Array**	**91.03**	**322**	P		**P**	**17 21 44.8**	**-0.3**	
SONM	**Songino Array**	**91.03**	**322**	P		**P**	**17 21 44.8**	**-0.3**	
SONM				PKKPbc		**PKKPbc**	**17 39 10.0**	**-0.8**	
Z14A	**Wintersburg**	**91.24**	**54**	⇑P		**P**	**17 21 47.0**	**+0.6**	
	baz=92,SNR=8.2								
Z14A				⇑P		**P**	**17 21 47.0**	**+0.6**	
	baz=92,SNR=8.2								
Z14A				⇑P		**P**	**17 21 47.0**	**+0.6**	
	baz=92,SNR=8.2								
W13A	**Hualapai Mount**	**91.32**	**52**	⇑P		**P**	**17 21 47.4**	**+0.4**	
	baz=92,SNR=13								
W13A				⇑P		**P**	**17 21 47.4**	**+0.4**	
	baz=92,SNR=13								
W13A				⇑P		**P**	**17 21 47.4**	**+0.4**	
	baz=92,SNR=13								
Y14A	**Wickenburg**	**91.45**	**54**	⇑P		**P**	**17 21 48.1**	**+0.7**	
	baz=92								
Y14A				⇑P		**P**	**17 21 48.1**	**+0.7**	
	baz=92								
Y14A				⇑P		**P**	**17 21 48.1**	**+0.7**	
	baz=92								
BMN	**Battle Mountai**	**91.46**	**46**	*e*P		**P**	**17 21 48.2**	**+0.8**	
BMN				pmax		pmax			
	comp=Z,18nm,1.0s								
BMN				MLR		MLR			
	comp=Z,4µm,20.0s								
BMN	**Battle Mountai**	**91.46**	**46**	*e*P		**P**	**17 21 48.2**	**+0.8**	
	comp=Z,18nm,1.0s								
BMN				LR		LR			
	comp=Z,4µm,20.0s								
R11A	**Troy Canyon, C**	**91.59**	**49**	⇓P		**P**	**17 21 48.7**	**+0.6**	
	baz=92,SNR=16								
R11A				⇓P		**P**	**17 21 48.7**	**+0.6**	
	baz=92,SNR=16								
R11A				⇓P		**P**	**17 21 48.7**	**+0.6**	
	baz=92,SNR=16								
WRAK	**Wrangell Islan**	**92.03**	**28**	*e*P		**P**	**17 21 51.5**	**+2.1**	
WRAK				LR		LR			
	comp=Z,4µm,20.0s								
CAL	**Calcutta**	**92.26**	**293**	*e*P		**P**	**17 21 51.1**	**-0.1**	
CAL				*ex*		x	17 32 59.5		
CAL				AMS		AMS	17 34 55.5		
	comp=N,662nm,20.0s								
CAL				AMS		AMS	17 35 02.7		
	comp=E,1µm,14.3s								
CAL				AMS		AMS	17 48 14.2		
	comp=Z,396nm,15.9s								
TUC	**Tucson**	**92.42**	**56**	*e*P		**P**	**17 21 53.2**	**+1.3**	
TUC				pmax		pmax			
	comp=Z,16nm,1.3s								
TUC				MLR		MLR			
	comp=Z,3µm,20.0s								
TUC	**Tucson**	**92.42**	**56**	*e*P		**P**	**17 21 53.2**	**+1.3**	
	comp=Z,16nm,1.3s								
TUC				LR		LR			
	comp=Z,3µm,20.0s								
R13A	**O'Grain Ranch,**	**92.64**	**50**	⇓P		**P**	**17 21 54.0**	**+1.0**	
	baz=93,SNR=8.4								
R13A				⇓P		**P**	**17 21 54.0**	**+1.0**	
	baz=93,SNR=8.4								
R13A				⇓P		**P**	**17 21 54.0**	**+1.0**	
	baz=93,SNR=8.4								
COLA	**College**	**92.81**	**16**	*e*P		**P**	**17 21 50.5**	**-2.3**	
COLA				pmax		pmax			
	comp=Z,20nm,1.4s								
COLA				MLR		MLR			
	comp=Z,3µm,20.0s								
COLA	**College**	**92.81**	**16**	*e*P		**P**	**17 21 50.5**	**-2.3**	
	comp=Z,20nm,1.4s								
COLA				LR		LR			
	comp=Z,3µm,20.0s								
X16A	**Lo Mia Camp, P**	**92.82**	**54**	⇓P		**P**	**17 21 55.1**	**+1.2**	
	baz=93,SNR=20								
X16A				⇓P		**P**	**17 21 55.1**	**+1.2**	
	baz=93,SNR=20								
X16A				⇓P		**P**	**17 21 55.1**	**+1.2**	
	baz=93,SNR=20								
LSA	**Lhasa**	**92.83**	**301**	*e*P		**P**	**17 21 55.0**	**+0.6**	
LSA				pmax		pmax			
	comp=Z,16nm,1.0s								
LSA				MLR		MLR			
	comp=Z,2µm,20.0s								
LSA	**Lhasa**	**92.83**	**301**	*e*P		**P**	**17 21 55.0**	**+0.6**	
	comp=Z,16nm,1.0s								
LSA				LR		LR			
	comp=Z,2µm,20.0s								
ARUT	**Antelope Range**	**92.84**	**50**	*e*P		**P**	**17 21 54.9**	**+1.0**	
ARUT				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ARUT	**Antelope Range**	**92.84**	**50**	*e*P		**P**	**17 21 54.9**	**+1.0**	
	comp=Z,10nm,1.1s								
DOT	**Dot Lake**	**92.90**	**18**	*e*P		**P**	**17 21 51.8**	**-1.5**	
	comp=Z,3.2nm,1.1s								
HAWA	**Hanford**	**92.92**	**40**	*e*P		**P**	**17 21 55.1**	**+1.3**	
	comp=Z,9.1nm,1.0s								
HAWA				LR		LR			
	comp=

ILAR **Eielson Array** 92.98 17 P P 17 21 52.0 -1.7
ILAR **Eielson Array** 92.98 17 P P 17 21 52.0 -1.7
ILAR PKiKP **PKiKP** 17 26 42.2 +1.3
ETW **Entiat** 93.06 39 P P 17 21 55.1 +0.6
comp=Z,7.8nm,1.1s
U15A **North Rim** 93.07 52 ⇑P P 17 21 56.2 +1.1
baz=93,SNR=40
U15A ⇑P P 17 21 56.2 +1.1
baz=93,SNR=40
U15A ⇑P P 17 21 56.2 +1.1
baz=93,SNR=40
319A **Douglas** 93.19 57 ⇑P P 17 21 56.4 +0.8
baz=93,SNR=6.6
319A ⇑P P 17 21 56.4 +0.8
baz=93,SNR=6.6
319A ⇑P P 17 21 56.4 +0.8
baz=93,SNR=6.6
BOD **Bodaibo** 93.19 333 *e*P P 17 21 53.1 -1.6
BOD pmax pmax
comp=Z,15nm,1.5s
X17A **Forest Lakes** 93.26 54 ⇓P P 17 21 56.7 +0.6
baz=94
X17A ⇓P P 17 21 56.7 +0.6
baz=94
X17A ⇓P P 17 21 56.7 +0.6
baz=94
WUAZ **Wupatki** 93.34 53 *e*P P 17 21 57.5 +1.3
comp=Z,21nm,1.1s
WUAZ LR LR
comp=Z,3µm,21.0s
WUAZ **Wupatki** 93.34 53 ⇓P P 17 21 57.0 +0.8
baz=94,SNR=11
WUAZ ⇓P P 17 21 57.0 +0.8
baz=94,SNR=11
WUAZ ⇓P P 17 21 57.0 +0.8
baz=94,SNR=11
BMO **Blue Mountains** 93.53 43 PFAKE 17 22 10.0 +13
BMO LR LR
comp=Z,3µm,22.0s
W17A **Winslow** 93.65 54 ⇑P P 17 21 58.3 +0.7
baz=94
W17A ⇑P P 17 21 58.3 +0.7
baz=94
W17A ⇑P P 17 21 58.3 +0.7
baz=94
MFID **Camas Ranch** 93.78 44 ⇑P P 17 21 59.0 +1.0
baz=94
MFID ⇑P P 17 21 59.0 +1.0
baz=94
MFID ⇑P P 17 21 59.0 +1.0
baz=94
U16A **Tuba City** 93.79 52 ⇑P P 17 21 59.5 +1.2
baz=94,SNR=16
U16A ⇑P P 17 21 59.5 +1.2
baz=94,SNR=16
U16A ⇑P P 17 21 59.5 +1.2
baz=94,SNR=16
V17A **Tonalea, Kykot** 93.82 53 ⇑P P 17 21 59.1 +0.7
baz=94
V17A ⇑P P 17 21 59.1 +0.7
baz=94
V17A ⇑P P 17 21 59.1 +0.7
baz=94
OD2 **Odessa Site #2** 93.90 40 *e*P P 17 21 58.1 -0.2
comp=Z,4.8nm,0.8s
X18A **Snowflake** 93.98 54 ⇓P P 17 21 59.7 +0.5
baz=94
X18A ⇓P P 17 21 59.7 +0.5
baz=94
X18A ⇓P P 17 21 59.7 +0.5
baz=94
220A **Playas Peak, P** 93.99 57 ⇑P P 17 22 00.6 +1.3
baz=94,SNR=7.4
220A ⇑P P 17 22 00.6 +1.3
baz=94,SNR=7.4
220A ⇑P P 17 22 00.6 +1.3
baz=94,SNR=7.4
MVU **Marysvale** 94.03 50 PFAKE 17 22 10.0 +11
MVU LR LR
comp=Z,4µm,21.0s
ZAK **Zakamensk** 94.11 324 ⇑*i*P P 17 21 59.9 +0.6
ZAK *e* 17 32 34.9
ZAK pmax pmax
comp=Z,19nm,1.2s
S16A **Weppner Ranch,** 94.13 51 ⇓P P 17 22 00.5 +0.7
baz=94
S16A ⇓P P 17 22 00.5 +0.7
baz=94
S16A ⇓P P 17 22 00.5 +0.7
baz=94
120A **U Bar Ranch, L** 94.17 57 ⇓P P 17 22 01.3 +1.2
baz=94,SNR=7.4
120A ⇓P P 17 22 01.3 +1.2
baz=94,SNR=7.4
120A ⇓P P 17 22 01.3 +1.2
baz=94,SNR=7.4
Y19A **Nutrioso** 94.27 55 ⇓P P 17 22 01.4 +0.7
baz=94,SNR=7.1
Y19A ⇓P P 17 22 01.4 +0.7
baz=94,SNR=7.1
Y19A ⇓P P 17 22 01.4 +0.7
baz=94,SNR=7.1
EFI **East Falkland** 94.34 152 PFAKE 17 22 10.0 +10
EFI LR LR
comp=Z,2µm,21.0s
DUG **Dugway** 94.34 48 PFAKE 17 22 10.0 +9.3
DUG LR LR
comp=Z,5µm,20.0s
T17A **Navajo Res., N** 94.39 52 ⇓P P 17 22 02.1 +1.0
baz=95,SNR=9.7
T17A ⇓P P 17 22 02.1 +1.0
baz=95,SNR=9.7
T17A ⇓P P 17 22 02.1 +1.0
baz=95,SNR=9.7
W18A **Petrified Fore** 94.39 54 ⇓P P 17 22 02.3 +1.2
baz=95
W18A ⇓P P 17 22 02.3 +1.2
baz=95
W18A ⇓P P 17 22 02.3 +1.2
baz=95
I12A **Atlanta** 94.41 44 ⇓P P 17 22 02.5 +1.5
baz=95
I12A ⇓P P 17 22 02.5 +1.5
baz=95
I12A ⇓P P 17 22 02.5 +1.5
baz=95
Z20A **Nine Sixteen R** 94.43 56 ⇓P P 17 22 02.3 +1.0
baz=95,SNR=7.0
Z20A ⇓P P 17 22 02.3 +1.0
baz=95,SNR=7.0
Z20A ⇓P P 17 22 02.3 +1.0
baz=95,SNR=7.0
X19A **St. Johns** 94.44 55 ⇑P P 17 22 02.8 +1.4
baz=95
X19A ⇑P P 17 22 02.8 +1.4
baz=95
X19A ⇑P P 17 22 02.8 +1.4
baz=95
P15A **Leamington** 94.44 49 ⇑P P 17 22 02.2 +1.0
baz=95
P15A ⇑P P 17 22 02.2 +1.0
baz=95
P15A ⇑P P 17 22 02.2 +1.0
baz=95
R16A **Teasdale** 94.45 50 ⇓P P 17 22 02.4 +1.0
baz=95
R16A ⇓P P 17 22 02.4 +1.0
baz=95
R16A ⇓P P 17 22 02.4 +1.0
baz=95
IRK **Irkutsk** 94.55 325 *e*P P 17 22 00.5 -0.7
IRK pmax pmax
comp=Z,26nm,1.7s
EGAK **Eagle** 94.59 19 *e*P P 17 22 00.0 -1.0
comp=Z,8.6nm,1.0s
EGAK LR LR
comp=Z,3µm,20.0s
TLY **Talaya** 94.59 325 ⇑*i*P P 17 22 00.3 -1.1
TLY *e* 17 25 38.2
TLY *e*S S 17 33 21.4 +9.3
TLY *e*SS **SS** 17 39 40.5 +4.4
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,2µm,19.7s
TLY **Talaya** 94.59 325 *e*P P 17 22 01.1 -0.3
comp=Z,11nm,0.9s
TLY LR LR
comp=Z,4µm,22.0s
TLY **Talaya** 94.59 325 P P 17 22 01.3 -0.1
comp=Z,70nm,1.0s,SNR=5.1
221A **Mesquite Ranch** 94.61 57 ⇑P P 17 22 03.5 +1.4
baz=95
221A ⇑P P 17 22 03.5 +1.4
baz=95
221A ⇑P P 17 22 03.5 +1.4
baz=95
W19A **Sanders** 94.65 54 ⇑P P 17 22 03.3 +1.1
baz=95
W19A ⇑P P 17 22 03.3 +1.1
baz=95
W19A ⇑P P 17 22 03.3 +1.1
baz=95
S17A **Black Ridge (B** 94.66 51 ⇑P P 17 22 03.4 +1.2
baz=95,SNR=5.6
S17A ⇑P P 17 22 03.4 +1.2
baz=95,SNR=5.6
S17A ⇑P P 17 22 03.4 +1.2
baz=95,SNR=5.6
TAPN **Taplejung** 94.67 298 *e*P P 17 22 02.9 +0.2
comp=Z,67nm,1.2s
TAPN **Taplejung** 94.67 298 *e*P P 17 22 02.9 +0.2
comp=Z,67nm,1.2s
ODAN **Odare** 94.74 297 *e*P P 17 22 03.4 +0.5
comp=Z,39nm,1.0s
ODAN **Odare** 94.74 297 *e*P P 17 22 03.4 +0.5
comp=Z,39nm,1.0s
HLID **Hailey** 94.77 45 *e*P P 17 22 03.9 +1.3
comp=Z,3.8nm,0.8s
HLID LR LR
comp=Z,3µm,22.0s
HLID **Hailey** 94.77 45 ⇑P P 17 22 03.7 +1.1
baz=95
HLID ⇑P P 17 22 03.7 +1.1
baz=95
HLID ⇑P P 17 22 03.7 +1.1
baz=95
PLCA **Paso Flores** 94.79 138 P P 17 22 04.1 +1.2
comp=Z,3.0nm,0.9s,baz=223,slow=9.4,SNR=4.8
PLCA LR LR 17 54 55.8
comp=Z,853nm,20.7s,baz=337,slow=29
PLCA **Paso Flores** 94.79 138 P P 17 22 04.1 +1.2
PLCA **Paso Flores** 94.79 138 P P 17 22 04.1 +1.2
121A **Cookes Peak, D** 94.82 57 ⇓P P 17 22 04.1 +1.0
baz=95,SNR=7.4
121A ⇓P P 17 22 04.1 +1.0
baz=95,SNR=7.4
121A ⇓P P 17 22 04.1 +1.0
baz=95,SNR=7.4
U18A **Rough Rock, Ch** 94.83 53 ⇓P P 17 22 03.9 +0.8
baz=95
U18A ⇓P P 17 22 03.9 +0.8
baz=95
U18A ⇓P P 17 22 03.9 +0.8
baz=95
N15A **Stansbury Isla** 94.85 48 ⇑P P 17 22 03.3 +0.3
baz=95
N15A ⇑P P 17 22 03.3 +0.3
baz=95
N15A ⇑P P 17 22 03.3 +0.3
baz=95
Y20A **Horse Springs,** 94.92 55 ⇓P P 17 22 04.2 +0.6
baz=95,SNR=7.8
Y20A ⇓P P 17 22 04.2 +0.6
baz=95,SNR=7.8
Y20A ⇓P P 17 22 04.2 +0.6
baz=95,SNR=7.8
HVU **Hansel Valley** 95.06 47 *e*P P 17 22 03.2 -0.8
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU **Hansel Valley** 95.06 47 *e*P P 17 22 03.2 -0.8
comp=Z,7.3nm,1.1s
X20A **Quemado** 95.08 55 ⇑P P 17 22 05.2 +0.8
baz=95
X20A ⇑P P 17 22 05.2 +0.8
baz=95
X20A ⇑P P 17 22 05.2 +0.8
baz=95
I13A **Wildhorse Cree** 95.12 44 ⇓P P 17 22 05.3 +1.1
baz=95
I13A ⇓P P 17 22 05.3 +1.1
baz=95
I13A ⇓P P 17 22 05.3 +1.1
baz=95
T18A **Mexican Hat** 95.12 52 ⇑P P 17 22 05.2 +0.8
baz=95,SNR=11
T18A ⇑P P 17 22 05.2 +0.8
baz=95,SNR=11
T18A ⇑P P 17 22 05.2 +0.8
baz=95,SNR=11
DGAR **Diego Garcia** 95.13 260 PFAKE 17 22 20.0 +15
DGAR LR LR
comp=Z,7µm,22.0s
222A **Williams Famil** 95.18 57 ⇑P P 17 22 05.6 +0.9
baz=95
222A ⇑P P 17 22 05.6 +0.9
baz=95
222A ⇑P P 17 22 05.6 +0.9
baz=95
Z21A **St. Cloud Mine** 95.22 56 ⇑P P 17 22 05.5 +0.6
baz=96
Z21A ⇑P P 17 22 05.5 +0.6
baz=96
Z21A ⇑P P 17 22 05.5 +0.6
baz=96
F12A **Elk City** 95.23 42 ⇓P P 17 22 05.3 +0.7
baz=96
F12A ⇓P P 17 22 05.3 +0.7
baz=96
F12A ⇓P P 17 22 05.3 +0.7
baz=96
NEW **Newport** 95.26 40 PFAKE 17 22 20.0 +15
NEW LR LR
comp=Z,4µm,22.0s
U19A **Dine' College,** 95.27 53 ⇓P P 17 22 05.7 +0.5
baz=96
U19A ⇓P P 17 22 05.7 +0.5
baz=96
U19A ⇓P P 17 22 05.7 +0.5
baz=96
S18A **Hurst Farm, Bl** 95.27 51 ⇓P P 17 22 05.4 +0.3
baz=96
S18A ⇓P P 17 22 05.4 +0.3
baz=96
S18A ⇓P P 17 22 05.4 +0.3
baz=96
W20A **Ramah** 95.32 54 ⇑P P 17 22 06.5 +1.1
baz=96
W20A ⇑P P 17 22 06.5 +1.1
baz=96
W20A ⇑P P 17 22 06.5 +1.1
baz=96
H13A **Challis** 95.32 44 ⇓P P 17 22 05.6 +0.5
baz=96
H13A ⇓P P 17 22 05.6 +0.5
baz=96
H13A ⇓P P 17 22 05.6 +0.5
baz=96
RAMN **Ramite** 95.42 297 *e*P P 17 22 06.5 +0.4
RAMN **Ramite** 95.42 297 *e*P P 17 22 06.5 +0.4
SRU **San Rafael** 95.48 50 ⇓P P 17 22 06.8 +0.8
baz=96
SRU ⇓P P 17 22 06.8 +0.8
baz=96
SRU ⇓P P 17 22 06.8 +0.8
baz=96
122A **Conniff Cattle** 95.49 57 ⇓P P 17 22 07.3 +1.1
baz=96
122A ⇓P P 17 22 07.3 +1.1
baz=96
122A ⇓P P 17 22 07.3 +1.1
baz=96
Y21A **Point of Rocks** 95.49 56 ⇑P P 17 22 06.8 +0.5
baz=96,SNR=11
Y21A ⇑P P 17 22 06.8 +0.5
baz=96,SNR=11
Y21A ⇑P P 17 22 06.8 +0.5
baz=96,SNR=11
I14A **Mackay** 95.56 45 ⇑P P 17 22 06.9 +0.7
baz=96
I14A ⇑P P 17 22 06.9 +0.7
baz=96
I14A ⇑P P 17 22 06.9 +0.7
baz=96
C11A **Tepee Creek (N** 95.58 40 ⇓P P 17 22 06.7 +0.6
baz=96
C11A ⇓P P 17 22 06.7 +0.6
baz=96
C11A ⇓P P 17 22 06.7 +0.6
baz=96
X21A **Alamocita Cree** 95.58 55 ⇓P P 17 22 07.1 +0.4
baz=96
X21A ⇓P P 17 22 07.1 +0.4
baz=96
X21A ⇓P P 17 22 07.1 +0.4
baz=96
R18A **Canyonlands Na** 95.62 51 ⇑P P 17 22 07.7 +1.0
baz=96
R18A ⇑P P 17 22 07.7 +1.0
baz=96
R18A ⇑P P 17 22 07.7 +1.0
baz=96
Z22A **Elephant Butte** 95.74 56 ⇓P P 17 22 07.9 +0.6
baz=96,SNR=5.5
Z22A ⇓P P 17 22 07.9 +0.6
baz=96,SNR=5.5
Z22A ⇓P P 17 22 07.9 +0.6
baz=96,SNR=5.5
O17A **Robinson Place** 95.78 49 ⇑P P 17 22 08.1 +0.8
baz=96
O17A ⇑P P 17 22 08.1 +0.8
baz=96
O17A ⇑P P 17 22 08.1 +0.8
baz=96
HWUT **Hardware Ranch** 95.81 47 PFAKE 17 22 20.0 +13
HWUT LR LR
comp=Z,4µm,20.0s
U20A **Newcomb** 95.81 53 ⇑P P 17 22 08.3 +0.8
baz=96
U20A ⇑P P 17 22 08.3 +0.8
baz=96
U20A ⇑P P 17 22 08.3 +0.8
baz=96
F13A **Darby** 95.82 43 ⇓P P 17 22 08.2 +0.9
baz=96
F13A ⇓P P 17 22 08.2 +0.9
baz=96
F13A ⇓P P 17 22 08.2 +0.9
baz=96
P18A **Preston Nutter** 95.89 50 ⇓P P 17 22 08.6 +0.6
baz=96
P18A ⇓P P 17 22 08.6 +0.6
baz=96
P18A ⇓P P 17 22 08.6 +0.6
baz=96
S19A **Harvey Farm, M** 95.91 52 ⇓P P 17 22 08.7 +0.7
baz=96
S19A ⇓P P 17 22 08.7 +0.7
baz=96
S19A ⇓P P 17 22 08.7 +0.7
baz=96
J15A **Blackfoot** 95.99 45 ⇓P P 17 22 09.0 +0.8
baz=96
J15A ⇓P P 17 22 09.0 +0.8
baz=96
J15A ⇓P P 17 22 09.0 +0.8
baz=96
Y22A **Socorro** 96.01 56 ⇓P P 17 22 09.0 +0.5
baz=96
Y22A ⇓P P 17 22 09.0 +0.5
baz=96
Y22A ⇓P P 17 22 09.0 +0.5
baz=96
MOY **Mondy** 96.01 324 *e*P P 17 22 08.1 +0.1
JIRN **Jiri** 96.03 297 *e*P P 17 22 09.2 +0.2
comp=Z,38nm,1.2s
JIRN **Jiri** 96.03 297 *e*P P 17 22 09.2 +0.2
comp=Z,38nm,1.2s
R19A **Curley Farm, L** 96.04 51 ⇑P P 17 22 09.3 +0.7
baz=96
R19A ⇑P P 17 22 09.3 +0.7
baz=96
R19A ⇑P P 17 22 09.3 +0.7
baz=96
L16A **Fish Haven** 96.07 47 ⇑P P 17 22 09.2 +0.6
baz=96
L16A ⇑P P 17 22 09.2 +0.6
baz=96
L16A ⇑P P 17 22 09.2 +0.6
baz=96
MVCO **Mesa Verde** 96.16 52 PFAKE 17 22 20.0 +11
MVCO LR LR
comp=Z,4µm,21.0s
324A **Moseley Ranch,** 96.19 59 ⇑P P 17 22 09.5 +0.1
baz=96
324A ⇑P P 17 22 09.5 +0.1
baz=96
324A ⇑P P 17 22 09.5 +0.1
baz=96
Z23A **Rita Site, Whi** 96.31 57 ⇓P P 17 22 10.2 +0.4
baz=96
Z23A ⇓P P 17 22 10.2 +0.4
baz=96
Z23A ⇓P P 17 22 10.2 +0.4
baz=96
K16A **Soda Springs** 96.31 46 ⇓P P 17 22 10.5 +0.9
baz=97
K16A ⇓P P 17 22 10.5 +0.9
baz=97
K16A ⇓P P 17 22 10.5 +0.9
baz=97
Q19A **Hogan Spring (** 96.31 50 ⇓P P 17 22 10.4 +0.7
baz=97
Q19A ⇓P P 17 22 10.4 +0.7
baz=97
Q19A ⇓P P 17 22 10.4 +0.7
baz=97
425A **Indio Mountain** 96.33 59 ⇑P P 17 22 10.1 +0.1
baz=97
425A ⇑P P 17 22 10.1 +0.1
baz=97
425A ⇑P P 17 22 10.1 +0.1
baz=97
MCMT **McKenzie Canyo** 96.34 44 *e*P P 17 22 10.7 +0.9
comp=Z,1.3nm,0.9s
MNTX **Cornudas Mount** 96.37 58 ⇑P P 17 22 10.2 +0.2
baz=97
MNTX ⇑P P 17 22 10.2 +0.2
baz=97
MNTX ⇑P P 17 22 10.2 +0.2
baz=97
MNTX ⇑P P 17 22 10.2 +0.2
baz=97
MNTX ⇑P P 17 22 10.2 +0.2
baz=97
MNTX ⇑P P 17 22 10.2 +0.2
baz=97
GUN **Gumba** 96.38 297 *e*P P 17 22 10.6 0.0
comp=Z,19nm,0.8s
GUN **Gumba** 96.38 297 *e*P P 17 22 10.6 0.0
comp=Z,19nm,0.8s
224A **Cornudas Mount** 96.40 58 ⇑P P 17 22 10.5 +0.2
baz=97
224A ⇑P P 17 22 10.5 +0.2
baz=97
224A ⇑P P 17 22 10.5 +0.2
baz=97
U21A **Nageezi** 96.47 53 ⇑P P 17 22 11.3 +0.7
baz=97
U21A ⇑P P 17 22 11.3 +0.7
baz=97
U21A ⇑P P 17 22 11.3 +0.7
baz=97
J16A **Bone** 96.48 46 ⇑P P 17 22 11.5 +1.1
baz=97
J16A ⇑P P 17 22 11.5 +1.1
baz=97
J16A ⇑P P 17 22 11.5 +1.1
baz=97
L17A **Cokeville** 96.48 47 ⇓P P 17 22 11.7 +1.2
baz=97
L17A ⇓P P 17 22 11.7 +1.2
baz=97
L17A ⇓P P 17 22 11.7 +1.2
baz=97
S20A **Disappointment** 96.50 52 ⇑P P 17 22 11.7 +1.0
baz=97
S20A ⇑P P 17 22 11.7 +1.0
baz=97
S20A ⇑P P 17 22 11.7 +1.0
baz=97
MSO **Missoula** 96.52 42 PFAKE 17 22 20.0 +10
MSO LR LR
comp=Z,3µm,19.0s

626A	**Big Bend Ranch**	**96.55**	**61**	⇓P		**P**		17 22 11.6	+0.6
	baz=97								
626A				⇓P		**P**		**17 22 11.6**	**+0.6**
	baz=97								
626A				⇓P		**P**		**17 22 11.6**	**+0.6**
	baz=97								
325A	**Bean Ranch, Si**	**96.57**	**59**	⇑P		**P**		**17 22 11.2**	**+0.1**
	baz=97								
325A				⇑P		**P**		**17 22 11.2**	**+0.1**
	baz=97								
325A				⇑P		**P**		**17 22 11.2**	**+0.1**
	baz=97								
AHID	**Auburn Hatcher**	**96.61**	**46**	PFAKE				17 22 20.0	+8.9
AHID				LR		LR			
	comp=Z,3μm,22.0s								
PKI	**Pulchoki**	**96.64**	**297**	*e*P		**P**		**17 22 11.8**	**+0.1**
	comp=Z,84nm,1.3s								
PKI	**Pulchoki**	**96.64**	**297**	*e*P		**P**		**17 22 11.8**	**+0.1**
PKI				pmax		pmax			
	comp=Z,84nm,1.3s								
PKI	**Pulchoki**	**96.64**	**297**	*e*P		**P**		**17 22 11.8**	**+0.1**
	comp=Z,84nm,1.3s								
124A	**Stringfield Ra**	**96.69**	**57**	⇓P		**P**		**17 22 11.9**	**+0.2**
	baz=97								
124A				⇓P		**P**		**17 22 11.9**	**+0.2**
	baz=97								
124A				⇓P		**P**		**17 22 11.9**	**+0.2**
	baz=97								
Y23A	**Lovelace Mesa,**	**96.70**	**56**	⇓P		**P**		**17 22 12.2**	**+0.5**
	baz=97								
Y23A				⇓P		**P**		**17 22 12.2**	**+0.5**
	baz=97								
Y23A				⇓P		**P**		**17 22 12.2**	**+0.5**
	baz=97								
G15A	**Dillon**	**96.71**	**44**	⇑P		**P**		**17 22 12.2**	**+0.8**
	baz=97								
G15A				⇑P		**P**		**17 22 12.2**	**+0.8**
	baz=97								
G15A				⇑P		**P**		**17 22 12.2**	**+0.8**
	baz=97								
526A	**Mary Lane Ranc**	**96.77**	**60**	⇓P		**P**		**17 22 12.1**	**+0.1**
	baz=97								
526A				⇓P		**P**		**17 22 12.1**	**+0.1**
	baz=97								
526A				⇓P		**P**		**17 22 12.1**	**+0.1**
	baz=97								
P19A	**Cripple Cowboy**	**96.78**	**50**	⇑P		**P**		**17 22 12.6**	**+0.7**
	baz=97								
P19A				⇑P		**P**		**17 22 12.6**	**+0.7**
	baz=97								
P19A				⇑P		**P**		**17 22 12.6**	**+0.7**
	baz=97								
ANMO	**Albuquerque**	**96.78**	**55**	PFAKE				17 22 20.0	+8.0
ANMO				LR		LR			
	comp=Z,3μm,20.0s								
KKN	**Kakani**	**96.83**	**297**	*e*P		**P**		**17 22 12.6**	**+0.2**
KKN	**Kakani**	**96.83**	**297**	*e*P		**P**		**17 22 12.6**	**+0.2**
KKN	**Kakani**	**96.83**	**297**	*e*P		**P**		**17 22 12.6**	**+0.2**
TXAR	**Lajitas Array**	**96.84**	**61**	P		**P**		**17 22 13.1**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=220,slow=4.9,SNR=12								
TXAR				PKKPbc		**PKKPbc**		**17 38 52.8**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=157,slow=2.9,SNR=2.5								
TXAR				LR		LR		17 57 36.4	
	comp=Z,2μm,20.5s,baz=70,slow=30								
TXAR	**Lajitas Array**	**96.84**	**61**	P		**P**		**17 22 13.1**	**+0.8**
TXAR	**Lajitas Array**	**96.84**	**61**	P		**P**		**17 22 13.1**	**+0.8**
TXAR				PKKPbc		**PKKPbc**		**17 38 52.8**	**-1.6**
S21A	**Coal Bank Pass**	**96.85**	**52**	⇑P		**P**		**17 22 12.9**	**+0.5**
	baz=97								
S21A				⇑P		**P**		**17 22 12.9**	**+0.5**
	baz=97								
S21A				⇑P		**P**		**17 22 12.9**	**+0.5**
	baz=97								
D14A	**Greenough**	**96.90**	**42**	⇓P		**P**		**17 22 13.1**	**+0.9**
	baz=97								
D14A				⇓P		**P**		**17 22 13.1**	**+0.9**
	baz=97								
D14A				⇓P		**P**		**17 22 13.1**	**+0.9**
	baz=97								
DMN	**Daman**	**96.90**	**297**	*e*P		**P**		**17 22 13.2**	**+0.4**
	comp=Z,100nm,1.1s								
DMN	**Daman**	**96.90**	**297**	*e*P		**P**		**17 22 13.2**	**+0.4**
	comp=Z,100nm,1.1s								
O19A	**Miners Draw (B**	**96.95**	**49**	⇑P		**P**		**17 22 13.5**	**+0.9**
	baz=97								
O19A				⇑P		**P**		**17 22 13.5**	**+0.9**
	baz=97								
O19A				⇑P		**P**		**17 22 13.5**	**+0.9**
	baz=97								
225A	**Deer Hill, Car**	**96.96**	**58**	⇑P		**P**		**17 22 13.4**	**+0.5**
	baz=97								
225A				⇑P		**P**		**17 22 13.4**	**+0.5**
	baz=97								
225A				⇑P		**P**		**17 22 13.4**	**+0.5**
	baz=97								
F15A	**Butte**	**97.00**	**43**	⇑P		**P**		**17 22 13.4**	**+0.6**
	baz=97								
F15A				⇑P		**P**		**17 22 13.4**	**+0.6**
	baz=97								
F15A				⇑P		**P**		**17 22 13.4**	**+0.6**
	baz=97								
Z24A	**Sheeppen Canyo**	**97.00**	**57**	⇓P		Pdif		17 22 13.5	+0.4
	baz=97								
Z24A				⇓P		Pdif		17 22 13.5	+0.4
	baz=97								
Z24A				⇓P		Pdif		17 22 13.5	+0.4
	baz=97								
426A	**McDonald Obser**	**97.05**	**60**	⇓P		Pdif		17 22 13.8	+0.4
	baz=97								
426A				⇓P		Pdif		17 22 13.8	+0.4
	baz=97								
426A				⇓P		Pdif		17 22 13.8	+0.4
	baz=97								
627A	**Terlingua Ranc**	**97.11**	**61**	⇑P		Pdif		17 22 14.1	+0.5
	baz=97								
627A				⇑P		Pdif		17 22 14.1	+0.5
	baz=97								
627A				⇑P		Pdif		17 22 14.1	+0.5
	baz=97								
P20A	**De Beque**	**97.15**	**50**	⇓P		Pdif		17 22 14.6	+1.0
	baz=97								
P20A				⇓P		Pdif		17 22 14.6	+1.0
	baz=97								
P20A				⇓P		Pdif		17 22 14.6	+1.0
	baz=97								
N19A	**John Jarvie Ra**	**97.15**	**49**	⇓P		Pdif		17 22 14.7	+1.0
	baz=97								
N19A				⇓P		Pdif		17 22 14.7	+1.0
	baz=97								
N19A				⇓P		Pdif		17 22 14.7	+1.0
	baz=97								
Y24A	**Capitan**	**97.17**	**56**	⇑P		Pdif		17 22 14.4	+0.5
	baz=97								
Y24A				⇑P		Pdif		17 22 14.4	+0.5
	baz=97								
Y24A				⇑P		Pdif		17 22 14.4	+0.5
	baz=97								
IMW	**Indian Meadow**	**97.18**	**45**	*e*P		Pdif		17 22 14.8	+1.0
	comp=Z,1.5nm,0.4s								
527A	**Woodward Ranch**	**97.19**	**60**	⇓P		Pdif		17 22 15.0	+0.9
	baz=97								
527A				⇓P		Pdif		17 22 15.0	+0.9
	baz=97								
527A				⇓P		Pdif		17 22 15.0	+0.9
	baz=97								
MOOW	**Moose Ponds**	**97.25**	**46**	*e*P		Pdif		17 22 14.1	0.0
	comp=Z,2.4nm,1.3s								
R21A	**Cimarron**	**97.31**	**52**	⇑P		Pdif		17 22 15.1	+0.6
	baz=98								
R21A				⇑P		Pdif		17 22 15.1	+0.6
	baz=98								
R21A				⇑P		Pdif		17 22 15.1	+0.6
	baz=98								
H16A	**Russell Place,**	**97.32**	**45**	⇑P		Pdif		17 22 15.3	+1.0
	baz=98								
H16A				⇑P		Pdif		17 22 15.3	+1.0
	baz=98								
H16A				⇑P		Pdif		17 22 15.3	+1.0
	baz=98								
GKN	**Gorkha**	**97.43**	**297**	*e*P		**P**		**17 22 14.7**	**-0.4**
	comp=Z,47nm,1.1s								
GKN	**Gorkha**	**97.43**	**297**	*e*P		**P**		**17 22 14.7**	**-0.4**
	comp=Z,47nm,1.1s								
BOZ	**Bozeman (W)**	**97.46**	**44**	PFAKE				17 22 30.0	+15
BOZ				LR		LR			
	comp=Z,3μm,20.0s								
Z25A	**Roswell**	**97.49**	**57**	⇓P		Pdif		17 22 15.7	+0.5
	baz=98								
Z25A				⇓P		Pdif		17 22 15.7	+0.5
	baz=98								
Z25A				⇓P		Pdif		17 22 15.7	+0.5
	baz=98								
L19A	**Farson**	**97.51**	**48**	⇓P		Pdif		17 22 15.9	+0.6
	baz=98								
L19A				⇓P		Pdif		17 22 15.9	+0.6
	baz=98								
L19A				⇓P		Pdif		17 22 15.9	+0.6
	baz=98								
J18A	**Kendall Valley**	**97.51**	**46**	⇑P		Pdif		17 22 16.0	+0.7
	baz=98								
J18A				⇑P		Pdif		17 22 16.0	+0.7
	baz=98								
J18A				⇑P		Pdif		17 22 16.0	+0.7
	baz=98								
S22A	**4UR Ranch, Cre**	**97.59**	**52**	⇑P		Pdif		17 22 16.2	+0.4
	baz=98								
S22A				⇑P		Pdif		17 22 16.2	+0.4
	baz=98								
S22A				⇑P		Pdif		17 22 16.2	+0.4
	baz=98								
B14A	**Marquette Ranc**	**97.60**	**41**	⇓P		Pdif		17 22 16.4	+1.1
	baz=98								
B14A				⇓P		Pdif		17 22 16.4	+1.1
	baz=98								
B14A				⇓P		Pdif		17 22 16.4	+1.1
	baz=98								
427A	**Hayter Ranch,**	**97.62**	**60**	⇑P		Pdif		17 22 16.4	+0.5
	baz=98								
427A				⇑P		Pdif		17 22 16.4	+0.5
	baz=98								
427A				⇑P		Pdif		17 22 16.4	+0.5
	baz=98								
H17A	**Grant Village**	**97.63**	**45**	⇓P		Pdif		17 22 16.7	+0.9
	baz=98								
H17A				⇓P		Pdif		17 22 16.7	+0.9
	baz=98								
H17A				⇓P		Pdif		17 22 16.7	+0.9
	baz=98								
PD02	**Pinedale Array**	**97.64**	**47**	*e*P		Pdif		17 22 16.6	+0.7
BW06	**Boulder Array**	**97.64**	**47**	PFAKE				17 22 30.0	+14
BW06				LR		LR			
	comp=Z,3μm,21.0s								
BW06	**Boulder Array**	**97.64**	**47**	⇓P		Pdif		17 22 16.6	+0.8
	baz=98								
BW06				⇓P		Pdif		17 22 16.6	+0.8
	baz=98								
BW06				⇓P		Pdif		17 22 16.6	+0.8
	baz=98								
BW06				⇓P		Pdif		17 22 16.6	+0.8
	baz=98								
BW06				⇓P		Pdif		17 22 16.6	+0.8
	baz=98								
PDAR	**Pinedale Array**	**97.64**	**47**	P		Pdif		17 22 17.5	+1.7
	comp=Z,1.1nm,0.9s,baz=230,slow=2.9,SNR=6.5								
PDAR				LR		LR		17 58 46.4	
	comp=Z,2μm,21.6s,baz=254,slow=31								
PDAR	**Pinedale Array**	**97.64**	**47**	P		Pdif		17 22 17.5	+1.7
PAYG	**Puerto Ayora**	**97.65**	**94**	PFAKE				17 22 30.0	+14
PAYG				LR		LR			
	comp=Z,2μm,21.0s								
W24A	**Lazy 6 Ranch,**	**97.68**	**55**	⇑P		Pdif		17 22 16.7	+0.5
	baz=98								
W24A				⇑P		Pdif		17 22 16.7	+0.5
	baz=98								
W24A				⇑P		Pdif		17 22 16.7	+0.5
	baz=98								
Y25A	**Mesa, Roswell**	**97.75**	**57**	⇓P		Pdif		17 22 17.0	+0.6
	baz=98								
Y25A				⇓P		Pdif		17 22 17.0	+0.6
	baz=98								
Y25A				⇓P		Pdif		17 22 17.0	+0.6
	baz=98								
N20A	**Spence Gulch,**	**97.76**	**49**	⇑P		Pdif		17 22 17.1	+0.7
	baz=98								
N20A				⇑P		Pdif		17 22 17.1	+0.7
	baz=98								
N20A				⇑P		Pdif		17 22 17.1	+0.7
	baz=98								
LKWY	**Lake**	**97.81**	**45**	PFAKE				17 22 30.0	+13
LKWY				LR		LR			
	comp=Z,5μm,20.0s								
528A	**Cox Ranch, San**	**97.86**	**61**	⇓P		Pdif		17 22 17.7	+0.7
	baz=98								
528A				⇓P		Pdif		17 22 17.7	+0.7
	baz=98								
528A				⇓P		Pdif		17 22 17.7	+0.7
	baz=98								
Q22A	**Crested Butte,**	**97.96**	**51**	⇑Pdiff		Pdif		17 22 18.1	+0.7
	baz=98								
Q22A				⇑Pdiff		Pdif		17 22 18.1	+0.7
	baz=98								
Q22A				⇑Pdiff		Pdif		17 22 18.1	+0.7
	baz=98								
Z26A	**Caprock**	**98.06**	**57**	⇑Pdiff		Pdif		17 22 18.6	+0.8
	baz=98								
Z26A				⇑Pdiff		Pdif		17 22 18.6	+0.8
	baz=98								
Z26A				⇑Pdiff		Pdif		17 22 18.6	+0.8
	baz=98								
M20A	**Sweetwater, Wa**	**98.07**	**48**	⇓Pdiff		Pdif		17 22 19.0	+1.2
	baz=98								
M20A				⇓Pdiff		Pdif		17 22 19.0	+1.2
	baz=98								
M20A				⇓Pdiff		Pdif		17 22 19.0	+1.2
	baz=98								
KOLN	**Koldanda**	**98.20**	**297**	*e*P		**P**		**17 22 18.2**	**-0.4**
KOLN	**Koldanda**	**98.20**	**297**	*e*P		**P**		**17 22 18.2**	**-0.4**
DANN	**Dangsing**	**98.28**	**297**	*e*P		**P**		**17 22 18.5**	**-0.6**
	comp=Z,28nm,1.0s								
DANN	**Dangsing**	**98.28**	**297**	*e*P		**P**		**17 22 18.5**	**-0.6**
	comp=Z,28nm,1.0s								
R23A	**Moffat**	**98.49**	**52**	⇓Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
R23A				⇓Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
R23A				⇓Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
V25A	**Rancho No Teng**	**98.52**	**55**	⇑Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
V25A				⇑Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
V25A				⇑Pdiff		Pdif		17 22 20.4	+0.6
	baz=99								
I19A	**Meeteetse**	**98.52**	**46**	⇓Pdiff		Pdif		17 22 20.4	+0.7
	baz=99								
I19A				⇓Pdiff		Pdif		17 22 20.4	+0.7
	baz=99								
I19A				⇓Pdiff		Pdif		17 22 20.4	+0.7
	baz=99								
SDCO	**Great Sand Dun**	**98.56**	**53**	PFAKE				17 22 30.0	+10
SDCO				LR		LR			
	comp=Z,3μm,22.0s								
SDCO	**Great Sand Dun**	**98.56**	**53**	⇑Pdiff		Pdif		17 22 20.9	+0.8
	baz=99								
SDCO				⇑Pdiff		Pdif		17 22 20.9	+0.8
	baz=99								
SDCO				⇑Pdiff		Pdif		17 22 20.9	+0.8
	baz=99								
SDCO				⇑Pdiff		Pdif		17 22 20.9	+0.8
	baz=99								
SDCO				⇑Pdiff		Pdif		17 22 20.9	+0.8
	baz=99								
Z27A	**Tatum**	**98.67**	**58**	⇓Pdiff		Pdif		17 22 20.8	+0.3
	baz=99								
Z27A				⇓Pdiff		Pdif		17 22 20.8	+0.3
	baz=99								
Z27A				⇓Pdiff		Pdif		17 22 20.8	+0.3
	baz=99								
D17A	**Six Diamond Ra**	**98.68**	**43**	⇑Pdiff		Pdif		17 22 21.5	+1.2
	baz=99								
D17A				⇑Pdiff		Pdif		17 22 21.5	+1.2
	baz=99								
D17A				⇑Pdiff		Pdif		17 22 21.5	+1.2
	baz=99								
M21A	**Separation Pea**	**98.69**	**49**	⇑Pdiff		Pdif		17 22 21.6	+1.1
	baz=99								
M21A				⇑Pdiff		Pdif		17 22 21.6	+1.1
	baz=99								
M21A				⇑Pdiff		Pdif		17 22 21.6	+1.1
	baz=99								
S24A	**Houchin Ranch,**	**98.74**	**53**	⇓Pdiff		Pdif		17 22 21.5	+0.6
	baz=99								
S24A				⇓Pdiff		Pdif		17 22 21.5	+0.6
	baz=99								
S24A				⇓Pdiff		Pdif		17 22 21.5	+0.6
	baz=99								
RLMT	**Red Lodge**	**98.77**	**45**	PFAKE				17 22 30.0	+9.2
RLMT				LR		LR			
	comp=Z,3μm,21.0s								
HYB	**Hyderabad**	**98.86**	**285**	*i* Pdiff		Pdif		17 22 22.0	+0.4
HYB				*e*PP		**PP**		**17 26 24.0**	**+0.4**
HYB				*e*SKS		**SKSac**		**17 32 56.0**	**-2.2**
HYB				*e*SS		**SS**		**17 40 40.0**	**+2.2**
U25A	**Circle Dot Ran**	**98.88**	**54**	⇑Pdiff		Pdif		17 22 22.5	+1.1
	baz=99								
U25A				⇑Pdiff		Pdif		17 22 22.5	+1.1
	baz=99								
U25A				⇑Pdiff		Pdif		17 22 22.5	+1.1
	baz=99								
W26A	**Owens Ranch, T**	**98.89**	**56**	⇑Pdiff		Pdif		17 22 22.3	+0.9
	baz=99								
W26A				⇑Pdiff		Pdif		17 22 22.3	+0.9
	baz=99								
W26A				⇑Pdiff		Pdif		17 22 22.3	+0.9
	baz=99								
Y27A	**Causey**	**98.91**	**57**	⇑Pdiff		Pdif		17 22 21.9	+0.3
	baz=99								
Y27A				⇑Pdiff		Pdif		17 22 21.9	+0.3
	baz=99								
Y27A				⇑Pdiff		Pdif		17 22 21.9	+0.3
	baz=99								
INK	**Inuvik**	**99.24**	**18**	LR		LR		18 00 52.5	
	comp=Z,3μm,21.7s,baz=163,slow=32								
INK	**Inuvik**	**99.24**	**18**	*e*P		**Pdif**		**17 22 21.1**	**-0.8**
INK	**Inuvik**	**99.24**	**18**	*e*P		**Pdif**		**17 22 21.1**	**-0.8**
ISCO	**Idaho Springs**	**99.24**	**51**	PFAKE				17 22 30.0	+6.9
ISCO				LR		LR			
	comp=Z,2μm,19.0s								
MSTX	**Muleshoe**	**99.25**	**57**	⇑Pdiff		**Pdif**		**17 22 23.6**	**+0.6**
	baz=100								
MSTX				⇑Pdiff		**Pdif**		**17 22 23.6**	**+0.6**
	baz=100								
MSTX				⇑Pdiff		**Pdif**		**17 22 23.6**	**+0.6**
	baz=100								
EGMT	**Eagleton**	**99.60**	**42**	PFAKE				17 22 40.0	+16
EGMT				LR		LR			
	comp=Z,3μm,21.0s								
NGP	**Nagpur**	**99.74**	**289**	*e*P		**Pdif**		**17 22 22.8**	**-2.5**
NGP				AMS		AMS		17 34 41.8	
	comp=N,742nm,18.0s								
HVS	**Khovu-Aksy**	**99.86**	**321**	⇓*i*P		**Pdif**		**17 22 24.2**	**-1.1**
J22A	**Midwest**	**99.97**	**47**	⇑Pdiff		**Pdif**		**17 22 27.2**	**+1.1**
	baz=100								
J22A				⇑Pdiff		**Pdif**		**17 22 27.2**	**+1.1**
	baz=100								
J22A				⇑Pdiff		**Pdif**		**17 22 27.2**	**+1.1**
	baz=100								
JCT	**Junction City**	**100.38**	**61**	PFAKE				17 22 40.0	+12
JCT				LR		LR			
	comp=Z,2μm,21.0s								
AMTX	**Amarillo**	**100.41**	**57**	PFAKE				17 22 40.0	+12
AMTX				LR		LR			
	comp=Z,3μm,22.0s								
MNGI	**Mangalore**	**100.64**	**280**	*e*P		**Pdif**		**17 22 28.3**	**-1.1**
WMQ	**Urumqi**	**100.85**	**313**	P		**Pdif**		**17 22 29.8**	**-0.1**
WMQ				pP		pP		17 22 40.3	+0.8
WMQ				sP		sP		17 22 44.3	+1.5
WMQ				PP		**PP**		**17 26 40.4**	**+2.1**
WMQ				SKS		**SKSac**		**17 33 04.8**	**-2.2**
WMQ				S		SKKSac		17 34 01.3	+19
WMQ				pmax		pmax			
	comp=Z,11nm,1.8s								
WMQ				pmax		pmax			
	comp=Z,610nm,7.0s								
WMQ				LR		LR			
	comp=N,1μm,24.0s								
WMQ				LR		LR			
	comp=E,1μm,23.8s								
WMQ				LR		LR			
	comp=Z,2μm,22.3s								
KVTX	**Kingsville**	**100.96**	**65**	PFAKE				17 22 40.0	+9.4
KVTX				LR		LR			
	comp=Z,1μm,19.0s								
LATR	**Latur**	**100.98**	**285**	*e*P		**Pdif**		**17 22 27.6**	**-3.3**
LCO	**Las Campanas**	**101.34**	**128**	PFAKE				17 22 40.0	+7.2
LCO				LR		LR			
	comp=Z,2μm,21.0s								
TRQA	**Tornquist**	**101.66**	**140**	PFAKE				17 22 50.0	+16
TRQA				LR		LR			
	comp=Z,1μm,19.0s								
OGNE	**Ogallala**	**102.20**	**51**	PFAKE				17 22 50.0	+14
OGNE				LR		LR			
	comp=Z,2μm,20.0s								
WMOK	**Wichita Mounta**	**102.61**	**58**	PFAKE				17 22 50.0	+12
WMOK				LR		LR			
	comp=Z,4μm,21.0s								
YKA	**Yellowknife Ar**	**102.89**	**27**	P		**Pdif**		**17 22 38.2**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=248,slow=4.0,SNR=3.4								
YKA				PP		**PP**		**17 26 48.4**	**-4.5**
	comp=Z,0.6nm,0.9s,baz=245,slow=7.1,SNR=4.7								
YKA				PKiKP		**PKiKP**		**17 26 59.7**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=238,slow=1.3,SNR=5.1								
YKA	**Yellowknife Ar**	**102.89**	**27**	P		**Pdif**		**17 22 38.3**	**-0.1**
YKA				*i*				17 26 59.8	
YKA	**Yellowknife Ar**	**102.89**	**27**	P		**Pdif**		**17 22 38.2**	**-0.1**
YKA				PP		**PP**		**17 26 48.5**	**-4.5**
YKA				PKiKP		**PKiKP**		**17 26 59.8**	**+1.3**
CBKS	**Cedar Bluff**	**103.19**	**53**	PFAKE				17 22 50.0	+10
CBKS				LR		LR			
	comp=Z,2μm,22.0s								
DGMT	**Dagmar**	**103.23**	**43**	PFAKE				17 22 50.0	+10
DGMT				LR		LR			
	comp=Z,4μm,21.0s								
NDI	**New Delhi**	**103.81**	**295**	*e*P		**Pdif**		**17 22 40.6**	**-2.7**
NATX	**Nacogdoches**	**104.97**	**62**	PFAKE				17 27 20.0	
NATX				LR		LR			
	comp=Z,2μm,19.0s								
NNA	**Nana**	**105.04**	**110**	PFAKE				17 27 20.0	
NNA				LR		LR			
	comp=Z,867nm,21.0s								
MK31	**Makanchi Array**	**105.42**	**315**	*e*P		**Pdif**		**17 22 50.6**	**+0.6**
MK31	**Makanchi Array**	**105.42**	**315**	*e*Pdif		**Pdif**		**17 22 50.6**	**+0.6**
MK31				*e*PKiKP		**PKiKP**		**17 27 02.7**	**-0.9**
MKAR	**Makanchi Array**	**105.42**	**315**	Pdiff		**Pdif**		**17 22 50.7**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=96,slow=6.2,SNR=13								
MKAR				PKiKP		**PKiKP**		**17 27 04.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=96,slow=1.4,SNR=4.2								
MKAR				PKKPbc		**PKKPbc**		**17 38 29.7**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=297,slow=5.3,SNR=4.8								
MKAR	**Makanchi Array**	**105.42**	**315**	P		**Pdif**		**17 22 50.7**	**+0.6**
MKAR	**Makanchi Array**	**105.42**	**315**	Pdif		**Pdif**		**17 22 50.7**	**+0.6**
MKAR				PKiKP		**PKiKP**		**17 27 04.4**	**+0.7**
MKAR				PKKPbc		**PKKPbc**		**17 38 29.7**	**-0.4**
KSU1	**Kansas State U**	**105.60**	**54**	PFAKE				17 27 20.0	
KSU1				LR		LR			
	comp=Z,3μm,20.0s								
TGUH	**Tegucigalpa,Un**	**105.81**	**81**	PFAKE				17 27 20.0	
TGUH				LR		LR		

AGMN Agassiz Nation 108.51 45 PFAKE 17 27 20.0
AGMN LR LR
comp=Z,5µm,21.0s
KURK Kurchatov 108.77 318 Pdiff **Pdif 17 23 05.3 +0.6**
comp=Z,0.5nm,0.7s,baz=102,slow=4.2,SNR=5.1
KURK PKiKP **PKiKP 17 27 09.3 -0.4**
comp=Z,2.6nm,1.1s,baz=108,slow=1.5,SNR=7.5
KURK Kurchatov 108.77 318 P **Pdif 17 23 05.4 +0.6**
KURK MLR MLR
comp=Z,3µm,19.0s
KURK Kurchatov 108.77 318 Pdif **Pdif 17 23 05.3 +0.6**
KURK PKiKP **PKiKP 17 27 09.3 -0.4**
KURK LR LR
comp=Z,3µm,19.0s
SCIA State Center 108.83 52 PFAKE 17 27 20.0
SCIA LR LR
comp=Z,4µm,20.0s
ULM Lac du Bonnet 108.95 43 PFAKE 17 27 20.0
ULM LR LR
comp=Z,4µm,21.0s
TKM2 Tokmak 2 109.01 309 PFAKE 17 27 20.0
TKM2 LR LR
comp=Z,1µm,19.0s
AAK Ala-Archa 109.74 309 PFAKE 17 27 20.0
AAK LR LR
comp=Z,2µm,21.0s
OXF Oxford 109.96 60 PFAKE 17 27 20.0
OXF LR LR
comp=Z,3µm,19.0s
LPAZ La Paz 110.26 118 PFAKE 17 27 30.0
LPAZ LR LR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 110.26 309 PFAKE 17 27 20.0
EKS2 LR LR
comp=Z,2µm,22.0s
BCIP Isla Barro Col 110.96 89 PFAKE 17 27 30.0
BCIP LR LR
comp=Z,714nm,19.0s
BRAL Brewton 111.02 64 PFAKE 17 27 30.0
BRAL LR LR
comp=Z,2µm,20.0s
PLAL Pickwick Lake 111.14 60 PFAKE 17 27 30.0
PLAL LR LR
comp=Z,3µm,21.0s
EYMN Ely 111.30 46 PFAKE 17 27 30.0
EYMN LR LR
comp=Z,4µm,21.0s
ABPO Ambohimpanom 111.31 237 PFAKE 17 27 30.0
ABPO LR LR
comp=Z,5µm,19.0s
HDIL Hopedale 111.41 54 PFAKE 17 27 30.0
HDIL LR LR
comp=Z,3µm,19.0s
LRAL Lakeview Retre 111.55 62 PFAKE 17 27 30.0
LRAL LR LR
comp=Z,2µm,20.0s
MSEY Mahe Island 111.58 255 PFAKE 17 27 30.0
MSEY LR LR
comp=Z,5µm,21.0s
KKAR Karatay Array 112.70 309 *e*PKiKP **PKiKP 17 27 17.2 -0.2**
RES Resolute Bay 112.73 17 *e*PKiKP **PKiKP 17 27 15.2 -1.3**
BVAR Borovoye Array 114.19 319 PKP PKPdf 17 27 19.2 -0.7
comp=Z,1.1nm,0.4s,baz=98,slow=3.0,SNR=12
BVAR SKP 17 30 55.9
comp=Z,1.1nm,0.7s,baz=101,slow=4.6,SNR=4.3
BVAR Borovoye Array 114.19 319 PKIKP PKPdf 17 27 19.2 -0.7
BVAR Borovoye Array 114.19 319 PKP PKPdf 17 27 19.2 -0.7
BVAR SKP 17 30 55.9
BRVK Borovoye 114.25 319 *c i*PKIKP PKPdf 17 27 18.6 -1.4
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 114.25 319 *e*PKPdf PKPdf 17 27 19.4 -0.6
BRVK LR LR
comp=Z,4µm,19.0s
GOGA Godfrey 114.52 62 PFAKE 17 27 30.0 +8.8
GOGA LR LR
comp=Z,2µm,22.0s
GLMI Grayling 115.53 50 PFAKE 17 27 30.0 +7.2
GLMI LR LR
comp=Z,5µm,21.0s
AAM Ann Arbor 115.89 53 PFAKE 17 27 40.0 +16
AAM LR LR
comp=Z,2µm,20.0s
MTDJ Mount Denham 115.99 80 PFAKE 17 27 40.0 +15
MTDJ LR LR
comp=Z,759nm,19.0s
ACSO Alum Creek Sta 116.10 55 PFAKE 17 27 40.0 +16
ACSO LR LR
comp=Z,3µm,20.0s
NHSC New Hope 117.17 63 PFAKE 17 27 40.0 +14
NHSC LR LR
comp=Z,2µm,19.0s
BLA Blacksburg 117.64 59 PFAKE 17 27 40.0 +13
BLA LR LR
comp=Z,4µm,21.0s
SAML Samuel 118.22 114 PFAKE 17 27 40.0 +11
SAML LR LR
comp=Z,973nm,22.0s
SUR Sutherland 118.34 208 PFAKE 17 27 40.0 +11
SUR LR LR
comp=Z,4µm,19.0s
ERPA Erie 118.57 53 PFAKE 17 27 40.0 +11
ERPA LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 118.67 79 PFAKE 17 27 40.0 +10
GTBY LR LR
comp=Z,847nm,19.0s
IDAH Dahanechah 119.27 296 *e*P **PKPdf 17 27 30.9 +0.2**
BOSA Boshof 119.32 214 PFAKE 17 27 40.0 +9.1
BOSA LR LR
comp=Z,2µm,20.0s
SDV Santo Domingo 119.36 92 PFAKE 17 27 40.0 +8.7
SDV LR LR
comp=Z,340nm,20.0s
CNNC Cliffs of the 119.38 61 PFAKE 17 27 40.0 +10
CNNC LR LR
comp=Z,2µm,19.0s
SVE Sverdlovsk 119.88 324 ⇓ *i*PKIKP **PKPdf 17 27 31.2 +0.5**
SVE *e* 17 31 24.0
SVE *e* 17 38 48.0
SVE pmax pmax
comp=Z,19nm,1.3s
CBN Corbin 120.17 58 PFAKE 17 27 40.0 +8.1
CBN LR LR
comp=Z,5µm,21.0s
TRIS Tristan da Cun 120.48 177 PFAKE 17 27 40.0 +7.3
TRIS LR LR
comp=Z,3µm,19.0s
IPAY Payeh 120.50 300 *e*P **PKPdf 17 27 33.0 +0.1**
ABKAR Akbulak array 120.56 315 *e*P **PKPdf 17 27 32.0 -0.3**
SPB Sao Paulo 120.65 138 PFAKE 17 27 50.0 +17
SPB LR LR
comp=Z,1µm,20.0s
IKRD Kardeh 120.92 300 *e*P **PKPdf 17 27 33.5 -0.3**
ARU Arti 121.05 323 *i* PKIKP **PKPdf 17 27 32.6 -0.4**
ARU 17 29 02.5
ARU 17 34 24.8
ARU SS SS 17 45 24.5 -9.1
ARU Arti 121.05 323 *e*PKPdf **PKPdf 17 27 32.8 -0.2**
ARU LR LR
comp=Z,2µm,19.0s
ISFR Sfrayin 121.36 301 *e*P **PKPdf 17 27 34.7 +0.1**
BINY Binghamton 121.55 53 PFAKE 17 27 50.0 +16
BINY LR LR
comp=Z,3µm,19.0s
SOKR Solikamsk 121.59 327 *d i*PKIKP **PKPdf 17 27 33.0 -0.9**
SOKR pmax pmax
comp=Z,20nm,0.8s
ISHV Shirvan 121.65 301 *e*P **PKPdf 17 27 37.6 +2.5**
AKTO Aktyubinsk 121.79 316 PKP **PKPdf 17 27 34.4 -0.3**
comp=Z,6.0nm,0.7s,baz=104,slow=3.1,SNR=15
AKTO SKP 17 31 11.4
comp=Z,3.1nm,0.8s,baz=247,slow=2.1,SNR=3.7
AKTO Aktyubinsk 121.79 316 PKIKP **PKPdf 17 27 34.4 -0.3**
AKTO Aktyubinsk 121.79 316 PKP **PKPdf 17 27 34.4 -0.3**
AKTO SKP 17 31 11.4
SDDR Presa de Saban 121.89 81 PFAKE 17 27 50.0 +14
SDDR LR LR
comp=Z,806nm,19.0s
LBTB Lobatse 121.99 217 PFAKE 17 27 50.0 +14
LBTB LR LR
comp=Z,3µm,19.0s
LONY Lake Ozonia 122.64 51 PFAKE 17 27 50.0 +14
LONY LR LR
comp=Z,5µm,22.0s

IBAF Bafgh 122.70 294 *e*P **PKPdf 17 27 36.9 -0.3**
KBS Kingsbay 122.89 355 *e*PP PP 17 29 15.9 +1.0
KBS *e*SS SS 17 45 58.5 +2.8
KBS Kingsbay 122.89 355 *i* PKIKP **PKPdf 17 27 36.4 +0.4**
KBS pmax pmax
comp=Z,20nm,1.0s
KBS Kingsbay 122.89 355 PFAKE 17 27 50.0 +14
KBS LR LR
comp=Z,1µm,21.0s
SPA0 Spitsbergen Ar 123.19 354 *e*P **PKPdf 17 27 36.9 +0.3**
SPB4 Spitsbergen Ar 123.19 354 *e*PKPdf **PKPdf 17 27 36.4 -0.2**
IMEH Mehriz 123.48 293 *e*P **PKPdf 17 27 37.4 -1.4**
HOPEN Hopen 123.55 351 *e*PP PP 17 29 18.7 -0.6
IGLO Ghaloghah 124.65 300 *e*P **PKPdf 17 27 41.7 +0.8**
IKIA Kiasar 124.75 299 *e*P **PKPdf 17 27 42.2 +1.1**
DAG Danmarks Havn 125.64 3 *i* PKIKP **PKPdf 17 27 39.5 -1.8**
DAG *e* 17 29 35.4
DAG *i* 17 40 56.4
DAG MLR MLR
comp=Z,3µm,24.0s
DAG Danmarks Havn 125.64 3 *i* P **PKPdf 17 27 39.5 -1.8**
DAG *e* 17 29 35.4
DAG *i* 17 40 56.4
DAG *i* 17 47 16.2
DAG
comp=Z,4µm,24.0s
IPRN Peran 125.84 299 *e*P **PKPdf 17 27 44.5 +1.5**
BDFB Brasilia 125.96 131 PKP **PKPdf 17 27 44.1 +0.2**
comp=Z,5.9nm,0.9s,baz=146,slow=3.6,SNR=5.4
BDFB Brasilia 125.96 131 PKIKP **PKPdf 17 27 44.1 +0.2**
BDFB Brasilia 125.96 131 PKP **PKPdf 17 27 44.1 +0.2**
IDMV Damavand 126.04 298 *e*P **PKPdf 17 27 44.0 +0.3**
SJG San Juan 126.37 84 *e*PKIKP **PKPdf 17 27 43.9 -0.5**
SJG MLR MLR
comp=Z,707nm,20.0s
SJG San Juan 126.37 84 *e*PKPdf **PKPdf 17 27 43.9 -0.5**
SJG LR LR
comp=Z,707nm,20.0s
SCHQ Schefferville 126.58 38 PKP **PKPdf 17 27 44.3 +0.6**
comp=Z,4.9nm,1.1s,baz=272,slow=6.3,SNR=3.7
SCHQ Schefferville 126.58 38 PKP **PKPdf 17 27 44.3 +0.6**
SCHQ LR LR
comp=Z,10µm,22.0s
IR3 Iran Long-Peri 126.86 298 *e*P **PKPdf 17 27 45.3 +0.3**
SUMG Summit 127.41 11 *i* PKIKP **PKPdf 17 27 44.6 -0.7**
SUMG Summit 127.41 11 *e*PKPdf **PKPdf 17 27 44.8 -0.5**
SUMG Summit 127.41 11 *i* P **PKPdf 17 27 44.6 -0.7**
LVZ Lovozero 127.47 341 *i* PKIKP **PKPdf 17 27 44.8 -0.3**
LVZ pmax pmax
comp=Z,65nm,1.7s
LVZ Lovozero 127.47 341 PFAKE 17 28 00.0 +15
LVZ LR LR
comp=Z,4µm,22.0s
APA Apatity 128.05 341 ⇑ *i*PKIKP PKPdf 17 27 53.2 +7.1
APA *i* 17 29 55.0
APA *i* 17 34 48.0
APA *i* PS **PS 17 39 58.0 +1.5**
APA *i* PPS PPS 17 41 29.0
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,3µm,18.0s
KEV Kevo 128.31 345 PFAKE 17 28 00.0 +13
KEV LR LR
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 128.55 20 PFAKE 17 28 00.0 +13
SFJD LR LR
comp=Z,6µm,22.0s
GRGR Grenville 128.76 92 PFAKE 17 28 00.0 +11
GRGR LR LR
comp=Z,779nm,20.0s
ARCES ARCESS Array B 128.83 345 PKP **PKPdf 17 27 46.0 -1.6**
comp=Z,13nm,0.9s,baz=90,slow=0.9,SNR=14
ARCES ARCESS Array B 128.83 345 PKIKP **PKPdf 17 27 46.0 -1.6**
ARCES ARCESS Array B 128.83 345 PKP **PKPdf 17 27 46.0 -1.6**
ARE0 ARCESS Array S 128.83 345 *e*P **PKPdf 17 27 46.4 -1.2**
KMBO Kilima Mbogo 129.26 248 *e*PKIKP **PKPdf 17 27 51.1 +0.7**
KMBO MLR MLR
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 129.26 248 *e*PKPdf **PKPdf 17 27 51.1 +0.7**
KMBO LR LR
comp=Z,3µm,20.0s
KLMR Klimovskoe 129.39 332 *e*PKIKP **PKPdf 17 27 47.0 -1.8**
KLMR pmax pmax
comp=Z,58nm,1.3s
KLMR MLR MLR
comp=Z,4µm,23.0s
MAK Makhachkala 129.49 308 *e*P **Pdif 17 24 37.6 +0.5**
MAK *i* 17 27 50.6
MAK *e* 17 30 00.4
MAK *e*PPP PPP 17 32 45.0
MAK *e* 17 35 00.9
MAK pmax pmax
comp=Z,199nm,1.2s
KTK1 Kautokeino 129.76 346 AMS AMS 18 22 32.1
comp=Z,5µm,20.9s
FDF Fort de France 130.04 90 PFAKE 17 28 00.0 +8.5
FDF LR LR
comp=Z,1µm,21.0s
TRO Tromso 130.18 348 AMS AMS 18 15 04.3
comp=Z,2µm,25.7s
IVIS Veis 130.24 297 *e*P **PKPdf 17 27 46.5 -5.0**
ANWB Willy Bob 130.27 86 PFAKE 17 28 00.0 +8.2
ANWB LR LR
comp=Z,662nm,20.0s
IGHG Ghaleghazi 130.47 296 *e*P **PKPdf 17 27 50.2 -1.9**
TSUM Tsumeb 131.01 214 PKPdf **PKPdf 17 27 55.5 +2.0**
TSUM LR LR
comp=Z,4µm,19.0s
DGRG David-gareji 131.20 306 P **PKPdf 17 27 54.8 +1.8**
DGRG S **SKiKP 17 31 22.2 -5.7**
SCO Scoresbysund 131.56 6 *e*PKIKP PKPdf 17 27 58.1 +5.4
SCO MLR MLR
comp=Z,2µm,20.0s
SCO Scoresbysund 131.56 6 *i* P PKPdf 17 27 58.1 +5.4
SCO *i* 17 48 19.9
SCO
comp=Z,2µm,20.0s
JOF Joensuu 131.60 337 *e*PKIKP PKPdf 17 27 45.4 -7.6
JOF pmax pmax
comp=Z,15nm,0.8s
JOF Joensuu 131.60 337 *e*p PKPdf 17 27 45.4 -7.6
comp=Z,14nm,0.8s
JOF Joensuu 131.60 337 *e*p PKPdf 17 27 45.4 -7.6
comp=Z,14nm,0.8s
TBLG Delisi 131.65 306 *e*PKIKP **PKPdf 17 27 54.4 +0.7**
TBLG Delisi 131.65 306 P **PKPdf 17 27 54.5 +0.7**
TBLG S **SKPab 17 31 18.8 +0.9**
GNI Garni 131.79 304 ⇑ *i*PKIKP **PKPdf 17 27 53.4 -0.9**
GNI pmax pmax
comp=Z,34nm,2.5s
GNI Garni 131.79 304 *e*PKPdf **PKPdf 17 27 54.5 +0.2**
GNI LR LR
comp=Z,1µm,19.0s
VRHR Novokhopersk 131.93 319 *e*PKIKP **PKPdf 17 27 52.6 -1.3**
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR MLR MLR
comp=N,270nm,12.0s
VRHR MLR MLR
comp=E,340nm,12.0s
VRHR MLR MLR
comp=Z,1µm,12.0s
ZEI Tsey 132.15 308 *i* PKIKP **PKPdf 17 27 53.9 -1.1**
ZEI pmax pmax
comp=Z,28nm,2.1s
BHD Baghdad 132.26 295 *i* PKP **PKPdf 17 27 54.0 -1.1**
BHD *i* PP **PP 17 30 13.0 -5.1**
BHD *i* PKS PKSdf 17 31 20.0 -12
BHD *i* SKS SKSdf 17 34 47.0 -18
BHD *i* SKKKS 17 37 13.0
ONI Oni 132.50 308 P **PKPdf 17 27 55.6 +0.2**
ONI S **SKiKP 17 31 26.4 -4.2**
MOS Moscow 132.52 326 *e*PKIKP PKPdf 17 28 05.9 +11
MOS *e* 17 28 22.0
AKH Akhalkalaki 132.61 306 P **PKPdf 17 27 57.6 +1.8**
AKH S **SKPab 17 31 25.2 +2.9**
KIV Kislovodsk 132.85 310 *i* PKIKP **PKPdf 17 27 54.3 -1.8**
KIV *e* 17 30 18.2
KIV *e*PS **PS 17 40 38.7 -0.6**
KIV *e*SS SS 17 47 56.3 -5.3
KIV *e*SSS SSS 17 52 53.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 132.85 310 PKPdf **PKPdf 17 27 54.3 -1.8**
KIV LR LR
comp=Z,2µm,20.0s
OBN Obninsk 133.33 326 *i* PKIKP **PKPdf 17 27 57.0 +0.6**
OBN *e* 17 28 07.3
OBN *e* 17 28 12.3
OBN *e* 17 30 30.3
OBN *e*PPP PPP 17 33 22.2
OBN *e* 17 40 28.4
OBN *e* 17 42 27.5
OBN pmax pmax
comp=Z,52nm,2.5s
OBN Obninsk 133.33 326 PFAKE 17 28 10.0 +14
OBN LR LR
comp=Z,2µm,20.0s
PUL Pulkovo 133.87 334 *e*PKIKP **PKPdf 17 27 55.3 -2.0**
KAF Kangasniemi 133.90 338 *e*PKIKP PKPdf 17 27 50.3 -7.0
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 133.90 338 *e*p PKPdf 17 27 50.3 -7.0
comp=Z,5.1nm,0.7s
KAF Kangasniemi 133.90 338 *e*p PKPdf 17 27 50.3 -7.0
comp=Z,5.1nm,0.7s
FINES FINESS Array B 134.43 337 PKhKP PKPpre 17 27 49.4
comp=Z,1.4nm,0.5s,baz=132,slow=2.8,SNR=4.5
FINES PKP **PKPdf 17 27 57.2 -1.1**
comp=Z,9.5nm,0.8s,baz=66,slow=3.4,SNR=10
FINES SKPbc **SKPbc 17 31 26.8 +0.7**
comp=Z,15nm,1.1s,baz=96,slow=7.7,SNR=8.2
FINES FINESS Array B 134.43 337 PKHKP PKPpre 17 27 49.4
FINES 17 27 57.2
FINES FINESS Array B 134.43 337 PKPpre PKPpre 17 27 49.4
FINES PKP **PKPdf 17 27 57.2 -1.1**
FINES SKPbc **SKPbc 17 31 26.8 +0.7**
SOC Sochi 135.03 310 *i* PKIKP **PKPdf 17 28 00.5 +0.5**
SOC *e* 17 28 16.4
SOC *e* 17 30 30.6
SOC pmax pmax
comp=Z,9.0nm,0.4s
MBAR Mbarara 135.05 244 PFAKE 17 28 10.0 +8.8
MBAR LR LR
comp=Z,705nm,20.0s
VSU Vasula 136.13 334 *e*PKIKP **PKPdf 17 28 00.0 -1.6**
ANN Anapa 136.35 312 *i* PKIKP **PKPdf 17 28 03.3 +0.9**
ANN *e* 17 35 06.0
ANN *e*SS SS 17 48 41.2 -2.2
ANN pmax pmax
comp=Z,25nm,1.1s
MALT Malatya 136.85 302 PFAKE 17 28 20.0 +16
MALT LR LR
comp=Z,35nm,19.0s
BORG Borgarnes 137.15 8 PFAKE 17 28 20.0 +17
BORG LR LR
comp=Z,2µm,19.0s
MICGM Minsk 138.00 329 *e*PKP **PKPdf 17 28 03.0 -2.2**
MNK Minsk 138.02 329 *e*PKIKP **PKPdf 17 28 03.0 -2.2**
MNK *e*PPS PPS 17 43 06.0
MNK MLR MLR
comp=Z,8µm,22.0s
NACGM Naroch 138.29 330 *e* **PKPdf 17 28 04.0 -1.7**
NB2 NORSAR Subarra1 139.21 345 PKPdf PKPdf 17 27 58.0 -9.3
comp=Z,18nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra1 139.21 345 PKPdf PKPdf 17 27 58.0 -9.3
baz=31,slow=1.9
NOA NORSAR Array B 139.21 345 PKhKP PKPpre 17 27 58.9
comp=Z,1.8nm,0.8s,baz=29,slow=2.0,SNR=3.6
NOA PKP **PKPdf 17 28 06.1 -1.2**
comp=Z,2.9nm,0.8s,baz=43,slow=1.8,SNR=6.5
NOA NORSAR Array B 139.21 345 PKHKP PKPpre 17 27 58.9
NOA 17 28 06.1
NOA NORSAR Array B 139.21 345 PKPpre PKPpre 17 27 58.9
NOA PKP **PKPdf 17 28 06.1 -1.2**
HWQ Hawqa 139.26 297 *e*P **PKPdf 17 28 07.3 -1.0**
AKASG Malin Array Be 139.31 323 PKhKP PKPpre 17 28 01.2
comp=Z,0.7nm,0.5s,baz=52,slow=2.8,SNR=4.3
AKASG PKP **PKPdf 17 28 07.9 +0.2**
comp=Z,8.9nm,1.1s,baz=51,slow=1.5,SNR=13
AKASG SKPbc **SKiKP 17 31 42.7 -1.4**
comp=Z,8.6nm,1.0s,baz=47,slow=3.4,SNR=8.1
AKASG Malin Array Be 139.31 323 PKHKP PKPpre 17 28 01.3
AKASG 17 28 07.9
AKASG Malin Array Be 139.31 323 PKPpre PKPpre 17 28 01.2
AKASG PKP **PKPdf 17 28 07.9 +0.2**
AKASG SKPbc **SKiKP 17 31 42.8 -1.4**
KIEV Kiev 139.32 323 *i* PKIKP **PKPdf 17 28 06.6 -1.1**
KIEV Kiev 139.32 323 *e*PKPdf **PKPdf 17 28 07.3 -0.4**
KIEV LR LR
comp=Z,3µm,19.0s
NAO01 NORSAR Array S 139.46 345 PFAKE 17 28 20.0 +12
NAO01 LR LR
comp=Z,4µm,20.0s
BHL Bhannes 139.53 296 *e*P **PKPdf 17 28 06.2 -2.6**
BR131 Keskin Array S 140.29 305 *e*PKPpre PKPpre 17 28 03.9
BR131 LR LR
comp=Z,1µm,20.0s
BRTR Keskin Array B 140.29 305 PKhKP PKPpre 17 28 04.2
comp=Z,0.8nm,0.7s,baz=154,slow=1.7,SNR=4.4
BRTR PP **PP 17 31 08.1 -0.4**
comp=Z,1.3nm,0.9s,baz=66,slow=7.0,SNR=4.1
BRTR SKPbc **SKiKP 17 31 48.0 +1.2**
comp=Z,2.0nm,0.9s,baz=103,slow=3.9,SNR=3.8
BRTR Keskin Array B 140.29 305 PKHKP PKPpre 17 28 04.3
BRTR 17 31 08.1
BRTR Keskin Array B 140.29 305 PKPpre PKPpre 17 28 04.2
BRTR PP **PP 17 31 08.1 -0.4**
BRTR SKPbc **SKiKP 17 31 48.0 +1.2**
SUW Suwalki 140.50 331 *e*PKP PKPdf 17 28 04.4 -5.3
SUW LMZ LR 18 30 16.2
comp=Z,3µm,21.3s
SUW Suwalki 140.50 331 *e*PKHKP PKPpre 17 28 04.4
SUW MLR MLR
comp=Z,3µm,21.3s
KONO Kongsberg 140.82 345 PFAKE 17 28 20.0 +10
KONO LR LR
comp=Z,3µm,20.0s
RCBR Riachuelo 141.23 134 PFAKE 17 28 20.0 +7.6
RCBR LR LR
comp=Z,2µm,22.0s
KIS Kishinev 141.25 318 *e*PKIKP **PKPdf 17 28 14.0 +2.6**
KIS *e* 17 28 23.0
KIS *e*PPP PPP 17 34 30.0
KIS Kishinev 141.25 318 *e*PKP **PKPdf 17 28 14.0 +2.6**
KIS Kishinev 141.25 318 *e*PP PP 17 31 30.0 +16
CSS Prodhromos 141.34 298 PFAKE 17 28 20.0 +8.1
CSS LR LR
comp=Z,3µm,19.0s
SHEL Horse Pasture 141.48 185 PFAKE 17 28 20.0 +7.2
SHEL LR LR
comp=Z,4µm,21.0s
CFR Carcaliu 142.45 316 ⇑ PKIKP **PKPdf 17 28 14.2 +0.7**
CFR Carcaliu 142.45 316 ⇑ *i*P **PKPdf 17 28 14.2 +0.7**
LVV L'vov 142.60 325 *e*PKIKP **PKPdf 17 28 15.4 +1.7**
LVV *e* 17 31 21.6
LVV MLR MLR
comp=N,1µm,20.5s
LVV MLR MLR
comp=E,2µm,20.5s
LVV MLR MLR
comp=Z,2µm,20.5s
TESR 142.80 318 ⇑ *i*P **PKPdf 17 28 10.6 -3.6**
VRI Vrincioaia 143.05 317 ⇑ *i*P PKPab 17 28 10.1 +0.1
BSD Bornholm Skovb 143.07 337 *i* P PKPab 17 28 10.4 +0.7
BSD
comp=Z,3µm,20.0s
ISP Isparta 143.08 303 PFAKE 17 28 30.0 +15
ISP LR LR
comp=Z,2µm,19.0s
PLOR Plostina 143.10 317 ⇑ PKIKP **PKPdf 17 28 13.9 -0.9**
PLOR Plostina 143.10 317 ⇑ *i*P **PKPdf 17 28 13.9 -0.9**
BUR08 Bucovina Ar. S 143.12 321 *e*PKPdf **PKPdf 17 28 14.0 -0.8**
BURAR Bucovina Array 143.12 321 ⇑ *i*P PKPbc 17 28 12.6 +0.8
KWP Kalwaria Pacla 143.42 325 *e*PKP **PKPdf 17 28 15.3 +0.1**
KWP LMZ LR 18 32 51.1
comp=Z,4µm,21.9s
KWP Kalwaria Pacla 143.42 325 *e*PKIKP **PKPdf 17 28 15.3 +0.1**
KWP MLR MLR
comp=Z,4µm,21.9s
KWP Kalwaria Pacla 143.42 325 PFAKE 17 28 30.0 +15
KWP LR LR
comp=Z,4µm,21.0s

GKP Gorka Klasztor 143.58 334 *e*PKP PKPbc 17 28 13.7 +1.1
GKP LMZ LR 18 26 07.6
comp=Z,3µm,27.6s
GKP Gorka Klasztor 143.58 334 *e*PKIKP PKPbc 17 28 13.7 +1.0
GKP MLR MLR
comp=Z,3µm,27.6s
MLR Muntele Rosu 143.71 317⇑ *i*P PKPab 17 28 12.4 -0.3
UZH Uzhgorod 144.22 324*c i*PKIKP PKPbc 17 28 15.2 +0.4
UZH *i* 17 28 22.8
UZH *e* 17 28 30.0
UZH *e* 17 35 13.0
UZH *e*SS SS 17 50 16.0 +1.4
UZH MLR MLR
comp=N,1µm,22.0s
UZH MLR MLR
comp=E,2µm,22.0s
UZH MLR MLR
comp=Z,1µm,22.0s
VOIR 144.29 318 PKIKP **PKPdf 17 28 16.1 -0.8**
VOIR 144.29 318⇑ *i*P **PKPab 17 28 14.1 -0.8**
STHS Stebnicka Huta 144.31 326 *e*PKIKP **PKPdf 17 28 18.0 +1.2**
STHS Stebnicka Huta 144.31 326 *e*PKP **PKPdf 17 28 18.0 +1.2**
TRPA Tarpa 144.37 323⇓ *i*P PKPbc 17 28 15.3 0.0
TRPA Tarpa 144.37 323⇓ *e*PKPdf PKPbc 17 28 15.9 +0.6
CRVS Cervenica-Dubn 144.51 325 *e*PKIKP PKPbc 17 28 16.1 +0.4
CRVS Cervenica-Dubn 144.51 325 *e*PKP PKPbc 17 28 16.1 +0.4
OJC Ojcow 144.53 328 *e*PKPdf **PKPab 17 28 15.0 -0.5**
OJC *ep*PKPdf **pPKPdf 17 28 26.7 -0.1**
OJC Ojcow 144.53 328 *e*PKIKP **PKPab 17 28 15.0 -0.5**
OJC *e* 17 28 26.7
JMB Yambol 144.56 312 PKIKP PKPbc 17 28 16.6 +0.5
JMB Yambol 144.56 312 P PKPbc 17 28 16.6 +0.5
JMB Yambol 144.56 312 P PKPbc 17 28 16.6 +0.5
JMB Yambol 144.56 312 *i* P PKPbc 17 28 16.0 -0.1
MVH1 Achvaich 144.63 356 *e*P PKPbc 17 28 15.7 0.0
MVH1 Achvaich 144.63 356 P PKPbc 17 28 15.7 0.0
SZH Strazhica 144.68 314 *i* P PKPbc 17 28 16.7 +0.3
HUMR Humele 144.75 316⇓ *i*P **PKPab 17 28 16.2 -0.3**
NIE Niedzica 144.79 327 *e*PKPdf **PKPdf 17 28 18.0 +0.4**
NIE Niedzica 144.79 327 *e*PKIKP **PKPdf 17 28 18.0 +0.4**
MCD Coleburn Disti 144.90 355 *e*P **PKPab 17 28 15.8 -0.8**
MCD Coleburn Disti 144.90 355 P **PKPab 17 28 15.8 -0.8**
DRGR 145.01 321⇑ PKIKP **PKPab 17 28 17.6 +0.1**
DRGR 145.01 321⇑ *i*P **PKPab 17 28 17.6 +0.1**
LOT Lotru 145.07 318⇑ *i*P **PKPbc 17 28 17.2 -0.6**
PVL Pavlikeni 145.10 314 *i* P **PKPdf 17 28 18.6 +0.4**
KAC Achnashellach 145.12 357 *e*P **PKPbc 17 28 16.6 -0.8**
KAC Achnashellach 145.12 357 P **PKPbc 17 28 16.6 -0.8**
MDO Dochfour 145.12 356 *e*P **PKPbc 17 28 16.6 -0.8**
MDO Dochfour 145.12 356 P **PKPbc 17 28 16.6 -0.8**
MME1 Meikle Cairn 145.14 354 *e*P **PKPbc 17 28 16.4 -1.0**
MME1 Meikle Cairn 145.14 354 P **PKPbc 17 28 16.4 -1.0**
KPL Plockton 145.30 357 *e*P **PKPbc 17 28 17.0 -0.9**
KPL Plockton 145.30 357 P **PKPbc 17 28 17.0 -0.9**
RAC Raciborz 145.40 329 *e*PKIKP **PKPab 17 28 18.7 0.0**
ALN Alexandroupoli 145.51 310 PKP2 **PKPdf 17 28 18.0 -1.0**
ALN Alexandroupoli 145.51 310 P **PKPdf 17 28 18.0 -1.0**
ALN Alexandroupoli 145.51 310 P **PKPdf 17 28 18.0 -1.0**
RUE Ruedersdorf 145.56 335 *e*PKPdf **PKPab 17 28 19.5 +0.4**
BSEG Bad Segeberg 145.59 340 *e*PKPbc **PKPab 17 28 19.9 +0.7**
BSEG *e*L L 18 30 56.1
comp=Z,4µm,21.6s
BSEG Bad Segeberg 145.59 340 *e*PKIKP **PKPab 17 28 19.9 +0.7**
BSEG MLR MLR
comp=Z,4µm,21.6s
OKC Ostrava-Krasne 145.59 329 *e*PKIKP **PKPab 17 28 19.8 +0.4**
OKC MLR MLR
comp=Z,4µm,21.6s
OKC Ostrava-Krasne 145.59 329 *e*PKP **PKPab 17 28 19.8 +0.4**
OKC AMS AMS 18 29 20.0
comp=Z,4µm,26.6s
CRAR CRAIOVA 145.60 317 PKIKP **PKPab 17 28 21.2 +1.6**
GZR Gura Zlata 145.71 319 PKIKP **PKPab 17 28 20.7 +0.6**
GZR Gura Zlata 145.71 319⇑ *i*P **PKPdf 17 28 18.7 -0.6**
KSP Ksiaz 145.75 331 *e*PKPc 17 28 19.6
KSP LMZ LR 18 23 40.6
comp=Z,3µm,30.9s
KSP Ksiaz 145.75 331 *e*PKIKP **PKPab 17 28 20.2 +0.2**
KSP *e* 17 31 39.0
KSP *e*SS SS 17 50 30.0 -1.7
KSP *e*SSS SSS 17 55 56.0
KSP MLR MLR
comp=Z,7µm,21.1s
PRK Paraskevi 145.91 307 *e*P **PKPbc 17 28 20.7 +0.2**
MORC Moravsky Berou 145.92 329⇑ PKP2 **PKPbc 17 28 19.9 -0.3**
MORC Moravsky Berou 145.92 329 *e*PKPdf **PKPbc 17 28 19.9 -0.3**
MORC Moravsky Berou 145.92 329⇑ *i*P **PKPbc 17 28 19.9 -0.3**
PSZ Piszkesteto 145.93 325⇑ PKP2 **PKPdf 17 28 19.6 -0.1**
PSZ Piszkesteto 145.93 325 *e*PKPdf **PKPdf 17 28 19.9 +0.3**
PSZ LR LR
comp=Z,5µm,22.0s
PSZ Piszkesteto 145.93 325⇑ *i*P **PKPdf 17 28 19.6 -0.1**
PSZ Piszkesteto 145.93 325⇓ *e*PKPdf **PKPab 17 28 21.4 +0.5**
SMG Samos 145.94 304 *e*P **PKPab 17 28 21.1 -0.1**
PLD Plovdiv 145.98 313 PKP2 **PKPab 17 28 22.2 +1.1**
PLD Plovdiv 145.98 313 P **PKPab 17 28 22.2 +1.1**
PLD Plovdiv 145.98 313 P **PKPab 17 28 22.2 +1.1**
PLD Plovdiv 145.98 313 P **PKPdf 17 28 19.9 +0.1**
KRLC Kraliky 146.07 330 *e*PKP **PKPab 17 28 20.7 +1.0**
DPC Dobruska-Polom 146.08 331 *e*PKP2 **PKPab 17 28 21.1 -0.2**
DPC MLR MLR
comp=Z,4µm,20.1s
DPC Dobruska-Polom 146.08 331 *e*PKP **PKPab 17 28 21.1 -0.2**
DPC AMS AMS 18 34 50.0
comp=Z,4µm,20.1s
UPC Upice 146.11 331 *e*PKP2 **PKPbc 17 28 20.4 -0.3**
UPC Upice 146.11 331 *e*PKP **PKPbc 17 28 20.4 -0.3**
VYHS Vyhne 146.13 326 *e*PKP2 **PKPbc 17 28 20.8 -0.1**
VYHS Vyhne 146.13 326 *e*PKP **PKPbc 17 28 20.8 -0.1**
VYHS *e* 17 42 19.2
KARP Karpathos 146.22 300 *e*P **PKPab 17 28 22.4 +0.1**
BZS Buzias 146.28 320⇓ PKP2 **PKPbc 17 28 21.2 -0.2**
BZS Buzias 146.28 320⇓ *i*P **PKPbc 17 28 21.2 -0.2**
KOLL Kolacno 146.29 327 *e*PKP2 **PKPab 17 28 22.8 +0.7**
KOLL Kolacno 146.29 327 *e*PKP **PKPab 17 28 22.8 +0.7**
KOLL *e* 17 42 21.6
CHOS Chios island 146.34 306 P **PKPab 17 28 23.6 +0.9**
EAB Aberfoyle 146.37 355 *e*P **PKPdf 17 28 19.9 -0.1**
EAB Aberfoyle 146.37 355 P **PKPdf 17 28 19.9 -0.1**
ESY Stoneypath 146.48 354 *e*P **PKPdf 17 28 20.1 -0.1**
ESY Stoneypath 146.48 354 P **PKPdf 17 28 20.1 -0.1**
LIA Limnos Island 146.49 309 *e*P **PKPbc 17 28 22.3 +0.1**
EDI Edinburgh 146.53 354 *e*P **PKPdf 17 28 20.6 +0.3**
EDI Edinburgh 146.53 354 P **PKPdf 17 28 20.6 +0.3**
KAVA Kavala 146.55 311 P **PKPab 17 28 24.0 +0.6**
KAVA Kavala 146.55 311 P **PKPab 17 28 24.0 +0.6**
EAU Auchinoon 146.63 354 *e*P **PKPbc 17 28 21.5 -0.6**
EAU Auchinoon 146.63 354 P **PKPbc 17 28 21.5 -0.6**
BUD Budapest 146.66 325⇓ *e*PKPdf **PKPab 17 28 23.4 -0.2**
EBL Broad Law 146.67 354 *e*P **PKPdf 17 28 20.7 +0.2**
EBL Broad Law 146.67 354 P **PKPdf 17 28 20.7 +0.2**
VRAC Vranov 146.69 329 PKP2 **PKPbc 17 28 22.0 -0.5**
VRAC Vranov 146.69 329⇑ *i*P **PKPbc 17 28 22.8 +0.3**
PVCC Panska Ves 146.72 332 *e*PKP2 **PKPbc 17 28 22.8 +0.3**
PVCC MLR MLR
comp=Z,4µm,25.1s
PVCC Panska Ves 146.72 332 *e*PKP **PKPbc 17 28 22.8 +0.3**
PVCC AMS AMS 18 29 10.0
comp=Z,4µm,25.1s
BRG Berggiesshubel 146.73 333 *i* PKP **PKPbc 17 28 22.0 -0.5**
BRG *i* 17 28 23.8
comp=Z,205nm,1.1s
BRG *e*PKS PKSdf 17 32 07.6 +12
comp=Z,13nm,1.1s
BRG SS SS 17 51 02.0 +19
BRG
comp=N,2µm,24.0s
BRG
comp=E,2µm,20.4s
BRG
comp=Z,4µm,29.9s
BRG Berggiesshubel 146.73 333 *e*PKPbc **PKPab 17 28 23.5 -0.2**
BRG *e*L L 18 31 22.3
comp=Z,3µm,21.8s
BRG Berggiesshubel 146.73 333 *i* PKP2 **PKPbc 17 28 22.0 -0.5**
BRG pmax pmax
comp=Z,73nm,1.1s
BRG MLR MLR
comp=N,2µm,24.0s
BRG MLR MLR
comp=E,2µm,20.4s
comp=Z,2µm,21.5s
PGBU Glenifferbraes 146.75 356 *e*P **PKPdf 17 28 21.1 +0.5**
PGBU Glenifferbraes 146.75 356 P **PKPdf 17 28 21.1 +0.5**
CLL Collm 146.77 335 *e*PKPbc **PKPab 17 28 23.4 -0.5**
CLL *e*L L 18 33 00.5
comp=Z,2µm,21.9s
CLL Collm 146.77 335⇑ *i*PKP2 **PKPbc 17 28 22.7 +0.1**
CLL *e* 17 31 50.0
CLL pmax pmax
comp=Z,188nm,1.1s
CLL MLR MLR
comp=Z,2µm,21.9s
CLL Collm 146.77 335⇑ *i*PKPbc **PKPbc 17 28 22.7 +0.1**
comp=Z,188nm,1.1s
CLL *e*PKPlp 17 28 24.0
comp=Z,2µm,17.3s
CLL *ep*PKPbc **PKiKP 17 28 28.0 +2.7**
CLL *e*PP **PP 17 31 50.0 +3.8**
comp=Z,800nm,25.0s
CLL *e*PPP PPP 17 35 05.0
CLL *e*SKKSac SKKSac 17 38 36.0 -0.3
CLL *e*(SKSP) 17 41 49.0
CLL *e*PSKS 17 42 05.0
CLL *e*(PPS) 17 44 17.0
CLL *e* 17 47 00.0
CLL *e*SS SS 17 50 54.0 +11
CLL *e* 17 52 53.0
CLL *e*SSS SSS 17 56 03.0
CLL *e*SSSS 18 00 27.0
CLL Lm MLR 18 33 00.0
comp=Z,2µm,21.9s
VTS Vitosha 146.78 314⇓ PKP2 **PKPbc 17 28 23.1 -0.1**
VTS Vitosha 146.78 314⇓ *i*P **PKPbc 17 28 23.0 -0.1**
VTS Vitosha 146.78 314 *i* P **PKPbc 17 28 23.7 +0.6**
MMB Musomiste 146.86 312 *i* P **PKPbc 17 28 22.4 -0.9**
NVR Nevrokopi 146.87 312 *e*P **PKPbc 17 28 22.9 -0.4**
NRDL Niedersach Rie 146.87 339 *e*PKPbc **PKPab 17 28 23.7 -0.4**
NRDL *e*L L 18 37 17.3
comp=Z,3µm,20.7s
PKSG 147.06 325⇓ *e*PKPdf **PKPbc 17 28 23.9 +0.3**
PRA Prague 147.12 332 PKP **PKPbc 17 28 24.0 +0.3**
PRA *ex* x 17 28 30.0
ESK Eskdalemuir 147.13 354 *e*P **PKPdf 17 28 22.2 +0.8**
ESK Eskdalemuir 147.13 354 P **PKPdf 17 28 22.2 +0.8**
ESK Eskdalemuir 147.13 354 *e*PKP2 **PKPbc 17 28 22.8 -0.7**
ESK MLR MLR
comp=Z,2µm,21.0s
ESK Eskdalemuir 147.13 354 *e*PKPbc **PKPbc 17 28 22.8 -0.7**
ESK LR LR
comp=Z,2µm,21.0s
PRU Pruhonice 147.14 332 *e*PKP2 **PKPbc 17 28 24.3 +0.6**
PRU MLR MLR
comp=Z,4µm,24.4s
PRU Pruhonice 147.14 332 *e*PKP **PKPbc 17 28 24.3 +0.6**
PRU AMS AMS 18 29 30.0
comp=Z,4µm,24.4s
SRS Serrai 147.15 312 PKP2 **PKPbc 17 28 23.0 -1.1**
SRS Serrai 147.15 312 P **PKPbc 17 28 23.0 -1.1**
SRS Serrai 147.15 312 P **PKPbc 17 28 23.0 -1.1**
KKB Krupnik 147.18 313 *i* P **PKPbc 17 28 24.1 0.0**
ZST Bratislava 147.20 327 *e*PKP2 **PKPbc 17 28 22.9 -1.0**
ZST Bratislava 147.20 327 *e*PKP **PKPbc 17 28 22.9 -1.0**
TREC Trest 147.22 330 *e*PKIKP **PKPdf 17 28 22.0 +0.3**
TREC MLR MLR
comp=Z,3µm,21.1s
TREC Trest 147.22 330 *e*PKP **PKPdf 17 28 22.0 +0.3**
TREC AMS AMS 18 34 30.0
comp=Z,3µm,21.1s
CLZ Clausthal 147.32 338 *e*PKPbc **PKPab 17 28 25.3 -0.8**
CLZ *e*L L 18 37 31.6
comp=Z,3µm,19.0s
CLZ Clausthal 147.32 338 *e*PKP2 **PKPab 17 28 25.3 -0.8**
CLZ MLR MLR
comp=Z,3µm,19.0s
PKST T``s 147.33 325⇓ *e*PKPdf **PKPbc 17 28 24.4 0.0**
SOH Sokhos 147.43 311 PKIKP **PKPdf 17 28 23.6 +1.2**
SOH Sokhos 147.43 311 P **PKPdf 17 28 23.6 +1.2**
SOH Sokhos 147.43 311 P **PKPdf 17 28 23.6 +1.2**
XAL Allendale 147.48 353 *e*P **PKPdf 17 28 21.2 -0.7**
XAL Allendale 147.48 353 P **PKPdf 17 28 21.2 -0.7**
NPS Neapolis 147.51 300 *e*P **PKPbc 17 28 26.3 +1.0**
PLG Polygyros 147.54 310 *e*P **PKPbc 17 28 25.3 +0.1**
PKS9 Tamasi 147.62 324 *e*PKPdf **PKPbc 17 28 25.4 +0.3**
PKSM Moragy 147.65 323⇑ PKIKP **PKPdf 17 28 23.8 +1.3**
PKSM Moragy 147.65 323⇑ *i*P **PKPdf 17 28 23.8 +1.3**
PKSM Moragy 147.65 323⇓ *e*PKPdf **PKPdf 17 28 22.7 +0.2**
TANN Tannenbergstha 147.68 334 *e*PKPbc **PKPbc 17 28 26.3 +1.0**
TANN *e*L L 18 33 51.0
comp=Z,2µm,22.0s
AOS Alonnisos 147.69 308 P **PKPab 17 28 27.1 -0.8**
AOS Alonnisos 147.69 308 P **PKPab 17 28 27.1 -0.8**
IBBN Ibbenburen 147.78 341 *e*PKPbc **PKPbc 17 28 26.1 +0.7**
IBBN *e*L L 18 32 17.0
comp=Z,3µm,21.4s
SOP Sopron 147.81 327⇓ *e*PKPdf **PKPbc 17 28 26.6 +1.0**
NKC Novy Kostel 147.83 334 *e*PKP2 **PKPbc 17 28 26.4 +0.8**
NKC Novy Kostel 147.83 334 *e*PKP **PKPbc 17 28 26.4 +0.8**
MOX Moxa 147.84 335 *e*PKPbc **PKPbc 17 28 26.5 +0.9**
MOX *e*L L 18 34 11.6
comp=Z,3µm,22.0s
MOX Moxa 147.84 335 *e*PKP2 **PKPbc 17 28 26.5 +0.9**
MOX MLR MLR
comp=Z,2µm,22.0s
KESW Keswick, Cumbr 147.84 354 *e*P **PKPbc 17 28 24.9 -0.6**
KESW Keswick, Cumbr 147.84 354 P **PKPbc 17 28 24.9 -0.6**
CONA Conrad Observa 147.99 328⇑ *i*P **PKPdf 17 28 23.8 +0.7**
CONA Conrad Observa 147.99 328⇑ *i*PKPdf **PKPdf 17 28 23.8 +0.7**
comp=Z,55nm,1.0s,SNR=11
RHK3 Tenkes 148.06 323⇓ *e*PKPdf **PKPbc 17 28 26.9 +0.5**
DIVS Divibare 148.07 319 P **PKPab 17 28 28.2 -1.2**
PTL Penteli 148.08 306 *e*P **PKPbc 17 28 26.1 -0.6**
XOR Xorichti 148.11 309 P **PKPbc 17 28 26.0 -0.8**
XOR Xorichti 148.11 309 P **PKPbc 17 28 26.0 -0.8**
KHC Kasperske Hory 148.19 332 *e*PKIKP **PKPdf 17 28 23.5 +0.1**
KHC *e* 17 28 27.5
KHC *e* 17 28 32.5
KHC Kasperske Hory 148.19 332 *e*PKPdf **PKPdf 17 28 23.5 +0.1**
KHC Kasperske Hory 148.19 332 *e*PKP **PKPdf 17 28 23.5 +0.1**
KHC *ex* x 17 28 27.5
KHC *ep*PKP **pPKPdf 17 28 32.5 -0.6**
VLY Voula,Athens 148.20 306 *e*P **PKPbc 17 28 26.5 -0.5**
ATH Athens Observa 148.22 306 *e*P **PKPbc 17 28 26.8 -0.2**
ROTZ Rotzenmuhle 148.29 334 *e*PKPbc **PKPbc 17 28 28.1 +1.2**
ROTZ *e*L L 18 34 01.3
comp=Z,2µm,21.3s
UBBA Unterbreizbach 148.30 337 *e*PKPbc **PKPab 17 28 28.5 -1.3**
UBBA *e*L L 18 38 03.4
comp=Z,2µm,20.0s
GEC2 GERESS Array S 148.35 331 *e*PKPbc **PKPbc 17 28 28.0 +0.8**
GEC2 *e*L L 18 35 03.0
comp=Z,3µm,21.7s
GEC2 GERESS Array S 148.35 331 *e*PKP2 **PKPbc 17 28 28.0 +0.8**
GEC2 MLR MLR
comp=Z,3µm,21.7s
GERES GERESS Array B 148.35 331 PKP **PKPdf 17 28 23.8 +0.1**
comp=Z,60nm,1.0s,baz=80,slow=1.5,SNR=47
GERES PKPbc **PKPbc 17 28 27.7 +0.6**
comp=Z,54nm,1.0s,baz=52,slow=1.6,SNR=99
GERES GERESS Array B 148.35 331 PKIKP **PKPdf 17 28 23.8 +0.1**
GERES 17 28 27.7
GERES GERESS Array B 148.35 331 PKP **PKPdf 17 28 23.8 +0.1**
GERES PKPbc **PKPbc 17 28 27.7 +0.6**
WTSB Winterswijk 148.37 341 *e*PKP **PKPbc 17 28 26.4 -0.5**
comp=Z,215nm,1.1s
ATAL Atalanti 148.48 308 P **PKPbc 17 28 26.3 -1.4**
ATAL Atalanti 148.48 308 P **PKPbc 17 28 26.3 -1.4**
WET Wettzell 148.49 332 *e*PKPbc **PKPbc 17 28 28.4 +1.0**
WET *e*L L 18 37 16.0
comp=Z,2µm,20.5s
WET Wettzell 148.49 332 *e*PKP2 **PKPbc 17 28 28.4 +1.0**
WET MLR MLR
comp=Z,2µm,20.5s
BEHE Becsehely 148.50 325⇓ *e*PKPdf **PKPdf 17 28 25.3 +1.4**
LKR Lokris 148.51 308 *e*P **PKPbc 17 28 27.4 -0.4**
VAM Vamos 148.60 301 *e*P **PKPbc 17 28 29.3 +1.2**
ARSA Arzberg 148.62 327⇓ *i*P **PKPdf 17 28 23.6 -0.5**
ARSA Arzberg 148.62 327⇓ *i*PKPdf **PKPdf 17 28 23.6 -0.5**
comp=Z,46nm,1.1s
BUG Bochum--Univer 148.69 340 *e*PKPbc **PKPbc 17 28 28.3 +0.5**
BUG *e*L L 18 33 06.0
comp=Z,3µm,21.2s
DID Didima 148.73 306 P **PKPbc 17 28 27.3 -1.1**
GRF Grafenberg Arr 148.75 335 *e*PKPbc **PKPbc 17 28 29.0 +0.9**
GRF *e*L L 18 34 40.2
comp=Z,2µm,21.5s
GRF Grafenberg Arr 148.75 335 *e*PKP2 **PKPbc 17 28 29.0 +0.9**
GRF MLR MLR
comp=Z,2µm,21.5s
GRFO Grafenberg 148.75 335 *e*PKP2 **PKPbc 17 28 28.7 +0.7**
GRFO Grafenberg 148.75 335 *e*PKPbc **PKPbc 17 28 28.7 +0.7**
KOGS Kog 148.79 326 *e*PKPbc **PKPbc 17 28 28.3 0.0**
FNA Florina 148.81 312 PKP2 **PKPbc 17 28 28.7 +0.1**
FNA Florina 148.81 312 P **PKPbc 17 28 28.7 +0.1**
FNA Florina 148.81 312 P **PKPbc 17 28 28.7 +0.1**
MOA Mollin 148.81 329⇑ *i*P **PKPdf 17 28 24.7 +0.3**
MOA Mollin 148.81 329⇑ *i*PKPdf **PKPdf 17 28 24.7 +0.3**
comp=Z,68nm,2.0s,SNR=10.0
KARN Karanos 148.82 301 P **PKPdf 17 28 26.3 +1.5**
KARN Karanos 148.82 301 P **PKPdf 17 28 26.3 +1.5**
GVD Gavdhos 148.83 300 *e*PKPbc **PKPbc 17 28 29.7 +1.0**
DESF Desfina 148.94 308 P **PKPbc 17 28 27.3 -1.7**
DSF Desfina 148.94 308 P **PKPbc 17 28 29.0 0.0**
DSF Desfina 148.94 308 P **PKPbc 17 28 29.0 0.0**
KBI1 Birley Grange 148.97 351 *e*P **PKPbc 17 28 27.8 -0.7**
KBI1 Birley Grange 148.97 351 P **PKPbc 17 28 27.8 -0.7**
MAKR Makrakomi, Fth 149.01 309 P **PKPbc 17 28 28.9 -0.2**
MAKR Makrakomi, Fth 149.01 309 P **PKPbc 17 28 28.9 -0.2**
AEU East Anglia Un 149.12 348 *e*P **PKPbc 17 28 28.6 -0.3**
AEU East Anglia Un 149.12 348 P **PKPbc 17 28 28.6 -0.3**
WME Myndd Eilian 149.13 355 *e*P **PKPbc 17 28 28.1 -0.7**
WME Myndd Eilian 149.13 355 P **PKPbc 17 28 28.1 -0.7**
KALE Kalithea 149.24 308 P **PKPdf 17 28 23.8 -1.6**
KALE Kalithea 149.24 308 P **PKPdf 17 28 23.8 -1.6**
WPM1 Penmaenmawr 149.24 354 *e*P **PKPbc 17 28 28.7 -0.4**
WPM1 Penmaenmawr 149.24 354 P **PKPbc 17 28 28.7 -0.4**
KWE Weaver Farm 149.24 352 *e*P **PKPbc 17 28 28.9 -0.2**
KWE Weaver Farm 149.24 352 P **PKPbc 17 28 28.9 -0.2**
PERS Pernice 149.25 327 *i* PKPbc **PKPbc 17 28 29.3 -0.2**
WLF1 Llynfaes 149.25 355 *e*P **PKPbc 17 28 28.7 -0.4**
WLF1 Llynfaes 149.25 355 P **PKPbc 17 28 28.7 -0.4**
GUR Goura 149.25 307 P **PKPbc 17 28 29.4 -0.4**
SOKA Soboth 149.26 327⇑ *i*P **PKPdf 17 28 24.6 -0.6**
SOKA Soboth 149.26 327⇑ *i*PKPdf **PKPdf 17 28 24.6 -0.6**
comp=Z,106nm,1.3s
TRIZ Trizonia 149.29 308 P **PKPbc 17 28 30.0 +0.3**
YRC Rhoscolyn 149.30 355 *e*P **PKPbc 17 28 28.7 -0.6**
YRC Rhoscolyn 149.30 355 P **PKPbc 17 28 28.7 -0.6**
TNS Taunus Mts 149.34 338 *e*PKPbc **PKPbc 17 28 30.5 +0.9**
TNS *e*L L 18 39 03.2
comp=Z,3µm,20.2s
TNS Taunus Mts 149.34 338 *e*PKP2 **PKPbc 17 28 30.5 +0.9**
TNS MLR MLR
comp=Z,3µm,20.2s
YLL Llanberis 149.38 354 *e*P **PKPbc 17 28 28.8 -0.6**
YLL Llanberis 149.38 354 P **PKPbc 17 28 28.8 -0.6**
EFP Efpalio 149.39 308 P **PKPbc 17 28 31.8 +1.8**
LAKA Lakka 149.41 308 P **PKPbc 17 28 30.1 0.0**
LAKA Lakka 149.41 308 P **PKPbc 17 28 30.1 0.0**
FOEL Foel Wylfa 149.53 353 *e*P **PKPbc 17 28 29.1 -0.8**
FOEL Foel Wylfa 149.53 353 P **PKPbc 17 28 29.1 -0.8**
TIR Tirane 149.56 314 *e*PKHKP PKPpre 17 28 26.2
TIR MLR MLR
comp=Z,5µm,21.0s
TIR Tirane 149.56 314 *e*PKPdf **PKPdf 17 28 26.2 +0.5**
TIR LR LR
comp=Z,5µm,21.0s
RJOB Jochberg 149.58 331 *e*PKPbc **PKPbc 17 28 30.8 +0.5**
RJOB *e*L L 18 36 04.6
comp=Z,3µm,20.2s
JAN Janina 149.66 311 *e*P **PKPbc 17 28 30.6 -0.1**
HGN Heimansgroeve 149.68 341 *e*PKP **PKPbc 17 28 30.0 -0.3**
comp=Z,282nm,1.9s
BEBN Eben Emael 149.73 342 PKPbc **PKPbc 17 28 30.6 +0.2**
TOD Tromm 149.74 337 PKIKP **PKPdf 17 28 25.4 -0.4**
TOD Tromm 149.74 337 PKP **PKPdf 17 28 25.4 -0.4**
MEM Membach 149.80 341 PKPbc **PKPbc 17 28 31.1 +0.5**
KBA Koelnbreinsper 149.80 329⇑ *i*PKHKP PKPpre 17 28 26.4
KBA Koelnbreinsper 149.80 329⇑ *i*P **PKPdf 17 28 26.4 +0.2**
KBA Koelnbreinsper 149.80 329⇑ *i*PKPdf **PKPdf 17 28 26.4 +0.2**
comp=Z,192nm,1.6s,SNR=14
HLM1 Long Mynd 149.86 353 *e*P **PKPbc 17 28 29.0 -1.7**
HLM1 Long Mynd 149.86 353 P **PKPbc 17 28 29.0 -1.7**
FUR Furstenfeldbru 149.92 333 *e*PKPbc **PKPbc 17 28 31.9 +0.9**
FUR *e*L L 18 34 50.8
comp=Z,2µm,21.6s
FUR Furstenfeldbru 149.92 333 *e*PKP2 **PKPbc 17 28 31.9 +0.9**
FUR MLR MLR
comp=Z,2µm,21.6s
LJU Ljubljana 149.95 327 *i* PKPdf **PKPdf 17 28 26.4 +0.2**
LJU *i* PKPbc **PKPbc 17 28 31.3 +0.2**
MYKA Terra Mystica 149.98 328⇓ *i*P **PKPdf 17 28 26.1 -0.3**
MYKA Terra Mystica 149.98 328⇓ *i*PKPdf **PKPdf 17 28 26.1 -0.3**
comp=Z,70nm,1.0s
IGT Igoumenitsa 150.07 311 P **PKPdf 17 28 28.1 +1.5**
IGT Igoumenitsa 150.07 311 P **PKPdf 17 28 28.1 +1.5**
BCLA Clavier 150.18 342 PKPbc **PKPbc 17 28 31.8 +0.3**
CADS Cadrg 150.22 328 *e*PKPbc **PKPbc 17 28 31.1 -0.8**
RUP Ruppelstein 150.26 339 PKP **PKPdf 17 28 27.3 +0.8**
SSW Stow on the Wo 150.27 351 *e*P **PKPbc 17 28 31.3 -0.4**
SSW Stow on the Wo 150.27 351 P **PKPbc 17 28 31.3 -0.4**
VOY Vojsko 150.28 327 *e*PKPdf **PKPdf 17 28 27.0 +0.1**
VOY *e*PKPbc **PKPbc 17 28 31.3 -0.8**
VOY *e* 17 29 06.8
STU Stuttgart 150.28 336 *e*PKPbc **PKPbc 17 28 32.7 +0.9**
STU *e*L L 18 43 59.6
comp=Z,2µm,18.3s
STU Stuttgart 150.28 336 *e*PKP2 **PKPbc 17 28 32.2 +0.3**
STU Stuttgart 150.28 336 *e*PKPbc **PKPbc 17 28 32.2 +0.3**
SKP1 Kophill 150.35 350 *e*P **PKPbc 17 28 30.3 -1.6**
SKP1 Kophill 150.35 350 P **PKPbc 17 28 30.3 -1.6**
SNF Seneffe 150.38 343 PKPbc **PKPbc 17 28 32.5 +0.5**
MCH1 Michaelchurch 150.38 353 *e*P **PKPbc 17 28 31.4 -0.6**
MCH1 Michaelchurch 150.38 353 P **PKPbc 17 28 31.4 -0.6**
WATA Walderalm 150.43 331⇓ *i*PKIKP **PKPdf 17 28 27.6 +0.5**
WATA Walderalm 150.43 331⇓ *i*P **PKPdf 17 28 27.6 +0.5**
WATA Walderalm 150.43 331⇓ *i*PKPdf **PKPdf 17 28 27.6 +0.5**
comp=Z,122nm,1.1s,SNR=14
ELSH Elham, Standar 150.54 347 *e*P **PKPdf 17 28 29.5 +2.6**
ELSH Elham, Standar 150.54 347 P **PKPdf 17 28 29.5 +2.6**
TRI Trieste 150.56 327 *e*PKIKP **PKPdf 17 28 26.1 -1.1**
TRI Trieste 150.56 327 *e*PKPdf **PKPdf 17 28 26.1 -1.1**
WLF Walferdange 150.58 340 PKPbc **PKPbc 17 28 33.4 +0.9**
WLF Walferdange 150.58 340 *e*PKIKP **PKPbc 17 28 33.4 +0.9**
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 150.58 340 *e*PKPbc **PKPbc 17 28 33.4 +0.9**
WLF LR LR
comp=Z,3µm,20.0s
GIVF Givet 150.60 342 *e*PKIKP **PKPdf 17 28 26.7 -0.4**
comp=Z,273nm,1.0s
LANF Langenberg 150.62 337 PKIKP **PKPdf 17 28 27.5 +0.3**
LANF Langenberg 150.62 337 PKP **PKPdf 17 28 27.5 +0.3**
LANF Langenberg 150.62 337 PKP **PKPdf 17 28 27.5 +0.3**
MOTA Moosalm 150.63 332⇑ *i*PKIKP **PKPdf 17 28 28.0 +0.5**
MOTA Moosalm 150.63 332⇑ *i*P **PKPdf 17 28 27.9 +0.5**
MOTA Moosalm 150.63 332⇑ *i*PKPdf **PKPdf 17 28 28.0 +0.5**
comp=Z,122nm,0.9s,SNR=38
RETA Reutte 150.67 332⇑ *i*P **PKPdf 17 28 27.9 +0.5**
RETA Reutte 150.67 332⇑ *i*PKPdf **PKPdf 17 28 27.9 +0.5**
comp=Z,102nm,1.1s,SNR=22
DOU Dourbes 150.67 342 PKPbc **PKPbc 17 28 33.1 +0.4**
SWN1 Swindon 150.70 351 *e*P **PKPbc 17 28 31.9 -0.8**
SWN1 Swindon 150.70 351 P **PKPbc 17 28 31.9 -0.8**
HGH Gray Hill 150.71 352 *e*P **PKPbc 17 28 31.4 -1.4**
HGH Gray Hill 150.71 352 P **PKPbc 17 28 31.4 -1.4**
WOL Wolverton 150.81 350 *e*P **PKPbc 17 28 32.7 -0.3**
WOL Wolverton 150.81 350 P **PKPbc 17 28 32.7 -0.3**
BAIF Baives 150.81 343 *e*PKIKP **PKPdf 17 28 26.9 -0.5**
comp=Z,220nm,1.2s
BFO Black Forest 150.97 336 *e*PKPbc **PKPbc 17 28 34.0 +0.5**
BFO *e*L L 18 32 57.6
comp=Z,3µm,21.0s
BFO Black Forest 150.97 336 *e*PKIKP **PKPbc 17 28 33.3 -0.2**
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 150.97 336 *e*PKPbc **PKPbc 17 28 33.3 -0.2**
BFO LR LR
comp=Z,3µm,19.0s
SPAK Spaichingen-Ko 150.98 335 PKP **PKPdf 17 28 27.5 -0.4**
FETA Feichten 151.04 332⇑ *i*P **PKPdf 17 28 28.8 +0.7**
FETA Feichten 151.04 332⇑ *i*PKPdf **PKPdf 17 28 28.8 +0.7**
comp=Z,154nm,0.9s,SNR=30
DAVA Damuels 151.20 333⇑ *i*P **PKPbc 17 28 32.4 -1.9**
DAVA Damuels 151.20 333⇑ *i*PKPbc **PKPbc 17 28 32.4 -1.9**
comp=Z,85nm,1.1s,SNR=13

comp=Z,212nm,1.1s
HEX Exmoor 151.39 353 *e*P **PKPbc 17 28 33.4 -0.9**
HEX Exmoor 151.39 353 P **PKPbc 17 28 33.4 -0.9**
FELD Feldberg im Sc 151.47 336 PKP **PKPdf 17 28 26.9 -1.8**
ECH Echery 151.49 337 *e*PKIKP **PKPdf 17 28 28.2 -0.4**
ECH *e* 17 28 34.5
ECH MLR MLR
comp=Z,3µm,20.0s
ECH Echery 151.49 337 *e*PKPdf **PKPdf 17 28 28.2 -0.4**
ECH *e*PKPbc **PKPbc 17 28 34.5 -0.2**
ECH LR LR
comp=Z,3µm,20.0s
ECH Echery 151.49 337 PKP **PKPdf 17 28 29.1 +0.5**
HTL Hartland 151.53 354 *e*P **PKPbc 17 28 33.6 -1.1**
HTL Hartland 151.53 354 P **PKPbc 17 28 33.6 -1.1**
PAGF Fort de Pagny 151.69 339 *e*PKIKP **PKPdf 17 28 28.5 -0.4**
comp=Z,47nm,1.2s
MOF Molkenrain 151.81 337 PKIKP **PKPdf 17 28 29.5 +0.3**
MOF Molkenrain 151.81 337 PKP **PKPdf 17 28 29.5 +0.3**
MOF Molkenrain 151.81 337 PKP **PKPdf 17 28 29.5 +0.3**
HINF Hinteralfeld 151.94 337 *e*PKIKP **PKPdf 17 28 28.7 -0.6**
comp=Z,119nm,1.1s
MEZF Maizieres_J'vi 151.95 340 *e*PKIKP **PKPdf 17 28 29.2 0.0**
comp=Z,336nm,1.2s
HAU Haudompre 151.96 338 *e*PKIKP **PKPdf 17 28 28.8 -0.5**
comp=Z,154nm,1.1s
HAU *e*R
comp=Z,3µm,21.0s
BBS Basel-Blauen 152.00 336 PKIKP **PKPdf 17 28 29.7 +0.3**
BBS Basel-Blauen 152.00 336 PKP **PKPdf 17 28 29.7 +0.3**
DYA Yadsworthy 152.03 353 *e*P **PKPbc 17 28 32.9 -2.9**
DYA Yadsworthy 152.03 353 P **PKPbc 17 28 32.9 -2.9**
TUE Stuetta 152.06 333 *e*PKPdf **PKPdf 17 28 29.5 -0.3**
TUE *e*PKPbc **PKPbc 17 28 36.4 +0.1**
TUE LR LR
comp=Z,3µm,20.0s
SFTF Sexfontaines 152.22 340 *e*PKIKP **PKPdf 17 28 29.1 -0.6**
comp=Z,320nm,1.3s
TIP Timpagrande 152.69 313 PFAKE 17 28 40.0 +2.2
TIP LR LR
comp=Z,2µm,20.0s
CUC Castrocucco 152.90 315 PFAKE 17 28 40.0 +1.8
CUC LR LR
comp=Z,2µm,20.0s
AQU L'Aquila 152.99 322 *e*PKIKP **PKPdf 17 28 29.6 -1.5**
AQU MLR MLR
comp=Z,4µm,21.0s
AQU L'Aquila 152.99 322 *e*PKPdf **PKPdf 17 28 29.6 -1.5**
AQU LR LR
comp=Z,4µm,21.0s
AQU L'Aquila 152.99 322⇓ *i*P **PKPbc 17 28 39.8 +1.4**
FLN La Foliniere 153.13 348 *e*PKIKP **PKPdf 17 28 30.4 -0.6**
comp=Z,176nm,1.1s
FLN *e*R
comp=Z,4µm,21.5s
LDF La Druitiere 153.22 347 *e*PKIKP **PKPdf 17 28 30.6 -0.5**
comp=Z,33nm,1.0s
CABF La Chapelle 153.24 337 *e*PKIKP **PKPdf 17 28 31.2 -0.1**
comp=Z,53nm,0.9s
OG01 Vacheresse 153.25 336 PKP **PKPdf 17 28 31.7 +0.3**
OG01 Vacheresse 153.25 336 PKP **PKPdf 17 28 31.7 +0.3**
LOR Lormes 153.42 340 *e*PKIKP **PKPdf 17 28 31.0 -0.5**
comp=Z,76nm,1.2s
LOR *e*R
comp=Z,4µm,22.2s
GRR Gorron 153.56 348 *e*PKIKP **PKPdf 17 28 31.1 -0.5**
comp=Z,164nm,1.4s
SSF Saint Saulge 153.71 341 *e*PKIKP **PKPdf 17 28 31.4 -0.5**
comp=Z,39nm,1.0s
CEL Celeste 153.73 312 PKPdf **PKPdf 17 28 34.0 +1.7**
CEL LR LR
comp=Z,2µm,21.0s
LPL La Plagne 153.91 335 *e*PKIKP **PKPdf 17 28 32.2 -0.3**
comp=Z,39nm,0.9s
LPG La Plagne 153.92 335 *e*PKIKP **PKPdf 17 28 32.4 -0.2**
comp=Z,72nm,1.2s
SGMF Saint Gilles 153.99 350 *e*PKIKP **PKPdf 17 28 31.3 -0.9**
comp=Z,88nm,1.0s
AVF Avril sur Loir 154.00 341 *e*PKIKP **PKPdf 17 28 31.7 -0.6**
comp=Z,112nm,1.8s
ROSF Rostrenen 154.01 351 *e*PKIKP **PKPdf 17 28 31.5 -0.7**
comp=Z,105nm,1.2s
BNI Bardonecchia 154.31 334 *e*PKIKP **PKPdf 17 28 32.5 -0.5**
BNI MLR MLR
comp=Z,5µm,20.0s
BNI Bardonecchia 154.31 334 *e*PKPdf **PKPdf 17 28 32.5 -0.5**
BNI LR LR
comp=Z,5µm,20.0s
BGF Bois d'Agland 154.36 341 *e*PKIKP **PKPdf 17 28 32.4 -0.4**
comp=Z,50nm,1.1s
QUIF Quistinic 154.41 351 *e*PKIKP **PKPdf 17 28 32.2 -0.6**
comp=Z,430nm,1.8s
MBDF Montbardon 154.54 333 *e*PKIKP **PKPdf 17 28 32.5 -0.8**
ORIF Oris-en-Rattie 154.74 335 *e*PKIKP **PKPdf 17 28 32.8 -0.7**
comp=Z,41nm,0.9s
ORIF *e*R
comp=Z,3µm,22.8s
TCF Toulx Ste Croi 154.79 342 *e*PKIKP **PKPdf 17 28 33.0 -0.5**
comp=Z,90nm,1.3s
TOUF Mont Tournerai 154.92 332 PKIKP **PKPdf 17 28 35.1 +1.2**
TOUF Mont Tournerai 154.92 332 PKP **PKPdf 17 28 35.1 +1.2**
TOUF Mont Tournerai 154.92 332 PKP **PKPdf 17 28 35.1 +1.2**
SBF Sospel 154.95 331 *e*PKIKP **PKPdf 17 28 33.0 -0.8**
MFF Saint Martin d 155.11 346 *e*PKIKP **PKPdf 17 28 33.5 -0.3**
comp=Z,77nm,1.3s
PGF Pioggiola 155.22 327 *e*PKIKP **PKPdf 17 28 34.2 -0.1**
comp=Z,212nm,1.3s
VIVF Saint-Julien-l 155.25 337 *e*PKIKP **PKPdf 17 28 33.7 -0.4**
comp=Z,112nm,1.7s
LBL Lubilhac 155.42 339 PKIKP **PKPdf 17 28 35.8 +1.4**
LBL Lubilhac 155.42 339 PKP **PKPdf 17 28 35.8 +1.4**
LBL Lubilhac 155.42 339 PKP **PKPdf 17 28 35.8 +1.4**
SMRF Simiane la Rot 155.65 334 *e*PKIKP **PKPdf 17 28 34.5 -0.2**
comp=Z,93nm,1.5s
LMR La Mourre 155.78 332 *e*PKIKP **PKPdf 17 28 33.8 -1.0**
WDD Wield Dalam 155.82 308 PFAKE 17 28 50.0 -12
WDD LR LR
comp=Z,3µm,20.0s
RJF Les Rejaudoux 155.89 342 *e*PKIKP **PKPdf 17 28 34.5 -0.4**
RJF *e*R
comp=Z,3µm,20.8s
CAF Calviac 156.07 341 *e*PKIKP **PKPdf 17 28 34.2 -1.0**
LASF Ste Croix 156.22 337 *e*PKIKP **PKPdf 17 28 34.7 -0.7**
VSL Villasalto 157.17 321 PFAKE 17 28 50.0 +13
VSL LR LR
comp=Z,3µm,22.0s
MTLF Montolieu 157.44 339 *e*PKIKP **PKPdf 17 28 36.5 -0.5**
EPF Esparros 158.31 342 *e*PKIKP **PKPdf 17 28 37.8 -0.3**
SJPF Ste Jean 158.66 345 *e*PKIKP **PKPdf 17 28 37.9 -0.6**
ETSF Etsaut 158.69 343 *e*PKIKP **PKPdf 17 28 38.3 -0.3**
CMLA Cha da Macela 159.23 40 PFAKE 17 28 50.0 +11
CMLA LR LR
comp=Z,3µm,21.0s
MTE Manteigas 162.30 357 PFAKE 17 28 50.0 +7.3
MTE LR LR
comp=Z,4µm,20.0s
ESDC Sonseca Array 162.55 347 PKP **PKPdf 17 28 43.6 +0.7**
comp=Z,0.3nm,0.4s,baz=347,slow=4.6,SNR=4.2
ESDC PKPab **PKPab 17 29 30.4 -0.5**
comp=Z,2.5nm,0.7s,baz=21,slow=3.4,SNR=8.3
ESDC Sonseca Array 162.55 347 PKP **PKPdf 17 28 43.6 +0.7**
ESDC PKPab **PKPab 17 29 30.4 -0.5**
ESLA Sonseca Array 162.55 347 PFAKE 17 28 50.0 +7.1
ESLA LR LR
comp=Z,21µm,19.0s
PAB San Pablo 162.75 348 PFAKE 17 28 50.0 +6.8
PAB LR LR
comp=Z,4µm,20.0s
LIC Lamto 163.23 193 *e*PKIKP **PKPdf 17 28 44.3 0.0**
comp=Z,45nm,1.2s
LIC *e*R
comp=Z,6µm,23.0s
DBIC Dimbokro 163.62 194 PKP **PKPdf 17 28 44.7 +0.1**
comp=Z,10nm,1.1s,baz=232,slow=6.9,SNR=7.5
DBIC PKPab **PKPab 17 29 36.1 0.0**
comp=Z,9.2nm,1.1s,baz=132,slow=7.9,SNR=3.2
DBIC Dimbokro 163.62 194 *e*PKIKP **PKPdf 17 28 44.4 -0.2**
DBIC 17 29 36.1
DBIC MLR MLR
comp=Z,3µm,21.0s
DBIC Dimbokro 163.62 194 *e*PKPdf **PKPdf 17 28 44.4 -0.2**
DBIC PKP PKP 17 28 44.7
DBIC PKPab **PKPab 17 29 36.1 0.0**
DBIC LR LR
comp=Z,3µm,21.0s

SACV Santiago Islan 164.07 116 PFAKE 17 29 00.0 +15
SACV LR LR
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 166.20 228 PKP **PKPdf 17 28 47.1 +0.3**
comp=Z,16nm,1.1s,baz=70,slow=0.1,SNR=33
TORD PKPab **PKPab 17 29 47.6 0.0**
comp=Z,17nm,1.1s,baz=121,slow=2.5,SNR=11
TORD Torodi Ar. Bea 166.20 228 PKP **PKPdf 17 28 47.1 +0.3**
TORD PKPab **PKPab 17 29 47.6 0.0**
TAM Tamanrasset 166.74 273 *e*PKIKP **PKPdf 17 28 47.8 +0.6**
TAM MLR MLR
comp=Z,4µm,19.0s
TAM Tamanrasset 166.74 273 *e*PKPdf **PKPdf 17 28 47.8 +0.6**
TAM LR LR
comp=Z,4µm,19.0s
RTC Rabat Centre 168.60 352 PFAKE 17 29 00.0 +12
RTC LR LR
comp=Z,4µm,20.0s

IDC 21 17:20:40.9±2.3, 23°.25S×170°.88E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=84.4km s-min=40.4km az=175.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.26**	**285**	Pn	Pn	17 21 48.4	+1.1
	2.8nm,0.3s,baz=105,slow=18,SNR=12						
DZM				Sn	Sn	17 22 37.0	-0.7
	0.8nm,0.3s,baz=122,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**33.86**	**262**	P	P	17 27 25.4	-0.1
	0.5nm,0.9s,baz=95,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**34.08**	**268**	P	P	17 27 26.9	-0.4
	0.3nm,0.8s,baz=100,slow=9.4,SNR=4.9						
FITZ	**Fitzroy Crossi**	**42.51**	**268**	P	P	17 28 37.9	-0.4
	1.3nm,0.7s,baz=98,slow=7.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**81.53**	**294**	P	P	17 33 01.6	+0.8
	0.3nm,0.7s,baz=130,slow=3.7,SNR=3.7						
GERES	**GERESS Array B**	**148.72**	**330**	PKPbc	PKPbc	17 40 29.0	-1.2
	0.7nm,0.8s,baz=32,slow=3.8,SNR=4.5						

*IDC **21** 17:22:38.1±0.7, 22°.77S×171°.11E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.4/2, Error ellipse: s-maj=24.1km s-min=17.3km az=169.0*
*VIE **21** 17:22:39.4, 22°.58S×170°.92E, h0km, mb4.2 602 km SSE of Port Vila*
*ISCJB **21** 17:22:43.0±0.6, 22°.8S±0°.1×170°.98E±0°.05, h42km, mb4.2/13, Error ellipse: s-maj=18.4km s-min=7.1km az=3.8*

ISC 21 17:22:44.5±0.7, 22°.7S±0°.2×171°.02E±0°.07, h42km, n47, σ0s84/50, mb4.2/13, 5C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.87**	**278**	*e*P	**Pn**	**17 23 41.4**	**0.0**
BAYA				*e*S	**Sn**	**17 24 26.0**	**+0.4**
DZM	**Mont Dzumac**	**4.28**	**278**	Pn	**Pn**	**17 23 46.7**	**-0.6**
	11nm,0.3s,baz=112,slow=20,SNR=26						
DZM				Sn	**Sn**	**17 24 37.2**	**+1.1**
	4.1nm,0.3s,baz=180,slow=20,SNR=3.6						
NOUC	**Port Laguerre**	**4.41**	**277**	*e*P	**Pn**	**17 23 46.8**	**-2.1**
NOUC				*e*S	**Sn**	**17 24 38.8**	**-0.2**
HNR	**Honiara**	**16.96**	**320**	P	**P**	**17 26 39.8**	**-0.5**
	2.4nm,0.3s,baz=196,slow=18,SNR=2.6						
CTA	**Charters Tower**	**23.20**	**272**	P	**P**	**17 27 48.8**	**+1.0**
	2.8nm,0.7s,baz=90,slow=8.1,SNR=8.2						
CTA	**Charters Tower**	**23.20**	**272**	*e*P	**P**	**17 27 48.8**	**+1.0**
	6.1nm,1.3s						
PMG	**Port Moresby**	**26.42**	**296**	P	**P**	**17 28 17.7**	**+0.2**
	6.0nm,0.7s,baz=129,slow=14,SNR=5.1						
STKA	**Stephens Creek**	**27.61**	**244**	P	**P**	**17 28 29.3**	**+1.2**
	3.2nm,1.0s,baz=59,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**34.06**	**261**	P	**P**	**17 29 24.6**	**-0.5**
	2.4nm,0.7s,baz=96,slow=10,SNR=24						
WRA	**Warramunga Arr**	**34.22**	**268**	P	**P**	**17 29 25.0**	**-1.4**
	0.8nm,0.5s,baz=100,slow=8.1,SNR=20						
MTN	**Manton Dam**	**39.12**	**278**	*e*P	**P**	**17 30 07.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**42.65**	**268**	P	**P**	**17 30 37.4**	**+0.2**
	6.7nm,0.7s,baz=122,slow=8.4,SNR=21						
FITZ	**Fitzroy Crossi**	**42.65**	**268**	*e*P	**P**	**17 30 37.3**	**0.0**
	7.6nm,0.8s						
QSPA	**South Pole Qui**	**67.33**	**180**	P	**P**	**17 33 34.7**	**-0.4**
	4.0nm,0.8s,baz=26,slow=2.1,SNR=14						
PETK	**Petropavlovsk-**	**76.41**	**352**	P	**P**	**17 34 28.6**	**-0.6**
	2.0nm,0.6s,baz=153,slow=7.2,SNR=8.1						
CMAR	**Chiang Mai Arr**	**81.44**	**294**	P	**P**	**17 34 58.8**	**+1.1**
	2.2nm,0.7s,baz=132,slow=4.2,SNR=22						
NVAR	**Mid Array Bea**	**89.89**	**48**	P	**P**	**17 35 39.1**	**-0.3**
	2.1nm,0.7s,baz=225,slow=8.5,SNR=17						
SONM	**Songino Array**	**91.00**	**322**	P	**P**	**17 35 44.2**	**0.0**
	2.6nm,1.0s,baz=147,slow=4.2,SNR=9.6						
ILAR	**Eielson Array**	**93.08**	**17**	P	**P**	**17 35 53.9**	**+0.6**
	0.3nm,0.7s,baz=219,slow=4.7,SNR=4.4						
TXAR	**Lajitas Array**	**96.98**	**61**	P	**P**	**17 36 12.5**	**+0.4**
	0.3nm,0.8s,baz=241,slow=1.9,SNR=3.3						
MKAR	**Makanchi Array**	**105.37**	**315**	Pdiff	**Pdif**	**17 36 49.6**	**+0.6**
	0.5nm,0.9s,baz=100,slow=6.3,SNR=4.2						
AKTO	**Aktyubinsk**	**121.74**	**316**	PKP	**PKPdf**	**17 41 33.0**	**-0.7**
	1.0nm,0.7s,baz=117,slow=2.3,SNR=5.3						
ARCES	**ARCESS Array B**	**128.86**	**345**	PKP	**PKPdf**	**17 41 46.4**	**-0.4**
	1.9nm,0.6s,baz=75,slow=1.4,SNR=9.4						
MLR	**Muntele Rosu**	**143.66**	**317**⇑	*i*P	**PKPdf**	**17 42 14.7**	**-0.3**
VOIR		**144.25**	**318**⇑	*i*P	**PKPdf**	**17 42 16.4**	**+0.4**
TRPA	**Tarpa**	**144.34**	**323**⇑	*i*P	**PKPab**	**17 42 13.3**	**-0.7**
DRGR		**144.98**	**321**⇓	*i*P	PKPbc	17 42 16.6	+0.1
OKC	**Ostrava-Krasne**	**145.57**	**329**	*e*P	**PKPab**	**17 42 19.5**	**+1.0**
GZR	**Gura Zlata**	**145.67**	**319**⇓	*i*P	**PKPab**	**17 42 19.0**	**-0.1**
MORC	**Moravsky Berou**	**145.92**	**320**⇓	*i*P	**PKPab**	**17 42 19.6**	**-0.2**
PSZ	**Piestanskeho**	**145.91**	**325**⇓	*i*P	**PKPab**	**17 42 23.6**	**+3.6**
KRLC	**Kraliky**	**146.06**	**330**	*e*P	**PKPab**	**17 42 20.2**	**-0.2**
DPC	**Dobruska-Polom**	**146.07**	**331**	*e*P	**PKPab**	**17 42 20.4**	**-0.1**
DPC				*ex*	x	17 42 24.0	
UPC	**Upice**	**146.10**	**331**	*e*P	**PKPab**	**17 42 20.6**	**+0.1**
PVCC	**Panska Ves**	**146.72**	**332**	*e*P	**PKPab**	**17 42 22.0**	**-0.9**
BRG	**Berggiesshubel**	**146.72**	**333**	*e*P	**PKPbc**	**17 42 21.9**	**+0.3**
	10nm,0.8s						
VTS	**Vitosha**	**146.73**	**314**⇓	*i*P	**PKPdf**	**17 42 20.7**	**+0.3**
CLL	**Collm**	**146.77**	**335**⇓	*i*(PKPbc)	**PKPbc**	**17 42 21.8**	**0.0**
	comp=Z,13nm,0.6s						
CLL				*i*		17 42 27.7	
CLL				*e*		17 42 32.0	
SMOL	**Smolenice**	**146.81**	**327**	*e*	**PKPab**	**17 42 23.3**	**0.0**
PRU	**Pruhonice**	**147.13**	**332**	*e*P	**PKPbc**	**17 42 23.1**	**+0.3**
PRU				*ex*	x	17 42 27.0	
PKSM	**Moragy**	**147.62**	**323**⇑	*i*P	**PKPbc**	**17 42 23.6**	**-0.7**
NKC	**Novy Kostel**	**147.83**	**334**	*e*P	**PKPbc**	**17 42 25.2**	**+0.4**
KHC	**Kasperske Hory**	**148.19**	**331**	*e*P	**PKPbc**	**17 42 26.1**	**+0.3**
KHC				*ex*	x	17 42 29.6	
KHC				*ex*	x	17 42 35.0	
GERES	**GERESS Array B**	**148.34**	**331**	PKPbc	PKPbc	**17 42 26.6**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=45,slow=2.1,SNR=25						
MOTA	**Moosalm**	**150.62**	**332**⇓	*i*PKPbc	**PKPbc**	**17 42 31.7**	**-0.3**
	comp=Z,12nm,0.9s						
FETA	**Feichten**	**151.03**	**332**⇑	*i*PKPbc	**PKPbc**	**17 42 32.5**	**-0.6**
	comp=Z,9.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**166.07**	**229**	PKP	**PKPdf**	**17 42 46.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=38,slow=1.0,SNR=3.9						
TORD				PKPab	**PKPab**	**17 43 45.9**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=115,slow=4.7,SNR=5.4						

IDC 21 17:30:45.5±2.5, 22°.82S×170°.93E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=97.6km s-min=40.0km az=172.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.21**	**279**	Pn	Pn	17 31 52.7	+1.5
	6.0nm,0.3s,baz=108,slow=19,SNR=9.2						
DZM				Sn	Sn	17 32 42.6	+1.4
	5.3nm,0.3s,baz=109,slow=18,SNR=3.7						
ASAR	**Alice Springs**	**33.97**	**261**	P	P	17 37 30.9	-0.1
	0.8nm,0.9s,baz=89,slow=9.4,SNR=7.8						
WRA	**Warramunga Arr**	**34.14**	**268**	P	P	17 37 31.1	-1.4
	0.2nm,0.4s,baz=96,slow=8.6,SNR=7.9						
CMAR	**Chiang Mai Arr**	**81.40**	**294**	P	P	17 43 05.6	+0.9
	0.3nm,0.3s,baz=144,slow=4.6,SNR=4.8						
GERES	**GERESS Array B**	**148.38**	**331**	PKPbc	PKPbc	17 50 33.2	-0.8
	0.9nm,0.8s,baz=48,slow=4.4,SNR=4.6						

IDC 21 17:34:35.3±2.6, 22°.59S×170°.97E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=109.6km s-min=39.2km az=169.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.22**	**276**	Pn	Pn	17 35 42.3	+1.2
	2.1nm,0.3s,baz=101,slow=14,SNR=16						
DZM				Sn	Sn	17 36 29.5	-1.7
	1.0nm,0.3s,baz=76,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**34.04**	**261**	P	P	17 41 21.4	0.0
	0.6nm,0.8s,baz=93,slow=9.9,SNR=6.2						
WRA	**Warramunga Arr**	**34.18**	**267**	P	P	17 41 21.5	-1.2
	0.4nm,0.9s,baz=96,slow=8.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**81.34**	**294**	P	P	17 46 55.6	+1.3
	0.3nm,0.7s,baz=132,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**148.19**	**331**	PKPbc	PKPdf	17 54 21.5	+1.5
	0.8nm,0.8s,baz=56,slow=3.7,SNR=4.9						

NSSC 21 17:35:46.8±2.3, 35°.10N×38°.57E, h28km±17km, ML1.7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHLN	**Al Jahlan**	**0.58**	**350**	*e*P	Pb	17 35 56.5	-2.1
JHLN				*e*S	Sn	17 36 07.4	-0.6
JHLN				AML	AML	17 36 10.8	
	comp=Z,30nm,0.5s						
MZRK	**Al-Mazaregh**	**1.85**	**66**	*e*P	Pn	17 36 17.1	+0.3
MZRK				*e*S	Sn	17 36 40.5	+1.2
MZRK				AML	AML	17 36 51.5	
	comp=Z,3.8nm,0.3s						
BTCH	**Batrach**	**1.96**	**299**	*e*P	Pn	17 36 20.0	+1.7
BTCH				*e*S	Sn	17 36 42.9	+0.8

*CSEM **21** 17:35:57.1, 36°.49N×38°.22E, h24km, ML1.9, After NSSC*
NSSC 21 17:35:57.1±1.3, 36°.45N×38°.23E, h31km±5km, ML1.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLMH	**Al Salmeh**	**0.34**	**226**	*i* P	Pb	17 36 05.0	-0.2
SLMH				*i* S	Sb	17 36 10.6	-0.1
SLMH				AML	AML	17 36 11.3	
	comp=Z,70nm,0.1s						
JHLN	**Al Jahlan**	**0.79**	**167**	*e*P	Pb	17 36 12.9	+0.5
JHLN				*e*S	Sn	17 36 23.5	+0.5
JHLN				AML	AML	17 36 27.4	
	comp=Z,30nm,0.5s						
JHLN	**Al Jahlan**	**0.79**	**167**	*e*P	Pb	17 36 12.9	+0.4
	SNR=96						
JHLN				*e*S	Sn	17 36 23.5	+0.5
	comp=Z,30nm,0.5s,SNR=95						
MNKR	**ALMNKUR**	**0.98**	**120**	*e*P	Pb	17 36 15.3	-0.4
MNKR				*e*S	Sb	17 36 28.9	+0.5
MNKR				AML	AML	17 36 33.8	
	comp=Z,99nm,0.2s						
MNKR	**ALMNKUR**	**0.98**	**120**	*e*P	Pb	17 36 15.3	-0.4
	SNR=94						
MNKR				*e*S	Sb	17 36 28.9	+0.6
	comp=Z,99nm,0.2s,SNR=94						
BTCH	**Batrach**	**1.49**	**255**	*e*P	Pn	17 36 22.7	+0.9
BTCH				*e*S	Sn	17 36 41.5	+1.3
BTCH				AML	AML	17 36 52.4	
	comp=E,42nm,0.4s						
BTCH				AML	AML	17 36 53.4	
	comp=N,19nm,0.8s						
BTCH	**Batrach**	**1.49**	**255**	*e*P	Pn	17 36 22.7	+0.9
	SNR=57						
BTCH				*e*S	Sb	17 36 41.5	-1.3
	comp=N,19nm,0.8s,SNR=58						
SFNV	**Sufian**	**1.52**	**91**	*e*P	Pn	17 36 23.1	+0.8
SFNV				*e*S	Sn	17 36 41.9	+0.9
SFNV				AML	AML	17 36 47.6	
	comp=Z,12nm,0.2s						
SFNV	**Sufian**	**1.52**	**91**	*e*P	Pn	17 36 23.1	+0.8
	SNR=57						

*IDC **21** 17:37:40.9±0.5, 61°.45N×156°.51E, h0km, mb4.1/25, mb1 4.3/27, mb1mx4.3/31, mbtmp4.2/27, ML3.7/2, Error ellipse: s-maj=15.3km s-min=9.8km az=152.0*
*NERS **21** 17:37:40.4, 61°.39N×156°.32E, h2km, Felt I=IV MSK at Omsukchan(128km)*
*MOS **21** 17:37:41.0±1.1, 61°.45N×156°.46E, h12km, mb4.5/28, Error ellipse: s-maj=11.4km s-min=7.4km az=80.3*
MOS Felt (IV) at Omsukchan.
*NEIC **21** 17:37:42.0±3.2, 61°.46N×156°.48E, h8km±20km, mb4.7/27, Error ellipse: s-maj=7.6km s-min=4.1km az=160.0*
*BJI **21** 17:37:45.3, 61°.46N×155°.96E, h24km, mB5.0/9, mb4.4/21, Ms4.8/5, Ms7 4.8/5*

ISC 21 17:37:42.3±1.3, 61°.53N±0°.04×156°.53E±0°.03, h8km±8km, n320, σ1s21/339, mb4.4/60, 81C-77D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OMS	**Omsukchan**	**1.05**	**341**⇑	*i*P	**Pg**	**17 38 01.8**	**-0.6**
OMS				*e*		17 38 17.2	
OMS				pmax	pmax		
	comp=Z,2µm,0.3s						
OMS				smax	smax		
	comp=N,17µm,0.4s						
OMS				smax	smax		
	comp=E,17µm,0.4s						
OMS	**Omsukchan**	**1.05**	**341**⇑	*i*Pg	**Pg**	**17 38 01.8**	**-0.6**
OMS				Pgmax		17 38 02.7	
	comp=E,2µm,0.4s						
OMS				*e*Sg	**Sn**	**17 38 17.5**	**-0.6**
OMS				Sgmax		17 38 21.2	
	comp=E,17µm,0.4s						
OMS				Sgmax		17 38 21.2	
	comp=E,14µm,0.4s						
EVEN	**Evensk**	**1.34**	**72**	*e*P	**Pb**	**17 38 07.1**	**-0.5**
EVEN				*e*Pg	**Pg**	**17 38 07.8**	**-0.2**
EVEN				Pgmax		17 38 09.1	
	comp=E,3µm,0.3s						
EVEN				*e*Sg	**Sn**	**17 38 27.6**	**+2.4**
EVEN				Sgmax		17 38 29.3	
	comp=E,3µm,0.2s						
EVEN				Sgmax		17 38 29.3	
	comp=E,5µm,0.3s						
TLAR	**Talaya**	**2.03**	**260**⇑	*i*P	**Pn**	**17 38 16.4**	**-0.3**
TLAR				*e*		17 38 43.1	
TLAR				pmax	pmax		
	comp=E,3µm,0.5s						
TLAR				pmax	pmax		
	comp=Z,2µm,0.5s						
TLAR				smax	smax		
	comp=E,9µm,0.3s						
TLAR	**Talaya**	**2.03**	**260**	*e*P	**Pn**	**17 38 15.5**	**-1.2**
TLAR				*e*Pg	**Pn**	**17 38 16.4**	**-0.3**
TLAR				Pgmax		17 38 18.5	
	comp=E,2µm,0.5s						
TLAR				*e*Sg	**Sn**	**17 38 42.4**	**+0.1**
TLAR				Sgmax		17 38 44.5	
	comp=E,8µm,0.3s						
TLAR				Sgmax		17 38 44.5	
	comp=E,2µm,0.2s						
SEY	**Seymchan**	**2.40**	**308**	*c* *i*P	**Pn**	**17 38 20.7**	**-1.0**
SEY	**Seymchan**	**2.40**	**308**⇓	*i*P	**Pn**	**17 38 20.8**	**-1.0**
SEY				Pmax		17 38 21.5	
	comp=E,60nm,0.4s						
SEY				*e*		17 38 23.9	
SEY				⇑ *i*Pg	**Pb**	**17 38 24.6**	**-1.0**
SEY				Pgmax		17 38 25.8	
	comp=E,1µm,0.2s						
SEY				*e*Sg	**Sb**	**17 38 56.2**	**+1.0

MGD Sgmax 22 32 24.2
comp=E,1µm,0.3s
SUUS Susuman 4.12 291 *e*P **Pn** **17 38 44.6 -0.8**
SUUS pmax pmax
comp=Z,220nm,0.3s
SUUS pmax pmax
comp=E,100nm,0.3s
SUUS Susuman 4.12 291 ⇑*i*P **Pn** **17 38 44.7 -0.7**
SUUS Pmax 17 38 45.6
comp=E,70nm,0.3s
SUUS *e*Pb Pb 17 38 48.7 -6.2
SUUS *e*Pg Pg 17 38 55.5 -5.5
SUUS Pgmax 17 38 56.7
comp=E,170nm,0.3s
SUUS *e*S **Sn** **17 39 32.0 -1.7**
SUUS *e*Sg **Sb** **17 39 48.4 +3.7**
SUUS Sgmax 17 39 53.6
comp=E,840nm,0.3s
SUUS Sgmax 17 39 54.6
comp=E,3µm,0.5s
OCHR Omchak 4.14 276 ⇓*i*P **Pn** **17 38 45.0 -0.7**
OCHR Pmax 17 38 45.4
comp=E,30nm,0.2s
OCHR *e* 17 38 46.8
OCHR *e*Pb Pb 17 38 50.5 -4.8
OCHR *e*Pg Pg 17 38 56.1 -5.4
OCHR Pgmax 17 38 56.8
comp=E,610nm,0.4s
OCHR *e*S **Sn** **17 39 31.6 -2.7**
OCHR *e*Sg **Sb** **17 39 48.3 +2.9**
OCHR Sgmax 17 39 52.7
comp=E,4µm,0.4s
OCHR Sgmax 17 39 52.7
comp=E,1µm,0.3s
OHTR Okhotsk 6.88 257 *e* Pn 17 39 28.4 +5.2
OHTR *e*P Pg 17 39 47.1 -6.8
OHTR Pgmax 17 39 58.3
OHTR *e*S **Sn** **17 40 45.1 +3.5**
OHTR *e*S **Sg** **17 41 23.7 +0.8**
OHTR Sgmax 17 41 32.9
comp=E,2µm,1.3s
BILL Bilibino 7.74 28 ⇑P **Pn** **17 39 36.0 +1.0**
BILL *e* 17 41 01.5
BILL pmax pmax
comp=Z,12nm,0.8s
BILL smax smax
comp=N,38nm,0.9s
BILL Bilibino 7.74 28 *e*Pn **Pn** **17 39 35.2 +0.2**
BILL *e*Sn **Sn** **17 40 58.4 -4.3**
BILL *e*Sg **Sg** **17 41 49.2 -1.0**
BILL Bilibino 7.74 28 *e* **Pn** **17 39 35.6 +0.6**
BILL *e* 17 39 45.1
BILL *e*P Pg 17 40 03.2 -7.0
BILL Pgmax 17 40 13.2
comp=N,10.0nm,0.8s
BILL *e*S **Sn** **17 41 04.6 +2.0**
BILL *e*S Sb 17 41 38.9 +10
BILL Sgmax 17 42 04.3
comp=N,520nm,1.1s
PEA0B Petropavlovsk- 8.47 175 *e*Pn **Pn** **17 39 43.9 -1.1**
PETK Petropavlovsk- 8.47 175 Pn **Pn** **17 39 43.6 -1.5**
comp=N,0.7nm,0.3s,baz=326,slow=12,SNR=36
PETK Petropavlovsk- 8.47 175 P **Pn** **17 39 43.6 -1.5**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 8.47 175 Pn **Pn** **17 39 43.6 -1.5**
YAK Yakutsk 12.68 284 *e*P Pn 17 40 45.5 +2.9
YAK *e* 17 43 06.0
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK smax smax
comp=N,10.0nm,1.0s
YAK smax smax
comp=E,14nm,1.1s
YAK MLR MLR
comp=Z,543nm,13.0s
YAK Yakutsk 12.68 284 *e*P **Pn** **17 40 43.0 +0.4**
YAK *e*Lg Lg 17 44 08.3
HABR Khabarovsk 17.84 233 P **P** **17 41 53.9 +2.6**
HABR *e* 17 45 14.3
HABR pmax pmax
comp=E,41nm,3.5s
HABR pmax pmax
comp=Z,50nm,2.4s
HABR pmax pmax
comp=N,19nm,2.4s
HABR MLR MLR
comp=Z,4µm,21.0s
KLR Kul'dur 18.55 240 *e*P Pn 17 42 04.2 +4.9
ASAJ Asahikawa 19.29 212 P **Pn** **17 42 07.3 -0.8**
comp=Z,0.6nm,0.3s,baz=3,4,slow=9.3,SNR=14
ASAJ Asahikawa 19.29 212 P **Pn** **17 42 07.4 -0.8**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 19.29 212 P **Pn** **17 42 07.3 -0.8**
BOD Bodaibo 21.50 279 *e*P **P** **17 42 29.7 -1.3**
BOD pmax pmax
comp=Z,20nm,0.8s
USRK Ussuriysk Arra 22.58 231 P **P** **17 42 43.4 +0.7**
comp=Z,9.5nm,0.8s,baz=38,slow=12,SNR=19
COLD Coldfoot 23.07 53 *e*P **P** **17 42 45.3 -2.4**
comp=Z,11nm,1.0s
PPLA Purkeypile 23.44 64 *e*P **P** **17 42 52.2 +0.6**
comp=Z,57nm,1.6s
HIA Hailar 23.85 256 *e*P **P** **17 42 56.8 +1.1**
HIA pmax pmax
comp=Z,20nm,1.2s
HIA Hailar 23.85 256 *e*P **P** **17 42 56.8 +1.1**
comp=Z,20nm,1.2s
TRF Thorofare Moun 24.06 62 *e*P **P** **17 42 57.6 -0.1**
comp=Z,26nm,1.0s
RSO Redoubt South 24.12 70 *e*P **P** **17 42 58.1 -0.1**
comp=Z,39nm,0.9s
MCK McKinley 24.53 61 *e*P **P** **17 43 02.0 +0.2**
MCK pmax pmax
comp=Z,48nm,1.0s
MCK McKinley 24.53 61 *e*P **P** **17 43 02.0 +0.2**
comp=Z,48nm,1.0s
COLA College 24.60 58 *e*P **P** **17 43 03.5 +1.1**
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 24.60 58 *e*P **P** **17 43 03.5 +1.1**
comp=Z,14nm,1.1s
CIT Chita 24.94 267 *e*P **P** **17 43 03.5 -2.2**
CIT *e* 17 43 52.4
ILAR Eielson Array 25.03 58 P **P** **17 43 06.4 +0.1**
comp=Z,8.2nm,0.6s,baz=282,slow=8.3,SNR=72
ILAR Eielson Array 25.03 58 P **P** **17 43 06.4 +0.1**
ILAR pmax pmax
comp=Z,8.0nm,0.6s
ILAR Eielson Array 25.03 58 P **P** **17 43 06.4 +0.1**
SLKM Skilak Lake 25.23 68 *e*P **P** **17 43 08.1 -0.1**
SLKM Skilak Lake 25.23 68 *e*P **P** **17 43 08.1 -0.1**
KDAK Kodiak Island 25.43 75 P **P** **17 43 09.4 -0.5**
comp=Z,7.1nm,0.6s,baz=332,slow=9.4,SNR=6.4
KDAK Kodiak Island 25.43 75 *i*P **P** **17 43 11.2 +1.3**
KDAK Kodiak Island 25.43 75 P **P** **17 43 09.4 -0.5**
SML Sawmill 25.51 65 *e*P **P** **17 43 10.8 +0.1**
SML pmax pmax
comp=Z,5.0nm,0.9s
SML Sawmill 25.51 65 *e*P **P** **17 43 10.8 +0.1**
comp=Z,4.8nm,0.9s
MJAR Matsushiro Arr 27.54 213 P **P** **17 43 27.7 -1.5**
comp=Z,2.4nm,0.9s,baz=359,slow=8.4,SNR=7.8
MJAR Matsushiro Arr 27.54 213 P **P** **17 43 27.7 -1.5**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 27.54 213 P **P** **17 43 27.7 -1.5**
INK Inuvik 28.85 46 P **P** **17 43 41.1 +0.6**
comp=Z,4.0nm,1.1s,baz=280,slow=8.4,SNR=4.2
INK Inuvik 28.85 46 P **P** **17 43 41.2 +0.6**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 28.85 46 P **P** **17 43 41.1 +0.6**
KSRS Korea Array 29.97 230 P **P** **17 43 51.1 +0.4**
comp=Z,0.7nm,0.8s,baz=12,slow=8.0,SNR=3.7
KSRS Korea Array 29.97 230 P **P** **17 43 51.1 +0.4**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSAR Wonju Array Be 29.99 230 P **P** **17 43 51.1 +0.1**
KSAR Wonju Array Be 29.99 230 P **P** **17 43 51.1 +0.1**
ULN Ulaanbaatar 30.84 267 *e*P **P** **17 44 00.7 +2.1**
ZAK Zakamensk 30.93 274 *e*P **P** **17 43 56.9 -2.3**
ZAK pmax pmax
comp=Z,2.0nm,1.6s

SONM Songino Array 31.18 267 P **P** **17 44 02.4 +0.9**
comp=Z,0.9nm,0.7s,baz=52,slow=6.4,SNR=5.8
SONM Songino Array 31.18 267 P **P** **17 44 02.4 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 31.18 267 P **P** **17 44 02.4 +0.9**
SKAG Skagway 32.25 63 *e*P **P** **17 44 12.1 +1.4**
comp=Z,5.4nm,0.9s
DLBC Dease Lake 35.09 61 P **P** **17 44 35.9 +0.4**
comp=Z,3.5nm,0.6s,baz=296,slow=5.7,SNR=8.0
DLBC Dease Lake 35.09 61 P **P** **17 44 35.9 +0.4**
ZAA0 Zalesovo Array 37.17 292 *e*P **P** **17 44 54.9 +1.8**
ZALV Zalesovo Beam 37.17 292 P **P** **17 44 53.1 0.0**
comp=Z,1.7nm,0.7s,baz=41,slow=8.7,SNR=11
ZALV Zalesovo Beam 37.17 292 P **P** **17 44 53.2 0.0**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 37.17 292 P **P** **17 44 53.1 0.0**
NVS Novosibirsk 37.28 294 *i*P **P** **17 44 55.3 +1.2**
YKA Yellowknife Ar 38.58 48 P **P** **17 45 04.8 -0.1**
comp=Z,2.6nm,0.8s,baz=308,slow=8.2,SNR=55
YKA PcP **PcP** **17 47 16.7 -0.4**
comp=Z,0.3nm,0.7s,baz=324,slow=4.1,SNR=4.7
YKA Yellowknife Ar 38.58 48 P **P** **17 45 04.9 -0.1**
YKA 17 47 16.7
YKA Yellowknife Ar 38.58 48 P **P** **17 45 04.8 -0.1**
YKA PcP **PcP** **17 47 16.7 -0.4**
GTA Gaotai 40.65 264 *e*P **P** **17 45 24.4 +1.8**
GTA pP pP 17 45 35.8 +11
GTA pmax pmax
comp=Z,4.0nm,1.5s
LZH Lanzhou 41.41 257 *e*P **P** **17 45 30.9 +1.9**
LZH pP pP 17 45 36.1 +4.5
LZH sP sP 17 45 39.0 +6.4
LZH pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 42.15 292 P **P** **17 45 35.1 +0.4**
comp=Z,3.0nm,0.6s,baz=46,slow=8.1,SNR=20
KURK Kurchatov 42.15 292 *c i*P **P** **17 45 35.7 +1.0**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 42.15 292 P **P** **17 45 35.1 +0.4**
WMQ Urumqi 43.04 279 P **P** **17 45 43.9 +1.8**
WMQ pP pP 17 45 54.9 +10
WMQ sP sP 17 45 57.4 +12
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ LR LR
comp=N,1µm,22.9s
WMQ LR LR
comp=E,1µm,21.5s
WMQ LR LR
comp=Z,2µm,21.4s
MK31 Makanchi Array 43.35 286 *e*P **P** **17 45 44.8 +0.3**
MK31 Makanchi Array 43.35 286 *e*P **P** **17 45 44.8 +0.3**
MKAR Makanchi Array 43.35 286 P **P** **17 45 43.7 -0.8**
comp=Z,0.2nm,0.5s,baz=19,slow=5.4,SNR=5.9
MKAR Makanchi Array 43.35 286 P **P** **17 45 43.7 -0.8**
MKAR Makanchi Array 43.35 286 P **P** **17 45 43.7 -0.8**
BRVK Borovoye 44.05 300 ⇑*i*P **P** **17 45 50.7 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
ARCES ARCESS Array B 44.68 338 P **P** **17 45 55.3 +0.4**
comp=Z,4.7nm,0.8s,baz=14,slow=15,SNR=3.7
ARCES ARCESS Array B 44.68 338 P **P** **17 45 55.3 +0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 44.68 338 P **P** **17 45 55.3 +0.4**
SVE Sverdlovsk 45.08 309 ⇑*e*P P 17 46 01.5 +3.4
SVE pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 46.14 310 *d i*P **P** **17 46 07.2 +0.7**
ARU 17 47 50.0
ARU S **S** **17 52 49.5 -2.6**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 46.14 310 *e*P **P** **17 46 06.6 +0.1**
comp=Z,4.3nm,0.9s
C11A Tepee Creek (N 48.37 64 ⇑P **P** **17 46 24.7 +0.5**
baz=48
WALA Waterton Lakes 48.43 62 *e*P **P** **17 46 22.5 -2.2**
A14A Double T Ranch 48.70 61 ⇓P **P** **17 46 27.4 +0.6**
baz=48
B13A Whitefish 48.73 63 ⇓P **P** **17 46 27.5 +0.7**
baz=49
FFC Flin Flon 48.73 49 *i*P **P** **17 46 27.3 +0.5**
FFC Flin Flon 48.73 49 *e*P **P** **17 46 26.8 +0.1**
comp=Z,12nm,1.1s
A15A Jolson Ranch, 48.99 61 ⇑P **P** **17 46 29.4 +0.4**
baz=49
B15A Bradely Ranch, 49.58 61 ⇑P **P** **17 46 34.0 +0.5**
baz=49
A17A Triple J Farms 49.86 59 ⇓P **P** **17 46 35.7 +0.2**
baz=50
D14A Greenough 50.14 63 ⇑P **P** **17 46 38.2 +0.5**
baz=50,SNR=5.9
BMO Blue Mountains 50.23 67 *e*P **P** **17 46 38.3 -0.1**
comp=Z,3.8nm,1.1s
C16A Fuhinger Ranc 50.32 61 ⇓P **P** **17 46 39.2 +0.1**
baz=50
B17A L&G Farms, Che 50.33 60 ⇓P **P** **17 46 40.1 +1.0**
baz=50
E13A Victor 50.34 64 ⇑P **P** **17 46 40.1 +0.8**
baz=50
F12A Elk City 50.42 65 ⇓P **P** **17 46 40.8 +0.9**
baz=50
D15A Lincoln 50.59 62 ⇓P **P** **17 46 42.0 +0.8**
baz=50
E14A Clinton 50.66 63 ⇑P **P** **17 46 42.6 +0.9**
baz=50
B18A Beardsley Farm 50.67 59 ⇑P **P** **17 46 42.7 +1.0**
baz=50
A19A Klindworth Far 50.67 58 ⇑P **P** **17 46 42.6 +0.9**
baz=50
EGMT Eagleton 50.97 60 ⇓P **P** **17 46 45.0 +1.0**
baz=51
D16A Dana Ranch, Ca 51.01 62 ⇑P **P** **17 46 45.8 +1.5**
baz=51
E15A Deer Lodge 51.02 63 ⇑P **P** **17 46 45.5 +1.1**
baz=51
A20A Cobblestone Ra 51.05 58 ⇑P **P** **17 46 45.5 +1.0**
baz=51,SNR=5.2
ABKAR Akbulak array 51.16 303 *e*P **P** **17 46 44.9 -0.3**
comp=Z,0.7nm,0.5s
E16A East Helena 51.35 62 ⇓P **P** **17 46 48.2 +1.4**
baz=51,SNR=5.4
B20A Solberg Farm, 51.36 58 ⇑P **P** **17 46 47.7 +0.9**
baz=51
A21A Bergtoll Ranch 51.36 57 ⇓P **P** **17 46 47.7 +0.8**
baz=51,SNR=5.6
C19A Slack Wire Ran 51.49 59 ⇑P **P** **17 46 48.7 +0.8**
baz=51
G14A Jackson 51.60 64 ⇓P **P** **17 46 49.5 +0.6**
baz=51
FINES FINESS Array B 51.66 332 P **P** **17 46 50.4 +1.6**
comp=Z,2.5nm,0.8s,baz=30,slow=8.8,SNR=6.9
FINES FINESS Array B 51.66 332 P **P** **17 46 50.4 +1.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 51.66 332 P **P** **17 46 50.4 +1.6**
E17A Martinsdale 51.75 62 ⇓P **P** **17 46 51.1 +1.2**
baz=52
A22A Carney Farms, 51.76 56 ⇑P **P** **17 46 50.3 +0.5**
baz=52
D19A Cripps Ranch, 52.02 60 ⇑P **P** **17 46 52.7 +0.9**
baz=52
I12A Atlanta 52.02 67 ⇑P **P** **17 46 52.7 +0.7**
baz=52
E18A Harlowton 52.06 61 ⇓P **P** **17 46 53.2 +1.0**
baz=52
G15A Dillon 52.08 64 ⇓P **P** **17 46 53.3 +0.9**
baz=52,SNR=5.6
F17A Fitzpatrick Pl 52.27 62 ⇑P **P** **17 46 55.0 +1.1**
baz=52
I13A Wildhorse Cree 52.37 66 ⇓P **P** **17 46 55.5 +0.9**
baz=52
D20A Manuel Ranch, 52.38 59 ⇑P **P** **17 46 55.5 +1.0**
baz=52,SNR=5.9
H15A Lima 52.45 64 ⇓P **P** **17 46 56.0 +0.8**
baz=52
HLID Hailey 52.52 66 ⇓P **P** **17 46 56.8 +1.0**
baz=52
B23A Brockton 52.55 56 ⇓P **P** **17 46 56.6 +0.9**
baz=52
A24A Westby 52.58 55 ⇓P **P** **17 46 56.6 +0.8**
baz=52

LSA Lhasa 52.67 264 *e*P **P** **17 46 57.6 +0.3**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 52.67 264 *e*P **P** **17 46 57.5 +0.3**
comp=Z,12nm,0.7s
F18A Big Timber 52.67 61 ⇑P **P** **17 46 57.3 +0.5**
baz=52
J13A Cove Ranch, Pi 52.76 66 ⇓P **P** **17 46 58.0 +0.6**
baz=53,SNR=5.1
C22A Vida 52.77 57 ⇑P **P** **17 46 58.3 +0.9**
baz=53
D21A La Casta Ranch 52.87 58 ⇑P **P** **17 46 59.2 +1.1**
baz=53
H16A Russell Place, 52.98 63 ⇑P **P** **17 46 59.9 +0.8**
baz=53
C23A Lambert 53.01 57 ⇓P **P** **17 47 00.4 +1.3**
baz=53
F19A Roth Farm, Mol 53.04 61 ⇓P **P** **17 47 00.2 +0.8**
baz=53
D22A Cohagen 53.13 58 ⇑P **P** **17 47 01.2 +1.2**
baz=53,SNR=5.3
RLMT Red Lodge 53.49 61 ⇓P **P** **17 47 04.0 +1.1**
baz=53
RLMT ⇓P **P** **17 47 04.0 +1.1**
baz=53
H17A Grant Village 53.52 63 ⇓P **P** **17 47 04.3 +1.2**
baz=53
G20A Bridger 53.85 61 ⇓P **P** **17 47 06.0 +0.6**
baz=54
D24A Glendive 53.91 57 ⇓P **P** **17 47 07.2 +1.5**
baz=54
H19A Powell 53.97 62 ⇓P **P** **17 47 07.3 +1.0**
baz=54
ELK Elko 54.42 69 P **P** **17 47 11.1 +1.4**
comp=Z,2.2nm,0.7s,baz=308,slow=6.9,SNR=10.0
ELK Elko 54.42 69 P **P** **17 47 11.1 +1.4**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 54.42 69 P **P** **17 47 11.1 +1.4**
ULM Lac du Bonnet 54.55 49 P **P** **17 47 10.0 -0.3**
comp=Z,4.1nm,0.7s,baz=326,slow=8.0,SNR=12
ULM Lac du Bonnet 54.55 49 P **P** **17 47 10.0 -0.3**
ULM pmax pmax
comp=Z,4.0nm,0.7s
ULM Lac du Bonnet 54.55 49 P **P** **17 47 10.0 -0.3**
G22A Birney 54.65 59 ⇓P **P** **17 47 12.1 +0.9**
baz=54
L15A Malad City 54.66 66 ⇓P **P** **17 47 12.5 +1.0**
baz=54
J18A Kendall Valley 54.71 63 ⇑P **P** **17 47 12.8 +0.9**
baz=54
H21A Big Horn, Sher 54.82 60 ⇑P **P** **17 47 13.6 +1.1**
baz=55
NOA NORSAR Array B 54.90 340 P **P** **17 47 13.1 +0.4**
comp=Z,1.1nm,0.8s,baz=19,slow=7.4,SNR=3.2
NOA NORSAR Array B 54.90 340 P **P** **17 47 13.1 +0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 54.90 340 P **P** **17 47 13.1 +0.4**
NVAR Mina Array Bea 54.90 73 P **P** **17 47 14.7 +1.4**
comp=Z,1.8nm,0.8s,baz=319,slow=6.3,SNR=13
NVAR Mina Array Bea 54.90 73 P **P** **17 47 14.7 +1.4**
L16A Fish Haven 55.07 65 ⇑P **P** **17 47 14.6 +0.2**
baz=55
M15A Larsen Ranch, 55.07 66 ⇓P **P** **17 47 15.4 +1.0**
baz=55
J19A Crowheart 55.08 63 ⇑P **P** **17 47 15.2 +0.7**
baz=55
K18A Toltan Ranch, 55.17 64 ⇓P **P** **17 47 16.4 +1.3**
baz=55
PD02 Pinedale Array 55.26 63 *e*P **P** **17 47 16.5 +0.7**
BW06 Boulder Array 55.27 63 ⇑P **P** **17 47 16.5 +0.6**
baz=55
BW06 ⇑P **P** **17 47 16.5 +0.6**
baz=55
PDAR Pinedale Array 55.27 63 P **P** **17 47 16.6 +0.7**
comp=Z,2.8nm,0.9s,baz=343,slow=2.1,SNR=17
PDAR Pinedale Array 55.27 63 P **P** **17 47 16.6 +0.7**
I22A 9 Mile Ranch, 55.65 60 ⇑P **P** **17 47 19.5 +1.0**
baz=56
J21A Lysite 55.69 61 ⇑P **P** **17 47 20.1 +1.2**
baz=56
H24A Dirks Ranch, A 55.75 58 ⇑P **P** **17 47 20.1 +1.0**
baz=56
DUG Dugway 55.94 68 ⇑P **P** **17 47 21.7 +1.0**
baz=56
N17A Moffit Pass 56.20 66 ⇓P **P** **17 47 23.8 +1.1**
baz=56
R11A Troy Canyon, C 56.21 71 ⇑P **P** **17 47 23.9 +1.3**
baz=56
TAPN Taplejung 56.28 266 *e*P **P** **17 47 22.1 -1.3**
comp=Z,11nm,0.7s
TAPN Taplejung 56.28 266 *e*P **P** **17 47 22.1 -1.3**
comp=Z,11nm,0.7s
K21A Alcova 56.36 62 ⇑P **P** **17 47 25.1 +1.4**
baz=56
GRAC Grapevine Rang 56.49 73 ⇑P **P** **17 47 26.3 +1.8**
baz=56
CWC Cottonwood Cre 56.63 74 ⇓P **P** **17 47 27.2 +1.6**
baz=56
VES Vestal, Richgr 56.65 75 ⇑P **P** **17 47 26.6 +1.1**
baz=56
GUN Gumba 56.69 268 *e*P **P** **17 47 25.2 -1.1**
comp=Z,36nm,0.9s
GUN Gumba 56.69 268 *e*P **P** **17 47 25.2 -1.1**
comp=Z,36nm,0.9s
JIRN Jiri 56.75 267 *e*P **P** **17 47 25.6 -1.2**
JIRN Jiri 56.75 267 *e*P **P** **17 47 25.6 -1.2**
ODAN Odare 56.84 266 *e*P **P** **17 47 25.3 -2.0**
comp=Z,7.7nm,0.6s
ODAN Odare 56.84 266 *e*P **P** **17 47 25.3 -2.0**
comp=Z,7.7nm,0.6s
J24A Dixon Ranch, L 56.87 59 ⇓P **P** **17 47 28.2 +1.1**
baz=57
KKN Kakani 57.07 268 *e*P **P** **17 47 27.7 -1.2**
comp=Z,11nm,0.8s
KKN Kakani 57.07 268 *e*P **P** **17 47 27.7 -1.2**
KKN pmax pmax
comp=Z,11nm,0.8s
KKN Kakani 57.07 268 *e*P **P** **17 47 27.7 -1.2**
comp=Z,11nm,0.8s
R13A O'Grain Ranch, 57.07 70 ⇓P **P** **17 47 30.3 +1.5**
baz=57
ISA Isabella 57.08 75 ⇓P **P** **17 47 30.1 +1.4**
baz=57
RAMN Ramite 57.15 266 *e*P **P** **17 47 28.5 -1.0**
comp=Z,15nm,0.7s
RAMN Ramite 57.15 266 *e*P **P** **17 47 28.5 -1.0**
comp=Z,15nm,0.7s
M21A Separation Pea 57.16 63 ⇓P **P** **17 47 30.3 +0.9**
baz=57
PKI Pulchoki 57.20 268 *e*P **P** **17 47 28.7 -1.2**
PKI Pulchoki 57.20 268 *e*P **P** **17 47 28.7 -1.2**
PKI Pulchoki 57.20 268 *e*P **P** **17 47 28.7 -1.2**
GKN Gorkha 57.20 269 *e*P **P** **17 47 28.5 -1.3**
GKN Gorkha 57.20 269 *e*P **P** **17 47 28.5 -1.3**
MPMC Manual Prospec 57.21 74 ⇑P **P** **17 47 31.2 +1.4**
baz=57
DMN Daman 57.31 268 *e*P **P** **17 47 29.7 -0.9**
DMN Daman 57.31 268 *e*P **P** **17 47 29.7 -0.9**
DANN Dangsing 57.33 270 *e*P **P** **17 47 30.2 -0.6**
comp=Z,28nm,0.8s
DANN Dangsing 57.33 270 *e*P **P** **17 47 30.2 -0.6**
comp=Z,28nm,0.8s
N20A Spence Gulch, 57.41 64 ⇑P **P** **17 47 32.1 +1.0**
baz=57
MSU Marysvale 57.60 68 *e*P **P** **17 47 34.6 +2.1**
MSU pmax pmax
comp=Z,2.0nm,0.6s
MSU Marysvale 57.60 68 *e*P **P** **17 47 34.6 +2.1**
comp=Z,1.7nm,0.6s
ARUT Antelope Range 57.63 70 *e*P **P** **17 47 34.3 +1.6**
ARUT pmax pmax
comp=Z,3.0nm,0.6s
ARUT Antelope Range 57.63 70 *e*P **P** **17 47 34.3 +1.6**
comp=Z,2.5nm,0.6s
Q16A Castle Valley 57.72 67 ⇑P **P** **17 47 34.6 +1.3**
baz=58
SRU San Rafael 57.84 67 *e*P **P** **17 47 35.5 +1.3**
SRU pmax pmax
comp=Z,4.0nm,0.5s
SRU San Rafael 57.84 67 *e*P **P** **17 47 35.5 +1.3**
comp=Z,3.8nm,0.5s
SRU San Rafael 57.84 67 ⇓P **P** **17 47 35.5 +1.3**
baz=58
KOLN Koldanda 57.90 270 *e*P **P** **17 47 34.0 -0.7**
comp=Z,14nm,0.7s

KOLN	**Koldanda**	**57.90**	**270**	*eP*		**P**	**17 47 34.0**	**-0.7**
	comp=Z,14nm,0.7s							
EDW2	**Edwards Air Fo**	**57.95**	**75**	⇓P		**P**	**17 47 36.4**	**+1.6**
	baz=58							
R16A	**Teasdale**	**58.10**	**68**	⇓P		**P**	**17 47 37.8**	**+1.8**
	baz=58							
GSC	**Goldstone**	**58.15**	**74**	⇑P		**P**	**17 47 38.0**	**+1.7**
	baz=58							
CHTO	**Chiang Mai**	**58.35**	**250**	*eP*		**P**	**17 47 38.4**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CHTO	**Chiang Mai**	**58.35**	**250**	*eP*		**P**	**17 47 38.4**	**+0.7**
	comp=Z,2.5nm,0.8s							
TUQ	**Turquoise Moun**	**58.44**	**73**	⇓P		**P**	**17 47 39.7**	**+1.4**
	baz=58							
CMAR	**Chiang Mai Arr**	**58.66**	**250**	P		**P**	**17 47 38.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=13,slow=7.3,SNR=9.3							
CMAR	**Chiang Mai Arr**	**58.66**	**250**	P		**P**	**17 47 38.9**	**-1.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**58.66**	**250**	P		**P**	**17 47 38.9**	**-1.0**
R18A	**Canyonlands Na**	**58.72**	**67**	⇓P		**P**	**17 47 41.0**	**+0.7**
	baz=58,SNR=8.5							
S17A	**Black Ridge (B**	**58.94**	**68**	⇑P		**P**	**17 47 43.1**	**+1.3**
	baz=59,SNR=5.3							
SCHQ	**Schefferville**	**59.05**	**28**	P		**P**	**17 47 41.0**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=287,slow=12,SNR=11							
SCHQ	**Schefferville**	**59.05**	**28**	P		**P**	**17 47 41.0**	**-1.1**
GMRC	**Granite Mounta**	**59.11**	**73**	⇓P		**P**	**17 47 44.6**	**+1.6**
	baz=59							
PV04	**Paradox Valley**	**59.15**	**66**	*eP*		**P**	**17 47 44.3**	**+1.1**
S18A	**Hurst Farm, Bl**	**59.25**	**67**	⇑P		**P**	**17 47 44.7**	**+0.7**
	baz=59							
U15A	**North Rim**	**59.27**	**70**	⇓P		**P**	**17 47 45.4**	**+1.1**
	baz=59							
SMCO	**Snowmass**	**59.33**	**64**	*eP*		**P**	**17 47 47.4**	**+2.5**
	comp=Z,4.6nm,0.9s							
Q21A	**Lamborn Mesa,**	**59.36**	**65**	⇑P		**P**	**17 47 46.2**	**+1.4**
	baz=59							
ISCO	**Idaho Springs**	**59.40**	**62**	⇑P		**P**	**17 47 47.0**	**+1.9**
	baz=59							
T17A	**Navajo Res., N**	**59.47**	**68**	⇑P		**P**	**17 47 46.5**	**+1.0**
	baz=59							
R20A	**Redvale**	**59.55**	**66**	⇑P		**P**	**17 47 47.5**	**+1.4**
	baz=59							
S19A	**Harvey Farm, M**	**59.58**	**66**	⇓P		**P**	**17 47 47.7**	**+1.4**
	baz=59							
Q22A	**Crested Butte,**	**59.62**	**64**	⇓P		**P**	**17 47 48.7**	**+2.0**
	baz=59,SNR=5.3							
ECSD	**EROS Data Cent**	**59.74**	**53**	*eP*		**P**	**17 47 47.0**	**0.0**
	comp=Z,7.1nm,0.6s							
R21A	**Cimarron**	**59.76**	**65**	⇓P		**P**	**17 47 49.3**	**+1.8**
	baz=60							
T18A	**Mexican Hat**	**59.76**	**67**	⇓P		**P**	**17 47 48.3**	**+0.8**
	baz=60							
S20A	**Disappointment**	**59.85**	**66**	⇓P		**P**	**17 47 49.6**	**+1.4**
	baz=60							
IRM	**Iron Mountain**	**59.85**	**73**	⇓P		**P**	**17 47 50.0**	**+1.9**
	baz=60,SNR=5.6							
BC3	**Big Chuckawall**	**60.13**	**74**	⇑P		**P**	**17 47 51.4**	**+1.4**
	baz=60							
S21A	**Coal Bank Pass**	**60.24**	**65**	⇓P		**P**	**17 47 52.2**	**+1.3**
	baz=60							
MONP	**Monument Peak**	**60.32**	**75**	⇑P		**P**	**17 47 52.8**	**+1.3**
	baz=60							
T19A	**Beclabito**	**60.39**	**67**	⇑P		**P**	**17 47 53.4**	**+1.5**
	baz=60							
AKASG	**Malin Array Be**	**60.48**	**324**	P		**P**	**17 47 53.0**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=27,slow=7.2,SNR=3.9							
AKASG	**Malin Array Be**	**60.48**	**324**	P		**P**	**17 47 53.0**	**+1.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**60.48**	**324**	P		**P**	**17 47 53.0**	**+1.0**
S22A	**4UR Ranch, Cre**	**60.59**	**65**	⇓P		**P**	**17 47 55.3**	**+2.0**
	baz=60							
V17A	**Tonalea, Kykot**	**60.61**	**69**	⇑P		**P**	**17 47 55.0**	**+1.6**
	baz=60							
Q25A	**Bedland, Calha**	**60.72**	**62**	⇑P		**P**	**17 47 55.4**	**+1.4**
	baz=60							
R24A	**Sanders Place,**	**60.92**	**63**	⇑P		**P**	**17 47 57.1**	**+1.6**
	baz=61							
SDCO	**Great Sand Dun**	**61.16**	**64**	*eP*		**P**	**17 47 58.3**	**+1.1**
SDCO	**Great Sand Dun**	**61.16**	**64**	⇑P		**P**	**17 47 58.6**	**+1.4**
	baz=61							
SDCO				⇑P		**P**	**17 47 58.6**	**+1.4**
	baz=61							
T22A	**Edith**	**61.17**	**65**	⇑P		**P**	**17 47 59.1**	**+1.9**
	baz=61							
U21A	**Nageezi**	**61.33**	**66**	⇓P		**P**	**17 47 59.2**	**+0.9**
	baz=61							
R25A	**Fountain Ranch**	**61.34**	**62**	⇑P		**P**	**17 47 59.4**	**+1.1**
	baz=61							
S24A	**Houchin Ranch,**	**61.37**	**64**	⇓P		**P**	**17 48 00.1**	**+1.4**
	baz=61							
R26A	**Arlington**	**61.57**	**62**	⇑P		**P**	**17 48 00.7**	**+0.9**
	baz=61,SNR=5.8							
R27A	**Eads**	**61.85**	**61**	⇑P		**P**	**17 48 02.9**	**+1.2**
	baz=62							
X18A	**Snowflake**	**61.91**	**69**	⇑P		**P**	**17 48 03.5**	**+1.3**
	baz=62							
T24A	**Torres, Weston**	**61.92**	**64**	⇓P		**P**	**17 48 03.8**	**+1.5**
	baz=62							
W20A	**Ramah**	**62.05**	**68**	⇑P		**P**	**17 48 04.7**	**+1.5**
	baz=62							
S26A	**Kim**	**62.13**	**62**	⇓P		**P**	**17 48 04.5**	**+0.9**
	baz=62							
X20A	**Quemado**	**62.54**	**68**	⇓P		**P**	**17 48 07.8**	**+1.4**
	baz=62							
Y19A	**Nutrioso**	**62.70**	**69**	⇑P		**P**	**17 48 09.4**	**+1.8**
	baz=62							
X21A	**Alamocita Cree**	**62.94**	**67**	⇑P		**P**	**17 48 10.9**	**+1.8**
	baz=63							
V24A	**Rampart Ranch,**	**62.96**	**65**	⇓P		**P**	**17 48 10.7**	**+1.4**
	baz=63							
ANMO	**Albuquerque**	**63.10**	**66**	*eP*		**P**	**17 48 10.1**	**0.0**
Y20A	**Horse Springs,**	**63.13**	**68**	⇓P		**P**	**17 48 12.0**	**+1.6**
	baz=63							
V25A	**Rancho No Teng**	**63.15**	**64**	⇓P		**P**	**17 48 11.5**	**+1.0**
	baz=63							
Z20A	**Nine Sixteen R**	**63.70**	**69**	⇓P		**P**	**17 48 15.9**	**+1.8**
	baz=64							
Y23A	**Lovelace Mesa,**	**64.14**	**66**	⇓P		**P**	**17 48 18.4**	**+1.4**
	baz=64							
120A	**U Bar Ranch, L**	**64.16**	**69**	⇓P		**P**	**17 48 18.9**	**+1.8**
	baz=64							
Y24A	**Capitan**	**64.41**	**66**	⇓P		**P**	**17 48 20.0**	**+1.2**
	baz=64							
319A	**Douglas**	**64.86**	**70**	⇑P		**P**	**17 48 23.4**	**+1.7**
	baz=65							
Z24A	**Sheeppen Canyo**	**64.95**	**66**	⇑P		**P**	**17 48 23.5**	**+1.2**
	baz=65							
225A	**Deer Hill, Car**	**66.23**	**66**	⇓P		**P**	**17 48 31.7**	**+1.1**
	baz=66							
MNTX	**Cornudas Mount**	**66.33**	**67**	⇑P		**P**	**17 48 32.1**	**+1.1**
	baz=66							
MNTX				⇑P		**P**	**17 48 32.1**	**+1.1**
	baz=66							
324A	**Moseley Ranch,**	**66.50**	**67**	⇑P		**P**	**17 48 32.8**	**+0.4**
	baz=66							
325A	**Bean Ranch, Si**	**66.79**	**67**	⇑P		**P**	**17 48 35.3**	**+1.1**
	baz=67							
326A	**Caldwell Ranch**	**67.28**	**66**	⇓P		**P**	**17 48 38.2**	**+1.0**
	baz=67							
425A	**Indio Mountain**	**67.28**	**67**	⇓P		**P**	**17 48 38.3**	**+1.0**
	baz=67							
328A	**Wristen Ranch,**	**67.73**	**65**	⇑P		**P**	**17 48 40.5**	**+0.5**
	baz=68							
427A	**Hayter Ranch,**	**67.93**	**66**	⇓P		**P**	**17 48 41.9**	**+0.6**
	baz=68							
526A	**Mary Lane Ranc**	**68.30**	**67**	⇓P		**P**	**17 48 44.9**	**+1.2**
	baz=68							
428A	**Kincaid Ranch,**	**68.35**	**66**	⇓P		**P**	**17 48 45.0**	**+1.1**
	baz=68							
527A	**Woodward Ranch**	**68.44**	**67**	⇓P		**P**	**17 48 45.3**	**+0.7**
	baz=68							
626A	**Big Bend Ranch**	**68.72**	**67**	⇓P		**P**	**17 48 47.2**	**+0.9**
	baz=69							
BRTR	**Keskin Array B**	**69.02**	**316**	P		**P**	**17 48 48.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=19,slow=3.3,SNR=3.5							
BRTR	**Keskin Array B**	**69.02**	**316**	P		**P**	**17 48 48.0**	**0.0**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**69.02**	**316**	P		**P**	**17 48 48.0**	**0.0**
TXAR	**Lajitas Array**	**69.11**	**67**	P		**P**	**17 48 49.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=304,slow=4.1,SNR=6.1							
TXAR	**Lajitas Array**	**69.11**	**67**	P		**P**	**17 48 49.2**	**+0.4**
TXAR	**Lajitas Array**	**69.11**	**67**	P		**P**	**17 48 49.1**	**+0.4**
627A	**Terlingua Ranc**	**69.13**	**67**	⇑P		**P**	**17 48 49.5**	**+0.6**
	baz=69							
628A	**Black Gap, Mar**	**69.32**	**66**	⇓P		**P**	**17 48 50.8**	**+0.9**
	baz=69							
WRA	**Warramunga Arr**	**83.12**	**201**	P		**P**	**17 50 08.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=12,slow=5.4,SNR=7.0							
WRA	**Warramunga Arr**	**83.12**	**201**	P		**P**	**17 50 08.4**	**+0.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**83.12**	**201**	P		**P**	**17 50 08.4**	**+0.2**
ASAR	**Alice Springs**	**86.83**	**201**	P		**P**	**17 50 25.1**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=9.3,slow=4.7,SNR=13							
ASAR	**Alice Springs**	**86.83**	**201**	P		**P**	**17 50 25.1**	**-1.7**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**86.83**	**201**	P		**P**	**17 50 25.1**	**-1.7**
PLCA	**Paso Flores**	**144.94**	**76**	PKP		**PKPab**	**17 57 17.6**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=282,slow=3.2,SNR=7.7							
PLCA	**Paso Flores**	**144.94**	**76**	PKIKP	PKPbc		17 57 17.7	-0.6
PLCA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PLCA	**Paso Flores**	**144.94**	**76**	PKP		**PKPab**	**17 57 17.6**	**-0.6**
QSPA	**South Pole Qui**	**151.30**	**180**	PKPbc		**PKPbc**	**17 57 33.2**	**-1.4**
	comp=Z,6.9nm,1.1s,baz=290,slow=2.3,SNR=14							
QSPA	**South Pole Qui**	**151.30**	**180**	PKPbc		**PKPbc**	**17 57 33.2**	**-1.4**

IDC 21 17:42:20.1±1.6, 22.76S×170.97E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/16, mbtmp4.1/7, ML4.1/1, Error ellipse: s-maj=61.4km s-min=23.4km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.83**	**278**	*eS*		Sn	17 44 06.3	+0.2
DZM	**Mont Dzumac**	**4.25**	**278**	Pn		Pn	17 43 27.6	+1.4
	12nm,0.3s,baz=101,slow=17,SNR=120							
DZM					Sn	Sn	17 44 15.3	-1.2
	6.1nm,0.3s,baz=144,slow=19,SNR=3.3							
NOUC	**Port Laguerre**	**4.37**	**278**	*eP*		Pn	17 43 27.9	+0.1
NOUC				*eS*		Sn	17 44 17.5	-1.9
STKA	**Stephens Creek**	**27.57**	**244**	P		P	17 48 09.9	+1.1
	3.1nm,1.1s,baz=32,slow=9.5,SNR=3.0							
ASAR	**Alice Springs**	**34.02**	**261**	P		P	17 49 05.7	-0.4
	1.4nm,0.8s,baz=98,slow=9.3,SNR=15							
WRA	**Warramunga Arr**	**34.18**	**268**	P		P	17 49 06.0	-1.5
	0.5nm,0.4s,baz=101,slow=8.1,SNR=14							
PETK	**Petropavlovsk-**	**76.42**	**352**	P		P	17 54 11.1	0.0
	1.4nm,0.9s,baz=156,slow=7.3,SNR=4.3							
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P		P	17 54 40.4	+1.0
	0.5nm,0.4s,baz=136,slow=4.5,SNR=8.0							
NVAR	**Mina Array Bea**	**89.93**	**48**	P		P	17 55 21.2	-0.4
	0.5nm,0.7s,baz=221,slow=7.7,SNR=4.5							
ARCES	**ARCESS Array B**	**128.87**	**345**	PKP		PKPdf	18 01 27.6	-1.3
	2.3nm,0.8s,baz=4.8,slow=5.4,SNR=4.3							
BRG	**Berggiesshubel**	**146.73**	**333**	*eP*		PKPbc	18 02 04.1	+0.4
	4.7nm,0.8s							
CLL	**Collm**	**146.78**	**335**	*e*(PKP)		PKPdf	18 02 03.0	+0.8
	comp=Z,4.0nm,0.8s							
CLL				*e*			18 02 09.0	
GERES	**GERESS Array B**	**148.34**	**331**	PKPbc		PKPbc	18 02 08.5	+0.1
	comp=Z,1.2nm,0.7s,baz=29,slow=2.2,SNR=10							

*ISK **21** 17:45:03.5, 40.52N×36.86E, h5km, MD3.4*
*DDA **21** 17:45:03.2, 40.48N×36.88E, h7km, MD3.0*
*CSEM **21** 17:45:04.4±0.1, 40.53N×36.86E, h2km, MD3.0, Error ellipse: s-maj=4.2km s-min=2.6km az=9.0*

ISC 21 17:45:03.7±1.0, 40.50N±0.02×36.87E±0.02, h5km±9km, n71, σ1§48/84, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ERBA	**Erbaa**	**0.20**	**334**	*i* P		**Pg**	**17 45 08.2**	**+0.4**
ERBA				*i* S		**Sg**	**17 45 11.5**	**+0.9**
ERBA	**Erbaa**	**0.20**	**334**	*i* P		**Pg**	**17 45 08.2**	**+0.4**
ERBA				*i* S		**Sg**	**17 45 11.5**	**+0.9**
TOKA	**Tokat**	**0.35**	**240**	*i* P		**Pg**	**17 45 10.7**	**+0.2**
TOKA				*i* S		**Sg**	**17 45 15.1**	**-0.1**
TOKA	**Tokat**	**0.35**	**240**	*i* P		**Pg**	**17 45 10.7**	**+0.2**
TOKA				*i* S		**Sg**	**17 45 15.0**	**-0.1**
RSDY	**Resadiye-TOKAT**	**0.36**	**106**	PG		**Pb**	**17 45 11.1**	**-1.5**
RSDY				*e*SG		**Sb**	**17 45 16.8**	**-1.8**
RSDY	**Resadiye-TOKAT**	**0.36**	**106**	*i* Pg		**Pb**	**17 45 11.1**	**-1.5**
RSDY				*e*Sg		**Sb**	**17 45 16.8**	**-1.8**
KVT	**Kavak**	**0.86**	**313**	*e*PG		**Pg**	**17 45 19.7**	**-0.5**
KVT				*e*SG		**Sg**	**17 45 31.2**	**-0.1**
KVT	**Kavak**	**0.86**	**313**	*e*Pg		**Pg**	**17 45 19.7**	**-0.5**
KVT				*e*Sg		**Sg**	**17 45 31.2**	**-0.1**
HAVZ	**Havza**	**1.05**	**304**	*i* P		**Pg**	**17 45 23.6**	**-0.3**
HAVZ				*i* S		**Sn**	**17 45 38.9**	**-1.3**
HAVZ	**Havza**	**1.05**	**304**	*i* P		**Pg**	**17 45 23.6**	**-0.3**
HAVZ				*i* S		**Sn**	**17 45 38.9**	**-1.3**
GRSN	**GIRESUNGRSN**	**1.14**	**68**	*i* P		**Pg**	**17 45 24.5**	**-1.2**
GRSN				*i* S		**Sn**	**17 45 46.6**	**+4.1**
GRSN	**GIRESUNGRSN**	**1.14**	**68**	*i* P		**Pg**	**17 45 24.5**	**-1.2**
YOZ	**Yozgat**	**1.47**	**235**	*e*PN		**Pb**	**17 45 30.9**	**-0.7**
YOZ	**Yozgat**	**1.47**	**235**	*e*Pn		**Pb**	**17 45 30.9**	**-0.7**
ILIC	**ilic-Erzincan**	**1.67**	**128**	*e*PN		**Pb**	**17 45 34.5**	**-0.5**
ILIC	**ilic-Erzincan**	**1.67**	**128**	*e*Pn		**Pb**	**17 45 34.5**	**-0.5**
DIKM	**Dikmen**	**1.68**	**314**	*e*PN		**Pb**	**17 45 34.3**	**-0.8**
DIKM	**Dikmen**	**1.68**	**314**	*e*Pn		**Pb**	**17 45 34.3**	**-0.8**
DARE	**Darende-Malaty**	**1.70**	**155**	*e*PN		Pg	17 45 38.8	+2.4
DARE	**Darende-Malaty**	**1.70**	**155**	*e*Pn		Pg	17 45 38.8	+2.4
CORM	**Corum**	**1.74**	**260**	*e*PN		**Pb**	**17 45 35.2**	**-1.1**
CORM	**Corum**	**1.74**	**260**	*e*Pn		**Pb**	**17 45 35.2**	**-1.1**
KEMA	**Kemaliye**	**1.75**	**134**	*i* P		**Pg**	**17 45 36.2**	**-1.0**
KEMA				*i* S		**Sg**	**17 46 04.5**	**+4.6**
KEMA	**Kemaliye**	**1.75**	**134**	*i* P		**Pg**	**17 45 36.2**	**-1.0**
BNN	**Bunyan**	**1.82**	**206**	*e*PN		**Pb**	**17 45 36.5**	**-1.2**
BNN	**Bunyan**	**1.82**	**206**	*e*Pn		**Pb**	**17 45 36.5**	**-1.2**
EZC	**Erzincan**	**2.04**	**111**	*e*PN		**Pb**	**17 45 40.3**	**-1.1**
EZC	**Erzincan**	**2.04**	**111**	*e*Pn		**Pb**	**17 45 40.3**	**-1.1**
CDAG	**Cicekdag**	**2.11**	**246**	*i* P		**Pb**	**17 45 41.2**	**-1.3**
CDAG				*i* S		**Sb**	**17 46 09.6**	**+0.5**
CDAG	**Cicekdag**	**2.11**	**246**	*i* P		**Pb**	**17 45 41.2**	**-1.3**
CDAG				*i* S		**Sb**	**17 46 09.6**	**+0.5**
TOS	**Tosya**	**2.23**	**285**	*e*PN		**Pn**	**17 45 42.1**	**+0.6**
TOS	**Tosya**	**2.23**	**285**	*e*Pn		**Pn**	**17 45 42.1**	**+0.6**
KTUT	**Trabzon**	**2.25**	**77**	*e*PN		**Pb**	**17 45 43.0**	**-1.8**
KTUT	**Trabzon**	**2.25**	**77**	*e*Pn		**Pb**	**17 45 43.0**	**-1.8**
AVNT	**Avonos**	**2.32**	**223**	*i* P		**Pb**	**17 45 43.8**	**-2.3**
AVNT				*i* S		**Sb**	**17 46 14.4**	**-0.7**
AVNT	**Avonos**	**2.32**	**223**	*i* P		**Pb**	**17 45 43.8**	**-2.3**
AVNT				*i* S		**Sb**	**17 46 14.4**	**-0.7**
ERZN	**Erzincan**	**2.37**	**112**	*e*PN		**Pb**	**17 45 44.5**	**-2.4**
CANT	**Cankiri**	**2.48**	**274**	*e*PN		**Pn**	**17 45 45.5**	**+0.7**
MALT	**Malatya**	**2.49**	**151**	*e*PN		**Pb**	**17 45 47.0**	**-2.0**
MALT	**Malatya**	**2.49**	**151**	*e*Pn		**Pb**	**17 45 47.0**	**-2.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.50**	**91**	*e*PN		**Pn**	**17 45 46.2**	**+1.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.50**	**91**	*e*Pn		**Pn**	**17 45 46.2**	**+1.1**
PTK	**Pertek**	**2.52**	**129**	*e*PN		**Pb**	**17 45 46.9**	**-2.6**
PTK	**Pertek**	**2.52**	**129**	*e*Pn		**Pb**	**17 45 46.9**	**-2.6**
BZK	**Bozkurt**	**2.61**	**305**	*e*PN		**Pn**	**17 45 47.7**	**+1.1**
BZK	**Bozkurt**	**2.61**	**305**	*e*Pn		**Pn**	**17 45 47.7**	**+1.1**
KAMT	**Kaman**	**2.68**	**246**	*e*PN		**Pn**	**17 45 48.5**	**+0.9**
KAMT	**Kaman**	**2.68**	**246**	*e*Pn		**Pn**	**17 45 48.5**	**+0.9**
NIG	**Nigde**	**2.96**	**217**	*e*PN		**Pn**	**17 45 52.8**	**+1.2**
NIG	**Nigde**	**2.96**	**217**	*e*Pn		**Pn**	**17 45 52.8**	**+1.2**
KMRS	**Kahramanmaras**	**2.99**	**180**	*e*PN		**Pn**	**17 45 53.1**	**+1.3**
KMRS	**Kahramanmaras**	**2.99**	**180**	*e*Pn		**Pn**	**17 45 53.1**	**+1.3**
AFSR	**Af¨ar-Bala (A**	**3.10**	**251**	*e*PN		**Pn**	**17 45 54.2**	**+0.7**
AFSR	**Af¨ar-Bala (A**	**3.10**	**251**	*e*Pn		**Pn**	**17 45 54.2**	**+0.7**
KOZT	**Kozan**	**3.12**	**195**	*e*PN		**Pn**	**17 45 55.2**	**+1.6**
KOZT	**Kozan**	**3.12**	**195**	*e*Pn		**Pn**	**17 45 55.2**	**+1.6**
LOD	**Lodumlu**	**3.21**	**260**	*e*PN		**Pn**	**17 45 55.8**	**+1.0**
LOD	**Lodumlu**	**3.21**	**260**	*e*Pn		**Pn**	**17 45 55.8**	**+1.0**
BINT	**Bingol**	**3.23**	**119**	*e*Pn		Pb	17 45 57.9	-3.7
SAFT	**Safranbolu**	**3.26**	**285**	*e*PN		**Pn**	**17 45 56.9**	**+1.4**
SAFT	**Safranbolu**	**3.26**	**285**	*e*Pn		**Pn**	**17 45 56.9**	**+1.4**
BNGB	**Bing¨l**	**3.30**	**116**	*e*PN		**Pn**	**17 45 57.9**	**+1.7**
SULT	**Sultanhani-AKS**	**3.47**	**230**	*e*PN		**Pn**	**17 46 00.1**	**+1.6**
SULT	**Sultanhani-AKS**	**3.47**	**230**	*e*Pn		**Pn**	**17 46 00.1**	**+1.6**
EZM	**Erzurum**	**3.49**	**98**	*e*PN		**Pn**	**17 46 00.5**	**+1.6**
BCA	**Borcka**	**3.72**	**74**	*e*PN		**Pn**	**17 46 03.8**	**+2.0**
BCA	**Borcka**	**3.72**	**74**	*e*Pn		**Pn**	**17 46 03.8**	**+2.0**
KIZT	**Kizilcal**	**4.18**	**249**	*e*PN		**Pn**	**17 46 09.0**	**+0.8**
KIZT	**Kizilcal**	**4.18**	**249**	*e*Pn		**Pn**	**17 46 09.0**	**+0.8**
KONT	**Konya--Tatoy**	**4.33**	**235**	*e*PN		**Pn**	**17 46 12.4**	**+2.1**
KONT	**Konya--Tatoy**	**4.33**	**235**	*e*Pn		**Pn**	**17 46 12.4**	**+2.1**

IDC 21 17:50:21.5±27.0, 23.64S×173.90W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.0/17, mbtmp4.5/4, Error ellipse: s-maj=504.7km s-min=136.5km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARMA	**Armidale**	**31.35**	**250**	*eP*		P	17 56 42.9	-1.2
CTA	**Charters Tower**	**37.07**	**268**	P		P	17 57 35.0	+1.3
	2.5nm,0.3s,baz=94,slow=9.3,SNR=9.4							
CTA	**Charters Tower**	**37.07**	**268**	*eP*		P	17 57 35.2	+1.5
	4.3nm,0.9s							
STKA	**Stephens Creek**	**40.01**	**248**	P		P	17 57 56.6	-1.6
	3.0nm,0.5s,baz=96,slow=12,SNR=26							
STKA	**Stephens Creek**	**40.01**	**248**	*eP*		P	17 57 56.5	-1.7
	3.1nm,0.5s							
ASAR	**Alice Springs**	**47.58**	**259**	P		P	17 58 59.0	-0.4
	4.1nm,0.4s,baz=92,slow=7.5,SNR=320							
WRA	**Warramunga Arr**	**48.00**	**264**	P		P	17 59 03.0	+0.4
	2.3nm,0.3s,baz=96,slow=8.5,SNR=14							

*IDC **21** 17:53:07.9±2.3, 22.88S×170.93E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=82.1km s-min=35.7km az=167.0*
*NOU **21** 17:53:09.8±1.1, 19.99S×170.52E, h10km, MD3.2, ML2.7*

ISC 21 17:53:12.4±1.6, 22.9S±0.5×170.9E±0.1, h31km, n12, σ1§11/17, mb3.7/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.77**	**280**	*eP*		**Pn**	**17 54 09.0**	**+0.6**
BAYA				*eS*		**Sn**	**17 54 51.8**	**+0.1**
LASL	**Noumea**	**4.07**	**278**	*eP*		**Pn**	**17 54 11.8**	**-0.7**
LASL				*eS*		**Sn**	**17 54 58.0**	**-1.0**
NORM	**Noumea**	**4.12**	**278**	*eP*		**Pn**	**17 54 12.7**	**-0.5**
NORM				*eS*		**Sn**	**17 54 59.6**	**-0.7**
DZM	**Mont Dzumac**	**4.18**	**280**	Pn		**Pn**	**17 54 15.5**	**+1.3**
	13nm,0.3s,baz=102,slow=21,SNR=42							
DZM					Sn	**Sn**	**17 55 04.1**	**+1.9**
	9.2nm,0.3s,baz=125,slow=23,SNR=6.4							
NOUC	**Port Laguerre**	**4.30**	**280**	*eP*		**Pn**	**17 54 15.4**	**-0.4**
NOUC				*eS*		**Sn**	**17 55 04.2**	**-0.8**
NOUC				AMP			17 55 13.6	
	comp=Z,29nm,4.3s							
ASAR	**Alice Springs**	**33.92**	**261**	P		P	**17 59 53.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=91,slow=9.7,SNR=3.6							
WRA	**Warramunga Arr**	**34.09**	**268**	P		P	**17 59 53.2**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.2,SNR=2.9							
CMAR	**Chiang Mai Arr**	**81.39**	**294**	P		P	**18 05 28.6**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=135,slow=4.4,SNR=5.4							
SONM	**Songino Array**	**91.04**	**323**	P		P	**18 06 13.

baz=50,SNR=6.5
326A **Caldwell Ranch** 50.75 328 ⇑P P 18 26 04.8 +1.0
baz=51,SNR=5.9
425A **Indio Mountain** 50.86 327 ⇓P P 18 26 05.7 +1.1
baz=51,SNR=8.9
325A **Bean Ranch, Si** 51.31 328 ⇓P P 18 26 08.1 0.0
baz=52,SNR=7.8
FVM **French Village** 51.41 345 *eP* P 18 26 07.6 -0.8
7.2nm,0.8s
324A **Moseley Ranch,** 51.64 327 ⇑P P 18 26 09.5 -1.0
baz=52,SNR=5.7
MNTX **Cornudas Mount** 51.79 327 *eP* P 18 26 11.3 -0.1
8.7nm,1.5s
225A **Deer Hill, Car** 51.82 328 ⇓P P 18 26 13.1 +1.2
baz=52,SNR=5.3
Z27A **Tatum** 51.99 331 ⇓P P 18 26 12.3 -0.7
baz=52
CPRX **Cap Rock** 52.07 330 *eP* P 18 26 14.2 +0.6
8.7nm,0.8s
224A **Cornudas Mount** 52.16 328 ⇑P P 18 26 14.5 +0.1
baz=52,SNR=5.4
MSTX **Muleshoe** 52.31 331 ⇑P P 18 26 17.0 +1.6
baz=52
Z26A **Caprock** 52.32 330 ⇓P P 18 26 15.9 +0.4
baz=52
Y27A **Causey** 52.43 331 ⇑P P 18 26 17.5 +1.3
baz=53
124A **Stringfield Ra** 52.61 328 ⇓P P 18 26 18.8 +1.0
baz=53
Z24A **Sheeppen Canyo** 53.06 329 ⇑P P 18 26 21.9 +0.8
baz=53,SNR=7.3
X26A **CR and CF Fran** 53.28 331 ⇓P P 18 26 23.9 +1.3
baz=54
PMSA **Palmer Station** 53.53 174 P P 18 26 24.9 +1.0
17nm,0.7s,baz=32,slow=9.3,SNR=7.1
PMSA **Palmer Station** 53.53 174 P P 18 26 24.9 +1.0
220A **Playas Peak, P** 53.66 325 ⇓P P 18 26 27.3 +1.9
baz=54
121A **Cookes Peak, D** 53.72 326 ⇑P P 18 26 27.3 +1.4
baz=54
Y23A **Lovelace Mesa,** 53.89 329 ⇑P P 18 26 28.7 +1.5
baz=54
W25A **X Bar L Ranch,** 54.13 331 ⇑P P 18 26 30.5 +1.6
baz=54
Z20A **Nine Sixteen R** 54.60 326 ⇓P P 18 26 34.3 +2.0
baz=55
V25A **Rancho No Teng** 54.71 331 ⇑P P 18 26 34.4 +1.3
baz=55
Y21A **Point of Rocks** 54.79 327 ⇑P P 18 26 36.5 +2.7
baz=55
T27A **Campo** 54.85 334 ⇓P P 18 26 35.5 +1.4
baz=55
Y19A **Nutrioso** 55.60 326 ⇑P P 18 26 41.2 +1.5
baz=56
S26A **Kim** 55.65 333 ⇑P P 18 26 41.1 +1.3
baz=56
V22A **San Miguel Ran** 55.88 329 ⇓P P 18 26 43.1 +1.5
baz=56
S24A **Houchin Ranch,** 56.45 332 ⇑P P 18 26 47.5 +1.7
baz=57
MSNY **Massena** 56.51 1 P P 18 26 46.2 +0.6
68nm,0.9s
U21A **Nageezi** 56.66 329 ⇓P P 18 26 47.7 +0.5
baz=57
SDCO **Great Sand Dun** 56.67 332 ⇑P P 18 26 48.9 +1.7
baz=57
SDCO ⇑P P 18 26 48.9 +1.7
baz=57
R23A **Moffat** 57.18 332 ⇑P P 18 26 52.5 +1.6
baz=57
V17A **Tonalea, Kykot** 57.68 326 ⇑P P 18 26 55.5 +1.2
baz=58
P23A **Jefferson** 58.15 333 ⇑P P 18 26 59.0 +1.3
baz=58
T18A **Mexican Hat** 58.34 328 ⇑P P 18 26 59.9 +1.0
baz=58
S19A **Harvey Farm, M** 58.43 329 ⇓P P 18 27 01.1 +1.6
baz=59
ECSD **EROS Data Cent** 58.47 342 *eP* P 18 26 59.2 -0.3
4.4nm,0.9s
T17A **Navajo Res., N** 58.72 327 ⇓P P 18 27 03.6 +2.0
baz=59
BC3 **Big Chuckawall** 58.98 321 ⇑P P 18 27 04.7 +1.4
baz=59
MONP **Monument Peak** 59.06 320 ⇑P P 18 27 04.7 +0.6
baz=59
U15A **North Rim** 59.10 326 ⇑P P 18 27 05.9 +1.5
baz=59
IRM **Iron Mountain** 59.14 322 ⇓P P 18 27 05.5 +1.1
baz=59
NVAR **Mina Array Bea** 63.90 324 P P 18 27 38.4 +1.7
0.9nm,0.9s,baz=138,slow=8.4,SNR=5.9
NVAR **Mina Array Bea** 63.90 324 P P 18 27 38.4 +1.7
ULM **Lac du Bonnet** 64.26 346 P P 18 27 38.5 0.0
9.2nm,0.8s,baz=158,slow=7.6,SNR=16
ULM **Lac du Bonnet** 64.26 346 P P 18 27 38.5 0.0
D22A **Cohagen** 64.70 337 ⇑P P 18 27 43.2 +1.7
baz=65
F19A **Roth Farm, Mol** 64.73 335 ⇑P P 18 27 43.5 +1.6
baz=65
H16A **Russell Place,** 64.82 333 ⇑P P 18 27 43.9 +1.3
baz=65
E20A **Meyer Farm, Mu** 64.93 336 ⇑P P 18 27 44.3 +1.2
baz=65
MFID **Camas Ranch** 66.04 329 ⇑P P 18 27 52.0 +1.5
baz=66
SCHQ **Schefferville** 66.77 6 P P 18 27 55.0 +0.3
4.5nm,0.9s,baz=201,slow=3.7,SNR=6.7
SCHQ **Schefferville** 66.77 6 P P 18 27 55.0 +0.3
DBIC **Dimbokro** 72.73 79 P P 18 28 31.4 -0.9
3.2nm,0.8s,baz=249,slow=9.2,SNR=7.5
DBIC **Dimbokro** 72.73 79 *eP* P 18 28 30.4 -1.9
3.6nm,0.7s
SNAA **Sanae** 73.50 162 *e* P 18 28 33.5 -2.4
FRB **Frobisher Bay** 75.49 3 P P 18 28 47.0 -0.3
2.0nm,0.7s,baz=131,slow=6.7,SNR=4.4
FRB **Frobisher Bay** 75.49 3 P P 18 28 47.0 -0.3
QSPA **South Pole Qui** 78.35 180 P P 18 29 03.5 -0.3
2.6nm,0.8s,baz=132,slow=2.2,SNR=9.1
QSPA **South Pole Qui** 78.35 180 P P 18 29 03.5 -0.3
YKA **Yellowknife Ar** 79.99 343 P P 18 29 12.6 +0.2
2.0nm,0.8s,baz=138,slow=5.7,SNR=31
YKA **Yellowknife Ar** 79.99 343 P P 18 29 12.7 +0.2
TORD **Torodi Ar. Bea** 80.59 74 P P 18 29 16.4 -0.3
6.4nm,0.8s,baz=258,slow=5.1,SNR=25
TORD **Torodi Ar. Bea** 80.59 74 P P 18 29 16.4 -0.3
ESDC **Sonseca Array** 83.76 47 P P 18 29 34.2 +1.2
2.1nm,0.7s,baz=258,slow=4.8,SNR=7.7
ESDC **Sonseca Array** 83.76 47 P P 18 29 34.2 +1.2
TAM **Tamanrasset** 86.51 66 *eP* P 18 29 47.2 0.0
9.1nm,1.4s
SUMG **Summit** 87.61 10 *i* P P 18 29 52.3 +0.5
6.2nm,0.9s
SYO **Syowa Base** 87.77 161⇑ *eP* P 18 29 51.6 -0.6
INK **Inuvik** 89.70 342 P P 18 30 01.7 +0.5
3.5nm,0.9s,baz=116,slow=7.9,SNR=11
INK **Inuvik** 89.70 342 P P 18 30 01.7 +0.5
ILAR **Eielson Array** 92.78 336 P P 18 30 15.6 0.0
0.3nm,0.7s,baz=140,slow=2.9,SNR=6.1
ILAR PP PP 18 33 58.0 +0.2
0.5nm,1.0s,baz=107,slow=7.0,SNR=4.2
ILAR **Eielson Array** 92.78 336 P P 18 30 15.6 0.0
ILAR PP PP 18 33 58.0 +0.2
ASAR **Alice Springs** 134.44 219 PKP PKPdf 18 36 22.8 +0.1
1.6nm,0.8s,baz=142,slow=2.0,SNR=14
ASAR **Alice Springs** 134.44 219 PKP PKPdf 18 36 22.8 +0.1
ZALV **Zalesovo Beam** 135.16 16 PKP PKPdf 18 36 23.6 +0.7
2.1nm,0.8s,baz=316,slow=2.3,SNR=13
ZALV **Zalesovo Beam** 135.16 16 PKP PKPdf 18 36 23.6 +0.7
WRA **Warramunga Arr** 136.83 223 PKP PKPdf 18 36 27.8 +0.6
1.5nm,0.8s,baz=137,slow=1.7,SNR=9.0
WRA **Warramunga Arr** 136.83 223 PKP PKPdf 18 36 27.8 +0.6
MKAR **Makanchi Array** 140.43 24 PKPhKP PKPpre 18 36 26.1
0.2nm,0.6s,baz=305,slow=2.6,SNR=3.4
MKAR PKP PKiKP 18 36 34.5 -1.0
0.6nm,0.7s,baz=346,slow=2.5,SNR=6.2
MKAR **Makanchi Array** 140.43 24 PKPpre PKPpre 18 36 26.1
MKAR PKP PKiKP 18 36 34.5 -1.0
SONM **Songino Array** 144.02 358 PKP PKPdf 18 36 38.8 -0.7
0.6nm,0.5s,baz=342,slow=1.5,SNR=5.0
SONM **Songino Array** 144.02 358 PKP PKPdf 18 36 38.8 -0.7
WMQ **Urumqi** 144.98 21 PKPbc PKPab 18 36 39.8 -0.6
WMQ LR LR
comp=N,260nm,18.0s
WMQ LR LR
comp=E,240nm,20.0s
WMQ LR LR
comp=Z,300nm,22.4s
KSRS **Korea Array** 146.84 324 PKPbc PKPbc 18 36 45.8 -0.5
comp=Z,1.3nm,0.9s,baz=57,slow=4.6,SNR=6.7
KSAR **Wonju Array Be** 146.87 324 PKPbc PKPbc 18 36 45.8 -0.6
GTA **Gaotai** 152.19 8 *e*PKPbc PKPbc 18 37 00.8 +1.1
CD2 **Chengdu** 160.95 2 PKP PKPdf 18 37 02.0 -2.6
CMAR **Chiang Mai Arr** 171.54 38 PKP PKPdf 18 37 13.6 +0.5
comp=Z,0.5nm,0.8s,baz=286,slow=2.5,SNR=5.3
CMAR PKPab PKPab 18 38 34.8 +0.8
comp=Z,0.5nm,0.8s,baz=323,slow=6.2,SNR=5.3
CMAR Chiang Mai Arr 171.54 38 PKP PKPdf 18 37 13.6 +0.5
CMAR PKPab PKPab 18 38 34.8 +0.8

IDC 21 19:19:28.3±0.9, 46.95N×155.31E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.7/26, mbtmp3.6/13, ML3.2/3, Error ellipse: s-maj=26.4km s-min=16.8km az=139.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	6.36	13	Pn	Pn	18 21 03.2	0.0
	0.4nm,0.3s,baz=184,slow=14,SNR=11						
ASAJ	**Asahikawa**	9.36	257	Pn	Pn	18 21 44.4	0.0
	0.3nm,0.3s,baz=76,slow=26,SNR=5.0						
MJAR	**Matsushiro Arr**	16.42	237	Pn	Pn	18 23 21.0	+0.9
	0.1nm,0.3s,baz=34,slow=9.1,SNR=3.6						
KSRS	**Korea Array**	22.30	255	P	P	18 24 29.3	+2.2
	0.6nm,0.6s,baz=54,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	35.45	39	P	P	18 26 26.0	+0.1
	0.3nm,0.7s,baz=249,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	43.71	306	P	P	18 27 33.7	-1.1
	0.6nm,0.6s,baz=73,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	48.18	298	P	P	18 28 09.7	-0.6
	0.2nm,0.5s,baz=68,slow=7.9,SNR=7.3						
YKA	**Yellowknife Ar**	49.86	37	P	P	18 28 22.9	+0.1
	0.2nm,0.7s,baz=296,slow=7.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	53.88	258	P	P	18 28 53.2	-0.1
	0.3nm,0.4s,baz=33,slow=8.6,SNR=6.0						
FINES	**FINESS Array B**	64.49	336	P	P	18 30 06.5	+0.2
	6.5nm,1.1s,baz=29,slow=9.4,SNR=7.0						
WRA	**Warramunga Arr**	69.21	201	P	P	18 30 36.0	-0.8
	0.6nm,0.9s,baz=21,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	72.90	200	P	P	18 30 59.0	-0.1
	0.7nm,0.9s,baz=19,slow=5.4,SNR=7.6						
TXAR	**Lajitas Array**	76.08	62	P	P	18 31 18.2	+0.3
	0.3nm,0.5s,baz=341,slow=7.0,SNR=4.6						

*IDC **21** 18:26:45.4±17.0, 22.89S×173.75W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/19, mbtmp4.3/5, Error ellipse: s-maj=319.8km s-min=136.8km az=81.0*
*NEIC **21** 18:26:58.2±5.5, 23.67S×174.71W, h35km, mb4.8/3, Error ellipse: s-maj=134.0km s-min=24.8km az=222.0*
ISC 21 18:26:58.7±7.9, 23.7S±1.0×174.7W±0.8, h35km, n14, σ0s63/14, mb4.5/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	36.30	268	P	P	18 33 59.7	+0.5
	5.6nm,0.3s,baz=96,slow=12,SNR=23						
CTA	**Charters Tower**	36.30	268	P	P	18 33 59.7	+0.5
CTAO	**Charters Tower**	36.30	268	*eP*	P	18 33 59.4	+0.2
	6.5nm,0.5s						
STKA	**Stephens Creek**	39.26	248	P	P	18 34 24.3	+0.2
	1.3nm,0.4s,baz=94,slow=11,SNR=9.4						
STKA	**Stephens Creek**	39.26	248	P	P	18 34 24.3	+0.2
AS31	**Alice Springs**	46.81	259	*eP*	P	18 35 24.5	-0.8
ASAR	**Alice Springs**	46.81	259	P	P	18 35 24.7	-0.6
	0.7nm,0.3s,baz=91,slow=6.9,SNR=79						
ASAR	**Alice Springs**	46.81	259	P	P	18 35 24.7	-0.6
WRAB	**Tennant Creek**	47.22	264	*eP*	P	18 35 27.5	-1.0
	2.5nm,0.4s						
WRA	**Warramunga Arr**	47.22	264	P	P	18 35 27.9	-0.7
	2.0nm,0.3s,baz=99,slow=7.0,SNR=137						
WRA	**Warramunga Arr**	47.22	264	P	P	18 35 27.9	-0.7
SBA	**Scott Base**	54.89	185	*eP*	P	18 36 25.3	0.0
	28nm,1.0s						
FITZ	**Fitzroy Crossi**	55.64	264	P	P	18 36 32.0	+0.4
	2.1nm,0.6s,baz=94,slow=14,SNR=5.1						
FITZ	**Fitzroy Crossi**	55.64	264	P	P	18 36 32.0	+0.4

IDC 21 18:27:56.4±17.0, 22.84S×173.77W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.0/19, mbtmp4.4/5, Error ellipse: s-maj=319.8km s-min=136.7km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	37.23	266	P	P	18 35 10.4	+0.6
	6.4nm,0.3s,baz=104,slow=7.2,SNR=25						
STKA	**Stephens Creek**	40.42	247	P	P	18 35 35.1	-1.4
	1.5nm,0.4s,baz=94,slow=12,SNR=9.8						
ASAR	**Alice Springs**	47.85	258	P	P	18 36 35.6	-0.8
	0.9nm,0.3s,baz=91,slow=7.0,SNR=24						
WRA	**Warramunga Arr**	48.20	263	P	P	18 36 38.8	-0.3
	2.5nm,0.3s,baz=98,slow=6.7,SNR=47						
FITZ	**Fitzroy Crossi**	56.63	263	P	P	18 37 43.2	+1.5
	3.1nm,0.8s,baz=100,slow=6.1,SNR=5.0						

IDC 21 18:30:02.9±1.2, 19.20N×121.36E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML2.9/1, 2C, Error ellipse: s-maj=34.8km s-min=26.5km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	1.12	219	⇑*i*P	Pb	18 30 24.8	-0.4
PIP				*e*S	Sg	18 30 37.5	-1.4
BCPH	**Baguio City Da**	2.90	195	⇑*i*P	Pb	18 30 56.0	+0.3
BCPH				*i* S	Sb	18 31 31.4	-0.4
KSRS	**Korea Array**	19.07	16	P	P	18 34 27.1	+0.2
	0.0nm,0.3s,baz=197,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	21.23	272	P	P	18 34 50.9	+0.2
	0.4nm,0.6s,baz=80,slow=9.0,SNR=9.0						
MKAR	**Makanchi Array**	42.13	320	P	P	18 37 57.0	0.0
	1.0nm,0.8s,baz=111,slow=9.7,SNR=9.2						
ASAR	**Alice Springs**	44.32	163	P	P	18 38 14.8	-0.1
	0.1nm,0.3s,baz=342,slow=6.7,SNR=5.2						
ZALV	**Zalesovo Beam**	44.57	330	P	P	18 38 15.9	-0.6
	0.7nm,0.6s,baz=121,slow=7.5,SNR=4.2						
YKA	**Yellowknife Ar**	87.48	23	P	P	18 42 52.2	0.0
	0.7nm,0.7s,baz=311,slow=4.5,SNR=12						

*ISCJB **21** 18:33:04.7±0.2, 43.52N±0.01×105.36W±0.02, h0km, Error ellipse: s-maj=1.9km s-min=1.6km az=173.4*
*IDC **21** 18:33:04.4±2.2, 43.48N×105.42W, h0km, mb1 3.6/3, mb1mx3.3/26, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=45.2km s-min=9.6km az=152.0*
*NEIC **21** 18:33:05.1±0.3, 43.57N×105.26W, h0km, ML3.2, Error ellipse: s-maj=5.0km s-min=4.4km az=173.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] SSE of Gillette.
ISC 21 18:33:04.6±0.7, 43.51N±0.02×105.36W±0.02, h0km, n116, σ1s41/157, 58C-46D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	0.17	234	P	Pg	18 33 09.1	+1.2
	baz=0.3,SNR=505						
I23A	**Meade Ranch, G**	0.46	351	⇑P	Pg	18 33 14.2	+0.8
	baz=0.4,SNR=16						
I23A				⇓S	Sg	18 33 20.1	+0.7
	baz=0.4						
J24A	**Dixon Ranch, L**	0.54	109	P	Pg	18 33 15.7	+0.8
	baz=0.5,SNR=42						
J24A				⇑S	Sg	18 33 23.0	+1.1
	baz=0.5						
I24A	**Kuemmerle Ranc**	0.64	56	⇓P	Pg	18 33 17.0	+0.1
	baz=0.5,SNR=235						
I24A				⇓S	Sg	18 33 26.3	+1.1
	baz=0.5						
K23A	**Bowen Ranch, D**	0.78	195	⇑S		18 33 29.1	
	baz=0.9						
J22A	**Midwest**	0.82	264	⇑P	Pg	18 33 20.3	0.0
	baz=0.9						
K24A	**Anderson Ranch**	0.88	153	⇑P	Pg	18 33 21.8	+0.3
	baz=0.9						
I22A	**9 Mile Ranch,**	0.90	296	P	Pg	18 33 22.1	+0.3
	baz=0.9,SNR=71						
H23A	**Clabaugh Cattl**	1.06	358	⇓P	Pg	18 33 24.6	-0.3
	baz=1.0						
H23A				⇑S	Sb	18 33 39.6	-0.7
	baz=1.0						
RSSD	**Black Hills**	1.14	57	*eP*	Pg	18 33 25.7	-0.7
RSSD				*e*S	Sb	18 33 43.2	+0.4
K22A	**Casper**	1.21	225	⇑P	Pg	18 33 27.3	-0.5
	baz=1.3						
H22A	**Clearmont**	1.30	327	⇑P	Pg	18 33 29.3	-0.2
	baz=1.3,SNR=59						
H24A	**Dirks Ranch, A**	1.37	25	⇑P	Pg	18 33 29.8	-1.1
	baz=1.3,SNR=196						
H24A				⇓S	Sb	18 33 49.7	+0.4
	baz=1.3						
K25A	**Mack Ranch, Ha**	1.41	129	P	Pb	18 33 32.2	+0.4
	baz=1.4,SNR=172						
L23A	**Garrett**	1.41	190	⇓P	Pn	18 33 30.9	-0.9
	baz=1.5						
L23A				⇑S	Sg	18 33 51.0	+1.0
	baz=1.5						
I21A	**Big Trails, Te**	1.43	283	⇓P	Pn	18 33 31.0	-1.1
	baz=1.5						
I21A				⇓S	Sg	18 33 50.9	+0.3
	baz=1.5						
L24A	**Wheatland**	1.50	168	⇑P	Pn	18 33 32.5	-0.3
	baz=1.5						
J21A	**Lysite**	1.53	265	⇓P	Pn	18 33 32.6	-0.7
	baz=1.6						
J21A				⇑S	Sn	18 33 54.3	+0.2
	baz=1.6						
K21A	**Alcova**	1.64	238	⇑P	Pn	18 33 34.9	+0.1
	baz=1.7						
K21A				⇑S	Sn	18 33 57.2	+0.5
	baz=1.7						
H21A	**Big Horn, Sher**	1.65	313	⇑P	Pn	18 33 35.2	+0.2
	baz=1.7,SNR=66						
L22A	**Ellis Ranch, M**	1.67	209	⇑P	Pn	18 33 35.2	-0.1
	baz=1.8						
L22A				⇓S	Sg	18 33 59.0	+0.7
	baz=1.8						
G23A	**Biddle**	1.70	359	⇓P	Pn	18 33 35.9	+0.3
	baz=1.6,SNR=68						
L25A	**Engebretsen Ra**	1.70	142	⇓Pb	Pb	18 33 36.9	+0.1
	baz=1.7,SNR=32						
K26A	**Motz Farm, Whi**	1.79	116	⇓P	Pb	18 33 37.9	-0.5
	baz=1.8,SNR=44						
K26A				⇑Sb	Sg	18 34 03.3	+1.3
	baz=1.8						
G22A	**Birney**	1.84	339	⇓P	Pn	18 33 38.2	+0.6
	baz=1.8,SNR=48						
G22A				⇓Sb	Sg	18 34 04.3	+0.7
	baz=1.8						
G24A	**Alzada**	1.94	20	⇑P	Pn	18 33 40.1	+1.1
	baz=1.9,SNR=16						
G24A				⇓Sb	Sg	18 34 07.4	+0.3
	baz=1.9						
J20A	**Shoshoni**	1.99	267	⇑P	Pb	18 33 41.4	-0.4
	baz=2.1,SNR=66						
J20A				⇑Sg	Sg	18 34 09.9	+1.4
	baz=2.1						
M23A	**Laramie**	2.05	188	⇑P	Pn	18 33 41.8	+1.1
	baz=2.1,SNR=41						
M23A				⇑Sb	Sb	18 34 10.2	+1.1
	baz=2.1						
I20A	**Worland**	2.05	283	⇑P	Pn	18 33 41.6	+1.1
	baz=2.1,SNR=144						
I20A				⇓Sb	Sb	18 34 09.7	+0.7
	baz=2.1						
M24A	**Cheyenne**	2.08	169	⇑P	Pb	18 33 42.5	-0.7
	baz=2.1,SNR=43						
M24A				⇑Sg	Sg	18 34 13.0	+1.7
	baz=2.1						
L21A	**Rawlins**	2.14	225	⇓P	Pn	18 33 43.0	+1.2
	baz=2.2,SNR=23						
L21A				⇓Sb	Sb	18 34 11.9	+0.5
	baz=2.2						
H20A	**Greybull**	2.14	298	⇓P	Pn	18 33 42.1	+0.4
	baz=2.2,SNR=22						
H20A				⇓Sb	Sb	18 34 12.0	+0.5
	baz=2.2						
G21A	**Lodge Grass**	2.17	323	⇓P	Pn	18 33 42.8	+0.7
	baz=2.2,SNR=7.5						
G21A				⇑Sb	Sg	18 34 13.6	-0.7
	baz=2.2						
PHWY	**Pilot Hill**	2.20	182	*e*Pn	Pn	18 33 43.5	+0.8
PHWY				*e*Sn	Sb	18 34 14.6	+1.1
F23A	**Volborg**	2.22	359	⇑P	Pn	18 33 42.7	0.0
	baz=2.2,SNR=34						
F23A				⇑S	Sb	18 34 12.6	-1.0
	baz=2.2						
L26A	**Underwood Farm**	2.23	130	⇑Pb	Pb	18 33 45.7	-0.2
	baz=2.2						
L26A				⇓Sb	Sg	18 34 16.1	-0.2
	baz=2.2						
RWWY	**Rawlins**	2.27	218	*e*Pn	Pb	18 33 45.9	-0.8
M25A	**Palm-Egli Farm**	2.28	155	⇑P	Pn	18 33 45.4	+1.7
	baz=2.3,SNR=25						
M25A				⇑Sb	Sg	18 34 18.0	0.0
	baz=2.3						
M22A	**Cedar Creek Ra**	2.29	204	⇓Pb	Pb	18 33 46.2	-0.7
	baz=2.4,SNR=129						
M22A				⇑Sb	Sb	18 34 17.9	+2.0
	baz=2.4						
K20A	**Yellowstone Ra**	2.34	250	⇑P	Pn	18 33 46.3	+1.8
	baz=2.4,SNR=70						
K20A				⇓Sb	Sb	18 34 18.3	+1.0
	baz=2.4						
F22A	**Rosebud**	2.36	345	⇓P	Pn	18 33 44.8	+0.1
	baz=2.3,SNR=6.9						
F22A				⇓S	Sb	18 34 16.3	-1.5
	baz=2.3						
M21A	**Separation Pea**	2.41	219	⇑P	Pn	18 33 47.5	+2.1
	baz=2.5,SNR=74						
M21A				⇓Sb	Sb	18 34 20.1	+0.9
	baz=2.5						
F24A	**Ekalaka**	2.43	15	⇑Sb	Sb	18 34 21.4	+1.5
	baz=2.3						
M26A	**McRoberts Ranc**	2.62	140	⇑Pb	Pb	18 33 52.3	-0.1
	baz=2.6						
K19A	**Absolon Red Bu**	2.64	256	⇓Sb	Sb	18 34 26.7	+0.5
	baz=2.7						
N23A	**Red Feather La**	2.64	190	⇑P	Pn	18 33 50.4	+1.6
	baz=2.7,SNR=23						
L20A	**Wamsutter**	2.66	237	⇑Pb	Pb	18 33 52.5	-0.7
	baz=2.7						
G20A	**Bridger**	2.67	311	P	Pn	18 33 48.9	-0.1
	baz=2.7,SNR=60						
I19A	**Meeteetse**	2.68	283	⇓P	Pn	18 33 50.8	+1.5
	baz=2.7,SNR=34						
J19A	**Crowheart**	2.70	266	⇑P	Pn	18 33 51.2	+1.8
	baz=2.8,SNR=135						
N22A	**Wattenberg Ran**	2.82	197	⇓P	Pn	18 33 53.2	+2.0
	baz=2.9,SNR=17						
H19A	**Powell**	2.86	295	⇑P	Pn	18 33 52.5	+0.9
	baz=2.9,SNR=14						
M20A	**Sweetwater, Wa**	2.90	227	⇑Pb	Pb	18 33 57.1	-0.3
	baz=3.0						
E22A	**Miles City**	2.96	352	⇓P	Pn	18 33 52.6	-0.3
	baz=2.9						
F20A	**Billings**	3.04	320	⇑P	Pn	18 33 53.8	-0.2
	baz=3.0,SNR=5.5						
BW06	**Boulder Array**	3.16	258	*e*Pn	Pn	18 33 56.3	+0.5
BW06				*e*Sg	Sb	18 34 43.6	+2.7
BW06	**Boulder Array**	3.16	258	⇑P	Pn	18 33 56.3	+0.5
	baz=3.2						
BW06				⇑P	Pn	18 33 56.3	+0.5
	baz=3.2						
PDAR	**Pinedale Array**	3.16	258	Pn	Pn	18 33 58.5	+2.7
	4.2nm,0.3s,baz=78,slow=18,SNR=52						
PDAR				Lg	Lg	18 34 41.0	
	14nm,0.3s,baz=78,slow=34,SNR=12						
PDAR	**Pinedale Array**	3.16	258	Pn	Pn	18 33 58.5	+2.7
PDAR				Lg	Lg	18 34 41.0	
N21A	**Black Mountain**	3.18	211	⇑P	Pn	18 33 57.6	+1.6
	baz=3.3						
RLMT	**Red Lodge**	3.24	301	*e*Pn	Pn	18 33 56.9	+0.1
RLMT	**Red Lodge**	3.24	301	⇑P	Pn	18 33 57.7	+0.8
	baz=3.3						
RLMT				⇑P	Pn	18 33 57.7	+0.8
	baz=3.3						
E21A	**Keefer Ranch,**	3.27	339	⇓P	Pn	18 33 56.6	-0.6
	baz=3.2						
H18A	**Shoshone NF, C**	3.31	292	⇓P	Pn	18 33 58.4	+0.4
	baz=3.3,SNR=14						
O23A	**Lake Granby, G**	3.32	187	⇓P	Pn	18 33 59.9	+1.9
	baz=3.4,SNR=26						
J18A	**Kendall Valley**	3.41	267	⇓P	Pn	18 34 00.8	+1.6
	baz=3.5,SNR=5.9						
F19A	**Roth Farm, Mol**	3.47	314	⇑P	Pn	18 34 00.8	+0.8
	baz=3.5,SNR=6.4						

G18A	**Lazy EL Ranch,** baz=3.5,SNR=8.5	**3.51**	**302**	⇓P		**Pn**	**18 34 01.2**	**+0.6**
OGNE	**Ogallala**	**3.56**	**135**	*e*Pn		**Pn**	**18 34 01.0**	**-0.1**
OGNE				*e*Pg		**Pg**	**18 34 12.2**	**-0.5**
E20A	**Meyer Farm, Mu** baz=3.6	**3.58**	**328**	⇑P		**Pn**	**18 34 01.6**	**+0.1**
D22A	**Cohagen** baz=3.6,SNR=9.9	**3.69**	**351**	⇑P		**Pn**	**18 34 03.0**	**0.0**
ISCO	**Idaho Springs**	**3.71**	**183**	Pn		**Pn**	**18 34 05.0**	**+1.6**
ISCO				*e*Pg		**Pb**	**18 34 13.8**	**+2.7**
ISCO				*e*Sg		**Sg**	**18 35 01.8**	**-2.0**
D21A	**La Casta Ranch** baz=3.7	**3.74**	**343**	⇑P		**Pn**	**18 34 03.8**	**+0.1**
LKWY	**Lake**	**3.79**	**288**	*e*Pn		**Pn**	**18 34 05.9**	**+1.5**
LOHW	**Long Hollow**	**3.81**	**273**	Pn		**Pn**	**18 34 06.5**	**+1.7**
E19A	**Rath Farm, Rou** baz=3.8	**3.83**	**322**	⇓P		**Pn**	**18 34 04.7**	**-0.1**
FLWY	**Flagg Ranch**	**3.91**	**280**	*e*Pn		**Pn**	**18 34 08.1**	**+2.0**
FLWY				*e*Sg		**Sg**	**18 35 14.3**	**+4.2**
MOOW	**Moose Ponds**	**3.92**	**275**	*e*Pn		**Pn**	**18 34 07.6**	**+1.4**
F18A	**Big Timber** baz=3.9,SNR=20	**3.92**	**309**	⇑P		**Pn**	**18 34 07.5**	**+1.3**
SNOW	**Snow King Moun**	**3.92**	**271**	*e*Pg		**Pb**	**18 34 16.9**	**+2.0**
REDW	**Red Top Meadow**	**4.00**	**270**	Pn		**Pn**	**18 34 08.8**	**+1.4**
IMW	**Indian Meadow**	**4.06**	**277**	*e*Pn		**Pn**	**18 34 09.6**	**+1.3**
YFT	**Old Faithful**	**4.06**	**285**	*e*Pg		**Pg**	**18 34 21.6**	**-0.9**
D20A	**Manuel Ranch,** baz=4.1,SNR=12	**4.08**	**332**	⇑P		**Pn**	**18 34 08.4**	**0.0**
P26A	**Davis Ranch, A** baz=4.3,SNR=12	**4.22**	**158**	⇓P		**Pn**	**18 34 11.6**	**+1.3**
AHID	**Auburn Hatcher**	**4.26**	**262**	*e*Pn		**Pn**	**18 34 11.6**	**+0.6**
AHID				*e*Pg		**Pg**	**18 34 24.4**	**-2.0**
RRI2	**Red Ridge**	**4.34**	**270**	*e*Pn		Pn	18 34 15.5	+3.4
F17A	**Fitzpatrick Pl** baz=4.5,SNR=9.7	**4.47**	**304**	⇓P		**Pn**	**18 34 15.1**	**+1.3**
SMCO	**Snowmass**	**4.49**	**196**	*e*Pg		**Pb**	**18 34 25.9**	**+1.4**
Q26A	**Hugo** baz=4.8	**4.78**	**163**	⇑P		**Pn**	**18 34 18.9**	**+0.9**
C19A	**Slack Wire Ran** baz=4.9,SNR=10.0	**4.96**	**330**	⇓P		**Pn**	**18 34 21.6**	**+1.3**
HWUT	**Hardware Ranch** 7.2nm,0.4s	**4.96**	**250**	Pn		**Pn**	**18 34 22.4**	**+1.9**
BOZ	**Bozeman (W)**	**4.96**	**298**	*e*Pn		**Pn**	**18 34 20.7**	**+0.2**
BOZ				*e*Pg		Pg	18 34 36.4	-3.3
BOZ				*e*Sg		**Sb**	**18 35 37.2**	**+4.5**
DGMT	**Dagmar**	**5.03**	**9**	Pn		**Pn**	**18 34 23.8**	**+2.4**
DGMT				*e*Sg		**Sb**	**18 35 39.3**	**+4.7**
P18A	**Preston Nutter** baz=5.4	**5.33**	**225**	⇓P		**Pn**	**18 34 27.1**	**+1.4**
R26A	**Arlington** baz=5.4,SNR=14	**5.40**	**164**	⇑P		**Pn**	**18 34 27.4**	**+0.9**
R25A	**Fountain Ranch** baz=5.5	**5.42**	**171**	⇑P		**Pn**	**18 34 27.6**	**+0.9**
EGMT	**Eagleton**	**5.46**	**327**	*e*Pn		**Pn**	**18 34 27.9**	**+0.6**
EGMT				*e*Pg		**Pg**	**18 34 48.3**	**-1.0**
DLMT	**Dillon** 14nm,1.2s	**5.50**	**292**	*e*Pn		**Pn**	**18 34 29.3**	**+1.3**
DLMT				*e*Sg		**Sg**	**18 35 59.9**	**-1.4**
LRM	**Limekiln Ridge**	**5.56**	**297**	*e*Pn		**Pn**	**18 34 28.3**	**-0.6**
R27A	**Eads** baz=5.6,SNR=7.7	**5.56**	**159**	⇓P		**Pn**	**18 34 29.9**	**+1.2**
HRY	**Holter Researc**	**5.59**	**307**	*e*Pn		**Pn**	**18 34 29.8**	**+0.7**
PV04	**Paradox Valley**	**5.77**	**209**	*e*Pn		**Pn**	**18 34 33.7**	**+2.1**
PV04				*e*Pg		**Pg**	**18 34 52.4**	**-2.8**
PV04				*e*Sg		**Sg**	**18 36 04.5**	**-5.3**
SRU	**San Rafael** 766nm,3.7s	**5.86**	**223**	*e*Pn		**Pn**	**18 34 34.2**	**+1.3**
SRU				*e*Sg		**Sg**	**18 36 10.7**	**-2.2**
S26A	**Kim** baz=6.1,SNR=6.6	**6.05**	**166**	⇓P		**Pn**	**18 34 36.0**	**+0.5**
TMUT	**Trail Mountain**	**6.08**	**228**	*e*Pn		**Pn**	**18 34 37.8**	**+1.7**
TMUT				*e*Sg		**Sg**	**18 36 17.4**	**-2.5**
R18A	**Canyonlands Na** baz=6.2,SNR=6.4	**6.16**	**215**	⇓P		**Pn**	**18 34 38.0**	**+1.0**
CBKS	**Cedar Bluff**	**6.32**	**136**	*e*Pn		**Pn**	**18 34 36.3**	**-2.8**
CBKS				*e*Pg		Pg	18 35 02.3	-3.4
ECSD	**EROS Data Cent**	**6.35**	**85**	*e*Pn		**Pn**	**18 34 39.5**	**+0.1**
T27A	**Campo** baz=6.8,SNR=9.9	**6.75**	**162**	⇑P		**Pn**	**18 34 45.2**	**+0.2**
S18A	**Hurst Farm, Bl** baz=6.9	**6.79**	**213**	⇑P		**Pn**	**18 34 46.9**	**+1.1**
S17A	**Black Ridge (B** baz=7.3,SNR=6.8	**7.18**	**217**	⇓P		**Pn**	**18 34 51.5**	**+0.6**
ULM	**Lac du Bonnet** 0.6nm,0.3s,baz=230,slow=13,SNR=5.2	**9.36**	**41**	Pn		**Pn**	**18 35 18.1**	**-2.6**
ULM	0.5nm,0.3s,baz=231,slow=17,SNR=3.0			Pg			18 35 57.0	
ULM	0.3nm,0.3s,baz=254,slow=2.8,SNR=5.7			Lg		Lg	18 37 55.6	
ULM	**Lac du Bonnet**	**9.36**	**41**	**Pn**		**Pn**	**18 35 18.1**	**-2.6**
ULM				Pg			18 35 57.0	
ULM				Lg		Lg	18 37 55.6	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=154,slow=12,SNR=4.4	**19.78**	**347**	P		**Pn**	**18 37 37.1**	**-0.4**
YKA	**Yellowknife Ar**	**19.78**	**347**	P		**Pn**	**18 37 37.1**	**-0.4**

IDC 21 18:36:05.5±2.1,6°82S×129°73E,h0km,mb3.0/1, mb1 3.6/4,mb1mx3.3/16,mbtmp3.4/4,ML3.4/3,Error ellipse: s-maj=87.4km s-min=27.8km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=25,slow=10.0,SNR=8.2	**11.90**	**199**	Pn	Pn	18 38 55.5	-1.0
FITZ	0.6nm,0.3s,baz=0.0,slow=20,SNR=6.4			Sn	Sn	18 40 51.5	-19
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=346,slow=13,SNR=6.1	**13.79**	**162**	Pn	Pn	18 39 22.8	+0.4
WRA	0.7nm,0.3s,baz=334,slow=22,SNR=12			Sn	Sn	18 41 43.3	-13
ASAR	**Alice Springs** 0.1nm,0.3s,baz=342,slow=10.0,SNR=13	**17.22**	**167**	P	Pn	18 40 08.2	+0.6
ASAR	0.1nm,0.3s,baz=345,slow=25,SNR=6.1			S	Sn	18 43 06.2	-14
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=111,slow=7.9,SNR=2.8	**67.93**	**327**	P	P	18 47 06.2	0.0

*IDC **21** 18:45:54.5±0.8,22°.76S×171°.00E,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.2/19,mbtmp4.2/12,ML4.2/1,MS3.6/2, Ms1 3.6/2,ms1mx3.2/26,Error ellipse: s-maj=28.1km s-min=18.9km az=167.0*

*NOU **21** 18:45:55.9±0.8,20°.30S×170°.75E,h10km,MD3.3,ML3.1*

*ISCJB **21** 18:45:58.0±0.5,22°.94S±0°.07×170°.84E±0°.04,h31km, mb4.3/18,MS3.8/1,Error ellipse: s-maj=10.8km s-min=5.5km az=10.4*

*NEIC **21** 18:46:00.4±0.5,22°.87S×170°.84E,h35km,mb4.5/9,Error ellipse: s-maj=11.7km s-min=10.1km az=222.0*

*SZGRF **21** 18:46:03.3,21°.18S×171°.65E,h33km,Southeast of Loyalty Islands*

ISC 21 18:45:59.8±0.5,22°.87S±0°.09×170°.89E±0°.06,h31km,n79, σ1$21/84,mb4.3/18,3C-3D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.77**	**280**	*e*S	**Sn**	**18 47 38.4**	**-0.8**
NORM	**Noumea**	**4.12**	**278**	*e*P	**Pn**	**18 47 00.1**	**-0.6**
NORM				*e*S	**Sn**	**18 47 46.4**	**-1.5**
NORM	comp=Z,117nm,1.2s			AMP		18 47 55.4	
DZM	**Mont Dzumac** comp=Z,13nm,0.3s,baz=107,slow=15,SNR=14	**4.19**	**280**	Pn	**Pn**	**18 47 02.1**	**+0.4**
DZM	comp=Z,10nm,0.3s,baz=139,slow=20,SNR=3.4			Sn	**Sn**	**18 47 50.3**	**+0.7**
DZM	comp=Z,348nm,19.5s,baz=44,slow=32			LR	LR	18 48 09.9	
DZM	**Mont Dzumac**	**4.19**	**280**	Pn	**Pn**	**18 47 02.1**	**+0.4**
DZM				Sn	**Sn**	**18 47 50.3**	**+0.7**
NOUC	**Port Laguerre**	**4.31**	**279**	*e*P	**Pn**	**18 47 01.9**	**-1.4**
NOUC				*e*S	**Sn**	**18 47 51.8**	**-0.7**
NOUC	comp=Z,53nm,4.3s			AMP		18 47 59.9	
MSVF	**Nonsavu** comp=Z,60nm,0.8s	**8.44**	**54**	*e*P	**Pn**	**18 48 02.9**	**+2.8**
OUZ	**Omahuta** comp=Z,12nm,0.7s	**12.54**	**170**	*e*P	**Pn**	**18 48 55.5**	**-0.6**
URZ	**Urewera** comp=Z,19nm,0.7s	**16.24**	**162**	*e*P	**P**	**18 49 48.8**	**+0.3**
HNR	**Honiara** comp=Z,218nm,0.7s	**16.98**	**320**	*e*P	**P**	**18 49 56.6**	**-0.3**
RPZ	**Rata Peaks** comp=Z,12nm,0.8s,baz=94,slow=6.5,SNR=6.1	**20.80**	**180**	P	**P**	**18 50 39.0**	**+0.5**
RPZ	**Rata Peaks**	**20.80**	**180**	P	**P**	**18 50 39.0**	**+0.5**
CTA	**Charters Tower** comp=Z,7.8nm,1.4s	**23.09**	**272**	*e*P	**P**	**18 51 07.6**	**+4.5**
CMSA	**Cobar Meteorol** comp=Z,55nm,0.6s	**23.98**	**243**	*e*P	**P**	**18 51 12.9**	**+1.3**
PMG	**Port Moresby** comp=Z,4.0nm,0.5s,baz=159,slow=2.0,SNR=3.0	**26.38**	**297**	P	**P**	**18 51 34.2**	**+0.6**
PMG	**Port Moresby**	**26.38**	**297**	P	**P**	**18 51 34.2**	**+0.6**
STKA	**Stephens Creek** comp=Z,287nm,19.9s,baz=281,slow=36	**27.45**	**245**	LR	LR	19 02 31.3	
COEN	**Coen** comp=Z,24nm,0.9s	**27.71**	**284**	*e*P	**P**	**18 51 46.0**	**+0.4**
AS31	**Alice Springs**	**33.93**	**261**	*e*P	P	18 52 38.0	-2.4
ASAR	**Alice Springs** comp=Z,4.6nm,1.1s,baz=86,slow=9.0,SNR=16	**33.93**	**261**	P	**P**	**18 52 40.4**	**-0.1**
ASAR	**Alice Springs**	**33.93**	**261**	P	**P**	**18 52 40.4**	**-0.1**
WRAB	**Tennant Creek**	**34.09**	**268**	*e*P	**P**	**18 52 40.1**	**-1.7**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.6s,baz=98,slow=8.4,SNR=14	**34.10**	**268**	P	**P**	**18 52 40.6**	**-1.3**
WRA	**Warramunga Arr**	**34.10**	**268**	P	**P**	**18 52 40.6**	**-1.3**
FITZ	**Fitzroy Crossi** comp=Z,4.6nm,0.7s,baz=88,slow=7.0,SNR=8.3	**42.53**	**268**	*e*P	**P**	**18 53 53.1**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,8.0nm,0.8s	**42.53**	**268**	*e*P	**P**	**18 53 53.3**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,6.3nm,0.9s	**42.53**	**268**	*e*P	**P**	**18 53 53.2**	**+0.4**
MBWA	**Marble Bar** comp=Z,5.3nm,0.8s	**47.27**	**262**	*e*P	**P**	**18 54 31.1**	**+0.5**
QSPA	**South Pole Qui** comp=Z,8.2nm,1.0s	**67.21**	**180**	*e*P	**P**	**18 56 50.7**	**-0.2**
PETK	**Petropavlovsk-** comp=Z,3.5nm,0.9s,baz=148,slow=7.2,SNR=8.4	**76.52**	**352**	P	**P**	**18 57 45.0**	**-1.5**
PETK	**Petropavlovsk-**	**76.52**	**352**	P	**P**	**18 57 45.0**	**-1.5**
ENH	**Enshi** comp=Z,13nm,1.4s	**79.16**	**309**	P	**P**	**18 58 00.6**	**-1.3**
CM31	**Chiang Mai Arr** comp=Z,1.5nm,0.7s	**81.39**	**294**	*e*P	**P**	**18 58 14.5**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.9s,baz=136,slow=4.2,SNR=13	**81.39**	**294**	P	**P**	**18 58 15.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**81.39**	**294**	P	**P**	**18 58 15.1**	**+1.0**
CHTO	**Chiang Mai** comp=Z,3.3nm,0.9s	**81.55**	**294**	*e*P	**P**	**18 58 16.0**	**+1.1**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.7s,baz=225,slow=7.3,SNR=8.8	**90.06**	**48**	P	**P**	**18 58 55.3**	**-1.6**
SONM	**Songino Array** comp=Z,1.6nm,1.0s,baz=123,slow=5.5,SNR=6.3	**91.03**	**323**	P	**P**	**18 59 00.1**	**-1.0**
SONM	**Songino Array**	**91.03**	**323**	P	**P**	**18 59 00.1**	**-1.0**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=220,slow=5.5,SNR=4.5	**93.23**	**17**	P	**P**	**18 59 11.3**	**+0.6**
ILAR	**Eielson Array**	**93.23**	**17**	P	**P**	**18 59 11.3**	**+0.6**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=190,slow=2.7,SNR=3.5	**97.14**	**61**	P	**P**	**18 59 28.9**	**-0.7**
TXAR	**Lajitas Array**	**97.14**	**61**	P	**P**	**18 59 28.9**	**-0.7**
ARCES	**ARCESS Array B** comp=Z,2.7nm,0.8s,baz=56,slow=3.1,SNR=6.7	**128.95**	**345**	PKP	**PKPdf**	**19 05 02.0**	**-1.7**
ARCES	**ARCESS Array B**	**128.95**	**345**	PKP	**PKPdf**	**19 05 02.0**	**-1.7**
CRVS	**Cervenica-Dubn**	**144.52**	**325**	*e*PKP	**PKPdf**	**19 05 36.0**	**+3.0**
DRGR		**145.01**	**321**	⇓*i*P	PKPbc	19 05 33.0	-0.4
OKC	**Ostrava-Krasne**	**145.62**	**328**	*e*PKP	**PKPdf**	**19 05 34.3**	**-0.6**
BSEG	**Bad Segeberg**	**145.68**	**340**	*e*PKPbc	**PKPdf**	**19 05 34.5**	**-0.3**
MORC	**Moravsky Berou**	**145.95**	**326**	*e*PKPdf	**PKPdf**	**19 05 35.0**	**-0.5**
KRLC	**Kraliky**	**146.11**	**330**	*e*PKP	**PKPdf**	**19 05 36.3**	**+0.5**
KRLC				*ex*	x	19 05 42.9	
DPC	**Dobruska-Polom**	**146.13**	**330**	*e*PKP	**PKPdf**	**19 05 36.4**	**+0.6**
DPC				*ex*	x	19 05 42.8	
VYHS	**Vyhne**	**146.15**	**326**	*e*PKP	**PKPdf**	**19 05 36.1**	**+0.2**
UPC	**Upice**	**146.16**	**331**	*e*PKP	**PKPdf**	**19 05 36.3**	**+0.5**
UPC				*ep*PKP	**PKiKP**	**19 05 43.1**	**+3.1**
PVCC	**Panska Ves**	**146.78**	**332**	*e*PKP	**PKPdf**	**19 05 37.6**	**+0.8**
BRG	**Berggiesshubel**	**146.79**	**333**	*e*PKPbc	**PKPdf**	**19 05 38.2**	**+1.4**
CLL	**Collm**	**146.84**	**334**	*e*PKPbc	**PKPdf**	**19 05 38.0**	**+1.1**
NRDL	**Niedersach Rie**	**146.96**	**338**	*e*PKPbc	**PKPdf**	**19 05 38.3**	**+1.4**
PRU	**Pruhonice**	**147.19**	**331**	*e*PKP	**PKPdf**	**19 05 39.0**	**+1.5**
PRU				*ep*PKP	**pPKPdf**	**19 05 45.6**	**-2.2**
TREC	**Trest**	**147.26**	**330**	*e*PKP	**PKPdf**	**19 05 39.4**	**+1.7**
CLZ	**Clausthal**	**147.40**	**337**	*e*PKPbc	**PKPbc**	**19 05 40.0**	**-0.4**
PKSM	**Moragy**	**147.66**	**323**	⇑*i*P	**PKPdf**	**19 05 40.3**	**+1.9**
TANN	**Tannenbergstha**	**147.75**	**334**	*e*PKPbc	**PKPbc**	**19 05 41.0**	**-0.4**
IBBN	**Ibbenburen**	**147.88**	**340**	*e*PKPbc	**PKPbc**	**19 05 41.0**	**-0.6**
NKC	**Nove Kostel**	**147.89**	**334**	*e*PKP	**PKPbc**	**19 05 41.0**	**-0.7**
MOX	**Moxa**	**147.91**	**335**	*e*PKPbc	**PKPbc**	**19 05 41.1**	**-0.6**
KHC	**Kasperske Hory**	**148.24**	**331**	*e*PKP	**PKPbc**	**19 05 42.0**	**-0.7**
KHC				*ex*	x	19 05 46.0	
GEC2	**GERESS Array S**	**148.40**	**331**	*e*PKPbc	**PKPbc**	**19 05 42.5**	**-0.7**
GERES	**GERESS Array B** comp=Z,2.8nm,0.8s,baz=33,slow=3.2,SNR=20	**148.40**	**331**	PKPbc	**PKPbc**	**19 05 42.4**	**-0.8**
GERES	**GERESS Array B**	**148.40**	**331**	PKPbc	**PKPbc**	**19 05 42.4**	**-0.8**
WET	**Wettzell**	**148.54**	**332**	*e*PKPbc	**PKPbc**	**19 05 43.2**	**-0.3**
GRF	**Grafenberg Arr**	**148.81**	**334**	*e*PKPbc	**PKPbc**	**19 05 43.7**	**-0.4**
TNS	**Taunus Mts**	**149.43**	**338**	*e*PKPbc	**PKPbc**	**19 05 45.3**	**-0.4**
MOTA	**Moosalm**	**150.68**	**331**	⇓*i*P	**PKPbc**	**19 05 47.9**	**-1.1**
MOTA	**Moosalm** comp=Z,6.0nm,0.6s	**150.68**	**331**	⇓*i*PKPbc	**PKPbc**	**19 05 47.9**	**-1.1**
FETA	**Feichten**	**151.09**	**331**	⇑*i*P	**PKPbc**	**19 05 48.9**	**-1.0**
FETA	**Feichten** comp=Z,11nm,1.0s	**151.09**	**331**	⇑*i*PKPbc	**PKPbc**	**19 05 48.9**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,1.0s,baz=127,slow=2.3,SNR=2.6	**165.90**	**229**	PKP	**PKPdf**	**19 06 01.9**	**-0.5**
TORD	comp=Z,1.7nm,1.0s,baz=108,slow=4.2,SNR=4.6			PKPab	**PKPab**	**19 07 02.2**	**0.0**
TORD	**Torodi Ar. Bea**	**165.90**	**229**	PKP	**PKPdf**	**19 06 01.9**	**-0.5**
TORD				PKPab	**PKPab**	**19 07 02.2**	**0.0**

*TIF **21** 18:59:53.8,42°.83N×46°.05E,h11km±3km*

*CSEM **21** 18:59:56.1±0.4,42°.97N×45°.96E,h70km,mb3.4,Error ellipse: s-maj=12.8km s-min=6.9km az=32.0*

*NNC **21** 18:59:56.3±9.7,44°.32N×45°.42E,h0km,mb3.4,Error ellipse: s-maj=286.9km s-min=34.5km az=159.0*

*AZER **21** 18:59:56.5,42°.87N×45°.84E,h72km*

*MOS **21** 18:59:57.2±1.0,42°.84N×45°.86E,h28km,mb4.1/1,Error ellipse: s-maj=11.9km s-min=6.5km az=26.8*

ISC 21 18:59:53.4±1.2,42°.83N±0°.03×46°.03E±0°.02,h11km±10km, n50,σ1$70/76,14C-15D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.53**	**337**	⇓*i*PG	**Pn**	**19 00 08.9**	**+2.0**
GRO				*e*S	**Sn**	**19 00 16.0**	**+0.2**
UNCR	**Uncukul**	**0.57**	**102**	⇓*e*PG	Pn	19 00 11.0	+3.4
UNCR				*i* S	**Sn**	**19 00 21.0**	**+4.0**
UNCR	comp=Z,168nm,0.2s			pmax	pmax		
XNZR	**Khunzakh**	**0.58**	**120**	PG	Pn	19 00 12.0	+4.3
XNZR				S	Sn	19 00 23.0	+5.8
DBC	**Dubki**	**0.61**	**72**	*i* PG	Pn	19 00 11.1	+2.9
DBC				*i* S	**Sn**	**19 00 21.9**	**+3.8**
BUJR	**Buynaksk**	**0.79**	**90**	PG	Pn	19 00 13.5	+3.0
BUJR				S	**Sn**	**19 00 26.5**	**+4.2**
SNJR	**Sundja**	**0.93**	**285**	⇓*i*PG	**Pn**	**19 00 14.3**	**+1.9**
SNJR				*e*S	**Sn**	**19 00 27.7**	**+2.0**
VLKR	**Vladikavkaz**	**1.02**	**282**	*e*PG	**Pn**	**19 00 15.1**	**+1.4**
VLKR				*e*S	**Sn**	**19 00 29.3**	**+1.4**
MAK	**Makhachkala**	**1.09**	**83**	*e*PG	Pn	19 00 19.4	+4.8
MAK				*e*		19 00 35.4	
MAK	comp=Z,81nm,0.2s			pmax	pmax		
MAK	comp=N,2μm,0.6s			smax	smax		
MAK	comp=E,2μm,0.5s			smax	smax		
BTKR	**Batakoyurt**	**1.22**	**297**	*e*PG	**Pg**	**19 00 17.6**	**+0.8**
BTKR				*e*S	**Sn**	**19 00 33.5**	**+0.7**
TRKR	**Terskaya**	**1.30**	**314**	⇓*i*PG	**Pg**	**19 00 18.8**	**+0.4**
TRKR				*i* S	**Sg**	**19 00 36.1**	**+0.8**
ARNR	**Ardon**	**1.33**	**286**	⇓*i*PG	**Pg**	**19 00 18.9**	**-0.2**
ARNR				*i* S	**Sn**	**19 00 35.8**	**+0.1**
KMSR	**Komsomolskaya**	**1.38**	**293**	⇑*i*PG	**Pg**	**19 00 19.7**	**-0.3**
KMSR				*e*S	**Sb**	**19 00 37.3**	**+0.4**
TBLG	**Delisi**	**1.46**	**221**	*e*PG	**Pg**	**19 00 22.1**	**+0.6**
TBLG				*e*S	**Sg**	**19 00 42.3**	**+1.8**
TBLG	**Delisi**	**1.46**	**221**	P	**Pg**	**19 00 22.1**	**+0.6**
TBLG				S	**Sg**	**19 00 42.3**	**+1.8**
TBLG	**Delisi**	**1.46**	**221**	P	**Pg**	**19 00 22.1**	**+0.6**
TBLG				S	**Sg**	**19 00 42.3**	**+1.8**
KORR	**Kora**	**1.46**	**281**	⇑*i*PG	**Pb**	**19 00 20.4**	**-0.3**
KORR				*e*S	**Sn**	**19 00 38.8**	**-0.1**
DGRG	**David-gareji**	**1.47**	**200**	P	**Pg**	**19 00 23.1**	**+1.4**
DGRG				S	**Sg**	**19 00 44.3**	**+3.7**
ZEI	**Tsey**	**1.57**	**268**	⇑*i*PG	**Pn**	**19 00 21.7**	**+0.3**
ZEI				*i* S	**Sn**	**19 00 40.6**	**-1.3**
PRTR	**Priterechnaya**	**1.57**	**306**	⇓*i*PG	**Pb**	**19 00 22.2**	**-0.3**
PRTR				*i* S	**Sb**	**19 00 42.2**	**-0.2**
GOR	**Gori**	**1.66**	**240**	P	**Pg**	**19 00 25.0**	**-0.3**
GOR				S	**Sg**	**19 00 46.7**	**0.0**
LSNR	**Lesken**	**1.68**	**286**	*e*PG	**Pb**	**19 00 23.6**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.80**	**273**	⇓*i*PN	**Pn**	**19 00 24.7**	**+0.1**
SEKA	**Sheki** SNR=9.5	**1.84**	**151**	⇑P	**Pb**	**19 00 27.4**	**+0.3**
SEKA				⇓S	**Sg**	**19 00 51.4**	**-1.3**
SEKA	**Sheki** SNR=9.5	**1.84**	**151**	P	**Pb**	**19 00 27.4**	**+0.3**
SEKA				S	**Sg**	**19 00 51.4**	**-1.3**
ONI	**Oni**	**1.92**	**264**	P	**Pb**	**19 00 28.2**	**-0.2**
ONI				S	**Sg**	**19 00 54.2**	**-0.9**
KUBR	**Kubataba**	**2.14**	**298**	⇑*e*PN	**Pn**	**19 00 29.3**	**+0.2**
GANJ	**Ganja** SNR=5.0	**2.20**	**174**	⇓P	**Pb**	**19 00 31.7**	**-1.5**
GANJ				⇓S	**Sb**	**19 00 58.5**	**-1.9**
GANJ	**Ganja** SNR=5.0	**2.20**	**174**	P	**Pb**	**19 00 31.7**	**-1.5**
GANJ				S	**Sb**	**19 00 58.5**	**-1.9**
QUBA	**Quba, Azerbaij**	**2.35**	**128**	⇓P	**Pn**	**19 00 33.3**	**+1.3**
QUBA				⇓S	**Sb**	**19 01 05.0**	**+0.1**
QUBA	**Quba, Azerbaij**	**2.35**	**128**	P	**Pn**	**19 00 33.3**	**+1.3**
QUBA				S	**Sb**	**19 01 05.0**	**+0.1**
AKH	**Akhalkalaki**	**2.37**	**234**	P	**Pb**	**19 00 35.0**	**-1.1**
AKH				S	**Sb**	**19 01 05.1**	**-0.3**
IML	**Ismayilli**	**2.60**	**141**	⇑S	**Sb**	**19 01 10.3**	**-1.6**
IML	**Ismayilli**	**2.60**	**141**	S	**Sb**	**19 01 10.3**	**-1.6**
SHAR	**Shatzhatmas**	**2.62**	**291**	⇓*e*PN	**Pn**	**19 00 35.5**	**-0.3**
KIV	**Kislovodsk**	**2.68**	**296**	P	**Pn**	**19 00 35.6**	**-1.0**
KIV				S	Sn	19 00 55.8	-13
KIV	**Kislovodsk**	**2.68**	**296**	*e*PN	**Pn**	**19 00 36.6**	**0.0**
KIV	**Kislovodsk**	**2.68**	**296**	P	**Pn**	**19 00 35.6**	**-1.0**
BRDA	**Brd** SNR=4.6	**2.71**	**161**	⇑P	**Pb**	**19 00 40.0**	**-1.9**
BRDA				⇑S	**Sb**	**19 01 13.7**	**-1.4**
BRDA	**Brd** SNR=4.6	**2.71**	**161**	P	**Pb**	**19 00 40.0**	**-1.9**
BRDA				S	**Sb**	**19 01 13.7**	**-1.4**
SIZA	**Siyzn**	**2.77**	**128**	⇑P	**Pb**	**19 00 41.0**	**-1.9**
SIZA	**Siyzn**	**2.77**	**128**	P	**Pb**	**19 00 41.0**	**-1.9**
PQL	**Pirkuli** SNR=3.0	**2.80**	**136**	⇑P	**Pb**	**19 00 41.2**	**-2.4**
PQL				⇑S	**Sb**	**19 01 16.2**	**-1.6**
PQL	**Pirkuli** SNR=3.0	**2.80**	**136**	P	**Pb**	**19 00 41.2**	**-2.4**
PQL				S	**Sb**	**19 01 16.2**	**-1.6**
GNI	**Garni**	**2.85**	**200**	*e*PN	**Pn**	**19 00 41.4**	**+2.4**
DOMR	**Dombai**	**3.26**	**280**	*i* PN	**Pn**	**19 00 46.8**	**+2.2**
GLBA	**Clilabad** SNR=4.1	**4.01**	**153**	⇑P	**Pn**	**19 00 56.4**	**+1.7**
GLBA				⇓S	**Sn**	**19 01 42.7**	**+1.1**
GLBA	**Clilabad** SNR=4.1	**4.01**	**153**	P	**Pn**	**19 00 56.4**	**+1.7**
GLBA				S	**Sn**	**19 01 42.7**	**+1.1**
ANN	**Anapa**	**6.52**	**290**	*e*P	Pn	19 01 32.3	+3.1
ANN				*e*S	**Sn**	**19 02 48.3**	**+4.7**
ANN	comp=Z,30nm,1.0s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.6s	**11.20**	**43**	⇑Pn	Pn	19 02 27.8	-5.5
AKTO	comp=Z,0.5nm,0.8s			⇓Sn	Sn	19 04 26.2	-12
AB31	**Akbulak array** comp=Z,0.7nm,0.5s,baz=243,slow=12,SNR=16	**11.60**	**52**	Pn	**Pn**	**19 02 35.8**	**-2.9**
AB31	comp=Z,0.7nm,0.4s,baz=243,slow=22,SNR=5.1			⇑Sn	Sn	19 04 38.6	-10

MSWZ	**Moikau Station**	**2.80**	**189**	PN	Pn	19 09 59.4 -1.8
TCW	**Tory Channel**	**2.83**	**204**	PN	Pn	19 09 59.8 -1.6
BHW	**Baring Head**	**2.86**	**195**	PN	Pn	19 09 59.9 -1.8
PLWZ	**Palliser**	**2.96**	**188**	PN	Pn	19 10 01.1 -2.0
TUWZ	**Tuamarina**	**3.14**	**207**	PN	Pn	19 10 03.2 -2.0
NNZ	**Nelson**	**3.19**	**215**	PN	Pn	19 10 04.0 -1.9
QRZ	**Quartz Range**	**3.35**	**228**	PN	Pn	19 10 05.3 -2.6
BSWZ	**Blackbirch Sta**	**3.41**	**205**	PN	Pn	19 10 07.1 -1.7
THZ	**Tophouse**	**3.84**	**215**	PN	Pn	19 10 12.0 -2.3
KHZ	**Kahutara**	**4.15**	**204**	PN	Pn	19 10 16.0 -2.3
MQZ	**McQueen's Vall**	**5.60**	**204**	PN	Pn	19 10 33.3 -4.0
ODZ	**Otahua Downs**	**7.47**	**210**	PN	Pn	19 10 58.6 -3.6

TIR ***21*** *19:19:05.8±3.6, 40.°17N×20.°09E, h5km±999km, ML3.0*
BEO ***21*** *19:19:06.9±1.1, 39.°85N×19.°76E, h19km±6km, ML3.2/6*
IDC ***21*** *19:19:06.8±9.7, 40.°11N×19.°92E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/25, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=180.7km s-min=27.1km az=33.0*
THE ***21*** *19:19:07.9, 40.°15N×20.°03E, h0km±3km, ML3.1/2, Error ellipse: s-maj=4.3km s-min=0.7km az=295.0*
ATH ***21*** *19:19:08.2, 40.°11N×19.°96E, h12km±1km, MD3.4/12*
CSEM ***21*** *19:19:09.8±0.2, 40.°06N×19.°85E, h20km, ML3.0, Error ellipse: s-maj=7.2km s-min=4.0km az=74.0*

ISC 21 19:19:07.7±1.1, **40.°12N**±0.°02×**19.°95E**±0.°02, **h2km**±9km, **n79,** σ1**9**±**44**/121, **mb3.3/3, 2C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.18**	**16**	*e*PG	**Pg**	**19 19 10.9**	**-0.2**
TPE				*i* PG		19 19 14.0	
SRN	**Sarande**	**0.25**	**170**	*e*PG	**Pg**	**19 19 11.2**	**-1.2**
SRN				*i* PG		19 19 15.5	
KEK	**Kerkira**	**0.43**	**196**	*e*PB	**Pg**	**19 19 16.5**	**+0.7**
KEK				*e*SB	**Sg**	**19 19 22.6**	**+1.3**
KEK	**Kerkira**	**0.43**	**196**	*e*Pb	**Pg**	**19 19 16.5**	**+0.7**
KEK				*e*Sb	**Sg**	**19 19 22.6**	**+1.3**
VLO	**Vlora**	**0.49**	**315**	*e*PG	**Pg**	**19 19 14.7**	**-2.3**
VLO				*i* SG	**Sb**	**19 19 28.3**	**+1.7**
IGT	**Igoumenitsa**	**0.66**	**153**	*e*PG	**Pg**	**19 19 20.5**	**+0.2**
IGT				*i* SG	**Sb**	**19 19 31.6**	**0.0**
IGT	**Igoumenitsa**	**0.66**	**153**	P	**Pg**	**19 19 30.1**	**+1.2**
IGT				S	**Sg**	**19 19 30.1**	**+1.2**
IGT	**Igoumenitsa**	**0.66**	**153**	P	**Sb**	**19 19 20.0**	**-0.3**
IGT				S	**Sg**	**19 19 30.1**	**+1.2**
IGT				*i* Sg	**Sb**	**19 19 31.6**	**0.0**
	SNR=9.0						
JAN	**Janina**	**0.84**	**124**	*e*PG	**Pg**	**19 19 23.4**	**-0.3**
JAN				*e*SB	**Sg**	**19 19 34.8**	**+0.3**
JAN	**Janina**	**0.84**	**124**	*e*Pg	**Pg**	**19 19 23.4**	**-0.3**
JAN				*e*Sb	**Sg**	**19 19 34.8**	**+0.3**
RGA	**Parga**	**0.86**	**158**	P	**Pg**	**19 19 24.2**	**+0.1**
RGA				S	**Sb**	**19 19 37.3**	**-0.1**
RGA	**Parga**	**0.86**	**158**	P	**Pg**	**19 19 24.2**	**+0.1**
RGA				S	**Sb**	**19 19 37.3**	**-0.1**
NEST	**Nestorio**	**0.89**	**71**	P	**Pg**	**19 19 23.1**	**-1.6**
NEST				S	**Sg**	**19 19 35.7**	**-0.6**
MEV	**Metsovon**	**1.04**	**109**	P	**Pg**	**19 19 26.4**	**-1.2**
MEV	**Metsovon**	**1.04**	**109**	P	**Pg**	**19 19 26.4**	**-1.2**
TIR	**Tirane**	**1.22**	**357**	*e*PG	**Pb**	**19 19 31.6**	**0.0**
TIR	**Tirane**	**1.22**	**357**	*e*Pn	**Pn**	**19 19 32.7**	**+0.9**
TIR				*e*Sg	**Sn**	**19 19 54.7**	**+5.7**
TIR	**Tirane**	**1.22**	**357**	*e*Pg	**Pb**	**19 19 31.6**	**0.0**
	SNR=9.0						
TIR	**Tirane**	**1.22**	**357**	*e*Pn	**Pn**	**19 19 32.7**	**+0.9**
FNA	**Florina**	**1.27**	**58**	*e*PG	**Pg**	**19 19 31.3**	**-0.8**
FNA				*i* SG	**Sn**	**19 19 50.2**	**-0.1**
FNA	**Florina**	**1.27**	**58**	P	**Pg**	**19 19 30.8**	**-1.3**
FNA	**Florina**	**1.27**	**58**	P	**Pg**	**19 19 30.8**	**-1.3**
FNA				*i* Sg	**Sn**	**19 19 50.2**	**-0.1**
	SNR=9.0						
BIA	**Bitola**	**1.38**	**49**	*e*Pn	**Pn**	**19 19 31.7**	**-2.3**
KZN	**Kozani**	**1.41**	**82**	*e*PG	**Pn**	**19 19 34.2**	**-0.2**
KZN				*e*SB	**Sn**	**19 19 54.4**	**+0.8**
KZN	**Kozani**	**1.41**	**82**	*e*Pg	**Pn**	**19 19 34.2**	**-0.2**
KZN				*e*Sb	**Sn**	**19 19 54.4**	**+0.8**
LKD2	**Lefkada island**	**1.44**	**157**	P	**Pn**	**19 19 34.4**	**-0.4**
LKD2	**Lefkada island**	**1.44**	**157**	P	**Pn**	**19 19 34.4**	**-0.4**
LKD	**Levkas**	**1.52**	**159**	*e*PN	**Pb**	**19 19 36.5**	**-0.1**
LKD				*i* SN	**Sg**	**19 19 56.6**	**+0.3**
LKD	**Levkas**	**1.52**	**159**	*e*Pn	**Pb**	**19 19 36.5**	**-0.1**
LKD				*i* Sn	**Sg**	**19 19 56.6**	**+0.3**
KRUS	**Krusevo**	**1.59**	**38**	*i* Pn	**Pn**	**19 19 36.7**	**-0.2**
PHP	**Peshkopia**	**1.60**	**13**	*e*PG	**Pg**	**19 19 38.8**	**+0.4**
PHP				*i* SG	**Sg**	**19 20 03.7**	**+4.5**
PHP	**Peshkopia**	**1.60**	**13**	*e*Pg	**Pg**	**19 19 38.8**	**+0.4**
	SNR=9.0						
THL	**Klokotos Trika**	**1.69**	**109**	*e*PB	**Pg**	**19 19 40.0**	**0.0**
THL				*e*SB	**Sg**	**19 20 02.5**	**+0.7**
THL	**Klokotos Trika**	**1.69**	**109**	*e*Pb	**Pg**	**19 19 40.0**	**0.0**
THL				*e*Sb	**Sg**	**19 20 02.5**	**+0.7**
LIT	**Litokhoron**	**1.95**	**90**	*e*PN	**Pb**	**19 19 43.6**	**-0.3**
LIT				*e*SN	**Sb**	**19 20 08.9**	**+0.2**
LIT	**Litokhoron**	**1.95**	**90**	*e*Pn	**Pb**	**19 19 43.6**	**-0.3**
LIT				*e*Sn	**Sb**	**19 20 08.9**	**+0.2**
VLS	**Valsamata**	**2.01**	**165**	*e*PN	**Pb**	**19 19 44.0**	**-0.9**
VLS				*e*SN	**Sb**	**19 20 10.3**	**0.0**
VLS	**Valsamata**	**2.01**	**165**	*e*Pn	**Pb**	**19 19 44.0**	**-0.9**
VLS				*e*Sn	**Sb**	**19 20 10.3**	**0.0**
GRG	**Griva**	**2.05**	**65**	P	**Pn**	**19 19 42.5**	**-0.7**
GRG	**Griva**	**2.05**	**65**	P	**Pn**	**19 19 42.5**	**-0.7**
SKO	**Skopje**	**2.16**	**31**	*e*Pn	**Pb**	**19 19 47.8**	**+0.2**
EFP	**Efpalio**	**2.28**	**137**	*e*PN	**Pb**	**19 19 47.8**	**-1.7**
EFP	**Efpalio**	**2.28**	**137**	*e*Pn	**Pb**	**19 19 47.8**	**-1.7**
PDG	**Podgorica**	**2.36**	**347**	*e*Pn	**Pn**	**19 19 48.7**	**+1.2**
PDG				*e*Sn	**Sb**	**19 20 19.8**	**-0.8**
PDG	**Podgorica**	**2.36**	**347**	*e*Pn	**Pn**	**19 19 48.7**	**+1.2**
PDG				*e*Sn	**Sb**	**19 20 19.8**	**-0.8**
RLS	**Riolos of Patr**	**2.38**	**150**	*e*PB	**Pn**	**19 19 48.5**	**+0.8**
RLS	**Riolos of Patr**	**2.38**	**150**	*e*Pb	**Pn**	**19 19 48.5**	**+0.8**
NEO	**Neokhori**	**2.66**	**107**	*e*PN	**Pb**	**19 19 53.8**	**-2.2**
NEO	**Neokhori**	**2.66**	**107**	*e*Pn	**Pb**	**19 19 53.8**	**-2.2**
PLG	**Polygyros**	**2.69**	**84**	*e*PN	**Pn**	**19 19 53.2**	**+1.2**
PLG	**Polygyros**	**2.69**	**84**	*e*Pn	**Pn**	**19 19 53.2**	**+1.2**
SOH	**Sokhos**	**2.69**	**74**	*e*PB	**Pn**	**19 19 53.1**	**+1.1**
SOH				*e*SG	**Sn**	**19 20 26.4**	**+1.2**
SOH	**Sokhos**	**2.69**	**74**	*e*Pb	**Pn**	**19 19 53.1**	**+1.1**
SOH				*e*Sg	**Sn**	**19 20 26.4**	**+1.2**
LKR	**Lokris**	**2.79**	**121**	*e*PN	**Pn**	**19 19 54.6**	**+1.3**
LKR	**Lokris**	**2.79**	**121**	*e*Pn	**Pn**	**19 19 54.6**	**+1.3**
GUR	**Goura**	**2.87**	**139**	*e*PN	**Pn**	**19 19 55.8**	**+1.2**
GUR	**Goura**	**2.87**	**139**	*e*Pn	**Pn**	**19 19 55.8**	**+1.2**
BARS	**Barje**	**3.04**	**27**	*e*Pn	**Pn**	**19 19 57.7**	**+1.0**
BARS				*e*Sn	**Sb**	**19 20 36.8**	**-3.1**
BARS	**Barje**	**3.04**	**27**	*e*Pn	**Pn**	**19 19 57.7**	**+1.0**
BARS				*e*Sn	**Sb**	**19 20 36.8**	**-3.1**
NVR	**Nevrokopi**	**3.22**	**66**	*e*PN	**Pn**	**19 20 01.2**	**+1.9**
NVR	**Nevrokopi**	**3.22**	**66**	*e*Pn	**Pn**	**19 20 01.2**	**+1.9**
STON	**Ston**	**3.22**	**329**	*e*Pn	**Pn**	**19 19 59.1**	**-0.2**
STON				Sn	**Sn**	**19 20 34.8**	**-3.5**
STON	**Ston**	**3.22**	**329**	*e*Pn	**Pn**	**19 19 59.0**	**-0.2**
STON				Sn	**Sn**	**19 20 34.7**	**-3.5**
VTS	**Vitosha**	**3.48**	**44**	⇑*i* P	**Pn**	**19 20 04.3**	**+1.3**
VTS	**Vitosha**	**3.48**	**44**	*e*Pn	**Pn**	**19 20 04.6**	**+1.6**
VTS				*e*Sn	**Sn**	**19 20 47.6**	**+2.8**
VTS	**Vitosha**	**3.48**	**44**	⇑*i* P	**Pn**	**19 20 04.3**	**+1.3**
VTS	**Vitosha**	**3.48**	**44**	*e*Pn	**Pn**	**19 20 04.6**	**+1.6**
VTS				*e*Sn	**Sn**	**19 20 47.6**	**+2.8**
ZAPS	**Zavoj**	**3.73**	**32**	*e*Pn	**Pn**	**19 20 07.7**	**+1.3**
GRUS	**Gruza**	**3.81**	**8**	*e*Pn	**Pn**	**19 20 08.7**	**+1.4**
GRUS				*e*Sn	**Sn**	**19 20 55.3**	**+2.6**
GRUS	**Gruza**	**3.81**	**8**	*e*Pn	**Pn**	**19 20 08.7**	**+1.4**
GRUS				*e*Sn	**Sn**	**19 20 55.3**	**+2.6**
DIVS	**Divibare**	**3.97**	**0**	*e*Pn	**Pn**	**19 20 10.8**	**+1.1**
DIVS				*e*Sn	**Sn**	**19 20 58.1**	**+1.2**
DIVS	**Divibare**	**3.97**	**0**	*e*Pn	**Pn**	**19 20 10.8**	**+1.1**
DIVS				*e*Sn	**Sn**	**19 20 58.1**	**+1.2**
GZR	**Gura Zlata**	**5.66**	**21**	⇓*i* P	**Pn**	**19 20 34.4**	**+1.5**
NVLJ	**Novalja**	**5.81**	**321**	*e*Pn	**Pn**	**19 20 35.2**	**+0.3**
NVLJ				Sn	**Sn**	**19 21 40.4**	**-1.8**
NVLJ	**Novalja**	**5.81**	**321**	*e*Pn	**Pn**	**19 20 35.2**	**+0.3**
NVLJ				Sn	**Sn**	**19 21 40.3**	**-1.8**
GERES	**GERESS Array B**	**9.79**	**335**	Pn	**Pn**	**19 21 30.2**	**+0.6**
	0.2nm,0.3s,baz=160,slow=13,SNR=6.4						
FINES	**FINESS Array B**	**21.68**	**9**	P	**P**	**19 23 58.3**	**-1.1**
	1.3nm,0.9s,baz=170,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**44.69**	**60**	P	**P**	**19 27 21.0**	**-0.9**
	0.2nm,0.4s,baz=280,slow=7.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**44.75**	**49**	P	**P**	**19 27 22.6**	**+0.3**

0.2nm,0.3s,baz=274,slow=6.6,SNR=2.8

IDC 21 19:20:37.6±3.5, **6.°25S**×**146.°87E, h0km, mb2.7/1, mb1 3.2/3, mb1mx3.1/16, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=79.9km s-min=35.8km az=80.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.15**	**175**	Pn	Pn	19 21 28.9	+0.4
	2.5nm,0.3s,baz=59,slow=6.3,SNR=11						
PMG				Sn	Sn	19 22 06.9	-0.1
	2.5nm,0.3s,baz=335,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**18.26**	**221**	P	Pn	19 24 52.5	-0.3
	0.1nm,0.3s,baz=38,slow=9.6,SNR=5.2						
ASAR	**Alice Springs**	**21.34**	**214**	P	P	19 25 26.7	+0.1
	0.2nm,0.6s,baz=48,slow=8.1,SNR=8.9						
TORD	**Torodi Ar. Bea**	**145.02**	**284**	PKPbc	PKPbc	19 40 16.5	-0.9
	0.8nm,0.8s,baz=76,slow=3.1,SNR=3.8						

IDC 21 19:30:27.4±1.1, **16.°12S**×**68.°04E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=43.9km s-min=21.5km az=34.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**45.89**	**43**	P	P	19 38 53.5	+1.4
	0.9nm,0.9s,baz=240,slow=9.9,SNR=4.2						
ASAR	**Alice Springs**	**61.93**	**109**	P	P	19 40 49.2	-0.3
	1.1nm,0.5s,baz=270,slow=6.0,SNR=38						
WRA	**Warramunga Arr**	**62.80**	**104**	P	P	19 40 55.6	+0.2
	2.7nm,0.7s,baz=246,slow=7.2,SNR=59						
MKAR	**Makanchi Array**	**63.92**	**11**	P	P	19 41 01.7	-0.5
	0.3nm,0.7s,baz=180,slow=2.4,SNR=3.8						
BRTR	**Keskin Array B**	**64.15**	**331**	P	P	19 41 04.7	+0.6
	1.1nm,0.7s,baz=156,slow=9.5,SNR=8.1						
ZALV	**Zalesovo Beam**	**71.25**	**10**	P	P	19 41 47.6	-0.7
	0.4nm,0.4s,baz=210,slow=6.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**71.74**	**290**	P	P	19 41 52.5	+0.4
	0.3nm,0.6s,baz=125,slow=4.9,SNR=4.0						
AKASG	**Malin Array Be**	**74.74**	**336**	P	P	19 42 09.2	+0.1
	0.5nm,0.4s,baz=147,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**133.65**	**2**	PKP	PKPdf	19 49 45.9	+0.3
	0.2nm,0.6s,baz=350,slow=2.5,SNR=6.6						
PDAR	**Pinedale Array**	**153.36**	**356**	PKPbc	PKPbc	19 50 28.3	+0.1
	0.6nm,0.5s,baz=97,slow=3.3,SNR=6.3						
PDAR				PKPab	PKPab	19 50 37.6	-2.4
	0.2nm,0.5s,baz=57,slow=6.6,SNR=3.0						

SZGRF ***21*** *19:46:14.8, 22.°78S×173.°20E, h33km, Southeast of Loyalty Islands*
IDC ***21*** *19:46:16.0±1.2, 22.°87S×170.°98E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, ML4.1/1, Error ellipse: s-maj=50.9km s-min=21.6km az=170.0*
ISCJB ***21*** *19:46:20.9±0.9, 22.°75S×170.°89E±0.°09, h42km, mb4.0/9, Error ellipse: s-maj=31.3km s-min=12.2km az=179.1*
VIE ***21*** *19:46:25.9, 20.°94S×169.°50E, h0km, mb4.0 376 km SSE of Port Vila*

ISC 21 19:46:22.1±1.0, **22.°7S**±0.°3×**170.°9E**±0.°1, **h42km, n41, σ0.°76/43, mb4.0/9, 2C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.19**	**278**	Pn	**Pn**	**19 47 23.0**	**-0.7**
	9.7nm,0.3s,baz=103,slow=16,SNR=22						
DZM				Sn	**Sn**	**19 48 11.6**	**+0.1**
	8.3nm,0.3s,baz=121,slow=21,SNR=6.5						
RMQ	**Roma**	**20.48**	**255**	*e*P	Pn	19 50 59.0	0.0
	22nm,1.0s						
CTA	**Charters Tower**	**23.11**	**272**	P	**P**	**19 51 25.4**	**+0.9**
	3.5nm,0.8s,baz=84,slow=9.2,SNR=3.5						
PMG	**Port Moresby**	**26.34**	**296**	P	**P**	**19 51 53.9**	**-0.4**
	6.3nm,0.9s,baz=252,slow=3.6,SNR=3.6						
STKA	**Stephens Creek**	**27.53**	**244**	*e*P	**P**	**19 52 05.1**	**+0.2**
	5.5nm,1.4s						
ASAR	**Alice Springs**	**33.97**	**261**	P	**P**	**19 53 01.9**	**-0.1**
	2.0nm,0.8s,baz=90,slow=9.1,SNR=21						
WRA	**Warramunga Arr**	**34.13**	**268**	P	**P**	**19 53 02.2**	**-1.1**
	0.2nm,0.4s,baz=97,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**42.56**	**268**	P	**P**	**19 54 13.7**	**-0.4**
	4.4nm,0.9s,baz=103,slow=7.3,SNR=6.5						
FITZ	**Fitzroy Crossi**	**42.56**	**268**	*e*P	**P**	**19 54 14.7**	**+0.6**
	9.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**81.36**	**294**	P	**P**	**19 58 36.5**	**+1.7**
	1.8nm,0.9s,baz=134,slow=4.4,SNR=11						
NVAR	**Mina Array Bea**	**89.95**	**48**	P	**P**	**19 59 16.8**	**-0.5**
	0.6nm,0.7s,baz=247,slow=5.7,SNR=3.1						
SONM	**Songino Array**	**90.94**	**323**	P	**P**	**19 59 21.2**	**-0.4**
	1.6nm,0.9s,baz=151,slow=3.4,SNR=4.7						
BSEG	**Bad Segeberg**	**145.57**	**340**	*e*PKPbc	**PKPab**	**20 05 55.7**	**-0.2**
DPC	**Dobruska-Polom**	**146.03**	**331**	*e*PKP	**PKPab**	**20 05 57.3**	**-0.6**
DPC				*ex*	x	20 06 07.1	
VYHS	**Vyhne**	**146.06**	**326**	*e*	**PKPab**	**20 05 57.5**	**-0.5**
UPC	**Upice**	**146.06**	**331**	*e*PKP	**PKPbc**	**20 05 56.8**	**-0.5**
KOLL	**Kolacno**	**146.22**	**327**	*e*	**PKPab**	**20 05 58.6**	**0.0**
BRG	**Berggiesshubel**	**146.69**	**333**	*e*P	**PKPbc**	**20 05 58.8**	**-0.3**
	11nm,1.1s						
BRG	**Berggiesshubel**	**146.69**	**333**	*e*PKPbc	**PKPab**	**20 05 59.3**	**-1.0**
CLL	**Collm**	**146.74**	**335**	*e*PKPbc	**PKPbc**	**20 05 59.2**	**0.0**
CLL	**Collm**	**146.74**	**335**	*i* PKP	**PKPbc**	**20 05 58.9**	**-0.3**
	comp=Z,11nm,1.1s						
CLL				*e*		20 06 08.0	
NRDL	**Niedersach Rie**	**146.85**	**338**	*e*PKPbc	**PKPbc**	**20 05 59.5**	**+0.1**
PRU	**Pruhonice**	**147.09**	**332**	*e*PKP	**PKPbc**	**20 05 59.2**	**-1.1**
TREC	**Trest**	**147.16**	**330**	*e*PKP	**PKPbc**	**20 06 00.6**	**0.0**
CLZ	**Clausthal**	**147.29**	**338**	*e*PKPbc	**PKPbc**	**20 06 01.1**	**+0.2**
TANN	**Tannenbergstha**	**147.64**	**334**	*e*PKPbc	**PKPbc**	**20 06 02.2**	**+0.3**
NKC	**Novy Kostel**	**147.79**	**334**	*e*PKP	**PKPbc**	**20 06 00.6**	**-1.7**
KHC	**Kasperske Hory**	**148.14**	**331**	*e*PKP	**PKPbc**	**20 06 02.5**	**-0.8**
KHC				*ex*	x	20 06 56.5	
ROTZ	**Rotzenmuhle**	**148.25**	**333**	*e*PKPbc	**PKPbc**	**20 06 03.9**	**+0.4**
GEC2	**GERESS Array S**	**148.30**	**331**	*e*PKPbc	**PKPbc**	**20 06 03.8**	**0.0**
GERES	**GERESS Array B**	**148.30**	**331**	PKPbc	**PKPbc**	**20 06 03.9**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=64,slow=3.1,SNR=18						
WET	**Wettzell**	**148.44**	**332**	*e*PKPbc	**PKPbc**	**20 06 04.3**	**+0.3**
BUG	**Bochum--Univer**	**148.67**	**340**	*e*PKPbc	**PKPbc**	**20 06 04.2**	**-0.2**
GRF	**Grafenberg Arr**	**148.71**	**334**	*e*PKPbc	**PKPbc**	**20 06 05.0**	**+0.3**
RJOB	**Jochberg**	**149.52**	**330**	*e*PKPbc	**PKPbc**	**20 06 06.7**	**-0.2**
STU	**Stuttgart**	**150.24**	**335**	*e*PKPbc	**PKPbc**	**20 06 08.8**	**+0.3**
MOTA	**Moosalm**	**150.58**	**331**	⇑*i* PKPdf	**PKPbc**	**20 06 08.7**	**-0.9**
	comp=Z,8.7nm,0.8s						
BFO	**Black Forest**	**150.94**	**336**	*e*PKPbc	**PKPbc**	**20 06 09.8**	**-0.4**
FETA	**Feichten**	**150.99**	**331**	⇑*i* PKPdf	**PKPbc**	**20 06 09.9**	**-0.6**
	comp=Z,11nm,0.9s						
DAVOX	**Davos/Dischmat**	**151.55**	**332**	PKPbc	**PKPbc**	**20 06 12.1**	**+0.2**
	comp=Z,8.7nm,0.8s,baz=60,slow=3.4,SNR=8.1						
DAVOX				PKPab	**PKPab**	**20 06 23.1**	**+2.7**
	comp=Z,8.6nm,0.9s,baz=314,slow=4.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**166.00**	**229**	PKP	**PKPdf**	**20 06 23.9**	**+0.6**
	comp=Z,1.5nm,1.1s,baz=14,slow=2.2,SNR=6.0						
TORD				PKPab	**PKPab**	**20 07 23.1**	**-0.4**
	comp=Z,2.0nm,1.1s,baz=113,slow=3.6,SNR=4.6						

IDC 21 19:47:10.6±2.1, **22.°92S**×**170.°96E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, ML4.3/1, MS4.0/3, Ms1 4.0/3, ms1mx3.6/25, Error ellipse: s-maj=86.4km s-min=31.4km az=166.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.26**	**281**	Pn	Pn	19 48 16.9	0.0
	17nm,0.3s,baz=138,slow=23,SNR=4.4						
DZM				Sn	Sn	19 49 06.7	-0.8
	5.9nm,0.3s,baz=115,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**33.98**	**261**	P	P	19 53 56.8	+0.6
	1.0nm,0.8s,baz=95,slow=9.0,SNR=2.9						
WRA	**Warramunga Arr**	**34.16**	**268**	P	P	19 53 56.7	-1.1
	0.7nm,0.8s,baz=97,slow=8.2,SNR=6.1						
FITZ	**Fitzroy Crossi**	**42.59**	**268**	P	P	19 55 08.7	0.0
	3.8nm,0.8s,baz=328,slow=6.9,SNR=2.9						
MJAR	**Matsushiro Arr**	**66.74**	**332**	LR	LR	20 20 13.6	
	comp=Z,95nm,21.1s,baz=45,slow=30						
CMAR	**Chiang Mai Arr**	**81.47**	**294**	P	P	19 59 30.9	+0.7
	1.6nm,0.9s,baz=127,slow=4.0,SNR=4.6						
BBB	**Bella Bella**	**91.68**	**33**	LR	LR	20 37 22.7	
	comp=Z,97nm,19.4s,baz=245,slow=33						
TXAR	**Lajitas Array**	**97.11**	**61**	LR	LR	20 37 03.9	
	comp=Z,73nm,18.1s,baz=95,slow=31						
BRG	**Berggiesshubel**	**146.86**	**333**	*e*	PKPbc	20 06 53.2	-1.4
	9.2nm,1.1s						
CLL	**Collm**	**146.91**	**334**	*i* (PKP)	PKPdf	20 06 53.3	+0.4
	comp=Z,5.0nm,0.8s						
CLL				*e*		20 07 00.0	
GERES	**GERESS Array B**	**148.47**	**331**	PKPbc	PKPbc	20 06 57.7	-1.6
	comp=Z,1.5nm,0.8s,baz=43,slow=2.7,SNR=4.3						
DAVOX	**Davos/Dischmat**	**151.72**	**332**	PKPbc	PKPbc	20 07 06.2	-1.2
	comp=Z,3.8nm,0.6s,baz=52,slow=2.8,SNR=4.0						
DAVOX				PKPab	PKPab	20 07 17.1	+1.0
	comp=Z,5.2nm,0.7s,baz=355,slow=11,SNR=3.1						

JMA 21 20:01:19.9±0.1, **43.°06N**×**145.°50E, h52km**±1km, **M3.5, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.35**	**30**	P	Pn	20 01 29.5	-0.2
NEM2				*e*S	Sn	20 01 36.3	-0.4
JAK	**Akkeshi**	**0.59**	**264**	P	Pn	20 01 32.3	-0.1
JAK				*e*S	Sn	20 01 40.8	-0.6
JNK	**Nakash**	**0.78**	**313**	P	Pn	20 01 34.5	-0.2
JNK				*e*S	Sn	20 01 44.6	-0.9
JRA	**Rausu**	**0.92**	**343**	P	Pn	20 01 36.6	0.0
JRA				*e*S	Sn	20 01 49.1	+0.3
JOB	**Onbets**	**1.23**	**263**	P	Pn	20 01 40.8	0.0
JOB				*e*S	Sn	20 01 56.4	+0.1
JAR	**Ashorobuto**	**1.29**	**281**	P	Pn	20 01 41.8	+0.3
JAR				*e*S	Sn	20 01 58.1	+0.4
JTKR	**Abashiri--Toko**	**1.47**	**309**	P	Pn	20 01 44.8	+0.8
JTKR				*e*S	Sn	20 02 03.1	+0.9

ISCJB ***21*** *20:07:00.9±0.2, 42.°90N±0.°02×1.°14W±0.°02, h26km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=155.5*
CSEM ***21*** *20:07:00.5±0.1, 42.°86N×1.°05W, h5km, ML3.2/27, Error ellipse: s-maj=2.3km s-min=1.6km az=159.0*
MDD ***21*** *20:07:01.6±0.2, 42.°86N×1.°07W, h2km±2km, mbLg2.8/42, Error ellipse: s-maj=2.0km s-min=1.5km az=173.0, PRXIMO*
INMG ***21*** *20:07:02.1±1.5, 42.°84N×1.°09W, h3km±3km, ML2.7, Error ellipse: s-maj=2.1km s-min=2.1km az=26.0*
LDG ***21*** *20:07:02.0±0.1, 42.°86N×1.°06W, h2km, Md3.1/2, Ml3.3/21, Error ellipse: s-maj=1.3km s-min=1.0km az=148.0*

ISC 21 20:07:00.6±0.8, **42.°87N**±0.°02×**1.°06W**±0.°01, **h18km**±2km, **n194,** σ1**9**±**44**/306, **4C-3D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IEPA	**Eparoz**	**0.18**	**238**	⇓Pg	**Pb**	**20 07 04.9**	**0.0**
	348n

CSOR	**Sort**	**1.69**	**106**	Pn	**Pb**	**20 07 32.4**	**+1.1**
	0.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.77**	**282**	Pg	**Pb**	**20 07 33.6**	**+1.0**
	2.4nm,0.1s,SNR=87						
ELAN				Lg	Lg	20 07 57.6	
	28nm,0.2s,SNR=7.8						
ELAN	**Lanestosa**	**1.77**	**282**	Pg	**Pb**	**20 07 33.6**	**+1.0**
	2.4nm,0.1s,SNR=87						
ELAN				Lg	Lg	20 07 57.6	
	28nm,0.2s,SNR=7.8						
EMIR	**Miracle**	**2.14**	**116**	Pn	**Pb**	**20 07 38.0**	**-0.9**
	4.6nm,0.1s,SNR=37						
EMIR				Pg	**Pg**	**20 07 40.9**	**-0.8**
	9.3nm,0.1s,SNR=16						
EMIR				Lg	Lg	20 08 09.3	
	112nm,0.4s,SNR=12						
EMIR	**Miracle**	**2.14**	**116**	Pn	**Pb**	**20 07 38.0**	**-0.9**
	4.6nm,0.1s,SNR=37						
ERTA	**Horta de San J**	**2.18**	**151**	Pn	**Pn**	**20 07 37.1**	**+1.1**
	4.5nm,0.2s,SNR=31						
ERTA				Pg	**Pg**	**20 07 43.5**	**+1.1**
	4.2nm,0.1s,SNR=16						
ERTA				Lg	Lg	20 08 09.1	
	19nm,0.2s						
ERTA	**Horta de San J**	**2.18**	**151**	Pn	**Pn**	**20 07 37.1**	**+1.1**
	4.5nm,0.2s,SNR=31						
ETOR	**Torete**	**2.18**	**200**	Pn	**Pn**	**20 07 37.5**	**+1.5**
	20nm,0.1s,SNR=34						
ETOR				Pg	**Pg**	**20 07 42.8**	**+0.3**
	39nm,0.2s,SNR=20						
ETOR				Sn	**Sb**	**20 08 05.3**	**-1.0**
	43nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	20 08 10.6	
	168nm,0.2s,SNR=5.0						
ETOR	**Torete**	**2.18**	**200**	Pn	**Pn**	**20 07 37.5**	**+1.5**
	20nm,0.1s,SNR=34						
EPOB	**Poblet**	**2.20**	**133**	Pn	**Pn**	**20 07 37.8**	**+1.5**
	1.9nm,0.1s,SNR=22						
EPOB				Pg	**Pg**	**20 07 41.8**	**-1.0**
	6.6nm,0.2s,SNR=15						
EPOB				Sn	**Sn**	**20 08 04.7**	**+1.6**
	6.5nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	20 08 09.3	
	22nm,0.2s						
EPOB	**Poblet**	**2.20**	**133**	Pn	**Pn**	**20 07 37.8**	**+1.5**
	1.9nm,0.1s,SNR=22						
CLLI	**Llivia**	**2.27**	**99**	Pg	**Pb**	**20 07 42.6**	**+1.4**
	0.3nm,0.2s,SNR=41						
CLLI				Lg	Lg	20 08 14.6	
	21nm,0.3s,SNR=19						
CLLI	**Llivia**	**2.27**	**99**	Pg	**Pb**	**20 07 42.6**	**+1.4**
	0.3nm,0.2s,SNR=41						
CLLI				Lg	Lg	20 08 14.6	
	21nm,0.3s,SNR=19						
VALF	**Valcebollere**	**2.32**	**101**	Pg	**Pg**	**20 07 44.6**	**-0.5**
CARF	**Carcanieres**	**2.34**	**93**	Pg	**Pg**	**20 07 44.5**	**-1.0**
CARF				Sg	**Sg**	**20 08 17.8**	**+2.0**
LFF	**La Frestale**	**2.44**	**32**	*e*Pn	**Pn**	**20 07 41.7**	**+2.1**
	SNR=1.0						
LFF	**La Frestale**	**2.44**	**32**	*e*Pg	**Pg**	**20 07 47.1**	**-0.4**
LFF				*e*Sn	**Sn**	**20 08 09.8**	**+0.8**
LFF				*e*Sg	**Sg**	**20 08 19.0**	**-0.2**
	28nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**2.44**	**32**	Pn	**Pn**	**20 07 41.7**	**+2.1**
LFF	**La Frestale**	**2.44**	**32**	Pg	**Pg**	**20 07 47.1**	**-0.4**
LFF				Sn	**Sn**	**20 08 09.8**	**+0.8**
LFF				*e*Sg	**Sg**	**20 08 19.0**	**-0.2**
	14nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.45**	**78**	*e*Pn	**Pn**	**20 07 42.0**	**+2.4**
	SNR=1.0						
MTLF	**Montolieu**	**2.45**	**78**	*e*P	**Pb**	**20 07 43.6**	**-0.5**
MTLF	**Montolieu**	**2.45**	**78**	*e*Pg	**Pg**	**20 07 47.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**20 08 09.3**	**+0.2**
	19nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.45**	**78**	Pn	**Pn**	**20 07 42.0**	**+2.4**
MTLF	**Montolieu**	**2.45**	**78**	*e*P	**Pb**	**20 07 43.6**	**-0.5**
MTLF	**Montolieu**	**2.45**	**78**	Pg	**Pg**	**20 07 47.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**20 08 09.3**	**+0.2**
	9.6nm,0.2s,SNR=1.0						
EMOS	**Mosqueruela**	**2.54**	**170**	Pn	**Pn**	**20 07 43.0**	**+1.8**
	0.7nm,0.1s,SNR=25						
EMOS				Pg	**Pg**	**20 07 48.4**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**20 08 11.3**	**-0.4**
	5.0nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	20 08 19.8	
	6.2nm,0.2s,SNR=14						
EMOS	**Mosqueruela**	**2.54**	**170**	Pn	**Pn**	**20 07 43.0**	**+1.8**
	0.7nm,0.1s,SNR=25						
FILF	**Fillols**	**2.69**	**95**	Pg	**Pb**	**20 07 50.5**	**+2.3**
CFON	**Fontmartina**	**2.82**	**112**	Pn	**Pn**	**20 07 46.8**	**+2.0**
	3.1nm,0.2s,SNR=34						
CFON				Lg	Lg	20 08 29.2	
	79nm,0.3s						
CFON	**Fontmartina**	**2.82**	**112**	Pn	**Pn**	**20 07 46.8**	**+2.0**
	3.1nm,0.2s,SNR=34						
CFON				Lg	Lg	20 08 29.2	
	79nm,0.3s						
SJAF	**Saint Jean de**	**2.93**	**96**	Pg	**Pg**	**20 07 55.8**	**-1.0**
EJON	**La Jonquera**	**2.94**	**97**	Pn	**Pn**	**20 07 48.8**	**+2.3**
	0.3nm,0.1s,SNR=7.9						
EJON				⇑Pg	**Pg**	**20 07 56.3**	**-0.8**
	11nm,0.3s,SNR=18						
EJON				Sn	**Sb**	**20 08 25.6**	**-2.6**
	4.5nm,0.2s,SNR=7.9						
EJON				Lg	Lg	20 08 35.6	
	28nm,0.4s,SNR=5.3						
EJON	**La Jonquera**	**2.94**	**97**	Pn	**Pn**	**20 07 48.8**	**+2.3**
	0.3nm,0.1s,SNR=7.9						
CAF	**Calviac**	**3.05**	**47**	*e*Pn	**Pn**	**20 07 49.4**	**+1.4**
	SNR=1.0						
CAF	**Calviac**	**3.05**	**47**	*e*P	**Pb**	**20 07 52.2**	**-2.2**
CAF				*e*Sn	**Sn**	**20 08 24.2**	**+0.1**
	18nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.05**	**47**	Pn	**Pn**	**20 07 49.4**	**+1.4**
CAF	**Calviac**	**3.05**	**47**	*e*P	**Pb**	**20 07 52.2**	**-2.2**
CAF				*e*Sn	**Sn**	**20 08 24.2**	**+0.1**
	8.8nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.06**	**36**	*e*Pn	**Pn**	**20 07 49.3**	**+1.2**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.06**	**36**	*e*P	**Pb**	**20 07 52.4**	**-2.1**
RJF				*e*Sn	**Sn**	**20 08 24.7**	**+0.5**
	29nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.06**	**36**	Pn	**Pn**	**20 07 49.3**	**+1.2**
RJF	**Les Rejaudoux**	**3.06**	**36**	*e*P	**Pb**	**20 07 52.4**	**-2.1**
RJF				*e*Sn	**Sn**	**20 08 24.7**	**+0.5**
	15nm,0.2s,SNR=1.0						
EARI	**Arriondas**	**3.07**	**279**	Pn	Pn	20 07 51.4	+3.2
	0.7nm,0.1s,SNR=9.9						
EARI				Sn	**Sn**	**20 08 27.2**	**+2.7**
	7.2nm,0.4s,SNR=8.1						
EARI	**Arriondas**	**3.07**	**279**	Pn	Pn	20 07 51.4	+3.2
	0.7nm,0.1s,SNR=9.9						
EARI				Sn	**Sn**	**20 08 27.2**	**+2.7**
	7.2nm,0.4s,SNR=8.1						
GUD	**Guadarrama**	**3.21**	**227**	Pn	**Pn**	**20 07 52.0**	**+1.8**
	1.5nm,0.2s,SNR=27						
GUD				Sn	**Sn**	**20 08 29.2**	**+1.1**
	5.8nm,0.3s,SNR=6.4						
GUD				Lg	Lg	20 08 42.3	
	5.9nm,0.2s,SNR=5.9						
GUD	**Guadarrama**	**3.21**	**227**	Pn	**Pn**	**20 07 52.0**	**+1.8**
	1.5nm,0.2s,SNR=27						
GUD				Sn	**Sn**	**20 08 29.2**	**+1.1**
	5.8nm,0.3s,SNR=6.4						
GUD				Lg	Lg	20 08 42.3	
	5.9nm,0.2s,SNR=5.9						
ECHE	**Chera**	**3.28**	**179**	Pg	**Pg**	**20 08 02.7**	**-0.8**
	2.1nm,0.2s,SNR=7.0						
ECHE				Lg	Lg	20 08 42.4	
	6.0nm,0.2s,SNR=5.4						
ECHE	**Chera**	**3.28**	**179**	Pg	**Pg**	**20 08 02.7**	**-0.8**
	2.1nm,0.2s,SNR=7.0						
ECHE				Lg	Lg	20 08 42.4	
	6.0nm,0.2s,SNR=5.4						
LASF	**Ste Croix**	**3.78**	**70**	*e*Pn	**Pn**	**20 08 00.2**	**+2.3**
	SNR=1.0						
LASF	**Ste Croix**	**3.78**	**70**	*e*Pg	**Pg**	**20 08 11.9**	**-1.1**
LASF				*e*Sn	**Sn**	**20 08 40.8**	**-1.1**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**20 09 00.3**	**-1.6**
	19nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.78**	**70**	Pn	**Pn**	**20 08 00.2**	**+2.3**
LASF	**Ste Croix**	**3.78**	**70**	Pg	**Pg**	**20 08 11.9**	**-1.1**
LASF				Sn	**Sn**	**20 08 40.8**	**-1.1**
LASF				*e*Sg	**Sg**	**20 09 00.3**	**-1.6**
	9.6nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**3.79**	**10**	*e*Pn	**Pn**	**20 07 59.2**	**+1.2**
	SNR=1.0						
MFF	**Saint Martin d**	**3.79**	**10**	*e*P	Pb	20 08 02.9	-4.0
MFF				*e*Sn	**Sn**	**20 08 41.9**	**-0.2**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**20 09 01.7**	**-0.5**
	12nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.79**	**10**	Pn	**Pn**	**20 07 59.2**	**+1.2**
MFF	**Saint Martin d**	**3.79**	**10**	*e*P	Pb	20 08 02.9	-4.0
MFF				Sn	**Sn**	**20 08 41.9**	**-0.2**
MFF				*e*Sg	**Sg**	**20 09 01.7**	**-0.5**
	6.2nm,0.3s,SNR=1.0						
ESDC	**Sonseca Array**	**3.87**	**215**	Pn	**Pn**	**20 07 59.8**	**+0.5**
	0.8nm,0.1s,baz=39,slow=13,SNR=17						
ESDC				Pg	**Pb**	**20 08 11.1**	**+2.7**
	1.8nm,0.2s,baz=38,slow=14,SNR=7.1						
ESDC				Sn	**Sn**	**20 08 44.0**	**-0.3**
	3.1nm,0.2s,baz=38,slow=24,SNR=8.0						
ESDC				Lg	Lg	20 09 02.1	
	5.1nm,0.5s,baz=27,slow=27,SNR=3.7						
ESDC	**Sonseca Array**	**3.87**	**215**	Pn	**Pn**	**20 07 59.8**	**+0.5**
	0.8nm,0.1s,slow=13,SNR=17						
ESDC				Sn	**Sn**	**20 08 44.0**	**-0.3**
	3.1nm,0.2s,slow=24,SNR=8.0						
ESDC				Lg	Lg	20 09 02.1	
	5.1nm,0.5s,SNR=3.7						
LBL	**Lubilhac**	**3.90**	**51**	Pn	**Pn**	**20 07 59.8**	**+0.1**
TCF	**Toulx Ste Croi**	**4.14**	**33**	*e*Pn	**Pn**	**20 08 04.2**	**+1.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 08 50.8**	**0.0**
	18nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.14**	**33**	Pn	**Pn**	**20 08 04.2**	**+1.3**
TCF				*e*Sn	**Sn**	**20 08 50.8**	**0.0**
	8.9nm,0.3s,SNR=1.0						
ETOB	**Tobarra**	**4.24**	**185**	Pn	**Pn**	**20 08 05.5**	**+1.2**
	0.2nm,0.1s,SNR=7.3						
ETOB				Pg	Pb	20 08 18.2	+3.6
	0.7nm,0.2s,SNR=5.5						
ETOB				Lg	Lg	20 09 16.8	
	1.4nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.24**	**185**	Pn	**Pn**	**20 08 05.5**	**+1.2**
	0.2nm,0.1s,SNR=7.3						
ETOB				Lg	Lg	20 09 16.8	
	1.4nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**4.25**	**154**	Pn	**Pn**	**20 08 04.7**	**+0.3**
	3.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**4.25**	**154**	Pn	**Pn**	**20 08 04.7**	**+0.3**
	3.0nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**4.26**	**135**	Pn	**Pn**	**20 08 06.0**	**+1.5**
	0.7nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**4.26**	**135**	Pn	**Pn**	**20 08 06.0**	**+1.5**
	0.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.30**	**259**	Pn	**Pn**	**20 08 07.0**	**+1.8**
	2.7nm,0.2s,SNR=14						
ECAL				Sn	**Sn**	**20 08 55.7**	**+0.7**
	6.4nm,0.3s,SNR=7.9						
ECAL				Lg	Lg	20 09 17.8	
	26nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**4.30**	**259**	Pn	**Pn**	**20 08 07.0**	**+1.8**
	2.7nm,0.2s,SNR=14						
ECAL				Sn	**Sn**	**20 08 55.7**	**+0.7**
	6.4nm,0.3s,SNR=7.9						
ECAL				Lg	Lg	20 09 17.8	
	26nm,0.4s,SNR=4.0						
PBRG	**Braganca**	**4.34**	**258**	*e*Pn	**Pn**	**20 08 08.1**	**+2.4**
PBRG				*e*Sn	**Sn**	**20 08 56.7**	**+0.8**
PBRG				A	A	20 09 25.9	
	9.4nm,0.4s						
PBRG	**Braganca**	**4.34**	**258**	Pn	**Pn**	**20 08 08.1**	**+2.4**
PBRG				Sn	**Sn**	**20 08 56.7**	**+0.8**
	4.7nm,0.4s						
PBRG	**Braganca**	**4.34**	**258**	Pn	**Pn**	**20 08 08.1**	**+2.4**
PBRG				*e*Sn	**Sn**	**20 08 56.7**	**+0.8**
	9.4nm,0.4s						
EVIA	**Vianos**	**4.37**	**195**	Pn	**Pn**	**20 08 08.1**	**+2.0**
	2.7nm,0.2s,SNR=7.9						
EVIA				Lg	Lg	20 09 19.5	
	4.3nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.37**	**195**	Pn	**Pn**	**20 08 08.1**	**+2.0**
	2.7nm,0.2s,SNR=7.9						
EVIA				Lg	Lg	20 09 19.5	
	4.3nm,0.3s,SNR=7.9						
AGO	**Saint Agoulin**	**4.37**	**42**	Pn	**Pn**	**20 08 07.2**	**+1.1**
EPON	**Pontenova**	**4.48**	**278**	Pn	**Pn**	**20 08 10.5**	**+2.9**
	0.8nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**20 09 03.1**	**+3.9**
	7.8nm,0.3s,SNR=6.5						
EPON	**Pontenova**	**4.48**	**278**	Pn	**Pn**	**20 08 10.5**	**+2.9**
	0.8nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**20 09 03.1**	**+3.9**
	7.8nm,0.3s,SNR=6.5						
ERUA	**La Rua**	**4.51**	**266**	Pn	**Pn**	**20 08 10.7**	**+2.7**
	SNR=7.9						
ERUA	**La Rua**	**4.51**	**266**	Pn	**Pn**	**20 08 10.7**	**+2.7**
	SNR=7.9						
VIVF	**Saint-Julien-l**	**4.60**	**62**	*e*Pn	**Pn**	**20 08 10.6**	**+1.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**4.60**	**62**	*e*P	Pn	20 08 14.3	+5.1
VIVF				*e*Sn	**Sn**	**20 09 01.2**	**-0.9**
	13nm,0.5s						
VIVF	**Saint-Julien-l**	**4.60**	**62**	Pn	**Pn**	**20 08 10.6**	**+1.4**
VIVF	**Saint-Julien-l**	**4.60**	**62**	*e*P	Pn	20 08 14.3	+5.1
VIVF				*e*Sn	**Sn**	**20 09 01.2**	**-0.9**
	6.6nm,0.5s						
BGF	**Bois d'Agland**	**4.62**	**36**	*e*Pn	**Pn**	**20 08 10.5**	**+1.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 09 02.1**	**-0.5**
BGF				*e*Sg	**Sg**	**20 09 26.8**	**-2.0**
	28nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.62**	**36**	Pn	**Pn**	**20 08 10.5**	**+1.0**
BGF				Sn	**Sn**	**20 09 02.1**	**-0.5**
BGF				*e*Sg	**Sg**	**20 09 26.8**	**-2.0**
	14nm,0.4s,SNR=1.0						
EPLA	**Plasencia**	**4.70**	**235**	Pn	**Pn**	**20 08 11.8**	**+1.2**
	0.6nm,0.2s,SNR=6.3						
EPLA				Sn	**Sn**	**20 09 03.7**	**-1.0**
	2.7nm,0.3s,SNR=7.9						
EPLA				Lg	Lg	20 09 29.3	
	2.1nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.70**	**235**	Pn	**Pn**	**20 08 11.8**	**+1.2**
	0.6nm,0.2s,SNR=6.3						
EPLA				Sn	**Sn**	**20 09 03.7**	**-1.0**
	2.7nm,0.3s,SNR=7.9						
EPLA				Lg	Lg	20 09 29.3	
	2.1nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.76**	**251**	*e*Pn	**Pn**	**20 08 13.4**	**+1.9**
MVO				*e*Sn	**Sn**	**20 09 06.7**	**+0.5**
MVO				*e*Sg	**Sg**	**20 09 31.6**	**-1.8**
MVO				A	A	20 09 42.4	
	20nm,0.5s						
MVO	**Moncorvo**	**4.76**	**251**	Pn	**Pn**	**20 08 13.3**	**+1.9**
	1.3nm,0.2s,SNR=9.9						
MVO				Pg	**Pg**	**20 08 29.3**	**-2.4**
	2.1nm,0.2s,SNR=7.9						
MVO				Sn	**Sn**	**20 09 06.3**	**+0.1**
	11nm,0.2s,SNR=7.9						
MVO				Lg	Lg	20 09 29.4	
	13nm,0.4s						
MVO	**Moncorvo**	**4.76**	**251**	Pn	**Pn**	**20 08 13.3**	**+1.8**
	1.3nm,0.2s,SNR=9.9						
MVO				*e*Sn	**Sn**	**20 09 06.7**	**+0.5**
MVO				Lg	Lg	20 09 29.4	
	13nm,0.4s						
MVO				*e*Sg	**Sg**	**20 09 31.6**	**-1.8**
	20nm,0.5s						
SMRF	**Simiane la Rot**	**4.96**	**75**	*e*P	Pn	20 08 19.6	+5.4
SMRF	**Simiane la Rot**	**4.96**	**75**	*e*P	Pn	20 08 19.6	+5.4
AVF	**Avril sur Loir**	**5.02**	**37**	*e*Pn	**Pn**	**20 08 16.0**	**+1.0**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**20 09 11.2**	**-1.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 09 40.3**	**-1.4**
	5.2nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**5.02**	**37**	Pn	**Pn**	**20 08 16.0**	**+1.0**
AVF				Sn	**Sn**	**20 09 11.2**	**-1.3**
AVF				*e*Sg	**Sg**	**20 09 40.3**	**-1.4**
	2.6nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**5.12**	**30**	*e*Pn	**Pn**	**20 08 17.7**	**+1.4**
HYF				*e*Sn	**Sn**	**20 09 13.7**	**-1.2**
HYF	**Humbligny**	**5.12**	**30**	Pn	**Pn**	**20 08 17.7**	**+1.4**
HYF				Sn	**Sn**	**20 09 13.7**	**-1.2**
SMF	**Signal de Mont**	**5.14**	**41**	*e*Pn	**Pn**	**20 08 17.5**	**+0.9**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 09 14.4**	**-1.1**
	8.5nm,0.5s						
SMF	**Signal de Mont**	**5.14**	**41**	Pn	**Pn**	**20 08 17.5**	**+0.9**
SMF				*e*Sn	**Sn**	**20 09 14.4**	**-1.1**
	4.2nm,0.5s						
PVRL	**Vila Real**	**5.20**	**254**	*e*Sn	**Sn**	**20 09 17.4**	**+0.3**
PVRL				*e*Sg	**Sg**	**20 09 43.3**	**-4.2**
PVRL				A	A	20 09 45.7	
	9.0nm,0.6s						
PVRL	**Vila Real**	**5.20**	**254**	Sn	**Sn**	**20 09 17.4**	**+0.3**
PVRL				Lg	Lg	20 09 43.3	
	4.5nm,0.6s						
PVRL	**Vila Real**	**5.20**	**254**	Sn	**Sn**	**20 09 17.4**	**+0.3**
PVRL				Lg	Lg	20 09 43.3	
	4.5nm,0.6s						
POLO	**Lamas de Olo**	**5.22**	**256**	*e*Pn	**Pn**	**20 08 19.6**	**+1.7**
POLO				*e*Sn	**Sn**	**20 09 18.4**	**+0.7**
POLO				A	A	20 09 52.8	
	4.0nm,0.4s						
POLO	**Lamas de Olo**	**5.22**	**256**	*e*Pn	**Pn**	**20 08 19.6**	**+1.7**
POLO				*e*Sn	**Sn**	**20 09 18.4**	**+0.7**
	4.0nm,0.4s						
QUIF	**Quistinic**	**5.26**	**344**	*e*Pn	**Pn**	**20 08 20.1**	**+1.9**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**20 09 17.8**	**-0.5**
	8.0nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**5.26**	**344**	Pn	**Pn**	**20 08 20.1**	**+1.9**
QUIF				*e*Sn	**Sn**	**20 09 17.8**	**-0.5**
	4.0nm,0.2s,SNR=1.0						
ELOB	**Lobios**	**5.28**	**261**	Pn	**Pn**	**20 08 20.8**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
ELOB				Pg	**Pg**	**20 08 39.3**	**-2.4**
	0.4nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**20 09 18.6**	**-0.5**
	2.1nm,0.2s,SNR=4.0						
ELOB				Lg	Lg	20 09 48.1	
	3.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.28**	**261**	Pn	**Pn**	**20 08 20.8**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**20 09 18.6**	**-0.5**
	2.1nm,0.2s,SNR=4.0						
ELOB				Lg	Lg	20 09 48.1	
	3.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.29**	**198**	Pn	**Pn**	**20 08 20.8**	**+2.0**
	0.4nm,0.2s,SNR=9.2						
EQES				Pg	**Pg**	**20 08 39.5**	**-2.4**
	1.4nm,0.2s,SNR=7.9						
EQES				Lg	Lg	20 09 48.5	
	7.6nm,0.5s,SNR=7.9						
EQES	**Quesada**	**5.29**	**198**	Pn	**Pn**	**20 08 20.8**	**+2.0**
	0.4nm,0.2s,SNR=9.2						
EQES				Lg	Lg	20 09 48.5	
	7.6nm,0.5s,SNR=7.9						
PCAB	**Cabril**	**5.29**	**260**	*e*Pn	**Pn**	**20 08 20.7**	**+1.9**
PCAB				*e*Sn	**Sn**	**20 09 18.3**	**-1.0**
PCAB				A	A	20 09 50.3	
	7.0nm,0.6s						
PCAB	**Cabril**	**5.29**	**260**	Pn	**Pn**	**20 08 20.7**	**+1.9**
PCAB				Sn	**Sn**	**20 09 18.3**	**-1.0**
	3.5nm,0.6s						
PCAB	**Cabril**	**5.29**	**260**	Pn	**Pn**	**20 08 20.7**	**+1.9**
PCAB				*e*Sn	**Sn**	**20 09 18.3**	**-1.0**
	7.0nm,0.6s						
SSF	**Saint Saulge**	**5.30**	**36**	*e*Pn	**Pn**	**20 08 19.5**	**+0.7**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 09 18.4**	**-0.9**
	14nm,0.5s						
SSF	**Saint Saulge**	**5.30**	**36**	Pn	**Pn**	**20 08 19.5**	**+0.7**
SSF				*e*Sn	**Sn**	**20 09 18.4**	**-0.9**
	6.8nm,0.5s						
EADA	**Adamuz**	**5.41**	**211**	Pn	**Pn**	**20 08 21.2**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**20 08 41.5**	**-2.7**
	0.4nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**20 09 20.4**	**-1.8**
	0.9nm,0.2s,SNR=7.9						
EADA				Lg	Lg	20 09 49.4	
	1.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.41**	**211**	Pn	**Pn**	**20 08 21.2**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EADA				Lg	Lg	20 09 49.4	
	1.3nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.41**	**263**	*e*Pn	**Pn**	**20 08 23.1**	**+2.6**
PGAV				*e*Sn	**Sn**	**20 09 22.9**	**+0.6**
PGAV				A	A	20 09 58.1	
	6.7nm,0.7s						
PGAV	**Gavieira, Arco**	**5.41**	**263**	*e*Pn	**Pn**	**20 08 23.1**	**+2.6**
PGAV				*e*Sn	**Sn**	**20 09 22.9**	**+0.6**
	6.7nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.42**	**65**	*e*P	Pn	20 08 25.6	+5.1
ORIF				*e*Sn	**Sn**	**20 09 21.5**	**-0.9**
	6.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**5.42**	**65**	*e*Sn	**Sn**	**20 09 21.5**	**-0.9**
	3.2nm,0.5s						
MTE	**Manteigas**	**5.45**	**245**	*e*Sn	**Sn**	**20 09 23.6**	**+0.4**
MTE				*e*Sg	**Sg**	**20 09 53.0**	**-2.4**
MTE				A	A	20 10 01.6	
	9.6nm,0.9s						
MTE	**Manteigas**	**5.45**	**245**	Sn	**Sn**	**20 09 23

MBDF	**Montbardon**	**5.96 69**	Pn	**Pn**	**20 08 29.6 +1.5**	
EBAD	**Badajoz**	**6.11 230**	Pn	**Pn**	**20 08 30.1 +0.2**	
	0.2nm,0.1s,SNR=7.9					
EBAD			Sn	**Sn**	**20 09 36.9 -2.3**	
	1.3nm,0.2s,SNR=7.9					
EBAD			Lg	Lg	20 10 13.4	
	1.1nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**6.11 230**	Pn	**Pn**	**20 08 30.1 +0.2**	
	0.2nm,0.1s,SNR=7.9					
EBAD			Lg	Lg	20 10 13.4	
	1.1nm,0.2s,SNR=7.9					
EBER	**Berja**	**6.13 194**	Pn	**Pn**	**20 08 32.9 +2.5**	
	0.4nm,0.1s,SNR=4.0					
EBER	**Berja**	**6.13 194**	Pn	**Pn**	**20 08 32.9 +2.5**	
	0.4nm,0.1s,SNR=4.0					
LPG	**La Plagne**	**6.20 62**	*e*P	Pn	20 08 37.2 +5.7	
ERON	**Agron**	**6.21 201**	Pn	Pn	20 08 35.4 +3.9	
	0.5nm,0.2s,SNR=7.9					
PESTR	**Estremoz**	**6.36 233**	*e*Pn	**Pn**	**20 08 34.4 +1.0**	
PESTR			*e*Sn	**Sn**	**20 09 44.9 -0.7**	
PESTR			A	A	20 10 29.1	
	5.2nm,0.6s					
PESTR	**Estremoz**	**6.36 233**	Pn	**Pn**	**20 08 34.4 +1.0**	
PESTR			Sn	**Sn**	**20 09 44.9 -0.7**	
	5.2nm,0.6s					
PESTR	**Estremoz**	**6.36 233**	Pn	**Pn**	**20 08 34.4 +1.0**	
PESTR			*e*Sn	**Sn**	**20 09 44.9 -0.7**	
	5.2nm,0.6s					
PBAR	**Barrancos**	**6.54 226**	*e*Pn	**Pn**	**20 08 38.4 +2.6**	
PBAR			*e*Sn	**Sn**	**20 09 48.6 -1.3**	
PBAR			A	A	20 10 41.0	
	6.3nm,0.5s					
PBAR	**Barrancos**	**6.54 226**	Pn	**Pn**	**20 08 38.4 +2.6**	
PBAR			Sn	**Sn**	**20 09 48.6 -1.3**	
	6.3nm,0.5s					
PBAR	**Barrancos**	**6.54 226**	Pn	**Pn**	**20 08 38.4 +2.6**	
PBAR			*e*Sn	**Sn**	**20 09 48.6 -1.3**	
	6.3nm,0.5s					
EMIN	**Mina Concepcio**	**6.66 222**	Pn	**Pn**	**20 08 37.4 -0.1**	
	0.1nm,0.1s,SNR=4.0					
EMIN			Sn	**Sn**	**20 09 48.5 -4.4**	
	0.7nm,0.6s,SNR=7.9					
EMIN			Lg	Lg	20 10 35.2	
	1.3nm,0.5s,SNR=4.0					
EMIN	**Mina Concepcio**	**6.66 222**	Pn	**Pn**	**20 08 37.4 -0.1**	
	0.1nm,0.1s,SNR=4.0					
EMIN			Lg	Lg	20 10 35.2	
	1.3nm,0.5s,SNR=4.0					
BAIF	**Baives**	**8.05 25**	*e*Pn	**Pn**	**20 08 57.6 +1.0**	
	SNR=1.0					
BAIF	**Baives**	**8.05 25**	Pn	**Pn**	**20 08 57.6 +1.0**	

*CSEM **21** 20:07:31.3±0.4,43.93N×17.29E,h2km,ML2.6,Error ellipse: s-maj=12.1km s-min=6.1km az=60.0*
*BEO **21** 20:07:32.1±0.8,43.99N×17.27E,h11km±5km,ML2.6/3*
ISC 21 20:07:30.3±1.4,**43.88N**±0.04×**17.19E**±0.06,**h0**km±17km,
n15,σ1s**22**/24,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.87**	**360**	*i* Pg	**Pg**	**20 07 47.1**	**+0.2**
BLY				*e*Sg	**Sg**	**20 07 57.7**	**-0.4**
BLY	**Banja Luka**	**0.87**	**360**	*i* Pg	**Pg**	**20 07 47.1**	**+0.2**
BLY				*e*Sg	**Sg**	**20 07 57.7**	**-0.4**
STON	**Ston**	**1.08**	**159**	*e*Pg	**Pg**	**20 07 48.7**	**-2.3**
STON				Sg	**Sg**	**20 08 04.6**	**-0.3**
STON	**Ston**	**1.08**	**159**	*e*Pg	**Pg**	**20 07 48.6**	**-2.3**
STON				Sg	**Sg**	**20 08 04.6**	**-0.3**
NVLJ	**Novalja**	**1.80**	**293**	*i* Pn	**Pn**	**20 08 03.5**	**+1.0**
NVLJ				Sn	**Sg**	**20 08 29.5**	**+1.5**
DIVS	**Divibare**	**2.04**	**83**	*e*Pn	**Pn**	**20 08 05.9**	**0.0**
DIVS				*e*Sg	**Sb**	**20 08 34.3**	**+0.2**
DIVS	**Divibare**	**2.04**	**83**	*e*Pn	**Pn**	**20 08 05.9**	**0.0**
DIVS				*e*Sg	**Sb**	**20 08 34.3**	**+0.2**
PDG	**Podgorica**	**2.10**	**133**	*e*Pn	**Pn**	**20 08 07.3**	**+0.7**
PDG				*e*Sg	**Sg**	**20 08 39.9**	**+2.3**
PDG	**Podgorica**	**2.10**	**133**	*e*Pn	**Pn**	**20 08 07.3**	**+0.7**
PDG				*e*Sg	**Sg**	**20 08 39.9**	**+2.3**
PKSM	**Moragy**	**2.55**	**23**	*e*Pn	**Pn**	**20 08 11.6**	**-1.2**
PKSM	**Moragy**	**2.55**	**23**	*e*Pn	**Pn**	**20 08 11.6**	**-1.2**
GRUS	**Gruza**	**2.55**	**89**	*e*Pn	**Pn**	**20 08 13.4**	**+0.5**
GRUS	**Gruza**	**2.55**	**89**	*e*Pn	**Pn**	**20 08 13.4**	**+0.5**
BARS	**Barje**	**3.54**	**106**	*e*Pn	**Pn**	**20 08 25.8**	**-0.7**
BARS	**Barje**	**3.54**	**106**	*e*Pn	**Pn**	**20 08 25.8**	**-0.7**

*NEIC **21** 20:49:42.5,36.70N×121.33W,h7km,MW3.5(BRK),After NCEDC.*
NEIC Felt [III] at Carmel Valley and [II] at Monterey and Salinas. Also felt at Hollister, Paicines and San Juan Bautista.
ISC 21 20:49:41.0±1.2,**36.67N**±0.04×**121.42W**±0.04,**h12**km±8km,
n32,σ1s**22**/39,**14C-6D,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.10**	**346**	*e*Pg	**Pg**	**20 49 44.6**	**+0.8**
SAC	**San Andreas**	**1.22**	**319**	*e*Pg	**Pb**	**20 50 03.6**	**-0.3**
CMB	**Columbia Colle**	**1.59**	**31**	*e*Pg	**Pn**	**20 50 09.3**	**+0.3**
CMB				*e*Sg	**Sn**	**20 50 28.7**	**-1.0**
SMMC	**Simmler**	**1.77**	**139**	⇓P	**Pn**	**20 50 11.7**	**+0.1**
	baz=1.8,SNR=18						
SMMC				⇑S	**Sn**	**20 50 34.4**	**+0.2**
	baz=1.8						
RCTC	**Rector, Farmer**	**1.79**	**101**	⇑S	**Sb**	**20 50 36.3**	**+0.1**
	baz=1.7						
MCCM	**Marconi Confer**	**1.88**	**322**	*e*Pn	**Pn**	**20 50 12.4**	**-0.5**
VES	**Vestal, Richgr**	**2.06**	**113**	P	**Pn**	**20 50 16.2**	**+0.8**
	baz=2.0,SNR=29						
VES				⇓S	**Sn**	**20 50 41.9**	**+0.9**
	baz=2.0						
PKM	**Peak Mountain**	**2.19**	**143**	⇑P	**Pn**	**20 50 17.7**	**+0.2**
	baz=2.2						
PKM				⇓S	**Sn**	**20 50 44.6**	**-0.1**
	baz=2.2						
MLAC	**Mammoth Lakes**	**2.27**	**64**	P	**Pn**	**20 50 21.1**	**+2.5**
	baz=2.2,SNR=46						
MLAC				⇑S	**Sg**	**20 50 52.5**	**-1.6**
	baz=2.2						
ISA	**Isabella**	**2.58**	**112**	*e*Pn	**Pn**	**20 50 24.0**	**+1.3**
ISA	**Isabella**	**2.58**	**112**	P	**Pn**	**20 50 24.3**	**+1.6**
	baz=2.5,SNR=73						
ISA				⇑S	**Sn**	**20 50 56.2**	**+2.1**
	baz=2.5						
TIN	**Tinemaha**	**2.59**	**80**	⇑Sb	**Sg**	**20 51 03.5**	**-0.5**
	baz=2.5						
HOPS	**Hopland**	**2.67**	**331**	*e*Pn	**Pn**	**20 50 23.9**	**+0.1**
CWC	**Cottonwood Cre**	**2.70**	**94**	⇑P	**Pn**	**20 50 26.7**	**+2.4**
	baz=2.6,SNR=66						
CWC				⇓S	**Sb**	**20 51 01.1**	**-1.3**
	baz=2.6						
WCN	**Washoe City**	**2.94**	**26**	*e*Pn	**Pn**	**20 50 27.6**	**-0.1**
WCN	**Washoe City**	**2.94**	**26**	⇑S	**Sb**	**20 51 08.9**	**-0.6**
	baz=2.9						
OSI	**Osito Adit**	**3.00**	**132**	*e*Pn	**Pn**	**20 50 27.0**	**-1.4**
BSC	**Santa Cruz Isl**	**3.04**	**151**	⇑S	**Sn**	**20 51 05.8**	**+0.5**
	baz=3.0						
BLG	**Laguna Peak**	**3.19**	**142**	⇓S	**Sn**	**20 51 09.3**	**+0.2**
	baz=3.2						
MPMC	**Manual Prospec**	**3.23**	**100**	⇑P	**Pn**	**20 50 33.4**	**+1.7**
	baz=3.2,SNR=40						
GRAC	**Grapevine Rang**	**3.26**	**83**	⇑P	**Pb**	**20 50 37.3**	**-1.5**
	baz=3.2,SNR=7.7						
EDW2	**Edwards Air Fo**	**3.31**	**122**	⇑P	**Pn**	**20 50 33.7**	**+1.0**
	baz=3.3,SNR=11						
KCPM	**Cahto Peak**	**3.46**	**331**	*e*Pn	**Pn**	**20 50 35.6**	**+0.7**
KIPM	**Iron Peak**	**3.53**	**333**	*e*Pn	**Pn**	**20 50 37.6**	**+1.8**
MWC	**Mount Wilson**	**3.67**	**131**	*e*Pn	**Pn**	**20 50 38.0**	**+0.3**
GSC	**Goldstone**	**3.98**	**109**	*e*Pn	**Pn**	**20 50 43.1**	**+1.1**
WDC	**Whiskeytown Da**	**4.01**	**348**	*e*Pn	**Pn**	**20 50 44.0**	**+1.8**
TUQ	**Turquoise Moun**	**4.62**	**104**	⇓P	**Pn**	**20 50 51.9**	**+1.2**
	baz=4.5						
GMRC	**Granite Mounta**	**5.05**	**110**	⇑P	**Pn**	**20 50 57.0**	**+0.3**
	baz=5.0,SNR=8.2						
PFO	**Pinyon Flat Ob**	**5.08**	**125**	*e*Pn	**Pn**	**20 50 58.8**	**+1.7**
BELC	**Belle Mtn. Jos**	**5.17**	**119**	⇑P	**Pn**	**20 50 59.0**	**+0.7**
	baz=5.1						
LDFC	**Landfair**	**5.36**	**105**	*e*Pn	**Pn**	**20 50 59.7**	**-1.2**
	14nm,0.8s						

*NEIC **21** 21:17:53.5±0.4,43.62N×105.22W,h0km,ML3.3,Error ellipse: s-maj=5.6km s-min=5.2km az=148.0,Suspected Mining explosion.*

NEIC 80 km [50 miles] SSE of Gillette.
*IDC **21** 21:17:53.2±1.8,43.60N×105.37W,h0km,mb4.0/3, mb1 3.9/8,mb1mx3.6/28,mbtmp3.7/8,ML3.4/4,Error ellipse: s-maj=51.3km s-min=7.7km az=151.0*
*ISCJB **21** 21:17:54.1±0.2,43.77N±0.01×105.39W±0.02,h0km, mb4.0/3,Error ellipse: s-maj=2.3km s-min=1.8km az=166.2*
ISC 21 21:17:53.4±0.6,**43.71N**±0.02×**105.35W**±0.02,**h0**km,**n148**,
σ1s**47**/224,**mb3.9/3,44C-53D,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.26**	**341**	P	**Pb**	**21 18 00.6**	**-0.6**
	baz=0.4,SNR=353						
I23A				⇓S	**Sg**	**21 18 03.3**	**+1.4**
	baz=0.4						
J23A	**Dilts Ranch, B**	**0.34**	**206**	⇓P	**Pb**	**21 18 02.7**	**+0.2**
	baz=0.3,SNR=114						
J23A				⇑S	**Sb**	**21 18 07.1**	**-1.5**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.54**	**74**	P	**Pg**	**21 18 05.0**	**+1.2**
	baz=0.5,SNR=257						
J24A	**Dixon Ranch, L**	**0.63**	**127**	⇑P	**Pb**	**21 18 07.0**	**-0.4**
	baz=0.5,SNR=55						
I22A	**9 Mile Ranch,**	**0.84**	**283**	P	**Pb**	**21 18 11.4**	**+0.4**
	baz=1.0,SNR=928						
H23A	**Clabaugh Cattl**	**0.85**	**357**	P	**Pg**	**21 18 10.5**	**+0.7**
	baz=1.0,SNR=36						
H23A				⇑S	**Sg**	**21 18 21.3**	**+0.5**
	baz=1.0						
J22A	**Midwest**	**0.88**	**250**	P	**Pb**	**21 18 11.8**	**+0.2**
	baz=0.9,SNR=104						
J22A				⇑S	**Sb**	**21 18 23.8**	**-0.1**
	baz=0.9						
RSSD	**Black Hills**	**1.03**	**66**	*e*P	**Pg**	**21 18 13.3**	**+0.1**
RSSD				*e*S	**Sb**	**21 18 29.1**	**+0.6**
K24A	**Anderson Ranch**	**1.06**	**158**	⇓P	**Pb**	**21 18 15.1**	**+0.3**
	baz=0.9,SNR=164						
H22A	**Clearmont**	**1.14**	**321**	P	**Pb**	**21 18 16.4**	**+0.3**
	baz=1.3,SNR=212						
H24A	**Dirks Ranch, A**	**1.18**	**29**	P	**Pg**	**21 18 16.0**	**-0.1**
	baz=1.2,SNR=204						
H24A				⇓S	**Sb**	**21 18 32.7**	**0.0**
	baz=1.2						
K22A	**Casper**	**1.37**	**220**	⇑P	**Pb**	**21 18 20.7**	**+0.8**
	baz=1.4,SNR=75						
I21A	**Big Trails, Te**	**1.41**	**275**	P	**Pn**	**21 18 20.5**	**-0.1**
	baz=1.5,SNR=574						
G23A	**Biddle**	**1.49**	**359**	⇑P	**Pn**	**21 18 21.6**	**0.0**
	baz=1.6,SNR=55						
H21A	**Big Horn, Sher**	**1.53**	**307**	P	**Pg**	**21 18 23.4**	**+0.7**
	baz=1.7,SNR=268						
H21A				⇑S	**Sg**	**21 18 44.2**	**+1.7**
	baz=1.7						
K25A	**Mack Ranch, Ha**	**1.54**	**135**	⇑P	**Pg**	**21 18 23.5**	**+0.6**
	baz=1.4,SNR=44						
J21A	**Lysite**	**1.57**	**257**	P	**Pg**	**21 18 23.6**	**+0.1**
	baz=1.6,SNR=80						
J21A				⇑Sb	**Sg**	**21 18 46.7**	**+2.9**
	baz=1.6						
L23A	**Garrett**	**1.62**	**189**	⇓P	**Pg**	**21 18 24.8**	**+0.4**
	baz=1.5,SNR=280						
L23A				⇑Sb	**Sg**	**21 18 48.5**	**+3.1**
	baz=1.5						
L24A	**Wheatland**	**1.69**	**170**	⇓P	**Pg**	**21 18 26.2**	**+0.3**
	baz=1.6,SNR=16						
L24A				⇓Sb	**Sg**	**21 18 50.6**	**+2.7**
	baz=1.6						
G24A	**Alzada**	**1.75**	**22**	⇓P	**Pb**	**21 18 26.2**	**-0.3**
	baz=1.8,SNR=51						
K21A	**Alcova**	**1.76**	**233**	⇓P	**Pg**	**21 18 27.5**	**+0.3**
	baz=1.8,SNR=126						
L25A	**Engebretsen Ra**	**1.86**	**146**	⇑Pb	**Pg**	**21 18 29.4**	**+0.4**
	baz=1.7						
L25A				⇓Sb	**Sg**	**21 18 55.1**	**+2.1**
	baz=1.7						
L22A	**Ellis Ranch, M**	**1.86**	**206**	⇓Pb	**Pg**	**21 18 29.5**	**+0.4**
	baz=1.8						
L22A				⇑Sb	**Sg**	**21 18 55.6**	**+2.5**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.88**	**122**	⇓P	**Pb**	**21 18 28.4**	**-0.3**
	baz=1.7						
F23A	**Volborg**	**2.01**	**359**	⇓P	**Pn**	**21 18 29.8**	**+1.1**
	baz=2.1,SNR=124						
G21A	**Lodge Grass**	**2.02**	**319**	⇑P	**Pb**	**21 18 30.3**	**-0.8**
	baz=2.1,SNR=62						
J20A	**Shoshoni**	**2.02**	**261**	⇓Pb	**Pg**	**21 18 32.5**	**+0.3**
	baz=2.1						
J20A				⇑Sb	**Sg**	**21 19 00.2**	**+1.8**
	baz=2.1						
I20A	**Worland**	**2.03**	**278**	⇓P	**Pb**	**21 18 31.2**	**0.0**
	baz=2.1,SNR=440						
H20A	**Greybull**	**2.06**	**293**	⇑P	**Pn**	**21 18 30.6**	**+1.1**
	baz=2.2,SNR=61						
F22A	**Rosebud**	**2.17**	**343**	⇑P	**Pn**	**21 18 31.4**	**+0.6**
	baz=2.3,SNR=101						
F24A	**Ekalaka**	**2.23**	**16**	⇑P	**Pn**	**21 18 33.2**	**+1.5**
	baz=2.3						
M23A	**Laramie**	**2.26**	**187**	⇓P	**Pb**	**21 18 34.6**	**-0.6**
	baz=2.2						
M23A				⇑Sb	**Sg**	**21 19 06.8**	**+0.8**
	baz=2.2						
M24A	**Cheyenne**	**2.27**	**170**	⇓P	**Pb**	**21 18 35.4**	**0.0**
	baz=2.2						
M24A				⇑Sb	**Sg**	**21 19 07.8**	**+1.3**
	baz=2.2						
L21A	**Rawlins**	**2.29**	**221**	⇑P	**Pb**	**21 18 35.4**	**-0.5**
	baz=2.3						
L26A	**Underwood Farm**	**2.36**	**134**	⇓P	**Pb**	**21 18 36.0**	**-0.9**
	baz=2.2						
PHWY	**Pilot Hill**	**2.41**	**182**	*e*Pn	**Pn**	**21 18 33.0**	**-1.4**
PHWY				*e*Pg	**Pb**	**21 18 37.3**	**-0.5**
PHWY				*e*Sg	**Sb**	**21 19 08.1**	**-0.1**
K20A	**Yellowstone Ra**	**2.43**	**245**	⇑P	**Pb**	**21 18 38.3**	**+0.2**
	baz=2.5						
K20A				⇑Sb	**Sg**	**21 19 11.9**	**+0.4**
	baz=2.5						
RWWY	**Rawlins**	**2.44**	**215**	Pn	**Pn**	**21 18 34.6**	**-0.2**
RWWY				*e*Pg	**Pg**	**21 18 39.9**	**-0.4**
RWWY				*e*Sg	**Sg**	**21 19 11.1**	**-0.8**
F21A	**Absaloka Mine,**	**2.46**	**330**	⇓P	**Pn**	**21 18 35.7**	**+0.8**
	baz=2.6,SNR=14						
M25A	**Palm-Egli Farm**	**2.47**	**157**	⇑P	**Pb**	**21 18 38.3**	**-0.4**
	baz=2.3						
M22A	**Cedar Creek Ra**	**2.48**	**202**	⇓P	**Pb**	**21 18 38.8**	**-0.3**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.49**	**113**	⇓P	**Pb**	**21 18 38.4**	**-0.7**
	baz=2.4						
K27A				⇓Sb	**Sg**	**21 19 12.4**	**-0.9**
	baz=2.4						
G20A	**Bridger**	**2.55**	**307**	P	**Pn**	**21 18 37.1**	**+1.0**
	baz=2.7,SNR=255						
M21A	**Separation Pea**	**2.58**	**216**	⇓P	**Pb**	**21 18 40.3**	**-0.4**
	baz=2.6						
I19A	**Meeteetse**	**2.66**	**278**	⇓P	**Pb**	**21 18 40.3**	**-1.7**
	baz=2.8						
J19A	**Crowheart**	**2.73**	**262**	⇑P	**Pb**	**21 18 42.3**	**-1.0**
	baz=2.8						
E22A	**Miles City**	**2.76**	**351**	⇓P	**Pn**	**21 18 39.5**	**+0.5**
	baz=2.9,SNR=10.0						
H19A	**Powell**	**2.79**	**291**	⇓P	**Pn**	**21 18 41.1**	**+1.6**
	baz=2.9,SNR=27						
N23A	**Red Feather La**	**2.85**	**189**	⇓P	**Pb**	**21 18 43.4**	**-1.9**
	baz=2.8						
F20A	**Billings**	**2.89**	**317**	P	**Pn**	**21 18 41.7**	**+0.9**
	baz=3.0,SNR=25						
N24A	**Carr**	**2.90**	**173**	⇑Pb	**Pb**	**21 18 47.6**	**+1.5**
	baz=2.8						
E24A	**Baker**	**2.94**	**14**	⇑P	**Pn**	**21 18 43.1**	**+1.6**
	baz=3.0,SNR=16						
N22A	**Wattenberg Ran**	**3.02**	**196**	⇓Pb	**Pb**	**21 18 49.4**	**+1.2**
	baz=3.0						
M20A	**Sweetwater, Wa**	**3.05**	**224**	⇓Pb	**Pb**	**21 18 50.4**	**+1.6**
	baz=3.0						
E21A	**Keefer Ranch,**	**3.08**	**337**	⇑P	**Pn**	**21 18 43.5**	**0.0**
	baz=3.2						
RLMT	**Red Lodge**	**3.14**	**298**	*e*Pn	**Pn**	**21 18 46.2**	**+1.9**
RLMT				*e*Pg	**Pg**	**21 18 53.3**	**-0.4**
RLMT				*e*S	**Sg**	**21 19 33.7**	**-0.7**
RLMT	**Red Lodge**	**3.14**	**298**	⇓P	**Pn**	**21 18 46.3**	**+1.9**
	baz=3.3,SNR=37						
RLMT				⇓P	**Pn**	**21 18 46.3**	**+1.9**
	baz=3.3,SNR=37						
BW06	**Boulder Array**	**3.22**	**254**	*e*Pn	**Pn**	**21 18 47.9**	**+2.4**
BW06				S	**Sb**	**21 19 32.7**	**+1.3**
BW06	**Boulder Array**	**3.22**	**254**	⇑P	**Pn**	**21 18 47.9**	**+2.4**
	baz=3.3,SNR=202						
BW06				⇑P	**Pn**	**21 18 47.9**	**+2.4**
	baz=3.3,SNR=202						
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**21 18 48.0**	**+2.5**
	4.9nm,0.3s,baz=69,slow=16,SNR=79						
PDAR				Pg	**Pb**	**21 18 53.3**	**+1.7**
	16nm,0.3s,baz=75,slow=18,SNR=63						
PDAR				Lg	Lg	21 19 32.8	
	21nm,0.3s,baz=79,slow=30,SNR=13						
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**21 18 48.0**	**+2.5**
PDAR				Pg	**Pb**	**21 18 53.3**	**+1.7**
PDAR				Lg	Lg	21 19 32.8	
PD02	**Pinedale Array**	**3.22**	**255**	*e*Pn	**Pn**	**21 18 48.1**	**+2.6**
PD02				*e*Sg	**Sb**	**21 19 33.0**	**+1.5**
I18A	**Diamond G Ranc**	**3.24**	**271**	⇑P	**Pb**	**21 18 49.6**	**-2.4**
	baz=3.3						
H18A	**Shoshone NF, C**	**3.25**	**289**	⇓P	**Pn**	**21 18 47.1**	**+1.2**
	baz=3.4,SNR=29						
N26A	**Koester Ranch,**	**3.28**	**151**	⇓P	**Pb**	**21 18 50.0**	**-2.6**
	baz=3.2						
F19A	**Roth Farm, Mol**	**3.34**	**311**	⇓P	**Pn**	**21 18 48.7**	**+1.7**
	baz=3.5,SNR=40						
L19A	**Farson**	**3.36**	**243**	⇓P	**Pn**	**21 18 50.6**	**+3.3**
	baz=3.4						
N21A	**Black Mountain**	**3.36**	**209**	⇓P	**Pn**	**21 18 50.7**	**+3.3**
	baz=3.3						
G18A	**Lazy EL Ranch,**	**3.42**	**299**	⇓P	**Pn**	**21 18 49.6**	**+1.5**
	baz=3.5,SNR=47						
E20A	**Meyer Farm, Mu**	**3.42**	**326**	⇑P	**Pn**	**21 18 47.9**	**-0.1**
	baz=3.5,SNR=14						
J18A	**Kendall Valley**	**3.44**	**263**	⇑P	**Pn**	**21 18 51.6**	**+3.1**
	baz=3.5						
D23A	**Lindsay**	**3.46**	**2**	⇑P	**Pn**	**21 18 50.0**	**+1.4**
	baz=3.6,SNR=32						
D24A	**Glendive**	**3.48**	**12**	⇓P	**Pn**	**21 18 50.7**	**+1.8**
	baz=3.6,SNR=39						
D22A	**Cohagen**	**3.49**	**351**	⇓P	**Pn**	**21 18 50.0**	**+1.0**
	baz=3.6,SNR=34						
D21A	**La Casta Ranch**	**3.55**	**341**	⇓P	**Pn**	**21 18 50.6**	**+0.8**
	baz=3.7,SNR=8.0						
E19A	**Rath Farm, Rou**	**3.67**	**320**	⇑P	**Pn**	**21 18 52.2**	**+0.6**
	baz=3.8,SNR=11						
OGNE	**Ogallala**	**3.70**	**137**	*e*Pn	**Pn**	**21 18 51.4**	**-0.5**
OGNE				*e*Pg	**Pg**	**21 19 03.7**	**-0.6**
OGNE				*e*Sg	**Sg**	**21 19 51.1**	**-1.1**
GCMT	**Greycliff**	**3.71**	**306**	*e*Pn	**Pn**	**21 18 54.0**	**+1.8**
GCMT				*e*Pg	**Pg**	**21 19 03.7**	**-0.9**
GCMT				*e*S	**Sg**	**21 19 51.5**	**-1.2**
LKWY	**Lake**	**3.74**	**285**	*e*Pn	**Pn**	**21 18 54.6**	**+2.0**
LKWY				*e*Pg	**Pg**	**21 19 05.5**	**+0.4**
LKWY				*e*Sn	**Sn**	**21 19 39.0**	**+1.6**
F18A	**Big Timber**	**3.81**	**307**	⇑P	**Pn**	**21 18 55.1**	**+1.7**
	baz=3.9,SNR=23						
LOHW	**Long Hollow**	**3.82**	**270**	*e*Pn	**Pn**	**21 18 56.2**	**+2.6**
LOHW				*e*Pg	**Pg**	**21 19 06.3**	**-0.2**
LOHW				*e*Sg	**Sg**	**21 19 54.6**	**-1.4**
C24A	**Savage**	**3.87**	**9**	⇓P	**Pn**	**21 18 56.0**	**+1.7**
	baz=4.0,SNR=11						
FLWY	**Flagg Ranch**	**3.89**	**277**	*e*Pn	**Pn**	**21 18 57.2**	**+2.6**
FLWY				*e*Pg	**Pg**	**21 19 07.3**	**-0.6**
FLWY				*e*S	**Sg**	**21 19 56.9**	**-1.4**
D20A	**Manuel Ranch,**	**3.91**	**331**	⇓P	**Pn**	**21 18 55.2**	**+0.4**
	baz=4.0,SNR=48						
ISCO	**Idaho Springs**	**3.91**	**183**	*e*Pn	**Pn**	**21 18 54.5**	**-0.5**
ISCO				*e*Pg	**Pg**	**21 19 07.6**	**-0.8**
ISCO				*e*Sg	**Sb**	**21 19 55.2**	**-3.7**
MOOW	**Moose Ponds**	**3.91**	**272**	*e*Pn	**Pn**	**21 18 57.1**	**+2.1**
MOOW				*e*Pg	**Pg**	**21 19 07.2**	**-1.3**
MOOW				*e*Sg	**Sg**	**21 19 58.0**	**-1.1**
SNOW	**Snow King Moun**	**3.94**	**268**	Pn	**Pn**	**21 18 58.3**	**+3.0**
SNOW				*e*Pg	Pg	21 19 12.2	+3.3
SNOW				S	**Sb**	**21 19 50.2**	**-1.9**
YNR	**Norris Junctio**	**3.96**	**287**	*e*Pn	**Pn**	**21 18 56.7**	**+1.0**
YNR				*e*Pg	**Pg**	**21 19 11.0**	**+1.6**
REDW	**Red Top Meadow**	**4.02**	**267**	*e*Pn	**Pn**	**21 18 57.4**	**+1.0**
REDW				Pg	**Pb**	**21 19 06.2**	**+1.0**
REDW				*e*Sg	**Sg**	**21 20 01.2**	**-1.3**
YFT	**Old Faithful**	**4.02**	**282**	*e*Pn	**Pn**	**21 18 56.7**	**+0.2**
YFT				*e*Pg	**Pg**	**21 19 11.0**	**+0.5**
YFT				*e*S	**Sg**	**21 20 02.5**	**-0.2**
C22A	**Vida**	**4.05**	**355**	⇑P	**Pn**	**21 18 58.5**	**+1.7**
	baz=4.2,SNR=21						
IMW	**Indian Meadow**	**4.05**	**275**	*e*Pn	**Pn**	**21 18 59.3**	**+2.3**
IMW				*e*Pg	**Pg**	**21 19 10.9**	**-0.1**
IMW				Sg	**Sg**	**21 20 00.9**	**-2.7**
C23A	**Lambert**	**4.09**	**2**	⇓P	**Pn**	**21 18 59.1**	**+1.8**
	baz=4.2,SNR=41						
YMR	**Madison River**	**4.15**	**285**	*e*Pn	Pn	21 19 01.4	+3.2
YMR				*e*Pg	**Pg**	**21 19 12.7**	**-0.3**

2.0nm,0.4s
D14A Greenough 6.66 303 ⇑P **Pn 21 19 33.8 +1.1**
baz=6.8,SNR=15
B15A Bradely Ranch, 6.81 315 ⇓P **Pn 21 19 35.0 +0.4**
baz=6.9,SNR=7.2
MVCO Mesa Verde 6.92 201 *e*Pn **Pn 21 19 34.7 -1.6**
8.6nm,0.6s
MVCO *e*Pg **Pg 21 20 04.8 -1.2**
MVCO *e*Sg **Sg 21 21 33.6 -2.1**
S18A Hurst Farm, Bl 6.97 212 ⇓P **Pn 21 19 39.0 +1.9**
baz=6.9,SNR=21
C14A Swan Lake 7.14 308 ⇑P **Pn 21 19 40.8 +1.7**
baz=7.3,SNR=14
SWMT Swartz Lake 7.16 305 *e*Pn **Pn 21 19 40.5 +1.1**
2.4nm,0.3s
SWMT *e*S **Sn 21 21 04.2 +2.8**
D13A Huson 7.25 301 ⇓P **Pn 21 19 42.0 +1.3**
baz=7.4,SNR=7.6
MSU Marysvale 7.32 227 *e*Pn **Pn 21 19 40.4 -1.3**
4.3nm,0.5s
F12A Elk City 7.35 290 ⇓P **Pn 21 19 44.2 +2.1**
baz=7.4,SNR=5.7
A14A Double T Ranch 7.67 316 ⇑P **Pn 21 19 46.5 0.0**
baz=7.8,SNR=9.6
ELK Elko 7.92 251 Pn **Pn 21 19 51.9 +2.0**
0.8nm,0.3s,baz=65,slow=9.8,SNR=11
ELK Elko 7.92 251 Pn **Pn 21 19 51.9 +2.0**
ULM Lac du Bonnet 9.20 41 Pn **Pn 21 20 06.5 -0.7**
1.0nm,0.3s,baz=228,slow=14,SNR=11
ULM Lg Lg 21 22 33.5
0.6nm,0.3s,baz=180,slow=20,SNR=2.2
ULM Lac du Bonnet 9.20 41 Pn **Pn 21 20 06.5 -0.7**
ULM Lg Lg 21 22 33.5
WUAZ Wupatki 9.41 212 *e*Pn **Pn 21 20 08.5 -1.9**
6.7nm,0.6s
NVAR Mina Array Bea 11.11 246 Pn **Pn 21 20 35.5 +1.8**
0.1nm,0.3s,baz=54,slow=12,SNR=3.0
NVAR Mina Array Bea 11.11 246 Pn **Pn 21 20 35.5 +1.8**
YKA Yellowknife Ar 19.58 347 P **Pn 21 22 23.6 -0.3**
0.1nm,0.3s,baz=165,slow=13,SNR=5.0
YKA Yellowknife Ar 19.58 347 P **Pn 21 22 23.6 -0.3**
ARCES ARCESS Array B 61.46 18 P **P 21 28 11.1 -0.1**
3.7nm,0.9s,baz=330,slow=5.3,SNR=3.6
ARCES ARCESS Array B 61.46 18 P **P 21 28 11.1 -0.1**
ZALV Zalesovo Beam 82.33 354 P **P 21 30 15.9 -0.7**
0.5nm,0.6s,baz=4.8,slow=6.4,SNR=4.4
ZALV Zalesovo Beam 82.33 354 P **P 21 30 15.9 -0.7**
MKAR Makanchi Array 89.63 355 P **P 21 30 53.4 +0.5**
0.3nm,0.6s,baz=17,slow=4.8,SNR=5.0
MKAR Makanchi Array 89.63 355 P **P 21 30 53.4 +0.5**

*IDC **21** 21:31:28.5±0.8,22.°60S×171.°07E,h0km,mb4.2/9, mb1 4.4/10,mb1mx4.2/17,mbtmp4.1/10,ML3.8/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/29, Error ellipse: s-maj=30.6km s-min=21.2km az=165.0*
*SZGRF **21** 21:31:32.2,22.°80S×172.°37E,h33km, Southeast of Loyalty Islands*
*NEIC **21** 21:31:34.0±0.5,22.°76S×170.°98E,h35km,mb4.5/5, Error ellipse: s-maj=17.8km s-min=13.4km az=185.0*
ISC 21 21:31:33.5±0.6,22.°5S±0.°1×171.°11E±0.°07,h42km,n93, σ1=49/84,mb4.2/13,16C-8D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.35**	**275**	*e*Pn	**Pn**	**21 32 36.4**	**-0.8**
	33nm,0.2s						
DZM				*e*Sn	**Sn**	**21 33 25.3**	**-1.4**
	43nm,0.2s						
DZM	**Mont Dzumac**	**4.35**	**275**	Pn	**Pn**	**21 32 37.3**	**+0.2**
	5.2nm,0.3s,baz=168,slow=21,SNR=53						
DZM				Sn	**Sn**	**21 33 26.8**	**+0.1**
	5.5nm,0.3s,baz=65,slow=18,SNR=6.4						
DZM	**Mont Dzumac**	**4.35**	**275**	*e*P	**Pn**	**21 32 36.6**	**-0.6**
DZM				*e*S	**Sn**	**21 33 27.0**	**+0.4**
DZM	**Mont Dzumac**	**4.35**	**275**	Pn	**Pn**	**21 32 37.3**	**+0.2**
DZM				Sn	**Sn**	**21 33 26.8**	**+0.1**
NOUC	**Port Laguerre**	**4.48**	**275**	*e*P	**Pn**	**21 32 38.0**	**-0.8**
NOUC				*e*S	**Sn**	**21 33 28.7**	**-0.9**
MSVF	**Nonsavu**	**8.08**	**55**	*e*Pn	Pn	21 33 34.2	+5.8
	143nm,1.1s						
AFI	**Afiamalu**	**18.37**	**65**	LR	LR	21 41 45.5	
	comp=Z,226nm,18.4s,baz=245,slow=34						
AFI	**Afiamalu**	**18.37**	**65**	*e*P	**Pn**	**21 35 44.7**	**-0.4**
	114nm,1.9s						
RPZ	**Rata Peaks**	**21.12**	**180**	P	**P**	**21 36 13.5**	**-1.1**
	10nm,1.0s,baz=333,slow=11,SNR=3.4						
RPZ	**Rata Peaks**	**21.12**	**180**	P	**P**	**21 36 13.5**	**-1.1**
CTA	**Charters Tower**	**23.28**	**271**	LR	LR	21 43 54.9	
	comp=Z,43nm,18.8s,baz=94,slow=32						
CTAO	**Charters Tower**	**23.28**	**271**	P	**P**	**21 36 37.2**	**-0.5**
ASAR	**Alice Springs**	**34.18**	**261**	P	**P**	**21 38 15.1**	**0.0**
	1.4nm,0.8s,baz=92,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**34.18**	**261**	P	**P**	**21 38 15.1**	**0.0**
WRAB	**Tennant Creek**	**34.31**	**267**	*e*P	**P**	**21 38 15.4**	**-0.8**
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**34.32**	**267**	P	**P**	**21 38 15.2**	**-1.0**
	0.6nm,0.4s,baz=96,slow=2.6,SNR=3.1						
WRA	**Warramunga Arr**	**34.32**	**267**	P	**P**	**21 38 15.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**48.35**	**245**	LR	LR	21 58 40.5	
	comp=Z,222nm,18.9s,baz=91,slow=34						
MJAR	**Matsushiro Arr**	**66.48**	**332**	P	**P**	**21 42 18.2**	**-0.5**
	0.5nm,0.4s,baz=172,slow=7.2,SNR=4.2						
MJAR	**Matsushiro Arr**	**66.48**	**332**	P	**P**	**21 42 18.2**	**-0.5**
QSPA	**South Pole Qui**	**67.53**	**180**	*e*P	**P**	**21 42 25.5**	**+0.3**
	8.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.45**	**294**	P	P	21 43 49.8	+3.2
	3.4nm,0.9s,baz=139,slow=4.1,SNR=22						
CMAR	**Chiang Mai Arr**	**81.45**	**294**	P	P	21 43 49.8	+3.2
CHTO	**Chiang Mai**	**81.61**	**294**	*e*P	P	21 43 49.0	+1.5
	4.4nm,1.0s						
NVAR	**Mina Array Bea**	**89.69**	**48**	P	P	21 44 29.1	+1.7
	2.3nm,0.9s,baz=223,slow=8.1,SNR=13						
NVAR	**Mina Array Bea**	**89.69**	**48**	P	P	21 44 29.1	+1.7
ULN	**Ulaanbaatar**	**90.55**	**323**	*e*P	P	21 44 32.7	+1.5
	1.0nm,0.4s						
SONM	**Songino Array**	**90.90**	**322**	P	**P**	**21 44 33.6**	**+0.9**
	0.7nm,0.6s,baz=142,slow=5.6,SNR=5.4						
SONM	**Songino Array**	**90.90**	**322**	P	**P**	**21 44 33.6**	**+0.9**
ILAR	**Eielson Array**	**92.86**	**17**	P	**P**	**21 44 41.1**	**-0.2**
	0.2nm,0.6s,baz=221,slow=5.3,SNR=3.4						
ILAR	**Eielson Array**	**92.86**	**17**	P	P	21 44 41.1	-0.2
TXAR	**Lajitas Array**	**96.81**	**61**	P	P	21 45 02.5	+2.2
	0.1nm,0.3s,baz=238,slow=8.1,SNR=2.7						
TXAR	**Lajitas Array**	**96.81**	**61**	P	P	21 45 02.5	+2.2
ARCES	**ARCESS Array B**	**128.69**	**345**	PKP	PKPdf	21 50 38.8	+3.4
	7.2nm,1.0s,baz=45,slow=5.3,SNR=4.2						
ARCES	**ARCESS Array B**	**128.69**	**345**	PKP	PKPdf	21 50 38.8	+3.4
KWP	**Kalwaria Pacla**	**143.29**	**325**	⇑*i*P	**PKPdf**	**21 51 04.3**	**+1.3**
VOIR		**144.17**	**318**	⇑*i*P	**PKPab**	**21 51 00.4**	**-2.2**
TRPA	**Tarpa**	**144.24**	**323**	⇓*i*P	**PKPdf**	**21 51 04.2**	**-0.5**
CRVS	**Cervenica-Dubn**	**144.38**	**325**	*e*PKP	**PKPdf**	**21 51 06.1**	**+1.1**
HUMR	**Humele**	**144.63**	**316**	⇓*i*P	**PKPdf**	**21 51 05.9**	**+0.4**
DRGR		**144.89**	**321**	⇓*i*P	**PKPdf**	**21 51 07.0**	**+1.0**
LOT	**Lotru**	**144.95**	**319**	⇓*i*P	**PKPdf**	**21 51 07.8**	**+1.6**
BSEG	**Bad Segeberg**	**145.45**	**340**	*e*PKPbc	**PKPab**	**21 51 08.3**	**+1.4**
OKC	**Ostrava-Krasne**	**145.46**	**329**	*e*PKP	**PKPab**	**21 51 08.4**	**+1.3**
MORC	**Moravsky Berou**	**145.79**	**329**	⇑*i*P	**PKPab**	**21 51 09.0**	**+0.6**
KRLC	**Kraliky**	**145.94**	**330**	*e*PKP	**PKPab**	**21 51 09.9**	**+1.0**
DPC	**Dobruska-Polom**	**145.95**	**331**	*e*PKP	**PKPab**	**21 51 10.1**	**+1.1**
DPC				*ex*	x	21 51 14.4	
UPC	**Upice**	**145.98**	**331**	*e*PKP	**PKPab**	**21 51 10.2**	**+1.2**
UPC				*ex*	x	21 51 16.3	
VYHS	**Vyhne**	**146.00**	**326**	*e*PKP	**PKPab**	**21 51 10.2**	**+1.0**
KOLL	**Kolacno**	**146.16**	**327**	*e*PKP	**PKPab**	**21 51 10.5**	**+0.7**
VRAC	**Vranov**	**146.56**	**329**	PKPbc	**PKPab**	**21 51 11.0**	**-0.2**
	6.4nm,0.9s,baz=103,slow=3.9,SNR=7.5						
VRAC	**Vranov**	**146.56**	**329**	PKPbc	**PKPab**	**21 51 11.0**	**-0.2**
VRAC	**Vranov**	**146.56**	**329**	⇓*i*P	**PKPab**	**21 51 12.0**	**+0.7**
PVCC	**Panska Ves**	**146.59**	**333**	*e*PKP	**PKPab**	**21 51 12.3**	**+1.0**
BRG	**Berggiesshubel**	**146.59**	**333**	*e*P	**PKPab**	**21 51 11.3**	**-0.1**
	20nm,1.0s						
BRG	**Berggiesshubel**	**146.59**	**333**	*e*PKPbc	**PKPab**	**21 51 11.9**	**+0.6**
CLL	**Collm**	**146.64**	**335**	*e*PKPbc	**PKPab**	**21 51 11.8**	**+0.3**
CLL	**Collm**	**146.64**	**335**	⇓*i*PKPbc	**PKPab**	**21 51 11.4**	**-0.1**
	comp=Z,17nm,1.0s						
SMOL	**Smolenice**	**146.69**	**328**	*e*PKP	**PKPab**	**21 51 13.1**	**+1.3**
PRU	**Pruhonice**	**147.00**	**332**	*e*PKP	**PKPab**	**21 51 12.8**	**-0.2**
TREC	**Trest**	**147.08**	**330**	*e*PKP	**PKPab**	**21 51 13.1**	**-0.2**
CLZ	**Clausthal**	**147.19**	**338**	*e*PKPbc	**PKPab**	**21 51 13.7**	**0.0**
PKSM	**Moragy**	**147.52**	**323**	⇑*i*P	**PKPab**	**21 51 13.3**	**-1.8**
TANN	**Tannenbergstha**	**147.55**	**334**	*e*PKPbc	**PKPab**	**21 51 14.7**	**-0.5**
NKC	**Novy Kostel**	**147.70**	**334**	*e*PKP	**PKPab**	**21 51 15.0**	**-0.7**
MOX	**Moxa**	**147.70**	**335**	*e*PKPbc	**PKPab**	**21 51 14.7**	**-1.0**
CSNA	**Conrad Observa**	**147.86**	**328**	⇑*i*P	**PKPab**	**21 51 15.1**	**-1.4**
CSNA	**Conrad Observa**	**147.86**	**328**	⇑*i*PKPbc	**PKPab**	**21 51 15.1**	**-1.4**
	comp=Z,5.8nm,1.0s						
KHC	**Kasperske Hory**	**148.06**	**332**	*e*PKP	**PKPab**	**21 51 15.5**	**-1.7**
ROTZ	**Rotzenmuhle**	**148.16**	**334**	*e*PKPbc	**PKPab**	**21 51 16.4**	**-1.2**
GEC2	**GERESS Array S**	**148.22**	**331**	*e*PKPbc	**PKPab**	**21 51 16.3**	**-1.6**
GERES	**GERESS Array B**	**148.22**	**331**	PKPbc	**PKPab**	**21 51 16.4**	**-1.6**
	comp=Z,6.2nm,0.8s,baz=42,slow=2.2,SNR=43						
GERES	**GERESS Array B**	**148.22**	**331**	PKPbc	**PKPab**	**21 51 16.4**	**-1.6**
GRF	**Grafenberg Arr**	**148.61**	**335**	*e*PKPbc	**PKPab**	**21 51 17.4**	**-2.0**
SOKA	**Soboth**	**149.13**	**327**	⇑*i*P	**PKPab**	**21 51 17.8**	**-3.9**
SOKA	**Soboth**	**149.13**	**327**	⇑*i*PKPbc	**PKPab**	**21 51 17.8**	**-3.9**
	comp=Z,9.6nm,1.1s						
RJOB	**Jochberg**	**149.44**	**331**	*e*PKPbc	**PKPab**	**21 51 19.1**	**-3.8**
KBA	**Koelnbreinsper**	**149.67**	**329**	⇑*i*P	**PKPab**	**21 51 19.4**	**-4.6**
KBA	**Koelnbreinsper**	**149.67**	**329**	⇑*i*PKPbc	**PKPab**	**21 51 19.4**	**-4.6**
	comp=Z,18nm,1.2s						
STU	**Stuttgart**	**150.14**	**336**	*e*PKPbc	**PKPab**	**21 51 21.0**	**-4.6**
ABTA	**Abfaltersbach**	**150.31**	**330**	⇑*i*P	**PKPbc**	**21 51 19.8**	**-0.4**
ABTA	**Abfaltersbach**	**150.31**	**330**	⇑*i*PKPbc	**PKPbc**	**21 51 19.8**	**-0.4**
	comp=Z,17nm,1.1s						
MOTA	**Moosalm**	**150.49**	**332**	⇓*i*P	**PKPbc**	**21 51 21.6**	**+0.9**
MOTA	**Moosalm**	**150.49**	**332**	⇓*i*PKPbc	**PKPbc**	**21 51 21.6**	**+0.9**
	comp=Z,14nm,0.9s						
RETA	**Reutte**	**150.53**	**332**	⇑*i*P	**PKPbc**	**21 51 21.3**	**+0.6**
RETA	**Reutte**	**150.53**	**332**	⇑*i*PKPbc	**PKPbc**	**21 51 21.3**	**+0.6**
	comp=Z,7.1nm,1.0s						
FETA	**Feichten**	**150.91**	**332**	⇑*i*P	PKPab	21 51 23.3	-5.8
FETA	**Feichten**	**150.91**	**332**	⇑*i*PKiKP	PKPab	21 51 23.3	-5.8
	comp=Z,16nm,0.9s						
DAVOX	**Davos/Dischmat**	**151.46**	**332**	PKPbc	**PKPbc**	**21 51 24.2**	**+1.1**
	comp=Z,12nm,0.8s,baz=79,slow=0.4,SNR=14						
DAVOX	**Davos/Dischmat**	**151.46**	**332**	PKPbc	**PKPbc**	**21 51 24.2**	**+1.1**
TUE	**Stuetta**	**151.93**	**333**	*e*P	**PKPbc**	**21 51 25.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**166.27**	**229**	PKP	**PKPdf**	**21 51 35.6**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=22,slow=1.6,SNR=7.4						
TORD				PKPab	PKPab	21 52 36.2	+0.2
	comp=Z,1.2nm,0.9s,baz=118,slow=3.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**166.27**	**229**	PKP	**PKPdf**	**21 51 35.6**	**+0.7**
TORD				PKPab	PKPab	21 52 36.2	+0.2

*IDC **21** 21:39:31.7±0.8,22.°77S×171.°11E,h0km,mb4.3/8, mb1 4.4/9,mb1mx4.2/18,mbtmp4.3/9,ML4.0/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/25, Error ellipse: s-maj=30.8km s-min=21.3km az=3.0*
*NOU **21** 21:39:31.8±0.8,18.°73S×169.°87E,h30km,MD3.5,MS1.9*
*NEIC **21** 21:39:34.7±0.8,23.°01S×170.°93E,h10km,mb4.5/6, Error ellipse: s-maj=26.8km s-min=12.0km az=167.0*
*ISCJB **21** 21:39:36.5±0.7,22.°8S±0.°2×170.°95E±0.°06,h42km, mb4.3/13, Error ellipse: s-maj=21.9km s-min=7.3km az=178.2*
*SZGRF **21** 21:39:37.4,22.°38S×171.°92E,h33km, Southeast of Loyalty Islands*
ISC 21 21:39:37.5±0.7,22.°7S±0.°2×171.°07E±0.°08,h42km,n90, σ1=93/97,mb4.4/13,16C-7D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.90**	**277**	*e*P	**Pn**	**21 40 35.6**	**+0.6**
NORM	**Noumea**	**4.26**	**275**	*e*P	**Pn**	**21 40 38.9**	**-0.9**
DZM	**Mont Dzumac**	**4.32**	**277**	Pn	**Pn**	**21 40 40.5**	**-0.3**
	8.4nm,0.3s,baz=81,slow=20,SNR=47						
DZM				Sn	**Sn**	**21 41 31.3**	**+1.4**
	11nm,0.3s,baz=102,slow=20,SNR=3.6						
DZM				LR	LR	21 42 06.9	
	comp=Z,164nm,20.8s,baz=26,slow=36						
DZM	**Mont Dzumac**	**4.32**	**277**	*e*P	**Pn**	**21 40 39.0**	**-1.8**
DZM				*e*S	**Sn**	**21 41 28.2**	**-1.7**
DZM				AMP		21 41 35.6	
	comp=Z,766nm,6.8s						
DZM	**Mont Dzumac**	**4.32**	**277**	Pn	**Pn**	**21 40 40.5**	**-0.3**
DZM				Sn	**Sn**	**21 41 31.3**	**+1.4**
NOUC	**Port Laguerre**	**4.44**	**276**	*e*P	**Pn**	**21 40 40.8**	**-1.6**
NOUC				*e*S	**Sn**	**21 41 31.4**	**-1.4**
NOUC				AMP		21 41 46.3	
	comp=Z,34nm,11.1s						
MSVF	**Nonsavu**	**8.19**	**54**	*e*Pn	Pn	21 41 38.4	+4.5
	comp=Z,42nm,0.8s						
CTA	**Charters Tower**	**23.24**	**272**	P	**P**	**21 44 42.6**	**+1.3**
	comp=Z,3.0nm,0.6s,baz=99,slow=13,SNR=4.4						
CTA	**Charters Tower**	**23.24**	**272**	P	**P**	**21 44 42.6**	**+1.3**
CTAO	**Charters Tower**	**23.24**	**272**	*e*P	**P**	**21 44 41.7**	**+0.4**
	comp=Z,3.5nm,0.7s						
PMG	**Port Moresby**	**26.43**	**296**	P	**P**	**21 45 09.9**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=216,slow=1.6,SNR=3.7						
COEN	**Coen**	**27.82**	**283**	*e*P	**P**	**21 45 23.5**	**+0.5**
	comp=Z,31nm,0.9s						
ASAR	**Alice Springs**	**34.12**	**261**	P	**P**	**21 46 18.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=91,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**34.12**	**261**	P	**P**	**21 46 18.2**	**-0.4**
WRAB	**Tennant Creek**	**34.26**	**268**	*e*P	**P**	**21 46 19.4**	**-0.4**
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**34.27**	**268**	P	**P**	**21 46 18.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=96,slow=8.5,SNR=8.1						
WRA	**Warramunga Arr**	**34.27**	**268**	P	**P**	**21 46 18.9**	**-1.0**
QSPA	**South Pole Qui**	**67.41**	**180**	P	**P**	**21 50 28.1**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=10,slow=2.5,SNR=8.7						
QSPA	**South Pole Qui**	**67.41**	**180**	*e*P	**P**	**21 50 28.0**	**-0.5**
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**81.45**	**294**	P	**P**	**21 51 53.0**	**+2.3**
	comp=Z,2.5nm,0.7s,baz=136,slow=4.1,SNR=25						
CMAR	**Chiang Mai Arr**	**81.45**	**294**	P	**P**	**21 51 53.0**	**+2.3**
CHTO	**Chiang Mai**	**81.62**	**294**	*e*P	**P**	**21 51 53.1**	**+1.5**
	comp=Z,4.9nm,1.0s						
NVAR	**Mina Array Bea**	**89.80**	**48**	P	**P**	**21 52 32.5**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=227,slow=8.4,SNR=12						
NVAR	**Mina Array Bea**	**89.80**	**48**	P	**P**	**21 52 32.5**	**+0.5**
ULN	**Ulaanbaatar**	**90.61**	**323**	P	**P**	**21 52 36.5**	**+1.1**
	comp=Z,2.4nm,1.0s						
SONM	**Songino Array**	**90.97**	**322**	P	**P**	**21 52 37.0**	**-0.1**
	comp=Z,3.9nm,1.2s,baz=152,slow=6.6,SNR=4.3						
SONM	**Songino Array**	**90.97**	**322**	P	**P**	**21 52 37.0**	**-0.1**
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**	**21 52 44.0**	**-1.8**
	comp=Z,0.5nm,1.0s,baz=213,slow=6.5,SNR=3.3						
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**	**21 52 44.0**	**-1.8**
CVD	**Cernavoda**	**142.80**	**314**	⇑*i*P	**PKPdf**	**21 59 08.7**	**+2.4**
CRVS	**Cervenica-Dubn**	**144.45**	**325**	*e*PKP	**PKPdf**	**21 59 09.6**	**+0.5**
DRGR		**144.95**	**321**	⇓*i*P	**PKPdf**	**21 59 10.5**	**+0.4**
DEV	**Deva**	**145.32**	**320**	⇓*i*P	**PKPbc**	**21 59 08.6**	**-1.9**
BSEG	**Bad Segeberg**	**145.55**	**340**	*e*PKPbc	**PKPab**	**21 59 12.0**	**+0.7**
MORC	**Moravsky Berou**	**145.87**	**329**	⇓*i*P	**PKPab**	**21 59 13.5**	**+0.8**
PSZ	**Piszkesteto**	**145.88**	**325**	⇓*i*P	**PKPab**	**21 59 13.9**	**+1.1**
KRLC	**Kraliky**	**146.02**	**330**	*e*PKP	**PKPab**	**21 59 13.5**	**+0.2**
DPC	**Dobruska-Polom**	**146.03**	**331**	*e*PKP	**PKPab**	**21 59 13.9**	**+0.6**
DPC				*e*pPKP	**pPKPdf**	**21 59 20.7**	**-4.4**
UPC	**Upice**	**146.06**	**331**	*e*PKP	**PKPab**	**21 59 13.8**	**+0.4**
VYHS	**Vyhne**	**146.07**	**326**	*e*PKP	**PKPab**	**21 59 13.7**	**+0.2**
BZS	**Buzias**	**146.22**	**320**	⇓*i*P	**PKPab**	**21 59 14.9**	**+0.8**
KOLL	**Kolacno**	**146.24**	**327**	*e*PKP	**PKPab**	**21 59 14.5**	**+0.4**
VRAC	**Vranov**	**146.64**	**329**	PKPbc	**PKPab**	**21 59 15.3**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=91,slow=3.2,SNR=8.4						
VRAC	**Vranov**	**146.64**	**329**	PKPbc	**PKPab**	**21 59 15.3**	**-0.3**
VRAC	**Vranov**	**146.64**	**329**	⇑*i*P	**PKPab**	**21 59 15.9**	**+0.3**
PVCC	**Panska Ves**	**146.68**	**332**	*e*PKP	**PKPab**	**21 59 15.4**	**-0.3**
BRG	**Berggiesshubel**	**146.68**	**333**	*i* PKP	**PKPab**	**21 59 15.1**	**-0.6**
	comp=Z,15nm,1.0s						
BRG	**Berggiesshubel**	**146.68**	**333**	*e*PKPbc	**PKPab**	**21 59 15.5**	**-0.2**
CLL	**Collm**	**146.73**	**335**	*e*PKPbc	**PKPab**	**21 59 15.4**	**-0.5**
CLL	**Collm**	**146.73**	**335**	⇓*i*PKPbc	**PKPbc**	**21 59 15.2**	**+0.6**
	comp=Z,13nm,0.9s						
SMOL	**Smolenice**	**146.77**	**327**	*e*PKP	**PKPab**	**21 59 16.8**	**+0.6**
NRDL	**Niedersach Rie**	**146.83**	**339**	*e*PKPbc	**PKPab**	**21 59 15.7**	**-0.4**
PRU	**Pruhonice**	**147.09**	**332**	*e*PKP	**PKPab**	**21 59 16.5**	**-0.8**
TREC	**Trest**	**147.16**	**330**	*e*PKP	**PKPab**	**21 59 16.9**	**-0.8**
CLZ	**Clausthal**	**147.28**	**338**	*e*PKPbc	**PKPab**	**21 59 17.3**	**-0.8**
PKSM	**Moragy**	**147.59**	**323**	⇑*i*P	**PKPab**	**21 59 18.3**	**-1.1**
TANN	**Tannenbergstha**	**147.64**	**334**	*e*PKPbc	**PKPbc**	**21 59 18.3**	**+1.0**
IBBN	**Ibbenburen**	**147.74**	**341**	*e*PKPbc	**PKPbc**	**21 59 18.3**	**+0.9**
NKC	**Novy Kostel**	**147.79**	**334**	*e*PKP	**PKPbc**	**21 59 18.3**	**+0.6**
NKC				*ep*PKP	**pPKPdf**	**21 59 26.5**	**-1.5**
MOX	**Moxa**	**147.79**	**335**	*e*PKPbc	**PKPbc**	**21 59 18.5**	**+0.8**
CSNA	**Conrad Observa**	**147.94**	**328**	⇑*i*P	**PKPbc**	**21 59 18.9**	**+0.6**
CSNA	**Conrad Observa**	**147.94**	**328**	⇑*i*PKPbc	**PKPbc**	**21 59 18.9**	**+0.6**
	comp=Z,4.0nm,0.8s						
KHC	**Kasperske Hory**	**148.15**	**332**	*e*PKP	**PKPbc**	**21 59 19.5**	**+0.8**
ROTZ	**Rotzenmuhle**	**148.25**	**334**	*e*PKPbc	**PKPbc**	**21 59 20.1**	**+1.2**
GEC2	**GERESS Array S**	**148.30**	**331**	*e*PKPbc	**PKPbc**	**21 59 20.1**	**+0.9**
GERES	**GERESS Array B**	**148.30**	**331**	PKPbc	**PKPbc**	**21 59 19.8**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=45,slow=2.1,SNR=39						
GERES	**GERESS Array B**	**148.30**	**331**	PKPbc	**PKPbc**	**21 59 19.8**	**+0.6**
WET	**Wettzell**	**148.44**	**332**	*e*PKPbc	**PKPbc**	**21 59 20.4**	**+1.0**
GRF	**Grafenberg Arr**	**148.70**	**334**	*e*PKPbc	**PKPbc**	**21 59 21.1**	**+1.0**
SOKA	**Soboth**	**149.21**	**327**	⇑*i*P	**PKPbc**	**21 59 21.9**	**+0.3**
SOKA	**Soboth**	**149.21**	**327**	⇑*i*pPKPdf	**PKPbc**	**21 59 21.9**	**+0.3**
	comp=Z,4.7nm,1.0s						
TNS	**Taunus Mts**	**149.30**	**338**	*e*PKPbc	**PKPbc**	**21 59 22.5**	**+0.9**
RJOB	**Jochberg**	**149.53**	**330**	*e*PKPbc	**PKPbc**	**21 59 22.8**	**+0.5**
KBA	**Koelnbreinsper**	**149.75**	**329**	⇑*i*P	**PKPbc**	**21 59 22.4**	**-0.6**
KBA	**Koelnbreinsper**	**149.75**	**329**	⇑*i*pPKPdf	**PKPbc**	**21 59 22.4**	**-0.6**
	comp=Z,8.7nm,0.9s						
STU	**Stuttgart**	**150.23**	**336**	*e*PKPbc	**PKPbc**	**21 59 24.9**	**+1.0**
ABTA	**Abfaltersbach**	**150.39**	**329**	⇑*i*P	**PKPbc**	**21 59 23.9**	**-0.5**
ABTA	**Abfaltersbach**	**150.39**	**329**	⇑*i*pPKPdf	**PKPbc**	**21 59 23.9**	**-0.5**
	comp=Z,9.8nm,0.8s						
WLF	**Walferdange**	**150.55**	**340**	*e*PKPbc	**PKPbc**	**21 59 25.9**	**+1.3**
MOTA	**Moosalm**	**150.58**	**332**	⇓*i*P	**PKPbc**	**21 59 24.9**	**0.0**
MOTA	**Moosalm**	**150.58**	**332**	⇓*i*pPKPdf	**PKPbc**	**21 59 24.9**	**0.0**
	comp=Z,14nm,0.9s						
RETA	**Reutte**	**150.62**	**332**	⇑*i*P	**PKPbc**	**21 59 25.0**	**0.0**
RETA	**Reutte**	**150.62**	**332**	⇑*i*pPKPdf	**PKPbc**	**21 59 25.0**	**0.0**
	comp=Z,7.5nm,1.0s						
BFO	**Black Forest**	**150.93**	**336**	*e*PKPbc	**PKPbc**	**21 59 26.0**	**+0.4**
FETA	**Feichten**	**150.99**	**332**	⇑*i*P	**PKPbc**	**21 59 26.3**	**+0.4**
FETA	**Feichten**	**150.99**	**332**	⇑*i*sPKPdf	**PKPbc**	**21 59 26.3**	**+0.4**
	comp=Z,12nm,0.9s						
DAVOX	**Davos/Dischmat**	**151.55**	**332**	PKPbc	**PKPbc**	**21 59 27.8**	**+0.5**
	comp=Z,12nm,0.7s,baz=35,slow=0.9,SNR=17						
DAVOX	**Davos/Dischmat**	**151.55**	**332**	PKPbc	**PKPbc**	**21 59 27.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**166.15**	**229**	PKP	**PKPdf**	**21 59 39.1**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=48,slow=0.

CTA	**Charters Tower**	**19.61**	**134**	*eP*		**Pn**	**22 26 49.1**	**+2.0**
	25nm,0.6s								
CTA				*eS*		**S**	**22 30 17.1**	**-3.7**
CTA	**Charters Tower**	**19.61**	**134**	P		**Pn**	**22 26 48.4**	**+1.3**
CTAO	**Charters Tower**	**19.61**	**134**	*eP*		**Pn**	**22 26 47.3**	**+0.1**
	31nm,0.7s								
CTAO				S		**S**	**22 30 22.7**	**+1.9**
CISI	**Cisompet, Garu**	**23.49**	**266**	P		**P**	**22 27 25.3**	**0.0**
	73nm,0.9s								
LEM	**Lembang**	**23.69**	**268**	P		**P**	**22 27 27.8**	**+0.6**
	61nm,0.8s								
FORT	**Forrest**	**24.22**	**187**	*eP*		**P**	**22 27 33.9**	**+2.3**
	117nm,0.6s								
FORT	**Forrest**	**24.22**	**187**	*eP*		**P**	**22 27 32.9**	**+1.2**
	135nm,0.6s								
CGJI	**Cibinong**	**25.60**	**269**	P		**P**	**22 27 43.3**	**-1.1**
	71nm,0.8s,1μm								
BBOO	**Buckleboo**	**26.38**	**171**	*eP*		**P**	**22 27 53.7**	**+2.5**
	641nm,0.7s								
STKA	**Stephens Creek**	**26.83**	**161**	P		**P**	**22 27 58.3**	**+3.0**
	2.9nm,0.6s,baz=350,slow=5.7,SNR=8.2								
STKA	**Stephens Creek**	**26.83**	**161**	*eP*		**P**	**22 27 58.3**	**+3.0**
	3.9nm,0.4s								
STKA	**Stephens Creek**	**26.83**	**161**	*eP*		**P**	**22 27 56.1**	**+0.8**
	5.5nm,0.6s								
KLBR	**Kellerberrin**	**27.93**	**206**	*eP*		**P**	**22 28 06.8**	**+1.6**
	28nm,1.2s								
NWAO	**Narrogin (SRO)**	**29.31**	**205**	LR		LR	22 40 52.5		
	comp=Z,164nm,18.4s,baz=268,slow=38								
NWAO	**Narrogin (SRO)**	**29.31**	**205**	*eP*		**P**	**22 28 17.2**	**-0.2**
QIZ	**Qiongzhong**	**33.24**	**321**	P		**P**	**22 28 52.3**	**+0.2**
QIZ				S		**S**	**22 34 07.8**	**+2.9**
QIZ				pmax		pmax			
	comp=Z,20nm,1.8s								
QIZ				pmax		pmax			
	comp=Z,130nm,4.3s								
JOW	**Kunigami**	**33.42**	**355**	P		**P**	**22 28 52.0**	**-1.5**
	comp=Z,18nm,0.6s,baz=184,slow=8.7,SNR=11								
JOW	**Kunigami**	**33.42**	**355**	P		**P**	**22 28 52.0**	**-1.5**
PSI	**Prapat**	**33.82**	**285**	P		**P**	**22 28 58.4**	**+1.1**
	comp=Z,14nm,1.0s								
DZM	**Mont Dzumac**	**37.06**	**118**	P		P	22 29 28.8	+3.8	
	comp=Z,6.9nm,0.5s,baz=263,slow=13,SNR=7.7								
DZM	**Mont Dzumac**	**37.06**	**118**	P		P	22 29 28.8	+3.8	
CMAR	**Chiang Mai Arr**	**40.64**	**308**	P		**P**	**22 29 53.2**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=136,slow=7.0,SNR=13								
CMAR				pP		**pP**	**22 30 17.9**	**-0.3**	
	comp=Z,3.8nm,0.6s,baz=141,slow=7.7,SNR=5.2								
CMAR	**Chiang Mai Arr**	**40.64**	**308**	P		**P**	**22 29 53.2**	**-1.5**
CMAR				pP		**pP**	**22 30 17.9**	**-0.3**	
GYA	**Guiyang**	**40.76**	**325**	*eP*		**P**	**22 29 55.8**	**0.0**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CHTO	**Chiang Mai**	**40.84**	**309**	*eP*		**P**	**22 29 54.3**	**-2.1**
	comp=Z,8.1nm,0.8s								
CHTO	**Chiang Mai**	**40.84**	**309**	P		**P**	**22 29 55.9**	**-0.5**
	comp=Z,6.3nm,1.0s								
KMI	**Kunming**	**42.17**	**320**	P		P	22 30 10.5	+3.0	
KMI				pmax		pmax			
	comp=Z,3.0nm,1.9s								
ENH	**Enshi**	**42.33**	**331**	*eP*		**P**	**22 30 05.6**	**-2.9**
	comp=Z,8.0nm,0.6s								
MJAR	**Matsushiro Arr**	**43.42**	**8**	P		**P**	**22 30 14.4**	**-2.7**
	comp=Z,6.7nm,0.9s,baz=193,slow=10,SNR=14								
MJAR				pP		**pP**	**22 30 42.5**	**+1.7**	
	comp=Z,5.4nm,1.0s,baz=191,slow=9.6,SNR=3.2								
MJAR	**Matsushiro Arr**	**43.42**	**8**	P		**P**	**22 30 14.4**	**-2.7**
MJAR				pP		**pP**	**22 30 42.5**	**+1.7**	
MAJO	**Matsushiro**	**43.42**	**8**	*eP*		**P**	**22 30 15.6**	**-1.5**
MAT	**Matsushiro**	**43.42**	**8**	P		**P**	**22 30 15.2**	**-1.9**
KSAR	**Wonju Array Be**	**43.99**	**356**	P		**P**	**22 30 19.6**	**-2.0**
KSAR				pP		**pP**	**22 30 46.9**	**+1.5**	
KSRS	**Korea Array**	**43.99**	**356**	P		**P**	**22 30 19.6**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=186,slow=9.9,SNR=5.9								
KSRS				pP		**pP**	**22 30 46.9**	**+1.5**	
	comp=Z,1.6nm,0.7s,baz=185,slow=11,SNR=3.7								
XAN	**Xi'an**	**45.75**	**334**	P		**P**	**22 30 32.9**	**-2.8**
XAN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CD2	**Chengdu**	**45.80**	**326**	P		**P**	**22 30 37.5**	**+1.3**
CD2				pP		pP	22 30 51.3	-8.8	
CD2				sP		sP	22 30 57.4	-14	
CD2				PP		**PP**	**22 32 25.6**	**0.0**
CD2				S		**S**	**22 37 16.8**	**+4.2**
CD2				sS		sS	22 37 40.3	-13	
CD2				SS		**SS**	**22 40 33.5**	**-5.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,100nm,4.2s								
CD2				LR		LR			
	comp=E,260nm,5.9s								
CD2				LR		LR			
	comp=Z,150nm,6.5s								
BJI	**Beijing**	**48.55**	**344**	P		**P**	**22 30 55.0**	**-2.3**
BJI				S		S	22 37 56.6	+5.4	
BJI				pmax		pmax			
	comp=Z,17nm,0.7s								
BJI				pmax		pmax			
	comp=Z,56nm,4.5s								
BJI				LR		LR			
	comp=N,130nm,24.1s								
BJI				LR		LR			
	comp=E,200nm,25.9s								
BJI				LR		LR			
	comp=Z,48nm,25.7s								
LZH	**Lanzhou**	**49.80**	**331**	*eP*		**P**	**22 31 08.3**	**+1.2**
LZH				pP		pP	22 31 21.3	-10	
LZH				sP		sP	22 31 27.8	-15	
LZH				PP		**PP**	**22 33 06.4**	**+3.6**
LZH				*eS*		S	22 38 17.0	+7.9	
LZH				sS		sS	22 38 41.0	-10	
LZH				pmax		pmax			
	comp=Z,24nm,1.0s								
LZH				pmax		pmax			
	comp=Z,130nm,4.5s								
LZH				LR		LR			
	comp=N,200nm,13.8s								
LZH				LR		LR			
	comp=E,200nm,12.6s								
LZH				LR		LR			
	comp=Z,350nm,15.1s								
SHL	**Shillong**	**50.05**	**311**	*eP*		P	22 31 15.0	+5.8	
CN2	**Changchun**	**50.51**	**354**	*eP*		**P**	**22 31 13.8**	**+1.7**
USRK	**Ussuriysk Arra**	**50.61**	**0**	P		**P**	**22 31 11.6**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=187,slow=7.0,SNR=9.6								
USRK				pP		**pP**	**22 31 38.7**	**+1.6**	
	comp=Z,0.5nm,0.3s,baz=152,slow=28,SNR=1.7								
RPZ	**Rata Peaks**	**50.63**	**143**	LR		LR	22 51 20.9		
	comp=Z,92nm,18.3s,baz=190,slow=34								
HHC	**Hu-ho-hao-te**	**50.68**	**340**	*eP*		**P**	**22 31 13.4**	**-0.2**
HHC				pP		pP	22 31 29.3	-8.6	
HHC				sP		sP	22 31 36.3	-13	
HHC				PP		**PP**	**22 33 10.8**	**+0.1**
HHC				S		**S**	**22 38 23.4**	**+2.3**
HHC				sS		sS	22 38 50.0	-13	
HHC				SS		**SS**	**22 41 55.8**	**-1.2**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,100nm,6.3s								
HHC				LR		LR			
	comp=N,230nm,15.1s								
HHC				LR		LR			
	comp=E,500nm,14.7s								
HHC				LR		LR			
	comp=Z,200nm,14.7s								
MDJ	**Mudanjiang**	**51.05**	**358**	P		**P**	**22 31 16.8**	**+0.6**
MDJ				pP		pP	22 31 30.3	-10	
MDJ				sP		sP	22 31 36.3	-16	
MDJ				S		**S**	**22 38 31.1**	**+5.2**
MDJ				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MDJ				pmax		pmax			
	comp=Z,57nm,4.9s								
LSA	**Lhasa**	**52.96**	**315**	*eP*		**P**	**22 31 29.1**	**-2.1**
	comp=Z,3.3nm,0.6s								
ODAN	**Odare**	**54.14**	**310**	*eP*		**P**	**22 31 38.9**	**-0.7**
ODAN	**Odare**	**54.14**	**310**	*eP*		**P**	**22 31 38.9**	**-0.7**
TAPN	**Taplejung**	**54.15**	**311**	*eP*		**P**	**22 31 37.8**	**-1.9**
	comp=Z,12nm,0.5s								
TAPN	**Taplejung**	**54.15**	**311**	*eP*		**P**	**22 31 37.8**	**-1.9**
	comp=Z,12nm,0.5s								
GTA	**Gaotai**	**54.38**	**330**	*eP*		**P**	**22 31 40.3**	**-0.7**
GTA				pP		pP	22 31 54.1	-11	
GTA				sP		sP	22 32 00.0	-17	
GTA				S		**S**	**22 39 16.0**	**+4.3**
GTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GTA				LR		LR			
	comp=N,110nm,16.6s								
GTA				LR		LR			
	comp=E,120nm,13.8s								
GTA				LR		LR			
	comp=Z,130nm,15.2s								
RAMN	**Ramite**	**54.79**	**310**	*eP*		**P**	**22 31 42.8**	**-1.5**
	comp=Z,24nm,0.5s								
RAMN	**Ramite**	**54.79**	**310**	*eP*		**P**	**22 31 42.8**	**-1.5**
	comp=Z,24nm,0.5s								
JIRN	**Jiri**	**55.46**	**310**	*eP*		**P**	**22 31 47.3**	**-2.0**
JIRN	**Jiri**	**55.46**	**310**	*eP*		**P**	**22 31 47.3**	**-2.0**
GUN	**Gumba**	**55.83**	**310**	*eP*		**P**	**22 31 50.1**	**-1.8**
GUN	**Gumba**	**55.83**	**310**	*eP*		**P**	**22 31 50.1**	**-1.8**
PKI	**Pulchoki**	**56.01**	**310**	*eP*		**P**	**22 31 51.1**	**-2.1**
PKI	**Pulchoki**	**56.01**	**310**	*eP*		**P**	**22 31 51.1**	**-2.1**
KKN	**Kakani**	**56.22**	**310**	*eP*		**P**	**22 31 52.5**	**-2.0**
	comp=Z,8.6nm,0.7s								
KKN	**Kakani**	**56.22**	**310**	*eP*		**P**	**22 31 52.5**	**-2.0**
	comp=Z,8.6nm,0.7s								
DMN	**Daman**	**56.27**	**309**	*eP*		**P**	**22 31 53.6**	**-1.3**
	comp=Z,6.4nm,0.4s								
GKN	**Gorkha**	**56.82**	**310**	*eP*		**P**	**22 31 56.5**	**-2.2**
	comp=Z,13nm,0.5s								
GKN	**Gorkha**	**56.82**	**310**	*eP*		**P**	**22 31 56.5**	**-2.2**
	comp=Z,13nm,0.5s								
DANN	**Dangsing**	**57.67**	**309**	*eP*		**P**	**22 32 02.8**	**-2.0**
	comp=Z,14nm,0.6s								
DANN	**Dangsing**	**57.67**	**309**	*eP*		**P**	**22 32 02.8**	**-2.0**
	comp=Z,14nm,0.6s								
ULN	**Ulaanbaatar**	**58.39**	**341**	*eP*		**P**	**22 32 08.4**	**-0.9**
	comp=Z,8.9nm,0.8s								
SONM	**Songino Array**	**58.58**	**340**	P		**P**	**22 32 09.9**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=160,slow=6.1,SNR=7.7								
SONM				pP		**pP**	**22 32 36.4**	**+0.9**	
	comp=Z,3.3nm,0.6s,baz=159,slow=8.8,SNR=3.9								
SONM	**Songino Array**	**58.58**	**340**	P		**P**	**22 32 09.9**	**-0.7**
SONM				pP		**pP**	**22 32 36.4**	**+0.9**	
PETK	**Petropavlovsk-**	**63.55**	**17**	P		**P**	**22 32 43.7**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=201,slow=7.8,SNR=4.0								
PETK				pP		**pP**	**22 33 10.9**	**+1.8**	
	comp=Z,2.1nm,0.6s,baz=203,slow=6.0,SNR=3.2								
PETK	**Petropavlovsk-**	**63.55**	**17**	P		**P**	**22 32 43.7**	**-0.2**
PETK				pP		**pP**	**22 33 10.9**	**+1.8**	
WMQ	**Urumqi**	**63.90**	**326**	P		**P**	**22 32 43.8**	**-2.7**
WMQ				pP		pP	22 32 58.3	-13	
WMQ				sP		sP	22 33 04.3	-19	
WMQ				pmax		pmax			
	comp=Z,16nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,180nm,5.6s								
MK31	**Makanchi Array**	**68.74**	**326**	*eP*		**P**	**22 33 16.8**	**-0.5**
MKAR	**Makanchi Array**	**68.74**	**326**	P		**P**	**22 33 16.8**	**-0.5**
	comp=Z,5.2nm,0.5s,baz=114,slow=8.4,SNR=147								
MKAR				pP		**pP**	**22 33 43.2**	**+0.4**	
	comp=Z,4.6nm,0.5s,baz=118,slow=8.0,SNR=4.6								
MKAR	**Makanchi Array**	**68.74**	**326**	P		**P**	**22 33 16.8**	**-0.5**
MKAR				pP		**pP**	**22 33 43.2**	**+0.4**	
KSH	**Kashi**	**68.75**	**317**	*eP*		**P**	**22 33 18.3**	**+0.7**
KSH				*ePP*		**PP**	**22 35 49.9**	**-0.9**
KSH				*eS*		**S**	**22 42 13.6**	**+0.3**
KSH				*eScS*		**ScS**	**22 43 12.8**	**+4.0**
KSH				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KSH				pmax		pmax			
	comp=Z,140nm,5.0s								
KSH				LR		LR			
	comp=N,160nm,5.0s								
KSH				LR		LR			
	comp=E,180nm,7.1s								
KSH				LR		LR			
	comp=Z,240nm,5.3s								
TKM2	**Tokmak 2**	**70.65**	**320**	*eP*		**P**	**22 33 28.6**	**-0.7**
	comp=Z,4.5nm,0.8s								
AAK	**Ala-Archa**	**71.22**	**319**	*eP*		**P**	**22 33 31.2**	**-1.6**
	comp=Z,8.4nm,0.4s								
KBL	**Kabul**	**71.66**	**310**	*eP*		**P**	**22 33 33.9**	**-1.7**
	comp=Z,2.1nm,0.6s								
EKS2	**Erkin-Say**	**71.70**	**319**	*eP*		**P**	**22 33 35.0**	**-0.6**
	comp=Z,4.0nm,0.7s								
ZAA0	**Zalesovo Array**	**71.92**	**333**	*eP*		**P**	**22 33 34.9**	**-1.5**
ZALV	**Zalesovo Beam**	**71.92**	**333**	P		**P**	**22 33 35.1**	**-1.3**
	comp=Z,3.7nm,0.6s,baz=132,slow=5.6,SNR=24								
ZALV				pP		**pP**	**22 34 01.6**	**-0.6**	
	comp=Z,5.2nm,0.8s,baz=116,slow=5.0,SNR=6.8								
ZALV	**Zalesovo Beam**	**71.92**	**333**	P		**P**	**22 33 35.1**	**-1.3**
ZALV				pP		**pP**	**22 34 01.6**	**-0.6**	
KURK	**Kurchatov**	**72.98**	**328**	P		**P**	**22 33 41.1**	**-1.7**
	comp=Z,4.0nm,0.6s,baz=126,slow=4.9,SNR=60								
KURK				pP		**pP**	**22 34 08.3**	**-0.3**	
	comp=Z,4.6nm,0.6s,baz=130,slow=5.1,SNR=6.8								
KURK	**Kurchatov**	**72.98**	**328**	*eP*		**P**	**22 33 42.0**	**-0.8**
KURK				pP		**pP**	**22 34 08.3**	**-0.3**	
BVAR	**Borovoye Array**	**78.55**	**327**	P		**P**	**22 34 12.9**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=123,slow=9.5,SNR=12								
BVAR				pP		**pP**	**22 34 40.2**	**-0.5**	
	comp=Z,2.8nm,0.7s,baz=126,slow=7.5,SNR=6.4								
BVAR	**Borovoye Array**	**78.55**	**327**	P		**P**	**22 34 12.9**	**-1.6**
BVAR				pP		**pP**	**22 34 40.2**	**-0.5**	
BRVK	**Borovoye**	**78.62**	**327**	*eP*		**P**	**22 34 13.8**	**-1.1**
	comp=Z,3.7nm,0.8s								
ILAR	**Eielson Array**	**92.41**	**25**	P		**P**	**22 35 22.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=257,slow=4.3,SNR=5.8								
ILAR				pP		**pP**	**22 35 51.3**	**+1.2**	
	comp=Z,0.5nm,0.7s,baz=270,slow=4.0,SNR=3.4								
ILAR	**Eielson Array**	**92.41**	**25**	P		**P**	**22 35 22.6**	**-0.8**
ILAR				pP		**pP**	**22 35 51.3**	**+1.2**	
TORD	**Torodi Ar. Bea**	**130.17**	**282**	PKP		**PKPdf**	**22 41 24.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=52,slow=2.4,SNR=2.4								
TORD	**Torodi Ar. Bea**	**130.17**	**282**	PKP		**PKPdf**	**22 41 24.5**	**+1.0**
LPAZ	**La Paz**	**150.08**	**140**	PKPbc		**PKPbc**	**22 42 05.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=120,slow=3.2,SNR=3.6								
LPAZ	**La Paz**	**150.08**	**140**	PKPbc		**PKPbc**	**22 42 05.7**	**+0.7**

*CSEM **21** 22:25:09.2±0.1,38°.73N×21°.22E,h2km,ML2.7/5, Error ellipse: s-maj=2.9km s-min=2.5km az=39.0*
*ATH **21** 22:25:09.2,38°.71N×21°.23E,h19km,MD3.0/12*
THE 21 22:25:09.5,38.72N×21°.22E,h13km±1km, ML2.7/5, Error ellipse: s-maj=1.6km s-min=0.3km az=183.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op		h m s	ISC
LKD2	**Lefkada island**	**0.44**	**279**	P	Pg	22 25 18.4	0.0
LKD2				S	Sg	22 25 24.8	+0.4
LKD2	**Lefkada island**	**0.44**	**279**	*ePB*	Pg	22 25 18.4	0.0
LKD2				*eSB*	Sb	22 25 25.5	-0.4
LKD2	**Lefkada island**	**0.44**	**279**	P	Pg	22 25 18.4	0.0
LKD2				S	Sg	22 25 24.8	+0.4
LKD2				*eSb*	Sb	22 25 25.5	-0.4
EVR	**Evrytania**	**0.50**	**67**	*ePB*	Pg	22 25 18.8	-0.7
EVR				*eSB*	Sg	22 25 26.0	-0.3
EVR	**Evrytania**	**0.50**	**67**	*ePb*	Pg	22 25 18.8	-0.7
EVR				*eSb*	Sg	22 25 26.0	-0.3
EFP	**Efpalio**	**0.61**	**118**	P	Pg	22 25 21.1	-0.4
EFP				S	Sb	22 25 30.3	-0.4
EFP	**Efpalio**	**0.61**	**118**	*ePN*	Pg	22 25 21.0	-0.5
EFP				*eSN*	Sg	22 25 29.5	-0.1
EFP	**Efpalio**	**0.61**	**118**	P	Pg	22 25 21.1	-0.4
EFP				*eSn*	Sg	22 25 29.5	-0.1
EFP				S	Sb	22 25 30.3	-0.4
UPR	**University Cam**	**0.62**	**134**	*ePN*	Pg	22 25 21.8	+0.1
UPR				*eSN*	Sg	22 25 29.9	0.0
RLS	**Riolos of Patr**	**0.69**	**164**	*ePN*	Pg	22 25 22.7	-0.2
RLS				*eSN*	Sg	22 25 32.3	+0.3
KFL	**Anninata**	**0.70**	**209**	P	Pg	22 25 22.7	-0.4
KFL	**Anninata**	**0.70**	**209**	P	Pg	22 25 22.7	-0.4
VLS	**Valsamata**	**0.73**	**222**	*ePN*	Pg	22 25 23.0	-0.8
VLS				*eSN*	Sb	22 25 34.4	+0.2
VLS	**Valsamata**	**0.73**	**222**	*ePn*	Pg	22 25 23.0	-0.8
VLS				*eSn*	Sb	22 25 34.4	+0.2
TRIZ	**Trizonia**	**0.76**	**118**	P	Pg	22 25 24.0	-0.2
TRIZ				S	Sb	22 25 35.0	+0.2
TRIZ	**Trizonia**	**0.76**	**118**	P	Pg	22 25 24.0	-0.2
TRIZ				S	Sb	22 25 35.0	+0.2
LAKA	**Lakka**	**0.77**	**129**	P	Pg	22 25 23.9	-0.5
LAKA				S	Sb	22 25 35.2	+0.1
LAKA	**Lakka**	**0.77**	**129**	P	Pg	22 25 23.9	-0.5
LAKA				S	Sb	22 25 35.2	+0.1
MAKR	**Makrakomi, Fth**	**0.77**	**68**	P	Pg	22 25 24.1	-0.4
MAKR				S	Sb	22 25 35.3	0.0
MAKR	**Makrakomi, Fth**	**0.77**	**68**	P	Pg	22 25 24.1	-0.4
MAKR				S	Sb	22 25 35.3	0.0
KALE	**Kalithea**	**0.79**	**114**	P	Pg	22 25 24.6	-0.4
KALE				S	Sb	22 25 36.5	+0.5
KALE	**Kalithea**	**0.79**	**114**	P	Pg	22 25 24.6	-0.4
KALE				S	Sb	22 25 36.5	+0.5
RGA	**Parga**	**0.90**	**312**	P	Pg	22 25 26.3	-0.7
RGA	**Parga**	**0.90**	**312**	P	Pg	22 25 26.3	-0.7
JAN	**Janina**	**0.98**	**343**	*ePN*	Pb	22 25 28.0	-0.4
JAN				*eSN*	Sg	22 25 41.6	+0.3
THL	**Klokotos Trika**	**1.04**	**36**	*ePN*	Pb	22 25 28.6	-0.9
THL				*eSN*	Sb	22 25 43.0	-0.1
THL	**Klokotos Trika**	**1.04**	**36**	*ePn*	Pb	22 25 28.6	-0.9
THL				*eSn*	Sb	22 25 43.0	-0.1
MEV	**Metsovon**	**1.06**	**0**	P	Pb	22 25 29.3	-0.7
MEV	**Metsovon**	**1.06**	**0**	P	Pb	22 25 29.3	-0.7
GUR	**Goura**	**1.18**	**131**	*ePN*	Pn	22 25 31.1	-0.8
GUR				*eSN*	Sg	22 25 47.8	-0.1
GUR	**Goura**	**1.18**	**131**	*ePn*	Pn	22 25 31.1	-0.8
GUR				*eSn*	Sg	22 25 47.8	-0.1
KEK	**Kerkira**	**1.48**	**312**	*ePN*	Pb	22 25 37.1	+0.2
KEK				*eSN*	Sg	22 25 57.2	-0.1
LTK	**Loutraki**	**1.54**	**116**	*ePN*	Pb	22 25 37.5	-0.5
LTK				*eSN*	Sg	22 25 58.6	-0.6
LTK	**Loutraki**	**1.54**	**116**	*ePn*	Pb	22 25 37.5	-0.5
LTK				*eSn*	Sg	22 25 58.6	-0.6
VLX	**Vlachokerasia**	**1.63**	**145**	*ePB*	Pn	22 25 37.9	-0.2
VLX	**Vlachokerasia**	**1.63**	**145**	*eP*	Pg	22 25 40.9	-0.1
VLX				*eS*	Sg	22 26 03.2	+0.9
VLX	**Vlachokerasia**	**1.63**	**145**	*ePb*	Pn	22 25 37.9	-0.2
VLX	**Vlachokerasia**	**1.63**	**145**	*eP*	Pg	22 25 40.9	-0.1
VLX				*eS*	Sg	22 26 03.2	+0.9
ITM	**Ithomi**	**1.64**	**160**	*ePN*	Pb	22 25 38.9	-0.7
ITM				*eSN*	Sb	22 26 00.9	+0.7
ITM	**Ithomi**	**1.64**	**160**	*ePn*	Pb	22 25 38.9	-0.7
ITM				*eSn*	Sb	22 26 00.9	+0.7
KZN	**Kozani**	**1.64**	**15**	*ePN*	Pb	22 25 39.6	-0.1
KZN				*eSN*	Sb	22 26 01.4	+1.0
KZN	**Kozani**	**1.64**	**15**	*eP*	Pb	22 25 39.6	-0.1
KZN				*eS*	Sb	22 26 00.9	+0.5
KZN	**Kozani**	**1.64**	**15**	*ePn*	Pb	22 25 39.6	-0.1
KZN				*eSn*	Sb	22 26 01.4	+1.0
KZN	**Kozani**	**1.64**	**15**	*eP*	Pb	22 25 39.6	-0.1
KZN				*eS*	Sb	22 26 00.9	+0.5
NEO	**Neokhori**	**1.67**	**69**	*ePN*	Pb	22 25 40.0	-0.1
NEO				*eSN*	Sb	22 26 01.9	+0.8
NEO	**Neokhori**	**1.67**	**69**	*ePn*	Pb	22 25 40.0	-0.1
NEO				*eSn*	Sb	22 26 01.9	+0.8
LIT	**Litokhoron**	**1.69**	**35**	*ePN*	Pb	22 25 40.2	-0.4
LIT				*eSN*	Sb	22 26 02.9	+1.1
LIT	**Litokhoron**	**1.69**	**35**	*ePn*	Pb	22 25 40.2	-0.4
LIT				*eSn*	Sb	22 26 02.9	+1.1
PYL	**PYLOS**	**1.87**	**167**	*ePB*	Pn	22 25 41.6	+0.4
PYL	**PYLOS**	**1.87**	**167**	*ePb*	Pn	22 25 41.6	+0.4
DID	**Didima**	**2.00**	**127**	*ePN*	Pb	22 25 44.7	-1.1
DID				*eSN*	Sb	22 26 09.9	-0.8
DID	**Didima**	**2.00**	**127**	*ePn*	Pb	22 25 44.7	-1.1
DID				*eSn*	Sb	22 26 09.9	-0.8
NAIG	**Nisos Aigina**	**2.03**	**118**	*ePN*	Pn	22 25 44.5	+1.1
NAIG	**Nisos Aigina**	**2.03**	**118**	*ePn*	Pn	22 25 44.5	+1.1
VLY	**Voula,Athens**	**2.21**	**112**	*ePN*	Pn	22 25 46.8	+1.0
VLY				*eSN*	Sn	22 26 14.3	+1.3
VLY	**Voula,Athens**	**2.21**	**112**	*ePn*	Pn	22 25 46.8	+1.0
VLY				*eSn*	Sn	22 26 14.3	+1.3
PLG	**Polygyros**	**2.38**	**46**	*ePN*	Pn	22 25 49.1	+0.7
PLG				*eSN*	Sn	22 26 18.4	+0.9
PLG	**Polygyros**	**2.38**	**46**	*ePn*	Pn	22 25 49.1	+0.7
PLG				*eSn*	Sn	22 26 18.4	+0.9
VLI	**Veliai**	**2.42**	**145**	*ePN*	Pn	22 25 50.0	+1.2
VLI				*eSN*	Sn	22 26 19.9	+1.6
VLI	**Veliai**	**2.42**	**145**	*ePn*	Pn	22 25 50.0	+1.2
VLI				*eSn*	Sn	22 26 19.9	+1.6
SOH	**Sokhos**	**2.67**	**37**	*ePN*	Pn	22 25 53.9	+1.6
SOH				*eSN*	Sn	22 26 26.4	+1.9
SOH	**Sokhos**	**2.67**	**37**	*ePn*	Pn	22 25 53.9	+1.6
SOH	

KSP *i* Sg **Sg** **23 07 27.8 +1.6**
KSP *eL* L 23 07 31.5
KSP Ksiaz 0.63 172 *e*Pg **Pg** **23 07 19.1 +1.0**
SNR=90
KSP *e*Sg **Sb** **23 07 28.8 -0.4**
KSP Ksiaz 0.63 172 *e*Pg **Pg** **23 07 19.0 +1.0**
baz=14
KSP *e*Sg **Sb** **23 07 27.9 -1.4**
baz=14
UPC Upice 0.96 186 *e*PG **Pg** **23 07 25.0 +0.5**
UPC Upice 0.96 186 Pg **Pg** **23 07 25.0 +0.5**
DPC Dobruska-Polom 1.12 175 *e*Pg **Pg** **23 07 27.9 +0.3**
SNR=187
DPC *e*Sg **Sb** **23 07 43.8 +0.3**
DPC Dobruska-Polom 1.12 175 *e*PG **Pg** **23 07 27.8 +0.3**
DPC *e*SG **Sg** **23 07 42.5 +0.5**
comp=Z,96nm,0.5s
DPC Dobruska-Polom 1.12 175 Pg **Pg** **23 07 27.9 +0.3**
SNR=187
DPC *e*Sg **Sg** **23 07 42.6 +0.5**
baz=7.5
PVCC Panska Ves 1.38 228 *e*PG **Pg** **23 07 31.8 -0.6**
PVCC *e*SG **Sg** **23 07 50.5 +0.3**
PVCC Panska Ves 1.38 228 Pg **Pg** **23 07 31.8 -0.6**
PVCC Sg **Sg** **23 07 50.5 +0.3**
KRLC Kraliky 1.45 164 *e*PG **Pn** **23 07 33.3 -0.2**
KRLC *e*SG **Sb** **23 07 53.0 +0.2**
KRLC Kraliky 1.45 164 Pg **Pn** **23 07 33.3 -0.2**
KRLC Sg **Sb** **23 07 53.0 +0.2**
BRG Berggiesshubel 1.52 248 PN **Pn** **23 07 32.9 -1.5**
BRG PG **Pb** **23 07 34.7 -0.3**
BRG SG **Sb** **23 07 54.6 -0.2**
157nm,0.5s
BRG Berggiesshubel 1.52 248 *e*Pn **Pn** **23 07 33.0 -1.5**
SNR=4.9
BRG *e*Pg **Pb** **23 07 35.0 0.0**
SNR=61
BRG *e*Sg **Sb** **23 07 54.9 +0.1**
BRG Berggiesshubel 1.52 248 Pn **Pn** **23 07 33.0 -1.5**
SNR=4.9
RUE Ruedersdorf 1.79 306 *e*Pn **Pn** **23 07 36.4 -1.7**
SNR=14
RUE *e*Sg **Sn** **23 08 02.2 +0.7**
RUE Ruedersdorf 1.79 306 Pn **Pn** **23 07 36.4 -1.7**
SNR=14
RUE Sg **Sn** **23 08 02.2 +0.7**
PRU Pruhonice 1.80 215 *e*Pn **Pn** **23 07 37.7 -0.7**
SNR=4.4
PRU *e*Pg **Pn** **23 07 39.7 +1.4**
SNR=69
PRU *e*Sg **Sg** **23 08 06.1 +2.2**
PRU Pruhonice 1.80 215 *e*PN **Pn** **23 07 37.7 -0.7**
PRU *e*PG **Pb** **23 07 39.0 -0.9**
PRU *e*SG **Sn** **23 08 02.5 +0.6**
comp=Z,98nm,0.6s
PRU Pruhonice 1.80 215 Pn **Pn** **23 07 37.7 -0.7**
PRU Pruhonice 1.80 215 Pg **Pn** **23 07 39.7 +1.4**
SNR=69
PRU Sg **Sn** **23 08 02.5 +0.6**
98nm,0.6s
FBE Freiberg 1.85 254 *e*Pn **Pn** **23 07 37.7 -1.3**
SNR=2.7
FBE *e*Pg **Pb** **23 07 40.4 -0.2**
SNR=20
FBE *e*Sg **Sn** **23 08 04.8 +1.8**
FBE Freiberg 1.85 254 Pn **Pn** **23 07 37.7 -1.3**
SNR=2.7
RAC Raciborz 1.89 136 *e*Pn **Pn** **23 07 39.0 -0.6**
RAC *e*Pg **Pb** **23 07 42.1 +0.7**
RAC *e*Sg **Sg** **23 08 07.6 +0.8**
RAC Raciborz 1.89 136 *e*Pn **Pn** **23 07 39.0 -0.6**
MORC Moravsky Berou 1.91 152 *e*Pn **Pn** **23 07 39.7 -0.1**
SNR=38
MORC *e*Sg **Sg** **23 08 07.8 +0.6**
MORC Moravsky Berou 1.91 152 ⇓*i*P **Pn** **23 07 39.7 -0.1**
MORC Moravsky Berou 1.91 152 ⇓*i*P **Pn** **23 07 39.7 -0.1**
MORC S **Sg** **23 08 07.1 -0.1**
MORC Sg **Sg** **23 08 07.8 +0.6**
GKP Gorka Klasztor 1.92 20 *e*Pn **Pn** **23 07 40.4 +0.4**
GKP *e*Pg **Pg** **23 07 44.0 +1.1**
GKP *e*PX 23 07 47.9
GKP *e*Sg **Sg** **23 08 09.5 +1.7**
GKP Gorka Klasztor 1.92 20 *e*Pn Pn 23 07 36.6 -3.4
SNR=1.3
GKP *e*Pg **Pn** **23 07 40.6 +0.6**
SNR=14
GKP Gorka Klasztor 1.92 20 Pn Pn 23 07 36.6 -3.4
SNR=1.3
GKP Gorka Klasztor 1.92 20 Pg **Pn** **23 07 40.6 +0.6**
SNR=14
GKP *e*Sg **Sg** **23 08 09.5 +1.7**
CLL Collm 1.98 267 *e*Pn **Pn** **23 07 39.4 -1.5**
SNR=6.3
CLL *e*Pg **Pb** **23 07 42.8 -0.2**
SNR=5.5
CLL *e*Sg **Sn** **23 08 08.7 +2.3**
CLL Collm 1.98 267 *e*Pn **Pn** **23 07 39.0 -1.9**
CLL *i* Pg **Pb** **23 07 42.6 -0.4**
CLL *e* 23 07 46.0
CLL *e*Sg **Sn** **23 08 08.0 +1.6**
comp=Z,67nm,0.5s
CLL Collm 1.98 267 Pn **Pn** **23 07 39.4 -1.5**
SNR=6.3
OKC Ostrava-Krasne 2.06 141 *e*Pn **Pn** **23 07 41.6 -0.3**
SNR=2.5
OKC *e*Pg **Pg** **23 07 46.2 +0.6**
SNR=8.3
OKC *e*Sg **Sg** **23 08 13.0 +0.7**
OKC Ostrava-Krasne 2.06 141 *e*PN **Pn** **23 07 41.2 -0.7**
OKC *e*PG **Pb** **23 07 44.7 +0.4**
OKC *e*SG **Sg** **23 08 11.9 -0.4**
comp=Z,136nm,0.7s
OKC Ostrava-Krasne 2.06 141 Pn **Pn** **23 07 41.6 -0.3**
SNR=2.5
OKC Ostrava-Krasne 2.06 141 Pg **Pg** **23 07 46.2 +0.6**
SNR=8.3
OKC Sg **Sg** **23 08 13.0 +0.7**
VRAC Vranov 2.18 173 Pn **Pn** **23 07 44.1 +0.6**
comp=Z,4.2nm,0.3s,baz=329,slow=15,SNR=39
VRAC Lg Lg 23 08 16.1
comp=Z,6.2nm,0.3s,baz=246,slow=20,SNR=5.3
VRAC Vranov 2.18 173 ⇓*i*P **Pn** **23 07 44.1 +0.6**
VRAC Vranov 2.18 173 *e*Pn **Pn** **23 07 43.5 0.0**
baz=360
VRAC Vranov 2.18 173 ⇓*i*P **Pn** **23 07 44.1 +0.6**
VRAC *e*Sg **Sg** **23 08 15.3 -0.7**
comp=Z,50nm,0.4s,baz=360
VRAC S **Sb** **23 08 15.6 +1.8**
TREC Trest 2.21 191 *e*PN **Pn** **23 07 44.3 +0.2**
TREC *e*PG **Pb** **23 07 47.1 +0.1**
TREC Trest 2.21 191 Pn **Pn** **23 07 44.3 +0.2**
TREC Trest 2.21 191 Pg **Pb** **23 07 47.1 +0.1**
KRUC Moravsky 2.41 176 *e*Pn **Pn** **23 07 47.3 +0.6**
baz=2.5
KRUC *e*Sg **Sg** **23 08 22.3 -1.2**
comp=Z,73nm,0.6s,baz=2.5
TANN Tannenbergstha 2.56 247 *e*Pn **Pn** **23 07 48.5 -0.4**
SNR=11
TANN *e*Pg **Pb** **23 07 55.1 +2.2**
SNR=5.0
TANN *e*Sg **Sb** **23 08 26.2 +1.2**
TANN Tannenbergstha 2.56 247 Pn **Pn** **23 07 48.5 -0.4**
SNR=11
OJC Ojcow 2.62 117 *e*Pn **Pn** **23 07 48.0 -1.6**
OJC *e*Pg **Pg** **23 07 56.5 +0.2**
OJC *e*Sg **Sg** **23 08 32.5 +2.3**
OJC Ojcow 2.62 117 *e*Pn **Pn** **23 07 48.3 -1.3**
SNR=4.3
OJC *e*Pg **Pg** **23 07 56.7 +0.4**
SNR=7.1
OJC *e*Sg **Sg** **23 08 33.1 +2.8**
OJC Ojcow 2.62 117 Pn **Pn** **23 07 48.3 -1.3**
SNR=4.3
WERD Werda 2.64 249 *e*Pn **Pn** **23 07 49.2 -0.7**
SNR=4.6
WERD *e*Pg **Pb** **23 07 55.7 +1.5**
SNR=11
WERD *e*Sg **Sb** **23 08 29.1 +1.9**
WERD Werda 2.64 249 Pn **Pn** **23 07 49.2 -0.7**
SNR=4.6
NKC Novy Kostel 2.66 244 *e*Pn **Pn** **23 07 49.5 -0.6**
SNR=13
NKC Novy Kostel 2.66 244 *e*PN **Pn** **23 07 49.5 -0.6**
NKC *e*PG **Pb** **23 07 55.0 +0.5**
NKC *e*SG **Sb** **23 08 30.7 +3.1**
comp=Z,96nm,0.4s
NKC Novy Kostel 2.66 244 Pn **Pb** **23 07 55.0 +0.5**
NKC Sg **Sb** **23 08 30.7 +3.1**
comp=Z,96nm,0.4s
GUNZ Gunzen 2.66 247 *e*Pn **Pn** **23 07 49.8 -0.4**
SNR=3.3
GUNZ *e*Pg **Pb** **23 07 56.3 +1.7**
SNR=6.7
GUNZ *e*Sg **Sg** **23 08 31.6 +0.1**
GUNZ Gunzen 2.66 247 Pn **Pn** **23 07 49.8 -0.4**
SNR=3.3
WERN Wernitzgruen 2.67 245 *e*Pn **Pn** **23 07 50.6 +0.3**
SNR=12
WERN *e*Pg **Pb** **23 07 57.0 +2.2**
SNR=3.8
WERN *e*Sg **Sg** **23 08 31.5 -0.3**
WERN Wernitzgruen 2.67 245 Pn **Pn** **23 07 50.6 +0.3**
SNR=12
WERN Wernitzgruen 2.67 245 Pg **Pb** **23 07 57.0 +2.2**
SNR=3.8
WERN Sg **Sg** **23 08 31.5 -0.3**
PLN Plauen 2.71 250 *e*Pn **Pn** **23 07 50.1 -0.8**
SNR=6.7
PLN *e*Pg **Pb** **23 07 56.5 +1.0**
SNR=3.3
PLN *e*Sg **Sb** **23 08 31.9 +2.6**
PLN Plauen 2.71 250 Pn **Pn** **23 07 50.1 -0.8**
SNR=6.7
NEUB Neuenburg 2.76 266 *e*Pg **Pb** **23 07 57.9 +1.6**
SNR=8.4
NEUB *e*Sg **Sb** **23 08 33.4 +2.8**
NEUB Neuenburg 2.76 266 Pg **Pb** **23 07 57.9 +1.6**
SNR=8.4
NEUB Sg **Sb** **23 08 33.4 +2.8**
JAVC Velka Javorina 2.78 159 *e*Sg **Sg** **23 08 35.8 +0.4**
comp=Z,46nm,0.6s
KHC Kasperske Hory 2.86 216 *e*PN **Pn** **23 07 52.5 -0.5**
KHC *e*PG **Pb** **23 07 58.5 +0.5**
KHC *ex* x 23 08 23.5
KHC *e*SG **Sb** **23 08 35.0 +1.4**
KHC Kasperske Hory 2.86 216 Pn **Pn** **23 07 52.5 -0.5**
KHC Kasperske Hory 2.86 216 Pg **Pb** **23 07 58.5 +0.5**
KHC Sg **Sb** **23 08 35.0 +1.4**
MOX Moxa 2.98 256 *e*Pn **Pn** **23 07 53.8 -0.8**
SNR=4.7
MOX *e*Pg **Pb** **23 08 01.8 +1.7**
SNR=7.5
MOX *e*Sg **Sg** **23 08 41.9 +0.1**
MOX Moxa 2.98 256 Pn **Pn** **23 07 53.8 -0.8**
SNR=4.7
ROTZ Rotenmuhle 3.04 238 *e*Pn **Pn** **23 07 55.0 -0.3**
SNR=16
ROTZ *e*Pg **Pb** **23 08 03.2 +2.2**
SNR=1.4
ROTZ Rotenmuhle 3.04 238 Pn **Pn** **23 07 55.0 -0.3**
SNR=16
GEC2 GERESS Array S 3.06 212 *e*Pn **Pn** **23 07 55.5 -0.3**
SNR=18
GEC2 GERESS Array S 3.06 212 Pn **Pn** **23 07 55.5 -0.3**
SNR=18
GERES GERESS Array B 3.06 212 Pn **Pn** **23 07 55.5 -0.3**
comp=Z,4.0nm,0.3s,baz=29,slow=12,SNR=126
GERES Pg **Pb** **23 08 02.2 +0.8**
comp=Z,9.1nm,0.3s,baz=31,slow=19,SNR=45
GERES Lg Lg 23 08 42.5
comp=Z,8.2nm,0.3s,baz=30,slow=26,SNR=5.9
SMOL Smolenice 3.07 164 *e*PN **Pn** **23 07 57.8 +2.1**
SMOL *e* 23 08 06.3
SMOL Smolenice 3.07 164 *e*Pn **Pn** **23 07 57.8 +2.1**
SMOL *e*Sg **Sg** **23 08 45.2 +0.7**
WET Wettzell 3.13 223 *e*Pn **Pn** **23 07 56.6 -0.1**
SNR=8.8
WET Wettzell 3.13 223 Pn **Pn** **23 07 56.6 -0.1**
SNR=8.8
KOLL Kolacno 3.23 153 *e*PN **Pn** **23 07 58.5 +0.5**
KOLL *e* 23 08 08.2
KOLL Kolacno 3.23 153 *e*Pn **Pn** **23 07 58.5 +0.5**
KOLL *e*Sg **Sg** **23 08 50.5 +0.7**
ZST Bratislava 3.33 169 *e* **Pg** **23 08 10.1 +0.3**
ZST Bratislava 3.33 169 *e*SG **Sg** **23 08 52.5 -0.4**
ZST Bratislava 3.33 169 *e*Sg **Sg** **23 08 52.5 -0.4**
NIE Niedzica 3.35 126 *e*Pn **Pn** **23 08 00.1 +0.4**
NIE *e*Pg **Pg** **23 08 10.1 -0.2**
NIE *e*Sg **Sg** **23 08 54.6 +0.9**
NIE Niedzica 3.35 126 *e*Pn **Pn** **23 08 00.1 +0.4**
VYHS Vyhne 3.44 149 *e*Pn **Pn** **23 08 01.1 +0.2**
SNR=7.6
VYHS Vyhne 3.44 149 *e*PN **Pn** **23 08 00.9 0.0**
VYHS *e* 23 08 12.4
VYHS Vyhne 3.44 149 *e*Pn **Pn** **23 08 00.9 0.0**
VYHS *e*Sg **Sg** **23 08 56.8 +0.3**
CONA Conrad Observa 3.55 183 ⇑*i*Pn **Pn** **23 08 03.1 +0.7**
SNR=12
CONA ⇓*i*Sg **Sg** **23 09 00.5 +0.6**
comp=Z,53nm,0.4s
CONA Conrad Observa 3.55 183 Pn **Pn** **23 08 03.1 +0.7**
SNR=12
CONA Sg **Sg** **23 09 00.5 +0.6**
comp=Z,53nm,0.4s
GRA1 Grafenberg Arr 3.61 242 Pn **Pn** **23 08 03.0 -0.3**
SNR=6.8
GRA1 Sg **Sg** **23 09 01.3 -0.8**
GRF Grafenberg Arr 3.61 242 *e*Pn **Pn** **23 08 03.0 -0.3**
SNR=6.8
GRF *e*Sg **Sg** **23 09 01.3 -0.8**
CLZ Clausthal 3.62 278 *e*Pn **Pn** **23 08 03.3 -0.2**
SNR=8.1
CLZ Clausthal 3.62 278 Pn **Pn** **23 08 03.3 -0.2**
SNR=8.1
MOA Molln 3.82 200 ⇑*i*Pn **Pn** **23 08 06.6 +0.4**
SNR=12
MOA ⇑*i*Sg **Sg** **23 09 08.6 -0.2**
comp=Z,42nm,0.5s
MOA Molln 3.82 200 Pn **Pn** **23 08 06.6 +0.4**
SNR=12
MOA Sg **Sg** **23 09 08.6 -0.2**
comp=Z,42nm,0.5s
STHS Stebnicka Huta 3.84 120 *e*PN **Pn** **23 08 06.9 +0.5**
STHS *e* 23 08 21.0
STHS Stebnicka Huta 3.84 120 *e*Pn **Pn** **23 08 06.9 +0.5**
STHS *e*Sg **Sg** **23 09 09.5 +0.1**
UBBA Unterbreizbach 3.93 263 *e*Pn **Pn** **23 08 07.7 +0.2**
SNR=4.4
UBBA *e*Sg **Sg** **23 09 12.5 +0.2**
UBBA Unterbreizbach 3.93 263 Pn **Pn** **23 08 07.7 +0.2**
SNR=4.4
UBBA Sg **Sg** **23 09 12.5 +0.2**
ARSA Arzberg 4.24 186 ⇑*i*Pn **Pn** **23 08 11.9 0.0**
ARSA ⇑*i*Sg **Sg** **23 09 22.8 +0.6**
comp=Z,38nm,0.7s
ARSA Arzberg 4.24 186 Pn **Pn** **23 08 11.9 0.0**
ARSA Sg **Sg** **23 09 22.8 +0.6**
comp=Z,38nm,0.7s
CRVS Cervenica-Dubn 4.26 125 *e*PN **Pn** **23 08 12.6 +0.4**
CRVS *e* 23 08 28.8
CRVS Cervenica-Dubn 4.26 125 *e*Pn **Pn** **23 08 12.6 +0.4**
CRVS *e*Sg **Sg** **23 09 24.8 +1.8**
PSZ Piszkesteto 4.30 144 ⇑*i*P **Pn** **23 08 13.7 +1.0**
PSZ Piszkesteto 4.30 144 ⇑*i*P **Pn** **23 08 13.7 +1.0**
RJOB Jochberg 4.33 212 *e*Pn **Pn** **23 08 13.4 +0.3**
SNR=6.4
RJOB Jochberg 4.33 212 Pn **Pn** **23 08 13.4 +0.3**
SNR=6.4
BSEG Bad Segeberg 4.33 307 *e*Pn Pn 23 08 10.3 -2.7
SNR=8.0
BSEG Bad Segeberg 4.33 307 Pn Pn 23 08 10.3 -2.7
SNR=8.0
KWP Kalwaria Pacla 4.56 111 *e*Pn **Pn** **23 08 16.0 -0.3**
KWP *e*Pg **Pg** **23 08 30.8 -2.6**
KWP *e*Sg Sg 23 09 40.0 +7.5
KWP Kalwaria Pacla 4.56 111 ⇓*i*P **Pn** **23 08 15.9 -0.4**
KWP Kalwaria Pacla 4.56 111 ⇓*i*P **Pn** **23 08 15.9 -0.4**
KWP Kalwaria Pacla 4.56 111 *e*Pn **Pn** **23 08 16.0 -0.3**
FUR Furstenfeldbru 4.57 226 *e*Pn **Pn** **23 08 16.8 +0.4**
SNR=1.9
FUR Furstenfeldbru 4.57 226 Pn **Pn** **23 08 16.8 +0.4**
SNR=1.9
KBA Koelnbreinsper 4.76 204 ⇑*i*Pn **Pn** **23 08 19.6 +0.4**
SNR=8.7
KBA ⇓*i*Sg **Sg** **23 09 39.7 +0.8**
comp=Z,26nm,0.6s
KBA Koelnbreinsper 4.76 204 Pn **Pn** **23 08 19.6 +0.4**
SNR=8.7
KBA Sg **Sg** **23 09 39.7 +0.8**
comp=Z,26nm,0.6s
TNS Taunus Mts 5.04 259 *e*Pn **Pn** **23 08 22.2 -0.8**
SNR=4.0
TNS Taunus Mts 5.04 259 Pn **Pn** **23 08 22.2 -0.8**
SNR=4.0
WATA Walderalm 5.10 218 ⇑*i*Pn **Pn** **23 08 24.4 +0.6**
WATA ⇓*i*Sg **Sg** **23 09 51.2 +1.3**
comp=Z,11nm,0.5s
WATA Walderalm 5.10 218 Pn **Pn** **23 08 24.4 +0.6**
WATA Sg **Sg** **23 09 51.2 +1.3**
comp=Z,11nm,0.5s
MOTA Moosalm 5.28 221 ⇑*i*Pn **Pn** **23 08 26.2 -0.1**
MOTA ⇓*i*Sg **Sg** **23 09 56.3 +0.6**
comp=Z,9.1nm,0.5s
MOTA Moosalm 5.28 221 Pn **Pn** **23 08 26.2 -0.1**
MOTA Sg **Sg** **23 09 56.3 +0.6**
comp=Z,9.1nm,0.5s
TRPA Tarpa 5.31 126 ⇑*i*P **Pn** **23 08 27.5 +1.0**
TRPA Tarpa 5.31 126 ⇑*i*P **Pn** **23 08 27.5 +1.0**
DAVA Damuels 5.86 227 ⇑*i*Pn **Pn** **23 08 33.4 -0.8**
DAVA Damuels 5.86 227 Pn **Pn** **23 08 33.4 -0.8**
BFO Black Forest 5.95 241 *e*Sg **Sg** **23 10 16.6 -0.6**
BFO Black Forest 5.95 241 Sg **Sg** **23 10 16.6 -0.6**
DAVOX Davos/Dischmat 6.24 224 Pn **Pn** **23 08 38.5 -1.0**
comp=Z,0.9nm,0.3s,baz=34,slow=14,SNR=9.9
DAVOX Lg Lg 23 10 22.2
comp=Z,0.4nm,0.3s,baz=342,slow=20,SNR=2.8
DRGR 6.35 135 ⇑*i*P **Pn** **23 08 41.3 +0.4**
DRGR 6.35 135 ⇑*i*P **Pn** **23 08 41.3 +0.4**
BZS Buzias 6.88 146 ⇑*i*P **Pn** **23 08 50.0 +1.9**
BZS Buzias 6.88 146 ⇑*i*P **Pn** **23 08 50.0 +1.9**
BURAR Bucovina Array 7.04 120 ⇑*i*P **Pn** **23 08 51.4 +1.0**
BURAR Bucovina Array 7.04 120 ⇑*i*P **Pn** **23 08 51.4 +1.0**
AKASG Malin Array Be 8.27 90 Pn **Pn** **23 09 05.6 -1.5**
comp=Z,2.1nm,0.3s,baz=280,slow=12,SNR=8.2
AKASG Sn **Sn** **23 10 36.2 -4.8**
comp=Z,1.3nm,0.3s,baz=281,slow=24,SNR=3.4
HFS Hagfors 8.80 352 Pn Pn 23 09 11.9 -2.5
comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=7.0
HFS Sn Sn 23 10 48.6 -5.6
comp=Z,0.4nm,0.3s,baz=179,slow=27,SNR=5.1
HFS Lg Lg 23 11 47.3
comp=Z,0.2nm,0.3s,baz=176,slow=26,SNR=4.0
NOA NORSAR Array B 9.98 346 Pn Pn 23 09 27.5 -3.1
comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=3.9
FINES FINESS Array B 11.39 25 Pn Pn 23 09 47.4 -2.4
comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=12
FINES Sn Sn 23 11 51.7 -6.0
comp=Z,0.4nm,0.3s,baz=204,slow=20,SNR=5.7
ARCES ARCESS Array B 18.66 10 Pn P 23 11 20.2 -5.0
comp=Z,0.3nm,0.3s,baz=189,slow=14,SNR=8.1
AKTO Aktyubinsk 26.14 76 P **P** **23 12 41.1 -0.5**
comp=Z,0.8nm,0.7s,baz=291,slow=10,SNR=4.2
TORD Torodi Ar. Bea 39.97 202 P **P** **23 14 41.6 -0.6**
comp=Z,0.6nm,0.8s,baz=15,slow=8.2,SNR=3.4
MKAR Makanchi Array 42.20 69 P **P** **23 15 00.5 +0.1**
comp=Z,0.2nm,0.6s,baz=295,slow=7.1,SNR=3.5
YKA Yellowknife Ar 59.91 336 P **P** **23 17 12.2 -1.0**
comp=Z,0.4nm,0.7s,baz=28,slow=6.6,SNR=6.1

GUC 21 23:15:51.8±0.7, 32°.65S×71°.07W, h5km±2km, MD3.7, ML2.5, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.33**	**172**	⇑*i*P		Pg		23 15 59.0	+0.5
ROCH				*i* S		Sg		23 16 04.3	+1.3
PEL	**Peldehue**	**0.59**	**147**	⇓*i*P		Pb		23 16 04.0	-0.7
PEL				*i* S		Sb		23 16 12.9	-0.6
PEL				AML		AML		23 16 14.4	
comp=N,656nm,0.5s									
CHNG	**Los Chungos**	**0.84**	**334**	⇑*i*P		Pg		23 16 08.2	+0.2
CHNG				*i* S		Sb		23 16 20.1	-0.6
CHNG				AML		AML		23 16 20.8	
comp=E,217nm,0.5s									
RCDM	**Rinconada Maip**	**0.87**	**165**	*e*P		Pg		23 16 08.6	0.0
RCDM				AML		AML		23 16 28.5	
comp=E,220nm,0.6s									
CLCH	**Cerro Calan**	**0.87**	**149**	⇑*i*P		Pg		23 16 08.8	+0.2
CLCH				*i* S		Sb		23 16 21.3	-0.4
CLCH				AML		AML		23 16 28.3	
comp=E,271nm,0.5s									
FCH	**Farellones**	**0.94**	**136**	⇑*i*P		Pg		23 16 07.4	-3.0
FCH				*e*S		Sg		23 16 21.8	-1.2
FCH				AML		AML		23 16 34.0	
comp=E,81nm,0.7s									
CHCH	**Chadas Angostu**	**1.33**	**165**	⇓*i*P		Pn		23 16 16.3	-0.9
CHCH				*i* S		Sg		23 16 34.5	-0.2
LNV	**Longovilo**	**1.34**	**192**	*e*P		Pn		23 16 16.1	-1.1
LMEL	**Las Melosas**	**1.40**	**149**	*e*P		Pn		23 16 17.1	-1.2
LMEL				*i* S		Sb		23 16 36.7	-0.4
LMEL				AML		AML		23 16 37.8	
comp=N,191nm,0.2s									
CMCH	**Combarbala**	**1.47**	**2**	⇑*i*P		Pn		23 16 18.4	-0.7
CMCH				*i* S		Sn		23 16 38.6	-0.3
CMCH				AML		AML		23 16 43.0	
comp=E,1μm,0.7s									
CACH	**El Canelo**	**1.52**	**165**	*e*P		Pn		23 16 20.2	+0.3
CACH				*i* S		Sg		23 16 41.3	+0.3

*CSEM **21** 23:26:07.5±0.1, 41°.20N×23°.19E, h0km±2km, ML2.1/7, Error ellipse: s-maj=2.8km s-min=2.5km az=42.0*
*THE **21** 23:26:07.7, 41°.18N×23°.19E, h1km±1km, ML2.1/7, Error ellipse: s-maj=1.6km s-min=0.4km az=359.0*
*BEO **21** 23:26:09.7±1.1, 41°.27N×23°.16E, h0km, ML2.0/3*
*ATH **21** 23:26:10.3, 41°.05N×23°.57E, h5km, MD3.1/3*

ISC 21 23:26:07.7±0.9, 41°.19N±0°.03×23°.19E±0°.02, h10km±8km, n29, σ0°60/52, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.22**	**262**	P		**Pg**		**23 26 12.2**	**0.0**
KNT				S		**Sg**		**23 26 15.0**	**-0.3**
KNT	**Kendrikon**	**0.22**	**262**	P		**Pg**		**23 26 12.2**	**0.0**
KNT				S		**Sg**		**23 26 15.0**	**-0.3**
SRS	**Serrai**	**0.31**	**104**	P		**Pg**		**23 26 13.8**	**-0.1**
SRS				S		**Sg**		**23 26 18.4**	**+0.3**
SRS	**Serrai**	**0.31**	**104**	P		**Pg**		**23 26 13.8**	**-0.1**
SRS				S		**Sg**		**23 26 18.4**	**+0.3**
SOH	**Sokhos**	**0.39**	**161**	P		**Pg**		**23 26 15.3**	**-0.1**
SOH				S		**Sg**		**23 26 20.7**	**+0.1**
SOH	**Sokhos**	**0.39**	**161**	*e*PG		**Pg**		**23 26 15.3**	**-0.1**
SOH				*e*SG		**Sg**		**23 26 20.7**	**+0.1**
SOH	**Sokhos**	**0.39**	**161**	P		**Pg**		**23 26 15.3**	**-0.1**
SOH				S		**Sg**		**23 26 20.7**	**+0.1**
VAY	**Valandovo**	**0.48**	**285**	*i* Pg		**Pg**		**23 26 16.9**	**-0.2**
VAY				*i* Sg		**Sg**		**23 26 23.5**	**0.0**
VAY				eLg		Lg		23 26 25.3	
42nm,0.2s									
NVR	**Nevrokopi**	**0.53**	**73**	*e*PB		**Pg**		**23 26 18.0**	**0.0**
NVR	**Nevrokopi**	**0.53**	**73**	*e*Pb		**Pg**		**23 26 18.0**	**0.0**
THE	**Thessaloniki**	**0.59**	**197**	P		**Pg**		**23 26 18.8**	**-0.2**
THE				S		**Sg**		**23 26 26.7**	**0.0**
THE	**Thessaloniki**	**0.59**	**197**	P		**Pg**		**23 26 18.8**	**-0.2**
THE				S		**Sg**		**23 26 26.7**	**0.0**
HORT	**Hortiatis**	**0.60**	**187**	P		**Pg**		**23 26 19.0**	**-0.3**
HORT				S		**Sg**		**23 26 27.2**	**+0.1**
HORT	**Hortiatis**	**0.60**	**187**	P		**Pg**		**23 26 19.0**	**-0.3**
HORT				S		**Sg**		**23 26 27.2**	**+0.1**
GRG	**Griva**	**0.64**	**249**	P		**Pg**		**23 26 19.7**	**-0.4**
GRG				S		**Sg**		**23 26 28.8**	**+0.3**
GRG	**Griva**	**0.64**	**249**	P		**Pg**		**23 26 19.7**	**-0.4**
GRG				S		**Sg**		**23 26 28.8**	**+0.3**
PLG	**Polygyros**	**0.84**	**167**	*e*PB		**Pg**		**23 26 23.5**	**-0.4**
PLG	**Polygyros**	**0.84**	**167**	*e*Pb		**Pg**		**23 26 23.5**	**-0.4**
KAVA	**Kavala**	**1.02**	**101**	P		**Pb**		**23 26 26.5**	**-0.9**
KAVA				S		**Sn**		**23 26 41.6**	**-0.9**
KAVA	**Kavala**	**1.02**	**101**	P		**Pb**		**23 26 26.5**	**-0.9**
KAVA				S		**Sn**		**23 26 41.6**	**-0.9**
VTS	**Vitosha**	**1.40**	**1**	P		**Pb**		**23 26 33.5**	**-0.5**
VTS	**Vitosha**	**1.40**	**1**	*e*Pg		**Pb**		**23 26 33.8**	**-0.2**
VTS				*e*Sg		**Sn**		**23 26 51.4**	**-0.6**
VTS	**Vitosha**	**1.40**	**1**	P		**Pb**		**23 26 33.5**	**-0.5**
VTS	**Vitosha**	**1.40**	**1**	*e*Pg		**Pb**		**23 26 33.8**	**-0.2**
VTS				*e*Sg		**Sn**		**23 26 51.4**	**-0.6**
BARS	**Barje**	**1.92**	**328**	*e*Pn		**Pb**		**23 26 42.0**	**-0.8**
BARS				*e*Sg		**Sb**		**23 27 07.4**	**+0.6**
BARS	**Barje**	**1.92**	**328**	*e*Pn		**Pb**		**23 26 42.0**	**-0.8**
BARS				*e*Sg		**Sb**		**23 27 07.4**	**+0.6**
ZAPS	**Zavoj**	**2.12**	**349**	*e*Pn		**Pb**		**23 26 45.1**	**-1.1**
ZAPS				*e*Sn		**Sb**		**23 27 11.6**	**-1.0**

GRUS	**Gruza**	**3.25**	**327**	*e*Pn	**Pn**	**23 27 00.6**	**+1.8**
GRUS				*e*Sg	**Sg**	**23 27 51.5**	**-0.7**
GRUS	**Gruza**	**3.25**	**327**	*e*Pn	**Pn**	**23 27 00.6**	**+1.8**
GRUS				*e*Sg	**Sg**	**23 27 51.5**	**-0.7**

*NSSC **21** 23:30:20.0±0.9, 36°.43N×40°.90E, h0km±10km, ML2.2*
*CSEM **21** 23:30:20.7±0.3, 36°.41N×40°.91E, h2km, ML2.3, Error ellipse: s-maj=7.8km s-min=5.9km az=136.0*
*DDA **21** 23:30:24.2, 36°.48N×41°.03E, h21km, MD2.9*
ISC 21 23:30:21.0±1.1, **36°.42N**±0°.03×**40°.90E**±0°.03, **h5**km±10km, **n23**, σ0**°83**/43, **1C-3D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZRK	**Al-Mazaregh**	**0.62**	**198**	*e*P	**Pg**	**23 30 32.4**	**-0.5**
MZRK				*e*S	**Sg**	**23 30 41.8**	**+0.7**
MZRK				AML	AML	23 30 53.6	
	comp=Z,76nm,0.3s						
MZRK	**Al-Mazaregh** SNR=75	**0.62**	**198**	⇓*e*P	**Pg**	**23 30 32.4**	**-0.5**
MZRK				*e*S	**Sg**	**23 30 41.8**	**+0.7**
	comp=Z,76nm,0.3s,SNR=59						
SFNV	**Sufian**	**0.63**	**270**	*e*P	**Pg**	**23 30 33.3**	**+0.2**
SFNV				*e*S	**Sb**	**23 30 43.2**	**-0.5**
SFNV				AML	AML	23 30 52.4	
	comp=Z,100nm,0.6s						
SFNV	**Sufian** SNR=75	**0.63**	**270**	⇑*e*P	**Pg**	**23 30 33.3**	**+0.2**
SFNV				*e*S	**Sb**	**23 30 43.2**	**-0.5**
	comp=Z,100nm,0.6s,SNR=59						
KBSD	**Kabsdagh**	**0.65**	**334**	*e*P	**Pg**	**23 30 32.3**	**-1.1**
KBSD				*e*S	**Sg**	**23 30 42.2**	**+0.4**
KBSD				AML	AML	23 30 49.6	
	comp=Z,79nm,0.4s						
KBSD	**Kabsdagh** SNR=75	**0.65**	**334**	⇓*e*P	**Pg**	**23 30 32.3**	**-1.1**
KBSD				*e*S	**Sg**	**23 30 42.2**	**+0.4**
	comp=Z,79nm,0.4s,SNR=59						
MARD	**Mardin**	**0.90**	**354**	*i* P	**Pg**	**23 30 38.4**	**+0.2**
MARD				*i* S	**Sn**	**23 30 53.1**	**-0.7**
MNKR	**ALMNKUR**	**1.40**	**251**	*e*P	**Pn**	**23 30 47.0**	**-0.2**
MNKR				*e*S	**Sn**	**23 31 06.4**	**+0.4**
MNKR				AML	AML	23 31 12.2	
	comp=Z,310nm,0.3s						
MNKR	**ALMNKUR** SNR=57	**1.40**	**251**	⇓*e*P	**Pn**	**23 30 47.0**	**-0.2**
MNKR				*e*S	**Sn**	**23 31 06.4**	**+0.4**
	comp=Z,310nm,0.3s,SNR=49						
BEST	**Besiri**	**1.50**	**11**	*i* P	**Pb**	**23 30 49.2**	**-0.1**
BEST				*i* S	**Sg**	**23 31 11.4**	**+2.3**
DIYA	**Diyarbakir**	**1.62**	**338**	*i* P	**Pb**	**23 30 51.5**	**0.0**
DIYA				*i* S	**Sg**	**23 31 13.7**	**+0.6**
DIYA	**Diyarbakir**	**1.62**	**338**	*i* P	**Pb**	**23 30 51.5**	**0.0**
DIYA				*i* S	**Sg**	**23 31 13.7**	**+0.6**
SIRN	**S¨-rnak**	**1.62**	**48**	*i* P	**Pb**	**23 30 51.5**	**0.0**
SIRN				*i* S	**Sg**	**23 31 14.0**	**+0.9**
SIRN	**S¨-rnak**	**1.62**	**48**	*i* P	**Pb**	**23 30 51.5**	**0.0**
SIRN				*i* S	**Sg**	**23 31 14.0**	**+0.9**
ATAB	**Bozova**	**2.33**	**297**	*i* P	**Pn**	**23 30 59.2**	**-0.8**
ATAB				*i* S	**Sb**	**23 31 33.7**	**+1.1**
ATAB	**Bozova**	**2.33**	**297**	*i* P	**Pn**	**23 30 59.2**	**-0.8**
ATAB				*i* S	**Sb**	**23 31 33.7**	**+1.1**
HAKT	**HAKKARI**	**2.52**	**62**	*i* P	**Pn**	**23 31 01.4**	**-1.4**
HAKT				*i* S	**Sn**	**23 31 34.8**	**+0.7**
HAKT	**HAKKARI**	**2.52**	**62**	*i* P	**Pn**	**23 31 01.4**	**-1.4**
HAKT				*i* S	**Sn**	**23 31 34.8**	**+0.7**
ELZG	**Elazig**	**2.57**	**324**	*i* P	**Pb**	**23 31 07.5**	**-0.2**
ELZG				*i* S	**Sg**	**23 31 42.8**	**-0.8**
ELZG	**Elazig**	**2.57**	**324**	*i* P	**Pb**	**23 31 07.5**	**-0.2**
AKCD	**Akcadag**	**3.02**	**309**	*i* P	**Pn**	**23 31 10.2**	**+0.6**
AKCD				*i* S	Sn	23 31 39.3	-6.9
AKCD	**Akcadag**	**3.02**	**309**	*i* P	**Pn**	**23 31 10.2**	**+0.6**
KUZU	**Kuzuini**	**3.09**	**278**	*i* P	**Pb**	**23 31 17.1**	**+0.6**
KUZU				*i* S	**Sg**	**23 31 58.7**	**-1.6**

*IDC **21** 23:43:14.1±1.3, 46°.02N×152°.53E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.5/7, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/40, Error ellipse: s-maj=37.0km s-min=28.8km az=125.0*
*JMA **21** 23:43:17.4±0.6, 46°.54N×152°.58E, h30km, M4.2*
ISC 21 23:43:19.6±1.0, **45°.8N**±0°.2×**152°.7E**±0°.1, **h41**km, **n20**, σ1**°99**/**21**, **mb3.5/6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.55**	**247**	P	**Pn**	**23 44 40.4**	**+0.8**
NEM2				*e*S	**Sn**	**23 45 41.9**	**-0.2**
JRA	**Rausu**	**5.72**	**254**	P	**Pn**	**23 44 44.6**	**+2.7**
JNK	**Nakash**	**6.12**	**252**	P	**Pn**	**23 44 50.0**	**+2.5**
JNK				*e*S	**Sn**	**23 45 57.8**	**+1.6**
JAK	**Akkeshi**	**6.40**	**247**	P	**Pn**	**23 44 52.1**	**+0.8**
JAK				*e*S	**Sn**	**23 46 02.5**	**-0.5**
JTKR	**Abashiri--Toko**	**6.53**	**257**	P	**Pn**	**23 44 55.3**	**+2.3**
JAR	**Ashorobuto**	**6.87**	**252**	P	**Pn**	**23 45 00.2**	**+2.4**
JOB	**Onbets**	**7.00**	**249**	P	**Pn**	**23 45 00.7**	**+1.2**
JKK2	**Kamakawa 2**	**7.35**	**258**	P	**Pn**	**23 45 07.3**	**+2.9**
JCH	**Churui**	**7.44**	**248**	P	**Pn**	**23 45 05.8**	**+0.2**
JCH				*e*S	**Sn**	**23 46 27.5**	**-1.2**
PETK	**Petropavlovsk-**	**8.00**	**22**	Pn	Pn	23 45 10.0	-3.2
	0.3nm,0.3s,baz=185,slow=13,SNR=5.4						
JNBK	**Urakawa-nobuka**	**8.00**	**247**	*e*S		23 46 40.5	
JKB	**Kayabe**	**9.31**	**249**	*e*S		23 47 09.8	
JTM	**Tenmabayashi**	**9.86**	**244**	P	**Pn**	**23 45 38.7**	**-0.1**
JTM				*e*S	**Sn**	**23 47 23.5**	**-4.6**
ILAR	**Eielson Array**	**37.46**	**38**	P	**P**	**23 50 28.9**	**+0.2**
	0.2nm,0.7s,baz=277,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**23 51 46.1**	**-1.6**
	0.2nm,0.6s,baz=59,slow=5.3,SNR=3.6						
AKTO	**Aktyubinsk**	**59.16**	**312**	LR	LR	00 20 24.7	
	comp=Z,69nm,19.1s,baz=115,slow=38						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**23 53 52.0**	**-1.5**
	0.6nm,0.5s,baz=53,slow=7.4,SNR=4.7						
WRA	**Warramunga Arr**	**67.53**	**199**	P	**P**	**23 54 13.5**	**+2.0**
	0.3nm,0.8s,baz=18,slow=7.0,SNR=3.2						
NOA	**NORSAR Array B**	**69.04**	**341**	P	**P**	**23 54 19.7**	**-0.9**
	1.5nm,0.8s,baz=27,slow=6.4,SNR=4.1						
TXAR	**Lajitas Array**	**78.19**	**60**	P	**P**	**23 55 14.8**	**-0.2**
	0.2nm,0.4s,baz=306,slow=3.3,SNR=3.9						

*DDA **21** 23:49:46.8, 36°.79N×27°.52E, h7km, MD2.8*
*ISCJB **21** 23:49:47.1±0.8, 36°.78N±0°.03×27°.42E±0°.04, h2km±6km, Error ellipse: s-maj=6.5km s-min=4.1km az=142.3*
*CSEM **21** 23:49:47.4±0.2, 36°.78N×27°.41E, h2km, MD3.1, Error ellipse: s-maj=4.8km s-min=3.7km az=59.0*
*ATH **21** 23:49:47.5, 36°.81N×27°.57E, h46km, MD3.0/3*
*ISK **21** 23:49:48.2, 36°.83N×27°.45E, h7km, MD3.1*
ISC 21 23:49:47.7±1.0, **36°.80N**±0°.03×**27°.45E**±0°.03, **h11**km±8km, **n29**, σ0**°76**/46, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.26**	**359**	*i* P	**Pg**	**23 49 52.6**	**-0.5**
BDRM				*i* S	**Sg**	**23 49 57.2**	**+0.4**
BDRM	**Kayabasi**	**0.26**	**359**	*i* P	**Pg**	**23 49 52.6**	**-0.5**
BDRM				*i* S	**Sg**	**23 49 57.2**	**+0.4**
BODT	**Bodrum**	**0.28**	**337**	*e*PG	**Pg**	**23 49 53.7**	**+0.2**
BODT				*e*SG	**Sg**	**23 49 57.9**	**+0.6**
BODT	**Bodrum**	**0.28**	**337**	*e*Pg	**Pg**	**23 49 53.7**	**+0.2**
BODT				*e*Sg	**Sg**	**23 49 57.9**	**+0.6**
YER	**Yerkesik**	**0.74**	**63**	*e*PG	**Pb**	**23 50 02.8**	**+0.1**
YER				*e*SG	**Sb**	**23 50 13.6**	**+0.7**
YER	**Yerkesik**	**0.74**	**63**	*e*Pg	**Pb**	**23 50 02.8**	**+0.1**
YER				*e*Sg	**Sb**	**23 50 13.6**	**+0.7**
ARG	**Arkhangelos**	**0.80**	**137**	*e*P	**Pb**	**23 50 03.3**	**-0.3**
ARG				*e*S	**Sg**	**23 50 13.3**	**-0.4**
ARG	**Arkhangelos**	**0.80**	**137**	*e*P	**Pb**	**23 50 03.3**	**-0.3**
ARG				*e*S	**Sg**	**23 50 13.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.91**	**349**	*i* P	**Pg**	**23 50 04.7**	**-0.6**
GCAM				*i* S	**Sb**	**23 50 18.5**	**+0.9**
GCAM	**G?zelcaml?**	**0.91**	**349**	*i* P	**Pg**	**23 50 04.7**	**-0.6**
GCAM				*i* S	**Sb**	**23 50 18.5**	**+0.9**
AYDN	**Tasoluk**	**0.92**	**22**	*i* P	**Pg**	**23 50 04.3**	**-1.2**
AYDN				*i* S	**Sg**	**23 50 17.5**	**0.0**
AYDN	**Tasoluk**	**0.92**	**22**	*i* P	**Pg**	**23 50 04.3**	**-1.2**
AYDN				*i* S	**Sg**	**23 50 17.5**	**0.0**
TURN	**Turunc**	**0.93**	**85**	*i* P	Pg	23 49 58.4	-7.2
TURN				*i* S	Sg	23 50 09.4	-8.3
SMG	**Samos**	**1.03**	**332**	*e*P	**Pg**	**23 50 07.1**	**-0.4**
SMG				*e*S	**Sb**	**23 50 21.6**	**+0.7**
SMG	**Samos**	**1.03**	**332**	*e*P	**Pg**	**23 50 07.1**	**-0.4**
SMG				*e*S	**Sb**	**23 50 21.6**	**+0.7**
KARP	**Karpathos**	**1.28**	**191**	*e*P	**Pn**	**23 50 10.5**	**-1.0**
KARP	**Karpathos**	**1.28**	**191**	*e*P	**Pn**	**23 50 10.5**	**-1.0**
FETY	**Fethiye**	**1.32**	**97**	*e*PN	**Pg**	**23 50 13.7**	**+0.6**
FETY				*e*SN	**Sg**	**23 50 32.3**	**+1.9**
FETY	**Fethiye**	**1.32**	**97**	*e*Pn	**Pg**	**23 50 13.7**	**+0.6**
FETY				*e*Sn	**Sg**	**23 50 32.3**	**+1.9**
APE	**Apeiranthos**	**1.56**	**280**	*e*PN	**Pg**	**23 50 17.5**	**-0.1**
APE	**Apeiranthos**	**1.56**	**280**	*e*P	**Pn**	**23 50 14.6**	**-0.8**
APE				*e*S	**Sn**	**23 50 36.3**	**+0.7**
APE	**Apeiranthos**	**1.56**	**280**	*e*P	**Pn**	**23 50 14.6**	**-0.8**
APE	**Apeiranthos**	**1.56**	**280**	*e*Pn	**Pg**	**23 50 17.5**	**-0.1**
APE				*e*S	**Sn**	**23 50 36.3**	**+0.7**
IZM	**Izmir**	**1.60**	**355**	*e*PN	**Pb**	**23 50 17.2**	**0.0**
IZM	**Izmir**	**1.60**	**355**	*e*Pn	**Pb**	**23 50 17.2**	**0.0**
BLCB	**Balcova**	**1.61**	**349**	*e*PN	**Pb**	**23 50 17.5**	**+0.1**
BLCB	**Balcova**	**1.61**	**349**	*e*Pn	**Pb**	**23 50 17.5**	**+0.1**
KULA	**Kula-Manisa**	**1.96**	**29**	*e*PN	**Pb**	**23 50 22.3**	**-1.1**
KULA	**Kula-Manisa**	**1.96**	**29**	*e*Pn	**Pb**	**23 50 22.3**	**-1.1**

IDC 21 23:51:05.2±3.3, **23°.79S×66°.93W**, **h196**km±33km, **mb3.4/1, mb1 3.3/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=38.1km s-min=28.2km az=96.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.55**	**351**	P	Pn	23 52 53.2	-0.2
	0.3nm,0.3s,baz=176,slow=8.2,SNR=7.7						
LPAZ				S	Sn	23 54 19.2	-0.2
	0.0nm,0.3s,baz=333,slow=12,SNR=3.0						
PLCA	**Paso Flores**	**17.17**	**189**	P	P	23 54 52.1	-0.1
	0.1nm,0.3s,baz=36,slow=3.9,SNR=3.9						
BDFB	**Brasilia**	**19.55**	**69**	P	P	23 55 19.0	+0.6
	0.8nm,0.3s,baz=242,slow=12,SNR=9.3						
TORD	**Torodi Ar. Bea**	**76.43**	**69**	P	P	00 02 33.0	-0.7
	1.0nm,0.9s,baz=253,slow=5.9,SNR=9.4						
MKAR	**Makanchi Array**	**146.32**	**39**	PKPbc	PKPbc	00 10 22.8	0.0
	0.1nm,0.4s,baz=272,slow=3.2,SNR=2.8						

*ISK **21** 23:54:37.2, 39°.32N×31°.47E, h5km, ML1.1*
*ISCJB **21** 23:54:38.4±0.6, 39°.32N±0°.04×31°.53E±0°.05, h6km±6km, Error ellipse: s-maj=7.5km s-min=4.4km az=42.3*
*CSEM **21** 23:54:38.2±0.2, 39°.32N×31°.52E, h10km, ML1.1, Error ellipse: s-maj=6.9km s-min=4.1km az=38.0*
*DDA **21** 23:54:38.4, 39°.36N×31°.56E, h7km, MD2.8*
ISC 21 23:54:38.1±1.0, **39°.32N**±0°.03×**31°.49E**±0°.04, **h6**km±10km, **n18**, σ0**°53**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.13**	**12**	PG	**Pg**	**23 54 40.8**	**-0.1**
SVRH				*e*SG	**Sg**	**23 54 42.8**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.13**	**12**	*i* Pg	**Pg**	**23 54 40.8**	**-0.1**
SVRH				*e*Sg	**Sg**	**23 54 42.8**	**+0.1**
SEYT	**Eskypehyr**	**0.53**	**292**	*i* P	**Pb**	**23 54 49.6**	**-0.3**
SEYT				*i* S	**Sb**	**23 54 58.6**	**+0.7**
SEYT	**Eskypehyr**	**0.53**	**292**	*i* P	**Pb**	**23 54 49.6**	**-0.3**
SEYT				*i* S	**Sb**	**23 54 58.6**	**+0.7**
KIZT	**Kizilcal**	**0.54**	**145**	*e*PG	**Pg**	**23 54 48.4**	**0.0**
KIZT				*e*SG	**Sg**	**23 54 55.9**	**+0.5**
KIZT	**Kizilcal**	**0.54**	**145**	*e*Pg	**Pg**	**23 54 48.4**	**0.0**
KIZT				*e*Sg	**Sg**	**23 54 55.9**	**+0.5**
KDHN	**Kadinhani**	**0.94**	**148**	*i* P	**Pb**	**23 54 56.5**	**-0.3**
KDHN				*i* S	**Sg**	**23 55 08.7**	**+0.5**
KDHN	**Kadinhani**	**0.94**	**148**	*i* P	**Pb**	**23 54 56.5**	**-0.3**
KDHN				*i* S	**Sg**	**23 55 08.7**	**+0.5**
BORA	**Eskisehir**	**0.98**	**305**	*i* P	**Pb**	**23 54 57.6**	**+0.1**
BORA				*i* S	**Sb**	**23 55 11.6**	**+1.0**
BORA	**Eskisehir**	**0.98**	**305**	*i* P	**Pb**	**23 54 57.6**	**+0.1**
BORA				*i* S	**Sb**	**23 55 11.6**	**+1.0**
ALT	**Altintas**	**1.10**	**257**	*e*PN	**Pg**	**23 54 58.3**	**-1.0**
ALT	**Altintas**	**1.10**	**257**	*e*Pn	**Pg**	**23 54 58.3**	**-1.0**
MDUB	**Mudurnu**	**1.17**	**349**	*e*PN	**Pb**	**23 55 00.9**	**+0.1**
MDUB	**Mudurnu**	**1.17**	**349**	*e*Pn	**Pb**	**23 55 00.9**	**+0.1**
AFSR	**Af¨ar-Bala (A**	**1.23**	**84**	*e*PN	**Pg**	**23 55 01.5**	**-0.2**
AFSR	**Af¨ar-Bala (A**	**1.23**	**84**	*e*Pn	**Pg**	**23 55 01.5**	**-0.2**
BBAL	**Bala**	**1.28**	**80**	*i* P	**Pn**	**23 55 02.1**	**-0.6**
BBAL				*i* S	**Sg**	**23 55 19.0**	**-0.4**
BBAL	**Bala**	**1.28**	**80**	*i* P	**Pn**	**23 55 02.1**	**-0.6**
BBAL				*i* S	**Sg**	**23 55 19.0**	**-0.4**

*ISK **22** 00:07:10.9, 39°.56N×25°.97E, h10km, MD2.9*
*ISCJB **22** 00:07:11.6±1.7, 39°.58N±0°.07×25°.94E±0°.09, h10km±8km, Error ellipse: s-maj=13.3km s-min=9.9km az=142.2*
*CSEM **22** 00:07:11.6±0.6, 39°.57N×25°.93E, h12km, MD2.9, Error ellipse: s-maj=11.0km s-min=6.8km az=69.0*
*DDA **22** 00:07:14.6, 39°.69N×26°.19E, h7km, MD2.6*
ISC 22 00:07:14.1±1.6, **39°.65N**±0°.06×**26°.10E**±0°.08, **h17**km±6km, **n24**, σ1**°02**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.20**	**350**	*i* P	**Pg**	**00 07 18.0**	**-0.9**
BOZC				*i* S	**Sg**	**00 07 22.8**	**+0.5**
EZN	**Ezine**	**0.25**	**45**	*e*PG	**Pg**	**00 07 18.9**	**-0.9**
EZN				*e*SG	**Sg**	**00 07 24.8**	**+1.2**
EZN	**Ezine**	**0.25**	**45**	*e*Pg	**Pg**	**00 07 18.9**	**-0.9**
EZN				*e*Sg	**Sg**	**00 07 24.8**	**+1.2**
AYVA	**Ayvalik**	**0.57**	**126**	*e*P	**Pg**	**00 07 24.5**	**-1.0**
AYVA				*i* S	**Sb**	**00 07 34.7**	**+1.3**
GELI	**Tayfur-Gelibol**	**0.80**	**21**	*e*PG	**Pb**	**00 07 29.2**	**-0.4**
GELI				*e*SG	**Sn**	**00 07 42.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.80**	**21**	*e*Pg	**Pb**	**00 07 29.2**	**-0.4**
GELI				*e*Sg	**Sn**	**00 07 42.5**	**+0.4**
LPK	**Lapseki**	**0.89**	**35**	*e*PG	**Pb**	**00 07 31.0**	**0.0**
LPK				*e*SG	**Sn**	**00 07 45.3**	**+1.1**
LPK	**Lapseki**	**0.89**	**35**	*e*Pg	**Pb**	**00 07 31.0**	**0.0**
LPK				*e*Sg	**Sn**	**00 07 45.3**	**+1.1**
ERIK	**Erikli-Kesan**	**1.07**	**17**	*e*PN	**Pb**	**00 07 34.0**	**-0.1**
ERIK	**Erikli-Kesan**	**1.07**	**17**	*e*Pn	**Pb**	**00 07 34.0**	**-0.1**
BALY	**Balya**	**1.18**	**85**	*i* P	**Pg**	**00 07 35.0**	**-1.9**
BALY				*i* S	**Sn**	**00 07 51.9**	**+0.4**
BALY	**Balya**	**1.18**	**85**	*i* P	**Pg**	**00 07 35.0**	**-1.9**
BALY				*i* S	**Sn**	**00 07 51.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.19**	**51**	*e*PN	**Pn**	**00 07 35.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.19**	**51**	*e*Pn	**Pn**	**00 07 35.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.29**	**71**	*e*PN	**Pn**	**00 07 37.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.29**	**71**	*e*Pn	**Pn**	**00 07 37.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.33**	**38**	*e*PN	**Pg**	**00 07 38.1**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.33**	**38**	*e*Pn	**Pg**	**00 07 38.1**	**-1.6**
SART	**Tekirdag**	**1.33**	**38**	*e*P	**Pg**	**00 07 38.7**	**-1.1**
SART	**Tekirdag**	**1.33**	**38**	*e*P	**Pg**	**00 07 38.7**	**-1.1**
MFT	**Murefte**	**1.46**	**38**	*e*PN	**Pg**	**00 07 40.6**	**-1.5**
MFT	**Murefte**	**1.46**	**38**	*e*Pn	**Pg**	**00 07 40.6**	**-1.5**
DST	**Dursunbey**	**1.95**	**90**	*e*PN	**Pn**	**00 07 46.5**	**+0.1**
DST	**Dursunbey**	**1.95**	**90**	*e*Pn	**Pn**	**00 07 46.5**	**+0.1**

*NIED **22** 00:09:00, 40°.90N×140°.00E, h165km, Mw4.7 Best double couple: M0 1.25000×10^16 NP1:φs167.00000°, δ67.00000°, λ69.00000°. NP2:φs32.00000°, δ31.00000°, λ130.00000°.*
*BJI **22** 00:09:29.3, 40°.75N×140°.20E, h160km, mB4.8/32, mb4.9/56*
*MOS **22** 00:09:33.6±0.8, 41°.05N×139°.88E, h163km, mb4.9/89, Error ellipse: s-maj=6.0km s-min=4.3km az=98.2*
*ISCJB **22** 00:09:33.4±0.2, 40°.92N±0°.02×139°.89E±0°.02, h164km±1km, mb4.8/251, Error ellipse: s-maj=3.3km s-min=2.4km az=166.4*
*SZGRF **22** 00:09:34.9, 41°.22N×140°.83E, h33km, mb5.0, Hokkaido, Japan, region*
*NEIC **22** 00:09:34.4±0.3, 40°.93N×139°.88E, h162km±3km, mb4.9/144, MW4.7(NIED), Error ellipse: s-maj=3.7km s-min=2.2km az=157.0*
*JMA **22** 00:09:34.2±0.1, 40°.90N×140°.04E, h168km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs165.00000°, δ72.00000°, λ73.00000°. NP2:φs29.00000°, δ25.00000°, λ132.00000°. Principal axes: T Plg60.0000°, Azm50.0000°; N Plg16.0000°, Azm170.0000°; P Plg25.0000°, Azm268.0000°;*
*IDC **22** 00:09:34.2±0.9, 40°.90N×139°.97E, h163km±8km, mb4.5/36, mb1 4.5/43, mb1mx4.5/44, mbtmp4.5/43 Error ellipse: s-maj=8.4km s-min=6.8km az=135.0*
ISC 22 00:09:34.0±0.3, **40°.91N**±0°.03×**139°.97E**±0°.03, **h162**km±2km, **h162**km;**pP-P, n1055**, σ0**°87**/1175, **mb4.9**/251, **301C-220D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.32**	**175**	⇑P	**Pn**	**00 09 57.0**	**+0.9**
JIW				*e*S	**Sn**	**00 10 14.6**	**+1.6**
JSI2	**Shiura 2**	**0.36**	**66**	⇑P	**Pn**	**00 09 56.9**	**+0.7**
JSI2				S	**Sn**	**00 10 14.5**	**+1.4**
JSR	**Shiriuchi**	**0.70**	**28**	⇑P	**Pn**	**00 09 58.6**	**+0.8**
JSR				*e*S	**Sn**	**00 10 17.1**	**+1.0**
JTM	**Tenmabayashi**	**0.84**	**98**	⇓P	**Pn**	**00 09 59.3**	**+0.6**
JTM				S	**Sn**	**00 10 18.1**	**+0.4**
JAH	**Hinai**	**0.88**	**145**	⇑P	**Pn**	**00 09 59.6**	**+0.5**
JAH				S	**Sn**	**00 10 18.9**	**+0.7**
JOT	**Ohata**	**0.94**	**60**	⇓P	**Pn**	**00 10 00.1**	**+0.7**
JOT				S	**Sn**	**00 10 20.0**	**+1.0**
JOSM	**Okushiri--Mats**	**1.23**	**342**	⇑P	**Pn**	**00 10 02.8**	**+1.0**
JOSM				S	**Sn**	**00 10 24.2**	**+0.8**
JKB	**Kayabe**	**1.26**	**39**	⇓P	**Pn**	**00 10 02.9**	**+0.8**
JKB				S	**Sn**	**00 10 25.0**	**+1.2**
JANG	**Nango**	**1.29**	**114**	⇓P	**Pn**	**00 10 02.3**	**-0.2**
JANG				*e*S	**Sn**	**00 10 23.7**	**-0.7**
JOM	**Ohasama**	**1.76**	**144**	P	**Pn**	**00 10 07.3**	**+0.1**
JOM				*e*S	**Sn**	**00 10 32.7**	**-0.1**
JYK	**Kaneyama**	**2.02**	**171**	⇑P	**Pn**	**00 10 10.3**	**+0.2**
JYK				*e*S	**Sn**	**00 10 37.8**	**-0.1**
JMK	**Ichinoseki**	**2.18**	**154**	P	**Pn**	**00 10 11.3**	**-0.7**
JMK				*e*S	**Sn**	**00 10 40.6**	**-0.7**
JEW	**Eniwo**	**2.22**	**29**	⇓P	**Pn**	**00 10 13.5**	**+1.1**
JSK	**Shakotan**	**2.47**	**9**	P	**Pn**	**00 10 16.8**	**+1.6**
JNBK	**Urakawa-nobuka**	**2.49**	**56**	⇓P	**Pn**	**00 10 15.6**	**0.0**
JNBK				S	**Sn**	**00 10 48.1**	**+0.3**
JAW	**Awa shima**	**2.52**	**193**	⇑P	**Pn**	**00 10 16.7**	**+0.8**
JAW				*e*S	**Sn**	**00 10 48.8**	**+0.4**
ERM	**Erimo**	**2.63**	**64**	*c* P	**Pn**	**00 10 17.3**	**0.0**
ERM	**Erimo**	**2.63**	**64**	*e*Pn	**Pn**	**00 10 17.3**	**0.0**
ERM				*e*S	**Sn**	**00 10 46.6**	**-4.3**
ASAJ	**Asahikawa**	**3.74**	**30**	P	**Pn**	**00 10 31.6**	**+0.4**
	48nm,0.3s,baz=226,slow=14,SNR=138						
ASAJ				S	**Sn**	**00 11 14.9**	**-0.9**
	23nm,0.3s,baz=83,slow=23,SNR=8.6						
ASAJ	**Asahikawa**	**3.74**	**30**	P	**Pn**	**00 10 31.6**	**+0.4**
ASAJ				S	**Sn**	**00 11 14.9**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,49nm,0.3s						
ASAJ				smax	smax		
	comp=N,23nm,0.3s						
ASAJ	**Asahikawa**	**3.74**	**30**	⇓*e*Pn	**Pn**	**00 10 31.5**	**+0.3**
ASAJ				*e*Sn	**Sn**	**00 11 14.6**	**-1.3**
MAJO	**Matsushiro**	**4.58**	**198**	*e*P	**Pn**	**00 10 42.8**	**+0.6**
MAJO				*e*		00 11 32.3	
MAJO	**Matsushiro**	**4.58**	**198**	*e*Pn	**Pn**	**00 10 42.8**	**+0.6**
MAJO				*e*Sn	**Sn**	**00 11 32.2**	**-3.1**
MAT	**Matsushiro**	**4.58**	**198**	P	**Pn**	**00 10 42.9**	**+0.8**
MAT				*e*S	**Sn**	**00 11 36.4**	**+1.1**
MJAR	**Matsushiro Arr**	**4.58**	**198**	P	**Pn**	**00 10 43.3**	**+1.1**
	comp=N,6.4nm,0.3s,baz=15,slow=14,SNR=56						
MJAR	**Matsushiro Arr**	**4.58**	**198**	P	**Pn**	**00 10 43.3**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.58**	**198**	P	**Pn**	**00 10 43.3**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**5.36**	**52**	*d* iP	**Pn**	**00 10 51.4**	**-0.8**
YUK				*i* S	**Sn**	**00 11 49.1**	**-4.4**
YUK				pmax	pmax		
	comp=

comp=Z,150nm,0.5s
HIA Hailar 16.51 307 *e*P **P 00 13 14.2 -1.7**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 16.51 307 *e*P **P 00 13 14.2 -1.7**
comp=Z,12nm,0.7s
JOW Kunigami 17.05 218 P **P 00 13 20.2 -1.8**
comp=Z,3.2nm,0.3s,baz=8.4,slow=11,SNR=16
JOW Kunigami 17.05 218 *e*P **P 00 13 20.9 -1.1**
PEA0B Petropavlovsk- 17.11 39 *e*P **Pn 00 13 23.4 0.0**
PETK Petropavlovsk- 17.11 39 P **P 00 13 21.5 -0.9**
comp=Z,0.7nm,0.3s,baz=219,slow=8.1,SNR=14
PETK Petropavlovsk- 17.11 39 P **P 00 13 21.5 -0.9**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 17.11 39 P **P 00 13 21.5 -0.9**
SSE Sheshan 18.05 243 P **P 00 13 33.6 +0.7**
SSE pmax pmax
comp=Z,52nm,0.8s
SSE pmax pmax
comp=Z,71nm,4.8s
SSE LR LR
comp=N,110nm,27.7s
SSE LR LR
comp=E,70nm,27.7s
SSE LR LR
comp=Z,140nm,22.0s
BJI Beijing 18.12 275 P **P 00 13 32.3 -1.2**
BJI pmax pmax
comp=Z,67nm,0.8s
BJT Baijiatuan 18.13 275 *e*P **P 00 13 32.7 -1.0**
BJT pmax pmax
comp=Z,42nm,0.5s
BJT Baijiatuan 18.13 275 *e*P **P 00 13 32.7 -1.0**
comp=Z,42nm,0.5s
CLNS Chul'man 18.70 334 *e*P **P 00 13 39.4 -0.4**
CLNS *e*S **S 00 17 01.8 -2.1**
CLNS pmax pmax
comp=Z,32nm,0.7s
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.5s
NJ2 Nanjing 19.11 249 *e*P **P 00 13 43.3 -1.1**
NJ2 pmax pmax
comp=Z,40nm,0.9s
HHC Hu-ho-hao-te 21.45 279 *e*P **P 00 14 07.3 -2.2**
HHC PP **pP 00 14 39.6 +1.6**
HHC sP **sP 00 14 57.8 -0.5**
HHC S S 00 17 49.5 -7.8
HHC PcP **PcP 00 18 07.3 +1.5**
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.4s
YAK Yakutsk 22.04 347 *e*P **P 00 14 12.3 -3.0**
YAK *e*S **S 00 18 03.1 -3.4**
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=N,434nm,1.6s
YAK smax smax
comp=E,262nm,1.5s
YAK Yakutsk 22.04 347 *e*P **P 00 14 12.5 -2.8**
comp=E,43nm,0.8s
YHNB Yeheng 22.44 229 *e*P **P 00 14 19.8 +0.2**
comp=E,43nm,0.8s
SEY Seymchan 23.26 14*ce*P **P 00 14 26.4 -0.2**
BOD Bodaibo 23.69 324 *e*P **P 00 14 29.5 -1.1**
BOD *e* 00 18 33.3
BOD pmax pmax
comp=Z,41nm,0.9s
QZH Quanzhou 23.90 235⇑ *i*P **P 00 14 33.8 +1.0**
QZH S **S 00 18 39.0 +1.8**
QZH pmax pmax
comp=Z,120nm,0.8s
TPUB Ta-pu 23.93 229 *e*P **P 00 14 31.6 -1.6**
comp=Z,28nm,0.6s
ULN Ulaanbaatar 24.40 298 *e*P **P 00 14 35.6 -1.7**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 24.40 298 *e*P **P 00 14 35.6 -1.7**
comp=Z,6.3nm,0.7s
SONM Songino Array 24.84 297 P **P 00 14 41.6 +0.3**
comp=Z,2.1nm,0.3s,baz=88,slow=8.9,SNR=17
SONM PcP **PcP 00 18 12.6 -0.3**
comp=Z,2.1nm,0.7s,baz=124,slow=2.3,SNR=3.6
SONM ScP **ScP 00 21 35.1 -1.3**
comp=Z,3.9nm,0.9s,baz=115,slow=2.2,SNR=10
SONM Songino Array 24.84 297 P **P 00 14 41.6 +0.3**
SONM 00 18 12.6
SONM pmax pmax
comp=Z,2.0nm,0.3s
SONM Songino Array 24.84 297 P **P 00 14 41.6 +0.3**
SONM PcP **PcP 00 18 12.6 -0.3**
SONM ScP **ScP 00 21 35.1 -1.3**
FX1 Attu Island--F 25.40 51 P **P 00 14 47.5 +1.3**
comp=Z,15nm,0.6s,baz=304,slow=8.6,SNR=6.6
FX1 PcP **PcP 00 18 13.6 -0.3**
comp=Z,14nm,0.6s,baz=310,slow=7.9,SNR=5.1
FX1 Attu Island--F 25.40 51 P **P 00 14 47.5 +1.3**
FX1 00 18 13.6
FX1 pmax pmax
comp=Z,15nm,0.6s
FX1 Attu Island--F 25.40 51 P **P 00 14 47.5 +1.3**
FX1 PcP **PcP 00 18 13.6 -0.3**
XAN Xi'an 25.49 264 P **P 00 14 45.0 -2.2**
XAN pmax pmax
comp=Z,2.0nm,0.5s
XAN pmax pmax
comp=Z,17nm,4.1s
ENH Enshi 26.84 256 *e*P **P 00 14 57.3 -2.1**
comp=Z,31nm,0.4s
ENH *e*PcP **PcP 00 18 17.0 -0.7**
TLY Talaya 27.04 306 *e*P **P 00 15 00.5 -0.4**
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 27.04 306 *e*P **P 00 15 00.5 -0.4**
comp=Z,9.6nm,0.7s
ZAK Zakamensk 27.10 303⇓ *i*P **P 00 15 00.1 -1.4**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
LZH Lanzhou 28.55 272 P **P 00 15 13.8 -0.9**
LZH pP **pP 00 15 45.1 -3.4**
LZH PP PP 00 16 13.3 -8.9
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,76nm,4.7s
LZH LR LR
comp=N,170nm,11.8s
LZH LR LR
comp=E,170nm,13.4s
LZH LR LR
comp=Z,250nm,14.2s
GTA Gaotai 30.54 281 *e*P **P 00 15 31.5 -0.7**
GTA pP **pP 00 16 04.9 -1.3**
GTA sP **sP 00 16 24.3 -0.6**
GTA ScP **ScP 00 21 53.4 -0.7**
GTA pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 30.68 19*c i*P **P 00 15 32.2 -0.7**
BILL *e* 00 16 37.2
BILL *e* 00 18 27.9
BILL pmax pmax
comp=Z,14nm,1.4s
BILL Bilibino 30.68 19 *e*P **P 00 15 32.0 -0.8**
comp=Z,9.5nm,0.6s
BILL *e*PcP **PcP 00 18 26.6 0.0**
CD2 Chengdu 30.79 263 P **P 00 15 32.1 -2.3**
CD2 pP **pP 00 16 05.6 -2.8**
CD2 PP PP 00 16 39.1 -8.0
CD2 S **S 00 20 21.3 -4.5**
CD2 SS ScP 00 22 19.3 +24
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,120nm,6.4s
GYA Guiyang 31.03 253 P **P 00 15 35.8 -0.8**
GYA pP **pP 00 16 08.4 -2.2**
GYA sP **sP 00 16 30.0 +0.7**
GYA PP PP 00 16 41.5 -8.3
GYA PcP **PcP 00 18 29.3 +0.9**
GYA S S 00 20 22.3 -7.4
GYA ScP **ScP 00 21 55.4 -0.5**
GYA PcS **PcS 00 22 12.6 -0.3**
GYA pmax pmax
comp=Z,10.0nm,0.4s
GYA pmax pmax
comp=Z,70nm,4.6s
KMI Kunming 34.67 255 P **P 00 16 08.8 +0.5**
KMI pmax pmax
comp=Z,11nm,0.8s
GAMB Gambell 36.06 34 *e*P **P 00 16 19.6 +0.1**
comp=Z,4.7nm,0.5s
TNA Tin City 38.10 32 *e*P **P 00 16 37.3 +0.7**
comp=Z,37nm,0.8s
WMQ Urumqi 38.21 292 P **P 00 16 37.8 -0.1**
WMQ pP **pP 00 17 12.8 -0.1**
WMQ sP **sP 00 17 30.8 -0.5**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ pmax pmax
comp=Z,250nm,6.3s
ZAA0 Zalesovo Array 38.54 309 *e*P **P 00 16 40.0 -0.4**
ZAA0 *e*PcP **PcP 00 18 48.5 -1.1**
ZAA0 *e*ScP **ScP 00 22 20.8 -1.4**
ZALV Zalesovo Beam 38.54 309 P **P 00 16 40.6 +0.2**
comp=Z,38nm,0.6s,baz=88,slow=8.3,SNR=266
ZALV PcP **PcP 00 18 49.5 -0.2**
comp=Z,8.5nm,0.4s,baz=102,slow=3.1,SNR=12
ZALV ScP **ScP 00 22 20.8 -1.5**
comp=Z,3.7nm,0.6s,baz=92,slow=3.3,SNR=13
ZALV Zalesovo Beam 38.54 309 P **P 00 16 40.6 +0.2**
ZALV 00 18 49.5
ZALV 00 22 20.8
ZALV pmax pmax
comp=Z,38nm,0.6s
ZALV Zalesovo Beam 38.54 309 P **P 00 16 40.6 +0.2**
ZALV PcP **PcP 00 18 49.5 -0.2**
ZALV ScP **ScP 00 22 20.8 -1.5**
NVS Novosibirsk 39.41 310⇓ *i*P **P 00 16 48.3 +0.6**
NVS *i*S **S 00 22 35.6 -1.2**
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=Z,21nm,0.5s
NVS pmax pmax
comp=E,9.0nm,0.4s
NVS smax smax
comp=N,4.0nm,1.2s
NVS smax smax
comp=E,8.0nm,0.9s
LSA Lhasa 40.91 270 *e*P **P 00 17 01.2 +0.3**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 40.91 270 *e*P **P 00 17 01.2 +0.3**
comp=Z,28nm,0.6s
MK31 Makanchi Array 41.20 298 *i* P **P 00 17 02.4 -0.2**
MK31 pmax pmax
comp=Z,23nm,0.4s
MKAR Makanchi Array 41.20 298 P **P 00 17 02.4 -0.2**
comp=Z,37nm,0.7s,baz=84,slow=10.0,SNR=391
MKAR ScP **ScP 00 22 31.1 -1.8**
comp=Z,1.0nm,0.6s,baz=76,slow=4.0,SNR=5.3
MKAR Makanchi Array 41.20 298 *e*P **P 00 17 02.6 0.0**
MKAR Makanchi Array 41.20 298 *e*P **P 00 17 02.5 0.0**
MKAR ScP **ScP 00 22 31.1 -1.8**
CHTO Chiang Mai 41.35 250 *e*P **P 00 17 04.4 +0.4**
CHTO pmax pmax
comp=Z,38nm,0.7s
CHTO Chiang Mai 41.35 250 *e*P **P 00 17 04.4 +0.4**
comp=Z,38nm,0.7s
CMAR Chiang Mai Arr 41.59 250 P **P 00 17 07.0 +1.1**
comp=Z,10nm,0.6s,baz=45,slow=7.4,SNR=56
CMAR ScP **ScP 00 22 34.4 -0.3**
comp=Z,1.5nm,0.5s,baz=22,slow=2.8,SNR=6.5
CMAR Chiang Mai Arr 41.59 250 P **P 00 17 07.1 +1.1**
CMAR pmax pmax
comp=Z,10.0nm,0.6s
CMAR pmax pmax
comp=N,2.0nm,0.5s
CMAR Chiang Mai Arr 41.59 250 P **P 00 17 07.0 +1.1**
CMAR ScP **ScP 00 22 34.4 -0.3**
KURK Kurchatov 42.73 305 *d i*P **P 00 17 15.4 +0.6**
comp=N,210nm,0.6s,baz=80,slow=8.7,SNR=1253
KURK Kurchatov 42.73 305 *d i*P **P 00 17 14.7 -0.1**
KURK pmax pmax
comp=Z,178nm,0.9s
KURK Kurchatov 42.73 305 *e*P **P 00 17 14.7 -0.1**
comp=Z,203nm,0.7s
SVW2 Sparrevohn 43.19 40 *e*P **P 00 17 20.2 +1.7**
comp=Z,33nm,1.0s
TAPN Taplejung 44.71 269 *e*P **P 00 17 31.7 +0.4**
comp=Z,95nm,0.8s
TAPN Taplejung 44.71 269 *e*P **P 00 17 31.7 +0.4**
comp=Z,95nm,0.8s
SPU Mount Spurr 44.89 40 *e*P **P 00 17 33.2 +1.2**
KDAK Kodiak Island 45.04 44 P **P 00 17 33.2 +0.2**
comp=Z,37nm,0.8s,baz=308,slow=4.1,SNR=31
KDAK PcP **PcP 00 19 11.6 +0.5**
comp=Z,6.0nm,0.5s,baz=280,slow=3.7,SNR=6.4
KDAK Kodiak Island 45.04 44 *i* P **P 00 17 33.0 -0.1**
KDAK Kodiak Island 45.04 44 *e*P **P 00 17 32.8 -0.3**
comp=Z,42nm,0.9s
KDAK PcP **PcP 00 19 11.6 +0.5**
ODAN Odare 45.20 269 *e*P **P 00 17 35.4 +0.2**
comp=Z,70nm,0.5s
ODAN Odare 45.20 269 *e*P **P 00 17 35.4 +0.2**
comp=Z,70nm,0.5s
COLD Coldfoot 45.36 31 *e*P **P 00 17 36.5 +1.0**
comp=Z,71nm,1.1s
TRF Thorofare Moun 45.51 36 *e*P **P 00 17 37.1 +0.1**
comp=Z,19nm,0.6s
JIRN Jiri 45.70 271 *e*P **P 00 17 39.6 +0.4**
comp=Z,228nm,0.8s
JIRN Jiri 45.70 271 *e*P **P 00 17 39.6 +0.4**
comp=Z,228nm,0.8s
RAMN Ramite 45.76 270 *e*P **P 00 17 39.6 +0.1**
comp=Z,259nm,0.7s
RAMN Ramite 45.76 270 *e*P **P 00 17 39.6 +0.1**
comp=Z,259nm,0.7s
GUN Gumba 45.80 271 *e*P **P 00 17 40.3 +0.3**
comp=Z,570nm,0.6s
GUN Gumba 45.80 271 *e*P **P 00 17 40.3 +0.3**
comp=Z,570nm,0.6s
MCK McKinley 46.09 36 *e*P **P 00 17 42.4 +1.1**
MCK pmax pmax
comp=Z,34nm,0.9s
MCK McKinley 46.09 36 *e*P **P 00 17 42.4 +1.1**
comp=Z,34nm,0.9s
PMR Palmer 46.24 39 *e*P **P 00 17 42.3 -0.2**
PMR pmax pmax
comp=Z,34nm,0.6s
PMR Palmer 46.24 39 *e*P **P 00 17 42.3 -0.2**
comp=Z,34nm,0.6s
SEW Seward 46.30 41 *e*P **P 00 17 43.1 +0.2**
comp=Z,42nm,1.0s
KKN Kakani 46.32 271 *e*P **P 00 17 44.0 +0.1**
comp=Z,296nm,0.7s
KKN Kakani 46.32 271 *e*P **P 00 17 44.0 +0.1**
KKN Kakani 46.32 271 *e*P **P 00 17 44.0 +0.1**
comp=Z,296nm,0.7s
PKI Pulchoki 46.34 271 *e*P **P 00 17 44.0 -0.1**
PKI Pulchoki 46.34 271 *e*P **P 00 17 44.0 -0.1**
PKI Pulchoki 46.34 271 *e*P **P 00 17 44.0 -0.1**
COLA College 46.45 34 *e*P **P 00 17 45.2 +1.1**
COLA pmax pmax
comp=Z,59nm,0.7s
COLA College 46.45 34 *e*P **P 00 17 45.2 +1.1**
comp=Z,59nm,0.7s
DMN Daman 46.55 271 *e*P **P 00 17 45.9 +0.2**
comp=Z,190nm,0.8s
DMN Daman 46.55 271 *e*P **P 00 17 45.9 +0.2**
comp=Z,190nm,0.8s
SML Sawmill 46.59 38 *e*P **P 00 17 46.3 +1.0**
SML pmax pmax
comp=Z,9.0nm,0.7s
SML Sawmill 46.59 38 *e*P **P 00 17 46.3 +1.0**
comp=Z,9.3nm,0.7s
ULHL Ulahol 46.68 294 P **P 00 17 47.7 +1.2**
SNR=5.6
ULHL P **P 00 17 47.7 +1.2**
SNR=5.6
GKN Gorkha 46.70 272 *e*P **P 00 17 46.7 0.0**
comp=Z,162nm,0.4s
ILAR Eielson Array 46.87 34 P **P 00 17 47.7 +0.3**
comp=Z,36nm,0.8s,baz=272,slow=5.7,SNR=307
ILAR Eielson Array 46.87 34 P **P 00 17 47.7 +0.3**
ILAR pmax pmax
comp=Z,36nm,0.8s
ILAR Eielson Array 46.87 34 P **P 00 17 47.7 +0.3**
TKM2 Tokmak 2 46.89 295 P **P 00 17 48.8 +0.7**
SNR=126
TKM2 P **P 00 17 48.8 +0.7**
SNR=126
TKM2 Tokmak 2 46.89 295 *i* P **P 00 17 48.8 +0.7**
TKM2 Tokmak 2 46.89 295 *e*P **P 00 17 48.8 +0.7**
comp=Z,87nm,0.6s
DANN Dangsing 47.18 273 *e*P **P 00 17 51.4 +0.8**
comp=Z,884nm,0.6s
DANN Dangsing 47.18 273 *e*P **P 00 17 51.4 +0.8**
comp=Z,884nm,0.6s
BVA0 Borovoye Array 47.19 309 *i* P **P 00 17 50.4 +0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 47.19 309 P **P 00 17 50.3 +0.3**
comp=Z,18nm,0.4s,baz=72,slow=8.3,SNR=138
BVAR PcP **PcP 00 19 18.8 +0.1**
comp=Z,4.2nm,0.7s,baz=67,slow=3.9,SNR=4.2
BVAR Borovoye Array 47.19 309 P **P 00 17 50.3 +0.3**
BVAR 00 19 18.8
BVAR pmax pmax
comp=Z,18nm,0.4s
BVAR Borovoye Array 47.19 309 P **P 00 17 50.3 +0.3**
BVAR PcP **PcP 00 19 18.8 +0.1**
BRVK Borovoye 47.24 310*ce*P **P 00 17 50.6 +0.2**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 47.24 310 *e*P **P 00 17 50.2 -0.2**
comp=Z,15nm,0.5s
KBK Karagaybulak 47.43 295 P **P 00 17 52.9 +0.6**
SNR=78
KBK P **P 00 17 52.9 +0.6**
SNR=78
KZA Kyzart 47.43 294 P **P 00 17 53.7 +1.1**
SNR=30
KZA P **P 00 17 53.7 +1.1**
SNR=30
CHMS Chumysh 47.44 295 P **P 00 17 53.0 +0.8**
SNR=10
CHMS P **P 00 17 53.0 +0.8**
SNR=10
USP Ospenovka 47.52 296 P **P 00 17 53.3 +0.5**
SNR=18
USP P **P 00 17 53.3 +0.5**
SNR=18
FRU Bishkek 47.59 295 *e*P **P 00 17 53.8 +0.5**
FRU pmax pmax
comp=Z,64nm,1.6s
KOLN Koldanda 47.60 272 *e*P **P 00 17 54.2 +0.4**
comp=Z,150nm,0.7s
KOLN Koldanda 47.60 272 *e*P **P 00 17 54.2 +0.4**
comp=Z,150nm,0.7s
PAX Paxson 47.74 37 *e*P **P 00 17 54.4 +0.2**
PAX pmax pmax
comp=Z,28nm,1.5s
PAX Paxson 47.74 37 *e*P **P 00 17 54.4 +0.2**
comp=Z,28nm,1.5s
PAX *e*ScP ScP 00 23 21.2 +22
AAK Ala-Archa 47.75 295 P **P 00 17 55.2 +0.5**
SNR=9.0
AAK P **P 00 17 55.2 +0.5**
SNR=9.0
AAK Ala-Archa 47.75 295 P **P 00 17 55.1 +0.4**
comp=Z,19nm,0.4s,baz=107,slow=6.7,SNR=22
AAK Ala-Archa 47.75 295 *i* P **P 00 17 54.7 0.0**
AAK pmax pmax
comp=Z,40nm,0.8s
AAK Ala-Archa 47.75 295 *e*P **P 00 17 55.0 +0.4**
comp=Z,108nm,0.6s
KSH Kashi 47.90 290 *e*P P 00 17 59.8 +4.0
KSH *e*pP pP 00 18 35.9 +3.8
KSH *e*sP sP 00 18 54.0 +3.8
KSH *e*PcP **PcP 00 19 25.8 +4.1**
KSH *e*PP PP 00 19 53.4 +4.4
KSH PcS **PcS 00 23 20.3 +2.6**
KSH S **S 00 24 44.3 +3.6**
KSH ScS **ScS 00 27 33.4 +1.2**
KSH SS SS 00 28 11.5 +0.3
KSH pmax pmax
comp=Z,22nm,0.8s
KSH pmax pmax
comp=Z,220nm,4.9s
KSH LR LR
comp=N,140nm,5.4s
KSH LR LR
comp=E,150nm,4.6s
KSH LR LR
comp=Z,140nm,5.7s
DIV Divide 47.92 39 *e*P **P 00 17 54.9 -0.7**
comp=Z,42nm,0.7s
DIV *e*ScP ScP 00 23 19.3 +19
EKS2 Erkin-Say 48.23 295 P **P 00 17 59.1 +0.8**
SNR=8.4
EKS2 P **P 00 17 59.1 +0.8**
SNR=8.4
EKS2 Erkin-Say 48.23 295 *e*P **P 00 17 58.5 +0.1**
EKS2 pmax pmax
comp=Z,25nm,0.6s
EKS2 Erkin-Say 48.23 295 *e*P **P 00 17 58.5 +0.1**
comp=Z,25nm,0.6s
DOT Dot Lake 48.25 35 *e*P **P 00 17 58.2 +0.1**
comp=Z,19nm,0.6s
DOT *e*ScP ScP 00 23 26.6 +25
AML Almayashu 48.48 295 P **P 00 18 01.4 +0.7**
SNR=32
AML P **P 00 18 01.4 +0.7**
SNR=32
BMRM Bremner River 48.51 39 *e*P **P 00 18 01.2 +1.1**
comp=Z,59nm,1.0s
BMRM *e*ScP ScP 00 23 15.0 +12
EGAK Eagle 49.30 34 *e*P **P 00 18 06.4 +0.4**
comp=Z,20nm,0.8s
DAWY Dawson 50.20 34 *e*P **P 00 18 13.1 +0.2**
KK31 Karatay Array 50.29 297 *i* P **P 00 18 13.7 -0.1**
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 50.29 297 *e*P **P 00 18 13.9 +0.1**
KKAR Karatay Array 50.29 297 *e*P **P 00 18 13.9 +0.1**
INK Inuvik 51.48 28 P **P 00 18 23.0 +0.7**
comp=Z,37nm,0.5s,baz=297,slow=6.8,SNR=171
INK Inuvik 51.48 28 P **P 00 18 23.0 +0.7**
INK pmax pmax
comp=Z,37nm,0.5s
INK Inuvik 51.48 28 *e*P **P 00 18 22.9 +0.7**
comp=Z,44nm,0.7s
SVE Sverdlovsk 51.53 316⇑ *i*P **P 00 18 23.7 +0.9**
SVE *e*S S 00 25 47.4 +17
SVE *e* 00 27 48.0
SVE pmax pmax
comp=Z,21nm,0.7s
ARU Arti 52.74 316*c i*P **P 00 18 31.9 +0.1**
ARU *PP **pP 00 19 09.3 +0.6**
ARU *e* 00 19 37.6
ARU *e* 00 20 31.0
ARU S **S 00 25 48.2 +1.3**
ARU SS **SKiKP 00 29 32.0 -1.9**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 52.74 316 *e*P **P 00 18 31.2 -0.5**
comp=Z,12nm,0.8s
SKAG Skagway 53.37 39 *e*P **P 00 18 36.5 +0.3**
comp=Z,19nm,0.9s
AB31 Akbulak array 54.63 308 *i* P **P 00 18 45.8 +0.2**
AB31 pmax pmax
comp=Z,7.0nm,0.4s
ABKAR Akbulak array 54.63 308 *e*P **P 00 18 45.9 +0.3**
COEN Coen 54.67 176 *e*P **P 00 18 46.5 +0.4**
comp=Z,46nm,0.8s
KBL Kabul 55.07 288 *e*P **P 00 18 48.7 -0.5**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 55.07 288 *e*P **P 00 18 48.7 -0.5**
comp=Z,34nm,0.9s
AKTO Aktyubinsk 55.29 310 P **P 00 18 50.6 +0.3**
comp=Z,5.7nm,0.5s,baz=62,slow=11,SNR=23
AKTO PcP **PcP 00 19 48.6 -0.4**
comp=Z,4.8nm,0.7s,baz=54,slow=6.9,SNR=4.9
AKTO Aktyubinsk 55.29 310 P **P 00 18 50.6 +0.3**
AKTO 00 19 48.6
AKTO pmax pmax
comp=Z,6.0nm,0.5s

AKTO **Aktyubinsk** 55.29 310 P **P** 00 18 50.6 +0.3
AKTO PcP **PcP** 00 19 48.6 -0.4
DLBC Dease Lake 56.30 39 P **P** 00 18 59.4 +1.9
comp=Z,11nm,0.7s,baz=295,slow=6.5,SNR=32
DLBC Dease Lake 56.30 39 *eP* **P** 00 18 59.7 +2.2
HYB Hyderabad 57.30 265 *i* P **P** 00 19 03.5 -1.5
HYB *ep*P **pP** 00 19 43.0 +0.4
RES Resolute Bay 59.13 15 P **P** 00 19 16.6 -0.2
comp=Z,10nm,0.5s,baz=304,slow=6.1,SNR=31
RES PcP **PcP** 00 20 04.1 +0.5
comp=Z,2.3nm,0.6s,baz=309,slow=3.2,SNR=4.6
RES Resolute Bay 59.13 15 P **P** 00 19 16.6 -0.2
RES 00 20 04.1
RES pmax pmax
comp=Z,10.0nm,0.5s
RES Resolute Bay 59.13 15 P **P** 00 19 16.6 -0.2
RES PcP **PcP** 00 20 04.1 +0.5
KEV Kevo 59.42 338 *eP* **P** 00 19 18.1 -0.8
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 59.42 338 *ep* **P** 00 19 18.1 -0.8
comp=Z,6.8nm,0.6s
KEV Kevo 59.42 338 *ep* **P** 00 19 18.1 -0.8
comp=Z,6.8nm,0.6s
KLMR Klimovskoe 59.90 326 *eP* **P** 00 19 19.5 -2.8
KLMR pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 59.98 338 P **P** 00 19 22.6 -0.1
comp=Z,5.4nm,0.8s,baz=64,slow=7.8,SNR=23
ARCES PcP **PcP** 00 20 06.7 -0.4
comp=Z,2.6nm,0.7s,baz=51,slow=3.9,SNR=5.1
ARCES ARCESS Array B 59.98 338 P **P** 00 19 22.7 -0.1
ARCES 00 20 06.7
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 59.98 338 P **P** 00 19 22.6 -0.1
ARCES PcP **PcP** 00 20 06.7 -0.4
FITZ Fitzroy Crossi 60.20 196 *eP* **P** 00 19 25.0 +0.2
comp=Z,4.7nm,1.0s
WRAB Tennant Creek 60.76 186 *eP* **P** 00 19 27.6 -1.0
WRAB pmax pmax
comp=Z,16nm,0.5s
WRAB Tennant Creek 60.76 186 *eP* **P** 00 19 27.6 -1.0
comp=Z,16nm,0.5s
WRA Warramunga Arr 60.77 186 P **P** 00 19 27.6 -1.1
comp=Z,17nm,0.5s,baz=7.8,slow=7.7,SNR=334
WRA PcP **PcP** 00 20 10.8 -0.1
comp=Z,2.8nm,0.9s,baz=1.9,slow=7.0,SNR=4.6
WRA PKPPKP P'P'df 00 48 50.0 +6.7
comp=Z,1.5nm,0.8s,baz=200,slow=2.7,SNR=7.2
WRA Warramunga Arr 60.77 186 P **P** 00 19 27.6 -1.1
WRA 00 20 10.8
WRA pmax pmax
comp=Z,17nm,0.5s
WRA Warramunga Arr 60.77 186 P **P** 00 19 27.6 -1.1
WRA PcP **PcP** 00 20 10.8 -0.1
WRA P'P' 00 48 50.0
YKA Yellowknife Ar 61.04 31 P **P** 00 19 30.0 +0.1
comp=Z,9.7nm,0.6s,baz=306,slow=6.0,SNR=233
YKA PcP **PcP** 00 20 11.8 +0.4
comp=Z,3.9nm,0.6s,baz=304,slow=3.6,SNR=12
YKA PKPPKP **P'P'df** 00 48 47.7 +0.7
comp=Z,0.2nm,0.8s,baz=102,slow=1.9,SNR=3.8
YKA Yellowknife Ar 61.04 31 P **P** 00 19 30.1 +0.1
YKA 00 20 11.9
YKA Yellowknife Ar 61.04 31 P **P** 00 19 30.1 +0.1
YKA PcP **PcP** 00 20 11.8 +0.4
YKA P'P' 00 48 47.8
DAG Danmarks Havn 61.81 355⇑ *iP* **P** 00 19 34.6 -0.4
DAG pmax pmax
comp=Z,15nm,0.7s
DAG Danmarks Havn 61.81 355⇑ *iP* **P** 00 19 34.6 -0.4
comp=Z,150nm,0.7s
JOF Joensuu 62.02 331 *eP* **P** 00 19 34.7 -1.9
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 62.02 331 *ep* **P** 00 19 34.7 -1.9
comp=Z,7.9nm,0.6s
JOF Joensuu 62.02 331 *ep* **P** 00 19 34.7 -1.9
comp=Z,7.9nm,0.6s
OBN Obninsk 64.34 322 *eP* **P** 00 19 51.5 -0.4
OBN *e* 00 22 12.4
OBN *eS* **S** 00 28 16.1 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.9s
KAF Kangasniemi 64.36 331 *eP* **P** 00 19 50.3 -1.6
KAF pmax pmax
comp=Z,12nm,0.6s
KAF Kangasniemi 64.36 331 *ep* **P** 00 19 50.3 -1.6
comp=Z,12nm,0.6s
KAF Kangasniemi 64.36 331 *ep* **P** 00 19 50.3 -1.6
comp=Z,12nm,0.6s
AS31 Alice Springs 64.49 186 *eP* **P** 00 19 53.0 -0.3
ASAR Alice Springs 64.50 186 P **P** 00 19 52.8 -0.5
comp=Z,3.9nm,0.9s,baz=11,slow=6.5,SNR=24
ASAR PcP **PcP** 00 20 26.4 +0.3
comp=Z,2.8nm,0.8s,baz=3.8,slow=4.5,SNR=7.4
ASAR PKPPKP **P'P'df** 00 48 40.4 +3.1
comp=Z,1.1nm,1.0s,baz=131,slow=3.5,SNR=4.4
ASAR Alice Springs 64.50 186 P **P** 00 19 52.8 -0.5
ASAR 00 20 26.4
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 64.50 186 P **P** 00 19 52.8 -0.5
ASAR PcP **PcP** 00 20 26.4 +0.3
ASAR P'P' 00 48 40.4
OSR Olympics--Salm 64.83 48 P **P** 00 19 56.9 +1.5
FINES FINESS Array B 64.87 331 P **P** 00 19 55.1 -0.2
comp=Z,16nm,0.6s,baz=36,slow=9.3,SNR=72
FINES PcP **PcP** 00 20 26.4 -0.8
comp=Z,2.1nm,0.6s,baz=61,slow=3.9,SNR=3.5
FINES FINESS Array B 64.87 331 P **P** 00 19 55.1 -0.2
FINES 00 20 26.4
FINES pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 64.87 331 P **P** 00 19 55.1 -0.2
FINES PcP **PcP** 00 20 26.4 -0.8
NLWA Neilton Lookou 64.95 48 *eP* **P** 00 19 57.6 +1.5
comp=Z,44nm,0.9s
CMW Cultus Mountai 65.35 47 P **P** 00 19 59.8 +1.1
JCW Jim Creek 65.58 47 *eP* **P** 00 20 01.1 +0.9
RPW Rockport 65.66 46 *eP* **P** 00 20 01.3 +0.6
BMW Boistfort Moun 65.83 49 *eP* **P** 00 20 03.0 +1.2
BMW Boistfort Moun 65.83 49 *eP* **P** 00 20 03.0 +1.2
RCM Mount Rainier- 66.47 48 P **P** 00 20 07.4 +1.2
LON Longmire 66.47 48 *eP* **P** 00 20 06.7 +0.8
LON pmax pmax
comp=Z,13nm,0.7s
LON Longmire 66.47 48 *eP* **P** 00 20 06.7 +0.8
comp=Z,14nm,0.7s
TDL Tradedollar La 66.47 48 P **P** 00 20 07.2 +1.2
FL2 Flat Top 2 66.48 49 P **P** 00 20 07.3 +1.2
ETW Entiat 66.80 47 *eP* **P** 00 20 08.6 +0.5
SUMG Summit 66.81 359 *eP* **P** 00 20 08.5 +0.5
SUMG pmax pmax
comp=Z,22nm,0.7s
SUMG Summit 66.81 359 *eP* **P** 00 20 08.5 +0.5
comp=Z,22nm,0.7s
SUMG Summit 66.81 359 *i* P **P** 00 20 08.4 +0.5
comp=Z,20nm,0.8s
COR Corvallis 66.86 51 *eP* **P** 00 20 10.4 +2.1
COR pmax pmax
comp=Z,31nm,0.9s
COR Corvallis 66.86 51 *eP* **P** 00 20 10.4 +2.1
comp=Z,31nm,0.9s
WTV Waterville 66.95 46 P **P** 00 20 09.5 +0.6
NAC Naches 67.03 48 P **P** 00 20 10.6 +1.1
GL2 New Goldendale 67.49 48 P **P** 00 20 13.7 +1.3
ZEI Tsey 67.52 308 *eP* **P** 00 20 11.5 -1.3
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 67.55 309 *eP* **P** 00 20 12.8 0.0
KIV pmax pmax
comp=Z,18nm,0.8s
KIV Kislovodsk 67.55 309 *eP* **P** 00 20 12.8 0.0
comp=Z,18nm,0.8s
OD2 Odessa Site #2 67.81 46 *eP* **P** 00 20 14.7 +0.4
RSW Rattlesnake Hi 67.92 47 *eP* **P** 00 20 16.4 +1.3
HAWA Hanford 67.95 47 *eP* **P** 00 20 15.9 +0.8
comp=Z,25nm,0.6s
SCO Scoresbysund 68.14 354 *i* P **P** 00 20 16.3 +0.4
SCO pmax pmax
comp=Z,7.0nm,0.7s
SCO Scoresbysund 68.14 354 *i* P **P** 00 20 16.3 +0.4
comp=Z,7.1nm,0.7s

NEW Newport 68.14 45 *eP* **P** 00 20 16.8 +0.4
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 68.14 45 *eP* **P** 00 20 16.8 +0.4
comp=Z,21nm,0.8s
NEW Newport 68.14 45 ⇑P **P** 00 20 16.8 +0.4
baz=68
HUMO Hull Mountain 68.21 52 *eP* **P** 00 20 18.0 +1.1
comp=Z,58nm,2.6s
VIPM Ingram Point 68.46 49 P **P** 00 20 19.3 +0.7
VIPM Ingram Point 68.46 49 P **P** 00 20 19.3 +0.7
A12A Yaak River Ran 68.51 43 ⇓P **P** 00 20 19.5 +0.8
baz=68,SNR=8.1
GNI Garni 68.53 305 P **P** 00 20 20.1 +1.1
comp=Z,2.1nm,0.4s,baz=174,slow=3.9,SNR=3.8
GNI Garni 68.53 305 *eP* **P** 00 20 19.8 +0.8
GNI pmax pmax
comp=Z,10.0nm,1.2s
GNI Garni 68.53 305 P **P** 00 20 20.1 +1.1
KHMM Horse Mountain 68.76 54 *eP* **P** 00 20 22.4 +1.9
comp=Z,40nm,1.5s
C11A Tepee Creek (N 68.86 45 ⇓P **P** 00 20 21.8 +0.9
baz=69
NACGM Naroch 68.89 325 *e* **P** 00 20 18.0 -2.8
LNOR Lincton Mounta 68.96 47 *eP* **P** 00 20 22.7 +1.2
LNOR Lincton Mounta 68.96 47 *eP* **P** 00 20 22.7 +1.2
A13A Flathead Natio 69.15 43 ⇑P **P** 00 20 23.1 +0.5
baz=69
WALA Waterton Lakes 69.33 42 *eP* **P** 00 20 23.8 0.0
comp=Z,1.0nm,1.1s
C12B Naegeli Ranch, 69.36 44 ⇓P **P** 00 20 24.6 +0.7
baz=69
B13A Whitefish 69.47 43 ⇓P **P** 00 20 25.4 +0.8
baz=69,SNR=32
BSMT Bassoo Peak 69.63 44 *eP* **P** 00 20 26.6 +0.8
A14A Double T Ranch 69.63 42 ⇓P **P** 00 20 26.0 +0.3
baz=69
WDC Whiskeytown Da 69.66 54 *eP* **P** 00 20 26.7 +0.9
WDC pmax pmax
comp=Z,15nm,1.3s
WDC Whiskeytown Da 69.66 54 *eP* **P** 00 20 26.7 +0.9
comp=Z,14nm,1.3s
BLMT Blacktail Moun 69.75 44 *eP* **P** 00 20 27.5 +1.0
D12A Red Ives Fores 69.83 45 ⇓P **P** 00 20 27.1 +0.2
baz=70
C13A Hot Springs 69.85 44 ⇓P **P** 00 20 27.8 +0.9
baz=70,SNR=26
JTMT Jette 69.96 44 *eP* **P** 00 20 28.5 +0.8
A15A Johnson Ranch, 69.98 42 ⇑P **P** 00 20 27.8 0.0
baz=70
B14A Marquette Ranc 70.10 43 ⇑P **P** 00 20 29.3 +0.7
baz=70,SNR=17
HFS Hagfors 70.10 335 P **P** 00 20 27.8 -0.3
comp=Z,5.0nm,0.4s,baz=44,slow=5.7,SNR=26
HFS Hagfors 70.10 335 P **P** 00 20 27.8 -0.3
HFS pmax pmax
comp=Z,5.0nm,0.4s
HFS Hagfors 70.10 335 P **P** 00 20 27.8 -0.3
E12A Beaver Dam Sad 70.11 45 ⇑P **P** 00 20 29.3 +0.7
baz=70
BMO Blue Mountains 70.13 48 *eP* **P** 00 20 29.3 +0.5
comp=Z,12nm,0.6s
NB2 NORSAR Subarra 70.18 336 P **P** 00 20 28.0 -0.7
comp=Z,33nm,1.2s,baz=38,slow=6.5
NOA NORSAR Array B 70.18 336 P **P** 00 20 28.3 -0.4
comp=Z,12nm,0.9s,baz=39,slow=6.1,SNR=27
NOA NORSAR Array B 70.18 336 P **P** 00 20 28.3 -0.4
NOA pmax pmax
comp=Z,13nm,0.9s
NOA NORSAR Array B 70.18 336 P **P** 00 20 28.3 -0.4
MOD Modoc 70.21 51 *eP* **P** 00 20 30.2 +0.8
comp=Z,30nm,1.6s
C14A Swan Lake 70.23 43 ⇓P **P** 00 20 30.1 +0.8
baz=70
SWMT Swartz Lake 70.26 44 *eP* **P** 00 20 30.1 +0.6
D13A Huson 70.28 44 ⇑P **P** 00 20 29.9 +0.3
baz=70
B15A Bradely Ranch, 70.49 42 ⇓P **P** 00 20 31.3 +0.4
baz=70,SNR=73
AKASG Malin Array Be 70.56 321 P **P** 00 20 30.6 -0.4
comp=Z,8.6nm,0.4s,baz=45,slow=6.6,SNR=55
AKASG Malin Array Be 70.56 321 *ceP* **P** 00 20 30.7 -0.4
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKASG Malin Array Be 70.56 321 P **P** 00 20 30.6 -0.4
AKBB Malin Array Si 70.56 321 *eP* **P** 00 20 30.5 -0.6
AKBB Malin Array Si 70.56 321 *eP* **P** 00 20 30.5 -0.6
A16A West Butte Ran 70.57 42 ⇑P **P** 00 20 31.5 +0.1
baz=70
KIEV Kiev 70.58 321 *c i* P **P** 00 20 30.7 -0.4
KIEV Kiev 70.58 321 *eP* **P** 00 20 30.8 -0.3
comp=Z,16nm,0.9s
F12A Elk City 70.70 46 ⇑P **P** 00 20 32.7 +0.5
baz=70,SNR=35
MSO Missoula 70.72 44 *eP* **P** 00 20 32.5 +0.2
comp=Z,12nm,1.1s
MSO Missoula 70.72 44 ⇓P **P** 00 20 32.6 +0.2
baz=70
D14A Greenough 70.79 44 ⇑P **P** 00 20 33.0 +0.2
baz=71
C15A Salmond Ranch, 70.82 43 ⇑P **P** 00 20 33.8 +0.9
baz=71,SNR=30
E13A Victor 70.84 45 ⇓P **P** 00 20 32.8 -0.2
baz=71
B16A M & M Farms, S 70.86 42 ⇑P **P** 00 20 33.3 +0.2
baz=71
A17A Triple J Farms 71.03 41 ⇑P **P** 00 20 34.3 +0.2
baz=71
CHMT Chamberlain Mo 71.03 44 *eP* **P** 00 20 34.2 -0.1
FFC Flin Flon 71.05 33 *i* P **P** 00 20 34.0 0.0
FFC Flin Flon 71.05 33 *eP* **P** 00 20 34.1 0.0
comp=Z,36nm,0.8s
G12A Big Creek, Yel 71.06 46 ⇓P **P** 00 20 34.4 0.0
baz=71
OHCM Honcut 71.06 54 *eP* **P** 00 20 34.6 +0.3
F13A Darby 71.18 45 ⇓P **P** 00 20 34.8 -0.3
baz=71
E14A Clinton 71.23 44 ⇓P **P** 00 20 35.4 0.0
baz=71
C16A Fuhringer Ranc 71.24 43 ⇓P **P** 00 20 35.9 +0.5
baz=71,SNR=19
D15A Lincoln 71.33 44 ⇓P **P** 00 20 36.2 +0.2
baz=71
B17A L&G Farms, Che 71.40 42 ⇑P **P** 00 20 36.8 +0.4
baz=71,SNR=19
BEKR Beckworth 71.42 53 ⇓P **P** 00 20 36.6 -0.1
baz=71
A18A Metzger Ranch, 71.47 41 ⇑P **P** 00 20 36.7 0.0
baz=71
E15A Deer Lodge 71.67 44 ⇓P **P** 00 20 38.3 +0.2
baz=71,SNR=19
G13A Cobalt 71.67 46 ⇑P **P** 00 20 37.8 -0.4
baz=72
F14A Wisdom 71.68 45 ⇓P **P** 00 20 38.3 +0.1
baz=72
H12A Diamond D Ranc 71.68 47 ⇑P **P** 00 20 38.3 +0.1
baz=72
ARMA Armidale 71.79 169 *eP* **P** 00 20 39.7 +1.0
D16A Dana Ranch, Ca 71.85 43 ⇑P **P** 00 20 39.5 +0.4
baz=72,SNR=13
B18A Beardsley Farm 71.85 41 ⇑P **P** 00 20 39.5 +0.5
baz=72,SNR=32
C17A Wharram Farm, 71.86 42 ⇓P **P** 00 20 39.3 +0.2
baz=72
MFID Camas Ranch 71.86 48 *eP* **P** 00 20 39.9 +0.6
MFID Camas Ranch 71.86 48 ⇓P **P** 00 20 39.8 +0.6
baz=72,SNR=13
HRY Holter Researc 71.91 43 *eP* **P** 00 20 40.0 +0.6
G14A Jackson 72.00 45 ⇓P **P** 00 20 39.9 -0.2
baz=72
A19A Klindworth Far 72.00 40 ⇑P **P** 00 20 40.3 +0.4
baz=72,SNR=31
H13A Challis 72.00 46 ⇓P **P** 00 20 40.3 +0.2
baz=72,SNR=6.9
I12A Atlanta 72.01 47 ⇑P **P** 00 20 40.8 +0.6
baz=72
E16A East Helena 72.11 44 ⇑P **P** 00 20 41.0 +0.4
baz=72,SNR=19
EGMT Eagleton 72.11 41 *eP* **P** 00 20 40.9 +0.3
comp=Z,52nm,0.8s
EGMT Eagleton 72.11 41 ⇑P **P** 00 20 41.0 +0.5
baz=72
SFJD Kangerlussuaq 72.11 4 *i* P **P** 00 20 40.0 -0.1
SFJD Kangerlussuaq 72.11 4 *i* P **P** 00 20 40.0 -0.1
F15A Butte 72.13 44 ⇑P **P** 00 20 41.3 +0.5
baz=72,SNR=35
WCN Washoe City 72.14 53 *eP* **P** 00 20 42.3 +1.3

WCN pmax pmax
comp=Z,15nm,1.1s
WCN Washoe City 72.14 53 *eP* **P** 00 20 42.3 +1.3
comp=Z,15nm,1.1s
WCN Washoe City 72.14 53 ⇓P **P** 00 20 41.9 +0.9
baz=72
LRM Limekiln Ridge 72.16 44 *eP* **P** 00 20 41.6 +0.5
FORT Forrest 72.18 191 *eP* **P** 00 20 40.9 +0.1
comp=Z,16nm,0.6s
D17A Six Diamond Ra 72.21 43 ⇓P **P** 00 20 41.7 +0.4
baz=72
B19A Brinkman Farms 72.22 41 ⇑P **P** 00 20 41.7 +0.6
baz=72
DLMT Dillon 72.38 45 *eP* **P** 00 20 43.5 +1.2
comp=Z,43nm,0.9s
A20A Cobblestone Ra 72.43 40 ⇑P **P** 00 20 42.8 +0.3
baz=72
STKA Stephens Creek 72.44 179 P **P** 00 20 41.8 -0.6
comp=Z,3.0nm,0.6s,baz=335,slow=16,SNR=11
STKA Stephens Creek 72.44 179 *eP* **P** 00 20 42.4 0.0
comp=Z,2.7nm,0.6s
STKA Stephens Creek 72.44 179 P **P** 00 20 41.8 -0.6
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 72.44 179 P **P** 00 20 41.8 -0.6
H14A Leadore 72.45 46 ⇓P **P** 00 20 42.9 +0.1
baz=72
I13A Wildhorse Cree 72.50 47 ⇑P **P** 00 20 43.8 +0.7
baz=72,SNR=30
CMB Columbia Colle 72.54 55 *eP* **P** 00 20 43.9 +0.7
CMB pmax pmax
comp=Z,19nm,1.0s
CMB Columbia Colle 72.54 55 *eP* **P** 00 20 43.9 +0.7
comp=Z,19nm,1.0s
HLID Hailey 72.56 47 *eP* **P** 00 20 44.3 +0.8
comp=Z,9.7nm,1.1s
HLID Hailey 72.56 47 ⇑P **P** 00 20 44.0 +0.6
baz=72,SNR=12
G15A Dillon 72.57 45 ⇓P **P** 00 20 43.8 +0.4
baz=72,SNR=66
E17A Martinsdale 72.58 43 ⇑P **P** 00 20 44.1 +0.6
baz=72,SNR=30
F16A Kennard Place, 72.62 44 ⇓P **P** 00 20 44.2 +0.5
baz=72,SNR=22
D18A Linhart Farms, 72.63 42 ⇑P **P** 00 20 44.4 +0.7
baz=72,SNR=5.9
C19A Slack Wire Ran 72.65 41 ⇑P **P** 00 20 44.5 +0.7
baz=72,SNR=48
B20A Solberg Farm, 72.69 40 ⇓P **P** 00 20 44.2 +0.2
baz=72
BOZ Bozeman (W) 72.71 44 *eP* **P** 00 20 45.2 +0.9
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ Bozeman (W) 72.71 44 *eP* **P** 00 20 45.2 +0.9
comp=Z,17nm,0.8s
BOZ Bozeman (W) 72.71 44 ⇑P **P** 00 20 45.1 +0.8
baz=72,SNR=14
BOZ ⇑P **P** 00 20 45.1 +0.8
baz=72,SNR=14
J13A Cove Ranch, Pi 72.80 47 ⇓P **P** 00 20 45.7 +0.9
baz=73,SNR=19
A21A Bergtoll Ranch 72.84 39 ⇑P **P** 00 20 45.3 +0.5
baz=73,SNR=26
H15A Lima 72.84 46 ⇑P **P** 00 20 45.7 +0.6
baz=73
I14A Mackay 72.85 46 ⇑P **P** 00 20 45.9 +0.8
baz=73,SNR=13
UMR Umm Al-Rimmam 72.89 294 *eP* **P** 00 20 44.6 -0.8
UMR AMb AMB 00 20 45.3
comp=Z,19nm,0.3s
G16A Moss Hill, Enn 72.89 45 ⇓P **P** 00 20 45.6 +0.3
baz=73,SNR=5.2
BMN Battle Mountai 72.95 51 *eP* **P** 00 20 46.9 +1.2
BMN pmax pmax
comp=Z,11nm,0.6s
BMN Battle Mountai 72.95 51 *eP* **P** 00 20 46.9 +1.2
comp=Z,11nm,0.6s
E18A Harlowton 73.00 43 ⇓P **P** 00 20 46.6 +0.7
baz=73,SNR=13
MIB Mutribah 73.00 295 *eP* **P** 00 20 45.2 -0.8
MIB AMb AMB 00 20 54.0
comp=Z,24nm,1.1s
F17A Fitzpatrick Pl 73.05 44 ⇑P **P** 00 20 47.0 +0.7
baz=73,SNR=14
B21A Ellsworth Farm 73.18 40 ⇓P **P** 00 20 47.0 +0.2
baz=73,SNR=8.6
C20A Veseth Ranch, 73.19 41 ⇑P **P** 00 20 47.3 +0.5
baz=73,SNR=6.2
J14A Carey 73.21 47 ⇓P **P** 00 20 48.5 +1.3
baz=73
QRN Al-Qurain 73.25 294 *eP* **P** 00 20 46.9 -0.6
A22A Carney Farms, 73.32 39 ⇓P **P** 00 20 47.8 +0.1
baz=73
I15A Monteview 73.34 46 ⇑P **P** 00 20 48.6 +0.7
baz=73
QLMT Earthquake Lak 73.36 45 *eP* **P** 00 20 48.9 +0.7
G17A Pierce Place, 73.40 44 ⇓P **P** 00 20 49.0 +0.8
baz=73,SNR=16
NAY Al-Naaiem 73.41 294 *eP* **P** 00 20 47.4 -1.0
NAY AMb AMB 00 20 49.3
comp=Z,7.3nm,0.5s
BSD Bornholm Skovb 73.51 331⇑ *iP* **P** 00 20 48.1 -0.4
BSD pmax pmax
comp=Z,12nm,0.9s
BSD Bornholm Skovb 73.51 331⇑ *iP* **P** 00 20 48.1 -0.4
comp=Z,12nm,0.9s
H16A Russell Place, 73.54 45 ⇑P **P** 00 20 49.9 +0.7
baz=73,SNR=17
F18A Big Timber 73.54 43 ⇓P **P** 00 20 49.8 +0.7
baz=73,SNR=22
D20A Manuel Ranch, 73.54 41 ⇑P **P** 00 20 49.7 +0.7
baz=73,SNR=20
NVAR Mina Array Bea 73.57 53 P **P** 00 20 50.5 +1.0
comp=Z,14nm,0.8s,baz=293,slow=5.6,SNR=98
NVAR Mina Array Bea 73.57 53 P **P** 00 20 50.5 +1.0
E19A Rath Farm, Rou 73.64 42 ⇑P **P** 00 20 50.2 +0.6
baz=73,SNR=26
BORG Borgarnes 73.66 352 P **P** 00 20 50.7 +1.5
comp=Z,24nm,0.8s,baz=323,slow=6.9,SNR=5.0
BORG Borgarnes 73.66 352 P **P** 00 20 50.7 +1.5
BORG pmax pmax
comp=Z,24nm,0.8s
BORG Borgarnes 73.66 352 P **P** 00 20 50.7 +1.5
J15A Blackfoot 73.76 46 ⇓P **P** 00 20 51.5 +1.1
baz=74,SNR=8.5
B22A Reddig Ranch S 73.76 39 ⇑P **P** 00 20 50.3 +0.1
baz=74
A23A Redstone 73.84 38 ⇓P **P** 00 20 50.9 +0.2
baz=74
ELK Elko 73.91 50 *eP* **P** 00 20 52.5 +1.1
ELK Elko 73.91 50 *eP* **P** 00 20 52.5 +1.1
K14A Jones Ranch, D 73.91 47 ⇓P **P** 00 20 52.6 +1.3
baz=74,SNR=12
E20A Meyer Farm, Mu 73.95 42 ⇓P **P** 00 20 52.1 +0.7
baz=74,SNR=13
I16A Newdale 73.96 46 ⇑P **P** 00 20 53.0 +1.4
baz=74,SNR=26
COP Copenhagen 73.97 332 *i* P **P** 00 20 51.5 +0.4
COP Copenhagen 73.97 332 *i* P **P** 00 20 51.5 +0.4
F19A Roth Farm, Mol 73.97 43 ⇑P **P** 00 20 52.1 +0.6
baz=74,SNR=22
GKP Gorka Klasztor 74.01 328 *eP* **P** 00 20 51.5 0.0
GKP Gorka Klasztor 74.01 328 *eP* **P** 00 20 51.5 0.0
G18A Lazy EL Ranch, 74.02 43 ⇑P **P** 00 20 52.4 +0.5
baz=74
LKWY Lake 74.08 44 *eP* **P** 00 20 54.7 +2.3
LKWY pmax pmax
comp=Z,16nm,0.9s
LKWY Lake 74.08 44 *eP* **P** 00 20 54.7 +2.3
comp=Z,16nm,0.9s
MTUM Tungsten Hills 74.09 54 *eP* **P** 00 20 53.3 +0.8
H17A Grant Village 74.10 45 ⇑P **P** 00 20 54.8 +2.3
baz=74,SNR=26
B23A Brockton 74.13 39 ⇓P **P** 00 20 52.7 +0.4
baz=74,SNR=28
D21A La Casta Ranch 74.13 41 ⇑P **P** 00 20 52.7 +0.2
baz=74,SNR=6.9
PTRM Twissleman Ran 74.14 57 *eP* **P** 00 20 54.0 +1.4
K15A Arbon 74.18 47 ⇓P **P** 00 20 54.0 +1.1
baz=74,SNR=7.1
C22A Vida 74.20 40 ⇑P **P** 00 20 52.7 -0.1
baz=74
L14A Malta 74.21 48 ⇓P **P** 00 20 54.0 +1.0
baz=74,SNR=13
IMW Indian Meadow 74.24 45 *eP* **P** 00 20 54.8 +1.4
comp=Z,14nm,0.8s
FLWY Flagg Ranch 74.25 45 *eP* **P** 00 20 54.7 +1.4

	comp=Z,21nm,1.3s								
A24A	**Westby**	74.27	38	⇓P		P	00 20 53.3	+0.1
	baz=74								
J16A	**Bone**	74.29	46	⇓P		P	00 20 54.8	+1.2
	baz=74,SNR=14								
RLMT	**Red Lodge**	74.30	43	*e*P		P	00 20 54.4	+0.7
	comp=Z,14nm,0.8s								
RLMT	**Red Lodge**	74.30	43	⇓P		P	00 20 54.5	+0.8
	baz=74,SNR=19								
RLMT				⇓P		P	00 20 54.5	+0.8
	baz=74,SNR=19								
DCID1	**Drake Creek**	74.31	46	*e*P		P	00 20 55.5	+1.9
	comp=Z,72nm,1.5s								
RCTC	**Rector, Farmer**	74.33	55	⇑P		P	00 20 54.0	+0.4
	baz=74								
KWP	**Kalwaria Pacla**	74.34	323	*e*P		P	00 20 54.1	+0.6
KWP	**Kalwaria Pacla**	74.34	323	*e*P		P	00 20 54.1	+0.6
KWP	**Kalwaria Pacla**	74.34	323	*e*P		P	00 20 53.5	0.0
	comp=Z,12nm,0.5s								
KWP	**Kalwaria Pacla**	74.34	323	⇑*i*P		P	00 20 54.1	+0.6
H18A	**Shoshone NF, C**	74.39	44	⇓P		P	00 20 54.8	+0.6
	baz=74,SNR=13								
RRI2	**Red Ridge**	74.40	46	*e*P		P	00 20 55.6	+1.3
	comp=Z,57nm,1.5s								
F20A	**Billings**	74.42	42	⇑P		P	00 20 54.4	+0.2
	baz=74								
I17A	**Pilgrim Ck.**	74.42	45	⇑P		P	00 20 56.2	+1.9
	baz=74,SNR=18								
MOOW	**Moose Ponds**	74.44	45	*e*P		P	00 20 55.7	+1.2
	comp=Z,21nm,1.1s								
E21A	**Keefer Ranch,**	74.45	41	⇑P		P	00 20 54.8	+0.6
	baz=74								
TLCR		74.47	317	⇑P		P	00 20 54.1	-0.1
TLCR		74.47	317	⇑*i*P		P	00 20 54.1	-0.1
MUD	**Monsted U'grnd**	74.47	334	*i* P		P	00 20 54.5	+0.4
MUD					pmax	pmax			
	comp=Z,13nm,0.9s								
MUD	**Monsted U'grnd**	74.47	334	*i* P		P	00 20 54.5	+0.4
	comp=Z,13nm,0.9s								
D22A	**Cohagen**	74.47	40	⇑P		P	00 20 54.7	+0.3
	baz=74,SNR=22								
SMMC	**Simmler**	74.49	57	⇓P		P	00 20 55.9	+1.3
	baz=74								
TIN	**Tinemaha**	74.49	54	⇑P		P	00 20 56.0	+1.3
	baz=74								
C23A	**Lambert**	74.50	39	⇑P		P	00 20 54.8	+0.2
	baz=74,SNR=18								
DGMT	**Dagmar**	74.50	38	*e*P		P	00 20 54.8	+0.3
	comp=Z,35nm,0.8s								
DGMT	**Dagmar**	74.50	38	⇑P		P	00 20 54.7	+0.2
	baz=74,SNR=7.1								
BUR08	**Bucovina Ar. S**	74.58	320	*e*P		P	00 20 55.3	+0.3
BURAR	**Bucovina Array**	74.59	320	⇓*i*P		P	00 20 55.8	+0.7
K16A	**Soda Springs**	74.60	46	⇑P		P	00 20 56.6	+1.3
	baz=74,SNR=18								
LOHW	**Long Hollow**	74.61	45	*e*P		P	00 20 56.5	+1.1
	comp=Z,7.1nm,1.0s								
SNOW	**Snow King Moun**	74.63	45	*e*P		P	00 20 57.3	+1.7
	comp=Z,30nm,1.4s								
HVU	**Hansel Valley**	74.64	48	*e*P		P	00 20 56.8	+1.3
HVU					pmax	pmax			
	comp=Z,10.0nm,0.7s								
HVU	**Hansel Valley**	74.64	48	*e*P		P	00 20 56.8	+1.3
	comp=Z,9.9nm,0.7s								
REDW	**Red Top Meadow**	74.64	46	*e*P		P	00 20 56.7	+1.1
	comp=Z,23nm,1.4s								
TESR		74.66	319	⇑*i*P		P	00 20 56.3	+0.9
L15A	**Malad City**	74.71	47	⇓P		P	00 20 56.6	+0.7
	baz=74,SNR=13								
J17A	**Brown Place, J**	74.72	46	⇑P		P	00 20 57.0	+1.0
	baz=74,SNR=11								
VES	**Vestal, Richgr**	74.73	56	⇓P		P	00 20 55.8	-0.1
	baz=75								
H19A	**Powell**	74.76	44	⇑P		P	00 20 56.9	+0.8
	baz=74								
G20A	**Bridger**	74.78	43	⇑P		P	00 20 56.1	-0.2
	baz=74								
CFR	**Carcaliu**	74.82	317	⇑P		P	00 20 56.7	+0.4
CFR	**Carcaliu**	74.82	317	⇑*i*P		P	00 20 56.7	+0.4
PKM	**Peak Mountain**	74.86	57	⇑P		P	00 20 58.1	+1.1
	baz=75,SNR=8.2								
AHID	**Auburn Hatcher**	74.91	46	*e*P		P	00 20 57.8	+0.6
	comp=Z,8.2nm,0.6s								
F21A	**Absaloka Mine,**	74.92	42	⇓P		P	00 20 57.3	+0.3
	baz=75								
D23A	**Lindsay**	74.93	40	⇓P		P	00 20 57.7	+0.7
	baz=75								
CWC	**Cottonwood Cre**	74.97	55	⇑P		P	00 20 57.9	+0.4
	baz=75								
I18A	**Diamond G Ranc**	74.97	45	⇓P		P	00 20 58.6	+1.1
	baz=75,SNR=7.9								
M15A	**Larsen Ranch,**	75.03	48	⇑P		P	00 20 58.6	+0.8
	baz=75,SNR=24								
GRAC	**Grapevine Rang**	75.05	54	⇓P		P	00 20 58.9	+1.0
	baz=75,SNR=6.3								
C24A	**Savage**	75.06	39	⇓P		P	00 20 58.1	+0.4
	baz=75								
VRI	**Vrincioaia**	75.06	318	⇑P		P	00 20 58.2	+0.5
VRI	**Vrincioaia**	75.06	318	⇑*i*P		P	00 20 58.2	+0.5
E22A	**Miles City**	75.08	41	⇓P		P	00 20 58.1	+0.2
	baz=75,SNR=7.8								
I19A	**Meeteetse**	75.18	44	⇑P		P	00 20 59.4	+0.7
	baz=75,SNR=8.9								
J18A	**Kendall Valley**	75.20	45	⇓P		P	00 20 59.3	+0.5
	baz=75,SNR=14								
OJC	**Ojcow**	75.21	325	*e*P		P	00 20 58.9	+0.5
OJC	**Ojcow**	75.21	325	*e*P		P	00 20 59.0	+0.5
OJC					pmax	pmax			
	comp=Z,27nm,0.9s								
OJC	**Ojcow**	75.21	325	*e*P		P	00 20 59.0	+0.5
	comp=Z,27nm,0.9s								
SBC	**Santa Barbara**	75.22	57	⇑P		P	00 20 59.6	+0.8
	baz=75								
ISA	**Isabella**	75.22	56	*e*P		P	00 20 58.6	-0.3
ISA					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ISA	**Isabella**	75.22	56	*e*P		P	00 20 58.6	-0.3
	comp=Z,8.7nm,0.8s								
ISA	**Isabella**	75.22	56	⇑P		P	00 20 58.8	-0.1
	baz=75								
L16A	**Fish Haven**	75.23	47	⇑P		P	00 20 59.6	+0.6
	baz=75,SNR=9.8								
UZH	**Uzhgorod**	75.25	323	*e*P		P	00 20 59.6	+0.9
R11A	**Troy Canyon, C**	75.26	52	⇑P		P	00 20 59.9	+0.7
	baz=75,SNR=20								
G21A	**Lodge Grass**	75.29	42	⇓P		P	00 20 59.3	+0.1
	baz=75								
ARVC	**Arvin**	75.34	56	⇓P		P	00 20 59.8	+0.3
	baz=75								
E23A	**Ismay**	75.36	40	⇑P		P	00 21 00.1	+0.6
	baz=75								
N15A	**Stansbury Isla**	75.37	48	⇑P		P	00 21 00.6	+0.8
	baz=75,SNR=9.2								
BMR	**Baia Mare**	75.37	321	⇑P		P	00 21 00.3	+0.9
BMR	**Baia Mare**	75.37	321	⇑*i*P		P	00 21 00.3	+0.9
F22A	**Rosebud**	75.39	41	⇑P		P	00 20 59.8	+0.1
	baz=75								
H20A	**Greybull**	75.40	43	⇑P		P	00 20 59.8	0.0
	baz=75,SNR=9.7								
D24A	**Glendive**	75.40	39	⇑P		P	00 21 00.3	+0.7
	baz=75,SNR=13								
HWUT	**Hardware Ranch**	75.43	47	*e*P		P	00 21 01.1	+0.9
	comp=Z,39nm,1.4s								
CRVS	**Cervenica-Dubn**	75.43	323	*e*P		P	00 21 00.1	+0.3
CRVS					pmax	pmax			
	comp=Z,7.0nm,0.9s								
CRVS	**Cervenica-Dubn**	75.43	323	*e*P		P	00 21 00.1	+0.3
BR131	**Keskin Array S**	75.47	310	*e*P		P	00 21 00.1	-0.3
	comp=Z,2.0nm,0.5s								
BRTR	**Keskin Array B**	75.47	310	P		P	00 21 00.4	+0.1
	comp=Z,3.7nm,0.7s,baz=112,slow=2.9,SNR=32								
BRTR	**Keskin Array B**	75.47	310	*ce*P		P	00 21 00.4	+0.1
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
BRTR	**Keskin Array B**	75.47	310	P		P	00 21 00.4	+0.1
L17A	**Cokeville**	75.48	47	⇓P		P	00 21 00.7	+0.3
	baz=75,SNR=6.5								
TRPA	**Tarpa**	75.50	322	⇓*i*P		P	00 21 00.7	+0.6
TRPA	**Tarpa**	75.50	322	⇑*e*		P	00 21 00.7	+0.6
BSC	**Santa Cruz Isl**	75.55	58	⇑P		P	00 21 01.2	+0.4
	baz=75								
NIE	**Niedzica**	75.57	324	*e*P		P	00 21 01.4	+0.8
NIE	**Niedzica**	75.57	324	*e*P		P	00 21 01.4	+0.8
K18A	**Toltan Ranch,**	75.57	46	⇑P		P	00 21 01.9	+0.9
	baz=75,SNR=7.7								
MPMC	**Manual Prospec**	75.58	55	⇑P		P	00 21 01.7	+0.7
	baz=75,SNR=35								
M16A	**Huntsville**	75.59	48	⇓P		P	00 21 01.6	+0.5
	baz=75,SNR=12								
DUG	**Dugway**	75.67	49	*e*P		P	00 21 02.5	+1.0
DUG					pmax	pmax			
	comp=Z,39nm,1.5s								
DUG	**Dugway**	75.67	49	*e*P		P	00 21 02.5	+1.0
	comp=Z,39nm,1.5s								
DUG	**Dugway**	75.67	49	⇓P		P	00 21 02.4	+1.0
	baz=76,SNR=16								
J19A	**Crowheart**	75.68	45	⇓P		P	00 21 02.3	+0.8
	baz=76,SNR=33								
I20A	**Worland**	75.70	44	⇓P		P	00 21 02.4	+0.9
	baz=76,SNR=9.1								
FURC	**Furnace Creek,**	75.70	54	⇑P		P	00 21 02.4	+0.9
	baz=76,SNR=16								
MLR	**Muntele Rosu**	75.72	318	⇑P		P	00 21 01.8	+0.2
MLR	**Muntele Rosu**	75.72	318	⇑*i*P		P	00 21 01.8	+0.2
OSI	**Osito Adit**	75.74	57	⇑P		P	00 21 02.7	+0.9
	baz=76								
BW06	**Boulder Array**	75.75	45	*e*P		P	00 21 02.1	+0.1
	comp=Z,14nm,0.6s								
BW06	**Boulder Array**	75.75	45	⇓P		P	00 21 02.3	+0.3
	baz=76								
BW06				⇓P		P	00 21 02.3	+0.3
	baz=76								
PDAR	**Pinedale Array**	75.75	45	P		P	00 21 02.1	+0.1
	comp=Z,17nm,0.6s,baz=321,slow=0.2,SNR=135								
PDAR	**Pinedale Array**	75.75	45	P		P	00 21 02.1	+0.1
G22A	**Birney**	75.76	42	⇑P		P	00 21 02.1	+0.3
	baz=76								
H21A	**Big Horn, Sher**	75.79	43	⇑P		P	00 21 02.5	+0.4
	baz=76,SNR=9.2								
E24A	**Baker**	75.80	40	⇓P		P	00 21 02.4	+0.3
	baz=76								
O15A	**The Old Anders**	75.80	49	⇑P		P	00 21 03.1	+0.9
	baz=76								
LRMC	**Laurel Mountai**	75.83	55	⇑P		P	00 21 02.8	+0.3
	baz=76								
BLG	**Laguna Peak**	75.84	57	⇑P		P	00 21 02.7	+0.3
	baz=76								
F23A	**Volborg**	75.86	41	⇓P		P	00 21 02.7	+0.3
	baz=76,SNR=27								
SECR		75.98	318	⇑*i*P		P	00 21 04.0	+1.1
N16A	**Rees Ranch, Co**	75.98	48	⇓P		P	00 21 04.2	+0.9
	baz=76,SNR=5.0								
M17A	**Scullys Gap (B**	76.02	47	⇓P		P	00 21 03.9	+0.4
	baz=76,SNR=6.3								
EDW2	**Edwards Air Fo**	76.03	56	⇓P		P	00 21 04.2	+0.7
	baz=76								
L18A	**Fontenelle, Gr**	76.06	46	⇑P		P	00 21 04.2	+0.5
	baz=76,SNR=18								
K19A	**Absolon Red Bu**	76.09	45	⇓P		P	00 21 03.5	-0.3
	baz=76								
BSEG	**Bad Segeberg**	76.10	332	*e*P		P	00 21 03.9	+0.5
	comp=Z,27nm,0.8s								
BSEG	**Bad Segeberg**	76.10	332	*e*P		P	00 21 03.9	+0.5
BSEG					pmax	pmax			
	comp=Z,27nm,0.8s								
J20A	**Shoshoni**	76.13	44	⇑P		P	00 21 04.4	+0.4
	baz=76,SNR=20								
JLU	**Jordanelle**	76.17	48	*e*P		P	00 21 05.4	+1.0
	comp=Z,31nm,1.6s								
H22A	**Clearmont**	76.17	42	⇓P		P	00 21 04.3	+0.1
	baz=76								
VOIR		76.21	319	⇑P		P	00 21 05.2	+0.9
VOIR		76.21	319	⇑*i*P		P	00 21 05.2	+0.9
OKC	**Ostrava-Krasne**	76.21	325	*e*P		P	00 21 04.2	+0.1
OKC	**Ostrava-Krasne**	76.21	325	⇑*e*P		P	00 21 04.2	+0.1
DECC	**Green Verdugo**	76.22	57	⇑P		P	00 21 04.9	+0.3
	baz=76								
KSP	**Ksiaz**	76.23	327	*e*P		P	00 21 04.5	+0.3
KSP	**Ksiaz**	76.23	327	*e*P		P	00 21 04.6	+0.3
I21A	**Big Trails, Te**	76.23	43	⇓P		P	00 21 04.9	+0.3
	baz=76,SNR=32								
G23A	**Biddle**	76.23	41	⇓P		P	00 21 04.6	+0.1
	baz=76								
F24A	**Ekalaka**	76.24	40	⇓P		P	00 21 04.8	+0.2
	baz=76,SNR=6.8								
N17A	**Moffit Pass**	76.28	47	⇓P		P	00 21 05.6	+0.5
	baz=76,SNR=18								
L19A	**Farson**	76.31	46	⇓P		P	00 21 05.6	+0.5
	baz=76,SNR=10								
R13A	**O'Grain Ranch,**	76.33	51	⇑P		P	00 21 06.1	+0.8
	baz=76,SNR=6.3								
DRGR		76.38	321	⇑P		P	00 21 05.6	+0.3
DRGR		76.38	321	⇑*i*P		P	00 21 05.6	+0.3
M18A	**Lyman**	76.38	47	⇓P		P	00 21 06.0	+0.4
	baz=76								
P15A	**Leamington**	76.39	49	⇑P		P	00 21 06.3	+0.8
	baz=76								
DAU	**Daniels Canyon**	76.40	48	*e*P		P	00 21 07.0	+1.2
DAU	**Daniels Canyon**	76.40	48	*e*P		P	00 21 07.0	+1.2
O16A	**Springville**	76.40	48	⇓P		P	00 21 06.3	+0.7
	baz=76,SNR=5.6								
NWAO	**Narrogin (SO)**	76.41	200	P		P	00 21 05.2	0.0
	comp=Z,5.1nm,0.8s,baz=177,slow=18,SNR=6.3								
NWAO	**Narrogin (SO)**	76.41	200	P		P	00 21 05.3	0.0
NWAO					pmax	pmax			
	comp=Z,5.0nm,0.8s								
NWAO	**Narrogin (SO)**	76.41	200	P		P	00 21 05.2	0.0
SHOC	**Shoshone**	76.43	54	⇑P		P	00 21 06.3	+0.7
	baz=76								
MPU	**Maple Canyon**	76.46	49	*e*P		P	00 21 07.2	+1.2
	comp=Z,39nm,1.4s								
J21A	**Lysite**	76.47	44	⇑P		P	00 21 06.3	+0.3
	baz=76,SNR=7.3								
K20A	**Yellowstone Ra**	76.47	45	⇓P		P	00 21 05.7	-0.3
	baz=76								
GSC	**Goldstone**	76.49	55	*e*P		P	00 21 06.7	+0.6
GSC					pmax	pmax			
	comp=Z,25nm,1.1s								
GSC	**Goldstone**	76.49	55	*e*P		P	00 21 06.7	+0.6
	comp=Z,25nm,1.1s								
GSC	**Goldstone**	76.49	55	⇑P		P	00 21 06.7	+0.6
	baz=76								
MORC	**Moravsky Berou**	76.51	326	*e*P		P	00 21 06.3	+0.4
MORC					pmax	pmax			
	comp=Z,12nm,0.9s								
MORC	**Moravsky Berou**	76.51	326	*e*P		P	00 21 06.3	+0.4
	comp=Z,12nm,0.9s								
MORC	**Moravsky Berou**	76.51	326	⇑*i*P		P	00 21 06.2	+0.4
DPC	**Dobruska-Polom**	76.59	327	⇑*i*P		P	00 21 07.0	+0.7
DPC	**Dobruska-Polom**	76.59	327	⇑*i*P		P	00 21 07.0	+0.7
I22A	**9 Mile Ranch,**	76.59	43	⇑P		P	00 21 06.9	+0.3
	baz=76,SNR=16								
UPC	**Upice**	76.60	327	*e*P		P	00 21 07.1	+0.8
UPC	**Upice**	76.60	327	⇑*e*P		P	00 21 07.1	+0.8
G24A	**Alzada**	76.63	41	⇓P		P	00 21 06.4	-0.3
	baz=76								
BFSC	**Mount Baldy Ra**	76.65	56	⇓P		P	00 21 07.4	+0.3
	baz=76								
P16A	**Fountain Green**	76.72	49	⇑P		P	00 21 07.9	+0.5
	baz=76								
CIS	**Catalina Islan**	76.72	57	⇑P		P	00 21 07.6	+0.3
	baz=76								
M19A	**Rock Springs**	76.83	46	⇑P		P	00 21 08.3	+0.3
	baz=77								
O17A	**Robinson Place**	76.84	48	⇑P		P	00 21 08.5	+0.3
	baz=77								
PSZ	**Piszkesteto**	76.86	323	⇑P		P	00 21 08.6	+0.6
PSZ	**Piszkesteto**	76.86	323	*e*P		P	00 21 08.5	+0.5
	comp=Z,12nm,0.9s								
PSZ	**Piszkesteto**	76.86	323	⇑*i*P		P	00 21 08.6	+0.6
PSZ	**Piszkesteto**	76.86	323	⇑*e*		P	00 21 08.6	+0.6
ULM	**Lac du Bonnet**	76.88	33	P		P	00 21 07.5	-0.4
	comp=Z,21nm,0.6s,baz=318,slow=6.5,SNR=45								
ULM	**Lac du Bonnet**	76.88	33	P		P	00 21 07.5	-0.4
ULM					pmax	pmax			
	comp=Z,21nm,0.6s								
ULM	**Lac du Bonnet**	76.88	33	*e*P		P	00 21 07.3	-0.5
	comp=Z,17nm,0.7s								
HUMR	**Humele**	76.88	318	⇓*i*P		P	00 21 08.1	+0.1
SCI	**San Clemente I**	76.90	58	⇑P		P	00 21 08.5	+0.2
	baz=77								
VYHS	**Vyhne**	76.91	324	*e*P		P	00 21 08.6	+0.5
VYHS					pmax	pmax			
	comp=Z,3.0nm,0.7s								
VYHS	**Vyhne**	76.91	324	*e*P		P	00 21 08.6	+0.5
L20A	**Wamsutter**	76.92	45	⇑P		P	00 21 09.0	+0.4
	baz=77,SNR=8.0								
J22A	**Midwest**	76.93	43	⇓P		P	00 21 08.5	0.0
	baz=77								
TUQ	**Turquoise Moun**	76.95	54	⇓P		P	00 21 09.6	+0.8
	baz=77,SNR=33								
H24A	**Dirks Ranch, A**	76.97	41	⇑P		P	00 21 08.3	-0.4
	baz=77								
KOLL	**Kolacno**	77.04	325	*e*P		P	00 21 09.5	+0.7
KOLL	**Kolacno**	77.04	325	*e*P		P	00 21 09.5	+0.7
I23A	**Meade Ranch, G**	77.07	42	⇑P		P	00 21 10.0	+0.8
	baz=77								
K21A	**Alcova**	77.07	44	⇑P		P	00 21 09.5	+0.2
	baz=77,SNR=27								
MDND	**Maddock**	77.07	37	⇑P		P	00 21 09.4	+0.3
	baz=77								
HEC	**Hector,Ludlow**	77.10	55	⇓P		P	00 21 10.1	+0.6
	baz=77,SNR=23								
BBRC	**Big Bear Solar**	77.10	56	⇑P		P	00 21 10.1	+0.4
	baz=77								
CCUT	**Cedar City**	77.10	51	*e*P		P	00 21 11.0	+1.3
	comp=Z,6.4nm,0.9s								
MSU	**Marysvale**	77.16	50	*e*P		P	00 21 11.2	+1.2
MSU	**Marysvale**	77.16	50	*e*P		P	00 21 11.2	+1.2
BRG	**Berggiesshubel**	77.16	328	*e*P		P	00 21 09.5	+0.1
	comp=Z,6.8nm,0.8s								
BRG	**Berggiesshubel**	77.16	328	*e*P		P	00 21 09.6	+0.2
	comp=Z,7.0nm,0.8s								
BRG	**Berggiesshubel**	77.16	328	*e*P		P	00 21 09.5	+0.1
BRG					pmax	pmax			
	comp=Z,7.0nm,0.8s								
PVCC	**Panska Ves**	77.17	328	*e*P		P	00 21 10.0	+0.5
PVCC	**Panska Ves**	77.17	328	⇑*e*P		P	00 21 10.0	+0.5
TMUT	**Trail Mountain**	77.18	49	*e*P		P	00 21 11.2	+1.0
	comp=Z,24nm,1.4s								
CLL	**Collm**	77.19	329	*e*P		P	00 21 09.5	-0.1
	comp=Z,14nm,0.6s								
CLL	**Collm**	77.19	329	⇑*i*P		P	00 21 09.5	-0.1
CLL					pmax	pmax			
	comp=Z,13nm,0.7s								
CLL	**Collm**	77.19	329	⇑*i*P		P	00 21 09.5	-0.1
	comp=Z,13nm,0.7s								
O18A	**Roosevelt**	77.20	47	⇑P		P	00 21 11.2	+1.1
	baz=77,SNR=5.3								
N19A	**John Jarvie Ra**	77.23	47	⇓P		P	00 21 10.4	+0.1
	baz=77								
VRAC	**Vranov**	77.27	326	P		P	00 21 10.5	+0.4
	comp=Z,9.6nm,0.8s,baz=45,slow=7.3,SNR=12								
VRAC	**Vranov**	77.27	326	⇓P		P	00 21 10.8	+0.7
VRAC	**Vranov**	77.27	326	P		P	00 21 10.5	+0.4
VRAC	**Vranov**	77.27	326	⇓*i*P		P	00 21 10.8	+0.7
R15A	**Junction**	77.30	50	⇑P		P	00 21 11.8	+1.0
	baz=77								
P17A	**Butcher Ranch,**	77.33	48	⇑P		P	00 21 11.5	+0.6
	baz=77,SNR=10								
MURC	**Murrieta**	77.36	57	⇑P		P	00 21 11.2	+0.3
	baz=77								
GZR	**Gura Zlata**	77.36	320	⇓P		P	00 21 11.1	+0.4
GZR	**Gura Zlata**	77.36	320	⇓*i*P		P	00 21 11.1	+0.4
M20A	**Sweetwater, Wa**	77.36	46	⇓P		P	00 21 11.7	+0.7
	baz=77								
J23A	**Dilts Ranch, B**	77.42	43	⇑P		P	00 21 12.0	+0.7
	baz=77								
K22A	**Casper**	77.44	44	⇓P		P	00 21 11.0	-0.4
	baz=77								
Q16A	**Castle Valley**	77.46	49	⇑P		P	00 21 12.4	+0.8
	baz=77,SNR=6.3								
L21A	**Rawlins**	77.47	45	⇑P		P	00 21 11.9	+0.2
	baz=77,SNR=18								
P18A	**Preston Nutter**	77.50	48	⇓P		P	00 21 12.6	+0.6
	baz=77,SNR=15								
SMOL	**Smolenice**	77.51	325	*e*P		P	00 21 12.4	+0.9
SMOL	**Smolenice**	77.51	325	*e*P		P	00 21 12.4	+0.9
GMRC	**Granite Mounta**	77.55	55	⇓P		P	00 21 12.7	+0.7
	baz=77,SNR=18								
I24A	**Kuemmerle Ranc**	77.57	42	⇑P		P	00 21 11.6	-0.4
	baz=77								
PRU	**Pruhonice**	77.60	327	⇑*i*P		P	00 21 12.4	+0.5
PRU	**Pruhonice**	77.60	327	⇑*i*P		P	00 21 12.4	+0.5
O19A	**Miners Draw (B**	77.67	47	⇓P		P	00 21 12.8	+0.1
	baz=78								
RSSD	**Black Hills**	77.68	42	*e*P		P	00 21 12.3	-0.5
RSSD					pmax	pmax			
	comp=Z,19nm,1.1s								
RSSD	**Black Hills**	77.68	42	*e*P		P	00 21 12.2	-0.5
	comp=Z,19nm,1.1s								
LDFC	**Landfair**	77.69	54	*e*P		P	00 21 13.5	+0.7
	comp=Z,46nm,1.1s								
SRU	**San Rafael**	77.70	49	*e*P		P	00 21 13.8	+0.9
SRU					pmax	pmax			
	comp=Z,24nm,1.1s								
SRU	**San Rafael**	77.70	49	*e*P		P	00 21 13.8	+0.9
	comp=Z,24nm,1.1s								
SRU	**San Rafael**	77.70	49	⇑P		P	00 21 13.3	+0

U15A **North Rim** 78.49 52 ⇓P P 00 21 18.6 +1.2
baz=78,SNR=29
Q19A **Hogan Spring (** 78.52 48 ⇑P P 00 21 17.7 +0.3
baz=78
SOP **Sopron** 78.53 325⇑*e* P 00 21 18.0 +1.0
S17A **Black Ridge (B** 78.55 50 ⇓P P 00 21 18.2 +0.6
baz=78,SNR=23
R18A **Canyonlands Na** 78.55 49 ⇑P P 00 21 17.9 +0.2
baz=78
P20A **De Beque** 78.63 47 ⇓P P 00 21 18.2 +0.2
baz=78
CSNA **Conrad Observa** 78.64 325⇑*i*P P 00 21 18.6 +0.8
comp=Z,9.0nm,0.9s
CSNA **Conrad Observa** 78.64 325⇑*i*P P 00 21 18.6 +0.8
comp=Z,9.0nm,0.9s
O21A **Pagoda** 78.64 46 ⇓P P 00 21 18.3 +0.1
baz=78
KHC **Kasperske Hory** 78.66 327 *e*P P 00 21 18.0 +0.2
KHC **Kasperske Hory** 78.66 327⇑*e*P P 00 21 18.0 +0.2
DVTC **Desert V Tower** 78.67 57 ⇑P P 00 21 18.7 +0.5
baz=78
SWSC **Sam W. Stewart** 78.67 56 ⇓P P 00 21 18.5 +0.3
baz=78
M23A **Laramie** 78.70 44 ⇑P P 00 21 18.7 +0.2
baz=78,SNR=11
L24A **Wheatland** 78.70 43 ⇓P P 00 21 18.9 +0.5
baz=78
ROTZ **Rotzenmuhle** 78.71 328 *e*P P 00 21 18.7 +0.6
comp=Z,7.0nm,0.8s
UBBA **Unterbreizbach** 78.72 330 *e*P P 00 21 18.9 +1.0
comp=Z,5.0nm,0.7s
N22A **Wattenberg Ran** 78.78 45 ⇑P P 00 21 19.4 +0.5
baz=79,SNR=6.5
PDMCI **Parker Dam,Lak** 78.80 54 ⇑P P 00 21 19.4 +0.6
baz=79,SNR=5.6
MMAI **Mount Meron Ar** 78.84 304 P P 00 21 19.9 +0.8
comp=Z,3.2nm,0.6s,baz=28,slow=6.5,SNR=5.7
MMAI **Mount Meron Ar** 78.84 304 P P 00 21 19.9 +0.8
GEC2 **GERESS Array S** 78.84 327 *e*P P 00 21 18.8 0.0
comp=Z,5.0nm,0.8s
GEC2 **GERESS Array S** 78.84 327 *e*P P 00 21 18.8 0.0
GEC2 pmax pmax
comp=Z,5.0nm,0.8s
GERES **GERESS Array B** 78.84 327 P P 00 21 18.9 0.0
comp=Z,4.1nm,0.8s,baz=36,slow=5.6,SNR=28
GERES **GERESS Array B** 78.84 327 P P 00 21 18.9 0.0
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES **GERESS Array B** 78.84 327 P P 00 21 18.9 0.0
Y12C **Blythe** 78.93 55 ⇑P P 00 21 20.4 +0.9
baz=79,SNR=14
WET **Wettzell** 78.94 328 *e*P P 00 21 19.7 +0.4
comp=Z,9.0nm,1.0s
WET **Wettzell** 78.94 328 *e*P P 00 21 19.7 +0.4
WET pmax pmax
comp=Z,9.0nm,1.0s
S18A **Hurst Farm, Bl** 78.97 49 ⇓P P 00 21 20.3 +0.2
baz=79,SNR=22
R19A **Curley Farm, L** 78.98 49 ⇓P P 00 21 20.5 +0.5
baz=79,SNR=11
T17A **Navajo Res., N** 78.98 50 ⇑P P 00 21 20.1 +0.1
baz=79
N23A **Red Feather La** 78.99 45 ⇓P P 00 21 20.6 +0.6
baz=79,SNR=12
Q20A **Ridgley Place,** 79.06 48 ⇓P P 00 21 20.6 +0.2
baz=79,SNR=9.7
PV04 **Paradox Valley** 79.11 48 *e*P P 00 21 21.7 +1.0
L25A **Engebretsen Ra** 79.13 43 ⇑P P 00 21 21.0 +0.3
baz=79
K26A **Motz Farm, Whi** 79.13 42 ⇓P P 00 21 20.3 -0.3
baz=79
P21A **Newcastle** 79.14 47 ⇓P P 00 21 21.4 +0.5
baz=79,SNR=12
GRF **Grafenberg Arr** 79.16 329 *e*P P 00 21 21.2 +0.7
comp=Z,25nm,0.9s
GRF **Grafenberg Arr** 79.16 329 *e*P P 00 21 21.2 +0.7
GRF pmax pmax
comp=Z,25nm,0.9s
GRFO **Grafenberg** 79.16 329 *e*P P 00 21 21.2 +0.7
GRFO pmax pmax
comp=Z,19nm,0.8s
GRFO **Grafenberg** 79.16 329 *e*P P 00 21 21.2 +0.7
comp=Z,19nm,0.8s
VTS **Vitosha** 79.17 318 ⇑P P 00 21 21.3 +0.4
VTS **Vitosha** 79.17 318⇑*i*P P 00 21 21.3 +0.4
M24A **Cheyenne** 79.17 44 ⇑P P 00 21 21.9 +0.9
baz=79
O22A **Kremmling** 79.18 46 ⇓P P 00 21 21.5 +0.3
baz=79,SNR=17
GLA **Glamis** 79.21 56 *e*P P 00 21 22.3 +1.2
GLA pmax pmax
comp=Z,30nm,0.7s
GLA **Glamis** 79.21 56 *e*P P 00 21 22.3 +1.2
comp=Z,30nm,0.7s
GLA **Glamis** 79.21 56 ⇑P P 00 21 21.8 +0.7
baz=79,SNR=9.5
BUG **Bochum--Univer** 79.22 332 *e*P P 00 21 20.7 0.0
comp=Z,11nm,1.0s
U17A **Shonto** 79.33 51 ⇑P P 00 21 22.7 +0.7
baz=79,SNR=5.2
U16A **Tuba City** 79.37 51 ⇑P P 00 21 23.3 +1.2
baz=79,SNR=30
T18A **Mexican Hat** 79.42 50 ⇓P P 00 21 22.6 +0.3
baz=79
S19A **Harvey Farm, M** 79.43 49 ⇑P P 00 21 22.8 +0.3
baz=79,SNR=24
P22A **Eagle** 79.47 46 ⇓P P 00 21 23.4 +0.8
baz=79,SNR=15
O23A **Lake Granby, G** 79.49 45 ⇓P P 00 21 23.6 +0.8
baz=79,SNR=10
Q21A **Lamborn Mesa,** 79.55 47 ⇓P P 00 21 23.8 +0.7
baz=79
R20A **Redvale** 79.55 48 ⇑P P 00 21 23.8 +0.7
baz=79,SNR=8.9
M25A **Palm-Egli Farm** 79.60 43 ⇓P P 00 21 23.9 +0.7
baz=79
N24A **Carr** 79.60 44 ⇑P P 00 21 23.9 +0.6
baz=79
K27A **Flueckinger Fa** 79.61 42 ⇓P P 00 21 23.1 -0.1
baz=79
SMCO **Snowmass** 79.64 47 *e*P P 00 21 24.4 +0.6
comp=Z,24nm,0.3s
WUAZ **Wupatki** 79.66 52 *e*P P 00 21 24.7 +1.0
comp=Z,20nm,0.9s
WUAZ **Wupatki** 79.66 52 ⇓P P 00 21 24.6 +1.0
baz=80,SNR=16
Y14A **Wickenburg** 79.74 54 ⇑P P 00 21 24.7 +0.7
baz=80,SNR=10
TNS **Taunus Mts** 79.79 331 *e*P P 00 21 24.0 +0.1
comp=Z,72nm,2.0s
TNS **Taunus Mts** 79.79 331 *e*P P 00 21 24.0 +0.1
TNS pmax pmax
comp=Z,72nm,2.0s
S20A **Disappointment** 79.81 48 ⇓P P 00 21 25.0 +0.5
baz=80,SNR=15
Z13A **Yuma Proving G** 79.84 55 ⇓P P 00 21 25.4 +0.9
baz=80,SNR=43
R21A **Cimarron** 79.89 48 ⇓P P 00 21 25.8 +0.9
baz=80,SNR=13
Q22A **Crested Butte,** 79.90 47 ⇑P P 00 21 25.8 +0.8
baz=80,SNR=14
BRSD **Miller** 79.92 39 ⇓P P 00 21 24.7 0.0
baz=80
U18A **Rough Rock, Ch** 79.92 50 ⇓P P 00 21 26.0 +0.9
baz=80,SNR=11
V17A **Tonalea, Kykot** 79.93 51 ⇑P P 00 21 26.4 +1.3
baz=80,SNR=44
ISCO **Idaho Springs** 79.94 45 *e*P P 00 21 26.0 +0.7
ISCO pmax pmax
comp=Z,10.0nm,0.8s
ISCO **Idaho Springs** 79.94 45 *e*P P 00 21 26.0 +0.7
comp=Z,10nm,0.8s
ISCO **Idaho Springs** 79.94 45 ⇓P P 00 21 25.9 +0.7
baz=80,SNR=14
SOKA **Soboth** 79.96 325⇓*i*P P 00 21 25.1 +0.1
comp=Z,14nm,0.9s
SOKA **Soboth** 79.96 325⇓*i*P P 00 21 25.1 +0.1
comp=Z,14nm,0.9s
O24A **Longmont** 80.00 45 ⇓P P 00 21 26.2 +0.8
baz=80
L27A **T5 Ranch, Ells** 80.02 42 ⇑P P 00 21 25.6 +0.2
baz=80
M26A **McRoberts Ranc** 80.05 43 ⇓P P 00 21 26.2 +0.6
baz=80
113A **Mohawk Valley,** 80.06 55 ⇑P P 00 21 26.0 +0.4
baz=80
RJOB **Jochberg** 80.08 327 *e*P P 00 21 26.1 +0.5
comp=Z,15nm,0.9s

P23A **Jefferson** 80.12 46 ⇓P P 00 21 27.4 +1.0
baz=80,SNR=8.1
T19A **Beclabito** 80.13 49 ⇑P P 00 21 26.9 +0.7
baz=80,SNR=16
MVCO **Mesa Verde** 80.17 49 *e*P P 00 21 26.8 +0.3
comp=Z,59nm,1.8s
MVCO **Mesa Verde** 80.17 49 ⇑P P 00 21 27.0 +0.6
baz=80,SNR=12
Z14A **Wintersburg** 80.17 54 ⇓P P 00 21 26.7 +0.5
baz=80
S21A **Coal Bank Pass** 80.25 48 ⇑P P 00 21 28.0 +1.0
baz=80,SNR=26
FUR **Furstenfeldbru** 80.36 328 *e*P P 00 21 27.6 +0.6
comp=Z,29nm,1.0s
FUR **Furstenfeldbru** 80.36 328 *e*P P 00 21 27.6 +0.6
FUR pmax pmax
comp=Z,29nm,1.0s
X16A **Lo Mia Camp, P** 80.36 53 ⇓P P 00 21 28.6 +1.1
baz=80,SNR=35
KBA **Koelnbreinsper** 80.37 326⇑*i*P P 00 21 27.4 +0.1
KBA pmax pmax
comp=Z,10.0nm,0.8s
KBA **Koelnbreinsper** 80.37 326⇑*i*P P 00 21 27.4 +0.1
comp=Z,9.9nm,0.8s
KBA **Koelnbreinsper** 80.37 326⇑*i*P P 00 21 27.4 +0.1
comp=Z,9.9nm,0.8s,SNR=7.5
V18A **Ganado** 80.37 51 ⇓P P 00 21 28.4 +0.8
baz=80,SNR=9.8
M27A **Reverse DX Ran** 80.39 42 ⇑P P 00 21 27.7 +0.3
baz=80
U19A **Dine' College,** 80.39 50 ⇑P P 00 21 28.4 +0.7
baz=80,SNR=10
R22A **Saguache, Gunn** 80.43 47 ⇑P P 00 21 29.0 +1.0
baz=80
EYMN **Ely** 80.47 32 *e*P P 00 21 27.1 -0.4
comp=Z,32nm,0.8s
N26A **Koester Ranch,** 80.47 43 ⇑P P 00 21 28.1 +0.3
baz=80
O25A **Wiggins** 80.52 44 ⇑P P 00 21 28.2 +0.1
baz=80
P24A **Kohler Place,** 80.53 45 ⇓P P 00 21 29.0 +0.7
baz=80
MYKA **Terra Mystica** 80.60 326⇓*i*P P 00 21 28.0 -0.4
comp=Z,6.7nm,0.5s
MYKA **Terra Mystica** 80.60 326⇓*i*P P 00 21 28.0 -0.4
comp=Z,6.7nm,0.5s
114A **Black Gap (USA** 80.62 55 ⇓P P 00 21 29.7 +1.1
baz=80,SNR=12
STU **Stuttgart** 80.69 329 *e*P P 00 21 29.0 +0.3
comp=Z,19nm,0.7s
STU **Stuttgart** 80.69 329 *e*P P 00 21 29.2 +0.5
STU pmax pmax
comp=Z,16nm,0.7s
STU **Stuttgart** 80.69 329 *e*P P 00 21 29.2 +0.5
comp=Z,16nm,0.7s
S22A **4UR Ranch, Cre** 80.73 48 ⇑P P 00 21 30.1 +0.6
baz=80
U20A **Newcomb** 80.73 50 ⇓P P 00 21 30.1 +0.6
baz=80
Q24A **Divide** 80.79 46 ⇑P P 00 21 30.1 +0.2
baz=81,SNR=7.6
X17A **Forest Lakes** 80.80 52 ⇑P P 00 21 31.2 +1.3
baz=81,SNR=23
N27A **Anderson Farm,** 80.84 43 ⇓P P 00 21 30.0 +0.2
baz=81
O26A **Horse Wrangler** 80.85 44 ⇑P P 00 21 29.9 0.0
baz=81
T21A **Navajo Lake** 80.87 49 ⇓P P 00 21 31.0 +0.8
baz=81,SNR=7.6
V19A **Window Rock** 80.89 50 ⇑P P 00 21 31.4 +1.1
baz=81
W18A **Petrified Fore** 80.90 51 ⇓P P 00 21 31.1 +0.8
baz=81
P25A **Willow Gulch B** 80.93 45 ⇓P P 00 21 30.9 +0.5
baz=81,SNR=8.8
R23A **Moffat** 80.97 47 ⇑P P 00 21 31.8 +1.0
baz=81,SNR=20
ABTA **Abfaltersbach** 80.98 326⇓*i*P P 00 21 30.3 -0.2
comp=Z,8.7nm,1.2s
ABTA **Abfaltersbach** 80.98 326⇓*i*P P 00 21 30.3 -0.2
comp=Z,8.7nm,1.2s
OGNE **Ogallala** 81.00 43 ⇓P P 00 21 30.7 0.0
baz=81
WLF **Walferdange** 81.09 332 *e*P P 00 21 30.9 +0.1
comp=Z,22nm,1.2s
MOTA **Moosalm** 81.09 328⇑*i*P P 00 21 31.0 -0.1
MOTA pmax pmax
comp=Z,15nm,0.8s
MOTA **Moosalm** 81.09 328⇑*i*P P 00 21 31.0 -0.1
comp=Z,15nm,0.8s
MOTA **Moosalm** 81.09 328⇑*i*P P 00 21 31.0 -0.1
comp=Z,15nm,0.8s,SNR=16
W19A **Sauers** 81.11 51 ⇓P P 00 21 32.6 +1.2
baz=81
RETA **Reutte** 81.11 328⇑*i*P P 00 21 31.4 +0.3
comp=Z,19nm,1.0s
RETA **Reutte** 81.11 328⇑*i*P P 00 21 31.4 +0.3
comp=Z,19nm,1.0s
V20A **Brimhall** 81.17 50 ⇓P P 00 21 32.3 +0.5
baz=81
X18A **Snowflake** 81.18 52 ⇑P P 00 21 32.9 +1.1
baz=81,SNR=6.6
GIVF **Givet** 81.19 333 *e*P P 00 21 30.8 -0.5
U21A **Nageezi** 81.19 49 ⇑P P 00 21 32.7 +0.7
baz=81,SNR=12
214A **Organ Pipe Nat** 81.20 55 ⇓P P 00 21 32.6 +0.8
baz=81
T22A **Edith** 81.21 48 ⇑P P 00 21 33.0 +1.0
baz=81,SNR=26
Y17A **Roosevelt** 81.22 53 ⇓P P 00 21 32.8 +0.9
baz=81,SNR=26
S23A **Nye Farm, Mont** 81.22 47 ⇓P P 00 21 33.0 +1.0
baz=81
Q25A **Bedland, Calha** 81.31 45 ⇑P P 00 21 32.7 +0.2
baz=81,SNR=5.9
O27A **Beecher Island** 81.32 43 ⇑P P 00 21 33.2 +0.8
baz=81
P26A **Davis Ranch, A** 81.33 44 ⇑P P 00 21 32.5 0.0
baz=81
R24A **Sanders Place,** 81.34 46 ⇑P P 00 21 33.4 +0.7
baz=81,SNR=12
BFO **Black Forest** 81.38 330 *e*P P 00 21 32.5 +0.1
comp=Z,36nm,1.7s
BFO **Black Forest** 81.38 330 *e*P P 00 21 32.5 +0.1
BFO pmax pmax
comp=Z,36nm,1.7s
BFO **Black Forest** 81.38 330 *e*P P 00 21 32.5 +0.1
comp=Z,13nm,1.0s
BAIF **Baives** 81.44 333 *e*P P 00 21 32.1 -0.5
SDCO **Great Sand Dun** 81.47 47 *e*P P 00 21 34.0 +0.5
comp=Z,14nm,1.1s
SDCO **Great Sand Dun** 81.47 47 ⇑P P 00 21 33.9 +0.5
baz=81,SNR=18
SDCO ⇑P P 00 21 33.9 +0.5
baz=81,SNR=18
FETA **Feichten** 81.50 328 *i*P P 00 21 33.3 +0.1
comp=Z,10nm,0.8s
FETA **Feichten** 81.50 328 *i*P P 00 21 33.3 +0.1
comp=Z,10nm,0.8s,SNR=9.8
ECSD **EROS Data Cent** 81.55 38 *e*P P 00 21 33.2 -0.2
comp=Z,20nm,0.8s
W20A **Ramah** 81.62 50 ⇓P P 00 21 34.8 +0.6
baz=81,SNR=11
DAVA **Damuels** 81.63 328⇑*i*P P 00 21 34.0 +0.1
comp=Z,15nm,0.8s
DAVA **Damuels** 81.63 328⇑*i*P P 00 21 34.0 +0.1
comp=Z,15nm,0.8s
V21A **Milan** 81.64 49 ⇑P P 00 21 35.0 +0.8
baz=81,SNR=5.3
X19A **St. Johns** 81.64 51 ⇓P P 00 21 35.5 +1.2
baz=81,SNR=37
Y18A **Canyon Day Jun** 81.65 52 ⇓P P 00 21 35.4 +1.2
baz=82,SNR=19
T23A **Casias Ranch,** 81.68 48 ⇓P P 00 21 35.4 +0.8
baz=82,SNR=6.3
Q26A **Hugo** 81.70 45 ⇓P P 00 21 35.3 +0.8
baz=82
S24A **Houchin Ranch,** 81.71 47 ⇑P P 00 21 35.3 +0.6
baz=82,SNR=11
CDF **Champ du Feu** 81.71 330⇑*i*P P 00 21 34.1 -0.1
comp=Z,23nm,0.9s
R25A **Fountain Ranch** 81.85 46 ⇑P P 00 21 35.2 -0.1
baz=82,SNR=5.6
SCHQ **Schefferville** 81.91 15 P P 00 21 35.1 +0.1
comp=Z,11nm,0.8s,baz=349,slow=6.3,SNR=15
SCHQ **Schefferville** 81.91 15 *e*P P 00 21 34.9 -0.1
comp=Z,17nm,0.9s
V22A **San Miguel Ran** 81.98 49 ⇓P P 00 21 36.9 +0.8
baz=82,SNR=13
Y19A **Nutrioso** 81.99 52 ⇓P P 00 21 37.5 +1.3
baz=82,SNR=12
FUORN **Ofenpass-Fuorn** 82.01 328 *e*P P 00 21 36.5 +0.5
comp=Z,36nm,0.9s
X20A **Quemado** 82.03 51 ⇓P P 00 21 37.6 +1.3
baz=82,SNR=13
SPMN **St. Paul** 82.09 35 ⇓P P 00 21 35.6 -0.6
baz=82
U23A **El Rito** 82.10 48 ⇑P P 00 21 37.7 +1.1
baz=82,SNR=32
KSCO **Kaye Shedlock'** 82.11 44 ⇑P P 00 21 36.6 +0.1
baz=82
S25A **Robets Cordova** 82.12 46 ⇓P P 00 21 37.0 +0.3
baz=82
W21A **San Fidel** 82.12 50 ⇓P P 00 21 37.4 +0.6
baz=82
PAGF **Fort de Pagny** 82.17 331 *e*P P 00 21 36.5 0.0
comp=Z,12nm,0.8s
R26A **Arlington** 82.19 45 ⇑P P 00 21 37.0 0.0
baz=82
T24A **Torres, Weston** 82.20 47 ⇑P P 00 21 38.2 +0.9
baz=82,SNR=15
TUC **Tucson** 82.21 54 *e*P P 00 21 37.9 +0.8
TUC pmax pmax
comp=Z,27nm,1.6s
TUC **Tucson** 82.21 54 *e*P P 00 21 37.9 +0.8
comp=Z,27nm,1.6s
HINF **Hinteralfeld** 82.37 330 *e*P P 00 21 36.9 -0.7
comp=Z,7.9nm,0.8s
HAU **Haudompre** 82.40 331⇑*i*P P 00 21 37.2 -0.5
comp=Z,21nm,0.7s
MEZF **Maizieres J'vi** 82.46 332⇑*i*P P 00 21 38.1 +0.1
comp=Z,20nm,0.8s
TUE **Stuetta** 82.50 328 *e*P P 00 21 37.5 -1.0
comp=Z,8.2nm,0.8s
T25A **Trinidad** 82.51 47 ⇓P P 00 21 39.0 +0.3
baz=82,SNR=11
X21A **Alamocita Cree** 82.52 50 ⇓P P 00 21 40.1 +1.2
baz=82,SNR=34
V23A **Ortiz Mt. (NFS** 82.52 49 ⇓P P 00 21 40.5 +1.7
baz=82,SNR=8.8
Y20A **Horse Springs,** 82.55 51 ⇑P P 00 21 40.4 +1.3
baz=82,SNR=31
R27A **Eads** 82.55 45 ⇓P P 00 21 38.7 -0.1
baz=82
U24A **Moreno Valley** 82.55 48 ⇓P P 00 21 40.3 +1.2
baz=82
BGNE **Belgrade** 82.60 40 ⇑P P 00 21 38.5 -0.4
baz=82
W22A **Albuquerque** 82.61 50 ⇓P P 00 21 40.5 +1.2
baz=82
S26A **Kim** 82.67 46 ⇑P P 00 21 39.1 -0.4
baz=82
SFTF **Sexfontaines** 82.71 331 *e*P P 00 21 38.7 -0.6
comp=Z,26nm,0.7s
Y21A **Point of Rocks** 82.89 51 ⇓P P 00 21 42.1 +1.3
baz=83,SNR=19
ANMO **Albuquerque** 82.93 49 *e*P P 00 21 41.9 +1.0
ANMO pmax pmax
comp=Z,23nm,1.2s
ANMO **Albuquerque** 82.93 49 *e*P P 00 21 41.9 +1.0
comp=Z,23nm,1.2s
W23A **Werner Place,** 82.95 49 ⇑P P 00 21 42.2 +1.1
baz=83,SNR=13
U25A **Circle Dot Ran** 83.05 47 ⇑P P 00 21 41.9 +0.4
baz=83,SNR=11
V24A **Rampart Ranch,** 83.05 48 ⇓P P 00 21 42.7 +1.1
baz=83,SNR=17
LENM **Lemitar** 83.19 50 *e*P P 00 21 43.5 +1.3
LPM **Los Pinos Moun** 83.28 50 *e*P P 00 21 44.0 +1.2
V25A **Rancho No Teng** 83.34 48 ⇑P P 00 21 43.8 +0.7
baz=83
W24A **Lazy 6 Ranch,** 83.34 49 ⇓P P 00 21 44.3 +1.2
baz=83,SNR=28
120A **U Bar Ranch, L** 83.35 52 ⇑P P 00 21 44.0 +0.9
baz=83,SNR=8.9
Y22A **Socorro** 83.36 50 ⇑P P 00 21 44.0 +0.9
baz=83,SNR=14
Z21A **St. Cloud Mine** 83.39 51 ⇑P P 00 21 44.4 +1.0
baz=83,SNR=41
U26A **Atchley Ranch,** 83.42 47 ⇑P P 00 21 43.6 +0.2
baz=83,SNR=10
T27A **Campo** 83.49 46 ⇑P P 00 21 43.5 -0.2
baz=83
CABF **La Chapelle** 83.66 330 *e*P P 00 21 44.2 -0.1
CBKS **Cedar Bluff** 83.76 43 ⇑P P 00 21 45.4 +0.5
baz=84
CBKS ⇑P P 00 21 45.4 +0.5
baz=84
319A **Douglas** 83.78 54 ⇑P P 00 21 46.0 +0.7
baz=84,SNR=12
X24A **Lazy V/L Ranch,** 83.79 49 ⇓P P 00 21 46.5 +1.1
baz=84,SNR=27
Z22A **Elephant Butte** 83.84 51 ⇓P P 00 21 46.4 +0.8
baz=84,SNR=30
220A **Playas Peak, P** 83.86 53 ⇑P P 00 21 46.4 +0.7
baz=84,SNR=17
121A **Cookes Peak, D** 83.87 52 ⇓P P 00 21 46.8 +1.1
baz=84,SNR=24
W25A **X Bar L Ranch,** 83.87 48 ⇓P P 00 21 46.4 +0.7
baz=84,SNR=26
Y23A **Lovelace Mesa,** 83.89 50 ⇑P P 00 21 46.7 +0.8
baz=84,SNR=34
LOR **Lormes** 83.93 332⇑*i*P P 00 21 45.2 -0.4
comp=Z,33nm,0.7s
FLN **La Foliniere** 84.12 335 *e*P P 00 21 45.8 -0.7
LDF **La Druitiere** 84.15 335 *e*P P 00 21 45.9 -0.7
comp=Z,19nm,0.5s
122A **Conniff Cattle** 84.21 51 ⇓P P 00 21 48.6 +1.1
baz=84
SSF **Saint Saulge** 84.23 332⇑*i*P P 00 21 46.7 -0.4
comp=Z,13nm,0.6s
221A **Mesquite Ranch** 84.24 52 ⇑P P 00 21 48.4 +0.8
baz=84
Y24A **Capitan** 84.25 49 ⇑P P 00 21 48.1 +0.4
baz=84,SNR=9.4
X25A **Clemmons Ranch** 84.26 49 ⇓P P 00 21 48.6 +0.9
baz=84,SNR=6.4
320A **Kipp Ranch, An** 84.26 53 ⇓P P 00 21 48.5 +0.8
baz=84,SNR=6.2
Z23A **Rita Site, Whi** 84.26 50 ⇓P P 00 21 48.5 +0.8
baz=84,SNR=7.2
LPL **La Plagne** 84.33 329⇑*i*P P 00 21 47.8 -0.1
comp=Z,26nm,0.7s
LPG **La Plagne** 84.33 329⇑*i*P P 00 21 48.0 0.0
comp=Z,30nm,0.7s
W26A **Owens Ranch, T** 84.36 48 ⇑P P 00 21 48.9 +0.8
baz=84
AVF **Avril sur Loir** 84.52 332⇑*i*P P 00 21 48.3 -0.2
comp=Z,45nm,0.6s
SCIA **State Center** 84.54 37 *e*P P 00 21 49.0 +0.3
comp=Z,49nm,1.0s
GRR **Gorron** 84.57 335 *e*P P 00 21 48.5 -0.2
comp=Z,24nm,0.5s
222A **Williams Famil** 84.58 52 ⇑P P 00 21 50.0 +0.7
baz=84
Y25A **Mesa, Roswell** 84.68 49 ⇓P P 00 21 50.1 +0.4
baz=84,SNR=15
123A **Bell Site, Whi** 84.69 51 ⇓P P 00 21 50.6 +0.8
baz=84
Z24A **Sheeppen Canyo** 84.72 50 ⇑P P 00 21 50.6 +0.6
baz=84,SNR=9.8
X26A **CR and CF Fran** 84.72 48 ⇑P P 00 21 50.6 +0.7
baz=84,SNR=20
W27A **Bowe Ranch, En** 84.77 47 ⇑P P 00 21 50.8 +0.6
baz=84
BGF **Bois d'Agland** 84.90 332 *e*P P 00 21 50.2 -0.3
comp=Z,11nm,0.8s
MBDF **Montbardon** 84.97 329 *e*P P 00 21 50.2 -0.8
comp=Z,22nm,0.8s
X27A **F and S Farms,** 85.05 48 ⇓P P 00 21 52.2 +0.6
baz=85,SNR=6.3
124A **Stringfield Ra** 85.12 50 ⇑P P 00 21 52.6 +0.5
baz=85,SNR=20
KSU1 **Kansas State U** 85.12 41 *e*P P 00 21 51.2 -0.5
comp=Z,25nm,0.8s
Z25A **Roswell** 85.13 49 ⇑P P 00 21 52.9 +0.8
baz=85
ORIF **Oris-en-Rattie** 85.16 329⇑*i*P P 00 21 51.7 -0.2
comp=Z,20nm,0.7s
Y26A **Elida** 85.17 48 ⇑P P 00 21 52.7 +0.4
baz=85,SNR=23
SGMF **Saint Gilles** 85.22 336 *e*P P 00 21 52.2 +0.2
TCF **Toulx Ste Croi** 85.36 332⇑*i*P P 00 21 52.7 -0.1
comp=Z,11nm,0.6s
ROSF **Rostrenen** 85.37 336 *e*P P 00 21 52.9 +0.2
comp=Z,32nm,0.7s

224A	**Cornudas Mount**	**85.53**	**51**	⇓P		**P**		**00 21 54.6**	**+0.5**
	baz=85,SNR=20									
Z26A	**Caprock**	**85.56**	**49**	⇑P		**P**		**00 21 54.5**	**+0.4**
	baz=85,SNR=47									
Y27A	**Causey**	**85.58**	**48**	⇓P		**P**		**00 21 54.3**	**+0.1**
	baz=85,SNR=9.8									
AMTX	**Amarillo**	**85.66**	**47**	*e*P		**P**		**00 21 54.8**	**+0.2**
	comp=Z,20nm,0.6s									
AMTX	**Amarillo**	**85.66**	**47**	⇓P		**P**		**00 21 54.8**	**+0.2**
	baz=85,SNR=12									
AMTX				⇓P		**P**		**00 21 54.8**	**+0.2**
	baz=85,SNR=12									
VIVF	**Saint-Julien-l**	**85.67**	**330**	⇑*i*P		**P**		**00 21 54.2**	**-0.2**
	comp=Z,22nm,0.7s									
QUIF	**Quistinic**	**85.71**	**336**	*e*P		**P**		**00 21 54.2**	**-0.2**
	comp=Z,44nm,0.8s									
MSTX	**Muleshoe**	**85.73**	**48**	⇑P		**P**		**00 21 54.9**	**-0.1**
	baz=86									
MFF	**Saint Martin d**	**85.90**	**334**	⇑*i*P		**P**		**00 21 55.6**	**+0.2**
	comp=Z,54nm,0.7s									
225A	**Deer Hill, Car**	**85.92**	**50**	⇓P		**P**		**00 21 56.2**	**+0.2**
	baz=86									
Z27A	**Tatum**	**85.96**	**49**	⇑P		**P**		**00 21 56.2**	**+0.1**
	baz=86									
126A	**Clayton Basin,**	**85.99**	**49**	⇑P		**P**		**00 21 56.3**	**0.0**
	baz=86									
324A	**Moseley Ranch,**	**86.01**	**51**	⇓P		**P**		**00 21 56.4**	**0.0**
	baz=86									
GDL2	**Guadalupe Moun**	**86.12**	**50**	*e*P		**P**		**00 21 57.6**	**+0.7**
127A	**Arkansas Junct**	**86.35**	**49**	⇑P		**P**		**00 21 57.9**	**-0.1**
	baz=86									
325A	**Bean Ranch, Si**	**86.36**	**51**	⇑P		**P**		**00 21 58.4**	**+0.2**
	baz=86,SNR=8.3									
226A	**Malaga, Loving**	**86.37**	**50**	⇓P		**P**		**00 21 58.4**	**+0.3**
	baz=86,SNR=6.2									
RJF	**Les Rejaudoux**	**86.45**	**332**	*e*P		**P**		**00 21 58.3**	**+0.2**
	comp=Z,15nm,0.6s									
CAF	**Calviac**	**86.58**	**332**	*e*P		**P**		**00 21 59.4**	**+0.6**
	comp=Z,34nm,0.8s									
425A	**Indio Mountain**	**86.78**	**51**	⇑P		**P**		**00 22 00.5**	**+0.3**
	baz=87,SNR=10									
326A	**Caldwell Ranch**	**86.98**	**50**	⇓P		**P**		**00 22 01.3**	**+0.2**
	baz=87,SNR=8.9									
WMOK	**Wichita Mounta**	**87.35**	**45**	*e*P		**P**		**00 22 02.7**	**0.0**
WMOK					pmax	pmax				
	comp=Z,12nm,1.0s									
WMOK	**Wichita Mounta**	**87.35**	**45**	*e*P		**P**		**00 22 02.7**	**0.0**
	comp=Z,12nm,1.0s									
HDIL	**Hopedale**	**87.38**	**35**	*e*P		**P**		**00 22 02.9**	**+0.2**
	comp=Z,39nm,1.0s									
426A	**McDonald Obser**	**87.43**	**51**	⇑P		**P**		**00 22 03.4**	**0.0**
	baz=87									
328A	**Wristen Ranch,**	**87.61**	**50**	⇑P		**P**		**00 22 04.2**	**+0.2**
	baz=87									
427A	**Hayter Ranch,**	**87.66**	**50**	⇑P		**P**		**00 22 04.5**	**+0.2**
	baz=88,SNR=5.4									
526A	**Mary Lane Ranc**	**87.83**	**51**	⇓P		**P**		**00 22 05.7**	**+0.5**
	baz=88,SNR=16									
MTLF	**Montolieu**	**87.89**	**331**	*e*P		**P**		**00 22 04.5**	**-0.6**
TUL1	**Tulsa**	**88.00**	**42**	⇑P		**P**		**00 22 05.7**	**0.0**
	baz=88,SNR=5.5									
527A	**Woodward Ranch**	**88.06**	**51**	⇑P		**P**		**00 22 06.5**	**+0.2**
	baz=88,SNR=8.9									
428A	**Kincaid Ranch,**	**88.17**	**50**	⇑P		**P**		**00 22 07.4**	**+0.6**
	baz=88,SNR=12									
626A	**Big Bend Ranch**	**88.18**	**52**	⇓P		**P**		**00 22 07.1**	**+0.3**
	baz=88									
AAM	**Ann Arbor**	**88.25**	**31**	*e*P		**P**		**00 22 07.5**	**+0.8**
AAM	**Ann Arbor**	**88.25**	**31**	*e*P		**P**		**00 22 07.5**	**+0.8**
	comp=Z,34nm,0.9s									
SFIN	**Scholer Farm**	**88.47**	**34**	⇓P		**P**		**00 22 07.7**	**-0.1**
	baz=88,SNR=8.1									
528A	**Cox Ranch, San**	**88.53**	**50**	⇓P		**P**		**00 22 08.9**	**+0.5**
	baz=88,SNR=18									
TXAR	**Lajitas Array**	**88.62**	**52**	P		**P**		**00 22 09.1**	**+0.2**
	comp=Z,11nm,0.8s,baz=294,slow=3.1,SNR=102									
TXAR					PKKPbc	**PKKPbc**		**00 39 48.9**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=165,slow=5.2,SNR=4.4									
TXAR	**Lajitas Array**	**88.62**	**52**	P		**P**		**00 22 09.1**	**+0.2**
TXAR					pmax	pmax				
	comp=Z,11nm,0.8s									
TXAR	**Lajitas Array**	**88.62**	**52**	P		**P**		**00 22 09.1**	**+0.2**
TXAR					PKKPbc	**PKKPbc**		**00 39 48.9**	**+1.6**
627A	**Terlingua Ranc**	**88.69**	**51**	⇓P		**P**		**00 22 09.4**	**+0.1**
	baz=88,SNR=12									
EPF	**Esparros**	**88.84**	**332**	*e*P		**P**		**00 22 09.1**	**-0.5**
	comp=Z,6.6nm,0.7s									
FVM	**French Village**	**88.96**	**38**	*e*P		**P**		**00 22 10.1**	**-0.1**
FVM					pmax	pmax				
	comp=Z,17nm,1.0s									
FVM	**French Village**	**88.96**	**38**	*e*P		**P**		**00 22 10.1**	**-0.1**
	comp=Z,17nm,1.0s									
628A	**Black Gap, Mar**	**88.96**	**51**	⇓P		**P**		**00 22 10.6**	**+0.2**
	baz=89									
ETSF	**Etsaut**	**89.28**	**332**	*e*P		**P**		**00 22 12.1**	**+0.4**
	comp=Z,12nm,0.8s									
OLIL	**Olney**	**89.40**	**36**	*e*P		**P**		**00 22 12.8**	**+0.6**
	comp=Z,24nm,0.8s									
SIUC	**Southern Illin**	**89.74**	**37**	*e*P		**P**		**00 22 14.4**	**+0.6**
	comp=Z,50nm,0.6s									
ERPA	**Erie**	**89.79**	**29**	*e*P		**P**		**00 22 14.5**	**+0.6**
	comp=Z,42nm,0.8s									
JCT	**Junction City**	**90.00**	**48**	*e*P		**P**		**00 22 15.3**	**0.0**
JCT	**Junction City**	**90.00**	**48**	*e*P		**P**		**00 22 15.3**	**0.0**
	comp=Z,26nm,0.6s									
JCT	**Junction City**	**90.00**	**48**	⇑P		**P**		**00 22 15.3**	**0.0**
	baz=90									
ALLY	**Alegheny Colle**	**90.14**	**29**	*e*P		**P**		**00 22 16.4**	**+0.8**
	comp=Z,51nm,0.8s									
MIAR	**Mount Ida**	**90.20**	**42**	*e*P		**P**		**00 22 16.3**	**+0.3**
MIAR	**Mount Ida**	**90.20**	**42**	*e*P		**P**		**00 22 16.3**	**+0.3**
	comp=Z,29nm,0.8s									
ACSO	**Alum Creek Sta**	**90.28**	**31**	*e*P		**P**		**00 22 16.9**	**+0.5**
	comp=Z,36nm,0.8s									
PLAL	**Pickwick Lake**	**92.50**	**38**	*e*P		**P**		**00 22 26.0**	**-0.7**
	comp=Z,158nm,2.9s									
SWET	**Sewanee**	**93.28**	**36**	*e*P		**P**		**00 22 30.4**	**0.0**
	comp=Z,179nm,2.9s									
ESDC	**Sonseca Array**	**93.32**	**333**	P		**P**		**00 22 29.6**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=19,slow=4.3,SNR=8.6									
ESDC	**Sonseca Array**	**93.32**	**333**	P		**P**		**00 22 29.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**113.80**	**315**	PKiKP		**PKiKP**		**00 27 52.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=29,slow=2.7,SNR=21									
TORD					PKKPbc	**PKKPbc**		**00 38 36.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=222,slow=2.1,SNR=24									
TORD	**Torodi Ar. Bea**	**113.80**	**315**	PKiKP		**PKiKP**		**00 27 52.4**	**-1.4**
TORD					PKKPbc	**PKKPbc**		**00 38 36.2**	**+1.2**
DBIC	**Dimbokro**	**122.69**	**317**	PKP		**PKPdf**		**00 28 10.0**	**-0.9**
	comp=Z,3.7nm,0.4s,baz=50,slow=2.0,SNR=19									
DBIC	**Dimbokro**	**122.69**	**317**	PKIKP		**PKPdf**		**00 28 10.0**	**-0.9**
DBIC					pmax	pmax				
	comp=Z,4.0nm,0.4s									
DBIC	**Dimbokro**	**122.69**	**317**	PKP		**PKPdf**		**00 28 10.0**	**-0.9**
LIC	**Lamto**	**123.16**	**317**	*e*PKIKP		**PKPdf**		**00 28 10.6**	**-1.2**
	comp=Z,5.9nm,0.5s									
LBTB	**Lobatse**	**123.93**	**265**	PKP		**PKPdf**		**00 28 13.2**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=127,slow=1.4,SNR=15									
LBTB					PKKPbc	**PKKPab**		**00 37 59.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=202,slow=5.4,SNR=8.5									
LBTB	**Lobatse**	**123.93**	**265**	PKIKP		**PKPdf**		**00 28 13.2**	**+0.2**
LBTB					pmax	pmax				
	comp=Z,5.0nm,0.7s									
LBTB	**Lobatse**	**123.93**	**265**	PKP		**PKPdf**		**00 28 13.2**	**+0.2**
LBTB					PKKPbc	**PKKPab**		**00 37 59.8**	**+0.9**
BOSA	**Boshof**	**126.12**	**261**	PKP		**PKPdf**		**00 28 16.9**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=104,slow=21,SNR=5.0									
BOSA	**Boshof**	**126.12**	**261**	PKIKP		**PKPdf**		**00 28 16.9**	**-0.2**
BOSA					pmax	pmax				
	comp=Z,2.0nm,0.6s									
BOSA	**Boshof**	**126.12**	**261**	PKP		**PKPdf**		**00 28 16.9**	**-0.2**
NNA	**Nana**	**136.75**	**59**	PKP		**PKPdf**		**00 28 38.6**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=278,slow=4.1,SNR=5.1									
NNA	**Nana**	**136.75**	**59**	PKIKP		**PKPdf**		**00 28 38.6**	**+1.1**
NNA					pmax	pmax				
	comp=Z,3.0nm,0.3s									
NNA	**Nana**	**136.75**	**59**	PKP		**PKPdf**		**00 28 38.6**	**+1.1**
SNAA	**Sanae**	**144.09**	**199**	*e*		**PKPab**		**00 28 43.4**	**-3.7**
SNAA				*e*				00 29 26.4		
LPAZ	**La Paz**	**145.47**	**53**	PKPbc		**PKPdf**		**00 28 53.8**	**0.0**
	comp=Z,18nm,0.7s,baz=347,slow=3.4,SNR=69									
LPAZ	**La Paz**	**145.47**	**53**	PKP2		**PKPdf**		**00 28 53.8**	**0.0**
LPAZ					pmax	pmax				
	comp=Z,19nm,0.7s									
LPAZ	**La Paz**	**145.47**	**53**	PKPbc		**PKPdf**		**00 28 53.8**	**0.0**
VNA2	**Neumayer--Watz**	**145.69**	**198**	*e*		**PKPab**		**00 28 52.9**	**-0.2**
	baz=116,slow=1.7									
VNA2				*e*				00 29 36.1		
VNA2				*e*				00 32 16.3		
VNA3	**Neumayer Olymp**	**145.98**	**197**	*e*		**PKPbc**		**00 28 53.5**	**+0.1**
VNA3				*e*				00 32 16.8		
VNA1	**Neumayer--Stat**	**146.09**	**198**	*e*		**PKPab**		**00 28 54.2**	**-0.4**
BDFB	**Brasilia**	**153.88**	**18**	PKP		**PKPdf**		**00 29 06.7**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=102,slow=9.3,SNR=4.1									
BDFB					PKPbc	**PKiKP**		**00 29 14.6**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=181,slow=1.4,SNR=7.5									
BDFB					PKPab	**PKPab**		**00 29 28.2**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=0.0,slow=3.0,SNR=4.7									
BDFB	**Brasilia**	**153.88**	**18**	PKIKP		**PKPdf**		**00 29 06.7**	**+0.2**
BDFB								00 29 28.2		
BDFB					pmax	pmax				
	comp=Z,3.0nm,0.8s									
BDFB					pmax	pmax				
	comp=Z,5.0nm,0.8s									
BDFB	**Brasilia**	**153.88**	**18**	PKP		**PKPdf**		**00 29 06.7**	**+0.2**
BDFB					PKPbc	**PKiKP**		**00 29 14.6**	**+0.1**
BDFB					PKPab	**PKPab**		**00 29 28.2**	**+0.1**
PLCA	**Paso Flores**	**156.95**	**100**	PKPab		**PKPab**		**00 29 41.3**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=0.0,slow=3.0,SNR=3.8									
PLCA	**Paso Flores**	**156.95**	**100**	PKP2		**PKPab**		**00 29 41.3**	**+0.4**
PLCA					pmax	pmax				
	comp=Z,4.0nm,0.9s									
PLCA	**Paso Flores**	**156.95**	**100**	PKPab		**PKPab**		**00 29 41.3**	**+0.4**

IDC 22 00:13:10.8±2.7, 0.35N×67.12E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/28, Error ellipse: s-maj=102.1km s-min=36.8km az=61.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.12**	**14**	P	P		P	00 21 52.5	-0.1
	0.5nm,0.8s,baz=224,slow=6.0,SNR=2.5								
NWAO	**Narrogin (SRO)**	**57.59**	**130**	LR	LR			00 44 46.3	
	comp=Z,62nm,19.0s,baz=113,slow=33								
WRA	**Warramunga Arr**	**68.77**	**111**	P	P			00 24 17.4	+0.1
	0.5nm,0.7s,baz=292,slow=5.8,SNR=4.5								
ASAR	**Alice Springs**	**68.97**	**115**	P	P			00 24 18.5	0.0
	0.3nm,0.5s,baz=285,slow=6.3,SNR=3.3								
TXAR	**Lajitas Array**	**149.19**	**344**	PKPbc	PKPbc			00 33 01.6	-0.6
	0.5nm,0.8s,baz=50,slow=2.0,SNR=5.1								

IDC 22 00:50:07.2±2.7, 0.34S×133.00E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=142.8km s-min=26.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.53**	**176**	P	P			00 54 36.9	+0.5
	0.1nm,0.3s,baz=355,slow=11,SNR=8.7								
WRA				S		Sn		00 58 06.3	-11
	0.0nm,0.3s,baz=358,slow=23,SNR=1.6								
ASAR	**Alice Springs**	**23.21**	**178**	P	P			00 55 15.7	-0.3
	0.6nm,0.6s,baz=355,slow=10.0,SNR=8.2								
MKAR	**Makanchi Array**	**64.48**	**324**	P	P			01 00 45.7	0.0
	0.2nm,0.5s,baz=132,slow=6.7,SNR=3.1								

IDC 22 01:12:54.8±2.5, 0.20S×132.80E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/17, Error ellipse: s-maj=122.1km s-min=20.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.88**	**250**	LR	LR			01 22 17.4	
	comp=Z,25nm,19.0s,baz=246,slow=40								
FITZ	**Fitzroy Crossi**	**19.13**	**201**	P	Pn			01 17 20.3	-0.2
	0.1nm,0.3s,baz=35,slow=12,SNR=3.0								
WRA	**Warramunga Arr**	**19.68**	**176**	P	P			01 17 25.7	+0.1
	0.2nm,0.3s,baz=353,slow=11,SNR=19								
WRA				S	S			01 20 55.7	-13
	0.1nm,0.3s,baz=358,slow=23,SNR=5.3								
ASAR	**Alice Springs**	**23.35**	**177**	P	P			01 18 04.7	-0.3
	0.9nm,0.4s,baz=355,slow=10,SNR=24								
MKAR	**Makanchi Array**	**64.25**	**324**	P	P			01 23 31.9	0.0
	0.2nm,0.5s,baz=118,slow=7.3,SNR=3.6								
KURK	**Kurchatov**	**68.32**	**326**	P	P			01 23 57.9	0.0
	0.1nm,0.3s,baz=118,slow=5.8,SNR=2.5								

*DDA **22** 01:15:36.8, 38.79N×40.16E, h7km, MD3.1*
*ISCJB **22** 01:15:38.7±0.6, 38.70N±0.04×39.94E±0.04, h7km±8km, Error ellipse: s-maj=7.5km s-min=5.1km az=175.7*
*ISK **22** 01:15:38.1, 38.68N×39.96E, h9km, MD2.9*
*CSEM **22** 01:15:39.9±0.3, 38.68N×39.87E, h12km, MD2.9, Error ellipse: s-maj=7.6km s-min=6.4km az=1.0*

ISC 22 01:15:38.2±1.2, 38.68N±0.04×39.98E±0.03, h7km±12km, n22, σ1.900/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.45**	**64**	*e*Pg			**Pn**	**01 15 50.9**	**-0.3**
PTK	**Pertek**	**0.50**	**295**	*e*PG			**Pg**	**01 15 47.6**	**-0.3**
PTK				*e*SG			**Sb**	**01 15 55.6**	**-1.4**
PTK	**Pertek**	**0.50**	**295**	*e*Pg			**Pg**	**01 15 47.6**	**-0.3**
PTK				*e*Sg			**Sb**	**01 15 55.7**	**-1.4**
SVRC	**Sivrice-ELAZID**	**0.61**	**240**	*e*PG			**Pb**	**01 15 50.7**	**-0.5**
SVRC				*e*SG			**Sg**	**01 15 58.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.61**	**240**	*e*Pg			**Pb**	**01 15 50.7**	**-0.5**
SVRC				*e*Sg			**Sg**	**01 15 58.3**	**+0.5**
BNGB	**Bing¨¶l**	**0.63**	**60**	*e*PG			**Pg**	**01 15 50.9**	**+0.6**
BNGB				*e*SG			**Sb**	**01 16 00.5**	**-0.2**
DIYA	**Diyarbakir**	**0.77**	**171**	*e*P			**Pn**	**01 15 54.6**	**-0.9**
DIYA	**Diyarbakir**	**0.77**	**171**	*e*P			**Pn**	**01 15 54.6**	**-0.9**
ELZG	**Elazig**	**0.80**	**257**	*i*P			**Pb**	**01 15 54.2**	**-0.3**
ELZG	**Elazig**	**0.80**	**257**	*i*P			**Pb**	**01 15 54.2**	**-0.3**
ERZN	**Erzincan**	**0.92**	**348**	*e*PG			**Pg**	**01 15 56.0**	**+0.1**
MALT	**Malatya**	**1.27**	**254**	*e*PN			**Pg**	**01 16 02.9**	**+0.4**
MALT	**Malatya**	**1.27**	**254**	*e*Pn			**Pg**	**01 16 02.9**	**+0.4**
BEST	**Besiri**	**1.29**	**127**	*e*P			**Pn**	**01 16 00.4**	**-2.3**
KEMA	**Kemaliye**	**1.29**	**297**	*e*P			**Pn**	**01 16 02.2**	**-0.6**
KEMA				*i*S			**Sn**	**01 16 23.7**	**+3.2**
ILIC	**ilic-Erzincan**	**1.34**	**306**	*e*PN			**Pb**	**01 16 03.3**	**-0.4**
ILIC	**ilic-Erzincan**	**1.34**	**306**	*e*Pn			**Pb**	**01 16 03.3**	**-0.4**
MARD	**Mardin**	**1.51**	**155**	*e*P			**Pb**	**01 16 06.5**	**0.0**
MARD				*i*S			**Sg**	**01 16 27.5**	**+1.0**
URFA	**Urfa**	**1.54**	**217**	*e*PN			**Pn**	**01 16 06.0**	**-0.1**
URFA	**Urfa**	**1.54**	**217**	*e*Pn			**Pn**	**01 16 06.0**	**-0.1**
AKCD	**Akcadag**	**1.66**	**257**	*e*P			**Pb**	**01 16 09.0**	**-0.1**
AKCD	**Akcadag**	**1.66**	**257**	*e*P			**Pb**	**01 16 09.0**	**-0.1**

*SOF **22** 01:16:49.2, 40.02N×24.87E, h2km, MD2.7*
*ISK **22** 01:16:49.6, 40.01N×24.71E, h10km, MD3.5*
*CSEM **22** 01:16:51.8±0.1, 40.01N×24.76E, h15km, MD3.1, Error ellipse: s-maj=2.7km s-min=1.9km az=173.0*
*ISCJB **22** 01:16:51.9±0.4, 39.99N±0.02×24.77E±0.02, h19km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=0.0*
*ATH **22** 01:16:51.3, 40.01N×24.79E, h30km, MD3.1/7*
*THE **22** 01:16:51.8, 40.03N×24.77E, h11km±1km, ML2.8/5, Error ellipse: s-maj=1.2km s-min=0.5km az=291.0*

ISC 22 01:16:52.2±1.0, 40.02N±0.02×24.76E±0.02, h18km±7km, n99, σ0.949/129, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.35**	**111**	*e*PB			**Pg**	**01 16 59.5**	**0.0**
LIA				*e*SB			**Sb**	**01 17 04.8**	**-0.2**
LIA	**Limnos Island**	**0.35**	**111**	*e*Pb			**Pg**	**01 16 59.5**	**0.0**
LIA				*e*Sb			**Sb**	**01 17 04.8**	**-0.2**
OUR	**Ouranopolis**	**0.67**	**298**	P			**Pg**	**01 17 04.8**	**-0.7**
OUR				S			**Sb**	**01 17 14.5**	**+0.1**
OUR	**Ouranopolis**	**0.67**	**298**	P			**Pg**	**01 17 04.8**	**-0.7**
OUR				S			**Sb**	**01 17 14.5**	**+0.1**
PAIG	**Paliouri**	**0.84**	**264**	P			**Pb**	**01 17 08.0**	**-0.2**
PAIG				S			**Sg**	**01 17 19.9**	**+0.3**
PAIG	**Paliouri**	**0.84**	**264**	P			**Pb**	**01 17 08.0**	**-0.2**
KAVA	**Kavala**	**0.99**	**349**	P			**Pb**	**01 17 10.3**	**-0.5**
KAVA				S			**Sn**	**01 17 24.8**	**0.0**
KAVA	**Kavala**	**0.99**	**349**	P			**Pb**	**01 17 10.3**	**-0.5**
KAVA				S			**Sn**	**01 17 24.8**	**0.0**
PLG	**Polygyros**	**1.07**	**290**	*e*PN			**Pb**	**01 17 12.1**	**-0.1**
PLG				*e*SN			**Sb**	**01 17 25.9**	**+0.1**
PLG	**Polygyros**	**1.07**	**290**	*e*Pn			**Pb**	**01 17 12.1**	**-0.1**
PLG				*e*Sn			**Sb**	**01 17 25.9**	**+0.1**
AOS	**Alonnisos**	**1.09**	**219**	P			**Pb**	**01 17 12.3**	**-0.3**
AOS						S	**Sg**	**01 17 28.6**	**+1.0**
AOS	**Alonnisos**	**1.09**	**219**	P			**Pb**	**01 17 12.3**	**-0.3**
EZN	**Ezine**	**1.22**	**99**	*e*PN			**Pb**	**01 17 14.7**	**0.0**
EZN				*e*SN			**Sg**	**01 17 31.3**	**-0.3**
EZN	**Ezine**	**1.22**	**99**	*e*Pn			**Pb**	**01 17 14.7**	**0.0**
EZN				*e*Sn			**Sg**	**01 17 31.3**	**-0.3**
ENEZ	**Enez**	**1.28**	**56**	*e*PN			**Pn**	**01 17 14.9**	**-0.2**
ENEZ				*e*SN			**Sg**	**01 17 34.0**	**+0.4**
ENEZ	**Enez**	**1.28**	**56**	*e*Pn			**Pn**	**01 17 15.0**	**-0.2**
ENEZ				*e*Sn			**Sg**	**01 17 34.0**	**+0.4**
ALN	**Alexandroupoli**	**1.31**	**48**	P			**Pn**	**01 17 15.1**	**-0.5**
ALN				S			**Sn**	**01 17 32.6**	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**48**	*e*PN			**Pn**	**01 17 15.3**	**-0.3**
ALN				*e*SN			**Sn**	**01 17 32.7**	**0.0**
ALN	**Alexandroupoli**	**1.31**	**48**	*e*Pn			**Pn**	**01 17 15.3**	**-0.3**
ALN				*e*Sn			**Sn**	**01 17 32.7**	**0.0**
SKIA	**Skiathos**	**1.32**	**230**	P			**Pn**	**01 17 15.2**	**-0.5**
SKIA	**Skiathos**	**1.32**	**230**	P			**Pn**	**01 17 15.2**	**-0.5**
SOH	**Sokhos**	**1.34**	**307**	P			**Pn**	**01 17 15.7**	**-0.4**
SOH				S			**Sb**	**01 17 34.2**	**+0.5**
SOH	**Sokhos**	**1.34**	**307**	*e*PN			**Pn**	**01 17 16.0**	**-0.1**
SOH				*e*SN			**Sb**	**01 17 34.6**	**+0.9**
SOH	**Sokhos**	**1.34**	**307**	P			**Pn**	**01 17 15.7**	**-0.4**
SOH	**Sokhos**	**1.34**	**307**	*e*Pn			**Pn**	**01 17 16.0**	**-0.1**
SOH				*e*Sn			**Sb**	**01 17 34.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.36**	**74**	*e*PN			**Pn**	**01 17 16.0**	**-0.3**
GELI				*e*SN			**Sb**	**01 17 34.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.36**	**74**	*e*Pn			**Pn**	**01 17 16.0**	**-0.3**
GELI				*e*Sn			**Sb**	**01 17 34.5**	**+0.2**
XOR	**Xorichti**	**1.38**	**242**	P			**Pn**	**01 17 15.9**	**-0.7**
XOR	**Xorichti**	**1.38**	**242**	P			**Pn**	**01 17 15.9**	**-0.7**
NEO	**Neokhori**	**1.39**	**239**	*e*PB			**Pn**	**01 17 15.8**	**-0.9**
NEO				*e*SN			**Sn**	**01 17 34.7**	**+0.1**
NEO	**Neokhori**	**1.39**	**239**	*e*Pb			**Pn**	**01 17 15.8**	**-0.9**
NEO				*e*Sn			**Sn**	**01 17 34.7**	**+0.1**
PRK	**Paraskevi**	**1.40**	**123**	*e*PN			**Pn**	**01 17 17.2**	**+0.4**
PRK				*e*SN			**Sn**	**01 17 35.0**	**+0.1**
PRK	**Paraskevi**	**1.40**	**123**	*e*Pn			**Pn**	**01 17 17.3**	**+0.4**
PRK				*e*Sn			**Sn**	**01 17 35.0**	**+0.1**
SRS	**Serrai**	**1.41**	**321**	P			**Pn**	**01 17 16.4**	**-0.6**
SRS	**Serrai**	**1.41**	**321**	P			**Pn**	**01 17 16.4**	**-0.6**
ERIK	**Erikli-Kesan**	**1.49**	**64**	*e*PN			**Pn**	**01 17 17.0**	**-1.0**
ERIK	**Erikli-Kesan**	**1.49**	**64**	*e*Pn			**Pn**	**01 17 17.0**	**-1.0**
NVR	**Nevrokopi**	**1.49**	**333**	*e*PN			**Pn**	**01 17 18.4**	**+0.2**
NVR				*e*SN			**Sb**	**01 17 38.7**	**+0.7**
NVR	**Nevrokopi**	**1.49**	**333**	*e*Pn			**Pn**	**01 17 18.4**	**

ASAK eS Sn 01 20 43.0 +1.9

*ISCJB **22** 01:19:35.5±0.7,37.°34N±0.°06×135.°10E±0.°09, h400km±12km, mb3.3/1, Error ellipse: s-maj=11.0km s-min=9.5km az=19.8*
*IDC **22** 01:19:36.4±1.1,37.°40N×135.°09E, h390km±19km, mb3.1/1, mb1 3.1/5, mb1mx2.6/27, mbtmp3.0/5, Error ellipse: s-maj=26.4km s-min=23.0km az=124.0*
*JMA **22** 01:19:37.0±0.3,37.°25N×135.°12E, h391km, M3.5*

ISC 22 01:19:36.0±1.1,**37.°35N**±0.°08×**135.°09E**±0.°10, **h389**km±14km, **n20**,σ1$ **41**/29, **Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**2.62**	**107**	P	**Pn**	**01 20 36.8**	**+1.4**
	0.8nm,0.3s,baz=281,slow=9.8,SNR=13						
JIE	**Ise**	**3.23**	**156**	P	**Pn**	**01 20 41.2**	**+0.8**
JKN2	**Miekihoku**	**3.25**	**162**	P	**Pn**	**01 20 40.8**	**+0.2**
JAG	**Ashikaga**	**3.62**	**103**	P	**Pn**	**01 20 45.3**	**+1.5**
JHU	**Hanno**	**3.69**	**113**	P	**Pn**	**01 20 46.6**	**+2.1**
JWZ	**Kozaga**	**3.84**	**172**	P	**Pn**	**01 20 45.8**	**-0.2**
JFT	**Otama**	**4.18**	**86**	P	**Pn**	**01 20 50.8**	**+1.7**
JYT	**Yasato**	**4.25**	**104**	P	**Pn**	**01 20 50.1**	**+0.3**
JYT				*e*S	**S**	**01 21 48.8**	**-0.8**
JHO	**Hitachi**	**4.45**	**98**	P	**Pn**	**01 20 52.0**	**+0.2**
JHO				S	**S**	**01 21 50.8**	**-2.5**
JMM	**Marumori**	**4.56**	**82**	P	**Pn**	**01 20 54.0**	**+1.2**
JMM				*e*S	**S**	**01 21 54.7**	**-0.5**
JFK	**Kawauchi**	**4.61**	**88**	P	**Pn**	**01 20 53.9**	**+0.5**
JFK				*e*S	**S**	**01 21 55.4**	**-0.9**
JRG	**Rokugo**	**4.81**	**63**	P	**Pn**	**01 20 57.1**	**+1.7**
JRG				S	**S**	**01 22 00.2**	**+0.3**
BSO4	**Boso 4**	**4.85**	**117**	P	**Pn**	**01 20 57.0**	**+1.1**
BSO4				*e*S	**S**	**01 22 00.2**	**-0.5**
BSO3	**Boso 3**	**5.07**	**118**	P	**Pn**	**01 20 58.6**	**+0.6**
BSO3				S	**S**	**01 22 03.8**	**-0.8**
JMK	**Ichinoseki**	**5.09**	**70**	P	**Pn**	**01 20 59.5**	**+1.2**
BSO1	**Boso 1**	**5.48**	**118**	P	**Pn**	**01 21 02.3**	**+0.3**
BSO1				*e*S	**S**	**01 22 11.3**	**-0.7**
KSRS	**Korea Array**	**5.71**	**273**	P	**Pn**	**01 21 04.7**	**-0.3**
	0.4nm,0.3s,baz=96,slow=12,SNR=13						
USRK	**Ussuriysk Arra**	**7.23**	**342**	P	**P**	**01 21 22.7**	**+0.2**
	1.0nm,0.3s,baz=171,slow=12,SNR=16						
ASAJ	**Asahikawa**	**8.84**	**38**	P	**P**	**01 21 41.7**	**+0.9**
	1.5nm,0.3s,baz=191,slow=10,SNR=3.2						
ASAJ				S	**S**	**01 23 18.0**	**-4.4**
	0.8nm,0.3s,baz=314,slow=32,SNR=2.2						
WRA	**Warramunga Arr**	**56.99**	**181**	P	**P**	**01 28 43.3**	**+0.6**
	0.6nm,0.4s,baz=358,slow=7.6,SNR=17						

*ISCJB **22** 01:23:35.4±0.6,38.°15N±0.°02×26.°59E±0.°03, h8km±4km, Error ellipse: s-maj=3.5km s-min=3.4km az=23.7*
*ATH **22** 01:23:35.9,38.°17N×26.°63E, h29km, ML3.2*
*ISK **22** 01:23:35.8,38.°13N×26.°79E, h5km, MD3.3*
*CSEM **22** 01:23:36.7±0.2,38.°09N×26.°62E, h15km, MD3.2, Error ellipse: s-maj=4.0km s-min=4.0km az=63.0*
*DDA **22** 01:23:36.5,38.°21N×26.°75E, h7km, MD3.2*

ISC 22 01:23:36.0±0.9,**38.°18N**±0.°02×**26.°66E**±0.°02, **h13**km±7km, **n117**,σ1$ **27**/143, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**344**	*i* P	**Pg**	**01 23 40.4**	**0.0**
URLA				*i* S	**Sg**	**01 23 44.2**	**+0.8**
BLCB	**Balcova**	**0.36**	**55**	PG	**Pg**	**01 23 42.6**	**-0.7**
BLCB				*e*SG	**Sg**	**01 23 47.4**	**-0.9**
BLCB	**Balcova**	**0.36**	**55**	*i* Pg	**Pg**	**01 23 42.6**	**-0.7**
SMG	**Samos**	**0.49**	**164**	*e*PB	**Pg**	**01 23 46.2**	**+0.6**
SMG				*e*SB	**Sb**	**01 23 53.9**	**+0.5**
SMG	**Samos**	**0.49**	**164**	*e*Pb	**Pg**	**01 23 46.2**	**+0.6**
SMG				*e*Sb	**Sb**	**01 23 53.9**	**+0.5**
IZM	**Izmir**	**0.52**	**65**	*e*PG	**Pg**	**01 23 44.7**	**-1.5**
IZM	**Izmir**	**0.52**	**65**	*e*Pg	**Pg**	**01 23 44.7**	**-1.5**
CHOS	**Chios island**	**0.52**	**294**	*e*PN	**Pb**	**01 23 47.0**	**-0.1**
CHOS				*e*SN	**Sb**	**01 23 54.5**	**-0.1**
CHOS	**Chios island**	**0.52**	**294**	*e*Pn	**Pb**	**01 23 47.0**	**-0.1**
CHOS				*e*Sn	**Sb**	**01 23 54.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.65**	**136**	*i* P	**Pg**	**01 23 49.1**	**+0.4**
GCAM	**G?zelcaml?**	**0.65**	**136**	*i* P	**Pg**	**01 23 49.1**	**+0.4**
AYDN	**Tasoluk**	**1.09**	**118**	*e*P	**Pb**	**01 23 56.7**	**0.0**
AYDN	**Tasoluk**	**1.09**	**118**	*e*P	**Pb**	**01 23 56.7**	**0.0**
PRK	**Paraskevi**	**1.11**	**344**	*e*PN	**Pb**	**01 23 57.0**	**0.0**
PRK				*e*SN	**Sg**	**01 24 12.2**	**+0.3**
PRK	**Paraskevi**	**1.11**	**344**	*e*Pn	**Pb**	**01 23 57.0**	**0.0**
PRK				*e*Sn	**Sg**	**01 24 12.2**	**+0.3**
AYVA	**Ayvalik**	**1.13**	**1**	*e*P	**Pb**	**01 23 57.4**	**0.0**
AYVA	**Ayvalik**	**1.13**	**1**	*e*P	**Pb**	**01 23 57.4**	**0.0**
AKS	**Akhisar**	**1.14**	**52**	*e*PN	**Pb**	**01 23 57.1**	**-0.4**
AKS				*e*SN	**Sg**	**01 24 12.9**	**+0.1**
AKS	**Akhisar**	**1.14**	**52**	*e*Pn	**Pb**	**01 23 57.2**	**-0.4**
AKS				*e*Sn	**Sg**	**01 24 13.0**	**+0.1**
AKHS	**Akhisar**	**1.14**	**52**	*e*P	**Pb**	**01 23 57.0**	**-0.6**
AKHS	**Akhisar**	**1.14**	**52**	*e*P	**Pb**	**01 23 57.0**	**-0.6**
BODT	**Bodrum**	**1.23**	**155**	*e*PN	**Pn**	**01 23 58.3**	**-0.5**
BODT	**Bodrum**	**1.23**	**155**	*e*Pn	**Pn**	**01 23 58.3**	**-0.5**
BDRM	**Kayabasi**	**1.27**	**151**	*e*P	**Pn**	**01 23 59.5**	**+0.1**
BDRM	**Kayabasi**	**1.27**	**151**	*e*P	**Pn**	**01 23 59.5**	**+0.1**
APE	**Apeiranthos**	**1.43**	**220**	*e*PN	**Pn**	**01 24 00.9**	**-0.5**
APE	**Apeiranthos**	**1.43**	**220**	*e*PN	**Pn**	**01 24 01.1**	**-0.5**
APE				*e*SN	**Sn**	**01 24 20.2**	**0.0**
APE	**Apeiranthos**	**1.43**	**220**	*e*Pn	**Pn**	**01 24 01.1**	**-0.5**
APE				*e*Sn	**Sn**	**01 24 20.2**	**0.0**
MANT	**Manisa**	**1.52**	**77**	*e*P	**Pb**	**01 24 04.3**	**+0.2**
MANT				*i* S	**Sb**	**01 24 24.0**	**+0.6**
MANT	**Manisa**	**1.52**	**77**	*e*P	**Pb**	**01 24 04.3**	**+0.2**
MANT				*i* S	**Sb**	**01 24 24.0**	**+0.6**
KULA	**Kula-Manisa**	**1.61**	**77**	*e*PN	**Pn**	**01 24 04.7**	**+0.6**
KULA	**Kula-Manisa**	**1.61**	**77**	*e*Pn	**Pn**	**01 24 04.7**	**+0.6**
YER	**Yerkesik**	**1.65**	**128**	*e*PN	**Pn**	**01 24 04.6**	**-0.1**
YER	**Yerkesik**	**1.65**	**128**	*e*Pn	**Pn**	**01 24 04.6**	**-0.1**
EZN	**Ezine**	**1.67**	**351**	*e*PN	**Pb**	**01 24 07.0**	**+0.5**
EZN	**Ezine**	**1.67**	**351**	*e*Pn	**Pb**	**01 24 07.0**	**+0.5**
BALY	**Balya**	**1.73**	**25**	*e*P	**Pn**	**01 24 05.9**	**+0.1**
BALY	**Balya**	**1.73**	**25**	*e*P	**Pn**	**01 24 05.9**	**+0.1**
BALB	**Balikesir**	**1.74**	**33**	*e*PN	**Pb**	**01 24 07.6**	**-0.2**
BALB	**Balikesir**	**1.74**	**33**	*e*Pn	**Pb**	**01 24 07.6**	**-0.2**
DEMI	**Demirci**	**1.83**	**61**	*e*P	**Pb**	**01 24 09.9**	**+0.6**
DEMI				*i* S	**Sg**	**01 24 34.1**	**-0.6**
DEMI	**Demirci**	**1.83**	**61**	*e*P	**Pb**	**01 24 09.9**	**+0.6**
DEMI				*i* S	**Sg**	**01 24 34.1**	**-0.6**
DURS	**Dursunbey**	**2.00**	**44**	*e*P	**Pn**	**01 24 09.4**	**-0.2**
DURS	**Dursunbey**	**2.00**	**44**	*e*P	**Pn**	**01 24 09.4**	**-0.2**
GONE	**Gonen-Balikesi**	**2.03**	**23**	*e*PN	**Pb**	**01 24 11.6**	**-1.1**
GONE	**Gonen-Balikesi**	**2.03**	**23**	*e*Pn	**Pb**	**01 24 11.6**	**-1.1**
LIA	**Limnos Island**	**2.07**	**327**	*e*PB	**Pn**	**01 24 11.1**	**+0.7**
LIA				*e*SN	**Sn**	**01 24 35.7**	**-0.3**
LIA	**Limnos Island**	**2.07**	**327**	*e*Pb	**Pn**	**01 24 11.1**	**+0.7**
LIA				*e*Sn	**Sn**	**01 24 35.7**	**-0.3**
DST	**Dursunbey**	**2.09**	**46**	*e*PN	**Pn**	**01 24 11.8**	**+1.1**
DST	**Dursunbey**	**2.09**	**46**	*e*Pn	**Pn**	**01 24 11.8**	**+1.1**
LPK	**Lapseki**	**2.19**	**2**	*e*PN	**Pb**	**01 24 14.8**	**-0.7**
LPK	**Lapseki**	**2.19**	**2**	*e*Pn	**Pb**	**01 24 14.8**	**-0.7**
PTL	**Penteli**	**2.21**	**268**	*e*PN	**Pn**	**01 24 12.1**	**-0.3**
PTL				*e*SN	**Sn**	**01 24 39.2**	**-0.4**
PTL	**Penteli**	**2.21**	**268**	*e*Pn	**Pn**	**01 24 12.1**	**-0.3**
PTL				*e*Sn	**Sn**	**01 24 39.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.22**	**356**	*e*PN	**Pb**	**01 24 15.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.22**	**356**	*e*Pn	**Pb**	**01 24 15.6**	**-0.4**
KHL	**Karahalli**	**2.26**	**85**	*e*PN	**Pn**	**01 24 13.5**	**+0.5**
KHL	**Karahalli**	**2.26**	**85**	*e*Pn	**Pn**	**01 24 13.5**	**+0.5**
KRBG	**Karabiga-Canak**	**2.27**	**12**	*e*PN	**Pb**	**01 24 15.2**	**-1.6**
KRBG	**Karabiga-Canak**	**2.27**	**12**	*e*Pn	**Pb**	**01 24 15.2**	**-1.6**
ARG	**Arkhangelos**	**2.28**	**149**	*e*Pn	**Pn**	**01 24 14.2**	**+1.0**
VLY	**Voula,Athens**	**2.29**	**263**	*e*PB	**Pn**	**01 24 14.1**	**+0.7**
VLY				*e*SN	**Sn**	**01 24 41.3**	**-0.1**
VLY	**Voula,Athens**	**2.29**	**263**	*e*Pb	**Pn**	**01 24 14.1**	**+0.7**
VLY				*e*Sn	**Sn**	**01 24 41.3**	**-0.1**
ATH	**Athens Observa**	**2.33**	**266**	*e*PN	**Pn**	**01 24 14.2**	**+0.2**
ATH				*e*SN	**Sn**	**01 24 41.4**	**-1.1**
ATH	**Athens Observa**	**2.33**	**266**	*e*Pn	**Pn**	**01 24 14.2**	**+0.2**
ATH				*e*Sn	**Sn**	**01 24 41.4**	**-1.1**
EDC	**Edincik**	**2.36**	**23**	*e*PN	**Pb**	**01 24 16.6**	**-1.7**
EDC	**Edincik**	**2.36**	**23**	*e*Pn	**Pb**	**01 24 16.6**	**-1.7**
BNT	**Bandirma**	**2.38**	**24**	*e*PN	**Pn**	**01 24 16.4**	**+1.7**
BNT	**Bandirma**	**2.38**	**24**	*e*Pn	**Pn**	**01 24 16.4**	**+1.7**
FETY	**Fethiye**	**2.46**	**128**	*e*PN	**Pn**	**01 24 16.4**	**+0.5**
FETY	**Fethiye**	**2.46**	**128**	*e*Pn	**Pn**	**01 24 16.4**	**+0.5**
KCTX	**Karacabey (Bur**	**2.47**	**32**	*e*PN	**Pn**	**01 24 17.6**	**+1.7**
KCTX	**Karacabey (Bur**	**2.47**	**32**	*e*Pn	**Pn**	**01 24 17.6**	**+1.7**
ERIK	**Erikli-Kesan**	**2.49**	**357**	*e*PN	**Pb**	**01 24 19.0**	**-1.6**
ERIK	**Erikli-Kesan**	**2.49**	**357**	*e*Pn	**Pb**	**01 24 19.0**	**-1.6**
ORLT	**Orhaneli**	**2.55**	**42**	*e*PN	**Pn**	**01 24 19.1**	**+2.1**
ORLT	**Orhaneli**	**2.55**	**42**	*e*Pn	**Pn**	**01 24 19.1**	**+2.1**
ENEZ	**Enez**	**2.59**	**351**	*e*PN	**Pn**	**01 24 19.4**	**+2.0**
ENEZ	**Enez**	**2.59**	**351**	*e*Pn	**Pn**	**01 24 19.5**	**+2.0**
MFT	**Murefte**	**2.65**	**10**	*e*PN	**Pb**	**01 24 21.6**	**-1.7**
MFT	**Murefte**	**2.65**	**10**	*e*Pn	**Pb**	**01 24 21.6**	**-1.7**
ALN	**Alexandroupoli**	**2.76**	**350**	*e*PN	**Pn**	**01 24 20.5**	**+0.7**
ALN				*e*SN	**Sn**	**01 24 52.3**	**-0.7**
ALN	**Alexandroupoli**	**2.76**	**350**	*e*Pn	**Pn**	**01 24 20.5**	**+0.7**
ALN				*e*Sn	**Sn**	**01 24 52.3**	**-0.7**
MDNY	**Mudanya-Bursa**	**2.79**	**38**	*e*PN	**Pn**	**01 24 21.9**	**+1.7**
MDNY	**Mudanya-Bursa**	**2.79**	**38**	*e*Pn	**Pn**	**01 24 21.9**	**+1.7**
DID	**Didima**	**2.79**	**257**	*e*PN	**Pn**	**01 24 21.1**	**+0.7**
DID	**Didima**	**2.79**	**257**	*e*Pn	**Pn**	**01 24 21.1**	**+0.7**
TKR	**Tekirdag**	**2.89**	**13**	*e*PN	**Pb**	**01 24 24.9**	**-2.5**
TKR	**Tekirdag**	**2.89**	**13**	*e*Pn	**Pb**	**01 24 24.9**	**-2.5**
ARMT	**Armutlu**	**2.93**	**35**	*e*PN	**Pn**	**01 24 24.6**	**+2.4**
ARMT	**Armutlu**	**2.93**	**35**	*e*Pn	**Pn**	**01 24 24.6**	**+2.4**
ELL	**Elmali**	**2.95**	**118**	*e*PN	**Pn**	**01 24 23.1**	**+0.5**
ELL	**Elmali**	**2.95**	**118**	*e*Pn	**Pn**	**01 24 23.1**	**+0.5**
GEMT	**Gemlik**	**2.99**	**40**	*e*PN	**Pn**	**01 24 25.7**	**+2.7**
GEMT	**Gemlik**	**2.99**	**40**	*e*Pn	**Pn**	**01 24 25.7**	**+2.7**
NPS	**Neapolis**	**3.03**	**197**	*e*PN	**Pn**	**01 24 23.0**	**-0.6**
NPS	**Neapolis**	**3.03**	**197**	*e*Pn	**Pn**	**01 24 23.0**	**-0.6**
CRLT	**Corlu**	**3.06**	**15**	*e*PN	**Pn**	**01 24 26.5**	**+2.5**
CRLT	**Corlu**	**3.06**	**15**	*e*Pn	**Pn**	**01 24 26.5**	**+2.5**
BCK	**Bucak**	**3.19**	**102**	*e*PN	**Pn**	**01 24 26.4**	**+0.6**
BCK	**Bucak**	**3.19**	**102**	*e*Pn	**Pn**	**01 24 26.4**	**+0.6**
SLVT	**Silivri**	**3.27**	**21**	*e*PN	**Pn**	**01 24 29.8**	**+2.8**
SLVT	**Silivri**	**3.27**	**21**	*e*Pn	**Pn**	**01 24 29.8**	**+2.8**
CTKS	**Kestanelik-??a**	**3.37**	**24**	*e*PN	**Pn**	**01 24 31.0**	**+2.8**
CTKS	**Kestanelik-??a**	**3.37**	**24**	*e*Pn	**Pn**	**01 24 31.0**	**+2.8**
BGKT	**Bogazkoy**	**3.41**	**28**	*e*PN	**Pn**	**01 24 31.1**	**+2.3**
BGKT	**Bogazkoy**	**3.41**	**28**	*e*Pn	**Pn**	**01 24 31.1**	**+2.3**
GUR	**Goura**	**3.42**	**267**	*e*PN	**Pn**	**01 24 29.2**	**+0.2**
GUR	**Goura**	**3.42**	**267**	*e*Pn	**Pn**	**01 24 29.2**	**+0.2**
CTYL	**Yal??k??y-??at**	**3.52**	**20**	*e*PN	**Pn**	**01 24 33.0**	**+2.6**
CTYL	**Yal??k??y-??at**	**3.52**	**20**	*e*Pn	**Pn**	**01 24 33.0**	**+2.6**
KLYT	**Kilyos**	**3.58**	**30**	*e*PN	**Pn**	**01 24 33.4**	**+2.3**
KLYT	**Kilyos**	**3.58**	**30**	*e*Pn	**Pn**	**01 24 33.4**	**+2.3**
EDRB	**Edirne**	**3.67**	**1**	*e*PN	**Pn**	**01 24 35.5**	**+3.1**
EDRB	**Edirne**	**3.67**	**1**	*e*Pn	**Pn**	**01 24 35.5**	**+3.1**
SOH	**Sokhos**	**3.68**	**317**	*e*PN	**Pn**	**01 24 33.2**	**+0.6**
SOH	**Sokhos**	**3.68**	**317**	*e*Pn	**Pn**	**01 24 33.2**	**+0.6**

IDC 22 01:24:26.0±8.7,**23.°94S**×**66.°84W**, **h195**km±64km, **mb3.2**/2, **mb1 3.3**/4, **mb1mx3.1**/15, **mbtmp3.1**/4, **Error ellipse: s-maj=93.6km s-min=35.2km az=12.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.71**	**351**	P	Pn	01 26 15.9	-0.4
	0.5nm,0.3s,baz=161,slow=7.6,SNR=12						
BDFB	**Brasilia**	**19.53**	**68**	P	P	01 28 39.5	+0.6
	0.2nm,0.3s,baz=216,slow=14,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	P	01 35 53.8	-0.6
	0.2nm,0.3s,baz=259,slow=7.3,SNR=4.2						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	P	01 37 21.8	0.0
	0.1nm,0.4s,baz=132,slow=4.7,SNR=5.1						
WRA	**Warramunga Arr**	**131.75**	**207**	PKP	PKPdf	01 43 16.2	-0.3
	0.5nm,1.0s,baz=158,slow=1.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**143.27**	**28**	PKhKP	PKPpre	01 43 31.4	
	0.6nm,0.6s,baz=270,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**146.38**	**40**	PKPbc	PKPbc	01 43 43.3	-0.5
	0.5nm,0.6s,baz=317,slow=2.9,SNR=7.0						

*NIED **22** 01:40:00,23.°00N×120.°40E, h26km, Mw3.9 Best double couple: M0 7.92000×10^14 NP1:φ=201.00000°, δ76.00000°, λ157.00000°. NP2:φ=297.00000°, δ68.00000°, λ16.00000°.*
*IDC **22** 01:40:22.9±1.2,23.°00N×121.°67E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.3/32, Error ellipse: s-maj=69.2km s-min=24.2km az=68.0*
*JMA **22** 01:40:24.7±0.3,23.°02N×120.°36E, h96km, M3.5*
*TAP **22** 01:40:24.5,23.°03N×120.°51E, h18km, ML4.0, B*
*ISCJB **22** 01:40:25.6±0.3,23.°01N±0.°01×120.°47E±0.°02, h23km±2km, mb3.5/4, MS3.4/1, Error ellipse: s-maj=3.2km s-min=2.2km az=167.1*

ISC 22 01:40:25.3±0.8,**23.°02N**±0.°02×**120.°48E**±0.°02, **h23**km±4km, **n71**,σ0$ **98**/118, **mb3.6**/4, **12C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.11**	**58**	⇑*i*P	**Pb**	**01 40 29.0**	**-0.9**
	baz=56						
SGST				S	**Sb**	**01 40 31.9**	**-1.1**
	baz=56						
CHN3	**Shinhua**	**0.12**	**297**	⇓*i*P	**Pb**	**01 40 30.1**	**+0.2**
	baz=297						
CHN3				*e*S	**Sb**	**01 40 34.6**	**+1.5**
	baz=297						
CHN1	**Nanshi**	**0.17**	**15**	⇓*i*P	**Pb**	**01 40 29.7**	**-0.8**
	baz=6.0						
CHN1				*e*S	**Sb**	**01 40 33.0**	**-0.9**
	baz=6.0						
TWM1	**Shoushan**	**0.20**	**195**	*e*P	**Pb**	**01 40 31.5**	**+0.6**
	baz=194						
TAI1	**Yung-k'ang**	**0.23**	**274**	*e*P	**Pb**	**01 40 31.3**	**+0.1**
	baz=271						
TAI1				*e*S	**Sb**	**01 40 38.1**	**+2.9**
	baz=271						
TWK	**Hsinying**	**0.24**	**2**	⇓*i*P	**Pb**	**01 40 31.0**	**-0.5**
	baz=8.0						
TWK				S	**Sb**	**01 40 35.9**	**+0.2**
	baz=8.0						
WTP	**Ta-pu**	**0.26**	**29**	⇑*i*P	**Pb**	**01 40 30.9**	**-0.7**
	baz=26						
SGLT	**Jiouru**	**0.30**	**178**	*e*P	**Pb**	**01 40 32.6**	**+0.5**
	baz=178						
SGLT				*e*S	**Sn**	**01 40 39.8**	**-0.1**
	baz=178						
SCLT	**Jiali**	**0.30**	**300**	P	**Pb**	**01 40 32.4**	**+0.1**
	baz=296						
SCLT				*e*S	**Sn**	**01 40 39.0**	**-1.0**
	baz=296						
SSD	**Sandimen**	**0.31**	**153**	⇓*i*P	**Pb**	**01 40 31.8**	**-0.5**
	baz=153						
SSD				S	**Sb**	**01 40 37.2**	**0.0**
	baz=153						
CHN4	**Tsaushan**	**0.34**	**18**	⇑*i*P	**Pb**	**01 40 32.4**	**-0.6**
	baz=14						
CHN4				S	**Sb**	**01 40 37.4**	**-0.7**
	baz=14						
CHN8	**Yiju**	**0.41**	**323**	*e*P	**Pb**	**01 40 33.9**	**0.0**
	baz=320						
CHN8				*e*S	**Sn**	**01 40 41.7**	**-0.9**
	baz=320						
CHY	**Chiayi**	**0.48**	**354**	*e*P	**Pb**	**01 40 35.1**	**0.0**
	baz=352						
CHY				*e*S	**Sb**	**01 40 42.7**	**+0.9**
	baz=352						
KAU	**Kaohsiung**	**0.48**	**199**	*e*P	**Pb**	**01 40 34.8**	**-0.3**
	baz=211						
CHN2	**Minshiung**	**0.51**	**360**	P	**Pb**	**01 40 35.8**	**+0.2**
	baz=357						
CHN2				S	**Sn**	**01 40 44.1**	**-1.0**
	baz=357						
ELDTW	**Lidau**	**0.52**	**71**	⇑*i*P	**Pb**	**01 40 35.3**	**-0.6**
	baz=73						
ALS	**Alishan**	**0.57**	**32**	⇑*i*P	**Pb**	**01 40 36.3**	**-0.6**
	baz=31						
TWG	**Pinlang**	**0.58**	**110**	*i* P	**Pb**	**01 40 36.6**	**-0.3**
	baz=102						
TWG				*e*S	**Sb**	**01 40 44.5**	**-0.2**
	baz=102						
CHN5	**Tsauling**	**0.60**	**18**	⇓*i*P	**Pb**	**01 40 36.7**	**-0.6**
	baz=15						
CHN5				*e*S	**Sb**	**01 40 46.1**	**+0.8**
	baz=15						
ECL	**Taimali**	**0.61**	**134**	⇓*i*P	**Pb**	**01 40 36.8**	**-0.5**
	baz=144						
ECL				*e*S	**Sb**	**01 40 45.4**	**-0.1**
	baz=144						
YUS	**Yu-Shan**	**0.64**	**43**	⇑*i*P	**Pb**	**01 40 37.8**	**-0.4**
	baz=43						
YUS				S	**Sb**	**01 40 46.9**	**0.0**
	baz=43						
WSF	**Szhu**	**0.66**	**339**	*e*P	**Pb**	**01 40 38.0**	**-0.2**
	baz=337						
WSF				*e*S	**Sn**	**01 40 48.6**	**-0.2**
	baz=337						
SCZT	**Fangliau**	**0.66**	**169**	⇓*e*P	**Pb**	**01 40 38.0**	**-0.2**
	baz=160						
SCZT				*e*S	**Sn**	**01 40 49.7**	**+0.8**
	baz=160						
WGK	**Gukeng**	**0.67**	**7**	P	**Pb**	**01 40 38.4**	**+0.1**
	baz=5.0						
WGK				S	**Sn**	**01 40 49.2**	**+0.1**
	baz=5.0						
TTN	**Taitung**	**0.67**	**113**	*e*P	**Pb**	**01 40 38.4**	**0.0**
	baz=115						
TTN				*e*S	**Sn**	**01 40 50.3**	**+1.2**
	baz=115						
TWP	**Hsiaoliuchiu**	**0.68**	**189**	*e*P	**Pn**	**01 40 40.3**	**+0.8**
	baz=211						
EAST	**Anshuo**	**0.72**	**152**	*e*P	**Pb**	**01 40 39.0**	**-0.2**
	baz=148						
EAST				*e*S	**Sn**	**01 40 50.5**	**+0.1**
	baz=148						
TAW	**Tawu**	**0.77**	**150**	P	**Pb**	**01 40 40.0**	**+0.1**
	baz=148						
TAW				S	**Sn**	**01 40 51.5**	**+0.1**
	baz=148						
WDGT	**Dungji**	**0.79**	**288**	⇑P	**Pb**	**01 40 39.9**	**-0.5**
	baz=286						
CHKT	**Chengkung**	**0.82**	**84**	*e*P	**Pb**	**01 40 41.1**	**+0.2**
	baz=80						
CHKT				*e*S	**Sn**	**01 40 53.6**	**+0.8**
	baz=80						
TWF1	**Yuli**	**0.82**	**66**	⇑*i*P	**Pb**	**01 40 40.6**	**-0.4**
	baz=67						
TWF1				S	**Sb**	**01 40 51.6**	**0.0**
	baz=67						
WTCT	**Ta-ch'eng**	**0.86**	**348**	*e*P	**Pb**	**01 40 41.2**	**-0.3**
	baz=348						
WNT	**Mingjian**	**0.87**	**12**	P	**Pb**	**01 40 41.7**	**-0.2**
	baz=12						
WNT				S	**Sn**	**01 40 54.6**	**+0.5**
	baz=12						
EHY	**Hungye**	**0.91**	**58**	⇑*i*P	**Pb**	**01 40 42.1**	**-0.4**
	baz=64						
EHY				*e*S	**Sn**	**01 40 55.0**	**-0.1**
	baz=64						
SMLT	**Sun Moon Lake**	**0.94**	**24**	⇑*i*P	**Pb**	**01 40 42.7**	**-0.3**
	baz=12						
SMLT				S	**Sn**	**01 40 57.2**	**+1.2**
	baz=12						
TYC	**Yuchr**	**0.94**	**21**	⇑P	**Pb**	**01 40 42.7**	**-0.3**
	baz=9.0						
TYC				*e*S	**Sn**	**01 40 56.7**	**+0.8**
	baz=9.0						
PNG	**Penghu**	**1.01**	**303**	*e*P	**Pn**	**01 40 42.3**	**-1.7**
	baz=300						
PNG				*e*S	**Sb**	**01 40 56.3**	**-0.7**
	baz=300						
HEN	**Hengchun**	**1.04**	**167**	*e*P	**Pn**	**01 40 44.1**	**-0.3**
	baz=157						
HEN				*e*S	**Sn**	**01 41 01.3**	**+3.0**
	baz=157						
TWK1	**Hengchun**	**1.11**	**164**	*e*P	**Pn**	**01 40 44.6**	**-0.9**
	baz=166						
TWK1				*e*S	**Sn**	**01 41 01.7**	**+1.6**
	baz=166						
TCU	**Taichung**	**1.14**	**9**	*e*P	**Pn**	**01 40 45.5**	**-0.3**
	baz=359						
TCU				*e*S	**Sb**	**01 41 01.5**	**+0.9**
	baz=359						
ESL	**Shilin**	**1.18**	**48**	P	**Pn**

CSEM ***22*** *01:47:28.3±0.4, 38.40N×44.93E, h2km, MD3.6, Error ellipse: s-maj=10.8km s-min=6.5km az=162.0*

ISC 22 01:47:27.6±0.8, 38.41N±0.04×44.93E±0.03, h10km, n36, σ1§30/47, 9C-7D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAX	**Nakhchivan**	**0.88**	**30**	⇓P	**Pg**	**01 47 44.2**	**-0.4**
	SNR=163						
NAX				⇑S	**Sb**	**01 47 57.1**	**+0.1**
NAX	**Nakhchivan**	**0.88**	**30**	P	**Pg**	**01 47 44.2**	**-0.4**
	SNR=163						
NAX				S	**Sb**	**01 47 57.1**	**+0.1**
CLDR	**Caldiran**	**1.08**	**313**	*e*PG	**Pb**	**01 47 48.2**	**-0.3**
CLDR				*e*SG	**Sn**	**01 48 05.1**	**+1.0**
CLDR	**Caldiran**	**1.08**	**313**	*e*Pg	**Pb**	**01 47 48.2**	**-0.3**
CLDR				*e*Sg	**Sn**	**01 48 05.1**	**+1.0**
VANB	**Van**	**1.22**	**279**	*e*PN	**Pg**	**01 47 51.2**	**+0.2**
VANB				*e*SN	**Sn**	**01 48 08.7**	**+1.2**
VANB	**Van**	**1.22**	**279**	*e*Pn	**Pg**	**01 47 51.3**	**+0.2**
VANB				*e*Sn	**Sn**	**01 48 08.7**	**+1.2**
VANT	**Van**	**1.31**	**271**	*e*PN	**Pg**	**01 47 53.5**	**+0.9**
VANT	**Van**	**1.31**	**271**	*e*Pn	**Pg**	**01 47 53.6**	**+0.9**
CUKT	**Cukurca**	**1.56**	**222**	*e*PN	**Pg**	**01 47 57.4**	**-0.2**
CUKT	**Cukurca**	**1.56**	**222**	*e*Pn	**Pg**	**01 47 57.4**	**-0.2**
GNI	**Garni**	**1.74**	**355**	*e*PN	**Pb**	**01 47 59.8**	**0.0**
GNI	**Garni**	**1.74**	**355**	⇑*i*P	**Pb**	**01 47 59.4**	**-0.4**
GNI				⇓*i*S	**Sg**	**01 48 24.6**	**+0.9**
GNI	**Garni**	**1.74**	**355**	⇑P	**Pb**	**01 47 59.4**	**-0.4**
GNI	**Garni**	**1.74**	**355**	*e*Pn	**Pb**	**01 47 59.8**	**0.0**
GNI				S	**Sg**	**01 48 24.6**	**+0.9**
VADZ	**Vardenis**	**1.87**	**20**	*e*P	**Pg**	**01 48 04.0**	**+0.5**
VADZ				*e*S	**Sg**	**01 48 29.0**	**+1.2**
VADZ	**Vardenis**	**1.87**	**20**	P	**Pg**	**01 48 04.0**	**+0.5**
VADZ				S	**Sg**	**01 48 29.0**	**+1.2**
AGRB	**Hanur-Agry**	**1.91**	**308**	*e*PN	**Pb**	**01 48 02.9**	**+0.3**
AGRB	**Hanur-Agry**	**1.91**	**308**	*e*Pn	**Pb**	**01 48 02.9**	**+0.3**
STKZ		**1.99**	**45**	⇓*i*P	**Pn**	**01 48 01.4**	**0.0**
STKZ				⇓*i*S	**Sb**	**01 48 28.0**	**-0.9**
STKZ		**1.99**	**45**	⇓P	**Pn**	**01 48 01.4**	**0.0**
STKZ				S	**Sb**	**01 48 28.0**	**-0.9**
GANJ	**Ganja**	**2.48**	**25**	⇓P	**Pn**	**01 48 09.8**	**+1.7**
	SNR=19						
GANJ				⇑S	**Sg**	**01 48 44.9**	**-2.4**
GANJ	**Ganja**	**2.48**	**25**	P	**Pn**	**01 48 09.8**	**+1.7**
	SNR=19						
VRTB	**Varto-Mus**	**2.81**	**287**	*e*PN	**Pb**	**01 48 15.6**	**-2.5**
VRTB	**Varto-Mus**	**2.81**	**287**	*e*Pn	**Pb**	**01 48 15.6**	**-2.5**
GLBA	**Clilabad**	**2.83**	**72**	⇑P	**Pn**	**01 48 14.2**	**+1.3**
	SNR=5.6						
GLBA				⇑S	**Sb**	**01 48 55.6**	**+2.7**
GLBA	**Clilabad**	**2.83**	**72**	P	**Pn**	**01 48 14.2**	**+1.3**
	SNR=5.6						
LKRN	**Lenkeran, Azer**	**3.03**	**83**	⇑P	**Pn**	**01 48 17.7**	**+2.0**
	SNR=3.6						
LKRN				⇓S	**Sg**	**01 49 03.4**	**-1.7**
LKRN	**Lenkeran, Azer**	**3.03**	**83**	P	**Pn**	**01 48 17.7**	**+2.0**
	SNR=3.6						
DGRG	**David-gareji**	**3.06**	**6**	P	Pg	01 48 34.9	+8.7
EZM	**Erzurum**	**3.15**	**299**	*e*PN	Pb	01 48 20.3	-3.5
AKH	**Akhalkalaki**	**3.19**	**340**	P	**Pg**	**01 48 26.6**	**-2.2**
TBLG	**Delisi**	**3.32**	**358**	P	**Pb**	**01 48 26.7**	**+0.1**
GOR	**Gori**	**3.63**	**350**	P	**Pg**	**01 48 36.1**	**-1.0**
PQL	**Pirkuli**	**3.69**	**49**	⇑P	Pn	01 48 28.4	+3.5
PQL				⇑S	**Sg**	**01 49 23.2**	**-3.1**
PQL	**Pirkuli**	**3.69**	**49**	P	Pn	01 48 28.4	+3.5
ONI	**Oni**	**4.32**	**345**	P	Pn	01 48 30.1	-3.4

ISCJB ***22*** *02:04:23.9±0.4, 5.58S±0.09×108.5E±0.1, h400km, mb3.7/14, Error ellipse: s-maj=17.6km s-min=6.6km az=141.6*

IDC ***22*** *02:04:25.5±1.9, 5.67S×108.40E, h408km±20km, mb3.4/15, mb1 3.4/15, mb1mx3.3/26, mbtmp3.4/15, Error ellipse: s-maj=30.9km s-min=8.9km az=55.0*

DJA ***22*** *02:04:31, 6.82S×108.61E, h383km, MLv3.7/9*

ISC 22 02:04:24.8±0.6, 5.6S±0.1×108.4E±0.1, h400km, n33, σ0§75/36, mb3.8/14, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**1.43**	**213**	P	**Pn**	**02 05 18.7**	**+0.8**
CBJI	**Citeko**	**1.74**	**243**	P	Pn	02 05 24.3	+5.0
CISI	**Cisompet, Garu**	**2.01**	**197**	P	**Pn**	**02 05 20.4**	**-0.6**
BJII	**Banjamegara**	**2.13**	**143**	P	**Pn**	**02 05 21.7**	**-0.1**
SMRI	**Semarang**	**2.47**	**125**	P	**Pn**	**02 05 24.6**	**+0.6**
CGJI	**Cibinong**	**2.88**	**250**	P	**Pn**	**02 05 27.2**	**+0.2**
SJI	**Sawahan**	**3.94**	**122**	P	**Pn**	**02 05 37.1**	**+0.6**
PWJI	**Pagerwojo**	**4.13**	**125**	P	**Pn**	**02 05 36.2**	**-2.0**
PMBI	**Palembang**	**4.51**	**306**	P	**Pn**	**02 05 40.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.90**	**128**	P	**P**	**02 08 37.4**	**-0.2**
	1.6nm,0.8s,baz=41,slow=6.6,SNR=6.4						
CMAR	**Chiang Mai Arr**	**25.68**	**339**	P	**P**	**02 09 21.9**	**+1.2**
	5.3nm,0.7s,baz=177,slow=8.4,SNR=24						
NWAO	**Narrogin (SRO)**	**28.39**	**164**	P	**P**	**02 09 44.9**	**+0.5**
	4.4nm,0.7s,baz=198,slow=3.2,SNR=2.6						
WRA	**Warramunga Arr**	**28.95**	**122**	P	**P**	**02 09 49.3**	**-0.3**
	0.2nm,0.3s,baz=294,slow=7.4,SNR=12						
WRA				ScP	**ScP**	**02 15 48.9**	**-1.0**
	0.7nm,0.5s,baz=311,slow=2.6,SNR=9.2						
ASAR	**Alice Springs**	**30.40**	**129**	P	**P**	**02 10 02.4**	**+0.1**
	1.3nm,0.3s,baz=303,slow=7.9,SNR=26						
ASAR				ScP	**ScP**	**02 15 54.1**	**-0.5**
	0.9nm,0.8s,baz=302,slow=2.1,SNR=6.7						
ODAN	**Odare**	**38.17**	**329**	*e*P	**P**	**02 11 08.7**	**+0.4**
	17nm,0.5s						
TAPN	**Taplejung**	**38.41**	**330**	*e*P	**P**	**02 11 11.2**	**+0.9**
	12nm,0.5s						
RAMN	**Ramite**	**38.65**	**328**	*e*P	**P**	**02 11 13.3**	**+1.0**
JIRN	**Jiri**	**39.44**	**328**	*e*P	**P**	**02 11 19.4**	**+0.5**
	14nm,0.5s						
GUN	**Gumba**	**39.80**	**328**	*e*P	**P**	**02 11 22.4**	**+0.6**
	15nm,0.6s						
DMN	**Daman**	**39.98**	**327**	*e*P	**P**	**02 11 23.6**	**+0.5**
	11nm,0.4s						
GKN	**Gorkha**	**40.54**	**327**	*e*P	**P**	**02 11 27.7**	**+0.1**
STKA	**Stephens Creek**	**40.55**	**134**	P	**P**	**02 11 26.9**	**-0.6**
	4.5nm,1.0s,baz=350,slow=6.1,SNR=8.1						
KOLN	**Koldanda**	**40.94**	**325**	*e*P	**P**	**02 11 30.4**	**-0.4**
DANN	**Dangsing**	**41.30**	**326**	*e*P	**P**	**02 11 33.8**	**0.0**
	13nm,0.5s						
SONM	**Songino Array**	**53.26**	**358**	P	**P**	**02 13 05.4**	**+1.2**
	1.9nm,0.4s,baz=180,slow=8.5,SNR=8.8						
SONM				PcP	**PcP**	**02 14 05.4**	**-0.5**
	0.8nm,0.4s,baz=179,slow=4.2,SNR=5.3						
MKAR	**Makanchi Array**	**57.09**	**339**	P	**P**	**02 13 31.4**	**+0.3**
	3.0nm,0.4s,baz=151,slow=7.7,SNR=65						
MKAR				PcP	**PcP**	**02 14 20.7**	**-0.1**
	0.4nm,0.6s,baz=142,slow=6.1,SNR=2.3						
KURK	**Kurchatov**	**61.71**	**339**	P	**P**	**02 14 01.9**	**-0.3**
	1.4nm,0.4s,baz=153,slow=6.1,SNR=24						
ZALV	**Zalesovo Beam**	**62.57**	**345**	P	**P**	**02 14 07.4**	**-0.4**
	2.7nm,0.3s,baz=153,slow=6.3,SNR=20						
BVAR	**Borovoye Array**	**66.67**	**336**	P	**P**	**02 14 34.0**	**0.0**
	2.3nm,0.7s,baz=133,slow=6.5,SNR=14						
AKTO	**Aktyubinsk**	**70.67**	**329**	P	**P**	**02 14 57.9**	**-0.6**
	1.4nm,0.5s,baz=110,slow=3.5,SNR=11						
ASF	**Jabal al Asfar**	**77.52**	**305**	P	**P**	**02 15 38.7**	**+0.6**
	0.7nm,0.4s,baz=135,slow=1.4,SNR=3.0						
MMAI	**Mount Meron Ar**	**78.95**	**305**	P	**P**	**02 15 46.0**	**+0.1**
	0.3nm,0.4s,baz=94,slow=8.7,SNR=4.5						
BRTR	**Keskin Array B**	**81.97**	**311**	P	**P**	**02 16 00.7**	**-1.0**
	0.6nm,0.5s,baz=129,slow=6.8,SNR=4.5						

DJA ***22*** *02:06:28, 0.65S×132.75E, h10km, MLv4.0/4*

IDC 22 02:06:22.3±2.4, 0.48S×132.99E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/21, Error ellipse: s-maj=98.5km s-min=24.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.95**	**202**	P	P	02 10 45.2	+0.1
	0.2nm,0.3s,baz=38,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**19.39**	**176**	P	P	02 10 50.1	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=24						
WRA				S	Sn	02 14 13.8	-16
	0.1nm,0.3s,baz=3.8,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**23.07**	**178**	P	P	02 11 29.6	-0.1
	2.2nm,0.5s,baz=355,slow=11,SNR=20						
SONM	**Songino Array**	**53.39**	**338**	LR	LR	02 38 21.1	
	comp=Z,70nm,21.8s,baz=260,slow=36						
MKAR	**Makanchi Array**	**64.58**	**324**	P	P	02 17 01.5	-0.1
	0.2nm,0.5s,baz=108,slow=8.3,SNR=3.1						

IDC 22 02:40:06.1±2.3, 20.24N×121.43E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, Error ellipse: s-maj=217.1km s-min=21.0km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.39**	**319**	P	P	02 47 54.0	0.0
	0.2nm,0.5s,baz=118,slow=9.9,SNR=3.4						
WRA	**Warramunga Arr**	**41.89**	**162**	P	P	02 47 57.9	-0.5
	0.2nm,0.3s,baz=342,slow=8.9,SNR=9.1						
ZALV	**Zalesovo Beam**	**43.70**	**329**	P	P	02 48 12.5	-0.2
	0.3nm,0.4s,baz=102,slow=9.4,SNR=2.5						
ASAR	**Alice Springs**	**45.30**	**164**	P	P	02 48 26.1	+0.2
	0.2nm,0.4s,baz=351,slow=6.8,SNR=8.2						

ISCJB ***22*** *02:40:56.5±0.4, 47.05N±0.06×155.37E±0.08, h10km, mb4.2/40, MS3.4/3, Error ellipse: s-maj=10.8km s-min=4.9km az=143.3*

IDC ***22*** *02:40:56.7±0.6, 46.99N×155.41E, h0km, mb3.9/18, mb1 4.1/22, mb1mx4.1/28, mbtmp3.9/22, ML3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx2.9/34, Error ellipse: s-maj=19.4km s-min=12.8km az=152.0*

NEIC ***22*** *02:40:58.3±0.4, 47.03N×155.42E, h10km, mb4.5/16, Error ellipse: s-maj=10.3km s-min=5.3km az=147.0*

MOS ***22*** *02:41:02.9±1.5, 46.91N×155.27E, h62km, mb4.2/27, Error ellipse: s-maj=10.3km s-min=9.0km az=73.2*

ISC 22 02:40:58.2±0.5, 47.00N±0.07×155.47E±0.07, h10km, n120, σ1§03/131, mb4.2/40, MS3.3/3, 4C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.72**	**6**	*e*PN	**Pb**	**02 42 02.0**	**-1.8**
KUR	**Kuril'sk**	**5.57**	**254**	PN	**Pn**	**02 42 21.0**	**0.0**
KUR				*e*S	**Sn**	**02 43 22.8**	**-2.3**
KUR				pmax	pmax		
	comp=Z,70nm,0.7s						
KUR				smax	smax		
	comp=N,150nm,0.7s						
KUR				smax	smax		
	comp=E,70nm,0.7s						
PEA0B	**Petropavlovsk-**	**6.29**	**12**	*e*Pn	**Pn**	**02 42 29.2**	**-1.6**
PETK	**Petropavlovsk-**	**6.29**	**12**	Pn	**Pn**	**02 42 29.4**	**-1.5**
	comp=E,1.5nn,0.3s,baz=181,slow=14,SNR=22						
PETK				Sn	**Sn**	**02 43 41.8**	**-0.9**
	comp=E,0.4nm,0.3s,baz=194,slow=5.3,SNR=2.7						
PETK	**Petropavlovsk-**	**6.29**	**12**	PN	**Pn**	**02 42 29.4**	**-1.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.29**	**12**	Pn	**Pn**	**02 42 29.4**	**-1.5**
PETK				Sn	**Sn**	**02 43 41.8**	**-0.9**
YSS	**Yuzh-Sakhalins**	**8.70**	**274**	*e*PN	**Pn**	**02 43 06.0**	**+2.1**
ASAJ	**Asahikawa**	**9.48**	**257**	Pn	**Pn**	**02 43 14.3**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=90,slow=8.1,SNR=6.0						
ASAJ	**Asahikawa**	**9.48**	**257**	PN	**Pn**	**02 43 14.3**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.48**	**257**	Pn	**Pn**	**02 43 14.3**	**-0.4**
ERM	**Erimo**	**10.10**	**245**	*i* PN	**Pn**	**02 43 21.5**	**-1.7**
ERM	**Erimo**	**10.10**	**245**	*e*Pn	**Pn**	**02 43 22.9**	**-0.3**
ERM				*e*S	Sn	02 45 07.5	-8.9
MJAR	**Matsushiro Arr**	**16.54**	**237**	Pn	**Pn**	**02 44 47.4**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=31,slow=14,SNR=4.4						
MJAR	**Matsushiro Arr**	**16.54**	**237**	P	**Pn**	**02 44 47.4**	**-2.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.54**	**237**	Pn	**Pn**	**02 44 47.4**	**-2.8**
MAJO	**Matsushiro**	**16.54**	**237**	*e*P	**Pn**	**02 44 47.5**	**-2.7**
USRK	**Ussuriysk Arra**	**16.65**	**269**	Pn	**Pn**	**02 44 50.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=12						
BILL	**Bilibino**	**21.82**	**11**	⇑*e*P	**P**	**02 45 51.5**	**+1.3**
BILL				*e*		02 46 12.3	
BILL				pmax	pmax		
	comp=Z,29nm,2.5s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	**Bilibino**	**21.82**	**11**	*e*P	**P**	**02 45 50.6**	**+0.4**
	comp=Z,9.4nm,0.8s						
KSRS	**Korea Array**	**22.42**	**255**	P	**P**	**02 45 58.0**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=59,slow=10,SNR=7.3						
KSRS				LR	LR	02 54 41.8	
	comp=Z,22nm,20.0s,baz=320,slow=37						
KSRS	**Korea Array**	**22.42**	**255**	P	**P**	**02 45 58.0**	**+1.2**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSAR	**Wonju Array Be**	**22.45**	**255**	P	**P**	**02 45 58.0**	**+0.8**
KSAR	**Wonju Array Be**	**22.45**	**255**	P	**P**	**02 45 58.0**	**+0.8**
ULN	**Ulaanbaatar**	**32.34**	**290**	*e*P	**P**	**02 47 26.7**	**-0.8**
SONM	**Songino Array**	**32.77**	**290**	P	**P**	**02 47 30.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=41,slow=9.5,SNR=2.3						
SONM	**Songino Array**	**32.77**	**290**	P	**P**	**02 47 30.9**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**32.77**	**290**	P	**P**	**02 47 30.9**	**-0.4**
MCK	**McKinley**	**34.42**	**41**	*e*P	**P**	**02 47 44.9**	**-0.4**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MCK	**McKinley**	**34.42**	**41**	*e*P	**P**	**02 47 44.9**	**-0.4**
	comp=Z,7.7nm,1.0s						
COLA	**College**	**34.94**	**39**	*e*P	**P**	**02 47 50.2**	**+0.4**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
COLA	**College**	**34.94**	**39**	*e*P	**P**	**02 47 50.2**	**+0.4**
	comp=Z,3.8nm,1.0s						
ILAR	**Eielson Array**	**35.35**	**39**	P	**P**	**02 47 52.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=251,slow=7.9,SNR=30						
ILAR	**Eielson Array**	**35.35**	**39**	P	**P**	**02 47 52.8**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**35.35**	**39**	P	**P**	**02 47 52.8**	**-0.5**
EGAK	**Eagle**	**37.80**	**39**	*e*P	**P**	**02 48 13.9**	**-0.3**
	comp=Z,8.5nm,0.9s						
INK	**Inuvik**	**40.58**	**33**	P	**P**	**02 48 38.3**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=292,slow=6.8,SNR=14						
INK				PcP	**PcP**	**02 50 40.2**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=270,slow=5.1,SNR=5.9						
INK	**Inuvik**	**40.58**	**33**	*e*P	**P**	**02 48 38.0**	**+0.7**
INK						02 50 40.2	
INK				pmax	pmax		
	comp=Z,14nm,1.4s						
INK	**Inuvik**	**40.58**	**33**	*e*P	**P**	**02 48 38.0**	**+0.7**
	comp=Z,14nm,1.4s						
INK				PcP	**PcP**	**02 50 40.2**	**+1.0**
ZAA0	**Zalesovo Array**	**43.77**	**306**	*e*P	**P**	**02 49 02.6**	**-1.0**
ZALV	**Zalesovo Beam**	**43.77**	**306**	P	**P**	**02 49 02.5**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=61,slow=6.6,SNR=16						
ZALV				PcP	**PcP**	**02 50 50.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=98,slow=3.0,SNR=8.3						
ZALV	**Zalesovo Beam**	**43.77**	**306**	P	**P**	**02 49 02.6**	**-1.0**
ZALV						02 50 50.1	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**43.77**	**306**	P	**P**	**02 49 02.5**	**-1.0**
ZALV				PcP	**PcP**	**02 50 50.0**	**0.0**
DLBC	**Dease Lake**	**44.26**	**47**	P	**P**	**02 49 08.4**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=251,slow=7.7,SNR=4.6						
DLBC	**Dease Lake**	**44.26**	**47**	P	**P**	**02 49 08.4**	**+0.9**
MK31	**Makanchi Array**	**48.26**	**298**	*i* P	**P**	**02 49 38.3**	**-0.8**
MK31	**Makanchi Array**	**48.26**	**298**	*e*P	**P**	**02 49 38.7**	**-0.4**
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**02 49 38.7**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=69,slow=8.2,SNR=13						
MKAR				PcP	**PcP**	**02 51 05.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=57,slow=4.5,SNR=4.4						
MKAR	**Makanchi Array**	**48.26**	**298**	*i* P	**P**	**02 49 38.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**02 49 38.7**	**-0.4**
MKAR				PcP	**PcP**	**02 51 05.9**	**0.0**
KURK	**Kurchatov**	**48.57**	**304**	*e* P	**P**	**02 49 40.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,22nm,1.2s						
KURK	**Kurchatov**	**48.57**	**304**	*e*P	**P**	**02 49 40.1**	**-1.2**
	comp=Z,11nm,0.8s						
YKA	**Yellowknife Ar**	**49.75**	**37**	P	**P**	**02 49 50.4**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=295,slow=7.4,SNR=16						
YKA	**Yellowknife Ar**	**49.75**	**37**	P	**P**	**02 49 50.4**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.75**	**37**	P	**P**	**02 49 50.4**	**+0.1**
BVA0	**Borovoye Array**	**51.94**	**310**	*i* P	**P**	**02 50 06.4**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BRVK	**Borovoye**	**51.98**	**310**	*e*P	**P**	**02 50 07.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**51.98**	**310**	*e*P	**P**	**02 50 06.7**	**-0.5**
	comp=Z,5.7nm,0.9s						
CHTO	**Chiang Mai**	**53.75**	**258**	*e*P	**P**	**02 50 22.0**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**53.75**	**258**	*e*P	**P**	**02 50 22.0**	**+1.3**
	comp=Z,3.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.00**	**258**	P	**P**	**02 50 24.4**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=32,slow=8.2,SNR=6.3						
CMAR	**Chiang Mai Arr**	**54.00**	**258**	P	**P**	**02 50 24.4**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.00**	**258**	P	**P**	**02 50 24.4**	**+1.9**
TKM2	**Tokmak 2**	**54.33**	**297**	*e*P	**P**	**02 50 25.2**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TKM2	**Tokmak 2**	**54.33**	**297**	*e*P	**P**	**02 50 25.2**	**+0.3**
	comp=Z,1.2nm,0.7s						
AAK	**Ala-Archa**	**55.16**	**297**	*e*P	**P**	**02 50 31.5**	**+0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	**Ala-Archa**	**55.16**	**297**	*e*P	**P**	**02 50 31.5**	**+0.6**
	comp=Z,9.4nm,0.8s						
EKS2	**Erkin-Say**	**55.58**	**298**	*e*P	**P**	**02 50 34.6**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
EKS2	**Erkin-Say**	**55.58**	**298**	*e*P	**P**	**02 50 34.6**	**+0.7**
	comp=Z,10nm,1.4s						
ARU	**Arti**	**55.91**	**318**	*c* iP	**P**	**02 50 36.0**	**+0.2**
ARU				S	**S**	**02 58 25.2**	**+2.0**
ARU				SS	SS	03 02 00.8	-7.5
ARU				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**55.91**	**318**	*e*P	**P**	**02 50 35.5**	**-0.3**
	comp=Z,6.1nm,0.6s						
KKAR	**Karatay Array**	**57.29**	**300**	*e*P	**P**	**02 50 46.3**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**57.29**	**300**	*e*P	**P**	**02 50 46.3**	**+0.5**
	comp=Z,1.6nm,0.6s						
ARCES	**ARCESS Array B**	**58.14**	**341**	LR	LR	03 20 22.0	
	comp=Z,173nm,18.2s,baz=232,slow=41						
AB31	**Akbulak array**	**59.50**	**311**	*i* P	**P**	**02 51 00.9**	**-0.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**59.50**	**311**	*e*P	**P**	**02 51 01.5**	**+0.3**
	comp=Z,3.6nm,0.5s						
FFC	**Flin Flon**	**59.50**	**41**	*e*P	**P**	**02 51 01.3**	**+0.2**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FFC	**Flin Flon**	**59.50**	**41**	*e*P	**P**	**02 51 01.3**	**+0.2**
	comp=Z,2.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.76**	**313**	*i* P	**P**	**02 51 02.8**	**-0.1**
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**02 51 11.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=258,slow=7.3,SNR=4.6						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**02 51 11.6**	**+0.4**
PDAR	**Pinedale Array**	**63.29**	**55**	P	**P**	**02 51 27.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=282,slow=1.4,SNR=4.8						
PDAR	**Pinedale Array**	**63.29**	**55**	P	**P**	**02 51 27.4**	**+0.1**
KBL	**Kabul**	**63.47**	**293**	*e*P	**P**	**02 51 28.1**	**-0.4**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBL	**Kabul**	**63.47**	**293**	*e*P	**P**	**02 51 28.1**	**-0.4**
	comp=Z,2.8nm,0.7s						
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**02 51 34.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=32,slow=7.3,SNR=9.1						
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**02 51 34.3**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.49**	**336**	P	**P**	**02 51 34.3**	**-0.2**
OBN	**Obninsk**	**66.01**	**327**	*e*P	**P**	**02 51 44.1**	**-0.3**
OBN				*e*		02 52 10.6	
OBN				*

URZ	**Urewera**	**1.09 213**	P*	**Pn**	**02 50 32.6**	**+0.6**
URZ			S*	**Sn**	**02 50 46.8**	**0.0**
OPRZ	**Ohinepanea**	**1.16 244**	P*	**Pn**	02 50 32.9	+0.1
OPRZ			*e*S*	**Sn**	**02 50 47.1**	**-1.0**
CNGZ	**Carnagh Statio**	**1.17 167**	PN	**Pn**	**02 50 35.1**	**+2.0**
EDRZ	**Edgecumbe**	**1.18 229**	P*	**Pn**	**02 50 33.8**	**+0.6**
MYRZ	**Mayor Island**	**1.30 272**	P*	**Pn**	02 50 34.7	0.0
TGRZ	**Tauranga**	**1.33 253**	P*	**Pn**	**02 50 35.4**	**+0.3**
TARZ	**Mount Tarawera**	**1.40 230**	P*	**Pn**	**02 50 37.3**	**+1.2**
KARZ	**Kaharoa**	**1.45 242**	P*	**Pn**	**02 50 37.4**	**+0.7**
RRRZ	**Republican Roa**	**1.46 227**	P*	**Pn**	**02 50 37.7**	**+0.9**
PRGZ	**Paritu Road**	**1.58 180**	PN	**Pn**	**02 50 39.6**	**+1.2**
HRRZ	**Handcock Road**	**1.63 230**	P*	**Pn**	**02 50 40.8**	**+1.7**
PRRZ	**Plateau Road**	**1.64 225**	P*	**Pn**	**02 50 40.3**	**+1.1**
KNZ	**Kokohu**	**1.68 185**	PN	**Pn**	**02 50 40.8**	**+1.2**
RAHZ	**Arahi**	**1.69 201**	*e*PN	**Pn**	**02 50 41.7**	**+1.9**
ALRZ	**Allen Road**	**1.71 224**	P*	**Pn**	**02 50 41.4**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.81 179**	PN	**Pn**	**02 50 42.8**	**+1.4**
KUZ	**Kuaotunu**	**1.82 288**	PN	**Pn**	**02 50 41.3**	**-0.2**
TOZ	**Tahuroa Road**	**1.92 258**	P*	**Pn**	**02 50 43.3**	**+0.5**
NMHZ	**Naumai**	**1.94 205**	PN	**Pn**	**02 50 45.8**	**+2.6**
BKZ	**Black Stump Fm**	**2.12 210**	P*	**Pn**	**02 50 46.8**	**+1.1**
MKAZ	**Moumakai**	**2.17 275**	PN	**Pn**	**02 50 47.2**	**+1.0**
RITZ	**Rihia Road**	**2.27 223**	P*	**Pn**	**02 50 50.6**	**+2.9**
MCHZ	**McNeill Hill**	**2.29 203**	PN	**Pn**	**02 50 49.5**	**+1.7**
OTAZ	**Otara**	**2.38 279**	PN	**Pn**	**02 50 50.1**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.39 195**	PN	**Pn**	**02 50 50.1**	**+0.8**
MTAZ	**Motutapu**	**2.43 282**	PN	**Pn**	**02 50 50.6**	**+0.9**
KRVZ	**Karewarewa**	**2.48 224**	P*	**Pn**	**02 50 53.1**	**+2.6**
OTVZ	**Oturere**	**2.51 223**	P*	**Pn**	**02 50 52.8**	**+1.8**
WTVZ	**West Tongariro**	**2.52 225**	P*	**Pn**	**02 50 53.6**	**+2.6**
ABAZ	**Army Bay**	**2.54 286**	⇓PN	**Pn**	**02 50 52.2**	**+0.9**
ABAZ			SN	**Sn**	**02 51 20.5**	**-0.6**
NGZ	**Ngauruhoe**	**2.56 224**	P*	**Pn**	**02 50 54.1**	**+2.5**
BHHZ	**Black Hill Sta**	**2.57 213**	P*	**Pn**	**02 50 53.4**	**+1.7**
KAHZ	**Kahuranaki**	**2.57 197**	PN	**Pn**	**02 50 52.6**	**+0.9**
TWVZ	**Taurewa**	**2.58 227**	P*	**Pn**	**02 50 54.8**	**+2.9**
KAAZ	**Kauri Point**	**2.58 281**	PN	**Pn**	**02 50 53.2**	**+1.4**
TUVZ	**Tukino**	**2.59 221**	P*	**Pn**	**02 50 54.2**	**+2.1**
WPVZ	**Whakapapa**	**2.61 224**	P*	**Pn**	**02 50 54.7**	**+2.5**
FWVZ	**Far West T-bar**	**2.64 223**	P*	**Pn**	**02 50 54.9**	**+2.1**
DRZ	**Dome Shelter**	**2.65 222**	P*	**Pn**	**02 50 55.1**	**+2.2**
MOVZ	**Moawhango**	**2.65 218**	P*	**Pn**	**02 50 54.0**	**+1.2**
HIZ	**Hauiti**	**2.65 243**	PN	**Pn**	**02 50 54.4**	**+1.6**
WTAZ	**Waiatarua**	**2.66 278**	PN	**Pn**	**02 50 54.1**	**+1.2**
WNVZ	**Wahianoa**	**2.67 221**	P*	**Pn**	**02 50 55.1**	**+2.0**
TRVZ	**Turoa**	**2.67 222**	P*	**Pn**	**02 50 55.3**	**+2.0**
RVAZ	**Riverhead Bore**	**2.69 281**	PN	**Pn**	**02 50 54.2**	**+1.0**
MTVZ	**Mangateitei**	**2.78 222**	P*	**Pn**	**02 50 56.4**	**+1.9**
PKVZ	**Pokaka**	**2.78 225**	P*	**Pn**	**02 50 57.3**	**+2.8**
PXZ	**Pawanui**	**2.80 196**	PN	**Pn**	**02 50 54.6**	**-0.2**
PNHZ	**Pukenui**	**2.88 206**	PN	**Pn**	**02 50 56.1**	**+0.1**
WPHZ	**Waipukurau**	**2.94 202**	PN	**Pn**	**02 50 57.0**	**+0.4**
PRHZ	**Porangahau**	**3.07 198**	PN	**Pn**	**02 50 58.0**	**-0.5**
TSZ	**Takapari Road**	**3.10 208**	PN	**Pn**	**02 50 58.7**	**-0.1**
WCZ	**Waipu Caves**	**3.16 295**	PN	**Pn**	**02 51 00.2**	**+0.5**
DVHZ	**Dannevirke**	**3.24 204**	PN	**Pn**	**02 50 59.9**	**-0.8**
WAZ	**Wanganui**	**3.30 222**	PN	**Pn**	**02 51 03.5**	**+1.8**
BFZ	**Birch Farm**	**3.56 200**	PN	**Pn**	**02 51 04.0**	**-1.2**
TIWZ	**Tintock**	**3.76 204**	PN	**Pn**	**02 51 07.0**	**-0.8**
MRZ	**Mangatainoka R**	**3.76 208**	PN	**Pn**	**02 51 06.9**	**-1.0**
HOWZ	**Holdsworth Sta**	**3.99 207**	PN	**Pn**	**02 51 09.7**	**-1.3**
OUZ	**Omahuta**	**4.05 300**	PN	**Pn**	**02 51 12.8**	**+1.0**
OGWZ	**Otaki Gorge**	**4.05 210**	PN	**Pn**	**02 51 10.9**	**-1.0**
TMWZ	**Te Maipa**	**4.06 202**	PN	**Pn**	**02 51 10.3**	**-1.7**
KIW	**Kapiti Island**	**4.20 212**	PN	**Pn**	**02 51 12.7**	**-1.1**
CAW	**Cannon Point**	**4.34 209**	PN	**Pn**	**02 51 14.3**	**-1.5**
TRWZ	**Travellers**	**4.39 202**	PN	**Pn**	**02 51 14.8**	**-1.7**
PAWZ	**Paruwai Farm**	**4.45 204**	PN	**Pn**	**02 51 15.4**	**-2.0**
MSWZ	**Moikau Station**	**4.54 206**	PN	**Pn**	**02 51 16.8**	**-1.8**
DUWZ	**D'Urville Isla**	**4.62 220**	PN	**Pn**	**02 51 18.6**	**-1.1**
SNZO	**South Karori**	**4.66 211**	PN	**Pn**	**02 51 18.1**	**-2.0**
BHW	**Baring Head**	**4.68 209**	PN	**Pn**	**02 51 17.9**	**-2.4**
TUWZ	**Tuamarina**	**5.09 215**	PN	**Pn**	**02 51 24.2**	**-1.8**
NNZ	**Nelson**	**5.20 221**	PN	**Pn**	**02 51 26.0**	**-1.5**
QRZ	**Quartz Range**	**5.42 228**	PN	**Pn**	**02 51 29.6**	**-0.9**
THZ	**Tophouse**	**5.85 219**	PN	**Pn**	**02 51 34.2**	**-2.2**
ASAR	**Alice Springs**	**39.91 277**	P	**P**	**02 57 40.0**	**+0.6**
	0.4nm,0.5s,baz=126,slow=8.1,SNR=7.2					
ASAR			PcP	**PcP**	**02 59 43.2**	**-0.6**
	0.2nm,0.5s,baz=113,slow=4.2,SNR=4.2					
WRA	**Warramunga Arr**	**41.55 282**	P	**P**	**02 57 53.8**	**+0.8**
	0.5nm,0.3s,baz=123,slow=7.0,SNR=24					
FINES	**FINESS Array B**	**150.13 333**	PKPbc	**PKPbc**	**03 09 53.4**	**-0.6**
	1.2nm,0.7s,baz=46,slow=5.5,SNR=5.2					

*BJI **22** 03:01:45.3, 1˝.14S×127˝.95E, h120km, mB5.1/35, mb5.3/59*
*ISCJB **22** 03:01:53.0±0.2, 0˝.48S±0˝.02×127˝.47E±0˝.02, h135km±2km, mb5.3/150, Error ellipse: s-maj=3.6km s-min=2.8km az=163.5*
*MOS **22** 03:01:53.8±1.1, 0˝.47S×127˝.37E, h144km, mb5.2/43, Error ellipse: s-maj=10.1km s-min=5.3km az=112.8*
*NEIC **22** 03:01:54.1±0.8, 0˝.52S×127˝.43E, h132km±7km, mb5.2/67, Error ellipse: s-maj=5.5km s-min=3.4km az=70.0*
NEIC Felt [II] at Labuha.
*DJA **22** 03:01:54.2±0.2, 1˝S±2˝×127˝8E±˚, h124km±2km, M5.5/69, mb5.6/69, mB5.8/49, MLv5.7/16, Mw(mB)5.4/49*
*IDC **22** 03:01:54.2±1.0, 0˝.57S×127˝.33E, h135km±8km, mb4.9/25, mb1 4.9/29, mb1mx4.9/29, mbtmp4.9/29, MS3.7/9, Ms1 3.7/9, ms1mx3.4/31, Error ellipse: s-maj=12.1km s-min=6.1km az=80.0*
ISC 22 03:01:53.3±0.3, 0˝.56S±0˝.03×127˝.37E±0˝.04, h128km±2km, h127km: pP-P, n669, σ1932/810, mb5.4/150, 117C-116D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.15**	**120**	P		**Pn**	**03 02 12.3**	**+1.5**
LBMI				S		**Sn**	**03 02 25.5**	**+1.6**
TNTI	**Ternate**	**1.32**	**360**	P		**Pn**	**03 02 20.3**	**+1.0**
TNTI				S		**Sn**	**03 02 40.2**	**+1.1**
NLAI	**Namlea**	**2.67**	**186**	P		**Pn**	**03 02 37.0**	**+1.3**
NLAI				S		**Sn**	**03 03 09.3**	**+1.0**
MSAI	**Masohi**	**3.18**	**151**	P		**Pn**	**03 02 44.5**	**+2.3**
MSAI				S		**Sn**	**03 03 21.7**	**+1.7**
AAI	**Ambon**	**3.21**	**165**	P		**Pn**	**03 02 44.0**	**+1.3**
MNI	**Manado**	**3.22**	**308**	P		**Pn**	**03 02 43.9**	**+1.1**
MNI				S		**Sn**	**03 03 20.8**	**-0.1**
KMSI	**Cibinong**	**3.57**	**288**	P		**Pn**	**03 02 47.8**	**+0.4**
KMSI				S		**Sn**	**03 03 29.3**	**+0.1**
SWI	**Sorong**	**3.90**	**94**	P		**Pn**	**03 02 53.4**	**+1.6**
SGSI	**Sangihe**	**4.60**	**336**	P		**Pn**	**03 03 01.6**	**+0.5**
LUWI	**Luwuk**	**4.62**	**264**	P		**Pn**	**03 03 01.4**	**+0.1**
BNDI	**Bandanaira**	**4.68**	**147**	P		**Pn**	**03 03 03.2**	**+1.0**
FAKI	**Fak Fak**	**5.41**	**116**	P		**Pn**	**03 03 12.5**	**+0.5**
	536nm,0.9s,5μm1.6nm							
MRSI	**Marisa**	**5.52**	**281**	P		**Pn**	**03 03 12.7**	**-0.8**
	485nm,0.7s,9μm3.9nm							
KDI	**Kendari**	**5.82**	**235**	P		**Pn**	**03 03 18.5**	**+1.0**
	850nm,0.7s,12μm4.3nm							
KDI				S		**Sn**	**03 04 22.9**	**-0.2**
	850nm,0.7s,12μm4.3nm							
BBSI	**Bau Bau**	**6.85**	**224**	P		Pn	03 03 34.7	+3.4
	1μm,1.2s,9μm3.6nm							
GSPH	**General Santos**	**7.03**	**340**	⇑*e*P		**Pn**	**03 03 33.1**	**-0.8**
GSPH				*e*S		**Sn**	**03 04 47.2**	**-5.3**
TLE	**Tual**	**7.36**	**133**	P		**Pn**	**03 03 39.0**	**+0.8**
	190nm,0.9s,4μm1.5nm							
TLE				S		**Sn**	**03 05 00.5**	**+0.2**
	190nm,0.9s,4μm1.5nm							
DAV	**Davao City (W)**	**7.79**	**347**	P		**Pn**	**03 03 45.3**	**+1.3**
	99nm,0.3s,baz=83,slow=5.4,SNR=8.4							
DAV				S		**Sn**	**03 05 10.4**	**-0.3**
	68nm,0.3s,baz=72,slow=20,SNR=5.6							
DAV	**Davao City (W)**	**7.79**	**347**	P		**Pn**	**03 03 45.3**	**+1.3**
DAV				S		**Sn**	**03 05 10.4**	**-0.3**
DAV	**Davao City (W)**	**7.79**	**347**	P		Pn	**03 03 45.6**	**+1.6**
	SNR=7.8							
DAV	**Davao City (W)**	**7.79**	**347**	P		Pn	03 03 49.0	+5.0
KCP	**Kidapawan**	**7.86**	**343**	⇑*e*P		Pn	03 03 50.2	+5.3
KCP				*i* S		**Sn**	**03 05 14.7**	**+2.3**
SPSI	**Sidrap Palu**	**8.31**	**246**	P		**Pn**	**03 03 53.0**	**+2.0**
	1μm,0.5s,26μm							
SPSI				S		**Sn**	**03 05 23.3**	**0.0**
	1μm,0.5s,26μm							
CTBH	**Cotabato--PC H**	**8.33**	**338**	⇑*i*P		Pn	03 03 59.9	+8.6
BKSI	**Bulukumba**	**8.64**	**237**	P		**Pn**	**03 03 57.5**	**+2.0**
	374nm,1.2s,5μm							
BKSI				S		**Sn**	**03 05 34.7**	**+3.3**
	374nm,1.2s,5μm							
BUKP	**Musuan**	**8.69**	**345**	*e*P		**Pn**	**03 03 56.3**	**+0.1**
KAPI	**Kappang**	**8.80**	**240**	P		**Pn**	**03 03 58.5**	**+0.9**
	19nm,0.3s,baz=80,slow=4.6,SNR=114							
KAPI				S		**Sn**	**03 05 32.7**	**-2.4**
	28nm,0.3s,baz=165,slow=20,SNR=12							
KAPI	**Kappang**	**8.80**	**240**	*e*Pn		**Pn**	**03 03 58.5**	**+0.9**
KAPI				S		**Sn**	**03 05 32.7**	**-2.4**
KAPI				*e*S		**Sn**	**03 05 35.0**	**-0.2**
KAPI	**Kappang**	**8.80**	**240**	Pn		**Pn**	**03 03 58.7**	**+1.1**
	SNR=42							
KAPI	**Kappang**	**8.80**	**240**	P		Pn	**03 03 58.5**	**+0.9**
	387nm,0.9s,6μm							
PAGZ	**Pagadian**	**9.25**	**335**	*e*P		**Pn**	**03 04 03.0**	**-0.6**
CGP	**Cagayan de Oro**	**9.34**	**343**	*e*P		**Pn**	**03 04 03.2**	**-1.8**
MMRI	**Maumere**	**9.51**	**212**	P		Pn	03 04 11.3	+4.1
	253nm,1.2s,4μm							
SMKI	**Samarinda**	**10.16**	**271**	P		**Pn**	**03 04 17.5**	**+1.6**
	256nm,0.9s,4μm							
TSM	**Tawau**	**10.64**	**297**	P		**Pn**	**03 04 22.9**	**+0.5**
MSLP	**Maasin**	**10.91**	**347**	*e*P		**Pn**	**03 04 25.8**	**-0.2**
KBKI	**Kotabaru**	**11.52**	**256**	P		**Pn**	**03 04 36.8**	**+2.7**
	75nm,1.0s,2μm							
SDKM	**Sandakan**	**11.88**	**301**	P		**Pn**	**03 04 41.3**	**+2.4**
GUIM	**Jordan**	**12.09**	**337**	*e*P		**Pn**	**03 04 41.6**	**0.0**
MTN	**Manton Dam**	**12.76**	**163**	*e*P		**Pn**	**03 04 48.9**	**-1.4**
BBKI	**Banjar Baru**	**12.85**	**257**	P		**P**	**03 04 55.3**	**-2.0**
	592nm,1.0s,8μm							
KDM	**Kudat**	**12.87**	**305**	P		**Pn**	**03 04 51.7**	**0.0**
KKM	**Kota Kinabalu**	**12.92**	**301**	P		**Pn**	**03 04 53.5**	**+1.0**
MTNI	**Mataram**	**13.74**	**234**	P		**P**	**03 05 05.5**	**-1.7**
	606nm,0.9s,18μm							
KHKI	**Kahang-Kahang**	**14.05**	**236**	P		**P**	**03 05 12.9**	**+2.3**
	434nm,0.9s,3μm							
PVCP	**Virac**	**14.42**	**347**	*e*P		**Pn**	**03 05 11.6**	**0.0**
IGBI	**Denpasar**	**14.68**	**236**	P		P	03 05 21.4	+3.8
BTM	**Bintulu**	**14.76**	**285**	P		**P**	**03 05 19.3**	**+0.7**
KMMI	**Kalianget**	**14.84**	**244**	P		P	03 05 23.7	+4.3
	775nm,1.0s,6μm							
NBBI	**Negara**	**14.88**	**238**	P		**P**	**03 05 22.9**	**+3.0**
BYJI	**Banyuwangi**	**15.03**	**239**	P		P	03 05 26.5	+4.9
JAGI	**Jajag, Banyuwa**	**15.33**	**239**	P		**P**	**03 05 27.5**	**+2.6**
	302nm,1.0s,3μm							
SBUM	**Sibu**	**15.44**	**281**	P		**P**	**03 05 27.9**	**+1.8**
BLJI	**Banyuglugur**	**15.47**	**242**	P		**P**	**03 05 30.7**	**+4.2**
	806nm,0.7s,7μm							
PBKI	**Pangkalan Bun**	**15.84**	**262**	P		**P**	**03 05 32.1**	**+1.6**
	510nm,1.3s,5μm							
GMJI	**Gumukmas**	**15.85**	**241**	P		**P**	**03 05 32.9**	**+2.3**
	390nm,0.9s,4μm							
TGY	**Tagaytay City**	**15.90**	**337**	P		**Pn**	**03 05 30.3**	**+0.2**
	110nm,0.3s,baz=198,slow=7.8,SNR=8.2							
TGY	**Tagaytay City**	**15.90**	**337**	P		**Pn**	**03 05 30.3**	**+0.2**
TGY	**Tagaytay City**	**15.90**	**337**	P		**Pn**	**03 05 30.3**	**+0.2**
STKI	**Sintang**	**15.90**	**272**	P		**P**	**03 05 32.5**	**+1.2**
	87nm,1.1s							
KRKI	**Karangkates**	**16.67**	**243**	P		**P**	**03 05 43.5**	**+3.8**
	1μm,0.8s,28μm							
SJI	**Sawahan**	**17.11**	**245**	P		**Pn**	**03 05 48.2**	**+3.2**
	537nm,0.8s,5μm							
KSM	**Kuching**	**17.18**	**277**	P		**Pn**	**03 05 48.3**	**+2.5**
PWJI	**Pagerwojo**	**17.19**	**244**	P		**Pn**	**03 05 47.9**	**+2.0**
	797nm,0.8s,7μm							
FITZ	**Fitzroy Crossi**	**17.52**	**185**	P		**P**	**03 05 48.7**	**-0.2**
	3.4nm,0.3s,baz=27,slow=9.5,SNR=60							
FITZ				S		**S**	**03 09 01.5**	**-3.3**
	0.1nm,0.3s,baz=131,slow=12,SNR=4.0							
FITZ	**Fitzroy Crossi**	**17.52**	**185**	*e*P		**P**	**03 05 48.4**	**-0.6**
	36nm,0.6s							
FITZ				*e*S		**S**	**03 09 00.5**	**-4.3**
FITZ	**Fitzroy Crossi**	**17.52**	**185**	*e*Pn		**P**	**03 05 48.8**	**-0.2**
	26nm,0.7s							
FITZ				S		**S**	**03 09 01.5**	**-3.3**
FITZ				*e*S		**Sn**	**03 09 02.0**	**-3.5**
PCJI	**Pacitan**	**17.83**	**244**	P		**Pn**	**03 05 54.6**	**+1.1**
	752nm,0.9s,7μm							
SMRI	**Semarang**	**18.07**	**249**	P		**Pn**	**03 05 58.9**	**+2.4**
	469nm,0.9s							
UGM	**Wanagama**	**18.31**	**246**	*e*Pn		**Pn**	**03 06 00.7**	**+1.4**
	691nm,0.8s							
UGM	**Wanagama**	**18.31**	**246**	P		**Pn**	**03 06 00.9**	**+1.6**
	943nm,1.0s,9μm							
YOGI	**Yogyakarta**	**18.48**	**247**	P		**Pn**	**03 06 03.2**	**+1.9**
	4μm,1.0s,30μm							
BJII	**Banjamegara**	**18.85**	**249**	P		**Pn**	**03 06 07.2**	**+1.5**
	861nm,1.1s,7μm							
CLJI	**Cilicap**	**19.63**	**248**	P		**Pn**	**03 06 14.6**	**-0.1**
	2μm,0.7s,30μm							
WRAB	**Tennant Creek**	**20.43**	**161**	*e*P		**P**	**03 06 21.1**	**+0.4**
WRAB				*e*S		**S**	**03 10 01.8**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,255nm,0.9s							
WRAB	**Tennant Creek**	**20.43**	**161**	*e*P		**P**	**03 06 21.1**	**+0.4**
	comp=Z,255nm,0.9s							
WRAB				*e*S		**S**	**03 10 01.8**	**-0.9**
WRAB	**Tennant Creek**	**20.43**	**161**	P		**P**	**03 06 21.9**	**+1.2**
	comp=Z,2μm,0.8s							
WRA	**Warramunga Arr**	**20.44**	**161**	P		**P**	**03 06 21.0**	**+0.2**
	comp=Z,189nm,0.8s,baz=339,slow=11,SNR=150							
WRA				S		**S**	**03 10 01.4**	**-1.3**
	comp=Z,16nm,1.1s,baz=343,slow=21,SNR=9.4							
WRA				ScP		**ScP**	**03 13 52.1**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=328,slow=2.4,SNR=6.4							
WRA				PKiKP		**PKiKP**	**03 18 14.3**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=305,slow=1.3,SNR=7.6							
WRA	**Warramunga Arr**	**20.44**	**161**	P		**P**	**03 06 21.0**	**+0.2**
WRA				S		**S**	**03 10 01.5**	**-1.3**
WRA	**Warramunga Arr**	**20.44**	**161**	P		**P**	**03 06 21.0**	**+0.2**
WRA				S		**S**	**03 10 01.4**	**-1.3**
WRA				ScP		**ScP**	**03 13 52.1**	**-0.8**
WRA				PKiKP		**PKiKP**	**03 18 14.3**	**-2.3**
WB2	**Warramunga Arr**	**20.44**	**161**	*e*P		**P**	**03 06 21.0**	**+0.2**
WB2				*e*S		**S**	**03 10 01.3**	**-1.6**
COEN	**Coen**		**20.54 131**	*e*P		**P**	**03 06 21.9**	**-0.1**
	comp=Z,439nm,0.7s							
COEN				*e*S		**S**	**03 10 03.0**	**-1.9**
LEM	**Lembang**	**20.66**	**252**	P		Pn	03 06 26.0	-1.1
	comp=Z,279nm,0.9s							
CISI	**Cisompet, Garu**	**20.69**	**250**	P		**P**	**03 06 24.4**	**+0.8**
	comp=Z,884nm,0.8s,comp=Z,8μm							
CBJI	**Citeko**	**21.28**	**254**	P		**P**	**03 06 33.3**	**+3.4**
	comp=Z,841nm,0.8s,comp=Z,24μm							
PPBI	**Pangkal Pinang**	**21.28**	**266**	P		**P**	**03 06 31.3**	**+1.4**
	comp=Z,130nm,0.9s,comp=Z,4μm							
DBJI	**Dramaga**	**21.41**	**253**	P		**P**	**03 06 34.0**	**+2.7**
PMG	**Port Moresby**	**21.57**	**115**	P		**P**	**03 06 34.8**	**+1.9**
	comp=Z,19nm,0.8s,baz=315,slow=6.0,SNR=14							
PMG	**Port Moresby**	**21.57**	**115**	*e*P		**P**	**03 06 31.3**	**-1.7**
PMG				pmax		pmax		
	comp=Z,78nm,1.7s							
PMG	**Port Moresby**	**21.57**	**115**	*e*P		**P**	**03 06 32.1**	**-0.9**
	comp=Z,29nm,0.9s							
PMG	**Port Moresby**	**21.57**	**115**	P		**P**	**03 06 35.6**	**+2.6**
	comp=Z,38nm,1.4s							
MBWA	**Marble Bar**	**21.79**	**200**	*e*P		**P**	**03 06 34.3**	**-0.9**
	comp=Z,84nm,0.8s							
SBJI	**Seng**	**21.90**	**255**	P		**P**	**03 06 39.9**	**+3.4**
	comp=Z,316nm,1.2s,comp=Z,6μm							
RBSI	**Rajabasa**	**22.21**	**256**	P		**P**	**03 06 42.3**	**+2.6**
	comp=Z,392nm,0.9s,comp=Z,3μm							
GUMO	**Guam**	**22.32**	**50**	P		**P**	**03 06 40.2**	**-0.6**
	comp=Z,52nm,0.4s,baz=184,slow=13,SNR=5.1							
GUMO				LR		LR	03 13 54.9	
	comp=Z,241nm,18.5s,baz=210,slow=32							
GUMO	**Guam**	**22.32**	**50**	P		**P**	**03 06 40.2**	**-0.6**
GUMO	**Guam**	**22.32**	**50**	P		**P**	**03 06 40.2**	**-0.6**
CGJI	**Cibinong**	**22.44**	**254**	P		**P**	**03 06 42.6**	**+0.6**
	comp=Z,505nm,0.8s							
PMBI	**Palembang**	**22.71**	**264**	P		P	03 06 49.7	+5.1
KLI	**Kotabumi**	**22.88**	**259**	P		**P**	**03 06 48.6**	**+2.3**
	comp=Z,2μm,0.8s,comp=Z,11μm							
MYKOM	**Kota Tinggi**	**23.63**	**276**	P		**P**	**03 06 56.0**	**+2.9**
LWLI	**Liwa**	**23.69**	**259**	P		**P**	**03 06 56.4**	**+2.6**
	comp=Z,2μm,0.8s,comp=Z,12μm							
AS31	**Alice Springs**	**23.83**	**165**	*e*P		**P**	**03 06 55.6**	**+0.8**
ASAR	**Alice Springs**	**23.83**	**165**	P		**P**	**03 06 55.4**	**+0.5**
	comp=Z,253nm,0.8s,baz=351,slow=11,SNR=518							
ASAR				PcP		**PcP**	**03 10 34.9**	**0.0**
	comp=Z,7.6nm,0.6s,baz=340,slow=1.7,SNR=5.3							
ASAR				S		**S**	**03 11 00.6**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=351,slow=17,SNR=4.0							
ASAR				ScP		**ScP**	**03 13 59.8**	**-1.9**
	comp=Z,3.8nm,1.0s,baz=281,slow=1.4,SNR=5.1							
ASAR				PKiKP		**PKiKP**	**03 18 16.6**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=332,slow=0.0,SNR=6.3							
ASAR	**Alice Springs**	**23.83**	**165**	P		**P**	**03 06 55.4**	**+0.5**
ASAR							03 10 34.9	
ASAR				S		**S**	**03 11 00.6**	**-0.9**
ASAR	**Alice Springs**	**23.83**	**165**	P		**P**	**03 06 55.4**	**+0.5**
ASAR				PcP		**PcP**	**03 10 34.9**	**0.0**
ASAR				S		**S**	**03 11 00.6**	**-0.9**
ASAR				ScP		**ScP**	**03 13 59.8**	**-1.9**
ASAR				PKiKP		**PKiKP**	**03 18 16.6**	**-1.5**
TWG	**Pinlang**	**24.04**	**346**	*e*P		**P**	**03 06 55.2**	**-1.4**
	comp=Z,111nm,0.6s							
KGM	**Kluang**	**24.18**	**276**	P		**P**	**03 07 01.2**	**+3.1**
YULB	**Yu-li**	**24.53**	**346**	*e*P		**P**	**03 06 59.5**	**-1.6**
	comp=Z,24nm,0.6s							
TPUB	**Ta-pu**	**24.61**	**345**	*e*P		**P**	**03 07 01.9**	**0.0**
	comp=Z,129nm,0.6s							
TPUB				*e*S		**S**	**03 11 14.8**	**+0.9**
MNAI	**Manna**	**24.68**	**261**	P		**P**	**03 07 04.1**	**+1.5**
	comp=Z,1μm,0.9s,comp=Z,13μm							
KSI	**Kapahiang**	**24.95**	**263**	P		**P**	**03 07 07.6**	**+2.4**
	comp=Z,745nm,0.8s							
SSLB	**Suanglung**	**24.99**	**346**	*e*P		**P**	**03 07 04.8**	**-0.6**
SSLB				*e*S		**S**	**03 11 25.8**	**+5.8**
RGRI	**Rengat**	**25.03**	**270**	P		**P**	**03 07 08.6**	**+2.7**
	comp=Z,521nm,0.8s,comp=Z,92μm							
NACB	**Ninganchiao**	**25.22**	**348**	*e*P		**P**	**03 07 07.9**	**+0.5**
	comp=Z,49nm,1.1s							
YHNB	**Yeheng**	**25.74**	**347**	*e*P		**P**	**03 07 12.5**	**+0.2**
	comp=Z,105nm,0.8s							
KRJI	**Kerinci**	**25.94**	**266**	P		P	03 07 21.3	+7.1
QIZ	**Qiongzhong**	**25.98**	**319**	P		**P**	**03 07 15.8**	**+1.4**
QIZ				pP		**pP**	**03 07 39.8**	**-1.8**
QIZ				S		**S**	**03 11 38.8**	**+3.0**
QIZ				pmax		pmax		
	comp=Z,170nm,4.7s							
FRIM	**Kepong**	**26.01**	**279**	P		**P**	**03 07 17.4**	**+2.7**
BKNI	**Bangkinang**	**26.34**	**272**	P		**P**	**03 07 20.4**	**+2.7**
	comp=Z,194nm,1.3s,comp=Z,2μm							
QZH	**Quanzhou**	**26.74**	**342**	⇓*i*P		**P**	**03 07 22.8**	**+1.7**
QZH				S		**S**	**03 11 47.3**	**-0.2**
QZH				pmax		pmax		
	comp=Z,90nm,0.7s							
IPM	**Ipoh**	**26.79**	**281**	P		**P**	**03 07 23.9**	**+2.2**
CTA	**Charters Tower**	**26.80**	**138**	P		**P**	**03 07 23.6**	**+1.9**
	comp=Z,25nm,0.9s,baz

comp=Z,5.5nm,0.9s,baz=187,slow=4.2,SNR=12
KSRS LR LR 03 22 36.8
comp=Z,74nm,20.6s,baz=185,slow=33
MJAR Matsushiro Arr 38.26 14 P **P 03 08 59.6 -1.6**
comp=Z,23nm,0.5s,baz=187,slow=9.7,SNR=59
MJAR PcP **PcP 03 11 13.8 +0.9**
comp=Z,3.8nm,0.8s,baz=201,slow=3.4,SNR=4.2
MJAR ScP **S 03 14 46.8 +1.0**
comp=Z,15nm,1.0s,baz=192,slow=4.8,SNR=17
MJAR LR LR 03 22 43.6
comp=Z,182nm,21.0s,baz=210,slow=33
MJAR Matsushiro Arr 38.26 14 P **P 03 08 59.6 -1.6**
MJAR 03 11 13.8
MJAR 03 14 46.8
MJAR Matsushiro Arr 38.26 14 P **P 03 08 59.6 -1.6**
MJAR PcP **PcP 03 11 13.8 +0.9**
MJAR ScP **S 03 14 46.8 +1.0**
MAJO Matsushiro 38.27 14 *eP* **P 03 08 59.8 -1.4**
MAJO pmax pmax
comp=Z,20nm,0.5s
MAJO Matsushiro 38.27 14 *eP* **P 03 08 59.8 -1.4**
comp=Z,20nm,0.5s
MAT Matsushiro 38.27 14 P **P 03 08 59.7 -1.6**
CD2 Chengdu 38.51 326 P **P 03 09 04.3 +0.9**
CD2 pP **pP 03 09 31.3 -0.5**
CD2 sP **sP 03 09 45.1 -1.2**
CD2 PP **PnPn 03 10 39.4 +1.8**
CD2 S **ScP 03 14 51.3 +1.1**
CD2 pmax pmax
comp=Z,110nm,1.0s
CD2 pmax pmax
comp=Z,170nm,4.1s
CD2 LR LR
comp=N,360nm,6.5s
CD2 LR LR
comp=Z,210nm,6.5s
XAN Xi'an 38.53 335 P **P 03 09 04.1 +0.5**
XAN pP **pP 03 09 30.3 -1.6**
XAN sP **sP 03 09 42.5 -4.0**
XAN PP **PnPn 03 10 38.0 +0.2**
XAN S **S 03 14 48.8 -1.2**
XAN pmax pmax
comp=Z,17nm,0.7s
XAN pmax pmax
comp=Z,47nm,6.6s
CAN Canberra 40.03 152 *eP* **P 03 09 17.8 +1.8**
CAN pmax pmax
comp=Z,68nm,0.6s
CAN Canberra 40.03 152 *eP* **P 03 09 17.8 +1.8**
comp=Z,68nm,0.6s
CNB Canberra Magne 40.20 152 *eP* **P 03 09 19.1 +1.7**
comp=Z,105nm,0.8s
TOO Toolangi 40.45 158 *eP* **P 03 09 21.6 +2.2**
comp=Z,73nm,0.5s
BJT Baijiatuau 41.66 347 *eP* **P 03 09 29.0 -0.2**
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 41.66 347 *eP* **P 03 09 29.0 -0.2**
comp=Z,21nm,0.6s
BJI Beijing 41.68 347 P **P 03 09 28.9 -0.5**
BJI pP **pP 03 09 57.9 -0.2**
BJI sP **sP 03 10 10.3 -2.2**
BJI PcP **PcP 03 11 24.8 +1.1**
BJI S S 03 15 46.6 +10
BJI pmax pmax
comp=Z,34nm,1.2s
SNY Shenyang 42.33 356 ⇑P **P 03 09 34.3 -0.3**
SNY sP **sP 03 10 19.4 +1.5**
SNY S **S 03 15 42.6 -3.5**
SNY pmax pmax
comp=Z,55nm,0.5s
SNY pmax pmax
comp=Z,170nm,3.5s
LZH Lanzhou 42.53 331 ⇑P **P 03 09 38.5 +2.0**
LZH pP **pP 03 10 07.0 +1.6**
LZH sP **sP 03 10 22.8 +3.0**
LZH *eS* S 03 16 01.0 +11
LZH sS sS 03 16 45.3 +5.8
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,360nm,4.0s
LZH LR LR
comp=N,250nm,11.0s
LZH LR LR
comp=E,170nm,12.6s
LZH LR LR
comp=Z,280nm,13.2s
SHL Shillong 43.01 310⇑ *iP* **P 03 09 41.5 +0.9**
SHL *eS* **S 03 15 57.0 +0.1**
HHC Hu-ho-hao-te 43.65 343 *eP* **P 03 09 46.0 +0.6**
HHC pP **pP 03 10 13.5 -0.9**
HHC sP **sP 03 10 28.4 -0.4**
HHC PP **PcP 03 11 31.8 +1.3**
HHC S **S 03 16 06.5 +0.8**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.6s
HHC LR LR
comp=N,220nm,14.2s
HHC LR LR
comp=E,770nm,15.7s
HHC LR LR
comp=Z,260nm,14.5s
VLA Vladivostok 43.67 5⇓ *iP* **P 03 09 45.9 +0.5**
VLA pmax pmax
comp=Z,31nm,0.8s
ERM Erimo 44.72 17 *eP* **P 03 09 54.1 +0.4**
ERM pmax pmax
comp=Z,25nm,1.0s
ERM Erimo 44.72 17 *eP* **P 03 09 54.5 +0.8**
comp=Z,24nm,0.8s
ERM Erimo 44.72 17 P **P 03 09 54.1 +0.4**
comp=Z,168nm,1.0s,SNR=6.7
USRK Ussuriysk Arra 44.76 5 P **P 03 09 54.1 +0.2**
comp=Z,68nm,0.5s,baz=181,slow=7.0,SNR=225
USRK ScP **ScP 03 15 13.8 -0.9**
comp=Z,3.7nm,0.8s,baz=190,slow=2.9,SNR=5.2
MDJ Mudanjiang 45.02 2 P **P 03 09 56.5 +0.4**
MDJ pmax pmax
comp=Z,62nm,0.8s
MDJ pmax pmax
comp=Z,60nm,4.4s
MDJ Mudanjiang 45.02 2 *eP* **P 03 09 56.3 +0.2**
comp=Z,50nm,0.8s
LSA Lhasa 45.80 314 *eP* **P 03 10 05.3 +2.2**
LSA pmax pmax
comp=Z,74nm,0.8s
LSA Lhasa 45.80 314 *eP* **P 03 10 05.3 +2.2**
comp=Z,74nm,0.8s
ASAJ Asahikawa 46.51 15 P **P 03 10 08.4 +0.6**
comp=Z,43nm,0.7s,baz=227,slow=11,SNR=33
ASAJ Asahikawa 46.51 15 *eP* **P 03 10 08.4 +0.6**
comp=Z,17nm,0.8s
VIS Vishakhapatnam 46.98 295 *ex* x 03 10 01.8
VIS AMb AMB 03 10 11.6
comp=Z,46nm,1.0s
GTA Gaotai 47.10 331 ⇑P **P 03 10 14.1 +1.4**
GTA pP **pP 03 10 39.8 -2.2**
GTA sP **sP 03 10 52.8 -3.5**
GTA PcP **PcP 03 11 43.9 +1.3**
GTA ScP **ScP 03 15 25.1 +0.3**
GTA S **S 03 16 57.3 +1.8**
GTA ScS **ScS 03 19 52.8 -1.4**
GTA SS **SS 03 20 20.1 -4.3**
GTA pmax pmax
comp=Z,66nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.4s
GTA LR LR
comp=N,130nm,13.8s
GTA LR LR
comp=E,110nm,13.3s
GTA LR LR
comp=Z,120nm,11.6s
TAPN Taplejung 47.13 309 *eP* **P 03 10 14.8 +1.4**
TAPN Taplejung 47.13 309 *eP* **P 03 10 14.8 +1.4**
ODAN Odare 47.14 308 *eP* **P 03 10 14.9 +1.5**
comp=Z,216nm,0.7s
ODAN Odare 47.14 308 *eP* **P 03 10 14.9 +1.5**
comp=Z,216nm,0.7s
RAMN Ramite 47.81 308 *eP* **P 03 10 20.4 +1.9**
comp=Z,334nm,0.6s
RAMN Ramite 47.81 308 *eP* **P 03 10 20.4 +1.9**
comp=Z,334nm,0.6s
JIRN Jiri 48.46 309 *eP* **P 03 10 25.2 +1.5**
JIRN Jiri 48.46 309 *eP* **P 03 10 25.2 +1.5**
GUN Gumba 48.82 309 *eP* **P 03 10 27.8 +1.4**
GUN Gumba 48.82 309 *eP* **P 03 10 27.8 +1.4**
PKI Pulchoki 49.03 308 *eP* **P 03 10 29.0 +1.0**
PKI Pulchoki 49.03 308 *eP* **P 03 10 29.0 +1.0**
PKI Pulchoki 49.03 308 *eP* **P 03 10 29.0 +1.0**
YSS Yuzh-Sakhalins 49.20 14⇓ *eP* **P 03 10 29.5 +1.0**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 49.20 14 *eP* **P 03 10 28.6 +0.1**
comp=Z,28nm,0.6s
KKN Kakani 49.24 308 *eP* **P 03 10 30.6 +1.2**
comp=Z,69nm,0.6s
KKN Kakani 49.24 308 *eP* **P 03 10 30.6 +1.2**
KKN pmax pmax
comp=Z,69nm,0.6s
KKN Kakani 49.24 308 *eP* **P 03 10 30.6 +1.2**
comp=Z,69nm,0.6s
DMN Daman 49.29 308 *eP* **P 03 10 31.1 +1.2**
comp=Z,133nm,0.8s
DMN Daman 49.29 308 *eP* **P 03 10 31.1 +1.2**
comp=Z,133nm,0.8s
HABR Khabarovsk 49.29 7 *eP* **P 03 10 27.3 -1.8**
HABR *e**PP **pP 03 10 57.4 -1.3**
HABR *eS* **S 03 17 23.9 -1.7**
HABR *e**SS **sS 03 18 17.1 +0.4**
HABR *e* 03 20 05.7
HABR *eSS* **SS 03 20 58.6 -0.4**
HABR pmax pmax
comp=Z,66nm,1.1s
HABR pmax pmax
comp=E,33nm,1.4s
HABR pmax pmax
comp=N,25nm,1.1s
HABR MLR MLR
comp=Z,96nm,18.0s
KLR Kul'dur 49.74 4⇓ *iP* P 03 10 28.7 -3.9
KLR pmax pmax
comp=Z,52nm,0.9s
GKN Gorkha 49.84 308 *eP* **P 03 10 34.9 +1.0**
GKN Gorkha 49.84 308 *eP* **P 03 10 34.9 +1.0**
HIA Hailar 50.07 353 *eP* **P 03 10 34.9 -0.2**
HIA Hailar 50.07 353 *eP* **P 03 10 34.9 -0.2**
comp=Z,6.4nm,0.8s
HIA *eScP* **ScP 03 15 36.7 -0.4**
KOLN Koldanda 50.55 307 *eP* **P 03 10 40.9 +1.5**
comp=Z,278nm,0.6s
KOLN Koldanda 50.55 307 *eP* **P 03 10 40.9 +1.5**
comp=Z,278nm,0.6s
DANN Dangsing 50.69 308 *eP* **P 03 10 41.7 +1.2**
comp=Z,345nm,0.7s
DANN Dangsing 50.69 308 *eP* **P 03 10 41.7 +1.2**
comp=Z,345nm,0.7s
PYUN Piuthan 51.18 308 *eP* **P 03 10 45.6 +1.5**
PYUN Piuthan 51.18 308 *eP* **P 03 10 45.6 +1.5**
HYB Hyderabad 51.26 293 *i P* **P 03 10 44.5 -0.1**
comp=Z,110nm,1.0s
HYB *epP* **pP 03 11 17.0 +2.6**
ULN Ulaanbaatar 51.37 343 *eP* **P 03 10 45.5 +0.4**
ULN pmax pmax
comp=Z,26nm,0.8s
ULN Ulaanbaatar 51.37 343 *eP* **P 03 10 45.5 +0.4**
comp=Z,26nm,0.8s
ULN *eScP* **ScP 03 15 41.8 -1.1**
ULN Ulaanbaatar 51.37 343 P **P 03 10 45.5 +0.4**
comp=Z,38nm,1.3s,comp=Z,414nm
SONM Songino Array 51.55 342 P **P 03 10 46.6 +0.3**
comp=Z,18nm,1.0s,baz=160,slow=7.7,SNR=41
SONM PcP **PcP 03 11 59.1 +0.5**
comp=Z,7.2nm,0.8s,baz=158,slow=3.1,SNR=4.8
SONM ScP **ScP 03 15 41.9 -1.6**
comp=Z,1.8nm,0.8s,baz=131,slow=4.5,SNR=4.2
SONM Songino Array 51.55 342 P **P 03 10 46.6 +0.3**
SONM 03 11 59.1
SONM Songino Array 51.55 342 P **P 03 10 46.6 +0.3**
SONM PcP **PcP 03 11 59.1 +0.5**
SONM ScP **ScP 03 15 41.9 -1.6**
NGP Nagpur 51.89 298 *eP* **P 03 10 49.7 +0.5**
MSVF Nonsavu 52.64 112 *eP* **P 03 10 56.5 +1.6**
MSVF pmax pmax
comp=Z,35nm,0.9s
MSVF Nonsavu 52.64 112 *eP* **P 03 10 56.5 +1.6**
comp=Z,35nm,0.9s
LATR Latur 53.35 293 *eP* **P 03 11 00.7 +0.7**
LATR AMb AMB 03 11 01.4
comp=Z,90nm,1.4s
MNGI Mangalore 53.79 286 *eP* **P 03 11 02.9 -0.3**
ZAK Zakamensk 54.76 341⇓ *iP* **P 03 11 09.2 -0.6**
ZAK *e* 03 12 10.6
ZAK pmax pmax
comp=Z,8.0nm,1.2s
AGRA Agra 54.92 304 *eP* **P 03 11 11.2 0.0**
AGRA AMb AMB 03 11 11.7
comp=Z,46nm,0.6s
DGAR Diego Garcia 55.16 261 *eP* **P 03 11 13.2 0.0**
DGAR pmax pmax
comp=Z,206nm,1.1s
DGAR Diego Garcia 55.16 261 *eP* **P 03 11 13.2 0.0**
comp=Z,206nm,1.1s
TLY Talaya 55.78 342 *eP* **P 03 11 16.5 -0.5**
TLY pmax pmax
comp=Z,10.0nm,1.0s
TLY Talaya 55.78 342 *eP* **P 03 11 17.5 +0.5**
comp=Z,6.2nm,0.8s
POO Poona 55.87 293 *eP* **P 03 11 18.3 0.0**
POO AMb AMB 03 11 18.9
comp=Z,74nm,0.8s
AYAN Aya Nagar 56.06 305 *eP* **P 03 11 19.3 0.0**
AYAN AMb AMB 03 11 20.9
comp=Z,75nm,1.1s
NDI New Delhi 56.06 306 *eP* **P 03 11 17.7 -1.6**
NDI AMb AMB 03 11 21.3
comp=Z,63nm,1.7s
WMQ Urumqi 56.60 326 P **P 03 11 24.0 +0.9**
WMQ pP **pP 03 11 51.0 -2.3**
WMQ sP **sP 03 12 03.0 -4.4**
WMQ PcP **PcP 03 12 20.0 +2.0**
WMQ pmax pmax
comp=Z,99nm,0.8s
WMQ pmax pmax
comp=Z,410nm,5.8s
MOY Mondy 56.61 341 *eP* **P 03 11 23.6 +0.6**
MOY pmax pmax
comp=Z,41nm,1.7s
KKR Kurukshetra 56.87 307 *eP* **P 03 11 26.2 +1.1**
KHET Khetri 56.99 304 *eP* **P 03 11 26.1 +0.1**
KHET AMb AMB 03 11 27.2
comp=Z,65nm,0.8s
CLNS Chul'man 57.25 358 *eP* P 03 11 21.6 -5.7
CLNS pmax pmax
comp=Z,11nm,0.7s
CLNS pmax pmax
comp=N,12nm,0.8s
PEA0B Petropavlovsk- 59.16 21 *eP* **P 03 11 41.4 +0.7**
PETK Petropavlovsk- 59.16 21 P **P 03 11 41.3 +0.7**
comp=N,33nm,0.6s,baz=185,slow=5.5,SNR=66
PETK LR LR 03 40 10.5
comp=N,48nm,18.1s,baz=27,slow=39
PETK Petropavlovsk- 59.16 21 P **P 03 11 41.3 +0.7**
PETK Petropavlovsk- 59.16 21 P **P 03 11 41.3 +0.7**
BOD Bodaibo 59.17 352 *eP* **P 03 11 40.2 -0.4**
BOD pmax pmax
comp=Z,17nm,1.3s
MK31 Makanchi Array 61.44 326*ceP* **P 03 11 56.3 0.0**
MK31 pmax pmax
comp=Z,16nm,0.4s
MK31 Makanchi Array 61.44 326 *eP* **P 03 11 56.7 +0.4**
MK31 *eScP* **ScP 03 16 25.9 -1.1**
MKAR Makanchi Array 61.44 326 P **P 03 11 56.7 +0.4**
comp=Z,55nm,0.8s,baz=122,slow=8.2,SNR=395
MKAR PcP **PcP 03 12 37.1 0.0**
comp=Z,15nm,0.6s,baz=122,slow=6.7,SNR=9.5
MKAR ScP **ScP 03 16 26.2 -0.9**
comp=Z,4.4nm,0.7s,baz=117,slow=5.1,SNR=7.5
MKAR S **S 03 20 06.5 -1.0**
comp=Z,0.6nm,0.7s,baz=132,slow=20,SNR=5.8
MKAR PKPPKP **P'P'df 03 41 05.3 -3.2**
comp=Z,0.4nm,0.8s,baz=224,slow=4.0,SNR=2.7
MKAR Makanchi Array 61.44 326 P **P 03 11 56.7 +0.4**
MKAR 03 12 37.1
MKAR S **S 03 20 06.5 -1.0**
MKAR Makanchi Array 61.44 326 P **P 03 11 56.7 +0.4**
MKAR PcP **PcP 03 12 37.1 0.0**
MKAR ScP **ScP 03 16 26.2 -0.9**
MKAR S **S 03 20 06.5 -1.0**
MKAR P'P' 03 41 05.3
KSH Kashi 61.55 317⇑ *iP* **P 03 11 58.8 +1.5**
KSH *epP* **pP 03 12 25.8 -2.2**
KSH *eSP* **sP 03 12 38.4 -3.6**
KSH *ePcP* **PcP 03 12 39.8 +1.9**
KSH *ePP* **PP 03 14 17.4 +3.1**
KSH *eScP* **ScP 03 16 29.6 +1.8**
KSH *ePcS* **PcS 03 16 41.3 +0.3**
KSH *eS* **S 03 20 08.1 -1.2**
KSH *eScS* **SKKSac 03 21 35.5 -1.4**
KSH pmax pmax
comp=Z,35nm,0.8s
KSH LR LR
comp=N,120nm,5.7s
KSH LR LR
comp=E,180nm,6.5s
KSH LR LR
comp=Z,210nm,6.3s
YAK Yakutsk 62.45 1 *eP* **P 03 12 02.5 -0.2**
YAK *e* 03 12 36.9
YAK *e* 03 14 21.8
YAK *eS* **S 03 20 24.4 +4.9**
YAK *e**SS sS 03 20 58.3 -14
YAK *e* 03 21 39.1
YAK pmax pmax
comp=Z,111nm,1.0s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,0.4s
YAK pmax pmax
comp=N,2.0nm,0.5s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=N,54nm,3.4s
YAK smax smax
comp=E,26nm,2.7s
YAK Yakutsk 62.45 1 *eP* **P 03 12 02.7 0.0**
comp=E,142nm,0.6s
KZA Kyzart 63.22 319 P **P 03 12 10.4 +1.7**
SNR=6.7
KZA P **P 03 12 10.4 +1.7**
SNR=6.7
TKM2 Tokmak 2 63.39 320 P **P 03 12 10.3 +0.7**
SNR=58
TKM2 P **P 03 12 10.3 +0.7**
SNR=58
TKM2 Tokmak 2 63.39 320 *i* P **P 03 12 10.3 +0.7**
TKM2 Tokmak 2 63.39 320 *eP* **P 03 12 10.1 +0.5**
comp=E,38nm,0.8s
KBK Karagaybulak 63.68 319 P **P 03 12 12.6 +1.1**
SNR=16
KBK P **P 03 12 12.6 +1.1**
SNR=16
UCH Uchtor 63.77 319 P **P 03 12 14.1 +1.7**
SNR=6.5
UCH P **P 03 12 14.1 +1.7**
SNR=6.5
AAK Ala-Archa 63.97 319 P **P 03 12 14.3 +0.9**
SNR=19
AAK P **P 03 12 14.3 +0.9**
SNR=19
AAK Ala-Archa 63.97 319 *i* P **P 03 12 14.3 +0.9**
AAK pmax pmax
comp=Z,59nm,1.1s
AAK Ala-Archa 63.97 319 *eP* **P 03 12 13.6 +0.2**
comp=Z,109nm,1.0s
AAK Ala-Archa 63.97 319 P **P 03 12 14.8 +1.4**
comp=Z,130nm,1.0s,SNR=13
CHMS Chumysh 63.97 320 P **P 03 12 13.5 +0.3**
SNR=7.6
CHMS P **P 03 12 13.5 +0.3**
SNR=7.6
FRU Bishkek 63.98 319 *eP* **P 03 12 13.0 -0.3**
USP Ospenovka 64.26 320 P **P 03 12 15.6 +0.6**
SNR=73
USP P **P 03 12 15.6 +0.6**
SNR=73
EKS2 Erkin-Say 64.45 319 P **P 03 12 17.6 +1.1**
SNR=39
EKS2 P **P 03 12 17.6 +1.1**
SNR=39
EKS2 Erkin-Say 64.45 319 *eP* **P 03 12 17.4 +0.9**
EKS2 pmax pmax
comp=Z,43nm,0.9s
EKS2 Erkin-Say 64.45 319 *eP* **P 03 12 17.4 +0.9**
comp=Z,43nm,0.9s
KBL Kabul 64.66 309 *eP* **P 03 12 18.2 +0.1**
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 64.66 309 *eP* **P 03 12 18.1 +0.1**
comp=Z,35nm,0.8s
ZAA0 Zalesovo Array 64.68 334 *eP* **P 03 12 16.5 -1.0**
ZALV Zalesovo Beam 64.68 334 P **P 03 12 16.6 -1.0**
comp=Z,26nm,0.9s,baz=115,slow=5.6,SNR=98
ZALV S **S 03 20 41.6 -5.8**
comp=Z,0.7nm,0.6s,baz=140,slow=12,SNR=3.9
ZALV PKPPKP **P'P'df 03 41 04.6 +1.8**
comp=Z,2.2nm,0.9s,baz=301,slow=3.1,SNR=7.7
ZALV LR LR 03 43 15.0
comp=Z,50nm,19.3s,baz=303,slow=38
ZALV Zalesovo Beam 64.68 334 P **P 03 12 16.6 -1.0**
ZALV S **S 03 20 41.7 -5.8**
ZALV Zalesovo Beam 64.68 334 P **P 03 12 16.6 -1.0**
ZALV S **S 03 20 41.6 -5.8**
ZALV P'P' 03 41 04.6
FX1 Attu Island--F 65.49 29 P **P 03 12 23.1 +0.4**
comp=Z,46nm,0.8s,baz=68,slow=12,SNR=5.7
FX1 Attu Island--F 65.49 29 P **P 03 12 23.2 +0.4**
FX1 Attu Island--F 65.49 29 P **P 03 12 23.1 +0.4**
KURK Kurchatov 65.69 328 PKPPKP 03 40 57.9
comp=Z,1.1nm,1.0s,baz=290,slow=3.5,SNR=7.3
KURK Kurchatov 65.69 328*d iP* **P 03 12 23.2 -0.9**
KURK pmax pmax
comp=Z,114nm,0.9s
KURK Kurchatov 65.69 328 *eP* **P 03 12 24.0 -0.1**
comp=Z,120nm,0.9s
KURK P'P' 03 40 57.9
KURK Kurchatov 65.69 328 P **P 03 12 24.2 +0.1**
comp=Z,823nm,1.1s
NVS Novosibirsk 65.97 334⇑ *iP* **P 03 12 24.8 -1.0**
NVS *i* 03 13 17.5
NVS *i* S **S 03 20 58.7 -4.4**
NVS *i* PS PnS 03 21 32.1 -11
NVS pmax pmax
comp=Z,79nm,1.3s
NVS pmax pmax
comp=N,10.0nm,0.5s
NVS pmax pmax
comp=E,16nm,0.5s
NVS smax smax
comp=N,15nm,1.6s
NVS smax smax
comp=E,14nm,1.2s
SEY Seymchan 66.05 12 *eP* **P 03 12 27.1 +0.9**
CASY Casey 66.67 187 *eP* **P 03 12 30.4 +0.4**
CASY Casey 66.67 187 *eP* **P 03 12 30.5 +0.5**
comp=E,41nm,1.0s
KK31 Karatay Array 66.81 318*ceP* **P 03 12 31.1 -0.3**
KK31 pmax pmax
comp=Z,39nm,0.8s
KKAR Karatay Array 66.81 318 *eP* **P 03 12 31.8 +0.4**
KKAR pmax pmax
comp=Z,43nm,0.9s
KKAR Karatay Array 66.81 318 *eP* **P 03 12 31.8 +0.4**
comp=Z,43nm,0.9s
BVA0 Borovoye Array 71.25 328 *i* P **P 03 12 58.2 -0.5**
BVA0 pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 71.32 328*c iP* **P 03 12 58.9 -0.2**
BRVK pmax pmax
comp=Z,82nm,1.3s
BRVK Borovoye 71.32 328 *eP* **P 03 12 58.8 -0.3**
comp=Z,66nm,0.9s
BRVK Borovoye 71.32 328 P **P 03 12 58.0 -1.1**
comp=Z,407nm,0.8s,SNR=45
RER Riviere de l'E 72.68 248 *eP* **P 03 13 08.9 +1.0**
comp=Z,86nm,1.0s
BILL Bilibino 73.52 14*c iP* **P 03 13 11.3 -0.5**
BILL *e* 03 13 27.7
BILL *e**PP **pP 03 13 43.7 +0.2**

BILL *e*SP **sP** 03 13 59.2 +2.0
BILL *e* 03 15 54.8
BILL *e*S **S** 03 22 30.3 -0.7
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 73.52 14 *e*P **P** 03 13 11.5 -0.3
comp=Z,4.1nm,0.7s
ABKT Ailbek 74.08 310 P **P** 03 13 16.7 +0.9
comp=Z,299nm,0.8s,SNR=11
AB31 Akbulak array 75.87 321 *c*eP **P** 03 13 25.4 -0.3
AB31 pmax pmax
comp=Z,25nm,0.6s
ABKAR Akbulak array 75.87 321 *e*P **P** 03 13 25.3 -0.4
comp=Z,22nm,0.7s
SVE Sverdlovsk 77.93 329 *de*P **P** 03 13 36.8 -0.3
SVE pmax pmax
comp=Z,83nm,0.9s
ARU Arti 78.89 328 *c i*P **P** 03 13 41.5 -0.9
ARU *PP **pP** 03 14 12.8 -1.7
ARU 03 16 38.8
ARU S **S** 03 23 27.7 -2.4
ARU pmax pmax
comp=Z,65nm,1.0s
ARU Arti 78.89 328 *e*P **P** 03 13 41.3 -1.1
comp=Z,46nm,0.8s
ARU Arti 78.89 328 P **P** 03 13 41.1 -1.3
comp=Z,348nm,0.9s,SNR=17
VNDA Vanda 79.12 173 *e*P **P** 03 13 43.5 +0.2
VNDA pmax pmax
comp=Z,22nm,1.1s
VNDA Vanda 79.12 173 *e*P **P** 03 13 43.5 +0.2
comp=Z,22nm,1.1s
MAW Mawson 79.98 201 P **P** 03 13 48.9 +0.8
comp=Z,33nm,0.8s,baz=63,slow=4.3,SNR=10
MAW Mawson 79.98 201 *e*P **P** 03 13 48.5 +0.4
comp=Z,22nm,0.6s
MAW Mawson 79.98 201 P **P** 03 13 48.9 +0.8
MAW Mawson 79.98 201 P **P** 03 13 48.9 +0.8
TNA Tin City 80.28 22 *e*P **P** 03 13 51.1 +1.4
comp=Z,14nm,1.1s
ABPO Ambohimpanom 80.50 251 *e*P **P** 03 13 52.6 +0.5
ABPO pmax pmax
comp=Z,15nm,0.7s
ABPO Ambohimpanom 80.50 251 *e*P **P** 03 13 52.6 +0.5
comp=Z,15nm,0.7s
SOKR Solikamsk 80.74 331 *c i*P **P** 03 13 51.6 -0.6
SOKR pmax pmax
comp=Z,60nm,1.2s
QRN Al-Qurain 81.02 299 *e*P **P** 03 13 53.9 -0.6
QRN AMb AMB 03 13 58.8
comp=Z,104nm,1.5s
UMR Umm Al-Rimmam 81.27 300 *e*P **P** 03 13 55.1 -0.6
UMR AMb AMB 03 13 56.3
comp=Z,81nm,1.2s
RDF Al-Radifah 81.36 299 *e*P **P** 03 13 55.4 -0.8
RDF AMb AMB 03 13 57.4
comp=Z,48nm,1.6s
MIB Mutribah 81.62 300 *e*P **P** 03 13 56.4 -1.2
MIB AMb AMB 03 13 58.1
comp=Z,85nm,1.1s
NAY Al-Naaiem 81.66 300 *e*P **P** 03 13 56.6 -1.3
NAY AMb AMB 03 13 57.8
comp=Z,52nm,0.8s
RAYN Ar Rayn 82.76 294 P **P** 03 14 03.5 -0.3
comp=Z,175nm,0.9s,SNR=15
DGRG David-gareji 84.36 312 P **P** 03 14 12.4 +0.8
GNI Garni 84.71 310 *e*P **P** 03 14 13.5 -0.1
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 84.71 310 *e*P **P** 03 14 13.4 -0.1
comp=Z,8.8nm,0.8s
TBLG Delisi 84.86 312 *e*P **P** 03 14 14.1 +0.1
TBLG Delisi 84.86 312 P **P** 03 14 14.1 +0.1
KDAK Kodiak Island 85.16 32 P **P** 03 14 15.4 +0.3
comp=Z,36nm,1.0s,baz=109,slow=3.6,SNR=9.0
KDAK Kodiak Island 85.16 32 *i* P **P** 03 14 15.8 +0.7
KDAK Kodiak Island 85.16 32 P **P** 03 14 15.4 +0.3
GOR Gori 85.35 312 P **P** 03 14 17.4 +0.9
RSO Redoubt South 85.49 29 *e*P **P** 03 14 16.0 -1.0
comp=Z,55nm,0.9s
ZEI Tsey 85.57 313 *e*P **P** 03 14 17.9 +0.1
ZEI pmax pmax
comp=Z,30nm,0.7s
AKH Akhalkalaki 85.77 311 P **P** 03 14 19.6 +0.8
ONI Oni 85.89 313 P **P** 03 14 19.6 +0.5
KIV Kislovodsk 86.55 314 *e*P **P** 03 14 21.2 -1.2
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 86.55 314 *e*P **P** 03 14 21.8 -0.6
comp=Z,9.0nm,0.8s
SLKM Skilak Lake 86.74 29 *e*P **P** 03 14 22.3 -0.6
SLKM Skilak Lake 86.74 29 *e*P **P** 03 14 22.3 -0.6
SEW Seward 87.07 30 *e*P **P** 03 14 24.2 -0.2
comp=Z,16nm,0.8s
PMR Palmer 87.39 28 *e*P **P** 03 14 24.9 -1.0
PMR Palmer 87.39 28 *e*P **P** 03 14 24.9 -1.0
COLD Coldfoot 87.57 23 *e*P **P** 03 14 26.8 +0.1
comp=Z,15nm,1.0s
MCK McKinley 87.70 26 *e*P **P** 03 14 26.3 -1.1
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 87.70 26 *e*P **P** 03 14 26.3 -1.1
comp=Z,11nm,1.0s
VRHR Novokhopersk 87.75 321 *e*P **P** 03 14 26.0 -1.9
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,1.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.7s
SML Sawmill 87.79 28 *e*P **P** 03 14 27.7 -0.2
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 87.79 28 *e*P **P** 03 14 27.7 -0.2
comp=Z,3.5nm,0.8s
COLA College 88.28 25 *e*P **P** 03 14 27.5 -2.5
COLA pmax pmax
comp=Z,2.0nm,0.6s
COLA College 88.28 25 *e*P **P** 03 14 27.5 -2.5
comp=Z,2.3nm,0.6s
SYO Syowa Base 88.68 201 ||*e*X **P** 03 14 30.4 -1.5
SYO Syowa Base 88.68 201 ||*i*P **P** 03 14 31.8 -0.1
SYO Syowa Base 88.68 201 ||*e*pP pP 03 15 03.0 -1.6
ILAR Eielson Array 88.68 25 P **P** 03 14 30.4 -1.6
comp=Z,3.6nm,0.9s,baz=267,slow=4.1,SNR=36
ILAR PP PP 03 17 53.8 -8.5
comp=Z,0.8nm,0.9s,baz=248,slow=5.4,SNR=3.8
ILAR PKKPbc **PKKPbc** 03 32 12.2 -2.9
comp=Z,1.2nm,1.0s,baz=35,slow=1.5,SNR=9.6
ILAR Eielson Array 88.68 25 P **P** 03 14 30.4 -1.6
ILAR Eielson Array 88.68 25 P **P** 03 14 30.4 -1.6
ILAR PP PP 03 17 53.8 -8.5
ILAR PKKPbc **PKKPbc** 03 32 12.2 -2.9
VSR Storozhevoye 89.30 321 *e*P **P** 03 14 33.8 -1.4
QSPA South Pole Qui 89.37 180 *e*P **P** 03 14 35.6 +0.2
comp=Z,40nm,1.0s
QSPA *epP **pP** 03 15 08.9 +0.8
KLMR Klimovskoe 89.43 331 *e*P P 03 14 31.3 -4.3
KLMR pmax pmax
comp=Z,25nm,1.5s
KMBO Kilima Mbogo 90.11 269 *e*P **P** 03 14 41.2 +1.1
KMBO pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 90.11 269 *e*P **P** 03 14 41.1 +1.1
comp=Z,22nm,1.0s
OBN Obninsk 90.92 325 *e*P **P** 03 14 41.3 -1.3
OBN *e* 03 18 17.9
OBN *ePS **PS** 03 26 53.6 +0.2
OBN pmax pmax
comp=Z,8.0nm,0.6s
EGAK Eagle 91.13 25 *e*P **P** 03 14 43.0 -0.5
comp=Z,7.7nm,1.0s
DAWY Dawson 91.92 26 *e*P **P** 03 14 47.3 +0.1
APA Apatity 92.03 337 ⇑*i*P **P** 03 14 45.4 -2.1
APA MLR MLR
comp=Z,700nm,15.0s
BR131 Keskin Array S 93.23 310 *e*P **P** 03 14 52.5 -1.4
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 93.23 310 P **P** 03 14 52.3 -1.6
comp=Z,3.0nm,0.9s,baz=129,slow=6.4,SNR=14
BRTR PP PP 03 18 33.2 -5.9
comp=Z,0.4nm,0.6s,baz=36,slow=45,SNR=3.0
BRTR Keskin Array B 93.23 310 *ce*P **P** 03 14 52.5 -1.4
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 93.23 310 P **P** 03 14 52.3 -1.6
BRTR PP PP 03 18 33.2 -5.9
INK Inuvik 93.89 22 P **P** 03 14 55.5 -0.6
comp=Z,6.3nm,1.0s,baz=277,slow=7.9,SNR=13
INK Inuvik 93.89 22 *e*P **P** 03 14 55.0 -1.1
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 93.89 22 *e*P **P** 03 14 55.0 -1.1
comp=Z,9.3nm,1.1s
ARCES ARCESS Array B 94.67 340 P **P** 03 14 58.6 -1.0
comp=Z,6.1nm,0.7s,baz=84,slow=5.0,SNR=15
ARCES ARCESS Array B 94.67 340 P **P** 03 14 58.7 -1.0
ARCES ARCESS Array B 94.67 340 P **P** 03 14 58.6 -1.0
AKASG Malin Array Be 95.60 321 P **P** 03 15 02.8 -1.5
comp=Z,0.6nm,0.5s,baz=73,slow=4.6,SNR=3.8
AKASG Malin Array Be 95.60 321 P **P** 03 15 02.8 -1.5
AKASG Malin Array Be 95.60 321 P **P** 03 15 02.8 -1.5
FINES FINESS Array B 95.89 332 P **P** 03 15 03.5 -1.8
comp=Z,2.1nm,0.7s,baz=31,slow=4.4,SNR=8.7
FINES FINESS Array B 95.89 332 P **P** 03 15 03.5 -1.8
FINES FINESS Array B 95.89 332 P **P** 03 15 03.5 -1.8
TESR 97.79 317 ||*i*P Pdif 03 15 14.4 +0.1
PLOR Plostina 97.87 316 ||*e*P **P** 03 15 14.0 -0.7
PLOR Plostina 97.87 316 ||*i*P **P** 03 15 14.0 -0.7
MLR Muntele Rosu 98.41 316 ⇑P **P** 03 15 16.7 -0.6
MLR Muntele Rosu 98.41 316 ⇑*i*P **P** 03 15 16.7 -0.6
BURAR Bucovina Array 98.60 318 ⇑*i*P **P** 03 15 17.9 -0.2
KWP Kalwaria Pacla 99.90 320 ||P **Pdif** 03 15 23.0 -0.7
KWP Kalwaria Pacla 99.90 320 ||*i*P **Pdif** 03 15 23.0 -0.7
LOT Lotru 99.93 316 ||*i*P **Pdif** 03 15 24.0 0.0
UZH Uzhgorod 100.36 319 *c i*P **Pdif** 03 15 25.2 -0.5
BOSA Boshof 100.36 241 P **Pdif** 03 15 26.4 +0.1
comp=Z,3.9nm,0.7s,baz=84,slow=9.5,SNR=7.0
BOSA Boshof 100.36 241 P **Pdif** 03 15 26.4 +0.1
BOSA Boshof 100.36 241 P **Pdif** 03 15 26.4 +0.1
DRGR 100.42 317 ||P **Pdif** 03 15 25.6 -0.5
DRGR 100.42 317 ||*i*P **Pdif** 03 15 25.6 -0.5
VTS Vitosha 100.79 313 ||P **Pdif** 03 15 26.9 -1.1
VTS Vitosha 100.79 313 ||*i*P **Pdif** 03 15 26.9 -1.1
NOA NORSAR Array B 102.89 333 P **Pdif** 03 15 35.1 -1.7
comp=Z,0.6nm,0.6s,baz=63,slow=2.0,SNR=3.0
NOA NORSAR Array B 102.89 333 P **Pdif** 03 15 35.1 -1.7
NOA NORSAR Array B 102.89 333 P **Pdif** 03 15 35.0 -1.7
YKA Yellowknife Ar 103.11 25 Pdiff **Pdif** 03 15 36.9 -0.6
comp=Z,0.7nm,0.8s,baz=300,slow=4.8,SNR=10
YKA PKiKP **PKiKP** 03 19 55.9 -0.7
comp=Z,0.7nm,0.6s,baz=299,slow=1.6,SNR=11
YKA PKKPbc **PKKPbc** 03 31 32.5 -3.4
comp=Z,0.4nm,0.5s,baz=122,slow=3.2,SNR=4.0
YKA Yellowknife Ar 103.11 25 P **Pdif** 03 15 37.0 -0.6
YKA *i* 03 19 55.9
YKA Yellowknife Ar 103.11 25 Pdif **Pdif** 03 15 37.0 -0.6
YKA PKiKP **PKiKP** 03 19 55.9 -0.7
YKA PKKPbc **PKKPbc** 03 31 32.5 -3.4
CLL Collm 105.46 324 *e*PKiKP **PKiKP** 03 20 04.0 +2.7
CLL *e*PP **PP** 03 20 14.0 +2.7
GERES GERESS Array B 105.81 321 PKiKP **PKiKP** 03 20 02.1 -0.1
comp=Z,0.7nm,0.5s,baz=75,slow=1.5,SNR=11
GERES PKKPbc **PKKPbc** 03 31 26.1 -1.5
comp=Z,0.4nm,0.6s,baz=228,slow=1.6,SNR=4.5
GERES GERESS Array B 105.81 321 PKiKP **PKiKP** 03 20 02.1 -0.1
GERES PKKPbc **PKKPbc** 03 31 26.1 -1.5
NVAR Mina Array Bea 109.24 49 PKiKP **PKiKP** 03 20 10.1 +1.0
comp=Z,0.3nm,0.5s,baz=248,slow=3.3,SNR=4.6
NVAR PP **PP** 03 20 37.5 -2.3
comp=Z,0.6nm,0.7s,baz=281,slow=7.1,SNR=3.6
NVAR PKKPbc **PKKPbc** 03 31 16.6 0.0
comp=Z,0.3nm,0.5s,baz=129,slow=4.0,SNR=3.7
NVAR PKKPab **PKKPab** 03 31 28.3 -0.1
comp=Z,0.9nm,0.7s,baz=116,slow=4.6,SNR=7.2
NVAR Mina Array Bea 109.24 49 PKiKP **PKiKP** 03 20 10.1 +1.0
NVAR PP **PP** 03 20 37.5 -2.3
NVAR PKKPbc **PKKPbc** 03 31 16.6 0.0
NVAR PKKPab **PKKPab** 03 31 28.3 -0.1
D13A Huson 109.25 40 ⇑P **PKiKP** 03 20 08.1 -0.5
baz=109
D14A Greenough 109.86 39 ||P **PKiKP** 03 20 09.5 -0.4
baz=110
H12A Diamond D Ranc 109.88 42 ||P **PKiKP** 03 20 10.0 -0.1
baz=110
I12A Atlanta 109.94 43 ||P **PKiKP** 03 20 09.9 -0.3
baz=110
E14A Clinton 110.11 40 ⇑P **PKiKP** 03 20 10.6 +0.2
baz=110
H13A Challis 110.27 42 ||P **PKiKP** 03 20 11.0 +0.2
baz=110
EDW2 Edwards Air Fo 110.38 53 ||P **PKiKP** 03 20 11.0 -0.1
baz=110
D15A Lincoln 110.50 39 ||P **PKiKP** 03 20 10.8 -0.3
baz=110
I13A Wildhorse Cree 110.59 43 ||P **PKiKP** 03 20 12.4 +0.9
baz=110
E15A Deer Lodge 110.66 40 ⇑P **PKiKP** 03 20 11.5 +0.1
baz=110
C16A Fuhringer Ranc 110.69 38 ||P **PKiKP** 03 20 11.3 -0.1
baz=110
J13A Cove Ranch, Pi 110.73 43 ||P **PKiKP** 03 20 12.5 +0.9
baz=111
A17A Triple J Farms 110.86 37 ||P **PKiKP** 03 20 11.6 0.0
baz=111
I14A Hackaty 111.04 43 ⇑P **PKiKP** 03 20 13.7 +1.4
baz=111
H15A Lima 111.33 42 ||P **PKiKP** 03 20 13.5 +0.7
baz=111
C17A Wharram Farm, 111.36 38 ||P **PKiKP** 03 20 12.2 -0.4
baz=111
CABF La Chapelle 111.41 321 *e*PKiKP **PKiKP** 03 20 12.7 0.0
comp=Z,11nm,0.7s
LPG La Plagne 111.41 319 *e*PKiKP **PKiKP** 03 20 12.1 -0.9
comp=Z,9.3nm,0.8s
LPL La Plagne 111.42 319 *e*PKiKP **PKiKP** 03 20 12.4 -0.6
F16A Kennard Place, 111.55 40 ⇑P **PKiKP** 03 20 13.3 +0.2
baz=111
G16A Moss Hill, Enn 111.65 41 ||P **PKiKP** 03 20 13.7 +0.3
baz=112
K14A Jones Ranch, D 111.71 44 ⇑P **PKiKP** 03 20 14.1 +0.6
baz=112
J15A Blackfoot 111.92 43 ||P **PKiKP** 03 20 14.4 +0.5
baz=112
F17A Fitzpatrick Pl 112.13 40 ||P **PKiKP** 03 20 15.0 +0.8
baz=112
BELC Belle Mtn. Jos 112.20 53 ⇑P **PKiKP** 03 20 15.2 +0.5
baz=112
G17A Pierce Place, 112.31 40 ⇑P **PKiKP** 03 20 15.5 +0.9
baz=112
L15A Malad City 112.45 44 ||P **PKiKP** 03 20 15.3 +0.3
baz=112
LOR Lormes 112.52 322 *e*PKiKP **PKiKP** 03 20 14.4 -0.3
M15A Larsen Ranch, 112.60 45 ⇑P **PKiKP** 03 20 15.1 -0.1
baz=112
B20A Solberg Farm, 112.67 36 ⇑P **PKiKP** 03 20 15.2 +0.2
baz=112
D19A Cripps Ranch, 112.72 38 ⇑P **PKiKP** 03 20 15.5 +0.3
baz=113
N15A Stansbury Isla 112.75 45 ⇑P **PKiKP** 03 20 16.0 +0.4
baz=113
DUG Dugway 112.78 46 ||P **PKiKP** 03 20 16.2 +0.5
baz=113
SSF Saint Saulge 112.83 322 *e*PKiKP **PKiKP** 03 20 15.3 0.0
comp=Z,5.8nm,0.7s
REDW Red Top Meadow 113.00 42 PKPdf **PKiKP** 03 20 16.8 +0.8
C20A Veseth Ranch, 113.01 37 ||P **PKiKP** 03 20 15.7 0.0
baz=113
SNOW Snow King Moun 113.03 42 *e*PKPdf **PKiKP** 03 20 17.3 +1.2
AVF Avril sur Loir 113.04 322 *e*PKiKP **PKiKP** 03 20 15.3 -0.4
J17A Brown Place, J 113.09 42 ||P **PKiKP** 03 20 16.3 +0.1
baz=113
L16A Fish Haven 113.11 44 ||P **PKiKP** 03 20 16.4 +0.1
baz=113
P15A Leamington 113.37 47 ⇑P **PKiKP** 03 20 17.4 +0.6
baz=113
BGF Bois d'Agland 113.46 322 *e*PKiKP **PKiKP** 03 20 16.8 +0.3
comp=Z,8.5nm,0.7s
L17A Cokeville 113.47 44 ||P **PKiKP** 03 20 16.9 -0.1
baz=113
I18A Diamond G Ranc 113.56 42 ||P **PKiKP** 03 20 17.8 +0.7
baz=113
J18A Kendall Valley 113.62 42 ||P **PKiKP** 03 20 17.7 +0.4
baz=114
MSU Marysvale 113.81 48 *e*PKiKP **PKiKP** 03 20 18.7 +0.9
MSU Marysvale 113.81 48 *e*PKP **PKiKP** 03 20 18.7 +0.9
K18A Toltan Ranch, 113.83 43 ⇑P **PKiKP** 03 20 18.3 +0.6
baz=114
M17A Scullys Gap (B 113.84 44 ⇑P **PKiKP** 03 20 17.8 0.0
baz=114
D21A La Casta Ranch 113.92 37 ⇑P **PKiKP** 03 20 17.8 +0.3
baz=114
N17A Moffit Pass 113.92 45 ||P **PKiKP** 03 20 18.3 +0.4
baz=114
TCF Toulx Ste Croi 113.97 322 *e*PKiKP **PKiKP** 03 20 17.1 -0.5
G20A Bridger 113.97 40 ||P **PKiKP** 03 20 17.8 +0.1
baz=114
BW06 Boulder Array 114.11 43 ||P PKPdf 03 20 18.2 0.0
baz=114
BW06 ||P PKPdf 03 20 18.2 0.0
baz=114
PDAR Pinedale Array 114.11 43 PKP PKPdf 03 20 18.3 +0.1
comp=Z,1.7nm,0.8s,baz=180,slow=2.1,SNR=12
PDAR PKKPbc **PKKPbc** 03 30 59.1 -1.6
comp=Z,1.5nm,0.5s,baz=115,slow=5.7,SNR=26
PDAR PKKPab **PKKPab** 03 31 05.5 -1.3
comp=Z,1.7nm,0.5s,baz=119,slow=6.8,SNR=14
PDAR Pinedale Array 114.11 43 PKP PKPdf 03 20 18.3 +0.1
PDAR PKKPbc **PKKPbc** 03 30 59.1 -1.6
PDAR PKKPab **PKKPab** 03 31 05.5 -1.3
L18A Fontenelle, Gr 114.11 44 ⇑P PKPdf 03 20 18.7 +0.5
baz=114
J19A Crowheart 114.25 42 ||P PKPdf 03 20 18.5 +0.1
baz=114
C22A Vida 114.26 36 ⇑P PKPdf 03 20 18.6 +0.5
baz=114
O17A Robinson Place 114.26 46 ||P PKPdf 03 20 19.1 +0.6
baz=114
Z13A Yuma Proving G 114.30 54 ⇑P PKPdf 03 20 19.4 +0.8
baz=114
D22A Cohagen 114.37 37 ||P PKPdf 03 20 19.0 +0.6
baz=114
R16A Teasdale 114.40 48 ⇑P PKPdf 03 20 19.7 +0.8
baz=114
U15A North Rim 114.40 50 ⇑P PKPdf 03 20 20.0 +1.0
baz=114
H20A Greybull 114.43 40 ||P PKPdf 03 20 18.8 +0.2
baz=114
S16A Teppner Ranch, 114.50 48 ||P PKPdf 03 20 19.5 +0.5
baz=114
K19A Absolon Red Bu 114.56 42 ||P PKPdf 03 20 19.1 0.0
baz=114
I20A Worland 114.57 41 ⇑P PKPdf 03 20 19.1 +0.2
baz=114
C23A Lambert 114.65 36 ||P PKPdf 03 20 19.3 +0.5
baz=114
O18A Roosevelt 114.76 45 ||P PKPdf 03 20 19.9 +0.5
baz=115
SRU San Rafael 114.81 47 ⇑P PKPdf 03 20 20.0 +0.4
baz=115
P18A Preston Nutter 114.82 46 ⇑P PKPdf 03 20 20.1 +0.3
baz=115
E22A Miles City 114.84 38 ⇑P PKPdf 03 20 19.4 +0.1
baz=115
J20A Shoshoni 114.85 41 ⇑P PKPdf 03 20 19.3 -0.2
baz=115
R17A Hanksville Air 114.92 47 ⇑P PKPdf 03 20 19.7 -0.1
baz=115
K20A Yellowstone Ra 114.97 42 ⇑P PKPdf 03 20 19.9 +0.1
baz=115
Q18A Rafter H Ranch 115.10 46 ||P **PKPdf** 03 20 20.2 +0.1
baz=115
N19A John Jarvie Ra 115.10 44 ||P **PKPdf** 03 20 20.0 -0.1
baz=115
S17A Black Ridge (B 115.12 48 ||P **PKPdf** 03 20 20.4 +0.2
baz=115
I21A Big Trails, Te 115.18 41 ⇑P **PKPdf** 03 20 19.2 -0.9
baz=115
L20A Wamsutter 115.24 43 ||P **PKPdf** 03 20 20.5 +0.1
baz=115
J21A Lysite 115.28 41 ||P **PKPdf** 03 20 20.1 -0.2
baz=115
T17A Navajo Res., N 115.34 49 ||P **PKPdf** 03 20 21.0 +0.3
baz=115
O19A Miners Draw (B 115.37 45 ⇑P **PKPdf** 03 20 20.6 0.0
baz=115
U16A Tuba City 115.38 50 ⇑P **PKPdf** 03 20 21.2 +0.5
baz=115
WUAZ Wupatki 115.40 51 ||P **PKPdf** 03 20 21.5 +0.7
baz=115
F23A Volborg 115.51 38 ||P **PKPdf** 03 20 20.7 +0.1
baz=115
R18A Canyonlands Na 115.53 47 ||P **PKPdf** 03 20 21.1 +0.1
baz=115
I22A 9 Mile Ranch, 115.67 40 ||P **PKPdf** 03 20 20.7 -0.4
baz=116
S18A Hurst Farm, Bl 115.70 48 ||P **PKPdf** 03 20 21.4 -0.1
baz=116
K21A Alcova 115.71 42 ⇑P **PKPdf** 03 20 21.0 -0.2
baz=116
N20A Spence Gulch, 115.76 44 ⇑P **PKPdf** 03 20 22.1 +0.6
baz=116
Q19A Hogan Spring (115.78 46 ⇑P **PKPdf** 03 20 22.2 +0.9
baz=116
J22A Midwest 115.88 41 ||P **PKPdf** 03 20 20.5 -1.0
baz=116
L21A Rawlins 115.91 43 ⇑P **PKPdf** 03 20 21.6 -0.1
baz=116
T18A Mexican Hat 115.99 48 ⇑P **PKPdf** 03 20 22.1 +0.2
baz=116
O20A White River Ci 116.06 45 ⇑P **PKPdf** 03 20 22.4 +0.4
baz=116
M21A Separation Pea 116.07 43 ⇑P **PKPdf** 03 20 21.8 -0.2
baz=116
K22A Casper 116.19 42 ⇑P **PKPdf** 03 20 21.8 -0.3
baz=116
X17A Forest Lakes 116.22 52 ||P **PKPdf** 03 20 23.2 +0.7
baz=116
U18A Rough Rock, Ch 116.25 49 ||P **PKPdf** 03 20 22.9 +0.4
baz=116
N21A Black Mountain 116.31 44 ||P **PKPdf** 03 20 22.8 +0.3
baz=116
Q20A Ridgley Place, 116.48 46 ⇑P **PKPdf** 03 20 23.6 +0.8
baz=116
H24A Dirks Ranch, A 116.50 39 ||P **PKPdf** 03 20 22.0 -0.6
baz=116
T19A Beclabito 116.73 48 ||P **PKPdf** 03 20 23.8 +0.4
baz=117
S20A Disappointment 116.86 47 ||P **PKPdf** 03 20 23.3 -0.3
baz=117
MVCO Mesa Verde 116.99 48 ||P **PKPdf** 03 20 24.1 +0.2
baz=117
N22A Wattenberg Ran 117.03 43 ||P **PKPdf** 03 20 24.1 +0.2
baz=117
N23A Red Feather La 117.34 43 ||P **PKPdf** 03 20 24.6 +0.1
baz=117
S21A Coal Bank Pass 117.34 47 ||P **PKPdf** 03 20 25.7 +1.0
baz=117
Q22A Crested Butte, 117.51 46 ⇑P **PKPdf** 03 20 25.7 +0.8
baz=117
Y19A Nutrioso 117.56 52 ||P **PKPdf** 03 20 26.1 +0.9
baz=117
O23A Lake Granby, G 117.65 44 ⇑P **PKPdf** 03 20 25.3 +0.1
baz=118
W20A Ramah 117.74 50 ⇑P **PKPdf** 03 20 26.0 +0.6
baz=118
M24A Cheyenne 117.84 42 ⇑P **PKPdf** 03 20 26.4 +1.0
baz=118
R22A Saguache, Gunn 117.87 46 ⇑P **PKPdf** 03 20 27.1 +1.4
baz=118
U21A Nageezi 117.91 48 ⇑P **PKPdf** 03 20 26.7 +1.0
baz=118
S22A 4UR Ranch, Cre 118.01 47 ||P **PKPdf** 03 20 26.6 +0.7
baz=118
ISCO Idaho Springs 118.03 44 ||P **PKPdf** 03 20 26.1 +0.2
baz=118
V21A Milan 118.15 49 ⇑P **PKPdf** 03 20 26.6 +0.4
baz=118
T22A Edith 118.24 48 ||P **PKPdf** 03 20 27.4 +1.0
baz=118
Y20A Horse Springs, 118.26 51 ⇑P **PKPdf** 03 20 27.1 +0.7
baz=118
K26A Motz Farm, Whi 118.36 40 ||P **PKPdf** 03 20 25.7 -0.5
baz=118
Z20A Nine Sixteen R 118.36 52 ⇑P **PKPdf** 03 20 27.5 +0.9
baz=118
ULM Lac du Bonnet 118.36 30 PKP **PKPdf** 03 20 24.5 -1.3
comp=Z,3.5nm,0.6s,baz=302,slow=3.9,SNR=7.3
ULM PKKPbc PKKPbc 03 30 40.0 -5.9
comp=Z,0.6nm,0.4s,baz=191,slow=5.2,SNR=2.3
ULM Lac du Bonnet 118.36 30 PKIKP **PKPdf** 03 20 24.5 -1.3
ULM Lac du Bonnet 118.36 30 PKP **PKPdf** 03 20 24.5 -1.3
ULM PKKPbc PKKPbc 03 30 40.0 -5.9
319A Douglas 118.38 54 ||P **PKPdf** 03 20 27.4 +0.8
baz=118
120A U Bar Ranch, L 118.52 53 ||P **PKPdf** 03 20 27.6 +0.7
baz=118
X21A Alamocita Cree 118.53 51 ⇑P **PKPdf** 03 20 27.8 +0.8
baz=118

R23A	Moffat	118.56	46	⇑P		PKPdf	03 20 27.8	+0.8
	baz=118							
Y21A	Point of Rocks	118.77	51	⇑P		PKPdf	03 20 28.3	+0.9
	baz=119							
220A	Playas Peak, P	118.81	53	⇑P		PKPdf	03 20 28.0	+0.5
	baz=119							
T23A	Casias Ranch,	118.87	47	⇓P		PKPdf	03 20 28.2	+0.6
	baz=119							
O25A	Wiggins	118.93	43	⇓P		PKPdf	03 20 27.6	+0.2
	baz=119							
SDCO	Great Sand Dun	118.97	46	⇑P		PKPdf	03 20 28.1	+0.3
	baz=119							
SDCO				⇑P		PKPdf	03 20 28.1	+0.3
	baz=119							
320A	Kipp Ranch, An	119.00	54	⇓P		PKPdf	03 20 28.8	+0.9
	baz=119							
U23A	El Rito	119.04	48	⇓P		PKPdf	03 20 28.8	+0.9
	baz=119							
X22A	Bernardo	119.11	50	⇓P		PKPdf	03 20 29.3	+1.3
	baz=119							
P25A	Willow Gulch B	119.16	44	⇑P		PKPdf	03 20 28.4	+0.5
	baz=119							
121A	Cookes Peak, D	119.20	53	⇓P		PKPdf	03 20 29.0	+0.8
	baz=119							
S24A	Houchin Ranch,	119.23	46	⇓P		PKPdf	03 20 28.8	+0.5
	baz=119							
V23A	Ortiz Mt. (NFS	119.27	49	⇑P		PKPdf	03 20 28.5	+0.2
	baz=119							
Y22A	Socorro	119.35	51	⇑P		PKPdf	03 20 29.2	+0.7
	baz=119							
ANMO	Albuquerque	119.36	50	*e*PKIKP		PKPdf	03 20 29.2	+0.7
ANMO	Albuquerque	119.36	50	*e*PKPdf		PKPdf	03 20 29.2	+0.7
T24A	Torres, Weston	119.58	47	⇓P		PKPdf	03 20 29.9	+0.9
	baz=119							
Z22A	Elephant Butte	119.59	52	⇑P		PKPdf	03 20 29.6	+0.7
	baz=120							
R25A	Fountain Ranch	119.68	45	⇑P		PKPdf	03 20 28.9	0.0
	baz=120							
P26A	Davis Ranch, A	119.71	44	⇓P		PKPdf	03 20 29.1	+0.1
	baz=120							
S25A	Robets Cordova	119.78	46	⇑P		PKPdf	03 20 29.6	+0.4
	baz=120							
Q26A	Hugo	119.88	44	⇓P		PKPdf	03 20 29.2	-0.1
	baz=120							
V24A	Rampart Ranch,	119.96	48	⇓P		PKPdf	03 20 30.5	+0.8
	baz=120							
T25A	Trinidad	120.02	46	⇓P		PKPdf	03 20 30.2	+0.5
	baz=120							
Y23A	Lovelace Mesa,	120.06	50	⇓P		PKPdf	03 20 30.3	+0.4
	baz=120							
W24A	Lazy 6 Ranch,	120.06	49	⇑P		PKPdf	03 20 30.7	+0.9
	baz=120							
Z23A	Rita Site, Whi	120.16	51	⇑P		PKPdf	03 20 30.7	+0.7
	baz=120							
R26A	Arlington	120.20	45	⇑P		PKPdf	03 20 30.3	+0.3
	baz=120							
U25A	Circle Dot Ran	120.33	47	⇓P		PKPdf	03 20 30.6	+0.3
	baz=120							
V25A	Rancho No Teng	120.40	48	⇑P		PKPdf	03 20 31.1	+0.7
	baz=120							
S26A	Kim	120.48	46	⇑P		PKPdf	03 20 30.7	+0.2
	baz=120							
Y24A	Capitan	120.53	50	⇑P		PKPdf	03 20 31.1	+0.3
	baz=120							
T26A	Comanche Natio	120.59	46	⇓P		PKPdf	03 20 31.1	+0.4
	baz=120							
R27A	Eads	120.67	45	⇓P		PKPdf	03 20 30.7	-0.1
	baz=120							
W25A	X Bar L Ranch,	120.77	49	⇓P		PKPdf	03 20 31.6	+0.4
	baz=121							
Z24A	Sheeppen Canyo	120.81	51	⇑P		PKPdf	03 20 31.7	+0.4
	baz=121							
U26A	Atchley Ranch,	120.81	47	⇓P		PKPdf	03 20 31.6	+0.3
	baz=121							
X25A	Clemmons Ranch	120.89	49	⇑P		PKPdf	03 20 30.6	-0.8
	baz=121							
124A	Stringfield Ra	120.98	52	⇓P		PKPdf	03 20 32.2	+0.5
	baz=121							
ESDC	Sonseca Array	121.05	317	PKP		PKPdf	03 20 31.4	0.0
	comp=Z,0.5nm,0.6s,baz=18,slow=1.9,SNR=3.8							
ESDC	Sonseca Array	121.05	317	PKP		PKPdf	03 20 31.4	0.0
Y25A	Mesa, Roswell	121.11	50	⇑P		PKPdf	03 20 31.7	-0.1
	baz=121							
224A	Cornudas Mount	121.15	52	⇑P		PKPdf	03 20 32.5	+0.5
	baz=121							
Z25A	Roswell	121.33	51	⇓P		PKPdf	03 20 32.8	+0.6
	baz=121							
W26A	Owens Ranch, T	121.34	48	⇓P		PKPdf	03 20 32.7	+0.4
	baz=121							
MNTX	Cornudas Mount	121.40	53	*e*PKPdf		PKPdf	03 20 32.9	+0.7
MNTX	Cornudas Mount	121.40	53	⇓P		PKPdf	03 20 32.8	+0.5
	baz=121							
MNTX				⇓P		PKPdf	03 20 32.8	+0.5
	baz=121							
324A	Moseley Ranch,	121.41	53	⇑P		PKPdf	03 20 32.8	+0.3
	baz=121							
X26A	CR and CF Fran	121.53	49	⇓P		PKPdf	03 20 32.7	+0.1
	baz=121							
325A	Bean Ranch, Si	121.84	53	⇑P		PKPdf	03 20 33.1	-0.3
	baz=122							
W27A	Bowe Ranch, En	121.88	48	⇑P		PKPdf	03 20 33.1	-0.1
	baz=122							
ECSD	EROS Data Cent	121.89	36	*e*PKPdf		PKPdf	03 20 32.4	-0.5
425A	Indio Mountain	122.04	54	⇑P		PKPdf	03 20 33.8	+0.1
	baz=122							
126A	Clayton Basin,	122.12	51	⇑P		PKPdf	03 20 33.7	-0.1
	baz=122							
V28A	Channing	122.20	47	⇑P		PKPdf	03 20 33.9	+0.1
	baz=122							
BGNE	Belgrade	122.24	39	⇓P		PKPdf	03 20 32.9	-0.7
	baz=122							
226A	Malaga, Loving	122.28	52	⇓P		PKPdf	03 20 34.4	+0.4
	baz=122							
Y27A	Causey	122.29	49	⇑P		PKPdf	03 20 34.3	+0.2
	baz=122							
W28A	Vega	122.43	48	⇓P		PKPdf	03 20 34.4	+0.1
	baz=122							
Z27A	Tatum	122.48	50	⇓P		PKPdf	03 20 34.4	0.0
	baz=122							
CBKS	Cedar Bluff	122.53	43	⇑P		PKPdf	03 20 34.1	-0.1
	baz=122							
CBKS				⇑P		PKPdf	03 20 34.1	-0.1
	baz=122							
MSTX	Muleshoe	122.55	49	⇓P		PKPdf	03 20 34.5	-0.1
	baz=122							
127A	Arkansas Junct	122.62	51	⇑P		PKPdf	03 20 34.6	-0.2
	baz=122							
326A	Caldwell Ranch	122.65	53	⇑P		PKPdf	03 20 34.4	-0.4
	baz=122							
V29A	Stinnett	122.66	47	⇓P		PKPdf	03 20 34.9	+0.2
	baz=122							
426A	McDonald Obser	122.85	53	⇓P		PKPdf	03 20 35.2	-0.1
	baz=123							
W29A	Amraillo	122.90	47	⇓P		PKPdf	03 20 35.5	+0.3
	baz=123							
AMTX	Amarillo	122.98	48	⇑P		PKPdf	03 20 35.5	+0.2
	baz=123							
AMTX				⇑P		PKPdf	03 20 35.5	+0.2
	baz=123							
526A	Mary Lane Ranc	123.03	54	⇑P		PKPdf	03 20 35.5	-0.1
	baz=123							
626A	Big Bend Ranch	123.17	55	⇑P		PKPdf	03 20 35.6	-0.2
	baz=123							
427A	Hayter Ranch,	123.29	53	⇑P		PKPdf	03 20 36.2	+0.2
	baz=123							
527A	Woodward Ranch	123.38	54	⇑P		PKPdf	03 20 36.4	+0.1
	baz=123							
TXAR	Lajitas Array	123.63	55	PKP		PKPdf	03 20 37.0	+0.3
	comp=Z,1.9nm,0.8s,baz=241,slow=0.9,SNR=23							
TXAR				PKKPab		PKKPbc	03 30 26.0	+0.5
	comp=Z,1.0nm,0.7s,baz=124,slow=5.5,SNR=13							
TXAR	Lajitas Array	123.63	55	PKIKP		PKPdf	03 20 37.0	+0.3
TXAR	Lajitas Array	123.63	55	PKP		PKPdf	03 20 37.0	+0.3
TXAR				PKKPab		PKKPbc	03 30 26.0	+0.5
627A	Terlingua Ranc	123.81	54	⇑P		PKPdf	03 20 36.9	-0.2
	baz=124							
428A	Kincaid Ranch,	123.91	53	⇑P		PKPdf	03 20 37.7	+0.5
	baz=124							
628A	Black Gap, Mar	124.21	54	⇓P		PKPdf	03 20 37.7	0.0
	baz=124							
KSU1	Kansas State U	124.47	41	*e*PKPdf		PKPdf	03 20 38.3	+0.4
SCHQ	Schefferville	124.67	10	PKP		PKPdf	03 20 38.0	+0.1
	comp=Z,7.0nm,0.8s,baz=8.0,slow=3.1,SNR=17							
SCHQ	Schefferville	124.67	10	PKP		PKPdf	03 20 38.0	+0.1
TORD	Torodi Ar. Bea	124.77	286	PKP		PKPdf	03 20 38.8	-0.3
	comp=Z,11nm,0.8s,baz=70,slow=1.8,SNR=66							
TORD				SKPbc		SKiKP	03 23 39.9	-24
	comp=Z,1.6nm,0.6s,baz=92,slow=4.4,SNR=8.6							
TORD				PKKPab		PKKPbc	03 30 21.8	+1.2
	comp=Z,2.2nm,0.7s,baz=286,slow=4.3,SNR=14							
TORD	Torodi Ar. Bea	124.77	286	PKP		PKPdf	03 20 38.8	-0.3
TORD				SKPbc		SKiKP	03 23 39.9	-24
TORD				PKKPab		PKKPbc	03 30 21.8	+1.2
WMOK	Wichita Mounta	125.17	47	*e*PKIKP		PKPdf	03 20 38.9	-0.5
WMOK	Wichita Mounta	125.17	47	*e*PKPdf		PKPdf	03 20 38.9	-0.5
JCT	Junction City	126.28	52	*e*PKIKP		PKPdf	03 20 42.0	+0.3
JCT	Junction City	126.28	52	*e*PKPdf		PKPdf	03 20 42.0	+0.3
JCT	Junction City	126.28	52	⇑P		PKPdf	03 20 41.8	+0.1
	baz=126							
TUL1	Tulsa	126.71	44	⇑P		PKPdf	03 20 42.3	0.0
	baz=126							
MIAR	Mount Ida	128.97	44	*e*PKIKP		PKPdf	03 20 47.4	+0.7
MIAR	Mount Ida	128.97	44	*e*PKPdf		PKPdf	03 20 47.4	+0.7
OLIL	Olney	130.02	36	*e*PKPdf		PKPdf	03 20 49.1	+0.6
OXF	Oxford	131.83	42	*e*PKIKP		PKPdf	03 20 52.7	+0.6
OXF	Oxford	131.83	42	*e*PKPdf		PKPdf	03 20 52.6	+0.6
DBIC	Dimbokro	131.96	278	PKP		PKPdf	03 20 53.4	+0.5
	comp=Z,3.9nm,0.7s,baz=68,slow=4.9,SNR=8.2							
DBIC				SKPbc		SKPbc	03 24 06.6	-0.9
	comp=Z,8.5nm,0.8s,baz=86,slow=4.2,SNR=18							
DBIC	Dimbokro	131.96	278	*e*PKIKP		PKPdf	03 20 53.0	+0.1
DBIC	Dimbokro	131.96	278	*e*PKPdf		PKPdf	03 20 53.0	+0.1
DBIC				PKP		PKPdf	03 20 53.4	+0.5
DBIC				SKPbc		SKPbc	03 24 06.6	-0.9
LIC	Lamto	132.17	278	*e*PKIKP		PKPdf	03 20 53.0	-0.3
	comp=Z,14nm,0.8s							
PLAL	Pickwick Lake	132.41	40	*e*PKPdf		PKPdf	03 20 53.0	-0.1
PLCA	Paso Flores	135.78	160	PKhKP		PKPpre	03 20 47.8	
	comp=Z,1.0nm,0.8s,baz=239,slow=5.7,SNR=3.6							
PLCA				PKP		PKPdf	03 20 59.5	+0.1
	comp=Z,4.3nm,0.7s,baz=185,slow=3.8,SNR=14							
PLCA	Paso Flores	135.78	160	PKHKP		PKPpre	03 20 47.8	
PLCA							03 20 59.5	
PLCA	Paso Flores	135.78	160	PKPpre		PKPpre	03 20 47.8	
PLCA				PKP		PKPdf	03 20 59.5	+0.1
LCO	Las Campanas	145.89	151	*e*PKPdf		PKPab	03 21 19.4	-0.1
JTS	JuntasAbangare	146.44	72	*e*PKP2		PKPbc	03 21 20.1	-0.6
JTS	JuntasAbangare	146.44	72	*e*PKPdf		PKPbc	03 21 20.1	-0.6
NNA	Nana	152.92	118	*e*PKIKP		PKPdf	03 21 30.4	+1.0
NNA	Nana	152.92	118	*e*PKPdf		PKPdf	03 21 30.4	+1.0
NNA				*e*PKPbc		PKiKP	03 21 37.5	+0.5
LPAZ	La Paz	157.32	138	PKP		PKPdf	03 21 36.8	+0.8
	comp=Z,3.8nm,1.0s,baz=296,slow=0.3,SNR=9.7							
LPAZ	La Paz	157.32	138	*e*PKIKP		PKPdf	03 21 35.8	-0.3
LPAZ	La Paz	157.32	138	*e*PKPdf		PKPdf	03 21 35.8	-0.3
LPAZ				PKP		PKP	03 21 36.8	
ROSC	El Rosal	157.91	78	PKP		PKPdf	03 21 37.1	+0.5
	comp=Z,4.5nm,0.7s,baz=82,slow=15,SNR=6.0							
ROSC	El Rosal	157.91	78	PKP		PKPdf	03 21 37.1	+0.5
SDV	Santo Domingo	160.26	65	*e*PKPdf		PKPdf	03 21 38.9	-0.1
BDFB	Brasilia	163.27	196	PKP		PKPdf	03 21 40.8	-1.2
	comp=Z,4.6nm,1.0s,baz=213,slow=5.5,SNR=5.0							
BDFB				PKPab		PKPab	03 22 32.7	-0.1
	comp=Z,5.9nm,0.8s,baz=151,slow=6.9,SNR=8.4							
BDFB	Brasilia	163.27	196	PKIKP		PKPdf	03 21 40.8	-1.2
BDFB							03 22 32.7	
BDFB	Brasilia	163.27	196	PKP		PKPdf	03 21 40.8	-1.2
BDFB				PKPab		PKPab	03 22 32.7	-0.1
SAML	Samuel	165.87	132	*e*PKPdf		PKPdf	03 21 44.2	0.0

WEL 22 03:11:09.7±0.1, 39°.43S×176°.71E, h38km±2km, ML2.8/6, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCHZ	McNeill Hill	0.02	202	PN	Pn	03 11 15.2	-0.7
MCHZ				SN	Sn	03 11 20.1	-0.1
BKZ	Black Stump Fm	0.31	327	PN	Pn	03 11 17.2	-0.8
BKZ				SN	Sn	03 11 23.4	-1.3
NMHZ	Naumai	0.34	13	PN	Pn	03 11 18.0	-0.3
NMHZ				*e*SN	Sn	03 11 24.8	-0.1
CKHZ	Cape Kidnapper	0.37	129	PN	Pn	03 11 18.7	+0.2
KAHZ	Kahuranaki	0.39	160	PN	Pn	03 11 19.2	+0.4
KAHZ				SN	Sn	03 11 26.5	+0.9
BHHZ	Black Hill Sta	0.50	263	PN	Pn	03 11 20.2	-0.3
RAHZ	Arahi	0.59	30	PN	Pn	03 11 21.4	-0.3
RAHZ				*e*SN	Sn	03 11 30.6	+0.5
PNHZ	Pukenui	0.62	219	PN	Pn	03 11 22.2	0.0
WPHZ	Waipukurau	0.67	198	PN	Pn	03 11 23.0	+0.2
MOVZ	Moawhango	0.74	271	PN	Pn	03 11 24.1	+0.4
TUVZ	Tukino	0.83	281	PN	Pn	03 11 26.2	+1.1
PRHZ	Porangahau	0.84	184	PN	Pn	03 11 24.8	-0.2
OTVZ	Oturere	0.85	288	PN	Pn	03 11 26.6	+1.3
TSZ	Takapari Road	0.85	222	PN	Pn	03 11 25.2	0.0
KNZ	Kokohu	0.85	62	PN	Pn	03 11 24.7	-0.5
WNHZ	Wahianoa	0.86	276	PN	Pn	03 11 26.7	+1.2
KRVZ	Karewarewa	0.89	291	PN	Pn	03 11 26.9	+1.1
NGZ	Ngauruhoe	0.89	286	PN	Pn	03 11 27.1	+1.2
DRZ	Dome Shelter	0.90	279	PN	Pn	03 11 27.0	+0.8
TRVZ	Turoa	0.91	278	PN	Pn	03 11 27.2	+1.0
FWVZ	Far West T-bar	0.91	280	PN	Pn	03 11 27.2	+0.9
FWVZ				*e*SN	Sn	03 11 40.1	+1.7
WTVZ	West Tongariro	0.92	289	PN	Pn	03 11 27.7	+1.5
WPVZ	Whakapapa	0.93	283	PN	Pn	03 11 27.6	+1.2
MTVZ	Mangateitei	0.96	272	PN	Pn	03 11 27.9	+1.3
DVHZ	Dannevirke	0.97	205	PN	Pn	03 11 26.3	-0.5
TWVZ	Taurewa	1.05	289	PN	Pn	03 11 28.7	+0.7
URZ	Urewera	1.21	15	PN	Pn	03 11 30.0	0.0
URZ	Urewera	1.21	15	P	Pn	03 11 29.9	-0.1
MWZ	Matawai	1.27	31	PN	Pn	03 11 30.6	-0.2
BFZ	Birch Farm	1.30	196	PN	Pn	03 11 30.8	-0.6
MRZ	Mangatainoka R	1.51	215	PN	Pn	03 11 33.2	-0.9
HOWZ	Holdsworth Sta	1.73	211	PN	Pn	03 11 35.9	-1.3
OGWZ	Otaki Gorge	1.82	220	PN	Pn	03 11 37.5	-0.9

NEIC 22 03:20:59.5, 19°.50N×65°.32W, h65km, MD3.3(RSPR), After RSPR.

RSPR 22 03:20:59.5, 19°.50N×65°.32W, h65km±16km, MD3.3/4, 13C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.20	163	*e*Pn	Pn	03 21 20.4	+0.1
STVI				*e*S	Sn	03 21 34.6	-1.2
CBYP	Canovanas	1.33	203⇑	*e*P	Pn	03 21 20.9	-1.3
CBYP	Canovanas	1.33	203	*e*S	Sn	03 21 38.1	-0.9
CBYP	Canovanas	1.33	203	*e*Pn	Pn	03 21 20.8	-1.4
CBYP				*e*S	Sn	03 21 38.7	-0.4
CBYP	Canovanas	1.33	203⇑	*e*P	Pn	03 21 20.9	-1.3
CBYP				*e*S	Sn	03 21 38.1	-0.9
MTP	Monte Pirata	1.42	189⇑	*e*P	Pn	03 21 22.9	-0.3
MTP	Monte Pirata	1.42	189	*e*Pn	Pn	03 21 23.2	0.0
MTP				*e*S	Sn	03 21 42.9	+1.9
MTP	Monte Pirata	1.42	189⇑	*e*P	Pn	03 21 22.9	-0.3
HUMP	Col San Antoni	1.45	201⇑	*e*P	Pn	03 21 22.8	-0.8
HUMP	Col San Antoni	1.45	201	*e*S	Sn	03 21 41.2	-0.5
HUMP	Col San Antoni	1.45	201⇑	*e*P	Pn	03 21 22.8	-0.8
HUMP				*e*S	Sn	03 21 41.2	-0.5
HUMP	Col San Antoni	1.45	201⇑	*e*P	Pn	03 21 22.8	-0.8
HUMP				*e*S	Sn	03 21 41.2	-0.5
CPD	Cerro la Pandu	1.57	201⇑	*e*P	Pn	03 21 24.1	-1.1
CPD	Cerro la Pandu	1.57	201	*e*S	Sn	03 21 43.9	-0.7
CPD	Cerro la Pandu	1.57	201⇑	*e*P	Pn	03 21 24.1	-1.1
CPD				*e*S	Sn	03 21 43.9	-0.7
CPD	Cerro la Pandu	1.57	201⇑	*e*P	Pn	03 21 24.1	-1.1
CPD				*e*S	Sn	03 21 43.9	-0.7
SJG	San Juan	1.59	210	*e*Pn	Pn	03 21 24.4	-1.2
AOPR	Arecibo Observ	1.78	230⇑	*e*P	Pn	03 21 27.6	-0.6
AOPR	Arecibo Observ	1.78	230⇑	*e*P	Pn	03 21 27.6	-0.6
AOPR	Arecibo Observ	1.78	230⇑	*e*P	Pn	03 21 27.6	-0.6
CELP	Cerrillos	1.86	220	*e*Pn	Pn	03 21 29.2	0.0

IDC 22 03:27:53.7±12.0, 7°.22S×129°.23E, h107km±133km, mb3.2/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.4/5, ML4.0/3, Error ellipse: s-maj=78.9km s-min=56.3km az=11.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.37	198	P	Pn	03 30 34.7	+1.8
	0.5nm,0.3s,baz=29,slow=12,SNR=20						
FITZ				S	Sn	03 32 36.0	-1.9
	0.7nm,0.3s,baz=114,slow=20,SNR=5.4						
WRA	Warramunga Arr	13.58	159	P	Pn	03 31 00.4	-1.6
	1.0nm,0.3s,baz=337,slow=13,SNR=35						
WRA				S	Sn	03 33 22.7	-9.0
	1.3nm,0.3s,baz=332,slow=23,SNR=12						
ASAR	Alice Springs	16.95	165	P	P	03 31 45.8	+1.1
	0.4nm,0.3s,baz=335,slow=9.4,SNR=14						
ASAR				S	Sn	03 34 48.4	-4.7
	0.2nm,0.3s,baz=358,slow=29,SNR=4.2						
MKAR	Makanchi Array	68.00	327	P	P	03 38 42.5	+1.2
	0.6nm,0.5s,baz=118,slow=7.9,SNR=10						
KURK	Kurchatov	72.31	329	P	P	03 39 06.0	-1.5
	0.1nm,0.3s,baz=126,slow=5.2,SNR=3.1						

ISCJB 22 03:37:52.7±0.3, 59°.49N±0°.03×152°.74W±0°.05, h110km±3km, mb3.7/3, Error ellipse: s-maj=5.3km s-min=3.4km az=43.8
IDC 22 03:37:53.0±1.6, 59°.51N×152°.98W, h90km±19km, mb3.5/3, mb1 3.6/7, mb1mx3.3/27, mbtmp3.5/7, Error ellipse: s-maj=22.8km s-min=14.6km az=120.0
NEIC 22 03:37:55.2, 59°.50N×152°.77W, h95km, MG3.5(AEIC), After AEIC.

ISC 22 03:37:53.9±0.7, 59°.50N±0°.03×152°.74W±0°.04, h104km±5km, n101, σ1s00/121, mb3.8/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.29	302	P	Pn	03 38 08.7	-0.2
AUE	Augustine Isla	0.35	247	P	Pn	03 38 08.9	-0.2
AUL	Augustine Lava	0.37	252	P	Pn	03 38 09.1	-0.2
AUL				S	Sn	03 38 20.1	-0.8
AUH	Augustine H	0.38	250	P	Pn	03 38 09.1	-0.3
AUNW	Augustine NWes	0.39	253	P	Pn	03 38 09.2	-0.2
AUW	Augustine West	0.39	251	P	Pn	03 38 09.2	-0.2
HOM	Homer	0.58	74	P	Pn	03 38 10.9	+0.3
INE	Iliamna NE	0.59	344	P	Pn	03 38 10.7	-0.2
ILW	Iliamna West	0.60	341	P	Pn	03 38 10.7	-0.3
PDB	Pedro Bay	0.79	292	P	Pn	03 38 12.1	-0.3
FOPK	Fourpeaked Vol	0.83	207	P	Pn	03 38 12.4	-0.5
FOSS	Fourpeaked Sta	0.86	215	P	Pn	03 38 12.9	-0.2
MCNL	McNeil River	0.88	250	P	Pn	03 38 12.9	-0.4
RED	Redoubt Volcan	0.92	359	P	Pn	03 38 13.8	0.0
RED				S	Sn	03 38 28.1	-0.8
RSO	Redoubt South	0.97	360	P	Pn	03 38 14.3	-0.1
BRLK	Bradley Lake	0.98	73	P	Pn	03 38 14.2	-0.1
BRLK				S	Sn	03 38 28.9	-1.0
REF	Redoubt East F	0.99	1	P	Pn	03 38 14.6	-0.1
REF				S	Sn	03 38 29.9	-0.5
RDN	Redoubt North	1.02	359	P	Pn	03 38 14.8	-0.1
KAPH	Katmai Pasha	1.23	223	P	Pn	03 38 17.1	0.0
KAPH				S	Sn	03 38 33.6	-1.1
NKA	Nikishka	1.46	30	P	Pn	03 38 21.8	+2.1
BKG	Blockade Glaci	1.59	8	P	Pn	03 38 21.6	+0.1
SLKM	Skilak Lake	1.62	50	P	Pn	03 38 22.4	+0.6
KAKN	Katmai Knife C	1.70	226	P	Pn	03 38 22.7	-0.1
KAKN				S	Sn	03 38 43.9	-1.0
CKL	Chakachamna La	1.72	7	P	Pn	03 38 23.3	+0.2
KDAK	Kodiak Island	1.72	177	P	Pn	03 38 22.2	-0.8
	42nm,0.3s,baz=18,slow=8.6,SNR=433						
KDAK				S	Sn	03 38 43.6	-1.6
	151nm,0.3s,baz=128,slow=20,SNR=70						
KDAK	Kodiak Island	1.72	177	P	Pn	03 38 22.2	-0.8
KDAK				S	Sn	03 38 43.6	-1.6
KDAK				S		03 38 44.4	
SEW	Seward	1.77	69	P	Pn	03 38 23.7	+0.1
SEW				S	Sn	03 38 45.1	-1.2
SPBG	Spurr Blockage	1.78	6	P	Pn	03 38 24.1	+0.3
KCE	Katmai Mt Cerb	1.79	226	P	Pn	03 38 24.2	+0.3
KABU	Katmai Buttres	1.80	228	P	Pn	03 38 24.3	+0.2
KABU				S	Sn	03 38 47.8	+0.5
SPNW	Spurr Northwes	1.86	2	P	Pn	03 38 23.3	-1.5
MGLS	Mageik Landsli	1.86	224	P	Pn	03 38 24.7	0.0
KELA	Mount Kelaz	1.88	237	P	Pn	03 38 24.9	-0.2
CAHL	Cahill	1.97	224	P	Pn	03 38 26.4	+0.1
STLK	Strandline Lak	2.06	12	P	Pn	03 38 27.8	+0.4
FIB	Fire Island	2.10	36	P	Pn	03 38 29.3	+1.4
FIB				S	Sn	03 38 55.8	+1.9
SUA	Susitna One	2.21	26	P	Pn	03 38 30.0	+0.7
SUA				S	Sn	03 38 56.9	+0.5
SKT	Skwentna	2.56	13	P	Pn	03 38 34.0	+0.1
PMR	Palmer	2.76	39	P	Pn	03 38 36.5	+0.1
KNK	Knik Glac

BOSA	**Boshof**	**149.09**	**3**	PKPbc	**PKPbc**	**03 57 29.6**	**+0.1**

IDC 22 03:40:14.6±6.8, 3°95′S×152°64′E, h145km±63km, mb3.5/9, mb1 3.7/9, mb1mx3.5/18, mbtmp3.5/9, MS3.0/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=27.9km s-min=20.3km az=132.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.68**	**225**	S	Sn	03 43 30.0	+0.4
	3.9nm,0.3s,baz=190,slow=24,SNR=8.1						
DZM	**Mont Dzumac**	**22.44**	**145**	P	P	03 45 01.8	0.0
	4.1nm,0.5s,baz=280,slow=6.1,SNR=6.9						
WRA	**Warramunga Arr**	**23.90**	**227**	P	P	03 45 15.8	+0.6
	5.2nm,0.4s,baz=51,slow=9.9,SNR=188						
WRA				PcP	PcP	03 48 54.5	+0.4
	0.2nm,0.4s,baz=51,slow=2.4,SNR=4.7						
ASAR	**Alice Springs**	**26.67**	**221**	P	P	03 45 40.2	0.0
	0.5nm,0.5s,baz=53,slow=8.7,SNR=8.4						
FITZ	**Fitzroy Crossi**	**29.94**	**240**	P	P	03 46 08.5	-0.7
	4.8nm,0.3s,baz=57,slow=8.7,SNR=44						
PETK	**Petropavlovsk-**	**57.01**	**4**	P	P	03 49 46.3	+1.3
	0.7nm,0.5s,baz=168,slow=7.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**57.38**	**295**	LR	LR	04 13 59.9	
	comp=Z,12nm,18.3s,baz=244,slow=35						
MKAR	**Makanchi Array**	**79.59**	**319**	P	P	03 52 06.0	+0.3
	0.2nm,0.5s,baz=93,slow=6.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**80.37**	**326**	P	P	03 52 08.9	-0.7
	0.2nm,0.3s,baz=112,slow=1.6,SNR=2.9						
ILAR	**Eielson Array**	**81.44**	**22**	P	P	03 52 13.7	-1.5
	0.3nm,0.6s,baz=246,slow=5.7,SNR=6.1						
YKA	**Yellowknife Ar**	**94.75**	**28**	P	P	03 53 19.0	-0.3
	0.1nm,0.5s,baz=272,slow=5.0,SNR=5.3						
GERES	**GERESS Array B**	**123.25**	**329**	PKP	PKPdf	03 58 54.5	+0.1
	0.4nm,0.4s,baz=96,slow=1.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.89**	**289**	PKPbc	PKPbc	03 59 48.2	-0.5
	2.1nm,0.3s,baz=85,slow=2.1,SNR=132						

IDC 22 03:51:38.2±5.2, 29°76S×177°55W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=292.4km s-min=74.4km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.54**	**266**	P	P	03 59 43.8	-0.2
	0.3nm,0.4s,baz=102,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**44.47**	**271**	P	P	03 59 51.4	-0.1
	0.6nm,0.3s,baz=110,slow=8.2,SNR=25						
FINES	**FINESS Array B**	**144.68**	**341**	PKP	PKPdf	04 11 15.6	-0.6
	1.7nm,0.9s,baz=6.9,slow=6.3,SNR=4.3						

IDC 22 04:15:34.9±0.8, 10°.11N×126°.28E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.8/11, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=69.1km s-min=14.8km az=72.0
ISCJB 22 04:15:38.8±0.6, 10°.1N±0°.1×126°.4E±0°.2, h42km, mb3.8/11, MS4.7/1, Error ellipse: s-maj=26.0km s-min=8.6km az=144.4

ISC 22 04:15:40.8±0.8, 10°.1N±0°.2×126°.3E±0°.2, h42km, n15, σ0s82/14, mb3.8/11, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.70**	**309**	*e*P	**Pn**	**04 16 06.6**	**-1.4**
PLP				*e*S	**Sn**	**04 16 30.1**	**+1.6**
DAV	**Davao City (W)**	**3.08**	**194**	LR	LR	04 17 47.0	
	comp=Z,274nm,20.4s,baz=294,slow=43						
GUMO	**Guam**	**18.48**	**77**	LR	LR	04 26 16.4	
	comp=Z,58nm,18.5s,baz=99,slow=35						
FITZ	**Fitzroy Crossi**	**28.02**	**181**	P	**P**	**04 21 27.4**	**-0.6**
	2.6nm,1.1s,baz=353,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**30.87**	**165**	P	**P**	**04 21 53.3**	**-0.1**
	0.2nm,0.4s,baz=344,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**34.36**	**168**	P	**P**	**04 22 24.4**	**+0.6**
	0.2nm,0.4s,baz=358,slow=7.7,SNR=3.2						
SONM	**Songino Array**	**41.21**	**340**	P	**P**	**04 23 22.4**	**+0.9**
	0.8nm,0.5s,baz=132,slow=6.4,SNR=3.0						
STKA	**Stephens Creek**	**44.21**	**161**	P	**P**	**04 23 46.5**	**+0.5**
	1.4nm,0.5s,baz=323,slow=16,SNR=4.5						
DZM	**Mont Dzumac**	**50.70**	**129**	LR	LR	04 42 31.8	
	comp=Z,776nm,19.5s,baz=26,slow=32						
MKAR	**Makanchi Array**	**52.20**	**323**	P	**P**	**04 24 47.5**	**0.0**
	0.6nm,0.5s,baz=119,slow=8.6,SNR=11						
MKAR				PcP	**PcP**	**04 25 59.2**	**+0.5**
	0.3nm,0.6s,baz=120,slow=5.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.81**	**331**	P	**P**	**04 25 05.9**	**-0.5**
	0.3nm,0.3s,baz=111,slow=8.3,SNR=3.7						
KURK	**Kurchatov**	**56.24**	**326**	P	**P**	**04 25 16.1**	**-0.8**
	0.6nm,0.5s,baz=124,slow=7.3,SNR=7.8						
ARCES	**ARCESS Array B**	**84.38**	**340**	P	**P**	**04 28 08.3**	**-0.1**
	4.6nm,0.9s,baz=64,slow=5.5,SNR=5.4						
FINES	**FINESS Array B**	**86.07**	**332**	P	**P**	**04 28 16.5**	**-0.5**
	0.7nm,0.5s,baz=94,slow=2.5,SNR=3.6						
YKA	**Yellowknife Ar**	**93.90**	**24**	P	**P**	**04 28 53.6**	**-0.2**
	0.3nm,0.8s,baz=299,slow=4.7,SNR=3.6						

ISCJB 22 04:16:35.4±0.6, 38°.35N±0°.04×22°.31E±0°.04, h19km±6km, Error ellipse: s-maj=7.2km s-min=5.3km az=1.5
ATH 22 04:16:35.5, 38°.31N×22°.30E, h20km±10km, MD3.0/4
CSEM 22 04:16:35.1±0.2, 38°.34N×22°.30E, h18km±1km, ML1.4/6, Error ellipse: s-maj=4.3km s-min=3.9km az=66.0
THE 22 04:16:36.2, 38°.34N×22°.30E, h12km±1km, ML1.4/6, Error ellipse: s-maj=1.3km s-min=0.3km az=352.0

ISC 22 04:16:36.1±1.1, 38°.34N±0°.03×22°.31E±0°.02, h14km±7km, n18, σ0s49/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.14**	**290**	P	**Pg**	**04 16 39.5**	**-0.4**
KALE				S	**Sg**	**04 16 42.1**	**-0.3**
KALE	**Kalithea**	**0.14**	**290**	P	**Pg**	**04 16 39.5**	**-0.4**
KALE				S	**Sg**	**04 16 42.1**	**-0.3**
DSF	**Desfina**	**0.18**	**68**	P	**Pg**	**04 16 40.4**	**-0.1**
DSF				S	**Sg**	**04 16 43.8**	**+0.4**
DSF	**Desfina**	**0.18**	**68**	P	**Pg**	**04 16 40.4**	**-0.1**
DSF				S	**Sg**	**04 16 43.8**	**+0.4**
TRIZ	**Trizonia**	**0.19**	**277**	P	**Pg**	**04 16 40.2**	**-0.3**
TRIZ				S	**Sg**	**04 16 43.4**	**0.0**
TRIZ	**Trizonia**	**0.19**	**277**	P	**Pg**	**04 16 40.2**	**-0.3**
TRIZ				S	**Sg**	**04 16 43.4**	**0.0**
LAKA	**Lakka**	**0.28**	**248**	P	**Pg**	**04 16 41.9**	**-0.1**
LAKA				S	**Sg**	**04 16 46.0**	**0.0**
LAKA	**Lakka**	**0.28**	**248**	P	**Pg**	**04 16 41.9**	**-0.1**
LAKA				S	**Sg**	**04 16 46.0**	**0.0**
EFP	**Efpalio**	**0.33**	**285**	P	**Pg**	**04 16 42.7**	**-0.2**
EFP				S	**Sg**	**04 16 47.5**	**+0.1**
EFP	**Efpalio**	**0.33**	**285**	*e*PB	**Pg**	**04 16 42.7**	**-0.2**
EFP				*e*SB	**Sg**	**04 16 47.5**	**+0.1**
EFP	**Efpalio**	**0.33**	**285**	P	**Pg**	**04 16 42.7**	**-0.2**
EFP				S	**Sg**	**04 16 47.5**	**+0.1**
GUR	**Goura**	**0.41**	**176**	P	**Pg**	**04 16 44.1**	**-0.2**
GUR				S	**Sg**	**04 16 50.3**	**+0.4**
GUR	**Goura**	**0.41**	**176**	*e*PB	**Pg**	**04 16 44.1**	**-0.2**
GUR				*e*SB	**Sg**	**04 16 48.8**	**-1.1**
GUR	**Goura**	**0.41**	**176**	P	**Pg**	**04 16 44.1**	**-0.2**
GUR				*e*Sb	**Sg**	**04 16 48.8**	**-1.1**
GUR				S	**Sg**	**04 16 50.3**	**+0.4**
LKR	**Lokris**	**0.62**	**60**	*e*PB	**Pg**	**04 16 47.7**	**-0.6**
LKR				*e*SN	**Sb**	**04 16 57.8**	**+0.4**
LKR	**Lokris**	**0.62**	**60**	*e*Pb	**Pg**	**04 16 47.7**	**-0.6**
LKR				*e*Sn	**Sb**	**04 16 57.8**	**+0.4**
EVR	**Evrytania**	**0.69**	**326**	*e*PB	**Pg**	**04 16 48.8**	**-0.9**
EVR				*e*SN	**Sb**	**04 17 00.4**	**+0.9**
EVR	**Evrytania**	**0.69**	**326**	*e*Pb	**Pg**	**04 16 48.8**	**-0.9**
EVR				*e*Sn	**Sb**	**04 17 00.4**	**+0.9**

IDC 22 04:21:50.9±2.0, 6°76S×129°72E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=79.1km s-min=27.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.96**	**199**	Pn	Pn	04 24 43.5	+0.8
	0.2nm,0.3s,baz=144,slow=23,SNR=7.8						
FITZ				Sn	Sn	04 26 42.9	-14
	0.5nm,0.3s,baz=258,slow=18,SNR=6.1						
WRA	**Warramunga Arr**	**13.85**	**162**	Pn	Pn	04 25 08.4	-0.2
	0.5nm,0.3s,baz=340,slow=14,SNR=14						
WRA				Sn	Sn	04 27 27.0	-16
	0.3nm,0.3s,baz=338,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	04 25 53.1	-0.6
	0.2nm,0.3s,baz=343,slow=13,SNR=6.4						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	04 32 51.2	0.0
	0.2nm,0.5s,baz=117,slow=8.3,SNR=3.4						

NSSC 22 04:25:19.8±5.5, 36°.34N×35°.93E, h19km±39km, ML2.6
ISK 22 04:25:21.6, 36°.11N×35°.89E, h20km, MD3.2
DDA 22 04:25:21.5, 36°.18N×35°.81E, h8km, MD3.4
CSEM 22 04:25:21.9±0.2, 36°.09N×35°.86E, h16km±1km, MD3.2, Error ellipse: s-maj=3.1km s-min=2.9km az=80.0
ISCJB 22 04:25:22.3±0.4, 36°.10N±0°.02×35°.89E±0°.04, h25km±4km, Error ellipse: s-maj=5.7km s-min=3.9km az=168.6

ISC 22 04:25:21.5±0.9, 36°.13N±0°.02×35°.82E±0°.02, h16km±7km, n81, σ0s99/84, 4C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.25**	**113**	*i* P	**Pg**	**04 25 27.0**	**-0.2**
YAYL				*i* S	**Sg**	**04 25 31.6**	**+0.5**
YAYL	**Yayladag**	**0.25**	**113**	*i* P	**Pg**	**04 25 27.0**	**-0.2**
YAYL				*i* S	**Sg**	**04 25 31.6**	**+0.5**
HTY	**Hatay**	**0.26**	**93**	*e*PG	**Pg**	**04 25 27.2**	**0.0**
HTY				*e*SG	**Sb**	**04 25 31.5**	**-0.5**
HTY	**Hatay**	**0.26**	**93**	*e*Pg	**Pg**	**04 25 27.2**	**0.0**
HTY				*e*Sg	**Sb**	**04 25 31.5**	**-0.5**
ARNB	**Al Arnab**	**0.30**	**155**	AML	AML	04 25 34.4	
	comp=N,862nm,0.2s						
ARNB				AML	AML	04 25 34.4	
	comp=Z,462nm,0.3s						
ARNB				AML	AML	04 25 34.8	
	comp=E,728nm,0.2s						
COBT	**Iskenderun**	**0.52**	**42**	*e*P	**Pb**	**04 25 32.9**	**+0.5**
COBT				*e*S	**Sg**	**04 25 38.0**	**-1.0**
COBT	**Iskenderun**	**0.52**	**42**	*e*P	**Pb**	**04 25 32.9**	**+0.5**
COBT				*e*S	**Sg**	**04 25 38.0**	**-1.0**
BTCH	**Batrach**	**0.53**	**100**	AML	AML	04 25 43.0	
	comp=Z,432nm,0.3s						
BTCH	**Batrach**	**0.53**	**100**	*e*P	**Pb**	**04 25 32.7**	**+0.3**
BTCH				AML	AML	04 25 43.1	
	comp=Z,432nm,0.3s						
BTCH	**Batrach**	**0.53**	**100**	*e*P	**Pb**	**04 25 32.6**	**+0.2**
BTCH				*e*S	**Sg**	**04 25 39.2**	**+0.1**
BTCH				AML	AML	04 25 43.0	
	comp=Z,432nm,0.3s						
BTCH				AML	AML	04 25 45.1	
	comp=N,626nm,0.5s						
BTCH	**Batrach**	**0.53**	**100**	*e*P	**Pb**	**04 25 32.6**	**+0.2**
	SNR=95						
BTCH				*e*S	**Sg**	**04 25 39.2**	**+0.1**
	comp=N,626nm,0.5s,SNR=94						
KRTS	**Karatas**	**0.57**	**321**	*e*PG	**Pn**	**04 25 34.3**	**-0.6**
KRTS	**Karatas**	**0.57**	**321**	*e*Pg	**Pn**	**04 25 34.3**	**-0.6**
DRWC	**Darouich**	**0.84**	**54**	*e*P	Pg	04 25 28.9	-8.9
DRWC				*e*S	Sg	04 25 40.8	-8.1
DRWC				AML	AML	04 25 43.1	
	comp=Z,151nm,0.8s						
DRWC				AML	AML	04 25 44.2	
	comp=E,286nm,0.2s						
DRWC				AML	AML	04 25 44.4	
	comp=N,434nm,0.5s						
DRWC	**Darouich**	**0.84**	**54**	*e*P	Pg	04 25 28.8	-9.1
DRWC				*e*S	Sg	04 25 41.1	-7.8
DRWC	**Darouich**	**0.84**	**54**	*e*P	Pg	04 25 28.9	-8.9
DRWC				*e*S	Sg	04 25 40.5	-8.4
DRWC				AML	AML	04 25 42.7	
	comp=E,294nm,0.6s						
DRWC				AML	AML	04 25 43.0	
	comp=Z,151nm,0.8s						
CEYT	**Ceyhan**	**0.88**	**356**	*e*PG	**Pn**	**04 25 39.6**	**+0.5**
CEYT				*e*SG	**Sn**	**04 25 53.4**	**+1.9**
CEYT	**Ceyhan**	**0.88**	**356**	*e*Pg	**Pn**	**04 25 39.6**	**+0.5**
CEYT				*e*Sg	**Sn**	**04 25 53.4**	**+1.9**
BIDA	**Albida**	**1.19**	**160**	*e*P	**Pb**	**04 25 43.4**	**-0.3**
BIDA				*e*S	**Sb**	**04 25 58.7**	**-0.2**
BIDA	**Albida**	**1.19**	**160**	*e*P	**Pb**	**04 25 43.4**	**-0.3**
	SNR=57						
BIDA				*e*S	**Sb**	**04 25 58.7**	**-0.2**
	SNR=58						
KUZU	**Kuzuini**	**1.20**	**57**	*e*P	**Pn**	**04 25 44.0**	**+0.4**
KUZU				*e*S	**Sn**	**04 26 01.2**	**+1.7**
KUZU	**Kuzuini**	**1.20**	**57**	*e*P	**Pn**	**04 25 44.0**	**+0.4**
KUZU				*e*S	**Sn**	**04 26 01.2**	**+1.7**
MERS	**Mersin**	**1.28**	**305**	*e*PN	**Pg**	**04 25 45.6**	**-0.5**
MERS	**Mersin**	**1.28**	**305**	*e*Pn	**Pg**	**04 25 45.6**	**-0.5**
KOZT	**Kozan**	**1.34**	**0**	*e*PN	**Pg**	**04 25 46.4**	**-1.0**
KOZT	**Kozan**	**1.34**	**0**	*e*Pn	**Pg**	**04 25 46.4**	**-1.0**
GULE	**Gulek**	**1.42**	**324**	*e*P	**Pb**	**04 25 47.3**	**-0.4**
GULE				*e*S	**Sg**	**04 26 07.1**	**-0.3**
GULE	**Gulek**	**1.42**	**324**	*e*P	**Pb**	**04 25 47.3**	**-0.4**
GULE				*e*S	**Sg**	**04 26 07.1**	**-0.3**
EREN	**Erenkoy**	**1.47**	**246**	*e*PN	**Pb**	**04 25 48.6**	**+0.2**
EREN	**Erenkoy**	**1.47**	**246**	*e*Pn	**Pb**	**04 25 48.6**	**+0.2**
ANDN	**Andirin**	**1.50**	**16**	*e*P	Pn	04 25 42.2	-5.7
ANDN				*e*S	**Sn**	**04 26 02.9**	**-4.4**
GAZ	**Gaziantep**	**1.53**	**47**	*e*PN	**Pn**	**04 25 48.1**	**-0.1**
GAZ	**Gaziantep**	**1.53**	**47**	*e*Pn	**Pn**	**04 25 48.1**	**-0.1**
KMRS	**Kahramanmaras**	**1.62**	**32**	*e*PN	**Pn**	**04 25 49.8**	**+0.4**
KMRS	**Kahramanmaras**	**1.62**	**32**	*e*Pn	**Pn**	**04 25 49.8**	**+0.4**
HAWK	**Haweek**	**1.68**	**163**	AML	AML	04 26 14.9	
	comp=N,63nm,0.3s						
HAWK				AML	AML	04 26 15.7	
	comp=E,45nm,0.2s						
HAWK	**Haweek**	**1.68**	**163**	*e*P	**Pn**	**04 25 50.5**	**+0.3**
HAWK				AML	AML	04 26 14.7	
	comp=Z,74nm,0.2s						
HAWK	**Haweek**	**1.68**	**163**	*e*P	**Pn**	**04 25 50.6**	**+0.4**
HAWK				*e*S	**Sn**	**04 26 12.7**	**+1.2**
HAWK				AML	AML	04 26 14.6	
	comp=Z,74nm,0.2s						
SLMH	**Al Salmeh**	**1.71**	**87**	*e*P	Pn	04 25 46.8	-3.8
SLMH				AML	AML	04 26 15.0	
	comp=Z,119nm,0.6s						
SLMH	**Al Salmeh**	**1.71**	**87**	*e*P	Pn	04 25 46.8	-3.8
SLMH				AML	AML	04 26 15.0	
	comp=Z,119nm,0.6s						
SLMH	**Al Salmeh**	**1.71**	**87**	*e*P	**Pn**	**04 25 50.7**	**+0.1**
SLMH				AML	AML	04 26 18.8	
	comp=Z,119nm,0.6s						
SLMH				AML	AML	04 26 19.8	
	comp=N,193nm,0.5s						
HWQ	**Hawqa**	**1.85**	**177**	*e*P	**Pn**	**04 25 52.3**	**-0.4**
HWQ	**Hawqa**	**1.85**	**177**	*e*P	**Pn**	**04 25 52.3**	**-0.4**
LFK	**Lefkose**	**2.05**	**246**	*e*PN	**Pn**	**04 25 56.4**	**+1.1**
LFK	**Lefkose**	**2.05**	**246**	*e*Pn	**Pn**	**04 25 56.4**	**+1.1**
JHLN	**Al Jahlan**	**2.18**	**101**	*e*P	Pn	04 25 54.2	-2.9
JHLN				AML	AML	04 26 36.6	
	comp=Z,43nm,0.6s						
JHLN	**Al Jahlan**	**2.18**	**101**	AML	AML	04 26 36.5	
	comp=Z,43nm,0.6s						
JHLN	**Al Jahlan**	**2.18**	**101**	*e*P	**Pn**	**04 25 57.4**	**+0.3**
JHLN				AML	AML	04 26 31.1	
	comp=E,148nm,0.5s						
NIG	**Nigde**	**2.20**	**334**	*e*PN	**Pn**	**04 25 58.7**	**+1.2**
NIG	**Nigde**	**2.20**	**334**	*e*Pn	**Pn**	**04 25 58.7**	**+1.2**
BHL	**Bhannes**	**2.23**	**184**	*e*P	**Pn**	**04 25 56.8**	**-1.0**
BHL	**Bhannes**	**2.23**	**184**	*e*P	**Pn**	**04 25 56.8**	**-1.0**
ROOS	**tl_alroos**	**2.30**	**148**	*e*P	**Pn**	**04 25 59.9**	**+1.1**
ATAB	**Bozova**	**2.39**	**55**	*e*P	**Pn**	**04 26 00.4**	**+0.4**
ATAB				*e*S	**Sg**	**04 26 38.5**	**+0.1**
ATAB	**Bozova**	**2.39**	**55**	*e*P	**Pn**	**04 26 00.4**	**+0.4**
KSRV	**Kasrt alli**	**2.60**	**95**	*e*P	**Pn**	**04 26 01.1**	**-1.7**
KSRV				AML	AML	04 26 41.0	
	comp=Z,43nm,0.5s						
KSRV	**Kasrt alli**	**2.60**	**95**	*e*P	**Pn**	**04 26 01.1**	**-1.7**
KSRV				AML	AML	04 26 40.9	
	comp=Z,43nm,0.5s						
KSRV	**Kasrt alli**	**2.60**	**95**	*e*P	**Pn**	**04 26 03.7**	**+1.0**
KSRV				*e*P	Pb	04 26 04.0	-3.6
KSRV				AML	AML	04 26 43.8	
	comp=Z,43nm,0.5s						
KSRV				AML	AML	04 26 47.1	
	comp=N,50nm,0.4s						
BRBR	**Barbar**	**2.72**	**178**	*e*P	Pn	04 26 00.8	-3.8
BRBR				AML	AML	04 26 47.3	
	comp=Z,22nm,0.5s						
BRBR	**Barbar**	**2.72**	**178**	*e*P	Pn	04 26 00.5	-4.1
BRBR				AML	AML	04 26 47.3	
	comp=Z,22nm,0.5s						
BRBR	**Barbar**	**2.72**	**178**	*e*P	**Pn**	**04 26 05.3**	**+0.7**
BRBR				AML	AML	04 26 52.1	
	comp=Z,22nm,0.5s						
AKCD	**Akcadag**	**2.73**	**37**	*e*P	**Pn**	**04 26 06.2**	**+1.4**
AKCD				*e*S	**Sg**	**04 26 48.0**	**-1.4**
AKCD	**Akcadag**	**2.73**	**37**	*e*P	**Pn**	**04 26 06.2**	**+1.4**
SULT	**Sultanhani-AKS**	**2.76**	**319**	*e*PN	**Pn**	**04 26 07.0**	**+1.8**
SULT	**Sultanhani-AKS**	**2.76**	**319**	*e*Pn	**Pn**	**04 26 07.0**	**+1.8**
TOTH	**TOTAH**	**2.81**	**170**	*i*P	Pn	04 26 02.3	-3.5
MALT	**Malatya**	**3.01**	**43**	*e*PN	**Pn**	**04 26 08.7**	**+0.1**
MALT	**Malatya**	**3.01**	**43**	*e*Pn	**Pn**	**04 26 08.7**	**+0.1**
MYA	**Malataya**	**3.02**	**43**	*e*PN	**Pn**	**04 26 09.2**	**+0.5**
MYA	**Malataya**	**3.02**	**43**	*e*Pn	**Pn**	**04 26 09.2**	**+0.5**
DARE	**Darende-Malaty**	**3.23**	**29**	*e*PN	Pn	04 26 05.5	-6.1
ZALF	**Zalf**	**3.44**	**158**	*e*P	**Pn**	**04 26 13.0**	**-1.4**
ZALF				AML	AML	04 27 13.6	
	comp=Z,16nm,0.6s						
SFNV	**Sufian**	**3.48**	**84**	*e*P	Pn	04 26 11.3	-3.7
SALA	**Sala**	**3.50**	**167**	*e*P	Pn	04 26 12.7	-2.6
SALA	**Sala**	**3.50**	**167**	*e*P	**Pn**	**04 26 14.4**	**-0.9**
SALA				AML	AML	04 27 21.3	
	comp=Z,16nm,0.8s						
SVRC	**Sivrice-ELAZID**	**3.57**	**50**	*e*PN	**Pn**	**04 26 16.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.57**	**50**	*e*Pn	**Pn**	**04 26 16.7**	**+0.3**
PTK	**Pertek**	**3.96**	**45**	*e*PN	**Pn**	**04 26 22.9**	**+1.3**
PTK	**Pertek**	**3.96**	**45**	*e*Pn	**Pn**	**04 26 23.0**	**+1.3**
ILIC	**ilic-Erzincan**	**3.96**	**32**	*e*PN	**Pn**	**04 26 22.3**	**+0.6**
ILIC	**ilic-Erzincan**	**3.96**	**32**	*e*Pn	**Pn**	**04 26 22.3**	**+0.6**

IDC 22 04:25:50.9±2.5, 22°.51S×68°.20W, h120km±20km, mb3.6/4, mb1 3.6/6, mb1mx3.4/16, mbtmp3.6/6, Error ellipse: s-maj=32.8km s-min=25.5km az=98.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.19**	**1**	P	Pn	04 27 21.2	+0.6
	0.6nm,0.3s,baz=167,slow=7.9,SNR=16						
LPAZ				S	Sn	04 28 26.0	-4.7
	baz=246,slow=20,SNR=1.8						
CFAA	**Coronel Fontan**	**9.06**	**180**	P	Pn	04 27 58.7	0.0
	0.1nm,0.3s,baz=16,slow=14,SNR=10.0						
SIV	**San Ignacio**	**9.34**	**47**	P	Pn	04 28 01.4	-1.2
	4.2nm,0.3s,baz=245,slow=11,SNR=91						
BDFB	**Brasilia**	**20.25**	**74**	P	P	04 30 17.6	+0.6
	0.5nm,0.3s,baz=247,slow=13,SNR=12						
DBIC	**Dimbokro**	**68.39**	**73**	P	P	04 36 38.2	-1.9
	1.3nm,0.7s,baz=197,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	P	04 37 32.2	+0.9
	0.9nm,0.3s,baz=255,slow=5.6,SNR=27						
YKA	**Yellowknife Ar**	**92.35**	**340**	P	P	04 38 46.3	-0.8
	0.2nm,0.7s,baz=130,slow=4.1,SNR=4.8						
MKAR	**Makanchi Array**	**146.04**	**37**	PKPbc	PKPbc	04 45 16.6	-0.1
	0.2nm,0.6s,baz=315,slow=1.4,SNR=2.8						

SZGRF 22 04:39:18.9, 21°.43S×173°.43E, h33km, Vanuatu Islands region
NOU 22 04:39:19.5±1.2, 20°.05S×170°.55E, h10km, MD3.4
ISCJB 22 04:39:23.3±1.1, 22°.68S±0°.09×170°.75E±0°.05, h45km±10km, mb4.6/17, MS3.6/4, Error ellipse: s-maj=14.3km s-min=8.3km az=0.2
IDC 22 04:39:25.1±3.9, 22°.79S×170°.76E, h49km±33km, mb4.2/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, ML4.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.4/24, Error ellipse: s-maj=29.0km s-min=23.7km az=54.0
NEIC 22 04:39:26.0±1.2, 22°.72S×170°.72E, h58km±12km, mb4.9/8, Error ellipse: s-maj=13.0km s-min=9.5km az=173.0

ISC 22 04:39:25.2±1.3, 22°.8S±0°.1×170°.75E±0°.06, h50km±12km, n85, σ1s20/89, mb4.6/17, MS3.5/4, 2C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.62**	**279**	*e*P	**Pn**	**04 40 18.7**	**-0.2**
BAYA				*e*S	**Sn**	**04 41 00.7**	**+0.3**
PLUM	**Mont Dore**	**3.83**	**277**	*e*P	**Pn**	**04 40 20.2**	**-1.4**
DZM	**Mont Dzumac**	**4.04**	**279**	*e*Pn	**Pn**	**04 40 23.1**	**-1.6**
	40nm,0.2s						
DZM				*e*Sn	**Sn**	**04 41 11.6**	**+0.8**
	71nm,0.2s						
DZM	**Mont Dzumac**	**4.04**	**279**	P	**Pn**	**04 40 24.4**	**-0.3**
	16nm,0.3s,baz=149,slow=18,SNR=95						
DZM				S	**Sn**	**04 41 11.6**	**+0.8**
	7.2nm,0.3s,baz=97,slow=16,SNR=4.1						
DZM	**Mont Dzumac**	**4.04**	**279**	*e*P	Pn	04 40 22.4	-2.3
DZM				*e*S	**Sn**	**04 41 08.7**	**-2.1**
DZ

DRGR		144.84	321	⇑*i* P	**PKPab**	**04 58 55.2**	**-0.6**
OKC	**Ostrava-Krasne**	145.46	328	*e*PKP	**PKPdf**	**04 58 57.3**	**-0.3**
BSEG	**Bad Segeberg**	145.54	340	*e*PKPbc	**PKPdf**	**04 58 56.3**	**-1.2**
KSP	**Ksiaz**	145.64	331	*e*P	**PKPdf**	**04 58 56.6**	**-1.3**
PSZ	**Piszkesteto**	145.78	324	*e*PKPbc	**PKPdf**	**04 58 58.6**	**+0.3**
MORC	**Moravsky Berou**	145.80	329	*e*PKPbc	**PKPdf**	**04 58 57.6**	**-0.6**
MORC	**Moravsky Berou**	145.80	329⇓	*i* P	**PKPdf**	**04 58 57.4**	**-0.8**
DPC	**Dobruska-Polom**	145.97	330	*e*PKP	**PKPdf**	**04 58 58.4**	**-0.1**
DPC				*ex*	x	04 59 07.2	
VYHS	**Vyhne**	145.99	326	*e*PKP	**PKPdf**	**04 58 58.7**	**+0.1**
UPC	**Upice**	146.00	331	*e*PKP	**PKPdf**	**04 58 58.9**	**+0.4**
UPC				*ex*	x	04 59 07.8	
KOLL	**Kolacno**	146.16	326	*e*PKP	**PKPbc**	**04 59 00.0**	**+0.1**
PVCC	**Panska Ves**	146.62	332	*e*PKP	**PKPdf**	**04 59 00.9**	**+1.3**
BRG	**Berggiesshubel**	146.63	333	*e*P	**PKPdf**	**04 59 00.4**	**+0.8**
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	146.63	333	*e*PKPbc	**PKPdf**	**04 59 00.2**	**+0.6**
CLL	**Collm**	146.69	334	*e*PKPbc	**PKPdf**	**04 59 00.0**	**+0.4**
CLL	**Collm**	146.69	334⇓	*i* PKPbc	**PKPdf**	**04 59 00.5**	**+0.9**
	comp=Z,16nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**04 59 04.1**	**0.0**
CLL				*i* pPKPbc	pPKPbc	04 59 16.2	0.0
NRDL	**Niedersach Rie**	146.81	338	*e*PKPbc	**PKPdf**	**04 59 00.4**	**+0.7**
PRU	**Pruhonice**	147.03	331	*e*PKP	**PKPbc**	**04 59 02.2**	**-0.2**
PRU				*ex*	x	04 59 09.4	
TREC	**Trest**	147.10	330	*e*PKP	**PKPbc**	**04 59 02.2**	**-0.4**
CLZ	**Clausthal**	147.26	337	*e*PKPbc	**PKPdf**	**04 59 02.1**	**+1.5**
TANN	**Tannenbergstha**	147.59	334	*e*PKPbc	**PKPdf**	**04 59 03.1**	**+1.8**
IBBN	**Ibbenburen**	147.74	340	*e*PKPbc	**PKPdf**	**04 59 03.3**	**+2.0**
NKC	**Novy Kostel**	147.74	334	*e*PKP	**PKPdf**	**04 59 03.2**	**+1.7**
NKC				*ex*	x	04 59 11.5	
MOX	**Moxa**	147.75	335	*e*PKPbc	**PKPdf**	**04 59 03.1**	**+1.6**
KHC	**Kasperske Hory**	148.09	331	PKP	**PKPbc**	**04 59 04.5**	**-0.8**
KHC				*ex*	x	04 59 13.5	
ROTZ	**Rotzenmuhle**	148.20	333	*e*PKPbc	**PKPbc**	**04 59 04.8**	**-0.8**
GEC2	**GERESS Array S**	148.24	331	*e*PKPbc	**PKPbc**	**04 59 04.8**	**-1.0**
GERES	**GERESS Array B**	148.24	331	PKPbc	**PKPbc**	**04 59 05.2**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=70,slow=1.6,SNR=19						
GERES	**GERESS Array B**	148.24	331	PKPbc	**PKPbc**	**04 59 05.2**	**-0.6**
BUG	**Bochum--Univer**	148.64	340	*e*PKPbc	**PKPdf**	**04 59 05.1**	**+2.3**
GRF	**Grafenberg Arr**	148.66	334	*e*PKPbc	**PKPbc**	**04 59 05.9**	**-0.9**
TNS	**Taunus Mts**	149.28	338	*e*PKPbc	**PKPbc**	**04 59 07.2**	**-1.2**
STU	**Stuttgart**	150.20	335	*e*PKPbc	**PKPbc**	**04 59 09.7**	**-0.9**
WLF	**Walferdange**	150.53	336	*e*PKPbc	**PKPbc**	**04 59 10.9**	**-0.4**
BFO	**Black Forest**	150.89	336	*e*PKPdf	**PKPdf**	**04 59 07.2**	**+0.7**
BFO				*e*PKPbc	**PKPbc**	**04 59 11.2**	**-1.0**
FETA	**Feichten**	150.94	331	*i* P	**PKPbc**	**04 59 11.9**	**-0.7**
FETA	**Feichten**	150.94	331⇓	*i* PKPbc	**PKPbc**	**04 59 11.9**	**-0.7**
	comp=Z,9.9nm,1.1s						
TORD	**Torodi Ar. Bea**	165.87	229	PKP	**PKPdf**	**04 59 24.4**	**-1.1**
	comp=Z,1.5nm,1.2s,baz=259,slow=1.8,SNR=3.9						
TORD				PKPab	**PKPab**	**05 00 24.1**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=124,slow=4.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	165.87	229	PKP	**PKPdf**	**04 59 24.4**	**-1.1**
TORD				PKPab	**PKPab**	**05 00 24.1**	**-1.0**

MAN 22 04:40:18,12°.62N×123°.27E,h13km,mb4.5,ML3.3,MS3.2, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.90**	**320**	*e*P	Pg	04 40 35.0	-0.5
RCP	**Roxas**	**1.18**	**206**	⇑*e*P	Pg	04 40 54.0	+13
OTRP	**Odiongan**	**1.25**	**258**	*e*P	Pn	04 40 40.5	-0.6
PVCP	**Virac**	**1.30**	**42**	*e*Pn	Pn	04 40 40.0	-1.9
GQP	**Guinayangan**	**1.50**	**328**⇓	*i* P	Pn	04 40 45.1	+0.4
GQP				*i* S	Sg	04 41 05.7	-0.8
BOAC	**Boac**	**1.62**	**301**	*e*P	Pn	04 40 45.9	-0.4
GUIM	**Jordan**	**2.09**	**199**	*e*P	Pb	04 40 54.7	-1.2
PLP	**Palo**	**2.21**	**131**⇓	*e*P	Pn	04 40 51.9	-2.6
PLP				*e*S	Sb	04 41 25.1	-0.3
CUYO	**Cuyo Island**	**2.82**	**232**	*e*P	Pn	04 41 03.0	+0.1
MSLP	**Maasin**	**2.92**	**148**	*e*P	Pn	04 41 05.5	+1.3
TBP	**Tagbilaran**	**2.97**	**169**	*e*P	Pn	04 41 07.0	+2.1
BUSP	**Coron**	**3.06**	**259**	*e*P	Pn	04 41 06.4	+0.2
LUBP	**Lubang**	**3.14**	**291**	*e*P	Pn	04 41 09.9	+2.6
ENPP	**El Nido**	**4.02**	**250**	*e*P	Pn	04 41 19.5	+0.2

*ISCJB **22** 04:43:05.7±0.4,36°.09N±0°.02×35°.83E±0°.03,h23km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=160.5*
*ISK **22** 04:43:05.2,36°.14N×35°.84E,h18km,ML3.7*
*DDA **22** 04:43:05.3,36°.11N×35°.88E,h25km,MD3.4*
*CSEM **22** 04:43:05.8±0.1,36°.10N×35°.85E,h15km,MD3.4, Error ellipse: s-maj=2.9km s-min=2.7km az=105.0*
*NSSC **22** 04:43:06.3±2.7,36°.08N×35°.89E,h31km±15km,ML3.3*
ISC 22 04:43:05.6±0.9,36°.10N±0°.02×35°.84E±0°.02,h18km±2km, n145,σ1§10/167,27C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.22**	**107**	*i* P	**Pb**	**04 43 10.9**	**+0.1**
YAYL				*i* S	**Sg**	**04 43 15.2**	**+0.5**
YAYL	**Yayladag**	**0.22**	**107**	*i* P	**Pb**	**04 43 10.9**	**+0.1**
YAYL				*i* S	**Sg**	**04 43 15.2**	**+0.5**
HTY	**Hatay**	**0.24**	**85**	PG	**Pb**	**04 43 11.0**	**-0.1**
HTY				*e*SG	**Sg**	**04 43 15.4**	**+0.4**
HTY	**Hatay**	**0.24**	**85**	*i* Pg	**Pb**	**04 43 11.0**	**-0.1**
HTY				*e*Sg	**Sg**	**04 43 15.4**	**+0.4**
BTCH	**Batrach**	**0.50**	**97**⇑	*e*P	**Pb**	**04 43 16.0**	**+0.1**
BTCH				*e*S	**Sn**	**04 43 24.6**	**-1.4**
BTCH				AML	AML	04 43 25.6	
	comp=E,7μm,0.3s						
BTCH				AML	AML	04 43 26.6	
	comp=Z,4μm,0.4s						
BTCH				AML	AML	04 43 28.6	
	comp=N,4μm,0.7s						
BTCH	**Batrach**	**0.50**	**97**⇑	*e*P	**Pb**	**04 43 15.9**	**+0.1**
BTCH				AML	AML	04 43 26.6	
	comp=Z,4μm,0.4s						
BTCH				AML	AML	04 43 31.0	
	comp=E,7μm,0.6s						
BTCH	**Batrach**	**0.50**	**97**⇑	*e*P	**Pb**	**04 43 16.1**	**+0.3**
BTCH				*e*S	**Sb**	**04 43 23.8**	**+0.9**
BTCH				AML	AML	04 43 25.7	
	comp=E,7μm,0.3s						
BTCH				AML	AML	04 43 26.6	
	comp=Z,4μm,0.4s						
BTCH				AML	AML	04 43 28.6	
	comp=N,4μm,0.7s						
BTCH	**Batrach**	**0.50**	**97**⇑	*e*P	**Pb**	**04 43 15.9**	**0.0**
BTCH	SNR=95			*e*S	**Sb**	**04 43 23.8**	**+0.9**
	comp=N,4μm,0.5s,SNR=104						
COBT	**Iskenderun**	**0.54**	**38**	*i* P	**Pg**	**04 43 16.2**	**-0.2**
COBT				*i* S	**Sg**	**04 43 24.2**	**+0.5**
COBT	**Iskenderun**	**0.54**	**38**	*i* P	**Pg**	**04 43 16.2**	**-0.2**
COBT				*i* S	**Sg**	**04 43 24.2**	**+0.5**
KRTS	**Karatas**	**0.60**	**321**	PG	**Pb**	**04 43 17.0**	**-0.5**
KRTS				*e*SG	**Sb**	**04 43 24.9**	**-0.7**
KRTS	**Karatas**	**0.60**	**321**	*i* Pg	**Pb**	**04 43 17.0**	**-0.5**
KRTS				*e*Sg	**Sb**	**04 43 24.9**	**-0.7**
DRWC	**Darouich**	**0.84**	**52**⇑	*e*P	Pb	04 43 12.7	-9.0
DRWC				AML	AML	04 43 26.6	
	comp=Z,2μm,0.4s						
DRWC				AML	AML	04 43 27.1	
	comp=E,3μm,0.5s						
DRWC				AML	AML	04 43 27.9	
	comp=N,4μm,0.5s						
DRWC	**Darouich**	**0.84**	**52**⇑	*e*P	Pb	04 43 12.7	-9.0
DRWC				*e*S	Sb	04 43 24.6	-8.1
DRWC				AML	AML	04 43 26.6	
	comp=Z,2μm,0.4s						
DRWC				AML	AML	04 43 27.0	
	comp=E,3μm,0.5s						
DRWC	**Darouich**	**0.84**	**52**⇑	*e*P	Pb	04 43 12.7	-9.0
DRWC				AML	AML	04 43 26.5	
	comp=Z,2μm,0.4s						
DRWC				AML	AML	04 43 27.1	
	comp=E,3μm,0.5s						
DRWC	**Darouich**	**0.84**	**52**	AML	AML	04 43 28.0	
	comp=N,4μm,0.5s						
CEYT	**Ceyhan**	**0.91**	**355**	PG	**Pb**	**04 43 22.8**	**0.0**
CEYT				*e*SG	**Sg**	**04 43 35.5**	**+0.1**
CEYT	**Ceyhan**	**0.91**	**355**	*i* Pg	**Pb**	**04 43 22.8**	**0.0**
CEYT				*e*Sg	**Sg**	**04 43 35.5**	**+0.1**
BIDA	**Albida**	**1.15**	**160**⇓	*e*P	**Pn**	**04 43 24.2**	**-2.6**
	SNR=57						
KFRA	**Kufra**	**1.18**	**138**	*e*P	**Pn**	**04 43 27.1**	**-0.1**
KFRA				*e*P	**Pb**	**04 43 27.7**	**+0.3**
KFRA				*e*S	**Sn**	**04 43 43.2**	**+0.5**
KFRA				AML	AML	04 43 45.6	
	comp=E,5μm,0.5s						
KUZU	**Kuzuini**	**1.20**	**56**	*i* P	**Pb**	**04 43 28.0**	**+0.2**
KUZU				*i* S	**Sg**	**04 43 45.3**	**+0.8**
KUZU	**Kuzuini**	**1.20**	**56**	*i* P	**Pb**	**04 43 28.0**	**+0.2**
KUZU				*i* S	**Sg**	**04 43 45.3**	**+0.8**
MERS	**Mersin**	**1.31**	**306**	PN	**Pn**	**04 43 28.8**	**-0.2**
MERS	**Mersin**	**1.31**	**306**	*i* Pn	**Pn**	**04 43 28.8**	**-0.2**
KOZT	**Kozan**	**1.38**	**359**	*e*PN	**Pn**	**04 43 29.7**	**-0.2**
KOZT	**Kozan**	**1.38**	**359**	*e*Pn	**Pn**	**04 43 29.7**	**-0.2**
GULE	**Gulek**	**1.46**	**324**	*i* P	**Pb**	**04 43 32.2**	**-0.1**
GULE				*i* S	**Sg**	**04 43 54.6**	**+1.8**
GULE	**Gulek**	**1.46**	**324**	*i* P	**Pb**	**04 43 32.2**	**-0.1**
EREN	**Erenkoy**	**1.47**	**248**	*e*PN	**Pb**	**04 43 32.0**	**-0.4**
EREN	**Erenkoy**	**1.47**	**248**	*e*Pn	**Pb**	**04 43 32.0**	**-0.4**
ANDN	**Andirin**	**1.53**	**15**	*i* P	Pn	04 43 26.0	-6.1
ANDN				*i* S	**Sn**	**04 43 46.4**	**-5.2**
GAZ	**Gaziantep**	**1.54**	**45**	*e*PN	**Pn**	**04 43 32.3**	**+0.2**
GAZ	**Gaziantep**	**1.54**	**45**	*e*Pn	**Pn**	**04 43 32.3**	**+0.2**
KMRS	**Kahramanmaras**	**1.64**	**31**	*e*PN	**Pn**	**04 43 33.7**	**+0.2**
KMRS	**Kahramanmaras**	**1.64**	**31**	*e*Pn	**Pn**	**04 43 33.7**	**+0.2**
HAWK	**Haweek**	**1.64**	**164**⇑	*e*P	**Pn**	**04 43 31.6**	**-1.9**
HAWK				AML	AML	04 43 56.0	
	comp=N,362nm,0.3s						
HAWK				AML	AML	04 43 56.1	
	comp=Z,342nm,0.4s						
HAWK	**Haweek**	**1.64**	**164**⇑	*e*P	**Pn**	**04 43 31.7**	**-1.9**
HAWK				*e*S	**Sn**	**04 43 53.3**	**-0.9**
HAWK				AML	AML	04 43 56.0	
	comp=Z,342nm,0.4s						
HAWK				AML	AML	04 43 58.2	
	comp=E,177nm,0.3s						
HAWK	**Haweek**	**1.64**	**164**⇑	*e*P	**Pn**	**04 43 34.1**	**+0.6**
HAWK				AML	AML	04 43 58.4	
	comp=Z,342nm,0.4s						
HAWK				AML	AML	04 44 00.6	
	comp=E,177nm,0.3s						
HAWK	**Haweek**	**1.64**	**164**⇑	*e*P	**Pn**	**04 43 31.7**	**-1.8**
HAWK				*e*S	**Sn**	**04 43 53.5**	**-0.7**
HAWK				AML	AML	04 43 56.1	
	comp=Z,342nm,0.4s						
HAWK	**Haweek**	**1.64**	**164**⇑	*e*P	**Pn**	**04 43 34.2**	**+0.7**
	SNR=51						
HAWK				*e*S	**Sn**	**04 43 53.5**	**-0.7**
	comp=Z,342nm,0.4s,SNR=58						
SLMH	**Al Salmeh**	**1.69**	**86**⇑	*e*P	**Pn**	**04 43 33.9**	**-0.3**
SLMH				AML	AML	04 44 02.2	
	comp=Z,745nm,0.4s						
SLMH				AML	AML	04 44 03.1	
	comp=N,1μm,0.4s						
SLMH	**Al Salmeh**	**1.69**	**86**⇑	*e*P	**Pn**	**04 43 33.9**	**-0.3**
SLMH				AML	AML	04 43 57.8	
	comp=N,1μm,0.4s						
SLMH				AML	AML	04 44 01.6	
	comp=E,1μm,0.4s						
SLMH	**Al Salmeh**	**1.69**	**86**⇑	*e*P	**Pn**	**04 43 34.1**	**-0.1**
SLMH				AML	AML	04 44 03.5	
	comp=N,1μm,0.4s						
SLMH	**Al Salmeh**	**1.69**	**86**⇑	*e*P	**Pn**	**04 43 33.8**	**-0.3**
HWQ	**Hawqa**	**1.82**	**177**	*e*P	**Pn**	**04 43 35.6**	**-0.4**
HWQ	**Hawqa**	**1.82**	**177**	*e*P	**Pn**	**04 43 35.7**	**-0.3**
FKH	**Fakeheh**	**1.91**	**166**	*e*P	**Pb**	**04 43 39.0**	**-0.9**
FKH	**Fakeheh**	**1.91**	**166**	*e*P	**Pb**	**04 43 39.0**	**-0.9**
LFK	**Lefkose**	**2.05**	**247**	*e*PN	**Pn**	**04 43 39.5**	**+0.4**
LFK	**Lefkose**	**2.05**	**247**	*e*Pn	**Pn**	**04 43 39.5**	**+0.4**
JHLN	**Al Jahlan**	**2.15**	**101**⇓	*e*P	**Pn**	**04 43 40.5**	**0.0**
JHLN				⇓*e*P	**Pb**	**04 43 41.0**	**-3.0**
JHLN				AML	AML	04 44 14.4	
	comp=E,1μm,0.4s						
JHLN				AML	AML	04 44 19.9	
	comp=N,641nm,0.4s						
JHLN				AML	AML	04 44 22.7	
	comp=Z,385nm,0.6s						
JHLN	**Al Jahlan**	**2.15**	**101**	*e*P	**Pn**	**04 43 40.3**	**-0.2**
JHLN				AML	AML	04 44 19.9	
	comp=N,641nm,0.4s						
JHLN				AML	AML	04 44 22.6	
	comp=Z,385nm,0.6s						
JHLN	**Al Jahlan**	**2.15**	**101**⇓	*e*P	**Pn**	**04 43 40.5**	**0.0**
	SNR=57						
BHL	**Bhannes**	**2.20**	**184**	*e*P	**Pn**	**04 43 41.2**	**0.0**
BHL	**Bhannes**	**2.20**	**184**	*e*P	**Pn**	**04 43 41.2**	**0.0**
BEYL	**Beirut**	**2.24**	**187**	*e*P	**Pb**	**04 43 44.1**	**-1.3**
BEYL	**Beirut**	**2.24**	**187**	*e*P	**Pb**	**04 43 44.1**	**-1.3**
ROOS	**tl_alroos**	**2.26**	**148**	*e*P	**Pn**	**04 43 43.4**	**+1.3**
ROOS	**tl_alroos**	**2.26**	**148**	*e*P	**Pn**	**04 43 42.9**	**+0.9**
ROOS				*e*S	**Sn**	**04 44 10.8**	**+1.4**
ROOS				AML	AML	04 44 22.9	
	comp=Z,3.2nm,0.4s						
ROOS	**tl_alroos**	**2.26**	**148**	*e*P	**Pn**	**04 43 43.2**	**+1.2**
ROOS	**tl_alroos**	**2.26**	**148**	*e*P	**Pn**	**04 43 43.2**	**+1.2**
	SNR=57						
CSS	**Prodhromos**	**2.34**	**242**	*e*PN	**Pn**	**04 43 44.5**	**+1.4**
CSS	**Prodhromos**	**2.34**	**242**	*e*Pn	**Pn**	**04 43 44.5**	**+1.4**
ATAB	**Bozova**	**2.40**	**54**	*i* P	**Pn**	**04 43 44.6**	**+0.7**
ATAB				*i* S	**Sg**	**04 44 22.8**	**+0.2**
ATAB	**Bozova**	**2.40**	**54**	*i* P	**Pn**	**04 43 44.6**	**+0.7**
KSRV	**Kasrt alli**	**2.57**	**94**⇓	*e*P	**Pn**	**04 43 46.2**	**0.0**
KSRV				⇑*e*P	Pb	04 43 47.4	-3.7
KSRV				AML	AML	04 44 27.6	
	comp=Z,357nm,0.4s						
KSRV				AML	AML	04 44 30.7	
	comp=N,396nm,0.3s						
KSRV				AML	AML	04 44 31.7	
	comp=E,266nm,0.6s						
KSRV	**Kasrt alli**	**2.57**	**94**	*e*P	**Pn**	**04 43 47.0**	**+0.7**
KSRV				AML	AML	04 44 30.7	
	comp=N,396nm,0.3s						
KSRV				AML	AML	04 44 31.6	
	comp=E,266nm,0.6s						
KSRV	**Kasrt alli**	**2.57**	**94**⇓	*e*P	**Pn**	**04 43 46.5**	**+0.2**
KSRV				*e*P	**Pn**	**04 43 46.5**	**+0.2**
KSRV				AML	AML	04 44 30.7	
	comp=N,396nm,0.3s						
KSRV				AML	AML	04 44 31.6	
	comp=E,266nm,0.6s						
KSRV	**Kasrt alli**	**2.57**	**94**	*e*P	**Pn**	**04 43 46.8**	**+0.6**
KSRV				AML	AML	04 44 27.6	
	comp=Z,357nm,0.4s						
KSRV				AML	AML	04 44 31.7	
	comp=E,266nm,0.6s						
QASN	**Qassioun**	**2.59**	**172**	*e*P	**Pn**	**04 43 46.1**	**-0.4**
QASN				AML	AML	04 44 21.9	
	comp=Z,458nm,0.4s						
QASN	**Qassioun**	**2.59**	**172**	*e*P	**Pn**	**04 43 46.1**	**-0.4**
	SNR=57						
LEF	**Lefka**	**2.60**	**249**	*e*PN	**Pn**	**04 43 48.4**	**+1.8**
LEF	**Lefka**	**2.60**	**249**	*e*Pn	**Pn**	**04 43 48.4**	**+1.8**
RCY	**Rachaya**	**2.60**	**180**	*e*P	**Pn**	**04 43 46.8**	**+0.1**
BRBR	**Barbar**	**2.68**	**178**⇓	*e*P	**Pn**	**04 43 47.2**	**-0.7**
BRBR				AML	AML	04 44 36.2	
	comp=N,89nm,0.6s						
BRBR				AML	AML	04 44 37.7	
	comp=E,103nm,0.8s						
BRBR	**Barbar**	**2.68**	**178**⇓	*e*P	**Pn**	**04 43 47.3**	**-0.7**
BRBR				*e*S	**Sn**	**04 44 18.8**	**-1.4**
BRBR	**Barbar**	**2.68**	**178**⇓	*e*P	**Pn**	**04 43 48.6**	**+0.6**
BRBR				⇓*e*P	**Pn**	**04 43 48.6**	**+0.6**
BRBR				⇑*e*P	Pg	04 43 48.7	-8.3
BRBR				AML	AML	04 44 37.5	
	comp=N,89nm,0.6s						
BRBR				AML	AML	04 44 39.1	
	comp=E,103nm,0.8s						
BRBR				AML	AML	04 44 40.7	
	comp=Z,145nm,0.7s						
BRBR	**Barbar**	**2.68**	**178**⇓	*e*P	**Pn**	**04 43 47.2**	**-0.8**
BRBR				AML	AML	04 44 36.1	
	comp=N,89nm,0.6s						
BRBR				AML	AML	04 44 37.8	
	comp=E,103nm,0.8s						
BRBR				AML	AML	04 44 39.4	
	comp=Z,145nm,0.7s						
URFA	**Urfa**	**2.74**	**60**	*e*PN	**Pn**	**04 43 48.6**	**0.0**
URFA	**Urfa**	**2.74**	**60**	*e*Pn	**Pn**	**04 43 48.6**	**0.0**
BNN	**Bunyan**	**2.75**	**0**	*e*PN	**Pn**	**04 43 48.9**	**+0.1**
BNN	**Bunyan**	**2.75**	**0**	*e*Pn	**Pn**	**04 43 48.9**	**+0.1**
AKCD	**Akcadag**	**2.75**	**37**	*i* P	**Pn**	**04 43 49.8**	**+0.9**
AKCD				*i* S	**Sg**	**04 44 32.6**	**-1.3**
AKCD	**Akcadag**	**2.75**	**37**	*i* P	**Pn**	**04 43 49.8**	**+0.9**
TOTH	**TOTAH**	**2.77**	**170**⇑	*e*P	**Pn**	**04 43 49.5**	**+0.4**
TOTH				⇑*e*P	**Pn**	**04 43 49.5**	**+0.4**
TOTH				⇑*e*P	Pg	04 43 49.6	-9.1
TOTH				AML	AML	04 44 37.8	
	comp=E,196nm,0.6s						
TOTH				AML	AML	04 44 44.0	
	comp=Z,90nm,0.5s						
TOTH				AML	AML	04 44 47.0	
	comp=N,76nm,0.7s						
TOTH	**TOTAH**	**2.77**	**170**	*e*P	**Pn**	**04 43 49.5**	**+0.4**
TOTH				AML	AML	04 44 37.8	
	comp=E,196nm,0.6s						
TOTH				AML	AML	04 44 44.0	
	comp=Z,90nm,0.5s						
TOTH	**TOTAH**	**2.77**	**170**	*e*P	**Pn**	**04 43 50.8**	**+1.7**
TOTH				⇑*e*P	Pb	04 43 51.0	-3.6
TOTH				⇓*e*P	Pb	04 43 51.0	-3.6
TOTH				AML	AML	04 44 39.2	
	comp=E,196nm,0.6s						
TOTH				AML	AML	04 44 45.4	
	comp=Z,90nm,0.5s						
TOTH				AML	AML	04 44 48.4	
	comp=N,76nm,0.7s						
TOTH	**TOTAH**	**2.77**	**170**⇑	*e*P	**Pn**	**04 43 49.6**	**+0.5**
TOTH	**TOTAH**	**2.77**	**170**⇑	*i* P	**Pn**	**04 43 49.6**	**+0.5**
	SNR=57						
SULT	**Sultanhani-AKS**	**2.80**	**319**	*e*PN	**Pn**	**04 43 49.7**	**+0.2**
SULT	**Sultanhani-AKS**	**2.80**	**319**	*e*Pn	**Pn**	**04 43 49.7**	**+0.2**
MALT	**Malatya**	**3.02**	**42**	*e*PN	**Pn**	**04 43 53.2**	**+0.6**
MALT	**Malatya**	**3.02**	**42**	*e*Pn	**Pn**	**04 43 53.2**	**+0.6**
MYA	**Malataya**	**3.03**	**42**	*e*PN	**Pn**	**04 43 53.7**	**+1.1**
MYA	**Malataya**	**3.03**	**42**	*e*Pn	**Pn**	**04 43 53.7**	**+1.1**
KONT	**Konya--Tatoy**	**3.34**	**304**	*e*PN	**Pn**	**04 43 57.5**	**+0.6**
KONT	**Konya--Tatoy**	**3.34**	**304**	*e*Pn	**Pn**	**04 43 57.5**	**+0.6**
ZALF	**Zalf**	**3.40**	**158**	*e*P	**Pn**	**04 44 00.5**	**+2.8**
ZALF				AML	AML	04 45 01.1	
	comp=Z,75nm,0.6s						
ZALF	**Zalf**	**3.40**	**158**	*e*P	**Pn**	**04 44 00.5**	**+2.8**
ZALF				AML	AML	04 45 01.0	
	comp=Z,75nm,0.6s						
ZALF	**Zalf**	**3.40**	**158**	*e*P	**Pn**	**04 44 00.7**	**+3.0**
ZALF				AML	AML	04 45 01.4	
	comp=Z,75nm,0.6s						
ZALF	**Zalf**	**3.40**	**158**⇑	*e*P	**Pn**	**04 44 00.4**	**+2.7**
SALA	**Sala**	**3.46**	**167**	*e*P	**Pn**	**04 43 59.5**	**+0.9**
SALA				AML	AML	04 44 55.4	
	comp=N,123nm,0.4s						
SALA				AML	AML	04 45 08.9	
	comp=Z,111nm,0.7s						
SALA	**Sala**	**3.46**	**167**	*e*P	**Pn**	**04 44 00.2**	**+1.5**
SALA	**Sala**	**3.46**	**167**	*e*P	**Pn**	**04 43 59.9**	**+1.2**
SALA				AML	AML	04 45 10.2	
	comp=Z,111nm,0.7s						
SALA	**Sala**	**3.46**	**167**⇑	*e*P	**Pn**	**04 43 58.0**	**-0.7**
SALA				AML	AML	04 45 08.8	
	comp=Z,111nm,0.7s						
SALA	**Sala**	**3.46**	**167**⇓	*e*P	**Pn**	**04 43 58.8**	**+0.2**
	SNR=57						
SFNV	**Sufian**	**3.46**	**83**	*e*P	**Pn**	**04 43 57.9**	**-0.7**
SFNV				AML	AML	04 45 03.5	
	comp=Z,237nm,0.4s						
SFNV	**Sufian**	**3.46**	**83**	*e*P	**Pn**	**04 43 58.1**	**-0.5**
SFNV				AML	AML	04 44 59.8	
	comp=N,503nm,1.0s						
SFNV	**Sufian**	**3.46**	**83**	*e*P	**Pn**	**04 43 58.4**	**-0.2**
SFNV				AML	AML	04 45 00.3	
	comp=N,503nm,1.0s						
SFNV	**Sufian**	**3.46**	**83**	*e*P	**Pn**	**04 43 57.7**	**-0.9**
SFNV				AML	AML	04 45 03.5	
	comp=Z,237nm,0.4s						
SFNV	**Sufian**	**3.46**	**83**⇓	*e*P	**Pn**	**04 43 58.0**	**-0.6**
	SNR=57						
LADK	**Ladik-KONYA**	**3.48**	**308**	*e*PN	**Pn**	**04 43 59.6**	**+0.7**
LADK	**Ladik-KONYA**	**3.48**	**308**	*e*Pn	**Pn**	**04 43 59.6**	**+0.7**
YOZ	**Yozgat**	**3.56**	**353**	*e*PN	**Pn**	**04 44 00.4**	**+0.4**
YOZ	**Yozgat**	**3.56**	**353**	*e*Pn	**Pn**	**04 44 00.4**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.58**	**50**	*e*PN	**Pn**

MERS				*e*SN	**Sb**	**04 46 47.9**	**+0.8**	
MERS	**Mersin**	**1.31**	**306**	*e*Pn	**Pn**	**04 46 29.9**	**0.0**	
MERS				*e*Sn	**Sb**	**04 46 47.9**	**+0.8**	
KOZT	**Kozan**	**1.38**	**360**	*e*PN	**Pn**	**04 46 31.1**	**+0.3**	
KOZT	**Kozan**	**1.38**	**360**	*e*Pn	**Pn**	**04 46 31.1**	**+0.3**	
GULE	**Gulek**	**1.46**	**324**	*i* P	**Pn**	**04 46 32.5**	**+0.5**	
GULE				*i* S	**Sg**	**04 46 54.3**	**+0.5**	
GULE	**Gulek**	**1.46**	**324**	*e*P	**Pn**	**04 46 32.1**	**+0.1**	
GULE				*e*S	**Sb**	**04 46 52.4**	**+0.9**	
GULE	**Gulek**	**1.46**	**324**	*e*P	**Pn**	**04 46 32.1**	**+0.1**	
GULE				*e*S	**Sb**	**04 46 52.4**	**+0.9**	
EREN	**Erenkoy**	**1.47**	**248**	*e*PN	**Pb**	**04 46 33.0**	**-0.2**	
EREN	**Erenkoy**	**1.47**	**248**	*e*Pn	**Pb**	**04 46 33.0**	**-0.2**	
ANDN	**Andirin**	**1.53**	**15**	*i* P	Pn	04 46 27.2	-5.8	
ANDN				*i* S	**Sn**	**04 46 49.2**	**-3.3**	
ANDN	**Andirin**	**1.53**	**15**	*e*P	Pn	04 46 27.5	-5.5	
ANDN				*e*S	**Sn**	**04 46 47.9**	**-4.6**	
ANDN	**Andirin**	**1.53**	**15**	*e*P	Pn	04 46 27.5	-5.5	
ANDN				*e*S	**Sn**	**04 46 47.9**	**-4.6**	
GAZ	**Gaziantep**	**1.54**	**45**	*e*PN	**Pn**	**04 46 33.5**	**+0.5**	
GAZ	**Gaziantep**	**1.54**	**45**	*e*Pn	**Pn**	**04 46 33.5**	**+0.5**	
KMRS	**Kahramanmaras**	**1.64**	**31**	*e*PN	**Pn**	**04 46 35.1**	**+0.7**	
KMRS	**Kahramanmaras**	**1.64**	**31**	*e*Pn	**Pn**	**04 46 35.1**	**+0.7**	
HWQ	**Hawqa**	**1.82**	**177**	*e*P	**Pn**	**04 46 36.6**	**-0.2**	
FKH	**Fakeheh**	**1.91**	**166**	*e*P	**Pn**	**04 46 38.9**	**+0.8**	
BHL	**Bhannes**	**2.19**	**184**	*e*P	**Pn**	**04 46 41.7**	**-0.3**	
NIG	**Nigde**	**2.24**	**334**	*e*PN	**Pn**	**04 46 43.7**	**+0.9**	
NIG	**Nigde**	**2.24**	**334**	*e*Pn	**Pn**	**04 46 43.7**	**+0.9**	
CSS	**Prodhromos**	**2.34**	**242**	*e*PN	**Pn**	**04 46 44.2**	**+0.2**	
CSS	**Prodhromos**	**2.34**	**242**	*e*Pn	**Pn**	**04 46 44.2**	**+0.2**	
ATAB	**Bozova**	**2.40**	**54**	*i* S	**Sg**	**04 47 25.2**	**+1.5**	
ATAB	**Bozova**	**2.40**	**54**	*e*P	**Pn**	**04 46 45.1**	**+0.3**	
ATAB				*e*S	**Sb**	**04 47 21.6**	**+3.3**	
ATAB	**Bozova**	**2.40**	**54**	*e*P	**Pn**	**04 46 45.1**	**+0.3**	
ATAB				*e*S	**Sb**	**04 47 21.6**	**+3.3**	
ERMK	**Ermenek**	**2.43**	**284**	*i* P	**Pn**	**04 46 47.2**	**+1.9**	
ERMK				*i* S	**Sg**	**04 47 25.9**	**+1.4**	
AKCD	**Akcadag**	**2.75**	**37**	*e*P	**Pn**	**04 46 50.7**	**+1.0**	
AKCD				*e*S	**Sg**	**04 47 32.9**	**-2.1**	
AKCD	**Akcadag**	**2.75**	**37**	*e*P	**Pn**	**04 46 50.7**	**+1.0**	
AKCD				*e*S	**Sg**	**04 47 32.9**	**-2.1**	
MALT	**Malatya**	**3.03**	**42**	*e*PN	**Pn**	**04 46 54.1**	**+0.6**	
MALT	**Malatya**	**3.03**	**42**	*e*Pn	**Pn**	**04 46 54.1**	**+0.6**	
MYA	**Malataya**	**3.03**	**42**	*e*PN	**Pn**	**04 46 54.1**	**+0.5**	
MYA	**Malataya**	**3.03**	**42**	*e*Pn	**Pn**	**04 46 54.1**	**+0.5**	

IDC 22 04:57:07.2±1.0, 47.06N×155.55E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.6/24, mbtmp3.5/8, ML3.1/1, Error ellipse: s-maj=31.6km s-min=20.8km az=143.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.21**	**12**	Pn	Pn	04 58 40.0	0.0
	0.4nm,0.3s,baz=170,slow=17,SNR=5.9						
PETK				Sn	Sn	04 59 58.4	+6.7
	baz=262,slow=9.9,SNR=2.2						
ILAR	**Eielson Array**	**35.26**	**39**	P	P	05 04 03.5	+0.3
	0.3nm,0.6s,baz=250,slow=7.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**43.78**	**306**	P	P	05 05 13.1	-1.1
	0.2nm,0.3s,baz=90,slow=8.6,SNR=2.3						
MKAR	**Makanchi Array**	**48.27**	**298**	P	P	05 05 50.0	+0.2
	0.6nm,0.9s,baz=72,slow=9.3,SNR=4.2						
YKA	**Yellowknife Ar**	**49.67**	**38**	P	P	05 05 59.3	-0.8
	0.3nm,0.8s,baz=294,slow=7.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**54.07**	**258**	P	P	05 06 34.8	+1.2
	0.5nm,0.3s,baz=29,slow=9.5,SNR=5.0						
WRA	**Warramunga Arr**	**69.38**	**201**	P	P	05 08 16.0	-0.6
	0.4nm,0.3s,baz=23,slow=7.5,SNR=3.8						
TXAR	**Lajitas Array**	**75.88**	**62**	P	P	05 08 56.0	+0.4
	0.1nm,0.5s,baz=330,slow=6.3,SNR=3.1						

NIED ***22*** *05:09:00, 47.40N×155.20E, h8km, Mw5.1 Best double couple: M0 5.18000×10^16 NP1:φ=83.00000°, δ=73.00000°, λ=-81.00000°. NP2:φ=234.00000°, δ=19.00000°, λ=-117.00000°.*

DJA ***22*** *05:09:38, 47.06N×155.70E, h10km, mb5.1/9*

ISCJB ***22*** *05:09:39.3±0.1, 46.92N±0.03×155.49E±0.02, h15km, mb4.9/148, MS4.5/54, Error ellipse: s-maj=4.3km s-min=1.8km az=165.5*

IDC ***22*** *05:09:39.2±0.4, 47.03N×155.46E, h0km, mb4.6/28, mb1 4.7/32, mb1mx4.7/34, mbtmp4.6/32, ML4.2/4, MS4.3/32, Ms1 4.4/32, ms1mx4.2/46, Error ellipse: s-maj=14.1km s-min=9.7km az=142.0*

NEIC ***22*** *05:09:41.0±0.2, 47.06N×155.51E, h10km, mb5.0/65, Error ellipse: s-maj=6.0km s-min=3.3km az=156.0*

JMA ***22*** *05:09:41.3±0.8, 47.41N×155.23E, h30km, M5.3*

SKHL ***22*** *05:09:41.1±1.7, 46.76N×155.84E, h61km±18km, mb5.6/6, mbh5.3/1, Ms5.3/4, msh5.2/5*

BJI ***22*** *05:09:42.1, 47.28N×154.83E, h10km, mB5.3/38, mb4.9/53, Ms5.0/53, Ms7 4.7/51*

TEH ***22*** *05:09:42.0, 47.15N×155.44E, h10km, ML5.0*

MOS ***22*** *05:09:45.8±1.2, 47.07N×155.38E, h60km, mb5.1/67, MS4.4/20, Error ellipse: s-maj=8.4km s-min=5.1km az=110.0*

SZGRF ***22*** *05:09:51.2, 48.02N×155.62E, h33km, mb5.2, Kuril Islands, Russia*

ISC 22 05:09:41.5±0.4, 47.00N±0.04×155.54E±0.03, h15km±1km, h14km:pP-P,n755,σ1$24/809, mb5.0/148, MS4.6/54, 164C-158D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.70**	**6**	*e*PN	**Pn**	**05 10 40.6**	**+2.5**
SKR				*e*S	**Sn**	**05 11 21.0**	**-0.4**
SKR				pmax	pmax		
	comp=N,2μm,6.0s						
SKR				pmax	pmax		
	comp=Z,2μm,6.0s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				smax	smax		
	comp=N,550nm,0.3s						
SKR				smax	smax		
	comp=E,550nm,0.3s						
SKR				smax	smax		
	comp=N,5μm,10.0s						
SKR				smax	smax		
	comp=E,5μm,10.0s						
SKR				MLR	MLR		
	comp=Z,11μm,18.0s						
SKR				MLR	MLR		
	comp=N,7μm,16.0s						
SKR				MLR	MLR		
	comp=E,18μm,16.0s						
SKR	**Severo-Kuril's**	**3.70**	**6**	*e*P	**Pn**	**05 10 40.6**	**+2.5**
SKR				AMB	AMB	05 10 44.0	
	comp=E,2μm,6.0s						
SKR				AMB	AMB	05 10 44.0	
	comp=E,2μm,6.0s						
SKR				AMB	AMB	05 10 46.1	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	05 10 46.1	
	comp=E,110nm,0.5s						
SKR				*e*S	**Sn**	**05 11 21.0**	**-0.4**
SKR				A	A	05 11 24.5	
	comp=E,550nm,0.2s						
SKR				A	A	05 11 24.5	
	comp=E,230nm,0.5s						
SKR				A	A	05 11 30.0	
	comp=E,5μm,10.0s						
SKR				A	A	05 11 30.0	
	comp=E,4μm,10.0s						
SKR				A	A	05 11 30.0	
	comp=E,5μm,10.0s						
SKR				A	A	05 11 30.0	
	comp=E,5μm,10.0s						
SKR				A	A	05 11 30.0	
	comp=E,4μm,10.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,6μm,16.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,17μm,16.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,11μm,18.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,7μm,16.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,18μm,16.0s						
SKR				AMS	AMS	05 12 06.0	
	comp=E,11μm,18.0s						
KUR	**Kuril'sk**	**5.62**	**254**	⇑*i*P	**Pn**	**05 11 04.3**	**-0.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				pmax	pmax		
	comp=Z,890nm,0.8s						
KUR				pmax	pmax		
	comp=N,130nm,0.3s						
KUR				MLR	MLR		
	comp=N,5μm,14.0s						
KUR				MLR	MLR		
	comp=E,8μm,14.0s						
KUR				MLR	MLR		
	comp=Z,5μm,14.0s						
KUR	**Kuril'sk**	**5.62**	**254**	⇑*i*P	**Pn**	**05 11 04.3**	**-0.1**
KUR				AMB	AMB	05 11 05.0	
	comp=Z,2μm,1.0s						
KUR				AMB	AMB	05 11 05.4	
	comp=Z,130nm,0.3s						
KUR				AMB	AMB	05 11 05.4	
	comp=Z,220nm,0.8s						
KUR				AMB	AMB	05 11 05.4	
	comp=Z,890nm,0.8s						
KUR				*i* S	**Sn**	**05 12 05.4**	**-3.2**
KUR				A	A	05 12 07.8	
	comp=Z,1μm,0.7s						
KUR				A	A	05 12 07.8	
	comp=Z,2μm,0.7s						
KUR				A	A	05 12 21.0	
	comp=Z,12μm,7.0s						
KUR				AMS	AMS	05 13 29.0	
	comp=Z,5μm,14.0s						
KUR				AMS	AMS	05 13 29.0	
	comp=Z,8μm,14.0s						
KUR				AMS	AMS	05 13 29.0	
	comp=Z,5μm,14.0s						
PEA0B	**Petropavlovsk-**	**6.27**	**12**	*e*Pn	**Pn**	**05 11 11.8**	**-1.5**
PETK	**Petropavlovsk-**	**6.27**	**12**	Pn	**Pn**	**05 11 12.2**	**-1.2**
	comp=Z,4.3nm,0.3s,baz=188,slow=13,SNR=56						
PETK				Sn	**Sn**	**05 12 26.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=150,slow=18,SNR=2.0						
PETK	**Petropavlovsk-**	**6.27**	**12**	PN	**Pn**	**05 11 12.2**	**-1.2**
PETK						05 12 26.6	
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.27**	**12**	Pn	**Pn**	**05 11 12.2**	**-1.2**
PETK				Sn	**Sn**	**05 12 26.6**	**+1.9**
PET	**Petropavlovsk**	**6.35**	**17**	*e*PN	**Pn**	**05 11 12.4**	**-2.1**
PET				pmax	pmax		
	comp=Z,109nm,0.8s						
PET				MLR	MLR		
	comp=Z,4μm,16.0s						
PET				MLR	MLR		
	comp=Z,4μm,12.0s						
PET	**Petropavlovsk**	**6.35**	**17**	*e*Pn	**Pn**	**05 11 12.4**	**-2.1**
PET				*e*Sn	**Sn**	**05 12 21.4**	**-5.2**
YUK	**Yuzh-Kuril'sk**	**7.42**	**250**	*c i*Pn	Pn	05 11 24.6	-4.5
YUK				pmax	pmax		
	comp=E,65nm,0.1s						
YUK				pmax	pmax		
	comp=Z,336nm,0.3s						
YUK				pmax	pmax		
	comp=N,54nm,0.1s						
YUK				MLR	MLR		
	comp=Z,6μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**7.42**	**250**	*e*P	Pn	05 11 24.7	-4.4
YUK				AMB	AMB	05 11 30.1	
	comp=Z,353nm,0.3s						
YUK				AMB	AMB	05 11 30.1	
	comp=Z,176nm,0.4s						
YUK				*i* S	**Sn**	**05 12 48.5**	**-4.4**
YUK				AMS	AMS	05 14 43.8	
	comp=Z,5μm,14.0s						
YUK				AMS	AMS	05 14 43.8	
	comp=Z,6μm,14.0s						
YUK				AMS	AMS	05 14 43.8	
	comp=Z,5μm,14.0s						
NEM2	**Nemuro 2**	**7.81**	**246**	P	Pn	05 11 31.2	-3.4
NEM2				*e*S	Sn	05 12 52.7	-10
JRA	**Rausu**	**7.94**	**251**	P	**Pn**	**05 11 35.9**	**-0.3**
JRA				*e*S	**Sn**	**05 13 02.6**	**-3.0**
JNK	**Nakash**	**8.36**	**250**	P	**Pn**	**05 11 40.4**	**-1.6**
JNK				*e*S	Sn	05 13 09.2	-6.8
JAK	**Akkeshi**	**8.66**	**246**	P	Pn	05 11 42.9	-3.3
JAK				*e*S	Sn	05 13 13.8	-10
JTKR	**Abashiri--Toko**	**8.71**	**254**	P	**Pn**	**05 11 46.1**	**-0.8**
JTKR				*e*S	**Sn**	**05 13 20.7**	**-4.1**
YSS	**Yuzh-Sakhalins**	**8.74**	**274**	*de*PN	**Pn**	**05 11 50.0**	**+2.7**
YSS				*e*S	**Sn**	**05 13 28.0**	**+2.6**
YSS				pmax	pmax		
	comp=Z,120nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,6.0s						
YSS				smax	smax		
	comp=E,100nm,1.0s						
YSS				MLR	MLR		
	comp=E,5μm,14.0s						
YSS				MLR	MLR		
	comp=Z,5μm,14.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.74**	**274**	*e*Pn	**Pn**	**05 11 50.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**8.74**	**274**	‖*e*P	**Pn**	**05 11 50.0**	**+2.7**
YSS				‖*i*P		05 11 50.5	
YSS				AMB	AMB	05 11 51.9	
	comp=N,120nm,1.0s						
YSS				AMB	AMB	05 11 54.0	
	comp=N,500nm,6.0s						
YSS				*e*S	**Sn**	**05 13 28.0**	**+2.6**
YSS				A	A	05 13 32.0	
	comp=N,100nm,1.0s						
YSS				*e*LQ	LQ	05 13 57.0	
YSS				*e*LR	LR	05 14 52.0	
JMP	**Maruseppu**	**9.06**	**255**	P	**Pn**	**05 11 51.3**	**-0.4**
JMP				*e*S	**Sn**	**05 13 31.3**	**-2.1**
JAR	**Ashorobuto**	**9.10**	**250**	P	**Pn**	**05 11 50.9**	**-1.3**
JAR				*e*S	Sn	05 13 27.7	-6.7
JOB	**Onbets**	**9.25**	**248**	P	**Pn**	**05 11 52.3**	**-2.0**
JOB				*e*S	Sn	05 13 29.0	-9.0
UGL	**Uglegorsk**	**9.26**	**288**	*e*P	**Pn**	**05 11 57.0**	**+2.6**
UGL				AMB	AMB	05 11 58.0	
	comp=N,900nm,1.6s						
UGL				*e*L	L	05 14 02.0	
UGL				*e*LQ	LQ	05 14 44.0	
UGL				AMS	AMS	05 17 24.0	
	comp=N,7μm,12.0s						
UGL				AMS	AMS	05 17 24.0	
	comp=N,10μm,13.0s						
UGL				AMS	AMS	05 17 24.0	
	comp=N,1μm,13.0s						
TYV	**Tymovskoe**	**9.31**	**299**	*e*P	**Pn**	**05 11 55.2**	**+0.1**
TYV				AMB	AMB	05 11 57.5	
	comp=N,66nm,1.0s						
TYV				AMB	AMB	05 11 57.5	
	comp=N,92nm,1.0s						
TYV				AMB	AMB	05 12 06.0	
	comp=N,1μm,8.0s						
TYV				AMB	AMB	05 12 06.0	
	comp=N,2μm,8.0s						
JKK2	**Kamakawa 2**	**9.52**	**255**	P	**Pn**	**05 11 57.3**	**-0.7**
ASAJ	**Asahikawa**	**9.53**	**257**	Pn	**Pn**	**05 11 58.8**	**+0.8**
	comp=N,4.3nm,0.3s,baz=89,slow=13,SNR=54						
ASAJ				LR	LR	05 15 28.1	
	comp=N,770nm,19.7s,baz=143,slow=37						
ASAJ	**Asahikawa**	**9.53**	**257**	PN	**Pn**	**05 11 58.8**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,770nm,19.7s						
ASAJ	**Asahikawa**	**9.53**	**257**	Pn	**Pn**	**05 11 58.8**	**+0.8**
ASAJ	**Asahikawa**	**9.53**	**257**	P	**Pn**	**05 11 58.6**	**+0.6**
JWK2	**Keihoku**	**9.62**	**265**	P	**Pn**	**05 12 02.1**	**+2.9**
JCH	**Churui**	**9.70**	**248**	P	**Pn**	**05 11 57.6**	**-2.8**
JCH				*e*S	Sn	05 13 39.4	-10
JFR	**Furan**	**9.93**	**252**	P	**Pn**	**05 12 03.2**	**-0.3**
JFR				*e*S	**Sn**	**05 13 49.7**	**-4.9**
JAB	**Ashibetsu**	**10.02**	**254**	P	**Pn**	**05 12 04.9**	**+0.1**
JEM	**Erimo**	**10.15**	**245**	P	**Pn**	**05 12 04.7**	**-1.8**
JEM				*e*S	Sn	05 13 50.6	-9.4
ERM	**Erimo**	**10.15**	**245**	*d i*PN	**Pn**	**05 12 04.7**	**-1.8**
ERM	**Erimo**	**10.15**	**245**	*e*Pn	**Pn**	**05 12 04.8**	**-1.7**
ERM				*e*Sn	Sn	05 13 49.4	-11
ERM	**Erimo**	**10.15**	**245**	Pn	**Pn**	**05 12 05.1**	**-1.4**
	comp=Z,830nm,0.5s,SNR=23						
JBT2	**Biratori 2**	**10.26**	**250**	P	**Pn**	**05 12 05.4**	**-2.6**
JNBK	**Urakawa-nobuka**	**10.26**	**247**	P	Pn	05 12 04.9	-3.2
JNBK				*e*S	Sn	05 13 51.8	-11
OKH	**Okha**	**10.38**	**314**	*e*PN	**Pn**	**05 12 12.1**	**+2.4**
OKH				pmax	pmax		
	comp=Z,2μm,9.0s						
OKH	**Okha**	**10.38**	**314**	*e*P	**Pn**	**05 12 12.1**	**+2.4**
OKH				AMB	AMB	05 12 17.4	
	comp=Z,2μm,9.0s						
OKH				*e*S	**Sn**	**05 14 06.0**	**+0.4**
OKH				A	A	05 14 08.0	
	comp=Z,1μm,7.0s						
OKH				*e*LR	LR	05 16 37.8	
OKH				AMS	AMS	05 18 35.6	
	comp=Z,8μm,12.0s						
OKH				AMS	AMS	05 18 35.6	
	comp=Z,8μm,12.0s						
OKH				AMS	AMS	05 18 35.6	
	comp=Z,10μm,12.0s						
JEW	**Eniwo**	**10.82**	**252**	P	**Pn**	**05 12 15.5**	**-0.2**
JNB	**Noboribetsu**	**11.26**	**252**	P	**Pn**	**05 12 19.3**	**-2.5**
NKL	**Nikolayevsk**	**11.35**	**308**	⇓*i*P	Pn	05 12 19.0	-3.9
NKL				AMB	AMB	05 12 21.0	
	comp=Z,25nm,1.2s						
NKL				AMB	AMB	05 12 21.0	
	comp=Z,30nm,1.2s						
NKL				AMB	AMB	05 12 21.0	
	comp=Z,60nm,1.2s						
NKL				AMB	AMB	05 12 23.0	
	comp=Z,1μm,6.0s						
NKL				AMB	AMB	05 12 23.0	
	comp=Z,500nm,5.0s						
NKL				AMB	AMB	05 12 23.0	
	comp=Z,1μm,5.0s						
NKL				*e*S	**Sn**	**05 14 28.0**	**-1.2**
NKL				A	A	05 14 32.0	
	comp=Z,500nm,5.0s						
JKB	**Kayabe**	**11.55**	**249**	P	Pn	05 12 22.1	-3.7
JKB				*e*S	Sn	05 14 21.0	-13
JSH	**Shimam**	**11.83**	**254**	P	**Pn**	**05 12 28.2**	**-1.4**
JYM2	**Yakumo 2**	**11.87**	**251**	P	Pn	05 12 27.1	-3.0
JANG	**Nango**	**12.11**	**242**	P	Pn	05 12 27.5	-5.9
JANG				*e*S	Sn	05 14 33.6	-15
JSR	**Shiriuchi**	**12.13**	**249**	P	Pn	05 12 29.9	-3.8
JSR				*e*S	Sn	05 14 35.6	-13
JTM	**Tenmabayashi**	**12.14**	**244**	P	Pn	05 12 29.5	-4.3
JTM				*e*S	Sn	05 14 35.5	-13
JTH	**Tanohata**	**12.18**	**239**	P	Pn	05 12 28.8	-5.5
JTH				*e*S	Sn	05 14 35.2	-15
JOSM	**Okushiri--Mats**	**12.46**	**253**	P	Pn	05 12 35.1	-3.1
FX1	**Attu Island--F**	**12.77**	**56**	Pn	**Pn**	**05 12 41.5**	**-0.9**
	comp=Z,8.6nm,0.3s,baz=343,slow=7.1,SNR=7.7						
FX1				Sn	Sn	05 14 52.1	-12
	comp=Z,13nm,0.3s,baz=67,slow=22,SNR=6.5						
FX1				LR	LR	05 17 15.9	
	comp=Z,575nm,18.3s,baz=208,slow=36						
FX1	**Attu Island--F**	**12.77**	**56**	PN	**Pn**	**05 12 41.5**	**-0.9**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,575nm,18.3s						
FX1	**Attu Island--F**	**12.77**	**56**	Pn	**Pn**	**05 12 41.5**	**-0.9**
FX1				Sn	Sn	05 14 52.1	-12
OFUJ	**Ofunato**	**12.86**	**237**	P	Pn	05 12 38.6	-5.0
OFUJ				*e*S	Sn	05 14 50.9	-15
JRG	**Rokugo**	**13.25**	**240**	P	Pn	05 12 43.8	-5.2
JRG				*e*S	Sn	05 15 03.5	-13
TEY	**Ternei**	**13.30**	**268**	*e*P	**Pn**	**05 12 50.9**	**+1.2**
TEY				AMB	AMB	05 12 51.0	
	comp=Z,6.0nm,0.7s						
TEY				AMB	AMB	05 12 51.0	
	comp=Z,13nm,0.8s						
JIO	**Ouri**	**13.46**	**236**	P	Pn	05 12 46.1	-5.8
JIO				*e*S	Sn	05 15 05.3	-16
HABR	**Khabarovsk**	**13.86**	**284**	*e*P	Pn	05 12 54.0	-3.3
HABR				*e*		05 15 28.6	
HABR				MLR	MLR		
	comp=Z,2μm,17.0s						
JYA	**Atsumi**	**14.32**	**240**	P	Pn	05 12 58.8	-4.8
JYA				*e*S	Sn	05 15 29.8	-12
JFY	**Yanaizu**	**15.13**	**236**	P	**Pn**	**05 13 10.8**	**-3.8**
KLR	**Kul'dur**	**16.03**	**287**	*e*P	**Pn**	**05 13 23.0**	**-3.2**
KLR				*e*S	**Sn**	**05 16 30.0**	**+6.5**
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,150nm,1.8s						
KLR				pmax	pmax		
	comp=Z,1μm,8.0s						
KLR				smax	smax		
	comp=N,1μm,11.5s						
KLR				smax	smax		
	comp=E,500nm,11.5s						
KLR				MLR	MLR		
	comp=E,4μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
SEY	**Seymchan**	**16.06**	**355**	*e*P	**Pn**	**05 13 23.8**	**-2.7**
MJAR	**Matsushiro Arr**	**16.59**	**237**	Pn	**Pn**	**05 13 30.0**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=40						
MJAR	**Matsushiro Arr**	**16.59**	**237**	P	**Pn**	**05 13 30.0**	**-3.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.59**	**237**	Pn	**Pn**	**05 13 30.0**	**-3.4**
MAJO	**Matsushiro**	**16.59**	**237**	*e*P	**Pn**	**05 13 30.1**	**-3.4**
MAJO				pmax	pmax		
	comp=Z,111nm,1.0s						
MAJO	**Matsushiro**	**16.59**	**237**	*e*Pn	**Pn**	**05 13 30.1**	**-3.4**
	comp=Z,111nm,1.0s						
MAT	**Matsushiro**	**16.59**	**237**	P	**Pn**	**05 13 29.8**	**-3.6**
MAT				S	**Sn**	**05 16 38.0**	**+0.8**
USRK	**Ussuriysk Arra**	**16.69**	**269**	Pn	**Pn**	**05 13 32.9**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=74,slow=12,SNR=53						
USRK				LR	LR	05 19 26.8	
	comp=Z,504nm,21.3s,baz=3.1,slow=35						
VLA	**Vladivostok**	**17.13**	**266**	*e*P	**Pn**	**05 13 39.2**	**-1.0**
VLA				pmax	pmax		
	comp=Z,83nm,1.3s						
MDJ	**Mudanjiang**	**18.22**	**272**	P	**Pn**	**05 13 50.9**	**-2.8**
MDJ				pP	**P**	**05 13 54.3**	**+0.5**
MDJ				sP	**sP**	**05 13 56.1**	**-4.0**
MDJ				S	**Sn**	**05 17 16.0**	**-0.6**
MDJ				ScP	**ScP**	**05 22 01.3**	**+0.8**
MDJ				PcS	**PcS**	**05 22 02.3**	**0.0**
MDJ				ScS	**ScS**	**05 25 40.3**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,29nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.9s						
MDJ				LR	LR		
	comp=N,400nm,9.6s						
MDJ				LR	LR		
	comp=E,2μm,11.6s						
MDJ				LR	LR		
	comp=Z,2μm,13.1s						
MDJ	**Mudanjiang**	**18.22**	**272**	*e*Pn	**Pn**	**05 13 52.1**	**-1.5**
	comp=Z,31nm,1.0s						
ZEA	**Zeya**	**19.17

comp=N,240nm,2.7s
YAK smax smax
comp=E,312nm,2.7s
YAK MLR MLR
comp=Z,2µm,12.0s
YAK MLR MLR
comp=E,826nm,12.0s
YAK MLR MLR
comp=N,1µm,15.0s
YAK Yakutsk 21.04 325 *e*P **P 05 14 22.3 -2.1**
comp=N,53nm,0.9s
YAK *e*S **S 05 18 14.6 -3.3**
CLNS Chul'man 21.13 309 *e*P **P 05 14 24.4 -1.2**
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS MLR MLR
comp=E,496nm,10.0s
CLNS MLR MLR
comp=N,2µm,13.0s
CLNS MLR MLR
comp=Z,1µm,12.0s
CN2 Changchun 21.30 272 *e*P **P 05 14 26.1 -1.4**
CN2 *e*PP **pP 05 14 30.1 -1.7**
CN2 *e*PP pwP 05 14 49.5 +18
CN2 *e*S **S 05 18 16.6 -6.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=N,1µm,14.0s
CN2 LR LR
comp=E,2µm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
BILL Bilibino 21.80 11⇑ *i*P **P 05 14 31.9 -0.7**
BILL *e* 05 14 50.8
BILL pmax pmax
comp=Z,54nm,1.2s
BILL Bilibino 21.80 11 *e*P **P 05 14 31.6 -1.0**
comp=Z,155nm,1.8s
KSRS Korea Array 22.46 255 P **P 05 14 40.4 +0.5**
comp=Z,23nm,0.9s,baz=64,slow=9.3,SNR=26
KSRS LR LR 05 22 49.2
comp=Z,538nm,19.7s,baz=54,slow=35
KSRS Korea Array 22.46 255 P **P 05 14 40.4 +0.5**
KSRS pmax pmax
comp=Z,23nm,0.9s
KSRS MLR MLR
comp=Z,538nm,19.7s
CBIJ Chichi jima 22.49 213 LR LR 05 22 42.8
comp=Z,174nm,20.0s,baz=144,slow=35
KSAR Wonju Array Be 22.50 255 P **P 05 14 40.4 +0.1**
KSAR Wonju Array Be 22.50 255 P **P 05 14 40.4 +0.1**
JNU Nakatsue 23.29 242 P **P 05 14 50.0 +1.3**
comp=Z,15nm,0.9s,baz=41,slow=7.3,SNR=6.0
JNU Nakatsue 23.29 242 *e*P **P 05 14 50.2 +1.5**
INCN Inchon 23.30 256 *e*P **P 05 14 49.4 +0.7**
comp=Z,207nm,1.3s
HIA Hailar 23.86 289 *e*P **P 05 14 51.3 -2.8**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 23.86 289 *e*P **P 05 14 51.2 -2.8**
comp=Z,9.9nm,0.8s
BOD Bodaibo 27.11 309 *e*P **P 05 15 21.0 -2.5**
BOD pmax pmax
comp=Z,18nm,1.3s
WAKE Wake Island 29.11 158 *e*P **P 05 15 40.6 -1.0**
BJI Beijing 29.14 271 P P 05 15 46.3 +4.6
BJI pmax pmax
comp=Z,21nm,0.8s
BJI pmax pmax
comp=Z,210nm,3.6s
BJI LR LR
comp=N,900nm,14.2s
BJI LR LR
comp=E,2µm,14.4s
BJI LR LR
comp=Z,710nm,14.6s
BJT Baijiatuan 29.15 271 *e*P **P 05 15 43.2 +1.3**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuan 29.15 271 *e*P **P 05 15 43.2 +1.3**
comp=Z,12nm,0.6s
SSE Sheshan 30.75 251 P **P 05 15 57.8 +1.8**
SSE S **S 05 21 01.0 +2.6**
SSE sS **sS 05 21 06.3 +0.2**
SSE pmax pmax
comp=Z,17nm,0.9s
SSE pmax pmax
comp=Z,140nm,5.5s
SSE LR LR
comp=N,390nm,14.4s
SSE LR LR
comp=E,310nm,14.4s
SSE LR LR
comp=Z,400nm,14.7s
NJ2 Nanjing 31.66 255 *e*P **P 05 16 05.3 +1.2**
NJ2 pP **pP 05 16 08.3 -0.5**
NJ2 sP **sP 05 16 09.8 -0.9**
NJ2 S **S 05 21 15.0 +2.2**
NJ2 sS **sS 05 21 21.0 +0.5**
NJ2 pmax pmax
comp=Z,30nm,1.1s
NJ2 pmax pmax
comp=Z,280nm,4.1s
NJ2 LR LR
comp=N,2µm,23.0s
NJ2 LR LR
comp=E,740nm,14.4s
NJ2 LR LR
comp=Z,1µm,19.9s
HHC Hu-ho-hao-te 31.93 275 *e*P **P 05 16 06.8 +0.3**
HHC pP **pP 05 16 11.1 -0.1**
HHC sP **sP 05 16 14.1 +1.0**
HHC PP PP 05 17 11.9 -6.6
HHC S **S 05 21 15.3 -1.7**
HHC ScS **ScS 05 26 36.1 -1.6**
HHC pmax pmax
comp=Z,29nm,1.4s
HHC pmax pmax
comp=Z,230nm,5.1s
HHC LR LR
comp=N,1µm,14.2s
HHC LR LR
comp=E,1µm,15.7s
HHC LR LR
comp=Z,1µm,14.7s
ULN Ulaanbaatar 32.38 290 *e*P **P 05 16 09.0 -1.5**
ULN *e* 05 18 57.9
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 32.38 290 *e*P **P 05 16 09.0 -1.5**
comp=Z,9.5nm,1.0s
ULN *e*PcP **PcP 05 18 57.9 +0.1**
ULN Ulaanbaatar 32.38 290 P **P 05 16 08.5 -2.0**
comp=Z,12nm,1.2s
KDAK Kodiak Island 32.65 51 P **P 05 16 11.6 -0.8**
comp=Z,8.1nm,0.6s,baz=272,slow=7.3,SNR=12
KDAK Kodiak Island 32.65 51 *i* P **P 05 16 12.0 -0.5**
KDAK Kodiak Island 32.65 51 P **P 05 16 11.6 -0.8**
SONM Songino Array 32.81 290 P **P 05 16 13.1 -1.1**
comp=Z,5.4nm,0.8s,baz=73,slow=9.5,SNR=11
SONM Songino Array 32.81 290 P **P 05 16 13.1 -1.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 32.81 290 P **P 05 16 13.1 -1.1**
SPU Mount Spurr 32.85 45 *e*P **P 05 16 14.7 +0.4**
TLY Talaya 33.54 298 *e*P **P 05 16 18.5 -1.8**
TLY *e*S **S 05 21 38.3 -3.4**
TLY pmax pmax
comp=Z,7.0nm,1.1s
TLY MLR MLR
comp=Z,480nm,13.3s
TLY Talaya 33.54 298 *e*P **P 05 16 18.6 -1.8**
comp=Z,13nm,1.4s
TLY *e*PcP **PcP 05 19 02.0 +1.3**
TRF Thorofare Moun 33.76 41 *e*P **P 05 16 22.4 0.0**
comp=Z,113nm,2.0s
ZAK Zakamensk 34.07 295⇑ *i*P **P 05 16 23.2 -1.9**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
COLD Coldfoot 34.19 34 *e*P **P 05 16 26.0 +0.2**
comp=Z,97nm,2.4s

PMR Palmer 34.26 44 *e*P **P 05 16 26.2 -0.2**
PMR pmax pmax
comp=Z,22nm,1.4s
PMR Palmer 34.26 44 *e*P **P 05 16 26.2 -0.2**
comp=Z,22nm,1.4s
MCK McKinley 34.38 41 *e*P **P 05 16 27.4 -0.2**
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 34.38 41 *e*P **P 05 16 27.4 -0.2**
comp=Z,21nm,1.0s
GUMO Guam 34.49 199 LR LR 05 27 59.9
comp=Z,204nm,19.3s,baz=260,slow=32
SML Sawmill 34.64 44 *e*P **P 05 16 29.9 +0.1**
SML pmax pmax
comp=Z,8.0nm,0.7s
SML Sawmill 34.64 44 *e*P **P 05 16 29.9 +0.1**
comp=Z,8.5nm,0.7s
COLA College 34.90 39 *e*P **P 05 16 32.4 +0.4**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 34.90 39 *e*P **P 05 16 32.4 +0.4**
comp=Z,25nm,0.8s
ILAR Eielson Array 35.31 39 P **P 05 16 35.2 -0.3**
comp=Z,5.2nm,0.6s,baz=248,slow=7.8,SNR=73
ILAR LR LR 05 30 59.0
comp=Z,324nm,20.3s,baz=130,slow=36
ILAR Eielson Array 35.31 39 P **P 05 16 35.2 -0.3**
ILAR pmax pmax
comp=Z,5.0nm,0.6s
ILAR MLR MLR
comp=Z,324nm,20.3s
ILAR Eielson Array 35.31 39 P **P 05 16 35.2 -0.3**
WHN Wuhan 35.60 257⇓ P **P 05 16 38.5 +0.1**
WHN S **S 05 22 15.3 +1.5**
WHN LR LR
comp=N,2µm,13.6s
WHN LR LR
comp=E,1µm,15.1s
WHN LR LR
comp=Z,770nm,16.8s
PAX Paxson 35.94 42 *e*P **P 05 16 41.6 +0.5**
PAX pmax pmax
comp=Z,21nm,1.4s
PAX Paxson 35.94 42 *e*P **P 05 16 41.6 +0.5**
comp=Z,21nm,1.4s
DOT Dot Lake 36.55 41 *e*P **P 05 16 45.9 -0.3**
comp=Z,10nm,0.8s
QZH Quanzhou 36.65 246⇓ *i*P **P 05 16 47.8 +0.5**
QZH S S 05 22 18.3 -12
QZH sS **sS 05 22 38.6 +1.0**
QZH LR LR
comp=N,730nm,8.8s
QZH LR LR
comp=E,860nm,12.0s
QZH LR LR
comp=Z,490nm,11.2s
XAN Xi'an 37.19 267 P **P 05 16 52.5 +0.5**
XAN pP **pP 05 16 56.5 -0.2**
XAN PP PP 05 18 17.0 +0.3
XAN S **S 05 22 33.8 -4.4**
XAN sS **sS 05 22 41.6 -4.3**
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN pmax pmax
comp=Z,47nm,3.7s
XAN LR LR
comp=N,530nm,13.3s
XAN LR LR
comp=E,270nm,14.5s
XAN LR LR
comp=Z,280nm,14.5s
EGAK Eagle 37.77 39 *e*P **P 05 16 56.4 -0.1**
comp=Z,26nm,0.8s
DAWY Dawson 38.59 40 *e*P **P 05 17 03.8 +0.4**
DAWY *e*PP PP 05 18 27.9 -3.7
ENH Enshi 39.05 261 *e*P **P 05 17 07.8 +0.2**
comp=Z,66nm,1.6s
LZH Lanzhou 39.54 273⇓ P **P 05 17 13.0 +1.1**
LZH pP **pP 05 17 18.4 +1.8**
LZH sP **sP 05 17 20.8 +2.3**
LZH PP PP 05 18 43.0 +0.5
LZH *e*S **S 05 23 17.0 +3.2**
LZH sS **sS 05 23 24.1 +2.5**
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,410nm,4.4s
LZH LR LR
comp=N,750nm,13.7s
LZH LR LR
comp=E,690nm,11.9s
LZH LR LR
comp=Z,880nm,13.3s
INK Inuvik 40.54 33 P **P 05 17 20.7 +1.1**
comp=Z,13nm,0.9s,baz=283,slow=7.0,SNR=37
INK Inuvik 40.54 33 *e*P **P 05 17 20.5 +0.9**
INK pmax pmax
comp=Z,47nm,1.3s
INK Inuvik 40.54 33 *e*P **P 05 17 20.5 +0.9**
comp=Z,47nm,1.3s
GTA Gaotai 40.57 280 *e*P **P 05 17 21.6 +1.3**
GTA pP **pP 05 17 25.9 +0.8**
GTA sP **sP 05 17 29.5 +2.6**
GTA S **S 05 23 29.6 +0.5**
GTA sS **sS 05 23 37.4 +0.5**
GTA pmax pmax
comp=Z,24nm,1.3s
GTA pmax pmax
comp=Z,240nm,5.0s
GTA LR LR
comp=N,640nm,14.7s
GTA LR LR
comp=E,340nm,14.0s
GTA LR LR
comp=Z,600nm,13.8s
CD2 Chengdu 42.55 267 P **P 05 17 37.4 +0.8**
CD2 pP **pP 05 17 41.9 +0.5**
CD2 sP **sP 05 17 44.4 +1.2**
CD2 PP PP 05 19 18.8 +3.6
CD2 S **S 05 23 58.8 +0.3**
CD2 sS **sS 05 24 05.6 -0.8**
CD2 SS SS 05 27 01.6 -6.6
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,260nm,5.2s
CD2 LR LR
comp=N,950nm,13.7s
CD2 LR LR
comp=Z,820nm,13.7s
GYA Guiyang 43.39 259⇓ *i*P **P 05 17 44.0 +0.5**
GYA PP PP 05 19 26.3 +1.9
GYA PcP **PcP 05 19 35.0 +3.1**
GYA S **S 05 24 10.5 -0.6**
GYA SS SS 05 27 15.3 -10
GYA pmax pmax
comp=Z,40nm,1.0s
GYA LR LR
comp=N,380nm,14.9s
GYA LR LR
comp=E,410nm,13.3s
GYA LR LR
comp=Z,530nm,17.7s
ZAA0 Zalesovo Array 43.80 306 *e*P **P 05 17 45.7 -0.6**
ZALV Zalesovo Beam 43.80 306 P **P 05 17 44.9 -1.4**
comp=Z,5.3nm,0.5s,baz=63,slow=7.0,SNR=34
ZALV PcP **PcP 05 19 33.1 +0.5**
comp=Z,8.5nm,0.9s,baz=93,slow=3.0,SNR=10
ZALV LR LR 05 37 05.9
comp=Z,615nm,19.6s,baz=69,slow=38
ZALV Zalesovo Beam 43.80 306 P **P 05 17 44.9 -1.4**
ZALV 05 19 33.2
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV MLR MLR
comp=Z,615nm,19.7s
ZALV Zalesovo Beam 43.80 306 P **P 05 17 44.9 -1.4**
ZALV PcP **PcP 05 19 33.1 +0.5**
DLBC Dease Lake 44.22 47 *e*P **P 05 17 51.7 +2.0**
NVS Novosibirsk 44.35 308⇑ *i*P **P 05 17 50.4 -0.3**
NVS *e*S S 05 24 12.1 -12
NVS pmax pmax
comp=Z,37nm,1.1s
NVS pmax pmax
comp=N,15nm,1.6s

NVS pmax pmax
comp=E,40nm,0.8s
NVS smax smax
comp=N,12nm,1.4s
NVS smax smax
comp=E,40nm,2.0s
WMQ Urumqi 46.38 292 P **P 05 18 07.8 +0.8**
WMQ pP **pP 05 18 12.8 +1.0**
WMQ sP **sP 05 18 14.8 +1.1**
WMQ S **S 05 24 53.6 -0.3**
WMQ ScS **ScS 05 28 00.3 -1.3**
WMQ pmax pmax
comp=Z,17nm,1.2s
WMQ pmax pmax
comp=Z,340nm,6.4s
WMQ LR LR
comp=N,620nm,16.0s
WMQ LR LR
comp=E,490nm,15.0s
WMQ LR LR
comp=Z,550nm,16.0s
QIZ Qiongzhong 46.48 249 P **P 05 18 09.0 +1.0**
QIZ S **S 05 24 57.0 +1.3**
QIZ pmax pmax
comp=Z,24nm,1.8s
QIZ LR LR
comp=N,370nm,15.1s
QIZ LR LR
comp=Z,310nm,15.1s
KMI Kunming 46.92 261 P **P 05 18 12.8 +1.1**
KMI pP **pP 05 18 15.8 -0.7**
KMI PP PP 05 20 03.4 +1.4
KMI S **S 05 25 02.8 +0.4**
KMI pmax pmax
comp=Z,29nm,1.6s
KMI pmax pmax
comp=Z,180nm,4.9s
KMI LR LR
comp=N,600nm,13.4s
KMI LR LR
comp=E,340nm,13.4s
KMI LR LR
comp=Z,410nm,13.9s
MK31 Makanchi Array 48.29 298*c e*P **P 05 18 21.5 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 48.29 298 *e*P **P 05 18 21.3 -0.6**
MK31 *e*PcP **PcP 05 19 48.5 0.0**
MKAR Makanchi Array 48.29 298 P **P 05 18 21.2 -0.6**
comp=Z,16nm,0.9s,baz=66,slow=6.9,SNR=49
MKAR PcP **PcP 05 19 48.9 +0.3**
comp=Z,4.6nm,0.9s,baz=68,slow=2.8,SNR=4.5
MKAR LR LR 05 39 48.5
comp=Z,364nm,20.8s,baz=358,slow=38
MKAR Makanchi Array 48.29 298*c e*P **P 05 18 21.6 -0.3**
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 48.29 298 P **P 05 18 21.2 -0.6**
MKAR PcP **PcP 05 19 48.9 +0.3**
KURK Kurchatov 48.60 304 P **P 05 18 24.3 +0.2**
comp=Z,75nm,1.0s,baz=64,slow=7.9
KURK PcP **PcP 05 19 49.8 +0.3**
comp=Z,6.0nm,0.8s,baz=71,slow=3.0,SNR=5.4
KURK LR LR 05 39 52.0
comp=Z,823nm,19.0s,baz=55,slow=37
KURK Kurchatov 48.60 304*c i*P **P 05 18 23.6 -0.5**
KURK pmax pmax
comp=Z,116nm,1.2s
KURK Kurchatov 48.60 304 P **P 05 18 24.3 +0.2**
comp=Z,9.6nm,1.1s
KURK *e*PcP **PcP 05 19 48.9 -0.6**
KURK PcP **PcP 05 19 49.8 +0.3**
KURK *e*PP PP 05 20 19.9 +3.2
KURK Kurchatov 48.60 304 P **P 05 18 23.7 -0.4**
comp=Z,452nm,1.2s,SNR=17
ALE Alert 49.32 6 P **P 05 18 29.9 +0.7**
comp=Z,79nm,1.7s,SNR=6.9
YKA Yellowknife Ar 49.72 37 P **P 05 18 33.0 +0.5**
comp=Z,5.2nm,0.9s,baz=296,slow=7.4,SNR=45
YKA Yellowknife Ar 49.72 37 P **P 05 18 33.0 +0.5**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 49.72 37 P **P 05 18 33.0 +0.5**
RES Resolute Bay 50.06 19 LR LR 05 39 54.7
comp=Z,375nm,20.3s,baz=286,slow=36
LSA Lhasa 51.91 275 *e*P **P 05 18 52.0 +1.9**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 51.91 275 *e*P **P 05 18 52.0 +1.9**
comp=Z,9.8nm,0.7s
BVA0 Borovoye Array 51.97 310 *i* P **P 05 18 49.4 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 51.97 310 LR LR 05 42 14.7
comp=Z,776nm,20.7s,baz=60,slow=38
BRVK Borovoye 52.01 310*d i*P **P 05 18 50.0 +0.1**
BRVK pmax pmax
comp=Z,50nm,1.2s
BRVK Borovoye 52.01 310 *e*P **P 05 18 49.6 -0.4**
comp=Z,19nm,0.7s
BRVK *e*PcP **PcP 05 20 02.5 +0.5**
BRVK Borovoye 52.01 310 P **P 05 18 49.8 -0.1**
comp=Z,197nm,0.7s,SNR=9.8
ZRNK Zerenda 52.73 311 *i* P **P 05 18 55.1 -0.2**
ZRNK pmax pmax
comp=Z,52nm,1.2s
CHTO Chiang Mai 53.80 258 *e*P **P 05 19 04.8 +1.2**
CHTO pmax pmax
comp=Z,119nm,1.7s
CHTO Chiang Mai 53.80 258 *e*P **P 05 19 04.8 +1.2**
comp=Z,119nm,1.7s
CHTO *e*PcP PcP 05 20 19.5 +10
CHTO Chiang Mai 53.80 258 P **P 05 19 04.7 +1.2**
comp=Z,43nm,1.4s,comp=Z,527nm
CM31 Chiang Mai Arr 54.05 258 *e*P **P 05 19 07.2 +1.8**
comp=Z,8.4nm,0.6s
CMAR Chiang Mai Arr 54.05 258 P **P 05 19 06.0 +0.6**
comp=Z,7.9nm,0.6s,baz=33,slow=7.7,SNR=57
CMAR LR LR 05 42 49.8
comp=Z,204nm,20.5s,baz=49,slow=37
CMAR Chiang Mai Arr 54.05 258 P **P 05 19 06.0 +0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CMAR MLR MLR
comp=Z,204nm,20.5s
CMAR Chiang Mai Arr 54.05 258 P **P 05 19 06.0 +0.6**
ETW Entiat 54.26 56 *e*P **P 05 19 07.2 +0.5**
comp=Z,3.9nm,0.8s
TKM2 Tokmak 2 54.37 297 P **P 05 19 08.9 +1.2**
SNR=13
TKM2 P **P 05 19 08.9 +1.2**
SNR=13
TKM2 Tokmak 2 54.37 297 *i* P **P 05 19 08.9 +1.2**
TKM2 Tokmak 2 54.37 297 *e*P **P 05 19 08.2 +0.5**
comp=Z,14nm,1.0s
TKM2 *e*PcP **PcP 05 20 11.8 +0.3**
SVE Sverdlovsk 54.77 318*d e*P **P 05 19 10.9 +0.8**
SVE pmax pmax
comp=Z,51nm,1.3s
USP Ospenovka 54.84 298 P **P 05 19 11.9 +0.9**
SNR=38
USP P **P 05 19 11.9 +0.9**
SNR=38
KBK Karagaybulak 54.91 297 P **P 05 19 12.8 +1.2**
SNR=12
KBK P **P 05 19 12.8 +1.2**
SNR=12
SOKR Solikamsk 54.93 322*c i*P **P 05 19 11.7 +0.6**
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,650nm,24.0s
FRU Bishkek 55.02 298 *e*P **P 05 19 12.0 -0.2**
FRU pmax pmax
comp=Z,100nm,2.0s
KZA Kyzart 55.06 296 P **P 05 19 14.0 +1.1**
SNR=13
KZA P **P 05 19 14.0 +1.1**
SNR=13
AAK Ala-Archa 55.20 297 P **P 05 19 14.8 +1.1**
SNR=16
AAK P **P 05 19 14.8 +1.1**
SNR=16
AAK Ala-Archa 55.20 297 *i* P **P 05 19 14.7 +1.1**
AAK Ala-Archa 55.20 297 *e*P **P 05 19 13.7 0.0**
comp=Z,57nm,0.8s

AAK **Ala-Archa** 55.20 297 P P 05 19 13.5 -0.2
comp=Z,92nm,0.8s,SNR=18
OD2 **Odessa Site #2** 55.29 56 eP P 05 19 14.2 +0.1
comp=Z,15nm,1.4s
EKS2 **Erkin-Say** 55.62 298 P P 05 19 17.3 +0.6
SNR=16
EKS2 P P 05 19 17.3 +0.6
SNR=16
EKS2 **Erkin-Say** 55.62 298 eP P 05 19 17.5 +0.9
EKS2 e 05 20 16.7
EKS2 pmax pmax
comp=Z,17nm,1.0s
EKS2 **Erkin-Say** 55.62 298 eP P 05 19 17.5 +0.9
comp=Z,17nm,1.0s
EKS2 ePcP PcP 05 20 16.7 +0.6
NEW **Newport** 55.69 54 ⇓P P 05 19 17.2 +0.2
baz=56
TAPN **Taplejung** 55.74 275 eP P 05 19 18.4 +0.5
TAPN **Taplejung** 55.74 275 eP P 05 19 18.4 +0.5
ARU **Arti** 55.94 318 d iP P 05 19 18.5 0.0
ARU 05 21 19.6
ARU S S 05 27 08.7 +3.2
ARU pmax pmax
comp=Z,87nm,1.2s
ARU **Arti** 55.94 318 eP P 05 19 18.7 +0.1
comp=Z,105nm,1.3s
ARU ePcP PcP 05 20 17.7 +0.8
ARU **Arti** 55.94 318 P P 05 19 18.6 0.0
comp=Z,252nm,0.4s,SNR=5.0
AML **Almayashu** 55.98 297 P P 05 19 21.0 +1.5
SNR=10
AML P P 05 19 21.0 +1.5
SNR=10
KSH **Kashi** 56.08 294 P P 05 19 24.6 +4.6
KSH eP pP 05 19 29.0 +4.1
KSH eS sP 05 19 31.6 +4.9
KSH eP cP PcP 05 20 21.0 +3.0
KSH eP P PP 05 21 31.5 +6.8
KSH eS cP ScP 05 24 18.8 +2.4
KSH eP cS PcS 05 24 20.5 +2.0
KSH eS S 05 27 12.6 +4.4
KSH eS sS 05 27 20.5 +4.3
KSH eS cS ScS 05 29 09.8 +1.1
KSH eS S SS 05 31 00.5 +6.5
KSH pmax pmax
comp=Z,27nm,1.2s
KSH pmax pmax
comp=Z,240nm,4.2s
KSH LR LR
comp=N,480nm,10.1s
KSH LR LR
comp=E,700nm,13.8s
KSH LR LR
comp=Z,890nm,21.7s
ODAN **Odare** 56.27 274 eP P 05 19 21.5 -0.1
ODAN **Odare** 56.27 274 eP P 05 19 21.5 -0.1
C11A **Tepee Creek (N** 56.41 54 ⇓P P 05 19 22.2 +0.1
baz=56
DAG **Danmarks Havn** 56.45 358 i P P 05 19 21.2 -0.7
DAG pmax pmax
comp=Z,6.0nm,1.1s
DAG **Danmarks Havn** 56.45 358 i P P 05 19 21.2 -0.7
comp=Z,57nm,1.1s
JIRN **Jiri** 56.58 276 eP P 05 19 24.5 +0.5
JIRN **Jiri** 56.58 276 eP P 05 19 24.5 +0.5
GUN **Gumba** 56.63 276 eP P 05 19 24.8 +0.5
GUN **Gumba** 56.63 276 eP P 05 19 24.8 +0.5
PMG **Port Moresby** 56.65 190 P P 05 19 24.2 +0.2
comp=Z,2.3nm,0.3s,baz=358,slow=12,SNR=5.7
PMG **Port Moresby** 56.65 190 P P 05 19 24.2 +0.2
PMG pmax pmax
comp=Z,2.0nm,0.3s
PMG **Port Moresby** 56.65 190 P P 05 19 24.2 +0.2
PMG **Port Moresby** 56.65 190 P P 05 19 26.9 +2.9
comp=Z,14nm,1.8s
RAMN **Ramite** 56.75 275 eP P 05 19 25.4 +0.3
RAMN **Ramite** 56.75 275 eP P 05 19 25.4 +0.3
A13A **Flathead Natio** 56.79 52 ⇓P P 05 19 25.3 +0.5
baz=56
B13A **Whitefish** 57.08 53 ⇓P P 05 19 27.2 +0.3
baz=57
KKN **Kakani** 57.11 277 eP P 05 19 28.6 +1.0
KKN **Kakani** 57.11 277 eP P 05 19 28.6 +1.0
KKN **Kakani** 57.11 277 eP P 05 19 28.6 +1.0
PKI **Pulchoki** 57.16 276 eP P 05 19 28.5 +0.4
PKI **Pulchoki** 57.16 276 eP P 05 19 28.5 +0.4
PKI **Pulchoki** 57.16 276 eP P 05 19 28.5 +0.4
LVZ **Lovozero** 57.18 337 eP P 05 19 26.1 -1.2
LVZ pmax pmax
comp=Z,82nm,2.5s
BSMT **Bassoo Peak** 57.21 53 eP P 05 19 28.9 +0.9
comp=Z,15nm,1.8s
BSMT ePcP PcP 05 20 22.8 +0.4
A14A **Double T Ranch** 57.30 52 ⇑P P 05 19 28.3 -0.2
baz=57
KKAR **Karatay Array** 57.32 300 eP P 05 19 28.8 +0.2
KKAR e 05 20 22.7
KKAR pmax pmax
comp=Z,11nm,0.9s
KKAR **Karatay Array** 57.32 300 eP P 05 19 28.8 +0.2
comp=Z,10nm,0.9s
KKAR ePcP PcP 05 20 22.7 +0.1
DMN **Daman** 57.35 277 eP P 05 19 30.1 +0.8
comp=Z,67nm,1.0s
DMN **Daman** 57.35 277 eP P 05 19 30.1 +0.8
comp=Z,67nm,1.0s
GKN **Gorkha** 57.41 277 eP P 05 19 30.4 +0.8
GKN **Gorkha** 57.41 277 eP P 05 19 30.4 +0.8
C13A **Hot Springs** 57.43 53 ⇓P P 05 19 29.7 +0.3
baz=57
BMO **Blue Mountains** 57.55 57 eP P 05 19 30.6 +0.3
comp=Z,38nm,2.1s
E12A **Beaver Dam Sad** 57.62 55 ⇓P P 05 19 31.1 +0.2
baz=57
KEV **Kevo** 57.65 341 eP P 05 19 30.4 0.0
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV **Kevo** 57.65 341 ep P 05 19 30.4 0.0
comp=Z,4.4nm,0.7s
KEV **Kevo** 57.65 341 ep P 05 19 30.4 0.0
comp=Z,4.4nm,0.7s
A15A **Johnson Ranch,** 57.67 51 ⇓P P 05 19 30.5 -0.5
baz=57
B14A **Marquette Ranc** 57.74 52 ⇓P P 05 19 31.3 -0.3
baz=58
APA **Apatity** 57.75 337 ⇓ iP P 05 19 32.2 +1.0
APA pmax pmax
comp=Z,31nm,1.0s
APA MLR MLR
comp=Z,1μm,22.0s
DANN **Dangsing** 57.79 278 eP P 05 19 33.5 +1.1
DANN **Dangsing** 57.79 278 eP P 05 19 33.5 +1.1
C14A **Swan Lake** 57.83 53 ⇓P P 05 19 32.1 -0.1
baz=58
D13A **Huson** 57.84 54 ⇑P P 05 19 32.6 +0.3
baz=58
ARCES **ARCESS Array B** 58.15 342 P P 05 19 34.2 +0.2
comp=Z,6.9nm,0.8s,baz=38,slow=7.9,SNR=10
ARCES LR LR 05 47 21.3
comp=Z,1μm,21.7s,baz=39,slow=39
ARCES **ARCESS Array B** 58.15 342 P P 05 19 34.2 +0.2
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,1μm,21.7s
ARCES **ARCESS Array B** 58.15 342 P P 05 19 34.2 +0.2
B15A **Bradely Ranch,** 58.15 52 ⇓P P 05 19 33.9 -0.5
baz=58
F12A **Elk City** 58.18 55 ⇑P P 05 19 34.6 -0.2
baz=58,SNR=7.1
KOLN **Koldanda** 58.27 278 eP P 05 19 36.4 +0.7
comp=Z,39nm,1.0s
KOLN **Koldanda** 58.27 278 eP P 05 19 36.4 +0.7
comp=Z,39nm,1.0s
MSO **Missoula** 58.28 54 ⇑P P 05 19 35.2 -0.2
baz=58
SLMT **Seeley Lake** 58.28 53 eP P 05 19 35.9 +0.5
comp=Z,3.5nm,0.7s
A16A **West Butte Ran** 58.29 51 ⇓P P 05 19 34.7 -0.7
baz=58
D14A **Greenough** 58.37 53 ⇑P P 05 19 36.3 +0.2
baz=58,SNR=7.2
E13A **Victor** 58.37 54 ⇓P P 05 19 36.0 -0.1
baz=58
C15A **Salmond Ranch,** 58.45 52 ⇑P P 05 19 36.8 +0.2
baz=58,SNR=5.5

G12A **Big Creek, Yel** 58.52 56 ⇑P P 05 19 37.2 0.0
baz=58
F13A **Darby** 58.68 55 ⇑P P 05 19 38.0 -0.2
baz=58
BEKR **Beckworth** 58.69 64 ⇑P P 05 19 38.8 +0.3
baz=58
A17A **Triple J Farms** 58.76 50 ⇓P P 05 19 38.5 -0.2
baz=58
E14A **Clinton** 58.77 54 ⇓P P 05 19 38.6 -0.3
baz=58
C16A **Fuhringer Ranc** 58.90 52 ⇓P P 05 19 39.9 +0.2
baz=59,SNR=6.6
D15A **Lincoln** 58.93 53 ⇓P P 05 19 39.3 -0.7
baz=59
B17A **L&G Farms, Che** 59.10 51 ⇓P P 05 19 40.8 -0.2
baz=59
H12A **Diamond D Ranc** 59.13 56 ⇑P P 05 19 40.7 -0.7
baz=59
G13A **Cobalt** 59.16 56 ⇑P P 05 19 41.6 0.0
baz=59,SNR=7.6
F14A **Wisdom** 59.20 54 ⇓P P 05 19 41.9 -0.1
baz=59
A18A **Metzger Ranch,** 59.23 50 ⇓P P 05 19 41.8 -0.1
baz=59
E15A **Deer Lodge** 59.24 54 ⇓P P 05 19 42.0 -0.2
baz=59
MFID **Camas Ranch** 59.26 58 ⇑P P 05 19 42.3 0.0
baz=59
WCN **Washoe City** 59.41 64 ⇑P P 05 19 43.4 0.0
baz=59
I12A **Atlanta** 59.43 57 ⇓P P 05 19 43.4 -0.1
baz=59
H13A **Challis** 59.46 56 ⇑P P 05 19 43.6 -0.1
baz=59
FFC **Flin Flon** 59.47 41 i P P 05 19 44.3 +0.9
FFC **Flin Flon** 59.47 41 eP P 05 19 43.8 +0.4
comp=Z,22nm,1.5s
C17A **Wharram Farm,** 59.52 52 ⇑P P 05 19 44.1 +0.1
baz=59,SNR=8.4
AB31 **Akbulak array** 59.53 311 ceP P 05 19 43.9 0.0
AB31 pmax pmax
comp=Z,11nm,0.4s
ABKAR **Akbulak array** 59.53 311 eP P 05 19 43.9 0.0
comp=Z,10nm,0.5s
B18A **Beardsley Farm** 59.58 50 ⇑P P 05 19 44.7 +0.4
baz=59,SNR=6.0
F15A **Butte** 59.67 54 ⇑P P 05 19 45.5 +0.3
baz=59,SNR=5.5
E16A **East Helena** 59.70 53 ⇓P P 05 19 45.1 -0.1
baz=60
AKTO **Aktyubinsk** 59.78 313 LR LR 05 46 38.5
comp=Z,319nm,20.2s,baz=233,slow=37
AKTO **Aktyubinsk** 59.78 313 i P P 05 19 45.0 -0.6
AKTO pmax pmax
comp=Z,5.0nm,1.3s
A19A **Klindworth Far** 59.80 49 ⇓P P 05 19 45.8 0.0
baz=60
EGMT **Eagleton** 59.82 51 ⇓P P 05 19 45.8 -0.3
baz=60
D17A **Six Diamond Ra** 59.86 52 ⇓P P 05 19 46.3 -0.1
baz=60
H14A **Leadore** 59.93 56 ⇑P P 05 19 47.0 0.0
baz=60
I13A **Wildhorse Cree** 59.94 57 ⇑P P 05 19 47.4 +0.3
baz=60
B19A **Brinkman Farms** 59.98 50 ⇑P P 05 19 47.4 +0.2
baz=60,SNR=5.4
HLID **Hailey** 59.98 57 ⇓P P 05 19 47.5 +0.1
baz=60
G15A **Dillon** 60.09 55 ⇓P P 05 19 47.6 -0.4
baz=60
F16A **Kennard Place,** 60.19 54 ⇓P P 05 19 48.8 +0.1
baz=60
E17A **Martinsdale** 60.19 53 ⇑P P 05 19 49.5 +0.8
baz=60,SNR=7.2
J13A **Cove Ranch, Pi** 60.22 57 ⇓P P 05 19 49.3 +0.3
baz=60
A20A **Cobblestone Ra** 60.25 49 ⇑P P 05 19 49.5 +0.6
baz=60,SNR=5.7
D18A **Linhart Farms,** 60.31 51 ⇓P P 05 19 49.0 -0.4
baz=60
I14A **Mackay** 60.31 56 ⇑P P 05 19 50.1 +0.5
baz=60,SNR=7.2
SUMG **Summit** 60.32 5 i P P 05 19 50.7 +1.2
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG **Summit** 60.32 5 i P P 05 19 50.7 +1.2
comp=Z,12nm,0.9s
DDI **Dehra Dun** 60.36 284 ex x 05 19 50.5
C19A **Slack Wire Ran** 60.38 51 ⇓P P 05 19 50.1 +0.2
baz=60,SNR=6.5
G16A **Moss Hill, Enn** 60.43 54 ⇓P P 05 19 50.7 +0.3
baz=60,SNR=7.1
B20A **Solberg Farm,** 60.48 50 ⇑P P 05 19 50.5 0.0
baz=60
E18A **Harlowton** 60.64 52 ⇑P P 05 19 52.1 +0.3
baz=60
F17A **Fitzpatrick Pl** 60.65 53 ⇑P P 05 19 52.1 +0.3
baz=60
J14A **Carey** 60.65 57 ⇑P P 05 19 52.3 +0.4
baz=60
A21A **Bergtoll Ranch** 60.70 48 ⇓P P 05 19 52.4 +0.5
baz=60,SNR=5.3
KLMR **Klimovskoe** 60.74 330 eP P 05 19 49.7 -2.3
KLMR e 05 22 03.1
KLMR pmax pmax
comp=Z,98nm,1.4s
D19A **Cripps Ranch,** 60.82 51 ⇓P P 05 19 53.1 +0.2
baz=61
NVAR **Mina Array Bea** 60.84 64 P P 05 19 54.4 +1.1
comp=Z,1.3nm,0.8s,baz=298,slow=6.4,SNR=9.3
NVAR LR LR 05 41 37.0
comp=Z,120nm,19.1s,baz=63,slow=32
NVAR **Mina Array Bea** 60.84 64 P P 05 19 54.4 +1.1
QLMT **Earthquake Lak** 60.89 54 eP P 05 19 54.7 +1.2
comp=Z,1.0nm,0.9s
C20A **Veseth Ranch,** 60.94 50 ⇑P P 05 19 54.0 +0.4
baz=61,SNR=5.6
G17A **Pierce Place,** 60.97 54 ⇑P P 05 19 54.1 +0.1
baz=61
B21A **Ellsworth Farm** 61.00 49 ⇓P P 05 19 54.4 +0.4
baz=61
H16A **Russell Place,** 61.07 54 ⇓P P 05 19 55.3 +0.5
baz=61,SNR=5.8
F18A **Big Timber** 61.16 53 ⇑P P 05 19 55.9 +0.6
baz=61,SNR=8.0
A22A **Carney Farms,** 61.21 48 ⇓P P 05 19 55.5 +0.1
baz=61,SNR=7.6
J15A **Blackfoot** 61.22 56 ⇓P P 05 19 56.3 +0.6
baz=61
ELK **Elko** 61.24 60 LR LR 05 41 30.1
comp=Z,165nm,19.9s,baz=311,slow=31
D20A **Manuel Ranch,** 61.26 51 ⇑P P 05 19 56.5 +0.6
baz=61,SNR=8.8
E19A **Rath Farm, Rou** 61.31 52 ⇑P P 05 19 56.4 +0.1
baz=61
K14A **Jones Ranch, D** 61.33 57 ⇓P P 05 19 56.9 +0.5
baz=61
I16A **Newdale** 61.45 55 ⇑P P 05 19 57.6 +0.2
baz=61
K15A **Arbon** 61.61 57 ⇓P P 05 19 59.1 +0.7
baz=61
L14A **Malta** 61.61 58 ⇓P P 05 19 59.2 +0.8
baz=61
F19A **Roth Farm, Mol** 61.61 52 ⇓P P 05 19 58.8 +0.5
baz=61,SNR=6.2
E20A **Meyer Farm, Mu** 61.64 51 ⇓P P 05 19 58.8 +0.4
baz=61
H17A **Grant Village** 61.64 54 ⇑P P 05 19 59.4 +0.7
baz=61
JMIC **Jan Mayen** 61.76 354 LR LR 05 45 08.5
comp=Z,236nm,20.8s,baz=41,slow=34
J16A **Bone** 61.76 56 ⇓P P 05 20 00.4 +1.0
baz=62,SNR=5.1
FLWY **Flagg Ranch** 61.77 55 eP P 05 19 59.1 -0.4
comp=Z,39nm,2.0s
JOF **Joensuu** 61.83 335 eP P 05 19 57.8 -1.5
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF **Joensuu** 61.83 335 ep P 05 19 57.8 -1.5
comp=Z,6.6nm,0.7s
JOF **Joensuu** 61.83 335 ep P 05 19 57.8 -1.5
comp=Z,6.6nm,0.7s
D21A **La Casta Ranch** 61.88 50 ⇑P P 05 20 00.7 +0.6
baz=62,SNR=5.3
RRI2 **Red Ridge** 61.88 56 eP P 05 20 01.7 +1.3
comp=Z,5.9nm,0.8s
RLMT **Red Lodge** 61.90 53 ⇓P P 05 20 01.1 +0.7
baz=62
RLMT ⇓P P 05 20 01.1 +0.7
baz=62
I17A **Pilgrim Ck.** 61.94 55 ⇓P P 05 20 01.3 +0.7
baz=62
H18A **Shoshone NF, C** 61.96 54 ⇑P P 05 20 01.3 +0.5
baz=62
VES **Vestal, Richgr** 61.98 67 ⇓P P 05 20 01.3 +0.6
baz=62
B23A **Brockton** 62.02 48 ⇓P P 05 20 01.1 +0.2
baz=62,SNR=5.7
C22A **Vida** 62.02 49 ⇓P P 05 20 00.8 -0.1
baz=62
K16A **Soda Springs** 62.05 56 ⇓P P 05 20 02.4 +1.0
baz=62,SNR=5.7
LOHW **Long Hollow** 62.12 55 eP P 05 20 03.1 +1.3
comp=Z,50nm,2.1s
L15A **Malad City** 62.12 57 ⇓P P 05 20 02.2 +0.3
baz=62
REDW **Red Top Meadow** 62.13 55 eP P 05 20 03.2 +1.2
comp=Z,6.5nm,1.0s
J17A **Brown Place, J** 62.21 55 ⇓P P 05 20 03.7 +1.2
baz=62,SNR=5.2
A24A **Westby** 62.22 47 ⇑P P 05 20 02.5 +0.2
baz=62
CWC **Cottonwood Cre** 62.23 65 ⇑P P 05 20 03.3 +0.7
baz=62
D22A **Cohagen** 62.25 50 ⇑P P 05 20 03.2 +0.6
baz=62
GRAC **Grapevine Rang** 62.31 65 ⇓P P 05 20 03.8 +0.7
baz=62
H19A **Powell** 62.34 53 ⇑P P 05 20 04.0 +0.7
baz=62
G20A **Bridger** 62.41 52 ⇓P P 05 20 03.6 -0.2
baz=62
DGMT **Dagmar** 62.42 48 eP P 05 20 03.3 -0.3
comp=Z,14nm,1.0s
DGMT **Dagmar** 62.42 48 ⇓P P 05 20 03.7 +0.1
baz=62
M15A **Larsen Ranch,** 62.43 58 ⇓P P 05 20 04.3 +0.4
baz=62
ISA **Isabella** 62.47 66 ⇑P P 05 20 03.9 -0.3
baz=62
R11A **Troy Canyon, C** 62.55 62 ⇑P P 05 20 05.1 +0.3
baz=62
L16A **Fish Haven** 62.66 57 ⇓P P 05 20 05.8 +0.3
baz=62
J18A **Kendall Valley** 62.70 55 ⇓P P 05 20 06.1 +0.3
baz=62
I19A **Meeteetse** 62.74 54 ⇑P P 05 20 07.0 +0.9
baz=62
D23A **Lindsay** 62.74 49 ⇑P P 05 20 06.1 +0.2
baz=62
N15A **Stansbury Isla** 62.75 58 ⇓P P 05 20 06.7 +0.6
baz=62
E22A **Miles City** 62.83 50 ⇓P P 05 20 06.3 -0.1
baz=63
L17A **Cokeville** 62.93 57 ⇑P P 05 20 07.8 +0.5
baz=63
FURC **Furnace Creek,** 62.96 65 ⇓P P 05 20 08.3 +0.9
baz=63
DUG **Dugway** 63.02 59 ⇑P P 05 20 08.3 +0.4
baz=63
K18A **Toltan Ranch,** 63.06 56 ⇑P P 05 20 08.6 +0.4
baz=63
LRMC **Laurel Mountai** 63.08 66 ⇓P P 05 20 08.8 +0.4
baz=63
F22A **Rosebud** 63.10 51 ⇑P P 05 20 08.6 +0.4
baz=63
J19A **Crowheart** 63.21 55 ⇓P P 05 20 09.6 +0.5
baz=63
PD01 **Pinedale Array** 63.22 55 eP P 05 20 09.5 +0.2
PD02 **Pinedale Array** 63.23 55 eP P 05 20 09.7 +0.3
D24A **Glendive** 63.24 49 ⇑P P 05 20 09.6 +0.5
baz=63
BW06 **Boulder Array** 63.24 55 ⇑P P 05 20 09.7 +0.3
baz=63
BW06 ⇑P P 05 20 09.7 +0.3
baz=63
PDAR **Pinedale Array** 63.24 55 P P 05 20 10.2 +0.8
comp=Z,1.5nm,0.7s,baz=290,slow=2.8,SNR=14
PDAR **Pinedale Array** 63.24 55 P P 05 20 10.2 +0.8
I20A **Worland** 63.27 53 ⇑P P 05 20 09.7 +0.3
baz=63
EDW2 **Edwards Air Fo** 63.28 67 ⇓P P 05 20 10.0 +0.5
baz=63
H21A **Big Horn, Sher** 63.43 52 ⇓P P 05 20 10.8 +0.4
baz=63
G22A **Birney** 63.45 51 ⇓P P 05 20 10.7 +0.1
baz=63
M17A **Scullys Gap (B** 63.45 57 ⇓P P 05 20 11.0 +0.2
baz=63
KBL **Kabul** 63.51 293 eP P 05 20 11.0 -0.3
KBL pmax pmax
comp=Z,47nm,1.3s
KBL **Kabul** 63.51 293 eP P 05 20 10.9 -0.3
comp=Z,47nm,1.3s
L18A **Fontenelle, Gr** 63.52 56 ⇑P P 05 20 11.3 +0.1
baz=63
F23A **Volborg** 63.59 51 ⇑P P 05 20 11.8 +0.4
baz=63
K19A **Absolon Red Bu** 63.61 55 ⇓P P 05 20 12.0 +0.2
baz=63
R13A **O'Grain Ranch,** 63.63 62 ⇑P P 05 20 12.1 0.0
baz=63
J20A **Shoshoni** 63.69 54 ⇑P P 05 20 12.5 +0.3
baz=63
N17A **Moffit Pass** 63.70 57 ⇓P P 05 20 12.6 +0.1
baz=64
P15A **Leamington** 63.74 59 ⇑P P 05 20 12.9 +0.3
baz=64
GSC **Goldstone** 63.75 66 ⇑P P 05 20 13.3 +0.6
baz=64
I21A **Big Trails, Te** 63.82 53 ⇑P P 05 20 13.1 0.0
baz=64
KAF **Kangasniemi** 63.90 336 eP P 05 20 12.5 -0.6
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF **Kangasniemi** 63.90 336 ep P 05 20 12.5 -0.6
comp=Z,2.8nm,0.7s
KAF **Kangasniemi** 63.90 336 ep P 05 20 12.5 -0.6
comp=Z,2.8nm,0.7s
F24A **Ekalaka** 64.01 50 ⇓P P 05 20 14.7 +0.5
baz=64
TUQ **Turquoise Moun** 64.21 65 ⇑P P 05 20 16.7 +0.9
baz=64
I22A **9 Mile Ranch,** 64.21 53 ⇓P P 05 20 15.4 -0.3
baz=64
HEC **Hector,Ludlow** 64.35 66 ⇑P P 05 20 17.0 +0.3
baz=64
FINES **FINESS Array B** 64.50 336 P P 05 20 17.2 +0.1
comp=Z,11nm,1.0s,baz=34,slow=7.3,SNR=20
FINES LR LR 05 50 46.8
comp=Z,809nm,20.4s,baz=210,slow=38
FINES **FINESS Array B** 64.50 336 P P 05 20 17.2 +0.1
FINES pmax pmax
comp=Z,11nm,1.0s
FINES MLR MLR
comp=Z,809nm,20.5s
FINES **FINESS Array B** 64.50 336 P P 05 20 17.2 +0.1
J22A **Midwest** 64.53 53 ⇑P P 05 20 17.8 0.0
baz=64
MURC **Murrieta** 64.60 67 ⇑P P 05 20 18.5 +0.2
baz=64
K21A **Alcova** 64.62 54 ⇑P P 05 20 18.3 -0.2
baz=64
H24A **Dirks Ranch, A** 64.69 51 ⇓P P 05 20 18.7 0.0
baz=64
P17A **Butcher Ranch,** 64.71 59 ⇑P P 05 20 19.4 +0.4
baz=64
GMRC **Granite Mounta** 64.80 65 ⇑P P 05 20 19.8 +0.1
baz=65
Q16A **Castle Valley** 64.82 59 ⇓P P 05 20 19.8 0.0
baz=65
P18A **Preston Nutter** 64.89 58 ⇑P P 05 20 20.2 -0.2
baz=65
LDFC **Landfair** 64.95 65 eP P 05 20 20.9 +0.3
comp=Z,9.8nm,0.9s
L21A **Rawlins** 65.00 55 ⇓P P 05 20 20.6 -0.3
baz=65
K22A **Casper** 65.01 54 ⇑P P 05 20 20.7 -0.3
baz=65
R16A **Teasdale** 65.05 60 ⇑P P 05 20 21.2 -0.2
baz=65
PFO **Pinyon Flat Ob** 65.07 67 ⇓P P 05 20 21.5 +0.1
baz=65
SRU **San Rafael** 65.07 59 ⇑P P 05 20 21.5 +0.1
baz=65

BELC **Belle Mtn. Jos** 65.10 66 ⇓P P 05 20 21.5 -0.1
baz=65
O19A **Miners Draw (B** 65.10 57 ⇑P P 05 20 20.8 -0.8
baz=65
MOS **Moscow** 65.16 327 *e*P P 05 20 19.4 -2.0
ULM **Lac du Bonnet** 65.23 42 P P 05 20 21.6 -0.4
comp=Z,1.7nm,0.6s,baz=310,slow=7.5,SNR=5.7
ULM LR LR 05 48 32.8
comp=Z,223nm,19.0s,baz=310,slow=36
ULM **Lac du Bonnet** 65.23 42 P P 05 20 21.6 -0.4
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM MLR MLR
comp=Z,223nm,19.0s
ULM **Lac du Bonnet** 65.23 42 P P 05 20 21.6 -0.4
M21A **Separation Pea** 65.24 55 ⇓P P 05 20 22.3 -0.2
baz=65
N20A **Spence Gulch,** 65.24 56 ⇓P P 05 20 22.2 -0.4
baz=65
Q18A **Rafter H Ranch** 65.31 59 ⇑P P 05 20 22.8 -0.1
baz=65
S16A **Weppner Ranch,** 65.35 61 ⇓P P 05 20 23.3 +0.1
baz=65
RSSD **Black Hills** 65.38 51 *e*P P 05 20 23.4 0.0
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD **Black Hills** 65.38 51 *e*P P 05 20 23.4 0.0
comp=Z,3.9nm,0.8s
R17A **Hanksville Air** 65.42 60 ⇓P P 05 20 23.4 -0.2
baz=65
IRM **Iron Mountain** 65.52 66 ⇓P P 05 20 24.6 +0.3
baz=65
MONP **Monument Peak** 65.56 67 ⇑P P 05 20 24.1 -0.6
baz=65
P19A **Cripple Cowboy** 65.62 58 ⇓P P 05 20 24.6 -0.5
baz=65
BC3 **Big Chuckawall** 65.67 66 ⇑P P 05 20 24.9 -0.4
baz=66
W13A **Hualapai Mount** 65.69 64 ⇑P P 05 20 25.3 -0.2
baz=66
PSI **Prapat** 65.70 246 P P 05 20 26.1 +0.5
comp=Z,19nm,0.9s
O20A **White River Ci** 65.72 57 ⇑P P 05 20 24.9 -0.7
baz=66
U15A **North Rim** 65.79 62 ⇑P P 05 20 26.3 +0.1
baz=66
M22A **Cedar Creek Ra** 65.80 55 ⇓P P 05 20 25.6 -0.6
baz=66
L23A **Garrett** 65.82 54 ⇑P P 05 20 26.1 -0.2
baz=66
S17A **Black Ridge (B** 65.88 60 ⇓P P 05 20 26.8 +0.2
baz=66
Q19A **Hogan Spring (** 65.91 58 ⇑P P 05 20 27.3 +0.6
baz=66
R18A **Canyonlands Na** 65.92 59 ⇓P P 05 20 26.7 -0.2
baz=66
SWSC **Sam W. Stewart** 65.92 67 ⇓P P 05 20 27.2 +0.4
baz=66
OBN **Obninsk** 66.03 327 *e*P P 05 20 26.5 -0.5
OBN *e* 05 22 48.3
OBN pmax pmax
comp=Z,39nm,1.7s
PDMCI **Parker Dam,Lak** 66.06 65 ⇑P P 05 20 27.8 +0.2
baz=66
N22A **Wattenberg Ran** 66.28 55 ⇑P P 05 20 28.9 -0.5
baz=66
T17A **Navajo Res., N** 66.30 61 ⇑P P 05 20 29.3 -0.1
baz=66
S18A **Hurst Farm, Bl** 66.32 60 ⇓P P 05 20 29.5 -0.1
baz=66
R19A **Curley Farm, L** 66.35 59 ⇑P P 05 20 29.7 0.0
baz=66
Q20A **Ridgley Place,** 66.47 58 ⇓P P 05 20 30.6 +0.1
baz=66
N23A **Red Feather La** 66.51 55 ⇑P P 05 20 30.9 +0.2
baz=66
P21A **Newcastle** 66.58 57 ⇓P P 05 20 31.4 +0.3
baz=66
AGMN **Agassiz Nation** 66.61 44 *e*P P 05 20 30.8 -0.2
comp=Z,25nm,1.7s
U16A **Tuba City** 66.68 62 ⇓P P 05 20 31.9 +0.1
baz=66
T18A **Mexican Hat** 66.76 60 ⇑P P 05 20 32.3 0.0
baz=66
S19A **Harvey Farm, M** 66.79 59 ⇓P P 05 20 32.4 -0.1
baz=67
P22A **Eagle** 66.92 56 ⇓P P 05 20 33.1 -0.3
baz=67
WUAZ **Wupatki** 66.95 62 ⇓P P 05 20 33.7 +0.2
baz=67
Q21A **Lamborn Mesa,** 66.97 57 ⇓P P 05 20 33.7 +0.1
baz=67
O23A **Lake Granby, G** 66.98 55 ⇓P P 05 20 34.0 +0.1
baz=67
VRHR **Novokhopersk** 66.98 321 *e*P P 05 20 32.0 -1.2
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
Y14A **Wickenburg** 67.00 65 ⇑P P 05 20 34.2 +0.5
baz=67
SMCO **Snowmass** 67.08 57 *e*P P 05 20 34.6 0.0
comp=Z,2.9nm,0.9s
Z13A **Yuma Proving G** 67.09 66 ⇑P P 05 20 34.6 +0.3
baz=67
M25A **Palm-Egli Farm** 67.19 53 ⇑P P 05 20 35.4 +0.5
baz=67
S20A **Disappointment** 67.19 59 ⇓P P 05 20 35.4 +0.3
baz=67
V17A **Tonalea, Kykot** 67.23 62 ⇑P P 05 20 35.7 +0.4
baz=67
R21A **Cimarron** 67.30 58 ⇑P P 05 20 35.6 -0.2
baz=67
CTA **Charters Tower** 67.30 189 P P 05 20 34.9 -0.6
comp=Z,4.3nm,0.8s,baz=298,slow=0.8,SNR=4.2
CTA **Charters Tower** 67.30 189 P P 05 20 34.9 -0.6
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTA **Charters Tower** 67.30 189 P P 05 20 34.9 -0.6
113A **Mohawk Valley,** 67.31 66 ⇑P P 05 20 36.3 +0.6
baz=67
Q22A **Crested Butte,** 67.33 57 ⇓P P 05 20 36.0 -0.1
baz=67
ISCO **Idaho Springs** 67.44 56 ⇑P P 05 20 37.0 +0.3
baz=67
MVCO **Mesa Verde** 67.53 59 ⇑P P 05 20 37.1 -0.2
baz=67
S21A **Coal Bank Pass** 67.64 58 ⇑P P 05 20 38.7 +0.7
baz=67
X16A **Lo Mia Camp, P** 67.64 63 ⇓P P 05 20 38.7 +0.8
baz=67
V18A **Ganado** 67.69 61 ⇑P P 05 20 38.8 +0.6
baz=68
U19A **Dine' College,** 67.73 60 ⇑P P 05 20 39.0 +0.5
baz=68
IMYA **Miami** 67.80 300 *e*P P 05 20 39.8 +0.9
R22A **Saguache, Gunn** 67.85 57 ⇓P P 05 20 39.9 +0.6
baz=68
114A **Black Gap (USA** 67.87 65 ⇓P P 05 20 39.9 +0.7
baz=68
VSR **Storozhevoye** 67.93 323 *e*P P 05 20 38.4 -0.8
S22A **4UR Ranch, Cre** 68.14 58 ⇑P P 05 20 41.6 +0.5
baz=68
IPAY **Payeh** 68.38 300 *e*P P 05 20 43.0 +0.4
ISHV **Shirvan** 68.40 302 *e*P P 05 20 43.7 +1.0
R23A **Moffat** 68.41 57 ⇑P P 05 20 43.0 +0.1
baz=68
IAKL **Akhelmad** 68.42 301 *e*P P 05 20 44.3 +1.4
214A **Organ Pipe Nat** 68.45 66 ⇑P P 05 20 43.0 +0.1
baz=68
X18A **Snowflake** 68.47 62 ⇓P P 05 20 44.4 +1.3
baz=68
Y17A **Roosevelt** 68.50 63 ⇓P P 05 20 43.8 +0.6
baz=68
V20A **Brimhall** 68.50 60 ⇑P P 05 20 43.3 -0.1
baz=68
NB2 **NORSAR Subarra** 68.51 342 P P 05 20 42.7 -0.1
comp=Z,2.4nm,0.7s,baz=26,slow=6.5
NOA **NORSAR Array B** 68.51 342 P P 05 20 43.1 +0.3
comp=Z,6.7nm,0.9s,baz=26,slow=6.4,SNR=14
NOA LR LR 05 55 02.2
comp=Z,363nm,18.6s,baz=20,slow=40
NOA **NORSAR Array B** 68.51 342 P P 05 20 43.1 +0.3
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,363nm,18.7s
NOA **NORSAR Array B** 68.51 342 P P 05 20 43.1 +0.3
U21A **Nageezi** 68.55 59 ⇑P P 05 20 43.6 -0.1
baz=68
T22A **Edith** 68.59 58 ⇑P P 05 20 43.9 -0.1
baz=68
OGNE **Ogallala** 68.63 53 ⇑P P 05 20 44.0 +0.1
baz=68
HYB **Hyderabad** 68.65 273 *i*P P 05 20 43.5 -0.8
Q25A **Bedland, Calha** 68.81 55 ⇑P P 05 20 45.3 0.0
baz=69
P26A **Davis Ranch, A** 68.87 54 ⇓P P 05 20 45.7 +0.2
baz=69
SDCO **Great Sand Dun** 68.90 57 ⇑P P 05 20 45.9 0.0
baz=69
SDCO ⇑P P 05 20 45.9 0.0
baz=69
W20A **Ramah** 68.94 61 ⇓P P 05 20 46.4 +0.3
baz=69
X19A **St. Johns** 68.94 62 ⇑P P 05 20 46.5 +0.4
baz=69
S24A **Houchin Ranch,** 69.14 57 ⇓P P 05 20 47.8 +0.3
baz=69
Y19A **Nutrioso** 69.28 62 ⇓P P 05 20 48.5 +0.2
baz=69
WRAB **Tennant Creek** 69.31 201 *e*P P 05 20 47.8 -0.3
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB **Tennant Creek** 69.31 201 *e*P P 05 20 47.8 -0.3
comp=Z,22nm,1.0s
WRAB **Tennant Creek** 69.31 201 P P 05 20 47.3 -0.8
comp=Z,113nm,0.9s,SNR=7.5
WB2 **Warramunga Arr** 69.32 201 *e*P P 05 20 47.8 -0.4
WRA **Warramunga Arr** 69.32 201 P P 05 20 47.0 -1.2
comp=Z,10nm,0.8s,baz=20,slow=6.7,SNR=39
WRA LR LR 05 50 29.0
comp=Z,184nm,19.4s,baz=25,slow=35
WRA **Warramunga Arr** 69.32 201 P P 05 20 47.0 -1.2
WRA pmax pmax
comp=Z,11nm,0.8s
WRA **Warramunga Arr** 69.32 201 P P 05 20 47.0 -1.2
X20A **Quemado** 69.34 61 ⇑P P 05 20 48.8 +0.2
baz=69
V22A **San Miguel Ran** 69.34 59 ⇓P P 05 20 48.9 +0.2
baz=69
DZM **Mont Dzumac** 69.45 169 *e*S S 05 29 53.0 -2.8
comp=Z,114nm,23.9s
DZM *e*LR LR 05 41 51.5
comp=Z,749nm,24.9s
U23A **El Rito** 69.48 59 ⇑P P 05 20 49.6 +0.1
baz=69
S25A **Robets Cordova** 69.57 57 ⇑P P 05 20 49.9 0.0
baz=69
T24A **Torres, Weston** 69.63 57 ⇑P P 05 20 50.2 -0.2
baz=69
R26A **Arlington** 69.69 55 ⇓P P 05 20 50.7 +0.1
baz=69
X21A **Alamocita Cree** 69.83 61 ⇓P P 05 20 51.7 +0.1
baz=70
Y20A **Horse Springs,** 69.85 62 ⇓P P 05 20 52.1 +0.3
baz=70
V23A **Ortiz Mt. (NFS** 69.89 59 ⇓P P 05 20 51.9 -0.1
baz=70
T25A **Trinidad** 69.95 57 ⇓P P 05 20 51.9 -0.4
baz=70
U24A **Moreno Valley** 69.96 58 ⇑P P 05 20 52.6 +0.1
baz=70
R27A **Eads** 70.06 55 ⇑P P 05 20 52.8 -0.1
baz=70
S26A **Kim** 70.15 56 ⇑P P 05 20 53.7 +0.3
baz=70
FITZ **Fitzroy Crossi** 70.17 210 P P 05 20 53.8 +0.4
comp=Z,3.1nm,0.9s,baz=20,slow=8.5,SNR=5.7
FITZ **Fitzroy Crossi** 70.17 210 P P 05 20 53.8 +0.4
V24A **Rampart Ranch,** 70.43 58 ⇓P P 05 20 55.4 +0.1
baz=70
U25A **Circle Dot Ran** 70.47 57 ⇓P P 05 20 55.5 0.0
baz=70
120A **U Bar Ranch, L** 70.63 63 ⇓P P 05 20 57.3 +0.8
baz=70
Y22A **Socorro** 70.68 61 ⇑P P 05 20 57.4 +0.6
baz=70
Z21A **St. Cloud Mine** 70.69 62 ⇑P P 05 20 57.1 +0.2
baz=70
W24A **Lazy G Ranch,** 70.71 59 ⇓P P 05 20 57.2 +0.2
baz=70
V25A **Rancho No Teng** 70.74 58 ⇑P P 05 20 56.9 -0.2
baz=70
U26A **Atchley Ranch,** 70.85 57 ⇓P P 05 20 57.6 -0.3
baz=71
319A **Douglas** 71.04 64 ⇑P P 05 20 59.5 +0.6
baz=71
POO **Poona** 71.08 277 *e*P P 05 21 05.0 +5.8
220A **Playas Peak, P** 71.14 63 ⇓P P 05 21 00.3 +0.8
baz=71
Z22A **Elephant Butte** 71.15 61 ⇓P P 05 21 00.1 +0.4
baz=71
121A **Cookes Peak, D** 71.16 62 ⇓P P 05 21 00.4 +0.7
baz=71
Y23A **Lovelace Mesa,** 71.22 60 ⇓P P 05 21 00.6 +0.5
baz=71
W25A **X Bar L Ranch,** 71.26 58 ⇓P P 05 21 01.0 +0.7
baz=71
Y24A **Capitan** 71.59 60 ⇓P P 05 21 02.8 +0.5
baz=71
KIV **Kislovodsk** 71.80 316 *e*P P 05 21 03.6 +0.3
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,402nm,19.0s
KIV **Kislovodsk** 71.80 316 *e*P P 05 21 04.8 +1.6
comp=Z,24nm,1.0s
KIV **Kislovodsk** 71.80 316 P P 05 21 04.1 +0.8
comp=Z,132nm,0.9s,SNR=6.8
Y25A **Mesa, Roswell** 72.03 59 ⇓P P 05 21 05.3 +0.4
baz=72
Z24A **Sheeppen Canyo** 72.05 60 ⇓P P 05 21 05.6 +0.5
baz=72
ZEI **Tsey** 72.09 314 *e*P P 05 21 05.1 -0.1
ZEI pmax pmax
comp=Z,9.0nm,0.9s
X26A **CR and CF Fran** 72.11 58 ⇓P P 05 21 05.4 0.0
baz=72
AKASG **Malin Array Be** 72.24 327 P P 05 21 04.3 -1.3
comp=Z,2.5nm,0.5s,baz=32,slow=6.2,SNR=12
AKASG LR LR 05 58 55.9
comp=Z,444nm,18.2s,baz=350,slow=41
AKASG **Malin Array Be** 72.24 327 *e*P P 05 21 04.8 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG **Malin Array Be** 72.24 327 P P 05 21 04.3 -1.3
AKBB **Malin Array Si** 72.24 327 *e*P P 05 21 05.4 -0.3
AKBB **Malin Array Si** 72.24 327 *e*P P 05 21 05.4 -0.3
KIEV **Kiev** 72.25 327 *e*P P 05 21 05.1 -0.7
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV **Kiev** 72.25 327 *e*P P 05 21 05.1 -0.7
comp=Z,8.2nm,0.8s
DGRG **David-gareji** 72.33 312 P P 05 21 05.5 -0.9
SCHQ **Schefferville** 72.41 24 P P 05 21 07.5 +0.8
comp=Z,1.3nm,0.7s,baz=338,slow=5.4,SNR=3.8
SCHQ LR LR 05 55 32.9
comp=Z,180nm,19.3s,baz=31,slow=38
SCHQ **Schefferville** 72.41 24 P P 05 21 07.5 +0.8
ONI **Oni** 72.44 314 P P 05 21 07.9 +0.8
TBLG **Delisi** 72.44 313 *e*P P 05 21 07.9 +0.8
TBLG **Delisi** 72.44 313 P P 05 21 07.9 +0.8
224A **Cornudas Mount** 72.84 61 ⇓P P 05 21 09.6 -0.2
baz=73
Z26A **Caprock** 72.92 60 ⇑P P 05 21 09.7 -0.4
baz=73
Y27A **Causey** 72.96 59 ⇑P P 05 21 10.5 0.0
baz=73
AS31 **Alice Springs** 73.00 201 *e*P P 05 21 11.1 +0.6
ASAR **Alice Springs** 73.00 201 P P 05 21 11.1 +0.6
comp=Z,5.7nm,0.7s,baz=15,slow=5.7,SNR=35
ASAR **Alice Springs** 73.00 201 P P 05 21 11.1 +0.6
ASAR pmax pmax
comp=Z,6.0nm,0.7s
ASAR **Alice Springs** 73.00 201 P P 05 21 11.1 +0.6
CPRX **Cap Rock** 73.15 60 *e*P P 05 21 16.4 +4.8
comp=Z,17nm,1.1s
MNTX **Cornudas Mount** 73.19 62 ⇓P P 05 21 11.7 0.0
baz=73
MNTX ⇓P P 05 21 11.7 0.0
baz=73
AKH **Akhalkalaki** 73.31 313 P P 05 21 13.4 +1.0
324A **Moseley Ranch,** 73.31 62 ⇓P P 05 21 12.2 -0.4
baz=73
Z27A **Tatum** 73.33 59 ⇓P P 05 21 12.2 -0.4
baz=73
GDL2 **Guadalupe Moun** 73.45 61 *e*P P 05 21 14.0 +0.7
comp=Z,41nm,0.8s
SOC **Sochi** 73.48 317 *e*P P 05 21 13.5 +0.3
SOC *e* 05 21 29.0
SOC *e* 05 23 55.1
SOC *e*S **SKiKP** 05 30 45.0 +2.1
SOC *e* 05 31 17.7
SOC *e*SS **SS** 05 35 23.0 -0.6
SOC pmax pmax
comp=Z,29nm,0.9s
GNI **Garni** 73.62 312 *d*iP P 05 21 13.7 -0.6
GNI pmax pmax
comp=Z,30nm,1.2s
GNI **Garni** 73.62 312 *e*P P 05 21 16.1 +1.9
comp=Z,19nm,1.0s
IR3 **Iran Long-Peri** 73.66 305 *e*P P 05 21 15.7 +1.2
425A **Indio Mountain** 74.08 62 ⇑P P 05 21 17.0 -0.1
baz=74
326A **Caldwell Ranch** 74.31 61 ⇑P P 05 21 18.4 0.0
baz=74
426A **McDonald Obser** 74.74 61 ⇓P P 05 21 20.8 -0.2
baz=74
IZEF **Zefreh** 74.78 302 *e*P P 05 21 22.3 +1.0
WMOK **Wichita Mounta** 74.86 55 *e*P P 05 21 21.4 0.0
WMOK pmax pmax
comp=Z,2.0nm,0.9s
WMOK **Wichita Mounta** 74.86 55 *e*P P 05 21 21.4 0.0
comp=Z,2.3nm,0.9s
IKLH **Kolahrood** 74.91 303 *e*P P 05 21 23.5 +1.5
328A **Wristen Ranch,** 74.95 60 ⇓P P 05 21 22.0 -0.1
baz=75
427A **Hayter Ranch,** 74.98 61 ⇓P P 05 21 22.2 -0.1
baz=75
526A **Mary Lane Ranc** 75.14 62 ⇑P P 05 21 22.9 -0.4
baz=75
527A **Woodward Ranch** 75.36 62 ⇓P P 05 21 24.1 -0.5
baz=75
KWP **Kalwaria Pacla** 75.44 330 *e*P P 05 21 25.1 +0.7
KWP **Kalwaria Pacla** 75.44 330 *e*P P 05 21 25.1 +0.7
KWP **Kalwaria Pacla** 75.44 330 *e*P P 05 21 25.0 +0.5
comp=Z,43nm,1.1s
KWP **Kalwaria Pacla** 75.44 330 ⇑*i*P P 05 21 25.0 +0.5
626A **Big Bend Ranch** 75.47 62 ⇑P P 05 21 24.8 -0.3
baz=75
428A **Kincaid Ranch,** 75.50 61 ⇑P P 05 21 24.9 -0.3
baz=75
528A **Cox Ranch, San** 75.85 61 ⇑P P 05 21 26.6 -0.7
baz=76
TXAR **Lajitas Array** 75.91 62 P P 05 21 28.0 +0.4
comp=Z,2.6nm,0.7s,baz=299,slow=4.2,SNR=39
TXAR **Lajitas Array** 75.91 62 P P 05 21 28.0 +0.4
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR **Lajitas Array** 75.91 62 P P 05 21 28.0 +0.4
627A **Terlingua Ranc** 76.00 62 ⇑P P 05 21 27.0 -1.2
baz=76
STHS **Stebnicka Huta** 76.11 331 *e*P P 05 21 30.2 +1.9
STHS pmax pmax
comp=Z,16nm,1.4s
STHS **Stebnicka Huta** 76.11 331 *e*P P 05 21 30.1 +1.8
BUR08 **Bucovina Ar. S** 76.25 328 *e*P P 05 21 29.4 +0.1
628A **Black Gap, Mar** 76.27 62 ⇓P P 05 21 28.7 -1.0
baz=76
KSP **Ksiaz** 76.40 335 *e*P P 05 21 30.6 +0.6
KSP **Ksiaz** 76.40 335 *e*P P 05 21 30.5 +0.6
NIE **Niedzica** 76.41 332 *e*P P 05 21 34.9 +4.8
NIE **Niedzica** 76.41 332 *e*P P 05 21 34.9 +4.8
UZH **Uzhgorod** 76.44 330 *e*P P 05 21 26.2 -3.9
UZH *e* 05 21 47.8
CRVS **Cervenica-Dubn** 76.48 331 *e*P P 05 21 29.1 -1.3
CRVS pmax pmax
comp=Z,34nm,2.2s
CRVS **Cervenica-Dubn** 76.48 331 *e*P P 05 21 29.1 -1.3
IKOM **Komasi** 76.58 306 *e*P P 05 21 31.4 0.0
TESR 76.67 326 ⇑*i*P P 05 21 32.4 +0.9
SFIN **Scholer Farm** 76.69 44 ⇑P P 05 21 30.5 -1.3
baz=76
OKC **Ostrava-Krasne** 76.73 333 *e*P P 05 21 31.5 -0.3
OKC *e* 05 21 36.8
OKC **Ostrava-Krasne** 76.73 333 *e*P P 05 21 31.5 -0.3
OKC *e*pP **pP** 05 21 36.8 0.0
UPC **Upice** 76.78 335 *e*P P 05 21 32.6 +0.5
UPC *e* 05 21 36.6
UPC **Upice** 76.78 335 *e*P P 05 21 32.6 +0.5
UPC *e*pP **pP** 05 21 36.6 -0.5
TRPA **Tarpa** 76.78 330 ⇓*i*P P 05 21 32.6 +0.5
DPC **Dobruska-Polom** 76.83 335 *e*P P 05 21 33.1 +0.7
DPC *e* 05 21 37.3
DPC **Dobruska-Polom** 76.83 335 *e*P P 05 21 33.1 +0.7
DPC *e*pP **pP** 05 21 37.3 -0.1
CLL **Collm** 76.90 337 *e*P P 05 21 32.5 -0.2
comp=Z,32nm,1.2s
CLL **Collm** 76.90 337 *i*P P 05 21 32.5 -0.2
CLL *i* 05 21 37.3
CLL pmax pmax
comp=Z,32nm,1.6s
CLL MLR MLR
comp=Z,500nm,22.0s
CLL **Collm** 76.90 337 *i*P P 05 21 32.5 -0.2
comp=Z,32nm,1.6s
CLL *i*pP **pP** 05 21 37.3 -0.4
comp=Z,32nm,1.2s
CLL *e* 05 21 52.0
CLL *e*(SS) 05 37 00.0
CLL Lm MLR 05 59 00.0
comp=Z,500nm,22.0s
MORC **Moravsky Berou** 76.97 334 *e*P P 05 21 32.6 -0.6
MORC pmax pmax
comp=Z,19nm,1.2s
MORC **Moravsky Berou** 76.97 334 *e*P P 05 21 32.6 -0.6
comp=Z,19nm,1.2s
MORC **Moravsky Berou** 76.97 334 ⇓*i*P P 05 21 37.1 +3.9
BRG **Berggiesshubel** 77.04 336 *e*P P 05 21 31.8 -1.7
comp=Z,9.2nm,1.4s
BRG *e* 05 21 38.9
comp=Z,9.1nm,1.1s
BRG *e* 05 26 17.2
comp=Z,18nm,1.4s
BRG
comp=N,1μm,24.1s
BRG
comp=E,381nm,14.5s
BRG
comp=Z,1μm,23.3s
BRG **Berggiesshubel** 77.04 336 *e*P P 05 21 31.8 -1.7
BRG *e* 05 21 38.9
BRG *e* 05 26 17.2
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG MLR MLR
comp=N,1μm,24.1s
BRG MLR MLR
comp=E,381nm,14.5s
BRG MLR MLR
comp=Z,1μm,23.3s
CLZ **Clausthal** 77.09 339 *e*P P 05 21 34.6 +0.7
comp=Z,35nm,1.4s
CLZ **Clausthal** 77.09 339 *e*P P 05 21 34.6 +0.7
CLZ pmax pmax
comp=Z,35nm,1.4s
PVCC **Panska Ves** 77.17 336 *e*P P 05 21 34.8 +0.5
PVCC **Panska Ves** 77.17 336 *e*P P 05 21 34.8 +0.5
VRI **Vrincioaia** 77.18 326 ⇑P P 05 21 36.3 +1.9
VRI **Vrincioaia** 77.18 326 ⇑*i*P P 05 21 36.3 +1.9
CFR **Carcaliu** 77.21 325 ⇓P P 05 21 39.6 +5.0
CFR **Carcaliu** 77.21 325 ⇓*i*P P 05 21 39.5 +5.0
PLOR **Plostina** 77.22 326 ⇑P P 05 21 39.0 +4.3
PLOR **Plostina** 77.22 326 ⇑*i*P P 05 21 39.0 +4.3
PRU **Pruhonice** 77.67 335 *e*P P 05 21 37.3 +0.3
PRU *e* 05 21 41.9
PRU **Pruhonice** 77.67 335 *e*P P 05 21 37.3 +0.3
PRU *e*pP **pP** 05 21 41.9 -0.2
VYHS **Vyhne** 77.70 332 *e*P P 05 21 37.2 -0.1
VYHS pmax pmax
comp=Z,39nm,2.4s
VYHS **Vyhne** 77.70 332 *e*P P 05 21 37.2 -0.1
KOLL **Kolacno** 77.76 332 *e*P P 05 21 38.3 +0.7
KOLL **Kolacno** 77.76 332 *e*P P 05 21 38.3 +0.7
MLR **Muntele Rosu** 77.79 326 ⇓P P 05 21 38.7 +0.7
MLR **Muntele Rosu** 77.79 326 ⇓*i*P P 05 21 38.7 +0.7

DRGR		**77.87 329**	⇓P	**P**	**05 21 38.7 +0.3**			
DRGR		**77.87 329**	⇓*i*P	**P**	**05 21 38.7 +0.3**			
ISR	**Istria**	**77.88 326**	⇑P	P	05 21 42.7 +4.3			
ISR	**Istria**	**77.88 326**	⇑*i*P	P	05 21 42.7 +4.3			
TREC	**Trest**	**78.02 335**	AMS	AMS	06 02 20.0			
	comp=Z,800nm,18.2s							
NKC	**Novy Kostel**	**78.03 337**	*e*P	**P**	**05 21 39.3 +0.2**			
NKC			*e*		05 21 43.9			
NKC	**Novy Kostel**	**78.03 337**	*e*P	**P**	**05 21 39.3 +0.2**			
NKC			*e*pP	**pP**	**05 21 43.9 -0.2**			
SMOL	**Smolenice**	**78.12 333**	*e*P	**P**	**05 21 39.5 -0.1**			
SMOL			*e*		05 21 46.5			
SMOL	**Smolenice**	**78.12 333**	*e*P	**P**	**05 21 39.5 -0.1**			
SMOL			*e*pP	**pP**	**05 21 46.5 +1.9**			
ROTZ	**Rotzenmuhle**	**78.52 337**	*e*P	**P**	**05 21 42.4 +0.6**			
	comp=Z,74nm,2.1s							
KHC	**Kasperske Hory**	**78.71 336**	*e*P	**P**	**05 21 43.5 +0.6**			
KHC			*e*		05 21 48.0			
KHC	**Kasperske Hory**	**78.71 336**	*e*P	**P**	**05 21 43.5 +0.6**			
KHC			*e*pP	**pP**	**05 21 48.0 +0.1**			
GRF	**Grafenberg Arr**	**78.85 337**	*e*P	**P**	**05 21 44.4 +0.8**			
	comp=Z,24nm,1.2s							
GRF	**Grafenberg Arr**	**78.85 337**	*e*P	**P**	**05 21 44.4 +0.8**			
GRF			pmax	pmax				
	comp=Z,24nm,1.2s							
GRFO	**Grafenberg**	**78.85 337**	*e*P	**P**	**05 21 44.0 +0.4**			
GRFO			pmax	pmax				
	comp=Z,15nm,0.9s							
GRFO	**Grafenberg**	**78.85 337**	*e*P	**P**	**05 21 44.0 +0.4**			
	comp=Z,15nm,0.9s							
WET	**Wettzell**	**78.90 336**	*e*P	**P**	**05 21 44.7 +0.8**			
	comp=Z,31nm,1.4s							
WET	**Wettzell**	**78.90 336**	*e*P	**P**	**05 21 44.7 +0.8**			
WET			pmax	pmax				
	comp=Z,31nm,1.4s							
GERES	**GERESS Array B**	**78.94 335**	P	**P**	**05 21 44.3 +0.1**			
	comp=Z,1.7nm,0.5s,baz=44,slow=7.8,SNR=12							
GERES			LR	LR	05 57 27.4			
	comp=Z,594nm,21.4s,baz=26,slow=36							
GERES	**GERESS Array B**	**78.94 335**	P	**P**	**05 21 44.3 +0.1**			
GERES			pmax	pmax				
	comp=Z,2.0nm,0.5s							
GERES			MLR	MLR				
	comp=Z,595nm,21.4s							
GERES	**GERESS Array B**	**78.94 335**	P	**P**	**05 21 44.3 +0.1**			
GZR	**Gura Zlata**	**79.05 328**	⇑P	P	05 21 49.5 +4.6			
GZR	**Gura Zlata**	**79.05 328**	⇑*i*P	P	05 21 49.5 +4.6			
CSNA	**Conrad Observa**	**79.12 334**	⇑*i*P	**P**	**05 21 46.2 +1.0**			
	comp=Z,21nm,1.2s							
CSNA	**Conrad Observa**	**79.12 334**	⇑*i*pP	**P**	**05 21 46.2 +1.0**			
	comp=Z,21nm,1.2s							
BZS	**Buzias**	**79.27 329**	⇑P	P	05 21 49.6 +3.6			
BZS	**Buzias**	**79.27 329**	⇑*i*P	P	05 21 49.6 +3.6			
MEM	**Membach**	**79.27 341**	P	**P**	**05 21 46.5 +0.6**			
	comp=Z,18nm,2.3s							
BR131	**Keskin Array S**	**79.33 318**	*e*P	**P**	**05 21 47.1 +0.6**			
	comp=Z,7.8nm,1.0s							
BRTR	**Keskin Array B**	**79.33 318**	P	**P**	**05 21 47.1 +0.6**			
	comp=Z,9.9nm,1.1s,baz=60,slow=3.0,SNR=17							
BRTR			LR	LR	06 05 27.1			
	comp=Z,157nm,18.1s,baz=212,slow=42							
BRTR	**Keskin Array B**	**79.33 318**	P	**P**	**05 21 47.2 +0.6**			
BRTR			pmax	pmax				
	comp=Z,10.0nm,1.1s							
BRTR	**Keskin Array B**	**79.33 318**	P	**P**	**05 21 47.1 +0.6**			
STKA	**Stephens Creek**	**79.52 192**	LR	LR	05 57 09.8			
	comp=Z,371nm,19.8s,baz=159,slow=36							
MIB	**Mutribah**	**79.93 303**	*e*P	**P**	**05 21 48.1 -1.8**			
MIB			AMb	AMB	05 21 56.2			
	comp=Z,76nm,1.1s							
NAY	**Al-Naaiem**	**80.40 303**	*e*P	**P**	**05 21 51.2 -1.2**			
NAY			AMb	AMB	05 21 58.3			
	comp=Z,30nm,1.1s							
RDF	**Al-Radifah**	**80.47 302**	*e*P	**P**	**05 21 51.2 -1.6**			
RDF			AMb	AMB	05 21 59.8			
	comp=Z,78nm,1.0s							
PERS	**Pernice**	**80.51 334**	*i* P	P	05 21 57.7 +5.0			
BFO	**Black Forest**	**80.85 339**	*e*P	**P**	**05 21 54.8 +0.3**			
	comp=Z,33nm,1.5s							
BFO	**Black Forest**	**80.85 339**	*e*P	**P**	**05 21 54.8 +0.3**			
BFO			pmax	pmax				
	comp=Z,33nm,1.5s							
BFO	**Black Forest**	**80.85 339**	P	**P**	**05 21 54.8 +0.3**			
	comp=Z,25nm,1.4s							
PPT2	**Papeete2**	**81.00 128**	*e*S	**S**	**05 32 00.7 -3.5**			
PPT2	comp=Z,78nm,24.0s		*e*LR	LR	05 47 11.2			
	comp=Z,643nm,22.8s,baz=320							
MOTA	**Moosalm**	**81.03 336**	⇑*i*P	**P**	**05 21 56.7 +1.1**			
MOTA			pmax	pmax				
	comp=Z,30nm,1.1s							
MOTA	**Moosalm**	**81.03 336**	⇑*i*P	**P**	**05 21 56.7 +1.1**			
	comp=Z,30nm,1.1s							
MOTA	**Moosalm**	**81.03 336**	⇑*i*pP	**P**	**05 21 56.7 +1.1**			
	comp=Z,30nm,1.1s							
CDF	**Champ du Feu**	**81.03 339**	*e*P	**P**	**05 21 55.3 -0.2**			
	comp=Z,53nm,1.2s							
ECH	**Echery**	**81.24 339**	*e*P	**P**	**05 21 55.7 -0.9**			
ECH			pmax	pmax				
	comp=Z,20nm,1.2s							
ECH	**Echery**	**81.24 339**	*e*P	**P**	**05 21 55.7 -0.9**			
	comp=Z,20nm,1.2s							
PAGF	**Fort de Pagny**	**81.26 340**	*e*P	**P**	**05 21 56.5 -0.2**			
VTS	**Vitosha**	**81.30 326**	⇑P	P	05 22 01.4 +4.3			
VTS	**Vitosha**	**81.30 326**	⇑*i*P	P	05 22 01.4 +4.3			
VISS	**Visnje**	**81.34 333**	*i* P	P	05 22 01.9 +4.7			
FETA	**Feichten**	**81.42 336**	⇑*i*P	**P**	**05 21 55.7 -2.1**			
	comp=Z,24nm,1.3s							
FETA	**Feichten**	**81.42 336**	⇑*i*P	**P**	**05 21 55.7 -2.1**			
	comp=Z,24nm,1.3s							
MEZF	**Maizieres J'vi**	**81.47 341**	*e*P	**P**	**05 21 57.5 -0.2**			
BOJS	**Bojanci**	**81.48 333**	*i* P	P	05 22 02.7 +4.8			
JAVS	**Javornik**	**81.49 334**	*i* P	P	05 22 01.5 +3.4			
HAU	**Haudompre**	**81.63 340**	*e*P	**P**	**05 21 58.3 -0.4**			
SFTF	**Sexfontaines**	**81.75 341**	*e*P	**P**	**05 21 58.8 -0.5**			
TKL	**Tuckaleechee C**	**82.03 45**	LR	LR	06 00 17.0			
	comp=Z,182nm,20.7s,baz=188,slow=37							
LDF	**La Druitiere**	**82.46 344**	*e*P	**P**	**05 22 02.2 -0.7**			
LOR	**Lormes**	**82.90 341**	*e*P	**P**	**05 22 05.0 -0.3**			
	comp=Z,35nm,1.0s							
SSF	**Saint Saulge**	**83.17 341**	*e*P	**P**	**05 22 06.4 -0.3**			
	comp=Z,18nm,0.9s							
AVF	**Avril sur Loir**	**83.46 341**	*e*P	**P**	**05 22 07.8 -0.4**			
LPL	**La Plagne**	**83.87 339**	*e*P	**P**	**05 22 10.9 +0.3**			
	comp=Z,65nm,1.2s							
LPG	**La Plagne**	**83.88 338**	*e*P	**P**	**05 22 11.2 +0.5**			
	comp=Z,38nm,0.9s							
TCF	**Toulx Ste Croi**	**84.19 342**	*e*P	**P**	**05 22 11.7 -0.3**			
MBDF	**Montbardon**	**84.59 338**	*e*P	**P**	**05 22 14.0 -0.2**			
	comp=Z,19nm,0.9s							
TBI	**Tubuai**	**85.79 131**	*e*LR	LR	05 49 12.0			
	comp=Z,815nm,31.5s,baz=329							
NWAO	**Narrogin (SRO)**	**86.72 211**	LR	LR	06 01 10.3			
	comp=Z,197nm,19.8s,baz=109,slow=36							
ESDC	**Sonseca Array**	**91.78 344**	P	**P**	**05 22 48.1 -0.5**			
	comp=Z,1.3nm,0.8s,baz=3.9,slow=3.9,SNR=4.1							
ESDC			LR	LR	06 08 47.4			
	comp=Z,357nm,19.6s,baz=95,slow=39							
ESDC	**Sonseca Array**	**91.78 344**	P	**P**	**05 22 48.1 -0.5**			
TEIG	**Tepich**	**91.89 57**	LR	LR	06 03 58.1			
	comp=Z,102nm,18.3s,baz=358,slow=36							
KEST	**Kesra**	**92.22 333**	LR	LR	06 08 56.1			
	comp=Z,162nm,21.8s,baz=357,slow=39							
TORD	**Torodi Ar. Bea**	**115.70 332**	PKP	**PKPdf**	**05 28 22.0 -1.4**			
	comp=Z,0.7nm,0.6s,baz=11,slow=2.0,SNR=6.0							
TORD			PP	**PP**	**05 29 24.4 -0.8**			
	comp=Z,2.4nm,1.1s,baz=41,slow=6.8,SNR=6.8							
TORD	**Torodi Ar. Bea**	**115.70 332**	PKP	**PKPdf**	**05 28 22.0 -1.4**			
TORD			PP	**PP**	**05 29 24.4 -0.8**			
DBIC	**Dimbokro**	**123.80 336**	PKP	**PKPdf**	**05 28 38.0 -1.0**			
	comp=Z,2.9nm,0.8s,baz=358,slow=3.9,SNR=6.8							
DBIC	**Dimbokro**	**123.80 336**	PKIKP	**PKPdf**	**05 28 38.1 -1.0**			
DBIC			pmax	pmax				
	comp=Z,3.0nm,0.8s							
DBIC	**Dimbokro**	**123.80 336**	PKP	**PKPdf**	**05 28 38.0 -1.0**			
LPAZ	**La Paz**	**132.74 65**	PKP	**PKPdf**	**05 28 57.6 +0.9**			
	comp=Z,1.4nm,0.8s,baz=236,slow=3.6,SNR=4.7							
LPAZ	**La Paz**	**132.74 65**	PKIKP	**PKPdf**	**05 28 57.6 +0.9**			
LPAZ			pmax	pmax				
	comp=Z,1.0nm,0.8s							
LPAZ	**La Paz**	**132.74 65**	PKP	**PKPdf**	**05 28 57.6 +0.9**			
SYO	**Syowa Base**	**142.00 212**	⇑*e*P	PKPdf	05 29 06.0 -5.3			
SYO	**Syowa Base**	**142.00 212**	⇑*e*PKPdf	**PKPdf**	**05 29 14.0 +2.7**			
BDFB	**Brasilia**	**143.11 40**	PKP	**PKPdf**	**05 29 14.1 -1.1**			
	comp=Z,0.7nm,0.4s,baz=225,slow=5.7,SNR=2.2							
BDFB	**Brasilia**	**143.11 40**	PKIKP	**PKPdf**	**05 29 14.1 -1.1**			
BDFB			pmax	pmax				
	comp=Z,1.0nm,0.4s							
BDFB	**Brasilia**	**143.11 40**	PKP	**PKPdf**	**05 29 14.1 -1.1**			
PLCA	**Paso Flores**	**146.58 96**	PKPbc	**PKPbc**	**05 29 22.4 +0.5**			
	comp=Z,6.6nm,0.8s,baz=289,slow=3.4,SNR=19							
PLCA	**Paso Flores**	**146.58 96**	*e*PKP2	**PKPbc**	**05 29 22.2 +0.3**			
PLCA	**Paso Flores**	**146.58 96**	*e*PKPbc	**PKPbc**	**05 29 22.2 +0.3**			
NVL	**N'lazarevskaya**	**150.54 204**	*e*PKIKP	**PKPbc**	**05 29 32.8 +1.7**			
NVL			pmax	pmax				
	comp=Z,2.0nm,0.3s							
TRQA	**Tornquist**	**151.18 86**	*e*PKPbc	**PKPbc**	**05 29 34.0 +0.3**			
SNAA	**Sanae**	**153.25 195**	*e*	**PKPdf**	**05 29 33.5 +3.6**			
SNAA			*e*		05 29 37.8			

ISCJB ***22*** *05:14:15.9±0.3,46.83°N±0.04°×155.42°E±0.04, h9km, mb4.7/108, MS4.7/10, Error ellipse: s-maj=6.8km s-min=2.9km az=147.5*

BJI ***22*** *05:14:17.9,47.30°N×155.26E, h8km, mB5.0/25, mb4.8/42, Ms5.0/29, Ms7 4.7/28*

SKHL ***22*** *05:14:18.5±1.9,46.66°N×155.80E, h55km±23km, mb6.5/1*

NEIC ***22*** *05:14:18.7±0.2,47.05°N×155.52E, h10km, mb4.8/51, Error ellipse: s-maj=7.1km s-min=3.7km az=152.0*

IDC ***22*** *05:14:21.7±0.6,47.05°N×155.48E, h29km±4km, mb4.3/28, mb1 4.4/31, mb1mx4.4/33, mbtmp4.3/31, ML4.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/47, Error ellipse: s-maj=13.8km s-min=9.6km az=146.0*

MOS ***22*** *05:14:21.5±1.1,47.11°N×155.41E, h43km, mb4.9/46, Error ellipse: s-maj=9.5km s-min=5.9km az=100.6*

SZGRF ***22*** *05:14:28.5,47.68°N×154.55E, h33km, mb5.2, Kuril Islands, Russia*

ISC 22 05:14:19.2±0.4, 46°99N±0°05×155°58E±0°04, h16km±1km, h16km:pP-P,n337,σ1s52/357, mb4.8/108, MS4.7/10, 33C-14D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**3.71**	**5**	*e*PN	**Pn**	**05**	**15**	**17.9**	**+2.2**
SKR				*e*S	**Sn**	**05**	**15**	**58.0**	**-1.0**
SKR				pmax	pmax				
	comp=Z,90nm,0.5s								
SKR				pmax	pmax				
	comp=N,80nm,0.6s								
SKR				pmax	pmax				
	comp=E,80nm,0.6s								
SKR				smax	smax				
	comp=E,610nm,0.3s								
SKR				smax	smax				
	comp=N,440nm,0.4s								
SKR	**Severo-Kuril's**	**3.71**	**5**	*e*P	**Pn**	**05**	**15**	**17.9**	**+2.2**
SKR				AMB	AMB	05	15	25.1	
	comp=N,80nm,0.6s								
SKR				AMB	AMB	05	15	25.1	
	comp=N,90nm,0.5s								
SKR				*e*S	**Sn**	**05**	**15**	**58.0**	**-1.0**
SKR				A	A	05	16	03.0	
	comp=N,440nm,0.3s								
SKR				A	A	05	16	03.0	
	comp=N,610nm,0.3s								
SKR				A	A	05	16	03.0	
	comp=N,240nm,0.3s								
KUR	**Kuril'sk**	**5.64**	**255**	⇑*i*PN	**Pn**	**05**	**15**	**41.7**	**-0.6**
KUR				pmax	pmax				
	comp=Z,400nm,0.7s								
KUR				pmax	pmax				
	comp=N,80nm,0.5s								
KUR				pmax	pmax				
	comp=E,90nm,0.8s								
KUR	**Kuril'sk**	**5.64**	**255**	⇑*i*P	**Pn**	**05**	**15**	**41.7**	**-0.6**
KUR				AMB	AMB	05	15	42.1	
	comp=E,80nm,0.5s								
KUR				AMB	AMB	05	15	42.1	
	comp=E,400nm,0.7s								
KUR				AMB	AMB	05	15	42.1	
	comp=E,90nm,0.8s								
KUR				*e*S	**Sn**	**05**	**16**	**42.5**	**-4.2**
KUR				A	A	05	16	44.2	
	comp=E,110nm,0.6s								
KUR				A	A	05	16	44.2	
	comp=E,520nm,0.6s								
KUR				A	A	05	16	50.0	
	comp=E,2μm,1.0s								
KUR				A	A	05	16	50.0	
	comp=E,3μm,1.8s								
PEA0B	**Petropavlovsk-**	**6.27**	**12**	*e*Pn	**Pn**	**05**	**15**	**50.1**	**-0.8**
PEA0B				*e*Sn	**Sn**	**05**	**17**	**02.7**	**+0.5**
PETK	**Petropavlovsk-**	**6.27**	**12**	Pn	**Pn**	**05**	**15**	**50.2**	**-0.7**
	comp=E,3.9nm,0.3s,baz=170,slow=16,SNR=18								
PETK				Sn	Sn	05	17	10.2	+8.0
	comp=E,0.9nm,0.3s,baz=168,slow=7.4,SNR=2.5								
PETK				LR	LR	05	18	07.0	
	comp=E,718nm,21.2s,baz=186,slow=36								
PETK	**Petropavlovsk-**	**6.27**	**12**	PN	**Pn**	**05**	**15**	**50.2**	**-0.7**
PETK						05	17	10.2	
PETK				pmax	pmax				
	comp=Z,4.0nm,0.3s								
PETK				smax	smax				
	comp=N,1.0nm,0.3s								
PETK				MLR	MLR				
	comp=Z,718nm,21.2s								
PETK	**Petropavlovsk-**	**6.27**	**12**	Pn	**Pn**	**05**	**15**	**50.2**	**-0.7**
PETK				Sn	Sn	05	17	10.2	+8.0
PET	**Petropavlovsk**	**6.35**	**17**	*e*PN	**Pn**	**05**	**15**	**50.1**	**-1.9**
PET				pmax	pmax				
	comp=Z,67nm,0.7s								
PET	**Petropavlovsk**	**6.35**	**17**	*e*Pn	**Pn**	**05**	**15**	**50.7**	**-1.3**
PET				*e*Sn	Sn	05	16	57.8	-6.3
YUK	**Yuzh-Kuril'sk**	**7.44**	**250**	⇓*i*PN	**Pn**	**05**	**16**	**04.8**	**-2.1**
YUK				pmax	pmax				
	comp=Z,94nm,0.5s								
YUK				pmax	pmax				
	comp=Z,209nm,0.5s								
YUK				pmax	pmax				
	comp=N,94nm,0.3s								
YUK				pmax	pmax				
	comp=Z,26μm,1.8s								
YUK	**Yuzh-Kuril'sk**	**7.44**	**250**	⇓*i*P	**Pn**	**05**	**16**	**04.9**	**-2.0**
YUK				AMB	AMB	05	16	10.5	
	comp=Z,2μm,2.0s								
YUK				AMB	AMB	05	16	10.5	
	comp=Z,237nm,0.5s								
YUK				*i* S	**Sn**	**05**	**17**	**25.5**	**-5.4**
YUK				A	A	05	17	35.6	
	comp=Z,2μm,1.9s								
NEM2	**Nemuro 2**	**7.84**	**246**	P	Pn	05	16	08.6	-3.8
NEM2				*e*S	Sn	05	17	29.9	-11
JRA	**Rausu**	**7.96**	**251**	P	**Pn**	**05**	**16**	**12.7**	**-1.4**
JNK	**Nakash**	**8.38**	**250**	P	**Pn**	**05**	**16**	**17.7**	**-2.2**
JNK				*e*S	Sn	05	17	45.5	-8.6
JAK	**Akkeshi**	**8.68**	**247**	P	Pn	05	16	20.1	-3.9
JAK				*e*S	Sn	05	17	51.2	-10
JTKR	**Abashiri--Toko**	**8.74**	**254**	P	**Pn**	**05**	**16**	**23.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**8.77**	**274**	⇑*e*PN	**Pn**	**05**	**16**	**28.0**	**+2.8**
YSS				*e*S	**Sn**	**05**	**18**	**06.0**	**+2.4**
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
YSS				smax	smax				
	comp=E,40nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.77**	**274**	*e*Pn	**Pn**	**05**	**16**	**26.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**8.77**	**274**	⇑*e*P	**Pn**	**05**	**16**	**28.0**	**+2.8**
YSS				AMB	AMB	05	16	29.5	
	comp=E,30nm,1.0s								
YSS				*e*S	**Sn**	**05**	**18**	**06.0**	**+2.4**
YSS				A	A	05	18	08.0	
	comp=E,40nm,0.7s								
JMP	**Maruseppu**	**9.09**	**255**	P	**Pn**	**05**	**16**	**28.6**	**-1.0**
JAR	**Ashorobuto**	**9.13**	**250**	P	**Pn**	**05**	**16**	**28.2**	**-1.9**
JAR				*e*S	Sn	05	18	04.6	-7.8
JOB	**Onbets**	**9.28**	**248**	P	Pn	05	16	28.6	-3.5
JOB				*e*S	Sn	05	18	05.6	-10
TYV	**Tymovskoe**	**9.35**	**299**	*e*P	**Pn**	**05**	**16**	**34.0**	**+0.9**
TYV				AMB	AMB	05	16	35.0	
	comp=E,20nm,0.8s								
TYV				AMB	AMB	05	16	35.0	
	comp=E,24nm,0.8s								
TYV				AMS	AMS	05	17	28.0	
	comp=E,6μm,14.0s								
TYV				AMS	AMS	05	17	28.0	
	comp=E,6μm,12.0s								
JKK2	**Kamakawa 2**	**9.54**	**256**	P	**Pn**	**05**	**16**	**35.1**	**-0.8**
ASAJ	**Asahikawa**	**9.55**	**257**	Pn	**Pn**	**05**	**16**	**34.7**	**-1.2**
	comp=E,4.0nm,0.3s,baz=83,slow=15,SNR=8.5								
ASAJ	**Asahikawa**	**9.55**	**257**	PN	**Pn**	**05**	**16**	**34.7**	**-1.2**
ASAJ				pmax	pmax				
	comp=Z,4.0nm,0.3s								
ASAJ	**Asahikawa**	**9.55**	**257**	*e*Pn	**Pn**	**05**	**16**	**35.9**	**0.0**
ASAJ	**Asahikawa**	**9.55**	**257**	P	**Pn**	**05**	**16**	**35.7**	**-0.2**
JCH	**Churui**	**9.72**	**248**	P	Pn	05	16	34.4	-3.9
JCH				*e*S	Sn	05	18	15.4	-12
JFR	**Furan**	**9.95**	**252**	P	**Pn**	**05**	**16**	**41.0**	**-0.4**
ERM	**Erimo**	**10.17**	**245**	*c i*PN	**Pn**	**05**	**16**	**41.5**	**-2.9**
ERM	**Erimo**	**10.17**	**245**	*e*Pn	**Pn**	**05**	**16**	**41.8**	**-2.6**
ERM	**Erimo**	**10.17**	**245**	*e*P	**Pn**	**05**	**16**	**41.5**	**-2.9**
JEM	**Erimo**	**10.17**	**245**	P	**Pn**	**05**	**16**	**41.6**	**-2.8**
JEM				*e*S	Sn	05	18	27.8	-10
JBT2	**Biratori 2**	**10.28**	**251**	P	**Pn**	**05**	**16**	**43.0**	**-2.9**
JNBK	**Urakawa-nobuka**	**10.28**	**247**	P	Pn	05	16	42.3	-3.6
JNB	**Noboribetsu**	**11.29**	**252**	P	Pn	05	16	55.8	-3.9
NKL	**Nikolayevsk**	**11.37**	**308**	*e*P	Pn	05	16	57.0	-3.8
NKL				AMS	AMS	05	17	34.0	
	comp=Z,2μm,15.0s								
NKL				AMS	AMS	05	17	34.0	
	comp=Z,2μm,13.0s								
JKB	**Kayabe**	**11.58**	**249**	P	Pn	05	16	59.6	-4.1
JSH	**Shimam**	**11.86**	**254**	P	**Pn**	**05**	**17**	**05.5**	**-1.9**
JYM2	**Yakumo 2**	**11.89**	**251**	P	Pn	05	17	04.6	-3.3
JANG	**Nango**	**12.13**	**242**	P	Pn	05	17	05.0	-6.3
JANG				*e*S	Sn	05	19	09.3	-17
JTM	**Tenmabayashi**	**12.16**	**245**	P	Pn	05	17	06.6	-5.0
JTM				*e*S	Sn	05	19	10.7	-16
JTH	**Tanohata**	**12.20**	**240**	P	Pn	05	17	06.3	-5.8
JTH				*e*S	Sn	05	19	11.2	-16
JOSM	**Okushiri--Mats**	**12.49**	**253**	P	Pn	05	17	12.2	-3.9
FX1	**Attu Island--F**	**12.76**	**56**	Pn	**Pn**	**05**	**17**	**18.4**	**-1.3**
	comp=Z,2.9nm,0.3s,baz=294,slow=12,SNR=4.5								
FX1				Sn	Sn	05	19	26.1	-15
	comp=Z,2.9nm,0.3s,baz=127,slow=20,SNR=2.4								
FX1	**Attu Island--F**	**12.76**	**56**	PN	**Pn**	**05**	**17**	**18.4**	**-1.3**
FX1				pmax	pmax				
	comp=Z,3.0nm,0.3s								
FX1	**Attu Island--F**	**12.76**	**56**	Pn	**Pn**	**05**	**17**	**18.4**	**-1.3**
FX1				Sn	Sn	05	19	26.1	-15
OFUJ	**Ofunato**	**12.87**	**237**	*e*S	Sn	05	19	29.3	-15
JRG	**Rokugo**	**13.27**	**241**	P	Pn	05	17	21.8	-5.0
JRG				*e*S	Sn	05	19	39.9	-14
TEY	**Ternei**	**13.33**	**268**	*e*P	Pn	05	17	31.0	+3.4
JIO	**Ouri**	**13.48**	**236**	*e*S	Sn	05	19	44.9	-14
KLR	**Kul'dur**	**16.06**	**287**	*e*P	**Pn**	**05**	**18**	**01.8**	**-2.3**
KLR				pmax	pmax				
	comp=E,50nm,1.8s								
KLR				pmax	pmax				
	comp=Z,56nm,1.8s								
SEY	**Seymchan**	**16.08**	**355**	*e*P	**Pn**	**05**	**18**	**02.6**	**-1.6**
MAJO	**Matsushiro**	**16.61**	**237**	*e*P	**Pn**	**05**	**18**	**07.5**	**-3.7**
MAJO				pmax	pmax				
	comp=Z,43nm,0.9s								
MAJO	**Matsushiro**	**16.61**	**237**	*e*Pn	**Pn**	**05**	**18**	**07.5**	**-3.7**
	comp=Z,44nm,0.9s								
MAT	**Matsushiro**	**16.61**	**237**	P	**Pn**	**05**	**18**	**06.8**	**-4.4**
MJAR	**Matsushiro Arr**	**16.61**	**237**	Pn	**Pn**	**05**	**18**	**07.7**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=28,slow=14,SNR=13								
MJAR	**Matsushiro Arr**	**16.61**	**237**	P	**Pn**	**05**	**18**	**07.7**	**-3.5**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.61**	**237**	Pn	**Pn**	**05**	**18**	**07.7**	**-3.5**
USRK	**Ussurisyk Arra**	**16.72**	**269**	Pn	**Pn**	**05**	**18**	**10.1**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=76,slow=13,SNR=21								
MDJ	**Mudanjiang**	**18.25**	**272**	P	**Pn**	**05**	**18**	**28.8**	**-2.7**
MDJ				pmax	pmax				
	comp=Z,13nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,150nm,5.3s								
YAK	**Yakutsk**	**21.06**	**325**	*e*P	**P**	**05**	**19**	**01.0**	**-1.2**
YAK				pmax	pmax				
	comp=Z,44nm,0.7s								
YAK	**Yakutsk**	**21.06**	**325**	*e*P	**P**	**05**	**19**	**00.9**	**-1.2**
	comp=Z,44nm,0.7s								
CN2	**Changchun**	**21.33**	**272**	*e*P	**P**	**05**	**19**	**03.6**	**-1.7**
CN2				*e*pP	**pP**	**05**	**19**	**07.6**	**-2.4**
CN

SML Sawmill 34.62 44 *e*P **P** **05 21 07.8 +0.6**
SML pmax pmax
comp=Z,8.0nm,0.7s
SML Sawmill 34.62 44 *e*P **P** **05 21 07.8 +0.6**
comp=Z,8.4nm,0.7s
COLA College 34.89 39 *e*P **P** **05 21 10.7 +1.3**
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 34.89 39 *e*P **P** **05 21 10.7 +1.3**
comp=Z,17nm,0.7s
ILAR Eielson Array 35.30 39 P **P** **05 21 13.1 +0.1**
comp=Z,3.7nm,0.5s,baz=249,slow=7.8,SNR=58
ILAR Eielson Array 35.30 39 P **P** **05 21 13.1 +0.1**
ILAR pmax pmax
comp=Z,4.0nm,0.5s
ILAR Eielson Array 35.30 39 P **P** **05 21 13.1 +0.1**
PAX Paxson 35.93 42 *e*P **P** **05 21 19.0 +0.5**
PAX pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 35.93 42 *e*P **P** **05 21 19.0 +0.5**
comp=Z,4.1nm,0.8s
BMRM Bremner River 36.46 45 *e*P **P** **05 21 24.0 +1.0**
comp=Z,10nm,0.8s
BMRM *e*pP **pP** **05 21 25.1 -3.0**
DOT Dot Lake 36.54 41 *e*P P 05 21 18.7 -4.9
comp=Z,9.4nm,0.7s
XAN Xi'an 37.22 267 P **P** **05 21 30.0 +0.3**
XAN pmax pmax
comp=Z,17nm,5.0s
EGAK Eagle 37.76 39 *e*P **P** **05 21 34.0 +0.1**
comp=Z,19nm,0.8s
DAWY Dawson 38.58 40 *e*P **P** **05 21 41.3 +0.5**
LZH Lanzhou 39.57 273 ⇓P **P** **05 21 50.4 +0.8**
LZH pP **pP** **05 21 55.4 +0.7**
LZH sP **sP** **05 21 57.5 +0.8**
LZH PP **PnPn** **05 23 23.3 -0.1**
LZH *e*S **S** **05 27 53.5 +1.9**
LZH sS **sS** **05 28 04.0 +4.0**
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.1s
LZH LR LR
comp=N,600nm,11.4s
LZH LR LR
comp=E,740nm,12.2s
LZH LR LR
comp=Z,760nm,13.0s
INK Inuvik 40.54 33 P **P** **05 21 58.6 +1.6**
comp=Z,11nm,0.8s,baz=290,slow=7.0,SNR=21
INK Inuvik 40.54 33 *e*P **P** **05 21 58.4 +1.4**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 40.54 33 *e*P **P** **05 21 58.4 +1.4**
comp=Z,13nm,0.8s
GTA Gaotai 40.60 280 *e*P **P** **05 21 59.0 +0.9**
GTA pP **pP** **05 22 03.4 +0.2**
GTA sP **sP** **05 22 06.5 +1.3**
GTA PcP **PcP** **05 24 00.8 +0.9**
GTA S **S** **05 28 09.0 +2.1**
GTA sS **sS** **05 28 16.6 +1.3**
GTA SS **SS** **05 31 02.1 -4.6**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,160nm,5.0s
GTA LR LR
comp=N,910nm,13.8s
GTA LR LR
comp=E,810nm,11.9s
GTA LR LR
comp=Z,900nm,11.9s
CD2 Chengdu 42.58 267 P **P** **05 22 15.3 +1.0**
CD2 pP **pP** **05 22 19.8 +0.3**
CD2 sP **sP** **05 22 22.3 +0.8**
CD2 PP **PP** **05 23 56.8 +3.8**
CD2 S **S** **05 28 37.3 +1.0**
CD2 sS **sS** **05 28 44.1 -0.7**
CD2 SS **SS** **05 31 40.5 -5.7**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,160nm,4.0s
CD2 LR LR
comp=N,770nm,13.1s
CD2 LR LR
comp=Z,740nm,14.9s
GYA Guiyang 43.42 259⇑ *i*P **P** **05 22 21.9 +0.7**
GYA PP **PP** **05 24 05.0 +2.8**
GYA ScP **ScP** **05 28 01.3 +1.4**
GYA S **S** **05 28 48.6 -0.2**
GYA SS SS 05 31 55.8 -7.0
GYA pmax pmax
comp=Z,30nm,0.9s
GYA LR LR
comp=N,400nm,15.8s
GYA LR LR
comp=E,590nm,14.0s
GYA LR LR
comp=Z,470nm,14.9s
ZAA0 Zalesovo Array 43.84 306 *e*P **P** **05 22 22.9 -1.2**
ZAA0 *e*PcP **PcP** **05 24 10.7 +0.5**
ZALV Zalesovo Beam 43.84 306 P **P** **05 22 22.8 -1.3**
comp=Z,5.3nm,0.5s,baz=57,slow=7.3,SNR=24
ZALV PcP **PcP** **05 24 10.7 +0.4**
comp=Z,4.7nm,0.8s,baz=64,slow=3.4,SNR=8.8
ZALV pPcP 05 24 20.7
comp=Z,2.1nm,0.4s,baz=67,slow=3.9,SNR=4.7
ZALV Zalesovo Beam 43.84 306 P **P** **05 22 22.8 -1.3**
ZALV 05 24 10.7
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 43.84 306 P **P** **05 22 22.8 -1.3**
ZALV PcP **PcP** **05 24 10.7 +0.4**
ZALV pPcP 05 24 20.7
DLBC Dease Lake 44.20 47 *e*P **P** **05 22 26.1 -1.0**
NVS Novosibirsk 44.38 308⇑ *i*P **P** **05 22 27.3 -1.1**
NVS pmax pmax
comp=Z,12nm,1.4s
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,28nm,1.6s
WMQ Urumqi 46.41 292 P **P** **05 22 45.1 +0.3**
WMQ pP **pP** **05 22 54.1 +4.2**
WMQ pmax pmax
comp=Z,12nm,0.7s
KMI Kunming 46.95 261 P **P** **05 22 49.5 +0.1**
KMI pmax pmax
comp=Z,13nm,1.4s
MK31 Makanchi Array 48.32 298 *e*P **P** **05 22 59.1 -0.5**
MK31 *e* 05 24 26.5
MK31 Makanchi Array 48.32 298 *e*P **P** **05 22 59.1 -0.5**
MK31 *e*PcP **PcP** **05 24 26.5 +0.4**
MKAR Makanchi Array 48.32 298 P **P** **05 22 59.0 -0.6**
comp=Z,2.8nm,0.6s,baz=67,slow=8.1,SNR=11
MKAR PcP **PcP** **05 24 26.4 +0.3**
comp=Z,1.7nm,0.6s,baz=59,slow=2.7,SNR=4.0
MKAR pPcP 05 24 36.4
comp=Z,3.2nm,1.0s,baz=54,slow=7.3,SNR=3.6
MKAR ScP **ScP** **05 28 19.2 -0.6**
comp=Z,0.3nm,0.6s,baz=45,slow=6.9,SNR=2.5
MKAR Makanchi Array 48.32 298 *e*P **P** **05 22 59.5 -0.1**
MKAR 05 24 26.4
MKAR Makanchi Array 48.32 298 *e*P **P** **05 22 59.5 -0.1**
MKAR PcP **PcP** **05 24 26.4 +0.3**
MKAR pPcP 05 24 36.4
MKAR ScP **ScP** **05 28 19.2 -0.6**
KURK Kurchatov 48.63 304 P **P** **05 23 02.0 +0.2**
comp=Z,21nm,0.8s,baz=65,slow=8.5,SNR=36
KURK PcP **PcP** **05 24 27.2 +0.1**
comp=Z,4.2nm,0.8s,baz=65,slow=3.8,SNR=4.5
KURK Kurchatov 48.63 304*d i*P **P** **05 23 00.9 -0.9**
KURK pmax pmax
comp=Z,56nm,1.2s
KURK Kurchatov 48.63 304 P **P** **05 23 02.0 +0.2**
comp=Z,6.6nm,1.5s
KURK PcP **PcP** **05 24 27.2 +0.1**
YKA Yellowknife Ar 49.71 37 P **P** **05 23 10.7 +0.8**
comp=Z,3.9nm,0.8s,baz=296,slow=7.3,SNR=18
YKA Yellowknife Ar 49.71 37 P **P** **05 23 10.7 +0.8**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 49.71 37 P **P** **05 23 10.7 +0.8**
LSA Lhasa 51.94 275 *e*P **P** **05 23 28.0 +0.2**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 51.94 275 *e*P **P** **05 23 28.0 +0.2**
comp=Z,4.9nm,0.6s
BVAR Borovoye Array 52.00 310 P **P** **05 23 27.5 +0.1**
comp=Z,18nm,0.7s,baz=57,slow=8.2,SNR=52
BVAR PcP **PcP** **05 24 39.9 +0.4**
comp=Z,3.6nm,0.7s,baz=53,slow=2.9,SNR=4.8
BVAR Borovoye Array 52.00 310 P **P** **05 23 27.5 +0.1**
BVAR 05 24 39.9
BVAR pmax pmax
comp=Z,18nm,0.7s
BVAR Borovoye Array 52.00 310 P **P** **05 23 27.5 +0.1**
BVAR PcP **PcP** **05 24 39.9 +0.4**
BRVK Borovoye 52.04 310*c i*P **P** **05 23 27.3 -0.3**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 52.04 310 *e*P **P** **05 23 27.7 +0.1**
comp=Z,23nm,0.6s
BRVK *e*PcP **PcP** **05 24 39.2 -0.4**
KBS Kingsbay 52.51 352 *e*P **P** **05 23 28.7 -2.0**
KBS pmax pmax
comp=Z,46nm,2.5s
CHTO Chiang Mai 53.82 259 *e*P **P** **05 23 42.4 +1.2**
CHTO pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 53.82 259 *e*P **P** **05 23 42.4 +1.2**
comp=Z,15nm,1.0s
CM31 Chiang Mai Arr 54.07 258 *e*P **P** **05 23 44.4 +1.4**
comp=Z,7.1nm,0.5s
CMAR Chiang Mai Arr 54.07 258 P **P** **05 23 44.6 +1.6**
comp=Z,6.6nm,0.6s,baz=36,slow=7.5,SNR=32
CMAR pP pP 05 23 54.0 +5.7
comp=Z,3.8nm,0.6s,baz=36,slow=7.3,SNR=7.9
CMAR PcP **PcP** **05 24 49.2 +1.4**
comp=Z,1.2nm,0.7s,baz=28,slow=3.2,SNR=4.5
CMAR Chiang Mai Arr 54.07 258 P **P** **05 23 44.6 +1.6**
CMAR *PP pP 05 23 54.0 +5.7
CMAR 05 24 49.3
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 54.07 258 P **P** **05 23 44.6 +1.6**
CMAR pP pP 05 23 54.0 +5.7
CMAR PcP **PcP** **05 24 49.2 +1.4**
TKM2 Tokmak 2 54.40 297 *e*P **P** **05 23 46.3 +0.9**
TKM2 pmax pmax
comp=Z,13nm,1.3s
TKM2 Tokmak 2 54.40 297 *e*P **P** **05 23 46.3 +0.9**
comp=Z,13nm,1.3s
SVE Sverdlovsk 54.79 318⇓ *e*P **P** **05 23 48.5 +0.7**
SVE pmax pmax
comp=Z,26nm,1.2s
SOKR Solikamsk 54.95 322 *e*P **P** **05 23 49.3 +0.5**
SOKR pmax pmax
comp=Z,20nm,1.4s
AAK Ala-Archa 55.23 297 *e*P **P** **05 23 51.6 +0.2**
AAK pmax pmax
comp=Z,27nm,0.7s
AAK Ala-Archa 55.23 297 *e*P **P** **05 23 51.5 +0.2**
comp=Z,27nm,0.7s
EKS2 Erkin-Say 55.65 298 *e*P **P** **05 23 54.5 +0.2**
EKS2 pmax pmax
comp=Z,17nm,1.3s
EKS2 Erkin-Say 55.65 298 *e*P **P** **05 23 54.5 +0.2**
comp=Z,16nm,1.3s
TAPN Taplejung 55.77 275 *e*P P 05 23 58.9 +3.3
comp=Z,8.6nm,0.7s
TAPN Taplejung 55.77 275 *e*P P 05 23 58.9 +3.3
comp=Z,8.6nm,0.7s
ARU Arti 55.97 318*c i*P **P** **05 23 56.4 +0.2**
ARU 05 25 55.8
ARU S **S** **05 31 46.5 +3.3**
ARU SS **SS** **05 35 30.0 +1.5**
ARU pmax pmax
comp=Z,52nm,1.2s
ARU MLR MLR
comp=Z,469nm,15.0s
ARU Arti 55.97 318 *e*P **P** **05 23 55.9 -0.3**
comp=Z,29nm,0.7s
ARU *e*PcP **PcP** **05 24 54.9 +0.4**
KSH Kashi 56.11 294 P P 05 24 02.3 +4.6
KSH *e*pP pP 05 24 06.8 +3.8
KSH *e*sP sP 05 24 09.3 +4.3
KSH *e*PcP **PcP** **05 24 58.4 +2.8**
KSH *e*PP PP 05 26 09.6 +7.1
KSH *e*ScP **ScP** **05 28 55.8 +1.9**
KSH *e*PcS **PcS** **05 28 57.8 +1.7**
KSH *e*S **S** **05 31 50.8 +4.8**
KSH *e*sS sS 05 31 59.8 +5.2
KSH *e*ScS **ScS** **05 33 47.4 +1.1**
KSH *e*SS SS 05 35 40.3 +8.5
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,80nm,3.7s
KSH LR LR
comp=N,400nm,11.0s
KSH LR LR
comp=E,620nm,12.8s
KSH LR LR
comp=Z,530nm,12.9s
ODAN Odare 56.30 275 *e*P **P** **05 24 01.5 +2.2**
comp=Z,5.4nm,0.5s
ODAN Odare 56.30 275 *e*P **P** **05 24 01.5 +2.2**
comp=Z,5.4nm,0.5s
JIRN Jiri 56.61 276 *e*P **P** **05 24 04.0 +2.3**
comp=Z,9.0nm,0.5s
JIRN Jiri 56.61 276 *e*P **P** **05 24 04.0 +2.3**
comp=Z,9.0nm,0.5s
GUN Gumba 56.66 277 *e*P **P** **05 24 04.5 +2.5**
comp=Z,8.4nm,0.5s
GUN Gumba 56.66 277 *e*P **P** **05 24 04.5 +2.5**
comp=Z,8.4nm,0.5s
RAMN Ramite 56.78 275 *e*P **P** **05 24 03.3 +0.5**
RAMN Ramite 56.78 275 *e*P **P** **05 24 03.3 +0.5**
PKI Pulchoki 57.20 277 *e*P **P** **05 24 05.9 +0.1**
PKI Pulchoki 57.20 277 *e*P **P** **05 24 05.9 +0.1**
PKI Pulchoki 57.20 277 *e*P **P** **05 24 05.9 +0.1**
KKAR Karatay Array 57.35 300 *e*P **P** **05 24 06.8 +0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 57.35 300 *e*P **P** **05 24 06.8 +0.4**
comp=Z,5.6nm,0.7s
DMN Daman 57.38 277 *e*P **P** **05 24 07.5 +0.5**
DMN Daman 57.38 277 *e*P **P** **05 24 07.5 +0.5**
GKN Gorkha 57.44 277 *e*P **P** **05 24 07.9 +0.6**
comp=Z,50nm,1.1s
GKN Gorkha 57.44 277 *e*P **P** **05 24 07.9 +0.6**
comp=Z,50nm,1.1s
KEV Kevo 57.67 341 *e*P **P** **05 24 06.1 -2.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 57.67 341 *e*p **P** **05 24 06.1 -2.0**
comp=Z,0.7nm,0.4s
KEV Kevo 57.67 341 *e*p **P** **05 24 06.1 -2.0**
comp=Z,0.7nm,0.4s
APA Apatity 57.77 337⇑ *i*P **P** **05 24 09.5 +0.6**
DANN Dangsing 57.82 278 *e*P **P** **05 24 10.5 +0.4**
comp=Z,18nm,0.6s
DANN Dangsing 57.82 278 *e*P **P** **05 24 10.5 +0.4**
comp=Z,18nm,0.6s
ARCES ARCESS Array B 58.17 342 P **P** **05 24 11.7 +0.1**
comp=Z,8.5nm,0.9s,baz=42,slow=12,SNR=9.0
ARCES ARCESS Array B 58.17 342 P **P** **05 24 11.7 +0.1**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 58.17 342 P **P** **05 24 11.7 +0.1**
KOLN Koldanda 58.30 278 *e*P **P** **05 24 11.3 -2.1**
comp=Z,9.9nm,0.6s
KOLN Koldanda 58.30 278 *e*P **P** **05 24 11.3 -2.1**
comp=Z,9.9nm,0.6s
FFC Flin Flon 59.45 41 *i*P **P** **05 24 22.3 +1.5**
FFC Flin Flon 59.45 41 *e*P **P** **05 24 21.4 +0.6**
comp=Z,5.8nm,1.0s
ABKAR Akbulak array 59.56 311 *e*P **P** **05 24 21.6 0.0**
comp=Z,11nm,0.5s
ABKAR *e*PcP **PcP** **05 25 08.8 0.0**
KLMR Klimovskoe 60.76 330 *e*P **P** **05 24 28.7 -0.9**
KLMR pmax pmax
comp=Z,50nm,1.4s
NVAR Mina Array Bea 60.81 64 P **P** **05 24 32.2 +1.6**
comp=Z,1.0nm,0.7s,baz=299,slow=6.8,SNR=7.1
NVAR Mina Array Bea 60.81 64 P **P** **05 24 32.2 +1.6**
JOF Joensuu 61.85 335 *e*P **P** **05 24 36.2 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 61.85 335 *e*P **P** **05 24 36.2 -0.8**
comp=Z,4.8nm,0.7s
JOF Joensuu 61.85 335 *e*p **P** **05 24 36.2 -0.8**
comp=Z,4.8nm,0.7s
MOOW Moose Ponds 61.93 55 *e*P **P** **05 24 39.9 +1.8**
comp=Z,1.7nm,0.9s
MOOW *e*pP **pP** **05 24 40.1 -3.3**
LOHW Long Hollow 62.10 55 *e*P **P** **05 24 40.7 +1.4**
comp=Z,14nm,2.1s
REDW Red Top Meadow 62.12 55 *e*P **P** **05 24 41.1 +1.7**
comp=Z,8.2nm,1.4s
DGMT Dagmar 62.40 48 *e*P **P** **05 24 42.2 +1.2**
comp=Z,6.7nm,0.8s
DGMT *e*pP **pP** **05 24 42.7 -3.6**
PD01 Pinedale Array 63.21 55 *e*P **P** **05 24 47.6 +1.0**
PDAR Pinedale Array 63.23 55 P **P** **05 24 47.6 +0.8**
comp=Z,1.7nm,0.8s,baz=279,slow=2.8,SNR=8.5
PDAR Pinedale Array 63.23 55 P **P** **05 24 47.6 +0.8**
KAF Kangasniemi 63.92 336 *e*P **P** **05 24 48.4 -2.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 63.92 336 *e*p **P** **05 24 48.4 -2.3**
comp=Z,2.6nm,0.6s
KAF Kangasniemi 63.92 336 *e*p **P** **05 24 48.4 -2.3**
comp=Z,2.6nm,0.6s
FINES FINESS Array B 64.53 336 P **P** **05 24 54.8 +0.1**
comp=Z,2.6nm,0.4s,baz=35,slow=6.3,SNR=14
FINES FINESS Array B 64.53 336 P **P** **05 24 54.8 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 64.53 336 P **P** **05 24 54.8 +0.1**
ULM Lac du Bonnet 65.22 42 P **P** **05 25 00.1 +0.6**
comp=Z,1.1nm,0.6s,baz=310,slow=10,SNR=3.4
ULM Lac du Bonnet 65.22 42 P **P** **05 25 00.1 +0.6**
ULM pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 65.22 42 P **P** **05 25 00.1 +0.6**
RSSD Black Hills 65.36 51 *e*P **P** **05 25 00.9 +0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 65.36 51 *e*P **P** **05 25 00.9 +0.1**
comp=Z,3.9nm,0.9s
OBN Obninsk 66.05 327 *e*P **P** **05 25 04.4 -0.3**
OBN *e* 05 27 27.9
OBN *e*SS SS 05 38 07.3 +1.2
OBN pmax pmax
comp=Z,43nm,2.5s
PHWY Pilot Hill 66.49 54 *e*P P 05 25 13.8 +5.6
comp=Z,3.2nm,0.6s
AGMN Agassiz Nation 66.60 44 *e*P **P** **05 25 08.7 +0.4**
comp=Z,6.5nm,1.4s
AGMN *e*pP **pP** **05 25 09.3 -4.4**
VRHR Novokhopersk 67.01 321 *e*P **P** **05 25 09.2 -1.7**
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,1.0nm,0.3s
SMCO Snowmass 67.06 57 *e*P **P** **05 25 11.8 -0.1**
comp=N,1.5nm,0.8s
CTA Charters Tower 67.30 190 P **P** **05 25 14.2 +1.2**
comp=N,4.4nm,0.9s,baz=28,slow=8.3,SNR=3.7
CTA Charters Tower 67.30 190 P **P** **05 25 14.2 +1.2**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTA Charters Tower 67.30 190 P **P** **05 25 14.2 +1.2**
VSR Storozhevoye 67.96 323 *e*P **P** **05 25 15.1 -1.8**
NB2 NORSAR Subarra 68.53 342 P **P** **05 25 20.2 -0.2**
comp=Z,2.0nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.53 342 P **P** **05 25 20.8 +0.4**
comp=Z,4.1nm,0.9s,baz=26,slow=6.3,SNR=12
NOA NORSAR Array B 68.53 342 P **P** **05 25 20.8 +0.4**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 68.53 342 P **P** **05 25 20.8 +0.4**
HYB Hyderabad 68.68 273 *i*P **P** **05 25 21.0 -0.9**
WRAB Tennant Creek 69.31 201 *e*P **P** **05 25 25.2 -0.4**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 69.31 201 *e*P **P** **05 25 25.2 -0.4**
comp=Z,6.7nm,0.9s
WRAB *e*pP pP 05 25 25.3 -5.7
WRA Warramunga Arr 69.33 201 P **P** **05 25 25.3 -0.4**
comp=Z,6.5nm,0.8s,baz=20,slow=6.7,SNR=26
WRA pP **pP** **05 25 34.8 +3.8**
comp=Z,6.9nm,0.8s,baz=19,slow=7.2,SNR=14
WRA Warramunga Arr 69.33 201 P **P** **05 25 25.3 -0.4**
WRA *PP **pP** **05 25 34.8 +3.8**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 69.33 201 P **P** **05 25 25.3 -0.4**
WRA pP **pP** **05 25 34.8 +3.8**
FITZ Fitzroy Crossi 70.18 210 P **P** **05 25 31.5 +0.6**
comp=Z,1.7nm,0.7s,baz=318,slow=5.9,SNR=3.5
FITZ Fitzroy Crossi 70.18 210 P **P** **05 25 31.5 +0.6**
KIV Kislovodsk 71.83 316 *e*P **P** **05 25 41.0 +0.1**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV Kislovodsk 71.83 316 *e*P **P** **05 25 40.4 -0.6**
comp=Z,20nm,1.1s
KIV *e*PcP **PcP** **05 25 59.9 +0.1**
ZEI Tsey 72.12 314 *e*P **P** **05 25 43.1 +0.2**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 72.27 327 P **P** **05 25 42.9 -0.4**
comp=Z,3.1nm,0.6s,baz=32,slow=6.2,SNR=8.4
AKASG Malin Array Be 72.27 327 P **P** **05 25 42.9 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 72.27 327 P **P** **05 25 42.9 -0.4**
KIEV Kiev 72.28 327 *e*P **P** **05 25 42.7 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
KIEV Kiev 72.28 327 *e*P **P** **05 25 42.6 -0.7**
comp=Z,9.6nm,1.1s
SCHQ Schefferville 72.41 24 P **P** **05 25 44.9 +0.7**
comp=Z,2.5nm,0.8s,baz=208,slow=13,SNR=3.7
SCHQ Schefferville 72.41 24 P **P** **05 25 44.9 +0.7**
AS31 Alice Springs 73.00 201 *e*P **P** **05 25 48.0 +0.1**
ASAR Alice Springs 73.00 201 P **P** **05 25 48.5 +0.5**
comp=Z,4.2nm,0.7s,baz=16,slow=5.3,SNR=32
ASAR pP pP 05 25 58.1 +4.8
comp=Z,4.5nm,0.7s,baz=18,slow=5.7,SNR=13
ASAR Alice Springs 73.00 201 P **P** **05 25 48.5 +0.5**
ASAR *PP pP 05 25 58.1 +4.8
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 73.00 201 P **P** **05 25 48.5 +0.5**
ASAR pP pP 05 25 58.1 +4.8
GNI Garni 73.65 312 *e*P **P** **05 25 52.4 +0.5**
GNI pmax pmax
comp=Z,8.0nm,0.8s
KWP Kalwaria Pacla 75.46 331 *e*P **P** **05 26 02.5 +0.4**
KWP Kalwaria Pacla 75.46 331⇑P **P** **05 26 02.8 +0.7**
KWP Kalwaria Pacla 75.46 331 *e*P **P** **05 26 02.7 +0.6**
comp=Z,3.3nm,1.3s
KWP Kalwaria Pacla 75.46 331⇑ *i*P **P** **05 26 02.8 +0.7**
TXAR Lajitas Array 75.89 62 P **P** **05 26 05.9 +0.9**
comp=Z,2.4nm,0.7s,baz=304,slow=4.7,SNR=26
TXAR Lajitas Array 75.89 62 P **P** **05 26 05.9 +0.9**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 75.89 62 P **P** **05 26 05.9 +0.9**
OJC Ojcow 75.90 332 *e*P P 05 26 09.1 +4.5
OJC Ojcow 75.90 332 *e*pP P 05 26 09.1 +4.5
BUR08 Bucovina Ar. S 76.28 328 *e*P **P** **05 26 07.1 +0.1**
BURAR Bucovina Array 76.30 328⇑ *i*P **P** **05 26 06.1 -0.9**
UZH Uzhgorod 76.46 330 *e*P **P** **05 26 06.8 -0.9**
UZH *i* 05 26 13.4
CRVS Cervenica-Dubn 76.51 331 *e*P P 05 26 12.7 +4.6
CRVS pmax pmax
comp=Z,18nm,1.8s
CRVS Cervenica-Dubn 76.51 331 *e*P P 05 26 12.7 +4.6
TESR 76.69 326⇑ *i*P **P** **05 26 10.1 +0.9**
DPC Dobruska-Polom 76.85 335 *e*P P 05 26 15.3 +5.3
DPC Dobruska-Polom 76.85 335 *e*pP P 05 26 15.2 +5.3
DPC Dobruska-Polom 76.85 335 *e*P P 05 26 15.3 +5.3
CLL Collm 76.92 337 *i*P **P** **05 26 10.3 0.0**
CLL *i* 05 26 16.3
CLL Collm 76.92 337 *i*P **P** **05 26 10.3 0.0**
CLL *i*pP **pP** **05 26 14.3 -1.4**
CLL *i*sP **sP** **05 26 16.3 -1.4**
comp=Z,34nm,1.5s

CLL				*i* (pPcP)			05 26 24.2	
MORC	**Moravsky Berou**	**76.99 334**	⇑	P		**P**	**05 26 11.4**	**+0.6**
MORC	**Moravsky Berou**	**76.99 334**		*e*P		**P**	**05 26 11.2**	**+0.4**
	comp=Z,17nm,1.3s							
MORC	**Moravsky Berou**	**76.99 334**	⇑	*i*P		**P**	**05 26 11.4**	**+0.6**
VRI	**Vrincioaia**	**77.20 326**	⇓	P		P	05 26 18.2	+6.1
VRI	**Vrincioaia**	**77.20 326**	⇓	*i*P		P	05 26 18.2	+6.1
VRI	**Vrincioaia**	**77.20 326**	⇓	*i*P		P	05 26 20.4	+8.3
PLOR	**Plostina**	**77.25 326**	⇑	P		P	05 26 15.7	+3.4
PLOR	**Plostina**	**77.25 326**	⇑	*i*P		P	05 26 15.7	+3.4
PRU	**Pruhonice**	**77.69 335**		*e*P		P	05 26 19.5	+4.9
PRU	**Pruhonice**	**77.69 335**		*e*P		P	05 26 19.5	+4.9
VYHS	**Vyhne**	**77.72 332**		*e*P		**P**	**05 26 15.6**	**+0.7**
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.1s							
VYHS	**Vyhne**	**77.72 332**		*e*P		**P**	**05 26 15.6**	**+0.7**
MLR	**Muntele Rosu**	**77.82 326**	⇑	P		**P**	**05 26 16.7**	**+1.1**
MLR	**Muntele Rosu**	**77.82 326**	⇑	*i*P		**P**	**05 26 16.6**	**+1.0**
DRGR		**77.90 329**	⇓	P		**P**	**05 26 13.9**	**-2.1**
DRGR		**77.90 329**	⇓	*i*P		**P**	**05 26 13.9**	**-2.1**
ISR	**Istrita**	**77.90 326**	⇑	P		P	05 26 19.2	+3.2
ISR	**Istrita**	**77.90 326**	⇑	*i*P		P	05 26 19.2	+3.2
NKC	**Novy Kostel**	**78.05 337**		*e*P		P	05 26 22.8	+6.1
NKC	**Novy Kostel**	**78.05 337**		*e*pP		P	05 26 22.8	+6.1
KHC	**Kasperske Hory**	**78.73 336**		*e*P		**P**	**05 26 21.0**	**+0.5**
KHC				*e*			05 26 25.0	
KHC	**Kasperske Hory**	**78.73 336**		*e*P		**P**	**05 26 21.0**	**+0.5**
KHC				*e*pP		**pP**	**05 26 25.0**	**-0.9**
GRF	**Grafenberg Arr**	**78.87 337**		*e*P		**P**	**05 26 21.9**	**+0.7**
	comp=Z,32nm,1.4s							
GRF	**Grafenberg Arr**	**78.87 337**		*e*P		**P**	**05 26 21.9**	**+0.7**
GRF				pmax		pmax		
	comp=Z,32nm,1.4s							
GERES	**GERESS Array B**	**78.96 335**		P		**P**	**05 26 22.3**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=28,slow=6.0,SNR=8.0							
GERES	**GERESS Array B**	**78.96 335**		P		**P**	**05 26 22.3**	**+0.5**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**78.96 335**		P		**P**	**05 26 22.3**	**+0.5**
GZR	**Gura Zlata**	**79.07 328**	⇓	P		P	05 26 27.1	+4.6
GZR	**Gura Zlata**	**79.07 328**	⇓	*i*P		P	05 26 27.0	+4.6
CONA	**Conrad Observa**	**79.15 334**	⇑	*i*PcP		P	05 26 28.9	+6.0
	comp=Z,16nm,1.6s							
CONA	**Conrad Observa**	**79.15 334**	⇑	*i*PcP		P	05 26 28.9	+6.0
	comp=Z,16nm,1.6s							
BZS	**Buzias**	**79.29 329**	⇓	P		P	05 26 27.8	+4.2
BZS	**Buzias**	**79.29 329**	⇓	*i*P		P	05 26 27.8	+4.2
BR131	**Keskin Array S**	**79.35 318**		*e*P		**P**	**05 26 24.7**	**+0.5**
	comp=Z,0.9nm,0.4s							
BRTR	**Keskin Array B**	**79.35 318**		P		**P**	**05 26 24.7**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=65,slow=5.9,SNR=7.5							
BRTR	**Keskin Array B**	**79.35 318**		*ce*P		**P**	**05 26 24.7**	**+0.5**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**79.35 318**		P		**P**	**05 26 24.7**	**+0.5**
MIB	**Mutribah**	**79.96 303**		*e*P		**P**	**05 26 27.7**	**+0.2**
MIB				AMb		AMB	05 26 35.0	
	comp=Z,23nm,0.7s							
NAY	**Al-Naaiem**	**80.44 303**		*e*P		**P**	**05 26 29.8**	**-0.3**
NAY				AMb		AMB	05 26 33.1	
	comp=Z,14nm,1.4s							
RDF	**Al-Radifah**	**80.50 302**		*e*P		**P**	**05 26 30.5**	**+0.1**
RDF				AMb		AMB	05 26 34.0	
	comp=Z,48nm,1.4s							
PERS	**Pernice**	**80.53 334**		*i* P		P	05 26 35.4	+5.1
KBA	**Koelnbreinsper**	**80.66 335**	⇑	*i*P		**P**	**05 26 32.3**	**+1.1**
KBA				pmax		pmax		
	comp=Z,20nm,0.9s							
KBA	**Koelnbreinsper**	**80.66 335**	⇑	*i*P		**P**	**05 26 32.3**	**+1.1**
	comp=Z,20nm,0.9s							
KBA	**Koelnbreinsper**	**80.66 335**	⇑	*i*pP		**P**	**05 26 32.3**	**+1.1**
	comp=Z,20nm,0.9s							
CDF	**Champ du Feu**	**81.05 339**		*e*P		**P**	**05 26 32.6**	**-0.5**
PAGF	**Fort de Pagny**	**81.28 340**		*e*P		**P**	**05 26 34.3**	**0.0**
VTS	**Vitosha**	**81.32 327**	⇑	P		**P**	**05 26 33.3**	**-1.5**
VTS	**Vitosha**	**81.32 327**	⇑	*i*P		**P**	**05 26 33.3**	**-1.5**
VISS	**Visnje**	**81.36 333**		*i* P		P	05 26 39.2	+4.5
FETA	**Feichten**	**81.45 337**	⇑	*i*P		P	05 26 40.3	+4.9
	comp=Z,16nm,1.3s							
FETA	**Feichten**	**81.45 337**	⇑	*i*PcP		P	05 26 40.3	+4.9
	comp=Z,16nm,1.3s							
BOJS	**Bojanci**	**81.50 333**		*i* P		P	05 26 40.8	+5.4
HAU	**Haudompre**	**81.65 340**		*e*P		**P**	**05 26 35.7**	**-0.6**
SFTF	**Sexfontaines**	**81.77 341**		*e*P		**P**	**05 26 36.6**	**-0.2**
TUE	**Stuetta**	**82.32 337**		*e*P		**P**	**05 26 40.8**	**+0.7**
	comp=Z,8.2nm,0.8s							
LOR	**Lormes**	**82.92 341**		*e*P		**P**	**05 26 42.6**	**-0.3**
AVF	**Avril sur Loir**	**83.48 341**		*e*P		**P**	**05 26 45.7**	**-0.1**
	comp=Z,15nm,0.8s							
LPL	**La Plagne**	**83.89 339**		*e*P		**P**	**05 26 48.7**	**+0.5**
	comp=Z,24nm,0.9s							
LPG	**La Plagne**	**83.90 339**		*e*P		**P**	**05 26 48.9**	**+0.6**
	comp=Z,29nm,1.0s							
ESDC	**Sonseca Array**	**91.80 344**		P		**P**	**05 27 24.9**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=351,slow=4.3,SNR=4.0							
ESDC	**Sonseca Array**	**91.80 344**		P		**P**	**05 27 24.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**115.72 332**		PKP		**PKPdf**	**05 33 00.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=35,slow=2.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	**115.72 332**		PKP		**PKPdf**	**05 33 00.4**	**-0.6**
DBIC	**Dimbokro**	**123.82 336**		PKP		**PKPdf**	**05 33 15.1**	**-1.5**
	comp=Z,3.2nm,0.9s,baz=45,slow=3.0,SNR=5.8							
DBIC	**Dimbokro**	**123.82 336**		PKIKP		**PKPdf**	**05 33 15.1**	**-1.5**
DBIC				pmax		pmax		
	comp=Z,3.0nm,0.9s							
DBIC	**Dimbokro**	**123.82 336**		PKP		**PKPdf**	**05 33 15.1**	**-1.5**
PLCA	**Paso Flores**	**146.55 96**		PKPbc		**PKPab**	**05 34 00.4**	**0.0**
	comp=Z,7.2nm,0.8s,baz=294,slow=3.4,SNR=18							
PLCA	**Paso Flores**	**146.55 96**		PKP2		**PKPab**	**05 34 00.4**	**0.0**
PLCA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
PLCA	**Paso Flores**	**146.55 96**		PKPbc		**PKPab**	**05 34 00.4**	**0.0**

*ISCJB **22** 05:15:14.6±0.5,24.75N±0.03×122.21E±0.02,h76km±5km, Error ellipse: s-maj=5.7km s-min=3.1km az=165.8*
*TAP **22** 05:15:14.2,24.72N×122.18E,h81km,ML3.7,C*
*JMA **22** 05:15:14.1±0.4,24.83N×122.20E,h75km,M2.6*

ISC 22 05:15:14.9±1.4,**24.73N**±0.04×**122.20E**±0.03,**h76**km±8km, **n52**,σ1§**05**/86,**2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.34**	**250**	*i* P	**Pn**	**05 15 26.8**	**-0.2**
TWC	baz=250			S	**Sn**	**05 15 35.7**	**-0.2**
TWB1	**Santiao Chiao**	**0.34**	**326**	⇓ *i*P	**Pn**	**05 15 27.1**	**0.0**
TWB1	baz=329			*i* S	**Sn**	**05 15 35.9**	**0.0**
ILA	**Ilan**	**0.41**	**275**	*e*S	**Sn**	**05 15 37.5**	**+0.7**
TWE	baz=280 **Neicheng**	**0.48**	**269**	P	**Pn**	**05 15 28.2**	**+0.1**
TWE	baz=278			*e*S	**Sn**	**05 15 38.1**	**+0.2**
NWF	baz=278 **Wu-fen Shan**	**0.51**	**312**	*e*P	**Pn**	**05 15 28.6**	**+0.1**
NWF	baz=306			*e*S	**Sn**	**05 15 38.6**	**+0.1**
ENA	baz=306 **Nanau**	**0.51**	**234**	P	**Pn**	**05 15 28.5**	**+0.1**
ENA	baz=230			S	**Sn**	**05 15 39.0**	**+0.6**
ENTT	baz=230 **Nioudou**	**0.58**	**262**	P	**Pn**	**05 15 29.5**	**+0.4**
ENTT	baz=264			*e*S	**Sn**	**05 15 39.6**	**+0.1**
TWA	baz=264 **Mucha**	**0.61**	**295**	*e*P	**Pn**	**05 15 29.3**	**-0.1**
TWA	baz=289			*e*S	**Sn**	**05 15 39.5**	**-0.6**
TAP1	baz=289 **Taipei**	**0.69**	**297**	*e*S	**Sn**	**05 15 40.6**	**-0.8**
NSK	baz=297 **Sanguang**	**0.77**	**266**	P	**Pn**	**05 15 31.3**	**+0.3**
NSK	baz=275			*e*S	**Sn**	**05 15 43.0**	**0.0**
TWY	baz=275 **Chenhua**	**0.77**	**315**	*e*S	**Sn**	**05 15 42.5**	**-0.5**
YOJ	baz=308 **Yonaguni jima**	**0.79**	**109**	P	**Pn**	**05 15 30.9**	**-0.3**
YOJ				*e*S	**Sn**	**05 15 43.1**	**-0.2**
TWS1	**Kuangyinshan**	**0.80**	**298**	*e*P	**Pn**	**05 15 31.4**	**+0.1**
TWS1	baz=305			S	**Sn**	**05 15 43.6**	**0.0**
NNS	**Nan Shan**	**0.80**	**249**	*i* P	**Pn**	**05 15 31.7**	**+0.2**
NNS	baz=243			S	**Sn**	**05 15 44.0**	**+0.1**
TWD	baz=243 **Chiawan**	**0.84**	**221**	P	**Pn**	**05 15 31.5**	**-0.4**
TWD	baz=220			S	**Sn**	**05 15 44.5**	**-0.1**
HWA	baz=220 **Hwalien**	**0.92**	**216**	*e*S	**Sn**	**05 15 46.3**	**+0.2**
NCU	baz=209 **National Centr**	**0.95**	**285**	*e*S	**Sn**	**05 15 47.9**	**+1.2**
WHF	baz=285 **Hehuan Shan**	**1.03**	**236**	*e*P	**Pn**	**05 15 34.3**	**-0.2**
WHF	baz=236			*e*S	**Sn**	**05 15 48.0**	**-1.1**
TWT	baz=236 **Tachien**	**1.04**	**243**	P	**Pn**	**05 15 35.0**	**+0.6**
TWT	baz=237			S	**Sn**	**05 15 49.2**	**+0.2**
NSTT	baz=237 **Nanjuang**	**1.09**	**265**	*e*P	**Pn**	**05 15 35.0**	**+0.1**
NSTT	baz=264			S	**Sn**	**05 15 49.9**	**+0.1**
HSN	baz=264 **Hsinchu**	**1.12**	**274**	*e*S	**Sn**	**05 15 50.5**	**+0.2**
ESL	baz=275 **Shilin**	**1.15**	**218**	*e*P	**Pn**	**05 15 34.4**	**-1.2**
ESL	baz=227			*e*S	**Sn**	**05 15 49.3**	**-1.7**
NSY	baz=227 **Sanyi**	**1.34**	**257**	*e*P	**Pn**	**05 15 38.6**	**+0.5**
NSY	baz=256			*e*S	**Sn**	**05 15 56.2**	**+0.7**
TWQ1	baz=256 **Liyutan**	**1.35**	**254**	*e*P	**Pn**	**05 15 38.1**	**0.0**
TWQ1	baz=253			*e*S	**Sn**	**05 15 56.2**	**+0.5**
IRIF	baz=253 **Iriomote-Funau**	**1.45**	**105**	P	**Pn**	**05 15 38.8**	**-0.6**
IRIF				*e*S	**Sn**	**05 15 58.0**	**+0.1**
SMLT	**Sun Moon Lake**	**1.45**	**235**	*e*P	**Pn**	**05 15 39.9**	**+0.4**
SMLT	baz=230			*e*S	**Sn**	**05 15 59.3**	**+1.2**
EHY	baz=230 **Hungye**	**1.46**	**214**	*e*P	**Pn**	**05 15 40.0**	**+0.5**
TYC	baz=220 **Yuchr**	**1.47**	**236**	*e*P	**Pn**	**05 15 40.2**	**+0.5**
TYC	baz=232			*e*S	**Sn**	**05 15 59.6**	**+1.3**
TCU	baz=232 **Taichung**	**1.50**	**248**	*e*S	**Sn**	**05 15 59.1**	**0.0**
TWF1	baz=246 **Yuli**	**1.60**	**211**	*e*P	**Pn**	**05 15 40.1**	**-1.3**
HATJ	baz=218 **Hateruma jima**	**1.61**	**114**	P	**Pn**	**05 15 41.8**	**+0.3**
YUS	**Yu-Shan**	**1.68**	**223**	*e*P	**Pn**	**05 15 41.6**	**-1.3**
YUS	baz=216			*e*S	**Sn**	**05 16 03.6**	**-0.4**
JKRS	baz=216 **Kuro-shima**	**1.72**	**106**	P	**Pn**	**05 15 43.3**	**+0.3**
JKRS				*e*S	**Sn**	**05 16 05.2**	**+0.9**
ALS	**Alishan**	**1.76**	**227**	*e*P	**Pn**	**05 15 45.1**	**+1.4**
ALS	baz=219			*e*S	**Sn**	**05 16 07.3**	**+1.8**
CHN5	baz=219 **Tsauling**	**1.79**	**231**	*e*P	**Pn**	**05 15 44.5**	**+0.6**
CHN5	baz=240			*e*S	**Sn**	**05 16 07.2**	**+1.2**
CHKT	baz=240 **Chengkung**	**1.79**	**205**	*e*S	**Sn**	**05 16 03.2**	**-2.7**
JIJ	baz=197 **Ishigaki jima**	**1.81**	**101**	P	**Pn**	**05 15 43.5**	**-0.6**
JIJ				*e*S	**Sn**	**05 16 06.4**	**0.0**
WGK	**Gukeng**	**1.82**	**236**	*e*S	**Sn**	**05 16 08.3**	**+1.7**
ELDTW	baz=243 **Lidau**	**1.87**	**215**	*e*S	**Sn**	**05 16 06.4**	**-1.7**
CHN2	baz=216 **Minshiung**	**1.97**	**233**	*e*S	**Sn**	**05 16 12.1**	**+1.9**
CHN4	baz=242 **Tsaushan**	**2.01**	**227**	*e*P	**Pn**	**05 15 48.1**	**+1.4**
CHN4	baz=228			*e*S	**Sn**	**05 16 13.5**	**+2.4**
CHY	baz=228 **Chiayi**	**2.03**	**233**	*e*S	**Sn**	**05 16 11.9**	**+0.2**
STYT	baz=242 **Tauyuan**	**2.04**	**221**	*e*P	**Pn**	**05 15 46.7**	**-0.6**
STYT	baz=221			*e*S	**Sn**	**05 16 13.2**	**+1.2**
WTP	baz=221 **Ta-pu**	**2.07**	**225**	*e*P	**Pn**	**05 15 48.3**	**+0.7**
WTP	baz=235			*e*S	**Sn**	**05 16 13.9**	**+1.3**
TWK	baz=235 **Hsinying**	**2.13**	**227**	*e*P	**Pn**	**05 15 48.0**	**-0.6**
TWK	baz=227			*e*S	**Sn**	**05 16 16.1**	**+1.8**
TWG	baz=227 **Pinlang**	**2.16**	**209**	*e*S	**Sn**	**05 16 11.8**	**-2.9**
CHN1	baz=204 **Nanshi**	**2.17**	**225**	*e*P	**Pn**	**05 15 49.4**	**+0.4**
CHN1	baz=225			*e*S	**Sn**	**05 16 16.0**	**+1.1**
SGST	baz=225 **Jiashian**	**2.21**	**222**	*e*P	**Pn**	**05 15 49.9**	**+0.4**
SGST	baz=223			*e*S	**Sn**	**05 16 17.3**	**+1.4**
JTJ	**Tarama**	**2.28**	**92**	P	**Pn**	**05 15 51.1**	**+0.7**
JTJ				*e*S	**Sn**	**05 16 18.6**	**+1.0**
EAST	**Anshuo**	**2.64**	**208**	*e*P	**Pn**	**05 15 55.4**	**0.0**
PNG	baz=202 **Penghu**	**2.67**	**245**	*e*S	**Sn**	**05 16 24.8**	**-2.4**
QZH	baz=243 **Quanzhou**	**3.28**	**275**	⇓ *i*Pn	**Pn**	**05 16 03.3**	**-0.7**
QZH				Sn	**Sn**	**05 16 38.6**	**-3.3**
QZH	comp=N,40nm,0.7s			smax	smax		
QZH	comp=E,30nm,0.6s			smax	smax		

*IDC **22** 05:20:21.7±0.8,47.00N×155.48E,h0km,mb3.9/13, mb1 4.0/17,mb1mx3.9/30,mbtmp3.8/17,ML3.6/3, Error ellipse: s-maj=21.9km s-min=14.5km az=146.0*
*ISCJB **22** 05:20:22.8±0.6,47.11N±0.09×155.5E±0.1,h18km, mb3.9/17, Error ellipse: s-maj=16.1km s-min=7.8km az=137.3*
*NEIC **22** 05:20:23.3±0.5,47.03N×155.46E,h10km,mb4.3/3, Error ellipse: s-maj=14.4km s-min=7.4km az=139.0*
*MOS **22** 05:20:25.7±1.2,47.12N×155.44E,h42km,mb4.3/10, Error ellipse: s-maj=18.2km s-min=10.9km az=56.8*

ISC 22 05:20:24.7±0.7,**47.1N**±0.1×**155.4E**±0.1,**h18**km,**n61**, σ0§**96**/57,**mb3.9**/17,**1C,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.65**	**7**	*e*PN	**Pb**	**05 21 29.4**	**+0.9**
SKR				*e*		05 22 05.2	
PETK	**Petropavlovsk-**	**6.22**	**13**	Pn	**Pn**	**05 21 54.5**	**-1.1**
	1.0nm,0.3s,baz=177,slow=16,SNR=4.7						
PETK	**Petropavlovsk-**	**6.22**	**13**	PN	**Pn**	**05 21 54.5**	**-1.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.22**	**13**	Pn	**Pn**	**05 21 54.5**	**-1.1**
ASAJ	**Asahikawa**	**9.44**	**256**	Pn	**Pn**	**05 22 38.4**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=131,slow=19,SNR=2.4						
ASAJ	**Asahikawa**	**9.44**	**256**	PN	**Pn**	**05 22 38.4**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.44**	**256**	Pn	**Pn**	**05 22 38.4**	**-1.3**
ERM	**Erimo**	**10.08**	**244**	*i* PN	Pn	05 22 51.6	+3.1
MJA0	**Matsu Arr-Jizo**	**16.51**	**237**	*e*P	**P**	**05 24 17.1**	**-0.8**
MAJO	**Matsushiro**	**16.54**	**237**	*e*P	**Pn**	**05 24 16.4**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**16.54**	**237**	*e*Pn	**Pn**	**05 24 16.4**	**+0.8**
	comp=Z,3.9nm,0.6s						
MJAR	**Matsushiro Arr**	**16.54**	**237**	Pn	**Pn**	**05 24 15.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.5						
MJAR	**Matsushiro Arr**	**16.54**	**237**	P	**Pn**	**05 24 15.1**	**-0.5**
MJAR	**Matsushiro Arr**	**16.54**	**237**	Pn	**Pn**	**05 24 15.1**	**-0.5**
USRK	**Ussuriysk Arra**	**16.59**	**269**	Pn	**Pn**	**05 24 15.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=3.4						
BILL	**Bilibino**	**21.75**	**11**	⇑ *e*P	P	05 25 21.7	+6.9
BILL				*e*		05 25 39.9	
BILL				pmax	pmax		
	comp=Z,11nm,2.3s						
KSRS	**Korea Array**	**22.38**	**255**	P	**P**	**05 25 23.6**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=58,slow=10.0,SNR=3.6						
KSRS	**Korea Array**	**22.38**	**255**	P	**P**	**05 25 23.7**	**+1.9**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSAR	**Wonju Array Be**	**22.41**	**255**	P	**P**	**05 25 23.7**	**+1.5**
KSAR	**Wonju Array Be**	**22.41**	**255**	P	**P**	**05 25 23.6**	**+1.5**
KDAK	**Kodiak Island**	**32.69**	**51**	P	**P**	**05 26 56.8**	**+1.2**
	comp=Z,5.8nm,0.7s,baz=249,slow=8.6,SNR=3.0						
KDAK	**Kodiak Island**	**32.69**	**51**	P	**P**	**05 26 56.8**	**+1.2**
KDAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KDAK	**Kodiak Island**	**32.69**	**51**	P	**P**	**05 26 56.8**	**+1.2**
ILAR	**Eielson Array**	**35.32**	**39**	P	**P**	**05 27 16.9**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=254,slow=7.8,SNR=9.1						
ILAR	**Eielson Array**	**35.32**	**39**	P	**P**	**05 27 16.9**	**-1.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**35.32**	**39**	P	**P**	**05 27 16.9**	**-1.5**
ZALV	**Zalesovo Beam**	**43.68**	**306**	P	**P**	**05 28 28.5**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=76,slow=6.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**43.68**	**306**	P	**P**	**05 28 28.5**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**43.68**	**306**	P	**P**	**05 28 28.5**	**+0.4**
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**05 29 04.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=66,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**05 29 04.1**	**+0.4**
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**05 29 04.1**	**+0.4**
KURK	**Kurchatov**	**48.48**	**304**	P	**P**	**05 29 07.0**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=66,slow=8.5,SNR=8.6						
KURK	**Kurchatov**	**48.48**	**304**	*i* P	P	05 29 10.1	+4.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**48.48**	**304**	P	**P**	**05 29 07.0**	**+1.2**
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**05 29 15.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=295,slow=7.4,SNR=6.1						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**05 29 15.2**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**05 29 15.2**	**-0.1**
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**05 29 32.8**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=58,slow=7.0,SNR=9.4						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**05 29 32.8**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**05 29 32.8**	**+1.3**
BRVK	**Borovoye**	**51.89**	**310**	*e*P	**P**	**05 29 32.4**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**51.89**	**310**	*e*P	**P**	**05 29 32.4**	**+0.7**
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**53.96**	**258**	P	**P**	**05 29 46.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=70,slow=7.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**53.96**	**258**	P	**P**	**05 29 46.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**53.96**	**258**	P	**P**	**05 29 46.8**	**-0.6**
ARU	**Arti**	**55.82**	**318**	P	**P**	**05 29 59.6**	**-0.8**
ABKAR	**Akbulak array**	**59.41**	**311**	*e*P	**P**	**05 30 26.3**	**+0.6**
	comp=Z,1.6nm,0.5s						
FINES	**FINESS Array B**	**64.40**	**336**	P	**P**	**05 30 59.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=31,slow=8.3,SNR=2.7						
FINES	**FINESS Array B**	**64.40**	**336**	P	**P**	**05 30 59.5**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.40**	**336**	P	**P**	**05 30 59.5**	**+0.4**
OBN	**Obninsk**	**65.91**	**327**	*e*P	P	05 31 14.6	+5.6
OBN				*e*		05 31 41.5	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**69.35**	**201**	P	**P**	**05 31 30.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=20,slow=6.9,SNR=2.9						
WRA	**Warramunga Arr**	**69.35**	**201**	P	**P**	**05 31 30.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.35**	**201**	P	**P**	**05 31 30.3**	**-0.8**
ASAR	**Alice Springs**	**73.03**	**201**	P	**P**	**05 31 53.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=16,slow=5.7,SNR=3.3						
ASAR	**Alice Springs**	**73.03**	**201**	P	**P**	**05 31 53.2**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.03**	**201**	P	**P**	**05 31 53.2**	**-0.1**
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**05 32 10.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=301,slow=3.5,SNR=6.0						
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**05 32 10.7**	**0.0**
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**05 32 10.7**	**0.0**

ROM 22 05:24:49.3±0.1,**43.02N**×**13.06E**,**h14**km±1km,**Md1.2**/3, **Ml1.1/2,Error ellipse: s-maj=1.4km s-min=0.9km az=3.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**55**	Pg	Pg	05 24 52.2	+0.3
FDMO				Sg	Sg	05 24 54.1	+0.4
	112nm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**262**	Pg	Pg	05 24 52.9	+0.2
CESI				Sg	Sg	05 24 55.5	+0.5
	18nm,0.2s						
NRCA	**Norcia**	**0.19**	**167**	Pg	Pg	05 24 54.0	+0.2
NRCA				Sg	Sb	05 24 57.7	-0.6
	55nm,0.1s						

*IDC **22** 05:51:19.3±1.4,9.69N×126.56E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.6/21,mbtmp3.8/5,ML4.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/32,Error ellipse: s-maj=52.1km s-min=23.4km az=77.0*
*ISCJB **22** 05:51:23.6±1.4,9.22N±0.05×125.87E±0.06,h28km±10km, mb3.9/6,MS3.2/1,Error ellipse: s-maj=11.0km s-min=7.7km az=158.8*
*MAN **22** 05:51:24,9.25N×125.66E,h8km,mb4.7,ML3.6,MS3.6*

PLCA	**Paso Flores**	**145.49**	**158**	PKPbc	**PKPdf**	**06**	**11**	**01.0**	**-0.4**

*IDC **22** 05:56:51.2±3.1, 15°.12N×94°.48W, h0ᵏᵐ, mb3.4/6, mb1 3.8/9, mb1mx3.7/24, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=47.2km s-min=35.0km az=169.0*
*ISCJB **22** 05:56:53.0±0.8, 15°.01N±0°.08×94°.70W±0°.04, h28ᵏᵐ, mb3.4/6, Error ellipse: s-maj=10.8km s-min=4.9km az=4.3*
*MEX **22** 05:56:54.0±0.6, 15°.02N×94°.70W, h3ᵏᵐ±11ᵏᵐ, MD4.3*
*NEIC **22** 05:56:55.2, 14°.99N×94°.71W, h12ᵏᵐ, MD4.3(MEX), After MEX.*

ISC 22 05:56:55.1±1.0, 15°.09N±0°.08×94°.64W±0°.05, h28ᵏᵐ, n28, σ1ˢ23/43, mb3.5/6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PCIG		**1.50**	**66**	*i* P	**Pn**	**05**	**57**	**19.2**	**-0.9**
PCIG				*eS*	**Sn**	**05**	**57**	**38.7**	**0.0**
PCIG		**1.50**	**66**	*i* P	**Pn**	**05**	**57**	**19.2**	**-0.9**
PCIG				*eS*	**Sn**	**05**	**57**	**38.7**	**0.0**
CMIG	**Matias Romero**	**2.00**	**353**	Pn	**Pn**	**05**	**57**	**26.4**	**-0.7**
	44nm,0.3s,baz=158,slow=11,SNR=729								
CMIG				Sn	**Sn**	**05**	**57**	**51.4**	**+0.2**
	57nm,0.3s,baz=62,slow=20,SNR=15								
CMIG	**Matias Romero**	**2.00**	**353**	Pn	**Pn**	**05**	**57**	**26.4**	**-0.7**
CMIG				*eS*	**Sn**	**05**	**57**	**51.2**	**0.0**
CMIG				Sn	**Sn**	**05**	**57**	**51.4**	**+0.2**
CMIG				*i* S		05	57	51.8	
TGIG		**2.22**	**41**	*i* P	**Pn**	**05**	**57**	**30.6**	**+0.5**
TGIG				*eS*	**Sn**	**05**	**57**	**58.4**	**+1.7**
TGIG		**2.22**	**41**	*i* P	**Pn**	**05**	**57**	**30.6**	**+0.5**
TGIG				*eS*	**Sn**	**05**	**57**	**58.4**	**+1.7**
THIG		**2.30**	**94**	*i* P	**Pn**	**05**	**57**	**29.8**	**-1.4**
THIG				*eS*	**Sn**	**05**	**57**	**58.8**	**+0.3**
THIG		**2.30**	**94**	*i* P	**Pn**	**05**	**57**	**31.4**	**+0.3**
THIG				*i* S	**Sn**	**05**	**57**	**59.3**	**+0.7**
CCIG	**Comitan**	**2.68**	**64**	*i* P	**Pn**	**05**	**57**	**38.2**	**+1.6**
CCIG				*eS*	**Sn**	**05**	**58**	**10.4**	**+2.2**
CCIG	**Comitan**	**2.68**	**64**	*eP*	**Pn**	**05**	**57**	**35.9**	**-0.7**
CCIG				*eS*	**Sn**	**05**	**58**	**10.4**	**+2.2**
PNIG	**Pinotepa**	**3.60**	**291**	*i* P	**Pn**	**05**	**57**	**47.6**	**-1.5**
PNIG				*eS*	**Sn**	**05**	**58**	**29.8**	**-1.0**
PNIG	**Pinotepa**	**3.60**	**291**	*i* P	**Pn**	**05**	**57**	**47.6**	**-1.5**
PNIG				*eS*	**Sn**	**05**	**58**	**29.8**	**-1.0**
TEIG	**Tepich**	**7.92**	**49**	Pn	**Pn**	**05**	**58**	**47.2**	**-1.3**
	1.6nm,0.3s,baz=355,slow=21,SNR=12								
TEIG				Sn	**Sn**	**06**	**00**	**14.3**	**-2.9**
	0.6nm,0.3s,baz=30,slow=20,SNR=2.7								
TEIG	**Tepich**	**7.92**	**49**	Pn	**Pn**	**05**	**58**	**47.2**	**-1.3**
	9.6nm,0.6s								
TEIG				Sn	**Sn**	**06**	**00**	**14.3**	**-2.9**
TEIG				*e*Sn	Sn	06	00	16.5	-0.8
TXAR	**Lajitas Array**	**16.44**	**331**	Pn	**P**	**06**	**00**	**46.1**	**-0.4**
	0.0nm,0.3s,baz=154,slow=12,SNR=8.1								
TXAR	**Lajitas Array**	**16.44**	**331**	Pn	**P**	**06**	**00**	**46.1**	**-0.4**
ANMO	**Albuquerque**	**22.45**	**334**	P	**P**	**06**	**01**	**54.1**	**+1.9**
	0.3nm,0.4s,baz=129,slow=13,SNR=3.0								
ANMO	**Albuquerque**	**22.45**	**334**	P	**P**	**06**	**01**	**54.1**	**+1.9**
PDAR	**Pinedale Array**	**30.41**	**338**	P	**P**	**06**	**03**	**05.9**	**+0.6**
	0.2nm,0.6s,baz=160,slow=11,SNR=2.6								
PDAR	**Pinedale Array**	**30.41**	**338**	P	**P**	**06**	**03**	**05.9**	**+0.6**
NVAR	**Mina Array Bea**	**31.24**	**323**	P	**P**	**06**	**03**	**13.2**	**+0.6**
	0.3nm,0.7s,baz=148,slow=7.5,SNR=3.6								
NVAR	**Mina Array Bea**	**31.24**	**323**	P	**P**	**06**	**03**	**13.2**	**+0.6**
ULM	**Lac du Bonnet**	**35.08**	**359**	P	**P**	**06**	**03**	**45.5**	**-0.3**
	1.0nm,0.6s,baz=187,slow=8.1,SNR=2.6								
ULM	**Lac du Bonnet**	**35.08**	**359**	P	**P**	**06**	**03**	**45.5**	**-0.3**
YKA	**Yellowknife Ar**	**49.40**	**348**	P	**P**	**06**	**05**	**42.3**	**+0.1**
	0.4nm,0.5s,baz=155,slow=7.1,SNR=6.8								
YKA	**Yellowknife Ar**	**49.40**	**348**	P	**P**	**06**	**05**	**42.3**	**+0.1**
ILAR	**Eielson Array**	**60.84**	**337**	P	**P**	**06**	**07**	**04.5**	**-0.2**
	0.6nm,1.0s,baz=184,slow=3.7,SNR=4.3								
ILAR	**Eielson Array**	**60.84**	**337**	P	**P**	**06**	**07**	**04.5**	**-0.2**

*ISCJB **22** 06:05:14.4±1.4, 53°.15N±0°.05×173°.09E±0°.06, h23ᵏᵐ±10ᵏᵐ, mb4.1/27, MS3.4/3, Error ellipse: s-maj=8.3km s-min=5.6km az=178.4*
*NEIC **22** 06:05:15.9±1.0, 53°.12N×173°.01E, h20ᵏᵐ±6ᵏᵐ, mb4.4/7, Error ellipse: s-maj=9.2km s-min=4.6km az=178.0*
*IDC **22** 06:05:15.2±2.6, 53°.06N×173°.03E, h17ᵏᵐ±16ᵏᵐ, mb3.9/21, mb1 4.1/23, mb1mx4.0/31, mbtmp3.9/23, ML3.7/2, MS3.5/3, Ms1 3.5/3, ms1mx2.5/41, Error ellipse: s-maj=12.9km s-min=5.4km az=64.0*

ISC 22 06:05:16.8±1.2, 53°.16N±0°.09×173°.06E±0°.05, h25ᵏᵐ±10ᵏᵐ, n90, σ0ˢ81/93, mb4.2/27, MS3.4/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
FX1	**Attu Island--F**	**0.28**	**167**	Pn	**Pb**	**06**	**05**	**23.2**	**-0.3**
	3μm,0.3s,baz=340,slow=11,SNR=6409								
FX1				Sn	**Sb**	**06**	**05**	**28.3**	**+0.2**
	baz=225,slow=11								
FX1	**Attu Island--F**	**0.28**	**167**	Pn	**Pb**	**06**	**05**	**23.2**	**-0.3**
FX1				Sn	**Sb**	**06**	**05**	**28.3**	**+0.2**
SMY	**Shemya**	**0.76**	**124**	*e*Pg	**Pb**	**06**	**05**	**29.2**	**-2.1**
SMY				S	**Sb**	**06**	**05**	**41.8**	**+0.5**
TAFP	**Tanaga Falls P**	**5.61**	**99**	P	**Pn**	**06**	**06**	**37.8**	**-0.8**
TAPA	**Tanaga Point A**	**5.74**	**100**	P	**Pn**	**06**	**06**	**40.4**	**+0.1**
KIMD	**Kanaga Island**	**6.10**	**99**	P	**Pn**	**06**	**06**	**45.3**	**+0.1**
KIKV	**Kanaga Island**	**6.10**	**98**	P	**Pn**	**06**	**06**	**45.0**	**-0.2**
ADAG	**Mount Adagdak**	**6.41**	**96**	P	**Pn**	**06**	**06**	**49.4**	**-0.2**
GSCK	**Great Sitkin C**	**6.67**	**96**	P	**Pn**	**06**	**06**	**52.2**	**-0.8**
GSTD	**Great Sitkin T**	**6.67**	**95**	P	**Pn**	**06**	**06**	**52.1**	**-1.0**
GSTD				S	**Sn**	**06**	**08**	**07.0**	**-1.2**
GSMY	**Great Sitkin M**	**6.72**	**95**	P	**Pn**	**06**	**06**	**53.1**	**-0.7**
KOKL	**Mount Kliuchef**	**7.78**	**91**	P	**Pn**	**06**	**07**	**08.4**	**+0.1**
ATKA	**Atka Island**	**7.81**	**92**	P	**Pn**	**06**	**07**	**08.0**	**-0.6**
ATKA				S	**Sn**	**06**	**08**	**34.5**	**-1.6**
KOFP	**Korovin Flat P**	**7.85**	**91**	P	**Pn**	**06**	**07**	**09.4**	**+0.1**
KOFP				S	**Sn**	**06**	**08**	**38.4**	**+1.1**
PETK	**Petropavlovsk-**	**9.24**	**276**	Pn	**Pn**	**06**	**07**	**28.2**	**-0.1**
	0.4nm,0.3s,baz=94,slow=19,SNR=3.7								
PETK				Sn	Sn	06	08	59.3	-12
	0.7nm,0.3s,baz=235,slow=5.2,SNR=5.2								
PETK	**Petropavlovsk-**	**9.24**	**276**	Pn	**Pn**	**06**	**07**	**28.2**	**-0.1**
PETK				Sn	Sn	06	08	59.3	-12
GAMB	**Gambell**	**13.26**	**31**	*e*Pn	**Pn**	**06**	**08**	**24.5**	**+1.4**
	3.6nm,0.5s								
KDAK	**Kodiak Island**	**19.87**	**63**	P	**Pn**	**06**	**09**	**46.7**	**-0.8**
	0.3nm,0.3s,baz=192,slow=22,SNR=3.4								
KDAK	**Kodiak Island**	**19.87**	**63**	P	**Pn**	**06**	**09**	**46.7**	**-0.8**
TRF	**Thorofare Moun**	**21.52**	**47**	*e*P	**P**	**06**	**10**	**05.5**	**+1.8**
	7.5nm,0.8s								
MCK	**McKinley**	**22.17**	**47**	*e*P	**P**	**06**	**10**	**12.0**	**+1.5**
	9.9nm,1.1s								
COLA	**College**	**22.86**	**44**	*e*P	**P**	**06**	**10**	**19.4**	**+1.6**
	10nm,0.8s								
ILAR	**Eielson Array**	**23.24**	**44**	P	**P**	**06**	**10**	**22.1**	**+0.3**
	1.1nm,0.8s,baz=246,slow=7.0,SNR=16								
ILAR	**Eielson Array**	**23.24**	**44**	P	**P**	**06**	**10**	**22.1**	**+0.3**
EGAK	**Eagle**	**25.67**	**45**	*e*P	**P**	**06**	**10**	**44.2**	**-0.1**
	3.6nm,0.9s								
INK	**Inuvik**	**29.01**	**38**	LR	LR	06	24	11.8	
	comp=Z,91nm,18.9s,baz=337,slow=39								
DLBC	**Dease Lake**	**31.58**	**57**	LR	LR	06	26	03.9	
	comp=Z,110nm,18.7s,baz=153,slow=40								
KSRS	**Korea Array**	**34.76**	**262**	P	**P**	**06**	**12**	**06.1**	**+1.3**
	1.8nm,0.7s,baz=49,slow=9.5,SNR=5.7								
KSAR	**Wonju Array Be**	**34.80**	**262**	P	**P**	**06**	**12**	**06.1**	**+1.0**
JNU	**Nakatsue**	**36.03**	**253**	LR	LR	06	25	25.7	
	comp=Z,53nm,19.4s,baz=282,slow=34								
YKA	**Yellowknife Ar**	**37.63**	**46**	P	**P**	**06**	**12**	**30.3**	**+1.2**
	0.2nm,0.5s,baz=291,slow=7.7,SNR=5.3								
YKA	**Yellowknife Ar**	**37.63**	**46**	P	**P**	**06**	**12**	**30.3**	**+1.2**
SONM	**Songino Array**	**41.35**	**291**	P	**P**	**06**	**13**	**00.4**	**-0.1**
	1.5nm,0.6s,baz=59,slow=8.3,SNR=6.5								
SONM	**Songino Array**	**41.35**	**291**	P	**P**	**06**	**13**	**00.4**	**-0.1**
SPITS	**Spitsbergen Ar**	**48.15**	**354**	P	**P**	**06**	**13**	**53.3**	**-0.8**
	10nm,1.0s,baz=78,slow=6.1,SNR=8.8								
SPITS	**Spitsbergen Ar**	**48.15**	**354**	P	**P**	**06**	**13**	**53.3**	**-0.8**
NVAR	**Mina Array Bea**	**48.21**	**79**	P	**P**	**06**	**13**	**56.1**	**+0.8**
	0.2nm,0.6s,baz=310,slow=7.1,SNR=2.9								
NVAR	**Mina Array Bea**	**48.21**	**79**	P	**P**	**06**	**13**	**56.1**	**+0.8**
ZALV	**Zalesovo Beam**	**49.09**	**309**	P	**P**	**06**	**13**	**59.9**	**-1.7**
	0.4nm,0.4s,baz=75,slow=6.3,SNR=2.5								
ZALV	**Zalesovo Beam**	**49.09**	**309**	P	**P**	**06**	**13**	**59.9**	**-1.7**
PDAR	**Pinedale Array**	**50.43**	**69**	P	**P**	**06**	**14**	**13.1**	**+0.8**
	0.5nm,0.5s,baz=319,slow=2.7,SNR=5.2								
PDAR	**Pinedale Array**	**50.43**	**69**	P	**P**	**06**	**14**	**13.1**	**+0.8**
KURK	**Kurchatov**	**54.08**	**308**	P	**P**	**06**	**14**	**38.8**	**-0.1**
	5.7nm,0.8s,baz=47,slow=6.8,SNR=11								
KURK	**Kurchatov**	**54.08**	**308**	P	**P**	**06**	**14**	**38.8**	**-0.1**
	0.9nm,0.9s								
MK31	**Makanchi Array**	**54.94**	**303**	*e*P	**P**	**06**	**14**	**43.9**	**-1.3**
MK31				*e*PcP	PcP	06	15	59.0	+12
MKAR	**Makanchi Array**	**54.94**	**303**	P	**P**	**06**	**14**	**43.8**	**-1.5**
	1.9nm,0.6s,baz=50,slow=6.6,SNR=22								
MKAR	**Makanchi Array**	**54.94**	**303**	P	**P**	**06**	**14**	**43.8**	**-1.5**
SCHQ	**Schefferville**	**61.55**	**35**	P	**P**	**06**	**15**	**31.8**	**+0.5**
	4.1nm,0.7s,baz=336,slow=8.6,SNR=8.0								
SCHQ	**Schefferville**	**61.55**	**35**	P	**P**	**06**	**15**	**31.8**	**+0.5**
AAK	**Ala-Archa**	**61.80**	**304**	*e*P	**P**	**06**	**15**	**32.4**	**-0.9**
	15nm,0.9s								
FINES	**FINESS Array B**	**62.77**	**343**	P	**P**	**06**	**15**	**38.0**	**-1.3**
	4.5nm,0.9s,baz=74,slow=6.8,SNR=4.1								
FINES	**FINESS Array B**	**62.77**	**343**	P	**P**	**06**	**15**	**38.0**	**-1.3**
TXAR	**Lajitas Array**	**63.21**	**76**	P	**P**	**06**	**15**	**43.8**	**+0.9**
	1.2nm,0.5s,baz=307,slow=5.2,SNR=28								
TXAR	**Lajitas Array**	**63.21**	**76**	P	**P**	**06**	**15**	**43.8**	**+0.9**
KKAR	**Karatay Array**	**63.40**	**307**	*e*P	**P**	**06**	**15**	**43.2**	**-0.7**
	2.6nm,0.7s								
NB2	**NORSAR Subarra**	**65.23**	**350**	P	**P**	**06**	**15**	**54.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=12,slow=6.5								
NOA	**NORSAR Array B**	**65.23**	**350**	P	**P**	**06**	**15**	**55.2**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=13,slow=6.5,SNR=5.7								
NOA	**NORSAR Array B**	**65.23**	**350**	P	**P**	**06**	**15**	**55.2**	**-0.4**
TAPN	**Taplejung**	**65.90**	**284**	*e*P	**P**	**06**	**16**	**00.6**	**-0.1**
	comp=Z,12nm,0.7s								
TAPN	**Taplejung**	**65.90**	**284**	*e*P	**P**	**06**	**16**	**00.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**65.94**	**269**	P	**P**	**06**	**16**	**00.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=24,slow=6.9,SNR=6.6								
CMAR	**Chiang Mai Arr**	**65.94**	**269**	P	**P**	**06**	**16**	**00.7**	**-0.1**
ODAN	**Odare**	**66.46**	**284**	*e*P	**P**	**06**	**16**	**04.3**	**+0.1**
ODAN	**Odare**	**66.46**	**284**	*e*P	**P**	**06**	**16**	**04.3**	**+0.1**
GUN	**Gumba**	**66.55**	**286**	*e*P	**P**	**06**	**16**	**04.8**	**-0.1**
GUN	**Gumba**	**66.55**	**286**	*e*P	**P**	**06**	**16**	**04.8**	**-0.1**
JIRN	**Jiri**	**66.56**	**285**	*e*P	**P**	**06**	**16**	**04.9**	**-0.1**
JIRN	**Jiri**	**66.56**	**285**	*e*P	**P**	**06**	**16**	**04.9**	**-0.1**
RAMN	**Ramite**	**66.85**	**284**	*e*P	**P**	**06**	**16**	**06.2**	**-0.6**
	comp=Z,37nm,0.8s								
RAMN	**Ramite**	**66.85**	**284**	*e*P	**P**	**06**	**16**	**06.2**	**-0.6**
KKN	**Kakani**	**66.99**	**286**	*e*P	**P**	**06**	**16**	**07.3**	**-0.3**
KKN	**Kakani**	**66.99**	**286**	*e*P	**P**	**06**	**16**	**07.3**	**-0.3**
PKI	**Pulchoki**	**67.08**	**286**	*e*P	**P**	**06**	**16**	**07.9**	**-0.4**
PKI	**Pulchoki**	**67.08**	**286**	*e*P	**P**	**06**	**16**	**07.9**	**-0.4**
GKN	**Gorkha**	**67.20**	**287**	*e*P	**P**	**06**	**16**	**08.5**	**-0.3**
GKN	**Gorkha**	**67.20**	**287**	*e*P	**P**	**06**	**16**	**08.5**	**-0.3**
DANN	**Dangsing**	**67.44**	**287**	*e*P	**P**	**06**	**16**	**10.4**	**-0.1**
	comp=Z,15nm,0.8s								
DANN	**Dangsing**	**67.44**	**287**	*e*P	**P**	**06**	**16**	**10.4**	**-0.1**
AKASG	**Malin Array Be**	**72.12**	**337**	P	**P**	**06**	**16**	**38.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=37,slow=6.5,SNR=3.2								
AKASG	**Malin Array Be**	**72.12**	**337**	P	**P**	**06**	**16**	**38.0**	**-0.6**
CTA	**Charters Tower**	**76.55**	**206**	P	**P**	**06**	**17**	**05.2**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=85,slow=6.1,SNR=3.6								
CTA	**Charters Tower**	**76.55**	**206**	P	**P**	**06**	**17**	**05.2**	**+0.6**
GERES	**GERESS Array B**	**76.88**	**346**	P	**P**	**06**	**17**	**05.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=23,slow=4.8,SNR=3.3								
GERES	**GERESS Array B**	**76.88**	**346**	P	**P**	**06**	**17**	**05.8**	**-0.6**
WRA	**Warramunga Arr**	**80.13**	**217**	P	**P**	**06**	**17**	**24.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=28,slow=5.9,SNR=8.8								
WRA	**Warramunga Arr**	**80.13**	**217**	P	**P**	**06**	**17**	**24.5**	**0.0**
BRTR	**Keskin Array B**	**81.06**	**329**	P	**P**	**06**	**17**	**29.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=64,slow=3.2,SNR=3.7								
BRTR	**Keskin Array B**	**81.06**	**329**	P	**P**	**06**	**17**	**29.9**	**+0.3**
ASAR	**Alice Springs**	**83.71**	**216**	P	**P**	**06**	**17**	**44.0**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=20,slow=5.3,SNR=14								
ASAR	**Alice Springs**	**83.71**	**216**	P	**P**	**06**	**17**	**44.0**	**+0.8**

*DDA **22** 06:27:05.8, 38°.63N×27°.11E, h28ᵏᵐ, MD3.2*
*ISK **22** 06:27:06.8, 38°.58N×27°.19E, h18ᵏᵐ, MD3.3*
*ISCJB **22** 06:27:07.6±0.3, 38°.62N±0°.02×27°.16E±0°.03, h19ᵏᵐ±4ᵏᵐ, Error ellipse: s-maj=3.3km s-min=2.9km az=11.1*
*CSEM **22** 06:27:07.0±0.1, 38°.61N×27°.17E, h10ᵏᵐ, MD3.3, Error ellipse: s-maj=3.0km s-min=2.3km az=99.0*
*ATH **22** 06:27:08.1, 38°.60N×27°.12E, h5ᵏᵐ±3ᵏᵐ, MD3.3/4*

ISC 22 06:27:06.6±0.9, 38°.62N±0°.02×27°.13E±0°.02, h17ᵏᵐ±7ᵏᵐ, n96, σ0ˢ85/137, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
IZM	**Izmir**	**0.24**	**155**	*e*PG	**Pg**	**06**	**27**	**12.5**	**+0.4**
IZM	**Izmir**	**0.24**	**155**	*e*Pg	**Pg**	**06**	**27**	**12.5**	**+0.4**
BLCB	**Balcova**	**0.24**	**197**	*e*PG	**Pg**	**06**	**27**	**12.1**	**0.0**
BLCB				*e*SG	**Sb**	**06**	**27**	**16.7**	**+0.2**
BLCB	**Balcova**	**0.24**	**197**	*e*Pg	**Pg**	**06**	**27**	**12.1**	**0.0**
BLCB				*e*Sg	**Sb**	**06**	**27**	**16.7**	**+0.2**
URLA	**Izmir**	**0.49**	**239**	*i* P	**Pg**	**06**	**27**	**16.6**	**+0.1**
URLA				*i* S	**Sg**	**06**	**27**	**23.1**	**-0.1**
URLA	**Izmir**	**0.49**	**239**	*i* P	**Pg**	**06**	**27**	**16.6**	**+0.1**
URLA				*i* S	**Sg**	**06**	**27**	**23.1**	**-0.1**
AKHS	**Akhisar**	**0.59**	**63**	*i* P	**Pg**	**06**	**27**	**18.0**	**-0.4**
AKHS				*i* S	**Sb**	**06**	**27**	**26.9**	**+0.2**
AKHS	**Akhisar**	**0.59**	**63**	*i* P	**Pg**	**06**	**27**	**18.0**	**-0.4**
AKHS				*i* S	**Sb**	**06**	**27**	**26.9**	**+0.2**
AKS	**Akhisar**	**0.59**	**63**	*e*PG	**Pg**	**06**	**27**	**18.0**	**-0.4**
AKS				*e*SG	**Sb**	**06**	**27**	**27.2**	**+0.5**
AKS	**Akhisar**	**0.59**	**63**	*e*Pg	**Pg**	**06**	**27**	**18.0**	**-0.4**
AKS				*e*Sg	**Sb**	**06**	**27**	**27.2**	**+0.5**
AYVA	**Ayvalik**	**0.77**	**334**	*i* P	**Pb**	**06**	**27**	**20.7**	**-0.9**
AYVA				*i* S	**Sb**	**06**	**27**	**31.8**	**0.0**
AYVA	**Ayvalik**	**0.77**	**334**	*i* P	**Pb**	**06**	**27**	**20.7**	**-0.9**
AYVA				*i* S	**Sb**	**06**	**27**	**31.8**	**0.0**
CHOS	**Chios island**	**0.88**	**255**	*e*PB	**Pn**	**06**	**27**	**24.5**	**+0.3**
CHOS				*e*SB	**Sn**	**06**	**27**	**36.9**	**+0.3**
CHOS	**Chios island**	**0.88**	**255**	*e*Pb	**Pn**	**06**	**27**	**24.5**	**+0.3**
CHOS				*e*Sb	**Sn**	**06**	**27**	**36.9**	**+0.3**
GCAM	**G?zelcaml?**	**0.92**	**175**	*i* P	**Pn**	**06**	**27**	**25.0**	**+0.3**
GCAM				*i* S	**Sn**	**06**	**27**	**37.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.92**	**175**	*i* P	**Pn**	**06**	**27**	**25.0**	**+0.3**
GCAM				*i* S	**Sn**	**06**	**27**	**37.6**	**+0.1**
PRK	**Paraskevi**	**0.92**	**313**	*e*PG	**Pn**	**06**	**27**	**25.4**	**+0.6**
PRK				*e*SB	**Sn**	**06**	**27**	**39.2**	**+1.6**
PRK	**Paraskevi**	**0.92**	**313**	*e*Pg	**Pn**	**06**	**27**	**25.4**	**+0.6**
PRK				*e*Sb	**Sn**	**06**	**27**	**39.2**	**+1.6**
SMG	**Samos**	**0.94**	**195**	*e*PG	**Pn**	**06**	**27**	**25.3**	**+0.3**
SMG				*e*SB	**Sn**	**06**	**27**	**39.1**	**+1.1**
SMG	**Samos**	**0.94**	**195**	*e*Pg	**Pn**	**06**	**27**	**25.3**	**+0.3**
SMG				*e*Sb	**Sn**	**06**	**27**	**39.1**	**+1.1**
AYDN	**Tasoluk**	**1.12**	**148**	*i* P	**Pg**	**06**	**27**	**28.4**	**+0.1**
AYDN				*i* S	**Sg**	**06**	**27**	**43.4**	**+0.5**
AYDN	**Tasoluk**	**1.12**	**148**	*i* P	**Pg**	**06**	**27**	**28.4**	**+0.1**
AYDN				*i* S	**Sg**	**06**	**27**	**43.4**	**+0.5**
MANT	**Manisa**	**1.12**	**96**	*i* P	**Pb**	**06**	**27**	**28.2**	**+0.5**
MANT				*i* S	**Sn**	**06**	**27**	**42.9**	**0.0**
MANT	**Manisa**	**1.12**	**96**	*i* P	**Pb**	**06**	**27**	**28.2**	**+0.5**
MANT				*i* S	**Sn**	**06**	**27**	**42.9**	**0.0**
BALB	**Balikesir**	**1.18**	**29**	*e*PN	**Pb**	**06**	**27**	**28.4**	**-0.1**
BALB				*e*SN	**Sg**	**06**	**27**	**45.0**	**+0.2**
BALB	**Balikesir**	**1.18**	**29**	*e*Pn	**Pb**	**06**	**27**	**28.4**	**-0.1**
BALB				*e*Sn	**Sg**	**06**	**27**	**45.0**	**+0.2**
BALY	**Balya**	**1.19**	**18**	*i* P	**Pb**	**06**	**27**	**28.7**	**0.0**
BALY				*i* S	**Sn**	**06**	**27**	**44.6**	**+0.4**
BALY	**Balya**	**1.19**	**18**	*i* P	**Pb**	**06**	**27**	**28.7**	**0.0**
BALY				*i* S	**Sn**	**06**	**27**	**44.6**	**+0.4**
KULA	**Kula-Manisa**	**1.20**	**94**	*e*PN	**Pb**	**06**	**27**	**29.0**	**0.0**
KULA	**Kula-Manisa**	**1.20**	**94**	*e*Pn	**Pb**	**06**	**27**	**29.0**	**0.0**
DEMI	**Demirci**	**1.31**	**70**	*i* P	**Pb**	**06**	**27**	**30.8**	**0.0**
DEMI				*i* S	**Sn**	**06**	**27**	**46.4**	**-0.9**
DEMI	**Demirci**	**1.31**	**70**	*i* P	**Pb**	**06**	**27**	**30.8**	**0.0**
DEMI				*i* S	**Sn**	**06**	**27**	**46.4**	**-0.9**
EZN	**Ezine**	**1.36**	**333**	*e*PN	**Pb**	**06**	**27**	**31.4**	**-0.2**
EZN	**Ezine**	**1.36**	**333**	*e*Pn	**Pb**	**06**	**27**	**31.4**	**-0.2**
DURS	**Dursunbey**	**1.43**	**46**	*i* P	**Pn**	**06**	**27**	**32.4**	**+0.5**
DURS				*i* S	**Sn**	**06**	**27**	**50.2**	**-0.2**
DURS	**Dursunbey**	**1.43**	**46**	*i* P	**Pn**	**06**	**27**	**32.4**	**+0.5**
DURS				*i* S	**Sn**	**06**	**27**	**50.2**	**-0.2**
BOZC	**Bozcaada**	**1.48**	**326**	*i* P	Pn	06	27	25.2	-7.3
BOZC				*i* S	**Sn**	**06**	**27**	**51.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.49**	**17**	*e*PN	**Pb**	**06**	**27**	**33.2**	**-0.7**
GONE	**Gonen-Balikesi**	**1.49**	**17**	*e*Pn	**Pb**	**06**	**27**	**33.2**	**-0.7**
BODT	**Bodrum**	**1.56**	**175**	*e*PN	**Pn**	**06**	**27**	**33.7**	**+0.1**
BODT	**Bodrum**	**1.56**	**175**	*e*Pn	**Pn**	**06**	**27**	**33.7**	**+0.1**
BDRM	**Kayabasi**	**1.57**	**171**	*i* P	**Pn**	**06**	**27**	**34.2**	**+0.5**
BDRM				*i* S	**Sg**	**06**	**27**	**56.5**	**-0.6**
BDRM	**Kayabasi**	**1.57**	**171**	*i* P	**Pn**	**06**	**27**	**34.2**	**+0.5**
BDRM				*i* S	**Sg**	**06**	**27**	**56.5**	**-0.6**
YER	**Yerkesik**	**1.74**	**148**	*e*PN	**Pn**	**06**	**27**	**35.8**	**-0.2**
YER	**Yerkesik**	**1.74**	**148**	*e*Pn	**Pn**	**06**	**27**	**35.8**	**-0.2**
DNZL	**Cakiroluk**	**1.77**	**121**	*i* P	**Pn**	**06**	**27**	**36.5**	**-0.1**
DNZL				*i* S	**Sg**	**06**	**28**	**04.1**	**+0.4**
DNZL	**Cakiroluk**	**1.77**	**121**	*i* P	**Pn**	**06**	**27**	**36.5**	**-0.1**
DNZL				*i* S	**Sg**	**06**	**28**	**04.1**	**+0.4**
LPK	**Lapseki**	**1.78**	**351**	*e*PN	**Pb**	**06**	**27**	**37.6**	**-1.1**
LPK	**Lapseki**	**1.78**	**351**	*e*Pn	**Pb**	**06**	**27**	**37.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.78**	**4**	*e*PN	**Pn**	**06**	**27**	**37.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.78**	**4**	*e*Pn	**Pn**	**06**	**27**	**37.4**	**+0.8**
EDC	**Edincik**	**1.82**	**18**	*e*PN	**Pb**	**06**	**27**	**39.0**	**-0.5**
EDC	**Edincik**	**1.82**	**18**	*e*Pn	**Pb**

	comp=C,59nm,21.7s,baz=254,slow=32							
AFI	**Afiamalu**	**20.41**	**90**	*e*P	Pn	07 11 36.3	+1.1	
CTA	**Charters Tower**	**20.57**	**253**	P	**P**	**07 11 35.1**	**+1.2**	
	comp=Z,13nm,0.8s,baz=85,slow=12,SNR=14							
CTA				LR	LR	07 18 45.0		
	comp=Z,104nm,18.3s,baz=241,slow=34							
CTA	**Charters Tower**	**20.57**	**253**	*e*P	**P**	**07 11 34.9**	**+1.0**	
	comp=Z,9.9nm,0.8s							
CTA	**Charters Tower**	**20.57**	**253**	P	**P**	**07 11 35.1**	**+1.2**	
CTAO	**Charters Tower**	**20.57**	**253**	*e*P	**P**	**07 11 35.3**	**+1.4**	
	comp=Z,17nm,0.9s							
OUZ	**Omahuta**	**20.94**	**165**	*e*P	Pn	07 11 39.8	-1.3	
	comp=Z,30nm,1.0s							
ARMA	**Armidale**	**20.96**	**220**	*e*P	**P**	**07 11 39.6**	**+1.6**	
ARMA	**Armidale**	**20.96**	**220**	*e*P	**P**	**07 11 38.8**	**+0.8**	
	comp=Z,21nm,1.3s							
COEN	**Coen**	**23.26**	**270**	*e*P	**P**	**07 12 02.1**	**+0.3**	
	comp=Z,40nm,0.9s							
URZ	**Urewera**	**24.77**	**161**	*e*P	**P**	**07 12 16.1**	**+0.9**	
	comp=Z,59nm,1.0s							
STKA	**Stephens Creek**	**28.75**	**230**	P	**P**	**07 12 52.4**	**+1.3**	
	comp=Z,7.6nm,0.7s,baz=45,slow=6.7,SNR=8.0							
STKA				ScP	**ScP**	**07 19 32.5**	**+1.4**	
	comp=Z,13nm,1.0s,baz=91,slow=1.1,SNR=6.9							
STKA	**Stephens Creek**	**28.75**	**230**	*e*P	**P**	**07 12 52.3**	**+1.3**	
	comp=Z,6.9nm,0.9s							
STKA	**Stephens Creek**	**28.75**	**230**	*e*P	**P**	**07 12 52.1**	**+1.1**	
	comp=Z,2.3nm,0.9s							
STKA				ScP	**ScP**	**07 19 32.5**	**+1.4**	
RPZ	**Rata Peaks**	**28.80**	**174**	P	**P**	**07 12 52.4**	**+1.0**	
	comp=Z,17nm,0.7s,baz=146,slow=8.2,SNR=11							
RPZ				LR	LR	07 23 02.2		
	comp=Z,133nm,18.7s,baz=206,slow=33							
RPZ	**Rata Peaks**	**28.80**	**174**	*e*P	**P**	**07 12 52.5**	**+1.2**	
WRAB	**Tennant Creek**	**31.66**	**256**	*e*P	**P**	**07 13 15.8**	**-1.1**	
	comp=Z,3.6nm,0.8s							
WRA	**Warramunga Arr**	**31.67**	**256**	P	**P**	**07 13 15.9**	**-1.1**	
	comp=Z,3.5nm,0.8s,baz=87,slow=9.3,SNR=27							
WRA				ScP	**ScP**	**07 19 43.3**	**+2.4**	
	comp=Z,0.7nm,0.9s,baz=83,slow=3.5,SNR=5.1							
WRA				PKiKP	**PKiKP**	**07 23 35.0**	**-0.8**	
	comp=Z,0.3nm,0.8s,baz=12,slow=0.3,SNR=4.6							
WRA	**Warramunga Arr**	**31.67**	**256**	P	**P**	**07 13 15.9**	**-1.1**	
WRA				ScP	**ScP**	**07 19 43.3**	**+2.4**	
WRA				PKiKP	**PKiKP**	**07 23 35.0**	**-0.8**	
RAR	**Rarotonga**	**31.97**	**106**	LR	LR	07 23 46.5		
	comp=Z,154nm,21.5s,baz=113,slow=31							
AS31	**Alice Springs**	**32.49**	**249**	*e*P	**P**	**07 13 22.9**	**-1.3**	
ASAR	**Alice Springs**	**32.49**	**249**	P	**P**	**07 13 23.2**	**-0.9**	
	comp=Z,3.8nm,0.8s,baz=78,slow=9.9,SNR=30							
ASAR				pP	**pP**	**07 13 46.0**	**-1.2**	
	comp=Z,2.6nm,0.9s,baz=80,slow=9.3,SNR=4.1							
ASAR				PcP	**PcP**	**07 16 06.3**	**-2.6**	
	comp=Z,0.5nm,0.7s,baz=75,slow=4.2,SNR=4.3							
ASAR				ScP	**ScP**	**07 19 45.8**	**+2.1**	
	comp=Z,0.8nm,0.8s,baz=96,slow=3.8,SNR=5.9							
ASAR	**Alice Springs**	**32.49**	**249**	P	**P**	**07 13 23.2**	**-0.9**	
ASAR				pP	**pP**	**07 13 46.0**	**-1.2**	
ASAR				PcP	**PcP**	**07 16 06.3**	**-2.6**	
ASAR				ScP	**ScP**	**07 19 45.8**	**+2.1**	
FITZ	**Fitzroy Crossi**	**39.88**	**260**	P	**P**	**07 14 26.6**	**-0.5**	
	comp=Z,4.5nm,0.7s,baz=98,slow=9.8,SNR=9.2							
FITZ				pP	**pP**	**07 14 48.4**	**-2.2**	
	comp=Z,5.6nm,0.9s,baz=103,slow=8.3,SNR=4.1							
FITZ	**Fitzroy Crossi**	**39.88**	**260**	*e*P	**P**	**07 14 26.9**	**-0.2**	
	comp=Z,8.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**39.88**	**260**	P	**P**	**07 14 26.6**	**-0.5**	
FITZ				pP	**pP**	**07 14 48.4**	**-2.2**	
PAE	**Paea**	**41.52**	**100**	*e*P	**P**	**07 14 41.8**	**+1.3**	
	comp=Z,9.8nm,1.1s							
PAE				*e*pP	**pP**	**07 15 02.2**	**-2.0**	
	comp=Z,13nm,1.1s							
TIAR	**Tiarei**	**41.74**	**100**	*e*P	**P**	**07 14 44.1**	**+1.6**	
	comp=Z,44nm,0.9s							
MEH	**Mehetia**	**42.95**	**100**	*e*P	**P**	**07 14 54.0**	**+1.8**	
	comp=Z,61nm,1.1s							
PMOR	**Pomariorio Ree**	**43.34**	**96**	*e*P	**P**	**07 14 57.2**	**+1.9**	
	comp=Z,40nm,1.0s							
KAPI	**Kappang**	**47.65**	**277**	*e*P	**P**	**07 15 30.6**	**+1.2**	
	comp=Z,22nm,1.3s							
MJAR	**Matsushiro Arr**	**58.11**	**333**	P	**P**	**07 16 43.8**	**-2.2**	
	comp=Z,5.3nm,0.6s,baz=172,slow=9.1,SNR=13							
MJAR				pP	**pP**	**07 17 07.6**	**-3.3**	
	comp=Z,0.6nm,0.3s,baz=167,slow=8.9,SNR=2.0							
MJAR	**Matsushiro Arr**	**58.11**	**333**	P	**P**	**07 16 43.8**	**-2.2**	
MJAR				pP	**pP**	**07 17 07.6**	**-3.3**	
MAT	**Matsushiro**	**58.11**	**333**	P	**P**	**07 16 44.3**	**-1.6**	
VNDA	**Vanda**	**62.58**	**181**	*e*P	**P**	**07 17 16.9**	**+1.1**	
	comp=Z,12nm,1.1s							
KSRS	**Korea Array**	**63.92**	**326**	P	**P**	**07 17 24.6**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=148,slow=6.6,SNR=4.2							
KSRS				pP	**pP**	**07 17 48.5**	**-2.0**	
	comp=Z,0.6nm,0.3s,baz=132,slow=7.4,SNR=2.3							
KSAR	**Wonju Array Be**	**63.93**	**326**	P	**P**	**07 17 24.6**	**-0.7**	
KSAR				pP	**pP**	**07 17 48.5**	**-2.1**	
NJ2	**Nanjing**	**65.81**	**316**	*e*P	**P**	**07 17 39.8**	**+2.2**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
USRK	**Ussuriysk Arra**	**67.09**	**333**	P	**P**	**07 17 46.7**	**+1.3**	
	comp=Z,1.8nm,0.7s,baz=149,slow=4.0,SNR=3.8							
USRK				pP	**pP**	**07 18 09.8**	**-1.2**	
	comp=Z,2.7nm,0.7s,baz=116,slow=4.4,SNR=5.0							
PETK	**Petropavlovsk-**	**68.33**	**354**	P	**P**	**07 17 53.0**	**-0.1**	
	comp=Z,4.4nm,0.8s,baz=172,slow=13,SNR=4.5							
PETK	**Petropavlovsk-**	**68.33**	**354**	P	**P**	**07 17 53.0**	**-0.1**	
ENH	**Enshi**	**71.47**	**310**	P	**P**	**07 18 12.3**	**-0.6**	
	comp=Z,18nm,1.0s							
GYA	**Guiyang**	**71.80**	**305**	*e*P	**P**	**07 18 17.8**	**+2.8**	
GYA				pP	**pP**	**07 18 43.6**	**+2.7**	
GYA				sP	**sP**	**07 18 56.0**	**+4.0**	
GYA				PP	**PP**	**07 20 58.8**	**+2.9**	
GYA				S	**S**	**07 27 27.4**	**-0.3**	
GYA				SKS	**SKSac**	**07 28 06.0**	**-3.9**	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P	**P**	**07 18 35.5**	**+1.7**	
	comp=Z,1.0nm,0.4s,baz=120,slow=4.7,SNR=3.1							
CMAR				pP	**pP**	**07 18 58.7**	**-1.1**	
	comp=Z,1.9nm,0.5s,baz=140,slow=5.3,SNR=2.3							
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P	**P**	**07 18 35.5**	**+1.7**	
CMAR				pP	**pP**	**07 18 58.7**	**-1.1**	
QSPA	**South Pole Qui**	**75.02**	**180**	*e*P	**P**	**07 18 33.5**	**+0.3**	
	comp=Z,16nm,0.9s							
HHC	**Hu-ho-hao-te**	**75.74**	**320**	*e*P	**P**	**07 18 39.5**	**+1.8**	
HHC				pP	pP	07 19 09.4	+5.5	
HHC				sP	sP	07 19 22.9	+8.0	
HHC				PP	**PP**	**07 21 32.8**	**+3.7**	
HHC				S	**S**	**07 28 09.5**	**-1.9**	
HHC				SKS	**SKSac**	**07 28 33.6**	**-5.2**	
HHC				ScS	**SKKSac**	**07 28 39.8**	**+0.6**	
HHC				pmax	pmax			
	comp=Z,5.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,81nm,6.2s							
HHC				LR	LR			
	comp=N,210nm,17.8s							
HHC				LR	LR			
	comp=E,290nm,17.5s							
HHC				LR	LR			
	comp=Z,170nm,18.6s							
CD2	**Chengdu**	**76.11**	**308**	P	**P**	**07 18 41.4**	**+1.4**	
CD2				pP	pP	07 19 11.4	+5.3	
CD2				sP	sP	07 19 24.5	+7.4	
CD2				PP	**PP**	**07 21 35.8**	**+3.4**	
CD2				S	**S**	**07 28 13.9**	**-1.8**	
CD2				SKS	**SKSac**	**07 28 36.0**	**-5.9**	
CD2				sS	sS	07 29 06.1	+5.5	
CD2				SS	**SS**	**07 33 12.4**	**+0.9**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,80nm,3.7s							
CD2				LR	LR			
	comp=N,180nm,7.2s							
CD2				LR	LR			
	comp=Z,250nm,14.3s							
LZH	**Lanzhou**	**78.44**	**312**	*e*P	**P**	**07 18 55.8**	**+2.8**	
LZH				pP	**pP**	**07 19 21.3**	**+2.0**	
LZH				sP	**sP**	**07 19 34.0**	**+3.7**	
LZH				PP	**PP**	**07 21 52.3**	**+0.3**	
LZH				sS	sS	07 29 34.3	+8.2	
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,4.5s							
LZH				LR	LR			
	comp=N,360nm,12.9s							
LZH				LR	LR			
	comp=E,370nm,14.8s							
LZH				LR	LR			
	comp=Z,420nm,14.2s							
SONM	**Songino Array**	**82.67**	**324**	P	**P**	**07 19 15.8**	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=134,slow=5.0,SNR=4.2							
SONM				pP	**pP**	**07 19 40.1**	**-1.7**	
	comp=Z,0.8nm,0.8s,baz=134,slow=6.4,SNR=3.1							
SONM	**Songino Array**	**82.67**	**324**	P	**P**	**07 19 15.8**	**+0.5**	
SONM				pP	**pP**	**07 19 40.1**	**-1.7**	
GTA	**Gaotai**	**82.80**	**314**	*e*P	**P**	**07 19 18.8**	**+2.6**	
GTA				pP	**pP**	**07 19 47.3**	**+4.6**	
GTA				sP	sP	07 19 59.8	+6.2	
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BILL	**Bilibino**	**82.82**	**360**	*e*P	**P**	**07 19 15.3**	**-0.1**	
	comp=Z,5.1nm,0.5s							
ILAR	**Eielson Array**	**86.82**	**18**	P	**P**	**07 19 33.9**	**-1.7**	
	comp=Z,0.8nm,0.6s,baz=238,slow=5.2,SNR=13							
ILAR				pP	**pP**	**07 19 59.6**	**-2.7**	
	comp=Z,1.6nm,0.8s,baz=235,slow=6.1,SNR=5.8							
ILAR	**Eielson Array**	**86.82**	**18**	P	**P**	**07 19 33.9**	**-1.7**	
ILAR				pP	**pP**	**07 19 59.6**	**-2.7**	
NVAR	**Mina Array Bea**	**87.52**	**49**	P	**P**	**07 19 40.4**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=222,slow=8.5,SNR=3.4							
NVAR	**Mina Array Bea**	**87.52**	**49**	P	**P**	**07 19 40.4**	**+0.5**	
SYO	**Syowa Base**	**88.42**	**197**	*e*X	**P**	**07 19 40.6**	**-2.7**	
SNAA	**Sanae**	**93.27**	**183**	*e*	P	07 20 01.8	-4.1	
VNA3	**Neumayer Olymp**	**93.94**	**181**	*e*	**P**	**07 20 08.7**	**-0.2**	
VNA2	**Neumayer--Watz**	**94.20**	**182**	*e*	**P**	**07 20 10.2**	**+0.1**	
	baz=198,slow=3.4							
BOZ	**Bozeman (W)**	**94.56**	**44**	*e*P	**P**	**07 20 10.4**	**-2.0**	
	comp=Z,3.9nm,0.6s							
PDAR	**Pinedale Array**	**95.20**	**47**	P	**P**	**07 20 15.9**	**+0.5**	
	comp=Z,0.6nm,1.0s,baz=344,slow=5.2,SNR=3.2							
PDAR	**Pinedale Array**	**95.20**	**47**	P	**P**	**07 20 15.9**	**+0.5**	
TXAR	**Lajitas Array**	**96.49**	**61**	P	**P**	**07 20 21.6**	**+0.1**	
	comp=Z,0.2nm,0.7s,baz=212,slow=4.4,SNR=4.2							
TXAR	**Lajitas Array**	**96.49**	**61**	P	**P**	**07 20 21.6**	**+0.1**	
SDCO	**Great Sand Dun**	**96.95**	**53**	*e*P	**P**	**07 20 24.4**	**+0.8**	
	comp=Z,29nm,2.5s							
MKAR	**Makanchi Array**	**97.34**	**316**	P	Pdif	07 20 24.9	0.0	
	comp=Z,0.3nm,0.7s,baz=99,slow=3.8,SNR=4.2							
MKAR				pP	pP	07 20 49.6	-2.2	
	comp=Z,1.6nm,1.0s,baz=101,slow=4.6,SNR=6.5							
MKAR	**Makanchi Array**	**97.34**	**316**	P	Pdif	07 20 24.9	0.0	
MKAR				pP	pP	07 20 49.6	-2.2	
ZALV	**Zalesovo Beam**	**97.56**	**324**	P	Pdif	07 20 25.9	+0.3	
	comp=Z,0.5nm,0.5s,baz=104,slow=5.4,SNR=4.4							
ZALV				pP	pP	07 20 49.7	-2.8	
	comp=Z,1.4nm,0.8s,baz=108,slow=4.8,SNR=4.0							
ZALV				LR	LR	08 05 18.6		
	comp=Z,50nm,18.3s,baz=79,slow=36							
ZALV	**Zalesovo Beam**	**97.56**	**324**	P	Pdif	07 20 25.9	+0.3	
ZALV				pP	pP	07 20 49.7	-2.8	
YKA	**Yellowknife Ar**	**97.83**	**27**	P	**P**	**07 20 26.4**	**-0.2**	
	comp=Z,0.3nm,0.7s,baz=254,slow=4.5,SNR=6.5							
YKA				pP	**pP**	**07 20 51.0**	**-2.5**	
	comp=Z,0.5nm,0.8s,baz=254,slow=4.4,SNR=4.3							
YKA				PKiKP	**PKiKP**	**07 24 59.1**	**-0.6**	
	comp=Z,0.2nm,0.6s,baz=219,slow=1.2,SNR=5.3							
YKA	**Yellowknife Ar**	**97.83**	**27**	P	**P**	**07 20 26.4**	**-0.2**	
YKA				pP	**pP**	**07 20 51.0**	**-2.5**	
YKA				PKiKP	**PKiKP**	**07 24 59.1**	**-0.6**	
ARCES	**ARCESS Array B**	**120.50**	**345**	PKP	**PKPdf**	**07 25 41.7**	**-0.3**	
	comp=Z,3.2nm,0.7s,baz=98,slow=2.5,SNR=9.5							
ARCES	**ARCESS Array B**	**120.50**	**345**	PKP	**PKPdf**	**07 25 41.7**	**-0.3**	
SCHQ	**Schefferville**	**122.58**	**34**	PKP	**PKPdf**	**07 25 44.9**	**-1.6**	
	comp=Z,1.7nm,0.8s,baz=214,slow=6.5,SNR=4.0							
SCHQ	**Schefferville**	**122.58**	**34**	PKP	**PKPdf**	**07 25 44.9**	**-1.6**	
BOSA	**Boshof**	**123.11**	**220**	PKP	**PKPdf**	**07 25 47.8**	**-0.7**	
	comp=Z,4.9nm,0.9s,baz=147,slow=9.3,SNR=3.6							
BOSA	**Boshof**	**123.11**	**220**	PKP	**PKPdf**	**07 25 47.8**	**-0.7**	
NOA	**NORSAR Array B**	**130.87**	**345**	SKPbc	**SKPbc**	**07 29 17.2**	**+0.1**	
	comp=Z,1.5nm,0.7s,baz=36,slow=2.8,SNR=4.7							
NOA	**NORSAR Array B**	**130.87**	**345**	SKPbc	**SKPbc**	**07 29 17.2**	**+0.1**	
MEM	**Membach**	**141.36**	**341**	PKP	**PKPdf**	**07 26 22.3**	**+0.5**	
SNF	**Seneffe**	**141.98**	**342**	PKP	**PKPdf**	**07 26 21.2**	**-1.7**	
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPbc	07 26 23.4	+1.0	
	comp=Z,2.5nm,0.5s,baz=185,slow=19,SNR=5.1							
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPbc	07 26 23.4	+1.0	
TORD	**Torodi Ar. Bea**	**165.80**	**264**	PKP	**PKPdf**	**07 26 56.4**	**-0.4**	
	comp=Z,0.6nm,0.7s,baz=129,slow=1.6,SNR=4.4							
TORD				PKPab	**PKPab**	**07 27 55.9**	**-0.9**	
	comp=Z,1.5nm,0.9s,baz=102,slow=3.6,SNR=8.4							
TORD	**Torodi Ar. Bea**	**165.80**	**264**	PKP	**PKPdf**	**07 26 56.4**	**-0.4**	
TORD				PKPab	**PKPab**	**07 27 55.9**	**-0.9**	

IDC ***22*** *07:20:13.5±0.5, 0.°34S×132.°65E, h0km, mb4.5/16, mb1 4.7/19, mb1mx4.6/25, mbtmp4.6/19, ML4.6/2, MS4.0/14, Ms1 4.1/14, ms1mx3.8/28, Error ellipse: s-maj=20.2km s-min=9.5km az=70.0*

BJI ***22*** *07:20:15.0, 0.°20S×132.°90E, h35km, mB4.9/19, mb4.7/30, Ms4.7/16, Ms7 4.3/17*

ISCJB ***22*** *07:20:16.7±0.2, 0.°30S±0.°03×132.°88E±0.°03, h32km, mb4.8/58, MS4.1/19, Error ellipse: s-maj=4.3km s-min=3.7km az=6.0*

DJA ***22*** *07:20:16, 0.°41S×132.°94E, h10km, mb5.1/30*

NEIC ***22*** *07:20:18.6±0.2, 0.°33S×132.°81E, h35km, mb4.9/30, Error ellipse: s-maj=7.9km s-min=4.0km az=65.0*

TEH ***22*** *07:20:19.0, 0.°35S×132.°83E, h35km, ML4.8*

ISC 22 07:20:18.3±0.3, 0.°40S±0.°03×132.°89E±0.°04, h32km, n163, s134/161, mb4.8/58, MS4.1/19, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.70**	**254**	P		P	**Pn**	**07 20 43.9**	**-1.8**
SWI				S		S	**Sn**	**07 21 05.0**	**-1.4**
FAKI	**Fak Fak**	**2.59**	**194**	P		Pb		07 20 59.7	-4.4
BAKI	**Biak**	**3.31**	**104**	P		Pb		07 21 11.1	-5.3
BAKI				S		S	**Sn**	**07 21 47.6**	**+1.4**
MSAI	**Masohi**	**4.93**	**233**	P		Pn		07 21 32.3	+2.1
MSAI				S		S	**Sn**	**07 22 29.3**	**+3.2**
BNDI	**Bandanaira**	**5.07**	**216**	P		Pn		07 21 34.5	+2.4
TLE	**Tual**	**5.21**	**182**	P		Pn		07 21 36.4	+2.3
	2μm,0.8s,22μm6.5nm								
TLE				S		S	**Sn**	**07 22 36.2**	**+3.1**
	2μm,0.8s,22μm6.5nm								
LBMI	**Labuha**	**5.40**	**267**	P		Pn		07 21 39.2	+2.5
	225nm,1.0s,3μm1.2nm								
TNTI	**Ternate**	**5.65**	**282**	P		Pn		07 21 45.9	+5.8
	154nm,1.0s,0.5nm								
AAI	**Ambon**	**5.72**	**235**	P		Pn		07 21 42.7	+1.6
	2μm,0.8s,18μm6.7nm								
AAI				S		S	**Sn**	**07 22 46.9**	**+1.2**
	2μm,0.8s,18μm6.7nm								
NLAI	**Namlea**	**6.44**	**244**	P		Pn		07 21 52.7	+1.7
	221nm,0.9s,2μm0.8nm								
LUWI	**Luwuk**	**10.14**	**266**	P		Pn		07 22 46.7	+4.9
	161nm,1.0s,1μm								
KDI	**Kendari**	**10.86**	**251**	P		Pn		07 22 53.8	+2.2
	65nm,1.1s,955nm								
MRSI	**Marisa**	**10.99**	**275**	P		Pn		07 22 59.4	+6.0
	37nm,1.1s,709nm								
SPSI	**Sidrap Palu**	**13.58**	**255**	P		Pn		**07 23 29.7**	**+0.8**
	51nm,0.9s,658nm								
BKSI	**Bulukumba**	**13.66**	**249**	P		Pn		**07 23 31.2**	**+1.3**
	84nm,0.8s,841nm								
KAPI	**Kappang**	**13.90**	**251**	P		Pn		**07 23 34.5**	**+1.3**
	2.0nm,0.3s,baz=101,slow=7.0,SNR=17								
KAPI	**Kappang**	**13.90**	**251**	*e*P		n		**07 23 34.2**	**+1.0**
KAPI	**Kappang**	**13.90**	**251**	P		P		07 23 36.2	-4.8
	50nm,1.1s,549nm								
PMG	**Port Moresby**	**16.79**	**123**	P		n		**07 24 13.8**	**+0.7**
	0.1nm,0.3s,baz=301,slow=12,SNR=6.2								
PMG	**Port Moresby**	**16.79**	**123**	*e*P		n		**07 24 13.6**	**+0.6**
	33nm,0.9s								
PMG	**Port Moresby**	**16.79**	**123**	P		P		**07 24 14.5**	**+1.4**
	34nm,1.1s								
COEN	**Coen**	**16.89**	**143**	*e*P		n		**07 24 13.8**	**-0.4**
	96nm,0.8s								
KBKI	**Kotabaru**	**16.96**	**260**	P		P		**07 24 14.3**	**-0.8**
	42nm,1.1s,1μm								
GUMO	**Guam**	**18.27**	**40**	LR		LR		07 30 41.0	
	comp=Z,460nm,18.4s,baz=207,slow=34								
BBKI	**Banjar Baru**	**18.29**	**260**	P		Pn		**07 24 31.8**	**+1.9**
	116nm,1.1s,3μm								
KHKI	**Kahang-Kahang**	**18.95**	**245**	P		Pn		**07 24 37.9**	**+0.1**
	90nm,1.3s,2μm								
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		P		**07 24 35.4**	**-1.9**
	1.0nm,0.3s,baz=28,slow=13,SNR=19								
FITZ				S		Sn		07 28 01.1	-8.9
	1.1nm,0.3s,baz=188,slow=14,SNR=4.2								
FITZ				LR		LR		07 32 16.0	
	comp=Z,201nm,18.2s,baz=28,slow=38								
FITZ	**Fitzroy Crossi**	**18.98**	**202**	*e*P		**Pn**		**07 24 35.6**	**-2.6**
	43nm,0.6s								
FITZ				*e*S		Sn		07 27 58.2	-12
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		**P**		**07 24 35.4**	**-1.9**
FITZ				S		Sn		07 28 01.1	-8.9
WRAB	**Tennant Creek**	**19.47**	**176**	*e*P		**Pn**		**07 24 43.5**	**-0.5**
	103nm,1.2s								
WRAB				*e*S		S		07 28 11.9	-9.1
WRA	**Warramunga Arr**	**19.48**	**176**	P		**Pn**		**07 24 43.3**	**-0.8**
	2.6nm,0.3s,baz=353,slow=11,SNR=53								
WRA				S		S		07 28 11.3	-10
	0.9nm,0.3s,baz=358,slow=22,SNR=9.9								
WRA	**Warramunga Arr**	**19.48**	**176**	P		**Pn**		**07 24 43.3**	**-0.8**
WRA				S		S		07 28 11.3	-10
WB2	**Warramunga Arr**	**19.48**	**176**	*e*P		**Pn**		**07 24 43.4**	**-0.7**
WB2				*e*S		S		07 28 05.7	-16
NBBI	**Negara**	**19.85**	**246**	P		Pn		07 24 58.2	+10
BYJI	**Banyuwangi**	**20.04**	**247**	P		Pn		07 24 54.0	+3.2
	288nm,0.9s								
JAGI	**Jajag, Banyuwa**	**20.32**	**246**	P		Pn		07 24 55.9	+1.8
	76nm,1.1s								
BLJI	**Banyuglugur**	**20.57**	**249**	P		Pn		07 25 09.0	+12
GMJI	**Gumukmas**	**20.90**	**247**	P		Pn		07 25 03.0	+2.1
	121nm,1.1s								
SJI	**Sawahan**	**22.28**	**250**	P		P		07 25 22.2	+9.0
PWJI	**Pagerwojo**	**22.34**	**250**	P		P		07 25 25.6	+12
AS31	**Alice Springs**	**23.15**	**178**	*e*P		**P**		**07 25 23.0**	**+0.9**
AS31				*e*S		Sn		07 29 41.1	-9.0
ASAR	**Alice Springs**	**23.15**	**178**	P		**P**		**07 25 22.3**	**+0.1**
	21nm,0.5s,baz=358,slow=10,SNR=131								
ASAR				S		Sn		07 29 38.3	-12
	12nm,1.0s,baz=1.1,slow=23,SNR=7.5								
ASAR	**Alice Springs**	**23.15**	**178**	P		**P**		**07 25 22.3**	**+0.1**
ASAR				S		Sn		07 29 38.3	-12
CTA	**Charters Tower**	**23.54**	**147**	P		**P**		**07 25 27.3**	**+1.3**
	21nm,0.9s,baz=329,slow=11,SNR=18								
CTA				LR		LR		07 35 46.9	
	comp=Z,668nm,20.2s,baz=149,slow=39								
CTA	**Charters Tower**	**23.54**	**147**	*e*P		**P**		**07 25 27.5**	**+1.5**
	25nm,0.8s								
CTA	**Charters Tower**	**23.54**	**147**	P		**P**		**07 25 27.3**	**+1.3**
CTAO	**Charters Tower**	**23.54**	**147**	*e*P		**P**		**07 25 26.8**	**+0.8**
	35nm,0.8s								
BJII	**Banjamegara**	**24.12**	**253**	P		**P**		**07 25 33.6**	**+2.0**
	70nm,1.5s								
MBWA	**Marble Bar**	**24.31**	**211**	*e*P		**P**		**07 25 33.3**	**+0.1**
	79nm,1.1s								
CISI	**Cisompet, Garu**	**25.99**	**254**	P		**P**		**07 25 48.6**	**0.0**
	101nm,1.2s								
JOW	**Kunigami**	**27.43**	**351**	P		**P**		**07 26 01.1**	**-0.3**
	20nm,0.9s,baz=138,slow=12,SNR=3.6								
JOW				LR		LR		07 35 12.5	
	comp=Z,457nm,19.0s,baz=145,slow=33								
JOW	**Kunigami**	**27.43**	**351**	P		**P**		**07 26 01.1**	**-0.3**
CBIJ	**Chichi jima**	**28.76**	**17**	LR		LR		07 34 54.2	
	comp=Z,283nm,19.5s,baz=212,slow=31								
QIZ	**Qiongzhong**	**29.75**	**312**	P		**P**		**07 26 22.6**	**+0.5**
QIZ				S		**S**		**07 31 18.3**	**+1.8**
QIZ				pmax	pmax				
	comp=Z,15nm,1.7s							

ASAJ	**Asahikawa**	**45.16**	**10**	LR	LR	07 47 10.5		
	comp=Z,173nm,19.4s,baz=166,slow=36							
LZH	**Lanzhou**	**45.25**	**326**	*e*P	**P**	**07 28 33.8**	**+0.7**	
LZH				pP	**pP**	**07 28 43.6**	**+1.0**	
LZH				sP	**sP**	**07 28 48.0**	**+1.5**	
LZH				*e*S	**S**	**07 35 14.3**	**+2.9**	
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
LZH				pmax	pmax			
	comp=Z,100nm,4.7s							
LZH				LR	LR			
	comp=N,200nm,10.9s							
LZH				LR	LR			
	comp=E,210nm,12.8s							
LZH				LR	LR			
	comp=Z,320nm,13.2s							
HHC	**Hu-ho-hao-te**	**45.40**	**337**	*e*P	**P**	**07 28 34.6**	**+0.5**	
HHC				pP	**pP**	**07 28 44.5**	**+0.8**	
HHC				sP	**sP**	**07 28 48.5**	**+1.0**	
HHC				PP	PP	07 30 21.6	+0.8	
HHC				S	**S**	**07 35 13.9**	**+0.5**	
HHC				ScS	**ScS**	**07 38 25.8**	**-2.8**	
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,68nm,5.2s							
HHC				LR	LR			
	comp=N,260nm,15.5s							
HHC				LR	LR			
	comp=E,490nm,15.5s							
HHC				LR	LR			
	comp=Z,150nm,16.3s							
LSA	**Lhasa**	**49.78**	**311**	*e*P	**P**	**07 29 08.6**	**-0.2**	
	comp=Z,5.5nm,0.6s							
GTA	**Gaotai**	**49.85**	**326**	*i* P	**P**	**07 29 08.9**	**+0.1**	
GTA				pP	**pP**	**07 29 19.3**	**+0.9**	
GTA				sP	**sP**	**07 29 22.8**	**+0.6**	
GTA				S	**S**	**07 36 15.5**	**-1.2**	
GTA				sS	**sS**	**07 36 31.4**	**-1.2**	
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,53nm,6.7s							
GTA				LR	LR			
	comp=N,120nm,12.8s							
GTA				LR	LR			
	comp=E,170nm,16.2s							
GTA				LR	LR			
	comp=Z,110nm,12.6s							
TAPN	**Taplejung**	**51.41**	**306**	*e*P	**P**	**07 29 19.7**	**-1.2**	
	comp=Z,44nm,1.2s							
TAPN	**Taplejung**	**51.41**	**306**	*e*P	**P**	**07 29 19.7**	**-1.2**	
	comp=Z,44nm,1.2s							
ODAN	**Odare**	**51.46**	**305**	*e*P	**P**	**07 29 20.1**	**-1.2**	
	comp=Z,43nm,1.0s							
ODAN	**Odare**	**51.46**	**305**	*e*P	**P**	**07 29 20.1**	**-1.2**	
	comp=Z,43nm,1.0s							
RAMN	**Ramite**	**52.15**	**305**	*e*P	**P**	**07 29 25.5**	**-0.9**	
	comp=Z,53nm,1.0s							
RAMN	**Ramite**	**52.15**	**305**	*e*P	**P**	**07 29 25.5**	**-0.9**	
	comp=Z,53nm,1.0s							
JIRN	**Jiri**	**52.77**	**306**	*e*P	**P**	**07 29 29.9**	**-1.2**	
	comp=Z,46nm,1.1s							
JIRN	**Jiri**	**52.77**	**306**	*e*P	**P**	**07 29 29.9**	**-1.2**	
	comp=Z,46nm,1.1s							
ULN	**Ulaanbaatar**	**53.06**	**338**	*e*P	**P**	**07 29 32.9**	**+0.2**	
	comp=Z,11nm,1.3s							
GUN	**Gumba**	**53.12**	**306**	*e*P	**P**	**07 29 32.4**	**-1.3**	
	comp=Z,42nm,0.9s							
GUN	**Gumba**	**53.12**	**306**	*e*P	**P**	**07 29 32.4**	**-1.3**	
	comp=Z,42nm,0.9s							
SONM	**Songino Array**	**53.28**	**338**	P	**P**	**07 29 34.6**	**+0.4**	
	comp=Z,2.5nm,1.0s,baz=144,slow=8.5,SNR=7.9							
SONM	**Songino Array**	**53.28**	**338**	P	**P**	**07 29 34.6**	**+0.4**	
PKI	**Pulchoki**	**53.36**	**305**	*e*P	**P**	**07 29 33.9**	**-1.6**	
PKI	**Pulchoki**	**53.36**	**305**	*e*P	**P**	**07 29 33.9**	**-1.6**	
KKN	**Kakani**	**53.56**	**306**	*e*P	**P**	**07 29 35.3**	**-1.4**	
KKN	**Kakani**	**53.56**	**306**	*e*P	**P**	**07 29 35.3**	**-1.4**	
DMN	**Daman**	**53.63**	**305**	*e*P	**P**	**07 29 36.0**	**-1.3**	
	comp=Z,26nm,0.8s							
DMN	**Daman**	**53.63**	**305**	*e*P	**P**	**07 29 36.0**	**-1.3**	
	comp=Z,26nm,0.8s							
GKN	**Gorkha**	**54.16**	**306**	*e*P	**P**	**07 29 39.9**	**-1.2**	
	comp=Z,44nm,1.0s							
GKN	**Gorkha**	**54.16**	**306**	*e*P	**P**	**07 29 39.9**	**-1.2**	
	comp=Z,44nm,1.0s							
KOLN	**Koldanda**	**54.92**	**305**	*e*P	**P**	**07 29 45.6**	**-1.1**	
	comp=Z,45nm,0.9s							
KOLN	**Koldanda**	**54.92**	**305**	*e*P	**P**	**07 29 45.6**	**-1.1**	
	comp=Z,45nm,0.9s							
DANN	**Dangsing**	**55.01**	**306**	*e*P	**P**	**07 29 46.2**	**-1.2**	
	comp=Z,71nm,0.9s							
DANN	**Dangsing**	**55.01**	**306**	*e*P	**P**	**07 29 46.2**	**-1.2**	
	comp=Z,71nm,0.9s							
HYB	**Hyderabad**	**56.32**	**291**	*i* P	**P**	**07 29 55.0**	**-1.7**	
PETK	**Petropavlovsk-**	**57.20**	**18**	P	**P**	**07 30 02.1**	**-0.1**	
	comp=Z,6.2nm,0.8s,baz=189,slow=6.9,SNR=7.1							
PETK				LR	LR	07 50 21.7		
	comp=Z,124nm,21.0s,baz=196,slow=32							
PETK	**Petropavlovsk-**	**57.20**	**18**	P	**P**	**07 30 02.1**	**-0.1**	
WMQ	**Urumqi**	**59.65**	**323**	P	**P**	**07 30 19.3**	**-0.3**	
WMQ				pP	**pP**	**07 30 28.3**	**-1.1**	
WMQ				sP	**sP**	**07 30 33.3**	**+0.1**	
WMQ				pmax	pmax			
	comp=Z,18nm,0.8s							
DDI	**Dehra Dun**	**60.36**	**306**	*e*P	P	07 30 21.5	-3.3	
MK31	**Makanchi Array**	**64.47**	**324**	*e*P	**P**	**07 30 51.6**	**-0.3**	
MKAR	**Makanchi Array**	**64.47**	**324**	P	**P**	**07 30 51.8**	**0.0**	
	comp=Z,4.4nm,0.8s,baz=117,slow=8.1,SNR=36							
MKAR				LR	LR	08 00 34.3		
	comp=Z,63nm,19.4s,baz=353,slow=38							
MKAR	**Makanchi Array**	**64.47**	**324**	P	**P**	**07 30 51.8**	**0.0**	
KSH	**Kashi**	**65.30**	**314**	*e*P	**P**	**07 30 58.6**	**+1.0**	
KSH				*e*pP	**pP**	**07 31 08.9**	**+1.4**	
KSH				*e*sP	**sP**	**07 31 12.8**	**+1.6**	
KSH				*e*PcP	**PcP**	**07 31 31.3**	**+1.6**	
KSH				*e*PP	**PP**	**07 33 23.8**	**+2.2**	
KSH				*e*ScP		07 35 30.0		
KSH				*e*PcS		07 35 33.9		
KSH				*e*S	**S**	**07 39 35.8**	**-3.7**	
KSH				*e*sS	**sS**	**07 39 53.4**	**-2.4**	
KSH				*e*ScS	**SKSac**	**07 40 47.1**	**-3.7**	
KSH				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,180nm,5.3s							
KSH				LR	LR			
	comp=N,150nm,6.4s							
KSH				LR	LR			
	comp=E,160nm,6.3s							
KSH				LR	LR			
	comp=Z,200nm,6.5s							
TKM2	**Tokmak 2**	**66.91**	**318**	*e*P	**P**	**07 31 06.7**	**-1.2**	
	comp=Z,8.2nm,1.2s							
ZAA0	**Zalesovo Array**	**67.08**	**331**	*e*P	**P**	**07 31 07.2**	**-1.3**	
ZALV	**Zalesovo Beam**	**67.08**	**331**	P	**P**	**07 31 07.3**	**-1.2**	
	comp=Z,2.3nm,0.6s,baz=122,slow=6.9,SNR=10.0							
ZALV	**Zalesovo Beam**	**67.08**	**331**	P	**P**	**07 31 07.3**	**-1.2**	
AAK	**Ala-Archa**	**67.54**	**317**	*e*P	**P**	**07 31 11.3**	**-0.5**	
	comp=Z,11nm,0.8s							
EKS2	**Erkin-Say**	**68.04**	**317**	*e*P	**P**	**07 31 14.7**	**-0.2**	
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**68.54**	**326**	P	**P**	**07 31 17.3**	**-0.4**	
	comp=Z,5.9nm,0.9s,baz=120,slow=5.6,SNR=28							
KURK	**Kurchatov**	**68.54**	**326**	*e*P	**P**	**07 31 17.4**	**-0.4**	
	comp=Z,11nm,1.0s							
KBL	**Kabul**	**68.90**	**307**	*e*P	**P**	**07 31 19.0**	**-1.7**	
	comp=Z,13nm,0.9s							
KKAR	**Karatay Array**	**70.44**	**316**	*e*P	**P**	**07 31 29.2**	**-0.5**	
	comp=Z,1.8nm,0.6s							
BVAR	**Borovoye Array**	**74.13**	**326**	P	**P**	**07 31 51.3**	**-0.2**	
	comp=Z,4.6nm,0.8s,baz=120,slow=6.0,SNR=18							
BVAR	**Borovoye Array**	**74.13**	**326**	P	**P**	**07 31 51.3**	**-0.2**	
BRVK	**Borovoye**	**74.21**	**326**	*e*P	**P**	**07 31 51.6**	**-0.3**	
	comp=Z,7.5nm,0.9s							
IDAH	**Dahanechah**	**75.97**	**304**	*e*P	**P**	**07 32 03.0**	**+0.1**	
IMYA	**Miami**	**76.42**	**307**	*e*P	**P**	**07 32 04.4**	**-0.9**	
ITEG	**Tejag**	**76.93**	**304**	*e*P	**P**	**07 32 08.2**	**-0.1**	
IMOG	**Moghan**	**76.98**	**307**	*e*P	**P**	**07 32 08.3**	**-0.3**	
IPAY	**Payeh**	**77.32**	**307**	*e*Pn	**P**	**07 32 09.3**	**-1.1**	
IAKL	**Akhelmad**	**77.53**	**308**	*e*P	**P**	**07 32 11.4**	**-0.3**	
IKRD	**Kardeh**	**77.75**	**308**	*e*P	P	07 32 07.8	-5.1	
IEMG	**Emamgholi**	**77.76**	**308**	*e*P	**P**	**07 32 13.3**	**+0.4**	
ABKAR	**Akbulak array**	**79.23**	**320**	*e*P	**P**	**07 32 19.5**	**-0.9**	
	comp=Z,4.1nm,0.8s							
AKTO	**Aktyubinsk**	**80.70**	**321**	P	**P**	**07 32 28.2**	**-0.2**	
	comp=Z,3.2nm,1.0s,baz=110,slow=4.2,SNR=8.4							
AKTO	**Aktyubinsk**	**80.70**	**321**	P	**P**	**07 32 28.2**	**-0.2**	
ARU	**Arti**	**81.70**	**327**	*e*P	**P**	**07 32 32.2**	**-1.3**	
	comp=Z,12nm,1.1s							
MAW	**Mawson**	**82.11**	**201**	LR	LR	08 05 00.7		
	comp=Z,123nm,20.6s,baz=146,slow=33							
COLA	**College**	**85.79**	**25**	*e*P	**P**	**07 32 54.1**	**-0.1**	
	comp=Z,15nm,1.8s							
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**	**07 32 55.2**	**-1.0**	
	comp=Z,1.7nm,0.7s,baz=254,slow=4.6,SNR=19							
ILAR				LR	LR	08 04 49.2		
	comp=Z,102nm,20.9s,baz=309,slow=31							
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**	**07 32 55.2**	**-1.0**	
QSPA	**South Pole Qui**	**89.53**	**180**	P	**P**	**07 33 12.4**	**+0.1**	
	comp=Z,3.8nm,0.7s,baz=312,slow=1.4,SNR=8.7							
QSPA	**South Pole Qui**	**89.53**	**180**	P	**P**	**07 33 12.4**	**+0.1**	
ARCES	**ARCESS Array B**	**96.40**	**340**	LR	LR	08 17 44.1		
	comp=Z,155nm,19.4s,baz=48,slow=36							
YKA	**Yellowknife Ar**	**100.59**	**26**	P	**Pdif**	**07 34 01.8**	**-0.9**	
	comp=Z,0.2nm,0.8s,baz=290,slow=4.3,SNR=3.3							
YKA	**Yellowknife Ar**	**100.59**	**26**	P	**Pdif**	**07 34 01.8**	**-0.9**	
TORD	**Torodi Ar. Bea**	**130.03**	**287**	PKP	**PKPdf**	**07 39 24.4**	**-1.6**	
	comp=Z,1.0nm,0.8s,baz=40,slow=2.1,SNR=5.7							
TORD	**Torodi Ar. Bea**	**130.03**	**287**	PKP	**PKPdf**	**07 39 24.4**	**-1.6**	
ATAH	**Atahualpa**	**147.91**	**104**	PKPbc	**PKPab**	**07 40 01.6**	**-2.9**	
	comp=Z,3.3nm,0.3s,baz=302,slow=5.4,SNR=4.8							
ATAH	**Atahualpa**	**147.91**	**104**	PKPbc	**PKPab**	**07 40 01.6**	**-2.9**	
ROSC	**El Rosal**	**152.46**	**80**	PKPbc	**PKPbc**	**07 40 13.0**	**0.0**	
	comp=Z,3.9nm,0.6s,baz=278,slow=20,SNR=5.6							
ROSC	**El Rosal**	**152.46**	**80**	PKPbc	**PKPbc**	**07 40 13.0**	**0.0**	
LPAZ	**La Paz**	**153.44**	**130**	PKPbc	**PKPbc**	**07 40 16.6**	**+1.2**	
	comp=Z,2.4nm,1.0s,baz=0.0,slow=4.0,SNR=4.5							
LPAZ	**La Paz**	**153.44**	**130**	PKPbc	**PKPbc**	**07 40 16.6**	**+1.2**	

*ISCJB **22** 07:21:37.4±0.4, 22.°16S±0.°06×179.°46W±0.°10, h592km, mb4.1/17, Error ellipse: s-maj=11.7km s-min=7.9km az=11.4*
*NEIC **22** 07:21:40.4±0.9, 22.°05S×179.°53W, h614km±10km, mb4.6/5, Error ellipse: s-maj=14.7km s-min=11.4km az=99.0*
*IDC **22** 07:21:41.7±2.2, 22.°04S×179.°60W, h625km±25km, mb3.5/14, mb1 3.7/15, mb1mx3.6/22, mbtmp3.5/15, Error ellipse: s-maj=17.3km s-min=15.5km az=149.0*

ISC 22 07:21:38.4±0.5, 22.°10S±0.°10×179.°42W±0.°09, h592km, n97, σ1§12/95, mb4.2/17, 8C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.95**	**331**	*e*Pn		**P**	**P**	**07 23 13.1**	**+2.5**
AFI	**Afiamalu**	**10.91**	**43**	P		**P**	**P**	**07 24 04.7**	**-1.7**
	7.6nm,0.3s,baz=50,slow=13,SNR=14								
AFI				S		S	S	07 26 01.3	-6.5
	1.4nm,0.3s,baz=90,slow=16,SNR=2.4								
AFI	**Afiamalu**	**10.91**	**43**	P		**P**	**P**	**07 24 04.7**	**-1.7**
AFI				*e*Pn				07 24 04.9	
AFI				S		S	S	07 26 01.3	-6.5
DZM	**Mont Dzumac**	**13.11**	**267**	P		**P**	**P**	**07 24 29.7**	**+1.2**
	1.5nm,0.3s,baz=44,slow=23,SNR=14								
DZM	**Mont Dzumac**	**13.11**	**267**	P		**P**	**P**	**07 24 29.7**	**+1.2**
OUZ	**Omahuta**	**14.43**	**204**	*e*P		**P**	**P**	**07 24 43.3**	**+2.0**
	16nm,0.6s								
URZ	**Urewera**	**16.38**	**190**	*e*P		**P**	**P**	**07 24 58.6**	**-0.8**
	19nm,0.7s								
URZ				*e*S		S	S	07 27 34.3	-8.9
BKZ	**Black Stump Fm**	**17.37**	**191**	PN		**P**	**P**	**07 25 06.4**	**-2.1**
CAW	**Cannon Point**	**19.52**	**193**	PN		**P**	**P**	**07 25 25.6**	**-2.4**
QRZ	**Quartz Range**	**19.88**	**198**	PN		**P**	**P**	**07 25 31.3**	**+0.1**
NNZ	**Nelson**	**20.01**	**196**	PN		**P**	**P**	**07 25 30.8**	**-1.5**
THZ	**Tophouse**	**20.64**	**196**	PN		**P**	**P**	**07 25 37.2**	**-1.0**
DSZ	**Denniston Nort**	**20.93**	**199**	PN		**P**	**P**	**07 25 40.9**	**+0.1**
KHZ	**Kahutara**	**21.10**	**195**	PN		**P**	**P**	**07 25 41.2**	**-1.0**
LTZ	**Lake Taylor**	**21.76**	**197**	PN		**P**	**P**	**07 25 48.9**	**+0.8**
RPZ	**Rata Peaks**	**22.96**	**198**	P		**P**	**P**	**07 26 01.5**	**+2.7**
	3.3nm,0.5s,baz=53,slow=1.9,SNR=3.7								
RPZ	**Rata Peaks**	**22.96**	**198**	P		**P**	**P**	**07 26 01.5**	**+2.7**
HNR	**Honiara**	**23.47**	**299**	*e*P		**P**	**P**	**07 26 02.5**	**-1.3**
	30nm,0.6s								
CTA	**Charters Tower**	**32.05**	**267**	P		**P**	**P**	**07 27 18.2**	**0.0**
	5.3nm,0.4s,baz=105,slow=6.0,SNR=7.1								
CTA	**Charters Tower**	**32.05**	**267**	P		**P**	**P**	**07 27 18.2**	**0.0**
PMG	**Port Moresby**	**34.46**	**286**	P		**P**	**P**	**07 27 38.6**	**+0.2**
	16nm,0.7s,baz=109,slow=6.0,SNR=7.3								
PMG	**Port Moresby**	**34.46**	**286**	P		**P**	**P**	**07 27 38.6**	**+0.2**
ASAR	**Alice Springs**	**42.88**	**259**	P		**P**	**P**	**07 28 46.2**	**0.0**
	7.1nm,0.7s,baz=92,slow=8.3,SNR=7.7								
ASAR				S		S	**S**	**07 34 26.8**	**-2.5**
	3.1nm,1.0s,baz=95,slow=17,SNR=5.4								
ASAR	**Alice Springs**	**42.88**	**259**	P		**P**	**P**	**07 28 46.2**	**0.0**
ASAR				S		S	**S**	**07 34 26.8**	**-2.5**
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**P**	**07 28 47.4**	**-0.6**
	4.5nm,0.3s,baz=93,slow=8.6,SNR=27								
WRA				S		S	S	07 34 25.0	-7.3
	1.0nm,0.9s,baz=92,slow=15,SNR=4.8								
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**P**	**07 28 47.4**	**-0.6**
WRA				S		S	S	07 34 25.0	-7.3
FITZ	**Fitzroy Crossi**	**51.52**	**264**	P		**P**	**P**	**07 29 51.1**	**+0.2**
	9.0nm,1.0s,baz=84,slow=10,SNR=2.5								
FITZ	**Fitzroy Crossi**	**51.52**	**264**	P		**P**	**P**	**07 29 51.1**	**+0.2**
QSPA	**South Pole Qui**	**67.98**	**180**	P		**P**	**P**	**07 31 40.1**	**+0.8**
	1.7nm,0.4s,baz=206,slow=1.7,SNR=4.6								
QSPA	**South Pole Qui**	**67.98**	**180**	P		**P**	**P**	**07 31 40.1**	**+0.8**
MJAR	**Matsushiro Arr**	**70.73**	**325**	P		**P**	**P**	**07 31 55.2**	**-0.7**
	3.4nm,0.6s,baz=163,slow=5.7,SNR=9.5								
MJAR	**Matsushiro Arr**	**70.73**	**325**	P		**P**	**P**	**07 31 55.2**	**-0.7**
PETK	**Petropavlovsk-**	**77.48**	**346**	P		**P**	**P**	**07 32 33.5**	**-0.1**
	6.0nm,0.6s,baz=150,slow=6.3,SNR=8.2								
PETK	**Petropavlovsk-**	**77.48**	**346**	P		**P**	**P**	**07 32 33.5**	**-0.1**
USRK	**Ussuriysk Arra**	**79.55**	**327**	P		**P**	**P**	**07 32 45.4**	**+0.7**
	2.9nm,0.8s,baz=48,slow=2.9,SNR=5.2								
NVAR	**Mina Array Bea**	**83.09**	**44**	P		**P**	**P**	**07 33 04.6**	**+1.3**
	0.1nm,0.3s,baz=226,slow=9.9,SNR=4.1								
NVAR	**Mina Array Bea**	**83.09**	**44**	P		**P**	**P**	**07 33 04.5**	**+1.3**
ETW	**Entiat**	**87.31**	**36**	*e*P		**P**	**P**	**07 33 24.0**	**+0.8**
	4.1nm,1.0s								
TXAR	**Lajitas Array**	**89.03**	**58**	P		**P**	**P**	**07 33 33.4**	**+1.8**
	0.5nm,0.8s,baz=197,slow=3.9,SNR=5.7								
TXAR	**Lajitas Array**	**89.03**	**58**	P		**P**	**P**	**07 33 33.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P		**P**	**P**	**07 33 34.7**	**+1.2**
	3.2nm,0.7s,baz=109,slow=4.9,SNR=13								
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P		**P**	**P**	**07 33 34.7**	**+1.2**
CHTO	**Chiang Mai**	**89.55**	**290**	P		**P**	**P**	**07 33 35.0**	**+0.9**
	4.4nm,0.6s								
ILAR	**Eielson Array**	**90.16**	**13**	P		**P**	**P**	**07 33 35.2**	**-0.7**
	1.5nm,0.9s,baz=224,slow=5.5,SNR=4.4								
ILAR	**Eielson Array**	**90.16**	**13**	P		**P**	**P**	**07 33 35.2**	**-0.7**
ZALV	**Zalesovo Beam**	**110.90**	**321**	PKiKP		**PKiKP**	**PKiKP**	**07 39 02.2**	**-2.5**
	0.7nm,0.5s,baz=164,slow=1.3,SNR=4.5								
ZALV	**Zalesovo Beam**	**110.90**	**321**	PKiKP		**PKiKP**	**PKiKP**	**07 39 02.2**	**-2.5**
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP		**PKiKP**	**PKiKP**	**07 39 04.1**	**-1.8**
	0.5nm,0.5s,baz=230,slow=0.3,SNR=5.1								
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP		**PKiKP**	**PKiKP**	**07 39 04.1**	**-1.8**
KURK	**Kurchatov**	**114.26**	**317**	PKP		PKPdf		07 39 10.0	-1.3
	0.7nm,0.5s,baz=109,slow=1.7,SNR=11								
KURK	**Kurchatov**	**114.26**	**317**	PKP		PKPdf		07 39 10.0	-1.3
SPITS	**Spitsbergen Ar**	**123.37**	**356**	PKP		**PKPdf**		**07 39 26.6**	**-1.5**
	2.8nm,0.6s,baz=73,slow=8.9,SNR=6.1								
SPITS	**Spitsbergen Ar**	**123.37**	**356**	PKP		**PKPdf**		**07 39 26.6**	**-1.5**
ARCES	**ARCESS Array B**	**130.24**	**349**	PKP		**PKPdf**		**07 39 41.1**	**-0.3**
	2.0nm,0.6s,baz=44,slow=1.5,SNR=10								
ARCES	**ARCESS Array B**	**130.24**	**349**	PKP		**PKPdf**		**07 39 41.1**	**-0.3**
FINES	**FINESS Array B**	**136.91**	**342**	PKP		**PKPdf**		**07 39 53.5**	**-0.6**
	3.1nm,0.8s,baz=66,slow=4.6,SNR=5.1								
FINES	**FINESS Array B**	**136.91**	**342**	PKP		**PKPdf**		**07 39 53.5**	**-0.6**
NB2	**NORSAR Subarra1**	**140.39**	**352**	PKP		PKPpre		07 39 54.0	
	comp=Z,6.3nm,1.4s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**140.39**	**352**	PKhKP		PKPpre		07 39 53.6	
	comp=Z,1.2nm,0.7s,baz=12,slow=2.2,SNR=3.7								
NOA	**NORSAR Array B**	**140.39**	**352**	PKPpre		PKPpre		07 39 53.6	
HFS	**Hagfors**	**140.88**	**350**	PKhKP		PKPpre		07 39 55.3	
	comp=Z,2.6nm,0.4s,baz=70,slow=4.9,SNR=19								
HFS	**Hagfors**	**140.88**	**350**	PKPpre		PKPpre		07 39 55.3	
AKASG	**Malin Array Be**	**143.73**	**329**	PKP		PKPbc		07 40 04.8	-1.1
	comp=Z,4.5nm,0.4s,baz=42,slow=4.1,SNR=34								
AKASG	**Malin Array Be**	**143.73**	**329**	PKP		PKPbc		07 40 04.8	-1.1
ASF	**Jabal al Asfar**	**146.30**	**295**	PKPbc		**PKPbc**		**07 40 14.8**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=1.6,slow=3.4,SNR=5.5								
ASF	**Jabal al Asfar**	**146.30**	**295**	PKPbc		**PKPbc**		**07 40 14.8**	**+0.7**
BR131	**Keskin Array S**	**146.88**	**310**	*e*PKPbc		**PKPbc**		**07 40 14.9**	**-0.6**
BR131				*e*PKPab		**PKPab**		**07 40 18.8**	**-0.1**
BRTR	**Keskin Array B**	**146.88**	**310**	PKPbc		**PKPbc**		**07 40 14.8**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=135,slow=4.1,SNR=14								
BRTR	**Keskin Array B**	**146.88**	**310**	PKPbc		**PKPbc**		**07 40 14.8**	**-0.8**
MMAI	**Mount Meron Ar**	**147.41**	**297**	PKPbc		**PKPbc**		**07 40 17.6**	**+0.6**
	comp=Z,3.3nm,0.4s,baz=68,slow=6.6,SNR=6.9								
MMAI	**Mount Meron Ar**	**147.41**	**297**	PKPbc		**PKPbc**		**07 40 17.6**	**+0.6**
EIL	**Elat**	**148.26**	**291**	PKPbc		**PKPbc**		**07 40 20.0**	**+0.8**
	comp=Z,6.0nm,0.8s,baz=172,slow=1.9,SNR=4.3								
EIL	**Elat**	**148.26**	**291**	PKPbc		**PKPbc**		**07 40 20.0**	**+0.8**
CRVS	**Cervenica-Dubn**	**148.52**	**333**	*e*PKP		**PKPbc**		**07 40 19.3**	**0.0**
TRPA	**Tarpa**	**148.64**	**331**	⇓*i*P		**PKPbc**		**07 40 19.2**	**-0.3**
MLR	**Muntele Rosu**	**148.80**	**324**	PKPbc		**PKPbc**		**07 40 19.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=279,slow=3.4,SNR=5.1								
MLR	**Muntele Rosu**	**148.80**	**324**	PKPbc		**PKPbc**		**07 40 19.7**	**-0.5**
MLR	**Muntele Rosu**	**148.80**	**324**	⇓*i*P		**PKPbc**		**07 40 19.5**	**-0.7**
OKC	**Ostrava-Krasne**	**149.04**	**338**	⇑*e*PKP		**PKPbc**		**07 40 20.7**	**+0.2**
UPC	**Upice**	**149.17**	**341**	⇑*e*PKP		**PKPbc**		**07 40 21.0**	**+0.2**
DPC	**Dobruska-Polom**	**149.21**	**340**	⇑*e*PKP		**PKPbc**		**07 40 21.3**	**+0.4**
CLL	**Collm**	**149.28**	**345**	⇓*i*PKPbc		**PKPbc**		**07 40 21.0**	**0.0**
	comp=Z,15nm,0.7s								
CLL				⇑*i*PKPab		**PKPab**		**07 40 27.8**	**-0.3**
	comp=Z,8.0nm,0.8s								
MORC	**Moravsky Berou**	**149.30**	**338**	⇓*i*P		**PKPbc**		**07 40 21.2**	**0.0**
BRG	**Berggiesshubel**	**149.44**	**343**	*i* PKP		**PKPbc**		**07 40 21.6**	**+0.2**
	comp=Z,12nm,0.7s								
DRGR		**149.55**	**329**	⇓*i*P		**PKPbc**		**07 40 21.4**	**-0.5**
PVCC	**Panska Ves**	**149.58**	**342**	⇓*e*PKP		**PKPbc**		**07 40 22.2**	**+0.5**
VYHS	**Vyhne**	**149.90**	**335**	*e*PKP		**PKPbc**		**07 40 22.3**	**-0.3**
PRU	**Pruhonice**	**150.07**	**342**	*e*PKP		**PKPbc**		**07 40 22.9**	**0.0**
GZR	**Gura Zlata**	**150.51**	**327**	⇑*i*P		**PKPbc**		**07 40 23.5**	**-0.7**
BZS	**Buzias**	**150.92**	**329**	⇓*i*P		**PKPbc**		**07 40 24.5**	**-0.5**
KHC	**Kasperske Hory**	**151.12**	**342**	⇑*e*PKP		**PKPbc**		**07 40 24.5**	**-0.9**
KHC				*e*PKPAB		**PKPab**		**07 40 36.0**	**+0.1**
GERES	**GERESS Array B**	**151.34**	**342**	PKPbc		**PKPbc**		**07 40 25.6**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=9.8,slow=2.0,SNR=15								
GERES				PKPab		**PKPab**		**07 40 36.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=28,slow=6.0,SNR=5.1

	42nm,0.3s,baz=157,slow=23,SNR=9.2							
DZM					LR	LR	08 14 27.5	
	comp=Z,538nm,19.9s,baz=31,slow=35							
DZM	**Mont Dzumac**	**4.13 277**	*eP*		**Pn**	**Pn**	**08 13 09.9**	**-0.8**
DZM				*eS*	**Sn**	**Sn**	**08 13 56.4**	**-1.4**
DZM				AMP			08 14 05.7	
	comp=Z,2μm,9.1s							
DZM	**Mont Dzumac**	**4.13 277**	Pn		**Pn**	**Pn**	**08 13 10.2**	**-0.5**
DZM			Sn		**Sn**	**Sn**	**08 13 56.8**	**-1.0**
DZM				*eS*	Sn	**Sn**	08 13 57.6	-0.3
NOUC	**Port Laguerre**	**4.26 276**	*eP*		**Pn**	**Pn**	**08 13 11.6**	**-0.8**
NOUC				*eS*	**Sn**	**Sn**	**08 13 59.5**	**-1.3**
NOUC				AMP			08 14 12.8	
	comp=Z,100nm,6.9s							
MSVF	**Nonsavu**	**8.31 55**	*ePn*		**Pn**	**Pn**	**08 14 07.3**	**-0.8**
OUZ	**Omahuta**	**12.78 170**	*ePn*		**Pn**	**Pn**	**08 15 08.2**	**-0.9**
URZ	**Urewera**	**16.48 162**	*eP*		**P**	**P**	**08 16 01.6**	**+1.3**
	comp=Z,331nm,2.5s							
HNR	**Honiara**	**16.78 320**	*ePn*		**P**	**P**	**08 16 04.9**	**+1.0**
	comp=Z,84nm,0.8s							
EIDS	**Eidsvold**	**18.28 257**	*eP*		**Pn**	**Pn**	**08 16 23.1**	**+2.5**
	comp=Z,18nm,1.1s							
AFI	**Afiamalu**	**18.61 65**	LR		LR	LR	08 21 53.5	
	comp=Z,613nm,20.0s,baz=72,slow=32							
ARMA	**Armidale**	**18.87 242**	*eP*		**Pn**	**Pn**	**08 16 30.0**	**+2.3**
ARMA	**Armidale**	**18.87 242**	*ePn*		**Pn**	**Pn**	**08 16 29.6**	**+1.8**
	comp=Z,100nm,1.9s							
SNZO	**South Karori**	**18.91 171**	*eP*		**P**	**P**	**08 16 27.8**	**+0.7**
	comp=Z,83nm,1.1s							
KHZ	**Kahutara**	**19.87 174**	*eP*		**P**	**P**	**08 16 37.7**	**+0.2**
	comp=Z,102nm,1.3s							
RPZ	**Rata Peaks**	**21.04 180**	P		**P**	**P**	**08 16 53.5**	**+3.3**
	comp=Z,7.0nm,0.6s,baz=93,slow=12,SNR=3.4							
RPZ					LR	LR	08 23 55.1	
	comp=Z,506nm,19.1s,baz=359,slow=34							
RPZ	**Rata Peaks**	**21.04 180**	P		**P**	**P**	**08 16 53.5**	**+3.3**
	comp=Z,116nm,1.8s							
CTA	**Charters Tower**	**23.06 272**	P		**P**	**P**	**08 17 11.3**	**-0.7**
	comp=Z,6.4nm,0.7s,baz=102,slow=12,SNR=14							
CTA					LR	LR	08 25 34.6	
	comp=Z,279nm,18.5s,baz=260,slow=35							
CTA	**Charters Tower**	**23.06 272**	*eP*		**P**	**P**	**08 17 13.4**	**+1.5**
	comp=Z,5.8nm,0.6s							
CTA	**Charters Tower**	**23.06 272**	P		**P**	**P**	**08 17 11.3**	**-0.7**
CTAO	**Charters Tower**	**23.06 272**	*eP*		**P**	**P**	**08 17 13.4**	**+1.5**
	comp=Z,60nm,1.9s							
WHZ	**Wether Hill Ro**	**23.34 185**	*eP*		**P**	**P**	**08 17 15.5**	**+1.1**
PMG	**Port Moresby**	**26.25 296**	P		**P**	**P**	**08 17 39.8**	**-1.7**
	comp=Z,5.8nm,0.6s,baz=109,slow=6.0,SNR=4.9							
PMG	**Port Moresby**	**26.25 296**	*eP*		**P**	**P**	**08 17 41.4**	**-0.1**
RAR	**Rarotonga**	**27.26 93**	LR		LR	LR	08 26 06.1	
	comp=Z,268nm,18.2s,baz=285,slow=31							
STKA	**Stephens Creek**	**27.54 244**	P		**P**	**P**	**08 17 52.9**	**0.0**
	comp=Z,2.7nm,0.8s,baz=296,slow=18,SNR=4.3							
STKA					LR	LR	08 27 52.9	
	comp=Z,567nm,19.8s,baz=176,slow=34							
STKA	**Stephens Creek**	**27.54 244**	*eP*		**P**	**P**	**08 17 50.9**	**-2.0**
	comp=Z,5.6nm,1.3s							
STKA	**Stephens Creek**	**27.54 244**	P		**P**	**P**	**08 17 52.9**	**0.0**
COEN	**Coen**	**27.63 283**	*eP*		**P**	**P**	**08 17 55.4**	**+1.5**
	comp=Z,40nm,0.8s							
AS31	**Alice Springs**	**33.95 261**	*eP*		**P**	**P**	**08 18 49.5**	**-0.1**
ASAR	**Alice Springs**	**33.95 261**	P		**P**	**P**	**08 18 49.4**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=89,slow=9.6,SNR=51							
ASAR	**Alice Springs**	**33.95 261**	P		**P**	**P**	**08 18 49.4**	**-0.2**
WRAB	**Tennant Creek**	**34.08 268**	*eP*		**P**	**P**	**08 18 49.9**	**-0.9**
	comp=Z,1.3nm,0.5s							
WRA	**Warramunga Arr**	**34.09 268**	P		**P**	**P**	**08 18 49.6**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=100,slow=8.4,SNR=15							
WRA					LR	LR	08 32 56.9	
	comp=Z,448nm,18.0s,baz=100,slow=37							
WRA	**Warramunga Arr**	**34.09 268**	P		**P**	**P**	**08 18 49.6**	**-1.2**
TBI	**Tubuai**	**36.45 99**	*eLR*		LR	LR	08 28 47.9	
	comp=Z,171nm,23.5s							
PPT2	**Papeete2**	**37.40 90**	*eS*		**S**	**S**	**08 25 10.4**	**+5.5**
	comp=Z,66nm,25.8s							
PPT2				*e*LR	LR	LR	08 29 29.7	
	comp=Z,144nm,23.2s							
FORT	**Forrest**	**38.91 249**	*eP*		P	P	08 19 35.0	+3.2
	comp=Z,18nm,0.7s							
FITZ	**Fitzroy Crossi**	**42.52 268**	P		**P**	**P**	**08 20 01.9**	**+0.2**
	comp=Z,5.7nm,0.6s,baz=155,slow=9.0,SNR=21							
FITZ	**Fitzroy Crossi**	**42.52 268**	*eP*		**P**	**P**	**08 20 01.9**	**+0.2**
	comp=Z,18nm,0.9s							
FITZ	**Fitzroy Crossi**	**42.52 268**	P		**P**	**P**	**08 20 01.9**	**+0.2**
	comp=Z,8.1nm,1.0s							
NWAO	**Narrogin (SRO)**	**48.11 245**	LR		LR	LR	08 41 07.9	
	comp=Z,387nm,19.9s,baz=40,slow=36							
KAPI	**Kappang**	**52.34 282**	P		**P**	**P**	**08 21 18.4**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=79,slow=19,SNR=5.8							
KAPI					LR	LR	08 44 09.8	
	comp=Z,99nm,18.6s,baz=201,slow=37							
KAPI	**Kappang**	**52.34 282**	*eP*		**P**	**P**	**08 21 18.4**	**+0.3**
	comp=Z,8.8nm,0.8s							
MJAR	**Matsushiro Arr**	**66.44 332**	P		**P**	**P**	**08 22 54.8**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=172,slow=7.5,SNR=6.6							
MJAR					LR	LR	08 45 30.9	
	comp=Z,86nm,21.0s,baz=175,slow=30							
MJAR	**Matsushiro Arr**	**66.44 332**	P		**P**	**P**	**08 22 54.8**	**-0.2**
JNU	**Nakatsue**	**67.29 324**	LR		LR	LR	08 52 20.2	
	comp=Z,76nm,18.4s,baz=249,slow=36							
QSPA	**South Pole Qui**	**67.45 180**	*eP*		**P**	**P**	**08 23 00.1**	**-1.1**
	comp=Z,23nm,1.4s							
ASAJ	**Asahikawa**	**71.29 339**	LR		LR	LR	08 48 43.1	
	comp=Z,216nm,20.9s,baz=159,slow=31							
KSRS	**Korea Array**	**72.14 325**	P		**P**	**P**	**08 23 29.4**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=144,slow=7.1,SNR=4.2							
KSRS					LR	LR	08 55 01.3	
	comp=Z,78nm,18.7s,baz=108,slow=36							
KSAR	**Wonju Array Be**	**72.15 325**	P		**P**	**P**	**08 23 29.4**	**-0.9**
NJ2	**Nanjing**	**73.69 316**	*eP*		**P**	**P**	**08 23 41.8**	**+2.3**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MAW	**Mawson**	**75.89 202**	LR		LR	LR	08 51 30.5	
	comp=Z,154nm,18.1s,baz=288,slow=31							
PETK	**Petropavlovsk-**	**76.28 352**	P		**P**	**P**	**08 23 53.1**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=195,slow=9.0,SNR=3.6							
PETK					LR	LR	08 54 08.3	
	comp=Z,155nm,18.4s,baz=342,slow=33							
PETK	**Petropavlovsk-**	**76.28 352**	P		**P**	**P**	**08 23 53.1**	**-0.8**
CN2	**Changchun**	**78.12 328**	*eP*		**P**	**P**	**08 24 06.3**	**+1.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ENH	**Enshi**	**78.99 309**	*eP*		**P**	**P**	**08 24 09.4**	**-0.2**
	comp=Z,7.7nm,0.8s							
GYA	**Guiyang**	**78.99 305**	*eP*		**P**	**P**	**08 24 10.1**	**+0.2**
GYA				pP	**pP**	**pP**	**08 24 22.8**	**+0.3**
GYA				sP	**sP**	**sP**	**08 24 28.0**	**+0.7**
GYA				PP	**PP**	**PP**	**08 27 13.5**	**+4.0**
GYA				S	**S**	**S**	**08 34 07.6**	**+1.6**
GYA				SKS	**SKSac**	**SKSac**	**08 34 20.9**	**-1.7**
GYA				SS	**SS**	**SS**	**08 39 17.3**	**+4.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,110nm,5.4s							
GYA				LR	LR			
	comp=N,440nm,19.8s							
GYA				LR	LR			
	comp=E,410nm,20.0s							
GYA				LR	LR			
	comp=Z,480nm,18.9s							
BJI	**Beijing**	**80.51 321**	P		**P**	**P**	**08 24 19.3**	**+1.7**
BJI				sP	**sP**	**sP**	**08 24 33.0**	**-2.0**
BJI				S	**SKSac**	**SKSac**	**08 34 26.1**	**-6.2**
BJI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BJI				pmax	pmax			
	comp=Z,190nm,5.5s							
BJI				LR	LR			
	comp=N,150nm,15.7s							
BJI				LR	LR			
	comp=E,130nm,15.4s							
BJI				LR	LR			
	comp=Z,100nm,23.1s							
CMAR	**Chiang Mai Ar**	**81.27 294**	P		**P**	**P**	**08 24 24.1**	**+1.9**
	comp=Z,2.3nm,0.5s,baz=138,slow=4.0,SNR=14							
CMAR	**Chiang Mai Arr**	**81.27 294**	P		**P**	**P**	**08 24 24.1**	**+1.9**
KMI	**Kunming**	**81.34 302**	P		**P**	**P**	**08 24 23.4**	**+0.7**
KMI				pmax	pmax			
	comp=Z,11nm,1.3s							
CHTO	**Chiang Mai**	**81.43 294**	*eP*		**P**	**P**	**08 24 24.7**	**+1.6**
	comp=Z,11nm,1.2s							
XAN	**Xi'an**	**81.50 312**	P		**P**	**P**	**08 24 23.3**	**+0.1**
XAN				pmax	pmax			
	comp=Z,3.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,16nm,6.1s							
CD2	**Chengdu**	**83.49 307**	P		**P**	**P**	**08 24 35.8**	**+2.2**
CD2				pP	**pP**	**pP**	**08 24 46.8**	**+0.5**
CD2				sP	**sP**	**sP**	**08 24 50.9**	**-0.1**
CD2				PP	**PP**	**PP**	**08 27 50.8**	**+4.2**
CD2				SKS	**S**	**S**	**08 34 52.0**	**-0.4**
CD2				S	**SKSac**	**SKSac**	**08 34 54.6**	**+1.6**
CD2				sS	**sS**	**sS**	**08 35 13.0**	**-0.5**
CD2				SS	**SS**	**SS**	**08 40 25.1**	**+5.6**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,180nm,6.5s							
CD2				LR	LR			
	comp=N,180nm,5.9s							
CD2				LR	LR			
	comp=Z,150nm,6.5s							
HHC	**Hu-ho-hao-te**	**83.76 319**	*eP*		**P**	**P**	**08 24 35.3**	**+0.4**
HHC				pP	**pP**	**pP**	**08 24 46.1**	**-1.4**
HHC				sP	**sP**	**sP**	**08 24 49.6**	**-2.7**
HHC				PP	**PP**	**PP**	**08 27 51.1**	**+2.4**
HHC				SKS	**SKSac**	**SKSac**	**08 34 52.8**	**-1.7**
HHC				S	**S**	**S**	**08 34 55.8**	**+0.9**
HHC				sS	**sS**	**sS**	**08 35 12.3**	**-3.7**
HHC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,120nm,5.2s							
HHC				LR	LR			
	comp=N,190nm,17.5s							
HHC				LR	LR			
	comp=E,430nm,17.1s							
HHC				LR	LR			
	comp=Z,110nm,19.6s							
LZH	**Lanzhou**	**86.11 312**	*eP*		**P**	**P**	**08 24 48.3**	**+1.5**
LZH				pP	**pP**	**pP**	**08 24 57.5**	**-2.0**
LZH				sP	**sP**	**sP**	**08 25 00.8**	**-3.5**
LZH				SKS	**SKSac**	**SKSac**	**08 35 11.0**	**+1.3**
LZH			*e*S		**ScS**	**ScS**	**08 35 24.3**	**-2.9**
LZH				sS	**sS**	**sS**	**08 35 41.1**	**+1.4**
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,4.2s							
LZH				LR	LR			
	comp=N,370nm,14.9s							
LZH				LR	LR			
	comp=E,330nm,14.2s							
LZH				LR	LR			
	comp=Z,400nm,15.8s							
VNA3	**Neumayer Olymp**	**86.39 180**	*e*		**P**	**P**	**08 24 46.0**	**-1.5**
VNA2	**Neumayer--Watz**	**86.70 181**	*e*		**P**	**P**	**08 24 48.3**	**-0.7**
	baz=181,slow=2.3							
ISA	**Isabella**	**88.44 50**	*eP*		**P**	**P**	**08 24 56.7**	**-1.3**
	comp=Z,6.7nm,1.1s							
NVAR	**Mina Array Bea**	**89.91 48**	P		**P**	**P**	**08 25 04.2**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=226,slow=8.8,SNR=14							
NVAR	**Mina Array Bea**	**89.91 48**	P		**P**	**P**	**08 25 04.2**	**-0.9**
ULN	**Ulaanbaatar**	**90.47 323**	*eP*		**P**	**P**	**08 25 07.2**	**-0.1**
	comp=Z,9.7nm,1.3s							
GTA	**Gaotai**	**90.54 313**	*eP*		**P**	**P**	**08 25 08.5**	**+0.7**
GTA				pP	**pP**	**pP**	**08 25 19.0**	**-1.6**
GTA				sP	**sP**	**sP**	**08 25 23.3**	**-2.0**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**90.82 323**	P		**P**	**P**	**08 25 07.7**	**-1.2**
	comp=Z,5.5nm,1.0s,baz=136,slow=4.7,SNR=24							
SONM	**Songino Array**	**90.82 323**	P		**P**	**P**	**08 25 07.7**	**-1.2**
ILAR	**Eielson Array**	**93.00 17**	P		**P**	**P**	**08 25 18.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=243,slow=5.0,SNR=5.0							
ILAR					LR	LR	09 06 57.0	
	comp=Z,120nm,18.3s,baz=223,slow=36							
ILAR	**Eielson Array**	**93.00 17**	P		**P**	**P**	**08 25 18.2**	**-0.2**
PLCA	**Paso Flores**	**95.01 138**	LR		LR	LR	08 57 12.5	
	comp=Z,92nm,19.7s,baz=204,slow=28							
TXAR	**Lajitas Array**	**97.04 61**	P		**P**	**P**	**08 25 37.0**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=224,slow=3.7,SNR=4.1							
TXAR					LR	LR	09 00 46.1	
	comp=Z,80nm,18.2s,baz=180,slow=30							
TXAR	**Lajitas Array**	**97.04 61**	P		**P**	**P**	**08 25 37.0**	**-0.9**
PDAR	**Pinedale Array**	**97.80 47**	LR		LR	LR	09 06 18.6	
	comp=Z,137nm,19.0s,baz=253,slow=33							
ARCES	**ARCESS Array B**	**128.71 345**	PKP		**PKPdf**		**08 31 12.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=267,slow=2.1,SNR=13							
ARCES	**ARCESS Array B**	**128.71 345**	PKP		**PKPdf**		**08 31 12.0**	**0.0**
FINES	**FINESS Array B**	**134.28 337**	PKP		**PKPdf**		**08 31 22.7**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=315,slow=0.2,SNR=3.4							
FINES	**FINESS Array B**	**134.28 337**	PKP		**PKPdf**		**08 31 22.8**	**+0.1**
AKASG	**Malin Array Be**	**139.10 323**	PKP		**PKPdf**		**08 31 31.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=90,slow=1.9,SNR=4.7							
AKASG	**Malin Array Be**	**139.10 323**	PKP		**PKPdf**		**08 31 31.3**	**-0.7**
BRTR	**Keskin Array B**	**140.04 305**	PKP		**PKPdf**		**08 31 35.6**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=270,slow=1.2,SNR=4.3							
BRTR	**Keskin Array B**	**140.04 305**	PKP		**PKPdf**		**08 31 35.6**	**+1.4**
MLR	**Muntele Rosu**	**143.49 317**	*i*P		**PKPdf**		**08 31 41.2**	**+1.0**
TRPA	**Tarpa**	**144.17 323**	*i*P		**PKPab**		**08 31 38.5**	**-0.4**
CRVS	**Cervenica-Dubn**	**144.31 325**	*e*PKP		**PKPdf**		**08 31 42.2**	**+0.8**
DRGR		**144.80 321**	*i*P		**PKPdf**		**08 31 41.7**	**-0.7**
OKC	**Ostrava-Krasne**	**145.41 328**	*e*PKP		**PKPab**		**08 31 43.1**	**-0.3**
BSEG	**Bad Segeberg**	**145.45 340**	*e*PKPbc		**PKPab**		**08 31 42.8**	**-0.6**
GZR	**Gura Zlata**	**145.49 319**	⇑*i*P		**PKPab**		**08 31 47.8**	**+3.8**
KSP	**Ksiaz**	**145.57 331**	*e*P		**PKPab**		**08 31 43.5**	**-0.4**
MORC	**Moravsky Berou**	**145.74 329**	*e*PKPbc		**PKPbc**		**08 31 43.9**	**-0.4**
MORC	**Moravsky Berou**	**145.74 329**	⇓*i*P		**PKPbc**		**08 31 43.7**	**-0.6**
PSZ	**Piszkesteto**	**145.74 325**	*e*PKPbc		**PKPbc**		**08 31 43.8**	**-0.6**
PSZ	**Piszkesteto**	**145.74 325**	⇓*i*P		**PKPab**		**08 31 44.6**	**-0.2**
DPC	**Dobruska-Polom**	**145.91 331**	*e*PKP		**PKPab**		**08 31 45.3**	**0.0**
VYHS	**Vyhne**	**145.94 326**	*e*PKP		**PKPab**		**08 31 45.1**	**-0.4**
UPC	**Upice**	**145.94 331**	*e*PKP		**PKPab**		**08 31 45.0**	**-0.4**
KOLL	**Kolacno**	**146.10 327**	*e*PKP		**PKPab**		**08 31 45.6**	**-0.5**
VRAC	**Vranov**	**146.51 329**	⇓*i*P		**PKPbc**		**08 31 46.3**	**-0.3**
PVCC	**Panska Ves**	**146.55 332**	*e*PKP		**PKPab**		**08 31 47.0**	**-0.7**
BRG	**Bergqiesshuzel**	**146.56 333**	*i* PKP		**PKPbc**		**08 31 46.5**	**-0.2**
	comp=Z,20nm,1.0s							
BRG	**Bergqiesshuzel**	**146.56 333**	*e*PKPbc		**PKPbc**		**08 31 46.4**	**-0.3**
CLL	**Collm**	**146.61 335**	*e*PKPbc		**PKPbc**		**08 31 46.2**	**-0.6**
CLL	**Collm**	**146.61 335**	*i* PKPbc		**PKPbc**		**08 31 45.7**	**-1.1**
	comp=Z,15nm,0.7s							
CLL				*i* PKiKP		**PKiKP**	**08 31 49.7**	**+0.1**
NRDL	**Niedersach Rie**	**146.72 338**	*e*PKPbc		**PKPbc**		**08 31 46.4**	**-0.6**
PRU	**Pruhonice**	**146.96 332**	*e*PKP		**PKPbc**		**08 31 47.9**	**0.0**
TREC	**Trest**	**147.04 330**	*e*PKP		**PKPbc**		**08 31 48.3**	**+0.2**
CLZ	**Clausthal**	**147.17 338**	*e*PKPbc		**PKPbc**		**08 31 48.3**	**-0.1**
PKSM	**Moragy**	**147.45 323**	⇓*i*P		**PKPbc**		**08 31 49.3**	**0.0**
TANN	**Tannenbergstha**	**147.52 334**	*e*PKPbc		**PKPbc**		**08 31 49.2**	**-0.3**
IBBN	**Ibbenburen**	**147.64 341**	*e*PKPbc		**PKPbc**		**08 31 49.1**	**-0.5**
NKC	**Novy Kostel**	**147.67 334**	*e*PKP		**PKPbc**		**08 31 49.7**	**-0.1**
MOX	**Moxa**	**147.68 335**	*e*PKPbc		**PKPbc**		**08 31 49.4**	**-0.4**
CONA	**Conrad Observa**	**147.81 326**	⇓*i*PKPbc		**PKPbc**		**08 31 50.5**	**+0.1**
	comp=Z,16nm,1.3s							
KHC	**Kasperske Hory**	**148.02 331**	*e*PKP		**PKPbc**		**08 31 50.9**	**+0.1**
ROTZ	**Rotzenmuhle**	**148.13 333**	*e*PKPbc		**PKPbc**		**08 31 50.7**	**-0.4**
UBBA	**Unterbreizbach**	**148.15 337**	*e*PKPbc		**PKPbc**		**08 31 51.3**	**+0.4**
GEC2	**GERESS Array S**	**148.18 331**	*e*PKPbc		**PKPbc**		**08 31 50.8**	**-0.5**
GERES	**GERESS Array B**	**148.18 331**	PKPbc		**PKPbc**		**08 31 51.0**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=48,slow=2.0,SNR=37							
GERES	**GERESS Array B**	**148.18 331**	PKPbc		**PKPbc**		**08 31 51.0**	**-0.3**
GRF	**Grafenberg Arr**	**148.59 334**	*e*PKPbc		**PKPbc**		**08 31 52.0**	**-0.3**
TNS	**Taunus Mts**	**149.19 338**	*e*PKPbc		**PKPbc**		**08 31 53.5**	**-0.3**
KBA	**Koelnbreinsper**	**149.62 329**	⇓*i*PKPbc		**PKPbc**		**08 31 54.0**	**-1.2**
	comp=Z,19nm,1.1s							
STU	**Stuttgart**	**150.12 335**	*e*PKPbc		**PKPbc**		**08 31 55.9**	**-0.2**
ABTA	**Abfaltersbach**	**150.26 329**	⇓*i*PKPbc		**PKPbc**		**08 31 54.7**	**-1.9**
	comp=Z,33nm,1.3s,SNR=7.1							
WLF	**Walferdange**	**150.44 340**	*e*PKPbc		**PKPbc**		**08 31 56.6**	**-0.2**
MOTA	**Moosalm**	**150.45 332**	⇓*i*PKPbc		**PKPbc**		**08 31 56.5**	**-0.7**
	comp=Z,34nm,1.2s,SNR=8.0							
BFO	**Black Forest**	**150.81 336**	*e*PKPbc		**PKPbc**		**08 31 56.9**	**-0.9**
FETA	**Feichten**	**150.87 331**	⇑*i*PKPbc		**PKPbc**		**08 31 57.6**	**-0.6**
	comp=Z,28nm,1.1s,SNR=11							
TUE	**Stuetta**	**151.89 332**	*e*PKPbc		**PKPbc**		**08 32 00.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.04 229**	PKP		**PKPdf**		**08 32 10.7**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=106,slow=0.4,SNR=8.6							
TORD				PKPab	**PKPab**		**08 33 10.9**	**-0.6**
	comp=Z,2.3nm,1.1s,baz=100,slow=3.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**166.04 229**	PKP		**PKPdf**		**08 32 10.7**	**-0.6**
TORD				PKPab	**PKPab**		**08 33 10.9**	**-0.6**

IDC 22 08:15:46.2±2.0, 17.56S×178.76W, h550km±25km, mb3.4/10, mb1 3.7/11, mb1mx3.5/20, mbtmp3.5/11, Error ellipse: s-maj=51.1km s-min=12.3km az=154.0, Fiji

Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.64**	**63**	P	P	08 17 40.1	-0.5
	4.2nm,0.3s,baz=67,slow=11,SNR=7.4						
CTA	**Charters Tower**	**33.18**	**260**	P	P	08 21 37.5	-0.5
	8.1nm,1.2s,baz=93,slow=11,SNR=3.9						
PMG	**Port Moresby**	**34.07**	**279**	P	P	08 21 47.0	+1.5
	10nm,0.9s,baz=79,slow=4.5,SNR=5.1						
STKA	**Stephens Creek**	**38.51**	**241**	P	P	08 22 22.0	+0.1
	7.3nm,0.5s,baz=95,slow=12,SNR=26						
WRA	**Warramunga Arr**	**44.37**	**259**	P	P	08 23 07.3	-1.1
	3.0nm,0.7s,baz=91,slow=6.9,SNR=29						
ASAR	**Alice Springs**	**44.56**	**254**	P	P	08 23 09.7	-0.3
	26nm,0.6s,baz=88,slow=8.3,SNR=223						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	P	08 26 56.4	+0.4
	1.2nm,0.7s,baz=224,slow=9.4,SNR=7.3						
ILAR	**Eielson Array**	**85.62**	**13**	P	P	08 27 25.6	-0.8
	0.6nm,0.4s,baz=222,slow=5.2,SNR=19						
TXAR	**Lajitas Array**	**86.09**	**58**	P	P	08 27 30.4	+0.8
	1.0nm,0.7s,baz=223,slow=6.3,SNR=18						
PDAR	**Pinedale Array**	**87.33**	**44**	P	P	08 27 35.0	-0.3
	0.8nm,0.6s,baz=218,slow=3.4,SNR=8.6						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	P	08 28 04.9	-1.0
	0.3nm,0.7s,baz=256,slow=4.4,SNR=5.6						
GERES	**GERESS Array B**	**147.19**	**345**	PKPbc	PKPbc	08 34 27.4	-0.6
	0.2nm,0.3s,baz=8.5,slow=2.7,SNR=4.1						

JMA 22 08:39:50.8±0.2, 43.70N×147.65E, h0km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.43**	**257**	P	Pn	08 40 17.8	-0.1
NEM2				*e*S	Sb	08 40 37.1	+0.1
JRA	**Rausu**	**1.84**	**278**	P	Pb	08 40 24.6	-0.8
JRA				*e*S	Sb	08 40 48.6	-0.4
JNK	**Nakash**	**2.13**	**268**	P	Pn	08 40 28.0	+0.4
JNK				*e*S	Sn	08 40 55.4	+0.6
JAK	**Akkeshi**	**2.27**	**253**	P	Pn	08 40 30.2	+0.7
JAK				*e*S	Sn	08 40 59.4	+1.3
JTKR	**Abashiri--Toko**	**2.72**	**277**	P	Pn	08 40 36.7	+1.0
JAR	**Ashorobuto**	**2.85**	**263**	P	Pn	08 40 39.0	+1.4
JAR				*e*S	Sn	08 41 14.9	+2.3
JOB	**Onbets**	**2.90**	**255**	P	Pn	08 40 39.0	+0.9
JMP	**Maruseppu**	**3.12**	**277**	P	Pn	08 40 43.0	+1.7
JCH	**Churui**	**3.32**	**252**	P	Pn	08 40 45.4	+1.4
JFR	**Furan**	**3.72**	**263**	P	Pn	08 40 52.1	+2.6
JNBK	**Urakawa-nobuka**	**3.86**	**250**	P	Pn	08 40 53.6	+2.2

*ISCJB **22** 08:52:19.6±0.4, 40.46N±0.03×28.63E±0.03, h3km±5km, Error ellipse: s-maj=4.7km s-min=4.0km az=148.9*
*CSEM **22** 08:

	1μm,0.1s								
PIEI	**Pieia**		**0.33**	**286**	⇓*i*Pg		**Pn**	09 04 36.8	**-0.5**
PIEI					Sg		**Sn**	09 04 43.6	**+0.1**
	1μm,0.1s								
MURB	**Monte Urbino**		**0.37**	**240**	Pg		**Pn**	09 04 37.2	**-0.6**
MURB					Sg		**Sn**	09 04 44.9	**+0.7**
	3μm,0.3s								
MURB	**Monte Urbino**		**0.37**	**240**	Pg		**Pn**	09 04 37.2	**-0.6**
MURB					Sg		**Sn**	09 04 44.9	**+0.7**
	3μm,0.3s								
FDMO	**Fiordimonte**		**0.42**	**168**	⇓*i*Pg		**Pn**	09 04 37.8	**-0.6**
FDMO					Sg		**Sn**	09 04 45.8	**+0.7**
	407nm,0.3s								
FDMO	**Fiordimonte**		**0.42**	**168**	⇓*i*Pg		**Pn**	09 04 37.8	**-0.6**
FDMO					Sg		**Sn**	09 04 45.8	**+0.7**
	407nm,0.3s								
CESI	**CESI - Serrava**		**0.45**	**186**	⇓*i*Pg		**Pn**	09 04 38.1	**-0.7**
CESI					Sg		**Sn**	09 04 46.0	**+0.3**
	391nm,0.3s								
CESI	**CESI - Serrava**		**0.45**	**186**	⇓*i*Pg		**Pn**	09 04 38.1	**-0.7**
CESI					Sg		**Sn**	09 04 46.0	**+0.3**
	391nm,0.3s								
ASS	**Assisi**		**0.45**	**211**	Pg		**Pn**	09 04 38.0	**-0.9**
ASS	**Assisi**		**0.45**	**211**	Pg		**Pn**	09 04 38.0	**-0.9**
AOI	**Ancona**		**0.47**	**77**	Pg		**Pn**	09 04 39.6	**+0.4**
AOI					Sg		**Sn**	09 04 48.7	**+2.4**
	480nm,0.3s								
AOI	**Ancona**		**0.47**	**77**	Pg		**Pn**	09 04 39.6	**+0.4**
AOI					Sg		**Sn**	09 04 48.7	**+2.4**
	480nm,0.3s								
PESA	**Pesaro**		**0.50**	**349**	Pg		**Pn**	09 04 40.2	**+0.6**
PESA					Sg		**Sn**	09 04 50.0	**+3.0**
	1μm,0.2s								
PESA	**Pesaro**		**0.50**	**349**	Pg		**Pn**	09 04 40.2	**+0.6**
PESA					Sg		**Sn**	09 04 50.0	**+3.0**
	1μm,0.2s								
BADI	**Badiali**		**0.53**	**277**	Pg		**Pn**	09 04 39.9	**-0.1**
BADI					Sg		**Sn**	09 04 49.5	**+1.7**
	1μm,0.5s								
BADI	**Badiali**		**0.53**	**277**	Pg		**Pn**	09 04 39.9	**-0.1**
BADI					Sg		**Sn**	09 04 49.5	**+1.7**
	1μm,0.5s								
CDCA	**Citt' di Caste**		**0.54**	**271**	Pg		**Pn**	09 04 40.2	**+0.1**
CDCA					Sg		**Sn**	09 04 49.5	**+1.7**
	1μm,1.3s								
CDCA	**Citt' di Caste**		**0.54**	**271**	Pg		**Pn**	09 04 40.2	**+0.1**
CDCA					Sg		**Sn**	09 04 49.5	**+1.7**
	1μm,1.3s								
PARC	**Parchiule**		**0.57**	**291**	Pg		**Pn**	09 04 40.4	**-0.2**
PARC					Sg		**Sn**	09 04 50.3	**+1.6**
	490nm,0.7s								
PARC	**Parchiule**		**0.57**	**291**	Pg		**Pn**	09 04 40.4	**-0.2**
PARC					Sg		**Sn**	09 04 50.3	**+1.6**
	490nm,0.7s								
RSM	**Repubblica di**		**0.61**	**322**	Pg		**Pn**	09 04 42.1	**+0.9**
	87nm,0.2s								
RSM	**Repubblica di**		**0.61**	**322**	Pg		**Pn**	09 04 42.1	**+0.9**
	87nm,0.2s								
NRCA	**Norcia**		**0.62**	**170**	Pg		**Pn**	09 04 40.7	**-0.7**
NRCA					Sg		**Sn**	09 04 50.9	**+0.7**
NRCA	**Norcia**		**0.62**	**170**	Pg		**Pn**	09 04 40.7	**-0.7**
NRCA					Sg		**Sn**	09 04 50.9	**+0.7**
OFFI	**Offida**		**0.73**	**134**	Pg		**Pn**	09 04 43.7	**+0.9**
OFFI	**Offida**		**0.73**	**134**	Pg		**Pn**	09 04 43.7	**+0.9**
CAFI	**Castiglion Fio**		**0.74**	**261**	Pg		**Pn**	09 04 42.8	**-0.1**
CAFI					Sg		**Sn**	09 04 53.8	**+0.9**
	358nm,0.6s								
CAFI	**Castiglion Fio**		**0.74**	**261**	Pg		**Pn**	09 04 42.8	**-0.1**
CAFI					Sg		**Sn**	09 04 53.8	**+0.9**
	358nm,0.6s								
CRE	**Caprese Michel**		**0.76**	**283**	Pg		**Pn**	09 04 43.4	**+0.2**
CRE					Sg		**Sn**	09 04 55.1	**+1.6**
	148nm,0.4s								
CRE	**Caprese Michel**		**0.76**	**283**	Pg		**Pn**	09 04 43.4	**+0.2**
CRE					Sg		**Sn**	09 04 55.1	**+1.6**
	148nm,0.4s								
MGAB	**Montegabbione**		**0.82**	**230**	Pg		**Pn**	09 04 43.8	**-0.3**
MGAB					Sg		**Sn**	09 04 55.9	**+0.9**
	716nm,0.3s								
MGAB	**Montegabbione**		**0.82**	**230**	Pg		**Pn**	09 04 43.8	**-0.3**
MGAB					Sg		**Sn**	09 04 55.9	**+0.9**
	716nm,0.3s								
LNSS	**Leonessa**		**0.85**	**176**	Pg		**Pn**	09 04 44.3	**-0.2**
LNSS					Sg		**Sn**	09 04 57.3	**+1.6**
	820nm,0.5s								
LNSS	**Leonessa**		**0.85**	**176**	Pg		**Pn**	09 04 44.3	**-0.2**
LNSS					Sg		**Sn**	09 04 57.3	**+1.6**
	820nm,0.5s								
ASQU	**Asqua**		**0.92**	**293**	Pg		**Pn**	09 04 45.8	**+0.3**
	196nm,0.6s								
ASQU	**Asqua**		**0.92**	**293**	Pg		**Pn**	09 04 45.8	**+0.3**
	196nm,0.6s								
SFI	**Santa Sofia**		**0.93**	**300**	Pg		**Pn**	09 04 46.7	**+1.2**
	160nm,0.8s								
SFI	**Santa Sofia**		**0.93**	**300**	Pg		**Pn**	09 04 46.7	**+1.2**
	160nm,0.8s								
TERO	**Teramo**		**0.95**	**150**	Pg		**Pn**	09 04 45.7	**-0.1**
	172nm,0.4s								
TERO	**Teramo**		**0.95**	**150**	Pg		**Pn**	09 04 45.7	**-0.1**
	172nm,0.4s								
CAMP	**Campotosto**		**0.97**	**160**	Pg		**Pn**	09 04 46.1	**0.0**
	36nm,0.5s								
CAMP	**Campotosto**		**0.97**	**160**	Pg		**Pn**	09 04 46.1	**0.0**
	36nm,0.5s								
SACS	**San Casciano d**		**0.98**	**233**	Pg		**Pn**	09 04 45.7	**-0.5**
SACS					Sg		**Sn**	09 04 59.5	**+0.6**
	254nm,0.5s								
VMG	**Vicchio**		**1.15**	**297**	Pg		**Pn**	09 04 49.9	**+1.3**
	35nm,0.3s								
VMG	**Vicchio**		**1.15**	**297**	Pg		**Pn**	09 04 49.9	**+1.3**
	35nm,0.3s								
FIAM	**Fiamignano**		**1.19**	**175**	Pg		**Pn**	09 04 49.9	**+0.8**
	85nm,0.6s								
FIAM	**Fiamignano**		**1.19**	**175**	Pg		**Pn**	09 04 49.9	**+0.8**
	85nm,0.6s								
LATE	**Laterza**		**1.19**	**226**	Pg		**Pn**	09 04 48.7	**-0.4**
LATE					Sg		**Sn**	09 05 04.6	**+0.5**
	26nm,0.5s								
LATE	**Laterza**		**1.19**	**226**	Pg		**Pn**	09 04 48.7	**-0.4**
LATE					Sg		**Sn**	09 05 04.6	**+0.5**
	26nm,0.5s								
CSNT	**Castellina Chi**		**1.22**	**272**	Pg		**Pn**	09 04 49.2	**-0.3**
CSNT					Sg		**Sn**	09 05 04.9	**+0.1**
	101nm,0.5s								
CSNT	**Castellina Chi**		**1.22**	**272**	Pg		**Pn**	09 04 49.2	**-0.3**
CSNT					Sg		**Sn**	09 05 04.9	**+0.1**
	101nm,0.5s								
GUAR	**Guarcino**		**1.67**	**171**	Pg		**Pn**	09 04 56.8	**+1.1**
	37nm,0.4s								
GUAR	**Guarcino**		**1.67**	**171**	Pg		**Pn**	09 04 56.8	**+1.1**
	37nm,0.4s								
NVLJ	**Novalja**		**1.77**	**50**	*e*Pn		**Pn**	09 04 56.8	**-0.2**
NVLJ					Sn		**Sn**	09 05 17.6	**-0.6**
NVLJ	**Novalja**		**1.77**	**50**	*e*Pn		**Pn**	09 04 56.8	**-0.2**
NVLJ					Sn		**Sn**	09 05 17.6	**-0.6**
BDI	**Bagni Di Lucca**		**1.82**	**290**	Pg		**Pn**	09 04 57.7	**-0.1**
BDI	**Bagni Di Lucca**		**1.82**	**290**	Pg		**Pn**	09 04 57.7	**-0.1**
SDI	**San Donato**		**1.85**	**160**	Pg		**Pn**	09 04 58.8	**+0.7**
	11nm,0.3s								
SDI	**San Donato**		**1.85**	**160**	Pg		**Pn**	09 04 58.8	**+0.7**
	11nm,0.3s								
MAIM	**Mastiano**		**1.86**	**285**	P		**Pn**	09 04 57.0	**-1.2**
GSCL	**Gusciola**		**1.94**	**298**	Pg		**Pn**	09 05 00.4	**+1.0**
	9.0nm,0.4s								
GSCL	**Gusciola**		**1.94**	**298**	Pg		**Pn**	09 05 00.4	**+1.0**
	9.0nm,0.4s								
SKDS	**Skadanscina**		**2.23**	**19**	*i* Pn		**Pn**	09 05 02.4	**-0.9**
SKDS					*i* Sn		**Sn**	09 05 29.4	**-0.2**
SKDS									
	comp=Z,20nm,0.1s								
KNDS	**Knezji Dol**		**2.31**	**25**	*i* Pn		**Pn**	09 05 04.4	**-0.1**
KNDS					*i* Sn		**Sn**	09 05 32.2	**+0.4**
KNDS									
	comp=Z,18nm,0.1s								
KNDS	**Knezji Dol**		**2.31**	**25**	*i* Pn		**Pn**	09 05 04.4	**-0.1**
KNDS					*i* Sn		**Sn**	09 05 32.2	**+0.4**
	comp=Z,18nm,0.1s								
BOJS	**Bojanci**		**2.63**	**38**	*i* Pn		**Pn**	09 05 09.4	**+0.6**
BOJS					*i* Sn		**Sn**	09 05 39.6	**+0.2**
BOJS									
	comp=Z,10.0nm,0.2s								
BOJS	**Bojanci**		**2.63**	**38**	*i* Pn		**Pn**	09 05 09.4	**+0.6**
BOJS					*i* Sn		**Sn**	09 05 39.6	**+0.2**
	comp=Z,10.0nm,0.2s								
VOY	**Vojsko**		**2.67**	**14**	*e*Pn		**Pn**	09 05 08.7	**-0.7**
VOY					*e*			09 05 13.2	
VOY					*e*Sn		**Sn**	09 05 39.2	**-1.3**
VOY	**Vojsko**		**2.67**	**14**	*e*Pn		**Pn**	09 05 08.7	**-0.7**
VOY					*e*Sn		**Sn**	09 05 39.2	**-1.3**
OBKA	**Obir**		**3.26**	**20**	⇑*i*Pn		**Pn**	09 05 17.7	**+0.1**
OBKA	**Obir**		**3.26**	**20**	Pn		**Pn**	09 05 17.7	**+0.1**
ABTA	**Abfaltersbach**		**3.31**	**355**	⇑*i*Pn		**Pn**	09 05 18.2	**-0.2**
ABTA					⇑*i*Sn		**Sn**	09 05 52.6	**-3.9**
ABTA	**Abfaltersbach**		**3.31**	**355**	Pn		**Pn**	09 05 18.2	**-0.2**
ABTA					Sn		**Sn**	09 05 52.6	**-3.9**
PCP	**Piancastagn**		**3.37**	**290**	P		**Pn**	09 05 18.8	**-0.3**
PCP					S		**Sn**	09 05 52.9	**-5.0**
STON	**Ston**		**3.51**	**98**	*e*Pn		**Pn**	09 05 20.8	**-0.1**
STON					Sn		**Sn**	09 05 59.5	**-1.7**
STON	**Ston**		**3.51**	**98**	*e*Pn		**Pn**	09 05 20.8	**-0.1**
STON					Sn		**Sn**	09 05 59.4	**-1.7**
RETA	**Reutte**		**4.33**	**340**	⇑*i*Pn		**Pn**	09 05 32.9	**+0.7**
RETA	**Reutte**		**4.33**	**340**	Pn		**Pn**	09 05 32.9	**+0.7**
MOA	**Molln**		**4.49**	**11**	⇓*i*Pn		**Pn**	09 05 34.6	**+0.1**
MOA					⇑*i*Sn		**Sn**	09 06 24.6	**-0.9**
MOA	**Molln**		**4.49**	**11**	Pn		**Pn**	09 05 34.6	**+0.1**
MOA					Sn		**Sn**	09 06 24.6	**-0.9**

IDC 22 09:06:00.5±2.2, 55°54S×26°04W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.7/12, mbtmp3.7/2, MS3.7/1, Ms1 3.6/1, ms1mx3.2/12, Error ellipse: s-maj=96.5km s-min=40.2km az=166.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.04**	**160**	*e*P		Pn	09 09 44.1	-16
VNA3	**Neumayer Olymp**	**17.27**	**162**	*e*P		Pn	09 09 47.0	-16
VNA2	**Neumayer--Watz**	**17.43**	**159**	*e*P		Pn	09 09 48.5	-16
	baz=328,slow=15							
PLCA	**Paso Flores**	**32.56**	**278**	P		P	09 12 32.9	-0.4
	0.9nm,0.8s,baz=139,slow=9.3,SNR=3.4							
BOSA	**Boshof**	**45.21**	**75**	LR		LR	09 30 14.4	
	comp=Z,83nm,19.2s,baz=70,slow=32							
TORD	**Torodi Ar. Bea**	**72.29**	**28**	P		P	09 17 27.6	0.0
	0.5nm,0.8s,baz=194,slow=7.5,SNR=3.1							
YKA	**Yellowknife Ar**	**136.23**	**318**	PKP		PKPdf	09 25 23.8	+1.5
	0.1nm,0.5s,baz=134,slow=2.0,SNR=4.0							
SONM	**Songino Array**	**150.04**	**85**	PKPbc		PKPbc	09 25 51.3	-0.8
	0.3nm,0.6s,baz=245,slow=2.8,SNR=3.8							

IDC 22 09:09:32.4±1.3, 36°92N×27°22E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.6/28, mbtmp3.8/7, ML3.7/3, Error ellipse: s-maj=27.7km s-min=24.8km az=151.0
DDA 22 09:09:34.9, 36°80N×27°45E, h5km, MD3.6
ISK 22 09:09:34.6, 36°79N×27°41E, h13km, MD3.5
ATH 22 09:09:35.4, 36°82N×27°43E, h28km±4km, MD3.3/7
THE 22 09:09:35.3, 36°84N×27°47E, h10km, ML3.9/4, Error ellipse: s-maj=1.2km s-min=0.7km az=75.0
ISCJB 22 09:09:35.2±0.5, 36°79N±0°02×27°47E±0°03, h13km±3km, mb3.7/4, Error ellipse: s-maj=3.6km s-min=2.9km az=7.3
NEIC 22 09:09:35.8, 36°84N×27°48E, h12km, ML3.9(THE), ML3.4(ISK), After ISK.
NEIC Felt on Kos.
CSEM 22 09:09:35.1±0.1, 36°77N×27°41E, h10km, MD3.6, Error ellipse: s-maj=4.0km s-min=2.9km az=84.0
HLW 22 09:09:47.1, 36°50N×28°51E, h22km±11km, Md4.2, Ml3.5

ISC 22 09:09:35.4±0.8, 36°80N±0°02×27°42E±0°02, h16km±6km, n134, σ1°24/173, mb3.8/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.26**	**4**	*i* P		**Pg**	09 09 40.8	**-0.4**
BDRM				*i* S		**Sg**	09 09 44.7	**-0.5**
BDRM	**Kayabasi**	**0.26**	**4**	*i* P		**Pg**	09 09 40.8	**-0.4**
BODT	**Bodrum**	**0.27**	**341**	*e*Pg		**Pg**	09 09 41.3	**-0.1**
BODT				*e*Sg		**Sg**	09 09 45.9	**+0.4**
BODT	**Bodrum**	**0.27**	**341**	Pg		**Pg**	09 09 41.4	**0.0**
BODT				Sg		**Sg**	09 09 45.4	**-0.1**
BODT	**Bodrum**	**0.27**	**341**	Pg		**Pg**	09 09 41.4	**0.0**
BODT				*e*Sg		**Sg**	09 09 45.9	**+0.4**
NIS1	**Nisyros Isl.**	**0.28**	**224**	P		**Pb**	09 09 42.8	**+0.8**
NIS1				S		**Sb**	09 09 48.1	**+1.6**
NIS1	**Nisyros Isl.**	**0.28**	**224**	P		**Pb**	09 09 42.8	**+0.8**
NIS1				S		**Sb**	09 09 48.1	**+1.6**
NIS1	**Nisyros Isl.**	**0.28**	**224**	P		**Pb**	09 09 42.8	**+0.8**
YER	**Yerkesik**	**0.77**	**64**	*e*PG		**Pg**	09 09 49.9	**-0.5**
YER				*e*SG		**Sb**	09 10 01.2	**+0.6**
YER	**Yerkesik**	**0.77**	**64**	Pg		**Pg**	09 09 50.4	**0.0**
YER	**Yerkesik**	**0.77**	**64**	Pg		**Pg**	09 09 50.4	**0.0**
ARG	**Arkhangelos**	**0.82**	**136**	P		**Pb**	09 09 50.9	**-0.3**
ARG				S		**Sn**	09 10 04.7	**+0.8**
ARG	**Arkhangelos**	**0.82**	**136**	P		**Pb**	09 09 50.9	**-0.3**
ARG				S		**Sn**	09 10 04.7	**+0.8**
ARG	**Arkhangelos**	**0.82**	**136**	*e*PN		**Pg**	09 09 51.3	**0.0**
ARG				*e*SN		**Sn**	09 10 03.7	**-0.2**
ARG	**Arkhangelos**	**0.82**	**136**	P		**Pb**	09 09 50.9	**-0.3**
ARG	**Arkhangelos**	**0.82**	**136**	*e*Pn		**Pg**	09 09 51.3	**0.0**
ARG				*e*Sn		**Sn**	09 10 03.7	**-0.2**
ARG				S		**Sn**	09 10 04.7	**+0.8**
GCAM	**G?zelcaml?**	**0.91**	**351**	*i* P		**Pb**	09 09 52.3	**-0.5**
GCAM				*i* S		**Sn**	09 10 06.7	**+0.5**
GCAM	**G?zelcaml?**	**0.91**	**351**	*i* P		**Pb**	09 09 52.3	**-0.5**
GCAM				*i* S		**Sn**	09 10 06.7	**+0.5**
AYDN	**Tasoluk**	**0.93**	**23**	*i* P		**Pb**	09 09 52.5	**-0.7**
AYDN				*i* S		**Sb**	09 10 05.6	**+0.2**
AYDN	**Tasoluk**	**0.93**	**23**	*i* P		**Pb**	09 09 52.5	**-0.7**
AYDN				*i* S		**Sb**	09 10 05.6	**+0.2**
TURN	**Turunc**	**0.95**	**85**	*i* P		Pb	09 09 47.2	-6.3
TURN				*i* S		Sb	09 09 57.3	-8.5
SMG	**Samos**	**1.02**	**333**	*e*PN		**Pb**	09 09 54.9	**+0.3**
SMG				*e*SN		**Sn**	09 10 09.3	**+0.3**
SMG	**Samos**	**1.02**	**333**	*e*Pn		**Pb**	09 09 54.9	**+0.3**
SMG				*e*Sn		**Sn**	09 10 09.3	**+0.3**
KARP	**Karpathos**	**1.27**	**190**	P		**Pb**	09 09 59.1	**+0.1**
KARP	**Karpathos**	**1.27**	**190**	P		**Pb**	09 09 59.1	**+0.1**
KARP	**Karpathos**	**1.27**	**190**	*e*PN		**Pb**	09 09 59.0	**+0.1**
KARP				*e*SN		**Sg**	09 10 17.0	**+0.5**
KARP	**Karpathos**	**1.27**	**190**	*e*Pn		**Pb**	09 09 59.0	**+0.1**
KARP				*e*Sn		**Sg**	09 10 17.0	**+0.5**
FETY	**Fethiye**	**1.35**	**97**	*e*PN		**Pb**	09 10 00.5	**+0.2**
FETY	**Fethiye**	**1.35**	**97**	Pn		**Pb**	09 10 00.5	**+0.2**
FETY	**Fethiye**	**1.35**	**97**	*e*Pn		**Pb**	09 10 00.5	**+0.2**
APE	**Apeiranthos**	**1.54**	**281**	*e*PN		**Pn**	09 10 01.9	**-0.2**
APE	**Apeiranthos**	**1.54**	**281**	P		**Pn**	09 10 02.9	**+0.7**
APE				S		**Sg**	09 10 25.1	**+0.1**
APE	**Apeiranthos**	**1.54**	**281**	P		**Pn**	09 10 02.9	**+0.7**
APE				S		**Sg**	09 10 25.1	**+0.1**
APE	**Apeiranthos**	**1.54**	**281**	*e*PN		**Pn**	09 10 02.9	**+0.7**
APE	**Apeiranthos**	**1.54**	**281**	P		**Pn**	09 10 02.9	**+0.7**
APE				S		**Sg**	09 10 25.1	**+0.1**
DNZL	**Cakiroluk**	**1.57**	**55**	*i* P		**Pn**	09 10 03.3	**+0.5**
DNZL	**Cakiroluk**	**1.57**	**55**	*i* P		**Pn**	09 10 03.3	**+0.5**
IZM	**Izmir**	**1.60**	**356**	*e*PN		**Pn**	09 10 03.2	**+0.2**
IZM	**Izmir**	**1.60**	**356**	Pn		**Pn**	09 10 02.4	**-0.7**
IZM	**Izmir**	**1.60**	**356**	*e*Pn		**Pn**	09 10 03.2	**+0.2**
BLCB	**Balcova**	**1.61**	**349**	*e*PN		**Pn**	09 10 03.8	**+0.7**
BLCB	**Balcova**	**1.61**	**349**	*e*Pn		**Pn**	09 10 03.8	**+0.7**
THR1	**Thera Island**	**1.64**	**255**	P		**Pb**	09 10 04.7	**-0.5**
THR1				S		**Sg**	09 10 27.5	**-0.6**
THR1	**Thera Island**	**1.64**	**255**	P		**Pb**	09 10 04.7	**-0.5**
URLA	**Izmir**	**1.69**	**337**	*i* P		**Pg**	09 10 07.5	**-0.4**
URLA				*i* S		**Sg**	09 10 33.7	**+3.9**
URLA	**Izmir**	**1.69**	**337**	*i* P		**Pg**	09 10 07.5	**-0.4**
GOLH	**Golhisar**	**1.77**	**75**	*i* P		**Pb**	09 10 07.9	**+0.4**
GOLH				*i* S		**Sg**	09 10 34.2	**+1.8**
GOLH	**Golhisar**	**1.77**	**75**	*i* P		**Pb**	09 10 07.9	**+0.4**
AKAS	**Kas**	**1.85**	**107**	*i* P		**Pb**	09 10 09.2	**+0.3**
AKAS				*i* S		**Sg**	09 10 35.6	**+0.6**
AKAS	**Kas**	**1.85**	**107**	*i* P		**Pb**	09 10 09.2	**+0.3**
MANT	**Manisa**	**1.91**	**28**	*i* P		**Pn**	09 10 06.7	**-0.8**
MANT				*i* S		**Sg**	09 10 37.0	**-0.1**
MANT	**Manisa**	**1.91**	**28**	*i* P		**Pn**	09 10 06.7	**-0.8**
CHOS	**Chios island**	**1.92**	**326**	P		**Pn**	09 10 08.2	**+0.8**
CHOS				S		**Sb**	09 10 32.9	**-0.8**
CHOS	**Chios island**	**1.92**	**326**	*e*PB		**Pn**	09 10 08.4	**+1.0**
CHOS	**Chios island**	**1.92**	**326**	P		**Pn**	09 10 08.2	**+0.8**
CHOS				S		**Sb**	09 10 32.9	**-0.8**
ZKR	**Zakros**	**1.95**	**210**	P		**Pn**	09 10 09.2	**+1.5**
ZKR				S		**Sb**	09 10 34.6	**+0.1**
ZKR	**Zakros**	**1.95**	**210**	*e*PB		**Pn**	09 10 09.3	**+1.5**
ZKR	**Zakros**	**1.95**	**210**	*e*Pb		**Pn**	09 10 09.3	**+1.5**
ZKR				S		**Sb**	09 10 34.6	**+0.1**
KULA	**Kula-Manisa**	**1.97**	**30**	*e*PN		**Pn**	09 10 08.4	**+0.2**
KULA	**Kula-Manisa**	**1.97**	**30**	*e*Pn		**Pn**	09 10 08.4	**+0.2**
ELL	**Elmali**	**2.00**	**91**	*e*PN		**Pn**	09 10 09.3	**+0.7**
ELL	**Elmali**	**2.00**	**91**	Pn		**Pb**	09 10 10.6	**-0.9**
ELL	**Elmali**	**2.00**	**91**	*e*Pn		**Pn**	09 10 09.3	**+0.7**
AKHS	**Akhisar**	**2.10**	**8**	*i* P		**Pn**	09 10 10.6	**+0.8**
AKHS				*i* S		**Sg**	09 10 44.5	**+1.6**
AKHS	**Akhisar**	**2.10**	**8**	*i* P		**Pn**	09 10 10.6	**+0.8**
AKS	**Akhisar**	**2.10**	**8**	*e*PN		**Pn**	09 10 11.2	**+1.3**
AKS	**Akhisar**	**2.10**	**8**	Pn		**Pb**	09 10 11.9	**-1.2**
AKS	**Akhisar**	**2.10**	**8**	*e*Pn		**Pn**	09 10 11.2	**+1.3**
NPS	**Neapolis**	**2.12**	**224**	*e*PB		**Pn**	09 10 11.6	**+1.4**
NPS	**Neapolis**	**2.12**	**224**	*e*Pb		**Pn**	09 10 11.6	**+1.4**
KHL	**Karahalli**	**2.26**	**47**	*e*PN		**Pn**	09 10 13.0	**+0.9**
KHL	**Karahalli**	**2.26**	**47**	*e*Pn		**Pn**	09 10 13.0	**+0.9**
LAST	**Lasithi**	**2.27**	**224**	P		**Pn**	09 10 14.0	**+1.8**
LAST	**Lasithi**	**2.27**	**224**	*e*PB		**Pn**	09 10 14.1	**+1.8**
LAST	**Lasithi**	**2.27**	**224**	*e*Pb		**Pn**	09 10 14.1	**+1.8**
KHAL	**Karahalli**	**2.27**	**46**	*i* P		**Pn**	09 10 12.9	**+0.6**
KHAL	**Karahalli**	**2.27**	**46**	*i* P		**Pn**	09 10 12.9	**+0.6**
KORT	**Korkueli**	**2.36**	**84**	*i* P		**Pb**	09 10 17.1	**-0.5**
KORT				*i* S		**Sb**	09 10 48.8	**+2.3**
DEMI	**Demirci**	**2.46**	**24**	*i* P		**Pn**	09 10 15.7	**+0.8**
DEMI				*i* S		**Sg**	09 10 59.0	**+4.4**
DEMI	**Demirci**	**2.46**	**24**	*i* P		**Pn**	09 10 15.7	**+0.8**
AYVA	**Ayvalik**	**2.57**	**347**	*i* P		**Pg**	09 10 24.4	**-0.2**
AYVA				*i* S		**Sg**	09 11 03.1	**+5.2**
PRK	**Paraskevi**	**2.60**	**340**	P		**Pn**	09 10 17.1	**+0.3**
PRK				S		**Sn**	09 10 50.2	**+2.2**
PRK	**Paraskevi**	**2.60**	**340**	P		**Pn**	09 10 17.1	**+0.3**
PRK				S		**Sn**	09 10 50.2	**+2.2**
BCK	**Bucak**	**2.62**	**75**	*e*PN		**Pn**	09 10 18.5	**+1.4**
BCK	**Bucak**	**2.62**	**75**	*e*Pn		**Pn**	09 10 18.5	**+1.4**
ISP	**Isparta**	**2.67**	**67**	Pn		**Pn**	09 10 18.4	**+0.5**
ISP	**Isparta**	**2.67**	**67**	Pn		**Pn**	09 10 18.4	**+0.5**
BALB	**Balikesir**	**2.86**	**7**	*e*PN		**Pn**	09 10 21.2	**+1.0**
BALB	**Balikesir**	**2.86**	**7**	*e*Pn		**Pn**	09 10 21.2	**+1.0**
DST	**Dursunbey**	**2.95**	**18**	*e*PN		**Pn**	09 10 23.5	**+1.9**
DST	**Dursunbey**	**2.95**	**18**	*e*Pn		**Pn**	09 10 23.5	**+1.9**
SHUT	**Suhut-Afyon**	**3.04**	**54**	*e*PN		**Pn**	09 10 24.6	**+1.7**
SHUT	**Suhut-Afyon**	**3.04**	**54**	*e*Pn		**Pn**	09 10 24.6	**+1.7**
ALT	**Altintas**	**3.10**	**43**	*e*PN		**Pn**	09

ALT	**Altintas**	**0.53**	**102**	*e*Pg	**Pg**	**09 52 01.4**	**-1.2**
ALT				*e*Sg	**Sg**	**09 52 10.0**	**+0.3**
DEMI	**Demirci**	**0.58**	**258**	*i* P	**Pg**	**09 52 03.1**	**-0.4**
DEMI				*i* S	**Sg**	**09 52 10.4**	**-0.7**
DEMI	**Demirci**	**0.58**	**258**	*i* P	**Pg**	**09 52 03.1**	**-0.4**
DEMI				*i* S	**Sg**	**09 52 10.4**	**-0.7**
KHAL	**Karahalli**	**0.80**	**177**	*i* P	**Pg**	**09 52 07.5**	**-0.1**
KHAL				*i* S	**Sg**	**09 52 17.9**	**-0.2**
KHAL	**Karahalli**	**0.80**	**177**	*i* P	**Pg**	**09 52 07.5**	**-0.1**
KHAL				*i* S	**Sg**	**09 52 17.9**	**-0.2**
DURS	**Dursunbey**	**0.86**	**300**	*i* P	**Pg**	**09 52 08.4**	**-0.5**
DURS				*i* S	**Sg**	**09 52 19.6**	**-0.6**
DURS	**Dursunbey**	**0.86**	**300**	*i* P	**Pg**	**09 52 08.4**	**-0.5**
DURS				*i* S	**Sg**	**09 52 19.6**	**-0.6**
MANT	**Manisa**	**0.97**	**226**	*i* P	**Pg**	**09 52 09.9**	**-0.9**
MANT				*i* S	**Sg**	**09 52 22.5**	**-1.0**
MANT	**Manisa**	**0.97**	**226**	*i* P	**Pg**	**09 52 09.9**	**-0.9**
MANT				*i* S	**Sg**	**09 52 22.5**	**-1.0**
ORLT	**Orhaneli**	**0.97**	**335**	*e*PG	**Pg**	**09 52 10.4**	**-0.6**
ORLT				*e*SG	**Sn**	**09 52 25.4**	**-0.1**
ORLT	**Orhaneli**	**0.97**	**335**	*e*Pg	**Pg**	**09 52 10.4**	**-0.6**
ORLT				*e*Sg	**Sn**	**09 52 25.4**	**-0.1**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**09 52 12.0**	**-0.5**
BORA				*i* S	**Sb**	**09 52 26.9**	**+0.6**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**09 52 12.0**	**-0.5**
BORA				*i* S	**Sb**	**09 52 26.9**	**+0.6**
CAVI	**Cavuskoy**	**1.08**	**17**	*e*PG	**Pb**	**09 52 12.4**	**-0.4**
CAVI	**Cavuskoy**	**1.08**	**17**	*e*Pg	**Pb**	**09 52 12.4**	**-0.4**
SEYT	**Eskypehyr**	**1.15**	**72**	*i* P	**Pb**	**09 52 13.4**	**-0.6**
SEYT				*i* S	**Sb**	**09 52 29.3**	**+0.4**
SEYT	**Eskypehyr**	**1.15**	**72**	*i* P	**Pb**	**09 52 13.4**	**-0.6**
SEYT				*i* S	**Sb**	**09 52 29.3**	**+0.4**
ADVT	**Abdulvahap**	**1.28**	**10**	*e*PN	**Pn**	**09 52 16.1**	**+0.2**
ADVT	**Abdulvahap**	**1.28**	**10**	*e*Pn	**Pn**	**09 52 16.1**	**+0.2**
AKHS	**Akhisar**	**1.30**	**258**	*i* P	**Pn**	**09 52 16.7**	**+0.5**
AKHS				*i* S	**Sg**	**09 52 34.6**	**+0.6**
AKHS	**Akhisar**	**1.30**	**258**	*i* P	**Pn**	**09 52 16.7**	**+0.5**
AKHS				*i* S	**Sg**	**09 52 34.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.38**	**323**	*e*PN	**Pb**	**09 52 18.3**	**+0.4**
KCTX	**Karacabey (Bur**	**1.38**	**323**	*e*Pn	**Pb**	**09 52 18.3**	**+0.4**
ARMT	**Armutlu**	**1.47**	**342**	*e*PN	**Pb**	**09 52 19.4**	**+0.1**
ARMT	**Armutlu**	**1.47**	**342**	*e*Pn	**Pb**	**09 52 19.5**	**+0.1**
GULT	**Gulveren**	**1.51**	**33**	*e*PN	**Pb**	**09 52 20.5**	**+0.3**
GULT	**Gulveren**	**1.51**	**33**	*e*Pn	**Pb**	**09 52 20.5**	**+0.3**
BALY	**Balya**	**1.52**	**293**	*i* P	**Pb**	**09 52 20.8**	**+0.5**
BALY				*i* S	**Sg**	**09 52 41.3**	**+0.1**
BALY	**Balya**	**1.52**	**293**	*i* P	**Pb**	**09 52 20.8**	**+0.5**
BALY				*i* S	**Sg**	**09 52 41.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.61**	**303**	*e*PN	**Pb**	**09 52 22.4**	**+0.5**
GONE	**Gonen-Balikesi**	**1.61**	**303**	*e*Pn	**Pb**	**09 52 22.4**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.64**	**80**	*e*PN	**Pb**	**09 52 22.1**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.64**	**80**	*e*Pn	**Pb**	**09 52 22.1**	**-0.3**
HRT	**Hereke**	**1.66**	**6**	*e*PN	**Pn**	**09 52 22.2**	**+1.0**
HRT	**Hereke**	**1.66**	**6**	*e*Pn	**Pn**	**09 52 22.2**	**+1.0**
MDUB	**Mudurnu**	**1.88**	**46**	*e*PN	**Pn**	**09 52 25.0**	**+0.8**
MDUB	**Mudurnu**	**1.88**	**46**	*e*Pn	**Pn**	**09 52 25.0**	**+0.8**
KIZT	**Kizilcal**	**1.92**	**98**	*e*PN	**Pn**	**09 52 25.8**	**+1.0**
KIZT	**Kizilcal**	**1.92**	**98**	*e*Pn	**Pn**	**09 52 25.8**	**+1.0**
KRBG	**Karabiga-Canak**	**2.06**	**307**	*e*PN	**Pb**	**09 52 28.4**	**-1.0**
KRBG	**Karabiga-Canak**	**2.06**	**307**	*e*Pn	**Pb**	**09 52 28.4**	**-1.0**

*IDC **22** 10:27:53.6±6.5, 31°.56S×179°.58W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.6/2, Error ellipse: s-maj=262.8km s-min=60.4km az=158.0*

ISC 22 10:27:47.7±2.8, 33°.5S±0°.2×177°.9W±0°.4, h34km, n12, σ2s16/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.09**	**217**	*e*Pn	**Pn**	**10 29 04.1**	**+2.6**
MXZ				SN	**Sn**	**10 30 01.8**	**+2.6**
PUZ	**Puketiti**	**5.52**	**214**	PN	**Pn**	**10 29 08.5**	**+1.0**
PUZ				SN	**Sn**	**10 30 08.9**	**-0.8**
MWZ	**Matawai**	**6.08**	**216**	PN	**Pn**	**10 29 17.0**	**+1.9**
MWZ				SN	**Sn**	**10 30 24.1**	**+0.6**
URZ	**Urewera**	**6.23**	**219**	PN	**Pn**	**10 29 19.9**	**+2.7**
BKZ	**Black Stump Fm**	**7.23**	**217**	PN	**Pn**	**10 29 32.7**	**+1.7**
KAHZ	**Kahuranaki**	**7.54**	**212**	PN	**Pn**	**10 29 36.0**	**+0.7**
BFZ	**Birch Farm**	**8.55**	**212**	PN	**Pn**	**10 29 49.0**	**0.0**
MRZ	**Mangatainoka R**	**8.83**	**214**	PN	**Pn**	**10 29 52.0**	**-0.9**
MRZ				SN	**Sn**	**10 31 26.7**	**-4.5**
MQZ	**McQueen's Vall**	**12.57**	**213**	SN	Sn	10 32 50.2	-12
ASAR	**Alice Springs**	**43.13**	**270**	P	**P**	**10 35 43.9**	**-1.2**
	0.6nm,0.8s,baz=108,slow=7.4,SNR=7.3						
WRA	**Warramunga Arr**	**44.40**	**275**	P	**P**	**10 35 53.7**	**-1.6**
	0.6nm,0.5s,baz=114,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**148.09**	**338**	PKPbc	**PKPab**	**10 47 32.9**	**+1.1**
	0.7nm,0.5s,baz=46,slow=4.6,SNR=4.3						

MOS 22 10:29:45.1±0.2, 43°.18N×44°.79E, h17km, mb4.1/1, 1C-2D, Error ellipse: s-maj=77.2km s-min=14.0km az=30.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**1.15**	**239**	P	Pg	10 30 08.6	+1.2
ONI				S	Sg	10 30 29.1	+6.7
KUBR	**Kubataba**	**1.18**	**302**	⇓*e*PG	Pn	10 30 06.9	+0.1
KUBR				*e*S	Sg	10 30 24.1	+0.7
BTLR	**Botlikh**	**1.18**	**116**	*e*PG	Pn	10 30 06.6	-0.3
BTLR				*e*S	Sg	10 30 24.0	+0.6
BTLR				pmax	pmax		
	comp=Z,49nm,0.3s						
DBC	**Dubki**	**1.51**	**96**	*i* PG	Pn	10 30 11.8	+0.4
DBC				*i* S	Sb	10 30 32.0	+0.4
UNCR	**Uncukul**	**1.55**	**107**	PG	Pn	10 30 12.5	+0.5
UNCR				*e*S	Sg	10 30 35.0	-0.2
UNCR				pmax	pmax		
	comp=Z,32nm,0.3s						
SHAR	**Shatzhatmas**	**1.64**	**291**	*e*PN	Pn	10 30 13.9	+0.4
SHAR				*e*S	Sb	10 30 36.5	+0.7
BEYR	**Belyy Ugol+**	**1.65**	**301**	⇑*e*PN	Pn	10 30 13.8	+0.4
BEYR				*i* S	Sb	10 30 36.2	+0.4
KIV	**Kislovodsk**	**1.71**	**298**	⇓*e*PN	Pn	10 30 14.6	+0.3
KIV				*i* S	Sb	10 30 38.1	+0.6
DGRG	**David-gareji**	**1.79**	**166**	P	Pg	10 30 20.1	+0.6

IDC 22 10:33:52.9±8.5, 2°.23S×67°.35E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.6/3, MS3.3/4, Ms1 3.3/4, ms1mx3.1/24, Error ellipse: s-maj=192.3km s-min=44.7km az=87.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**27.93**	**300**	LR	LR	10 49 08.7	
	comp=Z,12nm,18.5s,baz=71,slow=33						
CMAR	**Chiang Mai Arr**	**37.28**	**55**	P	P	10 41 07.0	0.0
	0.4nm,0.3s,baz=245,slow=10,SNR=4.4						
CMAR				LR	LR	10 54 43.4	
	comp=Z,34nm,18.1s,baz=230,slow=34						
BOSA	**Boshof**	**47.90**	**233**	LR	LR	11 03 06.0	
	comp=Z,44nm,18.7s,baz=268,slow=37						
MAW	**Mawson**	**65.33**	**182**	LR	LR	11 05 07.0	
	comp=Z,76nm,18.1s,baz=123,slow=29						
WRA	**Warramunga Arr**	**67.63**	**111**	P	P	10 44 52.3	0.0
	0.6nm,0.8s,baz=287,slow=5.9,SNR=5.9						
ASAR	**Alice Springs**	**67.67**	**115**	P	P	10 44 52.4	-0.1
	0.4nm,0.8s,baz=286,slow=6.4,SNR=4.4						

*NNC **22** 10:38:55.2±0.9, 42°.95N×77°.61E, h3km±4km, mb3.4, mpv3.1, Error ellipse: s-maj=9.2km s-min=3.8km az=168.0*
*ISCJB **22** 10:38:58.1±0.9, 43°.10N±0°.10×77°.58E±0°.08, h14km, Error ellipse: s-maj=14.9km s-min=5.9km az=154.8*

ISC 22 10:38:56.4±1.4, 42°.90N±0°.08×77°.53E±0°.06, h14km, n16, σ0s40/27, 8C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.52**	**308**	⇑P	**Pg**	**10 39 06.2**	**-0.6**
	45nm,0.5s						
KNDC				⇑S	**Sg**	**10 39 14.1**	**+0.3**
	222nm,0.3s						
ULHL	**Ulahol**	**1.15**	**236**	P	**Pb**	**10 39 17.6**	**-0.6**
	SNR=810						
ULHL				P	**Pb**	**10 39 17.6**	**-0.6**
	SNR=810						
TKM2	**Tokmak 2**	**1.42**	**272**	P	**Pb**	**10 39 22.5**	**-0.2**
	SNR=97						
TKM2				P	**Pb**	**10 39 22.5**	**-0.2**
	SNR=97						
TKM2	**Tokmak 2**	**1.42**	**272**	⇓P	**Pb**	**10 39 22.5**	**-0.2**
	8.7nm,0.3s						
TKM2				⇓S	**Sg**	**10 39 42.6**	**+0.4**
	81nm,0.3s						
KZA	**Kyzart**	**1.87**	**245**	P	**Pb**	**10 39 30.5**	**-0.1**
	SNR=144						
KZA				P	**Pb**	**10 39 30.5**	**-0.1**
	SNR=144						
KBK	**Karagaybulak**	**1.91**	**264**	P	**Pb**	**10 39 31.5**	**+0.3**
	SNR=55						
KBK				P	**Pb**	**10 39 31.5**	**+0.3**
	SNR=55						
CHMS	**Chumysh**	**2.04**	**274**	P	**Pb**	**10 39 33.2**	**-0.1**
	SNR=11						
CHMS				P	**Pb**	**10 39 33.2**	**-0.1**
	SNR=11						
AAK	**Ala-Archa**	**2.25**	**264**	P	**Pb**	**10 39 37.1**	**+0.2**
	SNR=40						
AAK				P	**Pb**	**10 39 37.1**	**+0.2**
	SNR=40						
USP	**Ospenovka**	**2.25**	**281**	P	**Pb**	**10 39 36.7**	**-0.1**
	SNR=28						
USP				P	**Pb**	**10 39 36.7**	**-0.1**
	SNR=28						
UCH	**Uchtor**	**2.32**	**254**	P	**Pb**	**10 39 38.2**	**-0.2**
	SNR=15						
UCH				P	**Pb**	**10 39 38.2**	**-0.2**
	SNR=15						
EKS2	**Erkin-Say**	**2.77**	**266**	P	**Pb**	**10 39 45.0**	**-0.7**
	SNR=56						
EKS2				P	**Pb**	**10 39 45.0**	**-0.7**
	SNR=56						
AML	**Almayashu**	**2.93**	**256**	P	**Pb**	**10 39 48.8**	**+0.1**
	SNR=20						
AML				P	**Pb**	**10 39 48.8**	**+0.1**
	SNR=20						
KK31	**Karatay Array**	**5.15**	**275**	⇑Pg	Pb	10 40 30.2	+4.0
	1.0nm,0.3s,baz=95,slow=16,SNR=20						
KK31				⇑Lg	Lg	10 41 41.7	
	8.6nm,0.4s,baz=91,slow=29,SNR=26						
MK31	**Makanchi Array**	**5.16**	**39**	Pn	**Pn**	**10 40 14.1**	**+0.8**
	0.2nm,0.2s,baz=219,slow=16,SNR=11						
MK31				⇑Pg	**Pb**	**10 40 26.1**	**-0.3**
	1.7nm,0.5s,baz=218,slow=16,SNR=6.2						
MK31				⇓Sn	**Sn**	**10 41 12.3**	**-0.3**
	0.9nm,0.3s,baz=215,slow=25,SNR=3.5						
MK31				⇑Lg	Lg	10 41 32.8	
	3.4nm,0.5s,baz=222,slow=29,SNR=7.3						
KURBB	**Kurchatov Arra**	**7.76**	**5**	⇑Lg	Lg	10 43 00.8	
	2.2nm,0.6s						
KURK	**Kurchatov**	**7.86**	**5**	⇑Lg	Lg	10 43 04.2	
	4.8nm,0.6s						

*THR **22** 11:00:25.0±0.3, 32°.31N×46°.47E, h39km±6km, ML3.8*
*IDC **22** 11:00:26.7±3.6, 32°.87N×46°.63E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=247.2km s-min=27.0km az=151.0*
*ISCJB **22** 11:00:28.8±0.4, 32°.61N±0°.03×46°.92E±0°.04, h10km, mb3.6/4, Error ellipse: s-maj=4.9km s-min=3.8km az=37.9*
*CSEM **22** 11:00:29.0±0.2, 32°.60N×46°.93E, h2km, ML3.6, Error ellipse: s-maj=4.3km s-min=3.4km az=75.0*
*TEH **22** 11:00:30.7, 32°.58N×46°.85E, h18km, ML3.6*

ISC 22 11:00:31.7±1.1, 32°.57N±0°.05×46°.85E±0°.05, h10km, n43, σ1s35/20, mb3.6/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.70**	**19**	*e*Pn	Pn	11 00 59.3	-2.3
IKOM				*e*Sg	**Sn**	**11 01 23.7**	**+0.3**
IKOM				*e*		11 01 24.2	
	comp=Z,28μm,0.2s						
IKOM	**Komasi**	**1.70**	**19**	*e*Pn	Pn	11 00 59.3	-2.3
IKOM				*e*Sg	**Sn**	**11 01 23.7**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.72**	**105**	*e*Pg	**Pn**	**11 01 00.5**	**-1.2**
SHGR				*e*Sg	**Sb**	**11 01 26.4**	**+1.5**
SHGR				AML	AML	11 01 27.1	
	comp=E,632nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.72**	**105**	*e*Pg	**Pn**	**11 01 00.5**	**-1.2**
SHGR				*e*Sg	**Sb**	**11 01 26.5**	**+1.5**
IGHG	**Ghaleghazi**	**1.77**	**353**	*e*Pn	Pn	11 01 00.7	-2.0
IGHG				*e*Sg	**Sn**	**11 01 25.5**	**+0.1**
IGHG				*e*		11 01 33.0	
	comp=Z,17μm,0.3s						
IGHG	**Ghaleghazi**	**1.77**	**353**	*e*Pn	Pn	11 01 00.7	-2.0
IGHG				*e*Sg	**Sn**	**11 01 25.5**	**+0.1**
IDHR	**Dehrash**	**2.16**	**350**	*e*		11 01 40.8	
	comp=Z,8μm,0.2s						
IDHR				*e*Pn	Pn	11 01 05.9	-2.1
BHD	**Baghdad**	**2.19**	**289**	*e*Pn	Pn	11 01 07.0	-1.2
BHD				*e*Sn	**Sn**	**11 01 34.0**	**-1.3**
BHD				*i* Sg	**Sg**	**11 01 44.0**	**+1.9**
BHD	**Baghdad**	**2.19**	**289**	*e*Pn	Pn	11 01 07.0	-1.2
BHD				*e*Sn	**Sn**	**11 01 34.0**	**-1.3**
BHD				*i* Sg	**Sg**	**11 01 44.0**	**+1.9**
MIB	**Mutribah**	**2.79**	**171**	*e*P	**Pn**	**11 01 15.4**	**-1.0**
MIB				AML	AML	11 01 58.6	
	comp=Z,199nm,0.6s						
MIB	**Mutribah**	**2.79**	**171**	*e*P	**Pn**	**11 01 15.4**	**-1.0**
KHMZ	**Khomeyn**	**2.86**	**65**	*e*Pn	Pn	11 01 15.6	-2.0
KHMZ	**Khomeyn**	**2.86**	**65**	*e*Pn	Pn	11 01 15.6	-2.0
ASAO	**Ashtian**	**3.31**	**52**	*e*Pn	**Pn**	**11 01 22.0**	**-1.8**
ASAO				AML	AML	11 02 17.4	
	comp=N,120nm,0.6s						
ASAO	**Ashtian**	**3.31**	**52**	*e*Pn	**Pn**	**11 01 22.0**	**-1.8**
NAY	**Al-Naaiem**	**3.33**	**174**	*e*P	**Pn**	**11 01 22.7**	**-1.1**
NAY				AML	AML	11 02 04.2	
	comp=Z,22nm,0.3s						
NAY	**Al-Naaiem**	**3.33**	**174**	*e*P	**Pn**	**11 01 22.7**	**-1.1**
IPIR	**Pirpir**	**3.42**	**87**	*e*Pn	Pn	11 01 23.1	-2.2
IPIR				*e*		11 02 07.9	
	comp=Z,1μm,0.2s						
IPIR	**Pirpir**	**3.42**	**87**	*e*Pn	Pn	11 01 23.1	-2.2
KBD	**Kabd**	**3.46**	**168**	*e*P	**Pn**	**11 01 24.6**	**-1.0**
KBD				AML	AML	11 02 11.0	
	comp=Z,42nm,0.3s						
KBD	**Kabd**	**3.46**	**168**	*e*P	**Pn**	**11 01 24.6**	**-1.0**
QRN	**Al-Qurain**	**3.92**	**166**	*e*P	Pn	11 01 30.7	-1.3
QRN				AML	AML	11 02 13.5	
	comp=Z,32nm,0.3s						
IKLH	**Kolahrood**	**4.05**	**78**	*e*Pn	Pn	11 01 31.4	-2.6
IKLH				*e*		11 02 34.2	
	comp=Z,632nm,0.2s						
IKLH	**Kolahrood**	**4.05**	**78**	*e*Pn	Pn	11 01 31.4	-2.6
GHVR	**GHOM**	**4.18**	**62**	*e*Pn	Pn	11 01 33.2	-2.4
GHVR				AML	AML	11 02 24.7	
	comp=E,113nm,0.5s						
GHVR				AML	AML	11 02 24.9	
	comp=N,86nm,0.5s						
GHVR	**GHOM**	**4.18**	**62**	*e*Pn	Pn	11 01 33.2	-2.4
IGAR	**Gharneh**	**4.39**	**91**	*e*Pn	Pn	11 01 36.3	-2.4
IGAR				*e*		11 02 29.0	
	comp=Z,580nm,0.1s						
IMHD	**Mahdasht**	**4.44**	**44**	*e*Pn	Pn	11 01 36.8	-2.4
IMHD				*e*		11 02 03.6	
	comp=Z,330nm,0.2s						
IMHD	**Mahdasht**	**4.44**	**44**	*e*Pn	Pn	11 01 36.8	-2.4
IZEF	**Zefreh**	**4.63**	**84**	*e*Pn	Pn	11 01 39.4	-2.6
IZEF				*e*		11 03 10.0	
	comp=Z,244nm,0.3s						
IZEF	**Zefreh**	**4.63**	**84**	*e*Pn	Pn	11 01 39.4	-2.6
NASN	**Na'in**	**5.03**	**86**	*e*Pn	Pn	11 01 44.9	-2.7
NASN	**Na'in**	**5.03**	**86**	*e*Pn	Pn	11 01 44.9	-2.7
IDMV	**Damavand**	**5.25**	**54**	*e*Pn	Pn	11 01 47.5	-3.0
IDMV				*e*		11 02 14.4	
	comp=Z,237nm,0.2s						
IDMV	**Damavand**	**5.25**	**54**	*e*Pn	Pn	11 01 47.5	-3.0
IPAR	**Pars**	**5.97**	**115**	*e*Pn	Pn	11 01 58.0	-2.4
IPAR				*e*		11 03 32.4	
	comp=Z,200nm,0.4s						
IPAR	**Pars**	**5.97**	**115**	*e*Pn	Pn	11 01 58.0	-2.4
ISRV	**Sarvestan**	**6.25**	**119**	*e*Pn	Pn	11 02 01.5	-2.8
ISRV				*e*		11 02 30.9	
	comp=Z,245nm,0.1s						
ISRV	**Sarvestan**	**6.25**	**119**	*e*Pn	Pn	11 02 01.5	-2.8
MKAR	**Makanchi Array**	**30.47**	**52**	P	P	11 06 40.8	-3.8
	comp=Z,0.3nm,0.4s,baz=242,slow=6.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**34.35**	**40**	P	P	11 07 13.9	-4.6
	comp=Z,0.9nm,0.5s,baz=236,slow=8.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**45.48**	**256**	P	P	11 08 47.0	-4.4
	comp=Z,0.7nm,0.8s,baz=62,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**46.83**	**53**	P	P	11 08 58.1	-3.7
	comp=Z,0.2nm,0.3s,baz=280,slow=8.5,SNR=3.8						

MEX 22 11:11:21.6±1.1, 16°.80N×94°.54W, h126km±15km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.44**	**312**	*i* P	Pn	11 11 38.5	-1.3
CMIG				*e*S	Sn	11 11 51.3	-2.3
TGIG		**1.36**	**91**	*i* P	Pn	11 11 47.5	-0.4
TGIG				*e*S	Sn	11 12 06.7	-1.3
HUIG	**Huatulco**	**1.82**	**236**	*i* P	Pn	11 11 51.0	-2.1
HUIG				*e*S	Sn	11 12 16.1	-1.1
VHO	**Vista Hermosa**	**2.11**	**278**	*i* P	Pn	11 11 56.3	-0.8
VHO				*e*S	Sn	11 12 22.8	-1.4

IDC 22 11:16:47.0±3.6, 0°.70S×131°.01E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=243.5km s-min=26.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.40**	**171**	P	P	11 21 14.6	-0.3
	0.1nm,0.3s,baz=352,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.00**	**173**	P	P	11 21 53.8	+0.1
	0.4nm,0.5s,baz=357,slow=9.4,SNR=16						
MKAR	**Makanchi Array**	**63.61**	**325**	P	P	11 27 19.9	0.0
	0.2nm,0.4s,baz=113,slow=8.0,SNR=5.3						

*NNC **22** 11:37:08.2±6.9, 36°.93N×70°.89E, h73km±141km, mb3.2, mpv3.6, Error ellipse: s-maj=52.0km s-min=48.4km az=22.0*

ISC 22 11:37:09.3±3.1, 37°.0N±0°.2×70°.9E±0°.1, h88km, n10, σ1s36/19, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.57**	**22**	P	**Pn**	**11 38 29.6**	**-0.3**
	SNR=83						
AML				P	**Pn**	**11 38 29.6**	**-0.3**
	SNR=83						
EKS2	**Erkin-Say**	**6.08**	**21**	P	**Pn**	**11 38 36.5**	**-0.1**
	SNR=11						
EKS2				P	**Pn**	**11 38 36.5**	**-0.1**
	SNR=11						
KK31	**Karatay Array**	**6.09**	**358**	⇑P	**Pn**	**11 38 37.5**	**+0.8**
	1.1nm,0.2s,baz=174,slow=12,SNR=34						
KK31				⇑S	**Sn**	**11 39 47.1**	**+2.1**
	2.3nm,0.3s,baz=189,slow=23,SNR=6.7						
AAK	**Ala-Archa**	**6.28**	**25**	P	**Pn**	**11 38 39.3**	**-0.1**
	SNR=8.0						
AAK				P	**Pn**	**11 38 39.3**	**-0.1**
	SNR=8.0						
CHMS	**Chumysh**	**6.69**	**25**	P	**Pn**	**11 38 44.5**	**-0.4**
	SNR=5.2						
CHMS				P	**Pn**	**11 38 44.5**	**-0.4**
	SNR=5.2						
USP	**Ospenovka**	**6.85**	**23**	P	**Pn**	**11 38 46.5**	**-0.5**
	SNR=7.8						
USP				P	**Pn**	**11 38 46.5**	**-0.5**
	SNR=7.8						
TKM2	**Tokmak 2**	**6.94**	**30**	P	**Pn**	**11 38 47.4**	**-1.0**
	SNR=8.2						
TKM2				P	**Pn**	**11 38 47.4**	**-1.0**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.94**	**30**	⇓P	**Pn**	**11 38 47.0**	**-1.4**
	2.7nm,0.5s						
TKM2				⇓S	**Sn**	**11 40 07.0**	**+1.1**
	4.0nm,0.7s						
AB31	**Akbulak array**	**14.58**	**331**	⇑P	**Pn**	**11 40 30.2**	**-0.8**
	0.2nm,0.3s,baz=110,slow=78,SNR=14						
AB31				S	**Sn**	**11 43 08.1**	**-3.3**
	0.5nm,0.4s,baz=151,slow=20,SNR=4.7						
AKTO	**Aktyubinsk**	**16.28**	**330**	⇓P	**P**	**11 40 56.4**	**+2.5**
	0.5nm,1.4s						

MEX 22 11:38:45.9±0.7, 16°.81N×98°.65W, h38km±35km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**130**	*e*P	Pn	11 38 56.8	-2.0
PNIG				*i* S	Sn	11 39 05.7	-2.2
ACX	**Acapulco**	**1.16**	**273**	*i* P	Pn	11 39 05.2	-0.4
MEIG	**Mezcala**	**1.45**	**320**	*i* P	Pn	11 39 07.4	-2.3
MEIG				*i* S	Sn	11 39 25.6	-1.8
CAIG	**El Cayaco**	**1.57**	**279**	*i* P	Pn	11 39 09.9	-1.2
CAIG				*i* S	Sn	11 39 27.2	-3.1
PLIG	**Platanillo**	**1.77**	**333**	*e*P	Pn	11 39 12.6	-1.6
PLIG				*i* S	Sn	11 39 33.7	-1.8
VHO	**Vista Hermosa**	**1.85**	**82**	*i* P	Pn	11 39 14.7	-0.7
VHO				*i* S	Sn	11 39 35.2	-2.6
YAIG	**Yautepec**	**2.08**	**349**	*e*P	Pn	11 39 17.3	-1.2
YAIG				*i* S	Sn	11 39 40.7	-2.6

*ISCJB **22** 11:48:02.2±1.0, 6°.86N±0°.08×73°.1W±0°.1, h173km±11km, Error ellipse: s

ORIV	**Oritupano**	**2.51 212**	*e*P	**Pn**	**11 49 11.4 +2.1**
PCRV	**Puerto La Cruz**	**2.74 248**	*e*P	**Pn**	**11 49 13.2 +1.0**
RIOV	**Rio Grande**	**3.13 176**	*e*P	**Pn**	**11 49 19.1 +1.9**
RIOV			*e*S	**Sn**	**11 49 54.0 -0.9**
GURV	**El Guri**	**3.57 197**	*e*P	**Pn**	**11 49 24.7 +1.7**
GURV			*e*S	**Sn**	**11 50 03.3 -1.9**
LUEV	**Luepa**	**5.36 174**	*e*P	**Pn**	**11 49 46.9 +0.1**
LUEV			*e*S	**Sn**	**11 50 45.2 -2.7**

ISK ***22*** *12:05:39.2, 40˚.00N×29˚.97E, h6km, MD2.9*
ISCJB ***22*** *12:05:41.2±0.5, 40˚.19N±0˚.04×30˚.05E±0˚.04, h7km±5km, Error ellipse: s-maj=7.5km s-min=4.9km az=21.2*
CSEM ***22*** *12:05:41.2±0.2, 40˚.15N×30˚.02E, h10km, MD2.9, Error ellipse: s-maj=6.2km s-min=4.6km az=25.0*
DDA ***22*** *12:05:41.3, 40˚.14N×30˚.04E, h7km, MD2.8*
ISC 22 12:05:41.3±0.9, 40˚.13N±0˚.03×30˚.01E±0˚.03, h12km±7km, n28, σ1°23/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	**Cavuskoy**	**0.15**	**301**	*e*PG	**Pg**	**12 05 44.4**	**-0.4**
CAVI				*e*SG	**Sg**	**12 05 48.0**	**+0.7**
CAVI	**Cavuskoy**	**0.15**	**301**	*e*Pg	**Pg**	**12 05 44.4**	**-0.4**
CAVI				*e*Sg	**Sg**	**12 05 48.0**	**+0.7**
BORA	**Eskisehir**	**0.42**	**125**	*i* P	**Pg**	**12 05 49.5**	**-0.2**
BORA				*i* S	**Sg**	**12 05 55.7**	**+0.3**
BORA	**Eskisehir**	**0.42**	**125**	*i* P	**Pg**	**12 05 49.5**	**-0.2**
BORA				*i* S	**Sg**	**12 05 55.7**	**+0.3**
GULT	**Gulveren**	**0.50**	**52**	*e*PG	**Pg**	**12 05 50.8**	**-0.2**
GULT				*e*SG	**Sb**	**12 06 00.5**	**+1.2**
GULT	**Gulveren**	**0.50**	**52**	*e*Pg	**Pg**	**12 05 50.8**	**-0.2**
YLV	**Yalova**	**0.65**	**313**	*e*PG	**Pg**	**12 05 54.2**	**+0.2**
YLV	**Yalova**	**0.65**	**313**	*e*Pg	**Pg**	**12 05 54.2**	**+0.2**
HRT	**Hereke**	**0.74**	**340**	*e*PG	**Pb**	**12 05 56.0**	**-0.2**
HRT	**Hereke**	**0.74**	**340**	*e*Pg	**Pb**	**12 05 56.0**	**-0.2**
MDUB	**Mudurnu**	**0.97**	**69**	*e*PG	**Pg**	**12 06 00.0**	**-0.1**
MDUB	**Mudurnu**	**0.97**	**69**	*e*Pg	**Pg**	**12 06 00.0**	**-0.1**
ARMT	**Armutlu**	**0.98**	**297**	*e*PG	**Pg**	**12 05 58.8**	**-1.3**
ARMT	**Armutlu**	**0.98**	**297**	*e*Pg	**Pg**	**12 05 58.8**	**-1.3**
ALT	**Altintas**	**1.07**	**176**	*e*PG	**Pb**	**12 05 58.1**	**-3.8**
GDZ	**Gediz**	**1.11**	**201**	*i* P	**Pg**	**12 06 03.3**	**+0.6**
GDZ				*i* S	**Sn**	**12 06 19.1**	**+0.9**
GDZ	**Gediz**	**1.11**	**201**	*i* P	**Pg**	**12 06 03.3**	**+0.6**
GDZ				*i* S	**Sn**	**12 06 19.1**	**+0.9**
ISK	**Istanbul-Kandi**	**1.18**	**323**	*e*PN	**Pg**	**12 06 03.9**	**-0.1**
ISK	**Istanbul-Kandi**	**1.18**	**323**	*e*Pn	**Pg**	**12 06 03.9**	**-0.1**
DST	**Dursunbey**	**1.19**	**244**	*e*PN	**Pn**	**12 06 00.4**	**-3.4**
KCTX	**Karacabey (Bur**	**1.27**	**277**	*e*PN	**Pn**	**12 06 04.3**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**277**	*e*Pn	**Pn**	**12 06 04.3**	**-0.6**
DURS	**Dursunbey**	**1.29**	**246**	*i* P	**Pn**	**12 06 05.2**	**0.0**
DURS				*i* S	**Sg**	**12 06 25.1**	**+2.3**
DURS	**Dursunbey**	**1.29**	**246**	*i* P	**Pn**	**12 06 05.2**	**0.0**
DURS				*i* S	**Sg**	**12 06 25.1**	**+2.3**
SVRH	**Sivrihisar-ESK**	**1.35**	**120**	*e*PN	**Pn**	**12 06 04.9**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.35**	**120**	*e*Pn	**Pn**	**12 06 04.9**	**-1.2**
BOLV	**Bolvadin**	**1.58**	**152**	*i* P	**Pb**	**12 06 11.1**	**+0.5**
BOLV				*i* S	**Sg**	**12 06 33.6**	**+1.3**
BOLV	**Bolvadin**	**1.58**	**152**	*i* P	**Pb**	**12 06 11.1**	**+0.5**
BOLV				*i* S	**Sg**	**12 06 33.6**	**+1.3**

DJA ***22*** *12:10:57, 0˚.56S×133˚.13E, h10km, MLv4.0/3*
IDC 22 12:10:55.6±1.2, 0.72S×132.88E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=53.6km s-min=14.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.68**	**202**	P	Pn	12 15 15.6	-0.1
	0.3nm,0.3s,baz=30,slow=13,SNR=6.5						
FITZ				S	Sn	12 18 38.2	-7.1
	0.2nm,0.3s,baz=152,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**19.15**	**176**	P	P	12 15 20.4	-0.3
	0.4nm,0.3s,baz=354,slow=11,SNR=31						
WRA				S	Sn	12 18 48.9	-8.1
	0.2nm,0.3s,baz=360,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	12 16 00.9	+0.5
	2.9nm,0.4s,baz=357,slow=10,SNR=71						
ASAR				S	S	12 20 12.5	+1.5
	1.5nm,0.9s,baz=357,slow=27,SNR=6.3						
CTA	**Charters Tower**	**23.27**	**147**	P	P	12 16 05.9	+0.8
	5.2nm,1.1s,baz=332,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**32.06**	**166**	P	P	12 17 22.9	-1.4
	2.0nm,0.4s,baz=354,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**64.72**	**324**	P	P	12 21 36.0	+0.2
	0.9nm,0.5s,baz=111,slow=8.3,SNR=15						
ZALV	**Zalesovo Beam**	**67.36**	**332**	P	P	12 21 52.3	-0.2
	0.2nm,0.4s,baz=123,slow=5.3,SNR=3.5						

DJA ***22*** *12:17:28, 9˚.32S×112˚.45E, h36km, MLv3.9/9*
IDC 22 12:17:18.5±2.0, 9.21S×112.41E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=145.3km s-min=26.1km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.04**	**2**	P	Pn	12 17 51.2	+11
PWJI	**Pagerwojo**	**1.32**	**333**	P	Pn	12 17 52.3	+8.1
SJI	**Sawahan**	**1.59**	**336**	P	Pg	12 17 58.9	+10
BLJI	**Banyuglugur**	**1.87**	**39**	P	Pg	12 17 59.1	+4.8
NBBI	**Negara**	**2.34**	**69**	P	Pg	12 18 09.2	+5.9
KHKI	**Kahang-Kahang**	**3.27**	**75**	P	Pg	12 18 21.5	+0.3
	40nm,0.6s,0.3nm						
MTNI	**Mataram**	**3.76**	**82**	P	Pg	12 18 30.1	-0.5
	55nm,0.9s,3μm1.1nm						
WRA	**Warramunga Arr**	**23.72**	**119**	P	P	12 22 32.3	-0.2
	0.5nm,0.3s,baz=301,slow=11,SNR=10						
WRA				PcP	PcP	12 26 15.6	-1.4
	0.3nm,0.7s,baz=301,slow=1.7,SNR=4.1						
ASAR	**Alice Springs**	**25.08**	**128**	P	P	12 22 45.5	+0.5
	1.0nm,0.5s,baz=302,slow=8.7,SNR=21						
ASAR				PcP	PcP	12 26 20.1	+0.3
	0.4nm,0.8s,baz=292,slow=1.4,SNR=4.5						
MKAR	**Makanchi Array**	**61.88**	**337**	P	P	12 27 39.8	+0.1
	0.3nm,0.4s,baz=153,slow=7.5,SNR=6.2						

BJI ***22*** *12:20:56.5, 34˚.20N×139˚.30E, h115km, mB4.9/34, mb4.8/55*
NEIC ***22*** *12:20:59.5±0.5, 34˚.20N×139˚.24E, h124km±4km, mb5.0/67, MW4.8(NIED), Error ellipse: s-maj=4.1km s-min=3.2km az=148.0*
NEIC Felt at Tokyo, Yokohama and Yokosuka. Recorded [2 JMA] in Kanagawa and [1 JMA] in Fukushima, Gumma and Tochigi.
MOS ***22*** *12:20:59.6±0.9, 34˚.18N×139˚.20E, h139km, mb4.9/65, Error ellipse: s-maj=8.3km s-min=4.7km az=111.6*
NIED ***22*** *12:21:00, 34˚.30N×139˚.50E, h145km, Mw4.8 Best double couple: M0 2.03000×10^16 NP1:φs177.00000°, δ90.00000°, λ99.00000°. NP2:φs268.00000°, δ9.00000°, λ0.00000°.*
ISCJB ***22*** *12:21:00.4±0.2, 34˚.20N±0˚.03×139˚.16E±0˚.02, h142km±1km, mb4.8/153, Error ellipse: s-maj=4.3km s-min=3.0km az=175.3*
IDC ***22*** *12:21:01.1±0.7, 34˚.23N×139˚.19E, h137km±5km, mb4.4/37, mb1 4.5/39, mb1mx4.5/42, mbtmp4.4/39, MS3.4/10, Ms1 3.4/10, ms1mx3.3/36, Error ellipse: s-maj=9.8km s-min=7.2km az=83.0*
JMA ***22*** *12:21:01.1±0.1, 34˚.33N×139˚.51E, h143km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs176.00000°, δ86.00000°, λ89.00000°. NP2:φs16.00000°, δ4.00000°, λ110.00000°. Principal axes: T Plg49.0000°, Azm84.0000°; N Plg1.0000°, Azm176.0000°; P Plg41.0000°, Azm267.0000°;*
JMA Felt II J1.
SZGRF ***22*** *12:21:02.1, 34˚.88N×141˚.00E, h33km, mb5.2, Off east coast of Honshu, Japan*
ISC 22 12:21:01.1±0.3, 34˚.27N±0˚.03×139˚.29E±0˚.03, h138km±2km, h137km:pP-P, n785, σ1°02/873, mb4.9/153, 166C-181D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.15**	**239**	⇑P	**Pn**	**12 21 21.1**	**+1.3**
JKO				S	**Sn**	**12 21 36.7**	**+2.9**
JMY	**Miyakejima3**	**0.27**	**137**	P	**Pn**	**12 21 20.8**	**+0.7**
JMY				S	**Sn**	**12 21 35.6**	**+1.2**
JIM2	**Oshima 3**	**0.46**	**14**	⇓P	**Pn**	**12 21 21.5**	**+0.6**
JIM2				S	**Sn**	**12 21 36.7**	**+0.8**
JIZS	**Izushimoda**	**0.57**	**323**	⇑P	**Pn**	**12 21 22.7**	**+1.3**
JIZS				S	**Sn**	**12 21 38.6**	**+1.8**
JOD2	**Odawara 2**	**1.01**	**350**	⇑P	**Pn**	**12 21 25.4**	**+0.6**
JOD2				S	**Sn**	**12 21 43.4**	**+0.5**
BSO3	**Boso 3**	**1.14**	**62**	⇓P	**Pn**	**12 21 25.5**	**-0.1**
TK04	**Tokai 4**	**1.18**	**276**	P	**Pn**	**12 21 28.8**	**+2.6**
SHZ3	**Shizuoka 3**	**1.20**	**312**	⇑P	**Pn**	**12 21 28.4**	**+1.8**
JHJ2	**Mitsune**	**1.23**	**159**	⇓P	**Pn**	**12 21 27.9**	**+1.0**
JHJ2				S	**Sn**	**12 21 47.9**	**+1.4**
TK02	**Tokai 2**	**1.31**	**256**	P	**Pn**	**12 21 30.3**	**+2.8**
BSO1	**Boso 1**	**1.44**	**74**	⇓P	**Pn**	**12 21 27.7**	**-0.8**
JAG	**Ashikaga**	**2.16**	**3**	⇑P	**Pn**	**12 21 36.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.44**	**339**	P	**Pn**	**12 21 41.5**	**+0.7**
	79nm,0.3s,baz=162,slow=12,SNR=652						
MJAR				S	**Sn**	**12 22 10.3**	**-1.1**
	96nm,0.3s,baz=284,slow=35,SNR=13						
MJAR	**Matsushiro Arr**	**2.44**	**339**	P	**Pn**	**12 21 41.5**	**+0.7**
MJAR				S	**Sn**	**12 22 10.3**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,79nm,0.3s						
MJAR				smax	smax		
	comp=N,97nm,0.3s						
MJAR	**Matsushiro Arr**	**2.44**	**339**	P	**Pn**	**12 21 41.5**	**+0.7**
MJAR				S	**Sn**	**12 22 10.3**	**-1.1**
MAJO	**Matsushiro**	**2.44**	**339**	*e*P	**Pn**	**12 21 42.0**	**+1.1**
MAJO	**Matsushiro**	**2.44**	**339**	*e*Pn	**Pn**	**12 21 42.0**	**+1.1**
MAT	**Matsushiro**	**2.44**	**339**	P	**Pn**	**12 21 41.7**	**+0.9**
MAT				S	**Sn**	**12 22 11.2**	**-0.3**
JNU	**Nakatsue**	**7.11**	**263**	P	**Pn**	**12 22 45.2**	**+2.7**
	comp=N,4.3nm,0.3s,baz=74,slow=6.4,SNR=50						
JNU				S	Sn	12 23 55.0	-6.9
	comp=N,0.7nm,0.3s,baz=188,slow=6.2,SNR=1.3						
JNU	**Nakatsue**	**7.11**	**263**	*e*Pn	**Pn**	**12 22 44.7**	**+2.2**
JNU				S	Sn	12 23 55.0	-6.9
CBIJ	**Chichi jima**	**7.57**	**160**	P	Pn	12 22 44.5	-4.2
	comp=N,7.7nm,0.3s,baz=323,slow=20,SNR=38						
CBIJ				S	Sn	12 24 05.6	-7.5
	comp=N,58nm,0.3s,baz=264,slow=22,SNR=11						
CBIJ				LR	LR	12 25 13.7	
	comp=N,141nm,18.5s,baz=330,slow=33						
CBIJ	**Chichi jima**	**7.57**	**160**	P	Pn	12 22 44.5	-4.2
CBIJ				S	Sn	12 24 05.6	-7.5
ERM	**Erimo**	**8.31**	**20**	*i* P	Pn	12 22 55.0	-3.6
ERM	**Erimo**	**8.31**	**20**	*e*Pn	**Pn**	**12 22 55.9**	**-2.7**
ERM				*e*Sn	Sn	12 24 18.4	-12
KSRS	**Korea Array**	**9.76**	**292**	P	Pn	12 23 20.9	+2.9
	comp=N,2.1nm,0.3s,baz=105,slow=14,SNR=66						
KSRS				LR	LR	12 27 06.5	
	comp=N,106nm,19.3s,baz=151,slow=38						
KSRS	**Korea Array**	**9.76**	**292**	P	Pn	12 23 21.0	+2.9
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSAR	**Wonju Array Be**	**9.79**	**292**	P	**Pn**	**12 23 21.0**	**+2.6**
KSAR	**Wonju Array Be**	**9.79**	**292**	P	**Pn**	**12 23 20.9**	**+2.6**
ASAJ	**Asahikawa**	**10.16**	**14**	P	Pn	12 23 19.7	-3.6
	comp=Z,5.8nm,0.3s,baz=216,slow=11,SNR=50						
ASAJ				S	Sn	12 25 08.6	-7.0
	comp=Z,2.5nm,0.3s,baz=265,slow=32,SNR=6.0						
ASAJ				LR	LR	12 28 16.5	
	comp=Z,180nm,19.6s,baz=203,slow=43						
ASAJ	**Asahikawa**	**10.16**	**14**	P	Pn	12 23 19.7	-3.6
ASAJ				S	Sn	12 25 08.6	-7.0
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**10.16**	**14**	*e*Pn	Pn	12 23 19.8	-3.5
ASAJ				*e*Sn	Sn	12 25 07.9	-7.7
ASAJ				S		12 25 08.6	
YUK	**Yuzh-Kuril'sk**	**11.00**	**26**	⇑*i*P	Pn	12 23 29.2	-5.3
YUK				pmax	pmax		
	comp=Z,44nm,0.7s						
YUK				pmax	pmax		
	comp=E,32nm,0.2s						
YUK				pmax	pmax		
	comp=Z,126nm,0.7s						
YUK				pmax	pmax		
	comp=Z,12μm,0.9s						
YUK				MLR	MLR		
	comp=N,138nm,8.0s						
YUK				MLR	MLR		
	comp=E,159nm,8.0s						
YUK				MLR	MLR		
	comp=Z,93nm,8.0s						
USRK	**Ussuriysk Arra**	**11.41**	**333**	P	**Pn**	**12 23 39.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=144,slow=11,SNR=10						
USRK				LR	LR	12 27 40.7	
	comp=Z,144nm,19.7s,baz=312,slow=35						
JOW	**Kunigami**	**12.04**	**235**	P	**P**	**12 23 57.4**	**+2.1**
	comp=Z,6.3nm,0.3s,baz=24,slow=11,SNR=16						
MDJ	**Mudanjiang**	**12.76**	**327**	*e*Pn	**Pn**	**12 23 56.9**	**-0.5**
	comp=Z,36nm,1.2s						
KUR	**Kuril'sk**	**12.78**	**28**	P	**Pn**	**12 23 55.0**	**-2.6**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**12.94**	**11**	⇓*e*P	**Pn**	**12 23 57.0**	**-2.8**
YSS				*e*S	Sn	12 26 16.0	-6.5
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**12.94**	**11**	*e*Pn	Pn	12 23 56.5	-3.3
	comp=N,27nm,0.4s						
CN2	**Changchun**	**14.35**	**316**	*e*P	**P**	**12 24 19.5**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SNY	**Shenyang**	**14.49**	**306**	⇑P	**P**	**12 24 22.5**	**+0.1**
SNY				pmax	pmax		
	comp=Z,24nm,1.0s						
SNY				pmax	pmax		
	comp=Z,340nm,3.7s						
SNY				LR	LR		
	comp=N,230nm,3.1s						
SNY				LR	LR		
	comp=E,280nm,3.7s						
SNY				LR	LR		
	comp=Z,140nm,3.9s						
HABR	**Khabarovsk**	**14.54**	**349**	*de*P	**Pn**	**12 24 20.0**	**-0.2**
HABR				*e*S	**Sn**	**12 27 01.6**	**+0.5**
HABR				pmax	pmax		
	comp=E,17nm,1.5s						
HABR				pmax	pmax		
	comp=N,6.0nm,0.8s						
HABR				pmax	pmax		
	comp=Z,18nm,1.0s						
HABR				MLR	MLR		
	comp=Z,205nm,18.0s						
SSE	**Sheshan**	**15.57**	**263**	P	**Pn**	**12 24 32.8**	**-0.3**
SSE				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SSE				pmax	pmax		
	comp=Z,230nm,4.3s						
SSE				LR	LR		
	comp=N,98nm,24.7s						
SSE				LR	LR		
	comp=E,77nm,24.6s						
SSE				LR	LR		
	comp=Z,120nm,36.1s						
KLR	**Kul'dur**	**15.96**	**342**	*e*P	Pn	12 24 30.6	-7.2
NJ2	**Nanjing**	**17.26**	**268**	*e*P	**Pn**	**12 24 54.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
YHNB	**Yeheng**	**18.28**	**243**	*e*P	**P**	**12 25 04.8**	**+0.4**
	comp=Z,48nm,0.9s						
YULB	**Yu-li**	**19.10**	**240**	*e*P	**P**	**12 25 12.7**	**-0.6**
	comp=Z,19nm,0.8s						
SSLB	**Suanglung**	**19.11**	**242**	*e*P	**P**	**12 25 11.9**	**-1.5**
	comp=Z,34nm,1.0s						
BJI	**Beijing**	**19.29**	**294**	P	**Pn**	**12 25 16.9**	**-0.7**
BJI				pmax	pmax		
	comp=Z,12nm,0.5s						
BJI				LR	LR		
	comp=N,260nm,11.9s						
BJI				LR	LR		
	comp=E,230nm,11.2s						
BJI				LR	LR		
	comp=Z,130nm,20.1s						
BJT	**Baijiatuao**	**19.29**	**294**	*e*P	**P**	**12 25 13.7**	**-1.5**
BJT				pmax	pmax		
	comp=Z,13nm,0.4s						
BJT	**Baijiatuao**	**19.29**	**294**	*e*P	**P**	**12 25 13.7**	**-1.5**
	comp=Z,13nm,0.4s						
TWG	**Pinlang**	**19.62**	**239**	*e*P	**P**	**12 25 18.7**	**-0.2**
	comp=Z,51nm,1.1s						
QZH	**Quanzhou**	**20.23**	**248**	P	**P**	**12 25 25.5**	**+0.1**
QZH				S	**S**	**12 29 02.0**	**-2.9**
QZH				sS	sS	12 29 33.5	-12
QZH				pmax	pmax		
	comp=Z,510nm,3.6s						
HIA	**Hailar**	**20.82**	**322**	*e*P	**P**	**12 25 28.6**	**-3.0**
HIA				pmax	pmax		
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**20.82**	**322**	*e*P	**P**	**12 25 28.6**	**-3.0**
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**21.37**	**267**	⇓P	**P**	**12 25 36.5**	**-1.1**
HHC	**Hu-ho-hao-te**	**22.89**	**295**	*e*P	**P**	**12 25 50.5**	**-2.4**
HHC				pP	**pP**	**12 26 15.8**	**-3.2**
HHC				PP	PP	12 26 27.8	
HHC				sP	sP	12 26 28.8	-7.2
HHC				S	**S**	**12 29 49.8**	**-2.4**
HHC				SS	SS	12 30 43.3	
HHC				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,6.1s						
PETK	**Petropavlovsk-**	**22.94**	**29**	P	**P**	**12 25 53.8**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=211,slow=4.2,SNR=13						
PETK				LR	LR	12 33 26.6	
	comp=Z,67nm,21.0s,baz=125,slow=32						
PETK	**Petropavlovsk-**	**22.94**	**29**	P	**P**	**12 25 53.8**	**+0.6**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PETK				MLR	MLR		
	comp=Z,67nm,21.0s						
PETK	**Petropavlovsk-**	**22.94**	**29**	P	**P**	**12 25 53.8**	**+0.6**
BTO	**Baotou**	**24.02**	**294**	*e*P	**P**	**12 26 01.8**	**-1.5**
CLNS	**Chul'man**	**24.62**	**341**	*d*P	**P**	**12 26 09.7**	**+1.2**
CLNS				pmax	pmax		
	comp=Z,73nm,0.8s						
CLNS				pmax	pmax		
	comp=N,46nm,0.8s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
XAN	**Xi'an**	**25.09**	**278**	P	**P**	**12 26 11.8**	**-1.2**
XAN				pP	pP	12 26 31.8	-10
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,31nm,7.1s						
ENH	**Enshi**	**25.47**	**269**	*e*P	**P**	**12 26 14.8**	**-1.7**
	comp=Z,45nm,0.6s						
ULN	**Ulaanbaatar**	**27.62**	**309**	*e*P	**P**	**12 26 35.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,30nm,0.6s						
ULN	**Ulaanbaatar**	**27.62**	**309**	*e*P	**P**	**12 26 35.6**	**-0.1**
	comp=Z,30nm,0.6s						
SONM	**Songino Array**	**28.04**	**309**	P	**P**	**12 26 40.2**	**+0.9**
	comp=Z,14nm,0.7s,baz=110,slow=8.6,SNR=98						
SONM				PcP	**PcP**	**12 29 50.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=113,slow=2.2,SNR=4.8						
SONM				ScP	**ScP**	**12 33 17.2**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=145,slow=2.7,SNR=11						
SONM				LR	LR	12 37 32.8	
	comp=Z,101nm,18.7s,baz=252,slow=35						
SONM	**Songino Array**	**28.04**	**309**	P	**P**	**12 26 40.2**	**+0.9**
SONM						12 29 50.5	
SONM				pmax	pmax		
	comp=Z,14nm,0.7s						
SONM				MLR	MLR		
	comp=Z,101nm,18.7s						
SONM	**Songino Array**	**28.04**	**309**	P	**P**	**12 26 40.2**	**+0.9**
SONM				PcP	**PcP**	**12 29 50.5**	**0.0**
SONM				ScP	**ScP**	**12 33 17.2**	**-1.4**
YAK	**Yakutsk**	**28.45**	**350**	*e*P	**P**	**12 26 41.6**	**-1.1**
YAK				*e**PP	**pP**	**12 27 15.0**	**+3.0**
YAK				*e*		12 27 35.2	
YAK				*e*		12 29 50.7	
YAK				*e*S	**S**	**12 31 17.9**	**-1.7**
YAK				*e*		12 32 53.7	
YAK				*e*		12 37 05.7	
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				smax	smax		
	comp=N,61nm,2.7s						
YAK				smax	smax		
	comp=E,28nm,2.8s						
YAK	**Yakutsk**	**28.45**	**350**	*e*P	**P**	**12 26 42.1**	**-0.6**
	comp=E,32nm,0.8s						
LZH	**Lanzhou**	**28.94**	**284**	*e*P	**P**	**12 26 46.8**	**-0.7**
LZH				pP	pP	12 27 07.4	-9.5
LZH				PP	**PnPn**	**12 27 46.0**	**-0.4**
LZH				*e*S	S	12 31 36.0	+7.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,68nm,4.0s						
LZH				LR	LR		
	comp=N,150nm,10.8s						
LZH				LR	LR		
	comp=E,160nm,12.5s						
LZH				LR	LR		
	comp=Z,190nm,13.2s						
BOD	**Bodaibo**	**29.05**	**332**	⇓*i*P	**P**	**12 26 48.5**	**+0.4**
BOD				pmax	pmax		
	comp=Z,33nm,1.0s						
GYA	**Guiyang**	**29.12**	**263**	⇑*i*P	**P**	**12 26 47.8**	**-1.4**
GYA				pP	pP	12 27 12.0	-6.5
GYA				sP	sP	12 27 25.3	-9.1
GYA				PP	**PnPn**	**12 27 44.4**	**-4.4**
GYA				PcP	**PcP**	**12 29 53.8**	**+0.2**
GYA				S	**S**	**12 31 29.5**	**-1.7**
GYA				sS	sS	12 32 10.5	-12
GYA				SS	**SnSn**	**12 33 04.0**	**-8.1**
GYA				ScP	**ScP**	**12 33 25.0**	**+2.6**
GYA				ScS	**ScS**	**12 37 17.8**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,90nm,4.5s						
CD2	**Chengdu**	**30.04**	**274**	P	**P**	**12 26 57.8**	**+0.6**
CD2				pP	**pP**	**12 27 23.1**	**-3.5**
CD2				sP	sP	12 27 37.0	-5.4
CD2				PP	**PnPn**	**12 27 59.9**	**-0.5**
CD2				S	**S**	**12 31 45.8**	**+0.5**
CD2				sS	sS	12 32 30.4	-6.5
CD2				SS	**SnSn**	**12 33 31.6**	**-2.5**
CD

BILL eS S 12 33 32.1 -2.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 38.97 257 eP P 12 28 12.9 -1.1
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 38.97 257 eP P 12 28 12.9 -1.1
comp=Z,9.2nm,0.9s
CM31 Chiang Mai Arr 39.15 257 P P 12 28 15.2 -0.3
comp=Z,4.6nm,0.6s
CMAR Chiang Mai Arr 39.15 257 P P 12 28 14.9 -0.6
comp=Z,5.1nm,0.6s,baz=46,slow=8.1,SNR=36
CMAR PcP PcP 12 30 23.1 +0.8
comp=Z,3.1nm,0.9s,baz=27,slow=1.6,SNR=10
CMAR ScP ScP 12 33 57.5 -0.4
comp=Z,0.4nm,0.3s,baz=7.3,slow=3.1,SNR=4.5
CMAR LR LR 12 43 05.4
comp=Z,47nm,21.2s,baz=225,slow=34
CMAR Chiang Mai Arr 39.15 257 P P 12 28 15.0 -0.6
CMAR 12 30 23.2
CMAR 12 33 57.5
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 39.15 257 P P 12 28 14.9 -0.6
CMAR PcP PcP 12 30 23.1 +0.8
CMAR ScP ScP 12 33 57.5 -0.4
WMQ Urumqi 40.62 299 P P 12 28 28.3 +0.8
WMQ pP pP 12 28 54.3 -3.6
WMQ sP sP 12 29 05.3 -8.2
WMQ pmax pmax
comp=Z,57nm,1.0s
WMQ pmax pmax
comp=Z,350nm,6.0s
LSA Lhasa 40.79 277 eP P 12 28 29.4 -0.1
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 40.79 277 eP P 12 28 29.4 -0.1
comp=Z,6.3nm,0.7s
NIKO Nikolski 40.91 47 eP P 12 28 28.8 -0.8
UNV Unalaska Valle 42.40 45 eP P 12 28 47.5 +5.9
comp=Z,177nm,1.5s
ZAA0 Zalesovo Array 42.56 315 eP P 12 28 42.8 -0.2
ZALV Zalesovo Beam 42.56 315 P P 12 28 42.9 -0.2
comp=Z,15nm,0.3s,baz=100,slow=6.4,SNR=176
ZALV PcP PcP 12 30 32.5 -0.4
comp=Z,3.5nm,0.5s,baz=88,slow=2.4,SNR=5.2
ZALV ScP ScP 12 34 09.0 -1.8
comp=Z,3.7nm,0.9s,baz=100,slow=3.6,SNR=9.4
ZALV Zalesovo Beam 42.56 315 P P 12 28 42.9 -0.2
ZALV 12 30 32.5
ZALV pmax pmax
comp=Z,15nm,0.3s
ZALV Zalesovo Beam 42.56 315 P P 12 28 42.9 -0.2
ZALV PcP PcP 12 30 32.5 -0.4
ZALV ScP ScP 12 34 09.0 -1.8
KAPI Kappang 43.21 209 P P 12 28 46.1 -2.6
comp=Z,2.9nm,0.4s,baz=115,slow=4.8,SNR=3.8
KAPI Kappang 43.21 209 P P 12 28 46.1 -2.6
NVS Novosibirsk 43.56 316⇑ *i*P P 12 28 51.1 +0.1
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=Z,56nm,0.7s
NVS pmax pmax
comp=E,39nm,0.6s
MK31 Makanchi Array 44.18 304 eP P 12 28 56.3 +0.1
MK31 pmax pmax
comp=Z,42nm,0.6s
MK31 Makanchi Array 44.18 304 eP P 12 28 56.5 +0.3
MKAR Makanchi Array 44.18 304 P P 12 28 56.5 +0.4
comp=Z,37nm,0.6s,baz=90,slow=9.8,SNR=584
MKAR ScP ScP 12 34 16.1 -1.5
comp=Z,1.9nm,0.8s,baz=76,slow=5.1,SNR=6.8
MKAR LR LR 12 46 37.5
comp=Z,58nm,19.8s,baz=353,slow=35
MKAR Makanchi Array 44.18 304 P P 12 28 56.6 +0.4
MKAR pmax pmax
comp=Z,37nm,0.6s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR MLR MLR
comp=Z,58nm,19.8s
MKAR Makanchi Array 44.18 304 eP P 12 28 56.6 +0.4
MKAR ScP ScP 12 34 16.1 -1.5
TAPN Taplejung 44.45 276 eP P 12 28 57.9 -1.0
comp=Z,24nm,0.4s
TAPN Taplejung 44.45 276 eP P 12 28 57.9 -1.0
comp=Z,24nm,0.4s
ODAN Odare 44.90 275 eP P 12 29 01.1 -1.3
comp=Z,24nm,0.5s
ODAN Odare 44.90 275 eP P 12 29 01.1 -1.3
comp=Z,24nm,0.5s
RAMN Ramite 45.52 276 eP P 12 29 06.3 -1.0
comp=Z,86nm,0.8s
RAMN Ramite 45.52 276 eP P 12 29 06.3 -1.0
comp=Z,86nm,0.8s
JIRN Jiri 45.59 277 eP P 12 29 07.6 -0.3
comp=Z,111nm,0.4s
JIRN Jiri 45.59 277 eP P 12 29 07.6 -0.3
comp=Z,111nm,0.4s
GUN Gumba 45.75 277 eP P 12 29 08.5 -0.7
comp=Z,65nm,0.7s
GUN Gumba 45.75 277 eP P 12 29 08.5 -0.7
comp=Z,65nm,0.7s
PKI Pulchoki 46.26 277 eP P 12 29 12.0 -1.2
PKI Pulchoki 46.26 277 eP P 12 29 12.0 -1.2
PKI Pulchoki 46.26 277 eP P 12 29 12.0 -1.2
KKN Kakani 46.29 277 eP P 12 29 12.5 -0.7
comp=Z,50nm,0.7s
KKN Kakani 46.29 277 eP P 12 29 12.5 -0.7
KKN pmax pmax
comp=Z,50nm,0.7s
KKN Kakani 46.29 277 eP P 12 29 12.5 -0.7
comp=Z,50nm,0.7s
KURK Kurchatov 46.33 310 P P 12 29 13.2 +0.2
comp=Z,40nm,0.6s,baz=88,slow=8.1,SNR=30
KURK Kurchatov 46.33 310*d i*P P 12 29 12.7 -0.3
KURK pmax pmax
comp=Z,157nm,1.1s
KURK Kurchatov 46.33 310 eP P 12 29 12.9 -0.1
comp=Z,98nm,0.8s
DMN Daman 46.50 277 eP P 12 29 13.9 -1.0
comp=Z,20nm,0.4s
DMN Daman 46.50 277 eP P 12 29 13.9 -1.0
comp=Z,20nm,0.4s
GKN Gorkha 46.73 278 eP P 12 29 15.8 -0.9
comp=Z,46nm,0.5s
GKN Gorkha 46.73 278 eP P 12 29 15.8 -0.9
comp=Z,46nm,0.5s
DANN Dangsing 47.33 279 eP P 12 29 21.1 -0.3
comp=Z,105nm,0.5s
DANN Dangsing 47.33 279 eP P 12 29 21.1 -0.3
comp=Z,105nm,0.5s
KOLN Koldanda 47.67 278 eP P 12 29 23.4 -0.6
comp=Z,34nm,0.6s
KOLN Koldanda 47.67 278 eP P 12 29 23.4 -0.6
comp=Z,34nm,0.6s
PYUN Piuthan 48.05 279 eP P 12 29 26.4 -0.5
PYUN Piuthan 48.05 279 eP P 12 29 26.4 -0.5
COEN Coen 48.10 175 eP P 12 29 26.8 -0.2
comp=Z,45nm,0.8s
COEN Coen 48.10 175 eP P 12 29 27.2 +0.2
comp=Z,57nm,0.8s
ULHL Ulahol 49.15 299 P P 12 29 35.5 +0.3
ULHL SNR=31 P P 12 29 35.5 +0.3
SNR=31
TKM2 Tokmak 2 49.47 300 P P 12 29 38.5 +1.0
SNR=146
TKM2 P P 12 29 38.5 +1.0
SNR=146
TKM2 Tokmak 2 49.47 300 *i* P P 12 29 38.5 +1.0
TKM2 Tokmak 2 49.47 300 eP P 12 29 38.5 +1.0
comp=Z,58nm,0.6s
KZA Kyzart 49.91 299 P P 12 29 42.5 +1.4
SNR=56
KZA P P 12 29 42.5 +1.4
SNR=56
KBK Karagaybulak 49.99 300 P P 12 29 42.2 +0.7
SNR=91
KBK P P 12 29 42.2 +0.7
SNR=91
KSH Kashi 50.00 296 eP P 12 29 44.8 +3.3
KSH e*p*P pP 12 30 10.8 -2.3
KSH e*s*P sP 12 30 23.8 -4.6
KSH e*P*cP **PcP 12 31 02.6 +3.1**
KSH e*P*P PP 12 31 42.8 +5.2
KSH e*S*cP **ScP 12 34 46.4 +4.1**
KSH e*P*cS **PcS 12 34 58.4 +1.7**
KSH e*S* **S 12 36 46.0 +4.2**
KSH sS sS 12 37 33.8 -2.6
KSH e*S*cS **ScS 12 39 21.4 +2.5**
KSH e*S*S **SS 12 40 20.5 +4.3**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,180nm,6.8s
KSH LR LR
comp=N,300nm,6.0s
KSH LR LR
comp=E,200nm,6.8s
KSH LR LR
comp=Z,190nm,6.6s
CHMS Chumysh 50.06 300 P P 12 29 42.0 +0.3
SNR=26
CHMS P P 12 29 42.0 +0.3
SNR=26
USP Ospenovka 50.18 301 P P 12 29 43.1 +0.5
SNR=60
USP P P 12 29 43.1 +0.5
SNR=60
AAK Ala-Archa 50.32 300 P P 12 29 44.3 +0.4
SNR=42
AAK P P 12 29 44.3 +0.4
SNR=42
AAK Ala-Archa 50.32 300 *i* P P 12 29 44.3 +0.4
AAK Ala-Archa 50.32 300 eP P 12 29 43.8 -0.1
comp=Z,159nm,0.7s
UCH Uchtor 50.40 299 P P 12 29 46.0 +1.1
SNR=7.2
UCH P P 12 29 46.0 +1.1
SNR=7.2
EKS2 Erkin-Say 50.83 300 P P 12 29 48.1 +0.3
SNR=16
EKS2 P P 12 29 48.1 +0.3
SNR=16
EKS2 Erkin-Say 50.83 300 eP P 12 29 48.0 +0.3
EKS2 pmax pmax
comp=Z,26nm,0.6s
EKS2 Erkin-Say 50.83 300 eP P 12 29 48.0 +0.3
comp=Z,26nm,0.6s
AML Almayashu 51.02 299 P P 12 29 50.5 +1.0
SNR=294
AML P P 12 29 50.5 +1.0
SNR=294
BVA0 Borovoye Array 51.19 314 *i* P P 12 29 49.9 -0.2
BVA0 pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 51.19 314 P P 12 29 50.2 +0.1
comp=Z,21nm,0.5s,baz=95,slow=7.8,SNR=21
BVAR Borovoye Array 51.19 314 P P 12 29 50.2 +0.1
BVAR pmax pmax
comp=Z,21nm,0.5s
BVAR Borovoye Array 51.19 314 P P 12 29 50.2 +0.1
BRVK Borovoye 51.25 314⇑ eP P 12 29 49.6 -0.9
BRVK pmax pmax
comp=Z,44nm,1.0s
BRVK Borovoye 51.25 314 eP P 12 29 50.1 -0.4
comp=Z,38nm,0.9s
SLKM Skilak Lake 51.40 37 eP P 12 29 50.6 -0.9
SLKM Skilak Lake 51.40 37 eP P 12 29 50.5 -0.9
COLD Coldfoot 51.40 28 eP P 12 29 50.8 -0.6
comp=Z,80nm,2.7s
SEW Seward 51.80 37 eP P 12 29 53.9 -0.6
comp=Z,26nm,0.9s
PMR Palmer 51.87 35 eP P 12 29 55.3 +0.3
PMR pmax pmax
comp=Z,47nm,1.8s
PMR Palmer 51.87 35 eP P 12 29 55.3 +0.3
comp=Z,47nm,1.8s
MCK McKinley 51.89 32 eP P 12 29 56.0 +0.9
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 51.89 32 eP P 12 29 56.0 +0.9
comp=Z,11nm,1.0s
SML Sawmill 52.24 35 eP P 12 29 58.7 +0.9
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 52.24 35 eP P 12 29 58.7 +0.9
comp=Z,4.3nm,0.9s
COLA College 52.34 31 eP P 12 29 58.8 +0.5
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 52.34 31 eP P 12 29 58.8 +0.5
comp=Z,7.1nm,0.8s
ILAR Eielson Array 52.75 31 P P 12 30 01.3 -0.1
comp=Z,5.2nm,0.7s,baz=276,slow=6.1,SNR=35
ILAR Eielson Array 52.75 31 P P 12 30 01.3 -0.1
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 52.75 31 P P 12 30 01.3 -0.1
KK31 Karatay Array 53.05 301 *i* P P 12 30 04.1 +0.1
KKAR Karatay Array 53.05 301 eP P 12 30 04.3 +0.3
KKAR pmax pmax
comp=Z,46nm,0.6s
KKAR Karatay Array 53.05 301 eP P 12 30 04.3 +0.3
comp=Z,46nm,0.6s
FITZ Fitzroy Crossi 53.68 196 P P 12 30 07.9 -0.7
comp=Z,7.8nm,0.6s,baz=24,slow=7.0,SNR=24
FITZ Fitzroy Crossi 53.68 196 eP P 12 30 08.0 -0.7
comp=Z,14nm,0.6s
FITZ Fitzroy Crossi 53.68 196 eP P 12 30 07.7 -1.0
comp=Z,14nm,1.1s
WRAB Tennant Creek 54.10 186 eP P 12 30 10.8 -1.0
WRAB pmax pmax
comp=Z,28nm,1.0s
WRAB Tennant Creek 54.10 186 eP P 12 30 10.8 -1.0
comp=Z,28nm,1.0s
WB2 Warramunga Arr 54.11 186 eP P 12 30 10.6 -1.2
WRA Warramunga Arr 54.11 186 P P 12 30 10.4 -1.4
comp=Z,20nm,0.6s,baz=1.0,slow=7.6,SNR=132
WRA ScP ScP 12 34 58.5 -1.4
comp=Z,2.2nm,0.9s,baz=4.1,slow=4.5,SNR=6.2
WRA Warramunga Arr 54.11 186 P P 12 30 10.4 -1.4
WRA pmax pmax
comp=Z,20nm,0.6s
WRA pmax pmax
comp=N,2.0nm,0.9s
WRA Warramunga Arr 54.11 186 P P 12 30 10.4 -1.4
WRA ScP ScP 12 34 58.5 -1.4
CTA Charters Tower 54.46 172 P P 12 30 14.2 -0.1
comp=N,3.5nm,0.6s,baz=343,slow=11,SNR=6.0
CTA Charters Tower 54.46 172 eP P 12 30 14.3 0.0
comp=N,2.9nm,0.6s
CTA Charters Tower 54.46 172 P P 12 30 14.2 -0.1
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTA Charters Tower 54.46 172 P P 12 30 14.2 -0.1
SVE Sverdlovsk 56.10 320⇑ *i*P P 12 30 26.2 +0.5
SVE pmax pmax
comp=Z,44nm,1.3s
HYB Hyderabad 56.41 269 *i* P P 12 30 27.0 -1.6
KBL Kabul 56.81 292 eP P 12 30 30.9 -0.5
KBL pmax pmax
comp=Z,25nm,1.1s
KBL Kabul 56.81 292 eP P 12 30 30.9 -0.5
comp=Z,25nm,1.1s
ARU Arti 57.31 319*d i*P P 12 30 34.1 -0.1
ARU *e*PP **pP 12 31 07.8 +1.2**
ARU 12 31 23.7
ARU 12 32 39.3
ARU S S 12 38 23.6 +4.1
ARU SS SS 12 42 15.4 +5.0
ARU pmax pmax
comp=Z,59nm,1.7s
ARU Arti 57.31 319 eP P 12 30 34.2 0.0
comp=Z,22nm,0.6s
INK Inuvik 57.63 26 P P 12 30 36.9 +0.6
comp=Z,7.3nm,0.6s,baz=319,slow=5.3,SNR=20
INK Inuvik 57.63 26 P P 12 30 36.9 +0.6
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 57.63 26 P P 12 30 36.9 +0.6
AS31 Alice Springs 57.84 186 eP P 12 30 37.6 -0.8
ASAR Alice Springs 57.84 186 P P 12 30 37.8 -0.5
comp=Z,8.2nm,0.6s,baz=16,slow=12,SNR=145
ASAR ScP ScP 12 35 15.1 -1.2
comp=Z,1.1nm,0.9s,baz=0.6,slow=4.7,SNR=4.8
ASAR Alice Springs 57.84 186 P P 12 30 37.8 -0.5
ASAR pmax pmax
comp=Z,8.0nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.9s
ASAR Alice Springs 57.84 186 P P 12 30 37.8 -0.5
ASAR ScP ScP 12 35 15.1 -1.2
MBWA Marble Bar 58.18 202 eP P 12 30 39.6 -1.1
MBWA Marble Bar 58.18 202 eP P 12 30 39.2 -1.4
comp=N,20nm,0.7s
AB31 Akbulak array 58.42 311 P P 12 30 42.2 +0.1
AB31 pmax pmax
comp=Z,32nm,0.5s
ABKAR Akbulak array 58.42 311 eP P 12 30 42.1 0.0
comp=Z,40nm,0.4s
AKTO Aktyubinsk 59.26 313 P P 12 30 48.0 +0.2
comp=Z,35nm,0.7s,baz=100,slow=7.0,SNR=16
AKTO Aktyubinsk 59.26 313 P P 12 30 48.1 +0.2
AKTO pmax pmax
comp=Z,35nm,0.7s
AKTO Aktyubinsk 59.26 313 P P 12 30 48.0 +0.2
POO Poona 59.76 273 eP P 12 30 50.0 -1.9
POO *ex* x 12 34 11.0
EIDS Eidsvold 60.35 168 eP P 12 30 55.6 0.0
comp=Z,39nm,0.6s
QLP Quilpie 60.70 175 eP P 12 30 57.4 -0.5
DZM Mont Dzumac 61.69 151 P P 12 31 06.0 +1.3
comp=Z,10nm,1.0s,baz=58,slow=16,SNR=6.1
DZM Mont Dzumac 61.69 151 P P 12 31 06.0 +1.3
DLBC Dease Lake 61.87 37 P P 12 31 06.9 +1.4
comp=Z,2.4nm,0.7s,baz=278,slow=2.4,SNR=5.7
DLBC Dease Lake 61.87 37 P P 12 31 06.9 +1.4
SPITS Spitsbergen Ar 62.90 349 P P 12 31 12.7 +0.7
comp=Z,12nm,0.7s,baz=90,slow=6.8,SNR=12
SPITS Spitsbergen Ar 62.90 349 P P 12 31 12.7 +0.7
SPITS pmax pmax
comp=Z,13nm,0.7s
SPITS Spitsbergen Ar 62.90 349 P P 12 31 12.7 +0.7
ALE Alert 62.97 3 P P 12 31 13.0 +0.6
comp=Z,87nm,0.9s,SNR=7.0
MEEK Meekatharra 63.67 201 eP P 12 31 16.3 -1.4
comp=Z,44nm,0.8s
ABKT Ailbek 63.67 299 P P 12 31 18.4 +0.6
comp=Z,145nm,0.7s,SNR=6.6
KLMR Klimovskoe 65.17 328 eP P 12 31 24.3 -2.8
KLMR pmax pmax
comp=Z,44nm,1.3s
KEV Kevo 65.41 339 eP P 12 31 27.8 -0.7
KEV pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 65.41 339 *e*p P 12 31 27.8 -0.7
comp=Z,8.6nm,0.8s
KEV Kevo 65.41 339 *e*p P 12 31 27.8 -0.7
comp=Z,8.6nm,0.8s
FORT Forrest 65.56 191 eP P 12 31 29.7 -0.1
comp=Z,28nm,0.6s
FORT Forrest 65.56 191 eP P 12 31 29.8 -0.1
comp=Z,43nm,0.8s
RES Resolute Bay 65.70 14 P P 12 31 30.8 +0.5
comp=Z,3.6nm,0.4s,baz=310,slow=4.2,SNR=6.8
RES Resolute Bay 65.70 14 P P 12 31 30.8 +0.5
RES pmax pmax
comp=Z,4.0nm,0.4s
RES Resolute Bay 65.70 14 P P 12 31 30.8 +0.5
STKA Stephens Creek 65.83 178 P P 12 31 31.9 +0.3
comp=Z,3.9nm,0.6s,baz=336,slow=7.6,SNR=14
STKA Stephens Creek 65.83 178 eP P 12 31 31.6 0.0
comp=Z,3.5nm,0.6s
STKA Stephens Creek 65.83 178 P P 12 31 31.9 +0.3
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA Stephens Creek 65.83 178 P P 12 31 31.9 +0.3
ARCES ARCESS Array B 65.97 339 P P 12 31 32.5 +0.4
comp=Z,14nm,0.9s,baz=49,slow=6.7,SNR=14
ARCES ARCESS Array B 65.97 339 P P 12 31 32.5 +0.4
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 65.97 339 P P 12 31 32.5 +0.4
YKA Yellowknife Ar 67.06 29 P P 12 31 39.0 0.0
comp=Z,2.0nm,0.6s,baz=299,slow=6.1,SNR=31
YKA Yellowknife Ar 67.06 29 P P 12 31 39.1 0.0
YKA Yellowknife Ar 67.06 29 P P 12 31 39.0 0.0
JOF Joensuu 67.59 332 eP P 12 31 41.5 -0.9
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 67.59 332 *e*p P 12 31 41.5 -0.9
comp=Z,12nm,0.6s
JOF Joensuu 67.59 332 *e*p P 12 31 41.5 -0.9
comp=Z,12nm,0.6s
BLDU Ballidu 67.96 201 eP P 12 31 44.0 -1.1
DAG Danmarks Havn 68.37 355 *i* P P 12 31 47.2 +0.1
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 68.37 355 *i* P P 12 31 47.2 +0.1
comp=Z,101nm,0.8s
MOS Moscow 68.44 323 eP P 12 31 46.4 -1.5
MOS pmax pmax
comp=Z,69nm,0.8s
VRHR Novokhopersk 68.58 318 eP P 12 31 47.4 -1.4
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
OBN Obninsk 69.27 323 *i* P P 12 31 53.0 0.0
OBN *e**PP **pP 12 32 27.8 +1.3**
OBN *e* 12 34 30.8
OBN e*S*S SS 12 45 18.7 +2.2
OBN pmax pmax
comp=Z,17nm,0.4s
NLWA Neilton Lookou 69.86 46 eP P 12 31 57.7 +0.8
comp=Z,16nm,1.2s
VSR Storozhevoye 69.87 319 eP P 12 31 56.1 -0.7
KAF Kangasniemi 69.97 333 eP P 12 31 55.6 -1.6
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 69.97 333 *e*p P 12 31 55.6 -1.6
comp=Z,10nm,0.7s
KAF Kangasniemi 69.97 333 *e*p P 12 31 55.6 -1.6
comp=Z,10nm,0.7s
NWAO Narrogin (SRO) 69.98 200 P P 12 31 56.8 -0.7
comp=Z,17nm,0.8s,baz=21,slow=9.3,SNR=10
NWAO Narrogin (SRO) 69.98 200 P P 12 31 56.8 -0.7
NWAO pmax pmax
comp=Z,17nm,0.8s
NWAO Narrogin (SRO) 69.98 200 P P 12 31 56.8 -0.7
FINES FINESS Array B 70.45 332 P P 12 32 00.0 -0.1
comp=Z,20nm,0.9s,baz=79,slow=5.8,SNR=31
FINES FINESS Array B 70.45 332 P P 12 32 00.0 -0.1
FINES pmax pmax
comp=Z,20nm,0.9s
FINES FINESS Array B 70.45 332 P P 12 32 00.0 -0.1
JCW Jim Creek 70.61 45 eP P 12 32 02.1 +0.7
DGRG David-gareji 70.91 307 P P 12 32 01.6 -1.7
TBLG Delisi 71.19 308 eP P 12 32 04.7 -0.3
TBLG Delisi 71.19 308 P P 12 32 04.7 -0.3
ZEI Tsey 71.22 309 eP P 12 32 04.0 -1.5
ZEI pmax pmax
comp=Z,38nm,1.0s
LON Longmire 71.41 46 eP P 12 32 06.5 +0.2
LON Longmire 71.41 46 eP P 12 32 06.5 +0.2
comp=Z,4.0nm,1.2s
KIV Kislovodsk 71.41 311 eP P 12 32 06.6 +0.2
KIV pmax pmax
comp=Z,86nm,0.9s
KIV Kislovodsk 71.41 311 eP P 12 32 06.9 +0.6
comp=Z,78nm,0.9s
GOR Gori 71.47 308 P P 12 32 07.2 +0.5
ONI Oni 71.60 309 P P 12 32 07.9 +0.4
ETW Entiat 71.84 44 eP P 12 32 09.5 +0.6
VSU Vasula 71.95 329⇑ eP P 12 32 09.6 +0.4
VSU pmax pmax
comp=Z,29nm,0.8s
GNI Garni 71.97 307*d i*P P 12 32 10.8 +0.9
GNI pmax pmax
comp=Z,45nm,1.7s
GNI Garni 71.97 307 eP P 12 32 10.5 +0.7
comp=Z,21nm,0.9s
HUMO Hull Mountain 72.81 50 eP P 12 32 16.2 +1.6
OD2 Odessa Site #2 72.89 44 eP P 12 32 15.4 +0.4
HAWA Hanford 72.94 45 eP P 12 32 16.2 +0.9
comp=Z,9.0nm,1.1s
KHMM Horse Mountain 73.20 52 eP P 12 32 19.0 +1.9
comp=Z,21nm,1.4s
NEW Newport 73.32 43 eP P 12 32 18.1 +0.5
NEW e*PP **pP 12 32 54.3 +2.9**
NEW pmax pmax
comp=Z,11nm,1.1s

NEW	**Newport**	73.32	43	*e*P		**P**		12 32 18.1	+0.5
	comp=Z,11nm,1.1s									
NEW				*epP*		**pP**		12 32 54.3	+2.9
NEW	**Newport**	73.32	43	⇑P		**P**		12 32 18.0	+0.5
	baz=73,SNR=7.7									
YBH	**Yreka Blue Hor**	73.41	51	P		**P**		12 32 19.5	+1.2
	comp=Z,5.5nm,0.8s,baz=8.7,slow=3.7,SNR=27									
YBH	**Yreka Blue Hor**	73.41	51	P		**P**		12 32 19.5	+1.2
YBH				pmax	pmax					
	comp=Z,6.0nm,0.8s									
YBH	**Yreka Blue Hor**	73.41	51	P		**P**		12 32 19.5	+1.2
SUMG	**Summit**	73.44	359	*e*P		**P**		12 32 19.6	+1.4
SUMG				pmax	pmax					
	comp=Z,29nm,0.9s									
SUMG	**Summit**	73.44	359	*e*P		**P**		12 32 19.6	+1.4
	comp=Z,29nm,0.9s									
SUMG	**Summit**	73.44	359	*i* P		**P**		12 32 19.1	+0.9
	comp=Z,17nm,0.8s									
SUMG				*i*				12 32 56.4		
SOC	**Sochi**	73.45	312	*c i*P		**P**		12 32 17.7	-0.6
SOC				*e**SP		**sP**		12 33 05.3	-1.6
SOC				*e*S		**S**		12 41 38.8	+2.3
SOC				*e**SS		sS		12 42 28.9	-6.0
SOC				*i* SSS		SSS		12 49 40.6		
SOC				pmax	pmax					
	comp=Z,26nm,0.7s									
A12A	**Yaak River Ran**	73.77	42	⇑P		**P**		12 32 21.2	+1.0
	baz=74,SNR=5.2									
C11A	**Tepee Creek (N**	74.04	43	⇑P		**P**		12 32 22.5	+0.7
	baz=74									
WDC	**Whiskeytown Da**	74.12	52	*e*P		**P**		12 32 23.2	+0.9
WDC	**Whiskeytown Da**	74.12	52	*e*P		**P**		12 32 23.2	+0.9
ANN	**Anapa**	74.19	314	*e*P		**P**		12 32 19.6	-3.0
ANN				*e*				12 32 34.3		
ANN				*e**PP		**pP**		12 32 54.1	-2.4
ANN				*e*				12 35 12.3		
ANN				*e*PPP		PPP		12 36 53.2		
ANN				*e*S		**S**		12 41 42.5	-2.3
ANN				*e*SS		**SS**		12 46 32.5	+0.3
ANN				pmax	pmax					
	comp=Z,110nm,1.1s									
C12B	**Naegeli Ranch,**	74.55	43	⇑P		**P**		12 32 25.6	+0.9
	baz=74									
SCO	**Scoresbysund**	74.67	354	*i* P		**P**		12 32 26.1	+1.2
SCO				pmax	pmax					
	comp=Z,6.0nm,0.8s									
SCO	**Scoresbysund**	74.67	354	*i* P		**P**		12 32 26.1	+1.2
	comp=Z,5.7nm,0.8s									
B13A	**Whitefish**	74.73	42	⇑P		**P**		12 32 26.7	+0.9
	baz=75,SNR=6.5									
MOD	**Modoc**	74.85	50	*e*P		**P**		12 32 27.6	+0.9
D12A	**Red Ives Fores**	74.99	43	⇑P		**P**		12 32 27.8	+0.4
	baz=75									
C13A	**Hot Springs**	75.07	42	⇑P		**P**		12 32 28.5	+0.7
	baz=75,SNR=13									
BMO	**Blue Mountains**	75.08	46	*e*P		**P**		12 32 28.6	+0.7
	comp=Z,4.7nm,0.5s									
JTMT	**Jette**	75.19	42	*e*P		**P**		12 32 29.7	+1.1
MIB	**Mutribah**	75.37	296	*e*P		**P**		12 32 29.1	-0.6
MIB				AMb		AMB		12 32 30.2		
	comp=Z,82nm,1.1s									
B14A	**Marquette Ranc**	75.40	41	⇑P		**P**		12 32 30.5	+0.8
	baz=75,SNR=8.2									
AKASG	**Malin Array Be**	75.42	322	P		**P**		12 32 29.1	-0.4
	comp=Z,20nm,0.6s,baz=49,slow=5.9,SNR=58									
AKASG				LR		LR		13 10 47.7		
	comp=Z,68nm,20.7s,baz=290,slow=40									
AKASG	**Malin Array Be**	75.42	322	P		**P**		12 32 29.1	-0.4
AKASG				pmax	pmax					
	comp=Z,20nm,0.6s									
AKASG				MLR		MLR				
	comp=Z,68nm,20.7s									
AKASG	**Malin Array Be**	75.42	322	P		**P**		12 32 29.1	-0.4
AKBB	**Malin Array Si**	75.42	322	*e*P		**P**		12 32 28.8	-0.7
AKBB	**Malin Array Si**	75.42	322	*e*P		**P**		12 32 28.8	-0.7
KIEV	**Kiev**	75.43	322	*e i*P		**P**		12 32 29.0	-0.6
KIEV	**Kiev**	75.43	322	*e*P		**P**		12 32 28.3	-1.3
KBD	**Kabd**	75.43	295	*e*P		**P**		12 32 29.4	-0.6
KBD				AMb		AMB		12 32 30.4		
	comp=Z,56nm,0.8s									
D13A	**Huson**	75.47	43	⇓P		**P**		12 32 30.3	+0.2
	baz=75									
QRN	**Al-Qurain**	75.48	295	*e*P		**P**		12 32 29.6	-0.7
QRN				AMb		AMB		12 32 30.6		
	comp=Z,126nm,0.9s									
SWMT	**Swartz Lake**	75.49	42	*e*P		**P**		12 32 31.0	+0.8
WVOR	**Wild Horse Val**	75.61	48	*e*P		**P**		12 32 31.6	+0.6
WVOR				pmax	pmax					
	comp=Z,7.0nm,1.0s									
WVOR	**Wild Horse Val**	75.61	48	*e*P		**P**		12 32 31.6	+0.6
	comp=Z,6.7nm,1.0s									
NAY	**Al-Naaiem**	75.73	296	*e*P		**P**		12 32 31.0	-0.7
NAY				AMb		AMB		12 32 32.4		
	comp=Z,70nm,0.9s									
F12A	**Elk City**	75.78	44	⇑P		**P**		12 32 32.6	+0.7
	baz=76,SNR=19									
B15A	**Bradely Ranch,**	75.81	41	⇑P		**P**		12 32 32.7	+0.6
	baz=76,SNR=13									
HFS	**Hagfors**	75.88	335	P		**P**		12 32 31.9	-0.1
	comp=Z,6.2nm,0.6s,baz=100,slow=4.4,SNR=8.1									
HFS	**Hagfors**	75.88	335	P		**P**		12 32 31.9	-0.1
HFS				pmax	pmax					
	comp=Z,6.0nm,0.6s									
HFS	**Hagfors**	75.88	335	P		**P**		12 32 31.9	-0.1
MSO	**Missoula**	75.91	43	*e*P		**P**		12 32 33.0	+0.4
MSO	**Missoula**	75.91	43	⇑P		**P**		12 32 32.7	0.0
	baz=76									
SLMT	**Seeley Lake**	75.92	42	*e*P		**P**		12 32 33.0	+0.2
E13A	**Victor**	75.99	43	⇑P		**P**		12 32 33.0	-0.1
	baz=76									
D14A	**Greenough**	76.01	42	⇓P		**P**		12 32 33.4	+0.2
	baz=76,SNR=5.9									
NB2	**NORSAR Subarra**	76.05	337	P		**P**		12 32 32.8	-0.3
	comp=Z,15nm,0.9s,baz=42,slow=5.6									
NOA	**NORSAR Array B**	76.05	337	P		**P**		12 32 32.9	-0.2
	comp=Z,6.6nm,0.7s,baz=42,slow=5.9,SNR=25									
NOA				PP		**PP**		12 35 24.6	-0.3	
	comp=Z,1.4nm,0.9s,baz=44,slow=8.5,SNR=4.5									
NOA	**NORSAR Array B**	76.05	337	P		**P**		12 32 32.9	-0.2
NOA								12 35 24.6		
NOA				pmax	pmax					
	comp=Z,7.0nm,0.7s									
NOA	**NORSAR Array B**	76.05	337	P		**P**		12 32 32.9	-0.2
NOA				PP		**PP**		12 35 24.6	-0.3	
SIM	**Simferopol'**	76.08	315	*c i*P		**P**		12 32 31.6	-1.8
SIM				pmax	pmax					
	comp=Z,24nm,1.1s									
G12A	**Big Creek, Yel**	76.09	45	⇓P		**P**		12 32 33.6	-0.2
	baz=76									
C15A	**Salmond Ranch,**	76.10	41	⇑P		**P**		12 32 34.5	+0.8
	baz=76,SNR=15									
B16A	**M & M Farms, S**	76.21	40	⇓P		**P**		12 32 34.7	+0.4
	baz=76,SNR=5.2									
F13A	**Darby**	76.29	44	⇑P		**P**		12 32 35.0	+0.1
	baz=76,SNR=5.5									
E14A	**Clinton**	76.40	43	⇑P		**P**		12 32 35.4	0.0
	baz=76									
C16A	**Fuhringer Ranc**	76.55	41	⇑P		**P**		12 32 36.8	+0.6
	baz=76,SNR=5.6									
D15A	**Lincoln**	76.58	42	⇑P		**P**		12 32 36.6	+0.1
	baz=76									
WCN	**Washoe City**	76.61	52	⇑P		**P**		12 32 37.0	+0.2
	baz=76									
H12A	**Diamond D Ranc**	76.70	45	⇓P		**P**		12 32 37.5	+0.3
	baz=76,SNR=14									
G13A	**Cobalt**	76.75	44	⇓P		**P**		12 32 37.3	-0.1
	baz=77									
MFID	**Camas Ranch**	76.77	46	*e*P		**P**		12 32 38.4	+0.9
MFID	**Camas Ranch**	76.77	46	⇓P		**P**		12 32 38.4	+0.9
	baz=77,SNR=12									
B17A	**L&G Farms, Che**	76.77	40	⇑P		**P**		12 32 38.0	+0.6
	baz=77,SNR=7.4									
E15A	**Deer Lodge**	76.87	42	⇓P		**P**		12 32 38.5	+0.4
	baz=77,SNR=6.6									
CMB	**Columbia Colle**	76.89	53	*e*P		**P**		12 32 39.0	+0.8
CMB	**Columbia Colle**	76.89	53	*e*P		**P**		12 32 39.0	+0.8
A18A	**Metzger Ranch,**	76.90	39	⇓P		**P**		12 32 38.4	+0.3
	baz=77,SNR=8.9									
FFC	**Flin Flon**	76.96	31	*i* P		**P**		12 32 38.6	+0.4
FFC	**Flin Flon**	76.96	31	*e*P		**P**		12 32 38.0	-0.3
	comp=Z,6.7nm,1.1s									
I12A	**Atlanta**	76.97	46	⇓P		**P**		12 32 39.2	+0.4
	baz=77									
H13A	**Challis**	77.04	45	⇑P		**P**		12 32 39.6	+0.6
	baz=77,SNR=18									
D16A	**Dana Ranch, Ca**	77.12	42	⇓P		**P**		12 32 39.9	+0.4
	baz=77,SNR=7.2									
HRY	**Holter Researc**	77.16	42	*e*P		**P**		12 32 40.5	+0.9
C17A	**Wharram Farm,**	77.19	41	⇑P		**P**		12 32 39.8	+0.1
	baz=77									
B18A	**Beardsley Farm**	77.25	40	⇓P		**P**		12 32 40.7	+0.6
	baz=77,SNR=8.8									
F15A	**Butte**	77.30	43	⇑P		**P**		12 32 41.0	+0.4
	baz=77,SNR=20									
LRM	**Limekiln Ridge**	77.34	43	*e*P		**P**		12 32 41.1	+0.3
LRM				*epP*		**pP**		12 33 17.8	+2.8
E16A	**East Helena**	77.35	42	⇑P		**P**		12 32 41.2	+0.4
	baz=77,SNR=5.1									
A19A	**Klindworth Far**	77.47	39	⇑P		**P**		12 32 41.4	+0.1
	baz=77									
EGMT	**Eagleton**	77.49	40	*e*P		**P**		12 32 41.7	+0.3
EGMT				*epP*		**pP**		12 33 18.2	+2.7
EGMT	**Eagleton**	77.49	40	⇑P		**P**		12 32 41.8	+0.3
	baz=77,SNR=5.4									
I13A	**Wildhorse Cree**	77.50	45	⇓P		**P**		12 32 42.6	+0.9
	baz=77,SNR=10									
D17A	**Six Diamond Ra**	77.52	41	⇑P		**P**		12 32 42.0	+0.3
	baz=77,SNR=8.1									
H14A	**Leadore**	77.52	44	⇑P		**P**		12 32 42.0	+0.2
	baz=77									
DLMT	**Dillon**	77.53	43	*e*P		**P**		12 32 42.5	+0.8
	comp=Z,6.3nm,0.6s									
HLID	**Hailey**	77.53	46	*e*P		**P**		12 32 42.9	+1.0
HLID	**Hailey**	77.53	46	⇑P		**P**		12 32 42.7	+0.9
	baz=77,SNR=9.2									
B19A	**Brinkman Farms**	77.65	39	⇓P		**P**		12 32 43.1	+0.8
	baz=78,SNR=6.8									
MCMT	**McKenzie Canyo**	77.70	44	*e*P		**P**		12 32 42.8	-0.1
	comp=Z,0.6nm,0.5s									
G15A	**Dillon**	77.70	43	⇓P		**P**		12 32 43.3	+0.4
	baz=78,SNR=11									
J13A	**Cove Ranch, Pi**	77.77	46	⇓P		**P**		12 32 44.1	+1.0
	baz=78,SNR=9.6									
F16A	**Kennard Place,**	77.82	43	⇓P		**P**		12 32 44.0	+0.7
	baz=78,SNR=9.5									
E17A	**Martinsdale**	77.84	42	⇓P		**P**		12 32 44.5	+1.0
	baz=78,SNR=9.7									
I14A	**Mackay**	77.88	45	⇓P		**P**		12 32 45.0	+1.2
	baz=78,SNR=28									
A20A	**Cobblestone Ra**	77.92	38	⇓P		**P**		12 32 43.9	+0.1
	baz=78									
D18A	**Linhart Farms,**	77.97	41	⇑P		**P**		12 32 44.4	+0.3
	baz=78									
NVAR	**Mina Array Bea**	78.04	52	P		**P**		12 32 45.6	+0.7
	comp=Z,5.2nm,0.7s,baz=294,slow=5.3,SNR=48									
NVAR	**Mina Array Bea**	78.04	52	P		**P**		12 32 45.6	+0.7
C19A	**Slack Wire Ran**	78.04	40	⇓P		**P**		12 32 45.2	+0.7
	baz=78,SNR=10									
G16A	**Moss Hill, Enn**	78.06	43	⇓P		**P**		12 32 45.0	+0.3
	baz=78,SNR=5.4									
B20A	**Solberg Farm,**	78.15	39	⇓P		**P**		12 32 45.1	+0.1
	baz=78									
F17A	**Fitzpatrick Pl**	78.29	42	⇑P		**P**		12 32 46.7	+0.7
	baz=78									
E18A	**Harlowton**	78.30	41	⇑P		**P**		12 32 46.7	+0.7
	baz=78,SNR=5.4									
A21A	**Bergtoll Ranch**	78.36	38	⇑P		**P**		12 32 46.4	+0.2
	baz=78,SNR=5.7									
D19A	**Cripps Ranch,**	78.49	40	⇓P		**P**		12 32 47.5	+0.5
	baz=78,SNR=6.7									
G17A	**Pierce Place,**	78.60	43	⇓P		**P**		12 32 48.5	+0.8
	baz=78,SNR=7									
C20A	**Veseth Ranch,**	78.61	39	⇓P		**P**		12 32 48.1	+0.6
	baz=78,SNR=5.0									
ELK	**Elko**	78.66	48	P		**P**		12 32 49.2	+0.9
	comp=Z,2.9nm,0.7s,baz=295,slow=6.8,SNR=14									
ELK	**Elko**	78.66	48	P		**P**		12 32 49.2	+0.9
ELK	**Elko**	78.66	48	P		**P**		12 32 49.2	+0.9
B21A	**Ellsworth Farm**	78.67	38	⇑P		**P**		12 32 48.3	+0.4
	baz=78									
H16A	**Russell Place,**	78.69	43	⇑P		**P**		12 32 48.9	+0.6
	baz=78									
J15A	**Blackfoot**	78.79	45	⇑P		**P**		12 32 49.7	+1.0
	baz=79									
F18A	**Big Timber**	78.81	42	⇓P		**P**		12 32 49.3	+0.5
	baz=79,SNR=6.4									
K14A	**Jones Ranch, D**	78.86	46	⇑P		**P**		12 32 49.8	+0.6
	baz=79									
A22A	**Carney Farms,**	78.87	38	⇓P		**P**		12 32 49.0	0.0
	baz=79,SNR=7.6									
D20A	**Manuel Ranch,**	78.93	40	⇓P		**P**		12 32 50.2	+0.8
	baz=79,SNR=5.7									
E19A	**Rath Farm, Rou**	78.97	41	⇑P		**P**		12 32 50.3	+0.6
	baz=79,SNR=9.8									
VES	**Vestal, Richgr**	78.98	54	⇑P		**P**		12 32 49.6	-0.2
	baz=79									
PKM	**Peak Mountain**	79.01	55	⇑P		**P**		12 32 50.8	+0.6
	baz=79									
BSD	**Bornholm Skovb**	79.05	331	⇓*i*P		**P**		12 32 49.2	-0.5
BSD				pmax	pmax					
	comp=Z,12nm,0.8s									
BSD	**Bornholm Skovb**	79.05	331	⇓*i*P		**P**		12 32 49.2	-0.5
	comp=Z,12nm,0.8s									
I16A	**Newdale**	79.05	44	⇑P		**P**		12 32 51.8	+1.6
	baz=79,SNR=9.9									
K15A	**Arbon**	79.16	46	⇓P		**P**		12 32 51.8	+1.0
	baz=79									
LKWY	**Lake**	79.25	43	*e*P		**P**		12 32 53.6	+2.2
LKWY	**Lake**	79.25	43	*e*P		**P**		12 32 53.5	+2.2
	comp=Z,3.0nm,0.8s									
H17A	**Grant Village**	79.26	43	⇓P		**P**		12 32 53.7	+2.2
	baz=79,SNR=12									
F19A	**Roth Farm, Mol**	79.27	41	⇑P		**P**		12 32 51.5	+0.3
	baz=79									
B22A	**Reddig Ranch S**	79.28	38	⇑P		**P**		12 32 51.3	+0.1
	baz=79									
E20A	**Meyer Farm, Mu**	79.30	40	⇑P		**P**		12 32 52.3	+0.9
	baz=79,SNR=6.0									
J16A	**Bone**	79.34	45	⇓P		**P**		12 32 52.9	+1.0
	baz=79									
KWP	**Kalwaria Pacla**	79.35	324	*e*P		**P**		12 32 51.9	+0.4
KWP	**Kalwaria Pacla**	79.35	324	⇓P		**P**		12 32 52.1	+0.6
KWP	**Kalwaria Pacla**	79.35	324	⇓*i*P		**P**		12 32 52.1	+0.6
IMW	**Indian Meadow**	79.35	44	*e*P		**P**		12 32 53.3	+1.3
BR131	**Keskin Array S**	79.37	311	*e*P		**P**		12 32 52.2	+0.2
	comp=Z,20nm,0.9s									
BRTR	**Keskin Array B**	79.37	311	P		**P**		12 32 52.2	+0.2
	comp=Z,21nm,0.9s,baz=124,slow=4.3,SNR=65									
BRTR				PP		**PP**		12 35 54.1	+0.7	
	comp=Z,1.3nm,0.7s,baz=57,slow=9.0,SNR=3.6									
BRTR	**Keskin Array B**	79.37	311	P		**P**		12 32 52.2	+0.2
BRTR								12 35 54.1		
BRTR				pmax	pmax					
	comp=Z,21nm,1.0s									
BRTR	**Keskin Array B**	79.37	311	P		**P**		12 32 52.2	+0.2
BRTR				PP		**PP**		12 35 54.1	+0.7	
FLWY	**Flagg Ranch**	79.38	44	*e*P		**P**		12 32 54.1	+2.0
BUR08	**Bucovina Ar. S**	79.38	321	*e*P		**P**		12 32 51.5	-0.4
BURAR	**Bucovina Array**	79.39	321	⇑*i*P		**P**		12 32 52.2	+0.3
GRAC	**Grapevine Rang**	79.46	52	⇓P		**P**		12 32 53.2	+0.8
	baz=79									
ISA	**Isabella**	79.49	54	*e*P		**P**		12 32 52.4	-0.2
ISA	**Isabella**	79.49	54	*e*P		**P**		12 32 52.4	-0.2
ISA	**Isabella**	79.49	54	⇑P		**P**		12 32 52.5	-0.2
	baz=79									
RLMT	**Red Lodge**	79.54	42	⇓P		**P**		12 32 53.4	+0.5
	baz=79									
RLMT				⇓P		**P**		12 32 53.4	+0.5	
	baz=79									
I17A	**Pilgrim Ck.**	79.55	44	⇓P		**P**		12 32 54.6	+1.6
	baz=79,SNR=7.4									
D21A	**La Casta Ranch**	79.55	40	⇑P		**P**		12 32 52.8	+0.1
	baz=79									
ARVC	**Arvin**	79.55	55	⇓P		**P**		12 32 53.4	+0.6
	baz=79									
MOOW	**Moose Ponds**	79.55	44	*e*P		**P**		12 32 54.4	+1.4
H18A	**Shoshone NF, C**	79.60	43	⇑P		**P**		12 32 54.1	+0.9
	baz=79									
K16A	**Soda Springs**	79.62	45	⇑P		**P**		12 32 54.7	+1.4
	baz=80,SNR=7.2									
L15A	**Malad City**	79.65	46	⇑P		**P**		12 32 54.2	+0.7
	baz=80									
B23A	**Brockton**	79.68	38	⇓P		**P**		12 32 53.6	+0.2
	baz=80,SNR=7.5									
C22A	**Vida**	79.69	39	⇑P		**P**		12 32 53.3	-0.1
	baz=80									
VRI	**Vrincioaia**	79.70	319	⇓P		**P**		12 32 54.1	+0.6
VRI	**Vrincioaia**	79.70	319	⇓*i*P		**P**		12 32 54.0	+0.6
LOHW	**Long Hollow**	79.72	44	*e*P		**P**		12 32 54.5	+0.5
REDW	**Red Top Meadow**	79.73	44	*e*P		**P**		12 32 55.2	+1.2
J17A	**Brown Place, J**	79.81	44	⇓P		**P**		12 32 55.3	+0.9
	baz=80									
R11A	**Troy Canyon, C**	79.84	50	⇑P		**P**		12 32 55.0	+0.4
	baz=80,SNR=13									
FRB	**Frobisher Bay**	79.85	12	P		**P**		12 32 55.9	+2.1
	comp=Z,3.2nm,0.8s,baz=338,slow=3.5,SNR=6.7									
FRB				pP		**pP**		12 33 29.4	+1.3	
	comp=Z,3.8nm,0.7s,baz=341,slow=7.4,SNR=3.8									
FRB	**Frobisher Bay**	79.85	12	P		**P**		12 32 55.9	+2.1
FRB				*PP		**pP**		12 33 29.5	+1.3	
FRB				pmax	pmax					
	comp=Z,4.0nm,0.7s									
FRB	**Frobisher Bay**	79.85	12	P		**P**		12 32 55.9	+2.1
FRB				pP		**pP**		12 33 29.4	+1.3	
A24A	**Westby**	79.88	37	⇑P		**P**		12 32 53.9	-0.5
	baz=80									
MPMC	**Manual Prospec**	79.92	53	⇓P		**P**		12 32 55.5	+0.4
	baz=80,SNR=8.4									
D22A	**Cohagen**	79.92	39	⇓P		**P**		12 32 55.1	+0.4
	baz=80									
M15A	**Larsen Ranch,**	79.94	46	⇓P		**P**		12 32 55.7	+0.7
	baz=80,SNR=7.5									
BLG	**Laguna Peak**	79.97	56	⇓P		**P**		12 32 55.6	+0.4
	baz=80									
H19A	**Powell**	79.98	42	⇓P		**P**		12 32 55.7	+0.5
	baz=80									
C23A	**Lambert**	80.02	38	⇑P		**P**		12 32 55.6	+0.4
	baz=80									
G20A	**Bridger**	80.06	42	⇓P		**P**		12 32 55.5	-0.1
	baz=80									
DGMT	**Dagmar**	80.08	37	⇑P		**P**		12 32 56.0	+0.5
	baz=80									
FURC	**Furnace Creek,**	80.10	53	⇑P		**P**		12 32 56.3	+0.6
	baz=80,SNR=11									
LRMC	**Laurel Mountai**	80.12	54	⇑P		**P**		12 32 56.2	+0.1
	baz=80,SNR=5.6									
STHS	**Stebnicka Huta**	80.21	324	*e*P		**P**		12 32 56.4	+0.2
STHS				pmax	pmax					
	comp=Z,6.0nm,1.0s									
STHS	**Stebnicka Huta**	80.21	324	*e*P		**P**		12 32 56.4	+0.2
L16A	**Fish Haven**	80.21	46	⇑P		**P**		12 32 57.4	+0.8
	baz=80,SNR=5.2									
N15A	**Stansbury Isla**	80.24	47	⇑P		**P**		12 32 57.7	+1.0
	baz=80,SNR=8.6									
EDW2	**Edwards Air Fo**	80.26	54	⇓P		**P**		12 32 57.3	+0.5
	baz=80,SNR=10									
J18A	**Kendall Valley**	80.30	44	⇓P		**P**		12 32 57.9	+0.8
	baz=80									
OJC	**Ojcow**	80.35	325	*e*P		**P**		12 32 56.5	-0.4
OJC	**Ojcow**	80.35	325	*e*P		**P**		12 32 56.9	0.0
OJC	**Ojcow**	80.35	325	*e*P		**P**		12 32 56.9	0.0
DOPR	**Dopca**	80.36	320	⇑*i*P		**P**		12 32 58.3	+1.3
MLR	**Muntele Rosu**	80.36	319	⇓P		**P**		12 32 56.1	-1.1
MLR	**Muntele Rosu**	80.36	319	⇓*i*P		**P**		12 32 56.1	-1.1
I19A	**Meeteetse**	80.37	43	⇓P		**P**		12 32 57.6	+0.3
	baz=80									
TRPA	**Tarpa**	80.42	323	⇑*i*P		**P**		12 32 58.3	+1.0
TRPA	**Tarpa**	80.42	323	⇓*e*		**P**		12 32 57.9	+0.6
CRVS	**Cervenica-Dubn**	80.45	324

BSEG	**Bad Segeberg**	81.72	332	*e*P		P		12 33 04.1	+0.1
BSEG				pmax		pmax				
	comp=Z,18nm,1.0s									
CCUT	**Cedar City**	81.72	50	*e*P		P		12 33 05.8	+1.1
O17A	**Robinson Place**	81.74	47	⇓P		P		12 33 05.6	+0.9
	baz=82,SNR=6.0									
DPC	**Dobruska-Polom**	81.86	327	*e*P		P		12 33 05.5	+0.6
DPC	**Dobruska-Polom**	81.86	327	*e*P		P		12 33 05.5	+0.6
I22A	**9 Mile Ranch,**	81.86	42	⇑P		P		12 33 05.5	+0.3
	baz=82									
GMRC	**Granite Mounta**	81.88	53	⇑P		P		12 33 05.7	+0.3
	baz=82,SNR=13									
PSZ	**Piszkesteto**	81.88	324	⇑P		P		12 33 05.8	+0.7
PSZ	**Piszkesteto**	81.88	324	*e*P		P		12 33 05.9	+0.7
PSZ	**Piszkesteto**	81.88	324	⇑*i*P		P		12 33 05.8	+0.7
PSZ	**Piszkesteto**	81.88	324	⇓*e*P		P		12 33 05.6	+0.5
UPC	**Upice**	81.89	327	*e*P		P		12 33 05.7	+0.7
UPC	**Upice**	81.89	327	*e*P		P		12 33 05.7	+0.7
MSU	**Marysvale**	81.89	49	*e*P		P		12 33 06.7	+1.2
MSU	**Marysvale**	81.89	49	*e*P		P		12 33 06.7	+1.2
VYHS	**Vyhne**	82.00	325	*e*P		P		12 33 06.4	+0.8
VYHS				pmax		pmax				
	comp=Z,6.0nm,1.0s									
VYHS	**Vyhne**	82.00	325	*e*P		P		12 33 06.4	+0.8
R15A	**Junction**	82.01	49	⇑P		P		12 33 07.4	+1.2
	baz=82,SNR=15									
L20A	**Wamsutter**	82.02	44	⇑P		P		12 33 06.3	+0.1
	baz=82									
PFO	**Pinyon Flat Ob**	82.03	55	*e*P		P		12 33 06.3	0.0
PFO	**Pinyon Flat Ob**	82.03	55	*e*P		P		12 33 06.3	0.0
PFO	**Pinyon Flat Ob**	82.03	55	⇑P		P		12 33 06.6	+0.4
	baz=82,SNR=8.9									
LDFC	**Landfair**	82.07	53	*e*P		P		12 33 06.1	-0.3
BELC	**Belle Mtn. Jos**	82.11	54	⇑P		P		12 33 06.4	-0.2
	baz=82,SNR=8.9									
GZR	**Gura Zlata**	82.12	320	⇑P		P		12 33 06.7	+0.3
GZR	**Gura Zlata**	82.12	320	⇑*i*P		P		12 33 06.7	+0.3
KOLL	**Kolacno**	82.15	325	*e*P		P		12 33 06.7	+0.3
KOLL	**Kolacno**	82.15	325	*e*P		P		12 33 06.7	+0.3
J22A	**Midwest**	82.17	42	⇓P		P		12 33 06.9	+0.1
	baz=82									
P17A	**Butcher Ranch,**	82.19	47	⇑P		P		12 33 07.8	+0.8
	baz=82,SNR=9.1									
N19A	**John Jarvie Ra**	82.24	45	⇓P		P		12 33 07.2	-0.1
	baz=82									
K21A	**Alcova**	82.24	43	⇓P		P		12 33 07.5	+0.2
	baz=82,SNR=7.8									
Q16A	**Castle Valley**	82.26	48	⇓P		P		12 33 08.1	+0.6
	baz=82,SNR=5.8									
H24A	**Dirks Ranch, A**	82.35	40	⇑P		P		12 33 07.6	-0.1
	baz=82									
P18A	**Preston Nutter**	82.39	47	⇓P		P		12 33 08.8	+0.6
	baz=82,SNR=12									
BAR	**Barrett**	82.43	56	*e*P		P		12 33 08.2	0.0
M20A	**Sweetwater, Wa**	82.44	44	⇓P		P		12 33 08.4	+0.1
	baz=82									
R16A	**Teasdale**	82.46	49	⇑P		P		12 33 09.7	+1.2
	baz=82,SNR=18									
MONP	**Monument Peak**	82.47	55	⇑P		P		12 33 08.7	0.0
	baz=82,SNR=6.1									
PVCC	**Panska Ves**	82.51	328	*e*P		P		12 33 08.6	+0.4
PVCC	**Panska Ves**	82.51	328	*e*P		P		12 33 08.6	+0.4
SRU	**San Rafael**	82.54	47	*e*P		P		12 33 09.4	+0.5
SRU	**San Rafael**	82.54	47	*e*P		P		12 33 09.4	+0.5
SRU	**San Rafael**	82.54	47	⇓P		P		12 33 09.4	+0.5
	baz=82,SNR=18									
IRM	**Iron Mountain**	82.58	54	⇓P		P		12 33 09.2	+0.2
	baz=82,SNR=6.1									
L21A	**Rawlins**	82.61	44	⇑P		P		12 33 09.4	+0.2
	baz=82,SNR=5.9									
CLL	**Collm**	82.61	329	*e*P		P		12 33 08.6	-0.1
	comp=Z,11nm,0.7s									
CLL	**Collm**	82.61	329	⇓*i*P		P		12 33 08.6	-0.1
CLL				*e*				12 33 46.0		
CLL				pmax		pmax				
	comp=Z,11nm,0.8s									
CLL	**Collm**	82.61	329	⇓*i*P		P		12 33 08.6	-0.1
	comp=Z,11nm,0.8s									
CLL				*e*(pP)		pP		12 33 46.0	+2.7
K22A	**Casper**	82.64	43	⇓P		P		12 33 09.5	+0.2
	baz=82									
BC3	**Big Chuckawall**	82.68	54	⇑P		P		12 33 09.7	+0.1
	baz=82,SNR=7.8									
S16A	**Weppner Ranch,**	82.73	49	⇓P		P		12 33 10.5	+0.6
	baz=83,SNR=8.9									
ULM	**Lac du Bonnet**	82.76	32	P		P		12 33 09.1	-0.4
	comp=Z,1.2nm,0.5s,baz=351,slow=3.9,SNR=3.4									
ULM				pP		pP		12 33 44.6	+0.5
	comp=Z,3.5nm,1.0s,baz=324,slow=7.0,SNR=2.5									
ULM	**Lac du Bonnet**	82.76	32	P		P		12 33 09.1	-0.4
ULM				*PP		pP		12 33 44.6	+0.5
ULM	**Lac du Bonnet**	82.76	32	P		P		12 33 09.1	-0.4
ULM				pP		pP		12 33 44.6	+0.5
Q18A	**Rafter H Ranch**	82.78	47	⇑P		P		12 33 10.4	+0.4
	baz=83									
N20A	**Spence Gulch,**	82.81	45	⇑P		P		12 33 10.9	+0.6
	baz=83,SNR=8.0									
DVTC	**Desert V Tower**	82.83	55	⇓P		P		12 33 10.4	+0.1
	baz=83									
M21A	**Separation Pea**	82.84	44	⇑P		P		12 33 10.6	+0.2
	baz=83,SNR=5.7									
R17A	**Hanksville Air**	82.86	48	⇓P		P		12 33 10.9	+0.4
	baz=83,SNR=13									
W13A	**Hualapai Mount**	82.86	52	⇑P		P		12 33 11.3	+0.6
	baz=83									
SWSC	**Sam W. Stewart**	82.87	55	⇓P		P		12 33 10.5	+0.1
	baz=83									
PRU	**Pruhonice**	82.92	328	*e*P		P		12 33 11.3	+1.0
PRU	**Pruhonice**	82.92	328	*e*P		P		12 33 11.3	+1.0
TREC	**Trest**	82.99	327	*e*P		P		12 33 11.0	+0.2
TREC	**Trest**	82.99	327	*e*P		P		12 33 11.0	+0.2
ZST	**Bratislava**	83.03	325	*e*P		P		12 33 11.1	+0.1
ZST				pmax		pmax				
	comp=Z,40nm,2.0s									
ZST	**Bratislava**	83.03	325	*e*P		P		12 33 11.1	+0.1
U15A	**North Rim**	83.09	50	⇓P		P		12 33 12.4	+0.5
	baz=83,SNR=11									
P19A	**Cripple Cowboy**	83.15	46	⇓P		P		12 33 12.5	+0.4
	baz=83,SNR=11									
PDMCI	**Parker Dam,Lak**	83.17	53	⇑P		P		12 33 12.5	+0.6
	baz=83									
Y12C	**Blythe**	83.25	54	⇓P		P		12 33 12.7	+0.3
	baz=83									
O20A	**White River Ci**	83.27	46	⇓P		P		12 33 12.9	+0.3
	baz=83									
S17A	**Black Ridge (B**	83.28	49	⇑P		P		12 33 12.9	+0.3
	baz=83,SNR=14									
N21A	**Black Mountain**	83.29	45	⇑P		P		12 33 13.0	+0.2
	baz=83									
R18A	**Canyonlands Na**	83.38	48	⇓P		P		12 33 13.4	+0.2
	baz=83,SNR=15									
Q19A	**Hogan Spring (**	83.40	47	⇓P		P		12 33 13.5	+0.3
	baz=83,SNR=6.3									
M22A	**Cedar Creek Ra**	83.41	44	⇓P		P		12 33 13.8	+0.4
	baz=83									
L23A	**Garrett**	83.45	43	⇓P		P		12 33 13.4	-0.2
	baz=83									
GLA	**Glamis**	83.46	54	⇓P		P		12 33 13.8	+0.2
	baz=83									
P20A	**De Beque**	83.58	46	⇑P		P		12 33 14.5	+0.3
	baz=83									
NKC	**Novy Kostel**	83.65	329	*e*P		P		12 33 14.6	+0.5
NKC	**Novy Kostel**	83.65	329	*e*P		P		12 33 14.6	+0.5
SOP	**Sopron**	83.65	325	⇓*e*P		P		12 33 15.0	+0.8
T17A	**Navajo Res., N**	83.68	49	⇓P		P		12 33 14.8	0.0
	baz=84									
PKSM	**Moragy**	83.68	323	⇓*e*P		P		12 33 14.0	-0.3
VTS	**Vitosha**	83.74	318	⇑P		P		12 33 15.7	+0.8
VTS	**Vitosha**	83.74	318	⇑*i*P		P		12 33 15.7	+0.8
S18A	**Hurst Farm, Bl**	83.75	48	⇑P		P		12 33 15.5	+0.2
	baz=84,SNR=12									
CONA	**Conrad Observa**	83.81	326	⇓*i*P		P		12 33 15.7	+0.7
	comp=Z,14nm,0.7s									
CONA	**Conrad Observa**	83.81	326	⇓*i*PcP		P		12 33 15.7	+0.7
	comp=Z,14nm,0.7s									
R19A	**Curley Farm, L**	83.82	47	⇑P		P		12 33 15.9	+0.4
	baz=84,SNR=16									
N22A	**Wattenberg Ran**	83.88	44	⇓P		P		12 33 16.1	+0.3
	baz=84									
KHC	**Kasperske Hory**	83.97	328	*e*P		P		12 33 16.3	+0.5
KHC	**Kasperske Hory**	83.97	328	*e*P		P		12 33 15.6	-0.3
	comp=Z,9.7nm,0.7s									
KHC	**Kasperske Hory**	83.97	328	*e*P		P		12 33 16.3	+0.5
PV04	**Paradox Valley**	83.98	47	*e*P		P		12 33 16.7	+0.5
Q20A	**Ridgley Place,**	83.99	46	⇓P		P		12 33 16.8	+0.6
	baz=84,SNR=12									
U16A	**Tuba City**	84.00	50	⇑P		P		12 33 17.1	+0.7
	baz=84,SNR=10									
U17A	**Shonto**	84.01	49	⇓P		P		12 33 17.2	+0.7
	baz=84,SNR=8.2									
ROTZ	**Rotzenmuhle**	84.10	329	*e*P		P		12 33 16.9	+0.5
	comp=Z,8.0nm,0.8s									
N23A	**Red Feather La**	84.11	44	⇑P		P		12 33 17.4	+0.4
	baz=84									
GEC2	**GERESS Array S**	84.13	327	*e*P		P		12 33 16.5	-0.2
	comp=Z,9.0nm,0.9s									
GEC2	**GERESS Array S**	84.13	327	*e*P		P		12 33 16.5	-0.2
GEC2				pmax		pmax				
	comp=Z,9.0nm,0.9s									
GERES	**GERESS Array B**	84.13	327	P		P		12 33 15.9	-0.8
	comp=Z,7.1nm,0.7s,baz=36,slow=5.3,SNR=34									
GERES				PP		PP		12 36 32.2	+0.3
	comp=Z,1.5nm,0.8s,baz=38,slow=7.2,SNR=5.7									
GERES	**GERESS Array B**	84.13	327	P		P		12 33 15.9	-0.8
GERES								12 36 32.2		
GERES				pmax		pmax				
	comp=Z,7.0nm,0.7s									
GERES				pmax		pmax				
	comp=Z,2.0nm,0.8s									
GERES	**GERESS Array B**	84.13	327	P		P		12 33 15.9	-0.8
GERES				PP		PP		12 36 32.2	+0.3
P21A	**Newcastle**	84.13	46	⇓P		P		12 33 17.4	+0.3
	baz=84									
Y14A	**Wickenburg**	84.14	53	⇑P		P		12 33 17.2	+0.2
	baz=84,SNR=8.5									
Z13A	**Yuma Proving G**	84.15	54	⇓P		P		12 33 17.5	+0.5
	baz=84,SNR=11									
T18A	**Mexican Hat**	84.17	49	⇓P		P		12 33 17.5	+0.3
	baz=84,SNR=11									
WUAZ	**Wupatki**	84.23	51	*e*P		P		12 33 18.5	+0.9
WUAZ	**Wupatki**	84.23	51	⇓P		P		12 33 18.2	+0.7
	baz=84,SNR=8.4									
O22A	**Kremmling**	84.24	45	⇑P		P		12 33 18.1	+0.4
	baz=84,SNR=6.5									
S19A	**Harvey Farm, M**	84.24	48	⇑P		P		12 33 17.8	+0.1
	baz=84,SNR=7.1									
113A	**Mohawk Valley,**	84.34	54	⇑P		P		12 33 18.1	+0.2
	baz=84									
PV01	**Paradox Valley**	84.34	47	*e*P		P		12 33 18.3	+0.2
	comp=Z,1μm,1.0s									
M24A	**Cheyenne**	84.37	43	⇑P		P		12 33 18.7	+0.5
	baz=84									
L25A	**Engebretsen Ra**	84.39	42	⇓P		P		12 33 18.6	+0.3
	baz=84									
R20A	**Redvale**	84.42	47	⇑P		P		12 33 19.2	+0.7
	baz=84,SNR=17									
ARSA	**Arzberg**	84.45	325	⇑*i*P		P		12 33 18.5	+0.2
	comp=Z,5.8nm,0.7s									
ARSA	**Arzberg**	84.45	325	⇑*i*P		P		12 33 18.5	+0.2
	comp=Z,5.8nm,0.7s									
P22A	**Eagle**	84.49	45	⇓P		P		12 33 19.7	+0.8
	baz=84,SNR=9.9									
Q21A	**Lamborn Mesa,**	84.50	46	⇓P		P		12 33 19.6	+0.7
	baz=84,SNR=6.5									
V17A	**Tonalea, Kykot**	84.54	50	⇓P		P		12 33 19.7	+0.6
	baz=84									
GRF	**Grafenberg Arr**	84.58	329	*e*P		P		12 33 19.3	+0.5
	comp=Z,29nm,0.9s									
GRF	**Grafenberg Arr**	84.58	329	*e*P		P		12 33 19.3	+0.5
GRF				pmax		pmax				
	comp=Z,29nm,0.9s									
O23A	**Lake Granby, G**	84.58	44	⇑P		P		12 33 20.2	+0.8
	baz=84,SNR=7.4									
U18A	**Rough Rock, Ch**	84.62	49	⇓P		P		12 33 20.4	+0.8
	baz=84,SNR=13									
S20A	**Disappointment**	84.67	47	⇓P		P		12 33 20.2	+0.4
	baz=84,SNR=5.9									
R21A	**Cimarron**	84.81	47	⇑P		P		12 33 21.4	+0.8
	baz=85,SNR=11									
X16A	**Lo Mia Camp, P**	84.87	52	⇓P		P		12 33 21.3	+0.5
	baz=85,SNR=10.0									
Q22A	**Crested Butte,**	84.87	46	⇑P		P		12 33 21.7	+0.8
	baz=85,SNR=13									
T19A	**Beclabito**	84.89	48	⇑P		P		12 33 21.4	+0.5
	baz=85,SNR=6.4									
W17A	**Winslow**	84.93	51	⇓P		P		12 33 21.9	+0.8
	baz=85									
114A	**Black Gap (USA**	84.94	54	⇑P		P		12 33 21.6	+0.6
	baz=85,SNR=9.7									
K27A	**Flueckinger Fa**	84.97	41	⇓P		P		12 33 21.2	+0.1
	baz=85									
MVCO	**Mesa Verde**	84.98	48	*e*P		P		12 33 22.0	+0.6
MVCO	**Mesa Verde**	84.98	48	⇑P		P		12 33 21.6	+0.2
	baz=85									
ISCO	**Idaho Springs**	85.02	44	⇓P		P		12 33 21.7	+0.1
	baz=85									
V18A	**Ganado**	85.03	50	⇑P		P		12 33 22.2	+0.6
	baz=85,SNR=6.6									
SOKA	**Soboth**	85.10	325	⇓*i*P		P		12 33 21.5	-0.1
	comp=Z,17nm,0.9s									
SOKA	**Soboth**	85.10	325	⇓*i*P		P		12 33 21.5	-0.1
	comp=Z,17nm,0.9s									
S21A	**Coal Bank Pass**	85.12	47	⇓P		P		12 33 22.8	+0.7
	baz=85,SNR=6.1									
U19A	**Dine' College,**	85.12	49	⇓P		P		12 33 22.6	+0.5
	baz=85,SNR=6.8									
P23A	**Jefferson**	85.17	45	⇓P		P		12 33 23.5	+1.1
	baz=85									
TNS	**Taunus Mts**	85.32	331	*e*P		P		12 33 22.4	-0.2
	comp=Z,11nm,0.9s									
TNS	**Taunus Mts**	85.32	331	*e*P		P		12 33 22.4	-0.2
TNS				pmax		pmax				
	comp=Z,11nm,0.9s									
X17A	**Forest Lakes**	85.33	51	⇑P		P		12 33 23.8	+0.6
	baz=85									
R22A	**Saguache, Gunn**	85.38	46	⇓P		P		12 33 24.5	+1.1
	baz=85,SNR=5.5									
V19A	**Window Rock**	85.59	49	⇓P		P		12 33 25.0	+0.6
	baz=85									
S22A	**4UR Ranch, Cre**	85.65	47	⇓P		P		12 33 25.6	+0.8
	baz=86,SNR=5.6									
Y17A	**Roosevelt**	85.70	52	⇑P		P		12 33 25.3	+0.4
	baz=86,SNR=6.5									
T21A	**Navajo Lake**	85.71	48	⇑P		P		12 33 25.4	+0.5
	baz=86									
Q24A	**Divide**	85.84	45	⇓P		P		12 33 25.8	+0.1
	baz=86									
R23A	**Moffat**	85.96	46	⇑P		P		12 33 27.0	+0.8
	baz=86,SNR=8.4									
U21A	**Nageezi**	85.99	48	⇓P		P		12 33 26.7	+0.3
	baz=86									
P25A	**Willow Gulch B**	86.05	44	⇓P		P		12 33 26.9	+0.4
	baz=86									
T22A	**Edith**	86.08	47	⇓P		P		12 33 27.7	+0.8
	baz=86,SNR=5.6									
STU	**Stuttgart**	86.14	330	*e*P		P		12 33 26.6	0.0
	comp=Z,14nm,0.8s									
Y18A	**Canyon Day Jun**	86.18	51	⇑P		P		12 33 27.8	+0.6
	baz=86									
X19A	**St. Johns**	86.25	50	⇓P		P		12 33 28.2	+0.5
	baz=86									
W20A	**Ramah**	86.30	50	⇑P		P		12 33 28.4	+0.5
	baz=86									
R24A	**Sanders Place,**	86.35	45	⇓P		P		12 33 28.8	+0.7
	baz=86									
Q25A	**Bedland, Calha**	86.40	44	⇓P		P		12 33 28.3	0.0
	baz=86									
SDCO	**Great Sand Dun**	86.44	46	*e*P		P		12 33 28.8	+0.1
	comp=Z,2.1nm,1.2s									
SDCO	**Great Sand Dun**	86.44	46	⇓P		P		12 33 29.3	+0.6
	baz=86									
SDCO				⇓P		P		12 33 29.3	+0.6
	baz=86									
P26A	**Davis Ranch, A**	86.49	43	⇑P		P		12 33 29.0	+0.3
	baz=86									
T23A	**Casias Ranch,**	86.59	47	⇑P		P		12 33 30.1	+0.8
	baz=86									
X20A	**Quemado**	86.68	50	⇑P		P		12 33 30.4	+0.6
	baz=86									
V22A	**San Miguel Ran**	86.79	48	⇑P		P		12 33 30.5	+0.2
	baz=87									
Q26A	**Hugo**	86.82	44	⇓P		P		12 33 30.6	+0.3
	baz=87									
R25A	**Fountain Ranch**	86.89	45	⇓P		P		12 33 30.7	+0.1
	baz=87									
U23A	**El Rito**	86.96	47	⇑P		P		12 33 31.6	+0.5
	baz=87									
S25A	**Robets Cordova**	87.13	45	⇓P		P		12 33 32.5	+0.6
	baz=87									
T24A	**Torres, Weston**	87.15	46	⇑P		P		12 33 32.6	+0.5
	baz=87									
X21A	**Alamocita Cree**	87.19	50	⇑P		P		12 33 32.9	+0.6
	baz=87									
CDF	**Champ du Feu**	87.21	330	*e*P		P		12 33 30.9	-1.0
KSCO	**Kaye Shedlock'**	87.27	43	⇓P		P		12 33 32.8	+0.3
	baz=87									
R26A	**Arlington**	87.28	44	⇑P		P		12 33 32.6	+0.1
	baz=87,SNR=5.4									
V23A	**Ortiz Mt. (NFS**	87.34	48	⇑P		P		12 33 33.8	+0.8
	baz=87									
R27A	**Eads**	87.66	44	⇑P		P		12 33 34.4	+0.1
	baz=88									
ANMO	**Albuquerque**	87.69	49	P		P		12 33 35.2	+0.6
	comp=Z,1.0nm,0.8s,baz=322,slow=7.0,SNR=3.9									
ANMO	**Albuquerque**	87.69	49	P		P		12 33 35.2	+0.6
ANMO				pmax		pmax				
	comp=Z,1.0nm,0.8s									
ANMO	**Albuquerque**	87.69	49	P		P		12 33 35.2	+0.6
W23A	**Werner Place,**	87.75	48	⇑P		P		12 33 35.6	+0.7
	baz=88									
120A	**U Bar Ranch, L**	87.87	52	⇓P		P		12 33 36.2	+0.8
	baz=88									
V24A	**Rampart Ranch,**	87.91	47	⇑P		P		12 33 36.3	+0.6
	baz=88									
HAU	**Haudompre**	87.92	331	*e*P		P		12 33 34.5	-0.7
U25A	**Circle Dot Ran**	87.99	46	⇓P		P		12 33 36.4	+0.4
	baz=88									
BGNE	**Belgrade**	88.05	39	⇑P		P		12 33 35.8	-0.2
	baz=88									
W24A	**Lazy 6 Ranch,**	88.17	48	⇓P		P		12 33 37.7	+0.9
	baz=88									
V25A	**Rancho No Teng**	88.24	47	⇑P		P		12 33 37.3	+0.1
	baz=88									
SFTF	**Sexfontaines**	88.28	331	*e*P		P		12 33 36.1	-0.8
U26A	**Atchley Ranch,**	88.39	46	⇑P		P		12 33 38.1	+0.2
	baz=88									
Y23A	**Lovelace Mesa,**	88.61	49	⇓P		P		12 33 39.0	0.0
	baz=88									
W25A	**X Bar L Ranch,**	88.75	47	⇓P		P		12 33 39.9	+0.4
	baz=89									
CBKS	**Cedar Bluff**	89.03	42	⇓P		P		12 33 40.8	+0.2
	baz=89									
CBKS				⇓P		P		12 33 40.8	+0.2
	baz=89									
CABF	**La Chapelle**	89.13	330	*e*P		P		12 33 40.0	-1.0
LOR	**Lormes**	89.51	331	*e*P		P		12 33 41.7	-1.0
LPL	**La Plagne**	89.73	329	*e*P		P		12 33 43.3	-0.7
LPG	**La Plagne**	89.74	329	*e*P		P		12 33 43.4	-0.7
124A	**Stringfield Ra**	89.80	50	⇑P		P		12 33 44.4	-0.2
	baz=90									
Z25A	**Roswell**	89.88	49	⇑P		P		12 33 45.2	+0.3
	baz=90									
FLN	**La Foliniere**	89.90	335	*e*P		P		12 33 43.6	-0.8
LDF	**La Druitiere**	89.91	334	*e*P		P		12 33 43.5	-1.0
AVF	**Avril sur Loir**	90.10	331	*e*P		P		12 33 44.6	-0.8
	comp=Z,22nm,0.9s									
224A	**Cornudas Mount**	90.17	50	⇓P		P		12 33 46.0	-0.2
	baz=90									
MBDF	**Montbardon**	90.34	328	*e*P		P		12 33 45.4	-1.4
	comp=Z,12nm,0.7s									
Z26A	**Caprock**	90.34	48	⇓P		P		12 33 46.8	-0.2
	baz=90									
GRR	**Gorron**	90.35	335	*e*P		P		12 33 45.9	-0.6
BGF	**Bois d'Agland**	90.49	332	*e*P		P		12 33 46.5	-0.7
MNTX	**Cornudas Mount**	90.51	50	⇓P		P		12 33 47.5	-0.2
	baz=90									
MNTX				⇓P		P		12 33 47.5	-0.2
	baz=90									
ORIF	**Oris-en-Rattie**	90.57	329	*e*P		P		12 33 47.0	-0.8
	comp=Z,9.3nm,0.7s									
Z27A	**Tatum**	90.79	48	⇑P		P		12 33 49.1	+0.1
	baz=91									
GDL2	**Guadalupe Moun**	90.82	49	*e*P		P		12 33 49.2	-0.1
	comp=Z,1.9nm,0.5s									
325A	**Bean Ranch, Si**	90.99	50	⇓P		P		12 33 50.2	+0.1
	baz=91									
VIVF	**Saint-Julien-l**	91.13	330	*e*P		P		12 33 49.5	-0.8
	comp=Z,14nm,0.8s									
425A	**Indio Mountain**	91.37	51	⇓P		P		12 33 51.9	+0.1
	baz=91									
326A	**Caldwell Ranch**	91.66	50	⇓P		P		12 33 52.9	-0.1

MTP	**Monte Pirata**	**0.60**	**282**	⇓*e*P		Pg	12 26 00.2	+0.1
MTP				*e*S		Sg	12 26 09.1	+1.3
HUMP	**Col San Antoni**	**0.88**	**281**	*e*S			12 26 17.3	
HUMP	**Col San Antoni**	**0.88**	**281**⇑	*e*P		Pg	12 26 05.3	-0.3
HUMP	**Col San Antoni**	**0.88**	**281**⇑	*e*P		Pg	12 26 05.3	-0.3
HUMP				*e*S		Sg	12 26 17.3	+0.3
HUMP	**Col San Antoni**	**0.88**	**281**⇑	*e*P		Pg	12 26 05.3	-0.3
HUMP				*e*S		Sg	12 26 17.3	+0.3
CBYP	**Canovanas**	**0.92**	**289**	*e*S			12 26 18.0	
CBYP	**Canovanas**	**0.92**	**289**⇑	*e*P		Pg	12 26 05.6	-0.8
CBYP	**Canovanas**	**0.92**	**289**⇑	*e*P		Pg	12 26 05.6	-0.8
CBYP				*e*S		Sg	12 26 18.0	-0.4
CBYP	**Canovanas**	**0.92**	**289**⇑	*e*P		Pg	12 26 05.6	-0.8
CBYP				*e*S		Sg	12 26 18.0	-0.4
CPD	**Cerro la Pandu**	**0.93**	**274**	*e*S			12 26 18.6	
CPD	**Cerro la Pandu**	**0.93**	**274**⇓	*e*P		Pg	12 26 05.6	-1.0
CPD	**Cerro la Pandu**	**0.93**	**274**⇓	*e*P		Pg	12 26 05.6	-1.0
CPD				*e*S		Sg	12 26 18.6	-0.1
CPD	**Cerro la Pandu**	**0.93**	**274**⇓	*e*P		Pg	12 26 05.6	-1.0
CPD				*e*S		Sg	12 26 18.6	-0.1
ABV	**Anegada**	**0.94**	**38**	*e*S			12 26 18.9	
ABV	**Anegada**	**0.94**	**38**	*e*S			12 26 18.9	

ISCJB ***22*** *12:26:58.0±0.4, 55°.81N×0°.10×159°.9W±0°.1, h125km±3km, mb3.8/12, Error ellipse: s-maj=18.5km s-min=3.4km az=147.4*

IDC ***22*** *12:26:59.4±2.7, 56°.23N×160°.06W, h96km±22km, mb3.6/12, mb1 3.8/16, mb1mx3.6/30, mbtmp3.7/16, Error ellipse: s-maj=40.1km s-min=15.2km az=164.0*

NEIC ***22*** *12:27:00.9, 55°.85N×159°.98W, h107km, MG3.5(AEIC), After AEIC.*

ISC 22 12:26:58.9±0.7,**55°.9N**±0°.1×**159°.89W**±0°.07,**h111**km±7km, **n94,** σ1§**24**/102,**mb3.8**/12,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNSW	**Veniaminof 7**	**0.27**	**44**	P	**Pn**	**12 27 16.1**	**+1.5**
VNWF	**Veniaminof 8**	**0.33**	**34**	P	**Pn**	**12 27 16.6**	**+1.7**
VNFG	**Veniaminof 2**	**0.45**	**25**	P	**Pn**	**12 27 16.1**	**+0.6**
VNSG	**Veniaminof 6**	**0.52**	**61**	P	**Pn**	**12 27 17.6**	**+1.7**
VNHG	**Veniaminof 1**	**0.53**	**50**	P	**Pn**	**12 27 17.8**	**+1.8**
SDPT	**Sand Point**	**0.63**	**212**	P	**Pn**	**12 27 17.2**	**+0.6**
SDPT				S	**Sn**	**12 27 30.5**	**+0.5**
CHGN	**Chignik**	**0.93**	**62**	P	**Pn**	**12 27 20.7**	**+1.4**
PVV	**Pavlof Volcano**	**1.19**	**246**	P	**Pn**	**12 27 22.3**	**+0.3**
PS4A	**Pavlof South-4**	**1.24**	**245**	P	**Pn**	**12 27 22.9**	**+0.3**
HAG	**Hague Volcano**	**1.27**	**245**	P	**Pn**	**12 27 23.4**	**+0.3**
HAG				S	**Sn**	**12 27 41.6**	**+0.3**
ANPB	**Aniakchak Plen**	**1.29**	**43**	P	**Pn**	**12 27 24.5**	**+1.3**
DOL	**Dolgoi Island**	**1.34**	**238**	P	**Pn**	**12 27 23.9**	**+0.1**
AZAC	**Aniakchak**	**1.37**	**41**	P	**Pn**	**12 27 25.5**	**+1.2**
ANPK	**Aniakchak Peak**	**1.38**	**45**	P	**Pn**	**12 27 25.6**	**+1.4**
ANNW	**Aniakchak Nort**	**1.43**	**40**	P	**Pn**	**12 27 26.6**	**+1.7**
DT1	**Dutton Round H**	**1.57**	**241**	P	**Pn**	**12 27 28.6**	**+0.2**
DRIA	**Deer Island**	**1.63**	**237**	P	**Pn**	**12 27 27.6**	**+0.3**
DRIA				S	**Sn**	**12 27 49.1**	**+0.2**
FALS	**False Pass**	**2.26**	**244**	P	**Pn**	**12 27 35.4**	**+0.3**
FALS				S	**Sn**	**12 28 03.5**	**+0.7**
BRPK	**Brown Peak**	**2.53**	**242**	P	**Pn**	**12 27 38.9**	**+0.3**
SSLS	**Shishaldin Sou**	**2.62**	**245**	P	**Pn**	**12 27 40.4**	**+0.5**
SSLS				S	**Sn**	**12 28 12.5**	**+1.0**
CAHL	**Cahill**	**3.33**	**47**	P	**Pn**	**12 27 51.4**	**+2.2**
KELA	**Mount Kelaz**	**3.42**	**40**	P	**Pn**	**12 27 52.3**	**+1.9**
MGLS	**Mageik Landsli**	**3.43**	**47**	P	**Pn**	**12 27 52.4**	**+1.8**
KABU	**Katmai Buttres**	**3.47**	**44**	P	**Pn**	**12 27 53.1**	**+1.9**
KAPH	**Katmai Pasha**	**4.06**	**46**	P	**Pn**	**12 28 01.3**	**+2.4**
UNV	**Unalaska Valle**	**4.33**	**245**	P	**Pn**	**12 28 03.2**	**+0.7**
KDAK	**Kodiak Island**	**4.44**	**62**	P	**Pn**	**12 28 04.8**	**+0.8**
	13nm,0.3s,baz=245,slow=6.8,SNR=167						
KDAK				S	**Sn**	**12 28 52.5**	**-2.1**
	9.7nm,0.3s,baz=294,slow=22,SNR=18						
KDAK	**Kodiak Island**	**4.44**	**62**	P	**Pn**	**12 28 04.8**	**+0.8**
KDAK				S	**Sn**	**12 28 52.5**	**-2.1**
FOPK	**Fourpeaked Vol**	**4.52**	**48**	P	**Pn**	**12 28 06.7**	**+1.6**
MSOM	**Makushin Julie**	**4.57**	**246**	P	**Pn**	**12 28 05.2**	**-0.6**
OKRE	**Okmok R'deer P**	**5.35**	**247**	P	**Pn**	**12 28 16.3**	**0.0**
RSO	**Redoubt South**	**5.95**	**36**	P	Pn	12 28 27.7	+3.2
BRLK	**Bradley Lake**	**6.19**	**47**	P	**Pn**	**12 28 27.9**	**+0.3**
BKG	**Blockade Glaci**	**6.56**	**34**	P	**Pn**	**12 28 35.2**	**+2.5**
CKL	**Chakachamna La**	**6.63**	**33**	P	**Pn**	**12 28 36.2**	**+2.5**
SPNW	**Spurr Northwes**	**6.67**	**32**	P	**Pn**	**12 28 35.5**	**+1.2**
SLKM	**Skilak Lake**	**6.90**	**44**	*e*Pn	**Pn**	**12 28 39.6**	**+2.3**
SEW	**Seward**	**6.98**	**48**	P	**Pn**	**12 28 39.3**	**+1.0**
STLK	**Strandline Lak**	**7.02**	**33**	P	**Pn**	**12 28 41.0**	**+2.0**
TT01	**Tatalina**	**7.32**	**14**	P	**Pn**	**12 28 43.9**	**+1.0**
SUS	**Susitna One**	**7.35**	**37**	P	**Pn**	**12 28 44.3**	**+0.9**
SKT	**Skwentna**	**7.49**	**32**	P	**Pn**	**12 28 47.2**	**+2.0**
PMR	**Palmer**	**8.00**	**40**	P	**Pn**	**12 28 52.3**	**+0.2**
PPLA	**Purkeypile**	**8.06**	**26**	P	**Pn**	**12 28 56.0**	**+3.0**
SML	**Sawmill**	**8.43**	**40**	*e*Pn	**Pn**	**12 28 57.5**	**-0.5**
	1.8nm,0.6s						
FID	**Port Fidalgo**	**8.57**	**50**	P	**Pn**	**12 29 00.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**8.80**	**52**	P	**Pn**	**12 29 02.6**	**-0.3**
SCM	**Sheep Creek Mo**	**8.82**	**42**	P	**Pn**	**12 29 02.2**	**-1.1**
TRF	**Thorofare Moun**	**9.00**	**29**	P	**Pn**	**12 29 06.3**	**+0.5**
SGAM	**Sherman Glacie**	**9.02**	**53**	P	**Pn**	**12 29 07.4**	**+1.4**
DIV	**Divide**	**9.06**	**49**	*e*Pn	**Pn**	**12 29 04.9**	**-1.6**
	11nm,0.6s						
KLU	**Klutina**	**9.18**	**47**	P	**Pn**	**12 29 07.7**	**-0.5**
GOAT	**Goat Mountain**	**9.27**	**53**	P	**Pn**	**12 29 10.4**	**+0.9**
RND	**Reindeer**	**9.38**	**32**	P	**Pn**	**12 29 10.2**	**-0.7**
BMRM	**Bremner River**	**9.49**	**51**	P	**Pn**	**12 29 12.8**	**+0.4**
MCK	**McKinley**	**9.60**	**30**	P	**Pn**	**12 29 13.2**	**-0.6**
DHY	**Denali Highway**	**9.61**	**36**	P	**Pn**	**12 29 12.4**	**-1.6**
BERG	**Berg Lake**	**9.67**	**55**	P	**Pn**	**12 29 15.2**	**+0.4**
KHIT	**Khitrov Hills**	**9.90**	**56**	P	**Pn**	**12 29 18.3**	**+0.4**
HARP	**HAARP**	**9.99**	**43**	P	**Pn**	**12 29 19.0**	**0.0**
PAX	**Paxson**	**10.20**	**40**	*e*Pn	**Pn**	**12 29 21.5**	**-0.5**
	14nm,0.7s						
MENT	**Mentasta**	**10.83**	**43**	*e*Pn	**Pn**	**12 29 30.2**	**-0.3**
ILAR	**Eielson Array**	**10.98**	**30**	P	**Pn**	**12 29 29.2**	**-3.1**
	0.7nm,0.3s,baz=222,slow=13,SNR=36						
ILAR				S	Sn	12 31 26.2	-6.8
	0.2nm,0.3s,baz=198,slow=7.6,SNR=4.3						
ILAR	**Eielson Array**	**10.98**	**30**	P	**Pn**	**12 29 29.2**	**-3.1**
ILAR				S	Sn	12 31 26.2	-6.8
DOT	**Dot Lake**	**11.12**	**39**	*e*Pn	**Pn**	**12 29 34.8**	**+0.4**
	1.8nm,0.4s						
EGAK	**Eagle**	**12.81**	**38**	*e*P	**Pn**	**12 29 56.1**	**-0.5**
	6.6nm,0.4s						
FX1	**Attu Island--F**	**15.94**	**270**	P	**Pn**	**12 30 37.1**	**+0.5**
	1.9nm,0.3s,baz=229,slow=18,SNR=6.2						
FX1	**Attu Island--F**	**15.94**	**270**	P	**Pn**	**12 30 37.1**	**+0.5**
INK	**Inuvik**	**17.33**	**34**	P	**P**	**12 30 52.5**	**-0.6**
	0.7nm,0.3s,baz=237,slow=12,SNR=3.8						
INK	**Inuvik**	**17.33**	**34**	P	**P**	**12 30 52.5**	**-0.6**
YKA	**Yellowknife Ar**	**23.69**	**55**	P	**P**	**12 32 01.6**	**+1.6**
	1.2nm,0.6s,baz=274,slow=9.7,SNR=17						
YKA	**Yellowknife Ar**	**23.69**	**55**	P	**P**	**12 32 01.6**	**+1.6**
PETK	**Petropavlovsk-**	**24.51**	**281**	P	**P**	**12 32 09.0**	**+1.5**
	1.4nm,0.4s,baz=80,slow=11,SNR=8.8						
PETK	**Petropavlovsk-**	**24.51**	**281**	P	**P**	**12 32 09.0**	**+1.5**
FRB	**Frobisher Bay**	**42.77**	**41**	P	**P**	**12 34 45.4**	**+0.7**
	2.4nm,0.5s,baz=317,slow=9.6,SNR=6.2						
FRB	**Frobisher Bay**	**42.77**	**41**	P	**P**	**12 34 45.4**	**+0.7**
SCHQ	**Schefferville**	**48.97**	**50**	P	**P**	**12 35 34.7**	**+1.1**
	1.6nm,0.5s,baz=282,slow=7.5,SNR=6.6						
SCHQ	**Schefferville**	**48.97**	**50**	P	**P**	**12 35 34.7**	**+1.1**
SONM	**Songino Array**	**54.14**	**304**	P	**P**	**12 36 12.0**	**-0.2**
	0.2nm,0.4s,baz=35,slow=7.5,SNR=2.7						
SONM				PcP	**PcP**	**12 37 16.1**	**+0.6**
	0.6nm,0.7s,baz=42,slow=2.3,SNR=4.3						
SONM	**Songino Array**	**54.14**	**304**	P	**P**	**12 36 12.0**	**-0.2**
SONM				PcP	**PcP**	**12 37 16.1**	**+0.6**
ARCES	**ARCESS Array B**	**54.83**	**358**	P	**P**	**12 36 16.9**	**+0.1**
	2.6nm,0.9s,baz=348,slow=6.5,SNR=3.5						
ARCES	**ARCESS Array B**	**54.83**	**358**	P	**P**	**12 36 16.9**	**+0.1**
ZALV	**Zalesovo Beam**	**58.40**	**321**	P	**P**	**12 36 42.5**	**+0.3**
	0.3nm,0.3s,baz=26,slow=6.0,SNR=2.1						
ZALV	**Zalesovo Beam**	**58.40**	**321**	P	**P**	**12 36 42.5**	**+0.3**
FINES	**FINESS Array B**	**62.92**	**357**	P	**P**	**12 37 12.0**	**-0.7**
	0.9nm,0.6s,baz=27,slow=8.8,SNR=4.8						
FINES	**FINESS Array B**	**62.92**	**357**	P	**P**	**12 37 12.0**	**-0.7**
NOA	**NORSAR Array B**	**63.21**	**5**	P	**P**	**12 37 14.6**	**-0.1**
	0.6nm,0.7s,baz=347,slow=10,SNR=3.3						
NOA	**NORSAR Array B**	**63.21**	**5**	P	**P**	**12 37 14.6**	**-0.1**
MKAR	**Makanchi Array**	**65.19**	**318**	P	**P**	**12 37 26.9**	**-1.0**
	0.4nm,0.7s,baz=44,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**65.19**	**318**	P	**P**	**12 37 26.9**	**-1.0**
AKASG	**Malin Array Be**	**73.52**	**354**	P	**P**	**12 38 18.6**	**-0.4**
	1.3nm,0.3s,baz=8.4,slow=5.8,SNR=6.4						
AKASG	**Malin Array Be**	**73.52**	**354**	P	**P**	**12 38 18.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**81.00**	**289**	P	**P**	**12 39 00.5**	**-0.8**
	0.8nm,0.6s,baz=7.8,slow=4.5,SNR=7.9						
CMAR	**Chiang Mai Arr**	**81.00**	**289**	P	**P**	**12 39 00.5**	**-0.8**

CSEM ***22*** *12:30:34.6, 61°.64N×27°.33E, h0km, ML0.6, Mining explosion. After HEL*

HEL 22 12:30:34.6±0.1,**61°.64N**×**27°.33E, h0**km,**ML0.6, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**0.63**	**252**	*e*P	Pg	12 30 46.0	-0.7
FIA0	**FINESS Array S**	**0.63**	**252**	P	Pg	12 30 45.9	-0.8
KAF	**Kangasniemi**	**0.68**	**315**	*e*P	Pg	12 30 46.7	-0.9
KAF				*e*S	Sg	12 30 55.4	-1.0
KAF	**Kangasniemi**	**0.68**	**315**	P	Pg	12 30 46.7	-0.9
KAF				S	Sg	12 30 55.3	-1.1
SUF	**Sumiainen**	**1.22**	**333**	*e*P	Pg	12 30 56.5	-1.4
SUF				*e*S	Sg	12 31 12.0	-1.6
SUF	**Sumiainen**	**1.22**	**333**	P	Pg	12 30 56.4	-1.5
SUF				S	Sg	12 31 12.0	-1.7
KEF	**Keuruu**	**1.28**	**295**	*e*P	Pg	12 30 57.7	-1.4
KEF				MSG		12 31 20.5	
	comp=Z,0.4nm,0.1s						
KEF	**Keuruu**	**1.28**	**295**	P	Pg	12 30 57.6	-1.5
PVF	**Pernaja**	**1.31**	**214**	MSG		12 31 22.6	
	comp=Z,0.4nm,0.1s						

KNET ***22*** *12:55:13.0±0.3, 42°.59N×74°.47E, h19km±2km, ml2.6, Error ellipse: s-maj=2.6km s-min=1.8km az=132.0*

NNC ***22*** *12:55:16.4±1.4, 42°.62N×74°.66E, h0km±5km, mb3.6, mpv3.2, Error ellipse: s-maj=25.6km s-min=5.7km az=170.0*

ISC 22 12:55:14.9±0.9,**42°.60N**±0°.03×**74°.50E**±0°.02,**h11**km±6km, **n19,** σ0§**71**/35,**15C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.04**	**355**	⇓P	**Pg**	**12 55 17.0**	**-0.3**
	2µm,0.2s,SNR=2928						
AAK				P		12 55 17.0	
	SNR=2928						
AAK				⇓S	**Sg**	**12 55 19.1**	**+0.2**
	6µm,0.2s						
KBK	**Karagaybulak**	**0.34**	**80**	P	**Pg**	**12 55 21.6**	**-0.1**
	SNR=98						
KBK				P	**Pg**	**12 55 21.6**	**-0.1**
	185nm,0.1s,SNR=98						
KBK				⇑S	**Sg**	**12 55 27.0**	**+0.8**
	3µm,0.3s						
UCH	**Uchtor**	**0.37**	**178**	⇓P	**Pg**	**12 55 22.0**	**-0.4**
	162nm,0.2s,SNR=200						
UCH				P	**Pg**	**12 55 22.0**	**-0.4**
	SNR=200						
UCH				⇑S	**Sg**	**12 55 27.4**	**-0.1**
	344nm,0.1s						
CHMS	**Chumysh**	**0.44**	**25**	⇓P	**Pg**	**12 55 23.2**	**-0.4**
	49nm,0.1s,SNR=178						
CHMS				P	**Pg**	**12 55 23.2**	**-0.4**
	SNR=178						
CHMS				⇑S	**Sg**	**12 55 29.3**	**-0.1**
	593nm,0.1s						
EKS2	**Erkin-Say**	**0.54**	**277**	P	**Pg**	**12 55 24.9**	**-0.4**
	SNR=201						
EKS2				⇓P	**Pg**	**12 55 24.9**	**-0.4**
	22nm,0.1s,SNR=201						
EKS2				⇑S	**Sg**	**12 55 32.6**	**+0.1**
	113nm,0.1s						
USP	**Ospenovka**	**0.67**	**0**	P	**Pg**	**12 55 27.0**	**-0.9**
	SNR=354						
USP				P	**Pg**	**12 55 27.0**	**-0.9**
	55nm,0.2s,SNR=354						
USP				⇑S	**Sg**	**12 55 36.0**	**-0.7**
	481nm,0.2s						
AML	**Almayashu**	**0.76**	**232**	P	**Pg**	**12 55 28.6**	**-0.9**
	SNR=310						
AML				P	**Pg**	**12 55 28.6**	**-0.9**
	60nm,0.1s,SNR=310						
AML				⇑S	**Sg**	**12 55 38.7**	**-0.9**
	335nm,0.2s						
KZA	**Kyzart**	**0.76**	**133**	⇓P	**Pg**	**12 55 29.2**	**-0.4**
	22nm,0.2s,SNR=57						
KZA				P	**Pg**	**12 55 29.2**	**-0.4**
	SNR=57						
KZA				⇓S	**Sg**	**12 55 39.8**	**+0.1**
	136nm,0.2s						
TKM2	**Tokmak 2**	**0.87**	**68**	⇑P	**Pg**	**12 55 30.6**	**-1.1**
	40nm,0.1s,SNR=52						
TKM2				P	**Pg**	**12 55 30.6**	**-1.1**
	SNR=52						
TKM2				⇑S	**Sg**	**12 55 42.4**	**-0.7**
	247nm,0.1s						
TKM2	**Tokmak 2**	**0.87**	**68**	⇓P	**Pg**	**12 55 30.6**	**-1.1**
	10nm,0.3s						
TKM2				⇑S	**Sg**	**12 55 42.0**	**-1.1**
	49nm,0.2s						
ULHL	**Ulahol**	**1.34**	**105**	⇑P	**Pn**	**12 55 39.4**	**-0.2**
	11nm,0.1s,SNR=54						
ULHL				P	**Pb**	**12 55 39.7**	**-0.4**
	SNR=54						
KNDC	**Almaty**	**1.92**	**70**	⇓P	**Pb**	**12 55 49.8**	**0.0**
	18nm,0.2s						
KNDC				⇓S	**Sn**	**12 56 12.0**	**+0.5**
	68nm,0.3s						
KK31	**Karatay Array**	**2.98**	**281**	⇓Pn	**Pb**	**12 56 07.9**	**0.0**
	0.8nm,0.3s,baz=99,slow=16,SNR=19						
KK31				⇑Sn	**Sb**	**12 56 45.3**	**+1.1**
	7.0nm,0.4s,baz=100,slow=30,SNR=26						
MK31	**Makanchi Array**	**6.96**	**50**	Pn	**Pn**	**12 56 58.0**	**+1.4**
	2.5nm,0.7s,baz=230,slow=14,SNR=17						
MK31				⇑Lg	Lg	12 58 53.3	
	2.4nm,0.7s,baz=234,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**8.49**	**18**	Lg	Lg	12 59 40.8	
	2.9nm,0.7s						
KURK	**Kurchatov**	**8.60**	**18**	⇑Lg	Lg	12 59 45.2	
	4.6nm,0.7s						
VOSK	**Vostochnaya**	**10.40**	**348**	⇑Lg	Lg	13 00 43.8	
	3.5nm,1.1s						
BVA0	**Bovoye Array**	**10.79**	**347**	⇑Lg	Lg	13 00 56.0	
	0.5nm,0.8s						
ZRNK	**Zerenda**	**10.99**	**342**	⇓Lg	Lg	13 01 01.6	
	4.6nm,1.4s						

IDC 22 13:16:59.8±3.1,**55°.75S**×**148°.51E, h0**km,**mb4.1**/3, **mb1 4.3**/3,**mb1mx4.0**/9,**mbtmp4.1**/3,**MS3.6**/5,**Ms1 3.5**/5, **ms1mx3.4**/24,**Error ellipse: s-maj=190.6km s-min=42.5km az=82.0,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**18.80**	**60**	LR	LR	13 27 25.6	
	comp=Z,220nm,19.6s,baz=248,slow=33						
STKA	**Stephens Creek**	**24.36**	**346**	P	P	13 22 20.8	+1.5
	5.9nm,1.0s,baz=158,slow=16,SNR=6.2						
STKA				LR	LR	13 31 19.9	
	comp=Z,108nm,18.1s,baz=29,slow=35						
NWAO	**Narrogin (SRO)**	**31.50**	**303**	LR	LR	13 32 43.5	
	comp=Z,154nm,18.4s,baz=5.9,slow=30						
ASAR	**Alice Springs**	**33.81**	**335**	P	P	13 23 43.1	-0.4
	1.0nm,0.6s,baz=164,slow=9.6,SNR=15						
WRA	**Warramunga Arr**	**37.31**	**338**	P	P	13 24 13.0	-0.6
	3.8nm,0.7s,baz=164,slow=7.4,SNR=17						
MAW	**Mawson**	**38.89**	**217**	LR	LR	13 40 15.7	
	comp=Z,106nm,18.7s,baz=269,slow=36						
TGY	**Tagaytay City**	**73.35**	**332**	LR	LR	13 58 53.6	
	comp=Z,15nm,19.5s,baz=269,slow=34						
ARCES	**ARCESS Array B**	**151.70**	**322**	PKPbc	PKPbc	13 36 52.3	-2.2
	8.2nm,1.1s,baz=108,slow=2.9,SNR=6.3						
GERES	**GERESS Array B**	**151.94**	**275**	PKPbc	PKPbc	13 36 57.6	+1.8
	1.0nm,0.8s,baz=132,slow=2.8,SNR=5.1						

IDC 22 13:24:26.9±1.1,**3°.34N**×**31°.26W, h0**km,**mb3.8**/7, **mb1 4.0**/7,**mb1mx3.8**/23,**mbtmp3.8**/7,**MS4.3**/6,**Ms1 4.3**/6, **ms1mx3.9**/43,**Error ellipse: s-maj=40.6km s-min=22.1km az=155.0,Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.37**	**51**	LR	LR	13 34 03.5	
	comp=Z,540nm,20.3s,baz=301,slow=31						

BDFB	**Brasilia**	**25.11**	**221**	P		P		13 29 52.7	-1.1
	3.1nm,0.9s,baz=39,slow=13,SNR=3.2								
BDFB				LR		LR		13 38 47.0	
	comp=Z,493nm,18.9s,baz=20,slow=34								
TORD	**Torodi Ar. Bea**	**33.99**	**71**	P		P		13 31 12.1	-0.6
	1.3nm,0.9s,baz=247,slow=7.8,SNR=67								
TORD				LR		LR		13 43 50.9	
	comp=Z,463nm,18.7s,baz=250,slow=34								
LPAZ	**La Paz**	**41.33**	**241**	P		P		13 32 16.5	+0.9
	4.3nm,1.2s,baz=55,slow=12,SNR=5.2								
LPAZ				LR		LR		13 48 50.6	
	comp=Z,604nm,20.0s,baz=238,slow=35								
ROSC	**El Rosal**	**42.98**	**274**	LR		LR		13 49 11.5	
	comp=Z,431nm,22.0s,baz=23,slow=34								
ATAH	**Atahualpa**	**48.18**	**257**	LR		LR		13 53 59.4	
	comp=Z,338nm,19.5s,baz=82,slow=37								
BRTR	**Keskin Array B**	**68.69**	**49**	P		P		13 35 34.0	+1.4
	0.7nm,0.7s,baz=236,slow=3.8,SNR=3.6								
TXAR	**Lajitas Array**	**73.04**	**300**	P		P		13 35 59.1	-0.2
	0.7nm,0.8s,baz=128,slow=8.1,SNR=8.1								
PDAR	**Pinedale Array**	**79.15**	**313**	P		P		13 36 34.9	+0.9
	0.3nm,0.8s,baz=82,slow=6.8,SNR=2.7								
YKA	**Yellowknife Ar**	**83.98**	**332**	P		P		13 36 57.1	-1.7
	0.4nm,0.9s,baz=97,slow=5.5,SNR=5.8								

BJI ***22*** *13:40:20.0, 6°.65S×148°.92E, h53km, mB5.8/56, mb5.4/69, Ms5.6/70, Ms7 5.5/65*

NEIC ***22*** *13:40:26.0±0.1, 5°.91S×148°.51E, h44km, mb5.6/99, ME5.6, MS5.7/82, MW6.1, MW6.0, Error ellipse: s-maj=3.9km s-min=3.0km az=87.0, Moment Tensor Solution. s66 Moment tensor: Scale 10¹⁸Nm; Mrr 1.52; Mθθ -1.22; Mφφ -0.30; Mrθ 0.36; Mθφ -0.18; Mφr -0.10; Best double couple: M₀ 1.50000×10¹⁸ NP1:φ₁255.00000°, δ38.00000°, λ82.00000°. NP2:φ₂85.00000°, δ52.00000°, λ96.00000°. Principal axes: T 1.5800, Plg81.0000°, Azm26.0000°; N -0.2800, Plg4.0000°, Azm260.0000°; P -1.3000, Plg6.0000°, Azm170.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

ISCJB ***22*** *13:40:25.4±0.1, 6°.00S±0°.02×148°.48E±0°.02, h48km, mb5.6/208, MS5.6/127 Error ellipse: s-maj=3.0km s-min=2.8km az=15.8*

MOS ***22*** *13:40:25.2±1.1, 5°.93S×148°.46E, h47km, mb5.7/59, MS5.5/18, Error ellipse: s-maj=8.0km s-min=5.5km az=97.0*

IDC ***22*** *13:40:32.3±1.7, 6°.02S×148°.54E, h98km±14km, mb5.1/28, mb1 5.2/30, mb1mx5.2/30, mbtmp5.1/30, MS5.4/24, Ms1 5.4/24, ms1mx5.3/34, Error ellipse: s-maj=9.9km s-min=8.1km az=98.0*

DJA ***22*** *13:40:34, 6°.44S×148°.46E, h100km, Mw5.9/56*

NEIC ***22*** *13:40:46.3±0.0, 5°.90S×148°.22E, h50km, Moment Tensor Solution. s178 Moment tensor: Scale 10¹⁸Nm; Mrr 1.38; Mθθ -1.36; Mφφ -0.02; Mrθ -0.04; Mθφ -0.24; Mφr -0.21; Best double couple: M₀ 1.40000×10¹⁸ NP1:φ₁88.00000°, δ44.00000°, λ102.00000°. NP2:φ₂252.00000°, δ47.00000°, λ79.00000°. Principal axes: T 1.4100, Plg81.0000°, Azm91.0000°; N -0.0100, Plg8.0000°, Azm259.0000°; P -1.4000, Plg1.0000°, Azm349.0000°;*

ISC 22 13:40:26.3±0.2,**6°.05S**±0°.03×**148°.54E**±0°.03,**h48**km, **h48**km:**pP-P, n783,** σ1§**69**/1112,**mb5.6**/208,**MS5.6**/131, **217C-236D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.60**	**202**	P	**Pn**	**13 41 22.5**	**+2.9**
	816nm,0.3s,baz=19,slow=7.6,SNR=906						
PMG				S	**Sn**	**13 42 02.3**	**+1.4**
	2µm,0.3s,baz=42,slow=18,SNR=12						
PMG	**Port Moresby**	**3.60**	**202**	*d*iP	**Pn**	**13 41 22.4**	**+2.8**
PMG	**Port Moresby**	**3.60**	**202**	*e*Pn	**Pn**	**13 41 22.5**	**+2.9**
PMG				*e*Sn	**Sn**	**13 42 03.4**	**+2.5**
PMG	**Port Moresby**	**3.60**	**202**	P	**Pn**	**13 41 22.1**	**+2.5**
JAY	**Jayapura**	**8.57**	**294**	P	Pn	13 42 35.2	+7.4
	335nm,1.1s,10µm2.6nm						
COEN	**Coen**	**9.46**	**214**	*e*Pn	**Pn**	**13 42 41.4

ASAR Alice Springs 22.47 217 P **P** **13 45 23.3 +1.6**
comp=Z,212nm,0.8s,baz=46,slow=9.5,SNR=1518
ASAR PcP **PcP** **13 49 16.1 +1.3**
comp=Z,92nm,1.1s,baz=20,slow=2.8,SNR=6.1
ASAR S **S** **13 49 26.9 +1.6**
comp=Z,300nm,1.0s,baz=34,slow=22,SNR=19
ASAR Alice Springs 22.47 217 P **P** **13 45 23.3 +1.6**
ASAR 13 49 16.1
ASAR S **S** **13 49 27.0 +1.6**
ASAR pmax pmax
comp=Z,212nm,0.9s
ASAR smax smax
comp=N,300nm,1.0s
ASAR Alice Springs 22.47 217 P **P** **13 45 23.3 +1.6**
ASAR PcP **PcP** **13 49 16.1 +1.3**
ASAR S **S** **13 49 26.9 +1.6**
NOUC Port Laguerre 23.43 135 *e*P **P** **13 45 32.1 +0.7**
DZM Mont Dzumac 23.52 134 *e*P **P** **13 45 33.1 +0.8**
comp=N,442nm,1.1s
DZM *e*S **S** **13 49 38.7 -4.2**
comp=N,25µm,25.4s
DZM *e*LR LR 13 51 13.1
comp=N,54µm,23.7s
DZM Mont Dzumac 23.52 134 P **P** **13 45 33.8 +1.6**
comp=N,71nm,0.9s,baz=333,slow=14,SNR=14
DZM S **S** **13 49 36.3 -6.6**
comp=N,12nm,1.0s,baz=59,slow=18,SNR=3.0
DZM Mont Dzumac 23.52 134 *e*P **P** **13 45 32.2 -0.1**
DZM Mont Dzumac 23.52 134 P **P** **13 45 33.8 +1.6**
DZM S **S** **13 49 36.3 -6.6**
ARMA Armidale 24.41 174 *e*P **P** **13 45 41.7 +1.3**
ARMA *e*S **S** **13 49 59.0 +1.8**
ARMA Armidale 24.41 174 *e*P **P** **13 45 41.7 +1.3**
MNI Manado 24.81 287 P pP 13 45 58.8 +2.2
FITZ Fitzroy Crossi 25.35 240 P **P** **13 45 50.7 +1.6**
comp=N,1µm,1.0s,baz=64,slow=8.4,SNR=476
FITZ S **S** **13 50 05.5 -6.8**
comp=N,27nm,0.9s,baz=227,slow=19,SNR=1.6
FITZ LR LR 13 57 07.9
comp=N,14µm,20.5s,baz=66,slow=39
FITZ Fitzroy Crossi 25.35 240 *e*P **P** **13 45 50.8 +1.8**
comp=N,2µm,0.8s
FITZ *e*S **S** **13 50 12.7 +0.4**
FITZ Fitzroy Crossi 25.35 240 *e*P **P** **13 45 50.6 +1.6**
comp=N,350nm,1.1s
FITZ S **S** **13 50 05.5 -6.8**
KMSI Cibinong 25.39 284 P P 13 45 55.7 +6.3
comp=N,436nm,0.8s,comp=N,10µm
BBSI Bau Bau 25.84 270 P **P** **13 45 57.5 +4.0**
comp=N,490nm,1.1s,comp=N,8µm
KDI Kendari 25.90 273 P **P** **13 45 56.9 +2.8**
comp=N,49nm,1.1s,comp=N,3µm
LUWI Luwuk 26.19 280 P **P** **13 46 00.8 +4.1**
comp=N,255nm,0.9s,comp=N,8µmcomp=N,17µm
MMRI Maumere 26.21 263 P **P** **13 45 57.0 +0.1**
comp=N,992nm,1.4s,comp=N,11µmcomp=N,12µm
DAV Davao City (W) 26.36 299 LR LR 13 54 38.8
comp=N,4µm,20.1s,baz=309,slow=32
STKA Stephens Creek 26.50 193 P **P** **13 46 01.2 +2.0**
comp=N,90nm,0.8s,baz=355,slow=7.9,SNR=36
STKA S **S** **13 50 23.5 -6.6**
comp=N,9.2nm,0.7s,baz=274,slow=9.4,SNR=1.3
STKA LR LR 13 57 48.6
comp=N,17µm,19.1s,baz=9.7,slow=39
STKA Stephens Creek 26.50 193 *e*P **P** **13 46 01.4 +2.1**
comp=N,202nm,0.7s
STKA *e*S **S** **13 50 28.8 -1.3**
STKA Stephens Creek 26.50 193 *e*P **P** **13 46 00.0 +0.7**
STKA *e**PP **pP** **13 46 12.6 +0.9**
STKA S **S** **13 50 23.5 -6.6**
STKA pmax pmax
comp=Z,60nm,0.8s
STKA Stephens Creek 26.50 193 P **P** **13 46 01.3 +2.0**
STKA S **S** **13 50 23.5 -6.6**
STKA pmax pmax
comp=Z,90nm,0.8s
STKA smax smax
comp=N,9.0nm,0.7s
STKA MLR MLR
comp=Z,17µm,19.1s
STKA Stephens Creek 26.50 193 *e*P **P** **13 46 00.0 +0.7**
comp=Z,60nm,0.8s
STKA *ep*P **pP** **13 46 12.6 +0.9**
STKA S **S** **13 50 23.5 -6.6**
MRSI Marisa 27.33 283 P **P** **13 46 10.4 +3.4**
comp=Z,52nm,1.4s,comp=Z,2µm
CTBH Cotabato--PC H 27.59 298⇑ *e*P pP 13 46 23.6 +1.8
RIV Riverview 27.75 175 *e*P P 13 46 18.5 +8.1
WSI Waingapu 28.20 261 P **P** **13 46 15.3 +0.6**
comp=Z,3µm,1.2s,comp=Z,32µm
BKSI Bulukumba 28.29 270 P **P** **13 46 17.2 +1.7**
comp=Z,122nm,1.0s,comp=Z,2µm
KAPI Kappang 28.67 271 P **P** **13 46 20.1 +1.2**
comp=Z,24nm,1.0s,baz=88,slow=6.9,SNR=23
KAPI S **S** **13 50 59.9 -4.8**
comp=Z,9.2nm,0.8s,baz=224,slow=9.6,SNR=2.2
KAPI Kappang 28.67 271 *e*P **P** **13 46 18.4 -0.5**
comp=Z,215nm,1.1s
KAPI S **S** **13 50 59.9 -4.8**
KAPI Kappang 28.67 271 P **P** **13 46 19.7 +0.8**
comp=Z,146nm,1.3s,comp=Z,2µm
SPSI Sidrap Palu 28.73 273 P **P** **13 46 21.1 +1.6**
comp=Z,68nm,0.8s,comp=Z,2µm
BBOO Buckleboo 29.05 202 *e*P **P** **13 46 23.9 +1.9**
comp=Z,2µm,0.9s
CAN Canberra 29.13 179 *e*P **P** **13 46 22.2 -0.6**
CAN *e**PP **pP** **13 46 33.2 -2.1**
CAN *e**SP **sP** **13 46 39.8 -1.3**
CAN *e* 13 49 28.5
CAN pmax pmax
comp=Z,40nm,0.8s
CAN Canberra 29.13 179 *e*P **P** **13 46 22.2 -0.6**
comp=Z,40nm,0.8s
CAN *ep*P **pP** **13 46 33.2 -2.1**
CAN *es*P **sP** **13 46 39.8 -1.3**
CAN *e* 13 49 28.4
CNB Canberra Magne 29.13 179 *e*P **P** **13 46 24.1 +1.3**
comp=Z,145nm,0.9s
CNB *e*S **S** **13 51 12.5 +0.9**
FUNA Funafuti 30.50 96 *e*P **P** **13 46 34.5 -0.6**
comp=Z,237nm,0.9s
WAKE Wake Island 30.86 35 PFAKE 13 46 50.0 +12
WAKE LR LR
comp=Z,9µm,21.0s
MSVF Nonsavu 31.07 115 *e*P **P** **13 46 41.7 +1.5**
MSVF pmax pmax
comp=Z,128nm,1.0s
MSVF Nonsavu 31.07 115 *e*P **P** **13 46 41.7 +1.5**
comp=Z,128nm,1.0s
FORT Forrest 31.22 216 *e*P **P** **13 46 42.6 +1.3**
comp=Z,253nm,0.6s
FORT Forrest 31.22 216 *e*P **P** **13 46 42.8 +1.5**
comp=Z,267nm,0.7s
TOO Toolangi 31.50 185 *e*P **P** **13 46 45.7 +2.0**
comp=Z,274nm,1.1s
TOO *e*S **S** **13 51 50.8 +2.2**
MBWA Marble Bar 31.68 239 *e*P **P** **13 46 46.7 +1.2**
comp=Z,164nm,0.7s
MBWA *ep*P **pP** **13 47 00.0 +2.0**
MTNI Mataram 32.20 263 P **P** **13 46 50.4 +0.3**
comp=Z,192nm,0.8s,comp=Z,2µm
TSM Tawau 32.30 288 P **P** **13 46 51.8 +0.8**
KBKI Kotabaru 32.38 273 P pP 13 47 03.9 -0.3
KHKI Kahang-Kahang 32.75 264 P **P** **13 46 54.8 -0.1**
comp=Z,140nm,1.3s,comp=Z,2µm
IGBI Denpasar 33.22 263 P **P** **13 46 59.9 +0.9**
comp=Z,187nm,0.7s,comp=Z,11µm
SDKM Sandakan 33.38 290 P **P** **13 47 01.1 +0.7**
CBIJ Chichi jima 33.52 350 P **P** **13 47 02.0 +0.6**
comp=Z,176nm,0.7s,baz=152,slow=8.8,SNR=13
CBIJ Chichi jima 33.52 350 P **P** **13 47 02.0 +0.6**
BBKI Banjar Baru 33.68 273 P P 13 47 06.2 +3.2
comp=Z,112nm,0.9s,comp=Z,3µm
NBBI Negara 33.72 264 P **P** **13 47 03.7 +0.3**
comp=Z,482nm,1.2s,comp=Z,6µm
TGY Tagaytay City 33.93 306 P **P** **13 47 05.6 +0.4**
comp=Z,59nm,0.3s,baz=135,slow=13,SNR=3.0
TGY Tagaytay City 33.93 306 P **P** **13 47 05.6 +0.4**
TGY pmax pmax
comp=Z,59nm,0.3s
TGY Tagaytay City 33.93 306 P **P** **13 47 05.6 +0.4**
BYJI Banyuwangi 33.98 264 P **P** **13 47 06.6 +1.0**
comp=Z,807nm,1.3s,comp=Z,13µm
JAGI Jajag, Banyuwa 34.19 264 P **P** **13 47 06.4 -1.1**
comp=Z,419nm,1.1s,comp=Z,4µm
KMMI Kalianget 34.36 266 P **P** **13 47 11.3 +2.4**
comp=Z,127nm,1.0s,comp=Z,3µm
KKM Kota Kinabalu 34.43 290 P **P** **13 47 10.3 +0.6**
BLJI Banyuglugur 34.73 265 P **P** **13 47 12.4 +0.3**
comp=Z,244nm,0.8s,comp=Z,2µm
GMJI Gumukmas 34.88 264 P **P** **13 47 15.3 +1.8**
comp=Z,120nm,1.4s,comp=Z,3µm
KRKI Karangkates 35.86 264 P P 13 47 25.8 +3.9
comp=Z,519nm,0.6s
MOO Moorlands 36.26 182 *e*P P 13 47 28.0 +3.1
comp=Z,543nm,1.0s
PWJI Pagerwojo 36.50 265 P **P** **13 47 27.2 -0.2**
comp=Z,293nm,1.0s,comp=Z,3µm
SJI Sawahan 36.54 265 P **P** **13 47 28.6 +0.8**
comp=Z,274nm,0.8s,comp=Z,4µm
BTM Bintulu 36.58 284 P **P** **13 47 28.8 +0.8**
TAU Tasmania Unive 36.72 181 *e*P **P** **13 47 29.8 +1.0**
TAU pmax pmax
comp=Z,756nm,2.2s
TAU Tasmania Unive 36.72 181 *e*P **P** **13 47 29.8 +1.0**
comp=Z,756nm,2.2s
PBKI Pangkalan Bun 36.91 274 P pP 13 47 41.7 -1.8
OUZ Omahuta 37.08 145 *e*P **P** **13 47 33.7 +1.7**
comp=Z,51nm,0.9s
PCJI Pacitan 37.13 264 P **P** **13 47 33.3 +0.6**
comp=Z,633nm,1.0s,comp=Z,6µm
SBUM Sibu 37.24 282 P **P** **13 47 34.5 +0.9**
STKI Sintang 37.49 278 P pP 13 47 46.6 -1.9
UGM Wanagama 37.77 265 *e*P **P** **13 47 39.1 +0.9**
comp=Z,580nm,1.0s
UGM Wanagama 37.77 265 P **P** **13 47 40.3 +2.1**
comp=Z,612nm,1.7s,comp=Z,9µm
SMRI Semarang 37.86 266 P P 13 47 41.9 +3.0
comp=Z,283nm,1.6s
YOGI Yogyakarta 38.00 265 P P 13 47 43.1 +3.0
comp=Z,1µm,0.9s,comp=Z,14µm
JOW Kunigami 38.13 330 LR LR 14 00 24.8
comp=Z,15µm,21.1s,baz=98,slow=31
JOW Kunigami 38.13 330 *e*P **P** **13 47 40.6 -0.3**
comp=Z,82nm,1.3s
KLBR Kellerberrin 38.40 225 *e*P **P** **13 47 43.9 +0.7**
comp=Z,219nm,0.7s
BJII Banjamegara 38.58 266 P **P** **13 47 47.2 +2.2**
comp=Z,204nm,1.9s,comp=Z,6µm
KSM Kuching 38.90 280 P **P** **13 47 48.4 +0.8**
RAO Raoul Island 39.17 130 *e*P **P** **13 47 51.9 +2.2**
RAO pmax pmax
comp=Z,980nm,1.3s
RAO Raoul Island 39.17 130 *e*P **P** **13 47 51.9 +2.2**
comp=Z,980nm,1.3s
TWG Pinlang 39.31 318 *e*P **P** **13 47 48.1 -2.8**
comp=Z,27nm,0.5s
NWAO Narrogin (SRO) 39.53 223 P **P** **13 47 53.8 +1.2**
comp=Z,40nm,0.6s,baz=52,slow=7.7,SNR=27
NWAO LR LR 14 05 51.8
comp=Z,13µm,19.6s,baz=48,slow=38
NWAO Narrogin (SRO) 39.53 223 *e*P **P** **13 47 53.2 +0.5**
NWAO *e**PP **pP** **13 48 05.0 -0.5**
NWAO *e**SP **sP** **13 48 09.5 -1.6**
NWAO pmax pmax
comp=Z,41nm,0.6s
NWAO Narrogin (SRO) 39.53 223 P **P** **13 47 53.8 +1.2**
NWAO pmax pmax
comp=Z,41nm,0.6s
NWAO MLR MLR
comp=Z,13µm,19.6s
NWAO Narrogin (SRO) 39.53 223 *e*P **P** **13 47 53.2 +0.5**
comp=Z,41nm,0.6s
NWAO *ep*P **pP** **13 48 05.0 -0.5**
NWAO *es*P **sP** **13 48 09.5 -1.6**
YULB Yu-li 39.55 319 *e*P **P** **13 47 52.2 -0.8**
comp=Z,60nm,0.8s
AFI Afiamalu 39.81 104 P **P** **13 47 55.3 0.0**
comp=Z,204nm,0.9s,baz=301,slow=2.0,SNR=19
AFI LR LR 14 01 47.4
comp=Z,5µm,21.0s,baz=265,slow=32
AFI Afiamalu 39.81 104 *e*P **P** **13 47 55.7 +0.4**
AFI Afiamalu 39.81 104 *e*P **P** **13 47 55.7 +0.4**
NACB Ninganchiao 39.91 320 *e*P **P** **13 47 56.0 +0.1**
comp=Z,459nm,1.7s
TPUB Ta-pu 39.93 318 *e*P **P** **13 47 54.9 -1.3**
comp=Z,66nm,0.6s
SSLB Suanglung 40.05 319 *e*P **P** **13 47 56.5 -0.6**
comp=Z,34nm,0.7s
YHNB Yeheng 40.40 320 *e*P **P** **13 47 58.8 -1.3**
comp=Z,287nm,1.0s
CISI Cisompet, Garu 40.45 265 P **P** **13 48 00.9 +0.2**
comp=Z,526nm,1.5s,comp=Z,10µm
TATO Taipei 40.55 321 *e*P **P** **13 48 01.0 -0.2**
comp=Z,472nm,1.6s
LEM Lembang 40.66 267 P **P** **13 48 03.5 +1.0**
comp=Z,172nm,1.9s,comp=Z,6µm
QRZ Quartz Range 40.74 152 *e*PN P 13 48 05.9 +3.4
URZ Urewera 41.22 145 *e*P **P** **13 48 07.1 +0.6**
comp=Z,134nm,1.7s
URZ *e*PcP **PcP** **13 50 03.6 -1.3**
SKJI Sukabumi 41.71 266 P **P** **13 48 13.6 +2.7**
comp=Z,1µm,0.8s,comp=Z,9µm
PUZ Puketiti 41.76 144 PN **P** **13 48 11.2 +0.2**
TSZ Takapari Road 41.87 148 PN **P** **13 48 12.9 +1.1**
MRZ Mangatainoka R 42.11 149 PN **P** **13 48 14.5 +0.7**
MRZ pP **pP** **13 48 29.5 +2.8**
SNZO South Karori 42.16 150 *e*P **P** **13 48 15.5 +1.4**
comp=Z,472nm,1.9s
SNZO *ep*P **pP** **13 48 26.2 -0.8**
QZH Quanzhou 42.41 318⇓ *i*P **P** **13 48 17.5 +1.1**
QZH pP **pP** **13 48 30.6 +1.3**
QZH S **S** **13 54 29.0 -5.8**
QZH sS **sS** **13 54 59.5 +3.0**
QZH pmax pmax
comp=Z,130nm,0.8s
QZH pmax pmax
comp=Z,2µm,7.2s
QZH LR LR
comp=N,4µm,21.7s
QZH LR LR
comp=E,4µm,18.2s
QZH LR LR
comp=Z,17µm,32.1s
RPZ Rata Peaks 42.41 156 P **P** **13 48 17.1 +0.8**
comp=Z,29nm,0.7s,baz=346,slow=4.1,SNR=18
RPZ Rata Peaks 42.41 156 *e*P **P** **13 48 17.6 +1.3**
comp=Z,86nm,0.8s
RPZ *ep*P **pP** **13 48 31.6 +2.4**
RPZ Rata Peaks 42.41 156 PN **P** **13 48 17.0 +0.8**
RPZ pP **pP** **13 48 31.6 +2.4**
JNU Nakatsue 42.42 338 P **P** **13 48 16.6 +0.3**
comp=Z,71nm,0.7s,baz=149,slow=3.0,SNR=80
JNU LR LR 14 04 49.4
comp=Z,4µm,21.4s,baz=172,slow=34
JNU Nakatsue 42.42 338 P **P** **13 48 16.6 +0.3**
KHZ Kahutara 42.45 152 *e*P **P** **13 48 16.4 -0.1**
comp=Z,58nm,0.8s
PPBI Pangkal Pinang 42.46 273 P **P** **13 48 19.7 +2.7**
comp=Z,109nm,0.8s
BFZ Birch Farm 42.47 148 PN **P** **13 48 17.2 +0.5**
BFZ pP **pP** **13 48 31.3 +1.6**
CGJI Cibinong 42.58 267 P **P** **13 48 18.5 +0.5**
comp=Z,354nm,0.9s,comp=Z,5µm
MJAR Matsushiro Arr 43.46 348 P **P** **13 48 26.0 +1.2**
comp=Z,140nm,1.2s,baz=176,slow=9.1,SNR=112
MJAR LR LR 14 04 32.0
comp=Z,5µm,22.0s,baz=155,slow=33
MJAR Matsushiro Arr 43.46 348 P **P** **13 48 26.0 +1.2**
MJAR pmax pmax
comp=Z,140nm,1.2s
MJAR Matsushiro Arr 43.46 348 P **P** **13 48 26.0 +1.2**
MJAO Matsushiro 43.47 348 *e*P **P** **13 48 24.4 -0.4**
MAJO pmax pmax
comp=Z,165nm,0.9s
MAJO MLR MLR
comp=Z,5µm,21.0s
MAJO Matsushiro 43.47 348 *e*P **P** **13 48 24.4 -0.4**
comp=Z,165nm,0.9s
MAJO LR LR
comp=Z,5µm,21.0s
MAT Matsushiro 43.47 348 P **P** **13 48 25.6 +0.8**
MAT S S 13 54 43.0 -7.0
HKC Hong Kong Obse 43.89 311⇑ *i*P **P** **13 48 30.0 +1.6**
LWLI Liwa 44.28 269 P **P** **13 48 32.8 +1.0**
comp=Z,491nm,0.9s,comp=Z,4µm
GZH Guangzhou 44.97 311 P **P** **13 48 39.3 +2.3**
GZH S **S** **13 55 14.3 +2.1**
GZH LR LR
comp=N,3µm,16.7s
GZH LR LR
comp=E,2µm,17.5s
GZH LR LR
comp=Z,6µm,25.5s
SSE Sheshan 45.26 326 P **P** **13 48 40.1 +0.9**
SSE pP **pP** **13 48 55.8 +3.6**
SSE S **S** **13 55 11.8 -4.4**
SSE pmax pmax
comp=Z,81nm,1.2s
SSE pmax pmax
comp=Z,790nm,7.1s
SSE LR LR
comp=N,5µm,24.1s
SSE LR LR
comp=E,5µm,24.1s
SSE LR LR
comp=Z,8µm,25.5s
MYKOM Kota Tinggi 45.30 279 P **P** **13 48 40.4 +0.6**
QIZ Qiongzhong 45.55 304 P **P** **13 48 41.8 +0.1**
QIZ sP **sP** **13 48 57.1 -3.2**
QIZ S **S** **13 55 20.6 -0.1**
QIZ SS SS 13 58 42.5 -3.0
QIZ pmax pmax
comp=Z,19nm,1.4s
QIZ pmax pmax
comp=Z,690nm,10.7s
QIZ LR LR
comp=N,2µm,24.9s
QIZ LR LR
comp=Z,4µm,22.8s
QIZ Qiongzhong 45.55 304 *e*P **P** **13 48 39.8 -1.9**
comp=Z,83nm,1.4s
QIZ *ep*P **pP** **13 48 53.4 -1.3**
KSI Kapahiang 45.83 271 P pP 13 48 57.1 -0.1
KGM Kluang 45.86 279 P **P** **13 48 44.9 +0.6**
KTGM Kuala Trenggan 46.72 283 P **P** **13 48 51.5 +0.5**
NJ2 Nanjing 47.29 325 *e*P **P** **13 48 56.4 +1.3**
NJ2 pP **pP** **13 49 06.1 -2.1**
NJ2 sP **sP** **13 49 12.0 -1.8**
NJ2 S **S** **13 55 47.0 +1.8**
NJ2 pmax pmax
comp=Z,200nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,9.4s
NJ2 LR LR
comp=N,7µm,21.1s
NJ2 LR LR
comp=E,7µm,27.3s
NJ2 LR LR
comp=Z,11µm,29.2s
MIDW Midway 47.35 42 PFAKE 13 49 10.0 +14
MIDW LR LR
comp=Z,10µm,22.0s
KSRS Korea Array 47.37 338 P **P** **13 48 57.0 +1.5**
comp=Z,36nm,0.7s,baz=153,slow=8.1,SNR=77
KSRS LR LR 14 07 04.6
comp=Z,6µm,21.7s,baz=143,slow=34
KSRS Korea Array 47.37 338 P **P** **13 48 57.1 +1.5**
KSRS pmax pmax
comp=Z,36nm,0.7s
KSAR Wonju Array Be 47.37 338 P **P** **13 48 57.1 +1.4**
KSAR Wonju Array Be 47.37 338 P **P** **13 48 57.0 +1.4**
FRIM Kepong 47.75 280 P **P** **13 48 59.5 +0.4**
INCN Inchon 47.89 336 *e*P **P** **13 48 58.9 -0.8**
comp=Z,479nm,1.8s
ERM Erimo 48.09 355*d* *i*P P 13 49 04.1 +3.0
ERM Erimo 48.09 355 *e*P **P** **13 49 00.6 -0.5**
comp=Z,52nm,1.0s
PPI Padang Panjang 48.36 275 P **P** **13 49 05.0 +1.2**
comp=Z,45nm,1.2s,comp=Z,2µm
IPM Ipoh 48.58 281 P **P** **13 49 05.9 +0.4**
WHN Wuhan 48.95 320⇑ P **P** **13 49 09.5 +1.5**
MNSI Mandailing Nat 49.35 276 P P 13 49 15.5 +4.2
comp=Z,69nm,0.8s,comp=Z,2µm
YUK Yuzh-Kuril'sk 49.91 357*c* *i*P P 13 49 11.2 -3.9
YUK *i* *PP pP 13 49 28.8 +0.6
YUK *i* 13 50 33.5
YUK *i* S **S** **13 56 17.6 -4.3**
YUK pmax pmax
comp=E,283nm,1.8s
YUK pmax pmax
comp=Z,1µm,1.9s
YUK pmax pmax
comp=N,94nm,0.9s
YUK pmax pmax
comp=Z,509nm,1.8s
YUK MLR MLR
comp=N,804nm,21.0s
YUK MLR MLR
comp=Z,2µm,21.0s
ASAJ Asahikawa 50.23 354 LR LR 14 09 17.4
comp=Z,4µm,21.4s,baz=163,slow=34
ASAJ Asahikawa 50.23 354 *e*P **P** **13 49 16.9 -0.6**
comp=Z,85nm,1.4s
PSI Prapat 50.32 279 P **P** **13 49 19.9 +1.0**
comp=Z,62nm,1.3s,comp=Z,1µmcomp=Z,6µm
DL2 Dalian 51.22 333⇑ *i*P **P** **13 49 26.5 +1.5**
DL2 pP **pP** **13 49 41.6 +3.4**
DL2 S **S** **13 56 42.0 +1.9**
DL2 SS SS 14 00 21.1 +4.8
DL2 pmax pmax
comp=Z,60nm,1.3s
DL2 pmax pmax
comp=Z,470nm,6.5s
DL2 LR LR
comp=N,2µm,20.2s
DL2 LR LR
comp=E,2µm,20.0s
DL2 LR LR
comp=Z,3µm,20.5s
TIA Tai'an 51.34 327 P **P** **13 49 26.3 +0.3**
COCO West Island 51.35 259 *e*P **P** **13 49 26.9 +0.5**
COCO pmax pmax
comp=Z,711nm,1.5s
COCO West Island 51.35 259 *e*P **P** **13 49 26.9 +0.5**
comp=Z,710nm,1.5s
COCO West Island 51.35 259 P P 13 49 30.2 +3.8
comp=Z,347nm,1.4s,comp=Z,5µm
GSI Gunungsitoli 51.41 276 P **P** **13 49 29.3 +2.4**
comp=Z,50nm,1.6s
GYA Guiyang 51.87 310⇑ *i*P **P** **13 49 32.0 +1.7**
GYA pP **pP** **13 49 44.8 +1.2**
GYA sP **sP** **13 49 50.0 +0.9**
GYA PcP **PcP** **13 50 43.8 +1.1**
GYA PP PP 13 51 30.5 +1.8
GYA S **S** **13 56 50.3 +0.4**
GYA sS **sS** **13 57 11.3 -0.7**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,3µm,5.8s
GYA LR LR
comp=N,9µm,18.8s
GYA LR LR
comp=E,7µm,19.0s
GYA LR LR
comp=Z,8µm,18.9s
ENH Enshi 52.01 316 *e*P **P** **13 49 30.5 -0.6**
comp=Z,112nm,1.3s
RAR Rarotonga 52.20 112 P **P** **13 49 34.3 +1.7**
comp=Z,40nm,1.0s,baz=243,slow=6.7,SNR=3.9
RAR LR LR 14 07 24.3
comp=Z,886nm,19.6s,baz=276,slow=31
RAR Rarotonga 52.20 112 P **P** **13 49 34.4 +1.7**
RAR Rarotonga 52.20 112 P **P** **13 49 34.4 +1.7**
USRK Ussuriysk Arra 52.20 345 P **P** **13 49 34.0 +1.8**
comp=Z,40nm,0.7s,baz=176,slow=5.9,SNR=44
USRK LR LR 14 10 38.8
comp=Z,2µm,19.8s,baz=316,slow=35
SNY Shenyang 52.83 337⇑ P **P** **13 49 38.6 +1.7**
SNY pP **pP** **13 49 51.6 +1.4**
SNY S **S** **13 56 58.8 -3.3**
SNY pmax pmax
comp=Z,71nm,1.3s
SNY pmax pmax
comp=Z,1µm,3.5s
SNY LR LR
comp=N,2µm,19.0s
SNY LR LR
comp=E,2µm,19.7s
SNY LR LR
comp=Z,5µm,26.2s
YSS Yuzh-Sakhalins 53.02 355*oe* P **P** **13 49 40.0 +1.7**
YSS *e**SP **sP** **13 49 55.0 -2.0**
YSS *e* 13 50 45.0
YSS *e*PPP PPP 13 52 42.0
YSS *e*S **S** **13 57 05.0 +0.4**

YSS				*e*PS	PKiKP	13 57 15.0	-9.4	
YSS				pmax	pmax			
	comp=Z,300nm,1.8s							
YSS				pmax	pmax			
	comp=Z,1μm,8.0s							
YSS	**Yuzh-Sakhalins**	**53.02**	**355**	*e*P	**P**	**13 49 37.2**	**-1.0**	
	comp=Z,57nm,0.8s							
YSS				*es*P	**sP**	**13 49 55.1**	**-2.0**	
YSS				LR	LR			
	comp=Z,2μm,20.0s							
MDJ	**Mudanjiang**	**53.24**	**343**	P	**P**	**13 49 41.1**	**+1.2**	
MDJ				pP	**pP**	**13 49 51.9**	**-1.3**	
MDJ				sP	**sP**	**13 49 57.0**	**-1.8**	
MDJ				PP	PP	13 51 39.9	-0.7	
MDJ				ScP	**ScP**	**13 54 41.8**	**+0.7**	
MDJ				S	**S**	**13 57 09.3**	**+1.6**	
MDJ				pmax	pmax			
	comp=Z,75nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,1μm,7.7s							
MDJ				LR	LR			
	comp=N,4μm,26.6s							
MDJ				LR	LR			
	comp=E,2μm,28.4s							
MDJ				LR	LR			
	comp=Z,6μm,30.2s							
MDJ	**Mudanjiang**	**53.24**	**343**	*e*P	**P**	**13 49 39.1**	**-0.8**	
	comp=Z,64nm,1.0s							
CN2	**Changchun**	**53.83**	**339**	*e*P	**P**	**13 49 45.3**	**+1.0**	
CN2				*ep*P	**pP**	**13 49 57.6**	**0.0**	
CN2				*es*P	**sP**	**13 50 02.9**	**-0.2**	
CN2				*e*S	**S**	**13 57 15.6**	**-0.2**	
CN2				SS	SS	14 00 57.6	0.0	
CN2				pmax	pmax			
	comp=Z,40nm,1.8s							
CN2				pmax	pmax			
	comp=Z,200nm,6.0s							
CN2				LR	LR			
	comp=N,3μm,19.0s							
CN2				LR	LR			
	comp=E,3μm,19.0s							
CN2				LR	LR			
	comp=Z,5μm,20.0s							
KMI	**Kunming**	**54.25**	**307**	P	**P**	**13 49 49.1**	**+1.1**	
KMI				pP	**pP**	**13 50 01.8**	**+0.5**	
KMI				PP	PP	13 51 52.1	+1.8	
KMI				S	**S**	**13 57 20.8**	**-1.7**	
KMI				SS	SS	14 01 02.5	-2.7	
KMI				pmax	pmax			
	comp=Z,27nm,1.5s							
KMI				pmax	pmax			
	comp=Z,620nm,11.8s							
KMI				LR	LR			
	comp=N,2μm,19.2s							
KMI				LR	LR			
	comp=E,2μm,24.4s							
KMI				LR	LR			
	comp=Z,3μm,23.5s							
CM31	**Chiang Mai Arr**	**54.63**	**298**	*e*P	**P**	**13 49 51.3**	**+0.7**	
	comp=Z,16nm,0.7s							
CM31				*e*		13 54 34.3		
CMAR	**Chiang Mai Arr**	**54.63**	**298**	P	**P**	**13 49 51.5**	**+0.9**	
	comp=Z,2.8nm,0.6s,baz=122,slow=5.9,SNR=18							
CMAR				LR	LR	14 15 00.6		
	comp=Z,1μm,20.5s,baz=278,slow=38							
CMAR				PKPPKP	**P'P'df**	**14 20 01.2**	**-1.7**	
	comp=Z,1.4nm,0.8s,baz=300,slow=3.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**54.63**	**298**	P	**P**	**13 49 51.5**	**+0.9**	
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CMAR				MLR	MLR			
	comp=Z,1μm,20.5s							
CMAR	**Chiang Mai Arr**	**54.63**	**298**	P	**P**	**13 49 51.5**	**+0.9**	
CMAR				P'P'		14 20 01.2		
BJT	**Baijiatuau**	**54.69**	**330**	*e*P	**P**	**13 49 50.0**	**-0.7**	
BJT				*e**PP	**pP**	**13 50 02.4**	**-1.6**	
BJT				pmax	pmax			
	comp=Z,61nm,1.1s							
BJT	**Baijiatuau**	**54.69**	**330**	*e*P	**P**	**13 49 50.0**	**-0.7**	
	comp=Z,61nm,1.1s							
BJT				*ep*P	**pP**	**13 50 02.4**	**-1.6**	
XAN	**Xi'an**	**54.71**	**320**	P	**P**	**13 49 50.8**	**-0.1**	
XAN				pP	**pP**	**13 50 03.3**	**-0.9**	
XAN				sP	**sP**	**13 50 08.8**	**-1.0**	
XAN				S	**S**	**13 57 24.3**	**-3.7**	
XAN				pmax	pmax			
	comp=Z,29nm,1.4s							
XAN				LR	LR			
	comp=N,2μm,26.0s							
XAN				LR	LR			
	comp=E,1μm,23.6s							
XAN				LR	LR			
	comp=Z,1μm,26.0s							
BJI	**Beijing**	**54.71**	**330**	P	**P**	**13 49 51.4**	**+0.7**	
BJI				pP	**pP**	**13 50 03.1**	**-0.9**	
BJI				PcP	**PcP**	**13 50 53.3**	**+0.3**	
BJI				PP	PP	13 51 57.9	+4.1	
BJI				S	**S**	**13 57 25.5**	**-2.1**	
BJI				sS	**sS**	**13 57 49.3**	**-0.6**	
BJI				SS	SS	14 01 19.5	+8.1	
BJI				pmax	pmax			
	comp=Z,66nm,1.3s							
BJI				pmax	pmax			
	comp=Z,1μm,6.6s							
BJI				LR	LR			
	comp=N,6μm,22.4s							
BJI				LR	LR			
	comp=E,5μm,21.9s							
BJI				LR	LR			
	comp=Z,8μm,29.6s							
CHTO	**Chiang Mai**	**54.76**	**298**	*e*P	**P**	**13 49 49.8**	**-1.7**	
CHTO				pmax	pmax			
	comp=Z,24nm,1.0s							
CHTO	**Chiang Mai**	**54.76**	**298**	*e*P	**P**	**13 49 49.8**	**-1.7**	
	comp=Z,24nm,1.0s							
CHTO	**Chiang Mai**	**54.76**	**298**	P	**P**	**13 49 52.6**	**+1.1**	
	comp=Z,23nm,1.1s,comp=Z,669nmcomp=Z,7μm							
HABR	**Khabarovsk**	**55.57**	**349**	*c* *i*P	**P**	**13 49 57.9**	**+1.1**	
HABR				*e**PP	**pP**	**13 50 11.9**	**+1.8**	
HABR				*e**SP	**sP**	**13 50 18.9**	**+3.2**	
HABR				*e*		13 50 54.9		
HABR				*e*		13 52 00.6		
HABR				*e*PPP	PPP	13 53 14.0		
HABR				*e*S	**S**	**13 57 40.0**	**+1.1**	
HABR				*e*		13 59 39.4		
HABR				*e*SS	SS	14 01 24.9	+0.1	
HABR				pmax	pmax			
	comp=Z,901nm,1.6s							
HABR				pmax	pmax			
	comp=Z,669nm,1.6s							
HABR				pmax	pmax			
	comp=N,264nm,1.9s							
HABR				pmax	pmax			
	comp=E,200nm,1.6s							
HABR				MLR	MLR			
	comp=Z,1μm,18.0s							
CD2	**Chengdu**	**56.42**	**313**	P	**P**	**13 50 03.9**	**+0.6**	
CD2				pP	**pP**	**13 50 19.9**	**+3.3**	
CD2				sP	**sP**	**13 50 26.8**	**+4.6**	
CD2				PP	**PP**	**13 52 11.6**	**+2.2**	
CD2				S	**S**	**13 57 48.5**	**-2.4**	
CD2				sS	**sS**	**13 58 16.0**	**+2.7**	
CD2				pmax	pmax			
	comp=Z,60nm,0.9s							
CD2				pmax	pmax			
	comp=Z,890nm,8.9s							
CD2				LR	LR			
	comp=E,3μm,19.0s							
CD2				LR	LR			
	comp=Z,2μm,25.0s							
SKR	**Severo-Kuril's**	**56.89**	**6**	*e*P	P	13 50 09.0	+2.9	
SKR				*e*		13 52 19.0		
SKR				*e*		13 59 46.0		
SKR				pmax	pmax			
	comp=Z,960nm,1.5s							
SKR				pmax	pmax			
	comp=Z,3μm,2.0s							
SKR				pmax	pmax			
	comp=N,2μm,4.0s							
SKR				pmax	pmax			
	comp=E,2μm,4.0s							
SKR				MLR	MLR			
	comp=N,4μm,20.0s							
SKR				MLR	MLR			
	comp=E,3μm,20.0s							
SKR				MLR	MLR			
	comp=Z,4μm,20.0s							
KLR	**Kul'dur**	**56.97**	**347**	*ii*P	**P**	**13 50 05.6**	**-1.2**	
KLR				*e*S	S	13 57 50.5	-7.0	
KLR				*e*SS	**SS**	**14 01 50.5**	**+3.6**	
KLR				pmax	pmax			
	comp=N,100nm,1.6s							
KLR				pmax	pmax			
	comp=E,130nm,1.6s							
KLR				pmax	pmax			
	comp=Z,640nm,1.6s							
KLR				pmax	pmax			
	comp=Z,2μm,9.5s							
KLR				MLR	MLR			
	comp=N,1μm,14.0s							
KLR				MLR	MLR			
	comp=E,2μm,14.0s							
KLR				MLR	MLR			
	comp=Z,2μm,14.0s							
HHC	**Hu-ho-hao-te**	**57.69**	**327**	*e*P	**P**	**13 50 12.8**	**+0.6**	
HHC				pP	**pP**	**13 50 25.6**	**0.0**	
HHC				sP	**sP**	**13 50 30.9**	**-0.2**	
HHC				PP	**PP**	**13 52 22.8**	**+2.2**	
HHC				S	**S**	**13 58 07.1**	**-0.4**	
HHC				ScS	**ScS**	**13 59 55.3**	**-2.6**	
HHC				SS	**SS**	**14 01 59.9**	**+1.2**	
HHC				pmax	pmax			
	comp=Z,49nm,1.5s							
HHC				pmax	pmax			
	comp=Z,910nm,8.9s							
HHC				LR	LR			
	comp=N,3μm,18.6s							
HHC				LR	LR			
	comp=E,5μm,18.1s							
HHC				LR	LR			
	comp=Z,6μm,19.2s							
BTO	**Baotou**	**58.37**	**326**	*e*P	**P**	**13 50 17.3**	**+0.4**	
LZH	**Lanzhou**	**59.26**	**318**	⇑P	**P**	**13 50 24.6**	**+1.3**	
LZH				pP	**pP**	**13 50 38.3**	**+1.6**	
LZH				sP	**sP**	**13 50 42.9**	**+0.7**	
LZH				PP	**PP**	**13 52 39.0**	**+4.3**	
LZH				S	**S**	**13 58 28.4**	**+0.2**	
LZH				pmax	pmax			
	comp=Z,180nm,1.4s							
LZH				pmax	pmax			
	comp=Z,920nm,6.5s							
LZH				LR	LR			
	comp=N,3μm,18.5s							
LZH				LR	LR			
	comp=E,3μm,19.2s							
LZH				LR	LR			
	comp=Z,4μm,20.2s							
PEA0B	**Petropavlovsk-**	**59.45**	**6**	*e*P	**P**	**13 50 23.6**	**-0.4**	
PETK	**Petropavlovsk-**	**59.45**	**6**	P	**P**	**13 50 25.1**	**+1.1**	
	comp=Z,160nm,0.9s,baz=169,slow=6.8,SNR=122							
PETK				LR	LR	14 12 41.4		
	comp=Z,4μm,21.3s,baz=196,slow=32							
PETK	**Petropavlovsk-**	**59.45**	**6**	P	**P**	**13 50 25.1**	**+1.1**	
PETK				pmax	pmax			
	comp=Z,160nm,0.9s							
PETK	**Petropavlovsk-**	**59.45**	**6**	P	**P**	**13 50 25.1**	**+1.1**	
PET	**Petropavlovsk**	**59.48**	**7**	*c* *i*P	**P**	**13 50 24.7**	**+0.6**	
PET				*e*S	**S**	**13 58 30.6**	**+0.7**	
PET				*e*SS	**SS**	**14 02 29.3**	**+3.3**	
PET				pmax	pmax			
	comp=Z,2μm,3.1s							
PET				pmax	pmax			
	comp=Z,191nm,1.2s							
PET				pmax	pmax			
	comp=Z,1μm,11.3s							
PET				MLR	MLR			
	comp=Z,2μm,18.0s							
PET				MLR	MLR			
	comp=Z,2μm,20.0s							
PET	**Petropavlovsk**	**59.48**	**7**	*e*P	**P**	**13 50 22.6**	**-1.5**	
	comp=Z,880nm,1.9s							
PET				*es*P	**sP**	**13 50 41.1**	**-2.1**	
HIA	**Hailar**	**60.55**	**339**	*e*P	**P**	**13 50 30.7**	**-1.0**	
HIA				pmax	pmax			
	comp=Z,220nm,1.3s							
HIA	**Hailar**	**60.55**	**339**	*e*P	**P**	**13 50 30.7**	**-1.0**	
	comp=Z,220nm,1.3s							
DRV	**Dumont d'Urvil**	**60.80**	**184**	P	**P**	**13 50 31.0**	**-2.0**	
DRV				S	S	13 58 37.0	-10	
DRV				SS	SS	14 03 00.0	+14	
DRV				L	L	14 05 00.0		
DRV				R		14 09 00.0		
PAE	**Paea**	**61.41**	**107**	*e*P	**P**	**13 50 39.6**	**+1.5**	
	comp=Z,44nm,1.3s							
PPT2	**Papeete2**	**61.41**	**107**	*e*PP	PP	13 52 50.7	-3.2	
	comp=Z,824nm,27.5s							
PPT2				*e*S	**S**	**13 58 53.6**	**-2.6**	
	comp=Z,4μm,26.5s							
PPT2				*e*LQ	LQ	14 06 05.8		
	comp=Z,7μm,31.2s							
PPT2				*e*LR	LR	14 08 36.3		
	comp=Z,6μm,26.5s							
TIAR	**Tiarei**	**61.63**	**107**	*e*P	**P**	**13 50 41.4**	**+1.8**	
	comp=Z,372nm,1.2s							
TBI	**Tubuai**	**61.94**	**113**	*e*P	**P**	**13 50 43.2**	**+1.6**	
	comp=Z,320nm,1.2s							
TBI				*ep*P	**pP**	**13 50 54.1**	**-1.0**	
	comp=Z,180nm,0.9s							
TBI	**Tubuai**	**61.94**	**113**	*e*PP	PP	13 53 01.6	+3.2	
	comp=Z,560nm,27.5s							
TBI				*e*S	**S**	**13 59 01.0**	**-1.6**	
	comp=Z,4μm,27.8s							
TBI				*e*LQ	LQ	14 06 17.6		
	comp=Z,3μm,38.2s							
TBI				*e*LR	LR	14 08 52.2		
	comp=Z,8μm,35.5s							
MEH	**Mehetia**	**62.86**	**107**	*e*P	**P**	**13 50 49.4**	**+1.5**	
	comp=Z,338nm,1.1s							
MEH				*ep*P	**pP**	**13 50 59.7**	**-1.7**	
	comp=Z,142nm,0.9s							
PMOR	**Pomariorio Ree**	**62.95**	**104**	*e*P	**P**	**13 50 50.3**	**+1.9**	
	comp=Z,669nm,1.2s							
SHL	**Shillong**	**63.34**	**302**	*e*P	**P**	**13 50 50.0**	**-1.1**	
SHL				*e*S	**S**	**13 59 21.0**	**+0.6**	
GTA	**Gaotai**	**63.77**	**320**	*e*P	**P**	**13 50 54.8**	**+1.2**	
GTA				pP	**pP**	**13 51 11.1**	**+3.9**	
GTA				sP	sP	13 51 18.1	+5.4	
GTA				PP	**PP**	**13 53 17.1**	**+2.7**	
GTA				S	**S**	**13 59 22.0**	**-3.2**	
GTA				sS	**sS**	**13 59 52.3**	**+4.4**	
GTA				SS	**SS**	**14 03 33.5**	**-0.6**	
GTA				pmax	pmax			
	comp=Z,39nm,1.6s							
GTA				pmax	pmax			
	comp=Z,960nm,8.8s							
GTA				LR	LR			
	comp=N,1μm,23.8s							
GTA				LR	LR			
	comp=E,1μm,17.8s							
GTA				LR	LR			
	comp=Z,2μm,18.5s							
ULN	**Ulaanbaatar**	**64.90**	**330**	*e*P	**P**	**13 51 01.2**	**+0.3**	
ULN				*e**PP	**pP**	**13 51 13.2**	**-1.3**	
ULN				pmax	pmax			
	comp=Z,18nm,0.6s							
ULN	**Ulaanbaatar**	**64.90**	**330**	*e*P	**P**	**13 51 01.2**	**+0.3**	
	comp=Z,18nm,0.6s							
ULN				*ep*P	**pP**	**13 51 13.2**	**-1.3**	
ULN	**Ulaanbaatar**	**64.90**	**330**	P	**P**	**13 51 01.7**	**+0.8**	
	comp=Z,53nm,1.8s,comp=Z,2μm							
CIT	**Chita**	**65.09**	**337**	*e*P	**P**	**13 51 03.2**	**+1.3**	
CIT				*e*		13 51 18.3		
CIT				*e*		13 51 35.9		
CIT				*e*		14 00 08.2		
CIT				pmax	pmax			
	comp=Z,310nm,1.8s							
SONM	**Songino Array**	**65.20**	**330**	P	**P**	**13 51 03.3**	**+0.5**	
	comp=Z,11nm,0.6s,baz=144,slow=6.3,SNR=74							
SONM				LR	LR	14 18 33.9		
	comp=Z,7μm,21.5s,baz=139,slow=35							
SONM				PKPPKP	**P'P'df**	**14 19 42.4**	**-1.7**	
	comp=Z,2.3nm,1.1s,baz=316,slow=2.6,SNR=6.9							
SONM	**Songino Array**	**65.20**	**330**	P	**P**	**13 51 03.3**	**+0.5**	
SONM				pmax	pmax			
	comp=Z,11nm,0.6s							
SONM	**Songino Array**	**65.20**	**330**	P	**P**	**13 51 03.3**	**+0.5**	
SONM				P'P'		14 19 42.4		
CAL	**Calcutta**	**65.36**	**298**	*e*P	**P**	**13 51 04.3**	**+0.2**	
CAL				*ex*	x	13 52 35.9		
LSA	**Lhasa**	**65.50**	**306**	*e*P	**P**	**13 51 03.9**	**-1.6**	
LSA				pmax	pmax			
	comp=Z,28nm,0.6s							
LSA	**Lhasa**	**65.50**	**306**	*e*P	**P**	**13 51 03.9**	**-1.6**	
	comp=Z,28nm,0.6s							
CLNS	**Chul'man**	**65.60**	**346**	*e*P	**P**	**13 51 06.1**	**+1.1**	
CLNS				*e**PP	**pP**	**13 51 20.7**	**+2.0**	
CLNS				*e*		13 53 28.0		
CLNS				*e*PPP	PPP	13 55 01.1		
CLNS				*e*S	**S**	**13 59 47.0**	**+0.1**	
CLNS				pmax	pmax			
	comp=Z,118nm,1.3s							
CLNS				pmax	pmax			
	comp=E,17nm,1.3s							
CLNS				pmax	pmax			
	comp=N,92nm,1.5s							
CLNS				pmax	pmax			
	comp=Z,42nm,1.6s							
CLNS				pmax	pmax			
	comp=N,38nm,1.9s							
CLNS				pmax	pmax			
	comp=E,13nm,1.2s							
CLNS				smax	smax			
	comp=N,841nm,10.8s							
CLNS				smax	smax			
	comp=E,689nm,10.4s							
CASY	**Casey**	**65.62**	**196**	*e*P	**P**	**13 51 05.6**	**+0.6**	
CASY	**Casey**	**65.62**	**196**	*e*P	**P**	**13 51 05.4**	**+0.4**	
	comp=E,77nm,0.9s							
TAPN	**Taplejung**	**67.46**	**303**	*e*P	**P**	**13 51 16.9**	**-1.0**	
	comp=E,126nm,1.3s							
TAPN	**Taplejung**	**67.46**	**303**	*e*P	**P**	**13 51 16.9**	**-1.0**	
	comp=E,126nm,1.3s							
ODAN	**Odare**	**67.57**	**302**	*e*P	**P**	**13 51 17.5**	**-1.0**	
ODAN	**Odare**	**67.57**	**302**	*e*P	**P**	**13 51 17.5**	**-1.0**	
RAMN	**Ramite**	**68.26**	**302**	*e*P	**P**	**13 51 21.7**	**-1.2**	
	comp=E,25nm,0.6s							
RAMN	**Ramite**	**68.26**	**302**	*e*P	**P**	**13 51 21.7**	**-1.2**	
	comp=E,25nm,0.6s							
ZAK	**Zakamensk**	**68.43**	**331**	*ii*P	**P**	**13 51 23.4**	**+0.2**	
ZAK				pmax	pmax			
	comp=Z,39nm,1.4s							
JIRN	**Jiri**	**68.84**	**303**	*e*P	**P**	**13 51 25.5**	**-1.1**	
	comp=Z,48nm,0.7s							
JIRN	**Jiri**	**68.84**	**303**	*e*P	**P**	**13 51 25.5**	**-1.1**	
	comp=Z,48nm,0.7s							
NIKO	**Nikolski**	**68.95**	**26**	*e*P	**P**	**13 51 25.7**	**-0.5**	
	comp=Z,116nm,0.8s							
TLY	**Talaya**	**69.11**	**332**	*e*P	**P**	**13 51 27.2**	**-0.1**	
TLY				*e**PP	**pP**	**13 51 39.2**	**-1.9**	
TLY				*e**SP	**sP**	**13 51 43.9**	**-2.6**	
TLY				pmax	pmax			
	comp=Z,37nm,1.3s							
TLY	**Talaya**	**69.11**	**332**	*e*P	**P**	**13 51 27.2**	**-0.1**	
	comp=Z,37nm,1.3s							
TLY				*ep*P	**pP**	**13 51 39.2**	**-1.9**	
TLY				*es*P	**sP**	**13 51 43.9**	**-2.6**	
GUN	**Gumba**	**69.18**	**303**	*e*P	**P**	**13 51 27.6**	**-1.1**	
	comp=Z,55nm,0.4s							
GUN	**Gumba**	**69.18**	**303**	*e*P	**P**	**13 51 27.6**	**-1.1**	
	comp=Z,55nm,0.4s							
IRK	**Irkutsk**	**69.19**	**333**	*e*P	**P**	**13 51 28.2**	**+0.4**	
IRK				*e*		13 51 43.5		
IRK				*e*		14 01 02.1		
IRK				pmax	pmax			
	comp=Z,84nm,2.1s							
YAK	**Yakutsk**	**69.43**	**351**	*e*P	**P**	**13 51 29.6**	**+0.5**	
YAK				*e**PP	**pP**	**13 51 44.6**	**+1.8**	
YAK				*e*		13 51 51.7		
YAK				*e*		13 54 11.2		
YAK				*e*S	**S**	**14 00 32.9**	**+0.4**	
YAK				*e**SS	**sS**	**14 00 55.3**	**-0.2**	
YAK				*e*		14 01 14.2		
YAK				*e*SS	**SS**	**14 05 02.9**	**+2.1**	
YAK				pmax	pmax			
	comp=Z,97nm,1.2s							
YAK				pmax	pmax			
	comp=N,56nm,1.4s							
YAK				pmax	pmax			
	comp=E,13nm,1.5s							
YAK				pmax	pmax			
	comp=Z,526nm,5.1s							
YAK				pmax	pmax			
	comp=E,156nm,3.8s							
YAK				pmax	pmax			
	comp=N,317nm,4.6s							
YAK				smax	smax			
	comp=E,98nm,3.8s							
YAK				smax	smax			
	comp=N,126nm,5.1s							
YAK	**Yakutsk**	**69.43**	**351**	*e*P	**P**	**13 51 27.0**	**-2.1**	
	comp=N,203nm,1.3s							
YAK				LR	LR			
	comp=Z,3μm,22.0s							
PKI	**Pulchoki**	**69.47**	**302**	*e*P	**P**	**13 51 28.8**	**-1.6**	
PKI	**Pulchoki**	**69.47**	**302**	*e*P	**P**	**13 51 28.8**	**-1.6**	
PKI	**Pulchoki**	**69.47**	**302**	*e*P	**P**	**13 51 28.8**	**-1.6**	
BOD	**Bodaibo**	**69.52**	**341**	*e*P	**P**	**13 51 29.2**	**-0.5**	
BOD				*e*		13 51 45.6		
BOD				pmax	pmax			
	comp=Z,95nm,1.8s							
KKN	**Kakani**	**69.64**	**302**	*e*P	**P**	**13 51 30.3**	**-1.1**	
	comp=Z,33nm,0.7s							
KKN	**Kakani**	**69.64**	**302**	*e*P	**P**	**13 51 30.3**	**-1.1**	
KKN				pmax	pmax			
	comp=Z,33nm,0.7s							
KKN	**Kakani**	**69.64**	**302**	*e*P	**P**	**13 51 30.3**	**-1.1**	
	comp=Z,33nm,0.7s							
DMN	**Daman**	**69.73**	**302**	*e*P	**P**	**13 51 31.0**	**-1.0**	
	comp=Z,41nm,0.6s							
DMN	**Daman**	**69.73**	**302**	*e*P	**P**	**13 51 31.0**	**-1.0**	
	comp=Z,41nm,0.6s							
GKN	**Gorkha**	**70.25**	**302**	*e*P	**P**	**13 51 33.7**	**-1.4**	
	comp=Z,48nm,0.6s							
GKN	**Gorkha**	**70.25**	**302**	*e*P	**P**	**13 51 33.7**	**-1.4**	
	comp=Z,48nm,0.6s							
MOY	**Mondy**	**70.36**	**331**	*e*P	**P**	**13 51 36.1**	**+0.9**	
MOY				pmax	pmax			
	comp=Z,106nm,3.0s							
UNV	**Unalaska Valle**	**70.57**	**26**	*e*P	**P**	**13 51 36.1**	**-0.1**	
	comp=Z,156nm,1.0s							
KOLN	**Koldanda**	**71.05**	**302**	*e*P	**P**	**13 51 38.6**	**-1.4**	
	comp=Z,37nm,0.6s							
KOLN	**Koldanda**	**71.05**	**302**	*e*P	**P**	**13 51 38.6**	**-1.4**	
	comp=Z,37nm,0.6s							
AKUT	**Akutan**	**71.09**	**26**	*e*P	**P**	**13 51 39.6**	**+0.3**	
	comp=Z,118nm,0.8s							
AKUT				*ep*P	**pP**	**13 51 51.6**	**-1.6**	
AKUT				*es*P	**sP**	**13 51 57.2**	**-1.3**	
DANN	**Dangsing**	**71.09**	**303**	*e*P	**P**	**13 51 38.8**	**-1.6**	
	comp=Z,37nm,0.7s							
DANN	**Dangsing**	**71.09**	**303**	*e*P	**P**	**13 51 38.8**	**-1.6**	
	comp=Z,37nm,0.7s							
MIR	**Mirnyy**	**71.26**	**200**	⇑*i*P	**P**	**13 51 41.6**	**+1.4**	
MIR				*e*		13 51 51.0		
MIR				*e*S	**S**	**14 00 54.0**	**+0.2**	
MIR				*e*PS		14 01 32.0		
MIR				*e*SS	**SS**	**14 05 32.0**	**+3.6**	
MIR				*e*SSS	SSS	14 08 46.0		
MIR				pmax	pmax			
	comp=Z,1μm,2.0s							
MIR				pmax	pmax			
	comp=N,500nm,6.0s							
MIR				pmax	pmax			
	comp=E,404nm,4.0s							
MIR				pmax	pmax			
	comp=Z,587nm,1.6s							
MIR				smax	smax			
	comp=E,2μm,7.0s							
MIR				smax	smax			
	comp=N,2μm,6.0s							
VNDA	**Vanda**	**71.77**	**177**	*e*P	**P**	**13 51 44.1**	**+0.9**	
VNDA				pmax	pmax			
	comp=Z,113nm,0.8s							
VNDA	**Vanda**	**71.77**	**177**	*e*P	**P**	**13 51 44.1**	**+0.9**	
	comp=Z,113nm,0.8s							
SBA	**Scott Base**	**72.39**	**176**	*e*P	**P**	**13 51 48.4**	**+1.5**	
SBA				*e*		13 52 03.9		
SBA				pmax	pmax			
	comp=Z,152nm,1.2s							
SBA	**Scott Base**	**72.39**	**176**	*e*P	**P**	**13 51 48.4**	**+1.5**	
	comp=Z,152nm,1.2s							
SBA				*e*PcP	**PcP**	**13 52 03.9**	**-0.7**	
TRD	**Trivandrum**	**72.82**	**281**	⇑*ex*	x	13 53 40.0		
HYB	**Hyderabad**	**72.92**	**290**	*i* P	**P**	**13 51 50.0**	**-1.1**	
HYB				*ep*P	**pP**	**13 52 05.0**	**0.0**	
HYB				*e*PP	**PP**	**13 54 32.0**	**-2.0**	

HYB eS **S** **14 01 10.0 -4.7**
HYB eScS **ScS** **14 01 56.0 +0.3**
NGP Nagpur 73.28 294 eP **P** **13 51 52.0 -1.2**
WMQ Urumqi 73.83 319 P **P** **13 51 56.6 +0.5**
WMQ pP **PcP** **13 52 13.3 +1.9**
WMQ sP **sP** **13 52 20.1 +4.8**
WMQ PP **PP** **13 54 43.6 +2.2**
WMQ S **SKiKP** **14 01 21.9 +0.5**
WMQ SS **SS** **14 06 09.0 -0.2**
WMQ pmax pmax
comp=Z,56nm,1.3s
WMQ pmax pmax
comp=Z,780nm,4.2s
WMQ LR LR
comp=N,2µm,24.0s
WMQ LR LR
comp=E,1µm,22.0s
WMQ LR LR
comp=Z,2µm,23.0s
BILL Bilibino 74.97 7⇓ eP **P** **13 52 02.8 +0.7**
BILL e*PP **pP** **13 52 19.8 +3.8**
BILL e 13 54 50.2
BILL eS **S** **14 01 37.6 +1.7**
BILL pmax pmax
comp=Z,100nm,2.5s
BILL Bilibino 74.97 7 eP **P** **13 52 02.2 +0.1**
comp=Z,25nm,0.7s
BILL LR LR
comp=Z,2µm,22.0s
LATR Latur 74.98 291 eP **P** **13 52 00.2 -2.9**
LATR AMb AMB 13 52 39.9
comp=Z,28nm,0.3s
RKT Rikitea 75.24 112 eP **P** **13 52 06.5 +1.9**
comp=Z,170nm,1.2s
RKT epP **PcP** **13 52 17.7 -0.1**
comp=Z,82nm,1.1s
RKT Rikitea 75.24 112 ePP PP 13 54 52.0 -1.6
comp=Z,531nm,29.8s
RKT eS **S** **14 01 39.7 -0.8**
comp=Z,1µm,34.5s
RKT eLQ LQ 14 11 53.4
comp=Z,3µm,40.2s
RKT eLR LR 14 15 05.5
comp=Z,7µm,32.2s,baz=276
GAMB Gambell 75.77 17 eP **P** **13 52 05.2 -1.5**
comp=Z,62nm,1.4s
GAMB esP **sP** **13 52 24.0 -1.9**
DDI Dehra Dun 76.43 303 eP **P** **13 52 09.5 -1.8**
NDI New Delhi 76.72 301 eP **P** **13 52 10.3 -2.5**
NDI AMb AMB 13 52 13.7
comp=Z,73nm,1.0s
POO Poona 77.52 290⇓ *i*P **P** **13 52 15.5 -2.1**
comp=Z,143nm,1.5s
PAF Port-aux-Franc 77.83 221 PFAKE 13 52 30.0 +11
PAF LR LR
comp=Z,6µm,21.0s
TNA Tin City 78.19 17 eP **P** **13 52 20.0 -0.3**
comp=Z,36nm,1.2s
MK31 Makanchi Array 78.52 320 *i* P **P** **13 52 21.6 -1.0**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 78.52 320 eP **P** **13 52 21.3 -1.3**
MKAR Makanchi Array 78.52 320 P **P** **13 52 21.6 -0.9**
comp=Z,6.8nm,0.5s,baz=101,slow=7.1,SNR=50
MKAR PKKPbc **PKKPbc** **14 11 19.6 -1.3**
comp=Z,2.8nm,0.9s,baz=315,slow=2.4,SNR=12
MKAR PKPPKP **P'P'df** **14 19 17.9 -3.7**
comp=Z,1.6nm,0.9s,baz=251,slow=3.7,SNR=4.6
MKAR LR LR 14 25 22.9
comp=Z,1µm,21.7s,baz=279,slow=34
MKAR Makanchi Array 78.52 320 P **P** **13 52 21.6 -0.9**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 78.52 320 P **P** **13 52 21.6 -0.9**
MKAR PKKPbc **PKKPbc** **14 11 19.6 -1.3**
MKAR P'P' 14 19 17.9
THN Thein Dam 78.90 305 eP **P** **13 52 22.7 -2.2**
KDAK Kodiak Island 79.23 28 P **P** **13 52 25.9 -0.2**
comp=Z,43nm,1.0s,baz=146,slow=4.5,SNR=8.3
KDAK Kodiak Island 79.23 28 *i* P **P** **13 52 27.6 +1.5**
KDAK Kodiak Island 79.23 28 P **P** **13 52 25.9 -0.2**
ZAA0 Zalesovo Array 79.88 327 eP **P** **13 52 27.5 -2.2**
ZAA0 ePP PP 13 55 53.9 +22
ZALV Zalesovo Beam 79.88 327 P **P** **13 52 28.2 -1.5**
comp=Z,11nm,0.5s,baz=112,slow=6.9,SNR=55
ZALV PKKPbc **PKKPbc** **14 11 16.6 -1.6**
comp=Z,2.0nm,0.4s,baz=298,slow=3.2,SNR=17
ZALV PKP2ab 14 19 05.8
comp=Z,1.1nm,0.7s,baz=302,slow=2.8,SNR=5.9
ZALV PKPPKP **P'P'df** **14 19 16.8 -1.7**
comp=Z,1.9nm,0.8s,baz=298,slow=3.2,SNR=7.3
ZALV LR LR 14 26 29.6
comp=Z,4µm,21.6s,baz=35,slow=34
ZALV Zalesovo Beam 79.88 327 P **P** **13 52 28.3 -1.5**
ZALV pmax pmax
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 79.88 327 P **P** **13 52 28.2 -1.5**
ZALV PKKPbc **PKKPbc** **14 11 16.6 -1.6**
ZALV P'P'ab 14 19 05.8
ZALV P'P' 14 19 16.8
RSO Redoubt South 80.50 25 eP **P** **13 52 32.7 -0.6**
comp=Z,42nm,0.7s
KSH Kashi 80.56 312 eP **P** **13 52 35.4 +1.4**
KSH epP **pP** **13 52 48.6 +0.6**
KSH esP **sP** **13 52 53.6 +0.3**
KSH ePP **PP** **13 55 41.3 +3.3**
KSH eS **S** **14 02 35.6 -1.9**
KSH eSKS **SKSac** **14 02 44.9 -3.6**
KSH esS **sS** **14 03 00.0 -1.0**
KSH eSS **SS** **14 07 53.8 +2.8**
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,530nm,6.9s
KSH LR LR
comp=N,370nm,9.0s
KSH LR LR
comp=E,350nm,10.1s
KSH LR LR
comp=Z,1µm,19.5s
NVS Novosibirsk 81.09 328⇑ *i*P **P** **13 52 35.1 -1.1**
NVS *i* 13 52 55.3
NVS eS **S** **14 02 39.4 -2.7**
NVS pmax pmax
comp=Z,65nm,1.7s
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,32nm,1.7s
NVS smax smax
comp=E,88nm,2.8s
ULHL Ulahol 81.12 314 P **P** **13 52 37.7 +0.7**
SNR=7.4
ULHL P **P** **13 52 37.7 +0.7**
SNR=7.4
NIL Nilore 81.20 305 PFAKE 13 52 50.0 +13
NIL LR LR
comp=Z,67nm,22.0s
SLKM Skilak Lake 81.62 26 eP **P** **13 52 39.8 +0.8**
SLKM e*SP **sP** **13 52 56.2 -2.2**
SLKM Skilak Lake 81.62 26 eP **P** **13 52 39.8 +0.8**
SLKM esP **sP** **13 52 56.1 -2.2**
TKM2 Tokmak 2 81.77 315 P **P** **13 52 41.8 +1.4**
SNR=11
TKM2 P **P** **13 52 41.8 +1.4**
SNR=11
TKM2 Tokmak 2 81.77 315 *i* P **P** **13 52 41.8 +1.4**
TKM2 Tokmak 2 81.77 315 eP **P** **13 52 39.0 -1.4**
comp=Z,9.1nm,0.8s
SEW Seward 81.77 27 eP **P** **13 52 39.3 -0.4**
comp=Z,142nm,1.1s
KZA Kyzart 81.78 314 P **P** **13 52 40.7 -0.1**
SNR=23
KZA P **P** **13 52 40.7 -0.1**
SNR=23
KURK Kurchatov 82.17 323 PKKPbc PKKPbc 14 11 11.4 -1.3
KURK comp=Z,4.6nm,1.0s,baz=303,slow=3.1,SNR=12 PKPPKP **P'P'df** **14 19 14.9 +0.2**
comp=Z,19nm,1.4s,baz=283,slow=2.5,SNR=11
KURK Kurchatov 82.17 323 *c i*P **P** **13 52 41.4 -0.7**
KURK pmax pmax
comp=Z,59nm,1.7s
KURK Kurchatov 82.17 323 eP **P** **13 52 40.9 -1.1**
comp=Z,38nm,1.2s
KURK PKKPbc **PKKPbc** **14 11 11.4 -1.3**
KURK P'P' 14 19 14.9
CHMS Chumysh 82.39 315 P **P** **13 52 43.7 +0.3**
SNR=5.5
CHMS P **P** **13 52 43.7 +0.3**
SNR=5.5
FRU Bishkek 82.44 315 eP **P** **13 52 42.0 -1.7**
FRU pmax pmax
comp=Z,90nm,2.0s
AAK Ala-Archa 82.47 314 PFAKE 13 52 50.0 +5.9
AAK LR LR
comp=Z,1µm,19.0s
PMR Palmer 82.60 25 eP **P** **13 52 43.6 -0.4**
PMR pmax pmax
comp=Z,80nm,1.0s
PMR Palmer 82.60 25 eP **P** **13 52 43.6 -0.4**
comp=Z,80nm,1.0s
USP Ospenovka 82.63 315 P **P** **13 52 45.2 +0.4**
SNR=11
USP P **P** **13 52 45.2 +0.4**
SNR=11
MAW Mawson 82.79 203 P **P** **13 52 44.7 -0.3**
comp=Z,47nm,0.9s,baz=85,slow=6.5,SNR=13
MAW LR LR 14 27 45.7
comp=Z,2µm,20.5s,baz=79,slow=34
MAW Mawson 82.79 203 eP **P** **13 52 45.8 +0.8**
comp=Z,37nm,0.8s
MAW eS **S** **14 02 58.8 -0.4**
MAW Mawson 82.79 203 eP **P** **13 52 45.4 +0.4**
MAW pmax pmax
comp=Z,16nm,1.0s
MAW Mawson 82.79 203 eP **P** **13 52 45.4 +0.4**
comp=Z,16nm,1.0s
EKS2 Erkin-Say 82.99 314 P **P** **13 52 47.5 +0.8**
SNR=8.7
EKS2 P **P** **13 52 47.5 +0.8**
SNR=8.7
EKS2 Erkin-Say 82.99 314 eP **P** **13 52 46.1 -0.6**
EKS2 pmax pmax
comp=Z,23nm,1.1s
EKS2 MLR MLR
comp=Z,1µm,20.0s
EKS2 Erkin-Say 82.99 314 eP **P** **13 52 46.1 -0.6**
comp=Z,23nm,1.1s
EKS2 LR LR
comp=Z,1µm,20.0s
TRF Thorofare Moun 83.00 23 eP **P** **13 52 45.6 -0.8**
comp=Z,32nm,0.7s
SML Sawmill 83.03 25 eP **P** **13 52 46.4 0.0**
SML e 13 55 55.4
SML pmax pmax
comp=Z,46nm,0.9s
SML Sawmill 83.03 25 eP **P** **13 52 46.4 0.0**
comp=Z,46nm,0.9s
SML e 13 55 55.4
MCK McKinley 83.67 23 eP **P** **13 52 48.2 -1.4**
MCK pmax pmax
comp=Z,333nm,1.3s
MCK McKinley 83.67 23 eP **P** **13 52 48.2 -1.4**
comp=Z,333nm,1.3s
DIV Divide 83.85 26 eP **P** **13 52 48.5 -2.1**
comp=Z,91nm,1.0s
DIV epP **pP** **13 53 03.0 -1.7**
DIV e 13 56 02.3
QSPA South Pole Qui 83.91 180 P **P** **13 52 49.7 -1.3**
comp=Z,139nm,0.9s,baz=336,slow=1.9,SNR=132
QSPA South Pole Qui 83.91 180 eP **P** **13 52 51.5 +0.5**
comp=Z,296nm,1.0s
QSPA epP **pP** **13 53 04.9 -0.2**
BMRM Bremner River 84.31 27 eP **P** **13 52 53.6 +0.7**
comp=Z,112nm,1.2s
BMRM ePP **PP** **13 56 06.7 -1.5**
COLA College 84.61 23 eP **P** **13 52 53.8 -0.4**
COLA e*PP **pP** **13 53 07.2 -1.1**
COLA pmax pmax
comp=Z,115nm,1.1s
COLA College 84.61 23 eP **P** **13 52 53.8 -0.4**
comp=Z,115nm,1.1s
COLA epP **pP** **13 53 07.2 -1.1**
PAX Paxson 84.74 25 eP **P** **13 52 54.0 -1.1**
PAX e*PP **pP** **13 53 06.5 -2.7**
PAX esP **sP** **13 53 11.3 -3.3**
PAX e*SP **sP** **13 53 11.3 -3.3**
PAX pmax pmax
comp=Z,66nm,1.4s
PAX Paxson 84.74 25 eP **P** **13 52 54.0 -1.1**
comp=Z,66nm,1.4s
PAX epP **pP** **13 53 06.5 -2.7**
PAX esP **sP** **13 53 11.2 -3.3**
COLD Coldfoot 84.86 20 eP **P** **13 52 55.9 +0.4**
comp=Z,83nm,1.1s
ILAR Eielson Array 84.93 23 P **P** **13 52 54.1 -1.8**
comp=Z,51nm,0.9s,baz=251,slow=4.1,SNR=257
ILAR PKKPbc **PKKPbc** **14 11 04.8 -2.1**
comp=Z,1.2nm,0.9s,baz=340,slow=0.9,SNR=8.6
ILAR PKPPKP **P'P'df** **14 19 06.9 -1.9**
comp=Z,2.6nm,1.1s,baz=15,slow=0.6,SNR=6.4
ILAR LR LR 14 25 33.9
comp=Z,2µm,21.2s,baz=260,slow=32
ILAR Eielson Array 84.93 23 P **P** **13 52 54.1 -1.8**
ILAR pmax pmax
comp=Z,51nm,0.9s
ILAR Eielson Array 84.93 23 P **P** **13 52 54.1 -1.8**
ILAR PKKPbc **PKKPbc** **14 11 04.8 -2.1**
ILAR P'P' 14 19 06.9
KK31 Karatay Array 85.42 314 P P 13 52 55.7 -3.2
KK31 pmax pmax
comp=Z,2.0nm,0.2s
KKAR Karatay Array 85.42 314 eP **P** **13 52 58.3 -0.6**
KKAR pmax pmax
comp=Z,109nm,1.3s
KKAR Karatay Array 85.42 314 eP **P** **13 52 58.3 -0.6**
comp=Z,109nm,1.3s
MENT Mentasta 85.46 25 eP **P** **13 52 59.3 +0.6**
MENT ePP **PP** **13 56 17.1 -0.4**
DOT Dot Lake 85.59 24 eP **P** **13 52 59.3 0.0**
comp=Z,63nm,1.1s
PNL Peninsula 86.26 29 eP **P** **13 53 02.4 -0.3**
comp=Z,118nm,1.1s
EGAK Eagle 87.19 24 eP **P** **13 53 07.0 -0.1**
comp=Z,134nm,1.1s
VOSK Vostochnaya 87.30 324 P **P** **13 53 06.1 -1.8**
VOSK pmax pmax
comp=Z,12nm,0.9s
DAWY Dawson 87.68 25 eP **P** **13 53 09.5 0.0**
BVA0 Borovoye Array 87.72 324 *i* P **P** **13 53 08.4 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 87.72 324 PKKPbc PKKPbc 14 10 58.4 -1.2
comp=Z,0.9nm,0.7s,baz=341,slow=3.1,SNR=3.9
BVAR PKPPKP **P'P'df** **14 19 02.5 -2.0**
comp=Z,0.2nm,0.6s,baz=299,slow=3.1,SNR=3.6
BVAR Borovoye Array 87.72 324 PKKPbc PKKPbc 14 10 58.4 -1.2
BVAR P'P' 14 19 02.5
BRVK Borovoye 87.78 324 *c i*P **P** **13 53 08.7 -1.5**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 87.78 324 eP **P** **13 53 08.9 -1.3**
BRVK e 13 56 35.8
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 87.78 324 eP **P** **13 53 08.9 -1.3**
comp=Z,12nm,0.8s
BRVK ePP **PP** **13 56 35.8 -0.7**
SKAG Skagway 88.19 30 eP **P** **13 53 12.3 +0.4**
comp=Z,94nm,1.0s
MRIV Mauritius Mete 88.90 250 eP **P** **13 53 16.4 +0.1**
WRAK Wrangell Islan 89.01 33 eP **P** **13 53 16.7 +0.9**
comp=Z,54nm,1.1s
WRAK LR LR
comp=Z,5µm,22.0s
RER Riviere de l'E 90.44 249 eP **P** **13 53 23.6 +0.1**
comp=Z,239nm,1.1s
DLBC Dease Lake 90.64 31 P **P** **13 53 23.1 -0.4**
comp=Z,14nm,1.0s,baz=232,slow=4.9,SNR=15
DLBC Dease Lake 90.64 31 P **P** **13 53 23.1 -0.4**
SYO Syowa Base 91.07 200⇓ eP **P** **13 53 23.6 -1.7**
SYO Syowa Base 91.07 200⇓ eP P 13 53 29.2 +3.9
SYO Syowa Base 91.07 200⇑ eP **PKKPbc** **14 10 53.2 +1.8**
INK Inuvik 91.15 21 PKKPbc PKKPbc 14 10 49.3 -2.3
comp=Z,1.0nm,0.5s,baz=81,slow=4.8,SNR=6.1
INK Inuvik 91.15 21 eP **P** **13 53 24.7 -0.9**
INK pmax pmax
comp=Z,99nm,1.2s
INK Inuvik 91.15 21 eP **P** **13 53 24.7 -0.9**
comp=Z,99nm,1.2s
INK PKKPbc **PKKPdf** **14 10 49.3 +1.2**
KIPM Iron Peak 92.28 50 eP **P** **13 53 31.8 +0.1**
comp=Z,35nm,1.5s
HUMO Hull Mountain 92.95 48 eP **P** **13 53 33.4 -1.2**
comp=Z,17nm,1.3s
YBH Yreka Blue Hor 93.05 49 P **P** **13 53 34.1 -1.1**
comp=Z,6.3nm,1.0s,baz=181,slow=2.3,SNR=16
YBH PKKPbc **PKKPbc** **14 10 45.6 -0.2**
comp=Z,2.5nm,0.9s,baz=71,slow=3.9,SNR=5.8
YBH Yreka Blue Hor 93.05 49 P **P** **13 53 34.1 -1.1**
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH pmax pmax
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 93.05 49 P **P** **13 53 34.1 -1.1**
YBH PKKPbc **PKKPbc** **14 10 45.6 -0.2**
AB31 Akbulak array 93.62 319 P P 13 53 29.0 -8.5
comp=Z,0.6nm,0.3s,baz=146,slow=11,SNR=61
AB31 Akbulak array 93.62 319 P P 13 53 29.0 -8.5
AB31 pmax pmax
comp=Z,2.0nm,0.3s
SVE Sverdlovsk 93.87 327⇓ eP **P** **13 53 38.3 -0.1**
SVE eS **SKSac** **14 04 12.4 +3.3**
SVE e 14 06 08.9
SVE pmax pmax
comp=Z,8.0nm,0.6s
SVE MLR MLR
comp=Z,4µm,23.0s
JCW Jim Creek 94.15 42 eP **P** **13 53 40.1 +0.1**
comp=Z,16nm,1.2s
PKM Peak Mountain 94.77 56 ⇓P **P** **13 53 44.8 +1.4**
baz=95
PKM ⇓P **P** **13 53 44.8 +1.4**
baz=95
PKM ⇓P **P** **13 53 44.8 +1.4**
baz=95
BSC Santa Cruz Isl 94.86 56 ⇓P **P** **13 53 45.1 +1.6**
baz=95
BSC ⇓P **P** **13 53 45.1 +1.6**
baz=95
BSC ⇓P **P** **13 53 45.1 +1.6**
baz=95
AKTO Aktyubinsk 94.95 320 P **P** **13 53 41.9 -1.7**
comp=Z,1.2nm,0.4s,baz=85,slow=4.5,SNR=13
AKTO PKKPbc **PKKPdf** **14 10 39.4 -1.5**
comp=Z,2.4nm,0.9s,baz=97,slow=3.3,SNR=4.7
AKTO Aktyubinsk 94.95 320⇑ P **P** **13 53 41.7 -1.8**
comp=Z,0.4nm,0.7s
AKTO Aktyubinsk 94.95 320 P **P** **13 53 41.9 -1.7**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 94.95 320 P **P** **13 53 41.9 -1.7**
AKTO PKKPbc **PKKPdf** **14 10 39.4 -1.5**
ARU Arti 94.98 326*d i*P **P** **13 53 42.4 -1.1**
ARU 13 57 31.3
ARU PPP PPP 13 59 33.7
ARU S **SKSac** **14 04 12.2 -2.9**
ARU SP SP 14 06 13.0 +2.5
ARU PS PS 14 06 23.7 +6.6
ARU SS **SS** **14 11 24.2 +4.0**
ARU SSS x 14 14 56.9
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR
comp=Z,3µm,24.0s
ARU Arti 94.98 326 eP **P** **13 53 42.2 -1.4**
comp=Z,7.1nm,1.1s
ARU epP **pP** **13 53 56.6 -1.2**
ARU LR LR
comp=Z,2µm,19.0s
WCN Washoe City 95.11 51 eP **P** **13 53 44.5 -0.3**
WCN e*PP **pP** **13 53 57.1 -1.9**
WCN pmax pmax
comp=Z,12nm,1.3s
WCN Washoe City 95.11 51 eP **P** **13 53 44.5 -0.3**
comp=Z,12nm,1.3s
WCN epP **pP** **13 53 57.1 -1.9**
WCN Washoe City 95.11 51 ⇓P **P** **13 53 46.2 +1.4**
baz=95
WCN ⇓P **P** **13 53 46.2 +1.4**
baz=95
WCN ⇓P **P** **13 53 46.2 +1.4**
baz=95
ETW Entiat 95.19 43 eP **P** **13 53 44.7 -0.2**
comp=Z,28nm,1.5s
VES Vestal, Richgr 95.43 55⇑ P **P** **13 53 47.4 +1.3**
baz=95
VES ⇑P **P** **13 53 47.4 +1.3**
baz=95
VES ⇑P **P** **13 53 47.4 +1.3**
baz=95
ARVC Arvin 95.59 55⇑ P **P** **13 53 48.6 +1.7**
baz=96
ARVC ⇑P **P** **13 53 48.6 +1.7**
baz=96
ARVC ⇑P **P** **13 53 48.6 +1.7**
baz=96
HAWA Hanford 95.67 44 PFAKE 13 54 00.0 +13
HAWA LR LR
comp=Z,3µm,22.0s
CIS Catalina Islan 95.84 57⇑ P **P** **13 53 48.5 +0.5**
baz=96
CIS ⇑P **P** **13 53 48.5 +0.5**
baz=96
CIS ⇑P **P** **13 53 48.5 +0.5**
baz=96
ISA Isabella 95.91 55⇑ P **P** **13 53 48.9 +0.5**
baz=96
ISA ⇑P **P** **13 53 48.9 +0.5**
baz=96
ISA ⇑P **P** **13 53 48.9 +0.5**
baz=96
SOKR Solikamsk 96.06 329 eP **pP** **13 54 00.3 -2.3**
SOKR S S 14 04 51.6 -12
SOKR SS **SS** **14 11 35.7 +0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
WVOR Wild Horse Val 96.12 48 eP **P** **13 53 49.3 0.0**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR MLR MLR
comp=Z,5µm,22.0s
WVOR Wild Horse Val 96.12 48 eP **P** **13 53 49.3 0.0**
comp=Z,4.5nm,1.0s
WVOR LR LR
comp=Z,5µm,22.0s
MWC Mount Wilson 96.17 56 eP **P** **13 53 49.2 -0.6**
MWC pmax pmax
comp=Z,36nm,1.3s
MWC Mount Wilson 96.17 56 eP **P** **13 53 49.2 -0.6**
comp=Z,36nm,1.3s
TIN Tinemaha 96.18 53 ⇓P **P** **13 53 51.2 +1.5**
baz=96
TIN ⇓P **P** **13 53 51.2 +1.5**
baz=96
TIN ⇓P **P** **13 53 51.2 +1.5**
baz=96
NVAR Mina Array Bea 96.19 52 P **P** **13 53 49.8 0.0**
comp=Z,5.9nm,0.9s,baz=250,slow=6.2,SNR=20
NVAR PKKPbc **PKKPbc** **14 10 36.6 -0.9**
comp=Z,5.0nm,0.9s,baz=146,slow=9.0,SNR=4.1
NVAR PKPPKP **P'P'df** **14 18 52.5 +2.3**
comp=Z,0.9nm,1.0s,baz=111,slow=1.7,SNR=5.9
NVAR LR LR 14 36 10.8
comp=Z,2µm,18.9s,baz=86,slow=35
NVAR Mina Array Bea 96.19 52 P **P** **13 53 49.8 0.0**
NVAR PKKPbc **PKKPbc** **14 10 36.6 -0.9**
NVAR P'P' 14 18 52.5
EDW2 Edwards Air Fo 96.27 56 ⇓P **P** **13 53 50.9 +0.9**
baz=96,SNR=8.6
EDW2 ⇓P **P** **13 53 50.9 +0.9**
baz=96,SNR=8.6
EDW2 ⇓P **P** **13 53 50.9 +0.9**
baz=96,SNR=8.6
OD2 Odessa Site #2 96.27 43 eP **P** **13 53 50.5 +0.8**
comp=Z,16nm,1.2s
BFSC Mount Baldy Ra 96.51 56⇑ P **P** **13 53 52.1 +0.9**
baz=96
BFSC ⇑P **P** **13 53 52.1 +0.9**
baz=96
BFSC ⇑P **P** **13 53 52.1 +0.9**
baz=96
LRMC Laurel Mountai 96.54 55⇑ P **P** **13 53 52.5 +1.2**
baz=96,SNR=11
LRMC ⇑P **P** **13 53 52.5 +1.2**
baz=96,SNR=11
LRMC ⇑P **P** **13 53 52.5 +1.2**
baz=96,SNR=11
DAC Darwin (Calif) 96.66 54 PFAKE 13 54 00.0 +8.1

DAC LR LR
comp=Z,4µm,21.0s
MPMC Manual Prospec 96.73 54 ⇓P **P 13 53 53.5 +1.2**
baz=97,SNR=15
MPMC ⇓P **P 13 53 53.5 +1.2**
baz=97,SNR=15
MPMC ⇓P **P 13 53 53.5 +1.2**
baz=97,SNR=15
GRAC Grapevine Rang 96.87 54 ⇓P **P 13 53 53.9 +1.2**
baz=97
GRAC ⇓P **P 13 53 53.9 +1.2**
baz=97
GRAC ⇓P **P 13 53 53.9 +1.2**
baz=97
TPH Tonopah 97.03 52 PFAKE 13 54 00.0 +6.3
TPH LR LR
comp=Z,2µm,22.0s
BMN Battle Mountai 97.11 50 PFAKE 13 54 00.0 +6.1
BMN LR LR
comp=Z,2µm,21.0s
BBRC Big Bear Solar 97.12 56 ⇓P Pdif 13 53 55.3 +1.1
baz=97
BBRC ⇓P Pdif 13 53 55.3 +1.1
baz=97
BBRC ⇓P Pdif 13 53 55.3 +1.1
baz=97
BMO Blue Mountains 97.17 46 PFAKE 13 54 10.0 +16
BMO LR LR
comp=Z,3µm,21.0s
GSC Goldstone 97.25 55 ⇓P Pdif 13 53 55.8 +1.2
baz=97
GSC ⇓P Pdif 13 53 55.8 +1.2
baz=97
GSC ⇓P Pdif 13 53 55.8 +1.2
baz=97
FURC Furnace Creek, 97.26 54 ⇑P Pdif 13 53 55.6 +1.2
baz=97,SNR=5.4
FURC ⇑P Pdif 13 53 55.6 +1.2
baz=97,SNR=5.4
FURC ⇑P Pdif 13 53 55.6 +1.2
baz=97,SNR=5.4
NEW Newport 97.37 42 *e*P **P 13 53 53.7 -1.0**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 97.37 42 *e*P **P 13 53 53.7 -1.0**
comp=Z,4.1nm,0.8s
MONP Monument Peak 97.48 58 ⇑P Pdif 13 53 57.0 +1.2
baz=98,SNR=8.0
MONP ⇑P Pdif 13 53 57.0 +1.2
baz=98,SNR=8.0
MONP ⇑P Pdif 13 53 57.0 +1.2
baz=98,SNR=8.0
PFO Pinyon Flat Ob 97.48 57 ⇓P Pdif 13 53 57.1 +1.5
baz=97,SNR=7.2
PFO ⇓P Pdif 13 53 57.1 +1.5
baz=97,SNR=7.2
PFO ⇓P Pdif 13 53 57.1 +1.5
baz=97,SNR=7.2
HEC Hector,Ludlow 97.63 56 ⇑P Pdif 13 53 57.2 +0.9
baz=98,SNR=6.7
HEC ⇑P Pdif 13 53 57.2 +0.9
baz=98,SNR=6.7
HEC ⇑P Pdif 13 53 57.2 +0.9
baz=98,SNR=6.7
SHOC Shoshone 97.70 55 ⇓P Pdif 13 53 58.1 +1.6
baz=98,SNR=8.0
SHOC ⇓P Pdif 13 53 58.1 +1.6
baz=98,SNR=8.0
SHOC ⇓P Pdif 13 53 58.1 +1.6
baz=98,SNR=8.0
BELC Belle Mtn. Jos 97.87 57 ⇑P Pdif 13 53 58.5 +1.1
baz=98,SNR=8.7
BELC ⇑P Pdif 13 53 58.5 +1.1
baz=98,SNR=8.7
BELC ⇑P Pdif 13 53 58.5 +1.1
baz=98,SNR=8.7
C11A Tepee Creek (N 97.94 43 ⇓P Pdif 13 53 58.5 +1.2
baz=98
C11A ⇓P Pdif 13 53 58.5 +1.2
baz=98
C11A ⇓P Pdif 13 53 58.5 +1.2
baz=98
RPN Rapa Nui 97.97 118 LR LR 14 29 41.7
comp=Z,1µm,19.0s,baz=264,slow=30
TUQ Turquoise Moun 97.98 55 ⇓P Pdif 13 53 58.9 +1.0
baz=98,SNR=6.5
TUQ ⇓P Pdif 13 53 58.9 +1.0
baz=98,SNR=6.5
TUQ ⇓P Pdif 13 53 58.9 +1.0
baz=98,SNR=6.5
SWSC Sam W. Stewart 98.00 58 ⇑P Pdif 13 53 59.5 +1.6
baz=98
SWSC ⇑P Pdif 13 53 59.5 +1.6
baz=98
SWSC ⇑P Pdif 13 53 59.5 +1.6
baz=98
NVL N'lazarevskaya 98.11 193 ⇓*i*P Pdif 13 54 03.5 +6.0
NVL *e**PP pP 13 54 17.3 +5.6
NVL *i* S **SKSac 14 04 31.9 +0.9**
NVL *e*SP SP 14 06 50.5 +6.8
NVL pmax pmax
comp=Z,26nm,1.1s
NVL MLR MLR
comp=Z,3µm,19.0s
MAIT Maitri 98.12 193 *e*P Pdif 13 53 59.7 +2.1
MAIT *e* 13 54 13.6
GMRC Granite Mounta 98.18 56 ⇑Pdiff Pdif 13 54 00.3 +1.5
baz=98
GMRC ⇑Pdiff Pdif 13 54 00.3 +1.5
baz=98
GMRC ⇑Pdiff Pdif 13 54 00.3 +1.5
baz=98
MFID Camas Ranch 98.21 47 ⇑Pdiff Pdif 13 54 00.4 +1.7
baz=98
MFID ⇑Pdiff Pdif 13 54 00.4 +1.7
baz=98
MFID ⇑Pdiff Pdif 13 54 00.4 +1.7
baz=98
BC3 Big Chuckawall 98.31 57 ⇓Pdiff Pdif 13 54 00.9 +1.5
baz=98
BC3 ⇓Pdiff Pdif 13 54 00.9 +1.5
baz=98
BC3 ⇓Pdiff Pdif 13 54 00.9 +1.5
baz=98
R11A Troy Canyon, C 98.32 52 ⇑Pdiff Pdif 13 54 01.0 +1.5
baz=98
R11A ⇑Pdiff Pdif 13 54 01.0 +1.5
baz=98
R11A ⇑Pdiff Pdif 13 54 01.0 +1.5
baz=98
YKA Yellowknife Ar 98.50 28 P **P 13 53 58.5 -0.8**
comp=Z,12nm,1.0s,baz=275,slow=4.7,SNR=62
YKA PKKPbc **PKKPbc 14 10 27.8 -3.9**
comp=Z,3.6nm,0.7s,baz=91,slow=2.8,SNR=28
YKA PKPPKP **P'P'df 14 18 42.1 -1.6**
comp=Z,0.4nm,1.0s,baz=68,slow=2.1,SNR=3.9
YKA Yellowknife Ar 98.50 28 P **P 13 53 58.6 -0.8**
YKA Yellowknife Ar 98.50 28 P **P 13 53 58.5 -0.8**
YKA PKKPbc **PKKPbc 14 10 27.8 -3.9**
YKA P'P' 14 18 42.1
IRM Iron Mountain 98.58 56 ⇑Pdiff Pdif 13 54 01.8 +1.4
baz=99
IRM ⇑Pdiff Pdif 13 54 01.8 +1.4
baz=99
IRM ⇑Pdiff Pdif 13 54 01.8 +1.4
baz=99
ELK Elko 98.63 50 P **P 13 54 00.3 -0.4**
comp=Z,1.3nm,0.9s,baz=273,slow=6.5,SNR=7.4
ELK PKKPbc **PKKPbc 14 10 28.8 -2.1**
comp=Z,4.2nm,1.0s,baz=129,slow=6.9,SNR=4.1
ELK PKPPKP **P'P'df 14 18 45.2 -0.2**
comp=Z,0.5nm,0.5s,baz=84,slow=7.3,SNR=3.6
ELK Elko 98.63 50 P **P 13 54 00.3 -0.4**
ELK pmax pmax
comp=Z,1.0nm,0.9s
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK pmax pmax
comp=Z,1.0nm,0.5s
ELK Elko 98.63 50 P **P 13 54 00.3 -0.4**
ELK PKKPbc **PKKPbc 14 10 28.8 -2.1**
ELK P'P' 14 18 45.2
F12A Elk City 98.63 45 ⇓Pdiff Pdif 13 54 02.0 +1.5
baz=99
F12A ⇓Pdiff Pdif 13 54 02.0 +1.5
baz=99
F12A ⇓Pdiff Pdif 13 54 02.0 +1.5
baz=99
LDFC Landfair 98.64 56 *e*P Pdif 13 54 01.0 +0.2
comp=Z,52nm,1.7s
I12A Atlanta 98.72 47 ⇑Pdiff Pdif 13 54 02.0 +1.0
baz=99
I12A ⇑Pdiff Pdif 13 54 02.0 +1.0
baz=99
I12A ⇑Pdiff Pdif 13 54 02.0 +1.0
baz=99
GLA Glamis 98.82 58 ⇑Pdiff Pdif 13 54 03.2 +1.7
baz=99
GLA ⇑Pdiff Pdif 13 54 03.2 +1.7
baz=99
GLA ⇑Pdiff Pdif 13 54 03.2 +1.7
baz=99
H12A Diamond D Ranc 98.92 46 ⇓Pdiff Pdif 13 54 03.0 +1.1
baz=99
H12A ⇓Pdiff Pdif 13 54 03.0 +1.1
baz=99
H12A ⇓Pdiff Pdif 13 54 03.0 +1.1
baz=99
BSMT Bassoo Peak 98.93 43 *e*PcP Pdif 13 54 02.3 +0.4
comp=Z,3.6nm,1.0s
C13A Hot Springs 99.08 43 ⇑Pdiff **Pdif 13 54 04.0 +1.6**
baz=99
C13A ⇑Pdiff **Pdif 13 54 04.0 +1.6**
baz=99
C13A ⇑Pdiff **Pdif 13 54 04.0 +1.6**
baz=99
B13A Whitefish 99.14 42 ⇓Pdiff **Pdif 13 54 04.3 +1.6**
baz=99
B13A ⇓Pdiff **Pdif 13 54 04.3 +1.6**
baz=99
B13A ⇓Pdiff **Pdif 13 54 04.3 +1.6**
baz=99
D13A Huson 99.17 43 ⇓Pdiff **Pdif 13 54 04.5 +1.7**
baz=99
D13A ⇓Pdiff **Pdif 13 54 04.5 +1.7**
baz=99
D13A ⇓Pdiff **Pdif 13 54 04.5 +1.7**
baz=99
HLID Hailey 99.24 47 PFAKE 13 54 10.0 +6.6
HLID LR LR
comp=Z,4µm,22.0s
HLID Hailey 99.24 47 ⇓Pdiff **Pdif 13 54 05.1 +1.7**
baz=99
HLID ⇓Pdiff **Pdif 13 54 05.1 +1.7**
baz=99
HLID ⇓Pdiff **Pdif 13 54 05.1 +1.7**
baz=99
F13A Darby 99.28 45 ⇑Pdiff **Pdif 13 54 04.7 +1.3**
baz=99
F13A ⇑Pdiff **Pdif 13 54 04.7 +1.3**
baz=99
F13A ⇑Pdiff **Pdif 13 54 04.7 +1.3**
baz=99
H13A Challis 99.35 46 ⇓Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
H13A ⇓Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
H13A ⇓Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
G13A Cobalt 99.36 45 ⇑Pdiff **Pdif 13 54 05.1 +1.3**
baz=99
G13A ⇑Pdiff **Pdif 13 54 05.1 +1.3**
baz=99
G13A ⇑Pdiff **Pdif 13 54 05.1 +1.3**
baz=99
E13A Victor 99.36 44 ⇑Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
E13A ⇑Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
E13A ⇑Pdiff **Pdif 13 54 05.4 +1.6**
baz=99
J13A Cove Ranch, Pi 99.42 47 ⇑Pdiff **Pdif 13 54 05.4 +1.2**
baz=99
J13A ⇑Pdiff **Pdif 13 54 05.4 +1.2**
baz=99
J13A ⇑Pdiff **Pdif 13 54 05.4 +1.2**
baz=99
PDMCI Parker Dam,Lak 99.42 56 ⇓Pdiff **Pdif 13 54 06.1 +2.0**
baz=99
PDMCI ⇓Pdiff **Pdif 13 54 06.1 +2.0**
baz=99
PDMCI ⇓Pdiff **Pdif 13 54 06.1 +2.0**
baz=99
I13A Wildhorse Cree 99.45 47 ⇑Pdiff **Pdif 13 54 05.6 +1.3**
baz=99
I13A ⇑Pdiff **Pdif 13 54 05.6 +1.3**
baz=99
I13A ⇑Pdiff **Pdif 13 54 05.6 +1.3**
baz=99
MSO Missoula 99.53 44 PFAKE 13 54 20.0 +16
MSO LR LR
comp=Z,2µm,22.0s
R13A O'Grain Ranch, 99.59 52 ⇑Pdiff **Pdif 13 54 06.5 +1.4**
baz=100
R13A ⇑Pdiff **Pdif 13 54 06.5 +1.4**
baz=100
R13A ⇑Pdiff **Pdif 13 54 06.5 +1.4**
baz=100
W13A Hualapai Mount 99.64 56 ⇓Pdiff **Pdif 13 54 06.8 +1.4**
baz=100
W13A ⇓Pdiff **Pdif 13 54 06.8 +1.4**
baz=100
W13A ⇓Pdiff **Pdif 13 54 06.8 +1.4**
baz=100
113A Mohawk Valley, 99.71 58 ⇑Pdiff **Pdif 13 54 07.2 +1.7**
baz=100
113A ⇑Pdiff **Pdif 13 54 07.2 +1.7**
baz=100
113A ⇑Pdiff **Pdif 13 54 07.2 +1.7**
baz=100
Z13A Yuma Proving G 99.81 57 ⇓Pdiff **Pdif 13 54 07.4 +1.5**
baz=100
Z13A ⇓Pdiff **Pdif 13 54 07.4 +1.5**
baz=100
Z13A ⇓Pdiff **Pdif 13 54 07.4 +1.5**
baz=100
A14A Double T Ranch 99.81 41 ⇑Pdiff **Pdif 13 54 07.8 +2.1**
baz=100
A14A ⇑Pdiff **Pdif 13 54 07.8 +2.1**
baz=100
A14A ⇑Pdiff **Pdif 13 54 07.8 +2.1**
baz=100
E14A Clinton 99.85 44 ⇓Pdiff **Pdif 13 54 07.5 +1.6**
baz=100
E14A ⇓Pdiff **Pdif 13 54 07.5 +1.6**
baz=100
E14A ⇓Pdiff **Pdif 13 54 07.5 +1.6**
baz=100
G14A Jackson 99.90 45 ⇑Pdiff **Pdif 13 54 07.7 +1.4**
baz=100
G14A ⇑Pdiff **Pdif 13 54 07.7 +1.4**
baz=100
G14A ⇑Pdiff **Pdif 13 54 07.7 +1.4**
baz=100
B14A Marquette Ranc 99.93 42 ⇓Pdiff **Pdif 13 54 08.2 +1.9**
baz=100
B14A ⇓Pdiff **Pdif 13 54 08.2 +1.9**
baz=100
B14A ⇓Pdiff **Pdif 13 54 08.2 +1.9**
baz=100
H14A Leadore 99.98 46 ⇑Pdiff **Pdif 13 54 08.5 +1.8**
baz=100
H14A ⇑Pdiff **Pdif 13 54 08.5 +1.8**
baz=100
H14A ⇑Pdiff **Pdif 13 54 08.5 +1.8**
baz=100
K14A Jones Ranch, D 100.16 48 ⇓Pdiff **Pdif 13 54 09.1 +1.7**
baz=100
K14A ⇓Pdiff **Pdif 13 54 09.1 +1.7**
baz=100
K14A ⇓Pdiff **Pdif 13 54 09.1 +1.7**
baz=100
SNAA Sanae 100.18 189 *e* **Pdif 13 54 04.2 -2.6**
SNAA *e* 13 54 23.1
A15A Johnson Ranch, 100.27 41 ⇓Pdiff **Pdif 13 54 09.4 +1.7**
baz=100
A15A ⇓Pdiff **Pdif 13 54 09.4 +1.7**
baz=100
A15A ⇓Pdiff **Pdif 13 54 09.4 +1.7**
baz=100
C15A Salmond Ranch, 100.40 43 ⇓Pdiff **Pdif 13 54 09.7 +1.4**
baz=100
C15A ⇓Pdiff **Pdif 13 54 09.7 +1.4**
baz=100
C15A ⇓Pdiff **Pdif 13 54 09.7 +1.4**
baz=100
E15A Deer Lodge 100.44 44 ⇑Pdiff **Pdif 13 54 10.6 +2.1**
baz=100
E15A ⇑Pdiff **Pdif 13 54 10.6 +2.1**
baz=100
E15A ⇑Pdiff **Pdif 13 54 10.6 +2.1**
baz=100
DUG Dugway 100.48 50 PFAKE 13 54 20.0 +11
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 100.48 50 ⇓Pdiff **Pdif 13 54 10.4 +1.5**
baz=100
DUG ⇓Pdiff **Pdif 13 54 10.4 +1.5**
baz=100
DUG ⇓Pdiff **Pdif 13 54 10.4 +1.5**
baz=100
H15A Lima 100.50 46 ⇑Pdiff **Pdif 13 54 10.6 +1.7**
baz=100
H15A ⇑Pdiff **Pdif 13 54 10.6 +1.7**
baz=100
H15A ⇑Pdiff **Pdif 13 54 10.6 +1.7**
baz=100
F15A Butte 100.56 45 ⇓Pdiff **Pdif 13 54 10.7 +1.5**
baz=100
F15A ⇓Pdiff **Pdif 13 54 10.7 +1.5**
baz=100
F15A ⇓Pdiff **Pdif 13 54 10.7 +1.5**
baz=100
G15A Dillon 100.59 45 ⇓Pdiff **Pdif 13 54 10.7 +1.3**
baz=100
G15A ⇓Pdiff **Pdif 13 54 10.7 +1.3**
baz=100
G15A ⇓Pdiff **Pdif 13 54 10.7 +1.3**
baz=100
I15A Monteview 100.63 46 ⇓Pdiff **Pdif 13 54 11.0 +1.5**
baz=101
I15A ⇓Pdiff **Pdif 13 54 11.0 +1.5**
baz=101
I15A ⇓Pdiff **Pdif 13 54 11.0 +1.5**
baz=101
K15A Arbon 100.64 48 ⇑Pdiff **Pdif 13 54 11.2 +1.7**
baz=101
K15A ⇑Pdiff **Pdif 13 54 11.2 +1.7**
baz=101
K15A ⇑Pdiff **Pdif 13 54 11.2 +1.7**
baz=101
J15A Blackfoot 100.69 47 ⇑Pdiff **Pdif 13 54 11.1 +1.3**
baz=101
J15A ⇑Pdiff **Pdif 13 54 11.1 +1.3**
baz=101
J15A ⇑Pdiff **Pdif 13 54 11.1 +1.3**
baz=101
N15A Stansbury Isla 100.69 50 ⇓Pdiff **Pdif 13 54 11.3 +1.5**
baz=101
N15A ⇓Pdiff **Pdif 13 54 11.3 +1.5**
baz=101
N15A ⇓Pdiff **Pdif 13 54 11.3 +1.5**
baz=101
M15A Larsen Ranch, 100.73 49 ⇑Pdiff **Pdif 13 54 11.4 +1.4**
baz=101
M15A ⇑Pdiff **Pdif 13 54 11.4 +1.4**
baz=101
M15A ⇑Pdiff **Pdif 13 54 11.4 +1.4**
baz=101
L15A Malad City 100.76 49 ⇑Pdiff **Pdif 13 54 11.9 +1.8**
baz=101
L15A ⇑Pdiff **Pdif 13 54 11.9 +1.8**
baz=101
L15A ⇑Pdiff **Pdif 13 54 11.9 +1.8**
baz=101
U15A North Rim 100.94 54 ⇑Pdiff **Pdif 13 54 12.8 +1.6**
baz=101
U15A ⇑Pdiff **Pdif 13 54 12.8 +1.6**
baz=101
U15A ⇑Pdiff **Pdif 13 54 12.8 +1.6**
baz=101
D16A Dana Ranch, Ca 101.16 43 ⇑Pdiff **Pdif 13 54 13.3 +1.6**
baz=101
D16A ⇑Pdiff **Pdif 13 54 13.3 +1.6**
baz=101
D16A ⇑Pdiff **Pdif 13 54 13.3 +1.6**
baz=101
F16A Kennard Place, 101.17 45 ⇓Pdiff **Pdif 13 54 13.4 +1.6**
baz=101
F16A ⇓Pdiff **Pdif 13 54 13.4 +1.6**
baz=101
F16A ⇓Pdiff **Pdif 13 54 13.4 +1.6**
baz=101
BOZ Bozeman (W) 101.17 45 PFAKE 13 54 20.0 +8.1
BOZ LR LR
comp=Z,3µm,22.0s
J16A Bone 101.29 47 ⇑Pdiff **Pdif 13 54 14.1 +1.6**
baz=101
J16A ⇑Pdiff **Pdif 13 54 14.1 +1.6**
baz=101
J16A ⇑Pdiff **Pdif 13 54 14.1 +1.6**
baz=101
K16A Soda Springs 101.33 48 ⇓Pdiff **Pdif 13 54 14.4 +1.7**
baz=101
K16A ⇓Pdiff **Pdif 13 54 14.4 +1.7**
baz=101
K16A ⇓Pdiff **Pdif 13 54 14.4 +1.7**
baz=101
I16A Newdale 101.36 47 ⇓Pdiff **Pdif 13 54 14.3 +1.6**
baz=101
I16A ⇓Pdiff **Pdif 13 54 14.3 +1.6**
baz=101
I16A ⇓Pdiff **Pdif 13 54 14.3 +1.6**
baz=101
HWUT Hardware Ranch 101.39 49 PFAKE 13 54 20.0 +7.0
HWUT LR LR
comp=Z,2µm,20.0s
L16A Fish Haven 101.47 48 ⇑Pdiff **Pdif 13 54 14.6 +1.2**
baz=101
L16A ⇑Pdiff **Pdif 13 54 14.6 +1.2**
baz=101
L16A ⇑Pdiff **Pdif 13 54 14.6 +1.2**
baz=101
S16A Weppner Ranch, 101.47 53 ⇑Pdiff **Pdif 13 54 14.8 +1.3**
baz=101
S16A ⇑Pdiff **Pdif 13 54 14.8 +1.3**
baz=101
S16A ⇑Pdiff **Pdif 13 54 14.8 +1.3**
baz=101
H16A Russell Place, 101.49 46 ⇓Pdiff **Pdif 13 54 14.8 +1.4**
baz=101
H16A ⇓Pdiff **Pdif 13 54 14.8 +1.4**
baz=101
H16A ⇓Pdiff **Pdif 13 54 14.8 +1.4**
baz=101
N16A Rees Ranch, Co 101.51 50 ⇓Pdiff **Pdif 13 54 14.6 +1.0**
baz=102
N16A ⇓Pdiff **Pdif 13 54 14.6 +1.0**
baz=102
N16A ⇓Pdiff **Pdif 13 54 14.6 +1.0**
baz=102
VNA2 Neumayer--Watz 101.51 188 *e* **Pdif 13 54 13.3 +0.6**
VNA2 *e* 13 54 29.8
VNA3 Neumayer Olymp 101.51 187 *e* **Pdif 13 54 13.4 +0.7**
VNA3 *e* 13 54 30.3
R16A Teasdale 101.55 52 ⇓Pdiff **Pdif 13 54 15.3 +1.4**
baz=102
R16A ⇓Pdiff **Pdif 13 54 15.3 +1.4**
baz=102
R16A ⇓Pdiff **Pdif 13 54 15.3 +1.4**
baz=102
B17A L&G Farms, Che 101.59 42 ⇓Pdiff **Pdif 13 54 15.4 +1.8**
baz=102
B17A ⇓Pdiff **Pdif 13 54 15.4 +1.8**
baz=102
B17A ⇓Pdiff **Pdif 13 54 15.4 +1.8**
baz=102
C17A Wharram Farm, 101.66 43 ⇑Pdiff **Pdif 13 54 15.4 +1.5**
baz=102
C17A ⇑Pdiff **Pdif 13 54 15.4 +1.5**
baz=102
C17A ⇑Pdiff **Pdif 13 54 15.4 +1.5**
baz=102
E17A Martinsdale 101.67 44 ⇓Pdiff **Pdif 13 54 15.8 +1.7**
baz=102
E17A ⇓Pdiff **Pdif 13 54 15.8 +1.7**
baz=102
E17A ⇓Pdiff **Pdif 13 54 15.8 +1.7**
baz=102
D17A Six Diamond Ra 101.74 43 ⇑Pdiff **Pdif 13 54 15.9 +1.6**
baz=102
D17A ⇑Pdiff **Pdif 13 54 15.9 +1.6**
baz=102

D17A				⇑Pdiff	Pdif	13 54 15.9 +1.6
	baz=102					
F17A	Fitzpatrick Pl	101.84	44	⇓Pdiff	Pdif	13 54 16.7 +1.9
	baz=102					
F17A				⇓Pdiff	Pdif	13 54 16.7 +1.9
	baz=102					
F17A				⇓Pdiff	Pdif	13 54 16.7 +1.9
	baz=102					
J17A	Brown Place, J	101.94	47	⇑Pdiff	Pdif	13 54 16.9 +1.5
	baz=102					
J17A				⇑Pdiff	Pdif	13 54 16.9 +1.5
	baz=102					
J17A				⇑Pdiff	Pdif	13 54 16.9 +1.5
	baz=102					
N17A	Moffit Pass	101.97	50	⇓Pdiff	Pdif	13 54 16.7 +1.1
	baz=102					
N17A				⇓Pdiff	Pdif	13 54 16.7 +1.1
	baz=102					
N17A				⇓Pdiff	Pdif	13 54 16.7 +1.1
	baz=102					
O17A	Robinson Place	102.07	50	⇑Pdiff	Pdif	13 54 17.7 +1.6
	baz=102					
O17A				⇑Pdiff	Pdif	13 54 17.7 +1.6
	baz=102					
O17A				⇑Pdiff	Pdif	13 54 17.7 +1.6
	baz=102					
LKWY	Lake	102.10	46	PFAKE		13 54 30.0 +14
LKWY				LR	LR	
	comp=Z,3μm,20.0s					
S17A	Black Ridge (B	102.11	53	⇓Pdiff	Pdif	13 54 17.8 +1.6
	baz=102					
S17A				⇓Pdiff	Pdif	13 54 17.8 +1.6
	baz=102					
S17A				⇓Pdiff	Pdif	13 54 17.8 +1.6
	baz=102					
R17A	Hanksville Air	102.15	52	⇑Pdiff	Pdif	13 54 17.9 +1.5
	baz=102					
R17A				⇑Pdiff	Pdif	13 54 17.9 +1.5
	baz=102					
R17A				⇑Pdiff	Pdif	13 54 17.9 +1.5
	baz=102					
V17A	Tonalea, Kykot	102.16	55	⇑Pdiff	Pdif	13 54 18.1 +1.5
	baz=102					
V17A				⇑Pdiff	Pdif	13 54 18.1 +1.5
	baz=102					
V17A				⇑Pdiff	Pdif	13 54 18.1 +1.5
	baz=102					
J18A	Kendall Valley	102.46	47	⇓Pdiff	Pdif	13 54 19.3 +1.5
	baz=102					
J18A				⇓Pdiff	Pdif	13 54 19.3 +1.5
	baz=102					
J18A				⇓Pdiff	Pdif	13 54 19.3 +1.5
	baz=102					
K18A	Toltan Ranch,	102.47	48	⇓Pdiff	Pdif	13 54 19.4 +1.5
	baz=102					
K18A				⇓Pdiff	Pdif	13 54 19.4 +1.5
	baz=102					
K18A				⇓Pdiff	Pdif	13 54 19.4 +1.5
	baz=102					
F18A	Big Timber	102.49	44	⇑Pdiff	Pdif	13 54 19.5 +1.8
	baz=102					
F18A				⇑Pdiff	Pdif	13 54 19.5 +1.8
	baz=102					
F18A				⇑Pdiff	Pdif	13 54 19.5 +1.8
	baz=102					
Q18A	Rafter H Ranch	102.58	51	⇑Pdiff	Pdif	13 54 19.3 +1.1
	baz=102					
Q18A				⇑Pdiff	Pdif	13 54 19.3 +1.1
	baz=102					
Q18A				⇑Pdiff	Pdif	13 54 19.3 +1.1
	baz=102					
S18A	Hurst Farm, Bl	102.75	53	⇑Pdiff	Pdif	13 54 20.3 +1.1
	baz=103					
S18A				⇑Pdiff	Pdif	13 54 20.3 +1.1
	baz=103					
S18A				⇑Pdiff	Pdif	13 54 20.3 +1.1
	baz=103					
R18A	Canyonlands Na	102.80	52	⇑Pdiff	Pdif	13 54 20.4 +1.1
	baz=103					
R18A				⇑Pdiff	Pdif	13 54 20.4 +1.1
	baz=103					
R18A				⇑Pdiff	Pdif	13 54 20.4 +1.1
	baz=103					
C19A	Slack Wire Ran	102.80	43	⇑Pdiff	Pdif	13 54 20.7 +1.8
	baz=103					
C19A				⇑Pdiff	Pdif	13 54 20.7 +1.8
	baz=103					
C19A				⇑Pdiff	Pdif	13 54 20.7 +1.8
	baz=103					
PD01	Pinedale Array	102.80	48	ePdif	Pdif	13 54 19.0 -0.3
B19A	Brinkman Farms	102.81	42	⇓Pdiff	Pdif	13 54 20.9 +1.9
	baz=103					
B19A				⇓Pdiff	Pdif	13 54 20.9 +1.9
	baz=103					
B19A				⇓Pdiff	Pdif	13 54 20.9 +1.9
	baz=103					
PD02	Pinedale Array	102.81	48	ePdif	Pdif	13 54 19.3 -0.1
BW06	Boulder Array	102.82	48	PFAKE		13 54 30.0 +11
BW06				LR	LR	
	comp=Z,6μm,22.0s					
BW06	Boulder Array	102.82	48	⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
BW06				⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
BW06				⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
BW06				⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
BW06				⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
BW06				⇓Pdiff	Pdif	13 54 20.3 +0.9
	baz=103					
PDAR	Pinedale Array	102.82	48	P	Pdif	13 54 18.4 -1.0
	comp=Z,2.0nm,0.8s,baz=247,slow=1.3,SNR=15					
PDAR				PKKPbc	PKKPbc	14 10 17.5 -1.4
	comp=Z,2.9nm,1.1s,baz=134,slow=13,SNR=4.0					
PDAR				PKPPKP	P'P'df	14 18 37.5 +0.1
	comp=Z,1.2nm,1.1s,baz=201,slow=1.3,SNR=5.7					
PDAR	Pinedale Array	102.82	48	P	Pdif	13 54 18.4 -1.0
PDAR				PKKPbc	PKKPbc	14 10 17.5 -1.4
PDAR				P'P'		14 18 37.5
RLMT	Red Lodge	102.87	45	PFAKE		13 54 30.0 +10
RLMT				LR	LR	
	comp=Z,3μm,22.0s					
A19A	Klindworth Far	102.89	41	⇑Pdiff	Pdif	13 54 20.9 +1.6
	baz=103					
A19A				⇑Pdiff	Pdif	13 54 20.9 +1.6
	baz=103					
A19A				⇑Pdiff	Pdif	13 54 20.9 +1.6
	baz=103					
D19A	Cripps Ranch,	102.97	43	⇓Pdiff	Pdif	13 54 21.3 +1.6
	baz=103					
D19A				⇓Pdiff	Pdif	13 54 21.3 +1.6
	baz=103					
D19A				⇓Pdiff	Pdif	13 54 21.3 +1.6
	baz=103					
O19A	Miners Draw (B	103.30	50	⇓Pdiff	Pdif	13 54 22.5 +1.0
	baz=103					
O19A				⇓Pdiff	Pdif	13 54 22.5 +1.0
	baz=103					
O19A				⇓Pdiff	Pdif	13 54 22.5 +1.0
	baz=103					
K19A	Absolon Red Bu	103.34	48	⇓Pdiff	Pdif	13 54 23.0 +1.3
	baz=103					
K19A				⇓Pdiff	Pdif	13 54 23.0 +1.3
	baz=103					
K19A				⇓Pdiff	Pdif	13 54 23.0 +1.3
	baz=103					
S19A	Harvey Farm, M	103.42	53	⇑Pdiff	Pdif	13 54 23.7 +1.5
	baz=103					
S19A				⇑Pdiff	Pdif	13 54 23.7 +1.5
	baz=103					
S19A				⇑Pdiff	Pdif	13 54 23.7 +1.5
	baz=103					
A20A	Cobblestone Ra	103.44	41	⇑Pdiff	Pdif	13 54 23.7 +1.9
	baz=103					
A20A				⇑Pdiff	Pdif	13 54 23.7 +1.9
	baz=103					
A20A				⇑Pdiff	Pdif	13 54 23.7 +1.9
	baz=103					
K20A	Yellowstone Ra	103.72	48	⇑Pdiff	Pdif	13 54 24.7 +1.3
	baz=104					
K20A				⇑Pdiff	Pdif	13 54 24.7 +1.3
	baz=104					
K20A				⇑Pdiff	Pdif	13 54 24.7 +1.3
	baz=104					
L20A	Wamsutter	103.77	48	⇑Pdiff	Pdif	13 54 24.9 +1.3
	baz=104					

L20A				⇑Pdiff	Pdif	13 54 24.9 +1.3
	baz=104					
L20A				⇑Pdiff	Pdif	13 54 24.9 +1.3
	baz=104					
N20A	Spence Gulch,	103.92	50	⇓Pdiff	Pdif	13 54 25.6 +1.3
	baz=104					
N20A				⇓Pdiff	Pdif	13 54 25.6 +1.3
	baz=104					
N20A				⇓Pdiff	Pdif	13 54 25.6 +1.3
	baz=104					
MVCO	Mesa Verde	103.96	53	PFAKE		13 54 40.0 +15
MVCO				LR	LR	
	comp=Z,2μm,22.0s					
KBS	Kingsbay	104.03	352	PFAKE		13 54 30.0 +6.3
KBS				LR	LR	
	comp=Z,1μm,20.0s					
V20A	Brimhall	104.05	55	⇓Pdiff	Pdif	13 54 26.3 +1.3
	baz=104					
V20A				⇓Pdiff	Pdif	13 54 26.3 +1.3
	baz=104					
V20A				⇓Pdiff	Pdif	13 54 26.3 +1.3
	baz=104					
A21A	Bergtoll Ranch	104.08	41	⇓Pdiff	Pdif	13 54 26.6 +2.1
	baz=104					
A21A				⇓Pdiff	Pdif	13 54 26.6 +2.1
	baz=104					
A21A				⇓Pdiff	Pdif	13 54 26.6 +2.1
	baz=104					
D21A	La Casta Ranch	104.26	43	⇓Pdiff	Pdif	13 54 26.8 +1.3
	baz=104					
D21A				⇓Pdiff	Pdif	13 54 26.8 +1.3
	baz=104					
D21A				⇓Pdiff	Pdif	13 54 26.8 +1.3
	baz=104					
J21A	Lysite	104.32	47	⇓Pdiff	Pdif	13 54 27.3 +1.3
	baz=104					
J21A				⇓Pdiff	Pdif	13 54 27.3 +1.3
	baz=104					
J21A				⇓Pdiff	Pdif	13 54 27.3 +1.3
	baz=104					
I21A	Big Trails, Te	104.39	46	⇓Pdiff	Pdif	13 54 27.4 +1.1
	baz=104					
I21A				⇓Pdiff	Pdif	13 54 27.4 +1.1
	baz=104					
I21A				⇓Pdiff	Pdif	13 54 27.4 +1.1
	baz=104					
GNI	Garni	104.42	310	PFAKE		13 54 40.0 +14
GNI				LR	LR	
	comp=Z,724nm,22.0s					
LVZ	Lovozero	104.44	339	PFAKE		13 54 40.0 +14
LVZ				LR	LR	
	comp=Z,2μm,20.0s					
KLMR	Klimovskoe	104.48	331	eP	Pdif	13 54 29.1 +3.1
KLMR				e		13 58 41.9
KLMR				pmax	pmax	
	comp=Z,33nm,1.9s					
KLMR				MLR	MLR	
	comp=Z,3μm,23.0s					
K21A	Alcova	104.53	48	⇑Pdiff	Pdif	13 54 28.2 +1.3
	baz=104					
K21A				⇑Pdiff	Pdif	13 54 28.2 +1.3
	baz=104					
K21A				⇑Pdiff	Pdif	13 54 28.2 +1.3
	baz=104					
M21A	Separation Pea	104.53	49	⇑Pdiff	Pdif	13 54 28.5 +1.4
	baz=104					
M21A				⇑Pdiff	Pdif	13 54 28.5 +1.4
	baz=104					
M21A				⇑Pdiff	Pdif	13 54 28.5 +1.4
	baz=104					
Q21A	Lamborn Mesa,	104.59	52	⇑Pdiff	Pdif	13 54 28.9 +1.7
	baz=104					
Q21A				⇑Pdiff	Pdif	13 54 28.9 +1.7
	baz=104					
Q21A				⇑Pdiff	Pdif	13 54 28.9 +1.7
	baz=104					
D22A	Cohagen	104.80	43	⇓Pdiff	Pdif	13 54 29.4 +1.6
	baz=105					
D22A				⇓Pdiff	Pdif	13 54 29.4 +1.6
	baz=105					
D22A				⇓Pdiff	Pdif	13 54 29.4 +1.6
	baz=105					
APA	Apatity	105.00	339	⇑eP	Pdif	13 54 31.4 +3.2
APA				i		13 58 54.0
APA				i S		14 06 16.0
APA				i PS	PS	14 08 10.0 +6.1
KIV	Kislovodsk	105.58	314	eP	Pdif	13 54 26.3 -5.1
KIV				e		13 58 54.7
KIV				ePPP	PPP	14 01 05.8
KIV				ePS	PS	14 08 11.8 +0.6
KIV				eSS	SS	14 13 46.5 -2.2
KIV				pmax	pmax	
	comp=Z,6.0nm,1.0s					
KIV				MLR	MLR	
	comp=Z,1μm,20.0s					
KIV	Kislovodsk	105.58	314	PFAKE		13 59 00.0
KIV				LR	LR	
	comp=Z,1μm,22.0s					
ANMO	Albuquerque	105.73	56	PFAKE		13 59 00.0
ANMO				LR	LR	
	comp=Z,2μm,22.0s					
DGMT	Dagmar	105.94	41	PFAKE		13 59 00.0
DGMT				LR	LR	
	comp=Z,2μm,19.0s					
ISCO	Idaho Springs	106.02	50	PFAKE		13 59 00.0
ISCO				LR	LR	
	comp=Z,2μm,20.0s					
SDCO	Great Sand Dun	106.30	53	⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
SDCO				⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
SDCO				⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
SDCO				⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
SDCO				⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
SDCO				⇓PKiKP	PKiKP	13 58 47.3 +0.9
	baz=106					
U24A	Moreno Valley	106.59	54	⇑PKiKP	PKiKP	13 58 48.6 +1.6
	baz=106					
U24A				⇑PKiKP	PKiKP	13 58 48.6 +1.6
	baz=106					
U24A				⇑PKiKP	PKiKP	13 58 48.6 +1.6
	baz=106					
Y24A	Capitan	106.65	57	⇓PKiKP	PKiKP	13 58 47.8 +0.8
	baz=107					
Y24A				⇓PKiKP	PKiKP	13 58 47.8 +0.8
	baz=107					
Y24A				⇓PKiKP	PKiKP	13 58 47.8 +0.8
	baz=107					
224A	Cornudas Mount	106.69	58	⇓PKiKP	PKiKP	13 58 48.3 +1.2
	baz=107					
224A				⇓PKiKP	PKiKP	13 58 48.3 +1.2
	baz=107					
224A				⇓PKiKP	PKiKP	13 58 48.3 +1.2
	baz=107					
Z24A	Sheeppen Canyo	106.75	57	⇑PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
Z24A				⇑PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
Z24A				⇑PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
324A	Moseley Ranch,	106.76	59	⇓PKiKP	PKiKP	13 58 48.6 +1.4
	baz=107					
324A				⇓PKiKP	PKiKP	13 58 48.6 +1.4
	baz=107					
324A				⇓PKiKP	PKiKP	13 58 48.6 +1.4
	baz=107					
ARCES	ARCESS Array B	106.78	342	Pdiff	Pdif	13 54 36.0 -0.1
	comp=Z,2.4nm,0.8s,baz=79,slow=6.8,SNR=4.7					
ARCES				PKiKP	PKiKP	13 58 45.6 -0.3
	comp=Z,3.3nm,0.9s,baz=106,slow=1.1,SNR=9.8					
ARCES				PKKPbc	PKKPbc	14 10 03.7 -3.8
	comp=Z,10.0nm,1.1s,baz=289,slow=2.5,SNR=12					
ARCES	ARCESS Array B	106.78	342	P	Pdif	13 54 36.0 -0.1
ARCES				pmax	pmax	
	comp=Z,2.0nm,0.8s					
ARCES	ARCESS Array B	106.78	342	Pdif	Pdif	13 54 36.0 -0.1
ARCES				PKiKP	PKiKP	13 58 45.6 -0.3
ARCES				PKKPbc	PKKPbc	14 10 03.7 -3.8
MNTX	Cornudas Mount	106.83	59	⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
MNTX				⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
MNTX				⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					

MNTX				⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
MNTX				⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
MNTX				⇓PKiKP	PKiKP	13 58 48.5 +1.3
	baz=107					
OBN	Obninsk	107.43	326	PFAKE		13 59 00.0
OBN				LR	LR	
	comp=Z,4μm,22.0s					
527A	Woodward Ranch	108.44	60	⇓PKiKP	PKiKP	13 58 51.2 +0.7
	baz=108					
527A				⇓PKiKP	PKiKP	13 58 51.2 +0.7
	baz=108					
527A				⇓PKiKP	PKiKP	13 58 51.2 +0.7
	baz=108					
TXAR	Lajitas Array	108.45	61	PKiKP	PKiKP	13 58 51.3 +1.0
	comp=Z,0.9nm,0.8s,baz=270,slow=1.3,SNR=5.4					
TXAR	Lajitas Array	108.45	61	PKiKP	PKiKP	13 58 51.3 +1.0
627A	Terlingua Ranc	108.68	61	⇓PKiKP	PKiKP	13 58 51.7 +0.9
	baz=109					
627A				⇓PKiKP	PKiKP	13 58 51.7 +0.9
	baz=109					
627A				⇓PKiKP	PKiKP	13 58 51.7 +0.9
	baz=109					
628A	Black Gap, Mar	109.11	61	⇑PKiKP	PKiKP	13 58 52.2 +0.6
	baz=109					
628A				⇑PKiKP	PKiKP	13 58 52.2 +0.6
	baz=109					
628A				⇑PKiKP	PKiKP	13 58 52.2 +0.6
	baz=109					
528A	Cox Ranch, San	109.16	60	⇓PKiKP	PKiKP	13 58 52.5 +0.8
	baz=109					
528A				⇓PKiKP	PKiKP	13 58 52.5 +0.8
	baz=109					
528A				⇓PKiKP	PKiKP	13 58 52.5 +0.8
	baz=109					
AMTX	Amarillo	109.65	55	PFAKE		13 59 00.0
AMTX				LR	LR	
	comp=Z,3μm,21.0s					
FINES	FINESS Array B	110.39	334	Pdiff	Pdif	13 54 53.0 +0.8
	comp=Z,3.3nm,1.0s,baz=72,slow=4.5,SNR=3.0					
FINES				PKiKP	PKiKP	13 58 52.1 -0.8
	comp=Z,1.4nm,0.8s,baz=112,slow=4.5,SNR=4.9					
FINES				PKKPbc	PKKPbc	14 09 53.2 -2.6
	comp=Z,1.6nm,0.6s,baz=249,slow=1.6,SNR=4.8					
FINES	FINESS Array B	110.39	334	P	Pdif	13 54 53.0 +0.8
FINES				i		13 58 52.1
FINES						14 09 53.2
FINES				pmax	pmax	
	comp=Z,3.0nm,1.0s					
FINES	FINESS Array B	110.39	334	Pdif	Pdif	13 54 53.0 +0.8
FINES				PKiKP	PKiKP	13 58 52.1 -0.8
FINES				PKKPbc	PKKPbc	14 09 53.2 -2.6
ULM	Lac du Bonnet	110.86	38	PFAKE		13 59 10.0
ULM				LR	LR	
	comp=Z,3μm,21.0s					
AGMN	Agassiz Nation	111.40	40	PFAKE		13 59 10.0
AGMN				LR	LR	
	comp=Z,2μm,22.0s					
JCT	Junction City	111.70	60	ePKiKP	PKiKP	13 58 56.4 0.0
JCT	Junction City	111.70	60	ePKPdf	PKiKP	13 58 56.4 0.0
JCT	Junction City	111.70	60	⇓PKiKP	PKiKP	13 58 57.2 +0.8
	baz=112					
JCT				⇓PKiKP	PKiKP	13 58 57.2 +0.8
	baz=112					
JCT				⇓PKiKP	PKiKP	13 58 57.2 +0.8
	baz=112					
WMOK	Wichita Mounta	112.04	55	PFAKE		13 59 10.0
WMOK				LR	LR	
	comp=Z,2μm,22.0s					
BR131	Keskin Array S	112.93	311	PFAKE		13 59 10.0
BR131				LR	LR	
	comp=Z,365nm,19.0s					
BRTR	Keskin Array B	112.93	311	PKKPbc	PKKPbc	14 09 47.2 +0.4
	comp=Z,4.2nm,1.0s,baz=204,slow=2.7,SNR=13					
BRTR	Keskin Array B	112.93	311	PKKPbc	PKKPbc	14 09 47.2 +0.4
AKASG	Malin Array Be	112.98	323	PKiKP	PKiKP	13 58 59.1 +1.0
	comp=Z,0.5nm,0.4s,baz=58,slow=3.2,SNR=4.1					
AKASG				PKKPbc	PKKPbc	14 09 44.8 -2.0
	comp=Z,1.9nm,0.6s,baz=265,slow=3.3,SNR=8.3					
AKASG	Malin Array Be	112.98	323	i PKiKP	PKiKP	13 58 59.1 +1.0
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
AKASG	Malin Array Be	112.98	323	PKiKP	PKiKP	13 58 59.1 +1.0
AKASG				PKKPbc	PKKPbc	14 09 44.8 -2.0
KIEV	Kiev	113.00	323	PFAKE		13 59 10.0
KIEV				LR	LR	
	comp=Z,2μm,22.0s					
KSU1	Kansas State U	113.02	50	PFAKE		13 59 10.0
KSU1				LR	LR	
	comp=Z,2μm,20.0s					
SUMG	Summit	113.41	2	i P		13 59 54.4
	comp=Z,9.7nm,1.1s					
EIL	Elat	113.45	300	PKKPbc	PKKPbc	14 09 44.3 -0.3
	comp=Z,1.9nm,0.4s,baz=115,slow=12,SNR=4.0					
EIL	Elat	113.45	300	PKKPbc	PKKPbc	14 09 44.3 -0.3
KVTX	Kingsville	113.66	63	PFAKE		13 59 10.0
KVTX				LR	LR	
	comp=Z,2μm,20.0s					
CSS	Prodhromos	114.06	306	PFAKE		13 59 10.0 +9.3
CSS				LR	LR	
	comp=Z,1μm,22.0s					
EYMN	Ely	114.30	40	PFAKE		13 59 10.0 +9.2
EYMN				LR	LR	
	comp=Z,2μm,21.0s					
KIS	Kishinev	114.45	319	ePKP	PP	14 00 00.0 +2.3
KIS				LRM	MLR	14 46 30.0
	comp=Z,2μm,24.0s					
BOSA	Boshof	115.46	234	PKP	PKPdf	13 59 04.0 +0.2
	comp=Z,4.5nm,0.8s,baz=191,slow=5.3,SNR=4.4					
BOSA	Boshof	115.46	234	PKiKP	PKPdf	13 59 04.0 +0.2
BOSA				pmax	pmax	
	comp=Z,5.0nm,0.8s					
BOSA	Boshof	115.46	234	PKP	PKPdf	13 59 04.0 +0.2
ISP	Isparta	115.72	309	PFAKE		13 59 20.0 +16
ISP				LR	LR	
	comp=Z,856nm,22.0s					
NATX	Nacogdoches	115.90	58	PFAKE		13 59 20.0 +16
NATX				LR	LR	
	comp=Z,2μm,22.0s					
VRI	Vrincioaia	116.18	319	⇑PKiKP	pPKiKP	13 59 19.8 +0.6
VRI	Vrincioaia	116.18	319	⇑i P	pPKiKP	13 59 19.8 +0.6
MIAR	Mount Ida	116.30	54	PFAKE		13 59 20.0 +15
MIAR				LR	LR	
	comp=Z,3μm,21.0s					
LBTB	Lobatse	116.53	238	PFAKE		13 59 20.0 +14
LBTB				LR	LR	
	comp=Z,3μm,21.0s					
BURAR	Bucovina Array	116.54	321	⇑i P	PKPdf	13 59 09.6 +4.4
NB2	NORSAR Subarra	116.58	338	PKKP	PKKPbc	14 09 32.5 -2.3
	comp=Z,9.3nm,1.1s,baz=229,slow=3.6					
NOA	NORSAR Array B	116.58	338	PKP	PKPdf	13 59 05.7 +0.9
	comp=Z,0.8nm,0.7s,baz=79,slow=2.2,SNR=2.6					
NOA				PKKPbc	PKKPbc	14 09 32.6 -2.3
	comp=Z,3.2nm,0.8s,baz=53,slow=3.4,SNR=6.8					
NOA	NORSAR Array B	116.58	338	PKiKP	PKPdf	13 59 05.7 +0.9
NOA	NORSAR Array B	116.58	338	PKP	PKPdf	13 59 05.7 +0.9
NOA				PKKPbc	PKKPbc	14 09 32.6 -2.3
MLR	Muntele Rosu	116.83	318	⇓PKiKP	pPKiKP	13 59 21.9 +1.3
MLR	Muntele Rosu	116.83	318	⇓i P	pPKiKP	13 59 21.9 +1.3
SUR	Sutherland	117.33	229	PFAKE		13 59 20.0 +13
SUR				LR	LR	
	comp=Z,2μm,20.0s					
MBAR	Mbarara	117.56	266	PFAKE		13 59 20.0 +12
MBAR				LR	LR	
	comp=Z,718nm,22.0s					
SFJD	Kangerlussuaq	117.75	8	PFAKE		13 59 20.0 +13
SFJD				LR	LR	
	comp=Z,4μm,19.0s					
SFJD	Kangerlussuaq	117.75	8	i P	PP	14 00 16.7 -3.2
	comp=Z,8.5nm,1.1s					
TRPA	Tarpa	117.99	322	⇓i P	pPKiKP	13 59 23.4 +0.9
KONO	Kongsberg	118.10	338	PFAKE		13 59 20.0 +12
KONO				LR	LR	
	comp=Z,3μm,19.0s					
HDIL	Hopedale	118.11	47	PFAKE		13 59 20.0 +12
HDIL				LR	LR	
	comp=Z,2μm,22.0s					
CRVS	Cervenica-Dubn	118.32	323	ePKiKP	PKPdf	13 59 11.0 +2.5
CRVS	Cervenica-Dubn	118.32	323	ePKP	PKPdf	13 59 11.0 +2.5
CRVS				e		14 00 10.8
CRVS				e		14 09 28.0
GZR	Gura Zlata	118.94	319	⇓PKiKP	PKPdf	13 59 10.1 +0.2
GZR	Gura Zlata	118.94	319	⇓i P	PKPdf	13 59 10.1 +0.2
VBMS	Vicksburg	119.28	56	PFAKE		13 59 20.0 +9.2

VBMS					LR	LR			
	comp=Z,2µm,21.0s								
BZS	**Buzias**	**119.60**	**320**	⇑PKiKP	**PKPdf**		**13 59 12.3**	**+1.3**	
BZS	**Buzias**	**119.60**	**320**	⇑*i*P	**PKPdf**		**13 59 12.3**	**+1.3**	
PSZ	**Piszkesteto**	**119.69**	**323**	⇓PKiKP	pPKiKP		13 59 24.1	-1.9	
PSZ	**Piszkesteto**	**119.69**	**323**	PFAKE			13 59 20.0	+8.8	
PSZ				LR	LR				
	comp=Z,2µm,20.0s								
PSZ	**Piszkesteto**	**119.69**	**323**	⇓*i*P	pPKiKP		13 59 24.1	-1.9	
VTS	**Vitosha**	**119.69**	**316**	⇑PKiKP	pPKiKP		13 59 27.3	+1.0	
VTS	**Vitosha**	**119.69**	**316**	⇑*i*P	pPKiKP		13 59 27.3	+1.0	
SFIN	**Scholer Farm**	**119.76**	**47**	⇑PKiKP	**PKiKP**		**13 59 12.7**	**+1.1**	
	baz=120								
SFIN				⇑PKiKP	**PKiKP**		**13 59 12.7**	**+1.1**	
	baz=120								
SFIN				⇑PKiKP	**PKiKP**		**13 59 12.7**	**+1.1**	
	baz=120								
GLMI	**Grayling**	**119.86**	**41**	PFAKE			13 59 20.0	+8.4	
GLMI				LR	LR				
	comp=Z,3µm,20.0s								
VYHS	**Vyhne**	**120.05**	**324**	*e*PKiKP	pPKiKP		13 59 24.2	-2.4	
VYHS	**Vyhne**	**120.05**	**324**	*e*PKP	**pPKiKP**		**13 59 24.2**	**-2.4**	
VYHS				*e*			14 00 27.3		
VYHS				*e*			14 09 19.1		
WVT	**Waverly**	**120.49**	**51**	*e*PKiKP	**PKPdf**		**13 59 12.6**	**-0.5**	
WVT	**Waverly**	**120.49**	**51**	*e*PKPdf	**PKPdf**		**13 59 12.6**	**-0.5**	
PLAL	**Pickwick Lake**	**120.61**	**53**	PFAKE			13 59 20.0	+6.7	
PLAL				LR	LR				
	comp=Z,2µm,21.0s								
BORG	**Borgarnes**	**120.97**	**355**	PFAKE			13 59 20.0	+6.9	
BORG				LR	LR				
	comp=Z,68µm,21.5s								
PKSM	**Moragy**	**121.22**	**321**	⇑PKiKP	**PKPdf**		**13 59 16.4**	**+2.3**	
PKSM	**Moragy**	**121.22**	**321**	⇑*i*P	**PKPdf**		**13 59 16.4**	**+2.3**	
PLCA	**Paso Flores**	**121.23**	**146**	PKP	**PKPdf**		**13 59 15.0**	**+0.5**	
	comp=Z,27nm,0.8s,baz=229,slow=3.4,SNR=44								
PLCA				PKKPbc	**PKKPbc**		**14 09 16.2**	**-1.2**	
	comp=Z,2.3nm,0.9s,baz=124,slow=3.4,SNR=2.9								
PLCA	**Paso Flores**	**121.23**	**146**	PKiKP	**PKPdf**		**13 59 15.0**	**+0.5**	
PLCA				pmax	pmax				
	comp=Z,27nm,0.8s								
PLCA	**Paso Flores**	**121.23**	**146**	*e*PKPdf	**PKPdf**		**13 59 14.8**	**+0.3**	
PLCA				PKP	**PKPdf**		**13 59 15.0**	**+0.5**	
PLCA				PKKPbc	**PKKPbc**		**14 09 16.2**	**-1.2**	
AAM	**Ann Arbor**	**121.50**	**43**	PFAKE			13 59 30.0	+15	
AAM				LR	LR				
	comp=Z,2µm,20.0s								
BRG	**Berggiesshubel**	**121.56**	**328**	*e*PKP	**PKPdf**		**13 59 19.3**	**+4.7**	
	comp=Z,13nm,1.3s								
BRG				*i*			13 59 30.9		
	comp=Z,9.6nm,1.0s								
BRG				SS	SS		14 17 56.0	+37	
BRG									
	comp=N,2µm,25.5s								
BRG									
	comp=E,3µm,38.4s								
BRG									
	comp=Z,3µm,31.5s								
BRG	**Berggiesshubel**	**121.56**	**328**	*e*PKiKP	**PKPdf**		**13 59 19.3**	**+4.7**	
BRG				*i*			13 59 31.0		
BRG				pmax	pmax				
	comp=Z,13nm,1.3s								
CLL	**Collm**	**121.81**	**329**	*e*PKiKP	**PKPdf**		**13 59 16.0**	**+0.9**	
CLL				*e*			13 59 31.0		
CLL				*e*			14 00 54.0		
CLL				MLR	MLR				
	comp=Z,4µm,20.2s								
CLL	**Collm**	**121.81**	**329**	*e*PKPdf	**PKPdf**		**13 59 16.0**	**+0.9**	
CLL				*ep*PKPdf	**pPKPdf**		**13 59 31.0**	**+1.2**	
CLL				*e*PP	**PP**		**14 00 54.0**	**+5.6**	
CLL				*e*PPP	PPP		14 03 24.0		
CLL				*e*PPPP			14 05 12.0		
CLL				*e*			14 09 54.0		
CLL				*e*PS	PS		14 10 35.0	-7.8	
CLL				*e*PPS	PPS		14 12 10.0		
CLL				*e*SS	SS		14 17 54.0	+32	
CLL				*e*SSS	SSS		14 22 18.0		
CLL				*e*			14 23 24.0		
CLL				*e*			14 26 54.0		
CLL				*e*			14 30 36.0		
CLL				LmH			14 52 00.0		
	comp=Z,4µm,20.7s								
CLL				LmV			14 55 00.0		
	comp=Z,4µm,20.2s								
LRAL	**Lakeview Retre**	**121.98**	**55**	*e*PKPdf	**PKPdf**		**13 59 16.1**	**+0.1**	
BRAL	**Brewton**	**122.42**	**57**	PFAKE			13 59 30.0	+13	
BRAL				LR	LR				
	comp=Z,2µm,21.0s								
TIR	**Tirane**	**122.47**	**316**	PFAKE			13 59 30.0	+13	
TIR				LR	LR				
	comp=Z,2µm,22.0s								
KHC	**Kasperske Hory**	**122.72**	**326**	*e*PKiKP	**PKPdf**		**13 59 16.5**	**-0.5**	
KHC				*e*			13 59 31.5		
KHC	**Kasperske Hory**	**122.72**	**326**	*e*PKP	**PKPdf**		**13 59 16.5**	**-0.5**	
KHC				*ep*PKP	**pPKPdf**		**13 59 31.5**	**-0.2**	
ACSO	**Alum Creek Sta**	**122.76**	**45**	*e*PKPdf	**PKPdf**		**13 59 17.4**	**+0.1**	
GERES	**GERESS Array B**	**122.81**	**326**	PKP	**PKPdf**		**13 59 17.1**	**-0.1**	
	comp=Z,2.2nm,0.7s,baz=74,slow=1.3,SNR=13								
GERES				PKKPbc	**PKKPbc**		**14 09 11.5**	**0.0**	
	comp=Z,1.0nm,0.7s,baz=224,slow=3.7,SNR=7.7								
GERES	**GERESS Array B**	**122.81**	**326**	PKiKP	**PKPdf**		**13 59 17.2**	**-0.1**	
GERES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GERES	**GERESS Array B**	**122.81**	**326**	PKP	**PKPdf**		**13 59 17.1**	**-0.1**	
GERES				PKKPbc	**PKKPbc**		**14 09 11.5**	**0.0**	
CPCT	**Cooper Cave**	**123.26**	**51**	*e*PKPdf	**PKPdf**		**13 59 17.6**	**-0.8**	
SCHQ	**Schefferville**	**123.68**	**24**	PKP	**PKPdf**		**13 59 18.9**	**+0.2**	
	comp=Z,4.7nm,0.9s,baz=58,slow=3.1,SNR=4.5								
SCHQ				PKKPbc	**PKKPbc**		**14 09 08.3**	**+0.1**	
	comp=Z,6.4nm,1.1s,baz=122,slow=5.3,SNR=3.6								
SCHQ	**Schefferville**	**123.68**	**24**	PKP	**PKPdf**		**13 59 18.9**	**+0.2**	
SCHQ				PKKPbc	**PKKPbc**		**14 09 08.3**	**+0.1**	
SCHQ				LR	LR				
	comp=Z,4µm,22.0s								
TKL	**Tuckaleechee C**	**123.77**	**51**	PKP	**PKPdf**		**13 59 19.3**	**-0.1**	
	comp=Z,6.8nm,0.6s,baz=216,slow=8.0,SNR=13								
TKL	**Tuckaleechee C**	**123.77**	**51**	PKiKP	**PKPdf**		**13 59 19.3**	**-0.1**	
TKL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TKL	**Tuckaleechee C**	**123.77**	**51**	PKP	**PKPdf**		**13 59 19.3**	**-0.1**	
TKL				*e*PKPdf	**PKiKP**		**13 59 19.9**	**+0.2**	
ERPA	**Erie**	**124.06**	**42**	PFAKE			13 59 30.0	+10	
ERPA				LR	LR				
	comp=Z,2µm,20.0s								
TGUH	**Tegucigalpa,Un**	**124.58**	**77**	PFAKE			13 59 30.0	+8.6	
TGUH				LR	LR				
	comp=Z,2µm,22.0s								
GOGA	**Godfrey**	**124.71**	**53**	*e*PKiKP	**PKPdf**		**13 59 20.9**	**-0.3**	
GOGA	**Godfrey**	**124.71**	**53**	*e*PKPdf	**PKPdf**		**13 59 20.9**	**-0.3**	
MOTA	**Moosalm**	**125.09**	**326**	⇓*i*PKiKP	**PKPdf**		**13 59 22.3**	**+0.6**	
MOTA	**Moosalm**	**125.09**	**326**	⇓*i*P	**PKPdf**		**13 59 22.3**	**+0.6**	
MOTA	**Moosalm**	**125.09**	**326**	⇓*i*PKiKP	**PKPdf**		**13 59 22.3**	**+0.6**	
	comp=Z,8.6nm,0.6s								
FETA	**Feichten**	**125.49**	**326**	⇓*i*P	**PKPdf**		**13 59 24.6**	**+2.1**	
FETA	**Feichten**	**125.49**	**326**	⇓*i*PKiKP	**PKPdf**		**13 59 24.6**	**+2.1**	
	comp=Z,10nm,1.1s								
ELN	**Prospectdale**	**125.51**	**48**	*e*PKPdf	**PKPdf**		**13 59 23.4**	**+0.7**	
TIP	**Timpagrande**	**125.52**	**315**	PFAKE			13 59 30.0	+7.3	
TIP				LR	LR				
	comp=Z,1µm,22.0s								
TSUM	**Tsumeb**	**125.58**	**241**	*e*PKPdf	**PKPdf**		**13 59 24.1**	**+0.6**	
BLA	**Blacksburg**	**125.76**	**48**	*e*PKiKP	**PKPdf**		**13 59 22.9**	**-0.3**	
BLA	**Blacksburg**	**125.76**	**48**	*e*PKPdf	**PKPdf**		**13 59 22.9**	**-0.3**	
KMSC	**Kings Mountain**	**125.83**	**51**	⇓PKiKP	**PKiKP**		**13 59 23.9**	**+0.1**	
	baz=126								
KMSC				⇓PKiKP	**PKiKP**		**13 59 23.9**	**+0.1**	
	baz=126								
KMSC				⇓PKiKP	**PKiKP**		**13 59 23.9**	**+0.1**	
	baz=126								
CUC	**Castrocucco**	**125.83**	**316**	PFAKE			13 59 30.0	+6.7	
CUC				LR	LR				
	comp=Z,675nm,20.0s								
DAVOX	**Davos/Dischmat**	**126.10**	**326**	PKP	**PKPdf**		**13 59 23.7**	**-0.1**	
	comp=Z,2.6nm,0.4s,baz=302,slow=2.8,SNR=4.4								
DAVOX	**Davos/Dischmat**	**126.10**	**326**	PKiKP	**PKPdf**		**13 59 23.7**	**-0.1**	
DAVOX	**Davos/Dischmat**	**126.10**	**326**	PKP	**PKPdf**		**13 59 23.7**	**-0.1**	
JSC	**Jenkinsville**	**126.17**	**52**	*e*PKiKP	**PKPdf**		**13 59 24.9**	**+0.9**	
JSC	**Jenkinsville**	**126.17**	**52**	*e*PKPdf	**PKPdf**		**13 59 24.9**	**+0.9**	
WLF	**Walferdange**	**126.27**	**331**	PFAKE			13 59 40.0	+16	
WLF				LR	LR				
	comp=Z,6µm,21.0s								
LONY	**Lake Ozonia**	**126.28**	**37**	PFAKE			13 59 40.0	+16	
LONY				LR	LR				
	comp=Z,3µm,21.0s								
AQU	**L'Aquila**	**126.36**	**320**	PFAKE			13 59 40.0	+16	
AQU				LR	LR				
	comp=Z,3µm,22.0s								
CDF	**Champ du Feu**	**126.51**	**329**	*e*PKiKP	**PKPdf**		**13 59 23.4**	**-0.9**	
	comp=Z,122nm,1.9s								
CEL	**Celeste**	**126.51**	**314**	PFAKE			13 59 40.0	+15	
CEL				LR	LR				
	comp=Z,991nm,22.0s								
TUE	**Stuetta**	**126.58**	**326**	*e*PKPdf	**PKPdf**		**13 59 25.0**	**+0.3**	
TUE				LR	LR				
	comp=Z,4µm,22.0s								
GIVF	**Givet**	**126.61**	**332**	*e*PKiKP	**PKPdf**		**13 59 21.2**	**-3.2**	
BINY	**Binghamton**	**126.65**	**41**	PFAKE			13 59 40.0	+15	
BINY				LR	LR				
	comp=Z,3µm,20.0s								
ECH	**Echery**	**126.69**	**329**	PFAKE			13 59 40.0	+15	
ECH				LR	LR				
	comp=Z,5µm,21.0s								
BAIF	**Baives**	**126.93**	**332**	*e*PKiKP	**PKPdf**		**13 59 21.5**	**-3.5**	
	comp=Z,169nm,1.9s								
JTS	**JuntasAbangare**	**126.93**	**82**	PKP	**PKPdf**		**13 59 26.2**	**+0.2**	
	comp=Z,38nm,1.0s,baz=243,slow=8.6,SNR=9.2								
JTS	**JuntasAbangare**	**126.93**	**82**	PKiKP	**PKPdf**		**13 59 26.2**	**+0.2**	
JTS				pmax	pmax				
	comp=Z,38nm,1.0s								
JTS	**JuntasAbangare**	**126.93**	**82**	PKP	**PKPdf**		**13 59 26.2**	**+0.2**	
JTS				*e*PKPdf	**PKiKP**		**13 59 26.4**	**-0.1**	
HINF	**Hinteralfeld**	**127.11**	**328**	*e*PKiKP	**PKPdf**		**13 59 25.0**	**-0.4**	
HAU	**Haudompre**	**127.25**	**329**	*e*PKiKP	**PKPdf**		**13 59 24.4**	**-1.3**	
TRQA	**Tornquist**	**127.73**	**150**	*e*PKPdf	**PKPdf**		**13 59 25.4**	**-1.6**	
CNNC	**Cliffs of the**	**128.41**	**49**	PFAKE			13 59 40.0	+12	
CNNC				LR	LR				
	comp=Z,2µm,22.0s								
WDD	**Wield Dalam**	**128.49**	**312**	PFAKE			13 59 40.0	+12	
WDD				LR	LR				
	comp=Z,1µm,21.0s								
LPL	**La Plagne**	**128.61**	**326**	*e*PKiKP	**PKPdf**		**13 59 28.4**	**-0.2**	
LCO	**Las Campanas**	**128.62**	**135**	*e*PKPdf	**PKPdf**		**13 59 29.4**	**+0.2**	
VSL	**Villasalto**	**130.43**	**318**	PFAKE			13 59 40.0	+8.0	
VSL				LR	LR				
	comp=Z,1µm,21.0s								
ATAH	**Atahualpa**	**131.37**	**105**	PKP	**PKPdf**		**13 59 36.0**	**+1.0**	
	comp=Z,34nm,1.0s,baz=272,slow=2.4,SNR=39								
ATAH				SKP			14 03 00.3		
	comp=Z,12nm,0.8s,baz=170,slow=2.4,SNR=5.0								
ATAH	**Atahualpa**	**131.37**	**105**	PKP	**PKPdf**		**13 59 36.0**	**+1.0**	
ATAH				SKP			14 03 00.3		
NNA	**Nana**	**131.44**	**112**	*e*PKiKP	**PKPdf**		**13 59 34.3**	**-0.3**	
NNA	**Nana**	**131.44**	**112**	*e*PKPdf	**PKPdf**		**13 59 34.3**	**-0.3**	
BCIP	**Isla Barro Col**	**131.98**	**83**	PFAKE			13 59 50.0	+14	
BCIP				LR	LR				
	comp=Z,1µm,21.0s								
LPA	**La Plata**	**132.22**	**150**	PKiKP	**PKPdf**		**13 59 38.0**	**+2.5**	
OTAV	**Otavalo**	**132.75**	**95**	*e*PKPpre	PKPpre		13 59 33.4		
GTBY	**Guantanamo Bay**	**135.44**	**68**	PFAKE			13 59 50.0	+8.1	
GTBY				LR	LR				
	comp=Z,2µm,22.0s								
ROSC	**El Rosal**	**137.32**	**89**	PKhKP	PKPpre		13 59 39.8		
	comp=Z,10nm,0.4s,baz=76,slow=20,SNR=6.9								
ROSC	**El Rosal**	**137.32**	**89**	PKPpre	PKPpre		13 59 39.8		
ROSC				*e*PKPdf	**PKiKP**		**13 59 46.8**	**-1.2**	
LPAZ	**La Paz**	**137.47**	**122**	PKhKP	PKPpre		13 59 35.6		
	comp=Z,8.3nm,0.8s,baz=324,slow=3.9,SNR=14								
LPAZ	**La Paz**	**137.47**	**122**	PKHKP	PKPpre		13 59 35.6		
LPAZ				pmax	pmax				
	comp=Z,8.0nm,0.8s								
LPAZ	**La Paz**	**137.47**	**122**	PKPpre	PKPpre		13 59 35.6		
CRPR	**Cabo Rojo, PR**	**143.25**	**68**	*e*PKPprer			13 59 49.6		
SIV	**San Ignacio**	**143.41**	**127**	PKP	PKPbc		13 59 53.5	-0.3	
	comp=Z,63nm,0.8s,baz=244,slow=3.8,SNR=109								
SIV	**San Ignacio**	**143.41**	**127**	PKP	PKPbc		13 59 53.5	-0.3	
OBIP	**Obispado Ponce**	**143.70**	**68**	*e*PKPpre	PKPpre		13 59 51.8		
OBIP				*e*PKPdf	**PKPdf**		**13 59 57.7**	**+0.7**	
CELP	**Cerrillos**	**143.72**	**68**	*e*PKPpre	PKPpre		13 59 53.9		
SJG	**San Juan**	**144.10**	**67**	PKP	**PKPab**		**13 59 54.9**	**-0.4**	
	comp=Z,18nm,0.4s,baz=271,slow=19,SNR=9.6								
SJG	**San Juan**	**144.10**	**67**	PKiKP	**PKPab**		**13 59 54.9**	**-0.4**	
SJG				pmax	pmax				
	comp=Z,18nm,0.4s								
SJG	**San Juan**	**144.10**	**67**	PKP	**PKPab**		**13 59 54.9**	**-0.4**	
CBYP	**Canavas**	**144.33**	**67**	*e*PKPdf	**PKPdf**		**13 59 58.2**	**+0.1**	
MTP	**Monte Pirata**	**144.66**	**67**	*e*PKPpre	PKPpre		13 59 52.0		
MTP				*e*PKPdf	**PKPdf**		**13 59 58.9**	**+0.2**	
SAML	**Samuel**	**145.04**	**115**	*e*PKPdf	**PKPbc**		**13 59 58.4**	**-0.5**	
STVI	**Saint Thomas**	**145.13**	**66**	*e*PKPdf	**PKPdf**		**13 59 59.0**	**-0.4**	
CDVI	**St. Croix**	**145.47**	**67**	*e*PKPdf	**PKPab**		**14 00 00.2**	**-0.1**	
SHEL	**Horse Pasture**	**146.44**	**229**	*e*PKP2	**PKPbc**		**14 00 03.2**	**0.0**	
SHEL	**Horse Pasture**	**146.44**	**229**	*e*PKPdf	**PKPbc**		**14 00 03.1**	**0.0**	
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc	**PKPdf**		**14 00 02.2**	**+0.2**	
	comp=Z,16nm,0.4s,baz=68,slow=2.5,SNR=87								
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc	**PKPdf**		**14 00 02.2**	**+0.2**	
SPB	**Sao Paulo**	**146.66**	**153**	*e*PKPdf	**PKPbc**		**14 00 03.0**	**-0.6**	
ANWB	**Willy Bob**	**148.22**	**66**	*e*PKPdf	**PKPdf**		**14 00 05.4**	**+0.8**	
LZG	**Guadaloupe-1**	**148.65**	**69**	*e*P	**PKPbc**		**14 00 09.4**	**+0.3**	
SCG	**Saint Claude**	**148.77**	**69**	*e*P	**PKPbc**		**14 00 10.3**	**+0.7**	
PHG	**Guadaloupe-2**	**148.81**	**69**	*e*P	**PKPbc**		**14 00 10.2**	**+0.4**	
TBG	**Guadaloupe-3**	**148.85**	**69**	*e*P	**PKPbc**		**14 00 10.0**	**+0.4**	
FDF	**Fort de France**	**149.58**	**71**	*e*PKPdf	**PKPdf**		**14 00 08.2**	**+1.2**	
FDF				*e*PKPbc	**PKiKP**		**14 00 13.0**	**+0.4**	
FDF				LR	LR				
	comp=Z,1µm,22.0s								
GRGR	**Grenville**	**149.60**	**76**	*e*PKPdf	**PKPdf**		**14 00 07.6**	**+0.6**	
GRGR				LR	LR				
	comp=Z,1µm,21.0s								
CAM4	**Nova Friburgo**	**149.74**	**159**	⇑*i*P	**PKPdf**		**14 00 07.2**	**-0.2**	
CAM4				*i*			14 00 09.5		
CAM4				*i*			14 00 12.7		
CAM4				*i*			14 00 17.7		
BDFB	**Brasilia**	**152.92**	**143**	PKP	**PKPdf**		**14 00 12.5**	**+0.3**	
	comp=Z,25nm,0.8s,baz=309,slow=2.8,SNR=3.0								
BDFB				PKPbc	**PKiKP**		**14 00 19.6**	**0.0**	
	comp=Z,130nm,0.8s,baz=215,slow=3.1,SNR=44								
BDFB				PKPab	**PKPab**		**14 00 30.6**	**+0.1**	
	comp=Z,71nm,0.8s,baz=168,slow=3.5,SNR=8.6								
BDFB	**Brasilia**	**152.92**	**143**	PKiKP	**PKPdf**		**14 00 12.5**	**+0.3**	
BDFB							14 00 30.6		
BDFB				pmax	pmax				
	comp=Z,25nm,0.8s								
BDFB	**Brasilia**	**152.92**	**143**	PKP	**PKPdf**		**14 00 12.5**	**+0.3**	
BDFB				PKPbc	**PKiKP**		**14 00 19.6**	**0.0**	
BDFB				PKPab	**PKPab**		**14 00 30.6**	**+0.1**	
DBIC	**Dimbokro**	**153.55**	**273**	PKP	**PKPdf**		**14 00 13.2**	**+0.2**	
	comp=Z,4.1nm,0.9s,baz=25,slow=5.2,SNR=5.7								
DBIC				PKPbc	**PKiKP**		**14 00 21.1**	**+0.3**	
	comp=Z,24nm,1.0s,baz=64,slow=3.4,SNR=15								
DBIC				PKPab	**PKPab**		**14 00 34.4**	**+1.1**	
	comp=Z,57nm,0.9s,baz=74,slow=2.3,SNR=24								
DBIC	**Dimbokro**	**153.55**	**273**	PKiKP	**PKPdf**		**14 00 13.2**	**+0.2**	
DBIC							14 00 34.4		
DBIC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
DBIC	**Dimbokro**	**153.55**	**273**	PKP	**PKPdf**		**14 00 13.2**	**+0.2**	
DBIC				*e*PKPdf	PKPbc		14 00 13.8	-6.9	
DBIC				*e*PKPbc	**PKiKP**		**14 00 21.1**	**+0.3**	
DBIC				PKPab	**PKPab**		**14 00 34.4**	**+1.1**	
DBIC				LR	LR				
	comp=Z,2µm,22.0s								
LIC	**Lamto**	**153.72**	**272**	*e*PKP1	**PKPbc**		**14 00 21.6**	**+0.5**	
	comp=Z,17nm,0.4s								

IDC 22 13:54:43.2±4.4, 6°05S×128°77E, h346km±46km, mb3.1/1, mb1 3.3/4, mb1mx3.0/16, mbtmpg3.1/4, Error ellipse: s-maj=69.4km s-min=14.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.36**	**194**	P	P	13 57 28.9	-0.1
	0.6nm,0.3s,baz=22,slow=18,SNR=11						
FITZ				S	S	13 59 44.4	-1.7
	0.1nm,0.3s,baz=180,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**14.83**	**159**	P	P	13 57 55.4	-0.8
	0.8nm,0.3s,baz=333,slow=13,SNR=21						
WRA				S	S	14 00 33.2	-3.2
	0.1nm,0.3s,baz=188,slow=33,SNR=2.9						
ASAR	**Alice Springs**	**18.20**	**165**	P	P	13 58 32.9	+0.3
	0.8nm,0.3s,baz=345,slow=11,SNR=30						
ASAR				S	S	14 01 43.9	+1.1
	0.1nm,0.3s,baz=345,slow=21,SNR=8.0						
MKAR	**Makanchi Array**	**66.77**	**327**	P	P	14 04 58.2	0.0
	0.7nm,0.7s,baz=127,slow=8.2,SNR=3.1						

IDC 22 13:58:53.9±0.7, 3°.39N×126°.89E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/22, mbtmpg3.9/11, Error ellipse: s-maj=41.8km s-min=13.9km az=70.0

NEIC 22 13:58:54.8±0.4, 3°.40N×126°.86E, h10km, mb4.7/5, Error ellipse: s-maj=14.6km s-min=6.6km az=71.0

ISCJB 22 13:58:58.1±0.4, 3°.39N±0°.08×126°.9E±0°.1, h48km, mb4.1/15, Error ellipse: s-maj=22.5km s-min=8.1km az=155.8

ISC 22 13:59:00.1±0.6, 3°29N±0°09×126°8E±0°1, h48km, n33, σ0s90/36, mb4.1/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.95**	**342**	*e*Pn	Pn	13 59 51.5	-6.7
KAPI	**Kappang**	**10.85**	**221**	*e*Pn	**Pn**	**14 01 30.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**21.29**	**183**	P	**P**	**14 03 44.2**	**+1.4**
	2.6nm,0.7s,baz=334,slow=7.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**21.29**	**183**	P	**P**	**14 03 44.2**	**+1.4**
COEN	**Coen**	**23.61**	**137**	*e*P	**P**	**14 04 06.5**	**-0.5**
	348nm,2.2s						
WRAB	**Tennant Creek**	**24.24**	**162**	*e*P	**P**	**14 04 12.6**	**-0.2**
WRA	**Warramunga Arr**	**24.25**	**163**	P	**P**	**14 04 12.7**	**-0.1**
	2.0nm,0.4s,baz=334,slow=11,SNR=16						
WRA				PcP	**PcP**	**14 07 54.0**	**+1.6**
	0.1nm,0.4s,baz=338,slow=2.3,SNR=5.0						
WRA	**Warramunga Arr**	**24.25**	**163**	P	**P**	**14 04 12.7**	**-0.1**
WRA				PcP	**PcP**	**14 07 54.0**	**+1.6**
WB2	**Warramunga Arr**	**24.25**	**162**	*e*P	**P**	**14 04 12.7**	**-0.2**
ASAR	**Alice Springs**	**27.67**	**166**	P	**P**	**14 04 44.1**	**+0.3**
	0.6nm,0.5s,baz=351,slow=7.3,SNR=7.5						
ASAR				PcP	**PcP**	**14 08 01.6**	**+1.4**
	0.5nm,0.6s,baz=356,slow=2.3,SNR=3.8						
ASAR	**Alice Springs**	**27.67**	**166**	P	**P**	**14 04 44.1**	**+0.3**
ASAR				PcP	**PcP**	**14 08 01.6**	**+1.4**
CTAO	**Charters Tower**	**30.08**	**141**	*e*P	**P**	**14 05 04.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**31.16**	**301**	P	**P**	**14 05 15.3**	**+0.6**
	0.2nm,0.3s,baz=104,slow=5.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.16**	**301**	P	**P**	**14 05 15.3**	**+0.6**
STKA	**Stephens Creek**	**37.70**	**159**	P	**P**	**14 06 11.4**	**+0.3**
	3.5nm,0.7s,baz=342,slow=7.6,SNR=6.5						
STKA	**Stephens Creek**	**37.70**	**159**	P	**P**	**14 06 11.4**	**+0.3**
ARMA	**Armidale**	**41.06**	**146**	*e*P	**P**	**14 06 38.5**	**-0.8**
	23nm,1.5s						
SONM	**Songino Array**	**47.73**	**341**	P	**P**	**14 07 32.6**	**+0.1**
	0.5nm,0.6s,baz=152,slow=8.8,SNR=5.8						
SONM	**Songino Array**	**47.73**	**341**	P	**P**	**14 07 32.6**	**+0.1**
PETK	**Petropavlovsk-**	**55.81**	**22**	P	**P**	**14 08 32.1**	**-0.3**
	1.2nm,0.5s,baz=187,slow=6.4,SNR=9.7						
PETK	**Petropavlovsk-**	**55.81**	**22**	P	**P**	**14 08 32.1**	**-0.3**
MK31	**Makanchi Array**	**57.95**	**325**	*e*P	**P**	**14 08 46.1**	**-1.6**
MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**14 08 47.4**	**-0.3**
	0.6nm,0.4s,baz=119,slow=7.9,SNR=10						
MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**14 08 47.4**	**-0

BUS	Buena Vista	9.59	125	*e*P	Pn	14 05 27.6	+0.4
MTDJ	Mount Denham	13.87	76	*e*Pn	P	14 06 23.3	-0.4
	746nm,1.4s						
HKT	Hockley	15.12	346	*e*Pn	P	14 06 37.8	+0.5
	102nm,1.6s						
DWPF	Disney	15.94	35	*e*Pn	P	14 06 43.5	-2.8
	70nm,0.8s						
GTBY	Guantanamo Bay	16.46	71	*e*P	P	14 06 50.9	-1.3
	194nm,0.9s						
NATX	Nacogdoches	16.66	351	*e*Pn	Pn	14 06 55.8	+0.6
	82nm,0.7s						
JCT	Junction City	16.89	335	*e*Pn	Pn	14 06 59.9	+1.8
	28nm,0.7s						
JCT				*e*		14 10 00.0	
JCT	Junction City	16.89	335	⇑P	Pn	14 06 59.5	+1.4
	baz=17,SNR=6.4						
JCT				⇑P	Pn	14 06 59.5	+1.4
	baz=17,SNR=6.4						
628A	Black Gap, Mar	17.54	326	⇑P	Pn	14 07 07.2	+1.5
	baz=18,SNR=11						
628A				⇑P	Pn	14 07 07.2	+1.5
	baz=18,SNR=11						
627A	Terlingua Ranc	17.79	325	⇓P	Pn	14 07 09.9	+1.2
	baz=18,SNR=15						
627A				⇓P	Pn	14 07 09.9	+1.2
	baz=18,SNR=15						
TXAR	Lajitas Array	17.85	324	P	Pn	14 07 11.1	+1.6
	1.4nm,0.3s,baz=150,slow=10,SNR=46						
TXAR				PcP	PcP	14 11 34.9	+0.2
	0.2nm,0.3s,baz=172,slow=4.9,SNR=4.6						
TXAR				ScP	ScP	14 14 53.9	+2.2
	0.0nm,0.3s,baz=148,slow=7.4,SNR=7.6						
TXAR	Lajitas Array	17.85	324	P	Pn	14 07 11.1	+1.6
TXAR				PcP	PcP	14 11 34.9	+0.2
TXAR				ScP	ScP	14 14 53.9	+2.2
528A	Cox Ranch, San	18.01	327	⇑P	Pn	14 07 12.0	+0.6
	baz=18,SNR=7.7						
528A				⇑P	Pn	14 07 12.0	+0.6
	baz=18,SNR=7.7						
LRAL	Lakeview Retre	18.21	13	*e*P	P	14 07 11.2	0.0
	23nm,0.9s						
626A	Big Bend Ranch	18.29	323	⇑P	Pn	14 07 15.4	+0.8
	baz=18,SNR=13						
626A				⇑P	Pn	14 07 15.4	+0.8
	baz=18,SNR=13						
428A	Kincaid Ranch,	18.41	329	⇑P	Pn	14 07 16.7	+0.7
	baz=18,SNR=6.1						
428A				⇑P	Pn	14 07 16.7	+0.7
	baz=18,SNR=6.1						
527A	Woodward Ranch	18.44	326	⇑P	Pn	14 07 17.0	+0.6
	baz=18,SNR=13						
527A				⇑P	Pn	14 07 17.0	+0.6
	baz=18,SNR=13						
526A	Mary Lane Ranc	18.64	324	⇑P	Pn	14 07 19.9	+1.2
	baz=19,SNR=33						
526A				⇑P	Pn	14 07 19.9	+1.2
	baz=19,SNR=33						
427A	Hayter Ranch,	18.88	327	⇑P	Pn	14 07 21.2	-0.3
	baz=19						
427A				⇑P	Pn	14 07 21.2	-0.3
	baz=19						
328A	Wristen Ranch,	19.01	330	⇓P	Pn	14 07 22.1	-0.9
	baz=19,SNR=30						
328A				⇓P	Pn	14 07 22.1	-0.9
	baz=19,SNR=30						
MIAR	Mount Ida	19.29	355	*e*P	P	14 07 22.8	0.0
	60nm,1.1s						
OXF	Oxford	19.29	6	*e*P	P	14 07 23.0	+0.2
	145nm,0.9s						
UALR	University of	19.45	358	*e*P	P	14 07 24.6	0.0
	90nm,0.9s						
326A	Caldwell Ranch	19.55	327	⇑P	Pn	14 07 27.8	-1.7
	baz=20,SNR=22						
326A				⇑P	Pn	14 07 27.8	-1.7
	baz=20,SNR=22						
GOGA	Godfrey	19.55	21	*e*P	P	14 07 24.1	-1.6
	69nm,0.6s						
425A	Indio Mountain	19.70	324	⇓P	P	14 07 29.4	+2.0
	baz=20,SNR=15						
425A				⇓P	P	14 07 29.4	+2.0
	baz=20,SNR=15						
OTAV	Otavalo	19.83	138	*e*P	P	14 07 29.4	0.0
	26nm,0.6s						
SDDR	Presa de Saban	19.84	76	*e*P	P	14 07 29.3	+0.3
	171nm,0.9s						
PLAL	Pickwick Lake	19.91	9	*e*P	P	14 07 29.8	+0.2
	19nm,0.5s						
ROSC	El Rosal	19.94	119	P	P	14 07 31.8	+1.2
	5.5nm,0.3s,baz=106,slow=20,SNR=8.8						
ROSC	El Rosal	19.94	119	*e*P	P	14 07 30.1	-0.5
325A	Bean Ranch, Si	20.13	325	⇑P	P	14 07 33.2	+1.1
	baz=20,SNR=9.0						
325A				⇑P	P	14 07 33.2	+1.1
	baz=20,SNR=9.0						
226A	Malaga, Loving	20.20	328	⇑P	P	14 07 34.6	+1.8
	baz=20,SNR=7.6						
226A				⇑P	P	14 07 34.6	+1.8
	baz=20,SNR=7.6						
HBAR	Harrisburg	20.24	2	*e*P	P	14 07 30.9	-2.2
127A	Arkansas Junct	20.34	331	⇑P	P	14 07 35.0	+0.8
	baz=20,SNR=8.4						
127A				⇑P	P	14 07 35.0	+0.8
	baz=20,SNR=8.4						
WMOK	Wichita Mounta	20.43	343	*e*P	P	14 07 34.1	-1.1
	76nm,1.2s						
GDL2	Guadalupe Moun	20.45	328	*e*P	P	14 07 37.2	+1.8
	60nm,1.0s						
GDL2				*e*pP	pP	14 08 08.2	+0.1
324A	Moseley Ranch,	20.47	324	⇑P	P	14 07 37.0	+1.3
	baz=20,SNR=19						
324A				⇑P	P	14 07 37.0	+1.3
	baz=20,SNR=19						
SWET	Sewanee	20.54	14	*e*P	P	14 07 36.2	-0.1
	38nm,0.7s						
MNTX	Cornudas Mount	20.61	325	*e*P	P	14 07 37.8	+0.8
	15nm,1.1s						
MNTX	Cornudas Mount	20.61	325	⇓P	P	14 07 38.3	+1.3
	baz=21,SNR=18						
MNTX				⇓P	P	14 07 38.3	+1.3
	baz=21,SNR=18						
MNTX				⇓P	P	14 07 38.3	+1.3
	baz=21,SNR=18						
MNTX				⇓P	P	14 07 38.3	+1.3
	baz=21,SNR=18						
COW	Cow Castle Cre	20.61	27	*e*P	P	14 07 36.4	-0.7
NHSC	New Hope	20.61	28	*e*P	P	14 07 37.5	+0.5
	94nm,0.8s						
225A	Deer Hill, Car	20.62	327	⇓P	P	14 07 38.5	+1.2
	baz=21,SNR=18						
225A				⇓P	P	14 07 38.5	+1.2
	baz=21,SNR=18						
126A	Clayton Basin,	20.63	329	⇓P	P	14 07 38.2	+0.8
	baz=21,SNR=7.7						
126A				⇓P	P	14 07 38.2	+0.8
	baz=21,SNR=7.7						
HALT	Halls	20.68	5	*e*P	P	14 07 38.2	+0.5
GNAR	Gosnell	20.68	4	*e*P	P	14 07 37.7	-0.1
	729nm,0.6s						
Z27A	Tatum	20.80	332	⇑P	P	14 07 39.6	+0.4
	baz=21,SNR=15						
Z27A				⇑P	P	14 07 39.6	+0.4
	baz=21,SNR=15						
CPRX	Cap Rock	20.87	330	*e*P	P	14 07 39.6	-0.4
	21nm,0.7s						
TUL1	Tulsa	20.90	351	⇑P	P	14 07 40.8	+0.7
	baz=21						
TUL1				⇑P	P	14 07 40.8	+0.7
	baz=21						
224A	Cornudas Mount	20.97	325	⇑P	P	14 07 42.2	+1.1
	baz=21,SNR=14						
224A				⇑P	P	14 07 42.2	+1.1
	baz=21,SNR=14						
GLAT	Glass	21.04	5	*e*P	P	14 07 41.9	+0.4
WVT	Waverly	21.08	9	*e*P	P	14 07 41.4	-0.6
	59nm,0.6s						
CPCT	Cooper Cave	21.11	16	*e*P	P	14 07 42.4	+0.1
Z26A	Caprock	21.12	330	⇑P	P	14 07 42.8	+0.2
	baz=21,SNR=18						
Z26A				⇑P	P	14 07 42.8	+0.2
	baz=21,SNR=18						
JSC	Jenkinsville	21.15	25	*e*P	P	14 07 44.3	+1.6
UTMT	University of	21.16	6	*e*P	P	14 07 43.4	+0.6
	259nm,0.8s						
MSTX	Muleshoe	21.16	334	⇑P	P	14 07 43.4	+0.4
	baz=21,SNR=7.8						
MSTX				⇑P	P	14 07 43.4	+0.4
	baz=21,SNR=7.8						
Y27A	Causey	21.26	333	⇑P	P	14 07 44.6	+0.6
	baz=21,SNR=20						
Y27A				⇑P	P	14 07 44.6	+0.6
	baz=21,SNR=20						
PARMO	Parma	21.40	4	*e*P	P	14 07 46.0	+0.7
124A	Stringfield Ra	21.41	327	⇑P	P	14 07 47.5	+1.7
	baz=21,SNR=11						
124A				⇑P	P	14 07 47.5	+1.7
	baz=21,SNR=11						
Z25A	Roswell	21.49	329	⇓P	P	14 07 47.2	+0.8
	baz=22,SNR=6.0						
Z25A				⇓P	P	14 07 47.2	+0.8
	baz=22,SNR=6.0						
AMTX	Amarillo	21.52	337	*e*P	P	14 07 46.9	+0.1
	86nm,1.0s						
AMTX				*e*pP	pP	14 08 19.7	-0.1
AMTX	Amarillo	21.52	337	⇑P	P	14 07 46.8	+0.1
	baz=22,SNR=11						
AMTX				⇑P	P	14 07 46.8	+0.1
	baz=22,SNR=11						
AMTX				⇑P	P	14 07 46.8	+0.1
	baz=22,SNR=11						
AMTX				⇑P	P	14 07 46.8	+0.1
	baz=22,SNR=11						
SDV	Santo Domingo	21.52	105	*e*P	P	14 07 44.9	-2.2
	49nm,0.8s						
TKL	Tuckaleechee C	21.52	18	P	P	14 07 47.9	+1.3
	77nm,0.8s,baz=189,slow=10,SNR=73						
TKL	Tuckaleechee C	21.52	18	*e*P	P	14 07 47.2	+0.6
Y26A	Elida	21.59	332	⇑P	P	14 07 47.9	+0.4
	baz=22,SNR=5.1						
Y26A				⇑P	P	14 07 47.9	+0.4
	baz=22,SNR=5.1						
Z24A	Sheeppen Canyo	21.86	328	⇓P	P	14 07 51.7	+1.4
	baz=22,SNR=16						
Z24A				⇓P	P	14 07 51.7	+1.4
	baz=22,SNR=16						
KMSC	Kings Mountain	21.88	23	⇑P	P	14 07 51.6	+1.4
	baz=22,SNR=28						
KMSC				⇑P	P	14 07 51.6	+1.4
	baz=22,SNR=28						
Y25A	Mesa, Roswell	22.00	330	⇑P	P	14 07 53.1	+1.5
	baz=22,SNR=16						
Y25A				⇑P	P	14 07 53.1	+1.5
	baz=22,SNR=16						
X26A	CR and CF Fran	22.11	333	⇑P	P	14 07 53.0	+0.4
	baz=22,SNR=9.3						
X26A				⇑P	P	14 07 53.0	+0.4
	baz=22,SNR=9.3						
221A	Mesquite Ranch	22.22	321	⇓P	P	14 07 56.8	+3.2
	baz=22,SNR=6.1						
221A				⇓P	P	14 07 56.8	+3.2
	baz=22,SNR=6.1						
Z23A	Rita Site, Whi	22.26	326	⇑P	P	14 07 56.1	+2.1
	baz=22						
Z23A				⇑P	P	14 07 56.1	+2.1
	baz=22						
122A	Conniff Cattle	22.26	324	⇓P	P	14 07 56.5	+2.4
	baz=22						
122A				⇓P	P	14 07 56.5	+2.4
	baz=22						
Y24A	Capitan	22.36	329	⇓P	P	14 07 56.7	+1.6
	baz=22,SNR=8.5						
Y24A				⇓P	P	14 07 56.7	+1.6
	baz=22,SNR=8.5						
TZTN	Tazewell	22.41	17	*e*P	P	14 07 57.0	+1.7
	79nm,0.6s						
X25A	Clemmons Ranch	22.48	331	⇑P	P	14 07 57.5	+1.4
	baz=22						
X25A				⇑P	P	14 07 57.5	+1.4
	baz=22						
SIUC	Southern Illin	22.48	5	*e*P	P	14 07 55.9	+0.1
	502nm,0.8s						
W26A	Owens Ranch, T	22.54	333	⇑P	P	14 07 58.1	+1.5
	baz=23						
W26A				⇑P	P	14 07 58.1	+1.5
	baz=23						
121A	Cookes Peak, D	22.59	322	⇓P	P	14 07 59.9	+2.7
	baz=22,SNR=14						
121A				⇓P	P	14 07 59.9	+2.7
	baz=22,SNR=14						
220A	Playas Peak, P	22.60	320	⇓P	P	14 07 59.4	+2.2
	baz=22,SNR=25						
220A				⇓P	P	14 07 59.4	+2.2
	baz=22,SNR=25						
Z22A	Elephant Butte	22.65	325	⇓P	P	14 07 60.0	+2.3
	baz=23,SNR=5.2						
Z22A				⇓P	P	14 07 60.0	+2.3
	baz=23,SNR=5.2						
FVM	French Village	22.67	3	*e*P	P	14 07 57.2	-0.3
	52nm,0.6s						
Y23A	Lovelace Mesa,	22.68	328	⇓P	P	14 08 00.2	+2.2
	baz=23,SNR=9.4						
Y23A				⇓P	P	14 08 00.2	+2.2
	baz=23,SNR=9.4						
USIN	University of	22.90	8	*e*P	P	14 07 59.8	+0.1
	120nm,0.8s						
USIN				*e*pP	pP	14 08 35.4	+0.7
W25A	X Bar L Ranch,	22.96	332	⇑P	P	14 08 01.6	+1.2
	baz=23,SNR=19						
W25A				⇑P	P	14 08 01.6	+1.2
	baz=23,SNR=19						
Z21A	St. Cloud Mine	23.09	324	⇑P	P	14 08 03.8	+2.2
	baz=23						
Z21A				⇑P	P	14 08 03.8	+2.2
	baz=23						
120A	U Bar Ranch, L	23.11	321	⇓P	P	14 08 04.6	+2.8
	baz=23,SNR=9.1						
120A				⇓P	P	14 08 04.6	+2.8
	baz=23,SNR=9.1						
BNM	Barren Site	23.15	327	*e*P	P	14 08 04.4	+2.1
	5.0nm,0.9s						
Y22A	Socorro	23.17	326	⇓P	P	14 08 05.0	+2.7
	baz=23,SNR=5.3						
Y22A				⇓P	P	14 08 05.0	+2.7
	baz=23,SNR=5.3						
LPM	Los Pinos Moun	23.28	327	*e*P	P	14 08 04.9	+1.6
LPM				*e*pP	pP	14 08 40.0	+0.8
SLM	Saint Louis	23.33	3	*e*P	P	14 08 04.1	+0.6
	298nm,0.6s						
LENM	Lemitar	23.35	327	*e*P	P	14 08 04.9	+1.0
WCI	Wyandotte Cave	23.38	11	*e*P	P	14 08 04.3	+0.3
	175nm,0.8s						
WCI				*e*pP	pP	14 08 41.1	+1.1
W24A	Lazy 6 Ranch,	23.39	331	⇑P	P	14 08 06.1	+1.8
	baz=23,SNR=17						
W24A				⇑P	P	14 08 06.1	+1.8
	baz=23,SNR=17						
V25A	Rancho No Teng	23.54	333	⇓P	P	14 08 06.9	+1.2
	baz=24,SNR=10						
V25A				⇓P	P	14 08 06.9	+1.2
	baz=24,SNR=10						
OLIL	Olney	23.61	7	*e*P	P	14 08 06.7	+0.7
	247nm,0.7s						
OLIL				*e*pP	pP	14 08 43.6	+1.3
Y21A	Point of Rocks	23.61	325	⇓P	P	14 08 09.5	+3.1
	baz=24,SNR=5.6						
Y21A				⇓P	P	14 08 09.5	+3.1
	baz=24,SNR=5.6						
LAZ	Ladron	23.62	327	*e*P	P	14 08 08.0	+1.6
	3.5nm,1.2s						
U26A	Atchley Ranch,	23.65	335	⇑P	P	14 08 07.9	+1.2
	baz=24,SNR=22						
U26A				⇑P	P	14 08 07.9	+1.2
	baz=24,SNR=22						
ANMO	Albuquerque	23.69	329	P	P	14 08 08.2	+1.2
	1.2nm,0.6s,baz=141,slow=12,SNR=5.5						
ANMO				pP	pP	14 08 45.4	+1.8
	5.9nm,0.8s,baz=132,slow=12,SNR=5.1						
ANMO				ScP	ScP	14 15 07.0	+1.2
	3.9nm,1.1s,baz=155,slow=4.0,SNR=4.3						
ANMO	Albuquerque	23.69	329	*e*P	P	14 08 08.1	+1.0
ANMO				P	P	14 08 08.2	+1.2
ANMO				*e*pP	pP	14 08 44.6	+1.1
ANMO				pP	pP	14 08 45.4	+1.8
ANMO				ScP	ScP	14 15 07.0	+1.2
W23A	Werner Place,	23.70	329	⇓P	P	14 08 09.2	+2.0
	baz=24						
W23A				⇓P	P	14 08 09.2	+2.0
	baz=24						
V24A	Rampart Ranch,	23.75	332	⇓P	P	14 08 09.4	+1.7
	baz=24						
V24A				⇓P	P	14 08 09.4	+1.7
	baz=24						
T27A	Campo	23.84	338	⇑P	P	14 08 09.7	+1.3
	baz=24						
T27A				⇑P	P	14 08 09.7	+1.3
	baz=24						
U25A	Circle Dot Ran	23.93	334	⇓P	P	14 08 10.4	+1.2
	baz=24,SNR=11						
U25A				⇓P	P	14 08 10.4	+1.2
	baz=24,SNR=11						
Y20A	Horse Springs,	23.93	324	⇑P	P	14 08 11.9	+2.6
	baz=24,SNR=18						
Y20A				⇑P	P	14 08 11.9	+2.6
	baz=24,SNR=18						
ELN	Prospectdale	23.95	22	*e*P	P	14 08 09.2	0.0
X21A	Alamocita Cree	24.00	326	⇑P	P	14 08 12.5	+2.6
	baz=24,SNR=9.3						
X21A				⇑P	P	14 08 12.5	+2.6
	baz=24,SNR=9.3						
BLA	Blacksburg	24.05	22	*e*P	P	14 08 10.3	+0.2
	91nm,0.9s						
BLA				*e*		14 08 47.4	
KSU1	Kansas State U	24.15	351	*e*P	P	14 08 11.8	+0.8
	16nm,0.6s						
KSU1				*e*pP	pP	14 08 48.9	+0.7
V23A	Ortiz Mt. (NFS	24.19	330	⇓P	P	14 08 13.8	+2.1
	baz=24						
V23A				⇓P	P	14 08 13.8	+2.1
	baz=24						
BLO	Bloomington	24.26	10	*e*P	P	14 08 12.2	+0.3
	77nm,0.6s						
TUC	Tucson	24.30	318	*e*P	P	14 08 13.7	+1.1
	6.0nm,1.3s						
TUC				*e*pP	pP	14 08 51.5	+1.4
X20A	Quemado	24.46	325	⇑P	P	14 08 17.1	+3.0
	baz=24,SNR=6.3						
X20A				⇑P	P	14 08 17.1	+3.0
	baz=24,SNR=6.3						
Y19A	Nutrioso	24.47	323	⇑P	P	14 08 16.5	+2.2
	baz=24,SNR=9.1						
Y19A				⇑P	P	14 08 16.5	+2.2
	baz=24,SNR=9.1						
T25A	Trinidad	24.56	335	⇑P	P	14 08 17.2	+2.2
	baz=25,SNR=9.1						
T25A				⇑P	P	14 08 17.2	+2.2
	baz=25,SNR=9.1						
S26A	Kim	24.61	337	⇑P	P	14 08 17.4	+2.0
	baz=25						
S26A				⇑P	P	14 08 17.4	+2.0
	baz=25						
SJG	San Juan	24.61	80	P	P	14 08 14.7	-0.7
	35nm,0.5s,baz=270,slow=18,SNR=9.6						
SJG	San Juan	24.61	80	P	P	14 08 14.7	-0.7
	7.5nm,0.3s						
U23A	El Rito	24.66	331	⇑P	P	14 08 18.0	+2.0
	baz=25						
U23A				⇑P	P	14 08 18.0	+2.0
	baz=25						
V22A	San Miguel Ran	24.68	329	⇓P	P	14 08 18.1	+2.0
	baz=25						
V22A				⇓P	P	14 08 18.1	+2.0
	baz=25						
T24A	Torres, Weston	24.77	334	⇓P	P	14 08 19.4	+2.4
	baz=25						
T24A				⇓P	P	14 08 19.4	+2.4
	baz=25						
Y18A	Canyon Day Jun	24.81	321	⇓P	P	14 08 20.2	+3.0
	baz=25,SNR=6.6						
Y18A				⇓P	P	14 08 20.2	+3.0
	baz=25,SNR=6.6						
X19A	St. Johns	24.83	323	⇑P	P	14 08 20.2	+2.8
	baz=25,SNR=5.6						
X19A				⇑P	P	14 08 20.2	+2.8
	baz=25,SNR=5.6						
W20A	Ramah	24.89	326	⇓P	P	14 08 21.3	+3.2
	baz=25						
W20A				⇓P	P	14 08 21.3	+3.2
	baz=25						
V21A	Milan	24.96	328	⇑P	P	14 08 21.0	+2.4
	baz=25						
V21A				⇑P	P	14 08 21.0	+2.4
	baz=25						
R27A	Eads	24.96	339	⇑P	P	14 08 19.8	+1.3
	baz=25						
R27A				⇑P	P	14 08 19.8	+1.3
	baz=25						
S25A	Robets Cordova	25.02	336	⇓P	P	14 08 20.7	+1.6
	baz=25						
S25A				⇓P	P	14 08 20.7	+1.6
	baz=25						
R26A	Arlington	25.20	338	⇑P	P	14 08 21.9	+1.2
	baz=25						
R26A				⇑P	P	14 08 21.9	+1.2
	baz=25						
X18A	Snowflake	25.28	323	⇓P	P	14 08 24.0	+2.4
	baz=25,SNR=6.3						
X18A				⇓P	P	14 08 24.0	+2.4
	baz=25,SNR=6.3						
HDIL	Hopedale	25.30	4	*e*P	P	14 08 21.5	+0.2
	126nm,0.9s						
SFIN	Scholer Farm	25.35	8	⇑P	P	14 08 22.1	+0.2
	baz=26,SNR=30						
SFIN				⇑P	P	14 08 22.1	+0.2
	baz=26,SNR=30						
R25A	Fountain Ranch	25.38	336	⇓P	P	14 08 24.2	+1.9
	baz=25						
R25A				⇓P	P	14 08 24.2	+1.9
	baz=25						
U21A	Nageezi	25.45	329	⇓P	P	14 08 25.4	+2.3
	baz=25						
U21A				⇓P	P	14 08 25.4	+2.3
	baz=25						
SDCO	Great Sand Dun	25.53	334	*e*P	P	14 08 24.9	+1.1
SDCO	Great Sand Dun	25.53	334	⇓P	P	14 08 25.8	+2.0
	baz=26						
SDCO				⇓P	P	14 08 25.8	+2.0
	baz=26						
SDCO				⇓P	P	14 08 25.8	+2.0
	baz=26						
SDCO				⇓P	P	14 08 25.8	+2.0
	baz=26						
W18A	Petrified Fore	25.58	324	⇑P	P	14 08 26.7	+2.5
	baz=26						
W18A				⇑P	P	14 08 26.7	+2.5
	baz=26						
X17A	Forest Lakes	25.66	321	⇓P	P	14 08 27.8	+2.8
	baz=26						
X17A				⇓P	P	14 08 27.8	+2.8
	baz=26						
R24A	Sanders Place,	25.78	335	⇓P	P	14 08 28.8	+2.8
	baz=26						
R24A				⇓P	P	14 08 28.8	+2.8
	baz=26						
T21A	Navajo Lake	25.84	330	⇓P	P	14 08 28.8	+2.2
	baz=26						
T21A				⇓P	P	14 08 28.8	+2.2
	baz=26						
ATAH	Atahualpa	25.85	148	P	P	14 08 29.2	+2.2
	21nm,0.7s,baz=354,slow=5.9,SNR=17						
ATAH	Atahualpa	25.85	148	P	P	14 08 29.2	+2.2
114A	Black Gap (USA	25.96	316	⇑P	P	14 08 30.2	+2.7
	baz=26						
114A				⇑P	P	14 08 30.2	+2.7
	baz=26						
ACSO	Alum Creek Sta	26.02	15	*e*P	P	14 08 28.3	+0.4
	78nm,0.6s						
R23A	Moffat	26.04	334	⇓P	P	14 08 30.8	+2.4
	baz=26						
R23A				⇓P	P	14 08 30.8	+2.4
	baz=26						
X16A	Lo Mia Camp, P	26.10	321	⇑P	P	14 08 31.6	+2.7
	baz=26,SNR=19						
X16A				⇑P	P	14 08 31.6	+2.7
	baz=26,SNR=19						
S22A	4UR Ranch, Cre	26.11	332	⇑P	P	14 08 30.9	+1.8
	baz=26						
S22A				⇑P	P	14 08 30.9	+1.8
	baz=26						
V18A	Ganado	26.12	325	⇑P	P	14 08 31.4	+2.4
	baz=26						
V18A				⇑P	P	14 08 31.4	+2.4
	baz=26						
U19A	Dine' College,	26.15	326	⇑P	P	14 08 31.7	+2.4
	baz=26						
U19A				⇑P	P	14 08 31.7	+2.4
	baz=26						
R22A	Saguache, Gunn	26.48	333	⇑P	P	14 08 34.8	+2.4
	baz=26						
R22A				⇑P	P	14 08 34.8	+2.4
	baz=26						
MVCO	Mesa Verde	26.48	329	*e*P	P	14 08 33.7	+1.3
	6.9nm,1.0s						
MVCO				*e*pP	pP	14 09 11.8	+0.1
MVCO	Mesa Verde	26.48	329	⇑P	P	14 08 34.7	+2.3
	baz

MVCO ⇑P P 14 08 34.7 +2.3
baz=26
S21A Coal Bank Pass 26.50 330 ⇑P P 14 08 34.9 +2.4
baz=26
S21A ⇑P P 14 08 34.9 +2.4
baz=26
V17A Tonalea, Kykot 26.54 323 ⇓P P 14 08 35.0 +2.2
baz=26,SNR=11
V17A ⇓P P 14 08 35.0 +2.2
baz=26,SNR=11
113A Mohawk Valley, 26.57 315 ⇓P P 14 08 35.4 +2.5
baz=26
113A ⇓P P 14 08 35.4 +2.5
baz=26
SCIA State Center 26.60 357 *eP* P 14 08 32.0 -1.0
Z13A Yuma Proving G 26.75 316 ⇑P P 14 08 36.9 +2.3
baz=27
Z13A ⇑P P 14 08 36.9 +2.3
baz=27
Y14A Wickenburg 26.77 318 ⇑P P 14 08 37.3 +2.5
baz=27
Y14A ⇑P P 14 08 37.3 +2.5
baz=27
WUAZ Wupatki 26.80 322 *eP* P 14 08 36.9 +1.8
45nm,1.3s
WUAZ *epP* pP 14 09 15.0 +0.5
WUAZ Wupatki 26.80 322 ⇓P P 14 08 37.9 +2.7
baz=27,SNR=12
WUAZ ⇓P P 14 08 37.9 +2.7
baz=27,SNR=12
P23A Jefferson 27.05 335 ⇑P P 14 08 39.4 +1.9
baz=27
P23A ⇑P P 14 08 39.4 +1.9
baz=27
U16A Tuba City 27.10 324 ⇓P P 14 08 40.2 +2.5
baz=27
U16A ⇓P P 14 08 40.2 +2.5
baz=27
S19A Harvey Farm, M 27.22 329 ⇓P P 14 08 41.1 +2.2
baz=27
S19A ⇓P P 14 08 41.1 +2.2
baz=27
PV01 Paradox Valley 27.24 330 *eP* P 14 08 39.4 +0.2
ISCO Idaho Springs 27.33 336 *eP* P 14 08 41.6 +1.7
Q21A Lamborn Mesa, 27.34 332 ⇑P P 14 08 42.5 +2.6
baz=27
Q21A ⇑P P 14 08 42.5 +2.6
baz=27
SDMD Soldier's Deli 27.36 26 *eP* P 14 08 40.2 +0.3
55nm,0.8s
GLA Glamis 27.47 314 *eP* P 14 08 43.3 +2.4
9.8nm,1.1s
GLA *epP* pP 14 09 20.0 -0.3
GLA Glamis 27.47 314 ⇑P P 14 08 43.3 +2.4
baz=27,SNR=5.1
GLA ⇑P P 14 08 43.3 +2.4
baz=27,SNR=5.1
T17A Navajo Res., N 27.53 325 ⇓P P 14 08 43.7 +2.1
baz=28,SNR=6.3
T17A ⇓P P 14 08 43.7 +2.1
baz=28,SNR=6.3
PV04 Paradox Valley 27.61 330 *eP* P 14 08 42.1 -0.1
PV04 *epP* pP 14 09 22.2 +0.5
S18A Hurst Farm, Bl 27.61 327 ⇓P P 14 08 44.5 +2.1
baz=28
S18A ⇓P P 14 08 44.5 +2.1
baz=28
Y12C Blythe 27.66 316 ⇑P P 14 08 45.0 +2.3
baz=28
Y12C ⇑P P 14 08 45.0 +2.3
baz=28
R19A Curley Farm, L 27.70 329 ⇑P P 14 08 45.3 +2.1
baz=28
R19A ⇑P P 14 08 45.3 +2.1
baz=28
PDMCI Parker Dam,Lak 27.74 317 ⇑P P 14 08 45.9 +2.6
baz=28
PDMCI ⇑P P 14 08 45.9 +2.6
baz=28
M27A Reverse DX Ran 27.78 343 ⇑P P 14 08 46.0 +2.4
baz=28
M27A ⇑P P 14 08 46.0 +2.4
baz=28
U15A North Rim 27.97 323 ⇑P P 14 08 48.3 +2.7
baz=28,SNR=7.9
U15A ⇑P P 14 08 48.3 +2.7
baz=28,SNR=7.9
S17A Black Ridge (B 28.00 326 ⇑P P 14 08 48.1 +2.4
baz=28
S17A ⇑P P 14 08 48.1 +2.4
baz=28
SSPA Standing Stone 28.00 23 *eP* P 14 08 46.1 +0.6
87nm,1.4s
SSPA *epP* pP 14 09 25.7 +0.7
O22A Kremmling 28.01 335 ⇑P P 14 08 47.9 +2.0
baz=28
O22A ⇑P P 14 08 47.9 +2.0
baz=28
W13A Hualapai Mount 28.07 319 ⇑P P 14 08 49.2 +2.8
baz=28
W13A ⇑P P 14 08 49.2 +2.8
baz=28
SWSC Sam W. Stewart 28.08 313 ⇓P P 14 08 49.3 +2.9
baz=28
SWSC ⇓P P 14 08 49.3 +2.9
baz=28
R18A Canyonlands Na 28.09 329 ⇑P P 14 08 48.5 +1.9
baz=28
R18A ⇑P P 14 08 48.5 +1.9
baz=28
ALLY Alegheny Colle 28.14 19 *eP* P 14 08 46.3 -0.4
56nm,1.1s
BC3 Big Chuckawall 28.24 315 ⇓P P 14 08 50.4 +2.6
baz=28,SNR=8.9
BC3 ⇓P P 14 08 50.4 +2.6
baz=28,SNR=8.9
IRM Iron Mountain 28.32 316 ⇓P P 14 08 51.1 +2.6
baz=28
IRM ⇓P P 14 08 51.1 +2.6
baz=28
S16A Weppner Ranch, 28.49 326 ⇑P P 14 08 52.7 +2.5
baz=28
S16A ⇑P P 14 08 52.7 +2.5
baz=28
MONP Monument Peak 28.50 312 ⇑P P 14 08 52.8 +2.6
baz=28
MONP ⇑P P 14 08 52.8 +2.6
baz=28
N22A Wattenberg Ran 28.52 336 ⇑P P 14 08 52.3 +1.9
baz=29
N22A ⇑P P 14 08 52.3 +1.9
baz=29
R17A Hanksville Air 28.53 328 ⇑P P 14 08 53.1 +2.7
baz=28
R17A ⇑P P 14 08 53.1 +2.7
baz=28
ERPA Erie 28.61 18 *eP* P 14 08 51.1 +0.2
22nm,0.6s
ECSD EROS Data Cent 28.70 353 *eP* P 14 08 51.3 -0.4
34nm,1.1s
ECSD *epP* pP 14 09 30.0 -1.3
O20A White River Ci 28.70 333 ⇓P P 14 08 54.7 +2.7
baz=29
O20A ⇓P P 14 08 54.7 +2.7
baz=29
BELC Belle Mtn. Jos 28.81 315 ⇑P P 14 08 55.7 +2.7
baz=29
BELC ⇑P P 14 08 55.7 +2.7
baz=29
R16A Teasdale 28.84 326 ⇓P P 14 08 55.5 +2.2
baz=29
R16A ⇓P P 14 08 55.5 +2.2
baz=29
LDFC Landfair 28.84 317 *eP* P 14 08 56.9 +3.6
16nm,0.8s
PFO Pinyon Flat Ob 28.91 314 ⇑P P 14 08 56.5 +2.7
baz=29
PFO ⇑P P 14 08 56.5 +2.7
baz=29
SRU San Rafael 28.96 329 *eP* P 14 08 55.2 +0.9
GMRC Granite Mounta 29.03 316 ⇓P P 14 08 57.5 +2.6
baz=29,SNR=7.0
GMRC ⇓P P 14 08 57.5 +2.6
baz=29,SNR=7.0
R15A Junction 29.22 325 ⇑P P 14 08 59.2 +2.6
baz=29
R15A ⇑P P 14 08 59.2 +2.6
baz=29
N20A Spence Gulch, 29.29 334 ⇓P P 14 08 58.8 +1.6
baz=29
N20A ⇓P P 14 08 58.8 +1.6
baz=29
L23A Garrett 29.38 338 ⇑P P 14 08 59.0 +1.1
baz=29
L23A ⇑P P 14 08 59.0 +1.1
baz=29
MSU Marysvale 29.38 326 *eP* P 14 08 58.3 +0.3
MSU *epP* pP 14 09 41.1 +3.3
HEC Hector,Ludlow 29.51 316 ⇓P P 14 09 02.1 +3.1
baz=29,SNR=5.9
HEC ⇓P P 14 09 02.1 +3.1
baz=29,SNR=5.9
M21A Separation Pea 29.56 336 ⇓P P 14 09 01.8 +2.2
baz=30
M21A ⇓P P 14 09 01.8 +2.2
baz=30
BBRC Big Bear Solar 29.59 314 ⇑P P 14 09 03.3 +3.3
baz=30
BBRC ⇑P P 14 09 03.3 +3.3
baz=30
TUQ Turquoise Moun 29.59 317 ⇓P P 14 09 02.8 +3.0
baz=30
TUQ ⇓P P 14 09 02.8 +3.0
baz=30
O18A Roosevelt 29.61 331 ⇓P P 14 09 02.1 +2.2
baz=30
O18A ⇓P P 14 09 02.1 +2.2
baz=30
N19A John Jarvie Ra 29.73 333 ⇓P P 14 09 02.7 +1.7
baz=30
N19A ⇓P P 14 09 02.7 +1.7
baz=30
L21A Rawlins 29.87 336 ⇓P P 14 09 03.1 +0.8
baz=30,SNR=7.2
L21A ⇓P P 14 09 03.1 +0.8
baz=30,SNR=7.2
SPMN St. Paul 29.89 358 ⇑P P 14 09 03.6 +1.4
baz=30
SPMN ⇑P P 14 09 03.6 +1.4
baz=30
K23A Bowen Ranch, D 29.91 339 ⇑P P 14 09 04.5 +1.9
baz=30
K23A ⇑P P 14 09 04.5 +1.9
baz=30
PAL Palisades 29.95 28 *eP* P 14 09 02.6 0.0
62nm,1.1s
BINY Binghamton 30.07 24 *eP* P 14 09 04.5 +0.6
79nm,1.0s
BFSC Mount Baldy Ra 30.09 314 ⇓P P 14 09 07.0 +2.7
baz=30
BFSC ⇓P P 14 09 07.0 +2.7
baz=30
GSC Goldstone 30.10 316 ⇑P P 14 09 06.8 +2.5
baz=30
GSC ⇑P P 14 09 06.8 +2.5
baz=30
SHOC Shoshone 30.10 318 ⇑P P 14 09 06.5 +2.4
baz=30
SHOC ⇑P P 14 09 06.5 +2.4
baz=30
K22A Casper 30.14 338 ⇑P P 14 09 05.8 +1.2
baz=30
K22A ⇑P P 14 09 05.8 +1.2
baz=30
R13A O'Grain Ranch, 30.14 323 ⇑P P 14 09 08.1 +3.3
baz=30
R13A ⇑P P 14 09 08.1 +3.3
baz=30
O16A Springville 30.29 329 ⇓P P 14 09 07.8 +1.8
baz=30
O16A ⇓P P 14 09 07.8 +1.8
baz=30
DAU Daniels Canyon 30.32 330 *eP* P 14 09 08.6 +2.1
16nm,1.2s
DAU *epP* pP 14 09 45.5 -0.8
K21A Alcova 30.39 337 ⇑P P 14 09 07.9 +1.0
baz=30
K21A ⇑P P 14 09 07.9 +1.0
baz=30
N17A Moffit Pass 30.53 331 ⇑P P 14 09 10.6 +2.4
baz=30
N17A ⇑P P 14 09 10.6 +2.4
baz=30
EDW2 Edwards Air Fo 30.66 314 ⇓P P 14 09 11.9 +2.7
baz=31
EDW2 ⇓P P 14 09 11.9 +2.7
baz=31
J22A Midwest 30.79 339 ⇓P P 14 09 11.5 +1.2
baz=31
J22A ⇓P P 14 09 11.5 +1.2
baz=31
LRMC Laurel Mountai 30.79 316 ⇑P P 14 09 13.3 +2.9
baz=31
LRMC ⇑P P 14 09 13.3 +2.9
baz=31
L19A Farson 30.79 334 ⇑P P 14 09 11.2 +0.8
baz=31
L19A ⇑P P 14 09 11.2 +0.8
baz=31
NNA Nana 30.79 151 P P 14 09 12.5 +2.0
5.1nm,0.5s,baz=331,slow=10.0,SNR=4.0
NNA PcP PcP 14 12 04.1 +1.0
20nm,0.7s,baz=309,slow=4.0,SNR=7.4
NNA Nana 30.79 151 P P 14 09 12.5 +2.0
NNA PcP PcP 14 12 04.1 +1.0
FURC Furnace Creek, 30.82 318 ⇑P P 14 09 12.8 +2.5
baz=31
FURC ⇑P P 14 09 12.8 +2.5
baz=31
K20A Yellowstone Ra 30.84 336 ⇑P P 14 09 12.0 +1.3
baz=31
K20A ⇑P P 14 09 12.0 +1.3
baz=31
DUG Dugway 30.94 328 ⇓P P 14 09 14.3 +2.7
baz=31
DUG ⇓P P 14 09 14.3 +2.7
baz=31
MPMC Manual Prospec 30.99 317 ⇓P P 14 09 14.2 +2.0
baz=31,SNR=7.9
MPMC ⇓P P 14 09 14.2 +2.0
baz=31,SNR=7.9
J21A Lysite 31.08 337 ⇑P P 14 09 14.1 +1.2
baz=31
J21A ⇑P P 14 09 14.1 +1.2
baz=31
K19A Absolon Red Bu 31.18 335 ⇓P P 14 09 14.9 +1.2
baz=31
K19A ⇓P P 14 09 14.9 +1.2
baz=31
R11A Troy Canyon, C 31.20 322 ⇓P P 14 09 16.6 +2.6
baz=31,SNR=12
R11A ⇓P P 14 09 16.6 +2.6
baz=31,SNR=12
I22A 9 Mile Ranch, 31.21 339 ⇑P P 14 09 15.5 +1.5
baz=31
I22A ⇑P P 14 09 15.5 +1.5
baz=31
N15A Stansbury Isla 31.31 329 ⇑P P 14 09 17.2 +2.3
baz=31
N15A ⇑P P 14 09 17.2 +2.3
baz=31
J20A Shoshoni 31.33 337 ⇑P P 14 09 17.3 +2.4
baz=31
J20A ⇑P P 14 09 17.3 +2.4
baz=31
H24A Dirks Ranch, A 31.36 342 ⇑P P 14 09 15.6 +0.4
baz=31,SNR=5.9
H24A ⇑P P 14 09 15.6 +0.4
baz=31,SNR=5.9
ARVC Arvin 31.38 314 ⇑P P 14 09 18.0 +2.6
baz=31
ARVC ⇑P P 14 09 18.0 +2.6
baz=31
HWUT Hardware Ranch 31.39 331 *eP* P 14 09 17.9 +2.3
ISA Isabella 31.42 315 *eP* P 14 09 18.7 +2.9
ISA *epP* pP 14 09 58.8 +3.0
ISA Isabella 31.42 315 ⇓P P 14 09 18.7 +2.9
baz=31
ISA ⇓P P 14 09 18.7 +2.9
baz=31
PDAR Pinedale Array 31.43 334 P P 14 09 16.3 +0.3
1.2nm,0.8s,baz=128,slow=13,SNR=7.2
PDAR pP pP 14 09 56.8 +0.9
2.2nm,1.0s,baz=150,slow=7.5,SNR=5.1
PDAR PcP PcP 14 12 04.0 -0.5
1.9nm,0.5s,baz=137,slow=5.2,SNR=13
PDAR ScP ScP 14 15 30.2 +0.8
2.0nm,0.9s,baz=146,slow=5.7,SNR=10
PDAR Pinedale Array 31.43 334 P P 14 09 16.3 +0.3
PDAR pP pP 14 09 56.8 +0.9
PDAR PcP PcP 14 12 04.0 -0.5
PDAR ScP ScP 14 15 30.2 +0.8
I21A Big Trails, Te 31.43 338 ⇓P P 14 09 17.4 +1.5
baz=32
I21A ⇓P P 14 09 17.4 +1.5
baz=32
TRY Troy 31.45 26 *eP* P 14 09 16.0 +0.1
101nm,1.0s
L17A Cokeville 31.46 332 ⇑P P 14 09 18.3 +2.1
baz=32
L17A ⇑P P 14 09 18.3 +2.1
baz=32
GRAC Grapevine Rang 31.46 318 ⇓P P 14 09 19.1 +3.0
baz=31
GRAC ⇓P P 14 09 19.1 +3.0
baz=31
J19A Crowheart 31.63 335 ⇓P P 14 09 18.4 +0.7
baz=32
J19A ⇓P P 14 09 18.4 +0.7
baz=32
L16A Fish Haven 31.65 331 ⇓P P 14 09 19.1 +1.1
baz=32,SNR=6.1
L16A ⇓P P 14 09 19.1 +1.1
baz=32,SNR=6.1
M15A Larsen Ranch, 31.71 330 ⇓P P 14 09 20.2 +1.8
baz=32
M15A ⇓P P 14 09 20.2 +1.8
baz=32
H22A Clearmont 31.79 340 ⇓P P 14 09 20.1 +1.2
baz=32
H22A ⇓P P 14 09 20.1 +1.2
baz=32
G24A Alzada 31.85 343 ⇓P P 14 09 21.4 +1.9
baz=32
G24A ⇓P P 14 09 21.4 +1.9
baz=32
I20A Worland 31.85 337 ⇓P P 14 09 20.9 +1.3
baz=32,SNR=6.9
I20A ⇓P P 14 09 20.9 +1.3
baz=32,SNR=6.9
VES Vestal, Richgr 31.94 315 ⇓P P 14 09 23.1 +2.9
baz=32
VES ⇓P P 14 09 23.1 +2.9
baz=32
J18A Kendall Valley 31.98 334 ⇑P P 14 09 21.8 +1.0
baz=32
J18A ⇑P P 14 09 21.8 +1.0
baz=32
L15A Malad City 32.09 330 ⇑P P 14 09 22.9 +1.2
baz=32,SNR=7.5
L15A ⇑P P 14 09 22.9 +1.2
baz=32,SNR=7.5
HRV Adam Dziewonsk 32.20 29 *eP* P 14 09 21.7 -0.8
37nm,1.1s
I19A Meeteetse 32.26 336 ⇑P P 14 09 24.4 +1.2
baz=32
I19A ⇑P P 14 09 24.4 +1.2
baz=32
H20A Greybull 32.27 338 ⇑P P 14 09 24.0 +0.9
baz=32
H20A ⇑P P 14 09 24.0 +0.9
baz=32
I18A Diamond G Ranc 32.30 335 ⇓P P 14 09 24.8 +1.2
baz=32
I18A ⇓P P 14 09 24.8 +1.2
baz=32
G22A Birney 32.32 341 ⇑P P 14 09 24.3 +0.7
baz=32
G22A ⇑P P 14 09 24.3 +0.7
baz=32
F24A Ekalaka 32.33 343 ⇑P P 14 09 24.7 +1.0
baz=32
F24A ⇑P P 14 09 24.7 +1.0
baz=32
J17A Brown Place, J 32.40 334 ⇓P P 14 09 25.8 +1.4
baz=32,SNR=9.5
J17A ⇓P P 14 09 25.8 +1.4
baz=32,SNR=9.5
REDW Red Top Meadow 32.46 333 *eP* P 14 09 26.1 +1.0
32nm,1.1s
REDW *epP* pP 14 10 05.5 +0.4
F23A Volborg 32.50 342 ⇑P P 14 09 25.7 +0.6
baz=33
F23A ⇑P P 14 09 25.7 +0.6
baz=33
SNOW Snow King Moun 32.50 334 *eP* P 14 09 26.6 +1.2
10nm,0.6s
SNOW *epP* pP 14 10 06.2 +0.7
L14A Malta 32.53 329 ⇓P P 14 09 27.3 +1.8
baz=32,SNR=6.9
L14A ⇓P P 14 09 27.3 +1.8
baz=32,SNR=6.9
LOHW Long Hollow 32.56 334 *eP* P 14 09 26.2 +0.4
2.9nm,0.6s
LOHW *epP* pP 14 10 05.5 -0.3
EYMN Ely 32.60 0 *eP* P 14 09 24.9 -1.0
5.0nm,0.6s
ELK Elko 32.63 326 P P 14 09 29.2 +2.7
1.3nm,0.6s,baz=94,slow=6.9,SNR=7.0
ELK pP pP 14 10 07.8 +1.3
2.7nm,0.8s,baz=163,slow=6.3,SNR=4.9
ELK PcP PcP 14 12 08.7 +0.8
1.0nm,0.6s,baz=160,slow=2.0,SNR=6.7
ELK ScP ScP 14 15 35.0 +1.5
2.9nm,0.8s,baz=114,slow=2.4,SNR=12
ELK Elko 32.63 326 P P 14 09 29.2 +2.7
ELK pP pP 14 10 07.8 +1.3
ELK PcP PcP 14 12 08.7 +0.8
ELK ScP ScP 14 15 35.0 +1.5
RRI2 Red Ridge 32.65 333 *eP* P 14 09 27.9 +1.2
3.4nm,0.8s
RRI2 *epP* pP 14 10 07.3 +0.5
K15A Arbon 32.68 331 ⇑P P 14 09 28.3 +1.4
baz=33,SNR=5.5
K15A ⇑P P 14 09 28.3 +1.4
baz=33,SNR=5.5
J16A Bone 32.72 333 ⇓P P 14 09 29.2 +1.9
baz=33
J16A ⇓P P 14 09 29.2 +1.9
baz=33
MOOW Moose Ponds 32.73 334 *eP* P 14 09 28.2 +0.9
1.6nm,0.7s
MOOW *epP* pP 14 10 07.0 -0.3
I17A Pilgrim Ck. 32.80 334 ⇑P P 14 09 29.6 +1.7
baz=33
I17A ⇑P P 14 09 29.6 +1.7
baz=33
K14A Jones Ranch, D 32.88 330 ⇑P P 14 09 29.9 +1.3
baz=33,SNR=8.1
K14A ⇑P P 14 09 29.9 +1.3
baz=33,SNR=8.1
NVAR Mina Array Bea 32.91 320 P P 14 09 32.3 +3.3
13nm,0.7s,baz=134,slow=8.2,SNR=113
NVAR pP pP 14 10 10.6 +1.5
12nm,0.8s,baz=131,slow=8.6,SNR=7.1
NVAR PcP PcP 14 12 09.9 +1.1
6.0nm,1.0s,baz=147,slow=3.3,SNR=9.1
NVAR ScP ScP 14 15 35.9 +1.4
5.3nm,0.7s,baz=133,slow=4.4,SNR=35
NVAR Mina Array Bea 32.91 320 P P 14 09 32.3 +3.3
NVAR pP pP 14 10 10.6 +1.5
NVAR PcP PcP 14 12 09.9 +1.1
NVAR ScP ScP 14 15 35.9 +1.4
IMW Indian Meadow 32.93 334 *eP* P 14 09 29.9 +0.7
2.5nm,0.6s
E24A Baker 32.95 344 ⇓P P 14 09 30.1 +1.1
baz=33
E24A ⇓P P 14 09 30.1 +1.1
baz=33
G20A Bridger 32.98 338 ⇑P P 14 09 29.3 0.0
baz=33
G20A ⇑P P 14 09 29.3 0.0
baz=33
FLWY Flagg Ranch 32.98 334 *eP* P 14 09 30.7 +1.2
3.3nm,0.9s
FLWY *epP* pP 14 10 10.1 +0.4
H18A Shoshone NF, C 33.05 336 ⇓P P 14 09 30.8 +0.7
baz=33,SNR=12
H18A ⇓P P 14 09 30.8 +0.7
baz=33,SNR=12
AGMN Agassiz Nation 33.13 355 *eP* P 14 09 29.9 -0.5
6.6nm,0.7s
MDND Maddock 33.16 350 ⇓P P 14 09 31.3 +0.6

baz=33
MDND ⇓P P 14 09 31.3 +0.6
baz=33
H17A Grant Village 33.19 335 ⇑P P 14 09 32.7 +1.4
baz=33
H17A ⇑P P 14 09 32.7 +1.4
baz=33
J15A Blackfoot 33.19 332 ⇑P P 14 09 32.9 +1.7
baz=33
J15A ⇑P P 14 09 32.9 +1.7
baz=33
RLMT Red Lodge 33.28 337 ⇑P P 14 09 32.9 +0.8
baz=33
RLMT ⇑P P 14 09 32.9 +0.8
baz=33
RLMT ⇑P P 14 09 32.9 +0.8
baz=33
RLMT ⇑P P 14 09 32.9 +0.8
baz=33
E22A Miles City 33.31 342 ⇑P P 14 09 33.1 +1.0
baz=33
E22A ⇑P P 14 09 33.1 +1.0
baz=33
F20A Billings 33.45 339 ⇓P P 14 09 34.6 +1.2
baz=34
F20A ⇓P P 14 09 34.6 +1.2
baz=34
D24A Glendive 33.47 344 ⇑P P 14 09 34.9 +1.4
baz=34
D24A ⇑P P 14 09 34.9 +1.4
baz=34
BMN Battle Mountai 33.52 323 *eP* P 14 09 36.3 +2.1
3.4nm,0.6s
BMN *epP* pP 14 10 17.4 +3.0
G18A Lazy EL Ranch, 33.55 337 ⇓P P 14 09 35.4 +1.0
baz=34
G18A ⇓P P 14 09 35.4 +1.0
baz=34
H16A Russell Place, 33.71 335 ⇓P P 14 09 37.1 +1.3
baz=34
H16A ⇓P P 14 09 37.1 +1.3
baz=34
E21A Keefer Ranch, 33.75 341 ⇑P P 14 09 36.6 +0.7
baz=34
E21A ⇑P P 14 09 36.6 +0.7
baz=34
F19A Roth Farm, Mol 33.78 338 ⇑P P 14 09 36.9 +0.6
baz=34
F19A ⇑P P 14 09 36.9 +0.6
baz=34
J13A Cove Ranch, Pi 34.01 330 ⇑P P 14 09 39.8 +1.5
baz=34
J13A ⇑P P 14 09 39.8 +1.5
baz=34
D22A Cohagen 34.02 342 ⇓P P 14 09 39.3 +1.1
baz=34,SNR=13
D22A ⇓P P 14 09 39.3 +1.1
baz=34,SNR=13
E20A Meyer Farm, Mu 34.06 340 ⇓P P 14 09 39.5 +0.8
baz=34,SNR=6.4
E20A ⇓P P 14 09 39.5 +0.8
baz=34,SNR=6.4
I14A Mackay 34.07 331 ⇑P P 14 09 40.7 +1.8
baz=34
I14A ⇑P P 14 09 40.7 +1.8
baz=34
F18A Big Timber 34.11 337 ⇓P P 14 09 40.0 +0.9
baz=34
F18A ⇓P P 14 09 40.0 +0.9
baz=34
D21A La Casta Ranch 34.19 341 ⇑P P 14 09 40.6 +0.9
baz=34
D21A ⇑P P 14 09 40.6 +0.9
baz=34
H15A Lima 34.24 333 ⇑P P 14 09 42.4 +2.0
baz=34
H15A ⇑P P 14 09 42.4 +2.0
baz=34
HLID Hailey 34.24 330 *eP* P 14 09 41.7 +1.3
2.5nm,1.0s
HLID *epP* pP 14 10 21.1 +0.5
HLID Hailey 34.24 330 ⇑P P 14 09 41.7 +1.3
baz=34
HLID ⇑P P 14 09 41.7 +1.3
baz=34
E19A Rath Farm, Rou 34.25 339 ⇓P P 14 09 40.8 +0.6
baz=34
E19A ⇓P P 14 09 40.8 +0.6
baz=34
C23A Lambert 34.33 344 ⇑P P 14 09 41.5 +0.6
baz=34,SNR=5.1
C23A ⇑P P 14 09 41.5 +0.6
baz=34,SNR=5.1
WCN Washoe City 34.34 320 ⇓P P 14 09 44.0 +2.8
baz=34
WCN ⇓P P 14 09 44.0 +2.8
baz=34
I13A Wildhorse Cree 34.37 331 ⇑P P 14 09 43.7 +2.2
baz=34
I13A ⇑P P 14 09 43.7 +2.2
baz=34
F17A Fitzpatrick Pl 34.47 336 ⇓P P 14 09 43.6 +1.4
baz=34
F17A ⇓P P 14 09 43.6 +1.4
baz=34
C22A Vida 34.47 343 ⇓P P 14 09 42.9 +0.8
baz=34,SNR=7.1
C22A ⇓P P 14 09 42.9 +0.8
baz=34,SNR=7.1
MCMT McKenzie Canyo 34.50 333 *eP* P 14 09 44.6 +2.0
3.6nm,0.8s
MCMT *epP* pP 14 10 24.3 +1.3
H14A Leadore 34.56 332 ⇓P P 14 09 45.3 +2.3
baz=35
H14A ⇓P P 14 09 45.3 +2.3
baz=35
D20A Manuel Ranch, 34.58 340 ⇑P P 14 09 44.1 +1.1
baz=35
D20A ⇑P P 14 09 44.1 +1.1
baz=35
G15A Dillon 34.61 334 ⇓P P 14 09 45.4 +1.9
baz=35
G15A ⇓P P 14 09 45.4 +1.9
baz=35
WVL Waterville 34.67 28 *eP* P 14 09 44.2 +0.4
100nm,1.4s
DGMT Dagmar 34.69 345 ⇓P P 14 09 45.3 +1.3
baz=35
DGMT ⇓P P 14 09 45.3 +1.3
baz=35
E18A Harlowton 34.74 338 ⇓P P 14 09 45.3 +0.8
baz=35
E18A ⇓P P 14 09 45.3 +0.8
baz=35
F16A Kennard Place, 34.75 335 ⇑P P 14 09 46.1 +1.5
baz=35
F16A ⇑P P 14 09 46.1 +1.5
baz=35
I12A Atlanta 34.77 330 ⇓P P 14 09 46.7 +1.8
baz=35,SNR=6.7
I12A ⇓P P 14 09 46.7 +1.8
baz=35,SNR=6.7
DLMT Dillon 34.81 334 *eP* P 14 09 47.0 +1.8
15nm,1.2s
DLMT *ePcP* PcP 14 12 15.3 +1.4
MFID Camas Ranch 34.83 329 ⇑P P 14 09 47.9 +2.6
baz=35
MFID ⇑P P 14 09 47.9 +2.6
baz=35
B23A Brockton 34.89 344 ⇑P P 14 09 46.3 +0.7
baz=35,SNR=5.4
B23A ⇑P P 14 09 46.3 +0.7
baz=35,SNR=5.4
D19A Cripps Ranch, 34.89 339 ⇑P P 14 09 46.2 +0.5
baz=35,SNR=5.9
D19A ⇑P P 14 09 46.2 +0.5
baz=35,SNR=5.9
H13A Challis 34.92 331 ⇓P P 14 09 47.3 +1.1
baz=35,SNR=11
H13A ⇓P P 14 09 47.3 +1.1
baz=35,SNR=11
E17A Martinsdale 35.01 337 ⇑P P 14 09 47.5 +0.6
baz=35
E17A ⇑P P 14 09 47.5 +0.6
baz=35
B22A Reddig Ranch S 35.01 343 ⇑P P 14 09 47.5 +0.8
baz=35
B22A ⇑P P 14 09 47.5 +0.8
baz=35
A24A Westby 35.07 346 ⇓P P 14 09 48.2 +1.0
baz=35
A24A ⇓P P 14 09 48.2 +1.0
baz=35
ULM Lac du Bonnet 35.07 355 P P 14 09 45.3 -1.8
8.1nm,0.6s,baz=172,slow=9.8,SNR=16
ULM pP pP 14 10 27.4 -0.1
10nm,0.8s,baz=178,slow=12,SNR=6.5
ULM ScP ScP 14 15 41.9 +0.2
1.8nm,0.6s,baz=219,slow=1.4,SNR=4.5
ULM Lac du Bonnet 35.07 355 P P 14 09 45.3 -1.8
ULM pP pP 14 10 27.4 -0.1
ULM ScP ScP 14 15 41.9 +0.2
C20A Veseth Ranch, 35.08 341 ⇑P P 14 09 48.3 +1.0
baz=35
C20A ⇑P P 14 09 48.3 +1.0
baz=35
LRM Limekiln Ridge 35.12 334 *eP* P 14 09 49.0 +1.1
LRM *epP* pP 14 10 28.8 +0.4
F15A Butte 35.15 334 ⇑P P 14 09 49.1 +0.9
baz=35,SNR=6.8
F15A ⇑P P 14 09 49.1 +0.9
baz=35,SNR=6.8
H12A Diamond D Ranc 35.19 331 ⇑P P 14 09 50.1 +1.6
baz=35,SNR=7.3
H12A ⇑P P 14 09 50.1 +1.6
baz=35,SNR=7.3
A23A Redstone 35.32 345 ⇑P P 14 09 50.6 +1.3
baz=35
A23A ⇑P P 14 09 50.6 +1.3
baz=35
G13A Cobalt 35.32 332 ⇓P P 14 09 50.9 +1.4
baz=35
G13A ⇓P P 14 09 50.9 +1.4
baz=35
E16A East Helena 35.38 336 ⇓P P 14 09 51.0 +1.0
baz=35
E16A ⇓P P 14 09 51.0 +1.0
baz=35
C19A Slack Wire Ran 35.44 340 ⇓P P 14 09 51.6 +1.2
baz=36
C19A ⇓P P 14 09 51.6 +1.2
baz=36
D17A Six Diamond Ra 35.52 338 ⇓P P 14 09 51.7 +0.5
baz=36,SNR=6.6
D17A ⇓P P 14 09 51.7 +0.5
baz=36,SNR=6.6
A22A Carney Farms, 35.62 344 ⇓P P 14 09 53.3 +1.4
baz=36
A22A ⇓P P 14 09 53.3 +1.4
baz=36
WVOR Wild Horse Val 35.64 325 *eP* P 14 09 54.1 +1.8
9.9nm,1.0s
WVOR *epP* pP 14 10 33.4 +0.5
E15A Deer Lodge 35.68 335 ⇓P P 14 09 53.9 +1.4
baz=36
E15A ⇓P P 14 09 53.9 +1.4
baz=36
B20A Solberg Farm, 35.73 341 ⇑P P 14 09 54.1 +1.3
baz=36
B20A ⇑P P 14 09 54.1 +1.3
baz=36
D16A Dana Ranch, Ca 35.74 337 ⇓P P 14 09 54.2 +1.1
baz=36
D16A ⇓P P 14 09 54.2 +1.1
baz=36
A21A Bergtoll Ranch 35.90 343 ⇑P P 14 09 55.6 +1.4
baz=36
A21A ⇑P P 14 09 55.6 +1.4
baz=36
F13A Darby 35.90 333 ⇑P P 14 09 54.9 +0.4
baz=36,SNR=7.0
F13A ⇑P P 14 09 54.9 +0.4
baz=36,SNR=7.0
C17A Wharram Farm, 35.95 338 ⇓P P 14 09 55.4 +0.6
baz=36,SNR=5.8
C17A ⇓P P 14 09 55.4 +0.6
baz=36,SNR=5.8
B19A Brinkman Farms 36.03 340 ⇓P P 14 09 56.1 +0.7
baz=36
B19A ⇓P P 14 09 56.1 +0.7
baz=36
A20A Cobblestone Ra 36.09 342 ⇓P P 14 09 56.9 +1.0
baz=36
A20A ⇓P P 14 09 56.9 +1.0
baz=36
D15A Lincoln 36.13 336 ⇑P P 14 09 57.6 +1.2
baz=36
D15A ⇑P P 14 09 57.6 +1.2
baz=36
F12A Elk City 36.29 332 ⇑P P 14 09 58.8 +1.0
baz=36,SNR=16
F12A ⇑P P 14 09 58.8 +1.0
baz=36,SNR=16
CHMT Chamberlain Mo 36.33 335 *eP* P 14 09 59.4 +1.2
E13A Victor 36.35 333 ⇓P P 14 09 59.1 +0.9
baz=36
E13A ⇓P P 14 09 59.1 +0.9
baz=36
A19A Klindworth Far 36.38 341 ⇑P P 14 09 59.0 +0.6
baz=36
A19A ⇑P P 14 09 59.0 +0.6
baz=36
C16A Fuhringer Ranc 36.46 337 ⇑P P 14 09 60.0 +0.9
baz=36
C16A ⇑P P 14 09 60.0 +0.9
baz=36
MSO Missoula 36.55 334 *eP* P 14 10 00.4 +0.6
MSO Missoula 36.55 334 ⇓P P 14 10 01.0 +1.2
baz=37
MSO ⇓P P 14 10 01.0 +1.2
baz=37
D14A Greenough 36.56 335 ⇓P P 14 10 00.9 +0.9
baz=37
D14A ⇓P P 14 10 00.9 +0.9
baz=37
C15A Salmond Ranch, 36.77 336 ⇓P P 14 10 02.9 +1.2
baz=37
C15A ⇓P P 14 10 02.9 +1.2
baz=37
D13A Huson 36.97 334 ⇑P P 14 10 03.9 +0.5
baz=37
D13A ⇑P P 14 10 03.9 +0.5
baz=37
PQI Presque Isle 37.03 27 *eP* P 14 10 04.0 +0.3
C13A Hot Springs 37.48 334 ⇓P P 14 10 08.5 +0.8
baz=38
C13A ⇓P P 14 10 08.5 +0.8
baz=38
YBH Yreka Blue Hor 37.59 321 P P 14 10 09.1 +0.4
1.8nm,0.6s,baz=115,slow=4.0,SNR=10
YBH ScP ScP 14 15 52.2 +0.9
1.5nm,0.8s,baz=119,slow=6.0,SNR=6.6
YBH Yreka Blue Hor 37.59 321 P P 14 10 09.1 +0.4
YBH ScP ScP 14 15 52.2 +0.9
A15A Johnson Ranch, 37.80 337 ⇓P P 14 10 11.3 +0.9
baz=38
A15A ⇓P P 14 10 11.3 +0.9
baz=38
B13A Whitefish 37.99 335 ⇓P P 14 10 12.8 +0.9
baz=38
B13A ⇓P P 14 10 12.8 +0.9
baz=38
A14A Double T Ranch 38.06 337 ⇓P P 14 10 13.3 +0.7
baz=38,SNR=5.3
A14A ⇓P P 14 10 13.3 +0.7
baz=38,SNR=5.3
C11A Tepee Creek (N 38.32 333 ⇓P P 14 10 15.2 +0.5
baz=38,SNR=6.0
C11A ⇓P P 14 10 15.2 +0.5
baz=38,SNR=6.0
LPAZ La Paz 39.02 142 P P 14 10 21.6 +0.1
32nm,0.6s,baz=331,slow=5.9,SNR=107
LPAZ PcP PcP 14 12 27.9 +0.2
4.5nm,0.8s,baz=332,slow=7.6,SNR=3.1
LPAZ ScP ScP 14 15 58.4 +0.6
1.2nm,0.7s,baz=341,slow=8.3,SNR=4.7
LPAZ La Paz 39.02 142 *eP* P 14 10 21.5 +0.1
32nm,0.6s
LPAZ PcP PcP 14 12 27.9 +0.2
LPAZ ScP ScP 14 15 58.4 +0.6
LON Longmire 40.20 328 *eP* P 14 10 31.4 +1.2
LON *epP* pP 14 11 10.7 -0.8
SIV San Ignacio 43.33 134 P P 14 10 55.0 -0.9
44nm,0.8s,baz=317,slow=8.5,SNR=81
SIV San Ignacio 43.33 134 P P 14 10 55.0 -0.9
SCHQ Schefferville 43.95 21 P P 14 11 00.1 -0.3
23nm,0.8s,baz=217,slow=6.4,SNR=20
SCHQ PcP PcP 14 12 40.9 -1.8
2.9nm,0.6s,baz=248,slow=7.7,SNR=2.8
SCHQ Schefferville 43.95 21 *eP* P 14 10 59.2 -1.1
26nm,0.9s
SCHQ *epP* pP 14 11 42.2 -0.1
SCHQ PcP PcP 14 12 40.9 -1.8
YKA Yellowknife Ar 49.89 346 P P 14 11 46.3 +0.1
14nm,0.7s,baz=148,slow=7.7,SNR=109
YKA pP pP 14 12 28.7 -0.4
6.3nm,0.7s,baz=145,slow=7.9,SNR=5.9
YKA ScP ScP 14 16 40.6 -0.1
0.7nm,0.7s,baz=145,slow=4.2,SNR=8.9
YKA Yellowknife Ar 49.89 346 P P 14 11 46.3 +0.1
YKA pP pP 14 12 28.8 -0.4
YKA ScP ScP 14 16 40.6 -0.1
FRB Frobisher Bay 51.03 13 P P 14 11 53.8 -0.9
12nm,0.7s,baz=221,slow=8.5,SNR=23
FRB pP pP 14 12 37.9 0.0
11nm,0.9s,baz=200,slow=8.1,SNR=3.9
FRB Frobisher Bay 51.03 13 P P 14 11 53.8 -0.9
FRB pP pP 14 12 37.9 0.0
DLBC Dease Lake 51.65 335 *eP* P 14 12 01.1 +1.6
DLBC *epP* pP 14 12 43.3 +0.5
CFAA Coronel Fontan 51.74 154 P P 14 12 01.1 +0.7
1.7nm,0.6s,baz=335,slow=6.5,SNR=35
CFAA PcP PcP 14 13 11.5 +0.5
1.9nm,0.8s,baz=312,slow=3.9,SNR=12
CFAA Coronel Fontan 51.74 154 P P 14 12 01.1 +0.7
CFAA PcP PcP 14 13 11.5 +0.5
BDFB Brasilia 52.94 124 P P 14 12 08.1 -1.6
12nm,0.6s,baz=279,slow=8.6,SNR=15
BDFB PcP PcP 14 13 15.8 -0.1
2.9nm,0.8s,baz=243,slow=4.5,SNR=3.6
BDFB Brasilia 52.94 124 P P 14 12 08.1 -1.6
BDFB PcP PcP 14 13 15.8 -0.1
PLCA Paso Flores 59.05 161 P P 14 12 53.2 +0.7
22nm,0.9s,baz=337,slow=8.2,SNR=43
PLCA Paso Flores 59.05 161 *eP* P 14 12 52.9 +0.4
28nm,1.0s
RCBR Riachuelo 59.09 106 P P 14 12 51.6 -1.7
7.7nm,0.6s,baz=284,slow=7.0,SNR=9.3
RCBR Riachuelo 59.09 106 P P 14 12 51.6 -1.7
INK Inuvik 59.34 343 P P 14 12 54.3 +0.4
7.9nm,0.7s,baz=130,slow=7.5,SNR=20
INK pP pP 14 13 38.7 +0.3
8.6nm,0.9s,baz=124,slow=10.0,SNR=6.8
INK Inuvik 59.34 343 P P 14 12 54.3 +0.4
3.6nm,1.1s
INK pP pP 14 13 38.7 +0.3
RES Resolute Bay 59.46 359 P P 14 12 54.3 -0.4
5.5nm,0.7s,baz=178,slow=10,SNR=10
RES LR LR 14 39 43.0
comp=Z,3µm,21.9s,baz=284,slow=37
RES Resolute Bay 59.46 359 P P 14 12 54.3 -0.4
TRQA Tornquist 59.91 153 *eP* P 14 12 57.1 -1.2
34nm,1.4s
PAX Paxson 60.46 335 *eP* P 14 13 01.6 -0.2
1.8nm,0.5s
PAX *ePcP* pP 14 13 45.9 -0.6
ILAR Eielson Array 61.82 336 P P 14 13 11.0 +0.2
2.1nm,0.5s,baz=107,slow=5.4,SNR=35
ILAR pP pP 14 13 55.5 -0.1
2.1nm,0.8s,baz=103,slow=7.1,SNR=4.8
ILAR ScP ScP 14 17 33.4 +0.2
1.0nm,0.9s,baz=127,slow=0.9,SNR=6.1
ILAR Eielson Array 61.82 336 P P 14 13 11.0 +0.2
ILAR pP pP 14 13 55.5 -0.1
ILAR ScP ScP 14 17 33.4 +0.2
KDAK Kodiak Island 61.82 328 P P 14 13 12.4 +1.5
6.6nm,0.6s,baz=282,slow=20,SNR=8.4
KDAK Kodiak Island 61.82 328 P P 14 13 12.4 +1.5
TRF Thorofare Moun 62.65 334 *eP* P 14 13 16.2 -0.4
6.5nm,0.8s
BORG Borgarnes 67.96 26 LR LR 14 44 00.9
comp=Z,2µm,18.7s,baz=359,slow=36
PGAV Gavieira, Arco 75.12 50 *e*LR LR 14 52 49.3
2µm,20.0s
PMTG Montargil 75.54 53 *eP* P 14 14 34.8 -1.3
55nm,1.7s
PVIS Viseu 75.57 51 *eP* P 14 14 34.7 -1.6
77nm,1.7s
EVO Evora 75.78 54 *eP* P 14 14 34.6 -2.9
52nm,1.2s
MTE Manteigas 75.87 52 *eP* P 14 14 37.0 -1.1
93nm,1.9s
MTE *e*LR LR 14 52 08.3
3µm,20.0s
PCBR Castelo Branco 76.00 52 *eP* P 14 14 38.0 -0.7
42nm,1.7s
PESTR Estremoz 76.06 53 *eP* P 14 14 37.8 -1.3
48nm,1.8s
PMRV Marv??o 76.13 53 *eP* P 14 14 38.0 -1.5
PMRV *e*LR LR 14 53 11.6
2µm,20.0s
MVO Moncorvo 76.15 51 *eP* P 14 14 39.0 -0.6
57nm,1.7s
MVO *e*LR LR 14 52 56.6
3µm,22.0s
PVAQ Vaqueiros 76.18 55 *e*LR LR 14 57 42.7
1µm,22.0s
PBAR Barrancos 76.59 54 *eP* P 14 14 40.9 -1.1
50nm,2.0s
ROSF Rostrenen 77.73 43 *eP* P 14 14 46.0 -2.1
QUIF Quistinic 77.86 43 *eP* P 14 14 47.5 -1.4
ESDC Sonseca Array 78.70 52 P P 14 14 52.2 -1.6
8.3nm,0.9s,baz=289,slow=5.6,SNR=16
ESDC Sonseca Array 78.70 52 P P 14 14 52.2 -1.6
GRR Gorron 79.30 43 ⇑/P P 14 14 55.5 -1.3
38nm,0.8s
FLN La Foliniere 79.48 42 *eP* P 14 14 55.8 -1.9
LDF La Druitiere 79.74 42 *eP* P 14 14 57.8 -1.3
SJPF Ste Jean 80.07 48 *eP* P 14 14 59.7 -1.4
BILL Bilibino 80.42 338 *eP* P 14 15 02.4 0.0
7.0nm,0.7s
BILL *epP* pP 14 15 49.2 -0.3
ETSF Etsaut 80.60 48 *eP* P 14 15 02.8 -1.1
RJF Les Rejaudoux 81.54 45 *eP* P 14 15 07.1 -1.7
21nm,0.8s
TCF Toulx Ste Croi 81.78 44 *eP* P 14 15 08.3 -1.8
CAF Calviac 82.00 46 *eP* P 14 15 09.6 -1.6
BGF Bois d'Agland 82.15 44 *eP* P 14 15 10.3 -1.6
32nm,0.9s
AVF Avril sur Loir 82.43 44 *eP* P 14 15 11.4 -2.0
20nm,0.9s
SSF Saint Saulge 82.47 43 *eP* P 14 15 11.8 -1.8
MTLF Montolieu 82.48 47 *eP* P 14 15 12.1 -1.6
LOR Lormes 82.65 43 *eP* P 14 15 13.1 -1.4
NB2 NORSAR Subarra 82.91 29 P P 14 15 15.4 -0.1
comp=Z,2.2nm,0.7s,baz=289,slow=5.3
NOA NORSAR Array B 82.91 29 P P 14 15 15.4 -0.1
comp=Z,2.8nm,0.7s,baz=290,slow=5.2,SNR=10
NOA pP pP 14 16 03.3 +0.3
comp=Z,1.9nm,0.9s,baz=290,slow=5.2,SNR=3.3
NOA LR LR 14 53 57.2
comp=Z,963nm,19.1s,baz=50,slow=37
NOA NORSAR Array B 82.91 29 P P 14 15 15.4 -0.1
NOA pP pP 14 16 03.3 +0.3
MEZF Maizieres J'vi 83.11 42 *eP* P 14 15 15.6 -1.2
SFTF Sexfontaines 83.18 42 *eP* P 14 15 15.7 -1.5
LASF Ste Croix 83.45 46 *eP* P 14 15 17.1 -1.6
VIVF Saint-Julien-l 83.81 45 *eP* P 14 15 19.9 -0.6
HAU Haudompre 84.08 42 *eP* P 14 15 20.5 -1.3
comp=Z,18nm,0.7s
CABF La Chapelle 84.30 43 *eP* P 14 15 23.0 0.0
HINF Hinteralfeld 84.46 42 *eP* P 14 15 22.2 -1.5
CDF Champ du Feu 84.56 41 *eP* P 14 15 23.1 -1.2
ORIF Oris-en-Rattie 84.62 45 *eP* P 14 15 23.8 -0.9
comp=Z,23nm,1.0s
SMRF Simiane la Rot 84.67 46 *eP* P 14 15 24.4 -0.5
ARCES ARCESS Array B 84.86 18 P P 14 15 24.4 -0.9
comp=Z,5.8nm,0.9s,baz=293,slow=3.7,SNR=11
ARCES pP pP 14 16 13.5 +0.6
comp=Z,8.8nm,1.1s,baz=332,slow=4.1,SNR=2.4
ARCES ARCESS Array B 84.86 18 P P 14 15 24.4 -0.9
ARCES pP pP 14 16 13.5 +0.6
LPL La Plagne 85.03 44 *eP* P 14 15 26.1 -0.8
LPG La Plagne 85.05 44 *eP* P 14 15 26.4 -0.7
LIC Lamto 85.17 85 *eP* P 14 15 25.3 -2.6
MBDF Montbardon 85.29 45 *eP* P 14 15 27.2 -0.9
comp=Z,18nm,0.8s
LMR La Mourre 85.50 46 *eP* P 14 15 27.8 -1.2
DAVOX Davos/Dischmat 86.74 42 P P 14 15 35.0 -0.2
comp=Z,4.1nm,0.8s,baz=324,slow=14,SNR=4.4
DAVOX Davos/Dischmat 86.74 42 P P 14 15 35.0 -0.2

FETA	**Feichten**	**87.21**	**42**	⇑*iP*	**P**	**14 15 36.7**	**-0.7**	
	comp=Z,7.1nm,0.9s							
FETA	**Feichten**	**87.21**	**42**	⇑*iP*	**P**	**14 15 36.7**	**-0.7**	
	comp=Z,7.1nm,0.9s							
GERES	**GERESS Array B**	**88.45**	**40**	P	**P**	**14 15 41.5**	**-1.7**	
	comp=Z,0.6nm,0.6s,baz=298,slow=2.9,SNR=4.4							
GERES				PP	**PP**	**14 19 13.8**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=290,slow=5.4,SNR=4.3							
GERES				LR	LR	14 53 05.3		
	comp=Z,3µm,21.9s,baz=52,slow=34							
GERES	**GERESS Array B**	**88.45**	**40**	P	**P**	**14 15 41.5**	**-1.7**	
GERES				PP	**PP**	**14 19 13.8**	**+0.3**	
FINES	**FINESS Array B**	**89.24**	**25**	P	**P**	**14 15 45.3**	**-1.1**	
	comp=Z,2.9nm,0.8s,baz=282,slow=1.8,SNR=5.9							
FINES	**FINESS Array B**	**89.24**	**25**	P	**P**	**14 15 45.3**	**-1.1**	
SONM	**Songino Array**	**115.16**	**347**	PKKPbc	PKKPbc	14 32 06.3	-2.3	
	comp=Z,0.8nm,0.6s,baz=191,slow=4.3,SNR=7.8							
SONM	**Songino Array**	**115.16**	**347**	PKKPbc	PKKPbc	14 32 06.3	-2.3	
KSRS	**Korea Array**	**115.69**	**326**	PKP	**PKPdf**	**14 21 32.0**	**-0.2**	
	comp=Z,1.0nm,0.6s,baz=0,5,slow=1.3,SNR=6.0							
KSAR	**Wonju Array Be**	**115.72**	**326**	PKP	**PKPdf**	**14 21 32.0**	**-0.3**	
MKAR	**Makanchi Array**	**118.01**	**5**	PKP	**PKPdf**	**14 21 34.8**	**-1.8**	
	comp=Z,0.3nm,0.3s,baz=349,slow=2.8,SNR=5.4							
MKAR	**Makanchi Array**	**118.01**	**5**	PKP	**PKPdf**	**14 21 34.8**	**-1.8**	
HHC	**Hu-ho-hao-te**	**120.16**	**340**	*e*PKP	**PKPdf**	**14 21 40.5**	**-0.5**	
HHC				PP	**PP**	**14 23 10.4**	**+2.8**	
HHC				PKS	**PKSdf**	**14 25 15.6**	**-2.2**	
HHC				SKKS		14 29 48.6		
HHC				SS	**SS**	**14 39 22.6**	**+4.0**	
HHC				AMB	AMB			
	comp=Z,870nm,6.1s							
BOSA	**Boshof**	**120.60**	**114**	PKP	**PKPdf**	**14 21 40.7**	**-1.4**	
	comp=Z,5.2nm,0.8s,baz=304,slow=1.6,SNR=6.1							
BOSA	**Boshof**	**120.60**	**114**	PKP	**PKPdf**	**14 21 40.7**	**-1.4**	
CTA	**Charters Tower**	**124.81**	**256**	PKP	**PKPdf**	**14 21 50.0**	**-0.3**	
	comp=Z,3.4nm,0.9s,baz=92,slow=3.4,SNR=3.8							
CTA	**Charters Tower**	**124.81**	**256**	PKP	**PKPdf**	**14 21 50.0**	**-0.3**	
STKA	**Stephens Creek**	**128.93**	**241**	PKP	**PKPdf**	**14 21 59.0**	**+1.2**	
	comp=Z,2.3nm,0.5s,baz=90,slow=5.2,SNR=5.6							
STKA	**Stephens Creek**	**128.93**	**241**	PKP	**PKPdf**	**14 21 59.0**	**+1.2**	
CD2	**Chengdu**	**131.76**	**342**	PKP	**PKPdf**	**14 22 03.1**	**-0.3**	
CD2				sPKP		14 23 12.4		
CD2				PKS	**PKSdf**	**14 25 38.0**	**-2.0**	
CD2				SKS	**SKSdf**	**14 28 53.8**	**-2.9**	
CD2				SS	**SS**	**14 41 43.8**	**+0.7**	
CD2				LR	LR			
	comp=N,570nm,11.9s							
CD2				LR	LR			
	comp=Z,650nm,12.5s							
GYA	**Guiyang**	**134.87**	**337**	Pdif	**Pdif**	**14 19 11.0**	**-0.5**	
GYA				PKP	**PKPdf**	**14 22 10.0**	**+0.6**	
GYA				sPKP		14 23 18.8		
GYA				PP	**PP**	**14 24 48.6**	**+4.3**	
GYA				AMB	AMB			
	comp=Z,120nm,7.8s							
WRAB	**Tennant Creek**	**135.98**	**257**	*e*PKPdf	**PKPdf**	**14 22 12.0**	**+0.6**	
WRA	**Warramunga Arr**	**135.99**	**257**	PKhKP	PKPpre	14 22 02.7		
	comp=Z,0.7nm,0.5s,baz=90,slow=3.6,SNR=5.5							
WRA				PKP	**PKPdf**	**14 22 12.1**	**+0.7**	
	comp=Z,1.4nm,0.5s,baz=88,slow=2.5,SNR=11							
WRA				SKPbc	**SKPbc**	**14 25 26.1**	**+1.0**	
	comp=Z,2.1nm,0.8s,baz=82,slow=2.0,SNR=11							
WRA	**Warramunga Arr**	**135.99**	**257**	PKP	**PKPdf**	**14 22 12.1**	**+0.7**	
WRA				SKPbc	**SKPbc**	**14 25 26.1**	**+1.0**	
ASAR	**Alice Springs**	**136.36**	**252**	PKhKP	PKPpre	14 22 04.5		
	comp=Z,1.0nm,0.6s,baz=104,slow=3.6,SNR=15							
ASAR				PKP	**PKPdf**	**14 22 12.5**	**+0.4**	
	comp=Z,2.0nm,0.6s,baz=102,slow=2.1,SNR=12							
ASAR				SKPbc	**SKPbc**	**14 25 26.6**	**+0.5**	
	comp=Z,2.3nm,1.0s,baz=85,slow=2.6,SNR=7.8							
ASAR	**Alice Springs**	**136.36**	**252**	PKP	**PKPdf**	**14 22 12.5**	**+0.4**	
ASAR				SKPbc	**SKPbc**	**14 25 26.6**	**+0.5**	
FITZ	**Fitzroy Crossi**	**144.18**	**260**	PKP	**PKPdf**	**14 22 25.9**	**-0.3**	
	comp=Z,14nm,0.8s,baz=133,slow=2.8,SNR=21							
FITZ	**Fitzroy Crossi**	**144.18**	**260**	*e*PKPdf	PKPbc	14 22 25.1	+0.2	
FITZ				PKP	**PKPdf**	**14 22 25.9**	**-0.3**	
CHTO	**Chiang Mai**	**144.57**	**342**	*e*Pdif		14 19 55.9		
CHTO				*e*PKPab	**PKPab**	**14 22 23.3**	**-2.6**	
CM31	**Chiang Mai Arr**	**144.91**	**342**	*e*PKPdf	PKPbc	14 22 25.9	-1.2	
CMAR	**Chiang Mai Arr**	**144.91**	**342**	PKP	PKPbc	14 22 26.6	-0.6	
	comp=Z,14nm,0.8s,baz=336,slow=3.6,SNR=43							
CMAR	**Chiang Mai Arr**	**144.91**	**342**	PKP	PKPbc	14 22 26.6	-0.6	
HYB	**Hyderabad**	**146.14**	**17**	*i* PKP	**PKPdf**	**14 22 29.0**	**-0.7**	
KAPI	**Kappang**	**147.48**	**285**	*e*PKPdf	**PKPdf**	**14 22 31.9**	**-0.1**	

IDC 22 14:20:40.4±1.2, 16.45S×175.33W, h299km±12km, mb3.8/14, mb1 4.0/15, mb1mx3.8/23, mbtmp3.8/15, 1C-8D, Error ellipse: s-maj=24.5km s-min=10.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**4.26**	**54**	P	Pn	14 21 51.0		+1.3
	86nm,0.3s,baz=101,slow=1.0,SNR=105							
AFI				S	S	14 22 44.9		-0.3
	35nm,0.3s,baz=16,slow=19,SNR=3.9							
DZM	**Mont Dzumac**	**18.08**	**249**	P	Pn	14 24 34.2		-0.6
	1.0nm,0.3s,baz=58,slow=20,SNR=6.7							
RPZ	**Rata Peaks**	**29.53**	**200**	P	P	14 26 17.5		-0.2
	7.0nm,0.6s,baz=318,slow=1.1,SNR=7.7							
ARMA	**Armidale**	**33.21**	**239**	*e*P	P	14 26 50.3		+0.3
CTA	**Charters Tower**	**36.60**	**258**	P	P	14 27 18.1		-0.8
	3.6nm,0.7s,baz=85,slow=10,SNR=5.2							
CNB	**Canberra Magne**	**36.64**	**232**	*e*P	P	14 27 19.7		+0.6
	94nm,0.8s							
PMG	**Port Moresby**	**37.17**	**276**	P	P	14 27 23.7		0.0
	11nm,0.8s,baz=128,slow=8.9,SNR=6.1							
PMG				PcP	PcP	14 29 36.8		-0.1
	9.0nm,1.0s,baz=136,slow=6.6,SNR=3.8							
CMSA	**Cobar Meteorol**	**38.42**	**240**	*e*P	P	14 27 33.7		-0.2
	61nm,0.6s							
COEN	**Coen**	**40.07**	**268**	*e*P	P	14 27 48.3		+0.7
	34nm,0.7s							
TOO	**Toolangi**	**40.36**	**231**	*e*P	P	14 27 50.1		+0.3
	59nm,0.6s							
STKA	**Stephens Creek**	**41.90**	**240**	P	P	14 28 03.0		+0.7
	16nm,0.9s,baz=73,slow=9.7,SNR=15							
STKA				PcP	PcP	14 29 52.3		+0.5
	2.5nm,1.0s,baz=0,0,slow=5.1,SNR=2.8							
STKA	**Stephens Creek**	**41.90**	**240**	*e*P	P	14 28 00.6		-1.7
	11nm,0.9s							
WRA	**Warramunga Arr**	**47.80**	**258**	P	P	14 28 47.6		-1.0
	2.9nm,0.4s,baz=91,slow=7.6,SNR=111							
WRA				PcP	PcP	14 30 12.3		-0.2
	1.8nm,0.7s,baz=88,slow=3.8,SNR=7.2							
ASAR	**Alice Springs**	**48.02**	**253**	P	P	14 28 50.0		-0.4
	37nm,0.6s,baz=88,slow=8.1,SNR=640							
ASAR				PcP	PcP	14 30 13.1		-0.2
	1.4nm,0.7s,baz=103,slow=4.6,SNR=5.0							
FORT	**Forrest**	**53.28**	**244**	*e*P	P	14 29 28.2		-1.1
	11nm,0.6s							
MEEK	**Meekatharra**	**61.70**	**248**	*e*P	P	14 30 26.7		-1.1
	63nm,0.7s							
PETK	**Petropavlovsk-**	**73.08**	**343**	P	P	14 31 37.4		-0.6
	3.0nm,0.8s,baz=126,slow=9.7,SNR=4.7							
YBH	**Yreka Blue Hor**	**75.56**	**38**	P	P	14 31 53.2		+0.6
	1.3nm,0.9s,baz=203,slow=7.7,SNR=5.1							
NVAR	**Mina Array Bea**	**76.36**	**43**	P	P	14 31 57.7		+0.4
	0.9nm,0.8s,baz=224,slow=8.5,SNR=5.9							
ELK	**Elko**	**79.60**	**42**	P	P	14 32 15.4		+0.4
	0.5nm,0.6s,baz=205,slow=4.7,SNR=3.9							
ILAR	**Eielson Array**	**83.84**	**12**	P	P	14 32 35.0		-1.3
	1.2nm,0.6s,baz=219,slow=5.2,SNR=34							
PDAR	**Pinedale Array**	**84.29**	**42**	P	P	14 32 38.7		-0.6
	1.3nm,0.9s,baz=203,slow=2.9,SNR=8.4							
MAW	**Mawson**	**86.20**	**199**	P	P	14 32 47.7		-0.2
	11nm,0.8s,baz=320,slow=19,SNR=9.6							
CMAR	**Chiang Mai Arr**	**91.18**	**289**	P	P	14 33 13.3		+1.0
	1.6nm,0.9s,baz=92,slow=2.8,SNR=10							
ZALV	**Zalesovo Beam**	**108.91**	**322**	PKiKP	PKiKP	14 38 32.2		-1.9
	0.2nm,0.3s,baz=229,slow=1.5,SNR=2.3							
MKAR	**Makanchi Array**	**110.23**	**314**	PKiKP	PKiKP	14 38 35.1		-1.8
	0.6nm,0.7s,baz=87,slow=3.2,SNR=3.6							
BVAR	**Borovoye Array**	**117.56**	**322**	PKP	PKPdf	14 38 49.6		-1.1
	1.2nm,0.7s,baz=31,slow=0.9,SNR=10							
ARCES	**ARCESS Array B**	**125.37**	**351**	PKP	PKPdf	14 39 03.9		-1.3
	5.4nm,0.9s,baz=355,slow=2.8,SNR=4.9							
KWP	**Kalwaria Pacla**	**143.81**	**340**	⇓*iP*	PKPab	14 39 37.7		-0.1
BURAR	**Bucovina Array**	**144.61**	**336**	⇓*iP*	PKPbc	14 39 41.1		0.0
UPC	**Upice**	**144.82**	**347**	*e*P	PKPbc	14 39 41.5		0.0
CRVS	**Cervenica-Dubn**	**144.85**	**341**	*e*PKP	PKPbc	14 39 40.8		-0.9
DPC	**Dobruska-Polom**	**144.90**	**347**	*e*P	PKPab	14 39 42.0		0.0
DPC				AMS	AMS	14 50 00.0		
	comp=Z,4µm,23.7s							
OKC	**Ostrava-Krasne**	**144.96**	**345**	AMS	AMS	14 50 18.3		
	comp=Z,2µm,21.8s							
PVCC	**Panska Ves**	**145.09**	**349**	AMS	AMS	14 52 16.5		
	comp=Z,3µm,24.0s							
MORC	**Moravsky Berou**	**145.16**	**345**	⇓*iP*	PKPdf	14 39 40.9	-1.5	
TRPA	**Tarpa**	**145.16**	**339**	⇓*iP*	PKPdf	14 39 42.0	-0.3	
PRU	**Pruhonice**	**145.61**	**349**	AMS	AMS	14 50 20.0		
	comp=Z,3µm,25.0s							
NKC	**Novy Kostel**	**145.72**	**351**	AMS	AMS	14 52 05.2		
	comp=Z,3µm,19.6s							
BRTR	**Keskin Array B**	**145.75**	**318**	PKPbc	PKPbc	14 39 44.5	-0.4	
	5.2nm,0.9s,baz=116,slow=2.7,SNR=16							
DOPR	**Dopca**	**145.86**	**334**	⇓*iP*	PKPbc	14 39 45.2	+0.4	
MLR	**Muntele Rosu**	**146.00**	**333**	PKPbc	PKPab	14 39 46.0	-0.5	
	0.8nm,0.7s,baz=182,slow=8.9,SNR=5.9							
MLR	**Muntele Rosu**	**146.00**	**333**	⇓*iP*	PKPbc	14 39 45.9	+0.5	
VYHS	**Vyhne**	**146.00**	**343**	*e*PKP	PKPbc	14 39 44.6	-0.5	
TREC	**Trest**	**146.08**	**347**	AMS	AMS	14 50 39.6		
	comp=Z,4µm,26.2s							
DRGR		**146.24**	**337**	⇓*iP*	PKPbc	14 39 45.4	-0.6	
VOIR		**146.43**	**334**	⇑*iP*	PKPbc	14 39 46.9	+0.3	
KHC	**Kasperske Hory**	**146.61**	**349**	AMS	AMS	14 51 20.0		
	comp=Z,3µm,20.3s							
GERES	**GERESS Array B**	**146.86**	**349**	PKPbc	PKPbc	14 39 47.0	-0.7	
	0.4nm,0.5s,baz=29,slow=3.0,SNR=4.5							
ASF	**Jabal al Asfar**	**146.88**	**304**	PKPbc	PKPbc	14 39 49.2	+0.9	
	1.7nm,0.3s,baz=148,slow=2.5,SNR=3.7							
BZS	**Buzias**	**147.64**	**338**	⇓*iP*	PKPdf	14 39 46.9	+0.3	
MMAI	**Mount Meron Ar**	**147.74**	**306**	PKPbc	PKPbc	14 39 50.9	+0.4	
	3.3nm,0.5s,baz=58,slow=7.9,SNR=5.3							
EIL	**Elat**	**149.29**	**301**	PKPbc	PKPbc	14 39 54.1	-0.3	
	3.8nm,0.6s,baz=7.5,slow=7.9,SNR=3.5							
DAVOX	**Davos/Dischmat**	**149.45**	**353**	PKPbc	PKPbc	14 39 54.0	-0.6	
	5.2nm,0.8s,baz=44,slow=4.0,SNR=5.7							
TORD	**Torodi Ar. Bea**	**175.63**	**138**	PKP	PKPdf	14 40 13.4	-2.1	
	0.8nm,0.8s,baz=205,slow=1.4,SNR=4.3							

*IDC **22** 14:34:26.9±0.4, 53.04N×35.13W, h0km, mb4.3/34, mb1 4.4/35, mb1mx4.3/44, mbtmp4.3/35, ML3.0/1, Error ellipse: s-maj=15.1km s-min=9.6km az=1.0*
*ISCJB **22** 14:34:27.0±0.2, 53.07N±0.05×35.06W±0.04, h10km, mb4.7/84, MS4.9/3, Error ellipse: s-maj=7.8km s-min=3.2km az=176.1*
*NEIC **22** 14:34:28.6±0.2, 53.03N×35.10W, h10km, mb5.0/33, Error ellipse: s-maj=7.4km s-min=4.2km az=177.0*
*CSEM **22** 14:34:28.6±0.1, 53.10N×35.16W, h10km, mb4.9/35*
*BJI **22** 14:34:29.5, 54.15N×35.78W, h10km, mB5.3/14, mb4.8/27, Ms5.3/11, Ms7 4.9/11*

ISC 22 14:34:28.6±0.3, 53.06N±0.07×35.14W±0.05, h10km, h9km: pP-P, n488, σ1.906/535, mb4.8/84, MS5.0/3, 118C-141D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SFJD	**Kangerlussuaq**	**15.90**	**337**	*e*Pn	**Pn**	**14 38 12.9**	**+0.9**	
	61nm,1.0s							
SFJD	**Kangerlussuaq**	**15.90**	**337**	*i* P	**P**	**14 38 15.7**	**0.0**	
	40nm,1.0s							
SFJD	**Kangerlussuaq**	**15.90**	**337**	*i* P	**P**	**14 38 16.1**	**+0.4**	
	40nm,1.0s							
SFJD	**Kangerlussuaq**	**15.90**	**337**	*e*Pn	**Pn**	**14 38 12.9**	**+0.9**	
	61nm,1.0s							
SFJD	**Kangerlussuaq**	**15.90**	**337**	*i* P	**P**	**14 38 15.8**	**0.0**	
	40nm,1.0s,SNR=42							
SCHQ	**Schefferville**	**18.66**	**288**	P	**P**	**14 38 44.9**	**-1.5**	
	0.5nm,0.3s,baz=93,slow=8.6,SNR=16							
SCHQ	**Schefferville**	**18.66**	**288**	*e*P	**P**	**14 38 44.5**	**-1.9**	
	171nm,1.5s							
SCHQ	**Schefferville**	**18.66**	**288**	*e*P	**P**	**14 38 44.5**	**-1.9**	
	171nm,1.5s							
SUMG	**Summit**	**19.64**	**357**	*i* P	**Pn**	**14 38 58.3**	**-0.5**	
	19nm,1.1s							
SUMG	**Summit**	**19.64**	**357**	*i* P	**Pn**	**14 38 58.7**	**-0.1**	
	19nm,1.1s							
SUMG	**Summit**	**19.64**	**357**	*i* P	**Pn**	**14 38 58.3**	**-0.5**	
	19nm,1.1s							
FRB	**Frobisher Bay**	**20.25**	**315**	P	**P**	**14 39 03.9**	**+0.3**	
	8.7nm,0.8s,baz=107,slow=11,SNR=6.3							
FRB	**Frobisher Bay**	**20.25**	**315**	P	**P**	**14 39 03.9**	**+0.3**	
FRB	**Frobisher Bay**	**20.25**	**315**	P	**P**	**14 39 03.9**	**+0.3**	
PQI	**Presque Isle**	**22.00**	**266**	*e*P	**P**	**14 39 21.9**	**-0.7**	
	76nm,1.0s							
PQI	**Presque Isle**	**22.00**	**266**	*e*P	**P**	**14 39 21.9**	**-0.7**	
	76nm,1.0s							
EMMW	**East Machias**	**22.67**	**261**	*e*P	**P**	**14 39 29.8**	**-0.1**	
	322nm,1.5s							
EMMW	**East Machias**	**22.67**	**261**	*e*P	**P**	**14 39 29.8**	**-0.1**	
	322nm,1.5s							
DAG	**Danmarks Havn**	**24.61**	**9**	*i* P	**P**	**14 39 48.0**	**-0.4**	
	72nm,0.9s							
DAG	**Danmarks Havn**	**24.61**	**9**	*i* P	**P**	**14 39 48.1**	**-0.4**	
	72nm,0.9s							
ESDC	**Sonseca Array**	**25.10**	**110**	P	**P**	**14 39 52.5**	**-0.8**	
	12nm,1.0s,baz=314,slow=8.8,SNR=18							
ESDC	**Sonseca Array**	**25.10**	**110**	P	**P**	**14 39 52.5**	**-0.8**	
ESDC	**Sonseca Array**	**25.10**	**110**	P	**P**	**14 39 52.5**	**-0.8**	
BGF	**Bois d'Agland**	**25.13**	**90**	*e*P	**P**	**14 39 52.9**	**-0.6**	
	85nm,1.2s							
SSF	**Saint Saulge**	**25.29**	**88**	*e*P	**P**	**14 39 54.6**	**-0.3**	
	112nm,1.6s							
AVF	**Avril sur Loir**	**25.33**	**89**	*e*P	**P**	**14 39 54.7**	**-0.5**	
	194nm,1.9s							
LOR	**Lormes**	**25.41**	**87**	*e*P	**P**	**14 39 55.8**	**-0.2**	
MTLF	**Montolieu**	**26.45**	**96**	*e*P	**P**	**14 40 04.5**	**-1.0**	
	114nm,1.9s							
BRYW	**Bryant College**	**26.71**	**260**	*e*P	**P**	**14 40 08.5**	**+0.7**	
BRYW	**Bryant College**	**26.71**	**260**	*e*P	**P**	**14 40 08.5**	**+0.7**	
LASF	**Ste Croix**	**27.03**	**94**	*e*P	**P**	**14 40 10.6**	**-0.1**	
	113nm,1.5s							
CLL	**Collm**	**29.14**	**74**	*e*P	**P**	**14 40 28.0**	**-1.4**	
CLL				*e*pP	**pP**	**14 40 32.0**	**-0.4**	
CLL				*e*		14 40 39.0		
BRG	**Berggiesshubel**	**29.85**	**74**	*e*(P)	**P**	**14 40 35.8**	**+0.1**	
	6.6nm,1.2s							
BRG				*e*		14 40 47.5		
	27nm,1.8s							
GERES	**GERESS Array B**	**30.57**	**78**	P	**P**	**14 40 42.6**	**+0.4**	
	1.0nm,0.8s,baz=282,slow=13,SNR=6.2							
GERES	**GERESS Array B**	**30.57**	**78**	P	**P**	**14 40 42.6**	**+0.4**	
GERES	**GERESS Array B**	**30.57**	**78**	P	**P**	**14 40 42.6**	**+0.4**	
ARCES	**ARCESS Array B**	**31.74**	**36**	P	**P**	**14 40 51.4**	**-0.8**	
	5.1nm,0.9s,baz=282,slow=2.4,SNR=5.2							
ARCES	**ARCESS Array B**	**31.74**	**36**	P	**P**	**14 40 51.4**	**-0.8**	
ARCES	**ARCESS Array B**	**31.74**	**36**	P	**P**	**14 40 51.4**	**-0.8**	
RES	**Resolute Bay**	**31.85**	**334**	P	**P**	**14 40 53.4**	**+0.3**	
	10nm,1.1s,baz=80,slow=9.6,SNR=5.1							
RES	**Resolute Bay**	**31.85**	**334**	P	**P**	**14 40 53.4**	**+0.3**	
RES	**Resolute Bay**	**31.85**	**334**	P	**P**	**14 40 53.4**	**+0.3**	
KAF	**Kangasniemi**	**32.93**	**49**	*e*p	**P**	**14 41 01.7**	**-1.0**	
	2.5nm,0.6s							
KAF	**Kangasniemi**	**32.93**	**49**	*e*p	**P**	**14 41 01.7**	**-1.0**	
	2.5nm,0.6s							
KAF	**Kangasniemi**	**32.93**	**49**	*e*P	**P**	**14 41 01.7**	**-1.0**	
	2.5nm,0.6s							
FINES	**FINESS Array B**	**32.98**	**51**	P	**P**	**14 41 03.0**	**-0.1**	
	7.9nm,0.8s,baz=284,slow=7.7,SNR=11							
FINES	**FINESS Array B**	**32.98**	**51**	P	**P**	**14 41 03.0**	**-0.1**	
FINES	**FINESS Array B**	**32.98**	**51**	P	**P**	**14 41 03.0**	**-0.1**	
VYHS	**Vyhne**	**33.75**	**76**	*e*P	**P**	**14 41 12.5**	**+2.5**	
VYHS	**Vyhne**	**33.75**	**76**	*e*P	**P**	**14 41 12.5**	**+2.5**	
	47nm,2.9s							
ACSO	**Alum Creek Sta**	**34.60**	**268**	*e*P	**P**	**14 41 18.1**	**+0.6**	
	56nm,1.6s							
ACSO	**Alum Creek Sta**	**34.60**	**268**	*e*P	**P**	**14 41 18.1**	**+0.6**	
	56nm,1.6s							
JOF	**Joensuu**	**34.99**	**47**	*e*p	**P**	**14 41 19.7**	**-0.8**	
	2.6nm,0.8s							
JOF	**Joensuu**	**34.99**	**47**	*e*p	**P**	**14 41 19.7**	**-0.8**	
	2.6nm,0.8s							
JOF	**Joensuu**	**34.99**	**47**	*e*P	**P**	**14 41 19.7**	**-0.8**	
	2.6nm,0.8s							
CRVS	**Cervenica-Dubn**	**35.08**	**73**	*e*P	**P**	**14 41 22.0**	**+0.5**	
CRVS	**Cervenica-Dubn**	**35.08**	**73**	*e*P	**P**	**14 41 22.0**	**+0.5**	
	7.0nm,1.4s							
ULM	**Lac du Bonnet**	**36.80**	**291**	P	**P**	**14 41 36.7**	**+0.5**	
	2.7nm,0.8s,baz=80,slow=7.8,SNR=2.9							
ULM	**Lac du Bonnet**	**36.80**	**291**	P	**P**	**14 41 36.7**	**+0.5**	
ULM	**Lac du Bonnet**	**36.80**	**291**	P	**P**	**14 41 36.7**	**+0.5**	
AKASG	**Malin Array Be**	**38.61**	**67**	P	**P**	**14 41 50.5**	**-1.0**	
	4.5nm,0.9s,baz=302,slow=8.5,SNR=6.1							
AKASG	**Malin Array Be**	**38.61**	**67**	P	**P**	**14 41 50.5**	**-1.0**	
AKASG	**Malin Array Be**	**38.61**	**67**	P	**P**	**14 41 50.5**	**-1.0**	
YKA	**Yellowknife Ar**	**40.77**	**316**	P	**P**	**14 42 09.1**	**-0.1**	
	3.1nm,0.9s,baz=63,slow=8.6,SNR=23							
YKA				PcP	**PcP**	**14 44 09.5**	**-0.7**	
	3.1nm,0.8s,baz=61,slow=3.6,SNR=27							
YKA	**Yellowknife Ar**	**40.77**	**316**	P	**P**	**14 42 09.2**	**-0.1**	
YKA				PcP	**PcP**	**14 44 09.5**	**-0.7**	
YKA	**Yellowknife Ar**	**40.77**	**316**	P	**P**	**14 42 09.1**	**-0.1**	
YKA	**Yellowknife Ar**	**40.77**	**316**	PcP	**PcP**	**14 44 09.5**	**-0.7**	
GRTK	**Grand Turk**	**41.81**	**235**	*e*P	P	14 42 14.0		-4.2
	273nm,0.9s							
GRTK	**Grand Turk**	**41.81**	**235**	*e*P	P	14 42 14.0		-4.2
	273nm,0.9s							
B23A	**Brockton**	**42.83**	**293**	⇑P	**P**	**14 42 27.5**	**+1.1**	
	baz=43							
BGNE	**Belgrade**	**42.99**	**281**	⇓P	**P**	**14 42 29.0**	**+1.2**	
	baz=43							
D24A	**Glendive**	**43.21**	**291**	⇓P	**P**	**14 42 30.5**	**+1.0**	
	baz=43							
C23A	**Lambert**	**43.30**	**292**	⇓P	**P**	**14 42 30.7**	**+0.5**	
	baz=43							
A21A	**Bergtoll Ranch**	**43.60**	**295**	⇑P	**P**	**14 42 32.8**	**+0.2**	
	baz=43,SNR=5.3							
C22A	**Vida**	**43.72**	**293**	⇓P	**P**	**14 42 34.2**	**+0.6**	
	baz=44							
D22A	**Cohagen**	**44.23**	**292**	⇓P	**P**	**14 42 38.8**	**+1.1**	
	baz=44							
B20A	**Solberg Farm,**	**44.51**	**295**	⇓P	**P**	**14 42 40.1**	**+0.1**	
	baz=44							
F23A	**Volborg**	**44.62**	**290**	⇓P	**P**	**14 42 41.9**	**+1.0**	
	baz=44							
A19A	**Klindworth Far**	**44.63**	**296**	⇓P	**P**	**14 42 41.5**	**+0.6**	
	baz=44							
MIAR	**Mount Ida**	**44.69**	**270**	*e*P	**P**	**14 42 39.2**	**-2.3**	
	39nm,1.4s							
MIAR	**Mount Ida**	**44.69**	**270**	*e*P	**P**	**14 42 39.2**	**-2.3**	
	39nm,1.4s							
H24A	**Dirks Ranch, A**	**44.71**	**289**	⇓P	**P**	**14 42 42.6**	**+0.9**	
	baz=45							
D21A	**La Casta Ranch**	**44.73**	**293**	⇓P	**P**	**14 42 43.0**	**+1.3**	
	baz=45							
G23A	**Biddle**	**44.92**	**290**	⇓P	**P**	**14 42 44.4**	**+1.1**	
	baz=45							
INK	**Inuvik**	**44.97**	**329**	P	**P**	**14 42 42.3**	**-1.0**	
	14nm,1.2s,baz=50,slow=8.6,SNR=13							
INK				PcP	**PcP**	**14 44 23.7**	**-0.5**	
	7.9nm,1.1s,baz=30,slow=4.0,SNR=5.8							
INK	**Inuvik**	**44.97**	**329**	*e*P	**P**	**14 42 42.0**	**-1.2**	
	41nm,1.4s							
INK				*e*PcP	**PcP**	**14 44 23.7**	**-0.5**	
INK	**Inuvik**	**44.97**	**329**	*e*P	**P**	**14 42 42.0**	**-1.

R26A	Arlington baz=48,SNR=9.1	48.11	281	⇑P	P	14 43 08.9 +0.4
BOZ	Bozeman (W) baz=48,SNR=8.9	48.15	294	⇑P	P	14 43 09.6 +0.9
BOZ	baz=48,SNR=8.9			⇑P	P	14 43 09.6 +0.9
K20A	Yellowstone Ra baz=48	48.16	289	⇓P	P	14 43 09.4 +0.5
Q25A	Bedland, Calha baz=48	48.19	282	⇓P	P	14 43 09.6 +0.5
J19A	Crowheart baz=48	48.19	290	⇑P	P	14 43 09.7 +0.6
E15A	Deer Lodge baz=48	48.23	295	⇓P	P	14 43 10.2 +0.8
N22A	Wattenberg Ran baz=48	48.26	285	⇑P	P	14 43 10.4 +0.7
CHMT	Chamberlain Mo	48.26	296	eP	P	14 43 10.3 +0.7
CHMT	Chamberlain Mo	48.26	296	eP	P	14 43 10.3 +0.7
M21A	Separation Pea baz=48	48.27	287	⇑P	P	14 43 10.3 +0.5
SWMT	Swartz Lake	48.30	297	eP	P	14 43 10.8 +1.0
SWMT	Swartz Lake	48.30	297	eP	P	14 43 10.8 +1.0
H17A	Grant Village baz=48	48.34	292	⇓P	P	14 43 10.5 +0.2
I18A	Diamond G Ranc baz=48	48.35	291	⇑P	P	14 43 10.5 +0.1
K19A	Absolon Red Bu baz=48	48.35	289	⇓P	P	14 43 10.6 +0.2
ISCO	Idaho Springs 13nm,1.1s	48.41	284	eP	P	14 43 10.9 -0.1
ISCO	Idaho Springs baz=48	48.41	284	⇑P	P	14 43 11.7 +0.7
ISCO	Idaho Springs 13nm,1.1s	48.41	284	eP	P	14 43 10.9 -0.1
T27A	Campo baz=48	48.50	279	⇑P	P	14 43 12.1 +0.6
C13A	Hot Springs baz=48	48.51	298	⇑P	P	14 43 11.7 +0.4
F15A	Butte baz=48	48.51	294	⇑P	P	14 43 12.0 +0.4
G16A	Moss Hill, Enn baz=48	48.51	293	⇓P	P	14 43 11.9 +0.4
BSMT	Bassoo Peak 12nm,1.5s	48.52	298	eP	P	14 43 12.1 +0.5
BSMT	Bassoo Peak 12nm,1.5s	48.52	298	eP	P	14 43 12.1 +0.5
H16A	Russell Place, baz=48	48.52	292	⇑P	P	14 43 12.0 +0.3
L20A	Wamsutter baz=48	48.58	288	⇑P	P	14 43 12.8 +0.6
S26A	Kim baz=48	48.58	280	⇓P	P	14 43 13.1 +1.0
I17A	Pilgrim Ck. baz=48	48.64	291	⇑P	P	14 43 13.1 +0.5
Q24A	Divide baz=48	48.68	283	⇑P	P	14 43 13.9 +0.8
E14A	Clinton baz=48,SNR=16	48.70	296	⇑P	P	14 43 13.3 +0.3
R25A	Fountain Ranch baz=49	48.71	281	⇑P	P	14 43 13.7 +0.6
O22A	Kremmling baz=49	48.72	285	⇓P	P	14 43 14.0 +0.6
J18A	Kendall Valley baz=49,SNR=18	48.77	290	⇑P	P	14 43 13.8 +0.1
PD02	Pinedale Array	48.79	289	eP	P	14 43 13.6 -0.1
PD02	Pinedale Array	48.79	289	eP	P	14 43 13.6 -0.1
BW06	Boulder Array baz=49,SNR=11	48.79	289	⇑P	P	14 43 13.7 -0.1
BW06	baz=49,SNR=11			⇑P	P	14 43 13.7 -0.1
PDAR	Pinedale Array 2.0nm,1.0s,baz=69,slow=8.1,SNR=11	48.79	289	P	P	14 43 13.2 -0.7
PDAR	Pinedale Array	48.79	289	P	P	14 43 13.2 -0.7
PDAR	Pinedale Array	48.79	289	P	P	14 43 13.1 -0.7
PD01	Pinedale Array	48.80	289	eP	P	14 43 13.6 -0.2
PD01	Pinedale Array	48.80	289	eP	P	14 43 13.6 -0.2
M20A	Sweetwater, Wa baz=49	48.82	287	⇓P	P	14 43 14.3 +0.3
P23A	Jefferson baz=49	48.82	284	⇓P	P	14 43 14.7 +0.5
N21A	Black Mountain baz=49	48.90	286	⇓P	P	14 43 15.7 +1.0
G15A	Dillon baz=49	48.92	294	⇑P	P	14 43 15.8 +1.1
C12B	Naegeli Ranch, baz=49	48.97	298	⇑P	P	14 43 15.4 +0.5
F14A	Wisdom baz=49	49.01	295	⇓P	P	14 43 16.1 +0.8
E13A	Victor baz=49	49.06	296	⇓P	P	14 43 16.4 +0.7
J17A	Brown Place, J baz=49	49.07	291	⇑P	P	14 43 16.8 +0.9
L19A	Farson baz=49	49.10	289	⇑P	P	14 43 16.7 +0.6
S25A	Robets Cordova baz=49	49.12	281	⇓P	P	14 43 17.4 +1.0
R24A	Sanders Place, baz=49	49.14	282	⇑P	P	14 43 17.5 +1.0
K18A	Toltan Ranch, baz=49	49.15	290	⇓P	P	14 43 16.8 +0.3
P22A	Eagle baz=49	49.22	284	⇑P	P	14 43 17.7 +0.6
N20A	Spence Gulch, baz=49	49.28	287	⇓P	P	14 43 18.0 +0.4
C11A	Tepee Creek (N baz=49,SNR=5.8	49.30	299	⇑P	P	14 43 17.3 -0.2
MCMT	McKenzie Canyo 2.9nm,1.2s	49.34	294	eP	P	14 43 18.5 +0.5
MCMT	McKenzie Canyo 2.9nm,1.2s	49.34	294	eP	P	14 43 18.5 +0.5
AMTX	Amarillo 63nm,1.4s	49.35	276	eP	P	14 43 18.6 +0.7
AMTX	Amarillo baz=49,SNR=8.7	49.35	276	⇑P	P	14 43 18.7 +0.7
AMTX	baz=49,SNR=8.7			⇑P	P	14 43 18.7 +0.7
AMTX	Amarillo 63nm,1.4s	49.35	276	eP	P	14 43 18.6 +0.7
TORD	Torodi Ar. Bea 2.2nm,0.9s,baz=322,slow=7.7,SNR=8.8	49.40	130	P	P	14 43 17.2 -1.2
TORD	Torodi Ar. Bea	49.40	130	P	P	14 43 17.2 -1.2
TORD	Torodi Ar. Bea	49.40	130	P	P	14 43 17.2 -1.2
DAWY	Dawson	49.40	326	eP	P	14 43 18.3 +0.4
DAWY	Dawson	49.40	326	eP	P	14 43 18.3 +0.4
G14A	Jackson baz=49	49.41	294	⇑P	P	14 43 18.8 +0.3
T25A	Trinidad baz=49	49.45	280	⇓P	P	14 43 19.8 +0.9
NEW	Newport baz=49	49.50	300	⇓P	P	14 43 19.1 +0.2
EGAK	Eagle 18nm,1.1s	49.53	327	eP	P	14 43 18.5 -0.3
EGAK	Eagle 18nm,1.1s	49.53	327	eP	P	14 43 18.5 -0.3
F13A	Darby baz=49	49.55	295	⇑P	P	14 43 19.9 +0.5
U26A	Atchley Ranch, baz=49	49.56	279	⇓P	P	14 43 20.2 +0.5
R23A	Moffat baz=50,SNR=6.2	49.59	282	⇑P	P	14 43 20.3 +0.3
L18A	Fontenelle, Gr baz=49	49.60	289	⇑P	P	14 43 20.4 +0.5
J16A	Bone baz=50	49.63	291	⇓P	P	14 43 20.2 0.0
P21A	Newcastle baz=50,SNR=12	49.67	285	⇓P	P	14 43 21.0 +0.5
SDCO	Great Sand Dun baz=50	49.70	282	⇓P	P	14 43 21.2 +0.4
SDCO	baz=50			⇓P	P	14 43 21.2 +0.4
O20A	White River Ci baz=50	49.73	286	⇓P	P	14 43 21.4 +0.5
H14A	Leadore baz=50	49.76	294	⇑P	P	14 43 21.2 +0.1
N19A	John Jarvie Ra baz=50,SNR=5.4	49.77	287	⇓P	P	14 43 21.7 +0.5
Q22A	Crested Butte, baz=50	49.78	284	⇓P	P	14 43 21.8 +0.3
T24A	Torres, Weston baz=50	49.88	281	⇓P	P	14 43 22.4 +0.2
K16A	Soda Springs baz=50	49.90	291	⇓P	P	14 43 22.1 -0.1
G13A	Cobalt baz=50	49.93	295	⇓P	P	14 43 22.5 +0.1
U25A	Circle Dot Ran baz=50,SNR=9.1	49.95	280	⇑P	P	14 43 23.6 +1.0
J15A	Blackfoot baz=50	50.01	292	⇑P	P	14 43 22.9 0.0
F12A	Elk City baz=50,SNR=8.4	50.07	296	⇑P	P	14 43 23.6 +0.2
ARU	Arti 12nm,1.0s	50.11	46	eP	P	14 43 23.2 -0.2
ARU	Arti 12nm,1.0s	50.11	46	eP	P	14 43 23.2 -0.2
R22A	Saguache, Gunn baz=50,SNR=8.9	50.12	283	⇑P	P	14 43 25.0 +0.9
O19A	Miners Draw (B baz=50	50.13	287	⇑P	P	14 43 24.3 +0.4
Q21A	Lamborn Mesa, baz=50	50.19	284	⇑P	P	14 43 25.0 +0.5
I14A	Mackay baz=50	50.24	293	⇓P	P	14 43 25.1 +0.4
H13A	Challis baz=50,SNR=6.5	50.28	294	⇑P	P	14 43 25.4 +0.4
L16A	Fish Haven baz=50	50.34	290	⇑P	P	14 43 25.9 +0.3
V25A	Rancho No Teng baz=50,SNR=11	50.45	279	⇑P	P	14 43 27.1 +0.6
W26A	Owens Ranch, T baz=50	50.46	278	⇓P	P	14 43 27.4 +1.0
S22A	4UR Ranch, Cre baz=50	50.48	283	⇑P	P	14 43 27.3 +0.5
P19A	Cripple Cowboy baz=50	50.48	286	⇓P	P	14 43 26.5 -0.2
R21A	Cimarron baz=50	50.49	284	⇓P	P	14 43 26.8 0.0
K15A	Arbon baz=50	50.52	291	⇓P	P	14 43 27.6 +0.7
Q20A	Ridgley Place, baz=50	50.53	285	⇑P	P	14 43 27.7 +0.7
COLD	Coldfoot 9.3nm,1.4s	50.59	333	eP	P	14 43 27.2 +0.4
COLD	Coldfoot 9.3nm,1.4s	50.59	333	eP	P	14 43 27.2 +0.4
H12A	Diamond D Ranc baz=50,SNR=8.7	50.62	294	⇓P	P	14 43 27.3 -0.3
I13A	Wildhorse Cree baz=50	50.62	293	⇓P	P	14 43 28.1 +0.4
MSTX	Muleshoe baz=50	50.63	276	⇓P	P	14 43 28.6 +0.8
HWUT	Hardware Ranch 17nm,1.2s	50.68	290	eP	P	14 43 27.4 -0.7
HWUT	Hardware Ranch 17nm,1.2s	50.68	290	eP	P	14 43 27.4 -0.7
N17A	Moffit Pass baz=50	50.69	288	⇑P	P	14 43 28.5 +0.2
W25A	X Bar L Ranch, baz=51,SNR=14	50.78	279	⇑P	P	14 43 29.5 +0.6
X26A	CR and CF Fran baz=51	50.85	278	⇓P	P	14 43 30.3 +0.9
L15A	Malad City baz=51	50.88	290	⇓P	P	14 43 30.0 +0.4
V24A	Rampart Ranch, baz=51	50.92	280	⇑P	P	14 43 30.5 +0.4
Y27A	Causey baz=51	50.92	276	⇓P	P	14 43 30.8 +0.8
K14A	Jones Ranch, D baz=51	50.98	291	⇓P	P	14 43 30.6 +0.4
J13A	Cove Ranch, Pi baz=51,SNR=5.2	50.98	293	⇑P	P	14 43 30.7 +0.4
HLID	Hailey baz=51	51.01	293	⇑P	P	14 43 30.9 +0.4
T22A	Edith baz=51	51.01	282	⇑P	P	14 43 31.5 +0.7
N16A	Rees Ranch, Co baz=51	51.08	289	⇓P	P	14 43 31.5 +0.4
R20A	Redvale baz=51	51.09	284	⇓P	P	14 43 32.0 +0.6
Q19A	Hogan Spring (baz=51	51.10	285	⇓P	P	14 43 32.1 +0.8
S21A	Coal Bank Pass baz=51,SNR=19	51.10	283	⇑P	P	14 43 32.4 +0.9
O17A	Robinson Place baz=51	51.13	288	⇑P	P	14 43 32.3 +0.8
P18A	Preston Nutter baz=51	51.22	287	⇓P	P	14 43 33.1 +0.7
I12A	Atlanta baz=51,SNR=19	51.26	294	⇑P	P	14 43 33.4 +0.9
M15A	Larsen Ranch, baz=51,SNR=18	51.27	290	⇓P	P	14 43 33.2 +0.7
JCT	Junction City 26nm,1.4s	51.29	271	eP	P	14 43 32.2 -0.5
JCT	Junction City baz=51	51.29	271	⇑P	P	14 43 33.7 +1.0
JCT	Junction City 26nm,1.4s	51.29	271	eP	P	14 43 32.2 -0.5
S20A	Disappointment baz=51	51.32	284	⇓P	P	14 43 33.2 +0.1
ILAR	Eielson Array 5.5nm,0.9s,baz=43,slow=5.4,SNR=42	51.35	329	P	P	14 43 32.9 +0.2
ILAR	3.5nm,0.9s,baz=13,slow=2.8,SNR=13			PcP	PcP	14 44 46.7 -0.5
ILAR	Eielson Array	51.35	329	P	P	14 43 32.9 +0.2
ILAR				PcP	PcP	14 44 46.7 -0.5
ILAR	Eielson Array	51.35	329	P	P	14 43 32.8 +0.2
ILAR	Eielson Array	51.35	329	PcP	PcP	14 44 46.7 -0.5
W24A	Lazy 6 Ranch, baz=51,SNR=17	51.35	279	⇓P	P	14 43 34.4 +1.1
T21A	Navajo Lake baz=51	51.40	282	⇓P	P	14 43 34.9 +1.2
Q18A	Rafter H Ranch baz=51	51.51	286	⇑P	P	14 43 34.7 +0.4
R19A	Curley Farm, L baz=51	51.54	285	⇑P	P	14 43 35.2 +0.5
COLA	College 21nm,1.4s	51.58	330	eP	P	14 43 35.3 +1.0
COLA	College 21nm,1.4s	51.58	330	eP	P	14 43 35.3 +1.0
MENT	Mentasta	51.61	326	eP	P	14 43 35.2 +0.6
MENT	Mentasta	51.61	326	eP	P	14 43 35.2 +0.6
N15A	Stansbury Isla baz=52	51.69	289	⇓P	P	14 43 36.0 +0.3
SRU	San Rafael baz=52	51.73	286	⇓P	P	14 43 36.2 +0.2
V22A	San Miguel Ran baz=52	51.76	281	⇑P	P	14 43 36.8 +0.4
Y25A	Mesa, Roswell baz=52	51.81	278	⇑P	P	14 43 37.5 +0.9
MVCO	Mesa Verde 21nm,1.3s	51.82	283	eP	P	14 43 38.1 +1.3
MVCO	Mesa Verde baz=52	51.82	283	⇓P	P	14 43 37.2 +0.4
MVCO	Mesa Verde 21nm,1.3s	51.82	283	eP	P	14 43 38.1 +1.3
W23A	Werner Place, baz=52	51.83	280	⇓P	P	14 43 37.4 +0.6
S19A	Harvey Farm, M baz=52,SNR=15	51.83	284	⇓P	P	14 43 37.5 +0.6
Z26A	Caprock baz=52	51.84	276	⇓P	P	14 43 37.9 +1.1
R18A	Canyonlands Na baz=52	51.84	285	⇑P	P	14 43 37.2 +0.3
U21A	Nageezi baz=52	51.86	282	⇓P	P	14 43 37.7 +0.6
MFID	Camas Ranch baz=52	51.89	294	⇑P	P	14 43 37.4 +0.3
ANMO	Albuquerque 5.2nm,1.0s,baz=35,slow=6.1,SNR=4.6	52.16	280	P	P	14 43 40.4 +1.1
ANMO	Albuquerque	52.16	280	P	P	14 43 40.4 +1.1
ANMO	Albuquerque	52.16	280	P	P	14 43 40.4 +1.1
X23A	Hourglass Bar baz=52,SNR=9.9	52.25	279	⇓P	P	14 43 41.3 +1.3
Y24A	Capitan baz=52	52.26	278	⇓P	P	14 43 40.9 +0.9
Z25A	Roswell baz=52	52.27	277	⇑P	P	14 43 41.1 +1.1
R17A	Hanksville Air baz=52	52.30	286	⇓P	P	14 43 40.5 +0.3
126A	Clayton Basin, baz=52	52.30	276	⇓P	P	14 43 41.4 +1.1
DUG	Dugway baz=52	52.32	289	⇓P	P	14 43 40.9 +0.6
S18A	Hurst Farm, BI baz=52,SNR=8.5	52.37	285	⇑P	P	14 43 41.9 +0.9
T19A	Beclabito baz=52	52.39	283	⇑P	P	14 43 41.8 +0.8
Y23A	Lovelace Mesa, baz=52	52.62	279	⇑P	P	14 43 43.6 +0.9
Z24A	Sheeppen Canyo baz=52	52.63	278	⇓P	P	14 43 43.8 +1.1
T18A	Mexican Hat baz=52	52.68	284	⇓P	P	14 43 43.8 +0.8
MCK	McKinley 45nm,1.1s	52.72	329	eP	P	14 43 43.5 +0.6
MCK	McKinley 45nm,1.1s	52.72	329	eP	P	14 43 43.5 +0.6
226A	Malaga, Loving baz=53	52.76	275	⇓P	P	14 43 44.5 +0.9
V20A	Brimhall baz=53	52.76	282	⇑P	P	14 43 44.4 +0.6
BNM	Barren Site 16nm,1.3s	52.81	279	eP	P	14 43 45.5 +1.3
BNM	Barren Site 16nm,1.3s	52.81	279	eP	P	14 43 45.5 +1.3
428A	Kincaid Ranch, baz=53	52.85	273	⇓P	P	14 43 45.6 +1.3
U19A	Dine' College, baz=53	52.86	283	⇓P	P	14 43 45.3 +0.8
S17A	Black Ridge (B baz=53,SNR=5.1	52.88	285	⇑P	P	14 43 45.6 +1.1
LAZ	Ladron 7.9nm,1.3s	52.94	280	eP	P	14 43 45.9 +0.8
LAZ	Ladron 7.9nm,1.3s	52.94	280	eP	P	14 43 45.9 +0.8
MMAI	Mount Meron Ar 0.4nm,0.3s,baz=98,slow=36,SNR=2.9	53.04	83	P	P	14 43 46.1 +0.5
MMAI	Mount Meron Ar	53.04	83	P	P	14 43 46.1 +0.5
MMAI	Mount Meron Ar	53.04	83	P	P	14 43 46.1 +0.5
MSU	Marysvale	53.08	287	eP	P	14 43 46.7 +0.6
MSU	Marysvale	53.08	287	eP	P	14 43 46.7 +0.6
124A	Stringfield Ra baz=53,SNR=5.2	53.12	277	⇓P	P	14 43 47.2 +0.7
225A	Deer Hill, Car baz=53	53.16	276	⇓P	P	14 43 47.3 +0.7
Y22A	Socorro baz=53	53.16	279	⇓P	P	14 43 47.2 +0.5
Z23A	Rita Site, Whi baz=53	53.19	278	⇑P	P	14 43 47.5 +0.6
427A	Hayter Ranch, baz=53	53.20	274	⇑P	P	14 43 48.0 +1.1
326A	Caldwell Ranch baz=53	53.21	275	⇑P	P	14 43 48.7 +1.7
W20A	Ramah baz=53	53.25	281	⇑P	P	14 43 48.5 +1.1
S16A	Weppner Ranch, baz=53	53.28	286	⇓P	P	14 43 48.4 +0.9
X21A	Alamocita Cree baz=53	53.29	280	⇑P	P	14 43 48.7 +0.9
ELK	Elko 3.4nm,1.1s,baz=58,slow=6.1,SNR=3.9	53.33	291	P	P	14 43 48.9 +0.9
ELK	Elko	53.33	291	P	P	14 43 48.9 +0.9
ELK	Elko	53.33	291	P	P	14 43 48.8 +0.9
TRF	Thorofare Moun 74nm,1.8s	53.34	330	eP	P	14 43 46.8 -0.8
TRF	Thorofare Moun 74nm,1.8s	53.34	330	eP	P	14 43 46.8 -0.8
Y21A	Point of Rocks baz=53,SNR=11	53.53	280	⇑P	P	14 43 50.0 +0.6
NLWA	Neilton Lookou 59nm,1.6s	53.55	302	eP	P	14 43 49.3 +0.1
NLWA	Neilton Lookou 59nm,1.6s	53.55	302	eP	P	14 43 49.3 +0.1
224A	Cornuas Mount baz=54,SNR=12	53.60	277	⇑P	P	14 43 50.3 +0.4
GNI	Garni 2.2nm,0.4s,baz=29,slow=5.8,SNR=7.2	53.60	70	P	P	14 43 51.0 +1.1
GNI	Garni	53.60	70	P	P	14 43 51.0 +1.1
GNI	Garni	53.60	70	P	P	14 43 51.0 +1.1
Z22A	Elephant Butte baz=54,SNR=15	53.63	279	⇓P	P	14 43 51.1 +1.0
X20A	Quemado baz=54	53.65	281	⇑P	P	14 43 51.4 +1.0
AKTO	Aktyubinsk 3.1nm,0.8s,baz=297,slow=9.1,SNR=12	53.72	52	P	P	14 43 50.3 -0.1
AKTO	Aktyubinsk	53.72	52	P	P	14 43 50.3 -0.1
AKTO	Aktyubinsk	53.72	52	P	P	14 43 50.3 -0.1
325A	Bean Ranch, Si baz=54	53.77	276	⇑P	P	14 43 51.1 -0.1
W19A	Sanders baz=54	53.78	282	⇓P	P	14 43 51.8 +0.5
MNTX	Cornudas Mount baz=54	53.78	276	⇓P	P	14 43 51.3 +0.2
MNTX	baz=54			⇓P	P	14 43 51.3 +0.2
527A	Woodward Ranch baz=54,SNR=5.3	53.83	273	⇑P	P	14 43 52.1 +0.6
628A	Black Gap, Mar baz=54	53.86	272	⇓P	P	14 43 52.7 +1.0
W18A	Petrified Fore baz=54	53.98	282	⇑P	P	14 43 52.9 +0.1
Y20A	Horse Springs, baz=54,SNR=13	54.02	280	⇓P	P	14 43 54.1 +1.0
Z21A	St. Cloud Mine baz=54	54.02	279	⇓P	P	14 43 53.7 +0.6
324A	Moseley Ranch, baz=54	54.03	276	⇑P	P	14 43 53.9 +0.8
U16A	Tuba City baz=54,SNR=11	54.09	284	⇑P	P	14 43 54.1 +0.6
526A	Mary Lane Ranc baz=54	54.17	274	⇓P	P	14 43 54.8 +0.7
627A	Terlingua Ranc baz=54,SNR=20	54.19	273	⇓P	P	14 43 54.2 0.0
425A	Indio Mountain baz=54	54.19	275	⇑P	P	14 43 54.9 +0.6
V17A	Tonalea, Kykot baz=54	54.26	283	⇓P	P	14 43 54.9 +0.3
R13A	O'Grain Ranch, baz=54	54.34	288	⇓P	P	14 43 55.5 +0.1
PMR	Palmer 26nm,1.2s	54.35	327	eP	P	14 43 54.0 -0.7
PMR	Palmer 26nm,1.2s	54.35	327	eP	P	14 43 54.0 -0.7
TXAR	Lajitas Array 5.6nm,1.2s,baz=54,slow=6.5,SNR=12	54.44	273	P	P	14 43 57.0 +1.0
TXAR	1.1nm,0.6s,baz=80,slow=4.1,SNR=6.3			PcP	PcP	14 44 59.6 +0.1
TXAR	Lajitas Array	54.44	273	P	P	14 43 57.0 +1.0
TXAR				PcP	PcP	14 44 59.6 +0.1
TXAR	Lajitas Array	54.44	273	P	P	14 43 57.0 +1.0
Y19A	Nutrioso baz=54,SNR=19	54.51	281	⇓P	P	14 43 57.4 +0.7
X18A	Snowflake baz=54	54.52	282	⇓P	P	14 43 57.4 +0.8
ASF	Jabal al Asfar 1.9nm,0.5s,baz=13,slow=2.0,SNR=4.8	54.52	82	P	P	14 43 57.0 +0.4
ASF	Jabal al Asfar	54.52	82	P	P	14 43 57.0 +0.4
626A	Big Bend Ranch baz=54	54.56	273	⇑P	P	14 43 57.9 +1.0
U15A	North Rim baz=54	54.57	285	⇑P	P	14 43 57.4 +0.3
W17A	Winslow baz=54	54.59	283	⇑P	P	14 43 57.9 +0.8
121A	Cookes Peak, D baz=54	54.63	279	⇑P	P	14 43 58.4 +0.9
WUAZ	Wupatki 10nm,1.1s	54.67	284	eP	P	14 43 58.5 +0.8
WUAZ	Wupatki baz=54	54.67	284	⇓P	P	14 43 58.4 +0.8
WUAZ	Wupatki 10nm,1.1s	54.67	284	eP	P	14 43 58.5 +0.8
120A	U Bar Ranch, L baz=55	55.13	279	⇑P	P	14 44 01.7 +0.7
EIL	Elat 6.2nm,1.0s,baz=52,slow=13,SNR=4.4	55.14	86	P	P	14 44 01.8 +0.8
EIL	Elat	55.14	86	P	P	14 44 01.8 +0.8
EIL	Elat	55.14	86	P	P	14 44 01.8 +0.8
R11A	Troy Canyon, C baz=55	55.15	289	⇓P	P	14 44 01.6 +0.4
X17A	Forest Lakes baz=55	55.16	282	⇓P	P	14 44 02.0 +0.7
ABKAR	Akbulak array	55.44	52	eP	P	14 44 03.0 +0.2
ABKAR	Akbulak array	55.44	52	eP	P	14 44 03.0 +0.2
X16A	Lo Mia Camp, P baz=55,SNR=13	55.48	283	⇓P	P	14 44 03.9 +0.4
220A	Playas Peak, P baz=55,SNR=13	55.52	279	⇑P	P	14 44 04.6 +0.7
Y17A	Roosevelt baz=56,SNR=12	55.63	282	⇓P	P	14 44 05.7 +1.2
TUC	Tucson 20nm,1.6s	56.58	281	eP	P	14 44 12.1 +0.8
TUC	Tucson 20nm,1.6s	56.58	281	eP	P	14 44 12.1 +0.8
NVAR	Mina Array Bea 1.2nm,0.9s,baz=48,slow=6.4,SNR=4.2	56.64	291	P	P	14 44 12.6 +0.8
NVAR	Mina Array Bea	56.64	291	P	P	14 44 12.6 +0.8
NVAR	Mina Array Bea	56.64	291	P	P	14 44 12.6 +0.8
Y14A	Wickenburg baz=57	56.73	284	⇓P	P	14 44 13.4 +1.0
YBH	Yreka Blue Hor 1.1nm,0.9s,baz=121,slow=2.9,SNR=3.3	56.78	297	P	P	14 44 11.5 -1.2
YBH	Yreka Blue Hor	56.78	297	P	P	14 44 11.5 -1.2
YBH	Yreka Blue Hor	56.78	297	P	P	14 44 11.5 -1.2
WCN	Washoe City	56.84	293	⇓P	P	14 44 13.8 +0.5

	baz=57									
GRAC	**Grapevine Rang**	**57.10**	**289**	⇓P		**P**		**14 44 15.9**	**+0.9**	
	baz=57									
PDMCI	**Parker Dam,Lak**	**57.14**	**285**	⇓P		**P**		**14 44 15.9**	**+0.7**	
	baz=57									
BRVK	**Borovoye**	**57.40**	**44**	*e*P		**P**		**14 44 16.7**	**0.0**	
	10nm,1.2s									
BRVK	**Borovoye**	**57.40**	**44**	*e*P		**P**		**14 44 16.7**	**0.0**	
	10nm,1.2s									
BVAR	**Borovoye Array**	**57.47**	**44**	P		**P**		**14 44 17.9**	**+0.7**	
	4.9nm,0.8s,baz=305,slow=5.2,SNR=28									
BVAR	**Borovoye Array**	**57.47**	**44**	P		**P**		**14 44 17.9**	**+0.7**	
BVAR	**Borovoye Array**	**57.47**	**44**	P		**P**		**14 44 17.9**	**+0.7**	
114A	**Black Gap (USA**	**57.50**	**282**	⇑P		**P**		**14 44 18.6**	**+0.8**	
	baz=57									
Z13A	**Yuma Proving G**	**57.64**	**283**	⇓P		**P**		**14 44 19.3**	**+0.6**	
	baz=58,SNR=9.8									
GMRC	**Granite Mounta**	**57.69**	**286**	⇓P		**P**		**14 44 19.9**	**+0.7**	
	baz=58									
Y12C	**Blythe**	**57.75**	**284**	⇑P		**P**		**14 44 20.5**	**+1.0**	
	baz=58									
ROSC	**El Rosal**	**57.78**	**228**	P		**P**		**14 44 21.9**	**+1.6**	
	9.8nm,0.5s,baz=133,slow=22,SNR=5.9									
ROSC	**El Rosal**	**57.78**	**228**	*e*P		**P**		**14 44 21.9**	**+1.6**	
ROSC	**El Rosal**	**57.78**	**228**	*e*P		**P**		**14 44 21.9**	**+1.6**	
MPMC	**Manual Prospec**	**57.83**	**288**	⇓P		**P**		**14 44 20.5**	**+0.2**	
	baz=58									
113A	**Mohawk Valley,**	**58.01**	**283**	⇓P		**P**		**14 44 21.9**	**+0.5**	
	baz=58									
LRMC	**Laurel Mountai**	**58.36**	**288**	⇓P		**P**		**14 44 24.7**	**+0.7**	
	baz=58									
BC3	**Big Chuckawall**	**58.36**	**285**	⇓P		**P**		**14 44 24.4**	**+0.4**	
	baz=58									
GLA	**Glamis**	**58.43**	**284**	P		**P**		**14 44 24.4**	**+0.1**	
	42nm,1.7s									
GLA	**Glamis**	**58.43**	**284**	P		**P**		**14 44 24.4**	**+0.1**	
	42nm,1.7s									
BELC	**Belle Mtn. Jos**	**58.44**	**286**	⇓P		**P**		**14 44 25.1**	**+0.6**	
	baz=58									
ISA	**Isabella**	**58.68**	**289**	⇓P		**P**		**14 44 26.5**	**+0.4**	
	baz=58									
VES	**Vestal, Richgr**	**58.90**	**289**	⇑P		**P**		**14 44 28.4**	**+0.9**	
	baz=59									
EDW2	**Edwards Air Fo**	**58.96**	**288**	⇑P		**P**		**14 44 28.8**	**+0.8**	
	baz=59									
PFO	**Pinyon Flat Ob**	**58.98**	**286**	*e*P		**P**		**14 44 29.9**	**+1.7**	
	16nm,1.4s									
PFO	**Pinyon Flat Ob**	**58.98**	**286**	⇑P		**P**		**14 44 29.1**	**+0.9**	
	baz=59									
PFO	**Pinyon Flat Ob**	**58.98**	**286**	*e*P		**P**		**14 44 30.0**	**+1.7**	
	16nm,1.4s									
MONP	**Monument Peak**	**59.48**	**285**	⇑P		**P**		**14 44 32.4**	**+0.6**	
	baz=59									
ZALV	**Zalesovo Beam**	**62.29**	**35**	P		**P**		**14 44 50.3**	**-0.1**	
	0.7nm,0.3s,baz=325,slow=9.0,SNR=6.3									
ZALV				PcP		**PcP**		**14 45 28.6**	**-1.5**	
	0.9nm,0.7s,baz=316,slow=6.2,SNR=5.6									
ZALV	**Zalesovo Beam**	**62.29**	**35**	P		**P**		**14 44 50.3**	**-0.1**	
ZALV				PcP		**PcP**		**14 45 28.6**	**-1.5**	
ZALV	**Zalesovo Beam**	**62.29**	**35**	P		**P**		**14 44 50.3**	**-0.1**	
MKAR	**Makanchi Array**	**67.15**	**41**	P		**P**		**14 45 22.2**	**-0.1**	
	3.6nm,0.7s,baz=339,slow=6.5,SNR=24									
MKAR	**Makanchi Array**	**67.15**	**41**	P		**P**		**14 45 22.2**	**-0.1**	
MKAR	**Makanchi Array**	**67.15**	**41**	P		**P**		**14 45 22.2**	**-0.1**	
TKM2	**Tokmak 2**	**67.42**	**48**	*e*P		**P**		**14 45 25.1**	**+0.9**	
	10.0nm,1.1s									
TKM2	**Tokmak 2**	**67.42**	**48**	*e*P		**P**		**14 45 25.1**	**+0.9**	
	10.0nm,1.1s									
BDFB	**Brasilia**	**69.31**	**193**	P		**P**		**14 45 34.6**	**-1.5**	
	2.8nm,0.6s,baz=357,slow=12,SNR=4.2									
BDFB	**Brasilia**	**69.31**	**193**	P		**P**		**14 45 34.6**	**-1.5**	
BDFB	**Brasilia**	**69.31**	**193**	P		**P**		**14 45 34.6**	**-1.5**	
KSH	**Kashi**	**70.30**	**50**	*e*P		**P**		**14 45 44.1**	**+2.0**	
KSH				*ep*P		**pP**		**14 45 48.8**	**+3.5**	
KSH				*es*P		sP		14 45 51.3	+4.7	
KSH				*e*PcP		**PcP**		**14 46 05.8**	**+2.1**	
KSH				*e*PP		**PP**		**14 48 22.1**	**+5.0**	
KSH				*e*S		**S**		**14 54 54.3**	**+0.2**	
KSH				*es*S		**sS**		**14 55 02.3**	**+2.9**	
KSH				*e*SKS		**SKSac**		**14 55 40.9**	**-2.7**	
KSH				*e*ScS		**SKKSac**		**14 55 42.9**	**-0.8**	
KSH				*e*SS		**SS**		**14 59 27.4**	**+3.9**	
KSH				pmax		pmax				
	comp=Z,6.0nm,1.0s									
KSH				pmax		pmax				
	comp=Z,140nm,5.4s									
KSH				LR		LR				
	comp=N,270nm,6.1s									
KSH				LR		LR				
	comp=E,200nm,6.3s									
KSH				LR		LR				
	comp=Z,280nm,6.9s									
WMQ	**Urumqi**	**71.75**	**40**	P		**P**		**14 45 51.8**	**+1.1**	
WMQ				pP		**pP**		**14 45 56.8**	**+2.8**	
WMQ				sP		**sP**		**14 45 58.8**	**+3.6**	
WMQ				pmax		pmax				
	comp=Z,8.0nm,0.8s									
SIV	**San Ignacio**	**72.32**	**206**	P		**P**		**14 45 53.8**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=46,slow=12,SNR=4.1									
SIV	**San Ignacio**	**72.32**	**206**	P		**P**		**14 45 53.8**	**-0.5**	
SIV	**San Ignacio**	**72.32**	**206**	P		**P**		**14 45 53.8**	**-0.5**	
SONM	**Songino Array**	**74.29**	**26**	P		**P**		**14 46 06.1**	**+0.3**	
	comp=Z,3.5nm,0.9s,baz=331,slow=6.6,SNR=25									
SONM	**Songino Array**	**74.29**	**26**	P		**P**		**14 46 06.1**	**+0.3**	
SONM	**Songino Array**	**74.29**	**26**	P		**P**		**14 46 06.1**	**+0.3**	
GTA	**Gaotai**	**79.99**	**34**	*e*P		**P**		**14 46 38.0**	**0.0**	
GTA				pP		**pP**		**14 46 42.3**	**+1.0**	
GTA				sP		**sP**		**14 46 45.5**	**+3.0**	
GTA				pmax		pmax				
	comp=Z,7.0nm,1.1s									
HHC	**Hu-ho-hao-te**	**82.14**	**25**	*e*P		**P**		**14 46 48.0**	**-1.4**	
HHC				pP		**pP**		**14 46 52.8**	**+0.1**	
HHC				sP		**sP**		**14 46 55.1**	**+1.2**	
HHC				PP		**PP**		**14 49 57.1**	**+0.5**	
HHC				S		**S**		**14 56 58.1**	**-6.0**	
HHC				SKS		**SKSac**		**14 57 03.3**	**-6.6**	
HHC				pmax		pmax				
	comp=Z,6.0nm,0.6s									
HHC				pmax		pmax				
	comp=Z,260nm,7.8s									
HHC				LR		LR				
	comp=N,160nm,19.0s									
HHC				LR		LR				
	comp=E,760nm,18.6s									
HHC				LR		LR				
	comp=Z,150nm,20.6s									
USRK	**Ussuriysk Arra**	**82.49**	**9**	P		**P**		**14 46 51.5**	**+0.6**	
	comp=Z,1.8nm,0.9s,baz=134,slow=19,SNR=4.8									
BJI	**Beijing**	**84.01**	**22**	P		**P**		**14 46 58.1**	**-0.8**	
BJI				pmax		pmax				
	comp=Z,7.0nm,1.2s									
LZH	**Lanzhou**	**84.34**	**32**	*e*P		**P**		**14 47 01.3**	**+0.4**	
LZH				pP		**PcP**		**14 47 06.4**	**+1.8**	
LZH				sP		**sP**		**14 47 09.5**	**+4.1**	
LZH				PP		**PP**		**14 50 13.3**	**-1.5**	
LZH				SKS		**SKSac**		**14 57 18.3**	**-6.3**	
LZH				*e*S		**S**		**14 57 23.0**	**-3.6**	
LZH				pmax		pmax				
	comp=Z,16nm,1.2s									
LZH				pmax		pmax				
	comp=Z,100nm,4.4s									
LZH				LR		LR				
	comp=N,460nm,15.6s									
LZH				LR		LR				
	comp=E,380nm,14.8s									
LZH				LR		LR				
	comp=Z,510nm,15.5s									
XAN	**Xi'an**	**87.80**	**29**	P		**P**		**14 47 17.1**	**-0.7**	
XAN				pmax		pmax				
	comp=Z,2.0nm,1.2s									
XAN				pmax		pmax				
	comp=Z,52nm,8.5s									
CD2	**Chengdu**	**89.05**	**34**	P		**P**		**14 47 23.4**	**-0.4**	
CD2				pP		**pP**		**14 47 28.3**	**+1.2**	
CD2				sP		**sP**		**14 47 30.4**	**+2.1**	
CD2				PP		**PP**		**14 50 54.3**	**+1.6**	
CD2				S		**SKKSac**		**14 58 07.8**	**+2.5**	
CD2				sS		**ScS**		**14 58 15.3**	**-2.1**	
CD2				SS		**SS**		**15 04 01.8**	**-2.0**	
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
CD2				pmax		pmax				
	comp=Z,230nm,7.7s									
CD2				LR		LR				
	comp=N,200nm,5.9s									
CD2				LR		LR				
	comp=Z,170nm,7.1s									
CFAA	**Coronel Fontan**	**89.10**	**208**	P		**P**		**14 47 23.3**	**-0.4**	
	comp=Z,0.1nm,0.4s,baz=42,slow=1.9,SNR=3.5									
CFAA	**Coronel Fontan**	**89.10**	**208**	P		**P**		**14 47 23.3**	**-0.4**	
CFAA	**Coronel Fontan**	**89.10**	**208**	P		**P**		**14 47 23.3**	**-0.4**	
NJ2	**Nanjing**	**92.27**	**22**	*e*P		**P**		**14 47 37.4**	**-1.3**	
NJ2				pmax		pmax				
	comp=Z,20nm,0.5s									
GYA	**Guiyang**	**94.12**	**34**	P		**P**		**14 47 47.8**	**+0.3**	
GYA				PP		**PP**		**14 51 35.4**	**+2.4**	
GYA				SKS		**SKSac**		**14 58 21.8**	**-0.8**	
GYA				S		**S**		**14 58 54.3**	**-4.1**	
GYA				SS		**SS**		**15 05 15.8**	**-1.3**	
GYA				pmax		pmax				
	comp=Z,20nm,1.0s									
GYA				pmax		pmax				
	comp=Z,110nm,5.4s									
GYA				LR		LR				
	comp=N,440nm,20.8s									
GYA				LR		LR				
	comp=E,410nm,21.0s									
GYA				LR		LR				
	comp=Z,480nm,19.9s									
CMAR	**Chiang Mai Arr**	**98.49**	**44**	P		**P**		**14 48 06.2**	**-1.0**	
	comp=Z,1.2nm,1.1s,baz=318,slow=5.5,SNR=4.7									
CMAR	**Chiang Mai Arr**	**98.49**	**44**	P		**P**		**14 48 06.2**	**-1.0**	
CMAR	**Chiang Mai Arr**	**98.49**	**44**	P		**P**		**14 48 06.2**	**-1.0**	
WRAB	**Tennant Creek**	**145.95**	**18**	*e*PKPdf		**PKPdf**		**14 54 07.3**	**-0.3**	
WRAB	**Tennant Creek**	**145.95**	**18**	*e*PKIKP		**PKPdf**		**14 54 07.3**	**-0.3**	
WRA	**Warramunga Arr**	**145.96**	**18**	PKPbc		**PKPdf**		**14 54 07.3**	**-0.2**	
	comp=Z,19nm,0.8s,baz=342,slow=3.4,SNR=117									
WRA	**Warramunga Arr**	**145.96**	**18**	PKPbc		**PKPdf**		**14 54 07.3**	**-0.2**	
WB2	**Warramunga Arr**	**145.96**	**18**	*e*PKPdf		**PKPbc**		**14 54 07.5**	**-0.7**	
WB2	**Warramunga Arr**	**145.96**	**18**	*e*PKIKP		**PKPbc**		**14 54 07.6**	**-0.7**	
CTA	**Charters Tower**	**147.07**	**358**	PKPbc		**PKPbc**		**14 54 11.4**	**-0.1**	
	comp=Z,10nm,0.9s,baz=3.5,slow=7.2,SNR=6.7									
CTA	**Charters Tower**	**147.07**	**358**	PKPbc		**PKPbc**		**14 54 11.4**	**-0.1**	
CTA	**Charters Tower**	**147.07**	**358**	PKPbc		**PKPbc**		**14 54 11.4**	**-0.1**	
AS31	**Alice Springs**	**149.49**	**20**	*e*PKPdf		**PKPbc**		**14 54 16.5**	**-1.3**	
ASAR	**Alice Springs**	**149.49**	**20**	PKPbc		**PKPbc**		**14 54 17.0**	**-0.9**	
	comp=Z,6.7nm,0.8s,baz=350,slow=1.9,SNR=49									
ASAR	**Alice Springs**	**149.49**	**20**	PKPbc		**PKPbc**		**14 54 17.0**	**-0.9**	
ASAR	**Alice Springs**	**149.49**	**20**	PKPbc		**PKPbc**		**14 54 17.0**	**-0.9**	

IDC 22 14:37:23.6±1.1, 52°92N×35°18W, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.8/31, mbtmp3.8/12, ML2.5/1, Error ellipse: s-maj=35.7km s-min=17.5km az=17.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.68**	**289**	P	P	14 41 43.2	+0.1
	0.2nm,0.3s,baz=113,slow=12,SNR=3.9						
FRB	**Frobisher Bay**	**20.34**	**315**	P	Pn	14 42 02.5	-0.4
	0.8nm,0.4s,baz=72,slow=7.9,SNR=1.8						
ESDC	**Sonseca Array**	**25.08**	**109**	P	P	14 42 49.8	+0.2
	0.4nm,0.3s,baz=40,slow=39,SNR=3.0						
FINES	**FINESS Array B**	**33.09**	**51**	P	P	14 43 59.7	-0.9
	3.0nm,0.8s,baz=289,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**40.85**	**316**	P	P	14 45 06.4	-0.2
	0.1nm,0.5s,baz=80,slow=36,SNR=3.0						
YKA				PcP	PcP	14 47 05.8	-1.4
	0.7nm,0.7s,baz=62,slow=3.7,SNR=8.7						
BRTR	**Keskin Array B**	**47.52**	**77**	P	P	14 46 01.6	+1.0
	2.0nm,0.9s,baz=306,slow=4.3,SNR=5.2						
PDAR	**Pinedale Array**	**48.82**	**290**	P	P	14 46 10.7	+0.1
	1.0nm,1.0s,baz=72,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**49.32**	**130**	P	P	14 46 14.3	-0.1
	0.4nm,0.7s,baz=332,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**51.46**	**329**	P	P	14 46 30.2	+0.1
	1.4nm,0.9s,baz=46,slow=5.0,SNR=6.6						
ILAR				PcP	PcP	14 47 43.7	-0.6
	1.3nm,0.9s,baz=7.1,slow=3.1,SNR=6.8						
BVAR	**Borovoye Array**	**57.58**	**44**	P	P	14 47 15.1	+0.4
	1.2nm,0.8s,baz=287,slow=7.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**62.42**	**35**	PcP	PcP	14 48 27.2	-0.1
	0.2nm,0.3s,baz=320,slow=6.6,SNR=3.5						
MKAR	**Makanchi Array**	**67.27**	**41**	P	P	14 48 19.6	-0.1
	1.1nm,0.7s,baz=326,slow=6.1,SNR=6.4						
SONM	**Songino Array**	**74.43**	**26**	P	P	14 49 02.6	-0.7
	0.4nm,0.7s,baz=331,slow=7.1,SNR=5.3						
WRA	**Warramunga Arr**	**146.10**	**18**	PKPbc	PKPbc	14 57 05.0	-0.4
	5.2nm,0.8s,baz=342,slow=3.5,SNR=17						
ASAR	**Alice Springs**	**149.63**	**20**	PKPbc	PKPbc	14 57 14.2	-0.8
	3.1nm,1.0s,baz=345,slow=2.2,SNR=9.9						

IDC 22 14:39:12.2±1.9, 0°46S×131°57E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=107.1km s-min=15.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.48**	**198**	P	Pn	14 43 30.2	+0.3
	0.1nm,0.3s,baz=48,slow=12,SNR=3.9						
FITZ				LR	LR	14 51 07.6	
	comp=Z,242nm,20.7s,baz=168,slow=39						
WRA	**Warramunga Arr**	**19.55**	**172**	P	P	14 43 40.3	-1.4
	0.1nm,0.3s,baz=351,slow=11,SNR=1.1						
WRA				S	Sn	14 47 11.0	-12
	0.2nm,0.3s,baz=346,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**23.18**	**175**	P	P	14 44 19.6	-1.1
	1.2nm,0.7s,baz=350,slow=7.2,SNR=18						
ASAR				S	S	14 48 35.6	+1.9
	0.3nm,0.6s,baz=357,slow=28,SNR=3.1						
SONM	**Songino Array**	**52.85**	**339**	P	P	14 48 29.9	0.0
	0.4nm,0.6s,baz=159,slow=6.8,SNR=3.2						
MKAR	**Makanchi Array**	**63.74**	**325**	P	P	14 49 46.4	+0.4
	0.8nm,0.5s,baz=114,slow=8.3,SNR=9.1						

IDC 22 14:54:46.2±2.5, 56°10S×146°35E, h0km, mb4.0/3, mb1 4.2/3, mb1mx4.0/9, mbtmp4.0/3, Error ellipse: s-maj=187.2km s-min=38.7km az=84.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.45**	**350**	P	P	15 00 06.2	-0.3
	4.4nm,1.0s,baz=149,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**33.66**	**339**	P	P	15 01 28.8	+0.2
	1.3nm,0.9s,baz=170,slow=9.7,SNR=9.0						
ASAR				PcP	PcP	15 04 06.3	-2.2
	0.6nm,1.1s,baz=142,slow=3.5,SNR=3.2						
WRA	**Warramunga Arr**	**37.21**	**341**	P	P	15 01 58.8	-0.3
	2.8nm,0.8s,baz=164,slow=7.5,SNR=18						
WRA				PcP	PcP	15 04 20.9	+1.9
	0.4nm,0.7s,baz=170,slow=2.8,SNR=4.8						
FINES	**FINESS Array B**	**149.55**	**305**	PKPbc	PKPbc	15 14 36.5	+0.6
	3.7nm,0.9s,baz=149,slow=11,SNR=2.3						
GERES	**GERESS Array B**	**150.76**	**276**	PKPbc	PKPbc	15 14 38.1	-1.3
	0.6nm,0.8s,baz=188,slow=2.0,SNR=4.0						
ARCES	**ARCESS Array B**	**151.21**	**321**	PKPbc	PKPbc	15 14 39.2	-0.5
	4.6nm,1.1s,baz=32,slow=3.5,SNR=3.6						

*NIED **22** 15:24:00, 30.10N×131.30E, h26km, Mw4.5 Best double couple: M0 7.33000×10^15 NP1:φs 17.00000°, δ 64.00000°, λ 76.00000°. NP2:φs 226.00000°, δ 29.00000°, λ 116.00000°.*
*BJI **22** 15:24:27.2, 29.76N×131.83E, h15km, mB4.8/23, mb4.3/35, Ms4.4/27, Ms7 4.2/27*
*MOS **22** 15:24:35.2±0.9, 30.13N×131.17E, h33km, mb4.6/33, Error ellipse: s-maj=11.5km s-min=6.3km az=116.3*
*JMA **22** 15:24:36.0±0.2, 30.09N×131.33E, h36km±2km, M4.3*
JMA Felt I J1.
*NEIC **22** 15:24:36.1±1.9, 30.13N×131.15E, h26km±14km, mb4.6/34, MW4.5(NIED), Error ellipse: s-maj=8.3km s-min=5.7km az=137.0*
NEIC Recorded [1 JMA] on Tanega-shima and Yaku-shima.
*ISCJB **22** 15:24:36.6±0.5, 30.12N±0.03×131.25E±0.05, h48km±3km, mb4.4/60, MS4.2/11, Error ellipse: s-maj=7.0km s-min=4.1km az=23.4*
*IDC **22** 15:24:38.6±2.4, 30.16N×131.08E, h38km±20km, mb3.9/21, mb1 4.0/25, mb1mx4.0/31, mbtmp3.9/25, ML3.5/4, MS3.4/4, Ms1 3.4/4, ms1mx3.0/35, Error ellipse: s-maj=16.9km s-min=12.4km az=88.0*
ISC 22 15:24:36.7±0.7, 30.12N±0.03×131.26E±0.05, h30km±4km, n190, σ1$42/210, mb4.6/60, MS4.2/11, 9C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.59**	**335**	⇓P	**Pn**	**15 24 48.5**	**-0.5**
JTN				*e*S	**Sn**	**15 24 57.3**	**-0.3**
JKC	**Kuchinoerabu**	**0.98**	**290**	⇑P	**Pn**	**15 24 54.8**	**+0.3**
JKC				*e*S	**Sn**	**15 25 08.4**	**+1.0**
JTSR	**Tashiro 2**	**1.08**	**344**	⇑P	**Pn**	**15 24 56.0**	**+0.1**
JTSR				*e*S	**Sb**	**15 25 11.2**	**+0.5**
JNN	**Nakanoshima**	**1.24**	**257**	P	**Pn**	**15 24 57.9**	**-0.1**
JNAR	**Kushima--Naru**	**1.40**	**0**	⇑P	**Pn**	**15 25 00.6**	**+0.4**
JNAR				*e*S	**Sn**	**15 25 17.3**	**-0.4**
JSU	**Suzuyama**	**1.55**	**333**	⇑P	**Pn**	**15 25 02.5**	**+0.2**
JSU				*e*S	**Sn**	**15 25 22.6**	**+1.3**
JTZ	**Takazaki**	**1.78**	**355**	⇑P	**Pn**	**15 25 06.2**	**+0.7**
JSJ	**Shimokoshiki**	**2.04**	**320**	⇑P	**Pn**	**15 25 08.8**	**-0.3**
JZO	**Okuchi**	**2.09**	**344**	⇑P	**Pn**	**15 25 10.2**	**+0.4**
JZK	**Kikaishima**	**2.12**	**212**	P	**Pn**	**15 25 10.7**	**+0.5**
JTSN	**Tsuno**	**2.13**	**5**	P	**Pn**	**15 25 10.5**	**+0.3**
JTSN				*e*S	**Sn**	**15 25 36.0**	**+0.3**
JAM	**Amami Oshima**	**2.24**	**221**	⇓P	**Pn**	**15 25 11.8**	**+0.1**
JAM				*e*S	**Sn**	**15 25 38.5**	**+0.2**
JNU	**Nakatsue**	**3.01**	**354**	Pn	**Pn**	**15 25 23.5**	**+1.1**
	6.1nm,0.3s,baz=198,slow=11,SNR=18						
JNU				Sn	**Sn**	**15 25 56.4**	**-1.1**
	8.9nm,0.3s,baz=194,slow=12,SNR=3.3						
JNU				LR	LR	15 25 57.2	
	comp=Z,644nm,21.6s,baz=316,slow=27						
JNU	**Nakatsue**	**3.01**	**354**	*e*Pn	**Pn**	**15 25 23.0**	**+0.6**
JNU				Sn	**Sn**	**15 25 56.4**	**-1.1**
JOW	**Kunigami**	**4.20**	**219**	Pn	**Pn**	**15 25 38.7**	**-0.1**
	9.9nm,0.3s,baz=88,slow=20,SNR=32						
JOW				Sn	**Sn**	**15 26 24.7**	**-2.1**
	59nm,0.3s,baz=211,slow=29,SNR=13						
JOW	**Kunigami**	**4.20**	**219**	*e*Pn	**Pn**	**15 25 38.4**	**-0.3**
JOW				Sn	**Sn**	**15 26 24.7**	**-2.1**
KSRS	**Korea Array**	**7.82**	**340**	Pn	**Pn**	**15 26 30.5**	**+2.0**
	0.4nm,0.3s,baz=163,slow=16,SNR=7.2						
KSRS	**Korea Array**	**7.82**	**340**	P	**Pn**	**15 26 30.5**	**+2.0**
KSAR	**Wonju Array Be**	**7.83**	**340**	P	**Pn**	**15 26 30.5**	**+2.0**
KSAR	**Wonju Array Be**	**7.83**	**340**	Pn	**Pn**	**15 26 30.5**	**+2.0**
MAJO	**Matsushiro**	**8.64**	**40**	*e*P	**Pn**	**15 26 37.6**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAJO	**Matsushiro**	**8.64**	**40**	*e*Pn	**Pn**	**15 26 37.5**	**-2.2**
	comp=Z,9.7nm,0.6s						
MAT	**Matsushiro**	**8.64**	**40**	P	**Pn**	**15 26 41.5**	**+1.7**
MJAR	**Matsushiro Arr**	**8.64**	**40**	Pn	Pn	15 26 41.8	+2.0
	comp=Z,0.9nm,0.3s,baz=235,slow=15,SNR=12						
MJAR	**Matsushiro Arr**	**8.64**	**40**	P	Pn	15 26 41.8	+2.0
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**8.64**	**40**	Pn	Pn	15 26 41.8	+2.0
CBIJ	**Chichi jima**	**10.06**	**105**	LR	LR	15 30 22.6	
	comp=Z,211nm,21.9s,baz=286,slow=34						
CBIJ				T	T	15 37 45.3	
	comp=Z,26nm,0.3s,baz=273,slow=19,SNR=5.2						
YHNB	**Yeheng**	**10.33**	**241**	*e*Pn	Pn	15 26 59.4	-3.6
NJ2	**Nanjing**	**10.81**	**283**	*e*P	**Pn**	**15 27 11.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
USRK	**Ussuriysk Arra**	**14.07**	**2**	Pn	**P**	**15 28 03.3**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=8.9,SNR=8.8						
USRK				LR	LR	15 33 48.1	
	comp=Z,228nm,18.4s,baz=346,slow=39						
CN2	**Changchun**	**14.42**	**343**	*e*P	**P**	**15 28 06.8**	**+1.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=N,1μm,11.0s						
CN2				LR	LR		
	comp=E,400nm,11.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
BJT	**Baijiatuau**	**15.80**	**313**	*e*P	**P**	**15 28 20.0**	**-0.6**
BJT				pmax	pmax		
	comp=Z,23nm,0.8s						
BJT	**Baijiatuau**	**15.80**	**313**	*e*Pn	**P**	**15 28 20.0**	**-0.6**
	comp=Z,23nm,0.8s						
BJI	**Beijing**	**15.81**	**313**	P	**P**	**15 28 22.4**	**+1.8**
BJI				S	**Sn**	**15 31 17.3**	**+6.0**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
BJI				LR	LR		
	comp=N,640nm,15.6s						
BJI				LR	LR		
	comp=E,950nm,13.9s						
BJI				LR	LR		
	comp=Z,510nm,15.2s	

	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**25.68**	**320**	*e*P		**P**	**15 30 02.3**	**-1.8**
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**26.03**	**320**	P		**P**	**15 30 06.5**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=135,slow=8.8,SNR=26							
SONM	**Songino Array**	**26.03**	**320**	P		**P**	**15 30 06.5**	**-0.8**
SONM				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**26.03**	**320**	P		**P**	**15 30 06.5**	**-0.8**
GTA	**Gaotai**	**27.33**	**298**	*e*P		**P**	**15 30 20.3**	**+1.1**
GTA				pP		**pP**	**15 30 24.8**	**-3.0**
GTA				sP		sP	15 30 27.8	-3.7
GTA				S		**S**	**15 34 58.8**	**+1.7**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,140nm,4.5s							
GTA				LR	LR			
	comp=N,170nm,12.3s							
GTA				LR	LR			
	comp=E,420nm,15.0s							
GTA				LR	LR			
	comp=Z,470nm,13.1s							
ZAK	**Zakamensk**	**29.14**	**322**	*e*P		**P**	**15 30 33.2**	**-1.9**
CHTO	**Chiang Mai**	**31.39**	**256**	*e*P		**P**	**15 30 54.1**	**-1.1**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CHTO	**Chiang Mai**	**31.39**	**256**	*e*P		**P**	**15 30 54.1**	**-1.1**
	comp=Z,3.6nm,0.6s							
CM31	**Chiang Mai Arr**	**31.56**	**256**	*e*P		**P**	**15 30 56.1**	**-0.5**
	comp=Z,1.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.56**	**256**	P		**P**	**15 30 56.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=50,slow=8.6,SNR=14							
CMAR				PcP		**PcP**	**15 33 49.8**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=148,slow=0.4,SNR=4.6							
CMAR	**Chiang Mai Arr**	**31.56**	**256**	P		**P**	**15 30 56.1**	**-0.6**
CMAR							15 33 49.8	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.56**	**256**	P		**P**	**15 30 56.0**	**-0.6**
CMAR				PcP		**PcP**	**15 33 49.8**	**+0.8**
LSA	**Lhasa**	**34.65**	**280**	*e*P		**P**	**15 31 21.1**	**-3.0**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LSA	**Lhasa**	**34.65**	**280**	*e*P		**P**	**15 31 21.1**	**-3.0**
	comp=Z,3.1nm,0.8s							
HVS	**Khovu-Aksy**	**34.87**	**318**	*i* P		**P**	**15 31 25.4**	**+0.1**
HVS				pmax	pmax			
	comp=Z,58nm,2.0s							
WMQ	**Urumqi**	**36.97**	**304**	*e*P		**P**	**15 31 42.8**	**-0.6**
WMQ				pP		pP	15 31 48.8	-3.4
WMQ				sP		sP	15 31 51.8	-4.1
WMQ				pmax	pmax			
	comp=Z,5.0nm,1.3s							
WMQ				LR	LR			
	comp=N,190nm,21.2s							
WMQ				LR	LR			
	comp=E,220nm,18.3s							
WMQ				LR	LR			
	comp=Z,220nm,18.8s							
TAPN	**Taplejung**	**38.12**	**277**	*e*P		**P**	**15 31 53.5**	**-0.1**
	comp=Z,6.5nm,0.6s							
TAPN	**Taplejung**	**38.12**	**277**	*e*P		**P**	**15 31 53.5**	**-0.1**
	comp=Z,6.5nm,0.6s							
ODAN	**Odare**	**38.52**	**276**	*e*P		**P**	**15 31 55.7**	**-1.2**
	comp=Z,17nm,0.6s							
ODAN	**Odare**	**38.52**	**276**	*e*P		**P**	**15 31 55.7**	**-1.2**
	comp=Z,17nm,0.6s							
RAMN	**Ramite**	**39.18**	**277**	*e*P		**P**	**15 32 01.3**	**-1.1**
	comp=Z,6.3nm,0.5s							
RAMN	**Ramite**	**39.18**	**277**	*e*P		**P**	**15 32 01.3**	**-1.1**
	comp=Z,6.3nm,0.5s							
JIRN	**Jiri**	**39.35**	**278**	*e*P		**P**	**15 32 03.1**	**-0.9**
	comp=Z,14nm,0.5s							
JIRN	**Jiri**	**39.35**	**278**	*e*P		**P**	**15 32 03.1**	**-0.9**
	comp=Z,14nm,0.5s							
GUN	**Gumba**	**39.55**	**278**	*e*P		**P**	**15 32 04.9**	**-0.7**
	comp=Z,34nm,0.6s							
GUN	**Gumba**	**39.55**	**278**	*e*P		**P**	**15 32 04.9**	**-0.7**
	comp=Z,34nm,0.6s							
PKI	**Pulchoki**	**40.04**	**278**	*e*P		**P**	**15 32 08.3**	**-1.4**
PKI	**Pulchoki**	**40.04**	**278**	*e*P		**P**	**15 32 08.3**	**-1.4**
PKI	**Pulchoki**	**40.04**	**278**	*e*P		**P**	**15 32 08.3**	**-1.4**
KKN	**Kakani**	**40.10**	**278**	*e*P		**P**	**15 32 08.9**	**-1.1**
	comp=Z,14nm,0.5s							
KKN	**Kakani**	**40.10**	**278**	*e*P		**P**	**15 32 08.9**	**-1.1**
KKN				pmax	pmax			
	comp=Z,14nm,0.5s							
KKN	**Kakani**	**40.10**	**278**	*e*P		**P**	**15 32 08.9**	**-1.1**
	comp=Z,14nm,0.5s							
DMN	**Daman**	**40.29**	**278**	*e*P		**P**	**15 32 10.5**	**-1.2**
	comp=Z,9.9nm,0.6s							
DMN	**Daman**	**40.29**	**278**	*e*P		**P**	**15 32 10.5**	**-1.2**
	comp=Z,9.9nm,0.6s							
GKN	**Gorkha**	**40.59**	**279**	*e*P		**P**	**15 32 12.8**	**-1.3**
	comp=Z,15nm,0.8s							
GKN	**Gorkha**	**40.59**	**279**	*e*P		**P**	**15 32 12.8**	**-1.3**
	comp=Z,15nm,0.8s							
ZAA0	**Zalesovo Array**	**40.92**	**319**	*e*P		**P**	**15 32 15.2**	**-1.0**
ZAA0				*e*PcP		**PcP**	**15 34 15.6**	**-0.6**
ZALV	**Zalesovo Beam**	**40.92**	**319**	P		**P**	**15 32 15.7**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=101,slow=7.7,SNR=13							
ZALV				PcP		**PcP**	**15 34 15.8**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=100,slow=4.5,SNR=5.0							
ZALV	**Zalesovo Beam**	**40.92**	**319**	P		**P**	**15 32 15.7**	**-0.5**
ZALV							15 34 15.9	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**40.92**	**319**	P		**P**	**15 32 15.7**	**-0.5**
ZALV				PcP		**PcP**	**15 34 15.8**	**-0.4**
MK31	**Makanchi Array**	**41.10**	**308**	*e*P		**P**	**15 32 17.3**	**-0.6**
MK31				*e*			15 32 28.8	
MK31	**Makanchi Array**	**41.10**	**308**	*e*P		**P**	**15 32 17.3**	**-0.6**
MK31				*e*			15 32 28.8	
MKAR	**Makanchi Array**	**41.10**	**308**	P		**P**	**15 32 17.6**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=90,slow=9.9,SNR=30							
MKAR				PcP		**PcP**	**15 34 17.2**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=116,slow=2.8,SNR=3.8							
MKAR	**Makanchi Array**	**41.10**	**308**	P		**P**	**15 32 17.6**	**-0.3**
MKAR							15 34 17.3	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**41.10**	**308**	P		**P**	**15 32 17.6**	**-0.3**
MKAR				PcP		**PcP**	**15 34 17.2**	**+0.2**
DANN	**Dangsing**	**41.26**	**280**	*e*P		**P**	**15 32 18.9**	**-0.8**
	comp=Z,24nm,0.5s							
DANN	**Dangsing**	**41.26**	**280**	*e*P		**P**	**15 32 18.9**	**-0.8**
	comp=Z,24nm,0.5s							
KOLN	**Koldanda**	**41.54**	**279**	*e*P		**P**	**15 32 20.6**	**-1.3**
	comp=Z,4.7nm,0.3s							
KOLN	**Koldanda**	**41.54**	**279**	*e*P		**P**	**15 32 20.6**	**-1.3**
	comp=Z,4.7nm,0.3s							
NVS	**Novosibirsk**	**42.06**	**320**	*e*P		P	15 32 16.9	-8.6
BILL	**Bilibino**	**43.15**	**18**	*e*P		**P**	**15 32 35.6**	**+1.4**
BILL				*e*PP		**pP**	**15 32 45.8**	**+2.7**
BILL				*e*			15 34 19.4	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,100nm,16.0s							
BILL	**Bilibino**	**43.15**	**18**	*e*P		**P**	**15 32 35.8**	**+1.6**
	comp=Z,5.8nm,1.0s							
KURK	**Kurchatov**	**43.98**	**313**	P		**P**	**15 32 40.6**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=99,slow=8.8,SNR=16							
KURK	**Kurchatov**	**43.98**	**313**	*e*P		**P**	**15 32 40.7**	**-0.4**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURK				MLR	MLR			
	comp=Z,269nm,16.0s							
KURK	**Kurchatov**	**43.98**	**313**	*e*P		**P**	**15 32 40.0**	**-1.0**
	comp=Z,2.3nm,0.7s							
KSH	**Kashi**	**45.73**	**297**	*e*P		P	15 32 59.1	+3.7
KSH				*e*pP		pP	15 33 03.8	-0.6
KSH				*e*sP		sP	15 33 06.3	-1.7
KSH				*e*PcP		**PcP**	**15 34 35.3**	**+2.4**
KSH				*e*PP		PP	15 34 47.8	+5.2
KSH				*e*PcS		**PcS**	**15 38 28.6**	**+1.4**
KSH				*e*S		S	15 39 43.8	+6.9
KSH				*e*ScS		**ScS**	**15 42 51.6**	**+2.1**
KSH				*e*SS		**SS**	**15 43 01.8**	**+0.6**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,190nm,5.7s							
KSH				LR	LR			
	comp=N,180nm,6.3s							
KSH				LR	LR			
	comp=E,260nm,5.3s							
KSH				LR	LR			
	comp=Z,240nm,5.9s							
TKM2	**Tokmak 2**	**45.75**	**302**	*e*P		**P**	**15 32 55.6**	**-0.1**
TKM2				pmax	pmax			
	comp=Z,12nm,0.9s							
TKM2	**Tokmak 2**	**45.75**	**302**	*e*P		**P**	**15 32 55.5**	**-0.1**
	comp=Z,12nm,0.9s							
AAK	**Ala-Archa**	**46.58**	**302**	P		**P**	**15 33 01.9**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=96,slow=5.4,SNR=5.1							
AAK	**Ala-Archa**	**46.58**	**302**	P		**P**	**15 33 01.9**	**-0.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AAK	**Ala-Archa**	**46.58**	**302**	*e*P		**P**	**15 33 01.2**	**-0.9**
	comp=Z,19nm,0.9s							
EKS2	**Erkin-Say**	**47.11**	**302**	*e*P		**P**	**15 33 05.5**	**-0.6**
EKS2				pmax	pmax			
	comp=Z,2.0nm,1.0s							
EKS2	**Erkin-Say**	**47.11**	**302**	*e*P		**P**	**15 33 05.5**	**-0.6**
	comp=Z,2.2nm,1.0s							
BVAR	**Borovoye Array**	**49.26**	**316**	P		**P**	**15 33 21.9**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=97,slow=9.3,SNR=34							
BVAR	**Borovoye Array**	**49.26**	**316**	P		**P**	**15 33 21.9**	**-0.6**
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BVAR	**Borovoye Array**	**49.26**	**316**	P		**P**	**15 33 21.9**	**-0.6**
BRVK	**Borovoye**	**49.32**	**316**	*d* P		**P**	**15 33 22.7**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,15nm,1.2s							
BRVK				MLR	MLR			
	comp=Z,380nm,17.0s							
BRVK	**Borovoye**	**49.32**	**316**	*e*P		**P**	**15 33 21.9**	**-1.0**
	comp=Z,11nm,0.9s							
KKAR	**Karatay Array**	**49.46**	**303**	*e*P		**P**	**15 33 24.0**	**-0.2**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KKAR	**Karatay Array**	**49.46**	**303**	*e*P		**P**	**15 33 24.0**	**-0.2**
	comp=Z,2.7nm,0.4s							
WRAB	**Tennant Creek**	**49.85**	**176**	*e*P		**P**	**15 33 26.9**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,7.0nm,1.1s							
WRAB	**Tennant Creek**	**49.85**	**176**	*e*P		**P**	**15 33 26.9**	**-0.4**
	comp=Z,7.4nm,1.1s							
WRA	**Warramunga Arr**	**49.86**	**176**	P		**P**	**15 33 28.2**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=354,slow=8.4,SNR=5.4							
WRA	**Warramunga Arr**	**49.86**	**176**	P		**P**	**15 33 28.2**	**+0.9**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**49.86**	**176**	P		**P**	**15 33 28.2**	**+0.9**
KBL	**Kabul**	**52.04**	**292**	*e*P		**P**	**15 33 43.4**	**-0.6**
KBL				pmax	pmax			
	comp=Z,12nm,1.4s							
KBL	**Kabul**	**52.04**	**292**	*e*P		**P**	**15 33 43.4**	**-0.6**
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**53.54**	**177**	P		P	15 33 56.3	+1.5
	comp=Z,1.5nm,0.8s,baz=2.9,slow=7.3,SNR=16							
ASAR	**Alice Springs**	**53.54**	**177**	P		P	15 33 56.3	+1.5
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**53.54**	**177**	P		P	15 33 56.3	+1.5
SVE	**Sverdlovsk**	**54.89**	**321**	*e*P		**P**	**15 34 04.5**	**+0.2**
ABKAR	**Akbulak array**	**56.01**	**312**	*e*P		**P**	**15 34 11.7**	**-0.8**
	comp=Z,3.0nm,0.5s							
ARU	**Arti**	**56.06**	**320**	*d* P		**P**	**15 34 12.2**	**-0.5**
ARU							15 36 14.1	
ARU				S		**S**	**15 41 57.7**	**-1.5**
ARU				SS		**SS**	**15 45 39.7**	**-5.5**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**56.06**	**320**	*e*P		**P**	**15 34 11.5**	**-1.2**
	comp=Z,6.2nm,0.9s							
ARU				*e*			15 34 21.3	
MCK	**McKinley**	**58.98**	**31**	P		**P**	**15 34 31.3**	**-1.9**
MCK				pmax	pmax			
	comp=Z,12nm,1.2s							
MCK	**McKinley**	**58.98**	**31**	P		**P**	**15 34 31.3**	**-1.9**
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**59.75**	**29**	P		**P**	**15 34 39.3**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=278,slow=6.0,SNR=1.9							
ILAR	**Eielson Array**	**59.75**	**29**	P		**P**	**15 34 39.3**	**+0.8**
ILAR	**Eielson Array**	**59.75**	**29**	P		**P**	**15 34 39.3**	**+0.8**
STKA	**Stephens Creek**	**62.43**	**170**	P		**P**	**15 34 57.5**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=354,slow=9.2,SNR=5.3							
STKA	**Stephens Creek**	**62.43**	**170**	P		**P**	**15 34 57.5**	**+0.6**
STKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**62.43**	**170**	P		P	15 34 52.4	-4.5
	comp=Z,2.0nm,1.3s							
INK	**Inuvik**	**64.26**	**24**	P		**P**	**15 35 08.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=302,slow=2.5,SNR=3.7							
INK	**Inuvik**	**64.26**	**24**	P		**P**	**15 35 08.8**	**+0.2**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**64.26**	**24**	P		**P**	**15 35 07.1**	**-1.5**
	comp=Z,7.0nm,1.2s							
KEV	**Kevo**	**66.81**	**338**	*e*P		**P**	**15 35 24.3**	**-0.8**
KEV	**Kevo**	**66.81**	**338**	*e*p		**P**	**15 35 24.3**	**-0.8**
KEV	**Kevo**	**66.81**	**338**	*e*p		**P**	**15 35 24.3**	**-0.8**
ARCES	**ARCESS Array B**	**67.38**	**338**	P		**P**	**15 35 29.0**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=63,slow=6.4,SNR=8.1							
ARCES	**ARCESS Array B**	**67.38**	**338**	P		**P**	**15 35 29.0**	**+0.2**
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ARCES	**ARCESS Array B**	**67.38**	**338**	P		**P**	**15 35 29.0**	**+0.2**
JOF	**Joensuu**	**67.95**	**331**	*e*P		**P**	**15 35 31.4**	**-1.0**
JOF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
JOF	**Joensuu**	**67.95**	**331**	*e*p		**P**	**15 35 31.4**	**-1.0**
	comp=Z,6.9nm,0.6s							
JOF	**Joensuu**	**67.95**	**331**	*e*p		**P**	**15 35 31.4**	**-1.0**
	comp=Z,6.9nm,0.6s							
OBN	**Obninsk**	**68.41**	**322**	*e*P		**P**	**15 35 35.1**	**-0.3**
OBN				*e**PP		**pP**	**15 35 46.0**	**+1.2**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,200nm,16.0s							
ZEI	**Tsey**	**68.46**	**308**	*e*P		**P**	**15 35 35.1**	**-1.2**
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
GNI	**Garni**	**68.84**	**305**	*e*P		**P**	**15 35 40.0**	**+1.4**
GNI				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KIV	**Kislovodsk**	**68.84**	**309**	*e*P		**P**	**15 35 38.8**	**+0.3**
KIV				pmax	pmax			
	comp=Z,20nm,1.1s							
KIV	**Kislovodsk**	**68.84**	**309**	*e*P		**P**	**15 35 38.5**	**0.0**
	comp=Z,17nm,1.0s							
KAF	**Kangasniemi**	**70.40**	**331**	*e*P		**P**	**15 35 45.9**	**-1.7**
KAF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KAF	**Kangasniemi**	**70.40**	**331**	*e*p		**P**	**15 35 45.9**	**-1.7**
	comp=Z,4.9nm,0.8s							
KAF	**Kangasniemi**	**70.40**	**331**	*e*p		**P**	**15 35 45.9**	**-1.7**
	comp=Z,4.9nm,0.8s							
FINES	**FINESS Array B**	**70.80**	**331**	P		**P**	**15 35 49.8**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=71,slow=5.9,SNR=22							
FINES	**FINESS Array B**	**70.80**	**331**	P		**P**	**15 35 49.8**	**-0.3**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**70.80**	**331**	P		**P**	**15 35 49.8**	**-0.3**
SOC	**Sochi**	**70.97**	**310**	*e*P		P	15 35 45.8	-5.6
SOC				pmax	pmax			
	comp=Z,13nm,0.8s							
RES	**Resolute Bay**	**71.22**	**12**	P		**P**	**15 35 52.5**	**+0.1**
RES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RES	**Resolute Bay**	**71.22**	**12**	P		**P**	**15 35 52.5**	**+0.1**
	comp=Z,5.5nm,1.0s							
YKA	**Yellowknife Ar**	**73.87**	**26**	P		**P**	**15 36 09.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=313,slow=6.2,SNR=5.8							
YKA	**Yellowknife Ar**	**73.87**	**26**	P		**P**	**15 36 09.2**	**+0.8**
YKA	**Yellowknife Ar**	**73.87**	**26**	P		**P**	**15 36 09.2**	**+0.8**
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**15 36 10.4**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=57,slow=6.3,SNR=5.4							
AKASG	**Malin Array Be**	**74.31**	**320**	*i* P		**P**	**15 36 10.5**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**15 36 10.4**	**-0.7**
HFS	**Hagfors**	**76.61**	**333**	P		**P**	**15 36 24.1**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=67,slow=4.8,SNR=10							
HFS	**Hagfors**	**76.61**	**333**	P		**P**	**15 36 24.1**	**-0.1**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
HFS	**Hagfors**	**76.61**	**333**	P		**P**	**15 36 24.1**	**-0.1**
BR131	**Keskin Array S**	**76.75**	**308**	*e*P		**P**	**15 36 25.5**	**-0.1**
	comp=Z,1.4nm,0.6s							
BRTR	**Keskin Array B**	**76.75**	**308**	P		**P**	**15 36 26.2**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=102,slow=4.4,SNR=14							
BRTR	**Keskin Array B**	**76.75**	**308**	*i* P		**P**	**15 36 26.2**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRTR	**Keskin Array B**	**76.75**	**308**	P		**P**	**15 36 26.2**	**+0.6**
NB2	**NORSAR Subarra**	**77.00**	**334**	P		**P**	**15 36 26.2**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=49,slow=5.6							
NOA	**NORSAR Array B**	**77.00**	**334**	P		**P**	**15 36 26.3**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=49,slow=5.6,SNR=7.1							
NOA	**NORSAR Array B**	**77.00**	**334**	P		**P**	**15 36 26.3**	**-0.1**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NOA	**NORSAR Array B**	**77.00**	**334**	P		**P**	**15 36 26.3**	**-0.1**
CLL	**Collm**	**82.46**	**326**	*e*P		**P**	**15 36 58.0**	**+1.8**
CLL				MLR	MLR			
	comp=Z,500nm,14.6s							
CLL	**Collm**	**82.46**	**326**	*e*(P)		**P**	**15 36 58.0**	**+1.8**
NVAR	**Mina Array Bea**	**85.90**	**48**	P		P	15 37 16.3	+2.1
	comp=Z,1.0nm,0.7s,baz=297,slow=5.1,SNR=8.3							
NVAR	**Mina Array Bea**	**85.90**	**48**	P		P	15 37 16.3	+2.1
FLWY	**Flagg Ranch**	**86.98**	**40**	P		**P**	**15 37 18.8**	**-0.6**
	comp=Z,3.6nm,0.8s							
PD02	**Pinedale Array**	**88.45**	**40**	P		**P**	**15 37 25.9**	**-0.7**
PDAR	**Pinedale Array**	**88.47**	**40**	P		**P**	**15 37 27.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.0,SNR=5.3							
PDAR	**Pinedale Array**	**88.47**	**40**	P		**P**	**15 37 27.5**	**+0.9**

IDC 22 15:54:57.5±1.8, 23.32S×170.77E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=79.3km s-min=26.5km az=171.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.18**	**286**	Pn	Pn	15 56 03.7	+0.9
	3.3nm,0.3s,baz=124,slow=18,SNR=130						
DZM				Sn	Sn	15 56 53.9	+1.4
	2.0nm,0.3s,baz=121,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**4.18**	**286**	*e*P	Pn	15 56 02.5	-0.3
DZM				*e*S	Sn	15 56 53.1	+0.6
ASAR	**Alice Springs**	**33.75**	**262**	P	P	16 01 41.9	+0.7
	0.8nm,0.7s,baz=90,slow=9.6,SNR=14						
WRA	**Warramunga Arr**	**33.98**	**269**	P	P	16 01 42.3	-0.8
	0.2nm,0.4s,baz=95,slow=8.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**81.47**	**294**	P	P	16 07 17.5	+0.4
	0.4nm,0.5s,baz=129,slow=4.2,SNR=5.0						
NVAR	**Mina Array Bea**	**90.44**	**48**	P	P	16 08 02.6	+1.2
	0.1nm,0.4s,baz=243,slow=6.0,SNR=3.0						
SONM	**Songino Array**	**91.32**	**323**	P	P	16 08 04.8	-0.3
	0.2nm,0.6s,baz=116,slow=3.4,SNR=2.4						
GERES	**GERESS Array B**	**148.73**	**330**	PKPbc	PKPdf	16 14 44.5	+1.4
	0.6nm,0.7s,baz=316,slow=2.7,SNR=3.7						

JMA 22 16:00:53.9±0.1, 43.32N×146.13E, h51km±1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.29**	**279**	P	Pn	16 01 03.0	0.0
NEM2				*e*S	Sn	16 01 09.5	+0.1
JRA	**Rausu**	**0.96**	**311**	P	Pn	16 01 11.2	+0.2
JRA				*e*S	Sn	16 01 24.1	+0.4
JNK	**Nakash**	**1.06**	**285**	P	Pn	16 01 12.3	-0.2
JNK				*e*S	Sn	16 01 26.2	0.0
JAK	**Akkeshi**	**1.10**	**253**	P	Pn	16 01 12.9	0.0
JAK				*e*S	Sn	16 01 27.0	0.0
JAR	**Ashorobuto**	**1.72**	**270**	P	Pn	16 01 22.1	+0.6
JAR				*e*S	Sn	16 01 43.0	+0.7
JOB	**Onbets**	**1.73**	**257**	P	Pn	16 01 21.9	+0.4
JOB				*e*S	Sn	16 01 43.0	+0.5
JTKR	**Abashiri--Toko**	**1.74**	**293**	P	Pn	16 01 22.6	+1.0
JTKR				*e*S	Sn	16 01 43.7	+1.1

*IDC **22** 16:18:33.9±2.8, 56.40S×146.12E, h0km, mb3.9/4, mb1 4.1/4, mb1mx4.0/9, mbtmp3.9/4, Error ellipse: s-maj=164.2km s-min=38.7km az=87.0*
*NEIC **22** 16:18:34.6±1.1, 56.36S×146.99E, h10km, mb4.4/5, Error ellipse: s-maj=90.8km s-min=11.0km az=80.0*
ISC 22 16:18:34.5±1.4, 56.4S±0.2×147.1E±0.8, h10km, n19, σ0.89/20, mb4.2/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**21.89**	**171**	*e*P	**P**	**16 23 26.2**	**-0.8**
	18nm,1.3s						
STKA	**Stephens Creek**	**24.77**	**349**	P	**P**	**16 23 57.8**	**+1.6**
	4.3nm,0.9s,baz=174,slow=16,SNR=4.6						
STKA	**Stephens Creek**	**24.77**	**349**

WRA				PcP	PcP	16 31 18.9	-0.7
	0.4nm,0.8s,baz=172,slow=2.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**85.01**	**314**	P	P	16 34 23.1	+0.8
	0.6nm,1.0s,baz=182,slow=4.7,SNR=4.7						
GERES	**GERESS Array B**	**151.55**	**274**	PKPbc	PKPbc	16 41 39.8	-0.6
	0.8nm,0.7s,baz=249,slow=0.8,SNR=6.1						
ARCES	**ARCESS Array B**	**151.87**	**321**	PKPbc	PKPbc	16 41 40.5	+0.1
	3.5nm,0.9s,baz=116,slow=4.1,SNR=3.6						

IDC 22 16:31:14.5±8.0, 1.77S×136.04E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/15, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=114.8km s-min=77.0km az=175.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.14**	**185**	P	P	16 35 28.6	+0.2
	0.1nm,0.3s,baz=6.8,slow=13,SNR=5.8						
FITZ	**Fitzroy Crossi**	**19.18**	**212**	P	P	16 35 39.7	-0.2
	0.1nm,0.3s,baz=18,slow=16,SNR=2.5						
ASAR	**Alice Springs**	**21.87**	**185**	P	P	16 36 09.2	+0.2
	0.3nm,0.7s,baz=5.6,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**30.40**	**171**	P	P	16 37 28.1	-0.4
	1.9nm,0.7s,baz=346,slow=4.2,SNR=2.9						

IDC 22 16:48:54.0±51.0, 17.80S×179.20E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=909.8km s-min=147.8km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.72**	**248**	LR	LR	16 55 42.7	
	comp=Z,148nm,19.0s,baz=181,slow=32						
STKA	**Stephens Creek**	**36.69**	**240**	P	P	16 56 03.3	+0.5
	2.7nm,1.0s,baz=77,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**42.41**	**260**	P	P	16 56 50.5	-0.2
	0.6nm,0.3s,baz=96,slow=7.6,SNR=36						
ASAR	**Alice Springs**	**42.63**	**254**	P	P	16 56 52.0	-0.4
	3.1nm,0.5s,baz=87,slow=8.7,SNR=85						

IDC 22 17:16:44.2±5.5, 3.63S×144.14E, h68km±58km, mb3.5/9, mb1 3.7/11, mb1mx3.6/17, mbtmp3.5/11, ML3.0/2, Error ellipse: s-maj=31.8km s-min=23.4km az=131.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.48**	**153**	P	Pn	17 18 17.7	+0.7
	0.5nm,0.3s,baz=343,slow=19,SNR=1.5						
PMG				S	Sn	17 19 30.1	+0.5
	0.1nm,0.3s,baz=134,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**18.82**	**210**	P	P	17 20 58.3	-0.3
	0.1nm,0.3s,baz=31,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.24**	**205**	P	P	17 21 35.3	-0.3
	0.7nm,0.6s,baz=34,slow=8.2,SNR=15						
FITZ	**Fitzroy Crossi**	**23.13**	**230**	P	P	17 21 44.1	-0.8
	2.3nm,0.5s,baz=40,slow=7.7,SNR=10						
STKA	**Stephens Creek**	**28.20**	**185**	P	P	17 22 31.7	+1.1
	2.4nm,0.9s,baz=293,slow=16,SNR=2.0						
CMAR	**Chiang Mai Arr**	**49.62**	**298**	P	P	17 25 29.2	0.0
	0.6nm,0.7s,baz=119,slow=6.3,SNR=9.2						
PETK	**Petropavlovsk-**	**57.67**	**10**	P	P	17 26 27.3	-0.2
	5.1nm,0.9s,baz=163,slow=16,SNR=3.5						
SONM	**Songino Array**	**60.97**	**332**	P	P	17 26 51.0	+0.5
	0.4nm,0.7s,baz=154,slow=6.7,SNR=4.3						
MKAR	**Makanchi Array**	**73.86**	**321**	P	P	17 28 12.6	+0.7
	0.7nm,0.8s,baz=101,slow=6.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**75.50**	**328**	P	P	17 28 20.9	-0.2
	0.4nm,0.5s,baz=98,slow=4.4,SNR=3.1						
ILAR	**Eielson Array**	**84.45**	**24**	P	P	17 29 08.4	-0.8
	0.8nm,0.7s,baz=261,slow=4.9,SNR=7.8						

IDC 22 17:36:12.8±2.7, 5.23S×131.40E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/15, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=122.5km s-min=29.4km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.98**	**203**	Pn	Pn	17 39 31.1	-1.2
	0.1nm,0.3s,baz=265,slow=21,SNR=2.5						
FITZ				Sn	Sn	17 41 60.0	-8.3
	0.0nm,0.3s,baz=128,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**14.91**	**169**	Pn	Pn	17 39 43.3	-1.7
	0.1nm,0.3s,baz=355,slow=13,SNR=3.7						
WRA				Sn	Sn	17 42 20.2	-11
	0.1nm,0.3s,baz=350,slow=41,SNR=3.3						
ASAR	**Alice Springs**	**18.49**	**173**	P	Pn	17 40 31.8	+1.1
	0.1nm,0.3s,baz=350,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**67.53**	**326**	P	P	17 47 11.0	0.0
	0.2nm,0.5s,baz=116,slow=6.4,SNR=5.2						

BJI 22 17:56:40.8, 37.39N×100.66E, h12km, ML3.5/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.12**	**342**	Pn	Pn	17 57 13.1	-3.2
GTA				Sg	Sn	17 57 40.0	-2.8
GTA				smax	smax		
	comp=N,130nm,0.7s						
GTA				smax	smax		
	comp=E,120nm,0.6s						
LZH	**Lanzhou**	**2.87**	**116**	Pg	Pb	17 57 30.3	-1.9
LZH				Sg	Sb	17 58 08.0	+0.6
LZH				smax	smax		
	comp=N,460nm,0.7s						
LZH				smax	smax		
	comp=E,300nm,0.6s						
XAN	**Xi'an**	**7.50**	**114**	Pg	Pb	17 58 56.5	+5.5
XAN				smax	smax		
	comp=N,7.0nm,1.3s						
XAN				smax	smax		
	comp=E,4.0nm,1.2s						

IDC 22 18:14:05.3±2.6, 22.92S×171.14E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, MS3.9/2, Ms1 3.8/2, ms1mx3.1/10, Error ellipse: s-maj=113.3km s-min=41.8km az=176.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.42**	**280**	Pn	Pn	18 15 15.4	+1.6
	3.4nm,0.3s,baz=148,slow=21,SNR=5.9						
DZM				Sn	Sn	18 16 04.7	-1.5
	1.3nm,0.3s,baz=135,slow=19,SNR=2.2						
STKA	**Stephens Creek**	**27.64**	**245**	LR	LR	18 28 40.8	
	comp=Z,327nm,20.3s,baz=111,slow=32						
ASAR	**Alice Springs**	**34.15**	**261**	P	P	18 20 51.9	-0.4
	0.6nm,0.9s,baz=96,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**34.33**	**268**	P	P	18 20 53.9	0.0
	0.1nm,0.5s,baz=98,slow=8.5,SNR=3.5						
WRA				LR	LR	18 34 33.9	
	comp=Z,118nm,20.1s,baz=190,slow=36						
GERES	**GERESS Array B**	**148.56**	**331**	PKPbc	PKPbc	18 33 53.5	-0.7
	0.7nm,0.7s,baz=29,slow=3.0,SNR=4.8						

MOS ***22*** *19:08:58.7±1.1, 44.59N×148.42E, h49km, mb4.5/28, Error ellipse: s-maj=8.6km s-min=7.4km az=69.6*
NIED ***22*** *19:09:00, 44.20N×148.20E, h47km, Mw4.3 Best double couple: M₀3.26000×10¹⁵ NP1:φ=351.00000°, δ65.00000°, λ68.00000°. NP2:φ=215.00000°, δ32.00000°, λ129.00000°.*
JMA ***22*** *19:09:00.5±0.4, 44.17N×148.22E, h0km, M4.9*
SKHL ***22*** *19:09:00.3±2.3, 44.53N×148.58E, h63km±1km, mb4.8/6*
IDC ***22*** *19:09:01.2±0.6, 44.65N×148.27E, h55km±4km, mb3.8/30, mb1 4.0/33, mb1mx4.0/35, mbtmp3.8/33, MS3.2/11, Ms1 3.3/11, ms1mx3.1/44, Error ellipse: s-maj=13.1km s-min=9.4km az=147.0*
NEIC ***22*** *19:09:01.2±0.2, 44.63N×148.35E, mb4.8/21, Error ellipse: s-maj=7.9km s-min=4.3km az=150.0*
BJI ***22*** *19:09:01.3, 44.36N×148.56E, h89km, mB4.9/6, mb4.6/13, Ms4.3/1*
ISCJB ***22*** *19:09:01.7±0.4, 44.63N±0.04×148.23E±0.04, h72km±4km, mb4.3/64, Error ellipse: s-maj=6.9km s-min=3.5km az=148.9*
ISC 22 19:09:01.2±0.5, 44.56N±0.05×148.37E±0.05, h56km±4km, h55km:pP-P, n383, σ1ᵎ02/422, mb4.4/64, MS3.5/7, 89C-69D,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.76**	**332**	*i*P	Pn	19 09 16.0	0.0
KUR				*i* S	Sn	19 09 26.0	-0.8
KUR				pmax	pmax		
	comp=E,4μm,1.0s						
KUR				pmax	pmax		
	comp=Z,10μm,1.0s						
KUR				pmax	pmax		
	comp=N,4μm,1.2s						
KUR				smax	smax		
	comp=N,80μm,1.2s						
KUR				smax	smax		
	comp=E,55μm,2.0s						
KUR	**Kuril'sk**	**0.76**	**332**	P	Pn	19 09 16.0	0.0
KUR	**Kuril'sk**	**0.76**	**332**	*i*P	Pn	19 09 16.0	0.0
KUR				⇓ *i*P	Pn	19 09 16.0	0.0
KUR				AMB	AMB	19 09 16.4	
	comp=E,4μm,1.1s						
KUR				AMB	AMB	19 09 16.4	
	comp=E,10μm,1.1s						
KUR				*i* S	Sn	19 09 26.0	-0.8
KUR				A	A	19 09 30.2	
	comp=E,28μm,1.6s						
KUR				A	A	19 09 30.2	
	comp=E,45μm,1.2s						
KUR				A	A	19 09 30.2	
	comp=E,55μm,2.0s						
KUR				A	A	19 09 30.2	
	comp=E,80μm,1.2s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**255**	*d* iPN	Pn	19 09 31.4	+0.6
YUK				*i* S	Sn	19 09 54.8	+1.5
YUK				pmax	pmax		
	comp=Z,705nm,0.7s						
YUK				pmax	pmax		
	comp=E,354nm,0.4s						
YUK				pmax	pmax		
	comp=N,397nm,0.4s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=N,4μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**255**	P	Pn	19 09 32.0	+1.2
YUK	**Yuzh-Kuril'sk**	**1.87**	**255**	⇓ *i*P	Pn	19 09 31.4	+0.6
YUK				AMB	AMB	19 09 38.0	
	comp=N,546nm,0.5s						
YUK				AMB	AMB	19 09 38.0	
	comp=N,772nm,0.5s						
YUK				*i* S	Sn	19 09 54.8	+1.5
YUK				A	A	19 09 58.8	
	comp=N,4μm,0.7s						
YUK				A	A	19 09 58.8	
	comp=N,3μm,0.7s						
YUK				A	A	19 09 58.8	
	comp=N,4μm,0.7s						
NEM2	**Nemuro 2**	**2.24**	**239**	P	Pn	19 09 35.5	-0.3
NEM2				*e*S	Sn	19 10 01.3	-1.0
JRA	**Rausu**	**2.41**	**256**	P	Pn	19 09 39.6	+1.4
JRA				*e*S	Sn	19 10 08.1	+1.6
JNK	**Nakash**	**2.80**	**251**	P	Pn	19 09 44.7	+1.1
JNK				*e*S	Sn	19 10 17.0	+0.9
JAK	**Akkeshi**	**3.08**	**241**	P	Pn	19 09 47.6	+0.2
JAK				*e*S	Sn	19 10 22.6	-0.4
JTKR	**Abashiri--Toko**	**3.26**	**261**	P	Pn	19 09 51.2	+1.5
JAR	**Ashorobuto**	**3.55**	**251**	P	Pn	19 09 55.7	+1.9
JAR				*e*S	Sn	19 10 36.2	+1.7
JKK2	**Kamakawa 2**	**4.10**	**262**	P	Pn	19 10 03.9	+2.6
JCH	**Churui**	**4.12**	**244**	P	Pn	19 10 02.4	+0.8
JCH				*e*S	Sn	19 10 48.1	-0.4
JSE	**Soyaes**	**4.14**	**278**	P	Pn	19 10 03.3	+1.5
ASAJ	**Asahikawa**	**4.16**	**266**	P	Pn	19 10 04.5	+2.4
	comp=N,5.8nm,0.3s,baz=93,slow=17,SNR=39						
ASAJ				S	Sn	19 11 06.3	+17
	comp=N,5.6nm,0.3s,baz=31,slow=33,SNR=5.6						
ASAJ				LR	LR	19 11 58.0	
	comp=N,359nm,20.2s,baz=149,slow=43						
ASAJ	**Asahikawa**	**4.16**	**266**	PN	Pn	19 10 04.6	+2.4
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**4.16**	**266**	⇓ *e*Pn	Pn	19 10 04.4	+2.3
ASAJ				S	Sn	19 11 06.3	+17
JFR	**Furan**	**4.40**	**254**	P	Pn	19 10 08.1	+2.6
JFR				*e*S	Sn	19 11 00.1	+4.7
ERM	**Erimo**	**4.58**	**238**	*d* iPN	Pn	19 10 10.5	+2.6
ERM	**Erimo**	**4.58**	**238**	*e*P	Pn	19 10 10.4	+2.6
YSS	**Yuzh-Sakhalins**	**4.60**	**303**	⇓ *i*PN	Pn	19 10 10.0	+1.9
YSS				*e*S	Sn	19 11 04.0	+3.8
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax	smax		
	comp=N,50nm,0.7s						
YSS				smax	smax		
	comp=E,60nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.60**	**303**	*e*P	Pn	19 10 09.2	+1.1
YSS	**Yuzh-Sakhalins**	**4.60**	**303**	⇓ *i*P	Pn	19 10 10.0	+1.9
YSS				AMB	AMB	19 10 11.8	
	comp=E,50nm,0.8s						
YSS				*e*S	Sn	19 11 04.0	+3.8
YSS				A	A	19 11 06.0	
	comp=E,50nm,0.8s						
YSS				A	A	19 11 06.0	
	comp=E,60nm,0.8s						
YSS				*e*LQ	LQ	19 11 24.0	
YSS				AMS	AMS	19 12 00.0	
	comp=E,400nm,15.0s						
JWK2	**Keihoku**	**4.65**	**282**	P	Pn	19 10 12.5	+3.6
JNBK	**Urakawa-nobuka**	**4.68**	**243**	P	Pn	19 10 10.2	+0.9
JHR	**Hokuryu**	**4.85**	**263**	P	Pn	19 10 15.9	+4.3
JKB	**Kayabe**	**5.99**	**246**	P	Pn	19 10 28.3	+1.2
JKB				*e*S	Sn	19 11 34.3	0.0
JOT	**Ohata**	**6.24**	**242**	P	Pn	19 10 31.0	+0.4
JOT				*e*S	Sn	19 11 38.9	-1.6
UGL	**Uglegorsk**	**6.25**	**319**	*e*P	Pn	19 10 32.0	+1.3
UGL				AMB	AMB	19 10 34.0	
	comp=E,46nm,0.7s						
SKR	**Severo-Kuril's**	**8.05**	**38**	*e*PN	Pn	19 11 01.5	+6.1
SKR				*e*		19 12 30.0	
SKR	**Severo-Kuril's**	**8.05**	**38**	*e*P	Pn	19 11 01.5	+6.1
OKH	**Okha**	**9.67**	**340**	*e*P	Pn	19 11 18.8	+1.3
OKH				*e*rx	rx	19 13 06.0	
NKL	**Nikolayevsk**	**9.97**	**332**	*i* P	Pn	19 11 19.0	-2.6
NKL				AMB	AMB	19 11 20.2	
	comp=E,28nm,1.1s						
NKL				AMB	AMB	19 11 20.2	
	comp=E,44nm,1.1s						
HABR	**Khabarovsk**	**9.98**	**298**	PN	Pn	19 11 22.2	+0.5
HABR				pmax	pmax		
	comp=Z,39nm,1.7s						
HABR				MLR	MLR		
	comp=Z,161nm,17.0s						
PETK	**Petropavlovsk-**	**10.53**	**32**	P	Pn	19 11 30.6	+1.4
	comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=11						
PETK				S	Sn	19 13 40.2	+15
	baz=219,slow=22,SNR=2.4						
PETK				LR	LR	19 16 06.4	
	comp=Z,54nm,18.4s,baz=104,slow=40						
PETK	**Petropavlovsk-**	**10.53**	**32**	PN	Pn	19 11 30.6	+1.4
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.53**	**32**	P	Pn	19 11 30.6	+1.4
PETK				S	Sn	19 13 40.2	+15
MJAR	**Matsushiro Arr**	**11.12**	**227**	P	Pn	19 11 36.9	-0.6
	comp=Z,0.6nm,0.3s,baz=27,slow=13,SNR=18						
MJAR				LR	LR	19 16 05.1	
	comp=Z,101nm,21.2s,baz=45,slow=38						
MJAR	**Matsushiro Arr**	**11.12**	**227**	PN	Pn	19 11 36.9	-0.6
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**11.12**	**227**	P	Pn	19 11 36.9	-0.6
MAJO	**Matsushiro**	**11.12**	**227**	*e*PN	Pn	19 11 37.2	-0.3
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**11.12**	**227**	*e*P	Pn	19 11 37.2	-0.3
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**11.12**	**227**	P	Pn	19 11 36.6	-0.9
USRK	**Ussuriysk Arra**	**11.72**	**274**	P	Pn	19 11 47.7	+2.1
	comp=Z,0.3nm,0.3s,baz=91,slow=12,SNR=15						
USRK				LR	LR	19 16 10.4	
	comp=Z,84nm,20.6s,baz=219,slow=37						
KLR	**Kul'dur**	**12.28**	**298**	*e*PN	Pn	19 11 52.8	-0.4
KLR				pmax	pmax		
	comp=E,30nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
ZEA	**Zeya**	**16.53**	**311**	*e*P	Pn	19 12 46.9	-2.2
ZEA				AMB	AMB	19 12 47.7	
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**16.96**	**252**	P	P	19 12 55.3	-0.4
	comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=4.3						
KSRS				LR	LR	19 19 02.4	
	comp=Z,52nm,20.1s,baz=164,slow=36						
KSRS	**Korea Array**	**16.96**	**252**	P	P	19 12 55.3	-0.4
KSAR	**Wonju Array Be**	**16.99**	**252**	P	Pn	19 12 55.3	+0.4
KSAR	**Wonju Array Be**	**16.99**	**252**	P	Pn	19 12 55.3	+0.4
JNU	**Nakatsue**	**17.74**	**236**	P	P	19 13 06.6	+2.3
	comp=Z,0.4nm,0.3s,baz=84,slow=9.2,SNR=6.6						
JNU	**Nakatsue**	**17.74**	**236**	P	P	19 13 06.6	+2.3
FX1	**Attu Island--F**	**18.29**	**54**	P	Pn	19 13 13.9	+3.2
	comp=Z,2.1nm,0.3s,baz=234,slow=19,SNR=5.1						
FX1				LR	LR	19 19 31.5	
	comp=Z,50nm,19.1s,baz=176,slow=34						
FX1	**Attu Island--F**	**18.29**	**54**	P	Pn	19 13 13.9	+3.2
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	**Attu Island--F**	**18.29**	**54**	P	Pn	19 13 13.9	+3.2
YAK	**Yakutsk**	**20.62**	**335**	*e*P	P	19 13 35.6	+0.1
YAK				pmax	pmax		
	comp=Z,49nm,1.0s						
YAK	**Yakutsk**	**20.62**	**335**	*e*P	P	19 13 35.6	+0.1
	comp=Z,49nm,1.0s						
BILL	**Bilibino**	**25.34**	**16**	*e*P	P	19 14 20.8	-1.6
BILL				*e*PP	pP	19 14 35.7	-0.6
SONM	**Songino Array**	**28.98**	**292**	P	P	19 14 55.5	+0.1
	comp=Z,0.9nm,0.7s,baz=84,slow=7.8,SNR=9.6						
SONM				LR	LR	19 26 37.6	
	comp=Z,110nm,19.6s,baz=86,slow=37						
SONM	**Songino Array**	**28.98**	**292**	P	P	19 14 55.5	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,110nm,19.6s						
SONM	**Songino Array**	**28.98**	**292**	P	P	19 14 55.5	+0.1
GUMO	**Guam**	**31.01**	**187**	LR	LR	19 27 26.0	
	comp=Z,44nm,18.3s,baz=28,slow=36						
ENH	**Enshi**	**33.68**	**258**	*e*P	P	19 15 35.8	-1.0
	comp=Z,2.8nm,0.6s						
LZH	**Lanzhou**	**34.62**	**272**	*e*P	P	19 15 45.4	+0.3
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
GTA	**Gaotai**	**36.02**	**279**	*e*P	P	19 15 58.3	+1.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDAK	**Kodiak Island**	**38.06**	**48**	P	P	19 16 13.7	-0.1
	comp=Z,7.0nm,0.7s,baz=298,slow=15,SNR=3.9						
KDAK	**Kodiak Island**	**38.06**	**48**	*i* P	P	19 16 14.5	+0.7
KDAK	**Kodiak Island**	**38.06**	**48**	P	P	19 16 13.7	-0.1
MCK	**McKinley**	**39.45**	**38**	*e*P	P	19 16 25.6	+0.1
MCK	**McKinley**	**39.45**	**38**	*e*P	P	19 16 25.6	+0.1
ILAR	**Eielson Array**	**40.32**	**37**	P	P	19 16 32.2	-0.4
	comp=Z,1.3nm,0.7s,baz=270,slow=8.7,SNR=15						
ILAR				pP	pP	19 16 46.3	-0.8
	comp=Z,1.4nm,0.6s,baz=267,slow=7.7,SNR=7.0						
ILAR				PcP	PcP	19 18 35.5	+0.4
	comp=Z,0.3nm,0.6s,baz=269,slow=5.4,SNR=5.6						
ILAR	**Eielson Array**	**40.32**	**37**	P	P	19 16 32.3	-0.4
ILAR				**PP	pP	19 16 46.3	-0.8
ILAR						19 18 35.5	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**40.32**	**37**	P	P	19 16 32.2	-0.4
ILAR				pP	pP	19 16 46.3	-0.8
ILAR				PcP	PcP	19 18 35.5	+0.4
ZALV	**Zalesovo Beam**	**41.21**	**307**	P	P	19 16 39.9	-0.3
	comp=Z,0.4nm,0.6s,baz=57,slow=5.8,SNR=3.0						
ZALV				PcP	PcP	19 18 37.6	-0.5
	comp=Z,2.6nm,0.7s,baz=96,slow=2.7,SNR=13						
ZALV				LR	LR	19 33 06.2	
	comp=Z,75nm,20.1s,baz=46,slow=35						
ZALV	**Zalesovo Beam**	**41.21**	**307**	P	P	19 16 39.9	-0.3
ZALV						19 18 37.7	
ZALV				MLR	MLR		
	comp=Z,75nm,20.1s						
ZALV	**Zalesovo Beam**	**41.21**	**307**	P	P	19 16 39.9	-0.3
ZALV				PcP	PcP	19 18 37.6	-0.5
KMI	**Kunming**	**41.55**	**258**	P	P	19 16 43.5	0.0
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MKAR	**Makanchi Array**	**44.99**	**297**	P	P	19 17 10.3	-0.5
	comp=Z,0.2nm,0.5s,baz=84,slow=8.3,SNR=6.0						
MKAR				PcP	PcP	19 18 50.6	-0.4
	comp=Z,1.7nm,0.7s,baz=66,slow=4.8,SNR=8.2						
MKAR				LR	LR	19 37 18.5	
	comp=Z,74nm,20.9s,baz=353,slow=38						
MKAR	**Makanchi Array**	**44.99**	**297**	P	P	19 17 10.3	-0.5
MKAR						19 18 50.6	
MKAR				MLR	MLR		
	comp=Z,74nm,20.9s						
MKAR	**Makanchi Array**	**44.99**	**297**	P	P	19 17 10.3	-0.5
MKAR				PcP	PcP	19 18 50.6	-0.4
KURK	**Kurchatov**	**45.80**	**304**	P	P	19 17 16.6	-0.5
	comp=Z,1.0nm,0.7s,baz=74,slow=8.1,SNR=12						
KURK				PcP	PcP	19 18 53.3	-0.4
	comp=Z,1.9nm,0.8s,baz=75,slow=3.3,SNR=14						
KURK	**Kurchatov**	**45.80**	**304**	P	P	19 17 16.6	-0.5
KURK						19 18 53.3	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**45.80**	**304**	*e*P	P	19 17 15.4	-1.7
KURK				PcP	PcP	19 18 53.3	-0.4
LSA	**Lhasa**	**47.04**	**272**	*e*P	P	19 17 28.1	+0.5
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**47.04**	**272**	*e*P	P	19 17 28.1	+0.5
	comp=Z,3.4nm,0.8s						
CHTO	**Chiang Mai**	**48.35**	**254**	*e*P	P	19 17 37.5	+0.2
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**48.35**	**254**	*e*P	P	19 17 37.5	+0.2
	comp=Z,4.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**48.59**	**254**	P	P	19 17 39.5	+0.3
	comp=Z,1.6nm,0.8s,baz=42,slow=7.5,SNR=20						
CMAR				LR	LR	19 39 09.2	
	comp=Z,27nm,20.4s,baz=50,slow=37						
CMAR	**Chiang Mai Arr**	**48.59**	**254**	P	P	19 17 39.5	+0.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,27nm,20.4s						
CMAR	**Chiang Mai Arr**	**48.59**	**254**	P	P	19 17 39.5	+0.3
DLBC	**Dease Lake**	**49.49**	**43**	P	P	19 17 47.4	+1.7
	comp=Z,1.3nm,0.5s,baz=280,slow=11,SNR=4.7						
DLBC	**Dease Lake**	**49.49**	**43**	P	P

KKN **Kakani** 52.34 274 *eP* P 19 18 07.6 -0.1
comp=Z,20nm,0.9s
PKI **Pulchoki** 52.38 273 *eP* P 19 18 07.9 -0.2
PKI **Pulchoki** 52.38 273 *eP* P 19 18 07.9 -0.2
PKI **Pulchoki** 52.38 273 *eP* P 19 18 07.9 -0.2
DMN **Daman** 52.57 274 *eP* P 19 18 09.6 +0.2
comp=Z,29nm,0.9s
DMN **Daman** 52.57 274 *eP* P 19 18 09.6 +0.2
comp=Z,29nm,0.9s
GKN **Gorkha** 52.67 274 *eP* P 19 18 10.0 0.0
comp=Z,30nm,1.0s
GKN **Gorkha** 52.67 274 *eP* P 19 18 10.0 0.0
comp=Z,30nm,1.0s
DANN **Dangsing** 53.09 275 *eP* P 19 18 13.7 +0.4
DANN **Dangsing** 53.09 275 *eP* P 19 18 13.7 +0.4
KOLN **Koldanda** 53.55 275 *eP* P 19 18 16.7 +0.1
comp=Z,17nm,1.0s
KOLN **Koldanda** 53.55 275 *eP* P 19 18 16.7 +0.1
comp=Z,17nm,1.0s
YKA **Yellowknife Ar** 54.64 34 P P 19 18 23.4 -0.3
comp=Z,1.9nm,0.7s,baz=297,slow=6.5,SNR=4.5
YKA **Yellowknife Ar** 54.64 34 P P 19 18 23.4 -0.3
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** 54.64 34 P P 19 18 23.4 -0.3
ABKAR **Akbulak array** 57.24 309 *eP* P 19 18 41.6 -0.9
comp=Z,1.1nm,0.4s
AKTO **Aktyubinsk** 57.67 311 P P 19 18 45.5 0.0
comp=Z,0.7nm,0.6s,baz=60,slow=8.1,SNR=4.5
AKTO **Aktyubinsk** 57.67 311 P P 19 18 45.6 0.0
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO **Aktyubinsk** 57.67 311 P P 19 18 45.5 0.0
ARCES **ARCESS Array B** 58.79 340 P P 19 18 53.4 +0.3
comp=Z,3.7nm,0.9s,baz=24,slow=9.8,SNR=3.0
ARCES **ARCESS Array B** 58.79 340 P P 19 18 53.4 +0.3
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES **ARCESS Array B** 58.79 340 P P 19 18 53.4 +0.3
ETW **Entiat** 59.75 52 *eP* P 19 19 00.5 +0.3
comp=Z,3.8nm,0.7s
HOOD **Mount Hood Mea** 60.28 54 *eP* P 19 19 05.0 +1.1
comp=Z,11nm,0.9s
NEW **Newport** 61.14 50 ⇑P P 19 19 10.0 +0.4
baz=61
YBH **Yreka Blue Hor** 61.72 58 P P 19 19 15.0 +1.4
comp=Z,0.8nm,0.4s,baz=27,slow=2.3,SNR=4.1
YBH **Yreka Blue Hor** 61.72 58 P P 19 19 15.0 +1.4
YBH pmax pmax
comp=Z,1.0nm,0.4s
YBH **Yreka Blue Hor** 61.72 58 P P 19 19 15.0 +1.4
JOF **Joensuu** 61.78 332 *eP* P 19 19 11.7 -1.8
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF **Joensuu** 61.78 332 *ep* P 19 19 11.7 -1.8
comp=Z,3.9nm,0.6s
JOF **Joensuu** 61.78 332 *ep* P 19 19 11.7 -1.8
comp=Z,3.9nm,0.6s
A13A **Flathead Natio** 62.20 48 ⇓P P 19 19 17.3 +0.6
baz=62
B13A **Whitefish** 62.50 48 ⇑P P 19 19 19.6 +0.8
baz=62,SNR=6.5
A14A **Double T Ranch** 62.70 47 ⇑P P 19 19 20.6 +0.5
baz=62
C13A **Hot Springs** 62.87 49 ⇑P P 19 19 21.7 +0.5
baz=63
A15A **Johnson Ranch,** 63.05 47 ⇑P P 19 19 22.5 +0.1
baz=63
B14A **Marquette Ranc** 63.15 48 ⇓P P 19 19 23.6 +0.5
baz=63
SWMT **Swartz Lake** 63.28 49 *eP* P 19 19 24.2 +0.2
comp=Z,5.9nm,1.1s
D13A **Huson** 63.28 49 ⇑P P 19 19 24.4 +0.4
baz=63,SNR=5.6
B15A **Bradely Ranch,** 63.55 47 ⇓P P 19 19 26.5 +0.8
baz=63
F12A **Elk City** 63.66 51 ⇓P P 19 19 27.2 +0.6
baz=63,SNR=5.9
SLMT **Seeley Lake** 63.71 49 *eP* P 19 19 27.7 +0.8
comp=Z,12nm,1.2s
MSO **Missoula** 63.73 49 ⇑P P 19 19 27.4 +0.4
baz=63
D14A **Greenough** 63.81 49 ⇑P P 19 19 27.9 +0.4
baz=64
E13A **Victor** 63.83 50 ⇑P P 19 19 28.2 +0.6
baz=64
C15A **Salmond Ranch,** 63.86 48 ⇓P P 19 19 28.6 +0.7
baz=64,SNR=6.2
F13A **Darby** 64.15 50 ⇓P P 19 19 30.0 +0.2
baz=64
C16A **Fuhringer Ranc** 64.30 47 ⇓P P 19 19 31.4 +0.8
baz=64,SNR=10
D15A **Lincoln** 64.36 49 ⇓P P 19 19 31.6 +0.5
baz=64
B17A **L&G Farms, Che** 64.49 47 ⇓P P 19 19 32.5 +0.7
baz=64
FFC **Flin Flon** 64.53 37 *i* P P 19 19 32.3 +0.4
FINES **FINESS Array B** 64.55 333 P P 19 19 29.0 -2.9
comp=Z,2.2nm,0.7s,baz=32,slow=7.9,SNR=15
FINES **FINESS Array B** 64.55 333 P P 19 19 29.0 -2.9
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES **FINESS Array B** 64.55 333 P P 19 19 29.0 -2.9
A18A **Metzger Ranch,** 64.58 46 ⇓P P 19 19 32.9 +0.5
baz=64
H12A **Diamond D Ranc** 64.62 52 ⇑P P 19 19 33.3 +0.4
baz=64
G13A **Cobalt** 64.64 51 ⇓P P 19 19 33.0 0.0
baz=64,SNR=7.0
F14A **Wisdom** 64.67 50 ⇓P P 19 19 33.5 +0.3
baz=64
E15A **Deer Lodge** 64.68 49 ⇑P P 19 19 33.6 +0.4
baz=64
D16A **Dana Ranch, Ca** 64.89 48 ⇓P P 19 19 35.1 +0.5
baz=65,SNR=7.3
C17A **Wharram Farm,** 64.92 47 ⇓P P 19 19 34.9 +0.2
baz=65,SNR=6.7
I12A **Atlanta** 64.94 53 ⇑P P 19 19 35.4 +0.4
baz=65,SNR=6.1
B18A **Beardsley Farm** 64.95 46 ⇑P P 19 19 35.4 +0.5
baz=65
H13A **Challis** 64.95 51 ⇓P P 19 19 35.6 +0.5
baz=65,SNR=9.2
F15A **Butte** 65.13 50 ⇑P P 19 19 36.6 +0.4
baz=65,SNR=5.9
E16A **East Helena** 65.13 49 ⇓P P 19 19 36.7 +0.6
baz=65
A19A **Klindworth Far** 65.14 45 ⇓P P 19 19 36.7 +0.7
baz=65
LRM **Limekiln Ridge** 65.16 50 *eP* P 19 19 37.0 +0.6
comp=Z,89nm,1.1s
EGMT **Eagleton** 65.20 46 ⇓P P 19 19 37.2 +0.7
baz=65
D17A **Six Diamond Ra** 65.27 48 ⇑P P 19 19 37.4 +0.4
baz=65
B19A **Brinkman Farms** 65.34 46 ⇑P P 19 19 38.0 +0.7
baz=65
I13A **Wildhorse Cree** 65.44 52 ⇑P P 19 19 38.8 +0.6
baz=65
WRAB **Tennant Creek** 65.45 195 *eP* P 19 19 38.0 -0.1
WRAB pmax pmax
comp=Z,9.0nm,1.3s
WRAB **Tennant Creek** 65.45 195 *eP* P 19 19 38.0 -0.1
comp=Z,9.3nm,1.3s
WRA **Warramunga Arr** 65.46 195 P P 19 19 38.1 -0.1
comp=Z,2.3nm,0.7s,baz=10,slow=6.5,SNR=17
WRA **Warramunga Arr** 65.46 195 P P 19 19 38.1 -0.1
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA **Warramunga Arr** 65.46 195 P P 19 19 38.1 -0.1
HLID **Hailey** 65.49 52 ⇑P P 19 19 39.1 +0.5
baz=65
G15A **Dillon** 65.55 50 ⇑P P 19 19 39.5 +0.6
baz=65,SNR=6.7
E17A **Martinsdale** 65.61 48 ⇑P P 19 19 40.1 +0.8
baz=65,SNR=6.6
F16A **Kennard Place,** 65.63 49 ⇑P P 19 19 39.8 +0.4
baz=65,SNR=7.5
BOZ **Bozeman (W)** 65.72 49 ⇑P P 19 19 41.1 +1.1
baz=65,SNR=15
BOZ ⇑P P 19 19 41.1 +1.1
baz=65,SNR=15
FITZ **Fitzroy Crossi** 65.72 204 P P 19 19 40.6 +0.7
comp=Z,2.6nm,0.9s,baz=351,slow=13,SNR=3.2
FITZ **Fitzroy Crossi** 65.72 204 P P 19 19 40.6 +0.7
J13A **Cove Ranch, Pi** 65.73 52 ⇑P P 19 19 41.0 +0.9
baz=66
C19A **Slack Wire Ran** 65.75 46 ⇑P P 19 19 40.9 +0.9
baz=66,SNR=7.1
I14A **Mackay** 65.80 52 ⇑P P 19 19 41.8 +1.2
baz=66,SNR=5.9
G16A **Moss Hill, Enn** 65.89 50 ⇓P P 19 19 41.9 +0.8
baz=66,SNR=7.0
A21A **Bergtoll Ranch** 66.01 44 ⇑P P 19 19 42.5 +0.9
baz=66
F17A **Fitzpatrick Pl** 66.08 49 ⇑P P 19 19 42.7 +0.4
baz=66
D19A **Cripps Ranch,** 66.20 47 ⇑P P 19 19 43.7 +0.7
baz=66
C20A **Veseth Ranch,** 66.30 46 ⇓P P 19 19 44.8 +1.3
baz=66
G17A **Pierce Place,** 66.41 49 ⇑P P 19 19 45.7 +1.3
baz=66
NVAR **Mina Array Bea** 66.41 59 P P 19 19 45.4 +0.8
comp=Z,1.9nm,0.8s,baz=294,slow=7.1,SNR=12
NVAR pP pP 19 19 59.9 -0.1
comp=Z,1.0nm,0.5s,baz=292,slow=7.9,SNR=6.0
NVAR **Mina Array Bea** 66.41 59 P P 19 19 45.4 +0.8
NVAR pP pP 19 19 59.9 -0.1
H16A **Russell Place,** 66.53 50 ⇑P P 19 19 45.8 +0.6
baz=66
F18A **Big Timber** 66.58 48 ⇑P P 19 19 46.2 +0.8
baz=66,SNR=8.6
D20A **Manuel Ranch,** 66.64 46 ⇓P P 19 19 46.6 +0.9
baz=66,SNR=6.4
E19A **Rath Farm, Rou** 66.71 47 ⇓P P 19 19 47.1 +0.9
baz=66
ELK **Elko** 66.79 55 P P 19 19 47.5 +0.5
comp=Z,0.4nm,0.5s,baz=241,slow=13,SNR=2.8
ELK **Elko** 66.79 55 P P 19 19 47.5 +0.5
ELK **Elko** 66.79 55 P P 19 19 47.5 +0.5
F19A **Roth Farm, Mol** 67.02 48 ⇓P P 19 19 49.1 +0.8
baz=67
E20A **Meyer Farm, Mu** 67.02 47 ⇓P P 19 19 49.2 +1.1
baz=67
H17A **Grant Village** 67.09 50 ⇑P P 19 19 50.6 +1.7
baz=67,SNR=5.2
K15A **Arbon** 67.11 52 ⇓P P 19 19 49.6 +0.7
baz=67
J16A **Bone** 67.25 51 ⇑P P 19 19 51.0 +1.2
baz=67
RLMT **Red Lodge** 67.33 49 ⇑P P 19 19 50.9 +0.6
baz=67
RLMT ⇑P P 19 19 50.9 +0.6
baz=67
RRI2 **Red Ridge** 67.36 51 *eP* P 19 19 51.1 +0.5
comp=Z,6.1nm,0.8s
I17A **Pilgrim Ck.** 67.40 50 ⇑P P 19 19 52.0 +1.2
baz=67,SNR=6.0
H18A **Shoshone NF, C** 67.41 49 ⇑P P 19 19 51.6 +0.8
baz=67
MOOW **Moose Ponds** 67.42 50 *eP* P 19 19 52.0 +1.0
comp=Z,5.7nm,1.2s
MOOW *ep*P pP 19 20 07.2 +0.8
G20A **Bridger** 67.83 48 ⇑P P 19 19 53.8 +0.4
baz=68
GRAC **Grapevine Rang** 67.89 60 ⇓P P 19 19 54.8 +1.1
baz=68
M15A **Larsen Ranch,** 67.95 53 ⇑P P 19 19 54.7 +0.6
baz=68,SNR=5.7
R11A **Troy Canyon, C** 68.11 57 ⇑P P 19 19 55.6 +0.3
baz=68
FRB **Frobisher Bay** 68.15 17 P P 19 19 53.1 -1.8
comp=Z,1.5nm,0.5s,baz=345,slow=9.2,SNR=3.3
FRB **Frobisher Bay** 68.15 17 P P 19 19 53.1 -1.8
FRB pmax pmax
comp=Z,2.0nm,0.5s
FRB **Frobisher Bay** 68.15 17 P P 19 19 53.1 -1.8
L16A **Fish Haven** 68.17 52 ⇑P P 19 19 56.3 +0.6
baz=68
J18A **Kendall Valley** 68.17 50 ⇑P P 19 19 56.5 +0.8
baz=68
I19A **Meeteetse** 68.19 49 ⇓P P 19 19 56.7 +0.9
baz=68
E22A **Miles City** 68.20 46 ⇓P P 19 19 56.0 +0.5
baz=68
N15A **Stansbury Isla** 68.28 54 ⇓P P 19 19 57.2 +1.0
baz=68
MPMC **Manual Prospec** 68.41 60 ⇑P P 19 19 57.7 +0.4
baz=68
K18A **Toltan Ranch,** 68.54 51 ⇑P P 19 19 58.4 +0.5
baz=68
FURC **Furnace Creek,** 68.54 60 ⇑P P 19 19 58.8 +1.0
baz=68
D24A **Glendive** 68.56 44 ⇑P P 19 19 58.7 +0.9
baz=68
J19A **Crowheart** 68.67 50 ⇓P P 19 19 59.6 +0.9
baz=68
I20A **Worland** 68.71 49 ⇓P P 19 19 59.9 +1.0
baz=68
BW06 **Boulder Array** 68.72 51 ⇓P P 19 19 59.5 +0.3
baz=68
BW06 ⇓P P 19 19 59.5 +0.3
baz=68
PDAR **Pinedale Array** 68.72 51 P P 19 19 59.2 +0.1
comp=Z,2.3nm,0.8s,baz=266,slow=2.5,SNR=17
PDAR pP pP 19 20 14.8 +0.2
comp=Z,2.9nm,0.8s,baz=331,slow=1.7,SNR=11
PDAR **Pinedale Array** 68.72 51 P P 19 19 59.2 +0.1
PDAR pP pP 19 20 14.8 +0.2
H21A **Big Horn, Sher** 68.84 48 ⇑P P 19 20 00.6 +0.9
baz=68
EDW2 **Edwards Air Fo** 68.86 62 ⇑P P 19 20 01.2 +1.4
baz=69
F23A **Volborg** 68.96 46 ⇑P P 19 20 01.2 +0.9
baz=69
K19A **Absolon Red Bu** 69.07 50 ⇑P P 19 20 01.5 +0.3
baz=69
NB2 **NORSAR Subarra** 69.16 339 P P 19 20 00.2 -1.1
comp=Z,2.2nm,0.6s,baz=30,slow=6.5
NOA **NORSAR Array B** 69.16 339 P P 19 19 60.0 -1.3
comp=Z,3.5nm,0.7s,baz=31,slow=6.3,SNR=14
NOA **NORSAR Array B** 69.16 339 P P 19 20 00.0 -1.3
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA **NORSAR Array B** 69.16 339 P P 19 19 60.0 -1.3
ASAR **Alice Springs** 69.17 194 P P 19 20 02.5 +0.8
comp=Z,1.6nm,0.7s,baz=9.6,slow=5.8,SNR=37
ASAR pP pP 19 20 17.2 +0.1
comp=Z,0.4nm,0.6s,baz=20,slow=5.5,SNR=1.7
ASAR **Alice Springs** 69.17 194 P P 19 20 02.5 +0.8
ASAR *PP pP 19 20 17.3 +0.1
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR **Alice Springs** 69.17 194 P P 19 20 02.5 +0.8
ASAR pP pP 19 20 17.2 +0.1
I21A **Big Trails, Te** 69.25 49 ⇑P P 19 20 02.5 +0.2
baz=69
HFS **Hagfors** 69.28 338 LR LR 19 55 05.4
comp=Z,336nm,19.4s,baz=258,slow=40
G23A **Biddle** 69.32 47 ⇓P P 19 20 03.1 +0.5
baz=69
F24A **Ekalaka** 69.37 46 ⇑P P 19 20 03.9 +1.0
baz=69
TUQ **Turquoise Moun** 69.78 60 ⇑P P 19 20 06.6 +0.9
baz=70
KIV **Kislovodsk** 69.87 312 *eP* P 19 20 00.9 -5.1
KIV pmax pmax
comp=Z,4.0nm,1.1s
HEC **Hector,Ludlow** 69.93 61 ⇓P P 19 20 07.0 +0.5
baz=70
H24A **Dirks Ranch, A** 70.06 46 ⇓P P 19 20 07.5 +0.3
baz=70
ULM **Lac du Bonnet** 70.32 38 P P 19 20 07.9 -0.6
comp=Z,2.5nm,0.5s,baz=314,slow=9.5,SNR=5.1
ULM **Lac du Bonnet** 70.32 38 P P 19 20 07.9 -0.6
ULM pmax pmax
comp=Z,3.0nm,0.5s
ULM **Lac du Bonnet** 70.32 38 P P 19 20 07.9 -0.6
MDND **Maddock** 70.35 42 ⇑P P 19 20 09.4 +0.6
baz=70
GMRC **Granite Mounta** 70.38 60 ⇓P P 19 20 09.8 +0.4
baz=70
R16A **Teasdale** 70.59 55 ⇓P P 19 20 11.8 +1.1
baz=70
SRU **San Rafael** 70.60 54 ⇑P P 19 20 11.2 +0.5
baz=70
I24A **Kuemmerle Ranc** 70.64 47 ⇓P P 19 20 11.3 +0.5
baz=70
S16A **Weppner Ranch,** 70.90 56 ⇑P P 19 20 13.5 +0.9
baz=71
U15A **North Rim** 71.35 57 ⇓P P 19 20 16.0 +0.6
baz=71
S17A **Black Ridge (B** 71.43 55 ⇑P P 19 20 15.8 +0.2
baz=71
N22A **Wattenberg Ran** 71.75 50 ⇓P P 19 20 17.1 -0.6
baz=72
S18A **Hurst Farm, Bl** 71.86 55 ⇑P P 19 20 19.1 +0.7
baz=72
N23A **Red Feather La** 71.97 50 ⇓P P 19 20 19.8 +0.8
baz=72
U16A **Tuba City** 72.23 57 ⇓P P 19 20 21.4 +0.9
baz=72
T18A **Mexican Hat** 72.31 55 ⇓P P 19 20 21.2 +0.2
baz=72
S19A **Harvey Farm, M** 72.32 54 ⇓P P 19 20 21.4 +0.2
baz=72
O23A **Lake Granby, G** 72.46 51 ⇑P P 19 20 22.7 +0.7
baz=72
R20A **Redvale** 72.46 54 ⇑P P 19 20 22.5 +0.6
baz=72
Y14A **Wickenburg** 72.58 59 ⇑P P 19 20 23.5 +1.0
baz=72
S20A **Disappointment** 72.72 54 ⇑P P 19 20 23.6 0.0
baz=72
V17A **Tonalea, Kykot** 72.79 57 ⇓P P 19 20 24.7 +0.9
baz=72
R21A **Cimarron** 72.81 53 ⇑P P 19 20 24.7 +0.7
baz=72
Q22A **Crested Butte,** 72.83 52 ⇑P P 19 20 24.6 +0.3
baz=73
ISCO **Idaho Springs** 72.91 51 ⇑P P 19 20 25.2 +0.4
baz=73
S21A **Coal Bank Pass** 73.16 54 ⇑P P 19 20 26.8 +0.6
baz=73
X16A **Lo Mia Camp, P** 73.21 58 ⇑P P 19 20 27.4 +1.0
baz=73
R22A **Saguache, Gunn** 73.36 53 ⇓P P 19 20 27.8 +0.4
baz=73
S22A **4UR Ranch, Cre** 73.65 53 ⇓P P 19 20 29.4 +0.3
baz=73
R23A **Moffat** 73.91 52 ⇓P P 19 20 31.0 +0.4
baz=74
W19A **Sanders** 73.97 56 ⇓P P 19 20 31.3 +0.4
baz=74
T22A **Edith** 74.12 54 ⇑P P 19 20 32.3 +0.5
baz=74
SDCO **Great Sand Dun** 74.41 52 ⇓P P 19 20 34.1 +0.6
baz=74
SDCO ⇓P P 19 20 34.1 +0.6
baz=74
X19A **St. Johns** 74.50 57 ⇑P P 19 20 35.2 +1.2
baz=74
X20A **Quemado** 74.90 56 ⇑P P 19 20 37.4 +1.1
baz=75
T24A **Torres, Weston** 75.13 52 ⇓P P 19 20 38.6 +0.9
baz=75
X21A **Alamocita Cree** 75.39 56 ⇑P P 19 20 39.9 +0.8
baz=75
Y20A **Horse Springs,** 75.41 57 ⇓P P 19 20 40.4 +1.1
baz=75
ANMO **Albuquerque** 75.81 55 P P 19 20 41.2 -0.2
comp=Z,1.1nm,0.5s,baz=340,slow=9.0,SNR=3.8
ANMO **Albuquerque** 75.81 55 P P 19 20 41.3 -0.2
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO **Albuquerque** 75.81 55 P P 19 20 41.2 -0.2
T26A **Comanche Natio** 75.88 52 ⇑P P 19 20 42.1 +0.2
baz=76
U25A **Circle Dot Ran** 75.97 53 ⇓P P 19 20 42.6 +0.2
baz=76
120A **U Bar Ranch, L** 76.20 58 ⇑P P 19 20 44.6 +0.9
baz=76
W24A **Lazy 6 Ranch,** 76.24 54 ⇓P P 19 20 44.8 +0.9
baz=76
Z21A **St. Cloud Mine** 76.25 57 ⇓P P 19 20 45.1 +1.1
baz=76
STKA **Stephens Creek** 76.32 186 P P 19 20 45.1 +1.3
comp=Z,1.8nm,0.8s,baz=312,slow=14,SNR=4.4
STKA **Stephens Creek** 76.32 186 P P 19 20 45.2 +1.3
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA **Stephens Creek** 76.32 186 P P 19 20 45.1 +1.3
SCHQ **Schefferville** 76.56 20 P P 19 20 44.2 -0.9
comp=Z,1.4nm,0.5s,baz=344,slow=8.8,SNR=5.7
SCHQ **Schefferville** 76.56 20 P P 19 20 44.2 -0.9
Z22A **Elephant Butte** 76.70 56 ⇑P P 19 20 47.4 +0.9
baz=76
220A **Playas Peak, P** 76.71 58 ⇓P P 19 20 47.5 +1.0
baz=76
121A **Cookes Peak, D** 76.72 57 ⇑P P 19 20 47.7 +1.0
baz=76
Y23A **Lovelace Mesa,** 76.77 55 ⇓P P 19 20 47.5 +0.6
baz=76
W25A **X Bar L Ranch,** 76.78 53 ⇑P P 19 20 47.8 +0.8
baz=76
MIB **Mutribah** 76.88 299 *eP* P 19 20 46.6 -0.7
MIB AMb AMB 19 20 48.2
comp=Z,20nm,1.3s
CLL **Collm** 76.99 333 *i*P P 19 20 46.2 -1.4
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL MLR MLR
comp=Z,500nm,14.8s
CLL **Collm** 76.99 333 *eP* P 19 20 47.0 -0.6
comp=Z,5.0nm,0.6s
NAY **Al-Naaiem** 77.33 298 *eP* P 19 20 48.8 -1.1
NAY AMb AMB 19 20 53.1
comp=Z,8.7nm,1.0s
RDF **Al-Radifah** 77.36 298 *eP* P 19 20 49.7 -0.4
RDF AMb AMB 19 20 51.2
comp=Z,32nm,1.0s
PRU **Pruhonice** 77.61 332 *eP* P 19 20 50.9 -0.2
PRU **Pruhonice** 77.61 332 *eP* P 19 20 50.9 -0.2
BRTR **Keskin Array B** 77.61 314 P P 19 20 50.5 -1.0
comp=Z,0.8nm,0.7s,baz=62,slow=5.0,SNR=5.2
BRTR **Keskin Array B** 77.61 314 *i* P P 19 20 51.2 -0.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR **Keskin Array B** 77.61 314 P P 19 20 50.5 -1.0
SCIA **State Center** 77.80 42 *eP* P 19 20 52.5 +0.2
comp=Z,7.3nm,0.4s
NKC **Novy Kostel** 78.10 333 *eP* P 19 20 53.3 -0.6
NKC **Novy Kostel** 78.10 333 *eP* P 19 20 53.3 -0.6
224A **Cornudas Mount** 78.40 56 ⇑P P 19 20 56.9 +0.9
baz=78
Z26A **Caprock** 78.45 55 ⇑P P 19 20 56.8 +0.5
baz=78
KHC **Kasperske Hory** 78.67 332 *eP* P 19 20 56.5 -0.5
KHC *e* 19 21 08.5
KHC **Kasperske Hory** 78.67 332 *eP* P 19 20 56.5 -0.5
KHC *ep*P PcP 19 21 08.5 +2.7
Z27A **Tatum** 78.86 54 ⇑P P 19 20 58.8 +0.3
baz=79
GERES **GERESS Array B** 78.87 331 P P 19 20 57.0 -1.2
comp=Z,1.0nm,0.5s,baz=37,slow=5.0,SNR=9.8
GERES **GERESS Array B** 78.87 331 P P 19 20 57.0 -1.2
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES **GERESS Array B** 78.87 331 P P 19 20 57.0 -1.2
226A **Malaga, Loving** 79.25 55 ⇓P P 19 21 00.9 +0.4
baz=79
425A **Indio Mountain** 79.64 57 ⇑P P 19 21 03.5 +0.7
baz=79
427A **Hayter Ranch,** 80.53 56 ⇓P P 19 21 08.3 +0.8
baz=80
526A **Mary Lane Ranc** 80.69 57 ⇑P P 19 21 09.1 +0.6
baz=80
527A **Woodward Ranch** 80.92 57 ⇑P P 19 21 09.9 +0.2
baz=81
626A **Big Bend Ranch** 81.03 57 ⇓P P 19 21 11.0 +0.7
baz=81
428A **Kincaid Ranch,** 81.05 56 ⇑P P 19 21 11.3 +1.0
baz=81
CDF **Champ du Feu** 81.32 335 *eP* P 19 21 10.4 -1.0
528A **Cox Ranch, San** 81.40 56 ⇑P P 19 21 12.7 +0.5
baz=81
TXAR **Lajitas Array** 81.47 57 P P 19 21 12.8 +0.2
comp=Z,2.5nm,0.5s,baz=300,slow=3.9,SNR=49
TXAR pP pP 19 21 27.9 -0.5
comp=Z,3.1nm,0.6s,baz=300,slow=3.9,SNR=17
TXAR **Lajitas Array** 81.47 57 P P 19 21 12.8 +0.2
TXAR *PP pP 19 21 27.9 -0.5
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR **Lajitas Array** 81.47 57 P P 19 21 12.8 +0.2
TXAR pP pP 19 21 27.9 -0.5
PAGF **Fort de Pagny** 81.66 336 *eP* P 19 21 12.3 -0.8
628A **Black Gap, Mar** 81.83 57 ⇑P P 19 21 14.8 +0.4
baz=82
MEZF **Maizieres J'vi** 81.90 336 *eP* P 19 21 13.6 -0.7

HINF	**Hinteralfeld**	**81.98**	**335**	*e*P		**P**	**19 21 13.6**	**-1.3**
SFTF	**Sexfontaines**	**82.17**	**336**	*e*P		**P**	**19 21 14.7**	**-1.1**
FLN	**La Foliniere**	**83.14**	**340**	*e*P		**P**	**19 21 19.7**	**-1.1**
LDF	**La Druitiere**	**83.20**	**340**	*e*P		**P**	**19 21 20.0**	**-1.1**
LOR	**Lormes**	**83.36**	**337**	*e*P		**P**	**19 21 20.9**	**-1.1**
GRR	**Gorron**	**83.58**	**340**	*e*P		**P**	**19 21 22.2**	**-0.8**
SSF	**Saint Saulge**	**83.65**	**337**	*e*P		**P**	**19 21 22.3**	**-1.1**
	comp=Z,22nm,1.1s							
LPL	**La Plagne**	**84.08**	**334**	*e*P		**P**	**19 21 25.4**	**-0.6**
	comp=Z,22nm,1.1s							
LPG	**La Plagne**	**84.09**	**334**	*e*P		**P**	**19 21 25.7**	**-0.4**
	comp=Z,12nm,0.9s							
ORIF	**Oris-en-Rattie**	**84.88**	**334**	*e*P		**P**	**19 21 28.4**	**-1.5**
	comp=Z,7.9nm,0.7s							
MFF	**Saint Martin d**	**85.06**	**339**	*e*P		**P**	**19 21 30.4**	**-0.2**
VIVF	**Saint-Julien-l**	**85.31**	**335**	*e*P		**P**	**19 21 31.6**	**-0.3**
LASF	**Ste Croix**	**86.26**	**335**	*e*P		**P**	**19 21 35.4**	**-1.2**
TKL	**Tuckaleechee C**	**87.22**	**40**	*e*P		**P**	**19 21 41.0**	**-0.5**
TKL	**Tuckaleechee C**	**87.22**	**40**	*e*P		**P**	**19 21 41.0**	**-0.5**
ESDC	**Sonseca Array**	**92.52**	**339**	P		**P**	**19 22 05.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=20,slow=3.5,SNR=3.6							
ESDC	**Sonseca Array**	**92.52**	**339**	P		**P**	**19 22 05.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**115.07**	**324**	PKP	**PKPdf**		**19 27 34.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=30,slow=1.3,SNR=5.4							
TORD	**Torodi Ar. Bea**	**115.07**	**324**	PKP	**PKPdf**		**19 27 34.7**	**-1.6**
DBIC	**Dimbokro**	**123.59**	**328**	PKP	**PKPdf**		**19 27 51.2**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=153,slow=2.3,SNR=3.5							
DBIC	**Dimbokro**	**123.59**	**328**	PKIKP	**PKPdf**		**19 27 51.3**	**-1.4**
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.8s							
DBIC	**Dimbokro**	**123.59**	**328**	PKP	**PKPdf**		**19 27 51.2**	**-1.4**
LPAZ	**La Paz**	**138.31**	**59**	PKP	**PKPdf**		**19 28 22.6**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=232,slow=12,SNR=6.3							
LPAZ	**La Paz**	**138.31**	**59**	PKIKP	**PKPdf**		**19 28 22.6**	**+1.5**
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.4s							
LPAZ	**La Paz**	**138.31**	**59**	PKP	**PKPdf**		**19 28 22.6**	**+1.5**
PLCA	**Paso Flores**	**151.31**	**96**	PKPbc	**PKPbc**		**19 28 48.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=262,slow=4.3,SNR=3.9							
PLCA	**Paso Flores**	**151.31**	**96**	PKIKP	**PKPbc**		**19 28 48.1**	**0.0**
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
PLCA	**Paso Flores**	**151.31**	**96**	PKPbc	**PKPbc**		**19 28 48.0**	**0.0**

IDC 22 19:16:21.3±3.2, 22°.82S×171°.25E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/16, mbtmpg3.7/5, ML3.8/1, Error ellipse: s-maj=116.7km s-min=40.1km az=158.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.50**	**279**	Pn	Pn	19 17 31.6	+0.6
	5.1nm,0.3s,baz=116,slow=17,SNR=98						
DZM				Sn	Sn	19 18 21.1	-3.0
	1.0nm,0.3s,baz=190,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**34.26**	**261**	P	P	19 23 09.3	0.0
	0.9nm,0.9s,baz=95,slow=8.9,SNR=6.0						
WRA	**Warramunga Arr**	**34.43**	**268**	P	P	19 23 09.8	-1.0
	0.3nm,0.9s,baz=98,slow=8.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**81.67**	**294**	P	P	19 28 43.0	+1.1
	0.6nm,0.7s,baz=131,slow=4.3,SNR=6.6						
SONM	**Songino Array**	**91.19**	**322**	P	P	19 29 27.5	-0.8
	0.5nm,1.0s,baz=132,slow=4.3,SNR=3.0						
GERES	**GERESS Array B**	**148.52**	**331**	PKPbc	PKPbc	19 36 09.6	-0.5
	1.4nm,0.8s,baz=45,slow=2.1,SNR=9.0						

MEX 22 19:17:05.9±0.7, 15°.89N×92°.87W, h170km±6km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.38**	**241**	*i* P	Pn	19 17 27.4	-1.7
PCIG				*e*S	Sn	19 17 44.7	-2.0
CCIG	**Comitan**	**0.81**	**61**	*i* P	Pn	19 17 30.0	-1.4
CCIG				*i* S	Sn	19 17 48.3	-2.8
TGIG		**0.92**	**345**	*i* P	Pn	19 17 30.5	-1.5
TGIG				*e*S	Sn	19 17 49.5	-2.8
THIG		**1.14**	**149**	*i* P	Pn	19 17 32.9	-0.8
THIG				*i* S	Sn	19 17 53.0	-2.0
CMIG	**Matias Romero**	**2.27**	**302**	*i* P	Pn	19 17 44.7	-0.7
CMIG				*e*S	Sn	19 18 13.7	-2.2
HUIG	**Huatulco**	**3.12**	**268**	*i* P	Pn	19 17 53.4	-2.2
HUIG				*e*S	Sn	19 18 32.5	-1.6
VHO	**Vista Hermosa**	**3.89**	**288**	*i* P	Pn	19 18 04.2	-1.4
VHO				*i* S	Sn	19 18 50.3	-1.7

IDC 22 19:34:55.6±8.6, 15°.40S×173°.24W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/20, mbtmpg3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/31, Error ellipse: s-maj=456.9km s-min=27.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.05**	**44**	Pn	Pn	19 35 30.0	-1.5
	9.0nm,0.3s,baz=69,slow=18,SNR=6.4						
AFI				Sn	Sn	19 35 51.5	-6.3
	30nm,0.3s,baz=53,slow=20,SNR=12						
AFI				LR	LR	19 36 02.1	
	comp=Z,413nm,21.9s,baz=113,slow=32						
WRA	**Warramunga Arr**	**50.00**	**257**	P	P	19 43 51.5	-0.6
	0.3nm,0.6s,baz=89,slow=7.1,SNR=6.3						
ASAR	**Alice Springs**	**50.26**	**252**	P	P	19 43 53.5	-0.6
	2.6nm,0.8s,baz=84,slow=8.5,SNR=27						
BRTR	**Keskin Array B**	**146.26**	**321**	PKPbc	PKPab	19 54 40.1	+0.8
	0.2nm,0.5s,baz=90,slow=2.9,SNR=4.0						

*ISCJB **22** 19:52:35.7±0.3, 46°.58N±0°.02×10°.60E±0°.02, h13km±4km, Error ellipse: s-maj=3.0km s-min=2.6km az=179.2*
*ZUR **22** 19:52:36.4, 46°.57N×10°.57E, h10km±1km, ML2.1/6*
*CSEM **22** 19:52:36.4±0.1, 46°.59N×10°.60E, h2km, ML2.7/4, Error ellipse: s-maj=2.7km s-min=2.2km az=176.0*
*VIE **22** 19:52:36.7±0.2, 46°.60N×10°.64E, h6km±2km, mb2.2/7, ML2.4/11, Error ellipse: s-maj=1.7km s-min=1.2km az=42.0 10 km SE of Glorenza*
*ROM **22** 19:52:36.4±0.2, 46°.55N×10°.55E, h10km±1km, Md2.1/10, Ml2.0/7, Error ellipse: s-maj=2.4km s-min=1.3km az=16.0*
*PRU **22** 19:52:38.0, 46°.62N×10°.69E, h0km*

ISC 22 19:52:36.3±0.8, 46°.58N±0°.02×10°.57E±0°.02, h13km±5km, n69, σ0°63/103, 27C-18D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOSI	**Grossmontoni**	**0.04**	**334**	*e*Pg	**Pg**	**19 52 38.9**	**-0.1**
MOSI				*e*Sg	**Sg**	**19 52 40.2**	**-0.7**
BRMO	**Bormio**	**0.17**	**233**	Pg	**Pg**	**19 52 40.5**	**0.0**
BRMO				Sg	**Sg**	**19 52 42.9**	**-0.4**
	396nm,0.1s						
BRMO	**Bormio**	**0.17**	**233**	*e*Pg	**Pg**	**19 52 40.5**	**0.0**
BRMO				Sg	**Sg**	**19 52 42.9**	**-0.4**
	396nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.22**	**280**	⇑*i*Pg	**Pg**	**19 52 41.5**	**+0.3**
FUORN				Sg	**Sg**	**19 52 44.8**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**0.22**	**280**	⇑*i*Pg	**Pg**	**19 52 41.5**	**+0.3**
	1μm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.22**	**280**	⇑*i*Pg	**Pg**	**19 52 41.5**	**+0.3**
	1μm,0.2s						
FUORN				Sg	**Sg**	**19 52 44.8**	**+0.2**
BERNI	**Berninapass**	**0.42**	**246**	Pg	**Pg**	**19 52 44.8**	**+0.1**
BERNI				Sg	**Sg**	**19 52 50.5**	**+0.2**
BERNI	**Berninapass**	**0.42**	**246**	⇑*i*Pg	**Pg**	**19 52 44.8**	**+0.1**
	250nm,0.7s						
BERNI	**Berninapass**	**0.42**	**246**	⇑*i*Pg	**Pg**	**19 52 44.8**	**+0.1**
	250nm,0.7s						
BERNI				Sg	**Sg**	**19 52 50.5**	**+0.2**
FETA	**Feichten**	**0.45**	**14**	*e*Pg	**Pg**	**19 52 45.6**	**+0.3**
	SNR=28						
FETA				⇓*i*Sg	**Sg**	**19 52 51.8**	**+0.4**
	20nm,0.1s						
FETA	**Feichten**	**0.45**	**14**	*e*Pg	**Pg**	**19 52 45.6**	**+0.3**
FETA				Sg	**Sg**	**19 52 51.8**	**+0.4**
	20nm,0.1s						
APPI	**Appiano**	**0.46**	**103**	⇑*i*Pg	**Pg**	**19 52 45.6**	**+0.1**
	129nm,0.1s						
APPI	**Appiano**	**0.46**	**103**	⇑*i*Pg	**Pg**	**19 52 45.6**	**+0.1**
	129nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.52**	**293**	Pg	**Pg**	**19 52 46.9**	**+0.4**
DAVOX				Sg	**Sg**	**19 52 54.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**0.52**	**293**	⇓*i*Pg	**Pg**	**19 52 44.8**	**-1.7**
	224nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.52**	**293**	Pg	**Pg**	**19 52 46.9**	**+0.4**
DAVOX				Sg	**Sg**	**19 52 54.0**	**+0.6**
MABI	**Malga Bissina**	**0.53**	**184**	⇑*i*Pg	**Pg**	**19 52 46.6**	**-0.1**
MABI				Sg	**Sg**	**19 52 53.1**	**-0.7**
	47nm,0.2s						
MABI	**Malga Bissina**	**0.53**	**184**	⇑*i*Pg	**Pg**	**19 52 46.6**	**-0.1**
MABI				Sg	**Sg**	**19 52 53.1**	**-0.7**
	47nm,0.2s						
ABSI	**Aberstueckl**	**0.54**	**74**	⇑*i*Pg	**Pg**	**19 52 46.8**	**0.0**
ABSI				*i* Sg	**Sg**	**19 52 54.3**	**+0.3**
KOSI	**Kohlern**	**0.57**	**102**	⇑*i*Pg	**Pg**	**19 52 47.6**	**+0.2**
KOSI				*i* Sg	**Sg**	**19 52 54.7**	**-0.3**
RNI	**Roncone**	**0.60**	**175**	⇑*e*Pg	**Pg**	**19 52 48.1**	**0.0**
RNI				*e*Sg	**Sg**	**19 52 55.7**	**-0.4**
RNI	**Roncone**	**0.60**	**175**	⇑*e*Pg	**Pg**	**19 52 48.1**	**0.0**
ROSI	**Rosskopf**	**0.67**	**59**	⇑*e*Pg	**Pg**	**19 52 49.3**	**-0.1**
ROSI				*e*Sg	**Sg**	**19 52 58.7**	**+0.4**
PANI	**Panarotta**	**0.74**	**136**	*e*Pg	**Pb**	**19 52 51.5**	**+0.5**
PANI				*e*Sg	**Sg**	**19 53 00.9**	**+0.6**
PANI	**Panarotta**	**0.74**	**136**	*e*Pg	**Pb**	**19 52 51.5**	**+0.5**
PANI				*e*Sg	**Sg**	**19 53 00.9**	**+0.6**
VDL	**Val di Lei**	**0.78**	**263**	⇑*i*Pg	Pg	19 52 46.9	-4.6
	107nm,0.2s						
DDS	**Dosso del Somm**	**0.82**	**148**	*e*Pg	**Pb**	**19 52 52.9**	**+0.4**
DDS	**Dosso del Somm**	**0.82**	**148**	*e*Pg	**Pb**	**19 52 52.9**	**+0.4**
MOTA	**Moosalm**	**0.84**	**25**	⇑*e*Pg	**Pg**	**19 52 52.7**	**+0.1**
	SNR=30						
MOTA				⇑*i*Sg	**Sg**	**19 53 03.7**	**-0.1**
	12nm,0.2s						
MOTA	**Moosalm**	**0.84**	**25**	⇑*e*Pg	**Pg**	**19 52 52.7**	**+0.1**
MOTA				Sg	**Sg**	**19 53 03.7**	**-0.1**
	12nm,0.2s						
DAVA	**Damuels**	**0.85**	**326**	⇓*i*Pg	**Pb**	**19 52 53.5**	**+0.5**
DAVA				⇑*i*Sg	**Sb**	**19 53 05.5**	**+1.2**
	17nm,0.2s						
DAVA	**Damuels**	**0.85**	**326**	⇓*i*Pg	**Pb**	**19 52 53.5**	**+0.5**
DAVA				Sg	**Sb**	**19 53 05.5**	**+1.2**
	17nm,0.2s						
TUE	**Stuetta**	**0.85**	**263**	Pg	**Pg**	**19 52 52.4**	**-0.4**
TUE				Sg	**Sg**	**19 53 04.1**	**+0.1**
	25nm,0.2s						
TUE	**Stuetta**	**0.85**	**263**	*e*Pg	**Pg**	**19 52 52.4**	**-0.4**
TUE				Sg	**Sg**	**19 53 04.1**	**+0.1**
	25nm,0.2s						
CTI	**Castel Tesino**	**0.92**	**125**	Pg	**Pg**	**19 52 54.0**	**0.0**
CTI				Sg	**Sg**	**19 53 05.9**	**-0.1**
	57nm,0.3s						
CTI	**Castel Tesino**	**0.92**	**125**	*e*Pg	**Pg**	**19 52 54.0**	**0.0**
CTI				*e*Sg	**Sg**	**19 53 05.9**	**-0.1**
ROVR	**Rover˜¤ Verone**	**1.00**	**159**	Pg	**Pb**	**19 52 55.6**	**+0.2**
ROVR	**Rover˜¤ Verone**	**1.00**	**159**	*e*Pg	**Pb**	**19 52 55.6**	**+0.2**
WATA	**Walderalm**	**1.02**	**42**	⇑*e*Pg	**Pb**	**19 52 55.5**	**-0.3**
	SNR=5.7						
WATA				⇓*i*Sg	**Sb**	**19 53 08.6**	**-0.6**
	5.2nm,0.2s						
WATA	**Walderalm**	**1.02**	**42**	⇑*e*Pg	**Pb**	**19 52 55.5**	**-0.3**
WATA				Sg	**Sb**	**19 53 08.6**	**-0.6**
	5.2nm,0.2s						
AGOR	**Agordo**	**1.06**	**106**	⇑*e*Pg	**Pb**	**19 52 56.6**	**+0.1**
AGOR	**Agordo**	**1.06**	**106**	Pg	**Pb**	**19 52 56.6**	**+0.1**
AGOR				Sg	**Sb**	**19 53 10.1**	**-0.2**
	33nm,0.3s						
RISI	**Rein**	**1.10**	**70**	⇑*e*Pg	**Pb**	**19 52 56.7**	**-0.5**
CGRP	**Cima Grappa**	**1.10**	**129**	⇓*e*Pg	**Pg**	**19 52 57.9**	**+0.3**
CGRP				*e*Sg	**Sb**	**19 53 12.2**	**+0.6**
CGRP	**Cima Grappa**	**1.10**	**129**	⇓*e*Pg	**Pg**	**19 52 57.9**	**+0.3**
CGRP				*e*Sg	**Sb**	**19 53 12.2**	**+0.6**
LLS	**Linth-Limmern**	**1.11**	**284**	*e*Pn	Pb	19 52 50.9	-6.5
	36nm,0.3s						
MUGIO	**Muggio**	**1.25**	**239**	*e*P	**Pn**	**19 52 57.4**	**-2.1**
	45nm,0.7s						
MUGIO	**Muggio**	**1.25**	**239**	*e*P	**Pn**	**19 52 57.4**	**-2.1**
ABTA				⇓*i*Sg	**Sg**	**19 53 19.7**	**0.0**
	8.6nm,0.1s						
ABTA	**Abfaltersbach**	**1.34**	**82**	⇑*e*Pg	**Pb**	**19 53 01.5**	**+0.1**
ABTA				*i* Sg	**Sg**	**19 53 19.7**	**0.0**
FVI	**Forni Avoltri**	**1.52**	**89**	Pg	**Pb**	**19 53 04.6**	**+0.2**
	246nm,3.1s						
FVI	**Forni Avoltri**	**1.52**	**89**	Pg	**Pb**	**19 53 04.6**	**+0.2**
	246nm,3.1s						
ZOU	**Zoufplan**	**1.66**	**90**	⇓*e*Pg	**Pb**	**19 53 07.0**	**+0.3**
FUSE	**Fusea**	**1.69**	**95**	⇓*e*Pg	**Pg**	**19 53 08.3**	**-0.3**
FUSE	**Fusea**	**1.69**	**95**	⇓*e*Pg	**Pg**	**19 53 08.3**	**-0.3**
VINO	**Villanova**	**1.90**	**99**	⇓*e*Pn	**Pb**	**19 53 11.8**	**+1.0**
VINO	**Villanova**	**1.90**	**99**	⇓*e*Pn	**Pb**	**19 53 11.8**	**+1.0**
KBA	**Koelnbreinsper**	**1.97**	**74**	⇑*i*Pn	**Pn**	**19 53 10.0**	**+0.6**
KBA				⇓*i*Pg	**Pb**	**19 53 12.8**	**+0.9**
KBA				⇓*i*Sn	**Sn**	**19 53 35.2**	**+1.2**
KBA	**Koelnbreinsper**	**1.97**	**74**	⇑*i*Pn	**Pn**	**19 53 10.0**	**+0.6**
ACOM	**Acomizza, Ital**	**2.03**	**90**	*e*Pn	**Pb**	**19 53 13.6**	**+0.6**
ACOM	**Acomizza, Ital**	**2.03**	**90**	*e*Pn	**Pb**	**19 53 13.6**	**+0.6**
VOY	**Vojsko**	**2.37**	**102**	*e*Pn	**Pb**	**19 53 19.6**	**+0.8**
VOY				*e*Sn	**Sg**	**19 53 51.9**	**-0.4**
VOY	**Vojsko**	**2.37**	**102**	*e*Pn	**Pb**	**19 53 19.6**	**+0.8**
KHC	**Kasperske Hory**	**3.25**	**37**	*e*PG	**Pg**	**19 53 36.9**	**-1.7**
KHC				*e*SG	**Sg**	**19 54 19.3**	**-1.5**
KHC	**Kasperske Hory**	**3.25**	**37**	Pg	**Pg**	**19 53 36.9**	**-1.7**
NKC	**Novy Kostel**	**3.86**	**18**	*e*SG		19 54 38.5	
NKC	**Novy Kostel**	**3.86**	**18**	Sg	Sg	19 54 38.5	-1.8

*ISCJB **22** 20:15:58.4±0.5, 5°.51S×0°.07×11°.42W±0°.08, h10km, mb4.5/27, MS3.9/4, Error ellipse: s-maj=11.9km s-min=10.1km az=24.2*
*IDC **22** 20:15:58.5±0.8, 5°.50S×11°.47W, h0km, mb4.3/14, mb1 4.3/15, mb1mx4.2/27, mbtmp4.3/15, ML3.4/1, MS3.9/5, Ms1 3.9/5, ms1mx3.7/45, Error ellipse: s-maj=23.3km s-min=16.7km az=154.0*
*NEIC **22** 20:15:59.9±0.4, 5°.55S×11°.45W, h10km, mb4.7/9, Error ellipse: s-maj=10.5km s-min=9.2km az=137.0*

ISC 22 20:15:59.9±0.7, 5°.6S±0°.1×11°.4W±0°.1, h10km, n62, σ0°84/60, mb4.6/27, MS3.7/4, 4C-4D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**13.34**	**29**	*e*P	**Pn**	**20 19 08.0**	**-1.5**
	16nm,0.7s						
DBIC	**Dimbokro**	**13.81**	**28**	Pn	**Pn**	**20 19 15.8**	**-0.1**
	0.2nm,0.3s,baz=187,slow=13,SNR=7.9						
DBIC				LR	LR	20 23 17.8	
	comp=Z,328nm,21.0s,baz=186,slow=32						
DBIC	**Dimbokro**	**13.81**	**28**	Pn	**Pn**	**20 19 15.8**	**-0.1**
BBTS	**Babate**	**20.73**	**346**	LR	LR	20 27 24.5	
	comp=Z,162nm,19.9s,baz=135,slow=33						
TORD	**Torodi Ar. Bea**	**22.70**	**35**	P	**P**	**20 21 00.3**	**-1.8**
	7.0nm,0.6s,baz=217,slow=9.6,SNR=77						
TORD				LR	LR	20 27 59.4	
	comp=Z,169nm,21.6s,baz=225,slow=32						
TORD	**Torodi Ar. Bea**	**22.70**	**35**	P	**P**	**20 21 00.3**	**-1.8**
RCBR	**Riachuelo**	**24.36**	**268**	P	**P**	**20 21 18.0**	**-0.4**
	4.2nm,0.8s,baz=83,slow=14,SNR=3.3						
RCBR	**Riachuelo**	**24.36**	**268**	*e*P	**P**	**20 21 17.7**	**-0.7**
	20nm,1.2s						
MSKU	**Masuku**	**25.28**	**82**	P	**P**	**20 21 26.5**	**-0.3**
	11nm,0.7s,baz=199,slow=22,SNR=6.0						
MSKU				LR	LR	20 28 52.8	
	comp=Z,450nm,21.1s,baz=138,slow=31						
MSKU	**Masuku**	**25.28**	**82**	P	**P**	**20 21 26.5**	**-0.3**
TSUM	**Tsumeb**	**31.34**	**118**	*e*P	**P**	**20 22 19.7**	**-1.3**
	11nm,1.3s						
SUR	**Sutherland**	**40.21**	**136**	*e*P	**P**	**20 23 37.5**	**+0.4**
	24nm,1.3s						
LBTB	**Lobatse**	**40.40**	**123**	P	**P**	**20 23 39.5**	**+0.9**
	13nm,1.1s,baz=314,slow=9.1,SNR=6.1						
LBTB	**Lobatse**	**40.40**	**123**	*e*P	**P**	**20 23 39.3**	**+0.7**
	21nm,1.2s						
BOSA	**Boshof**	**41.61**	**128**	P	**P**	**20 23 49.2**	**+0.6**
	7.4nm,1.1s,baz=315,slow=5.2,SNR=4.9						
BOSA	**Boshof**	**41.61**	**128**	P	**P**	**20 23 49.2**	**+0.6**
ETSF	**Etsaut**	**49.24**	**11**	*e*P	**P**	**20 24 48.7**	**0.0**
	63nm,1.5s						
EPF	**Esparros**	**49.53**	**11**	*e*P	**P**	**20 24 52.0**	**+1.1**
SIV	**San Ignacio**	**49.74**	**254**	P	**P**	**20 24 53.1**	**+0.1**
	2.1nm,0.8s,baz=106,slow=13,SNR=8.7						
SIV	**San Ignacio**	**49.74**	**254**	P	**P**	**20 24 53.1**	**+0.1**
MTLF	**Montolieu**	**50.22**	**13**	*e*P	**P**	**20 24 56.8**	**+0.7**
MBDF	**Montbardon**	**52.67**	**16**	*e*P	**P**	**20 25 15.5**	**+0.9**
	17nm,1.1s						
TCF	**Toulx Ste Croi**	**53.03**	**12**	*e*P	**P**	**20 25 17.3**	**+0.2**
	72nm,1.4s						
LPG	**La Plagne**	**53.37**	**16**	*e*P	**P**	**20 25 20.7**	**+0.7**
	23nm,1.2s						
LPL	**La Plagne**	**53.38**	**16**	*e*P	**P**	**20 25 21.4**	**+1.4**
SSF	**Saint Saulge**	**54.04**	**13**	*e*P	**P**	**20 25 23.8**	**-0.7**
	35nm,1.3s						
LOR	**Lormes**	**54.32**	**13**	*e*P	**P**	**20 25 27.2**	**+0.7**
	28nm,1.2s						
HAU	**Haudompre**	**55.59**	**14**	*e*P	**P**	**20 25 35.8**	**+0.1**
	29nm,1.2s						
LPAZ	**La Paz**	**56.52**	**254**	P	**P**	**20 25 42.9**	**-0.8**
	0.4nm,0.5s,baz=54,slow=8.7,SNR=3.7						
LPAZ	**La Paz**	**56.52**	**254**	P	**P**	**20 25 42.9**	**-0.8**
VTS	**Vitosha**	**57.33**	**30**	⇑*i*P	**P**	**20 25 50.0**	**+1.6**
GERES	**GERESS Array B**	**58.47**	**19**	P	**P**	**20 25 55.9**	**-0.3**
	2.5nm,0.9s,baz=191,slow=6.4,SNR=14						
GERES	**GERESS Array B**	**58.47**	**19**	P	**P**	**20 25 55.9**	**-0.3**
BZS	**Buzias**	**58.87**	**27**	⇑*i*P	**P**	**20 26 00.1**	**+1.2**
KOLL	**Kolacno**	**59.91**	**22**	*e*P	**P**	**20 26 06.7**	**+0.7**
KOLL				*e*		20 45 55.8	
KOLL				*e*		20 46 10.6	
PSZ	**Piszkesteto**	**59.95**	**24**	*e*P	**P**	**20 26 06.9**	**+0.4**
	5.7nm,0.8s						
PSZ	**Piszkesteto**	**59.95**	**24**	⇓*i*P	**P**	**20 26 07.7**	**+1.2**
VYHS	**Vyhne**	**60.01**	**23**	*e*P	**P**	**20 26 07.4**	**+0.7**
DRGR		**60.26**	**26**	⇑*i*P	**P**	**20 26 09.6**	**+1.0**
VOIR		**60.32**	**29**	⇓*i*P	**P**	**20 26 09.2**	**+0.1**
MORC	**Moravsky Berou**	**60.58**	**21**	⇓*i*P	**P**	**20 26 11.2**	**+0.5**
MLR	**Muntele Rosu**	**60.80**	**29**	⇓*i*P	**P**	**20 26 12.9**	**+0.5**
TRPA	**Tarpa**	**61.22**	**25**	⇑*i*P	**P**	**20 26 15.3**	**+0.3**
BR131	**Keskin Array S**	**61.26**	**39**	*e*P	**P**	**20 26 16.9**	**+1.1**
	1.8nm,0.7s						
BRTR	**Keskin Array B**	**61.26**	**39**	P	**P**	**20 26 16.8**	**+1.1**
	3.6nm,0.9s,baz=198,slow=7.7,SNR=15						
BRTR	**Keskin Array B**	**61.26**	**39**	P	**P**	**20 26 16.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**61.37**	**24**	*e*P	**P**	**20 26 17.1**	**+1.0**
KIEV	**Kiev**	**66.04**	**27**	*e*P	**P**	**20 26 46.2**	**-0.6**
	21nm,1.0s						
AKASG	**Malin Array Be**	**66.06**	**27**	P	**P**	**20 26 46.2**	**-0.7**
	4.4nm,0.7s,baz=226,slow=7.3,SNR=14						
AKASG	**Malin Array Be**	**66.06**	**27**	P	**P**	**20 26 46.2**	**-0.7**
AKBB	**Malin Array Si**	**66.06**	**27**	*e*P	**P**	**20 26 46.2**	**-0.7**
SUW	**Suwalki**	**66.06**	**22**	*e*P	**P**	**20 26 46.7**	**-0.2**
	47nm,1.1s						
ATAH	**Atahualpa**	**66.53**	**265**	LR	LR	20 55 00.0	
	comp=Z,383nm,18.1s,baz=250,slow=35						
GNI	**Garni**	**68.72**	**43**	P	**P**	**20 27 05.6**	**+1.3**
	1.9nm,0.7s,baz=180,slow=14,SNR=3.3						
GNI	**Garni**	**68.72**	**43**	P	**P**	**20 27 05.6**	**+1.3**
KIV	**Kislovodsk**	**69.22**	**39**	*e*P	**P**	**20 27 07.8**	**+0.7**
	10nm,1.0s						
FINES	**FINESS Array B**	**72.85**	**18**	P	**P**	**20 27 28.9**	**+0.3**
	4.5nm,0.8s,baz=199,slow=4.0,SNR=4.0						
FINES	**FINESS Array B**	**72.85**	**18**	P	**P**	**20 27 28.9**	**+0.3**
AKTO	**Aktyubinsk**	**81.41**	**37**	P	**P**	**20 28 17.4**	**+0.4**
	0.8nm,0.4s,baz=241,slow=6.7,SNR=6.7						
AKTO	**Aktyubinsk**	**81.41**	**37**	P	**P**	**20 28 17.4**	**+0.4**
TXAR	**Lajitas Array**	**94.64**	**299**	P	**P**	**20 29 22.0**	**+0.2**
	0.3nm,0.9s,baz=110,slow=4.9,SNR=3.1						
TXAR	**Lajitas Array**	**94.64**	**299**	P	**P**	**20 29 22.0**	**+0.2**

*BJI **22** 20:16:27.6, 7°.77S×129°.13E, h141km, mB6.3/37, mb6.1/69*
*MOS **22** 20:16:32.4±1.2, 7°.34S

FITZ	**Fitzroy Crossi**	**11.09**	**195**	*e*Pn		Pn		20 19 05.1	-3.8
	2µm,0.6s								
FITZ				S		Sn		20 21 00.9	-11
SGSI	**Sangihe**	**11.34**	**344**	P		Pn		20 19 15.8	+3.4
	7µm,1.4s								
SMPI	**Sarmi**	**11.42**	**63**	P		**Pn**		**20 19 13.1**	**-0.3**
	844nm,1.2s,12µm								
MTNI	**Mataram**	**12.34**	**263**	P		**Pn**		**20 19 26.9**	**+1.5**
	658nm,0.8s,8µm								
KHKI	**Kahang-Kahang**	**12.87**	**265**	P		**Pn**		**20 19 32.8**	**+0.5**
	348nm,0.9s,6µm								
KBKI	**Kotabaru**	**12.97**	**287**	P		**P**		**20 19 37.0**	**-1.4**
	518nm,1.2s,9µm								
JAY	**Jayapura**	**13.01**	**69**	P		**Pn**		**20 19 35.0**	**+1.0**
IGBI	**Denpasar**	**13.36**	**263**	P		**P**		**20 19 42.0**	**-0.8**
WRAB	**Tennant Creek**	**13.74**	**156**	*e*P		Pn		20 19 38.6	-4.7
WRAB	**Tennant Creek**	**13.74**	**156**	*e*Pn		Pn		20 19 38.6	-4.7
WRA	**Warramunga Arr**	**13.74**	**156**	P		Pn		20 19 38.5	-4.9
	24nm,0.3s,baz=342,slow=13,SNR=605								
WRA				S		Sn		20 22 01.9	-14
	291nm,0.3s,baz=333,slow=23,SNR=9.7								
WRA				P3KPbc				20 55 18.4	
	0.0nm,0.3s,baz=175,slow=2.0,SNR=5.9								
WRA				P4KP				21 03 55.8	
	0.1nm,0.3s,baz=339,slow=3.9,SNR=9.3								
WRA	**Warramunga Arr**	**13.74**	**156**	P		Pn		20 19 38.5	-4.9
WRA				S		Sn		20 22 01.9	-14
WRA				*e*				20 55 18.4	
WRA				P4KP				21 03 55.8	
WB2	**Warramunga Arr**	**13.75**	**156**	*e*Pn		Pn		20 19 38.3	-5.2
GSPH	**General Santos**	**13.80**	**345**⇑	*e*P		**P**		**20 19 46.9**	**-0.8**
NBBI	**Negara**	**13.85**	**265**	P		**P**		**20 19 51.0**	**+2.8**
BBKI	**Banjar Baru**	**14.18**	**285**	P		**P**		**20 19 53.9**	**+2.0**
JAGI	**Jajag, Banyuwa**	**14.32**	**264**	P		**Pn**		**20 19 51.8**	**+1.2**
	comp=N,394nm,0.6s,comp=N,7µm								
MATI	**Mati**	**14.36**	**351**	*e*P		**P**		**20 19 55.1**	**+1.3**
KMMI	**Kalianget**	**14.48**	**270**	P		**P**		**20 19 56.4**	**+1.2**
DAV	**Davao City (W)**	**14.60**	**348**	P		**P**		**20 19 58.9**	**+2.4**
	comp=N,91nm,0.3s,baz=267,slow=12,SNR=28								
DAV				S		**S**		**20 22 46.3**	**+2.0**
	comp=N,116nm,0.3s,baz=34,slow=11,SNR=3.1								
DAV	**Davao City (W)**	**14.60**	**348**	P		**P**		**20 19 59.0**	**+2.4**
DAV				S		**S**		**20 22 46.3**	**+2.0**
DAV	**Davao City (W)**	**14.60**	**348**	P		P		20 20 02.0	+5.5
DMPH	**Davao City--Mi**	**14.63**	**348**⇑	*e*P		**P**		**20 19 58.4**	**+1.6**
KCP	**Kidapawan**	**14.65**	**346**⇑	*e*P		P		20 20 05.3	+8.2
BLJI	**Banyuglugur**	**14.84**	**267**	P		**P**		**20 19 59.1**	**-0.1**
	comp=N,828nm,0.7s,comp=N,9µm								
GMJI	**Gumukmas**	**15.01**	**265**	P		**P**		**20 20 02.1**	**+1.1**
	comp=N,238nm,0.8s,comp=N,5µm								
CTBH	**Cotabato--PC H**	**15.07**	**343**⇑	*e*P		**P**		**20 20 04.9**	**+3.2**
BUKP	**Musuan**	**15.49**	**347**	*e*P		**P**		**20 20 06.5**	**+0.1**
TSM	**Tawau**	**15.71**	**317**	P		**P**		**20 20 12.1**	**+3.3**
TSM	**Tawau**	**15.71**	**317**	P		**P**		**20 20 12.1**	**+3.3**
COEN	**Coen**	**15.80**	**116**	*e*Pn		**Pn**		**20 20 07.2**	**-1.9**
	comp=N,17µm,1.6s								
PAGZ	**Pagadian**	**15.93**	**341**	*e*P		**P**		**20 20 14.4**	**+3.2**
CGP	**Cagayan de Oro**	**16.14**	**346**⇑	*i*P		**P**		**20 20 15.9**	**+2.3**
IPIL	**Ipil**	**16.15**	**338**	*e*P		**P**		**20 20 18.1**	**+4.4**
MBWA	**Marble Bar**	**16.19**	**211**	*e*P		**Pn**		**20 20 12.2**	**-1.5**
	comp=N,8µm,2.5s								
BUTP	**Butuan**	**16.44**	**350**	*e*P		**P**		**20 20 20.9**	**+4.0**
PWJI	**Pagerwojo**	**16.62**	**266**	P		**P**		**20 20 18.6**	**-0.3**
	comp=N,441nm,0.7s,comp=N,6µm								
SJI	**Sawahan**	**16.65**	**267**	P		**Pn**		**20 20 19.8**	**+0.3**
	comp=N,729nm,0.8s,comp=N,12µm								
AS31	**Alice Springs**	**17.05**	**163**	*e*P		**P**		**20 20 21.6**	**-1.9**
ASAR	**Alice Springs**	**17.05**	**163**	P		**P**		**20 20 22.2**	**-1.3**
	comp=N,129nm,0.3s,baz=346,slow=14,SNR=1607								
ASAR				S		S		20 23 24.4	-9.3
	comp=N,83nm,0.3s,baz=340,slow=22,SNR=6.1								
ASAR				P3KPbc				20 55 19.8	
	comp=N,0.1nm,0.3s,baz=158,slow=3.9,SNR=9.7								
ASAR				P4KP				21 03 57.5	
	comp=N,0.0nm,0.3s,baz=341,slow=4.3,SNR=5.9								
ASAR	**Alice Springs**	**17.05**	**163**	P		**P**		**20 20 22.2**	**-1.3**
ASAR				S		S		20 23 24.4	-9.3
ASAR				pmax		pmax			
	comp=Z,129nm,0.3s								
ASAR				smax		smax			
	comp=N,83nm,0.3s								
ASAR	**Alice Springs**	**17.05**	**163**	P		**P**		**20 20 22.2**	**-1.3**
ASAR				S		S		20 23 24.4	-9.3
ASAR				*e*				20 55 19.8	
ASAR				P4KP				21 03 57.5	
SDKM	**Sandakan**	**17.16**	**318**	P		**Pn**		**20 20 29.9**	**+4.4**
PCJI	**Pacitan**	**17.25**	**266**	P		**P**		**20 20 25.4**	**-0.4**
	comp=N,641nm,0.8s,comp=N,8µm								
PBKI	**Pangkalan Bun**	**17.43**	**284**	P		**Pn**		**20 20 31.9**	**+3.0**
MSLP	**Maasin**	**17.73**	**348**	*e*P		**Pn**		**20 20 35.2**	**+2.9**
UGM	**Wanagama**	**17.89**	**267**	*e*P		**Pn**		**20 20 33.9**	**-0.4**
	comp=N,592nm,1.0s								
UGM	**Wanagama**	**17.89**	**267**	P		**Pn**		**20 20 34.1**	**-0.2**
	comp=N,464nm,1.5s,comp=N,9µm								
SMRI	**Semarang**	**17.98**	**270**	P		**Pn**		**20 20 34.8**	**-0.6**
	comp=N,524nm,1.0s,comp=N,12µm								
KKM	**Kota Kinabalu**	**18.11**	**317**	*e*P		**Pn**		**20 20 38.2**	**+1.3**
	comp=N,931nm,1.0s								
KKM	**Kota Kinabalu**	**18.11**	**317**	P		**Pn**		**20 20 38.9**	**+2.0**
YOGI	**Yogyakarta**	**18.11**	**267**	P		**Pn**		**20 20 36.9**	**0.0**
	comp=N,2µm,1.0s,comp=N,14µm								
KDM	**Kudat**	**18.35**	**320**	P		**Pn**		**20 20 42.1**	**+2.4**
PMG	**Port Moresby**	**18.52**	**98**	P		**P**		**20 20 39.1**	**-0.6**
	comp=N,11nm,0.3s,baz=277,slow=1.8,SNR=36								
PMG				S		**S**		**20 23 59.9**	**-3.4**
	comp=N,7.9nm,0.3s,baz=217,slow=20,SNR=5.9								
PMG				LR		LR		20 27 10.3	
	comp=N,9µm,19.7s,baz=122,slow=34								
PMG	**Port Moresby**	**18.52**	**98***c i*	P		**P**		**20 20 37.8**	**-1.9**
PMG				pmax		pmax			
	comp=Z,104nm,1.0s								
PMG	**Port Moresby**	**18.52**	**98**	*e*P		**P**		**20 20 39.9**	**+0.2**
	comp=Z,496nm,0.6s								
PMG				S		**S**		**20 23 59.9**	**-3.4**
PMG	**Port Moresby**	**18.52**	**98**	P		**P**		**20 20 40.1**	**+0.4**
STKI	**Sintang**	**18.55**	**293**	P		**Pn**		**20 20 42.8**	**+0.8**
	comp=Z,2µm,1.8s,comp=Z,21µm								
BTM	**Bintulu**	**18.65**	**304**	P		**Pn**		**20 20 46.3**	**+3.1**
OCLP	**Ormoc**	**18.67**	**348**	*e*P		**Pn**		**20 20 44.6**	**+1.2**
BJII	**Banjamegara**	**18.70**	**269**	P		**P**		**20 20 42.7**	**+1.0**
	comp=Z,401nm,1.4s,comp=Z,7µm								
GUIM	**Jordan**	**18.79**	**341**	*e*P		**Pn**		**20 20 44.3**	**-0.5**
SBUM	**Sibu**	**18.97**	**300**	P		**Pn**		**20 20 49.3**	**+2.3**
BATP	**Bataraza**	**19.27**	**326**	*e*P		**Pn**		**20 20 50.8**	**+0.3**
CLJI	**Cilicap**	**19.38**	**268**	P		**Pn**		**20 20 51.8**	**0.0**
	comp=Z,1µm,0.9s,comp=Z,17µm								
CUYO	**Cuyo Island**	**19.55**	**337**	*e*P		**Pn**		**20 20 53.8**	**+0.1**
KSM	**Kuching**	**20.20**	**295**	*e*P		**P**		**20 20 59.4**	**+1.6**
KSM	**Kuching**	**20.20**	**295**	P		Pn		20 21 00.4	-1.0
ENPP	**El Nido**	**20.53**	**334**	*e*P		Pn		20 21 04.5	-0.7
CISI	**Cisompet, Garu**	**20.57**	**268**	P		**P**		**20 21 00.7**	**-1.2**
	comp=Z,880nm,0.9s,comp=Z,8µm								
OTRP	**Odiongan**	**20.60**	**342**	*e*P		Pn		20 21 06.0	-0.2
LEM	**Lembang**	**20.79**	**270**	P		**P**		**20 21 03.9**	**-0.5**
	comp=Z,567nm,0.9s,comp=Z,10µmcomp=Z,48µm								
BUSP	**Coron**	**20.92**	**337**	*e*P		Pn		20 21 08.3	-1.7
PVCP	**Virac**	**21.23**	**348**	*e*P		**P**		**20 21 10.7**	**+1.8**
TPI	**Tanjungpandan**	**21.31**	**281**	P		**P**		**20 21 12.2**	**+2.4**
	comp=Z,502nm,1.5s,comp=Z,9µmcomp=Z,24µm								
AUQP	**San Andres**	**21.32**	**344**	*e*P		**P**		**20 21 13.5**	**+3.6**
CTA	**Charters Tower**	**21.34**	**128**	P		**P**		**20 21 10.4**	**+0.3**
	comp=Z,166nm,0.7s,baz=308,slow=12,SNR=100								
CTA				S		**S**		**20 24 57.7**	**-0.5**
	comp=Z,57nm,0.8s,baz=147,slow=20,SNR=5.7								
CTA				LR		LR		20 30 24.8	
	comp=Z,15µm,19.8s,baz=310,slow=39								
CTA	**Charters Tower**	**21.34**	**128**	*e*P		**P**		**20 21 10.8**	**+0.7**
	comp=Z,119nm,0.5s								
CTA				*e*S		**S**		**20 24 59.0**	**+0.8**
CTA	**Charters Tower**	**21.34**	**128**	P		**P**		**20 21 10.4**	**+0.3**
CTA				S		**S**		**20 24 57.7**	**-0.5**
CTA				pmax		pmax			
	comp=Z,166nm,0.7s								
CTA				smax		smax			
	comp=N,57nm,0.8s								
CTA				MLR		MLR			
	comp=Z,15µm,19.8s								
CTA	**Charters Tower**	**21.34**	**128**	P		**P**		**20 21 10.4**	**+0.3**
CTA				S		**S**		**20 24 57.7**	**-0.5**
CTAO	**Charters Tower**	**21.34**	**128**	*e*P		**P**		**20 21 10.6**	**+0.5**
CTAO				pmax		pmax			
	comp=Z,488nm,1.0s								
CTAO	**Charters Tower**	**21.34**	**128**	*e*P		**P**		**20 21 10.6**	**+0.5**
	comp=Z,488nm,1.0s								
CBJI	**Citeko**	**21.57**	**271**	P		**P**		**20 21 09.9**	**-2.7**
	comp=Z,2µm,0.8s,comp=Z,24µm								
SKJI	**Sukabumi**	**21.83**	**269**	P		**P**		**20 21 12.4**	**-2.9**
GQP	**Guinayangan**	**21.94**	**344**⇓	*e*P		**P**		**20 21 18.4**	**+2.1**
SBJI	**Serang**	**22.31**	**272**	P		**P**		**20 21 19.0**	**-1.1**
	comp=Z,248nm,1.4s,comp=Z,5µm								
LUBP	**Lubang**	**22.49**	**338**	*e*P		**P**		**20 21 23.6**	**+1.9**
TGY	**Tagaytay City**	**22.59**	**340**	P		**P**		**20 21 24.2**	**+1.4**
	comp=Z,1µm,0.6s,baz=212,slow=0.6,SNR=60								
TGY	**Tagaytay City**	**22.59**	**340**	P		**P**		**20 21 24.2**	**+1.4**
TGY	**Tagaytay City**	**22.59**	**340**	P		**P**		**20 21 24.2**	**+1.4**
TGY	**Tagaytay City**	**22.59**	**340**⇓	*e*P		**P**		**20 21 24.8**	**+2.0**
CGJI	**Cibinong**	**22.71**	**270**	P		**P**		**20 21 21.6**	**-2.3**
RBSI	**Rajabasa**	**22.71**	**272**	P		**P**		**20 21 22.6**	**-1.3**
	comp=Z,121nm,0.8s,comp=Z,2µm								
PPBI	**Pangkal Pinang**	**22.92**	**282**	P		**P**		**20 21 28.2**	**+2.3**
FORT	**Forrest**	**23.34**	**181**	*e*P		**P**		**20 21 29.6**	**0.0**
	comp=Z,1µm,0.7s								
FORT				*e*S		S		20 25 47.0	+16
FORT	**Forrest**	**23.34**	**181**	*e*P		**P**		**20 21 28.8**	**-0.7**
	comp=Z,2µm,0.8s								
KLI	**Kotabumi**	**23.69**	**275**	P		P		20 21 38.3	+5.4
BALP	**Baler**	**23.93**	**343**	*e*P		**P**		**20 21 35.0**	**0.0**
PMBI	**Palembang**	**24.08**	**279**	P		**P**		**20 21 40.3**	**+3.8**
LWLI	**Liwa**	**24.46**	**274**	P		**P**		**20 21 38.1**	**-2.0**
SCZP	**Santa Cruz**	**24.49**	**340**	*e*P		**P**		**20 21 38.2**	**-1.9**
BCPH	**Baguio City Da**	**24.84**	**342**⇓	*i*P		**P**		**20 21 42.7**	**-0.7**
CAUP	**Cauayan**	**25.01**	**345**	*e*P		**P**		**20 21 45.9**	**+1.1**
BOLP	**Bolinao**	**25.05**	**340**	*e*P		**P**		**20 21 45.7**	**+0.5**
MNAI	**Manna**	**25.64**	**275**	P		**P**		**20 21 51.1**	**+0.5**
	comp=Z,302nm,1.8s								
ABRA	**Dolores**	**25.99**	**343**	*e*P		**P**		**20 21 53.4**	**-0.3**
KSI	**Kapahiang**	**26.10**	**277**	P		**P**		**20 21 57.0**	**+2.2**
KLBR	**Kellerberrin**	**26.17**	**201**	*e*P		**P**		**20 21 55.3**	**+0.1**
	comp=Z,316nm,0.7s								
MYKOM	**Kota Tinggi**	**26.26**	**289**	P		**P**		**20 21 58.8**	**+2.6**
BBOO	**Buckleboo**	**26.30**	**166**	*e*P		**P**		**20 21 56.5**	**+0.1**
	comp=Z,12µm,0.9s								
GUMO	**Guam**	**26.34**	**38**	P		**P**		**20 21 57.1**	**+0.3**
	comp=Z,251nm,0.8s,baz=200,slow=7.8,SNR=13								
GUMO	**Guam**	**26.34**	**38**	P		**P**		**20 21 57.1**	**+0.3**
GUMO				pmax		pmax			
	comp=Z,251nm,0.8s								
GUMO	**Guam**	**26.34**	**38**	P		**P**		**20 21 57.1**	**+0.3**
KGM	**Kluang**	**26.84**	**289**	P		**P**		**20 22 03.5**	**+2.1**
RGRI	**Rengat**	**27.05**	**284**	P		**P**		**20 22 05.9**	**+2.6**
STKA	**Stephens Creek**	**27.29**	**155**	P		**P**		**20 22 05.1**	**-0.1**
	comp=Z,355nm,0.9s,baz=327,slow=8.7,SNR=225								
STKA				S		**S**		**20 26 29.6**	**-4.1**
	comp=Z,106nm,0.7s,baz=100,slow=17,SNR=1.9								
STKA				LR		LR		20 34 18.1	
	comp=Z,15µm,20.4s,baz=56,slow=39								
STKA	**Stephens Creek**	**27.29**	**155**	*e*P		**P**		**20 22 05.1**	**-0.1**
	comp=Z,306nm,0.8s								
STKA				*e*S		**S**		**20 26 29.7**	**-4.0**
STKA	**Stephens Creek**	**27.29**	**155**	P		**P**		**20 22 05.1**	**-0.1**
STKA				S		**S**		**20 26 29.6**	**-4.1**
STKA				pmax		pmax			
	comp=Z,355nm,0.9s								
STKA				smax		smax			
	comp=N,106nm,0.7s								
STKA				MLR		MLR			
	comp=Z,15µm,20.4s								
STKA	**Stephens Creek**	**27.29**	**155**	*e*P		**P**		**20 22 05.2**	**0.0**
	comp=Z,84nm,0.8s								
STKA				*e*pP		**pP**		**20 22 32.7**	**-4.0**
STKA				S		**S**		**20 26 29.6**	**-4.1**
NWAO	**Narrogin (SRO)**	**27.57**	**201**	P		**P**		**20 22 08.0**	**+0.4**
	comp=Z,125nm,0.3s,baz=32,slow=7.5,SNR=184								
NWAO				S		**S**		**20 26 35.6**	**-2.4**
	comp=Z,95nm,0.8s,baz=223,slow=19,SNR=2.0								
NWAO				LR		LR		20 34 13.2	
	comp=Z,17µm,19.1s,baz=14,slow=38								
NWAO	**Narrogin (SRO)**	**27.57**	**201**	P		**P**		**20 22 08.0**	**+0.4**
NWAO				S		**S**		**20 26 35.6**	**-2.4**
NWAO				pmax		pmax			
	comp=Z,125nm,0.4s								
NWAO				smax		smax			
	comp=N,95nm,0.8s								
NWAO				MLR		MLR			
	comp=Z,17µm,19.1s								
NWAO	**Narrogin (SRO)**	**27.57**	**201**	*e*P		**P**		**20 22 08.0**	**+0.4**
	comp=Z,653nm,1.1s								
NWAO				S		**S**		**20 26 35.6**	**-2.4**
EIDS	**Eidsvold**	**28.01**	**132**	*e*P		**P**		**20 22 11.2**	**-0.5**
	comp=Z,159nm,0.9s								
EIDS				*e*pP		**pP**		**20 22 45.8**	**+2.6**
BKNI	**Bangkinang**	**28.48**	**284**	P		**P**		**20 22 17.6**	**+1.6**
	comp=Z,295nm,1.2s,comp=Z,5µm								
FRIM	**Kepong**	**28.85**	**290**	P		**P**		**20 22 20.4**	**+1.1**
PPI	**Padang Panjang**	**28.89**	**282**	P		**P**		**20 22 20.1**	**+0.4**
	comp=Z,310nm,1.4s,comp=Z,6µm								
IPM	**Ipoh**	**29.87**	**292**	*e*P		**P**		**20 22 28.8**	**+0.5**
	comp=Z,269nm,0.9s								
IPM	**Ipoh**	**29.87**	**292**	P		**P**		**20 22 29.9**	**+1.6**
MNSI	**Mandailing Nat**	**30.01**	**284**	P		**P**		**20 22 29.7**	**+0.2**
	comp=Z,240nm,1.0s,comp=Z,5µm								
TWG	**Pinlang**	**30.84**	**346**	*e*P		**P**		**20 22 35.2**	**-1.5**
HNR	**Honiara**	**31.12**	**96**	*e*P		**P**		**20 22 39.0**	**-0.3**
HNR	**Honiara**	**31.12**	**96**	*e*P		**P**		**20 22 39.0**	**-0.3**
PSI	**Prapat**	**31.23**	**288**	P		**P**		**20 22 41.2**	**+0.7**
YULB	**Yu-li**	**31.34**	**347**	*e*P		**P**		**20 22 38.4**	**-2.7**
	comp=Z,30nm,0.6s								
TPUB	**Ta-pu**	**31.40**	**346**	*e*P		**P**		**20 22 40.5**	**-1.1**
ARMA	**Armidale**	**31.56**	**140**	*e*P		**P**		**20 22 44.6**	**+1.5**
ARMA				*e*S		**S**		**20 27 35.7**	**-5.2**
ARMA	**Armidale**	**31.56**	**140**	*e*P		**P**		**20 22 44.4**	**+1.3**
SSLB	**Suanglung**	**31.80**	**347**	*e*P		**P**		**20 22 43.8**	**-1.3**
TSI	**Tuntungan**	**31.80**	**289**	P		**P**		**20 22 46.1**	**+0.8**
QIZ	**Qiongzhong**	**32.03**	**325**	P		**P**		**20 22 48.3**	**+1.1**
QIZ				sP		**sP**		**20 23 34.3**	**-1.9**
QIZ				S		**S**		**20 27 46.1**	**-2.0**
QIZ				pmax		pmax			
	comp=Z,230nm,1.9s								
QIZ				pmax		pmax			
	comp=Z,2µm,6.2s								
QIZ				LR		LR			
	comp=N,6µm,15.3s								
QIZ				LR		LR			
	comp=Z,6µm,17.2s								
QIZ	**Qiongzhong**	**32.03**	**325**	*e*P		**P**		**20 22 48.2**	**+1.1**
	comp=Z,1µm,1.9s								
NACB	**Ninganchiao**	**32.03**	**348**	*e*P		**P**		**20 22 45.9**	**-1.2**
	comp=Z,96nm,0.9s								
GSI	**Gunungsitoli**	**32.08**	**284**	P		**P**		**20 22 47.2**	**-0.5**
YHNB	**Yeheng**	**32.56**	**348**	*e*P		**P**		**20 22 50.3**	**-1.5**
	comp=Z,179nm,0.6s								
HKC	**Hong Kong Obse**	**32.64**	**335**⇑	*i*P		**P**		**20 22 54.0**	**+1.6**
TATO	**Taipei**	**32.83**	**348**	*e*P		**P**		**20 22 53.3**	**-0.7**
TPTI		**33.03**	**288**	P		**P**		**20 22 59.2**	**+3.2**
QZH	**Quanzhou**	**33.51**	**343**⇑	*i*P		**P**		**20 23 00.5**	**+0.6**
QZH				pP		**pP**		**20 23 35.8**	**+3.9**
QZH				S		**S**		**20 28 07.0**	**-3.8**
QZH				pmax		pmax			
	comp=Z,410nm,0.8s								
QZH				LR		LR			
	comp=N,4µm,12.2s								
QZH				LR		LR			
	comp=E,4µm,11.6s								
QZH				LR		LR			
	comp=Z,16µm,20.4s								
CAN	**Canberra**	**33.60**	**149**	*e*P		**P**		**20 23 01.2**	**+0.5**
CAN				pmax		pmax			
	comp=Z,227nm,1.0s								
CAN	**Canberra**	**33.60**	**149**	*e*P		**P**		**20 23 01.2**	**+0.5**
	comp=Z,227nm,1.0s								
RIV	**Riverview**	**33.65**	**145**	*e*P		**P**		**20 23 03.9**	**+2.8**
GZH	**Guangzhou**	**33.69**	**334**	P		P		20 23 05.4	+3.9
GZH				S		**S**		**20 28 18.8**	**+5.1**
GZH				LR		LR			
	comp=N,5µm,16.1s								
GZH				LR		LR			
	comp=E,6µm,19.3s								
GZH				LR		LR			
	comp=Z,11µm,18.6s								
CNB	**Canberra Magne**	**33.78**	**149**	*e*P		**P**		**20 23 03.8**	**+1.5**
	comp=Z,670nm,1.6s								
CNB				*e*S		**S**		**20 28 10.3**	**-4.8**
TOO	**Toolangi**	**33.81**	**155**	*e*P		**P**		**20 23 04.1**	**+1.6**
	comp=Z,1µm,1.1s								
TOO				*e*S		**S**		**20 28 14.7**	**-0.8**
LHMI	**Lhok Sumawe**	**33.92**	**291**	P		**P**		**20 23 04.6**	**+0.9**
JOW	**Kunigami**	**33.95**	**360**	P		**P**		**20 23 04.8**	**+1.0**
	comp=Z,318nm,0.7s,baz=197,slow=7.3,SNR=43								
JOW				LR		LR		20 35 27.8	
	comp=Z,4µm,19.7s,baz=336,slow=33								
JOW	**Kunigami**	**33.95**	**360**	*e*P		**P**		**20 23 04.7**	**+1.0**
BSI	**Banda Aceh**	**35.55**	**290**	P		**P**		**20 23 18.4**	**+0.7**
CBIJ	**Chichi jima**	**36.67**	**21**	P		**P**		**20 23 26.7**	**-0.3**
	comp=Z,246nm,0.7s,baz=224,slow=6.9,SNR=18								
CBIJ				S		**S**		**20 28 56.5**	**-2.8**
	comp=Z,94nm,0.7s,baz=280,slow=22,SNR=3.6								
CBIJ	**Chichi jima**	**36.67**	**21**	P		**P**		**20 23 26.7**	**-0.3**
CBIJ				S		**S**		**20 28 56.5**	**-2.8**
MOO	**Moorlands**	**38.66**	**158**	*e*P		**P**		**20 23 45.3**	**+1.7**
	comp=Z,676nm,1.0s								
SSE	**Sheshan**	**38.84**	**350**	P		**P**		**20 23 45.5**	**+0.3**
SSE				sP		**sP**		**20 24 32.3**	**-2.5**
SSE				S		**S**		**20 29 35.3**	**+3.3**
SSE				pmax		pmax			
	comp=Z,130nm,0.8s								
SSE				pmax		pmax			
	comp=Z,1µm,4.8s								
SSE				LR		LR			
	comp=N,1µm,17.2s								
SSE				LR		LR			
	comp=E,2µm,17.1s								
SSE				LR		LR			
	comp=Z,3µm,18.5s								
CM31	**Chiang Mai Arr**	**38.86**	**312**	*e*P		**P**		**20 23 47.0**	**+1.4**
	comp=Z,936nm,1.4s								
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P		**P**		**20 23 47.0**	**+1.5**
	comp=Z,211nm,1.1s,baz=143,slow=6.9,SNR=554								
CMAR				PcP		**PcP**		**20 25 55.4**	**+1.7**
	comp=Z,77nm,0.8s,baz=164,slow=2.7,SNR=24								
CMAR				ScP		**ScP**		**20 29 27.6**	**-0.6**
	comp=Z,28nm,0.8s,baz=152,slow=3.2,SNR=16								
CMAR				PKiKP		**PKiKP**		**20 33 07.1**	**0.0**
	comp=Z,3.8nm,0.8s,baz=221,slow=1.1,SNR=6.1								
CMAR				P3KPbc				20 53 46.4	
	comp=Z,1.2nm,0.7s,baz=309,slow=5.0,SNR=12								
CMAR				P3KP				20 55 26.2	
	comp=Z,0.4nm,0.3s,baz=291,slow=2.2,SNR=3.5								
CMAR				PKP2ab				20 57 44.1	
	comp=Z,1.3nm,0.8s,baz=309,slow=5.0,SNR=5.5								
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P		**P**		**20 23 47.0**	**+1.5**
CMAR								20 25 55.4	
CMAR								20 29 27.6	
CMAR				*i*				20 33 07.1	
CMAR				pmax		pmax			
	comp=Z,211nm,1.1s								
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P		**P**		**20 23 47.0**	**+1.5**
CMAR				PcP		**PcP**		**20 25 55.4**	**+1.7**
CMAR				ScP		**ScP**		**20 29 27.6**	**-0.6**
CMAR				PKiKP		**PKiKP**		**20 33 07.1**	**0.0**
CMAR				*e*				20 53 46.4	
CMAR				PKKKP				20 55 26.2	
CMAR				P'P'ab		**P'P'ab**		**20 57 44.1**	**+2.0**
CHTO	**Chiang Mai**	**39.08**	**312**	*e*P		**P**		**20 23 48.6**	**+1.2**
CHTO				pmax		pmax			
	comp=Z,803nm,1.3s								
CHTO	**Chiang Mai**	**39.08**	**312**	*e*P		**P**		**20 23 48.6**	**+1.2**
	comp=Z,803nm,1.3s								
CHTO	**Chiang Mai**	**39.08**	**312**	P

comp=Z,16nm,0.7s,baz=190,slow=5.6,SNR=14
MJAR Matsushiro Arr 44.56 11 P **P** **20 24 30.4 -1.2**
MJAR 20 26 14.0
MJAR pmax pmax
comp=Z,167nm,0.8s
MJAR Matsushiro Arr 44.56 11 P **P** **20 24 30.4 -1.2**
MJAR PcP **PcP** **20 26 14.0 +1.9**
MJAR ScP **ScP** **20 29 48.6 -1.9**
MAJO Matsushiro 44.56 11 *e*P **P** **20 24 30.5 -1.1**
MAJO pmax pmax
comp=Z,258nm,0.8s
MAJO Matsushiro 44.56 11 *e*P **P** **20 24 30.5 -1.1**
comp=Z,258nm,0.8s
MAT Matsushiro 44.56 11 P **P** **20 24 30.4 -1.3**
MAT S S 20 30 47.0 -9.1
INCN Inchon 44.60 358 *e*P **P** **20 24 32.9 +0.9**
comp=Z,85nm,0.9s
CD2 Chengdu 44.83 329 P **P** **20 24 34.4 +0.5**
CD2 pP **pP** **20 25 06.3 -1.0**
CD2 sP **sP** **20 25 22.5 -1.6**
CD2 PP **PP** **20 26 22.3 +0.6**
CD2 S **S** **20 31 01.3 +1.1**
CD2 sS **sS** **20 31 57.3 -1.0**
CD2 SS **ScS** **20 34 19.0 +3.0**
CD2 pmax pmax
comp=Z,810nm,0.8s
CD2 pmax pmax
comp=Z,3μm,5.5s
XAN Xi'an 45.15 337 P **P** **20 24 36.3 -0.1**
XAN pP **pP** **20 25 07.9 -2.0**
XAN sP **sP** **20 25 24.0 -2.6**
XAN PP **PP** **20 26 25.8 +0.7**
XAN sS **sS** **20 32 04.1 +1.2**
XAN SS **SS** **20 34 28.4 -1.8**
XAN pmax pmax
comp=Z,210nm,0.8s
XAN pmax pmax
comp=Z,490nm,6.4s
WAKE Wake Island 45.91 54 *e*P **P** **20 24 42.9 +0.4**
comp=Z,336nm,1.0s
DL2 Dalian 46.44 353⇑*i*P **P** **20 24 47.0 +0.7**
DL2 sP **sP** **20 25 36.3 -0.4**
DL2 S **S** **20 31 19.6 -3.3**
DL2 pmax pmax
comp=Z,150nm,0.7s
DL2 pmax pmax
comp=Z,1μm,5.1s
TIY Taiyuan 47.26 343 ⇑P **P** **20 24 53.0 +0.1**
TIY pP **pP** **20 25 23.3 -3.3**
TIY sP **sP** **20 25 38.9 -4.4**
TIY PP **PP** **20 26 46.8 +1.4**
TIY S S 20 31 28.8 -6.0
TIY pmax pmax
comp=Z,380nm,0.6s
TIY pmax pmax
comp=Z,1μm,5.4s
TIY LR LR
comp=N,1μm,10.2s
TIY LR LR
comp=E,730nm,10.0s
TIY LR LR
comp=Z,10μm,56.7s
AGT Agartala 47.84 312 *e*P **P** **20 24 59.0 +1.6**
SHL Shillong 48.38 314⇑*i*P **P** **20 25 02.5 +0.7**
SHL *ex* x 20 30 08.0
SHL *ex* x 20 31 48.0
BJT Baijiatuau 48.47 347 *e*P **P** **20 25 02.0 0.0**
BJT pmax pmax
comp=Z,388nm,0.7s
BJT Baijiatuau 48.47 347 *e*P **P** **20 25 02.0 0.0**
comp=Z,388nm,0.7s
BJI Beijing 48.49 347 P **P** **20 25 02.3 +0.1**
BJI sP **sP** **20 25 52.0 -0.7**
BJI S **S** **20 31 47.4 -4.5**
BJI sS **sS** **20 32 51.3 +0.6**
BJI ScS **ScS** **20 34 39.9 +0.4**
BJI pmax pmax
comp=Z,590nm,0.7s
BJI pmax pmax
comp=Z,3μm,6.1s
BJI LR LR
comp=N,1μm,24.5s
BJI LR LR
comp=E,3μm,21.4s
BJI LR LR
comp=Z,2μm,29.7s
LZH Lanzhou 49.03 333 ⇑P **P** **20 25 08.3 +1.7**
LZH pP **pP** **20 25 39.8 -0.8**
LZH sP **sP** **20 25 54.8 -2.4**
LZH PP **PP** **20 27 02.5 +0.8**
LZH ScP **ScP** **20 30 09.4 0.0**
LZH S **S** **20 31 57.4 -2.5**
LZH pmax pmax
comp=Z,880nm,1.0s
LZH pmax pmax
comp=Z,3μm,4.0s
LZH LR LR
comp=N,5μm,13.2s
LZH LR LR
comp=E,6μm,15.0s
LZH LR LR
comp=Z,6μm,15.5s
SNY Shenyang 49.12 355 ⇑P **P** **20 25 06.9 0.0**
SNY pP **pP** **20 25 43.8 +2.9**
SNY sP **sP** **20 25 59.8 +2.3**
SNY S **S** **20 31 57.4 -3.2**
SNY pmax pmax
comp=Z,200nm,1.9s
SNY pmax pmax
comp=Z,3μm,4.3s
SNY LR LR
comp=N,2μm,17.9s
SNY LR LR
comp=Z,2μm,20.4s
MSVF Nonsavu 49.28 107 *e*P **P** **20 25 09.4 +0.7**
MSVF pmax pmax
comp=Z,147nm,0.8s
MSVF Nonsavu 49.28 107 *e*P **P** **20 25 09.3 +0.7**
comp=Z,147nm,0.8s
CAL Calcutta 49.31 308 *e*P **P** **20 25 08.7 0.0**
CAL *ex* x 20 28 34.4
OUZ Omahuta 49.72 131 *e*P **P** **20 25 12.9 +1.2**
comp=Z,258nm,1.2s
FUNA Funafuti 50.14 95 *e*P **P** **20 25 17.3 +2.1**
comp=Z,209nm,1.0s
VLA Vladivostok 50.29 3*c i*P **P** **20 25 16.6 +0.8**
VLA pmax pmax
comp=Z,523nm,1.6s
HHC Hu-ho-hao-te 50.42 343 *e*P **P** **20 25 17.6 +0.7**
HHC pP **pP** **20 25 49.8 -1.3**
HHC sP **sP** **20 26 06.0 -1.7**
HHC PP **PP** **20 27 17.1 +2.9**
HHC S **S** **20 32 19.9 +0.9**
HHC ScS **ScS** **20 34 50.6 -2.2**
HHC SS **SS** **20 35 54.0 -1.0**
HHC pmax pmax
comp=Z,310nm,1.4s
HHC pmax pmax
comp=Z,2μm,6.8s
HHC LR LR
comp=N,2μm,15.7s
HHC LR LR
comp=E,2μm,15.2s
HHC LR LR
comp=Z,4μm,16.2s
BTO Baotou 50.65 342 *e*P **P** **20 25 18.3 -0.4**
JCZ Jackson Bay 50.67 143 PN **P** **20 25 20.1 +1.2**
ERM Erimo 50.88 14*d i*P **P** **20 25 20.8 +0.6**
ERM Erimo 50.88 14 *e*P **P** **20 25 20.3 +0.1**
comp=Z,68nm,0.8s
CN2 Changchun 50.96 357 *e*P **P** **20 25 20.3 -0.5**
CN2 *ep*P **pP** **20 25 52.5 -2.5**
CN2 *es*P **sP** **20 26 08.6 -3.0**
CN2 SS **SS** **20 36 00.6 -2.6**
CN2 pmax pmax
comp=Z,70nm,1.3s
CN2 LR LR
comp=N,4μm,15.0s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=Z,3μm,18.0s
WVZ Waitaha Valley 51.34 141 PN **P** **20 25 24.1 +0.5**
WVZ pP pP 20 26 05.1 +7.2
WVZ PcP **PcP** **20 26 35.8 -0.6**
DSZ Denniston Nort 51.34 139 PN **P** **20 25 24.3 +0.5**
DSZ PcP **PcP** **20 26 36.9 +0.3**
USRK Ussuriysk Arra 51.37 3 P **P** **20 25 24.2 +0.4**
comp=Z,67nm,0.6s,baz=184,slow=6.1,SNR=114
USRK PKP2ab 20 56 41.2
comp=Z,1.1nm,0.5s,baz=358,slow=3.1,SNR=4.3
QRZ Quartz Range 51.38 138 PN **P** **20 25 25.7 +1.6**
QRZ pP pP 20 26 05.3 +7.0
QRZ PcP **PcP** **20 26 37.2 +0.5**
LSA Lhasa 51.45 317 P **P** **20 25 26.8 +1.5**
LSA S **S** **20 32 30.9 -3.4**
LSA pmax pmax
comp=Z,350nm,1.0s
LSA LR LR
comp=N,2μm,18.0s
LSA LR LR
comp=E,2μm,21.0s
LSA LR LR
comp=Z,3μm,18.0s
LSA Lhasa 51.45 317 *e*P **P** **20 25 26.8 +1.5**
LSA pmax pmax
comp=Z,271nm,0.8s
LSA Lhasa 51.45 317 *e*P **P** **20 25 26.8 +1.5**
comp=Z,271nm,0.8s
MDJ Mudanjiang 51.70 1 P **P** **20 25 27.8 +1.5**
MDJ pP **pP** **20 26 01.6 +1.0**
MDJ sP **sP** **20 26 16.3 -0.9**
MDJ PcP **PcP** **20 26 38.5 +0.8**
MDJ PP **PP** **20 27 25.9 +0.3**
MDJ ScP **ScP** **20 30 21.5 +1.0**
MDJ PcS **PcS** **20 30 35.0 -0.7**
MDJ S **S** **20 32 34.8 -1.5**
MDJ sS **sS** **20 33 36.0 +0.2**
MDJ pmax pmax
comp=Z,210nm,1.6s
MDJ pmax pmax
comp=Z,660nm,4.2s
MDJ LR LR
comp=N,2μm,14.7s
MDJ LR LR
comp=E,1μm,11.4s
MDJ LR LR
comp=Z,3μm,11.4s
MDJ Mudanjiang 51.70 1 *e*P **P** **20 25 26.2 -0.1**
comp=Z,756nm,1.8s
RPZ Rata Peaks 51.87 141 P **P** **20 25 28.2 +0.5**
comp=Z,494nm,0.8s,baz=284,slow=2.0,SNR=80
RPZ Rata Peaks 51.87 141 *e*P **P** **20 25 28.1 +0.5**
comp=Z,882nm,1.1s
RPZ Rata Peaks 51.87 141 PN **P** **20 25 28.6 +0.9**
RPZ pP pP 20 26 10.4 +8.5
THZ Tophouse 52.07 138 PN **P** **20 25 30.0 +0.8**
MDRS Chennai 52.09 293 *e*P **P** **20 25 27.5 -2.2**
MDRS AMb AMB 20 26 19.1
comp=Z,886nm,0.8s
MDRS *ex* x 20 30 30.2
ODZ Otahua Downs 52.33 143 *e*P **P** **20 25 30.9 -0.1**
comp=Z,1μm,1.6s
ODAN Odare 52.40 312 *e*P **P** **20 25 32.9 +0.8**
comp=Z,802nm,1.0s
ODAN Odare 52.40 312 *e*P **P** **20 25 32.9 +0.8**
comp=Z,802nm,1.0s
TAPN Taplejung 52.44 313 *e*P **P** **20 25 33.2 +0.7**
comp=Z,1μm,1.2s
TAPN Taplejung 52.44 313 *e*P **P** **20 25 33.2 +0.7**
comp=Z,1μm,1.2s
ASAJ Asahikawa 52.75 13 P **P** **20 25 34.3 +0.3**
comp=Z,150nm,0.8s,baz=228,slow=11,SNR=72
ASAJ LR LR 20 47 43.2
comp=Z,2μm,20.2s,baz=223,slow=35
ASAJ Asahikawa 52.75 13 P **P** **20 25 34.3 +0.3**
ASAJ pmax pmax
comp=Z,150nm,0.8s
ASAJ MLR MLR
comp=Z,2μm,20.2s
ASAJ Asahikawa 52.75 13 *e*P **P** **20 25 34.2 +0.2**
comp=Z,53nm,0.8s
KHZ Kahutara 52.80 139 *e*P **P** **20 25 34.2 -0.3**
comp=Z,343nm,0.8s
KHZ Kahutara 52.80 139 PN **P** **20 25 34.3 -0.3**
MCQ Macquarie Isla 53.00 158 *e*P **P** **20 25 37.6 +1.9**
MCQ Macquarie Isla 53.00 158 *e*P **P** **20 25 37.6 +1.9**
comp=Z,54μm,0.9s
RAMN Ramite 53.03 312 *e*P **P** **20 25 37.8 +1.1**
comp=Z,812nm,0.7s
RAMN Ramite 53.03 312 *e*P **P** **20 25 37.8 +1.1**
comp=Z,812nm,0.7s
SNZO South Karori 53.06 137 *e*P **P** **20 25 36.0 -0.5**
comp=Z,287nm,1.0s
BHHZ Black Hill Sta 53.22 135 PN **P** **20 25 37.6 -0.2**
MRZ Mangatainoka R 53.37 136 PN **P** **20 25 38.0 -0.8**
YUK Yuzh-Kuril'sk 53.46 15*c i*P P 20 25 31.3 -7.9
YUK *i* 20 26 44.3
YUK *i* SS SKiKP 20 36 46.8 +7.4
YUK pmax pmax
comp=Z,1μm,1.0s
YUK pmax pmax
comp=Z,951nm,1.0s
YUK pmax pmax
comp=N,269nm,1.0s
YUK pmax pmax
comp=E,216nm,1.0s
YUK MLR MLR
comp=N,889nm,19.0s
YUK MLR MLR
comp=E,600nm,19.0s
YUK MLR MLR
comp=Z,458nm,19.0s
URZ Urewera 53.49 133 *e*P **P** **20 25 38.9 -0.7**
comp=Z,86nm,0.8s
PNHZ Pukenui 53.49 135 PN **P** **20 25 39.4 -0.3**
GTA Gaotai 53.58 332 ⇑P **P** **20 25 41.8 +1.4**
GTA pP **pP** **20 26 14.5 -0.4**
GTA sP **sP** **20 26 30.1 -1.3**
GTA ScP **ScP** **20 30 28.8 -0.2**
GTA S **S** **20 33 00.9 -1.3**
GTA ScS **ScS** **20 35 14.1 -0.9**
GTA pmax pmax
comp=Z,190nm,0.8s
GTA pmax pmax
comp=Z,4μm,4.7s
GTA LR LR
comp=N,5μm,19.7s
GTA LR LR
comp=E,6μm,18.3s
GTA LR LR
comp=Z,4μm,17.1s
JIRN Jiri 53.73 312 *e*P **P** **20 25 42.6 +0.6**
comp=Z,630nm,0.9s
JIRN Jiri 53.73 312 *e*P **P** **20 25 42.6 +0.6**
comp=Z,630nm,0.9s
GUN Gumba 54.10 312 *e*P **P** **20 25 45.3 +0.7**
comp=Z,653nm,0.7s
GUN Gumba 54.10 312 *e*P **P** **20 25 45.3 +0.7**
comp=Z,653nm,0.7s
PKI Pulchoki 54.26 312 *e*P **P** **20 25 46.1 +0.3**
comp=Z,235nm,0.6s
PKI Pulchoki 54.26 312 *e*P **P** **20 25 46.1 +0.3**
PKI pmax pmax
comp=Z,235nm,0.6s
PKI Pulchoki 54.26 312 *e*P **P** **20 25 46.1 +0.3**
comp=Z,235nm,0.6s
PUZ Puketiti 54.26 132 PN **P** **20 25 44.8 -0.5**
KKN Kakani 54.47 312 *e*P **P** **20 25 47.7 +0.5**
comp=Z,726nm,1.1s
KKN Kakani 54.47 312 *e*P **P** **20 25 47.7 +0.5**
KKN pmax pmax
comp=Z,726nm,1.1s
KKN Kakani 54.47 312 *e*P **P** **20 25 47.7 +0.5**
comp=Z,726nm,1.1s
DMN Daman 54.50 311 *e*P **P** **20 25 48.1 +0.6**
DMN Daman 54.50 311 *e*P **P** **20 25 48.1 +0.6**
GKN Gorkha 55.06 312 *e*P **P** **20 25 51.9 +0.5**
comp=Z,534nm,0.7s
GKN Gorkha 55.06 312 *e*P **P** **20 25 51.9 +0.5**
comp=Z,534nm,0.7s
HYB Hyderabad 55.18 297 *i* P **P** **20 25 51.0 -1.2**
comp=Z,100nm,1.0s
HYB *ep*P **pP** **20 26 24.0 -2.9**
HYB *e*PP PP 20 28 06.0 +8.7
HYB *e*S S 20 33 16.0 -8.2
HYB *e*SS SS 20 37 00.0 -11
YSS Yuzh-Sakhalins 55.49 12*α i*P **P** **20 25 54.0 +0.2**
YSS *e**PP **pP** **20 26 31.0 +2.4**
YSS *e**SP **sP** **20 26 47.0 +2.0**
YSS *e* 20 28 08.0
YSS *e*S **S** **20 33 23.0 -4.2**
YSS *e* 20 35 27.0
YSS *e*SS **SS** **20 37 16.0 +1.4**
YSS pmax pmax
comp=Z,230nm,0.7s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,1μm,19.0s
YSS Yuzh-Sakhalins 55.49 12 *e*P **P** **20 25 54.0 +0.2**
comp=N,216nm,0.7s
DGAR Diego Garcia 55.61 266 *e*P **P** **20 25 54.1 -1.2**
DGAR pmax pmax
comp=Z,160nm,0.8s
DGAR Diego Garcia 55.61 266 *e*P **P** **20 25 54.1 -1.2**
comp=Z,160nm,0.8s
KOLN Koldanda 55.71 311 *e*P **P** **20 25 56.8 +0.7**
comp=Z,388nm,0.6s
KOLN Koldanda 55.71 311 *e*P **P** **20 25 56.8 +0.7**
comp=Z,388nm,0.6s
HABR Khabarovsk 55.85 5 *i* P **P** **20 25 56.8 +0.5**
HABR *e**PP **pP** **20 26 30.3 -0.8**
HABR *e**SP **sP** **20 26 46.6 -0.9**
HABR *e* 20 26 51.6
HABR *e* 20 28 01.0
HABR *e*PPP PPP 20 29 16.9
HABR *e*S **S** **20 33 31.0 -0.9**
HABR *e* 20 35 28.6
HABR *e*SS **SS** **20 37 20.3 +0.1**
HABR pmax pmax
comp=Z,2μm,2.7s
HABR pmax pmax
comp=N,435nm,2.8s
HABR pmax pmax
comp=Z,886nm,1.9s
HABR pmax pmax
comp=E,254nm,1.9s
HABR smax smax
comp=E,585nm,4.8s
HABR smax smax
comp=N,687nm,4.8s
HABR smax smax
comp=Z,1μm,9.7s
HABR MLR MLR
comp=Z,982nm,18.0s
DANN Dangsing 55.90 311 *e*P **P** **20 25 58.0 +0.5**
DANN Dangsing 55.90 311 *e*P **P** **20 25 58.0 +0.5**
KAAM Kaadhehdhoo 55.95 276 P P 20 26 01.3 +3.5
NGP Nagpur 56.23 301 *e*P **P** **20 25 58.7 -1.0**
NGP *ex* x 20 33 29.7
KLR Kul'dur 56.38 3 *e*P P 20 25 56.8 -3.3
KLR *e* 20 26 48.5
KLR pmax pmax
comp=N,170nm,2.0s
KLR pmax pmax
comp=Z,800nm,2.0s
KLR pmax pmax
comp=N,1μm,9.0s
KLR pmax pmax
comp=Z,3μm,9.0s
HIA Hailar 56.87 353 *e*P **P** **20 26 04.1 +0.4**
HIA pmax pmax
comp=Z,568nm,1.8s
HIA Hailar 56.87 353 *e*P **P** **20 26 04.1 +0.4**
comp=Z,568nm,1.8s
LATR Latur 57.31 297 *e*P **P** **20 26 06.8 -0.4**
MNCY Minicoy 57.48 285 *e*P **P** **20 26 08.0 -0.5**
MNCY *ex* x 20 26 47.0
ULN Ulaanbaatar 58.14 343 *e*P **P** **20 26 13.6 +0.9**
ULN pmax pmax
comp=Z,756nm,1.4s
ULN Ulaanbaatar 58.14 343 *e*P **P** **20 26 13.6 +0.9**
comp=Z,756nm,1.4s
ULN Ulaanbaatar 58.14 343 P **P** **20 26 14.2 +1.5**
SONM Songino Array 58.30 343 P **P** **20 26 14.9 +1.1**
comp=Z,95nm,0.6s,baz=172,slow=2.7,SNR=325
SONM ScP **ScP** **20 30 48.0 -1.6**
comp=Z,10nm,1.0s,baz=155,slow=6.5,SNR=3.7
SONM PKPPKP **P'P'df** **20 55 52.0 +1.1**
comp=Z,3.1nm,0.9s,baz=327,slow=2.1,SNR=7.5
SONM PKP2bc 20 56 04.1
comp=Z,13nm,0.9s,baz=299,slow=1.3,SNR=21
SONM P4KPbc 21 03 24.3
comp=Z,0.9nm,0.9s,baz=171,slow=5.3,SNR=5.6
SONM Songino Array 58.30 343 P **P** **20 26 14.9 +1.1**
SONM pmax pmax
comp=Z,95nm,0.6s
SONM Songino Array 58.30 343 P **P** **20 26 14.9 +1.1**
SONM ScP **ScP** **20 30 48.0 -1.6**
SONM P'P' 20 55 52.0
SONM ⇑*e* 20 56 04.1
SONM *e* 21 03 24.3
AFI Afiamalu 58.89 102 *e*P **P** **20 26 21.1 +2.7**
AFI pmax pmax
comp=Z,556nm,1.3s
AFI Afiamalu 58.89 102 *e*P **P** **20 26 21.1 +2.7**
comp=Z,556nm,1.3s
POO Poona 59.75 296 *ex* **P** **20 26 21.8 -2.4**
DRV Dumont d'Urvil 59.78 175 P P 20 26 11.0 -12
DRV S S 20 34 07.0 -16
DRV SS SS 20 38 03.0 -18
DRV L L 20 40 00.0
DRV R 20 45 00.0
CASY Casey 60.17 188 *e*P **P** **20 26 26.6 +0.4**
CASY Casey 60.17 188 *e*P **P** **20 26 26.6 +0.4**
comp=Z,169nm,0.8s
CIT Chita 60.49 349 *e*P **P** **20 26 29.8 +1.2**
CIT *e* 20 27 07.7
CIT *e* 20 34 32.5
CIT pmax pmax
comp=Z,837nm,2.2s
NDI New Delhi 61.05 308 *e*P **P** **20 26 31.4 -1.5**
NDI *ex* x 20 34 32.0
ZAK Zakamensk 61.51 342 *e*P **P** **20 26 36.2 +0.6**
ZAK pmax pmax
comp=Z,149nm,1.4s
SKR Severo-Kuril's 62.50 19 *e*P **P** **20 26 44.0 +2.0**
SKR *e* 20 27 22.0
SKR *e*PPP PPP 20 30 36.0
SKR *e*S **S** **20 34 56.0 -1.4**
SKR pmax pmax
comp=Z,800nm,1.5s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,4μm,4.0s
SKR smax smax
comp=N,3μm,8.0s
SKR smax smax
comp=E,3μm,8.0s
SKR MLR MLR
comp=E,2μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
TLY Talaya 62.54 343⇑*i*P **P** **20 26 43.8 +1.4**
TLY *e*S **S** **20 34 58.4 +0.3**
TLY pmax pmax
comp=Z,160nm,0.7s
TLY Talaya 62.54 343 *e*P **P** **20 26 43.6 +1.2**
comp=Z,176nm,0.7s
TLY Talaya 62.54 343 P **P** **20 26 43.6 +1.2**
comp=Z,2μm,0.7s
IRK Irkutsk 62.86 343⇑*i*P **P** **20 26 45.2 +0.7**
IRK *e*S **S** **20 35 03.6 +1.6**
IRK pmax pmax
comp=Z,1μm,1.8s
WMQ Urumqi 62.89 328 P **P** **20 26 46.3 +1.4**
WMQ PcP **PcP** **20 27 22.9 +1.1**
WMQ sP **sP** **20 27 35.3 -1.4**
WMQ PP **PP** **20 29 07.8 +2.6**
WMQ S **S** **20 35 03.0 +0.1**
WMQ SS **SS** **20 39 12.3 +1.2**
WMQ pmax pmax
comp=Z,760nm,0.9s
WMQ LR LR
comp=N,9μm,20.5s
WMQ LR LR
comp=E,5μm,20.4s
WMQ LR LR
comp=Z,3μm,18.0s

MOY Mondy 63.34 341 *e*P **P** **20 26 47.8 0.0**
MOY pmax pmax
comp=Z,1μm,2.0s
PONG Pong 63.55 311 *e*P **P** **20 26 50.0 +0.6**
THN Thein Dam 63.95 311 *e*P **P** **20 26 51.1 -0.9**
THN *ex* x 20 35 10.7
MIR Mirnyy 63.96 195⇑ *i*P **P** **20 26 51.8 +0.3**
MIR 20 27 25.0
MIR *e*S **S** **20 35 14.0 -1.2**
MIR *e*PS **PnS** **20 35 50.0 -6.6**
MIR *e* 20 36 28.0
MIR *e*SSS SSS 20 42 23.0
MIR pmax pmax
comp=N,505nm,4.0s
MIR pmax pmax
comp=E,1μm,4.0s
MIR pmax pmax
comp=Z,2μm,4.0s
MIR pmax pmax
comp=Z,331nm,1.6s
MIR smax smax
comp=N,3μm,8.0s
MIR smax smax
comp=E,2μm,8.0s
CLNS Chul'man 64.00 358*c i*P **P** **20 26 52.8 +0.9**
CLNS *e* 20 27 28.0
CLNS *e**SS *SS 20 36 04.2
CLNS pmax pmax
comp=Z,155nm,0.7s
CLNS pmax pmax
comp=E,38nm,0.7s
CLNS pmax pmax
comp=N,99nm,0.7s
PEA0B Petropavlovsk- 65.08 19 *e*P **P** **20 26 59.5 +0.6**
PETK Petropavlovsk- 65.08 19 P **P** **20 26 59.7 +0.8**
comp=N,442nm,0.7s,baz=187,slow=4.8,SNR=256
PETK PcP **PcP** **20 27 30.8 +0.3**
comp=N,97nm,0.8s,baz=185,slow=4.2,SNR=5.4
PETK LR LR 20 50 22.9
comp=N,2μm,21.9s,baz=214,slow=31
PETK PKP2ab 20 55 52.0
comp=N,8.1nm,1.0s,baz=140,slow=7.8,SNR=4.5
PETK Petropavlovsk- 65.08 19 P **P** **20 26 59.7 +0.8**
PETK 20 27 30.8
PETK pmax pmax
comp=Z,442nm,0.7s
PETK MLR MLR
comp=Z,2μm,21.9s
PETK Petropavlovsk- 65.08 19 P **P** **20 26 59.7 +0.8**
PETK PcP **PcP** **20 27 30.8 +0.3**
PETK P'P'ab **P'P'ab** **20 55 52.0 +2.4**
PET Petropavlovsk 65.32 19*c i*P **P** **20 27 00.9 +0.5**
PET *e**PP **PcP** **20 27 32.2 +0.8**
PET *e**SP **sP** **20 27 49.4 -3.0**
PET *e*S **S** **20 35 31.9 -0.3**
PET *e*PS **PnS** **20 36 10.8 -4.3**
PET pmax pmax
comp=Z,2μm,6.9s
PET pmax pmax
comp=Z,2μm,15.2s
PET pmax pmax
comp=Z,329nm,1.0s
PET MLR MLR
comp=Z,1μm,14.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 65.32 19 *e*P **P** **20 27 01.0 +0.6**
comp=Z,368nm,1.1s
HVS Khovu-Aksy 65.51 337*c i*P **P** **20 27 02.8 +1.0**
BOD Bodaibo 65.99 352 *e*P **P** **20 27 04.7 +0.1**
BOD pmax pmax
comp=Z,255nm,1.4s
KSH Kashi 67.30 318⇑ *i*P **P** **20 27 14.9 +1.4**
KSH *e*PcP **PcP** **20 27 42.3 +2.1**
KSH *e*pP **pP** **20 27 48.9 -0.6**
KSH *e*sP **sP** **20 28 04.4 -1.3**
KSH *e*PP **PP** **20 29 46.0 +2.1**
KSH *e*ScP 20 31 30.6
KSH *e*PcS 20 31 45.5
KSH *e*S **S** **20 35 53.6 -3.3**
KSH *e*ScS **SKSac** **20 36 55.0 -2.0**
KSH pmax pmax
comp=Z,82nm,0.7s
KSH pmax pmax
comp=Z,2μm,6.8s
KSH LR LR
comp=N,730nm,10.8s
KSH LR LR
comp=E,710nm,6.9s
KSH LR LR
comp=Z,2μm,8.6s
MK31 Makanchi Array 67.72 328 *e*P **P** **20 27 16.7 +0.8**
MK31 Makanchi Array 67.72 328 *e*P **P** **20 27 16.7 +0.8**
MKAR Makanchi Array 67.72 328 P **P** **20 27 17.1 +1.2**
comp=Z,261nm,0.6s,baz=129,slow=7.5,SNR=1252
MKAR PKPPKP P'P'df 20 55 30.8 -5.5
comp=Z,1.7nm,0.8s,baz=307,slow=2.4,SNR=6.7
MKAR P4KPbc 21 04 05.1
comp=Z,2.0nm,0.7s,baz=126,slow=4.5,SNR=20
MKAR Makanchi Array 67.72 328 *i* P **P** **20 27 17.1 +1.2**
MKAR pmax pmax
comp=Z,261nm,0.6s
MKAR Makanchi Array 67.72 328 P **P** **20 27 17.1 +1.2**
MKAR P'P' 20 55 30.8
MKAR *e* 21 04 05.1
ULHL Ulahol 68.56 321 P **P** **20 27 22.9 +1.4**
SNR=38
ULHL P **P** **20 27 22.9 +1.4**
SNR=38
AAA Alma-Ata 68.69 322 *e*P **P** **20 27 23.2 +1.2**
AAA *e*S **S** **20 36 11.2 -2.0**
AAA pmax pmax
comp=Z,5μm,5.2s
AAA smax smax
comp=E,3μm,13.8s
KZA Kyzart 69.10 320 P **P** **20 27 26.9 +1.8**
SNR=190
KZA P **P** **20 27 26.9 +1.8**
SNR=190
YAK Yakutsk 69.15 1*c i*P **P** **20 27 24.3 0.0**
YAK *e* 20 28 01.7
YAK *e*S **S** **20 36 14.9 -2.8**
YAK *e* 20 37 05.7
YAK *e**SS **sS** **20 37 15.7 -4.5**
YAK pmax pmax
comp=Z,822nm,1.0s
YAK pmax pmax
comp=E,16nm,0.9s
YAK pmax pmax
comp=N,155nm,0.9s
YAK smax smax
comp=N,901nm,3.1s
YAK smax smax
comp=E,577nm,2.5s
YAK Yakutsk 69.15 1 *e*P **P** **20 27 24.4 0.0**
comp=E,743nm,0.7s
TKM2 Tokmak 2 69.33 321 P **P** **20 27 27.4 +1.2**
SNR=310
TKM2 P **P** **20 27 27.4 +1.2**
SNR=310
TKM2 Tokmak 2 69.33 321 *i* P **P** **20 27 27.3 +1.2**
TKM2 Tokmak 2 69.33 321 *e*P **P** **20 27 27.1 +0.9**
comp=E,762nm,1.4s
KBK Karagaybulak 69.59 321 P **P** **20 27 29.4 +1.6**
SNR=169
KBK P **P** **20 27 29.4 +1.6**
SNR=169
UCH Uchtor 69.64 320 P **P** **20 27 30.2 +1.8**
SNR=38
UCH P **P** **20 27 30.2 +1.8**
SNR=38
MRIV Mauritius Mete 69.77 251 *e*P **P** **20 27 30.0 +0.9**
AAK Ala-Archa 69.87 320 P **P** **20 27 31.2 +1.7**
SNR=221
AAK P **P** **20 27 31.2 +1.7**
SNR=221
AAK Ala-Archa 69.87 320 *i* P **P** **20 27 31.1 +1.7**
AAK Ala-Archa 69.87 320 *e*P **P** **20 27 30.5 +1.0**
comp=E,9μm,1.9s
KBL Kabul 69.88 311 *e*P **P** **20 27 29.8 0.0**
KBL pmax pmax
comp=Z,517nm,1.8s
KBL Kabul 69.88 311 *e*P **P** **20 27 29.8 0.0**
comp=Z,517nm,1.8s
FRU Bishkek 69.89 321⇑ *i*P **P** **20 27 29.5 0.0**
FRU *i* 20 27 53.5
FRU *e* 20 36 27.0
FRU pmax pmax
comp=Z,3μm,2.5s
CHMS Chumysh 69.89 321 P **P** **20 27 30.5 +1.0**
SNR=81
CHMS P **P** **20 27 30.5 +1.0**
SNR=81
AML Almayashu 70.12 320 P **P** **20 27 32.8 +1.5**
SNR=305
AML P **P** **20 27 32.8 +1.5**
SNR=305
USP Ospenovka 70.19 321 P **P** **20 27 32.6 +1.3**
SNR=574
USP P **P** **20 27 32.6 +1.3**
SNR=574
EKS2 Erkin-Say 70.33 320 P **P** **20 27 34.1 +1.8**
SNR=376
EKS2 P **P** **20 27 34.1 +1.8**
SNR=376
EKS2 Erkin-Say 70.33 320 *e*P **P** **20 27 33.8 +1.5**
EKS2 pmax pmax
comp=Z,768nm,1.4s
EKS2 Erkin-Say 70.33 320 *e*P **P** **20 27 33.8 +1.5**
comp=Z,768nm,1.4s
FX1 Attu Island--F 70.89 27 P **P** **20 27 35.9 +0.6**
comp=Z,114nm,0.7s,baz=123,slow=1.8,SNR=28
FX1 Attu Island--F 70.89 27 P **P** **20 27 35.9 +0.6**
FX1 pmax pmax
comp=Z,115nm,0.7s
FX1 Attu Island--F 70.89 27 P **P** **20 27 35.9 +0.6**
ZAA0 Zalesovo Array 71.24 334 *e*P **P** **20 27 37.0 -0.3**
ZAA0 *e*pP **pP** **20 28 15.5 +1.8**
ZALV Zalesovo Beam 71.24 334 P **P** **20 27 37.2 -0.1**
comp=Z,299nm,0.6s,baz=127,slow=4.9,SNR=657
ZALV pP **pP** **20 28 11.8 -1.9**
comp=Z,22nm,0.7s,baz=326,slow=47,SNR=2.1
ZALV S **S** **20 36 36.8 -5.6**
comp=Z,3.6nm,0.7s,baz=144,slow=10.0,SNR=3.6
ZALV PKKP **PKKPdf** **20 47 13.9 -2.8**
comp=Z,0.8nm,0.7s,baz=202,slow=1.6,SNR=3.7
ZALV PKPPKP **P'P'df** **20 55 26.9 -2.8**
comp=Z,7.4nm,0.8s,baz=325,slow=4.2,SNR=14
ZALV Zalesovo Beam 71.24 334 P **P** **20 27 37.2 -0.1**
ZALV *PP **pP** **20 28 11.8 -1.9**
ZALV S **S** **20 36 36.8 -5.6**
ZALV pmax pmax
comp=Z,299nm,0.6s
ZALV smax smax
comp=N,4.0nm,0.7s
ZALV Zalesovo Beam 71.24 334 P **P** **20 27 37.2 -0.1**
ZALV pP **pP** **20 28 11.8 -1.9**
ZALV S **S** **20 36 36.8 -5.6**
ZALV PKKP **PKKPdf** **20 47 13.9 -2.8**
ZALV P'P' 20 55 26.9
RER Riviere de l'E 71.40 250 *e*P **P** **20 27 40.5 +1.4**
comp=N,211nm,1.0s
KURK Kurchatov 72.05 329 P **P** **20 27 42.9 +0.7**
comp=N,391nm,0.7s,baz=130,slow=4.9,SNR=1314
KURK pP **pP** **20 28 18.2 -0.4**
comp=N,43nm,0.8s,baz=185,slow=26,SNR=1.7
KURK S **S** **20 36 52.8 +1.0**
comp=N,1.2nm,0.3s,baz=109,slow=17,SNR=8.2
KURK PKPPKP **P'P'df** **20 55 26.2 -2.4**
comp=N,1.2nm,0.3s,baz=308,slow=3.1,SNR=6.4
KURK Kurchatov 72.05 329*c i*P **P** **20 27 42.8 +0.6**
KURK pmax pmax
comp=Z,1μm,1.5s
KURK Kurchatov 72.05 329 *e*P **P** **20 27 42.9 +0.7**
comp=Z,1μm,1.1s
KURK pP **pP** **20 28 18.2 -0.4**
KURK S **S** **20 36 52.8 +1.0**
KURK P'P' 20 55 26.2
VNDA Vanda 72.31 173 *e*P **P** **20 27 43.3 -0.1**
VNDA pmax pmax
comp=Z,98nm,0.8s
VNDA Vanda 72.31 173 *e*P **P** **20 27 43.3 -0.1**
comp=Z,98nm,0.8s
NVS Novosibirsk 72.53 334⇑ *i*P **P** **20 27 44.9 -0.1**
NVS *e* 20 28 09.2
NVS *e**PP **pP** **20 28 22.0 +0.5**
NVS *e*S S 20 36 50.5 -6.6
NVS *e*PS **PnS** **20 37 49.0 -0.7**
NVS pmax pmax
comp=Z,2μm,2.0s
NVS pmax pmax
comp=N,620nm,1.8s
NVS pmax pmax
comp=E,660nm,1.8s
NVS smax smax
comp=N,630nm,2.3s
NVS smax smax
comp=E,1μm,2.3s
KKAR Karatay Array 72.64 319 *e*P **P** **20 27 46.5 +0.6**
KKAR pmax pmax
comp=Z,68nm,0.6s
KKAR Karatay Array 72.64 319 *e*P **P** **20 27 46.5 +0.6**
comp=Z,68nm,0.6s
SBA Scott Base 73.21 172 *e*P **P** **20 27 49.8 +1.1**
SBA pmax pmax
comp=Z,126nm,0.9s
SBA Scott Base 73.21 172 *e*P **P** **20 27 49.8 +1.1**
comp=Z,126nm,0.9s
MAW Mawson 74.13 201 P **P** **20 27 55.3 +1.1**
comp=Z,104nm,0.8s,baz=72,slow=8.1,SNR=40
MAW Mawson 74.13 201 *e*P **P** **20 27 55.3 +1.1**
comp=Z,126nm,1.0s
MAW Mawson 74.13 201 P **P** **20 27 55.3 +1.1**
MAW pmax pmax
comp=Z,104nm,0.8s
MAW Mawson 74.13 201 *e*P **P** **20 27 55.1 +0.9**
comp=Z,80nm,1.3s
IMYA Miami 77.33 310 *e*P **P** **20 28 13.8 +0.6**
HON Honolulu 77.42 66 *e*P **P** **20 28 14.6 +0.8**
HON Honolulu 77.42 66 *e*P **P** **20 28 14.6 +0.8**
KIP Kipapa 77.43 66 *e*P **P** **20 28 15.0 +1.2**
KIP pmax pmax
comp=Z,83nm,0.8s
KIP Kipapa 77.43 66 *e*P **P** **20 28 15.0 +1.2**
comp=Z,83nm,0.8s
BVAR Borovoye Array 77.58 328 P **P** **20 28 14.4 +0.4**
comp=Z,152nm,0.9s,baz=134,slow=9.3,SNR=290
BVAR pP **pP** **20 28 50.3 -0.6**
comp=Z,115nm,1.0s,baz=142,slow=5.6,SNR=4.2
BVAR S **S** **20 37 50.6 -2.4**
comp=Z,2.1nm,1.0s,baz=99,slow=8.9,SNR=5.3
BVAR PKKPbc **PKKPbc** **20 47 17.9 -1.5**
comp=Z,2.6nm,0.8s,baz=270,slow=3.0,SNR=9.7
BVAR PKPPKP **P'P'df** **20 55 19.4 +0.5**
comp=Z,1.1nm,0.8s,baz=298,slow=3.2,SNR=5.0
BVAR Borovoye Array 77.58 328 P **P** **20 28 14.4 +0.4**
BVAR *PP **pP** **20 28 50.3 -0.6**
BVAR S **S** **20 37 50.6 -2.4**
BVAR pmax pmax
comp=Z,152nm,0.9s
BVAR smax smax
comp=N,2.0nm,1.0s
BVAR Borovoye Array 77.58 328 P **P** **20 28 14.4 +0.4**
BVAR pP **pP** **20 28 50.3 -0.6**
BVAR S **S** **20 37 50.6 -2.4**
BVAR PKKPbc **PKKPbc** **20 47 17.9 -1.5**
BVAR P'P' 20 55 19.4
BRVK Borovoye 77.65 328*c i*P **P** **20 28 14.7 +0.4**
BRVK pmax pmax
comp=Z,591nm,1.7s
BRVK Borovoye 77.65 328 *e*P **P** **20 28 14.7 +0.4**
comp=Z,564nm,1.3s
BRVK *e*pP **pP** **20 28 52.4 +1.1**
ISRO Mashad 77.80 309 *e*P **P** **20 28 16.9 +1.2**
IMOG Moghan 77.83 309 *e*P **P** **20 28 16.7 +0.5**
IPAY Payeh 78.20 309 *e*P **P** **20 28 18.9 +0.8**
IKRD Kardeh 78.67 310 *e*P **P** **20 28 17.9 -2.8**
ISFR Sfrayin 79.15 310 *e*P **P** **20 28 24.6 +1.2**
ABKT Ailbek 79.33 311 P **P** **20 28 24.0 0.0**
comp=Z,724nm,1.2s,SNR=33
ABPO Ambohimpanom 79.49 252 *e*P **P** **20 28 25.9 +0.5**
ABPO pmax pmax
comp=Z,366nm,1.8s
ABPO Ambohimpanom 79.49 252 *e*P **P** **20 28 25.9 +0.5**
comp=Z,366nm,1.8s
IBAF Bafgh 79.53 304 *e*P **P** **20 28 25.7 +0.3**
OPO Ambohidratompo 79.56 252 P **P** **20 28 26.8 +1.0**
comp=Z,14nm,0.6s,baz=83,slow=4.6,SNR=28
OPO Ambohidratompo 79.56 252 P **P** **20 28 26.8 +1.0**
BILL Bilibino 79.75 14*c i*P **P** **20 28 25.4 -0.1**
BILL *e**SP **sP** **20 29 15.2 -3.3**
BILL pmax pmax
comp=Z,125nm,2.1s
BILL MLR MLR
comp=Z,900nm,16.0s
BILL Bilibino 79.75 14 *e*P **P** **20 28 25.0 -0.6**
comp=Z,28nm,0.8s
TBI Tubuai 79.80 112 *e*P **P** **20 28 28.5 +1.7**
comp=Z,668nm,0.9s
TBI *e*pP **pP** **20 29 07.9 +4.0**
comp=Z,191nm,1.0s
TBI *e*S **S** **20 38 12.2 -5.7**
comp=Z,1μm,25.8s
NIKO Nikolski 79.90 33 *e*P **P** **20 28 26.2 -0.4**
comp=Z,827nm,1.4s
PAE Paea 80.09 107 *e*P **P** **20 28 30.5 +2.1**
comp=Z,53nm,1.1s
PAE *e*pP **pP** **20 29 08.8 +3.2**
comp=Z,19nm,1.0s
PPT2 Papeete2 80.10 107 *e*S S 20 38 14.3 -7.0
comp=Z,858nm,25.2s
IMEH Mehriz 80.27 304 *e*P **P** **20 28 28.7 -0.8**
TIAR Tiarei 80.32 107 *e*P **P** **20 28 32.1 +2.4**
comp=Z,258nm,1.0s
ICHK Chekchek 80.66 304 *e*P **P** **20 28 31.5 0.0**
MEH Mehetia 81.51 107 *e*P **P** **20 28 37.8 +1.8**
comp=Z,442nm,1.2s
MEH *e*pP **pP** **20 29 16.2 +2.9**
comp=Z,247nm,1.3s
UNV Unalaska Valle 81.55 33 *e*P **P** **20 28 36.2 +0.8**
comp=Z,550nm,1.4s
ABKAR Akbulak array 81.87 322 *e*P **P** **20 28 37.2 0.0**
comp=Z,185nm,0.8s
ABKAR *e*pP **pP** **20 29 15.4 +0.9**
PMOR Pomariorio Ree 81.94 104 *e*P **P** **20 28 40.4 +2.2**
comp=Z,392nm,0.9s
PMOR *e*pP **pP** **20 29 18.8 +3.3**
comp=Z,231nm,1.2s
AKUT Akutan 82.06 33 *e*P **P** **20 28 35.9 -2.2**
comp=Z,546nm,1.2s
IGLO Ghaloghah 82.21 308 *e*P **P** **20 28 40.4 +0.8**
IKIA Kiasar 82.25 308 *e*P **P** **20 28 41.7 +1.9**
IZEF Zefreh 82.52 304 *e*P **P** **20 28 40.3 -1.0**
ILAS Lasjerd 82.61 307 *e*P **P** **20 28 40.7 -1.0**
IGAR Gharneh 82.64 304 *e*P **P** **20 28 41.6 -0.3**
QSPA South Pole Qui 82.66 180 *e*P **P** **20 28 40.7 -0.5**
comp=Z,289nm,0.8s
QSPA *e*pP **pP** **20 29 16.4 -2.1**
SYO Syowa Base 82.85 201‖ *i*P **P** **20 28 41.0 -0.9**
SYO Syowa Base 82.85 201‖ *i*P **P** **20 28 45.0 +3.1**
IALA Alasht 82.90 308 *e*P **P** **20 28 44.0 +0.7**
IKLH Kolahrood 83.23 305 *e*P **P** **20 28 45.3 +0.4**
IPRN Peran 83.31 308 *e*P **P** **20 28 45.7 +0.6**
AKTO Aktyubinsk 83.45 323 P **P** **20 28 45.8 +0.4**
comp=Z,155nm,0.9s,baz=106,slow=6.5,SNR=157
AKTO PKiKP **PKiKP** **20 34 01.7 0.0**
comp=Z,4.8nm,0.7s,baz=125,slow=7.5,SNR=4.6
AKTO S **S** **20 38 51.8 -2.5**
comp=Z,2.0nm,0.9s,baz=262,slow=22,SNR=21
AKTO PKKPbc **PKKPbc** **20 47 04.3 -1.5**
comp=Z,6.9nm,0.8s,baz=326,slow=5.4,SNR=18
AKTO Aktyubinsk 83.45 323 P **P** **20 28 45.8 +0.4**
AKTO *i* 20 34 01.7
AKTO S **S** **20 38 51.8 -2.5**
AKTO pmax pmax
comp=Z,155nm,0.9s
AKTO smax smax
comp=N,2.0nm,0.9s
AKTO Aktyubinsk 83.45 323 P **P** **20 28 45.8 +0.4**
AKTO PKiKP **PKiKP** **20 34 01.7 0.0**
AKTO S **S** **20 38 51.8 -2.5**
AKTO PKKPbc **PKKPbc** **20 47 04.3 -1.5**
IPIR Pirpir 83.65 304 *e*P **P** **20 28 47.8 +0.6**
GAMB Gambell 83.76 23 *e*P **P** **20 28 47.0 +0.4**
comp=N,358nm,0.9s
SVE Sverdlovsk 84.30 329*d i*P **P** **20 28 49.9 +0.4**
SVE *e* 20 32 05.8
SVE *e*S S 20 38 56.1 -6.4
SVE pmax pmax
comp=Z,558nm,1.4s
SVE pmax pmax
comp=Z,989nm,8.8s
ARU Arti 85.22 328*c i*P **P** **20 28 53.2 -0.9**
ARU *e**PP **pP** **20 29 31.3 -0.4**
ARU 20 32 12.5
ARU PPP PPP 20 34 12.5
ARU S S 20 39 01.2 -10
ARU *SS sS 20 40 08.9 -7.7
ARU pmax pmax
comp=Z,500nm,1.4s
ARU Arti 85.22 328 *e*P **P** **20 28 53.0 -1.1**
comp=Z,306nm,1.1s
ARU Arti 85.22 328 P **P** **20 28 54.0 -0.1**
comp=Z,2μm,1.0s,SNR=22
QRN Al-Qurain 85.35 300 *e*P **P** **20 28 55.0 -0.4**
QRN AMb AMB 20 28 58.2
comp=Z,466nm,1.3s
SDPT Sand Point 85.36 33 *e*P **P** **20 28 54.4 -0.4**
comp=Z,580nm,0.9s
KBD Kabd 85.62 300 *e*P **P** **20 28 56.4 -0.3**
KBD AMb AMB 20 29 00.3
comp=Z,229nm,2.1s
UMR Umm Al-Rimmam 85.67 300 *e*P **P** **20 28 56.7 -0.2**
UMR AMb AMB 20 28 59.9
comp=Z,431nm,1.2s
RDF Al-Radifah 85.70 300 *e*P **P** **20 28 56.6 -0.5**
RDF AMb AMB 20 29 00.7
comp=Z,459nm,1.9s
NAY Al-Naaiem 86.02 300 *e*P **P** **20 28 58.1 -0.6**
NAY AMb AMB 20 29 01.4
comp=Z,281nm,1.4s
MIB Mutribah 86.04 301 *e*P **P** **20 28 58.4 -0.4**
MIB AMb AMB 20 29 02.3
comp=Z,632nm,1.1s
TNA Tin City 86.05 22 *e*P **P** **20 28 58.5 +0.6**
comp=Z,73nm,0.8s
IKOM Komasi 86.72 305 *e*P **P** **20 29 01.5 -0.7**
CHGN Chignik 86.77 32 *e*P **P** **20 29 01.1 -0.6**
SOKR Solikamsk 87.19 331*c i*P **P** **20 29 03.3 -0.5**
SOKR S S 20 39 21.7 -8.7
SOKR 20 41 16.3
SOKR pmax pmax
comp=Z,50nm,0.7s
SOKR MLR MLR
comp=Z,2μm,20.0s
ATD Arta Tunnel 87.27 282 P **P** **20 29 06.2 +1.0**
comp=Z,25nm,0.8s,baz=87,slow=3.2,SNR=9.8
ATD Arta Tunnel 87.27 282 P **P** **20 29 06.2 +1.0**
IDHR Dehrash 87.73 305 *e*P **P** **20 29 06.0 -1.1**
MAK Makhachkala 88.44 313 *e*P **P** **20 29 08.9 -1.1**
MAK *i* *PP **pP** **20 29 48.0 +0.2**
MAK *e**SP **sP** **20 30 03.4 -0.1**
MAK *i* 20 32 38.9
MAK *e*PPP PPP 20 34 39.8
MAK *i* S **SKSac** **20 39 22.7 -2.3**
MAK *e* 20 39 36.7
MAK *e*SP **SP** **20 40 47.0 +0.1**
MAK *i* PS **PnS** **20 41 05.6 -0.4**
MAK pmax pmax
comp=Z,735nm,1.9s
MAK MLR MLR
comp=Z,1μm,19.0s
BHD Baghdad 89.13 304 *i* P **P** **20 29 12.0 -1.4**
BHD *i* pP **pP** **20 29 48.0 -3.3**
BHD *i* PP **PP** **20 32 42.0 -3.9**
BHD *i* SKS **SKSac** **20 39 27.0 -2.6**
BHD *i* S **SKKSac** **20 39 45.0 +3.0**
BHD *i* sS sS 20 40 33.0 -23
BHD *i* PPS PPS 20 41 48.0
DGRG David-gareji 89.71 312 P **P** **20 29 18.5 +2.5**
GNI Garni 89.97 310 P **P** **20 29 18.2 +0.7**
comp=Z,13nm,0.6s,baz=347,slow=1.6,SNR=27
GNI PKKPbc **PKKPbc** **20 46 49.3 -0.5**
comp=Z,4.3nm,0.8s,baz=100,slow=2.2,SNR=5.1
GNI Garni 89.97 310*c i*P **P** **20 29 17.6 +0.2**
GNI pmax pmax
comp=Z,118nm,1.4s
GNI Garni 89.97 310 *e*P **P** **20 29 18.0 +0.6**
comp=Z,202nm,1.4s
GNI PKKPbc **PKKPbc** **20 46 49.3 -0.5**
TBLG Delisi 90.23 312 *e*P **P** **20 29 20.3 +1.8**
TBLG Delisi 90.23 312 P **P** **20 29 20.3 +1.8**
KDAK Kodiak Island 90.24 32 P **P** **20 29 18.6 +0.6**
comp=Z,84nm,0.7s,baz=202,slow=7.5,SNR=22
KDAK Kodiak Island 90.24 32 *i* P **P** **20 29 18.6 +0.6**

KDAK Kodiak Island 90.24 32 P **P** **20 29 18.6 +0.6**
HAKT HAKKARI 90.35 308 *i* P **P** **20 29 18.5 -0.9**
DYDN Diyadin 90.67 310 *i* P **P** **20 29 21.9 +1.1**
GOR Gori 90.73 312 P **P** **20 29 23.3 +2.5**
RSO Redoubt South 90.77 29 *e*P **P** **20 29 20.7 -0.1**
comp=Z,95nm,0.9s
ZEI Tsey 91.01 313 *e*P **P** **20 29 22.8 +0.5**
ZEI pmax pmax
comp=Z,191nm,1.4s
AKH Akhalkalaki 91.10 311 P **P** **20 29 25.3 +2.5**
KMBO Kilima Mbogo 91.15 269 *e*P **P** **20 29 24.0 +0.3**
KMBO *e**PP **pP** **20 30 02.6 +1.1**
KMBO pmax pmax
comp=Z,128nm,1.8s
KMBO Kilima Mbogo 91.15 269 *e*P **P** **20 29 23.9 +0.3**
comp=Z,128nm,1.8s
KMBO *e*pP **pP** **20 30 02.6 +1.1**
TUTA Tutak 91.32 309 *i* P **P** **20 29 24.0 +0.2**
SIRN S˙˙rnak 91.36 307 *i* P **P** **20 29 22.5 -1.4**
NVL N'lazarevskaya 91.63 197⇑ *i*P P 20 29 30.3 +6.0
NVL *i* 20 35 05.0
NVL *e*S **SKSac** **20 39 44.4 +1.8**
NVL *e* 20 40 11.6
NVL pmax pmax
comp=Z,47nm,0.6s
MAIT Maitri 91.65 197 *e*P **P** **20 29 26.6 +2.2**
SLKM Skilak Lake 92.01 29 *e*P **P** **20 29 25.1 -1.2**
SLKM Skilak Lake 92.01 29 *e*P **P** **20 29 25.1 -1.2**
KIV Kislovodsk 92.06 314 *e*P **P** **20 29 26.2 -0.8**
KIV *e**PP **pP** **20 30 03.7 -1.2**
KIV *e* 20 33 09.1
KIV *e*S **SKSac** **20 39 44.8 -1.4**
KIV *e*SSS SSS 20 50 05.1
KIV pmax pmax
comp=Z,356nm,4.3s
KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,698nm,19.0s
KIV Kislovodsk 92.06 314 *e*P **P** **20 29 27.5 +0.5**
comp=Z,46nm,1.0s
KIV Kislovodsk 92.06 314 P **P** **20 29 27.8 +0.8**
comp=Z,247nm,0.9s,SNR=13
DAGI Agillar 92.23 311 *i* P **P** **20 29 27.9 0.0**
ARTV Artvin 92.24 311 *i* P **P** **20 29 28.7 +0.6**
BEST Besiri 92.31 308 *i* P **P** **20 29 28.4 +0.2**
SEW Seward 92.31 30 *e*P **P** **20 29 26.9 -0.7**
comp=Z,136nm,1.3s
DDEM Demirkent 92.33 311 *i* P **P** **20 29 27.8 -0.5**
RC01 Rabbit Creek A 92.35 29 *e*P **P** **20 29 27.1 -0.7**
comp=Z,119nm,0.9s
DBOC Borcka 92.45 311 *i* P **P** **20 29 29.2 +0.5**
BNGL BINGOL 92.54 309 *i* P **P** **20 29 30.1 +0.6**
TRF Thorofare Moun 92.55 26 *e*P **P** **20 29 26.8 -2.1**
comp=Z,172nm,1.4s
MARD Mardin 92.62 307 *i* P **P** **20 29 28.8 -0.9**
PMR Palmer 92.73 28 *e*P **P** **20 29 28.3 -1.2**
PMR pmax pmax
comp=Z,129nm,1.1s
PMR Palmer 92.73 28 *e*P **P** **20 29 28.3 -1.2**
comp=Z,129nm,1.1s
RKT Rikitea 93.06 114 *e*P **P** **20 29 34.8 +2.8**
comp=Z,95nm,1.0s
SML Sawmill 93.14 28 *e*P **P** **20 29 30.7 -0.8**
SML pmax pmax
comp=Z,77nm,0.9s
SML Sawmill 93.14 28 *e*P **P** **20 29 30.6 -0.8**
comp=Z,77nm,0.9s
KOPT Kop Dagi 93.17 310 *i* P **P** **20 29 33.4 +0.9**
MCK McKinley 93.20 26 *e*P **P** **20 29 30.2 -1.5**
MCK pmax pmax
comp=Z,237nm,1.1s
MCK McKinley 93.20 26 *e*P **P** **20 29 30.2 -1.5**
comp=Z,237nm,1.1s
COLD Coldfoot 93.31 23 *e*P **P** **20 29 31.8 -0.3**
comp=Z,114nm,1.1s
VRHR Novokhopersk 93.71 321 *e*P **P** **20 29 33.4 -0.9**
VRHR *e**SP **sP** **20 30 22.9 -5.0**
VRHR *e* 20 33 19.9
VRHR *e*S **S** **20 40 27.3 -3.2**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,90nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,140nm,0.9s
VRHR pmax pmax
comp=N,8.0nm,0.4s
VRHR pmax pmax
comp=E,480nm,2.2s
VRHR pmax pmax
comp=Z,440nm,2.2s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR smax smax
comp=N,290nm,1.8s
VRHR smax smax
comp=E,690nm,1.8s
VRHR smax smax
comp=Z,140nm,1.8s
COLA College 93.85 25 *e*P **P** **20 29 33.4 -1.2**
COLA pmax pmax
comp=Z,76nm,1.0s
COLA College 93.85 25 *e*P **P** **20 29 33.4 -1.2**
comp=Z,76nm,1.0s
KELT Kelkit 94.13 310 *i* P **P** **20 29 37.0 +0.2**
SOC Sochi 94.15 313*c* *i*P **P** **20 29 34.6 -1.9**
SOC *e**PP **pP** **20 30 13.7 -0.7**
SOC *e* 20 33 24.9
SOC *i* S **SKSac** **20 39 54.5 -3.0**
SOC pmax pmax
comp=Z,38nm,0.7s
ILAR Eielson Array 94.24 25 P **P** **20 29 34.1 -2.3**
comp=Z,42nm,0.8s,baz=282,slow=4.2,SNR=205
ILAR pP **pP** **20 30 14.9 +0.5**
comp=Z,5.1nm,0.9s,baz=233,slow=6.0,SNR=1.6
ILAR PP PP 20 33 18.9 -6.4
comp=Z,5.1nm,0.8s,baz=256,slow=6.0,SNR=5.3
ILAR PKiKP **PKiKP** **20 34 19.8 +0.4**
comp=Z,3.3nm,0.7s,baz=281,slow=3.0,SNR=6.9
ILAR PKKPbc **PKKPdf** **20 46 37.1 -1.2**
comp=Z,8.1nm,0.8s,baz=51,slow=1.1,SNR=29
ILAR PKPPKP **P'P'df** **20 54 45.7 -2.0**
comp=Z,0.4nm,0.8s,baz=222,slow=3.6,SNR=4.2
ILAR Eielson Array 94.24 25 P **P** **20 29 34.1 -2.3**
ILAR *PP **pP** **20 30 14.9 +0.5**
ILAR pmax pmax
comp=Z,43nm,0.8s
ILAR Eielson Array 94.24 25 P **P** **20 29 34.1 -2.3**
ILAR pP **pP** **20 30 14.9 +0.5**
ILAR PP PP 20 33 18.9 -6.4
ILAR PKiKP **PKiKP** **20 34 19.8 +0.4**
ILAR PKKPbc **PKKPdf** **20 46 37.1 -1.2**
ILAR P'P' 20 54 45.7
DIV Divide 94.26 29 *e*P **P** **20 29 34.7 -1.9**
comp=Z,126nm,0.8s
KEMA Kemaliye 94.63 309 *i* P **P** **20 29 38.9 0.0**
PAX Paxson 94.63 27 *e*P **P** **20 29 37.8 -0.6**
PAX pmax pmax
comp=Z,132nm,1.0s
PAX Paxson 94.63 27 *e*P **P** **20 29 37.8 -0.6**
comp=Z,132nm,1.0s
BMRM Bremner River 94.81 29 *e*P **P** **20 29 38.5 -0.6**
comp=Z,169nm,1.1s
SUSE Susehri 94.94 310 *i* P **P** **20 29 40.2 -0.2**
AKCD Akcadag 94.98 308 *i* P **P** **20 29 40.3 -0.3**
SNAA Sanae 95.02 194 *e* **P** **20 29 37.5 -2.5**
SNAA Sanae 95.02 194 *e*P P 20 29 36.6 -3.4
SNAA pmax pmax
comp=Z,54nm,0.9s
SNAA Sanae 95.02 194 *e*P P 20 29 36.6 -3.4
comp=Z,54nm,0.9s
GZT Gaziantep 95.17 307 *i* P **P** **20 29 41.4 -0.2**
ASF Jabal al Asfar 95.25 302 P **P** **20 29 42.1 +0.2**
comp=Z,23nm,1.1s,baz=10,slow=1.6,SNR=19
ASF PP **PP** **20 33 34.1 0.0**
comp=Z,3.6nm,0.8s,baz=301,slow=0.5,SNR=4.0
ASF PKKPbc **PKKPdf** **20 46 36.1 +0.4**
comp=Z,5.4nm,0.8s,baz=170,slow=1.8,SNR=9.0
ASF Jabal al Asfar 95.25 302 P **P** **20 29 42.1 +0.2**
ASF 20 33 34.1
ASF pmax pmax
comp=Z,23nm,1.1s
ASF pmax pmax
comp=Z,4.0nm,0.8s
ASF Jabal al Asfar 95.25 302 P **P** **20 29 42.1 +0.2**
ASF PP **PP** **20 33 34.1 0.0**
ASF PKKPbc **PKKPdf** **20 46 36.1 +0.4**
VSR Storozhevoye 95.27 321 *e*P **P** **20 29 40.0 -1.4**
VSR *e* 20 33 34.2
VSR *e*S **S** **20 40 38.9 -5.1**
DOT Dot Lake 95.34 27 *e*P **P** **20 29 40.5 -1.0**
MENT Mentasta 95.42 27 *e*P **P** **20 29 41.4 -0.5**
KUZU Kuzuini 95.51 306 *i* P **P** **20 29 41.8 -1.2**
SCER sogukcermik 95.73 309 *i* P **P** **20 29 44.4 +0.5**
KLMR Klimovskoe 95.87 331*c* *i*P **P** **20 29 41.7 -2.2**
KLMR *e**PP **pP** **20 30 19.7 -2.2**
KLMR pmax pmax
comp=Z,131nm,4.4s
KLMR pmax pmax
comp=Z,135nm,1.7s
ANN Anapa 95.90 314 *e*P **P** **20 29 43.7 -0.7**
ANN *e**PP **pP** **20 30 22.6 +0.2**
ANN *e* 20 33 37.5
ANN *e* 20 40 05.9
ANN pmax pmax
comp=Z,189nm,1.5s
ANN pmax pmax
comp=N,136nm,1.6s
ANN pmax pmax
comp=E,68nm,1.6s
ANDN Andirin 96.16 307 *i* P P 20 29 39.5 -6.5
MOS Moscow 96.52 325 *e*P **P** **20 29 44.6 -2.3**
MOS *e**PP **pP** **20 30 23.4 -1.6**
MOS *e* 20 33 45.9
MOS *e*S **SKSac** **20 40 07.1 -2.3**
MOS *e* 20 40 51.7
MOS pmax pmax
comp=Z,158nm,0.8s
MOS MLR MLR
comp=Z,1μm,20.0s
MMAI Mount Meron Ar 96.58 302 P **P** **20 29 48.4 +0.5**
comp=Z,43nm,1.1s,baz=64,slow=7.5,SNR=16
MMAI PKiKP **PKiKP** **20 34 26.1 +1.7**
comp=Z,2.9nm,0.7s,baz=35,slow=3.5,SNR=3.2
MMAI PKKPbc **PKKPdf** **20 46 34.6 +1.2**
comp=Z,14nm,1.2s,baz=348,slow=3.7,SNR=3.8
MMAI Mount Meron Ar 96.58 302 P **P** **20 29 48.4 +0.5**
MMAI PKiKP **PKiKP** **20 34 26.1 +1.7**
MMAI PKKPbc **PKKPdf** **20 46 34.6 +1.2**
VNA2 Neumayer--Watz 96.60 193 *e* **P** **20 29 48.6 +1.5**
EGAK Eagle 96.69 26 *e*P **P** **20 29 46.9 -0.7**
comp=Z,86nm,1.1s
EIL Elat 96.70 299 P **P** **20 29 48.7 +0.3**
comp=Z,14nm,1.0s,baz=22,slow=3.3,SNR=11
EIL PKiKP **PKiKP** **20 34 25.7 +1.0**
comp=Z,6.6nm,0.9s,baz=0.9,slow=4.4,SNR=4.7
EIL PKKPbc **PKKPdf** **20 46 32.9 0.0**
comp=Z,14nm,0.7s,baz=305,slow=4.3,SNR=19
EIL LR LR 21 13 42.9
comp=Z,805nm,20.9s,baz=324,slow=36
EIL Elat 96.70 299 P **P** **20 29 48.7 +0.3**
EIL PKiKP **PKiKP** **20 34 25.7 +1.0**
EIL PKKPbc **PKKPdf** **20 46 32.9 0.0**
VNA1 Neumayer--Stat 97.00 193 *e* **P** **20 29 50.6 +1.7**
OBN Obninsk 97.09 325*c* *i*P **P** **20 29 48.7 -0.8**
OBN *e**PP **pP** **20 30 24.8 -2.7**
OBN *e* 20 33 44.7
OBN *e*PS **PS** **20 42 43.1 +2.3**
OBN pmax pmax
comp=Z,256nm,2.0s
OBN Obninsk 97.09 325 *e*P **P** **20 29 48.5 -1.0**
comp=Z,223nm,1.3s
OBN Obninsk 97.09 325 P **P** **20 29 48.8 -0.8**
comp=Z,625nm,0.7s,SNR=5.9
GULE Gulek 97.39 307 *i* P **P** **20 29 51.2 -0.4**
DAWY Dawson 97.43 26 *e*P **P** **20 29 50.6 -0.4**
BOSA Boshof 98.07 240 P Pdif 20 29 54.9 0.0
comp=Z,18nm,0.9s,baz=101,slow=3.7,SNR=19
BOSA PKiKP **PKiKP** **20 34 28.1 +0.7**
comp=Z,4.3nm,0.7s,baz=191,slow=10,SNR=5.6
BOSA PKKPbc **PKKPdf** **20 46 29.8 -0.4**
comp=Z,3.4nm,0.9s,baz=235,slow=5.2,SNR=5.6
BOSA LR LR 21 10 42.7
comp=Z,1μm,19.8s,baz=101,slow=33
BOSA Boshof 98.07 240 P Pdif 20 29 54.9 0.0
BOSA pmax pmax
comp=Z,19nm,0.9s
BOSA MLR MLR
comp=Z,1μm,19.8s
BOSA Boshof 98.07 240 *e*P Pdif 20 29 54.9 0.0
comp=Z,61nm,1.3s
BOSA PKiKP **PKiKP** **20 34 28.1 +0.7**
BOSA PKKPbc **PKKPdf** **20 46 29.8 -0.4**
SIM Simferopol' 98.26 314*d* *i*P **P** **20 29 53.3 -1.8**
SIM pmax pmax
comp=Z,43nm,1.0s
BR131 Keskin Array S 98.41 309 *e*P **P** **20 29 54.6 -1.4**
comp=Z,11nm,1.0s
BRTR Keskin Array B 98.41 309 P **P** **20 29 55.4 -0.7**
comp=Z,8.5nm,0.9s,baz=125,slow=4.1,SNR=32
BRTR PP **PP** **20 34 00.8 +2.6**
comp=Z,6.7nm,1.1s,baz=132,slow=6.8,SNR=5.7
BRTR PKKPbc **PKKPbc** **20 46 27.8 +0.3**
comp=Z,4.6nm,0.8s,baz=202,slow=2.6,SNR=16
BRTR PKPPKP **P'P'df** **20 54 39.8 -2.0**
comp=Z,0.7nm,0.9s,baz=347,slow=5.1,SNR=3.9
BRTR LR LR 21 23 51.3
comp=Z,419nm,19.9s,baz=255,slow=41
BRTR Keskin Array B 98.41 309 *i* P **P** **20 29 55.9 -0.2**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 98.41 309 P **P** **20 29 55.4 -0.7**
BRTR PP **PP** **20 34 00.8 +2.6**
BRTR PKKPbc **PKKPbc** **20 46 27.8 +0.3**
BRTR P'P' 20 54 39.8
LBTB Lobatse 98.55 243 P Pdif 20 29 57.3 +0.3
comp=Z,25nm,0.9s,baz=124,slow=4.6,SNR=21
LBTB PKKPbc **PKKPbc** **20 46 27.2 +0.9**
comp=Z,6.1nm,0.8s,baz=270,slow=3.3,SNR=7.0
LBTB Lobatse 98.55 243 P Pdif 20 29 57.3 +0.3
LBTB pmax pmax
comp=Z,25nm,0.9s
LBTB pmax pmax
comp=Z,6.0nm,0.8s
LBTB Lobatse 98.55 243 *e*P Pdif 20 29 57.3 +0.2
comp=Z,98nm,1.4s
LBTB PKKPbc **PKKPbc** **20 46 27.2 +0.9**
APA Apatity 98.69 337⇑ *i*P Pdif 20 30 02.8 +6.3
APA *i* *PP pP 20 30 37.0 +2.5
APA *i* 20 40 24.0
APA *i* PS **SP** **20 42 36.0 -2.4**
SKAG Skagway 99.37 31 *e*Pdif **Pdif** **20 29 59.9 +0.2**
comp=Z,64nm,1.0s
INK Inuvik 99.69 22 P **Pdif** **20 29 59.9 -1.0**
comp=Z,31nm,1.1s,baz=276,slow=7.6,SNR=30
INK PKiKP **PKiKP** **20 34 29.2 +0.4**
comp=Z,8.1nm,0.8s,baz=329,slow=1.7,SNR=7.6
INK Inuvik 99.69 22 P **Pdif** **20 29 59.9 -1.0**
INK pmax pmax
comp=Z,31nm,1.1s
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 99.69 22 *e*Pdif **Pdif** **20 29 59.8 -1.1**
comp=Z,55nm,1.2s
INK PKiKP **PKiKP** **20 34 29.2 +0.4**
JOF Joensuu 99.78 333 *e*P **Pdif** **20 30 00.1 -1.3**
JOF pmax pmax
comp=Z,20nm,0.7s
JOF Joensuu 99.78 333 *e*p **Pdif** **20 30 00.1 -1.3**
comp=Z,20nm,0.7s
JOF Joensuu 99.78 333 *e*p **PP** **20 34 06.2 -1.5**
comp=Z,9.5nm,0.7s
JOF Joensuu 99.78 333 *e*pkp PKKPdf 20 46 21.4 -6.8
comp=Z,12nm,0.7s
JOF Joensuu 99.78 333 *e*p **Pdif** **20 30 00.1 -1.3**
comp=Z,20nm,0.7s
JOF Joensuu 99.78 333 *e*p **PP** **20 34 06.2 -1.5**
comp=Z,9.5nm,0.7s
JOF Joensuu 99.78 333 *e*pkp PKKPdf 20 46 21.4 -6.8
comp=Z,12nm,0.7s
KEV Kevo 100.82 340 *e*P **Pdif** **20 30 04.4 -1.5**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 100.82 340 *e*p **Pdif** **20 30 04.4 -1.5**
comp=Z,7.1nm,0.7s
KEV Kevo 100.82 340 *e*p **Pdif** **20 30 04.4 -1.5**
comp=Z,7.1nm,0.7s
SUR Sutherland 100.86 235 P **Pdif** **20 30 09.5 +2.2**
comp=Z,16nm,0.8s,baz=125,slow=9.7,SNR=7.9
SUR PKKPbc **PKKPbc** **20 46 20.7 +0.5**
comp=Z,19nm,0.9s,baz=258,slow=4.6,SNR=8.1
SUR Sutherland 100.86 235 P **Pdif** **20 30 09.5 +2.2**
SUR PKKPbc **PKKPbc** **20 46 20.7 +0.5**
WRAK Wrangell Islan 101.09 34 *e*Pdif **Pdif** **20 30 07.9 +0.5**
comp=Z,50nm,0.8s
ARCES ARCESS Array B 101.38 340 P **Pdif** **20 30 07.5 -0.9**
comp=Z,23nm,0.7s,baz=74,slow=3.2,SNR=29
ARCES PP **PP** **20 34 19.4 -0.2**
comp=Z,16nm,1.1s,baz=46,slow=8.7,SNR=6.4
ARCES PKiKP **PKiKP** **20 34 31.8 -0.1**
comp=Z,5.5nm,0.8s,baz=91,slow=2.5,SNR=11
ARCES PKKPbc **PKKPbc** **20 46 16.7 -3.2**
comp=Z,8.4nm,0.8s,baz=243,slow=2.8,SNR=19
ARCES ARCESS Array B 101.38 340 P **Pdif** **20 30 07.5 -0.9**
ARCES 20 34 19.4
ARCES pmax pmax
comp=Z,23nm,0.7s
ARCES pmax pmax
comp=Z,16nm,1.1s
ARCES ARCESS Array B 101.38 340 P **Pdif** **20 30 07.5 -0.9**
ARCES PP **PP** **20 34 19.4 -0.2**
ARCES PKiKP **PKiKP** **20 34 31.8 -0.1**
ARCES PKKPbc **PKKPbc** **20 46 16.7 -3.2**
AKASG Malin Array Be 101.54 320 P **Pdif** **20 30 08.6 -0.9**
comp=Z,16nm,0.7s,baz=71,slow=4.4,SNR=30
AKASG PP **PP** **20 34 20.6 -0.8**
comp=Z,4.8nm,0.8s,baz=71,slow=7.0,SNR=7.3
AKASG PKiKP **PKiKP** **20 34 33.2 +0.5**
comp=Z,4.1nm,0.6s,baz=79,slow=2.4,SNR=5.7
AKASG PKKPbc **PKKPbc** **20 46 18.5 -0.2**
comp=Z,0.4nm,0.3s,baz=265,slow=3.8,SNR=4.5
AKASG Malin Array Be 101.54 320 *i* P **Pdif** **20 30 09.3 -0.2**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 101.54 320 P **Pdif** **20 30 08.6 -0.9**
AKASG PP **PP** **20 34 20.6 -0.8**
AKASG PKiKP **PKiKP** **20 34 33.2 +0.5**
AKASG PKKPbc **PKKPbc** **20 46 18.5 -0.2**
AKBB Malin Array Si 101.54 320 *e*P **Pdif** **20 30 08.1 -1.4**
AKBB Malin Array Si 101.54 320 *e*Pdif **Pdif** **20 30 08.1 -1.4**
KIEV Kiev 101.55 320 *i* P **Pdif** **20 30 08.7 -0.9**
KIEV Kiev 101.55 320 *e*Pdif **Pdif** **20 30 08.1 -1.5**
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 101.60 349 P **Pdif** **20 30 09.5 +0.2**
comp=Z,13nm,0.6s,baz=131,slow=11,SNR=24
SPITS Spitsbergen Ar 101.60 349 P **Pdif** **20 30 09.5 +0.2**
SPITS pmax pmax
comp=Z,13nm,0.6s
SPITS Spitsbergen Ar 101.60 349 P **Pdif** **20 30 09.5 +0.2**
SPB4 Spitsbergen Ar 101.60 349 *e*Pdif **Pdif** **20 30 07.4 -1.9**
TLCR 102.02 315⇑ *i*P **Pdif** **20 30 11.9 +0.1**
TLCR 102.02 315⇑ *i*P **PKKPbc** **20 46 15.7 -1.4**
MICGM Minsk 102.12 324 *e*P **Pdif** **20 30 12.0 0.0**
MNK Minsk 102.15 324 *e*P **Pdif** **20 30 12.0 -0.2**
MNK *e* 20 34 27.0
KAF Kangasniemi 102.16 332 *e*P **Pdif** **20 30 10.9 -1.1**
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 102.16 332 *e*p **Pdif** **20 30 10.9 -1.1**
comp=Z,9.7nm,0.7s
KAF Kangasniemi 102.16 332 *e*p PP 20 34 32.8 +7.2
comp=Z,12nm,0.7s
KAF Kangasniemi 102.16 332 *e*pkp **PKKPbc** **20 46 12.9 -4.5**
comp=Z,9.6nm,0.7s
KAF Kangasniemi 102.16 332 *e*p **Pdif** **20 30 10.9 -1.1**
comp=Z,9.7nm,0.7s
KAF Kangasniemi 102.16 332 *e*p PP 20 34 32.8 +7.2
comp=Z,12nm,0.7s
KAF Kangasniemi 102.16 332 *e*pkp **PKKPbc** **20 46 12.9 -4.5**
comp=Z,9.6nm,0.7s
DLBC Dease Lake 102.17 32 *e*Pdif **Pdif** **20 30 10.8 -1.5**
TIRR Tirgusor 102.33 314⇑ *i*P **Pdif** **20 30 12.5 -0.7**
TIRR Tirgusor 102.33 314⇓ *i*P **PKKPbc** **20 46 16.8 +0.6**
FINES FINESS Array B 102.36 331 P **Pdif** **20 30 11.5 -1.4**
comp=Z,7.0nm,0.7s,baz=79,slow=7.4,SNR=18
FINES PP **PP** **20 34 25.4 -1.7**
comp=Z,9.3nm,0.8s,baz=76,slow=8.0,SNR=3.8
FINES PKiKP **PKiKP** **20 34 35.1 +1.3**
comp=Z,20nm,0.6s,baz=98,slow=2.8,SNR=19
FINES PKKPbc **PKKPbc** **20 46 14.3 -2.5**
comp=Z,3.7nm,0.8s,baz=76,slow=0.8,SNR=6.1
FINES FINESS Array B 102.36 331 P **Pdif** **20 30 11.5 -1.4**
FINES 20 34 25.4
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 102.36 331 P **Pdif** **20 30 11.5 -1.4**
FINES PP **PP** **20 34 25.4 -1.7**
FINES PKiKP **PKiKP** **20 34 35.1 +1.3**
FINES PKKPbc **PKKPbc** **20 46 14.3 -2.5**
LEOM Leova 102.37 316⇑ *i*P **Pdif** **20 30 15.1 +1.8**
VSU Vasula 102.39 328 *i* P **Pdif** **20 30 13.2 +0.1**
VSU pmax pmax
comp=Z,18nm,0.7s
CFR Carcaliu 102.50 315⇑ *i*P **Pdif** **20 30 14.2 +0.3**
CFR Carcaliu 102.50 315⇓ *i*P **PKKPbc** **20 46 14.2 -1.5**
PSN Preselentsi 102.52 313 *i* P PP 20 34 20.0 -8.9
NACGM Naroch 102.72 325 *e* **Pdif** **20 30 11.0 -3.7**
GRER 103.31 315⇑ *i*P **Pdif** **20 30 19.6 +2.1**
TESR 103.47 316⇑ *i*P **Pdif** **20 30 19.6 +1.4**
TESR 103.47 316⇑ *i*P **PP** **20 34 35.6 -0.3**
TESR 103.47 316⇑ *i*P **PKKPbc** **20 46 13.4 +0.5**
KARP Karpathos 103.48 305 *e*P **PP** **20 34 40.0 +3.6**
PLOR Plostina 103.51 315⇑ *i*P **Pdif** **20 30 19.0 +0.5**
PLOR Plostina 103.51 315⇓ *i*P **PKKPbc** **20 46 12.0 -0.8**
SMG Samos 103.70 307 *e*P **PP** **20 34 37.0 -1.0**
SMG Samos 103.70 307 *e*P **PP** **20 34 37.0 -1.0**
JMB Yambol 103.73 312 *i* P PP 20 34 27.0 -11
MLR Muntele Rosu 104.02 315 Pdiff **Pdif** **20 30 20.4 -0.5**
comp=Z,3.7nm,0.8s,baz=176,slow=5.3,SNR=25
MLR PKiKP **PKiKP** **20 34 37.3 -0.3**
comp=Z,2.2nm,0.7s,baz=225,slow=2.9,SNR=9.5
MLR PKKPbc **PKKPbc** **20 46 10.8 -0.6**
comp=Z,3.7nm,0.8s,baz=168,slow=6.2,SNR=22
MLR Muntele Rosu 104.02 315 P **Pdif** **20 30 20.4 -0.5**
MLR *i* 20 34 37.3
MLR pmax pmax
comp=Z,4.0nm,0.8s
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 104.02 315 Pdif **Pdif** **20 30 20.4 -0.5**
MLR PKiKP **PKiKP** **20 34 37.3 -0.3**
MLR PKKPbc **PKKPbc** **20 46 10.8 -0.6**
MLR Muntele Rosu 104.02 315⇓ *i*P **Pdif** **20 30 20.2 -0.7**
MLR Muntele Rosu 104.02 315⇑ *i*P **PKiKP** **20 34 37.9 +0.4**
MLR Muntele Rosu 104.02 315⇓ *i*P **PKKPbc** **20 46 11.1 -0.3**
PRK Paraskevi 104.10 309 *e*P **PKiKP** **20 34 35.0 -2.7**
ALN Alexandroupoli 104.21 310 *e*P **PKiKP** **20 34 37.0 -0.8**
BURAR Bucovina Array 104.36 317⇓ *i*P **Pdif** **20 30 23.5 +1.2**
BURAR Bucovina Array 104.36 317⇓ *i*P **PKKPbc** **20 46 10.5 +0.1**
BUR08 Bucovina Ar. S 104.37 317 *e*Pdif **Pdif** **20 30 22.1 -0.3**
VOIR 104.66 315⇑ *i*P **Pdif** **20 30 24.0 +0.3**
VOIR 104.66 315⇑ *i*P **PKiKP** **20 34 39.9 +1.3**
VOIR 104.66 315⇑ *i*P **PKKPbc** **20 46 09.6 +0.2**
SUW Suwalki 104.92 324 *e*P **Pdif** **20 30 24.3 -0.1**
SUW *e*PKiKP **PKiKP** **20 34 39.4 +0.7**
SUW *e*PP **PP** **20 34 51.4 +5.1**
SUW *e*SS SS 20 49 37.5 +9.2
SUW Suwalki 104.92 324 *e*P **Pdif** **20 30 25.0 +0.5**
SUW pmax pmax
comp=Z,29nm,0.9s
SUW Suwalki 104.92 324 *e*Pdif **Pdif** **20 30 25.0 +0.5**
comp=Z,29nm,0.9s
LVV L'vov 104.93 320 *e*P **Pdif** **20 30 22.5 -2.1**
LVV *e* **PP** **20 34 51.5 +4.9**
LVV *e*S **Sdif** **20 42 05.5 0.0**
LOT Lotru 105.55 315⇑ *i*P **PKiKP** **20 34 41.8 +1.5**
KWP Kalwaria Pacla 105.80 319 *e*P **Pdif** **20 30 29.4 +0.8**
KWP Kalwaria Pacla 105.80 319 *e*P **Pdif** **20 30 29.4 +0.8**
KWP Kalwaria Pacla 105.80 319⇑ *i*P **Pdif** **20 30 24.0 +1.8**
KWP Kalwaria Pacla 105.80 319⇑ *i*P **PKKPbc** **20 46 05.5 -0.5**
NVR Nevrokopi 105.83 311 *e*P **PKiKP** **20 34 40.5 -0.4**
PTL Penteli 106.04 307 *e*P **PKiKP** **20 34 41.5 +0.1**
TRPA Tarpa 106.10 318⇑ *i*P **Pdif** **20 30 30.3 +0.4**
TRPA Tarpa 106.10 318⇓ *i*P **PKiKP** **20 34 41.6 +0.5**
TRPA Tarpa 106.10 318⇑ *i*P **PKKPbc** **20 46 04.6 -0.4**
TRPA Tarpa 106.10 318⇑ *e*PKKPbc PKKPbc 20 46 04.2 -0.8

DRGR		**106.14**	**317**	⇑*iP*		**Pdif**	**20 30 31.7**	**+1.5**
DRGR		**106.14**	**317**	⇑*iP*		**PKiKP**	**20 34 42.0**	**+0.7**
DRGR		**106.14**	**317**	⇑*iP*		**PKKPbc**	**20 46 04.7**	**-0.2**
ATH	**Athens Observa**	**106.16**	**307**	*eP*		**PP**	**20 34 53.0**	**-3.1**
UZH	**Uzhgorod**	**106.20**	**318**	*eP*		**Pdif**	**20 30 31.0**	**+0.7**
UZH				*e*PS		**SP**	**20 43 55.0**	**-3.5**
UZH				*i*			20 44 57.0	
VTS	**Vitosha**	**106.22**	**312**	⇑*iP*		**Pdif**	**20 30 23.9**	**-6.8**
VTS	**Vitosha**	**106.22**	**312**	⇑*iP*		**PKiKP**	**20 34 42.3**	**+0.6**
VTS	**Vitosha**	**106.22**	**312**	⇑*iP*		**PKKPbc**	**20 46 04.8**	**+0.1**
VTS	**Vitosha**	**106.22**	**312**	*i* P		**PKiKP**	**20 34 42.0**	**+0.3**
SOH	**Sokhos**	**106.25**	**310**	*eP*		PKiKP	20 34 34.0	-7.7
GZR	**Gura Zlata**	**106.25**	**315**	⇑*iP*		**Pdif**	**20 30 32.4**	**+1.7**
GZR	**Gura Zlata**	**106.25**	**315**	⇑*iP*		**PKiKP**	**20 34 41.9**	**+0.3**
GZR	**Gura Zlata**	**106.25**	**315**	⇑*iP*		**PKKPbc**	**20 45 59.8**	**-4.7**
NAIG	**Nisos Aigina**	**106.36**	**307**	*eP*		PKiKP	20 34 36.0	-5.9
NEO	**Neokhori**	**106.46**	**309**	*eP*		**PKiKP**	**20 34 41.5**	**-0.6**
DID	**Didima**	**106.57**	**307**	*eP*		**PKiKP**	**20 34 42.0**	**-0.4**
LKR	**Lokris**	**106.68**	**308**	*eP*		**PKiKP**	**20 34 42.0**	**-0.5**
CRVS	**Cervenica-Dubn**	**106.71**	**319**	*eP*		**Pdif**	**20 30 33.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**106.71**	**319**	PDIF		**Pdif**	**20 30 33.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**106.71**	**319**	*e*PKP		**PKiKP**	**20 34 44.6**	**+2.4**
CRVS				*e*			20 46 07.4	
CRVS				*e*			20 46 20.1	
LTK	**Loutraki**	**106.75**	**307**	*eP*		**PKiKP**	**20 34 41.5**	**-1.2**
STHS	**Stebnicka Huta**	**106.78**	**319**	*eP*		**Pdif**	**20 30 35.0**	**+2.1**
STHS	**Stebnicka Huta**	**106.78**	**319**	PDIF		**Pdif**	**20 30 35.0**	**+2.1**
STHS	**Stebnicka Huta**	**106.78**	**319**	*e*PKP		**PKiKP**	**20 34 43.3**	**+0.9**
STHS				*e*			20 46 03.7	
LIT	**Litokhoron**	**106.97**	**310**	*eP*		**PKiKP**	**20 34 43.0**	**0.0**
BZS	**Buzias**	**107.04**	**315**	⇑*iP*		**PKiKP**	**20 34 43.7**	**+0.8**
BZS	**Buzias**	**107.04**	**315**	⇑*iP*		**PKKPbc**	**20 46 02.3**	**+0.3**
GUR	**Goura**	**107.25**	**307**	*eP*		**PKiKP**	**20 34 43.5**	**-0.2**
VLX	**Vlachokerasia**	**107.26**	**307**	*eP*		**PKiKP**	**20 34 45.0**	**+1.3**
THL	**Klokotos Trika**	**107.38**	**309**	*eP*		**PKiKP**	**20 34 43.0**	**-0.7**
NIE	**Niedzica**	**107.38**	**319**	*e*PKiKP		**PKiKP**	**20 34 44.4**	**+0.9**
KZN	**Kozani**	**107.50**	**310**	*eP*		**PKiKP**	**20 34 43.5**	**-0.6**
EFP	**Efpalio**	**107.55**	**308**	*eP*		**PKiKP**	**20 34 45.5**	**+1.4**
OJC	**Ojcow**	**107.57**	**320**	*e*Pdiff		**Pdif**	**20 30 36.8**	**+0.4**
OJC				*e*PKiKP		**PKiKP**	**20 34 44.2**	**+0.4**
OJC				*e*PP		**PP**	**20 35 06.4**	**+0.4**
OJC	**Ojcow**	**107.57**	**320**	*eP*		**Pdif**	**20 30 36.8**	**+0.4**
EVR	**Evrytania**	**107.59**	**308**	*eP*		**PKiKP**	**20 34 46.0**	**+1.7**
ITM	**Ithomi**	**107.63**	**307**	*eP*		**PKiKP**	**20 34 41.0**	**-3.3**
PYL	**PYLOS**	**107.80**	**306**	*eP*		**PKiKP**	**20 34 45.0**	**+0.4**
PSZ	**Piszkesteto**	**107.89**	**318**	*e*PKiKP		**PKiKP**	**20 34 44.2**	**-0.3**
PSZ	**Piszkesteto**	**107.89**	**318**	⇑*iP*		**PKiKP**	**20 34 44.6**	**+0.1**
PSZ	**Piszkesteto**	**107.89**	**318**	*e*		**PKiKP**	**20 34 44.9**	**+0.3**
PSZ				*e*			20 35 17.0	
PSZ	**Piszkesteto**	**107.89**	**318**	⇓*e*PKKPbc		PKKPbc	20 46 00.3	+0.7
RLS	**Riolos of Patr**	**107.93**	**308**	*eP*		**PKiKP**	**20 34 45.5**	**+0.7**
KRMB	**Red Mountain**	**107.94**	**49**	*e*PKiKP		**PKiKP**	**20 34 45.6**	**+0.7**
KHMM	**Horse Mountain**	**108.14**	**49**	*e*Pdif		**Pdif**	**20 30 41.2**	**+1.8**
	comp=Z,12nm,0.9s							
KHMM				*e*PKiKP		**PKiKP**	**20 34 46.5**	**+1.1**
CMW	**Cultus Mountai**	**108.24**	**41**	P		**PKiKP**	**20 34 46.4**	**+1.2**
JAN	**Janina**	**108.26**	**309**	*eP*		**PKiKP**	**20 34 46.0**	**+0.6**
RES	**Resolute Bay**	**108.26**	**11**	Pdiff		**Pdif**	**20 30 39.5**	**+0.6**
	comp=Z,15nm,0.8s,baz=309,slow=5.9,SNR=26							
RES				PKiKP		**PKiKP**	**20 34 44.3**	**-0.1**
	comp=Z,22nm,0.8s,baz=273,slow=2.2,SNR=14							
RES				PKKPbc		**PKKPbc**	**20 45 56.8**	**-2.3**
	comp=Z,3.9nm,0.8s,baz=160,slow=5.7,SNR=5.2							
RES	**Resolute Bay**	**108.26**	**11**	P		**Pdif**	**20 30 39.5**	**+0.6**
RES				pmax	pmax			
	comp=Z,15nm,0.8s							
RES	**Resolute Bay**	**108.26**	**11**	*e*Pdif		**Pdif**	**20 30 39.3**	**+0.4**
	comp=Z,18nm,0.8s							
RES				PKiKP		**PKiKP**	**20 34 44.3**	**-0.1**
RES				PKKPbc		**PKKPbc**	**20 45 56.8**	**-2.3**
DAG	**Danmarks Havn**	**108.37**	**352**	*i* P		**PKKPdf**	**20 46 09.1**	**-3.2**
KCPM	**Cahto Peak**	**108.38**	**51**	*e*PKiKP		**PKiKP**	**20 34 47.0**	**+1.2**
JCW	**Jim Creek**	**108.41**	**42**	*e*Pdif		**Pdif**	**20 30 41.0**	**+0.8**
	comp=Z,34nm,1.1s							
JCW				*e*PKiKP		**PKiKP**	**20 34 46.0**	**+0.6**
LVP	**Lakeview Peak**	**108.42**	**44**	P		**PKiKP**	**20 34 47.4**	**+1.7**
FL2	**Flat Top 2**	**108.45**	**44**	P		**PKiKP**	**20 34 46.8**	**+1.0**
VYHS	**Vyhne**	**108.49**	**319**	*eP*		**Pdif**	**20 30 38.1**	**-2.5**
VYHS	**Vyhne**	**108.49**	**319**	PDIF		**Pdif**	**20 30 38.1**	**-2.5**
VYHS	**Vyhne**	**108.49**	**319**	*e*PKP		**PKiKP**	**20 34 44.9**	**-0.7**
VYHS				*e*			20 45 56.7	
VYHS				*e*			20 46 11.1	
LKD2	**Lefkada island**	**108.50**	**308**	*eP*		**PKiKP**	**20 34 46.0**	**+0.1**
HUMO	**Hull Mountain**	**108.52**	**48**	*e*Pdif		**Pdif**	**20 30 41.3**	**+0.5**
	comp=Z,8.9nm,0.9s							
HUMO				*e*PKiKP		**PKiKP**	**20 34 46.5**	**+0.7**
BUD	**Budapest**	**108.54**	**318**	*e*		**PP**	**20 35 18.1**	**+5.0**
HFS	**Hagfors**	**108.56**	**331**	Pdiff		**Pdif**	**20 30 40.1**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=108,slow=4.8,SNR=8.3							
HFS				PKiKP		**PKiKP**	**20 34 44.2**	**-1.1**
	comp=Z,14nm,0.7s,baz=96,slow=4.5,SNR=12							
HFS				PKKPbc		**PKKPbc**	**20 45 55.1**	**-2.6**
	comp=Z,4.9nm,0.8s,baz=234,slow=5.0,SNR=4.8							
HFS				PKKP		**PKKPdf**	**20 46 10.6**	**-1.2**
	comp=Z,7.3nm,0.8s,baz=243,slow=1.0,SNR=6.4							
HFS	**Hagfors**	**108.56**	**331**	P		**Pdif**	**20 30 40.1**	**-0.5**
HFS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HFS	**Hagfors**	**108.56**	**331**	Pdif		**Pdif**	**20 30 40.1**	**-0.5**
HFS				PKiKP		**PKiKP**	**20 34 44.2**	**-1.1**
HFS				PKKPbc		**PKKPbc**	**20 45 55.1**	**-2.6**
HFS				PKKP		**PKKPdf**	**20 46 10.6**	**-1.2**
RPW	**Rockport**	**108.63**	**41**	P		**PKiKP**	**20 34 47.0**	**+1.1**
YKA	**Yellowknife Ar**	**108.66**	**26**	Pdiff		**Pdif**	**20 30 40.8**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=291,slow=4.8,SNR=47							
YKA				PKiKP		**PKiKP**	**20 34 45.4**	**0.0**
	comp=Z,25nm,0.7s,baz=296,slow=1.6,SNR=124							
YKA				PKKPbc		**PKKPbc**	**20 45 54.4**	**-3.1**
	comp=Z,7.8nm,0.7s,baz=111,slow=3.3,SNR=40							
YKA				PKPPKP		**P'P'df**	**20 54 19.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=125,slow=2.4,SNR=3.7							
YKA	**Yellowknife Ar**	**108.66**	**26**	P		**Pdif**	**20 30 40.9**	**-0.1**
YKA							20 54 19.3	
YKA	**Yellowknife Ar**	**108.66**	**26**	Pdif		**Pdif**	**20 30 40.9**	**-0.1**
YKA				PKiKP		**PKiKP**	**20 34 45.4**	**0.0**
YKA				PKKPbc		**PKKPbc**	**20 45 54.4**	**-3.1**
YKA				P'P'			20 54 19.2	
OKC	**Ostrava-Krasne**	**108.69**	**320**	*e*PKP		**PKiKP**	**20 34 46.6**	**+0.7**
OKC				*e*PP		**PP**	**20 35 19.3**	**+5.2**
OKC				*e*PKKP		PKKPbc	20 45 45.5	-12
LON	**Longmire**	**108.73**	**43**	*e*PKiKP		**PKiKP**	**20 34 46.5**	**+0.4**
TIR	**Tirane**	**108.82**	**311**	*e*PKiKP		**PKiKP**	**20 34 47.2**	**+0.8**
TIR	**Tirane**	**108.82**	**311**	*eP*		**PKiKP**	**20 34 48.0**	**+1.6**
PKSM	**Moragy**	**109.01**	**316**	⇑*iP*		**PKiKP**	**20 34 47.2**	**+0.6**
PKSM	**Moragy**	**109.01**	**316**	*e*		**PKiKP**	**20 34 47.0**	**+0.4**
PKSM				*e*PKiKP		PP	20 35 10.3	-6.3
PKSM	**Moragy**	**109.01**	**316**	⇑*e*PKKPbc		PKKPbc	20 45 55.0	-0.8
MORC	**Moravsky Berou**	**109.09**	**320**	*e*PKiKP		**PKiKP**	**20 34 47.0**	**+0.3**
MORC	**Moravsky Berou**	**109.09**	**320**	⇑*iP*		**PKiKP**	**20 34 47.5**	**+0.8**
BSD	**Bornholm Skovb**	**109.40**	**326**	*i* P		**PKiKP**	**20 34 48.3**	**+1.3**
	comp=Z,24nm,0.8s							
NB2	**NORSAR Subarra**	**109.41**	**333**	P		**Pdif**	**20 30 44.1**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=69,slow=4.4							
NOA	**NORSAR Array B**	**109.41**	**333**	Pdiff		**Pdif**	**20 30 44.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=72,slow=4.6,SNR=6.5							
NOA				PKiKP		**PKiKP**	**20 34 46.7**	**-0.2**
	comp=Z,20nm,0.7s,baz=263,slow=3.1,SNR=38							
NOA				PKKPbc		**PKKPbc**	**20 45 53.5**	**-1.7**
	comp=Z,5.4nm,0.8s,baz=67,slow=3.2,SNR=17							
NOA				PKKPab		**PKKPab**	**20 46 05.7**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=251,slow=4.2,SNR=9.0							
NOA	**NORSAR Array B**	**109.41**	**333**	P		**Pdif**	**20 30 44.0**	**-0.3**
NOA							20 45 53.5	
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**109.41**	**333**	Pdif		**Pdif**	**20 30 44.0**	**-0.3**
NOA				PKiKP		**PKiKP**	**20 34 46.7**	**-0.2**
NOA				PKKPbc		**PKKPbc**	**20 45 53.5**	**-1.7**
NOA				PKKPab		**PKKPab**	**20 46 05.7**	**+0.5**
ETW	**Entiat**	**109.57**	**42**	*e*Pdif		**Pdif**	**20 30 48.2**	**+2.7**
NA001	**NORSAR Array S**	**109.63**	**333**	*e*PKiKP		**PKiKP**	**20 34 46.5**	**-0.8**
KSP	**Ksiaz**	**109.64**	**321**	*eP*		**Pdif**	**20 30 47.6**	**+2.0**
KSP				*e*PKiKP		**PKiKP**	**20 34 48.3**	**+0.7**
KSP				*e*PP		**PP**	**20 35 25.6**	**+4.6**
KSP	**Ksiaz**	**109.64**	**321**	*eP*		**Pdif**	**20 30 47.6**	**+2.0**
ZST	**Bratislava**	**109.68**	**319**	*e*PKP		**PKiKP**	**20 34 47.6**	**-0.2**
ZST				*e*			20 45 52.9	
ZST				*e*			20 46 06.0	
DPC	**Dobruska-Polom**	**109.73**	**321**	*e*PKP		**PKiKP**	**20 34 48.2**	**+0.3**
DPC				*e*PP		**PP**	**20 35 24.2**	**+2.5**
DPC				*ex*		x	20 45 35.3	
VRAC	**Vranov**	**109.79**	**320**	Pdiff		**Pdif**	**20 30 47.5**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=82,slow=6.3,SNR=4.5							
VRAC				PKiKP		**PKiKP**	**20 34 48.1**	**+0.2**
	comp=Z,13nm,0.8s,baz=82,slow=2.8,SNR=14							
VRAC				PP		**PP**	**20 35 26.1**	**+4.0**
	comp=Z,14nm,1.1s,baz=78,slow=8.0,SNR=12							
VRAC				PKKPbc		**PKKPbc**	**20 45 53.9**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=262,slow=2.8,SNR=9.8							
VRAC				PKKPab		**PKKPab**	**20 46 06.1**	**+2.5**
	comp=Z,4.6nm,0.7s,baz=244,slow=5.1,SNR=5.0							
VRAC	**Vranov**	**109.79**	**320**	P		**Pdif**	**20 30 47.5**	**+1.2**
VRAC							20 35 26.1	
VRAC							20 46 06.1	
VRAC				pmax	pmax			
	comp=Z,2.0nm,0.7s							
VRAC	**Vranov**	**109.79**	**320**	Pdif		**Pdif**	**20 30 47.5**	**+1.2**
VRAC				PKiKP		**PKiKP**	**20 34 48.1**	**+0.2**
VRAC				PP		**PP**	**20 35 26.1**	**+4.0**
VRAC				PKKPbc		**PKKPbc**	**20 45 53.9**	**+0.4**
VRAC				PKKPab		**PKKPab**	**20 46 06.1**	**+2.5**
VRAC	**Vranov**	**109.79**	**320**	⇑*iP*		**PKiKP**	**20 34 48.4**	**+0.4**
UPC	**Upice**	**109.89**	**321**	*e*PKP		**PKiKP**	**20 34 48.6**	**+0.5**
UPC				*e*PP		**PP**	**20 35 24.8**	**+2.0**
VIPM	**Ingram Point**	**109.92**	**45**	P		**PKiKP**	**20 34 49.9**	**+1.3**
LBCM	**Butte Creek Ri**	**109.94**	**49**	P		**PKiKP**	**20 34 49.6**	**+0.9**
SOP	**Sopron**	**110.14**	**318**	*e*		**PP**	**20 35 29.6**	**+4.9**
BEHE	**Becsehely**	**110.24**	**317**	*e*		**PKiKP**	**20 34 49.2**	**+0.3**
BEHE				*e*			20 35 30.6	
BEHE	**Becsehely**	**110.24**	**317**	⇑*e*PKKPbc		PKKPbc	20 45 51.8	-0.1
RSW	**Rattlesnake Hi**	**110.30**	**43**	*e*PKiKP		**PKiKP**	**20 34 50.4**	**+1.2**
HAWA	**Hanford**	**110.34**	**43**	*e*PKiKP		**PKiKP**	**20 34 49.2**	**+0.1**
TREC	**Trest**	**110.50**	**320**	*e*PKiKP		**PKiKP**	**20 34 49.9**	**+0.6**
TREC				*e*			20 35 31.2	
TREC				*e*PS		**PKKPbc**	**20 45 49.8**	**-1.4**
TREC	**Trest**	**110.50**	**320**	*e*PKP		**PKiKP**	**20 34 49.9**	**+0.6**
TREC				*e*PP		**PP**	**20 35 31.2**	**+4.0**
TREC				*e*PKKP		**PKKPbc**	**20 45 49.8**	**-1.4**
CONA	**Conrad Observa**	**110.55**	**318**	*i* P		**PKiKP**	**20 34 49.5**	**0.0**
CONA	**Conrad Observa**	**110.55**	**318**	*i* PKiKP		**PKiKP**	**20 34 49.5**	**0.0**
	comp=Z,10nm,0.8s,SNR=8.2							
CONA	**Conrad Observa**	**110.55**	**318**	⇑*i*PKKPbc		PKKPbc	20 45 49.8	-1.2
	comp=Z,18nm,0.7s							
MOD	**Modoc**	**110.56**	**48**	*e*Pdif		**Pdif**	**20 30 49.0**	**-1.1**
MOD				*e*PKiKP		**PKiKP**	**20 34 50.1**	**+0.2**
OD2	**Odessa Site #2**	**110.69**	**42**	*e*Pdif		**Pdif**	**20 30 53.0**	**+2.6**
OD2				*e*PKiKP		**PKiKP**	**20 34 48.9**	**-0.8**
PVCC	**Panska Ves**	**110.78**	**321**	*e*PKiKP		**PKiKP**	**20 34 50.3**	**+0.5**
PVCC				*e*PS		**PKKPbc**	**20 45 54.5**	**+4.2**
PVCC	**Panska Ves**	**110.78**	**321**	*e*PKP		**PKiKP**	**20 34 50.3**	**+0.5**
PVCC				*e*PKKP		**PKKPbc**	**20 45 54.5**	**+4.2**
ARSA	**Arzberg**	**110.92**	**318**	⇑*iP*		**PKiKP**	**20 34 50.0**	**-0.2**
ARSA	**Arzberg**	**110.92**	**318**	⇑*i*PKiKP		**PKiKP**	**20 34 50.0**	**-0.2**
	comp=Z,20nm,1.0s							
PRU	**Pruhonice**	**110.93**	**321**	*e*PKiKP		**PKiKP**	**20 34 50.3**	**+0.2**
PRU				*e*			20 35 36.5	
PRU				*e*PS		**PKKPbc**	**20 45 47.3**	**-2.5**
PRU	**Pruhonice**	**110.93**	**321**	*e*PKP		**PKiKP**	**20 34 50.3**	**+0.2**
PRU				*e*PP		PP	20 35 36.5	+6.2
PRU				*e*PKKP		**PKKPbc**	**20 45 47.3**	**-2.5**
PRA	**Prague**	**110.98**	**321**	PKP		**PKiKP**	**20 34 51.0**	**+0.8**
PRA				PP		**PP**	**20 35 30.0**	**-0.6**
NOCI	**Noci**	**111.00**	**311**	*eP*		**PKiKP**	**20 34 51.5**	**+1.0**
CMB	**Columbia Colle**	**111.04**	**52**	*eP*		**Pdif**	**20 30 54.7**	**+2.5**
CMB				*i*			20 34 51.0	
CMB	**Columbia Colle**	**111.04**	**52**	*e*Pdif		**Pdif**	**20 30 54.6**	**+2.5**
CMB				*e*PKiKP		**PKiKP**	**20 34 51.0**	**+0.2**
BRG	**Berggiesshubel**	**111.08**	**322**	*e*PDIF		**Pdif**	**20 30 54.0**	**+2.0**
	comp=Z,30nm,1.8s							
BRG	**Berggiesshubel**	**111.08**	**322**	*e*PKiKP		**PKiKP**	**20 34 50.9**	**+0.5**
BRG				*e*PP		PP	20 35 38.0	+6.7
BRG	**Berggiesshubel**	**111.08**	**322**	*eP*		**Pdif**	**20 30 54.0**	**+2.0**
BRG				*i*			20 34 51.0	
BRG				*e*			20 46 00.3	
BRG				pmax	pmax			
	comp=Z,30nm,1.8s							
LNOR	**Lincton Mounta**	**111.29**	**44**	*e*PKiKP		**PKiKP**	**20 34 52.4**	**+1.4**
LNOR	**Lincton Mounta**	**111.29**	**44**	*e*PKiKP		**PKiKP**	**20 34 52.4**	**+1.4**
PERS	**Pernice**	**111.32**	**317**	*i* PKiKP		**PKiKP**	**20 34 51.1**	**+0.1**
WCN	**Washoe City**	**111.36**	**51**	*eP*		**Pdif**	**20 30 55.8**	**+2.0**
WCN	**Washoe City**	**111.36**	**51**	*e*Pdif		**Pdif**	**20 30 55.8**	**+2.0**
WCN				*e*PKiKP		**PKiKP**	**20 34 53.5**	**+2.0**
WCN	**Washoe City**	**111.36**	**51**	⇑P		**PKiKP**	**20 34 51.1**	**-0.4**
	baz=111							
WCN				⇑P		**PKiKP**	**20 34 51.1**	**-0.4**
	baz=111							
SOKA	**Soboth**	**111.37**	**317**	⇑*iP*		**PKiKP**	**20 34 50.8**	**-0.4**
SOKA	**Soboth**	**111.37**	**317**	⇑*i*PKiKP		**PKiKP**	**20 34 50.8**	**-0.4**
	comp=Z,31nm,0.8s							
TIP	**Timpagrande**	**111.47**	**309**	*e*PKiKP		**PKiKP**	**20 34 52.1**	**+0.5**
BOJS	**Bojanci**	**111.47**	**316**	*i* PKiKP		**PKiKP**	**20 34 51.4**	**+0.1**
NEW	**Newport**	**111.54**	**41**	*e*PKiKP		**PKiKP**	**20 34 51.4**	**0.0**
NEW	**Newport**	**111.54**	**41**	*e*PKiKP		**PKiKP**	**20 34 51.4**	**0.0**
NEW	**Newport**	**111.54**	**41**	⇓P		**PKiKP**	**20 34 51.4**	**0.0**
	baz=112,SNR=16							
NEW				⇓P		**PKiKP**	**20 34 51.4**	**0.0**
	baz=112,SNR=16							
CLL	**Collm**	**111.54**	**322**	*e*PKiKP		**PKiKP**	**20 34 51.5**	**+0.3**
CLL				*e*PP		PP	20 35 40.7	+6.2
CLL	**Collm**	**111.54**	**322**	*eP*		**Pdif**	**20 30 52.0**	**-2.0**
CLL				*i*			20 34 51.4	
CLL				*e*			20 35 38.0	
CLL				*i*			20 45 57.1	
CLL				pmax	pmax			
	comp=Z,47nm,0.8s							
CLL	**Collm**	**111.54**	**322**	*e*Pdif		**Pdif**	**20 30 52.0**	**-2.0**
CLL				*i* PKiKP		**PKiKP**	**20 34 51.4**	**+0.3**
	comp=Z,47nm,0.8s							
CLL				*e*			20 35 01.0	
CLL				*e*			20 35 23.0	
CLL				*e*PP		**PP**	**20 35 38.0**	**+3.5**
CLL				*es*PP			20 36 24.0	
CLL				*e*PPP		PPP	20 37 54.0	
CLL				*es*PPP			20 38 44.0	
CLL				*es*Sdiff			20 44 10.0	
CLL				*e*SP		**SP**	**20 44 49.0**	**-1.7**
CLL				*e*PKKPbc		**PKKPbc**	**20 45 46.0**	**-1.8**
CLL				*es*SP			20 45 54.0	
CLL				*i* PKKPdf		**PKKPab**	**20 45 57.1**	**+1.4**
	comp=Z,15nm,1.0s							
CLL				*e*PPS		PPS	20 46 17.0	
CLL				*es*PPS			20 46 53.0	
CLL				*e*SKKPdf		**SKKPdf**	**20 44 24.0**	**-3.5**
CLL				*e*PKKSdf		PKKSdf	20 49 42.0	-1.4
CLL				*e*SS		SS	20 51 21.0	+23
CLL				*e*SSS		SSS	20 55 24.0	
CLL				*es*SSSS			20 59 18.0	
CLL				*e*			21 02 18.0	
CLL				LmV			21 24 00.0	
	comp=Z,1μm,20.4s							
MOA	**Molln**	**111.62**	**319**	⇓*iP*		**PKiKP**	**20 34 51.0**	**-0.5**
MOA	**Molln**	**111.62**	**319**	⇓*i*PKiKP		**PKiKP**	**20 34 51.0**	**-0.5**
	comp=Z,22nm,0.8s							
MOA	**Molln**	**111.62**	**319**	⇑*i*PKKPbc		PKKPbc	20 45 46.5	-1.0
	comp=Z,25nm,0.8s							
SMMC	**Simmler**	**111.68**	**55**	⇑P		**PKiKP**	**20 34 52.0**	**0.0**
	baz=112							
SMMC				⇑P		**PKiKP**	**20 34 52.0**	**0.0**
	baz=112							
VISS	**Visnje**	**111.69**	**316**	*i* PKiKP		**PKiKP**	**20 34 51.8**	**+0.1**
WVOR	**Wild Horse Val**	**111.70**	**47**	*e*PKiKP		**PKiKP**	**20 34 52.6**	**+0.6**
WVOR	**Wild Horse Val**	**111.70**	**47**	*e*PKiKP		**PKiKP**	**20 34 52.6**	**+0.6**
GEC2	**GERESS Array S**	**111.74**	**320**	*e*PP		PP	20 35 41.6	+5.3
GERES	**GERESS Array B**	**111.74**	**320**	Pdiff		**Pdif**	**20 30 56.3**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=58,slow=3.7,SNR=7.1							
GERES				PKiKP		**PKiKP**	**20 34 51.5**	**-0.3**
	comp=Z,29nm,0.6s,baz=64,slow=6.1,SNR=3.6							
GERES				SKiKP		**SKiKP**	**20 38 11.9**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=64,slow=2.9,SNR=4.4							
GERES				PKKPbc		**PKKPbc**	**20 45 46.2**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=240,slow=2.6,SNR=22							
GERES	**GERESS Array B**	**111.74**	**320**	P		**Pdif**	**20 30 56.3**	**+1.2**
GERES				*i*			20 34 51.5	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**111.74**	**320**	Pdif		**Pdif**	**20 30 56.3**	**+1.2**
GERES				PKiKP		**PKiKP**	**20 34 51.5**	**-0.3**
GERES				*e*			20 38 11.9	
GERES				PKKPbc		**PKKPbc**	**20 45 46.2**	**-1.0**
KHC	**Kasperske Hory**	**111.75**	**320**	*e*PKiKP		**PKiKP**	**20 34 51.5**	**-0.2**
KHC	**Kasperske Hory**	**111.75**	**320**	*e*PKiKP		**PKiKP**	**20 34 51.5**	**-0.2**
KHC	**Kasperske Hory**	**111.75**	**320**	*e*PKP		**PKiKP**	**20 34 51.6**	**-0.2**
KHC				*e*PP		**PP**	**20 35 38.3**	**+2.1**
KHC				*e*PKKP		**PKKPab**	**20 45 57.9**	**+3.0**
LJU	**Ljubljana**	**111.85**	**317**	*e*PKiKP		**PKiKP**	**20 34 54.0**	**+2.0**
LJU				*e*			20 35 40.0	
PKM	**Peak Mountain**	**111.87**	**55**	⇓P		**PKiKP**	**20 34 52.6**	**0.0**
	baz=112							
PKM				⇓P		**PKiKP**	**20 34 52.6**	**0.0**
	baz=112							
CUC	**Castrocucco**	**112.06**	**310**	*e*PKiKP		**PKiKP**	**20 34 51.5**	**-1.1**
CUC	**Castrocucco**	**112.06**	**310**	*eP*		**PKiKP**	**20 34 51.5**	**-1.1**
TANN	**Tannenbergstha**	**112.11**	**322**	*e*PKiKP		**PKiKP**	**20 34 52.8**	**+0.4**
TANN				*e*PP		PP	20 35 45.4	+6.6
BSC	**Santa Cruz Isl**	**112.12**	**56**	⇓P		**PKiKP**	**20 34 52.4**	**-0.5**
	baz=112							
BSC				⇓P		**PKiKP**	**20 34 52.4**	**-0.5**
	baz=112							
NKC	**Novy Kostel**	**112.17**	**321**	*e*PKiKP		**PKiKP**	**20 34 52.8**	**+0.3**
NKC				*e*			20 35 43.4	
NKC	**Novy Kostel**	**112.17**	**321**	*e*PKP		**PKiKP**	**20 34 52.8**	**+0.3**
NKC				*e*PP		**PP**	**20 35 43.4**	**+4.3**
NKC				*e*PKKP		**PKKPdf**	**20 46 00.3**	**-4.5**
BMO	**Blue Mountains**	**112.18**	**45**	*e*PKiKP		**PKiKP**	**20 34 52.3**	**-0.5**
BMO	**Blue Mountains**	**112.18**	**45**	*e*PKi

WATA	**Walderalm**	**113.51**	**319**	⇓*i*PKiKP	**PKiKP**	20 34 54.7	-0.6	comp=Z,51nm,0.6s,SNR=37
WATA	**Walderalm**	**113.51**	**319**	⇑*i*PKKPbc	PKKPbc	20 45 41.9	+0.5	comp=Z,18nm,0.7s
JTMT	**Jette**	**113.51**	**41**	*e*PKiKP	**PKiKP**	20 34 54.4	-0.8	
MFID	**Camas Ranch**	**113.53**	**46**	*e*PKiKP	**PKiKP**	20 34 56.2	+0.8	
MFID	**Camas Ranch**	**113.53**	**46**	⇑P	**PKiKP**	20 34 55.6	+0.2	baz=114
MFID				⇑P	**PKiKP**	20 34 55.6	+0.2	baz=114
GRAC	**Grapevine Rang**	**113.56**	**53**	⇑P	**PKiKP**	20 34 55.9	+0.3	baz=114
GRAC				⇑P	**PKiKP**	20 34 55.9	+0.3	baz=114
D13A	**Huson**	**113.57**	**42**	⇑P	**PKiKP**	20 34 55.3	0.0	baz=114,SNR=23
D13A				⇑P	**PKiKP**	20 34 55.3	0.0	baz=114,SNR=23
MPMC	**Manual Prospec**	**113.61**	**54**	⇑P	**PKiKP**	20 34 55.8	-0.2	baz=114
MPMC				⇑P	**PKiKP**	20 34 55.8	-0.2	baz=114
YBMT	**Yellow Bay**	**113.66**	**41**	*e*PKiKP	**PKiKP**	20 34 55.5	0.0	
A14A	**Double T Ranch**	**113.72**	**39**	⇓P	**PKiKP**	20 34 57.1	+1.5	baz=114,SNR=6.0
A14A				⇓P	**PKiKP**	20 34 57.1	+1.5	baz=114,SNR=6.0
BFSC	**Mount Baldy Ra**	**113.72**	**56**	⇑P	**PKiKP**	20 34 56.5	+0.4	baz=114
BFSC				⇑P	**PKiKP**	20 34 56.5	+0.4	baz=114
SWMT	**Swartz Lake**	**113.76**	**41**	*e*PKiKP	**PKiKP**	20 34 55.0	-0.8	
MOTA	**Moosalm**	**113.82**	**319**	⇓*i*PKIKP	**PKiKP**	20 34 55.4	-0.5	
MOTA	**Moosalm**	**113.82**	**319**	⇓*i*P	**PKiKP**	20 34 55.4	-0.5	
MOTA	**Moosalm**	**113.82**	**319**	⇓*i*PKPdf	**PKiKP**	20 34 55.4	-0.5	comp=Z,52nm,0.6s,SNR=62
MOTA	**Moosalm**	**113.82**	**319**	⇑*i*PKKPbc	**PKKPbc**	20 45 40.1	-0.2	comp=Z,22nm,0.8s
C14A	**Swan Lake**	**113.86**	**41**	⇓P	**PKiKP**	20 34 55.8	-0.1	baz=114,SNR=33
C14A				⇓P	**PKiKP**	20 34 55.8	-0.1	baz=114,SNR=33
E13A	**Victor**	**113.92**	**42**	⇑P	**PKiKP**	20 34 55.6	-0.5	baz=114,SNR=24
E13A				⇑P	**PKiKP**	20 34 55.6	-0.5	baz=114,SNR=24
I12A	**Atlanta**	**113.93**	**45**	⇓P	**PKiKP**	20 34 56.8	+0.5	baz=114
I12A				⇓P	**PKiKP**	20 34 56.8	+0.5	baz=114
I12A				⇓P	**PKKPab**	20 45 44.7	-0.9	baz=114,SNR=8.9
I12A				⇓P	**PKKPab**	20 45 44.7	-0.9	baz=114,SNR=8.9
H12A	**Diamond D Ranc**	**113.95**	**44**	⇓P	**PKiKP**	20 34 56.9	+0.6	baz=114,SNR=37
H12A				⇓P	**PKiKP**	20 34 56.9	+0.6	baz=114,SNR=37
H12A				⇑P	**PKKPbc**	20 45 41.7	+1.8	baz=114
H12A				⇑P	**PKKPbc**	20 45 41.7	+1.8	baz=114
MSO	**Missoula**	**113.99**	**42**	*e*PKiKP	**PKiKP**	20 34 55.9	-0.3	
MSO	**Missoula**	**113.99**	**42**	⇓P	**PKiKP**	20 34 56.1	-0.1	baz=114
MSO				⇓P	**PKiKP**	20 34 56.1	-0.1	baz=114
B14A	**Marquette Ranc**	**113.99**	**40**	⇓P	**PKiKP**	20 34 56.0	-0.1	baz=114,SNR=16
B14A				⇓P	**PKiKP**	20 34 56.0	-0.1	baz=114,SNR=16
B14A				⇓P	**PKKPbc**	20 45 38.1	-1.6	baz=114
B14A				⇓P	**PKKPbc**	20 45 38.1	-1.6	baz=114
F13A	**Darby**	**114.00**	**43**	⇓P	**PKiKP**	20 34 56.6	+0.3	baz=114,SNR=11
F13A				⇓P	**PKiKP**	20 34 56.6	+0.3	baz=114,SNR=11
FURC	**Furnace Creek,**	**114.05**	**53**	⇑P	PKPdf	20 34 56.1	-0.3	baz=114
FURC				⇑P	PKPdf	20 34 56.1	-0.3	baz=114
A15A	**Johnson Ranch,**	**114.15**	**39**	⇑P	PKPdf	20 34 56.0	-0.5	baz=114,SNR=11
A15A				⇑P	PKPdf	20 34 56.0	-0.5	baz=114,SNR=11
FETA	**Feichten**	**114.15**	**318**	*i* P	PKPdf	20 34 56.4	-0.2	
FETA	**Feichten**	**114.15**	**318**	*i* PKiKP	PKPdf	20 34 56.4	-0.2	comp=Z,39nm,0.8s,SNR=24
SCO	**Scoresbysund**	**114.17**	**350**	*i* PKIKP	PKPdf	20 34 56.6	+0.9	
SCO				pmax	pmax			comp=Z,14nm,0.8s
SCO	**Scoresbysund**	**114.17**	**350**	*i* P	PKPdf	20 34 56.6	+0.9	comp=Z,14nm,0.8s
SLMT	**Seeley Lake**	**114.17**	**41**	*e*PKiKP	PKPdf	20 34 56.2	-0.4	
MURC	**Murrieta**	**114.18**	**57**	⇓P	PKPdf	20 34 56.7	-0.1	baz=114
MURC				⇓P	PKPdf	20 34 56.7	-0.1	baz=114
D14A	**Greenough**	**114.20**	**41**	⇑P	PKPdf	20 34 56.1	-0.5	baz=114,SNR=34
D14A				⇑P	PKPdf	20 34 56.1	-0.5	baz=114,SNR=34
D14A				⇓P	**PKKPbc**	20 45 38.7	-0.2	baz=114
D14A				⇓P	**PKKPbc**	20 45 38.7	-0.2	baz=114
G13A	**Cobalt**	**114.24**	**44**	⇓P	PKPdf	20 34 56.8	0.0	baz=114,SNR=14
G13A				⇓P	PKPdf	20 34 56.8	0.0	baz=114,SNR=14
G13A				⇑P	**PKKPbc**	20 45 38.5	-0.3	baz=114
G13A				⇑P	**PKKPbc**	20 45 38.5	-0.3	baz=114
GSC	**Goldstone**	**114.27**	**55**	*e*PKIKP	PKPdf	20 34 58.1	+1.0	
GSC	**Goldstone**	**114.27**	**55**	*e*PKiKP	**PKiKP**	20 34 58.1	+1.0	
GSC	**Goldstone**	**114.27**	**55**	⇓P	PKPdf	20 34 57.5	+0.5	baz=114
GSC				⇓P	PKPdf	20 34 57.5	+0.5	baz=114
IBBN	**Ibbenburen**	**114.32**	**325**	*e*PP	PP	20 35 58.3	+4.2	
BBRC	**Big Bear Solar**	**114.32**	**56**	⇓P	PKPdf	20 34 57.7	+0.4	baz=114
BBRC				⇓P	PKPdf	20 34 57.7	+0.4	baz=114
SUMG	**Summit**	**114.32**	**356**	*e*PKIKP	PKPdf	20 34 56.9	+0.4	
SUMG	**Summit**	**114.32**	**356**	*e*PKiKP	**PKiKP**	20 34 56.9	+0.4	
SUMG	**Summit**	**114.32**	**356**	*i* P	PKPdf	20 34 57.3	+0.8	comp=Z,30nm,0.7s
H13A	**Challis**	**114.36**	**44**	⇑P	PKPdf	20 34 57.5	+0.5	baz=114,SNR=80
H13A				⇑P	PKPdf	20 34 57.5	+0.5	baz=114,SNR=80
H13A				⇑P	**PKKPbc**	20 45 38.0	-0.3	baz=114,SNR=5.5
H13A				⇑P	**PKKPbc**	20 45 38.0	-0.3	baz=114,SNR=5.5
E14A	**Clinton**	**114.39**	**42**	⇑P	PKPdf	20 34 57.0	-0.1	baz=114,SNR=31
E14A				⇑P	PKPdf	20 34 57.0	-0.1	baz=114,SNR=31
E14A				⇓P	**PKKPbc**	20 45 37.7	-0.7	baz=114
E14A				⇓P	**PKKPbc**	20 45 37.7	-0.7	baz=114
CHMT	**Chamberlain Mo**	**114.42**	**42**	*e*PKiKP	PKPdf	20 34 56.8	-0.4	
B15A	**Bradely Ranch,**	**114.46**	**40**	⇑P	PKPdf	20 34 57.0	0.0	baz=114,SNR=20
B15A				⇑P	PKPdf	20 34 57.0	0.0	baz=114,SNR=20
HLID	**Hailey**	**114.49**	**45**	*e*Pdif	**Pdif**	**20 31 09.8**	**+2.2**	
HLID				*e*PKiKP	**PKiKP**	**20 34 58.2**	**+0.9**	
HLID	**Hailey**	**114.49**	**45**	⇑P	PKPdf	20 34 58.5	+1.1	baz=114,SNR=95
HLID				⇑P	PKPdf	20 34 58.5	+1.1	baz=114,SNR=95
HLID				⇑P	**PKKPbc**	20 45 38.3	+0.3	baz=114,SNR=6.0
HLID				⇑P	**PKKPbc**	20 45 38.3	+0.3	baz=114,SNR=6.0
MSKU	**Masuku**	**114.49**	**265**	PKP	PKPdf	20 34 58.2	+0.2	comp=Z,65nm,0.7s,baz=109,slow=3.6,SNR=18
MSKU	**Masuku**	**114.49**	**265**	PKP	PKPdf	20 34 58.2	+0.2	
ELK	**Elko**	**114.52**	**49**	*e*PKIKP	PKPdf	20 34 58.0	+0.4	
ELK	**Elko**	**114.52**	**49**	*e*PKiKP	**PKiKP**	**20 34 58.0**	**+0.5**	
C15A	**Salmond Ranch,**	**114.59**	**41**	⇓P	PKPdf	20 34 57.0	-0.3	baz=115,SNR=57
C15A				⇓P	PKPdf	20 34 57.0	-0.3	baz=115,SNR=57
C15A				⇓P	**PKKPbc**	20 45 37.1	-0.6	baz=115
C15A				⇓P	**PKKPbc**	20 45 37.1	-0.6	baz=115
SHOC	**Shoshone**	**114.60**	**54**	⇓P	PKPdf	20 34 58.0	+0.5	baz=115
SHOC				⇓P	PKPdf	20 34 58.0	+0.5	baz=115
TOD	**Tromm**	**114.61**	**322**	PKIKP	PKPdf	20 34 56.8	-0.4	
TOD	**Tromm**	**114.61**	**322**	PKP	PKPdf	20 34 56.8	-0.4	
I13A	**Wildhorse Cree**	**114.62**	**45**	⇑P	PKPdf	20 34 58.5	+0.8	baz=115,SNR=101
I13A				⇑P	PKPdf	20 34 58.5	+0.8	baz=115,SNR=101
I13A				⇑P	**PKKPbc**	20 45 36.8	-0.8	baz=115,SNR=7.8
I13A				⇑P	**PKKPbc**	20 45 36.8	-0.8	baz=115,SNR=7.8
TNS	**Taunus Mts**	**114.62**	**322**	*e*PKiKP	**PKiKP**	**20 34 57.7**	**+0.5**	
TNS	**Taunus Mts**	**114.62**	**322**	*i* PKIKP	PKPdf	20 34 57.7	+0.5	
STU	**Stuttgart**	**114.63**	**321**	*e*PKiKP	**PKiKP**	**20 34 57.4**	**+0.2**	
STU	**Stuttgart**	**114.63**	**321**	*e*PKIKP	PKPdf	20 34 56.8	-0.4	
STU	**Stuttgart**	**114.63**	**321**	*e*PKiKP	PKPdf	20 34 56.8	-0.4	
DAVA	**Damuels**	**114.63**	**319**	*i* P	PKPdf	20 34 57.4	-0.1	
DAVA	**Damuels**	**114.63**	**319**	*i* PKiKP	PKPdf	20 34 57.4	-0.1	comp=Z,83nm,0.6s,SNR=59
DAVA	**Damuels**	**114.63**	**319**	⇑*i*PKKPbc	PKKPbc	20 45 37.9	+0.3	comp=Z,24nm,0.8s
F14A	**Wisdom**	**114.64**	**43**	⇓P	PKPdf	20 34 57.7	+0.2	baz=115,SNR=18
F14A				⇓P	PKPdf	20 34 57.7	+0.2	baz=115,SNR=18
J13A	**Cove Ranch, Pi**	**114.70**	**45**	⇑P	PKPdf	20 34 58.6	+0.9	baz=115,SNR=66
J13A				⇑P	PKPdf	20 34 58.6	+0.9	baz=115,SNR=66
J13A				⇑P	**PKKPab**	20 45 43.1	+1.0	baz=115,SNR=16
J13A				⇑P	**PKKPab**	20 45 43.1	+1.0	baz=115,SNR=16
HEC	**Hector,Ludlow**	**114.72**	**55**	⇑P	PKPdf	20 34 58.7	+0.8	baz=115
HEC				⇑P	PKPdf	20 34 58.7	+0.8	baz=115
HEC				⇑P	**PKKPab**	20 45 42.4	+0.3	baz=115
HEC				⇑P	**PKKPab**	20 45 42.4	+0.3	baz=115
R11A	**Troy Canyon, C**	**114.73**	**51**	⇑P	PKPdf	20 34 58.7	+0.7	baz=115
R11A				⇑P	PKPdf	20 34 58.7	+0.7	baz=115
R11A				⇑P	**PKKPbc**	20 45 38.0	+1.1	baz=115
R11A				⇑P	**PKKPbc**	20 45 38.0	+1.1	baz=115
G14A	**Jackson**	**114.73**	**43**	⇓P	PKPdf	20 34 58.0	+0.2	baz=115,SNR=15
G14A				⇓P	PKPdf	20 34 58.0	+0.2	baz=115,SNR=15
BAR	**Barrett**	**114.74**	**57**	*e*PKiKP	**PKiKP**	**20 34 59.0**	**+1.0**	
DAVOX	**Davos/Dischmat**	**114.78**	**318**	PKKPbc	PKKPbc	20 45 37.3	+0.2	baz=180,slow=9.1
DAVOX	**Davos/Dischmat**	**114.78**	**318**	PKKPbc	PKKPbc	20 45 37.3	+0.2	
PFO	**Pinyon Flat Ob**	**114.80**	**56**	*e*PKIKP	PKPdf	20 34 59.2	+1.0	
PFO	**Pinyon Flat Ob**	**114.80**	**56**	*e*PKiKP	**PKiKP**	**20 34 59.2**	**+1.1**	
PFO	**Pinyon Flat Ob**	**114.80**	**56**	⇑P	PKPdf	20 34 58.7	+0.6	baz=115
PFO				⇑P	PKPdf	20 34 58.7	+0.6	baz=115
PFO				⇓P	**PKKPab**	20 45 41.8	0.0	baz=115
PFO				⇓P	**PKKPab**	20 45 41.8	0.0	baz=115
D15A	**Lincoln**	**114.86**	**41**	⇑P	PKPdf	20 34 57.4	-0.5	baz=115,SNR=20
D15A				⇑P	PKPdf	20 34 57.4	-0.5	baz=115,SNR=20
D15A				⇑P	**PKKPbc**	20 45 35.6	-1.1	baz=115
D15A				⇑P	**PKKPbc**	20 45 35.6	-1.1	baz=115
BUG	**Bachum--Univer**	**114.91**	**324**	*e*PKiKP	PKPdf	20 34 58.1	+0.5	
MONP	**Monument Peak**	**114.92**	**57**	⇓P	PKPdf	20 34 59.7	+1.2	baz=115
MONP				⇓P	PKPdf	20 34 59.7	+1.2	baz=115
E15A	**Deer Lodge**	**114.96**	**42**	⇓P	PKPdf	20 34 57.9	-0.2	baz=115,SNR=12
E15A				⇓P	PKPdf	20 34 57.9	-0.2	baz=115,SNR=12
H14A	**Leadore**	**114.96**	**44**	⇑P	PKPdf	20 34 58.7	+0.5	baz=115,SNR=30
H14A				⇑P	PKPdf	20 34 58.7	+0.5	baz=115,SNR=30
TUQ	**Turquoise Moun**	**114.96**	**54**	⇑P	PKPdf	20 34 59.5	+1.0	baz=115
TUQ				⇑P	PKPdf	20 34 59.5	+1.0	baz=115
TUQ				⇓P	**PKKPbc**	20 45 38.4	+2.4	baz=115
TUQ				⇓P	**PKKPbc**	20 45 38.4	+2.4	baz=115
B16A	**M & M Farms, S**	**114.97**	**40**	⇑P	PKPdf	20 34 57.6	-0.4	baz=115,SNR=18
B16A				⇑P	PKPdf	20 34 57.6	-0.4	baz=115,SNR=18
I14A	**Mackay**	**115.08**	**45**	⇑P	**PKPdf**	**20 34 59.0**	**+0.5**	baz=115,SNR=60
I14A				⇑P	**PKPdf**	**20 34 59.0**	**+0.5**	baz=115,SNR=60
I14A				⇑P	**PKKPbc**	20 45 37.3	+1.4	baz=115
I14A				⇑P	**PKKPbc**	20 45 37.3	+1.4	baz=115
SPAK	**Spaichingen-Ko**	**115.09**	**320**	PKP	**PKPdf**	**20 34 57.8**	**-0.4**	
BELC	**Belle Mtn. Jos**	**115.12**	**56**	⇑P	**PKPdf**	**20 34 59.6**	**+0.8**	baz=115
BELC				⇑P	**PKPdf**	**20 34 59.6**	**+0.8**	baz=115
BELC				⇑P	**PKKPab**	20 45 38.6	-1.8	baz=115
BELC				⇑P	**PKKPab**	20 45 38.6	-1.8	baz=115
C16A	**Fuhringer Ranc**	**115.14**	**40**	⇑P	**PKPdf**	**20 34 58.2**	**-0.1**	baz=115,SNR=24
C16A				⇑P	**PKPdf**	**20 34 58.2**	**-0.1**	baz=115,SNR=24
C16A				⇓P	**PKKPbc**	20 45 33.8	-1.9	baz=115
C16A				⇓P	**PKKPbc**	20 45 33.8	-1.9	baz=115
J14A	**Carey**	**115.18**	**45**	⇑P	**PKPdf**	**20 34 59.4**	**+0.7**	baz=115
J14A				⇑P	**PKPdf**	**20 34 59.4**	**+0.7**	baz=115
TUE	**Stuetta**	**115.22**	**318**	*e*PKPdf	**PKPdf**	**20 34 57.9**	**-0.8**	
DVTC	**Desert V Tower**	**115.22**	**57**	⇓P	**PKPdf**	**20 34 59.8**	**+0.9**	baz=115
DVTC				⇓P	**PKPdf**	**20 34 59.8**	**+0.9**	baz=115
F15A	**Butte**	**115.22**	**43**	⇓P	**PKPdf**	**20 34 59.1**	**+0.4**	baz=115,SNR=24
F15A				⇓P	**PKPdf**	**20 34 59.1**	**+0.4**	baz=115,SNR=24
LRM	**Limekiln Ridge**	**115.26**	**43**	*e*PKPdf	**PKPdf**	**20 34 58.9**	**0.0**	
MCMT	**McKenzie Canyo**	**115.26**	**44**	P	**PKPdf**	**20 34 60.0**	**+1.1**	
LRW	**Lerwick**	**115.27**	**335**	*e*P	**PKPdf**	**20 34 58.4**	**+0.3**	
LRW				AMB	AMB	20 35 00.2		comp=Z,184nm,0.9s
LRW	**Lerwick**	**115.27**	**335**	P	**PKPdf**	**20 34 58.4**	**+0.3**	
LRW				AMB	AMB	20 35 00.2		comp=Z,184nm,0.9s
GMRC	**Granite Mounta**	**115.28**	**55**	⇓P	**PKPdf**	**20 35 00.4**	**+1.4**	baz=115
GMRC				⇓P	**PKPdf**	**20 35 00.4**	**+1.4**	baz=115
GMRC				⇑P	**PKKPab**	20 45 37.8	-1.9	baz=115
GMRC				⇑P	**PKKPab**	20 45 37.8	-1.9	baz=115
ABH	**Alteburg**	**115.28**	**322**	PKP	**PKPdf**	**20 34 58.7**	**+0.2**	
DLMT	**Dillon**	**115.29**	**43**	*e*PKPdf	**PKPdf**	**20 34 59.1**	**+0.4**	
BFO	**Black Forest**	**115.31**	**320**	*e*PKiKP	**PKiKP**	**20 34 58.2**	**-0.4**	
BFO	**Black Forest**	**115.31**	**320**	*i* PKIKP	**PKiKP**	**20 34 58.2**	**-0.4**	
BFO	**Black Forest**	**115.31**	**320**	*e*PKPdf	**PKPdf**	**20 34 57.9**	**-0.7**	
HRY	**Holter Researc**	**115.41**	**41**	*e*PKPdf	**PKPdf**	**20 34 59.3**	**+0.3**	
G15A	**Dillon**	**115.41**	**43**	⇑P	**PKPdf**	**20 34 59.6**	**+0.5**	baz=115,SNR=27
G15A				⇑P	**PKPdf**	**20 34 59.6**	**+0.5**	baz=115,SNR=27
G15A				⇑P	**PKKPbc**	20 45 34.7	-0.1	baz=115
G15A				⇑P	**PKKPbc**	20 45 34.7	-0.1	baz=115
LANF	**Langenberg**	**115.43**	**321**	PKIKP	**PKPdf**	**20 34 58.8**	**0.0**	
LANF	**Langenberg**	**115.43**	**321**	PKP	**PKPdf**	**20 34 58.8**	**0.0**	
LANF	**Langenberg**	**115.43**	**321**	PKP	**PKPdf**	**20 34 58.8**	**0.0**	
A17A	**Triple J Farms**	**115.43**	**39**	⇓P	**PKPdf**	**20 34 58.9**	**0.0**	baz=115,SNR=34
A17A				⇓P	**PKPdf**	**20 34 58.9**	**0.0**	baz=115,SNR=34
SWSC	**Sam W. Stewart**	**115.44**	**57**	⇑P	**PKPdf**	**20 35 00.8**	**+1.6**	baz=115
SWSC				⇑P	**PKPdf**	**20 35 00.8**	**+1.6**	baz=115
H15A	**Lima**	**115.46**	**44**	⇓P	**PKPdf**	**20 34 59.5**	**+0.3**	baz=115,SNR=68
H15A				⇓P	**PKPdf**	**20 34 59.5**	**+0.3**	baz=115,SNR=68
D16A	**Dana Ranch, Ca**	**115.50**	**41**	⇓P	**PKPdf**	**20 34 59.1**	**0.0**	baz=116,SNR=44
D16A				⇓P	**PKPdf**	**20 34 59.1**	**0.0**	baz=116,SNR=44
E16A	**East Helena**	**115.56**	**42**	⇑P	**PKPdf**	**20 34 59.4**	**+0.1**	baz=116,SNR=24
E16A				⇑P	**PKPdf**	**20 34 59.4**	**+0.1**	baz=116,SNR=24
B17A	**L&G Farms, Che**	**115.58**	**40**	⇓P	**PKPdf**	**20 34 58.5**	**-0.6**	baz=116,SNR=26
B17A				⇓P	**PKPdf**	**20 34 58.5**	**-0.6**	baz=116,SNR=26
BC3	**Big Chuckawall**	**115.62**	**56**	⇑P	**PKPdf**	**20 35 00.6**	**+0.8**	baz=116
BC3				⇑P	**PKPdf**	**20 35 00.6**	**+0.8**	baz=116
BC3				⇓P	**PKKPab**	20 45 39.0	+0.8	baz=116
BC3				⇓P	**PKKPab**	20 45 39.0	+0.8	baz=116
K14A	**Jones Ranch, D**	**115.62**	**46**	⇓P	**PKPdf**	**20 35 00.5**	**+1.0**	baz=116,SNR=30
K14A				⇓P	**PKPdf**	**20 35 00.5**	**+1.0**	baz=116,SNR=30
K14A				⇑P	**PKKPbc**	20 45 34.4	+0.5	baz=116
K14A				⇑P	**PKKPbc**	20 45 34.4	+0.5	baz=116
RUP	**Ruppelstein**	**115.64**	**322**	PKIKP	**PKPdf**	**20 34 59.4**	**+0.2**	
RUP	**Ruppelstein**	**115.64**	**322**	PKP	**PKPdf**	**20 34 59.4**	**+0.2**	
FELD	**Feldberg im Sc**	**115.66**	**320**	PKP	**PKPdf**	**20 34 58.8**	**-0.6**	
L14A	**Malta**	**115.70**	**47**	⇑P	**PKPdf**	**20 35 00.9**	**+1.2**	baz=116
L14A				⇑P	**PKPdf**	**20 35 00.9**	**+1.2**	baz=116
I15A	**Monteview**	**115.73**	**45**	⇑P	**PKPdf**	**20 35 00.6**	**+0.9**	baz=116,SNR=11
I15A				⇑P	**PKPdf**	**20 35 00.6**	**+0.9**	baz=116,SNR=11
I15A				⇓P	**PKKPbc**	20 45 33.9	+0.3	baz=116
I15A				⇓P	**PKKPbc**	20 45 33.9	+0.3	baz=116
IRM	**Iron Mountain**	**115.79**	**56**	⇑P	**PKPdf**	**20 35 01.0**	**+1.1**	baz=116
IRM				⇑P	**PKPdf**	**20 35 01.0**	**+1.1**	baz=116
C17A	**Wharram Farm,**	**115.82**	**40**	⇓P	**PKPdf**	**20 34 59.0**	**-0.7**	baz=116,SNR=43
C17A				⇓P	**PKPdf**	**20 34 59.0**	**-0.7**	baz=116,SNR=43
C17A				⇑P	**PKKPbc**	20 45 30.7	-2.7	baz=116,SNR=5.3
C17A				⇑P	**PKKPbc**	20 45 30.7	-2.7	baz=116,SNR=5.3
F16A	**Kennard Place,**	**115.82**	**42**	⇑P	**PKPdf**	**20 35 00.2**	**+0.5**	baz=116,SNR=34
F16A				⇑P	**PKPdf**	**20 35 00.2**	**+0.5**	baz=116,SNR=34
BOZ	**Bozeman (W)**	**115.86**	**43**	*e*PKIKP	**PKPdf**	**20 35 00.2**	**+0.3**	
BOZ	**Bozeman (W)**	**115.86**	**43**	*e*PKPdf	**PKPdf**	**20 35 00.2**	**+0.3**	
BOZ	**Bozeman (W)**	**115.86**	**43**	⇑P	**PKPdf**	**20 35 00.4**	**+0.5**	baz=116
BOZ				⇑P	**PKPdf**	**20 35 00.4**	**+0.5**	baz=116
BOZ				⇑P	**PKPdf**	**20 35 00.4**	**+0.5**	baz=116
BOZ				⇑P	**PKPdf**	**20 35 00.4**	**+0.5**	baz=116
G16A	**Moss Hill, Enn**	**115.86**	**43**	⇓P	**PKPdf**	**20 35 00.8**	**+0.9**	baz=116,SNR=39
G16A				⇓P	**PKPdf**	**20 35 00.8**	**+0.9**	baz=116,SNR=39
J15A	**Blackfoot**	**115.93**	**45**	⇓P	**PKPdf**	**20 35 01.3**	**+1.2**	baz=116,SNR=35
J15A				⇓P	**PKPdf**	**20 35 01.3**	**+1.2**	baz=116,SNR=35
J15A				⇓P	**PKKPbc**	20 45 33.0	+0.1	baz=116
J15A				⇓P	**PKKPbc**	20 45 33.0	+0.1	baz=116
CDF	**Champ du Feu**	**115.95**	**321**	*e*PKIKP	**PKPdf**	**20 34 59.1**	**-0.8**	comp=Z,42nm,0.8s
MEM	**Membach**	**115.95**	**323**	PKP	**PKPdf**	**20 35 00.0**	**+0.3**	
A18A	**Metzger Ranch,**	**115.97**	**39**	⇑P	**PKPdf**	**20 34 59.5**	**-0.3**	baz=116,SNR=18
A18A				⇑P	**PKPdf**	**20 34 59.5**	**-0.3**	baz=116,SNR=18
R13A	**O'Grain Ranch,**	**116.01**	**51**	⇑P	**PKPdf**	**20 35 01.4**	**+0.9**	baz=116
R13A				⇑P	**PKPdf**	**20 35 01.4**	**+0.9**	baz=116
R13A				⇓P	**PKKPbc**	20 45 34.2	+1.6	baz=116
R13A				⇓P	**PKKPbc**	20 45 34.2	+1.6	baz=116
D17A	**Six Diamond Ra**	**116.02**	**41**	⇓P	**PKPdf**	**20 35 00.1**	**0.0**	baz=116,SNR=28
D17A				⇓P	**PKPdf**	**20 35 00.1**	**0.0**	baz=116,SNR=28
K15A	**Arbon**	**116.05**	**46**	⇑P	**PKPdf**	**20 35 01.0**	**+0.6**	baz=116,SNR=67
K15A				⇑P	**PKPdf**	**20 35 01.0**	**+0.6**	baz=116,SNR=67
ECH	**Echery**	**116.09**	**321**	*e*PKIKP	**PKPdf**	**20 34 59.3**	**-0.8**	
ECH	**Echery**	**116.09**	**321**	*e*PKPdf	**PKPdf**	**20 34 59.3**	**-0.8**	
HVU	**Hansel Valley**	**116.10**	**47**	*e*PKiKP	**PKPdf**	**20 35 01.0**	**+0.5**	
HVU	**Hansel Valley**	**116.10**	**47**	*e*PKPdf	**PKPdf**	**20 35 01.0**	**+0.5**	
BBS	**Basel-Blauen**	**116.11**	**320**	PKIKP	**PKPdf**	**20 34 59.4**	**-0.8**	
BBS	**Basel-Blauen**	**116.11**	**320**	PKP	**PKPdf**	**20 34 59.4**	**-0.8**	
E17A	**Martinsdale**	**116.12**	**42**	⇓P	**PKPdf**	**20 35 00.0**	**-0.4**	baz=116,SNR=38
E17A				⇓P	**PKPdf**	**20 35 00.0**	**-0.4**	baz=116,SNR=38
B18A	**Beardsley Farm**	**116.19**	**39**	⇓P	**PKPdf**	**20 35 00.0**	**-0.3**	baz=116,SNR=40
B18A				⇓P	**PKPdf**	**20 35 00.0**	**-0.3**	baz=116,SNR=40
WLF	**Walferdange**	**116.21**	**322**	PKP	**PKPdf**	**20 35 00.7**	**+0.5**	
WLF	**Walferdange**	**116.21**	**322**	*e*PKiKP	**PKiKP**	**20 35 01.3**	**+1.1**	
WLF				*e*PP	PP	20 36 12.8	+5.3	
WLF	**Walferdange**	**116.21**	**322**	*e*PKIKP	**PKPdf**	**20 34 59.8**	**-0.4**	
WLF	**Walferdange**	**116.21**	**322**	*e*PKPdf	**PKPdf**	**20 34 59.8**	**-0.4**	
MOF	**Molkenrain**	**116.22**	**320**	PKIKP	**PKPdf**	**20 34 59.9**	**-0.5**	
MOF	**Molkenrain**	**116.22**	**320**	PKP	**PKPdf**	**20 34 59.9**	**-0.5**	
MOF	**Molkenrain**	**116.22**	**320**	PKP	**PKPdf**	**20 34 59.9**	**-0.5**	
GLA	**Glamis**	**116.23**	**57**	*e*PKIKP	**PKPdf**	**20 35 01.8**	**+0.9**	
GLA	**Glamis**	**116.23**	**57**	*e*PKPdf	**PKPdf**	**20 35 01.8**	**+0.9**	
GLA	**Glamis**	**116.23**

EGMT ⇑P **PKPdf 20 35 00.7 0.0**
baz=116,SNR=25
Y12C Blythe 116.37 56 ⇑P **PKPdf 20 35 01.8 +0.8**
baz=116
Y12C ⇑P **PKPdf 20 35 01.8 +0.8**
baz=116
H16A Russell Place, 116.39 43 ⇓P **PKPdf 20 35 02.2 +1.2**
baz=116,SNR=34
H16A ⇓P **PKPdf 20 35 02.2 +1.2**
baz=116,SNR=34
HINF Hinteralfeld 116.41 320 *e*PKIKP **PKPdf 20 35 00.1 -0.6**
comp=Z,162nm,0.8s
M15A Larsen Ranch, 116.41 47 ⇑P **PKPdf 20 35 01.4 +0.4**
baz=116,SNR=16
M15A ⇑P **PKPdf 20 35 01.4 +0.4**
baz=116,SNR=16
F17A Fitzpatrick Pl 116.43 42 ⇓P **PKPdf 20 35 01.6 +0.6**
baz=116,SNR=76
F17A ⇓P **PKPdf 20 35 01.6 +0.6**
baz=116,SNR=76
BCLA Clavier 116.44 323 PKP **PKPdf 20 35 01.2 +0.6**
DUG Dugway 116.45 49 *e*PKIKP **PKPdf 20 35 01.6 +0.4**
DUG Dugway 116.45 49 *e*PKPdf **PKPdf 20 35 01.6 +0.4**
DUG Dugway 116.45 49 ⇑P **PKPdf 20 35 02.0 +0.8**
baz=116
DUG ⇑P **PKPdf 20 35 02.0 +0.8**
baz=116
DUG ⇑P **PKKPbc 20 45 29.9 -1.1**
baz=116,SNR=8.7
DUG ⇑P **PKKPbc 20 45 29.9 -1.1**
baz=116,SNR=8.7
I16A Newdale 116.46 44 ⇑P **PKPdf 20 35 02.2 +1.0**
baz=116,SNR=35
I16A ⇑P **PKPdf 20 35 02.2 +1.0**
baz=116,SNR=35
I16A ⇓P **PKKPbc 20 45 29.8 -1.3**
baz=116,SNR=5.6
I16A ⇓P **PKKPbc 20 45 29.8 -1.3**
baz=116,SNR=5.6
USHA Ushuaia 116.46 169 PKP **PKPdf 20 35 00.8 +0.3**
comp=Z,30nm,0.8s,baz=151,slow=4.1,SNR=10
USHA Ushuaia 116.46 169 PKP **PKPdf 20 35 00.8 +0.3**
ARUT Antelope Range 116.50 51 *e*PKIKP **PKPdf 20 35 03.5 +2.1**
ARUT Antelope Range 116.50 51 *e*PKPdf **PKPdf 20 35 03.5 +2.1**
N15A Stansbury Isla 116.50 48 ⇓P **PKPdf 20 35 01.9 +0.7**
baz=116,SNR=29
N15A ⇓P **PKPdf 20 35 01.9 +0.7**
baz=116,SNR=29
J16A Bone 116.54 45 ⇓P **PKPdf 20 35 02.0 +0.6**
baz=116,SNR=48
J16A ⇓P **PKPdf 20 35 02.0 +0.6**
baz=116,SNR=48
J16A ⇑P **PKKPbc 20 45 29.7 -1.2**
baz=116,SNR=5.5
J16A ⇑P **PKKPbc 20 45 29.7 -1.2**
baz=116,SNR=5.5
PGF Pioggiola 116.54 314 *e*PKIKP **PKPdf 20 35 01.0 -0.2**
comp=Z,164nm,0.8s
G17A Pierce Place, 116.55 43 ⇓P **PKPdf 20 35 02.3 +1.1**
baz=116,SNR=14
G17A ⇓P **PKPdf 20 35 02.3 +1.1**
baz=116,SNR=14
D18A Linhart Farms, 116.58 40 ⇑P **PKPdf 20 35 01.1 -0.1**
baz=116,SNR=20
D18A ⇑P **PKPdf 20 35 01.1 -0.1**
baz=116,SNR=20
LOMF Lomont 116.59 320 PKIKP **PKPdf 20 35 00.9 -0.2**
LOMF Lomont 116.59 320 PKP **PKPdf 20 35 00.9 -0.2**
LOMF Lomont 116.59 320 PKP **PKPdf 20 35 00.9 -0.2**
PDMCI Parker Dam,Lak 116.59 55 ⇓P **PKPdf 20 35 01.8 +0.4**
baz=117
PDMCI ⇓P **PKPdf 20 35 01.8 +0.4**
baz=117
PDMCI ⇓P **PKKPab 20 45 34.3 +0.6**
baz=117
PDMCI ⇓P **PKKPab 20 45 34.3 +0.6**
baz=117
YMR Madison River 116.59 43 *e*PKPdf **PKPdf 20 35 02.6 +1.2**
CCUT Cedar City 116.61 52 *e*PKPdf **PKPdf 20 35 02.9 +1.2**
OSPF L'Ospedale 116.64 313 PKP **PKPdf 20 35 01.6 +0.2**
OSPF L'Ospedale 116.64 313 PKP **PKPdf 20 35 01.6 +0.2**
A19A Klindworth Far 116.65 38 ⇓P **PKPdf 20 35 01.5 +0.3**
baz=117,SNR=38
A19A ⇓P **PKPdf 20 35 01.5 +0.3**
baz=117,SNR=38
A19A ⇑P **PKKPbc 20 45 27.4 -3.1**
baz=117
A19A ⇑P **PKKPbc 20 45 27.4 -3.1**
baz=117
W13A Hualapai Mount 116.66 54 ⇑P **PKPdf 20 35 03.1 +1.2**
baz=117
W13A ⇑P **PKPdf 20 35 03.1 +1.2**
baz=117
W13A ⇓P **PKKPab 20 45 33.5 -0.2**
baz=117
W13A ⇓P **PKKPab 20 45 33.5 -0.2**
baz=117
HAU Haudompre 116.67 321 *e*PKIKP **PKPdf 20 35 00.9 -0.3**
comp=Z,120nm,0.8s
HAU *e*R
comp=Z,1µm,18.5s
K16A Soda Springs 116.68 46 ⇑P **PKPdf 20 35 02.2 +0.6**
baz=117,SNR=40
K16A ⇑P **PKPdf 20 35 02.2 +0.6**
baz=117,SNR=40
B19A Brinkman Farms 116.69 39 ⇓P **PKPdf 20 35 01.4 +0.2**
baz=117,SNR=20
B19A ⇓P **PKPdf 20 35 01.4 +0.2**
baz=117,SNR=20
E18A Harlowton 116.71 41 ⇓P **PKPdf 20 35 01.7 +0.2**
baz=117,SNR=18
E18A ⇓P **PKPdf 20 35 01.7 +0.2**
baz=117,SNR=18
RRI2 Red Ridge 116.72 45 *e*PKPdf **PKPdf 20 35 02.3 +0.5**
YFT Old Faithful 116.75 44 *e*PKPdf **PKPdf 20 35 04.2 +2.4**
DCID1 Drake Creek 116.75 45 *e*PKPdf **PKPdf 20 35 03.5 +1.8**
YNR Norris Junctio 116.77 43 *e*PKPdf **PKPdf 20 35 04.1 +2.3**
THEF They Montfort 116.82 321 PKIKP **PKPdf 20 35 01.2 -0.3**
THEF They Montfort 116.82 321 PKP **PKPdf 20 35 01.2 -0.3**
THEF They Montfort 116.82 321 PKP **PKPdf 20 35 01.2 -0.3**
IMW Indian Meadow 116.83 44 *e*PKPdf **PKPdf 20 35 02.7 +0.7**
GIVF Givet 116.84 323 *e*PKIKP **PKPdf 20 35 01.7 +0.3**
comp=Z,98nm,0.8s
PAGF Fort de Pagny 116.87 321 *e*PKIKP **PKPdf 20 35 01.4 -0.1**
comp=Z,19nm,0.8s
C19A Slack Wire Ran 116.88 40 ⇑P **PKPdf 20 35 01.8 +0.1**
baz=117,SNR=40
C19A ⇑P **PKPdf 20 35 01.8 +0.1**
baz=117,SNR=40
C19A ⇓P **PKKPbc 20 45 27.8 -1.8**
baz=117
C19A ⇓P **PKKPbc 20 45 27.8 -1.8**
baz=117
H17A Grant Village 116.94 44 ⇑P **PKPdf 20 35 03.6 +1.5**
baz=117,SNR=21
H17A ⇑P **PKPdf 20 35 03.6 +1.5**
baz=117,SNR=21
FLWY Flagg Ranch 116.95 44 *e*PKPdf **PKPdf 20 35 02.7 +0.6**
DOU Dourbes 116.98 323 PKP **PKPdf 20 35 02.5 +0.8**
P15A Leamington 117.00 49 ⇑P **PKPdf 20 35 02.8 +0.6**
baz=117,SNR=27
P15A ⇑P **PKPdf 20 35 02.8 +0.6**
baz=117,SNR=27
P15A ⇓P **PKKPbc 20 45 29.0 -0.1**
baz=117,SNR=8.0
P15A ⇓P **PKKPbc 20 45 29.0 -0.1**
baz=117,SNR=8.0
L16A Fish Haven 117.01 46 ⇓P **PKPdf 20 35 02.9 +0.6**
baz=117,SNR=50
L16A ⇓P **PKPdf 20 35 02.9 +0.6**
baz=117,SNR=50
L16A ⇑P **PKKPbc 20 45 27.5 -1.6**
baz=117,SNR=14
L16A ⇑P **PKKPbc 20 45 27.5 -1.6**
baz=117,SNR=14
SNF Seneffe 117.01 324 PKP **PKPdf 20 35 02.2 +0.5**
LKWY Lake 117.01 43 *e*PKIKP **PKPdf 20 35 04.4 +2.1**
LKWY Lake 117.01 43 *e*PKPdf **PKPdf 20 35 04.4 +2.1**
MOOW Moose Ponds 117.01 44 *e*PKPdf **PKPdf 20 35 02.6 +0.3**
OG01 Vacheresse 117.02 319 PKP **PKPdf 20 35 02.3 +0.3**
OG01 Vacheresse 117.02 319 PKP **PKPdf 20 35 02.3 +0.3**
HWUT Hardware Ranch 117.02 47 *e*PKPdf **PKPdf 20 35 02.5 +0.2**
AHID Auburn Hatcher 117.04 46 *e*PKPdf **PKPdf 20 35 03.5 +1.2**
M16A Huntsville 117.05 47 ⇑P **PKPdf 20 35 02.7 +0.3**
baz=117
M16A ⇑P **PKPdf 20 35 02.7 +0.3**
baz=117
REDW Red Top Meadow 117.05 45 *e*PKPdf **PKPdf 20 35 02.9 +0.5**
F18A Big Timber 117.05 42 ⇑P **PKPdf 20 35 02.7 +0.6**
baz=117,SNR=72
F18A ⇑P **PKPdf 20 35 02.7 +0.6**
baz=117,SNR=72
I17A Pilgrim Ck. 117.08 44 ⇑P **PKPdf 20 35 03.7 +1.3**
baz=117,SNR=31
I17A ⇑P **PKPdf 20 35 03.7 +1.3**
baz=117,SNR=31
I17A ⇑P **PKKPbc 20 45 27.7 -1.3**
baz=117
I17A ⇑P **PKKPbc 20 45 27.7 -1.3**
baz=117
SNOW Snow King Moun 117.09 45 *e*PKPdf **PKPdf 20 35 03.7 +1.3**
J17A Brown Place, J 117.15 45 ⇑P **PKPdf 20 35 03.5 +1.0**
baz=117,SNR=20
J17A ⇑P **PKPdf 20 35 03.5 +1.0**
baz=117,SNR=20
LOHW Long Hollow 117.15 44 *e*PKPdf **PKPdf 20 35 02.9 +0.3**
113A Mohawk Valley, 117.15 57 ⇑P **PKPdf 20 35 03.1 +0.6**
baz=117
113A ⇑P **PKPdf 20 35 03.1 +0.6**
baz=117
113A ⇓P **PKKPab 20 45 30.6 -0.8**
baz=117
113A ⇓P **PKKPab 20 45 30.6 -0.8**
baz=117
SAOF Saorge 117.16 316 PKIKP **PKPdf 20 35 01.8 -0.5**
SAOF Saorge 117.16 316 PKP **PKPdf 20 35 01.8 -0.5**
SAOF Saorge 117.16 316 PKP **PKPdf 20 35 01.8 -0.5**
A20A Cobblestone Ra 117.17 38 ⇑P **PKPdf 20 35 02.8 +0.6**
baz=117
A20A ⇑P **PKPdf 20 35 02.8 +0.6**
baz=117
K17A Gardner Place, 117.17 45 ⇓P **PKPdf 20 35 03.5 +0.9**
baz=117,SNR=12
K17A ⇓P **PKPdf 20 35 03.5 +0.9**
baz=117,SNR=12
K17A ⇑P **PKKPbc 20 45 28.1 -0.5**
baz=117
K17A ⇑P **PKKPbc 20 45 28.1 -0.5**
baz=117
Z13A Yuma Proving G 117.17 56 ⇑P **PKPdf 20 35 03.3 +0.7**
baz=117
Z13A ⇑P **PKPdf 20 35 03.3 +0.7**
baz=117
Z13A ⇓P **PKKPab 20 45 30.3 -0.9**
baz=117
Z13A ⇓P **PKKPab 20 45 30.3 -0.9**
baz=117
D19A Cripps Ranch, 117.18 40 ⇓P **PKPdf 20 35 02.2 -0.1**
baz=117,SNR=36
D19A ⇓P **PKPdf 20 35 02.2 -0.1**
baz=117,SNR=36
BAIF Baives 117.23 323 *e*PKIKP **PKPdf 20 35 02.4 +0.3**
comp=Z,101nm,0.8s
LPG La Plagne 117.24 318 *e*PKIKP **PKPdf 20 35 02.7 0.0**
comp=Z,154nm,0.7s
AUTN L'Aution 117.24 316 PKIKP **PKPdf 20 35 02.7 0.0**
AUTN L'Aution 117.24 316 PKP **PKPdf 20 35 02.7 0.0**
AUTN L'Aution 117.24 316 PKP **PKPdf 20 35 02.7 0.0**
LPL La Plagne 117.25 318 *e*PKIKP **PKPdf 20 35 02.6 0.0**
comp=Z,134nm,0.7s
RSL Roselend 117.26 318 PKIKP **PKPdf 20 35 02.8 +0.2**
RSL Roselend 117.26 318 PKP **PKPdf 20 35 02.8 +0.2**
RSL Roselend 117.26 318 PKP **PKPdf 20 35 02.8 +0.2**
B20A Solberg Farm, 117.27 39 ⇑P **PKPdf 20 35 02.4 0.0**
baz=117,SNR=64
B20A ⇑P **PKPdf 20 35 02.4 0.0**
baz=117,SNR=64
SBF Sospel 117.28 316 *e*PKIKP **PKPdf 20 35 02.1 -0.4**
comp=Z,134nm,0.9s
N16A Rees Ranch, Co 117.30 48 ⇑P **PKPdf 20 35 03.5 +0.6**
baz=117,SNR=6.7
N16A ⇑P **PKPdf 20 35 03.5 +0.6**
baz=117,SNR=6.7
MEZF Maizieres J'vi 117.30 321 *e*PKIKP **PKPdf 20 35 02.4 +0.1**
comp=Z,54nm,0.7s
R15A Junction 117.31 51 ⇓P **PKPdf 20 35 04.3 +1.4**
baz=117
R15A ⇓P **PKPdf 20 35 04.3 +1.4**
baz=117
CABF La Chapelle 117.31 319 *e*PKIKP **PKPdf 20 35 02.7 +0.1**
comp=Z,270nm,0.7s
MSU Marysvale 117.32 50 *e*PKIKP **PKPdf 20 35 04.4 +1.4**
MSU Marysvale 117.32 50 *e*PKPdf **PKPdf 20 35 04.4 +1.4**
G18A Lazy EL Ranch, 117.34 42 ⇑P **PKPdf 20 35 03.7 +0.9**
baz=117
G18A ⇑P **PKPdf 20 35 03.7 +0.9**
baz=117
G18A ⇑P **PKKPbc 20 45 27.1 -1.0**
baz=117
G18A ⇑P **PKKPbc 20 45 27.1 -1.0**
baz=117
REVF Revere 117.36 316 PKIKP **PKPdf 20 35 02.9 +0.2**
REVF Revere 117.36 316 PKP **PKPdf 20 35 02.9 +0.2**
REVF Revere 117.36 316 PKP **PKPdf 20 35 02.9 +0.2**
TOUF Mont Tournerai 117.36 316 PKIKP **PKPdf 20 35 03.2 +0.3**
TOUF Mont Tournerai 117.36 316 PKP **PKPdf 20 35 03.2 +0.3**
TOUF Mont Tournerai 117.36 316 PKP **PKPdf 20 35 03.2 +0.3**
JLU Jordanelle 117.36 48 *e*PKPdf **PKPdf 20 35 03.4 +0.3**
MPU Maple Canyon 117.37 49 *e*PKPdf **PKPdf 20 35 03.5 +0.4**
L17A Cokeville 117.39 46 ⇓P **PKPdf 20 35 03.4 +0.3**
baz=117,SNR=10
L17A ⇓P **PKPdf 20 35 03.4 +0.3**
baz=117,SNR=10
O16A Springville 117.42 48 ⇓P **PKPdf 20 35 03.7 +0.5**
baz=117,SNR=8.3
O16A ⇓P **PKPdf 20 35 03.7 +0.5**
baz=117,SNR=8.3
O16A ⇑P **PKKPbc 20 45 28.4 +0.8**
baz=117
O16A ⇑P **PKKPbc 20 45 28.4 +0.8**
baz=117
SFTF Sexfontaines 117.42 321 *e*PKIKP **PKPdf 20 35 02.4 -0.2**
comp=Z,37nm,0.8s
BNI Bardonecchia 117.43 317 *e*PKIKP **PKPdf 20 35 02.6 -0.3**
BNI Bardonecchia 117.43 317 *e*PKPdf **PKPdf 20 35 02.6 -0.3**
P16A Fountain Green 117.45 49 ⇑P **PKKPbc 20 45 28.3 +0.8**
baz=117
MVIF Mont Vial 117.46 316 PKIKP **PKPdf 20 35 02.9 -0.1**
MVIF Mont Vial 117.46 316 PKP **PKPdf 20 35 02.9 -0.1**
MVIF Mont Vial 117.46 316 PKP **PKPdf 20 35 02.9 -0.1**
MBDF Montbardon 117.47 317 *e*PKIKP **PKPdf 20 35 02.5 -0.5**
comp=Z,83nm,0.7s
H18A Shoshone NF, C 117.48 43 ⇓P **PKPdf 20 35 03.7 +0.6**
baz=117,SNR=22
H18A ⇓P **PKPdf 20 35 03.7 +0.6**
baz=117,SNR=22
H18A ⇑P **PKKPbc 20 45 26.1 -1.6**
baz=117
H18A ⇑P **PKKPbc 20 45 26.1 -1.6**
baz=117
E19A Rath Farm, Rou 117.48 41 ⇑P **PKPdf 20 35 02.9 0.0**
baz=117,SNR=19
E19A ⇑P **PKPdf 20 35 02.9 0.0**
baz=117,SNR=19
SURF Saint Ours 117.52 317 PKP **PKPdf 20 35 03.6 +0.5**
SURF Saint Ours 117.52 317 PKP **PKPdf 20 35 03.6 +0.5**
C20A Veseth Ranch, 117.55 39 ⇑P **PKPdf 20 35 03.0 +0.1**
baz=118,SNR=18
C20A ⇑P **PKPdf 20 35 03.0 +0.1**
baz=118,SNR=18
DAU Daniels Canyon 117.55 48 *e*PKIKP **PKPdf 20 35 05.0 +1.5**
DAU Daniels Canyon 117.55 48 *e*PKPdf **PKPdf 20 35 05.0 +1.5**
MCD Coleburn Disti 117.57 333 *e*P **PKPdf 20 35 02.3 -0.3**
MCD Coleburn Disti 117.57 333 P **PKPdf 20 35 02.3 -0.3**
F19A Roth Farm, Mol 117.58 42 ⇓P **PKPdf 20 35 03.7 +0.5**
baz=118,SNR=9.5
F19A ⇓P **PKPdf 20 35 03.7 +0.5**
baz=118,SNR=9.5
Y14A Wickenburg 117.58 56 ⇑P **PKPdf 20 35 04.2 +0.8**
baz=118
Y14A ⇑P **PKPdf 20 35 04.2 +0.8**
baz=118
RLMT Red Lodge 117.60 43 *e*PKPdf **PKPdf 20 35 03.5 +0.1**
RLMT Red Lodge 117.60 43 ⇓P **PKPdf 20 35 04.0 +0.7**
baz=118
RLMT ⇓P **PKPdf 20 35 04.0 +0.7**
baz=118
RLMT ⇓P **PKPdf 20 35 04.0 +0.7**
baz=118
RLMT ⇓P **PKPdf 20 35 04.0 +0.7**
baz=118
RLMT ⇑P **PKKPbc 20 45 25.5 -1.7**
baz=118
RLMT ⇑P **PKKPbc 20 45 25.5 -1.7**
baz=118
RLMT ⇑P **PKKPbc 20 45 25.5 -1.7**
baz=118
I18A Diamond G Ranc 117.67 44 ⇓P **PKPdf 20 35 03.8 +0.2**
baz=118,SNR=30
I18A ⇓P **PKPdf 20 35 03.8 +0.2**
baz=118,SNR=30
I18A ⇑P **PKKPbc 20 45 26.8 -0.2**
baz=118
I18A ⇑P **PKKPbc 20 45 26.8 -0.2**
baz=118
J18A Kendall Valley 117.67 45 ⇑P **PKPdf 20 35 04.2 +0.6**
baz=118,SNR=51
J18A ⇑P **PKPdf 20 35 04.2 +0.6**
baz=118,SNR=51
J18A ⇓P **PKKPbc 20 45 26.3 -0.6**
baz=118
J18A ⇓P **PKKPbc 20 45 26.3 -0.6**
baz=118
U15A North Rim 117.68 53 ⇑P **PKPdf 20 35 05.1 +1.2**
baz=118
U15A ⇑P **PKPdf 20 35 05.1 +1.2**
baz=118
U15A ⇑P **PKKPab 20 45 28.2 -1.1**
baz=118
U15A ⇑P **PKKPab 20 45 28.2 -1.1**
baz=118
D20A Manuel Ranch, 117.68 40 ⇑P **PKPdf 20 35 03.5 +0.3**
baz=118,SNR=15
D20A ⇑P **PKPdf 20 35 03.5 +0.3**
baz=118,SNR=15
CALN Calern 117.69 316 PKIKP **PKPdf 20 35 03.5 +0.1**
CALN Calern 117.69 316 PKP **PKPdf 20 35 03.5 +0.1**
CALN Calern 117.69 316 PKP **PKPdf 20 35 03.5 +0.1**
M17A Scullys Gap (B 117.70 47 ⇑P **PKPdf 20 35 03.6 0.0**
baz=118,SNR=24
M17A ⇑P **PKPdf 20 35 03.6 0.0**
baz=118,SNR=24
N17A Moffit Pass 117.72 47 ⇑P **PKPdf 20 35 04.2 +0.5**
baz=118,SNR=31
N17A ⇑P **PKPdf 20 35 04.2 +0.5**
baz=118,SNR=31
Z14A Wintersburg 117.73 56 ⇓P **PKPdf 20 35 04.4 +0.8**
baz=118
Z14A ⇓P **PKPdf 20 35 04.4 +0.8**
baz=118
A21A Bergtoll Ranch 117.74 38 ⇓P **PKPdf 20 35 03.3 0.0**
baz=118
A21A ⇓P **PKPdf 20 35 03.3 0.0**
baz=118
GDM Grand'Maison 117.76 318 PKP **PKPdf 20 35 03.9 +0.4**
GDM Grand'Maison 117.76 318 PKP **PKPdf 20 35 03.9 +0.4**
K18A Toltan Ranch, 117.83 45 ⇓P **PKPdf 20 35 04.6 +0.7**
baz=118,SNR=82
K18A ⇓P **PKPdf 20 35 04.6 +0.7**
baz=118,SNR=82
K18A ⇓P **PKKPbc 20 45 26.3 0.0**
baz=118,SNR=7.5
K18A ⇓P **PKKPbc 20 45 26.3 0.0**
baz=118,SNR=7.5
TMUT Trail Mountain 117.87 49 *e*PKPdf **PKPdf 20 35 04.8 +0.7**
KEST Kesra 117.87 307 PKP **PKPdf 20 35 04.8 +0.9**
comp=Z,21nm,0.8s,baz=207,slow=2.2,SNR=28
KEST PP **PP 20 36 16.9 -2.9**
comp=Z,13nm,1.1s,baz=1.7,slow=1.5,SNR=4.1
KEST PKKPab **PKKPab 20 45 30.9 +2.6**
comp=Z,7.5nm,0.8s,baz=130,slow=0.7,SNR=8.4
KEST Kesra 117.87 307 PKP **PKPdf 20 35 04.8 +0.9**
KEST PP **PP 20 36 16.9 -2.9**
KEST PKKPab **PKKPab 20 45 30.9 +2.6**
114A Black Gap (USA 117.89 57 ⇑P **PKPdf 20 35 04.8 +0.8**
baz=118
114A ⇑P **PKPdf 20 35 04.8 +0.8**
baz=118
114A ⇓P **PKKPab 20 45 27.7 -0.4**
baz=118
114A ⇓P **PKKPab 20 45 27.7 -0.4**
baz=118
E20A Meyer Farm, Mu 117.89 41 ⇑P **PKPdf 20 35 03.8 +0.1**
baz=118,SNR=13
E20A ⇑P **PKPdf 20 35 03.8 +0.1**
baz=118,SNR=13
B21A Ellsworth Farm 117.90 38 ⇑P **PKPdf 20 35 04.4 +0.8**
baz=118
B21A ⇑P **PKPdf 20 35 04.4 +0.8**
baz=118
R16A Teasdale 117.90 50 ⇓P **PKPdf 20 35 05.1 +1.0**
baz=118,SNR=31
R16A ⇓P **PKPdf 20 35 05.1 +1.0**
baz=118,SNR=31
R16A ⇑P **PKKPbc 20 45 26.8 +0.8**
baz=118,SNR=6.1
R16A ⇑P **PKKPbc 20 45 26.8 +0.8**
baz=118,SNR=6.1
H19A Powell 117.94 43 ⇑P **PKPdf 20 35 04.9 +1.0**
baz=118,SNR=19
H19A ⇑P **PKPdf 20 35 04.9 +1.0**
baz=118,SNR=19
S16A Weppner Ranch, 117.94 51 ⇓P **PKPdf 20 35 04.9 +0.8**
baz=118,SNR=49
S16A ⇓P **PKPdf 20 35 04.9 +0.8**
baz=118,SNR=49
S16A ⇓P **PKKPbc 20 45 26.3 +0.6**
baz=118
S16A ⇓P **PKKPbc 20 45 26.3 +0.6**
baz=118
FFC Flin Flon 117.96 30 *i* PKIKP **PKPdf 20 35 03.5 +0.1**
FFC Flin Flon 117.96 30 *e*PKPdf **PKPdf 20 35 03.0 -0.4**
Q16A Castle Valley 117.98 50 ⇓P **PKPdf 20 35 05.2 +0.9**
baz=118,SNR=27
Q16A ⇓P **PKPdf 20 35 05.2 +0.9**
baz=118,SNR=27
O17A Robinson Place 117.99 48 ⇑P **PKPdf 20 35 04.7 +0.5**
baz=118,SNR=39
O17A ⇑P **PKPdf 20 35 04.7 +0.5**
baz=118,SNR=39
O17A ⇑P **PKKPbc 20 45 23.0 -2.6**
baz=118,SNR=8.4
O17A ⇑P **PKKPbc 20 45 23.0 -2.6**
baz=118,SNR=8.4
GRN Grenoble 117.99 318 PKIKP **PKPdf 20 35 03.9 0.0**
GRN Grenoble 117.99 318 PKP **PKPdf 20 35 03.9 0.0**
GRN Grenoble 117.99 318 PKP **PKPdf 20 35 03.9 0.0**
ORIF Oris-en-Rattie 118.01 317 *e*PKIKP **PKPdf 20 35 03.7 -0.3**
comp=Z,97nm,0.7s
ORIF *e*R
comp=Z,1µm,23.0s
L18A Fontenelle, Gr 118.03 46 ⇑P **PKPdf 20 35 04.8 +0.6**
baz=118,SNR=60
L18A ⇑P **PKPdf 20 35 04.8 +0.6**
baz=118,SNR=60
OG25 Le Caire 118.05 317 PKP **PKPdf 20 35 04.2 +0.1**
OG25 Le Caire 118.05 317 PKP **PKPdf 20 35 04.1 0.0**
OG25 Le Caire 118.05 317 PKP **PKPdf 20 35 04.2 +0.1**
C21A Desert Coulee 118.08 39 P **PKPdf 20 35 04.4 +0.4**
baz=118
C21A P **PKPdf 20 35 04.4 +0.4**
baz=118
LMR La Mourre 118.08 315 *e*PKIKP **PKPdf 20 35 03.8 -0.2**
comp=Z,101nm,1.0s
214A Organ Pipe Nat 118.08 58 ⇓P **PKPdf 20 35 04.9 +0.5**
baz=118
214A ⇓P **PKPdf 20 35 04.9 +0.5**
baz=118
214A ⇑P **PKKPab 20 45 26.4 -0.9**
baz=118
214A ⇑P **PKKPab 20 45 26.4 -0.9**
baz=118
PD01 Pinedale Array 118.11 45 *e*PKPdf **PKPdf 20 35 04.3 -0.1**
PD02 Pinedale Array 118.12 45 *e*PKPdf **PKPdf 20 35 04.0 -0.4**
F20A Billings 118.12 42 ⇑P **PKPdf 20 35 04.2 +0.1**
baz=118,SNR=11
F20A ⇑P **PKPdf 20 35 04.2 +0.1**
baz=118,SNR=11
BW06 Boulder Array 118.13 45 ⇑P **PKPdf 20 35 04.8 +0.4**
baz=118
BW06 ⇑P **PKPdf 20 35 04.8 +0.4**
baz=118
BW06 ⇑P **PKPdf 20 35 04.8 +0.4**
baz=118
BW06 ⇑P **PKPdf 20 35 04.8 +0.4**
baz=118
BW06 ⇓P **PKKPbc 20 45 24.5 -0.7**
baz=118

BW06 ⇓P **PKKPbc 20 45 24.5 -0.7**
baz=118
BW06 ⇓P **PKKPbc 20 45 24.5 -0.7**
baz=118
BW06 ⇓P **PKKPbc 20 45 24.5 -0.7**
baz=118
PDAR Pinedale Array 118.13 45 Pdiff **Pdif 20 31 30.1 +6.3**
comp=Z,0.8nm,0.7s,baz=230,slow=2.2,SNR=6.1
PDAR PKP **PKiKP 20 35 04.5 +0.1**
comp=Z,36nm,0.7s,baz=227,slow=0.7,SNR=103
PDAR PKKPab **PKKPab 20 45 28.0 +0.9**
comp=Z,9.6nm,0.7s,baz=117,slow=6.6,SNR=14
PDAR Pinedale Array 118.13 45 Pdif **Pdif 20 31 30.1 +6.3**
PDAR PKP **PKiKP 20 35 04.5 +0.1**
PDAR PKKPab **PKKPab 20 45 28.0 +0.9**
I19A Meeteetse 118.13 44 ⇓P **PKPdf 20 35 04.6 +0.3**
baz=118,SNR=17
I19A ⇓P **PKPdf 20 35 04.6 +0.3**
baz=118,SNR=17
I19A ⇑P **PKKPbc 20 45 25.3 0.0**
baz=118
I19A ⇑P **PKKPbc 20 45 25.3 0.0**
baz=118
MDO Dochfour 118.15 333 *e*P **PKPdf 20 35 02.9 -0.8**
MDO Dochfour 118.15 333 P **PKPdf 20 35 02.9 -0.8**
M18A Lyman 118.15 47 ⇓P **PKPdf 20 35 04.7 +0.2**
baz=118,SNR=14
M18A ⇓P **PKPdf 20 35 04.7 +0.2**
baz=118,SNR=14
P17A Butcher Ranch, 118.17 49 ⇑P **PKPdf 20 35 05.3 +0.8**
baz=118,SNR=12
P17A ⇑P **PKPdf 20 35 05.3 +0.8**
baz=118,SNR=12
P17A ⇓P **PKKPab 20 45 26.1 -0.9**
baz=118
P17A ⇓P **PKKPab 20 45 26.1 -0.9**
baz=118
ESY Stoneypath 118.18 331 *e*P **PKPdf 20 35 03.6 -0.2**
ESY Stoneypath 118.18 331 P **PKPdf 20 35 03.6 -0.2**
G20A Bridger 118.28 42 ⇑P **PKPdf 20 35 05.5 +1.0**
baz=118
G20A ⇑P **PKPdf 20 35 05.5 +1.0**
baz=118
J19A Crowheart 118.33 44 ⇑P **PKPdf 20 35 05.0 +0.3**
baz=118,SNR=75
J19A ⇑P **PKPdf 20 35 05.0 +0.3**
baz=118,SNR=75
J19A ⇑P **PKKPbc 20 45 24.3 -0.2**
baz=118
J19A ⇑P **PKKPbc 20 45 24.3 -0.2**
baz=118
A22A Carney Farms, 118.35 38 ⇓P **PKPdf 20 35 04.8 +0.3**
baz=118
A22A ⇓P **PKPdf 20 35 04.8 +0.3**
baz=118
D21A La Casta Ranch 118.42 40 ⇓P **PKPdf 20 35 04.7 +0.1**
baz=118,SNR=17
D21A ⇓P **PKPdf 20 35 04.7 +0.1**
baz=118,SNR=17
SRU San Rafael 118.43 49 *e*PKIKP **PKPdf 20 35 05.4 +0.3**
SRU San Rafael 118.43 49 *e*PKPdf **PKPdf 20 35 05.4 +0.3**
SRU San Rafael 118.43 49 ⇓P **PKPdf 20 35 05.7 +0.7**
baz=118
SRU ⇓P **PKPdf 20 35 05.7 +0.7**
baz=118
SRU ⇑P **PKKPbc 20 45 22.7 -1.3**
baz=118,SNR=11
SRU ⇑P **PKKPbc 20 45 22.7 -1.3**
baz=118,SNR=11
EDI Edinburgh 118.45 331 *e*P **PKPdf 20 35 05.1 +0.8**
EDI Edinburgh 118.45 331 P **PKPdf 20 35 05.1 +0.8**
R17A Hanksville Air 118.46 50 ⇑P **PKPdf 20 35 05.5 +0.4**
baz=118,SNR=20
R17A ⇑P **PKPdf 20 35 05.5 +0.4**
baz=118,SNR=20
EBL Broad Law 118.46 331 *e*P **PKPdf 20 35 03.8 -0.6**
EBL Broad Law 118.46 331 P **PKPdf 20 35 03.8 -0.6**
L19A Farson 118.47 46 ⇑P **PKPdf 20 35 05.3 +0.2**
baz=118,SNR=23
L19A ⇑P **PKPdf 20 35 05.3 +0.2**
baz=118,SNR=23
L19A ⇓P **PKKPbc 20 45 23.8 -0.2**
baz=118
L19A ⇓P **PKKPbc 20 45 23.8 -0.2**
baz=118
P18A Preston Nutter 118.50 49 ⇑P **PKPdf 20 35 06.0 +0.6**
baz=118,SNR=6.0
P18A ⇑P **PKPdf 20 35 06.0 +0.6**
baz=118,SNR=6.0
P18A ⇑P **PKKPab 20 45 24.9 -0.8**
baz=118
P18A ⇑P **PKKPab 20 45 24.9 -0.8**
baz=118
LOR Lormes 118.51 320 *e*PKIKP **PKPdf 20 35 04.6 -0.1**
comp=Z,104nm,0.8s
LOR *e*R
comp=Z,1μm,22.2s
OCF Saint Nazaire 118.51 317 PKP **PKPdf 20 35 05.4 +0.5**
OG26 St.-Nazaire-De 118.51 317 PKP **PKPdf 20 35 05.4 +0.5**
O18A Roosevelt 118.51 48 ⇓P **PKPdf 20 35 05.5 +0.3**
baz=118,SNR=18
O18A ⇓P **PKPdf 20 35 05.5 +0.3**
baz=118,SNR=18
O18A ⇑P **PKKPbc 20 45 24.2 +0.5**
baz=118
O18A ⇑P **PKKPbc 20 45 24.2 +0.5**
baz=118
SMRF Simiane la Rot 118.52 316 *e*PKIKP **PKPdf 20 35 05.2 +0.3**
comp=Z,212nm,1.0s
KAC Achnashellach 118.53 334 *e*P **PKPdf 20 35 05.1 +0.6**
KAC Achnashellach 118.53 334 P **PKPdf 20 35 05.1 +0.6**
XAL Allendale 118.54 330 *e*P **PKPdf 20 35 04.6 0.0**
XAL Allendale 118.54 330 P **PKPdf 20 35 04.6 0.0**
E21A Keefer Ranch, 118.56 40 ⇑P **PKPdf 20 35 05.7 +0.8**
baz=118,SNR=9.6
E21A ⇑P **PKPdf 20 35 05.7 +0.8**
baz=118,SNR=9.6
S17A Black Ridge (B 118.57 51 ⇑P **PKPdf 20 35 05.5 +0.2**
baz=118,SNR=64
S17A ⇑P **PKPdf 20 35 05.5 +0.2**
baz=118,SNR=64
S17A ⇑P **PKKPab 20 45 26.1 +1.0**
baz=118,SNR=8.9
S17A ⇑P **PKKPab 20 45 26.1 +1.0**
baz=118,SNR=8.9
B22A Reddig Ranch S 118.58 38 ⇑P **PKPdf 20 35 05.4 +0.6**
baz=118
B22A ⇑P **PKPdf 20 35 05.4 +0.6**
baz=118
WUAZ Wupatki 118.60 54 *e*PKPdf **PKPdf 20 35 06.2 +0.7**
WUAZ Wupatki 118.60 54 ⇑P **PKPdf 20 35 06.4 +0.9**
baz=119
WUAZ ⇑P **PKPdf 20 35 06.4 +0.9**
baz=119
WUAZ ⇑P **PKKPab 20 45 24.9 -0.2**
baz=119
WUAZ ⇑P **PKKPab 20 45 24.9 -0.2**
baz=119
K19A Absolon Red Bu 118.61 45 ⇑P **PKPdf 20 35 05.3 0.0**
baz=119,SNR=54
K19A ⇑P **PKPdf 20 35 05.3 0.0**
baz=119,SNR=54
EAU Auchinoon 118.61 331 *e*P **PKPdf 20 35 04.9 +0.2**
EAU Auchinoon 118.61 331 P **PKPdf 20 35 04.9 +0.2**
U16A Tuba City 118.66 53 ⇓P **PKPdf 20 35 06.4 +0.8**
baz=119
U16A ⇓P **PKPdf 20 35 06.4 +0.8**
baz=119
U16A ⇓P **PKKPab 20 45 24.8 -0.1**
baz=119
U16A ⇓P **PKKPab 20 45 24.8 -0.1**
baz=119
H20A Greybull 118.66 43 ⇓P **PKPdf 20 35 05.3 0.0**
baz=119,SNR=38
H20A ⇓P **PKPdf 20 35 05.3 0.0**
baz=119,SNR=38
T17A Navajo Res., N 118.72 52 ⇑P **PKPdf 20 35 06.6 +0.9**
baz=119,SNR=135
T17A ⇑P **PKPdf 20 35 06.6 +0.9**
baz=119,SNR=135
T17A ⇑P **PKKPab 20 45 24.6 0.0**
baz=119
T17A ⇑P **PKKPab 20 45 24.6 0.0**
baz=119
Q18A Rafter H Ranch 118.72 49 ⇑P **PKPdf 20 35 05.7 +0.2**
baz=119,SNR=36
Q18A ⇑P **PKPdf 20 35 05.7 +0.2**
baz=119,SNR=36
Q18A ⇓P **PKKPbc 20 45 22.8 -0.1**
baz=119,SNR=7.0
Q18A ⇓P **PKKPbc 20 45 22.8 -0.1**
baz=119,SNR=7.0
I20A Worland 118.75 44 ⇑P **PKPdf 20 35 05.9 +0.4**
baz=119,SNR=32
I20A ⇑P **PKPdf 20 35 05.9 +0.4**
baz=119,SNR=32
X16A Lo Mia Camp, P 118.77 55 ⇑P **PKPdf 20 35 06.8 +0.9**
baz=119,SNR=46
X16A ⇑P **PKPdf 20 35 06.8 +0.9**
baz=119,SNR=46
X16A ⇓P **PKKPab 20 45 25.0 +0.5**
baz=119
X16A ⇓P **PKKPab 20 45 25.0 +0.5**
baz=119
KPL Plockton 118.78 334 *e*P **PKPdf 20 35 05.1 +0.2**
KPL AMB AMB 20 35 07.7
comp=Z,114nm,0.8s
KPL Plockton 118.78 334 P **PKPdf 20 35 05.1 +0.2**
KPL AMB AMB 20 35 07.7
comp=Z,114nm,0.8s
SSB Saint Sauveur 118.78 318 PKIKP **PKPdf 20 35 05.7 +0.3**
SSB Saint Sauveur 118.78 318 PKP **PKPdf 20 35 05.7 +0.3**
SSB Saint Sauveur 118.78 318 PKP **PKPdf 20 35 05.7 +0.3**
M19A Rock Springs 118.78 46 ⇓P **PKPdf 20 35 06.2 +0.5**
baz=119,SNR=23
M19A ⇓P **PKPdf 20 35 06.2 +0.5**
baz=119,SNR=23
ESK Eskdalemuir 118.78 331 *e*P **PKPdf 20 35 04.3 -0.7**
ESK Eskdalemuir 118.78 331 P **PKPdf 20 35 04.3 -0.7**
F21A Absaloka Mine, 118.79 41 ⇑P **PKPdf 20 35 05.4 0.0**
baz=119,SNR=17
F21A ⇑P **PKPdf 20 35 05.4 0.0**
baz=119,SNR=17
SSF Saint Saulge 118.81 320 *e*PKIKP **PKPdf 20 35 05.3 0.0**
comp=Z,177nm,0.8s
VIVF Saint-Julien-l 118.84 318 *e*PKIKP **PKPdf 20 35 05.4 -0.1**
comp=Z,138nm,0.8s
BORG Borgarnes 118.84 346 PKP **PKPdf 20 35 05.3 +0.5**
comp=Z,51nm,1.1s,baz=14,slow=6.3,SNR=3.8
BORG Borgarnes 118.84 346 PKIKP **PKPdf 20 35 05.3 +0.5**
BORG pmax pmax
comp=Z,51nm,1.2s
BORG Borgarnes 118.84 346 PKP **PKPdf 20 35 05.3 +0.5**
EAB Aberfoyle 118.84 332 *e*P **PKPdf 20 35 04.7 -0.4**
EAB Aberfoyle 118.84 332 P **PKPdf 20 35 04.7 -0.4**
C22A Vida 118.86 39 ⇑P **PKPdf 20 35 06.2 +0.8**
baz=119
C22A ⇑P **PKPdf 20 35 06.2 +0.8**
baz=119
D22A Cohagen 118.91 40 ⇑P **PKPdf 20 35 06.5 +1.0**
baz=119
D22A ⇑P **PKPdf 20 35 06.5 +1.0**
baz=119
U17A Shonto 118.92 52 ⇓P **PKPdf 20 35 07.4 +1.2**
baz=119,SNR=19
U17A ⇓P **PKPdf 20 35 07.4 +1.2**
baz=119,SNR=19
G21A Lodge Grass 118.94 42 ⇑P **PKPdf 20 35 06.1 +0.4**
baz=119
G21A ⇑P **PKPdf 20 35 06.1 +0.4**
baz=119
N19A John Jarvie Ra 118.94 47 ⇑P **PKPdf 20 35 05.9 -0.1**
baz=119,SNR=21
N19A ⇑P **PKPdf 20 35 05.9 -0.1**
baz=119,SNR=21
J20A Shoshoni 118.97 44 ⇑P **PKPdf 20 35 06.6 +0.6**
baz=119,SNR=65
J20A ⇑P **PKPdf 20 35 06.6 +0.6**
baz=119,SNR=65
J20A ⇓P **PKKPbc 20 45 22.0 -0.1**
baz=119
J20A ⇓P **PKKPbc 20 45 22.0 -0.1**
baz=119
A23A Redstone 118.99 37 ⇓P **PKPdf 20 35 06.2 +0.6**
baz=119
A23A ⇓P **PKPdf 20 35 06.2 +0.6**
baz=119
AVF Avril sur Loir 119.01 320 *e*PKIKP **PKPdf 20 35 05.4 -0.3**
comp=Z,120nm,0.8s
KBI1 Birley Grange 119.01 328 *e*P **PKPdf 20 35 05.8 +0.3**
KBI1 Birley Grange 119.01 328 P **PKPdf 20 35 05.8 +0.3**
K20A Yellowstone Ra 119.02 45 ⇓P **PKPdf 20 35 06.1 0.0**
baz=119,SNR=28
K20A ⇓P **PKPdf 20 35 06.1 0.0**
baz=119,SNR=28
V17A Tonalea, Kykot 119.04 53 ⇓P **PKPdf 20 35 06.7 +0.4**
baz=119,SNR=26
V17A ⇓P **PKPdf 20 35 06.7 +0.4**
baz=119,SNR=26
V17A ⇓P **PKKPab 20 45 23.2 0.0**
baz=119,SNR=7.6
V17A ⇓P **PKKPab 20 45 23.2 0.0**
baz=119,SNR=7.6
R18A Canyonlands Na 119.09 50 ⇓P **PKPdf 20 35 06.1 -0.3**
baz=119,SNR=66
R18A ⇓P **PKPdf 20 35 06.1 -0.3**
baz=119,SNR=66
R18A ⇑P **PKKPbc 20 45 21.5 -0.1**
baz=119
R18A ⇑P **PKKPbc 20 45 21.5 -0.1**
baz=119
PGBU Glenifferbraes 119.12 332 *e*P **PKPdf 20 35 05.7 +0.1**
PGBU Glenifferbraes 119.12 332 P **PKPdf 20 35 05.7 +0.1**
KESW Keswick, Cumbr 119.12 330 *e*P **PKPdf 20 35 05.3 -0.3**
KESW AMB AMB 20 35 08.3
comp=Z,139nm,1.0s
KESW Keswick, Cumbr 119.12 330 P **PKPdf 20 35 05.3 -0.3**
KESW AMB AMB 20 35 08.3
comp=Z,139nm,1.0s
B23A Brockton 119.12 38 ⇑P **PKPdf 20 35 06.2 +0.2**
baz=119
B23A ⇑P **PKPdf 20 35 06.2 +0.2**
baz=119
PLDF La Plantade 119.14 319 PKIKP **PKPdf 20 35 06.7 +0.6**
PLDF La Plantade 119.14 319 PKP **PKPdf 20 35 06.7 +0.6**
PLDF La Plantade 119.14 319 PKP **PKPdf 20 35 06.7 +0.6**
O19A Miners Draw (B 119.15 48 ⇓P **PKPdf 20 35 06.7 +0.3**
baz=119,SNR=7.7
O19A ⇓P **PKPdf 20 35 06.7 +0.3**
baz=119,SNR=7.7
S18A Hurst Farm, Bl 119.18 51 ⇑P **PKPdf 20 35 07.1 +0.4**
baz=119,SNR=54
S18A ⇑P **PKPdf 20 35 07.1 +0.4**
baz=119,SNR=54
S18A ⇑P **PKKPab 20 45 23.3 +0.7**
baz=119
S18A ⇑P **PKKPab 20 45 23.3 +0.7**
baz=119
CMAH Djebel Manchou 119.20 308 P **PKPdf 20 35 07.8 +1.3**
W17A Winslow 119.22 54 ⇓P **PKPdf 20 35 07.7 +1.0**
baz=119,SNR=10
W17A ⇓P **PKPdf 20 35 07.7 +1.0**
baz=119,SNR=10
L20A Wamsutter 119.22 46 ⇓P **PKPdf 20 35 06.8 +0.2**
baz=119,SNR=37
L20A ⇓P **PKPdf 20 35 06.8 +0.2**
baz=119,SNR=37
ABSA Djebel Ababsia 119.23 308 P **PKPdf 20 35 07.6 +1.0**
H21A Big Horn, Sher 119.26 42 ⇑P **PKPdf 20 35 06.4 0.0**
baz=119,SNR=21
H21A ⇑P **PKPdf 20 35 06.4 0.0**
baz=119,SNR=21
C23A Lambert 119.27 39 ⇑P **PKPdf 20 35 07.1 +0.8**
baz=119
C23A ⇑P **PKPdf 20 35 07.1 +0.8**
baz=119
KWE Weaver Farm 119.29 328 *e*P **PKPdf 20 35 05.7 -0.3**
KWE Weaver Farm 119.29 328 P **PKPdf 20 35 05.7 -0.3**
X17A Forest Lakes 119.30 55 ⇓P **PKPdf 20 35 07.8 +0.8**
baz=119,SNR=19
X17A ⇓P **PKPdf 20 35 07.8 +0.8**
baz=119,SNR=19
X17A ⇑P **PKKPab 20 45 22.2 0.0**
baz=119,SNR=6.5
X17A ⇑P **PKKPab 20 45 22.2 0.0**
baz=119,SNR=6.5
E22A Miles City 119.32 40 ⇓P **PKPdf 20 35 06.6 +0.2**
baz=119,SNR=40
E22A ⇓P **PKPdf 20 35 06.6 +0.2**
baz=119,SNR=40
E22A ⇑P **PKKPbc 20 45 18.5 -2.4**
baz=119
E22A ⇑P **PKKPbc 20 45 18.5 -2.4**
baz=119
F22A Rosebud 119.37 41 ⇑P **PKPdf 20 35 06.6 +0.1**
baz=119,SNR=26
F22A ⇑P **PKPdf 20 35 06.6 +0.1**
baz=119,SNR=26
I21A Big Trails, Te 119.37 43 ⇓P **PKPdf 20 35 06.4 -0.3**
baz=119,SNR=69
I21A ⇓P **PKPdf 20 35 06.4 -0.3**
baz=119,SNR=69
I21A ⇓P **PKKPbc 20 45 19.7 -1.0**
baz=119
I21A ⇓P **PKKPbc 20 45 19.7 -1.0**
baz=119
SKP1 Kophill 119.37 327 *e*P **PKPdf 20 35 06.0 -0.2**
SKP1 Kophill 119.37 327 P **PKPdf 20 35 06.0 -0.2**
T18A Mexican Hat 119.41 51 ⇓P **PKPdf 20 35 07.6 +0.6**
baz=119,SNR=94
T18A ⇓P **PKPdf 20 35 07.6 +0.6**
baz=119,SNR=94
Q19A Hogan Spring (119.42 49 ⇓P **PKPdf 20 35 07.5 +0.6**
baz=119,SNR=32
Q19A ⇓P **PKPdf 20 35 07.5 +0.6**
baz=119,SNR=32
Q19A ⇑P **PKKPbc 20 45 20.4 +0.1**
baz=119,SNR=9.4
Q19A ⇑P **PKKPbc 20 45 20.4 +0.1**
baz=119,SNR=9.4
BGF Bois d'Agland 119.42 320 *e*PKIKP **PKPdf 20 35 06.7 +0.2**
comp=Z,308nm,0.7s
J21A Lysite 119.42 44 ⇓P **PKPdf 20 35 06.8 -0.1**
baz=119,SNR=46
J21A ⇓P **PKPdf 20 35 06.8 -0.1**
baz=119,SNR=46
J21A ⇑P **PKKPbc 20 45 20.4 -0.2**
baz=119
J21A ⇑P **PKKPbc 20 45 20.4 -0.2**
baz=119
AGO Saint Agoulin 119.42 319 PKP **PKPdf 20 35 06.5 -0.1**
AGO Saint Agoulin 119.42 319 PKP **PKPdf 20 35 06.5 -0.1**
P19A Cripple Cowboy 119.44 48 ⇑P **PKPdf 20 35 07.5 +0.4**
baz=119,SNR=17
P19A ⇑P **PKPdf 20 35 07.5 +0.4**
baz=119,SNR=17
STNC Stoke 119.44 328 *e*P **PKPdf 20 35 06.8 +0.5**
STNC Stoke 119.44 328 P **PKPdf 20 35 06.8 +0.5**
M20A Sweetwater, Wa 119.48 46 ⇑P **PKPdf 20 35 07.2 +0.1**
baz=119,SNR=30
M20A ⇑P **PKPdf 20 35 07.2 +0.1**
baz=119,SNR=30
D23A Lindsay 119.51 39 ⇓P **PKPdf 20 35 07.4 +0.7**
baz=120
D23A ⇓P **PKPdf 20 35 07.4 +0.7**
baz=120
A24A Westby 119.53 37 ⇑P **PKPdf 20 35 07.4 +0.7**
baz=120
A24A ⇑P **PKPdf 20 35 07.4 +0.7**
baz=120
G22A Birney 119.55 42 ⇑P **PKPdf 20 35 06.8 -0.1**
baz=120,SNR=23
G22A ⇑P **PKPdf 20 35 06.8 -0.1**
baz=120,SNR=23
G22A ⇓P **PKKPbc 20 45 18.3 -1.7**
baz=120
G22A ⇓P **PKKPbc 20 45 18.3 -1.7**
baz=120
U18A Rough Rock, Ch 119.58 52 ⇓P **PKPdf 20 35 08.1 +0.7**
baz=120,SNR=49
U18A ⇓P **PKPdf 20 35 08.1 +0.7**
baz=120,SNR=49
R19A Curley Farm, L 119.59 50 ⇑P **PKPdf 20 35 07.9 +0.6**
baz=120,SNR=8.8
R19A ⇑P **PKPdf 20 35 07.9 +0.6**
baz=120,SNR=8.8
DGMT Dagmar 119.60 38 *e*PKPdf **PKPdf 20 35 07.2 +0.4**
DGMT Dagmar 119.60 38 ⇓P **PKPdf 20 35 07.2 +0.4**
baz=120
DGMT ⇓P **PKPdf 20 35 07.2 +0.4**
baz=120
CAEH 'Ain El Ouahch 119.61 308 P **PKPdf 20 35 07.7 +0.5**
PYM Petit Puy Mans 119.62 319 PKIKP **PKPdf 20 35 07.9 +0.9**
PYM Petit Puy Mans 119.62 319 PKP **PKPdf 20 35 07.9 +0.9**
PYM Petit Puy Mans 119.62 319 PKP **PKPdf 20 35 07.9 +0.9**
N20A Spence Gulch, 119.63 47 ⇓P **PKPdf 20 35 08.2 +0.8**
baz=120,SNR=86
N20A ⇓P **PKPdf 20 35 08.2 +0.8**
baz=120,SNR=86
LBL Lubilhac 119.65 318 PKIKP **PKPdf 20 35 07.9 +0.8**
LBL Lubilhac 119.65 318 PKP **PKPdf 20 35 07.9 +0.8**
LBL Lubilhac 119.65 318 PKP **PKPdf 20 35 07.9 +0.8**
LASF Ste Croix 119.65 317 *e*PKIKP **PKPdf 20 35 07.1 0.0**
comp=Z,112nm,0.8s
V18A Ganado 119.70 53 ⇑P **PKPdf 20 35 08.1 +0.5**
baz=120,SNR=23
V18A ⇑P **PKPdf 20 35 08.1 +0.5**
baz=120,SNR=23
E23A Ismay 119.71 40 ⇓P **PKPdf 20 35 07.4 +0.3**
baz=120
E23A ⇓P **PKPdf 20 35 07.4 +0.3**
baz=120
TUC Tucson 119.71 57 *e*PKIKP **PKPdf 20 35 08.2 +0.6**
TUC Tucson 119.71 57 *e*PKPdf **PKPdf 20 35 08.2 +0.6**
H22A Clearmont 119.73 42 ⇑P **PKPdf 20 35 07.2 -0.1**
baz=120,SNR=45
H22A ⇑P **PKPdf 20 35 07.2 -0.1**
baz=120,SNR=45
GAL1 Galloway 119.76 331 *e*P **PKPdf 20 35 05.8 -1.0**
GAL1 AMB AMB 20 35 08.8
comp=Z,107nm,0.9s
GAL1 Galloway 119.76 331 P **PKPdf 20 35 05.8 -1.0**
GAL1 AMB AMB 20 35 08.8
comp=Z,107nm,0.9s
K21A Alcova 119.79 45 ⇑P **PKPdf 20 35 07.9 +0.3**
baz=120
K21A ⇑P **PKPdf 20 35 07.9 +0.3**
baz=120
K21A ⇓P **PKKPbc 20 45 19.5 +0.3**
baz=120
K21A ⇓P **PKKPbc 20 45 19.5 +0.3**
baz=120
WOL Wolverton 119.80 326 *e*P **PKPdf 20 35 06.7 -0.4**
WOL AMB AMB 20 35 13.0
comp=Z,190nm,2.2s
WOL Wolverton 119.80 326 P **PKPdf 20 35 06.7 -0.4**
WOL AMB AMB 20 35 13.0
comp=Z,190nm,2.2s
CKFL Kef-Lekhel 119.80 308 P **PKPdf 20 35 08.7 +1.0**
SSW Stow on the Wo 119.82 327 *e*P **PKPdf 20 35 07.0 0.0**
SSW Stow on the Wo 119.82 327 P **PKPdf 20 35 07.0 0.0**
S19A Harvey Farm, M 119.83 51 ⇓P **PKPdf 20 35 08.4 +0.5**
baz=120,SNR=19
S19A ⇓P **PKPdf 20 35 08.4 +0.5**
baz=120,SNR=19
S19A ⇓P **PKKPab 20 45 20.3 +0.5**
baz=120
S19A ⇓P **PKKPab 20 45 20.3 +0.5**
baz=120
O20A White River Ci 119.85 48 ⇑P **PKPdf 20 35 08.4 +0.6**
baz=120,SNR=93
O20A ⇑P **PKPdf 20 35 08.4 +0.6**
baz=120,SNR=93
C24A Savage 119.85 39 ⇑P **PKPdf 20 35 08.0 +0.7**
baz=120
C24A ⇑P **PKPdf 20 35 08.0 +0.7**
baz=120
I22A 9 Mile Ranch, 119.89 43 ⇑P **PKPdf 20 35 07.6 -0.1**
baz=120,SNR=26
I22A ⇑P **PKPdf 20 35 07.6 -0.1**
baz=120,SNR=26
P20A De Beque 119.92 48 ⇓P **PKPdf 20 35 08.3 +0.4**
baz=120,SNR=31
P20A ⇓P **PKPdf 20 35 08.3 +0.4**
baz=120,SNR=31
L21A Rawlins 119.92 45 ⇓P **PKPdf 20 35 07.6 -0.3**
baz=120,SNR=54
L21A ⇓P **PKPdf 20 35 07.6 -0.3**
baz=120,SNR=54
L21A ⇓P **PKKPab 20 45 20.1 +0.8**
baz=120
L21A ⇓P **PKKPab 20 45 20.1 +0.8**
baz=120
TCF Toulx Ste Croi 119.93 320 *e*PKIKP **PKPdf 20 35 07.6 +0.1**
comp=Z,170nm,0.8s
F23A Volborg 119.94 41 ⇑P **PKPdf 20 35 07.4 -0.2**
baz=120,SNR=38
F23A ⇑P **PKPdf 20 35 07.4 -0.2**
baz=120,SNR=38
X18A Snowflake 119.95 54 ⇓P **PKPdf 20 35 08.9 +0.8**
baz=120,SNR=16

X18A ⇓P **PKPdf 20 35 08.9 +0.8**
baz=120,SNR=16
X18A ⇑P **PKKPab 20 45 20.5 +1.2**
baz=120,SNR=8.8
X18A ⇑P **PKKPab 20 45 20.5 +1.2**
baz=120,SNR=8.8
W18A Petrified Fore 119.99 54 ⇑P **PKPdf 20 35 09.3 +1.1**
baz=120,SNR=25
W18A ⇑P **PKPdf 20 35 09.3 +1.1**
baz=120,SNR=25
CASM Ain Smara 120.01 308 P **PKPdf 20 35 09.1 +1.1**
SWN1 Swindon 120.01 327 *e*P **PKPdf 20 35 07.2 -0.2**
SWN1 AMB AMB 20 35 09.9
comp=Z,335nm,0.7s
SWN1 Swindon 120.01 327 P **PKPdf 20 35 07.2 -0.2**
SWN1 AMB AMB 20 35 09.9
comp=Z,335nm,0.7s
M21A Separation Pea 120.04 46 ⇓P **PKPdf 20 35 08.0 -0.2**
baz=120,SNR=62
M21A ⇓P **PKPdf 20 35 08.0 -0.2**
baz=120,SNR=62
M21A ⇑P **PKKPab 20 45 19.6 +0.8**
baz=120
M21A ⇑P **PKKPab 20 45 19.6 +0.8**
baz=120
Y18A Canyon Day Jun 120.04 55 ⇓P **PKPdf 20 35 09.2 +0.9**
baz=120,SNR=19
Y18A ⇓P **PKPdf 20 35 09.2 +0.9**
baz=120,SNR=19
J22A Midwest 120.06 44 ⇑P **PKPdf 20 35 07.5 -0.5**
baz=120,SNR=126
J22A ⇑P **PKPdf 20 35 07.5 -0.5**
baz=120,SNR=126
J22A ⇓P **PKKPbc 20 45 16.6 -1.6**
baz=120
J22A ⇓P **PKKPbc 20 45 16.6 -1.6**
baz=120
FOEL Foel Wylfa 120.06 329 *e*P **PKPdf 20 35 08.0 +0.4**
FOEL Foel Wylfa 120.06 329 P **PKPdf 20 35 08.0 +0.4**
D24A Glendive 120.08 39 ⇓P **PKPdf 20 35 08.2 +0.4**
baz=120
D24A ⇓P **PKPdf 20 35 08.2 +0.4**
baz=120
HLM1 Long Mynd 120.09 328 *e*P **PKPdf 20 35 07.4 -0.2**
HLM1 AMB AMB 20 35 12.9
comp=Z,133nm,3.5s
HLM1 Long Mynd 120.09 328 P **PKPdf 20 35 07.4 -0.2**
HLM1 AMB AMB 20 35 12.9
comp=Z,133nm,3.5s
RWWY Rawlins 120.12 46 *e*PKPdf **PKPdf 20 35 08.4 0.0**
U19A Dine' College, 120.13 52 ⇑P **PKPdf 20 35 09.2 +0.7**
baz=120,SNR=22
U19A ⇑P **PKPdf 20 35 09.2 +0.7**
baz=120,SNR=22
Q20A Ridgley Place, 120.14 49 ⇓P **PKPdf 20 35 09.2 +0.9**
baz=120,SNR=36
Q20A ⇓P **PKPdf 20 35 09.2 +0.9**
baz=120,SNR=36
T19A Beclabito 120.14 52 ⇓P **PKPdf 20 35 09.1 +0.6**
baz=120,SNR=14
T19A ⇓P **PKPdf 20 35 09.1 +0.6**
baz=120,SNR=14
G23A Biddle 120.15 41 ⇑P **PKPdf 20 35 08.3 +0.3**
baz=120,SNR=22
G23A ⇑P **PKPdf 20 35 08.3 +0.3**
baz=120,SNR=22
N21A Black Mountain 120.19 47 ⇓P **PKPdf 20 35 09.1 +0.6**
baz=120,SNR=100
N21A ⇓P **PKPdf 20 35 09.1 +0.6**
baz=120,SNR=100
N21A ⇓P **PKKPab 20 45 18.2 0.0**
baz=120
N21A ⇓P **PKKPab 20 45 18.2 0.0**
baz=120
W19A Sanders 120.27 54 ⇑P **PKPdf 20 35 09.5 +0.7**
baz=120,SNR=19
W19A ⇑P **PKPdf 20 35 09.5 +0.7**
baz=120,SNR=19
W19A ⇓P **PKKPab 20 45 19.0 +1.1**
baz=120,SNR=5.5
W19A ⇓P **PKKPab 20 45 19.0 +1.1**
baz=120,SNR=5.5
K22A Casper 120.29 44 ⇓P **PKPdf 20 35 08.2 -0.3**
baz=120,SNR=35
K22A ⇓P **PKPdf 20 35 08.2 -0.3**
baz=120,SNR=35
K22A ⇓P **PKKPbc 20 45 16.3 -1.0**
baz=120
K22A ⇓P **PKKPbc 20 45 16.3 -1.0**
baz=120
R20A Redvale 120.29 50 ⇓P **PKPdf 20 35 09.7 +0.9**
baz=120,SNR=32
R20A ⇓P **PKPdf 20 35 09.7 +0.9**
baz=120,SNR=32
R20A ⇓P **PKKPab 20 45 18.8 +1.0**
baz=120
R20A ⇓P **PKKPab 20 45 18.8 +1.0**
baz=120
E24A Baker 120.32 40 ⇑P **PKPdf 20 35 08.9 +0.6**
baz=120
E24A ⇑P **PKPdf 20 35 08.9 +0.6**
baz=120
WME Myndd Eilian 120.36 329 *e*P **PKPdf 20 35 07.6 -0.5**
WME Myndd Eilian 120.36 329 P **PKPdf 20 35 07.6 -0.5**
O21A Pagoda 120.39 47 ⇑P **PKPdf 20 35 09.1 +0.2**
baz=120,SNR=18
O21A ⇑P **PKPdf 20 35 09.1 +0.2**
baz=120,SNR=18
S20A Disappointment 120.40 50 ⇑P **PKPdf 20 35 09.7 +0.7**
baz=120,SNR=51
S20A ⇑P **PKPdf 20 35 09.7 +0.7**
baz=120,SNR=51
S20A ⇑P **PKKPab 20 45 17.9 +0.6**
baz=120
S20A ⇑P **PKKPab 20 45 17.9 +0.6**
baz=120
V19A Window Rock 120.40 53 ⇑P **PKPdf 20 35 10.0 +1.0**
baz=120,SNR=11
V19A ⇑P **PKPdf 20 35 10.0 +1.0**
baz=120,SNR=11
SFJD Kangerlussuaq 120.41 360 *i* PKIKP **PKPdf 20 35 07.5 -0.3**
SFJD pmax pmax
comp=Z,90nm,0.8s
SFJD Kangerlussuaq 120.41 360 *e*PKPdf **PKPdf 20 35 07.0 -0.7**
SFJD Kangerlussuaq 120.41 360 *i* P **PKPdf 20 35 07.5 -0.3**
comp=Z,90nm,0.8s
LDF La Druitiere 120.41 323 *e*PKIKP **PKPdf 20 35 08.2 -0.1**
comp=Z,71nm,0.8s
MCH1 Michaelchurch 120.42 328 *e*P **PKPdf 20 35 07.5 -0.7**
MCH1 AMB AMB 20 35 10.6
comp=Z,103nm,1.0s
MCH1 Michaelchurch 120.42 328 P **PKPdf 20 35 07.5 -0.7**
MCH1 AMB AMB 20 35 10.6
comp=Z,103nm,1.0s
DFRA Djebel Bou Aff 120.42 308 P **PKPdf 20 35 11.8 +2.9**
YLL Llanberis 120.43 329 *e*P **PKPdf 20 35 08.1 -0.1**
YLL Llanberis 120.43 329 P **PKPdf 20 35 08.1 -0.1**
MVCO Mesa Verde 120.46 51 *e*PKPdf **PKPdf 20 35 09.9 +0.8**
MVCO Mesa Verde 120.46 51 ⇑P **PKPdf 20 35 10.1 +1.0**
baz=120
MVCO ⇑P **PKPdf 20 35 10.1 +1.0**
baz=120
MVCO ⇓P **PKKPab 20 45 18.0 +0.9**
baz=120
MVCO ⇓P **PKKPab 20 45 18.0 +0.9**
baz=120
WLF1 Llynfaes 120.47 329 *e*P **PKPdf 20 35 08.0 -0.3**
WLF1 AMB AMB 20 35 10.8
comp=Z,106nm,0.8s
WLF1 Llynfaes 120.47 329 P **PKPdf 20 35 08.0 -0.3**
WLF1 AMB AMB 20 35 10.8
comp=Z,106nm,0.8s
HGH Gray Hill 120.50 327 *e*P **PKPdf 20 35 07.7 -0.7**
HGH Gray Hill 120.50 327 P **PKPdf 20 35 07.7 -0.7**
X19A St. Johns 120.50 54 ⇓P **PKPdf 20 35 09.9 +0.7**
baz=120,SNR=26
X19A ⇓P **PKPdf 20 35 09.9 +0.7**
baz=120,SNR=26
X19A ⇓P **PKKPab 20 45 18.2 +1.3**
baz=120
X19A ⇓P **PKKPab 20 45 18.2 +1.3**
baz=120
F24A Ekalaka 120.52 40 ⇑P **PKPdf 20 35 09.0 +0.3**
baz=120
F24A ⇑P **PKPdf 20 35 09.0 +0.3**
baz=120
CAF Calviac 120.54 318 *e*PKIKP **PKPdf 20 35 09.2 +0.4**
comp=Z,150nm,0.8s
FLN La Foliniere 120.55 323 *e*PKIKP **PKPdf 20 35 08.5 -0.1**
comp=Z,100nm,0.9s
FLN *e*R
comp=Z,2μm,23.0s
L22A Ellis Ranch, M 120.56 45 ⇓P **PKPdf 20 35 09.5 +0.4**
baz=120
L22A ⇓P **PKPdf 20 35 09.5 +0.4**
baz=120
YRC Rhoscolyn 120.58 329 *e*P **PKPdf 20 35 08.7 +0.2**
YRC Rhoscolyn 120.58 329 P **PKPdf 20 35 08.7 +0.2**
P21A Newcastle 120.61 48 ⇓P **PKPdf 20 35 10.1 +0.8**
baz=121,SNR=18
P21A ⇓P **PKPdf 20 35 10.1 +0.8**
baz=121,SNR=18
Y19A Nutrioso 120.64 55 ⇑P **PKPdf 20 35 10.5 +0.9**
baz=121,SNR=28
Y19A ⇑P **PKPdf 20 35 10.5 +0.9**
baz=121,SNR=28
Y19A ⇑P **PKKPab 20 45 17.0 +0.6**
baz=121,SNR=6.5
Y19A ⇑P **PKKPab 20 45 17.0 +0.6**
baz=121,SNR=6.5
M22A Cedar Creek Ra 120.65 46 ⇓P **PKPdf 20 35 09.6 +0.2**
baz=121,SNR=30
M22A ⇓P **PKPdf 20 35 09.6 +0.2**
baz=121,SNR=30
U20A Newcomb 120.65 52 ⇑P **PKPdf 20 35 10.0 +0.6**
baz=121,SNR=12
U20A ⇑P **PKPdf 20 35 10.0 +0.6**
baz=121,SNR=12
J23A Dilts Ranch, B 120.69 43 ⇑P **PKPdf 20 35 09.2 0.0**
baz=121,SNR=10
J23A ⇑P **PKPdf 20 35 09.2 0.0**
baz=121,SNR=10
Q21A Lamborn Mesa, 120.72 49 ⇑P **PKPdf 20 35 10.3 +0.8**
baz=121,SNR=58
Q21A ⇑P **PKPdf 20 35 10.3 +0.8**
baz=121,SNR=58
Q21A ⇓P **PKKPab 20 45 16.4 +0.6**
baz=121
Q21A ⇓P **PKKPab 20 45 16.4 +0.6**
baz=121
G24A Alzada 120.73 41 ⇑P **PKPdf 20 35 09.1 -0.1**
baz=121
G24A ⇑P **PKPdf 20 35 09.1 -0.1**
baz=121
RJF Les Rejaudoux 120.76 319 *e*PKIKP **PKPdf 20 35 09.4 +0.3**
comp=Z,266nm,1.5s
RJF *e*R
comp=Z,1μm,20.5s
V20A Brimhall 120.84 53 ⇑P **PKPdf 20 35 10.3 +0.5**
baz=121,SNR=28
V20A ⇑P **PKPdf 20 35 10.3 +0.5**
baz=121,SNR=28
V20A ⇑P **PKKPab 20 45 16.6 +1.2**
baz=121
V20A ⇑P **PKKPab 20 45 16.6 +1.2**
baz=121
R21A Cimarron 120.87 49 ⇑P **PKPdf 20 35 11.1 +1.2**
baz=121,SNR=41
R21A ⇑P **PKPdf 20 35 11.1 +1.2**
baz=121,SNR=41
H24A Dirks Ranch, A 120.87 42 ⇓P **PKPdf 20 35 08.9 -0.6**
baz=121,SNR=50
H24A ⇓P **PKPdf 20 35 08.9 -0.6**
baz=121,SNR=50
H24A ⇑P **PKKPab 20 45 12.2 -2.7**
baz=121
H24A ⇑P **PKKPab 20 45 12.2 -2.7**
baz=121
SJAF Saint Jean de 120.87 316 PKP **PKPdf 20 35 08.9 -0.5**
SJAF Saint Jean de 120.87 316 PKP **PKPdf 20 35 08.9 -0.5**
K23A Bowen Ranch, D 120.87 44 ⇓P **PKPdf 20 35 09.4 -0.2**
baz=121,SNR=7.7
K23A ⇓P **PKPdf 20 35 09.4 -0.2**
baz=121,SNR=7.7
S21A Coal Bank Pass 120.88 50 ⇓P **PKPdf 20 35 11.3 +1.3**
baz=121,SNR=145
S21A ⇓P **PKPdf 20 35 11.3 +1.3**
baz=121,SNR=145
S21A ⇑P **PKKPab 20 45 16.4 +1.1**
baz=121
S21A ⇑P **PKKPab 20 45 16.4 +1.1**
baz=121
SET Setif 120.88 308 P **PKPdf 20 35 10.0 +0.2**
N22A Wattenberg Ran 120.94 46 ⇑P **PKPdf 20 35 10.3 +0.3**
baz=121,SNR=45
N22A ⇑P **PKPdf 20 35 10.3 +0.3**
baz=121,SNR=45
N22A ⇑P **PKKPab 20 45 14.3 -0.6**
baz=121
N22A ⇑P **PKKPab 20 45 14.3 -0.6**
baz=121
GRR Gorron 120.94 323 *e*PKIKP **PKPdf 20 35 09.3 0.0**
comp=Z,174nm,1.2s
LRDF Laroque-de-Fa 120.95 316 PKP **PKPdf 20 35 09.5 -0.1**
LRDF Laroque-de-Fa 120.95 316 PKP **PKPdf 20 35 09.5 -0.1**
W20A Ramah 120.97 53 ⇓P **PKPdf 20 35 10.7 +0.6**
baz=121,SNR=48
W20A ⇓P **PKPdf 20 35 10.7 +0.6**
baz=121,SNR=48
MTLF Montolieu 121.03 317 *e*PKIKP **PKPdf 20 35 09.7 0.0**
comp=Z,188nm,0.9s
L23A Garrett 121.04 45 ⇑P **PKPdf 20 35 09.7 -0.4**
baz=121,SNR=21
L23A ⇑P **PKPdf 20 35 09.7 -0.4**
baz=121,SNR=21
SMCO Snowmass 121.06 48 *e*PKPdf **PKPdf 20 35 11.1 +0.7**
FILF Fillols 121.07 316 PKP **PKPdf 20 35 09.8 -0.1**
FILF Fillols 121.07 316 PKP **PKPdf 20 35 09.8 -0.1**
O22A Kremmling 121.08 47 ⇑P **PKPdf 20 35 10.7 +0.4**
baz=121,SNR=25
O22A ⇑P **PKPdf 20 35 10.7 +0.4**
baz=121,SNR=25
O22A ⇓P **PKKPab 20 45 13.9 -0.5**
baz=121
O22A ⇓P **PKKPab 20 45 13.9 -0.5**
baz=121
P22A Eagle 121.10 48 ⇑P **PKPdf 20 35 10.9 +0.6**
baz=121,SNR=54
P22A ⇑P **PKPdf 20 35 10.9 +0.6**
baz=121,SNR=54
X20A Quemado 121.11 54 ⇓P **PKPdf 20 35 11.1 +0.6**
baz=121,SNR=23
X20A ⇓P **PKPdf 20 35 11.1 +0.6**
baz=121,SNR=23
Q22A Crested Butte, 121.20 49 ⇑P **PKPdf 20 35 11.5 +0.9**
baz=121,SNR=63
Q22A ⇑P **PKPdf 20 35 11.5 +0.9**
baz=121,SNR=63
Q22A ⇑P **PKKPbc 20 45 14.3 +0.4**
baz=121
Q22A ⇑P **PKKPbc 20 45 14.3 +0.4**
baz=121
M23A Laramie 121.25 46 ⇑P **PKPdf 20 35 10.2 -0.2**
baz=121,SNR=28
M23A ⇑P **PKPdf 20 35 10.2 -0.2**
baz=121,SNR=28
T21A Navajo Lake 121.26 51 ⇓P **PKPdf 20 35 11.8 +1.2**
baz=121,SNR=29
T21A ⇓P **PKPdf 20 35 11.8 +1.2**
baz=121,SNR=29
T21A ⇑P **PKKPbc 20 45 13.5 -0.1**
baz=121
T21A ⇑P **PKKPbc 20 45 13.5 -0.1**
baz=121
N23A Red Feather La 121.28 46 ⇑P **PKPdf 20 35 11.0 +0.4**
baz=121,SNR=27
N23A ⇑P **PKPdf 20 35 11.0 +0.4**
baz=121,SNR=27
N23A ⇑P **PKKPab 20 45 13.2 -0.2**
baz=121
N23A ⇑P **PKKPab 20 45 13.2 -0.2**
baz=121
MFF Saint Martin d 121.29 321 *e*PKIKP **PKPdf 20 35 10.0 -0.1**
comp=Z,247nm,0.7s
U21A Nageezi 121.31 52 ⇓P **PKPdf 20 35 11.7 +0.9**
baz=121,SNR=65
U21A ⇓P **PKPdf 20 35 11.7 +0.9**
baz=121,SNR=65
U21A ⇓P **PKKPab 20 45 13.9 +0.6**
baz=121,SNR=14
U21A ⇓P **PKKPab 20 45 13.9 +0.6**
baz=121,SNR=14
HEX Exmoor 121.33 327 *e*P **PKPdf 20 35 10.4 +0.4**
HEX Exmoor 121.33 327 P **PKPdf 20 35 10.4 +0.4**
J24A Dixon Ranch, L 121.33 43 ⇓P **PKPdf 20 35 09.7 -0.7**
baz=121,SNR=20
J24A ⇓P **PKPdf 20 35 09.7 -0.7**
baz=121,SNR=20
JSA Saint Aubin 121.34 324 *e*P **PKPdf 20 35 10.4 +0.3**
JSA AMB AMB 20 35 13.1
comp=Z,75nm,1.0s
JSA Saint Aubin 121.34 324 P **PKPdf 20 35 10.4 +0.3**
JSA AMB AMB 20 35 13.1
comp=Z,75nm,1.0s
Y20A Horse Springs, 121.36 55 ⇑P **PKPdf 20 35 11.8 +0.9**
baz=121,SNR=18
Y20A ⇑P **PKPdf 20 35 11.8 +0.9**
baz=121,SNR=18
Y20A ⇑P **PKKPab 20 45 13.9 +0.6**
baz=121,SNR=6.2
Y20A ⇑P **PKKPab 20 45 13.9 +0.6**
baz=121,SNR=6.2
Z20A Nine Sixteen R 121.36 56 ⇓P **PKPdf 20 35 11.7 +0.8**
baz=121
Z20A ⇓P **PKPdf 20 35 11.7 +0.8**
baz=121
K24A Anderson Ranch 121.44 44 ⇓P **PKPdf 20 35 10.2 -0.6**
baz=121,SNR=27
K24A ⇓P **PKPdf 20 35 10.2 -0.6**
baz=121,SNR=27
120A U Bar Ranch, L 121.45 56 ⇑P **PKPdf 20 35 11.7 +0.6**
baz=121,SNR=56
120A ⇑P **PKPdf 20 35 11.7 +0.6**
baz=121,SNR=56
120A ⇓P **PKKPab 20 45 14.7 +1.9**
baz=121,SNR=9.6
120A ⇓P **PKKPab 20 45 14.7 +1.9**
baz=121,SNR=9.6
RSSD Black Hills 121.45 42 *e*PKIKP **PKPdf 20 35 10.2 -0.6**
RSSD Black Hills 121.45 42 *e*PKPdf **PKPdf 20 35 10.2 -0.6**
V21A Milan 121.49 52 ⇓P **PKPdf 20 35 11.7 +0.6**
baz=122,SNR=33
V21A ⇓P **PKPdf 20 35 11.7 +0.6**
baz=122,SNR=33
VALF Valcebollere 121.50 316 PKP **PKPdf 20 35 11.2 +0.4**
VALF Valcebollere 121.50 316 PKP **PKPdf 20 35 11.2 +0.4**
R22A Saguache, Gunn 121.50 49 ⇓P **PKPdf 20 35 12.3 +1.1**
baz=122,SNR=53
R22A ⇓P **PKPdf 20 35 12.3 +1.1**
baz=122,SNR=53
R22A ⇓P **PKKPbc 20 45 13.2 +0.5**
baz=122
R22A ⇓P **PKKPbc 20 45 13.2 +0.5**
baz=122
O23A Lake Granby, G 121.52 47 ⇓P **PKPdf 20 35 11.9 +0.8**
baz=122
O23A ⇓P **PKPdf 20 35 11.9 +0.8**
baz=122
O23A ⇑P **PKKPab 20 45 12.1 -0.3**
baz=122
O23A ⇑P **PKKPab 20 45 12.1 -0.3**
baz=122
S22A 4UR Ranch, Cre 121.59 50 ⇑P **PKPdf 20 35 12.6 +1.3**
baz=122,SNR=88
S22A ⇑P **PKPdf 20 35 12.6 +1.3**
baz=122,SNR=88
L24A Wheatland 121.60 45 ⇑P **PKPdf 20 35 11.2 +0.2**
baz=122
L24A ⇑P **PKPdf 20 35 11.2 +0.2**
baz=122
W21A San Fidel 121.65 53 ⇓P **PKPdf 20 35 12.6 +1.1**
baz=122,SNR=20
W21A ⇓P **PKPdf 20 35 12.6 +1.1**
baz=122,SNR=20
220A Playas Peak, P 121.67 57 ⇓P **PKPdf 20 35 12.0 +0.6**
baz=122,SNR=52
220A ⇓P **PKPdf 20 35 12.0 +0.6**
baz=122,SNR=52
220A ⇓P **PKKPab 20 45 13.8 +2.0**
baz=122,SNR=5.1
220A ⇓P **PKKPab 20 45 13.8 +2.0**
baz=122,SNR=5.1
X21A Alamocita Cree 121.71 54 ⇓P **PKPdf 20 35 12.4 +0.8**
baz=122,SNR=79
X21A ⇓P **PKPdf 20 35 12.4 +0.8**
baz=122,SNR=79
X21A ⇓P **PKKPbc 20 45 12.4 +0.6**
baz=122,SNR=6.4
X21A ⇓P **PKKPbc 20 45 12.4 +0.6**
baz=122,SNR=6.4
DYA Yadsworthy 121.72 326 *e*P **PKPdf 20 35 09.9 -0.8**
DYA AMB AMB 20 35 13.5
comp=Z,219nm,1.5s
DYA Yadsworthy 121.72 326 P **PKPdf 20 35 09.9 -0.8**
DYA AMB AMB 20 35 13.5
comp=Z,219nm,1.5s
HTL Hartland 121.73 327 *e*P **PKPdf 20 35 10.8 +0.1**
HTL AMB AMB 20 35 13.5
comp=Z,141nm,0.8s
HTL Hartland 121.73 327 P **PKPdf 20 35 10.8 +0.1**
HTL AMB AMB 20 35 13.5
comp=Z,141nm,0.8s
T22A Edith 121.74 51 ⇑P **PKPdf 20 35 12.9 +1.3**
baz=122,SNR=45
T22A ⇑P **PKPdf 20 35 12.9 +1.3**
baz=122,SNR=45
T22A ⇑P **PKKPbc 20 45 12.3 +0.5**
baz=122
T22A ⇑P **PKKPbc 20 45 12.3 +0.5**
baz=122
320A Kipp Ranch, An 121.78 58 ⇓P **PKPdf 20 35 13.0 +1.3**
baz=122,SNR=12
320A ⇓P **PKPdf 20 35 13.0 +1.3**
baz=122,SNR=12
P23A Jefferson 121.84 48 ⇓P **PKPdf 20 35 12.6 +0.7**
baz=122,SNR=19
P23A ⇓P **PKPdf 20 35 12.6 +0.7**
baz=122,SNR=19
ISCO Idaho Springs 121.87 47 *e*PKIKP **PKPdf 20 35 12.3 +0.4**
ISCO Idaho Springs 121.87 47 *e*PKPdf **PKPdf 20 35 12.3 +0.4**
ISCO Idaho Springs 121.87 47 ⇓P **PKPdf 20 35 12.7 +0.9**
baz=122
ISCO ⇓P **PKPdf 20 35 12.7 +0.9**
baz=122
ISCO ⇓P **PKKPab 20 45 11.1 +0.1**
baz=122
ISCO ⇓P **PKKPab 20 45 11.1 +0.1**
baz=122
M24A Cheyenne 121.88 45 ⇑P **PKPdf 20 35 11.8 +0.1**
baz=122,SNR=12
M24A ⇑P **PKPdf 20 35 11.8 +0.1**
baz=122,SNR=12
Y21A Point of Rocks 121.90 54 ⇓P **PKPdf 20 35 13.0 +1.1**
baz=122,SNR=36
Y21A ⇓P **PKPdf 20 35 13.0 +1.1**
baz=122,SNR=36
Y21A ⇓P **PKKPbc 20 45 12.9 +1.8**
baz=122,SNR=6.1
Y21A ⇓P **PKKPbc 20 45 12.9 +1.8**
baz=122,SNR=6.1
SALF Salau 121.94 316 PKP **PKPdf 20 35 10.8 -0.8**
SALF Salau 121.94 316 PKP **PKPdf 20 35 10.8 -0.8**
Q23A Hartsel 121.99 48 ⇓P **PKPdf 20 35 12.9 +0.8**
baz=122,SNR=14
Q23A ⇓P **PKPdf 20 35 12.9 +0.8**
baz=122,SNR=14
SGMF Saint Gilles 122.01 324 *e*PKIKP **PKPdf 20 35 11.2 -0.2**
comp=Z,193nm,0.8s
V22A San Miguel Ran 122.03 52 ⇓P **PKPdf 20 35 13.5 +1.3**
baz=122,SNR=85
V22A ⇓P **PKPdf 20 35 13.5 +1.3**
baz=122,SNR=85
V22A ⇑P **PKKPbc 20 45 11.9 +1.3**
baz=122
V22A ⇑P **PKKPbc 20 45 11.9 +1.3**
baz=122
N24A Carr 122.06 46 ⇓P **PKPdf 20 35 12.7 +0.7**
baz=122
N24A ⇓P **PKPdf 20 35 12.7 +0.7**
baz=122
Z21A St. Cloud Mine 122.07 55 ⇓P **PKPdf 20 35 13.4 +1.1**
baz=122
Z21A ⇓P **PKPdf 20 35 13.4 +1.1**
baz=122
Z21A ⇓P **PKKPbc 20 45 11.6 +1.3**
baz=122
Z21A ⇓P **PKKPbc 20 45 11.6 +1.3**
baz=122
K25A Mack Ranch, Ha 122.13 44 ⇑P **PKPdf 20 35 11.4 -0.6**
baz=122,SNR=12
K25A ⇑P **PKPdf 20 35 11.4 -0.6**
baz=122,SNR=12
121A Cookes Peak, D 122.15 56 ⇑P **PKPdf 20 35 13.5 +1.1**

	baz=122,SNR=65								
121A					⇑P		PKPdf	20 35 13.5	+1.1
	baz=122,SNR=65								
121A					⇑P		PKKPbc	20 45 11.0	+1.0
	baz=122								
121A					⇑P		PKKPbc	20 45 11.0	+1.0
	baz=122								
O24A	**Longmont**	**122.16**	**47**		⇑P		**PKPdf**	**20 35 12.7**	**+0.6**
O24A	baz=122				⇑P		PKPdf	20 35 12.7	+0.6
	baz=122								
R23A	**Moffat**	**122.22**	**49**		⇑P		**PKPdf**	**20 35 13.3**	**+0.7**
R23A	baz=122,SNR=74				⇑P		PKPdf	20 35 13.3	+0.7
	baz=122,SNR=74								
R23A					⇑P		PKKPab	20 45 09.5	+0.1
	baz=122								
R23A					⇑P		PKKPab	20 45 09.5	+0.1
	baz=122								
S23A	**Nye Farm, Mont**	**122.23**	**50**		⇓P		**PKPdf**	**20 35 13.1**	**+0.6**
S23A	baz=122,SNR=7.1				⇓P		PKPdf	20 35 13.1	+0.6
	baz=122,SNR=7.1								
L25A	**Engebretsen Ra**	**122.23**	**44**		⇑P		**PKPdf**	**20 35 12.4**	**+0.2**
L25A	baz=122				⇑P		PKPdf	20 35 12.4	+0.2
	baz=122								
LAZ	**Ladron**	**122.24**	**54**	*e*PKPdf			**PKPdf**	**20 35 13.5**	**+1.0**
221A	**Mesquite Ranch**	**122.27**	**57**		⇑P		**PKPdf**	**20 35 13.6**	**+1.0**
	baz=122,SNR=12								
221A					⇑P		PKPdf	20 35 13.6	+1.0
	baz=122,SNR=12								
221A					⇓P		PKKPbc	20 45 11.3	+1.9
	baz=122								
221A					⇓P		PKKPbc	20 45 11.3	+1.9
	baz=122								
W22A	**Albuquerque**	**122.28**	**53**		⇑P		**PKPdf**	**20 35 13.9**	**+1.3**
W22A	baz=122				⇑P		PKPdf	20 35 13.9	+1.3
	baz=122								
X22A	**Bernardo**	**122.31**	**54**		⇓P		**PKPdf**	**20 35 13.5**	**+0.8**
X22A	baz=122				⇓P		PKPdf	20 35 13.5	+0.8
	baz=122								
ROSF	**Rostrenen**	**122.39**	**324**	*e*PKIKP			**PKPdf**	**20 35 11.9**	**-0.2**
	comp=Z,115nm,0.8s								
T23A	**Casias Ranch,**	**122.39**	**51**		⇑P		**PKPdf**	**20 35 14.2**	**+1.4**
	baz=122,SNR=28								
T23A					⇑P		PKPdf	20 35 14.2	+1.4
	baz=122,SNR=28								
EPF	**Esparros**	**122.42**	**317**	*e*PKIKP			**PKPdf**	**20 35 12.5**	**+0.1**
	comp=Z,110nm,0.8s								
LENM	**Lemitar**	**122.43**	**54**	*e*PKPdf			**PKPdf**	**20 35 13.8**	**+0.8**
M25A	**Palm-Egli Farm**	**122.43**	**45**		⇑P		**PKPdf**	**20 35 13.8**	**+1.1**
	baz=122								
M25A					⇑P		PKPdf	20 35 13.8	+1.1
	baz=122								
U23A	**El Rito**	**122.48**	**51**		⇑P		**PKPdf**	**20 35 14.3**	**+1.3**
	baz=122,SNR=51								
U23A					⇑P		PKPdf	20 35 14.3	+1.3
	baz=122,SNR=51								
P24A	**Kohler Place,**	**122.48**	**47**		⇓P		**PKPdf**	**20 35 13.5**	**+0.6**
	baz=122								
P24A					⇓P		PKPdf	20 35 13.5	+0.6
	baz=122								
Q24A	**Divide**	**122.48**	**48**		⇑P		**PKPdf**	**20 35 13.5**	**+0.4**
	baz=122,SNR=21								
Q24A					⇑P		PKPdf	20 35 13.5	+0.4
	baz=122,SNR=21								
Y22A	**Socorro**	**122.49**	**54**		⇑P		**PKPdf**	**20 35 13.8**	**+0.7**
	baz=122,SNR=37								
Y22A					⇑P		PKPdf	20 35 13.8	+0.7
	baz=122,SNR=37								
Y22A					⇓P		PKKPbc	20 45 09.0	+0.3
	baz=122,SNR=10								
Y22A					⇓P		PKKPbc	20 45 09.0	+0.3
	baz=122,SNR=10								
Y22D	**IRIS PASSCAL I**	**122.49**	**54**		⇑P		**PKPdf**	**20 35 14.4**	**+1.5**
	baz=122								
Y22D					⇑P		PKPdf	20 35 14.4	+1.5
	baz=122								
RESF	**Ens**	**122.50**	**317**	PKP			**PKPdf**	**20 35 13.4**	**+0.7**
RESF	**Ens**	**122.50**	**317**	PKP			**PKPdf**	**20 35 13.4**	**+0.7**
QUIF	**Quistinic**	**122.53**	**323**	*e*PKIKP			**PKPdf**	**20 35 12.2**	**-0.2**
	comp=Z,173nm,0.9s								
K26A	**Motz Farm, Whi**	**122.57**	**43**		⇑P		**PKPdf**	**20 35 12.3**	**-0.5**
	baz=122								
K26A					⇑P		PKPdf	20 35 12.3	-0.5
	baz=122								
LABF	**Labassere**	**122.59**	**317**	PKP			**PKPdf**	**20 35 12.9**	**+0.1**
LABF	**Labassere**	**122.59**	**317**	PKP			**PKPdf**	**20 35 12.9**	**+0.1**
SDCO	**Great Sand Dun**	**122.59**	**50**	*e*PKPdf			**PKPdf**	**20 35 13.9**	**+0.6**
SDCO	**Great Sand Dun**	**122.59**	**50**		⇓P		**PKPdf**	**20 35 13.9**	**+0.6**
	baz=123								
SDCO					⇓P		PKPdf	20 35 13.9	+0.6
	baz=123								
SDCO					⇓P		PKPdf	20 35 13.9	+0.6
	baz=123								
SDCO					⇓P		PKPdf	20 35 13.9	+0.6
	baz=123								
SDCO					⇑P		PKKPbc	20 45 08.6	0.0
	baz=123								
SDCO					⇑P		PKKPbc	20 45 08.6	0.0
	baz=123								
SDCO					⇑P		PKKPbc	20 45 08.6	0.0
	baz=123								
SDCO					⇑P		PKKPbc	20 45 08.6	0.0
	baz=123								
N25A	**Grover**	**122.63**	**46**		⇓P		**PKPdf**	**20 35 13.4**	**+0.4**
	baz=123,SNR=5.3								
N25A					⇓P		PKPdf	20 35 13.4	+0.4
	baz=123,SNR=5.3								
MDND	**Maddock**	**122.63**	**37**		⇑P		**PKPdf**	**20 35 12.4**	**-0.2**
	baz=123								
MDND					⇑P		PKPdf	20 35 12.4	-0.2
	baz=123								
ANMO	**Albuquerque**	**122.64**	**53**	*e*PKIKP			**PKPdf**	**20 35 13.8**	**+0.5**
ANMO	**Albuquerque**	**122.64**	**53**	*e*PKPdf			**PKPdf**	**20 35 13.8**	**+0.5**
V23A	**Ortiz Mt. (NFS**	**122.64**	**52**		⇑P		**PKPdf**	**20 35 14.9**	**+1.6**
	baz=123,SNR=28								
V23A					⇑P		PKPdf	20 35 14.9	+1.6
	baz=123,SNR=28								
TRIS	**Tristan da Cun**	**122.65**	**217**	*e*PKPdf			**PKPdf**	**20 35 14.1**	**+1.1**
Z22A	**Elephant Butte**	**122.66**	**55**		⇓P		**PKPdf**	**20 35 14.0**	**+0.7**
	baz=123,SNR=71								
Z22A					⇓P		PKPdf	20 35 14.0	+0.7
	baz=123,SNR=71								
Z22A					⇑P		PKKPbc	20 45 09.0	+1.0
	baz=123								
Z22A					⇑P		PKKPbc	20 45 09.0	+1.0
	baz=123								
LPM	**Los Pinos Moun**	**122.67**	**54**	*e*PKPdf			**PKPdf**	**20 35 13.8**	**+0.4**
VIEF	**Viey**	**122.69**	**317**	PKP			**PKPdf**	**20 35 13.7**	**+0.7**
VIEF	**Viey**	**122.69**	**317**	PKP			**PKPdf**	**20 35 13.7**	**+0.7**
BNM	**Barren Site**	**122.71**	**54**	*e*PKPdf			**PKPdf**	**20 35 14.0**	**+0.5**
R24A	**Sanders Place,**	**122.74**	**49**		⇓P		**PKPdf**	**20 35 14.2**	**+0.8**
	baz=123,SNR=17								
R24A					⇓P		PKPdf	20 35 14.2	+0.8
	baz=123,SNR=17								
R24A					⇓P		PKKPab	20 45 07.3	+0.1
	baz=123								
R24A					⇓P		PKKPab	20 45 07.3	+0.1
	baz=123								
122A	**Conniff Cattle**	**122.76**	**56**		⇑P		**PKPdf**	**20 35 14.4**	**+0.9**
	baz=123,SNR=7.2								
122A					⇑P		PKPdf	20 35 14.4	+0.9
	baz=123,SNR=7.2								
222A	**Williams Famil**	**122.81**	**56**		⇓P		**PKPdf**	**20 35 14.9**	**+1.3**
	baz=123,SNR=30								
222A					⇓P		PKPdf	20 35 14.9	+1.3
	baz=123,SNR=30								
W23A	**Werner Place,**	**122.83**	**53**		⇑P		**PKPdf**	**20 35 14.5**	**+0.8**
	baz=123,SNR=39								
W23A					⇑P		PKPdf	20 35 14.5	+0.8
	baz=123,SNR=39								
W23A					⇑P		PKKPbc	20 45 07.9	+0.4
	baz=123								
W23A					⇑P		PKKPbc	20 45 07.9	+0.4
	baz=123								
S24A	**Houchin Ranch,**	**122.84**	**50**		⇓P		**PKPdf**	**20 35 14.8**	**+1.0**
	baz=123								
S24A					⇓P		PKPdf	20 35 14.8	+1.0
	baz=123								
S24A					⇑P		PKKPab	20 45 07.2	+0.3
	baz=123								
S24A					⇑P		PKKPab	20 45 07.2	+0.3
	baz=123								
O25A	**Wiggins**	**122.85**	**47**		⇓P		**PKPdf**	**20 35 13.7**	**+0.2**
	baz=123,SNR=13								
O25A					⇓P		PKPdf	20 35 13.7	+0.2
	baz=123,SNR=13								
L26A	**Underwood Farm**	**122.89**	**44**		⇓P		**PKPdf**	**20 35 13.4**	**-0.1**
	baz=123,SNR=6.0								
L26A					⇓P		PKPdf	20 35 13.4	-0.1
	baz=123,SNR=6.0								
REYF	**Montagne du Re**	**122.89**	**317**	PKP			**PKPdf**	**20 35 14.2**	**+0.8**
REYF	**Montagne du Re**	**122.89**	**317**	PKP			**PKPdf**	**20 35 14.2**	**+0.8**
X23A	**Hourglass Bar**	**122.95**	**53**		⇓P		**PKPdf**	**20 35 14.2**	**+0.3**
	baz=123,SNR=37								
X23A					⇓P		PKPdf	20 35 14.2	+0.3
	baz=123,SNR=37								
P25A	**Willow Gulch B**	**123.02**	**47**		⇑P		**PKPdf**	**20 35 14.5**	**+0.6**
	baz=123,SNR=41								
P25A					⇑P		PKPdf	20 35 14.5	+0.6
	baz=123,SNR=41								
M26A	**McRoberts Ranc**	**123.06**	**45**		⇑P		**PKPdf**	**20 35 14.1**	**+0.3**
	baz=123,SNR=6.0								
M26A					⇑P		PKPdf	20 35 14.1	+0.3
	baz=123,SNR=6.0								
ETSF	**Etsaut**	**123.08**	**317**	*e*PKIKP			**PKPdf**	**20 35 14.5**	**+0.8**
	comp=Z,176nm,0.8s								
ATE	**Arette**	**123.09**	**317**	PKP			**PKPdf**	**20 35 14.7**	**+1.0**
ATE	**Arette**	**123.09**	**317**	PKP			**PKPdf**	**20 35 14.7**	**+1.0**
T24A	**Torres, Weston**	**123.14**	**50**		⇑P		**PKPdf**	**20 35 15.2**	**+0.9**
	baz=123								
T24A					⇑P		PKPdf	20 35 15.2	+0.9
	baz=123								
T24A					⇑P		PKKPbc	20 45 06.0	-0.4
	baz=123								
T24A					⇑P		PKKPbc	20 45 06.0	-0.4
	baz=123								
Q25A	**Bedland, Calha**	**123.16**	**48**		⇑P		**PKPdf**	**20 35 14.7**	**+0.5**
	baz=123,SNR=15								
Q25A					⇑P		PKPdf	20 35 14.7	+0.5
	baz=123,SNR=15								
K27A	**Flueckinger Fa**	**123.21**	**43**		⇑P		**PKPdf**	**20 35 13.5**	**-0.5**
	baz=123								
K27A					⇑P		PKPdf	20 35 13.5	-0.5
	baz=123								
TAM	**Tamanrasset**	**123.22**	**292**	*e*PKIKP			**PKPdf**	**20 35 15.7**	**+1.0**
TAM	**Tamanrasset**	**123.22**	**292**	*e*PKPdf			**PKPdf**	**20 35 15.7**	**+1.0**
Y23A	**Lovelace Mesa,**	**123.22**	**54**		⇑P		**PKPdf**	**20 35 14.8**	**+0.4**
	baz=123,SNR=54								
Y23A					⇑P		PKPdf	20 35 14.8	+0.4
	baz=123,SNR=54								
Y23A					⇓P		PKKPbc	20 45 06.0	+0.1
	baz=123,SNR=7.6								
Y23A					⇓P		PKKPbc	20 45 06.0	+0.1
	baz=123,SNR=7.6								
N26A	**Koester Ranch,**	**123.24**	**45**		⇑P		**PKPdf**	**20 35 14.0**	**-0.1**
	baz=123								
N26A					⇑P		PKPdf	20 35 14.0	-0.1
	baz=123								
Z23A	**Rita Site, Whi**	**123.25**	**55**		⇓P		**PKPdf**	**20 35 15.4**	**+0.9**
	baz=123,SNR=50								
Z23A					⇓P		PKPdf	20 35 15.4	+0.9
	baz=123,SNR=50								
Z23A					⇑P		PKKPbc	20 45 06.4	+0.7
	baz=123								
Z23A					⇑P		PKKPbc	20 45 06.4	+0.7
	baz=123								
V24A	**Rampart Ranch,**	**123.36**	**52**		⇑P		**PKPdf**	**20 35 15.7**	**+0.9**
	baz=123								
V24A					⇑P		PKPdf	20 35 15.7	+0.9
	baz=123								
V24A					⇑P		PKKPbc	20 45 05.1	-0.4
	baz=123								
V24A					⇑P		PKKPbc	20 45 05.1	-0.4
	baz=123								
123A	**Bell Site, Whi**	**123.38**	**56**		⇓P		**PKPdf**	**20 35 15.7**	**+1.0**
	baz=123,SNR=7.7								
123A					⇓P		PKPdf	20 35 15.7	+1.0
	baz=123,SNR=7.7								
O26A	**Horse Wrangler**	**123.38**	**46**		⇓P		**PKPdf**	**20 35 14.5**	**0.0**
	baz=123								
O26A					⇓P		PKPdf	20 35 14.5	0.0
	baz=123								
R25A	**Fountain Ranch**	**123.38**	**49**		⇓P		**PKPdf**	**20 35 14.6**	**0.0**
	baz=123,SNR=58								
R25A					⇓P		PKPdf	20 35 14.6	0.0
	baz=123,SNR=58								
R25A					⇓P		PKKPab	20 45 04.2	-0.1
	baz=123								
R25A					⇓P		PKKPab	20 45 04.2	-0.1
	baz=123								
223A	**Chaparral, Ant**	**123.39**	**56**		⇑P		**PKPdf**	**20 35 15.9**	**+1.2**
	baz=123								
223A					⇑P		PKPdf	20 35 15.9	+1.2
	baz=123								
L27A	**T5 Ranch, Ells**	**123.40**	**44**		⇓P		**PKPdf**	**20 35 13.9**	**-0.6**
	baz=123								
L27A					⇓P		PKPdf	20 35 13.9	-0.6
	baz=123								
W24A	**Lazy 6 Ranch,**	**123.40**	**52**		⇓P		**PKPdf**	**20 35 15.7**	**+1.0**
	baz=123,SNR=52								
W24A					⇓P		PKPdf	20 35 15.7	+1.0
	baz=123,SNR=52								
W24A					⇓P		PKKPbc	20 45 05.3	0.0
	baz=123								
W24A					⇓P		PKKPbc	20 45 05.3	0.0
	baz=123								
S25A	**Robets Cordova**	**123.42**	**49**		⇓P		**PKPdf**	**20 35 15.7**	**+1.0**
	baz=123								
S25A					⇓P		PKPdf	20 35 15.7	+1.0
	baz=123								
S25A					⇓P		PKKPab	20 45 04.1	-0.1
	baz=123								
S25A					⇓P		PKKPab	20 45 04.1	-0.1
	baz=123								
SJPF	**Ste Jean**	**123.44**	**318**	*e*PKIKP			**PKPdf**	**20 35 15.0**	**+0.7**
	comp=Z,104nm,0.8s								
ULM	**Lac du Bonnet**	**123.49**	**33**	PKP			**PKPdf**	**20 35 13.2**	**-0.9**
	comp=Z,93nm,0.8s,baz=312,slow=2.9,SNR=88								
ULM				PKKPbc			**PKKPbc**	**20 45 04.9**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=131,slow=1.8,SNR=5.1								
ULM	**Lac du Bonnet**	**123.49**	**33**	PKIKP			**PKPdf**	**20 35 13.3**	**-0.9**
ULM				pmax			pmax		
	comp=Z,93nm,0.8s								
ULM	**Lac du Bonnet**	**123.49**	**33**	PKP			**PKPdf**	**20 35 13.2**	**-0.9**
ULM				PKKPbc			**PKPbc**	**20 45 04.9**	**-0.2**
M27A	**Reverse DX Ran**	**123.56**	**44**		⇓P		**PKPdf**	**20 35 15.0**	**+0.2**
	baz=124								
M27A					⇓P		PKPdf	20 35 15.0	+0.2
	baz=124								
P26A	**Davis Ranch, A**	**123.60**	**47**		⇓P		**PKPdf**	**20 35 15.8**	**+0.8**
	baz=124								
P26A					⇓P		PKPdf	20 35 15.8	+0.8
	baz=124								
T25A	**Trinidad**	**123.61**	**50**		⇓P		**PKPdf**	**20 35 15.6**	**+0.5**
	baz=124,SNR=50								
T25A					⇓P		PKPdf	20 35 15.6	+0.5
	baz=124,SNR=50								
T25A					⇓P		PKKPbc	20 45 04.1	-0.4
	baz=124								
T25A					⇓P		PKKPbc	20 45 04.1	-0.4
	baz=124								
Q26A	**Hugo**	**123.69**	**48**		⇓P		**PKPdf**	**20 35 15.6**	**+0.4**
	baz=124,SNR=10								
Q26A					⇓P		PKPdf	20 35 15.6	+0.4
	baz=124,SNR=10								
Y24A	**Capitan**	**123.72**	**54**		⇓P		**PKPdf**	**20 35 16.2**	**+0.8**
	baz=124								
Y24A					⇓P		PKPdf	20 35 16.2	+0.8
	baz=124								
Y24A					⇓P		PKKPbc	20 45 03.9	-0.1
	baz=124								
Y24A					⇓P		PKKPbc	20 45 03.9	-0.1
	baz=124								
N27A	**Anderson Farm,**	**123.73**	**45**		⇓P		**PKPdf**	**20 35 15.8**	**+0.7**
	baz=124,SNR=13								
N27A					⇓P		PKPdf	20 35 15.8	+0.7
	baz=124,SNR=13								
U25A	**Circle Dot Ran**	**123.83**	**51**		⇑P		**PKPdf**	**20 35 16.4**	**+0.9**
	baz=124,SNR=42								
U25A					⇑P		PKPdf	20 35 16.4	+0.9
	baz=124,SNR=42								
U25A					⇓P		PKKPab	20 45 02.3	-0.2
	baz=124								
U25A					⇓P		PKKPab	20 45 02.3	-0.2
	baz=124								
V25A	**Rancho No Teng**	**123.84**	**52**		⇓P		**PKPdf**	**20 35 16.5**	**+0.9**
	baz=124,SNR=85								
V25A					⇓P		PKPdf	20 35 16.5	+0.9
	baz=124,SNR=85								
V25A					⇑P		PKKPab	20 45 02.8	+0.3
	baz=124								
EBNR	**Beni Rached**	**123.86**	**309**	P			**PKPdf**	**20 35 15.6**	**+0.2**
Z24A	**Sheeppen Canyo**	**123.94**	**55**		⇓P		**PKPdf**	**20 35 16.7**	**+0.9**
	baz=124								
Z24A					⇓P		PKPdf	20 35 16.7	+0.9
	baz=124								
Z24A					⇑P		PKKPbc	20 45 03.0	-0.1
	baz=124								
Z24A					⇑P		PKKPbc	20 45 03.0	-0.1
	baz=124								
R26A	**Arlington**	**123.96**	**48**		⇓P		**PKPdf**	**20 35 16.3**	**+0.6**
	baz=124,SNR=67								
R26A					⇓P		PKPdf	20 35 16.3	+0.6
	baz=124,SNR=67								
O27A	**Beecher Island**	**124.00**	**46**		⇑P		**PKPdf**	**20 35 16.0**	**+0.4**
	baz=124,SNR=30								
O27A					⇑P		PKPdf	20 35 16.0	+0.4
	baz=124,SNR=30								
124A	**Stringfield Ra**	**124.02**	**55**		⇓P		**PKPdf**	**20 35 17.1**	**+1.0**
	baz=124								
124A					⇓P		PKPdf	20 35 17.1	+1.0
	baz=124								
124A					⇑P		PKKPbc	20 45 02.6	-0.2
	baz=124								
124A					⇑P		PKKPbc	20 45 02.6	-0.2
	baz=124								
ECHA	**Ech Chlef**	**124.03**	**309**	P			**PKPdf**	**20 35 16.0**	**+0.4**
OGNE	**Ogallala**	**124.03**	**45**	*e*PKPdf			**PKPdf**	**20 35 16.2**	**+0.5**
OGNE	**Ogallala**	**124.03**	**45**		⇓P		**PKPdf**	**20 35 15.6**	**0.0**
	baz=124								
OGNE					⇓P		PKPdf	20 35 15.6	0.0
	baz=124								
OGNE					⇑P		PKKPab	20 44 59.5	-1.9
	baz=124								
OGNE					⇑P		PKKPab	20 44 59.5	-1.9
	baz=124								
224A	**Cornudas Mount**	**124.12**	**56**		⇑P		**PKPdf**	**20 35 17.0**	**+0.8**
	baz=124								
224A					⇑P		PKPdf	20 35 17.0	+0.8
	baz=124								
224A					⇑P		PKKPbc	20 45 02.5	+0.2
	baz=124,SNR=6.6								
224A					⇑P		PKKPbc	20 45 02.5	+0.2
	baz=124,SNR=6.6								
W25A	**X Bar L Ranch,**	**124.14**	**52**		⇑P		**PKPdf**	**20 35 16.7**	**+0.6**
	baz=124								
W25A					⇑P		PKPdf	20 35 16.7	+0.6
	baz=124								
W25A					⇑P		PKKPbc	20 45 02.0	-0.2
	baz=124								
W25A					⇑P		PKKPbc	20 45 02.0	-0.2
	baz=124								
S26A	**Kim**	**124.16**	**49**		⇑P		**PKPdf**	**20 35 16.5**	**+0.4**
	baz=124,SNR=63								
S26A					⇑P		PKPdf	20 35 16.5	+0.4
	baz=124,SNR=63								
S26A					⇓P		PKKPbc	20 45 01.7	-0.5
	baz=124								
S26A					⇓P		PKKPbc	20 45 01.7	-0.5
	baz=124								
X25A	**Clemmons Ranch**	**124.18**	**53**		⇓P		**PKPdf**	**20 35 16.8**	**+0.6**
	baz=124,SNR=17								
X25A					⇓P		PKPdf	20 35 16.8	+0.6
	baz=124,SNR=17								
X25A					⇓P		PKKPbc	20 45 02.2	+0.1
	baz=124								
X25A					⇓P		PKKPbc	20 45 02.2	+0.1
	baz=124								
T26A	**Comanche Natio**	**124.21**	**50**		⇑P		**PKPdf**	**20 35 16.6**	**+0.3**
	baz=124,SNR=114								
T26A					⇑P		PKPdf	20 35 16.6	+0.3
	baz=124,SNR=114								
T26A					⇓P		PKKPbc	20 45 01.8	-0.3
	baz=124								
T26A					⇓P		PKKPbc	20 45 01.8	-0.3
	baz=124								
EANR	**'Ain N'Sour**	**124.30**	**309**	P			**PKPdf**	**20 35 17.0**	**+0.7**
324A	**Moseley Ranch,**	**124.30**	**57**		⇓P		**PKPdf**	**20 35 17.0**	**+0.5**
	baz=124								
324A					⇓P		PKPdf	20 35 17.0	+0.5
	baz=124								
324A					⇓P		PKKPab	20 45 00.9	+0.3
	baz=124								
324A					⇓P		PKKPab	20 45 00.9	+0.3
	baz=124								
ETRT	**Tiaret**	**124.31**	**308**	P			**PKPdf**	**20 35 17.0**	**+0.6**
KSCO	**Kaye Shedlock'**	**124.31**	**47**		⇑P		**PKPdf**	**20 35 16.7**	**+0.4**
	baz=124,SNR=14								
KSCO					⇑P		PKPdf	20 35 16.7	+0.4
	baz=124,SNR=14								
Y25A	**Mesa, Roswell**	**124.32**	**54**		⇓P		**PKPdf**	**20 35 16.8**	**+0.3**
	baz=124								
Y25A					⇓P		PKPdf	20 35 16.8	+0.3
	baz=124								
Y25A					⇓P		PKKPbc	20 45 01.4	-0.1
	baz=124								
Y25A					⇓P		PKKPbc	20 45 01.4	-0.1
	baz=124								
U26A	**Atchley Ranch,**	**124.34**	**51**		⇑P		**PKPdf**	**20 35 17.1**	**+0.5**
	baz=124,SNR=33								
U26A					⇑P		PKPdf	20 35 17.1	+0.5
	baz=124,SNR=33								
U26A					⇑P		PKKPab	20 45 00.9	+0.5
	baz=124								
U26A					⇑P		PKKPab	20 45 00.9	+0.5
	baz=124								
R27A	**Eads**	**124.44**	**48**		⇑P		**PKPdf**	**20 35 16.9**	**+0.4**
	baz=124,SNR=46								
R27A					⇑P		PKPdf	20 35 16.9	+0.4
	baz=124,SNR=46								
R27A					⇑P		PKKPbc	20 45 01.2	+0.1
	baz=124								
R27A					⇑P		PKKPbc	20 45 01.2	+0.1
	baz=124								
Z25A	**Roswell**	**124.47**	**55**		⇓P		**PKPdf**	**20 35 17.2**	**+0.5**
	baz=124								
Z25A					⇓P		PKPdf	20 35 17.2	+0.5
	baz=124								
Z25A					⇓P		PKKPbc	20 45 00.7	-0.2
	ba

Y26A Elida 125.01 54 ⇓P **PKPdf 20 35 17.8 0.0**
baz=125,SNR=9.8
Y26A ⇓P **PKPdf 20 35 17.8 0.0**
baz=125,SNR=9.8
Y26A ⇑P **PKKPbc 20 44 58.5 -0.3**
baz=125
Y26A ⇑P **PKKPbc 20 44 58.5 -0.3**
baz=125
GDL2 Guadalupe Moun 125.04 56 *e*PKPdf **PKPdf 20 35 18.9 +1.0**
Z26A Caprock 125.07 54 ⇓P **PKPdf 20 35 17.8 -0.1**
baz=125,SNR=13
Z26A ⇓P **PKPdf 20 35 17.8 -0.1**
baz=125,SNR=13
Z26A ⇓P **PKKPbc 20 44 58.0 -0.5**
baz=125
Z26A ⇓P **PKKPbc 20 44 58.0 -0.5**
baz=125
126A Clayton Basin, 125.20 55 ⇓P **PKPdf 20 35 18.3 +0.1**
baz=125,SNR=20
126A ⇓P **PKPdf 20 35 18.3 +0.1**
baz=125,SNR=20
126A ⇓P **PKKPbc 20 44 57.3 -0.6**
baz=125
126A ⇓P **PKKPbc 20 44 57.3 -0.6**
baz=125
W27A Bowe Ranch, En 125.28 52 ⇑P **PKPdf 20 35 18.4 +0.2**
baz=125
W27A ⇑P **PKPdf 20 35 18.4 +0.2**
baz=125
226A Malaga, Loving 125.29 56 ⇑P **PKPdf 20 35 18.6 +0.3**
baz=125,SNR=39
226A ⇑P **PKPdf 20 35 18.6 +0.3**
baz=125,SNR=39
226A ⇓P **PKKPbc 20 44 57.4 -0.2**
baz=125
226A ⇓P **PKKPbc 20 44 57.4 -0.2**
baz=125
X27A F and S Farms, 125.38 52 ⇑P **PKPdf 20 35 18.6 +0.1**
baz=125,SNR=14
X27A ⇑P **PKPdf 20 35 18.6 +0.1**
baz=125,SNR=14
CLNB Carlsbad 125.42 55 *e*PKPdf **PKPdf 20 35 18.9 +0.3**
Y27A Causey 125.55 53 ⇑P **PKPdf 20 35 18.9 0.0**
baz=126,SNR=54
Y27A ⇑P **PKPdf 20 35 18.9 0.0**
baz=126,SNR=54
326A Caldwell Ranch 125.58 57 ⇓P **PKPdf 20 35 19.4 +0.5**
baz=126,SNR=15
326A ⇓P **PKPdf 20 35 19.4 +0.5**
baz=126,SNR=15
Z27A Tatum 125.67 54 ⇓P **PKPdf 20 35 18.9 -0.1**
baz=126
Z27A ⇓P **PKPdf 20 35 18.9 -0.1**
baz=126
426A McDonald Obser 125.70 57 ⇓P **PKPdf 20 35 19.8 +0.4**
baz=126,SNR=16
426A ⇓P **PKPdf 20 35 19.8 +0.4**
baz=126,SNR=16
V28A Channing 125.72 51 ⇓P **PKPdf 20 35 19.8 +0.8**
baz=126,SNR=13
V28A ⇓P **PKPdf 20 35 19.8 +0.8**
baz=126,SNR=13
127A Arkansas Junct 125.73 55 ⇑P **PKPdf 20 35 19.4 +0.2**
baz=126
127A ⇑P **PKPdf 20 35 19.4 +0.2**
baz=126
526A Mary Lane Ranc 125.79 58 ⇓P **PKPdf 20 35 19.6 +0.2**
baz=126,SNR=63
526A ⇓P **PKPdf 20 35 19.6 +0.2**
baz=126,SNR=63
MSTX Muleshoe 125.84 53 ⇑P **PKPdf 20 35 19.5 +0.1**
baz=126,SNR=33
MSTX ⇑P **PKPdf 20 35 19.5 +0.1**
baz=126,SNR=33
626A Big Bend Ranch 125.87 59 ⇓P **PKPdf 20 35 19.9 +0.4**
baz=126,SNR=28
626A ⇓P **PKPdf 20 35 19.9 +0.4**
baz=126,SNR=28
W28A Vega 125.89 51 ⇓P **PKPdf 20 35 19.6 +0.2**
baz=126,SNR=16
W28A ⇓P **PKPdf 20 35 19.6 +0.2**
baz=126,SNR=16
227A Bennet, Jal 125.97 56 ⇑P **PKPdf 20 35 20.1 +0.5**
baz=126
227A ⇑P **PKPdf 20 35 20.1 +0.5**
baz=126
327A Balmorhea Ranc 125.97 56 ⇑P **PKPdf 20 35 19.8 +0.2**
baz=126
327A ⇑P **PKPdf 20 35 19.8 +0.2**
baz=126
527A Woodward Ranch 126.17 58 ⇑P **PKPdf 20 35 20.4 +0.3**
baz=126,SNR=63
527A ⇑P **PKPdf 20 35 20.4 +0.3**
baz=126,SNR=63
427A Hayter Ranch, 126.18 57 ⇑P **PKPdf 20 35 20.7 +0.6**
baz=126,SNR=40
427A ⇑P **PKPdf 20 35 20.7 +0.6**
baz=126,SNR=40
V29A Stinnett 126.22 51 ⇓P **PKPdf 20 35 20.2 +0.2**
baz=126,SNR=22
V29A ⇓P **PKPdf 20 35 20.2 +0.2**
baz=126,SNR=22
TXAR Lajitas Array 126.32 59 PKhKP PKPpre 20 34 59.6
comp=Z,0.6nm,0.7s,baz=252,slow=1.9,SNR=5.3
TXAR PKP **PKiKP 20 35 21.3 +0.5**
comp=Z,23nm,0.7s,baz=235,slow=3.5,SNR=6.5
TXAR PKKPbc **PKKPbc 20 44 54.2 +0.5**
comp=Z,2.2nm,0.8s,baz=111,slow=6.0,SNR=5.7
TXAR SKKPbc SKKPbc 20 48 29.8 -1.3
comp=Z,0.9nm,0.8s,baz=104,slow=2.6,SNR=3.4
TXAR Lajitas Array 126.32 59 PKHKP PKPpre 20 34 59.7
TXAR 20 35 21.3
TXAR 20 48 29.8
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,23nm,0.7s
TXAR Lajitas Array 126.32 59 PKPpre PKPpre 20 34 59.6
TXAR PKP **PKiKP 20 35 21.3 +0.5**
TXAR PKKPbc **PKKPbc 20 44 54.2 +0.5**
TXAR SKKPbc SKKPbc 20 48 29.8 -1.3
AMTX Amarillo 126.42 52 *e*PKPdf **PKPdf 20 35 21.3 +0.8**
AMTX Amarillo 126.42 52 ⇑P **PKPdf 20 35 20.9 +0.5**
baz=126
AMTX ⇑P **PKPdf 20 35 20.9 +0.5**
baz=126
AMTX ⇑P **PKPdf 20 35 20.9 +0.5**
baz=126
AMTX ⇑P **PKPdf 20 35 20.9 +0.5**
baz=126
ECSD EROS Data Cent 126.45 40 *e*PKPdf **PKPdf 20 35 20.1 0.0**
CBKS Cedar Bluff 126.48 47 *e*PKiKP **PKPdf 20 35 20.5 +0.1**
CBKS Cedar Bluff 126.48 47 *e*PKPdf **PKPdf 20 35 20.4 +0.1**
CBKS Cedar Bluff 126.48 47 ⇓P **PKPdf 20 35 20.8 +0.5**
baz=126
CBKS ⇓P **PKPdf 20 35 20.8 +0.5**
baz=126
CBKS ⇓P **PKPdf 20 35 20.8 +0.5**
baz=126
CBKS ⇓P **PKPdf 20 35 20.8 +0.5**
baz=126
BGNE Belgrade 126.52 43 ⇓P **PKPdf 20 35 19.8 -0.5**
baz=126
BGNE ⇓P **PKPdf 20 35 19.8 -0.5**
baz=126
627A Terlingua Ranc 126.53 59 ⇓P **PKPdf 20 35 21.1 +0.3**
baz=126
627A ⇓P **PKPdf 20 35 21.1 +0.3**
baz=126
328A Wristen Ranch, 126.53 56 ⇑P **PKPdf 20 35 20.6 -0.1**
baz=126,SNR=41
328A ⇑P **PKPdf 20 35 20.6 -0.1**
baz=126,SNR=41
ESDC Sonseca Array 126.72 315 PKhKP PKPpre 20 35 04.5
comp=Z,0.1nm,0.3s,baz=15,slow=2.8,SNR=3.5
ESDC PKP **PKiKP 20 35 21.5 +0.2**
comp=Z,24nm,0.8s,baz=19,slow=3.2,SNR=57
ESDC PP PP 20 37 25.2 +6.0
comp=Z,2.0nm,0.7s,baz=45,slow=7.2,SNR=4.6
ESDC PKKPab **PKKPbc 20 44 55.3 +2.8**
comp=Z,0.9nm,0.7s,baz=238,slow=5.1,SNR=4.3
ESDC SKKPbc SKKPbc 20 48 39.5 +9.3
comp=Z,0.5nm,0.6s,baz=253,slow=1.5,SNR=4.4
ESDC Sonseca Array 126.72 315 PKPpre PKPpre 20 35 04.5
ESDC PKP **PKiKP 20 35 21.5 +0.2**
ESDC PP PP 20 37 25.2 +6.0
ESDC PKKPab **PKKPbc 20 44 55.3 +2.8**
ESDC SKKPbc SKKPbc 20 48 39.5 +9.3
ESLA Sonseca Array 126.72 315 *e*PKPdf **PKPdf 20 35 21.8 +1.0**
428A Kincaid Ranch, 126.80 57 ⇑P **PKPdf 20 35 22.1 +0.8**
baz=127,SNR=23
428A ⇑P **PKPdf 20 35 22.1 +0.8**
baz=127,SNR=23
528A Cox Ranch, San 126.86 58 ⇓P **PKPdf 20 35 22.0 +0.5**
baz=127
528A ⇓P **PKPdf 20 35 22.0 +0.5**
baz=127
628A Black Gap, Mar 126.94 59 ⇑P **PKPdf 20 35 21.9 +0.4**
baz=127
628A ⇑P **PKPdf 20 35 21.9 +0.4**
baz=127
PAB San Pablo 127.04 315 *e*PKIKP **PKPdf 20 35 22.1 +0.7**
PAB San Pablo 127.04 315 *e*PKPdf **PKPdf 20 35 22.1 +0.7**
EYMN Ely 127.17 33 *e*PKPdf **PKPdf 20 35 21.4 +0.1**
TORD Torodi Ar. Bea 127.47 281 PKhKP PKPpre 20 35 04.0
comp=Z,0.9nm,0.6s,baz=86,slow=1.7,SNR=9.2
TORD PKP **PKiKP 20 35 23.2 -0.1**
comp=Z,85nm,0.8s,baz=57,slow=1.5,SNR=94
TORD PKKPbc PKKPdf 20 44 52.6 -43
comp=Z,2.6nm,1.0s,baz=307,slow=3.9,SNR=4.4
TORD Torodi Ar. Bea 127.47 281 PKPpre PKPpre 20 35 04.0
TORD PKP **PKiKP 20 35 23.2 -0.1**
TORD PKKPbc PKKPdf 20 44 52.6 -43
PBRG Braganca 127.68 318 *e*PKPdf **PKPdf 20 35 23.7 +1.2**
SPMN St. Paul 128.00 36 ⇑P **PKPdf 20 35 22.5 -0.5**
baz=128
SPMN ⇑P **PKPdf 20 35 22.5 -0.5**
baz=128
MVO Moncorvo 128.17 318 *e*PKPdf **PKPdf 20 35 24.9 +1.4**
POLO Lamas de Olo 128.58 318 *e*PKPdf **PKPdf 20 35 26.0 +1.7**
KSU1 Kansas State U 128.59 45 *e*PKPdf **PKPdf 20 35 24.9 +0.6**
PGAV Gavieira, Arco 128.60 319 *e*PKPdf **PKPdf 20 35 25.6 +1.2**
WMOK Wichita Mounta 128.71 51 *e*PKIKP PKPpre 20 35 14.7
WMOK Wichita Mounta 128.71 51 *e*PKPpre PKPpre 20 35 14.7
MTE Manteigas 128.87 317 *e*PKPdf **PKPdf 20 35 26.5 +1.6**
MTE Manteigas 128.87 317 *e*PKPdf **PKPdf 20 35 26.0 +1.1**
PVIS Viseu 128.96 318 *e*PKPdf **PKPdf 20 35 26.3 +1.3**
PLCA Paso Flores 129.05 161 PKhKP PKPpre 20 35 13.1
comp=Z,3.0nm,0.7s,baz=236,slow=2.7,SNR=5.2
PLCA PKP **PKiKP 20 35 26.4 +0.4**
comp=Z,86nm,0.9s,baz=214,slow=1.9,SNR=63
PLCA SKPbc SKPab 20 38 30.8 -0.9
comp=Z,35nm,0.9s,baz=200,slow=4.0,SNR=11
PLCA Paso Flores 129.05 161 PKHKP PKPpre 20 35 13.1
PLCA 20 35 26.4
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA pmax pmax
comp=Z,86nm,0.9s
PLCA Paso Flores 129.05 161 PKPpre PKPpre 20 35 13.1
PLCA PKP **PKiKP 20 35 26.4 +0.4**
PLCA *e*PKPdf **PKPdf 20 35 26.5 +1.2**
PLCA SKPbc SKPab 20 38 30.8 -0.9
PCBR Castelo Branco 129.09 316 *e*PKPdf **PKPdf 20 35 26.6 +1.4**
PMRV Marv??o 129.22 316 *e*PKPdf **PKPdf 20 35 26.9 +1.4**
JCT Junction City 129.26 56 *e*PKHKP PKPpre 20 35 07.2
JCT *e* 20 35 26.6
JCT Junction City 129.26 56 *e*PKPpre PKPpre 20 35 07.2
JCT *e*PKPdf **PKiKP 20 35 26.6 0.0**
JCT Junction City 129.26 56 ⇑P **PKPdf 20 35 26.2 +0.3**
baz=129
JCT ⇑P **PKPdf 20 35 26.2 +0.3**
baz=129
SCIA State Center 129.53 40 *e*PKPdf **PKPdf 20 35 24.7 -1.3**
PBAR Barrancos 129.53 314 *e*PKPdf **PKPdf 20 35 27.2 +1.1**
PBAR *i* P SKPbc 20 38 35.0 +0.6
PESTR Estremoz 129.61 315 *e*PKPdf **PKPdf 20 35 27.3 +1.0**
PESTR *i* P SKPbc 20 38 35.3 +0.6
PTOM Tomar 129.83 317 *e*PKPdf **PKPdf 20 35 28.4 +1.8**
PTOM *i* P SKPbc 20 38 35.6 +0.2
PMTG Montargil 129.96 316 *e*PKPdf **PKPdf 20 35 28.2 +1.3**
PMTG *i* P SKPbc 20 38 36.7 +0.8
EVO Evora 130.06 315 *e*PKPdf **PKPdf 20 35 28.4 +1.3**
EVO *i* P **SKPbc 20 38 36.5 +0.3**
EVO Evora 130.06 315 *e*PKIKP **PKPdf 20 35 27.9 +0.8**
comp=Z,234nm,1.1s
EVO *e*R
comp=Z,886nm,21.8s
PBEJ Beja 130.18 315 *e*PKPdf **PKPdf 20 35 28.7 +1.3**
PBEJ *i* P **SKPbc 20 38 37.2 +0.5**
MOE Montemor 130.29 315 *e*PKPdf **PKPdf 20 35 30.6 +3.0**
PVAQ Vaqueiros 130.35 314 *e*PKPdf **PKPdf 20 35 28.9 +1.2**
PVAQ *i* P **SKPbc 20 38 36.7 -0.6**
PCVE Castro Verde 130.48 314 *e*PKPdf **PKPdf 20 35 29.4 +1.5**
PCVE *i* P **SKPbc 20 38 38.5 +0.7**
TUL1 Tulsa 130.52 48 ⇑P **PKPdf 20 35 28.4 +0.4**
baz=130
TUL1 ⇑P **PKPdf 20 35 28.4 +0.4**
baz=130
PBDV Barranco-do-Ve 130.57 314 *e*PKPdf **PKPdf 20 35 29.2 +1.0**
PBDV *i* P **SKPbc 20 38 38.5 +0.3**
PNCL Nicolau / Gran 130.61 315 *e*PKPdf **PKPdf 20 35 29.3 +1.2**
PNCL *i* P **SKPbc 20 38 39.5 +1.3**
RFTA Plano 130.95 52 *e*PKPdf **PKPdf 20 35 30.5 +1.5**
PTEO Sao Teotonio 131.00 314 *e*PKPdf **PKPdf 20 35 31.4 +2.5**
SCHQ Schefferville 131.04 12 PKhKP PKPpre 20 35 10.8
comp=Z,3.1nm,0.7s,baz=29,slow=2.3,SNR=7.5
SCHQ PKP **PKiKP 20 35 29.2 -0.2**
comp=Z,67nm,0.7s,baz=4.5,slow=3.0,SNR=44
SCHQ SKPbc **SKPbc 20 38 37.6 -1.7**
comp=Z,70nm,0.7s,baz=342,slow=3.4,SNR=15
SCHQ Schefferville 131.04 12 PKPpre PKPpre 20 35 10.8
SCHQ *e*PKPdf **PKiKP 20 35 29.1 -0.4**
SCHQ PKP **PKiKP 20 35 29.2 -0.2**
SCHQ SKPbc **SKPbc 20 38 37.6 -1.7**
MORF Marmelete 131.06 314 *e*PKPdf **PKPdf 20 35 30.4 +1.3**
MORF *i* P **SKPbc 20 38 40.5 +0.5**
PFVI Vila Bisbo 131.26 314 *e*PKPdf **PKPdf 20 35 31.1 +1.7**
PFVI *i* P **SKPbc 20 38 42.3 +1.7**
HKT Hockley 132.69 56 *e*PKIKP **PKPdf 20 35 34.0 +1.8**
HKT Hockley 132.69 56 *e*PKPdf **PKPdf 20 35 34.0 +1.8**
MIAR Mount Ida 132.74 49 *e*PKHKP PKPpre 20 35 21.2
MIAR *e* 20 35 32.9
MIAR Mount Ida 132.74 49 *e*PKPpre PKPpre 20 35 21.2
MIAR *e*PKPdf **PKiKP 20 35 32.9 -0.5**
HDIL Hopedale 132.75 40 *e*PKPpre PKPpre 20 35 18.3
HDIL *e*PKPdf **PKiKP 20 35 33.0 -0.3**
GLMI Grayling 132.82 32 *e*PKPdf **PKPdf 20 35 34.2 +2.1**
NATX Nacogdoches 133.00 53 *e*PKPdf **PKPdf 20 35 34.6 +1.7**
SLM Saint Louis 133.17 42 *e*PKIKP **PKPdf 20 35 34.4 +1.4**
SLM Saint Louis 133.17 42 *e*PKPdf **PKPdf 20 35 34.4 +1.4**
FVM French Village 133.38 43 *e*PKHKP PKPpre 20 35 18.2
FVM French Village 133.38 43 *e*PKPpre PKPpre 20 35 18.2
DBIC Dimbokro 133.77 272 PKhKP PKPpre 20 35 19.5
comp=Z,5.9nm,0.6s,baz=104,slow=2.9,SNR=11
DBIC PKP **PKPdf 20 35 35.3 +0.5**
comp=Z,20nm,0.6s,baz=66,slow=1.7,SNR=4.7
DBIC SKPbc **SKPbc 20 38 48.3 -1.7**
comp=Z,69nm,0.6s,baz=88,slow=3.7,SNR=26
DBIC SKP 20 38 55.8
comp=Z,24nm,0.8s,baz=345,slow=4.2,SNR=4.0
DBIC PKKP **PKKPdf 20 45 25.1 +2.1**
comp=Z,4.5nm,0.8s,baz=126,slow=2.7,SNR=4.7
DBIC Dimbokro 133.77 272 PKHKP PKPpre 20 35 19.5
DBIC 20 35 35.3
DBIC pmax pmax
comp=Z,6.0nm,0.6s
DBIC pmax pmax
comp=Z,20nm,0.6s
DBIC Dimbokro 133.77 272 PKPpre PKPpre 20 35 19.5
DBIC *e*PKPpre PKPpre 20 35 20.9
DBIC *e*PKPdf **PKPdf 20 35 34.5 -0.3**
DBIC PKP **PKPdf 20 35 35.3 +0.5**
DBIC SKPbc **SKPbc 20 38 48.3 -1.7**
DBIC SKP 20 38 55.8
DBIC PKKP **PKKPdf 20 45 25.1 +2.1**
TRQA Tornquist 133.80 168 *e*PKPpre PKPpre 20 35 20.6
TRQA *e*PKPdf **PKiKP 20 35 35.3 -0.3**
LIC Lamto 133.91 272 *e*PKIKP **PKPdf 20 35 35.1 0.0**
comp=Z,223nm,0.9s
LIC *e*R
comp=Z,946nm,22.8s
SFIN Scholer Farm 134.22 38 ⇓P **PKPdf 20 35 34.9 0.0**
baz=134
SFIN ⇓P **PKPdf 20 35 34.9 0.0**
baz=134
SIUC Southern Illin 134.34 43 *e*PKPdf **PKPdf 20 35 36.2 +1.0**
PARMO Parma 134.51 44 *e*PKPdf **PKPdf 20 35 36.0 +0.5**
OLIL Olney 134.53 41 *e*PKPdf **PKPdf 20 35 36.8 +1.3**
GNAR Gosnell 134.68 45 *e*PKPdf **PKPdf 20 35 38.0 +2.1**
AAM Ann Arbor 135.03 34 *e*PKIKP **PKPdf 20 35 37.2 +0.9**
AAM Ann Arbor 135.03 34 *e*PKPdf **PKPdf 20 35 37.2 +0.9**
GLAT Glass 135.04 45 *e*PKPdf **PKPdf 20 35 37.7 +1.2**
HALT Halls 135.18 45 *e*PKPdf **PKPdf 20 35 38.3 +1.5**
USIN University of 135.24 42 *e*PKPdf **PKPdf 20 35 37.8 +0.9**
BLO Bloomington 135.28 39 *e*PKIKP **PKPdf 20 35 38.7 +1.8**
BLO Bloomington 135.28 39 *e*PKPdf **PKPdf 20 35 38.7 +1.8**
OXF Oxford 135.82 47 *e*PKHKP PKPpre 20 35 26.1
OXF Oxford 135.82 47 *e*PKPpre PKPpre 20 35 26.1
WCI Wyandotte Cave 135.98 40 *e*PKIKP **PKPdf 20 35 39.6 +1.3**
WCI Wyandotte Cave 135.98 40 *e*PKPdf **PKPdf 20 35 39.6 +1.3**
VBMS Vicksburg 136.04 50 *e*PKPdf **PKPdf 20 35 38.1 -0.4**
CMIG Matias Romero 136.53 73 SKPbc **SKPbc 20 38 59.0 +0.4**
comp=Z,12nm,0.8s,baz=307,slow=5.9,SNR=6.0
CMIG SKKPbc **SKKPbc 20 47 56.2 +2.4**
comp=Z,4.5nm,0.8s,baz=24,slow=7.7,SNR=4.9
CMIG Matias Romero 136.53 73 SKPbc **SKPbc 20 38 59.0 +0.4**
CMIG SKKPbc **SKKPbc 20 47 56.2 +2.4**
PLAL Pickwick Lake 136.54 45 *e*PKPpre PKPpre 20 35 25.4
ACSO Alum Creek Sta 136.77 36 *e*PKPpre PKPpre 20 35 25.0
ERPA Erie 137.13 32 *e*PKPpre PKPpre 20 35 29.2
MSNY Massena 137.31 25 *e*PKPpre PKPpre 20 35 27.8
ALLY Alegheny Colle 137.38 32 *e*PKPdf **PKPdf 20 35 42.1 +1.3**
LPA La Plata 137.56 172 PKIKP PKPdf 20 35 47.0 +5.7
CFAA Coronel Fontan 138.10 158 PKhKP PKPpre 20 35 31.2
comp=Z,4.9nm,0.7s,baz=232,slow=2.3,SNR=33
CFAA PKP **PKiKP 20 35 43.6 -0.9**
comp=Z,17nm,0.8s,baz=250,slow=3.4,SNR=27
CFAA SKPbc **SKPbc 20 39 00.7 -2.3**
comp=Z,2.4nm,0.8s,baz=238,slow=5.1,SNR=4.6
CFAA Coronel Fontan 138.10 158 PKPpre PKPpre 20 35 31.2
CFAA PKP **PKiKP 20 35 43.6 -0.9**
CFAA SKPbc **SKPbc 20 39 00.7 -2.3**
LRAL Lakeview Retre 138.29 47 *e*PKPpre PKPpre 20 35 33.3
TZTN Tazewell 138.74 40 *e*PKPpre PKPpre 20 35 31.8
BINY Binghamton 139.04 28 *e*PKPpre PKPpre 20 35 34.6
TKL Tuckaleechee C 139.11 42 *e*PKHKP PKPpre 20 35 35.7
TKL Tuckaleechee C 139.11 42 *e*PKPpre PKPpre 20 35 35.7
PMAR Madeira 139.20 313 *e*PKPdf **PKPdf 20 35 48.1 +3.5**
BRAL Newton 139.22 50 *e*PKPpre PKPpre 20 35 36.0
SSPA Standing Stone 139.29 31 *e*PKPpre PKPpre 20 35 34.5
LCO Las Campanas 139.39 154 *e*PKPpre PKPpre 20 35 37.1
HNH Hanover 139.41 23 *e*PKPpre PKPpre 20 35 40.3
WVL Waterville 139.64 20 *e*PKPpre PKPpre 20 35 36.9
TRY Troy 139.65 25 *e*PKPpre PKPpre 20 35 36.9
FFD Franklin Falls 139.86 23 *e*PKPpre PKPpre 20 35 35.5
BLA Blacksburg 140.26 37 *e*PKHKP PKPpre 20 35 37.5
BLA Blacksburg 140.26 37 *e*PKPpre PKPpre 20 35 37.5
VWCC Virginia Weste 140.51 37 *e*PKPpre PKPpre 20 35 39.4
QUA2 Belchertown 140.58 25 *e*PKPpre PKPpre 20 35 41.1
GOGA Godfrey 140.61 44 *e*PKHKP PKPpre 20 35 39.9
GOGA Godfrey 140.61 44 *e*PKPpre PKPpre 20 35 39.9
HRV Adam Dziewonsk 140.71 24 *e*PKHKP PKPpre 20 35 41.0
HRV Adam Dziewonsk 140.71 24 *e*PKPpre PKPpre 20 35 41.0
SDMD Soldier's Deli 140.74 32 *e*PKPpre PKPpre 20 35 39.9
WES Weston 140.91 24 *e*PKIKP **PKPdf 20 35 42.5 -4.6**
WES Weston 140.91 24 *e*PKPpre PKPpre 20 35 42.5
PAL Palisades 140.94 27 *e*PKHKP PKPpre 20 35 41.2
PAL Palisades 140.94 27 *e*PKPpre PKPpre 20 35 41.2
KMSC Kings Mountain 141.02 40 ⇓P **PKPdf 20 35 47.5 -0.1**
baz=141
KMSC ⇓P **PKPdf 20 35 47.5 -0.1**
baz=141
YLE Yale 141.12 26 *e*PKPdf **PKPdf 20 35 48.1 +0.5**
BRYW Bryant College 141.21 24 *e*PKPpre PKPpre 20 35 42.2
BART Pico Bartolome 141.45 326 *e*PKP **PKPdf 20 35 47.4 -1.0**
CMLA Cha da Macela 141.65 326 *e*PKP **PKPdf 20 35 45.9 -2.8**
PSMN Pico do Norte, 141.93 325 *e*PKP **PKPdf 20 35 46.9 -2.3**
PSMA Santa Maria 141.97 325 *e*PKP **PKPdf 20 35 47.4 -1.8**
TEIG Tepich 142.10 66 *e*PKPpre PKPpre 20 35 45.0
NHSC New Hope 143.02 42 *e*PKPpre PKPpre 20 35 49.0
TGUH Tegucigalpa,Un 144.19 76 *e*PKPpre PKPpre 20 35 52.6
DWPF Disney 144.91 50 *e*PKPdf **PKPab 20 35 54.2 +0.1**
BBTS Babate 145.00 285 PKP **PKPdf 20 35 55.3 +0.2**
comp=Z,267nm,0.7s,baz=97,slow=0.5,SNR=48
BBTS Babate 145.00 285 PKP **PKPdf 20 35 55.3 +0.2**
JCR Jicaral 146.62 83 *e*P **PKPdf 20 35 58.2 +0.2**
JTS JuntasAbangare 146.76 82 PKP **PKPdf 20 35 59.0 +0.8**
comp=Z,307nm,0.8s,baz=325,slow=3.7,SNR=5.5
JTS PKPbc **PKPab 20 36 01.6 -0.1**
comp=Z,307nm,0.8s,baz=342,slow=5.5,SNR=8.9
JTS JuntasAbangare 146.76 82 PKP2 **PKPdf 20 35 59.0 +0.8**
JTS pmax pmax
comp=Z,307nm,0.9s
JTS JuntasAbangare 146.76 82 PKP **PKPdf 20 35 59.0 +0.8**
JTS PKPbc **PKPab 20 36 01.6 -0.1**
QCR Quepos 147.56 84 *e*P **PKPab 20 36 04.8 0.0**
LAJ Bijagual 147.60 83 *e*P **PKPdf 20 36 01.0 +1.2**
URSC Urasca 147.94 83 *e*P **PKPdf 20 36 01.7 +1.3**
BUS Buena Vista 147.96 84 *e*P **PKPbc 20 36 03.6 -0.4**
NNA Nana 148.28 127 PKP **PKPdf 20 36 02.5 +1.7**
comp=Z,179nm,0.8s,baz=249,slow=8.7,SNR=24
NNA PKPbc **PKiKP 20 36 06.1 +0.2**
comp=Z,501nm,0.9s,baz=247,slow=8.8,SNR=33
NNA Nana 148.28 127 PKP2 **PKPdf 20 36 02.5 +1.7**
NNA pmax pmax
comp=Z,179nm,0.8s
NNA Nana 148.28 127 PKP **PKPdf 20 36 02.5 +1.7**
NNA PKPbc **PKiKP 20 36 06.1 +0.2**
SPB Sao Paulo 149.03 187 *e*PKPdf **PKPbc 20 36 04.1 -1.8**
SPB *e*PKPpc **PKiKP 20 36 06.4 -0.7**
CAM4 Nova Friburgo 149.25 196 ⇓*i*P **PKPdf 20 36 02.5 +0.1**
CAM4 *i* 20 36 07.7
CAM4 *i* 20 36 10.4
CAM4 *i* 20 36 13.3
CAM4 *i* 20 36 22.6
CAM4 *i* 20 36 30.1
CAM4 *i* 20 36 43.6
CAM4 *i* 20 36 49.9
ATAH Atahualpa 149.52 118 PKP **PKPdf 20 36 05.0 +1.7**
comp=Z,59nm,0.9s,baz=184,slow=1.3,SNR=55
ATAH PKPbc **PKiKP 20 36 10.2 +1.2**
comp=Z,506nm,0.9s,baz=157,slow=1.6,SNR=103
ATAH Atahualpa 149.52 118 PKP **PKPdf 20 36 05.0 +1.7**
ATAH PKPbc **PKiKP 20 36 10.2 +1.2**
LPAZ La Paz 151.31 145 PKP **PKPdf 20 36 07.1 +0.9**
comp=Z,55nm,1.0s,baz=329,slow=0.2,SNR=108
LPAZ PKPbc **PKiKP 20 36 13.7 +1.0**
comp=Z,213nm,0.8s,baz=159,slow=6.0,SNR=96
LPAZ PKPab **PKPab 20 36 22.6 +1.9**
comp=Z,364nm,0.7s,baz=217,slow=6.1,SNR=29
LPAZ La Paz 151.31 145 PKPpre PKPpre 20 36 07.1 +0.9
LPAZ pmax pmax
comp=Z,55nm,1.0s
LPAZ La Paz 151.31 145 PKP **PKPdf 20 36 07.1 +0.9**
LPAZ PKPbc **PKiKP 20 36 13.7 +1.0**
LPAZ PKPab **PKPab 20 36 22.6 +1.9**
SACV Santiago Islan 151.68 288 *e*PKPdf **PKPdf 20 36 08.4 +2.4**
BCIP Isla Barro Col 151.84 84 *e*PKPdf **PKPdf 20 36 06.8 +0.5**
BCIP *e*PKPbc **PKiKP 20 36 13.1 0.0**
OTAV Otavalo 152.16 103 *e*PKPdf **PKPdf 20 36 08.0 +0.6**
BBSR BB Station 152.19 25 *e*PKPbc **PKPbc 20 36 14.2 +1.1**
MTDJ Mount Denham 152.38 64 *e*PKPdf **PKPdf 20 36 06.9 -0.2**
MTDJ *e*PKPbc **PKPbc 20 36 12.4 -1.6**
GTBY Guantanamo Bay 153.85 59 *e*PKPdf **PKPdf 20 36 10.7 +1.6**
GTBY *e*PKPbc **PKiKP 20 36 17.2 0.0**
SIV San Ignacio 154.95 158 PKP **PKPdf 20 36 11.2 +0.5**
comp=Z,42nm,0.8s,baz=198,slow=1.3,SNR=106
SIV PKPbc **PKiKP 20 36 20.4 +0.8**
comp=Z,50nm,0.8s,baz=124,slow=1.3,SNR=22
SIV PKPab **PKPab 20 36 36.1 +0.8**
comp=Z,116nm,0.7s,baz=199,slow=5.8,SNR=19
SIV PP PP 20 40 16.2 +5.9
comp=Z,14nm,0.9s,baz=186,slow=11,SNR=3.7
SIV San Ignacio 154.95 158 PKP **PKPdf 20 36 11.2 +0.5**
SIV PKPbc **PKiKP 20 36 20.4 +0.8**
SIV PKPab **PKPab 20 36 36.1 +0.8**
SIV PP PP 20 40 16.2 +5.9
ROSC El Rosal 157.11 95 PKP **PKPdf 20 36 15.1 +1.0**
comp=Z,57nm,0.8s,baz=123,slow=3.8,SNR=25
ROSC PKPab **PKPab 20 36 48.1 +2.6**
comp=Z,47nm,0.8s,baz=276,slow=11,SNR=13
ROSC El Rosal 157.11 95 PKP **PKPdf 20 36 15.1 +1.0**
ROSC PKPab **PKPab 20 36 48.1 +2.6**
SDDR Presa de Saban 157.50 57 *e*PKPdf **PKPdf 20 36 12.6 -1.4**
RCBR Riachuelo 159.73 230 PKP **PKPdf 20 36 17.6 +0.8**
comp=Z,20nm,1.0s,baz=68,slow=0.6,SNR=10.0
RCBR PKPab **PKPab 20 36 57.4 +1.2**
comp=Z,119nm,1.2s,baz=131,slow=5.4,SNR=20
RCBR Riachuelo 159.73 230 PKP **PKPdf 20 36 17.6 +0.8**
RCBR PKPab **PKPab 20 36 57.4 +1.2**
SAML Samuel 160.05 144 *e*PKPdf **PKPdf 20 36 17.2 +0.1**

SDV	Santo Domingo	160.94	84	ePKPdf	PKPdf	20 36 17.9	-0.5
AGPR	Aguadilla, PR	161.15	53	ePKPdf	PKPdf	20 36 19.8	+1.6
LSP	Las Mesas	161.33	53	ePKPdf	PKPdf	20 36 19.4	+1.0
LSP				ePKPab	PKPab	20 37 04.0	+0.9
CRPR	Cabo Rojo, PR	161.40	54	ePKPdf	PKPdf	20 36 18.2	-0.2
CRPR				ePKPab	PKPab	20 37 04.0	+0.7
LRS	Lares	161.46	53	ePKPdf	PKPdf	20 36 18.3	-0.2
SJG	San Juan	162.10	52	PKP	PKPdf	20 36 19.1	0.0
	comp=Z,54nm,0.7s,baz=89,slow=4.6,SNR=21						
SJG				PKPab	PKPab	20 37 07.0	+0.7
	comp=Z,233nm,0.8s,baz=262,slow=0.2,SNR=25						
SJG	San Juan	162.10	52	PKIKP	PKPdf	20 36 19.1	0.0
SJG						20 37 07.0	
SJG				pmax	pmax		
	comp=Z,54nm,0.7s						
SJG	San Juan	162.10	52	PKP	PKPdf	20 36 19.1	0.0
SJG				PKPab	PKPab	20 37 07.0	+0.7
MTP	Monte Pirata	162.57	51	ePKPdf	PKPdf	20 36 19.4	-0.2
MTP				ePKPab	PKPab	20 37 08.5	+0.1
STVI	Saint Thomas	162.87	49	ePKPdf	PKPdf	20 36 17.7	-2.1
CDVI	St. Croix	163.38	50	ePKPdf	PKPdf	20 36 20.0	-0.3
LZG	Guadaloupe-1	166.62	48	eP	PKPdf	20 36 23.5	+0.3
SEG	Port Louis	166.65	47	eP	PKPdf	20 36 23.5	+0.3
SCG	Saint Claude	166.76	48	eP	PKPdf	20 36 23.1	-0.3
TBG	Guadaloupe-3	166.90	49	eP	PKPdf	20 36 23.2	-0.2
FDF	Fort de France	167.96	51	ePKIKP	PKPdf	20 36 26.0	+1.8
FDF	Fort de France	167.96	51	ePKPdf	PKPdf	20 36 26.0	+1.8
FDF	Fort de France	167.96	51	eP	PKPdf	20 36 25.7	+1.5

BJI 22 20:27:08.8, 42.57N×120.46E, h10km, ML4.2/14, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	Shenyang	2.43	107	Pg	Pn	20 27 49.3	+0.7
SNY				Sg	Sn	20 28 19.8	+1.4
SNY				smax	smax		
	comp=N,2μm,0.8s						
SNY				smax	smax		
	comp=E,1μm,0.3s						
DL2	Dalian	3.77	166	Pn	Pn	20 28 03.3	-3.6
DL2				Pg	Pb	20 28 15.0	-0.4
DL2				Sg	Sb	20 29 02.1	+1.1
DL2				smax	smax		
	comp=N,120nm,0.6s						
DL2				smax	smax		
	comp=E,180nm,0.6s						
CN2	Changchun	3.85	70	ePg	Pb	20 28 13.8	-3.0
CN2				eSg	Sb	20 29 07.6	+4.1
CN2				smax	smax		
	comp=N,100nm,0.6s						
CN2				smax	smax		
	comp=E,100nm,0.6s						
BJI	Beijing	4.10	233	Pg	Pb	20 28 20.3	-0.7
BJI				Sg	Sb	20 29 15.4	+4.8
BJI				smax	smax		
	comp=N,470nm,0.8s						
BJI				smax	smax		
	comp=E,550nm,0.6s						
HHC	Hu-ho-hao-te	6.88	259	ePn	Pn	20 28 46.1	-3.7

ISCJB 22 20:46:57.7±0.3,34.20N±0.02×118.56W±0.02, h23km±3km, Error ellipse: s-maj=4.0km s-min=3.1km az=35.8
NEIC 22 20:46:58.3,34.20N×118.56W, h18km, ML3.1(PAS), After PAS.
NEIC Felt [III] at Los Angeles, Marina del Rey, Santa Monica, Sherman Oaks, Studio City and Tarzana. Felt [II] in the San Fernando Valley and in the western part of the Los Angeles Basin.

ISC 22 20:46:57.5±0.9, 34.20N±0.02×118.56W±0.02, h19km±2km, n30, σ0.50/45, 18C-18D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCC	Black Canyon	0.10	297	⇑iP	Pg	20 47 01.5	+0.1
DECC	Green Verdugo	0.20	75	⇑P	Pb	20 47 02.7	+0.6
	baz=0.2,SNR=121						
DECC				⇓S	Sg	20 47 06.3	+0.2
	baz=0.2						
USC	University of	0.29	128	eP	Pg	20 47 04.4	+0.4
USC				eS	Sb	20 47 09.9	+1.5
PASC	Pasadena Art C	0.31	95	eP	Pg	20 47 04.0	-0.4
BALC	Balcom Canyon	0.35	288	⇑iP	Pb	20 47 05.8	+0.5
GVRC	Garvey Reservo	0.40	112	⇓iP	Pg	20 47 06.0	+0.2
BLG	Laguna Peak	0.42	258	⇑P	Pg	20 47 06.0	-0.3
	baz=0.4,SNR=213						
BLG				⇓S	Sg	20 47 12.0	-0.3
	baz=0.4						
OSI	Osito Adit	0.44	342	eP	Pg	20 47 06.3	-0.2
OSI	Osito Adit	0.44	342	⇑P	Pg	20 47 06.7	+0.1
	baz=0.4						
OSI				⇑S	Sg	20 47 13.2	+0.5
	baz=0.4						
FMP	Fort Macarthur	0.53	155	⇑P	Pg	20 47 08.2	-0.1
	baz=0.5,SNR=12						
FMP				⇑S	Sg	20 47 15.8	+0.4
	baz=0.5						
BFSC	Mount Baldy Ra	0.75	87	⇑P	Pb	20 47 11.6	-0.5
	baz=0.7,SNR=82						
BFSC				⇓S	Sb	20 47 21.9	-0.2
	baz=0.7						
CIS	Catalina Islan	0.80	170	P	Pb	20 47 12.7	-0.2
	baz=0.8,SNR=179						
CIS				⇓S	Sg	20 47 24.1	+0.3
	baz=0.8						
EDW2	Edwards Air Fo	0.83	35	P	Pb	20 47 12.8	-0.6
	baz=0.8,SNR=632						
EDW2				⇑S	Sb	20 47 23.8	-0.4
	baz=0.8						
BSC	Santa Cruz Isl	0.91	258	⇓P	Pb	20 47 13.9	-0.9
	baz=0.9,SNR=24						
BSC				⇓S	Sb	20 47 26.7	+0.1
	baz=0.9						
ARVC	Arvin	0.95	347	⇑P	Pb	20 47 15.2	-0.3
	baz=1.0,SNR=112						
ARVC				⇓S	Sb	20 47 28.1	+0.4
	baz=1.0						
SBC	Santa Barbara	0.98	285	⇓P	Pb	20 47 15.8	-0.2
	baz=1.0						
SBC				⇑S	Sg	20 47 30.0	+0.3
	baz=1.0						
SCI	San Clemente I	1.21	179	⇓S	Sb	20 47 35.6	+0.3
	baz=1.2						
PKM	Peak Mountain	1.25	304	⇓P	Pn	20 47 20.0	-0.2
	baz=1.2,SNR=28						
PKM				⇑S	Sb	20 47 36.6	+0.1
	baz=1.2						
MURC	Murrieta	1.28	117	⇑P	Pn	20 47 20.1	-0.4
	baz=1.3						
MURC				⇓S	Sn	20 47 37.3	+0.1
	baz=1.3						
ISA	Isabella	1.46	3	eP	Pn	20 47 23.0	-0.1
ISA	Isabella	1.46	3	⇓P	Pn	20 47 23.4	+0.3
	baz=1.5,SNR=67						
LRMC	Laurel Mountai	1.47	29	⇓P	Pn	20 47 23.2	0.0
	baz=1.5,SNR=27						
LRMC				⇑S	Sn	20 47 41.7	-0.2
	baz=1.5						
SMMC	Simmler	1.62	314	⇑P	Pn	20 47 25.5	+0.2
	baz=1.6,SNR=23						
VES	Vestal, Richgr	1.69	345	⇑P	Pn	20 47 26.2	0.0
	baz=1.7						
GSC	Goldstone	1.82	52	⇓P	Pn	20 47 28.0	+0.1
	baz=1.8						
HEC	Hector,Ludlow	1.95	70	⇓S	Sn	20 47 53.8	+0.1
	baz=1.9						
MPMC	Manual Prospec	2.06	25	⇓P	Pn	20 47 31.2	-0.1
	baz=2.1,SNR=8.4						
MONP	Monument Peak	2.21	125	⇑P	Pn	20 47 33.3	-0.2
	baz=2.2,SNR=14						
MONP				⇓S	Sn	20 48 00.1	-0.4
	baz=2.2						
SAO	San Andreas Ge	3.48	318	eP	Pn	20 47 50.3	-0.4
CMB	Columbia Colle	4.11	339	eP	Pn	20 48 01.1	+1.8

IDC 22 21:00:29.0±3.8, 22.17S×171.05E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=166.5km s-min=48.7km az=161.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.28	270	Pn	Pn	21 01 37.3	+1.9
	1.3nm,0.3s,baz=102,slow=19,SNR=36						
DZM				Sn	Sn	21 02 23.6	-2.5
	2.1nm,0.3s,baz=232,slow=22,SNR=9.1						
ASAR	Alice Springs	34.19	260	P	P	21 07 15.9	-0.5
	0.2nm,0.4s,baz=83,slow=7.7,SNR=3.5						
WRA	Warramunga Arr	34.28	267	P	P	21 07 16.2	-1.0
	0.3nm,0.9s,baz=98,slow=8.2,SNR=4.5						
GERES	GERESS Array B	147.86	331	PKPbc	PKPbc	21 20 15.9	-0.1
	0.6nm,0.7s,baz=29,slow=3.0,SNR=4.7						

NOU 22 21:02:35.0±1.4, 20.96S×171.30E, h10km±999km, MD3.1, ML4.4, MS2.2
IDC 22 21:02:36.5±0.9, 22.71S×171.10E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/21, mbtmp4.3/13, ML4.8/1, MS4.5/9, Ms1 4.5/9, ms1mx4.1/26, Error ellipse: s-maj=29.3km s-min=19.5km az=168.0
ISCJB 22 21:02:37.2±2.2, 22.56S±0.07×171.00E±0.04, h9km±15km, mb4.5/20, MS4.5/8, Error ellipse: s-maj=11.9km s-min=6.9km az=174.9
NEIC 22 21:02:42.3±0.3, 22.65S×171.02E, h35km, mb4.8/18, Error ellipse: s-maj=9.5km s-min=7.4km az=170.0

ISC 22 21:02:41.1±1.5, 22.65S±0.10×171.02E±0.06, h29km±10km, n98, σ1.03/86, mb4.6/20, MS4.4/8, 6C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.86	277	eS	Sn	21 04 22.0	-0.9
LASL	Noumea	4.16	275	eP	Pn	21 03 42.0	-0.7
LASL				eS	Sn	21 04 30.8	+0.3
MVNO	Noumea	4.25	274	eS	Sn	21 04 33.1	+0.5
DZM	Mont Dzumac	4.27	277	ePn	Pn	21 03 43.3	-1.0
DZM	157nm,0.3s						
				eSn	Sn	21 04 30.5	-2.8
DZM	121nm,0.3s						
DZM	Mont Dzumac	4.27	277	Pn	Pn	21 03 44.2	-0.2
	48nm,0.3s,baz=120,slow=13,SNR=90						
DZM				Sn	Sn	21 04 34.7	+1.3
	16nm,0.3s,baz=116,slow=21,SNR=3.3						
DZM	Mont Dzumac	4.27	277	eP	Pn	21 03 42.5	-1.8
DZM				eS	Sn	21 04 32.6	-0.7
DZM				AMP		21 04 41.0	
	comp=Z,1μm,1.7s						
DZM	Mont Dzumac	4.27	277	ePn	Pn	21 03 43.1	-1.3
DZM				eSn	Sn	21 04 35.1	+1.8
NOUC	Port Laguerre	4.40	276	eP	Pn	21 03 44.5	-1.5
NOUC				eS	Sn	21 04 37.4	+1.1
NOUC				AMP		21 04 42.9	
	comp=Z,59nm,11.1s						
MSVF	Nonsavu	8.21	55	ePn	Pn	21 04 38.4	-0.1
URZ	Urewera	16.42	163	eP	P	21 06 30.9	-1.0
	comp=Z,23nm,0.8s						
HNR	Honiara	16.89	319	eP	P	21 06 37.5	+0.2
	comp=Z,259nm,1.2s						
EIDS	Eidsvold	18.41	258	eP	Pn	21 06 56.3	+1.9
	comp=Z,124nm,1.4s						
EIDS	Eidsvold	18.41	258	ePn	Pn	21 06 57.0	+2.7
	comp=Z,67nm,1.4s						
AFI	Afiamalu	18.49	65	LR	LR	21 12 18.5	
	comp=Z,1μm,21.0s,baz=241,slow=32						
AFI	Afiamalu	18.49	65	ePn	Pn	21 06 56.3	+0.9
SNZO	South Karori	18.87	171	ePn	Pn	21 07 00.0	+0.3
	comp=Z,76nm,1.1s						
ARMA	Armidale	18.98	242	eP	Pn	21 07 02.1	+0.8
ARMA	Armidale	18.98	242	ePn	Pn	21 07 02.0	+0.8
	comp=Z,58nm,1.4s						
ARMA				eSn	Sn	21 10 32.3	-0.8
RPZ	Rata Peaks	21.02	180	P	P	21 07 21.0	-1.4
	comp=Z,19nm,0.9s,baz=67,slow=5.3,SNR=4.9						
RPZ				LR	LR	21 13 59.7	
	comp=Z,1μm,20.1s,baz=350,slow=33						
RPZ	Rata Peaks	21.02	180	eP	P	21 07 21.0	-1.4
	comp=Z,25nm,0.9s						
CTA	Charters Tower	23.20	272	P	P	21 07 46.2	+0.5
	comp=Z,3.7nm,0.8s,baz=134,slow=12,SNR=3.5						
CTA				LR	LR	21 15 50.5	
	comp=Z,1μm,19.8s,baz=90,slow=34						
CTA	Charters Tower	23.20	272	P	P	21 07 46.2	+0.5
CTAO	Charters Tower	23.20	272	eP	P	21 07 46.3	+0.5
	comp=Z,36nm,1.3s						
QLP	Quilpie	24.64	255	eP	P	21 08 00.5	+1.1
PMG	Port Moresby	26.39	296	P	P	21 08 17.0	+1.8
	comp=Z,11nm,1.0s,baz=157,slow=4.8,SNR=4.0						
PMG	Port Moresby	26.39	296	P	P	21 08 13.8	-1.5
	comp=Z,20nm,0.8s						
RAR	Rarotonga	27.12	93	LR	LR	21 16 07.0	
	comp=Z,913nm,20.2s,baz=294,slow=30						
STKA	Stephens Creek	27.65	244	P	P	21 08 27.4	+0.9
	comp=Z,2.7nm,0.8s,baz=82,slow=12,SNR=3.1						
STKA				LR	LR	21 17 43.7	
	comp=Z,956nm,19.0s,baz=68,slow=33						
STKA	Stephens Creek	27.65	244	eP	P	21 08 28.2	+1.7
	comp=Z,9.7nm,1.8s						
STKA	Stephens Creek	27.65	244	P	P	21 08 27.6	+1.0
	comp=Z,4.3nm,1.3s						
COEN	Coen	27.77	283	eP	P	21 08 28.6	+0.9
AS31	Alice Springs	34.08	261	eP	P	21 09 22.6	-0.7
ASAR	Alice Springs	34.08	261	P	P	21 09 22.7	-0.6
	comp=Z,3.9nm,0.8s,baz=89,slow=8.9,SNR=28						
ASAR	Alice Springs	34.08	261	P	P	21 09 22.7	-0.6
WRAB	Tennant Creek	34.22	268	eP	P	21 09 24.9	+0.3
	comp=Z,21nm,1.5s						
WRA	Warramunga Arr	34.23	268	P	P	21 09 23.1	-1.5
	comp=Z,0.8nm,0.4s,baz=96,slow=8.5,SNR=25						
WRA				LR	LR	21 23 35.4	
	comp=Z,1μm,18.4s,baz=115,slow=37						
WRA	Warramunga Arr	34.23	268	P	P	21 09 23.1	-1.5
TBI	Tubuai	36.31	99	eLR	LR	21 19 25.4	
	comp=Z,1μm,30.8s						
PPT2	Papeete2	37.27	90	eLR	LR	21 19 56.8	
	comp=Z,1μm,25.8s						
FITZ	Fitzroy Crossi	42.66	268	P	P	21 10 35.4	-0.1
	comp=Z,8.0nm,1.0s,baz=98,slow=8.9						
FITZ	Fitzroy Crossi	42.66	268	eP	P	21 10 35.4	-0.1
	comp=Z,36nm,1.3s						
FITZ	Fitzroy Crossi	42.66	268	P	P	21 10 35.4	-0.1
MBWA	Marble Bar	47.42	262	eP	P	21 11 14.7	+1.4
	comp=Z,16nm,0.9s						
NWAO	Narrogin (SRO)	48.23	245	LR	LR	21 30 43.3	
	comp=Z,626nm,18.5s,baz=92,slow=35						
KAPI	Kappang	52.48	282	P	P	21 11 52.9	+1.1
	comp=Z,25nm,1.2s,baz=132,slow=10.0,SNR=9.5						
KAPI				LR	LR	21 33 00.1	
	comp=Z,303nm,21.6s,baz=116,slow=35						
KAPI	Kappang	52.48	282	eP	P	21 11 53.0	+1.1
	comp=Z,30nm,1.1s						
KKM	Kota Kinabalu	60.69	291	eP	P	21 12 51.3	+0.9
	comp=Z,20nm,0.9s						
IPM	Ipoh	73.42	282	eP	P	21 14 11.6	+0.4
	comp=Z,18nm,1.2s						
PETK	Petropavlovsk-	76.32	352	LR	LR	21 41 59.8	
	comp=Z,262nm,19.4s,baz=34,slow=31						
ENH	Enshi	79.11	309	eP	P	21 14 44.5	+1.4
	comp=Z,8.1nm,0.9s						
CM31	Chiang Mai Arr	81.41	294	eP	P	21 14 56.3	+0.5
	comp=Z,3.3nm,0.7s						
CMAR	Chiang Mai Arr	81.41	294	P	P	21 14 57.4	+1.6
	comp=Z,2.1nm,0.7s,baz=133,slow=3.8,SNR=19						
CMAR	Chiang Mai Arr	81.41	294	P	P	21 14 57.4	+1.6
CHTO	Chiang Mai	81.57	294	eP	P	21 14 58.3	+1.6
	comp=Z,11nm,1.1s						
VNA2	Neumayer--Watz	86.68	181	e	P	21 15 27.6	+5.8
	baz=72,slow=2.1						
NVAR	Mina Array Bea	89.82	48	P	P	21 15 37.0	-0.5
	comp=Z,0.7nm,0.7s,baz=228,slow=7.8,SNR=6.1						
NVAR	Mina Array Bea	89.82	48	P	P	21 15 37.0	-0.5
ULN	Ulaanbaatar	90.57	323	eP	P	21 15 39.1	-1.6
	comp=Z,5.2nm,1.1s						
SONM	Songino Array	90.93	322	P	P	21 15 42.7	+0.4
	comp=Z,1.0nm,0.6s,baz=149,slow=5.4,SNR=7.7						
SONM	Songino Array	90.93	322	P	P	21 15 42.7	+0.4
ILAR	Eielson Array	92.99	17	P	P	21 15 50.1	-1.1
	comp=Z,0.6nm,1.0s,baz=237,slow=4.2,SNR=2.9						
ILAR	Eielson Array	92.99	17	P	P	21 15 50.1	-1.1
ARCES	ARCESS Array B	128.77	345	PKP	PKPdf	21 21 45.2	+0.1
	comp=Z,3.6nm,0.9s,baz=57,slow=2.1,SNR=6.7						
ARCES	ARCESS Array B	128.77	345	PKP	PKPdf	21 21 45.2	+0.1
FINES	FINESS Array B	134.35	337	PKP	PKPdf	21 21 56.0	+0.2
	comp=Z,8.4nm,1.2s,baz=321,slow=2.4,SNR=3.6						
FINES	FINESS Array B	134.35	337	PKP	PKPdf	21 21 56.0	+0.2
AKASG	Malin Array Be	139.21	323	PKP	PKPdf	21 22 06.6	+1.6
	comp=Z,0.5nm,0.5s,baz=46,slow=2.7,SNR=3.5						
AKASG	Malin Array Be	139.21	323	PKP	PKPdf	21 22 06.6	+1.6

CRVS	Cervenica-Dubn	144.41	325	ePKP	PKPdf	21 22 19.0	+4.5
OKC	Ostrava-Krasne	145.50	329	ePKP	PKPab	21 22 16.9	+0.3
MORC	Moravsky Berou	145.83	329	ePKPdf	PKPbc	21 22 17.3	-0.2
PSZ	Piszkesteto	145.84	325	ePKPdf	PKPbc	21 22 17.6	-0.5
DPC	Dobruska-Polom	146.00	331	ePKP	PKPab	21 22 19.1	+0.6
UPC	Upice	146.02	331	ePKP	PKPab	21 22 19.8	+1.2
VYHS	Vyhne	146.03	326	ePKP	PKPab	21 22 18.3	-0.4
KOLL	Kolacno	146.20	327	ePKP	PKPab	21 22 19.3	0.0
VRAC	Vranov	146.60	329	PKPbc	PKPbc	21 22 19.4	-0.4
	baz=72,slow=3.2						
VRAC	Vranov	146.60	329	PKPbc	PKPbc	21 22 19.4	-0.4
PVCC	Panska Ves	146.64	332	ePKP	PKPab	21 22 21.8	+0.9
BRG	Berggiesshubel	146.65	333	eP	PKPab	21 22 20.1	-0.8
	comp=Z,9.6nm,1.0s						
CLL	Collm	146.69	335	iPKPbc	PKPdf	21 22 18.8	+0.5
	comp=Z,89nm,2.5s						
CLL				epPKPbc	pPKPbc	21 22 30.0	+0.5
CLL				e		21 22 42.0	
PRU	Pruhonice	147.05	332	ePKP	PKPbc	21 22 21.1	+0.1
ZST	Bratislava	147.10	327	ePKP	PKPab	21 22 22.4	-0.4
TREC	Trest	147.13	330	ePKP	PKPbc	21 22 21.5	+0.2
NKC	Novy Kostel	147.75	334	ePKP	PKPab	21 22 25.0	-0.3
KHC	Kasperske Hory	148.11	332	ePKPdf	PKPbc	21 22 22.3	-1.7
KHC	Kasperske Hory	148.11	332	ePKP	PKPbc	21 22 22.8	-1.2
KHC				epPKP	pPKPdf	21 22 30.5	+0.1
GERES	GERESS Array B	148.26	331	PKPbc	PKPbc	21 22 23.7	-0.8
	comp=Z,2.8nm,0.8s,baz=38,slow=2.4,SNR=13						
GERES	GERESS Array B	148.26	331	PKPbc	PKPbc	21 22 23.7	-0.8
KBA	Koelnbreinsper	149.71	329	⇑iP	PKPbc	21 22 27.9	-0.5
KBA	Koelnbreinsper	149.71	329	⇑iPKPbc	PKPbc	21 22 27.8	-0.5
	comp=Z,8.7nm,0.5s						
ABTA	Abfaltersbach	150.35	329	⇑iP	PKPbc	21 22 29.1	-0.6
ABTA	Abfaltersbach	150.35	329	⇑iPKPbc	PKPbc	21 22 29.1	-0.6
	comp=Z,13nm,1.3s						
MOTA	Moosalm	150.54	332	⇑iP	PKPbc	21 22 29.4	-0.9
MOTA	Moosalm	150.54	332	⇑iPKPbc	PKPbc	21 22 29.4	-0.9
	comp=Z,16nm,1.2s						
TUE	Stuetta	151.98	332	ePKPdf	PKPdf	21 22 28.6	+1.4
TUE				ePKPbc	PKPbc	21 22 33.6	-0.1
TORD	Torodi Ar. Bea	166.13	229	PKP	PKPdf	21 22 44.5	+0.3
	comp=Z,1.1nm,0.9s,baz=239,slow=1.6,SNR=5.2						
TORD				PKPab	PKPab	21 23 45.3	+0.4
	comp=Z,2.2nm,1.0s,baz=124,slow=3.9,SNR=6.5						
TORD	Torodi Ar. Bea	166.13	229	PKP	PKPdf	21 22 44.5	+0.3
TORD				PKPab	PKPab	21 23 45.3	+0.4

IDC 22 21:23:17.2±3.1, 0.85S×133.35E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=161.2km s-min=26.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.00	177	P	P	21 27 40.2	-0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=4.5						
ASAR	Alice Springs	22.68	179	P	P	21 28 20.9	+0.3
	0.4nm,0.5s,baz=360,slow=12,SNR=7.2						
MKAR	Makanchi Array	65.10	324	P	P	21 33 59.8	-0.1
	0.1nm,0.5s,baz=115,slow=5.6,SNR=2.6						

IDC 22 21:53:13.2±6.2, 4.90S×151.75E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, Error ellipse: s-maj=192.1km s-min=35.3km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.61	227	P	P	21 58 15.8	+0.1
	0.2nm,0.4s,baz=50,slow=9.8,SNR=4.7						
ASAR	Alice Springs	25.38	221	P	P	21 58 42.3	-0.1
	0.4nm,0.5s,baz=59,slow=8.9,SNR=6.6						
MKAR	Makanchi Array	79.72	319	P	P	22 05 23.1	+0.1
	0.2nm,0.8s,baz=108,slow=4.7,SNR=2.5						

IDC 22 22:05:12.2±1.5, 6.50S×129.96E, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=122.6km s-min=21.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.02	163	Pn	Pn	22 08 32.0	-0.4
	3.1nm,0.3s,baz=345,slow=13,SNR=55						
WRA				Sn	Sn	22 10 55.0	-14
	2.0nm,0.3s,baz=337,slow=22,SNR=9.4						
ASAR	Alice Springs	17.48	168	P	Pn	22 09 18.0	+0.4
	1.0nm,0.3s,baz=348,slow=10,SNR=61						
ASAR				S	Sn	22 12 18.0	-15
	0.2nm,0.3s,baz=346,slow=26,SNR=4.0						
STKA	Stephens Creek	27.49	158	P	P	22 11 00.2	-0.1
	1.0nm,0.5s,baz=304,slow=11,SNR=3.9						
CMAR	Chiang Mai Arr	39.38	310	P	P	22 12 43.6	-0.3
	0.4nm,0.7s,baz=141,slow=7.4,SNR=5.0						
ODAN	Odare	52.90	311	eP	P	22 14 30.9	+0.2
	2.6nm,0.5s						
TAPN	Taplejung	52.93	311	eP	P	22 14 30.0	-0.9
	5.6nm,0.4s						
RAMN	Ramite	53.55	310	eP	P	22 14 34.1	-1.3
	7.1nm,0.8s						
JIRN	Jiri	54.23	311	eP	P	22 14 39.1	-1.5
GUN	Gumba	54.60	311	eP	P	22 14 42.2	-1.0
	4.6nm,0.4s						
KKN	Kakani	54.99	310	eP	P	22 14 43.9	-2.0
KOLN	Koldanda	56.25	310	eP	P	22 14 53.6	-1.4
MKAR	Makanchi Array	67.79	327	P	P	22 16 12.4	+0.4
	0.4nm,0.5s,baz=122,slow=7.6,SNR=13						
ZALV	Zalesovo Beam	71.12	334	P	P	22 16 32.0	-0.3
	0.2nm,0.4s,baz=115,slow=4.1,SNR=2.2						

IDC 22 22:34:43.4±2.5, 51.67N×176.43W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.4/5, MS3.7/1, Ms1 3.7/1, ms1mx2.8/31, Error ellipse: s-maj=67.3km s-min=33.3km az=5.0
ISCJB 22 22:34:50.7±0.8, 51.7N±0.1×176.21W±0.06, h64km±6km, mb3.5/4, Error ellipse: s-maj=24.2km s-min=5.0km az=170.2
*NEIC 22 22:34:51.1, 51.47N×176.16W, h20km, ML3.5(A

SONM	**Songino Array**	**47.95**	**298**	PcP	**PcP**	22 44 52.4	**+0.4**
	0.4nm,0.6s,baz=132,slow=2.1,SNR=3.4						
SONM	**Songino Array**	**47.95**	**298**	PcP	**PcP**	22 44 52.4	**+0.4**
ZALV	**Zalesovo Beam**	**54.99**	**315**	PcP	**PcP**	22 45 17.7	**-0.2**
	0.2nm,0.3s,baz=46,slow=4.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.99**	**315**	PcP	**PcP**	22 45 17.7	**-0.2**
TXAR	**Lajitas Array**	**57.03**	**83**	P	**P**	22 44 31.2	**-0.6**
	0.4nm,0.7s,baz=316,slow=5.2,SNR=3.5						
TXAR	**Lajitas Array**	**57.03**	**83**	P	**P**	22 44 31.2	**-0.6**
MKAR	**Makanchi Array**	**61.11**	**310**	P	**P**	22 44 58.4	**-1.3**
	0.2nm,0.4s,baz=51,slow=5.3,SNR=3.4						
MKAR	**Makanchi Array**	**61.11**	**310**	P	**P**	22 44 58.4	**-1.3**

*TIF **22** 22:47:55.9, 43°.45N×46°.37E, h17km±23km*
*IDC **22** 22:47:56.8±0.8, 43°.26N×45°.97E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.5/29, mbtmp3.6/12, ML3.1/2, Error ellipse: s-maj=16.4km s-min=10.8km az=115.0*
*ISCJB **22** 22:47:58.2±0.7, 43°.45N±0°.03×46°.39E±0°.03, h16km±6km, mb3.5/9, Error ellipse: s-maj=5.6km s-min=3.4km az=157.4*
*MOS **22** 22:47:58.8±1.8, 43°.43N×46°.28E, h19km, mb4.5/5, Error ellipse: s-maj=8.3km s-min=6.5km az=156.9*
*NNC **22** 22:48:05.7±2.1, 44°.28N×45°.81E, h49km±27km, mb3.5, mpv4.1, Error ellipse: s-maj=77.3km s-min=7.6km az=154.0*

ISC 22 22:47:59.2±1.0, **43°.39N**±0°.04×**46°.25E**±0°.03, **h20**km±4km, **n61**, σ1s**70**/83, **mb3.8**/9, **15C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GRO	**Groznyy**	**0.37**	**260**	⇓*i*	PG	**Pg**	**22 48 05.9**	**-1.1**
DBC	**Dubki**	**0.56**	**130**	*i*	PG	**Pg**	**22 48 09.4**	**-1.1**
DBC				*i*	S	**Sg**	**22 48 17.3**	**-0.8**
MAK	**Makhachkala**	**1.01**	**114**	*e*	PG	**Pg**	**22 48 19.6**	**+0.7**
MAK				*i*			22 48 34.4	
MAK					pmax	pmax		
	comp=Z,233nm,0.2s							
MAK					smax	smax		
	comp=N,1μm,0.7s							
MAK					smax	smax		
	comp=E,1μm,0.5s							
SNJR	**Sundja**	**1.09**	**254**	⇓*i*	PG	**Pb**	**22 48 19.5**	**0.0**
SNJR				*i*	S	**Sn**	**22 48 34.4**	**+0.3**
TRKR	**Terskaya**	**1.15**	**288**	⇑*i*	PG	**Pg**	**22 48 22.2**	**+0.7**
TRKR				*i*	S	**Sg**	**22 48 39.2**	**+2.6**
VLKR	**Vladikavkaz**	**1.20**	**254**	⇑*i*	PG	**Pg**	**22 48 21.7**	**-0.7**
VLKR				*e*	S	**Sg**	**22 48 37.8**	**-0.2**
BTKR	**Batakoyurt**	**1.24**	**270**	⇑*i*	PG	**Pg**	**22 48 22.9**	**-0.3**
BTKR				*e*	S	**Sg**	**22 48 40.5**	**+1.0**
KMSR	**Komsomolskaya**	**1.42**	**270**	⇑*i*	PG	**Pg**	**22 48 25.7**	**-1.0**
KMSR				*e*	S	**Sg**	**22 48 45.6**	**+0.3**
ARNR	**Ardon**	**1.45**	**263**	⇓*i*	PG	**Pb**	**22 48 25.7**	**+0.2**
ARNR				*e*	S	**Sg**	**22 48 45.5**	**-0.6**
PRTR	**Priterechnaya**	**1.47**	**285**	⇑*i*	PG	**Pg**	**22 48 27.2**	**-0.4**
PRTR				*e*	S	**Sg**	**22 48 47.9**	**+1.0**
KORR	**Kora**	**1.62**	**260**	⇑*i*	PN	**Pb**	**22 48 28.3**	**-0.1**
KORR				*i*	S	**Sb**	**22 48 50.2**	**+1.7**
LSNR	**Lesken**	**1.78**	**267**	⇓*i*	PN	**Pb**	**22 48 31.2**	**+0.1**
LSNR				*e*	S	**Sg**	**22 48 55.2**	**-1.3**
ZEI	**Tsey**	**1.83**	**251**	*e*	PN	**Pn**	**22 48 29.9**	**+0.2**
TBLG	**Delisi**	**1.99**	**214**	*i*	PN	**Pn**	**22 48 32.8**	**+1.0**
TBLG	**Delisi**	**1.99**	**214**	P		**Pn**	**22 48 32.8**	**+1.0**
TBLG				S		**Sn**	**22 48 58.2**	**+2.0**
DIGR	**Digorskoe uzhe**	**2.01**	**257**	*e*	PN	**Pn**	**22 48 33.8**	**+1.6**
DGRG	**David-gareji**	**2.04**	**199**	P		**Pb**	**22 48 34.7**	**-0.9**
DGRG				S		**Sb**	**22 49 02.5**	**+1.9**
GOR	**Gori**	**2.11**	**229**	*e*	PN	**Pn**	**22 48 34.0**	**+0.6**
GOR	**Gori**	**2.11**	**229**	P		**Pn**	**22 48 34.1**	**+0.6**
GOR				S		**Sb**	**22 49 02.5**	**0.0**
ONI	**Oni**	**2.20**	**250**	P		**Pn**	**22 48 35.6**	**+0.9**
ONI				S		**Sb**	**22 49 06.0**	**+0.9**
KIV	**Kislovodsk**	**2.65**	**284**	⇑	Pn	**Pn**	**22 48 40.8**	**0.0**
	comp=E,72nm,0.5s							
KIV				⇓	Sn	**Sn**	**22 49 08.4**	**-4.0**
	comp=E,321nm,0.9s							
KIV	**Kislovodsk**	**2.65**	**284**	*e*	PN	**Pn**	**22 48 40.9**	**+0.1**
AKH	**Akhalkalaki**	**2.84**	**227**	P		**Pn**	**22 48 45.9**	**+2.3**
AKH				S		**Sb**	**22 49 22.3**	**-1.4**
GNI	**Garni**	**3.42**	**200**	Pn		**Pn**	**22 48 51.9**	**+0.3**
	comp=E,3.2nm,0.3s,baz=22,slow=12,SNR=20							
GNI				Lg		Lg	22 49 41.6	
	comp=E,11nm,0.3s,baz=329,slow=12,SNR=6.6							
GNI	**Garni**	**3.42**	**200**	*c*	PN	**Pn**	**22 48 53.2**	**+1.6**
GNI				*i*	S	**Sb**	**22 49 39.7**	**-0.8**
GNI					pmax	pmax		
	comp=Z,9.0nm,0.6s							
ARTV	**Artvin**	**3.88**	**237**	*i*	P	**Pn**	**22 48 58.6**	**+0.6**
DAGI	**Agillar**	**3.96**	**236**	*i*	P	**Pn**	**22 48 59.3**	**+0.4**
DAGI				*e*	S	**Sb**	**22 49 55.8**	**0.0**
DBOC	**Borcka**	**3.96**	**241**	*i*	P	**Pn**	**22 48 59.4**	**+0.5**
DBAD	**Bademkaya**	**4.13**	**237**	*i*	P	**Pn**	**22 49 01.9**	**+0.7**
DDEM	**Demirkent**	**4.17**	**235**	*i*	P	**Pn**	**22 49 02.5**	**+0.7**
AKTO	**Aktyubinsk**	**10.70**	**45**		Pn	**Pn**	**22 50 32.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=236,slow=9.8,SNR=4.2							
AKTO					Sn	**Sn**	**22 52 24.9**	**-5.4**
	comp=Z,0.7nm,0.3s,baz=210,slow=20,SNR=7.3							
AKTO	**Aktyubinsk**	**10.70**	**45**	⇑	Pn	**Pn**	**22 50 31.3**	**+0.1**
	comp=Z,0.5nm,0.8s							
AKTO				⇑	Sn	**Sn**	**22 52 24.9**	**-5.4**
	comp=Z,0.7nm,0.5s							
AKTO	**Aktyubinsk**	**10.70**	**45**	P		**Pn**	**22 50 32.9**	**+1.7**
AKTO							22 52 24.9	
AKTO					smax	smax		
	comp=N,1.0nm,0.3s							
AB31	**Akbulak array**	**11.14**	**53**	⇑	Pn	**Pn**	**22 50 39.2**	**+2.0**
	comp=N,0.4nm,0.3s,baz=240,slow=11,SNR=30							
AB31				⇑	Sn	**Sn**	**22 52 39.8**	**-1.3**
	comp=N,6.0nm,0.8s,baz=235,slow=22,SNR=9.2							
MLR	**Muntele Rosu**	**14.65**	**285**	Pn		**Pn**	**22 51 23.8**	**-1.6**
	comp=N,0.0nm,0.3s,baz=96,slow=19,SNR=2.4							
MLR	**Muntele Rosu**	**14.65**	**285**	P		**Pn**	**22 51 23.8**	**-1.6**
ARU	**Arti**	**15.24**	**27**	P		**Pn**	**22 51 34.1**	**+1.0**
ARU				S		**Sn**	**22 54 24.9**	**+3.7**
SVE	**Sverdlovsk**	**16.27**	**29**	*e*	P	**Pn**	**22 51 45.0**	**-1.3**
SVE				*e*	S	Sn	22 54 37.6	-8.5
SVE					pmax	pmax		
	comp=Z,5.0nm,0.5s							
ZRNK	**Zerenda**	**17.88**	**50**	⇑	P	**P**	**22 52 06.6**	**-0.4**
	comp=Z,2.2nm,0.6s							
BVA0	**Borovoye Array**	**18.68**	**50**	⇑	P	**Pn**	**22 52 16.7**	**+0.4**
	comp=Z,0.6nm,1.4s,baz=247,slow=12,SNR=12							
BVAR	**Borovoye Array**	**18.68**	**50**	Pn		**Pn**	**22 52 15.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=252,slow=14,SNR=10							
BVAR				Sn		Sn	22 55 33.5	-11
	comp=Z,0.1nm,0.3s,baz=260,slow=22,SNR=5.6							
BVAR	**Borovoye Array**	**18.68**	**50**	P		**Pn**	**22 52 15.9**	**-0.4**
BVAR							22 55 33.5	
VOSK	**Vostochnaya**	**18.91**	**52**	⇑	P	**Pn**	**22 52 18.7**	**-0.4**
	comp=Z,1.6nm,0.6s							
JOF	**Joensuu**	**21.41**	**341**	*e*	P	**P**	**22 52 48.9**	**+3.4**
JOF					pmax	pmax		
	comp=Z,4.0nm,0.5s							
JOF	**Joensuu**	**21.41**	**341**	*ep*		**P**	**22 52 48.9**	**+3.4**
	comp=Z,4.0nm,0.5s							
JOF	**Joensuu**	**21.41**	**341**	*ep*		**P**	**22 52 48.9**	**+3.4**
	comp=Z,4.0nm,0.5s							
FINES	**FINESS Array B**	**21.71**	**333**	P		**P**	**22 52 49.7**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=139,slow=9.3,SNR=16							
FINES	**FINESS Array B**	**21.71**	**333**	P		**P**	**22 52 49.7**	**+1.0**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.6s							
GERES	**GERESS Array B**	**23.10**	**295**	P		**P**	**22 53 02.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=97,slow=8.4,SNR=4.7							
GERES	**GERESS Array B**	**23.10**	**295**	P		**P**	**22 53 02.9**	**-0.8**
KURK	**Kurchatov**	**23.11**	**60**	P		**P**	**22 53 06.3**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=268,slow=11,SNR=5.0							
KURK	**Kurchatov**	**23.11**	**60**	P		**P**	**22 53 06.3**	**+2.7**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**25.53**	**70**	P		**P**	**22 53 28.9**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=264,slow=9.4,SNR=3.2							
MKAR	**Makanchi Array**	**25.53**	**70**	P		**P**	**22 53 28.9**	**+2.5**
HFS	**Hagfors**	**25.82**	**322**	P		**P**	**22 53 29.3**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=116,slow=10,SNR=12							
HFS	**Hagfors**	**25.82**	**322**	P		**P**	**22 53 29.3**	**+0.4**
HFS					pmax	pmax		
	comp=Z,4.0nm,0.8s							
NOA	**NORSAR Array B**	**27.32**	**323**	P		**P**	**22 53 42.3**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=132,slow=7.7,SNR=3.4							
NOA	**NORSAR Array B**	**27.32**	**323**	P		**P**	**22 53 42.3**	**-0.1**
ARCES	**ARCESS Array B**	**28.29**	**345**	P		**P**	**22 53 52.6**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=148,slow=9.5,SNR=11							
ARCES	**ARCESS Array B**	**28.29**	**345**	P		**P**	**22 53 52.6**	**+1.6**
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**48.64**	**246**	P		**P**	**22 56 39.9**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=47,slow=7.3,SNR=4.1							

MEX 22 22:55:48.0±0.9, **17°.12N**×**100°.35W, h5**km, **MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAIG	**El Cayaco**	**0.10**	**134**	*i*	P	Pg	22 55 49.1	-1.1
CAIG				*e*	S	Sg	22 55 52.0	+0.3
ZIIG	**Zihuatanejo**	**1.17**	**295**	*i*	P	Pg	22 56 06.9	-3.6
ZIIG				*e*	S	Sg	22 56 23.2	-2.6
PLIG	**Platanillo**	**1.50**	**32**	*i*	P	Pn	22 56 11.6	-4.2
PLIG				*e*	S	Sn	22 56 31.1	-4.6
YAIG	**Yautepec**	**2.12**	**35**	*i*	P	Pn	22 56 20.0	-4.3
YAIG				*e*	S	Sn	22 56 47.5	-3.7
PNIG	**Pinotepa**	**2.25**	**108**	*i*	P	Pn	22 56 22.7	-3.2
PNIG				*e*	S	Sn	22 56 49.7	-4.3

*IDC **22** 23:04:07.7±1.8, 47°.21N×155°.64E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/28, mbtmp3.7/13, ML3.4/2, Error ellipse: s-maj=45.9km s-min=16.4km az=169.0*
*ISCJB **22** 23:04:08.6±0.8, 47°.20N±0°.08×155°.8E±0°.1, h18km, mb3.7/12, MS3.3/1, Error ellipse: s-maj=14.9km s-min=9.2km az=30.5*
*MOS **22** 23:04:13.1±2.0, 47°.20N×155°.95E, h55km, mb4.1/7, Error ellipse: s-maj=23.0km s-min=10.7km az=85.9*

ISC 22 23:04:10.6±1.0, **47°.2N**±0°.1×**155°.8E**±0°.1, **h18**km, **n29,** σ0s**95**/**31**, **mb3.7**/12, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.49**	**4**	*e*	PN	**Pb**	**23 05 11.0**	**-0.8**
SKR				*e*	S	**Sn**	**23 05 44.0**	**-0.8**
SKR					pmax	pmax		
	comp=Z,30nm,0.5s							
SKR					smax	smax		
	comp=N,80nm,0.4s							
SKR					smax	smax		
	comp=E,160nm,0.4s							
PETK	**Petropavlovsk-**	**6.04**	**11**	Pn		**Pn**	**23 05 38.3**	**-0.7**
	comp=E,0.6nm,0.3s,baz=187,slow=14,SNR=9.1							
PETK				Sn		**Sn**	**23 06 49.5**	**+1.8**
	comp=E,0.4nm,0.3s,baz=198,slow=27,SNR=3.2							
PETK	**Petropavlovsk-**	**6.04**	**11**	PN		**Pn**	**23 05 38.3**	**-0.7**
PETK							23 06 49.5	
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.04**	**11**	*e*	PN	**Pn**	**23 05 40.9**	**+1.9**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
FX1	**Attu Island--F**	**12.53**	**57**	Pn		**Pn**	**23 07 06.8**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=234,slow=14,SNR=3.4							
FX1	**Attu Island--F**	**12.53**	**57**	PN		**Pn**	**23 07 06.8**	**-1.0**
FX1					pmax	pmax		
	comp=Z,1.0nm,0.3s							
BILL	**Bilibino**	**21.58**	**11**	*e*	P	**P**	**23 08 59.6**	**+0.8**
BILL					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BILL					MLR	MLR		
	comp=Z,100nm,17.0s							
SONM	**Songino Array**	**32.89**	**290**	P		**P**	**23 10 43.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=46,slow=8.4,SNR=3.7							
SONM	**Songino Array**	**32.89**	**290**	P		**P**	**23 10 43.7**	**+0.2**
ILAR	**Eielson Array**	**35.06**	**39**	P		**P**	**23 11 02.4**	**+0.4**
	comp=Z,0.6nm,1.1s,baz=254,slow=7.4,SNR=3.5							
ILAR	**Eielson Array**	**35.06**	**39**	P		**P**	**23 11 02.4**	**+0.4**
ILAR					pmax	pmax		
	comp=Z,1.0nm,1.1s							
ZALV	**Zalesovo Beam**	**43.82**	**306**	P		**P**	**23 12 13.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=35,slow=5.4,SNR=4.3							
ZALV	**Zalesovo Beam**	**43.82**	**306**	*e*	P	**P**	**23 12 16.0**	**+1.0**
MKAR	**Makanchi Array**	**48.34**	**298**	P		**P**	**23 12 50.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=69,slow=6.8,SNR=7.4							
MKAR	**Makanchi Array**	**48.34**	**298**	*e*	P	**P**	**23 12 53.1**	**+2.3**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.62**	**304**	P		**P**	**23 12 53.2**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=66,slow=8.7,SNR=4.6							
KURK	**Kurchatov**	**48.62**	**304**	P		**P**	**23 12 53.2**	**+0.3**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**49.47**	**38**	P		**P**	**23 13 00.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=293,slow=7.1,SNR=6.0							
YKA	**Yellowknife Ar**	**49.47**	**38**	P		**P**	**23 13 00.1**	**+0.9**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**51.97**	**310**	P		**P**	**23 13 17.5**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=57,slow=7.4,SNR=17							
BVAR	**Borovoye Array**	**51.97**	**310**	P		**P**	**23 13 17.5**	**-0.7**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**	**23 14 13.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=68,slow=5.4,SNR=4.1							
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**	**23 14 13.6**	**-0.5**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**64.39**	**336**	P		**P**	**23 14 44.7**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=36,slow=7.4,SNR=8.9							
FINES	**FINESS Array B**	**64.39**	**336**	P		**P**	**23 14 44.7**	**-0.2**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**75.68**	**62**	P		**P**	**23 15 55.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=322,slow=7.2,SNR=5.1							
TXAR	**Lajitas Array**	**75.68**	**62**	P		**P**	**23 15 55.1**	**+0.2**
GERES	**GERESS Array B**	**78.82**	**336**	P		**P**	**23 16 11.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=19,slow=3.3,SNR=2.2							
GERES	**GERESS Array B**	**78.82**	**336**	P		**P**	**23 16 11.4**	**-0.8**

*TAP **22** 23:06:40.6, 24°.80N×122°.39E, h90km, ML3.4, C*
*JMA **22** 23:06:40.2±0.1, 24°.82N×122°.36E, h84km±2km, M2.3*
*ISCJB **22** 23:06:41.5±0.7, 24°.73N±0°.06×122°.43E±0°.02, h82km±6km, Error ellipse: s-maj=6.4km s-min=3.4km az=172.3*

ISC 22 23:06:42.4±1.6, **24°.70N**±0°.06×**122°.42E**±0°.03, **h76**km±12km, **n43,** σ1s**00**/**77, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.50**	**308**	P		**Pn**	**23 06 55.2**	**-0.6**
TWB1	baz=289			S		**Sn**	**23 07 05.5**	**-0.2**
	baz=289							
TWC	**Suao**	**0.53**	**260**	P		**Pn**	**23 06 55.7**	**-0.4**
TWC	baz=247			S		**Sn**	**23 07 06.8**	**+0.6**
	baz=247							
YOJ	**Yonaguni jima**	**0.58**	**114**	P		**Pn**	**23 06 56.1**	**-0.5**
YOJ				*e*	S	**Sn**	**23 07 08.2**	**+1.1**
ILA	**Ilan**	**0.62**	**276**	*e*	S	**Sn**	**23 07 08.6**	**+0.9**
	baz=260							
ENA	**Nanau**	**0.68**	**247**	*i*	P	**Pn**	**23 06 57.6**	**+0.1**
ENA	baz=238			S		**Sn**	**23 07 10.4**	**+1.6**
	baz=238							
TWE	**Neicheng**	**0.69**	**272**	P		**Pn**	**23 06 57.4**	**-0.3**
TWE	baz=261			*e*	S	**Sn**	**23 07 08.2**	**-0.8**
	baz=261							
NWF	**Wu-fen Shan**	**0.69**	**302**	*e*	P	**Pn**	**23 06 57.1**	**-0.7**
NWF	baz=296			*e*	S	**Sn**	**23 07 09.1**	**-0.1**
	baz=296							
ENTT	**Nioudou**	**0.78**	**266**	P		**Pn**	**23 06 58.7**	**0.0**
ENTT	baz=260			*e*	S	**Sn**	**23 07 11.9**	**+1.1**
	baz=260							
TWA	**Mucha**	**0.81**	**290**	*e*	P	**Pn**	**23 06 58.2**	**-0.9**
TWA	baz=283			*e*	S	**Sn**	**23 07 11.3**	**-0.2**
	baz=283							
NSK	**Sanguang**	**0.97**	**269**	*i*	P	**Pn**	**23 07 00.6**	**-0.4**
NSK	baz=269			S		**Sn**	**23 07 15.1**	**+0.3**
	baz=269							
TWD	**Chiawan**	**0.98**	**231**	*e*	P	**Pn**	**23 07 00.1**	**-0.9**
TWD	baz=217			S		**Sn**	**23 07 15.3**	**+0.5**
	baz=217							
NNS	**Nan Shan**	**0.99**	**255**	P		**Pn**	**23 07 01.0**	**-0.3**
	baz=241							
NNS				*e*	S	**Sn**	**23 07 14.4**	**-1.0**
	baz=241							
HWA	**Hwalien**	**1.04**	**226**	*e*	P	**Pn**	**23 07 02.0**	**+0.3**
	baz=212							
HWA				*e*	S	**Sn**	**23 07 17.6**	**+1.5**
	baz=212							
WHF	**Hehuan Shan**	**1.19**	**243**	P		**Pn**	**23 07 03.6**	**-0.5**
	baz=236							
WHF				S		**Sn**	**23 07 20.3**	**0.0**
	baz=236							
TWT	**Tachien**	**1.22**	**249**	*e*	P	**Pn**	**23 07 04.5**	**+0.3**
	baz=242							
TWT				*e*	S	**Sn**	**23 07 20.9**	**+0.4**
	baz=242							
IRIF	**Iriomote-Funau**	**1.24**	**107**	*e*	S	**Sn**	**23 07 21.0**	**+0.3**
ESL	**Shilin**	**1.26**	**226**	*e*	P	**Pn**	**23 07 04.4**	**-0.1**
	baz=229							
ESL				*e*	S	**Sn**	**23 07 20.5**	**-0.7**
	baz=229							
NSTT	**Nanjuang**	**1.30**	**267**	P		**Pn**	**23 07 04.2**	**-0.8**
	baz=261							
NSTT				S		**Sn**	**23 07 21.4**	**-0.6**
	baz=261							
HATJ	**Hateruma jima**	**1.41**	**117**	P		**Pn**	**23 07 06.3**	**-0.2**
HATJ				*e*	S	**Sn**	**23 07 25.8**	**+1.2**
JKRS	**Kuro-shima**	**1.52**	**107**	P		**Pn**	**23 07 07.5**	**-0.3**
JKRS				*e*	S	**Sn**	**23 07 27.6**	**+0.6**
NSY	**Sanyi**	**1.54**	**260**	*e*	P	**Pn**	**23 07 07.9**	**-0.3**
	baz=254							
NSY				*e*	S	**Sn**	**23 07 27.6**	**0.0**
	baz=254							
TWQ1	**Liyutan**	**1.54**	**257**	*e*	P	**Pn**	**23 07 07.9**	**-0.3**
	baz=251							
TWQ1				*e*	S	**Sn**	**23 07 27.4**	**-0.2**
	baz=251							
EHY	**Hungye**	**1.56**	**220**	*e*	S	**Sn**	**23 07 26.4**	**-1.6**
	baz=224							
JIJ	**Ishigaki jima**	**1.60**	**102**	P		**Pn**	**23 07 08.5**	**-0.4**
JIJ				*e*	S	**Sn**	**23 07 29.3**	**+0.3**
SMLT	**Sun Moon Lake**	**1.61**	**240**	*e*	P	**Pn**	**23 07 09.5**	**+0.3**
	baz=234							
SMLT				*e*	S	**Sn**	**23 07 30.5**	**+1.1**
	baz=234							
TYC	**Yuchr**	**1.64**	**241**	*e*	P	**Pn**	**23 07 09.6**	**+0.2**
	baz=231							
TYC				*e*	S	**Sn**	**23 07 30.7**	**+0.9**
	baz=231							
TCU	**Taichung**	**1.69**	**251**	*e*	S	**Sn**	**23 07 32.0**	**+1.0**
	baz=245							
TWF1	**Yuli**	**1.69**	**218**	*e*	P	**Pn**	**23 07 08.7**	**-1.5**
	baz=222							
TWF1				*e*	S	**Sn**	**23 07 30.1**	**-1.1**
	baz=222							
YUS	**Yu-Shan**	**1.81**	**228**	*e*	P	**Pn**	**23 07 12.0**	**-0.1**
	baz=217							
YUS				*e*	S	**Sn**	**23 07 34.4**	**-0.2**
	baz=217							
CHKT	**Chengkung**	**1.87**	**212**	*e*	S	**Sn**	**23 07 33.1**	**-2.2**
	baz=200							
ALS	**Alishan**	**1.90**	**232**	*e*	P	**Pn**	**23 07 13.7**	**+0.6**
	baz=219							
ALS				S		**Sn**	**23 07 38.0**	**+1.6**
	baz=219							
CHN5	**Tsauling**	**1.94**	**236**	P		**Pn**	**23 07 13.7**	**+0.2**
	baz=240							
CHN5				*e*	S	**Sn**	**23 07 38.3**	**+1.2**
	baz=240							
ELDTW	**Lidau**	**1.98**	**221**	*e*	P	**Pn**	**23 07 12.9**	**-1.2**
	baz=210							
ELDTW				*e*	S	**Sn**	**23 07 36.4**	**-1.7**
	baz=210							
CHN4	**Tsaushan**	**2.15**	**232**	*e*	P	**Pn**	**23 07 16.7**	**+0.4**
	baz=226							
CHN4				*e*	S	**Sn**	**23 07 44.1**	**+2.1**
	baz=226							
STYT	**Tauyuan**	**2.16**	**225**	*e*	P	**Pn**	**23 07 17.0**	**+0.6**
	baz=220							
STYT				*e*	S	**Sn**	**23 07 43.3**	**+0.9**
	baz=220							
WTP	**Ta-pu**	**2.20**	**229**	*e*	P	**Pn**	**23 07 17.3**	**+0.3**
	baz=225							
WTP				*e*	S	**Sn**	**23 07 44.6**	**+1.2**
	baz=225							
TWG	**Pinlang**	**2.24**	**214**	*e*	S	**Sn**	**23 07 42.6**	**-1.8**
	baz=209							
TWK	**Hsinying**	**2.27**	**232**	*e*	P	**Pn**	**23 07 16.7**	**-1.3**
	baz=226							
TWK				*e*	S	**Sn**	**23 07 46.5**	**+1.3**
	baz=226							
CHN1	**Nanshi**	**2.30**	**229**	*e*	P	**Pn**	**23 07 18.3**	**0.0**
	baz=224							
CHN1				*e*	S	**Sn**	**23 07 46.7**	**+1.0**
	baz=224							
SGST	**Jiashian**	**2.33**	**227**	*e*	S	**Sn**	**23 07 48.5**	**+2.0**
	baz=222							
ECL	**Taimali**	**2.49**	**213**	*e*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**314**	*eP*	Pg	23 35 17.9	0.0
LUBP				*eS*	**Sg**	**23 35 21.4**	**-1.5**
TGY	**Tagaytay City**	**0.75**	**32**	Pg	**Pb**	**23 35 24.8**	**-0.7**
	170nm,0.3s,baz=198,slow=20,SNR=13						
TGY				Lg	Lg	23 35 35.8	
	357nm,0.3s,baz=198,slow=20,SNR=16						
TGY	**Tagaytay City**	**0.75**	**32**	Pg	**Pb**	**23 35 24.8**	**-0.7**
TGY				Lg	Lg	23 35 35.8	
TGY	**Tagaytay City**	**0.75**	**32**	⇓*i* P	**Pb**	**23 35 25.0**	**-0.5**
TGY				*eS*	**Sb**	**23 35 36.4**	**+0.6**
BUSP	**Coron**	**1.49**	**192**	*eP*	**Pn**	**23 35 36.8**	**-0.4**
OTRP	**Odiongan**	**1.83**	**127**	*eP*	**Pn**	**23 35 42.4**	**+0.5**
BALP	**Baler**	**2.48**	**24**	*eP*	**Pb**	**23 35 53.1**	**-1.9**
CMAR	**Chiang Mai Arr**	**21.33**	**286**	P	P	23 40 00.7	+2.9
	1.2nm,0.7s,baz=101,slow=8.4,SNR=8.3						
CMAR	**Chiang Mai Arr**	**21.33**	**286**	P	P	23 40 00.7	+2.9
TAPN	**Taplejung**	**33.59**	**299**	*eP*	P	23 41 53.2	+1.8
TAPN	**Taplejung**	**33.59**	**299**	*eP*	P	23 41 53.2	+1.8
ODAN	**Odare**	**33.72**	**298**	*eP*	P	23 41 54.3	+1.9
	4.7nm,0.6s						
ODAN	**Odare**	**33.72**	**298**	*eP*	P	23 41 54.3	+1.9
	4.7nm,0.6s						
RAMN	**Ramite**	**34.42**	**298**	*eP*	**P**	**23 41 59.8**	**+1.3**
	7.7nm,0.9s						
RAMN	**Ramite**	**34.42**	**298**	*eP*	**P**	**23 41 59.8**	**+1.3**
	7.7nm,0.9s						
JIRN	**Jiri**	**34.97**	**299**	*eP*	**P**	**23 42 04.7**	**+1.3**
	6.2nm,0.7s						
JIRN	**Jiri**	**34.97**	**299**	*eP*	**P**	**23 42 04.7**	**+1.3**
	6.2nm,0.7s						
GUN	**Gumba**	**35.31**	**299**	*eP*	**P**	**23 42 07.4**	**+1.1**
	5.0nm,0.6s						
GUN	**Gumba**	**35.31**	**299**	*eP*	**P**	**23 42 07.4**	**+1.1**
	5.0nm,0.6s						
WRAB	**Tennant Creek**	**35.87**	**157**	*eP*	**P**	**23 42 09.3**	**-1.5**
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**23 42 09.4**	**-1.4**
	2.2nm,0.5s,baz=336,slow=9.5,SNR=7.5						
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**23 42 09.4**	**-1.4**
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**23 42 14.1**	**+0.4**
	0.6nm,0.6s,baz=168,slow=9.8,SNR=5.2						
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**23 42 14.1**	**+0.4**
GKN	**Gorkha**	**36.39**	**299**	*eP*	**P**	**23 42 15.8**	**+0.4**
GKN	**Gorkha**	**36.39**	**299**	*eP*	**P**	**23 42 15.8**	**+0.4**
KOLN	**Koldanda**	**37.21**	**298**	*eP*	**P**	**23 42 23.8**	**+1.4**
	4.0nm,0.7s						
KOLN	**Koldanda**	**37.21**	**298**	*eP*	**P**	**23 42 23.8**	**+1.4**
	4.0nm,0.7s						
AS31	**Alice Springs**	**39.16**	**160**	*eP*	**P**	**23 42 37.9**	**-0.7**
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**23 42 38.0**	**-0.5**
	2.8nm,0.5s,baz=338,slow=6.9,SNR=46						
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**23 42 38.0**	**-0.5**
MKAR	**Makanchi Array**	**46.12**	**324**	P	**P**	**23 43 36.2**	**+1.3**
	0.4nm,0.7s,baz=132,slow=9.8,SNR=5.4						
MKAR	**Makanchi Array**	**46.12**	**324**	P	**P**	**23 43 36.2**	**+1.3**
ZALV	**Zalesovo Beam**	**49.18**	**333**	P	**P**	**23 43 58.5**	**-0.1**
	0.2nm,0.3s,baz=125,slow=7.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**49.18**	**333**	P	**P**	**23 43 58.5**	**-0.1**
KURK	**Kurchatov**	**50.29**	**326**	P	**P**	**23 44 07.8**	**+0.9**
	1.3nm,0.7s,baz=130,slow=7.5,SNR=16						
KURK	**Kurchatov**	**50.29**	**326**	*eP*	**P**	**23 44 07.9**	**+0.9**
	2.8nm,0.6s						

IDC 22 23:36:47.9±1.0, 13°38N×120°65E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, 1D, Error ellipse: s-maj=23.0km s-min=10.7km az=104.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.77**	**21**	Pg	Pg	23 37 02.9	0.0
	100nm,0.3s,baz=342,slow=20,SNR=1.9						
TGY				Lg	Lg	23 37 14.0	
	395nm,0.3s,baz=342,slow=20,SNR=4.7						
TGY	**Tagaytay City**	**0.77**	**21**	⇓*eP*	Pb	23 37 03.7	-0.6
CMAR	**Chiang Mai Arr**	**21.47**	**286**	P	P	23 41 39.3	+1.1
	0.5nm,0.3s,baz=94,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**35.75**	**158**	P	P	23 43 48.3	-0.5
	1.2nm,0.6s,baz=336,slow=9.5,SNR=8.9						
SONM	**Songino Array**	**36.35**	**344**	P	P	23 43 52.9	-0.9
	0.5nm,0.6s,baz=159,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**39.03**	**160**	P	P	23 44 17.0	+0.3
	2.0nm,0.6s,baz=339,slow=7.0,SNR=17						
MKAR	**Makanchi Array**	**46.26**	**324**	P	P	23 45 14.7	-0.4
	0.2nm,0.5s,baz=123,slow=6.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**49.32**	**333**	P	P	23 45 38.3	-0.4
	0.2nm,0.4s,baz=128,slow=9.3,SNR=2.2						
KURK	**Kurchatov**	**50.43**	**326**	P	P	23 45 47.0	-0.2
	0.7nm,0.7s,baz=129,slow=7.4,SNR=7.2						

IDC 22 23:41:20.7±5.6, 23°23N×94°28E, h53km±47km, mb3.6/7, mb1 3.6/8, mb1mx3.3/27, mbtmp3.5/8, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/36, Error ellipse: s-maj=138.2km s-min=15.9km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.44**	**137**	P	Pn	23 42 52.9	-0.2
	0.1nm,0.3s,baz=314,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**25.41**	**341**	P	P	23 46 43.7	+0.4
	2.3nm,0.6s,baz=149,slow=9.9,SNR=26						
KURK	**Kurchatov**	**30.03**	**340**	P	P	23 47 24.1	-0.3
	0.3nm,0.3s,baz=147,slow=8.8,SNR=6.5						
ZALV	**Zalesovo Beam**	**31.50**	**349**	P	P	23 47 36.9	-0.4
	0.3nm,0.4s,baz=160,slow=7.9,SNR=3.5						
AKTO	**Aktyubinsk**	**39.12**	**323**	LR	LR	00 07 05.3	
	comp=Z,94nm,19.9s,baz=146,slow=40						
WRA	**Warramunga Arr**	**58.03**	**134**	P	P	23 51 08.2	-0.3
	0.4nm,0.5s,baz=320,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**60.45**	**138**	P	P	23 51 25.4	+0.2
	0.4nm,0.5s,baz=325,slow=6.9,SNR=7.4						
ARCES	**ARCESS Array B**	**61.04**	**338**	P	P	23 51 28.5	0.0
	1.9nm,0.9s,baz=97,slow=7.4,SNR=3.3						
HFS	**Hagfors**	**65.50**	**327**	P	P	23 51 57.9	-0.3
	3.2nm,1.1s,baz=99,slow=8.9,SNR=4.1						

IDC 23 00:00:06.6±2.8, 22°87S×69°96W, h72km±22km, mb4.0/4, mb1 3.9/7, mb1mx3.6/16, mbtmp3.8/7, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=36.4km s-min=18.4km az=101.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.77**	**15**	P	Pn	00 01 44.9	+0.7
	1.0nm,0.3s,baz=188,slow=7.6,SNR=20						
CFAA	**Coronel Fontan**	**8.84**	**170**	P	Pn	00 02 11.4	-0.2
	0.2nm,0.3s,baz=357,slow=13,SNR=8.5						
CFAA				S	Sn	00 03 51.2	+1.5
	0.1nm,0.3s,baz=159,slow=14,SNR=2.3						
SIV	**San Ignacio**	**10.82**	**52**	P	Pn	00 02 36.9	-1.9
	0.8nm,0.3s,baz=252,slow=11,SNR=17						
SIV				S	Sn	00 04 40.1	+1.9
	0.1nm,0.3s,baz=288,slow=18,SNR=2.7						
SIV				LR	LR	00 07 44.5	
	comp=Z,110nm,19.5s,slow=42						
DBIC	**Dimbokro**	**70.06**	**73**	P	P	00 11 11.7	+0.3
	4.7nm,1.0s,baz=223,slow=3.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.73**	**71**	P	P	00 12 01.6	-0.2
	2.7nm,0.7s,baz=256,slow=5.5,SNR=27						
BOSA	**Boshof**	**83.66**	**118**	P	P	00 12 27.9	-0.1
	2.6nm,0.8s,baz=234,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**92.15**	**341**	P	P	00 13 07.1	-0.4
	0.4nm,0.6s,baz=140,slow=4.3,SNR=7.2						
WRA	**Warramunga Arr**	**131.29**	**211**	PKP	PKPdf	00 19 10.4	-0.9
	0.3nm,1.0s,baz=150,slow=1.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**143.60**	**25**	PKP	PKPdf	00 19 33.2	+0.4
	0.5nm,0.5s,baz=306,slow=3.4,SNR=3.5						
MKAR	**Makanchi Array**	**147.31**	**36**	PKPbc	PKPbc	00 19 41.9	-0.1
	1.2nm,0.8s,baz=317,slow=2.5,SNR=6.2						

MEX 23 00:23:00.7±0.8, 15°74N×93°78W, h87km±13km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.54**	**93**	*i* P	Pn	00 23 14.2	-1.2
PCIG				*i* S	Sn	00 23 25.1	-1.3
TGIG		**1.21**	**31**	*i* P	Pn	00 23 22.0	-0.8
TGIG				*i* S	Sn	00 23 37.4	-2.1
CCIG	**Comitan**	**1.67**	**71**	*i* P	Pn	00 23 26.8	-1.9
CCIG				*eS*	Sn	00 23 47.8	-2.2
CMIG	**Matias Romero**	**1.72**	**322**	*eP*	Pn	00 23 28.6	-0.5
CMIG				*i* S	Sn	00 23 49.7	-1.0
HUIG	**Huatulco**	**2.25**	**271**	*i* P	Pn	00 23 35.3	-0.8
HUIG				*eS*	Sn	00 24 00.8	-2.4

IDC 23 00:43:18.9±2.8, 19°06N×39°19E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=73.1km s-min=31.7km az=149.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**21.14**	**348**	P	P	00 48 05.6	-0.1
	1.0nm,0.7s,baz=161,slow=14,SNR=7.1						
TORD	**Torodi Ar. Bea**	**36.45**	**266**	P	P	00 50 25.7	-0.1
	1.5nm,0.9s,baz=78,slow=8.3,SNR=8.1						
MKAR	**Makanchi Array**	**44.74**	**42**	P	P	00 51 33.9	-0.1
	0.5nm,0.8s,baz=236,slow=8.6,SNR=5.1						

ISC 23 01:32:15.1±2.8, 39°2N±0°2×74°73E±0°08, h40km, n10, σ1°92/20, 2C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.02**	**72**	⇓*i* Pg	**Pn**	**01 32 33.6**	**+0.6**
KSH				Sg	**Sn**	**01 32 44.6**	**-1.6**
KSH				smax	smax		
	comp=N,210nm,0.4s						
KSH				smax	smax		
	comp=E,120nm,0.2s						
KZA	**Kyzart**	**2.90**	**8**	P	**Pn**	**01 32 59.8**	**+0.7**
	SNR=6.5						
KZA				P	**Pn**	**01 32 59.8**	**+0.7**
	SNR=6.5						
AML	**Almayashu**	**3.03**	**345**	P	**Pn**	**01 33 01.8**	**+0.9**
	SNR=20						
AML				P	**Pn**	**01 33 01.8**	**+0.9**
	SNR=20						
AAK	**Ala-Archa**	**3.43**	**357**	P	**Pn**	**01 33 07.9**	**+1.6**
	SNR=7.6						
AAK				P	**Pn**	**01 33 07.9**	**+1.6**
	SNR=7.6						
KBK	**Karagaybulak**	**3.45**	**3**	P	**Pn**	**01 33 08.3**	**+1.8**
	SNR=27						
KBK				P	**Pn**	**01 33 08.3**	**+1.8**
	SNR=27						
EKS2	**Erkin-Say**	**3.53**	**349**	P	**Pn**	**01 33 10.3**	**+2.8**
	SNR=5.0						
EKS2				P	**Pn**	**01 33 10.3**	**+2.8**
	SNR=5.0						
TKM2	**Tokmak 2**	**3.77**	**10**	P	**Pn**	**01 33 12.7**	**+1.8**
	SNR=17						
TKM2				P	**Pn**	**01 33 12.7**	**+1.8**
	SNR=17						
TKM2	**Tokmak 2**	**3.77**	**10**	⇓Pn	**Pn**	**01 33 12.8**	**+1.8**
	comp=E,4.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**01 33 52.3**	**-1.9**
	comp=E,5.6nm,0.5s						
TKM2				⇓Lg	Lg	01 34 02.2	
	comp=E,10.0nm,0.8s						
CHMS	**Chumysh**	**3.79**	**0**	P	**Pn**	**01 33 12.7**	**+1.7**
	SNR=6.4						
CHMS				P	**Pn**	**01 33 12.7**	**+1.7**
	SNR=6.4						
KK31	**Karatay Array**	**5.03**	**322**	⇓Pn	**Pn**	**01 33 28.9**	**+0.8**
	comp=E,0.2nm,0.2s,baz=118,slow=12,SNR=9.8						
KK31				⇓Pg		01 33 40.0	
	comp=E,1.0nm,0.6s,baz=137,slow=15,SNR=4.9						
KK31				⇑Sn	**Sn**	**01 34 21.6**	**-3.3**
	comp=E,0.8nm,0.3s						
KK31				⇓Lg	Lg	01 34 34.8	
	comp=E,1.0nm,0.3s,baz=132,slow=27,SNR=5.7						

MEX 23 01:49:36.6±0.8, 16°94N×94°94W, h123km±10km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**21**	*i* P	Pn	01 49 52.4	-1.1
CMIG				*eS*	Sn	01 50 04.0	-2.3
HUIG	**Huatulco**	**1.62**	**224**	*eP*	Pn	01 50 04.0	-1.6
HUIG				*i* S	Sn	01 50 26.2	-1.5
VHO	**Vista Hermosa**	**1.72**	**275**	*eP*	Pn	01 50 06.0	-1.0
VHO				*i* S	Sn	01 50 29.2	-1.0
PNIG	**Pinotepa**	**3.10**	**260**	*i* P	Pn	01 50 23.8	-0.5
PNIG				*i* S	Sn	01 50 58.7	-2.5

*DJA **23** 01:49:54, 15°30S×169°26E, h10km, mb5.3/13*
*NOU **23** 01:50:15.2±1.1, 14°94S×168°00E, h30km, MD3.9, ML3.2*
*BJI **23** 01:50:18.2, 15°20S×167°50E, h146km, mB5.1/24, mb5.1/39*
*ISCJB **23** 01:50:20.0±0.8, 15°32S±0°04×167°46E±0°04, h157km±7km, mb4.9/89, Error ellipse: s-maj=6.0km s-min=5.5km az=24.1*
*NEIC **23** 01:50:20.0±0.2, 15°20S×167°51E, mb4.8/38, Error ellipse: s-maj=6.2km s-min=4.9km az=149.0*
*IDC **23** 01:50:19.8±0.7, 15°28S×167°40E, h142km±5km, mb4.5/19, mb1 4.6/20, mb1mx4.6/20, mbtmp4.5/20, MS3.9/6, Ms1 3.9/6, ms1mx3.4/28, Error ellipse: s-maj=13.2km s-min=9.6km az=122.0*
ISC 23 01:50:19.7±0.3, 15°29S±0°04×167°48E±0°05, h145km±2km, h144km:pP-P, n274, σ1°36/366, mb5.0/88, 17C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.82**	**188**	*ePn*	**Pn**	**01 51 58.0**	**+0.5**
	91nm,0.2s						
DZM				*eSn*	**Sn**	**01 53 15.0**	**+1.0**
	142nm,0.2s						
DZM	**Mont Dzumac**	**6.82**	**188**	P	**Pn**	**01 51 58.3**	**+0.8**
	8.0nm,0.3s,baz=24,slow=18,SNR=136						
DZM				S	**Sn**	**01 53 14.5**	**+0.5**
	11nm,0.3s,baz=329,slow=24,SNR=9.5						
DZM	**Mont Dzumac**	**6.82**	**188**	*eP*	**Pn**	**01 51 57.3**	**-0.2**
DZM				*eS*	**Sn**	**01 53 14.5**	**+0.5**
DZM				AMP		01 53 22.2	
	comp=Z,2μm,5.2s						
DZM	**Mont Dzumac**	**6.82**	**188**	P	**Pn**	**01 51 58.3**	**+0.8**
DZM				S	**Sn**	**01 53 14.5**	**+0.5**
BAYA	**Yate Dam**	**6.86**	**185**	*eP*	**Pn**	**01 51 57.9**	**0.0**
BAYA				*eS*	**Sn**	**01 53 13.9**	**-0.8**
BAYA				AMP		01 53 20.6	
	comp=Z,12nm,2.1s						
NOUC	**Port Laguerre**	**6.87**	**189**	*eP*	**Pn**	**01 51 58.4**	**+0.3**
NOUC				*eS*	**Sn**	**01 53 14.7**	**-0.3**
NOUC				AMP		01 53 20.8	
	comp=Z,100nm,1.4s						
NORM	**Noumea**	**6.97**	**188**	*eP*	**Pn**	**01 52 01.0**	**+1.6**
NORM				*eS*	**Sn**	**01 53 17.5**	**0.0**
HNR	**Honiara**	**9.38**	**307**	*ePn*	**Pn**	**01 52 31.9**	**+0.3**
HNR				*eSn*	**Sn**	**01 54 18.1**	**+2.5**
MSVF	**Nonsavu**	**10.43**	**105**	*ePn*	**Pn**	**01 52 47.3**	**+1.6**
EIDS	**Eidsvold**	**18.34**	**234**	*eP*	**Pn**	**01 54 25.5**	**+0.6**
	comp=Z,64nm,1.1s						
AFI	**Afiamalu**	**20.12**	**89**	P	Pn	01 54 47.8	+1.8
	comp=Z,31nm,0.7s,baz=262,slow=19,SNR=4.2						
AFI	**Afiamalu**	**20.12**	**89**	P	Pn	01 54 47.8	+1.8
OUZ	**Omahuta**	**20.60**	**166**	*eP*	**P**	**01 54 48.9**	**+1.5**
	comp=Z,52nm,0.9s						
PMG	**Port Moresby**	**20.68**	**284**	P	**P**	**01 54 49.6**	**+1.1**
	comp=Z,27nm,0.9s,baz=103,slow=12,SNR=3.5						
PMG	**Port Moresby**	**20.68**	**284**	*eP*	Pn	01 54 50.6	-1.9
	comp=Z,36nm,1.0s						
CTA	**Charters Tower**	**20.77**	**254**	P	**P**	**01 54 50.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=74,slow=12,SNR=8.5						
CTA	**Charters Tower**	**20.77**	**254**	*eP*	**P**	**01 54 51.1**	**+1.6**
	comp=Z,12nm,1.0s						
CTA	**Charters Tower**	**20.77**	**254**	P	**P**	**01 54 50.1**	**+0.6**
CTAO	**Charters Tower**	**20.77**	**254**	*eP*	**P**	**01 54 50.6**	**+1.1**
	comp=Z,22nm,1.0s						
ARMA	**Armidale**	**20.94**	**221**	*eP*	Pn	01 54 55.2	-0.5
ARMA	**Armidale**	**20.94**	**221**	*eP*	Pn	01 54 54.5	-1.2
	comp=Z,48nm,0.9s						
COEN	**Coen**	**23.55**	**270**	*eP*	**P**	**01 55 18.0**	**+0.8**
	comp=Z,33nm,1.0s						
RIV	**Riverview**	**23.63**	**216**	*eP*	**P**	**01 55 19.4**	**+1.7**
URZ	**Urewera**	**24.41**	**161**	*eP*	**P**	**01 55 24.5**	**-0.3**
	comp=Z,44nm,1.0s						
CNB	**Canberra Magne**	**25.72**	**216**	*eP*	**P**	**01 55 38.4**	**+1.6**
	comp=Z,167nm,1.1s						
RPZ	**Rata Peaks**	**28.50**	**175**	P	**P**	**01 56 01.8**	**+0.4**
	comp=Z,27nm,0.7s,baz=324,slow=0.9,SNR=14						
RPZ	**Rata Peaks**	**28.50**	**175**	*eP*	**P**	**01 56 01.8**	**+0.4**
	comp=Z,356nm,2.2s						
STKA	**Stephens Creek**	**28.79**	**230**	P	**P**	**01 56 05.8**	**+1.6**
	comp=Z,42nm,0.7s,baz=44,slow=7.4,SNR=62						
STKA				PcP	**PcP**	**01 59 10.7**	**+0.2**
	comp=Z,20nm,0.8s,baz=47,slow=3.3,SNR=14						
STKA	**Stephens Creek**	**28.79**	**230**	*eP*	**P**	**01 56 05.6**	**+1.4**
	comp=Z,32nm,0.8s						
STKA	**Stephens Creek**	**28.79**	**230**	*eP*	**P**	**01 56 05.8**	**+1.6**
	comp=Z,10nm,0.8s						
STKA				*e*PcP	**PcP**	**01 59 10.4**	**-0.1**
STKA				PcP	PcP	01 59 10.7	+0.2
TOO	**Toolangi**	**29.53**	**217**	*eP*	**P**	**01 56 11.8**	**+1.2**
	comp=Z,124nm,0.9s						
SMPI	**Sarmi**	**31.30**	**292**	P	**P**	**01 56 28.1**	**+1.7**
	comp=Z,76nm,1.4s,comp=Z,4μm						
WB2	**Warramunga Arr**	**31.88**	**257**	*eP*	**P**	**01 56 30.5**	**-1.0**
WB2				*e*PcP	**PcP**	**01 59 19.0**	**+0.1**
WRAB	**Tennant Creek**	**31.88**	**257**	*eP*	**P**	**01 56 31.1**	**-0.4**
	comp=Z,17nm,1.0s						
WRAB				*e*PcP	**PcP**	**01 59 18.9**	**0.0**
WRAB				*eS*	**S**	**02 01 30.0**	**-1.9**
WRA	**Warramunga Arr**	**31.89**	**257**	P	**P**	**01 56 30.9**	**-0.8**
	comp=Z,15nm,1.0s,baz=86,slow=9.1,SNR=77						
WRA				pP	**pP**	**01 56 58.1**	**-4.4**
	comp=Z,3.4nm,0.8s,baz=85,slow=7.4,SNR=4.0						
WRA				PcP	**PcP**	**01 59 18.7**	**-0.2**
	comp=Z,9.1nm,1.0s,baz=83,slow=2.8,SNR=17						
WRA				S	**S**	**02 01 28.8**	**-3.3**
	comp=Z,2.2nm,1.1s,baz=91,slow=13,SNR=6.5						
WRA				ScP	**ScP**	**02 02 50.0**	**+1.0**
	comp=Z,5.1nm,1.1s,baz=86,slow=3.1,SNR=10.0						
WRA				PKiKP	**PKiKP**	**02 06 46.1**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=277,slow=0.1,SNR=8.4						
WRA				LR	LR	02 08 56.4	
	comp=Z,334nm,20.1s,baz=70,slow=35						
WRA	**Warramunga Arr**	**31.89**	**257**	P	**P**	**01 56 30.9**	**-0.8**
WRA				pP	**pP**	**01 56 58.1**	**-4.4**
WRA				PcP	**PcP**	**01 59 18.7**	**-0.2**
WRA				S	**S**	**02 01 28.8**	**-3.3**
WRA				ScP	**ScP**	**02 02 50.0**	**+1.0**
WRA				PKiKP	**PKiKP**	**02 06 46.1**	**-1.2**
AS31	**Alice Springs**	**32.67**	**250**	*eP*	**P**	**01 56 38.0**	**-0.4**
AS31				*e*PcP	**PcP**	**01 59 20.8**	**-0.2**
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**01 56 38.1**	**-0.3**
	comp=Z,36nm,0.7s,baz=78,slow=9.1,SNR=273						
ASAR				pP	**pP**	**01 57 06.0**	**-3.4**
	comp=Z,10nm,0.9s,baz=78,slow=8.5,SNR=3.6						
ASAR				PcP	**PcP**	**01 59 20.6**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=94,slow=2.9,SNR=7.9						
ASAR				S	**S**	**02 01 42.1**	**-2.1**
	comp=Z,2.3nm,1.1s,baz=74,slow=18,SNR=5.3						
ASAR				ScP	**ScP**	**02 02 53.5**	**+1.9**
	comp=Z,3.3nm,0.9s,baz=100,slow=3.5,SNR=11						
ASAR				PKiKP	**PKiKP**	**02 06 46.6**	**-1.2**
	comp=Z,0.7nm,1.0s,baz=90,slow=2.8,SNR=4.1						
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**01 56 38.1**	**-0.3**
ASAR				pP	**pP**	**01 57 06.0**	**-3.4**
ASAR				PcP	**PcP**	**01 59 20.6**	**-0.4**
ASAR				S	**S**	**02 01 42.0**	**-2.1**
ASAR				ScP	**ScP**	**02 02 53.5**	**+1.9**
ASAR				PKiKP	**PKiKP**	**02 06 46.6**	**-1.2**
BBOO	**Buckleboo**	**33.40**	**233**	*eP*	**P**	**01 56 46.3**	**+1.6**
	comp=Z,1μm,0.8s						
TLE	**Tual**	**35.43**	**282**	P	**P**	**01 57 03.8**	**+1.5**
	comp=Z,108nm,0.9s						
FAKI	**Fak Fak**	**36.82**	**286**	P	**P**	**01 57 14.9**	**+0.8**
	comp=Z,53nm,1.0s						
BNDI	**Bandanaira**	**38.46**	**282**	P	**P**	**01 57 28.5**	**+0.6**
	comp=Z,179nm,0.6s,comp=Z,5μm						
FORT	**Forrest**	**39.19**	**240**	*eP*	**P**	**01 57 34.5**	**+0.7**
	comp=Z,53nm,0.6s						
FORT	**Forrest**	**39.19**	**240**	*eP*	**P**	**01 57 34.6**	**+0.8**
	comp=Z,79nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.11**	**260**	LR	LR	02 14 26.3	
	comp=Z,288nm,18.7s,baz=97,slow=36						
FITZ	**Fitzroy Crossi**	**40.11**	**260**	*eP*	**P**	**01 57 41.9**	**+0.3**
	comp=Z,50nm,0.7s						
PAE	**Paea**	**41.18**	**99**	*eP*	**P**	**01 57 50.9**	**+0.5**
	comp=Z,14nm,1.1s						
TIAR	**Tiarei**	**41.41**	**99**	*eP*	**P**	**01 57 53.3**	**+1.0**
	comp=Z,87nm,0.9s						
NLAI	**Namlea**	**41.52**	**283**	P	**P**	**01 57 54.5**	**+1.3**
	comp=Z,88nm,1.3s,comp=Z,980nm						
MEH	**Mehetia**	**42.61**	**100**	*eP*	**P**	**01 58 02.8**	**+0.8**
	comp=Z,182nm,1.2s						
PMOR	**Pomariorio Ree**	**43.02**	**96**	*eP*	**P**	**01 58 06.8**	**+1.5**
	comp=Z,269nm,1.2s						
BBSI	**Bau Bau**	**45.15**	**278**	P	**P**	**01 58 23.5**	**+1.2**
	comp=Z,50nm,1.3s						
MBWA	**Marble Bar**	**45.60**	**255**	*eP*	**P**	**01 58 26.3**	**+0.6**
	comp=Z,39nm,0.9s						
LUWI	**Luwuk**	**46.33**	**283**	P	**P**	**01 58 32.5**	**+0.9**
	comp=Z,38nm,1.3s,comp=Z,499nm						
BKSI	**Bulukumba**	**47.53**	**

comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
BJI Beijing 72.82 321 P **P** **02 01 33.1 +0.5**
BJI pmax pmax
comp=Z,26nm,0.9s
XAN Xi'an 74.21 313 P **P** **02 01 41.5 +0.5**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,24nm,6.7s
KMI Kunming 74.77 302 P **P** **02 01 46.0 +1.4**
KMI pP **pP** **02 02 20.8 +0.6**
KMI sP **sP** **02 02 39.9 +4.2**
KMI pmax pmax
comp=Z,38nm,1.1s
CMAR Chiang Mai Arr 75.36 294 P **P** **02 01 49.2 +1.4**
comp=Z,7.8nm,0.6s,baz=127,slow=4.1,SNR=36
CMAR Chiang Mai Arr 75.36 294 P **P** **02 01 49.2 +1.4**
CHTO Chiang Mai 75.49 294 *e*P **P** **02 01 49.7 +1.1**
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 76.14 320 *e*P **P** **02 01 53.3 +1.4**
HHC pP **pP** **02 02 27.8 +0.2**
HHC sP **sP** **02 02 43.8 +0.7**
HHC PP **PP** **02 04 47.9 +2.8**
HHC S **S** **02 11 24.8 +0.7**
HHC SKS **SKSac** **02 11 45.9 -3.6**
HHC sS **sS** **02 12 24.3 -1.5**
HHC SS **SS** **02 16 23.8 +2.8**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.7s
CD2 Chengdu 76.51 308 P **P** **02 01 54.8 +0.7**
CD2 pP **pP** **02 02 31.1 +1.2**
CD2 sP **sP** **02 02 47.0 +1.7**
CD2 PP **PP** **02 04 50.5 +2.2**
CD2 S **S** **02 11 27.6 -0.8**
CD2 sS **sS** **02 12 30.8 +0.6**
CD2 SS **SS** **02 16 28.8 +2.0**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,90nm,4.7s
CHGN Chignik 76.83 19 *e*P **P** **02 01 57.0 +1.8**
LZH Lanzhou 78.84 312 ⇑P **P** **02 02 08.5 +1.4**
LZH pP **pP** **02 02 44.3 +1.2**
LZH sP **sP** **02 03 00.3 +1.9**
LZH *e*S **S** **02 11 54.0 +0.5**
LZH pmax pmax
comp=Z,45nm,1.5s
LZH pmax pmax
comp=Z,200nm,6.7s
MAW Mawson 81.45 202 P **P** **02 02 21.1 +0.8**
comp=Z,8.3nm,0.9s,baz=133,slow=3.7,SNR=3.6
MAW Mawson 81.45 202 P **P** **02 02 21.1 +0.8**
YAK Yakutsk 82.62 343 *e*P **P** **02 02 26.4 +0.1**
comp=Z,25nm,0.6s
ULN Ulaanbaatar 82.70 324 *e*P **P** **02 02 28.1 +0.7**
comp=Z,50nm,1.0s
SONM Songino Array 83.06 324 P **P** **02 02 30.0 +0.8**
comp=Z,22nm,1.0s,baz=135,slow=5.2,SNR=82
SONM Songino Array 83.06 324 P **P** **02 02 30.0 +0.8**
BILL Bilibino 83.10 360 *e*P **P** **02 02 27.3 -1.4**
comp=Z,5.7nm,1.0s
GTA Gaotai 83.20 314 *e*P **P** **02 02 31.1 +1.0**
GTA pP **pP** **02 03 06.8 +0.4**
GTA sP **sP** **02 03 21.1 -0.6**
GTA pmax pmax
comp=Z,34nm,1.1s
KHMM Horse Mountain 84.61 45 *e*P **P** **02 02 38.0 +0.8**
comp=Z,7.8nm,0.9s
KHMM *ep*P **pP** **02 03 14.7 +1.1**
CMB Columbia Colle 85.81 49 *e*P **P** **02 02 43.2 0.0**
comp=Z,7.5nm,1.0s
CMB *ep*P **pP** **02 03 19.2 -0.4**
HUMO Hull Mountain 85.87 44 *e*P **P** **02 02 43.8 +0.5**
comp=Z,5.5nm,0.9s
HUMO *ep*P **pP** **02 03 15.7 -4.1**
ISA Isabella 86.33 52 *e*P **P** **02 02 46.1 +0.3**
comp=Z,7.0nm,1.0s
ISA *ep*P **pP** **02 03 23.1 +0.7**
TLY Talaya 86.56 326 *e*P **P** **02 02 46.8 +0.3**
comp=Z,21nm,1.1s
COLA College 86.78 17 *e*P **P** **02 02 45.8 -1.3**
comp=Z,2.7nm,0.7s
ILAR Eielson Array 86.99 18 P **P** **02 02 46.4 -1.9**
comp=Z,2.0nm,0.7s,baz=237,slow=5.8,SNR=19
ILAR pP **pP** **02 03 22.6 -2.2**
comp=Z,4.2nm,0.8s,baz=235,slow=6.3,SNR=8.4
ILAR PKKPbc **PKKPbc** **02 20 41.1 -2.6**
comp=Z,1.2nm,1.1s,baz=231,slow=1.2,SNR=4.9
ILAR Eielson Array 86.99 18 P **P** **02 02 46.4 -1.9**
ILAR pP **pP** **02 03 22.6 -2.2**
ILAR PKKPbc **PKKPbc** **02 20 41.1 -2.6**
GSC Goldstone 87.48 53 *e*P **P** **02 02 51.6 +0.3**
comp=Z,59nm,2.5s
GSC *ep*P **pP** **02 03 28.7 +0.7**
NVAR Mina Array Bea 87.48 49 P **P** **02 02 51.4 -0.1**
comp=Z,2.1nm,0.8s,baz=231,slow=8.8,SNR=6.6
NVAR pP **pP** **02 03 27.2 -0.9**
comp=Z,3.7nm,0.8s,baz=231,slow=7.3,SNR=9.1
NVAR PKKPbc **PKKPbc** **02 20 40.7 -0.8**
comp=Z,0.5nm,0.6s,baz=109,slow=4.6,SNR=5.8
NVAR PKPPKP **P'P'df** **02 28 47.6 0.0**
comp=Z,0.9nm,1.0s,baz=114,slow=2.3,SNR=5.0
NVAR LR LR 02 39 00.8
comp=Z,78nm,18.7s,baz=284,slow=33
NVAR Mina Array Bea 87.48 49 P **P** **02 02 51.4 -0.1**
NVAR pP **pP** **02 03 27.2 -0.9**
NVAR PKKPbc **PKKPbc** **02 20 40.7 -0.8**
NVAR P'P' 02 28 47.6
TAPN Taplejung 88.12 299 *e*P **P** **02 02 55.2 +0.3**
comp=Z,35nm,1.1s
TAPN Taplejung 88.12 299 *e*P **P** **02 02 55.2 +0.3**
comp=Z,35nm,1.1s
SYO Syowa Base 88.23 197 ⇓*e*P P 02 03 02.0 +7.8
ODAN Odare 88.24 298 *e*P **P** **02 02 55.6 +0.2**
comp=Z,32nm,0.9s
ODAN Odare 88.24 298 *e*P **P** **02 02 55.6 +0.2**
comp=Z,32nm,0.9s
GLA Glamis 88.25 55 *e*P **P** **02 02 54.9 -0.1**
GLA *ep*P **pP** **02 03 32.9 +1.1**
LDFC Landfair 88.70 53 *e*P **P** **02 02 57.9 +0.7**
comp=Z,15nm,0.8s
LDFC *ep*P **pP** **02 03 34.5 +0.6**
RAMN Ramite 88.94 298 *e*P **P** **02 02 58.7 0.0**
comp=Z,21nm,1.1s
RAMN Ramite 88.94 298 *e*P **P** **02 02 58.7 0.0**
comp=Z,21nm,1.1s
JIRN Jiri 89.50 299 *e*P **P** **02 03 01.6 +0.2**
comp=Z,23nm,1.0s
JIRN Jiri 89.50 299 *e*P **P** **02 03 01.6 +0.2**
comp=Z,23nm,1.0s
HAWA Hanford 89.64 41 *e*P **P** **02 03 01.5 +0.3**
comp=Z,6.7nm,0.9s
HAWA *ep*P **pP** **02 03 38.5 +0.6**
GUN Gumba 89.84 299 *e*P **P** **02 03 03.1 +0.1**
comp=Z,27nm,0.9s
GUN Gumba 89.84 299 *e*P **P** **02 03 03.1 +0.1**
comp=Z,27nm,0.9s
PKI Pulchoki 90.14 298 *e*P **P** **02 03 04.2 -0.2**
comp=Z,27nm,1.0s
PKI Pulchoki 90.14 298 *e*P **P** **02 03 04.2 -0.2**
comp=Z,27nm,1.0s
KKN Kakani 90.31 299 *e*P **P** **02 03 04.9 -0.1**
KKN Kakani 90.31 299 *e*P **P** **02 03 04.9 -0.1**
DMN Daman 90.41 298 *e*P **P** **02 03 05.6 +0.1**
comp=Z,30nm,0.8s
DMN Daman 90.41 298 *e*P **P** **02 03 05.6 +0.1**
comp=Z,30nm,0.8s
ELK Elko 90.51 48 *e*P **P** **02 03 05.9 +0.2**
ELK *ep*P **pP** **02 03 41.3 -1.1**
BMO Blue Mountains 90.51 43 *e*P **P** **02 03 05.2 -0.2**
comp=Z,6.6nm,1.1s
BMO *ep*P **pP** **02 03 42.2 0.0**
OD2 Odessa Site #2 90.54 41 *e*P **P** **02 03 04.3 -1.1**
CCUT Cedar City 90.84 51 *e*P **P** **02 03 08.0 +0.7**
comp=Z,2.3nm,0.9s
CCUT *ep*P **pP** **02 03 45.2 +1.2**
GKN Gorkha 90.92 299 *e*P **P** **02 03 07.2 -0.6**
comp=Z,21nm,1.0s
GKN Gorkha 90.92 299 *e*P **P** **02 03 07.2 -0.6**
comp=Z,21nm,1.0s
TUC Tucson 91.25 57 *e*P **P** **02 03 08.4 -0.7**
comp=Z,3.7nm,1.2s
TUC *ep*P **pP** **02 03 46.9 +1.0**
WUAZ Wupatki 91.74 54 *e*P **P** **02 03 11.6 +0.2**
comp=Z,3.3nm,0.9s
WUAZ *ep*P **pP** **02 03 48.8 +0.5**
DANN Dangsing 91.76 299 *e*P **P** **02 03 10.9 -0.9**
DANN Dangsing 91.76 299 *e*P **P** **02 03 10.9 -0.9**
NEW Newport 91.85 40 *e*P **P** **02 03 10.1 -1.4**
comp=Z,3.4nm,1.0s
MSU Marysvale 92.03 51 *e*P **P** **02 03 11.4 -1.4**
MSU *ep*P **pP** **02 03 50.6 +1.0**
DUG Dugway 92.08 49 *e*P **P** **02 03 12.5 -0.4**
comp=Z,1.5nm,0.8s
SNAA Sanae 93.01 183 *e* P 02 03 12.5 -4.0
SNAA Sanae 93.01 183 *e*P P 02 03 12.2 -4.3
comp=Z,16nm,1.1s
WMQ Urumqi 93.26 314 P **P** **02 03 18.4 +0.3**
WMQ pP **pP** **02 03 54.4 -0.5**
WMQ sP **sP** **02 04 09.4 -0.7**
WMQ pmax pmax
comp=Z,24nm,1.0s
INK Inuvik 93.35 19 *e*P **P** **02 03 17.6 -0.2**
comp=Z,1.8nm,0.8s
VNA3 Neumayer Olymp 93.67 181 *e* **P** **02 03 19.2 -0.3**
VNA2 Neumayer--Watz 93.93 182 *e* **P** **02 03 20.7 0.0**
baz=188,slow=3.8
VNA1 Neumayer--Stat 94.23 181 *e* **P** **02 03 22.2 +0.2**
PDAR Pinedale Array 95.17 47 P **P** **02 03 27.6 +0.5**
comp=Z,0.5nm,0.9s,baz=243,slow=2.9,SNR=3.5
PDAR PKKPbc **PKKPbc** **02 20 20.2 -1.8**
comp=Z,1.0nm,0.8s,baz=88,slow=5.6,SNR=8.5
PDAR Pinedale Array 95.17 47 P **P** **02 03 27.6 +0.5**
PDAR PKKPbc **PKKPbc** **02 20 20.2 -1.8**
TXAR Lajitas Array 96.36 61 P **P** **02 03 32.6 0.0**
comp=Z,0.2nm,0.8s,baz=192,slow=3.6,SNR=3.4
TXAR pP **pP** **02 04 10.0 +0.4**
comp=Z,0.6nm,0.8s,baz=232,slow=4.2,SNR=6.5
TXAR PP **PP** **02 07 28.0 -0.4**
comp=Z,1.0nm,1.1s,baz=231,slow=7.9,SNR=6.1
TXAR PKKPbc **PKKPbc** **02 20 18.1 +0.1**
comp=Z,0.3nm,0.8s,baz=116,slow=5.7,SNR=4.1
TXAR Lajitas Array 96.36 61 P **P** **02 03 32.6 0.0**
TXAR pP **pP** **02 04 10.0 +0.4**
TXAR PP **PP** **02 07 28.0 -0.4**
TXAR PKKPbc **PKKPbc** **02 20 18.1 +0.1**
MK31 Makanchi Array 97.74 316 *e*P Pdif 02 03 38.4 0.0
MK31 *ep*P pP 02 04 15.6 +0.3
MKAR Makanchi Array 97.74 316 P Pdif 02 03 38.7 +0.3
comp=Z,6.6nm,0.9s,baz=99,slow=5.0,SNR=55
MKAR Makanchi Array 97.74 316 *e*P Pdif 02 03 38.6 +0.2
MKAR *ep*P pP 02 04 17.8 +2.5
YKA Yellowknife Ar 97.95 27 P **P** **02 03 37.5 -1.3**
comp=Z,2.9nm,0.8s,baz=255,slow=4.6,SNR=46
YKA PKKPbc **PKKPbc** **02 20 10.9 -4.1**
comp=Z,0.4nm,0.8s,baz=78,slow=2.7,SNR=6.3
YKA PKKPab PKKPdf 02 20 40.4 +23
comp=Z,0.5nm,0.9s,baz=75,slow=5.7,SNR=4.5
YKA Yellowknife Ar 97.95 27 P **P** **02 03 37.5 -1.3**
YKA PKKPbc **PKKPbc** **02 20 10.9 -4.1**
YKA PKKPab PKKPdf 02 20 40.4 +23
ZAA0 Zalesovo Array 97.96 324 *e*P **P** **02 03 38.0 -1.1**
ZALV Zalesovo Beam 97.96 324 P **P** **02 03 38.5 -0.6**
comp=Z,8.4nm,0.8s,baz=108,slow=4.8,SNR=50
ZALV pP **pP** **02 04 14.8 -1.2**
comp=Z,1.3nm,0.7s,baz=110,slow=5.2,SNR=2.5
ZALV Zalesovo Beam 97.96 324 P **P** **02 03 38.5 -0.6**
ZALV pP **pP** **02 04 14.8 -1.2**
KURK Kurchatov 100.95 320 *e*Pdif **Pdif** **02 03 51.9 -0.6**
BVAR Borovoye Array 106.30 321 PKiKP **PKiKP** **02 08 27.2 +0.2**
comp=Z,0.9nm,0.7s,baz=146,slow=2.8,SNR=5.2
BVAR Borovoye Array 106.30 321 PKiKP **PKiK** **02 08 27.2 +0.2**
AKTO Aktyubinsk 114.02 319 PKiKP PKPdf 02 08 41.3 -0.3
comp=Z,1.5nm,0.8s,baz=111,slow=2.0,SNR=6.1
AKTO Aktyubinsk 114.02 319 PKiKP PKPdf 02 08 41.3 -0.3
ARCES ARCESS Array B 120.84 345 PKP **PKPdf** **02 08 53.5 -0.7**
comp=Z,7.9nm,0.7s,baz=72,slow=2.8,SNR=27
ARCES ARCESS Array B 120.84 345 PKP **PKPdf** **02 08 53.5 -0.7**
SDV Santo Domingo 122.95 89 *e*PKPdf **PKPdf** **02 08 58.6 -1.4**
BOSA Boshof 123.08 220 PKP **PKPdf** **02 08 58.8 -1.1**
comp=Z,8.8nm,0.9s,baz=332,slow=1.9,SNR=7.2
BOSA Boshof 123.08 220 PKP **PKPdf** **02 08 58.8 -1.1**
BOSA *e*PKPdf **PKiKP** **02 09 00.5 +0.3**
GNI Garni 124.63 308 PKP **PKPdf** **02 09 02.8 +0.2**
comp=Z,3.8nm,0.8s,baz=0.0,slow=6.1,SNR=6.2
GNI Garni 124.63 308 PKP **PKPdf** **02 09 02.8 +0.2**
GNI *e*PKPdf **PKiKP** **02 09 03.3 +0.4**
LBTB Lobatse 125.36 223 *e*PKPdf **PKPdf** **02 09 04.3 -0.1**
KIV Kislovodsk 125.37 313 *e*PKPdf **PKPdf** **02 09 04.7 +1.0**
FINES FINESS Array B 126.31 338 PKP **PKPdf** **02 09 03.5 -1.3**
comp=Z,5.9nm,0.9s,baz=96,slow=3.8,SNR=9.3
FINES FINESS Array B 126.31 338 PKP **PKPdf** **02 09 03.5 -1.3**
KMBO Kilima Mbogo 128.17 256 *e*PKPdf **PKPdf** **02 09 11.2 +1.0**
HUMP Col San Antoni 128.99 79 *e*PKPdf **PKPdf** **02 09 10.5 -0.7**
NB2 NORSAR Subarra 131.21 345 PKPdf **PKPdf** **02 09 14.8 +0.5**
comp=Z,7.7nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.21 345 PKPdf **PKPdf** **02 09 14.7 +0.5**
comp=Z,7.8nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.21 345 PKPdf **PKPdf** **02 09 14.8 +0.5**
baz=31,slow=1.9
NOA NORSAR Array B 131.21 345 PKP **PKPdf** **02 09 13.8 -0.5**
comp=Z,3.5nm,0.8s,baz=32,slow=2.0,SNR=6.8
NOA NORSAR Array B 131.21 345 PKP **PKPdf** **02 09 13.8 -0.5**
AKASG Malin Array Be 131.31 326 PKP **PKPdf** **02 09 14.6 -0.1**
comp=Z,3.7nm,1.0s,baz=54,slow=2.6,SNR=11
AKASG Malin Array Be 131.31 326 PKP **PKPdf** **02 09 14.6 -0.1**
HFS Hagfors 131.31 343 PKP **PKPdf** **02 09 12.5 -1.9**
comp=Z,2.9nm,0.8s,baz=7.1,slow=5.8,SNR=3.2
HFS Hagfors 131.31 343 PKP **PKPdf** **02 09 12.5 -1.9**
KIEV Kiev 131.32 326 *e*PKPdf **PKPdf** **02 09 15.3 +0.6**
BR131 Keskin Array S 133.02 310 *e*PKPdf **PKPdf** **02 09 18.8 +0.3**
BRTR Keskin Array B 133.02 310 PKP **PKPdf** **02 09 18.1 -0.4**
comp=Z,1.5nm,0.9s,baz=132,slow=2.1,SNR=8.1
BRTR Keskin Array B 133.02 310 PKP **PKPdf** **02 09 18.1 -0.4**
EIL Elat 134.17 297 PKP **PKPdf** **02 09 22.2 +1.5**
comp=Z,6.2nm,1.1s,baz=63,slow=6.4,SNR=3.6
EIL Elat 134.17 297 PKP **PKPdf** **02 09 22.2 +1.5**
TSUM Tsumeb 134.70 222 *e*PKPdf **PKPdf** **02 09 22.8 +0.5**
BUR08 Bucovina Ar. S 135.17 324 *e*PKPdf **PKPdf** **02 09 24.6 +2.3**
BURAR Bucovina Array 135.18 324 ⇑*i*P **PKPdf** **02 09 24.4 +2.2**
KWP Kalwaria Pacla 135.37 328 ⇓*i*P **PKPdf** **02 09 24.0 +1.6**
MLR Muntele Rosu 135.87 321 PKP **PKPdf** **02 09 22.8 -0.8**
comp=Z,1.0nm,1.1s,baz=330,slow=12,SNR=3.5
MLR Muntele Rosu 135.87 321 PKP **PKPdf** **02 09 22.8 -0.8**
MLR Muntele Rosu 135.87 321 ⇑*i*P **PKPdf** **02 09 22.8 -0.8**
VOIR 136.44 321 ⇑*i*P **PKPdf** **02 09 29.5 +4.9**
CRVS Cervenica-Dubn 136.46 328 *e*PKP **PKPdf** **02 09 23.9 -0.6**
DRGR 137.05 324 ⇑*i*P **PKPdf** **02 09 24.7 -1.0**
OKC Ostrava-Krasne 137.49 331 *e*PKPdf **PKPdf** **02 09 23.6 -2.7**
GZR Gura Zlata 137.81 323 ⇑*i*P **PKPdf** **02 09 27.7 +0.6**
MORC Moravsky Berou 137.81 331 *e*PKPdf **PKPdf** **02 09 27.0 0.0**
MORC Moravsky Berou 137.81 331 ⇑*i*P **PKPdf** **02 09 27.9 +0.9**
PSZ Piszkesteto 137.89 327 *e*PKPdf **PKPdf** **02 09 28.2 +1.0**
PSZ Piszkesteto 137.89 327 ⇑*i*P **PKPdf** **02 09 27.2 0.0**
DPC Dobruska-Polom 137.96 333 *e*PKPdf **PKPdf** **02 09 27.9 +0.7**
UPC Upice 137.99 333 *e*PKPdf **PKPdf** **02 09 29.5 +2.3**
VYHS Vyhne 138.06 329 *e*PKP **PKPdf** **02 09 27.2 -0.2**
BZS Buzias 138.35 324 ⇓*i*P **PKPdf** **02 09 28.0 0.0**
PVCC Panska Ves 138.59 334 *e*PKPdf **PKPdf** **02 09 28.9 +0.6**
BRG Berggiesshubel 138.60 335 *e*PKP PKPdf 02 09 21.8 -6.5
comp=Z,5.4nm,1.2s
BRG *e* 02 09 29.3
comp=Z,19nm,1.6s
BRG *e* 02 29 27.7
comp=Z,21nm,1.8s
PRU Pruhonice 139.01 333 *e*PKPdf **PKPdf** **02 09 31.2 +2.1**
VTS Vitosha 139.04 319 ⇑*i*P **PKPdf** **02 09 30.1 +0.5**
ZST Bratislava 139.11 330 *e*PKP **PKPdf** **02 09 31.0 +1.7**
PKSM Moragy 139.64 326 ⇓*i*P **PKPdf** **02 09 30.5 +0.2**
KHC Kasperske Hory 140.07 333 *e*PKPdf **PKPdf** **02 09 31.3 +0.2**
KHC Kasperske Hory 140.07 333 *e*PKPpre PKPpre 02 09 24.5
KHC *e*PKPdf **PKiKP** **02 09 33.2 -0.4**
GERES GERESS Array B 140.23 333 PKhKP PKPpre 02 09 22.8
comp=Z,0.7nm,0.7s,baz=29,slow=3.0,SNR=6.4
GERES PKP **PKPdf** **02 09 31.7 +0.2**
comp=Z,1.9nm,0.8s,baz=48,slow=1.5,SNR=11
GERES GERESS Array B 140.23 333 PKPpre PKPpre 02 09 22.8
GERES PKP **PKPdf** **02 09 31.7 +0.2**
GRF Grafenberg Arr 140.62 336 *e*PKPdf **PKPdf** **02 09 28.3 -3.8**
GRFO Grafenberg 140.62 336 *e*PKPdf **PKPdf** **02 09 34.5 +2.5**
KBA Koelnbreinsper 141.70 331 ⇑*i*PKPdf **PKPdf** **02 09 29.4 -4.9**
comp=Z,9.7nm,1.1s
MEM Membach 141.72 341 PKP **PKPdf** **02 09 33.3 -0.7**
BOJS Bojanci 141.88 328 *i* PKPdf **PKPdf** **02 09 35.5 +1.1**
VISS Visnje 141.89 329 *i* PKPdf **PKPdf** **02 09 34.9 +0.5**

ABTA Abfaltersbach 142.33 332 ⇑*i*PKPdf PKPdf 02 09 29.9 -5.5
comp=Z,18nm,1.2s
WLF Walferdange 142.49 340 PKP **PKPdf** **02 09 32.0 -3.4**
WLF Walferdange 142.49 340 *e*PKPdf **PKPdf** **02 09 31.9 -3.4**
MOTA Moosalm 142.50 333 ⇑*i*PKPdf **PKPdf** **02 09 31.8 -3.9**
comp=Z,24nm,1.0s
RETA Reutte 142.54 334 ⇑*i*PKPdf **PKPdf** **02 09 32.1 -3.6**
comp=Z,17nm,1.2s
BFO Black Forest 142.84 337 *e*PKPdf **PKPdf** **02 09 33.0 -3.1**
FETA Feichten 142.91 333 ⇑*i*PKPdf **PKPdf** **02 09 33.8 -2.6**
comp=Z,39nm,1.0s,SNR=30
DAVA Damuels 143.07 334 ⇑*i*PKPdf PKPbc 02 09 34.0 +0.1
comp=Z,26nm,0.9s
ECH Echery 143.37 338 PKP PKPab 02 09 33.8 +0.4
FUORN Ofenpass-Fuorn 143.43 333 *e*PKPdf PKPbc 02 09 35.8 +0.7
DAVOX Davos/Dischmat 143.47 334 PKP PKPbc 02 09 35.7 +0.6
comp=Z,28nm,0.8s,baz=344,slow=3.8,SNR=40
DAVOX Davos/Dischmat 143.47 334 PKP PKPbc 02 09 35.7 +0.6
TUE Stuetta 143.93 334 *e*PKPdf PKPbc 02 09 37.1 +0.6
LOMF Lomont 144.22 337 PKP PKPbc 02 09 37.5 +0.3
SENIN Lac Senin/Sane 144.86 336 *e*PKPdf **PKPdf** **02 09 39.9 0.0**
TIP Timpagrande 145.00 318 *e*PKPdf **PKPdf** **02 09 40.8 +0.6**
AQU L'Aquila 145.01 326 *e*PKPbc **PKPdf** **02 09 40.0 -0.1**
AQU L'Aquila 145.01 326 ⇑*i*P **PKPdf** **02 09 41.2 +1.1**
OG01 Vacheresse 145.12 337 PKP **PKPdf** **02 09 40.7 +0.5**
RSL Roselend 145.68 336 PKP **PKPab** **02 09 43.3 +0.9**
OG35 Corcelles 145.78 337 PKP **PKPab** **02 09 42.5 -0.1**
BNI Bardonecchia 146.18 335 *e*PKPdf **PKPdf** **02 09 42.5 +0.4**
BNI *e*PKPbc **PKPab** **02 09 43.9 -0.4**
PLDF La Plantade 146.54 339 PKP **PKPbc** **02 09 44.7 +0.4**
AGO Saint Agoulin 146.63 340 PKP **PKPbc** **02 09 44.9 +0.4**
SAOF Saorge 146.68 333 PKP **PKPbc** **02 09 44.7 0.0**
AUTN L'Aution 146.73 333 PKP **PKPbc** **02 09 45.2 +0.1**
TOUF Mont Tournerai 146.79 334 PKP **PKPbc** **02 09 45.2 0.0**
SSB Saint Sauveur 146.81 338 PKP **PKPbc** **02 09 45.6 +0.5**
MVIF Mont Vial 146.93 334 PKP **PKPbc** **02 09 45.6 0.0**
PYM Petit Puy Mans 146.94 340 PKP **PKPbc** **02 09 45.7 +0.2**
REVF Revere 146.96 333 PKP **PKPbc** **02 09 45.1 -0.4**
VERF Varneugheol 147.11 340 PKP **PKPab** **02 09 47.5 -0.3**
CALN Calern 147.15 334 PKP **PKPbc** **02 09 45.9 -0.3**
LBL Lubilhac 147.31 339 PKP **PKPbc** **02 09 47.5 +1.0**
KEST Kesra 151.76 320 PKPbc **PKPbc** **02 09 57.9 +0.1**
comp=Z,9.3nm,1.0s,baz=126,slow=19,SNR=7.5
KEST PKPab **PKPab** **02 10 07.5 +0.4**
comp=Z,9.5nm,1.1s,baz=267,slow=14,SNR=4.6
KEST Kesra 151.76 320 *e*PKPdf **PKPdf** **02 09 51.5 +0.1**
KEST *e*PKPbc **PKPbc** **02 09 57.9 +0.1**
KEST PKPab **PKPab** **02 10 07.5 +0.4**
ESDC Sonseca Array 154.57 344 PKPbc **PKPbc** **02 10 04.7 +0.9**
comp=Z,0.9nm,0.7s,baz=10,slow=2.5,SNR=3.4
ESDC PKPab **PKPab** **02 10 19.3 +0.5**
comp=Z,4.6nm,0.9s,baz=23,slow=4.2,SNR=9.8
ESDC Sonseca Array 154.57 344 PKPbc **PKPbc** **02 10 04.7 +0.9**
ESDC PKPab **PKPab** **02 10 19.3 +0.5**
TAM Tamanrasset 161.39 296 *e*PKPdf **PKPdf** **02 10 04.8 +0.6**
TORD Torodi Ar. Bea 166.05 263 PKP **PKPdf** **02 10 07.7 -0.7**
comp=Z,5.7nm,0.9s,baz=82,slow=0.6,SNR=23
TORD PKPab **PKPab** **02 11 09.3 -0.3**
comp=Z,3.0nm,0.8s,baz=105,slow=3.4,SNR=8.1
TORD pPKPab **pPKPab** **02 11 44.0 -2.6**
comp=Z,2.2nm,0.9s,baz=108,slow=2.9,SNR=3.8
TORD Torodi Ar. Bea 166.05 263 PKP **PKPdf** **02 10 07.7 -0.7**
TORD PKPab **PKPab** **02 11 09.3 -0.3**
TORD pPKPab **pPKPab** **02 11 44.0 -2.6**
DBIC Dimbokro 168.60 222 PKP **PKPdf** **02 10 09.8 -0.6**
comp=Z,6.5nm,1.1s,baz=76,slow=1.3,SNR=5.5
DBIC PKPab **PKPab** **02 11 21.8 +1.1**
comp=Z,4.7nm,0.9s,baz=145,slow=7.9,SNR=5.8
DBIC Dimbokro 168.60 222 *e*PKPdf **PKPdf** **02 10 09.5 -0.9**
DBIC PKP 02 10 09.8
DBIC *e*PKPab **PKPab** **02 11 20.9 +0.2**
DBIC PKPab **PKPab** **02 11 21.8 +1.1**

*ISCJB **23** 01:51:12.8±0.6, 40.°14N±0.°02×24.°00E±0.°03, h11km±4km, Error ellipse: s-maj=4.3km s-min=4.0km az=179.6*
*CSEM **23** 01:51:12.6±0.2, 40.°13N×24.°01E, h8km, ML2.6/8, Error ellipse: s-maj=4.5km s-min=4.4km az=63.0*
*ATH **23** 01:51:13.1, 40.°19N×24.°00E, h31km±2km, MD3.0/10*
*THE **23** 01:51:13.3, 40.°15N×23.°95E, h14km, ML2.6/8, Error ellipse: s-maj=1.0km s-min=0.6km az=285.0*

ISC 23 01:51:13.2±0.9, 40.°15N±0.°02×23.°99E±0.°02, h15km±6km, n41, σ0.°52/65, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.18**	**359**	P	**Pg**	**01 51 17.6**	**0.0**
OUR				S	**Sg**	**01 51 20.7**	**+0.2**
OUR	**Ouranopolis**	**0.18**	**359**	P	**Pg**	**01 51 17.6**	**0.0**
OUR				S	**Sg**	**01 51 20.7**	**+0.2**
PAIG	**Paliouri**	**0.32**	**227**	P	**Pg**	**01 51 19.6**	**-0.3**
PAIG				S	**Sg**	**01 51 23.9**	**-0.5**
PAIG	**Paliouri**	**0.32**	**227**	P	**Pg**	**01 51 19.6**	**-0.3**
PAIG				S	**Sg**	**01 51 23.9**	**-0.5**
PLG	**Polygyros**	**0.47**	**299**	P	**Pg**	**01 51 22.2**	**-0.4**
PLG				S	**Sg**	**01 51 28.5**	**-0.4**
PLG	**Polygyros**	**0.47**	**299**	*e*PB	**Pg**	**01 51 22.4**	**-0.2**
PLG	**Polygyros**	**0.47**	**299**	*e*Pb	**Pg**	**01 51 22.4**	**-0.2**
PLG				S	**Sg**	**01 51 28.5**	**-0.4**
HORT	**Hortiatis**	**0.81**	**304**	P	**Pg**	**01 51 28.0**	**-1.0**
HORT				S	**Sg**	**01 51 39.5**	**-0.2**
HORT	**Hortiatis**	**0.81**	**304**	P	**Pg**	**01 51 28.0**	**-1.0**
HORT				S	**Sg**	**01 51 39.5**	**-0.2**
SOH	**Sokhos**	**0.83**	**325**	P	**Pg**	**01 51 28.9**	**-0.3**
SOH				S	**Sb**	**01 51 40.4**	**+0.2**
SOH	**Sokhos**	**0.83**	**325**	*e*PN	**Pb**	**01 51 29.5**	**+0.2**
SOH				*e*SN	**Sg**	**01 51 40.3**	**+0.2**
SOH	**Sokhos**	**0.83**	**325**	P	**Pg**	**01 51 28.9**	**-0.3**
SOH	**Sokhos**	**0.83**	**325**	*e*Pn	**Pb**	**01 51 29.5**	**+0.2**
SOH				*e*Sn	**Sg**	**01 51 40.3**	**+0.2**
THE	**Thessaloniki**	**0.92**	**302**	P	**Pb**	**01 51 30.2**	**-0.5**
THE				S	**Sb**	**01 51 42.4**	**-0.3**
THE	**Thessaloniki**	**0.92**	**302**	P	**Pb**	**01 51 30.2**	**-0.5**
THE				S	**Sb**	**01 51 42.4**	**-0.3**
KAVA	**Kavala**	**0.94**	**25**	P	**Pb**	**01 51 31.1**	**0.0**
KAVA				S	**Sn**	**01 51 44.3**	**-0.6**
KAVA	**Kavala**	**0.94**	**25**	P	**Pb**	**01 51 31.1**	**0.0**
KAVA				S	**Sn**	**01 51 44.3**	**-0.6**
LIA	**Limnos Island**	**0.95**	**105**	P	**Pg**	**01 51 31.6**	**0.0**
LIA				S	**Sn**	**01 51 45.0**	**-0.3**
LIA	**Limnos Island**	**0.95**	**105**	*e*PN	**Pn**	**01 51 31.8**	**-0.2**
LIA				*e*SN	**Sn**	**01 51 45.0**	**-0.3**
LIA	**Limnos Island**	**0.95**	**105**	P	**Pg**	**01 51 31.6**	**0.0**
LIA				S	**Sn**	**01 51 45.0**	**-0.3**
XOR	**Xorichti**	**0.99**	**218**	P	**Pb**	**01 51 31.8**	**-0.3**
XOR				S	**Sg**	**01 51 45.7**	**+0.3**
XOR	**Xorichti**	**0.99**	**218**	P	**Pb**	**01 51 31.8**	**-0.3**
XOR				S	**Sg**	**01 51 45.7**	**+0.3**
SRS	**Serrai**	**1.01**	**343**	P	**Pb**	**01 51 32.3**	**-0.1**
SRS				S	**Sn**	**01 51 46.5**	**-0.3**
SRS	**Serrai**	**1.01**	**343**	P	**Pb**	**01 51 32.3**	**-0.1**
SRS				S	**Sn**	**01 51 46.5**	**-0.3**
NEO	**Neokhori**	**1.03**	**215**	*e*PN	**Pb**	**01 51 32.9**	**+0.3**
NEO	**Neokhori**	**1.03**	**215**	*e*Pn	**Pb**	**01 51 32.9**	**+0.3**
LIT	**Litokhoron**	**1.15**	**268**	*e*PN	**Pg**	**01 51 35.6**	**+0.3**
LIT				*e*SN	**Sg**	**01 51 50.8**	**+0.5**
LIT	**Litokhoron**	**1.15**	**268**	*e*Pn	**Pg**	**01 51 35.6**	**+0.3**
LIT				*e*

0.4nm,0.3s,baz=178,slow=6.5,SNR=9.0
LPAZ S S 02 01 18.7 +0.2
0.1nm,0.3s,baz=141,slow=10,SNR=3.5
TORD Torodi Ar. Bea 75.88 69 P P 02 09 28.0 +0.1
0.4nm,0.6s,baz=256,slow=6.1,SNR=5.2
AKTO Aktyubinsk 129.61 43 PKP PKPdf 02 16 46.6 -1.1
0.8nm,0.6s,baz=270,slow=1.0,SNR=3.6
MKAR Makanchi Array 145.87 40 PKPbc PKPdf 02 17 17.9 +0.3
0.1nm,0.2s,baz=292,slow=3.9,SNR=4.3

*IDC **23** 02:16:36.9±0.9, 32.˚98S×15.˚95W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/17, mbtmp4.4/12, MS4.1/14, Ms1 4.1/14, ms1mx3.9/25, Error ellipse: s-maj=33.7km s-min=17.1km az=164.0*
*ISCJB **23** 02:16:37.1±0.5, 33.˚1S±0.˚1×15.˚90W±0.˚09, h10km, mb4.8/43, MS4.1/14, Error ellipse: s-maj=17.1km s-min=10.8km az=168.0*
*NEIC **23** 02:16:38.3±0.4, 33.˚08S×15.˚87W, h10km, mb4.9/16, Error ellipse: s-maj=13.9km s-min=8.6km az=169.0*
*SZGRF **23** 02:16:50.5, 30.˚72S×16.˚72W, h33km, mb5.2, Southern Mid-Atlantic Ridge*
ISC 23 02:16:38.3±0.7, 33.˚1S±0.˚1×15.˚9W±0.˚1, h10km, n95, σ0s88/88, mb5.0/43, MS4.1/14, 14C-7D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**30.77**	**99**	LR	LR	02 32 40.0	
	comp=Z,119nm,18.1s,baz=54,slow=31						
TSUM	**Tsumeb**	**32.91**	**74**	*e*P	**P**	**02 23 11.9**	**-1.1**
	4.8nm,1.1s						
RCBR	**Riachuelo**	**32.91**	**321**	*e*P	**P**	**02 23 13.4**	**+0.4**
	21nm,1.1s						
BOSA	**Boshof**	**35.43**	**94**	P	**P**	**02 23 35.1**	**+0.2**
	3.5nm,0.9s,baz=207,slow=11,SNR=4.8						
BOSA				LR	LR	02 35 42.5	
	comp=Z,154nm,19.5s,baz=166,slow=32						
BOSA	**Boshof**	**35.43**	**94**	P	**P**	**02 23 35.1**	**+0.2**
LBTB	**Lobatse**	**36.95**	**88**	P	**P**	**02 23 49.1**	**+1.2**
	4.8nm,1.0s,baz=259,slow=10,SNR=3.2						
LBTB	**Lobatse**	**36.95**	**88**	*e*P	**P**	**02 23 47.5**	**-0.4**
	24nm,1.3s						
LIC	**Lamto**	**40.43**	**17**	*e*P	**P**	**02 24 15.8**	**-1.2**
	185nm,1.3s,baz=205						
DBIC	**Dimbokro**	**40.91**	**17**	P	**P**	**02 24 19.5**	**-1.4**
	26nm,1.0s,baz=176,slow=9.6,SNR=24						
DBIC				LR	LR	02 37 27.6	
	comp=Z,259nm,18.5s,baz=177,slow=31						
DBIC	**Dimbokro**	**40.91**	**17**	*e*P	**P**	**02 24 19.1**	**-1.8**
	54nm,1.2s						
MSKU	**Masuku**	**41.75**	**48**	P	**P**	**02 24 27.3**	**-0.7**
	9.1nm,0.6s,baz=208,slow=14,SNR=7.6						
MSKU	**Masuku**	**41.75**	**48**	P	**P**	**02 24 27.3**	**-0.7**
PLCA	**Paso Flores**	**43.77**	**244**	LR	LR	02 41 35.5	
	comp=Z,100nm,19.1s,baz=145,slow=34						
CFAA	**Coronel Fontan**	**43.88**	**257**	P	**P**	**02 24 44.1**	**-1.0**
	0.4nm,0.7s,baz=86,slow=5.9,SNR=6.9						
CFAA	**Coronel Fontan**	**43.88**	**257**	P	**P**	**02 24 44.1**	**-1.0**
SIV	**San Ignacio**	**44.13**	**281**	P	**P**	**02 24 47.7**	**+0.4**
	7.5nm,1.1s,baz=125,slow=9.1,SNR=14						
SIV				LR	LR	02 41 21.2	
	comp=Z,173nm,18.2s,slow=34						
SIV	**San Ignacio**	**44.13**	**281**	P	**P**	**02 24 47.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**48.94**	**23**	P	**P**	**02 25 23.5**	**-1.4**
	28nm,1.1s,baz=198,slow=6.7,SNR=65						
TORD				LR	LR	02 41 57.8	
	comp=Z,219nm,18.7s,baz=195,slow=31						
TORD	**Torodi Ar. Bea**	**48.94**	**23**	P	**P**	**02 25 23.5**	**-1.4**
SAML	**Samuel**	**49.73**	**288**	*e*P	**P**	**02 25 31.1**	**+0.1**
	27nm,1.8s						
LPAZ	**La Paz**	**49.84**	**276**	P	**P**	**02 25 31.1**	**-1.5**
	2.2nm,1.0s,baz=104,slow=7.9,SNR=6.7						
LPAZ				LR	LR	02 44 42.6	
	comp=Z,71nm,20.8s,baz=268,slow=34						
LPAZ	**La Paz**	**49.84**	**276**	*e*P	**P**	**02 25 31.5**	**-1.1**
	11nm,1.5s						
MAW	**Mawson**	**55.62**	**153**	LR	LR	02 44 13.7	
	comp=Z,307nm,20.5s,baz=282,slow=30						
TAM	**Tamanrasset**	**59.20**	**23**	*e*P	**P**	**02 26 39.9**	**0.0**
	29nm,1.4s						
SDV	**Santo Domingo**	**66.72**	**299**	*e*P	**P**	**02 27 30.7**	**+0.5**
	10nm,1.1s						
ROSC	**El Rosal**	**66.93**	**293**	LR	LR	02 55 35.4	
	comp=Z,107nm,18.0s,baz=288,slow=35						
VNDA	**Vanda**	**69.64**	**179**	*e*P	**P**	**02 27 47.8**	**+0.4**
	11nm,1.4s						
EVO	**Evora**	**71.63**	**6**	*e*P	**P**	**02 28 01.1**	**+1.2**
	40nm,1.2s						
KEST	**Kesra**	**72.42**	**21**	P	**P**	**02 28 05.4**	**+0.6**
	6.9nm,1.1s,baz=220,slow=8.3,SNR=3.0						
KEST				LR	LR	02 58 22.3	
	comp=Z,94nm,21.1s,baz=229,slow=35						
KEST	**Kesra**	**72.42**	**21**	P	**P**	**02 28 05.4**	**+0.6**
ESDC	**Sonseca Array**	**73.24**	**10**	P	**P**	**02 28 09.9**	**+0.4**
	3.1nm,1.0s,baz=179,slow=6.7,SNR=6.6						
ESDC				LR	LR	02 56 08.0	
	comp=Z,144nm,19.2s,baz=315,slow=32						
ESDC	**Sonseca Array**	**73.24**	**10**	P	**P**	**02 28 09.9**	**+0.4**
VIVF	**Saint-Julien-l**	**79.80**	**15**	*e*P	**P**	**02 28 47.8**	**+1.3**
	71nm,1.4s						
MBDF	**Montbardon**	**80.14**	**16**	*e*P	**P**	**02 28 50.1**	**+1.6**
	23nm,1.0s						
LPG	**La Plagne**	**80.87**	**16**	*e*P	**P**	**02 28 53.0**	**+0.4**
	41nm,1.2s						
LPL	**La Plagne**	**80.88**	**16**	*e*P	**P**	**02 28 54.1**	**+1.5**
	17nm,0.8s						
SMF	**Signal de Mont**	**81.34**	**14**	*e*P	**P**	**02 28 57.0**	**+2.3**
	28nm,1.0s						
AVF	**Avril sur Loir**	**81.38**	**13**	*e*P	**P**	**02 28 55.2**	**+0.3**
	42nm,1.1s						
SSF	**Saint Saulge**	**81.67**	**13**	*e*P	**P**	**02 28 57.7**	**+1.3**
DAVOX	**Davos/Dischmat**	**82.83**	**18**	LR	LR	03 03 46.2	
	comp=Z,252nm,19.6s,baz=261,slow=34						
ABTA	**Abfaltersbach**	**83.49**	**19**	*i*P	**P**	**02 29 06.6**	**+0.5**
	17nm,1.2s						
ABTA	**Abfaltersbach**	**83.49**	**19**	*i*P	**P**	**02 29 06.6**	**+0.5**
	17nm,1.2s						
BFO	**Black Forest**	**83.90**	**16**	*e*P	**P**	**02 29 08.5**	**+0.5**
	comp=Z,47nm,1.8s						
SOKA	**Soboth**	**84.15**	**21**	*i*P	**P**	**02 29 10.6**	**+1.2**
	comp=Z,14nm,1.2s						
SOKA	**Soboth**	**84.15**	**21**	*i*P	**P**	**02 29 10.6**	**+1.2**
	comp=Z,14nm,1.2s						
FUR	**Furstenfeldbru**	**84.47**	**18**	*e*P	**P**	**02 29 11.6**	**+0.7**
	comp=Z,71nm,1.9s						
BEHE	**Becsehely**	**84.50**	**22**	*e*P	**P**	**02 29 10.8**	**-0.3**
STU	**Stuttgart**	**84.52**	**16**	*e*P	**P**	**02 29 11.7**	**+0.6**
	comp=Z,15nm,1.1s						
STU	**Stuttgart**	**84.52**	**16**	*e*P	**P**	**02 29 11.6**	**+0.5**
ARSA	**Arzberg**	**84.82**	**21**	*i*P	**P**	**02 29 14.0**	**+1.3**
	comp=Z,9.9nm,1.0s						
ARSA	**Arzberg**	**84.82**	**21**	*i*P	**P**	**02 29 14.0**	**+1.3**
	comp=Z,9.9nm,1.1s						
PKSM	**Moragy**	**84.88**	**23**	*i*P	**P**	**02 29 13.3**	**+0.3**
PKSM	**Moragy**	**84.88**	**23**	*e*P	**P**	**02 29 13.3**	**+0.3**
BZS	**Buzias**	**85.39**	**25**	*i*P	**P**	**02 29 16.0**	**+0.4**
SOP	**Sopron**	**85.52**	**21**	*e*P	**P**	**02 29 17.6**	**+1.5**
CSNA	**Conrad Observa**	**85.52**	**21**	*i*P	**P**	**02 29 15.2**	**-1.1**
	comp=Z,13nm,1.4s						
CSNA	**Conrad Observa**	**85.52**	**21**	*i*P	**P**	**02 29 15.3**	**-1.1**
	comp=Z,13nm,1.4s						
GZR	**Gura Zlata**	**85.62**	**26**	*i*P	**P**	**02 29 16.8**	**0.0**
BRTR	**Keskin Array B**	**85.73**	**36**	P	**P**	**02 29 18.4**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=215,slow=7.0,SNR=4.6						
BRTR	**Keskin Array B**	**85.73**	**36**	P	**P**	**02 29 18.4**	**+0.8**
GERES	**GERESS Array B**	**85.74**	**19**	P	**P**	**02 29 17.1**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=220,slow=3.3,SNR=7.3						
GERES	**GERESS Array B**	**85.74**	**19**	P	**P**	**02 29 17.1**	**-0.3**
WET	**Wettzell**	**85.79**	**18**	*e*P	**P**	**02 29 17.8**	**+0.3**
	comp=Z,29nm,1.6s						
GRF	**Grafenberg Arr**	**85.86**	**17**	*e*P	**P**	**02 29 18.7**	**+0.8**
	comp=Z,35nm,1.4s						
BUD	**Budapest**	**86.12**	**23**	*e*P	**P**	**02 29 19.7**	**+0.6**
ZST	**Bratislava**	**86.14**	**21**	*e*P	**P**	**02 29 19.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**86.18**	**18**	*e*P	**P**	**02 29 19.9**	**+0.5**
	comp=Z,22nm,1.4s						
VOIR		**86.52**	**28**	*i*P	**P**	**02 29 21.6**	**+0.3**
ROHR	**Rohrbach**	**86.64**	**18**	*e*P	**P**	**02 29 21.5**	**-0.2**
PSZ	**Piszkesteto**	**86.78**	**23**	*e*P	**P**	**02 29 22.3**	**-0.2**
	comp=Z,20nm,1.2s						
PSZ	**Piszkesteto**	**86.78**	**23**	*i*P	**P**	**02 29 22.9**	**+0.4**
PSZ	**Piszkesteto**	**86.78**	**23**	*e*P	**P**	**02 29 23.1**	**+0.6**
DRGR		**86.79**	**25**	*i*P	**P**	**02 29 22.9**	**+0.3**
WERD	**Werda**	**86.83**	**18**	*e*P	**P**	**02 29 23.4**	**+0.8**
	comp=Z,25nm,1.6s						
TANN	**Tannenbergstha**	**86.84**	**18**	*e*P	**P**	**02 29 23.6**	**+0.9**
	comp=Z,16nm,1.4s						
MLR	**Muntele Rosu**	**86.91**	**28**	*i*P	**P**	**02 29 22.3**	**-1.0**
VYHS	**Vyhne**	**86.94**	**22**	*e*P	**P**	**02 29 22.4**	**-0.8**
VRAC	**Vranov**	**86.98**	**21**	LR	LR	03 07 00.1	
	comp=Z,213nm,21.1s,baz=279,slow=35						
NEUB	**Neuenburg**	**87.40**	**17**	*e*P	**P**	**02 29 26.6**	**+1.3**
	comp=Z,35nm,1.5s						
MORC	**Moravsky Berou**	**87.68**	**21**	*e*P	**P**	**02 29 26.8**	**0.0**
	comp=Z,10nm,1.4s						
CLL	**Collm**	**87.80**	**18**	*e*P	**P**	**02 29 28.0**	**+0.8**
TRPA	**Tarpa**	**87.87**	**25**	*e*P	**P**	**02 29 28.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**88.16**	**24**	*e*P	**P**	**02 29 30.5**	**+1.5**
BUR08	**Bucovina Ar. S**	**88.42**	**26**	*e*P	**P**	**02 29 29.9**	**-0.5**
GNI	**Garni**	**91.91**	**42**	*e*P	**P**	**02 29 48.6**	**+1.7**
	comp=Z,2.6nm,0.8s						
AKASG	**Malin Array Be**	**92.44**	**27**	P	**P**	**02 29 49.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=213,slow=4.2,SNR=7.3						
AKASG	**Malin Array Be**	**92.44**	**27**	P	**P**	**02 29 49.0**	**+0.1**
NOA	**NORSAR Array B**	**96.37**	**13**	LR	LR	03 09 43.9	
	comp=Z,92nm,19.6s,baz=265,slow=33						
ZALV	**Zalesovo Beam**	**122.03**	**43**	PKP	**PKPdf**	**02 35 32.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=353,slow=3.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**122.03**	**43**	PKP	**PKPdf**	**02 35 32.3**	**-0.2**
YKA	**Yellowknife Ar**	**122.71**	**327**	PKP	**PKPdf**	**02 35 32.8**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=84,slow=2.0,SNR=7.0						
YKA	**Yellowknife Ar**	**122.71**	**327**	PKP	**PKPdf**	**02 35 32.9**	**-0.7**
ILAR	**Eielson Array**	**136.64**	**332**	PKP	**PKPdf**	**02 36 00.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=38,slow=1.2,SNR=13						
ILAR	**Eielson Array**	**136.64**	**332**	PKP	**PKPdf**	**02 36 00.3**	**+0.4**
BILL	**Bilibino**	**144.99**	**359**	*e*PKPdf	**PKPdf**	**02 36 14.6**	**-0.3**

*ISK **23** 02:22:23.1, 38.˚09N×35.˚24E, h3km, MD3.1*
*DDA **23** 02:22:24.0, 38.˚05N×35.˚17E, h20km, MD3.0*
*CSEM **23** 02:22:24.0±0.2, 38.˚08N×35.˚23E, h2km, MD3.1, Error ellipse: s-maj=4.7km s-min=4.3km az=29.0*
ISC 23 02:22:23.8±1.2, 38.˚06N±0.˚02×35.˚23E±0.˚02, h1km±11km, n41, σ0s61/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.49**	**276**	*e*PG	**Pg**	**02 22 33.4**	**+0.1**
NIG				*e*SG	**Sg**	**02 22 40.5**	**+0.8**
NIG	**Nigde**	**0.49**	**276**	*e*Pg	**Pg**	**02 22 33.4**	**+0.1**
NIG				*e*Sg	**Sg**	**02 22 40.5**	**+0.8**
KOZT	**Kozan**	**0.75**	**141**	*e*PG	**Pg**	**02 22 38.7**	**+0.6**
KOZT				*e*SG	**Sb**	**02 22 50.0**	**-0.3**
KOZT	**Kozan**	**0.75**	**141**	*e*Pg	**Pg**	**02 22 38.7**	**+0.6**
KOZT				*e*Sg	**Sb**	**02 22 50.0**	**-0.3**
GULE	**Gulek**	**0.86**	**205**	*i*P	**Pg**	**02 22 40.1**	**-0.2**
GULE				*i*S	**Sg**	**02 22 51.6**	**+0.2**
GULE	**Gulek**	**0.86**	**205**	*i*P	**Pg**	**02 22 40.1**	**-0.2**
GULE				*i*S	**Sg**	**02 22 51.6**	**+0.2**
BNN	**Bunyan**	**0.92**	**31**	*e*PG	**Pg**	**02 22 40.8**	**-0.8**
BNN	**Bunyan**	**0.92**	**31**	*e*Pg	**Pg**	**02 22 40.8**	**-0.8**
PINB	**Pinarbasi**	**1.10**	**56**	*i*P	**Pg**	**02 22 44.9**	**-0.1**
PINB				*i*S	**Sb**	**02 23 01.7**	**+0.8**
PINB	**Pinarbasi**	**1.10**	**56**	*i*P	**Pg**	**02 22 44.9**	**-0.1**
PINB				*i*S	**Sb**	**02 23 01.7**	**+0.8**
CEYT	**Ceyhan**	**1.13**	**159**	*e*PN	**Pg**	**02 22 45.1**	**-0.3**
CEYT	**Ceyhan**	**1.13**	**159**	*e*Pn	**Pg**	**02 22 45.1**	**-0.3**
MERS	**Mersin**	**1.32**	**206**	*e*PN	**Pb**	**02 22 49.8**	**+0.4**
MERS	**Mersin**	**1.32**	**206**	*e*Pn	**Pb**	**02 22 49.8**	**+0.4**
SULT	**Sultanhani-AKS**	**1.36**	**276**	*e*PN	**Pg**	**02 22 49.8**	**-0.2**
SULT	**Sultanhani-AKS**	**1.36**	**276**	*e*Pn	**Pg**	**02 22 49.8**	**-0.2**
KMRS	**Kahramanmaras**	**1.43**	**112**	*e*PN	**Pn**	**02 22 51.1**	**+0.1**
KMRS	**Kahramanmaras**	**1.43**	**112**	*e*Pn	**Pn**	**02 22 51.1**	**+0.1**
YOZ	**Yozgat**	**1.58**	**2**	*e*PN	**Pn**	**02 22 52.1**	**-0.9**
YOZ	**Yozgat**	**1.58**	**2**	*e*Pn	**Pn**	**02 22 52.1**	**-0.9**
CDAG	**Cicekdag**	**1.70**	**337**	*i*P	**Pb**	**02 22 55.6**	**-0.3**
CDAG				*i*S	**Sb**	**02 23 17.7**	**-0.1**
CDAG	**Cicekdag**	**1.70**	**337**	*i*P	**Pb**	**02 22 55.6**	**-0.3**
CDAG				*i*S	**Sb**	**02 23 17.7**	**-0.1**
KAMT	**Kaman**	**1.77**	**318**	*e*PN	**Pn**	**02 22 55.7**	**+0.1**
KAMT	**Kaman**	**1.77**	**318**	*e*Pn	**Pn**	**02 22 55.7**	**+0.1**
GAZ	**Gaziantep**	**1.80**	**119**	*e*PN	**Pn**	**02 22 55.6**	**-0.5**
GAZ	**Gaziantep**	**1.80**	**119**	*e*Pn	**Pn**	**02 22 55.6**	**-0.5**
KUZU	**Kuzuini**	**1.95**	**131**	*i*P	**Pb**	**02 22 59.4**	**-0.8**
KUZU				*i*S	**Sn**	**02 23 22.9**	**-0.3**
KUZU	**Kuzuini**	**1.95**	**131**	*i*P	**Pb**	**02 22 59.4**	**-0.8**
KUZU				*i*S	**Sn**	**02 23 22.9**	**-0.3**
GZT	**Gaziantep**	**1.98**	**110**	*i*P	**Pn**	**02 22 57.0**	**-1.6**
GZT				*i*S	**Sb**	**02 23 25.8**	**-0.1**
AKCD	**Akcadag**	**2.13**	**83**	*i*P	**Pb**	**02 23 03.9**	**+0.6**
AKCD				*i*S	**Sg**	**02 23 33.3**	**+0.9**
AKCD	**Akcadag**	**2.13**	**83**	*i*P	**Pb**	**02 23 03.9**	**+0.6**
AFSR	**Af˙ar-Bala (A**	**2.18**	**310**	*e*PN	**Pn**	**02 23 01.6**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**2.18**	**310**	*e*Pn	**Pn**	**02 23 01.6**	**+0.3**
DARE	**Darende-Malaty**	**2.20**	**65**	*e*PN	Pn	02 22 56.1	-5.5
BBAL	**Bala**	**2.21**	**313**	*i*P	**Pn**	**02 23 01.2**	**-0.6**
BBAL				*i*S	**Sb**	**02 23 32.8**	**+0.1**
BBAL	**Bala**	**2.21**	**313**	*i*P	**Pn**	**02 23 01.2**	**-0.6**
BBAL				*i*S	**Sb**	**02 23 32.8**	**+0.1**
ERMK	**Ermenek**	**2.33**	**233**	*i*P	**Pb**	**02 23 05.7**	**-1.0**
ERMK				*i*S	**Sn**	**02 23 33.8**	**+1.0**
ERMK	**Ermenek**	**2.33**	**233**	*i*P	**Pb**	**02 23 05.7**	**-1.0**
ERMK				*i*S	**Sn**	**02 23 33.8**	**+1.0**
KEMA	**Kemaliye**	**2.82**	**64**	*i*P	**Pb**	**02 23 15.6**	**+0.6**
KEMA				*i*S	**Sg**	**02 23 53.7**	**-0.8**
ILIC	**ilic-Erzincan**	**2.95**	**61**	*e*PN	**Pn**	**02 23 12.6**	**+0.6**
ILIC	**ilic-Erzincan**	**2.95**	**61**	*e*Pn	**Pn**	**02 23 12.6**	**+0.6**

*IDC **23** 02:43:52.3±2.6, 36.˚39N×141.˚61E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=84.6km s-min=24.7km az=178.0*
*ISCJB **23** 02:43:55.8±1.6, 36.˚64N±0.˚08×141.˚48E±0.˚09, h27km±8km, mb3.2/3, Error ellipse: s-maj=14.4km s-min=11.0km az=140.7*
*JMA **23** 02:43:56.4±0.1, 36.˚64N×141.˚42E, h49km±2km, M3.4*
ISC 23 02:43:56.0±4.3, 36.˚65N±0.˚09×141.˚44E±0.˚09, h17km±27km, n12, σ0s75/17, mb3.4/3, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.68**	**311**	P	**Pb**	**02 44 09.6**	**+0.1**
ONAJ				S	**Sb**	**02 44 19.5**	**+0.8**
JHO	**Hitachi**	**0.70**	**267**	P	**Pb**	**02 44 09.7**	**-0.1**
JHO				S	**Sb**	**02 44 19.9**	**+0.7**
JFK	**Kawauchi**	**0.84**	**328**	P	**Pb**	**02 44 11.9**	**-0.3**
JFT	**Otama**	**1.23**	**315**	P	**Pn**	**02 44 18.5**	**0.0**
JFT				eS	**Sb**	**02 44 34.2**	**-0.3**
JMM	**Marumori**	**1.32**	**337**	P	**Pn**	**02 44 18.6**	**-1.0**
JAG	**Ashikaga**	**1.62**	**262**	P	**Pn**	**02 44 23.2**	**-0.5**
JKT	**Katashina**	**1.76**	**274**	P	**Pn**	**02 44 26.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.60**	**268**	Pn	**Pn**	**02 44 37.6**	**+0.3**
	11nm,0.3s,baz=88,slow=8.6,SNR=70						
MJAR				Sn	**Sb**	**02 45 12.5**	**-1.4**
	5.4nm,0.3s,baz=95,slow=16,SNR=4.9						
MAT	**Matsushiro**	**2.60**	**269**	P	**Pn**	**02 44 37.3**	**0.0**
MAT				S	**Sn**	**02 45 07.7**	**-0.9**
SONM	**Songino Array**	**28.02**	**305**	P	**P**	**02 49 47.1**	**+1.0**
	0.4nm,0.5s,baz=90,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**44.34**	**302**	P	**P**	**02 52 05.8**	**+0.7**
	0.2nm,0.6s,baz=94,slow=9.8,SNR=5.4						
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**02 55 37.5**	**-0.4**
	0.3nm,0.6s,baz=297,slow=4.8,SNR=3.3						

*ISCJB **23** 02:46:10.4±0.5, 0.˚14N±0.˚05×123.˚50E±0.˚07, h157km, mb4.0/10, Error ellipse: s-maj=9.3km s-min=7.6km az=1.4*
*IDC **23** 02:46:11.8±4.9, 0.˚14N×123.˚51E, h156km±48km, mb3.7/10, mb1 3.9/11, mb1mx3.7/20, mbtmp3.7/11, Error ellipse: s-maj=43.4km s-min=12.4km az=57.0*
*DJA **23** 02:46:13, 0.˚03N×123.˚61E, h123km, MLv4.2/11*
ISC 23 02:46:11.8±0.6, 0.˚08N±0.˚06×123.˚51E±0.˚06, h157km, n22, σ0s97/23, mb4.1/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.69**	**44**	P	**Pn**	**02 46 34.5**	**-0.4**
LUWI	**Luwuk**	**1.33**	**213**	P	**Pn**	**02 46 39.2**	**-1.0**
MRSI	**Marisa**	**1.61**	**284**	P	**Pn**	**02 46 41.7**	**-1.3**
MNI	**Manado**	**1.90**	**45**	P	**Pn**	**02 46 48.0**	**+1.8**
LBMI	**Labuha**	**4.06**	**100**	P	**Pn**	**02 47 11.5**	**-1.5**
KDI	**Kendari**	**4.11**	**192**	P	**Pn**	**02 47 13.6**	**0.0**
NLAI	**Namlea**	**4.88**	**133**	P	**Pn**	**02 47 23.3**	**-0.4**
SPSI	**Sidrap Palu**	**5.48**	**223**	P	Pn	02 47 37.5	+5.8
KAPI	**Kappang**	**6.30**	**216**	P	**Pn**	**02 47 43.9**	**+1.4**
	1.0nm,0.3s,baz=54,slow=17,SNR=4.0						
KAPI				S	**Sn**	**02 48 53.7**	**+0.1**
	1.0nm,0.3s,baz=66,slow=11,SNR=5.9						
MTN	**Manton Dam**	**14.90**	**150**	*e*P	**P**	**02 49 36.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.19**	**173**	*e*P	**Pn**	**02 50 13.9**	**-0.6**
	11nm,0.8s						
WRA	**Warramunga Arr**	**22.55**	**153**	P	**P**	**02 50 59.2**	**+0.3**
	3.8nm,0.4s,baz=336,slow=9.8,SNR=66						
ASAR	**Alice Springs**	**25.67**	**158**	P	**P**	**02 51 28.2**	**+0.9**
	1.7nm,0.5s,baz=345,slow=14,SNR=25						
CMAR	**Chiang Mai Arr**	**30.26**	**308**	P	**P**	**02 52 09.4**	**+1.3**
	0.5nm,0.3s,baz=145,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**36.10**	**153**	P	**P**	**02 52 59.7**	**+1.1**
	5.5nm,0.6s,baz=319,slow=7.7,SNR=16						
SONM	**Songino Array**	**49.84**	**345**	P	**P**	**02 54 48.3**	**-0.6**
	1.2nm,0.7s,baz=158,slow=7.8,SNR=9.7						
MKAR	**Makanchi Array**	**58.81**	**328**	P	**P**	**02 55 54.0**	**+0.3**
	0.8nm,0.3s,baz=125,slow=8.2,SNR=20						
MKAR				PcP	**PcP**	**02 56 41.0**	**-0.6**
	0.6nm,0.4s,baz=149,slow=3.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**62.45**	**335**	P	**P**	**02 56 18.1**	**0.0**
	1.4nm,0.4s,baz=127,slow=5.1,SNR=10						
KURK	**Kurchatov**	**63.16**	**330**	P	**P**	**02 56 21.9**	**-1.0**
	1.4nm,0.6s,baz=128,slow=6.1,SNR=16						
ILAR	**Eielson Array**	**89.76**	**25**	P	**P**	**02 58 50.9**	**-1.2**
	0.3nm,0.5s,baz=245,slow=5.5,SNR=7.3						
ARCES	**ARCESS Array B**	**92.73**	**340**	P	**P**	**02 59 06.6**	**+0.8**
	3.6nm,0.9s,baz=90,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.87**	**285**	PKP	**PKPdf**	**03 04 45.8**	**-0.7**
	0.4nm,0.8s,baz=97,slow=2.3,SNR=3.5						

*MOS **23** 02:48:13.6±0.9, 6.˚21S×154.˚84E, h33km, mb5.2/19, Error ellipse: s-maj=9.4km s-min=7.5km az=74.1*
*ISCJB **23** 02:48:15.0±0.2, 6.˚35S±0.˚03×154.˚92E±0.˚03, h46km, mb5.1/101, MS4.2/26, Error ellipse: s-maj=4.9km s-min=4.3km az=151.1*
*BJI **23** 02:48:14.3, 6.˚40S×155.˚00E, h46km, mB5.3/27, mb4.9/36, Ms5.1/22, Ms7 4.7/24*
*NEIC **23** 02:48:16.2±0.2, 6.˚34S×154.˚95E, mb5.2/42, Error ellipse: s-maj=6.3km s-min=5.0km az=109.0*
*IDC **23** 02:48:16.3±0.5, 6.˚38S×154.˚82E, h48km±3km, mb4.5/23, mb1 4.6/24, mb1mx4.6/25, mbtmp4.5/24, MS4.2/20, Ms1 4.2/20, ms1mx4.1/26, Error ellipse: s-maj=14.3km s-min=11.1km az=113.0*
*DJA **23** 02:48:21, 6.˚49S×154.˚96E, h89km, mb5.4/41*
ISC 23 02:48:16.0±0.2, 6.˚41S±0.˚04×154.˚99E±0.˚04, h46km, h46km:pP-P, n381, σ1s18/425, mb5.1/97, MS4.3/26, 43C-35D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.76**	**122**	*e*P	**Pn**	**02 49 43.4**	**+4.5**
HNR	**Honiara**	**5.76**	**122**	*e*Pn	Pn	**02 49 43.4**	**+4.5**
PMG	**Port Moresby**	**8.31**	**248**	P	**Pn**	**02 50 16.1**	**+2.1**
	62nm,0.3s,baz=61,slow=5.8,SNR=63						
PMG				S	**Sn**	**02 51 50.0**	**+3.5**
	42nm,0.3s,baz=90,slow=19,SNR=6.4						
PMG				LR	LR	02 53 20.4	
	comp=Z,3μm,21.0s,baz=350,slow=37						
PMG	**Port

	comp=Z,46nm,1.7s							
MMRI	**Maumere**	**32.54**	**264**	P	**P**	**02**	**54**	**42.4 -0.6**
	comp=Z,157nm,1.3s,comp=Z,2µm							
LUWI	**Luwuk**	**32.58**	**278**	P	**P**	**02**	**54**	**43.7 +0.4**
	comp=Z,182nm,0.9s,comp=Z,2µm							
AFI	**Afiamalu**	**33.52**	**105**	LR	LR	03	05	57.0
	comp=Z,657nm,20.3s,baz=281,slow=32							
MRSI	**Marisa**	**33.69**	**281**	P	**P**	**02**	**54**	**51.9 -1.1**
	comp=Z,55nm,0.5s							
WSI	**Waingapu**	**34.49**	**262**	P	**P**	**02**	**54**	**59.7 -0.3**
	comp=Z,331nm,0.7s							
BKSI	**Bulukumba**	**34.70**	**270**	P	**P**	**02**	**55**	**01.9 +0.1**
	comp=Z,17nm,1.1s,comp=Z,389nm							
FORT	**Forest**	**35.01**	**223**	*e*P	**P**	**02**	**55**	**04.0 -0.2**
	comp=Z,41nm,0.6s							
FORT	**Forest**	**35.01**	**223**	*e*P	**P**	**02**	**55**	**03.8 -0.5**
	comp=Z,62nm,0.8s							
KAPI	**Kappang**	**35.09**	**270**	P	**P**	**02**	**55**	**03.7 -1.4**
	comp=Z,4.9nm,0.6s,baz=200,slow=2.4,SNR=7.8							
KAPI	**Kappang**	**35.09**	**270**	*e*P	**P**	**02**	**55**	**03.5 -1.6**
	comp=Z,48nm,1.0s							
KAPI	**Kappang**	**35.09**	**270**	P	**P**	**02**	**55**	**03.9 -1.2**
TAU	**Tasmania Unive**	**36.98**	**189**	*e*P	P	02	55	23.3 +2.4
TAU				pmax	pmax			
	comp=Z,121nm,1.4s							
TAU	**Tasmania Unive**	**36.98**	**189**	*e*P	P	02	55	23.3 +2.4
	comp=Z,121nm,1.4s							
MBWA	**Marble Bar**	**37.13**	**243**	*e*P	**P**	**02**	**55**	**21.6 -0.9**
	comp=Z,15nm,0.8s							
URZ	**Urewera**	**37.52**	**151**	*e*P	**P**	**02**	**55**	**27.1 +1.6**
TSM	**Tawau**	**38.55**	**285**	P	**P**	**02**	**55**	**35.3 +0.7**
KHZ	**Kahutara**	**39.45**	**158**	*e*P	**P**	**02**	**55**	**41.5 -0.2**
	comp=Z,20nm,0.6s							
SDKM	**Sandakan**	**39.58**	**287**	P	**P**	**02**	**55**	**43.9 +0.6**
RPZ	**Rata Peaks**	**39.75**	**162**	P	**P**	**02**	**55**	**45.2 +0.9**
	comp=Z,20nm,0.7s,baz=342,slow=2.4,SNR=8.2							
RPZ				LR	LR	03	09	48.7
	comp=Z,614nm,19.9s,baz=49,slow=32							
RPZ	**Rata Peaks**	**39.75**	**162**	*e*P	**P**	**02**	**55**	**44.8 +0.6**
	comp=Z,21nm,0.7s							
KKM	**Kota Kinabalu**	**40.63**	**287**	*e*P	**P**	**02**	**55**	**51.9 -0.1**
	comp=Z,70nm,1.0s							
KKM	**Kota Kinabalu**	**40.63**	**287**	P	**P**	**02**	**55**	**52.4 +0.4**
ODZ	**Otahua Downs**	**40.83**	**163**	*e*P	**P**	**02**	**55**	**53.9 +0.8**
JOW	**Kunigami**	**41.97**	**323**	P	**P**	**02**	**56**	**02.9 +0.2**
	comp=Z,12nm,0.5s,baz=98,slow=7.1,SNR=3.2							
JOW	**Kunigami**	**41.97**	**323**	P	**P**	**02**	**56**	**02.9 +0.2**
KLBR	**Kellerberrin**	**42.86**	**229**	*e*P	**P**	**02**	**56**	**09.2 -0.7**
	comp=Z,16nm,0.6s							
BTM	**Bintulu**	**42.91**	**282**	P	**P**	**02**	**56**	**11.2 +0.6**
SBUM	**Sibu**	**43.60**	**280**	P	**P**	**02**	**56**	**17.9 +1.8**
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**02**	**56**	**17.6 -0.5**
	comp=Z,12nm,0.8s,baz=81,slow=5.2,SNR=3.7							
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**02**	**56**	**17.7 -0.5**
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**02**	**56**	**17.6 -0.5**
YULB	**Yu-li**	**44.28**	**313**	*e*P	**P**	**02**	**56**	**21.2 -0.2**
	comp=Z,39nm,1.0s							
YULB				*e*pP	**pP**	**02**	**56**	**35.1 +1.1**
NACB	**Ninganchiao**	**44.55**	**314**	*e*P	**P**	**02**	**56**	**23.4 -0.2**
	comp=Z,63nm,1.0s							
NACB				*e*pP	**pP**	**02**	**56**	**35.9 -0.2**
KSM	**Kuching**	**45.28**	**278**	*e*P	**P**	**02**	**56**	**29.6 -0.1**
	comp=Z,90nm,1.6s							
KSM	**Kuching**	**45.28**	**278**	P	**P**	**02**	**56**	**30.5 +0.9**
JNU	**Nakatsue**	**45.50**	**331**	LR	LR	03	13	56.1
	comp=Z,149nm,19.3s,baz=310,slow=34							
JNU	**Nakatsue**	**45.50**	**331**	*e*P	**P**	**02**	**56**	**30.5 -0.5**
	comp=Z,10nm,0.8s							
MJAR	**Matsushiro Arr**	**45.53**	**341**	P	**P**	**02**	**56**	**29.4 -1.8**
	comp=Z,1.3nm,0.4s,baz=163,slow=7.9,SNR=3.7							
MJAR				LR	LR	03	14	34.3
	comp=Z,62nm,19.3s,baz=185,slow=35							
MJAR	**Matsushiro Arr**	**45.53**	**341**	P	**P**	**02**	**56**	**29.4 -1.8**
MJAR	**Matsushiro Arr**	**45.53**	**341**	P	**P**	**02**	**56**	**29.4 -1.8**
RAR	**Rarotonga**	**46.14**	**113**	LR	LR	03	12	49.9
	comp=Z,187nm,18.4s,baz=195,slow=32							
QZH	**Quanzhou**	**47.18**	**313**	*j*/*i*P	**P**	**02**	**56**	**45.6 +1.3**
KSRS	**Korea Array**	**50.42**	**332**	P	**P**	**02**	**57**	**07.4 -1.5**
	comp=Z,1.1nm,0.6s,baz=153,slow=8.2,SNR=5.0							
KSRS				pP	**pP**	**02**	**57**	**21.3 -0.4**
	comp=Z,12nm,0.9s,baz=152,slow=8.9,SNR=11							
KSRS				LR	LR	03	17	37.8
	comp=Z,102nm,20.4s,baz=152,slow=35							
KSAR	**Wonju Array Be**	**50.43**	**332**	P	**P**	**02**	**57**	**07.4 -1.6**
KSAR				*PP	**pP**	**02**	**57**	**21.3 -0.5**
KSAR	**Wonju Array Be**	**50.43**	**332**	P	**P**	**02**	**57**	**07.4 -1.6**
KSAR				pP	**pP**	**02**	**57**	**21.3 -0.5**
INCN	**Inchon**	**51.06**	**331**	*e*P	**P**	**02**	**57**	**15.1 +1.2**
	comp=Z,52nm,1.0s							
INCN				*e*pP	**pP**	**02**	**57**	**27.0 +0.4**
QIZ	**Qiongzhong**	**51.16**	**301**	P	**P**	**02**	**57**	**14.8 -0.1**
QIZ				pP	**pP**	**02**	**57**	**27.0 -0.6**
QIZ				sP	**sP**	**02**	**57**	**32.3 -0.7**
QIZ				S	**S**	**03**	**04**	**31.0 +0.9**
QIZ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
QIZ				pmax	pmax			
	comp=Z,120nm,7.1s							
QIZ				LR	LR			
	comp=Z,290nm,32.2s							
NJ2	**Nanjing**	**51.46**	**320**	*e*P	**P**	**02**	**57**	**16.8 -0.1**
NJ2				pmax	pmax			
	comp=Z,20nm,1.0s							
ASAJ	**Asahikawa**	**51.52**	**349**	LR	LR	03	16	36.0
	comp=Z,325nm,20.4s,baz=178,slow=33							
KGM	**Kluang**	**52.26**	**278**	P	**P**	**02**	**57**	**23.6 +0.4**
WHN	**Wuhan**	**53.52**	**316**	P	P	02	57	28.5 -3.7
USRK	**Ussuriysk Arra**	**54.48**	**340**	P	**P**	**02**	**57**	**38.9 +0.1**
	comp=Z,2.6nm,0.8s,baz=143,slow=4.5,SNR=6.7							
USRK				pP	**pP**	**02**	**57**	**52.1 +0.3**
	comp=Z,6.0nm,0.8s,baz=176,slow=6.6,SNR=6.7							
USRK				LR	LR	03	16	45.9
	comp=Z,131nm,20.9s,baz=331,slow=31							
IPM	**Ipoh**	**54.95**	**280**	*e*P	**P**	**02**	**57**	**42.1 -0.9**
	comp=Z,20nm,0.8s							
IPM				*e*pP	**pP**	**02**	**57**	**54.5 -1.3**
IPM	**Ipoh**	**54.95**	**280**	P	**P**	**02**	**57**	**43.5 +0.6**
PPT2	**Papeete2**	**55.17**	**107**	*e*S	**S**	**03**	**05**	**27.7 +2.8**
	comp=Z,140nm,24.8s							
PPT2				*e*LR	LR	03	13	52.7
	comp=Z,277nm,22.5s							
MDJ	**Mudanjiang**	**55.70**	**338**	P	**P**	**02**	**57**	**49.3 +1.6**
MDJ				pP	**pP**	**02**	**58**	**00.9 +0.3**
MDJ				pmax	pmax			
	comp=Z,360nm,4.5s							
MDJ				LR	LR			
	comp=Z,120nm,28.0s							
TBI	**Tubuai**	**55.92**	**114**	*e*S	**S**	**03**	**05**	**38.8 +4.2**
	comp=Z,355nm,30.0s							
TBI				*e*LR	LR	03	14	10.1
	comp=Z,934nm,28.8s							
CN2	**Changchun**	**56.66**	**335**	*e*P	P	02	57	58.1 +3.5
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ENH	**Enshi**	**56.84**	**313**	*e*P	**P**	**02**	**57**	**55.3 -0.9**
	comp=Z,50nm,1.0s							
GYA	**Guiyang**	**57.10**	**307**	P	**P**	**02**	**57**	**58.0 -0.2**
GYA				pP	**pP**	**02**	**58**	**11.4 +0.2**
GYA				sP	**sP**	**02**	**58**	**18.9 +2.5**
GYA				PP	**PP**	**03**	**00**	**08.6 +3.1**
GYA				ScP	**ScP**	**03**	**02**	**48.4 -0.4**
GYA				S	**S**	**03**	**05**	**50.0 -0.3**
GYA				sS	**sS**	**03**	**06**	**12.8 +0.9**
GYA				SS	**SS**	**03**	**09**	**40.5 +0.6**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,130nm,5.2s							
GYA				LR	LR			
	comp=N,490nm,17.9s							
GYA				LR	LR			
	comp=E,440nm,18.4s							
GYA				LR	LR			
	comp=Z,480nm,17.7s							
HABR	**Khabarovsk**	**57.39**	**344**	*e*P	**P**	**02**	**57**	**57.8 -1.8**
HABR				*e**PP	**pP**	**02**	**58**	**11.9 -0.7**
HABR				*e*		02	58	51.6
HABR				*e*		03	00	05.2
HABR				*e*S	**S**	**03**	**05**	**50.4 -2.6**
HABR				*e*S	S	03	06	06.9 +14
HABR				*e**SS	**sS**	**03**	**06**	**14.1 -0.6**
HABR				*e*		03	07	42.6
HABR				*e*SS	**SS**	**03**	**09**	**41.3 -2.1**
HABR				pmax	pmax			
	comp=N,112nm,2.5s							
HABR				pmax	pmax			
	comp=Z,176nm,2.5s							
HABR				pmax	pmax			
	comp=E,131nm,2.5s							
HABR				MLR	MLR			
	comp=Z,174nm,16.0s							
BJI	**Beijing**	**58.44**	**326**	P	**P**	**02**	**58**	**08.1 +1.0**
BJI				S	**S**	**03**	**06**	**08.8 +1.7**
BJI				SS	**SS**	**03**	**10**	**00.8 +0.6**
BJI				LR	LR			
	comp=N,240nm,7.9s							
BJI				LR	LR			
	comp=E,200nm,9.9s							
BJI				LR	LR			
	comp=Z,160nm,34.4s							
KLR	**Kul'dur**	**59.01**	**342**	*e*P	P	02	58	07.8 -3.2
XAN	**Xi'an**	**59.28**	**316**	P	**P**	**02**	**58**	**12.3 -0.9**
XAN				pP	**pP**	**02**	**58**	**24.6 -1.7**
XAN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
XAN				pmax	pmax			
	comp=Z,34nm,6.8s							
PETK	**Petropavlovsk-**	**59.33**	**2**	P	**P**	**02**	**58**	**14.2 +1.1**
	comp=Z,14nm,0.9s,baz=163,slow=7.5,SNR=22							
PETK				pP	**pP**	**02**	**58**	**27.9 +1.7**
	comp=Z,11nm,0.6s,baz=173,slow=9.3,SNR=10							
PETK				LR	LR	03	19	42.2
	comp=Z,243nm,21.3s,baz=173,slow=32							
PETK	**Petropavlovsk-**	**59.33**	**2**	P	**P**	**02**	**58**	**14.2 +1.1**
PETK				*PP	**pP**	**02**	**58**	**27.9 +1.7**
PETK	**Petropavlovsk-**	**59.33**	**2**	P	**P**	**02**	**58**	**14.2 +1.1**
PETK				pP	**pP**	**02**	**58**	**27.9 +1.7**
KMI	**Kunming**	**59.69**	**304**	P	**P**	**02**	**58**	**17.9 +1.5**
KMI				pP	**pP**	**02**	**58**	**29.9 +0.4**
KMI				S	**S**	**03**	**06**	**25.1 +0.8**
KMI				SS	**SS**	**03**	**10**	**21.8 +0.9**
KMI				pmax	pmax			
	comp=Z,58nm,1.0s							
KMI				pmax	pmax			
	comp=Z,220nm,4.9s							
KMI				LR	LR			
	comp=N,320nm,6.5s							
KMI				LR	LR			
	comp=E,210nm,5.0s							
KMI				LR	LR			
	comp=Z,140nm,6.3s							
CM31	**Chiang Mai Arr**	**60.53**	**295**	*e*P	**P**	**02**	**58**	**23.0 +1.0**
	comp=Z,19nm,0.8s							
CM31				*e*pP	**pP**	**02**	**58**	**37.0 +2.0**
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**02**	**58**	**22.5 +0.5**
	comp=Z,16nm,0.6s,baz=121,slow=4.9,SNR=58							
CMAR				LR	LR	03	23	47.6
	comp=Z,98nm,19.3s,baz=254,slow=35							
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**02**	**58**	**22.5 +0.5**
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**02**	**58**	**22.5 +0.5**
CHTO	**Chiang Mai**	**60.64**	**296**	*e*P	**P**	**02**	**58**	**22.9 +0.1**
CHTO				*e**PP	**pP**	**02**	**58**	**37.3 +1.4**
CHTO				pmax	pmax			
	comp=Z,55nm,1.4s							
CHTO	**Chiang Mai**	**60.64**	**296**	*e*P	**P**	**02**	**58**	**22.9 +0.1**
	comp=Z,55nm,1.4s							
CHTO				*e*pP	**pP**	**02**	**58**	**37.3 +1.4**
DRV	**Dumont d'Urvil**	**61.04**	**187**	P	sP	02	58	49.0 +6.0
CD2	**Chengdu**	**61.43**	**310**	P	**pP**	**02**	**58**	**41.3 +0.2**
CD2				pP	pwP	02	58	43.6 +2.5
CD2				sP	sP	02	58	49.3 +2.9
CD2				PP	PP	03	00	48.0 +4.2
CD2				S	**S**	**03**	**06**	**46.3 +0.2**
CD2				sS	sS	03	07	09.1 +1.2
CD2				SS	**SS**	**03**	**10**	**49.3 +1.6**
CD2				pmax	pmax			
	comp=Z,100nm,0.7s							
CD2				pmax	pmax			
	comp=Z,150nm,5.4s							
CD2				LR	LR			
	comp=N,620nm,4.7s							
CD2				LR	LR			
	comp=Z,490nm,6.6s							
HHC	**Hu-ho-hao-te**	**61.62**	**324**	*e*P	P	02	58	31.8 +2.7
HHC				pP	pP	02	58	44.6 +2.4
HHC				sP	sP	02	58	49.8 +2.3
HHC				PP	PP	03	00	49.9 +4.6
HHC				S	**S**	**03**	**06**	**49.8 +1.6**
HHC				sS	sS	03	07	11.6 +1.5
HHC				ScS	**SKKSac**	**03**	**08**	**13.9 -3.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,140nm,5.4s							
HHC				LR	LR			
	comp=N,670nm,16.5s							
HHC				LR	LR			
	comp=E,240nm,16.9s							
HHC				LR	LR			
	comp=Z,260nm,16.7s							
HIA	**Hailar**	**63.39**	**335**	*e*P	**P**	**02**	**58**	**39.9 -0.8**
HIA				*e**PP	**pP**	**02**	**58**	**53.1 -0.8**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
HIA	**Hailar**	**63.39**	**335**	*e*P	**P**	**02**	**58**	**39.9 -0.8**
	comp=Z,6.8nm,0.6s							
HIA				*e*pP	**pP**	**02**	**58**	**53.0 -0.8**
LZH	**Lanzhou**	**63.90**	**315**	*e*P	**P**	**02**	**58**	**45.1 +0.6**
LZH				pP	**pP**	**02**	**58**	**58.5 +0.9**
LZH				sP	**sP**	**02**	**59**	**03.9 +1.0**
LZH				PP	**PP**	**03**	**01**	**08.3 +2.8**
LZH				*e*S	**S**	**03**	**07**	**16.3 -0.8**
LZH				sS	**sS**	**03**	**07**	**38.1 -0.9**
LZH				*e*SS	**SS**	**03**	**11**	**27.0 +0.7**
LZH				pmax	pmax			
	comp=Z,32nm,1.4s							
LZH				pmax	pmax			
	comp=Z,140nm,5.6s							
LZH				LR	LR			
	comp=N,350nm,15.0s							
LZH				LR	LR			
	comp=E,320nm,14.7s							
LZH				LR	LR			
	comp=Z,470nm,17.5s							
ULN	**Ulaanbaatar**	**68.51**	**328**	*e*P	**P**	**02**	**59**	**13.2 -0.6**
ULN				*e**PP	**pP**	**02**	**59**	**28.0 +0.9**
ULN				pmax	pmax			
	comp=Z,11nm,0.9s							
ULN	**Ulaanbaatar**	**68.51**	**328**	*e*P	**P**	**02**	**59**	**13.2 -0.6**
	comp=Z,11nm,0.9s							
ULN				*e*pP	**pP**	**02**	**59**	**27.9 +0.9**
SONM	**Songino Array**	**68.84**	**327**	P	**P**	**02**	**59**	**15.9 +0.1**
	comp=Z,6.0nm,0.5s,baz=144,slow=5.4,SNR=72							
SONM				pP	**pP**	**02**	**59**	**29.3 +0.2**
	comp=Z,7.3nm,0.6s,baz=135,slow=5.0,SNR=15							
SONM				LR	LR	03	25	58.5
	comp=Z,194nm,21.6s,baz=84,slow=33							
SONM	**Songino Array**	**68.84**	**327**	P	**P**	**02**	**59**	**15.9 +0.1**
SONM				*PP	**pP**	**02**	**59**	**29.3 +0.2**
SONM	**Songino Array**	**68.84**	**327**	P	**P**	**02**	**59**	**15.9 +0.1**
SONM				pP	**pP**	**02**	**59**	**29.3 +0.2**
SEY	**Seymchan**	**69.17**	**359**	*i* P	**P**	**02**	**59**	**17.7 +0.3**
LSA	**Lhasa**	**70.94**	**304**	P	**pP**	**02**	**59**	**42.3 -0.6**
LSA				pmax	pmax			
	comp=Z,20nm,1.0s							
LSA	**Lhasa**	**70.94**	**304**	*e*P	**P**	**02**	**59**	**31.5 +1.9**
LSA				*e**PP	**pP**	**02**	**59**	**43.1 +0.2**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
LSA	**Lhasa**	**70.94**	**304**	*e*P	**P**	**02**	**59**	**31.4 +1.9**
	comp=Z,4.6nm,0.4s							
LSA				*e*pP	**pP**	**02**	**59**	**43.1 +0.2**
VNDA	**Vanda**	**71.16**	**178**	*e*P	**P**	**02**	**59**	**30.1 +0.7**
VNDA				*e**PP	**pP**	**02**	**59**	**42.3 -0.5**
VNDA				pmax	pmax			
	comp=Z,28nm,1.5s							
VNDA	**Vanda**	**71.16**	**178**	*e*P	**P**	**02**	**59**	**30.1 +0.7**
	comp=Z,28nm,1.5s							
VNDA				*e*pP	**pP**	**02**	**59**	**42.2 -0.5**
BOD	**Bodaibo**	**72.07**	**338**	*e*P	**P**	**02**	**59**	**33.6 -1.5**
BOD				*e*		02	59	47.0
BOD				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TAPN	**Taplejung**	**73.10**	**301**	*e*P	**P**	**02**	**59**	**42.9 +0.6**
	comp=Z,13nm,0.5s							
TAPN	**Taplejung**	**73.10**	**301**	*e*P	**P**	**02**	**59**	**42.9 +0.6**
	comp=Z,13nm,0.5s							
ODAN	**Odare**	**73.23**	**300**	*e*P	**P**	**02**	**59**	**43.2 +0.2**
	comp=Z,41nm,0.5s							
ODAN	**Odare**	**73.23**	**300**	*e*P	**P**	**02**	**59**	**43.2 +0.2**
	comp=Z,41nm,0.5s							
RAMN	**Ramite**	**73.93**	**300**	*e*P	**P**	**02**	**59**	**47.1 -0.1**
	comp=Z,12nm,0.4s							
RAMN	**Ramite**	**73.93**	**300**	*e*P	**P**	**02**	**59**	**47.1 -0.1**
	comp=Z,12nm,0.4s							
JIRN	**Jiri**	**74.48**	**301**	*e*P	**P**	**02**	**59**	**50.8 +0.3**
	comp=Z,20nm,0.4s							
JIRN	**Jiri**	**74.48**	**301**	*e*P	**P**	**02**	**59**	**50.8 +0.3**
	comp=Z,20nm,0.4s							
BILL	**Bilibino**	**74.70**	**4**	*c*/*i*P	**P**	**02**	**59**	**51.0 +0.6**
BILL				*i*		03	00	05.1
BILL				pmax	pmax			
	comp=Z,13nm,0.9s							
BILL	**Bilibino**	**74.70**	**4**	*e*P	**P**	**02**	**59**	**50.9 +0.4**
	comp=Z,34nm,0.8s							
BILL				*e*pP	**PcP**	**03**	**00**	**05.4 +1.0**
GUN	**Gumba**	**74.81**	**301**	*e*P	**P**	**02**	**59**	**52.4 0.0**
	comp=Z,24nm,0.4s							
GUN	**Gumba**	**74.81**	**301**	*e*P	**P**	**02**	**59**	**52.4 0.0**
	comp=Z,24nm,0.4s							
PKI	**Pulchoki**	**75.12**	**301**	*e*P	**P**	**02**	**59**	**54.3 +0.1**
	comp=Z,15nm,0.4s							
PKI	**Pulchoki**	**75.12**	**301**	*e*P	**P**	**02**	**59**	**54.3 +0.1**
PKI				pmax	pmax			
	comp=Z,15nm,0.4s							
PKI	**Pulchoki**	**75.12**	**301**	*e*P	**P**	**02**	**59**	**54.3 +0.1**
	comp=Z,15nm,0.4s							
KKN	**Kakani**	**75.29**	**301**	*e*P	**P**	**02**	**59**	**55.3 +0.3**
	comp=Z,32nm,0.4s							
KKN	**Kakani**	**75.29**	**301**	*e*P	**P**	**02**	**59**	**55.3 +0.3**
KKN				pmax	pmax			
	comp=Z,32nm,0.4s							
KKN	**Kakani**	**75.29**	**301**	*e*P	**P**	**02**	**59**	**55.3 +0.3**
	comp=Z,32nm,0.4s							
DMN	**Daman**	**75.39**	**301**	*e*P	**P**	**02**	**59**	**56.2 +0.6**
	comp=Z,35nm,0.4s							
DMN	**Daman**	**75.39**	**301**	*e*P	**P**	**02**	**59**	**56.2 +0.6**
	comp=Z,35nm,0.4s							
GKN	**Gorkha**	**75.89**	**301**	*e*P	**P**	**02**	**59**	**58.1 -0.3**
	comp=Z,18nm,0.4s							
GKN	**Gorkha**	**75.89**	**301**	*e*P	**P**	**02**	**59**	**58.1 -0.3**
	comp=Z,18nm,0.4s							
KDAK	**Kodiak Island**	**76.64**	**26**	P	**P**	**03**	**00**	**03.2 +1.5**
	comp=Z,19nm,1.0s,baz=225,slow=2.9,SNR=4.6							
KDAK				pP	**pP**	**03**	**00**	**16.8 +1.6**
	comp=Z,36nm,1.0s,baz=113,slow=3.2,SNR=5.1							
KDAK	**Kodiak Island**	**76.64**	**26**	P	**P**	**03**	**00**	**03.2 +1.5**
KDAK				*PP	**pP**	**03**	**00**	**16.8 +1.6**
KDAK	**Kodiak Island**	**76.64**	**26**	P	**P**	**03**	**00**	**03.2 +1.5**
KDAK				pP	**pP**	**03**	**00**	**16.8 +1.6**
KOLN	**Koldanda**	**76.72**	**300**	*e*P	**P**	**03**	**00**	**03.1 0.0**
	comp=Z,20nm,0.5s							
KOLN	**Koldanda**	**76.72**	**300**	*e*P	**P**	**03**	**00**	**03.1 0.0**
	comp=Z,20nm,0.5s							
DANN	**Dangsing**	**76.73**	**301**	*e*P	**P**	**03**	**00**	**03.0 -0.3**
	comp=Z,16nm,0.5s							
DANN	**Dangsing**	**76.73**	**301**	*e*P	**P**	**03**	**00**	**03.0 -0.3**
	comp=Z,16nm,0.5s							
HVS	**Khovu-Aksy**	**77.60**	**326**	*de*P	**P**	**03**	**00**	**07.5 +0.1**
HVS				pmax	pmax			
	comp=Z,103nm,1.7s							
WMQ	**Urumqi**	**78.39**	**317**	P	**P**	**03**	**00**	**12.0 +0.1**
WMQ				pP	**pP**	**03**	**00**	**25.5 +0.1**
WMQ				sP	**sP**	**03**	**00**	**30.8 +0.2**
WMQ				pmax	pmax			
	comp=Z,14nm,1.0s							
WMQ				LR	LR			
	comp=N,130nm,22.5s							
WMQ				LR	LR			
	comp=E,130nm,21.5s							
WMQ				LR	LR			
	comp=Z,120nm,21.5s							
HYB	**Hyderabad**	**79.07**	**289**	*i* P	**P**	**03**	**00**	**16.0 -0.2**
HYB				*e*PcP	**PcP**	**03**	**00**	**26.0 +1.5**
SLKM	**Skilak Lake**	**79.21**	**24**	*e*P	**P**	**03**	**00**	**16.5 +0.5**
SLKM				*e**PP	**pP**	**03**	**00**	**30.5 +1.0**
SLKM	**Skilak Lake**	**79.21**	**24**	*e*P	**P**	**03**	**00**	**16.5 +0.5**
SLKM				*e*pP	**pP**	**03**	**00**	**30.4 +1.0**
SML	**Sawmill**	**80.69**	**24**	*e*P	**P**	**03**	**00**	**25.0 +1.0**
SML				*e**PP	**pP**	**03**	**00**	**39.0 +1.4**
SML				pmax	pmax			
	comp=Z,13nm,0.9s							
SML	**Sawmill**	**80.69**	**24**	*e*P	**P**	**03**	**00**	**25.0 +1.0**
	comp=Z,13nm,0.9s							
SML				*e*pP	**pP**	**03**	**00**	**39.0 +1.4**
MCK	**McKinley**	**81.52**	**22**	*e*P	**P**	**03**	**00**	**27.9 -0.4**
MCK				*e**PP	**pP**	**03**	**00**	**42.5 +0.6**
MCK				pmax	pmax			
	comp=Z,57nm,1.3s							
MCK	**McKinley**	**81.52**	**22**	*e*P	**P**	**03**	**00**	**27.9 -0.4**
	comp=Z,57nm,1.3s							
MCK				*e*pP	**pP**	**03**	**00**	**42.5 +0.6**
DDI	**Dehra Dun**	**82.03**	**302**	*ex*	x	03	00	43.0
COLA	**College**	**82.54**	**21**	*e*P	**P**	**03**	**00**	**32.7 -0.9**
COLA				*e**PP	**pP**	**03**	**00**	**47.6 +0.4**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
COLA	**College**	**82.54**	**21**	*e*P	**P**	**03**	**00**	**32.7 -0.9**
	comp=Z,4.0nm,0.6s							
COLA				*e*pP	**pP**	**03**	**00**	**47.5 +0.4**
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**03**	**00**	**34.3 -0.9**
	comp=Z,1.4nm,0.5s,baz=225,slow=5.7,SNR=32							
ILAR				pP	**pP**	**03**	**00

comp=E,210nm,5.8s
KSH LR LR
comp=Z,390nm,6.5s
KURK Kurchatov 86.37 322 P **P** **03 00 52.1 -1.2**
comp=Z,3.0nm,0.5s,baz=95,slow=4.9,SNR=14
KURK pP **pP** **03 01 05.9 -1.0**
comp=Z,6.2nm,0.6s,baz=105,slow=3.8,SNR=15
KURK Kurchatov 86.37 322 *i* P **P** **03 00 52.1 -1.2**
KURK pmax pmax
comp=Z,8.0nm,1.5s
KURK Kurchatov 86.37 322 *e*P **P** **03 00 51.6 -1.7**
comp=Z,16nm,0.9s
KURK *e*pP **pP** **03 01 05.7 -1.3**
KURK pP **pP** **03 01 05.9 -1.0**
TKM2 Tokmak 2 86.61 314 *e*P **P** **03 00 54.5 -0.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s
TKM2 Tokmak 2 86.61 314 *e*P **P** **03 00 54.5 -0.4**
comp=Z,6.7nm,0.6s
FRU Bishkek 87.30 313 *e*P pP 03 01 12.0 +0.2
AAK Ala-Archa 87.35 313 *e*P **P** **03 00 57.9 -0.6**
AAK *e**PP **pP** **03 01 12.4 +0.2**
AAK pmax pmax
comp=Z,18nm,0.6s
AAK Ala-Archa 87.35 313 *e*P **P** **03 00 57.9 -0.6**
comp=Z,18nm,0.6s
AAK *e*pP **pP** **03 01 12.4 +0.2**
EKS2 Erkin-Say 87.87 313 *e*P **P** **03 01 00.8 -0.2**
EKS2 *e**PP **pP** **03 01 14.0 -0.7**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 87.87 313 *e*P **P** **03 01 00.8 -0.2**
comp=Z,7.5nm,0.9s
EKS2 *e*pP **pP** **03 01 14.0 -0.7**
KKAR Karatay Array 90.31 313 *e*P **P** **03 01 12.7 +0.4**
KKAR *e**PP **pP** **03 01 24.7 -1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 90.31 313 *e*P **P** **03 01 12.7 +0.4**
comp=Z,2.3nm,0.7s
KKAR *e*pP **pP** **03 01 24.7 -1.3**
WCN Washoe City 90.35 51 ⇑pP pP 03 01 27.3 +0.8
baz=90
CIS Catalina Islan 90.66 57 ⇓pP pP 03 01 28.5 +0.7
baz=91
ISA Isabella 90.89 54 ⇑pP pP 03 01 30.0 +1.1
baz=91
MWC Mount Wilson 91.05 56 *e*P **P** **03 01 17.0 +0.9**
MWC *e**PP **pP** **03 01 31.1 +1.2**
MWC pmax pmax
comp=Z,3.0nm,0.6s
MWC Mount Wilson 91.05 56 *e*P **P** **03 01 17.0 +0.9**
comp=Z,3.0nm,0.6s
MWC *e*pP **pP** **03 01 31.1 +1.2**
ETW Entiat 91.11 42 *e*P **P** **03 01 16.2 +0.2**
ETW *e*pP **pP** **03 01 29.0 -0.7**
EDW2 Edwards Air Fo 91.18 55 ⇑P pP 03 01 31.4 +1.0
baz=91
NVAR Mina Array Bea 91.36 52 P **P** **03 01 18.8 +1.3**
comp=Z,2.3nm,0.7s,baz=254,slow=6.5,SNR=20
NVAR pP **pP** **03 01 33.1 +1.8**
comp=Z,14nm,1.0s,baz=254,slow=6.3,SNR=24
NVAR LR LR 03 37 11.7
comp=Z,249nm,20.3s,baz=128,slow=32
NVAR Mina Array Bea 91.36 52 P **P** **03 01 18.8 +1.3**
NVAR pP **pP** **03 01 33.1 +1.8**
BFSC Mount Baldy Ra 91.38 56 ⇓pP pP 03 01 32.0 +0.7
baz=91
MPMC Manual Prospec 91.73 54 ⇑P **P** **03 01 20.6 +1.3**
baz=92
BVAR Borovoye Array 91.83 323 P **P** **03 01 17.1 -1.9**
comp=Z,1.8nm,0.5s,baz=116,slow=6.8,SNR=8.6
BVAR pP **pP** **03 01 31.2 -1.6**
comp=Z,9.8nm,0.8s,baz=96,slow=6.0,SNR=20
BVAR Borovoye Array 91.83 323 P **P** **03 01 17.1 -1.9**
BVAR *PP **pP** **03 01 31.2 -1.6**
BVAR Borovoye Array 91.83 323 P **P** **03 01 17.1 -1.9**
BVAR pP **pP** **03 01 31.2 -1.6**
BRVK Borovoye 91.89 323 *e*P **P** **03 01 18.0 -1.4**
BRVK *e**PP **pP** **03 01 31.2 -1.9**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 91.89 323 *e*P **P** **03 01 17.9 -1.4**
comp=Z,9.1nm,0.9s
BRVK *e*pP **pP** **03 01 31.2 -1.9**
PFO Pinyon Flat Ob 92.30 57 ⇑pP pP 03 01 37.1 +1.5
baz=92
SHOC Shoshone 92.69 54 ⇓P **P** **03 01 24.8 +1.3**
baz=93
BELC Belle Mtn. Jos 92.72 56 ⇑P **P** **03 01 25.3 +1.4**
baz=93
SYO Syowa Base 92.88 199 ⇓*e*P **P** **03 01 22.8 -0.8**
SYO Syowa Base 92.88 199 ⇓*e*X 03 01 34.6
TUQ Turquoise Moun 92.93 55 ⇑P **P** **03 01 25.8 +1.0**
baz=93
GMRC Granite Mounta 93.08 56 ⇑P **P** **03 01 26.7 +1.3**
baz=93
BC3 Big Chuckawall 93.14 57 ⇓P **P** **03 01 27.1 +1.3**
baz=93
NEW Newport 93.33 42 *e*P **P** **03 01 25.8 -0.4**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 93.33 42 *e*P **P** **03 01 25.8 -0.4**
comp=Z,6.6nm,1.0s
NEW Newport 93.33 42 ⇑P **P** **03 01 26.3 +0.2**
baz=93
R11A Troy Canyon, C 93.48 52 ⇑pP pP 03 01 41.6 +0.6
baz=94
C11A Tepee Creek (N 93.86 42 ⇑P **P** **03 01 28.9 +0.3**
baz=94
C11A ⇓pP **pP** **03 01 42.3 -0.1**
baz=94
ELK Elko 93.96 50 *e*P **P** **03 01 30.2 +0.7**
ELK Elko 93.96 50 *e*P **P** **03 01 30.2 +0.7**
E12A Beaver Dam Sad 94.21 44 ⇑P **P** **03 01 30.6 +0.2**
baz=94
E12A ⇓pP **pP** **03 01 44.1 0.0**
baz=94
G12A Big Creek, Yel 94.27 45 ⇑pP pP 03 01 45.2 +0.7
baz=94
I12A Atlanta 94.30 47 ⇓pP pP 03 01 45.0 +0.3
baz=94
D12A Red Ives Fores 94.41 43 ⇓P **P** **03 01 31.2 0.0**
baz=94
D12A ⇑pP **pP** **03 01 45.3 +0.3**
baz=94
R13A O'Grain Ranch, 94.73 52 ⇑pP pP 03 01 47.3 +0.5
baz=95
HLID Hailey 94.80 47 *e*P **P** **03 01 33.3 +0.1**
comp=Z,1.7nm,0.9s
H13A Challis 94.99 46 ⇓P **P** **03 01 33.6 -0.4**
baz=95
F13A Darby 95.02 45 ⇑P **P** **03 01 33.5 -0.6**
baz=95
G13A Cobalt 95.04 45 ⇑P **P** **03 01 34.5 +0.3**
baz=95
I13A Wildhorse Cree 95.04 47 ⇓pP pP 03 01 47.4 -0.8
baz=95
B13A Whitefish 95.10 42 ⇑pP pP 03 01 47.2 -0.9
baz=95
I14A Mackay 95.52 47 ⇑pP pP 03 01 50.3 0.0
baz=96
L14A Malta 95.56 48 ⇓pP pP 03 01 50.8 +0.4
baz=96
K14A Jones Ranch, D 95.64 48 ⇓pP pP 03 01 51.3 +0.5
baz=96
YKA Yellowknife Ar 95.82 28 P **P** **03 01 37.5 +0.3**
comp=Z,1.8nm,0.6s,baz=264,slow=4.5,SNR=33
YKA pP **pP** **03 01 51.3 +0.4**
comp=Z,8.8nm,0.9s,baz=267,slow=4.8,SNR=18
YKA PKKPbc **PKKPbc** **03 18 25.1 -3.9**
comp=Z,0.4nm,0.4s,baz=82,slow=2.6,SNR=9.0
YKA Yellowknife Ar 95.82 28 P **P** **03 01 37.5 +0.3**
YKA *PP **pP** **03 01 51.4 +0.4**
YKA Yellowknife Ar 95.82 28 P **P** **03 01 37.5 +0.3**
YKA pP **pP** **03 01 51.4 +0.4**
YKA PKKPbc **PKKPbc** **03 18 25.1 -3.9**
A14A Double T Ranch 95.83 41 ⇑pP pP 03 01 52.0 +0.6
baz=96
U15A North Rim 95.95 54 ⇑pP pP 03 01 53.6 +1.1
baz=96
N15A Stansbury Isla 96.03 50 ⇑pP pP 03 01 53.0 +0.4
baz=96
O15A The Old Anders 96.03 50 ⇑P pP 03 01 53.2 +0.6
baz=96
R15A Junction 96.06 52 ⇑pP pP 03 01 53.1 +0.2
baz=96
M15A Larsen Ranch, 96.12 49 ⇑pP pP 03 01 53.2 +0.3
baz=96
K15A Arbon 96.12 48 ⇓pP pP 03 01 52.0 -1.0
baz=96
H15A Lima 96.14 46 ⇓pP pP 03 01 53.3 +0.2
baz=96
L15A Malad City 96.19 48 ⇓pP pP 03 01 52.9 -0.4
baz=96
E15A Deer Lodge 96.23 44 ⇑pP pP 03 01 53.6 +0.2
baz=96
J15A Blackfoot 96.23 47 ⇑pP pP 03 01 53.3 -0.1
baz=96
C15A Salmond Ranch, 96.31 43 ⇑P **P** **03 01 39.6 -0.4**
baz=96
S16A Weppner Ranch, 96.58 53 ⇓pP pP 03 01 55.9 +0.7
baz=97
WUAZ Wupatki 96.64 55 ⇓pP pP 03 01 56.8 +1.3
baz=97
R16A Teasdale 96.69 52 ⇑pP pP 03 01 56.4 +0.6
baz=97
G16A Moss Hill, Enn 96.76 45 ⇑pP pP 03 01 55.5 -0.4
baz=97
HWUT Hardware Ranch 96.78 49 *e*P **P** **03 01 42.2 -0.1**
comp=Z,2.7nm,0.8s
K16A Soda Springs 96.82 48 ⇑pP pP 03 01 56.4 +0.2
baz=97
J16A Bone 96.82 47 ⇓pP pP 03 01 56.4 +0.1
baz=97
BOZ Bozeman (W) 96.90 45 ⇓pP **pP** **03 01 56.0 -0.5**
baz=97
BOZ ⇓pP pP 03 01 56.0 -0.5
baz=97
L16A Fish Haven 96.90 49 ⇓pP pP 03 01 56.8 +0.2
baz=97
I16A Newdale 96.94 47 ⇓pP pP 03 01 57.3 +0.6
baz=97
D16A Dana Ranch, Ca 97.00 43 ⇓pP pP 03 01 56.9 0.0
baz=97
V17A Tonalea, Kykot 97.11 55 ⇓pP pP 03 01 58.3 +0.6
baz=97
R17A Hanksville Air 97.31 52 ⇓pP pP 03 01 59.0 +0.5
baz=97
O17A Robinson Place 97.36 50 ⇑pP pP 03 01 59.2 +0.4
baz=97
C17A Wharram Farm, 97.56 43 ⇑pP pP 03 01 59.0 -0.3
baz=98
F17A Fitzpatrick Pl 97.59 45 ⇓pP pP 03 01 59.7 +0.1
baz=98
Q18A Rafter H Ranch 97.78 51 ⇑pP pP 03 01 60.0 -0.6
baz=98
K18A Toltan Ranch, 97.95 48 ⇓pP pP 03 02 01.7 +0.3
baz=98
J18A Kendall Valley 97.98 47 ⇑pP pP 03 02 01.8 +0.2
baz=98
ABKAR Akbulak array 98.11 319 *e*P Pdif 03 01 48.5 +0.7
comp=Z,1.2nm,0.7s
ABKAR *e*pP pP 03 01 58.7 -2.9
F18A Big Timber 98.25 45 ⇑pP pP 03 02 02.9 +0.4
baz=98
BW06 Boulder Array 98.31 48 *e*P Pdif 03 01 49.1 -0.2
comp=Z,3.3nm,0.9s
BW06 Boulder Array 98.31 48 ⇓pP **pP** **03 02 03.2 +0.2**
baz=98
BW06 ⇓pP pP 03 02 03.2 +0.2
baz=98
PDAR Pinedale Array 98.31 48 P Pdif 03 01 49.0 -0.3
comp=Z,0.4nm,0.5s,baz=203,slow=2.3,SNR=4.9
PDAR pP pP 03 02 02.2 -0.8
comp=Z,2.5nm,0.9s,baz=248,slow=2.6,SNR=15
PDAR LR LR 03 42 17.1
comp=Z,214nm,18.1s,baz=277,slow=33
PDAR Pinedale Array 98.31 48 P Pdif 03 01 49.0 -0.3
PDAR pP pP 03 02 02.2 -0.8
K19A Absolon Red Bu 98.84 48 ⇑pP pP 03 02 04.2 -1.1
baz=99
N20A Spence Gulch, 99.26 50 ⇓pP pP 03 02 07.4 +0.1
baz=99
AKTO Aktyubinsk 99.35 320 P **Pdif** **03 01 53.9 +0.5**
comp=Z,0.5nm,0.6s,baz=67,slow=7.7,SNR=3.1
AKTO Aktyubinsk 99.35 320 P **Pdif** **03 01 53.9 +0.5**
AKTO Aktyubinsk 99.35 320 P **Pdif** **03 01 53.9 +0.5**
H20A Greybull 99.45 46 ⇑pP pP 03 02 07.9 0.0
baz=100
J21A Lysite 99.86 47 ⇑pP pP 03 02 09.4 -0.5
baz=100
N23A Red Feather La 101.01 50 ⇑pP pP 03 02 15.1 -0.1
baz=101
C23A Lambert 101.32 43 ⇑pP pP 03 02 16.3 +0.1
baz=101
RES Resolute Bay 101.40 15 PKKPbc PKKPbc 03 18 10.4 -3.2
comp=Z,0.3nm,0.4s,baz=138,slow=5.0,SNR=5.4
RES Resolute Bay 101.40 15 PKKPbc PKKPbc 03 18 10.4 -3.2
ARCES ARCESS Array B 109.03 343 PKKPbc PKKPbc 03 17 45.9 -4.4
comp=Z,1.7nm,0.8s,baz=211,slow=2.8,SNR=5.3
ARCES ARCESS Array B 109.03 343 PKKPbc PKKPbc 03 17 45.9 -4.4
MOS Moscow 110.47 328 *e*PKIKP 03 06 38.8
FINES FINESS Array B 113.40 336 PKKPbc PKKPbc 03 17 32.7 -2.9
comp=Z,1.9nm,0.9s,baz=264,slow=1.4,SNR=4.3
FINES FINESS Array B 113.40 336 PKKPbc PKKPbc 03 17 32.7 -2.9
FRB Frobisher Bay 114.82 20 PKPdf PKPdf 03 06 50.0 -1.2
comp=Z,1.6nm,0.5s,baz=284,slow=1.6,SNR=8.9
FRB Frobisher Bay 114.82 20 PKIKP PKPdf 03 06 50.0 -1.2
FRB Frobisher Bay 114.82 20 PKP PKPdf 03 06 50.0 -1.2
WCI Wyandotte Cave 116.39 50 *e*PKIKP **PKPdf** **03 06 54.1 -1.0**
WCI Wyandotte Cave 116.39 50 *e*PKPdf **PKPdf** **03 06 54.1 -1.0**
AKASG Malin Array Be 117.06 325 PKP **PKPdf** **03 06 54.7 -1.2**
comp=Z,0.3nm,0.3s,baz=52,slow=2.4,SNR=5.1
AKASG Malin Array Be 117.06 325 PKIKP **PKPdf** **03 06 54.7 -1.2**
AKASG Malin Array Be 117.06 325 PKP **PKPdf** **03 06 54.7 -1.2**
PLCA Paso Flores 117.19 142 PKP **PKPdf** **03 06 54.9 -1.8**
comp=Z,0.6nm,0.7s,baz=225,slow=2.9,SNR=3.4
PLCA Paso Flores 117.19 142 PKIKP **PKPdf** **03 06 54.9 -1.8**
PLCA Paso Flores 117.19 142 PKP **PKPdf** **03 06 54.9 -1.8**
BR131 Keskin Array S 117.99 312 *e*PKPdf **PKPdf** **03 07 00.2 +1.9**
BRTR Keskin Array B 117.99 312 PKP **PKPdf** **03 06 56.0 -2.3**
comp=Z,0.4nm,0.6s,baz=121,slow=2.6,SNR=3.1
BRTR pPKP **pPKPdf** **03 07 11.1 -1.4**
comp=Z,1.0nm,0.6s,baz=127,slow=2.4,SNR=5.4
BRTR PKKPab PKKPab 03 17 32.0 +11
comp=Z,1.0nm,0.8s,baz=264,slow=1.5,SNR=5.4
BRTR Keskin Array B 117.99 312 PKIKP **PKPdf** **03 06 56.0 -2.3**
BRTR 03 07 11.1
BRTR Keskin Array B 117.99 312 PKP **PKPdf** **03 06 56.0 -2.3**
BRTR pPKP **pPKPdf** **03 07 11.1 -1.4**
BRTR PKKPab PKKPab 03 17 32.0 +11
HFS Hagfors 118.96 339 PKP **PKPdf** **03 06 57.5 -1.8**
comp=Z,0.5nm,0.4s,baz=321,slow=1.8,SNR=5.3
HFS Hagfors 118.96 339 PKIKP **PKPdf** **03 06 57.5 -1.8**
HFS Hagfors 118.96 339 PKP **PKPdf** **03 06 57.5 -1.8**
NOA NORSAR Array B 119.15 341 PKP **PKPdf** **03 06 58.0 -1.7**
comp=Z,0.5nm,0.6s,baz=74,slow=1.9,SNR=2.6
NOA NORSAR Array B 119.15 341 PKIKP **PKPdf** **03 06 58.0 -1.7**
NOA NORSAR Array B 119.15 341 PKP **PKPdf** **03 06 58.0 -1.7**
CSS Prodhromos 119.45 307 *e*PKPdf **PKPdf** **03 07 01.3 +0.2**
BOSA Boshof 120.38 232 PKP **PKPdf** **03 07 02.8 -0.5**
comp=Z,1.7nm,0.4s,baz=138,slow=2.6,SNR=12
BOSA Boshof 120.38 232 *e*PKIKP **PKPdf** **03 07 02.7 -0.5**
BOSA Boshof 120.38 232 *e*PKPdf **PKPdf** **03 07 02.7 -0.5**
JTS JuntasAbangare 120.64 82 *e*PKIKP **PKPdf** **03 07 03.2 -0.7**
JTS JuntasAbangare 120.64 82 *e*PKPdf **PKPdf** **03 07 03.2 -0.7**
BUR08 Bucovina Ar. S 120.78 323 *e*PKPdf **PKPdf** **03 07 03.9 +0.6**
BLA Blacksburg 121.14 50 *e*PKIKP **PKPdf** **03 07 03.5 -0.8**
BLA Blacksburg 121.14 50 *e*PKPdf **PKPdf** **03 07 03.5 -0.8**
SCHQ Schefferville 121.26 27 PKKPab PKKPab 03 17 05.1 -1.4
comp=Z,1.2nm,0.5s,baz=180,slow=4.0,SNR=3.9
SCHQ Schefferville 121.26 27 PKKPab PKKPab 03 17 05.1 -1.4
LBTB Lobatse 121.71 236 *e*PKIKP **PKPdf** **03 07 05.3 -0.5**
LBTB Lobatse 121.71 236 *e*PKPdf **PKPdf** **03 07 05.3 -0.5**
SSPA Standing Stone 121.90 46 *e*PKPdf **PKPdf** **03 07 06.3 +0.7**
LCO Las Campanas 123.68 131 *e*PKPdf **PKPdf** **03 07 09.9 +0.1**
MDV Middlebury 123.72 40 *e*PKPdf **PKPdf** **03 07 09.2 +0.3**
PSZ Piszkesteto 123.75 325 *e*PKIKP **PKPdf** **03 07 08.8 -0.2**
PSZ Piszkesteto 123.75 325 *e*PKPdf **PKPdf** **03 07 08.8 -0.2**
TRQA Tornquist 123.97 145 *e*PKPdf **PKPdf** **03 07 09.0 -0.7**
KHC Kasperske Hory 126.43 329 *e*PKIKP pPKPdf 03 07 26.7 -1.5
KHC Kasperske Hory 126.43 329 *e*pPKP pPKPdf 03 07 26.7 -1.5
GERES GERESS Array B 126.55 329 PKP **PKPdf** **03 07 13.7 -0.6**
comp=Z,0.7nm,0.7s,baz=48,slow=1.5,SNR=8.0
GERES GERESS Array B 126.55 329 PKIKP **PKPdf** **03 07 13.7 -0.6**
GERES GERESS Array B 126.55 329 PKP **PKPdf** **03 07 13.7 -0.6**
AQU L'Aquila 130.67 323 *e*PKIKP **PKPdf** **03 07 23.0 +0.7**
AQU L'Aquila 130.67 323 *e*PKPdf **PKPdf** **03 07 23.0 +0.7**
ROSC El Rosal 130.91 89 PKP **PKPdf** **03 07 23.9 -0.1**
comp=Z,3.5nm,0.4s,baz=309,slow=6.5,SNR=4.2
ROSC El Rosal 130.91 89 PKP **PKPdf** **03 07 23.9 -0.1**
TSUM Tsumeb 130.93 238 *e*PKPdf **PKPdf** **03 07 24.5 +0.9**
LPAZ La Paz 131.74 118 PKP **PKPdf** **03 07 25.6 -0.1**
comp=Z,1.1nm,0.6s,baz=305,slow=2.2,SNR=6.1
LPAZ La Paz 131.74 118 PKIKP **PKPdf** **03 07 25.7 -0.1**
LPAZ *e* 03 07 38.5
LPAZ La Paz 131.74 118 PKP **PKPdf** **03 07 25.6 -0.1**
LPAZ *e*PKPdf **PKiKP** **03 07 26.4 -0.4**
LPAZ *e*pPKPdf **pPKPdf** **03 07 38.5 -1.5**
SDV Santo Domingo 134.74 84 *e*PKPdf **PKPdf** **03 07 30.6 -0.4**
SJG San Juan 138.25 70 PKP **PKPdf** **03 07 36.7 -0.3**
comp=Z,14nm,0.7s,baz=180,slow=1.0
SJG San Juan 138.25 70 PKIKP **PKPdf** **03 07 36.8 -0.3**
SJG San Juan 138.25 70 PKP **PKPdf** **03 07 36.8 -0.3**
SAML Samuel 139.01 111 *e*PKPdf **PKPdf** **03 07 37.8 -0.8**
TAM Tamanrasset 146.37 302 *e*PKP2 **PKPab** **03 07 55.0 +1.1**
TAM Tamanrasset 146.37 302 *e*PKPbc **PKPab** **03 07 55.0 +1.1**
TORD Torodi Ar. Bea 152.86 286 PKP **PKPdf** **03 08 00.3 -1.7**
comp=Z,3.0nm,0.5s,baz=62,slow=2.3,SNR=5.0
TORD PKPbc **PKPbc** **03 08 07.2 -1.9**
comp=Z,3.2nm,0.5s,baz=86,slow=2.3,SNR=64
TORD PKPab **PKPab** **03 08 19.9 -0.4**
comp=Z,22nm,0.9s,baz=70,slow=4.0,SNR=27
TORD Torodi Ar. Bea 152.86 286 PKP **PKPdf** **03 08 00.3 -1.7**
TORD PKPbc **PKPbc** **03 08 07.2 -1.9**
TORD PKPab **PKPab** **03 08 19.9 -0.4**
DBIC Dimbokro 159.97 272 PKPab **PKPab** **03 08 50.5 -0.4**
comp=Z,5.9nm,0.8s,baz=81,slow=4.1,SNR=6.5
DBIC Dimbokro 159.97 272 PKP2 **PKPab** **03 08 50.5 -0.4**
DBIC Dimbokro 159.97 272 PKPab **PKPab** **03 08 50.5 -0.4**

RSPR 23 02:51:21.9, 19°.34N×64°.91W, h54km±12km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.98**	**182**	⇑*e*P		Pn		02 51 38.4	-1.1
STVI	**Saint Thomas**	**0.98**	**182**	⇑*e*P		Pn		02 51 38.4	-1.1
STVI				*e*S		Sn		02 51 51.6	-0.7
MTP	**Monte Pirata**	**1.37**	**206**	⇑*e*P		Pn		02 51 44.2	-0.5
MTP	**Monte Pirata**	**1.37**	**206**	⇑*e*P		Pn		02 51 44.2	-0.5
MTP				*e*S		Sn		02 52 01.0	-0.9
CBYP	**Canovanas**	**1.39**	**220**	⇑*e*P		Pn		02 51 43.9	-1.1
CBYP	**Canovanas**	**1.39**	**220**	⇑*e*P		Pn		02 51 43.9	-1.1
CBYP				*e*S		Sn		02 52 01.2	-1.1

IDC 23 02:57:21.1±5.2, 17°.05S×168°.36E, h245km±57km, mb3.2/4, mb1 3.5/5, mb1mx3.3/18, mbtmp3.3/5, MS3.6/1, Ms1 3.6/1, ms1mx3.2/9, Error ellipse: s-maj=74.4km s-min=27.7km az=157.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.31**	**200**	P		P	Pn	02 58 40.6	-0.1
	9.1nm,0.3s,baz=22,slow=15,SNR=51								
DZM				S		S	S	02 59 44.2	0.0
	1.1nm,0.3s,baz=127,slow=20,SNR=3.2								
DZM				LR		LR	LR	03 00 14.3	
	comp=Z,600nm,18.3s,baz=202,slow=33								
DZM	**Mont Dzumac**	**5.31**	**200**	*e*P		Pn		02 58 39.1	-1.6
DZM				*e*S		S		02 59 43.0	-1.2
STKA	**Stephens Creek**	**28.39**	**234**	P		P		03 02 53.8	+0.8
	3.1nm,0.9s,baz=67,slow=7.7,SNR=3.0								
WRA	**Warramunga Arr**	**32.36**	**260**	P		P		03 03 26.9	-1.2
	0.5nm,0.7s,baz=90,slow=8.3,SNR=3.7								
ASAR	**Alice Springs**	**32.91**	**253**	P		P		03 03 33.5	+0.7
	2.0nm,0.8s,baz=79,slow=9.1,SNR=27								
ILAR	**Eielson Array**	**88.40**	**18**	P		P		03 09 46.0	+1.1
	0.1nm,0.5s,baz=242,slow=3.9,SNR=3.2								
ARCES	**ARCESS Array B**	**122.75**	**345**	PKP	PKPdf			03 15 45.6	-1.5
	5.5nm,1.0s,baz=62,slow=1.9,SNR=14								

IDC 23 03:08:57.5±4.2, 31°.63S×178°.79W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=145.0km s-min=51.5km az=156.0
ISCJB 23 03:09:44.7±1.4, 32°.17S±0°.07×179°.4E±0°.2, h372km, mb3.4/4, Error ellipse: s-maj=24.3km s-min=9.4km az=171.3

ISC 23 03:09:45.9±1.8, 32°.27S±0°.10×179°.4E±0°.2, h372km, n20, σ1 s33/22, mb3.5/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.36**	**189**	PN		**Pn**		**03 11 11.8**	**+1.6**
MXZ				SN		**S**		**03 12 17.6**	**-1.1**
PUZ	**Puketiti**	**5.86**	**189**	PN		**Pn**		**03 11 17.7**	**+1.8**
MWZ	**Matawai**	**6.24**	**194**	PN		**Pn**		**03 11 21.5**	**+1.4**
CNGZ	**Carnagh Statio**	**6.28**	**189**	PN		**Pn**		**03 11 22.0**	**+1.5**
KNZ	**Kokohu**	**6.88**	**191**	PN		**P**		**03 11 28.5**	**+0.1**
MCHZ	**McNeill Hill**	**7.49**	**196**	PN		**P**		**03 11 36.1**	**+0.8**
BHHZ	**Black Hill Sta**	**7.69**	**200**	PN		**Pn**		**03 11 37.4**	**+0.6**
KAHZ	**Kahuranaki**	**7.78**	**194**	PN		**P**		**03 11 38.7**	**0.0**
PNHZ	**Pukenui**	**8.05**	**198**	PN		**Pn**		**03 11 41.3**	**+0.4**
PRHZ	**Porangahau**	**8.29**	**195**	PN		**Pn**		**03 11 44.0**	**+0.4**
MRZ	**Mangatainoka R**	**8.92**	**199**	SN		**S**		**03 13 30.3**	**-3.4**
HOWZ	**Holdsworth Sta**	**9.16**	**199**	PN		**Pn**		**03 11 53.5**	**-0.3**
OGWZ	**Otaki Gorge**	**9.18**	**201**	PN		**Pn**		**03 11 53.6**	**-0.4**
NNZ	**Nelson**	**10.15**	**207**	SN		**S**		**03 14 00.9**	**+1.0**
KHZ	**Kahutara**	**11.14**	**203**	PN		**P**		**03 12 16.7**	**-0.2**
KHZ				SN		**S**		**03 14 21.2**	**+0.1**
STKA	**Stephens Creek**	**31.93**	**260**	P		**P**		**03 15 40.1**	**+1.6**
	1.0nm,0.3s,baz=101,slow=10,SNR=6.8								
CTA	**Charters Tower**	**31.99**	**284**	P		**P**		**03 15 39.2**	**0.0**
	1.6nm,0.4s,baz=92,slow=10,SNR=5.5								
ASAR	**Alice Springs**	**40.84**	**270**	P		**P**		**03 16 52.9**	**-0.2**
	0.5nm,0.3s,baz=104,slow=7.3,SNR=12								
WRA	**Warramunga Arr**	**42.00**	**276**	P		**P**		**03 17 01.6**	**-0.9**
	0.9nm,0.3s,baz=112,slow=8.0,SNR=38								
FINES	**FINESS Array B**	**146.07**	**337**	PKPbc		**PKPdf**		**03 28 38.0**	**-2.3**
	0.8nm,0.4s,baz=64,slow=3.2,SNR=6.2								

BJI 23 03:25:15.4, 39°.67N×76°.97E, h26km, ML3.4/4
NNC 23 03:25:15.6±6.3, 39°.32N×77°.09E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=50.0km s-min=19.0km az=170.0

ISC 23 03:25:24.3±1.7, 39°.90N±0°.07×76°.71E±0°.10, h10km, n16, σ1 s58/26, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.68**	**236**	Pg		**Pg**		**03 25 36.9**	**-0.6**
KSH				Sg		**Sn**		**03 25 52.3**	**+1.4**
KSH				smax	smax				
	comp=N,720nm,0.4s								
KSH				smax	smax				
	comp=E,470nm,0.4s								
ULHL	**Ulahol**	**2.37**	**352**	P		**Pg**		**03 26 09.7**	**-0.1**
	SNR=6.4								
ULHL				P		**Pg**		**03 26 09.7**	**-0.1**
	SNR=6.4								
KZA	**Kyzart**	**2.44**	**334**	P		**Pb**		**03 26 08.9**	**+0.4**
	SNR=31								
KZA				P		**Pb**		**03 26 08.9**	**+0.4**
	SNR=31								
UCH	**Uchtor**	**2.86**	**325**	P		**Pb**		**03 26 16.8**	**+1.1**
	SNR=7.9								
UCH				P		**Pb**		**03 26 16.8**	**+1.1**
	SNR=7.9								
KBK	**Karagaybulak**	**3.06**	**335**	P		**Pb**		**03 26 21.1**	**+2.2**
	SNR=23								
KBK				P		**Pb**		**03 26 21.1**	**+2.2**
	SNR=23								
TKM2	**Tokmak 2**	**3.13**	**345**	P		**Pb**		**03 26 21.1**	**+0.9**
	SNR=8.0								
TKM2				P		**Pb**		**03 26 21.1**	**+0.9**
	SNR=8.0								
TKM2	**Tokmak 2**	**3.13**	**345**	⇑Pn		**Pn**		**03 26 15.2**	**+1.3**
	comp=E,2.5nm,0.5s								
TKM2				⇑Pg		**Pb**		**03 26 19.3**	**-0.9**
	comp=E,6.2nm,0.6s								
TKM2				⇑Lg		Lg		03 27 10.6	
	comp=E,25nm,0.6s								
AML	**Almayashu**	**3.19**	**315**	P		**Pb**		**03 26 20.0**	**-1.3**
	SNR=6.6								
AML				P		**Pb**		**03 26 20.0**	**-1.3**
	SNR=6.6								
AAK	**Ala-Archa**	**3.20**	**329**	P		**Pb**		**03 26 22.0**	**+0.7**
	SNR=10								
AAK				P		**Pb**		**03 26 22.0**	**+0.7**
	SNR=10								
CHMS	**Chumysh**	**3.43**	**335**	P		**Pb**		**03 26 23.0**	**-2.1**
	SNR=6.2								

CHMS				P		**Pb**	03 26 23.0	**-2.1**
	SNR=6.2							
EKS2	**Erkin-Say**	**3.54**	**322**	P		**Pn**	03 26 20.7	**+1.3**
	SNR=9.1							
EKS2				P		**Pn**	03 26 20.7	**+1.3**
	SNR=9.1							
USP	**Ospenovka**	**3.75**	**335**	P		**Pb**	03 26 27.7	**-2.9**
	SNR=5.7							
USP				P		**Pb**	03 26 27.7	**-2.9**
	SNR=5.7							
KK31	**Karatay Array**	**5.65**	**307**	⇑Pg		Pb	03 27 06.3	+3.3
	comp=E,2.1nm,0.5s,baz=128,slow=16							
KK31				⇓Sn		**Sb**	03 28 08.7	**-2.0**
	comp=E,1.9nm,0.5s							
KK31				⇑Lg		Lg	03 28 26.9	
	comp=E,3.7nm,0.5s,baz=123,slow=29							
MK31	**Makanchi Array**	**8.00**	**29**	⇑Pn		**Pn**	03 27 20.1	**-0.5**
	comp=E,0.4nm,0.5s,baz=201,slow=13,SNR=4.2							
MK31				⇑Sn		Sn	03 29 01.8	+11
	comp=E,0.7nm,0.6s							
MK31				⇑Lg		Lg	03 29 40.2	
	comp=E,2.5nm,0.8s,baz=209,slow=30,SNR=3.8							
KURBB	**Kurchatov Arra**	**10.80**	**6**	Lg		Lg	03 31 14.5	
	comp=E,1.5nm,0.8s							
KURK	**Kurchatov**	**10.90**	**6**	⇓Lg		Lg	03 31 16.6	
	comp=E,12nm,1.2s							

IDC 23 03:27:02.2±4.2, 19°.34S×173°.03W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/20, mbtmp4.3/5, Error ellipse: s-maj=170.7km s-min=36.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**38.28**	**262**	P		P	03 34 24.5	-0.1
	2.4nm,0.4s,baz=81,slow=8.6,SNR=4.1							
STKA	**Stephens Creek**	**42.50**	**244**	P		P	03 34 59.9	+0.4
	2.6nm,0.9s,baz=97,slow=8.1,SNR=5.5							
ASAR	**Alice Springs**	**49.34**	**255**	P		P	03 35 53.5	-0.1
	4.6nm,0.6s,baz=98,slow=7.5,SNR=64							
WRA	**Warramunga Arr**	**49.40**	**260**	P		P	03 35 53.3	-0.9
	1.6nm,0.3s,baz=99,slow=8.0,SNR=126							
FITZ	**Fitzroy Crossi**	**57.83**	**260**	P		P	03 36 56.4	+0.4
	baz=101,slow=7.0							
ILAR	**Eielson Array**	**86.22**	**11**	P		P	03 39 45.1	0.0
	0.8nm,1.1s,baz=188,slow=5.5,SNR=4.2							

*SZGRF **23** 03:34:31.6,21°.12S×178°.34W,h33km, Fiji Islands region*
*ISCJB **23** 03:35:26.8±0.4,20°.03S±0°.08×177°.63W±0°.08,h500km, mb4.4/36, Error ellipse: s-maj=11.6km s-min=8.1km az=135.1*
*IDC **23** 03:35:27.6±1.4, 19°.91S×177°.62W,h499km±16km, mb4.0/15,mb1 4.1/17,mb1mx3.9/24,mbtmp4.0/17, Error ellipse: s-maj=16.3km s-min=9.9km az=143.0*
*NEIC **23** 03:35:28.8±0.7, 19°.99S×177°.55W,h520km±7km, mb4.7/13, Error ellipse: s-maj=12.3km s-min=7.7km az=141.0*
*BJI **23** 03:35:32.7, 19°.35S×178°.27W,h521km, mB4.9/10, mb4.6/19*

ISC 23 03:35:27.2±0.4, 20°.07S±0°.08×177°.51W±0°.08, h500km, n168, σ1§28/190, mb4.6/36, 12C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.81**	**298**	*e*Pn		P	03 36 56.1	+3.6
AFI	**Afiamalu**	**8.21**	**43**	P		**P**	03 37 25.8	**-0.2**
	22nm,0.3s,baz=85,slow=2.4,SNR=13							
AFI				S		S	03 38 57.7	-5.8
	25nm,0.3s,baz=207,slow=23,SNR=13							
AFI	**Afiamalu**	**8.21**	**43**	P		**P**	03 37 25.8	**-0.2**
AFI				S		S	03 38 57.7	-5.8
DZM	**Mont Dzumac**	**15.12**	**260**	P		**P**	03 38 39.5	**+0.8**
	3.6nm,0.3s,baz=85,slow=18,SNR=22							
DZM	**Mont Dzumac**	**15.12**	**260**	*e*P		**P**	03 38 37.5	**-1.3**
DZM	**Mont Dzumac**	**15.12**	**260**	P		**P**	03 38 39.5	**+0.8**
OUZ	**Omahuta**	**17.02**	**206**	*e*P		**P**	03 39 01.2	**+3.0**
	15nm,1.0s							
URZ	**Urewera**	**18.72**	**193**	*e*P		**P**	03 39 13.0	**-1.0**
	16nm,0.8s							
RPZ	**Rata Peaks**	**25.45**	**200**	P		**P**	03 40 16.5	**+2.0**
	4.4nm,0.5s,baz=11,slow=5.2,SNR=3.4							
RPZ	**Rata Peaks**	**25.45**	**200**	P		**P**	03 40 16.5	**+2.0**
EIDS	**Eidsvold**	**29.41**	**254**	*e*P		**P**	03 40 49.9	**+0.4**
	13nm,0.8s							
ARMA	**Armidale**	**29.68**	**244**	*e*P		**P**	03 40 52.4	**+0.5**
ARMA	**Armidale**	**29.68**	**244**	*e*P		**P**	03 40 52.3	**+0.5**
	16nm,0.7s							
CNB	**Canberra Magne**	**32.85**	**235**	*e*P		**P**	03 41 20.4	**+1.3**
	85nm,0.6s							
CTA	**Charters Tower**	**34.00**	**264**	P		**P**	03 41 29.2	**+0.3**
	21nm,0.5s,baz=96,slow=10,SNR=38							
CTA	**Charters Tower**	**34.00**	**264**	*e*P		**P**	03 41 28.9	**0.0**
	32nm,0.9s							
CTA	**Charters Tower**	**34.00**	**264**	P		**P**	03 41 29.2	**+0.3**
CTAO	**Charters Tower**	**34.00**	**264**	*e*P		**P**	03 41 29.1	**+0.3**
	52nm,1.0s							
PMG	**Port Moresby**	**35.70**	**282**	P		**P**	03 41 42.3	**-0.9**
	29nm,0.8s,baz=104,slow=4.0,SNR=9.2							
PMG	**Port Moresby**	**35.70**	**282**	*e*P		**P**	03 41 43.2	**0.0**
	32nm,0.9s							
TOO	**Toolangi**	**36.53**	**233**	*e*P		**P**	03 41 50.7	**+0.9**
	67nm,0.6s							
COEN	**Coen**	**38.02**	**273**	*e*P		**P**	03 42 02.5	**+0.2**
	97nm,0.9s							
STKA	**Stephens Creek**	**38.40**	**244**	P		**P**	03 42 06.0	**+0.8**
	29nm,1.0s,baz=90,slow=8.7,SNR=28							
STKA	**Stephens Creek**	**38.40**	**244**	⇓*i*P		**P**	03 42 05.8	**+0.6**
	17nm,0.9s							
STKA	**Stephens Creek**	**38.40**	**244**	*e*P		**P**	03 42 06.0	**+0.8**
	5.3nm,0.9s							
AS31	**Alice Springs**	**45.07**	**256**	*e*P		**P**	03 42 58.0	**-0.2**
ASAR	**Alice Springs**	**45.07**	**256**	P		**P**	03 42 58.1	**-0.1**
	52nm,0.8s,baz=89,slow=8.4,SNR=440							
ASAR				PcP		**PcP**	03 44 28.4	**-0.3**
	6.3nm,0.8s,baz=98,slow=4.5,SNR=7.7							
ASAR				S		**S**	03 48 58.5	**-2.0**
	0.7nm,0.7s,baz=92,slow=16,SNR=4.6							
ASAR	**Alice Springs**	**45.07**	**256**	P		**P**	03 42 58.1	**-0.1**
ASAR				PcP		**PcP**	03 44 28.4	**-0.3**
ASAR				S		**S**	03 48 58.5	**-2.0**
WB2	**Warramunga Arr**	**45.11**	**262**	*e*P		**P**	03 42 57.5	**-1.0**
WRAB	**Tennant Creek**	**45.11**	**262**	*e*P		**P**	03 42 57.8	**-0.7**
	36nm,0.9s							
WRA	**Warramunga Arr**	**45.12**	**262**	P		**P**	03 42 57.8	**-0.8**
	22nm,0.5s,baz=96,slow=7.8,SNR=290							
WRA				PcP		**PcP**	03 44 27.5	**-1.3**
	1.1nm,0.5s,baz=98,slow=6.7,SNR=4.5							
WRA	**Warramunga Arr**	**45.12**	**262**	P		**P**	03 42 57.8	**-0.8**
WRA				PcP		**PcP**	03 44 27.5	**-1.3**
FORT	**Forrest**	**49.89**	**246**	*e*P		**P**	03 43 33.7	**-0.6**
	29nm,0.8s							
FORT	**Forrest**	**49.89**	**246**	*e*P		**P**	03 43 34.0	**-0.4**
	46nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.55**	**262**	P		**P**	03 44 01.0	**+0.1**
	7.9nm,0.5s,baz=83,slow=6.5							
FITZ	**Fitzroy Crossi**	**53.55**	**262**	*e*P		**P**	03 44 00.5	**-0.4**
	18nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.55**	**262**	P		**P**	03 44 01.0	**+0.1**
MBWA	**Marble Bar**	**58.40**	**257**	*e*P		**P**	03 44 33.8	**-0.8**
MBWA	**Marble Bar**	**58.40**	**257**	*e*P		**P**	03 44 33.9	**-0.8**
	23nm,0.9s							
KLBR	**Kellerberrin**	**58.66**	**245**	*e*P		**P**	03 44 35.6	**-0.6**
	14nm,0.6s							
NWAO	**Narrogin (SRO)**	**58.98**	**243**	P		**P**	03 44 37.6	**-0.7**
	28nm,1.0s,baz=101,slow=4.5,SNR=6.0							
NWAO	**Narrogin (SRO)**	**58.98**	**243**	P		**P**	03 44 37.6	**-0.7**
KAPI	**Kappang**	**62.71**	**275**	P		**P**	03 45 01.8	**-1.4**
	3.0nm,0.3s,baz=128,slow=4.4,SNR=4.6							
KAPI	**Kappang**	**62.71**	**275**	P		**P**	03 45 01.8	**-1.4**
QSPA	**South Pole Qui**	**70.00**	**180**	P		**P**	03 45 49.7	**+1.9**
	1.6nm,0.5s,baz=231,slow=1.2,SNR=5.1							
QSPA	**South Pole Qui**	**70.00**	**180**	P		**P**	03 45 49.7	**+1.9**
MJAR	**Matsushiro Arr**	**70.14**	**323**	P		**P**	03 45 48.2	**-0.8**
	3.7nm,0.6s,baz=159,slow=6.1,SNR=12							
MJAR	**Matsushiro Arr**	**70.14**	**323**	P		**P**	03 45 48.2	**-0.8**
MAJO	**Matsushiro**	**70.14**	**323**	*e*P		**P**	03 45 48.3	**-0.7**
PETK	**Petropavlovsk-**	**75.97**	**345**	P		**P**	03 46 21.9	**-0.1**
	3.2nm,0.7s,baz=141,slow=7.5,SNR=5.0							
PETK	**Petropavlovsk-**	**75.97**	**345**	P		**P**	03 46 21.9	**-0.1**
USRK	**Ussuriysk Arra**	**78.86**	**326**	P		**P**	03 46 39.2	**+1.3**
	4.9nm,0.8s,baz=165,slow=4.6,SNR=7.5							
NJ2	**Nanjing**	**79.96**	**309**	*e*P		**P**	03 46 45.3	**+1.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NVAR	**Mina Array Bea**	**80.39**	**43**	P		**P**	03 46 48.0	**+1.5**
	comp=Z,0.4nm,0.7s,baz=217,slow=6.9,SNR=4.3							
NVAR	**Mina Array Bea**	**80.39**	**43**	P		**P**	03 46 48.0	**+1.5**
MDJ	**Mudanjiang**	**80.43**	**325**	P		**P**	03 46 46.8	**+0.6**
MDJ				pP		**pP**	03 48 37.8	**+2.9**
MDJ				S		**S**	03 56 11.4	**+0.5**
CN2	**Changchun**	**82.24**	**322**	*e*P		**P**	03 46 57.3	**+1.7**
WHN	**Wuhan**	**82.56**	**306**	P		**P**	03 46 54.5	**-3.0**
BJI	**Beijing**	**85.91**	**315**	P		**P**	03 47 13.8	**0.0**
BJI				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MNTX	**Comnudas Mount**	**86.12**	**54**	*e*P		**P**	03 47 14.7	**-0.4**
	comp=Z,1.0nm,0.8s							
ENH	**Enshi**	**86.18**	**304**	*e*P		**P**	03 47 15.2	**-0.2**
	comp=Z,16nm,1.1s							
TXAR	**Lajitas Array**	**86.43**	**57**	P		**P**	03 47 18.4	**+1.8**
	comp=Z,0.3nm,0.7s,baz=215,slow=8.4,SNR=4.7							
TXAR	**Lajitas Array**	**86.43**	**57**	P		**P**	03 47 18.4	**+1.8**
GYA	**Guiyang**	**86.84**	**299**	P		**P**	03 47 18.3	**-0.4**
GYA				pP		**pP**	03 49 13.8	**+4.4**
GYA				sP		sP	03 50 06.4	+6.1
GYA				PP		**PP**	03 50 53.0	**+2.3**
GYA				SKS		**SKSac**	03 56 54.3	**-3.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.4s							
SYO	**Syowa Base**	**87.25**	**193**	⇓*e*P		**P**	03 47 18.2	**-1.4**
ILAR	**Eielson Array**	**87.79**	**13**	P		**P**	03 47 21.4	**-0.6**
	comp=Z,0.4nm,0.5s,baz=226,slow=5.7,SNR=12							
ILAR	**Eielson Array**	**87.79**	**13**	P		**P**	03 47 21.4	**-0.6**
XAN	**Xi'an**	**88.24**	**307**	P		**P**	03 47 25.4	**+0.4**
XAN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,34nm,4.0s							
VNA3	**Neumayer Olymp**	**88.54**	**176**	*e*		**P**	03 47 26.4	**+0.7**
VNA2	**Neumayer--Watz**	**88.99**	**177**	*e*		**P**	03 47 28.6	**+0.8**
KMI	**Kunming**	**89.57**	**297**	P		**P**	03 47 32.5	**+0.9**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**90.41**	**289**	P		**P**	03 47 36.8	**+1.4**
	comp=Z,5.8nm,0.8s,baz=119,slow=2.6,SNR=25							
CMAR	**Chiang Mai Arr**	**90.41**	**289**	P		**P**	03 47 36.8	**+1.4**
CHTO	**Chiang Mai**	**90.53**	**290**	*e*P		**P**	03 47 36.5	**+0.6**
	comp=Z,7.6nm,0.8s							
CD2	**Chengdu**	**90.95**	**303**	P		**P**	03 47 37.8	**+0.2**
CD2				pP		**pP**	03 49 33.8	**+4.6**
CD2				sP		sP	03 50 25.1	+5.2
CD2				PP		**PP**	03 51 26.0	**+3.1**
CD2				SKS		**SKSac**	03 57 19.5	**-2.1**
CD2				S		**S**	03 57 49.3	**-2.8**
CD2				sS		**sS**	04 01 14.9	**+3.2**
CD2				pmax		pmax		
	comp=Z,20nm,0.6s							
CD2				pmax		pmax		
	comp=Z,160nm,5.9s							
LZH	**Lanzhou**	**92.88**	**307**	P		**P**	03 47 47.5	**+1.0**
LZH				pP		**pP**	03 49 43.3	**+5.0**
LZH				sP		sP	03 50 35.3	+6.4
LZH				pmax		pmax		
	comp=Z,17nm,1.4s							
LZH				pmax		pmax		
	comp=Z,75nm,8.5s							
ZALV	**Zalesovo Beam**	**110.45**	**321**	PKiKP		**PKiKP**	03 53 00.5	**-1.4**
	comp=Z,1.1nm,0.6s,baz=163,slow=2.3,SNR=6.6							
ZALV	**Zalesovo Beam**	**110.45**	**321**	PKiKP		**PKiKP**	03 53 00.5	**-1.4**
MKAR	**Makanchi Array**	**111.24**	**313**	PKiKP		**PKiKP**	03 53 02.1	**-1.6**
	comp=Z,0.9nm,0.6s,baz=234,slow=6.6,SNR=16							
MKAR	**Makanchi Array**	**111.24**	**313**	PKiKP		**PKiKP**	03 53 02.1	**-1.6**
KURK	**Kurchatov**	**113.99**	**318**	*e*PKP		**PKiKP**	03 53 07.5	**-1.3**
BRVK	**Borovoye**	**119.11**	**320**	*e*PKPdf		**PKPdf**	03 53 17.4	**-1.2**
KBL	**Kabul**	**120.09**	**299**	*e*PKPdf		**PKPdf**	03 53 20.7	**-0.6**
ARU	**Arti**	**125.11**	**326**	*e*PKPdf		**PKPdf**	03 53 28.9	**-1.1**
ABKAR	**Akbulak array**	**126.09**	**317**	*e*PKPdf		**PKPdf**	03 53 31.2	**-0.9**
ARCES	**ARCESS Array B**	**128.58**	**350**	PKP		**PKPdf**	03 53 36.0	**-0.2**
	comp=Z,2.3nm,0.6s,baz=16,slow=1.2,SNR=15							
ARCES	**ARCESS Array B**	**128.58**	**350**	PKP		**PKPdf**	03 53 36.0	**-0.2**
FINES	**FINESS Array B**	**135.49**	**344**	PKP		**PKPdf**	03 53 49.8	**+0.3**
	comp=Z,2.0nm,0.7s,baz=57,slow=5.1,SNR=4.1							
FINES	**FINESS Array B**	**135.49**	**344**	PKP		**PKPdf**	03 53 49.8	**+0.3**
NOA	**NORSAR Array B**	**138.61**	**354**	PKP		**PKPdf**	03 53 55.6	**+0.3**
	comp=Z,1.1nm,0.8s,baz=15,slow=3.8,SNR=3.0							
NOA	**NORSAR Array B**	**138.61**	**354**	PKP		**PKPdf**	03 53 55.6	**+0.3**
GNI	**Garni**	**138.80**	**309**	*e*PKPdf		**PKPdf**	03 53 55.2	**-1.3**
KIV	**Kislovodsk**	**138.98**	**315**	*e*PKPdf		**PKPdf**	03 53 54.4	**-2.2**
AKASG	**Malin Array Be**	**142.86**	**332**	PKhKP		PKPpre	03 53 59.3	
	comp=Z,2.8nm,0.4s,baz=44,slow=4.3,SNR=19							
AKASG				PKP		**PKiKP**	03 54 05.1	**-1.5**
	comp=Z,0.6nm,0.4s,baz=54,slow=2.6,SNR=4.6							
AKASG	**Malin Array Be**	**142.86**	**332**	PKPpre		PKPpre	03 53 59.3	
AKASG				PKP		**PKiKP**	03 54 05.1	**-1.5**
AKBB	**Malin Array Si**	**142.86**	**332**	*e*PKPdf		**PKPdf**	03 53 59.3	**-3.9**
KIEV	**Kiev**	**142.87**	**332**	*e*PKPdf		**PKPdf**	03 53 59.1	**-4.1**
KEMA	**Kemaliye**	**143.65**	**310**	*i* P		PKPbc	03 54 03.7	-0.1
SCER	**sogukcermik**	**144.40**	**311**	*i* P		**PKPdf**	03 54 06.4	**-0.1**
AKCD	**Akcadag**	**144.41**	**308**	*i* P		**PKPab**	03 54 06.7	**0.0**
GZT	**Gaziantep**	**145.00**	**307**	*i* P		**PKPdf**	03 54 07.6	**+0.1**
CTKT	**Corum**	**145.69**	**314**	*i* P		**PKPbc**	03 54 09.3	**-0.8**
KWP	**Kalwaria Pacla**	**146.38**	**336**	*e*PKP		**PKPbc**	03 54 11.3	**-0.2**
KWP	**Kalwaria Pacla**	**146.38**	**336**	*e*PKPbc		**PKPbc**	03 54 11.0	**-0.6**
KWP	**Kalwaria Pacla**	**146.38**	**336**	⇑*i*P		**PKPbc**	03 54 11.5	**-0.1**
TLCR		**146.83**	**325**	⇑*i*P		**PKPbc**	03 54 12.7	**-0.2**
BR131	**Keskin Array S**	**146.89**	**313**	*e*PKPbc		**PKPbc**	03 54 12.2	**-1.2**
BRTR	**Keskin Array B**	**146.89**	**313**	PKPbc		**PKPbc**	03 54 12.8	**-0.7**
	comp=Z,5.2nm,0.6s,baz=143,slow=4.3,SNR=31							
BRTR	**Keskin Array B**	**146.89**	**313**	PKPbc		**PKPbc**	03 54 12.8	**-0.7**
BUR08	**Bucovina Ar. S**	**146.90**	**331**	*e*PKPbc		**PKPbc**	03 54 13.2	**0.0**
BURAR	**Bucovina Array**	**146.91**	**331**	⇓*i*P		**PKPbc**	03 54 13.9	**+0.7**
GULE	**Gulek**	**147.10**	**308**	*i* P		**PKPbc**	03 54 14.2	**+0.1**
STHS	**Stehnicka Huta**	**147.10**	**337**	*e*PKP		**PKPbc**	03 54 12.1	**-1.4**
CFR	**Carcaliu**	**147.19**	**326**	⇑*i*P		**PKPbc**	03 54 13.5	**-0.3**
KSP	**Ksiaz**	**147.41**	**344**	*e*PKP		**PKPbc**	03 54 14.8	**+0.5**
CRVS	**Cervenica-Dubn**	**147.45**	**337**	*e*PKP		**PKPbc**	03 54 14.1	**-0.4**
VRI	**Vrincioaia**	**147.46**	**328**	⇓*i*P		**PKPbc**	03 54 14.5	**-0.1**
TRPA	**Tarpa**	**147.65**	**335**	⇑*i*P		**PKPbc**	03 54 15.0	**0.0**
CLL	**Collm**	**147.75**	**348**	*e*PKPbc		**PKPbc**	03 54 14.9	**-0.2**
CLL	**Collm**	**147.75**	**348**	⇓*i*PKPbc		**PKPbc**	03 54 14.9	**-0.2**
	comp=Z,20nm,1.0s							
UPC	**Upice**	**147.79**	**344**	*e*PKPbc		**PKPbc**	03 54 15.3	**0.0**
DPC	**Dobruska-Polom**	**147.85**	**343**	*e*PKPbc		**PKPbc**	03 54 15.4	**-0.1**
DPC				*e*PKPab		**PKPab**	03 54 20.2	**+0.5**
BRG	**Berggiesshubel**	**147.96**	**346**	*i* PKP		**PKPbc**	03 54 15.7	**0.0**
	comp=Z,7.2nm,0.6s							
BRG				*e*			03 54 19.9	
	comp=Z,3.5nm,0.8s							
MORC	**Moravsky Berou**	**148.02**	**341**	*e*PKPbc		**PKPbc**	03 54 15.5	**-0.4**
FBE	**Freiberg**	**148.04**	**347**	*e*PKPbc		**PKPbc**	03 54 16.2	**+0.3**
DOPR	**Dopca**	**148.04**	**329**	⇑*i*P		**PKPbc**	03 54 16.6	**+0.5**
MLR	**Muntele Rosu**	**148.11**	**328**	⇑*i*P		**PKPbc**	03 54 16.2	**-0.2**
PVCC	**Panska Ves**	**148.13**	**345**	*e*PKPbc		**PKPbc**	03 54 16.7	**+0.6**
VOIR		**148.59**	**329**	⇓*i*P		**PKPbc**	03 54 17.2	**-0.3**
PRU	**Pruhonice**	**148.64**	**345**	*e*PKPbc		**PKPbc**	03 54 16.7	**-0.7**
PRU				*e*PKPab		**PKPab**	03 54 23.1	**+0.2**
DRGR		**148.64**	**333**	⇓*i*P		**PKPbc**	03 54 17.2	**-0.4**
MOX	**Moxa**	**148.64**	**349**	*e*PKPbc		**PKPbc**	03 54 17.2	**-0.2**
TANN	**Tannenbergstha**	**148.70**	**348**	*e*PKPbc		**PKPbc**	03 54 17.7	**+0.1**
WERD	**Werda**	**148.70**	**348**	*e*PKPbc		**PKPbc**	03 54 17.6	**0.0**
ERMK	**Ermenek**	**148.72**	**308**	*i* P		**PKPbc**	03 54 17.4	**-0.9**
VYHS	**Vyhne**	**148.73**	**339**	*e*PKP		**PKPbc**	03 54 17.8	**+0.1**
GUNZ	**Gunzen**	**148.78**	**348**	*e*PKPbc		**PKPbc**	03 54 17.8	**0.0**
KOLL	**Kolacno**	**148.80**	**339**	*e*PKP		**PKPbc**	03 54 18.2	**+0.4**
WERN	**Wernitzgruen**	**148.84**	**348**	*e*PKPbc		**PKPbc**	03 54 18.2	**+0.3**
PSZ	**Piszkesteto**	**148.85**	**337**	*e*PKPbc		**PKPbc**	03 54 17.8	**-0.3**
NKC	**Novy Kostel**	**148.88**	**348**	*e*PKPbc		**PKPbc**	03 54 18.2	**+0.2**
NKC	**Novy Kostel**	**148.88**	**348**	*e*PKPbc		**PKPbc**	03 54 18.0	**0.0**
TREC	**Trest**	**149.04**	**343**	*e*PKPbc		**PKPbc**	03 54 18.4	**0.0**
SMOL	**Smolenice**	**149.17**	**340**	*e*PKP		**PKPbc**	03 54 19.2	**+0.4**
ROTZ	**Rotzenmuhle**	**149.37**	**348**	*e*PKPbc		**PKPbc**	03 54 19.4	**+0.2**
MEM	**Membach**	**149.40**	**356**	PKPbc		**PKPbc**	03 54 19.4	**+0.2**
TNS	**Taunus Mts**	**149.54**	**352**	*e*PKPbc		**PKPbc**	03 54 19.7	**0.0**
BCLA	**Clavier**	**149.63**	**356**	PKPbc		**PKPbc**	03 54 18.0	**-1.8**
KHC	**Kasperske Hory**	**149.67**	**346**	*e*PKPbc		**PKPbc**	03 54 19.7	**-0.3**
KHC	**Kasperske Hory**	**149.67**	**346**	*e*PKPbc		**PKPbc**	03 54 20.1	**+0.1**
KHC				*e*PKPab		**PKPab**	03 54 27.5	**+0.3**
GZR	**Gura Zlata**	**149.69**	**331**	⇑*i*P		**PKPbc**	03 54 19.8	**-0.4**
GEC2	**GERESS Array S**	**149.91**	**345**	*e*PKPbc		**PKPbc**	03 54 20.5	**-0.2**
GERES	**GERESS Array B**	**149.91**	**345**	PKPbc		**PKPbc**	03 54 20.5	**-0.2**
	comp=Z,5.3nm,0.8s,baz=29,slow=3.0,SNR=39							
GERES				PKPab		**PKPab**	03 54 27.9	**-0.4**
	comp=Z,0.6nm,0.8s,baz=18,slow=5.6,SNR=4.9							
GERES	**GERESS Array B**	**149.91**	**345**	PKPbc		**PKPbc**	03 54 20.5	**-0.2**
GERES				PKPab		**PKPab**	03 54 27.9	**-0.4**
DOU	**Dourbes**	**149.99**	**357**	PKPbc		**PKPbc**	03 54 20.7	**+0.1**
BZS	**Buzias**	**150.03**	**333**	⇓*i*P		**PKPbc**	03 54 20.4	**-0.5**
CONA	**Conrad Observa**	**150.17**	**342**	⇑*i*P		**PKPbc**	03 54 21.6	**+0.3**
CONA	**Conrad Observa**	**150.17**	**342**	⇑*i*PKiKP		**PKPbc**	03 54 21.5	**+0.3**
	comp=Z,8.8nm,0.7s							
PKSM	**Moragy**	**150.75**	**337**	⇓*i*P		**PKPbc**	03 54 21.9	**-0.6**
VTS	**Vitosha**	**151.56**	**327**	⇑*i*P		**PKPbc**	03 54 24.3	**-0.4**
ABTA	**Abfaltersbach**	**152.15**	**345**	⇑*i*P		**PKPbc**	03 54 25.0	**-0.8**
ABTA	**Abfaltersbach**	**152.15**	**345**	⇑*i*PKiKP		**PKPbc**	03 54 25.0	**-0.8**
	comp=Z,4.8nm,0.5s							
FETA	**Feichten**	**152.28**	**348**	⇓*i*P		**PKPdf**	03 54 18.9	**0.0**
FETA	**Feichten**	**152.28**	**348**	⇓*i*PKPdf		**PKPdf**	03 54 18.9	**0.0**
	comp=Z,7.6nm,1.2s							
DBIC	**Dimbokro**	**164.89**	**151**	PKP		**PKPdf**	03 54 33.1	**-1.3**
	comp=Z,0.8nm,0.4s,baz=43,slow=6.7,SNR=3.6							
DBIC	**Dimbokro**	**164.89**	**151**	PKP		**PKPdf**	03 54 33.1	**-1.3**
DBIC				*e*PKPdf		PKPdf	03 54 33.5	-0.9
TORD	**Torodi Ar. Bea**	**173.08**	**174**	PKP		**PKPdf**	03 54 37.8	**-1.6**
	comp=Z,0.4nm,0.8s,baz=278,slow=0.3,SNR=6.1							
TORD				PKPab		**PKPab**	03 56 10.6	**+0.7**
	comp=Z,0.4nm,0.6s,baz=174,slow=3.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**173.08**	**174**	PKP		**PKPdf**	03 54 37.8	**-1.6**
TORD				PKPab		**PKPab**	03 56 10.6	**+0.7**

IDC 23 03:39:22.9±26.0, 19°.63S×173°.85W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.2/4, Error ellipse: s-maj=490.2km s-min=154.1km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

2.1nm,0.8s,baz=236,slow=4.8,SNR=7.4

NVAR	**Mina Array Bea**	**77.42**	**44**	P	P	04 46 30.2	0.0
	1.8nm,0.8s,baz=230,slow=9.1,SNR=10						
ILAR	**Eielson Array**	**83.75**	**13**	P	P	04 47 03.0	-0.3
	2.3nm,1.1s,baz=236,slow=5.6,SNR=7.8						
ILAR				LR	LR	05 20 46.9	
	comp=Z,66nm,18.2s,baz=273,slow=33						
TXAR	**Lajitas Array**	**84.24**	**57**	P	P	04 47 06.7	-0.2
	1.8nm,1.0s,baz=243,slow=5.5,SNR=9.8						
PDAR	**Pinedale Array**	**85.34**	**43**	P	P	04 47 12.6	+0.3
	1.0nm,0.9s,baz=223,slow=5.7,SNR=6.6						
USHA	**Ushuaia**	**87.75**	**147**	LR	LR	05 18 53.9	
	comp=Z,110nm,18.9s,baz=45,slow=30						
JTS	**JuntasAbangare**	**95.26**	**81**	LR	LR	05 21 44.2	
	comp=Z,61nm,20.7s,baz=276,slow=30						
ATAH	**Atahualpa**	**96.83**	**99**	LR	LR	05 22 38.5	
	comp=Z,61nm,20.7s,baz=276,slow=30						
BRTR	**Keskin Array B**	**143.88**	**317**	PKP	PKPbc	04 54 09.0	+0.7
	1.8nm,0.9s,baz=84,slow=1.6,SNR=8.0						

ISK ***23*** *04:41:26.3,39°.88N×40°.81E,h3km,MD3.0*
ISCJB ***23*** *04:41:27.3±0.5,39°.91N±0°.03×40°.86E±0°.03,h7km±4km, Error ellipse: s-maj=5.3km s-min=3.3km az=3.3*
CSEM ***23*** *04:41:27.1±0.2,39°.91N×40°.84E,h5km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.4km az=7.0*
DDA ***23*** *04:41:27.0,39°.93N×40°.89E,h19km, MD2.9*

ISC 23 04:41:27.3±0.9, 39°.90N±0°.03×40°.85E±0°.02, h16km±8km, n40, σ0.967/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.30**	**294**	*i* P	**Pg**	**04 41 33.8**	**0.0**
KOPT				*i* S	**Sb**	**04 41 39.5**	**+0.4**
KOPT	**Kop Dagi**	**0.30**	**294**	*i* P	**Pg**	**04 41 33.8**	**0.0**
EZM	**Erzurum**	**0.39**	**89**	PG	**Pg**	**04 41 35.4**	**-0.1**
EZM				*e*SG	**Sb**	**04 41 42.2**	**+0.3**
ERZM	**Erzurum**	**0.40**	**89**	*i* P	**Pg**	**04 41 35.1**	**-0.4**
ERZM				*i* S	**Sg**	**04 41 41.1**	**0.0**
ERZM	**Erzurum**	**0.40**	**89**	*i* P	**Pg**	**04 41 35.1**	**-0.4**
ERZM				*i* S	**Sg**	**04 41 41.1**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**0.74**	**313**	*e*PG	**Pg**	**04 41 41.0**	**-0.7**
BAYT				*e*SG	**Sg**	**04 41 51.7**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.74**	**313**	*e*Pg	**Pg**	**04 41 41.0**	**-0.7**
BAYT				*e*Sg	**Sg**	**04 41 51.7**	**+0.2**
HOMI	**Horasan**	**0.82**	**79**	*i* P	**Pb**	**04 41 42.6**	**-0.7**
HOMI				*i* S	**Sb**	**04 41 54.0**	**-0.2**
VRTB	**Varto-Mus**	**0.87**	**147**	*e*PG	**Pb**	**04 41 44.0**	**-0.1**
VRTB	**Varto-Mus**	**0.87**	**147**	*e*Pg	**Pb**	**04 41 44.0**	**-0.1**
BNGB	**Bing ¶ll**	**0.92**	**188**	*e*PG	**Pb**	**04 41 44.2**	**-0.6**
ERZN	**Erzincan**	**0.92**	**251**	*e*PG	**Pb**	**04 41 46.0**	**-0.8**
BNGL	**BINGOL**	**0.97**	**166**	*i* P	**Pb**	**04 41 46.0**	**+0.2**
BINT	**Bingol**	**1.06**	**195**	*e*Pg	**Pb**	**04 41 44.2**	**-3.0**
EZC	**Erzincan**	**1.16**	**263**	*e*Pg	Pn	04 41 44.1	-4.9
GUMT	**Gumushane**	**1.19**	**299**	*e*PN	**Pn**	**04 41 49.4**	**+0.1**
GUMT	**Gumushane**	**1.19**	**299**	*e*Pn	**Pn**	**04 41 49.4**	**+0.1**
DDEM	**Demirkent**	**1.21**	**34**	*i* P	**Pn**	**04 41 49.2**	**-0.4**
DDEM				*i* S	**Sb**	**04 42 04.8**	**-0.4**
DDEM	**Demirkent**	**1.21**	**34**	*i* P	**Pn**	**04 41 49.2**	**-0.4**
DDEM				*i* S	**Sb**	**04 42 04.8**	**-0.4**
KELT	**Kelkit**	**1.25**	**282**	*i* P	**Pn**	**04 41 50.6**	**+0.4**
KELT				*i* S	**Sg**	**04 42 08.5**	**+0.7**
KELT	**Kelkit**	**1.25**	**282**	*i* P	**Pn**	**04 41 50.6**	**+0.4**
KELT				*i* S	**Sg**	**04 42 08.5**	**+0.7**
MACK	**Trabzon**	**1.33**	**322**	*i* P	**Pb**	**04 41 52.1**	**+0.2**
MACK	**Trabzon**	**1.33**	**322**	*i* P	**Pb**	**04 41 52.1**	**+0.2**
DAGI	**Agillar**	**1.43**	**34**	*i* P	**Pn**	**04 41 52.9**	**+0.3**
DAGI				*i* S	**Sn**	**04 42 10.5**	**-0.6**
PTK	**Pertek**	**1.51**	**229**	*e*PN	**Pn**	**04 41 54.5**	**+0.7**
PTK	**Pertek**	**1.51**	**229**	*e*Pn	**Pn**	**04 41 54.5**	**+0.7**
ARTV	**Artvin**	**1.52**	**32**	*i* P	**Pb**	**04 41 55.6**	**+0.3**
ARTV	**Artvin**	**1.52**	**32**	*i* P	**Pb**	**04 41 55.6**	**+0.3**
TUTA	**Tutak**	**1.59**	**107**	*i* P	**Pb**	**04 41 56.6**	**+0.2**
TUTA				*i* S	**Sb**	**04 42 17.2**	**+0.8**
TUTA	**Tutak**	**1.59**	**107**	*i* P	**Pb**	**04 41 56.6**	**+0.2**
TUTA				*i* S	**Sb**	**04 42 17.2**	**+0.8**
BCA	**Borcka**	**1.65**	**21**	*e*PN	**Pb**	**04 41 57.4**	**+0.1**
BCA	**Borcka**	**1.65**	**21**	*e*Pn	**Pb**	**04 41 57.4**	**+0.1**
AGRB	**Hanur-Agry**	**1.68**	**100**	*e*PN	**Pb**	**04 41 58.4**	**+0.5**
AGRB	**Hanur-Agry**	**1.68**	**100**	*e*Pn	**Pb**	**04 41 58.4**	**+0.5**
ILIC	**ilic-Erzincan**	**1.82**	**257**	*e*PN	**Pn**	**04 41 59.0**	**+1.1**
ILIC	**ilic-Erzincan**	**1.82**	**257**	*e*Pn	**Pn**	**04 41 59.0**	**+1.1**
KEMA	**Kemaliye**	**1.93**	**252**	*i* P	**Pb**	**04 42 02.0**	**0.0**
KEMA				*i* S	**Sg**	**04 42 28.5**	**-0.8**
KEMA	**Kemaliye**	**1.93**	**252**	*i* P	**Pb**	**04 42 02.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.94**	**219**	*e*PN	**Pn**	**04 42 00.4**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.94**	**219**	*e*Pn	**Pn**	**04 42 00.4**	**+0.8**

IDC 23 05:06:06.1±2.0, 22°.74S×68°.71W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.8/15, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=53.2km s-min=36.5km az=14.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.45**	**5**	Pn	Pn	05 07 44.0	+1.2
	0.7nm,0.3s,baz=196,slow=5.4,SNR=17						
LPAZ				Sn	Sn	05 08 44.3	-13
	baz=270,slow=20,SNR=2.3						
SIV	**San Ignacio**	**9.85**	**48**	Pn	Pn	05 08 28.1	-1.0
	2.1nm,0.3s,baz=254,slow=9.8,SNR=32						
TXAR	**Lajitas Array**	**61.75**	**325**	P	P	05 16 26.1	-0.6
	0.2nm,0.7s,baz=146,slow=8.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.60**	**70**	P	P	05 18 04.3	-0.3
	0.2nm,0.4s,baz=255,slow=5.6,SNR=8.3						
YKA	**Yellowknife Ar**	**92.42**	**341**	P	P	05 19 18.1	-0.1
	0.9nm,0.6s,baz=135,slow=4.5,SNR=17						
MKAR	**Makanchi Array**	**146.52**	**37**	PKPbc	PKPab	05 25 50.0	-0.3
	0.1nm,0.7s,baz=311,slow=4.7,SNR=3.7						

JMA ***23*** *05:09:10.7±0.4,32°.55N×141°.86E,h0km,M3.7*
ISCJB ***23*** *05:09:12.0±1.6,32°.57N±0°.07×142°.2E±0°.2,h39km, mb3.4/3, Error ellipse: s-maj=28.9km s-min=9.8km az=172.7*
IDC ***23*** *05:09:12.1±7.0,32°.04N×141°.17E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/23,mbtmp3.5/4,ML2.4/1, Error ellipse: s-maj=259.1km s-min=27.7km az=69.0*

ISC 23 05:09:14.6±1.7, 32°.5N±0°.1×142°.0E±0°.2, h39km, n8, σ1.939/9, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.94**	**290**	P	Pn	**05 09 43.8**	**-1.2**
JHO	**Hitachi**	**4.30**	**345**	P	Pn	**05 10 17.5**	**0.0**
JHO				*e*S	**Sn**	**05 11 03.9**	**-2.6**
JAG	**Ashikaga**	**4.48**	**333**	P	Pn	**05 10 20.2**	**+0.3**
JAG				*e*S	**Sn**	**05 11 11.0**	**+0.3**
JFK	**Kawauchi**	**4.98**	**350**	*e*S		05 11 19.9	
USRK	**Ussuriysk Arra**	**14.09**	**329**	Pn	**Pn**	**05 12 31.5**	**+0.1**
	0.2nm,0.3s,baz=124,slow=17,SNR=2.5						
SONM	**Songino Array**	**30.92**	**310**	P	**P**	**05 15 28.1**	**+0.5**
	0.3nm,0.6s,baz=100,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**47.06**	**306**	P	**P**	**05 17 43.9**	**+1.5**
	0.4nm,0.7s,baz=84,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**52.61**	**189**	P	**P**	**05 18 23.8**	**-0.9**
	0.2nm,0.4s,baz=4.7,slow=7.6,SNR=9.0						

IDC ***23*** *05:21:46.7±3.4,17°.95S×175°.09W,h223km±30km, mb4.3/3, mb1 4.3/5,mb1mx3.6/19,mbtmp4.2/5, Error ellipse: s-maj=114.5km s-min=25.3km az=142.0*
ISCJB ***23*** *05:21:47.1±0.6,17°.5S±0°.1×175°.2W±0°.1,h256km, mb4.4/11, Error ellipse: s-maj=24.3km s-min=8.4km az=139.7*
NEIC ***23*** *05:21:47.4±1.2, 17°.73S×175°.21W,h230km±17km, mb4.4/8, Error ellipse: s-maj=19.8km s-min=15.4km az=154.0*

ISC 23 05:21:47.8±1.0, 17°.6S±0°.2×175°.0W±0°.2, h256km, n24, σ1.928/25, mb4.5/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.81**	**41**	P	**Pn**	**05 23 03.2**	**+1.5**
	60nm,0.3s,baz=246,slow=10.0,SNR=52						
AFI				S	**S**	**05 23 58.4**	**-2.1**
	26nm,0.3s,baz=66,slow=20,SNR=6.3						
AFI	**Afiamalu**	**4.81**	**41**	*e*Pn	**Pn**	**05 23 03.0**	**+1.4**
	169nm,0.5s						
AFI				*e*Sn	**S**	**05 23 58.0**	**-2.5**
AFI				S	S	05 23 58.4	-2.2

DZM	**Mont Dzumac**	**17.98**	**253**	P	**Pn**	**05 25 40.5**	**-2.7**
	0.4nm,0.3s,baz=72,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**17.98**	**253**	P	**Pn**	**05 25 40.5**	**-2.7**
URZ	**Urewera**	**21.73**	**197**	*e*P	**P**	**05 26 18.1**	**-0.6**
	9.4nm,0.4s						
ARMA	**Armidale**	**32.90**	**241**	*e*P	**P**	**05 27 58.5**	**+0.1**
ARMA	**Armidale**	**32.90**	**241**	*e*P	**P**	**05 27 58.2**	**-0.3**
	7.5nm,0.6s						
CMSA	**Cobar Meteorol**	**38.11**	**241**	*e*P	**P**	**05 28 42.4**	**-0.2**
	55nm,0.8s						
COEN	**Coen**	**40.31**	**269**	*e*P	**P**	**05 29 01.7**	**+0.8**
	14nm,0.5s						
STKA	**Stephens Creek**	**41.61**	**242**	P	**P**	**05 29 11.7**	**+0.4**
	7.8nm,0.6s,baz=89,slow=8.8,SNR=18						
STKA	**Stephens Creek**	**41.61**	**242**	*e*P	**P**	**05 29 11.6**	**+0.4**
	6.4nm,0.9s						
STKA	**Stephens Creek**	**41.61**	**242**	*e*P	**P**	**05 29 11.7**	**+0.4**
	3.5nm,0.9s						
BBOO	**Buckleboo**	**46.38**	**241**	*e*P	**P**	**05 29 48.9**	**-0.1**
	75nm,0.6s						
WB2	**Warramunga Arr**	**47.84**	**259**	*e*P	**P**	**05 30 00.3**	**-0.2**
WRAB	**Tennant Creek**	**47.84**	**259**	*e*P	**P**	**05 30 00.4**	**-0.1**
	3.2nm,0.4s						
WRA	**Warramunga Arr**	**47.85**	**259**	P	**P**	**05 30 00.8**	**+0.3**
	5.0nm,0.4s,baz=98,slow=6.8,SNR=136						
WRA	**Warramunga Arr**	**47.85**	**259**	P	**P**	**05 30 00.8**	**+0.3**
AS31	**Alice Springs**	**47.97**	**254**	*e*P	**P**	**05 30 01.8**	**+0.4**
ASAR	**Alice Springs**	**47.97**	**254**	P	**P**	**05 30 01.8**	**+0.4**
	28nm,0.7s,baz=91,slow=8.7,SNR=255						
ASAR	**Alice Springs**	**47.97**	**254**	P	**P**	**05 30 01.8**	**+0.4**
MBWA	**Marble Bar**	**61.26**	**255**	*e*P	**P**	**05 31 37.1**	**+0.5**
	3.8nm,0.4s						
QSPA	**South Pole Qui**	**72.48**	**180**	*e*P	P	05 32 48.5	+2.0
	6.3nm,1.2s						
BRTR	**Keskin Array B**	**146.77**	**318**	PKPbc	**PKPab**	**05 41 03.5**	**+1.5**
	1.6nm,1.0s,baz=80,slow=2.7,SNR=4.7						
BRTR	**Keskin Array B**	**146.77**	**318**	PKPbc	**PKPab**	**05 41 03.5**	**+1.5**

IDC 23 05:30:02.8±6.9, 25°.20S×179°.95E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=282.0km s-min=41.4km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.80**	**262**	P	P	05 37 54.5	0.0
	0.8nm,0.4s,baz=92,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**42.29**	**268**	P	P	05 37 58.2	-0.3
	0.3nm,0.3s,baz=106,slow=7.7,SNR=9.7						
ILAR	**Eielson Array**	**93.29**	**14**	P	P	05 43 18.9	0.0
	0.6nm,0.9s,baz=196,slow=5.6,SNR=5.6						

ISCJB ***23*** *05:54:16.8±0.4,40°.43N±0°.03×23°.78E±0°.03,h11km±3km, Error ellipse: s-maj=4.6km s-min=3.4km az=38.4*
CSEM ***23*** *05:54:16.9±0.2,40°.41N×23°.82E,h10km,ML2.3/6, Error ellipse: s-maj=4.3km s-min=3.5km az=59.0*
ATH ***23*** *05:54:16.4,40°.41N×23°.80E,h25km±2km, MD3.0/7*
THE ***23*** *05:54:17.1,40°.42N×23°.80E,h14km,ML2.3/6, Error ellipse: s-maj=0.9km s-min=0.4km az=259.0*
BEO ***23*** *05:54:23.5±1.2,40°.89N×24°.22E,h0km,ML2.2/3*

ISC 23 05:54:17.1±0.8, 40°.43N±0°.03×23°.81E±0°.02, h13km±6km, n33, σ0.966/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.16**	**124**	P	**Pg**	**05 54 21.2**	**+0.2**
OUR				S	**Sg**	**05 54 24.0**	**+0.3**
OUR	**Ouranopolis**	**0.16**	**124**	P	**Pg**	**05 54 21.2**	**+0.2**
OUR				S	**Sg**	**05 54 24.0**	**+0.3**
PLG	**Polygyros**	**0.28**	**259**	P	**Pg**	**05 54 22.9**	**0.0**
PLG				S	**Sg**	**05 54 26.8**	**-0.1**
PLG	**Polygyros**	**0.28**	**259**	*e*PB	**Pg**	**05 54 23.0**	**0.0**
PLG				*e*SB	**Sg**	**05 54 26.9**	**-0.1**
PLG	**Polygyros**	**0.28**	**259**	*e*Pb	**Pg**	**05 54 23.0**	**0.0**
PLG				*e*Sb	**Sg**	**05 54 26.9**	**-0.1**
PAIG	**Paliouri**	**0.51**	**191**	P	**Pg**	**05 54 26.9**	**-0.2**
PAIG				S	**Sg**	**05 54 34.0**	**+0.1**
PAIG	**Paliouri**	**0.51**	**191**	P	**Pg**	**05 54 26.9**	**-0.2**
PAIG				S	**Sg**	**05 54 34.0**	**+0.1**
SOH	**Sokhos**	**0.52**	**319**	P	**Pg**	**05 54 27.3**	**-0.1**
SOH				S	**Sg**	**05 54 34.6**	**+0.2**
SOH	**Sokhos**	**0.52**	**319**	*e*PN	**Pg**	**05 54 27.3**	**-0.1**
SOH				*e*SN	**Sg**	**05 54 35.0**	**+0.6**
SOH	**Sokhos**	**0.52**	**319**	P	**Pg**	**05 54 27.3**	**-0.1**
SOH				S	**Sg**	**05 54 34.0**	**+0.2**
SOH				*e*Sn	**Sg**	**05 54 35.0**	**+0.6**
HORT	**Hortiatis**	**0.56**	**288**	P	**Pg**	**05 54 27.6**	**-0.6**
HORT				S	**Sg**	**05 54 36.0**	**+0.3**
HORT	**Hortiatis**	**0.56**	**288**	P	**Pg**	**05 54 27.6**	**-0.6**
HORT				S	**Sg**	**05 54 36.0**	**+0.3**
SRS	**Serrai**	**0.71**	**347**	P	**Pg**	**05 54 30.5**	**-0.4**
SRS				S	**Sb**	**05 54 41.0**	**0.0**
SRS	**Serrai**	**0.71**	**347**	P	**Pg**	**05 54 30.5**	**-0.4**
SRS				S	**Sb**	**05 54 41.0**	**0.0**
KAVA	**Kavala**	**0.78**	**43**	P	**Pg**	**05 54 32.0**	**-0.3**
KAVA				S	**Sb**	**05 54 43.3**	**+0.2**
KAVA	**Kavala**	**0.78**	**43**	P	**Pg**	**05 54 32.0**	**-0.3**
KAVA				S	**Sb**	**05 54 43.3**	**+0.2**
NVR	**Nevrokopi**	**0.92**	**3**	*e*PN	**Pb**	**05 54 35.0**	**0.0**
NVR				*e*SN	**Sb**	**05 54 47.8**	**+0.6**
NVR	**Nevrokopi**	**0.92**	**3**	*e*Pn	**Pb**	**05 54 35.0**	**0.0**
NVR				*e*Sn	**Sb**	**05 54 47.8**	**+0.6**
LIA	**Limnos Island**	**1.18**	**116**	P	**Pn**	**05 54 38.2**	**-1.1**
LIA				S	**Sg**	**05 54 55.1**	**-0.1**
LIA	**Limnos Island**	**1.18**	**116**	*e*PB	**Pn**	**05 54 38.0**	**-1.3**
LIA				*e*SN	**Sg**	**05 54 56.0**	**+0.8**
LIA	**Limnos Island**	**1.18**	**116**	P	**Pn**	**05 54 38.2**	**-1.1**
LIA				S	**Sg**	**05 54 55.1**	**-0.1**
LIA				*e*Sn	**Sg**	**05 54 56.0**	**+0.8**
NEO	**Neokhori**	**1.21**	**202**	*e*PN	**Pn**	**05 54 39.0**	**-0.7**
NEO	**Neokhori**	**1.21**	**202**	*e*Pn	**Pn**	**05 54 39.0**	**-0.7**
VAY	**Valandovo**	**1.29**	**314**	*e*Pg	**Pg**	**05 54 42.4**	**+0.4**
VAY				*e*Sg	**Sg**	**05 54 59.1**	**+0.2**
THL	**Klokotos Trika**	**1.62**	**239**	*e*PN	**Pn**	**05 54 45.7**	**+0.3**
THL	**Klokotos Trika**	**1.62**	**239**	*e*Pn	**Pn**	**05 54 45.7**	**+0.3**
ALN	**Alexandroupoli**	**1.77**	**74**	*e*PB	**Pn**	**05 54 46.7**	**-0.7**
ALN	**Alexandroupoli**	**1.77**	**74**	*e*Pb	**Pn**	**05 54 46.7**	**-0.7**
VTS	**Vitosha**	**2.21**	**348**	*e*Pg	**Pb**	**05 54 56.8**	**-0.2**
VTS				*e*Sg	**Sn**	**05 55 22.1**	**+1.3**
VTS	**Vitosha**	**2.21**	**348**	*e*Pg	**Pb**	**05 54 56.8**	**-0.2**
BARS	**Barje**	**2.81**	**329**	*e*Pn	**Pb**	**05 55 07.1**	**-0.1**
BARS				*e*Sg	**Sg**	**05 55 47.2**	**-0.4**
BARS	**Barje**	**2.81**	**329**	*e*Pn	**Pb**	**05 55 07.1**	**-0.1**
BARS				*e*Sg	**Sg**	**05 55 47.2**	**-0.4**
ZAPS	**Zavoj**	**2.98**	**343**	*e*Pn	**Pb**	**05 55 07.4**	**-2.6**
ZAPS				*e*Sn	**Sn**	**05 55 41.9**	**+2.3**

JMA 23 05:56:13.9±0.1, 26°.99N×130°.01E, h68km±4km, M3.9, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.23**	**310**	P	Pn	05 56 35.5	+0.2
JTK				*e*S	Sn	05 56 51.7	+0.4
JZK	**Kikaishima**	**1.32**	**359**	P	Pn	05 56 36.8	+0.4
JZK				*e*S	Sn	05 56 54.3	+1.0
JAM	**Amami Oshima**	**1.46**	**346**	P	Pn	05 56 38.5	+0.2
JAM				*e*S	Sn	05 56 56.3	-0.3
JOW	**Kunigami**	**1.56**	**265**	P	Pn	05 56 40.2	+0.6
JOW				*e*S	Sn	05 56 59.0	0.0
JMZ	**Minamidaito 2**	**1.59**	**137**	P	Pn	05 56 40.4	+0.4
JMZ				*e*S	Sn	05 56 59.9	+0.1
JIH	**Iheya**	**1.82**	**272**	P	Pn	05 56 43.8	+0.7
JIH				*e*S	Sn	05 57 06.1	+0.8
JJT2	**Tamagusuku 2**	**2.20**	**248**	P	Pn	05 56 49.0	+0.9
JJT2				*e*S	Sn	05 57 15.3	+1.0
NAH1	**Naha**	**2.22**	**250**	P	Pn	05 56 49.5	+1.0
NAH1				*e*S	Sn	05 57 16.0	+1.1
JAGN	**Aguni-jima**	**2.51**	**261**	P	Pn	05 56 53.0	+0.7
JAGN				*e*S	Sn	05 57 22.6	+0.8
JNN	**Nakanoshima**	**2.84**	**358**	P	Pn	05 56 57.7	+0.7
JNN				*e*S	Sn	05 57 31.2	+1.1
JKE	**Kume jima 2**	**2.96**	**258**	P	Pn	05 56 59.0	+0.5
JKE				*e*S	Sn	05 57 33.1	+0.2

NEIC ***23*** *06:02:33.0,16°.74N×94°.51W,h117km,MD3.9(MEX), After MEX.*

MEX 23 06:02:32.1±1.0, 16°.78N×94°.52W, h124km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.47**	**311**	*e*P	Pn	06 02 49.2	-1.0
CMIG				*i* S	Sn	06 03 02.0	-2.0
CMIG	**Matias Romero**	**0.47**	**311**	*e*P	Pn	06 02 49.2	-1.0
CMIG				*i* S	Sn	06 03 02.0	-2.0
TGIG		**1.34**	**90**	*i* P	Pn	06 02 56.8	-1.2
TGIG				*i* S	Sn	06 03 15.2	-2.6
TGIG		**1.34**	**90**	*i* P	Pn	06 02 56.8	-1.2
TGIG				*i* S	Sn	06 03 15.2	-2.6
PCIG		**1.65**	**130**	*i* P	Pn	06 03 00.7	-0.8
PCIG				*i* S	Sn	06 03 22.6	-1.2
PCIG		**1.65**	**130**	*i* P	Pn	06 03 00.7	-0.8
PCIG				*i* S	Sn	06 03 22.6	-1.2
HUIG	**Huatulco**	**1.83**	**237**	*i* P	Pn	06 03 01.3	-2.3
HUIG				*i* S	Sn	06 03 26.2	-1.6
HUIG	**Huatulco**	**1.83**	**237**	*i* P	Pn	06 03 01.4	-2.3
HUIG				*i* S	Sn	06 03 26.2	-1.6
VHO	**Vista Hermosa**	**2.14**	**278**	*i* P	Pn	06 03 07.8	+0.1
VHO				*i* S	Sn	06 03 34.5	-0.5
VHO	**Vista Hermosa**	**2.14**	**278**	*i* P	Pn	06 03 06.9	-0.8
VHO				*i* S	Sn	06 03 34.1	-0.9
CCIG	**Comitan**	**2.34**	**102**	*i* P	Pn	06 03 09.7	-0.6
CCIG				*i* S	Sn	06 03 37.8	-1.7
CCIG	**Comitan**	**2.34**	**102**	*i* P	Pn	06 03 09.7	-0.6
CCIG				*i* S	Sn	06 03 37.8	-1.7
UTMO	**Huajuapan**	**3.31**	**289**	*e*P	Pn	06 03 23.9	+1.1
UTMO				*i* S	Sn	06 03 59.9	-2.0
UTMO	**Huajuapan**	**3.31**	**289**	*e*P	Pn	06 03 22.0	-0.8
UTMO				*i* S	Sn	06 04 00.1	-1.9
PNIG	**Pinotepa**	**3.48**	**264**	*i* P	Pn	06 03 23.6	-1.3
PNIG				*i* S	Sn	06 04 04.5	-1.2
PNIG	**Pinotepa**	**3.48**	**264**	*i* P	Pn	06 03 23.6	-1.3
PNIG				*i* S	Sn	06 04 04.5	-1.2

ISCJB ***23*** *06:08:40.2±0.7,38°.49N±0°.04×142°.10E±0°.09,h86km±5km, mb3.4/10, Error ellipse: s-maj=11.8km s-min=6.3km az=19.9*
JMA ***23*** *06:08:41.4±0.1,38°.51N×142°.05E,h82km±1km,M3.8*
JMA Felt II J1.
IDC ***23*** *06:08:42.0±2.3,38°.57N×142°.19E,h88km±20km,mb3.3/10, mb1 3.5/14,mb1mx3.5/27,mbtmp3.3/14, Error ellipse: s-maj=21.1km s-min=14.4km az=127.0*

ISC 23 06:08:40.8±1.2, 38°.49N±0°.06×142°.2E±0°.1, h79km±10km, n27, σ0.970/37, mb3.5/10, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**267**	⇓P	**Pn**	**06 08 55.9**	**+0.2**
JIO				S	**Sn**	**06 09 06.3**	**-0.3**
OFUJ	**Ofunato**	**0.70**	**328**	⇓P	**Pn**	**06 08 56.8**	**+0.4**
JMK	**Ichinoseki**	**0.86**	**303**	⇑P	**Pn**	**06 08 58.5**	**+0.3**
JMK				S	**Sn**	**06 09 11.0**	**-0.1**
JOU	**Okura**	**1.17**	**265**	P	**Pn**	**06 09 02.0**	**+0.1**
JOU				S	**Sn**	**06 09 17.0**	**-0.8**
JOM	**Ohasama**	**1.19**	**326**	⇑P	**Pn**	**06 09 02.3**	**+0.1**
JOM				S	**Sn**	**06 09 17.9**	**-0.2**
JMM	**Marumori**	**1.23**	**240**	⇓P	**Pn**	**06 09 02.5**	**-0.2**
JMM				S	**Sn**	**06 09 18.0**	**-1.1**
JYK	**Kaneyama**	**1.46**	**288**	⇑P	**Pn**	**06 09 05.5**	**-0.1**
JYK				S	**Sn**	**06 09 24.0**	**-0.4**
JRG	**Rokugo**	**1.49**	**308**	⇑P	**Pn**	**06 09 05.8**	**-0.2**
JRG				S	**Sn**	**06 09 24.5**	**-0.4**
JFK	**Kawauchi**	**1.50**	**222**	P	**Pn**	**06 09 06.3**	**+0.1**
JFK				S	**Sn**	**06 09 25.1**	**-0.2**
JYS	**Shirataka**	**1.66**	**261**	⇑P	**Pn**	**06 09 08.1**	**-0.1**
JYS				S	**Sn**	**06 09 28.0**	**-0.9**
JFT	**Otama**	**1.73**	**237**	P	**Pn**	**06 09 09.5**	**+0.4**
JFT				S	**Sn**	**06 09 29.7**	**-0.8**
JYA	**Atsumi**	**1.91**	**274**	P	**Pn**	**06 09 11.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.68**	**239**	P	Pn	06 09 39.3	+3.9
	1

1.1nm,0.6s,baz=134,slow=6.4,SNR=6.4
ZALV Zalesovo Beam 63.53 334 P P 06 22 21.0 -1.2
KURK Kurchatov 64.47 329 *eP* **P 06 22 27.5 -0.9**
5.9nm,0.9s
BVAR Borovoye Array 70.02 328 P P **06 23 02.6 -1.1**
0.7nm,0.6s,baz=126,slow=7.5,SNR=5.5
BVAR Borovoye Array 70.02 328 P P **06 23 02.6 -1.1**
ABKAR Akbulak array 74.57 322 *eP* **P 06 23 30.3 -0.5**
2.9nm,0.9s
AKTO Aktyubinsk 76.12 322 P P **06 23 39.0 -0.7**
3.6nm,0.7s,baz=103,slow=7.2,SNR=17

IDC 23 06:48:29.4±3.9, 17°39'S×69°07'W, h170km±21km, mb3.6/6, mb1 3.7/6, mb1mx3.5/15, mbtmp3.6/6, MS4.1/1, Ms1 4.1/1, ms1mx3.3/16, Error ellipse: s-maj=64.4km s-min=23.4km az=23.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.42**	**40**	P		Pn 06 49 00.7	+0.1
	75nm,0.3s,baz=236,slow=5.9,SNR=1613						
LPAZ				S		Sn 06 49 24.3	-0.3
	6.9nm,0.3s,baz=300,slow=20,SNR=8.4						
PMSA	**Palmer Station**	**47.47**	**177**	LR		LR 07 16 30.0	
	comp=Z,188nm,18.7s,baz=129,slow=35						
TXAR	**Lajitas Array**	**57.21**	**324**	P		P 06 57 58.8	-0.3
	0.1nm,0.4s,baz=134,slow=8.9,SNR=3.9						
DBIC	**Dimbokro**	**67.77**	**75**	P		P 06 59 09.5	+0.2
	1.2nm,0.5s,baz=199,slow=4.9,SNR=3.6						
PDAR	**Pinedale Array**	**70.50**	**330**	P		P 06 59 25.4	-0.4
	0.3nm,0.4s,baz=119,slow=9.7,SNR=5.2						
ULM	**Lac du Bonnet**	**71.37**	**342**	P		P 06 59 30.6	0.0
	3.2nm,0.4s,baz=148,slow=4.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**76.16**	**71**	P		P 06 59 59.1	-0.1
	0.9nm,0.4s,baz=260,slow=4.9,SNR=16						
YKA	**Yellowknife Ar**	**87.28**	**341**	P		P 07 00 56.9	+0.6
	0.9nm,0.4s,baz=133,slow=4.9,SNR=20						
WRA	**Warramunga Arr**	**136.35**	**213**	PKP		PKPdf 07 07 30.5	-1.2
	0.3nm,0.4s,baz=139,slow=1.8,SNR=3.8						

IDC 23 07:13:02.8±5.7, 3°50S×151°51E, h77km±54km, mb3.5/8, mb1 3.6/9, mb1mx3.5/19, mbtmp3.5/9, ML2.6/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/17, Error ellipse: s-maj=33.2km s-min=29.5km az=96.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.29**	**216**	P		Pn 07 14 47.0	+0.4
	0.6nm,0.3s,baz=52,slow=18,SNR=2.4						
HNR	**Honiara**	**10.25**	**126**	LR		LR 07 18 03.0	
	comp=Z,68nm,21.9s,baz=333,slow=29						
CTA	**Charters Tower**	**17.27**	**197**	LR		LR 07 22 20.8	
	comp=Z,99nm,21.1s,baz=230,slow=32						
GUMO	**Guam**	**18.21**	**339**	LR		LR 07 22 16.7	
	comp=Z,73nm,21.7s,baz=100,slow=30						
WRA	**Warramunga Arr**	**22.40**	**224**	P		P 07 18 03.5	-1.7
	1.9nm,0.9s,baz=49,slow=9.8,SNR=9.6						
DZM	**Mont Dzumac**	**23.47**	**143**	P		P 07 18 06.7	+0.8
	12nm,0.9s,baz=50,slow=13,SNR=3.8						
DZM				LR		LR 07 26 08.0	
	comp=Z,88nm,20.2s,baz=24,slow=34						
ASAR	**Alice Springs**	**26.29**	**219**	P		P 07 18 31.9	+0.6
	1.0nm,0.7s,baz=57,slow=9.0,SNR=11						
MJAR	**Matsushiro Arr**	**41.72**	**344**	LR		LR 07 35 24.2	
	comp=Z,44nm,18.6s,baz=320,slow=32						
KSRS	**Korea Array**	**46.27**	**334**	LR		LR 07 36 41.4	
	comp=Z,42nm,20.8s,baz=326,slow=31						
SONM	**Songino Array**	**64.54**	**328**	P		P 07 23 32.4	+0.5
	0.5nm,0.8s,baz=146,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**78.50**	**319**	P		P 07 24 56.3	+0.6
	0.2nm,0.7s,baz=120,slow=6.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**79.36**	**326**	P		P 07 25 00.6	+0.4
	0.4nm,0.6s,baz=83,slow=4.5,SNR=3.0						
ILAR	**Eielson Array**	**81.45**	**22**	P		P 07 25 10.4	-0.8
	1.6nm,0.8s,baz=246,slow=5.8,SNR=13						
BVAR	**Borovoye Array**	**87.43**	**323**	P		P 07 25 41.8	+0.2
	0.5nm,0.6s,baz=113,slow=3.9,SNR=3.8						

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*IDC **23** 07:18:59.0±0.7, 2.°50N×86.°44W, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.3/25, mbtmp4.2/19, ML3.9/2, MS3.5/10, Ms1 3.5/10, ms1mx3.4/25, Error ellipse: s-maj=28.5km s-min=12.6km az=55.0*

*NEIC **23** 07:19:00.4±0.5, 2.°29N×86.°68W, h10km, mb4.3/19, Error ellipse: s-maj=14.0km s-min=6.9km az=47.0*

ISC 23 07:19:00.1±0.6, 2°35N±0'09"×86°66W±0'08, h10km, n305, σ1.832/306, mb4.2/32, MS3.5/6, 122C-117D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**8.07**	**12**	Pn		**Pn 07 20 57.1**	**-0.5**
	3.1nm,0.3s,baz=220,slow=4.6,SNR=21						
JTS	**JuntasAbangare**	**8.07**	**12**	*e*Pn		**Pn 07 20 57.9**	**+0.3**
	40nm,0.8s						
OTAV	**Otavalo**	**8.47**	**104**	*e*Pn		**Pn 07 21 03.9**	**+0.5**
	16nm,0.6s						
TGUH	**Tegucigalpa,Un**	**11.65**	**357**	*e*Pn		Pn 07 21 49.9	+3.4
	36nm,0.8s						
ATAH	**Atahualpa**	**12.52**	**139**	Pn		Pn 07 22 03.8	+4.9
	3.3nm,0.3s,baz=345,slow=7.6,SNR=22						
ATAH				LR		LR 07 26 01.3	
	comp=Z,358nm,20.3s,baz=128,slow=34						
ATAH	**Atahualpa**	**12.52**	**139**	Pn		Pn 07 22 03.8	+4.9
ROSC	**El Rosal**	**12.55**	**78**	Pn		**Pn 07 22 01.2**	**+1.9**
	0.2nm,0.3s,baz=249,slow=23,SNR=7.4						
ROSC				LR		LR 07 26 11.4	
	comp=Z,154nm,20.9s,baz=193,slow=35						
ROSC	**El Rosal**	**12.55**	**78**	*e*Pn		Pn 07 22 02.2	+2.8
CMIG	**Matias Romero**	**16.73**	**332**	Pn		**Pn 07 22 56.0**	**+1.1**
	0.2nm,0.3s,baz=130,slow=8.2,SNR=11						
CMIG				LR		LR 07 28 08.7	
	comp=Z,87nm,20.1s,baz=141,slow=33						
CMIG	**Matias Romero**	**16.73**	**332**	Pn		**Pn 07 22 56.0**	**+1.1**
SDV	**Santo Domingo**	**17.21**	**67**	*e*P		**P 07 23 02.7**	**+0.1**
	25nm,0.9s						
NNA	**Nana**	**17.26**	**146**	P		**P 07 23 03.6**	**+0.5**
	0.9nm,0.3s,baz=128,slow=23,SNR=2.2						
NNA				LR		LR 07 28 37.2	
	comp=Z,154nm,19.8s,baz=319,slow=34						
NNA	**Nana**	**17.26**	**146**	P		**P 07 23 03.6**	**+0.5**
TEIG	**Tepich**	**17.84**	**355**	*e*P		**P 07 23 10.6**	**+1.3**
	8.5nm,0.7s						
SJG	**San Juan**	**25.50**	**51**	P		**P 07 24 28.3**	**-0.5**
	7.4nm,0.5s,baz=180,slow=24,SNR=43						
SJG	**San Juan**	**25.50**	**51**	P		**P 07 24 28.4**	**-0.5**
SAML	**Samuel**	**25.95**	**116**	*e*P		**P 07 24 33.3**	**+0.2**
	20nm,1.3s						
LPAZ	**La Paz**	**26.04**	**136**	P		**P 07 24 35.7**	**+1.2**
	2.7nm,0.7s,baz=323,slow=11,SNR=8.4						
LPAZ				LR		LR 07 34 20.9	
	comp=Z,148nm,20.9s,baz=241,slow=36						
LPAZ	**La Paz**	**26.04**	**136**	*e*P		**P 07 24 36.2**	**+1.7**
	8.8nm,1.2s						
JCT	**Junction City**	**30.62**	**337**	⇓P		**P 07 25 15.6**	**+0.9**
	baz=31						
628A	**Black Gap, Mar**	**31.09**	**332**	⇓P		**P 07 25 20.0**	**+1.2**
	baz=31						
SIV	**San Ignacio**	**31.17**	**127**	P		**P 07 25 18.6**	**-1.1**
	2.7nm,0.9s,baz=314,slow=11,SNR=10						
SIV	**San Ignacio**	**31.17**	**127**	P		**P 07 25 18.6**	**-1.1**
627A	**Terlingua Ranc**	**31.30**	**331**	⇓P		**P 07 25 22.1**	**+1.4**
	baz=32						
TXAR	**Lajitas Array**	**31.34**	**331**	P		**P 07 25 22.2**	**+1.2**
	2.0nm,0.8s,baz=147,slow=10,SNR=27						
TXAR				LR		LR 07 38 32.9	
	comp=Z,43nm,18.2s,baz=180,slow=38						
TXAR	**Lajitas Array**	**31.34**	**331**	P		**P 07 25 22.2**	**+1.2**
528A	**Cox Ranch, San**	**31.61**	**333**	⇑P		**P 07 25 24.7**	**+1.3**
	baz=32						
626A	**Big Bend Ranch**	**31.75**	**330**	⇑P		**P 07 25 26.5**	**+1.8**
	baz=32						
527A	**Woodward Ranch**	**31.98**	**332**	⇑P		**P 07 25 28.2**	**+1.4**
	baz=32						
428A	**Kincaid Ranch,**	**32.04**	**333**	⇑P		**P 07 25 28.7**	**+1.5**
	baz=32						
526A	**Mary Lane Ranc**	**32.14**	**331**	⇑P		**P 07 25 29.5**	**+1.3**
	baz=32						
427A	**Hayter Ranch,**	**32.47**	**333**	⇑P		**P 07 25 32.3**	**+1.3**
	baz=33						
426A	**McDonald Obser**	**32.62**	**331**	⇑P		**P 07 25 33.5**	**+1.1**
	baz=33						
328A	**Wristen Ranch,**	**32.66**	**334**	⇓P		**P 07 25 33.5**	**+0.9**
	baz=33,SNR=5.1						
326A	**Caldwell Ranch**	**33.13**	**332**	⇑P		**P 07 25 37.8**	**+1.0**
	baz=33						
425A	**Indio Mountain**	**33.18**	**330**	⇓P		**P 07 25 38.3**	**+1.0**
	baz=33,SNR=6.9						
325A	**Bean Ranch, Si**	**33.65**	**331**	⇓P		**P 07 25 42.2**	**+0.8**
	baz=34						
226A	**Malaga, Loving**	**33.81**	**333**	⇓P		**P 07 25 43.9**	**+1.2**
	baz=34,SNR=5.6						
324A	**Moseley Ranch,**	**33.96**	**330**	⇑P		**P 07 25 44.6**	**+0.5**
	baz=34,SNR=8.7						
127A	**Arkansas Junct**	**34.00**	**334**	⇑P		**P 07 25 44.7**	**+0.3**
	baz=34						
MNTX	**Cornudas Mount**	**34.12**	**331**	⇓P		**P 07 25 46.1**	**+0.8**
	baz=34,SNR=7.5						
MNTX				⇓P		**P 07 25 46.1**	**+0.8**
	baz=34,SNR=7.5						
WMOK	**Wichita Mounta**	**34.15**	**342**	*e*P		**P 07 25 45.5**	**0.0**
	2.5nm,1.0s						
Z27A	**Tatum**	**34.49**	**335**	⇓P		**P 07 25 49.3**	**+0.6**
	baz=35						
224A	**Cornudas Mount**	**34.49**	**331**	⇓P		**P 07 25 49.5**	**+0.8**
	baz=35						
Z26A	**Caprock**	**34.78**	**334**	⇑P		**P 07 25 52.6**	**+1.4**
	baz=35,SNR=22						
MSTX	**Muleshoe**	**34.88**	**336**	⇓P		**P 07 25 52.8**	**+0.8**
	baz=35						
Y27A	**Causey**	**34.96**	**336**	⇑P		**P 07 25 53.5**	**+0.8**
	baz=35						
124A	**Stringfield Ra**	**34.97**	**332**	⇓P		**P 07 25 54.4**	**+1.5**
	baz=35,SNR=6.2						
Z25A	**Roswell**	**35.12**	**333**	⇑P		**P 07 25 55.1**	**+1.1**
	baz=35,SNR=5.8						
AMTX	**Amarillo**	**35.26**	**338**	⇑P		**P 07 25 56.1**	**+0.9**
	baz=36						
AMTX				⇓P		**P 07 25 56.1**	**+0.9**
	baz=36						
Y26A	**Elida**	**35.27**	**335**	⇑P		**P 07 25 56.7**	**+1.3**
	baz=36						
Z24A	**Sheeppen Canyo**	**35.45**	**332**	⇓P		**P 07 25 58.5**	**+1.5**
	baz=36,SNR=6.7						
320A	**Kipp Ranch, An**	**35.46**	**327**	⇓P		**P 07 25 59.0**	**+1.9**
	baz=36						
X27A	**F and S Farms,**	**35.60**	**336**	⇑P		**P 07 25 59.8**	**+1.6**
	baz=36						
Y25A	**Mesa, Roswell**	**35.65**	**334**	⇓P		**P 07 26 00.1**	**+1.5**
	baz=36						
X26A	**CR and CF Fran**	**35.80**	**335**	⇑P		**P 07 26 01.4**	**+1.4**
	baz=36						
Z23A	**Rita Site, Whi**	**35.81**	**331**	⇑P		**P 07 26 01.6**	**+1.6**
	baz=36						
220A	**Playas Peak, P**	**35.90**	**327**	⇓P		**P 07 26 02.7**	**+1.9**
	baz=36						
Y24A	**Capitan**	**35.98**	**333**	⇓P		**P 07 26 03.1**	**+1.5**
	baz=36,SNR=8.0						
121A	**Cooks Peak, D**	**35.99**	**329**	⇑P		**P 07 26 03.6**	**+2.0**
	baz=36,SNR=5.1						
X25A	**Clemmons Ranch**	**36.15**	**334**	⇑P		**P 07 26 03.9**	**+0.9**
	baz=36						
Z22A	**Elephant Butte**	**36.16**	**330**	⇑P		**P 07 26 05.1**	**+2.0**
	baz=36,SNR=18						
V28A	**Channing**	**36.23**	**338**	⇓P		**P 07 26 04.8**	**+1.2**
	baz=36						
W26A	**Owens Ranch, T**	**36.25**	**336**	⇓P		**P 07 26 05.4**	**+1.6**
	baz=36						
Y23A	**Lovelace Mesa,**	**36.27**	**332**	⇓P		**P 07 26 06.1**	**+2.1**
	baz=36,SNR=42						
120A	**U Bar Ranch, L**	**36.45**	**328**	⇑P		**P 07 26 07.5**	**+1.9**
	baz=37						
Z21A	**St. Cloud Mine**	**36.55**	**330**	⇑P		**P 07 26 08.4**	**+2.0**
	baz=37						
W25A	**X Bar L Ranch,**	**36.65**	**335**	⇓P		**P 07 26 08.7**	**+1.5**
	baz=37,SNR=13						
Y22A	**Socorro**	**36.71**	**331**	⇑P		**P 07 26 09.7**	**+2.0**
	baz=37,SNR=8.6						
BNM	**Barren Site**	**36.72**	**332**	*e*P		**P 07 26 09.7**	**+1.8**
	13nm,1.0s						
Z20A	**Nine Sixteen R**	**36.87**	**329**	⇑P		**P 07 26 11.1**	**+2.0**
	baz=37,SNR=6.8						
W24A	**Lazy 6 Ranch,**	**37.05**	**334**	⇓P		**P 07 26 12.3**	**+1.6**
	baz=37,SNR=12						
Y21A	**Point of Rocks**	**37.11**	**330**	⇑P		**P 07 26 13.3**	**+2.0**
	baz=37						
LAZ	**Ladron**	**37.17**	**331**	*e*P		**P 07 26 13.7**	**+2.0**
	3.1nm,1.0s						
ANMO	**Albuquerque**	**37.30**	**333**	P		**P 07 26 14.3**	**+1.5**
	8.2nm,0.8s,baz=150,slow=10,SNR=48						
ANMO				LR		LR 07 40 00.3	
	comp=Z,60nm,20.6s,baz=103,slow=34						
ANMO	**Albuquerque**	**37.30**	**333**	*e*P		**P 07 26 14.1**	**+1.3**
	9.5nm,0.9s						
W23A	**Werner Place,**	**37.34**	**333**	⇓P		**P 07 26 15.0**	**+1.9**
	baz=38,SNR=16						
U26A	**Atchley Ranch,**	**37.38**	**337**	⇓P		**P 07 26 14.7**	**+1.3**
	baz=38,SNR=7.4						
Y20A	**Horse Springs,**	**37.38**	**330**	⇑P		**P 07 26 15.5**	**+1.9**
	baz=38,SNR=7.1						
V24A	**Rampart Ranch,**	**37.43**	**335**	⇑P		**P 07 26 15.4**	**+1.5**
	baz=38,SNR=8.4						
X21A	**Alamocita Cree**	**37.52**	**331**	⇑P		**P 07 26 16.8**	**+2.1**
	baz=38,SNR=9.8						
T27A	**Campo**	**37.58**	**339**	⇑P		**P 07 26 16.2**	**+1.1**
	baz=38						
W22A	**Albuquerque**	**37.59**	**332**	⇑P		**P 07 26 16.9**	**+1.7**
	baz=38						
U25A	**Circle Dot Ran**	**37.65**	**336**	⇑P		**P 07 26 17.2**	**+1.5**
	baz=38,SNR=8.6						
V23A	**Ortiz Mt. (NFS**	**37.84**	**334**	⇑P		**P 07 26 19.2**	**+1.8**
	baz=38,SNR=15						
Y19A	**Nutrioso**	**37.87**	**329**	⇑P		**P 07 26 19.7**	**+1.9**
	baz=38,SNR=6.8						
X20A	**Quemado**	**37.95**	**330**	⇑P		**P 07 26 20.1**	**+1.8**
	baz=38						
T26A	**Comanche Natio**	**38.00**	**338**	⇓P		**P 07 26 20.0**	**+1.3**
	baz=38						
U24A	**Moreno Valley**	**38.01**	**335**	⇑P		**P 07 26 20.8**	**+1.9**
	baz=38						
CFAA	**Coronel Fontan**	**38.04**	**154**	P		**P 07 26 20.2**	**+1.4**
	0.4nm,0.8s,baz=337,slow=5.5,SNR=14						
CFAA	**Coronel Fontan**	**38.04**	**154**	P		**P 07 26 20.2**	**+1.4**
Y18A	**Canyon Day Jun**	**38.15**	**328**	⇑P		**P 07 26 21.3**	**+1.4**
	baz=38						
CBKS	**Cedar Bluff**	**38.21**	**343**	⇑P		**P 07 26 21.3**	**+1.1**
	baz=38						
CBKS				⇑P		**P 07 26 21.3**	**+1.1**
	baz=38						
X19A	**St. Johns**	**38.26**	**329**	⇓P		**P 07 26 22.6**	**+1.7**
	baz=38						
T25A	**Trinidad**	**38.29**	**337**	⇓P		**P 07 26 22.9**	**+1.8**
	baz=38						
V22A	**San Miguel Ran**	**38.30**	**333**	⇑P		**P 07 26 22.8**	**+1.4**
	baz=38						
U23A	**El Rito**	**38.33**	**334**	⇑P		**P 07 26 23.3**	**+1.8**
	baz=38,SNR=18						
S26A	**Kim**	**38.35**	**338**	⇑P		**P 07 26 23.0**	**+1.4**
	baz=38,SNR=6.5						
214A	**Organ Pipe Nat**	**38.39**	**323**	⇑P		**P 07 26 23.8**	**+2.0**
	baz=38						
W20A	**Ramah**	**38.41**	**331**	⇓P		**P 07 26 24.2**	**+1.9**
	baz=39,SNR=5.8						
T24A	**Torres, Weston**	**38.49**	**336**	⇓P		**P 07 26 24.4**	**+1.5**
	baz=39,SNR=8.4						
V21A	**Milan**	**38.55**	**332**	⇓P		**P 07 26 25.3**	**+1.9**
	baz=39						
X18A	**Snowflake**	**38.68**	**329**	⇑P		**P 07 26 26.0**	**+1.6**
	baz=39,SNR=6.8						
R27A	**Eads**	**38.70**	**340**	⇑P		**P 07 26 25.2**	**+0.7**
	baz=39,SNR=5.5						
S25A	**Robets Cordova**	**38.75**	**337**	⇓P		**P 07 26 26.3**	**+1.3**
	baz=39,SNR=5.7						
W19A	**Sanders**	**38.84**	**330**	⇓P		**P 07 26 27.6**	**+1.8**
	baz=39						
T23A	**Casias Ranch,**	**38.86**	**335**	⇑P		**P 07 26 28.0**	**+1.9**
	baz=39						
R26A	**Arlington**	**38.95**	**339**	⇓P		**P 07 26 28.1**	**+1.5**
	baz=39,SNR=6.0						
X17A	**Forest Lakes**	**38.98**	**327**	⇓P		**P 07 26 29.0**	**+1.9**
	baz=39,SNR=8.8						
114A	**Black Gap (USA**	**38.99**	**324**	⇓P		**P 07 26 28.5**	**+1.6**
	baz=39,SNR=6.1						
W18A	**Petrified Fore**	**39.02**	**329**	⇓P		**P 07 26 29.3**	**+1.9**
	baz=39						
S24A	**Houchin Ranch,**	**39.04**	**336**	⇑P		**P 07 26 29.0**	**+1.5**
	baz=39						
U21A	**Nageezi**	**39.07**	**333**	⇓P		**P 07 26 29.6**	**+1.8**
	baz=39						
R25A	**Fountain Ranch**	**39.12**	**338**	⇑P		**P 07 26 29.5**	**+1.4**
	baz=39						
T22A	**Edith**	**39.22**	**334**	⇓P		**P 07 26 30.6**	**+1.6**
	baz=39						
SDCO	**Great Sand Dun**	**39.25**	**336**	*e*P		**P 07 26 30.0**	**+0.8**
	2.8nm,0.9s						
SDCO	**Great Sand Dun**	**39.25**	**336**	⇓P		**P 07 26 30.6**	**+1.3**
	baz=39,SNR=7.2						
SDCO				⇓P		**P 07 26 30.6**	**+1.3**
	baz=39,SNR=7.2						
KSCO	**Kaye Shedlock'**	**39.29**	**340**	⇑P		**P 07 26 30.8**	**+1.4**
	baz=40						
X16A	**Lo Mia Camp, P**	**39.39**	**327**	⇑P		**P 07 26 32.2**	**+1.8**
	baz=40,SNR=7.4						
U20A	**Newcomb**	**39.43**	**332**	⇓P		**P 07 26 32.2**	**+1.5**
	baz=40,SNR=5.2						
Z14A	**Wintersburg**	**39.47**	**324**	⇑P		**P 07 26 32.9**	**+2.1**
	baz=40						
T21A	**Navajo Lake**	**39.48**	**333**	⇑P		**P 07 26 33.0**	**+1.8**
	baz=40,SNR=7.1						
R24A	**Sanders Place,**	**39.51**	**337**	⇓P		**P 07 26 32.8**	**+1.4**
	baz=40						
Q26A	**Hugo**	**39.52**	**339**	⇓P		**P 07 26 32.9**	**+1.5**
	baz=40						
113A	**Mohawk Valley,**	**39.53**	**323**	⇓P		**P 07 26 33.2**	**+1.8**
	baz=40						
V18A	**Ganado**	**39.59**	**330**	⇓P		**P 07 26 33.4**	**+1.3**
	baz=40						
U19A	**Dine' College,**	**39.69**	**331**	⇑P		**P 07 26 34.3**	**+1.4**
	baz=40						
Z13A	**Yuma Proving G**	**39.77**	**323**	⇑P		**P 07 26 35.2**	**+1.9**
	baz=40,SNR=5.1						
Q25A	**Bedland, Calha**	**39.78**	**338**	⇓P		**P 07 26 34.5**	**+0.9**
	baz=40						
S22A	**4UR Ranch, Cre**	**39.80**	**335**	⇓P		**P 07 26 35.3**	**+1.4**
	baz=40,SNR=8.3						
Y14A	**Wickenburg**	**39.91**	**325**	⇓P		**P 07 26 36.2**	**+1.6**
	baz=40,SNR=6.0						
V17A	**Tonalea, Kykot**	**39.96**	**329**	⇑P		**P 07 26 36.6**	**+1.5**
	baz=40,SNR=6.5						
P26A	**Davis Ranch, A**	**40.03**	**340**	⇓P		**P 07 26 37.1**	**+1.5**
	baz=40						
T19A	**Beclabito**	**40.03**	**332**	⇑P		**P 07 26 37.2**	**+1.5**
	baz=40						
MVCO	**Mesa Verde**	**40.10**	**333**	*e*P		**P 07 26 37.6**	**+1.3**
	12nm,1.4s						
MVCO	**Mesa Verde**	**40.10**	**333**	⇓P		**P 07 26 37.8**	**+1.5**
	baz=40						
U18A	**Rough Rock, Ch**	**40.12**	**330**	⇓P		**P 07 26 37.7**	**+1.3**
	baz=40						
S21A	**Coal Bank Pass**	**40.15**	**334**	⇓P		**P 07 26 38.1**	**+1.3**
	baz=40,SNR=7.8						
R22A	**Saguache, Gunn**	**40.17**	**335**	⇓P		**P 07 26 38.1**	**+1.1**
	baz=40						
WUAZ	**Wupatki**	**40.18**	**328**	*e*P		**P 07 26 38.5**	**+1.5**
	4.2nm,0.8s						
WUAZ	**Wupatki**	**40.18**	**328**	⇑P		**P 07 26 38.7**	**+1.8**
	baz=40,SNR=5.3						
P25A	**Willow Gulch B**	**40.28**	**339**	⇓P		**P 07 26 39.2**	**+1.5**
	baz=40						
U16A	**Tuba City**	**40.53**	**329**	⇓P		**P 07 26 41.5**	**+1.7**
	baz=41						
S20A	**Disappointment**	**40.54**	**333**	⇓P		**P 07 26 41.7**	**+1.7**
	baz=41						
R21A	**Cimarron**	**40.63**	**335**	⇑P		**P 07 26 42.2**	**+1.5**
	baz=41						
U17A	**Shonto**	**40.65**	**330**	⇓P		**P 07 26 42.3**	**+1.4**
	baz=41						
Y12C	**Blythe**	**40.67**	**323**	⇓P		**P 07 26 42.8**	**+2.0**
	baz=41						
T18A	**Mexican Hat**	**40.69**	**331**	⇓P		**P 07 26 42.3**	**+1.3**
	baz=41						
Q22A	**Crested Butte,**	**40.77**	**336**	⇑P		**P 07 26 43.3**	**+1.3**
	baz=41						
P23A	**Jefferson**	**40.78**	**337**	⇑P		**P 07 26 43.6**	**+1.6**
	baz=41,SNR=11						
PV01	**Paradox Valley**	**40.88**	**333**	*e*P		**P 07 26 44.6**	**+1.8**
	156nm,1.0s						
SWSC	**Sam W. Stewart**	**40.90**	**321**	⇑P		**P 07 26 44.6**	**+1.9**
	baz=41						
Q21A	**Lamborn Mesa,**	**41.03**	**335**	⇑P		**P 07 26 44.9**	**+1.0**
	baz=41						
T17A	**Navajo Res., N**	**41.03**	**330**	⇑P		**P 07 26 45.6**	**+1.6**
	baz=41						
ISCO	**Idaho Springs**	**41.06**	**338**	⇑P		**P 07 26 45.7**	**+1.3**
	baz=41						
SMCO	**Snowmass**	**41.07**	**336**	*e*P		**P 07 26 46.1**	**+1.6**
	3.8nm,0.9s						
BC3	**Big Chuckawall**	**41.16**	**322**	⇑P		**P 07 26 46.9**	**+1.9**
	baz=41						
S18A	**Hurst Farm, Bl**	**41.18**	**331**	⇑P		**P 07 26 46.8**	**+1.5**
	baz=41						
PV04	**Paradox Valley**	**41.25**	**333**	*e*P		**P 07 26 46.3**	**+0.6**
W13A	**Hualapai Mount**	**41.25**	**325**	⇓P		**P 07 26 47.8**	**+1.9**
	baz=41						
PV10	**Paradox Valley**	**41.29**	**333**	*e*P		**P 07 26 46.4**	**+0.2**
	52nm,0.9s						
R19A	**Curley Farm, L**	**41.33**	**333**	⇓P		**P 07 26 47.5**	**+1.1**
	baz=42						
IRM	**Iron Mountain**	**41.33**	**323**	⇓P		**P 07 26 48.3**	**+2.0**
	baz=42						
P22A	**Eagle**	**41.34**	**336**	⇑P		**P 07 26 48.0**	**+1.4**
	baz=42						
U15A	**North Rim**	**41.36**	**328**	⇑P		**P 07 26 48.7**	**+1.9**
	baz=42						
S17A	**Black Ridge (B**	**41.53**	**331**	⇑P		**P 07 26 49.7**	**+1.7**
	baz=42

	baz=44						
P16A	**Fountain Green**	**43.50**	**332**	⇑P	**P**	**07 27 05.3**	**+1.2**
	baz=44						
M20A	**Sweetwater, Wa**	**43.52**	**336**	⇑P	**P**	**07 27 05.0**	**+0.8**
	baz=44						
O17A	**Robinson Place**	**43.54**	**333**	⇑P	**P**	**07 27 05.4**	**+1.0**
	baz=44						
EDW2	**Edwards Air Fo**	**43.54**	**322**	⇓P	**P**	**07 27 05.8**	**+1.4**
	baz=44						
R13A	**O'Grain Ranch,**	**43.55**	**328**	⇑P	**P**	**07 27 06.6**	**+2.0**
	baz=44						
O16A	**Springville**	**43.90**	**332**	⇓P	**P**	**07 27 08.5**	**+1.2**
	baz=44						
FURC	**Furnace Creek,**	**43.93**	**324**	⇓P	**P**	**07 27 09.3**	**+1.9**
	baz=44						
MPMC	**Manual Prospec**	**44.02**	**323**	⇑P	**P**	**07 27 09.9**	**+1.6**
	baz=44						
K21A	**Alcova**	**44.13**	**338**	⇓P	**P**	**07 27 10.2**	**+1.1**
	baz=44						
M18A	**Lyman**	**44.24**	**335**	⇓P	**P**	**07 27 11.0**	**+0.9**
	baz=44						
ISA	**Isabella**	**44.35**	**322**	⇑P	**P**	**07 27 12.9**	**+2.1**
	baz=44						
N16A	**Rees Ranch, Co**	**44.41**	**333**	⇑P	**P**	**07 27 12.9**	**+1.5**
	baz=45						
DUG	**Dugway**	**44.51**	**331**	⇓P	**P**	**07 27 12.9**	**+0.8**
	baz=45						
J22A	**Midwest**	**44.53**	**339**	⇓P	**P**	**07 27 13.2**	**+1.0**
	baz=45						
R11A	**Troy Canyon, C**	**44.54**	**327**	⇓P	**P**	**07 27 13.3**	**+0.8**
	baz=45						
M17A	**Scullys Gap (B**	**44.54**	**334**	⇓P	**P**	**07 27 12.9**	**+0.4**
	baz=45						
K20A	**Yellowstone Ra**	**44.57**	**337**	⇑P	**P**	**07 27 13.0**	**+0.4**
	baz=45,SNR=5.4						
GRAC	**Grapevine Rang**	**44.59**	**324**	⇓P	**P**	**07 27 14.7**	**+2.0**
	baz=45						
L18A	**Fontenelle, Gr**	**44.64**	**335**	⇑P	**P**	**07 27 13.8**	**+0.5**
	baz=45						
J21A	**Lysite**	**44.82**	**338**	⇑P	**P**	**07 27 15.5**	**+0.9**
	baz=45,SNR=11						
VES	**Vestal, Richgr**	**44.85**	**322**	⇓P	**P**	**07 27 16.6**	**+1.9**
	baz=45						
K19A	**Absolon Red Bu**	**44.91**	**337**	⇓P	**P**	**07 27 15.7**	**+0.4**
	baz=45						
N15A	**Stansbury Isla**	**44.91**	**332**	⇑P	**P**	**07 27 16.4**	**+1.1**
	baz=45						
I22A	**9 Mile Ranch,**	**44.95**	**340**	⇓P	**P**	**07 27 16.2**	**+0.6**
	baz=45						
HWUT	**Hardware Ranch**	**45.05**	**333**	*e*P	**P**	**07 27 16.9**	**+0.5**
	11nm,1.3s						
J20A	**Shoshoni**	**45.06**	**338**	⇓P	**P**	**07 27 17.8**	**+1.3**
	baz=45						
H24A	**Dirks Ranch, A**	**45.08**	**342**	⇓P	**P**	**07 27 17.4**	**+0.8**
	baz=45						
BW06	**Boulder Array**	**45.14**	**336**	⇑P	**P**	**07 27 17.7**	**+0.5**
	baz=45						
BW06				⇑P	**P**	**07 27 17.7**	**+0.5**
	baz=45						
PDAR	**Pinedale Array**	**45.14**	**336**	P	**P**	**07 27 16.9**	**-0.4**
	1.4nm,0.9s,baz=139,slow=8.7,SNR=11						
PDAR				LR	LR	07 45 29.3	
	comp=Z,95nm,18.9s,baz=337,slow=35						
PDAR	**Pinedale Array**	**45.14**	**336**	P	**P**	**07 27 16.9**	**-0.4**
PD02	**Pinedale Array**	**45.16**	**336**	*e*P	**P**	**07 27 17.4**	**0.0**
K18A	**Toltan Ranch,**	**45.23**	**336**	⇑P	**P**	**07 27 18.7**	**+0.8**
	baz=45,SNR=5.7						
L16A	**Fish Haven**	**45.31**	**334**	⇑P	**P**	**07 27 19.0**	**+0.4**
	baz=46						
M15A	**Larsen Ranch,**	**45.33**	**333**	⇓P	**P**	**07 27 19.3**	**+0.7**
	baz=46						
PLCA	**Paso Flores**	**45.33**	**163**	LR	LR	07 41 51.7	
	comp=Z,63nm,19.8s,baz=128,slow=30						
J19A	**Crowheart**	**45.36**	**337**	⇑P	**P**	**07 27 19.6**	**+0.7**
	baz=46						
I20A	**Worland**	**45.59**	**338**	⇓P	**P**	**07 27 21.4**	**+0.8**
	baz=46						
J18A	**Kendall Valley**	**45.70**	**336**	⇓P	**P**	**07 27 22.0**	**+0.4**
	baz=46						
L15A	**Malad City**	**45.73**	**333**	⇓P	**P**	**07 27 22.4**	**+0.5**
	baz=46						
H20A	**Greybull**	**46.01**	**339**	⇑P	**P**	**07 27 24.3**	**+0.4**
	baz=46						
I18A	**Diamond G Ranc**	**46.03**	**337**	⇑P	**P**	**07 27 24.7**	**+0.4**
	baz=46						
K16A	**Soda Springs**	**46.04**	**334**	⇑P	**P**	**07 27 25.1**	**+0.8**
	baz=46						
J17A	**Brown Place, J**	**46.11**	**336**	⇓P	**P**	**07 27 25.2**	**+0.3**
	baz=46,SNR=6.5						
NVAR	**Mina Array Bea**	**46.11**	**325**	P	**P**	**07 27 26.4**	**+1.4**
	2.5nm,0.9s,baz=150,slow=8.4,SNR=16						
NVAR				PcP	**PcP**	**07 29 01.6**	**+0.5**
	0.7nm,0.7s,baz=130,slow=4.9,SNR=4.2						
NVAR				LR	LR	07 44 28.8	
	comp=Z,68nm,20.9s,baz=0.2,slow=33						
NVAR	**Mina Array Bea**	**46.11**	**325**	P	**P**	**07 27 26.4**	**+1.4**
NVAR				PcP	**PcP**	**07 29 01.6**	**+0.5**
L14A	**Malta**	**46.15**	**332**	⇑P	**P**	**07 27 25.5**	**+0.4**
	baz=46						
F23A	**Volborg**	**46.22**	**342**	⇓P	**P**	**07 27 25.8**	**+0.3**
	baz=46,SNR=5.0						
RRI2	**Red Ridge**	**46.35**	**335**	*e*P	**P**	**07 27 27.0**	**+0.1**
	3.2nm,0.7s						
J16A	**Bone**	**46.41**	**335**	⇑P	**P**	**07 27 27.9**	**+0.6**
	baz=47						
RLMT	**Red Lodge**	**47.02**	**338**	⇑P	**P**	**07 27 32.3**	**+0.4**
	baz=47						
RLMT				⇑P	**P**	**07 27 32.3**	**+0.4**
	baz=47						
F20A	**Billings**	**47.20**	**340**	⇑P	**P**	**07 27 33.5**	**+0.2**
	baz=47						
G18A	**Lazy EL Ranch,**	**47.29**	**338**	⇓P	**P**	**07 27 34.5**	**+0.4**
	baz=48						
F19A	**Roth Farm, Mol**	**47.52**	**339**	⇑P	**P**	**07 27 36.4**	**+0.6**
	baz=48						
J13A	**Cove Ranch, Pi**	**47.64**	**333**	⇑P	**P**	**07 27 37.4**	**+0.6**
	baz=48						
I14A	**Mackay**	**47.73**	**334**	⇓P	**P**	**07 27 38.4**	**+0.9**
	baz=48						
D22A	**Cohagen**	**47.74**	**342**	⇑P	**P**	**07 27 37.8**	**+0.5**
	baz=48						
G17A	**Pierce Place,**	**47.74**	**337**	⇑P	**P**	**07 27 39.2**	**+1.7**
	baz=48						
E20A	**Meyer Farm, Mu**	**47.80**	**340**	⇑P	**P**	**07 27 38.3**	**+0.5**
	baz=48						
F18A	**Big Timber**	**47.85**	**338**	⇑P	**P**	**07 27 39.0**	**+0.7**
	baz=48						
HLID	**Hailey**	**47.88**	**333**	*e*P	**P**	**07 27 39.5**	**+0.9**
	3.8nm,1.1s						
HLID	**Hailey**	**47.88**	**333**	⇓P	**P**	**07 27 39.2**	**+0.6**
	baz=48,SNR=6.5						
H15A	**Lima**	**47.94**	**335**	⇓P	**P**	**07 27 40.3**	**+1.1**
	baz=48,SNR=5.5						
E19A	**Rath Farm, Rou**	**47.99**	**339**	⇑P	**P**	**07 27 40.2**	**+0.8**
	baz=48						
I13A	**Wildhorse Cree**	**48.02**	**333**	⇑P	**P**	**07 27 40.5**	**+0.7**
	baz=48						
G16A	**Moss Hill, Enn**	**48.09**	**336**	⇓P	**P**	**07 27 41.1**	**+0.8**
	baz=48						
H14A	**Leadore**	**48.24**	**335**	⇓P	**P**	**07 27 42.1**	**+0.6**
	baz=48						
D20A	**Manuel Ranch,**	**48.31**	**340**	⇑P	**P**	**07 27 42.8**	**+1.0**
	baz=48						
G15A	**Dillon**	**48.32**	**336**	⇓P	**P**	**07 27 43.5**	**+1.4**
	baz=48						
ULM	**Lac du Bonnet**	**48.37**	**352**	P	**P**	**07 27 40.1**	**-1.9**
	3.8nm,1.0s,baz=177,slow=7.7,SNR=3.3						
ULM	**Lac du Bonnet**	**48.37**	**352**	P	**P**	**07 27 40.1**	**-1.9**
I12A	**Atlanta**	**48.39**	**332**	⇓P	**P**	**07 27 43.2**	**+0.6**
	baz=49						
H13A	**Challis**	**48.59**	**334**	⇓P	**P**	**07 27 45.0**	**+0.9**
	baz=49						
D19A	**Cripps Ranch,**	**48.63**	**340**	⇓P	**P**	**07 27 44.4**	**+0.1**
	baz=49						
H12A	**Diamond D Ranc**	**48.85**	**333**	⇓P	**P**	**07 27 47.0**	**+0.9**
	baz=49						
C19A	**Slack Wire Ran**	**49.18**	**340**	⇑P	**P**	**07 27 49.2**	**+0.7**
	baz=49						
D17A	**Six Diamond Ra**	**49.26**	**338**	⇑P	**P**	**07 27 49.8**	**+0.6**
	baz=50						
G12A	**Big Creek, Yel**	**49.51**	**333**	⇑P	**P**	**07 27 51.6**	**+0.5**
	baz=50						
C17A	**Wharram Farm,**	**49.70**	**339**	⇑P	**P**	**07 27 53.2**	**+0.8**
	baz=50						
E14A	**Clinton**	**49.74**	**336**	⇓P	**P**	**07 27 53.5**	**+0.6**
	baz=50						
D15A	**Lincoln**	**49.86**	**337**	⇓P	**P**	**07 27 54.5**	**+0.7**
	baz=50						
C16A	**Fuhringer Ranc**	**50.20**	**338**	⇑P	**P**	**07 27 56.7**	**+0.4**
	baz=50						
MSO	**Missoula**	**50.26**	**336**	⇑P	**P**	**07 27 57.0**	**+0.2**
	baz=50						
A18A	**Metzger Ranch,**	**50.47**	**340**	⇓P	**P**	**07 27 58.4**	**+0.2**
	baz=51						
YBH	**Yreka Blue Hor**	**50.83**	**325**	P	**P**	**07 28 00.5**	**-0.7**
	1.2nm,0.7s,baz=130,slow=4.1,SNR=7.5						
YBH	**Yreka Blue Hor**	**50.83**	**325**	P	**P**	**07 28 00.5**	**-0.7**
A15A	**Johnson Ranch,**	**51.54**	**338**	⇑P	**P**	**07 28 06.9**	**+0.5**
	baz=52						
SCHQ	**Schefferville**	**54.76**	**14**	P	**P**	**07 28 27.1**	**-2.7**
	3.4nm,1.1s,baz=184,slow=5.4,SNR=4.5						
SCHQ	**Schefferville**	**54.76**	**14**	P	**P**	**07 28 27.1**	**-2.7**
YKA	**Yellowknife Ar**	**63.52**	**346**	P	P	07 29 26.9	-3.5
	0.8nm,0.8s,baz=142,slow=6.5,SNR=8.4						
YKA	**Yellowknife Ar**	**63.52**	**346**	P	P	07 29 26.9	-3.5
INK	**Inuvik**	**73.03**	**344**	P	**P**	**07 30 30.6**	**+0.7**
	2.2nm,0.8s,baz=113,slow=4.0,SNR=3.7						
INK	**Inuvik**	**73.03**	**344**	*e*P	**P**	**07 30 30.2**	**+0.3**
	5.0nm,1.1s						
ILAR	**Eielson Array**	**75.56**	**337**	P	**P**	**07 30 44.9**	**+0.2**
	0.6nm,0.8s,baz=144,slow=4.8,SNR=6.4						
ILAR	**Eielson Array**	**75.56**	**337**	P	**P**	**07 30 44.9**	**+0.2**
DBIC	**Dimbokro**	**81.59**	**84**	P	**P**	**07 31 18.0**	**-1.1**
	3.3nm,0.8s,baz=197,slow=11,SNR=4.4						
DBIC	**Dimbokro**	**81.59**	**84**	P	**P**	**07 31 18.0**	**-1.1**
ESDC	**Sonseca Array**	**82.88**	**50**	P	**P**	**07 31 23.7**	**-1.7**
	0.5nm,0.4s,baz=289,slow=5.5,SNR=3.3						
ESDC	**Sonseca Array**	**82.88**	**50**	P	**P**	**07 31 23.7**	**-1.7**
TORD	**Torodi Ar. Bea**	**87.87**	**77**	P	**P**	**07 31 49.3**	**-1.4**
	1.0nm,0.8s,baz=272,slow=4.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**87.87**	**77**	P	**P**	**07 31 49.3**	**-1.4**
ZALV	**Zalesovo Beam**	**123.45**	**6**	PKP	**PKPdf**	**07 37 55.9**	**-1.8**
	0.4nm,0.3s,baz=344,slow=4.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**123.45**	**6**	PKP	**PKPdf**	**07 37 56.0**	**-1.8**
ASAR	**Alice Springs**	**135.41**	**238**	PKP	**PKPdf**	**07 38 20.8**	**-0.6**
	0.4nm,0.6s,baz=108,slow=1.9,SNR=4.3						
ASAR	**Alice Springs**	**135.41**	**238**	PKP	**PKPdf**	**07 38 20.8**	**-0.6**
WRA	**Warramunga Arr**	**136.32**	**243**	PKP	**PKPdf**	**07 38 22.3**	**-0.9**
	0.6nm,0.8s,baz=110,slow=2.2,SNR=4.6						
WRA	**Warramunga Arr**	**136.32**	**243**	PKP	**PKPdf**	**07 38 22.3**	**-0.9**

*ISK **23** 07:39:16.6,34˚.94N×33˚.98E,h30km,MD3.1*
*NIC **23** 07:39:18.4±0.3,35˚.03N×33˚.87E,h51km,ML3.1,MW3.2*
*DDA **23** 07:39:18.6,35˚.38N×34˚.14E,h8km,MD3.0*
*ISCJB **23** 07:39:18.3±0.4,35˚.06N±0˚.03×33˚.93E±0˚.03,h51km±6km,*
Error ellipse: s-maj=5.3km s-min=4.2km az=3.8
*CSEM **23** 07:39:19.1±0.1,35˚.05N×33˚.89E,h40km,Mw3.2, Error*
ellipse: s-maj=4.8km s-min=2.9km az=167.0
*NSSC **23** 07:39:21.3±6.1,34˚.98N×34˚.27E,h39km±999km, ML2.5*
ISC 23 07:39:19.2±1.2, 35˚.07N±0˚.03×33˚.90E±0˚.02, h46km±7km, n65,σ1°04/85, 6C-3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.13**	**122**	P			**Pn**	**07 39 26.6**	**0.0**
PHNC				S			**Sn**	**07 39 32.7**	**+0.9**
PHNC	**Paralimni**	**0.13**	**122**	P			**Pn**	**07 39 26.6**	**0.0**
PHNC				S			**Sn**	**07 39 32.7**	**+0.9**
CSS	**Prodhromos**	**0.48**	**257**	P			**Pn**	**07 39 28.9**	**-1.1**
CSS				S			**Sn**	**07 39 37.4**	**-0.3**
CSS	**Prodhromos**	**0.48**	**257**	*e*PG			**Pn**	**07 39 28.6**	**-1.4**
CSS				*e*SG			**Sn**	**07 39 36.7**	**-1.0**
CSS	**Prodhromos**	**0.48**	**257**	*e*Pg			**Pn**	**07 39 28.6**	**-1.4**
CSS	**Prodhromos**	**0.48**	**257**	P			**Pn**	**07 39 28.9**	**-1.1**
CSS				*e*Sg			**Sn**	**07 39 36.7**	**-1.0**
CSS				S				07 39 37.4	
EREN	**Erenkoy**	**0.51**	**26**	*e*PG			**Pn**	**07 39 29.6**	**-0.7**
EREN				*e*SG			**Sn**	**07 39 38.5**	**+0.3**
EREN	**Erenkoy**	**0.51**	**26**	*e*Pg			**Pn**	**07 39 29.6**	**-0.7**
EREN				*e*Sg			**Sn**	**07 39 38.5**	**+0.3**
MAMC	**Mammari**	**0.57**	**280**	P			**Pn**	**07 39 30.6**	**-0.5**
MAMC	**Mammari**	**0.57**	**280**	P			**Pn**	**07 39 30.6**	**-0.5**
LEF	**Lefka**	**0.83**	**274**	*e*PG			**Pn**	**07 39 33.5**	**-1.0**
LEF	**Lefka**	**0.83**	**274**	*e*Pg			**Pn**	**07 39 33.5**	**-1.0**
SZAC	**Souni-Zanaja**	**0.89**	**250**	P			**Pn**	**07 39 35.3**	**-0.1**
SZAC				S			**Sn**	**07 39 48.2**	**+0.9**
SZAC	**Souni-Zanaja**	**0.89**	**250**	P			**Pn**	**07 39 35.3**	**-0.1**
SZAC				S			**Sn**	**07 39 48.2**	**+0.9**
ALFC	**Alevga**	**1.07**	**275**	⇓P			**Pn**	**07 39 36.7**	**-1.1**
	10nm,0.3s								
ALFC				S			**Sn**	**07 39 49.9**	**-1.7**
ALFC	**Alevga**	**1.07**	**275**	⇓*i*P			**Pn**	**07 39 36.7**	**-1.1**
	10nm,0.3s								
ALFC				S			**Sn**	**07 39 49.9**	**-1.7**
AKMC	**Akamas**	**1.29**	**268**	P			**Pn**	**07 39 41.0**	**+0.2**
AKMC	**Akamas**	**1.29**	**268**	P			**Pn**	**07 39 41.0**	**+0.2**
PPCY	**Paphos**	**1.29**	**262**	P			**Pn**	**07 39 40.8**	**0.0**
PPCY	**Paphos**	**1.29**	**262**	P			**Pn**	**07 39 40.8**	**0.0**
ERMK	**Ermenek**	**1.76**	**333**	*e*P			**Pn**	**07 39 48.4**	**+1.0**
ERMK				*i* S			**Sn**	**07 40 10.4**	**+1.6**
ERMK	**Ermenek**	**1.76**	**333**	*e*P			**Pn**	**07 39 48.4**	**+1.0**
ERMK				*i* S			**Sn**	**07 40 10.4**	**+1.6**
HWQ	**Hawqa**	**1.86**	**115**	*e*P			**Pn**	**07 39 48.4**	**-0.3**
HWQ	**Hawqa**	**1.86**	**115**	*e*P			**Pn**	**07 39 48.4**	**-0.3**
MERS	**Mersin**	**1.86**	**16**	*e*PN			**Pn**	**07 39 48.5**	**-0.2**
MERS	**Mersin**	**1.86**	**16**	*e*Pn			**Pn**	**07 39 48.5**	**-0.2**
ARNB	**Al Arnab**	**1.86**	**64**	*e*P			Pn	07 39 42.5	-6.3
ARNB				*i* S			Sn	07 40 01.9	-9.2
ARNB				*e*S				07 40 03.3	
ARNB				AML			AML	07 40 10.8	
	comp=E,47nm,0.2s								
ARNB				AML			AML	07 40 16.3	
	comp=Z,33nm,0.6s								
ARNB				AML			AML	07 40 19.5	
	comp=N,47nm,0.4s								
KRTS	**Karatas**	**1.92**	**38**	*e*PN			**Pn**	**07 39 49.0**	**-0.3**
KRTS	**Karatas**	**1.92**	**38**	*e*Pn			**Pn**	**07 39 49.0**	**-0.3**
BIDA	**Albida**	**1.99**	**91**	*e*P			**Pn**	**07 39 49.8**	**-0.6**
BIDA				*e*S			**Sn**	**07 40 11.1**	**-3.1**
YAYL	**Yayladag**	**2.04**	**61**	*i* P			**Pn**	**07 39 51.0**	**-0.2**
YAYL				*i* S			**Sn**	**07 40 14.4**	**-1.1**
YAYL	**Yayladag**	**2.04**	**61**	*i* P			**Pn**	**07 39 51.0**	**-0.2**
YAYL				*i* S			**Sn**	**07 40 14.4**	**-1.1**
HAWK	**Haweek**	**2.13**	**104**	*e*P			**Pn**	**07 39 51.1**	**-1.3**
HAWK				AML			AML	07 40 16.9	
	comp=Z,47nm,0.3s								
HAWK	**Haweek**	**2.13**	**104**	⇑*e*P			**Pn**	**07 39 52.1**	**-0.2**
HAWK				AML			AML	07 40 17.9	
	comp=Z,47nm,0.3s								
HAWK	**Haweek**	**2.13**	**104**	*e*P			**Pn**	**07 39 51.1**	**-1.3**
HAWK				AML			AML	07 40 16.9	
	comp=Z,47nm,0.3s								
HAWK	**Haweek**	**2.13**	**104**	⇑*e*P			**Pn**	**07 39 52.2**	**-0.2**
	SNR=45								
RCY	**Rachaya**	**2.24**	**134**	*e*P			**Pn**	**07 39 53.3**	**-0.7**
RCY	**Rachaya**	**2.24**	**134**	*e*P			**Pn**	**07 39 53.3**	**-0.7**
BTCH	**Batrach**	**2.30**	**64**	*e*P			**Pn**	**07 39 52.4**	**-2.3**
BTCH	**Batrach**	**2.30**	**64**	⇑*e*P			**Pn**	**07 39 55.8**	**+1.1**
BTCH				*e*S			**Sn**	**07 40 20.7**	**-1.0**
BTCH				AML			AML	07 40 22.8	
	comp=E,134nm,0.3s								
BTCH				AML			AML	07 40 23.2	
	comp=Z,48nm,0.3s								
BTCH				AML			AML	07 40 31.5	
	comp=N,54nm,0.6s								
BTCH	**Batrach**	**2.30**	**64**	*e*P			**Pn**	**07 39 52.4**	**-2.3**
BTCH				*e*S			Sn	07 40 13.7	-8.1
BTCH	**Batrach**	**2.30**	**64**	⇑*e*P			**Pn**	**07 39 55.8**	**+1.1**
	SNR=45								
BTCH				*e*S			**Sn**	**07 40 20.7**	**-1.1**
	comp=N,54nm,0.6s,SNR=40								
GULE	**Gulek**	**2.32**	**18**	*i* P			**Pn**	**07 39 55.7**	**+0.7**
GULE	**Gulek**	**2.32**	**18**	*i* P			**Pn**	**07 39 55.7**	**+0.7**
BRBR	**Barbar**	**2.37**	**134**	*e*P			Pn	07 39 50.6	-5.1
BRBR				*e*S			Sn	07 40 17.1	-6.7
BRBR				AML			AML	07 40 19.4	
	comp=Z,69nm,0.6s								
BRBR	**Barbar**	**2.37**	**134**	*e*P			**Pn**	**07 39 55.9**	**+0.1**
BRBR				AML			AML	07 40 24.4	
	comp=Z,69nm,0.6s								
KFRA	**Kufra**	**2.38**	**86**	*e*P			Pn	07 39 51.2	-4.5
KFRA				AML			AML	07 40 21.7	
	comp=Z,82nm,0.1s								
KFRA	**Kufra**	**2.38**	**86**	⇓*e*P			Pn	07 39 51.5	-4.3
KFRA				AML			AML	07 40 20.2	
	comp=N,216nm,0.3s								
KFRA				AML			AML	07 40 20.5	
	comp=E,276nm,0.3s								
KFRA				AML			AML	07 40 21.7	
	comp=Z,82nm,0.1s								
TOTH	**TOTAH**	**2.70**	**128**	⇑*e*P			**Pn**	**07 40 01.1**	**+0.9**
TOTH	**TOTAH**	**2.70**	**128**	*e*P			**Pn**	**07 40 01.0**	**+0.8**
TOTH				*e*S			**Sn**	**07 40 31.1**	**-0.5**
TOTH				AML			AML	07 40 33.9	
	comp=E,60nm,0.4s								
TOTH				AML			AML	07 40 34.7	
	comp=N,36nm,0.3s								
TOTH				AML			AML	07 40 34.8	
	comp=Z,62nm,0.5s								
TOTH	**TOTAH**	**2.70**	**128**	⇑*e*P			**Pn**	**07 40 01.1**	**+0.9**
TOTH				AML			AML	07 40 34.0	
	comp=E,60nm,0.4s								
TOTH				AML			AML	07 40 34.7	
	comp=Z,62nm,0.5s								
TOTH				AML			AML	07 40 34.8	
	comp=N,36nm,0.3s								
TOTH	**TOTAH**	**2.70**	**128**	*e*P			**Pn**	**07 40 01.0**	**+0.8**
	SNR=45								
TOTH				*e*S			**Sn**	**07 40 31.1**	**-0.6**
	comp=N,62nm,0.5s,SNR=40								
DRWC	**Darouich**	**2.73**	**55**	AML			AML	07 40 34.3	
	comp=Z,14nm,0.6s								
KOZT	**Kozan**	**2.86**	**32**	*e*PN			**Pn**	**07 40 02.4**	**0.0**
KOZT	**Kozan**	**2.86**	**32**	*e*Pn			**Pn**	**07 40 02.4**	**0.0**
KUZU	**Kuzuini**	**3.08**	**56**	*e*P			**Pn**	**07 40 05.7**	**+0.3**
KUZU				*i* S			**Sn**	**07 40 39.6**	**-1.6**
KUZU	**Kuzuini**	**3.08**	**56**	*e*P			**Pn**	**07 40 05.7**	**+0.3**
KUZU				*i* S			**Sn**	**07 40 39.6**	**-1.5**
SALA	**Sala**	**3.33**	**134**	*e*P			**Pn**	**07 40 10.9**	**+2.0**
SALA	**Sala**	**3.33**	**134**	*e*P			**Pn**	**07 40 10.5**	**+1.5**
SALA				*e*S			**Sn**	**07 40 47.7**	**+0.3**
SALA				AML			AML	07 40 50.9	
	comp=Z,40nm,0.4s								
SALA				AML			AML	07 40 55.9	
	comp=E,2.7nm,0.4s								
SALA				AML			AML	07 40 57.3	
	comp=N,33nm,0.4s								
SALA	**Sala**	**3.33**	**134**	*e*P			**Pn**	**07 40 10.4**	**+1.4**
SALA				*e*S			**Sn**	**07 40 47.9**	**+0.6**
SALA				AML			AML	07 40 51.0	
	comp=Z,40nm,0.4s								
ZALF	**Zalf**	**3.57**	**126**	*e*P			**Pn**	**07 40 13.1**	**+1.1**
ZALF	**Zalf**	**3.57**	**126**	*e*P			**Pn**	**07 40 12.7**	**+0.7**
ZALF				*e*S			**Sn**	**07 40 53.3**	**+0.3**
ZALF	**Zalf**	**3.57**	**126**	*e*P			**Pn**	**07 40 12.8**	**+0.7**
ZALF				AML			AML	07 40 58.9	
	comp=N,12nm,0.6s								
ZALF				AML			AML	07 41 01.8	
	comp=Z,11nm,0.5s								
AKCD	**Akcadag**	**4.56**	**44**	*i* P			**Pn**	**07 40 27.3**	**+1.6**
AKCD	**Akcadag**	**4.56**	**44**	*i* P			**Pn**	**07 40 27.3**	**+1.6**

IDC 23 07:45:13.7±2.6, 1°26S×133°53E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=96.3km s-min=27.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.45**	**204**	P			Pn	07 49 30.4	-0.6
	0.2nm,0.3s,baz=25,slow=12,SNR=5.2								
WRA	**Warramunga Arr**	**18.59**	**178**	P			Pn	07 49 32.8	0.0
	0.3nm,0.3s,baz=357,slow=12,SNR=14								
ASAR	**Alice Springs**	**22.28**	**179**	P			P	07 50 12.8	+0.1
	1.8nm,0.7s,baz=359,slow=12,SNR=14								
MKAR	**Makanchi Array**	**65.53**	**324**	P			P	07 55 59.0	-0.1
	0.2nm,0.4s,baz=107,slow=6.8,SNR=3.9								

*NEIC **23** 08:09:11.4±0.5,0.˚13S×123˚.18E,h35km,mb4.6/5, Error*
ellipse: s-maj=18.4km s-min=8.2km az=72.0
*ISCJB **23** 08:09:13.5±0.5,0.˚27S±0˚.04×123˚.01E±0˚.05,h78km±6km,*
mb4.1/16, Error ellipse: s-maj=7.7km s-min=7.1km az=6.9
*IDC **23** 08:09:14.1±2.1,0˚.27S×123˚.02E,h70km±18km, mb3.7/10,*
mb1 3.8/12,mb1mx3.7/20,mbtmp3.7/12,MS2.9/3,
Ms1 3.0/3,ms1mx2.5/25, Error ellipse: s-maj=22.8km
s-min=12.7km az=84.0
*DJA **23** 08:09:15,0.˚32S×122˚.96E,h58km,MLv4.7/14*
ISC 23 08:09:14.4±1.1, 0°23S±0˚.06×123°03E±0˚.09, h68km±10km, n50,σ1°17/49, mb4.1/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.85**	**198**	P			**Pn**	**08 09 30.8**	**-0.2**
KMSI	**Cibinong**	**1.24**	**50**	P			Pn	08 09 36.2	+0.3
MRSI	**Marisa**	**1.29**	**303**	P			Pn	**08 09 36.1**	**-0.4**
MNI	**Manado**	**2.46**	**48**	P			Pn	08 09 53.9	+1.7
KDI	**Kendari**	**3.73**	**186**	P			**Pn**	**08 10 09.6**	**0.0**
LBMI	**Labuha**

SONM	Songino Array	50.01	345	P	P	08 18 02.6	+0.6
MKAR	Makanchi Array	58.82	328	P	P	08 19 05.5	-0.2
	comp=Z,0.5nm,0.4s,baz=120,slow=8.8,SNR=17						
MKAR	Makanchi Array	58.82	328	P	P	08 19 05.5	-0.2
PETK	Petropavlovsk-	60.48	23	P	P	08 19 17.1	+0.1
	comp=Z,2.6nm,0.6s,baz=197,slow=5.4,SNR=7.8						
PETK	Petropavlovsk-	60.48	23	P	P	08 19 17.1	+0.1
ZALV	Zalesovo Beam	62.53	336	P	P	08 19 30.7	-0.1
	comp=Z,0.7nm,0.7s,baz=107,slow=5.1,SNR=4.4						
ZALV	Zalesovo Beam	62.53	336	P	P	08 19 30.7	-0.1
KURK	Kurchatov	63.18	330	P	P	08 19 34.9	-0.3
	comp=Z,0.5nm,0.5s,baz=123,slow=6.1,SNR=5.5						
KURK	Kurchatov	63.18	330	*e*P	P	08 19 35.1	-0.2
	comp=Z,1.5nm,0.5s						
ARCES	ARCESS Array B	92.85	340	P	P	08 22 18.4	-0.9
	comp=Z,1.8nm,0.8s,baz=76,slow=10,SNR=6.2						
ARCES	ARCESS Array B	92.85	340	P	P	08 22 18.4	-0.9
TORD	Torodi Ar. Bea	120.49	285	PKP	PKPdf	08 27 57.6	-1.6
	comp=Z,0.2nm,0.7s,baz=107,slow=1.5,SNR=2.5						
TORD	Torodi Ar. Bea	120.49	285	PKP	PKPdf	08 27 57.6	-1.6

ISCJB ***23*** *08:17:14.5±0.5, 39°59N±0°.03×33°.28E±0°.03, h3km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=163.9*
ISK ***23*** *08:17:14.3, 39°.59N×33°.24E, h7km, MD2.7*
CSEM ***23*** *08:17:14.5±0.2, 39°.58N×33°.25E, h5km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.4km az=156.0*
DDA ***23*** *08:17:14.4, 39°.54N×33°.24E, h6km, MD2.8, ML2.9*
ISC 23 08:17:14.5±1.0, 39°.61N±0°.03×33°.26E±0°.02, h5km±10km, n25, σ0°79/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBAL	Bala	0.12	239	*i* P	Pg	08 17 16.5	-0.6
BBAL				*i* S	Sg	08 17 18.5	-0.3
BBAL	Bala	0.12	239	*i* P	Pg	08 17 16.5	-0.6
BBAL				*i* S	Sg	08 17 18.5	-0.3
AFSR	Afˇar-Bala (A	0.21	222	*e*PG	Pg	08 17 18.6	-0.2
AFSR	Afˇar-Bala (A	0.21	222	*e*Pg	Pg	08 17 18.6	-0.2
KAMT	Kaman	0.42	124	*e*PG	Pg	08 17 23.1	+0.3
KAMT				*e*SG	Sg	08 17 29.6	+1.3
KAMT	Kaman	0.42	124	*e*Pg	Pg	08 17 23.1	+0.3
KAMT				*e*Sg	Sg	08 17 29.6	+1.3
LOD	Lodumlu	0.47	307	*e*PG	Pg	08 17 23.7	0.0
LOD				*e*SG	Sg	08 17 31.1	+1.3
LOD	Lodumlu	0.47	307	*e*Pg	Pg	08 17 23.7	0.0
LOD				*e*Sg	Sg	08 17 31.1	+1.3
CDAG	Cicekdag	0.86	88	*i* P	Pg	08 17 31.2	+0.1
CDAG				*i* S	Sg	08 17 41.3	-1.0
CDAG	Cicekdag	0.86	88	*i* P	Pg	08 17 31.2	+0.1
CDAG				*i* S	Sg	08 17 41.3	-1.0
ELDT	Eldivan	0.89	8	*i* P	Pb	08 17 32.7	+0.1
ELDT				*i* S	Sn	08 17 47.2	-0.1
ELDT	Eldivan	0.89	8	*i* P	Pb	08 17 32.7	+0.1
CANT	Cankiri	1.04	15	*e*PG	Pn	08 17 35.6	-0.2
CORM	Corum	1.20	61	*e*PN	Pg	08 17 37.9	+0.3
CORM	Corum	1.20	61	*e*Pn	Pg	08 17 37.9	+0.3
KIZT	Kizilcal	1.29	236	*e*PN	Pn	08 17 39.2	-0.1
KIZT	Kizilcal	1.29	236	*e*Pn	Pn	08 17 39.2	-0.1
KDHN	Kadinhani	1.40	220	*i* P	Pn	08 17 40.5	-0.3
KDHN				*i* S	Sg	08 18 02.0	+2.5
KDHN	Kadinhani	1.40	220	*i* P	Pn	08 17 40.5	-0.3
CTKT	Corum	1.56	49	*i* P	Pg	08 17 44.5	+0.2
CTKT				*i* S	Sn	08 18 02.2	-1.4
CTKT	Corum	1.56	49	*i* P	Pg	08 17 44.5	+0.2
CTKT				*i* S	Sn	08 18 02.2	-1.4
LADK	Ladik-KONYA	1.57	207	*e*PN	Pn	08 17 43.0	-0.1
LADK	Ladik-KONYA	1.57	207	*e*Pn	Pn	08 17 43.0	-0.1
YOZ	Yozgat	1.59	88	*e*PN	Pn	08 17 43.5	0.0
YOZ	Yozgat	1.59	88	*e*Pn	Pn	08 17 43.5	0.0

ISCJB ***23*** *08:25:58.4±0.4, 56°.96S±0°.06×25°.2W±0°.1, h10km, mb4.7/21, MS4.6/9, Error ellipse: s-maj=10.4km s-min=7.3km az=138.9*
IDC ***23*** *08:25:58.3±0.4, 56°.91S×25°.14W, h0km, mb4.7/12, mb1 4.7/12, mb1mx4.7/15, mbtmp4.7/12, MS4.6/6, Ms1 4.5/6, ms1mx4.3/14, Error ellipse: s-maj=19.9km s-min=14.7km az=3.0*
BJI ***23*** *08:26:00.2, 57°.10S×25°.10W, h10km, mB5.5/4, Ms5.2/5, Ms7 4.9/5*
NEIC ***23*** *08:26:03.9±0.2, 57°.04S×25°.13W, h35km, mb4.7/12, Error ellipse: s-maj=9.1km s-min=6.9km az=191.0*
ISC 23 08:26:00.8±1.7, 57°.00S±0°.09×25°.25W±0°.07, h15km±9km, n334, σ1812/349, mb4.8/21, MS4.7/9, 85C-101D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	15.51	159	*e*	Pn	08 29 39.2	+0.6
VNA3	Neumayer Olymp	15.74	161	*e*	Pn	08 29 41.8	+0.2
VNA2	Neumayer--Watz	15.91	158	*e*	Pn	08 29 44.5	+0.7
SNAA	Sanae	17.44	156	*e*	Pn	08 30 01.7	-1.5
SNAA	Sanae	17.44	156	*e*P	Pn	08 30 01.6	-1.6
	44nm,1.2s						
EFI	East Falkland	19.73	272	*e*P	Pn	08 30 30.9	-0.2
	39nm,0.8s						
PMSA	Palmer Station	20.12	231	P	P	08 30 33.8	+0.1
	36nm,0.9s,baz=242,slow=3.4,SNR=2.7						
PMSA	Palmer Station	20.12	231	P	P	08 30 33.8	+0.1
MAIT	Maitri	20.85	146	*e*P	Pn	08 30 43.4	-0.7
USHA	Ushuaia	24.00	257	P	P	08 31 15.2	+0.6
	24nm,0.8s,baz=86,slow=9.7,SNR=11						
USHA				LR	LR	08 38 28.7	
	comp=Z,1μm,20.7s,baz=91,slow=31						
USHA	Ushuaia	24.00	257	P	P	08 31 15.2	+0.6
SYO	Syowa Base	30.16	140	*e*P	P	08 32 07.6	-2.1
TRQA	Tornquist	30.68	292	*e*P	P	08 32 14.3	-0.4
	5.0nm,0.6s						
PLCA	Paso Flores	33.23	280	P	P	08 32 36.4	-0.6
	2.3nm,0.8s,baz=131,slow=6.4,SNR=6.9						
PLCA				ScP	ScP	08 39 03.3	+0.6
	3.6nm,0.8s,baz=128,slow=3.0,SNR=10						
PLCA				LR	LR	08 45 16.5	
	comp=Z,821nm,20.6s,baz=124,slow=35						
PLCA	Paso Flores	33.23	280	*e*P	P	08 32 36.6	-0.5
	4.6nm,1.2s						
PLCA				ScP	ScP	08 39 03.3	+0.6
MAW	Mawson	38.74	142	LR	LR	08 46 53.8	
	comp=Z,506nm,19.8s,baz=249,slow=32						
CFAA	Coronel Fontan	38.92	292	P	P	08 33 24.1	-1.7
	0.8nm,0.8s,baz=147,slow=9.0,SNR=19						
CFAA				PcP	PcP	08 35 35.0	-1.3
	0.4nm,0.5s,baz=174,slow=2.2,SNR=4.2						
CFAA				S	S	08 39 14.5	-9.0
	0.1nm,0.5s,baz=204,slow=17,SNR=4.2						
CFAA				ScP	ScP	08 39 23.3	-0.4
	0.3nm,0.6s,baz=155,slow=4.3,SNR=6.1						
CFAA	Coronel Fontan	38.92	292	P	P	08 33 24.1	-1.7
CFAA				PcP	PcP	08 35 35.0	-1.3
CFAA				S	S	08 39 14.5	-9.0
CFAA				ScP	ScP	08 39 23.3	-0.4
SUR	Sutherland	39.88	72	LR	LR	08 46 35.0	
	comp=Z,1μm,18.1s,baz=186,slow=31						
BOSA	Boshof	45.19	73	P	P	08 34 15.5	-1.6
	5.6nm,0.8s,baz=222,slow=14,SNR=5.7						
BOSA				LR	LR	08 49 28.0	
	comp=Z,1μm,19.1s,baz=216,slow=31						
BOSA	Boshof	45.19	73	P	P	08 34 15.5	-1.6
VNDA	Vanda	45.67	182	*e*P	P	08 34 18.9	-1.3
	7.6nm,0.7s						
LBTB	Lobatse	48.28	70	P	P	08 34 40.1	-1.2
	10nm,1.0s,baz=233,slow=7.7,SNR=7.4						
LBTB	Lobatse	48.28	70	*e*P	P	08 34 39.9	-1.4
	15nm,1.1s						
SIV	San Ignacio	49.01	312	P	P	08 34 47.4	+0.5
	8.4nm,0.6s,baz=165,slow=7.1,SNR=42						
SIV	San Ignacio	49.01	312	P	P	08 34 47.4	+0.5
TSUM	Tsumeb	49.24	58	*e*P	P	08 34 48.0	-0.7
	29nm,1.4s						
LPAZ	La Paz	51.80	304	P	P	08 35 09.7	+1.0
	73nm,0.7s,baz=133,slow=4.7,SNR=110						
LPAZ	La Paz	51.80	304	*e*P	P	08 35 09.2	+0.6
	61nm,0.6s						
SAML	Samuel	56.24	313	*e*P	P	08 35 40.6	+0.2
	8.3nm,0.6s						
DBIC	Dimbokro	65.61	22	P	P	08 36 42.9	-1.1
	3.9nm,0.8s,baz=151,slow=9.7,SNR=5.4						
DBIC	Dimbokro	65.61	22	P	P	08 36 42.9	-1.1
ROSC	El Rosal	73.34	308	P	P	08 37 33.0	+0.7
	3.9nm,0.5s,baz=95,slow=14,SNR=5.8						
ROSC	El Rosal	73.34	308	*e*P	P	08 37 33.8	+1.5
TORD	Torodi Ar. Bea	73.38	27	P	P	08 37 31.4	-0.5
	11nm,0.8s,baz=196,slow=6.4,SNR=65						
TORD	Torodi Ar. Bea	73.38	27	P	P	08 37 31.4	-0.5
KMBO	Kilima Mbogo	74.39	67	*e*P	P	08 37 40.3	+2.0
	2.1nm,0.9s						
SDV	Santo Domingo	75.44	313	*e*P	P	08 37 45.1	+0.9
	6.5nm,0.7s						
RPZ	Rata Peaks	78.72	192	P	P	08 38 03.5	+1.3
	8.1nm,0.8s						
RPZ	Rata Peaks	78.72	192	P	P	08 38 03.5	+1.3
RKT	Rikitea	80.98	241	*e*LR	LR	09 03 40.9	
	151nm,27.8s						
TAM	Tamanrasset	83.60	28	*e*P	P	08 38 29.9	+1.6
	12nm,1.4s						
FORT	Forrest	89.69	157	*e*P	P	08 38 59.3	+1.2
	48nm,0.9s						
STKA	Stephens Creek	90.77	169	P	P	08 39 03.7	+0.6
	3.5nm,0.7s,baz=188,slow=5.5,SNR=4.9						
STKA				LR	LR	09 20 30.2	
	comp=Z,233nm,18.5s,baz=204,slow=36						
STKA	Stephens Creek	90.77	169	P	P	08 39 03.7	+0.6
PPT2	Papeete2	92.46	232	*e*LR	LR	09 08 57.0	
	352nm,23.2s						
ASAR	Alice Springs	97.75	161	P	P	08 39 35.2	0.0
	4.9nm,0.9s,baz=187,slow=4.2,SNR=28						
ASAR	Alice Springs	97.75	161	P	P	08 39 35.2	0.0
DZM	Mont Dzumac	100.62	191	*e*LR	LR	09 12 28.4	
	119nm,21.6s						
WRA	Warramunga Arr	101.46	160	P	Pdif	08 39 51.4	-0.4
	1.1nm,0.9s,baz=198,slow=4.0,SNR=6.2						
WRA	Warramunga Arr	101.46	160	P	Pdif	08 39 51.5	-0.4
628A	Black Gap, Mar	107.93	296	⇑P		08 44 27.4	
	baz=108						
TXAR	Lajitas Array	108.18	296	PKKP		08 55 52.4	
	0.5nm,1.0s,baz=323,slow=1.9,SNR=3.8						
W25A	X Bar L Ranch,	113.37	299	⇓P		08 44 38.0	
	baz=114						
V24A	Rampart Ranch,	114.17	299	⇓P	PKPdf	08 44 40.1	+0.9
	baz=114						
Y20A	Horse Springs,	114.23	295	⇓P	PKPdf	08 44 39.9	+0.6
	baz=114						
U25A	Circle Dot Ran	114.30	300	⇓P	PKPdf	08 44 40.6	+1.2
	baz=115						
T26A	Comanche Natio	114.54	301	⇑P	PKPdf	08 44 40.8	+1.0
	baz=115						
Y18A	Canyon Day Jun	114.95	294	⇓P	PKPdf	08 44 41.8	+1.2
	baz=115						
U23A	El Rito	115.10	298	⇓P	PKPdf	08 44 42.2	+1.3
	baz=115						
T24A	Torres, Weston	115.15	300	⇓P	PKPdf	08 44 42.3	+1.3
	baz=116						
W20A	Ramah	115.26	296	⇓P	PKPdf	08 44 42.4	+1.1
	baz=116						
S25A	Robets Cordova	115.33	300	⇑P	PKPdf	08 44 42.4	+1.2
	baz=116						
R26A	Arlington	115.38	302	⇓P	PKPdf	08 44 42.0	+0.8
	baz=116						
S24A	Houchin Ranch,	115.68	300	⇓P	PKPdf	08 44 43.1	+1.0
	baz=116						
U21A	Nageezi	115.89	297	⇑P	PKPdf	08 44 43.5	+1.0
	baz=116						
SDCO	Great Sand Dun	115.90	300	⇑P	PKPdf	08 44 43.1	+0.7
	baz=116						
SDCO				⇑P	PKPdf	08 44 43.1	+0.7
	baz=116						
X16A	Lo Mia Camp, P	116.16	293	⇓P	PKPdf	08 44 44.2	+1.2
	baz=116						
V18A	Ganado	116.43	295	⇑P	PKPdf	08 44 44.5	+1.0
	baz=117						
S22A	4UR Ranch, Cre	116.53	299	⇓P	PKPdf	08 44 44.6	+0.9
	baz=117						
U19A	Dine' College,	116.54	296	⇑P	PKPdf	08 44 44.3	+0.6
	baz=117						
Y14A	Wickenburg	116.57	292	⇓P	PKPdf	08 44 44.7	+1.1
	baz=117						
V17A	Tonalea, Kykot	116.79	295	⇑P	PKPdf	08 44 45.2	+1.1
	baz=117						
T19A	Beclabito	116.87	297	⇓P	PKPdf	08 44 45.1	+0.8
	baz=117						
S21A	Coal Bank Pass	116.93	298	⇓P	PKPdf	08 44 45.8	+1.3
	baz=117						
U18A	Rough Rock, Ch	116.96	296	⇓P	PKPdf	08 44 45.9	+1.4
	baz=117						
WUAZ	Wupatki	117.00	294	⇓P	PKPdf	08 44 45.8	+1.3
	baz=117						
P23A	Jefferson	117.36	301	⇑P	PKPdf	08 44 46.7	+1.4
	baz=118						
U16A	Tuba City	117.37	295	⇑P	PKPdf	08 44 46.4	+1.2
	baz=118						
R21A	Cimarron	117.37	299	⇑P	PKPdf	08 44 46.4	+1.2
	baz=118						
Q22A	Crested Butte,	117.46	299	⇑P	PKPdf	08 44 46.7	+1.3
	baz=118						
MONP	Monument Peak	117.50	288	⇑P	PKPdf	08 44 47.0	+1.4
	baz=118						
T18A	Mexican Hat	117.53	296	⇑P	PKPdf	08 44 46.8	+1.4
	baz=118						
ISCO	Idaho Springs	117.59	301	⇓P	PKPdf	08 44 47.1	+1.4
	baz=118						
BC3	Big Chuckawall	117.60	290	⇓P	PKPdf	08 44 46.9	+1.3
	baz=118						
R20A	Redvale	117.63	298	⇑P	PKPdf	08 44 47.2	+1.5
	baz=118						
T17A	Navajo Res., N	117.88	295	⇓P	PKPdf	08 44 47.7	+1.5
	baz=118,SNR=11						
W13A	Hualapai Mount	117.93	292	⇓P	PKPdf	08 44 47.6	+1.2
	baz=118						
P22A	Eagle	117.97	300	⇑P	PKPdf	08 44 47.5	+1.1
	baz=118						
R19A	Curley Farm, L	118.14	297	⇓P	PKPdf	08 44 47.8	+1.1
	baz=118						
BELC	Belle Mtn. Jos	118.16	290	⇑P	PKPdf	08 44 47.8	+1.0
	baz=118						
O22A	Kremmling	118.31	301	⇓P	PKPdf	08 44 47.6	+0.6
	baz=119						
S17A	Black Ridge (B	118.38	296	⇑P	PKPdf	08 44 48.3	+1.3
	baz=119						
R18A	Canyonlands Na	118.52	297	⇑P	PKPdf	08 44 47.9	+0.5
	baz=119						
GMRC	Granite Mounta	118.59	290	⇓P	PKPdf	08 44 48.6	+1.0
	baz=119						
Q19A	Hogan Spring (	118.66	298	⇑P	PKPdf	08 44 48.6	+1.1
	baz=119						
P20A	De Beque	118.67	299	⇑P	PKPdf	08 44 48.7	+1.1
	baz=119						
N22A	Wattenberg Ran	118.77	301	⇑P	PKPdf	08 44 48.6	+0.8
	baz=119						
BBRC	Big Bear Solar	118.84	289	⇑P	PKPdf	08 44 49.3	+1.1
	baz=119						
S16A	Weppner Ranch,	118.84	295	⇑P	PKPdf	08 44 48.5	+0.5
	baz=119						
R17A	Hanksville Air	118.95	297	⇑P	PKPdf	08 44 48.8	+0.6
	baz=119,SNR=5.4						
M23A	Laramie	118.95	302	⇑P	PKPdf	08 44 48.7	+0.6
	baz=119						
R16A	Teasdale	119.22	296	⇓P	PKPdf	08 44 50.4	+1.7
	baz=120						
TUQ	Turquoise Moun	119.24	291	⇑P	PKPdf	08 44 50.1	+1.3
	baz=120						
GSC	Goldstone	119.58	290	⇓P	PKPdf	08 44 50.2	+0.8
	baz=120						
O19A	Miners Draw (B	119.64	299	⇓P	PKPdf	08 44 50.3	+0.9
	baz=120						
N20A	Spence Gulch,	119.65	300	⇓P	PKPdf	08 44 50.2	+0.7
	baz=120						
M21A	Separation Pea	119.83	301	⇓P	PKPdf	08 44 50.0	+0.2
	baz=120						
EDW2	Edwards Air Fo	119.87	289	⇓P	PKPdf	08 44 50.9	+1.0
	baz=120						
O18A	Roosevelt	120.04	298	⇓P	PKPdf	08 44 51.3	+1.1
	baz=120						
L21A	Rawlins	120.11	301	⇓P	PKPdf	08 44 50.7	+0.4
	baz=120						
K22A	Casper	120.25	302	⇑P	PKPdf	08 44 50.7	+0.2
	baz=121						
P16A	Fountain Green	120.33	297	⇑P	PKPdf	08 44 52.6	+1.8
	baz=121						
O17A	Robinson Place	120.34	298	⇓P	PKPdf	08 44 52.2	+1.3
	baz=121						
FURC	Furnace Creek,	120.52	291	⇓P	PKPdf	08 44 53.0	+2.0
	baz=121						
MPMC	Manual Prospec	120.52	290	⇓P	PKPdf	08 44 53.0	+1.7
	baz=121						
K21A	Alcova	120.58	302	⇓P	PKPdf	08 44 52.6	+1.4
	baz=121						
L20A	Wamsutter	120.60	301	⇑P	PKPdf	08 44 52.4	+1.1
	baz=121						
P15A	Leamington	120.61	296	⇑P	PKPdf	08 44 52.7	+1.4
	baz=121						
ISA	Isabella	120.72	289	⇓P	PKPdf	08 44 52.8	+1.3
	baz=121						
J22A	Midwest	120.82	303	⇓P	PKPdf	08 44 51.3	-0.3
	baz=121						
H24A	Dirks Ranch, A	120.99	305	⇓P	PKPdf	08 44 51.8	+0.1
	baz=121						
K20A	Yellowstone Ra	121.10	301	⇓P	PKPdf	08 44 53.1	+0.9
	baz=121						
CWC	Cottonwood Cre	121.12	290	⇓P	PKPdf	08 44 53.4	+1.0
	baz=121						
L19A	Farson	121.15	300	⇓P	PKPdf	08 44 53.5	+1.2
	baz=122						
VES	Vestal, Richgr	121.18	289	⇓P	PKPdf	08 44 53.0	+0.7
	baz=121						
GRAC	Grapevine Rang	121.19	291	⇓P	PKPdf	08 44 53.3	+0.9
	baz=122						
J21A	Lysite	121.22	302	⇓P	PKPdf	08 44 52.7	+0.3
	baz=122						
M17A	Scullys Gap (B	121.29	299	⇓P	PKPdf	08 44 53.3	+0.7
	baz=122						
R11A	Troy Canyon, C	121.31	293	⇓P	PKPdf	08 44 53.3	+0.6
	baz=122						
L18A	Fontenelle, Gr	121.34	300	⇓P	PKPdf	08 44 54.0	+1.3
	baz=122						
DUG	Dugway	121.35	296	*e*PKPdf	PKPdf	08 44 53.5	+0.9
DUG	Dugway	121.35	296	⇑P	PKPdf	08 44 53.7	+1.0
	baz=122,SNR=5.4						
K19A	Absolon Red Bu	121.47	301	⇑P	PKPdf	08 44 52.9	0.0
	baz=122						
I21A	Big Trails, Te	121.51	303	⇓P	PKPdf	08 44 52.5	-0.4
	baz=122						
J20A	Shoshoni	121.52	302	⇓P	PKPdf	08 44 53.5	+0.6
	baz=122						
M16A	Huntsville	121.63	298	⇑P	PKPdf	08 44 54.1	+0.8
	baz=122						
H22A	Clearmont	121.68	304	⇓P	PKPdf	08 44 53.8	+0.7
	baz=122						
ULM	Lac du Bonnet	121.68	315	PKP	PKPdf	08 44 50.8	-2.0
	3.0nm,0.6s,baz=110,slow=2.1,SNR=6.3						
ULM	Lac du Bonnet	121.68	315	PKP	PKPdf	08 44 50.8	-2.0
N15A	Stansbury Isla	121.74	297	⇑P	PKPdf	08 44 54.5	+1.1
	baz=122						
BW06	Boulder Array	121.76	300	⇓P	PKPdf	08 44 53.7	+0.2
	baz=122						
BW06				⇓P	PKPdf	08 44 53.7	+0.2
	baz=122						
PDAR	Pinedale Array	121.76	300	PKP	PKPdf	08 44 52.8	-0.7
	0.8nm,0.7s,baz=134,slow=5.1,SNR=6.5						
PDAR				PKKPbc	PKKPab	08 54 49.2	-1.7
	0.6nm,0.8s,baz=108,slow=3.3,SNR=4.8						
PDAR	Pinedale Array	121.76	300	PKP	PKPdf	08 44 52.8	-0.7
PDAR				PKKPbc	PKKPab	08 54 49.2	-1.7
HWUT	Hardware Ranch	121.83	298	*e*PKPdf	PKPdf	08 44 53.9	+0.3
K18A	Toltan Ranch,	121.89	300	⇓P	PKPdf	08 44 54.5	+0.7
	baz=122						
J19A	Crowheart	121.90	301	⇑P	PKPdf	08 44 54.1	+0.4
	baz=122						
I20A	Worland	122.00	302	⇓P	PKPdf	08 44 53.9	+0.2
	baz=122						
L16A	Fish Haven	122.07	299	⇑P	PKPdf	08 44 54.6	+0.4
	baz=122						
F23A	Volborg	122.12	305	⇑P	PKPdf	08 44 54.1	+0.2
	baz=122						
G22A	Birney	122.14	304	⇑P	PKPdf	08 44 53.8	-0.1
	baz=122						
M15A	Larsen Ranch,	122.14	298	⇓P	PKPdf	08 44 54.9	+0.8
	baz=122,SNR=5.8						
J18A	Kendall Valley	122.32	301	⇑P	PKPdf	08 44 55.3	+0.7
	baz=123						
H20A	Greybull	122.35	303	⇓P	PKPdf	08 44 54.5	+0.1
	baz=123						
K17A	Gardner Place,	122.39	300	⇓P	PKPdf	08 44 55.8	+1.1
	baz=123						
I19A	Meeteetse	122.47	302	⇓P	PKPdf	08 44 56.1	+1.3
	baz=123						
L15A	Malad City	122.53	298	⇓P	PKPdf	08 44 55.7	+0.8
	baz=123,SNR=5.7						
I18A	Diamond G Ranc	122.59	301	⇓P	PKPdf	08 44 55.9	+0.8
	baz=123						
D24A	Glendive	122.72	307	⇑P	PKPdf	08 44 56.0	+1.0
	baz=123						
NVAR	Mina Array Bea	122.75	291	PKP	PKPdf	08 44 57.0	+1.5
	2.6nm,1.0s,baz=150,slow=2.6,SNR=14						
NVAR				PKKPbc	PKKPab	08 54 48.1	+0.9
	1.3nm,1.2s,baz=255,slow=2.9,SNR=4.2						
NVAR	Mina Array Bea	122.75	291	PKP	PKPdf	08 44 57.0	+1.5
NVAR				PKKPbc	PKKPab	08 54 48.1	+0.9
LOHW	Long Hollow	122.90	300	*e*PKPdf	PKPdf	08 44 55.9	+0.3
H19A	Powell	122.95	302	⇓P	PKPdf	08 44 56.4	+0.8
	baz=123						
L14A	Malta	122.96	297	⇓P	PKPdf	08 44 56.7	+1.0
	baz=123,SNR=5.0						
KOLN	Koldanda	122.99	89	*e*P	PKPdf	08 44 55.6	-0.7
	16nm,0.8s						
KOLN	Koldanda	122.99	89	*e*P	PKPdf	08 44 55.6	-0.7
G20A	Bridger	123.01	303	⇑P	PKPdf	08 44 56.0	+0.3
	baz=123						
MOOW	Moose Ponds	123.07	300	*e*PKPdf	PKPdf	08 44 56.6	+0.6
C24A	Savage	123.08	307	⇓P	PKPdf	08 44 56.4	+0.8
	baz=123						
I17A	Pilgrim Ck.	123.12	301	⇑P	PKPdf	08 44 57.5	+1.5
	baz=123						
J16A	Bone	123.12	300	⇑P	PKPdf	08 44 57.2	+1.1
	baz=123						
H18A	Shoshone NF, C	123.27	302	⇑P	PKPdf	08 44 56.7	+0.4
	baz=124						
FLWY	Flagg Ranch	123.30

	baz=125							
J13A	Cove Ranch, Pi	124.44	298	⇑P		PKPdf	08 44 59.7	+1.2
	baz=125,SNR=5.9							
I14A	Mackay	124.49	299	⇓P		PKPdf	08 45 00.4	+1.7
	baz=125,SNR=12							
H15A	Lima	124.62	300	⇓P		PKPdf	08 45 00.4	+1.5
	baz=125,SNR=5.5							
F17A	Fitzpatrick Pl	124.65	302	⇑P		PKPdf	08 45 00.4	+1.6
	baz=125							
HLID	Hailey	124.68	298	⇓P		PKPdf	08 45 00.5	+1.5
	baz=125							
G16A	Moss Hill, Enn	124.68	301	⇑P		PKPdf	08 45 00.2	+1.3
	baz=125							
FINES	FINESS Array B	124.73	27	PKP		PKPdf	08 44 57.9	-0.4
	2.8nm,0.9s,baz=140,slow=6.7,SNR=4.3							
FINES	FINESS Array B	124.73	27	PKP		PKPdf	08 44 57.9	-0.4
D19A	Cripps Ranch,	124.78	304	⇑P		PKPdf	08 44 59.7	+0.8
	baz=125							
I13A	Wildhorse Cree	124.80	298	⇑P		PKPdf	08 45 00.4	+1.1
	baz=125,SNR=5.4							
C20A	Veseth Ranch,	124.80	305	⇑P		PKPdf	08 45 00.2	+1.2
	baz=125							
E18A	Harlowton	124.81	303	⇑P		PKPdf	08 45 00.0	+0.9
	baz=125							
A22A	Carney Farms,	124.84	308	⇑P		PKPdf	08 44 59.9	+0.9
	baz=125							
MCMT	McKenzie Canyo	124.87	300	*e*PKPdf		PKPdf	08 45 00.5	+1.0
B21A	Ellsworth Farm	124.90	307	⇑P		PKPdf	08 45 00.6	+1.5
	baz=125							
BOZ	Bozeman (W)	124.91	301	⇓P		PKPdf	08 45 00.6	+1.2
	baz=125							
BOZ				⇓P		PKPdf	08 45 00.6	+1.2
	baz=125							
TAPN	Taplejung	124.91	93	*e*P		PKPdf	08 44 59.4	-0.7
	19nm,1.1s							
TAPN	Taplejung	124.91	93	*e*P		PKPdf	08 44 59.4	-0.7
G15A	Dillon	124.96	300	⇓P		PKPdf	08 45 00.8	+1.3
	baz=125,SNR=8.1							
H14A	Leadore	124.96	299	⇑P		PKPdf	08 45 00.8	+1.3
	baz=125,SNR=12							
F16A	Kennard Place,	125.01	301	⇑P		PKPdf	08 45 01.0	+1.5
	baz=125							
DLMT	Dillon	125.15	301	*e*PKPdf		PKPdf	08 45 01.3	+1.5
E17A	Martinsdale	125.16	303	⇑P		PKPdf	08 45 00.9	+1.1
	baz=126							
MFID	Camas Ranch	125.26	297	⇓P		PKPdf	08 45 01.2	+1.2
	baz=126							
A21A	Bergtoll Ranch	125.28	307	⇑P		PKPdf	08 45 00.7	+0.9
	baz=126							
C19A	Slack Wire Ran	125.28	305	⇓P		PKPdf	08 45 00.8	+0.9
	baz=126							
H13A	Challis	125.35	299	⇓P		PKPdf	08 45 01.6	+1.4
	baz=126,SNR=6.7							
B20A	Solberg Farm,	125.35	306	⇓P		PKPdf	08 45 01.2	+1.2
	baz=126							
F15A	Butte	125.46	301	⇑P		PKPdf	08 45 01.8	+1.3
	baz=126							
G14A	Jackson	125.47	300	⇑P		PKPdf	08 45 01.7	+1.2
	baz=126,SNR=8.4							
E16A	East Helena	125.59	302	⇓P		PKPdf	08 45 02.1	+1.5
	baz=126							
D17A	Six Diamond Ra	125.60	303	⇑P		PKPdf	08 45 01.7	+1.1
	baz=126							
H12A	Diamond D Ranc	125.63	298	⇑P		PKPdf	08 45 01.9	+1.1
	baz=126,SNR=6.2							
A20A	Cobblestone Ra	125.64	306	⇑P		PKPdf	08 45 01.8	+1.2
	baz=126							
G13A	Cobalt	125.73	299	⇓P		PKPdf	08 45 02.0	+1.1
	baz=126							
B19A	Brinkman Farms	125.78	305	⇓P		PKPdf	08 45 02.4	+1.6
	baz=126							
EGMT	Eagleton	125.82	305	⇓P		PKPdf	08 45 02.2	+1.3
	baz=126							
F14A	Wisdom	125.85	300	⇓P		PKPdf	08 45 02.7	+1.5
	baz=126							
D16A	Dana Ranch, Ca	125.90	303	⇓P		PKPdf	08 45 02.4	+1.2
	baz=126							
WVOR	Wild Horse Val	125.92	294	*e*PKPdf		PKPdf	08 45 03.1	+1.7
E15A	Deer Lodge	125.96	301	⇓P		PKPdf	08 45 02.7	+1.4
	baz=126							
C17A	Wharram Farm,	125.99	304	⇓P		PKPdf	08 45 02.1	+0.8
	baz=126							
A19A	Klindworth Far	126.04	306	⇑P		PKPdf	08 45 02.3	+1.0
	baz=126							
B18A	Beardsley Farm	126.10	305	⇓P		PKPdf	08 45 02.4	+0.9
	baz=126							
G12A	Big Creek, Yel	126.28	299	⇑P		PKPdf	08 45 03.1	+1.1
	baz=127							
F13A	Darby	126.29	300	⇓P		PKPdf	08 45 02.9	+0.9
	baz=127,SNR=7.2							
E14A	Clinton	126.35	301	⇓P		PKPdf	08 45 03.4	+1.3
	baz=127							
D15A	Lincoln	126.36	302	⇑P		PKPdf	08 45 03.3	+1.2
	baz=127							
B17A	L&G Farms, Che	126.49	304	⇑P		PKPdf	08 45 03.6	+1.4
	baz=127							
A18A	Metzger Ranch,	126.52	305	⇑P		PKPdf	08 45 03.3	+1.1
	baz=127							
C16A	Fuhringer Ranc	126.56	303	⇑P		PKPdf	08 45 03.1	+0.7
	baz=127							
CHMT	Chamberlain Mo	126.61	301	*e*PKPdf		PKPdf	08 45 03.8	+1.2
E13A	Victor	126.70	300	⇓P		PKPdf	08 45 04.1	+1.4
	baz=127,SNR=12							
D14A	Greenough	126.85	301	⇑P		PKPdf	08 45 03.4	+0.4
	baz=127,SNR=5.5							
MSO	Missoula	126.87	301	*e*PKPdf		PKPdf	08 45 03.9	+0.9
MSO	Missoula	126.87	301	⇑P		PKPdf	08 45 04.1	+1.1
	baz=127,SNR=7.9							
A17A	Triple J Farms	126.92	305	⇓P		PKPdf	08 45 04.1	+1.2
	baz=127							
C15A	Salmond Ranch,	126.94	303	⇓P		PKPdf	08 45 03.7	+0.5
	baz=127							
SLMT	Seeley Lake	126.96	302	*e*PKPdf		PKPdf	08 45 03.4	+0.2
B16A	M & M Farms, S	126.99	304	⇑P		PKPdf	08 45 03.5	+0.4
	baz=127							
ABKAR	Akbulak array	127.03	55	*e*PKPdf		PKPdf	08 45 02.7	-0.4
BMO	Blue Mountains	127.04	297	*e*PKPdf		PKPdf	08 45 03.9	+0.6
AKTO	Aktyubinsk	127.04	53	PKP		PKPdf	08 45 02.1	-1.0
	3.2nm,0.9s,baz=227,slow=2.0,SNR=6.5							
AKTO	Aktyubinsk	127.04	53	PKP		PKPdf	08 45 02.1	-1.0
D13A	Huson	127.30	301	⇑P		PKPdf	08 45 04.4	+0.6
	baz=128,SNR=6.5							
B15A	Bradely Ranch,	127.31	303	⇑P		PKPdf	08 45 03.8	0.0
	baz=128							
SWMT	Swartz Lake	127.39	301	*e*PKPdf		PKPdf	08 45 04.4	+0.4
C14A	Swan Lake	127.46	302	⇓P		PKPdf	08 45 04.7	+0.6
	baz=128							
KK31	Karatay Array	127.59	67	Pn		PKPdf	08 45 04.2	-0.2
	10nm,1.1s,baz=201,slow=17,SNR=28							
KK31				Lg		Lg	08 45 51.7	
	0.4nm,0.3s,baz=200,slow=29,SNR=7.2							
KKAR	Karatay Array	127.59	67	*e*PKPdf		PKPdf	08 45 03.7	-0.7
D12A	Red Ives Fores	127.69	300	⇓P		PKPdf	08 45 04.7	+0.1
	baz=128							
C13A	Hot Springs	127.78	301	⇑P		PKPdf	08 45 05.4	+0.7
	baz=128							
KSH	Kashi	127.79	74	*e*PKP		PKPdf	08 45 05.3	+0.3
KSH				*e*PKS		PKSdf	08 48 40.5	-1.1
KSH				*e*SKS		SKSdf	08 52 11.8	-4.2
KSH				AMB		AMB		
	comp=Z,250nm,5.4s							
KSH				LR		LR		
	comp=N,220nm,5.8s							
KSH				LR		LR		
	comp=E,220nm,6.8s							
KSH				LR		LR		
	comp=Z,330nm,7.8s							
A15A	Johnson Ranch,	127.87	304	⇓P		PKPdf	08 45 05.3	+0.5
	baz=128							
A14A	Double T Ranch	128.18	303	⇓P		PKPdf	08 45 06.2	+0.8
	baz=128,SNR=6.0							
C12B	Naegeli Ranch,	128.22	301	⇓P		PKPdf	08 45 06.2	+0.8
	baz=128							
HUMO	Hull Mountain	128.23	291	*e*PKPdf		PKPdf	08 45 06.8	+1.2
A13A	Flathead Natio	128.61	302	⇓P		PKPdf	08 45 07.3	+1.1
	baz=129							
EKS2	Erkin-Say	128.94	69	*e*PKPdf		PKPdf	08 45 07.4	+0.3
OD2	Odessa Site #2	129.54	298	*e*PKPdf		PKPdf	08 45 09.0	+1.0
ARCES	ARCESS Array B	131.43	21	PKP		PKPdf	08 45 10.9	+0.1
	comp=Z,2.4nm,0.9s,baz=203,slow=0.9,SNR=4.2							
ARCES	ARCESS Array B	131.43	21	PKP		PKPdf	08 45 10.9	+0.1
GYA	Guiyang	134.31	111	*e*Pdif		Pdif	08 42 16.8	-0.9
GYA				PKP		PKPdf	08 45 18.0	+0.2
GYA				PP		PP	08 47 52.6	+2.9
GYA				PKS		PKSdf	08 48 52.6	-1.7
GYA				SKKS			08 54 43.8	
GYA				SS		SS	09 05 40.3	+1.2
GYA				AMB		AMB		
	comp=Z,90nm,7.6s							
GYA				LR		LR		
	comp=N,110nm,20.9s							
GYA				LR		LR		
	comp=E,90nm,21.4s							
GYA				LR		LR		
	comp=Z,120nm,20.7s							
BRVK	Borovoye	134.36	57	*e*PKPdf		PKPdf	08 45 16.1	-0.8
BVAR	Borovoye Array	134.39	57	PKP		PKPdf	08 45 16.8	-0.1
	comp=Z,4.8nm,0.9s,baz=212,slow=1.4,SNR=17							
BVAR	Borovoye Array	134.39	57	PKP		PKPdf	08 45 16.8	-0.1
MK31	Makanchi Array	136.17	71	*e*PKPdf		PKPdf	08 45 19.6	-0.9
MKAR	Makanchi Array	136.17	71	PKP		PKPdf	08 45 20.0	-0.5
	comp=Z,1.3nm,0.8s,baz=225,slow=1.4,SNR=11							
MKAR	Makanchi Array	136.17	71	PKP		PKPdf	08 45 20.0	-0.5
CD2	Chengdu	136.37	105	PKP		PKPdf	08 45 22.3	+0.9
CD2				PP		PP	08 48 06.9	+4.2
CD2				PKS		PKSdf	08 48 57.3	-0.4
CD2				SKS		SKSdf	08 52 30.4	-1.2
CD2				SKKS		SKKSac	08 54 56.8	+0.2
CD2				SS		SS	09 06 06.1	+2.4
CD2				AMB		AMB		
	comp=Z,280nm,5.4s							
CD2				LR		LR		
	comp=N,550nm,5.9s							
CD2				LR		LR		
	comp=Z,360nm,5.3s							
KURK	Kurchatov	136.84	64	PKhKP		PKPpre	08 45 13.0	
	comp=Z,0.5nm,0.7s,baz=235,slow=3.5,SNR=6.8							
KURK				PKP		PKPdf	08 45 20.9	-0.6
	comp=Z,2.7nm,0.9s,baz=235,slow=2.9,SNR=16							
KURK	Kurchatov	136.84	64	PKPpre		PKPpre	08 45 13.0	
KURK				PKP		PKPdf	08 45 20.9	-0.6
KURK				*e*PKPdf		PKiKP	08 45 21.8	-1.6
WMQ	Urumqi	137.04	78	*e*PKP		PKPdf	08 45 22.0	-0.3
YKA	Yellowknife Ar	137.60	316	PKhKP		PKPpre	08 45 14.2	
	comp=Z,0.5nm,0.8s,baz=114,slow=3.5,SNR=6.5							
YKA				PKP		PKPdf	08 45 22.8	+0.3
	comp=Z,6.9nm,0.7s,baz=127,slow=2.2,SNR=55							
YKA				SKPbc		SKPbc	08 48 54.8	-0.5
	comp=Z,0.8nm,0.6s,baz=130,slow=3.8,SNR=4.9							
YKA	Yellowknife Ar	137.60	316	PKPpre		PKPpre	08 45 14.2	
YKA				PKP		PKPdf	08 45 22.8	+0.3
YKA				SKPbc		SKPbc	08 48 54.8	-0.5
RES	Resolute Bay	139.14	338	*e*PKPdf		PKPdf	08 45 25.5	+0.5
LZH	Lanzhou	140.38	100	*e*PKP		PKPdf	08 45 20.1	-8.7
LZH				pPKP		PKiKP	08 45 23.5	-7.8
LZH				sPKP			08 45 24.8	
LZH				LR		LR		
	comp=E,110nm,18.2s							
LZH				LR		LR		
	comp=Z,160nm,20.1s							
GTA	Gaotai	140.60	92	*e*PKP		PKPdf	08 45 28.1	-0.9
GTA				sPKP			08 45 35.8	
WHN	Wuhan	141.51	116	PKP		PKPdf	08 45 33.4	+2.7
ZALV	Zalesovo Beam	141.82	64	PKhKP		PKPpre	08 45 23.1	
	comp=Z,1.1nm,0.6s,baz=264,slow=2.9,SNR=3.0							
ZALV	Zalesovo Beam	141.82	64	PKPpre		PKPpre	08 45 23.1	
INK	Inuvik	147.22	319	*e*PKPbc		PKPbc	08 45 42.2	+0.5
HHC	Hu-ho-hao-te	148.00	102	*e*PKPbc		PKPbc	08 45 44.3	-0.6
HHC				PP		PP	08 49 19.0	+5.7
HHC				SKKS			08 56 03.1	
HHC				SS		SS	09 08 23.3	+4.6
HHC				LR		LR		
	comp=N,150nm,19.9s							
HHC				LR		LR		
	comp=E,210nm,19.8s							
HHC				LR		LR		
	comp=Z,150nm,19.7s							
DAWY	Dawson	148.23	310	*e*PKPbc		PKPbc	08 45 44.6	-0.1
EGAK	Eagle	149.17	311	*e*PKPbc		PKPbc	08 45 47.1	+0.1
SONM	Songino Array	149.71	87	PKPbc		PKPbc	08 45 48.6	-0.4
	comp=Z,16nm,0.6s,baz=229,slow=2.5,SNR=46							
SONM	Songino Array	149.71	87	PKPbc		PKPbc	08 45 48.6	-0.4
MENT	Mentasta	149.73	307	*e*PKPdf		PKPdf	08 45 44.6	+0.9
MENT				*e*PKPbc		PKiKP	08 45 49.3	-0.2
BJT	Baijiatuau	149.84	108	*e*PKPbc		PKPbc	08 45 49.8	+0.4
BJI	Beijing	149.85	108	PKPbc		PKPbc	08 45 49.9	+0.5
DOT	Dot Lake	150.08	308	*e*PKPbc		PKPbc	08 45 50.3	+0.9
ULN	Ulaanbaatar	150.09	87	*e*PKPbc		PKPbc	08 45 49.9	-0.1
TLY	Talaya	150.33	78	*e*PKPbc		PKPbc	08 45 50.6	+0.3
PAX	Paxson	150.50	307	*e*PKPbc		PKPbc	08 45 51.0	+0.6
JNU	Nakatsue	151.06	135	PKPbc		PKPbc	08 45 52.3	-0.3
	comp=Z,14nm,0.9s,baz=307,slow=4.3,SNR=3.8							
JNU	Nakatsue	151.06	135	PKPbc		PKPbc	08 45 52.3	-0.3
ILAR	Eielson Array	151.55	310	PKPbc		PKPbc	08 45 53.0	+0.3
	comp=Z,32nm,0.9s,baz=130,slow=1.5,SNR=137							
ILAR	Eielson Array	151.55	310	PKPbc		PKPbc	08 45 53.0	+0.3
COLA	College	151.98	310	*e*PKPbc		PKPbc	08 45 53.7	+0.1
COLA				*e*PKPab		PKPab	08 46 04.3	+1.1
MCK	McKinley	152.21	307	*e*PKPbc		PKPbc	08 45 55.0	+0.7
TRF	Thorofare Moun	152.74	307	*e*PKPbc		PKPbc	08 45 55.0	-0.6
COLD	Coldfoot	153.25	315	*e*PKPbc		PKPbc	08 45 57.6	+1.2
KSR	Wonju Array Be	153.54	126	PKPbc		PKPbc	08 45 57.5	-0.5
KSRS	Korea Array	153.56	126	PKPbc		PKPbc	08 45 57.5	-0.5
	comp=Z,2.8nm,0.9s,baz=215,slow=28,SNR=5.9							
CN2	Changchun	157.34	113	*e*P		PKPab	08 46 26.0	-0.6
MDJ	Mudanjiang	159.98	117	PKP		PKPdf	08 45 57.9	-0.4
MDJ				PP		PP	08 50 20.8	+0.4
USRK	Ussuriysk Arra	160.81	122	PKPab		PKPab	08 46 42.1	+0.4
	comp=Z,2.3nm,0.8s,baz=230,slow=8.4,SNR=4.2							

IDC 23 08:28:59.3±2.1, 5°27N×124°11E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/20, mbtmpg3.7/3, MS4.6/1, Ms1 4.6/1, ms1mx3.0/27, Error ellipse: s-maj=228.9km s-min=24.4km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	21.81	10	LR	LR	08 41 14.4	
	comp=Z,2μm,19.0s,baz=291,slow=34						
WRA	Warramunga Arr	27.00	158	P	P	08 34 43.8	+0.7
	0.6nm,0.3s,baz=338,slow=9.7,SNR=3.4						
ASAR	Alice Springs	30.30	162	P	P	08 35 11.9	-0.6
	0.3nm,0.4s,baz=339,slow=7.5,SNR=11						
MKAR	Makanchi Array	54.82	326	P	P	08 38 31.1	-0.1
	0.3nm,0.3s,baz=123,slow=7.8,SNR=12						

*ISCJB **23** 08:48:12.6±0.6, 51°.46N±0°.03×16°.16E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=20.0*
*CSEM **23** 08:48:13.7±0.3, 51°.50N×16°.11E, h2km, ML3.6/8, Error ellipse: s-maj=4.7km s-min=3.8km az=16.0*
*PRU **23** 08:48:15.4, 51°.45N×16°.13E, h0km*
*WAR **23** 08:48:15.6, 51°.47N×16°.15E*
*VIE **23** 08:48:16.8±0.6, 51°.24N×16°.20E, h0km, mb2.4/3, ML2.9/5, Error ellipse: s-maj=3.6km s-min=3.2km az=2.0 58 km WNW of Wroclaw Suspected Mining induced.*

ISC 23 08:48:14.7±1.1, 51°.47N±0°.05×16°.13E±0°.02, h0km, n51, σ0°90/82, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.64	171	*e*Pg	Pg	08 48 27.4	+0.5
KSP				*e*Sg	Sg	08 48 36.7	+1.5
KSP	Ksiaz	0.64	171	*i* Pg	Pg	08 48 27.4	+0.5
KSP				*i* Sg	Sg	08 48 36.7	+1.5
KSP	Ksiaz	0.64	171	⇓*i* Pg	Pg	08 48 27.4	+0.5
KSP				*i* Sg	Sg	08 48 36.7	+1.5
UPC	Upice	0.97	185	*e*PG	Pg	08 48 33.5	+0.2
UPC	Upice	0.97	185	Pg	Pg	08 48 33.5	+0.2
DPC	Dobruska-Polom	1.13	174	*e*PG	Pg	08 48 36.1	-0.3
DPC				*e*SG	Sg	08 48 50.8	-0.2
	comp=Z,52nm,0.5s						
DPC	Dobruska-Polom	1.13	174	Pg	Pg	08 48 36.1	-0.3
DPC				Sg	Sg	08 48 50.8	-0.2
	52nm,0.5s						
PVCC	Panska Ves	1.37	227	*e*PG	Pg	08 48 40.3	-0.6
PVCC				*e*SG	Sg	08 48 59.1	+0.5
	comp=Z,232nm,0.5s						
PVCC	Panska Ves	1.37	227	Pg	Pg	08 48 40.3	-0.6
PVCC				Sg	Sg	08 48 59.1	+0.5
	232nm,0.5s						
BRG	Berggiesshubel	1.50	247	PG	Pn	08 48 42.8	-0.1
BRG				SG	Sn	08 49 03.9	+0.7
	68nm,0.5s						
PRU	Pruhonice	1.80	215	*e*PN	Pn	08 48 46.3	-0.7
PRU				*e*PG	Pn	08 48 47.9	+0.9
PRU				*e*SG	Sb	08 49 12.2	+0.6
	comp=Z,58nm,0.4s						
PRU	Pruhonice	1.80	215	Pn	Pn	08 48 47.9	+0.9
PRU				Sg	Sb	08 49 12.2	+0.6
	58nm,0.4s						
MORC	Moravsky Berou	1.92	152	*e*Pn	Pn	08 48 47.9	-0.8
MORC				*e*Sg	Sb	08 49 15.7	+0.6
CLL	Collm	1.97	266	*e*Pn	Pn	08 48 48.0	-1.3
CLL				*i* Pg	Pb	08 48 51.0	-0.4
CLL				*i*		08 48 53.8	
CLL				*i*		08 48 54.8	
CLL				*i* Sg	Sg	08 49 18.1	+0.2
	comp=Z,49nm,0.6s						
OKC	Ostrava-Krasne	2.08	141	*e*SG	Sb	08 49 19.9	+0.2
OKC	Ostrava-Krasne	2.08	141	Sg	Sb	08 49 19.9	+0.2
VRAC	Vranov	2.19	172	*e*Pn	Pn	08 48 52.0	-0.3
VRAC				*e*Sg	Sg	08 49 24.8	-0.1
TREC	Trest	2.22	191	*e*PN	Pn	08 48 52.6	-0.2
TREC				*e*PG	Pb	08 48 56.4	+0.7
TREC	Trest	2.22	191	Pn	Pn	08 48 52.6	-0.2
TREC	Trest	2.22	191	Pg	Pb	08 48 56.4	+0.7
OJC	Ojcow	2.64	117	*e*Pg	Pg	08 49 04.3	-1.0
OJC				*e*Sg	Sg	08 49 39.8	+0.3
OJC	Ojcow	2.64	117	*e*Pg	Pg	08 49 04.3	-1.0
OJC				*e*Sg	Sg	08 49 39.8	+0.3
NKC	Novy Kostel	2.65	243	*e*PN	Pn	08 48 57.9	-0.8
NKC				*e*PG	Pb	08 49 04.2	+1.2
NKC				*e*SG	Sg	08 49 40.6	+0.9
	comp=Z,52nm,0.4s						
NKC	Novy Kostel	2.65	243	Pn	Pn	08 48 57.9	-0.8
NKC	Novy Kostel	2.65	243	Pg	Pb	08 49 04.2	+1.2
NKC				Sg	Sg	08 49 40.6	+0.9
	comp=Z,52nm,0.4s						
KHC	Kasperske Hory	2.86	216	*e*PN	Pn	08 49 01.1	-0.5
KHC				*e*PG	Pb	08 49 07.2	+0.6
KHC				*e*SG	Sg	08 49 45.7	-0.9
	comp=Z,17nm,0.3s						
KHC	Kasperske Hory	2.86	216	Pn	Pn	08 49 01.1	-0.5
KHC	Kasperske Hory	2.86	216	Pg	Pb	08 49 07.2	+0.6
KHC				Sg	Sg	08 49 45.7	-0.9
	comp=Z,17nm,0.3s						
SMOL	Smolenice	3.08	164	*e*	Pb	08 49 09.9	-0.4
SMOL	Smolenice	3.08	164	*e*SG	Sg	08 49 54.7	+1.2
SMOL	Smolenice	3.08	164	*e*Sg	Sg	08 49 54.7	+1.2
KOLL	Kolacno	3.25	152	*e*	Pg	08 49 16.4	-0.5
KOLL	Kolacno	3.25	152	*e*SG	Sg	08 49 58.7	-0.2
KOLL	Kolacno	3.25	152	*e*Sg	Sg	08 49 58.7	-0.2
ZST	Bratislava	3.34	169	*e*SG	Sg	08 50 01.7	-0.2
ZST	Bratislava	3.34	169	*e*Sg	Sg	08 50 01.7	-0.2
NIE	Niedzica	3.37	126	*e*P	Pg	08 49 19.2	-0.1
NIE				*e*S	Sg	08 50 03.1	+0.1
VYHS	Vyhne	3.45	149	*e*PN	Pn	08 49 09.0	-0.8
VYHS				*e*		08 49 22.2	
VYHS	Vyhne	3.45	149	*e*Pn	Pn	08 49 09.0	-0.8
VYHS				*e*Sg	Sg	08 50 03.9	-1.7
CONA	Conrad Observa	3.55	183	⇓*i* Pn	Pn	08 49 10.7	-0.5
CONA				⇑*i* Sg	Sg	08 50 06.5	-2.3
	comp=Z,17nm,0.4s						
CONA	Conrad Observa	3.55	183	Pn	Pn	08 49 10.7	-0.5
CONA				Sg	Sg	08 50 06.5	-2.3
	comp=Z,17nm,0.4s						
BSD	Bornholm Skovb	3.72	349	*i* P	Pn	08 49 10.5	-2.9
BSD				*e*S	Sn	08 49 51.1	-6.8
BSD	Bornholm Skovb	3.72	349	*i* P	Pn	08 49 10.5	-2.9
MOA	Molln	3.82	199	⇑*i* Pn	Pn	08 49 14.1	-0.8
MOA				⇓*i* Sg	Sg	08 50 16.7	-0.8
	comp=Z,21nm,0.5s						
MOA	Molln	3.82	199	Pn	Pn	08 49 14.1	-0.8
MOA				Sg	Sg	08 50 16.7	-0.8
	comp=Z,21nm,0.5s						
ARSA	Arzberg	4.25	186	⇑*i* Pn	Pn	08 49 19.1	-1.6
ARSA				⇓*i* Sg	Sg	08 50 28.9	-2.1
	comp=Z,14nm,0.5s						
ARSA	Arzberg	4.25	186	Pn	Pn	08 49 19.1	-1.6
ARSA				Sg	Sg	08 50 28.9	-2.1
	comp=Z,14nm,0.5s						
CRVS	Cervenica-Dubn	4.28	125	*e*PN	Pn	08 49 22.1	+1.0
CRVS				*e*SG	Sg	08 50 32.0	-0.2
CRVS	Cervenica-Dubn	4.28	125	*e*Pn	Pn	08 49 22.1	+1.0
CRVS				*e*Sg	Sg	08 50 32.0	-0.2
COP	Copenhagen	4.76	334	*i* P	Pn	08 49 21.3	-6.4
COP				*e*S	Sn	08 50 05.6	-18

IDC 23 08:52:18.3±2.1, 6°90S×128°86E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=89.3km s-min=27.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.57	195	Pn	Pn	08 55 03.7	-1.1
	0.4nm,0.3s,baz=20,slow=12,SNR=12				

KK01	**Karatay Array**	**0.91**	**130**	⇑P	Pg	09 55 34.1	+0.1
KK01				⇓S	Sb	09 55 47.5	-0.4
KK05	**Karatay Array**	**0.92**	**128**	⇑P	Pg	09 55 33.9	0.0
KK05				⇓S	Sg	09 55 45.8	-0.1
KK02	**Karatay Array**	**0.92**	**129**	⇑P	Pg	09 55 34.1	0.0
KK02				⇑S	Sb	09 55 47.7	-0.3
KK31	**Karatay Array**	**0.92**	**129**	⇓P	Pg	09 55 34.1	+0.1
	2.0nm,0.4s,baz=320,slow=14,SNR=62						
KK31				⇓S	Sg	09 55 46.9	+1.0
	20nm,0.5s,baz=307,slow=28,SNR=56						
KK07	**Karatay Array**	**0.92**	**130**	⇓P	Pg	09 55 34.2	+0.1
KK07				⇑S	Sg	09 55 46.9	+0.9
KK06	**Karatay Array**	**0.93**	**129**	⇑P	Pg	09 55 34.2	-0.1
KK06				⇑S	Sg	09 55 46.4	0.0
TKM2	**Tokmak 2**	**4.48**	**98**	⇑Pg	Pb	09 56 38.0	+1.7
	3.0nm,0.7s						
TKM2				⇑Lg	Lg	09 57 37.9	
	2.2nm,0.5s						
MK31	**Makanchi Array**	**9.51**	**67**	Pn	Pn	09 57 35.6	+1.0
	0.7nm,0.3s,baz=250,slow=16,SNR=30						
MK31				⇑Sn	Sn	09 59 19.4	-2.8
	0.3nm,0.5s,baz=242,slow=21						
MK31				⇑Lg	Lg	10 00 05.0	
	0.6nm,0.7s,baz=246,slow=24						

*ATH **23** 09:55:44.8, 36°.52N × 21°.55E, h17km ± 2km, MD3.5/10*
*CSEM **23** 09:55:45.4 ± 0.5, 36°.49N × 21°.67E, h2km, ML3.0/4, Error ellipse: s-maj=9.6km s-min=5.4km az=42.0*
*THE **23** 09:55:46.9, 36°.55N × 21°.72E, h10km ± 1km, ML3.0/4, Error ellipse: s-maj=1.9km s-min=0.7km az=211.0*

ISC 23 09:55:43.1 ± 2.1, **36°.46N** ± 0°.07 × **21°.47E** ± 0°.06, **h14**km ± 10km, **n36**, σ 0**s82**/53, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.49**	**27**	P		**Pb**	**09 55 53.6**	**+0.1**
PYL				S		**Sg**	**09 55 58.9**	**-0.3**
PYL	**PYLOS**	**0.49**	**27**	*e*PB		**Pb**	**09 55 53.6**	**+0.1**
PYL				*e*SB		**Sg**	**09 55 58.9**	**-0.3**
PYL	**PYLOS**	**0.49**	**27**	P		**Pb**	**09 55 53.6**	**+0.1**
PYL				S		**Sg**	**09 55 58.9**	**-0.3**
ITM	**Ithomi**	**0.81**	**27**	P		**Pg**	**09 55 58.8**	**+0.1**
ITM				S		**Sg**	**09 56 08.7**	**-0.6**
ITM	**Ithomi**	**0.81**	**27**	*e*PN		**Pg**	**09 55 58.8**	**+0.1**
ITM				*e*SN		**Sg**	**09 56 08.7**	**-0.6**
ITM	**Ithomi**	**0.81**	**27**	P		**Pg**	**09 55 58.8**	**+0.1**
ITM				S		**Sg**	**09 56 08.7**	**-0.6**
VLX	**Vlachokerasia**	**1.17**	**39**	P		**Pb**	**09 56 05.0**	**-0.1**
VLX				S		**Sb**	**09 56 19.5**	**-0.6**
VLX	**Vlachokerasia**	**1.17**	**39**	*e*PN		**Pb**	**09 56 05.4**	**+0.3**
VLX	**Vlachokerasia**	**1.17**	**39**	P		**Pb**	**09 56 05.0**	**-0.1**
VLX	**Vlachokerasia**	**1.17**	**39**	*e*Pn		**Pb**	**09 56 05.4**	**+0.3**
VLX				S		**Sb**	**09 56 19.5**	**-0.6**
VLI	**Veliai**	**1.21**	**77**	P		**Pb**	**09 56 05.8**	**0.0**
VLI				S		**Sb**	**09 56 20.3**	**-1.0**
VLI	**Veliai**	**1.21**	**77**	*e*PN		**Pn**	**09 56 06.1**	**+0.5**
VLI				*e*SN		**Sn**	**09 56 22.7**	**+0.8**
VLI	**Veliai**	**1.21**	**77**	P		**Pb**	**09 56 05.8**	**0.0**
VLI	**Veliai**	**1.21**	**77**	*e*Pn		**Pn**	**09 56 06.1**	**+0.5**
VLI				S		**Sb**	**09 56 20.3**	**-1.0**
VLI				*e*Sn		**Sn**	**09 56 22.7**	**+0.8**
KYTH	**Kithira**	**1.28**	**98**	P		**Pg**	**09 56 07.5**	**-0.2**
KYTH	**Kithira**	**1.28**	**98**	*e*PN		**Pg**	**09 56 07.7**	**0.0**
KYTH	**Kithira**	**1.28**	**98**	P		**Pg**	**09 56 07.5**	**-0.2**
RLS	**Riolos of Patr**	**1.59**	**0**	*e*PN		**Pg**	**09 56 14.3**	**+0.6**
RLS	**Riolos of Patr**	**1.59**	**0**	*e*Pn		**Pg**	**09 56 14.3**	**+0.6**
GUR	**Goura**	**1.63**	**25**	P		**Pb**	**09 56 13.6**	**+0.6**
GUR				S		**Sg**	**09 56 35.1**	**-0.5**
GUR	**Goura**	**1.63**	**25**	*e*PN		**Pb**	**09 56 14.0**	**+1.0**
GUR	**Goura**	**1.63**	**25**	P		**Pb**	**09 56 13.6**	**+0.6**
GUR	**Goura**	**1.63**	**25**	*e*Pn		**Pb**	**09 56 14.0**	**+1.0**
GUR				S		**Sg**	**09 56 35.1**	**-0.5**
DID	**Didima**	**1.76**	**53**	*e*PN		**Pb**	**09 56 15.3**	**+0.1**
DID	**Didima**	**1.76**	**53**	*e*Pn		**Pb**	**09 56 15.3**	**+0.1**
LTK	**Loutraki**	**1.97**	**37**	*e*PB		**Pn**	**09 56 17.5**	**+1.5**
LTK	**Loutraki**	**1.97**	**37**	*e*Pb		**Pn**	**09 56 17.5**	**+1.5**
EFP	**Efpalio**	**1.99**	**10**	P		**Pb**	**09 56 19.3**	**+0.2**
EFP				S		**Sb**	**09 56 45.0**	**+1.2**
EFP	**Efpalio**	**1.99**	**10**	*e*PN		**Pg**	**09 56 20.8**	**-0.5**
EFP	**Efpalio**	**1.99**	**10**	P		**Pb**	**09 56 19.3**	**+0.2**
EFP	**Efpalio**	**1.99**	**10**	*e*Pn		**Pg**	**09 56 20.8**	**-0.5**
EFP				S		**Sb**	**09 56 45.0**	**+1.2**
KALE	**Kalithea**	**2.00**	**15**	P		**Pb**	**09 56 19.8**	**+0.5**
KALE	**Kalithea**	**2.00**	**15**	P		**Pb**	**09 56 19.8**	**+0.5**
LKD2	**Lefkada island**	**2.41**	**345**	P		**Pb**	**09 56 26.6**	**+0.3**
LKD2	**Lefkada island**	**2.41**	**345**	P		**Pb**	**09 56 26.6**	**+0.3**
STON	**Ston**	**7.03**	**337**	*e*Pn		**Pn**	**09 57 26.4**	**+0.8**
STON				Sn		**Sn**	**09 58 41.6**	**-3.7**

*ISCJB **23** 10:30:22.1 ± 0.8, 38°.07N ± 0°.03 × 20°.13E ± 0°.04, h2km ± 4km, mb3.7/4, Error ellipse: s-maj=6.2km s-min=3.8km az=36.8*
*CSEM **23** 10:30:25.7 ± 0.5, 38°.21N × 20°.30E, h2km, MD3.4, Error ellipse: s-maj=9.5km s-min=4.1km az=54.0*
*THE **23** 10:30:25.5, 38°.14N × 20°.28E, h6km, ML3.3/6, Error ellipse: s-maj=1.4km s-min=0.7km az=49.0*
*ATH **23** 10:30:26.6, 38°.27N × 20°.37E, h8km, MD3.4/19*
*IDC **23** 10:30:32.5 ± 3.0, 38°.47N × 19°.92E, h86km ± 30km, mb3.4/4, mb1 3.3/7, mb1mx3.1/28, mbtmp3.2/7, Error ellipse: s-maj=32.8km s-min=22.2km az=137.0*

ISC 23 10:30:24.8 ± 0.9, **38°.20N** ± 0°.03 × **20°.24E** ± 0°.04, **h13**km ± 6km, **n94**, σ 1**s08**/133, **mb3.9**/4, **3C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.28**	**94**	P		**Pg**	**10 30 30.3**	**-0.4**
VLS				S		**Sg**	**10 30 34.1**	**-0.5**
VLS	**Valsamata**	**0.28**	**94**	*e*PG		**Pg**	**10 30 30.6**	**-0.1**
VLS				*e*SG		**Sg**	**10 30 34.2**	**-0.3**
VLS	**Valsamata**	**0.28**	**94**	P		**Pg**	**10 30 30.3**	**-0.4**
VLS	**Valsamata**	**0.28**	**94**	*e*Pg		**Pg**	**10 30 30.6**	**-0.1**
VLS				*e*Sg		**Sg**	**10 30 34.2**	**-0.3**
KFL	**Anninata**	**0.44**	**101**	P		**Pg**	**10 30 33.1**	**-0.5**
KFL				S		**Sg**	**10 30 39.4**	**-0.1**
KFL	**Anninata**	**0.44**	**101**	P		**Pg**	**10 30 33.1**	**-0.5**
KFL				S		**Sg**	**10 30 39.4**	**-0.1**
LKD2	**Lefkada island**	**0.68**	**29**	P		**Pg**	**10 30 38.1**	**0.0**
LKD2				S		**Sb**	**10 30 49.1**	**+1.2**
LKD2	**Lefkada island**	**0.68**	**29**	*e*PB		**Pg**	**10 30 37.1**	**-1.0**
LKD2				*e*SB		**Sg**	**10 30 45.3**	**-1.7**
LKD2	**Lefkada island**	**0.68**	**29**	*e*Pb		**Pg**	**10 30 37.1**	**-1.0**
LKD2	**Lefkada island**	**0.68**	**29**	P		**Pg**	**10 30 38.1**	**0.0**
LKD2				*e*Sb		**Sg**	**10 30 45.3**	**-1.7**
LKD2				S		**Sb**	**10 30 49.1**	**+1.2**
RLS	**Riolos of Patr**	**0.98**	**98**	P		**Pg**	**10 30 43.1**	**-0.6**
RLS				S		**Sb**	**10 30 56.8**	**+0.3**
RLS	**Riolos of Patr**	**0.98**	**98**	*e*PB		**Pb**	**10 30 44.0**	**+0.3**
RLS				*e*SB		**Sg**	**10 30 56.1**	**-0.4**
RLS	**Riolos of Patr**	**0.98**	**98**	P		**Pg**	**10 30 43.1**	**-0.6**
RLS	**Riolos of Patr**	**0.98**	**98**	*e*Pb		**Pb**	**10 30 44.0**	**+0.3**
RLS				*e*Sb		**Sg**	**10 30 56.1**	**-0.4**
RLS				S		**Sb**	**10 30 56.8**	**+0.3**
RGA	**Parga**	**1.13**	**5**	P		**Pn**	**10 30 47.4**	**+1.0**
RGA				S		**Sn**	**10 31 04.8**	**+3.0**
RGA	**Parga**	**1.13**	**5**	P		**Pn**	**10 30 47.4**	**+1.0**
RGA				S		**Sn**	**10 31 04.8**	**+3.0**
UPR	**University Cam**	**1.22**	**85**	*e*PG		**Pn**	**10 30 47.5**	**-0.2**
UPR				*e*SB		**Sb**	**10 31 03.2**	**-0.3**
UPR	**University Cam**	**1.22**	**85**	*e*Pg		**Pn**	**10 30 47.5**	**-0.2**
UPR				*e*Sb		**Sb**	**10 31 03.2**	**-0.3**
IGT	**Igoumenitsa**	**1.34**	**3**	P		**Pg**	**10 30 50.4**	**-0.2**
IGT				S		**Sg**	**10 31 09.9**	**+1.9**
IGT	**Igoumenitsa**	**1.34**	**3**	P		**Pg**	**10 30 50.4**	**-0.2**
IGT				S		**Sg**	**10 31 09.9**	**+1.9**
LAKA	**Lakka**	**1.37**	**88**	P		**Pn**	**10 30 49.2**	**-0.6**
LAKA				S		**Sg**	**10 31 08.7**	**-0.4**
LAKA	**Lakka**	**1.37**	**88**	P		**Pn**	**10 30 49.2**	**-0.6**
LAKA				S		**Sg**	**10 31 08.7**	**-0.4**
EVR	**Evrytania**	**1.43**	**59**	P		**Pg**	**10 30 52.6**	**+0.3**
EVR	**Evrytania**	**1.43**	**59**	*e*PB		**Pb**	**10 30 51.5**	**+0.1**
EVR	**Evrytania**	**1.43**	**59**	*e*Pb		**Pb**	**10 30 51.5**	**+0.1**
EVR	**Evrytania**	**1.43**	**59**	P		**Pg**	**10 30 52.6**	**+0.3**
TRIZ	**Trizonia**	**1.45**	**83**	P		**Pn**	**10 30 50.8**	**0.0**
TRIZ				S		**Sg**	**10 31 11.4**	**-0.3**
TRIZ	**Trizonia**	**1.45**	**83**	P		**Pn**	**10 30 50.8**	**0.0**
TRIZ				S		**Sg**	**10 31 11.4**	**-0.3**
KALE	**Kalithea**	**1.51**	**82**	P		**Pn**	**10 30 51.9**	**+0.2**
KALE				S		**Sg**	**10 31 13.1**	**-0.4**
KALE	**Kalithea**	**1.51**	**82**	P		**Pn**	**10 30 51.9**	**+0.2**
KALE				S		**Sg**	**10 31 13.1**	**-0.4**
JAN	**Janina**	**1.54**	**18**	*e*PB		**Pb**	**10 30 53.6**	**+0.4**
JAN	**Janina**	**1.54**	**18**	*e*Pb		**Pb**	**10 30 53.6**	**+0.4**
KEK	**Kerkira**	**1.55**	**347**	P		**Pb**	**10 30 53.4**	**-0.1**
KEK				S		**Sg**	**10 31 16.8**	**+1.9**
KEK	**Kerkira**	**1.55**	**347**	*e*PB		**Pg**	**10 30 55.2**	**+0.5**
KEK	**Kerkira**	**1.55**	**347**	P		**Pb**	**10 30 53.4**	**-0.1**
KEK	**Kerkira**	**1.55**	**347**	*e*Pb		**Pg**	**10 30 55.2**	**+0.5**
KEK				S		**Sg**	**10 31 16.8**	**+1.9**
ITM	**Ithomi**	**1.68**	**127**	P		**Pn**	**10 30 54.1**	**+0.1**
ITM				S		**Sn**	**10 31 15.7**	**+0.3**
ITM	**Ithomi**	**1.68**	**127**	*e*PB		**Pg**	**10 30 58.0**	**+0.9**
ITM				*e*SB		**Sg**	**10 31 19.7**	**+0.8**
ITM	**Ithomi**	**1.68**	**127**	P		**Pn**	**10 30 54.1**	**+0.1**
ITM	**Ithomi**	**1.68**	**127**	*e*Pb		**Pg**	**10 30 58.0**	**+0.9**
ITM				S		**Sn**	**10 31 15.7**	**+0.3**
ITM				*e*Sb		**Sg**	**10 31 19.7**	**+0.8**
GUR	**Goura**	**1.68**	**98**	P		**Pn**	**10 30 54.5**	**+0.4**
GUR				S		**Sn**	**10 31 15.6**	**0.0**
GUR	**Goura**	**1.68**	**98**	*e*PG		**Pb**	**10 30 56.2**	**+0.5**
GUR	**Goura**	**1.68**	**98**	P		**Pn**	**10 30 54.5**	**+0.4**
GUR	**Goura**	**1.68**	**98**	*e*Pg		**Pb**	**10 30 56.2**	**+0.5**
GUR				S		**Sn**	**10 31 15.6**	**0.0**
MAKR	**Makrakomi, Fth**	**1.69**	**61**	P		**Pn**	**10 30 55.1**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.69**	**61**	P		**Pn**	**10 30 55.1**	**+0.9**
PYL	**PYLOS**	**1.77**	**137**	*e*PN		**Pg**	**10 30 59.9**	**+1.2**
PYL	**PYLOS**	**1.77**	**137**	*e*Pn		**Pg**	**10 30 59.9**	**+1.2**
MEV	**Metsovon**	**1.77**	**26**	P		**Pb**	**10 30 56.9**	**-0.3**
MEV	**Metsovon**	**1.77**	**26**	P		**Pb**	**10 30 56.9**	**-0.3**
DSF	**Desfina**	**1.81**	**82**	P		**Pn**	**10 30 56.7**	**+0.8**
DSF	**Desfina**	**1.81**	**82**	P		**Pn**	**10 30 56.7**	**+0.8**
VLX	**Vlachokerasia**	**1.89**	**115**	*e*PG		**Pg**	**10 31 00.6**	**-0.4**
VLX				*e*SN		**Sg**	**10 31 25.1**	**-0.4**
VLX	**Vlachokerasia**	**1.89**	**115**	*e*Pg		**Pg**	**10 31 00.6**	**-0.4**
VLX				*e*Sn		**Sg**	**10 31 25.1**	**-0.4**
THL	**Klokotos Trika**	**1.95**	**45**	P		**Pb**	**10 30 59.1**	**-1.1**
THL				S		**Sb**	**10 31 24.8**	**+0.4**
THL	**Klokotos Trika**	**1.95**	**45**	*e*PN		**Pb**	**10 30 59.9**	**-0.3**
THL				*e*SN		**Sb**	**10 31 25.0**	**+0.6**
THL	**Klokotos Trika**	**1.95**	**45**	P		**Pb**	**10 30 59.1**	**-1.1**
THL	**Klokotos Trika**	**1.95**	**45**	*e*Pn		**Pb**	**10 30 59.9**	**-0.3**
THL				*e*Sn		**Sb**	**10 31 25.0**	**+0.6**
LTK	**Loutraki**	**2.16**	**94**	*e*PN		**Pb**	**10 31 04.1**	**+0.3**
LTK	**Loutraki**	**2.16**	**94**	*e*Pn		**Pb**	**10 31 04.1**	**+0.3**
LKR	**Lokris**	**2.22**	**77**	P		**Pn**	**10 31 02.3**	**+1.0**
LKR				S		**Sn**	**10 31 29.5**	**+0.9**
LKR	**Lokris**	**2.22**	**77**	*e*PB		**Pn**	**10 31 02.4**	**+1.1**
LKR				*e*SN		**Sb**	**10 31 32.1**	**0.0**
LKR	**Lokris**	**2.22**	**77**	P		**Pn**	**10 31 02.3**	**+1.0**
LKR				S		**Sn**	**10 31 29.5**	**+0.9**
LKR				*e*Sn		**Sb**	**10 31 32.1**	**0.0**
ATAL	**Atalanti**	**2.24**	**76**	P		**Pn**	**10 31 02.8**	**+1.1**
ATAL	**Atalanti**	**2.24**	**76**	P		**Pn**	**10 31 02.8**	**+1.1**
KZN	**Kozani**	**2.42**	**29**	*e*PN		**Pb**	**10 31 07.2**	**-1.1**
KZN	**Kozani**	**2.42**	**29**	*e*Pn		**Pb**	**10 31 07.2**	**-1.1**
NEO	**Neokhori**	**2.58**	**64**	*e*PN		**Pb**	**10 31 09.4**	**-1.7**
NEO	**Neokhori**	**2.58**	**64**	*e*Pn		**Pb**	**10 31 09.4**	**-1.7**
LIT	**Litokhoron**	**2.59**	**42**	*e*PN		**Pb**	**10 31 09.4**	**-1.7**
LIT	**Litokhoron**	**2.59**	**42**	*e*Pn		**Pb**	**10 31 09.4**	**-1.7**
VLI	**Veliai**	**2.61**	**124**	*e*PN		**Pb**	**10 31 11.0**	**-0.4**
VLI	**Veliai**	**2.61**	**124**	*e*Pn		**Pb**	**10 31 11.0**	**-0.4**
VLY	**Voula,Athens**	**2.83**	**96**	*e*PN		**Pb**	**10 31 13.1**	**-2.1**
VLY	**Voula,Athens**	**2.83**	**96**	*e*Pn		**Pb**	**10 31 13.1**	**-2.1**
KYTH	**Kithira**	**2.94**	**130**	*e*PB		Pn	10 31 14.6	+3.3
KYTH	**Kithira**	**2.94**	**130**	*e*Pb		Pn	10 31 14.6	+3.3
KRUS	**Krusevo**	**3.26**	**13**	*e*Pn		**Pn**	**10 31 16.1**	**+0.3**
PLG	**Polygyros**	**3.31**	**48**	*e*PN		**Pn**	**10 31 18.5**	**+2.1**
PLG	**Polygyros**	**3.31**	**48**	*e*Pn		**Pn**	**10 31 18.5**	**+2.1**
STON	**Ston**	**5.05**	**338**	*i* Pn		**Pn**	**10 31 40.1**	**-0.3**
STON						**Sn**	**10 32 34.6**	**-4.0**
STON	**Ston**	**5.05**	**338**	*i* Pn		**Pn**	**10 31 40.0**	**-0.3**
NVLJ	**Novalja**	**7.53**	**329**	*e*Pn		**Pn**	**10 32 14.6**	**+0.2**
NVLJ						**Sn**	**10 33 35.2**	**-4.3**
NVLJ	**Novalja**	**7.53**	**329**	*e*Pn		**Pn**	**10 32 14.5**	**+0.2**
MLR	**Muntele Rosu**	**8.44**	**28**	P		**Pn**	**10 32 29.9**	**+2.9**
	0.1nm,0.3s,baz=272,slow=19,SNR=3.2							
DRGR		**8.78**	**11**	*i* P		Pn	10 32 39.9	+8.3
DRGR				S			10 32 44.9	
OBKA	**Obir**	**9.31**	**335**	*i* Pn		**Pn**	**10 32 39.5**	**+0.6**
BRTR	**Keskin Array B**	**10.55**	**78**	P		Pn	10 33 04.3	+8.5
	0.1nm,0.3s,baz=269,slow=11,SNR=3.9							
MOA	**Molln**	**10.59**	**338**	*i* Pn		**Pn**	**10 32 56.9**	**+0.7**
MOA				⇑*i* Sn		Sn	10 34 48.9	-5.8
GERES	**GERESS Array B**	**11.65**	**338**	P		**Pn**	**10 33 10.7**	**-0.1**
	0.1nm,0.3s,baz=161,slow=12,SNR=3.0							
TORD	**Torodi Ar. Bea**	**29.90**	**218**	P		**P**	**10 36 32.7**	**+0.2**
	0.5nm,0.9s,baz=36,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**45.48**	**58**	P		**P**	**10 38 43.8**	**0.0**
	0.6nm,0.6s,baz=283,slow=7.3,SNR=5.6							
ZALV	**Zalesovo Beam**	**45.85**	**48**	P		**P**	**10 38 45.1**	**-1.4**
	1.2nm,0.6s,baz=262,slow=8.2,SNR=6.2							
RES	**Resolute Bay**	**59.69**	**344**	P		P	10 40 25.4	-3.0
	0.8nm,0.5s,baz=115,slow=6.8,SNR=4.4							

*IDC **23** 10:38:41.1 ± 1.9, 36°.27N × 142°.39E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.6/26, mbtmp3.9/8, ML3.6/3, Error ellipse: s-maj=49.7km s-min=21.7km az=73.0*
*ISCJB **23** 10:38:42.5 ± 1.6, 36°.32N ± 0°.03 × 142°.29E ± 0°.08, h23km ± 12km, mb3.6/5, Error ellipse: s-maj=10.4km s-min=5.4km az=12.1*
*JMA **23** 10:38:43.7 ± 0.3, 36°.33N × 142°.20E, h74km, M3.2*

ISC 23 10:38:43.3 ± 2.7, **36°.34N** ± 0°.05 × **142°.20E** ± 0°.07, **h14**km ± 17km, **n24**, σ 1**s29**/30, **mb3.7**/5, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.26**	**240**	P		**Pn**	**10 39 05.9**	**-0.5**
CHOJ				S		**Sg**	**10 39 23.4**	**-0.4**
JHO	**Hitachi**	**1.34**	**282**	P		**Pn**	**10 39 06.8**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.36**	**304**	P		**Pn**	**10 39 07.2**	**-0.6**
JFK	**Kawauchi**	**1.47**	**314**	S			10 39 28.2	
JFT	**Otama**	**1.90**	**309**	P		**Pn**	**10 39 16.0**	**+0.8**
BSO1	**Boso 1**	**1.96**	**211**	P		**Pn**	**10 39 15.4**	**-0.1**
BSO1				S		**Sn**	**10 39 39.8**	**+0.3**
BSO3	**Boso 3**	**2.06**	**222**	P		**Pn**	**10 39 17.0**	**-0.2**
BSO3				S		**Sn**	**10 39 43.2**	**+0.7**
JAG	**Ashikaga**	**2.21**	**273**	P		**Pn**	**10 39 19.6**	**0.0**
JAG				S		**Sn**	**10 39 45.6**	**-1.1**
JRY	**Ryogami san**	**2.69**	**264**	P		**Pn**	**10 39 25.6**	**-0.5**
JMK	**Ichinoseki**	**2.72**	**344**	S			10 39 58.7	
JOD2	**Odawara 2**	**2.75**	**248**	P		**Pn**	**10 39 27.0**	**+0.1**
JOD2				S		**Sn**	**10 39 59.3**	**-0.6**
JYK	**Kaneyama**	**2.96**	**331**	P		**Pn**	**10 39 30.4**	**+0.6**
JYN	**Shimob**	**3.08**	**255**	P		**Pn**	**10 39 31.9**	**+0.4**
JOM	**Ohasama**	**3.21**	**347**	P		**Pn**	**10 39 33.5**	**+0.3**
JOM				S		**Sn**	**10 40 11.1**	**-0.1**
MJAR	**Matsushiro Arr**	**3.22**	**275**	Pn		**Pn**	**10 39 33.8**	**+0.3**
	3.7nm,0.3s,baz=118,slow=8.0,SNR=42							
MAT	**Matsushiro**	**3.22**	**275**	P		**Pn**	**10 39 33.8**	**+0.4**
MAT				*e*S		**Sn**	**10 40 08.5**	**-3.1**
MAT	**Matsushiro**	**3.22**	**275**	P		**Pn**	**10 39 34.5**	**+1.1**
ASAJ	**Asahikawa**	**7.77**	**2**	Pn		**Pn**	**10 40 35.4**	**-0.5**
	0.5nm,0.3s,baz=65,slow=24,SNR=3.2							
ASAJ				Sn		**Sn**	**10 41 60.0**	**-3.7**
	0.1nm,0.3s,baz=314,slow=27,SNR=2.4							
CBIJ	**Chichi jima**	**9.22**	**180**	Pn		**Pn**	**10 40 54.8**	**-1.0**
	3.3nm,0.3s,baz=342,slow=23,SNR=3.4							
CBIJ				Sn		Sn	10 42 29.4	-10
	4.5nm,0.3s,baz=274,slow=17,SNR=3.2							
SONM	**Songino Array**	**28.70**	**305**	P		**P**	**10 44 40.9**	**+1.0**
	1.3nm,0.9s,baz=104,slow=8.1,SNR=4.4							
ZALV	**Zalesovo Beam**	**42.85**	**313**	P		**P**	**10 46 41.7**	**+1.1**
	0.4nm,0.5s,baz=106,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**45.02**	**303**	P		**P**	**10 47 01.1**	**+2.8**
	0.8nm,0.6s,baz=88,slow=11,SNR=13							
KURK	**Kurchatov**	**46.85**	**309**	P		**P**	**10 47 13.9**	**+1.3**
	0.4nm,0.4s,baz=83,slow=8.6,SNR=4.1							
WRA	**Warramunga Arr**	**56.47**	**189**	P		**P**	**10 48 24.2**	**-0.5**
	0.3nm,0.9s,baz=5.4,slow=7.4,SNR=3.3							

IDC 23 10:58:47.6 ± 1.3, **12°.98N** × **88°.16W**, **h0**km, **mb3.5**/6, **mb1 3.8**/8, **mb1mx3.7**/24, **mbtmp3.5**/8, **ML3.3**/2, **Error ellipse: s-maj=68.3km s-min=16.5km az=46.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**4.12**	**130**	Pn		Pn	10 59 53.6	+1.7
	2.2nm,0.3s,baz=314,slow=18,SNR=8.7							
JTS				Sn		Sn	11 00 43.2	+2.2
	2.2nm,0.3s,baz=288,slow=18,SNR=3.0							
CMIG	**Matias Romero**	**7.67**	**303**	Pn		Pn	11 00 39.9	-0.9
	0.4nm,0.3s,baz=65,slow=10,SNR=6.9							
CMIG				Sn		Sn	11 02 10.9	+2.4
	0.2nm,0.3s,baz=108,slow=15,SNR=2.5							
TXAR	**Lajitas Array**	**21.73**	**321**	P		P	11 03 40.8	0.0
	0.7nm,0.5s,baz=146,slow=11,SNR=32							
PDAR	**Pinedale Array**	**34.98**	**332**	P		P	11 05 42.5	+0.5
	0.1nm,0.5s,baz=140,slow=12,SNR=2.4							
NVAR	**Mina Array Bea**	**36.85**	**319**	P		P	11 05 58.0	-0.1
	0.2nm,0.6s,baz=124,slow=7.7,SNR=2.7							
SIV	**San Ignacio**	**39.32**	**136**	P		P	11 06 17.9	-1.0
	0.4nm,0.4s,baz=320,slow=10,SNR=6.1							
YKA	**Yellowknife Ar**	**52.92**	**345**	P		P	11 08 04.5	-0.9
	0.6nm,0.7s,baz=136,slow=8.1,SNR=12							
INK	**Inuvik**	**62.50**	**343**	P		P	11 09 13.1	+0.5
	0.6nm,0.6s,baz=125,slow=4.6,SNR=6.6							

IDC 23 11:07:45.9 ± 2.0, **14°.34S** × **170°.10E**, **h665**km ± 30km, **mb3.3**/9, **mb1 3.5**/10, **mb1mx3.2**/21, **mbtmp3.4**/10, **Error ellipse: s-maj=45.8km s-min=17.8km az=147.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.43**	**204**	P		P	11 09 50.9	-0.6
	2.2nm,0.3s,baz=65,slow=21,SNR=18							
NOUC	**Port Laguerre**	**8.52**	**205**	*e*P		P	11 09 49.0	-3.1
CTA	**Charters Tower**	**23.47**	**253**	P		P	11 12 08.1	0.0
	1.5nm,0.7s,baz=83,slow=12,SNR=9.5							
STKA	**Stephens Creek**	**31.35**	**231**	P		P	11 13 17.4	+1.5
	3.6nm,0.8s,baz=350,slow=17,SNR=5.0							
WRA	**Warramunga Arr**	**34.58**	**256**	P		P	11 13 42.5	-0.6
	7.4nm,0.6s,baz=86,slow=8.7,SNR=76							
WRA				S		S	11 18 28.3	0.0
	0.3nm,0.6s,baz=88,slow=12,SNR=3.6							
ASAR	**Alice Springs**	**35.37**	**249**	P		P	11 13 49.4	-0.2
	10nm,0.6s,baz=75,slow=9.4,SNR=148							
ASAR				S		S	11 18 40.9	+0.8
	1.0nm,0.6s

*ISCJB **23** 11:43:29.3±0.7,50°.31N±0°.04×18°.68E±0°.04, h0km, Error ellipse: s-maj=6.4km s-min=3.2km az=10.9*
*CSEM **23** 11:43:29.9±0.3,50°.33N×18°.69E, h2km, ML2.6/4, Error ellipse: s-maj=6.7km s-min=2.8km az=2.0*
*PRU **23** 11:43:30.8, 50°.33N×18°.68E, h0km*
ISC 23 11:43:30.1±1.0, 50°.25N±0°.04×18°.68E±0°.02, h0km, n19, σ0s80/31, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.54**	**220**	*e*PG	**Pb**	**11 43 41.9**	**-0.5**
OKC				*e*SG	**Sb**	**11 43 49.2**	**-1.5**
	comp=Z,28nm,0.7s						
OKC	**Ostrava-Krasne**	**0.54**	**220**	Pg	**Pb**	**11 43 41.9**	**-0.5**
OKC				Sg	**Sb**	**11 43 49.2**	**-1.5**
	28nm,0.7s						
OJC	**Ojcow**	**0.72**	**92**	*e*Pg	**Pg**	**11 43 43.7**	**-0.1**
OJC				*e*Sg	**Sg**	**11 43 53.1**	**0.0**
OJC	**Ojcow**	**0.72**	**92**	*e*Pg	**Pg**	**11 43 43.7**	**-0.1**
OJC				*e*Sg	**Sg**	**11 43 53.1**	**0.0**
MORC	**Moravsky Berou**	**0.87**	**238**	*e*Pg	**Pb**	**11 43 48.2**	**0.0**
MORC				*e*Sg	**Sb**	**11 44 00.4**	**0.0**
NIE	**Niedzica**	**1.34**	**128**	*e*Pg	**Pb**	**11 43 56.3**	**+0.1**
NIE				*e*Sg	**Sn**	**11 44 15.0**	**+0.3**
NIE	**Niedzica**	**1.34**	**128**	*e*Pg	**Pb**	**11 43 56.3**	**+0.1**
NIE				*e*Sg	**Sn**	**11 44 15.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.52**	**275**	*e*PG	**Pb**	**11 43 58.9**	**-0.3**
DPC				*e*SG	**Sg**	**11 44 18.6**	**-0.2**
	comp=Z,15nm,0.9s						
DPC	**Dobruska-Polom**	**1.52**	**275**	Pg	**Pb**	**11 43 58.9**	**-0.3**
DPC				Sg	**Sg**	**11 44 18.6**	**-0.2**
	15nm,0.9s						
KSP	**Ksiaz**	**1.64**	**292**	*e*Pg	**Pg**	**11 44 02.1**	**+0.6**
KSP				*e*Sg	**Sg**	**11 44 24.3**	**+1.6**
VRAC	**Vranov**	**1.65**	**236**	*e*Sg	**Sg**	**11 44 23.1**	**0.0**
UPC	**Upice**	**1.73**	**280**	*e*SG	**Sg**	**11 44 26.5**	**+0.8**
UPC	**Upice**	**1.73**	**280**	Sg	**Sg**	**11 44 26.5**	**+0.8**
VYHS	**Vyhne**	**1.76**	**177**	*e*PN	**Pg**	**11 44 05.3**	**+1.5**
VYHS				*e*SN	**Sg**	**11 44 26.6**	**0.0**
VYHS	**Vyhne**	**1.76**	**177**	*e*Pn	**Pg**	**11 44 05.3**	**+1.5**
VYHS				*e*Sn	**Sg**	**11 44 26.6**	**0.0**
PRU	**Pruhonice**	**2.68**	**266**	*e*SG	**Sg**	**11 44 56.0**	**-0.1**
	comp=Z,4.3nm,0.3s						
PRU	**Pruhonice**	**2.68**	**266**	Sg	**Sg**	**11 44 56.0**	**-0.1**
	4.3nm,0.3s						
KHC	**Kasperske Hory**	**3.50**	**253**	*e*SG	**Sg**	**11 45 21.1**	**-1.3**
	comp=Z,6.5nm,0.5s						
KHC	**Kasperske Hory**	**3.50**	**253**	Sg	**Sg**	**11 45 21.1**	**-1.3**
	6.5nm,0.5s						

IDC 23 11:59:51.4±0.9, 12°.61N×143°.66E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.6/5, MS3.4/3, Ms1 3.5/3, ms1mx2.8/31, Error ellipse: s-maj=28.1km s-min=12.8km az=136.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**50**	Pg	Pn	12 00 19.8	-0.1
	68nm,0.3s,baz=255,slow=2.0,SNR=30						
GUMO				Lg	Lg	12 00 38.7	
	64nm,0.3s,baz=91,slow=22,SNR=7.0						
CBIJ	**Chichi jima**	**14.48**	**355**	LR	LR	12 07 52.1	
	comp=Z,178nm,20.3s,baz=162,slow=33						
MJAR	**Matsushiro Arr**	**24.33**	**349**	LR	LR	12 14 07.0	
	comp=Z,105nm,18.3s,baz=150,slow=35						
WRA	**Warramunga Arr**	**33.62**	**196**	P	P	12 06 33.5	-0.4
	2.8nm,0.7s,baz=19,slow=9.7,SNR=23						
ASAR	**Alice Springs**	**37.30**	**195**	P	P	12 07 05.0	-0.4
	0.5nm,0.4s,baz=21,slow=10,SNR=12						
CMAR	**Chiang Mai Arr**	**43.39**	**284**	P	P	12 07 56.8	+0.6
	0.4nm,0.4s,baz=88,slow=6.8,SNR=6.0						
CMAR				LR	LR	12 24 04.3	
	comp=Z,38nm,19.8s,baz=90,slow=34						
MKAR	**Makanchi Array**	**61.38**	**317**	P	P	12 10 08.3	-1.1
	0.2nm,0.7s,baz=76,slow=7.6,SNR=3.2						
NVAR	**Mina Array Bea**	**88.44**	**51**	P	P	12 12 47.4	+1.2
	0.4nm,0.7s,baz=255,slow=3.5,SNR=2.5						

*DDA **23** 12:03:48.9, 37°.41N×41°.56E, h2km, MD2.9*
*CSEM **23** 12:03:50.1±0.3, 37°.40N×41°.59E, h2km, MD2.9, Error ellipse: s-maj=11.4km s-min=6.3km az=172.0*
*NSSC **23** 12:03:52.6±0.5, 37°.35N×41°.46E, h12km±16km, ML2.0*
ISC 23 12:03:49.0±1.2, 37°.39N±0°.05×41°.57E±0°.03, h8km±15km, n17, σ0s62/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEST	**Besiri**	**0.56**	**335**	*i* P	**Pb**	**12 04 00.4**	**-0.6**
BEST				*i* S	**Sb**	**12 04 08.1**	**-1.1**
MARD	**Mardin**	**0.63**	**263**	*i* P	**Pb**	**12 04 02.0**	**-0.4**
MARD				*i* S	**Sb**	**12 04 11.1**	**-0.4**
SIRN	**S¨-rnak**	**0.68**	**81**	*i* P	**Pg**	**12 04 01.6**	**-0.8**
SIRN				*i* S	**Sb**	**12 04 13.1**	**+0.4**
SIRN	**S¨-rnak**	**0.68**	**81**	*i* P	**Pg**	**12 04 01.4**	**-0.8**
SIRN				*i* S	**Sb**	**12 04 13.1**	**+0.4**
KBSD	**Kabsdagh**	**0.91**	**245**	*e*P	**Pn**	**12 04 07.9**	**-0.1**
KBSD				AML	AML	12 04 22.1	
	comp=Z,74nm,0.2s						
KBSD				AML	AML	12 04 22.6	
	comp=N,86nm,0.6s						
KBSD				AML	AML	12 04 22.8	
	comp=E,119nm,0.4s						
KBSD	**Kabsdagh**	**0.91**	**245**	*e*P	**Pn**	**12 04 07.9**	**-0.1**
	SNR=66						
DIYA	**Diyarbakir**	**1.27**	**295**	*i* P	**Pn**	**12 04 13.5**	**+0.4**
DIYA				*i* S	**Sb**	**12 04 29.7**	**0.0**
DIYA	**Diyarbakir**	**1.27**	**295**	*i* P	**Pn**	**12 04 13.5**	**+0.4**
DIYA				*i* S	**Sb**	**12 04 29.7**	**0.0**
SFNV	**Sufian**	**1.52**	**231**	*e*P	**Pg**	**12 04 18.2**	**+0.1**
SFNV				*e*S	**Sg**	**12 04 38.8**	**+0.9**
SFNV				AML	AML	12 04 39.5	
	comp=N,61nm,0.6s						
SFNV				AML	AML	12 04 41.9	
	comp=E,74nm,0.2s						
SFNV	**Sufian**	**1.52**	**231**	*e*P	**Pg**	**12 04 18.2**	**+0.1**
	SNR=51						
SFNV				*e*S	**Sg**	**12 04 38.8**	**+0.9**
	comp=E,74nm,0.2s,SNR=49						
HAKT	**HAKKARI**	**1.71**	**84**	*i* P	**Pg**	**12 04 21.4**	**-0.4**
HAKT				*i* S	**Sg**	**12 04 45.3**	**+1.3**
HAKT	**HAKKARI**	**1.71**	**84**	*i* P	**Pg**	**12 04 21.4**	**-0.4**
HAKT				*i* S	**Sg**	**12 04 45.3**	**+1.3**
MZRK	**Al-Mazaregh**	**1.73**	**206**	*e*P	**Pg**	**12 04 21.7**	**-0.4**
MZRK				*e*S	**Sg**	**12 04 43.9**	**-0.6**
MZRK				AML	AML	12 04 46.3	
	comp=E,40nm,0.3s						
MZRK				AML	AML	12 04 47.5	
	comp=Z,26nm,0.5s						
MZRK				AML	AML	12 04 48.7	
	comp=N,36nm,0.5s						
MZRK	**Al-Mazaregh**	**1.73**	**206**	*e*P	**Pg**	**12 04 21.7**	**-0.4**
	SNR=51						
MZRK				*e*S	**Sg**	**12 04 43.9**	**-0.6**
	comp=N,36nm,0.5s,SNR=49						
ELZG	**Elazig**	**2.32**	**299**	*i* P	**Pb**	**12 04 31.4**	**+0.1**
ELZG				*i* S	**Sb**	**12 05 00.1**	**-0.1**
ELZG	**Elazig**	**2.32**	**299**	*i* P	**Pb**	**12 04 31.4**	**+0.1**
ELZG				*i* S	**Sb**	**12 05 00.1**	**-0.1**
KSRV	**Kasrt alli**	**2.56**	**234**	*e*P	**Pg**	**12 04 38.5**	**+0.4**
KSRV				AML	AML	12 05 14.8	
	comp=E,4.0nm,0.4s						
KSRV				AML	AML	12 05 18.2	
	comp=Z,8.6nm,0.3s						
KSRV				AML	AML	12 05 20.1	
	comp=N,11nm,0.5s						

*DJA **23** 12:05:47, 0°.96S×131°.27E, h135km, MLv3.5/5*
IDC 23 12:05:45.3±2.2, 0°.28S×132°.44E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=115.4km s-min=20.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.93**	**200**	P	Pn	12 10 08.7	+0.2
	0.1nm,0.3s,baz=16,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**19.63**	**175**	P	P	12 10 15.4	-0.3
	0.1nm,0.3s,baz=353,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**23.29**	**177**	P	P	12 10 54.7	-0.2
	3.2nm,0.9s,baz=352,slow=9.6,SNR=23						
SONM	**Songino Array**	**53.01**	**338**	P	P	12 15 04.4	+0.3
	0.5nm,0.6s,baz=159,slow=6.3,SNR=3.5						
MKAR	**Makanchi Array**	**64.11**	**324**	P	P	12 16 21.2	-0.2
	0.9nm,0.5s,baz=113,slow=8.9,SNR=21						

*ISCJB **23** 12:22:19.1±1.1, 67°.70N±0°.04×34°.10E±0°.2, h0km, Error ellipse: s-maj=8.6km s-min=5.7km az=5.5*
*NAO **23** 12:22:21.7±1.2, 67°.70N×33°.89E, ML2.8*
*HEL **23** 12:22:21.3±0.2, 67°.67N×34°.01E, h0km, ML2.5, ML2.8(BER), ML2.8(NAO), Suspected explosion*
*CSEM **23** 12:22:21.7±0.4, 67°.64N×33°.86E, h1km, ML2.8, Error ellipse: s-maj=8.0km s-min=4.3km az=80.0, Suspected Mining explosion.*
*IDC **23** 12:22:23.8±2.8, 67°.70N×33°.67E, h0km, mb1 3.5/4, mb1mx3.2/27, mbtmp3.5/4, ML2.8/4, Error ellipse: s-maj=31.5km s-min=9.6km az=74.0*
ISC 23 12:22:19.0±1.6, 67°.62N±0°.04×34°.17E±0°.08, h0km, n33, σ1s19/59, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.45**	**269**	Pg	**Pg**	**12 22 28.3**	**+0.7**
	baz=69,slow=18						
APA0				Lg	Lg	12 22 33.6	
	baz=76,slow=37						
APA0				Rg	Rg	12 22 35.7	
	baz=90,slow=37						
APA0	**Apatity Array**	**0.45**	**269**	*i* P	**Pg**	**12 22 28.3**	**+0.7**
APA0				*i* S	**Sg**	**12 22 33.6**	**+0.2**
APA0				*e*RG	Rg	12 22 35.7	
APA0	**Apatity Array**	**0.45**	**269**	P	**Pg**	**12 22 28.3**	**+0.7**
APA0				S	**Sg**	**12 22 33.6**	**+0.2**
APA0				Lg	Lg	12 22 33.7	
	baz=76,slow=32,SNR=50						
VRF	**Varrio**	**1.75**	**276**	*e*P	**Pb**	**12 22 51.3**	**-0.5**
VRF				*e*S	**Sn**	**12 23 12.7**	**-0.8**
VRF	**Varrio**	**1.75**	**276**	P	**Pb**	**12 22 51.3**	**-0.5**
VRF				S	**Sn**	**12 23 12.6**	**-0.8**
KU6	**Riekki**	**2.33**	**229**	*e*P	**Pb**	**12 23 00.7**	**-1.1**
KU6				*e*SB	**Sb**	**12 23 31.2**	**0.0**
KU6				MSG		12 23 33.7	
	comp=Z,17nm,0.2s						
KU6	**Riekki**	**2.33**	**229**	P	**Pb**	**12 23 00.7**	**-1.1**
KU6				Sb	**Sb**	**12 23 31.1**	**0.0**
MSF	**Maaselka**	**2.66**	**232**	*e*P	**Pn**	**12 23 05.5**	**+2.5**
MSF				*e*SB	**Sb**	**12 23 40.6**	**-0.1**
MSF	**Maaselka**	**2.66**	**232**	P	**Pn**	**12 23 05.5**	**+2.5**
MSF				Sb	**Sb**	**12 23 40.5**	**-0.1**
SGF	**Sodankyl**	**2.94**	**270**	*e*P	**Pn**	**12 23 08.1**	**+1.2**
SGF				*e*S	**Sn**	**12 23 43.5**	**+0.7**
SGF	**Sodankyl**	**2.94**	**270**	P	**Pn**	**12 23 08.1**	**+1.2**
SGF				S	**Sn**	**12 23 43.5**	**+0.7**
RNF	**Rovaniemi**	**3.35**	**256**	*e*P	**Pn**	**12 23 13.7**	**+1.2**
RNF				*e*S	**Sn**	**12 23 52.8**	**0.0**
RNF	**Rovaniemi**	**3.35**	**256**	P	**Pn**	**12 23 13.6**	**+1.2**
KEV	**Kevo**	**3.38**	**313**	*e*P	**Pn**	**12 23 14.9**	**+1.9**
KEV				*e*S	**Sn**	**12 23 53.5**	**-0.1**
KEV	**Kevo**	**3.38**	**313**	P	**Pn**	**12 23 14.8**	**+1.9**
KEV				S	**Sn**	**12 23 53.5**	**-0.1**
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**12 23 18.4**	**+0.9**
	baz=121,slow=14						
ARA0				Pg	**Pb**	**12 23 25.0**	**-0.3**
	baz=127,slow=16						
ARA0				Sn	**Sn**	**12 24 00.7**	**-1.3**
	baz=123,slow=28						
ARA0				Lg	Lg	12 24 11.6	
	baz=129,slow=28						
ARA0	**ARCESS Array S**	**3.71**	**305**	*e*P	**Pn**	**12 23 18.4**	**+0.9**
ARA0				*e*PG	**Pb**	**12 23 25.0**	**-0.3**
ARA0				*e*S	**Sn**	**12 24 00.7**	**-1.3**
ARA0				*e*SG	**Sb**	**12 24 11.6**	**+0.8**
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**12 23 18.4**	**+0.9**
	baz=121,slow=13,SNR=50						
ARA0				S	**Sn**	**12 24 00.6**	**-1.3**
ARA0				Lg	Lg	12 24 11.6	
	baz=129,slow=28,SNR=91						
ARCES	**ARCESS Array B**	**3.71**	**305**	Pn	**Pn**	**12 23 18.9**	**+1.4**
	comp=Z,2.2nm,0.3s,baz=120,slow=14,SNR=288						
ARCES				Pg	**Pb**	**12 23 26.0**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=116,slow=16,SNR=27						
ARCES				Sn	**Sn**	**12 24 00.9**	**-1.0**
	comp=Z,3.9nm,0.3s,baz=118,slow=27,SNR=15						
ARCES				Lg	Lg	12 24 12.8	
	comp=Z,11nm,0.3s,baz=105,slow=33,SNR=8.5						
ARCES				Rg	Rg	12 24 33.3	
	comp=Z,8.7nm,0.8s,baz=110,slow=32,SNR=1.0						
HEF	**Hetta**	**4.03**	**286**	MSG		12 24 25.7	
	comp=Z,10nm,0.2s						
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**12 23 26.4**	**+0.9**
KTK1				*e*S	**Sn**	**12 24 14.4**	**-1.6**
KTK1				AML	AML	12 24 34.8	
	comp=Z,48nm,0.8s						
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**12 23 26.4**	**+0.9**
KTK1				*e*S	**Sn**	**12 24 14.4**	**-1.6**
KTK1				AML	AML	12 24 34.8	
	comp=Z,48nm,0.8s						
KTK1	**Kautokeino**	**4.29**	**294**	P	**Pn**	**12 23 26.3**	**+0.9**
KTK1				S	**Sn**	**12 24 14.4**	**-1.6**
	comp=Z,48nm,0.8s						
KAF	**Kangasniemi**	**6.46**	**215**	MSG		12 25 50.2	
	comp=Z,3.9nm,0.4s						
VAF	**Ylistaro**	**6.65**	**232**	MSG		12 25 51.3	
	comp=Z,3.4nm,0.3s						
FIA0	**FINESS Array S**	**7.11**	**213**	Pn	**Pn**	**12 24 05.3**	**+1.2**
	baz=24,slow=14						
FIA0				Sn	**Sn**	**12 25 20.0**	**-0.5**
	baz=30,slow=22						
FIA0				Lg	Lg	12 25 58.6	
	baz=31,slow=28						
FIA0	**FINESS Array S**	**7.11**	**213**	*e*P	**Pn**	**12 24 05.3**	**+1.2**
FIA0				*e*S	**Sn**	**12 25 25.0**	**-0.5**
FIA0				*e*SG	Sg	12 25 58.6	-8.5
FIA0	**FINESS Array S**	**7.11**	**213**	P	**Pn**	**12 24 05.3**	**+1.2**
FIA0				Sn	**Sn**	**12 25 25.0**	**-0.5**
	baz=30,slow=21,SNR=50						
FIA0				Lg	Lg	12 25 58.6	
	baz=31,slow=28,SNR=5.0						
FINES	**FINESS Array B**	**7.11**	**213**	Pn	**Pn**	**12 24 05.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=6.3						
FINES				Sn	**Sn**	**12 25 24.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=38,slow=22,SNR=6.7						
FINES				Lg	Lg	12 25 58.8	
	comp=Z,0.9nm,0.3s,baz=31,slow=27,SNR=6.9						
HFS	**Hagfors**	**11.68**	**240**	Pn	**Pn**	**12 25 05.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=51,slow=12,SNR=2.5						
HFS				Sn	**Sn**	**12 27 14.0**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=50,slow=23,SNR=4.0						
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	**Pn**	**12 25 06.0**	**-1.3**
	baz=141,slow=16						
SPA0	**Spitsbergen Ar**	**11.73**	**342**	*e*P	**Pn**	**12 25 06.0**	**-1.3**
NOA	**NORSAR Array B**	**11.88**	**247**	Pn	**Pn**	**12 25 09.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=2.3						

*NDI **23** 12:27:16.7±3.1, 28°.70N×81°.56E, h10km, ML4.2*
*ISCJB **23** 12:27:17.5±0.9, 28°.72N±0°.05×81°.52E±0°.05, h45km±9km, mb4.0/16, Error ellipse: s-maj=9.0km s-min=7.0km az=28.1*
*IDC **23** 12:27:18.4±8.3, 28°.80N×81°.62E, h33km±63km, mb3.9/16, mb1 4.0/18, mb1mx3.9/29, mbtmp3.8/18, ML4.0/2, Error ellipse: s-maj=25.1km s-min=14.7km az=47.0*
ISC 23 12:27:17.9±1.8, 28°.75N±0°.06×81°.58E±0°.06, h31km±13km, n38, σ1s36/45, mb4.1/16, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.44**	**304**	*e*P	**Pb**	**12 27 43.9**	**-0.3**
PTH				*ex*	**Sn**	**12 27 59.3**	**-0.6**
DDI	**Dehra Dun**	**3.45**	**298**	*e*P	**Pn**	**12 28 11.0**	**+1.5**
DDI				*ex*	x	12 29 17.9	
BISR	**Bishrakh**	**3.65**	**268**	*e*S	**Sn**	**12 28 53.4**	**-0.7**
NDI	**New Delhi**	**3.83**	**270**	*e*P	**Pn**	**12 28 15.2**	**+0.5**
NDI				*e*S	**Sn**	**12 28 58.0**	**-0.8**
NDI				AML	AML	12 29 24.1	
	comp=N,416nm,0.4s						
NDI				AML	AML	12 29 24.4	
	comp=E,755nm,0.3s						
AYAN	**Aya Nagar**	**3.93**	**267**	*e*P	**Pn**	**12 28 17.4**	**+1.4**
AYAN				*e*S	**Sn**	**12 28 60.0**	**-1.0**
SONA	**Sohna**	**3.99**	**264**	*e*P	**Pn**	**12 28 18.8**	**+1.9**
SONA				*e*S	**Sn**	**12 29 03.8**	**+1.2**
SONA				AML	AML	12 29 23.9	
	comp=N,424nm,0.3s						
SONA				AML	AML	12 29 26.5	
	comp=E,385nm,0.4s						
SMLA	**Simla**	**4.51**	**303**	*e*P	**Pn**	**12 28 24.7**	**+0.7**
SMLA				*e*PN	PN	12 28 25.0	
SMLA				*e*S	**Sn**	**12 29 16.7**	**+1.4**
KHET	**Khetri**	**5.13**	**264**	*e*P	**Pn**	**12 28 34.1**	**+1.5**
KHET				*e*S	**Sn**	**12 29 29.6**	**-1.2**
KHET				AML	AML	12 29 32.5	
	comp=N,86nm,0.3s						
KHET				AML	AML	12 29 32.8	
	comp=E,142nm,0.3s						
DHRM	**DHARAMSHALA**	**5.74**	**309**	*e*P	**Pn**	**12 28 41.6**	**+0.4**
DHRM				*e*PN	PN	12 28 41.9	
DHRM				*e*S	**Sn**	**12 29 44.2**	**-1.9**
THN	**Thein Dam**	**6.25**	**307**	*e*P	**Pn**	**12 28 47.1**	**-0.8**
THN				*e*S	**Sn**	**12 29 54.8**	**-3.4**
BOK	**Bokaro**	**6.27**	**141**	*e*P	**Pn**	**12 28 50.1**	**+1.9**
BOK				*ex*	x	12 30 35.2	
BHPL	**Bhopal**	**6.64**	**215**	*ex*	**Pn**	**12 28 56.2**	**+2.9**
NGP	**Nagpur**	**7.91**	**197**	*e*P	**Pn**	**12 29 09.2**	**-1.6**
NGP				*e*S	**Sn**	**12 30 35.5**	**-3.7**
SHL	**Shillong**	**9.71**	**107**	*e*P	Pn	12 29 32.0	-3.6
SHL				*e*S	Sn	12 31 17.0	-6.6
LATR	**Latur**	**11.27**	**205**	*e*P	**Pn**	**12 29 56.5**	**-0.3**
POO	**Poona**	**12.39**	**217**	*ex*	x	12 30 07.0	
POO				*i* x	x	12 32 22.0	
MKAR	**Makanchi Array**	**18.02**	**2**	P	**Pn**	**12 31 25.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=173,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**18.90**	**119**	P	**Pn**	**12 31 37.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=313,slow=9.9,SNR=9.6						
KURK	**Kurchatov**	**22.05**	**355**	P	**P**	**12 32 07.8**	**-2.1**
	comp=E,1.8nm,0.6s,baz=180,slow=9.9,SNR=23						
ZALV	**Zalesovo Beam**	**25.29**	**4**	P	**P**	**12 32 40.7**	**-0.6**
	comp=E,6.3nm,0.8s,baz=196,slow=10,SNR=20						
BVAR	**Borovoye Array**	**25.62**	**344**	P	**P**	**12 32 44.8**	**+0.4**
	comp=E,1.6nm,0.8s,baz=139,slow=9.9,SNR=7.0						
SONM	**Songino Array**	**27.05**	**38**	P	**P**	**12 32 58.6**	**+1.1**
	comp=E,0.8nm,0.7s,baz=214,slow=7.2,SNR=3.8						
MLR	**Muntele Rosu**	**46.47**	**307**	P	**P**	**12 35 44.3**	**+2.1**
	comp=E,1.0nm,0.7s,baz=72,slow=14,SNR=3.4						
JOF	**Joensuu**	**46.98**	**331**	*ep*	**P**	**12 35 45.8**	**+0.2**
JOF	**Joensuu**	**46.98**	**331**	*ep*	**P**	**12 35 45.8**	**+0.2**
FINES	**FINESS Array B**	**48.81**	**328**	P	**P**	**12 35 59.9**	**+0.1**
	comp=E,3.5nm,0.6s,baz=101,slow=7.7,SNR=16						
ARCES	**ARCESS Array B**	**51.66**	**338**	P	**P**	**12 36 21.5**	**+0.1**
	comp=E,3.8nm,1.0s,baz=100,slow=6.8,SNR=5.9						
HFS	**Hagfors**	**54.57**	**325**	P	**P**	**12 36 42.6**	**-0.3**
	comp=E,6.3nm,0.7s,baz=115,slow=10.0,SNR=12						
GERES	**GERESS Array B**	**54.72**	**311**	P	**P**	**12 36 44.6**	**+0.4**
	comp=E,0.5nm,0.5s,baz=97,slow=5.5,SNR=3.6						
NB2	**NORSAR Subarra**	**55.83**	**326**	P	**P**	**12 36 51.4**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=90,slow=6.9						
NOA	**NORSAR Array B**	**55.83**	**326**	P	**P**	**12 36 51.8**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=93,slow=7.1,SNR=5.3						
WRA	**Warramunga Arr**	**70.26**	**127**	P	**P**	**12 38 28.6**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=323,slow=6.1,SNR=14						
ASAR	**Alice Springs**	**72.48**	**130**	P	**P**	**12 38 41.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=317,slow=5.8,SNR=22						
TORD	**Torodi Ar. Bea**	**75.03**	**277**	P	**P**	**12 38 57.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=54,slow=4.3,SNR=8.8						
BOSA	**Boshof**	**78.46**	**228**	P	**P**	**12 39 16.6**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=58,slow=5.9,SNR=2.8						
ILAR	**Eielson Array**	**79.47**	**19**	P	**P**	**12 39 20.7**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=309,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**88.15**	**7**	P	**P**	**12 40 04.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=338,slow=4.9,SNR=4.7						
TXAR	**Lajitas Array**	**122.03**	**5**	PKP	**PKPdf**	**12 46 10.3**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=257,slow=3.6,SNR=2.6						

IDC 23 12:32:17.4±4.1, 67°.01S×111°.60E, h0km, mb4.1/3, mb1 4.2/3, mb1mx4.1/8, mbtmp4.1/3, MS3.1/1, Ms1 3.0/1, ms1mx2.1/25, Error ellipse: s-maj=175.8km s-min=48.3km az=102.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**18.43**	**246**	LR	LR	12 43 49.6	
	comp=Z,61nm,21.0s,baz=312,slow=38						
STKA	**Stephens Creek**	**39.40**	**42**	P	P	12 39 48.6	+0.2
	4.7nm,0.9s,baz=210,slow=9.7,SNR=7.9						
ASAR	**Alice Springs**	**45.55**	**29**	P	P	12 40 38.7	+0.1
	1.4nm,0.7s,baz=192,slow=6.8,SNR=28						
WRA	**Warramunga Arr**	**49.26**	**29**	P	P	12 41 06.8	-0.6
	1.4nm,0.8s,baz=195,slow=6.9,SNR=8.5						
PDAR	**Pinedale Array**	**147.14**	**117**	PKPbc	PKPbc	12 52 00.7	-0.7
	0.3nm,0.7s,baz=182,slow=2.5,SNR=2.6						

*NIED **23** 12:38:00, 20°.80N×121°.80E, h8km, Mw5.4 Best double couple: M0 1.59000×10^17 NP1:φs338.00000°, δ76.00000°, λ97.00000°. NP2:φs130.00000°, δ16.00000°, λ63.00000°.*
*ISCJB **23** 12:38:11.9±0.5, 21°.18N±0°.01×121°.22E±0°.02, h5km±3km, mb5.3/204, MS5.1/74, Error ellipse: s-maj=2.8km s-min=2.1km az=

baz=3.0
STYT Tauyuan 1.99 349 *e*P **Pn 12 38 47.1 -1.1**
baz=350
CHN3 Shinhua 2.01 339 *e*P **Pn 12 38 47.1 -1.2**
baz=329
TAI1 Yung-k'ang 2.03 335 *e*P **Pn 12 38 46.9 -1.7**
baz=326
CHN1 Nanshi 2.06 344 P **Pn 12 38 48.1 -1.0**
baz=332
WTP Ta-pu 2.10 346 P **Pn 12 38 48.6 -1.1**
baz=347
TWF1 Yuli 2.15 3 *e*P Pn 12 38 46.9 -3.4
baz=355
TWF1 *e*S **Sn 12 39 13.8 -2.7**
baz=355
TPUB Ta-pu 2.15 347 *e*Pn **Pn 12 38 49.5 -0.8**
TPUB *e*Sn **Sn 12 39 13.5 -3.0**
TWK Hsinying 2.15 343 *e*P **Pn 12 38 49.7 -0.7**
baz=332
SCLT Jiali 2.16 336 *e*P **Pn 12 38 47.4 -3.1**
baz=337
YULB Yu-li 2.19 3 *e*Pn Pn 12 38 47.5 -3.3
YULB *e*Sn **Sn 12 39 18.5 +1.1**
CHN4 Tsaushan 2.21 346 *e*P **Pn 12 38 50.6 -0.4**
baz=347
YUS Yu-Shan 2.29 355 *e*P **Pn 12 38 50.9 -1.8**
baz=1.0
EHY Hungye 2.30 4 *e*P **Pn 12 38 49.6 -2.8**
baz=358
CHN8 Yiju 2.31 338 *e*P **Pn 12 38 50.5 -2.0**
baz=328
ALS Alishan 2.33 352 *e*P **Pn 12 38 51.9 -1.1**
baz=352
CHY Chiayi 2.39 344 *e*P **Pn 12 38 52.3 -1.3**
baz=333
CHN2 Minshiung 2.41 345 *e*P **Pn 12 38 51.7 -2.2**
baz=333
CHN5 Tsauling 2.43 350 *e*P **Pn 12 38 53.2 -1.0**
baz=350
WGK Gukeng 2.54 348 *e*P **Pn 12 38 54.0 -1.7**
baz=348
SSLB Suanglung 2.58 356 *e*Pn **Pn 12 38 55.7 -0.6**
SSLB *e*Sn **Sb 12 39 31.1 -1.5**
ESL Shilin 2.62 5 *e*P **Pn 12 38 54.2 -2.6**
baz=358
SMLT Sun Moon Lake 2.68 355 *e*P **Pn 12 38 56.9 -0.8**
baz=355
WNT Mingjian 2.70 351 *e*P **Pn 12 38 57.6 -0.3**
baz=351
TYC Yuchr 2.71 354 *e*P **Pn 12 38 56.8 -1.2**
baz=354
PNG Penghu 2.79 328 *e*P **Pn 12 38 56.2 -2.9**
baz=329
HWA Hwalien 2.80 8 *e*P **Pn 12 38 56.9 -2.3**
baz=16
TWD Chiawan 2.90 8 *e*P **Pn 12 38 58.5 -2.1**
baz=360
WHF Hehuan Shan 2.94 2 *e*P **Pn 12 38 59.4 -2.1**
baz=350
TCU Taichung 2.97 351 *e*P **Pn 12 39 00.4 -1.2**
baz=351
NACB Ninganchiao 2.99 8 *e*Pn **Pn 12 39 00.9 -1.0**
NACB *e*Sn **Sb 12 39 41.9 -2.4**
TWT Tachien 3.04 0 *e*P **Pn 12 39 01.8 -0.9**
baz=348
TWQ1 Liyutan 3.16 354 *e*P **Pn 12 39 03.1 -1.0**
baz=354
NSY Sanyi 3.22 354 *e*P **Pn 12 39 04.3 -0.8**
baz=353
NNS Nan Shan 3.23 3 *e*P **Pn 12 39 04.8 -0.6**
baz=11
ENA Nanau 3.26 9 *e*P **Pn 12 39 04.7 -0.9**
baz=356
ENA *e*S **Sn 12 39 43.4 -0.4**
baz=356
NSTT Nanjuang 3.42 358 *e*P **Pn 12 39 07.7 -0.1**
baz=357
ENTT Nioudou 3.45 6 *e*P **Pn 12 39 07.2 -0.9**
baz=6.0
TWC Suao 3.45 10 *e*P **Pn 12 39 07.8 -0.4**
baz=10.0
YHNB Yeheng 3.46 3 *e*Pn **Pn 12 39 07.2 -1.2**
YHNB *e*Sn **Sn 12 39 50.0 +1.1**
NSK Sanguang 3.47 3 *e*P **Pn 12 39 07.1 -1.4**
baz=352
TWE Neicheng 3.54 7 *e*P **Pn 12 39 08.3 -1.1**
baz=7.0
HSN Hsinchu 3.59 357 *e*P **Pn 12 39 09.5 -0.7**
baz=358
YOJ Yonaguni jima 3.67 27 *e*P **Pn 12 39 08.9 -2.3**
baz=26
YOJ Yonaguni jima 3.67 27 P **Pn 12 39 14.1 +2.9**
YOJ *e*S **Sn 12 39 57.1 +3.2**
HATJ Hateruma jima 3.75 40 P **Pn 12 39 12.9 +0.6**
HATJ *e*S **Sn 12 39 55.9 0.0**
NCU National Centr 3.75 0 *e*P **Pn 12 39 11.2 -1.2**
baz=350
TATO Taipei 3.77 5 *e*Pn Pn 12 39 15.8 +3.2
TATO *e*Sn **Sn 12 39 59.9 +3.4**
TATO Taipei 3.77 5 Pn **Pb 12 39 21.2 -0.3**
SNR=6.7
TWA Mucha 3.79 6 *e*P **Pn 12 39 13.5 +0.7**
baz=5.0
TAP1 Taipei 3.84 5 *e*P **Pn 12 39 14.8 +1.3**
baz=4.0
TWB1 Santiao Chiao 3.87 11 *e*P **Pn 12 39 12.2 -1.8**
baz=358
TWS1 Kuangyinshan 3.89 3 *e*P **Pn 12 39 13.4 -0.8**
baz=351
NWF Wu-fen Shan 3.90 8 *e*P **Pn 12 39 14.2 -0.3**
baz=8.0
IRIF Iriomote-Funau 3.92 37 P **Pn 12 39 15.9 +1.2**
IRIF *e*S **Sn 12 40 01.0 +0.9**
JKRS Kuro-shima 4.01 40 P **Pn 12 39 16.8 +0.9**
JKRS *e*S **Sn 12 40 03.1 +0.8**
KNM Kinmen 4.07 322 *e*P **Pn 12 39 15.7 -1.0**
baz=322
JIJ Ishigaki jima 4.18 41 P **Pn 12 39 18.1 -0.2**
JIJ *e*S **Sn 12 40 06.3 -0.3**
QZH Quanzhou 4.42 328⇑ *i*Pn **Pn 12 39 20.3 -1.1**
QZH Sn **Sn 12 40 08.8 -3.5**
QZH smax smax
comp=N,1μm,1.2s
QZH smax smax
comp=E,700nm,0.8s
QZH LR LR
comp=N,37μm,9.2s
QZH LR LR
comp=E,47μm,12.6s
QZH LR LR
comp=Z,47μm,11.4s
JTJ Tarama 4.73 43 P **Pn 12 39 25.7 -0.1**
JTJ *e*S **Sn 12 40 19.6 -0.6**
JMJ Miyako jima 2 5.24 46 *e*P **Pn 12 39 30.0 -2.8**
baz=45
JMJ Miyako jima 2 5.24 46 *e*S **Sn 12 40 32.0 -0.7**
JOGS Gusukube 5.28 47 *e*S **Sn 12 40 33.3 -0.3**
HKC Hong Kong Obse 6.59 281⇑ *i*P **Pn 12 39 51.0 -0.3**
TGY Tagaytay City 7.06 182 Pn Pn 12 40 02.3 +4.4
comp=Z,75nm,0.3s,baz=200,slow=20,SNR=4.0
TGY Tagaytay City 7.06 182 P Pn 12 40 02.3 +4.4
TGY Tagaytay City 7.06 182 Pn Pn 12 40 02.3 +4.4
GZH Guangzhou 7.49 286 Pn Pn 12 40 00.3 -3.4
GZH Sn **Sn 12 41 23.1 -4.9**
GZH LR LR
comp=N,18μm,10.7s
GZH LR LR
comp=E,15μm,9.5s
JOW Kunigami 8.59 48 Pn **Pn 12 40 20.3 +1.6**
comp=E,6.2nm,0.3s,baz=181,slow=24,SNR=2.7
JOW LR LR 12 43 58.5
comp=E,21μm,21.1s,baz=28,slow=40
JOW Kunigami 8.59 48 Pn **Pn 12 40 20.3 +1.6**
SSE Sheshan 9.86 0 P **Pn 12 40 38.3 +2.1**
SSE S **Sn 12 42 27.0 +0.7**
SSE pmax pmax
comp=Z,14nm,1.2s
SSE pmax pmax
comp=Z,800nm,5.4s
SSE LR LR
comp=N,6μm,11.4s
SSE LR LR
comp=E,14μm,11.5s
SSE LR LR
comp=Z,12μm,15.1s
QIZ Qiongzhong 10.85 261 P **Pn 12 40 48.9 -0.9**
QIZ S **Sn 12 42 54.0 +3.2**
QIZ pmax pmax
comp=Z,54nm,1.1s
QIZ LR LR
comp=N,23μm,13.8s
QIZ LR LR
comp=E,5μm,17.8s
QIZ LR LR
comp=Z,19μm,21.2s
QIZ Qiongzhong 10.85 261 *e*Pn **Pn 12 40 49.0 -0.8**
comp=Z,51nm,0.6s
NJ2 Nanjing 11.01 350 *e*P **Pn 12 40 53.3 +1.4**
NJ2 pP 12 41 00.8
NJ2 PP **PnPn 12 41 04.6 +4.7**
NJ2 sP 12 41 06.0
NJ2 S **Sn 12 42 59.0 +4.6**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NJ2 pmax pmax
comp=Z,580nm,5.0s
NJ2 LR LR
comp=N,14μm,12.7s
NJ2 LR LR
comp=E,26μm,10.6s
NJ2 LR LR
comp=Z,14μm,13.2s
WHN Wuhan 11.14 328⇑ P **Pn 12 40 53.1 -0.7**
WHN S **Sn 12 43 00.9 +3.1**
WHN LR LR
comp=N,42μm,9.2s
WHN LR LR
comp=E,29μm,11.0s
WHN LR LR
comp=Z,23μm,10.2s
ENH Enshi 13.86 313 *e*Pn **Pn 12 41 31.9 +0.9**
comp=Z,166nm,1.5s
ENH *e*Sn **Sn 12 44 09.7 +5.4**
GYA Guiyang 14.26 294⇑ *i*P **Pn 12 41 35.3 -1.2**
GYA PP **PnPn 12 41 50.0 +5.5**
GYA S **Sn 12 44 16.3 +2.0**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,1μm,8.1s
GYA LR LR
comp=N,9μm,14.9s
GYA LR LR
comp=E,8μm,18.2s
GYA LR LR
comp=Z,12μm,16.7s
DAV Davao City (W) 14.68 162 LR LR 12 48 16.4
comp=Z,9μm,18.2s,baz=309,slow=41
JNU Nakatsue 14.68 34 Pn **Pn 12 41 43.6 +1.4**
comp=Z,0.2nm,0.3s,baz=97,slow=9.6,SNR=2.5
JNU LR LR 12 47 28.8
comp=Z,2μm,18.1s,baz=22,slow=38
JNU Nakatsue 14.68 34 *e*Pn Pn 12 41 38.2 -4.0
JNU *e*Sn **Sn 12 44 20.0 -4.4**
JNU Nakatsue 14.68 34 P **P 12 41 50.9 +2.6**
KDM Kudat 14.80 197 P **Pn 12 41 45.3 +1.4**
KKM Kota Kinabalu 15.81 198 *e*P **Pn 12 41 57.1 -0.1**
comp=Z,311nm,1.6s
KKM Kota Kinabalu 15.81 198 P **P 12 42 00.2 -0.8**
KKM Kota Kinabalu 15.81 198 P **P 12 41 59.7 -1.3**
comp=Z,69nm,1.0s,comp=Z,3μm
SDKM Sandakan 15.94 195 P **P 12 42 01.0 -1.3**
MYLDM Lahad Datu 16.13 190 P **P 12 42 03.9 -0.5**
MYLDM Lahad Datu 16.13 190 P **P 12 42 04.2 -0.2**
comp=Z,146nm,2.1s,comp=Z,7μm
XAN Xi'an 16.75 322 P **Pn 12 42 09.6 +0.5**
XAN pP **pP 12 42 14.4 -2.4**
XAN S **S 12 45 21.0 -4.4**
XAN pmax pmax
comp=Z,25nm,1.5s
XAN pmax pmax
comp=Z,180nm,4.5s
XAN LR LR
comp=N,10μm,10.5s
XAN LR LR
comp=E,2μm,11.3s
XAN LR LR
comp=Z,3μm,13.0s
TSM Tawau 17.10 191 P **P 12 42 15.0 -0.2**
KSAR Wonju Array Be 17.21 18 P **P 12 42 15.8 -0.4**
KSAR Wonju Array Be 17.21 18 P **P 12 42 15.8 -0.4**
KSRS Korea Array 17.23 18 P **P 12 42 15.8 -0.7**
comp=Z,0.7nm,0.3s,baz=200,slow=10,SNR=34
JHS Saijyo 17.31 35 P P 12 42 26.8 +9.4
KMI Kunming 17.38 286 P **Pn 12 42 17.3 0.0**
KMI sP sP 12 42 21.3 -5.3
KMI S **Sn 12 45 29.3 -1.1**
KMI pmax pmax
comp=Z,63nm,1.5s
KMI pmax pmax
comp=Z,2μm,6.7s
KMI LR LR
comp=N,9μm,11.5s
KMI LR LR
comp=E,9μm,11.7s
KMI LR LR
comp=Z,6μm,12.3s
DL2 Dalian 17.65 1 P P 12 42 31.3 +10
DL2 S S 12 45 57.3 +14
DL2 pmax pmax
comp=Z,30nm,1.4s
DL2 pmax pmax
comp=Z,870nm,9.0s
DL2 LR LR
comp=N,4μm,13.7s
DL2 LR LR
comp=E,5μm,12.5s
DL2 LR LR
comp=Z,4μm,12.1s
JWZ Kozaga 17.81 43 P P 12 42 28.2 +5.3
TIY Taiyuan 18.11 337 *e*P **P 12 42 28.0 +1.7**
TIY pmax pmax
comp=Z,3μm,5.0s
TIY LR LR
comp=N,8μm,10.2s
TIY LR LR
comp=E,9μm,10.9s
TIY LR LR
comp=Z,11μm,10.9s
CD2 Chengdu 18.36 305⇓ *i*P **Pn 12 42 30.3 +1.1**
CD2 pP **pP 12 42 33.9 -0.8**
CD2 sP **sP 12 42 37.3 0.0**
CD2 PP **PnPn 12 42 46.1 +5.3**
CD2 S **Sn 12 45 54.3 +0.4**
CD2 sS **S 12 45 59.6 +1.3**
CD2 SS SnSn 12 46 18.3 +11
CD2 pmax pmax
comp=Z,280nm,1.3s
CD2 pmax pmax
comp=Z,1μm,4.5s
CD2 LR LR
comp=N,17μm,11.3s
CD2 LR LR
comp=Z,14μm,16.7s
JWT Wachi 18.79 39 P **Pn 12 42 37.4 +3.1**
JIE Ise 18.99 43 P Pn 12 42 42.1 +5.4
BJT Baijiatuau 19.24 348 *e*P **Pn 12 42 39.9 +0.3**
BJT pmax pmax
comp=Z,270nm,1.3s
BJT Baijiatuau 19.24 348 *e*P **Pn 12 42 39.9 +0.3**
comp=Z,270nm,1.3s
BJI Beijing 19.26 348 P **Pn 12 42 39.6 -0.2**
BJI S **Sn 12 46 13.6 -1.6**
BJI pmax pmax
comp=Z,72nm,0.9s
BJI pmax pmax
comp=Z,1μm,4.9s
BJI LR LR
comp=N,9μm,12.3s
BJI LR LR
comp=E,9μm,16.7s
BJI LR LR
comp=Z,2μm,20.3s
BTM Bintulu 19.54 205 P **P 12 42 42.6 +0.5**
BTM Bintulu 19.54 205 P **P 12 42 42.5 +0.5**
HMMJ Hamamatsu 2 19.93 43 P **Pn 12 42 49.0 +1.1**
MNI Manado 19.96 169 P **Pn 12 42 49.8 +1.4**
comp=Z,267nm,0.8s,comp=Z,5μm
CBIJ Chichi jima 20.05 69 P **P 12 42 48.1 +0.5**
comp=Z,118nm,0.7s,baz=117,slow=1.7,SNR=7.3
CBIJ LR LR 12 48 57.0
comp=Z,5μm,18.8s,baz=263,slow=32
CBIJ Chichi jima 20.05 69 P **P 12 42 48.1 +0.5**
CBIJ Chichi jima 20.05 69 P Pn 12 42 49.5 +0.1
JSG Sagara 20.12 45 P Pn 12 42 54.0 +3.8
JGF Kuroka 20.18 41 P Pn 12 42 52.0 +1.1
JNY Yasuok 20.34 43 P Pn 12 42 53.2 +0.4
JHJ2 Mitsune 20.37 50 P Pn 12 42 54.9 +1.8
SHZ3 Shizuoka 3 20.38 44 P Pn 12 42 53.8 +0.5
SBUM Sibu 20.57 206 P **P 12 42 53.8 +0.5**
SBUM Sibu 20.57 206 P **P 12 42 52.9 -0.4**
comp=Z,150nm,1.8s,comp=Z,3μm
JIZS Izushimoda 20.60 45 P Pn 12 42 56.0 +0.2
MRSI Marisa 20.61 178 P **P 12 42 54.2 +0.5**
comp=Z,226nm,1.6s,comp=Z,5μm
SNY Shenyang 20.67 5⇓ P **P 12 42 54.8 +0.7**
SNY S **S 12 46 40.9 -3.3**
SNY pmax pmax
comp=Z,920nm,3.9s
SNY LR LR
comp=N,3μm,9.8s
SNY LR LR
comp=E,9μm,10.8s
SNY LR LR
comp=Z,5μm,12.4s
KMSI Cibinong 20.68 172 P Pn 12 42 56.2 -0.6
comp=Z,409nm,1.4s,comp=Z,8μm
CHTO Chiang Mai 21.01 267 *e*P **P 12 42 58.7 +0.6**
CHTO pmax pmax
comp=Z,141nm,1.2s
CHTO Chiang Mai 21.01 267 *e*P **P 12 42 58.7 +0.6**
comp=Z,141nm,1.2s
CHTO Chiang Mai 21.01 267 P **P 12 42 59.2 +1.1**
SNR=74
CHTO Chiang Mai 21.01 267 P **P 12 42 59.2 +1.1**
comp=Z,138nm,1.4s,comp=Z,2μm
JOD2 Odawara 2 21.07 44 P **P 12 43 02.8 +4.2**
CM31 Chiang Mai Arr 21.08 266 *e*P **P 12 43 00.1 +1.3**
comp=Z,27nm,0.8s
CMAR Chiang Mai Arr 21.08 266 P **P 12 42 60.0 +1.2**
comp=Z,39nm,0.9s,baz=73,slow=8.8,SNR=144
CMAR PcP **PcP 12 47 05.6 +0.5**
comp=Z,2.2nm,0.7s,baz=57,slow=1.0,SNR=6.4
CMAR ScP **ScP 12 50 42.4 +1.3**
comp=Z,3.0nm,1.0s,baz=47,slow=1.8,SNR=6.8
CMAR LR LR 12 52 04.1
comp=Z,13μm,18.6s,baz=83,slow=39
CMAR Chiang Mai Arr 21.08 266 P **P 12 43 00.0 +1.2**
CMAR 12 47 05.6
CMAR Chiang Mai Arr 21.08 266 P **P 12 42 60.0 +1.2**
CMAR PcP **PcP 12 47 05.6 +0.5**
CMAR ScP **ScP 12 50 42.4 +1.3**
TNTI Ternate 21.19 163 P P 12 43 06.1 +6.2
LZH Lanzhou 21.19 318⇑ P **P 12 43 02.3 +2.3**
LZH pP **pP 12 43 05.1 -0.5**
LZH sP **sP 12 43 07.3 -0.9**
LZH PP PP 12 43 25.8
LZH S **S 12 46 51.0 -3.9**
LZH sS Sn 12 46 59.5 -2.6
LZH SS SnSn 12 47 27.0 +10
LZH pmax pmax
comp=Z,580nm,1.5s
LZH pmax pmax
comp=Z,2μm,4.2s
LZH LR LR
comp=N,9μm,10.0s
LZH LR LR
comp=E,8μm,10.3s
LZH LR LR
comp=Z,10μm,12.4s
HHC Hu-ho-hao-te 21.22 340 *e*P **P 12 43 00.9 +0.7**
HHC pP **pP 12 43 05.4 -0.4**
HHC sP **sP 12 43 08.3 -0.1**
HHC PP PP 12 43 25.0
HHC S **S 12 46 55.8 +0.4**
HHC sS Sn 12 46 59.0 -3.6
HHC SS SnSn 12 47 27.8 +10
HHC pmax pmax
comp=Z,140nm,1.4s
HHC pmax pmax
comp=Z,2μm,5.8s
HHC LR LR
comp=N,13μm,11.6s
HHC LR LR
comp=E,10μm,12.3s
HHC LR LR
comp=Z,10μm,12.9s
MAJO Matsushiro 21.32 40 *e*P **P 12 43 01.7 +0.5**
MAJO pmax pmax
comp=Z,106nm,0.9s
MAJO Matsushiro 21.32 40 *e*P **P 12 43 01.7 +0.5**
comp=Z,106nm,0.9s
MAT Matsushiro 21.32 40 P **P 12 42 58.5 -2.7**
MAT S **S 12 46 57.0 -0.2**
MAT Matsushiro 21.32 40 P **P 12 43 01.7 +0.5**
MJAR Matsushiro Arr 21.32 41 P **P 12 43 02.4 +1.2**
comp=Z,21nm,0.8s,baz=219,slow=9.4,SNR=19
MJAR LR LR 12 51 40.0
comp=Z,2μm,19.8s,baz=235,slow=38
MJAR Matsushiro Arr 21.32 41 P **P 12 43 02.4 +1.2**
MJAR Matsushiro Arr 21.32 41 P **P 12 43 02.4 +1.2**
JRY Ryogami san 21.41 43 P **P 12 43 04.0 +1.8**
BTO Baotou 21.54 336 *e*P **P 12 43 04.8 +1.1**
BTO S **S 12 47 00.1 -1.7**
BTO LR LR
comp=N,3μm,13.2s
BTO LR LR
comp=E,3μm,15.2s
LUWI Luwuk 22.16 176 P **P 12 43 09.4 -1.0**
comp=E,782nm,1.6s,comp=E,10μm
KSM Kuching 22.28 210 *e*P **P 12 43 10.1 -1.6**
comp=E,53nm,0.9s
KSM Kuching 22.28 210 P **P 12 43 11.1 -0.6**
KSM Kuching 22.28 210 P **P 12 43 11.4 -0.3**
comp=E,94nm,0.8s,comp=E,1μm
JSD Sado 22.36 38 P **P 12 43 10.9 -1.4**
LBMI Labuha 22.57 163 P **P 12 43 16.9 +2.1**
comp=E,183nm,0.8s,comp=E,4μm
CN2 Changchun 22.82 8 *e*P **P 12 43 16.5 -0.7**
CN2 *e*sP **sP 12 43 23.5 -1.9**
CN2 *e*S **S 12 47 20.4 -5.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,6μm,14.0s
CN2 LR LR
comp=E,6μm,14.0s
CN2 LR LR
comp=Z,6μm,14.0s
STKI Sintang 23.04 205 P P 12 43 14.9 -4.8
comp=Z,61nm,1.1s
JYA Atsumi 23.57 39 P **P 12 43 26.4 +1.5**
VLA Vladivostok 23.63 20 *e*P **P 12 43 25.7 +0.3**
VLA pmax pmax
comp=Z,66nm,1.2s
JMM Marumori 23.75 41 P **P 12 43 28.5 +1.9**
GUMO Guam 23.84 105 P **P 12 43 27.6 0.0**
comp=Z,164nm,1.0s,baz=218,slow=11,SNR=4.7
GUMO LR LR 12 52 26.2
comp=Z,3μm,20.0s,baz=91,slow=36
GUMO Guam 23.84 105 *e*P **P 12 43 24.8 -2.8**
GUMO Guam 23.84 105 *e*P **P 12 43 24.8 -2.8**
comp=Z,1μm,1.6s
SWI Sorong 24.05 155 P P 12 43 37.9 +8.3
MDJ Mudanjiang 24.38 15 P **P 12 43 32.5 +0.1**
MDJ pP **pP 12 43 35.4 -3.0**
MDJ S **S 12 47 53.4 +2.6**
MDJ pmax pmax
comp=Z,45nm,1.4s
MDJ pmax pmax
comp=Z,440nm,6.7s
MDJ LR LR
comp=N,3μm,27.5s
MDJ LR LR
comp=E,5μm,25.4s
MDJ LR LR
comp=Z,5μm,16.9s
MDJ Mudanjiang 24.38 15 *e*P **P 12 43 32.1 -0.2**
comp=Z,69nm,1.1s
USRK Ussuriysk Arra 24.64 19 P **P 12 43 36.6 +1.9**
comp=Z,8.1nm,0.8s,baz=205,slow=8.5,SNR=11
USRK LR LR 12 54 49.1
comp=Z,2μm,18.9s,baz=183,slow=40
KBKI Kotabaru 24.83 192 P **P 12 43 37.9 +1.2**
comp=Z,122nm,1.7s,comp=Z,3μm

NLAI Namlea 24.97 166 P **P** **12 43 37.7 -0.3**
comp=Z,227nm,0.9s,comp=Z,4µm
KDI Kendari 25.04 177 P **P** **12 43 39.0 +0.4**
comp=Z,91nm,1.6s,comp=Z,3µm
SPSI Sidrap Palu 25.04 183 P **P** **12 43 38.5 -0.1**
comp=Z,129nm,1.3s,comp=Z,3µm
JOM Ohasama 25.07 39 P **P** **12 43 39.0 +0.3**
BBKI Banjar Baru 25.28 195 P **P** **12 43 41.7 +0.9**
comp=Z,182nm,0.9s,comp=Z,5µm
MSAI Masohi 25.55 162 P P 12 43 52.2 +9.0
MYKOM Kota Tinggi 25.63 223 P **P** **12 43 46.2 +2.2**
MYKOM Kota Tinggi 25.63 223 P **P** **12 43 45.9 +1.9**
comp=Z,142nm,1.6s,comp=Z,3µm
IPM Ipoh 25.66 232 *eP* **P** **12 43 43.1 -1.2**
comp=Z,137nm,0.8s
IPM Ipoh 25.66 232 P **P** **12 43 44.3 0.0**
AAI Ambon 25.67 164 P **P** **12 43 45.1 +0.8**
comp=Z,144nm,1.2s,comp=Z,3µm
GTA Gaotai 25.76 320‖ *eP* **P** **12 43 45.8 +0.7**
GTA pP **pP** **12 43 50.4 -0.7**
GTA sP **sP** **12 43 53.4 -0.2**
GTA S **S** **12 48 15.8 +2.4**
GTA sS **sS** **12 48 23.6 +0.3**
GTA pmax pmax
comp=Z,33nm,1.4s
GTA pmax pmax
comp=Z,910nm,5.2s
GTA LR LR
comp=N,5µm,19.5s
GTA LR LR
comp=E,6µm,18.5s
GTA LR LR
comp=Z,7µm,13.5s
KGM Kluang 25.80 225 P **P** **12 43 48.4 +2.8**
JTM Tenmabayashi 25.82 36 P **P** **12 43 44.9 -0.6**
FRIM Kepong 26.08 229 P **P** **12 43 48.4 +0.3**
KAPI Kappang 26.09 183 P **P** **12 43 46.8 -1.3**
comp=Z,55nm,0.8s,baz=32,slow=4.9,SNR=34
KAPI ScP **ScP** **12 50 53.9 -0.5**
comp=Z,2.0nm,0.3s,baz=249,slow=8.4,SNR=7.0
KAPI LR LR 12 54 38.1
comp=Z,2µm,20.7s,baz=12,slow=38
KAPI Kappang 26.09 183 *eP* **P** **12 43 46.8 -1.3**
comp=Z,350nm,1.2s
KAPI ScP **ScP** **12 50 53.9 -0.5**
KAPI Kappang 26.09 183 P **P** **12 43 47.1 -1.0**
SNR=61
KAPI Kappang 26.09 183 P **P** **12 43 46.9 -1.2**
comp=Z,269nm,1.5s,comp=Z,4µm
FAKI Fak Fak 26.32 154 P **P** **12 43 52.2 +2.0**
comp=Z,40nm,1.1s,comp=Z,1µm
BBSI Bau Bau 26.55 177 P P 12 43 57.6 +5.3
comp=Z,144nm,0.8s,comp=Z,3µm
BNDI Bandanaira 26.96 160 P **P** **12 43 56.0 0.0**
comp=Z,91nm,2.2s,comp=Z,3µm
SHL Shillong 27.19 285 *eP* **P** **12 43 59.0 +0.7**
SHL *eS* S 12 48 48.0 +12
PPBI Pangkal Pinang 27.48 214 P **P** **12 44 02.3 +1.6**
comp=Z,78nm,1.7s,comp=Z,3µm
AGT Agartala 27.73 281 *eP* **P** **12 44 04.0 +1.1**
AGT *ex* x 12 44 20.0
HIA Hailar 28.03 358 *eP* **P** **12 44 04.2 -1.2**
HIA pmax pmax
comp=Z,66nm,1.1s
HIA Hailar 28.03 358 *eP* **P** **12 44 04.2 -1.2**
comp=Z,66nm,1.1s
TSI Tuntungan 28.15 234 P **P** **12 44 08.8 +2.1**
comp=Z,120nm,1.2s,comp=Z,6µm
LSA Lhasa 28.33 293 P **P** **12 44 11.1 +2.4**
LSA PP **PnPn** **12 44 59.0 +1.5**
LSA pmax pmax
comp=Z,50nm,0.9s
LSA pmax pmax
comp=Z,600nm,8.0s
LSA LR LR
comp=N,1µm,12.0s
LSA LR LR
comp=E,4µm,11.0s
LSA LR LR
comp=Z,4µm,10.0s
LSA Lhasa 28.33 293 *eP* **P** **12 44 09.9 +1.2**
LSA pmax pmax
comp=Z,174nm,1.5s
LSA Lhasa 28.33 293 *eP* **P** **12 44 09.9 +1.2**
comp=Z,174nm,1.5s
PSI Prapat 28.34 233 ScP **ScP** **12 51 02.3 +0.8**
comp=Z,4.0nm,0.7s,baz=210,slow=12,SNR=4.6
PSI Prapat 28.34 233 ScP **ScP** **12 51 02.3 +0.8**
PSI Prapat 28.34 233 P **P** **12 44 08.6 +0.1**
comp=Z,99nm,1.4s,comp=Z,2µm
BKNI Bangkinang 28.57 226 P **P** **12 44 11.9 +1.5**
comp=Z,122nm,1.6s,comp=Z,2µm
PBA Port Blair 28.82 255 *ex* x 12 45 32.7
PBA *ex* x 12 54 15.6
ULN Ulaanbaatar 28.94 340 *eP* **P** **12 44 13.4 -0.2**
ULN pmax pmax
comp=Z,161nm,1.3s
ULN Ulaanbaatar 28.94 340 *eP* **P** **12 44 13.4 -0.2**
comp=Z,162nm,1.3s
ULN Ulaanbaatar 28.94 340 P **P** **12 44 14.0 +0.5**
SNR=46
ULN Ulaanbaatar 28.94 340 P **P** **12 44 14.1 +0.5**
comp=Z,111nm,1.3s,comp=Z,1µm
ASAJ Asahikawa 28.96 33 P **P** **12 44 15.2 +1.6**
comp=Z,12nm,0.9s,baz=268,slow=26,SNR=4.5
ASAJ LR LR 12 57 57.9
comp=Z,5µm,18.6s,baz=186,slow=41
ASAJ Asahikawa 28.96 33 P **P** **12 44 15.2 +1.6**
TLE Tual 28.99 156 P **P** **12 44 13.5 -0.6**
comp=Z,74nm,1.7s
SONM Songino Array 29.12 339 P **P** **12 44 15.3 +0.1**
comp=Z,30nm,1.0s,baz=157,slow=7.9,SNR=72
SONM PcP **PcP** **12 47 23.0 +0.3**
comp=Z,6.2nm,1.1s,baz=80,slow=1.7,SNR=3.8
SONM ScP **ScP** **12 51 03.9 +0.5**
comp=Z,4.0nm,1.0s,baz=164,slow=3.3,SNR=8.1
SONM LR LR 12 57 52.8
comp=Z,3µm,18.9s,baz=153,slow=40
SONM Songino Array 29.12 339 P **P** **12 44 15.3 +0.1**
SONM 12 47 23.0
SONM 12 51 03.9
SONM Songino Array 29.12 339 P **P** **12 44 15.3 +0.1**
SONM PcP **PcP** **12 47 23.0 +0.3**
SONM ScP **ScP** **12 51 03.9 +0.5**
KLR Kul'dur 29.22 14 *eP* **P** **12 44 13.2 -2.7**
KLR *eS* S 12 49 15.0 +7.6
KLR MLR MLR
comp=N,6µm,14.0s
KLR MLR MLR
comp=E,6µm,14.0s
KLR MLR MLR
comp=Z,15µm,14.0s
MNSI Mandailing Nat 29.24 229 P **P** **12 44 15.8 -0.6**
comp=Z,195nm,1.4s,comp=Z,2µm
HABR Khabarovsk 29.41 19 *eP* **P** **12 44 15.9 -1.6**
HABR *e**PP **pP** **12 44 25.1 +1.6**
HABR 12 45 10.5
HABR *e* 12 47 20.5
HABR *eS* **S** **12 49 08.6 -1.7**
HABR *e**SS **sS** **12 49 24.6 +4.3**
HABR *eSS* **SnSn** **12 50 38.0 +0.4**
HABR *e* 12 51 03.7
HABR *e* 12 54 54.2
HABR pmax pmax
comp=E,127nm,2.9s
HABR pmax pmax
comp=N,256nm,2.9s
HABR pmax pmax
comp=Z,106nm,2.8s
HABR MLR MLR
comp=Z,2µm,20.0s
BSI Banda Aceh 29.53 242 P **P** **12 44 19.7 +0.7**
comp=Z,93nm,1.4s,comp=Z,2µm
PPI Padang Panjang 29.58 226 P **P** **12 44 19.6 +0.2**
comp=Z,151nm,1.5s,comp=Z,3µm
KHKI Kahang-Kahang 29.88 191 P **P** **12 44 23.2 +1.2**
comp=Z,76nm,1.6s,comp=Z,1µm
SJI Sawahan 30.20 199 P **P** **12 44 26.5 +1.6**
comp=Z,84nm,1.6s,comp=Z,2µm
GSI Gunungsitoli 30.33 232 P **P** **12 44 26.1 0.0**
comp=Z,62nm,1.7s,comp=Z,2µm
PWJI Pagerwojo 30.46 199 P **P** **12 44 28.3 +1.2**
comp=Z,41nm,1.2s
CAL Calcutta 30.46 279 *eP* **P** **12 44 27.4 +0.2**
CAL *ex* x 12 51 58.9
BJII Banjamegara 30.50 203 P **P** **12 44 30.6 +3.0**
comp=Z,144nm,1.0s
YUK Yuzh-Kuril'sk 30.63 36*d* *i* P P 12 44 22.8 -5.6
YUK *i* PPP PPP 12 45 29.5
YUK *e* 12 47 23.0
YUK *eS* S 12 49 21.0 -8.7
YUK MLR MLR
comp=E,3µm,21.0s
YUK MLR MLR
comp=Z,3µm,21.0s
YUK MLR MLR
comp=N,2µm,21.0s
KSI Kapahiang 30.68 219 P **P** **12 44 30.8 +1.6**
comp=N,142nm,1.1s
LEM Lembang 30.86 207 P **P** **12 44 33.6 +2.7**
comp=N,76nm,1.2s,comp=N,2µm
TAPN Taplejung 31.04 288 *eP* **P** **12 44 33.8 +1.2**
comp=N,188nm,1.2s
TAPN Taplejung 31.04 288 *eP* **P** **12 44 33.8 +1.2**
comp=N,188nm,1.2s
YSS Yuzh-Sakhalins 31.10 29 *eP* **P** **12 44 33.0 +0.5**
YSS *eS* **S** **12 49 35.0 -2.0**
YSS *eSS* SS 12 51 38.0 -12
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,3µm,17.0s
YSS MLR MLR
comp=N,3µm,18.0s
YSS Yuzh-Sakhalins 31.10 29 *eP* **P** **12 44 33.4 +0.9**
comp=N,47nm,0.9s
ODAN Odare 31.29 287 *eP* **P** **12 44 35.5 +0.7**
comp=N,358nm,1.4s
ODAN Odare 31.29 287 *eP* **P** **12 44 35.5 +0.7**
comp=N,358nm,1.4s
CISI Cisompet, Garu 31.44 206 P P 12 44 45.5 +10
RAMN Ramite 32.00 287 *eP* **P** **12 44 42.4 +1.4**
comp=N,511nm,1.5s
RAMN Ramite 32.00 287 *eP* **P** **12 44 42.4 +1.4**
comp=N,511nm,1.5s
ZAK Zakamensk 32.36 338 *eP* **P** **12 44 44.0 +0.3**
ZAK *e* 12 44 49.2
ZAK *e* 12 47 27.9
ZAK pmax pmax
comp=Z,17nm,1.3s
JIRN Jiri 32.41 288 *eP* **P** **12 44 45.2 +0.5**
comp=Z,646nm,1.5s
JIRN Jiri 32.41 288 *eP* **P** **12 44 45.2 +0.5**
comp=Z,646nm,1.5s
GUN Gumba 32.70 289 *eP* **P** **12 44 47.7 +0.5**
comp=Z,250nm,0.9s
GUN Gumba 32.70 289 *eP* **P** **12 44 47.7 +0.5**
comp=Z,250nm,0.9s
PKI Pulchoki 33.09 288 *eP* **P** **12 44 51.2 +0.5**
comp=Z,349nm,1.6s
PKI Pulchoki 33.09 288 *eP* **P** **12 44 51.2 +0.5**
PKI pmax pmax
comp=Z,349nm,1.6s
PKI Pulchoki 33.09 288 *eP* **P** **12 44 51.2 +0.5**
comp=Z,349nm,1.6s
KKN Kakani 33.22 289 *eP* **P** **12 44 52.3 +0.6**
comp=Z,255nm,1.3s
KKN Kakani 33.22 289 *eP* **P** **12 44 52.3 +0.6**
KKN pmax pmax
comp=Z,255nm,1.3s
KKN Kakani 33.22 289 *eP* **P** **12 44 52.3 +0.6**
comp=Z,255nm,1.3s
TLY Talaya 33.35 340 *eP* **P** **12 44 53.2 +0.9**
TLY pmax pmax
comp=Z,120nm,1.5s
TLY Talaya 33.35 340 *eP* **P** **12 44 53.1 +0.9**
comp=Z,120nm,1.5s
TLY Talaya 33.35 340 P **P** **12 44 53.6 +1.3**
SNR=19
DMN Daman 33.36 288 *eP* **P** **12 44 53.4 +0.4**
comp=Z,473nm,1.5s
DMN Daman 33.36 288 *eP* **P** **12 44 53.4 +0.4**
comp=Z,473nm,1.5s
IRK Irkutsk 33.64 341 *eP* **P** **12 44 55.4 +0.6**
IRK *e* 12 46 15.8
IRK *eS* S 12 50 22.8 +6.3
IRK pmax pmax
comp=Z,136nm,1.4s
GKN Gorkha 33.80 289 *eP* **P** **12 44 56.8 +0.1**
comp=Z,385nm,1.5s
GKN Gorkha 33.80 289 *eP* **P** **12 44 56.8 +0.1**
comp=Z,385nm,1.5s
MOY Mondy 34.23 338 *eP* **P** **12 45 00.2 +0.2**
MOY pmax pmax
comp=Z,118nm,1.5s
DANN Dangsing 34.59 289 *eP* **P** **12 45 03.6 -0.1**
comp=Z,501nm,1.5s
DANN Dangsing 34.59 289 *eP* **P** **12 45 03.6 -0.1**
comp=Z,501nm,1.5s
KOLN Koldanda 34.71 288 *eP* **P** **12 45 04.5 -0.1**
comp=Z,112nm,0.9s
KOLN Koldanda 34.71 288 *eP* **P** **12 45 04.5 -0.1**
comp=Z,112nm,0.9s
CLNS Chul'man 35.70 4 *eP* P 12 45 21.0 +8.5
CLNS *e**PP pP 12 45 30.3 +12
CLNS *e*PPP PPP 12 46 58.7
CLNS *e* 12 47 39.4
CLNS *eSS* SS 12 53 39.2 +15
CLNS MLR MLR
comp=E,3µm,13.0s
CLNS MLR MLR
comp=N,2µm,12.0s
CLNS MLR MLR
comp=Z,2µm,13.0s
WMQ Urumqi 35.76 317 P **P** **12 45 14.5 +1.2**
WMQ pP **pP** **12 45 19.3 0.0**
WMQ sP **sP** **12 45 21.5 -0.3**
WMQ PP **PP** **12 46 36.1 +1.5**
WMQ S **S** **12 50 51.4 +1.9**
WMQ SS **SnSn** **12 53 14.6 +2.6**
WMQ pmax pmax
comp=Z,44nm,1.4s
WMQ pmax pmax
comp=Z,840nm,4.9s
WMQ LR LR
comp=N,2µm,14.0s
WMQ LR LR
comp=E,3µm,19.3s
WMQ LR LR
comp=Z,2µm,18.0s
VIS Vishakhapatnam 35.78 271 *ex* x 12 45 03.2
VIS AMb AMB 12 45 05.3
comp=Z,156nm,1.5s
HVS Khovu-Aksy 36.79 331 *eP* **P** **12 45 23.8 +1.8**
BOD Bodaibo 36.95 354 *eP* P 12 45 19.6 -3.5
NGP Nagpur 39.18 278 *eP* **P** **12 45 43.1 +0.6**
NGP *ex* x 12 45 45.4
comp=Z,114nm,1.4s
NGP *ex* x 12 52 17.1
FITZ Fitzroy Crossi 39.30 173 P **P** **12 45 40.8 -2.5**
comp=Z,31nm,1.1s,baz=8.5,slow=8.9,SNR=17
FITZ ScP **ScP** **12 51 39.8 +0.3**
comp=Z,2.1nm,0.8s,baz=46,slow=4.1,SNR=3.2
FITZ Fitzroy Crossi 39.30 173 *eP* **P** **12 45 40.3 -3.0**
comp=Z,35nm,0.9s
FITZ *eS* **S** **12 51 46.0 +2.6**
FITZ Fitzroy Crossi 39.30 173 *eP* **P** **12 45 40.8 -2.5**
comp=Z,38nm,1.1s
FITZ ScP **ScP** **12 51 39.8 +0.3**
DDI Dehra Dun 39.67 292 *eP* **P** **12 45 46.0 -0.6**
PMG Port Moresby 39.72 137 P **P** **12 45 45.2 -1.7**
comp=Z,46nm,0.8s,baz=344,slow=6.8,SNR=28
PMG Port Moresby 39.72 137 *eP* **P** **12 45 45.4 -1.5**
PMG pmax pmax
comp=Z,56nm,1.0s
PMG Port Moresby 39.72 137 *eP* **P** **12 45 45.2 -1.7**
comp=Z,41nm,0.8s
PMG Port Moresby 39.72 137 P **P** **12 45 45.4 -1.5**
comp=Z,60nm,0.8s,comp=Z,811nm
HYB Hyderabad 40.30 272 *i* P **P** **12 45 51.5 -0.4**
HYB *e*PP PnPn 12 47 36.0 +7.5
HYB *eS* S 12 52 16.0 +17
MK31 Makanchi Array 40.50 318*ceP* **P** **12 45 53.3 +0.1**
MK31 pmax pmax
comp=Z,120nm,1.1s
MK31 Makanchi Array 40.50 318 *eP* **P** **12 45 52.9 -0.3**
MKAR Makanchi Array 40.50 318 P **P** **12 45 53.6 +0.4**
comp=Z,24nm,0.8s,baz=109,slow=11,SNR=96
MKAR PcP **PcP** **12 47 55.6 +0.1**
comp=Z,3.4nm,0.8s,baz=110,slow=4.2,SNR=4.7
MKAR ScP **ScP** **12 51 45.4 +1.4**
comp=Z,1.4nm,0.7s,baz=116,slow=6.6,SNR=7.1
MKAR LR LR 13 04 34.7
comp=Z,2µm,19.2s,baz=110,slow=39
MKAR Makanchi Array 40.50 318 P **P** **12 45 53.6 +0.4**
MKAR 12 47 55.6
MKAR Makanchi Array 40.50 318 P **P** **12 45 53.6 +0.4**
MKAR PcP **PcP** **12 47 55.6 +0.1**
MKAR ScP **ScP** **12 51 45.4 +1.4**
COEN Coen 41.09 146 *eP* **P** **12 45 55.8 -2.4**
comp=Z,138nm,0.7s
YAK Yakutsk 41.23 6 *eP* **P** **12 45 58.3 -0.5**
YAK *e**PP **pP** **12 46 07.9 +3.0**
YAK *e*PPP PPP 12 47 59.2
YAK *e* 12 48 03.8
YAK *eS* S 12 52 03.3 -8.0
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,29nm,1.0s
YAK smax smax
comp=E,143nm,13.6s
YAK smax smax
comp=N,230nm,9.8s
YAK MLR MLR
comp=N,2µm,13.0s
YAK MLR MLR
comp=E,2µm,12.0s
YAK MLR MLR
comp=Z,3µm,14.0s
YAK Yakutsk 41.23 6 *eP* **P** **12 45 58.7 -0.1**
comp=Z,21nm,0.6s
PETK Petropavlovsk- 42.37 32 P **P** **12 46 08.1 -0.3**
comp=Z,10.0nm,0.9s,baz=207,slow=6.2,SNR=7.1
PETK ScP **ScP** **12 51 51.7 +0.5**
comp=Z,0.7nm,0.3s,baz=102,slow=25,SNR=4.4
PETK LR LR 13 03 33.3
comp=Z,2µm,21.7s,baz=234,slow=36
PETK Petropavlovsk- 42.37 32 P **P** **12 46 08.1 -0.3**
PETK Petropavlovsk- 42.37 32 P **P** **12 46 08.1 -0.3**
PETK ScP **ScP** **12 51 51.7 +0.5**
KSH Kashi 42.56 306⇑ *i* P P 12 46 14.5 +4.2
KSH *e*pP pP 12 46 19.3 +2.9
KSH *e*sP sP 12 46 21.8 +2.9
KSH *e*ScP **ScP** **12 51 53.6 +1.1**
KSH *e*PcS **PcS** **12 51 55.6 +0.9**
KSH *eS* S 12 52 39.6 +7.6
KSH *eS* sS 12 52 48.1 +6.0
KSH *e*ScS **ScS** **12 56 12.1 +1.0**
KSH pmax pmax
comp=Z,80nm,1.2s
KSH LR LR
comp=N,4µm,13.7s
KSH LR LR
comp=E,3µm,14.9s
KSH LR LR
comp=Z,5µm,18.3s
ZAA0 Zalesovo Array 42.76 329 *eP* **P** **12 46 11.1 -0.3**
ZALV Zalesovo Beam 42.76 329 P **P** **12 46 11.4 -0.1**
comp=Z,77nm,1.0s,baz=120,slow=6.4,SNR=131
ZALV ScP **ScP** **12 51 52.1 -0.7**
comp=Z,4.1nm,0.9s,baz=107,slow=5.1,SNR=7.5
ZALV LR LR 13 05 08.7
comp=Z,3µm,20.8s,baz=246,slow=38
ZALV Zalesovo Beam 42.76 329 P **P** **12 46 11.4 -0.1**
ZALV Zalesovo Beam 42.76 329 P **P** **12 46 11.4 -0.1**
ZALV ScP **ScP** **12 51 52.1 -0.7**
AAA Alma-Ata 42.77 311 *eP* **P** **12 46 14.9 +3.0**
AAA *eS* **S** **12 52 35.5 +0.6**
AAA pmax pmax
comp=Z,1µm,3.4s
AAA smax smax
comp=E,800nm,6.6s
AAA MLR MLR
comp=Z,5µm,17.0s
PET Petropavlovsk 42.80 33 *eP* **P** **12 46 11.5 -0.3**
PET *eS* **S** **12 52 31.9 -2.9**
PET pmax pmax
comp=Z,54nm,1.1s
PET pmax pmax
comp=Z,300nm,9.0s
PET MLR MLR
comp=Z,2µm,21.0s
PET MLR MLR
comp=Z,2µm,22.0s
PET Petropavlovsk 42.80 33 *eP* **P** **12 46 11.6 -0.2**
comp=Z,57nm,1.0s
PET *e*PP **PP** **12 47 49.4 -1.8**
WRAB Tennant Creek 42.87 162 *eP* **P** **12 46 10.3 -2.4**
WRAB *e* 12 48 03.7
WRAB pmax pmax
comp=Z,146nm,1.4s
WRAB Tennant Creek 42.87 162 *eP* **P** **12 46 10.3 -2.4**
comp=Z,146nm,1.4s
WRAB *e*PcP **PcP** **12 48 03.7 +0.1**
WRAB *e*ScP **ScP** **12 51 54.2 +0.5**
WRA Warramunga Arr 42.87 162 P **P** **12 46 10.3 -2.5**
comp=Z,27nm,0.8s,baz=343,slow=8.7,SNR=114
WRA PcP **PcP** **12 48 02.7 -0.9**
comp=Z,5.2nm,0.7s,baz=345,slow=3.6,SNR=5.7
WRA ScP **ScP** **12 51 53.7 -0.1**
comp=Z,3.7nm,0.8s,baz=341,slow=4.1,SNR=10
WRA Warramunga Arr 42.87 162 P **P** **12 46 10.3 -2.5**
WRA 12 48 02.7
WRA Warramunga Arr 42.87 162 P **P** **12 46 10.3 -2.5**
WRA PcP **PcP** **12 48 02.7 -0.9**
WRA ScP **ScP** **12 51 53.7 -0.1**
WB2 Warramunga Arr 42.88 162 *eP* **P** **12 46 09.9 -2.9**
WB2 *e*ScP **ScP** **12 51 53.7 -0.1**
ULHL Ulahol 42.99 310 P **P** **12 46 16.0 +2.1**
SNR=52
ULHL P P **12 46 16.0 +2.1**
SNR=52
TKM2 Tokmak 2 43.63 311 P **P** **12 46 19.9 +0.9**
SNR=56
TKM2 P P **12 46 19.9 +0.9**
SNR=56
TKM2 Tokmak 2 43.63 311 *i* P **P** **12 46 19.9 +0.9**
TKM2 Tokmak 2 43.63 311 *eP* **P** **12 46 19.9 +0.9**
comp=Z,115nm,1.3s
KZA Kyzart 43.67 309 P **P** **12 46 22.2 +2.7**
SNR=53
KZA P P **12 46 22.2 +2.7**
SNR=53
KBK Karagaybulak 44.02 310 P **P** **12 46 24.5 +2.4**
SNR=32
KBK P P **12 46 24.5 +2.4**
SNR=32
NVS Novosibirsk 44.03 329⇑ *i* P **P** **12 46 21.7 0.0**
NVS *e* 12 48 02.5
NVS *e*PPP x 12 48 43.4
NVS *eS* **S** **12 52 54.3 +1.5**
NVS pmax pmax
comp=N,48nm,1.7s
NVS pmax pmax
comp=E,69nm,1.7s
NVS pmax pmax
comp=Z,115nm,1.7s
NVS smax smax
comp=N,12nm,1.9s
NVS smax smax
comp=E,25nm,1.6s
UCH Uchtor 44.23 309 P P 12 46 27.3 +3.2
SNR=16
UCH P P 12 46 27.3 +3.2
SNR=16
CHMS Chumysh 44.25 310 P **P** **12 46 25.6 +1.8**
SNR=25
CHMS P **P** **12 46 25.6 +1.8**
SNR=25
FRU Bishkek 44.30 310 *i* P P 12 46 28.0 +3.8
FRU pmax pmax
comp=Z,110nm,1.7s
AAK Ala-Archa 44.34 310 P **P** **12 46 26.8 +2.1**
SNR=14
AAK P **P** **12 46 26.8 +2.1**
SNR=14
AAK Ala-Archa 44.34 310 ScP **ScP** **12 51 59.6 -0.1**
comp=Z,1.0nm,0.5s,baz=242,slow=22,SNR=2.4
AAK Ala-Archa 44.34 310 *i* P **P** **12 46 26.7 +2.1**
AAK Ala-Archa 44.34 310 *eP* **P** **12 46 25.4 +0.8**
comp=Z,384nm,1.5s
AAK *e*ScP **ScP** **12 51 59.4 -0.3**
AAK ScP **ScP** **12 51 59.6 -0.1**
KURK Kurchatov 44.39 322 P **P** **12 46 24.3 -0.4**
comp=Z,43nm,0.9s,baz=125,slow=7.2,SNR=164

KURK PcP **PcP** **12 48 08.5 +0.2**
comp=Z,2.9nm,0.7s,baz=121,slow=2.8,SNR=3.6
KURK ScP **ScP** **12 51 59.8 +0.4**
comp=Z,1.7nm,0.9s,baz=107,slow=3.7,SNR=4.2
KURK LR LR 13 06 22.9
comp=Z,2µm,18.8s,baz=115,slow=38
KURK Kurchatov 44.39 322*c iP* **P** **12 46 25.1 +0.4**
KURK pmax pmax
comp=Z,74nm,1.2s
KURK Kurchatov 44.39 322 P **P** **12 46 24.3 -0.4**
KURK PcP **PcP** **12 48 08.5 +0.2**
KURK ScP **ScP** **12 51 59.8 +0.4**
POO Poona 44.45 275 *eP* **P** **12 46 25.3 -0.4**
POO AMb AMB 12 46 28.7
comp=Z,112nm,1.6s
USP Ospenovka 44.49 311 P **P** **12 46 27.4 +1.7**
SNR=19
USP P **P** **12 46 27.4 +1.7**
SNR=19
AML Almayashu 44.80 309 P **P** **12 46 31.2 +2.5**
SNR=78
AML P **P** **12 46 31.2 +2.5**
SNR=78
EKS2 Erkin-Say 44.86 310 P **P** **12 46 30.9 +2.1**
SNR=26
EKS2 P **P** **12 46 30.9 +2.1**
SNR=26
EKS2 Erkin-Say 44.86 310 *eP* **P** **12 46 29.7 +0.9**
EKS2 pmax pmax
comp=Z,76nm,1.4s
EKS2 Erkin-Say 44.86 310 *eP* **P** **12 46 29.7 +0.9**
comp=Z,76nm,1.4s
AS31 Alice Springs 46.29 164 *eP* **P** **12 46 38.3 -1.8**
ASAR Alice Springs 46.29 164 P **P** **12 46 38.1 -1.9**
comp=Z,7.4nm,0.8s,baz=342,slow=8.3,SNR=78
ASAR PcP **PcP** **12 48 14.4 -0.9**
comp=Z,2.8nm,0.7s,baz=344,slow=3.1,SNR=2.8
ASAR ScP **ScP** **12 52 08.2 +0.5**
comp=Z,2.2nm,0.8s,baz=346,slow=3.6,SNR=8.3
ASAR Alice Springs 46.29 164 P **P** **12 46 38.1 -1.9**
ASAR 12 48 14.4
ASAR Alice Springs 46.29 164 P **P** **12 46 38.1 -1.9**
ASAR PcP **PcP** **12 48 14.4 -0.9**
ASAR ScP **ScP** **12 52 08.2 +0.5**
KK31 Karatay Array 47.30 310*ce*P **P** **12 46 49.5 +1.6**
KK31 pmax pmax
comp=Z,82nm,1.1s
KKAR Karatay Array 47.30 310 *eP* **P** **12 46 49.6 +1.7**
KKAR pmax pmax
comp=Z,71nm,1.1s
KKAR Karatay Array 47.30 310 *eP* **P** **12 46 49.5 +1.7**
comp=Z,70nm,1.1s
KBL Kabul 47.48 298 *eP* **P** **12 46 50.4 +0.9**
KBL pmax pmax
comp=Z,232nm,1.5s
KBL Kabul 47.48 298 *eP* **P** **12 46 50.4 +0.9**
comp=Z,232nm,1.5s
CTA Charters Tower 47.81 147 P **P** **12 46 50.3 -1.7**
comp=Z,43nm,1.0s,baz=333,slow=9.6,SNR=40
CTA ScP **ScP** **12 52 15.4 +1.3**
comp=Z,3.5nm,1.0s,baz=21,slow=11,SNR=2.8
CTA LR LR 13 05 25.7
comp=Z,2µm,20.6s,baz=332,slow=34
CTA Charters Tower 47.81 147 *eP* **P** **12 46 50.5 -1.4**
comp=Z,52nm,1.4s
CTA *eS* S 12 53 41.7 -6.3
CTA Charters Tower 47.81 147 P **P** **12 46 50.3 -1.7**
CTA Charters Tower 47.81 147 P **P** **12 46 50.3 -1.7**
CTA ScP **ScP** **12 52 15.4 +1.3**
CTAO Charters Tower 47.81 147 *eP* **P** **12 46 50.6 -1.4**
CTAO pmax pmax
comp=Z,167nm,1.4s
CTAO Charters Tower 47.81 147 *eP* **P** **12 46 50.6 -1.4**
comp=Z,167nm,1.4s
VOSK Vostochnaya 49.55 322 P **P** **12 47 05.0 0.0**
VOSK pmax pmax
comp=Z,55nm,1.3s
BVA0 Borovoye Array 49.99 322 *i* P **P** **12 47 09.2 +0.9**
BVAR Borovoye Array 49.99 322 P **P** **12 47 08.9 +0.6**
comp=Z,3.3nm,0.5s,baz=107,slow=7.9,SNR=33
BVAR PcP **PcP** **12 48 27.7 -0.5**
comp=Z,2.4nm,0.6s,baz=104,slow=4.6,SNR=3.0
BVAR ScP **ScP** **12 52 24.3 +1.4**
comp=Z,3.2nm,0.9s,baz=119,slow=5.2,SNR=6.2
BVAR LR LR 13 10 55.1
comp=Z,2µm,18.7s,baz=114,slow=39
BVAR Borovoye Array 49.99 322 P **P** **12 47 08.9 +0.6**
BVAR 12 48 27.7
BVAR Borovoye Array 49.99 322 P **P** **12 47 08.8 +0.6**
BVAR PcP **PcP** **12 48 27.7 -0.5**
BVAR ScP **ScP** **12 52 24.3 +1.4**
BRVK Borovoye 50.06 322*ce*P **P** **12 47 09.9 +1.1**
BRVK pmax pmax
comp=Z,64nm,1.2s
BRVK Borovoye 50.06 322 *eP* **P** **12 47 09.6 +0.8**
comp=Z,79nm,1.2s
BRVK Borovoye 50.06 322 P **P** **12 47 10.3 +1.5**
SNR=24
FX1 Attu Island--F 50.65 38 P **P** **12 47 13.7 +0.4**
comp=Z,28nm,0.8s,baz=252,slow=10,SNR=8.1
FX1 Attu Island--F 50.65 38 P **P** **12 47 13.7 +0.4**
FX1 Attu Island--F 50.65 38 P **P** **12 47 13.7 +0.4**
FORT Forrest 52.10 172 *eP* **P** **12 47 23.2 -1.1**
comp=Z,42nm,0.7s
FORT Forrest 52.10 172 *eP* **P** **12 47 23.6 -0.7**
comp=Z,64nm,0.9s
KLBR Kellerberrin 52.59 184 *eP* **P** **12 47 26.1 -1.9**
comp=Z,69nm,1.5s
NWAO Narrogin (SRO) 53.95 184 P **P** **12 47 37.4 -0.5**
comp=Z,11nm,0.8s,baz=358,slow=10,SNR=4.4
NWAO Narrogin (SRO) 53.95 184 P **P** **12 47 37.4 -0.5**
NWAO Narrogin (SRO) 53.95 184 P **P** **12 47 37.4 -0.5**
BILL Bilibino 54.49 19⇑ *eP* **P** **12 47 40.5 -1.0**
BILL *e* 12 48 45.1
BILL *eS* S 12 55 27.8 +8.6
BILL pmax pmax
comp=Z,15nm,1.0s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Bilibino 54.49 19 *eP* **P** **12 47 40.4 -1.2**
comp=Z,8.7nm,0.7s
IMYA Miami 54.78 300 *eP* **P** **12 47 45.3 +0.9**
IDAH Dahanechah 55.16 296 *eP* **P** **12 47 48.6 +1.3**
ISRO Mashad 55.29 300 *eP* **P** **12 47 49.5 +1.5**
IMOG Moghan 55.41 300 *eP* **P** **12 47 51.3 +2.2**
AB31 Akbulak array 55.53 316*ce*P **P** **12 47 50.1 +0.8**
AB31 pmax pmax
comp=Z,59nm,1.2s
ABKAR Akbulak array 55.53 316 *eP* **P** **12 47 50.1 +0.7**
comp=Z,47nm,1.3s
BBOO Buckleboo 55.56 165 *eP* **P** **12 47 47.9 -1.8**
comp=Z,6µm,1.5s
IAKL Akhelmad 55.86 300 *eP* **P** **12 47 54.7 +2.4**
ITEG Tejag 56.09 296 *eP* **P** **12 47 55.1 +1.2**
STKA Stephens Creek 56.29 159 P **P** **12 47 53.6 -1.3**
comp=Z,32nm,0.7s,baz=338,slow=6.9,SNR=62
STKA LR LR 13 13 00.1
comp=Z,720nm,21.5s,baz=353,slow=37
STKA Stephens Creek 56.29 159 *eP* **P** **12 47 53.0 -1.9**
comp=Z,28nm,0.7s
STKA Stephens Creek 56.29 159 *eP* **P** **12 47 53.8 -1.1**
STKA pmax pmax
comp=Z,7.0nm,0.7s
STKA Stephens Creek 56.29 159 *eP* **P** **12 47 53.8 -1.1**
comp=Z,6.9nm,0.7s
ABKT Ailbek 56.32 302 P **P** **12 47 57.5 +2.2**
comp=Z,289nm,1.3s,SNR=15
SVE Sverdlovsk 56.45 325⇑ *iP* **P** **12 47 57.2 +1.4**
SVE *e*PPP PPP 12 51 17.0
SVE *eS* S 12 55 53.0 +7.3
SVE pmax pmax
comp=Z,106nm,1.3s
SVE MLR MLR
comp=Z,2µm,19.0s
AKTO Aktyubinsk 56.91 317 P **P** **12 47 59.6 +0.4**
comp=Z,4.2nm,0.9s,baz=92,slow=7.6,SNR=12
AKTO LR LR 13 13 49.7
comp=Z,2µm,20.5s,baz=98,slow=38
AKTO Aktyubinsk 56.91 317 P **P** **12 47 59.6 +0.4**
AKTO Aktyubinsk 56.91 317 P **P** **12 47 59.6 +0.4**
ARU Arti 57.49 324*c iP* **P** **12 48 03.7 +0.6**
ARU 12 50 07.5
ARU PPP PPP 12 51 30.1
ARU S **S** **12 56 01.9 +2.5**
ARU pmax pmax
comp=Z,64nm,1.7s
ARU MLR MLR
comp=Z,2µm,23.0s
ARU Arti 57.49 324 *eP* **P** **12 48 03.5 +0.3**
comp=Z,52nm,1.2s
HOQ Hoqain 58.65 285 P **P** **12 48 13.4 +1.6**
SNR=7.0
SOKR Solikamsk 59.01 328*d iP* **P** **12 48 15.2 +1.5**
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR MLR MLR
comp=Z,2µm,13.0s
ARMA Armidale 59.09 149 *eP* **P** **12 48 14.1 -0.7**
ARMA Armidale 59.09 149 *eP* **P** **12 48 14.7 0.0**
comp=Z,9.8nm,0.8s
IGLO Ghaloghah 59.82 301 *eP* **P** **12 48 21.2 +1.2**
IKIA Kiasar 59.97 300 *eP* **P** **12 48 23.2 +2.1**
ISHM Shahmirzad 60.32 300 *eP* **P** **12 48 25.1 +1.5**
ILAS Lasjerd 60.63 299 *eP* **P** **12 48 27.2 +1.5**
IFIR Firoozkooh 60.77 300 *eP* **P** **12 48 28.5 +1.9**
YNG Young 60.97 154 *eP* **P** **12 48 26.9 -0.6**
comp=Z,15nm,0.9s
IPRN Peran 61.05 301 *eP* **P** **12 48 30.4 +2.1**
GAMB Gambell 61.11 28 *eP* **P** **12 48 28.1 +0.1**
comp=Z,35nm,1.4s
IPAR Pars 61.30 293 *eP* **P** **12 48 30.6 +0.2**
IDMV Damavand 61.37 300 *eP* **P** **12 48 31.7 +1.0**
IZEF Zefreh 61.46 297 *eP* **P** **12 48 32.3 +1.0**
DZM Mont Dzumac 61.66 132 P **P** **12 48 32.5 +0.1**
comp=Z,40nm,1.0s,baz=40,slow=4.3,SNR=9.6
DZM Mont Dzumac 61.66 132 *eP* **P** **12 48 31.1 -1.3**
comp=Z,102nm,1.3s
IKLH Kolahrood 62.02 297 *eP* **P** **12 48 36.3 +1.2**
IR3 Iran Long-Peri 62.19 300 *eP* **P** **12 48 37.4 +1.4**
CNB Canberra Magne 62.25 154 *eP* **P** **12 48 35.2 -0.9**
comp=Z,153nm,1.6s
IPIR Pirpir 62.69 297 *eP* **P** **12 48 41.4 +1.8**
TOO Toolangi 62.78 158 *eP* **P** **12 48 39.4 -0.3**
comp=Z,93nm,1.6s
RBK Rabkut 62.87 279 P **P** **12 48 41.6 +0.9**
SNR=8.4
TNA Tin City 63.01 26 *eP* **P** **12 48 41.8 +1.0**
comp=Z,24nm,1.3s
ILIN Lien 65.56 300 *eP* **P** **12 48 59.4 +1.0**
IVIS Veis 65.72 299 *eP* **P** **12 48 59.7 +0.4**
DGRG David-gareji 65.84 307 P **P** **12 48 57.4 -2.5**
MIB Mutribah 66.19 294 *eP* P 12 48 56.8 -5.4
MIB AMb AMB 12 49 11.1
comp=Z,91nm,1.3s
TBLG Delisi 66.27 307 *eP* **P** **12 49 02.4 -0.2**
TBLG Delisi 66.27 307 P **P** **12 49 02.5 -0.2**
NAY Al-Naaiem 66.38 294 *eP* P 12 48 59.6 -3.8
NAY AMb AMB 12 49 11.8
comp=Z,50nm,0.9s
GNI Garni 66.50 306 P **P** **12 49 06.7 +2.4**
comp=Z,1.8nm,0.4s,baz=24,slow=20,SNR=9.2
GNI Garni 66.50 306*d iP* **P** **12 49 06.6 +2.4**
GNI pmax pmax
comp=Z,34nm,1.2s
GNI Garni 66.50 306 P **P** **12 49 06.7 +2.4**
GNI Garni 66.50 306 P **P** **12 49 07.0 +2.8**
SNR=14
GOR Gori 66.70 308 P **P** **12 49 07.3 +1.9**
ZEI Tsey 66.75 309 *eP* **P** **12 49 05.8 -0.1**
ZEI pmax pmax
comp=Z,47nm,2.0s
ONI Oni 67.10 308 P **P** **12 49 09.1 +1.2**
AKH Akhalkalaki 67.25 307 P **P** **12 49 10.0 +1.0**
VRHR Novokhopersk 67.30 318 *eP* **P** **12 49 09.1 +0.2**
VRHR *e**PP **pP** **12 49 16.1 +0.8**
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR MLR MLR
comp=N,570nm,11.0s
VRHR MLR MLR
comp=E,3µm,11.0s
VRHR MLR MLR
comp=Z,700nm,11.0s
KIV Kislovodsk 67.46 310*d iP* **P** **12 49 11.9 +1.7**
KIV *i* 12 49 18.9
KIV pmax pmax
comp=Z,71nm,1.6s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 67.46 310 *eP* **P** **12 49 12.3 +2.0**
comp=Z,94nm,1.3s
KIV Kislovodsk 67.46 310 P **P** **12 49 12.2 +2.0**
SNR=17
KLMR Klimovskoe 67.67 328 *eP* **P** **12 49 09.4 -1.7**
KLMR pmax pmax
comp=Z,108nm,1.7s
KLMR pmax pmax
comp=Z,348nm,7.9s
KLMR MLR MLR
comp=Z,3µm,18.0s
MSVF Nonsavu 67.85 120 *eP* **P** **12 49 13.6 +0.6**
MSVF pmax pmax
comp=Z,38nm,0.9s
MSVF Nonsavu 67.85 120 *eP* **P** **12 49 13.6 +0.6**
comp=Z,38nm,0.9s
BHD Baghdad 67.97 298 *i* P **P** **12 49 11.0 -2.5**
BHD *i* PCP **PcP** **12 49 39.0 -0.7**
BHD *e*PP **PP** **12 51 48.0 +4.6**
BHD *e*PPP PPP 12 53 12.0
BHD *eS* S 12 57 48.0 -24
BHD *e*PS PnS 12 58 13.0 -23
VSR Storozhevoye 68.83 318 *eP* **P** **12 49 18.3 -0.2**
VSR *e**PP **pP** **12 49 26.5 +1.6**
VSR *e* 12 51 48.8
MOS Moscow 69.15 323 *eP* **P** **12 49 19.4 -1.0**
MOS *e* 12 49 27.2
MOS pmax pmax
comp=Z,110nm,1.3s
MOS MLR MLR
comp=Z,1µm,20.0s
SOC Sochi 69.64 310*c iP* **P** **12 49 23.2 -0.5**
SOC *e**PP **pP** **12 49 31.9 +1.8**
SOC *e* 12 49 44.6
SOC *e*PPP PPP 12 53 33.6
SOC *eS* **S** **12 58 32.3 +1.0**
SOC *e**SS SKiKP 12 58 59.6 -11
SOC pmax pmax
comp=Z,40nm,0.9s
SOC MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 69.83 322*d iP* **P** **12 49 25.0 +0.4**
OBN *i* 12 49 33.0
OBN *i* 12 49 42.2
OBN *i* 12 49 48.3
OBN *e* 12 51 57.4
OBN *eSS* SS 13 03 09.1 +7.8
OBN pmax pmax
comp=Z,89nm,1.6s
OBN MLR MLR
comp=Z,1µm,24.0s
RSO Redoubt South 69.89 32 *eP* **P** **12 49 25.9 +0.8**
comp=Z,70nm,1.0s
COLD Coldfoot 70.14 24 *eP* **P** **12 49 25.8 -0.5**
comp=Z,38nm,1.4s
KDAK Kodiak Island 70.36 35 P **P** **12 49 26.8 -1.0**
KDAK comp=Z,28nm,0.8s,baz=312,slow=1.9,SNR=9.2 LR LR 13 21 53.2
comp=Z,771nm,20.2s,baz=255,slow=37
KDAK Kodiak Island 70.36 35*ce*P **P** **12 49 27.1 -0.7**
KDAK Kodiak Island 70.36 35 *eP* **P** **12 49 27.2 -0.6**
comp=Z,269nm,1.6s
TRF Thorofare Moun 70.63 28 *eP* **P** **12 49 28.5 -1.1**
comp=Z,106nm,1.8s
ANN Anapa 71.03 312 *eP* P 12 49 28.8 -3.4
ANN *e**PP pP 12 49 39.4 +0.8
ANN *e* 12 52 14.9
ANN *eS* **S** **12 58 42.6 -4.8**
ANN pmax pmax
comp=Z,152nm,1.9s
ANN MLR MLR
comp=N,2µm,19.0s
ANN MLR MLR
comp=E,543nm,19.0s
ANN MLR MLR
comp=Z,1µm,19.0s
MCK McKinley 71.18 28 *eP* **P** **12 49 32.7 -0.1**
MCK pmax pmax
comp=Z,89nm,1.2s
MCK McKinley 71.18 28 *eP* **P** **12 49 32.7 -0.1**
comp=Z,89nm,1.2s
JOF Joensuu 71.29 331 *eP* **P** **12 49 33.4 0.0**
JOF Joensuu 71.29 331 *ep* **P** **12 49 33.4 0.0**
JOF Joensuu 71.29 331 *ep* **P** **12 49 33.4 0.0**
COLA College 71.45 27 *eP* **P** **12 49 33.8 -0.5**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 71.45 27 *eP* **P** **12 49 33.8 -0.5**
comp=Z,14nm,0.9s
PMR Palmer 71.46 30 *eP* **P** **12 49 33.7 -0.7**
PMR pmax pmax
comp=Z,40nm,1.2s
PMR Palmer 71.46 30 *eP* **P** **12 49 33.7 -0.7**
comp=Z,40nm,1.2s
KEV Kevo 71.73 339 *eP* **P** **12 49 37.1 +1.2**
KEV pmax pmax
comp=Z,78nm,1.4s
KEV Kevo 71.73 339 *eP* **P** **12 49 37.1 +1.2**
comp=Z,78nm,1.4s
KEV Kevo 71.73 339 *ep* P 12 49 29.5 -6.4
KEV Kevo 71.73 339 *ep* P 12 49 29.5 -6.4
SML Sawmill 71.79 30 *eP* **P** **12 49 36.5 0.0**
SML pmax pmax
comp=Z,26nm,1.4s
SML Sawmill 71.79 30 *eP* **P** **12 49 36.5 0.0**
comp=Z,26nm,1.4s
ILAR Eielson Array 71.87 27 P **P** **12 49 35.4 -1.5**
comp=Z,2.8nm,0.8s,baz=271,slow=4.8,SNR=33
ILAR LR LR 13 26 36.4
comp=Z,750nm,18.9s,baz=72,slow=40
ILAR Eielson Array 71.87 27 P **P** **12 49 35.4 -1.5**
ILAR Eielson Array 71.87 27 P **P** **12 49 35.4 -1.5**
ARCES ARCESS Array B 72.29 338 P **P** **12 49 39.0 -0.3**
comp=Z,21nm,0.9s,baz=74,slow=6.4,SNR=18
ARCES LR LR 13 26 00.4
comp=Z,2µm,18.9s,baz=176,slow=40
ARCES ARCESS Array B 72.29 338 P **P** **12 49 39.0 -0.3**
ARCES ARCESS Array B 72.29 338 P **P** **12 49 39.0 -0.3**
SPB4 Spitsbergen Ar 72.39 348 P **P** **12 49 40.2 +0.4**
PAX Paxson 72.86 29 *eP* **P** **12 49 42.7 -0.3**
PAX pmax pmax
comp=Z,72nm,1.6s
PAX Paxson 72.86 29 *eP* **P** **12 49 42.7 -0.3**
comp=Z,72nm,1.6s
DIV Divide 73.14 30 *eP* **P** **12 49 43.3 -1.3**
comp=Z,134nm,1.5s
SIM Simferopol' **73.31 312** *eP* P 12 49 51.0 +5.2
SIM pmax pmax
comp=Z,24nm,1.2s
SIM MLR MLR
comp=Z,1µm,20.0s
DOT Dot Lake 73.32 28 *eP* **P** **12 49 45.3 -0.3**
comp=Z,22nm,1.1s
MENT Mentasta 73.64 28 *eP* **P** **12 49 48.0 +0.5**
BMRM Bremner River 73.73 30 *eP* **P** **12 49 48.3 +0.2**
comp=Z,65nm,1.2s
FINES FINESS Array B 74.01 330 P **P** **12 49 49.9 +0.4**
comp=Z,9.5nm,0.8s,baz=57,slow=7.0,SNR=11
FINES LR LR 13 25 33.3
comp=Z,2µm,20.1s,baz=74,slow=38
FINES FINESS Array B 74.01 330 P **P** **12 49 50.0 +0.4**
FINES FINESS Array B 74.01 330 P **P** **12 49 50.0 +0.4**
EGAK Eagle 74.25 26 *eP* **P** **12 49 50.6 -0.4**
comp=Z,24nm,0.8s
ASF Jabal al Asfar 74.36 299 LR LR 13 26 41.0
comp=Z,612nm,19.6s,baz=183,slow=39
VSU Vasula 74.46 327 *eP* **P** **12 49 53.5 +1.3**
AFI Afiamalu 74.50 112 LR LR 13 19 11.2
comp=Z,429nm,20.7s,baz=283,slow=33
MICGM Minsk 74.88 323⇑ *eP* **P** **12 49 54.0 -0.8**
MNK Minsk 74.91 323⇑ *eP* **P** **12 49 54.0 -0.9**
MNK pmax pmax
comp=Z,80nm,1.0s
AKASG Malin Array Be 75.08 319 P **P** **12 49 56.4 +0.3**
comp=Z,3.7nm,0.7s,baz=64,slow=4.9,SNR=16
AKASG Malin Array Be 75.08 319 P **P** **12 49 56.4 +0.3**
AKASG Malin Array Be 75.08 319 P **P** **12 49 56.4 +0.3**
AKBB Malin Array Si 75.08 319 *eP* **P** **12 49 56.7 +0.7**
AKBB Malin Array Si 75.08 319 *eP* **P** **12 49 56.7 +0.7**
KIEV Kiev 75.10 319 *eP* **P** **12 49 56.0 -0.1**
KIEV Kiev 75.10 319 *eP* **P** **12 49 56.7 +0.6**
comp=Z,10nm,0.9s
ATD Arta Tunnel 75.13 277 LR LR 13 23 48.9
comp=Z,556nm,21.3s,baz=269,slow=36
DAWY Dawson 75.20 27 *eP* **P** **12 49 55.9 -0.6**
MMAI Mount Meron Ar 75.35 300 LR LR 13 27 07.0
comp=Z,948nm,21.4s,baz=75,slow=39
NACGM Naroch 75.39 323 *e* **P** **12 49 55.0 -2.7**
INK Inuvik 75.99 22 P **P** **12 50 00.1 -0.8**
comp=Z,31nm,1.2s,baz=297,slow=6.3,SNR=8.1
INK LR LR 13 28 10.0
comp=Z,607nm,18.8s,baz=79,slow=39
INK Inuvik 75.99 22 *eP* **P** **12 50 00.3 -0.6**
INK pmax pmax
comp=Z,72nm,1.4s
INK Inuvik 75.99 22 *eP* **P** **12 50 00.2 -0.6**
comp=Z,72nm,1.4s
KIS Kishinev 76.35 315 *eP* **P** **12 50 03.0 -0.4**
KIS *e* 12 50 19.0
KIS *e* 13 00 30.0
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=N,700nm,17.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS Kishinev 76.35 315 *eP* **P** **12 50 03.0 -0.4**
KIS LRM MLR 13 28 20.0
comp=Z,2µm,20.0s
ALE Alert 76.47 0 P P 12 50 00.0 -3.4
comp=Z,91nm,0.9s,SNR=6.1
EIL Elat 76.66 297 LR LR 13 28 02.2
comp=Z,1µm,21.2s,baz=77,slow=39
TIRR Tirgusor 77.36 313⇓ *iP* **P** **12 50 08.4 -0.7**
TIRR Tirgusor 77.36 313⇓ *iP* **P** **12 50 08.4 -0.7**
SUW Suwalki 77.66 323 *eP* **P** **12 50 11.8 +1.2**
SUW *ep* **pP** **12 50 14.6 -2.5**
SUW *e*PcP **PcP** **12 50 20.2 -0.5**
SUW LMZ LR 13 23 27.0
comp=Z,1µm,24.7s
SUW Suwalki 77.66 323 *eP* **P** **12 50 11.8 +1.2**
SUW *e* 12 50 20.2
TESR **77.92 315**⇓ *iP* **P** **12 50 14.2 +2.0**
VRI Vrincioaia 78.07 315⇓ *iP* **P** **12 50 10.9 -2.2**
VRI Vrincioaia 78.07 315⇓ *iP* **P** **12 50 10.9 -2.2**
PLOR Plostina 78.12 315⇑ *iP* P 12 50 09.8 -3.6
PLOR Plostina 78.12 315⇑ *iP* P 12 50 09.8 -3.6
ISR Istrita 78.42 314⇑ *iP* **P** **12 50 17.0 +1.9**
ISR Istrita 78.42 314⇑ *iP* **P** **12 50 17.0 +1.9**
BURAR Bucovina Array 78.50 317⇓ *iP* P 12 50 07.7 -7.9
BUR08 Bucovina Ar. S 78.50 317 *eP* **P** **12 50 16.7 +1.2**
LVV L'vov 78.53 319 *eP* P 12 50 08.7 -6.8
LVV *e* 12 50 14.5
SKAG Skagway 78.59 30 *eP* **P** **12 50 16.2 +0.5**
comp=Z,94nm,1.3s
MLR Muntele Rosu 78.71 314 P **P** **12 50 17.3 +0.5**
comp=Z,0.5nm,0.6s,baz=134,slow=13,SNR=5.8
MLR LR LR 13 31 09.4
comp=Z,479nm,18.4s,baz=330,slow=40
MLR Muntele Rosu 78.71 314⇓ *P* **P** **12 50 16.3 -0.5**
MLR Muntele Rosu 78.71 314⇓ *iP* **P** **12 50 17.2 +0.5**
MLR Muntele Rosu 78.71 314⇓ *iP* **P** **12 50 16.3 -0.5**
RPZ Rata Peaks 79.14 146 *eP* **P** **12 50 18.2 -0.6**
comp=Z,17nm,0.7s,baz=212,slow=3.8,SNR=14
RPZ Rata Peaks 79.14 146 *eP* **P** **12 50 18.0 -0.9**
comp=Z,111nm,1.5s
DAG Danmarks Havn 79.30 351 *i* P **P** **12 50 17.6 -1.6**
DAG Danmarks Havn 79.30 351 *i* P **P** **12 50 17.6 -1.6**
comp=Z,61nm,0.9s
VOIR **79.32 315**⇓ *P* **P** **12 50 22.4 +2.3**
VOIR **79.32 315**⇓ *iP* **P** **12 50 22.4 +2.3**
KWP Kalwaria Pacla 79.40 319 *eP* **P** **12 50 21.7 +1.3**
KWP *e*PcP **PcP** **12 50 29.1 +0.7**
KWP LMZ LR 13 27 40.0
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 79.40 319 *eP* **P** **12 50 21.6 +1.3**
KWP pmax pmax
comp=Z,22nm,0.5s
KWP Kalwaria Pacla 79.40 319 *eP* **P** **12 50 21.6 +1.3**
comp=Z,22nm,0.5s
BEL Belsk 79.76 322 *eP* **P** **12 50 23.4 +1.2**
BEL *e*PcP **PcP** **12 50 30.8 +0.9**

BEL					LMZ	LR	13 30 27.4		
	comp=Z,2µm,18.3s								
BEL	**Belsk**	**79.76**	**322**	*e*P	**P**	**12 50 23.4**	**+1.2**		
BEL				*e*		12 50 30.7			
BEL					MLR	MLR			
	comp=Z,2µm,18.3s								
KOLS	**Kolonicke sedl**	**79.91**	**319**	*e*	P	12 50 30.7	+7.6		
UZH	**Uzhgorod**	**80.00**	**318**	*e*P	**P**	**12 50 23.0**	**-0.6**		
UZH				*i*		12 50 30.7			
UZH				*e*S	**S**	**13 00 23.0**	**-3.6**		
UZH				*e*PS	**PnS**	**13 01 11.0**	**-1.1**		
TRPA	**Tarpa**	**80.03**	**318**	⇓*e*P	**P**	**12 50 25.1**	**+1.4**		
HFS	**Hagfors**	**80.15**	**331**	P	**P**	**12 50 24.5**	**+0.3**		
	comp=Z,4.0nm,0.6s,baz=197,slow=1.5,SNR=9.0								
HFS					LR	LR	13 29 03.4		
	comp=Z,2µm,18.2s,baz=61,slow=38								
HFS	**Hagfors**	**80.15**	**331**	P	**P**	**12 50 24.5**	**+0.3**		
HFS	**Hagfors**	**80.15**	**331**	P	**P**	**12 50 24.5**	**+0.3**		
LOT	**Lotru**	**80.16**	**315**	⇓*i*P	**P**	**12 50 25.9**	**+1.2**		
STHS	**Stebnicka Huta**	**80.37**	**319**	*e*P	**P**	**12 50 27.0**	**+1.4**		
STHS					pmax	pmax			
	comp=Z,16nm,1.4s								
STHS	**Stebnicka Huta**	**80.37**	**319**	*e*P	**P**	**12 50 27.0**	**+1.4**		
DRGR		**80.39**	**316**	⇓P	**P**	**12 50 27.2**	**+1.4**		
DRGR		**80.39**	**316**	⇓*i*P	**P**	**12 50 27.2**	**+1.4**		
CRVS	**Cervenica-Dubn**	**80.42**	**319**	*e*P	**P**	**12 50 26.0**	**+0.1**		
CRVS					pmax	pmax			
	comp=Z,45nm,1.4s								
CRVS	**Cervenica-Dubn**	**80.42**	**319**	*e*P	**P**	**12 50 26.0**	**+0.1**		
GZR	**Gura Zlata**	**80.84**	**315**	⇑P	**P**	**12 50 26.5**	**-1.8**		
GZR	**Gura Zlata**	**80.84**	**315**	⇑*i*P	**P**	**12 50 26.5**	**-1.8**		
NB2	**NORSAR Subarra**	**80.84**	**332**	P	**P**	**12 50 29.2**	**+1.3**		
	comp=Z,31nm,1.7s,baz=62,slow=5.6								
NOA	**NORSAR Array B**	**80.84**	**332**	P	**P**	**12 50 28.5**	**+0.5**		
	comp=Z,5.0nm,0.8s,baz=60,slow=4.6,SNR=8.8								
NOA					LR	LR	13 29 39.5		
	comp=Z,2µm,19.1s,baz=60,slow=38								
NOA	**NORSAR Array B**	**80.84**	**332**	P	**P**	**12 50 28.5**	**+0.5**		
NOA	**NORSAR Array B**	**80.84**	**332**	P	**P**	**12 50 28.4**	**+0.5**		
OJC	**Ojcow**	**80.94**	**320**	*e*P	**P**	**12 50 28.8**	**+0.2**		
OJC	**Ojcow**	**80.94**	**320**	*e*P	**P**	**12 50 28.8**	**+0.2**		
GKP	**Gorka Klasztor**	**81.22**	**324**	*e*P	**P**	**12 50 31.4**	**+1.4**		
GKP					LMZ	LR	13 31 30.4		
	comp=Z,2µm,18.5s								
GKP	**Gorka Klasztor**	**81.22**	**324**	*e*P	**P**	**12 50 31.4**	**+1.4**		
BZS	**Buzias**	**81.52**	**316**	⇓P	P	12 50 21.8	-10		
BZS	**Buzias**	**81.52**	**316**	⇓*i*P	P	12 50 21.8	-10		
DLBC	**Dease Lake**	**81.52**	**30**	P	**P**	**12 50 32.1**	**+0.5**		
	comp=Z,9.9nm,0.9s,baz=320,slow=3.9,SNR=12								
DLBC					LR	LR	13 30 22.4		
	comp=Z,650nm,19.5s,baz=178,slow=38								
DLBC	**Dease Lake**	**81.52**	**30**	*e*P	**P**	**12 50 32.2**	**+0.6**		
VTS	**Vitosha**	**81.54**	**312**	⇓P	**P**	**12 50 34.9**	**+2.7**		
VTS	**Vitosha**	**81.54**	**312**	⇓*i*P	**P**	**12 50 34.9**	**+2.7**		
RES	**Resolute Bay**	**81.60**	**9**	P	**P**	**12 50 30.6**	**-1.0**		
	comp=Z,26nm,1.0s								
RES	**Resolute Bay**	**81.60**	**9**	*e*P	**P**	**12 50 30.1**	**-1.5**		
RES					pmax	pmax			
	comp=Z,100nm,1.5s								
RES	**Resolute Bay**	**81.60**	**9**	*e*P	**P**	**12 50 30.1**	**-1.5**		
	comp=Z,100nm,1.5s								
JMIC	**Jan Mayen**	**81.70**	**345**	P	**P**	**12 50 31.1**	**-1.1**		
	comp=Z,245nm,0.4s,baz=220,slow=4.9,SNR=3.9								
JMIC					LR	LR	13 30 33.1		
	comp=Z,2µm,20.4s,baz=259,slow=38								
JMIC	**Jan Mayen**	**81.70**	**345**	P	**P**	**12 50 31.1**	**-1.1**		
PSZ	**Piszkesteto**	**81.76**	**318**	*e*P	**P**	**12 50 33.9**	**+0.8**		
PSZ					pmax	pmax			
	comp=Z,44nm,1.5s								
PSZ	**Piszkesteto**	**81.76**	**318**	*e*P	**P**	**12 50 33.9**	**+0.8**		
	comp=Z,44nm,1.5s								
PSZ	**Piszkesteto**	**81.76**	**318**	⇓*e*P	**P**	**12 50 34.3**	**+1.2**		
OKC	**Ostrava-Krasne**	**82.07**	**320**	*e*P	**P**	**12 50 35.6**	**+1.0**		
OKC					MLR	MLR			
	comp=Z,2µm,18.2s								
OKC	**Ostrava-Krasne**	**82.07**	**320**	*e*P	**P**	**12 50 35.6**	**+1.0**		
OKC					AMS	AMS	13 28 30.0		
	comp=Z,2µm,18.2s								
VYHS	**Vyhne**	**82.19**	**319**	*e*P	**P**	**12 50 35.1**	**-0.2**		
VYHS					pmax	pmax			
	comp=Z,36nm,1.9s								
VYHS	**Vyhne**	**82.19**	**319**	*e*P	**P**	**12 50 35.1**	**-0.2**		
VYHS				*e*PP	**PP**	**12 53 39.1**	**-4.1**		
KOLL	**Kolacno**	**82.42**	**319**	*e*P	**P**	**12 50 38.3**	**+1.9**		
KOLL	**Kolacno**	**82.42**	**319**	*e*P	**P**	**12 50 38.3**	**+1.9**		
MORC	**Moravsky Berou**	**82.46**	**321**	*e*P	**P**	**12 50 37.8**	**+1.1**		
MORC					pmax	pmax			
	comp=Z,32nm,1.6s								
MORC	**Moravsky Berou**	**82.46**	**321**	*e*P	**P**	**12 50 37.8**	**+1.1**		
	comp=Z,32nm,1.6s								
MORC	**Moravsky Berou**	**82.46**	**321**	⇓*i*P	P	12 50 42.2	+5.5		
BUD	**Budapest**	**82.47**	**318**	⇓*e*P	**P**	**12 50 37.7**	**+1.0**		
ABPO	**Ambohimpanom**	**82.65**	**246**	*e*P	**P**	**12 50 38.1**	**-0.2**		
ABPO					pmax	pmax			
	comp=Z,33nm,1.0s								
ABPO	**Ambohimpanom**	**82.65**	**246**	*e*P	**P**	**12 50 38.1**	**-0.2**		
	comp=Z,33nm,1.0s								
KSP	**Ksiaz**	**82.75**	**322**	*e*P	**P**	**12 50 39.0**	**+0.9**		
KSP				*e*PcP	**PcP**	**12 50 43.8**	**+0.8**		
KSP					LMZ	LR	13 32 26.6		
	comp=Z,1µm,22.1s								
KSP	**Ksiaz**	**82.75**	**322**	*e*P	**P**	**12 50 38.0**	**-0.1**		
KSP				*e**PP	**pP**	**12 50 45.2**	**+0.5**		
DPC	**Dobruska-Polom**	**82.94**	**321**	*e*P	**P**	**12 50 40.5**	**+1.3**		
DPC				*e*		12 50 48.5			
DPC	**Dobruska-Polom**	**82.94**	**321**	*e*P	**P**	**12 50 40.5**	**+1.3**		
DPC				*ex*		12 50 48.5			
UPC	**Upice**	**83.05**	**322**	*e*P	**P**	**12 50 40.9**	**+1.2**		
UPC				*e*		12 50 55.7			
UPC	**Upice**	**83.05**	**322**	*e*P	**P**	**12 50 40.9**	**+1.2**		
UPC				*ex*		12 50 55.7			
PKSM	**Moragy**	**83.21**	**317**	⇓P	**P**	**12 50 41.7**	**+1.1**		
PKSM	**Moragy**	**83.21**	**317**	⇓*i*P	**P**	**12 50 41.7**	**+1.1**		
PKSM	**Moragy**	**83.21**	**317**	*e*P	**P**	**12 50 40.3**	**-0.3**		
VRAC	**Vranov**	**83.21**	**320**	P	**P**	**12 50 41.3**	**+0.7**		
	comp=Z,15nm,1.1s,baz=79,slow=6.9,SNR=8.3								
VRAC					LR	LR	13 29 16.4		
	comp=Z,587nm,18.3s,baz=70,slow=37								
VRAC	**Vranov**	**83.21**	**320**	P	**P**	**12 50 41.3**	**+0.7**		
VRAC	**Vranov**	**83.21**	**320**	P	**P**	**12 50 41.3**	**+0.7**		
VRAC	**Vranov**	**83.21**	**320**	⇓*i*P	**P**	**12 50 43.2**	**+2.6**		
ZST	**Bratislava**	**83.37**	**319**	*e*P	**P**	**12 50 42.7**	**+1.3**		
ZST					pmax	pmax			
	comp=Z,112nm,2.8s								
ZST	**Bratislava**	**83.37**	**319**	*e*P	**P**	**12 50 42.7**	**+1.3**		
TREC	**Trest**	**83.88**	**321**	*e*P	**P**	**12 50 44.7**	**+0.7**		
TREC	**Trest**	**83.88**	**321**	*e*P	**P**	**12 50 44.7**	**+0.7**		
PVCC	**Panska Ves**	**83.88**	**322**	*e*P	**P**	**12 50 45.0**	**+1.1**		
PVCC	**Panska Ves**	**83.88**	**322**	*e*P	**P**	**12 50 45.0**	**+1.1**		
SOP	**Sopron**	**83.91**	**319**	⇓*e*P	**P**	**12 50 45.4**	**+1.2**		
BRG	**Berggiesshubel**	**84.08**	**323**	*i* P	**P**	**12 50 45.0**	**0.0**		
	comp=Z,28nm,1.5s								
BRG				*e*		12 51 00.7			
	comp=Z,54nm,1.9s								
BRG	**Berggiesshubel**	**84.08**	**323**	*e*P	**P**	**12 50 45.8**	**+0.8**		
	comp=Z,40nm,1.5s								
BRG	**Berggiesshubel**	**84.08**	**323**	*i* P	**P**	**12 50 45.0**	**0.0**		
BRG				*e*		12 51 00.7			
BRG					pmax	pmax			
	comp=Z,28nm,1.5s								
PRU	**Pruhonice**	**84.13**	**322**	*e*P	**P**	**12 50 46.0**	**+0.8**		
PRU				*e*		12 50 53.9			
PRU					MLR	MLR			
	comp=Z,2µm,16.4s								
PRU	**Pruhonice**	**84.13**	**322**	*e*P	**P**	**12 50 46.0**	**+0.8**		
PRU				*ex*		x 12 50 53.9			
PRU					AMS	AMS	13 35 00.0		
	comp=Z,2µm,16.4s								
CONA	**Conrad Observa**	**84.23**	**319**	⇑*i*P	**P**	**12 50 46.9**	**+1.0**		
	comp=Z,40nm,1.5s								
CONA	**Conrad Observa**	**84.23**	**319**	⇑*i*pP	**P**	**12 50 46.9**	**+1.0**		
	comp=Z,40nm,1.5s								
BEHE	**Becsehely**	**84.29**	**318**	⇓*e*P	**P**	**12 50 44.6**	**-1.5**		
FBE	**Freiberg**	**84.39**	**323**	*e*P	**P**	**12 50 47.5**	**+1.0**		
	comp=Z,44nm,1.3s								
CLL	**Collm**	**84.42**	**323**	*e*P	**P**	**12 50 47.3**	**+0.7**		
	comp=Z,32nm,1.3s								
CLL	**Collm**	**84.42**	**323**	*i* P	**P**	**12 50 46.1**	**-0.5**		
CLL				*i*		12 50 54.0			
CLL					pmax	pmax			
	comp=Z,33nm,1.3s								
CLL	**Collm**	**84.42**	**323**	*i* P	**P**	**12 50 46.1**	**-0.5**		
	comp=Z,33nm,1.3s								
CLL				*i* sP	**sP**	**12 50 54.0**	**-1.5**		
CLL				*i*		Lm	MLR	12 51 03.3	
CLL						Lm	MLR	13 34 00.0	
	comp=N,1µm,18.9s								
CLL						Lm	MLR	13 34 00.0	
	comp=E,2µm,18.7s								
KMBO	**Kilima Mbogo**	**84.72**	**267**	*e*P	**P**	**12 50 49.7**	**+0.5**		
KMBO					pmax	pmax			
	comp=Z,39nm,1.4s								
KMBO	**Kilima Mbogo**	**84.72**	**267**	*e*P	**P**	**12 50 49.7**	**+0.5**		
	comp=Z,39nm,1.4s								
KMBO	**Kilima Mbogo**	**84.72**	**267**	P	**P**	**12 50 50.8**	**+1.6**		
	SNR=9.2								
KHC	**Kasperske Hory**	**85.07**	**321**	*e*P	**P**	**12 50 50.7**	**+0.6**		
KHC				*e*		12 50 58.2			
KHC					MLR	MLR			
	comp=Z,1µm,19.3s								
KHC	**Kasperske Hory**	**85.07**	**321**	*e*P	**P**	**12 50 50.7**	**+0.6**		
KHC				*ex*	x	12 50 58.2			
KHC				*ex*	x	12 51 25.0			
KHC					AMS	AMS	13 35 40.0		
	comp=Z,1µm,19.3s								
GEC2	**GERESS Array S**	**85.13**	**321**	*e*P	**P**	**12 50 51.1**	**+0.7**		
	comp=Z,18nm,1.3s								
GEC2	**GERESS Array S**	**85.13**	**321**	*e*P	**P**	**12 50 51.1**	**+0.7**		
GEC2					pmax	pmax			
	comp=Z,18nm,1.3s								
GERES	**GERESS Array B**	**85.13**	**321**	P	**P**	**12 50 51.0**	**+0.5**		
	comp=Z,5.2nm,0.8s,baz=70,slow=4.4,SNR=14								
GERES					LR	LR	13 33 50.9		
	comp=Z,972nm,18.1s,baz=228,slow=39								
GERES	**GERESS Array B**	**85.13**	**321**	P	**P**	**12 50 51.0**	**+0.5**		
GERES	**GERESS Array B**	**85.13**	**321**	P	**P**	**12 50 51.0**	**+0.5**		
NKC	**Novy Kostel**	**85.22**	**322**	*e*P	**P**	**12 50 51.3**	**+0.5**		
NKC				*e*		12 50 59.5			
NKC	**Novy Kostel**	**85.22**	**322**	*e*P	**P**	**12 50 51.3**	**+0.5**		
NKC				*ex*	x	12 50 59.5			
MOA	**Molln**	**85.24**	**320**	⇓*i*P	**P**	**12 50 52.4**	**+1.4**		
	comp=Z,30nm,1.6s								
MOA	**Molln**	**85.24**	**320**	⇓*i*PcP	**P**	**12 50 52.4**	**+1.4**		
	comp=Z,30nm,1.6s								
WERN	**Wernitzgruen**	**85.24**	**322**	*e*P	**P**	**12 50 52.8**	**+1.9**		
	comp=Z,29nm,1.6s								
BBB	**Bella Bella**	**85.42**	**35**	LR	LR	13 29 14.0			
	comp=Z,278nm,19.6s,baz=200,slow=36								
SUMG	**Summit**	**85.45**	**354**	*i* P	**P**	**12 50 51.7**	**-0.3**		
SUMG					pmax	pmax			
	comp=Z,15nm,1.0s								
SUMG	**Summit**	**85.45**	**354**	*e*P	**P**	**12 50 52.0**	**0.0**		
	comp=Z,1µm,3.0s								
SUMG	**Summit**	**85.45**	**354**	*i* P	**P**	**12 50 51.7**	**-0.3**		
	comp=Z,15nm,1.0s								
WET	**Wettzell**	**85.47**	**321**	*e*P	**P**	**12 50 54.2**	**+2.1**		
	comp=Z,34nm,1.7s								
WET	**Wettzell**	**85.47**	**321**	*e*P	**P**	**12 50 54.2**	**+2.1**		
WET					pmax	pmax			
	comp=Z,34nm,1.7s								
CLZ	**Clausthal**	**85.61**	**324**	*e*P	**P**	**12 50 54.9**	**+2.2**		
	comp=Z,52nm,1.4s								
CLZ	**Clausthal**	**85.61**	**324**	*e*P	**P**	**12 50 54.9**	**+2.2**		
CLZ					pmax	pmax			
	comp=Z,52nm,1.4s								
YKA	**Yellowknife Ar**	**85.72**	**23**	P	**P**	**12 50 51.5**	**-1.4**		
	comp=Z,5.4nm,0.6s,baz=311,slow=4.7,SNR=102								
YKA	**Yellowknife Ar**	**85.72**	**23**	P	**P**	**12 50 51.5**	**-1.4**		
YKA	**Yellowknife Ar**	**85.72**	**23**	P	**P**	**12 50 51.5**	**-1.4**		
GRF	**Grafenberg Arr**	**86.17**	**322**	*e*P	**P**	**12 50 55.8**	**+0.3**		
	comp=Z,20nm,1.5s								
GRF				*e*PP	**PP**	**12 54 17.2**	**+1.5**		
GRF				*e*L	L	13 32 35.1			
	comp=Z,1µm,18.8s								
GRF	**Grafenberg Arr**	**86.17**	**322**	*e*P	**P**	**12 50 55.8**	**+0.3**		
GRF				*e*		12 54 17.2			
GRF					pmax	pmax			
	comp=Z,20nm,1.5s								
GRF					MLR	MLR			
	comp=Z,1µm,18.8s								
RAR	**Rarotonga**	**87.95**	**114**	LR	LR	13 26 07.6			
	comp=Z,351nm,18.4s,baz=284,slow=33								
DAVOX	**Davos/Dischmat**	**88.37**	**320**	P	**P**	**12 51 08.3**	**+1.9**		
	comp=Z,2.3nm,0.6s,baz=143,slow=20,SNR=3.9								
DAVOX	**Davos/Dischmat**	**88.37**	**320**	P	**P**	**12 51 08.3**	**+1.9**		
DAVOX	**Davos/Dischmat**	**88.37**	**320**	P	**P**	**12 51 08.3**	**+1.9**		
DRV	**Dumont d'Urvil**	**88.74**	**173**	S	S	13 02 37.0	+44		
DRV				SS	SS	13 08 16.0	+31		
BORG	**Borgarnes**	**89.59**	**345**	LR	LR	13 32 51.1			
	comp=Z,2µm,18.9s,baz=32,slow=36								
MBW	**Mount Baker**	**90.57**	**36**	P	**P**	**12 51 17.2**	**+0.5**		
CMW	**Cultus Mountai**	**90.65**	**37**	P	**P**	**12 51 17.8**	**+0.8**		
JCW	**Jim Creek**	**90.88**	**37**	*e*P	**P**	**12 51 18.8**	**+0.8**		
	comp=Z,69nm,1.3s								
LPG	**La Plagne**	**90.90**	**320**	*e*P	**P**	**12 51 15.7**	**-2.7**		
	comp=Z,32nm,1.1s								
LPL	**La Plagne**	**90.90**	**320**	*e*P	**P**	**12 51 16.0**	**-2.3**		
	comp=Z,12nm,0.7s								
RPW	**Report**	**90.97**	**36**	*e*P	**P**	**12 51 18.8**	**+0.4**		
	comp=Z,35nm,1.6s								
PGF	**Pioggiola**	**91.03**	**317**	*e*P	**P**	**12 51 15.9**	**-2.9**		
	comp=Z,41nm,0.9s								
MBDF	**Montbardon**	**91.29**	**320**	*e*P	P	12 51 16.9	-3.2		
SBF	**Sospel**	**91.34**	**319**	*e*P	**P**	**12 51 17.5**	**-2.7**		
	comp=Z,57nm,1.1s								
ORIF	**Oris-en-Rattie**	**91.73**	**320**	*e*P	**P**	**12 51 20.3**	**-1.7**		
RCM	**Mount Rainier-**	**91.75**	**38**	P	**P**	**12 51 22.8**	**+0.4**		
LON	**Longmire**	**91.75**	**38**	*e*P	**P**	**12 51 23.1**	**+1.0**		
LON					pmax	pmax			
	comp=Z,16nm,1.4s								
LON	**Longmire**	**91.75**	**38**	*e*P	**P**	**12 51 23.1**	**+1.0**		
	comp=Z,16nm,1.4s								
MPOR	**Mary's Peak**	**91.95**	**40**	P	**P**	**12 51 23.9**	**+0.7**		
ETW	**Entiat**	**92.11**	**37**	*e*P	**P**	**12 51 24.0**	**+0.3**		
	comp=Z,15nm,0.8s								
EBG	**Ellensburg**	**92.37**	**37**	P	**P**	**12 51 25.4**	**+0.6**		
HOOD	**Mount Hood Mea**	**92.64**	**39**	*e*P	**P**	**12 51 27.7**	**+1.4**		
	comp=Z,51nm,1.4s								
OD2	**Odessa Site #2**	**93.12**	**36**	*e*P	**P**	**12 51 28.5**	**+0.1**		
	comp=Z,7.9nm,0.9s								
HUMO	**Hull Mountain**	**93.34**	**42**	*e*P	**P**	**12 51 29.5**	**+0.1**		
	comp=Z,3.6nm,0.7s								
NEW	**Newport**	**93.46**	**35**	*e*P	**P**	**12 51 29.8**	**-0.1**		
NEW					pmax	pmax			
	comp=Z,7.0nm,0.8s								
NEW	**Newport**	**93.46**	**35**	*e*P	**P**	**12 51 29.8**	**-0.1**		
	comp=Z,7.3nm,0.8s								
NEW	**Newport**	**93.46**	**35**	⇓P	**P**	**12 51 29.7**	**-0.2**		
	baz=93								
NEW					⇓P	**P**	**12 51 29.7**	**-0.2**	
	baz=93								
VIPM	**Ingram Point**	**93.70**	**39**	P	**P**	**12 51 31.1**	**-0.1**		
VIPM	**Ingram Point**	**93.70**	**39**	P	**P**	**12 51 31.1**	**-0.1**		
A12A	**Yaak River Ran**	**93.82**	**34**	⇑P	**P**	**12 51 31.6**	**+0.1**		
	baz=94								
A12A					⇑P	**P**	**12 51 31.6**	**+0.1**	
	baz=94								
YBH	**Yreka Blue Hor**	**93.97**	**42**	P	**P**	**12 51 32.5**	**+0.1**		
	comp=Z,3.1nm,1.0s,baz=166,slow=3.8,SNR=7.9								
YBH					LR	LR	13 28 14.9		
	comp=Z,460nm,20.3s,baz=319,slow=32								
YBH	**Yreka Blue Hor**	**93.97**	**42**	P	**P**	**12 51 32.6**	**+0.1**		
YBH	**Yreka Blue Hor**	**93.97**	**42**	P	**P**	**12 51 32.5**	**+0.1**		
C11A	**Tepee Creek (N**	**94.18**	**35**	⇓P	**P**	**12 51 33.3**	**+0.1**		
	baz=94								
C11A					⇓P	**P**	**12 51 33.3**	**+0.1**	
	baz=94								
KEST	**Kesra**	**94.19**	**311**	LR	LR	13 44 51.6			
	comp=Z,195nm,18.6s,baz=344,slow=42								
LHEM	**Herd Peak**	**94.33**	**42**	P	**P**	**12 51 33.7**	**-0.6**		
A13A	**Hathead Natio**	**94.45**	**33**	⇑P	**P**	**12 51 34.7**	**+0.2**		
	baz=94								
A13A					⇑P	**P**	**12 51 34.7**	**+0.2**	
	baz=94								
WALA	**Waterton Lakes**	**94.63**	**33**	*e*P	**P**	**12 51 35.3**	**0.0**		
	comp=Z,1.0nm,1.4s								
C12B	**Naegeli Ranch,**	**94.67**	**34**	⇓P	**P**	**12 51 35.3**	**-0.2**		
	baz=94								
C12B					⇓P	**P**	**12 51 35.3**	**-0.2**	
	baz=94								
B13A	**Whitefish**	**94.78**	**34**	⇑P	**P**	**12 51 36.2**	**+0.3**		
	baz=95								
B13A					⇑P	**P**	**12 51 36.2**	**+0.3**	
	baz=95								
A14A	**Double T Ranch**	**94.93**	**33**	⇓P	**P**	**12 51 36.8**	**0.0**		
	baz=95								
A14A					⇓P	**P**	**12 51 36.8**	**0.0**	
	baz=95								
BSMT	**Bassoo Peak**	**94.95**	**34**	*e*P	**P**	**12 51 37.6**	**+0.7**		
	comp=Z,4.3nm,0.7s								
BSMT				*e*PP	**PP**	**12 55 27.4**	**+2.0**		
C13A	**Hot Springs**	**95.17**	**34**	⇓P	**P**	**12 51 37.0**	**-0.7**		
	baz=95								
C13A					⇓P	**P**	**12 51 37.0**	**-0.7**	
	baz=95								
MOD	**Modoc**	**95.37**	**41**	*e*P	**P**	**12 51 38.5**	**-0.5**		
	comp=Z,6.6nm,0.8s								
B14A	**Marquette Ranc**	**95.40**	**33**	⇑P	**P**	**12 51 38.9**	**0.0**		
	baz=95								
B14A					⇑P	**P**	**12 51 38.9**	**0.0**	
	baz=95								
E12A	**Beaver Dam Sad**	**95.43**	**36**	⇓P	**P**	**12 51 39.0**	**-0.1**		
	baz=95								
E12A					⇓P	**P**	**12 51 39.0**	**-0.1**	
	baz=95								
B15A	**Bradely Ranch,**	**95.79**	**33**	⇓P	**P**	**12 51 40.3**	**-0.3**		
	baz=96								
B15A					⇓P	**P**	**12 51 40.3**	**-0.3**	
	baz=96								
A16A	**West Butte Ran**	**95.85**	**32**	⇑P	**P**	**12 51 40.4**	**-0.6**		
	baz=96								
A16A					⇑P	**P**	**12 51 40.4**	**-0.6**	
	baz=96								
FFC	**Flin Flon**	**95.86**	**23**	*ce*P	**P**	**12 51 40.4**	**-0.3**		
FFC	**Flin Flon**	**95.86**	**23**	*e*P	**P**	**12 51 40.0**	**-0.7**		
	comp=Z,7.7nm,0.9s								
F12A	**Elk City**	**96.01**	**36**	⇑P	**P**	**12 51 40.9**	**-0.9**		
	baz=96								
F12A					⇑P	**P**	**12 51 40.9**	**-0.9**	
	baz=96								
MSO	**Missoula**	**96.04**	**34**	⇓P	**P**	**12 51 41.2**	**-0.6**		
	baz=96								
MSO					⇓P	**P**	**12 51 41.2**	**-0.6**	
	baz=96								
WVOR	**Wild Horse Val**	**96.08**	**40**	*e*P	**P**	**12 51 42.1**	**0.0**		
WVOR					pmax	pmax			
	comp=Z,6.0nm,1.1s								
WVOR	**Wild Horse Val**	**96.08**	**40**	*e*P	**P**	**12 51 42.1**	**0.0**		
	comp=Z,5.7nm,1.1s								
C15A	**Salmond Ranch,**	**96.12**	**33**	⇑P	**P**	**12 51 41.8**	**-0.5**		
	baz=96								
C15A					⇑P	**P**	**12 51 41.8**	**-0.5**	
	baz=96								
B16A	**M & M Farms, S**	**96.16**	**32**	⇑P	**P**	**12 51 41.4**	**-0.8**		
	baz=96								
B16A					⇑P	**P**	**12 51 41.4**	**-0.8**	
	baz=96								
G12A	**Big Creek, Yel**	**96.36**	**36**	⇑P	**P**	**12 51 42.5**	**-0.9**		
	baz=96								
G12A					⇑P	**P**	**12 51 42.5**	**-0.9**	
	baz=96								
C16A	**Fuhringer Ranc**	**96.54**	**33**	⇓P	**P**	**12 51 43.9**	**-0.2**		
	baz=96								
C16A					⇓P	**P**	**12 51 43.9**	**-0.2**	
	baz=96								
B17A	**L&G Farms, Che**	**96.69**	**32**	⇑P	**P**	**12 51 44.3**	**-0.4**		
	baz=96								
B17A					⇑P	**P**	**12 51 44.3**	**-0.4**	
	baz=96								
A18A	**Metzger Ranch,**	**96.73**	**31**	⇓P	**P**	**12 51 44.1**	**-0.7**		
	baz=96								
A18A					⇓P	**P**	**12 51 44.1**	**-0.7**	
	baz=96								
A19A	**Klindworth Far**	**97.25**	**31**	⇓P	**P**	**12 51 46.4**	**-0.8**		
	baz=97								
A19A					⇓P	**P**	**12 51 46.4**	**-0.8**	
	baz=97								
CMB	**Columbia Colle**	**97.50**	**44**	*e*P	**P**	**12 51 47.7**	**-0.8**		
CMB					pmax	pmax			
	comp=Z,4.0nm,0.7s								
CMB	**Columbia Colle**	**97.50**	**44**	*e*P	**P**	**12 51 47.7**	**-0.8**		
	comp=Z,4.3nm,0.7s								
D17A	**Six Diamond Ra**	**97.51**	**33**	⇓P	**P**	**12 51 47.8**	**-0.7**		
	baz=97								

SIV	**San Ignacio**	**174.41**	**23**	PKP		**PKPdf**	**12 58 24.8**	**0.0**	
	comp=Z,3.6nm,0.8s,baz=200,slow=1.4,SNR=15								
SIV				PKPab		**PKPab**	**12 59 56.1**	**-1.0**	
	comp=Z,1.7nm,0.6s,baz=102,slow=2.9,SNR=5.9								
SIV	**San Ignacio**	**174.41**	**23**	PKP		**PKPdf**	**12 58 24.8**	**0.0**	
SIV				PKPab		**PKPab**	**12 59 56.1**	**-1.0**	

*ISCJB **23** 12:40:19.4±0.5,54°.42S±0'.06×57°.30W±0'.10,h10km, mb4.2/10,MS3.9/1,Error ellipse: s-maj=9.2km s-min=7.6km az=37.3*

*IDC **23** 12:40:19.7±0.7,54°.66S×57°.11W,h0km,mb4.2/7, mb1 4.4/10,mb1mx4.3/15,mbtmp4.3/10,ML4.6/3,MS3.7/3, Ms1 3.7/3,ms1mx3.4/24,Error ellipse: s-maj=27.1km s-min=17.9km az=31.0*

*NEIC **23** 12:40:20.7±0.3,54°.40S×57°.26W,h10km,mb4.6/6,Error ellipse: s-maj=10.8km s-min=7.6km az=62.0*

ISC 23 12:40:20.6±0.5,54°.31S±0'.06×57°.22W±0'.07,h10km,n52, σ1s07/65,mb4.3/10,Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EFI	**East Falkland**	**2.69**	**349**	*e*Pn		**Pn**	**12 41 04.6**	**+0.7**
EFI				*e*Sn		**Sn**	**12 41 33.6**	**-2.9**
USHA	**Ushuaia**	**6.55**	**261**	Pn		**Pn**	**12 41 56.0**	**-0.8**
	1.9nm,0.3s,baz=66,slow=12,SNR=11							
USHA				Sn		**Sn**	**12 43 12.6**	**+1.1**
	30nm,0.3s,baz=72,slow=6.4,SNR=11							
USHA	**Ushuaia**	**6.55**	**261**	Pn		**Pn**	**12 41 56.0**	**-0.8**
USHA				Sn		**Sn**	**12 43 12.6**	**+1.1**
PMSA	**Palmer Station**	**11.04**	**195**	Pn		**Pn**	**12 42 56.4**	**-2.0**
	1.5nm,0.3s,baz=150,slow=6.0,SNR=9.4							
PMSA				LR		LR	12 46 35.1	
	comp=Z,290nm,21.0s,baz=228,slow=35							
PMSA	**Palmer Station**	**11.04**	**195**	*e*Pn		**Pn**	**12 42 56.3**	**-2.1**
PLCA	**Paso Flores**	**16.26**	**321**	Pn		**P**	**12 44 11.8**	**-0.3**
	0.9nm,0.3s,baz=152,slow=11,SNR=36							
PLCA				Sn		**S**	**12 47 20.6**	**-1.6**
	0.2nm,0.3s,baz=189,slow=8.9,SNR=3.3							
PLCA				LR		LR	12 50 54.5	
	comp=Z,314nm,18.4s,baz=140,slow=38							
PLCA	**Paso Flores**	**16.26**	**321**	*e*Pn		**Pn**	**12 44 09.6**	**+0.6**
	19nm,0.8s							
PLCA				*e*			12 44 15.1	
PLCA				Sn		**S**	**12 47 20.6**	**-1.6**
TRQA	**Tornquist**	**16.58**	**347**	*e*Pn		**P**	**12 44 14.4**	**-1.2**
	25nm,0.7s							
TRQA				*e*Sn		Sn	12 47 06.7	-10
CFAA	**Coronel Fontan**	**24.03**	**336**	P		**P**	**12 45 35.8**	**+0.2**
	0.3nm,0.4s,baz=170,slow=5.4,SNR=5.1							
CFAA	**Coronel Fontan**	**24.03**	**336**	P		**P**	**12 45 35.8**	**+0.2**
VNA3	**Neumayer Olymp**	**26.53**	**148**	*e*		**P**	**12 46 00.0**	**+2.0**
VNA1	**Neumayer--Stat**	**26.84**	**146**	*e*		**P**	**12 46 02.9**	**+2.2**
LCO	**Las Campanas**	**27.12**	**333**	*e*P		**P**	**12 46 05.0**	**+1.2**
	13nm,0.6s							
VNA2	**Neumayer--Watz**	**27.18**	**147**	*e*		**P**	**12 46 05.8**	**+2.0**
	baz=279,slow=8.8							
SNAA	**Sanae**	**28.75**	**148**	*e*		**P**	**12 46 15.7**	**-2.2**
SIV	**San Ignacio**	**38.36**	**354**	P		P	12 47 46.0	+4.2
	0.9nm,0.5s,baz=179,slow=12,SNR=6.4							
SIV	**San Ignacio**	**38.36**	**354**	P		P	12 47 46.0	+4.2
LPAZ	**La Paz**	**38.88**	**343**	P		P	12 47 51.3	+4.5
	1.5nm,0.5s,baz=97,slow=8.6,SNR=6.3							
LPAZ	**La Paz**	**38.88**	**343**	*e*P		**P**	**12 47 46.3**	**-0.5**
	1.6nm,0.6s							
SAML	**Samuel**	**45.49**	**352**	*e*P		**P**	**12 48 40.8**	**+0.8**
	8.1nm,0.9s							
RCBR	**Riachuelo**	**51.33**	**28**	LR		LR	13 09 11.4	
	comp=Z,108nm,20.2s,baz=35,slow=34							
SUR	**Sutherland**	**57.67**	**102**	P		**P**	**12 50 11.8**	**+0.5**
	3.2nm,0.8s,baz=224,slow=15,SNR=2.9							
SUR	**Sutherland**	**57.67**	**102**	P		**P**	**12 50 11.8**	**+0.5**
BOSA	**Boshof**	**63.03**	**102**	P		**P**	**12 50 47.6**	**-0.3**
	3.2nm,0.7s,baz=130,slow=7.5,SNR=4.9							
BOSA	**Boshof**	**63.03**	**102**	P		**P**	**12 50 47.6**	**-0.3**
LBTB	**Lobatse**	**65.97**	**100**	P		**P**	**12 51 07.0**	**-0.1**
	3.8nm,0.6s,baz=233,slow=11,SNR=8.1							
LBTB	**Lobatse**	**65.97**	**100**	*e*P		**P**	**12 51 06.5**	**-0.5**
	11nm,0.7s							
LBTB				*e*			12 51 14.0	
TORD	**Torodi Ar. Bea**	**83.59**	**57**	P		**P**	**12 52 49.0**	**+0.1**
	1.4nm,0.8s,baz=205,slow=5.1,SNR=8.3							
TORD	**Torodi Ar. Bea**	**83.59**	**57**	P		**P**	**12 52 49.0**	**+0.1**
TXAR	**Lajitas Array**	**92.43**	**321**	P		**P**	**12 53 33.8**	**+2.5**
	0.3nm,0.8s,baz=155,slow=6.9,SNR=2.9							
TXAR	**Lajitas Array**	**92.43**	**321**	P		**P**	**12 53 33.8**	**+2.5**
YKA	**Yellowknife Ar**	**124.83**	**332**	PKP		**PKPdf**	**12 59 20.1**	**+1.0**
	0.3nm,0.6s,baz=141,slow=1.8,SNR=4.4							
YKA	**Yellowknife Ar**	**124.83**	**332**	PKP		**PKPdf**	**12 59 20.1**	**+1.0**
ILAR	**Eielson Array**	**136.94**	**321**	PKP		**PKPdf**	**12 59 42.0**	**-0.1**
	0.3nm,0.7s,baz=132,slow=1.3,SNR=3.7							
ILAR	**Eielson Array**	**136.94**	**321**	PKP		**PKPdf**	**12 59 42.0**	**-0.1**
AML	**Almayashu**	**145.79**	**90**	P		**PKPab**	**13 00 00.5**	**+0.4**
	SNR=16							
AML				P		**PKPab**	**13 00 00.5**	**+0.4**
	SNR=16							
EKS2	**Erkin-Say**	**146.17**	**90**	*e*PKPdf		**PKPab**	**13 00 01.1**	**-0.1**
LSA	**Lhasa**	**146.46**	**124**	*e*PKPbc		**PKPab**	**13 00 02.5**	**-0.6**
AAK	**Ala-Archa**	**146.57**	**90**	P		**PKPab**	**13 00 02.4**	**-0.3**
	SNR=8.3							
AAK				P		**PKPab**	**13 00 02.4**	**-0.3**
	SNR=8.3							
AAK	**Ala-Archa**	**146.57**	**90**	*e*PKPbc		**PKPab**	**13 00 02.2**	**-0.6**
KZA	**Kyzart**	**146.67**	**92**	P		**PKPab**	**13 00 03.3**	**-0.2**
	SNR=6.4							
KZA				P		**PKPab**	**13 00 03.3**	**-0.2**
	SNR=6.4							
KBK	**Karagaybulak**	**146.85**	**91**	P		**PKPab**	**13 00 03.2**	**-0.6**
	SNR=6.5							
KBK				P		**PKPab**	**13 00 03.2**	**-0.6**
	SNR=6.5							
USP	**Ospenovka**	**146.96**	**89**	P		**PKPbc**	**13 00 02.8**	**+0.2**
	SNR=5.2							
USP				P		**PKPbc**	**13 00 02.8**	**+0.2**
	SNR=5.2							
BVAR	**Borovoye Array**	**149.52**	**71**	PKP		**PKPdf**	**13 00 05.3**	**+0.9**
	0.9nm,0.9s,baz=252,slow=0.9,SNR=4.0							
BVAR				PKPbc		**PKiKP**	**13 00 09.8**	**-0.2**
	2.8nm,0.7s,baz=256,slow=3.1,SNR=19							
BVAR	**Borovoye Array**	**149.52**	**71**	PKP		**PKPdf**	**13 00 05.3**	**+0.9**
BVAR				PKPbc		**PKiKP**	**13 00 09.8**	**-0.2**
KURK	**Kurchatov**	**153.22**	**79**	PKP		**PKPdf**	**13 00 10.3**	**+0.2**
	0.2nm,0.6s,baz=201,slow=2.0,SNR=3.2							
KURK				PKPbc		**PKiKP**	**13 00 18.0**	**+0.3**
	2.8nm,0.6s,baz=237,slow=2.8,SNR=21							
KURK	**Kurchatov**	**153.22**	**79**	PKP		**PKPdf**	**13 00 10.3**	**+0.2**
KURK				*e*PKPdf		PKPbc	13 00 11.1	-6.5
KURK				*e*PKPbc		**PKiKP**	**13 00 18.3**	**+0.6**
KURK				*e*PKPab		**PKPab**	**13 00 29.5**	**0.0**
MK31	**Makanchi Array**	**153.50**	**90**	*e*PKPdf		**PKPdf**	**13 00 10.3**	**-0.4**
MK31				*e*PKPbc		**PKiKP**	**13 00 18.4**	**-0.1**
MK31				*e*PKPab		**PKPab**	**13 00 31.2**	**+0.3**
MKAR	**Makanchi Array**	**153.50**	**90**	PKPbc		**PKPbc**	**13 00 18.3**	**-0.1**
	1.4nm,0.6s,baz=254,slow=3.2,SNR=12							
MKAR	**Makanchi Array**	**153.50**	**90**	PKPbc		**PKPbc**	**13 00 18.3**	**-0.1**
ZALV	**Zalesovo Beam**	**157.92**	**75**	PKPab		**PKPab**	**13 00 48.6**	**-1.0**
	0.3nm,0.3s,baz=240,slow=2.9,SNR=3.8							
ZALV	**Zalesovo Beam**	**157.92**	**75**	PKPab		**PKPab**	**13 00 48.6**	**-1.0**

MAN 23 12:47:11,16°.53N×122°.40E,h32km,mb4.1,ML3.0,MS2.7, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAUP	**Cauayan**	**0.69**	**307**	*e*P		Pb	12 47 25.8	+1.2
CAUP				*e*S		Sn	12 47 35.1	+1.0
BALP	**Baler**	**1.11**	**225**	*e*P		Pn	12 47 30.1	-0.2
BALP				*e*S		Sn	12 47 45.0	+0.5
PCPH	**Palayan**	**1.58**	**233**	*i*P		Pn	12 47 38.0	+1.2
PCPH				*i* S		Sb	12 47 58.9	-0.3
GQP	**Guinayangan**	**2.61**	**179**	*i*P		Pn	12 47 54.0	+3.0
GQP				*e*S		Sn	12 48 23.6	+2.0
PVCP	**Virac**	**3.38**	**150**	*e*P		Pn	12 48 02.8	+1.3

*IDC **23** 12:47:51.8±1.0,56°.83S×24°.93W,h0km,mb4.0/3, mb1 1.4/4,mb1mx3.9/14,mbtmp4.0/4,MS4.1/1,Ms1 4.0/1, ms1mx3.2/22,Error ellipse: s-maj=52.2km s-min=28.6km az=41.0*

*ISCJB **23** 12:47:52.7±0.9,56°.9S±0'.2×24°.9W±0'.5,h22km,mb4.0/3, MS4.0/1,Error ellipse: s-maj=42.5km s-min=12.6km az=153.3*

ISC 23 12:47:54.4±0.8,57°.1S±0'.2×25°.1W±0'.3,h22km,n14, σ1s09/13,mb3.8/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**15.60**	**161**	*e*P		**P**	**12 51 35.0**	**-1.7**
VNA2	**Neumayer--Watz**	**15.77**	**158**	*e*P		**P**	**12 51 36.9**	**-1.6**
	baz=329,slow=16							
VNA2	**Neumayer--Watz**	**15.77**	**158**	*e*			13 04 29.7	
	baz=286,slow=8.2							
SNAA	**Sanae**	**17.29**	**156**	*e*P		**Pn**	**12 51 54.2**	**+0.1**
SNAA	**Sanae**	**17.29**	**156**	P		**P**	**12 51 56.8**	**+1.4**
	0.3nm,0.3s,baz=339,slow=16,SNR=28							
MAW	**Mawson**	**38.59**	**142**	LR		LR	13 09 52.3	
	comp=Z,233nm,18.6s,baz=57,slow=34							
SIV	**San Ignacio**	**49.16**	**312**	P		**P**	**12 56 39.6**	**-1.0**
	0.5nm,0.5s,baz=196,slow=6.6,SNR=3.9							
LPAZ	**La Paz**	**51.95**	**304**	P		**P**	**12 57 02.3**	**0.0**
	4.2nm,0.5s,baz=151,slow=6.4,SNR=16							
TORD	**Torodi Ar. Bea**	**73.43**	**27**	P		**P**	**12 59 23.9**	**-0.8**
	0.4nm,0.6s,baz=202,slow=6.9,SNR=4.2							
YKA	**Yellowknife Ar**	**137.75**	**316**	PKP		**PKPdf**	**13 07 15.8**	**+0.6**
	0.0nm,0.8s,baz=124,slow=2.4,SNR=6.1							
INK	**Inuvik**	**147.37**	**319**	PKPbc		**PKPbc**	**13 07 35.0**	**+0.4**
SONM	**Songino Array**	**149.62**	**87**	PKPbc		**PKPbc**	**13 07 41.5**	**+0.3**
	1.3nm,0.5s,baz=217,slow=3.9,SNR=7.4							
ILAR	**Eielson Array**	**151.70**	**310**	PKPbc		**PKPbc**	**13 07 45.6**	**+0.1**
	0.8nm,0.8s,baz=149,slow=1.7,SNR=7.4							
ILAR				PKPab		**PKPab**	**13 07 55.0**	**+0.6**
	2.0nm,1.0s,baz=110,slow=2.1,SNR=5.2							
KSRS	**Korea Array**	**153.42**	**126**	PKPbc		**PKPbc**	**13 07 51.6**	**+1.5**
	1.6nm,0.9s,baz=306,slow=26,SNR=3.2							

*IDC **23** 12:50:49.6±1.8,22°.98S×171°.12E,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.9/18,mbtmp3.9/7,ML4.3/1,MS3.7/1, Ms1 3.7/1,ms1mx2.8/30,Error ellipse: s-maj=77.5km s-min=25.6km az=172.0*

*NOU **23** 12:50:51.0±1.3,20°.98S×171°.09E,h30km,MD3.0,ML3.1*

ISC 23 12:50:58.7±1.5,22°.8S±0°.4×170°.8E±0°.1,h33km,n19, σ1s60/18,mb4.0/9,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**3.63**	**279**	*e*S		**Sn**	**12 52 34.0**	**-0.2**
LASL	**Noumea**	**3.93**	**277**	*e*P		**Pn**	**12 51 54.6**	**-2.1**
DZM	**Mont Dzumac**	**4.04**	**279**	Pn		**Pn**	**12 51 57.7**	**-0.6**
	14nm,0.3s,baz=126,slow=15,SNR=209							
DZM				Sn		**Sn**	**12 52 48.5**	**+3.9**
	6.0nm,0.3s,baz=16,slow=22,SNR=5.8							
DZM	**Mont Dzumac**	**4.04**	**279**	*e*P		**Pn**	**12 51 56.5**	**-1.8**
DZM				*e*S		**Sn**	**12 52 44.1**	**-0.5**
DZM				AMP			12 52 55.4	
	comp=Z,415nm,1.6s							
NOUC	**Port Laguerre**	**4.17**	**278**	*e*P		**Pn**	**12 51 57.9**	**-2.0**
NOUC				*e*S		**Sn**	**12 52 48.2**	**+0.7**
NOUC				AMP			12 52 54.6	
	comp=Z,16nm,4.3s							
AFI	**Afiamalu**	**18.76**	**65**	LR		LR	13 00 18.3	
	comp=Z,235nm,21.3s,baz=117,slow=31							
RMQ	**Roma**	**20.33**	**255**	*e*P		**P**	**12 55 33.6**	**+1.4**
	comp=Z,9.0nm,0.7s							
CTA	**Charters Tower**	**22.95**	**272**	P		**P**	**12 56 00.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=106,slow=13,SNR=5.4							
CTA	**Charters Tower**	**22.95**	**272**	*e*P		**P**	**12 56 01.1**	**+0.7**
	comp=Z,2.5nm,1.1s							
CMSA	**Cobar Meteorol**	**23.91**	**243**	*e*P		**P**	**12 56 09.4**	**-0.2**
	comp=Z,27nm,1.0s							
MTSU	**Mount Surprise**	**25.18**	**276**	*e*P		**P**	**12 56 21.0**	**-0.3**
	comp=Z,9.1nm,0.7s							
PMG	**Port Moresby**	**26.21**	**297**	P		**P**	**12 56 31.0**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=133,slow=14,SNR=2.4							
COEN	**Coen**	**27.56**	**284**	*e*P		**P**	**12 56 42.4**	**-0.4**
	comp=Z,4.3nm,0.7s							
ASAR	**Alice Springs**	**33.82**	**261**	P		P	12 57 36.3	-1.8
	comp=Z,1.6nm,0.7s,baz=89,slow=9.7,SNR=18							
WRA	**Warramunga Arr**	**33.98**	**268**	P		P	12 57 36.1	-3.3
	comp=Z,0.2nm,0.4s,baz=97,slow=8.4,SNR=6.6							
CMAR	**Chiang Mai Arr**	**81.23**	**294**	P		**P**	**13 03 11.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=133,slow=4.0,SNR=5.7							
NVAR	**Mina Array Bea**	**90.08**	**48**	P		P	13 03 51.1	-4.5
	comp=Z,0.2nm,0.5s,baz=238,slow=4.9,SNR=3.2							
GERES	**GERESS Array B**	**148.24**	**331**	PKPbc		**PKPdf**	**13 10 37.6**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=29,slow=3.0,SNR=5.4							
DAVOX	**Davos/Dischmat**	**151.49**	**332**	PKPbc		**PKPdf**	**13 10 46.0**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=200,slow=18,SNR=2.6							

*ISCJB **23** 12:56:07.1±0.1,36°.41S±0°.03×70°.81W±0°.04,h126km, mb4.9/109,Error ellipse: s-maj=4.7km s-min=3.4km az=148.2*

*GUC **23** 12:56:07.4±1.0,36°.45S×70°.99W,h129km±10km,ML5.8*

*IDC **23** 12:56:08.4±0.4,36°.40S×70°.81W,h129km±3km,mb4.7/19, mb1 4.8/22,mb1mx4.7/25,mbtmp4.7/22,MS4.1/2, Ms1 4.0/2,ms1mx3.5/23,Error ellipse: s-maj=12.5km s-min=7.8km az=95.0*

*NEIC **23** 12:56:08.3±0.1,36°.39S×70°.81W,mb4.8/84,Error ellipse: s-maj=5.7km s-min=4.1km az=75.0*

NEIC Felt [III] at Constitucion, Linares, Nuble and Talca; [II] at Cauquenes, Concepcion, Puchuncavi, Rancagua, San Antonio, Santiago, Valparaiso and Vina del Mar.

ISC 23 12:56:07.8±0.2,36°.43S±0°.03×70°.91W±0°.04,h122km, h122km:pP-P,n581,σ1s06/705,mb4.9/110,160C-174D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCHI	**Chillan**	**0.95**	**259**	*i*P		**Pn**	**12 56 29.5**	**0.0**
CCHI				*i* S		**Sn**	**12 56 46.0**	**0.0**
CCHI	**Chillan**	**0.95**	**259**	*i*P		**Pn**	**12 56 29.5**	**0.0**
CCHI				*i* S		**Sn**	**12 56 46.0**	**0.0**
TALC	**Talca**	**1.19**	**330**	*i*P		**Pn**	**12 56 32.0**	**+0.2**
TALC				*i* S		**Sn**	**12 56 50.3**	**+0.2**
TALC	**Talca**	**1.19**	**330**	*i*P		**Pn**	**12 56 32.0**	**+0.2**
TALC				*i* S		**Sn**	**12 56 50.3**	**+0.2**
TALC				AML		AML	12 56 51.0	
	comp=E,136μm,0.4s							
CNCO	**Chanco**	**1.49**	**297**	*i*P		**Pn**	**12 56 34.8**	**-0.4**
CNCO				*i* S		**Sn**	**12 56 55.6**	**-0.3**
CNCO	**Chanco**	**1.49**	**297**	*i*P		**Pn**	**12 56 34.8**	**-0.4**
CNCO				*i* S		**Sn**	**12 56 55.6**	**-0.3**
COCH	**Cobquecura**	**1.54**	**281**	*i*P		**Pn**	**12 56 35.0**	**-0.8**
COCH				S		**Sn**	**12 56 55.0**	**-2.2**
COCH	**Cobquecura**	**1.54**	**281**	*i*P		**Pn**	**12 56 35.0**	**-0.8**
COCH				*i* S		**Sn**	**12 56 55.0**	**-2.2**
CTCH	**Constitucion**	**1.64**	**312**	*i*P		**Pn**	**12 56 36.8**	**-0.1**
CTCH				*i* S		**Sn**	**12 56 59.5**	**+0.3**
CTCH	**Constitucion**	**1.64**	**312**	*i*P		**Pn**	**12 56 36.8**	**-0.1**
CTCH				*i* S		**Sn**	**12 56 59.5**	**+0.3**
CACH	**El Canelo**	**2.32**	**6**	*i*P		**Pn**	**12 56 46.3**	**+0.7**
CACH	**El Canelo**	**2.32**	**6**	*i*P		**Pn**	**12 56 46.3**	**+0.7**
LMEL	**Las Melosas**	**2.64**	**13**	AML		AML	12 57 28.6	
	comp=N,19μm,0.6s							
LMEL				AML		AML	12 57 29.0	
	comp=N,19μm,0.7s							
TMU	**Temuco**	**2.66**	**210**	*e*P		**Pn**	**12 56 48.1**	**-1.6**
TMU				*i* S		**Sn**	**12 57 19.5**	**-2.4**
TMU	**Temuco**	**2.66**	**210**	*e*P		**Pn**	**12 56 48.1**	**-1.6**
TMU				*i* S		**Sn**	**12 57 19.5**	**-2.4**
ANTU	**Antumapu**	**2.87**	**5**	AML		AML	12 57 28.6	
	comp=E,30μm,0.3s							
RCDM	**Rinconada Maip**	**2.94**	**2**	*i*P		**Pn**	**12 56 52.7**	**-0.7**
RCDM				*i* S		**Sn**	**12 57 27.7**	**-0.8**
RCDM	**Rinconada Maip**	**2.94**	**2**	*i*P		**Pn**	**12 56 52.7**	**-0.7**
RCDM				*i* S		**Sn**	**12 57 27.7**	**-0.8**
RCDM				AML		AML	12 57 29.4	
	comp=E,36μm,0.3s							
SAN	**Santiago**	**2.98**	**4**	AML		AML	12 57 32.8	
	comp=N,11μm,0.4s							
CLCH	**Cerro Calan**	**3.04**	**6**	AML		AML	12 57 33.3	
	comp=N,31μm,0.3s							
PLCA	**Paso Flores**	**4.30**	**176**	P		**Pn**	**12 57 10.7**	**-0.7**
	comp=N,67nm,0.3s,baz=344,slow=13,SNR=821							
PLCA				S		**Sn**	**12 58 02.4**	**+1.5**
	comp=N,11nm,0.3s,baz=17,slow=20,SNR=5.8							
PLCA	**Paso Flores**	**4.30**	**176**	*e*Pn		**Pn**	**12 57 10.5**	**-1.0**
PLCA				S		**Sn**	**12 58 02.4**	**+1.5**
PLCA				*e*Sn		Sn	12 58 03.3	+2.4
PLCA	**Paso Flores**	**4.30**	**176**	*i*P		**Pn**	**12 57 10.8**	**-0.7**
PLCA				*e*S		**Sn**	**12 58 00.0**	**-0.9**
CFAA	**Coronel Fontan**	**5.30**	**26**	P		**Pn**	**12 57 24.1**	**-0.8**
	comp=N,42nm,0.3s,baz=202,slow=13,SNR=490							
CFAA				S		**Sn**	**12 58 22.2**	**-2.7**
	comp=N,35nm,0.3s,baz=359,slow=14,SNR=18							
CFAA	**Coronel Fontan**	**5.30**	**26**	P		**Pn**	**12 57 24.1**	**-0.8**
CFAA				S		**Sn**	**12 58 22.2**	**-2.7**
TRQA	**Tornquist**	**7.31**	**105**	*e*Pn		**Pn**	**12 57 51.1**	**-0.7**
TRQA				*e*Sn		**Sn**	**12 59 13.7**	**+0.4**
LCO	**Las Campanas**	**7.40**	**1**	*e*Pn		Pn	12 57 49.7	-3.7
LCO				*e*Sn		Sn	12 59 09.6	-6.5
LPA	**La Plata**	**10.67**	**86**	*ce*P		**Pn**	**12 58 36.0**	**-1.2**
EFI	**East Falkland**	**17.77**	**153**	*e*P		**P**	**13 00 05.6**	**-0.7**
	comp=N,103nm,0.6s							
USHA	**Ushuaia**	**18.48**	**175**	P		**Pn**	**13 00 15.3**	**-0.3**
	comp=N,3.1nm,0.3s,baz=14,slow=9.1,SNR=11							
USHA				S		**Sn**	**13 03 48.6**	**+6.0**
	comp=N,0.2nm,0.3s,baz=236,slow=14,SNR=5.7							
USHA	**Ushuaia**	**18.48**	**175**	P		**Pn**	**13 00 15.3**	**-0.3**
USHA				S		**Sn**	**13 03 48.6**	**+6.0**
LPAZ	**La Paz**	**20.22**	**8**	P		**P**	**13 00 34.1**	**+0.3**
	comp=N,171nm,0.8s,baz=179,slow=8.1,SNR=54							
LPAZ	**La Paz**	**20.22**	**8**	*e*P		**P**	**13 00 31.9**	**-1.9**
	comp=N,195nm,0.8s							
SIV	**San Ignacio**	**22.16**	**26**	P		**P**	**13 00 52.3**	**-1.6**
	comp=N,44nm,1.1s,baz=225,slow=10,SNR=32							
SIV				pP		**pP**	**13 01 18.4**	**+1.7**
	comp=N,75nm,1.0s,baz=226,slow=12,SNR=10							
SIV	**San Ignacio**	**22.16**	**26**	P		**P**	**13 00 52.3**	**-1.6**
SIV				pP		**pP**	**13 01 18.4**	**+1.7**
SPB	**Sao Paulo**	**23.95**	**64**	*e*P		**P**	**13 01 10.0**	**-0.8**
	comp=N,112nm,0.6s							
NNA	**Nana**	**24.92**	**346**	P		**P**	**13 01 20.6**	**+0.9**
	comp=N,3.4nm,0.3s,baz=177,slow=14,SNR=4.6							
NNA				pP		**pP**	**13 01 47.4**	**+1.7**
	comp=N,22nm,0.8s,baz=185,slow=12,SNR=4.2							
NNA	**Nana**	**24.92**	**346**	*e*P		**P**	**13 01 19.6**	**-0.1**
	comp=N,20nm,1.0s							
NNA				pP		**pP**	**13 01 47.4**	**+1.7**
SAML	**Samuel**	**28.25**	**16**	*e*P		**P**	**13 01 48.6**	**-0.8**
	comp=N,18nm,1.1s							
PMSA	**Palmer Station**	**28.67**	**174**	P		**P**	**13 01 53.1**	**+0.4**
	comp=N,22nm,0.8s,baz=341,slow=11,SNR=5.5							
PMSA	**Palmer Station**	**28.67**	**174**	*e*P		**P**	**13 01 53.2**	**+0.5**
	comp=N,26nm,0.8s							
BDFB	**Brasilia**	**29.05**	**51**	P		**P**	**13 01 54.9**	**-1.8**
	comp=N,8.4nm,0.5s,baz=221,slow=8.9,SNR=11							
BDFB				pP		**pP**	**13 02 24.1**	**+0.9**
	comp=N,15nm,0.8s,baz=192,slow=9.8,SNR=4.5							
BDFB				LR		LR	13 16 01.4	
	comp=N,98nm,21.6s,baz=265,slow=41							
BDFB	**Brasilia**	**29.05**	**51**	P		**P**	**13 01 54.9**	**-1.8**
BDFB				pP		**pP**	**13 02 24.1**	**+0.9**
OTAV	**Otavalo**	**37.15**	**347**	*e*P		**P**	**13 03 07.6**	**+0.2**
	comp=N,5.0nm,0.7s							
PAYG	**Puerto Ayora**	**39.86**	**329**	*e*P		**P**	**13 03 30.9**	**+1.3**
	comp=N,12nm,0.5s							
RCBR	**Riachuelo**	**44.21**	**55**	P		**P**	**13 04 04.6**	**-0.4**
	comp=N,5.7nm,0.6s,baz=214,slow=12,SNR=9.1							
RCBR	**Riachuelo**	**44.21**	**55**	*e*P		**P**	**13 04 04.3**	**-0.6**
	comp=N,6.6nm,0.7s							
SDV	**Santo Domingo**	**45.08**	**0**	*e*P		**P**	**13 04 12.9**	**+1.0**
JTS	**JuntasAbangare**	**48.32**	**341**	*e*P		**P**	**13 04 37.2**	**+0.3**
	comp=N,13nm,1.0s							
SNAA	**Sanae**	**48.99**	**157**	*e*		P	13 04 37.9	-3.6
SNAA	**Sanae**	**48.99**	**157**	P		**P**	**13 04 41.5**	**0.0**
	comp=N,5.5nm,0.4s,baz=278,slow=7.3,SNR=72							
SNAA	**Sanae

226A	**Malaga, Loving**	**74.89**	**331**	⇓P		**P**	**13 07 35.2 +0.1**
	baz=75						
324A	**Moseley Ranch,**	**74.89**	**330**	⇑P		**P**	**13 07 34.6 -0.6**
	baz=75						
MNTX	**Cornudas Mount**	**75.08**	**330**	*eP*		**P**	**13 07 34.9 -1.2**
	comp=Z,4.6nm,1.0s						
MNTX				*epP*		**pP**	**13 08 06.9 +0.3**
MNTX	**Cornudas Mount**	**75.08**	**330**	⇓P		**P**	**13 07 35.1 -1.1**
	baz=75,SNR=7.9						
MNTX				⇓P		**P**	**13 07 35.1 -1.1**
	baz=75,SNR=7.9						
DBIC	**Dimbokro**	**75.11**	**70**	P		**P**	**13 07 36.2 -0.5**
	comp=Z,37nm,0.5s,baz=196,slow=6.0,SNR=80						
DBIC				pP		**pP**	**13 08 08.8 +1.5**
	comp=Z,29nm,0.9s,baz=202,slow=6.4,SNR=6.2						
DBIC	**Dimbokro**	**75.11**	**70**	⇑*iP*		**P**	**13 07 36.3 -0.4**
DBIC	**Dimbokro**	**75.11**	**70**	P		**P**	**13 07 36.2 -0.5**
DBIC				pP		**pP**	**13 08 08.8 +1.5**
DBIC				*epP*		**pwP**	**13 08 09.7 +2.4**
WMOK	**Wichita Mounta**	**75.42**	**337**	*eP*		**P**	**13 07 37.2 -0.9**
	comp=Z,13nm,1.3s						
WMOK				*epP*		**pP**	**13 08 11.4 +2.8**
224A	**Cornudas Mount**	**75.46**	**330**	⇓P		**P**	**13 07 37.9 -0.6**
	baz=76,SNR=6.8						
TUL1	**Tulsa**	**75.60**	**339**	⇓P		**P**	**13 07 38.8 -0.2**
	baz=76						
Z27A	**Tatum**	**75.67**	**332**	⇓P		**P**	**13 07 39.4 -0.2**
	baz=76						
SIUC	**Southern Illin**	**75.70**	**345**	*eP*		**P**	**13 07 38.7 -0.8**
	comp=Z,5.8nm,0.3s						
Z26A	**Caprock**	**75.92**	**332**	⇓P		**P**	**13 07 40.7 -0.3**
	baz=76,SNR=13						
124A	**Stringfield Ra**	**75.98**	**330**	⇓P		**P**	**13 07 41.7 +0.1**
	baz=76,SNR=8.3						
MSTX	**Muleshoe**	**76.09**	**333**	⇓P		**P**	**13 07 41.5 -0.4**
	baz=76,SNR=5.8						
Z25A	**Roswell**	**76.21**	**331**	⇓P		**P**	**13 07 42.4 -0.3**
	baz=76						
FVM	**French Village**	**76.22**	**344**	*eP*		**P**	**13 07 42.0 -0.4**
	comp=Z,33nm,1.3s						
FVM				*epP*		**pP**	**13 08 13.7 +0.6**
GRM	**Grahamstown**	**76.35**	**121**	*eP*		**P**	**13 07 41.4 -2.2**
GRM				AMB		AMB	13 07 41.6
	comp=Z,99nm,3.6s						
Z24A	**Sheeppen Canyo**	**76.50**	**331**	⇓P		**P**	**13 07 44.5 +0.1**
	baz=77						
AMTX	**Amarillo**	**76.52**	**334**	*eP*		**P**	**13 07 44.3 -0.1**
	comp=Z,30nm,1.1s						
AMTX	**Amarillo**	**76.52**	**334**	⇓P		**P**	**13 07 44.3 -0.1**
	baz=77,SNR=9.6						
AMTX				⇓P		**P**	**13 07 44.3 -0.1**
	baz=77,SNR=9.6						
220A	**Playas Peak, P**	**76.56**	**328**	⇑P		**P**	**13 07 45.2 +0.4**
	baz=77,SNR=5.7						
Y25A	**Mesa, Roswell**	**76.77**	**332**	⇑P		**P**	**13 07 45.5 -0.4**
	baz=77						
Z23A	**Rita Site, Whi**	**76.79**	**330**	⇓P		**P**	**13 07 46.7 +0.8**
	baz=77						
121A	**Cookes Peak, D**	**76.79**	**329**	⇓P		**P**	**13 07 46.6 +0.6**
	baz=77,SNR=6.2						
BRNJ	**Basking Ridge**	**76.81**	**357**	*eP*		**P**	**13 07 46.0 +0.3**
	comp=Z,3µm,0.3s						
X27A	**F and S Farms,**	**76.82**	**333**	⇑P		**P**	**13 07 46.3 +0.2**
	baz=77						
RAR	**Rarotonga**	**76.84**	**253**	P		**P**	**13 07 46.2 -0.3**
	comp=Z,42nm,1.0s,baz=153,slow=6.8,SNR=2.4						
RAR	**Rarotonga**	**76.84**	**253**	P		**P**	**13 07 46.2 -0.3**
X26A	**CR and CF Fran**	**76.99**	**333**	⇓P		**P**	**13 07 47.4 +0.3**
	baz=77						
Y24A	**Capitan**	**77.06**	**331**	⇑P		**P**	**13 07 47.9 +0.3**
	baz=77						
Z22A	**Elephant Butte**	**77.08**	**330**	⇓P		**P**	**13 07 48.2 +0.6**
	baz=77						
ACSO	**Alum Creek Sta**	**77.09**	**351**	*eP*		**P**	**13 07 46.3 -1.0**
	comp=Z,20nm,0.9s						
ACSO				*epP*		**pP**	**13 08 18.7 +0.7**
120A	**U Bar Ranch, L**	**77.16**	**328**	⇓P		**P**	**13 07 48.9 +0.8**
	baz=78,SNR=6.0						
Y23A	**Lovelace Mesa,**	**77.31**	**331**	⇑P		**P**	**13 07 49.8 +0.9**
	baz=78						
V28A	**Channing**	**77.50**	**334**	⇑P		**P**	**13 07 50.5 +0.7**
	baz=78						
Z20A	**Nine Sixteen R**	**77.63**	**328**	⇑P		**P**	**13 07 51.5 +0.8**
	baz=78,SNR=12						
TSUM	**Tsumeb**	**77.68**	**105**	*eP*		**P**	**13 07 50.9 -0.5**
TSUM				AMB		AMB	13 07 51.7
	comp=Z,678nm,6.7s						
TSUM	**Tsumeb**	**77.68**	**105**	*eP*		**P**	**13 07 51.3 -0.1**
	comp=Z,11nm,1.0s						
W25A	**X Bar L Ranch,**	**77.83**	**332**	⇓P		**P**	**13 07 52.0 +0.3**
	baz=78						
LPM	**Los Pinos Moun**	**77.87**	**330**	*eP*		**P**	**13 07 52.8 +0.8**
TUC	**Tucson**	**77.90**	**326**	*eP*		**P**	**13 07 52.9 +0.8**
	comp=Z,5.2nm,1.1s						
TUC				*epP*		**pP**	**13 08 24.9 +2.1**
Y21A	**Point of Rocks**	**78.02**	**329**	⇑P		**P**	**13 07 54.0 +1.0**
	baz=78,SNR=5.3						
BOSA	**Boshof**	**78.14**	**117**	P		**P**	**13 07 53.1 -0.8**
	comp=Z,30nm,0.5s,baz=240,slow=4.5,SNR=36						
BOSA	**Boshof**	**78.14**	**117**	⇑*iP*		**P**	**13 07 52.6 -1.2**
BOSA				AMB		AMB	13 07 53.6
	comp=Z,57nm,3.1s						
BOSA	**Boshof**	**78.14**	**117**	*eP*		**P**	**13 07 53.0 -0.8**
	comp=Z,33nm,0.6s						
W24A	**Lazy 6 Ranch,**	**78.18**	**332**	⇑P		**P**	**13 07 53.8 +0.1**
	baz=78,SNR=11						
Y20A	**Horse Springs,**	**78.23**	**329**	⇑P		**P**	**13 07 54.5 +0.4**
	baz=78						
ANMO	**Albuquerque**	**78.36**	**331**	*eP*		**P**	**13 07 55.0 +0.3**
	comp=Z,6.3nm,1.0s						
ANMO				*epP*		**pP**	**13 08 26.9 +1.5**
W23A	**Werner Place,**	**78.42**	**331**	⇓P		**P**	**13 07 55.7 +0.6**
	baz=79,SNR=7.1						
X21A	**Alamocita Cree**	**78.45**	**330**	⇓P		**P**	**13 07 56.1 +0.9**
	baz=79,SNR=6.9						
V24A	**Rampart Ranch,**	**78.58**	**332**	⇓P		**P**	**13 07 56.7 +0.7**
	baz=79						
U26A	**Atchley Ranch,**	**78.61**	**333**	⇓P		**P**	**13 07 56.4 +0.3**
	baz=79						
Y19A	**Nutrioso**	**78.64**	**328**	⇑P		**P**	**13 07 57.5 +1.1**
	baz=79,SNR=17						
KSU1	**Kansas State U**	**78.81**	**340**	*eP*		**P**	**13 07 56.3 -0.6**
	comp=Z,10nm,0.5s						
Y18A	**Canyon Day Jun**	**78.82**	**328**	⇑P		**P**	**13 07 57.9 +0.7**
	baz=79						
X20A	**Quemado**	**78.83**	**329**	⇑P		**P**	**13 07 58.2 +0.9**
	baz=79						
T27A	**Campo**	**78.85**	**335**	⇓P		**P**	**13 07 57.8 +0.5**
	baz=79						
U25A	**Circle Dot Ran**	**78.86**	**333**	⇑P		**P**	**13 07 57.8 +0.4**
	baz=79						
V23A	**Ortiz Mt. (NFS**	**78.95**	**331**	⇓P		**P**	**13 07 58.7 +0.7**
	baz=79						
SWZ	**Schweizer**	**79.02**	**116**	⇑*iP*		**P**	**13 07 57.4 -1.2**
SWZ				AMB		AMB	13 07 57.7
	comp=Z,41nm,1.6s						
X19A	**St. Johns**	**79.06**	**328**	⇑P		**P**	**13 07 59.0 +0.5**
	baz=79						
114A	**Black Gap (USA**	**79.23**	**325**	⇑P		**P**	**13 08 00.1 +0.8**
	baz=80						
T26A	**Comanche Natio**	**79.26**	**334**	⇑P		**P**	**13 07 60.0 +0.4**
	baz=80,SNR=5.6						
W20A	**Ramah**	**79.33**	**329**	⇓P		**P**	**13 08 00.8 +0.7**
	baz=80,SNR=7.1						
V22A	**San Miguel Ran**	**79.38**	**331**	⇓P		**P**	**13 08 01.4 +1.0**
	baz=80,SNR=10						
X18A	**Snowflake**	**79.42**	**328**	⇓P		**P**	**13 08 01.4 +0.8**
	baz=80						
U23A	**El Rito**	**79.46**	**332**	⇑P		**P**	**13 08 01.7 +0.9**
	baz=80,SNR=7.0						
T25A	**Trinidad**	**79.52**	**333**	⇓P		**P**	**13 08 01.8 +0.8**
	baz=80,SNR=11						
S26A	**Kim**	**79.61**	**334**	⇑P		**P**	**13 08 01.9 +0.5**
	baz=80,SNR=12						
113A	**Mohawk Valley,**	**79.65**	**324**	⇓P		**P**	**13 08 02.3 +0.7**
	baz=80						
T24A	**Torres, Weston**	**79.69**	**333**	⇑P		**P**	**13 08 02.9 +0.8**
	baz=80,SNR=7.8						
Z13A	**Yuma Proving G**	**79.96**	**325**	⇑P		**P**	**13 08 04.3 +1.0**
	baz=80,SNR=13						
X16A	**Lo Mia Camp, P**	**79.98**	**327**	⇑P		**P**	**13 08 04.6 +1.1**
	baz=80,SNR=9.4						
R27A	**Eads**	**79.98**	**335**	⇓P		**P**	**13 08 03.3 0.0**
	baz=80,SNR=6.7						
S25A	**Robets Cordova**	**79.99**	**334**	⇑P		**P**	**13 08 04.0 +0.5**
	baz=80,SNR=7.6						
SEK	**Senekal**	**80.01**	**118**	*eP*		**P**	**13 08 03.4 -0.7**
SEK				AMB		AMB	13 08 07.6
	comp=Z,43nm,2.0s						
T23A	**Casias Ranch,**	**80.03**	**332**	⇑P		**P**	**13 08 04.2 +0.4**
	baz=80,SNR=6.7						
V19A	**Window Rock**	**80.06**	**329**	⇓P		**P**	**13 08 04.6 +0.6**
	baz=80						
U21A	**Nageezi**	**80.12**	**331**	⇓P		**P**	**13 08 05.0 +0.7**
	baz=80,SNR=9.1						
R26A	**Arlington**	**80.21**	**335**	⇓P		**P**	**13 08 04.8 +0.2**
	baz=80,SNR=8.0						
S24A	**Houchin Ranch,**	**80.25**	**333**	⇑P		**P**	**13 08 05.8 +0.7**
	baz=81,SNR=12						
T22A	**Edith**	**80.34**	**332**	⇓P		**P**	**13 08 06.3 +0.8**
	baz=81,SNR=8.0						
SDCO	**Great Sand Dun**	**80.45**	**333**	*eP*		**P**	**13 08 06.5 +0.3**
	comp=Z,13nm,1.4s						
SDCO				*epP*		**pP**	**13 08 39.0 +2.0**
SDCO	**Great Sand Dun**	**80.45**	**333**	⇓P		**P**	**13 08 06.4 +0.2**
	baz=81,SNR=7.6						
SDCO				⇓P		**P**	**13 08 06.4 +0.2**
	baz=81,SNR=7.6						
LBTB	**Lobatse**	**80.46**	**114**	⇑*iP*		**P**	**13 08 05.6 -0.9**
LBTB				AMB		AMB	13 08 06.1
	comp=Z,32nm,0.8s						
T21A	**Navajo Lake**	**80.56**	**331**	⇓P		**P**	**13 08 07.2 +0.5**
	baz=81						
U19A	**Dine' College,**	**80.63**	**330**	⇑P		**P**	**13 08 07.1 +0.1**
	baz=81,SNR=5.6						
PRYS	**Parys**	**80.64**	**116**	⇑*iP*		**P**	**13 08 06.2 -1.2**
PRYS				AMB		AMB	13 08 06.3
	comp=Z,58nm,0.9s						
V17A	**Tonalea, Kykot**	**80.72**	**328**	⇓P		**P**	**13 08 08.0 +0.6**
	baz=81						
R24A	**Sanders Place,**	**80.74**	**333**	⇓P		**P**	**13 08 08.4 +0.8**
	baz=81,SNR=11						
Q26A	**Hugo**	**80.80**	**335**	⇓P		**P**	**13 08 08.5 +0.7**
	baz=81						
Y12C	**Blythe**	**80.82**	**324**	⇓P		**P**	**13 08 09.0 +1.1**
	baz=81,SNR=7.1						
WUAZ	**Wupatki**	**80.88**	**328**	*eP*		**P**	**13 08 09.5 +1.3**
	comp=Z,9.7nm,1.1s						
WUAZ				*epP*		**pP**	**13 08 42.0 +2.8**
WUAZ	**Wupatki**	**80.88**	**328**	⇓P		**P**	**13 08 09.5 +1.3**
	baz=81						
S22A	**4UR Ranch, Cre**	**80.95**	**332**	⇓P		**P**	**13 08 09.2 +0.5**
	baz=81,SNR=5.8						
R23A	**Moffat**	**80.97**	**333**	⇑P		**P**	**13 08 09.4 +0.6**
	baz=81						
BAR	**Barrett**	**80.98**	**322**	*eP*		**P**	**13 08 09.7 +1.0**
	comp=Z,6.5nm,0.9s						
U18A	**Rough Rock, Ch**	**81.01**	**329**	⇑P		**P**	**13 08 09.8 +0.8**
	baz=81						
T19A	**Beclabito**	**81.01**	**330**	⇑P		**P**	**13 08 09.5 +0.5**
	baz=81,SNR=7.6						
MONP	**Monument Peak**	**81.03**	**323**	⇓P		**P**	**13 08 10.2 +1.0**
	baz=81						
Q25A	**Bedland, Calha**	**81.04**	**334**	⇑P		**P**	**13 08 09.3 +0.1**
	baz=81						
MVCO	**Mesa Verde**	**81.13**	**330**	*eP*		**P**	**13 08 10.2 +0.4**
	comp=Z,8.0nm,0.9s						
MVCO				*epP*		**pP**	**13 08 42.7 +2.1**
MVCO	**Mesa Verde**	**81.13**	**330**	⇓P		**P**	**13 08 10.1 +0.4**
	baz=82,SNR=5.7						
BC3	**Big Chuckawall**	**81.18**	**324**	⇓P		**P**	**13 08 10.7 +0.8**
	baz=82,SNR=7.5						
S21A	**Coal Bank Pass**	**81.25**	**331**	⇓P		**P**	**13 08 11.1 +0.7**
	baz=82,SNR=5.7						
U16A	**Tuba City**	**81.30**	**328**	⇓P		**P**	**13 08 11.2 +0.7**
	baz=82,SNR=6.0						
P26A	**Davis Ranch, A**	**81.31**	**335**	⇓P		**P**	**13 08 10.9 +0.4**
	baz=82						
R22A	**Saguache, Gunn**	**81.35**	**332**	⇑P		**P**	**13 08 11.5 +0.6**
	baz=82						
Q24A	**Divide**	**81.40**	**334**	⇓P		**P**	**13 08 11.8 +0.6**
	baz=82						
IRM	**Iron Mountain**	**81.45**	**324**	⇓P		**P**	**13 08 12.0 +0.8**
	baz=82,SNR=5.2						
P25A	**Willow Gulch B**	**81.55**	**335**	⇓P		**P**	**13 08 12.5 +0.8**
	baz=82,SNR=7.3						
ERPM	**east rand prop**	**81.61**	**116**	*eP*		**P**	**13 08 11.8 -0.8**
ERPM				AMB		AMB	13 08 12.4
	comp=Z,17nm,1.5s						
S20A	**Disappointment**	**81.61**	**331**	⇑P		**P**	**13 08 13.0 +0.8**
	baz=82,SNR=6.8						
T18A	**Mexican Hat**	**81.62**	**329**	⇑P		**P**	**13 08 12.4 +0.3**
	baz=82,SNR=5.9						
PFO	**Pinyon Flat Ob**	**81.63**	**323**	*eP*		**P**	**13 08 12.8 +0.6**
	comp=Z,13nm,1.0s						
PFO				*epP*		**pP**	**13 08 45.8 +2.6**
PFO	**Pinyon Flat Ob**	**81.63**	**323**	⇓P		**P**	**13 08 13.6 +1.3**
	baz=82,SNR=9.3						
W13A	**Hualapai Mount**	**81.64**	**326**	⇓P		**P**	**13 08 13.3 +0.9**
	baz=82,SNR=5.8						
ODZ	**Otahua Downs**	**81.68**	**219**	*eP*		**P**	**13 08 13.2 +0.8**
	comp=Z,177nm,0.9s						
BELC	**Belle Mtn. Jos**	**81.73**	**324**	⇑P		**P**	**13 08 13.6 +0.8**
	baz=82						
R21A	**Cimarron**	**81.77**	**332**	⇑P		**P**	**13 08 13.6 +0.6**
	baz=82						
T17A	**Navajo Res., N**	**81.89**	**329**	⇑P		**P**	**13 08 14.7 +1.1**
	baz=82,SNR=6.2						
R20A	**Redvale**	**81.93**	**331**	⇑P		**P**	**13 08 14.8 +0.9**
	baz=82,SNR=8.9						
Q22A	**Crested Butte,**	**81.96**	**332**	⇑P		**P**	**13 08 14.8 +0.8**
	baz=82,SNR=6.8						
PV01	**Paradox Valley**	**81.96**	**331**	*eP*		**P**	**13 08 14.8 +0.8**
	comp=Z,550nm,1.2s						
MURC	**Murrieta**	**81.98**	**322**	⇑P		**P**	**13 08 15.1 +1.1**
	baz=82						
SLR	**Silverton**	**82.00**	**116**	*eP*		**P**	**13 08 13.4 -1.2**
SLR				AMB		AMB	13 08 15.7
	comp=Z,69nm,2.3s						
U15A	**North Rim**	**82.04**	**327**	⇑P		**P**	**13 08 15.5 +0.9**
	baz=82,SNR=7.8						
S18A	**Hurst Farm, Bl**	**82.15**	**330**	⇑P		**P**	**13 08 15.9 +0.8**
	baz=82						
N27A	**Anderson Farm,**	**82.16**	**336**	⇑P		**P**	**13 08 15.5 +0.6**
	baz=82						
LDFC	**Landfair**	**82.19**	**325**	*eP*		**P**	**13 08 16.5 +1.3**
	comp=Z,19nm,1.4s						
GMRC	**Granite Mounta**	**82.20**	**324**	⇑P		**P**	**13 08 16.3 +1.1**
	baz=82,SNR=8.8						
SMCO	**Snowmass**	**82.26**	**332**	*eP*		**P**	**13 08 16.4 +0.7**
	comp=Z,22nm,1.3s						
SMCO				*epP*		**pP**	**13 08 49.4 +2.7**
ISCO	**Idaho Springs**	**82.31**	**334**	*eP*		**P**	**13 08 16.2 +0.3**
	comp=Z,23nm,1.8s						
ISCO	**Idaho Springs**	**82.31**	**334**	⇓P		**P**	**13 08 16.4 +0.5**
	baz=83						
PV04	**Paradox Valley**	**82.32**	**331**	*eP*		**P**	**13 08 17.1 +1.3**
PV10	**Paradox Valley**	**82.35**	**331**	*eP*		**P**	**13 08 16.1 0.0**
	comp=Z,64nm,0.7s						
PV10				*epP*		**pP**	**13 08 48.2 +1.1**
R19A	**Curley Farm, L**	**82.37**	**330**	⇓P		**P**	**13 08 16.3 +0.2**
	baz=83,SNR=7.0						
RPZ	**Rata Peaks**	**82.39**	**220**	P		**P**	**13 08 16.7 +0.5**
	comp=Z,77nm,0.9s,baz=166,slow=2.5,SNR=31						
RPZ	**Rata Peaks**	**82.39**	**220**	*eP*		**P**	**13 08 16.7 +0.5**
	comp=Z,91nm,0.9s						
CIS	**Catalina Islan**	**82.43**	**322**	⇑P		**P**	**13 08 17.4 +1.1**
	baz=83						
S17A	**Black Ridge (B**	**82.43**	**329**	⇓P		**P**	**13 08 17.1 +0.7**
	baz=83						
P22A	**Eagle**	**82.55**	**333**	⇓P		**P**	**13 08 17.8 +0.8**
	baz=83						
HEC	**Hector,Ludlow**	**82.56**	**324**	⇑P		**P**	**13 08 18.2 +1.2**
	baz=83						
URZ	**Urewera**	**82.70**	**227**	*eP*		**P**	**13 08 18.9 +1.1**
	comp=Z,26nm,0.9s						
URZ				*epP*		**pP**	**13 08 45.5 -3.3**
R18A	**Canyonlands Na**	**82.70**	**330**	⇑P		**P**	**13 08 18.2 +0.4**
	baz=83						
BFSC	**Mount Baldy Ra**	**82.72**	**323**	⇓P		**P**	**13 08 18.7 +0.7**
	baz=83,SNR=9.3						
P21A	**Newcastle**	**82.74**	**332**	⇓P		**P**	**13 08 18.6 +0.6**
	baz=83						
O23A	**Lake Granby, G**	**82.78**	**334**	⇑P		**P**	**13 08 18.8 +0.4**
	baz=83						
S16A	**Weppner Ranch,**	**82.84**	**329**	⇑P		**P**	**13 08 19.0 +0.5**
	baz=83						
TUQ	**Turquoise Moun**	**82.86**	**324**	⇑P		**P**	**13 08 19.7 +1.1**
	baz=83,SNR=11						
MWC	**Mount Wilson**	**82.91**	**322**	*eP*		**P**	**13 08 20.1 +1.1**
	comp=Z,26nm,1.5s						
Q19A	**Hogan Spring (**	**82.94**	**331**	⇓P		**P**	**13 08 19.6 +0.6**
	baz=83						
N24A	**Carr**	**82.97**	**335**	⇑P		**P**	**13 08 19.8 +0.7**
	baz=83						
O22A	**Kremmling**	**82.97**	**333**	⇓P		**P**	**13 08 19.5 +0.2**
	baz=83,SNR=6.2						
R17A	**Hanksville Air**	**83.06**	**330**	⇓P		**P**	**13 08 20.0 +0.3**
	baz=83,SNR=7.7						
ECSD	**EROS Data Cent**	**83.14**	**342**	*eP*		**P**	**13 08 19.3 -0.4**
	comp=Z,35nm,1.5s						
ECSD				*epP*		**pP**	**13 08 52.2 +1.4**
ECSD				*esP*		**sP**	**13 09 00.4 -3.3**
GSC	**Goldstone**	**83.17**	**324**	*eP*		**P**	**13 08 21.3 +1.1**
	comp=Z,10.0nm,1.1s						
GSC				*epP*		**pP**	**13 08 53.6 +2.3**
GSC				*esP*		**sP**	**13 09 05.1 +0.9**
GSC	**Goldstone**	**83.17**	**324**	⇑P		**P**	**13 08 21.2 +1.1**
	baz=84,SNR=8.5						
M25A	**Palm-Egli Farm**	**83.23**	**336**	⇓P		**P**	**13 08 20.9 +0.5**
	baz=84						
R16A	**Teasdale**	**83.27**	**329**	⇑P		**P**	**13 08 20.9 +0.1**
	baz=84						
N23A	**Red Feather La**	**83.40**	**334**	⇓P		**P**	**13 08 21.8 +0.4**
	baz=84						
EDW2	**Edwards Air Fo**	**83.40**	**323**	⇑P		**P**	**13 08 22.0 +0.6**
	baz=84,SNR=8.1						
Q18A	**Rafter H Ranch**	**83.41**	**330**	⇑P		**P**	**13 08 21.8 +0.4**
	baz=84,SNR=5.7						
P19A	**Cripple Cowboy**	**83.42**	**331**	⇑P		**P**	**13 08 22.0 +0.5**
	baz=84,SNR=7.2						
CCUT	**Cedar City**	**83.45**	**327**	*eP*		**P**	**13 08 22.9 +1.2**
	comp=Z,15nm,1.1s						
CCUT				*epP*		**pP**	**13 08 54.8 +2.0**
N22A	**Wattenberg Ran**	**83.50**	**334**	⇓P		**P**	**13 08 22.8 +0.8**
	baz=84,SNR=5.4						
M24A	**Cheyenne**	**83.52**	**335**	⇓P		**P**	**13 08 22.4 +0.4**
	baz=84						
O20A	**White River Ci**	**83.57**	**332**	⇓P		**P**	**13 08 22.6 +0.4**
	baz=84						
SRU	**San Rafael**	**83.58**	**330**	*eP*		**P**	**13 08 22.5 +0.2**
	comp=Z,6.9nm,0.8s						
SRU				*epP*		**pP**	**13 08 54.9 +1.5**
SRU	**San Rafael**	**83.58**	**330**	⇓P		**P**	**13 08 22.4 +0.2**
	baz=84,SNR=10						
Q16A	**Castle Valley**	**83.67**	**330**	⇓P		**P**	**13 08 23.4 +0.6**
	baz=84,SNR=7.8						
ARUT	**Antelope Range**	**83.68**	**327**	*eP*		**P**	**13 08 24.2 +1.4**
	comp=Z,11nm,1.0s						
ARUT				*epP*		**pP**	**13 08 56.8 +2.8**
LRMC	**Laurel Mountai**	**83.73**	**323**	⇓P		**P**	**13 08 23.9 +0.8**
	baz=84						
MSU	**Marysvale**	**83.75**	**329**	*eP*		**P**	**13 08 24.1 +0.9**
MSU				*epP*		**pP**	**13 08 55.8 +1.5**
K27A	**Flueckinger Fa**	**83.78**	**337**	⇓P		**P**	**13 08 24.0 +0.9**
	baz=84						
L25A	**Engebretsen Ra**	**83.84**	**336**	⇓P		**P**	**13 08 24.2 +0.7**
	baz=84						
N21A	**Black Mountain**	**83.85**	**333**	⇓P		**P**	**13 08 24.4 +0.7**
	baz=84						
P18A	**Preston Nutter**	**83.91**	**331**	⇑P		**P**	**13 08 24.6 +0.4**
	baz=84,SNR=13						
TMUT	**Trail Mountain**	**84.01**	**330**	*eP*		**P**	**13 08 25.2 +0.5**
	comp=Z,24nm,1.4s						
O19A	**Miners Draw (B**	**84.05**	**332**	⇑P		**P**	**13 08 24.9 +0.3**
	baz=84,SNR=6.2						
MPMC	**Manual Prospec**	**84.11**	**324**	⇓P		**P**	**13 08 25.7 +0.6**
	baz=84,SNR=7.1						
FURC	**Furnace Creek,**	**84.14**	**324**	⇑P		**P**	**13 08 26.2 +1.3**
	baz=84,SNR=7.3						
N20A	**Spence Gulch,**	**84.19**	**332**	⇑P		**P**	**13 08 25.9 +0.5**
	baz=84						
TORD	**Torodi Ar. Bea**	**84.19**	**69**	P		**P**	**13 08 25.2 -0.6**
	comp=Z,25nm,0.8s,baz=251,slow=5.2,SNR=82						
TORD				pP		**pP**	**13 08 58.0 +1.1**
	comp=Z,12nm,0.9s,baz=246,slow=4.6,SNR=4.1						
TORD				PKKPbc		**PKKPbc**	**13 26 37.8 +0.5**
	comp=Z,0.2nm,0.5s,baz=50,slow=2.5,SNR=3.2						
TORD				SKKP			13 29 52.4
	comp=Z,0.7nm,1.0s,baz=38,slow=2.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.19**	**69**	P		**P**	**13 08 25.2 -0.6**
TORD				pP		**pP**	**13 08 58.0 +1.1**
TORD				PKKPbc		**PKKPbc**	**13 26 37.8 +0.5**
TORD				SKKP			13 29 52.4
R13A	**O'Grain Ranch,**	**84.24**	**327**	⇓P		**P**	**13 08 26.8 +1.1**
	baz=85,SNR=8.9						
ISA	**Isabella**	**84.26**	**323**	*eP*		**P**	**13 08 27.0 +1.2**
	comp=Z,11nm,0.9s						
ISA				*epP*		**pP**	**13 08 59.0 +2.2**
ISA	**Isabella**	**84.26**	**323**	⇑P		**P**	**13 08 26.9 +1.2**
	baz=85,SNR=12						
PKM	**Peak Mountain**	**84.32**	**321**	⇓P		**P**	**13 08 27.4 +1.3**
	baz=85,SNR=10						
O18A	**Roosevelt**	**84.36**	**331**	⇓P		**P**	**13 08 27.1 +0.9**
	baz=85						
P16A	**Fountain Green**	**84.46**	**330**	⇓P		**P**	**13 08 27.7 +1.0**
	baz=85						
M21A	**Separation Pea**	**84.53**	**333**	⇑P

baz=86,SNR=7.7
J22A **Midwest** 85.81 335 ⇑P P 13 08 32.9 -0.5
baz=86,SNR=9.4
M16A **Huntsville** 85.90 330 ⇑P P 13 08 33.9 0.0
baz=86,SNR=7.8
N15A **Stansbury Isla** 85.90 330 ⇑P P 13 08 33.9 +0.1
baz=86,SNR=15
MLAC **Mammoth Lakes** 86.01 324 ⇑P P 13 08 36.0 +1.4
baz=86,SNR=15
J21A **Lysite** 86.08 334 ⇓P P 13 08 34.7 0.0
baz=86,SNR=8.1
HWUT **Hardware Ranch** 86.12 331 eP P 13 08 34.9 -0.1
comp=Z,27nm,0.8s
HWUT ePP pP 13 09 08.8 +2.6
K19A **Absolon Red Bu** 86.13 333 ⇑P P 13 08 34.5 -0.5
baz=86,SNR=21
I22A **9 Mile Ranch,** 86.23 335 ⇑P P 13 08 35.0 -0.4
baz=87,SNR=6.5
L17A **Cokeville** 86.27 331 ⇓P P 13 08 35.3 -0.4
baz=87,SNR=5.6
J20A **Shoshoni** 86.31 334 ⇑P P 13 08 36.4 +0.6
baz=87,SNR=29
BW06 **Boulder Array** 86.34 333 eP P 13 08 35.9 -0.2
comp=Z,8.0nm,1.1s
BW06 **Boulder Array** 86.34 333 ⇓P P 13 08 35.7 -0.4
baz=87,SNR=6.9
BW06 ⇓P P 13 08 35.7 -0.4
baz=87,SNR=6.9
PDAR **Pinedale Array** 86.34 333 P P 13 08 35.5 -0.6
comp=Z,2.9nm,0.8s,baz=155,slow=4.8,SNR=26
PDAR pP pP 13 09 08.3 +1.0
comp=Z,1.1nm,0.6s,baz=145,slow=5.4,SNR=2.4
PDAR PKKPbc PKKPbc 13 26 32.2 -2.1
comp=Z,0.3nm,0.6s,baz=146,slow=1.8,SNR=3.9
PDAR **Pinedale Array** 86.34 333 P P 13 08 35.5 -0.6
PDAR pP pP 13 09 08.3 +1.0
PDAR PKKPbc PKKPbc 13 26 32.2 -2.1
M15A **Larsen Ranch,** 86.35 330 ⇓P P 13 08 36.0 0.0
baz=87,SNR=13
H24A **Dirks Ranch, A** 86.35 337 ⇑P P 13 08 35.6 -0.3
baz=87,SNR=8.2
PD02 **Pinedale Array** 86.36 333 eP P 13 08 35.5 -0.7
PD02 ePP pP 13 09 07.5 +0.1
PD01 **Pinedale Array** 86.36 333 eP P 13 08 36.1 -0.1
NVAR **Mina Array Bea** 86.40 325 P P 13 08 37.2 +0.7
comp=Z,9.8nm,0.8s,baz=156,slow=5.6,SNR=89
NVAR pP pP 13 09 09.8 +2.0
comp=Z,3.2nm,1.0s,baz=145,slow=5.1,SNR=2.9
NVAR **Mina Array Bea** 86.40 325 P P 13 08 37.2 +0.7
NVAR pP pP 13 09 09.8 +2.0
K18A **Toltan Ranch,** 86.41 332 ⇑P P 13 08 36.7 +0.2
baz=87,SNR=16
L16A **Fish Haven** 86.41 331 ⇑P P 13 08 36.5 0.0
baz=87,SNR=24
I21A **Big Trails, Te** 86.44 335 ⇓P P 13 08 35.9 -0.5
baz=87,SNR=12
J19A **Crowheart** 86.59 333 ⇓P P 13 08 36.7 -0.5
baz=87,SNR=16
HVU **Hansel Valley** 86.75 330 eP P 13 08 37.9 -0.1
comp=Z,15nm,0.8s
L15A **Malad City** 86.78 330 ⇑P P 13 08 37.9 -0.2
baz=87,SNR=15
H22A **Clearmont** 86.81 335 ⇓P P 13 08 37.5 -0.7
baz=87,SNR=5.6
OUZ **Omahuta** 86.83 228 eP P 13 08 38.8 +0.2
comp=Z,25nm,1.2s
G24A **Alzada** 86.83 337 ⇑P P 13 08 38.2 0.0
baz=87
K17A **Gardner Place,** 86.84 332 ⇓P P 13 08 38.4 -0.1
baz=87
I20A **Worland** 86.85 334 ⇑P P 13 08 38.3 -0.1
baz=87,SNR=16
J18A **Kendall Valley** 86.90 332 ⇓P P 13 08 38.4 -0.4
baz=87,SNR=8.4
ELK **Elko** 86.91 328 epP pP 13 09 12.5 +2.2
G23A **Biddle** 87.03 336 ⇓P P 13 08 38.9 -0.3
baz=87
H21A **Big Horn, Sher** 87.07 335 ⇓P P 13 08 39.0 -0.5
baz=87,SNR=5.0
CMB **Columbia Colle** 87.08 323 eP P 13 08 40.3 +0.7
comp=Z,5.0nm,0.8s
CMB epP pP 13 09 13.2 +2.3
CMB esP sP 13 09 23.3 -0.4
L14A **Malta** 87.15 330 ⇓P P 13 08 39.9 0.0
baz=88,SNR=9.2
K16A **Soda Springs** 87.17 331 ⇑P P 13 08 40.3 +0.3
baz=88,SNR=19
I19A **Meeteetse** 87.23 334 ⇑P P 13 08 40.1 -0.3
baz=88
AGMN **Agassiz Nation** 87.24 344 eP P 13 08 39.8 -0.2
comp=Z,26nm,1.5s
AGMN epP pP 13 09 12.7 +1.4
I18A **Diamond G Ranc** 87.24 333 ⇓P P 13 08 40.4 0.0
baz=88,SNR=22
H20A **Greybull** 87.28 334 ⇓P P 13 08 39.9 -0.5
baz=88,SNR=6.8
J17A **Brown Place, J** 87.29 332 ⇓P P 13 08 40.4 -0.2
baz=88
F24A **Ekalaka** 87.30 337 ⇑P P 13 08 40.3 -0.2
baz=88
G22A **Birney** 87.34 336 ⇓P P 13 08 40.5 -0.2
baz=88
REDW **Red Top Meadow** 87.34 332 eP P 13 08 40.5 -0.4
comp=Z,5.0nm,1.0s
LOHW **Long Hollow** 87.46 332 epP pP 13 09 12.1 -0.7
LOHW esP sP 13 09 23.5 -2.1
F23A **Volborg** 87.50 337 ⇓P P 13 08 41.1 -0.3
baz=88,SNR=9.7
RRI2 **Red Ridge** 87.50 332 eP P 13 08 41.9 +0.1
comp=Z,30nm,1.8s
K14A **Jones Ranch, D** 87.55 330 ⇓P P 13 08 41.8 0.0
baz=88,SNR=9.8
J16A **Bone** 87.55 332 ⇑P P 13 08 42.0 0.0
baz=88,SNR=5.5
MOOW **Moose Ponds** 87.63 332 eP P 13 08 42.0 -0.2
comp=Z,25nm,2.3s
G21A **Lodge Grass** 87.65 335 ⇓P P 13 08 42.0 -0.2
baz=88
I17A **Pilgrim Ck.** 87.71 333 ⇓P P 13 08 42.9 +0.2
baz=88,SNR=8.3
MDND **Maddock** 87.74 341 ⇓P P 13 08 42.5 +0.1
baz=88
WCN **Washoe City** 87.78 324 eP P 13 08 44.2 +1.2
comp=Z,7.5nm,1.3s
WCN **Washoe City** 87.78 324 ⇑P P 13 08 43.8 +0.7
baz=88,SNR=5.4
H19A **Powell** 87.78 334 ⇓P P 13 08 42.2 -0.7
baz=88
F22A **Rosebud** 87.82 336 ⇓P P 13 08 42.8 -0.1
baz=88
FLWY **Flagg Ranch** 87.90 333 eP P 13 08 44.0 +0.5
comp=Z,7.1nm,0.8s
FLWY epP pP 13 09 15.7 +0.8
E24A **Baker** 87.90 338 ⇓P P 13 08 43.6 +0.3
baz=88,SNR=5.6
J15A **Blackfoot** 87.98 331 ⇓P P 13 08 43.8 0.0
baz=88,SNR=6.4
G20A **Bridger** 87.99 335 ⇑P P 13 08 43.5 -0.4
baz=88
I16A **Newdale** 88.02 332 ⇑P P 13 08 44.0 -0.1
baz=88
H18A **Shoshone NF, C** 88.03 333 ⇑P P 13 08 43.7 -0.5
baz=88,SNR=16
F21A **Absaloka Mine,** 88.15 336 ⇑P P 13 08 44.4 -0.1
baz=88
E23A **Ismay** 88.16 337 ⇑P P 13 08 44.4 0.0
baz=88
RLMT **Red Lodge** 88.27 334 eP P 13 08 45.4 +0.1
comp=Z,31nm,1.9s
RLMT **Red Lodge** 88.27 334 ⇑P P 13 08 45.3 +0.1
baz=89
RLMT ⇑P P 13 08 45.3 +0.1
baz=89
E22A **Miles City** 88.31 337 ⇑P P 13 08 45.6 +0.4
baz=89
D24A **Glendive** 88.40 338 ⇑P P 13 08 45.8 +0.2
baz=89,SNR=8.5
YMR **Madison River** 88.50 333 eP P 13 08 46.8 +0.4
comp=Z,10nm,0.8s
YMR epP pP 13 09 19.1 +1.4
G18A **Lazy EL Ranch,** 88.55 334 ⇑P P 13 08 46.2 -0.3
baz=89
H16A **Russell Place,** 88.63 333 ⇑P P 13 08 47.6 +0.6
baz=89
J13A **Cove Ranch, Pi** 88.67 330 ⇓P P 13 08 47.8 +0.7
baz=89,SNR=20
D23A **Lindsay** 88.73 337 ⇑P P 13 08 47.0 -0.2
baz=89,SNR=11
E21A **Keefer Ranch,** 88.76 336 ⇓P P 13 08 47.5 +0.2
baz=89
F19A **Roth Farm, Mol** 88.79 334 ⇑P P 13 08 47.3 -0.3
baz=89,SNR=5.0
C24A **Savage** 88.81 338 ⇓P P 13 08 47.6 +0.1
baz=89,SNR=6.7
I14A **Mackay** 88.82 331 ⇓P P 13 08 48.7 +0.8
baz=89,SNR=9.3
HLID **Hailey** 88.90 330 eP P 13 08 49.1 +0.9
comp=Z,6.3nm,1.0s
HLID epP pP 13 09 20.7 +1.0
HLID **Hailey** 88.90 330 ⇓P P 13 08 48.8 +0.6
baz=89,SNR=9.1
G17A **Pierce Place,** 88.97 333 ⇑P P 13 08 48.6 +0.1
baz=89
D22A **Cohagen** 89.01 337 ⇑P P 13 08 48.7 +0.2
baz=89
I13A **Wildhorse Cree** 89.08 330 ⇓P P 13 08 49.6 +0.5
baz=89,SNR=11
E20A **Meyer Farm, Mu** 89.08 335 ⇓P P 13 08 48.6 -0.3
baz=89,SNR=6.4
ULM **Lac du Bonnet** 89.08 344 P P 13 08 48.1 -0.6
comp=Z,8.8nm,0.9s,baz=144,slow=1.9,SNR=9.8
ULM pP pP 13 09 20.8 +0.7
comp=Z,14nm,0.8s,baz=176,slow=3.5,SNR=10
ULM **Lac du Bonnet** 89.08 344 eP P 13 08 48.0 -0.7
comp=Z,16nm,0.9s
ULM epP pP 13 09 20.4 +0.3
ULM pP pP 13 09 20.8 +0.7
H15A **Lima** 89.09 332 ⇑P P 13 08 49.6 +0.5
baz=89,SNR=6.2
F18A **Big Timber** 89.11 334 ⇓P P 13 08 48.7 -0.3
baz=89,SNR=6.4
E19A **Rath Farm, Rou** 89.27 335 ⇓P P 13 08 49.4 -0.3
baz=90,SNR=8.2
C23A **Lambert** 89.28 338 ⇑P P 13 08 49.6 -0.1
baz=90
G16A **Moss Hill, Enn** 89.29 332 ⇑P P 13 08 49.9 -0.1
baz=90
MCMT **McKenzie Canyo** 89.34 332 eP P 13 08 50.7 +0.4
comp=Z,2.7nm,0.8s
MFID **Camas Ranch** 89.36 329 eP P 13 08 50.5 +0.2
comp=Z,26nm,1.9s
MFID **Camas Ranch** 89.36 329 ⇑P P 13 08 50.5 +0.2
baz=90
H14A **Leadore** 89.37 331 ⇑P P 13 08 50.9 +0.5
baz=90
F17A **Fitzpatrick Pl** 89.44 333 ⇓P P 13 08 51.1 +0.5
baz=90
C22A **Vida** 89.45 337 ⇑P P 13 08 50.5 0.0
baz=90
G15A **Dillon** 89.49 332 ⇓P P 13 08 51.1 +0.2
baz=90,SNR=5.1
BOZ **Bozeman (W)** 89.58 333 ⇓P P 13 08 51.0 -0.3
baz=90
BOZ ⇓P P 13 08 51.0 -0.3
baz=90
DGMT **Dagmar** 89.58 339 eP P 13 08 51.0 -0.1
comp=Z,36nm,1.2s
DGMT epP pP 13 09 21.8 -0.8
DGMT **Dagmar** 89.58 339 ⇑P P 13 08 51.0 -0.1
baz=90,SNR=6.5
D20A **Manuel Ranch,** 89.60 336 ⇑P P 13 08 50.9 -0.3
baz=90,SNR=10
H13A **Challis** 89.67 331 ⇓P P 13 08 52.3 +0.5
baz=90,SNR=14
F16A **Kennard Place,** 89.69 333 ⇓P P 13 08 51.8 0.0
baz=90
DLMT **Dillon** 89.70 332 eP P 13 08 52.6 +0.7
comp=Z,7.6nm,1.3s
B23A **Brockton** 89.81 338 ⇓P P 13 08 52.8 +0.7
baz=90
D19A **Cripps Ranch,** 89.91 335 ⇑P P 13 08 52.6 -0.1
baz=90
G14A **Jackson** 89.93 331 ⇑P P 13 08 53.1 +0.1
baz=90
B22A **Reddig Ranch S** 89.97 337 ⇓P P 13 08 52.9 -0.1
baz=90,SNR=11
E17A **Martinsdale** 89.99 334 ⇓P P 13 08 52.9 -0.3
baz=90
F15A **Butte** 90.06 332 ⇑P P 13 08 53.8 +0.2
baz=90
MOD **Modoc** 90.09 325 eP P 13 08 54.3 +0.5
comp=Z,10.0nm,0.8s
MOD epP pP 13 09 26.6 +1.4
G13A **Cobalt** 90.10 331 ⇓P P 13 08 54.3 +0.5
baz=90,SNR=11
WDC **Whiskeytown Da** 90.11 323 eP P 13 08 53.4 -0.3
comp=Z,4.4nm,0.9s
D18A **Linhart Farms,** 90.25 335 ⇑P P 13 08 54.5 +0.1
baz=91
E16A **East Helena** 90.35 333 ⇓P P 13 08 55.1 +0.2
baz=91
F14A **Wisdom** 90.37 332 ⇑P P 13 08 55.5 +0.5
baz=91,SNR=5.9
B21A **Ellsworth Farm** 90.41 337 ⇓P P 13 08 54.6 -0.3
baz=91
C19A **Slack Wire Ran** 90.46 335 ⇑P P 13 08 54.9 -0.4
baz=91
D17A **Six Diamond Ra** 90.52 334 ⇓P P 13 08 55.5 -0.2
baz=91,SNR=8.2
A22A **Carney Farms,** 90.56 338 ⇓P P 13 08 55.6 -0.1
baz=91,SNR=5.5
E15A **Deer Lodge** 90.61 333 ⇓P P 13 08 56.0 -0.1
baz=91
F13A **Darby** 90.72 331 ⇓P P 13 08 56.5 -0.1
baz=91,SNR=9.5
D16A **Dana Ranch, Ca** 90.73 334 ⇓P P 13 08 56.7 +0.1
baz=91,SNR=5.9
B20A **Solberg Farm,** 90.74 336 ⇑P P 13 08 55.9 -0.6
baz=91,SNR=5.4
A21A **Bergtoll Ranch** 90.87 337 ⇑P P 13 08 56.4 -0.7
baz=91
E14A **Clinton** 90.92 332 ⇑P P 13 08 57.7 +0.1
baz=91
EGMT **Eagleton** 90.95 335 ⇑P P 13 08 57.0 -0.5
baz=91
C17A **Wharram Farm,** 90.96 334 ⇑P P 13 08 57.0 -0.6
baz=91,SNR=7.6
YBH **Yreka Blue Hor** 91.08 324 P P 13 08 58.1 -0.2
comp=Z,3.6nm,0.7s,baz=84,slow=2.4,SNR=22
YBH **Yreka Blue Hor** 91.08 324 P P 13 08 58.1 -0.2
D15A **Lincoln** 91.09 333 ⇑P P 13 08 58.5 +0.2
baz=91,SNR=5.2
A20A **Cobblestone Ra** 91.09 337 ⇑P P 13 08 57.5 -0.6
baz=91,SNR=5.9
BMO **Blue Mountains** 91.14 329 eP P 13 08 58.8 +0.3
comp=Z,3.5nm,0.9s
E13A **Victor** 91.21 332 ⇓P P 13 08 59.2 +0.4
baz=92,SNR=7.9
B18A **Beardsley Farm** 91.28 335 ⇓P P 13 08 58.6 -0.4
baz=92,SNR=8.4
A19A **Klindworth Far** 91.40 336 ⇓P P 13 08 58.9 -0.7
baz=92,SNR=5.1
C16A **Fuhringer Ranc** 91.45 334 ⇓P P 13 08 59.6 -0.4
baz=92,SNR=11
D14A **Greenough** 91.49 332 ⇑P P 13 09 00.2 0.0
baz=92
B17A **L&G Farms, Che** 91.54 335 ⇓P P 13 08 60.0 -0.3
baz=92
C15A **Salmond Ranch,** 91.74 333 ⇑P P 13 09 01.3 0.0
baz=92,SNR=5.7
A18A **Metzger Ranch,** 91.75 335 ⇓P P 13 09 00.4 -0.8
baz=92,SNR=6.7
D13A **Huson** 91.86 332 ⇓P P 13 09 02.0 +0.2
baz=92
HUMO **Hull Mountain** 91.87 324 eP P 13 09 02.2 +0.3
comp=Z,23nm,2.3s
B16A **M & M Farms, S** 91.96 334 ⇑P P 13 09 01.7 -0.5
baz=92
SWMT **Swartz Lake** 92.03 332 eP P 13 09 02.7 +0.1
A17A **Triple J Farms** 92.06 335 ⇑P P 13 09 02.1 -0.6
baz=92,SNR=9.9
B15A **Bradely Ranch,** 92.18 334 ⇓P P 13 09 02.4 -0.8
baz=92
C13A **Hot Springs** 92.39 332 ⇓P P 13 09 04.0 -0.2
baz=93
B14A **Marquette Ranc** 92.47 333 ⇑P P 13 09 04.5 -0.1
baz=93
A14A **Double T Ranch** 93.04 334 ⇑P P 13 09 06.8 -0.5
baz=93
C11A **Tepee Creek (N** 93.16 331 ⇑P P 13 09 07.1 -0.6
baz=94
WALA **Waterton Lakes** 93.29 333 eP P 13 09 08.1 -0.3
comp=Z,0.2nm,1.1s
HAWA **Hanford** 93.31 329 eP P 13 09 09.0 +0.6
comp=Z,25nm,1.6s
HAWA epP pP 13 09 35.4 -4.6
B12A **Libby** 93.42 332 ⇓P P 13 09 09.1 +0.2
baz=94
OD2 **Odessa Site #2** 93.77 330 eP P 13 09 10.8 +0.3
OD2 esP sP 13 09 52.6 -2.3
A12A **Yaak River Ran** 93.83 332 ⇑P P 13 09 10.7 -0.1
baz=94
NEW **Newport** 93.84 331 eP P 13 09 10.0 -0.8
comp=Z,3.1nm,0.7s
NEW **Newport** 93.84 331 ⇓P P 13 09 10.3 -0.5
baz=94
LON **Longmire** 94.56 328 eP P 13 09 13.9 -0.4
comp=Z,4.4nm,0.8s
YKA **Yellowknife Ar** 104.65 341 pPdiff pPdif 13 10 32.2 +1.7
comp=Z,0.4nm,0.8s,baz=119,slow=4.3,SNR=2.5
DLBC **Dease Lake** 106.57 332 ePKPdf **PKiKP** 13 14 17.5 -0.1
DAVOX **Davos/Dischmat** 109.93 46 PKKPab PKKPab 13 25 39.3 +2.8
comp=Z,3.6nm,0.6s,baz=85,slow=8.9,SNR=5.2
DAVOX **Davos/Dischmat** 109.93 46 PKKPab PKKPab 13 25 39.3 +2.8
TARA **Tarawa** 111.68 255 ePdif **Pdif** 13 10 29.9 -1.5
GERES **GERESS Array B** 113.20 46 PKiKP **PKiKP** 13 14 28.4 -2.0
comp=Z,0.7nm,0.7s,baz=276,slow=2.9,SNR=3.3
GERES PKKPab **PKKPab** 13 25 24.5 +2.5
comp=Z,1.9nm,1.1s,baz=51,slow=4.3,SNR=7.3
GERES **GERESS Array B** 113.20 46 PKiKP **PKiKP** 13 14 28.4 -2.0
GERES PKKPab **PKKPab** 13 25 24.5 +2.5
ASAR **Alice Springs** 115.79 205 PKP **PKPdf** 13 14 34.6 -1.7
comp=Z,2.3nm,0.7s,baz=137,slow=1.8,SNR=33
ASAR PKKPbc **PKKPbc** 13 25 05.9 -1.6
comp=Z,0.5nm,1.0s,baz=340,slow=3.3,SNR=4.0
ASAR **Alice Springs** 115.79 205 PKP **PKPdf** 13 14 34.6 -1.7
ASAR PKKPbc **PKKPbc** 13 25 05.8 -1.6
PMR **Palmer** 116.14 329 ePKPdf **PKPdf** 13 14 35.4 -0.2
ILAR **Eielson Array** 116.77 332 PKP **PKPdf** 13 14 35.2 -1.5
comp=Z,1.0nm,0.9s,baz=183,slow=1.2,SNR=8.8
ILAR **Eielson Array** 116.77 332 PKP **PKPdf** 13 14 35.2 -1.5
NOA **NORSAR Array B** 117.57 33 PKKPbc PKKPbc 13 25 03.4 +1.4
comp=Z,2.8nm,0.7s,baz=66,slow=4.5,SNR=7.4
NOA **NORSAR Array B** 117.57 33 PKKPbc PKKPbc 13 25 03.4 +1.4
HFS **Hagfors** 118.29 34 PKKPbc PKKPbc 13 25 00.3 +0.9
comp=Z,3.9nm,0.5s,baz=64,slow=3.4,SNR=17
HFS **Hagfors** 118.29 34 PKKPbc PKKPbc 13 25 00.3 +0.9
WB2 **Warramunga Arr** 119.05 207 ePKPdf **PKPdf** 13 14 41.2 -1.4
WRA **Warramunga Arr** 119.06 207 PKP **PKPdf** 13 14 41.2 -1.4
comp=Z,4.9nm,0.5s,baz=165,slow=1.5,SNR=130
WRA pPKP **pPKPdf** 13 15 16.8 +1.3
comp=Z,0.9nm,0.6s,baz=160,slow=1.5,SNR=2.3
WRA **Warramunga Arr** 119.06 207 PKP **PKPdf** 13 14 41.2 -1.4
WRA pPKP **pPKPdf** 13 15 16.8 +1.3
PMG **Port Moresby** 122.03 226 PKP **PKPdf** 13 14 48.0 -0.4
comp=Z,4.0nm,0.8s,baz=318,slow=11,SNR=3.6
PMG **Port Moresby** 122.03 226 PKP **PKPdf** 13 14 48.0 -0.4
AKASG **Malin Array Be** 123.13 48 PKP **PKPdf** 13 14 48.0 -1.4
comp=Z,1.7nm,0.5s,baz=259,slow=3.2,SNR=6.9
AKASG PKKPbc **PKKPab** 13 24 38.9 +0.2
comp=Z,0.2nm,0.3s,baz=342,slow=11,SNR=4.0
AKASG **Malin Array Be** 123.13 48 PKP **PKPdf** 13 14 48.0 -1.4
AKASG PKKPbc **PKKPab** 13 24 38.9 +0.2
FITZ **Fitzroy Crossi** 123.55 199 PKP **PKPdf** 13 14 50.3 -1.0
comp=Z,6.4nm,0.7s,baz=211,slow=6.9,SNR=17
FITZ **Fitzroy Crossi** 123.55 199 PKP **PKPdf** 13 14 50.3 -1.0
FINES **FINESS Array B** 124.45 35 PKP **PKPdf** 13 14 50.3 -1.2
comp=Z,1.8nm,0.7s,baz=134,slow=5.5,SNR=2.0
FINES **FINESS Array B** 124.45 35 PKP **PKPdf** 13 14 50.3 -1.2
ARCES **ARCESS Array B** 125.82 26 PKKPbc PKKPbc 13 24 29.9 -1.0
comp=Z,1.8nm,0.8s,baz=75,slow=5.1,SNR=3.8
AKTO **Aktyubinsk** 141.14 52 PKhKP PKPpre 13 15 16.1
comp=Z,1.1nm,0.6s,baz=299,slow=6.3,SNR=4.0
AKTO **Aktyubinsk** 141.14 52 PKPpre PKPpre 13 15 16.1
ABKAR **Akbulak array** 142.41 54 PKPpre PKPpre 13 15 19.6
PETK **Petropavlovsk-** 142.49 312 PKhKP PKPpre 13 15 21.3
comp=Z,5.1nm,0.7s,baz=98,slow=7.3,SNR=15
PETK **Petropavlovsk-** 142.49 312 PKPpre PKPpre 13 15 21.3
GSI **Gunungsitoli** 143.46 160 PKP PKiKP 13 15 38.5 +6.6
MYKOM **Kota Tinggi** 145.19 171 P **PKPbc** 13 15 31.2 -0.1
KSM **Kuching** 145.20 182 ePKPbc **PKPbc** 13 15 30.6 -0.7
KGM **Kluang** 146.34 170 P **PKPdf** 13 15 31.5 -0.3
FRIM **Kepong** 146.26 167 P **PKPbc** 13 15 33.9 -0.7
TSM **Tawau** 147.01 196 P **PKPdf** 13 15 35.1 +0.6
HYB **Hyderabad** 147.04 117 *i* PKP **PKPbc** 13 15 36.0 -0.8
IPM **Ipoh** 147.35 165 ePKPbc **PKPbc** 13 15 36.7 -1.0
IPM **Ipoh** 147.35 165 P **PKPbc** 13 15 37.0 -0.7
KBL **Kabul** 147.50 81 ePKPdf **PKPdf** 13 15 34.6 -0.5
KBL ePKPbc **PKiKP** 13 15 38.8 -1.1
KBL ePKPab **PKPab** 13 15 39.4 -0.8
MYLDM **Lahad Datu** 147.72 198 P **PKPdf** 13 15 33.1 -2.6
BVAR **Borovoye Array** 148.37 46 PKP **PKPdf** 13 15 35.8 +0.2
comp=Z,1.0nm,0.4s,baz=254,slow=42,SNR=11
BVAR PKPbc **PKPbc** 13 15 39.4 +0.1
comp=Z,2.4nm,0.5s,baz=271,slow=2.0,SNR=15
BVAR pPKPbc **pPKPbc** 13 16 13.1 +1.3
comp=Z,6.3nm,0.8s,baz=282,slow=4.7,SNR=3.6
BVAR **Borovoye Array** 148.37 46 PKP **PKPdf** 13 15 35.8 +0.2
BVAR PKPbc **PKPbc** 13 15 39.4 +0.1
BVAR pPKPbc **pPKPbc** 13 16 13.1 +1.3
SDKM **Sandakan** 148.47 196 P **PKPbc** 13 15 39.6 -1.1
KKM **Kota Kinabalu** 149.06 194 ePKPdf **PKPdf** 13 15 38.6 +0.6
KKM ePKPbc **PKPbc** 13 15 41.7 -0.6
KKM ePKPab **PKPab** 13 15 46.7 0.0
KKM **Kota Kinabalu** 149.06 194 P **PKPbc** 13 15 42.2 -0.1
KDM **Kudat** 149.78 195 P **PKPdf** 13 15 40.2 +1.2
KKAR **Karatay Array** 149.81 65 ePKPdf **PKPdf** 13 15 38.5 +0.3
KKAR ePKPbc **PKPbc** 13 15 42.7 -0.4
KKAR ePKPab **PKPab** 13 15 48.2 -0.8
YAK **Yakutsk** 151.33 340 ePKPdf **PKPdf** 13 15 40.5 +0.5
YAK ePKPbc **PKPbc** 13 15 45.3 -0.7
YAK ePKPab **PKPab** 13 15 53.9 -0.7
EKS2 **Erkin-Say** 152.21 66 ePKPdf **PKPdf** 13 15 43.3 +1.2
EKS2 ePKPbc **PKiKP** 13 15 49.2 0.0
EKS2 ePKPab **PKPab** 13 15 58.9 -0.4
AAK **Ala-Archa** 152.74 66 ePKPdf **PKPdf** 13 15 43.2 +0.2
AAK ePKPbc **PKiKP** 13 15 50.6 +0.2
AAK ePKPab **PKPab** 13 16 01.4 -0.1
ASAJ **Asahikawa** 153.44 297 PKPbc **PKPbc** 13 15 51.2 -0.1
comp=Z,17nm,1.0s,baz=233,slow=13,SNR=3.0
ASAJ PKPab **PKPab** 13 16 05.0 +0.8
comp=Z,18nm,0.9s,baz=173,slow=18,SNR=3.1
ASAJ **Asahikawa** 153.44 297 PKPbc **PKPbc** 13 15 51.2 -0.1
ASAJ PKPab **PKPab** 13 16 05.0 +0.8
TKM2 **Tokmak 2** 153.54 65 ePKPdf **PKPdf** 13 15 44.0 -0.1
TKM2 ePKPbc **PKPbc** 13 15 51.8 -0.1
TKM2 ePKPab **PKPab** 13 16 04.4 -0.6
KSH **Kashi** 153.80 73 P **PKPbc** 13 15 52.3 -0.2
KSH pmax pmax
comp=Z,610nm,7.7s
KURK **Kurchatov** 153.94 47 PKP **PKPdf** 13 15 44.2 +0.1
comp=Z,0.5nm,0.3s,baz=311,slow=2.1,SNR=5.3
KURK PKPbc **PKPbc** 13 15 52.0 -0.3
comp=Z,3.0nm,0.6s,baz=300,slow=2.8,SNR=14
KURK **Kurchatov** 153.94 47 PKP **PKPdf** 13 15 44.2 +0.1
KURK PKPbc **PKPbc** 13 15 52.0 -0.3
ZALV **Zalesovo Beam** 155.71 36 PKP **PKPdf** 13 15 45.5 -1.0
comp=Z,1.6nm,0.8s,baz=302,slow=2.8,SNR=8.6
ZALV PKPbc PKPab 13 15 55.2 -18
comp=Z,2.3nm,0.6s,baz=297,slow=3.0,SNR=10
ZALV **Zalesovo Beam** 155.71 36 PKP **PKPdf** 13 15 45.5 -1.0
ZALV PKPbc PKPab 13 15 55.2 -18
KOLN **Koldanda** 156.80 105 eP **PKPab** 13 16 18.3 -1.0
comp=Z,30nm,0.6s
DANN **Dangsing** 157.19 103 eP **PKPab** 13 16 20.0 -1.1
comp=Z,33nm,0.6s
MK31 **Makanchi Array** 157.55 54 ePKPdf **PKPdf** 13 15 48.7 -0.5
MKAR **Makanchi Array** 157.55 54 PKP **PKPdf** 13 15 48.6 -0.5
comp=Z,1.6nm,0.8s,baz=310,slow=1.0,SNR=13
MKAR PKPab **PKPab** 13 16 21.1 -0.7
comp=Z,3.2nm,0.6s,baz=276,slow=3.3,SNR=35
MKAR PP **PP** 13 20 01.3 -0.5
comp=Z,1.3nm,0.8s,baz=270,slow=4.9,SNR=4.3
MKAR **Makanchi Array** 157.55 54 PKP **PKPdf** 13 15 48.6 -0.5
MKAR PKPab **PKPab** 13 16 21.1 -0.7
MKAR PP **PP** 13 20 01.3 -0.5
GKN **Gorkha** 157.72 105 eP **PKPab** 13 16 22.2 -1.0
comp=Z,41nm,0.7s
DMN **Daman** 157.89 107 eP **PKPab** 13 16 23.5 -0.6
comp=Z,52nm,0.8s
PKI **Pulchoki** 158.10 107 eP **PKPab** 13 16 24.1 -1.0
comp=Z,57nm,1.0s
KKN **Kakani** 158.11 106 eP **PKPab** 13 16 24.3 -0.7
comp=Z,54nm,0.8s
GUN **Gumba** 158.63 107 eP **PKPab** 13 16 26.1 -1.3
comp=Z,36nm,1.0s
RAMN **Ramite** 158.70 110 eP **PKPab** 13 16 26.5 -1.1
comp=Z,18nm,0.6s
JIRN **Jiri** 158.75 108 eP **PKPab** 13 16 26.8 -1.1
comp=Z,54nm,1.0s

ODAN	**Odare**	**159.25**	**111**	*e*P		**PKPab**	**13 16 28.6**	**-1.4**
	comp=Z,21nm,0.8s							
CMAR	**Chiang Mai Arr**	**159.98**	**151**	PKP		**PKPdf**	**13 15 52.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=231,slow=3.1,SNR=9.4							
CMAR				PKPab		**PKPab**	**13 16 33.5**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=222,slow=4.6,SNR=10							
CMAR	**Chiang Mai Arr**	**159.98**	**151**	PKP		**PKPdf**	**13 15 52.5**	**-0.3**
CMAR				PKPab		**PKPab**	**13 16 33.5**	**+0.7**
CHTO	**Chiang Mai**	**160.31**	**150**	*e*PKPdf		**PKPdf**	**13 15 52.7**	**-0.5**
USRK	**Ussuriysk Arra**	**160.92**	**301**	PKPab		**PKPab**	**13 16 35.3**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=108,slow=6.2,SNR=4.5							
WMQ	**Urumqi**	**162.08**	**59**	*e*PKP		**PKPdf**	**13 15 55.3**	**+0.9**
MDJ	**Mudanjiang**	**162.43**	**304**	PKP		**PKPdf**	**13 15 55.4**	**+0.8**
MDJ				pPKP		**pPKPdf**	**13 16 24.6**	**-3.1**
MDJ				sPKP			13 16 37.0	
MDJ				PP		**PP**	**13 20 28.1**	**0.0**
MDJ				SKS		**SKSdf**	**13 22 48.3**	**+0.3**
MDJ				SS		**SS**	**13 40 34.9**	**-4.9**
MDJ				AMB		AMB		
	comp=Z,550nm,11.5s							
MDJ				LR		LR		
	comp=N,91nm,30.0s							
MDJ				LR		LR		
	comp=E,130nm,32.5s							
MDJ				LR		LR		
	comp=Z,150nm,27.5s							
KSRS	**Korea Array**	**164.90**	**280**	PKPab		**PKPab**	**13 16 54.9**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=93,slow=4.7,SNR=12							
KSAR	**Wonju Array Ba**	**164.93**	**279**	PKPab		**PKPab**	**13 16 54.9**	**+0.5**
SONM	**Songino Array**	**168.43**	**9**	PKP		**PKPdf**	**13 15 59.1**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=228,slow=1.8,SNR=4.2							
SONM				pPKPab		**pPKPab**	**13 17 39.5**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=345,slow=5.1,SNR=3.3							
SONM	**Songino Array**	**168.43**	**9**	PKP		**PKPdf**	**13 15 59.0**	**-0.6**
SONM				pPKPab		**pPKPab**	**13 17 39.5**	**-1.6**
GYA	**Guiyang**	**169.84**	**168**	*e*PKP		**PKPdf**	**13 16 01.0**	**-0.2**
GYA				pPKP		**pPKPdf**	**13 16 32.8**	**-1.5**
GYA				sPKP			13 16 45.0	
GYA				PKS		**PKSdf**	**13 19 31.5**	**-2.4**
GYA				PP		**PP**	**13 21 08.8**	**+3.5**
GYA				AMB		AMB		
	comp=Z,90nm,8.0s							
GTA	**Gaotai**	**172.09**	**65**	*e*PKP		**PKPdf**	**13 16 01.8**	**-0.2**
CD2	**Chengdu**	**172.93**	**140**	PKP		**PKPdf**	**13 16 01.8**	**-0.7**
CD2				pPKP		**pPKPdf**	**13 16 33.9**	**-1.7**
CD2				sPKP			13 16 46.5	
CD2				PKPab		**PKPab**	**13 17 30.8**	**+1.0**
CD2				PKS		**PKSdf**	**13 19 32.6**	**-2.3**
CD2				PP		**PP**	**13 21 23.1**	**+1.9**
CD2				SKS		**SKSdf**	**13 22 51.3**	**-3.3**
CD2				SKKS		**SKKSac**	**13 27 56.6**	**+0.1**
CD2				SS		**SS**	**13 42 23.6**	**-0.7**
CD2				AMB		AMB		
	comp=Z,670nm,6.5s							
CD2				LR		LR		
	comp=N,830nm,5.9s							
CD2				LR		LR		
	comp=Z,480nm,6.5s							
HHC	**Hu-ho-hao-te**	**175.18**	**337**	*e*PKP		**PKPdf**	**13 16 05.4**	**+2.3**
HHC				pPKP		**pPKPdf**	**13 16 32.5**	**-3.7**
HHC				sPKP			13 16 42.9	
HHC				PKS		**PKSdf**	**13 19 35.8**	**+0.6**
HHC				PP		**PP**	**13 21 36.4**	**+4.7**
HHC				SKS		**SKSdf**	**13 22 56.9**	**+2.0**
HHC				SKKS		**SKKSac**	**13 28 12.0**	**+5.1**
HHC				SS		**SS**	**13 42 50.0**	**+4.6**
HHC				AMB		AMB		
	comp=Z,430nm,10.2s							
LZH	**Lanzhou**	**175.75**	**93**	⇓PKP		**PKPdf**	**13 16 04.1**	**+0.7**
LZH				pPKP		**pPKPdf**	**13 16 36.3**	**-0.3**
LZH				sPKP			13 16 49.0	
LZH				LR		LR		
	comp=N,110nm,18.5s							
LZH				LR		LR		
	comp=Z,140nm,20.3s							

ISCJB ***23*** *13:00:19.9±0.5,40°.21N±0°.06×28°.79E±0°.05,h11km±9km, Error ellipse: s-maj=10.1km s-min=5.0km az=153.5*
CSEM ***23*** *13:00:19.9±0.1,40°.20N×28°.83E,h10km,MD2.5,Error ellipse: s-maj=2.5km s-min=2.4km az=152.0*
DDA ***23*** *13:00:19.6,40°.18N×28°.86E,h7km,MD2.5*
ISK ***23*** *13:00:20.0,40°.26N×28°.78E,h12km,MD2.5*

ISC 23 13:00:19.8±0.9,40°.20N±0°.03×28°.83E±0°.03,h12km±10km, n22,σ0:37/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDNY	**Mudanya-Bursa**	**0.18**	**13**	*e*PG	**Pg**	**13 00 23.9**	**+0.1**
MDNY				*e*SG	**Sg**	**13 00 26.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.18**	**13**	*e*Pg	**Pg**	**13 00 23.9**	**+0.1**
MDNY				*e*Sg	**Sg**	**13 00 26.3**	**-0.2**
ARMT	**Armutlu**	**0.37**	**4**	*e*PG	**Pg**	**13 00 27.1**	**-0.1**
ARMT				*e*SG	**Sg**	**13 00 31.7**	**-0.5**
ARMT	**Armutlu**	**0.37**	**4**	*e*Pg	**Pg**	**13 00 27.1**	**-0.1**
ARMT				*e*Sg	**Sg**	**13 00 31.7**	**-0.5**
KCTX	**Karacabey (Bur**	**0.37**	**281**	*e*PG	**Pg**	**13 00 27.4**	**+0.2**
KCTX				*e*SG	**Sg**	**13 00 32.5**	**+0.3**
KCTX	**Karacabey (Bur**	**0.37**	**281**	*e*Pg	**Pg**	**13 00 27.4**	**+0.2**
KCTX				*e*Sg	**Sg**	**13 00 32.5**	**+0.3**
DURS	**Dursunbey**	**0.66**	**205**	*i* P	**Pg**	**13 00 32.1**	**-0.5**
DURS				*i* S	**Sg**	**13 00 40.9**	**-0.3**
DURS	**Dursunbey**	**0.66**	**205**	*i* P	**Pg**	**13 00 32.1**	**-0.5**
DURS				*i* S	**Sg**	**13 00 40.9**	**-0.3**
EDC	**Edincik**	**0.76**	**282**	*e*PG	**Pg**	**13 00 34.7**	**+0.3**
EDC	**Edincik**	**0.76**	**282**	*e*Pg	**Pg**	**13 00 34.7**	**+0.3**
GONE	**Gonen-Balikesi**	**0.89**	**261**	*e*PG	**Pg**	**13 00 37.1**	**+0.1**
GONE	**Gonen-Balikesi**	**0.89**	**261**	*e*Pg	**Pg**	**13 00 37.1**	**+0.1**
BALB	**Balikesir**	**0.92**	**233**	*e*PG	**Pb**	**13 00 37.9**	**+0.2**
BALB	**Balikesir**	**0.92**	**233**	*e*Pg	**Pb**	**13 00 37.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.19**	**280**	*e*PN	**Pb**	**13 00 42.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.19**	**280**	*e*Pn	**Pb**	**13 00 42.3**	**0.0**
GDZ	**Gediz**	**1.22**	**155**	*i* P	**Pb**	**13 00 43.3**	**+0.4**
GDZ				*i* S	**Sg**	**13 00 59.5**	**+0.5**
GDZ	**Gediz**	**1.22**	**155**	*i* P	**Pb**	**13 00 43.3**	**+0.4**
GDZ				*i* S	**Sg**	**13 00 59.5**	**+0.5**
BORA	**Eskisehir**	**1.29**	**104**	*i* P	**Pn**	**13 00 43.2**	**-0.5**
BORA				*i* S	**Sg**	**13 01 01.7**	**+0.4**
BORA	**Eskisehir**	**1.29**	**104**	*i* P	**Pn**	**13 00 43.2**	**-0.5**
BORA				*i* S	**Sg**	**13 01 01.7**	**+0.4**
GULT	**Gulveren**	**1.31**	**79**	*e*PN	**Pb**	**13 00 44.9**	**+0.5**
GULT	**Gulveren**	**1.31**	**79**	*e*Pn	**Pb**	**13 00 44.9**	**+0.5**

IDC 23 13:10:28.4±4.2,4°.82S×68°.97E,h0km,mb3.6/5,mb1 3.7/5, mb1mx3.5/22,mbtmp3.6/5,Error ellipse: s-maj=139.4km s-min=29.9km az=64.0,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**52.73**	**11**	P	P	13 19 44.5	-0.5
	0.3nm,0.6s,baz=184,slow=8.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.05**	**11**	P	P	13 20 36.3	-0.6
	0.5nm,0.4s,baz=198,slow=8.3,SNR=3.1						
SONM	**Songino Array**	**61.87**	**28**	P	P	13 20 50.8	+1.1
	1.0nm,1.0s,baz=224,slow=6.2,SNR=3.6						
ASAR	**Alice Springs**	**65.14**	**114**	P	P	13 21 12.1	+0.3
	0.3nm,0.8s,baz=274,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**65.23**	**110**	P	P	13 21 11.7	-0.6
	0.7nm,0.9s,baz=286,slow=5.9,SNR=4.6						
NVAR	**Mina Array Bea**	**145.90**	**10**	PKPbc	PKPdf	13 30 10.2	+0.2
	0.6nm,0.7s,baz=15,slow=6.2,SNR=4.5						

IDC 23 13:15:41.0±2.8,4°.43S×68°.39E,h0km,mb3.6/5,mb1 3.8/5, mb1mx3.5/22,mbtmp3.6/5,Error ellipse: s-maj=77.2km s-min=35.5km az=63.0,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**37.74**	**52**	P	P	13 22 58.4	-0.5
	0.2nm,0.3s,baz=237,slow=9.5,SNR=6.0						
MKAR	**Makanchi Array**	**52.47**	**12**	P	P	13 24 55.2	-0.5
	0.3nm,0.7s,baz=217,slow=7.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**59.78**	**11**	P	P	13 25 48.5	+0.8
	0.7nm,0.8s,baz=244,slow=6.4,SNR=4.7						
SONM	**Songino Array**	**61.80**	**28**	P	P	13 26 02.1	+0.2
	2.7nm,1.2s,baz=240,slow=7.9,SNR=7.3						
WRA	**Warramunga Arr**	**65.90**	**110**	P	P	13 26 29.5	+0.2
	0.4nm,0.8s,baz=283,slow=6.2,SNR=3.3						
NVAR	**Mina Array Bea**	**145.62**	**9**	PKPbc	PKPdf	13 35 20.8	-1.4
	0.7nm,0.9s,baz=19,slow=0.4,SNR=5.0						

ISCJB ***23*** *13:18:37.7±0.7,5°.1S±0°.1×68°.6E±0°.1,h10km,mb4.4/25, MS4.5/21,Error ellipse: s-maj=19.7km s-min=10.3km az=135.5*
IDC ***23*** *13:18:38.5±0.8,5°.12S×68°.46E,h0km,mb4.1/16, mb1 4.2/16,mb1mx4.1/27,mbtmp4.1/16,MS4.4/21, Ms1 4.4/21,ms1mx4.2/42,Error ellipse: s-maj=27.0km s-min=15.9km az=41.0*
NEIC ***23*** *13:18:39.8±0.5,5°.13S×68°.56E,h10km,mb5.1/10,Error ellipse: s-maj=15.0km s-min=8.6km az=46.0*

ISC 23 13:18:39.6±0.7,5°.2S±0°.2×68°.5E±0°.1,h10km,n135, σ0:85/125,mb4.5/25,MS4.4/21,25C-43D,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.47**	**120**	*e*Pn	**Pn**	**13 19 45.9**	**-1.6**
OPO	**Ambohidratompo**	**24.73**	**236**	LR	LR	13 31 37.2	
	comp=Z,2µm,18.8s,baz=23,slow=32						
CM31	**Chiang Mai Arr**	**38.08**	**51**	*e*P	**P**	**13 25 58.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**38.08**	**51**	P	**P**	**13 25 59.2**	**+0.4**
	0.5nm,0.5s,baz=245,slow=8.6,SNR=7.5						
CMAR				PcP	**PcP**	**13 28 14.9**	**+0.8**
	1.1nm,0.6s,baz=237,slow=4.3,SNR=4.1						
CMAR				LR	LR	13 38 55.9	
	comp=Z,339nm,21.5s,baz=218,slow=32						
CMAR	**Chiang Mai Arr**	**38.08**	**51**	P	**P**	**13 25 59.2**	**+0.4**
CMAR				PcP	**PcP**	**13 28 14.9**	**+0.8**
CHTO	**Chiang Mai**	**38.29**	**51**	*e*P	**P**	**13 26 00.7**	**+0.1**
	5.9nm,1.1s						
CHTO	**Chiang Mai**	**38.29**	**51**	P	P	13 26 07.6	+7.0
KBL	**Kabul**	**39.52**	**1**	*e*P	**P**	**13 26 12.2**	**+1.3**
	22nm,1.5s						
LBTB	**Lobatse**	**45.63**	**240**	LR	LR	13 43 01.9	
	comp=Z,996nm,20.4s,baz=73,slow=32						
BOSA	**Boshof**	**47.14**	**235**	LR	LR	13 44 15.5	
	comp=Z,849nm,19.1s,baz=38,slow=33						
EKS2	**Erkin-Say**	**47.86**	**5**	*e*P	**P**	**13 27 18.4**	**+0.5**
	49nm,1.8s						
AAK	**Ala-Archa**	**47.90**	**6**	*e*P	**P**	**13 27 18.1**	**-0.2**
	137nm,1.6s						
TKM2	**Tokmak 2**	**48.31**	**7**	*e*P	**P**	**13 27 21.2**	**-0.3**
	38nm,1.6s						
KAPI	**Kappang**	**51.00**	**92**	LR	LR	13 47 11.2	
	comp=Z,304nm,19.6s,baz=267,slow=34						
SUR	**Sutherland**	**52.07**	**233**	LR	LR	13 46 26.2	
	comp=Z,676nm,20.0s,baz=44,slow=32						
MK31	**Makanchi Array**	**53.17**	**12**	*e*P	**P**	**13 27 57.0**	**-0.8**
MKAR	**Makanchi Array**	**53.17**	**12**	P	**P**	**13 27 56.8**	**-1.0**
	0.8nm,0.7s,baz=200,slow=8.9,SNR=9.3						
MKAR				PcP	**PcP**	**13 29 06.4**	**+0.6**
	1.0nm,0.8s,baz=222,slow=1.9,SNR=3.6						
MKAR				LR	LR	13 48 26.6	
	comp=Z,177nm,19.4s,baz=174,slow=34						
MKAR	**Makanchi Array**	**53.17**	**12**	P	**P**	**13 27 56.8**	**-1.0**
MKAR				PcP	**PcP**	**13 29 06.4**	**+0.6**
ABKAR	**Akbulak array**	**54.73**	**353**	*e*P	**P**	**13 28 08.1**	**-1.0**
	8.9nm,1.3s						
AKTO	**Aktyubinsk**	**56.14**	**352**	P	**P**	**13 28 18.8**	**-0.5**
	1.8nm,0.9s,baz=175,slow=7.3,SNR=4.1						
AKTO	**Aktyubinsk**	**56.14**	**352**	P	**P**	**13 28 18.8**	**-0.5**
KURK	**Kurchatov**	**56.35**	**8**	P	**P**	**13 28 21.1**	**+0.3**
	0.6nm,0.2s,baz=201,slow=7.4,SNR=9.6						
KURK	**Kurchatov**	**56.35**	**8**	*e*P	**P**	**13 28 20.1**	**-0.7**
	20nm,1.6s						
KURK				P	**P**	**13 28 21.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**57.16**	**108**	P	**P**	**13 28 28.0**	**+0.9**
	3.1nm,1.1s,baz=272,slow=8.9,SNR=2.4						
FITZ				LR	LR	13 48 19.4	
	comp=Z,221nm,21.4s,baz=313,slow=31						
FITZ	**Fitzroy Crossi**	**57.16**	**108**	P	**P**	**13 28 28.0**	**+0.9**
BVAR	**Borovoye Array**	**58.01**	**1**	P	**P**	**13 28 32.6**	**+0.1**
	0.3nm,0.7s,baz=231,slow=36,SNR=3.8						
BVAR	**Borovoye Array**	**58.01**	**1**	P	**P**	**13 28 32.6**	**+0.1**
DAV	**Davao City (W)**	**58.21**	**78**	LR	LR	13 49 25.0	
	comp=Z,189nm,21.9s,baz=208,slow=32						
ZAA0	**Zalesovo Array**	**60.48**	**11**	*e*P	**P**	**13 28 47.6**	**-2.0**
ZALV	**Zalesovo Beam**	**60.48**	**11**	P	**P**	**13 28 48.4**	**-1.1**
	1.5nm,0.6s,baz=201,slow=6.6,SNR=9.5						
ZALV				LR	LR	13 55 09.7	
	comp=Z,222nm,19.7s,baz=74,slow=36						
ZALV	**Zalesovo Beam**	**60.48**	**11**	P	**P**	**13 28 48.4**	**-1.1**
ARU	**Arti**	**61.95**	**354**	*e*P	**P**	**13 28 58.7**	**-0.8**
	33nm,1.6s						
SONM	**Songino Array**	**62.39**	**28**	P	**P**	**13 29 03.8**	**+1.1**
	6.2nm,1.0s,baz=216,slow=7.3,SNR=9.3						
SONM				LR	LR	13 55 55.5	
	comp=Z,668nm,19.8s,baz=200,slow=36						
SONM	**Songino Array**	**62.39**	**28**	P	**P**	**13 29 03.8**	**+1.1**
MAW	**Mawson**	**62.44**	**182**	LR	LR	13 49 59.6	
	comp=Z,425nm,18.1s,baz=47,slow=30						
ULN	**Ulaanbaatar**	**62.72**	**28**	*e*P	**P**	**13 29 04.5**	**-0.5**
	45nm,2.2s						
AKASG	**Malin Array Be**	**65.12**	**334**	P	**P**	**13 29 20.2**	**-0.4**
	1.5nm,0.7s,baz=131,slow=5.5,SNR=5.0						
AKASG	**Malin Array Be**	**65.12**	**334**	P	**P**	**13 29 20.2**	**-0.4**
ASAR	**Alice Springs**	**65.39**	**114**	P	**P**	**13 29 24.0**	**+1.1**
	1.5nm,0.9s,baz=269,slow=6.0,SNR=8.4						
ASAR	**Alice Springs**	**65.39**	**114**	P	**P**	**13 29 24.0**	**+1.1**
WRA	**Warramunga Arr**	**65.51**	**109**	P	**P**	**13 29 25.0**	**+1.3**
	2.8nm,0.8s,baz=282,slow=6.2,SNR=16						
WRA				LR	LR	13 53 27.1	
	comp=Z,144nm,21.5s,baz=35,slow=32						
WRA	**Warramunga Arr**	**65.51**	**109**	P	**P**	**13 29 25.0**	**+1.3**
WRAB	**Tennant Creek**	**65.52**	**109**	*e*P	**P**	**13 29 23.6**	**-0.2**
	14nm,1.2s						
JOW	**Kunigami**	**65.91**	**58**	LR	LR	13 54 39.1	
	comp=Z,413nm,19.9s,baz=290,slow=33						
KSRS	**Korea Array**	**69.56**	**47**	LR	LR	14 01 16.9	
	comp=Z,339nm,18.3s,baz=264,slow=37						
JNU	**Nakatsue**	**70.17**	**52**	LR	LR	14 01 33.3	
	comp=Z,251nm,18.1s,baz=99,slow=37						
STKA	**Stephens Creek**	**72.89**	**122**	LR	LR	13 59 05.1	
	comp=Z,179nm,19.6s,baz=204,slow=33						
DBIC	**Dimbokro**	**74.20**	**278**	P	**P**	**13 30 16.8**	**-0.5**
	3.9nm,0.8s,baz=79,slow=7.2,SNR=6.0						
DBIC	**Dimbokro**	**74.20**	**278**	P	**P**	**13 30 16.8**	**-0.5**
USRK	**Ussuriysk Arra**	**75.07**	**42**	LR	LR	14 05 12.5	
	comp=Z,180nm,18.6s,baz=137,slow=37						
MJAR	**Matsushiro Arr**	**76.97**	**51**	LR	LR	14 05 49.7	
	comp=Z,174nm,19.1s,baz=280,slow=37						
HFS	**Hagfors**	**77.92**	**335**	P	**P**	**13 30 37.5**	**-0.1**
	6.0nm,0.8s,baz=157,slow=8.0,SNR=4.5						
HFS	**Hagfors**	**77.92**	**335**	P	**P**	**13 30 37.5**	**-0.1**
GUMO	**Guam**	**78.00**	**75**	LR	LR	14 00 30.2	
	comp=Z,142nm,20.2s,baz=262,slow=32						
NOA	**NORSAR Array B**	**79.44**	**335**	P	**P**	**13 30 47.1**	**+1.1**
	1.3nm,0.8s,baz=112,slow=6.0,SNR=3.4						
NOA	**NORSAR Array B**	**79.44**	**335**	P	**P**	**13 30 47.1**	**+1.1**
ESDC	**Sonseca Array**	**79.98**	**312**	P	**P**	**13 30 49.5**	**0.0**
	1.3nm,0.7s,baz=89,slow=4.3,SNR=3.8						
ESDC	**Sonseca Array**	**79.98**	**312**	P	**P**	**13 30 49.5**	**0.0**
ARCES	**ARCESS Array B**	**80.10**	**346**	P	**P**	**13 30 48.5**	**-0.8**
	2.9nm,0.9s,baz=122,slow=4.4,SNR=4.3						
ARCES	**ARCESS Array B**	**80.10**	**346**	P	**P**	**13 30 48.5**	**-0.8**
DZM	**Mont Dzumac**	**95.36**	**113**	LR	LR	14 11 22.0	
	comp=Z,239nm,20.7s,baz=28,slow=33						
YKA	**Yellowknife Ar**	**122.77**	**2**	PKP	**PKPdf**	**13 37 34.7**	**-0.9**
	0.4nm,0.7s,baz=352,slow=2.1,SNR=9.2						
YKA	**Yellowknife Ar**	**122.77**	**2**	PKP	**PKPdf**	**13 37 34.7**	**-0.9**
PDAR	**Pinedale Array**	**142.54**	**358**	PKP	**PKPdf**	**13 38 14.8**	**+1.3**
	0.6nm,0.8s,baz=78,slow=2.1,SNR=4.3						
PDAR	**Pinedale Array**	**142.54**	**358**	PKP	**PKPdf**	**13 38 14.8**	**+1.3**
N20A	**Spence Gulch,**	**144.39**	**356**	⇓P	PKPbc	13 38 15.0	-0.2
	baz=144						
N17A	**Moffit Pass**	**144.40**	**359**	⇑P	**PKPdf**	**13 38 15.7**	**-1.2**
	baz=144						
O23A	**Lake Granby, G**	**144.78**	**353**	⇑P	PKPbc	13 38 15.9	-0.6
	baz=145						
O22A	**Kremmling**	**144.90**	**353**	⇓P	PKPbc	13 38 16.5	-0.4
	baz=145						
O20A	**White River Ci**	**145.09**	**356**	⇓P	**PKPdf**	**13 38 17.4**	**-0.6**
	baz=145						
DUG	**Dugway**	**145.13**	**2**	⇓P	**PKPdf**	**13 38 18.1**	**0.0**
	baz=145						
O17A	**Robinson Place**	**145.14**	**359**	⇓P	**PKPdf**	**13 38 18.1**	**-0.1**
	baz=145,SNR=7.0						
P25A	**Willow Gulch B**	**145.20**	**350**	⇓P	**PKPdf**	**13 38 17.7**	**-0.6**
	baz=145						
P22A	**Eagle**	**145.48**	**354**	⇑P	**PKPab**	**13 38 18.6**	**-0.4**
	baz=145,SNR=8.0						
P23A	**Jefferson**	**145.59**	**352**	⇓P	**PKPab**	**13 38 18.6**	**-0.9**
	baz=145						
P19A	**Cripple Cowboy**	**145.64**	**357**	⇓P	**PKPab**	**13 38 18.8**	**-0.7**
	baz=145,SNR=7.7						
P16A	**Fountain Green**	**145.73**	**0**	⇑P	**PKPab**	**13 38 20.2**	**+0.4**
	baz=146						
P15A	**Leamington**	**145.76**	**1**	⇑P	**PKPab**	**13 38 20.0**	**+0.1**
	baz=146,SNR=5.5						
R27A	**Eads**	**146.12**	**348**	⇓P	**PKPab**	**13 38 20.4**	**-0.8**
	baz=146						
Q18A	**Rafter H Ranch**	**146.22**	**358**	⇑P	**PKPab**	**13 38 21.0**	**-0.6**
	baz=146,SNR=8.4						
SRU	**San Rafael**	**146.22**	**359**	⇓P	**PKPab**	**13 38 20.6**	**-1.0**
	baz=146						
Q22A	**Crested Butte,**	**146.22**	**354**	⇓P	**PKPab**	**13 38 21.1**	**-0.8**
	baz=146						
R26A	**Arlington**	**146.24**	**349**	⇓P	**PKPab**	**13 38 21.1**	**-0.6**
	baz=146,SNR=14						
Q21A	**Lamborn Mesa,**	**146.32**	**355**	⇓P	**PKPab**	**13 38 21.0**	**-1.1**
	baz=146						
Q19A	**Hogan Spring (**	**146.33**	**357**	⇓P	**PKPab**	**13 38 21.5**	**-0.4**
	baz=146,SNR=12						
NVAR	**Mina Array Bea**	**146.33**	**10**	PKPbc	**PKPab**	**13 38 22.1**	**0.0**
	1.8nm,0.8s,baz=23,slow=2.7,SNR=8.6						
NVAR	**Mina Array Bea**	**146.33**	**10**	PKPbc	**PKPab**	**13 38 22.1**	**0.0**
Q16A	**Castle Valley**	**146.42**	**360**	⇑P	**PKPab**	**13 38 22.0**	**-0.5**
	baz=146,SNR=8.2						
R25A	**Fountain Ranch**	**146.55**	**350**	⇓P	**PKPbc**	**13 38 21.6**	**-0.4**
	baz=146						
R23A	**Moffat**	**146.75**	**352**	⇓P	**PKPab**	**13 38 23.1**	**-0.8**
	baz=147,SNR=9.3						
R21A	**Cimarron**	**146.78**	**354**	⇑P	**PKPab**	**13 38 22.6**	**-1.3**
	baz=147						
R22A	**Saguache, Gunn**	**146.83**	**353**	⇓P	**PKPab**	**13 38 23.2**	**-1.0**
	baz=147						
S26A	**Kim**	**146.90**	**348**	⇓P	**PKPab**	**13 38 23.0**	**-1.2**
	baz=147,SNR=8.5						
R18A	**Canyonlands Na**	**146.92**	**358**	⇑P	**PKPab**	**13 38 24.1**	**-0.3**
	baz=147						
R19A	**Curley Farm, L**	**146.99**	**357**	⇓P	**PKPab**	**13 38 23.7**	**-1.0**
	baz=147						
R20A	**Redvale**	**147.03**	**356**	⇓P	**PKPab**	**13 38 23.7**	**-1.2**
	baz=147						
S25A	**Robets Cordova**	**147.05**	**350**	⇑P	**PKPbc**	**13 38 23.2**	**-0.3**
	baz=147						
R16A	**Teasdale**	**147.06**	**0**	⇓P	**PKPab**	**13 38 24.1**	**-0.9**
	baz=147						
SDCO	**Great Sand Dun**	**147.14**	**351**	⇓P	**PKPbc**	**13 38 23.5**	**-0.4**
	baz=147						
SDCO				⇓P	**PKPbc**	**13 38 23.5**	**-0.4**
	baz=147						
S22A	**4UR Ranch, Cre**	**147.32**	**353**	⇓P	**PKPab**	**13 38 24.5**	**-1.6**
	baz=147						
T26A	**Comanche Natio**	**147.36**	**348**	⇓P	**PKPbc**	**13 38 24.0**	**-0.4**
	baz=147						
S20A	**Disappointment**	**147.39**	**355**	⇓P	**PKPab**	**13 38 25.0**	**-1.3**
	baz=147,SNR=8.1						
S21A	**Coal Bank Pass**	**147.50**	**355**	⇑P	**PKPab**	**13 38 25.2**	**-1.7**
	baz=147,SNR=7.3						
T25A	**Trinidad**	**147.55**	**349**	⇓P	**PKPbc**	**13 38 24.9**	**-0.1**
	baz=147,SNR=5.9						
S16A	**Weppner Ranch,**	**147.62**	**0**	⇓P	**PKPab**	**13 38 25.6**	**-1.5**
	baz=147						
S17A	**Black Ridge (B**	**147.70**	**359**	⇑P	**PKPab**	**13 38 25.6**	**-1.8**
	baz=148						
T24A	**Torres, Weston**	**147.73**	**350**	⇑P	**PKPbc**	**13 38 26.2**	**-1.5**
	baz=148,SNR=8.3						
GRAC	**Grapevine Rang**	**147.88**	**9**	⇓P	**PKPab**	**13 38 28.7**	**+0.7**
	baz=148						
U26A	**Atchley Ranch,**	**148.14**	**348**	⇓P	**PKPbc**	**13 38 26.1**	**-0.4**
	baz=148						
T18A	**Mexican Hat**	**148.17**	**358**	⇑P	**PKPbc**	**13 38 26.9**	**+0.4**
	baz=148						
U25A	**Circle Dot Ran**	**148.27**	**349**	⇑P	**PKPbc**	**13 38 27.2**	**+0.4**
	baz=148,SNR=10						
T19A	**Beclabito**	**148.43

LSA **Lhasa** 40.83 31 *e*P P 13 44 06.3 -3.0
3.2nm,0.5s
BOSA **Boshof** 47.20 235 LR LR 14 01 30.1
comp=Z,285nm,20.6s,baz=7.2,slow=32
EKS2 **Erkin-Say** 47.76 5 *e*P P 13 45 03.9 -0.4
30nm,1.6s
AAK **Ala-Archa** 47.80 6 *e*P P 13 45 05.3 +0.7
106nm,1.6s
KAPI **Kappang** 50.99 92 LR LR 14 06 18.8
comp=Z,142nm,18.1s,baz=107,slow=35
MK31 **Makanchi Array** 53.07 12 *e*P P 13 45 44.3 +0.1
MKAR **Makanchi Array** 53.07 12 P P 13 45 44.4 +0.1
0.4nm,0.5s,baz=195,slow=8.5,SNR=6.3
MKAR PcP PcP 13 46 53.4 +0.8
0.3nm,0.7s,baz=224,slow=4.0,SNR=2.2
MKAR LR LR 14 08 25.1
comp=Z,85nm,20.5s,baz=171,slow=36
MKAR **Makanchi Array** 53.07 12 P P 13 45 44.4 +0.1
MKAR PcP PcP 13 46 53.4 +0.8
ABKAR **Akbulak array** 54.64 353 *e*P P 13 45 55.2 -0.4
16nm,1.4s
KURK **Kurchatov** 56.26 8 *e*P P 13 46 07.3 +0.1
14nm,1.4s
FITZ **Fitzroy Crossi** 57.18 108 LR LR 14 05 16.0
comp=Z,148nm,18.8s,baz=344,slow=30
ZALV **Zalesovo Beam** 60.39 11 P P 13 46 36.1 +0.1
0.9nm,0.6s,baz=209,slow=7.7,SNR=8.5
ZALV **Zalesovo Beam** 60.39 11 P P 13 46 36.1 +0.1
SONM **Songino Array** 62.30 28 P P 13 46 50.7 +1.4
4.6nm,1.2s,baz=215,slow=4.7,SNR=11
SONM LR LR 14 13 42.9
comp=Z,333nm,20.5s,baz=184,slow=36
SONM **Songino Array** 62.30 28 P P 13 46 50.7 +1.4
MAW **Mawson** 62.53 182 LR LR 14 06 51.4
comp=Z,349nm,19.5s,baz=158,slow=29
AKASG **Malin Array Be** 65.04 334 P P 13 47 06.1 -1.1
0.3nm,0.3s,baz=132,slow=5.4,SNR=3.6
AKASG **Malin Array Be** 65.04 334 P P 13 47 06.1 -1.1
ASAR **Alice Springs** 65.42 114 P P 13 47 11.2 +0.9
0.6nm,0.9s,baz=290,slow=6.3,SNR=5.7
ASAR **Alice Springs** 65.42 114 P P 13 47 11.2 +0.9
WRA **Warramunga Arr** 65.53 109 P P 13 47 12.3 +1.3
1.7nm,0.8s,baz=283,slow=6.3,SNR=12
WRA **Warramunga Arr** 65.53 109 P P 13 47 12.3 +1.3
TORD **Torodi Ar. Bea** 68.81 286 P P 13 47 32.1 +0.2
0.7nm,1.0s,baz=57,slow=5.5,SNR=5.6
TORD **Torodi Ar. Bea** 68.81 286 P P 13 47 32.1 +0.2
KSRS **Korea Array** 69.48 47 LR LR 14 17 16.4
comp=Z,182nm,18.4s,baz=297,slow=35
DBIC **Dimbokro** 74.19 278 P P 13 48 04.2 -0.2
3.8nm,0.8s,baz=58,slow=8.2,SNR=4.3
DBIC **Dimbokro** 74.19 278 P P 13 48 04.2 -0.2
GUMO **Guam** 77.96 75 LR LR 14 18 30.4
comp=Z,78nm,19.5s,baz=270,slow=32
ARCES **ARCESS Array B** 80.01 346 P P 13 48 35.9 -0.1
2.7nm,0.8s,baz=123,slow=4.5,SNR=6.0
ARCES **ARCESS Array B** 80.01 346 P P 13 48 35.9 -0.1
YKA **Yellowknife Ar** 122.67 2 PKP PKPdf 13 55 21.9 -0.6
0.2nm,0.7s,baz=356,slow=2.7,SNR=5.2
YKA **Yellowknife Ar** 122.67 2 PKP PKPdf 13 55 21.9 -0.6
PDAR **Pinedale Array** 142.44 358 PKP PKPdf 13 56 01.1 +0.6
0.3nm,0.7s,baz=90,slow=3.0,SNR=3.7
PDAR **Pinedale Array** 142.44 358 PKP PKPdf 13 56 01.1 +0.6
O22A **Kremmling** 144.80 353 ⇑P PKPbc 13 56 03.2 -0.5
baz=145
P26A **Davis Ranch, A** 144.91 349 ⇓P PKPdf 13 56 04.6 -0.2
baz=145
O20A **White River Ci** 144.99 356 ⇓P PKPdf 13 56 05.0 0.0
baz=145
DUG **Dugway** 145.03 2 ⇑P PKPdf 13 56 05.3 +0.2
baz=145
O17A **Robinson Place** 145.04 359 ⇑P PKPdf 13 56 05.4 +0.2
baz=145
P22A **Eagle** 145.39 354 ⇓P PKPab 13 56 06.1 +0.3
baz=145
P23A **Jefferson** 145.49 352 ⇓P PKPab 13 56 06.1 -0.1
baz=145
P21A **Newcastle** 145.53 355 ⇑P PKPab 13 56 06.1 -0.2
baz=145,SNR=7.6
P19A **Cripple Cowboy** 145.54 357 ⇓P PKPab 13 56 06.2 -0.1
baz=145
P18A **Preston Nutter** 145.60 358 ⇓P PKPab 13 56 06.8 +0.2
baz=146
P15A **Leamington** 145.66 1 ⇑P PKPab 13 56 06.2 -0.5
baz=146
Q24A **Divide** 145.80 351 ⇑P PKPab 13 56 07.1 -0.2
baz=146,SNR=5.8
R27A **Eads** 146.03 348 ⇑P PKPab 13 56 07.9 -0.1
baz=146,SNR=6.7
Q18A **Rafter H Ranch** 146.12 358 ⇓P PKPab 13 56 08.1 -0.2
baz=146,SNR=6.3
SRU **San Rafael** 146.12 359 ⇓P PKPbc 13 56 07.2 -0.6
baz=146
R26A **Arlington** 146.15 349 ⇓P PKPab 13 56 08.3 -0.1
baz=146,SNR=11
Q21A **Lamborn Mesa,** 146.22 355 ⇑P PKPbc 13 56 07.3 -0.9
baz=146
Q19A **Hogan Spring (** 146.23 357 ⇑P PKPab 13 56 08.7 -0.1
baz=146,SNR=9.1
NVAR **Mina Array Bea** 146.23 10 PKPbc PKPab 13 56 09.2 +0.3
2.4nm,1.0s,baz=15,slow=1.4,SNR=16
NVAR **Mina Array Bea** 146.23 10 PKPbc PKPab 13 56 09.2 +0.3
Q16A **Castle Valley** 146.32 360 ⇓P PKPab 13 56 08.8 -0.5
baz=146
R25A **Fountain Ranch** 146.45 350 ⇑P PKPbc 13 56 08.3 -0.5
baz=146
R24A **Sanders Place,** 146.51 351 ⇓P PKPab 13 56 09.1 -0.9
baz=146
R23A **Moffat** 146.66 352 ⇑P PKPab 13 56 10.1 -0.5
baz=147,SNR=7.0
R11A **Troy Canyon, C** 146.68 6 ⇓P PKPab 13 56 12.1 +1.5
baz=147
R21A **Cimarron** 146.68 354 ⇑P PKPab 13 56 10.0 -0.7
baz=147
R22A **Saguache, Gunn** 146.74 353 ⇓P PKPab 13 56 10.5 -0.5
baz=147
S26A **Kim** 146.81 348 ⇑P PKPab 13 56 10.7 -0.4
baz=147,SNR=7.2
R17A **Hanksville Air** 146.82 359 ⇓P PKPab 13 56 09.9 -1.1
baz=147,SNR=5.8
R18A **Canyonlands Na** 146.83 358 ⇓P PKPab 13 56 10.9 -0.2
baz=147
S25A **Robets Cordova** 146.95 350 ⇓P PKPab 13 56 10.6 -1.1
baz=147
R16A **Teasdale** 146.96 0 ⇑P PKPab 13 56 11.3 -0.4
baz=147
R13A **O'Grain Ranch,** 146.98 4 ⇓P PKPab 13 56 12.5 +0.7
baz=147
SDCO **Great Sand Dun** 147.04 351 ⇑P PKPbc 13 56 10.9 +0.1
baz=147,SNR=5.8
SDCO ⇑P PKPbc 13 56 10.9 +0.1
baz=147,SNR=5.8
S24A **Houchin Ranch,** 147.10 351 ⇑P PKPab 13 56 11.5 -0.9
baz=147
S22A **4UR Ranch, Cre** 147.22 353 ⇑P PKPbc 13 56 10.5 -0.7
baz=147
T26A **Comanche Natio** 147.27 348 ⇓P PKPab 13 56 11.8 -1.1
baz=147
S20A **Disappointment** 147.29 355 ⇑P PKPab 13 56 12.1 -1.0
baz=147,SNR=8.6
S21A **Coal Bank Pass** 147.41 355 ⇓P PKPbc 13 56 10.6 -1.1
baz=147
T25A **Trinidad** 147.46 350 ⇑P PKPab 13 56 12.8 -0.9
baz=147
S18A **Hurst Farm, Bl** 147.52 358 ⇑P PKPab 13 56 12.6 -1.4
baz=147
S17A **Black Ridge (B** 147.60 359 ⇑P PKPab 13 56 12.6 -1.5
baz=148,SNR=5.3
T24A **Torres, Weston** 147.63 350 ⇓P PKPab 13 56 13.4 -1.1
baz=148,SNR=7.5
T22A **Edith** 147.95 353 ⇑P PKPab 13 56 14.0 -1.7
baz=148,SNR=7.1
T21A **Navajo Lake** 148.05 354 ⇑P PKPab 13 56 14.2 -1.9
baz=148
U26A **Atchley Ranch,** 148.05 348 ⇑P PKPbc 13 56 13.7 +0.3
baz=148
T18A **Mexican Hat** 148.07 358 ⇑P PKPbc 13 56 13.5 +0.1
baz=148
U25A **Circle Dot Ran** 148.17 349 ⇑P PKPbc 13 56 14.1 +0.4
baz=148,SNR=8.4
T19A **Beclabito** 148.33 356 ⇓P PKPbc 13 56 14.3 +0.2
baz=148
U21A **Nageezi** 148.62 354 ⇓P PKPbc 13 56 15.4 +0.4
baz=148
V24A **Rampart Ranch,** 148.98 350 ⇓P PKPbc 13 56 17.1 +1.2
baz=149
X20A **Quemado** 150.56 355 ⇑P PKPbc 13 56 20.8 +1.0
baz=150
X16A **Lo Mia Camp, P** 150.82 360 ⇓P PKPbc 13 56 21.3 +0.9
baz=151
Z27A **Tatum** 150.89 346 ⇑P PKPbc 13 56 20.3 -0.2
baz=151
X17A **Forest Lakes** 150.89 359 ⇓P PKPbc 13 56 22.0 +1.4
baz=151
Z26A **Caprock** 151.11 347 ⇑P PKPbc 13 56 19.6 -1.4
baz=151
Y19A **Nutrioso** 151.20 356 ⇓P PKPbc 13 56 22.2 +0.8
baz=151
Y18A **Canyon Day Jun** 151.43 358 ⇑P PKPbc 13 56 21.9 +0.2
baz=151
Z22A **Elephant Butte** 151.67 352 ⇓P PKPbc 13 56 22.5 +0.2
baz=152
MNTX **Cornudas Mount** 152.92 349 ⇓P PKPbc 13 56 25.6 +0.6
baz=153
MNTX ⇓P PKPbc 13 56 25.6 +0.6
baz=153
TXAR **Lajitas Array** 154.78 344 PKPbc PKPbc 13 56 30.1 +0.9
1.0nm,1.1s,baz=77,slow=5.5,SNR=2.8
TXAR PKPab PKPab 13 56 44.6 +0.6
1.4nm,1.0s,baz=42,slow=2.0,SNR=5.9
TXAR **Lajitas Array** 154.78 344 PKPbc PKPbc 13 56 30.1 +0.9
TXAR PKPab PKPab 13 56 44.6 +0.6

IDC 23 13:40:08.5±1.5, 5°02.58S×68°06.69E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.8/6, Error ellipse: s-maj=49.8km s-min=23.2km az=57.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	37.87	51	P	P	13 47 28.0	+0.5
	0.3nm,0.3s,baz=237,slow=11,SNR=5.5						
CMAR				PcP	PcP	13 49 44.0	0.0
	0.4nm,0.4s,baz=250,slow=4.7,SNR=4.1						
MKAR	**Makanchi Array**	52.98	12	P	P	13 49 26.9	0.0
	0.5nm,0.6s,baz=217,slow=8.9,SNR=3.1						
MKAR				PcP	PcP	13 50 35.7	0.0
	0.7nm,0.9s,baz=213,slow=4.5,SNR=2.4						
ZALV	**Zalesovo Beam**	60.30	11	P	P	13 50 17.2	-1.6
	1.3nm,0.8s,baz=212,slow=8.1,SNR=6.8						
SONM	**Songino Array**	62.18	28	P	P	13 50 32.0	+0.1
	3.2nm,1.0s,baz=221,slow=6.1,SNR=9.9						
ASAR	**Alice Springs**	65.32	114	P	P	13 50 53.0	0.0
	1.1nm,1.0s,baz=287,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	65.42	110	P	P	13 50 53.6	-0.2
	2.7nm,1.0s,baz=284,slow=6.3,SNR=10						
PDAR	**Pinedale Array**	142.38	358	PKP	PKPdf	13 59 43.7	-0.2
	0.4nm,0.9s,baz=116,slow=3.4,SNR=3.9						
NVAR	**Mina Array Bea**	146.14	10	PKPbc	PKPbc	13 59 51.6	+0.2
	2.8nm,1.0s,baz=346,slow=1.1,SNR=11						
TXAR	**Lajitas Array**	154.76	344	PKPbc	PKPbc	14 00 11.6	-1.0
	0.2nm,0.6s,baz=115,slow=8.4,SNR=3.6						
TXAR				PKPab	PKPab	14 00 27.6	+0.3
	1.2nm,1.1s,baz=42,slow=3.9,SNR=5.3						

*ISCJB **23** 13:40:42.6±0.7, 26°.80N±0°.07×141°.42E±0°.10, h94km, mb3.6/5, Error ellipse: s-maj=13.6km s-min=8.4km az=147.0*
*IDC **23** 13:40:43.8±1.4, 26°.75N×141°.60E, h89km±15km, mb3.4/5, mb1 3.6/6, mb1mx3.3/21, mbtmp3.4/6, Error ellipse: s-maj=47.5km s-min=18.3km az=92.0*
*JMA **23** 13:40:44.8±0.1, 26°.83N×141°.79E, h104km, M4.0*
ISC 23 13:40:44.4±0.9, 26°.94N±0°.09×141°.6E±0°.1, h94km, n16, σ1°79/20, mb3.8/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	0.59	74	P	Pn	13 41 00.7	+0.4
	933nm,0.3s,baz=168,slow=0.8,SNR=1653						
CBIJ				S	Sn	13 41 12.9	+0.8
	523nm,0.3s,baz=232,slow=22,SNR=23						
CBIJ	**Chichi jima**	0.59	74	P	Pn	13 41 00.7	+0.4
CBIJ				S	Sn	13 41 12.9	+0.8
JHHJ	**Haha-jima-NKT**	0.64	119	P	Pn	13 41 00.5	-0.2
JHHJ				S	Sn	13 41 11.9	-1.0
BSO1	**Boso 1**	7.71	356	P	Pn	13 42 35.3	+1.9
JOD2	**Odawara 2**	8.56	346	P	Pn	13 42 46.2	+0.6
JHU	**Hanno**	9.10	348	P	Pn	13 42 54.0	+1.2
JRY	**Ryogami san**	9.33	347	P	Pn	13 42 58.2	+2.2
JAG	**Ashikaga**	9.63	350	P	Pn	13 43 00.3	+0.3
JHO	**Hitachi**	9.68	355	P	Pn	13 43 00.2	-0.5
JHO				*e*S	Sn	13 44 42.8	-4.8
MJAR	**Matsushiro Arr**	9.99	344	P	Pn	13 43 07.8	+2.9
	0.2nm,0.3s,baz=287,slow=24,SNR=2.4						
WRA	**Warramunga Arr**	47.12	189	P	P	13 49 06.1	-1.2
	1.3nm,0.9s,baz=13,slow=8.8,SNR=20						
ASAR	**Alice Springs**	50.85	189	P	P	13 49 33.6	-2.0
	0.1nm,0.3s,baz=2.7,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	72.55	28	P	P	13 52 02.3	+1.3
	0.2nm,0.5s,baz=292,slow=6.3,SNR=3.1						
ARCES	**ARCESS Array B**	73.50	341	P	P	13 52 07.7	+1.2
	2.3nm,0.9s,baz=84,slow=9.3,SNR=2.9						
FINES	**FINESS Array B**	77.84	334	P	P	13 52 31.9	+0.6
	2.5nm,0.9s,baz=69,slow=6.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	124.26	311	PKP	PKPdf	13 59 32.4	-0.6
	0.2nm,0.4s,baz=21,slow=0.9,SNR=4.7						

IDC 23 13:47:51.9±2.8, 5°28S×68°19E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/22, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/25, Error ellipse: s-maj=71.3km s-min=25.0km az=53.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	24.39	235	LR	LR	14 00 43.4	
	comp=Z,193nm,18.9s,baz=3.8,slow=32						
CMAR	**Chiang Mai Arr**	38.41	51	P	P	13 55 16.0	+0.5
	0.2nm,0.3s,baz=235,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	53.34	12	P	P	13 57 12.3	-0.6
	0.4nm,0.7s,baz=180,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	60.64	11	P	P	13 58 03.9	-0.6
	0.3nm,0.4s,baz=208,slow=2.8,SNR=3.3						
SONM	**Songino Array**	62.64	28	P	P	13 58 18.9	+0.6
	0.7nm,0.9s,baz=254,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	65.81	109	P	P	13 58 40.2	+0.7
	1.2nm,1.0s,baz=288,slow=5.9,SNR=5.3						
NVAR	**Mina Array Bea**	146.48	9	PKPbc	PKPdf	14 07 34.9	+0.4
	0.3nm,0.5s,baz=323,slow=2.2,SNR=4.0						

IDC 23 13:58:07.5±12.0, 0°.94S×133°.05E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.6/17, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=179.0km s-min=78.8km az=166.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	18.54	203	P	P	14 02 25.7	-0.1
	0.2nm,0.3s,baz=41,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	18.93	176	P	Pn	14 02 31.1	+0.5
	0.3nm,0.3s,baz=354,slow=11,SNR=30						
ASAR	**Alice Springs**	22.60	178	P	P	14 03 10.4	+0.4
	6.3nm,0.9s,baz=357,slow=13,SNR=31						
STKA	**Stephens Creek**	31.81	166	P	P	14 04 33.0	-0.9
	0.7nm,0.3s,baz=337,slow=11,SNR=3.1						

*ISK **23** 14:00:19.8, 37°.42N×38°.59E, h5km, MD3.0*
*ISCJB **23** 14:00:20.5±0.7, 37°.44N±0°.04×38°.57E±0°.03, h3km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=169.3*
*DDA **23** 14:00:20.9, 37°.48N×38°.52E, h13km, MD2.8*
*CSEM **23** 14:00:20.2±0.3, 37°.41N×38°.59E, h5km, MD3.0, Error ellipse: s-maj=6.2km s-min=4.0km az=145.0*
ISC 23 14:00:20.1±0.9, 37°.43N±0°.04×38°.60E±0°.02, h9km±7km, n24, σ0°73/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	0.18	87	*e*PG	Pg	14 00 23.7	-0.1
URFA				*e*SG	Sg	14 00 27.1	+0.6
URFA	**Urfa**	0.18	87	*e*Pg	Pg	14 00 23.7	-0.1
URFA				*e*Sg	Sg	14 00 27.1	+0.6
ATAB	**Bozova**	0.25	279	*i* P	Pg	14 00 25.0	-0.1
ATAB				*i* S	Sg	14 00 28.6	+0.1
ATAB	**Bozova**	0.25	279	*i* P	Pg	14 00 25.0	-0.1
ATAB				*i* S	Sg	14 00 28.6	+0.1
MALT	**Malatya**	0.89	351	*e*PG	Pb	14 00 37.9	+0.2
MALT				*e*SG	Sb	14 00 50.0	+0.2
MALT	**Malatya**	0.89	351	*e*Pg	Pb	14 00 37.9	+0.2
MALT				*e*Sg	Sb	14 00 50.0	+0.2
AKCD	**Akcadag**	1.01	328	*i* P	Pn	14 00 40.3	-0.3
AKCD				*i* S	Sg	14 00 52.6	-0.2
AKCD	**Akcadag**	1.01	328	*i* P	Pn	14 00 40.3	-0.3
AKCD				*i* S	Sg	14 00 52.6	-0.2
SVRC	**Sivrice-ELAZID**	1.10	30	*e*PN	Pn	14 00 42.0	+0.2
SVRC	**Sivrice-ELAZID**	1.10	30	*e*Pn	Pn	14 00 42.0	+0.2
ELZG	**Elazig**	1.10	16	*i* P	Pn	14 00 41.9	0.0
ELZG				*i* S	Sb	14 00 56.8	+0.8
ELZG	**Elazig**	1.10	16	*i* P	Pn	14 00 41.9	0.0
ELZG				*i* S	Sb	14 00 56.8	+0.8
GAZ	**Gaziantep**	1.14	257	*e*PN	Pn	14 00 41.8	-0.4
GAZ				*e*SN	Sn	14 00 58.1	+0.1
GAZ	**Gaziantep**	1.14	257	*e*Pn	Pn	14 00 41.8	-0.4
GAZ				*e*Sn	Sn	14 00 58.1	+0.1
KMRS	**Kahramanmaras**	1.35	274	*e*PN	Pg	14 00 45.0	-1.1
KMRS	**Kahramanmaras**	1.35	274	*e*Pn	Pg	14 00 45.0	-1.1
KUZU	**Kuzuini**	1.39	242	*i* P	Pg	14 00 46.4	-0.2
KUZU				*i* S	Sn	14 01 06.1	+2.0
KUZU	**Kuzuini**	1.39	242	*i* P	Pg	14 00 46.4	-0.2
KUZU				*i* S	Sn	14 01 06.1	+2.0
PTK	**Pertek**	1.58	23	*e*PN	Pg	14 00 50.2	-0.3
PTK	**Pertek**	1.58	23	*e*Pn	Pg	14 00 50.2	-0.3
MARD	**Mardin**	1.74	93	*i* P	Pg	14 00 52.3	-1.1
MARD				*i* S	Sg	14 01 15.9	-0.1
ILIC	**ilic-Erzincan**	2.02	359	*e*PN	Pb	14 00 56.5	-0.4
ILIC	**ilic-Erzincan**	2.02	359	*e*Pn	Pb	14 00 56.5	-0.4
BNGB	**Bing¶ll**	2.26	46	*e*PN	Pb	14 00 59.4	-1.7

*TAP **23** 14:05:43.9, 25°.03N×122°.46E, h135km, ML3.5, C*
*ISCJB **23** 14:05:45.1±0.8, 24°.91N±0°.05×122°.47E±0°.03, h126km±5km, Error ellipse: s-maj=8.3km s-min=3.9km az=172.4*
*JMA **23** 14:05:45.7±0.3, 25°.01N×122°.53E, h124km*
ISC 23 14:05:45.7±2.2, 24°.92N±0°.09×122°.47E±0°.04, h124km±15km, n32, σ0°68/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWF	**Wu-fen Shan**	0.64	283	*e*P	Pn	14 06 04.9	-0.2
	baz=268						
TWC	**Suao**	0.65	241	*e*P	Pn	14 06 04.6	-0.4
	baz=227						
TWC				*e*S	Sn	14 06 20.2	+0.6
	baz=227						
YOJ	**Yonaguni jima**	0.67	133	*e*S		14 06 20.6	
TWE	**Neicheng**	0.76	255	P	Pn	14 06 05.8	-0.1
	baz=253						
TWE				*e*S	Sn	14 06 21.0	-0.1
	baz=253						
TWA	**Mucha**	0.81	274	*e*P	Pn	14 06 05.8	-0.5
	baz=259						
TWA				*e*S	Sn	14 06 22.1	+0.2
	baz=259						
ENA	**Nanau**	0.83	233	P	Pn	14 06 06.6	+0.1
	baz=221						
ENA				*e*S	Sn	14 06 23.3	+1.1
	baz=221						
ENTT	**Nioudou**	0.87	251	P	Pn	14 06 06.8	-0.1
	baz=248						
ENTT				*e*S	Sn	14 06 23.7	+0.8
	baz=248						
TWS1	**Kuangyinshan**	0.97	281	*e*P	Pn	14 06 07.4	-0.4
	baz=270						
TWS1				*e*S	Sn	14 06 24.6	+0.2
	baz=270						
NSK	**Sanguang**	1.04	256	*e*P	Pn	14 06 08.7	+0.2
	baz=251						
NSK				*e*S	Sn	14 06 25.2	-0.6
	baz=251						
NNS	**Nan Shan**	1.11	244	*e*P	Pn	14 06 09.4	+0.1
	baz=246						
NNS				*e*S	Sn	14 06 27.6	+0.5
	baz=246						
TWD	**Chiawan**	1.16	224	P	Pn	14 06 09.6	-0.1
	baz=216						
TWD				*e*S	Sn	14 06 27.8	+0.1
	baz=216						
IRIF	**Iriomote-Funau**	1.29	117	P	Pn	14 06 11.2	+0.2
IRIF				*e*S	Sn	14 06 30.4	+0.2
WHF	**Hehuan Shan**	1.34	235	*e*P	Pn	14 06 12.1	0.0
	baz=228						
WHF				*e*S	Sn	14 06 32.8	+0.7
	baz=228						
TWT	**Tachien**	1.35	241	*e*P	Pn	14 06 12.8	+0.8
	baz=231						
TWT				*e*S	Sn	14 06 32.8	+1.0
	baz=231						
NSTT	**Nanjuang**	1.37	258	*e*P	Pn	14 06 10.8	-1.1
	baz=246						
NSTT				*e*S	Sn	14 06 30.7	-1.0
	baz=246						
ESL	**Shilin**	1.46	221	*e*P	Pn	14 06 11.8	-1.1
	baz=217						
ESL				*e*S	Sn	14 06 31.4	-2.2
	baz=217						
HATJ	**Hateruma jima**	1.49	125	*e*S		14 06 35.0	
JKRS	**Kuro-shima**	1.56	116	*e*S		14 06 36.4	
JIJ	**Ishigaki jima**	1.62	110	P	Pn	14 06 14.6	-0.2
JIJ				*e*S	Sn	14 06 36.1	-0.8
TWQ1	**Liyutan**	1.65	250	*e*P	Pn	14 06 14.8	-0.3
	baz=246						
TWQ1				*e*S	Sn	14 06 36.6	-1.0
	baz=246						
EHY	**Hungye**	1.76	217	*e*P	Pn	14 06 16.7	+0.3
	baz=220						
EHY				*e*S	Sn	14 06 38.9	-1.0
	baz=220						
SMLT	**Sun Moon Lake**	1.77	234	*e*P	Pn	14 06 16.3	-0.4
	baz=229						
SMLT				*e*S	Sn	14 06 41.0	+0.8
	baz=229						
TYC	**Yuchr**	1.79	236	*e*P	Pn	14 06 16.9	+0.2
	baz=233						
TYC				*e*S	Sn	14 06 41.0	+0.6
	baz=233						
TWF1	**Yuli**	1.90	215	*e*P	Pn	14 06 16.9	-1.2
	baz=218						
TWF1				*e*S	Sn	14 06 41.6	-1.2
	baz=218						
JTJ	**Tarama**	2.05	97	P	Pn	14 06 20.1	+0.2
JTJ				*e*S	Sn	14 06 46.4	+0.3
ALS	**Alishan**	2.07	228	*e*P	Pn	14 06 20.5	-0.1
	baz=218						
ALS				*e*S	Sn	14 06 48.3	+1.2
	baz=218						
CHN5	**Tsauling**	2.10	231	*e*P	Pn	14 06 21.1	+0.3
	baz=229						
CHN5				*e*S	Sn	14 06 48.0	+0.5
	baz=229						
ELDTW	**Lidau**	2.18	218	*e*P	Pn	14 06 21.3	-0.5
	baz=210						
ELDTW				*e*S	Sn	14 06 49.4	+0.1
	baz=210						
CHN4	**Tsaushan**	2.32	228	*e*P	Pn	14 06 24.2	+0.8
	baz=226						
CHN4				*e*S	Sn	14 06 52.4	+0.1
	baz=226						
WTP	**Ta-pu**	2.38	226	*e*P	Pn	14 06 24.1	-0.2
	baz=233						
WTP				*e*S	Sn	14 06 53.6	-0.1
	baz=233						
CHN1	**Nanshi**	2.48	226	*e*P	Pn	14 06 25.4	-0.1
	baz=231						
CHN1				*e*S	Sn	14 06 56.1	+0.1
	baz=231						
SGST	**Jiashian**	2.52	224	*e*P	Pn	14 06 26.8	+0.9
	baz=230						
SGST				*e*S	Sn	14 06 56.5	-0.3
	baz=230						

IDC 23 14:15:06.0±2.6, 5°.83S×68°.05E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=72.5km s-min=35.4km az=62.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	38.86	51	P	P	14 22 33.6	+0.2
	0.2nm,0.3s,baz=215,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	53.90	12	P	P	14 24 30.9	-0.3
	0.2nm,0.7s,baz=201,slow=7.7,SNR=2.4						
ZALV	**Zalesovo Beam**	61.20	11	P	P	14 25 22.8	+0.4
	0.3nm,0.3s,baz=200,slow=11,SNR=3.1						
SONM	**Songino Array**	63.18	28	P	P	14 25 35.4	-0.7
	0.9nm,0.8s,baz=232,slow=4.9,SNR=5.3						
WRA	**Warramunga Arr**	65.75	109	P	P	14 25 53.3	0.0

0.4nm,0.6s,baz=279,slow=6.7,SNR=4.2
NVAR Mina Array Bea 147.04 9 PKPbc PKPbc 14 34 50.9 -0.7
0.5nm,0.8s,baz=342,slow=1.1,SNR=2.8

IDC 23 14:38:42.9±2.9, 5.09S×68.09E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, MS3.8/5, Ms1 3.8/5, ms1mx3.4/35, Error ellipse: s-maj=84.7km s-min=32.4km az=67.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**24.41**	**235**	LR	LR	14 51 13.8	
	comp=Z,272nm,20.2s,baz=357,slow=31						
CMAR	**Chiang Mai Arr**	**38.38**	**52**	P	P	14 46 04.3	-2.0
	0.4nm,0.4s,baz=197,slow=2.8,SNR=3.2						
CMAR				LR	LR	14 59 12.2	
	comp=Z,68nm,18.4s,baz=48,slow=32						
BOSA	**Boshof**	**46.82**	**235**	LR	LR	15 04 23.5	
	comp=Z,123nm,18.7s,baz=345,slow=33						
ZALV	**Zalesovo Beam**	**60.48**	**11**	P	P	14 48 54.4	0.0
	0.3nm,0.3s,baz=212,slow=5.3,SNR=3.7						
SONM	**Songino Array**	**62.52**	**28**	P	P	14 49 10.2	+1.6
	1.6nm,1.1s,baz=212,slow=5.3,SNR=6.8						
SONM				LR	LR	15 14 46.1	
	comp=Z,82nm,19.1s,baz=58,slow=35						
ASAR	**Alice Springs**	**65.84**	**114**	P	P	14 49 31.2	+0.3
	0.4nm,0.9s,baz=297,slow=4.3,SNR=6.0						
WRA	**Warramunga Arr**	**65.97**	**109**	P	P	14 49 31.8	+0.1
	0.6nm,0.7s,baz=281,slow=6.5,SNR=8.8						
KSRS	**Korea Array**	**69.82**	**47**	LR	LR	15 21 33.9	
	comp=Z,54nm,18.7s,baz=320,slow=37						
NVAR	**Mina Array Bea**	**146.31**	**9**	PKPbc	PKPdf	14 58 23.7	-1.5
	0.1nm,0.3s,baz=299,slow=0.6,SNR=1.4						

IDC 23 14:48:15.6±3.8, 0.65S×131.19E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=254.4km s-min=27.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.42**	**171**	P	P	14 52 43.9	+0.3
	0.1nm,0.3s,baz=352,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**23.03**	**174**	P	P	14 53 22.4	-0.2
	0.6nm,0.8s,baz=359,slow=10.0,SNR=6.4						
MKAR	**Makanchi Array**	**63.67**	**325**	P	P	14 58 48.8	0.0
	0.3nm,0.5s,baz=105,slow=9.1,SNR=4.7						

*NEIC **23** 14:58:20.2±0.6, 51.45N×178.70E, mb4.1/5, Error ellipse: s-maj=15.4km s-min=5.1km az=184.0*
*IDC **23** 14:58:20.5±0.9, 51.40N×178.93E, h50km±6km, mb3.6/15, mb1 3.8/18, mb1mx3.7/28, mbtmp3.7/18, Error ellipse: s-maj=19.4km s-min=9.3km az=5.0*
*ISCJB **23** 14:58:21.0±0.7, 51.46N±0.10×178.90E±0.05, h70km±5km, mb3.8/20, Error ellipse: s-maj=16.3km s-min=4.7km az=5.1*

ISC 23 14:58:20.0±0.9, 51.4N±0.1×178.80E±0.04, h46km±5km, h45km:pP-P, n70, σ0.95/79, mb4.1/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.51**	**82**	P	**Pn**	**14 58 45.3**	**+0.7**
GALAA	**Gareloi Lava P**	**1.57**	**75**	P	**Pn**	**14 58 46.5**	**+1.1**
GANE	**Gareloi Northe**	**1.58**	**75**	P	**Pn**	**14 58 46.4**	**+0.8**
GAEA	**Gareloi East**	**1.59**	**74**	P	**Pn**	**14 58 46.7**	**+1.1**
TANO	**Tanaga North**	**2.00**	**73**	P	**Pn**	**14 58 52.4**	**+1.1**
TASE	**Tanaga Southea**	**2.03**	**76**	P	**Pn**	**14 58 52.7**	**+1.0**
TAFP	**Tanaga Falls P**	**2.07**	**74**	P	**Pn**	**14 58 53.0**	**+0.7**
TAFP				S	**Sn**	**14 59 17.9**	**+0.9**
KIMD	**Kanaga Island**	**2.51**	**80**	P	**Pn**	**14 58 59.4**	**+1.1**
KIKV	**Kanaga Island**	**2.56**	**77**	P	**Pn**	**14 59 00.1**	**+1.1**
KIRH	**Kanaga Island**	**2.61**	**77**	P	**Pn**	**14 59 00.8**	**+1.1**
KIRH				S	**Sn**	**14 59 31.6**	**+1.4**
SMY	**Shemya**	**3.20**	**297**	*e*Pn	**Pn**	**14 59 09.1**	**+1.3**
SMY				*e*Sn	Sn	14 59 49.2	+4.6
GSCK	**Great Sitkin C**	**3.20**	**77**	P	**Pn**	**14 59 09.1**	**+1.3**
GSMY	**Great Sitkin M**	**3.27**	**76**	P	**Pn**	**14 59 09.8**	**+1.1**
GSTR	**Great Sitkin T**	**3.28**	**75**	*e*Pn	**Pn**	**14 59 09.2**	**+0.3**
FX1	**Attu Island--F**	**3.78**	**296**	P	**Pn**	**14 59 16.9**	**+1.2**
	14nm,0.3s,baz=211,slow=20,SNR=68						
FX1				S	Sn	15 00 03.3	+4.4
	41nm,0.3s,baz=107,slow=21,SNR=15						
FX1	**Attu Island--F**	**3.78**	**296**	P	**Pn**	**14 59 16.9**	**+1.2**
FX1				S	Sn	15 00 03.3	+4.4
ATKA	**Atka Island**	**4.43**	**77**	P	**Pn**	**14 59 25.6**	**+0.9**
ATKA				S	**Sn**	**15 00 15.3**	**+0.5**
KOKL	**Mount Kliuchef**	**4.44**	**75**	P	**Pn**	**14 59 26.7**	**+1.8**
KOFP	**Korovin Flat P**	**4.50**	**76**	P	**Pn**	**14 59 27.2**	**+1.6**
PETK	**Petropavlovsk-**	**13.04**	**286**	P	Pn	15 01 25.8	+3.4
	0.2nm,0.3s,baz=92,slow=18,SNR=8.0						
PETK				S	**Sn**	**15 03 45.3**	**-0.5**
	0.1nm,0.3s,baz=58,slow=35,SNR=2.9						
PETK	**Petropavlovsk-**	**13.04**	**286**	P	Pn	15 01 25.8	+3.4
PETK				S	**Sn**	**15 03 45.3**	**-0.5**
KDAK	**Kodiak Island**	**17.69**	**58**	P	**Pn**	**15 02 21.8**	**-0.9**
	0.8nm,0.3s,baz=342,slow=12,SNR=10						
KDAK	**Kodiak Island**	**17.69**	**58**	P	**Pn**	**15 02 21.8**	**-0.9**
BILL	**Bilibino**	**17.80**	**345**	*e*P	**P**	**15 02 26.3**	**+2.0**
	7.0nm,1.0s						
ILAR	**Eielson Array**	**22.20**	**40**	P	**P**	**15 03 12.0**	**0.0**
	0.5nm,0.5s,baz=236,slow=8.5,SNR=18						
ILAR				pP	**pP**	**15 03 25.0**	**+2.0**
	0.5nm,0.7s,baz=258,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**22.20**	**40**	P	**P**	**15 03 12.0**	**0.0**
ILAR				pP	**pP**	**15 03 25.0**	**+2.0**
EGAK	**Eagle**	**24.54**	**42**	*e*P	**P**	**15 03 33.2**	**-1.8**
	5.9nm,0.6s						
INK	**Inuvik**	**28.33**	**35**	P	**P**	**15 04 09.1**	**+0.2**
	0.5nm,0.4s,baz=101,slow=6.0,SNR=3.5						
INK	**Inuvik**	**28.33**	**35**	P	**P**	**15 04 09.1**	**+0.2**
YKA	**Yellowknife Ar**	**36.32**	**46**	P	**P**	**15 05 18.4**	**-0.4**
	1.3nm,0.6s,baz=281,slow=8.1,SNR=21						
YKA				pP	**pP**	**15 05 30.6**	**-0.5**
	1.0nm,0.7s,baz=282,slow=8.2,SNR=7.4						
YKA	**Yellowknife Ar**	**36.32**	**46**	P	**P**	**15 05 18.4**	**-0.4**
YKA				pP	**pP**	**15 05 30.6**	**-0.5**
MCMT	**McKenzie Canyo**	**44.60**	**70**	*e*P	**P**	**15 06 27.0**	**-0.8**
	0.9nm,0.5s						
NVAR	**Mina Array Bea**	**45.04**	**81**	P	P	15 06 35.1	+3.8
	2.0nm,0.6s,baz=297,slow=6.8,SNR=7.0						
NVAR				pP	pP	15 06 45.1	+1.2
	0.9nm,0.6s,baz=287,slow=8.0,SNR=2.3						
NVAR	**Mina Array Bea**	**45.04**	**81**	P	P	15 06 35.1	+3.8
NVAR				pP	pP	15 06 45.1	+1.2
SONM	**Songino Array**	**45.29**	**295**	P	**P**	**15 06 33.6**	**+0.5**
	0.8nm,0.7s,baz=57,slow=8.0,SNR=5.7						
SONM	**Songino Array**	**45.29**	**295**	P	**P**	**15 06 33.6**	**+0.5**
PDAR	**Pinedale Array**	**47.74**	**71**	P	**P**	**15 06 52.2**	**-0.2**
	1.3nm,0.5s,baz=329,slow=3.0,SNR=20						
PDAR				pP	**pP**	**15 07 03.8**	**-1.2**
	1.9nm,0.6s,baz=303,slow=3.9,SNR=10						
PDAR	**Pinedale Array**	**47.74**	**71**	P	**P**	**15 06 52.2**	**-0.2**
PDAR				pP	**pP**	**15 07 03.8**	**-1.2**
SPB4	**Spitsbergen Ar**	**50.26**	**355**	*e*P	**P**	**15 07 10.6**	**-0.3**
ZALV	**Zalesovo Beam**	**52.92**	**312**	P	**P**	**15 07 30.1**	**-1.0**
	0.3nm,0.4s,baz=38,slow=7.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.92**	**312**	P	**P**	**15 07 30.1**	**-1.0**
ARCES	**ARCESS Array B**	**57.82**	**349**	P	**P**	**15 08 04.8**	**-1.3**
	4.3nm,1.0s,baz=34,slow=8.2,SNR=4.1						
ARCES	**ARCESS Array B**	**57.82**	**349**	P	**P**	**15 08 04.8**	**-1.3**
KURK	**Kurchatov**	**57.92**	**312**	*e*P	**P**	**15 08 06.2**	**-0.9**
	2.7nm,0.5s						
MKAR	**Makanchi Array**	**58.84**	**307**	P	**P**	**15 08 12.6**	**-1.1**
	0.9nm,0.4s,baz=50,slow=6.5,SNR=6.9						
MKAR	**Makanchi Array**	**58.84**	**307**	P	**P**	**15 08 12.6**	**-1.1**
TXAR	**Lajitas Array**	**60.14**	**79**	P	**P**	**15 08 23.5**	**+0.6**
	0.7nm,0.5s,baz=307,slow=5.0,SNR=13						
TXAR				pP	**pP**	**15 08 35.9**	**0.0**
	1.4nm,0.7s,baz=304,slow=4.7,SNR=10						
TXAR	**Lajitas Array**	**60.14**	**79**	P	**P**	**15 08 23.5**	**+0.6**
TXAR				pP	**pP**	**15 08 35.9**	**0.0**
FINES	**FINESS Array B**	**65.43**	**346**	P	**P**	**15 08 56.5**	**-0.9**
	3.8nm,0.9s,baz=26,slow=14,SNR=1.3						
FINES	**FINESS Array B**	**65.43**	**346**	P	**P**	**15 08 56.5**	**-0.9**
ABKAR	**Akbulak array**	**67.01**	**321**	*e*P	**P**	**15 09 07.1**	**-0.7**
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**67.49**	**353**	P	**P**	**15 09 10.7**	**0.0**
	0.2nm,0.5s,baz=13,slow=5.5,SNR=3.0						
NOA	**NORSAR Array B**	**67.49**	**353**	P	**P**	**15 09 10.7**	**0.0**
CMAR	**Chiang Mai Arr**	**69.51**	**274**	P	**P**	**15 09 24.7**	**+0.8**
	0.3nm,0.4s,baz=24,slow=6.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**69.51**	**274**	P	**P**	**15 09 24.7**	**+0.8**
TAPN	**Taplejung**	**69.78**	**289**	*e*P	**P**	**15 09 25.2**	**-0.7**
	6.5nm,0.9s						
GUN	**Gumba**	**70.45**	**290**	*e*P	**P**	**15 09 30.1**	**+0.1**
	9.0nm,0.4s						
JIRN	**Jiri**	**70.45**	**290**	*e*P	**P**	**15 09 30.0**	**0.0**
	9.9nm,0.8s						
RAMN	**Ramite**	**70.74**	**289**	*e*P	**P**	**15 09 32.0**	**+0.4**
	7.8nm,0.5s						
KKN	**Kakani**	**70.89**	**291**	*e*P	**P**	**15 09 33.2**	**+0.7**
	6.8nm,0.6s						
GKN	**Gorkha**	**71.11**	**291**	*e*P	**P**	**15 09 34.6**	**+0.8**
	4.9nm,0.4s						
DANN	**Dangsing**	**71.36**	**292**	*e*P	**P**	**15 09 36.3**	**+0.9**
	14nm,0.9s						
AKASG	**Malin Array Be**	**75.06**	**341**	P	**P**	**15 09 56.0**	**-0.5**
	0.8nm,0.4s,baz=19,slow=5.9,SNR=3.2						
AKASG	**Malin Array Be**	**75.06**	**341**	P	**P**	**15 09 56.0**	**-0.5**
WRA	**Warramunga Arr**	**80.99**	**222**	P	**P**	**15 10 29.8**	**+0.1**
	0.2nm,0.4s,baz=30,slow=6.1,SNR=6.1						
WRA	**Warramunga Arr**	**80.99**	**222**	P	**P**	**15 10 29.8**	**+0.1**
ASAR	**Alice Springs**	**84.49**	**221**	P	**P**	**15 10 48.8**	**+1.0**
	0.3nm,0.6s,baz=27,slow=5.7,SNR=8.4						
ASAR	**Alice Springs**	**84.49**	**221**	P	**P**	**15 10 48.8**	**+1.0**
BOSA	**Boshof**	**149.83**	**309**	PKPbc	**PKPbc**	**15 18 04.7**	**-0.2**
	1.4nm,0.6s,baz=64,slow=8.8,SNR=4.1						
BOSA	**Boshof**	**149.83**	**309**	PKPbc	**PKPbc**	**15 18 04.7**	**-0.2**

IDC 23 15:17:27.7±2.5, 5.07S×68.54E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, MS3.8/6, Ms1 3.8/6, ms1mx3.5/32, Error ellipse: s-maj=73.3km s-min=27.0km az=66.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**24.80**	**235**	LR	LR	15 30 06.6	
	comp=Z,314nm,19.6s,baz=15,slow=31						
CMAR	**Chiang Mai Arr**	**38.01**	**51**	P	P	15 24 48.2	+0.3
	0.6nm,1.0s,baz=234,slow=7.7,SNR=3.9						
CMAR				LR	LR	15 37 45.7	
	comp=Z,50nm,20.5s,baz=48,slow=32						
BOSA	**Boshof**	**47.21**	**235**	LR	LR	15 42 43.7	
	comp=Z,147nm,19.9s,baz=215,slow=32						
MKAR	**Makanchi Array**	**53.05**	**12**	P	P	15 26 46.3	-0.3
	0.7nm,0.9s,baz=182,slow=3.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.36**	**11**	P	P	15 27 36.4	-2.0
	0.5nm,0.4s,baz=194,slow=6.0,SNR=4.6						
ZALV				LR	LR	15 53 39.3	
	comp=Z,69nm,18.1s,baz=56,slow=36						
SONM	**Songino Array**	**62.28**	**28**	P	P	15 27 52.5	+0.8
	0.7nm,0.8s,baz=208,slow=5.7,SNR=4.1						
SONM				LR	LR	15 54 35.4	
	comp=Z,135nm,21.6s,baz=237,slow=36						
ASAR	**Alice Springs**	**65.43**	**114**	P	P	15 28 12.7	-0.3
	0.5nm,0.7s,baz=282,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**65.55**	**110**	P	P	15 28 13.6	-0.2
	1.1nm,0.6s,baz=283,slow=6.2,SNR=20						
KSRS	**Korea Array**	**69.47**	**47**	LR	LR	16 00 05.8	
	comp=Z,77nm,18.3s,baz=122,slow=37						
NVAR	**Mina Array Bea**	**146.21**	**10**	PKPbc	PKPab	15 37 11.4	-0.1
	0.6nm,0.7s,baz=30,slow=2.6,SNR=6.4						

IDC 23 15:22:03.2±2.1, 15.37S×177.35W, h403km±32km, mb3.3/6, mb1 3.7/7, mb1mx3.3/19, mbtmp3.4/7, Error ellipse: s-maj=100.1km s-min=14.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.58**	**76**	P	P	15 23 31.0	-0.3
	14nm,0.3s,baz=121,slow=1.9,SNR=22						
CTA	**Charters Tower**	**34.94**	**257**	P	P	15 28 20.2	+0.9
	3.2nm,0.6s,baz=82,slow=12,SNR=10						
WRA	**Warramunga Arr**	**46.14**	**257**	P	P	15 29 50.8	+1.0
	0.5nm,0.5s,baz=96,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**46.50**	**252**	P	P	15 29 50.7	-1.8
	4.5nm,0.4s,baz=86,slow=8.2,SNR=120						
FITZ	**Fitzroy Crossi**	**54.49**	**259**	P	P	15 30 54.7	+3.3
	1.1nm,0.4s,baz=84,slow=6.4,SNR=5.4						
NVAR	**Mina Array Bea**	**76.90**	**44**	P	P	15 33 13.5	+0.8
	0.5nm,0.7s,baz=221,slow=9.8,SNR=6.0						
ILAR	**Eielson Array**	**83.20**	**13**	P	P	15 33 44.4	-0.7
	0.8nm,0.6s,baz=225,slow=4.7,SNR=11						
TXAR	**Lajitas Array**	**83.78**	**57**	P	P	15 33 49.8	+0.8
	0.6nm,0.6s,baz=222,slow=6.2,SNR=7.2						
ARCES	**ARCESS Array B**	**124.00**	**351**	PKP	PKPdf	15 40 12.5	-1.2
	5.6nm,1.2s,baz=29,slow=2.8,SNR=4.9						
GERES	**GERESS Array B**	**145.41**	**347**	PKPbc	PKPdf	15 40 53.4	-0.6
	0.4nm,0.5s,baz=35,slow=2.4,SNR=3.2						

MEX 23 15:24:11.9±0.3, 15.82N×94.68W, h13km±3km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.28**	**351**	*e*P	Pn	15 24 31.8	-3.8
CMIG				*i* S	Sb	15 24 47.4	-5.0
HUIG	**Huatulco**	**1.37**	**268**	*e*P	Pn	15 24 33.3	-3.5
HUIG				*i* S	Sn	15 24 49.5	-5.3
PCIG		**1.41**	**94**	*e*P	Pn	15 24 33.6	-3.7
PCIG				*i* S	Sn	15 24 50.8	-5.0
TGIG		**1.78**	**57**	*i* P	Pn	15 24 38.9	-3.5
TGIG				*i* S	Sn	15 25 00.9	-4.1
VHO	**Vista Hermosa**	**2.33**	**303**	*i* P	Pn	15 24 47.2	-3.0
VHO				*i* S	Sn	15 25 14.8	-4.1
CCIG	**Comitan**	**2.49**	**79**	*i* P	Pn	15 24 49.8	-2.6
CCIG				*i* S	Sn	15 25 18.5	-4.3
PNIG	**Pinotepa**	**3.36**	**280**	*i* P	Pn	15 25 02.2	-1.9
PNIG				*i* S	Sn	15 25 39.9	-4.0

*ISCJB **23** 15:25:00.2±0.7, 54.25S±0.1×129.20W±0.2, h10km, mb4.2/8, MS4.6/12, Error ellipse: s-maj=21.4km s-min=15.7km az=156.4*
*NEIC **23** 15:25:01.7±0.7, 54.90S×128.98W, h10km, mb4.7/4, Error ellipse: s-maj=33.5km s-min=19.5km az=172.0*
*IDC **23** 15:25:02.8±1.2, 55.02S×129.91W, h0km, mb4.0/4, mb1 4.2/4, mb1mx4.1/11, mbtmp4.0/4, MS4.6/12, Ms1 4.6/12, ms1mx4.4/21, Error ellipse: s-maj=48.0km s-min=34.5km az=111.0*

ISC 23 15:25:02.6±0.8, 54.95S±0.2×129.1W±0.2, h10km, n43, σ1.29/25, mb4.2/8, MS4.7/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.29**	**35**	LR	LR	15 41 08.2	
	comp=Z,463nm,20.9s,baz=150,slow=30						
RKT	**Rikitea**	**32.07**	**350**	*e*S	S	15 36 41.4	+0.1
	309nm,29.5s						
RKT				*e*LQ	LQ	15 38 33.0	
	746nm,33.8s						
RKT				*e*LR	LR	15 39 59.2	
	3μm,29.5s,baz=171						
USHA	**Ushuaia**	**33.93**	**115**	LR	LR	15 42 10.6	
	comp=Z,1μm,18.3s,baz=63,slow=30						
TBI	**Tubuai**	**35.00**	**326**	*e*S	S	15 37 04.8	-22
	231nm,29.5s						
TBI				*e*LR	LR	15 41 00.5	
	3μm,29.8s,baz=162						
QSPA	**South Pole Qui**	**35.25**	**180**	P	**P**	**15 31 57.9**	**+0.8**
	1.3nm,0.2s,baz=137,slow=1.5,SNR=5.3						
QSPA	**South Pole Qui**	**35.25**	**180**	P	**P**	**15 31 57.9**	**+0.8**
RPZ	**Rata Peaks**	**39.42**	**261**	LR	LR	15 45 00.7	
	comp=Z,1μm,20.7s,baz=154,slow=31						
PPT2	**Papeete2**	**40.45**	**329**	*e*S	S	15 38 30.3	-19
	435nm,26.0s						
PPT2				*e*LR	LR	15 43 42.7	
	3μm,26.8s,baz=168						
PLCA	**Paso Flores**	**40.56**	**95**	P	P	15 32 52.7	+11
	2.4nm,1.0s,baz=241,slow=7.4,SNR=3.5						
PLCA				LR	LR	15 45 32.4	
	comp=Z,947nm,18.6s,baz=229,slow=30						
PLCA	**Paso Flores**	**40.56**	**95**	P	P	15 32 38.7	-3.2
	3.3nm,1.0s						
VNA3	**Neumayer Olymp**	**47.08**	**157**	*e*	**P**	**15 33 32.9**	**-1.0**
VNA2	**Neumayer--Watz**	**47.82**	**158**	*e*	**P**	**15 33 39.2**	**-0.4**
VNA1	**Neumayer--Stat**	**47.83**	**157**	*e*	**P**	**15 33 39.3**	**-0.4**
MAW	**Mawson**	**57.46**	**185**	LR	LR	15 57 22.1	
	comp=Z,398nm,18.7s,baz=163,slow=34						
LPAZ	**La Paz**	**60.21**	**75**	P	**P**	**15 35 11.4**	**-0.1**
	2.4nm,1.0s,baz=181,slow=8.2,SNR=6.1						
LPAZ	**La Paz**	**60.21**	**75**	*e*P	**P**	**15 35 10.8**	**-0.7**
	12nm,1.3s						
STKA	**Stephens Creek**	**64.22**	**251**	LR	LR	15 58 10.9	
	comp=Z,476nm,19.7s,baz=305,slow=31						
CTA	**Charters Tower**	**70.77**	**262**	LR	LR	16 01 56.1	
	comp=Z,274nm,20.3s,baz=145,slow=32						
BDFB	**Brasilia**	**72.23**	**92**	LR	LR	16 04 34.9	
	comp=Z,616nm,21.1s,baz=17,slow=33						
ROSC	**El Rosal**	**74.74**	**58**	LR	LR	16 03 38.6	
	comp=Z,242nm,18.9s,baz=206,slow=31						
ASAR	**Alice Springs**	**74.85**	**251**	P	**P**	**15 36 42.0**	**-1.3**
	1.0nm,0.9s,baz=143,slow=6.6,SNR=5.8						
ASAR	**Alice Springs**	**74.85**	**251**	P	**P**	**15 36 42.0**	**-1.3**
WRA	**Warramunga Arr**	**77.60**	**253**	P	**P**	**15 36 57.8**	**-1.2**
	1.3nm,1.0s,baz=143,slow=5.1,SNR=6.8						
WRA	**Warramunga Arr**	**77.60**	**253**	P	**P**	**15 36 57.8**	**-1.2**
WRAB	**Tennant Creek**	**77.61**	**253**	*e*P	**P**	**15 36 56.4**	**-2.6**
	5.6nm,1.2s						
FITZ	**Fitzroy Crossi**	**83.83**	**247**	P	**P**	**15 37 34.7**	**+2.5**
	3.5nm,1.0s,baz=193,slow=2.8,SNR=5.0						
FITZ	**Fitzroy Crossi**	**83.83**	**247**	*e*P	**P**	**15 37 31.3**	**-0.9**
	7.6nm,1.0s						
TXAR	**Lajitas Array**	**86.72**	**22**	P	P	15 37 49.8	+3.5
	1.0nm,0.9s,baz=171,slow=8.7,SNR=5.6						
TXAR	**Lajitas Array**	**86.72**	**22**	P	P	15 37 49.8	+3.5
NVAR	**Mina Array Bea**	**93.44**	**8**	LR	LR	16 10 33.8	
	comp=Z,296nm,19.4s,baz=172,slow=29						
YBH	**Yreka Blue Hor**	**96.44**	**5**	LR	LR	16 12 27.0	
	comp=Z,420nm,20.1s,baz=182,slow=30						
PDAR	**Pinedale Array**	**98.73**	**14**	LR	LR	16 14 18.3	
	comp=Z,311nm,21.7s,baz=209,slow=30						
ILAR	**Eielson Array**	**120.15**	**351**	PKP	**PKPdf**	**15 43 52.0**	**0.0**
	0.4nm,0.6s,baz=210,slow=2.9,SNR=6.7						
ILAR	**Eielson Array**	**120.15**	**351**	PKP	**PKPdf**	**15 43 52.0**	**0.0**
CMAR	**Chiang Mai Arr**	**128.56**	**244**	PKP	**PKPdf**	**15 44 12.0**	**+2.3**
	0.2nm,0.6s,baz=169,slow=0.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**128.56**	**244**	PKP	**PKPdf**	**15 44 12.0**	**+2.3**
ULN	**Ulaanbaatar**	**145.11**	**282**	*e*PKPdf	**PKPdf**	**15 44 39.5**	**+0.1**
SONM	**Songino Array**	**145.47**	**282**	PKPbc	**PKPdf**	**15 44 39.6**	**-0.4**
	1.9nm,0.8s,baz=138,slow=3.2,SNR=10						
SONM	**Songino Array**	**145.47**	**282**	PKPbc	**PKPab**	**15 44 39.6**	**-0.4**
MKAR	**Makanchi Array**	**158.74**	**261**	PKPab	**PKPab**	**15 45 34.7**	**-0.6**
	0.3nm,0.6s,baz=101,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**158.74**	**261**	PKPab	**PKPab**	**15 45 34.7**	**-0.6**
ZALV	**Zalesovo Beam**	**160.36**	**281**	PKPab	**PKPab**	**15 45 43.1**	**+1.0**
	0.7nm,0.6s,baz=132,slow=4.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**160.36**	**281**	PKPab	**PKPab**	**15 45 43.1**	**+1.0**

*DJA **23** 15:25:06, 0.21N×131.48E, h120km, MLv3.8/4*
IDC 23 15:25:08.8±2.7, 0.15S×132.74E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=145.4km s-min=25.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.73**	**176**	P	P	15 29 40.0	-0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.41**	**177**	P	P	15 30 19.8	+0.2
	2.1nm,0.8s,baz=352,slow=9.3,SNR=14						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	15 35 45.4	0.0
	0.5nm,0.5s,baz=116,slow=8.7,SNR=12						

KRSC 23 15:46:36.6±0.2, 53.27N×160.22E, h52km±41km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.21**	**215**	*e*P	Pn	15 46 45.5	+0.3
SPN				*i* S	Sn	15 46 51.2	-0.1
NLC	**Nalytchevo**	**0.54**	**260**	*e*P	Pn	15 46 49.0	+0.7
NLC				*i* S	Sn	15 46 57.7	+0.9
SDLR	**Sedlovina**	**0.80**	**271**	P	Pn	15 46 52.9	+1.0
SDLR				*i* S	Sn	15 47 04.6	+1.5
UGLR	**Uglovaya**	**0.84**	**266**	P	Pn	15 46 53.6	+1.2
UGLR				*i* S	Sn	15 47 05.9	+1.9
SMAR	**Somma**	**0.85**	**270**	P	Pn	15 46 53.5	+0.8
SMAR				*i* S	Sn	15 47 05.2	+0.7
AVH	**Avacha**	**0.89**	**270**	P	Pn	15 46 54.2	+1.2
AVH				*i* S	Sn	15 47 06.0	+0.9
KII	**Karymskiy

NEZ	North Egmont	0.70	6	PN	Pn	16 21 26.4	-0.1
NWEZ	Newall Road	0.70	352	PN	Pn	16 21 26.5	+0.1
NWEZ				SN	Sn	16 21 42.0	-0.5
RAEZ	Rainy Point	0.75	24	PN	Pn	16 21 26.0	-0.7
PKE	Pukeiti	0.78	359	PN	Pn	16 21 26.8	-0.2
PKE				SN	Sn	16 21 42.3	-1.2
WAZ	Wanganui	0.79	74	⇓PN	Pn	16 21 27.3	+0.2
WAZ				SN	Sn	16 21 43.7	+0.1
DREZ	Durham Road	0.80	11	PN	Pn	16 21 27.1	0.0
DREZ				SN	Sn	16 21 43.0	-0.7
DUWZ	D'Urville Isla	0.83	184	PN	Pn	16 21 27.1	-0.3
DUWZ				SN	Sn	16 21 42.8	-1.6
MHEZ	Mangahewa	0.93	16	PN	Pn	16 21 28.3	+0.2
VRZ	Vera Road	1.03	35	⇓PN	Pn	16 21 28.7	-0.3
VRZ				SN	Sn	16 21 45.9	-1.3
KIW	Kapiti Island	1.13	142	PN	Pn	16 21 29.9	0.0
OGWZ	Otaki Gorge	1.23	134	⇓PN	Pn	16 21 30.9	0.0
TCW	Tory Channel	1.26	170	PN	Pn	16 21 31.3	+0.2
MTVZ	Mangateitei	1.28	63	PN	Pn	16 21 31.3	-0.2
NNZ	Nelson	1.33	201	PN	Pn	16 21 31.9	0.0
TRVZ	Turoa	1.37	61	PN	Pn	16 21 32.4	-0.4
MRZ	Mangatainoka R	1.39	120	⇓PN	Pn	16 21 32.5	-0.1
WNVZ	Wahianoa	1.39	63	PN	Pn	16 21 32.6	-0.2
DRZ	Dome Shelter	1.39	61	PN	Pn	16 21 33.4	+0.3
FWVZ	Far West T-bar	1.40	60	PN	Pn	16 21 32.5	-0.4
CAW	Cannon Point	1.40	145	PN	Pn	16 21 32.8	+0.1
QRZ	Quartz Range	1.41	232	PN	Pn	16 21 32.3	-0.5
POWZ	Post Office Ro	1.42	108	PN	Pn	16 21 32.7	-0.2
WPVZ	Whakapapa	1.42	58	PN	Pn	16 21 32.8	-0.3
TWVZ	Taurewa	1.43	52	PN	Pn	16 21 32.8	-0.4
SNZO	South Karori	1.44	158	PN	Pn	16 21 33.1	0.0
TUKZ	Tukino	1.46	142	PN	Pn	16 21 33.4	-0.1
TUWZ	Tuamarina	1.46	182	PN	Pn	16 21 33.0	-0.3
MOVZ	Moawhango	1.47	68	PN	Pn	16 21 32.8	-0.7
NGZ	Ngauruhoe	1.47	58	PN	Pn	16 21 33.3	-0.4
HOWZ	Holdsworth Sta	1.48	129	ePN	Pn	16 21 33.4	-0.2
WTVZ	West Tongariro	1.50	56	PN	Pn	16 21 33.5	-0.4
TSZ	Takapari Road	1.51	94	PN	Pn	16 21 33.5	-0.4
OTVZ	Oturere	1.52	58	PN	Pn	16 21 34.0	-0.2
KRVZ	Karewarewa	1.54	56	PN	Pn	16 21 34.0	-0.4
BHW	Baring Head	1.58	155	PN	Pn	16 21 34.5	-0.1
HIZ	Hauiti	1.60	25	PN	Pn	16 21 34.6	-0.3
KATZ	Kakaramea	1.65	53	PN	Pn	16 21 35.7	+0.1
MTW	Mount Morrison	1.65	136	PN	Pn	16 21 35.2	-0.2
TIWZ	Tintock	1.65	120	PN	Pn	16 21 35.3	-0.2
BHHZ	Black Hill Sta	1.66	74	PN	Pn	16 21 34.8	-0.9
PNHZ	Pukenui	1.69	89	PN	Pn	16 21 35.6	-0.4
DVHZ	Dannevirke	1.69	102	PN	Pn	16 21 35.6	-0.4
MSWZ	Moikau Station	1.73	147	PN	Pn	16 21 36.3	0.0
BSWZ	Blackbirch Sta	1.74	183	PN	Pn	16 21 36.9	+0.4
RITZ	Rihia Road	1.75	56	PN	Pn	16 21 36.8	+0.2
RATZ	Rangitukua	1.76	52	PN	Pn	16 21 36.9	+0.1
PAWZ	Paruwai Farm	1.78	143	PN	Pn	16 21 36.9	0.0
TMWZ	Te Maipa	1.83	129	PN	Pn	16 21 37.4	-0.2
BFZ	Birch Farm	1.86	113	PN	Pn	16 21 37.5	-0.4
PLWZ	Palliser	1.86	150	PN	Pn	16 21 37.6	-0.3
WPHZ	Waipukurau	1.88	94	PN	Pn	16 21 37.8	-0.3
TRWZ	Traveller	1.92	139	PN	Pn	16 21 38.2	-0.3
THZ	Tophouse	1.97	205	PN	Pn	16 21 39.1	-0.2
WHTZ	Whakaora	2.00	50	PN	Pn	16 21 39.8	+0.2
PRHZ	Porangahau	2.04	99	PN	Pn	16 21 39.8	-0.2
BKZ	Black Stump Fm	2.09	68	PN	Pn	16 21 39.7	-1.0
MCHZ	McNeill Hill	2.15	77	PN	Pn	16 21 41.2	-0.1
PXZ	Pawanui	2.20	92	PN	Pn	16 21 41.6	-0.3
KAHZ	Kahuranaki	2.22	86	PN	Pn	16 21 42.1	-0.2
CKHZ	Cape Kidnapper	2.39	83	PN	Pn	16 21 44.0	-0.3
DSTZ	Denniston Nort	2.43	223	PN	Pn	16 21 44.5	-0.3
KHZ	Kahutara	2.47	188	PN	Pn	16 21 45.0	-0.2
TOZ	Tahuroa Road	2.53	28	PN	Pn	16 21 45.8	-0.2
RAHZ	Arahi	2.61	67	PN	Pn	16 21 46.4	-0.7
KNZ	Kokohu	3.00	73	PN	Pn	16 21 50.3	-1.7
MKAZ	Moumakai	3.00	18	PN	Pn	16 21 52.6	+0.6
LTZ	Lake Taylor	3.10	204	PN	Pn	16 21 52.3	-1.0
MHGZ	Mahia Peninsul	3.13	76	PN	Pn	16 21 50.5	-3.1
PRGZ	Paritu Road	3.18	72	PN	Pn	16 21 52.9	-1.5
MWZ	Matawai	3.19	60	PN	Pn	16 21 53.1	-1.5
CRLZ	Canterbury Las	3.75	196	PN	Pn	16 21 59.5	-2.2
MQZ	McQueen's Vall	3.87	195	PN	Pn	16 22 00.7	-2.5
WVZ	Waitaha Valley	3.95	217	PN	Pn	16 22 03.8	-0.6
MXZ	Matakaoa Point	4.14	56	PN	Pn	16 22 05.3	-1.5
FOZ	Fox Glacier	4.82	221	PN	Pn	16 22 14.0	-1.9

IDC 23 16:21:29.3±2.4, 47°.78N×156°.41E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/25, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=64.5km s-min=32.5km az=0.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk- 0.1nm,0.3s,baz=220,slow=17,SNR=3.9	5.39	8	Pn	Pn	16 22 51.0	0.0
MKAR	Makanchi Array 0.4nm,0.8s,baz=45,slow=7.7,SNR=5.5	48.45	298	P	P	16 30 13.3	+0.1
KURK	Kurchatov 0.3nm,0.6s,baz=70,slow=8.2,SNR=3.7	48.65	304	P	P	16 30 15.0	+0.3
BVAR	Borovoye Array 0.2nm,0.4s,baz=54,slow=7.3,SNR=3.0	51.92	310	P	P	16 30 39.5	0.0
TXAR	Lajitas Array 0.4nm,0.7s,baz=316,slow=5.3,SNR=4.6	75.02	63	P	P	16 33 12.8	0.0

*SOF **23** 16:34:48.7, 40°.78N×27°.78E, h2km, MD3.2*
*CSEM **23** 16:34:51.9±0.1, 40°.80N×27°.76E, h10km, ML3.7, Error ellipse: s-maj=2.2km s-min=1.7km az=17.0*
*ISK **23** 16:34:51.5, 40°.80N×27°.77E, h15km, ML3.7*
*ATH **23** 16:34:52.3, 40°.75N×27°.64E, h23km±3km, MD3.7/7*
*ISCJB **23** 16:34:52.3±0.3, 40°.83N±0°.02×27°.74E±0°.02, h21km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=6.7*
*DDA **23** 16:34:52.2, 40°.81N×27°.79E, h7km, MD3.3*
*THE **23** 16:34:54.8, 40°.79N×27°.54E, h13km±2km, ML3.6/3, Error ellipse: s-maj=3.3km s-min=0.7km az=75.0*

ISC 23 16:34:52.3±1.0, 40°.80N±0°.02×27°.76E±0°.02, h19km±3km, n176, σ0°.85/206, 8C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKR	Tekirdag	0.25	317	PG	Pg	16 34 58.3	+0.1
TKR				eSG	Sg	16 35 02.8	+0.6
TKR	Tekirdag	0.25	317	*i* Pg	Pg	16 34 58.3	+0.1
CRLT	Corlu	0.33	357	ePG	Pg	16 34 59.4	0.0
CRLT	Corlu	0.33	357	ePg	Pg	16 34 59.4	0.0
MFT	Murefte	0.37	268	ePG	Pg	16 34 59.4	-0.7
MFT				eSG	Sg	16 35 04.9	-0.5
MFT	Murefte	0.37	268	ePg	Pg	16 34 59.4	-0.7
SART	Tekirdag	0.46	256	*i* P	Pg	16 35 01.0	-0.7
SART				*i* S	Sg	16 35 07.4	-0.6
SART	Tekirdag	0.46	256	*i* P	Pg	16 35 01.0	-0.7
SART				*i* S	Sg	16 35 07.4	-0.6
RKY	Sarkoy-Tekirda	0.46	256	ePG	Pg	16 35 00.9	-0.8
RKY	Sarkoy-Tekirda	0.46	256	ePg	Pg	16 35 00.9	-0.8
BNT	Bandirma	0.46	165	ePG	Pg	16 35 01.6	-0.2
BNT	Bandirma	0.46	165	ePg	Pg	16 35 01.6	-0.2
EDC	Edincik	0.46	170	ePG	Pg	16 35 01.6	-0.2
EDC	Edincik	0.46	170	ePg	Pg	16 35 01.6	-0.2
KRBG	Karabiga-Canak	0.54	221	ePG	Pb	16 35 02.3	-0.8
KRBG	Karabiga-Canak	0.54	221	ePg	Pb	16 35 02.3	-0.8
SLVT	Silivri	0.55	38	ePG	Pb	16 35 03.2	0.0
SLVT	Silivri	0.55	38	ePg	Pb	16 35 03.2	0.0
ELBA	Catalca	0.61	56	*i* P	Pb	16 35 04.1	-0.2
ELBA				*i* S	Sn	16 35 14.9	-0.5
ELBA	Catalca	0.61	56	*i* P	Pb	16 35 04.1	-0.2
ELBA				*i* S	Sn	16 35 14.9	-0.5
KCTX	Karacabey (Bur	0.70	140	ePG	Pb	16 35 05.5	-0.4
KCTX	Karacabey (Bur	0.70	140	ePg	Pb	16 35 05.5	-0.4
CTKS	Kestanelik-??a	0.71	52	ePG	Pb	16 35 05.4	-0.7
CTKS	Kestanelik-??a	0.71	52	ePg	Pb	16 35 05.4	-0.7
GONE	Gonen-Balikesi	0.76	184	ePG	Pb	16 35 06.6	-0.3
GONE	Gonen-Balikesi	0.76	184	ePg	Pb	16 35 06.6	-0.3
CTYL	Yal??k??y-??at	0.78	30	ePG	Pb	16 35 07.0	-0.3
CTYL	Yal??k??y-??at	0.78	30	ePg	Pb	16 35 07.0	-0.3
BGKT	Bogazkoy	0.85	63	ePG	Pb	16 35 08.1	-0.4
BGKT	Bogazkoy	0.85	63	ePg	Pb	16 35 08.1	-0.4
ARMT	Armutlu	0.87	105	ePG	Pb	16 35 08.8	0.0
ARMT	Armutlu	0.87	105	ePg	Pb	16 35 08.8	0.0
LPK	Lapseki	0.88	241	ePG	Pb	16 35 08.0	-0.9
LPK	Lapseki	0.88	241	ePg	Pb	16 35 08.0	-0.9
ERIK	Erikli-Kesan	0.96	262	ePG	Pb	16 35 09.6	-0.7
ERIK	Erikli-Kesan	0.96	262	ePg	Pb	16 35 09.6	-0.7
MDNY	Mudanya-Bursa	0.96	117	ePG	Pb	16 35 10.2	-0.1
MDNY	Mudanya-Bursa	0.96	117	ePg	Pb	16 35 10.2	-0.1
ISK	Istanbul-Kandi	1.02	75	ePG	Pb	16 35 10.7	-0.6
ISK	Istanbul-Kandi	1.02	75	ePg	Pb	16 35 10.7	-0.6
BUY	Buyukada	1.03	87	*i* P	Pb	16 35 11.0	-0.6
BUY				*i* S	Sb	16 35 24.3	-0.4
BUY	Buyukada	1.03	87	*i* P	Pb	16 35 11.0	-0.6
BUY				*i* S	Sb	16 35 24.3	-0.4
GELI	Tayfur-Gelibol	1.06	248	ePG	Pb	16 35 11.5	-0.6
GELI	Tayfur-Gelibol	1.06	248	ePg	Pb	16 35 11.5	-0.6
BALY	Balya	1.07	186	*i* P	Pg	16 35 13.0	-0.1
BALY				*i* S	Sg	16 35 28.2	+1.1
BALY	Balya	1.07	186	*i* P	Pg	16 35 13.0	-0.1
BALY				*i* S	Sg	16 35 28.2	+1.1
KLYT	Kilyos	1.07	65	ePG	Pb	16 35 11.8	-0.4
KLYT	Kilyos	1.07	65	ePg	Pb	16 35 11.8	-0.4
GEMT	Gemlik	1.15	108	ePN	Pn	16 35 13.1	-0.3
GEMT	Gemlik	1.15	108	ePn	Pn	16 35 13.1	-0.3
ORLT	Orhaneli	1.15	131	ePN	Pb	16 35 13.9	+0.3
ORLT	Orhaneli	1.15	131	ePn	Pb	16 35 13.9	+0.3
BALB	Balikesir	1.17	176	ePN	Pg	16 35 14.5	-0.4
BALB	Balikesir	1.17	176	ePn	Pg	16 35 14.5	-0.4
ENEZ	Enez	1.22	267	ePN	Pb	16 35 14.7	-0.2
ENEZ	Enez	1.22	267	ePn	Pb	16 35 14.7	-0.2
ULDT	Uludag	1.24	122	*i* P	Pb	16 35 15.4	+0.2
ULDT	Uludag	1.24	122	*i* P	Pb	16 35 15.4	+0.2
YLV	Yalova	1.25	100	ePN	Pn	16 35 14.3	-0.5
YLV	Yalova	1.25	100	ePn	Pn	16 35 14.3	-0.5
EDRB	Edirne	1.29	324	ePN	Pn	16 35 15.6	+0.2
EDRB	Edirne	1.29	324	ePn	Pn	16 35 15.6	+0.2
ALN	Alexandroupoli	1.31	275	P	Pn	16 35 15.3	-0.3
ALN				S	Sn	16 35 31.1	-1.4
ALN	Alexandroupoli	1.31	275	ePN	Pn	16 35 15.4	-0.2
ALN				eSN	Sb	16 35 32.8	+0.2
ALN	Alexandroupoli	1.31	275	ePn	Pn	16 35 15.4	-0.2
ALN				S	Sn	16 35 31.1	-1.4
ALN				eSn	Sb	16 35 32.8	+0.2
DURS	Dursunbey	1.32	155	*i* P	Pg	16 35 18.1	+0.3
DURS				*i* S	Sg	16 35 35.1	0.0
DURS	Dursunbey	1.32	155	*i* P	Pg	16 35 18.1	+0.3
DURS				*i* S	Sg	16 35 35.1	0.0
DST	Dursunbey	1.37	151	ePN	Pn	16 35 16.3	-0.1
DST	Dursunbey	1.37	151	ePn	Pn	16 35 16.3	-0.1
HRT	Hereke	1.45	89	ePN	Pn	16 35 17.3	-0.2
HRT	Hereke	1.45	89	ePn	Pn	16 35 17.3	-0.2
SILT	Sile	1.47	76	ePN	Pn	16 35 17.9	+0.1
SILT	Sile	1.47	76	ePn	Pn	16 35 17.9	+0.1
EZN	Ezine	1.47	229	ePN	Pn	16 35 18.2	+0.4
EZN	Ezine	1.47	229	ePn	Pn	16 35 18.2	+0.4
ADVT	Abdulvahap	1.55	103	ePN	Pn	16 35 19.1	+0.2
ADVT	Abdulvahap	1.55	103	ePn	Pn	16 35 19.1	+0.2
BOZC	Bozcaada	1.62	234	*i* P	Pn	16 35 20.7	+0.7
BOZC				*i* S	Sb	16 35 42.0	+0.3
CAVI	Cavuskoy	1.70	110	ePN	Pn	16 35 20.9	-0.1
CAVI	Cavuskoy	1.70	110	ePn	Pn	16 35 20.9	-0.1
AYVA	Ayvalik	1.71	209	*i* P	Pb	16 35 24.0	+0.9
AYVA				*i* S	Sg	16 35 46.8	-0.5
AYVA	Ayvalik	1.71	209	*i* P	Pb	16 35 24.0	+0.9
AYVA				*i* S	Sg	16 35 46.8	-0.5
JMB	Yambol	1.88	332	P	Pb	16 35 24.8	+1.3
JMB	Yambol	1.88	332	P	Pb	16 35 25.1	-1.0
JMB	Yambol	1.88	332	P	Pn	16 35 24.8	+1.3
DEMI	Demirci	1.91	157	*i* P	Pn	16 35 24.7	+0.8
DEMI				*i* S	Sg	16 35 52.6	-1.1
DEMI	Demirci	1.91	157	*i* P	Pn	16 35 24.7	+0.8
DEMI				*i* S	Sg	16 35 52.6	-1.1
AKS	Akhisar	1.92	179	ePN	Pn	16 35 24.5	+0.4
AKS	Akhisar	1.92	179	ePn	Pn	16 35 24.5	+0.4
PRK	Paraskevi	1.93	217	P	Pn	16 35 25.1	+0.9
PRK				S	Sn	16 35 48.7	+0.8
PRK	Paraskevi	1.93	217	ePN	Pn	16 35 24.7	+0.5
PRK	Paraskevi	1.93	217	ePn	Pn	16 35 24.7	+0.5
PRK	Paraskevi	1.93	217	P	Pn	16 35 25.1	+0.9
PRK				S	Sn	16 35 48.7	+0.8
SPNC	Sapanca-Adapaz	1.94	93	ePN	Pn	16 35 24.8	+0.5
SPNC	Sapanca-Adapaz	1.94	93	ePn	Pn	16 35 24.8	+0.5
KDZ	Kurdzhali	1.96	296	P	Pn	16 35 25.3	+0.7
KDZ				Pg	Pg	16 35 29.3	-0.7
KDZ	Kurdzhali	1.96	296	P	Pn	16 35 25.3	+0.7
GPA	Golpazari	2.01	104	ePN	Pn	16 35 25.9	+0.7
DIM	Dimitrovgrad	2.09	307	P	Pb	16 35 30.2	+0.6
DIM	Dimitrovgrad	2.09	307	P	Pb	16 35 30.2	+0.6
GULT	Gulveren	2.13	99	ePN	Pn	16 35 27.5	+0.6
GULT	Gulveren	2.13	99	ePn	Pn	16 35 27.5	+0.6
GDZ	Gediz	2.16	142	*i* P	Pb	16 35 32.5	+1.5
GDZ				*i* S	Sg	16 36 00.9	-1.1
GDZ	Gediz	2.16	142	*i* P	Pb	16 35 32.5	+1.5
LIA	Limnos Island	2.17	246	P	Pn	16 35 27.4	0.0
LIA	Limnos Island	2.17	246	ePB	Pn	16 35 27.4	0.0
LIA	Limnos Island	2.17	246	ePb	Pn	16 35 27.4	0.0
BORA	Eskisehir	2.25	113	*i* P	Pn	16 35 29.1	+0.4
BORA				*i* S	Sg	16 36 03.2	-1.7
BORA	Eskisehir	2.25	113	*i* P	Pn	16 35 29.1	+0.4
KULA	Kula-Manisa	2.39	163	ePN	Pn	16 35 31.3	+0.7
KULA	Kula-Manisa	2.39	163	ePn	Pn	16 35 31.3	+0.7
PRD	Provadia	2.41	354	P	Pn	16 35 30.8	+0.1
PRD	Provadia	2.41	354	P	Pn	16 35 30.8	+0.1
IZM	Izmir	2.43	189	ePN	Pn	16 35 32.0	+0.9
IZM	Izmir	2.43	189	ePn	Pn	16 35 32.0	+0.9
RZN	Rozhen	2.46	292	*i* P	Pn	16 35 32.1	+0.5
RZN				Pg	Pb	16 35 37.9	+1.8
RZN	Rozhen	2.46	292	*i* P	Pn	16 35 32.1	+0.5
KAVA	Kavala	2.47	276	P	Pn	16 35 31.7	+0.1
KAVA				S	Sn	16 36 00.1	-1.1
KAVA	Kavala	2.47	276	P	Pn	16 35 31.7	+0.1
KAVA				S	Sn	16 36 00.1	-1.1
BLCB	Balcova	2.48	193	ePN	Pn	16 35 32.6	+0.9
BLCB	Balcova	2.48	193	ePn	Pn	16 35 32.6	+0.9
ALT	Altintas	2.51	133	ePN	Pn	16 35 32.9	+0.6
ALT	Altintas	2.51	133	ePn	Pn	16 35 32.9	+0.6
MDUB	Mudurnu	2.63	96	ePN	Pn	16 35 34.7	+0.8
MDUB	Mudurnu	2.63	96	ePn	Pn	16 35 34.7	+0.8
PLD	Plovdiv	2.64	300	P	Pn	16 35 34.5	+0.6
PLD	Plovdiv	2.64	300	P	Pg	16 35 41.2	-1.8
PLD	Plovdiv	2.64	300	P	Pn	16 35 34.5	+0.6
ESKT	Eskisehir	2.69	117	ePN	Pn	16 35 35.4	+0.7
ESKT	Eskisehir	2.69	117	ePn	Pn	16 35 35.4	+0.7
CHOS	Chios island	2.75	209	P	Pn	16 35 36.4	+0.9
CHOS	Chios island	2.75	209	ePN	Pn	16 35 36.2	+0.7
CHOS	Chios island	2.75	209	ePn	Pn	16 35 36.2	+0.7
KHL	Karahalli	2.83	151	ePN	Pn	16 35 37.5	+1.0
KHL	Karahalli	2.83	151	ePn	Pn	16 35 37.6	+1.0
KDZE	Karadeniz Ereo	2.83	78	ePN	Pn	16 35 37.3	+0.8
KDZE	Karadeniz Ereo	2.83	78	ePn	Pn	16 35 37.3	+0.8
OUR	Ouranopolis	2.92	262	P	Pn	16 35 37.9	+0.2
OUR	Ouranopolis	2.92	262	P	Pn	16 35 37.9	+0.2
NVR	Nevrokopi	3.00	282	ePN	Pn	16 35 39.7	+0.8
NVR	Nevrokopi	3.00	282	ePn	Pn	16 35 39.7	+0.8
PVL	Pavlikeni	3.02	324	P	Pn	16 35 40.0	+0.9
PVL	Pavlikeni	3.02	324	P	Pn	16 35 40.0	+0.9
MMB	Musomiste	3.14	286	P	Pn	16 35 41.6	+0.7
MMB				Pg	Pb	16 35 50.0	+2.4
MMB	Musomiste	3.14	286	P	Pn	16 35 41.6	+0.7
SRS	Serrai	3.17	277	P	Pn	16 35 41.6	+0.3
SRS	Serrai	3.17	277	P	Pn	16 35 41.6	+0.3
PLG	Polygyros	3.31	264	ePN	Pn	16 35 44.1	+0.9
PLG	Polygyros	3.31	264	ePn	Pn	16 35 44.1	+0.9
SOH	Sokhos	3.35	272	ePN	Pn	16 35 43.9	+0.2
SOH	Sokhos	3.35	272	ePn	Pn	16 35 43.9	+0.2
TIRR	Tirgusor	3.68	7	⇓*i* P	Pg	16 36 02.8	-0.1
VTS	Vitosha	3.85	299	P	Pn	16 35 52.0	+1.3
VTS	Vitosha	3.85	299	P	Pn	16 35 52.0	+1.3
MPEP	Malo Peshtene	3.93	312	P	Pn	16 35 52.7	+1.0
CFR	Carcaliu	4.38	3	⇓*i* P	Pn	16 35 58.9	+1.1
CFR	Carcaliu	4.38	3	⇓*i* P	Pn	16 35 58.9	+1.1
MLR	Muntele Rosu	4.87	345	⇓*i* P	Pn	16 36 07.0	+2.3
MLR	Muntele Rosu	4.87	345	⇓*i* P	Pn	16 36 07.0	+2.3
BARS	Barje	4.88	296	*i* Pn	Pn	16 36 05.7	+1.0
VOIR		5.04	338	⇑*i* P	Pn	16 36 08.1	+1.1
VOIR		5.04	338	⇑*i* P	Pn	16 36 08.1	+1.1
PLOR	Plostina	5.11	351	⇓*i* P	Pn	16 36 10.2	+2.3
PLOR	Plostina	5.11	351	⇓*i* P	Pn	16 36 10.2	+2.3
VRI	Vrincioaia	5.12	352	⇓*i* P	Pn	16 36 10.2	+2.2
VRI	Vrincioaia	5.12	352	⇓*i* P	Pn	16 36 10.2	+2.2
LOT	Lotru	5.49	329	⇑*i* P	Pn	16 36 15.1	+2.0
LOT	Lotru	5.49	329	⇑*i* P	Pn	16 36 15.1	+2.0
TESR		5.76	352	⇓*i* P	Pn	16 36 19.0	+2.2
TESR		5.76	352	⇓*i* P	Pn	16 36 19.0	+2.2
GZR	Gura Zlata	5.86	323	⇑*i* P	Pn	16 36 18.4	+0.2
GZR	Gura Zlata	5.86	323	⇑*i* P	Pn	16 36 18.4	+0.2
GRUS	Gruza	6.06	303	*e*Pn	Pn	16 36 21.5	+0.6
BZS	Buzias	6.58	319	⇑*i* P	Pn	16 36 27.6	-0.4
BZS	Buzias	6.58	319	⇑*i* P	Pn	16 36 27.6	-0.4
DIVS	Divibare	6.62	302	*e*Pn	Pn	16 36 28.7	0.0

IDC 23 16:37:07.4±0.8, 10°.09N×126°.52E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=47.0km s-min=14.8km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W) comp=Z,200nm,19.1s,baz=143,slow=42	3.14	197	LR	LR	16 39 18.0	
CMAR	Chiang Mai Arr 0.3nm,0.7s,baz=104,slow=6.4,SNR=5.9	27.96	290	P	P	16 42 59.9	-0.1
FITZ	Fitzroy Crossi 1.4nm,0.7s,baz=348,slow=13,SNR=3.2	28.02	182	P	P	16 43 01.5	+1.1
WRA	Warramunga Arr 0.3nm,0.7s,baz=344,slow=9.2,SNR=3.3	30.82	166	P	P	16 43 24.0	-1.2
ASAR	Alice Springs 0.4nm,0.6s,baz=354,slow=6.7,SNR=12	34.32	168	P	P	16 43 55.2	-0.7
SONM	Songino Array 1.1nm,0.7s,baz=153,slow=9.7,SNR=2.4	41.27	339	P	P	16 44 56.0	+1.3
STKA	Stephens Creek 3.3nm,0.9s,baz=333,slow=11,SNR=4.6	44.15	161	P	P	16 45 19.0	+1.0
MKAR	Makanchi Array 0.7nm,0.6s,baz=133,slow=8.8,SNR=6.8	52.32	323	P	P	16 46 20.9	-0.2
MKAR				PcP	PcP	16 47 33.0	+0.7
ZALV	Zalesovo Beam 0.9nm,0.7s,baz=134,slow=6.4,SNR=4.5	54.90	331	P	P	16 46 39.4	-0.4
ARCES	ARCESS Array B 1.7nm,0.7s,baz=87,slow=6.2,SNR=6.7	84.45	340	P	P	16 49 41.9	+0.2
FINES	FINESS Array B 1.9nm,0.8s,baz=48,slow=3.9,SNR=7.1	86.17	332	P	P	16 49 49.5	-0.9
HFS	Hagfors 4.7nm,1.1s,baz=94,slow=8.9,SNR=5.2	92.32	333	P	P	16 50 17.6	-2.0
YKA	Yellowknife Ar 0.1nm,0.3s,baz=306,slow=2.6,SNR=4.0	93.82	24	P	P	16 50 26.4	0.0

IDC 23 16:39:54.2±1.4, 5°.03N×127°.44E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=135.4km s-min=19.2km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 6.1nm,0.9s,baz=346,slow=10,SNR=25	25.73	165	P	P	16 45 25.6	-1.0
ASAR	Alice Springs 0.5nm,0.5s,baz=349,slow=7.4,SNR=8.4	29.21	168	P	P	16 45 56.9	-1.0
STKA	Stephens Creek 3.3n

PMG				Sn	Sn	16 51 35.9	-5.8	
	3.6nm,0.3s,baz=106,slow=20,SNR=11							
WRA	**Warramunga Arr**	**21.00**	**227**	P	P	16 54 17.3	-0.2	
	0.7nm,0.9s,baz=53,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**23.78**	**221**	P	P	16 54 46.1	-0.6	
	0.5nm,1.0s,baz=53,slow=9.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.58**	**285**	PKPbc	PKPbc	17 09 21.7	-0.6	
	0.4nm,0.6s,baz=72,slow=2.3,SNR=2.7							

IDC ***23*** *16:57:25.3±1.8,27.55N×34.67E,h0km,mb3.8/8, mb1 3.8/11,mb1mx3.6/28,mbtmp3.7/11,ML3.6/2,MS2.8/1, Ms1 2.8/1,ms1mx2.5/39,Error ellipse: s-maj=36.2km s-min=26.1km az=50.0*

ISC 23 16:57:27.7±1.4,27.6N±0.1×34.8E±0.2,h10km,n18, σ1.34/18,mb3.6/8,1C-5D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**2.04**	**4**	Pn	**Pn**	**16 58 01.7**	**-0.5**
	6.4nm,0.3s,baz=190,slow=4.2,SNR=122						
EIL				Sn	**Sb**	**16 58 28.9**	**-1.6**
	15nm,0.3s,baz=344,slow=9.3,SNR=5.8						
ASF	**Jabal al Asfar**	**4.89**	**22**	Pn	**Pn**	**16 58 41.9**	**+0.4**
	0.8nm,0.3s,baz=21,slow=5.3,SNR=3.7						
ASF				LR	LR	17 00 36.4	
	comp=Z,95nm,18.4s,baz=120,slow=38						
MMAI	**Mount Meron Ar**	**5.40**	**6**	Pn	**Pn**	**16 58 49.1**	**+0.6**
	5.3nm,0.3s,baz=170,slow=15,SNR=20						
GNI	**Garni**	**14.97**	**31**	Pn	**P**	**17 01 07.1**	**+1.9**
	0.3nm,0.3s,baz=226,slow=3.0,SNR=6.7						
VOIR		**19.39**	**339**	⇓*i*P	P	17 01 44.5	-9.4
LOT	**Lotru**	**19.83**	**337**	⇑*i*P	**Pn**	**17 02 00.9**	**+0.6**
GZR	**Gura Zlata**	**20.14**	**335**	⇓*i*P	Pn	17 02 04.3	+0.3
BZS	**Buzias**	**20.78**	**333**	⇓*i*P	Pn	17 02 10.6	-0.7
BURAR	**Bucovina Array**	**21.31**	**342**	⇓*i*P	**P**	**17 02 17.7**	**+3.0**
DRGR		**21.36**	**337**	⇓*i*P	**P**	**17 02 17.0**	**+1.8**
AKASG	**Malin Array Be**	**23.43**	**351**	P	**P**	**17 02 36.0**	**-0.9**
	0.8nm,0.5s,baz=174,slow=10,SNR=4.1						
GERES	**GERESS Array B**	**26.72**	**328**	P	**P**	**17 03 07.9**	**+0.6**
	0.7nm,0.7s,baz=151,slow=6.7,SNR=2.1						
FINES	**FINESS Array B**	**34.32**	**353**	P	**P**	**17 04 13.6**	**-0.5**
	3.4nm,0.8s,baz=155,slow=10,SNR=8.5						
KURK	**Kurchatov**	**40.29**	**43**	P	**P**	**17 05 05.2**	**+0.3**
	1.2nm,0.8s,baz=259,slow=8.4,SNR=10						
KURK				PcP	**PcP**	**17 07 07.4**	**-1.1**
	0.8nm,1.0s,baz=254,slow=4.0,SNR=7.1						
MKAR	**Makanchi Array**	**41.69**	**50**	P	**P**	**17 05 17.2**	**+0.6**
	0.5nm,0.8s,baz=269,slow=5.2,SNR=5.5						
MKAR				PcP	**PcP**	**17 07 11.6**	**-1.6**
	0.3nm,0.7s,baz=269,slow=6.6,SNR=3.5						
ARCES	**ARCESS Array B**	**42.29**	**355**	P	**P**	**17 05 19.8**	**-1.3**
	2.5nm,0.7s,baz=165,slow=10,SNR=6.9						
ZALV	**Zalesovo Beam**	**44.86**	**40**	P	**P**	**17 05 42.1**	**0.0**
	0.6nm,0.3s,baz=260,slow=8.6,SNR=3.2						
SONM	**Songino Array**	**58.04**	**49**	P	**P**	**17 07 20.5**	**-0.6**
	0.6nm,1.1s,baz=270,slow=10,SNR=2.9						

WEL 23 17:39:08.5±0.5,38.05S×175.98E,h185km±4km,ML3.6/16, 1C,Error ellipse: s-maj=4.4km s-min=3.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.92**	**103**	PN	Pn	17 39 35.7	-0.3
URZ				SN	Sn	17 39 57.1	-0.3
KRVZ	**Karewarewa**	**1.07**	**194**	PN	Pn	17 39 37.6	+0.2
TWVZ	**Taurewa**	**1.10**	**202**	PN	Pn	17 39 37.8	+0.3
WTVZ	**West Tongariro**	**1.10**	**196**	PN	Pn	17 39 37.7	+0.1
NGZ	**Ngauruhoe**	**1.16**	**195**	PN	Pn	17 39 38.3	+0.3
BKZ	**Black Stump Fm**	**1.18**	**160**	⇑PN	Pn	17 39 38.0	-0.1
BKZ				SN	Sn	17 40 00.6	-0.7
WPVZ	**Whakapapa**	**1.20**	**196**	PN	Pn	17 39 38.5	+0.1
RAHZ	**Arahi**	**1.22**	**135**	PN	Pn	17 39 39.0	+0.6
RAHZ				SN	Sn	17 40 02.4	+0.6
NMHZ	**Naumai**	**1.23**	**148**	PN	Pn	17 39 37.5	-1.0
TUVZ	**Tukino**	**1.24**	**192**	PN	Pn	17 39 38.9	+0.2
FWVZ	**Far West T-bar**	**1.25**	**195**	PN	Pn	17 39 39.0	+0.2
MWZ	**Matawai**	**1.25**	**103**	PN	Pn	17 39 38.8	+0.1
MWZ				SN	Sn	17 40 01.8	-0.3
TRVZ	**Turoa**	**1.29**	**195**	PN	Pn	17 39 39.4	+0.2
WNVZ	**Wahianoa**	**1.31**	**193**	PN	Pn	17 39 39.4	0.0
MOVZ	**Moawhango**	**1.36**	**187**	PN	Pn	17 39 39.2	-0.5
MTVZ	**Mangateitei**	**1.39**	**196**	PN	Pn	17 39 40.0	+0.1
BHHZ	**Black Hill Sta**	**1.44**	**177**	PN	Pn	17 39 39.9	-0.4
MCHZ	**McNeill Hill**	**1.50**	**158**	PN	Pn	17 39 41.4	+0.6
KNZ	**Kokohu**	**1.64**	**127**	PN	Pn	17 39 42.2	0.0
PRGZ	**Paritu Road**	**1.73**	**121**	PN	Pn	17 39 43.1	0.0
PUZ	**Puketiti**	**1.80**	**91**	PN	Pn	17 39 43.4	-0.4
CNGZ	**Carnagh Statio**	**1.81**	**104**	PN	Pn	17 39 44.8	+1.0
CKHZ	**Cape Kidnapper**	**1.82**	**152**	PN	Pn	17 39 44.1	+0.2
PNHZ	**Pukenui**	**1.87**	**175**	PN	Pn	17 39 43.8	-0.7
MHGZ	**Mahia Peninsul**	**1.87**	**127**	PN	Pn	17 39 44.6	+0.2
WAZ	**Wanganui**	**1.87**	**204**	PN	Pn	17 39 43.9	-0.6
KAHZ	**Kahuranaki**	**1.88**	**158**	PN	Pn	17 39 44.7	+0.1
TSZ	**Takapari Road**	**2.00**	**180**	PN	Pn	17 39 45.1	-0.9
WPHZ	**Waipukurau**	**2.04**	**170**	PN	Pn	17 39 45.6	-0.7
PXZ	**Pawanui**	**2.09**	**161**	PN	Pn	17 39 46.3	-0.5
DVHZ	**Dannevirke**	**2.25**	**176**	PN	Pn	17 39 47.3	-1.3
PRHZ	**Porangahau**	**2.27**	**167**	PN	Pn	17 39 48.1	-0.7
POWZ	**Post Office Ro**	**2.34**	**184**	PN	Pn	17 39 48.3	-1.3
MRZ	**Mangatainoka R**	**2.62**	**187**	PN	Pn	17 39 50.9	-2.0
BFZ	**Birch Farm**	**2.63**	**176**	PN	Pn	17 39 51.7	-1.2
TIWZ	**Tintock**	**2.72**	**181**	PN	Pn	17 39 52.2	-1.8
OGWZ	**Otaki Gorge**	**2.83**	**193**	PN	Pn	17 39 52.9	-2.4
HOWZ	**Holdsworth Sta**	**2.86**	**187**	PN	Pn	17 39 53.4	-2.3
KIW	**Kapiti Island**	**2.92**	**196**	PN	Pn	17 39 53.9	-2.5
TMWZ	**Te Maipa**	**3.05**	**181**	PN	Pn	17 39 55.8	-2.1
MTW	**Mount Morrison**	**3.12**	**187**	PN	Pn	17 39 55.6	-3.2
CAW	**Cannon Point**	**3.13**	**193**	PN	Pn	17 39 56.4	-2.5
DUWZ	**D'Urville Isla**	**3.17**	**209**	PN	Pn	17 39 57.0	-2.5
TRWZ	**Traveller**	**3.35**	**184**	PN	Pn	17 39 58.9	-2.7
WEL	**Wellington**	**3.36**	**196**	PN	Pn	17 39 59.0	-2.7
MSWZ	**Moikau Station**	**3.41**	**189**	PN	Pn	17 39 59.2	-3.1
TCW	**Tory Channel**	**3.42**	**202**	PN	Pn	17 39 59.6	-2.8
BHW	**Baring Head**	**3.46**	**194**	PN	Pn	17 39 59.8	-3.0
PLWZ	**Palliser**	**3.56**	**189**	PN	Pn	17 40 00.8	-3.4
TUWZ	**Tuamarina**	**3.72**	**204**	PN	Pn	17 40 03.1	-3.0
NNZ	**Nelson**	**3.74**	**212**	PN	Pn	17 40 03.7	-2.8
QRZ	**Quartz Range**	**3.85**	**223**	PN	Pn	17 40 04.5	-3.3
THZ	**Tophouse**	**4.39**	**212**	PN	Pn	17 40 11.1	-3.7
KHZ	**Kahutara**	**4.74**	**202**	PN	Pn	17 40 15.6	-3.4
DSZ	**Denniston Nort**	**4.89**	**220**	PN	Pn	17 40 17.0	-4.2
MQZ	**McQueen's Vall**	**6.18**	**203**	PN	Pn	17 40 33.5	-4.3

ISCJB ***23*** *17:44:42.3±0.4,32.11N±0.02×115.66W±0.02,h21km±5km, Error ellipse: s-maj=3.8km s-min=3.4km az=179.8*
NEIC ***23*** *17:44:43.8,32.14N×115.73W,h5km,ML3.9(ECX), MW3.8(PAS),After ECX.*
ECX ***23*** *17:44:43.8±0.8,32.14N×115.73W,h5km,MD3.7,ML3.8*

ISC 23 17:44:42.8±0.8,32.14N±0.02×115.75W±0.02,h14km±7km, n43,σ1.68/66,27C-10D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.27**	**218**	⇑*e*P	**Pg**	**17 44 48.2**	**-0.4**
RDX				*e*S	**Sg**	**17 44 52.5**	**-0.1**
CPBX	**Cerro Prieto**	**0.47**	**54**	*e*P	**Pg**	**17 44 51.9**	**-0.2**
CPBX				*e*S	**Sg**	**17 44 58.8**	**+0.4**
RMX	**La Rumorosa**	**0.54**	**329**	⇑*e*P	**Pg**	**17 44 53.3**	**-0.2**
RMX				*e*S	**Sg**	**17 45 01.1**	**+0.4**
RMX				⇑*e*		17 45 02.0	
	comp=E,3μm,0.3s						
DVTC	**Desert V Tower**	**0.59**	**330**	P	**Pg**	**17 44 54.5**	**0.0**
	baz=0.6,SNR=72						
DVTC				⇑S	**Sg**	**17 45 02.4**	**-0.1**
	baz=0.6						
CBX	**Cerro Bola**	**0.79**	**283**	⇑*i*P	**Pg**	**17 44 58.3**	**0.0**
CBX				*e*S	**Sg**	**17 45 09.4**	**+0.7**
CBX				⇑*e*		17 45 16.1	
	comp=E,8μm,0.7s						
CBX				⇑*e*		17 45 17.7	
	comp=N,7μm,0.5s						
SWSC	**Sam W. Stewart**	**0.80**	**357**	P	**Pg**	**17 44 58.0**	**-0.4**
	baz=0.8,SNR=503						
SWSC				⇑S	**Sg**	**17 45 08.3**	**-0.6**
	baz=0.8						
ECNX	**Esteban Cantu**	**0.87**	**236**	⇑*e*P	**Pb**	**17 44 59.3**	**-0.5**
ECNX				⇑*i*P	**Pg**	**17 44 58.7**	**-1.0**
ECNX				*e*S	**Sg**	**17 45 10.1**	**-1.0**
ECNX				*e*S	**Sb**	**17 45 11.3**	**+0.1**
PBX	**Punta Banda**	**0.92**	**245**	⇑*e*P	**Pg**	**17 45 00.2**	**-0.4**
PBX				*e*S	**Sg**	**17 45 13.1**	**+0.3**
PBX				⇑*e*		17 45 17.9	
	comp=N,3μm,0.7s						
MONP	**Monument Peak**	**0.94**	**323**	P	**Pg**	**17 45 00.7**	**-0.3**
	baz=1.0,SNR=460						
MONP				⇑S	**Sg**	**17 45 13.5**	**+0.2**
	baz=1.0						
BAR	**Barrett**	**0.95**	**305**	*e*Pn	**Pg**	**17 45 00.6**	**-0.6**
BAR				*e*Sn	**Sg**	**17 45 12.6**	**-1.0**
SPX	**San Pedro Mart**	**1.12**	**167**	*e*P	**Pg**	**17 45 03.0**	**-1.5**
SPX				*e*S	**Sg**	**17 45 18.7**	**-0.4**
GLA	**Glamis**	**1.20**	**40**	*e*Pn	Pg	17 45 02.9	-3.0
GLA				*e*Sn	**Sg**	**17 45 17.9**	**-3.6**
GLA	**Glamis**	**1.20**	**40**	P	**Pg**	**17 45 03.1**	**-2.8**
	baz=1.2,SNR=55						
GLA				⇓S	**Sg**	**17 45 18.0**	**-3.6**
	baz=1.2						
109C	**Camp Elliot, M**	**1.37**	**303**	⇑P	**Pn**	**17 45 07.5**	**+0.1**
	baz=1.4,SNR=31						
109C				⇓S	**Sb**	**17 45 25.5**	**0.0**
	baz=1.4						
BC3	**Big Chuckawall**	**1.53**	**9**	⇑P	**Pn**	**17 45 08.5**	**-1.3**
	baz=1.5						
PFO	**Pinyon Flat Ob**	**1.58**	**338**	*e*Pn	Pn	17 45 08.5	-2.1
PFO				*e*Sn	**Sn**	**17 45 29.7**	**-1.2**
PFO	**Pinyon Flat Ob**	**1.58**	**338**	P	**Pn**	**17 45 09.6**	**-0.9**
	baz=1.6,SNR=57						
PFO				⇑Sb	**Sn**	**17 45 32.8**	**+1.9**
	baz=1.6						
113A	**Mohawk Valley,**	**1.79**	**69**	⇓P	**Pn**	**17 45 11.4**	**-1.9**
	baz=1.8,SNR=20						
113A				⇑S	**Sn**	**17 45 33.0**	**-2.8**
	baz=1.8						
BELC	**Belle Mtn. Jos**	**1.86**	**354**	⇑P	**Pn**	**17 45 13.6**	**-0.9**
	baz=1.9,SNR=10						
MURC	**Murrieta**	**1.90**	**320**	⇑Pb	**Pn**	**17 45 16.7**	**+1.8**
	baz=1.9						
MURC				⇓Sb	**Sb**	**17 45 42.1**	**+1.2**
	baz=1.9						
Y12C	**Blythe**	**1.91**	**32**	⇑P	**Pn**	**17 45 13.6**	**-1.3**
	baz=1.9						
Z13A	**Yuma Proving G**	**2.06**	**59**	⇓P	**Pn**	**17 45 15.4**	**-1.6**
	baz=2.0,SNR=42						
BBRC	**Big Bear Solar**	**2.33**	**335**	⇓Sb	**Sb**	**17 45 55.9**	**+2.3**
	baz=2.3						
114A	**Black Gap (USA**	**2.50**	**75**	⇓P	**Pn**	**17 45 21.2**	**-1.9**
	baz=2.5,SNR=12						
214A	**Organ Pipe Nat**	**2.50**	**93**	⇓S	**Sn**	**17 45 51.3**	**-2.2**
	baz=2.5						
CIS	**Catalina Islan**	**2.57**	**300**	⇑P	**Pn**	**17 45 24.3**	**+0.3**
	baz=2.6						
CIS				⇑S	**Sn**	**17 45 56.8**	**+1.7**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.63**	**323**	⇓Pb	**Pb**	**17 45 29.3**	**-0.6**
	baz=2.7						
BFSC				⇑Sb	**Sb**	**17 46 03.6**	**+1.5**
	baz=2.7						
FMP	**Fort Macarthur**	**2.65**	**307**	⇑Sb	**Sb**	**17 46 05.2**	**+2.7**
	baz=2.7						
Z14A	**Wintersburg**	**2.66**	**62**	⇑P	**Pn**	**17 45 23.7**	**-1.6**
	baz=2.6						
Z14A				⇑S	**Sn**	**17 45 54.8**	**-2.5**
	baz=2.6						
MWC	**Mount Wilson**	**2.84**	**318**	*e*Pn	**Pb**	**17 45 32.1**	**-1.3**
MWC				*e*Sn	**Sn**	**17 46 05.4**	**+3.4**
PASC	**Pasadena Art C**	**2.88**	**315**	*e*Pn	**Pb**	**17 45 32.5**	**-1.4**
PASC				*e*Sn	**Sb**	**17 46 09.5**	**+0.5**
DECC	**Green Verdugo**	**3.02**	**315**	⇑Sb	**Sb**	**17 46 15.8**	**+2.7**
	baz=3.0						
GSC	**Goldstone**	**3.27**	**345**	*e*Pn	**Pb**	**17 45 42.8**	**+2.0**
GSC				*e*Sn	**Sg**	**17 46 28.6**	**+0.6**
EDW2	**Edwards Air Fo**	**3.31**	**326**	⇓Sb	**Sb**	**17 46 24.6**	**+3.0**
	baz=3.3						
OSI	**Osito Adit**	**3.50**	**316**	*e*Pn	Pn	17 45 41.0	+4.0
OSI				*e*Sn	**Sb**	**17 46 25.2**	**-1.9**
ISA	**Isabella**	**4.18**	**328**	*e*Pn	**Pn**	**17 45 46.2**	**0.0**
TUC	**Tucson**	**4.21**	**86**	*e*Pn	Pn	17 45 49.8	+3.1
TUC				*e*Pg	Pg	17 46 05.2	+1.7
TUC				*e*Sn	**Sb**	**17 46 49.4**	**+1.9**
TUC				*e*Sg	**Sg**	**17 47 00.9**	**+2.9**
WUAZ	**Wupatki**	**4.96**	**46**	*e*Pn	**Pn**	**17 45 57.0**	**-0.1**
CCUT	**Cedar City**	**5.74**	**19**	*e*Pn	**Pn**	**17 46 09.3**	**+1.5**
	comp=N,17nm,1.3s						
ARUT	**Antelope Range**	**5.94**	**18**	*e*Pn	**Pn**	**17 46 09.0**	**-1.6**
	comp=N,16nm,1.0s						
ARUT				*e*Sg	**Sg**	**17 47 57.4**	**+3.8**
MSU	**Marysvale**	**6.99**	**24**	*e*Pn	Pn	17 46 29.0	+4.0
	comp=N,4.9nm,0.7s						
MVCO	**Mesa Verde**	**7.82**	**48**	*e*Pn	Pn	17 46 31.5	-5.0
	comp=N,5.4nm,0.6s						
PV04	**Paradox Valley**	**8.38**	**40**	*e*Pn	Pn	17 46 37.9	-6.1
PV04				*e*Sg	Sg	17 49 02.1	-10

IDC 23 17:54:38.8±2.8,13.56S×167.28E,h199km±22km,mb3.7/9, mb1 3.8/9,mb1mx3.6/19,mbtmp3.7/9,MS4.3/1,Ms1 4.3/1, ms1mx3.0/24,Error ellipse: s-maj=38.0km s-min=16.5km az=139.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.50**	**185**	P	Pn	17 56 43.3	+4.6
	0.4nm,0.3s,baz=197,slow=19,SNR=5.2						
PMG	**Port Moresby**	**20.14**	**280**	P	P	17 58 59.4	+1.4
	4.4nm,0.6s,baz=90,slow=7.1,SNR=3.8						
CTA	**Charters Tower**	**21.13**	**249**	P	P	17 59 09.2	+0.8
	6.7nm,0.8s,baz=80,slow=13,SNR=8.9						
CTA	**Charters Tower**	**21.13**	**249**	*e*P	P	17 59 09.1	+0.6
	4.6nm,0.6s						
RMQ	**Roma**	**21.60**	**231**	*e*P	P	17 59 14.4	+1.1
	12nm,0.5s						
MTSU	**Mount Surprise**	**22.55**	**255**	*e*P	P	17 59 23.4	+1.0
	14nm,0.5s						
COEN	**Coen**	**23.41**	**266**	*e*P	P	17 59 31.8	+1.5
	30nm,0.6s						
STKA	**Stephens Creek**	**29.77**	**228**	P	P	18 00 27.7	+0.8
	5.8nm,0.4s,baz=53,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**29.77**	**228**	*e*P	P	18 00 27.7	+0.8
	4.8nm,0.4s						
RPZ	**Rata Peaks**	**30.22**	**175**	LR	LR	18 10 42.5	
	comp=Z,481nm,19.1s,baz=269,slow=32						
WRA	**Warramunga Arr**	**32.13**	**254**	P	P	18 00 47.0	-0.9
	2.7nm,0.5s,baz=86,slow=9.3,SNR=70						
WRA				ScP	ScP	18 06 56.7	-0.4
	1.1nm,0.8s,baz=83,slow=3.8,SNR=9.3						
ASAR	**Alice Springs**	**33.11**	**247**	P	P	18 00 55.4	-1.0
	4.8nm,0.5s,baz=75,slow=9.4,SNR=243						
ASAR				PcP	PcP	18 03 34.3	-0.6
	0.5nm,0.5s,baz=78,slow=1.9,SNR=6.8						
ASAR				ScP	ScP	18 06 60.0	-0.5
	2.3nm,0.9s,baz=91,slow=3.1,SNR=14						
SONM	**Songino Array**	**81.57**	**323**	P	P	18 06 34.9	+0.4
	0.3nm,0.4s,baz=142,slow=6.1,SNR=5.9						
ILAR	**Eielson Array**	**85.42**	**18**	P	P	18 06 52.9	-0.6
	1.1nm,0.7s,baz=241,slow=5.2,SNR=14						
NVAR	**Mina Array Bea**	**86.51**	**49**	P	P	18 07 00.5	+0.7
	0.2nm,0.6s,baz=246,slow=3.8,SNR=2.5						
MKAR	**Makanchi Array**	**96.37**	**316**	P	P	18 07 45.2	+0.1
	0.5nm,0.6s,baz=82,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**119.13**	**346**	PKP	PKPdf	18 13 02.9	-0.6
	2.5nm,0.7s,baz=58,slow=1.3,SNR=12						

ISCJB ***23*** *17:59:58.6±0.2,44.64N±0.02×6.78E±0.03,h23km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=148.4*
GEN ***23*** *17:59:58.8,44.62N×6.77E,h8km,ML2.0*
CSEM ***23*** *17:59:58.2±0.1,44.64N×6.77E,h5km,ML2.2/21,Error ellipse: s-maj=2.6km s-min=1.8km az=50.0*
ROM ***23*** *17:59:59.0±0.2,44.63N×6.86E,h9km,Md1.9/4,Ml2.1/3, Error ellipse: s-maj=2.0km s-min=1.0km az=87.0*
LDG ***23*** *17:59:59.2±0.0,44.63N×6.78E,h2km,Md2.5/3,Ml2.2/22, Error ellipse: s-maj=1.0km s-min=0.6km az=67.0*

ISC 23 17:59:58.2±0.8,44.63N±0.02×6.79E±0.02,h13km±5km, n64,σ0.84/128,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.09**	**352**	*e*Pg	**Pg**	**18 00 01.3**	**-0.1**
MBDF				*e*Sg	**Sg**	**18 00 03.1**	**-0.5**
	285nm,0.2s						
MBDF	**Montbardon**	**0.09**	**352**	*e*Pg	**Pg**	**18 00 01.3**	**-0.1**
MBDF				*e*Sg	**Sg**	**18 00 03.1**	**-0.5**
	142nm,0.2s						

SURF	**Saint Ours**	**0.15**	**174**	Pg	**Pg**	**18 00 02.3**	**+0.1**
SURF				Sg	**Sg**	**18 00 04.8**	**-0.1**
OG22	**Abries**	**0.22**	**31**	Pg	**Pb**	**18 00 04.0**	**-0.2**
OG22				Sg	**Sg**	**18 00 07.3**	**+0.7**
PZZ	**Stroppo**	**0.27**	**119**	Pg	**Pg**	**18 00 04.2**	**+0.3**
PZZ				Sg	**Sg**	**18 00 08.1**	**+0.3**
DOI	**San Damiano**	**0.35**	**112**	Pg	**Pg**	**18 00 05.9**	**+0.5**
DOI				Sg	**Sg**	**18 00 10.9**	**+0.6**
	581nm,0.2s						
DOI	**San Damiano**	**0.35**	**112**	Pg	**Pg**	**18 00 05.9**	**+0.5**
DOI				Sg	**Sg**	**18 00 10.9**	**+0.6**
	581nm,0.2s						
STV	**Sant Anna di V**	**0.55**	**135**	Pg	**Pg**	**18 00 09.4**	**+0.4**
STV				Sg	**Sb**	**18 00 17.3**	**-0.2**
	106nm,0.2s						
STV	**Sant Anna di V**	**0.55**	**135**	Pg	**Pg**	**18 00 09.4**	**+0.4**
STV				S	**Sg**	**18 00 16.4**	**+0.1**
STV				Sg	**Sb**	**18 00 17.3**	**-0.2**
	106nm,0.2s						
RSP	**Reno Superiore**	**0.61**	**33**	P	**Pb**	**18 00 11.1**	**+0.2**
RSP				S	**Sg**	**18 00 19.1**	**+0.6**
TOUF	**Mont Tournerai**	**0.70**	**152**	Pg	**Pb**	**18 00 12.5**	**+0.1**
TOUF				Sg	**Sg**	**18 00 21.6**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.71**	**294**	*e*Pg	**Pg**	**18 00 12.3**	**+0.3**
ORIF				*e*Sg	**Sg**	**18 00 21.6**	**+0.3**
	32nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.71**	**294**	*e*Pg	**Pg**	**18 00 12.3**	**+0.3**
ORIF				*e*Sg	**Sg**	**18 00 21.6**	**+0.3**
	16nm,0.2s						
GDM	**Grand'Maison**	**0.74**	**320**	Pg	**Pg**	**18 00 12.0**	**-0.7**
GDM				Sg	**Sg**	**18 00 23.0**	**+0.5**
MVIF	**Mont Vial**	**0.78**	**160**	Pg	**Pg**	**18 00 13.7**	**+0.3**
AUTN	**L'Aution**	**0.79**	**144**	Pg	**Pb**	**18 00 14.4**	**+0.5**
AUTN				Sg	**Sg**	**18 00 24.5**	**+0.6**
SAOF	**Saorge**	**0.85**	**139**	Pg	**Pn**	**18 00 15.5**	**-0.4**
SAOF				Sg	**Sb**	**18 00 26.6**	**+0.5**
LSD	**Lago del Serru**	**0.86**	**16**	P	**Pg**	**18 00 15.2**	**+0.2**
LSD				S	**Sg**	**18 00 26.5**	**+0.2**
LPG	**La Plagne**	**0.86**	**358**	*e*Pg	**Pb**	**18 00 15.5**	**+0.2**
LPG				*e*Sg	**Sg**	**18 00 27.1**	**+0.7**
	20nm,0.4s						
LPG	**La Plagne**	**0.86**	**358**	*e*Pg	**Pb**	**18 00 15.5**	**+0.2**
LPG				*e*Sg	**Sg**	**18 00 27.1**	**+0.7**
	10nm,0.4s						
LPL	**La Plagne**	**0.88**	**357**	*e*Pg	**Pb**	**18 00 15.9**	**+0.4**
LPL				*e*Sg	**Sb**	**18 00 27.6**	**+0.3**
	14nm,0.4s						
LPL	**La Plagne**	**0.88**	**357**	*e*Pg	**Pb**	**18 00 15.9**	**+0.4**
LPL				*e*Sg	**Sb**	**18 00 27.6**	**+0.3**
	6.8nm,0.4s						
SBF	**Sospel**	**0.90**	**149**	*e*Pg	**Pb**	**18 00 16.1**	**+0.4**
SBF				*e*Sg	**Sb**	**18 00 28.0**	**+0.4**
	16nm,0.2s						
SBF	**Sospel**	**0.90**	**149**	*e*Pg	**Pb**	**18 00 16.1**	**+0.4**
SBF				*e*Sg	**Sb**	**18 00 28.0**	**+0.4**
	8.0nm,0.2s						
GRN	**Grenoble**	**0.96**	**310**	Pg	**Pn**	**18 00 18.0**	**+0.5**
GRN				Sg	**Sn**	**18 00 30.7**	**-0.3**
NEGI	**Seborga**	**1.02**	**140**	P	**Pg**	**18 00 18.0**	**0.0**
NEGI				S	**Sb**	**18 00 30.1**	**-1.1**
RORO	**Rocca Rossa**	**1.05**	**119**	P	**Pb**	**18 00 17.7**	**-0.6**
RORO				S	**Sb**	**18 00 30.3**	**-1.7**
IMI	**Imperia**	**1.07**	**132**	P	**Pb**	**18 00 18.6**	**-0.1**
IMI				S	**Sb**	**18 00 31.6**	**-1.0**
SMRF	**Simiane la Rot**	**1.09**	**233**	*e*Pg	**Pg**	**18 00 20.7**	**+1.4**
SMRF				*e*Sg	**Sb**	**18 00 33.2**	**+0.1**
	16nm,0.3s						
SMRF	**Simiane la Rot**	**1.09**	**233**	*e*Pg	**Pg**	**18 00 20.7**	**+1.4**
SMRF				*e*Sg	**Sb**	**18 00 33.2**

CDF	**Champ du Feu**	**3.79**	**5**	*e*Pn		**Pn**	**18 00 57.4**	**+1.0**
CDF				*e*Sn		**Sn**	**18 01 39.4**	**-1.5**
	0.6nm,0.3s							
CDF	**Champ du Feu**	**3.79**	**5**	*e*Pn		**Pn**	**18 00 57.4**	**+1.0**
CDF				*e*Sn		**Sn**	**18 01 39.4**	**-1.5**
	0.3nm,0.3s							

*WAR **23** 18:14:00.8, 50°.07N×19°.10E*

*ISCJB **23** 18:14:00.4±0.4, 50°.09N±0°.03×18°.94E±0°.02, h0km, Error ellipse: s-maj=3.7km s-min=2.1km az=11.4*

*IDC **23** 18:14:01.3±2.2, 49°.94N×19°.11E, h0km, mb1 3.6/3, mb1mx3.2/23, mbtmp3.5/3, ML2.6/2, Error ellipse: s-maj=40.0km s-min=11.1km az=140.0*

*CSEM **23** 18:14:01.8±0.2, 50°.06N×18°.94E, h2km, ML3.1/6, Error ellipse: s-maj=5.9km s-min=3.0km az=13.0*

*PRU **23** 18:14:02.0, 50°.11N×18°.97E, h0km*

*VIE **23** 18:14:04.1±0.7, 49°.86N×18°.86E, h0km, mb2.5/3, ML2.7/4, Error ellipse: s-maj=4.6km s-min=4.1km az=168.0 44 km SSW of Katowice Suspected Mining induced.*

ISC 23 18:14:00.1±0.7, 50°.10N±0°.03×19°.07E±0°.01, h0km, n59, σ1s15/105, 14C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.48**	**75**	*e*Pg	**Pb**	**18 14 10.3**	**-1.1**
OJC				*e*Sg	**Sb**	**18 14 17.4**	**-1.7**
OJC	**Ojcow**	**0.48**	**75**	*e*Pg	**Pb**	**18 14 10.3**	**-1.1**
OJC				*e*Sg	**Sb**	**18 14 17.4**	**-1.7**
RAC	**Raciborz**	**0.57**	**269**	*e*Pg	**Pb**	**18 14 13.1**	**+0.2**
RAC				*e*Sg	**Sb**	**18 14 21.8**	**+0.3**
RAC	**Raciborz**	**0.57**	**269**	*e*Pg	**Pb**	**18 14 13.1**	**+0.2**
RAC				*e*Sg	**Sb**	**18 14 21.8**	**+0.3**
OKC	**Ostrava-Krasne**	**0.65**	**247**	*e*PG	**Pb**	**18 14 13.7**	**-0.6**
OKC				*e*SG	**Sg**	**18 14 19.6**	**-1.4**
	comp=Z,53nm,0.4s						
OKC	**Ostrava-Krasne**	**0.65**	**247**	Pg	**Pb**	**18 14 13.7**	**-0.6**
OKC				Sg	**Sg**	**18 14 19.6**	**-1.4**
	53nm,0.4s						
MORC	**Moravsky Berou**	**1.04**	**253**	⇑*i*P	**Pg**	**18 14 20.5**	**+0.5**
MORC	**Moravsky Berou**	**1.04**	**253**	*e*Pg	**Pg**	**18 14 20.4**	**+0.5**
MORC				*e*Sg	**Sg**	**18 14 34.2**	**+0.7**
MORC				S	**Sb**	**18 14 34.8**	**-0.4**
LIKS	**Likavka**	**1.05**	**179**	*e*PG	**Pb**	**18 14 20.9**	**-0.2**
LIKS				*e*SG	**Sb**	**18 14 35.5**	**+0.1**
LIKS	**Likavka**	**1.05**	**179**	*e*Pg	**Pb**	**18 14 20.9**	**-0.2**
LIKS				*e*Sg	**Sb**	**18 14 35.5**	**+0.1**
NIE	**Niedzica**	**1.05**	**130**	*e*Pg	**Pb**	**18 14 20.8**	**-0.4**
NIE				*e*Sg	**Sn**	**18 14 36.7**	**-0.8**
NIE	**Niedzica**	**1.05**	**130**	*e*Pg	**Pb**	**18 14 20.8**	**-0.4**
NIE				*e*Sg	**Sn**	**18 14 36.7**	**-0.8**
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*PN	**Pg**	**18 14 31.1**	**+1.1**
STHS				*e*SN	**Sg**	**18 14 53.6**	**+3.3**
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*Pn	**Pg**	**18 14 31.1**	**+1.1**
STHS				*e*Sn	**Sg**	**18 14 53.6**	**+3.3**
KOLL	**Kolacno**	**1.58**	**196**	*e*SN	**Sg**	**18 14 51.2**	**+0.3**
KOLL	**Kolacno**	**1.58**	**196**	*e*Sn	**Sg**	**18 14 51.2**	**+0.3**
VYHS	**Vyhne**	**1.61**	**186**	*e*PN	**Pn**	**18 14 29.6**	**-0.2**
VYHS				*e*SN	**Sn**	**18 14 50.5**	**-0.8**
VYHS	**Vyhne**	**1.61**	**186**	*e*Pn	**Pn**	**18 14 29.6**	**-0.2**
VYHS				*e*Sn	**Sn**	**18 14 50.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.79**	**279**	*e*PG	**Pn**	**18 14 32.3**	**+0.1**
DPC				*e*SG	**Sn**	**18 14 56.3**	**+0.7**
	comp=Z,45nm,0.3s						
DPC	**Dobruska-Polom**	**1.79**	**279**	Pg	**Pn**	**18 14 32.3**	**+0.1**
DPC				Sg	**Sn**	**18 14 56.3**	**+0.7**
	45nm,0.3s						
VRAC	**Vranov**	**1.79**	**245**	Pn	**Pn**	**18 14 32.2**	**-0.1**
	4.6nm,0.3s,baz=69,slow=13,SNR=15						
VRAC				Lg	Lg	18 14 56.9	
	11nm,0.3s,baz=166,slow=20,SNR=15						
VRAC	**Vranov**	**1.79**	**245**	⇑*i*P	**Pb**	**18 14 33.2**	**-0.6**
VRAC	**Vranov**	**1.79**	**245**	*e*Pn	**Pn**	**18 14 33.1**	**+0.8**
VRAC				*e*Sg	**Sg**	**18 14 57.5**	**-0.2**
VRAC				S	**Sb**	**18 14 57.8**	**+1.0**
SMOL	**Smolenice**	**1.92**	**215**	*e*PN	**Pn**	**18 14 33.8**	**-0.2**
SMOL				*e*SN	**Sn**	**18 14 57.8**	**-1.0**
SMOL	**Smolenice**	**1.92**	**215**	*e*Pn	**Pn**	**18 14 33.8**	**-0.2**
SMOL				*e*Sn	**Sn**	**18 14 57.8**	**-1.0**
KSP	**Ksiaz**	**1.93**	**294**	*e*Pn	**Pn**	**18 14 34.1**	**0.0**
KSP				*e*Pg	**Pg**	**18 14 37.4**	**+0.4**
KSP				*e*Sg	**Sg**	**18 15 02.2**	**+0.3**
KSP	**Ksiaz**	**1.93**	**294**	*e*Pn	**Pn**	**18 14 34.1**	**0.0**
CRVS	**Cervenica-Dubn**	**1.96**	**127**	*e*PN	**Pg**	**18 14 37.1**	**-0.6**
CRVS				*e*SN	**Sg**	**18 15 04.3**	**+1.2**
CRVS	**Cervenica-Dubn**	**1.96**	**127**	*e*Pn	**Pg**	**18 14 37.1**	**-0.6**
CRVS				*e*Sn	**Sg**	**18 15 04.3**	**+1.2**
UPC	**Upice**	**2.01**	**283**	*e*SG	**Sn**	**18 15 02.5**	**+1.5**
UPC	**Upice**	**2.01**	**283**	Sg	**Sn**	**18 15 02.5**	**+1.5**
PSZ	**Piszkesteto**	**2.25**	**166**	⇑*i*P	**Pb**	**18 14 41.0**	**-0.6**
PSZ	**Piszkesteto**	**2.25**	**166**	⇑*i*P	**Pb**	**18 14 41.0**	**-0.6**
PSZ				S	**Sg**	**18 15 11.4**	**-0.8**
ZST	**Bratislava**	**2.30**	**215**	*e*PN	**Pn**	**18 14 40.6**	**+1.4**
ZST				*e*SG	**Sg**	**18 15 14.1**	**+0.1**
ZST	**Bratislava**	**2.30**	**215**	*e*Pn	**Pn**	**18 14 40.6**	**+1.4**
ZST				*e*Sg	**Sg**	**18 15 14.1**	**+0.1**
KOLS	**Kolonicke sedl**	**2.39**	**118**	*e*PN	**Pb**	**18 14 44.3**	**+0.4**
KOLS				*e*SN	**Sb**	**18 15 14.4**	**+0.5**
KOLS	**Kolonicke sedl**	**2.39**	**118**	*e*Pn	**Pb**	**18 14 44.3**	**+0.4**
KOLS				*e*Sn	**Sb**	**18 15 14.4**	**+0.5**
KWP	**Kalwaria Pacla**	**2.40**	**100**	⇑*i*P	**Pb**	**18 14 43.9**	**-0.2**
KWP	**Kalwaria Pacla**	**2.40**	**100**	⇑*i*P	**Pb**	**18 14 43.9**	**-0.2**
KWP				S	**Sg**	**18 15 15.8**	**-1.2**
PRU	**Pruhonice**	**2.92**	**270**	*e*PG	**Pb**	**18 14 53.4**	**+0.4**
PRU				*e*SG	**Sb**	**18 15 31.6**	**+2.3**
	comp=Z,11nm,0.4s						
CONA	**Conrad Observa**	**3.03**	**225**	⇓*i*Pn	**Pn**	**18 14 49.4**	**+0.1**
CONA				⇓*i*Sn	**Sn**	**18 15 25.0**	**-1.4**
CONA				⇓*i*Sg	**Sg**	**18 15 36.1**	**-1.3**
	7.8nm,0.3s						
CONA	**Conrad Observa**	**3.03**	**225**	Pn	**Pn**	**18 14 49.4**	**+0.1**
CONA				Sn	**Sn**	**18 15 25.0**	**-1.4**
CONA				Sg	**Sg**	**18 15 36.1**	**-1.3**
	7.8nm,0.3s						
BRG	**Berggiesshubel**	**3.37**	**285**	PG	**Pg**	**18 15 07.4**	**+2.8**
BRG				SG	**Sg**	**18 15 46.5**	**-1.7**
	9.6nm,0.5s						
KHC	**Kasperske Hory**	**3.70**	**257**	*e*PN	**Pn**	**18 14 59.0**	**+0.5**
KHC				*e*PG	**Pb**	**18 15 08.5**	**+2.2**
KHC				*e*SG	**Sg**	**18 15 56.8**	**-2.1**
	comp=Z,10nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**257**	Pn	**Pn**	**18 14 59.0**	**+0.5**
KHC				Sg	**Sg**	**18 15 56.8**	**-2.1**
	10nm,0.4s						
GERES	**GERESS Array B**	**3.72**	**252**	Pn	**Pn**	**18 15 00.3**	**+1.5**
	0.3nm,0.3s,baz=59,slow=14,SNR=6.3						
GERES				Pg	**Pb**	**18 15 08.1**	**+1.4**
	0.9nm,0.3s,baz=69,slow=17,SNR=13						
GERES				Lg	Lg	18 15 58.0	
	2.6nm,0.3s,baz=70,slow=27,SNR=6.4						
MOA	**Molln**	**3.88**	**236**	⇓*i*Pn	**Pn**	**18 15 01.5**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**18 16 03.6**	**-1.2**
	9.6nm,0.4s						
MOA	**Molln**	**3.88**	**236**	Pn	**Pn**	**18 15 01.5**	**+0.5**
MOA				Sg	**Sg**	**18 16 03.6**	**-1.2**
	9.6nm,0.4s						
PKSM	**Moragy**	**3.90**	**184**	⇑*i*P	**Pn**	**18 15 02.5**	**+1.3**
PKSM	**Moragy**	**3.90**	**184**	⇑*i*P	**Pn**	**18 15 02.5**	**+1.3**
PKSM				S	**Sn**	**18 15 49.3**	**+1.7**
CLL	**Collm**	**4.04**	**290**	*e*Pg	Pg	18 15 23.0	+5.5
CLL				*e*Sg	**Sg**	**18 16 11.0**	**+1.1**
	comp=Z,11nm,0.5s						
DRGR		**4.10**	**142**	⇑*i*P	**Pn**	**18 15 05.5**	**+1.5**
DRGR		**4.10**	**142**	⇑*i*P	**Pn**	**18 15 05.5**	**+1.5**
DRGR				S	**Sn**	**18 15 53.9**	**+1.2**
BURAR	**Bucovina Array**	**4.76**	**119**	⇑*i*P	Pn	18 15 16.9	+3.8
BURAR	**Bucovina Array**	**4.76**	**119**	⇑*i*P	Pn	18 15 16.9	+3.8
BURAR				S	**Sn**	**18 16 11.3**	**+2.4**
BZS	**Buzias**	**4.80**	**158**	⇑*i*P	**Pn**	**18 15 14.3**	**+0.7**
BZS	**Buzias**	**4.80**	**158**	⇑*i*P	**Pn**	**18 15 14.3**	**+0.7**
BZS				S	**Sn**	**18 16 09.6**	**-0.2**
FINES	**FINESS Array B**	**12.03**	**16**	Pn	**Pn**	**18 16 50.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=5.8						
ARCES	**ARCESS Array B**	**19.74**	**7**	Pn	**P**	**18 18 29.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=5.0						

*NOU **23** 18:22:55.8±1.0, 17°.96S×168°.05E, h30km, MD3.1, ML3.4*

*IDC **23** 18:23:00.5±7.4, 18°.52S×168°.42E, h86km±72km, mb3.2/4, mb1 3.5/5, mb1mx3.4/16, mbtmp3.3/5, Error ellipse: s-maj=71.3km s-min=45.4km az=152.0*

ISC 23 18:22:56.5±2.4, 18°.2S±0°.1×168°.3E±0°.4, h35km, n9, σ1s24/12, mb3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.21**	**204**	P	**Pn**	**18 23 59.9**	**+1.6**
	9.6nm,0.3s,baz=158,slow=19,SNR=86						
DZM				S	**Sn**	**18 24 45.6**	**-0.7**
	16nm,0.3s,baz=165,slow=20,SNR=12						
DZM	**Mont Dzumac**	**4.21**	**204**	*e*P	**Pn**	**18 23 59.0**	**+0.7**
DZM				*e*S	**Sn**	**18 24 44.9**	**-1.4**
DZM				AMP		18 24 48.6	
	comp=Z,668nm,0.6s						
NOUC	**Port Laguerre**	**4.29**	**205**	*e*P	**Pn**	**18 23 60.0**	**+0.6**
NOUC				*e*S	**Sn**	**18 24 47.7**	**-0.4**
NOUC				AMP		18 24 51.1	
	comp=Z,36nm,1.7s						
NORM	**Noumea**	**4.33**	**202**	*e*P	**Pn**	**18 24 00.7**	**+0.8**
NORM				*e*S	**Sn**	**18 24 49.3**	**+0.1**
WRA	**Warramunga Arr**	**32.08**	**261**	P	**P**	**18 29 19.5**	**-0.9**
	comp=Z,0.6nm,1.2s,baz=81,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**32.49**	**254**	P	**P**	**18 29 23.8**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=83,slow=8.3,SNR=11						
CMAR	**Chiang Mai Arr**	**77.23**	**294**	P	**P**	**18 34 49.0**	**+1.5**
	comp=Z,0.9nm,1.0s,baz=140,slow=5.7,SNR=4.9						
SONM	**Songino Array**	**85.84**	**323**	P	P	18 35 31.3	-1.3
	comp=Z,0.3nm,0.5s,baz=112,slow=4.9,SNR=2.8						
ARCES	**ARCESS Array B**	**123.84**	**345**	PKP	**PKPdf**	**18 41 48.1**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=46,slow=3.5,SNR=6.4						

IDC 23 18:31:36.0±27.0, 23°.43S×172°.95W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, Error ellipse: s-maj=493.1km s-min=146.1km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.95**	**267**	P	P	18 38 55.8	+0.2
	2.3nm,0.5s,baz=100,slow=14,SNR=6.8						
STKA	**Stephens Creek**	**40.89**	**248**	P	P	18 39 19.7	-0.4
	1.0nm,0.3s,baz=82,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**48.47**	**259**	P	P	18 40 20.6	-0.2
	0.7nm,0.3s,baz=93,slow=7.5,SNR=45						
WRA	**Warramunga Arr**	**48.88**	**263**	P	P	18 40 23.9	-0.1
	2.7nm,0.7s,baz=104,slow=8.0,SNR=35						

*IDC **23** 18:39:28.2±0.8, 14°.77N×147°.03E, h0km, mb3.9/13, mb1 4.0/14, mb1mx4.0/24, mbtmp3.9/14, ML4.4/1, Error ellipse: s-maj=23.8km s-min=16.4km az=102.0*

*ISCJB **23** 18:39:31.2±0.6, 14°.79N±0°.07×147°.10E±0°.09, h33km, mb4.0/20, Error ellipse: s-maj=14.1km s-min=8.4km az=28.9*

*NEIC **23** 18:39:35.8±0.6, 14°.73N×146°.91E, h55km, mb4.3/8, Error ellipse: s-maj=17.1km s-min=10.1km az=92.0*

ISC 23 18:39:33.5±0.7, 14°.74N±0°.10×146°.9E±0°.1, h33km, n40, σ0s98/42, mb4.1/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.27**	**240**	Pn	**Pn**	**18 40 09.4**	**+0.6**
	81nm,0.3s,baz=97,slow=3.7,SNR=54						
GUMO				Sn	**Sb**	**18 40 40.2**	**-1.4**
	56nm,0.3s,baz=198,slow=22,SNR=5.8						
GUMO	**Guam**	**2.27**	**240**	Pn	**Pn**	**18 40 09.4**	**+0.6**
GUMO				*e*Sn	**Sb**	**18 40 39.8**	**-1.8**
GUMO				Sn	**Sb**	**18 40 40.2**	**-1.4**
MJAR	**Matsushiro Arr**	**23.06**	**342**	P	**P**	**18 44 33.9**	**-2.3**
	0.6nm,0.4s,baz=41,slow=9.2,SNR=5.1						
MJAR	**Matsushiro Arr**	**23.06**	**342**	P	**P**	**18 44 33.9**	**-2.3**
PMG	**Port Moresby**	**23.99**	**179**	P	**P**	**18 44 46.3**	**+1.1**
	14nm,0.9s						
KSRS	**Korea Array**	**28.21**	**327**	P	**P**	**18 45 23.7**	**+0.5**
	2.1nm,0.8s,baz=150,slow=9.6,SNR=4.3						
KSAR	**Wonju Array Be**	**28.22**	**327**	P	**P**	**18 45 23.7**	**+0.3**
WRAB	**Tennant Creek**	**36.60**	**200**	*e*P	**P**	**18 46 35.9**	**-0.9**
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**36.61**	**200**	P	**P**	**18 46 36.2**	**-0.6**
	0.9nm,0.7s,baz=23,slow=9.9,SNR=9.9						
WRA	**Warramunga Arr**	**36.61**	**200**	P	**P**	**18 46 36.2**	**-0.6**
ASAR	**Alice Springs**	**40.23**	**199**	P	**P**	**18 47 07.1**	**-0.1**
	0.4nm,0.7s,baz=24,slow=8.4,SNR=9.1						
ASAR	**Alice Springs**	**40.23**	**199**	P	**P**	**18 47 07.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**46.00**	**282**	P	**P**	**18 47 55.1**	**+1.0**
	0.7nm,0.7s,baz=72,slow=5.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**46.00**	**282**	P	**P**	**18 47 55.1**	**+1.0**
SONM	**Songino Array**	**46.96**	**323**	P	**P**	**18 48 02.1**	**+0.7**
	1.4nm,0.7s,baz=136,slow=6.6,SNR=11						
SONM	**Songino Array**	**46.96**	**323**	P	**P**	**18 48 02.1**	**+0.7**
TLY	**Talaya**	**50.46**	**326**	P	P	18 48 23.2	-4.8
	3.2nm,0.9s						
LSA	**Lhasa**	**53.24**	**296**	*e*P	**P**	**18 48 51.4**	**+1.7**
	4.4nm,0.6s						
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**18 49 49.4**	**0.0**
	0.7nm,0.6s,baz=101,slow=6.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**18 49 49.4**	**0.0**
MK31	**Makanchi Array**	**62.05**	**315**	*e*P	**P**	**18 49 51.5**	**+0.6**
MKAR	**Makanchi Array**	**62.05**	**315**	P	**P**	**18 49 51.7**	**+0.9**
	1.3nm,0.4s,baz=91,slow=8.2,SNR=34						
MKAR	**Makanchi Array**	**62.05**	**315**	P	**P**	**18 49 51.7**	**+0.9**
KURK	**Kurchatov**	**64.99**	**319**	P	**P**	**18 50 10.4**	**+0.3**
	3.9nm,0.6s,baz=97,slow=6.8,SNR=16						
KURK	**Kurchatov**	**64.99**	**319**	*e*P	**P**	**18 50 10.1**	**0.0**
	9.2nm,1.1s						
ILAR	**Eielson Array**	**66.70**	**25**	P	**P**	**18 50 20.3**	**-0.6**
	0.6nm,0.9s,baz=248,slow=6.8,SNR=4.6						
ILAR	**Eielson Array**	**66.70**	**25**	P	P	**18 50 20.3**	**-0.6**
KKAR	**Karatay Array**	**70.19**	**311**	*e*P	**P**	**18 50 43.5**	**+0.3**
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**70.26**	**321**	P	**P**	**18 50 42.7**	**-0.7**
	1.1nm,0.5s,baz=110,slow=7.5,SNR=9.7						
BVAR	**Borovoye Array**	**70.26**	**321**	P	**P**	**18 50 42.7**	**-0.7**
KBL	**Kabul**	**71.90**	**302**	P	**P**	**18 50 55.3**	**+1.4**
	1.7nm,0.8s						
ARU	**Arti**	**76.95**	**325**	P	**P**	**18 51 21.1**	**-1.5**
	3.1nm,0.8s						
YKA	**Yellowknife Ar**	**80.94**	**28**	P	P	**18 51 43.9**	**-0.4**
	0.3nm,0.6s,baz=280,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**80.94**	**28**	P	**P**	**18 51 43.9**	**-0.4**
FINES	**FINESS Array B**	**90.94**	**336**	P	**P**	**18 52 32.8**	**-1.1**
	3.5nm,0.9s,baz=64,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	**90.94**	**336**	P	**P**	**18 52 32.8**	**-1.1**
DBIC	**Dimbokro**	**144.83**	**305**	PKP	**PKPdf**	**18 59 07.8**	**-0.3**
	1.0nm,0.6s,baz=90,slow=3.0,SNR=4.4						
DBIC	**Dimbokro**	**144.83**	**305**	PKP	**PKPdf**	**18 59 07.8**	**-0.3**
LPAZ	**La Paz**	**146.24**	**97**	PKPbc	**PKPbc**	**18 59 12.5**	**+0.2**
	0.7nm,0.6s,baz=305,slow=2.9,SNR=2.9						
LPAZ	**La Paz**	**146.24**	**97**	PKPbc	**PKPbc**	**18 59 12.5**	**+0.2**

*IDC **23** 18:40:37.1±10.0, 36°.10N×70°.35E, h142km±92km, mb3.4/7, mb1 3.5/10, mb1mx3.3/26, mbtmp3.5/10, Error ellipse: s-maj=50.4km s-min=19.8km az=27.0*

*ISCJB **23** 18:40:43.2±0.3, 36°.51N±0°.03×70°.48E±0°.06, h204km, mb3.5/9, Error ellipse: s-maj=7.0km s-min=3.6km az=160.9*

*NEIC **23** 18:40:43.6±0.7, 36°.46N×70°.46E, h195km±9km, mb4.6/14, Error ellipse: s-maj=10.2km s-min=6.1km az=58.0*

*NNC **23** 18:40:45.9±16.0, 36°.89N×70°.03E, h131km±182km, mb3.4, mpv4.3, Error ellipse: s-maj=126.8km s-min=77.6km az=18.0*

ISC 23 18:40:43.9±0.6, 36°.53N±0°.05×70°.52E±0°.06, h204km, n80, σ1s46/95, mb3.6/9, 9C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.32**	**212**	*e*Pn	**Pn**	**18 41 25.1**	**-1.3**
KBL				*e*Sg	**S**	**18 41 54.3**	**-4.5**
CEP	**Cherat**	**2.93**	**157**	⇓P	**Pn**	**18 41 33.6**	**+0.4**
CEP				S	**S**	**18 42 11.0**	**0.0**
CHCP	**Chirah Chowk**	**3.64**	**141**	⇓P	**Pn**	**18 41 42.6**	**+1.1**
THW	**Thamme Wali**	**3.86**	**164**	⇓P	**Pn**	**18 41 44.2**	**0.0**
SARP	**Sargodha**	**4.93**	**158**	⇓P	**Pn**	**18 41 56.9**	**-0.7**
THN	**Thein Dam**	**5.93**	**132**	*e*P	**Pn**	**18 42 10.0**	**-0.3**
THN				*e*S	**S**	**18 43 13.6**	**-4.7**
AML	**Almayashu**	**6.11**	**23**	P	**Pn**	**18 42 13.4**	**+0.5**
	SNR=232						
AML				P	**Pn**	**18 42 13.4**	**+0.5**
	SNR=232						
UCH	**Uchtor**	**6.47**	**27**	P	**Pn**	**18 42 18.7**	**+1.0**
	SNR=7.4						
UCH				P	**Pn**	**18 42 18.7**	**+1.0**
	SNR=7.4						
KK31	**Karatay Array**	**6.56**	**360**	⇑P	**Pn**	**18 42 18.3**	**-0.1**
	3.6nm,0.2s,baz=173,slow=12,SNR=432						
KK31				⇑S	S	18 43 23.9	-9.4
	11nm,0.6s,baz=187,slow=22,SNR=11						
KKAR	**Karatay Array**	**6.56**	**360**	*e*Pn	**Pn**	**18 42 18.1**	**-0.3**
	19nm,0.3s						
KKAR				*e*Sn	S	18 43 17.7	-16
EKS2	**Erkin-Say**	**6.62**	**21**	P	**Pn**	**18 42 20.1**	**+0.8**
	SNR=32						
EKS2				P	**Pn**	**18 42 20.1**	**+0.8**
	SNR=32						
EKS2	**Erkin-Say**	**6.62**	**21**	*e*Pn	**Pn**	**18 42 19.8**	**+0.6**
	12nm,0.4s						
EKS2				*e*Sn	**S**	**18 43 30.4**	**-4.3**
KZA	**Kyzart**	**6.64**	**32**	P	**Pn**	**18 42 20.3**	**+0.4**
	SNR=16						
KZA				P	**Pn**	**18 42 20.3**	**+0.4**
	SNR=16						
AAK	**Ala-Archa**	**6.82**	**26**	P	**Pn**	**18 42 22.9**	**+0.9**
	SNR=26						
AAK				P	**Pn**	**18 42 22.9**	**+0.9**
	SNR=26						
AAK	**Ala-Archa**	**6.82**	**26**	*e*Pn	**Pn**	**18 42 22.5**	**+0.6**
	61nm,0.4s						
AAK				*e*Sn	**S**	**18 43 37.8**	**-1.9**
KBK	**Karagaybulak**	**7.01**	**28**	P	**Pn**	**18 42 25.4**	**+1.1**
	SNR=14						
KBK				P	**Pn**	**18 42 25.4**	**+1.1**
	SNR=14						
CHMS	**Chumysh**	**7.23**	**25**	P	**Pn**	**18 42 28.0**	**+0.8**
	SNR=7.1						
CHMS				P	**Pn**	**18 42 28.0**	**+0.8**
	SNR=7.1						
USP	**Ospenovka**	**7.39**	**23**	P	**Pn**	**18 42 29.8**	**+0.6**
	SNR=28						
USP				P	**Pn**	**18 42 29.8**	**+0.6**
	SNR=28						
TKM2	**Tokmak 2**	**7.48**	**30**	P	**Pn**	**18 42 31.1**	**+0.5**
	SNR=55						
TKM2				P	**Pn**	**18 42 31.1**	**+0.5**
	SNR=55						
TKM2	**Tokmak 2**	**7.48**	**30**	⇑P	**Pn**	**18 42 31.1**	**+0.5**
	21nm,0.5s						
TKM2				⇓S	**S**	**18 43 53.2**	**-2.1**
	14nm,0.8s						
TKM2	**Tokmak 2**	**7.48**	**30**	*e*Pn	**Pn**	**18 42 30.8**	**+0.2**
	32nm,0.5s						
TKM2				*e*Sn	**S**	**18 43 50.8**	**-4.6**
DDI	**Dehra Dun**	**8.83**	**132**	*ex*	**S**	**18 44 26.8**	**-0.5**
NDI	**New Delhi**	**9.65**	**142**	*e*P	S	18 44 36.5	-10
MK31	**Makanchi Array**	**13.50**	**37**	⇑P	**P**	**18 43 50.0**	**+0.3**
	3.0nm,0.7s,baz=220,slow=12,SNR=29						
MK31	**Makanchi Array**	**13.50**	**37**	*e*Pn	**P**	**18 43 49.6**	**-0.1**
MKAR	**Makanchi Array**	**13.50**	**37**	P	**P**	**18 43 48.7**	**-1.0**
	0.1nm,0.3s,baz=219,slow=13,SNR=26						
MKAR	**Makanchi Array**	**13.50**	**37**	P	**P**	**18 43 48.7**	**-1.0**
DANN	**Dangsing**	**13.83**	**122**	*e*P	**Pn**	**18 43 52.2**	**+0.3**
DANN	**Dangsing**	**13.83**	**122**	*e*P	**Pn**	**18 43 52.2**	**+0.3**
KOLN	**Koldanda**	**14.10**	**125**	*e*P	**Pn**	**18 43 52.9**	**-2.2**
KOLN	**Koldanda**	**14.10**	**125**	*e*P	**Pn**	**18 43 52.9**	**-2.2**
GKN	**Gorkha**	**14.65**	**121**	*e*P	**Pn**	**18 44 02.1**	**+0.2**
	12nm,0.3s						
GKN	**Gorkha**	**14.65**	**121**	*e*P	**Pn**	**18 44 02.1**	**+0.2**
	12nm,0.3s						
AB31	**Akbulak array**	**14.87**	**332**	⇑P	**Pn**	**18 44 03.1**	**-1.1**
	0.7nm,0.3s,baz=155,slow=11,SNR=55						
AB31				⇑S	S	18 46 42.9	-6.1
	0.8nm,0.5s,baz=162,slow=23,SNR=5.1						
ABKAR	**Akbulak array**	**14.87**	**332**	*e*Pn	**Pn**	**18 44 03.3**	**-0.9**
	1.8nm,0.3s						
ABKAR				*e*Sn	S	18 46 38.9	-10
DMN	**Daman**	**15.22**	**122**	*e*P	**Pn**	**18 44 08.1**	**-0.8**
	5.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.3	**0.31**	**334**	⇓P	**Pb**	**19 15 05.4**	**-0.7**
J23A	**Dilts Ranch, B** baz=0.3	**0.35**	**216**	⇑P	**Pg**	**19 15 05.0**	**+0.7**
J23A	baz=0.3			⇑S	**Sg**	**19 15 07.2**	**-1.5**
I24A	**Kuemmerle Ranc** baz=0.5	**0.50**	**69**	⇑P	**Pb**	**19 15 09.0**	**-0.4**
I22A	**9 Mile Ranch,** baz=0.9	**0.90**	**284**	⇑P	**Pg**	**19 15 15.2**	**+0.3**
J22A	**Midwest** baz=0.9	**0.92**	**253**	⇓P	**Pg**	**19 15 15.0**	**-0.2**
RSSD	**Black Hills**	**1.00**	**64**	*e*Pg	**Pb**	**19 15 17.8**	**-0.1**
H24A	**Dirks Ranch, A** baz=1.2	**1.18**	**26**	⇓P	**Pg**	**19 15 20.6**	**+0.3**
H22A	**Clearmont** baz=1.2	**1.20**	**320**	⇑P	**Pg**	**19 15 20.9**	**+0.4**
H22A	baz=1.2			⇑S	**Sb**	**19 15 37.3**	**0.0**
F23A	**Volborg** baz=2.0	**2.04**	**357**	⇑Sb	**Sg**	**19 16 02.9**	**-0.2**
PHWY	**Pilot Hill**	**2.39**	**183**	*e*Pn	**Pn**	**19 15 38.9**	**+0.7**
RWWY	**Rawlins**	**2.45**	**216**	*e*Pn	**Pn**	**19 15 40.9**	**+1.7**
RLMT	**Red Lodge**	**3.20**	**298**	*e*Pn	**Pn**	**19 15 49.6**	**+0.2**
PDAR	**Pinedale Array** 0.4nm,0.3s,baz=75,slow=16,SNR=14	**3.26**	**255**	Pn	Pn	19 15 46.9	-3.4
PDAR	6.5nm,0.3s,baz=67,slow=19,SNR=90			Pg	Pb	19 15 51.4	-5.1
PDAR	31nm,0.3s,baz=72,slow=35,SNR=18			Lg	Lg	19 16 34.3	
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	Pn	19 15 46.9	-3.4
PDAR				Pg	Pb	19 15 51.4	-5.1
PDAR				Lg	Lg	19 16 34.3	
BW06	**Boulder Array**	**3.26**	**255**	*e*Pn	**Pn**	**19 15 50.5**	**+0.2**
PD02	**Pinedale Array**	**3.27**	**255**	*e*Pn	**Pn**	**19 15 47.5**	**-2.8**
PD01	**Pinedale Array**	**3.28**	**255**	*e*Pn	**Pn**	**19 15 50.4**	**0.0**
OGNE	**Ogallala**	**3.64**	**138**	*e*Pn	**Pn**	**19 15 54.6**	**-0.8**
GCMT	**Greycliff**	**3.77**	**305**	*e*Pn	**Pn**	**19 15 57.4**	**+0.2**
LKWY	**Lake**	**3.79**	**285**	*e*Pn	**Pn**	**19 15 59.0**	**+1.4**
LOHW	**Long Hollow**	**3.87**	**271**	*e*Pn	**Pn**	**19 16 00.8**	**+2.3**
ISCO	**Idaho Springs**	**3.89**	**184**	*e*Pn	**Pn**	**19 16 00.6**	**+1.7**
FLWY	**Flagg Ranch**	**3.94**	**278**	*e*Pn	**Pn**	**19 16 00.2**	**+0.6**
MOOW	**Moose Ponds**	**3.97**	**273**	*e*Pn	**Pn**	**19 16 00.7**	**+0.8**
SNOW	**Snow King Moun**	**3.99**	**269**	*e*Pn	**Pn**	**19 16 02.7**	**+2.5**
REDW	**Red Top Meadow**	**4.07**	**267**	*e*Pn	**Pn**	**19 16 02.0**	**+0.7**
YFT	**Old Faithful**	**4.08**	**283**	*e*Pn	Pn	19 16 05.5	+4.0
YMR	**Madison River**	**4.21**	**285**	*e*Pn	**Pn**	**19 16 03.7**	**+0.4**
RRI2	**Red Ridge**	**4.41**	**268**	*e*Pn	**Pn**	**19 16 07.3**	**+1.2**
QLMT	**Earthquake Lak**	**4.57**	**287**	*e*Pn	**Pn**	**19 16 05.9**	**-2.2**
SMCO	**Snowmass**	**4.68**	**196**	*e*Pn	Pn	19 16 14.7	+4.7
DGMT	**Dagmar**	**4.84**	**9**	*e*Pn	**Pn**	**19 16 13.6**	**+1.9**
BOZ	**Bozeman (W)**	**4.94**	**296**	*e*Pn	**Pn**	**19 16 13.0**	**-0.2**
HWUT	**Hardware Ranch** 8.8nm,0.3s	**5.08**	**248**	*e*Pn	**Pn**	**19 16 14.4**	**-0.8**
EGMT	**Eagleton** 8.7nm,0.3s	**5.35**	**326**	*e*Pn	**Pn**	**19 16 18.8**	**+0.1**
DAU	**Daniels Canyon** 8.8nm,0.5s	**5.52**	**236**	*e*Pn	**Pn**	**19 16 23.1**	**+1.7**
MCMT	**McKenzie Canyo** 1.2nm,0.3s	**5.56**	**284**	*e*Pn	Pn	19 16 25.7	+3.9
SDCO	**Great Sand Dun** 1.6nm,0.8s	**5.94**	**182**	*e*Pn	**Pn**	**19 16 28.1**	**+1.0**
PV04	**Paradox Valley**	**5.96**	**209**	*e*Pn	**Pn**	**19 16 27.4**	**+0.1**
MPU	**Maple Canyon**	**6.00**	**234**	P	**Pn**	**19 16 27.7**	**-0.1**
SRU	**San Rafael** 14nm,0.3s	**6.04**	**223**	*e*Pn	Pn	19 16 22.6	-5.7
TMUT	**Trail Mountain** 5.0nm,0.4s	**6.25**	**227**	*e*Pn	**Pn**	**19 16 32.5**	**+1.2**
ECSD	**EROS Data Cent** 3.1nm,0.3s	**6.28**	**87**	*e*Pn	**Pn**	**19 16 30.6**	**-0.9**
DUG	**Dugway** 2.4nm,0.3s	**6.61**	**241**	*e*P	**Pn**	**19 16 36.9**	**+0.6**
MSU	**Marysvale** 1.8nm,0.3s	**7.34**	**228**	*e*Pn	**Pn**	**19 16 47.3**	**+1.1**
JTMT	**Jette**	**7.50**	**306**	*e*Pn	**Pn**	**19 16 48.5**	**+0.2**
BSMT	**Bassoo Peak**	**7.85**	**305**	*e*Pn	**Pn**	**19 16 54.1**	**+1.0**
ULM	**Lac du Bonnet** 4.2nm,0.3s,baz=232,slow=11,SNR=26	**9.18**	**41**	Pn	**Pn**	**19 17 10.6**	**-0.7**
ULM	**Lac du Bonnet** 6.3nm,0.3s	**9.18**	**41**	*e*Pn	**Pn**	**19 17 10.2**	**-1.0**
ULM				Pn	Pn	19 17 10.6	-0.7
WUAZ	**Wupatki**	**9.41**	**212**	Pn	Pn	19 17 09.6	-5.0
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=160,slow=9.4,SNR=5.6	**19.62**	**347**	P	**Pn**	**19 19 29.1**	**+0.6**
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**19 19 29.1**	**+0.6**
ARCES	**ARCESS Array B** 3.2nm,1.1s,baz=323,slow=5.8,SNR=4.4	**61.47**	**18**	P	**P**	**19 25 14.9**	**-0.5**
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**19 25 14.9**	**-0.5**

*ATH **23** 19:19:47.6,37.71N×27.27E,h16km±4km,MD3.5/7*
*THE **23** 19:19:49.7,37.72N×27.16E,h1km,ML3.6/4, Error ellipse: s-maj=1.1km s-min=0.6km az=74.0*
*ISCJB **23** 19:19:49.2±0.5,37.66N±0.02×27.18E±0.03,h6km±4km, Error ellipse: s-maj=3.9km s-min=3.1km az=33.4*
*DDA **23** 19:19:49.3,37.65N×27.21E,h7km,MD3.0*
*CSEM **23** 19:19:49.5±0.1,37.65N×27.16E,h5km,ML3.6/4, Error ellipse: s-maj=3.0km s-min=2.4km az=50.0*
*ISK **23** 19:19:49.0,37.66N×27.19E,h6km,MD3.4*
ISC 23 19:19:47.9±0.5,37.71N±0.02×27.26E±0.01,h13km±4km, n118,σ1§48/117,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**270**	P	**Pb**	**19 19 55.1**	**-0.7**
SMG				S	**Sg**	**19 19 59.4**	**-0.1**
SMG	**Samos**	**0.34**	**270**	*e*PB	**Pb**	**19 19 55.1**	**-0.7**
SMG				*e*SB	**Sg**	**19 19 59.4**	**-0.1**
SMG	**Samos**	**0.34**	**270**	P	**Pb**	**19 19 55.1**	**-0.7**
SMG				S	**Sg**	**19 19 59.4**	**-0.1**
AYDN	**Tasoluk**	**0.49**	**95**	*i* P	**Pn**	**19 20 00.3**	**-0.4**
AYDN				*i* S	**Sn**	**19 20 07.7**	**-1.5**
AYDN	**Tasoluk**	**0.49**	**95**	*i* P	**Pn**	**19 20 00.3**	**-0.4**
AYDN				*i* S	**Sn**	**19 20 07.9**	**-1.3**
AYDN	**Tasoluk**	**0.49**	**95**	*i* P	**Pn**	**19 20 00.3**	**-0.4**
AYDN				*i* S	**Sn**	**19 20 07.9**	**-1.3**
BDRM	**Kayabasi**	**0.66**	**167**	*i* P	**Pn**	**19 20 01.2**	**-1.8**
BDRM	**Kayabasi**	**0.66**	**167**	*i* P	**Pn**	**19 20 01.2**	**-1.8**
BDRM	**Kayabasi**	**0.66**	**167**	*i* P	**Pn**	**19 20 01.2**	**-1.8**
IZM	**Izmir**	**0.69**	**360**	*e*PG	**Pn**	**19 20 03.4**	**0.0**
IZM				*e*SG	**Sn**	**19 20 14.5**	**+0.5**
IZM	**Izmir**	**0.69**	**360**	*e*Pg	**Pn**	**19 20 03.4**	**0.0**
IZM				*e*Sg	**Sn**	**19 20 14.5**	**+0.5**
URLA	**Izmir**	**0.84**	**321**	*i* P	**Pn**	**19 20 06.6**	**+1.1**
URLA				*i* S	**Sn**	**19 20 19.1**	**+1.4**
URLA	**Izmir**	**0.84**	**321**	*i* P	**Pn**	**19 20 06.6**	**+1.1**
URLA				*i* S	**Sn**	**19 20 18.6**	**+0.9**
URLA	**Izmir**	**0.84**	**321**	*i* P	**Pn**	**19 20 06.6**	**+1.1**
URLA				*i* S	**Sn**	**19 20 18.6**	**+0.9**
YER	**Yerkesik**	**0.99**	**125**	*e*PG	**Pn**	**19 20 08.6**	**+0.9**
YER				*e*SG	**Sn**	**19 20 23.4**	**+1.9**
YER	**Yerkesik**	**0.99**	**125**	*e*Pg	**Pn**	**19 20 08.6**	**+0.9**
YER				*e*Sg	**Sn**	**19 20 23.4**	**+1.9**
NIS1	**Nisyros Isl.**	**1.11**	**184**	P	**Pg**	**19 20 10.4**	**+1.1**
NIS1				S	**Sg**	**19 20 26.9**	**+3.2**
NIS1	**Nisyros Isl.**	**1.11**	**184**	P	**Pg**	**19 20 10.4**	**+1.1**
CHOS	**Chios island**	**1.17**	**306**	P	**Pg**	**19 20 10.3**	**-0.2**
CHOS	**Chios island**	**1.17**	**306**	P	**Pg**	**19 20 10.3**	**-0.2**
AKHS	**Akhisar**	**1.25**	**20**	*i* P	**Pg**	**19 20 12.6**	**+0.7**
AKHS				*i* S	**Sg**	**19 20 32.7**	**+4.6**
AKHS	**Akhisar**	**1.25**	**20**	*i* P	**Pg**	**19 20 12.6**	**+0.7**
AKHS				*i* S	**Sg**	**19 20 32.7**	**+4.6**
MANT	**Manisa**	**1.28**	**52**	*i* P	Pg	19 20 16.1	+3.4
MANT	**Manisa**	**1.28**	**52**	*i* P	Pg	19 20 16.1	+3.4
MANT	**Manisa**	**1.28**	**52**	*i* P	Pg	19 20 16.1	+3.4
TURN	**Turunc**	**1.35**	**128**	*i* P	**Pb**	**19 20 11.7**	**-1.4**
TURN				*i* S	**Sn**	**19 20 28.4**	**-2.0**
TURN	**Turunc**	**1.35**	**128**	*i* P	**Pb**	**19 20 11.9**	**-1.2**
TURN				*i* S	**Sg**	**19 20 32.6**	**+1.0**
TURN	**Turunc**	**1.35**	**128**	*i* P	**Pb**	**19 20 11.9**	**-1.2**
TURN				*i* S	**Sg**	**19 20 32.6**	**+1.0**
KULA	**Kula-Manisa**	**1.36**	**53**	*e*PN	Pg	19 20 16.8	+2.6
KULA	**Kula-Manisa**	**1.36**	**53**	*e*Pn	Pg	19 20 16.8	+2.6
DNZL	**Cakiroluk**	**1.41**	**90**	*i* P	**Pg**	**19 20 16.1**	**+1.0**
DNZL				*i* S	**Sg**	**19 20 38.5**	**+4.9**
APE	**Apeiranthos**	**1.52**	**246**	*e*PN	**Pg**	**19 20 17.1**	**0.0**
APE				*e*SN	**Sg**	**19 20 36.0**	**-0.9**
APE	**Apeiranthos**	**1.52**	**246**	P	**Pg**	**19 20 16.3**	**-0.9**
APE				S	**Sg**	**19 20 36.0**	**-0.9**
APE	**Apeiranthos**	**1.52**	**246**	*e*PN	**Pg**	**19 20 16.8**	**-0.4**
APE	**Apeiranthos**	**1.52**	**246**	P	**Pg**	**19 20 16.3**	**-0.9**
APE				S	**Sg**	**19 20 36.0**	**-0.9**
APE	**Apeiranthos**	**1.52**	**246**	*e*PN	**Pg**	**19 20 16.8**	**-0.4**
APE				*e*Pn	**Sg**	**19 20 36.0**	**-0.9**
ARG	**Arkhangelos**	**1.64**	**155**	P	**Pb**	**19 20 17.6**	**-0.5**
ARG	**Arkhangelos**	**1.64**	**155**	*e*PN	**Pb**	**19 20 17.7**	**-0.4**
ARG	**Arkhangelos**	**1.64**	**155**	*e*Pn	**Pb**	**19 20 17.7**	**-0.4**
AYVA	**Ayvalik**	**1.66**	**344**	*i* P	Pg	19 20 22.2	+2.4
AYVA	**Ayvalik**	**1.66**	**344**	*i* P	Pg	19 20 22.2	+2.4
PRK	**Paraskevi**	**1.72**	**333**	P	**Pb**	**19 20 18.9**	**-0.5**
PRK				S	**Sg**	**19 20 41.9**	**-1.4**
PRK	**Paraskevi**	**1.72**	**333**	*e*PN	**Pg**	**19 20 19.4**	**-1.6**
PRK	**Paraskevi**	**1.72**	**333**	P	**Pb**	**19 20 18.9**	**-0.5**
PRK	**Paraskevi**	**1.72**	**333**	*e*Pn	**Pg**	**19 20 19.4**	**-1.6**
PRK				S	**Sg**	**19 20 41.9**	**-1.4**
FETY	**Fethiye**	**1.81**	**126**	*e*PN	**Pg**	**19 20 22.0**	**-0.6**
FETY	**Fethiye**	**1.81**	**126**	*e*Pn	**Pg**	**19 20 22.0**	**-0.6**
KHL	**Karahalli**	**1.89**	**70**	*e*PN	**Pg**	**19 20 23.6**	**-0.5**
KHL	**Karahalli**	**1.89**	**70**	*e*Pn	**Pg**	**19 20 23.6**	**-0.5**
BALB	**Balikesir**	**1.99**	**14**	*e*PN	**Pg**	**19 20 25.0**	**-1.1**
BALB	**Balikesir**	**1.99**	**14**	*e*Pn	**Pg**	**19 20 25.0**	**-1.1**
BALY	**Balya**	**2.05**	**8**	*i* P	**Pg**	**19 20 29.2**	**+2.0**
BALY	**Balya**	**2.05**	**8**	*i* P	**Pg**	**19 20 29.2**	**+2.0**
KARP	**Karpathos**	**2.16**	**182**	*e*PN	**Pb**	**19 20 25.7**	**-1.2**
KARP	**Karpathos**	**2.16**	**182**	*e*Pn	**Pb**	**19 20 25.7**	**-1.2**
DST	**Dursunbey**	**2.17**	**29**	*e*PN	**Pg**	**19 20 27.9**	**-1.7**
DST	**Dursunbey**	**2.17**	**29**	*e*Pn	**Pg**	**19 20 27.9**	**-1.7**
EZN	**Ezine**	**2.24**	**341**	*e*PN	**Pb**	**19 20 27.8**	**-0.4**
EZN	**Ezine**	**2.24**	**341**	*e*Pn	**Pb**	**19 20 27.8**	**-0.4**
ELL	**Elmali**	**2.32**	**114**	*e*PN	**Pb**	**19 20 29.4**	**-0.3**
ELL	**Elmali**	**2.32**	**114**	*e*Pn	**Pb**	**19 20 29.4**	**-0.3**
GONE	**Gonen-Balikesi**	**2.36**	**8**	*e*PN	**Pb**	**19 20 30.0**	**-0.2**
GONE	**Gonen-Balikesi**	**2.36**	**8**	*e*Pn	**Pb**	**19 20 30.0**	**-0.2**
ISP	**Isparta**	**2.58**	**86**	*e*PN	**Pb**	**19 20 33.7**	**-0.5**
ISP	**Isparta**	**2.58**	**86**	*e*Pn	**Pb**	**19 20 33.7**	**-0.5**
ALT	**Altintas**	**2.61**	**58**	*e*PN	**Pb**	**19 20 33.6**	**-1.0**
ALT	**Altintas**	**2.61**	**58**	*i* P	**Sn**	**19 20 57.3**	**-4.2**
ALT	**Altintas**	**2.61**	**58**	*e*Pn	**Pb**	**19 20 33.6**	**-1.0**
BCK	**Bucak**	**2.65**	**94**	*e*PN	**Pb**	**19 20 33.9**	**-1.4**
BCK	**Bucak**	**2.65**	**94**	*e*Pn	**Pb**	**19 20 33.9**	**-1.4**
ORLT	**Orhaneli**	**2.66**	**28**	*e*PN	**Pb**	**19 20 34.7**	**-0.7**
ORLT	**Orhaneli**	**2.66**	**28**	*e*Pn	**Pb**	**19 20 34.7**	**-0.7**
EDC	**Edincik**	**2.67**	**10**	*e*PN	**Pb**	**19 20 34.6**	**-1.1**
EDC	**Edincik**	**2.67**	**10**	*e*Pn	**Pb**	**19 20 34.6**	**-1.1**
KRBG	**Karabiga-Canak**	**2.68**	**1**	*e*PN	**Pb**	**19 20 34.5**	**-1.3**
KRBG	**Karabiga-Canak**	**2.68**	**1**	*e*Pn	**Pb**	**19 20 34.5**	**-1.3**
LPK	**Lapseki**	**2.69**	**352**	*e*PN	**Pb**	**19 20 34.5**	**-1.4**
LPK	**Lapseki**	**2.69**	**352**	*e*Pn	**Pb**	**19 20 34.5**	**-1.4**
KCTX	**Karacabey (Bur**	**2.69**	**18**	*e*PN	**Pb**	**19 20 34.9**	**-1.1**
KCTX	**Karacabey (Bur**	**2.69**	**18**	*e*Pn	**Pb**	**19 20 34.9**	**-1.1**
BNT	**Bandirma**	**2.69**	**11**	*e*PN	**Pb**	**19 20 34.5**	**-1.5**
BNT	**Bandirma**	**2.69**	**11**	*e*Pn	**Pb**	**19 20 34.5**	**-1.5**
LIA	**Limnos Island**	**2.72**	**324**	*e*PN	Pb	19 20 33.0	-3.5
LIA	**Limnos Island**	**2.72**	**324**	*e*Pn	Pb	19 20 33.0	-3.5
SHUT	**Suhut-Afyon**	**2.73**	**71**	*e*PN	**Pb**	**19 20 35.4**	**-1.2**
SHUT	**Suhut-Afyon**	**2.73**	**71**	*e*Pn	**Pb**	**19 20 35.4**	**-1.2**
VLY	**Voula,Athens**	**2.75**	**274**	*e*PN	**Pn**	**19 20 32.7**	**+0.9**
VLY	**Voula,Athens**	**2.75**	**274**	*e*Pn	**Pn**	**19 20 32.7**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.75**	**347**	*e*PN	**Pb**	**19 20 35.7**	**-1.3**
GELI	**Tayfur-Gelibol**	**2.75**	**347**	*e*Pn	**Pb**	**19 20 35.7**	**-1.3**
ULDT	**Uludag**	**2.83**	**30**	*i* P	**Pg**	**19 20 42.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.94**	**25**	*e*PN	**Pb**	**19 20 38.7**	**-1.5**
MDNY	**Mudanya-Bursa**	**2.94**	**25**	*e*Pn	**Pb**	**19 20 38.7**	**-1.5**
RKY	**Sarkoy-Tekirda**	**2.98**	**359**	*e*PN	**Pb**	**19 20 38.9**	**-1.9**
RKY	**Sarkoy-Tekirda**	**2.98**	**359**	*e*Pn	**Pb**	**19 20 38.9**	**-1.9**
ERIK	**Erikli-Kesan**	**3.02**	**349**	*e*PN	Pb	19 20 37.6	-3.9
ERIK	**Erikli-Kesan**	**3.02**	**349**	*e*Pn	Pb	19 20 37.6	-3.9
MFT	**Murefte**	**3.07**	**0**	*e*PN	**Pb**	**19 20 40.6**	**-1.9**
MFT	**Murefte**	**3.07**	**0**	*e*Pn	**Pb**	**19 20 40.6**	**-1.9**
GEMT	**Gemlik**	**3.11**	**28**	*e*PN	**Pb**	**19 20 41.0**	**-2.0**
GEMT	**Gemlik**	**3.11**	**28**	*e*Pn	**Pb**	**19 20 41.0**	**-2.0**
ARMT	**Armutlu**	**3.11**	**23**	*e*PN	Pb	19 20 40.5	-2.6
ARMT	**Armutlu**	**3.11**	**23**	*e*Pn	Pb	19 20 40.5	-2.6
ENEZ	**Enez**	**3.14**	**344**	*e*PN	Pb	19 20 39.3	-4.3
ENEZ	**Enez**	**3.14**	**344**	*e*Pn	Pb	19 20 39.3	-4.3
CAVI	**Cavuskoy**	**3.20**	**38**	*e*PN	Pb	19 20 41.7	-2.9
CAVI	**Cavuskoy**	**3.20**	**38**	*e*Pn	Pb	19 20 41.7	-2.9
ADVT	**Abdulvahap**	**3.33**	**35**	*e*PN	Pb	19 20 44.2	-2.6
ADVT	**Abdulvahap**	**3.33**	**35**	*e*Pn	Pb	19 20 44.3	-2.6
KDZ	**Kurdzhali**	**4.19**	**341**	*e*P	Pn	19 20 53.5	+2.0
KDZ	**Kurdzhali**	**4.19**	**341**	*e*P	Pn	19 20 53.5	+2.0
RZN	**Rozhen**	**4.43**	**334**	*e*P	Pn	19 20 57.3	+2.3
RZN	**Rozhen**	**4.43**	**334**	*e*P	Pn	19 20 57.3	+2.3
MMB	**Musomiste**	**4.74**	**326**	*e*P	**Pn**	**19 21 01.0**	**+1.9**
MMB	**Musomiste**	**4.74**	**326**	*e*P	**Pn**	**19 21 01.0**	**+1.9**
VTS	**Vitosha**	**5.76**	**329**	*e*P	Pn	19 21 16.0	+2.5
VTS	**Vitosha**	**5.78**	**329**	*e*P	Pn	19 21 16.0	+2.5
BARS	**Barje**	**6.58**	**322**	⇓*i*Pn	Pn	19 21 27.2	+2.8

*ISCJB **23** 19:21:20.4±0.2,16.97N±0.05×146.00E±0.06,h98km, mb4.2/43, Error ellipse: s-maj=8.6km s-min=6.8km az=29.7*
*IDC **23** 19:21:25.4±1.4,17.03N×146.00E,h140km±12km, mb3.8/19,mb1 4.0/21,mb1mx3.9/28,mbtmp3.8/21,MS3.3/2, Ms1 3.3/2,ms1mx2.5/37, Error ellipse: s-maj=18.5km s-min=9.4km az=100.0*
*NEIC **23** 19:21:26.0±0.3,16.99N×146.07E,mb4.4/23, Error ellipse: s-maj=10.5km s-min=6.8km az=105.0*
ISC 23 19:21:21.1±0.4,17.02N±0.05×146.19E±0.09,h98km,n231, σ1§36/237,mb4.4/43,76C-74D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.64**	**201**	P	Pn	19 22 21.3	+5.9
GUMO	181nm,0.3s,baz=106,slow=3.0,SNR=50			S	**Sn**	**19 23 02.2**	**+4.8**
GUMO	167nm,0.3s,baz=22,slow=23,SNR=7.7			LR	LR	19 23 10.0	
GUMO	**Guam**	**3.64**	**201**	*e*Pn	Pn	19 22 21.0	+5.6
GUMO	comp=Z,171nm,18.7s,baz=218,slow=29			P		19 22 21.3	
GUMO				*e*Sn	**Sn**	**19 22 59.9**	**+2.6**
GUMO				S		19 23 02.2	
CBIJ	**Chichi jima** 3.4nm,0.3s,baz=209,slow=19,SNR=4.0	**10.70**	**340**	P	**Pn**	**19 23 52.5**	**+1.2**
CBIJ	3.0nm,0.3s,baz=300,slow=20,SNR=2.5			S	**Sn**	**19 25 46.8**	**-2.2**
CBIJ	**Chichi jima**	**10.70**	**340**	P	**Pn**	**19 23 52.5**	**+1.2**
CBIJ				S	**Sn**	**19 25 46.8**	**-2.2**
MJAR	**Matsushiro Arr** 1.1nm,0.7s,baz=329,slow=12,SNR=4.5	**20.70**	**342**	P	**P**	**19 25 54.3**	**+0.9**
MJAR	**Matsushiro Arr**	**20.70**	**342**	P	**P**	**19 25 54.3**	**+0.9**
MAJO	**Matsushiro** 7.6nm,0.8s	**20.70**	**342**	*e*P	Pn	19 25 57.1	+0.4
KSRS	**Korea Array** 1.4nm,0.8s,baz=153,slow=9.8,SNR=2.8	**25.95**	**325**	P	P	19 26 49.6	+5.2
KSAR	**Wonju Array Be**	**25.96**	**325**	P	P	19 26 49.6	+5.1
PMG	**Port Moresby** 3.1nm,0.3s,baz=342,slow=6.4,SNR=4.7	**26.27**	**178**	P	**P**	**19 26 47.8**	**+0.4**
PMG	**Port Moresby**	**26.27**	**178**	P	**P**	**19 26 47.8**	**+0.4**
KAPI	**Kappang** 1.9nm,0.4s,baz=221,slow=20,SNR=5.8	**34.08**	**232**	P	**P**	**19 27 56.0**	**-0.5**
KAPI	**Kappang**	**34.08**	**232**	P	**P**	**19 27 56.0**	**-0.5**
CTAO	**Charters Tower**	**36.87**	**180**	P	**P**	**19 28 21.3**	**+1.0**
PET	**Petropavlovsk**	**37.24**	**12**	P	P	19 28 31.4	+8.4
WRAB	**Tennant Creek** 6.8nm,0.8s	**38.52**	**198**	*e*P	**P**	**19 28 33.4**	**-0.7**
KSM	**Kuching** 7.8nm,1.1s	**38.52**	**250**	*e*P	**P**	**19 28 34.6**	**+0.4**
WB2	**Warramunga Arr**	**38.52**	**198**	*e*P	**P**	**19 28 33.6**	**-0.6**
WRA	**Warramunga Arr** 5.8nm,0.8s,baz=20,slow=9.4,SNR=40	**38.53**	**198**	P	**P**	**19 28 33.6**	**-0.6**
WRA	0.4nm,0.6s,baz=25,slow=4.3,SNR=5.2			ScP	**S**	**19 34 17.9**	**-5.0**
WRA	**Warramunga Arr**	**38.53**	**198**	P	**P**	**19 28 33.6**	**-0.6**
WRA				ScP	**S**	**19 34 17.9**	**-5.0**
ASAR	**Alice Springs** 0.5nm,0.4s,baz=13,slow=13,SNR=10	**42.18**	**197**	P	**P**	**19 29 04.0**	**-0.3**
ASAR	0.8nm,0.9s,baz=13,slow=3.5,SNR=5.8			ScP	**ScP**	**19 34 32.5**	**-6.3**
ASAR	**Alice Springs**	**42.18**	**197**	P	**P**	**19 29 04.0**	**-0.3**
ASAR				ScP	**ScP**	**19 34 32.5**	**-6.3**
SONM	**Songino Array** 0.3nm,0.6s,baz=135,slow=6.1,SNR=4.1	**44.75**	**322**	P	**P**	**19 29 27.1**	**+2.2**
SONM	**Songino Array**	**44.75**	**322**	P	**P**	**19 29 27.1**	**+2.2**
CM31	**Chiang Mai Arr** 0.9nm,0.6s	**44.92**	**279**	P	**P**	**19 29 29.1**	**+2.6**
CMAR	**Chiang Mai Arr** 1.1nm,0.9s,baz=72,slow=5.8,SNR=9.3	**44.92**	**279**	P	**P**	**19 29 28.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**44.92**	**279**	P	**P**	**19 29 28.4**	**+1.9**
STKA	**Stephens Creek**	**48.81**	**185**	P	**P**	**19 29 56.5**	**0.0**
STKA	**Stephens Creek** 2.4nm,0.6s,baz=141,slow=8.1,SNR=8.0	**48.81**	**185**	*e*P	**P**	**19 29 55.5**	**-1.0**
LSA	**Lhasa** 1.3nm,1.0s	**51.66**	**295**	P	**P**	**19 30 17.4**	**-1.2**
LSA	2.3nm,0.6s			*e*pP	pP	19 30 50.5	+8.1
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=94,slow=7.5,SNR=5.7	**59.96**	**315**	P	**P**	**19 31 18.1**	**+0.8**
MKAR	**Makanchi Array**	**59.96**	**315**	P	**P**	**19 31 18.1**	**+0.8**
KDAK	**Kodiak Island** 16nm,1.0s,baz=294,slow=10.0,SNR=8.2	**60.51**	**33**	P	**P**	**19 31 21.6**	**+1.0**
KDAK	**Kodiak Island**	**60.51**	**33**	P	**P**	**19 31 21.6**	**+1.0**
KURK	**Kurchatov** 0.8nm,0.4s,baz=95,slow=7.0,SNR=7.7	**62.83**	**319**	P	**P**	**19 31 36.1**	**-0.3**
KURK	**Kurchatov**	**62.83**	**319**	P	**P**	**19 31 36.1**	**-0.3**
MCK	**McKinley** 144nm,2.3s	**63.82**	**27**	P	**P**	**19 31 41.8**	**-1.0**
ILAR	**Eielson Array** 1.0nm,0.7s,baz=254,slow=5.1,SNR=11	**64.95**	**26**	P	**P**	**19 31 49.1**	**-1.0**
ILAR	**Eielson Array**	**64.95**	**26**	P	**P**	**19 31 49.1**	**-1.0**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=94,slow=8.7,SNR=5.6	**68.06**	**321**	P	**P**	**19 32 08.7**	**-1.5**
BVAR	**Borovoye Array**	**68.06**	**321**	P	**P**	**19 32 08.7**	**-1.5**
INK	**Inuvik** 1.3nm,0.6s,baz=261,slow=6.7,SNR=5.5	**70.73**	**23**	P	**P**	**19 32 25.6**	**-0.6**
INK	**Inuvik** 2.0nm,0.8s	**70.73**	**23**	*e*P	**P**	**19 32 25.4**	**-0.8**
DLBC	**Dease Lake** 1.9nm,0.5s,baz=117,slow=4.5,SNR=4.0	**72.43**	**33**	P	**P**	**19 32 35.8**	**-1.0**
DLBC	**Dease Lake**	**72.43**	**33**	P	**P**	**19 32 35.8**	**-1.0**
YKA	**Yellowknife Ar** 1.5nm,0.8s,baz=286,slow=5.5,SNR=22	**79.25**	**28**	P	**P**	**19 33 15.3**	**-0.1**
YKA	**Yellowknife Ar**	**79.25**	**28**	P	**P**	**19 33 15.3**	**-0.1**
RES	**Resolute Bay** 3.1nm,0.7s	**80.94**	**14**	*e*P	**P**	**19 33 23.6**	**-0.7**
MOD	**Modoc** 6.0nm,1.0s	**81.39**	**49**	*e*P	**P**	**19 33 28.2**	**+0.8**
NEW	**Newport** baz=82	**81.84**	**42**	⇓P	**P**	**19 33 30.5**	**+0.9**
A13A	**Flathead Natio** baz=83	**83.36**	**41**	⇑P	**P**	**19 33

PFO	Pinyon Flat Ob baz=87	86.68	56	⇓P	P	19 33 55.2	+0.7
F17A	Fitzpatrick Pl baz=87	86.78	43	⇓P	P	19 33 56.0	+1.3
H16A	Russell Place, baz=87,SNR=7.3	86.82	44	⇓P	P	19 33 56.3	+1.2
A19A	Klindworth Far baz=87	86.87	40	⇑P	P	19 33 56.0	+1.0
BELC	Belle Mtn. Jos baz=87	86.92	56	⇑P	P	19 33 56.2	+0.6
B19A	Brinkman Farms baz=87	86.93	40	⇑P	P	19 33 56.3	+1.0
MONP	Monument Peak baz=87	86.93	57	⇓P	P	19 33 56.8	+1.0
GMRC	Granite Mounta baz=87	86.94	55	⇓P	P	19 33 56.6	+0.9
I16A	Newdale baz=87,SNR=7.7	86.95	45	⇑P	P	19 33 57.1	+1.4
L15A	Malad City baz=87	86.98	47	⇓P	P	19 33 56.4	+0.5
YMR	Madison River 8.5nm,0.4s	87.02	44	*eP*	P	19 33 57.2	+1.1
J16A	Bone baz=87,SNR=12	87.08	46	⇑P	P	19 33 57.6	+1.2
M15A	Larsen Ranch, baz=87	87.13	48	⇓P	P	19 33 57.1	+0.6
R13A	O'Grain Ranch, baz=87	87.13	51	⇓P	P	19 33 57.5	+0.8
K16A	Soda Springs baz=87,SNR=5.1	87.25	46	⇓P	P	19 33 58.7	+1.5
RRI2	Red Ridge 5.8nm,0.8s	87.25	45	*eP*	P	19 33 57.9	+0.7
N15A	Stansbury Isla baz=87	87.27	48	⇑P	P	19 33 58.1	+0.9
DUG	Dugway 3.0nm,0.5s	87.30	49	*eP*	P	19 33 57.8	+0.4
DUG				*ep*P	pP	19 34 34.0	+11
DUG	Dugway baz=87,SNR=9.7	87.30	49	⇑P	P	19 33 58.0	+0.7
F18A	Big Timber baz=87	87.39	43	⇓P	P	19 33 59.0	+1.3
FLWY	Flagg Ranch 8.0nm,0.8s	87.41	45	*eP*	P	19 33 59.5	+1.6
BC3	Big Chuckawall baz=87	87.45	56	⇓P	P	19 33 59.4	+1.2
MOOW	Moose Ponds 3.6nm,1.0s	87.50	45	*eP*	P	19 33 59.1	+0.7
GNI	Garni comp=Z,39nm,19.5s,baz=83,slow=38	87.64	311	LR	LR	20 16 36.9	
L16A	Fish Haven baz=88,SNR=8.3	87.65	47	⇑P	P	19 34 00.1	+1.0
ARUT	Antelope Range 4.3nm,1.0s	87.65	51	*eP*	P	19 33 59.7	+0.5
HWUT	Hardware Ranch 7.2nm,0.9s	87.70	47	*eP*	P	19 33 59.9	+0.6
P15A	Leamington baz=88	87.90	49	⇑P	P	19 34 01.1	+0.8
D20A	Manuel Ranch, baz=88	87.95	41	⇓P	P	19 34 01.3	+1.0
GLA	Glamis baz=88	88.14	56	⇓P	P	19 34 02.7	+1.3
J18A	Kendall Valley baz=88,SNR=7.0	88.19	45	⇑P	P	19 34 02.6	+0.9
W13A	Hualapai Mount baz=88	88.21	54	⇓P	P	19 34 03.1	+1.2
FFC	Flin Flon 2.9nm,0.8s	88.25	33	*eP*	P	19 34 01.3	-0.1
PDMCI	Parker Dam,Lak baz=88	88.28	55	⇓P	P	19 34 03.5	+1.6
DAU	Daniels Canyon 2.3nm,0.5s	88.34	48	*eP*	P	19 34 03.5	+0.9
K18A	Toltan Ranch, baz=88	88.38	46	⇓P	P	19 34 03.8	+1.2
A22A	Carney Farms, baz=88	88.56	39	⇑P	P	19 34 04.8	+1.8
FINES	FINESS Array B 1.5nm,0.9s,baz=107,slow=7.4,SNR=4.5	88.60	335	P	P	19 34 00.6	-2.3
FINES	FINESS Array B	88.60	335	P	P	19 34 00.6	-2.3
L18A	Fontenelle, Gr baz=89	88.65	46	⇓P	P	19 34 05.2	+1.3
PDAR	Pinedale Array 0.8nm,0.3s,baz=236,slow=3.6,SNR=6.9	88.67	46	P	P	19 34 04.0	+0.1
PDAR	Pinedale Array	88.67	46	P	P	19 34 04.0	+0.1
D21A	La Casta Ranch baz=89	88.68	41	⇓P	P	19 34 04.9	+1.3
O17A	Robinson Place baz=89	88.79	48	⇓P	P	19 34 05.4	+0.9
M18A	Lyman baz=89	88.81	47	⇑P	P	19 34 05.8	+1.2
J19A	Crowheart baz=89	88.82	45	⇓P	P	19 34 05.9	+1.3
R16A	Teasdale baz=89	88.93	50	⇑P	P	19 34 06.7	+1.4
U15A	North Rim baz=89	88.98	52	⇓P	P	19 34 06.7	+1.1
Z13A	Yuma Proving G baz=89	89.02	56	⇓P	P	19 34 06.6	+1.1
113A	Mohawk Valley, baz=89	89.08	56	⇑P	P	19 34 06.8	+1.1
Y14A	Wickenburg baz=89	89.29	55	⇑P	P	19 34 08.1	+1.3
SRU	San Rafael baz=89	89.33	49	⇓P	P	19 34 07.9	+0.9
P18A	Preston Nutter baz=89	89.35	49	⇓P	P	19 34 08.2	+1.0
R17A	Hanksville Air baz=89	89.45	50	⇓P	P	19 34 08.4	+0.8
C23A	Lambert baz=89	89.50	40	⇑P	P	19 34 08.8	+1.3
K20A	Yellowstone Ra baz=90	89.54	45	⇑P	P	19 34 08.9	+1.0
Q18A	Rafter H Ranch baz=90	89.62	49	⇑P	P	19 34 08.8	+0.5
H21A	Big Horn, Sher baz=90	89.63	43	⇑P	P	19 34 09.5	+1.2
S17A	Black Ridge (B baz=90	89.67	51	⇑P	P	19 34 09.5	+1.0
114A	Black Gap (USA baz=90	89.79	56	⇓P	P	19 34 10.5	+1.4
T17A	Navajo Res., N baz=90	89.89	51	⇑P	P	19 34 10.9	+1.1
U16A	Tuba City baz=90	89.96	52	⇑P	P	19 34 11.5	+1.4
WUAZ	Wupatki baz=90	90.00	53	⇑P	P	19 34 11.5	+1.3
R18A	Canyonlands Na baz=90	90.06	50	⇑P	P	19 34 11.0	+0.6
H22A	Clearmont baz=90	90.09	43	⇓P	P	19 34 11.5	+1.1
M20A	Sweetwater, Wa baz=90	90.10	46	⇓P	P	19 34 11.4	+0.8
214A	Organ Pipe Nat baz=90	90.12	57	⇑P	P	19 34 11.7	+1.0
F23A	Volborg baz=90	90.24	42	⇑P	P	19 34 12.1	+1.1
S18A	Hurst Farm, BI baz=90	90.24	50	⇓P	P	19 34 12.6	+1.2
P19A	Cripple Cowboy baz=90	90.25	48	⇓P	P	19 34 12.3	+0.9
K21A	Alcova baz=90	90.29	45	⇓P	P	19 34 12.5	+1.0
N20A	Spence Gulch, baz=90	90.30	47	⇑P	P	19 34 12.2	+0.6
V17A	Tonalea, Kykot baz=90	90.40	53	⇓P	P	19 34 13.5	+1.5
G23A	Biddle baz=90	90.46	42	⇓P	P	19 34 13.2	+1.1
L21A	Rawlins baz=90	90.47	46	⇑P	P	19 34 13.4	+1.1
J22A	Midwest baz=90	90.49	44	⇑P	P	19 34 13.6	+1.2
T18A	Mexican Hat baz=90	90.54	51	⇓P	P	19 34 13.5	+0.9
R19A	Curley Farm, L baz=90	90.56	50	⇑P	P	19 34 13.7	+0.9
O20A	White River Ci baz=90	90.58	48	⇑P	P	19 34 14.0	+1.1
M21A	Separation Pea baz=91	90.62	46	⇑P	P	19 34 14.0	+0.9
N21A	Black Mountain baz=91	90.85	47	⇓P	P	19 34 15.1	+0.9
Q20A	Ridgley Place, baz=91	91.00	49	⇓P	P	19 34 15.7	+0.9
V18A	Ganado baz=91	91.02	52	⇑P	P	19 34 16.2	+1.2
L22A	Ellis Ranch, M baz=91	91.08	45	⇑P	P	19 34 16.7	+1.5
T19A	Beclabito baz=91	91.28	51	⇓P	P	19 34 17.6	+1.4
U19A	Dine' College, baz=91	91.35	51	⇓P	P	19 34 17.7	+1.1
P21A	Newcastle baz=91	91.38	48	⇑P	P	19 34 17.7	+1.0
L23A	Garrett baz=92	91.55	45	⇓P	P	19 34 18.0	+0.6
Q21A	Lamborn Mesa, baz=92	91.57	49	⇓P	P	19 34 18.9	+1.5
N22A	Wattenberg Ran baz=92	91.57	46	⇑P	P	19 34 18.6	+1.0
Y18A	Canyon Day Jun baz=92	91.65	54	⇑P	P	19 34 19.0	+1.0
O22A	Kremmling baz=92	91.77	47	⇓P	P	19 34 19.5	+1.0
R21A	Cimarron baz=92	91.77	49	⇓P	P	19 34 19.8	+1.3
U20A	Newcomb baz=92	91.83	51	⇑P	P	19 34 19.8	+1.1
P22A	Eagle baz=92	91.84	48	⇑P	P	19 34 20.0	+1.2
SMCO	Snowmass 1.9nm,0.6s	91.86	48	*eP*	P	19 34 20.0	+0.9
N23A	Red Feather La baz=92	91.89	46	⇑P	P	19 34 20.7	+1.7
Q22A	Crested Butte, baz=92	92.03	48	⇓P	P	19 34 21.2	+1.4
U21A	Nageezi baz=92	92.45	51	⇑P	P	19 34 22.9	+1.3
S22A	4UR Ranch, Cre baz=92	92.54	49	⇑P	P	19 34 23.6	+1.4
X20A	Quemado baz=92	92.55	53	⇓P	P	19 34 23.7	+1.6
ISCO	Idaho Springs baz=92	92.57	47	⇓P	P	19 34 23.4	+1.2
P23A	Jefferson baz=92	92.58	48	⇑P	P	19 34 24.1	+1.8
T22A	Edith baz=93	92.78	50	⇓P	P	19 34 23.9	+0.8
Y20A	Horse Springs, baz=93	92.88	53	⇓P	P	19 34 25.5	+1.8
Z20A	Nine Sixteen R baz=93	93.02	54	⇓P	P	19 34 26.1	+1.8
120A	U Bar Ranch, L baz=93	93.20	55	⇑P	P	19 34 26.7	+1.6
Z22A	Elephant Butte baz=94	94.22	54	⇑P	P	19 34 31.1	+1.3
S25A	Robets Cordova baz=94	94.30	49	⇓P	P	19 34 31.0	+0.8
PLCA	Paso Flores 1.2nm,0.7s,baz=225,slow=5.7,SNR=3.1	140.51	134	PKP	PKPdf	19 40 40.8	+1.5
PLCA	Paso Flores	140.51	134	PKP	PKPdf	19 40 40.8	+1.5
LPAZ	La Paz 3.9nm,0.4s,baz=320,slow=2.2,SNR=15	147.14	94	PKPbc	PKPbc	19 40 55.4	+0.9
LPAZ	La Paz	147.14	94	*e*PKPdf	PKPdf	19 40 52.4	+0.2
LPAZ				*e*PKPbc	PKPbc	19 40 55.3	+0.8
LPAZ				PKPbc	PKPbc	19 40 55.4	+0.9
SAML	Samuel	150.31	78	*e*PKPdf	PKPdf	19 40 55.7	-1.0
SAML				*e*PKPbc	PKPbc	19 41 01.5	-0.4
SAML				*e*PKPab	PKPab	19 41 07.7	-0.8
BDFB	Brasilia 1.8nm,0.5s,baz=259,slow=10,SNR=3.4	166.30	86	PKPab	PKPab	19 42 16.3	-1.3
BDFB	Brasilia	166.30	86	PKPab	PKPab	19 42 16.3	-1.3

*DDA **23** 19:22:18.9, 38.03N×38.21E, h2km, MD2.8*
*ISCJB **23** 19:22:19.9±0.5, 38.06N±0.03×38.23E±0.05, h14km±5km, Error ellipse: s-maj=6.9km s-min=5.4km az=157.3*
*CSEM **23** 19:22:19.7±0.2, 38.06N×38.21E, h10km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.4km az=110.0*
*ISK **23** 19:22:19.4, 38.09N×38.17E, h8km, MD2.9*
ISC 23 19:22:19.9±1.1, 38.04N±0.03×38.22E±0.03, h5km±12km, n27, σ0s69/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	Malatya	0.32	30	PG	Pg	19 22 25.9	-0.2
MALT				*e*SG	Sg	19 22 31.1	+0.7
MALT	Malatya	0.32	30	*i* Pg	Pg	19 22 25.9	-0.2
MALT				*e*Sg	Sg	19 22 31.1	+0.7
MYA	Malatya	0.33	29	PG	Pg	19 22 25.8	-0.5
MYA	Malatya	0.33	29	*i* Pg	Pg	19 22 25.8	-0.5
AKCD	Akcadag	0.35	317	*i* P	Pg	19 22 26.5	-0.3
AKCD				*i* S	Sg	19 22 31.8	+0.4
AKCD	Akcadag	0.35	317	*i* P	Pg	19 22 26.5	-0.3
AKCD				*i* S	Sg	19 22 31.8	+0.4
ATAB	Bozova	0.57	174	*i* P	Pg	19 22 30.3	-0.5
ATAB				*i* S	Sg	19 22 38.0	-0.2
ATAB	Bozova	0.57	174	*i* P	Pg	19 22 30.3	-0.5
ATAB				*i* S	Sg	19 22 38.0	-0.2
URFA	Urfa	0.76	141	*e*PG	Pb	19 22 35.8	+0.2
URFA				*e*SG	Sb	19 22 47.4	+1.1
URFA	Urfa	0.76	141	*e*Pg	Pb	19 22 35.8	+0.2
URFA				*e*Sg	Sb	19 22 47.4	+1.1
GZT	Gaziantep	0.86	218	*i* P	Pb	19 22 37.8	+0.4
SVRC	Sivrice-ELAZID	0.92	68	*e*PG	Pg	19 22 37.8	+0.3
SVRC	Sivrice-ELAZID	0.92	68	*e*Pg	Pg	19 22 37.8	+0.3
KMRS	Kahramanmaras	1.18	244	*e*PN	Pg	19 22 42.2	-0.2
KMRS	Kahramanmaras	1.18	244	*e*Pn	Pg	19 22 42.2	-0.2
GAZ	Gaziantep	1.18	223	*e*PN	Pg	19 22 42.5	0.0
GAZ	Gaziantep	1.18	223	*e*Pn	Pg	19 22 42.5	0.0
PTK	Pertek	1.25	47	*e*PN	Pn	19 22 42.7	-1.5
PTK	Pertek	1.25	47	*e*Pn	Pn	19 22 42.7	-1.5
ILIC	ilic-Erzincan	1.44	11	*e*PN	Pn	19 22 45.7	-1.0
ILIC	ilic-Erzincan	1.44	11	*e*Pn	Pn	19 22 45.7	-1.0
EZC	Erzincan	1.93	27	*e*PN	Pn	19 22 52.5	-0.9
EZC	Erzincan	1.93	27	*e*Pn	Pn	19 22 52.6	-0.9
KOZT	Kozan	1.98	254	*e*PN	Pn	19 22 53.9	-0.1
KOZT	Kozan	1.98	254	*e*Pn	Pn	19 22 53.9	-0.1
BNN	Bunyan	2.04	294	*e*PN	Pn	19 22 54.3	-0.6
BNN	Bunyan	2.04	294	*e*Pn	Pn	19 22 54.3	-0.6

*DJA **23** 19:34:05, 0.75S×134.11E, h97km, MLv3.8/4*
IDC 23 19:34:02.0±7.4, 0.97S×133.56E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.1/3, Error ellipse: s-maj=432.6km s-min=26.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=358,slow=12,SNR=7.3	18.87	178	P	P	19 38 24.2	+0.2
ASAR	Alice Springs 0.3nm,0.3s,baz=360,slow=12,SNR=11	22.56	179	P	P	19 39 04.0	-0.1
MKAR	Makanchi Array 0.1nm,0.5s,baz=113,slow=7.7,SNR=3.6	65.32	324	P	P	19 44 46.0	0.0

*ISCJB **23** 20:02:21.3±0.5, 33.01N±0.05×138.39E±0.07, h341km, mb3.1/6, Error ellipse: s-maj=8.3km s-min=6.7km az=7.4*
*IDC **23** 20:02:22.4±1.1, 32.98N×138.21E, h315km±18km, mb3.0/6, mb1 3.1/10, mb1mx2.9/27, mbtmp3.0/10, Error ellipse: s-maj=45.3km s-min=12.9km az=67.0*
*JMA **23** 20:02:23.0±0.5, 33.05N×138.08E, h332km±5km, M3.0*
ISC 23 20:02:23.7±1.0, 33.12N±0.10×138.21E±0.09, h341km, n30, σ1s74/33, mb3.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.91	335	P	Pn	20 03 06.7	-1.1
TTO4	TONANKAI O.B.S	1.05	328	P	Pn	20 03 07.4	-0.9
TTO5	TONANKAI O.B.S	1.20	340	P	Pn	20 03 08.1	-1.0
TK04	Tokai 4	1.29	348	P	Pn	20 03 09.1	-0.5
TTO1	TONANKAI O.B.S	1.29	293	P	Pn	20 03 08.1	-1.3
HMMJ	Hamamatsu 2	1.78	347	P	Pn	20 03 11.4	-1.2
JIE	Ise	1.78	316	P	Pn	20 03 11.2	-1.4
JKN2	Miekihoku	1.96	305	P	Pn	20 03 12.0	-1.8
JNY	Yasuok	2.25	353	P	Pn	20 03 15.7	-0.3
JOD2	Odawara 2	2.26	19	P	Pn	20 03 15.9	-0.1
JOD2				*e*S	S	20 03 56.9	-1.2
JYN	Shimob	2.39	7	P	Pn	20 03 17.2	+0.1
JWY	Kouya	2.44	297	P	Pn	20 03 16.2	-1.4
BSO3	Boso 3	2.54	48	*e*S	S	20 03 59.0	-2.6
BSO4	Boso 4	2.57	43	*e*S	S	20 04 00.5	-1.8
BSO1	Boso 1	2.76	56	*e*S	S	20 04 00.6	-3.9
JRY	Ryogami san	2.95	11	P	Pn	20 03 22.1	+0.3
JRY				*e*S	S	20 04 07.3	-1.3
JWT	Wachi	3.17	314	P	Pn	20 03 22.8	-1.1
JAI	Aioi	3.21	283	P	Pn	20 03 22.4	-1.9
MJAR	Matsushiro Arr 1.3nm,0.3s,baz=180,slow=11,SNR=16	3.41	360	P	Pn	20 03 25.1	-1.1
MJAR				S	S	20 04 14.5	-2.0
MAT	Matsushiro 0.3nm,0.3s,baz=160,slow=22,SNR=3.4	3.42	360	P	Pn	20 03 25.5	-0.7
JAG	Ashikaga	3.45	17	P	Pn	20 03 25.1	-1.5
JAG				S	S	20 04 12.9	-4.3
CBIJ	Chichi jima 5.0nm,0.3s,baz=293,slow=17,SNR=4.5	6.92	149	P	Pn	20 04 00.5	-4.5
CBIJ				S	S	20 05 17.2	-10
KSRS	Korea Array 14nm,0.3s,baz=289,slow=18,SNR=9.3	9.46	300	P	P	20 04 35.2	-2.1
USRK	Ussuriysk Arra 0.3nm,0.3s,baz=117,slow=11,SNR=5.9	12.08	338	P	P	20 05 07.2	+0.9
SONM	Songino Array 0.2nm,0.2s,baz=177,slow=29,SNR=3.3	28.08	311	P	P	20 07 46.8	+1.9
MKAR	Makanchi Array 0.7nm,0.7s,baz=123,slow=11,SNR=5.4	44.09	305	P	P	20 10 00.2	+1.1
KURK	Kurchatov 0.1nm,0.3s,baz=86,slow=9.0,SNR=7.0	46.38	311	P	P	20 10 18.1	+1.3
WRA	Warramunga Arr 0.7nm,0.6s,baz=89,slow=7.4,SNR=8.1	52.89	185	P	P	20 11 05.6	-0.2
ASAR	Alice Springs 0.2nm,0.3s,baz=0.1,slow=7.6,SNR=9.5	56.62	185	P	P	20 11 33.0	+0.8
ARCES	ARCESS Array B 0.3nm,0.5s,baz=22,slow=12,SNR=5.7	66.72	339	P	P	20 12 40.6	+2.2
	4.1nm,1.1s,baz=62,slow=8.5,SNR=3.2						

*DJA **23** 20:10:47, 7.40S×129.94E, h121km, MLv4.1/7*
IDC 23 20:10:35.1±2.1, 7.16S×130.38E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=83.2km s-min=27.6km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.6nm,0.3s,baz=27,slow=15,SNR=14	11.81	203	P	Pn	20 13 23.4	-1.6
FITZ				Sn	Sn	20 15 20.0	-18
WRA	Warramunga Arr 1.9nm,0.3s,baz=122,slow=21,SNR=9.1	13.27	164	P	Pn	20 13 46.4	+1.4
WRA				Sn	Sn	20 16 03.2	-10
ASAR	Alice Springs 0.9nm,0.3s,baz=336,slow=22,SNR=11	16.75	169	P	Pn	20 14 31.6	+0.2
ASAR				Sn	Sn	20 17 25.3	-13
MKAR	Makanchi Array 0.2nm,0.3s,baz=356,slow=29,SNR=5.2	68.57	327	P	P	20 21 39.9	+0.1
	0.3nm,0.5s,baz=117,slow=7.9,SNR=10						

*DJA **23** 20:21:59, 0.83S×132.54E, h188km, MLv3.8/5*
IDC 23 20:21:52.5±2.2, 0.61S×133.13E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/16, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=122.3km s-min=23.9km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=356,slow=11,SNR=5.4	19.25	177	P	P	20 26 18.6	-0.1
WRA				S	Sn	20 29 48.2	-8.0
ASAR	Alice Springs 0.1nm,0.3s,baz=2.5,slow=23,SNR=4.9	22.93	178	P	P	20 26 58.7	+0.2
STKA	Stephens Creek 0.7nm,0.4s,baz=357,slow=11,SNR=17	32.11	166	P	P	20 28 21.6	-0.1
MKAR	Makanchi Array 4.0nm,1.0s,baz=9.5,slow=6.1,SNR=2.7	64.77	324	P	P	20 32 33.0	-0.1
	0.6nm,0.7s,baz=114,slow=7.0,SNR=7.4						

*TRN **23** 20:38:47.0, 18.80N×64.62W, h29km, MD2.7(RSPR)*
RSPR 23 20:38:48.0, 18.91N×64.50W, h30km±13km, MD2.7/3, 4C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.50	193	⇓*eP*	Pb	20 38 57.1	-1.3
TBVI				*eS*	Sb	20 39 04.6	-1.1
TBVI	Tortola	0.50	193	⇓*eP*	Pb	20 38 57.1	-1.3
TBVI				*eS*	Sb	20 39 04.6	-1.1
STVI	Saint Thomas	0.70	218	⇑*eP*	Pb	20 39 00.2	-1.6
STVI	Saint Thomas	0.70	218	⇑*eP*	Pb	20 39 00.2	-1.6
STVI				*eS*	Sb	20 39 09.7	-1.5
MTP	Monte Pirata	1.29	231	⇑*eP*	Pn	20 39 08.5	-1.4
MTP	Monte Pirata	1.29	231	⇑*eP*	Pn	20 39 08.5	-1.4
MTP				*eS*	Sn	20 39 24.3	-1.9
CBYP	Canovanas	1.44	244	*eS*	Sn	20 39 27.5	-2.6
CBYP	Canovanas	1.44	244	*eS*	Sn	20 39 27.5	-2.6

*IDC **23** 20:41:51.8±7.2, 72.57N×6.06E, h0km, mb1 3.6/4, mb1mx3.2/27, mbtmp3.6/4, ML3.2/4, Error ellipse: s-maj=80.5km s-min=29.8km az=150.0*
*BER **23** 20:41:55.2±2.7, 72.83N×6.47E, h10km, MD2.3, ML2.2*
ISC 23 20:41:55.1±6.1, 72.7N±0.3×6.6E±0.3, h10km, n16, σ0s64/10, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	Bjornoya	4.01	57	*eP*	Pn	20 42 51.7	-4.7
TRO	Tromso	5.01	121	*eP*	Pn	20 43 10.9	+0.8
LOF	Lofoten	5.11	150	*eP*	Pn	20 43 05.2	-6.4
STEI	Steigen	5.57	144	*eP*	Pn	20 43 18.7	+0.9
KTK1	Kautokeino	6.56	116	*eP*	Pn	20 43 32.3	+0.8
STOK	Stokkvaagen	6.74	158	*eP*	Pn	20 43 33.9	0.0
STOK				*eS*	Sn	20 44 44.5	-6.0
FLOS	Flostrand	6.78	156	*eP*	Pn	20 43 34.3	-0.1
FLOS				*eS*	Sn	20 44 47.4	-4.1
ARCES	ARCESS Array B 0.5nm,0.3s,baz=310,slow=15,SNR=45	6.87	108	Pn	Pn	20 43 35.2	-0.5
ARCES				Sn	Sn	20 44 53.4	-0.3
MOR8	Moi Rana 0.3nm,0.3s,baz=305,slow=20,SNR=4.1	7.07	153	*eP*	Pn	20 43 37.4	-1.1
MOR8				AML	AML	20 44 52.2	
NOA	NORSAR Array B comp=Z,3.5nm,0.5s	11.81	169	Pn	Pn	20 44 42.2	-1.2
HFS	Hagfors comp=Z,0.2nm,0.3s,baz=349,slow=13,SNR=3.3	12.88	164	Pn	Pn	20 44 56.6	-1.3
KAF	Kangasniemi comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=12	12.91	135	*ep*	Pn	20 44 58.1	-0.2
KAF	Kangasniemi	12.91	135	*ep*	Pn	20 44 58.1	-0.2
JOF	Joensuu	13.37	124	*ep*	Pn	20 45 03.0	-1.5
JOF	Joensuu	13.37	124	*ep*	Pn	20 45 03.0	-1.5
FINES	FINESS Array B comp=Z,0.3nm,0.3s,baz=338,slow=12,SNR=14	13.47	137	Pn	Pn	20 45 05.4	-0.5

NNC 23 21:06:41.8±1.0, 47.11N×80.92E, h0km, mb3.6, mpv3.2, 14C-7D, Error ellipse: s-maj=13.7km s-min=5.9km az=15.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array 49nm,0.4s,baz=302,slow=16,SNR=2161	0.99	108	⇓P	Pb	21 07 01.7	-0.2
MK31				⇑S	Sg	21 07 14.0	+0.3
KURK	Kurchatov 20nm,0.2s,baz=310,slow=28,SNR=16	3.92	338	⇓Pn	Pn	21 07 46.0	+2.8
KURK				⇑Sn	Sn	21 08 30.1	+0.2
TKM2	Tokmak 2 9.4nm,0.5s	5.63	224	⇑Pn	Pn	21 08 11.8	+4.7
TKM2				⇑Sn	Sn	21 09 17.1	+4.4
KK31	Karatay Array 6.6nm,0.4s	8.38	245	⇑Pn	Pn	21 08 47.6	+3.1
KK31				⇑Sn	Sn	21 10 22.0	+2.2
VOSK	Vostochnaya 20nm,0.5s	8.53	315	⇑Pn	Pn	21 08 50.2	+3.8
VOSK				⇑Sn	Sn	21 10 22.2	-1.1
BVA0	Borovoye Array 0.9nm,0.3s,baz=0,slow=12,SNR=3.4	8.99	315	⇓Pn	Pn	21 08 55.7	+2.8
BVA0				Sn	Sn	21 10 36.6	+1.8
BVA0				Lg	Lg	21 11 27.5	

0.5nm,0.6s,baz=127,slow=28,SNR=5.2
BRVK Borovoye 9.06 315 ⇑Pn Pn 21 08 56.8 +3.0
3.3nm,1.1s
BRVK ⇑Sn Sn 21 10 35.7 -0.8
3.6nm,0.7s
BRVK ⇑Lg Lg 21 11 27.4
9.6nm,0.9s
ZRNK Zerenda 9.64 312 ⇑Pn Pn 21 09 04.0 +2.3
1.5nm,0.6s
ZRNK ⇑Sn Sn 21 10 48.4 -2.2
3.5nm,0.9s
ZRNK ⇓Lg Lg 21 11 45.1
6.7nm,0.9s

*NSSP **23** 21:26:16.1,38′.78N×43′.03E,h10km, Ms2.7*
*DDA **23** 21:26:18.4,38′.91N×43′.24E,h5km,MD3.3*
*ISK **23** 21:26:19.1,38′.93N×43′.22E,h5km,MD3.6*
*CSEM **23** 21:26:20.1±0.2,38′.91N×43′.23E,h2km,MD3.6,Error ellipse: s-maj=5.5km s-min=4.8km az=81.0*
*NSSC **23** 21:26:29.5±1.2,36′.71N×43′.18E,h0km±301km,ML2.3*
ISC 23 21:26:20.1±1.0,**38′.89N**±0′.02×**43′.22E**±0′.02,**h15**km±9km,
n60,σ1§**59**/**76**,**1C-3D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.32**	**156**	PG		**Pb**	**21 26 27.2**	**-0.5**
VANB				*e*SG		**Sb**	**21 26 33.0**	**+0.3**
VANB	**Van**	**0.32**	**156**	*i* Pg		**Pb**	**21 26 27.2**	**-0.5**
VANB				*e*Sg		**Sb**	**21 26 33.0**	**+0.3**
TVAN	**Van**	**0.39**	**158**	*i* P		**Pg**	**21 26 27.3**	**-0.7**
TVAN	**Van**	**0.39**	**158**	*i* P		**Pg**	**21 26 27.3**	**-0.7**
CLDR	**Caldiran**	**0.60**	**65**	*e*PG		**Pb**	**21 26 31.5**	**-0.9**
CLDR				*e*SG		**Sb**	**21 26 40.5**	**-0.3**
CLDR	**Caldiran**	**0.60**	**65**	*e*Pg		**Pb**	**21 26 31.5**	**-0.9**
CLDR				*e*Sg		**Sb**	**21 26 40.5**	**-0.3**
TUTA	**Tutak**	**0.60**	**328**	*i* P		**Pg**	**21 26 30.5**	**-1.5**
TUTA				*i* S		**Sb**	**21 26 40.2**	**-0.8**
TUTA	**Tutak**	**0.60**	**328**	*i* P		**Pg**	**21 26 30.5**	**-1.5**
TUTA				*i* S		**Sb**	**21 26 40.2**	**-0.8**
AGRB	**Hanur-Agry**	**0.71**	**345**	*e*PG		**Pg**	**21 26 32.2**	**-1.7**
AGRB	**Hanur-Agry**	**0.71**	**345**	*e*Pg		**Pg**	**21 26 32.3**	**-1.7**
DYDN	**Diyadin**	**0.74**	**29**	*i* P		**Pg**	**21 26 32.9**	**-1.8**
DYDN	**Diyadin**	**0.74**	**29**	*i* P		**Pg**	**21 26 32.9**	**-1.8**
TATV	**Tatvan**	**0.84**	**243**	*i* P		**Pg**	**21 26 34.7**	**-1.7**
TATV				*i* S		**Sg**	**21 26 47.4**	**-0.1**
TATV	**Tatvan**	**0.84**	**243**	*i* P		**Pg**	**21 26 34.7**	**-1.7**
TATV				*i* S		**Sg**	**21 26 47.4**	**-0.1**
HAKT	**HAKKARI**	**1.38**	**164**	*i* P		**Pn**	**21 26 45.6**	**+0.5**
HAKT				*i* S		**Sg**	**21 27 06.2**	**+1.4**
HAKT	**HAKKARI**	**1.38**	**164**	*i* P		**Pn**	**21 26 45.6**	**+0.5**
HAKT				*i* S		**Sg**	**21 27 06.2**	**+1.4**
VRTB	**Varto-Mus**	**1.40**	**282**	*e*PN		**Pg**	**21 26 46.4**	**-0.7**
VRTB	**Varto-Mus**	**1.40**	**282**	*e*Pn		**Pg**	**21 26 46.4**	**-0.7**
SIRN	**S¨–rnak**	**1.53**	**205**	*i* P		**Pg**	**21 26 49.1**	**-0.4**
SIRN				*i* S		**Sg**	**21 27 09.4**	**-0.1**
SIRN	**S¨–rnak**	**1.53**	**205**	*i* P		**Pg**	**21 26 49.1**	**-0.4**
SIRN				*i* S		**Sg**	**21 27 09.4**	**-0.1**
HOMI	**Horasan**	**1.54**	**319**	*i* P		**Pg**	**21 26 50.5**	**+0.8**
HOMI				*i* S		**Sg**	**21 27 12.1**	**+2.3**
BNGL	**BINGOL**	**1.62**	**273**	*i* P		**Pb**	**21 26 50.0**	**+0.2**
CUKT	**Cukurca**	**1.67**	**169**	*e*PN		**Pb**	**21 26 51.0**	**+0.5**
CUKT	**Cukurca**	**1.67**	**169**	*e*Pn		**Pb**	**21 26 51.1**	**+0.5**
GNI	**Garni**	**1.72**	**43**	*e*PN		**Pb**	**21 26 50.7**	**-0.8**
GNI	**Garni**	**1.72**	**43**	⇓*i*P		**Pg**	**21 26 52.1**	**-1.0**
GNI				⇑*i*S		**Sg**	**21 27 18.1**	**+2.6**
GNI	**Garni**	**1.72**	**43**	*e*Pn		**Pb**	**21 26 50.7**	**-0.8**
GNI	**Garni**	**1.72**	**43**	⇓P		**Pg**	**21 26 52.1**	**-1.0**
GNI				S		**Sg**	**21 27 18.1**	**+2.6**
KARS	**Kars**	**1.74**	**356**	*e*PN		**Pn**	**21 26 50.3**	**+0.4**
KARS	**Kars**	**1.74**	**356**	*e*Pn		**Pn**	**21 26 50.3**	**+0.4**
ERZM	**Erzurum**	**1.76**	**306**	*i* P		**Pg**	**21 26 52.5**	**-1.4**
ERZM	**Erzurum**	**1.76**	**306**	*i* P		**Pg**	**21 26 52.5**	**-1.4**
BEST	**Besiri**	**1.83**	**238**	*i* P		**Pb**	**21 26 52.7**	**-0.6**
BEST				*i* S		**Sb**	**21 27 17.6**	**+1.4**
BNGB	**Bing¨l**	**1.99**	**274**	*e*PN		**Pb**	**21 26 55.0**	**-1.1**
BINT	**Bingol**	**2.13**	**270**	*e*Pn		**Pn**	**21 26 55.0**	**-0.4**
DDEM	**Demirkent**	**2.30**	**331**	*i* P		**Pb**	**21 27 01.7**	**+0.4**
DDEM	**Demirkent**	**2.30**	**331**	*i* P		**Pb**	**21 27 01.7**	**+0.4**
MARD	**Mardin**	**2.49**	**232**	*i* P		**Pg**	**21 27 06.2**	**-1.7**
MARD				*i* S		**Sg**	**21 27 38.5**	**-1.6**
ERZN	**Erzincan**	**2.81**	**285**	*e*PN		**Pn**	**21 27 06.5**	**+1.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.81**	**303**	*e*PN		**Pn**	**21 27 06.6**	**+1.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.81**	**303**	*e*Pn		**Pn**	**21 27 06.6**	**+1.9**
BCA	**Borcka**	**2.83**	**335**	*e*PN		**Pn**	**21 27 06.4**	**+1.6**
BCA	**Borcka**	**2.83**	**335**	*e*Pn		**Pn**	**21 27 06.4**	**+1.6**
KBSD	**Kabsdagh**	**2.84**	**229**	*e*P		**Pn**	**21 27 06.8**	**+1.8**
KBSD				AML	AML		21 27 13.6	
	comp=Z,42nm,0.6s							
KBSD				*e*S		**Sn**	**21 27 35.2**	**-3.7**
KBSD				AML	AML		21 27 57.6	
	comp=E,70nm,0.5s							
PTK	**Pertek**	**2.99**	**271**	*e*PN		**Pn**	**21 27 09.1**	**+1.9**
PTK	**Pertek**	**2.99**	**271**	*e*Pn		**Pn**	**21 27 09.1**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.11**	**262**	*e*PN		**Pn**	**21 27 11.1**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.11**	**262**	*e*Pn		**Pn**	**21 27 11.1**	**+2.3**
EZC	**Erzincan**	**3.12**	**287**	*e*PN		**Pn**	**21 27 10.9**	**+2.0**
EZC	**Erzincan**	**3.12**	**287**	*e*Pn		**Pn**	**21 27 10.9**	**+2.0**
GUMT	**Gumushane**	**3.29**	**300**	*e*PN		**Pn**	**21 27 13.2**	**+2.0**
GUMT	**Gumushane**	**3.29**	**300**	*e*Pn		**Pn**	**21 27 13.2**	**+2.0**
SFNV	**Sufian**	**3.49**	**226**	*e*P		Pn	21 27 11.1	-2.9
SFNV				AML	AML		21 27 29.3	
	comp=Z,21nm,0.4s							
ILIC	**ilic-Erzincan**	**3.66**	**280**	*e*PN		**Pn**	**21 27 18.9**	**+2.5**
ILIC	**ilic-Erzincan**	**3.66**	**280**	*e*Pn		**Pn**	**21 27 18.9**	**+2.5**
MZRK	**Al-Mazaregh**	**3.68**	**215**	⇓*e*P		Pn	21 27 08.1	-8.4
MZRK				AML	AML		21 27 19.3	
	comp=Z,26nm,0.5s							
URFA	**Urfa**	**3.76**	**249**	*e*PN		**Pn**	**21 27 20.5**	**+2.8**
URFA	**Urfa**	**3.76**	**249**	*e*Pn		**Pn**	**21 27 20.5**	**+2.8**
MALT	**Malatya**	**3.80**	**263**	*e*PN		**Pn**	**21 27 21.2**	**+2.9**
MALT	**Malatya**	**3.80**	**263**	*e*Pn		**Pn**	**21 27 21.2**	**+2.9**

*DJA **23** 21:27:35,29′.09S×174′.88W,h10km,mb5.3/6*
*IDC **23** 21:27:53.2±0.5,30′.03S×177′.66W,h0km,mb4.6/17, mb1 4.8/19,mb1mx4.7/20,mbtmp4.6/19,ML3.8/2,MS4.2/22, Ms1 4.2/22,ms1mx4.1/32,Error ellipse: s-maj=18.1km s-min=17.4km az=137.0*
*BJI **23** 21:27:54.2,30′.70S×177′.04W,h35km,mB5.6/12, mb5.2/15,Ms5.2/8,Ms7 4.8/9*
*ISCJB **23** 21:27:56.5±0.2,30′.60S±0′.03×177′.76W±0′.05,h33km, mb4.9/46,MS4.3/24,Error ellipse: s-maj=7.3km s-min=2.6km az=29.0*
*NEIC **23** 21:27:58.1±0.3,30′.22S×177′.77W,h35km,mb5.0/25, Error ellipse: s-maj=10.6km s-min=7.4km az=137.0*
ISC 23 21:27:58.4±0.3,**30′.25S**±0′.05×**177′.68W**±0′.07,**h35**km,
n240,σ1§**45**/**235**,**mb5.1**/**46**,**MS4.4**/**24**,**18C-29D**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**348**	*e*Pn		**Pn**	**21 28 14.1**	**-2.1**
MXZ	**Matakaoa Point**	**8.02**	**203**	PN		**Pn**	**21 29 50.2**	**-2.2**
MXZ				SN		**Sn**	**21 31 21.0**	**-0.8**
PUZ	**Puketiti**	**8.50**	**202**	PN		Pn	21 29 55.6	-3.4
PUZ				SN		Sn	21 31 28.7	-4.9
OUZ	**Omahuta**	**8.86**	**234**	*e*Pn		Pn	21 30 10.9	+7.0
CNGZ	**Carnagh Statio**	**8.89**	**201**	PN		Pn	21 30 01.8	-2.5
CNGZ				SN		**Sn**	**21 31 43.1**	**-0.1**
MWZ	**Matawai**	**8.99**	**205**	PN		Pn	21 30 02.1	-3.6
MWZ				SN		**Sn**	**21 31 44.8**	**-0.8**
URZ	**Urewera**	**9.08**	**207**	*e*Pn		Pn	21 30 03.4	-3.5
URZ				*e*Sn		**Sn**	**21 31 46.2**	**-1.6**
URZ	**Urewera**	**9.08**	**207**	PN		Pn	21 30 02.8	-4.1
URZ				SN		**Sn**	**21 31 47.3**	**-0.5**
PRGZ	**Paritu Road**	**9.39**	**202**	PN		Pn	21 30 04.4	-6.8
KNZ	**Kokohu**	**9.55**	**202**	PN		Pn	21 30 08.8	-4.5
KNZ				SN		Sn	21 31 54.1	-5.3
MHGZ	**Mahia Peninsul**	**9.60**	**201**	PN		Pn	21 30 10.5	-3.4
RAHZ	**Arahi**	**9.66**	**205**	*e*PN		**Pn**	**21 30 13.0**	**-1.9**
NMHZ	**Naumai**	**9.92**	**206**	PN		Pn	21 30 15.9	-2.6
MCHZ	**McNeill Hill**	**10.27**	**205**	PN		Pn	21 30 20.5	-2.6
CKHZ	**Cape Kidnapper**	**10.32**	**203**	SN		Sn	21 32 13.5	-4.9
KAHZ	**Kahuranaki**	**10.51**	**204**	PN		Pn	21 30 22.3	-4.3
PXZ	**Pawanui**	**10.73**	**203**	PN		Pn	21 30 24.4	-5.1
PXZ				SN		Sn	21 32 23.4	-5.0
WPHZ	**Waipukurau**	**10.91**	**205**	SN		**Sn**	**21 32 28.2**	**-4.5**
PRHZ	**Porangahau**	**11.02**	**203**	PN		Pn	21 30 28.3	-5.1
PRHZ				SN		Sn	21 32 29.8	-5.6
BFZ	**Birch Farm**	**11.52**	**204**	PN		Pn	21 30 34.2	-6.1
TIWZ	**Tintock**	**11.73**	**205**	SN		Sn	21 32 45.6	-7.4
MRZ	**Mangatainoka R**	**11.75**	**206**	PN		Pn	21 30 37.1	-6.3
HOWZ	**Holdsworth Sta**	**11.98**	**206**	SN		Sn	21 32 50.8	-8.1
TMWZ	**Te Maipa**	**12.02**	**204**	PN		Pn	21 30 41.1	-6.1
MTW	**Mount Morrison**	**12.21**	**205**	SN		Sn	21 32 55.5	-9.0
CAW	**Cannon Point**	**12.33**	**207**	*e*PN		Pn	21 30 45.6	-5.7
CAW				SN		Sn	21 32 58.1	-9.4
NNZ	**Nelson**	**13.12**	**211**	SN		Sn	21 33 19.2	-7.7
CTZ	**Chatham Island**	**13.49**	**177**	PN		Pn	21 31 02.7	-4.5
THZ	**Tophouse**	**13.78**	**211**	PN		Pn	21 31 08.1	-3.1
KHZ	**Kahutara**	**14.04**	**208**	*e*Pn		Pn	21 31 09.2	-5.6
KHZ				*e*Sn		Sn	21 33 40.0	-9.3
KHZ	**Kahutara**	**14.04**	**208**	PN		Pn	21 31 08.8	-5.9
MQZ	**McQueen's Vall**	**15.48**	**207**	SN		Sn	21 34 08.6	-16
RPZ	**Rata Peaks**	**16.15**	**211**	Pn		**Pn**	**21 31 42.0**	**-0.7**
	1.6nm,0.3s,baz=340,slow=3.0,SNR=11							
RPZ				SN		Sn	21 34 25.3	-15
	1.0nm,0.3s,baz=36,slow=19,SNR=5.0							
RPZ	**Rata Peaks**	**16.15**	**211**	*e*Pn		**Pn**	**21 31 41.5**	**-1.2**
	21nm,0.7s							
RPZ				SN		Sn	21 34 25.2	-15
DZM	**Mont Dzumac**	**16.40**	**296**	*e*Pn		P	21 31 58.5	+10
	98nm,0.9s							
DZM				*e*LR		LR	21 35 52.2	
	3μm,24.8s							
DZM	**Mont Dzumac**	**16.40**	**296**	Pn		**P**	**21 31 52.7**	**+4.2**
	0.2nm,0.3s,baz=162,slow=20,SNR=3.2							
DZM				LR		LR	21 36 44.5	
	comp=Z,2μm,20.4s,baz=208,slow=32							
DZM	**Mont Dzumac**	**16.40**	**296**	*e*Pn		**Pn**	**21 31 43.9**	**-2.1**
	39nm,0.8s							
NOUC	**Port Laguerre**	**16.50**	**296**	*e*P		**P**	**21 31 53.6**	**+4.1**
AFI	**Afiamalu**	**17.15**	**20**	Pn		**Pn**	**21 31 53.5**	**-2.0**
	3.7nm,0.3s,baz=216,slow=19,SNR=3.0							
AFI				SN		Sn	21 34 44.8	-20
	2.9nm,0.3s,baz=198,slow=20,SNR=2.5							
AFI	**Afiamalu**	**17.15**	**20**	Pn		**Pn**	**21 31 53.5**	**-2.0**
AFI				SN		Sn	21 34 44.8	-20
ODZ	**Otahua Downs**	**17.40**	**209**	*e*Pn		**Pn**	**21 31 56.9**	**-1.4**
	78nm,0.7s							
ODZ				*e*Sn		Sn	21 34 52.2	-19
JCZ	**Jackson Bay**	**17.50**	**214**	PN		**Pn**	**21 31 57.5**	**-2.1**
RAR	**Rarotonga**	**18.45**	**65**	LR		LR	21 36 55.1	
	comp=Z,917nm,21.7s,baz=261,slow=30							
TBI	**Tubuai**	**26.07**	**82**	*e*S		**S**	**21 37 55.7**	**-1.9**
	333nm,29.8s							
TBI				*e*LQ		LQ	21 38 34.1	
	879nm,25.8s							
TBI				*e*LR		LR	21 40 03.1	
	1μm,26.8s							
ARMA	**Armidale**	**26.45**	**262**	*e*P		**P**	**21 33 35.0**	**+2.7**
ARMA	**Armidale**	**26.45**	**262**	*e*P		**P**	**21 33 35.0**	**+2.7**
	20nm,0.9s							
MGCD	**Mangrove Creek**	**26.66**	**256**	⇓*i*P		**P**	**21 33 37.1**	**+3.1**
	49nm,0.8s							
EIDS	**Eidsvold**	**28.01**	**272**	*e*P		**P**	**21 33 45.6**	**-0.5**
	18nm,0.9s							
CAN	**Canberra**	**28.39**	**251**	*e*P		**P**	**21 33 51.3**	**+1.8**
	14nm,0.8s							
CAN	**Canberra**	**28.39**	**251**	*e*P		**P**	**21 33 50.4**	**+1.0**
	24nm,0.9s							
PPT2	**Papeete2**	**28.53**	**70**	*e*S		**S**	**21 38 38.7**	**+2.1**
	197nm,27.0s							
PPT2				*e*LQ		LQ	21 39 29.5	
	724nm,24.2s							
PPT2				*e*LR		LR	21 41 06.6	
	1μm,26.2s							
HNR	**Honiara**	**29.41**	**310**	LR		LR	21 43 51.1	
	comp=Z,258nm,21.6s,baz=312,slow=33							
TOO	**Toolangi**	**31.28**	**247**	*e*P		**P**	**21 34 16.5**	**+1.5**
	100nm,0.9s							
CTA	**Charters Tower**	**34.05**	**279**	P		**P**	**21 34 40.9**	**+1.5**
	56nm,0.8s,baz=102,slow=10,SNR=73							
CTA				LR		LR	21 47 03.8	
	comp=Z,691nm,18.5s,baz=136,slow=34							
CTA	**Charters Tower**	**34.05**	**279**	*e*P		**P**	**21 34 40.8**	**+1.4**
	49nm,0.9s							
CTA	**Charters Tower**	**34.05**	**279**	P		**P**	**21 34 40.9**	**+1.5**
CTAO	**Charters Tower**	**34.05**	**279**	*e*P		**P**	**21 34 40.9**	**+1.5**
	56nm,0.8s							
STKA	**Stephens Creek**	**34.78**	**257**	P		**P**	**21 34 47.5**	**+1.8**
	31nm,0.9s,baz=92,slow=11,SNR=24							
STKA				LR		LR	21 47 48.6	
	comp=Z,618nm,18.6s,baz=287,slow=34							
STKA	**Stephens Creek**	**34.78**	**257**	*e*P		**P**	**21 34 47.2**	**+1.5**
	22nm,0.9s							
STKA	**Stephens Creek**	**34.78**	**257**	*e*P		**P**	**21 34 46.9**	**+1.2**
	6.3nm,0.9s							
RKT	**Rikitea**	**38.64**	**90**	*e*LR		LR	21 45 54.2	
	791nm,26.5s							
PMG	**Port Moresby**	**38.79**	**295**	P		**P**	**21 35 20.3**	**+0.4**
	8.3nm,0.9s,baz=21,slow=5.7,SNR=3.8							
PMG	**Port Moresby**	**38.79**	**295**	P		**P**	**21 35 20.3**	**+0.4**
BBOO	**Buckleboo**	**39.28**	**254**	*e*P		**P**	**21 35 23.5**	**-0.3**
	547nm,0.8s							
COEN	**Coen**	**39.50**	**286**	*e*P		**P**	**21 35 25.1**	**-0.7**
	85nm,1.0s							
AS31	**Alice Springs**	**43.39**	**267**	*e*P		**P**	**21 35 56.1**	**-1.7**
ASAR	**Alice Springs**	**43.39**	**267**	P		**P**	**21 35 57.2**	**-0.5**
	9.6nm,0.8s,baz=109,slow=8.0,SNR=75							
ASAR	**Alice Springs**	**43.39**	**267**	P		**P**	**21 35 57.2**	**-0.5**
WB2	**Warramunga Arr**	**44.36**	**272**	*e*P		**P**	**21 36 04.5**	**-1.0**
WRAB	**Tennant Creek**	**44.36**	**272**	*e*P		**P**	**21 36 04.7**	**-0.9**
	25nm,0.8s							
WRAB	**Tennant Creek**	**44.36**	**272**	P		**P**	**21 36 05.0**	**-0.6**
	188nm,0.7s,SNR=33							
WRA	**Warramunga Arr**	**44.37**	**272**	P		**P**	**21 36 05.0**	**-0.6**
	33nm,0.9s,baz=111,slow=7.9,SNR=105							
WRA				LR		LR	21 54 41.5	
	comp=Z,483nm,19.5s,baz=130,slow=36							
WRA	**Warramunga Arr**	**44.37**	**272**	P		**P**	**21 36 05.0**	**-0.6**
FORT	**Forrest**	**46.35**	**255**	*e*P		**P**	**21 36 20.1**	**-1.1**
	16nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.64**	**270**	LR		LR	21 58 08.9	
	comp=Z,313nm,19.1s,baz=195,slow=34							
FITZ	**Fitzroy Crossi**	**52.64**	**270**	*e*P		**P**	**21 37 08.5**	**-0.8**
	22nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.64**	**270**	*e*P		**P**	**21 37 08.2**	**-1.0**
	12nm,0.8s							
CASY	**Casey**	**55.40**	**208**	*e*P		**P**	**21 37 28.0**	**-0.7**
CASY	**Casey**	**55.40**	**208**	*e*P		**P**	**21 37 28.5**	**-0.2**
	30nm,0.8s							
QSPA	**South Pole Qui**	**59.86**	**180**	P		**P**	**21 38 02.7**	**+2.4**
	6.2nm,0.7s,baz=41,slow=2.4,SNR=21							
QSPA	**South Pole Qui**	**59.86**	**180**	P		**P**	**21 38 02.7**	**+2.4**
KAPI	**Kappang**	**63.85**	**280**	LR		LR	22 06 58.9	
	comp=Z,94nm,19.4s,baz=303,slow=37							
CBIJ	**Chichi jima**	**68.74**	**322**	LR		LR	22 02 55.4	
	comp=Z,158nm,20.5s,baz=30,slow=31							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**21 39 22.7**	**+1.3**
	7.0nm,0.7s,baz=113,slow=9.9,SNR=4.5							
MAW				LR		LR	22 10 11.0	
	comp=Z,203nm,20.5s,baz=285,slow=35							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**21 39 22.7**	**+1.3**
USHA	**Ushuaia**	**75.89**	**146**	LR		LR	22 04 37.1	
	comp=Z,179nm,18.6s,baz=227,slow=29							
SYO	**Syowa Base**	**77.32**	**193**	⇓*e*P		**P**	**21 39 48.2**	**-0.7**
SYO	**Syowa Base**	**77.32**	**193**	⇓*e*PcP		**PcP**	**21 39 57.6**	**-1.8**
MJAR	**Matsushiro Arr**	**78.28**	**325**	P		**P**	**21 39 52.7**	**-1.9**
	3.5nm,0.9s,baz=173,slow=5.4,SNR=5.1							
MJAR				LR		LR	22 08 59.4	
	comp=Z,113nm,18.4s,baz=10.0,slow=32							
MJAR	**Matsushiro Arr**	**78.28**	**325**	P		**P**	**21 39 52.7**	**-1.9**
SNAA	**Sanae**	**78.30**	**178**	*e*		P	21 39 51.7	-2.7
SNAA				*e*			21 39 59.0	
SNAA	**Sanae**	**78.30**	**178**	*e*P		**P**	**21 39 51.9**	**-2.5**
	8.0nm,0.9s							
VNA3	**Neumayer Olymp**	**78.44**	**176**	*e*		**P**	**21 39 56.2**	**+1.1**
VNA3				*e*			21 40 04.0	
VNA2	**Neumayer--Watz**	**78.87**	**177**	*e*		**P**	**21 39 59.0**	**+1.5**
	baz=167,slow=4.6							
VNA2				*e*			21 40 06.6	
VNA1	**Neumayer--Stat**	**79.10**	**176**	*e*		**P**	**21 40 00.4**	**+1.7**
VNA1				*e*			21 40 07.2	
PLCA	**Paso Flores**	**82.41**	**133**	P		**P**	**21 40 19.0**	**+1.9**
	3.2nm,1.1s,baz=244,slow=6.0,SNR=3.4							
PLCA				LR		LR	22 08 05.8	
	comp=Z,193nm,18.4s,baz=341,slow=29							
PLCA	**Paso Flores**	**82.41**	**133**	P		**P**	**21 40 19.0**	**+1.9**
KSRS	**Korea Array**	**84.41**	**319**	P		**P**	**21 40 27.8**	**+0.7**
	5.7nm,1.1s,baz=155,slow=5.4,SNR=4.0							
KSRS				LR		LR	22 17 04.3	
	comp=Z,58nm,18.4s,baz=270,slow=35							
KSAR	**Wonju Array Be**	**84.43**	**319**	P		**P**	**21 40 27.8**	**+0.6**
PETK	**Petropavlovsk-**	**85.74**	**345**	P		**P**	**21 40 33.0**	**-0.3**
	12nm,0.8s,baz=142,slow=7.8,SNR=10.0							
PETK				LR		LR	22 11 45.2	
	comp=Z,86nm,20.2s,baz=346,slow=31							
PETK	**Petropavlovsk-**	**85.74**	**345**	P		**P**	**21 40 33.0**	**-0.3**
ISA	**Isabella**	**86.00**	**45**	*e*P		**P**	**21 40 34.9**	**-0.3**
	24nm,1.4s							
ISA	**Isabella**	**86.00**	**45**	⇓P		**P**	**21 40 36.3**	**+1.1**
	baz=86							
LRMC	**Laurel Mountai**	**86.35**	**45**	⇑P		**P**	**21 40 37.8**	**+0.8**
	baz=87							
NJ2	**Nanjing**	**86.36**	**310**	*e*P		**P**	**21 40 38.3**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,30nm,1.0s							
BELC	**Belle Mtn. Jos**	**86.44**	**47**	⇓P		**P**	**21 40 38.6**	**+1.1**
	baz=87							
CMB	**Columbia Colle**	**86.47**	**42**	*e*P		**P**	**21 40 38.5**	**+1.1**
	comp=Z,11nm,1.1s							
GSC	**Goldstone**	**86.78**	**46**	*e*P		**P**	**21 40 39.5**	**+0.4**
	comp=Z,30nm,1.4s							
GSC	**Goldstone**	**86.78**	**46**	⇑P		**P**	**21 40 40.0**	**+0.9**
	baz=87							
MPMC	**Manual Prospec**	**86.86**	**45**	⇓P		**P**	**21 40 40.5**	**+0.9**
	baz=87							
WDC	**Whiskeytown Da**	**87.02**	**39**	*e*P		**P**	**21 40 41.0**	**+1.0**
	comp=Z,16nm,1.4s							
MTUM	**Tungsten Hills**	**87.07**	**43**	*e*P		**P**	**21 40 40.9**	**+0.4**
USRK	**Ussuriysk Arra**	**87.18**	**326**	P		**P**	**21 40 40.8**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=131,slow=8.8,SNR=4.5							
Z13A	**Yuma Proving G**	**87.44**	**49**	⇑P		**P**	**21 40 43.7**	**+1.5**
	baz=88							
LDFC	**Landfair**	**87.70**	**47**	*e*P		**P**	**21 40 44.8**	**+1.3**
	comp=Z,61nm,1.5s							
NVAR	**Mina Array Bea**	**87.94**	**43**	P		**P**	**21 40 45.4**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=223,slow=8.3,SNR=22							
NVAR				LR		LR	22 13 57.2	
	comp=Z,143nm,19.0s,baz=124,slow=32							
NVAR	**Mina Array Bea**	**87.94**	**43**	P		**P**	**21 40 45.4**	**+0.6**
Y14A	**Wickenburg**	**88.33**	**49**	⇑P		**P**	**21 40 47.7**	**+1.2**
	baz=89							
MDJ	**Mudanjiang**	**88.66**	**325**	P		**P**	**21 40 47.4**	**-0.3**
MDJ				pP		**pP**	**21 40 56.9**	**-1.9**
MDJ				sP		**sP**	**21 41 00.6**	**-2.2**
MDJ				S		**S**	**21 51 29.8**	**-1.9**
MDJ				pmax		pmax		
	comp=Z,150nm,4.4s							
MDJ				LR		LR		
	comp=Z,83nm,27.6s							
TUC	**Tucson**	**88.80**	**51**	*e*P		**P**	**21 40 50.3**	**+1.5**
	comp=Z,3.6nm,1.3s							
MOD	**Modoc**	**89.16**	**39**	*e*P		**P**	**21 40 51.4**	**+1.1**
	comp=Z,29nm,2.1s							
X16A	**Lo Mia Camp, P**	**89.64**	**49**	⇓P		**P**	**21 40 54.3**	**+1.5**
	baz=90							
220A	**Playas Peak, P**	**90.10**	**53**	⇓P		**P**	**21 40 56.6**	**+1.6**
	baz=90							
U15A	**North Rim**	**90.33**	**47**	⇑P		**P**	**21 40 57.5**	**+1.4**
	baz=91							
CCUT	**Cedar City**	**90.35**	**46**	*e*P		**P**	**21 40 58.2**

CD2	**Chengdu**	**96.24**	**302**	P	**P**	**21 41 23.4**	**+0.2**
CD2				pP	**pP**	**21 41 34.5**	**+0.1**
CD2				sP	**sP**	**21 41 38.6**	**+0.3**
CD2				PP	**PP**	**21 45 19.9**	**+2.8**
CD2				SKS	**SKSac**	**21 51 56.0**	**-1.2**
CD2				S	**S**	**21 52 37.6**	**-2.9**
CD2				sS	**sS**	**21 52 56.3**	**-2.7**
CD2				SS	**SS**	**21 59 15.0**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,5.3s						
CD2				LR	LR		
	comp=E,480nm,5.3s						
CD2				LR	LR		
	comp=Z,430nm,5.9s						
HHC	**Hu-ho-hao-te**	**96.33**	**314**	*e*P	**P**	**21 41 25.6**	**+2.2**
HHC				pP	**pP**	**21 41 35.9**	**+1.3**
HHC				sP	**sP**	**21 41 40.3**	**+1.7**
HHC				PP	PP	21 45 25.6	+7.9
HHC				SKS	**SKSac**	**21 51 59.4**	**+2.0**
HHC				S	**S**	**21 52 40.8**	**-0.1**
HHC				sS	**sS**	**21 52 59.1**	**-0.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
HHC				LR	LR		
	comp=N,200nm,16.7s						
HHC				LR	LR		
	comp=E,310nm,17.3s						
HHC				LR	LR		
	comp=Z,240nm,16.2s						
JTS	**JuntasAbangare**	**97.44**	**82**	LR	LR	22 14 27.6	
	comp=Z,99nm,20.2s,baz=207,slow=29						
ILAR	**Eielson Array**	**97.72**	**13**	P	**P**	**21 41 28.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=220,slow=5.0,SNR=6.9						
ILAR	**Eielson Array**	**97.72**	**13**	P	**P**	**21 41 28.1**	**-0.9**
LPAZ	**La Paz**	**97.95**	**114**	LR	LR	22 16 27.7	
	comp=Z,68nm,19.3s,baz=40,slow=30						
LZH	**Lanzhou**	**98.86**	**307**	*e*P	**P**	**21 41 35.0**	**0.0**
LZH				pP	**pP**	**21 41 46.3**	**+0.1**
LZH				sP	**sP**	**21 41 50.1**	**-0.1**
LZH				*e*PP	**PP**	**21 45 40.3**	**+3.0**
LZH				*e*S	**S**	**21 53 00.4**	**-2.4**
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				pmax	pmax		
	comp=Z,97nm,8.4s						
LZH				LR	LR		
	comp=N,220nm,17.0s						
LZH				LR	LR		
	comp=E,200nm,17.5s						
LZH				LR	LR		
	comp=Z,230nm,19.3s						
YKA	**Yellowknife Ar**	**105.19**	**25**	PKKPbc	PKKPbc	21 57 58.2	+14
	comp=Z,0.7nm,0.9s,baz=42,slow=2.8,SNR=8.1						
YKA	**Yellowknife Ar**	**105.19**	**25**	PKKPbc	PKKPbc	21 57 58.2	+14
BLA	**Blacksburg**	**112.90**	**59**	*e*PKPdf		21 46 32.0	
BOSA	**Boshof**	**117.51**	**203**	PKP	**PKPdf**	**21 46 41.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=169,slow=5.2,SNR=2.4						
BOSA	**Boshof**	**117.51**	**203**	PKP	**PKPdf**	**21 46 41.9**	**+0.8**
MK31	**Makanchi Array**	**117.89**	**310**	*e*PKPdf	**PKPdf**	**21 46 39.2**	**-1.7**
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	**PKPdf**	**21 46 39.4**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=74,slow=1.3,SNR=20						
MKAR				PKKPab	PKKPab	21 57 15.1	+12
	comp=Z,0.2nm,0.7s,baz=315,slow=2.7,SNR=3.5						
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	**PKPdf**	**21 46 39.4**	**-1.6**
MKAR				PKKPab	PKKPab	21 57 15.1	+12
ZALV	**Zalesovo Beam**	**118.11**	**318**	PKP	**PKPdf**	**21 46 39.4**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=153,slow=1.7,SNR=7.4						
ZALV	**Zalesovo Beam**	**118.11**	**318**	PKP	**PKPdf**	**21 46 39.4**	**-1.7**
ULHL	**Ulahol**	**120.91**	**304**	P	PKPdf	21 46 41.2	-6.0
	SNR=8.1						
ULHL				P	PKPdf	21 46 41.2	-6.0
	SNR=8.1						
KURK	**Kurchatov**	**121.14**	**314**	*e*PKPdf	**PKPdf**	**21 46 45.7**	**-1.3**
TKM2	**Tokmak 2**	**121.53**	**304**	P	**PKPdf**	**21 46 47.2**	**-1.1**
	SNR=5.4						
TKM2				P	**PKPdf**	**21 46 47.2**	**-1.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**121.53**	**304**	*e*PKPdf	**PKPdf**	**21 46 46.8**	**-1.5**
KZA	**Kyzart**	**121.59**	**303**	P	**PKPdf**	**21 46 47.4**	**-1.3**
	SNR=23						
KZA				P	**PKPdf**	**21 46 47.4**	**-1.3**
	SNR=23						
CHMS	**Chumysh**	**122.16**	**304**	P	**PKPdf**	**21 46 48.4**	**-0.9**
	SNR=5.1						
CHMS				P	**PKPdf**	**21 46 48.4**	**-0.9**
	SNR=5.1						
AAK	**Ala-Archa**	**122.26**	**304**	*e*PKPdf	**PKPdf**	**21 46 48.1**	**-1.5**
USP	**Ospenovka**	**122.40**	**305**	P	**PKPdf**	**21 46 48.9**	**-0.9**
	SNR=6.0						
USP				P	**PKPdf**	**21 46 48.9**	**-0.9**
	SNR=6.0						
AML	**Almayashu**	**122.72**	**303**	P	**PKPdf**	**21 46 50.1**	**-0.8**
	SNR=13						
AML				P	**PKPdf**	**21 46 50.1**	**-0.8**
	SNR=13						
EKS2	**Erkin-Say**	**122.78**	**304**	P	**PKPdf**	**21 46 50.0**	**-0.6**
	SNR=6.2						
EKS2				P	**PKPdf**	**21 46 50.0**	**-0.6**
	SNR=6.2						
EKS2	**Erkin-Say**	**122.78**	**304**	*e*PKPdf	**PKPdf**	**21 46 49.7**	**-0.9**
KBL	**Kabul**	**124.42**	**293**	*e*PKPdf	**PKPdf**	**21 46 53.4**	**-0.7**
KKAR	**Karatay Array**	**125.22**	**304**	*e*PKPdf	**PKPdf**	**21 46 54.1**	**-1.0**
BRVK	**Borovoye**	**126.56**	**316**	*e*PKPdf	**PKPdf**	**21 46 55.4**	**-1.9**
ABKAR	**Akbulak array**	**133.02**	**311**	*e*PKPdf	**PKPdf**	**21 47 09.4**	**-0.3**
ARCES	**ARCESS Array B**	**138.50**	**348**	PKhKP	PKPpre	21 47 10.5	
	comp=Z,3.7nm,0.9s,baz=56,slow=1.6,SNR=5.3						
ARCES	**ARCESS Array B**	**138.50**	**348**	PKPpre	PKPpre	21 47 10.5	
KAF	**Kangasniemi**	**144.50**	**341**	*e*p	**PKPab**	**21 47 27.3**	**-1.4**
	comp=Z,18nm,0.7s						
KAF	**Kangasniemi**	**144.50**	**341**	*e*p	**PKPab**	**21 47 27.3**	**-1.4**
	comp=Z,18nm,0.7s						
FINES	**FINESS Array B**	**145.10**	**340**	PKP	**PKPbc**	**21 47 29.6**	**-1.3**
	comp=Z,54nm,0.7s,baz=59,slow=3.6,SNR=114						
FINES	**FINESS Array B**	**145.10**	**340**	PKP	**PKPbc**	**21 47 29.6**	**-1.3**
OBN	**Obninsk**	**145.21**	**325**	*e*PKPbc	**PKPbc**	**21 47 29.4**	**-2.0**
NB2	**NORSAR Subarra**	**148.64**	**352**	PKP	**PKPbc**	**21 47 39.7**	**-1.4**
	comp=Z,11nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.64**	**352**	PKPbc	**PKPbc**	**21 47 40.2**	**-1.0**
	comp=Z,6.9nm,0.8s,baz=17,slow=4.4,SNR=18						
NOA	**NORSAR Array B**	**148.64**	**352**	PKPbc	**PKPbc**	**21 47 40.2**	**-1.0**
NAO01	**NORSAR Array S**	**148.88**	**352**	*e*PKPdf	**PKPdf**	**21 47 37.6**	**-0.1**
NAO01				*e*PKPab	**PKPab**	**21 47 45.1**	**-0.6**
NACGM	**Naroch**	**149.78**	**332**	*e*	**PKPdf**	**21 47 39.0**	**-0.3**
AKASG	**Malin Array Be**	**151.35**	**323**	PKPbc	**PKPbc**	**21 47 46.8**	**-1.1**
	comp=Z,15nm,0.7s,baz=49,slow=2.8,SNR=49						
AKASG				PKPab	**PKPab**	**21 47 55.4**	**-0.7**
	comp=Z,8.6nm,0.7s,baz=50,slow=3.2,SNR=7.6						
AKASG	**Malin Array Be**	**151.35**	**323**	PKPbc	**PKPbc**	**21 47 46.8**	**-1.1**
AKASG				PKPab	**PKPab**	**21 47 55.4**	**-0.7**
AKBB	**Malin Array Si**	**151.35**	**323**	*e*PKPbc	**PKPbc**	**21 47 46.3**	**-1.6**
KIEV	**Kiev**	**151.36**	**323**	*e*PKPbc	**PKPbc**	**21 47 46.2**	**-1.8**
BRTR	**Keskin Array B**	**152.77**	**299**	PKPbc	**PKPbc**	**21 47 50.6**	**-1.1**
	comp=Z,5.1nm,0.8s,baz=140,slow=1.6,SNR=8.7						
BRTR	**Keskin Array B**	**152.77**	**299**	PKPbc	**PKPbc**	**21 47 50.6**	**-1.1**
KWP	**Kalwaria Pacla**	**155.26**	**327**	↑*i*P	**PKPab**	**21 48 09.3**	**-3.4**
BURAR	**Bucovina Array**	**155.29**	**321**	↓*i*P	PKPdf	21 47 57.8	+10
DBIC	**Dimbokro**	**155.59**	**163**	PKPbc	PKPdf	21 48 00.2	+11
	comp=Z,2.1nm,0.8s,baz=190,slow=8.7,SNR=3.7						
DBIC				PKPab	**PKPab**	**21 48 17.3**	**+2.3**
	comp=Z,1.7nm,0.6s,baz=146,slow=6.4,SNR=4.1						
DBIC	**Dimbokro**	**155.59**	**163**	PKPbc	PKPdf	21 48 00.2	+11
DBIC				PKPab	**PKPab**	**21 48 17.3**	**+2.3**
MLR	**Muntele Rosu**	**156.06**	**316**	↓*i*P	PKPdf	21 47 57.5	+8.5
CRVS	**Cervenica-Dubn**	**156.35**	**327**	*e*PKP	**PKPab**	**21 48 17.0**	**-0.5**
UPC	**Upice**	**157.31**	**337**	*e*PKPab	**PKPab**	**21 48 21.1**	**-0.4**
DPC	**Dobruska-Polom**	**157.33**	**336**	*e*PKPab	**PKPab**	**21 48 21.3**	**-0.3**
DPC				*ex*	x	21 48 37.0	
CLL	**Collm**	**157.51**	**342**	↓*i*PKPab	**PKPab**	**21 48 21.2**	**-1.1**
	comp=Z,11nm,0.9s						
CLL				*e*pPKPab	pPKPab	21 48 26.0	-7.5
BRG	**Berggiesshubel**	**157.64**	**340**	*i* PKP	**PKPab**	**21 48 22.2**	**-0.6**
	comp=Z,8.4nm,0.9s						
PVCC	**Panska Ves**	**157.76**	**339**	*e*PKPab	**PKPab**	**21 48 22.9**	**-0.5**
VYHS	**Vyhne**	**157.84**	**330**	*e*PKP	**PKPab**	**21 48 19.6**	**-4.2**
PRU	**Pruhonice**	**158.24**	**338**	*e*PKPab	**PKPab**	**21 48 25.1**	**-0.4**
NKC	**Novy Kostel**	**158.63**	**342**	*e*PKPab	**PKPab**	**21 48 26.7**	**-0.5**
KHC	**Kasperske Hory**	**159.29**	**339**	*e*PKPab	**PKPab**	**21 48 29.3**	**-0.8**
KHC				*ex*	x	21 48 46.1	
MEM	**Membach**	**159.47**	**353**	PKPab	**PKPab**	**21 48 29.3**	**-1.4**
GERES	**GERESS Array B**	**159.50**	**338**	PKPab	**PKPab**	**21 48 29.6**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=347,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**159.50**	**338**	PKPab	**PKPab**	**21 48 29.6**	**-1.6**
BCLA	**Clavier**	**159.73**	**354**	PKPab	**PKPab**	**21 48 30.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**162.97**	**178**	PKP	**PKPdf**	**21 47 57.4**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=108,slow=1.2,SNR=2.7						
TORD				PKPab	**PKPab**	**21 48 46.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=178,slow=3.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**162.97**	**178**	PKP	**PKPdf**	**21 47 57.4**	**-0.2**
TORD				PKPab	**PKPab**	**21 48 46.9**	**0.0**

*DJA **23** 21:50:38, 3.°60N×126.°84E, h52km, MLv4.4/6*
IDC 23 21:50:26.4±0.8, 3.°86N×126.°91E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, Error ellipse: s-maj=42.5km s-min=14.8km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.10**	**172**	P	Pb	21 51 20.2	-2.3
MNI	**Manado**	**3.17**	**221**	P	Pb	21 51 23.6	-0.1
KMSI	**Cibinong**	**4.38**	**222**	P	Pb	21 51 41.9	-2.5
LBMI	**Labuha**	**4.51**	**172**	P	Pn	21 51 40.8	+4.8
MRSI	**Marisa**	**6.00**	**236**	P	Pn	21 52 03.4	+6.9
	51nm,0.6s,0.2nm						
LUWI	**Luwuk**	**6.39**	**220**	P	Pb	21 52 10.5	-8.1
	108nm,0.8s,986nm0.4nm						
MYLDM	**Lahad Datu**	**8.49**	**279**	P	Pb	21 52 55.2	+0.9
KDI	**Kendari**	**8.87**	**209**	P	Pn	21 52 39.5	+3.5
	18nm,0.9s,0.1nm						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	21 55 21.3	+0.4
	1.6nm,0.6s,baz=24,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	21 55 48.8	-1.2
	4.0nm,0.8s,baz=344,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.20**	**166**	P	P	21 56 21.8	+0.8
	0.7nm,0.7s,baz=344,slow=9.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P	P	21 56 46.2	+0.6
	0.3nm,0.4s,baz=129,slow=7.1,SNR=4.9						
KSRS	**Korea Array**	**33.45**	**1**	P	P	21 57 07.8	+0.6
	1.2nm,0.8s,baz=170,slow=8.0,SNR=5.3						
STKA	**Stephens Creek**	**38.19**	**160**	P	P	21 57 47.9	0.0
	2.5nm,0.6s,baz=329,slow=8.2,SNR=7.1						
SONM	**Songino Array**	**47.23**	**341**	P	P	21 59 00.9	-0.5
	0.5nm,0.5s,baz=160,slow=8.0,SNR=3.6						
PETK	**Petropavlovsk-**	**55.24**	**22**	P	P	22 00 01.2	0.0
	4.6nm,0.8s,baz=193,slow=5.9,SNR=3.4						
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	22 00 17.3	-0.7
	0.9nm,0.5s,baz=118,slow=8.1,SNR=24						
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	P	22 00 37.2	-1.3
	0.4nm,0.4s,baz=122,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**91.80**	**332**	P	P	22 03 37.7	+1.6
	1.6nm,0.8s,baz=155,slow=6.9,SNR=2.5						

*ISCJB **23** 21:53:43.5±0.9, 37.°19N±0.°04×142.°58E±0.°09, h82km±12km, mb3.5/2, Error ellipse: s-maj=11.6km s-min=5.5km az=14.4*
*IDC **23** 21:53:43.7±2.9, 37.°11N×142.°74E, h59km±33km, mb3.2/2, mb1 3.8/6, mb1mx3.3/25, mbtmp3.8/6, ML4.7/1, Error ellipse: s-maj=29.1km s-min=21.3km az=143.0*
*JMA **23** 21:53:45.4±0.2, 37.°22N×142.°51E, h67km, M4.3*
ISC 23 21:53:43.0±1.1, 37.°18N±0.°05×142.°74E±0.°09, h56km±15km, n20, σ1°42/36, 3C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.50**	**278**	↓P	**Pn**	**21 54 08.1**	**+0.4**
JFK				*e*S	**Sn**	**21 54 24.5**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.56**	**268**	↓P	**Pn**	**21 54 08.9**	**+0.5**
ONAJ				S	**Sn**	**21 54 25.8**	**-1.8**
JIO	**Ouri**	**1.68**	**319**	↑P	**Pn**	**21 54 11.4**	**+1.3**
JIO				*e*S	**Sn**	**21 54 29.9**	**-0.6**
JMM	**Marumori**	**1.69**	**294**	↓P	**Pn**	**21 54 11.0**	**+0.8**
JMM				*e*S	**Sn**	**21 54 29.9**	**-0.9**
JFT	**Otama**	**1.95**	**281**	↓P	**Pn**	**21 54 14.9**	**+1.2**
JFT				S	**Sn**	**21 54 36.5**	**-0.5**
JOU	**Okura**	**2.03**	**306**	↑P	**Pn**	**21 54 16.0**	**+1.2**
JOU				*e*S	**Sn**	**21 54 38.5**	**-0.5**
JMK	**Ichinoseki**	**2.14**	**326**	↑P	**Pn**	**21 54 17.5**	**+1.2**
JMK				*e*S	**Sn**	**21 54 41.1**	**-0.5**
JOM	**Ohasama**	**2.56**	**334**	P	**Pn**	**21 54 23.5**	**+1.5**
JOM				S	**Sn**	**21 54 51.7**	**-0.2**
JYK	**Kaneyama**	**2.56**	**313**	P	**Pn**	**21 54 23.4**	**+1.4**
JYK				S	**Sn**	**21 54 51.5**	**-0.5**
JAG	**Ashikaga**	**2.75**	**255**	P	**Pn**	**21 54 25.4**	**+0.8**
BSO1	**Boso 1**	**2.90**	**210**	P	**Pn**	**21 54 27.8**	**+1.6**
BSO1				*e*S	**Sn**	**21 55 01.4**	**+1.8**
JRY	**Ryogami san**	**3.30**	**251**	P	**Pn**	**21 54 32.6**	**+0.4**
JRY				*e*S	**Sn**	**21 55 07.4**	**-2.9**
JANG	**Nango**	**3.33**	**344**	P	**Pn**	**21 54 33.4**	**+0.8**
JANG				*e*S	**Sn**	**21 55 09.2**	**-1.6**
MJAR	**Matsushiro Arr**	**3.69**	**261**	P	**Pn**	**21 54 38.1**	**+0.5**
	1.1nm,0.3s,baz=76,slow=10,SNR=12						
MJAR				S	**Sn**	**21 55 20.0**	**+0.1**
	4.1nm,0.3s,baz=77,slow=27,SNR=8.9						
MAT	**Matsushiro**	**3.69**	**261**	P	**Pn**	**21 54 39.0**	**+1.4**
MAT				S	**Sn**	**21 55 18.0**	**-1.9**
ASAJ	**Asahikawa**	**6.93**	**359**	P	**Pn**	**21 55 23.3**	**+1.5**
	14nm,0.3s,baz=205,slow=8.4,SNR=29						
ASAJ				S	**Sn**	**21 56 35.7**	**-3.5**
	0.7nm,0.3s,baz=75,slow=20,SNR=2.8						
CBIJ	**Chichi jima**	**10.07**	**183**	P	**Pn**	**21 56 04.3**	**-0.6**
	13nm,0.3s,baz=18,slow=19,SNR=11						
CBIJ				S	Sn	21 57 45.2	-11
	1.9nm,0.3s,baz=285,slow=20,SNR=3.6						
USRK	**Ussuriysk Arra**	**10.75**	**314**	P	**Pn**	**21 56 16.4**	**+2.4**
	0.3nm,0.3s,baz=127,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**57.37**	**189**	P	**P**	**22 03 25.3**	**-0.2**
	0.7nm,0.7s,baz=7.3,slow=7.1,SNR=8.0						
WRA				pP	**pP**	**22 03 40.2**	**-0.5**
	0.3nm,0.4s,baz=2.1,slow=7.6,SNR=3.0						
ASAR	**Alice Springs**	**61.09**	**189**	P	**P**	**22 03 51.1**	**-0.1**
	0.1nm,0.3s,baz=14,slow=8.1,SNR=4.1						

IDC 23 22:33:14.3±1.2, 13.°16N×120.°73E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, Error ellipse: s-maj=39.0km s-min=11.4km az=95.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.95**	**12**	Pg	Pg	22 33 32.7	0.0
	86nm,0.3s,baz=207,slow=4.5,SNR=4.9						
TGY				Lg	Lg	22 33 46.1	
	124nm,0.3s,baz=174,slow=13,SNR=12						
WRA	**Warramunga Arr**	**35.52**	**158**	P	P	22 40 12.9	-0.3
	0.3nm,0.5s,baz=334,slow=9.9,SNR=5.2						
SONM	**Songino Array**	**36.59**	**344**	P	P	22 40 21.3	-0.7
	0.3nm,0.6s,baz=144,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**38.81**	**161**	P	P	22 40 41.2	+0.2
	0.3nm,0.4s,baz=348,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**46.48**	**324**	P	P	22 41 43.5	+0.3
	0.1nm,0.5s,baz=127,slow=9.2,SNR=3.3						

WEL 23 22:34:56.6±0.4, 37.°18S×178.°41E, h30km±1km, ML4.0/8, 1C-1D, Error ellipse: s-maj=2.6km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.40**	**192**	↓P*	Pb	22 35 05.3	-0.1
MXZ				*S**	Sb	22 35 11.2	-0.2
PUZ	**Puketiti**	**0.91**	**188**	↑PN	Pn	22 35 13.0	-0.3
PUZ				SN	Sn	22 35 24.9	-0.5
WIZ	**White Island**	**1.03**	**250**	PN	Pn	22 35 14.1	-0.9
WIZ				SN	Sn	22 35 27.5	-1.0
CNGZ	**Carnagh Statio**	**1.32**	**187**	PN	Pn	22 35 18.4	-0.5
MWZ	**Matawai**	**1.35**	**211**	PN	Pn	22 35 19.5	0.0
URZ	**Urewera**	**1.50**	**223**	PN	Pn	22 35 20.6	-0.7
MARZ	**Manawahe**	**1.60**	**239**	PN	Pn	22 35 22.2	-0.6
EDRZ	**Edgecumbe**	**1.62**	**234**	PN	Pn	22 35 21.2	-1.9
OPRZ	**Ohinepanea**	**1.62**	**245**	PN	Pn	22 35 22.0	-1.0
MYRZ	**Mayor Island**	**1.73**	**266**	PN	Pn	22 35 24.5	-0.2
PRGZ	**Paritu Road**	**1.79**	**193**	PN	Pn	22 35 24.0	-1.5
MKRZ	**Makatiti**	**1.82**	**237**	PN	Pn	22 35 25.9	0.0
TARZ	**Mount Tarawera**	**1.84**	**234**	PN	Pn	22 35 26.0	-0.4
RRRZ	**Republican Roa**	**1.90**	**232**	PN	Pn	22 35 26.9	-0.1
KNZ	**Kokohu**	**1.93**	**197**	PN	Pn	22 35 25.5	-1.8
MHGZ	**Mahia Peninsul**	**2.02**	**191**	PN	Pn	22 35 27.5	-1.0
RAHZ	**Arahi**	**2.03**	**211**	PN	Pn	22 35 28.6	-0.2
PRRZ	**Plateau Road**	**2.07**	**230**	PN	Pn	22 35 29.1	-0.2
ALRZ	**Allen Road**	**2.14**	**229**	PN	Pn	22 35 29.8	-0.5
NMHZ	**Naumai**	**2.30**	**213**	PN	Pn	22 35 32.2	-0.4
TOZ	**Tahuroa Road**	**2.38**	**256**	PN	Pn	22 35 33.1	-0.4
BKZ	**Black Stump Fm**	**2.50**	**217**	PN	Pn	22 35 34.5	-0.7
MKAZ	**Moumakai**	**2.59**	**270**	PN	Pn	22 35 36.8	+0.4
MCHZ	**McNeill Hill**	**2.64**	**210**	PN	Pn	22 35 36.2	-0.9
CKHZ	**Cape Kidnapper**	**2.69**	**202**	PN	Pn	22 35 35.6	-2.2
KRVZ	**Karewarewa**	**2.91**	**228**	PN	Pn	22 35 40.9	0.0
OTVZ	**Oturere**	**2.94**	**227**	PN	Pn	22 35 40.9	-0.5
WTVZ	**West Tongariro**	**2.95**	**228**	PN	Pn	22 35 41.6	0.0
BHHZ	**Black Hill Sta**	**2.96**	**218**	PN	Pn	22 35 40.6	-1.0
NGZ	**Ngauruhoe**	**2.98**	**227**	PN	Pn	22 35 41.6	-0.4
TUVZ	**Tukino**	**3.01**	**225**	PN	Pn	22 35 41.9	-0.5
TWVZ	**Taurewa**	**3.01**	**230**	PN	Pn	22 35 42.6	+0.2
WPVZ	**Whakapapa**	**3.03**	**227**	PN	Pn	22 35 42.4	-0.3
MOVZ	**Moawhango**	**3.06**	**222**	PN	Pn	22 35 41.8	-1.2
FWVZ	**Far West T-bar**	**3.06**	**226**	PN	Pn	22 35 42.5	-0.7
WNVZ	**Wahianoa**	**3.08**	**225**	PN	Pn	22 35 42.7	-0.8
TRVZ	**Turoa**	**3.09**	**226**	PN	Pn	22 35 42.8	-0.9
PXZ	**Pawanui**	**3.10**	**203**	PN	Pn	22 35 40.2	-3.2
MTVZ	**Mangateitei**	**3.20**	**225**	PN	Pn	22 35 44.3	-0.6
PNHZ	**Pukenui**	**3.24**	**212**	PN	Pn	22 35 43.0	-2.4
WPUZ	**Waipukurau**	**3.27**	**208**	PN	Pn	22 35 43.6	-2.2
PRHZ	**Porangahau**	**3.39**	**204**	PN	Pn	22 35 44.1	-3.3
TSZ	**Takapari Road**	**3.46**	**213**	PN	Pn	22 35 45.9	-2.5
WCZ	**Waipu Caves**	**3.50**	**289**	PN	Pn	22 35 50.1	+1.3
WAZ	**Wanganui**	**3.72**	**225**	PN	Pn	22 35 51.4	-0.7
BFZ	**Birch Farm**	**3.89**	**205**	PN	Pn	22 35 50.6	-3.7
TIWZ	**Tintock**	**4.10**	**208**	PN	Pn	22 35 53.8	-3.5
MRZ	**Mangatainoka R**	**4.12**	**211**	PN	Pn	22 35 53.4	-4.1
HOWZ	**Holdsworth Sta**	**4.35**	**210**	PN	Pn	22 35 56.5	-4.2
OUZ	**Omahuta**	**4.35**	**295**	PN	Pn	22 36 02.6	+2.0
TMWZ	**Te Maipa**	**4.39**	**206**	PN	Pn	22 35 56.7	-4.5
OGWZ	**Otaki Gorge**	**4.43**	**214**	PN	Pn	22 35 57.9	-3.7
MTW	**Mount Morrison**	**4.58**	**209**	PN	Pn	22 35 58.8	-4.9
KIW	**Kapiti Island**	**4.58**	**215**	PN	Pn	22 35 60.0	-3.8
CAW	**Cannon Point**	**4.71**	**212**	PN	Pn	22 36 00.9	-4.6
PLWZ	**Palliser**	**5.02**	**208**	PN	Pn	22 36 04.8	-5.2
TCW	**Tory Channel**	**5.15**	**217**	PN	Pn	22 36 07.2	-4.4
TUWZ	**Tuamarina**	**5.48**	**218**	PN	Pn	22 36 11.8	-4.4
QRZ	**Quartz Range**	**5.85**	**230**	PN	Pn	22 36 18.3	-3.0
THZ	**Tophouse**	**6.25**	**221**	PN	Pn	22 36 22.3	-4.6
KHZ	**Kahutara**	**6.44**	**214**	PN	Pn	22 36 25.4	-3.9
CTZ	**Chatham Island**	**7.57**	**152**	PN	Pn	22 36 43.8	-1.0
ODZ	**Otahua Downs**	**9.80**	**214**	PN	Pn	22 37 09.0	-6.4

IDC 23 22:59:07.8±3.6, 5.°74S×150.°83E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/15, mbtmp3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=135.5km s-min=48.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.36**	**227**	P	P	23 03 57.1	+0.2
	1.1nm,0.6s,baz=54,slow=11,SNR=18						
DZM	**Mont Dzumac**	**22.17**	**139**	LR	LR	23 10 18.4	
	comp=Z,60nm,19.9

BUC 23 23:08:48.6±2.0, 45.36N×26.23E, h15km, MD1.6/1, 6C-5D, Error ellipse: s-maj=19.1km s-min=5.5km az=343.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.24**	**303**	*i* P		Pg 23 08 54.4	+0.3
MLR				S		Sg 23 08 58.3	+0.5
MLR	**Muntele Rosu**	**0.24**	**303**	*i* P		Pg 23 08 54.4	+0.3
MLR				*i* S		Sg 23 08 58.3	+0.5
MLR	**Muntele Rosu**	**0.24**	**303**	*i* P		Pg 23 08 54.4	+0.3
PLOR	**Plostina**	**0.57**	**31**	*i* P		Pb 23 09 00.3	-0.1
PLOR	**Plostina**	**0.57**	**31**	S		Sb 23 09 09.9	+1.4
PLOR	**Plostina**	**0.57**	**31**	*i* P		Pb 23 09 00.3	-0.1
PLOR				*i* S		Sb 23 09 09.9	+1.4
PLOR	**Plostina**	**0.57**	**31**	*i* P		Pb 23 09 00.3	-0.1
VRI	**Vrincioaia**	**0.61**	**35**	*i* P		Pb 23 09 01.2	+0.1
VRI	**Vrincioaia**	**0.61**	**35**	S		Sn 23 09 11.3	-1.2
VRI	**Vrincioaia**	**0.61**	**35**	*i* P		Pb 23 09 01.2	+0.1
VRI				*i* S		Sn 23 09 11.3	-1.2
VRI	**Vrincioaia**	**0.61**	**35**	*i* P		Pb 23 09 01.2	+0.1
VOIR		**0.83**	**276**	*i* P		Pg 23 09 05.2	+0.2
VOIR		**0.83**	**276**	S		Sb 23 09 16.9	+0.8
VOIR		**0.83**	**276**	*i* P		Pg 23 09 05.2	+0.2
VOIR				*i* S		Sb 23 09 16.9	+0.8

KRSC 23 23:23:25.4±1.5, 54.05N×159.04E, h280km±50km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDLR	**Sedlovina**	**0.78**	**187**	*e*P		Pn 23 24 04.3	+1.4
SDLR				*i* S		S 23 24 32.6	+0.1
SMAR	**Somma**	**0.80**	**190**	*e*P		Pn 23 24 04.6	+1.5
SMAR				*i* S		S 23 24 33.0	+0.1
AVH	**Avacha**	**0.81**	**193**	*e*P		Pn 23 24 05.1	+2.2
UGLR	**Uglovaya**	**0.85**	**189**	*e*P		Pn 23 24 04.7	+1.5
NLC	**Nalytchevo**	**0.90**	**168**	*e*P		Pn 23 24 04.7	+1.5
NLC				*i* S		S 23 24 33.4	+0.3
TUMR	**Tumrok**	**1.39**	**27**	*e*P		Pn 23 24 07.0	+1.1
RUS	**Russkaya**	**1.65**	**191**	*e*P		Pn 23 24 08.8	+1.1
RUS				*i* S		S 23 24 40.5	-0.7
MKZ	**Mys Kozlova**	**1.66**	**71**	*e*P		Pn 23 24 09.7	+2.1
MKZ				*i* S		S 23 24 41.9	+0.8
KBTR	**Krutoberegovo**	**3.06**	**44**	*e*P		Pn 23 24 22.5	+2.2
KBTR				*i* S		S 23 25 03.4	-0.7

MEX 23 23:41:16.7±0.4, 17.19N×101.21W, h14km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.48**	**329**	*i* P		Pg 23 41 24.8	-1.4
ZIIG				*e*S		Sg 23 41 31.5	-1.2
CAIG	**El Cayaco**	**0.91**	**99**	*i* P		Pb 23 41 31.4	-3.0
CAIG				*e*S		Sg 23 41 42.3	-4.0
PLIG	**Platanillo**	**2.02**	**53**	*i* P		Pn 23 41 47.0	-3.5
PLIG				*e*S		Sn 23 42 11.2	-4.4
MMIG	**Aquila**	**2.31**	**298**	*i* P		Pn 23 41 51.4	-3.0
MMIG				*e*S		Sn 23 42 19.2	-3.4
PNIG	**Pinotepa**	**3.06**	**105**	*i* P		Pn 23 42 01.5	-3.2
PNIG				*e*S		Sn 23 42 37.3	-3.9

IDC 23 23:54:05.3±1.6, 0.21N×121.65E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=155.3km s-min=26.0km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.57**	**149**	P	P	23 59 17.9	0.0
	0.5nm,0.5s,baz=325,slow=11,SNR=9.2						
SONM	**Songino Array**	**49.25**	**346**	P	P	00 02 55.7	-0.2
	0.5nm,0.7s,baz=166,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**57.73**	**329**	P	P	00 03 58.0	-0.1
	0.2nm,0.3s,baz=126,slow=8.3,SNR=8.9						

MEX 24 00:13:55.2±0.5, 17.19N×100.33W, h20km±8km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**157**	*i* P		Pb 00 13 58.8	-2.1
CAIG				*e*S		Sb 00 14 01.9	-3.1
ACX	**Acapulco**	**0.56**	**125**	*i* P		Pb 00 14 03.9	-2.5
ACX				*e*S		Sb 00 14 10.4	-3.6
MEIG	**Mezcala**	**1.00**	**43**	*i* P		Pb 00 14 10.3	-3.6
MEIG				*e*S		Sb 00 14 23.0	-3.6
ZIIG	**Zihuatanejo**	**1.16**	**291**	*i* P		Pn 00 14 12.9	-3.3
ZIIG				*e*S		Sb 00 14 27.1	-4.0
PLIG	**Platanillo**	**1.43**	**33**	*i* P		Pn 00 14 17.9	-2.3
PLIG				*e*S		Sn 00 14 34.0	-4.4

TRN 24 00:26:08.2, 15.15N×60.98W, h140km, M2.7(FDF), M3.5(FDF), 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**0.45**	**201**	*e*P		Pn 00 26 29.4	+1.1
FDF				*e*S		Sn 00 26 44.8	+1.2
MVM	**Montagne Vaucl**	**0.60**	**172**	*e*P		Pn 00 26 30.3	+1.2
MVM				*e*S		Sn 00 26 46.1	+1.1
BIM	**Bigot**	**0.64**	**188**	*e*P		Pn 00 26 30.3	+0.9
MGG	**Marie-Galante**	**0.83**	**337**	*e*P		Pn 00 26 31.9	+1.3
MGG				*e*S		Sn 00 26 48.7	+0.9
TBG	**Guadaloupe-3**	**0.95**	**318**	*e*P		Pn 00 26 32.3	+0.7
PHG	**Guadaloupe-2**	**1.07**	**324**	*e*P		Pn 00 26 33.8	+1.0
SCG	**Saint Claude**	**1.10**	**322**	*e*P		Pn 00 26 34.1	+1.0
SCG				*e*S		Sn 00 26 53.5	+1.4
BCG	**Bois Riant Cap**	**1.11**	**327**	*e*P		Pn 00 26 34.4	+1.2
LZG	**Guadaloupe-1**	**1.25**	**322**	*i* P		Pn 00 26 36.4	+1.0
SEG	**Port Louis**	**1.34**	**338**	*e*P		Pn 00 26 36.7	+1.3

*IDC **24** 00:28:58.9±1.2, 45.51N×150.05E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/22, mbtmp3.8/9, Error ellipse: s-maj=32.2km s-min=26.4km az=155.0*
*ISCJB **24** 00:29:06.2±0.9, 45.7N±0.2×150.4E±0.2, h61km, mb3.7/9, Error ellipse: s-maj=28.1km s-min=7.7km az=141.3*
*JMA **24** 00:29:12.2±0.6, 45.64N×149.89E, h30km, M4.4*
ISC 24 00:29:07.5±0.9, 45.6N±0.2×150.3E±0.1, h61km, n23, σ1s87/19, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.91**	**238**	P	**Pn**	**00 30 07.1**	**+2.1**
NEM2				*e*S	**Sn**	**00 30 47.6**	**-2.0**
JRA	**Rausu**	**4.01**	**248**	P	Pn	00 30 10.6	+4.3
JNK	**Nakash**	**4.43**	**246**	P	Pn	00 30 15.6	+3.5
JAK	**Akkeshi**	**4.75**	**239**	P	**Pn**	**00 30 18.3**	**+1.8**
JTKR	**Abashiri--Toko**	**4.80**	**253**	P	Pn	00 30 21.5	+4.3
JAR	**Ashorobuto**	**5.17**	**246**	P	Pn	00 30 26.2	+3.9
JOB	**Onbets**	**5.33**	**242**	P	**Pn**	**00 30 27.2**	**+2.8**
JKK2	**Kamakawa 2**	**5.62**	**255**	P	Pn	00 30 33.1	+4.7
JCH	**Churui**	**5.78**	**242**	P	**Pn**	**00 30 32.6**	**+2.0**
JBT2	**Biratori 2**	**6.33**	**247**	P	**Pn**	**00 30 41.3**	**+3.2**
JNB	**Noboribetsu**	**7.33**	**248**	P	**Pn**	**00 30 54.9**	**+3.0**
JKB	**Kayabe**	**7.63**	**245**	P	**Pn**	**00 30 57.1**	**+1.2**
JTM	**Tenmabayashi**	**8.24**	**238**	P	**Pn**	**00 31 05.0**	**+0.7**
ILAR	**Eielson Array**	**38.71**	**38**	P	**P**	**00 36 25.4**	**+0.3**
	0.3nm,0.8s,baz=263,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**45.73**	**297**	P	**P**	**00 37 21.7**	**-0.8**
	0.5nm,0.6s,baz=69,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**53.05**	**35**	P	**P**	**00 38 19.3**	**+1.4**
	0.2nm,0.4s,baz=299,slow=7.0,SNR=4.0						
FINES	**FINESS Array B**	**64.26**	**334**	P	**P**	**00 39 34.0**	**-1.8**
	3.1nm,1.0s,baz=26,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**66.77**	**196**	P	**P**	**00 39 51.2**	**-1.2**
	0.3nm,0.6s,baz=14,slow=6.3,SNR=3.7						
NB2	**NORSAR Subarra**	**68.70**	**340**	P	**P**	**00 40 03.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=26,slow=6.9						
NOA	**NORSAR Array B**	**68.70**	**340**	P	**P**	**00 40 03.3**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=28,slow=6.5,SNR=5.8						
AKASG	**Malin Array Be**	**71.42**	**325**	P	**P**	**00 40 19.7**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=37,slow=6.2,SNR=5.3						
TXAR	**Lajitas Array**	**79.80**	**58**	P	**P**	**00 41 09.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=316,slow=2.5,SNR=3.9						
MMAI	**Mount Meron Ar**	**82.09**	**310**	P	**P**	**00 41 22.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=36,slow=7.5,SNR=4.5						

IDC 24 00:30:48.7±3.8, 5.84S×153.98E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/16, mbtmp3.2/2, Error ellipse: s-maj=170.2km s-min=52.9km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.69**	**232**	P	P	00 36 02.2	-0.1
	0.7nm,0.7s,baz=56,slow=9.8,SNR=9.5						
ASAR	**Alice Springs**	**26.22**	**225**	P	P	00 36 25.6	0.0
	0.1nm,0.4s,baz=57,slow=10.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**151.74**	**287**	PKPbc	PKPbc	00 50 46.3	-0.1
	0.4nm,0.8s,baz=84,slow=2.6,SNR=2.5						

*ISCJB **24** 00:36:10.5±1.0, 0.14N±0.03×96.99E±0.03, h18km±7km, mb4.9/106, MS4.2/28, Error ellipse: s-maj=6.2km s-min=4.5km az=42.7*
*MOS **24** 00:36:12.7±1.2, 0.18N×97.07E, h33km, mb5.0/45, MS4.1/10, Error ellipse: s-maj=11.1km s-min=5.3km az=109.5*
*DJA **24** 00:36:13, 0.15N×97.06E, h24km, mb5.1/20*
*BJI **24** 00:36:13.9, 0.17N×97.02E, h42km, mB5.2/36, mb4.9/48, Ms4.7/40, Ms7 4.4/39*
*NEIC **24** 00:36:14.4±0.2, 0.11N×97.03E, h35km, mb5.2/36, Error ellipse: s-maj=7.0km s-min=4.1km az=48.0*
*IDC **24** 00:36:14.5±0.6, 0.10N×96.96E, h35km±4km, mb4.3/27, mb1 4.4/28, mb1mx4.3/32, mbtmp4.3/28, ML5.2/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/32, Error ellipse: s-maj=16.8km s-min=8.9km az=43.0*
*TEH **24** 00:36:15.0, 0.11N×97.01E, h35km, ML5.1*
ISC 24 00:36:15.0±0.4, 0.17N±0.04×97.05E±0.05, h34km, h34km:pP-P, n331, σ1s54/379, mb4.9/106, MS4.1/30, 29C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.24**	**25**	P	**Pn**	**00 36 34.6**	**-1.4**
MNSI	**Mandailing Nat**	**2.60**	**76**	P	**Pn**	**00 36 53.7**	**-1.0**
TPTI		**3.07**	**2**	P	Pn	00 36 55.9	-5.2
PSI	**Prapat**	**3.21**	**36**	P	**Pn**	**00 37 01.0**	**-2.2**
PPI	**Padang Panjang**	**3.40**	**101**	P	**Pn**	**00 37 05.6**	**-0.1**
PDSI	**Padang**	**3.58**	**108**	P	**Pn**	**00 37 07.8**	**-0.3**
TSI	**Tuntungan**	**3.64**	**25**	P	**Pn**	**00 37 08.3**	**-0.6**
BKNI	**Bangkinang**	**3.99**	**88**	P	Pb	00 37 19.6	-5.1
KRJI	**Kerinci**	**4.95**	**117**	P	**Pn**	**00 37 27.8**	**+0.7**
	2μm,0.5s,37μm9.8nm						
LHMI	**Lhok Sumawe**	**5.03**	**359**	P	Pb	00 37 37.7	-4.6
RGRI	**Rengat**	**5.31**	**96**	P	**Pn**	**00 37 33.2**	**+1.3**
	374nm,0.4s,65μm3.6nm						
FRIM	**Kepong**	**5.49**	**56**	P	**Pn**	**00 37 34.7**	**+0.2**
BSI	**Banda Aceh**	**5.57**	**342**	P	Pn	00 37 32.2	-3.4
	183nm,0.9s,9μm2.7nm						
IPM	**Ipoh**	**5.84**	**43**	*e*Pn	**Pn**	**00 37 39.5**	**+0.3**
IPM	**Ipoh**	**5.84**	**43**	P	**Pn**	**00 37 39.1**	**-0.1**
KGM	**Kluang**	**6.53**	**74**	P	**Pn**	**00 37 49.1**	**+0.4**
KSI	**Kapahiang**	**6.71**	**124**	P	**Pn**	**00 37 50.2**	**-1.1**
	438nm,1.1s,8μm2.2nm						
MYKOM	**Kota Tinggi**	**6.99**	**77**	P	**Pn**	**00 37 55.6**	**+0.6**
MYKOM	**Kota Tinggi**	**6.99**	**77**	P	**Pn**	**00 37 54.8**	**-0.2**
	54nm,0.9s,937nm0.3nm						
MNAI	**Manna**	**7.42**	**127**	P	**Pn**	**00 38 01.2**	**+0.3**
	413nm,0.8s,9μm4.0nm						
LWLI	**Liwa**	**8.69**	**126**	P	**Pn**	**00 38 18.8**	**+0.3**
	251nm,0.6s,5μm1.4nm						
KLI	**Kotabumi**	**9.26**	**123**	P	Pn	00 38 29.3	+3.1
	136nm,1.0s						
CGJI	**Cibinong**	**10.94**	**128**	P	**Pn**	**00 38 47.7**	**-1.6**
	39nm,0.5s						
KSM	**Kuching**	**13.32**	**84**	Pn	**Pn**	**00 39 20.7**	**-1.1**
KSM	**Kuching**	**13.32**	**84**	P	**Pn**	**00 39 22.4**	**+0.7**
KSM	**Kuching**	**13.32**	**84**	P	**P**	**00 39 32.8**	**+1.8**
STKI	**Sintang**	**14.43**	**90**	P	**P**	**00 39 44.9**	**+1.6**
SBUM	**Sibu**	**15.33**	**81**	P	**Pn**	**00 39 49.5**	**+0.5**
SBUM	**Sibu**	**15.33**	**81**	P	**Pn**	**00 39 49.8**	**+0.8**
	45nm,1.0s,549nm						
BTM	**Bintulu**	**16.30**	**79**	P	**Pn**	**00 40 01.7**	**+0.1**
BBKI	**Banjar Baru**	**18.14**	**102**	P	**P**	**00 40 29.1**	**+4.6**
CM31	**Chiang Mai Arr**	**18.27**	**6**	*e*P	**P**	**00 40 25.3**	**-0.6**
	69nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**00 40 24.9**	**-1.0**
	3.0nm,0.3s,baz=196,slow=14,SNR=88						
CMAR				LR	LR	00 48 43.0	
	comp=Z,766nm,18.8s,baz=186,slow=41						
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**00 40 24.9**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,766nm,18.8s						
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**00 40 24.9**	**-1.0**
CHTO	**Chiang Mai**	**18.62**	**6**	*e*P	**P**	**00 40 29.1**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,39nm,0.8s						
CHTO	**Chiang Mai**	**18.62**	**6**	*e*P	**P**	**00 40 29.1**	**-0.6**
	comp=Z,39nm,0.8s						
CHTO	**Chiang Mai**	**18.62**	**6**	P	**P**	**00 40 29.4**	**-0.3**
	comp=Z,66nm,0.8s,comp=Z,984nm						
KKM	**Kota Kinabalu**	**20.00**	**73**	*e*P	**P**	**00 40 45.7**	**+0.7**
	comp=Z,201nm,1.3s						
KKM	**Kota Kinabalu**	**20.00**	**73**	P	**P**	**00 40 44.9**	**-0.1**
KKM	**Kota Kinabalu**	**20.00**	**73**	P	Pn	00 40 46.2	-0.7
	comp=Z,123nm,1.3s,comp=Z,1μm						
SDKM	**Sandakan**	**20.83**	**75**	P	**P**	**00 40 53.9**	**-0.1**
KDM	**Kudat**	**20.84**	**71**	P	**P**	**00 40 54.0**	**0.0**
TSM	**Tawau**	**21.20**	**79**	P	**P**	**00 40 58.3**	**+0.3**
MYLDM	**Lahad Datu**	**21.99**	**77**	P	**P**	**00 41 06.7**	**+0.3**
MYLDM	**Lahad Datu**	**21.99**	**77**	P	**P**	**00 41 08.9**	**+2.5**
	comp=Z,41nm,1.1s						
QIZ	**Qiongzhong**	**22.56**	**33**	P	**P**	**00 41 12.8**	**+0.4**
QIZ				pP	**pP**	**00 41 21.0**	**-0.5**
QIZ				sP	**sP**	**00 41 24.8**	**-1.0**
QIZ				S	**S**	**00 45 20.1**	**+2.4**
QIZ				LR	LR		
	comp=N,730nm,15.7s						
QIZ				LR	LR		
	comp=Z,380nm,24.8s						
KAPI	**Kappang**	**23.25**	**103**	P	**P**	**00 41 18.6**	**-1.0**
	comp=Z,4.2nm,0.5s,baz=288,slow=9.6,SNR=3.3						
KAPI				S	**S**	**00 45 29.7**	**0.0**
	comp=Z,2.4nm,0.3s,baz=253,slow=20,SNR=2.4						
KAPI	**Kappang**	**23.25**	**103**	*e*P	**P**	**00 41 16.9**	**-2.8**
	comp=Z,20nm,1.0s						
KAPI				S	**S**	**00 45 29.6**	**0.0**
KAPI	**Kappang**	**23.25**	**103**	P	P	00 41 26.4	+6.8
BKSI	**Bulukumba**	**23.68**	**104**	P	**P**	**00 41 25.0**	**+1.2**
	comp=Z,24nm,0.8s						
HYB	**Hyderabad**	**25.00**	**314**	*i* P	**P**	**00 41 38.0**	**+2.0**
KMI	**Kunming**	**25.41**	**12**	↑P	**P**	**00 41 40.9**	**+1.1**
KMI				pP	**pP**	**00 41 51.8**	**+2.3**
KMI				S	**S**	**00 46 05.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,52nm,1.2s						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,830nm,11.7s						
KMI				LR	LR		
	comp=E,340nm,14.4s						
KMI				LR	LR		
	comp=Z,920nm,14.1s						
LUWI	**Luwuk**	**25.75**	**93**	P	pP	00 41 55.3	+2.8
KDI	**Kendari**	**25.88**	**99**	P	**P**	**00 41 48.4**	**+4.5**
	comp=Z,32nm,1.0s						
GYA	**Guiyang**	**27.73**	**19**	P	**P**	**00 41 59.8**	**-0.8**
GYA				pP	**pP**	**00 42 13.0**	**+2.6**
GYA				PP	**PnPn**	**00 42 53.8**	**+6.5**
GYA				S	**S**	**00 46 43.4**	**+2.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,750nm,17.9s						
GYA				LR	LR		
	comp=E,620nm,18.4s						
GYA				LR	LR		
	comp=Z,910nm,17.7s						
ODAN	**Odare**	**28.12**	**341**	*e*P	**P**	**00 42 04.5**	**+0.3**
	comp=Z,97nm,1.0s						
ODAN	**Odare**	**28.12**	**341**	*e*P	**P**	**00 42 04.5**	**+0.3**
	comp=Z,97nm,1.0s						
RAMN	**Ramite**	**28.46**	**340**	*e*P	**P**	**00 42 08.1**	**+0.9**
	comp=Z,70nm,0.7s						
RAMN	**Ramite**	**28.46**	**340**	*e*P	**P**	**00 42 08.1**	**+0.9**
	comp=Z,70nm,0.7s						
TAPN	**Taplejung**	**28.48**	**342**	*e*P	**P**	**00 42 07.6**	**+0.2**
	comp=Z,126nm,1.0s						
TAPN	**Taplejung**	**28.48**	**342**	*e*P	**P**	**00 42 07.6**	**+0.2**
	comp=Z,126nm,1.0s						
POO	**Poona**	**29.19**	**310**	*e*P	**P**	**00 42 16.0**	**+2.4**
JIRN	**Jiri**	**29.25**	**340**	*e*P	**P**	**00 42 14.7**	**+0.3**
	comp=Z,103nm,0.8s						
JIRN	**Jiri**	**29.25**	**340**	*e*P	**P**	**00 42 14.7**	**+0.3**
	comp=Z,103nm,0.8s						
DAV	**Davao City (W)**	**29.27**	**76**	LR	LR	00 54 24.8	
	comp=Z,319nm,21.1s,baz=230,slow=37						
PKI	**Pulchoki**	**29.45**	**339**	*e*P	**P**	**00 42 16.2**	**+0.1**
	comp=Z,38nm,0.8s						
PKI	**Pulchoki**	**29.45**	**339**	*e*P	**P**	**00 42 16.2**	**+0.1**
PKI				pmax	pmax		
	comp=Z,38nm,0.8s						
PKI	**Pulchoki**	**29.45**	**339**	*e*P	**P**	**00 42 16.2**	**+0.1**
	comp=Z,38nm,0.8s						
GUN	**Gumba**	**29.59**	**340**	*e*P	**P**	**00 42 17.4**	**0.0**
	comp=Z,77nm,0.6s						
GUN	**Gumba**	**29.59**	**340**	*e*P	**P**	**00 42 17.4**	**0.0**
	comp=Z,77nm,0.6s						
DMN	**Daman**	**29.59**	**338**	*e*P	**P**	**00 42 17.7**	**+0.4**
	comp=Z,66nm,1.0s						
DMN	**Daman**	**29.59**	**338**	*e*P	**P**	**00 42 17.7**	**+0.4**
	comp=Z,66nm,1.0s						
KKN	**Kakani**	**29.69**	**339**	*e*P	**P**	**00 42 18.2**	**+0.1**
	comp=Z,90nm,1.0s						
KKN	**Kakani**	**29.69**	**339**	*e*P	**P**	**00 42 18.2**	**+0.1**
KKN	**Kakani**	**29.69**	**339**	*e*P	**P**	**00 42 18.2**	**+0.1**
	comp=Z,90nm,1.0s						
LSA	**Lhasa**	**29.90**	**350**	*e*P	**P**	**00 42 20.5**	**+0.3**
LSA				*e*		00 43 27.1	
LSA				pmax	pmax		
	comp=Z,41nm,0.8s						
LSA	**Lhasa**	**29.90**	**350**	*e*P	**P**	**00 42 20.5**	**+0.3**
	comp=Z,41nm,0.8s						
LSA				*e*PP	**PP**	**00 43 27.1**	**-1.0**
GKN	**Gorkha**	**30.13**	**338**	*e*P	**P**	**00 42 22.0**	**+0.1**
	comp=Z,134nm,0.9s						
GKN	**Gorkha**	**30.13**	**338**	*e*P	**P**	**00 42 22.0**	**+0.1**
	comp=Z,134nm,0.9s						
KOLN	**Koldanda**	**30.33**	**336**	*e*P	**P**	**00 42 23.8**	**+0.1**
	comp=Z,131nm,0.7s						
KOLN	**Koldanda**	**30.33**	**336**	*e*P	**P**	**00 42 23.8**	**+0.1**
	comp=Z,131nm,0.7s						
DANN	**Dangsing**	**30.78**	**337**	*e*P	**P**	**00 42 27.7**	**-0.1**
	comp=Z,91nm,0.8s						
DANN	**Dangsing**	**30.78**	**337**	*e*P	**P**	**00 42 27.7**	**-0.1**
	comp=Z,91nm,0.8s						
CD2	**Chengdu**	**31.23**	**11**	P	**P**	**00 42 34.4**	**+2.9**
CD2				pP	**pP**	**00 42 44.3**	**+3.0**
CD2				sP	**sP**	**00 42 48.5**	**+3.0**
CD2				PP	**PP**	**00 43 38.8**	**-3.6**
CD2				S	**S**	**00 47 38.8**	**+3.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,240nm,5.4s						
CD2				LR	LR		
	comp=N,1μm,19.0s						
CD2				LR	LR		
	comp=Z,860nm,16.7s						
ENH	**Enshi**	**32.19**	**20**	*e*P	**P**	**00 42 38.8**	**-1.1**
	comp=Z,51nm,0.9s						
TPUB	**Ta-pu**	**32.46**	**43**	*e*P	**P**	**00 42 42.1**	**-0.3**
	comp=Z,84nm,1.0s						
SSLB	**Suanglung**	**33.00**	**43**	*e*P	**P**	**00 42 46.9**	**-0.3**
	comp=Z,72nm,1.0s						
FITZ	**Fitzroy Crossi**	**33.46**	**124**	P	**P**	**00 42 50.3**	**-0.9**
	comp=Z,8.4nm,0.8s,baz=311,slow=4.6,SNR=13						
FITZ	**Fitzroy Crossi**	**33.46**	**124**	*e*P	**P**	**00 42 50.2**	**-0.9**
	comp=Z,13nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.46**	**124**	*e*P	**P**	**00 42 49.8**	**-1.4**
	comp=Z,28nm,1.6s						
DDI	**Dehra Dun**	**35.01**	**331**	*ex*	**P**	**00 43 05.0**	**+0.5**
XAN	**Xi'an**	**35.48**	**17**	P	**P**	**00 43 07.6**	**-0.9**
XAN				pP	**pP**	**00 43 19.8**	**+1.3**
XAN				sP	**sP**	**00 43 25.1**	**+2.5**
XAN				PP	**PnPn**	**00 44 28.3**	**+0.3**
XAN				S	S	00 48 35.0	-6.7
XAN				sS	**sS**	**00 48 58.8**	**+0.7**
XAN				SS	**SnSn**	**00 50 58.0**	**-5.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,32nm,4.5s						
XAN				LR	LR		
	comp=N,350nm,14.4s						
XAN				LR	LR		
	comp=E,290nm,15.0s						
XAN				LR	LR		
	comp=Z,110nm,17.6s						
LZH	**Lanzhou**	**36.29**	**9**	*e*P	**P**	**00 43 14.0**	**-1.5**
LZH				pP	**pP**	**00 43 24.5**	**-1.0**
LZH				sP	**sP**	**00 43 28.3**	**-1.3**
LZH				PP	**PP**	**00 44 38.6**	**+0.1**
LZH				*e*S	**S**	**00 48 53.3**	**-0.9**
LZH				sS	**sS**	**00 49 09.3**	**-1.3**
LZH				SS	**SnSn**	**00 51 19.3**	**-3.6**
LZH				pmax	pmax		
	comp=Z,33nm,1.4s						
LZH				pmax	pmax		
	comp=Z,170nm,5.6s						
LZH				LR	LR		
	comp=N,410nm,14.0s						
LZH				LR	LR		
	comp=E,600nm,13.4s						
LZH				LR	LR		

HHC S **S** **00 50 29.8 +1.4**
HHC SS **SS** **00 53 36.5 -2.8**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,260nm,5.3s
HHC LR LR
comp=N,360nm,14.9s
HHC LR LR
comp=E,510nm,15.7s
HHC LR LR
comp=Z,430nm,16.7s
FORT Forrest 42.59 139 *e*P **P** **00 44 08.5 +0.5**
comp=Z,22nm,0.7s
ASAR Alice Springs 42.90 126 P **P** **00 44 10.2 -0.4**
comp=Z,6.2nm,0.5s,baz=296,slow=8.1,SNR=109
ASAR Alice Springs 42.90 126 P **P** **00 44 10.3 -0.4**
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 42.90 126 P **P** **00 44 10.2 -0.4**
AS31 Alice Springs 42.91 126 *e*P **P** **00 44 09.9 -0.8**
BJT Baijiatuau 43.32 22 *e*P **P** **00 44 14.4 +0.7**
BJT Baijiatuau 43.32 22 *e*P **P** **00 44 14.4 +0.7**
comp=Z,109nm,1.2s
BJI Beijing 43.34 21 P **P** **00 44 14.9 +1.0**
BJI sP **sP** **00 44 26.1 -2.0**
BJI S **S** **00 50 42.6 +3.2**
BJI pmax pmax
comp=Z,39nm,0.8s
BJI pmax pmax
comp=Z,190nm,4.3s
BJI LR LR
comp=N,310nm,21.1s
BJI LR LR
comp=E,390nm,16.9s
BJI LR LR
comp=Z,110nm,21.7s
KSH Kashi 43.64 336 *e*P P 00 44 25.8 +9.3
KSH *e*pP pP 00 44 35.6 +9.0
KSH *e*sP sP 00 44 39.8 +9.1
KSH *e*PcP PcP 00 46 08.8 +5.3
KSH *e*PP PP 00 46 11.3 +13
KSH *e*ScP **ScP** **00 49 57.3 +4.6**
KSH *e*PcS **PcS** **00 50 00.9 +4.5**
KSH *e*S S 00 50 58.8 +15
KSH *e*sS sS 00 51 15.1 +14
KSH *e*SS **ScS** **00 54 10.6 -3.1**
KSH *e*ScS SS 00 54 18.3 +18
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH pmax pmax
comp=Z,60nm,2.8s
KSH LR LR
comp=N,240nm,6.5s
KSH LR LR
comp=E,260nm,6.1s
KSH LR LR
comp=Z,200nm,7.3s
WMQ Urumqi 44.26 350 P **P** **00 44 21.6 +0.3**
WMQ pP **pP** **00 44 31.6 +0.2**
WMQ sP **sP** **00 44 35.6 +0.1**
WMQ PP **PcP** **00 46 06.3 +0.9**
WMQ *e*S **S** **00 50 52.8 0.0**
WMQ SS SS 00 54 03.1 -8.9
WMQ pmax pmax
comp=Z,43nm,1.3s
WMQ pmax pmax
comp=Z,190nm,4.8s
WMQ LR LR
comp=N,160nm,20.9s
WMQ LR LR
comp=E,190nm,20.3s
WMQ LR LR
comp=Z,200nm,19.9s
JNU Nakatsue 45.67 41 LR LR 01 03 05.6
comp=Z,144nm,19.7s,baz=24,slow=35
TKM2 Tokmak 2 46.71 338 *e*P **P** **00 44 40.4 -0.5**
TKM2 pmax pmax
comp=Z,14nm,0.8s
TKM2 Tokmak 2 46.71 338 *e*P **P** **00 44 40.4 -0.5**
comp=Z,14nm,0.8s
KSAR Wonju Array Be 46.75 34 P **P** **00 44 41.2 +0.2**
KSAR Wonju Array Be 46.75 34 P **P** **00 44 41.2 +0.2**
KSRS Korea Array 46.78 34 P **P** **00 44 41.2 0.0**
comp=Z,21nm,0.7s,baz=221,slow=8.6,SNR=28
KSRS LR LR 01 04 14.0
comp=Z,140nm,18.0s,baz=220,slow=36
KSRS Korea Array 46.78 34 P **P** **00 44 41.2 0.0**
KSRS pmax pmax
comp=Z,21nm,0.7s
KSRS MLR MLR
comp=Z,140nm,18.0s
AAK Ala-Archa 46.88 337 *e*P **P** **00 44 42.8 +0.6**
AAK Ala-Archa 46.88 337 *e*P **P** **00 44 42.8 +0.6**
comp=Z,132nm,0.4s
FRU Bishkek 47.01 337 *e*P **pP** **00 44 55.0 +1.8**
FRU pmax pmax
comp=Z,50nm,2.0s
EKS2 Erkin-Say 47.19 337 *e*P **P** **00 44 45.1 +0.6**
EKS2 pmax pmax
comp=Z,24nm,0.8s
EKS2 Erkin-Say 47.19 337 *e*P **P** **00 44 45.1 +0.6**
comp=Z,24nm,0.8s
IBND Bandar-abas 47.39 308 *e*P **P** **00 44 48.8 +2.6**
SNY Shenyang 47.88 27 ⇓P P 00 44 54.8 +5.0
SNY pmax pmax
comp=Z,15nm,1.8s
SNY pmax pmax
comp=Z,370nm,5.3s
SNY LR LR
comp=N,510nm,21.4s
SNY LR LR
comp=Z,410nm,10.2s
SONM Songino Array 48.16 8 P **P** **00 44 52.2 +0.1**
comp=Z,8.9nm,0.7s,baz=192,slow=9.1,SNR=61
SONM LR LR 01 07 42.9
comp=Z,366nm,19.3s,baz=195,slow=39
SONM Songino Array 48.16 8 P **P** **00 44 52.2 +0.1**
SONM pmax pmax
comp=Z,9.0nm,0.7s
SONM MLR MLR
comp=Z,366nm,19.3s
SONM Songino Array 48.16 8 P **P** **00 44 52.2 +0.1**
MK31 Makanchi Array 48.20 346*ce*P **P** **00 44 51.4 -0.8**
MK31 pmax pmax
comp=Z,19nm,0.6s
MK31 Makanchi Array 48.20 346 *e*P **P** **00 44 51.7 -0.5**
MK31 Makanchi Array 48.20 346 *e*P **P** **00 44 51.7 -0.5**
MKAR Makanchi Array 48.20 346 P **P** **00 44 51.9 -0.3**
comp=Z,5.1nm,0.6s,baz=156,slow=8.0,SNR=67
MKAR pP **pP** **00 45 03.2 +0.8**
comp=Z,39nm,0.9s,baz=160,slow=7.8,SNR=40
MKAR LR LR 01 11 31.8
comp=Z,115nm,18.1s,baz=157,slow=44
MKAR Makanchi Array 48.20 346 P **P** **00 44 51.9 -0.3**
MKAR *PP **pP** **00 45 03.2 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 48.20 346 P **P** **00 44 51.9 -0.3**
MKAR pP **pP** **00 45 03.2 +0.8**
ULN Ulaanbaatar 48.30 9 *e*P **P** **00 44 53.1 0.0**
ULN pmax pmax
comp=Z,59nm,2.0s
ULN Ulaanbaatar 48.30 9 *e*P **P** **00 44 53.1 0.0**
comp=Z,59nm,2.0s
ITEG Tejag 48.56 316 *e*P pP 00 45 05.7 0.0
KK31 Karatay Array 48.91 334*ce*P **P** **00 44 57.2 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 48.91 334 *e*P **P** **00 44 57.5 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.3s
KKAR Karatay Array 48.91 334 *e*P **P** **00 44 57.5 -0.2**
comp=Z,5.4nm,0.3s
CN2 Changchun 50.28 27 *e*P **P** **00 45 07.8 -0.3**
CN2 *e*S **S** **00 52 17.3 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,200nm,18.0s
ZAK Zakamensk 50.31 5 *e*P **P** **00 45 08.3 0.0**
ZAK *e* 00 45 19.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s
IPAY Payeh 50.46 320 *e*P **P** **00 45 10.7 +0.8**

IMEH Mehriz 50.75 312 *e*P **P** **00 45 11.4 -0.8**
PMG Port Moresby 50.78 102 P **P** **00 45 12.3 -0.1**
comp=Z,15nm,0.6s,baz=200,slow=0.6,SNR=11
PMG Port Moresby 50.78 102 P **P** **00 45 12.3 -0.1**
PMG pmax pmax
comp=Z,15nm,0.6s
PMG Port Moresby 50.78 102 P **P** **00 45 12.3 -0.1**
PMG Port Moresby 50.78 102 P **P** **00 45 13.3 +0.9**
comp=Z,20nm,0.7s
HVS Khovu-Aksy 50.86 357 *i* P **P** **00 45 12.4 -0.1**
IPAR Pars 51.21 309 *e*P **P** **00 45 17.6 +1.8**
MOY Mondy 51.42 3 *e*P **P** **00 45 16.8 +0.1**
TLY Talaya 51.63 5 *e*P **P** **00 45 17.5 -0.6**
TLY *e* 00 45 30.1
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,266nm,18.0s
TLY Talaya 51.63 5 *e*P **P** **00 45 18.4 +0.2**
comp=Z,17nm,1.0s
ISAD Sadrabad 51.70 312 *e*P **P** **00 45 18.1 -1.3**
CTA Charters Tower 52.19 116 P **P** **00 45 22.8 0.0**
comp=Z,5.4nm,0.6s,baz=278,slow=8.9,SNR=10
CTA LR LR 01 07 30.1
comp=Z,228nm,20.6s,baz=244,slow=36
CTA Charters Tower 52.19 116 *e*P **P** **00 45 22.9 0.0**
comp=Z,6.0nm,0.9s
CTA Charters Tower 52.19 116 P **P** **00 45 22.8 0.0**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA MLR MLR
comp=Z,228nm,20.6s
CTA Charters Tower 52.19 116 P **P** **00 45 22.8 0.0**
CTAO Charters Tower 52.19 116 *e*P **P** **00 45 21.5 -1.3**
CTAO pmax pmax
comp=Z,43nm,1.7s
CTAO Charters Tower 52.19 116 *e*P **P** **00 45 21.5 -1.3**
comp=Z,43nm,1.7s
MJAR Matsushiro Arr 52.55 42 pP **pP** **00 45 36.7 +1.1**
comp=Z,5.7nm,1.0s,baz=230,slow=7.0,SNR=7.3
MJAR LR LR 01 07 14.8
comp=Z,119nm,18.8s,baz=225,slow=35
MJAR Matsushiro Arr 52.55 42 P pP 00 45 36.7 +1.1
MJAR Matsushiro Arr 52.55 42 pP pP 00 45 36.7 +1.1
HIA Hailar 52.66 19 *e*P **P** **00 45 25.5 -0.4**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 52.66 19 *e*P **P** **00 45 25.5 -0.4**
comp=Z,7.9nm,0.8s
KURK Kurchatov 52.74 345 P **P** **00 45 25.7 -0.7**
comp=Z,6.2nm,0.8s,baz=165,slow=7.2,SNR=23
KURK pP **pP** **00 45 36.2 -0.5**
comp=Z,15nm,0.8s,baz=157,slow=7.0,SNR=21
KURK LR LR 01 10 18.4
comp=Z,141nm,21.4s,baz=310,slow=39
KURK Kurchatov 52.74 345 *i* P **P** **00 45 25.5 -0.9**
KURK pmax pmax
comp=Z,27nm,1.1s
KURK pmax pmax
comp=Z,16nm,1.2s
KURK Kurchatov 52.74 345 *e*P **P** **00 45 25.5 -0.9**
comp=Z,21nm,1.0s
KURK pP **pP** **00 45 36.2 -0.5**
STKA Stephens Creek 52.79 131 P **P** **00 45 27.1 0.0**
comp=Z,10nm,0.6s,baz=298,slow=7.0,SNR=29
STKA LR LR 01 09 29.8
comp=Z,156nm,18.1s,baz=203,slow=38
STKA Stephens Creek 52.79 131 *e*P **P** **00 45 27.1 0.0**
comp=Z,4.4nm,0.6s
STKA Stephens Creek 52.79 131 P **P** **00 45 27.1 0.0**
STKA pmax pmax
comp=Z,10.0nm,0.6s
STKA MLR MLR
comp=Z,156nm,18.1s
STKA Stephens Creek 52.79 131 *e*P **P** **00 45 26.8 -0.3**
comp=Z,4.7nm,1.1s
MDJ Mudanjiang 52.83 29 P **P** **00 45 28.0 +0.8**
MDJ pP **pP** **00 45 37.1 -0.4**
MDJ sP **sP** **00 45 40.9 -0.7**
MDJ PcP **PcP** **00 46 36.1 -0.1**
MDJ PP **PP** **00 47 27.6 +0.7**
MDJ S **S** **00 52 56.6 +3.0**
MDJ ScS **ScS** **00 55 12.1 -2.3**
MDJ pmax pmax
comp=Z,220nm,4.7s
MDJ LR LR
comp=N,330nm,15.4s
MDJ LR LR
comp=E,340nm,16.0s
MDJ LR LR
comp=Z,240nm,14.5s
IZEF Zefreh 53.17 312 *e*P **P** **00 45 30.7 +0.4**
USRK Ussuriysk Arra 53.73 31 P **P** **00 45 34.0 +0.3**
comp=Z,11nm,0.8s,baz=218,slow=5.3,SNR=14
USRK LR LR 01 11 49.6
comp=Z,242nm,18.0s,baz=32,slow=40
IGLO Ghaloghah 53.92 317 *e*P pP 00 45 48.0 +2.0
IKLH Kolahrood 53.93 312 *e*P **P** **00 45 36.8 +1.0**
IPIR Pirpir 54.15 311 *e*P P 00 45 28.0 -9.5
IFIR Firoozkooh 54.22 315 *e*P sP 00 45 54.4 +2.1
ZAA0 Zalesovo Array 54.55 351 *e*P **P** **00 45 38.8 -0.7**
ZALV Zalesovo Beam 54.55 351 P **P** **00 45 39.1 -0.4**
comp=Z,7.1nm,0.4s,baz=167,slow=6.3,SNR=69
ZALV LR LR 01 11 02.7
comp=Z,127nm,18.3s,baz=152,slow=38
ZALV Zalesovo Beam 54.55 351 P **P** **00 45 39.1 -0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV MLR MLR
comp=Z,127nm,18.3s
ZALV Zalesovo Beam 54.55 351 P **P** **00 45 39.1 -0.4**
UMR Umm Al-Rimmam 55.30 306 *e*P **P** **00 45 43.7 -1.8**
UMR AMb AMB 00 45 52.1
comp=Z,22nm,1.1s
NAY Al-Naaiem 55.57 306 *e*P **P** **00 45 46.0 -1.5**
NAY AMb AMB 00 45 50.0
comp=Z,7.6nm,0.8s
NVS Novosibirsk 55.66 350⇑ *i*P **P** **00 45 46.3 -1.3**
NVS *e*S **S** **00 53 31.0 -0.3**
NVS pmax pmax
comp=N,20nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=Z,41nm,1.4s
NVS smax smax
comp=N,4.0nm,1.4s
NVS smax smax
comp=E,14nm,2.1s
MIB Mutribah 55.70 307 *e*P **P** **00 45 47.2 -1.1**
MIB AMb AMB 00 45 52.2
comp=Z,28nm,1.4s
CMSA Cobar Meteorol 55.76 129 *e*P **P** **00 45 49.0 +0.2**
comp=Z,79nm,0.9s
BVA0 Borovoye Array 57.17 341 *i* P **P** **00 45 57.0 -1.4**
BVAR Borovoye Array 57.17 341 P **P** **00 45 57.1 -1.3**
comp=Z,2.0nm,0.6s,baz=147,slow=8.9,SNR=16
BVAR pP **pP** **00 46 08.1 -0.7**
comp=Z,4.7nm,0.6s,baz=148,slow=8.7,SNR=20
BVAR LR LR 01 12 44.9
comp=Z,147nm,20.3s,baz=279,slow=38
BVAR Borovoye Array 57.17 341 P **P** **00 45 57.1 -1.3**
BVAR *PP **pP** **00 46 08.1 -0.7**
BVAR MLR MLR
comp=Z,147nm,20.3s
BVAR Borovoye Array 57.17 341 P **P** **00 45 57.1 -1.3**
BVAR pP **pP** **00 46 08.1 -0.7**
BRVK Borovoye 57.23 341 *e*P **P** **00 45 58.5 -0.3**
BRVK pmax pmax
comp=Z,12nm,2.5s
BRVK Borovoye 57.23 341 *e*P **P** **00 45 57.5 -1.3**
comp=Z,11nm,1.0s
KLR Kul'dur 57.24 26 *e*P P 00 45 55.2 -3.7
EIDS Eidsvold 57.99 120 *e*P **P** **00 46 04.7 0.0**
comp=Z,38nm,0.6s
EIDS Eidsvold 57.99 120 *e*P **P** **00 46 04.5 -0.2**
comp=Z,6.7nm,0.8s
HABR Khabarovsk 58.22 29 *e*P **P** **00 46 03.7 -2.2**
HABR *e**SP **sP** **00 46 17.9 -2.4**
HABR *e* 00 48 12.7
HABR *e*S **S** **00 54 03.5 -1.9**
HABR *e*S S 00 54 15.4 +10
HABR *e**SS **sS** **00 54 20.7 -1.8**
HABR *e* 00 55 50.4
HABR SS **SS** **00 57 56.8 -0.8**

HABR pmax pmax
comp=E,168nm,3.2s
HABR pmax pmax
comp=Z,81nm,1.6s
HABR pmax pmax
comp=N,116nm,2.4s
HABR MLR MLR
comp=Z,238nm,19.0s
AB31 Akbulak array 58.35 332 *i* P **P** **00 46 04.8 -1.9**
AB31 pmax pmax
comp=Z,15nm,0.6s
ABKAR Akbulak array 58.35 332 *e*P **P** **00 46 05.0 -1.8**
comp=Z,20nm,0.8s
BOD Bodaibo 59.04 10 *e*P **P** **00 46 10.6 -0.8**
BOD pmax pmax
comp=Z,25nm,1.8s
AKTO Aktyubinsk 60.07 332 P **P** **00 46 19.4 +0.8**
comp=Z,1.9nm,0.7s,baz=121,slow=6.5,SNR=5.4
AKTO Aktyubinsk 60.07 332 *i* P **P** **00 46 18.6 0.0**
AKTO Aktyubinsk 60.07 332 P **P** **00 46 19.4 +0.8**
GNI Garni 61.93 317 P **P** **00 46 34.3 +2.6**
comp=Z,0.8nm,0.3s,baz=173,slow=22,SNR=3.8
GNI Garni 61.93 317 *e*P **P** **00 46 31.6 -0.1**
GNI pmax pmax
comp=Z,22nm,2.5s
GNI Garni 61.93 317 P **P** **00 46 34.3 +2.6**
DGRG David-gareji 62.09 318 P **P** **00 46 34.6 +2.0**
TBLG Delisi 62.64 318 *e*P **P** **00 46 38.1 +1.9**
TBLG Delisi 62.64 318 P **P** **00 46 38.1 +1.9**
HNR Honiara 63.32 101 P **P** **00 46 42.2 +1.0**
comp=Z,41nm,0.4s,baz=180,slow=9.1,SNR=3.1
HNR pP **pP** **00 46 53.0 +1.3**
comp=Z,64nm,0.7s,baz=297,slow=1.6,SNR=2.5
HNR Honiara 63.32 101 P **P** **00 46 42.2 +1.0**
HNR *PP **pP** **00 46 53.0 +1.3**
HNR Honiara 63.32 101 P **P** **00 46 42.2 +1.0**
HNR pP **pP** **00 46 53.0 +1.3**
SVE Sverdlovsk 63.59 339 *e*P **pP** **00 46 52.9 +0.2**
SVE *e*S **S** **00 55 18.7 +5.2**
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 64.07 337*c i*P **P** **00 46 46.9 +1.6**
ARU *e* 00 49 03.7
ARU S **S** **00 55 24.9 +5.4**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 64.07 337 *e*P **P** **00 46 44.3 -1.0**
comp=Z,4.7nm,1.0s
ASF Jabal al Asfar 64.94 306 P **P** **00 46 54.3 +2.7**
comp=Z,2.8nm,0.8s,baz=98,slow=7.1,SNR=4.0
ASF Jabal al Asfar 64.94 306 P **P** **00 46 54.3 +2.7**
ASF pmax pmax
comp=Z,3.0nm,0.8s
ASF Jabal al Asfar 64.94 306 P **P** **00 46 54.3 +2.7**
KIV Kislovodsk 64.99 320 *e*P **P** **00 46 51.0 -0.8**
KIV *e**PP **pP** **00 47 02.8 +0.5**
KIV *e*S **S** **00 55 31.2 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.2s
KIV MLR MLR
comp=Z,100nm,19.0s
EIL Elat 65.88 303 P **P** **00 46 55.1 -2.5**
comp=Z,5.0nm,1.0s,baz=37,slow=10,SNR=2.8
EIL Elat 65.88 303 P **P** **00 46 55.1 -2.5**
MMAI Mount Meron Ar 66.39 306 P **P** **00 47 00.5 -0.4**
comp=Z,2.2nm,0.7s,baz=83,slow=14,SNR=3.4
MMAI Mount Meron Ar 66.39 306 P **P** **00 47 00.5 -0.4**
YAK Yakutsk 66.44 16 *e*P **P** **00 46 58.9 -1.7**
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,20nm,1.2s
SOKR Solikamsk 66.98 339 *e*P **P** **00 47 05.6 +1.5**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
VRHR Novokhopersk 68.89 326 *e*P **P** **00 47 17.4 +1.1**
VRHR *e**PP **pP** **00 47 24.9 -2.0**
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.4s
VRHR pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 70.33 326 *e*P **P** **00 47 26.0 +0.9**
VSR *e**PP **pP** **00 47 33.8 -2.0**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=Z,3.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.3s
SIM Simferopol' **71.02 318***ce*P P 00 47 35.7 +6.2
SIM pmax pmax
comp=Z,21nm,0.8s
LBTB Lobatse 73.30 244 P **P** **00 47 42.5 -1.2**
comp=Z,2.1nm,0.9s,baz=124,slow=20,SNR=4.2
LBTB Lobatse 73.30 244 P **P** **00 47 42.6 -1.2**
LBTB Lobatse 73.30 244 P **P** **00 47 42.5 -1.2**
OBN Obninsk 73.41 329 *e*P **P** **00 47 44.7 +1.1**
OBN *e**PP **pP** **00 47 54.0 -0.2**
OBN *e* 00 48 01.7
OBN *e* 00 50 22.1
OBN *e*S **S** **00 57 10.9 +0.6**
OBN pmax pmax
comp=Z,18nm,1.7s
BOSA Boshof 74.14 240 P **P** **00 47 46.9 -1.7**
comp=Z,1.4nm,0.5s,baz=349,slow=22,SNR=5.5
BOSA LR LR 01 15 47.5
comp=Z,72nm,19.0s,baz=167,slow=32
BOSA Boshof 74.14 240 P **P** **00 47 46.9 -1.7**
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 74.14 240 P **P** **00 47 46.9 -1.7**
KLMR Klimovskoe 74.61 335 *e*P **P** **00 47 48.4 -2.1**
KLMR pmax pmax
comp=Z,18nm,1.4s
SEY Seymchan 74.76 23 *e*P **P** **00 47 51.8 +0.5**
AKASG Malin Array Be 75.98 323 P **P** **00 47 56.8 -1.8**
comp=Z,3.0nm,0.6s,baz=87,slow=4.7,SNR=9.7
AKASG pP **pP** **00 48 08.1 -1.2**
comp=Z,8.4nm,0.7s,baz=95,slow=4.7,SNR=12
AKASG Malin Array Be 75.98 323 P **P** **00 47 56.8 -1.8**
AKASG *PP **pP** **00 48 08.1 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 75.98 323 P **P** **00 47 56.8 -1.8**
AKASG pP **pP** **00 48 08.1 -1.2**
AKBB Malin Array Si 75.98 323 P **P** **00 47 58.0 -0.6**
AKBB Malin Array Si 75.98 323 P **P** **00 47 58.0 -0.6**
KIEV Kiev 75.99 323 *e*P **P** **00 47 59.1 +0.5**
KIEV Kiev 75.99 323 *e*P **P** **00 47 57.0 -1.5**
comp=Z,16nm,1.1s
VRI Vrincioaia 76.27 317⇑P **P** **00 47 57.7 -2.7**
VRI Vrincioaia 76.27 317⇑*i*P **P** **00 47 57.7 -2.7**
PLOR Plostina 76.32 317 ⇓P **P** **00 48 02.8 +2.1**
PLOR Plostina 76.32 317 ⇓*i*P **P** **00 48 02.8 +2.1**
TESR 76.48 318⇑*i*P **P** **00 48 01.3 -0.2**
MLR Muntele Rosu 76.71 317 ⇑P **P** **00 48 01.5 -1.5**
MLR Muntele Rosu 76.71 317⇑*i*P **P** **00 48 01.5 -1.5**
HUMR Humele 77.16 316⇑*i*P P 00 48 14.8 +9.4
VOIR 77.31 317⇑P **P** **00 48 05.3 -1.0**
VOIR 77.31 317⇑*i*P **P** **00 48 05.3 -1.0**
BURAR Bucovina Array 77.70 319 ⇓*i*P **P** **00 48 07.2 -1.3**
BUR08 Bucovina Ar. S 77.71 319 *e*P **P** **00 48 07.6 -1.0**
RPZ Rata Peaks 78.59 135 P **P** **00 48 12.9 -0.5**
comp=Z,5.3nm,0.7s,baz=250,slow=3.5,SNR=3.9
RPZ Rata Peaks 78.59 135 P **P** **00 48 12.9 -0.5**
BMR Baia Mare 78.84 319 ⇓P P 00 48 09.7 -5.0
BMR Baia Mare 78.84 319 ⇓*i*P P 00 48 09.7 -5.0
GZR Gura Zlata 78.87 316⇑P **P** **00 48 13.9 -1.1**
GZR Gura Zlata 78.87 316⇑*i*P **P** **00 48 13.9 -1.1**
LVV L'vov 78.97 321 *e*P **P** **00 48 16.6 +1.3**
JOF Joensuu 79.01 335 *e*P **P** **00 48 18.0 +2.8**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 79.01 335 *ep* **P** **00 48 18.0 +2.8**
comp=Z,4.0nm,0.8s
JOF Joensuu 79.01 335 *ep* **P** **00 48 18.0 +2.8**
comp=Z,4.0nm,0.8s
DRGR 79.19 318⇑P **P** **00 48 14.9 -1.8**
DRGR 79.19 318⇑*i*P **P** **00 48 14.9 -1.8**
TRPA Tarpa 79.57 319 ⇓*i*P P 00 48 13.6 -5.0

BZS	**Buzias**	**79.71**	**316**	⇑P		**P**	**00 48 17.0 -2.5**
BZS	**Buzias**	**79.71**	**316**	*i*P		**P**	**00 48 17.0 -2.5**
KWP	**Kalwaria Pacla**	**79.76**	**320**	⇑P		**P**	**00 48 16.9 -2.8**
KWP	**Kalwaria Pacla**	**79.76**	**320**	*i*P		**P**	**00 48 16.9 -2.8**
UZH	**Uzhgorod**	**79.83**	**319**	*e*P		P	00 48 23.3 +3.3
UZH				*e*			00 48 32.5
FINES	**FINESS Array B**	**80.84**	**333**	P		**P**	**00 48 24.0 -1.1**
	comp=Z,2.4nm,0.7s,baz=131,slow=5.3,SNR=6.8						
FINES	**FINESS Array B**	**80.84**	**333**	P		**P**	**00 48 24.0 -1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**80.84**	**333**	P		**P**	**00 48 24.0 -1.1**
KAF	**Kangasniemi**	**80.93**	**333**	*e*P		**P**	**00 48 27.5 +1.9**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KAF	**Kangasniemi**	**80.93**	**333**	*e*p		**P**	**00 48 27.5 +1.9**
	comp=Z,5.5nm,0.7s						
KAF	**Kangasniemi**	**80.93**	**333**	*e*p		**P**	**00 48 27.5 +1.9**
	comp=Z,5.5nm,0.7s						
PKSM	**Moragy**	**81.86**	**317**	⇑P		**P**	**00 48 28.3 -2.6**
PKSM	**Moragy**	**81.86**	**317**	*i*P		**P**	**00 48 28.3 -2.6**
BILL	**Bilibino**	**82.17**	**21**	*e*P		**P**	**00 48 33.6 +1.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.7s						
KEV	**Kevo**	**83.02**	**341**	*e*P		**P**	**00 48 35.4 -1.0**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KEV	**Kevo**	**83.02**	**341**	*e*p		**P**	**00 48 35.4 -1.0**
	comp=Z,4.8nm,0.8s						
KEV	**Kevo**	**83.02**	**341**	*e*p		**P**	**00 48 35.4 -1.0**
	comp=Z,4.8nm,0.8s						
ARCES	**ARCESS Array B**	**83.45**	**340**	P		**P**	**00 48 38.2 -0.5**
	comp=Z,2.2nm,0.7s,baz=100,slow=5.4,SNR=14						
ARCES	**ARCESS Array B**	**83.45**	**340**	P		**P**	**00 48 38.3 -0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**83.45**	**340**	P		**P**	**00 48 38.2 -0.5**
PERS	**Pernice**	**84.33**	**317**	*i* P		pP	00 48 54.4 -0.2
VISS	**Visnje**	**84.44**	**316**	*i* P		pP	00 48 55.0 -0.2
GERES	**GERESS Array B**	**85.48**	**319**	P		**P**	**00 48 50.8 +1.2**
	comp=Z,0.7nm,0.5s,baz=167,slow=7.8,SNR=4.3						
GERES	**GERESS Array B**	**85.48**	**319**	P		**P**	**00 48 50.8 +1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**85.48**	**319**	P		**P**	**00 48 50.8 +1.2**
NB2	**NORSAR Subarra**	**87.83**	**331**	P		**P**	**00 49 03.0 +2.3**
	comp=Z,9.4nm,0.9s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	**87.83**	**331**	P		**P**	**00 49 02.1 +1.4**
	comp=Z,2.3nm,1.1s,baz=123,slow=11,SNR=3.8						
NOA				pP		**pP**	**00 49 11.2 -0.4**
	comp=Z,5.2nm,0.9s,baz=95,slow=4.9,SNR=10						
NOA	**NORSAR Array B**	**87.83**	**331**	P		**P**	**00 49 02.1 +1.4**
NOA				*PP		**pP**	**00 49 11.2 -0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**87.83**	**331**	P		**P**	**00 49 02.1 +1.4**
NOA				pP		**pP**	**00 49 11.2 -0.4**
MBDF	**Montbardon**	**90.08**	**315**	*e*P		**P**	**00 49 11.6 -0.2**
	comp=Z,89nm,1.7s						
LPG	**La Plagne**	**90.09**	**315**	*e*P		**P**	**00 49 11.0 -1.0**
	comp=Z,152nm,1.9s						
MEM	**Membach**	**90.53**	**320**	P		**P**	**00 49 12.8 -0.8**
	comp=Z,17nm,2.5s						
MEM				AP		**pP**	**00 49 24.4 -0.1**
BCLA	**Clavier**	**90.99**	**320**	P		**P**	**00 49 14.6 -1.1**
	comp=Z,46nm,2.9s						
TORD	**Torodi Ar. Bea**	**95.18**	**283**	P		**P**	**00 49 34.6 -1.2**
	comp=Z,0.5nm,0.9s,baz=98,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**95.18**	**283**	P		**P**	**00 49 34.6 -1.2**
YKA	**Yellowknife Ar**	**113.12**	**15**	PP		PP	00 55 37.4 -0.2
	comp=Z,0.4nm,0.9s,baz=316,slow=4.3,SNR=4.2						
YKA	**Yellowknife Ar**	**113.12**	**15**	PP		PP	00 55 37.5 -0.2
NVAR	**Mina Array Bea**	**129.70**	**36**	PKP		**PKPdf**	**00 55 22.1 +0.6**
	comp=Z,0.4nm,0.7s,baz=321,slow=1.2,SNR=5.0						
NVAR	**Mina Array Bea**	**129.70**	**36**	PKP		**PKPdf**	**00 55 22.1 +0.6**
PDAR	**Pinedale Array**	**131.03**	**26**	PKP		**PKPdf**	**00 55 22.1 -1.7**
	comp=Z,0.3nm,0.8s,baz=23,slow=1.4,SNR=2.7						
PDAR	**Pinedale Array**	**131.03**	**26**	PKP		**PKPdf**	**00 55 22.1 -1.7**
527A	**Woodward Ranch**	**144.00**	**31**	⇑P		PKPbc	00 55 46.0 +0.2
	baz=144						
428A	**Kincaid Ranch,**	**144.00**	**30**	⇓P		PKPbc	00 55 45.8 +0.1
	baz=144						
626A	**Big Bend Ranch**	**144.19**	**33**	⇓P		PKPbc	00 55 46.3 0.0
	baz=144						
528A	**Cox Ranch, San**	**144.41**	**30**	⇑P		PKPbc	00 55 47.3 +0.3
	baz=144						
TXAR	**Lajitas Array**	**144.61**	**32**	PKP		PKPbc	00 55 47.8 +0.2
	comp=Z,2.2nm,0.7s,baz=266,slow=1.4,SNR=22						
TXAR	**Lajitas Array**	**144.61**	**32**	PKIKP		PKPbc	00 55 47.8 +0.1
TXAR	**Lajitas Array**	**144.61**	**32**	PKP		PKPbc	00 55 47.8 +0.2
627A	**Terlingua Ranc**	**144.67**	**32**	⇑P		**PKPab**	**00 55 46.8 -0.9**
	baz=145						
KMSC	**Kings Mountain**	**144.84**	**358**	⇓P		**PKPab**	**00 55 47.0 -1.0**
	baz=145						
628A	**Black Gap, Mar**	**144.90**	**31**	⇑P		**PKPab**	**00 55 48.0 -0.5**
	baz=145						
JCT	**Junction City**	**145.56**	**26**	*e*PKP2		**PKPdf**	**00 55 49.6 -0.9**
JCT	**Junction City**	**145.56**	**26**	*e*PKPdf		**PKPdf**	**00 55 49.6 -0.9**
JCT	**Junction City**	**145.56**	**26**	⇑P		**PKPdf**	**00 55 49.8 -0.7**
	baz=146						

*ISCJB **24** 00:44:03.3±1.0, 37.0°N±0.1°×72.1°E±0.1°, h152 km, mb3.4/6, Error ellipse: s-maj=18.2km s-min=12.3km az=34.8*
*IDC **24** 00:44:10.3±6.2, 37.3°N×72.2°E, h195 km±55 km, mb3.1/6, mb1 3.3/9, mb1mx3.1/27, mbtmp3.1/9, Error ellipse: s-maj=31.1km s-min=25.7km az=174.0*

ISC 24 00:44:05.0±1.2, 37.1°N±0.1°×72.3°E±0.1°, h152 km, n20, σ1s20/29, mb3.5/6, 1C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.79**	**49**	Pn	**Pn**	**00 45 01.9**	**-0.8**
KSH				Sn	Sn	00 45 38.6	-9.0
KSH				smax	smax		
	comp=N,88nm,0.3s						
KSH				smax	smax		
	comp=E,61nm,0.8s						
AML	**Almayashu**	**5.16**	**12**	P	**Pn**	**00 45 21.9**	**+1.0**
	SNR=100						
AML				P	**Pn**	**00 45 21.9**	**+1.0**
	SNR=100						
KZA	**Kyzart**	**5.50**	**24**	P	**Pn**	**00 45 26.2**	**+0.9**
	SNR=26						
KZA				P	**Pn**	**00 45 26.2**	**+0.9**
	SNR=26						
EKS2	**Erkin-Say**	**5.69**	**11**	P	**Pn**	**00 45 28.7**	**+1.1**
	SNR=30						
EKS2				P	**Pn**	**00 45 28.7**	**+1.1**
	SNR=30						
AAK	**Ala-Archa**	**5.80**	**16**	P	**Pn**	**00 45 30.8**	**+1.6**
	SNR=7.3						
AAK				P	**Pn**	**00 45 30.8**	**+1.6**
	SNR=7.3						
KBK	**Karagaybulak**	**5.94**	**19**	P	**Pn**	**00 45 33.5**	**+2.5**
	SNR=8.9						
KBK				P	**Pn**	**00 45 33.5**	**+2.5**
	SNR=8.9						
ULHL	**Ulahol**	**6.00**	**30**	P	**Pn**	**00 45 33.0**	**+1.2**
	SNR=15						
ULHL				P	**Pn**	**00 45 33.0**	**+1.2**
	SNR=15						
KK31	**Karatay Array**	**6.16**	**348**	Pn		**Pn**	**00 45 34.1**	**+0.3**
	comp=E,3.5nm,0.5s,baz=157,slow=11,SNR=24						
KK31				⇑Sn		Sn	00 46 36.4 -7.0
	comp=E,7.6nm,0.3s,baz=159,slow=22,SNR=15						
CHMS	**Chumysh**	**6.21**	**17**	P		**Pn**	**00 45 35.6**	**+1.2**
	SNR=9.5						
CHMS				P		**Pn**	**00 45 35.6**	**+1.2**
	SNR=9.5						
TKM2	**Tokmak 2**	**6.37**	**23**	P		**Pn**	**00 45 37.9**	**+1.2**
	SNR=8.5						
TKM2				P		**Pn**	**00 45 37.9**	**+1.2**
	SNR=8.5						
USP	**Ospenovka**	**6.41**	**15**	P		**Pn**	**00 45 37.4**	**+0.2**
	SNR=12						
USP				P		**Pn**	**00 45 37.4**	**+0.2**
	SNR=12						
KURK	**Kurchatov**	**14.37**	**16**	P		**Pn**	**00 47 21.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**16.00**	**356**	P		**Pn**	**00 47 41.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=166,slow=13,SNR=2.1						
ZALV	**Zalesovo Beam**	**18.97**	**23**	P		**P**	**00 48 14.2**	**-0.2**
	comp=E,0.3nm,0.3s,baz=217,slow=8.9,SNR=5.0						
ARCES	**ARCESS Array B**	**41.00**	**337**	P		**P**	**00 51 31.5**	**-1.1**
	comp=E,1.1nm,0.7s,baz=118,slow=9.7,SNR=7.0						
NOA	**NORSAR Array B**	**44.53**	**323**	P		**P**	**00 52 00.8**	**-0.4**
	comp=E,0.4nm,0.5s,baz=94,slow=7.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**66.75**	**269**	P		**P**	**00 54 40.9**	**+0.8**
	comp=E,0.3nm,0.4s,baz=48,slow=5.7,SNR=8.8						
INK	**Inuvik**	**73.16**	**10**	P		**P**	**00 55 17.6**	**-0.8**
	comp=E,0.6nm,0.6s,baz=307,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**80.61**	**3**	P		**P**	**00 55 59.6**	**-0.6**
	comp=E,0.4nm,0.4s,baz=350,slow=5.6,SNR=10.0						
WRA	**Warramunga Arr**	**81.44**	**123**	P		**P**	**00 56 06.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=328,slow=5.3,SNR=4.6						

*NEIC **24** 00:45:51.1, 19.62°N×64.39°W, h39 km, MD3.3(RSPR), After RSPR.*

RSPR 24 00:45:51.1, 19.62°N×64.39°W, h39 km±27 km, MD3.4/4, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**1.22**	**190**	⇑*e*P		Pn	00 46 10.1	-1.5
TBVI	**Tortola**	**1.22**	**190**	⇑*e*P		Pn	00 46 10.1	-1.5
TBVI	**Tortola**	**1.22**	**190**	⇑*e*P		Pn	00 46 10.9	-0.7
STVI	**Saint Thomas**	**1.37**	**203**	⇓*e*P		Pn	00 46 12.1	-1.6
STVI	**Saint Thomas**	**1.37**	**203**	*e*Pn		Pn	00 46 12.6	-1.1
STVI				*e*Sn		Sn	00 46 30.0	-0.6
STVI	**Saint Thomas**	**1.37**	**203**	⇓*e*P		Pn	00 46 12.1	-1.6
STVI				*e*S		Sn	00 46 29.9	-0.7
MTP	**Monte Pirata**	**1.87**	**216**	⇓*e*P		Pn	00 46 20.1	-0.5
MTP	**Monte Pirata**	**1.87**	**216**	*e*Pn		Pn	00 46 20.0	-0.6
MTP				*e*Sn		Sn	00 46 42.5	-0.6
MTP	**Monte Pirata**	**1.87**	**216**	⇓*e*P		Pn	00 46 20.1	-0.5
CDVI	**St. Croix**	**1.89**	**191**	⇑*e*P		Pn	00 46 20.3	-0.5
CDVI	**St. Croix**	**1.89**	**191**	*e*S		Sn	00 46 43.1	-0.3
CDVI	**St. Croix**	**1.89**	**191**	⇑*e*P		Pn	00 46 20.3	-0.5
CDVI				*e*S		Sn	00 46 43.1	-0.3
CDVI	**St. Croix**	**1.89**	**191**	⇑*e*P		Pn	00 46 20.3	-0.5
CDVI				*e*S		Sn	00 46 43.1	-0.3
CBYP	**Canovanas**	**1.93**	**226**	*e*Pn		Pn	00 46 21.1	-0.5
CBYP				*e*Sn		Sn	00 46 44.0	-0.6
HUMP	**Col San Antoni**	**2.02**	**224**	⇑*e*P		Pn	00 46 21.8	-0.9
HUMP	**Col San Antoni**	**2.02**	**224**	*e*S		Sn	00 46 45.1	-1.6
HUMP	**Col San Antoni**	**2.02**	**224**	⇑*e*P		Pn	00 46 21.8	-0.9
HUMP				*e*S		Sn	00 46 45.1	-1.6
HUMP	**Col San Antoni**	**2.02**	**224**	⇑*e*P		Pn	00 46 21.8	-0.9
HUMP				*e*S		Sn	00 46 45.9	-0.7
CPD	**Cerro la Pandu**	**2.14**	**223**	⇑*e*P		Pn	00 46 23.3	-1.0
CPD	**Cerro la Pandu**	**2.14**	**223**	*e*S		Sn	00 46 49.0	-0.7
CPD	**Cerro la Pandu**	**2.14**	**223**	⇑*e*P		Pn	00 46 23.3	-1.0
CPD				*e*S		Sn	00 46 49.0	-0.7
CPD	**Cerro la Pandu**	**2.14**	**223**	⇑*e*P		Pn	00 46 23.3	-1.0
CPD				*e*S		Sn	00 46 49.1	-0.6
CELP	**Cerrillos**	**2.58**	**234**	*e*Pn		Pn	00 46 29.5	-0.9
OBIP	**Obispado Ponce**	**2.62**	**234**	*e*Pn		Pn	00 46 30.6	-0.3
CRPR	**Cabo Rojo, PR**	**3.04**	**239**	*e*Pn		Pn	00 46 38.0	+1.3

*CSEM **24** 00:45:54.2, 36.34°N×22.40°E, h7 km, MD3.5, After ATH*

ATH 24 00:45:54.2, 36.34°N×22.40°E, h7 km±4 km, MD3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.52**	**96**	*e*Pb	Pg	00 46 04.4	+0.1
KYTH	**Kithira**	**0.52**	**96**	*e*Pb	Pg	00 46 04.4	+0.1
VLI	**Veliai**	**0.57**	**49**	*e*PG	Pg	00 46 05.3	0.0
VLI	**Veliai**	**0.57**	**49**	*e*Pg	Pg	00 46 05.3	0.0
PYL	**PYLOS**	**0.77**	**317**	*e*PB	Pg	00 46 07.6	-1.4
PYL				*e*SB	Sg	00 46 19.6	+0.6
PYL	**PYLOS**	**0.77**	**317**	*e*Pb	Pg	00 46 07.6	-1.4
PYL				*e*Sb	Sg	00 46 19.6	+0.6
ITM	**Ithomi**	**0.92**	**336**	*e*PG	Pg	00 46 11.1	-0.9
ITM				*e*SB	Sb	00 46 25.1	+0.1
ITM	**Ithomi**	**0.92**	**336**	*e*Pg	Pg	00 46 11.1	-0.9
ITM				*e*Sb	Sb	00 46 25.1	+0.1
DID	**Didima**	**1.34**	**30**	*e*PG	Pn	00 46 18.9	-0.6
DID				*e*SB	Sn	00 46 38.2	+0.6
DID	**Didima**	**1.34**	**30**	*e*Pg	Pn	00 46 18.9	-0.6
DID				*e*Sb	Sn	00 46 38.2	+0.6
GUR	**Goura**	**1.59**	**358**	*e*PB	Pb	00 46 24.2	0.0
GUR	**Goura**	**1.59**	**358**	*e*Pb	Pb	00 46 24.2	0.0
VAM	**Vamos**	**1.73**	**122**	*e*PN	Pg	00 46 27.1	-0.4
VAM	**Vamos**	**1.73**	**122**	*e*Pn	Pg	00 46 27.1	-0.4
VLY	**Voula,Athens**	**1.88**	**36**	*e*PN	Pb	00 46 28.2	-0.6
VLY	**Voula,Athens**	**1.88**	**36**	*e*Pn	Pb	00 46 28.2	-0.6
EFP	**Efpalio**	**2.12**	**349**	*e*PG	Pb	00 46 33.3	+0.3
EFP	**Efpalio**	**2.12**	**349**	*e*Pg	Pb	00 46 33.3	+0.3

*NEIC **24** 00:50:09.1, 18.04°N×68.54W, h104 km, MD3.3(RSPR), After RSPR.*

RSPR 24 00:50:09.1, 18.04°N×68.54W, h104 km±2 km, MD3.3/7, 7C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**1.09**	**313**	*i*P	Pn	00 50 30.4	-0.5
DR12				*e*S	Sn	00 50 46.7	-0.6
DR12	**Loma Pena Alta**	**1.09**	**313**	*i* Pu	Pn	00 50 30.4	-0.5
DR12				*e*S	Sn	00 50 46.7	-0.6
SMN1	**Samana, DR**	**1.33**	**329**	⇑*e*P	Pn	00 50 33.3	-0.4
SMN1				*e*S	Sn	00 50 52.2	-0.1
CRPR	**Cabo Rojo, PR**	**1.36**	**91**	⇑*e*P	Pn	00 50 33.7	-0.2
CRPR	**Cabo Rojo, PR**	**1.36**	**91**	*e*S	Sn	00 50 52.7	0.0
CRPR	**Cabo Rojo, PR**	**1.36**	**91**	*e*Pn	Pn	00 50 31.8	-2.1
CRPR				*e*Sn	Sn	00 50 50.8	-1.9
AGPR	**Aguadilla, PR**	**1.42**	**73**	⇑*e*P	Pn	00 50 34.4	-0.3
AGPR	**Aguadilla, PR**	**1.42**	**73**	*e*S	Sn	00 50 53.9	-0.2
AGPR	**Aguadilla, PR**	**1.42**	**73**	*e*Pn	Pn	00 50 34.1	-0.5
AGPR				*e*Sn	Sn	00 50 53.4	-0.6
AOPR	**Arecibo Observ**	**1.72**	**80**	⇑*e*P	Pn	00 50 37.8	-0.6
AOPR	**Arecibo Observ**	**1.72**	**80**	*e*S	Sn	00 51 00.0	-0.7
AOPR	**Arecibo Observ**	**1.72**	**80**	⇑*e*P	Pn	00 50 37.8	-0.6
AOPR				*e*S	Sn	00 51 00.0	-0.7
CELP	**Cerrillos**	**1.86**	**89**	*e*Pn	Pn	00 50 39.8	-0.4
CELP				*e*Sn	Sn	00 51 01.5	-2.3
ICM	**Isla Caja Muer**	**1.93**	**94**	*e*Pn	Pn	00 50 40.6	-0.3
CBYP	**Canovanas**	**2.56**	**85**	⇑*e*P	Pn	00 50 48.2	-1.0
CBYP	**Canovanas**	**2.56**	**85**	*e*Pn	Pn	00 50 48.2	-1.1
CBYP				*e*Sn	Sn	00 51 16.2	-3.9
MTP	**Monte Pirata**	**2.84**	**88**	⇑*e*P	Pn	00 50 52.4	-0.4
MTP	**Monte Pirata**	**2.84**	**88**	*e*S	Sn	00 51 27.2	+0.6
MTP	**Monte Pirata**	**2.84**	**88**	*e*Pn	Pn	00 50 53.0	+0.1
MTP				*e*Sn	Sn	00 51 26.0	-0.6
MIAR	**Mount Ida**	**27.70**	**311**	*e*P	P	00 55 45.0	-2.6

JMA 24 00:54:03.7±0.3, 36.05N×143.75E, h74 km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**2.37**	**262**	P	Pn	00 54 41.6	+1.2
ONAJ	**Iwakimizuishiy**	**2.60**	**295**	P	Pn	00 54 44.5	+0.9
ONAJ				*e*S	Sn	00 55 15.8	+1.6
JHO	**Hitachi**	**2.63**	**283**	P	Pn	00 54 44.8	+0.9
JHO				S	Sn	00 55 16.0	+1.2
JFK	**Kawauchi**	**2.66**	**300**	P	Pn	00 54 45.2	+0.8
JFK				*e*S	Sn	00 55 15.8	+0.2
JYT	**Yasato**	**2.88**	**275**	P	Pn	00 54 47.5	+0.2
JYT				*e*S	Sn	00 55 21.7	+0.8
JMM	**Marumori**	**2.98**	**308**	P	Pn	00 54 49.8	+1.1
JMM				*e*S	Sn	00 55 25.2	+1.8
JFT	**Otama**	**3.11**	**299**	P	Pn	00 54 52.6	+2.2
JFT				*e*S	Sn	00 55 29.4	+2.9
JAG	**Ashikaga**	**3.49**	**277**	P	Pn	00 54 57.0	+1.3
JAG				*e*S	Sn	00 55 36.9	+1.0
JMK	**Ichinoseki**	**3.53**	**326**	P	Pn	00 54 57.5	+1.4
JMK				*e*S	Sn	00 55 38.9	+2.3
JOD2	**Odawara 2**	**3.88**	**260**	P	Pn	00 55 01.9	+1.0
JOD2				*e*S	Sn	00 55 45.0	-0.3
JRY	**Ryogami san**	**3.93**	**271**	P	Pn	00 55 03.6	+2.0
JHJ2	**Mitsune**	**4.37**	**229**	*e*S		00 55 54.2	

IDC 24 01:07:38.7±16.0, 19.29°S×64.82E, h0 km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=532.3km s-min=39.5km az=58.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**63.88**	**107**	P	P	01 18 13.7	+0.1
	0.6nm,0.6s,baz=269,slow=6.2,SNR=6.6						
WRA	**Warramunga Arr**	**65.02**	**104**	P	P	01 18 21.1	-0.1
	1.1nm,0.9s,baz=260,slow=5.7,SNR=9.7						
ZALV	**Zalesovo Beam**	**74.94**	**12**	P	P	01 19 21.2	-0.1
	0.4nm,0.5s,baz=210,slow=5.0,SNR=3.0						
SONM	**Songino Array**	**76.50**	**27**	P	P	01 19 30.9	+0.3
	0.3nm,0.7s,baz=205,slow=6.4,SNR=3.2						

IDC 24 01:12:59.3±4.2, 55.81°S×26.35°W, h0 km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=140.0km s-min=47.6km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.62**	**304**	P	P	01 22 00.6	-0.2
	1.4nm,0.8s,baz=176,slow=6.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**72.61**	**29**	P	P	01 24 28.3	0.0
	0.5nm,0.6s,baz=200,slow=5.9,SNR=8.5						
ILAR	**Eielson Array**	**150.30**	**312**	PKPbc	PKPbc	01 32 50.5	-0.4
	0.4nm,0.6s,baz=97,slow=2.1,SNR=4.9						

IDC 24 01:21:36.6±3.2, 4.99°S×151.33E, h0 km, mb3.5/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=132.7km s-min=38.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.04**	**223**	Pn	Pn	01 23 06.6	-0.6
	0.6nm,0.3s,baz=22,slow=14,SNR=2.3						
PMG				Sn	Sn	01 24 18.9	+1.8
	2.0nm,0.3s,baz=319,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**22.24**	**227**	P	P	01 26 35.3	+0.1
	1.0nm,0.5s,baz=52,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**25.04**	**220**	P	P	01 27 02.7	-0.1
	0.9nm,0.6s,baz=59,slow=8.7,SNR=12						
TORD	**Torodi Ar. Bea**	**148.97**	**287**	PKPbc	PKPbc	01 41 27.3	-0.4
	0.6nm,0.6s,baz=84,slow=2.9,SNR=4.5						

IDC 24 01:25:14.7±1.0, 27.24°N×44.19W, h0 km, mb3.7/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.7/9, MS3.8/3, Ms1 3.8/3, ms1mx3.6/29, Error ellipse: s-maj=28.9km s-min=22.6km az=175.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**22.18**	**250**	LR	LR	01 36 37.9	
	comp=Z,251nm,20.0s,baz=90,slow=31						
BBTS	**Babate**	**28.62**	**110**	LR	LR	01 39 44.4	
	comp=Z,243nm,20.5s,baz=2.1,slow=30						
SCHQ	**Schefferville**	**32.14**	**335**	LR	LR	01 43 57.8	
	comp=Z,126nm,19.3s,baz=172,slow=35						
TORD	**Torodi Ar. Bea**	**45.04**	**99**	P	P	01 33 31.0	-1.5
	0.7nm,1.0s,baz=273,slow=10.0,SNR=2.8						
LPAZ	**La Paz**	**49.11**	**211**	P	P	01 34 06.0	+1.0
	1.7nm,0.8s,baz=29,slow=6.6,SNR=4.5						
TXAR	**Lajitas Array**	**51.92**	**287**	P	P	01 34 24.6	-1.0
	0.1nm,0.6s,baz=72,slow=3.9,SNR=3.4						
PDAR	**Pinedale Array**	**54.46**	**305**	P	P	01 34 43.5	-0.8
	0.9nm,0.9s,baz=90,slow=7.4,SNR=6.4						
FINES	**FINESS Array B**	**57.06**	**33**	P	P	01 35 02.1	-0.2
	1.2nm,0.8s,baz=249,slow=7.0,SNR=2.3						
YKA	**Yellowknife Ar**	**57.20**	**329**	P	P	01 35 03.1	-0.1
	0.3nm,0.5s,baz=85,slow=7.6,SNR=5.3						
ARCES	**ARCESS Array B**	**57.67**	**23**	P	P	01 35 07.2	+0.6
	1.1nm,0.7s,baz=286,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	**59.14**	**45**	P	P	01 35 17.9	+0.9
	0.4nm,0.4s,baz=320,slow=22,SNR=5.2						
ILAR	**Eielson Array**	**70.89**	**334**	P	P	01 36 33.5	+0.2
	0.9nm,0.9s,baz=81,slow=4.8,SNR=8.8						

*CSEM **24** 01:26:29.3, 37.49°N×20.48E, h23 km, MD3.7, After ATH*

ATH 24 01:26:29.3, 37.49°N×20.48E, h23 km±2 km, MD3.7/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.69

MSVF	**Nonsavu**	**11.48**	**334**	*e*P		**Pn**	**01 31 26.9**	**+2.0**
MSVF	**Nonsavu**	**11.48**	**334**	*e*Pn		**Pn**	**01 31 26.9**	**+2.0**
MSVF	**Nonsavu**	**11.48**	**334**	Pn		Pn	01 31 30.0	+5.1
	2µm,1.0s,SNR=10							
PRGZ	**Paritu Road**	**11.67**	**202**	SN		Sn	01 33 28.8	-7.7
KNZ	**Kokohu**	**11.83**	**202**	PN		Pn	01 31 20.5	-9.0
BKZ	**Black Stump Fm**	**12.38**	**206**	PN		Pn	01 31 27.5	-10
PXZ	**Pawanui**	**13.01**	**203**	*e*Pn		Pn	01 31 35.2	-11
PXZ				SN		Sn	01 33 54.9	-14
WPHZ	**Waipukurau**	**13.19**	**204**	SN		Sn	01 34 02.6	-11
PRHZ	**Porangahau**	**13.30**	**203**	PN		Pn	01 31 39.8	-10
DVHZ	**Dannevirke**	**13.49**	**204**	SN		Sn	01 34 08.5	-13
BFZ	**Birch Farm**	**13.80**	**203**	*e*PN		Pn	01 31 45.3	-11
BFZ				*e*SN		Sn	01 34 11.3	-17
TIWZ	**Tintock**	**14.02**	**204**	SN		Sn	01 34 20.5	-13
MRZ	**Mangatainoka R**	**14.03**	**205**	*e*PN		Pn	01 31 49.8	-10
MRZ				*e*SN		Sn	01 34 18.7	-15
MTW	**Mount Morrison**	**14.49**	**204**	SN		Sn	01 34 30.5	-15
PAWZ	**Paruwai Farm**	**14.71**	**204**	SN		Sn	01 34 36.2	-14
AFI	**Afiamalu**	**14.88**	**19**	P		Pn	01 32 02.7	-8.5
	11nm,0.3s,baz=43,slow=6.8,SNR=6.9							
AFI				S		Sn	01 34 35.3	-20
	6.1nm,0.3s,baz=0.0,slow=20,SNR=2.8							
AFI	**Afiamalu**	**14.88**	**19**	*e*P		Pn	01 32 02.8	-8.5
AFI				pmax		pmax		
	comp=Z,250nm,1.0s							
AFI	**Afiamalu**	**14.88**	**19**	*e*Pn		Pn	01 32 02.8	-8.5
	comp=Z,250nm,1.0s							
AFI				*e*Sn		Sn	01 34 35.1	-20
SNZO	**South Karori**	**14.92**	**206**	*e*Pn		Pn	01 32 04.8	-6.8
	comp=Z,131nm,0.8s							
SNZO				*e*Sn		Sn	01 34 41.8	-14
PLWZ	**Palliser**	**14.94**	**204**	SN		Sn	01 34 41.5	-15
NNZ	**Nelson**	**15.39**	**210**	*e*PN		**Pn**	**01 32 13.8**	**-4.0**
CTZ	**Chatham Island**	**15.54**	**180**	PN		Pn	01 32 13.9	-5.9
CTZ				*e*SN		Sn	01 34 47.9	-23
THZ	**Tophouse**	**16.04**	**209**	PN		Pn	01 32 18.0	-8.3
THZ				*e*SN		Sn	01 35 05.0	-18
KHZ	**Kahutara**	**16.32**	**207**	*e*Pn		Pn	01 32 22.1	-7.6
	comp=Z,248nm,0.8s							
KHZ				*e*Sn		Sn	01 35 10.6	-19
KHZ	**Kahutara**	**16.32**	**207**	*e*PN		Pn	01 32 16.1	-14
KHZ				*e*SN		Sn	01 35 11.9	-18
DZM	**Mont Dzumac**	**16.49**	**288**	*e*Pn		**P**	**01 32 36.6**	**+2.2**
	comp=Z,782nm,1.2s							
DZM				*e*LR		LR	01 36 35.7	
	comp=Z,93µm,23.6s							
DZM	**Mont Dzumac**	**16.49**	**288**	P		**P**	**01 32 39.0**	**+4.5**
	comp=Z,2.1nm,0.3s,baz=108,slow=15,SNR=29							
DZM				LR		LR	01 37 56.2	
	comp=Z,76µm,18.1s,baz=116,slow=34							
DZM	**Mont Dzumac**	**16.49**	**288**	*e*P		**P**	**01 32 37.7**	**+3.2**
DZM	**Mont Dzumac**	**16.49**	**288**	*e*Pn		**P**	**01 32 37.1**	**+2.6**
	comp=Z,562nm,1.4s							
NOUC	**Port Laguerre**	**16.59**	**288**	*e*P		**P**	**01 32 38.4**	**+2.9**
RAR	**Rarotonga**	**16.79**	**69**	P		Pn	01 32 27.3	-8.5
	comp=Z,13nm,0.3s,baz=224,slow=4.4,SNR=15							
RAR				S		Sn	01 35 16.6	-25
	comp=Z,6.4nm,0.3s,baz=74,slow=17,SNR=3.6							
RAR	**Rarotonga**	**16.79**	**69**	*e*P		Pn	01 32 27.8	-8.0
RAR				pmax		pmax		
	comp=Z,610nm,1.4s							
RAR	**Rarotonga**	**16.79**	**69**	*e*Pn		Pn	01 32 27.8	-8.0
	comp=Z,610nm,1.4s							
RAR				*e*S		Sn	01 35 15.2	-26
MQZ	**McQueen's Vall**	**17.76**	**206**	*e*SN		Sn	01 35 42.0	-22
RPZ	**Rata Peaks**	**18.42**	**209**	P		P	01 32 49.0	-6.6
	comp=Z,5.3nm,0.3s,baz=298,slow=1.3,SNR=31							
RPZ				S		Sn	01 36 00.4	-20
	comp=Z,2.1nm,0.3s,baz=236,slow=20,SNR=6.6							
RPZ	**Rata Peaks**	**18.42**	**209**	*e*P		P	01 32 50.6	-5.0
	comp=Z,62nm,0.9s							
RPZ				*e*S		Sn	01 35 53.6	-27
RPZ	**Rata Peaks**	**18.42**	**209**	*e*SN		Sn	01 35 59.5	-21
ODZ	**Otahua Downs**	**19.67**	**208**	*e*P		**P**	**01 33 06.5**	**-2.7**
	comp=Z,359nm,0.8s							
JCZ	**Jackson Bay**	**19.75**	**213**	*e*P*		**P**	**01 33 05.5**	**-4.6**
WHZ	**Wether Hill Ro**	**21.50**	**210**	*e*P		**P**	**01 33 27.7**	**-1.3**
TBI	**Tubuai**	**24.90**	**85**	*e*P		**P**	**01 34 02.5**	**-0.5**
	comp=Z,214nm,1.0s							
TBI				*e*S		**S**	**01 38 20.5**	**-3.4**
	comp=Z,10µm,30.2s							
TBI				*e*LR		LR	01 40 04.5	
	comp=Z,37µm,29.5s,baz=252							
PAE	**Paea**	**26.95**	**73**	*e*P		**P**	**01 34 21.1**	**-0.5**
	comp=Z,29nm,1.0s							
PPT2	**Papeete2**	**26.99**	**73**	*e*LR		LR	01 40 58.9	
	comp=Z,40µm,28.2s,baz=237							
TIAR	**Tiarei**	**27.20**	**73**	*e*P		**P**	**01 34 23.8**	**0.0**
	comp=Z,214nm,0.9s							
ARMA	**Armidale**	**27.74**	**258**	*e*P		**P**	**01 34 30.6**	**+1.9**
ARMA	**Armidale**	**27.74**	**258**	*e*P		**P**	**01 34 28.5**	**-0.2**
	comp=Z,37nm,0.8s							
MEH	**Mehetia**	**28.14**	**75**	*e*P		**P**	**01 34 32.3**	**0.0**
	comp=Z,113nm,1.1s							
HNR	**Honiara**	**28.87**	**306**	P		**P**	**01 34 37.8**	**-1.0**
	comp=Z,129nm,0.7s,baz=183,slow=11,SNR=4.1							
HNR				LR		LR	01 44 54.9	
	comp=Z,17µm,18.5s,baz=139,slow=34							
HNR	**Honiara**	**28.87**	**306**	P		**P**	**01 34 37.8**	**-1.0**
HNR				pmax		pmax		
	comp=Z,129nm,0.7s							
HNR				MLR		MLR		
	comp=Z,17µm,18.5s							
HNR	**Honiara**	**28.87**	**306**	P		**P**	**01 34 37.8**	**-1.0**
EIDS	**Eidsvold**	**28.93**	**268**	*e*P		**P**	**01 34 39.8**	**+0.5**
	comp=Z,91nm,1.1s							
PMOR	**Pomariorio Ree**	**29.66**	**70**	*e*P		**P**	**01 34 45.3**	**-0.4**
	comp=Z,194nm,1.5s							
CNB	**Canberra Magne**	**29.69**	**247**	*e*P		**P**	**01 34 48.3**	**+2.3**
	comp=Z,262nm,0.8s							
CAN	**Canberra**	**29.99**	**247**	*e*P		**P**	**01 34 49.7**	**+1.1**
CAN				pmax		pmax		
	comp=Z,71nm,0.8s							
CAN				MLR		MLR		
	comp=Z,21µm,20.0s							
CAN	**Canberra**	**29.99**	**247**	*e*P		**P**	**01 34 49.7**	**+1.1**
	comp=Z,71nm,0.8s							
CAN				LR		LR		
	comp=Z,21µm,20.0s							
TARA	**Tarawa**	**31.02**	**339**	PFAKE			01 35 10.0	+12
TARA				LR		LR		
	comp=Z,3µm,20.0s							
TAU	**Tasmania Unive**	**32.55**	**233**	PFAKE			01 35 20.0	+9.0
TAU				LR		LR		
	comp=Z,16µm,22.0s							
TOO	**Toolangi**	**32.99**	**244**	*e*P		**P**	**01 35 16.7**	**+1.7**
	comp=Z,233nm,0.8s							
CTA	**Charters Tower**	**34.72**	**275**	P		**P**	**01 35 30.6**	**+0.5**
	comp=Z,48nm,0.8s,baz=101,slow=10,SNR=73							
CTA				PcP		**PcP**	**01 38 04.5**	**+0.9**
	comp=Z,11nm,0.9s,baz=111,slow=5.6,SNR=3.5							
CTA				LR		LR	01 48 30.2	
	comp=Z,48µm,18.3s,baz=111,slow=34							
CTA	**Charters Tower**	**34.72**	**275**	*e*P		**P**	**01 35 30.2**	**+0.1**
	comp=Z,38nm,0.8s							
CTA	**Charters Tower**	**34.72**	**275**	P		**P**	**01 35 30.6**	**+0.5**
CTA							01 38 04.5	
CTA				pmax		pmax		
	comp=Z,48nm,0.8s							
CTA				MLR		MLR		
	comp=Z,48µm,18.3s							
CTA	**Charters Tower**	**34.72**	**275**	P		**P**	**01 35 30.6**	**+0.5**
CTA				PcP		**PcP**	**01 38 04.5**	**+0.9**
CTAO	**Charters Tower**	**34.72**	**275**	*e*P		**P**	**01 35 30.1**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,86nm,1.0s							
CTAO				MLR		MLR		
	comp=Z,46µm,19.0s							
CTAO	**Charters Tower**	**34.72**	**275**	*e*P		**P**	**01 35 30.1**	**-0.1**
	comp=Z,86nm,1.0s							
CTAO				LR		LR		
	comp=Z,46µm,19.0s							
XMAS	**Kiritimati**	**35.23**	**35**	PFAKE			01 35 50.0	+15
XMAS				LR		LR		
	comp=Z,10µm,19.0s							
STKA	**Stephens Creek**	**36.21**	**254**	P		**P**	**01 35 43.0**	**+0.1**
	comp=Z,62nm,0.8s,baz=89,slow=8.8,SNR=52							
STKA				LR		LR	01 49 27.5	
	comp=Z,18µm,18.1s,baz=88,slow=34							
STKA	**Stephens Creek**	**36.21**	**254**	*e*P		**P**	**01 35 42.5**	**-0.4**
	comp=Z,48nm,0.8s							
STKA	**Stephens Creek**	**36.21**	**254**	*e*P		**P**	**01 35 42.5**	**-0.4**
STKA				pmax		pmax		
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**36.21**	**254**	*e*P		**P**	**01 35 42.5**	**-0.4**
	comp=Z,11nm,0.8s							
RKT	**Rikitea**	**37.75**	**92**	*e*S		**S**	**01 41 41.3**	**-2.8**
	comp=Z,3µm,29.2s							
RKT				*e*LR		LR	01 46 01.1	
	comp=Z,22µm,29.5s,baz=253							
PMG	**Port Moresby**	**38.82**	**292**	LR		LR	01 50 07.3	
	comp=Z,16µm,18.8s,baz=106,slow=33							
PMG	**Port Moresby**	**38.82**	**292**	*e*P		**P**	**01 36 04.3**	**-0.8**
PMG				pmax		pmax		
	comp=Z,97nm,1.7s							
PMG	**Port Moresby**	**38.82**	**292**	*e*P		**P**	**01 36 05.5**	**+0.4**
	comp=Z,96nm,1.3s							
PMG	**Port Moresby**	**38.82**	**292**	P		**P**	**01 36 07.6**	**+2.5**
	comp=Z,68nm,1.3s,comp=Z,2µm							
COEN	**Coen**	**39.90**	**282**	*e*P		**P**	**01 36 13.8**	**-0.3**
	comp=Z,141nm,0.8s							
BBOO	**Buckleboo**	**40.78**	**251**	*e*P		**P**	**01 36 19.5**	**-1.8**
	comp=Z,1µm,0.9s							
AS31	**Alice Springs**	**44.49**	**264**	*e*P		**P**	**01 36 50.0**	**-1.5**
ASAR	**Alice Springs**	**44.49**	**264**	P		**P**	**01 36 50.6**	**-0.9**
	comp=Z,30nm,0.8s,baz=95,slow=6.6,SNR=166							
ASAR				PcP		**PP**	**01 38 36.1**	**+0.5**
	comp=Z,9.3nm,0.9s,baz=120,slow=4.2,SNR=4.8							
ASAR				ScP		**ScP**	**01 42 26.2**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=121,slow=4.4,SNR=2.8							
ASAR				S		**S**	**01 43 23.9**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=104,slow=15,SNR=3.6							
ASAR	**Alice Springs**	**44.49**	**264**	P		**P**	**01 36 50.6**	**-0.9**
ASAR							01 38 36.1	
ASAR				S		**S**	**01 43 23.9**	**-0.5**
ASAR				pmax		pmax		
	comp=Z,31nm,0.8s							
ASAR				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ASAR				smax		smax		
	comp=N,2.0nm,1.0s							
ASAR	**Alice Springs**	**44.49**	**264**	P		**P**	**01 36 50.6**	**-0.9**
ASAR				PcP		**PP**	**01 38 36.1**	**+0.5**
ASAR				ScP		**ScP**	**01 42 26.2**	**+2.4**
ASAR				S		**S**	**01 43 23.9**	**-0.5**
WB2	**Warramunga Arr**	**45.27**	**269**	*e*P		**P**	**01 36 56.1**	**-1.6**
WRAB	**Tennant Creek**	**45.27**	**269**	*e*P		**P**	**01 36 56.2**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,160nm,1.3s							
WRAB				MLR		MLR		
	comp=Z,8µm,19.0s							
WRAB	**Tennant Creek**	**45.27**	**269**	*e*P		**P**	**01 36 56.2**	**-1.5**
	comp=Z,160nm,1.3s							
WRAB				LR		LR		
	comp=Z,8µm,19.0s							
WRAB	**Tennant Creek**	**45.27**	**269**	P		**P**	**01 36 56.0**	**-1.7**
	comp=Z,344nm,0.9s,SNR=26							
WRA	**Warramunga Arr**	**45.28**	**269**	P		**P**	**01 36 56.8**	**-1.0**
	comp=Z,43nm,0.9s,baz=107,slow=7.9,SNR=134							
WRA				PcP		**PcP**	**01 38 37.5**	**+0.3**
	comp=Z,14nm,0.8s,baz=111,slow=3.2,SNR=5.7							
WRA				S		**S**	**01 43 32.7**	**-3.2**
	comp=Z,2.0nm,0.8s,baz=108,slow=14,SNR=5.3							
WRA				LR		LR	01 55 23.9	
	comp=Z,12µm,18.0s,baz=110,slow=35							
WRA				P4KPbc			02 14 50.6	
	comp=Z,0.6nm,0.8s,baz=100,slow=4.3,SNR=4.8							
WRA	**Warramunga Arr**	**45.28**	**269**	P		**P**	**01 36 56.8**	**-1.0**
WRA							01 38 37.6	
WRA				S		**S**	**01 43 32.7**	**-3.2**
WRA				pmax		pmax		
	comp=Z,43nm,0.9s							
WRA				smax		smax		
	comp=N,2.0nm,0.8s							
WRA				MLR		MLR		
	comp=Z,12µm,18.0s							
WRA	**Warramunga Arr**	**45.28**	**269**	P		**P**	**01 36 56.8**	**-1.0**
WRA				PcP		**PcP**	**01 38 37.5**	**+0.3**
WRA				S		**S**	**01 43 32.7**	**-3.2**
WRA				*e*			02 14 50.6	
DRV	**Dumont d'Urvil**	**46.66**	**202**	P		P	01 37 04.0	-4.0
DRV	**Dumont d'Urvil**	**46.66**	**202**	PP		PP	01 38 58.0	+0.1
DRV				S		S	01 43 42.0	-13
DRV				SS		**ScS**	**01 46 56.0**	**-3.3**
DRV				L		L	01 49 00.0	
DRV				R			01 53 00.0	
FORT	**Forrest**	**47.82**	**253**	*e*P		**P**	**01 37 15.5**	**-2.1**
	comp=Z,153nm,0.8s							
FORT	**Forrest**	**47.82**	**253**	*e*P		**P**	**01 37 15.4**	**-2.1**
	comp=Z,185nm,0.8s							
WAKE	**Wake Island**	**49.86**	**339**	PFAKE			01 37 50.0	+17
WAKE				LR		LR		
	comp=Z,11µm,19.0s							
SBA	**Scott Base**	**50.36**	**185**	*e*P		**P**	**01 37 37.7**	**+1.4**
SBA				pmax		pmax		
	comp=Z,151nm,1.2s							
SBA				MLR		MLR		
	comp=Z,7µm,21.0s							
SBA	**Scott Base**	**50.36**	**185**	*e*P		**P**	**01 37 37.7**	**+1.4**
	comp=Z,151nm,1.2s							
SBA				LR		LR		
	comp=Z,7µm,21.0s							
VNDA	**Vanda**	**50.44**	**186**	*e*P		**P**	**01 37 38.9**	**+2.0**
VNDA				pmax		pmax		
	comp=Z,119nm,1.6s							
VNDA				MLR		MLR		
	comp=Z,6µm,20.0s							
VNDA	**Vanda**	**50.44**	**186**	*e*P		**P**	**01 37 38.9**	**+2.0**
	comp=Z,119nm,1.6s							
VNDA				LR		LR		
	comp=Z,6µm,20.0s							
KIP	**Kipapa**	**52.47**	**22**	*ce*P		**P**	**01 37 54.8**	**+2.1**
KIP				pmax		pmax		
	comp=Z,135nm,1.2s							
FITZ	**Fitzroy Crossi**	**53.62**	**268**	P		**P**	**01 38 00.5**	**-0.9**
	comp=Z,37nm,0.8s,baz=119,slow=7.2,SNR=29							
FITZ				LR		LR	02 00 33.6	
	comp=Z,24µm,18.3s,baz=118,slow=36							
FITZ	**Fitzroy Crossi**	**53.62**	**268**	*e*P		**P**	**01 38 00.2**	**-1.2**
	comp=Z,67nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.62**	**268**	*e*P		**P**	**01 38 00.0**	**-1.4**
	comp=Z,111nm,1.3s							
GUMO	**Guam**	**55.79**	**313**	PFAKE			01 38 30.0	+13
GUMO				LR		LR		
	comp=Z,6µm,21.0s							
MIDW	**Midway**	**56.06**	**359**	PFAKE			01 38 30.0	+11
MIDW				LR		LR		
	comp=Z,8µm,20.0s							
KLBR	**Kellerberrin**	**56.24**	**249**	*e*P		**P**	**01 38 17.6**	**-2.7**
	comp=Z,67nm,0.9s							
NWAO	**Narrogin (SRO)**	**56.34**	**248**	P		**P**	**01 38 19.8**	**-1.2**
	comp=Z,19nm,1.0s,baz=106,slow=7.4,SNR=5.4							
NWAO				LR		LR	02 00 15.7	
	comp=Z,6µm,19.2s,baz=104,slow=34							
NWAO	**Narrogin (SRO)**	**56.34**	**248**	P		**P**	**01 38 19.8**	**-1.2**
NWAO				pmax		pmax		
	comp=Z,19nm,1.0s							
NWAO	**Narrogin (SRO)**	**56.34**	**248**	P		**P**	**01 38 19.8**	**-1.2**
CASY	**Casey**	**57.68**	**207**	*e*P		**P**	**01 38 29.5**	**-0.3**
CASY	**Casey**	**57.68**	**207**	*e*P		**P**	**01 38 29.3**	**-0.5**
	comp=Z,58nm,0.8s							
CASY				LR		LR		
	comp=Z,5µm,19.0s							
MBWA	**Marble Bar**	**57.71**	**262**	*e*P		**P**	**01 38 28.4**	**-2.3**
MBWA	**Marble Bar**	**57.71**	**262**	*e*P		**P**	**01 38 28.7**	**-2.0**
	comp=Z,53nm,1.1s							
MBWA				LR		LR		
	comp=Z,26µm,20.0s							
RPN	**Rapa Nui**	**58.88**	**106**	LR		LR	01 57 37.8	
	comp=Z,3µm,20.0s,baz=266,slow=29							
QSPA	**South Pole Qui**	**61.94**	**180**	P		**P**	**01 38 59.8**	**+0.5**
	comp=Z,29nm,0.9s,baz=29,slow=3.6,SNR=33							
QSPA	**South Pole Qui**	**61.94**	**180**	*e*P		**P**	**01 38 59.8**	**+0.5**
	comp=Z,33nm,0.7s							
QSPA				LR		LR		
	comp=Z,10µm,20.0s							
KAPI	**Kappang**	**64.44**	**278**	P		**P**	**01 39 15.7**	**-0.8**
	comp=Z,6.0nm,0.7s,baz=133,slow=9.5,SNR=20							
KAPI	**Kappang**	**64.44**	**278**	*e*P		**P**	**01 39 13.8**	**-2.7**
	comp=Z,257nm,1.9s							
KAPI				LR		LR		
	comp=Z,6µm,19.0s							
KAPI	**Kappang**	**64.44**	**278**	P		**P**	**01 39 14.9**	**-1.6**
	comp=Z,71nm,2.5s,comp=Z,2µm							
MIR	**Mirnyy**	**64.66**	**206**	*i*P		**P**	**01 39 17.0**	**-0.1**
MIR				*i*			01 39 34.0	
MIR				*e*S		**S**	**01 47 59.0**	**+4.8**
MIR				*e*			01 49 14.0	
MIR				pmax		pmax		
	comp=Z,315nm,2.0s							
MIR				pmax		pmax		
	comp=E,1µm,2.8s							
MIR				smax		smax		
	comp=E,1µm,8.0s							
MIR				smax		smax		
	comp=N,2µm,13.0s							
DAV	**Davao City (W)**	**65.82**	**293**	P		**P**	**01 39 26.3**	**+0.9**
	comp=N,108nm,0.4s,baz=159,slow=6.8,SNR=3.5							
DAV	**Davao City (W)**	**65.82**	**293**	P		**P**	**01 39 26.3**	**+0.9**
DAV				LR		LR		
	comp=Z,4µm,19.0s							
KHKI	**Kahang-Kahang**	**66.53**	**273**	P		**P**	**01 39 29.5**	**-0.5**
	comp=Z,65nm,1.6s,comp=Z,2µm							
JAGI	**Jajag, Banyuwa**	**67.76**	**272**	P		**P**	**01 39 36.9**	**-1.0**
	comp=Z,116nm,1.2s,comp=Z,2µm							
GMJI	**Gumukmas**	**68.47**	**272**	P		**P**	**01 39 42.2**	**-0.1**
	comp=Z,79nm,1.5s							
BLJI	**Banyuglugur**	**68.58**	**273**	P		**P**	**01 39 43.7**	**+0.7**
	comp=Z,118nm,0.7s,comp=Z,3µm							
PWJI	**Pagerwojo**	**70.04**	**271**	P		**P**	**01 39 52.3**	**+0.3**
	comp=Z,87nm,2.4s,comp=Z,3µm							
SJI	**Sawahan**	**70.20**	**272**	P		**P**	**01 39 53.3**	**+0.2**
	comp=Z,88nm,0.9s,comp=Z,3µm							
PCJI	**Pacitan**	**70.51**	**271**	P		**P**	**01 39 54.8**	**-0.1**
	comp=Z,306nm,0.9s,comp=Z,5µm							
MYLDM	**Lahad Datu**	**70.66**	**287**	P		**P**	**01 39 56.7**	**+1.0**
MYLDM	**Lahad Datu**	**70.66**	**287**	P		**P**	**01 39 58.9**	**+3.1**
	comp=Z,40nm,1.3s,comp=Z,2µmcomp=Z,20µm							
TSM	**Tawau**	**70.72**	**286**	P		**P**	**01 39 56.0**	**-0.2**
UGM	**Wanagama**	**71.22**	**271**	P		**PcP**	**01 40 15.1**	**-4.0**
SDKM	**Sandakan**	**72.00**	**287**	P		**P**	**01 40 03.3**	**-0.7**
BJII	**Banjamegara**	**72.20**	**271**	P		**P**	**01 40 06.5**	**+1.3**
	comp=Z,68nm,3.1s,comp=Z,3µm							
KDM	**Kudat**	**72.98**	**288**	P		**P**	**01 40 08.3**	**-1.4**
KKM	**Kota Kinabalu**	**73.04**	**287**	*e*P		**P**	**01 40 09.1**	**-1.2**
	comp=Z,189nm,1.5s							
KKM				LR		LR		
	comp=Z,3µm,22.0s							
KKM	**Kota Kinabalu**	**73.04**	**287**	P		**P**	**01 40 10.0**	**-0.2**
KKM	**Kota Kinabalu**	**73.04**	**287**	P		**P**	**01 40 11.6**	**+1.4**
	comp=Z,95nm,1.5s,comp=Z,2µm							
CISI	**Cisompet, Garu**	**73.77**	**270**	P		**P**	**01 40 13.9**	**-0.6**
PMSA	**Palmer Station**	**73.80**	**156**	PFAKE			01 40 30.0	+16
PMSA				LR		LR		
	comp=Z,4µm,20.0s							
BTM	**Bintulu**	**74.27**	**282**	P		**P**	**01 40 17.7**	**+0.4**
LEM	**Lembang**	**74.27**	**271**	P		**P**	**01 40 17.4**	**-0.2**
SBUM	**Sibu**	**74.64**	**281**	P		**P**	**01 40 19.1**	**-0.4**
SBUM	**Sibu**	**74.64**	**281**	P		**P**	**01 40 19.2**	**-0.2**
	comp=Z,88nm,2.3s,comp=Z,2µm							
MAW	**Mawson**	**74.82**	**200**	P		**P**	**01 40 21.0**	**+1.5**
	comp=Z,25nm,0.8s,baz=147,slow=6.0,SNR=9.4							
MAW				LR		LR	02 13 06.2	
	comp=Z,9µm,18.3s,baz=119,slow=36							
MAW	**Mawson**	**74.82**	**200**	*e*P		**P**	**01 40 22.4**	**+2.8**
	comp=Z,35nm,1.1s							
MAW	**Mawson**	**74.82**	**200**	*e*P		**P**	**01 40 21.1**	**+1.5**
MAW				pmax		pmax		
	comp=Z,20nm,1.2s							
MAW	**Mawson**	**74.82**	**200**	*e*P		**P**	**01 40 21.1**	**+1.5**
	comp=Z,20nm,1.2s							
KSM	**Kuching**	**75.82**	**279**	*e*P		**P**	**01 40 25.5**	**-0.8**
	comp=Z,86nm,0.8s							
KSM				LR		LR		
	comp=Z,6µm,20.0s							
KSM	**Kuching**	**75.82**	**279**	P		**P**	**01 40 25.8**	**-0.5**
KSM	**Kuching**	**75.82**	**279**	P		**P**	**01 40 25.6**	**-0.7**
	comp=Z,137nm,0.9s,comp=Z,2µmcomp=Z,6µm							
JOW	**Kunigami**	**76.08**	**311**	LR		LR	02 10 44.8	
	comp=Z,1nm,18.6s,baz=90,slow=33							
MJAR	**Matsushiro Arr**	**77.11**	**324**	P		**P**	**01 40 33.2**	**+0.1**
	comp=Z,27nm,0.6s,baz=166,slow=6.0,SNR=58							
MJAR				LR		LR	02 10 04.9	
	comp=Z,4µm,21.1s,baz=150,slow=32							
MJAR	**Matsushiro Arr**	**77.11**	**324**	P		**P**	**01 40 33.2**	**+0.1**
MJAR				pmax		pmax		
	comp=Z,27nm,0.6s							
MJAR	**Matsushiro Arr**	**77.11**	**324**	P		**P**	**01 40 33.2**	**+0.1**
MAJO	**Matsushiro**	**77.12**	**324**	*e*P		**P**	**01 40 32.9**	**-0.2**
MAJO				pmax		pmax		
	comp=Z,58nm,0.8s							
MAJO				MLR		MLR		
	comp=Z,4µm,21.0s							
MAJO	**Matsushiro**	**77.12**	**324**	*e*P		**P**	**01 40 32.9**	**-0.2**
	comp=Z,58nm,0.8s							
MAJO				LR		LR		
	comp=Z,4µm,21.0s							
MAT	**Matsushiro**	**77.12**	**324**	P		**P**	**01 40 32.8**	**-0.3**
MAT				S		**S**	**01 50 19.0**	**-0.5**
JNU	**Nakatsue**	**78.71**	**317**	P		**P**	**01 40 42.0**	**0.0**
	comp=Z,27nm,0.9s,baz=85,slow=4.5,SNR=6.2							
JNU	**Nakatsue**	**78.71**	**317**	*e*P		**P**	**01 40 40.9**	**-1.2**
	comp=Z,25nm,1.1s							
ERM	**Erimo**	**79.09**	**

PLCA Paso Flores 83.14 133 P P 01 41 06.4 +0.6
comp=Z,21nm,0.8s,baz=218,slow=4.8,SNR=34
PLCA LR LR 02 09 09.8
comp=Z,3μm,21.6s,baz=247,slow=29
PLCA Paso Flores 83.14 133 P P 01 41 06.4 +0.6
PLCA pmax pmax
comp=Z,21nm,0.8s
PLCA Paso Flores 83.14 133 eP P 01 41 07.3 +1.5
PLCA pmax pmax
comp=Z,51nm,1.2s
PLCA Paso Flores 83.14 133 eP P 01 41 07.3 +1.5
comp=Z,51nm,1.2s
YSS Yuzh-Sakhalins 83.28 333 α *i*P **P 01 41 08.0 +2.1**
YSS *e*S **S 01 51 27.0 +3.4**
YSS pmax pmax
comp=Z,180nm,1.2s
YSS Yuzh-Sakhalins 83.28 333 eP P 01 41 07.3 +1.4
comp=Z,411nm,1.4s
YSS LR LR
comp=Z,1μm,20.0s
MURC Murrieta 83.32 46 ⇓P **P 01 41 06.9 +0.3**
baz=84
MURC ⇓P **P 01 41 06.9 +0.3**
baz=84
MURC ⇓P **P 01 41 06.9 +0.3**
baz=84
MONP Monument Peak 83.37 47 ⇓P **P 01 41 07.5 +0.4**
baz=84
MONP ⇓P **P 01 41 07.5 +0.4**
baz=84
MONP ⇓P **P 01 41 07.5 +0.4**
baz=84
HOPS Hopland 83.42 39 eP P 01 41 09.6 +2.7
comp=Z,67nm,1.5s
KSRS Korea Array 83.45 319 P P 01 41 08.2 +1.1
comp=Z,20nm,0.9s,baz=141,slow=5.9,SNR=28
KSRS LR LR 02 17 44.4
comp=Z,2μm,19.0s,baz=124,slow=35
KSRS Korea Array 83.45 319 P P 01 41 08.2 +1.1
KSRS pmax pmax
comp=Z,20nm,0.9s
KSRS MLR MLR
comp=Z,2μm,19.0s
KSAR Wonju Array Be 83.46 319 P P 01 41 08.2 +1.1
KSAR Wonju Array Be 83.46 319 P P 01 41 08.2 +1.1
SSE Sheshan 83.57 310 P P 01 41 08.4 +0.6
SSE PP **PP 01 44 21.0 0.0**
SSE S **S 01 51 25.0 -2.3**
SSE SS **SS 01 56 52.9 -1.8**
SSE pmax pmax
comp=Z,36nm,1.1s
SSE pmax pmax
comp=Z,1μm,9.5s
SSE LR LR
comp=N,2μm,26.3s
SSE LR LR
comp=E,2μm,26.3s
SSE LR LR
comp=Z,2μm,27.6s
VES Vestal, Richgr 83.60 44 ⇑P **P 01 41 08.3 +0.4**
baz=84,SNR=10.0
VES ⇑P **P 01 41 08.3 +0.4**
baz=84,SNR=10.0
VES ⇑P **P 01 41 08.3 +0.4**
baz=84,SNR=10.0
EDW2 Edwards Air Fo 83.65 45 ⇓P **P 01 41 08.8 +0.5**
baz=84,SNR=14
EDW2 ⇓P **P 01 41 08.8 +0.5**
baz=84,SNR=14
EDW2 ⇓P **P 01 41 08.8 +0.5**
baz=84,SNR=14
PET Petropavlovsk 83.67 345 eP P 01 41 07.7 -0.1
PET *e*S **S 01 51 26.1 -1.2**
PET *e*SS **SS 01 56 49.0 -6.3**
PET pmax pmax
comp=Z,1μm,5.3s
PET pmax pmax
comp=Z,37nm,1.2s
PET pmax pmax
comp=Z,1μm,11.6s
PET Petropavlovsk 83.67 345 PFAKE 01 41 20.0 +12
PET LR LR
comp=Z,3μm,20.0s
KIPM Iron Peak 83.76 38 eP P 01 41 12.3 +3.4
comp=Z,91nm,1.6s
PFO Pinyon Flat Ob 83.80 47 eP P 01 41 09.6 +0.4
PFO pmax pmax
comp=Z,41nm,1.5s
PFO MLR MLR
comp=Z,4μm,19.0s
PFO Pinyon Flat Ob 83.80 47 eP P 01 41 09.6 +0.4
comp=Z,41nm,1.5s
PFO LR LR
comp=Z,4μm,19.0s
ISA Isabella 83.86 44 eP P 01 41 10.1 +0.8
ISA pmax pmax
comp=Z,57nm,1.4s
ISA Isabella 83.86 44 eP P 01 41 10.1 +0.8
comp=Z,57nm,1.4s
ISA Isabella 83.86 44 ⇑P **P 01 41 10.2 +0.8**
baz=84,SNR=22
ISA ⇑P **P 01 41 10.2 +0.8**
baz=84,SNR=22
ISA ⇑P **P 01 41 10.2 +0.8**
baz=84,SNR=22
KTGM Kuala Trenggan 83.94 279 P P 01 41 10.4 +0.2
PEA0B Petropavlovsk- 83.96 345 eP P 01 41 09.6 +0.3
PETK Petropavlovsk- 83.96 345 P P 01 41 09.9 +0.6
comp=Z,33nm,0.9s,baz=140,slow=7.8,SNR=19
PETK LR LR 02 18 23.9
comp=Z,3μm,18.8s,baz=170,slow=36
PETK Petropavlovsk- 83.96 345 P P 01 41 10.0 +0.6
PETK pmax pmax
comp=Z,33nm,0.9s
PETK MLR MLR
comp=Z,3μm,18.8s
PETK Petropavlovsk- 83.96 345 P P 01 41 09.9 +0.6
EFI East Falkland 84.00 147 eP P 01 41 09.1 -0.7
EFI pmax pmax
comp=Z,267nm,1.7s
EFI MLR MLR
comp=Z,5μm,22.0s
EFI East Falkland 84.00 147 eP P 01 41 09.1 -0.7
comp=Z,267nm,1.7s
EFI LR LR
comp=Z,5μm,22.0s
INCN Inchon 84.22 318 PFAKE 01 41 20.0 +8.9
INCN LR LR
comp=Z,2μm,19.0s
LRMC Laurel Mountai 84.22 45 ⇓P **P 01 41 12.1 +0.8**
baz=85,SNR=8.5
LRMC ⇓P **P 01 41 12.1 +0.8**
baz=85,SNR=8.5
LRMC ⇓P **P 01 41 12.1 +0.8**
baz=85,SNR=8.5
FRIM Kepong 84.26 277 P P 01 41 10.8 -1.0
CMB Columbia Colle 84.29 41 eP P 01 41 11.5 0.0
CMB pmax pmax
comp=Z,31nm,1.1s
CMB Columbia Colle 84.29 41 eP P 01 41 11.5 0.0
comp=Z,31nm,1.1s
BELC Belle Mtn. Jos 84.34 47 ⇑P **P 01 41 12.7 +0.8**
baz=85
BELC ⇑P **P 01 41 12.7 +0.8**
baz=85
BELC ⇑P **P 01 41 12.7 +0.8**
baz=85
KHMM Horse Mountain 84.38 37 eP P 01 41 12.6 +0.6
comp=Z,43nm,1.2s
BC3 Big Chuckawall 84.48 47 ⇑P **P 01 41 13.7 +1.1**
baz=85
BC3 ⇑P **P 01 41 13.7 +1.1**
baz=85
BC3 ⇑P **P 01 41 13.7 +1.1**
baz=85
GLA Glamis 84.51 48 eP P 01 41 14.0 +1.3
GLA pmax pmax
comp=Z,42nm,1.2s
GLA Glamis 84.51 48 eP P 01 41 14.0 +1.3
comp=Z,42nm,1.2s
GLA Glamis 84.51 48 ⇑P **P 01 41 13.8 +1.1**
baz=85
GLA ⇑P **P 01 41 13.8 +1.1**
baz=85
GLA ⇑P **P 01 41 13.8 +1.1**
baz=85
CWC Cottonwood Cre 84.61 44 ⇑P **P 01 41 14.0 +0.7**
baz=85,SNR=12
CWC ⇑P **P 01 41 14.0 +0.7**
baz=85,SNR=12
CWC ⇑P **P 01 41 14.0 +0.7**
baz=85,SNR=12
HEC Hector,Ludlow 84.66 46 ⇑P **P 01 41 14.1 +0.6**
baz=85,SNR=9.2
HEC ⇑P **P 01 41 14.1 +0.6**
baz=85,SNR=9.2
HEC ⇑P **P 01 41 14.1 +0.6**
baz=85,SNR=9.2
GSC Goldstone 84.66 45 eP P 01 41 13.9 +0.5
GSC pmax pmax
comp=Z,50nm,1.3s
GSC Goldstone 84.66 45 eP P 01 41 13.9 +0.5
comp=Z,50nm,1.3s
GSC Goldstone 84.66 45 ⇑P **P 01 41 14.0 +0.5**
baz=85,SNR=14
GSC ⇑P **P 01 41 14.0 +0.5**
baz=85,SNR=14
GSC ⇑P **P 01 41 14.0 +0.5**
baz=85,SNR=14
MPMC Manual Prospec 84.72 44 ⇑P **P 01 41 14.6 +0.7**
baz=85,SNR=21
MPMC ⇑P **P 01 41 14.6 +0.7**
baz=85,SNR=21
MPMC ⇑P **P 01 41 14.6 +0.7**
baz=85,SNR=21
KRMB Red Mountain 84.74 37 eP P 01 41 16.0 +2.3
comp=Z,76nm,1.5s
DAC Darwin (Calif) 84.80 44 PFAKE 01 41 30.0 +16
DAC LR LR
comp=Z,3μm,19.0s
WDC Whiskeytown Da 84.82 38 eP P 01 41 14.5 +0.5
WDC pmax pmax
comp=Z,70nm,1.3s
WDC Whiskeytown Da 84.82 38 eP P 01 41 14.4 +0.5
comp=Z,70nm,1.3s
MLAC Mammoth Lakes 84.93 42 ⇑P **P 01 41 16.3 +1.3**
baz=85
MLAC ⇑P **P 01 41 16.3 +1.3**
baz=85
MLAC ⇑P **P 01 41 16.3 +1.3**
baz=85
IRM Iron Mountain 84.99 47 ⇓P **P 01 41 16.0 +0.9**
baz=85,SNR=17
IRM ⇓P **P 01 41 16.0 +0.9**
baz=85,SNR=17
IRM ⇓P **P 01 41 16.0 +0.9**
baz=85,SNR=17
113A Mohawk Valley, 85.03 49 ⇑P **P 01 41 15.9 +0.7**
baz=85
113A ⇑P **P 01 41 15.9 +0.7**
baz=85
113A ⇑P **P 01 41 15.9 +0.7**
baz=85
GMRC Granite Mounta 85.05 46 ⇓P **P 01 41 15.9 +0.4**
baz=85,SNR=7.7
GMRC ⇓P **P 01 41 15.9 +0.4**
baz=85,SNR=7.7
GMRC ⇓P **P 01 41 15.9 +0.4**
baz=85,SNR=7.7
QIZ Qiongzhong 85.15 294 P **P 01 41 16.5 +0.3**
QIZ S **S 01 51 44.9 +1.3**
QIZ LR LR
comp=N,1μm,16.6s
QIZ LR LR
comp=Z,2μm,19.5s
QIZ Qiongzhong 85.15 294 PFAKE 01 41 30.0 +14
QIZ LR LR
comp=Z,2μm,20.0s
214A Organ Pipe Nat 85.18 50 ⇓P **P 01 41 17.0 +0.9**
baz=86
214A ⇓P **P 01 41 17.0 +0.9**
baz=86
214A ⇓P **P 01 41 17.0 +0.9**
baz=86
VLA Vladivostok 85.25 325 eP P 01 41 16.4 +0.3
VLA pmax pmax
comp=Z,154nm,2.5s
TUQ Turquoise Moun 85.30 46 ⇑P **P 01 41 17.8 +1.1**
baz=86,SNR=14
TUQ ⇑P **P 01 41 17.8 +1.1**
baz=86,SNR=14
TUQ ⇑P **P 01 41 17.8 +1.1**
baz=86,SNR=14
IPM Ipoh 85.37 278 eP P 01 41 16.8 -0.7
comp=Z,52nm,0.9s
IPM Ipoh 85.37 278 P P 01 41 17.6 +0.1
Z13A Yuma Proving G 85.37 49 ⇑P **P 01 41 17.9 +0.9**
baz=86
Z13A ⇑P **P 01 41 17.9 +0.9**
baz=86
Z13A ⇑P **P 01 41 17.9 +0.9**
baz=86
FURC Furnace Creek, 85.38 44 ⇑P **P 01 41 17.8 +1.0**
baz=86,SNR=11
FURC ⇑P **P 01 41 17.8 +1.0**
baz=86,SNR=11
FURC ⇑P **P 01 41 17.8 +1.0**
baz=86,SNR=11
GRAC Grapevine Rang 85.41 44 ⇓P **P 01 41 18.2 +1.1**
baz=86
GRAC ⇓P **P 01 41 18.2 +1.1**
baz=86
GRAC ⇓P **P 01 41 18.2 +1.1**
baz=86
WCN Washoe City 85.51 41 eP P 01 41 18.3 +0.6
WCN pmax pmax
comp=Z,32nm,1.0s
WCN Washoe City 85.51 41 eP P 01 41 18.3 +0.6
comp=Z,32nm,1.0s
WCN Washoe City 85.51 41 ⇑P **P 01 41 18.4 +0.7**
baz=86
WCN ⇑P **P 01 41 18.4 +0.7**
baz=86
WCN ⇑P **P 01 41 18.4 +0.7**
baz=86
YBH Yreka Blue Hor 85.53 37 P **P 01 41 18.6 +0.9**
comp=Z,11nm,1.0s,baz=160,slow=0.1,SNR=19
YBH LR LR 02 14 38.0
comp=Z,3μm,18.5s,baz=235,slow=32
YBH Yreka Blue Hor 85.53 37 eP P 01 41 18.2 +0.6
YBH pmax pmax
comp=Z,69nm,1.5s
YBH Yreka Blue Hor 85.53 37 eP P 01 41 18.2 +0.6
comp=Z,69nm,1.5s
LDFC Landfair 85.59 46 eP P 01 41 19.4 +1.3
comp=Z,102nm,1.2s
114A Black Gap (USA 85.61 49 ⇓P **P 01 41 19.7 +1.6**
baz=86
114A ⇓P **P 01 41 19.7 +1.6**
baz=86
114A ⇓P **P 01 41 19.7 +1.6**
baz=86
NJ2 Nanjing 85.72 310 eP P 01 41 18.6 -0.1
NJ2 pP **pP 01 41 29.1 -1.2**
NJ2 sP **sP 01 41 32.6 -1.9**
NJ2 PP **PP 01 44 40.0 +1.4**
NJ2 pmax pmax
comp=Z,70nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,11.4s
NJ2 LR LR
comp=N,2μm,19.0s
NJ2 LR LR
comp=E,4μm,29.3s
NJ2 LR LR
comp=Z,3μm,25.3s
PDMCI Parker Dam,Lak 85.73 47 ⇑P **P 01 41 20.0 +1.3**
baz=86,SNR=7.3
PDMCI ⇑P **P 01 41 20.0 +1.3**
baz=86,SNR=7.3
PDMCI ⇑P **P 01 41 20.0 +1.3**
baz=86,SNR=7.3
NVAR Mina Array Bea 85.78 42 P **P 01 41 19.9 +0.8**
comp=Z,13nm,0.9s,baz=222,slow=8.3,SNR=55
NVAR PKPPKP P'P'df 02 07 30.5 +6.0
comp=Z,1.0nm,1.0s,baz=102,slow=1.6,SNR=4.6
NVAR LR LR 02 16 13.5
comp=Z,9μm,18.3s,baz=114,slow=33
NVAR Mina Array Bea 85.78 42 P **P 01 41 19.9 +0.8**
NVAR P'P' 02 07 30.5
Z14A Wintersburg 85.94 49 ⇓P **P 01 41 21.0 +1.2**
baz=86
Z14A ⇓P **P 01 41 21.0 +1.2**
baz=86
Z14A ⇓P **P 01 41 21.0 +1.2**
baz=86
USRK Ussuriysk Arra 85.97 326 P **P 01 41 20.3 +0.7**
comp=Z,38nm,0.9s,baz=138,slow=3.2,SNR=46
USRK LR LR 02 14 45.7
comp=Z,3μm,20.2s,baz=104,slow=32
HUMO Hull Mountain 86.01 37 eP P 01 41 20.7 +0.8
comp=Z,42nm,1.3s
TPH Tonopah 86.19 43 PFAKE 01 41 30.0 +8.8
TPH LR LR
comp=Z,2μm,21.0s
Y14A Wickenburg 86.25 48 ⇑P **P 01 41 22.2 +0.8**
baz=87,SNR=16
Y14A ⇑P **P 01 41 22.2 +0.8**
baz=87,SNR=16
Y14A ⇑P **P 01 41 22.2 +0.8**
baz=87,SNR=16
W13A Hualapai Mount 86.39 47 ⇑P **P 01 41 23.3 +1.1**
baz=87,SNR=17
W13A ⇑P **P 01 41 23.3 +1.1**
baz=87,SNR=17
W13A ⇑P **P 01 41 23.3 +1.1**
baz=87,SNR=17
PSI Prapat 86.42 275 P **P 01 41 21.3 -1.5**
comp=Z,72nm,1.4s,comp=Z,1μm
PAYG Puerto Ayora 86.45 89 PFAKE 01 41 30.0 +7.2
PAYG LR LR
comp=Z,3μm,19.0s
TUC Tucson 86.77 51 eP P 01 41 25.2 +1.2
TUC pmax pmax
comp=Z,79nm,1.4s
TUC MLR MLR
comp=Z,2μm,21.0s
TUC Tucson 86.77 51 eP P 01 41 25.2 +1.2
comp=Z,79nm,1.4s
TUC LR LR
comp=Z,2μm,21.0s
MOD Modoc 86.95 38 eP P 01 41 25.1 +0.4
comp=Z,15nm,0.9s
FCH Farellones 87.20 126 *i*P **P 01 41 25.8 -0.8**
COR Corvallis 87.22 35 eP P 01 41 27.5 +1.8
COR Corvallis 87.22 35 eP P 01 41 27.5 +1.8
R11A Troy Canyon, C 87.36 44 ⇓P **P 01 41 27.6 +0.8**
baz=88
R11A ⇓P **P 01 41 27.6 +0.8**
baz=88
R11A ⇓P **P 01 41 27.6 +0.8**
baz=88
MDJ Mudanjiang 87.48 325 P **P 01 41 28.3 +1.3**
MDJ pP **pP 01 41 37.8 -0.8**
MDJ PP **PP 01 44 51.1 -1.4**
MDJ S **S 01 52 02.3 -3.0**
MDJ sS **sS 01 52 21.4 -3.1**
MDJ SS **SS 01 57 51.8 -0.1**
MDJ pmax pmax
comp=Z,70nm,1.3s
MDJ pmax pmax
comp=Z,1μm,7.8s
MDJ LR LR
comp=N,1μm,19.6s
MDJ LR LR
comp=E,1μm,20.0s
MDJ LR LR
comp=Z,3μm,21.3s
MDJ Mudanjiang 87.48 325 eP P 01 41 27.9 +0.9
comp=Z,119nm,1.2s
MDJ LR LR
comp=Z,3μm,20.0s
X16A Lo Mia Camp, P 87.58 49 ⇓P **P 01 41 29.3 +1.3**
baz=88,SNR=38
X16A ⇓P **P 01 41 29.3 +1.3**
baz=88,SNR=38
X16A ⇓P **P 01 41 29.3 +1.3**
baz=88,SNR=38
HABR Khabarovsk 87.69 330 *c i*P **P 01 41 29.4 +1.5**
HABR *e**PP **pP 01 41 38.2 -1.3**
HABR *e**SP **sP 01 41 42.2 -1.5**
HABR 01 44 53.6
HABR *e*PPP PPP 01 46 48.6
HABR *e*S **SKSac 01 51 52.5 -0.3**
HABR *e*S **S 01 52 06.9 -0.2**
HABR *e*SS **SS 01 57 57.0 +2.2**
HABR *e*SSS SSS 02 01 30.7
HABR pmax pmax
comp=Z,1μm,2.8s
HABR MLR MLR
comp=Z,3μm,21.0s
BMN Battle Mountai 87.72 41 eP P 01 41 28.8 +0.3
BMN pmax pmax
comp=Z,43nm,1.4s
BMN MLR MLR
comp=Z,5μm,19.0s
BMN Battle Mountai 87.72 41 eP P 01 41 28.8 +0.3
comp=Z,43nm,1.4s
BMN LR LR
comp=Z,5μm,19.0s
320A Kipp Ranch, An 87.77 53 ⇓P **P 01 41 30.5 +1.6**
baz=88,SNR=12
320A ⇓P **P 01 41 30.5 +1.6**
baz=88,SNR=12
320A ⇓P **P 01 41 30.5 +1.6**
baz=88,SNR=12
X17A Forest Lakes 87.95 49 ⇑P **P 01 41 31.3 +1.5**
baz=88,SNR=8.3
X17A ⇑P **P 01 41 31.3 +1.5**
baz=88,SNR=8.3
X17A ⇑P **P 01 41 31.3 +1.5**
baz=88,SNR=8.3
KDAK Kodiak Island 87.96 13 P **P 01 41 27.9 -1.0**
comp=Z,44nm,1.3s,baz=97,slow=11,SNR=2.6
KDAK Kodiak Island 87.96 13 P **P 01 41 27.9 -1.0**
KDAK pmax pmax
comp=Z,45nm,1.3s
KDAK Kodiak Island 87.96 13 P **P 01 41 27.9 -1.0**
KDAK LR LR
comp=Z,4μm,19.0s
WHN Wuhan 87.98 306 P **P 01 41 30.5 +0.8**
WHN S **S 01 52 06.0 -4.6**
WHN SS **SS 01 58 05.8 +6.2**
WHN pmax pmax
comp=Z,120nm,1.0s
WHN LR LR
comp=N,4μm,16.4s
WHN LR LR
comp=E,5μm,19.1s
WHN LR LR
comp=Z,4μm,16.1s
220A Playas Peak, P 88.09 52 ⇑P **P 01 41 31.8 +1.3**
baz=88,SNR=18
220A ⇑P **P 01 41 31.8 +1.3**
baz=88,SNR=18
220A ⇑P **P 01 41 31.8 +1.3**
baz=88,SNR=18
Y18A Canyon Day Jun 88.14 50 ⇑P **P 01 41 32.0 +1.3**
baz=88,SNR=28
Y18A ⇑P **P 01 41 32.0 +1.3**
baz=88,SNR=28
Y18A ⇑P **P 01 41 32.0 +1.3**
baz=88,SNR=28
DL2 Dalian 88.14 317 P **P 01 41 28.6 -1.7**
DL2 S S 01 52 05.3 -6.5
DL2 pmax pmax
comp=Z,100nm,1.4s
DL2 pmax pmax
comp=Z,650nm,5.7s
DL2 LR LR
comp=N,1μm,20.1s
DL2 LR LR
comp=Z,1μm,26.5s
WVOR Wild Horse Val 88.23 39 eP P 01 41 31.5 +0.7
WVOR pmax pmax
comp=Z,40nm,1.4s
WVOR MLR MLR
comp=Z,6μm,19.0s
WVOR Wild Horse Val 88.23 39 eP P 01 41 31.5 +0.7
comp=Z,40nm,1.4s
WVOR LR LR
comp=Z,6μm,19.0s
U15A North Rim 88.23 47 ⇑P **P 01 41 32.5 +1.4**
baz=89,SNR=47
U15A ⇑P **P 01 41 32.5 +1.4**
baz=89,SNR=47
U15A ⇑P **P 01 41 32.5 +1.4**
baz=89,SNR=47
CCUT Cedar City 88.23 45 eP P 01 41 32.0 +0.9
comp=Z,17nm,1.0s
R13A O'Grain Ranch, 88.24 44 ⇑P **P 01 41 32.7 +1.6**
baz=89

R13A ⇑P P 01 41 32.7 +1.6
baz=89
R13A ⇑P P 01 41 32.7 +1.6
baz=89
WUAZ Wupatki 88.28 48 *e*P P 01 41 31.9 +0.6
WUAZ comp=Z,51nm,1.3s LR LR
WUAZ comp=Z,4μm,19.0s
WUAZ Wupatki 88.28 48 ⇓P P 01 41 32.5 +1.2
WUAZ baz=89,SNR=17 ⇓P P 01 41 32.5 +1.2
WUAZ baz=89,SNR=17 ⇓P P 01 41 32.5 +1.2
ARUT Antelope Range 88.33 45 *e*P P
ARUT pmax pmax 01 41 32.5 +1.0
comp=Z,23nm,1.2s
ARUT Antelope Range 88.33 45 *e*P P 01 41 32.5 +1.0
comp=Z,23nm,1.2s
120A U Bar Ranch, L 88.39 52 ⇓P P 01 41 33.3 +1.4
baz=89,SNR=16
120A ⇓P P 01 41 33.3 +1.4
baz=89,SNR=16
120A ⇓P P 01 41 33.3 +1.4
baz=89,SNR=16
W17A Winslow 88.45 49 ⇓P P 01 41 33.7 +1.6
baz=89
W17A ⇓P P 01 41 33.7 +1.6
baz=89
W17A ⇓P P 01 41 33.7 +1.6
baz=89
VIPM Ingram Point 88.55 36 P P 01 41 32.9 +0.6
VIPM Ingram Point 88.55 36 P P 01 41 32.9 +0.6
HOOD Mount Hood Mea 88.57 35 *e*P P 01 41 34.1 +1.7
comp=Z,27nm,1.2s
X18A Snowflake 88.64 49 ⇓P P 01 41 34.2 +1.2
baz=89,SNR=7.4
X18A ⇓P P 01 41 34.2 +1.2
baz=89,SNR=7.4
X18A ⇓P P 01 41 34.2 +1.2
baz=89,SNR=7.4
221A Mesquite Ranch 88.67 52 ⇓P P 01 41 34.5 +1.4
baz=89
221A ⇓P P 01 41 34.5 +1.4
baz=89
221A ⇓P P 01 41 34.5 +1.4
baz=89
V17A Tonalea, Kykot 88.72 48 ⇓P P 01 41 34.5 +1.1
baz=89,SNR=29
V17A ⇓P P 01 41 34.5 +1.1
baz=89,SNR=29
V17A ⇓P P 01 41 34.5 +1.1
baz=89,SNR=29
Z20A Nine Sixteen R 88.74 51 ⇓P P 01 41 34.9 +1.4
baz=89,SNR=21
Z20A ⇓P P 01 41 34.9 +1.4
baz=89,SNR=21
Z20A ⇓P P 01 41 34.9 +1.4
baz=89,SNR=21
Y19A Nutrioso 88.77 50 ⇓P P 01 41 35.3 +1.5
baz=89,SNR=30
Y19A ⇓P P 01 41 35.3 +1.5
baz=89,SNR=30
Y19A ⇓P P 01 41 35.3 +1.5
baz=89,SNR=30
U16A Tuba City 88.81 47 ⇑P P 01 41 35.2 +1.4
baz=89,SNR=19
U16A ⇑P P 01 41 35.2 +1.4
baz=89,SNR=19
U16A ⇑P P 01 41 35.2 +1.4
baz=89,SNR=19
SNY Shenyang 88.85 320 ⇑P P 01 41 34.0 +0.4
SNY sS S 01 52 29.9 +12
SNY pmax pmax
comp=Z,69nm,2.4s
SNY pmax pmax
comp=Z,1μm,6.3s
SNY LR LR
comp=N,690nm,17.2s
SNY LR LR
comp=Z,470nm,10.4s
SHW Mount Saint He 88.88 34 P P 01 41 37.3 +3.5
SHW Mount Saint He 88.88 34 P P 01 41 37.3 +3.5
NLWA Neilton Lookou 88.93 33 *e*P P 01 41 33.8 -0.1
comp=Z,43nm,1.1s
NLWA LR LR
comp=Z,4μm,19.0s
121A Cookes Peak, D 88.97 52 ⇑P P 01 41 35.8 +1.2
baz=89
121A ⇑P P 01 41 35.8 +1.2
baz=89
121A ⇑P P 01 41 35.8 +1.2
baz=89
X19A St. Johns 89.02 50 ⇓P P 01 41 36.4 +1.6
baz=89,SNR=9.3
X19A ⇓P P 01 41 36.4 +1.6
baz=89,SNR=9.3
X19A ⇓P P 01 41 36.4 +1.6
baz=89,SNR=9.3
VTHM Trough 89.04 36 P P 01 41 34.9 +0.4
ELK Elko 89.08 42 LR LR 02 17 25.0
comp=Z,6μm,18.0s,baz=219,slow=33
ELK Elko 89.08 42 *e*P P 01 41 35.3 +0.3
ELK Elko 89.08 42 *e*P P 01 41 35.2 +0.3
CN2 Changchun 89.11 322 ⇑P P 01 41 35.3 +0.6
CN2 *e*SKS **SKSac** 01 52 01.0 -0.5
CN2 *e*S S 01 52 20.9 +0.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 89.12 49 ⇑P P 01 41 36.6 +1.3
baz=89
W18A ⇑P P 01 41 36.6 +1.3
baz=89
W18A ⇑P P 01 41 36.6 +1.3
baz=89
LCO Las Campanas 89.17 123 *e*P P 01 41 36.5 +0.5
comp=Z,39nm,1.3s
LCO LR LR
comp=Z,3μm,19.0s
222A Williams Famil 89.20 53 ⇓P P 01 41 37.7 +2.0
baz=90
222A ⇓P P 01 41 37.7 +2.0
baz=90
222A ⇓P P 01 41 37.7 +2.0
baz=90
R15A Junction 89.31 45 ⇑P P 01 41 38.5 +2.4
baz=90
R15A ⇑P P 01 41 38.5 +2.4
baz=90
R15A ⇑P P 01 41 38.5 +2.4
baz=90
V18A Ganado 89.34 48 ⇑P P 01 41 37.4 +1.0
baz=90,SNR=14
V18A ⇑P P 01 41 37.4 +1.0
baz=90,SNR=14
V18A ⇑P P 01 41 37.4 +1.0
baz=90,SNR=14
Y20A Horse Springs, 89.34 51 ⇑P P 01 41 38.0 +1.6
baz=90,SNR=28
Y20A ⇑P P 01 41 38.0 +1.6
baz=90,SNR=28
Y20A ⇑P P 01 41 38.0 +1.6
baz=90,SNR=28
TIA Tai'an 89.35 312 P P 01 41 37.3 +1.2
TIA pmax pmax
comp=Z,120nm,1.3s
W19A Sanders 89.35 49 ⇑P P 01 41 37.5 +1.1
baz=90
W19A ⇑P P 01 41 37.5 +1.1
baz=90
W19A ⇑P P 01 41 37.5 +1.1
baz=90
U17A Shonto 89.38 47 ⇑P P 01 41 37.9 +1.4
baz=90,SNR=10
U17A ⇑P P 01 41 37.9 +1.4
baz=90,SNR=10
U17A ⇑P P 01 41 37.9 +1.4
baz=90,SNR=10
S16A Weppner Ranch, 89.45 46 ⇓P P 01 41 37.3 +0.6
baz=90,SNR=10
S16A ⇓P P 01 41 37.3 +0.6
baz=90,SNR=10
LON Longmire 89.48 34 *e*P P 01 41 36.7 +0.2
LON pmax pmax
comp=Z,30nm,1.2s
LON Longmire 89.48 34 *e*P P 01 41 36.7 +0.2
comp=Z,30nm,1.2s
Z21A St. Cloud Mine 89.48 51 ⇑P P 01 41 38.6 +1.5
baz=90,SNR=20
Z21A ⇑P P 01 41 38.6 +1.5
baz=90,SNR=20
Z21A ⇑P P 01 41 38.6 +1.5
baz=90,SNR=20
T17A Navajo Res., N 89.52 47 ⇑P P 01 41 38.5 +1.3
baz=90,SNR=17
T17A ⇑P P 01 41 38.5 +1.3
baz=90,SNR=17
T17A ⇑P P 01 41 38.5 +1.3
baz=90,SNR=17
GNW Green Mountain 89.55 33 *e*P P 01 41 37.9 +1.2
comp=Z,33nm,1.2s
MSU Marysvale 89.56 45 *e*P P 01 41 38.8 +1.5
MSU pmax pmax
comp=Z,15nm,1.0s
MSU Marysvale 89.56 45 *e*P P 01 41 38.8 +1.5
comp=Z,15nm,1.0s
X20A Quemado 89.62 50 ⇑P P 01 41 39.1 +1.4
baz=90,SNR=15
X20A ⇑P P 01 41 39.1 +1.4
baz=90,SNR=15
X20A ⇑P P 01 41 39.1 +1.4
baz=90,SNR=15
KLR Kul'dur 89.73 329 *e*P P 01 41 33.7 -3.8
KLR *e*S **S 01 52 30.0 +3.8**
KLR *e*PS PS 01 54 03.5 +27
KLR pmax pmax
comp=Z,300nm,2.0s
KLR pmax pmax
comp=Z,2μm,10.0s
KLR smax smax
comp=N,4μm,11.5s
KLR smax smax
comp=E,1μm,11.5s
U18A Rough Rock, Ch 89.79 48 ⇑P P 01 41 39.1 +0.7
baz=90,SNR=12
U18A ⇑P P 01 41 39.1 +0.7
baz=90,SNR=12
U18A ⇑P P 01 41 39.1 +0.7
baz=90,SNR=12
R16A Teasdale 89.86 46 ⇓P P 01 41 39.9 +1.2
baz=90,SNR=6.0
R16A ⇓P P 01 41 39.9 +1.2
baz=90,SNR=6.0
R16A ⇓P P 01 41 39.9 +1.2
baz=90,SNR=6.0
Y21A Point of Rocks 89.88 51 ⇓P P 01 41 40.5 +1.5
baz=90,SNR=27
Y21A ⇓P P 01 41 40.5 +1.5
baz=90,SNR=27
Y21A ⇓P P 01 41 40.5 +1.5
baz=90,SNR=27
S17A Black Ridge (B 89.90 46 ⇑P P 01 41 39.4 +0.6
baz=90,SNR=13
S17A ⇑P P 01 41 39.4 +0.6
baz=90,SNR=13
S17A ⇑P P 01 41 39.4 +0.6
baz=90,SNR=13
V19A Window Rock 89.93 49 ⇓P P 01 41 39.9 +0.8
baz=90
V19A ⇓P P 01 41 39.9 +0.8
baz=90
V19A ⇓P P 01 41 39.9 +0.8
baz=90
626A Big Bend Ranch 89.94 56 ⇓P P 01 41 40.0 +0.9
baz=90,SNR=16
626A ⇓P P 01 41 40.0 +0.9
baz=90,SNR=16
626A ⇓P P 01 41 40.0 +0.9
baz=90,SNR=16
Z22A Elephant Butte 89.94 52 ⇑P P 01 41 40.3 +1.1
baz=90,SNR=27
Z22A ⇑P P 01 41 40.3 +1.1
baz=90,SNR=27
Z22A ⇑P P 01 41 40.3 +1.1
baz=90,SNR=27
W20A Ramah 89.95 50 ⇓P P 01 41 40.8 +1.6
baz=90,SNR=28
W20A ⇓P P 01 41 40.8 +1.6
baz=90,SNR=28
W20A ⇓P P 01 41 40.8 +1.6
baz=90,SNR=28
425A Indio Mountain 89.98 55 ⇑P P 01 41 40.0 +0.7
baz=90,SNR=11
425A ⇑P P 01 41 40.0 +0.7
baz=90,SNR=11
425A ⇑P P 01 41 40.0 +0.7
baz=90,SNR=11
324A Moseley Ranch, 89.98 54 ⇓P P 01 41 39.9 +0.5
baz=90
324A ⇓P P 01 41 39.9 +0.5
baz=90
324A ⇓P P 01 41 39.9 +0.5
baz=90
PGC Sidney 90.02 32 *e*P P 01 41 39.1 +0.3
comp=E,4.4nm,1.3s
X21A Alamocita Cree 90.05 50 ⇑P P 01 41 40.8 +1.1
baz=90,SNR=27
X21A ⇑P P 01 41 40.8 +1.1
baz=90,SNR=27
X21A ⇑P P 01 41 40.8 +1.1
baz=90,SNR=27
TRQA Tornquist 90.14 134 *e*P P 01 41 39.5 -0.5
comp=E,22nm,1.1s
TRQA LR LR
comp=Z,4μm,22.0s
U19A Dine' College, 90.15 48 ⇑P P 01 41 41.1 +0.9
baz=90,SNR=11
U19A ⇑P P 01 41 41.1 +0.9
baz=90,SNR=11
U19A ⇑P P 01 41 41.1 +0.9
baz=90,SNR=11
TXAR Lajitas Array 90.16 57 P P 01 41 41.0 +0.9
comp=Z,5.8nm,1.0s,baz=211,slow=7.0,SNR=25
TXAR PKKPbc **PKKPbc 01 59 11.1 +0.7**
comp=Z,0.4nm,0.9s,baz=355,slow=2.2,SNR=4.8
TXAR LR LR 02 17 13.0
comp=Z,2μm,18.1s,baz=90,slow=32
TXAR Lajitas Array 90.16 57 P P 01 41 41.1 +0.9
TXAR pmax pmax
comp=Z,6.0nm,1.0s
TXAR Lajitas Array 90.16 57 P P 01 41 41.0 +0.9
TXAR PKKPbc **PKKPbc 01 59 11.1 +0.7**
DUG Dugway 90.19 43 *e*P P 01 41 39.7 -0.4
DUG pmax pmax
comp=Z,15nm,1.3s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway 90.19 43 *e*P P 01 41 39.7 -0.4
comp=Z,15nm,1.3s
DUG LR LR
comp=Z,5μm,19.0s
DUG Dugway 90.19 43 ⇓P P 01 41 40.5 +0.4
baz=90
DUG ⇓P P 01 41 40.5 +0.4
baz=90
DUG ⇓P P 01 41 40.5 +0.4
baz=90
T18A Mexican Hat 90.21 47 ⇓P P 01 41 41.2 +1.0
baz=90,SNR=36
T18A ⇓P P 01 41 41.2 +1.0
baz=90,SNR=36
T18A ⇓P P 01 41 41.2 +1.0
baz=90,SNR=36
526A Mary Lane Ranc 90.24 56 ⇓P P 01 41 41.0 +0.4
baz=90,SNR=21
526A ⇓P P 01 41 41.0 +0.4
baz=90,SNR=21
526A ⇓P P 01 41 41.0 +0.4
baz=90,SNR=21
224A Cornudas Mount 90.30 53 ⇓P P 01 41 41.4 +0.6
baz=91,SNR=12
224A ⇓P P 01 41 41.4 +0.6
baz=91,SNR=12
224A ⇓P P 01 41 41.4 +0.6
baz=91,SNR=12
Y22A Socorro 90.32 51 ⇑P P 01 41 41.8 +0.8
baz=91,SNR=20
Y22A ⇑P P 01 41 41.8 +0.8
baz=91,SNR=20
Y22A ⇑P P 01 41 41.8 +0.8
baz=91,SNR=20
V20A Brimhall 90.36 49 ⇓P P 01 41 42.0 +0.9
baz=91,SNR=5.6
V20A ⇓P P 01 41 42.0 +0.9
baz=91,SNR=5.6
V20A ⇓P P 01 41 42.0 +0.9
baz=91,SNR=5.6
HAWA Hanford 90.39 36 *e*P P 01 41 41.2 +0.5
comp=Z,73nm,1.4s
HAWA LR LR
comp=Z,4μm,19.0s
JCW Jim Creek 90.42 33 *e*P P 01 41 42.1 +1.2
comp=Z,69nm,1.3s
R17A Hanksville Air 90.42 46 ⇓P P 01 41 41.8 +0.6
baz=91,SNR=13
R17A ⇓P P 01 41 41.8 +0.6
baz=91,SNR=13
R17A ⇓P P 01 41 41.8 +0.6
baz=91,SNR=13
627A Terlingua Ranc 90.43 57 ⇑P P 01 41 42.1 +0.6
baz=91,SNR=14
627A ⇑P P 01 41 42.1 +0.6
baz=91,SNR=14
627A ⇑P P 01 41 42.1 +0.6
baz=91,SNR=14
Q16A Castle Valley 90.43 45 ⇑P P 01 41 43.3 +1.9
baz=91,SNR=5.9
Q16A ⇑P P 01 41 43.3 +1.9
baz=91,SNR=5.9
Q16A ⇑P P 01 41 43.3 +1.9
baz=91,SNR=5.9
MFID Camas Ranch 90.43 39 *e*P P 01 41 41.6 +0.5
comp=Z,31nm,1.4s
MFID Camas Ranch 90.43 39 ⇑P P 01 41 42.1 +0.9
baz=91
MFID ⇑P P 01 41 42.1 +0.9
baz=91
MFID ⇑P P 01 41 42.1 +0.9
baz=91
RSO Redoubt South 90.44 12 *e*P P 01 41 41.8 +1.0
comp=Z,54nm,1.0s
LENM Lemitar 90.44 51 *e*P P 01 41 42.0 +0.5
comp=Z,23nm,1.2s
S18A Hurst Farm, Bl 90.45 47 ⇑P P 01 41 42.2 +0.7
baz=91,SNR=6.7
S18A ⇑P P 01 41 42.2 +0.7
baz=91,SNR=6.7
S18A ⇑P P 01 41 42.2 +0.7
baz=91,SNR=6.7
Z23A Rita Site, Whi 90.46 52 ⇓P P 01 41 42.5 +1.0
baz=91
Z23A ⇓P P 01 41 42.5 +1.0
baz=91
Z23A ⇓P P 01 41 42.5 +1.0
baz=91
LAZ Ladron 90.47 51 *e*P P 01 41 42.2 +0.6
comp=Z,17nm,1.2s
GBB Gable Butte 90.48 35 P P 01 41 42.3 +1.2
W21A San Fidel 90.52 50 ⇑P P 01 41 43.0 +1.1
baz=91
W21A ⇑P P 01 41 43.0 +1.1
baz=91
W21A ⇑P P 01 41 43.0 +1.1
baz=91
BMO Blue Mountains 90.54 38 *e*P P 01 41 41.6 0.0
comp=Z,29nm,1.5s
BMO LR LR
comp=Z,3μm,19.0s
BBB Bella Bella 90.56 27 LR LR 02 18 17.2
comp=Z,4μm,18.7s,baz=228,slow=33
T19A Beclabito 90.58 48 ⇓P P 01 41 43.4 +1.4
baz=91,SNR=9.9
T19A ⇓P P 01 41 43.4 +1.4
baz=91,SNR=9.9
T19A ⇓P P 01 41 43.4 +1.4
baz=91,SNR=9.9
426A McDonald Obser 90.61 55 ⇓P P 01 41 42.7 +0.3
baz=91,SNR=13
426A ⇓P P 01 41 42.7 +0.3
baz=91,SNR=13
426A ⇓P P 01 41 42.7 +0.3
baz=91,SNR=13
TMUT Trail Mountain 90.63 45 *e*P P 01 41 43.8 +1.4
comp=Z,40nm,1.0s
527A Woodward Ranch 90.63 56 ⇓P P 01 41 42.7 +0.3
baz=91,SNR=15
527A ⇓P P 01 41 42.7 +0.3
baz=91,SNR=15
527A ⇓P P 01 41 42.7 +0.3
baz=91,SNR=15
BNM Barren Site 90.67 51 *e*P P 01 41 42.8 +0.1
comp=Z,20nm,1.2s
124A Stringfield Ra 90.69 53 ⇑P P 01 41 43.8 +1.0
baz=91,SNR=13
124A ⇑P P 01 41 43.8 +1.0
baz=91,SNR=13
124A ⇑P P 01 41 43.8 +1.0
baz=91,SNR=13
LPM Los Pinos Moun 90.76 51 *e*P P 01 41 43.6 +0.6
comp=Z,21nm,1.2s
N15A Stansbury Isla 90.79 43 ⇑P P 01 41 43.3 +0.4
baz=91,SNR=12
N15A ⇑P P 01 41 43.3 +0.4
baz=91,SNR=12
N15A ⇑P P 01 41 43.3 +0.4
baz=91,SNR=12
MPU Maple Canyon 90.80 44 *e*P P 01 41 43.5 +0.4
comp=Z,9.0nm,0.9s
ETW Entiat 90.80 34 *e*P P 01 41 43.1 +0.4
comp=Z,114nm,1.4s
628A Black Gap, Mar 90.81 57 ⇓P P 01 41 43.4 +0.2
baz=91,SNR=13
628A ⇓P P 01 41 43.4 +0.2
baz=91,SNR=13
628A ⇓P P 01 41 43.4 +0.2
baz=91,SNR=13
V21A Milan 90.92 49 ⇑P P 01 41 44.5 +0.8
baz=91
V21A ⇑P P 01 41 44.5 +0.8
baz=91
V21A ⇑P P 01 41 44.5 +0.8
baz=91
R18A Canyonlands Na 90.92 46 ⇑P P 01 41 44.2 +0.5
baz=91,SNR=20
R18A ⇑P P 01 41 44.2 +0.5
baz=91,SNR=20
R18A ⇑P P 01 41 44.2 +0.5
baz=91,SNR=20
Y23A Lovelace Mesa, 90.95 52 ⇑P P 01 41 44.7 +0.9
baz=91,SNR=9.9
Y23A ⇑P P 01 41 44.7 +0.9
baz=91,SNR=9.9
Y23A ⇑P P 01 41 44.7 +0.9
baz=91,SNR=9.9
SRU San Rafael 90.95 45 *e*P P 01 41 44.2 +0.5
SRU pmax pmax
comp=Z,36nm,1.1s
SRU San Rafael 90.95 45 *e*P P 01 41 44.2 +0.5
comp=Z,36nm,1.1s
SRU San Rafael 90.95 45 ⇑P P 01 41 44.6 +0.9
baz=91,SNR=30
SRU ⇑P P 01 41 44.6 +0.9
baz=91,SNR=30
SRU ⇑P P 01 41 44.6 +0.9
baz=91,SNR=30
SLKM Skilak Lake 90.95 13 *e*P P 01 41 43.8 +0.8
SLKM Skilak Lake 90.95 13 *e*P P 01 41 43.8 +0.8
O16A Springville 90.99 44 ⇑P P 01 41 44.7 +0.8
baz=91
O16A ⇑P P 01 41 44.7 +0.8
baz=91
O16A ⇑P P 01 41 44.7 +0.8
baz=91
326A Caldwell Ranch 90.99 55 ⇓P P 01 41 44.0 0.0
baz=91
326A ⇓P P 01 41 44.0 0.0
baz=91
326A ⇓P P 01 41 44.0 0.0
baz=91
P17A Butcher Ranch, 91.03 45 ⇑P P 01 41 45.2 +1.1
baz=91
P17A ⇑P P 01 41 45.2 +1.1
baz=91
P17A ⇑P P 01 41 45.2 +1.1

baz=91
S19A Harvey Farm, M 91.04 47 ⇑P **P 01 41 44.7 +0.5**
baz=91,SNR=19
S19A ⇑P **P 01 41 44.7 +0.5**
baz=91,SNR=19
S19A ⇑P **P 01 41 44.7 +0.5**
baz=91,SNR=19
L14A Malta 91.06 42 ⇓P **P 01 41 45.6 +1.5**
baz=91,SNR=8.1
L14A ⇓P **P 01 41 45.6 +1.5**
baz=91,SNR=8.1
L14A ⇓P **P 01 41 45.6 +1.5**
baz=91,SNR=8.1
I12A Atlanta 91.06 40 ⇑P **P 01 41 45.0 +0.9**
baz=91,SNR=23
I12A ⇑P **P 01 41 45.0 +0.9**
baz=91,SNR=23
I12A ⇑P **P 01 41 45.0 +0.9**
baz=91,SNR=23
Z24A Sheeppen Canyo 91.10 52 ⇑P **P 01 41 45.4 +0.8**
baz=91,SNR=7.9
Z24A ⇑P **P 01 41 45.4 +0.8**
baz=91,SNR=7.9
Z24A ⇑P **P 01 41 45.4 +0.8**
baz=91,SNR=7.9
MVCO Mesa Verde 91.15 48 *e*P **P 01 41 45.0 +0.3**
comp=Z,24nm,1.3s
MVCO LR LR
comp=Z,4μm,19.0s
MVCO Mesa Verde 91.15 48 ⇓P **P 01 41 45.5 +0.7**
baz=92
MVCO ⇓P **P 01 41 45.5 +0.7**
baz=92
MVCO ⇓P **P 01 41 45.5 +0.7**
baz=92
427A Hayter Ranch, 91.16 55 ⇓P **P 01 41 45.6 +0.8**
baz=92,SNR=17
427A ⇓P **P 01 41 45.6 +0.8**
baz=92,SNR=17
427A ⇓P **P 01 41 45.6 +0.8**
baz=92,SNR=17
HVU Hansel Valley 91.17 42 *e*P **P 01 41 45.0 +0.3**
HVU pmax pmax
comp=Z,73nm,1.6s
HVU Hansel Valley 91.17 42 *e*P **P 01 41 45.0 +0.3**
comp=Z,73nm,1.6s
M15A Larsen Ranch, 91.18 43 ⇑P **P 01 41 45.0 +0.4**
baz=92,SNR=16
M15A ⇑P **P 01 41 45.0 +0.4**
baz=92,SNR=16
M15A ⇑P **P 01 41 45.0 +0.4**
baz=92,SNR=16
Q18A Rafter H Ranch 91.19 46 ⇓P **P 01 41 44.9 +0.1**
baz=92,SNR=16
Q18A ⇓P **P 01 41 44.9 +0.1**
baz=92,SNR=16
Q18A ⇓P **P 01 41 44.9 +0.1**
baz=92,SNR=16
125A Gardner Draw, 91.23 53 ⇓P **P 01 41 45.9 +0.8**
baz=92
125A ⇓P **P 01 41 45.9 +0.8**
baz=92
125A ⇓P **P 01 41 45.9 +0.8**
baz=92
ANMO Albuquerque 91.23 51 LR LR 02 13 58.6
comp=Z,3μm,20.5s,baz=240,slow=30
ANMO Albuquerque 91.23 51 *e*P **P 01 41 45.3 +0.2**
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 91.23 51 *e*P **P 01 41 45.3 +0.2**
comp=Z,22nm,1.1s
528A Cox Ranch, San 91.25 56 ⇓P **P 01 41 45.9 +0.7**
baz=92,SNR=14
528A ⇓P **P 01 41 45.9 +0.7**
baz=92,SNR=14
528A ⇓P **P 01 41 45.9 +0.7**
baz=92,SNR=14
U21A Nageezi 91.25 49 ⇑P **P 01 41 46.2 +0.9**
baz=92,SNR=37
U21A ⇑P **P 01 41 46.2 +0.9**
baz=92,SNR=37
U21A ⇑P **P 01 41 46.2 +0.9**
baz=92,SNR=37
JLU Jordanelle 91.26 44 *e*P **P 01 41 46.2 +0.9**
comp=Z,26nm,1.4s
DAU Daniels Canyon 91.27 44 *e*P **P 01 41 45.2 -0.1**
DAU pmax pmax
comp=Z,35nm,1.4s
DAU Daniels Canyon 91.27 44 *e*P **P 01 41 45.2 -0.1**
comp=Z,35nm,1.4s
R19A Curley Farm, L 91.27 47 ⇑P **P 01 41 45.7 +0.4**
baz=92,SNR=12
R19A ⇑P **P 01 41 45.7 +0.4**
baz=92,SNR=12
R19A ⇑P **P 01 41 45.7 +0.4**
baz=92,SNR=12
HLID Hailey 91.32 40 *e*P **P 01 41 45.9 +0.5**
comp=Z,22nm,1.2s
HLID LR LR
comp=Z,3μm,19.0s
HLID Hailey 91.32 40 ⇑P **P 01 41 46.4 +1.0**
baz=92,SNR=21
HLID ⇑P **P 01 41 46.4 +1.0**
baz=92,SNR=21
HLID ⇑P **P 01 41 46.4 +1.0**
baz=92,SNR=21
ENH Enshi 91.35 304 *e*P **P 01 41 46.4 +0.8**
comp=Z,260nm,1.3s
ENH LR LR
comp=Z,3μm,22.0s
J13A Cove Ranch, Pi 91.36 40 ⇑P **P 01 41 46.5 +1.1**
baz=92,SNR=21
J13A ⇑P **P 01 41 46.5 +1.1**
baz=92,SNR=21
J13A ⇑P **P 01 41 46.5 +1.1**
baz=92,SNR=21
Y24A Capitan 91.38 52 ⇑P **P 01 41 46.6 +0.8**
baz=92,SNR=27
Y24A ⇑P **P 01 41 46.6 +0.8**
baz=92,SNR=27
Y24A ⇑P **P 01 41 46.6 +0.8**
baz=92,SNR=27
K14A Jones Ranch, D 91.41 41 ⇑P **P 01 41 47.3 +1.6**
baz=92,SNR=11
K14A ⇑P **P 01 41 47.3 +1.6**
baz=92,SNR=11
K14A ⇑P **P 01 41 47.3 +1.6**
baz=92,SNR=11
P18A Preston Nutter 91.43 45 ⇑P **P 01 41 47.3 +1.2**
baz=92
P18A ⇑P **P 01 41 47.3 +1.2**
baz=92
P18A ⇑P **P 01 41 47.3 +1.2**
baz=92
N16A Rees Ranch, Co 91.44 44 ⇑P **P 01 41 47.4 +1.4**
baz=92
N16A ⇑P **P 01 41 47.4 +1.4**
baz=92
N16A ⇑P **P 01 41 47.4 +1.4**
baz=92
O17A Robinson Place 91.46 44 ⇑P **P 01 41 47.1 +1.0**
baz=92,SNR=15
O17A ⇑P **P 01 41 47.1 +1.0**
baz=92,SNR=15
O17A ⇑P **P 01 41 47.1 +1.0**
baz=92,SNR=15
V22A San Miguel Ran 91.47 50 ⇓P **P 01 41 47.0 +0.7**
baz=92
V22A ⇓P **P 01 41 47.0 +0.7**
baz=92
V22A ⇓P **P 01 41 47.0 +0.7**
baz=92
OD2 Odessa Site #2 91.47 35 *e*P **P 01 41 46.0 +0.3**
comp=Z,79nm,1.3s
GYA Guiyang 91.50 299 P **P 01 41 47.3 +0.8**
GYA PP **PP 01 45 28.6 +3.5**
GYA SKS **SKSac 01 52 13.8 -2.7**
GYA S **S 01 52 39.6 -4.2**
GYA SS **SS 01 58 50.5 -0.6**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.9s
GYA LR LR
comp=N,780nm,19.9s
GYA LR LR
comp=E,660nm,20.4s
GYA LR LR

comp=Z,740nm,19.7s
Z25A Roswell 91.53 53 ⇑P **P 01 41 47.5 +1.0**
baz=92
Z25A ⇑P **P 01 41 47.5 +1.0**
baz=92
Z25A ⇑P **P 01 41 47.5 +1.0**
baz=92
L15A Malad City 91.54 42 ⇑P **P 01 41 46.9 +0.5**
baz=92,SNR=19
L15A ⇑P **P 01 41 46.9 +0.5**
baz=92,SNR=19
L15A ⇑P **P 01 41 46.9 +0.5**
baz=92,SNR=19
PV04 Paradox Valley 91.56 47 *e*P **P 01 41 47.0 +0.4**
W23A Werner Place, 91.56 51 ⇓P **P 01 41 48.1 +1.4**
baz=92
W23A ⇓P **P 01 41 48.1 +1.4**
baz=92
W23A ⇓P **P 01 41 48.1 +1.4**
baz=92
M16A Huntsville 91.58 43 ⇓P **P 01 41 47.5 +0.9**
baz=92
M16A ⇓P **P 01 41 47.5 +0.9**
baz=92
M16A ⇓P **P 01 41 47.5 +0.9**
baz=92
S20A Disappointment 91.59 47 ⇓P **P 01 41 47.3 +0.5**
baz=92,SNR=6.8
S20A ⇓P **P 01 41 47.3 +0.5**
baz=92,SNR=6.8
S20A ⇓P **P 01 41 47.3 +0.5**
baz=92,SNR=6.8
428A Kincaid Ranch, 91.62 56 ⇑P **P 01 41 47.3 +0.4**
baz=92
428A ⇑P **P 01 41 47.3 +0.4**
baz=92
428A ⇑P **P 01 41 47.3 +0.4**
baz=92
PV01 Paradox Valley 91.63 47 *e*P **P 01 41 46.8 -0.1**
comp=Z,2μm,1.0s
Q19A Hogan Spring (91.66 46 ⇑P **P 01 41 47.6 +0.7**
baz=92
Q19A ⇑P **P 01 41 47.6 +0.7**
baz=92
Q19A ⇑P **P 01 41 47.6 +0.7**
baz=92
T21A Navajo Lake 91.66 48 ⇓P **P 01 41 47.7 +0.6**
baz=92
T21A ⇓P **P 01 41 47.7 +0.6**
baz=92
T21A ⇓P **P 01 41 47.7 +0.6**
baz=92
J14A Carey 91.69 41 ⇓P **P 01 41 48.3 +1.3**
baz=92
J14A ⇓P **P 01 41 48.3 +1.3**
baz=92
J14A ⇓P **P 01 41 48.3 +1.3**
baz=92
H12A Diamond D Ranc 91.69 39 ⇓P **P 01 41 47.7 +0.6**
baz=92
H12A ⇓P **P 01 41 47.7 +0.6**
baz=92
H12A ⇓P **P 01 41 47.7 +0.6**
baz=92
GAMB Gambell 91.71 2 *e*P **P 01 41 47.1 +0.8**
comp=Z,78nm,1.5s
R20A Redvale 91.78 47 ⇓P **P 01 41 48.1 +0.4**
baz=92
R20A ⇓P **P 01 41 48.1 +0.4**
baz=92
R20A ⇓P **P 01 41 48.1 +0.4**
baz=92
HWUT Hardware Ranch 91.79 43 *e*P **P 01 41 47.6 0.0**
comp=Z,18nm,1.3s
HWUT LR LR
comp=Z,3μm,19.0s
G12A Big Creek, Yel 91.80 38 ⇓P **P 01 41 47.9 +0.4**
baz=92
G12A ⇓P **P 01 41 47.9 +0.4**
baz=92
G12A ⇓P **P 01 41 47.9 +0.4**
baz=92
V23A Ortiz Mt. (NFS 91.86 50 ⇑P **P 01 41 49.3 +1.2**
baz=92,SNR=5.6
V23A ⇑P **P 01 41 49.3 +1.2**
baz=92,SNR=5.6
V23A ⇑P **P 01 41 49.3 +1.2**
baz=92,SNR=5.6
S21A Coal Bank Pass 91.86 48 ⇓P **P 01 41 48.8 +0.6**
baz=92,SNR=9.1
S21A ⇓P **P 01 41 48.8 +0.6**
baz=92,SNR=9.1
S21A ⇓P **P 01 41 48.8 +0.6**
baz=92,SNR=9.1
K15A Arbon 91.87 42 ⇑P **P 01 41 48.3 +0.4**
baz=92,SNR=9.8
K15A ⇑P **P 01 41 48.3 +0.4**
baz=92,SNR=9.8
K15A ⇑P **P 01 41 48.3 +0.4**
baz=92,SNR=9.8
Y25A Mesa, Roswell 91.89 52 ⇓P **P 01 41 48.7 +0.5**
baz=92,SNR=18
Y25A ⇓P **P 01 41 48.7 +0.5**
baz=92,SNR=18
Y25A ⇓P **P 01 41 48.7 +0.5**
baz=92,SNR=18
H13A Challis 92.04 39 ⇑P **P 01 41 49.5 +0.9**
baz=92,SNR=16
H13A ⇑P **P 01 41 49.5 +0.9**
baz=92,SNR=16
H13A ⇑P **P 01 41 49.5 +0.9**
baz=92,SNR=16
Z26A Caprock 92.04 53 ⇓P **P 01 41 49.5 +0.6**
baz=92
Z26A ⇓P **P 01 41 49.5 +0.6**
baz=92
Z26A ⇓P **P 01 41 49.5 +0.6**
baz=92
T22A Edith 92.09 49 ⇑P **P 01 41 49.6 +0.4**
baz=92
T22A ⇑P **P 01 41 49.6 +0.4**
baz=92
T22A ⇑P **P 01 41 49.6 +0.4**
baz=92
I14A Mackay 92.10 40 ⇑P **P 01 41 49.8 +0.9**
baz=92,SNR=17
I14A ⇑P **P 01 41 49.8 +0.9**
baz=92,SNR=17
I14A ⇑P **P 01 41 49.8 +0.9**
baz=92,SNR=17
W24A Lazy 6 Ranch, 92.10 51 ⇑P **P 01 41 49.8 +0.6**
baz=92
W24A ⇑P **P 01 41 49.8 +0.6**
baz=92
W24A ⇑P **P 01 41 49.8 +0.6**
baz=92
L16A Fish Haven 92.12 43 ⇑P **P 01 41 49.3 +0.2**
baz=92,SNR=16
L16A ⇑P **P 01 41 49.3 +0.2**
baz=92,SNR=16
L16A ⇑P **P 01 41 49.3 +0.2**
baz=92,SNR=16
PMR Palmer 92.16 13 *e*P **P 01 41 48.5 0.0**
PMR pmax pmax
comp=Z,48nm,1.4s
PMR Palmer 92.16 13 *e*P **P 01 41 48.5 0.0**
comp=Z,48nm,1.4s
U23A El Rito 92.18 50 ⇑P **P 01 41 51.1 +1.6**
baz=92,SNR=8.2
U23A ⇑P **P 01 41 51.1 +1.6**
baz=92,SNR=8.2
U23A ⇑P **P 01 41 51.1 +1.6**
baz=92,SNR=8.2
BJT Baijiatuau 92.18 315 *e*P **P 01 41 49.8 +0.7**
BJT pmax pmax
comp=Z,40nm,0.8s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 92.18 315 *e*P **P 01 41 49.8 +0.7**
comp=Z,40nm,0.8s
BJT LR LR
comp=Z,2μm,19.0s
BJI Beijing 92.19 315 P **P 01 41 50.0 +0.8**
BJI pP **pP 01 42 00.8 0.0**
BJI sP **sP 01 42 03.9 -1.1**
BJI PP **PP 01 45 33.0 +2.9**
BJI SKS **SKSac 01 52 19.3 -0.1**
BJI pmax pmax

comp=Z,58nm,0.9s
BJI pmax pmax
comp=Z,1μm,9.1s
BJI LR LR
comp=N,2μm,19.4s
BJI LR LR
comp=E,1μm,19.4s
BJI LR LR
comp=Z,2μm,28.7s
P19A Cripple Cowboy 92.23 46 ⇓P **P 01 41 50.3 +0.6**
baz=93,SNR=7.6
P19A ⇓P **P 01 41 50.3 +0.6**
baz=93,SNR=7.6
P19A ⇓P **P 01 41 50.3 +0.6**
baz=93,SNR=7.6
F12A Elk City 92.23 38 ⇓P **P 01 41 49.7 +0.2**
baz=93,SNR=19
F12A ⇓P **P 01 41 49.7 +0.2**
baz=93,SNR=19
F12A ⇓P **P 01 41 49.7 +0.2**
baz=93,SNR=19
WRAK Wrangell Islan 92.23 23 PFAKE 01 42 00.0 +11
WRAK LR LR
comp=Z,2μm,20.0s
Q20A Ridgley Place, 92.27 46 ⇑P **P 01 41 50.3 +0.4**
baz=93,SNR=8.9
Q20A ⇑P **P 01 41 50.3 +0.4**
baz=93,SNR=8.9
Q20A ⇑P **P 01 41 50.3 +0.4**
baz=93,SNR=8.9
J15A Blackfoot 92.36 41 ⇓P **P 01 41 51.2 +1.1**
baz=93,SNR=16
J15A ⇓P **P 01 41 51.2 +1.1**
baz=93,SNR=16
J15A ⇓P **P 01 41 51.2 +1.1**
baz=93,SNR=16
G13A Cobalt 92.38 39 ⇓P **P 01 41 50.4 +0.2**
baz=93,SNR=14
G13A ⇓P **P 01 41 50.4 +0.2**
baz=93,SNR=14
G13A ⇓P **P 01 41 50.4 +0.2**
baz=93,SNR=14
R21A Cimarron 92.42 47 ⇓P **P 01 41 51.2 +0.6**
baz=93,SNR=16
R21A ⇓P **P 01 41 51.2 +0.6**
baz=93,SNR=16
R21A ⇓P **P 01 41 51.2 +0.6**
baz=93,SNR=16
V24A Rampart Ranch, 92.47 51 ⇓P **P 01 41 51.5 +0.5**
baz=93
V24A ⇓P **P 01 41 51.5 +0.5**
baz=93
V24A ⇓P **P 01 41 51.5 +0.5**
baz=93
E12A Beaver Dam Sad 92.48 37 ⇑P **P 01 41 50.9 +0.4**
baz=93
E12A ⇑P **P 01 41 50.9 +0.4**
baz=93
E12A ⇑P **P 01 41 50.9 +0.4**
baz=93
K16A Soda Springs 92.51 42 ⇓P **P 01 41 51.7 +0.8**
baz=93,SNR=14
K16A ⇓P **P 01 41 51.7 +0.8**
baz=93,SNR=14
K16A ⇓P **P 01 41 51.7 +0.8**
baz=93,SNR=14
O19A Miners Draw (B 92.52 45 ⇑P **P 01 41 51.6 +0.7**
baz=93
O19A ⇑P **P 01 41 51.6 +0.7**
baz=93
O19A ⇑P **P 01 41 51.6 +0.7**
baz=93
P20A De Beque 92.52 46 ⇑P **P 01 41 51.5 +0.5**
baz=93
P20A ⇑P **P 01 41 51.5 +0.5**
baz=93
P20A ⇑P **P 01 41 51.5 +0.5**
baz=93
S22A 4UR Ranch, Cre 92.54 48 ⇓P **P 01 41 51.8 +0.5**
baz=93,SNR=19
S22A ⇓P **P 01 41 51.8 +0.5**
baz=93,SNR=19
S22A ⇓P **P 01 41 51.8 +0.5**
baz=93,SNR=19
BMRM Bremner River 92.56 15 *e*P **P 01 41 51.0 +0.5**
comp=Z,43nm,1.1s
H14A Leadore 92.57 40 ⇓P **P 01 41 51.7 +0.6**
baz=93,SNR=16
H14A ⇓P **P 01 41 51.7 +0.6**
baz=93,SNR=16
H14A ⇓P **P 01 41 51.7 +0.6**
baz=93,SNR=16
Z27A Tatum 92.61 53 ⇑P **P 01 41 52.0 +0.5**
baz=93
Z27A ⇑P **P 01 41 52.0 +0.5**
baz=93
Z27A ⇑P **P 01 41 52.0 +0.5**
baz=93
Q21A Lamborn Mesa, 92.67 47 ⇓P **P 01 41 52.8 +1.1**
baz=93
Q21A ⇓P **P 01 41 52.8 +1.1**
baz=93
Q21A ⇓P **P 01 41 52.8 +1.1**
baz=93
I15A Monteview 92.69 41 ⇑P **P 01 41 52.9 +1.3**
baz=93
I15A ⇑P **P 01 41 52.9 +1.3**
baz=93
I15A ⇑P **P 01 41 52.9 +1.3**
baz=93
W25A X Bar L Ranch, 92.75 51 ⇑P **P 01 41 52.7 +0.6**
baz=93
W25A ⇑P **P 01 41 52.7 +0.6**
baz=93
W25A ⇑P **P 01 41 52.7 +0.6**
baz=93
F13A Darby 92.76 38 ⇑P **P 01 41 51.8 -0.1**
baz=93,SNR=14
F13A ⇑P **P 01 41 51.8 -0.1**
baz=93,SNR=14
F13A ⇑P **P 01 41 51.8 -0.1**
baz=93,SNR=14
AHID Auburn Hatcher 92.76 42 *e*P **P 01 41 53.2 +1.2**
comp=Z,52nm,1.3s
J16A Bone 92.76 42 ⇑P **P 01 41 52.9 +0.9**
baz=93,SNR=20
J16A ⇑P **P 01 41 52.9 +0.9**
baz=93,SNR=20
J16A ⇑P **P 01 41 52.9 +0.9**
baz=93,SNR=20
X26A CR and CF Fran 92.84 52 ⇓P **P 01 41 52.4 -0.1**
baz=93
X26A ⇓P **P 01 41 52.4 -0.1**
baz=93
X26A ⇓P **P 01 41 52.4 -0.1**
baz=93
NEW Newport 92.86 35 *e*P **P 01 41 54.2 +2.1**
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW MLR MLR
comp=Z,4μm,19.0s
NEW Newport 92.86 35 *e*P **P 01 41 54.2 +2.1**
comp=Z,8.5nm,1.2s
NEW LR LR
comp=Z,4μm,19.0s
NNA Nana 92.86 105 PFAKE 01 42 00.0 +7.0
NNA LR LR
comp=Z,1μm,20.0s
K17A Gardner Place, 92.86 42 ⇓P **P 01 41 53.1 +0.6**
baz=93,SNR=14
K17A ⇓P **P 01 41 53.1 +0.6**
baz=93,SNR=14
K17A ⇓P **P 01 41 53.1 +0.6**
baz=93,SNR=14
R22A Saguache, Gunn 92.86 48 ⇓P **P 01 41 53.6 +0.8**
baz=93,SNR=5.8
R22A ⇓P **P 01 41 53.6 +0.8**
baz=93,SNR=5.8
R22A ⇓P **P 01 41 53.6 +0.8**
baz=93,SNR=5.8
G14A Jackson 92.90 39 ⇑P **P 01 41 53.1 +0.5**
baz=93
G14A ⇑P **P 01 41 53.1 +0.5**
baz=93
G14A ⇑P **P 01 41 53.1 +0.5**
baz=93
Y27A Causey 92.94 53 ⇑P **P 01 41 53.2 +0.2**
baz=93

Y27A				⇑P		P	01 41 53.2	+0.2	
	baz=93								
Y27A				⇑P		P	01 41 53.2	+0.2	
	baz=93								
H15A	**Lima**	**92.98**	**40**	⇓P		P	01 41 54.5	+1.5	
	baz=93								
H15A				⇓P		P	01 41 54.5	+1.5	
	baz=93								
H15A				⇓P		P	01 41 54.5	+1.5	
	baz=93								
RRI2	**Red Ridge**	**92.98**	**42**	*e*P		P	01 41 53.7	+0.6	
	comp=Z,28nm,1.2s								
O20A	**White River Ci**	**92.98**	**46**	⇑P		P	01 41 54.0	+0.9	
	baz=93								
O20A				⇑P		P	01 41 54.0	+0.9	
	baz=93								
O20A				⇑P		P	01 41 54.0	+0.9	
	baz=93								
V25A	**Rancho No Teng**	**92.98**	**51**	⇓P		P	01 41 53.7	+0.4	
	baz=93								
V25A				⇓P		P	01 41 53.7	+0.4	
	baz=93								
V25A				⇓P		P	01 41 53.7	+0.4	
	baz=93								
MCMT	**McKenzie Canyo**	**92.99**	**40**	*e*P		P	01 41 53.6	+0.5	
	comp=Z,12nm,1.1s								
D12A	**Red Ives Fores**	**93.00**	**37**	⇓P		P	01 41 53.6	+0.7	
	baz=93								
D12A				⇓P		P	01 41 53.6	+0.7	
	baz=93								
D12A				⇓P		P	01 41 53.6	+0.7	
	baz=93								
C11A	**Tepee Creek (N**	**93.03**	**36**	⇓P		P	01 41 54.0	+1.0	
	baz=93,SNR=7.9								
C11A				⇓P		P	01 41 54.0	+1.0	
	baz=93,SNR=7.9								
C11A				⇓P		P	01 41 54.0	+1.0	
	baz=93,SNR=7.9								
Q22A	**Crested Butte,**	**93.11**	**47**	⇑P		P	01 41 54.5	+0.5	
	baz=93,SNR=8.4								
Q22A				⇑P		P	01 41 54.5	+0.5	
	baz=93,SNR=8.4								
Q22A				⇑P		P	01 41 54.5	+0.5	
	baz=93,SNR=8.4								
I16A	**Newdale**	**93.19**	**41**	⇑P		P	01 41 55.0	+1.0	
	baz=94,SNR=21								
I16A				⇑P		P	01 41 55.0	+1.0	
	baz=94,SNR=21								
I16A				⇑P		P	01 41 55.0	+1.0	
	baz=94,SNR=21								
M19A	**Rock Springs**	**93.19**	**44**	⇓P		P	01 41 54.7	+0.5	
	baz=94								
M19A				⇓P		P	01 41 54.7	+0.5	
	baz=94								
M19A				⇓P		P	01 41 54.7	+0.5	
	baz=94								
SMCO	**Snowmass**	**93.25**	**47**	*e*P		P	01 41 54.6	-0.1	
	comp=Z,18nm,1.0s								
REDW	**Red Top Meadow**	**93.26**	**42**	*e*P		P	01 41 54.5	+0.2	
	comp=Z,66nm,1.4s								
MSTX	**Muleshoe**	**93.27**	**53**	⇑P		P	01 41 54.9	+0.4	
	baz=94								
MSTX				⇑P		P	01 41 54.9	+0.4	
	baz=94								
MSTX				⇑P		P	01 41 54.9	+0.4	
	baz=94								
TPAW	**Teton Pass**	**93.28**	**42**	*e*P		P	01 41 55.0	+0.5	
	comp=Z,42nm,1.3s								
F14A	**Wisdom**	**93.30**	**39**	⇑P		P	01 41 54.9	+0.5	
	baz=94								
F14A				⇑P		P	01 41 54.9	+0.5	
	baz=94								
F14A				⇑P		P	01 41 54.9	+0.5	
	baz=94								
K18A	**Toltan Ranch,**	**93.32**	**43**	⇑P		P	01 41 55.3	+0.6	
	baz=94,SNR=15								
K18A				⇑P		P	01 41 55.3	+0.6	
	baz=94,SNR=15								
K18A				⇑P		P	01 41 55.3	+0.6	
	baz=94,SNR=15								
J17A	**Brown Place, J**	**93.34**	**42**	⇑P		P	01 41 55.5	+0.8	
	baz=94,SNR=10								
J17A				⇑P		P	01 41 55.5	+0.8	
	baz=94,SNR=10								
J17A				⇑P		P	01 41 55.5	+0.8	
	baz=94,SNR=10								
C12B	**Naegeli Ranch,**	**93.35**	**36**	⇑P		P	01 41 54.8	+0.3	
	baz=94,SNR=6.4								
C12B				⇑P		P	01 41 54.8	+0.3	
	baz=94,SNR=6.4								
C12B				⇑P		P	01 41 54.8	+0.3	
	baz=94,SNR=6.4								
N20A	**Spence Gulch,**	**93.36**	**45**	⇑P		P	01 41 55.1	+0.1	
	baz=94,SNR=10								
N20A				⇑P		P	01 41 55.1	+0.1	
	baz=94,SNR=10								
N20A				⇑P		P	01 41 55.1	+0.1	
	baz=94,SNR=10								
SNOW	**Snow King Moun**	**93.38**	**42**	*e*P		P	01 41 55.8	+0.9	
	comp=Z,119nm,1.6s								
G15A	**Dillon**	**93.40**	**40**	⇑P		P	01 41 55.3	+0.4	
	baz=94,SNR=14								
G15A				⇑P		P	01 41 55.3	+0.4	
	baz=94,SNR=14								
G15A				⇑P		P	01 41 55.3	+0.4	
	baz=94,SNR=14								
SDCO	**Great Sand Dun**	**93.42**	**49**	*e*P		P	01 41 55.0	-0.3	
	comp=Z,14nm,1.3s								
SDCO				LR		LR			
	comp=Z,2μm,20.0s								
SDCO	**Great Sand Dun**	**93.42**	**49**	⇓P		P	01 41 55.6	+0.3	
	baz=94								
SDCO				⇓P		P	01 41 55.6	+0.3	
	baz=94								
SDCO				⇓P		P	01 41 55.6	+0.3	
	baz=94								
SDCO				⇓P		P	01 41 55.6	+0.3	
	baz=94								
SDCO				⇓P		P	01 41 55.6	+0.3	
	baz=94								
U25A	**Circle Dot Ran**	**93.42**	**50**	⇓P		P	01 41 56.2	+0.9	
	baz=94								
U25A				⇓P		P	01 41 56.2	+0.9	
	baz=94								
U25A				⇓P		P	01 41 56.2	+0.9	
	baz=94								
R23A	**Moffat**	**93.45**	**48**	⇑P		P	01 41 55.5	0.0	
	baz=94								
R23A				⇑P		P	01 41 55.5	0.0	
	baz=94								
R23A				⇑P		P	01 41 55.5	0.0	
	baz=94								
DLMT	**Dillon**	**93.46**	**39**	*e*P		P	01 41 55.4	+0.3	
	comp=Z,17nm,1.0s								
IMW	**Indian Meadow**	**93.53**	**41**	*e*P		P	01 41 55.9	+0.3	
	comp=Z,31nm,1.3s								
MOOW	**Moose Ponds**	**93.55**	**42**	*e*P		P	01 41 55.5	-0.2	
	comp=Z,44nm,1.8s								
LOHW	**Long Hollow**	**93.55**	**42**	*e*P		P	01 41 56.0	+0.3	
	comp=Z,58nm,1.5s								
S24A	**Houchin Ranch,**	**93.56**	**49**	⇑P		P	01 41 56.6	+0.6	
	baz=94								
S24A				⇑P		P	01 41 56.6	+0.6	
	baz=94								
S24A				⇑P		P	01 41 56.6	+0.6	
	baz=94								
KVTX	**Kingsville**	**93.59**	**61**	PFAKE			01 42 10.0	+14	
KVTX				LR		LR			
	comp=Z,1μm,19.0s								
MSO	**Missoula**	**93.61**	**38**	*e*P		P	01 41 55.9	+0.2	
	comp=Z,7.7nm,1.1s								
MSO				LR		LR			
	comp=Z,3μm,19.0s								
JCT	**Junction City**	**93.62**	**57**	*e*P		P	01 41 56.3	+0.2	
JCT				pmax		pmax			
	comp=Z,30nm,1.4s								
JCT				MLR		MLR			
	comp=Z,2μm,21.0s								
JCT	**Junction City**	**93.62**	**57**	*e*P		P	01 41 56.3	+0.2	
	comp=Z,30nm,1.4s								
JCT				LR		LR			
	comp=Z,2μm,21.0s								
TNA	**Tin City**	**93.66**	**4**	*e*P		P	01 41 56.6	+1.3	
	comp=Z,44nm,1.2s								
TNA				*e*PP		PP	01 45 42.1	+1.0	
TRF	**Thorofare Moun**	**93.66**	**12**	*e*P		P	01 41 54.1	-1.5	
	comp=Z,17nm,0.9s								
J18A	**Kendall Valley**	**93.66**	**42**	⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=39								
J18A				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=39								
J18A				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=39								
PD01	**Pinedale Array**	**93.67**	**43**	*e*P		P	01 41 55.6	-0.6	
BW06	**Boulder Array**	**93.68**	**43**	PFAKE			01 42 10.0	+14	
BW06				LR		LR			
	comp=Z,4μm,19.0s								
BW06	**Boulder Array**	**93.68**	**43**	⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=24								
BW06				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=24								
BW06				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=24								
BW06				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=24								
BW06				⇑P		P	01 41 56.3	0.0	
	baz=94,SNR=24								
PDAR	**Pinedale Array**	**93.68**	**43**	P		P	01 41 56.4	+0.1	
	comp=Z,5.2nm,0.9s,baz=208,slow=2.9,SNR=28								
PDAR				PKKPbc		**PKKPbc**	01 59 02.5	+0.4	
	comp=Z,0.7nm,0.7s,baz=74,slow=3.9,SNR=5.7								
PDAR				LR		LR	02 22 19.8		
	comp=Z,5μm,18.0s,baz=243,slow=34								
PDAR	**Pinedale Array**	**93.68**	**43**	P		P	01 41 56.4	+0.1	
PDAR				PKKPbc		**PKKPbc**	01 59 02.5	+0.4	
PD02	**Pinedale Array**	**93.68**	**43**	*e*P		P	01 41 56.0	-0.4	
XAN	**Xi'an**	**93.73**	**307**	P		P	01 41 57.3	+0.7	
XAN				pP		pP	01 42 07.6	-0.6	
XAN				SKS		SKSac	01 52 31.4	+3.0	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.5s								
XAN				pmax		pmax			
	comp=Z,230nm,8.4s								
XAN				LR		LR			
	comp=N,1μm,18.9s								
XAN				LR		LR			
	comp=E,540nm,19.6s								
XAN				LR		LR			
	comp=Z,830nm,19.6s								
I17A	**Pilgrim Ck.**	**93.75**	**41**	⇓P		P	01 41 57.4	+0.8	
	baz=94,SNR=17								
I17A				⇓P		P	01 41 57.4	+0.8	
	baz=94,SNR=17								
I17A				⇓P		P	01 41 57.4	+0.8	
	baz=94,SNR=17								
FLWY	**Flagg Ranch**	**93.78**	**41**	*e*P		P	01 41 56.9	+0.2	
	comp=Z,31nm,0.9s								
M20A	**Sweetwater, Wa**	**93.78**	**44**	⇑P		P	01 41 57.1	+0.2	
	baz=94								
M20A				⇑P		P	01 41 57.1	+0.2	
	baz=94								
M20A				⇑P		P	01 41 57.1	+0.2	
	baz=94								
N21A	**Black Mountain**	**93.79**	**45**	⇓P		P	01 41 56.9	0.0	
	baz=94,SNR=9.2								
N21A				⇓P		P	01 41 56.9	0.0	
	baz=94,SNR=9.2								
N21A				⇓P		P	01 41 56.9	0.0	
	baz=94,SNR=9.2								
QLMT	**Earthquake Lak**	**93.80**	**40**	*e*P		P	01 41 58.2	+1.4	
	comp=Z,7.1nm,1.3s								
BSMT	**Bassoo Peak**	**93.80**	**37**	*e*P		P	01 41 57.9	+1.2	
	comp=Z,4.0nm,1.3s								
F15A	**Butte**	**93.80**	**39**	⇑P		P	01 41 57.1	+0.3	
	baz=94								
F15A				⇑P		P	01 41 57.1	+0.3	
	baz=94								
F15A				⇑P		P	01 41 57.1	+0.3	
	baz=94								
CM31	**Chiang Mai Arr**	**93.81**	**289**	PFAKE			01 42 10.0	+13	
CM31				LR		LR			
	comp=Z,2μm,20.0s								
CMAR	**Chiang Mai Arr**	**93.81**	**289**	P		P	01 41 58.7	+1.5	
	comp=Z,7.0nm,0.6s,baz=143,slow=3.5,SNR=39								
CMAR	**Chiang Mai Arr**	**93.81**	**289**	P		P	01 41 58.7	+1.5	
CMAR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**93.81**	**289**	P		P	01 41 58.7	+1.5	
LRM	**Limekiln Ridge**	**93.82**	**39**	*e*P		P	01 41 56.8	-0.1	
	comp=Z,58nm,1.0s								
T25A	**Trinidad**	**93.82**	**50**	⇑P		P	01 41 57.1	0.0	
	baz=94								
T25A				⇑P		P	01 41 57.1	0.0	
	baz=94								
T25A				⇑P		P	01 41 57.1	0.0	
	baz=94								
G16A	**Moss Hill, Enn**	**93.82**	**40**	⇑P		P	01 41 57.2	+0.4	
	baz=94,SNR=12								
G16A				⇑P		P	01 41 57.2	+0.4	
	baz=94,SNR=12								
G16A				⇑P		P	01 41 57.2	+0.4	
	baz=94,SNR=12								
H16A	**Russell Place,**	**93.83**	**41**	⇑P		P	01 41 57.7	+0.8	
	baz=94,SNR=15								
H16A				⇑P		P	01 41 57.7	+0.8	
	baz=94,SNR=15								
H16A				⇑P		P	01 41 57.7	+0.8	
	baz=94,SNR=15								
U26A	**Atchley Ranch,**	**93.87**	**51**	⇓P		P	01 41 57.4	+0.1	
	baz=94								
U26A				⇓P		P	01 41 57.4	+0.1	
	baz=94								
U26A				⇓P		P	01 41 57.4	+0.1	
	baz=94								
KMI	**Kunming**	**93.90**	**296**	⇑P		P	01 41 59.0	+1.2	
KMI				pP		pP	01 42 09.9	+0.5	
KMI				PP		PP	01 45 44.3	+0.2	
KMI				SKS		SKSac	01 52 29.6	-0.5	
KMI				S		S	01 53 04.0	-1.5	
KMI				sS		sS	01 53 22.9	-2.0	
KMI				pmax		pmax			
	comp=Z,30nm,1.7s								
KMI				pmax		pmax			
	comp=Z,690nm,8.9s								
KMI				LR		LR			
	comp=N,2μm,17.2s								
KMI				LR		LR			
	comp=E,1μm,19.5s								
KMI				LR		LR			
	comp=Z,2μm,17.4s								
YFT	**Old Faithful**	**93.91**	**41**	*e*P		P	01 41 59.9	+2.5	
	comp=Z,17nm,0.9s								
R24A	**Sanders Place,**	**93.95**	**48**	⇓P		P	01 41 58.5	+0.8	
	baz=94								
R24A				⇓P		P	01 41 58.5	+0.8	
	baz=94								
R24A				⇓P		P	01 41 58.5	+0.8	
	baz=94								
YMR	**Madison River**	**93.97**	**41**	*e*P		P	01 41 58.4	+0.8	
	comp=Z,45nm,1.2s								
CHTO	**Chiang Mai**	**93.98**	**289**	*e*P		P	01 41 58.8	+0.8	
CHTO				pmax		pmax			
	comp=Z,31nm,1.1s								
CHTO				MLR		MLR			
	comp=Z,2μm,20.0s								
CHTO	**Chiang Mai**	**93.98**	**289**	*e*P		P	01 41 58.8	+0.8	
	comp=Z,31nm,1.1s								
CHTO				LR		LR			
	comp=Z,2μm,20.0s								
CHTO	**Chiang Mai**	**93.98**	**289**	P		P	01 41 59.3	+1.3	
	comp=Z,35nm,1.1s,comp=Z,865nm								
D14A	**Greenough**	**94.00**	**38**	⇓P		P	01 41 57.8	+0.3	
	baz=94								
D14A				⇓P		P	01 41 57.8	+0.3	
	baz=94								
D14A				⇓P		P	01 41 57.8	+0.3	
	baz=94								
CHMT	**Chamberlain Mo**	**94.04**	**38**	*e*P		P	01 41 57.9	0.0	
	comp=Z,15nm,1.5s								
I18A	**Diamond G Ranc**	**94.07**	**42**	⇓P		P	01 41 58.5	+0.4	
	baz=94,SNR=11								
I18A				⇓P		P	01 41 58.5	+0.4	
	baz=94,SNR=11								
I18A				⇓P		P	01 41 58.5	+0.4	
	baz=94,SNR=11								
O22A	**Kremmling**	**94.07**	**46**	⇓P		P	01 41 58.2	-0.1	
	baz=94,SNR=8.2								
O22A				⇓P		P	01 41 58.2	-0.1	
	baz=94,SNR=8.2								
O22A				⇓P		P	01 41 58.2	-0.1	
	baz=94,SNR=8.2								
SEY	**Seymchan**	**94.08**	**346**	*ce*P		P	01 41 57.6	+0.3	
S25A	**Robets Cordova**	**94.08**	**49**	⇓P		P	01 41 58.3	0.0	
	baz=94								
S25A				⇓P		P	01 41 58.3	0.0	
	baz=94								
S25A				⇓P		P	01 41 58.3	0.0	
	baz=94								
P23A	**Jefferson**	**94.09**	**47**	⇓P		P	01 41 58.3	-0.2	
	baz=94								
P23A				⇓P		P	01 41 58.3	-0.2	
	baz=94								
P23A				⇓P		P	01 41 58.3	-0.2	
	baz=94								
SLMT	**Seeley Lake**	**94.11**	**38**	*e*P		P	01 41 59.3	+1.2	
	comp=Z,19nm,1.6s								
PAX	**Paxson**	**94.15**	**14**	*e*P		P	01 41 57.4	-0.4	
PAX	**Paxson**	**94.15**	**14**	*e*P		P	01 41 57.4	-0.4	
MCK	**McKinley**	**94.16**	**12**	*e*P		P	01 41 57.0	-0.7	
MCK				pmax		pmax			
	comp=Z,33nm,1.2s								
MCK	**McKinley**	**94.16**	**12**	*e*P		P	01 41 57.0	-0.7	
	comp=Z,33nm,1.2s								
YNR	**Norris Junctio**	**94.16**	**41**	*e*P		P	01 42 00.8	+2.3	
	comp=Z,19nm,1.2s								
BOZ	**Bozeman (W)**	**94.17**	**40**	*e*P		P	01 41 58.4	0.0	
BOZ				pmax		pmax			
	comp=Z,16nm,1.0s								
BOZ				MLR		MLR			
	comp=Z,4μm,19.0s								
BOZ	**Bozeman (W)**	**94.17**	**40**	*e*P		P	01 41 58.4	0.0	
	comp=Z,16nm,1.0s								
BOZ				LR		LR			
	comp=Z,4μm,19.0s								
BOZ	**Bozeman (W)**	**94.17**	**40**	⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
BOZ				⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
BOZ				⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
BOZ				⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
BOZ				⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
BOZ				⇓P		P	01 41 58.7	+0.2	
	baz=94,SNR=13								
LKWY	**Lake**	**94.23**	**41**	*e*P		P	01 42 00.4	+1.5	
LKWY				pmax		pmax			
	comp=Z,22nm,1.0s								
LKWY				MLR		MLR			
	comp=Z,7μm,19.0s								
LKWY	**Lake**	**94.23**	**41**	*e*P		P	01 42 00.4	+1.5	
	comp=Z,22nm,1.0s								
LKWY				LR		LR			
	comp=Z,7μm,19.0s								
J19A	**Crowheart**	**94.27**	**43**	⇑P		P	01 41 58.7	-0.2	
	baz=95,SNR=11								
J19A				⇑P		P	01 41 58.7	-0.2	
	baz=95,SNR=11								
J19A				⇑P		P	01 41 58.7	-0.2	
	baz=95,SNR=11								
M21A	**Separation Pea**	**94.36**	**45**	⇑P		P	01 41 59.5	0.0	
	baz=95,SNR=8.0								
M21A				⇑P		P	01 41 59.5	0.0	
	baz=95,SNR=8.0								
M21A				⇑P		P	01 41 59.5	0.0	
	baz=95,SNR=8.0								
T26A	**Comanche Natio**	**94.39**	**50**	⇓P		P	01 41 59.4	-0.3	
	baz=95								
T26A				⇓P		P	01 41 59.4	-0.3	
	baz=95								
T26A				⇓P		P	01 41 59.4	-0.3	
	baz=95								
ISCO	**Idaho Springs**	**94.47**	**47**	PFAKE			01 42 10.0	+10	
ISCO				LR		LR			
	comp=Z,4μm,19.0s								
N22A	**Wattenberg Ran**	**94.48**	**46**	⇓P		P	01 42 00.4	+0.2	
	baz=95								
N22A				⇓P		P	01 42 00.4	+0.2	
	baz=95								
N22A				⇓P		P	01 42 00.4	+0.2	
	baz=95								
MENT	**Mentasta**	**94.50**	**14**	*e*P		P	01 41 59.7	+0.4	
O23A	**Lake Granby, G**	**94.50**	**46**	⇑P		P	01 42 00.7	+0.5	
	baz=95								
O23A				⇑P		P	01 42 00.7	+0.5	
	baz=95								
O23A				⇑P		P	01 42 00.7	+0.5	
	baz=95								
RWWY	**Rawlins**	**94.50**	**45**	*e*P		P	01 41 59.1	-1.1	
	comp=Z,32nm,1.3s								
AMTX	**Amarillo**	**94.51**	**53**	PFAKE			01 42 10.0	+10	
AMTX				LR		LR			
	comp=Z,3μm,19.0s								
D15A	**Lincoln**	**94.52**	**38**	⇑P		P	01 42 02.2	+2.2	
	baz=95,SNR=5.4								
D15A				⇑P		P	01 42 02.2	+2.2	
	baz=95,SNR=5.4								
D15A				⇑P		P	01 42 02.2	+2.2	
	baz=95,SNR=5.4								
L21A	**Rawlins**	**94.56**	**44**	⇓P		P	01 42 01.0	+0.6	
	baz=95								
L21A				⇓P		P	01 42 01.0	+0.6	
	baz=95								
L21A				⇓P		P	01 42 01.0	+0.6	
	baz=95								
DLBC	**Dease Lake**	**94.60**	**23**	LR		LR	02 19 49.3		
	comp=Z,2μm,18.7s,baz=223,slow=32								
HRY	**Holter Researc**	**94.69**	**39**	*e*P		P	01 42 01.5	+0.8	
	comp=Z,7.5nm,1.0s								
H18A	**Shoshone NF, C**	**94.72**	**41**	⇑P		P	01 42 01.7	+0.6	
	baz=95								
H18A				⇑P		P	01 42 01.7	+0.6	
	baz=95								
H18A				⇑P		P	01 42 01.7	+0.6	
	baz=95								
M22A	**Cedar Creek Ra**	**94.72**	**45**	⇓P		P	01 42 01.9	+0.7	
	baz=95								
M22A				⇓P		P	01 42 01.9	+0.7	
	baz=95								
M22A				⇓P		P	01 42 01.9	+0.7	
	baz=95								
I19A	**Meeteetse**	**94.75**	**42**	⇑P		P	01 42 01.3	+0.2	
	baz=95,SNR=14								
I19A				⇑P		P	01 42 01.3	+0.2	
	baz=95,SNR=14								
I19A				⇑P		P	01 42 01.3	+0.2	
	baz=95,SNR=14								
N23A	**Red Feather La**	**94.86**	**46**	⇓P		P	01 42 02.3	+0.5	
	baz=95								
N23A				⇓P		P	01 42 02.3	+0.5	
	baz=95								
N23A				⇓P		P	01 42 02.3	+0.5	
	baz=95								
F17A	**Fitzpatrick Pl**	**94.87**	**40**	⇓P		P	01 42 02.7	+1.1	
	baz=95								
F17A				⇓P		P	01 42 02.7	+1.1	
	baz=95								
F17A				⇓P		P	01 42 02.7	+1.1	
	baz=95								
J20A	**Shoshoni**	**94.90**	**43**	⇑P		P	01 42 02.1	+0.3	
	baz=95,SNR=9.0								
J20A				⇑P		P	01 42 02.1	+0.3	
	baz=95,SNR=9.0								
J20A				⇑P		P	01 42 02.1	+0.3	
	baz=95,SNR=9.0								
C15A	**Salmond Ranch,**	**94.91**	**37**	⇑P		P	01 42 02.8	+1.0	
	baz=95								
C15A				⇑P		P	01 42 02.8	+1.0	
	baz=95								
C15A				⇑P		P	01 42 02.8	+1.0	
	baz=95								
K21A	**Alcova**	**95.00**	**44**	⇓P		P	01 42 02.5	+0.1	
	baz=95								
K21A				⇓P		P	01 42 02.5	+0.1	
	baz=95								
K21A				⇓P		P	01 42 02.5	+0.1	
	baz=95								
WALA	**Waterton Lakes**	**95.01**	**36**	*e*P		P	01 42 04.3	+2.1	
	comp=Z,0.7nm,1.4s								
D16A	**Dana Ranch, Ca**	**95.04**	**39**	⇓P		P	01 42 03.3	+1.0	
	baz=95								
D16A				⇓P		P	01 42 03.3	+1.0	
	baz=95								
D16A				⇓P		P	01 42 03.3	+1.0	
	baz=95								
H19A	**Powell**	**95.12**	**41**

H19A **baz=96**
G18A Lazy EL Ranch, 95.15 41 ⇓P **P 01 42 03.9 +0.9**
baz=96,SNR=8.6
G18A ⇓P **P 01 42 03.9 +0.9**
baz=96,SNR=8.6
G18A ⇓P **P 01 42 03.9 +0.9**
baz=96,SNR=8.6
L22A Ellis Ranch, M 95.17 45 ⇑P **P 01 42 04.2 +1.1**
baz=96
L22A ⇑P **P 01 42 04.2 +1.1**
baz=96
L22A ⇑P **P 01 42 04.2 +1.1**
baz=96
A14A Double T Ranch 95.21 36 ⇑P **P 01 42 03.5 +0.4**
baz=96
A14A ⇑P **P 01 42 03.5 +0.4**
baz=96
A14A ⇑P **P 01 42 03.5 +0.4**
baz=96
RLMT Red Lodge 95.21 41 *e*P **P 01 42 04.0 +0.7**
comp=Z,14nm,1.2s
RLMT LR LR
comp=Z,6μm,19.0s
I20A Worland 95.21 42 ⇓P **P 01 42 03.6 +0.5**
baz=96
I20A ⇓P **P 01 42 03.6 +0.5**
baz=96
I20A ⇓P **P 01 42 03.6 +0.5**
baz=96
J21A Lysite 95.28 43 ⇓P **P 01 42 04.3 +0.7**
baz=96
J21A ⇓P **P 01 42 04.3 +0.7**
baz=96
J21A ⇓P **P 01 42 04.3 +0.7**
baz=96
GCMT Greycliff 95.37 40 *e*P **P 01 42 05.0 +1.1**
comp=Z,8.8nm,1.0s
COLA College 95.40 12 *e*P **P 01 42 03.2 -0.1**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA MLR MLR
comp=Z,3μm,19.0s
COLA College 95.40 12 *e*P **P 01 42 03.1 -0.1**
comp=Z,18nm,1.0s
COLA LR LR
comp=Z,3μm,19.0s
F18A Big Timber 95.41 40 ⇑P **P 01 42 05.3 +1.2**
baz=96
F18A ⇑P **P 01 42 05.3 +1.2**
baz=96
F18A ⇑P **P 01 42 05.3 +1.2**
baz=96
K22A Casper 95.46 44 ⇑P **P 01 42 04.7 +0.3**
baz=96
K22A ⇑P **P 01 42 04.7 +0.3**
baz=96
K22A ⇑P **P 01 42 04.7 +0.3**
baz=96
ILAR Eielson Array 95.48 12 P **P 01 42 03.5 -0.3**
comp=Z,3.0nm,0.8s,baz=218,slow=5.1,SNR=18
PP **PP 01 45 59.8 +4.4**
comp=Z,2.6nm,1.0s,baz=225,slow=7.1,SNR=5.8
ILAR LR LR 02 25 21.5
comp=Z,1μm,19.0s,baz=206,slow=36
ILAR Eielson Array 95.48 12 P **P 01 42 03.5 -0.3**
ILAR 01 45 59.8
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR MLR MLR
comp=Z,1μm,19.0s
ILAR Eielson Array 95.48 12 P **P 01 42 03.5 -0.3**
ILAR PP **PP 01 45 59.8 +4.4**
HHC Hu-ho-hao-te 95.56 314 *e*P **P 01 42 05.3 +0.5**
HHC pP **pP 01 42 16.3 -0.2**
HHC PP **PP 01 45 59.3 +2.7**
HHC SKS **SKSac 01 52 37.6 -0.4**
HHC S **S 01 53 18.0 -1.0**
HHC SS **SS 01 59 52.0 +3.3**
HHC pmax pmax
comp=Z,27nm,1.5s
HHC pmax pmax
comp=Z,520nm,6.3s
HHC LR LR
comp=N,2μm,19.0s
HHC LR LR
comp=E,1μm,19.0s
HHC LR LR
comp=Z,2μm,19.0s
D17A Six Diamond Ra 95.59 39 ⇑P **P 01 42 06.0 +1.2**
baz=96,SNR=10
D17A ⇑P **P 01 42 06.0 +1.2**
baz=96,SNR=10
D17A ⇑P **P 01 42 06.0 +1.2**
baz=96,SNR=10
HIA Hailar 95.62 324 PFAKE 01 42 20.0 +15
HIA LR LR
comp=Z,4μm,21.0s
I21A Big Trails, Te 95.64 43 ⇑P **P 01 42 05.0 -0.2**
baz=96
I21A ⇑P **P 01 42 05.0 -0.2**
baz=96
I21A ⇑P **P 01 42 05.0 -0.2**
baz=96
L23A Garrett 95.67 45 ⇓P **P 01 42 05.6 +0.1**
baz=96
L23A ⇓P **P 01 42 05.6 +0.1**
baz=96
L23A ⇓P **P 01 42 05.6 +0.1**
baz=96
F19A Roth Farm, Mol 95.82 41 ⇓P **P 01 42 05.5 -0.4**
baz=96
F19A ⇓P **P 01 42 05.5 -0.4**
baz=96
F19A ⇓P **P 01 42 05.5 -0.4**
baz=96
C17A Wharram Farm, 95.83 38 ⇓P **P 01 42 05.9 0.0**
baz=96
C17A ⇓P **P 01 42 05.9 0.0**
baz=96
C17A ⇓P **P 01 42 05.9 0.0**
baz=96
G20A Bridger 95.88 41 ⇑P **P 01 42 06.7 +0.4**
baz=96
G20A ⇑P **P 01 42 06.7 +0.4**
baz=96
G20A ⇑P **P 01 42 06.7 +0.4**
baz=96
J22A Midwest 95.91 44 ⇓P **P 01 42 06.6 +0.2**
baz=96
J22A ⇓P **P 01 42 06.6 +0.2**
baz=96
J22A ⇓P **P 01 42 06.6 +0.2**
baz=96
CD2 Chengdu 95.93 302 P **P 01 42 08.3 +1.6**
CD2 PP **PP 01 46 03.5 +3.9**
CD2 SKS **SKSac 01 52 38.0 -2.3**
CD2 S **S 01 53 18.3 -4.2**
CD2 SS **SS 01 59 53.9 -0.2**
CD2 pmax pmax
comp=Z,50nm,1.6s
CD2 pmax pmax
comp=Z,90nm,6.7s
CD2 LR LR
comp=N,3μm,18.4s
CD2 LR LR
comp=Z,3μm,22.6s
TGUH Tegucigalpa,Un 95.94 77 PFAKE 01 42 20.0 +13
TGUH LR LR
comp=Z,2μm,22.0s
I22A 9 Mile Ranch, 96.17 43 ⇑P **P 01 42 08.1 +0.5**
baz=96
I22A ⇑P **P 01 42 08.1 +0.5**
baz=96
I22A ⇑P **P 01 42 08.1 +0.5**
baz=96
JTS JuntasAbangare 96.23 82 *e*P **P 01 42 08.8 +0.4**
JTS pmax pmax
comp=Z,28nm,1.3s
JTS MLR MLR
comp=Z,4μm,19.0s
JTS JuntasAbangare 96.23 82 *e*P **P 01 42 08.8 +0.4**
comp=Z,28nm,1.3s
JTS LR LR
comp=Z,4μm,19.0s
H21A Big Horn, Sher 96.24 42 ⇓P **P 01 42 08.4 +0.6**
baz=97
H21A ⇓P **P 01 42 08.4 +0.6**
baz=97
H21A ⇓P **P 01 42 08.4 +0.6**
baz=97
WMOK Wichita Mounta 96.49 54 PFAKE 01 42 20.0 +11
WMOK LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 96.61 38 PFAKE 01 42 20.0 +11
EGMT LR LR
comp=Z,4μm,19.0s
H22A Clearmont 96.63 43 ⇓P **P 01 42 10.7 +1.1**
baz=97
H22A ⇓P **P 01 42 10.7 +1.1**
baz=97
H22A ⇓P **P 01 42 10.7 +1.1**
baz=97
EGAK Eagle 96.66 14 PFAKE 01 42 20.0 +11
EGAK LR LR
comp=Z,2μm,19.0s
BILL Bilibino 96.75 354 ⇑ *e*P **P 01 42 09.6 +0.2**
BILL *e* 01 42 23.5
BILL *e* 01 46 07.2
BILL *e*S **SKSac 01 52 40.7 -2.1**
BILL *e*PS **PS 01 54 58.4 +4.6**
BILL pmax pmax
comp=Z,14nm,1.7s
BILL Bilibino 96.75 354 *e*P **P 01 42 09.2 -0.3**
comp=Z,40nm,1.5s
BILL LR LR
comp=Z,3μm,20.0s
J24A Dixon Ranch, L 96.98 44 ⇑P **P 01 42 11.9 +0.7**
baz=97
J24A ⇑P **P 01 42 11.9 +0.7**
baz=97
J24A ⇑P **P 01 42 11.9 +0.7**
baz=97
OTAV Otavalo 97.32 94 *e*P **P 01 42 14.0 +0.1**
comp=Z,2.1nm,0.5s
OTAV LR LR
comp=Z,2μm,21.0s
F22A Rosebud 97.33 42 ⇓P Pdif 01 42 14.0 +1.2
baz=98
F22A ⇓P Pdif 01 42 14.0 +1.2
baz=98
F22A ⇓P Pdif 01 42 14.0 +1.2
baz=98
OGNE Ogallala 97.39 47 PFAKE 01 42 20.0 +6.8
OGNE LR LR
comp=Z,4μm,19.0s
RSSD Black Hills 97.78 44 *e*P **P 01 42 14.6 -0.4**
RSSD pmax pmax
comp=Z,25nm,1.0s
RSSD Black Hills 97.78 44 *e*P **P 01 42 14.6 -0.4**
comp=Z,25nm,1.0s
H24A Dirks Ranch, A 97.80 43 ⇓P **P 01 42 14.6 -0.2**
baz=98
H24A ⇓P **P 01 42 14.6 -0.2**
baz=98
H24A ⇓P **P 01 42 14.6 -0.2**
baz=98
CBKS Cedar Bluff 97.84 50 PFAKE 01 42 30.0 +15
CBKS LR LR
comp=Z,3μm,21.0s
TEIG Tepich 97.90 71 PFAKE 01 42 30.0 +14
TEIG LR LR
comp=Z,1μm,22.0s
LPAZ La Paz 97.94 113 P Pdif 01 42 18.0 +1.0
comp=Z,2.8nm,1.0s,baz=298,slow=2.7,SNR=6.3
LPAZ LR LR 02 22 19.2
comp=Z,1μm,18.2s,baz=235,slow=33
LPAZ La Paz 97.94 113 *e*P Pdif 01 42 18.8 +1.9
LPAZ pmax pmax
comp=Z,11nm,1.3s
LPAZ La Paz 97.94 113 *e*P Pdif 01 42 18.8 +1.8
comp=Z,11nm,1.3s
NATX Nacogdoches 98.09 58 PFAKE 01 42 30.0 +14
NATX LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 98.36 306 *e*P Pdif 01 42 19.1 +1.4
LZH sP sP 01 42 24.3 -9.3
LZH PP **PP 01 46 22.0 +3.6**
LZH SKS **SKSac 01 52 52.5 -0.4**
LZH S **S 01 53 41.3 -2.1**
LZH SS **SS 02 00 31.5 +3.0**
LZH pmax pmax
comp=Z,35nm,1.2s
LZH LR LR
comp=N,2μm,18.2s
LZH LR LR
comp=E,2μm,19.0s
LZH LR LR
comp=Z,3μm,19.8s
YAK Yakutsk 99.65 337 *e*P **Pdif 01 42 18.2 -4.3**
YAK *e* 01 46 22.8
YAK *e*PPP PPP 01 48 32.0
YAK *e*S **SKSac 01 52 53.4 -4.2**
YAK *e* 01 53 50.1
YAK *e*SSS SSS 02 04 29.8
YAK pmax pmax
comp=Z,209μm,12.6s
YAK pmax pmax
comp=N,74μm,13.4s
YAK pmax pmax
comp=E,64μm,12.6s
YAK pmax pmax
comp=Z,295nm,16.1s
YAK pmax pmax
comp=N,225nm,17.0s
YAK pmax pmax
comp=E,122nm,15.2s
YAK smax smax
comp=N,333nm,13.6s
YAK smax smax
comp=E,285nm,14.5s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,977nm,20.0s
YAK Yakutsk 99.65 337 PFAKE 01 42 30.0 +7.5
YAK LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 99.96 40 PFAKE 01 42 40.0 +16
DGMT LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 100.12 51 PFAKE 01 42 40.0 +15
KSU1 LR LR
comp=Z,3μm,21.0s
MIAR Mount Ida 100.18 56 PFAKE 01 42 40.0 +14
MIAR LR LR
comp=Z,3μm,19.0s
BCIP Isla Barro Col 100.21 85 *e*Pdif **Pdif 01 42 27.1 +0.9**
BCIP LR LR
comp=Z,2μm,20.0s
INK Inuvik 101.31 15 *e*P **Pdif 01 42 30.2 +0.4**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 101.31 15 *e*Pdif **Pdif 01 42 30.2 +0.4**
comp=Z,5.3nm,1.1s
VBMS Vicksburg 101.43 60 PFAKE 01 42 40.0 +8.8
VBMS LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 101.92 318 *e*P **Pdif 01 42 34.7 +1.4**
ULN pmax pmax
comp=Z,18nm,1.5s
ULN MLR MLR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 101.92 318 *e*Pdif **Pdif 01 42 34.7 +1.4**
comp=Z,18nm,1.5s
ULN LR LR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 101.92 318 P **Pdif 01 42 35.4 +2.1**
ECSD EROS Data Cent 102.26 47 PFAKE 01 42 50.0 +15
ECSD LR LR
comp=Z,5μm,19.0s
SONM Songino Array 102.30 318 P **Pdif 01 42 33.8 -1.1**
comp=Z,1.8nm,0.9s,baz=113,slow=3.4,SNR=8.9
SONM PKIKP **PKiKP 01 46 57.0 +0.4**
comp=Z,1.8nm,1.0s,baz=111,slow=1.8,SNR=5.8
SONM PKKPbc **PKKPbc 01 58 37.1 -1.0**
comp=Z,0.7nm,0.7s,baz=298,slow=2.8,SNR=5.3
SONM Songino Array 102.30 318 P **Pdif 01 42 33.8 -1.1**
SONM *i* 01 46 57.0
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 102.30 318 P **Pdif 01 42 33.8 -1.1**
SONM PKiKP **PKiKP 01 46 57.0 +0.4**
SONM PKKPbc **PKKPbc 01 58 37.1 -1.0**
GTA Gaotai 102.72 308 *e*P **Pdif 01 42 39.5 +2.5**
GTA PP **PKiKP 01 46 56.4 -1.3**
GTA SKS 01 53 15.0
GTA S SKKSac 01 54 18.9 +25
GTA SS **SS 02 01 31.8 +2.7**
GTA pmax pmax
comp=Z,6.0nm,1.9s
GTA pmax pmax
comp=Z,390nm,7.4s
GTA LR LR
comp=N,2μm,20.4s
GTA LR LR
comp=E,2μm,19.5s
GTA LR LR
comp=Z,2μm,20.9s
SHL Shillong 102.85 292 *e*P **Pdif 01 42 37.0 -0.9**
SHL *e*S **SKSac 01 53 12.0 -3.2**
YKA Yellowknife Ar 102.91 25 P **Pdif 01 42 37.1 0.0**
comp=Z,0.6nm,1.0s,baz=235,slow=4.2,SNR=5.8
YKA PKiKP **PKiKP 01 46 57.3 +0.3**
comp=Z,0.5nm,0.8s,baz=213,slow=2.2,SNR=6.1
YKA PKKPbc **PKKPbc 01 58 35.0 -1.5**
comp=Z,0.4nm,0.7s,baz=40,slow=2.9,SNR=7.3
YKA PKKP **PKKPdf 01 58 44.1 -0.7**
comp=Z,1.0nm,0.9s,baz=36,slow=2.9,SNR=5.3
YKA Yellowknife Ar 102.91 25 P **Pdif 01 42 37.1 0.0**
YKA *i* 01 46 57.3
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 102.91 25 P **Pdif 01 42 37.1 0.0**
YKA PKiKP **PKiKP 01 46 57.4 +0.3**
YKA PKKPbc **PKKPbc 01 58 35.0 -1.5**
YKA PKKP **PKKPdf 01 58 44.1 -0.7**
OXF Oxford 103.25 58 PFAKE 01 42 50.0 +11
OXF LR LR
comp=Z,3μm,19.0s
BRAL Brewton 103.58 62 PFAKE 01 42 50.0 +9.2
BRAL LR LR
comp=Z,1μm,20.0s
SCIA State Center 103.69 50 PFAKE 01 42 50.0 +8.9
SCIA LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 104.28 35 PFAKE 01 43 00.0 +17
FFC LR LR
comp=Z,2μm,20.0s
PLAL Pickwick Lake 104.45 58 PFAKE 01 43 00.0 +15
PLAL LR LR
comp=Z,3μm,19.0s
LRAL Lakeview Retre 104.47 60 PFAKE 01 43 00.0 +15
LRAL LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 104.63 253 PFAKE 01 43 00.0 +14
DGAR LR LR
comp=Z,6μm,20.0s
AGMN Agassiz Nation 104.76 43 PFAKE 01 43 00.0 +14
AGMN LR LR
comp=Z,3μm,19.0s
LSA Lhasa 105.15 296 PFAKE 01 47 10.0
LSA LR LR
comp=Z,2μm,20.0s
ULM Lac du Bonnet 105.59 41 PKKPab PKKPab 01 58 43.5 +1.7
comp=Z,6.6nm,0.8s,baz=68,slow=6.5,SNR=11
ULM Lac du Bonnet 105.59 41 PKKPab PKKPab 01 58 43.5 +1.7
ULM LR LR
comp=Z,4μm,19.0s
TLY Talaya 105.63 320 *e*P **Pdif 01 42 50.0 +0.5**
TLY pmax pmax
comp=Z,5.0nm,1.8s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 105.63 320 PFAKE 01 47 10.0
TLY LR LR
comp=Z,2μm,20.0s
HDIL Hopedale 105.82 52 PFAKE 01 47 10.0
HDIL LR LR
comp=Z,3μm,19.0s
SAML Samuel 105.93 109 *e*PKP 01 47 04.8
SAML LR LR
comp=Z,4μm,21.0s
MTDJ Mount Denham 106.17 78 PFAKE 01 47 20.0
MTDJ LR LR
comp=Z,1μm,21.0s
EYMN Ely 107.28 45 PFAKE 01 47 20.0
EYMN LR LR
comp=Z,4μm,19.0s
GOGA Godfrey 107.33 61 PFAKE 01 47 20.0
GOGA LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 108.20 90 PFAKE 01 47 20.0
SDV LR LR
comp=Z,507nm,19.0s
GTBY Guantanamo Bay 108.95 77 PFAKE 01 47 20.0
GTBY LR LR
comp=Z,969nm,20.0s
SPB Sao Paulo 108.97 131 PFAKE 01 47 20.0
SPB LR LR
comp=Z,2μm,20.0s
NHSC New Hope 109.78 62 PFAKE 01 47 20.0
NHSC LR LR
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 110.18 54 PFAKE 01 47 20.0
ACSO LR LR
comp=Z,2μm,19.0s
AAM Ann Arbor 110.41 52 PFAKE 01 47 20.0
AAM LR LR
comp=Z,2μm,21.0s
GLMI Grayling 110.59 49 PFAKE 01 47 20.0
GLMI LR LR
comp=Z,2μm,20.0s
BLA Blacksburg 111.03 58 PFAKE 01 47 20.0
BLA LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 111.88 80 PFAKE 01 47 30.0
SDDR LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 112.29 61 PFAKE 01 47 30.0
CNNC LR LR
comp=Z,2μm,19.0s
ERPA Erie 112.92 53 PFAKE 01 47 30.0
ERPA LR LR
comp=Z,2μm,19.0s
GRTK Grand Turk 113.00 77 PFAKE 01 47 30.0
GRTK LR LR
comp=Z,2μm,20.0s
CBN Corbin 113.64 58 PFAKE 01 47 30.0
CBN LR LR
comp=Z,2μm,19.0s
BDFB Brasilia 113.89 125 PKKPab PKKPab 01 58 08.3 -1.3
comp=Z,3.4nm,0.7s,baz=76,slow=5.3,SNR=6.2
BDFB PKKP **PKKPdf 01 58 20.5 -1.5**
comp=Z,4.5nm,1.0s,baz=49,slow=7.5,SNR=3.3
BDFB Brasilia 113.89 125 PKKPab PKKPab 01 58 08.3 -1.3
BDFB PKKP **PKKPdf 01 58 20.5 -1.5**
RES Resolute Bay 114.76 17 *e*PKIKP PKPdf 01 47 18.3 -0.7
RES Resolute Bay 114.76 17 *e*PKP PKPdf 01 47 18.3 -0.7
BINY Binghamton 115.80 54 PFAKE 01 47 30.0 +8.0
BINY LR LR
comp=Z,3μm,19.0s
DDI Dehra Dun 115.95 292 *ex* **PKPdf 01 47 23.5 +0.8**
SJG San Juan 116.02 83 PFAKE 01 47 40.0 +17
SJG LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 116.77 227 PFAKE 01 47 40.0 +15
ABPO LR LR
comp=Z,2μm,21.0s
ZAA0 Zalesovo Array 117.15 319 *e*PKPdf **PKPdf 01 47 22.7 -1.4**
ZALV Zalesovo Beam 117.15 319 PKP **PKPdf 01 47 23.1 -1.1**
comp=Z,4.3nm,0.8s,baz=156,slow=1.6,SNR=19
ZALV Zalesovo Beam 117.15 319 PKIKP **PKPdf 01 47 23.1 -1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.8s

ZALV	**Zalesovo Beam**	**117.15**	**319**	PKP	**PKPdf**	**01 47 23.1**	**-1.1**
MK31	**Makanchi Array**	**117.25**	**311***c*	*i* PKIKP	**PKPdf**	**01 47 23.4**	**-1.2**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	**Makanchi Array**	**117.25**	**311**	*e*PKPdf	**PKPdf**	**01 47 23.3**	**-1.3**
MKAR	**Makanchi Array**	**117.25**	**311**	Pdiff	**Pdif**	**01 43 45.5**	**+4.2**
	comp=Z,0.3nm,0.7s,baz=90,slow=5.6,SNR=4.6						
MKAR				PKP	**PKPdf**	**01 47 23.4**	**-1.3**
	comp=Z,5.5nm,0.8s,baz=77,slow=1.9,SNR=35						
MKAR				PKKPbc	**PKKPbc**	**01 57 49.5**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=287,slow=4.7,SNR=6.2						
MKAR	**Makanchi Array**	**117.25**	**311***c*	*i* PKIKP	**PKPdf**	**01 47 23.3**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**117.25**	**311**	Pdif	**Pdif**	**01 43 45.5**	**+4.2**
MKAR				PKP	**PKPdf**	**01 47 23.4**	**-1.3**
MKAR				PKKPbc	**PKKPbc**	**01 57 49.5**	**+0.2**
LONY	**Lake Ozonia**	**117.39**	**52**	PFAKE		01 47 40.0	+15
LONY				LR	LR		
	comp=Z,2µm,22.0s						
GRGR	**Grenville**	**117.55**	**91**	PFAKE		01 47 40.0	+14
GRGR				LR	LR		
	comp=Z,922nm,20.0s						
SUR	**Sutherland**	**117.55**	**197**	*e*PKPdf	**PKPdf**	**01 47 26.9**	**+0.9**
SUR				LR	LR		
	comp=Z,4µm,20.0s						
NVS	**Novosibirsk**	**118.22**	**320**	*e*PKIKP	**PKPdf**	**01 47 23.8**	**-2.4**
NVS				*e*S	**SKSac**	**01 54 17.2**	**+0.2**
NVS				pmax	pmax		
	comp=Z,19nm,1.3s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
NVS				smax	smax		
	comp=N,8.0nm,2.2s						
NVS				smax	smax		
	comp=E,13nm,2.1s						
FDF	**Fort de France**	**119.08**	**88**	PFAKE		01 47 40.0	+11
FDF				LR	LR		
	comp=Z,979nm,20.0s						
LBNH	**Lisbon**	**119.17**	**53**	PFAKE		01 47 40.0	+12
LBNH				LR	LR		
	comp=Z,3µm,19.0s						
BOSA	**Boshof**	**119.78**	**202**	PKP	**PKPdf**	**01 47 29.9**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=122,slow=1.4,SNR=3.9						
BOSA	**Boshof**	**119.78**	**202**	PKIKP	**PKPdf**	**01 47 30.0**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**119.78**	**202**	PKP	**PKPdf**	**01 47 29.9**	**-0.4**
BOSA				*e*PKPdf	**PKiKP**	**01 47 30.7**	**+0.2**
BOSA				LR	LR		
	comp=Z,2µm,20.0s						
BBGH	**Gun Hill**	**119.83**	**91**	PFAKE		01 47 40.0	+10
BBGH				LR	LR		
	comp=Z,2µm,20.0s						
KSH	**Kashi**	**120.12**	**301**	PKP	**PKPdf**	**01 47 31.1**	**+0.6**
KSH				*e*PKS	**PKSdf**	**01 51 06.4**	**-0.9**
KSH				*e*SKS	**SKSdf**	**01 54 38.3**	**-1.5**
KSH				*e*SKKS	**SKKSac**	**01 55 50.3**	**-2.6**
KSH				*e*SS	**SKKSdf**	**02 05 25.1**	**+3.8**
KSH				AMB	AMB		
	comp=Z,340nm,9.6s						
KSH				LR	LR		
	comp=N,390nm,9.1s						
KSH				LR	LR		
	comp=E,510nm,9.6s						
KSH				LR	LR		
	comp=Z,2µm,22.6s						
MSEY	**Mahe Island**	**120.17**	**245**	PFAKE		01 47 40.0	+8.7
MSEY				LR	LR		
	comp=Z,3µm,20.0s						
KURK	**Kurchatov**	**120.36**	**315**	PKP	**PKPdf**	**01 47 29.4**	**-1.0**
	comp=Z,7.5nm,0.7s,baz=103,slow=1.9,SNR=59						
KURK				PKKPab	**PKKPbc**	**01 57 38.3**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=283,slow=4.9,SNR=7.1						
KURK	**Kurchatov**	**120.36**	**315**	*i* PKIKP	**PKPdf**	**01 47 29.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,24nm,1.7s						
KURK	**Kurchatov**	**120.36**	**315**	*e*PKPdf	**PKPdf**	**01 47 29.2**	**-1.2**
KURK				PKP	**PKPdf**	**01 47 29.4**	**-1.0**
KURK				PKKPab	**PKKPbc**	**01 57 38.3**	**+0.3**
KURK				LR	LR		
	comp=Z,2µm,19.0s						
TKM2	**Tokmak 2**	**121.11**	**305**	P	**PKPdf**	**01 47 31.7**	**-0.8**
	SNR=6.5						
TKM2				P	**PKPdf**	**01 47 31.7**	**-0.8**
	SNR=6.5						
TKM2	**Tokmak 2**	**121.11**	**305**	*e*PKIKP	**PKPdf**	**01 47 31.2**	**-1.2**
TKM2				MLR	MLR		
	comp=Z,1µm,19.0s						
TKM2	**Tokmak 2**	**121.11**	**305**	*e*PKPdf	**PKPdf**	**01 47 31.2**	**-1.2**
TKM2				LR	LR		
	comp=Z,1µm,19.0s						
KZA	**Kyzart**	**121.20**	**304**	P	**PKPdf**	**01 47 32.9**	**0.0**
	SNR=8.2						
KZA				P	**PKPdf**	**01 47 32.9**	**0.0**
	SNR=8.2						
KBK	**Karagaybulak**	**121.53**	**305**	P	**PKPdf**	**01 47 32.9**	**-0.3**
	SNR=5.0						
KBK				P	**PKPdf**	**01 47 32.9**	**-0.3**
	SNR=5.0						
AAK	**Ala-Archa**	**121.85**	**305**	*i* PKIKP	**PKPdf**	**01 47 34.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,28nm,1.7s						
AAK	**Ala-Archa**	**121.85**	**305**	*e*PKPdf	**PKPdf**	**01 47 33.1**	**-0.7**
AAK				LR	LR		
	comp=Z,3µm,21.0s						
BBSR	**BB Station**	**121.94**	**68**	PFAKE		01 47 50.0	+16
BBSR				LR	LR		
	comp=Z,1µm,19.0s						
USP	**Ospenovka**	**121.96**	**305**	P	**PKPdf**	**01 47 33.6**	**-0.3**
	SNR=8.0						
USP				P	**PKPdf**	**01 47 33.6**	**-0.3**
	SNR=8.0						
AML	**Almayashu**	**122.34**	**304**	P	**PKPdf**	**01 47 34.6**	**-0.5**
	SNR=8.6						
AML				P	**PKPdf**	**01 47 34.6**	**-0.5**
	SNR=8.6						
EKS2	**Erkin-Say**	**122.38**	**305**	*e*PKIKP	**PKPdf**	**01 47 34.1**	**-0.7**
EKS2				MLR	MLR		
	comp=Z,3µm,22.0s						
EKS2	**Erkin-Say**	**122.38**	**305**	*e*PKPdf	**PKPdf**	**01 47 34.1**	**-0.7**
EKS2				LR	LR		
	comp=Z,3µm,22.0s						
LBTB	**Lobatse**	**122.97**	**204**	*e*PKIKP	**PKPdf**	**01 47 37.6**	**+1.1**
LBTB				MLR	MLR		
	comp=Z,3µm,19.0s						
LBTB	**Lobatse**	**122.97**	**204**	*e*PKPdf	**PKPdf**	**01 47 37.6**	**+1.1**
LBTB				LR	LR		
	comp=Z,3µm,19.0s						
SCHQ	**Schefferville**	**123.77**	**41**	PKP	**PKPdf**	**01 47 36.5**	**-0.4**
	comp=Z,7.8nm,1.0s,baz=249,slow=2.3,SNR=4.1						
SCHQ	**Schefferville**	**123.77**	**41**	PKP	**PKPdf**	**01 47 36.5**	**-0.4**
SCHQ				LR	LR		
	comp=Z,4µm,21.0s						
KBL	**Kabul**	**124.43**	**294**	*e*PKIKP	**PKPdf**	**01 47 38.8**	**-0.3**
KBL	**Kabul**	**124.43**	**294**	*e*PKPdf	**PKPdf**	**01 47 38.8**	**-0.3**
KK31	**Karatay Array**	**124.82**	**305***c*	*i* PKIKP	**PKPdf**	**01 47 38.6**	**-0.7**
KK31				pmax	pmax		
	comp=Z,20nm,0.9s						
KKAR	**Karatay Array**	**124.82**	**305**	*e*PKIKP	**PKPdf**	**01 47 38.6**	**-0.7**
KKAR	**Karatay Array**	**124.82**	**305**	*e*PKPdf	**PKPdf**	**01 47 38.6**	**-0.7**
BVA0	**Borovoye Array**	**125.62**	**317**	*i* PKIKP	**PKPdf**	**01 47 39.7**	**-0.8**
BVAR	**Borovoye Array**	**125.62**	**317**	PKP	**PKPdf**	**01 47 40.1**	**-0.4**
	comp=Z,8.3nm,0.8s,baz=132,slow=2.2,SNR=3.9						
BVAR	**Borovoye Array**	**125.62**	**317**	PKIKP	**PKPdf**	**01 47 40.1**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BVAR	**Borovoye Array**	**125.62**	**317**	PKP	**PKPdf**	**01 47 40.1**	**-0.4**
BRVK	**Borovoye**	**125.69**	**317**	*i* PKIKP	**PKPdf**	**01 47 40.3**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,18nm,1.2s						
BRVK	**Borovoye**	**125.69**	**317**	*e*PKPdf	**PKPdf**	**01 47 39.7**	**-0.9**
BRVK				LR	LR		
	comp=Z,1µm,19.0s						
KBS	**Kingsbay**	**129.01**	**358**	*e*PP	PP	01 49 51.1	-3.1
KBS	**Kingsbay**	**129.01**	**358**	PFAKE		01 48 00.0	+14
KBS				LR	LR		
	comp=Z,1µm,19.0s						
RCBR	**Riachuelo**	**129.24**	**126**	PFAKE		01 48 00.0	+11
RCBR				LR	LR		
	comp=Z,5µm,21.0s						
SPB4	**Spitsbergen Ar**	**129.55**	**357**	*e*PKPdf	**PKPdf**	**01 47 47.4**	**+0.1**
DAG	**Danmarks Havn**	**130.19**	**6**	*i* PKIKP	**PKPdf**	**01 47 48.3**	**-0.2**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DAG	**Danmarks Havn**	**130.19**	**6**	*i* P	**PKPdf**	**01 47 48.3**	**-0.2**
	comp=Z,43nm,0.9s						
DAG				*i*		01 48 55.6	
SUMG	**Summit**	**130.23**	**15**	*i* PKIKP	**PKPdf**	**01 47 49.3**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,11nm,1.0s						
SUMG	**Summit**	**130.23**	**15**	*i* P	**PKPdf**	**01 47 49.3**	**+0.1**
	comp=Z,11nm,1.0s						
HOPEN	**Hopen**	**130.47**	**353**	*e*PP	PP	01 50 04.8	+1.0
HOPEN				AMS	AMS	02 41 13.2	
	comp=Z,1µm,18.1s						
SVE	**Sverdlovsk**	**130.90**	**322**	*i* PKIKP	**PKPdf**	**01 47 51.3**	**+0.9**
SVE				*e*		01 50 04.8	
SVE				*e*		02 00 11.3	
SVE				pmax	pmax		
	comp=Z,26nm,1.8s						
SVE				MLR	MLR		
	comp=Z,4µm,22.0s						
TSUM	**Tsumeb**	**130.95**	**198**	PFAKE		01 48 00.0	+8.1
TSUM				LR	LR		
	comp=Z,4µm,19.0s						
ARU	**Arti**	**132.10**	**322**	*i* PKIKP	**PKPdf**	**01 47 53.3**	**+0.6**
ARU						01 50 17.1	
ARU				PPP	PPP	01 53 03.1	
ARU				MLR	MLR		
	comp=Z,5µm,21.0s						
ARU	**Arti**	**132.10**	**322**	*e*PKPdf	**PKPdf**	**01 47 52.5**	**-0.1**
ARU				LR	LR		
	comp=Z,4µm,20.0s						
SOKR	**Solikamsk**	**132.22**	**327**	*i* PKIKP	**PKPdf**	**01 47 53.3**	**+0.6**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s						
ABKAR	**Akbulak array**	**132.33**	**312**	*e*PKPdf	**PKPdf**	**01 47 51.5**	**-1.8**
AKTO	**Aktyubinsk**	**133.45**	**314**	PKhKP	PKPpre	01 47 42.9	
	comp=Z,1.3nm,0.7s,baz=358,slow=6.0,SNR=6.0						
AKTO				PKP	**PKiKP**	**01 47 56.2**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=132,slow=0.6,SNR=16						
AKTO	**Aktyubinsk**	**133.45**	**314**	PKHKP	PKPpre	01 47 42.9	
AKTO						01 47 56.2	
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**133.45**	**314**	PKPpre	PKPpre	01 47 42.9	
AKTO				PKP	**PKiKP**	**01 47 56.2**	**-0.4**
SHEL	**Horse Pasture**	**135.26**	**167**	PFAKE		01 48 10.0	+10
SHEL				LR	LR		
	comp=Z,2µm,19.0s						
SCO	**Scoresbysund**	**135.26**	**12**	*i* PKIKP	**PKPdf**	**01 47 59.5**	**+1.3**
SCO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SCO	**Scoresbysund**	**135.26**	**12**	*i* P	**PKPdf**	**01 47 59.5**	**+1.3**
	comp=Z,9.7nm,0.9s						
LVZ	**Lovozero**	**136.07**	**344**	PFAKE		01 48 10.0	+10
LVZ				LR	LR		
	comp=Z,2µm,22.0s						
KEV	**Kevo**	**136.19**	**348**	*e*PKIKP	**PKPdf**	**01 48 00.2**	**+0.2**
KEV	**Kevo**	**136.19**	**348**	PFAKE		01 48 10.0	+10
KEV				LR	LR		
	comp=Z,2µm,20.0s						
KEV	**Kevo**	**136.19**	**348**	*e*pkp	**PKPdf**	**01 48 00.2**	**+0.2**
KEV	**Kevo**	**136.19**	**348**	*e*pkp	**PKPdf**	**01 48 00.2**	**+0.2**
KMBO	**Kilima Mbogo**	**136.37**	**234**	*e*PKIKP	**PKPdf**	**01 48 02.1**	**-0.2**
KMBO				MLR	MLR		
	comp=Z,2µm,20.0s						
KMBO	**Kilima Mbogo**	**136.37**	**234**	*e*PKPdf	**PKPdf**	**01 48 02.1**	**-0.2**
KMBO				LR	LR		
	comp=Z,2µm,20.0s						
ARCES	**ARCESS Array B**	**136.65**	**349**	PKhKP	PKPpre	01 47 51.1	
	comp=Z,4.4nm,1.0s,baz=31,slow=2.8,SNR=6.7						
ARCES				PKP	**PKPdf**	**01 48 01.2**	**+0.4**
	comp=Z,8.2nm,0.7s,baz=337,slow=1.5,SNR=14						
ARCES	**ARCESS Array B**	**136.65**	**349**	PKHKP	PKPpre	01 47 51.2	
ARCES						01 48 01.3	
ARCES	**ARCESS Array B**	**136.65**	**349**	PKPpre	PKPpre	01 47 51.1	
ARCES				PKP	**PKPdf**	**01 48 01.2**	**+0.4**
KTK1	**Kautokeino**	**137.49**	**350**	*e*PKPdf	**PKPdf**	**01 48 02.9**	**+0.4**
KTK1				AMS	AMS	02 48 07.5	
	comp=Z,5µm,23.5s						
TRO	**Tromso**	**137.52**	**352**	*e*	**PKPdf**	**01 48 03.7**	**+1.3**
KLMR	**Klimovskoe**	**139.33**	**334**	*e*PKIKP	**PKPdf**	**01 48 01.6**	**-4.4**
KLMR				pmax	pmax		
	comp=Z,46nm,1.8s						
KLMR				MLR	MLR		
	comp=Z,3µm,24.0s						
JOF	**Joensuu**	**140.75**	**340**	*e*pkp	PKPdf	01 48 01.7	-6.8
JOF	**Joensuu**	**140.75**	**340**	*e*pkp	PKPdf	01 48 01.7	-6.8
MBAR	**Mbarara**	**141.19**	**227**	PFAKE		01 48 20.0	+8.9
MBAR				LR	LR		
	comp=Z,522nm,19.0s						
RDF	**Al-Radifah**	**141.36**	**282**	*e*P	PKPdf	01 48 04.6	-6.1
NAY	**Al-Naaiem**	**141.68**	**282**	*e*P	PKPdf	01 48 05.3	-6.0
NAY				AMb	AMB	01 48 23.9	
	comp=Z,30nm,1.7s						
MIB	**Mutribah**	**141.68**	**283**	*e*P	PKPdf	01 48 05.4	-5.8
MIB				AMb	AMB	01 48 15.4	
	comp=Z,43nm,1.0s						
KAF	**Kangasniemi**	**142.81**	**342**	*e*pkp	PKPdf	01 48 06.6	-5.6
KAF	**Kangasniemi**	**142.81**	**342**	*e*pkp	PKPdf	01 48 06.6	-5.6
MOS	**Moscow**	**143.13**	**328**	*e*PKIKP	PKPbc	01 48 09.8	-0.1
MOS				*e*		01 51 29.4	
MOS				pmax	pmax		
	comp=Z,57nm,1.4s						
NSS	**Namsos**	**143.21**	**354**	*e*PKPdf	PKPab	01 48 08.6	0.0
VRHR	**Novokhopersk**	**143.29**	**319**	*e*PKHKP	PKPpre	01 48 09.0	
VRHR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				MLR	MLR		
	comp=Z,3µm,19.0s						
DGRG	**David-gareji**	**143.41**	**302**	P	PKPbc	01 48 11.1	-0.2
FINES	**FINESS Array B**	**143.43**	**342**	PKhKP	PKPpre	01 48 09.9	
	comp=Z,4.6nm,0.5s,baz=52,slow=3.4,SNR=42						
FINES	**FINESS Array B**	**143.43**	**342**	PKIKP	PKPab	01 48 09.9	+0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**143.43**	**342**	PKPpre	PKPpre	01 48 09.9	
TBLG	**Delisi**	**143.84**	**303**	*e*PKIKP	PKPab	01 48 12.2	+0.4
TBLG	**Delisi**	**143.84**	**303**	P	PKPbc	01 48 12.3	-0.2
OBN	**Obninsk**	**143.98**	**328***d*	*i* PKIKP	PKPbc	01 48 12.2	-0.2
OBN				*e*		01 48 24.8	
OBN				*e*		01 51 27.6	
OBN				*e*SS	SKSdf	01 55 13.4	-7.4
OBN				pmax	pmax		
	comp=Z,29nm,0.9s						
OBN				MLR	MLR		
	comp=Z,1µm,21.0s						
OBN	**Obninsk**	**143.98**	**328**	*e*PKPdf	PKPab	01 48 11.4	-0.4
OBN				*e*		01 48 24.0	
OBN				*e*PP	**PP**	**01 51 27.0**	**-1.5**
OBN				LR	LR		
	comp=Z,2µm,20.0s						
GNI	**Garni**	**144.04**	**300**	*e*P	PKPbc	01 48 13.2	-0.2
GNI	**Garni**	**144.04**	**300**	*i* PKIKP	PKPbc	01 48 13.4	0.0
GNI				pmax	pmax		
	comp=Z,55nm,1.7s						
GNI	**Garni**	**144.04**	**300**	*e*PKPdf	**PKPab**	**01 48 13.0**	**+0.1**
GNI				LR	LR		
	comp=Z,1µm,20.0s						
ZEI	**Tsey**	**144.28**	**305**	*i* PKIKP	**PKPab**	**01 48 13.9**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,55nm,1.6s						
BHD	**Baghdad**	**144.55**	**289**	*i* PKP	**PKPab**	**01 48 13.0**	**-1.7**
BHD				*i* PP	PP	01 51 24.0	-9.1
BHD				*i* PKS	**PKSdf**	**01 48.0**	**-3.8**
BHD				*i* PPP	PPP	01 54 32.0	
BHD				*i* SKKKS		01 54 32.0	
VSR	**Storozhevoye**	**144.63**	**321**	*e*PKIKP	**PKPab**	**01 48 14.0**	**-0.4**
VSR				*e*		01 51 31.7	
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,50nm,0.9s						
VSR				pmax	pmax		
	comp=N,200nm,3.3s						
VSR				pmax	pmax		
	comp=E,170nm,3.3s						
VSR				pmax	pmax		
	comp=Z,220nm,3.3s						
CLDR	**Caldiran**	**144.78**	**299**	*e*P	**PKPdf**	**01 48 16.6**	**-0.2**
AKH	**Akhalkalaki**	**144.81**	**303**	P	**PKPdf**	**01 48 16.6**	**-0.1**
KIV	**Kislovodsk**	**144.90**	**307***c*	*i* PKIKP	**PKPab**	**01 48 15.4**	**-0.4**
KIV				*e*		01 48 29.9	
KIV				pmax	pmax		
	comp=Z,36nm,0.9s						
KIV	**Kislovodsk**	**144.90**	**307**	*e*PKPdf	**PKPab**	**01 48 15.3**	**-0.4**
KIV				LR	LR		
	comp=Z,3µm,20.0s						
HAKT	**HAKKARI**	**145.07**	**296**	*i* P	**PKPbc**	**01 48 16.3**	**-0.6**
CUKT	**Cukurca**	**145.17**	**296**	*e*P	**PKPbc**	**01 48 16.9**	**-0.1**
TVAN	**Van**	**145.24**	**298**	*i* P	**PKPbc**	**01 48 17.4**	**+0.1**
KARS	**Kars**	**145.24**	**301**	*e*P	**PKPdf**	**01 48 18.0**	**+0.6**
VANB	**Van**	**145.25**	**298**	*e*P	**PKPbc**	**01 48 17.3**	**+0.1**
VANT	**Van**	**145.36**	**298**	*e*P	**PKPab**	**01 48 19.7**	**+1.9**
AGRB	**Hanur-Agry**	**145.45**	**300**	*e*P	**PKPdf**	**01 48 17.8**	**0.0**
MOL	**Molde**	**145.48**	**357**	*e*PKPdf	**PKPdf**	**01 48 16.9**	**0.0**
TUTA	**Tutak**	**145.61**	**299**	*i* P	**PKPdf**	**01 48 17.0**	**-1.2**
VSU	**Vasula**	**145.63**	**338***c*	*i* PKP2	**PKPdf**	**01 48 17.3**	**+0.1**
ARTV	**Artvin**	**146.01**	**303**	*i* P	**PKPdf**	**01 48 18.8**	**0.0**
DAGI	**Agillar**	**146.04**	**303**	*i* P	**PKPdf**	**01 48 15.5**	**-3.2**
SIRN	**S¨–rnak**	**146.11**	**296**	*i* P	**PKPdf**	**01 48 17.6**	**-1.3**
TATV	**Tatvan**	**146.13**	**298**	*i* P	**PKPdf**	**01 48 17.5**	**-1.5**
DBOC	**Borcka**	**146.18**	**303**	*i* P	**PKPdf**	**01 48 18.1**	**-0.7**
BCA	**Borcka**	**146.19**	**303**	*e*P	**PKPbc**	**01 48 20.0**	**+0.1**
DDEM	**Demirkent**	**146.20**	**302**	*i* P	**PKPdf**	**01 48 17.4**	**-1.5**
HOMI	**Horasan**	**146.22**	**301**	*i* P	**PKPdf**	**01 48 19.3**	**+0.1**
FOO	**Floro**	**146.54**	**359**	*e*PKPdf	**PKPdf**	**01 48 18.8**	**+0.1**
EZM	**Erzurum**	**146.65**	**301**	*e*P	**PKPbc**	**01 48 22.2**	**+0.6**
VRTB	**Varto-Mus**	**146.68**	**299**	*e*P	**PKPbc**	**01 48 22.2**	**+0.6**
NB2	**NORSAR Subarra**	**146.70**	**353**	PKP	**PKPbc**	**01 48 20.3**	**-0.4**
	comp=Z,616nm,2.0s,baz=12,slow=3.0						
NB2	**NORSAR Subarra**	**146.70**	**353**	PKP	**PKPbc**	**01 48 20.3**	**-0.4**
	baz=12,slow=3.0						
NOA	**NORSAR Array B**	**146.70**	**353**	PKPbc	**PKPbc**	**01 48 20.4**	**-0.4**
	comp=Z,53nm,0.9s,baz=15,slow=4.4,SNR=67						
NOA	**NORSAR Array B**	**146.70**	**353**	PKP2	**PKPbc**	**01 48 20.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,53nm,0.9s						
NOA	**NORSAR Array B**	**146.70**	**353**	PKPbc	**PKPbc**	**01 48 20.4**	**-0.4**
PZAR	**Pazar-Rize**	**146.78**	**303**	*e*P	**PKPbc**	**01 48 21.7**	**+0.1**
NAO01	**NORSAR Array S**	**146.93**	**353**	*e*PKPbc	**PKPbc**	**01 48 21.0**	**-0.4**
HYA	**Hoyanger**	**146.94**	**358**	*e*P	**PKPab**	**01 48 22.5**	**-0.3**
BNGL	**BINGOL**	**146.95**	**299**	*i* P	**PKPab**	**01 48 23.4**	**-0.5**
NC602	**NORSAR Array S**	**146.96**	**353**	*e*PKPdf	**PKPbc**	**01 48 20.8**	**-0.6**
SOC	**Sochi**	**147.07**	**308***c*	*i* PKP2	**PKPbc**	**01 48 21.9**	**-0.4**
SOC				*e*		01 51 49.0	
SOC				*e*PPP	PPP	01 55 07.1	
SOC				*e*		02 04 26.4	
SOC				pmax	pmax		
	comp=Z,70nm,0.8s						
SOC				MLR	MLR		
	comp=Z,2µm,17.0s						
KOPT	**Kop Dagi**	**147.29**	**301**	*i* P	**PKPdf**	**01 48 21.3**	**+0.3**
BNGB	**Bing¨ll**	**147.31**	**299**	*e*P	**PKPbc**	**01 48 24.0**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**147.49**	**302**	*e*P	**PKPbc**	**01 48 24.6**	**+0.8**
KTUT	**Trabzon**	**147.66**	**303**	*e*P	**PKPbc**	**01 48 24.3**	**+0.3**
ASK	**Askoy**	**147.66**	**358**	*e*	**PKPbc**	**01 48 22.4**	**-0.9**
RUND	**Rundenannen**	**147.72**	**358**	*e*	**PKPbc**	**01 48 22.6**	**-1.0**
BER	**Bergen**	**147.75**	**358**	*e*PKPdf	**PKPdf**	**01 48 22.1**	**+1.3**
DIYA	**Diyarbakir**	**147.88**	**297**	*i* P	**PKPdf**	**01 48 18.6**	**-3.2**
ERZN	**Erzincan**	**147.95**	**300**	*e*P	**PKPbc**	**01 48 26.0**	**+1.0**
GUMT	**Gumushane**	**147.97**	**302**	*e*P	**PKPbc**	**01 48 25.9**	**+0.8**
ODD1	**Odda**	**148.18**	**357**	*e*	**PKPbc**	**01 48 23.7**	**-1.1**
EZC	**Erzincan**	**148.20**	**301**	*e*P	**PKPab**	**01 48 27.8**	**-1.0**
MICGM	**Minsk**	**148.21**	**333**	*i* P	**PKPdf**	**01 48 23.0**	**+1.3**
MNK	**Minsk**	**148.23**	**333**	*i* PKIKP	**PKPdf**	**01 48 23.0**	**+1.3**
MNK				*e*		01 48 39.0	
MNK				pmax	pmax		
	comp=Z,140nm,1.0s						
KONO	**Kongsberg**	**148.23**	**354**	*e*PKPdf	**PKPbc**	**01 48 23.8**	**-1.1**
KONO	**Kongsberg**	**148.23**	**354**	*e*PKP2	**PKPbc**	**01 48 24.3**	**-0.6**
KONO				MLR	MLR		
	comp=Z,2µm,21.0s						
KONO	**Kongsberg**	**148.23**	**354**	*e*PKPbc	**PKPbc**	**01 48 24.3**	**-0.6**
KONO				LR	LR		
	comp=Z,2µm,21.0s						
ANN	**Anapa**	**148.26**	**311**	*i* PKP2	**PKPbc**	**01 48 25.9**	**+0.4**
ANN				*e*		01 51 57.4	
ANN				pmax	pmax		
	comp=Z,272nm,1.8s						
PTK	**Pertek**	**148.31**	**299**	*e*P	**PKPbc**	**01 48 24.8**	**-1.3**
NACGM	**Naroch**	**148.35**	**334**	*e*PKP	**PKPdf**	**01 48 22.0**	**+0.1**
SVRC	**Sivrice-ELAZID**	**148.45**	**298**	*e*P	**PKPbc**	**01 48 26.5**	**0.0**
ILIC	**ilic-Erzincan**	**148.85**	**300**	*e*P	**PKPbc**	**01 48 28.0**	**+0.7**
KEMA	**Kemaliye**	**148.94**	**300**	*i* P	**PKPdf**	**01 48 20.9**	**-2.7**
URFA	**Urfa**	**148.96**	**296**	*e*P	**PKPbc**	**01 48 27.4**	**-0.2**
MYA	**Malataya**	**149.15**	**298**	*e*P	**PKPbc**	**01 48 28.6**	**+0.5**
MALT	**Malatya**	**149.15**	**298**	PFAKE		01 48 40.0	+7.4
MALT			

KIS	**Kishinev**	**152.63 320**	⇓	*i*P	PKPdf	01 48 22.5	-6.3	
KIS	**Kishinev**	**152.63 320**		*e*PP	PP	01 52 20.0	+0.8	
KIS				LRM	MLR	02 50 14.0		
	comp=Z,2μm,20.0s							
GKP	**Gorka Klasztor**	**152.90 342**		*e*PKP	**PKPbc**	**01 48 36.5**	**+0.2**	
GKP				*e*PKiKP	**PKiKP**	**01 48 37.9**	**+1.5**	
GKP				*e*PKPab	**PKPab**	**01 48 48.5**	**+1.1**	
GKP				*e*PP	**PP**	**01 52 23.3**	**+3.1**	
GKP	**Gorka Klasztor**	**152.90 342**		*e*PKP2	**PKPab**	**01 48 48.5**	**+1.1**	
GKP				*e*		01 52 23.3		
BEL	**Belsk**	**152.99 336**		*e*PKPbc	**PKPbc**	**01 48 37.0**	**+0.5**	
BEL				*e*PKiKP	**PKiKP**	**01 48 38.8**	**+2.1**	
BEL				*e*PKPab	**PKPab**	**01 48 47.2**	**-0.7**	
IAS	**Iasi**	**153.21 322**	⇑	*i*P	**PKPab**	**01 48 46.3**	**-2.7**	
LVV	**L'vov**	**153.23 330**		*e*PKiKP	**PKPbc**	**01 48 39.2**	**+2.1**	
LEOM	**Leova**	**153.25 320**	⇓	PKiKP	**PKPbc**	**01 48 37.1**	**-0.1**	
LEOM	**Leova**	**153.25 320**	⇓	*i*P	**PKPbc**	**01 48 37.1**	**-0.1**	
TLCR		**153.61 317**	⇑	*i*P	PKPab	01 48 44.5	-6.2	
CSS	**Prodhromos**	**153.66 292**		*e*PKPbc	**PKPbc**	**01 48 38.3**	**-0.2**	
CSS				*e*PKPab	**PKPab**	**01 48 51.0**	**-0.4**	
CSS				LR	LR			
	comp=Z,3μm,20.0s							
KWP	**Kalwaria Pacla**	**153.95 331**		*e*PKiKP	**PKPbc**	**01 48 38.8**	**+0.1**	
KWP				*e*PKPab	**PKPab**	**01 48 53.4**	**+1.3**	
KWP				*e*PP	**PP**	**01 52 27.6**	**+1.2**	
KWP				LMZ	LR	02 47 51.6		
	comp=Z,1μm,36.1s							
KWP	**Kalwaria Pacla**	**153.95 331**		*e*PKP2	**PKPab**	**01 48 53.4**	**+1.3**	
KWP				*e*		01 52 27.6		
KWP	**Kalwaria Pacla**	**153.95 331**		*e*PKPbc	**PKPbc**	**01 48 39.0**	**+0.3**	
KWP				*e*PKPab	**PKPab**	**01 48 51.0**	**-1.0**	
KWP				LR	LR			
	comp=Z,3μm,21.0s							
KWP	**Kalwaria Pacla**	**153.95 331**	⇑	*i*P	**PKPbc**	**01 48 36.8**	**-1.9**	
GHRR		**153.96 320**	⇓	*i*P	**PKPab**	**01 48 50.5**	**-1.7**	
CFR	**Carcaliu**	**154.03 317**	⇑	PKiKP	**PKPbc**	**01 48 38.8**	**-0.2**	
CFR	**Carcaliu**	**154.03 317**	⇑	*i*P	**PKPbc**	**01 48 38.8**	**-0.2**	
TESR		**154.12 321**	⇑	*i*P	**PKPab**	**01 48 54.4**	**+1.5**	
BUR08	**Bucovina Ar. S**	**154.18 325**		*e*PKPbc	**PKPbc**	**01 48 40.0**	**+0.6**	
BUR08				*e*PKPab	**PKPab**	**01 48 52.0**	**-1.2**	
BURAR	**Bucovina Array**	**154.19 325**	⇑	*i*P	**PKPbc**	**01 48 40.3**	**+0.9**	
PETR		**154.25 319**	⇑	*i*P	**PKPab**	**01 48 54.2**	**+0.8**	
VRI	**Vrincioaia**	**154.46 320**	⇑	PKP2	**PKPab**	**01 48 53.7**	**-0.9**	
VRI	**Vrincioaia**	**154.46 320**	⇑	*i*P	**PKPab**	**01 48 54.0**	**-0.4**	
PLOR	**Plostina**	**154.51 320**	⇑	PKP2	**PKPab**	**01 48 53.7**	**-0.9**	
PLOR	**Plostina**	**154.51 320**	⇑	*i*P	**PKPab**	**01 48 53.7**	**-0.9**	
GRER		**154.60 319**	⇑	*i*P	**PKPab**	**01 48 56.3**	**+1.4**	
KOLS	**Kolonicke sedl**	**154.66 330**		*e*PKiKP	**PKPdf**	**01 48 30.4**	**-1.3**	
KOLS	**Kolonicke sedl**	**154.66 330**		*e*PKP	**PKPdf**	**01 48 30.4**	**-1.3**	
OJC	**Ojcow**	**154.67 335**		*e*PKPdif	**PKPdf**	**01 48 30.9**	**-0.8**	
OJC	**Ojcow**	**154.67 335**		*e*PKiKP	**PKPdf**	**01 48 30.9**	**-0.8**	
STHS	**Stebnicka Huta**	**154.74 332**		*e*PKP2	**PKPab**	**01 48 54.8**	**-0.6**	
PGOR	**Pogoanele**	**154.86 318**	⇑	*i*P	**PKPab**	**01 48 58.1**	**+2.1**	
UZH	**Uzhgorod**	**154.88 330**		*i* PKiKP	**PKPdf**	**01 48 34.1**	**+2.1**	
UZH				*e*		01 55 39.3		
ISR	**Istrita**	**155.00 319**	⇓	PKP2	**PKPab**	**01 48 58.0**	**+1.3**	
ISR	**Istrita**	**155.00 319**	⇓	*i*P	**PKPab**	**01 48 58.0**	**+1.3**	
BMR	**Baia Mare**	**155.00 327**		PKP2	**PKPab**	**01 48 57.2**	**+0.6**	
CRVS	**Cervenica-Dubn**	**155.04 331**		*e*PKiKP	**PKPdf**	**01 48 33.9**	**+1.7**	
CRVS				*e*		01 48 45.4		
CRVS	**Cervenica-Dubn**	**155.04 331**		*e*PKP	**PKPdf**	**01 48 33.9**	**+1.7**	
CRVS				*e*		01 48 45.4		
CRVS				*e*		01 48 58.5		
NIE	**Niedzica**	**155.11 333**		*e*PKPdf	**PKPdf**	**01 48 32.1**	**-0.2**	
NIE	**Niedzica**	**155.11 333**		*e*PKiKP	**PKPdf**	**01 48 32.1**	**-0.2**	
MLR	**Muntele Rosu**	**155.12 320**	⇓	PKP2	**PKPab**	**01 48 58.3**	**+0.9**	
MLR	**Muntele Rosu**	**155.12 320**	⇓	*i*P	**PKPab**	**01 48 58.3**	**+0.9**	
TRPA	**Tarpa**	**155.13 328**	⇓	*i*P	PKPab	01 48 48.7	-8.4	
TRPA	**Tarpa**	**155.13 328**	⇓	*e*	**PKPab**	**01 48 57.8**	**+0.7**	
SECR		**155.32 319**	⇑	*i*P	**PKPab**	**01 48 54.4**	**-3.7**	
KSP	**Ksiaz**	**155.32 340**		*e*PKP2	**PKPab**	**01 48 58.1**	**+0.3**	
ISP	**Isparta**	**155.35 300**		PFAKE		01 48 40.0	+6.9	
ISP				LR	LR			
	comp=Z,3μm,20.0s							
OKC	**Ostrava-Krasne**	**155.59 336**		*e*PKP2	**PKPab**	**01 48 58.3**	**-0.7**	
OKC				MLR	MLR			
	comp=Z,2μm,20.2s							
OKC	**Ostrava-Krasne**	**155.59 336**		*e*PKPAB	**PKPab**	**01 48 58.3**	**-0.7**	
OKC				*ex*	x	01 49 11.1		
OKC				AMS	AMS	02 58 30.0		
	comp=Z,2μm,20.2s							
VOIR		**155.66 321**	⇑	PKP2	**PKPab**	**01 48 55.1**	**-4.5**	
VOIR		**155.66 321**	⇑	*i*P	**PKPab**	**01 48 55.1**	**-4.5**	
UPC	**Upice**	**155.71 340**		*e*PKP2	**PKPab**	**01 49 02.1**	**+2.6**	
UPC	**Upice**	**155.71 340**		*e*PKPAB	**PKPab**	**01 49 02.1**	**+2.6**	
UPC				*ex*	x	01 49 11.9		
DPC	**Dobruska-Polom**	**155.75 340**	⇑	*e*PKP	PKPdf	01 48 44.5	+11	
DPC				*e*PKPAB	**PKPab**	**01 49 00.1**	**+0.4**	
DPC				*ex*	x	01 49 12.1		
DPC				AMS	AMS	02 51 40.0		
	comp=Z,2μm,22.8s							
CIOR	**Ciorogarla**	**155.77 318**	⇑	*i*P	**PKPab**	**01 48 59.9**	**-0.1**	
CLL	**Collm**	**155.77 345**		*e*PKPab	**PKPab**	**01 48 59.5**	**-0.2**	
CLL				*ep*PKPab	**pPKPab**	**01 49 12.3**	**+0.9**	
CLL				*e*PP	**PP**	**01 52 40.5**	**+4.3**	
CLL	**Collm**	**155.77 345**		*e*PKiKP	**PKPdf**	**01 48 34.0**	**+0.9**	
CLL				*e*		01 48 44.0		
CLL				*i*		01 48 59.3		
CLL				pmax	pmax			
	comp=Z,153nm,1.8s							
CLL				MLR	MLR			
	comp=Z,3μm,18.9s							
CLL	**Collm**	**155.77 345**		*e*PKPdf	**PKPdf**	**01 48 34.0**	**+0.9**	
CLL				*e*PKPdiff	PKPab	01 48 44.0	-16	
CLL				*i* PKPab	PKPab	01 48 59.3	-0.4	
	comp=Z,153nm,1.8s							
CLL				*i* pPKPab	**pPKPab**	**01 49 11.3**	**-0.1**	
CLL				*e*PP	**PP**	**01 52 40.0**	**+3.8**	
CLL				*e*PSKS		02 03 05.0		
CLL				*e*PPS	PPS	02 05 48.0		
CLL				*e*		02 07 53.0		
CLL				*e*SS	SS	02 12 22.0	+1.9	
CLL				*e*SSSS		02 22 48.0		
CLL				LmH		03 06 00.0		
	comp=N,2μm,19.1s							
CLL				LmH		03 06 00.0		
	comp=E,1μm,20.3s							
CLL				LmV		03 08 00.0		
	comp=Z,3μm,18.9s							
MORC	**Moravsky Berou**	**155.85 337**		*e*PKiKP	**PKPdf**	**01 48 33.0**	**-0.4**	
MORC	**Moravsky Berou**	**155.85 337**		*e*PKPdf	**PKPdf**	**01 48 33.0**	**-0.4**	
MORC	**Moravsky Berou**	**155.85 337**	⇑	*i*P	**PKPdf**	**01 48 33.7**	**+0.4**	
BRG	**Berggiesshubel**	**155.94 343**		*e*PKP	PKPdf	01 48 39.1	+5.7	
	comp=Z,64nm,2.3s							
BRG				*i*		01 48 44.9		
	comp=Z,14nm,1.1s							
BRG				*e*		01 49 06.5		
	comp=Z,30nm,1.2s							
BRG				*i*		01 49 13.3		
	comp=Z,51nm,1.1s							
BRG								
	comp=N,2μm,23.3s							
BRG								
	comp=E,1μm,22.5s							
BRG								
	comp=Z,3μm,19.9s							
BRG	**Berggiesshubel**	**155.94 343**		*ep*PKPab	pPKPab	01 49 13.5	+1.3	
BRG	**Berggiesshubel**	**155.94 343**		*e*PKiKP	PKPdf	01 48 39.1	+5.7	
BRG				*i*		01 48 44.9		
BRG				pmax	pmax			
	comp=Z,64nm,2.3s							
BRG				MLR	MLR			
	comp=N,2μm,23.3s							
BRG				MLR	MLR			
	comp=E,1μm,22.5s							
BRG				MLR	MLR			
	comp=Z,3μm,19.9s							
DRGR		**156.00 326**	⇑	*i*P	pPKPdf	01 48 49.8	+4.1	
FBE	**Freiberg**	**156.04 344**		*ep*PKPab	pPKPab	01 49 13.9	+1.3	
PVCC	**Panska Ves**	**156.10 342**	⇑	*e*PKPB		01 48 49.4		
PVCC				*e*PKPAB	**PKPab**	**01 49 01.1**	**0.0**	
PVCC				*ex*	x	01 49 10.8		
PVCC				AMS	AMS	02 53 20.0		
	comp=Z,3μm,22.9s							
NEUB	**Neuenburg**	**156.12 347**		*e*PKPab	**PKPab**	**01 49 01.6**	**+0.4**	
NEUB				*ep*PKPab	**pPKPab**	**01 49 14.0**	**+1.1**	
HUMR	**Humele**	**156.25 319**	⇑	*i*P	**PKPab**	**01 49 00.3**	**-1.7**	
LOT	**Lotru**	**156.35 322**	⇑	*i*P	**PKPab**	**01 49 00.3**	**-2.3**	
SZH	**Strazhica**	**156.39 316**		P	**PKPab**	**01 49 03.4**	**+0.7**	
VYHS	**Vyhne**	**156.44 334**		*e*PKiKP	**PKPdf**	**01 48 35.3**	**+1.2**	
VYHS	**Vyhne**	**156.44 334**		*e*PKP	**PKPdf**	**01 48 35.3**	**+1.2**	
VYHS				*e*		01 49 02.4		

PSZ	**Piszkesteto**	**156.46 331**		PKP2	**PKPab**	**01 49 03.6**	**+0.7**	
PSZ	**Piszkesteto**	**156.46 331**		*e*PKPdf	**PKPdf**	**01 48 33.3**	**-0.9**	
PSZ				*e*PKPab	**PKPab**	**01 49 03.2**	**+0.3**	
PSZ				LR	LR			
	comp=Z,4μm,21.0s							
PSZ	**Piszkesteto**	**156.46 331**	⇑	*i*P	**PKPab**	**01 49 03.2**	**+0.3**	
PSZ	**Piszkesteto**	**156.46 331**	⇓	*e*	**PKPab**	**01 49 03.4**	**+0.5**	
KOLL	**Kolacno**	**156.54 334**		*e*PKP2	**PKPab**	**01 49 03.6**	**+0.5**	
PRA	**Prague**	**156.55 342**		PKPDF	PKPdf	01 48 44.0	+10	
PRA				PKPAB	**PKPab**	**01 49 04.0**	**+0.9**	
PRA				pPKP	pPKPab	01 49 16.0	+1.2	
PRA				AMS	AMS	02 54 00.0		
VRAC	**Vranov**	**156.57 338**	⇑	PKP2	**PKPab**	**01 49 04.0**	**+0.8**	
VRAC	**Vranov**	**156.57 338**	⇑	*i*P	**PKPab**	**01 49 04.0**	**+0.8**	
PRU	**Pruhonice**	**156.59 342**		*e*PKP2	**PKPab**	**01 49 03.6**	**+0.3**	
PRU				MLR	MLR			
	comp=Z,2μm,22.5s							
PRU	**Pruhonice**	**156.59 342**		*e*PKPAB	**PKPab**	**01 49 03.6**	**+0.3**	
PRU				*ex*	x	01 49 16.7		
PRU				AMS	AMS	02 53 40.0		
	comp=Z,2μm,22.5s							
MOX	**Moxa**	**156.69 347**		*e*PKPab	**PKPab**	**01 49 04.0**	**+0.3**	
MOX				*ep*PKPab	**pPKPab**	**01 49 16.4**	**+1.0**	
MOX				*e*PP	**PP**	**01 52 38.9**	**-2.4**	
MOX				*e*L	L	02 59 31.5		
	comp=Z,3μm,21.7s							
MOX	**Moxa**	**156.69 347**		*e*PKP2	**PKPab**	**01 49 04.0**	**+0.3**	
MOX				*e*		01 52 38.9		
TANN	**Tannenbergstha**	**156.72 345**		*e*PKPab	**PKPab**	**01 49 04.1**	**+0.2**	
TANN				*ep*PKPab	**pPKPab**	**01 49 17.0**	**+1.4**	
PLN	**Plauen**	**156.73 346**		*ep*PKPab	pPKPab	01 49 16.8	+1.2	
WERD	**Werda**	**156.73 345**		*ep*PKPab	**pPKPab**	**01 49 17.0**	**+1.4**	
WERD				*e*PP	**PP**	**01 52 39.4**	**-2.2**	
LIC	**Lamto**	**156.77 158**		*e*PKiKP	**PKPdf**	**01 48 35.3**	**-0.3**	
	comp=Z,29nm,1.2s							
GUNZ	**Gunzen**	**156.80 345**		*e*PKPab	**PKPab**	**01 49 04.5**	**+0.3**	
GUNZ				*ep*PKPab	**pPKPab**	**01 49 17.5**	**+1.6**	
GUNZ				*e*PP	**PP**	**01 52 39.8**	**-2.2**	
WERN	**Wernitzgruen**	**156.86 345**		*e*PKPab	**PKPab**	**01 49 04.7**	**+0.2**	
WERN				*ep*PKPab	**pPKPab**	**01 49 17.6**	**+1.4**	
WERN				*e*PP	**PP**	**01 52 43.5**	**+1.2**	
NKC	**Novy Kostel**	**156.90 345**		*e*PKPab	**PKPab**	**01 49 04.9**	**+0.3**	
NKC				*ep*PKPab	**pPKPab**	**01 49 17.8**	**+1.5**	
NKC	**Novy Kostel**	**156.90 345**		*e*PKP2	**PKPab**	**01 49 04.6**	**0.0**	
NKC				MLR	MLR			
	comp=Z,3μm,22.2s							
NKC	**Novy Kostel**	**156.90 345**		*e*PKPAB	**PKPab**	**01 49 04.6**	**0.0**	
NKC				*ex*	x	01 49 15.5		
NKC				AMS	AMS	02 59 50.0		
	comp=Z,3μm,22.2s							
GZR	**Gura Zlata**	**156.92 323**	⇑	PKIKP	PKPdf	01 48 41.2	+6.3	
GZR	**Gura Zlata**	**156.92 323**	⇑	*i*P	PKPdf	01 48 41.2	+6.3	
TREC	**Trest**	**156.94 339**		*e*PKP2	**PKPab**	**01 49 05.8**	**+1.0**	
TREC				MLR	MLR			
	comp=Z,2μm,20.8s							
TREC	**Trest**	**156.94 339**		*e*PKPAB	**PKPab**	**01 49 05.8**	**+1.0**	
TREC				*ex*	x	01 49 18.6		
TREC				AMS	AMS	03 00 40.0		
	comp=Z,2μm,20.8s							
SMOL	**Smolenice**	**156.95 336**		*e*PKP2	**PKPab**	**01 49 06.3**	**+1.4**	
DBIC	**Dimbokro**	**157.25 158**		PKP	**PKPdf**	**01 48 35.9**	**-0.3**	
	comp=Z,5.1nm,1.0s,baz=243,slow=4.6,SNR=5.3							
DBIC	**Dimbokro**	**157.25 158**		PKIKP	**PKPdf**	**01 48 35.9**	**-0.3**	
DBIC				pmax	pmax			
	comp=Z,5.0nm,1.0s							
DBIC	**Dimbokro**	**157.25 158**		*e*PKPdf	**PKPdf**	**01 48 35.9**	**-0.3**	
DBIC				LR	LR			
	comp=Z,2μm,21.0s							
ZST	**Bratislava**	**157.34 336**		*e*PKP2	**PKPab**	**01 49 07.9**	**+1.4**	
ROTZ	**Rotzenmuhle**	**157.39 345**		*e*PKPab	**PKPab**	**01 49 07.0**	**+0.3**	
ROTZ				*ep*PKPab	**pPKPab**	**01 49 20.0**	**+1.6**	
KHC	**Kasperske Hory**	**157.64 342**		*e*PKIKP	**PKPdf**	**01 48 37.1**	**+1.4**	
KHC				MLR	MLR			
	comp=Z,3μm,27.5s							
KHC	**Kasperske Hory**	**157.64 342**		*e*PKPDF	**PKPdf**	**01 48 37.1**	**+1.4**	
KHC				*e*PKPAB	**PKPab**	**01 49 08.5**	**+0.6**	
KHC				*ex*	x	01 49 18.9		
KHC				AMS	AMS	02 56 50.0		
	comp=Z,3μm,27.5s							
MPEP	**Malo Peshtene**	**157.66 318**		P	**PKPab**	**01 49 09.2**	**+1.0**	
GRF	**Grafenberg Arr**	**157.67 347**		*e*PKPab	**PKPab**	**01 49 08.2**	**+0.2**	
GRF				*ep*PKPab	**pPKPab**	**01 49 21.2**	**+1.5**	
GRF				*e*L	L	03 06 00.0		
	comp=Z,3μm,19.1s							
GRF	**Grafenberg Arr**	**157.67 347**		*e*PKP2	**PKPab**	**01 49 08.2**	**+0.2**	
PLD	**Plovdiv**	**157.77 314**		P	**PKPab**	**01 49 10.0**	**+1.3**	
WET	**Wettzell**	**157.81 343**		*e*PKPab	**PKPab**	**01 49 08.8**	**+0.2**	
WET				*ep*PKPab	**pPKPab**	**01 49 22.0**	**+1.7**	
WET	**Wettzell**	**157.81 343**		*e*PKP2	**PKPab**	**01 49 08.8**	**+0.2**	
GEC2	**GERESS Array S**	**157.86 342**		*e*PKPab	**PKPab**	**01 49 09.0**	**+0.1**	
GEC2				*ep*PKPab	**pPKPab**	**01 49 22.0**	**+1.4**	
GEC2				*e*PP	**PP**	**01 52 48.7**	**+0.7**	
GEC2	**GERESS Array S**	**157.86 342**		*e*PKP2	**PKPab**	**01 49 09.0**	**+0.1**	
GEC2				*e*		01 52 48.7		
GERES	**GERESS Array B**	**157.86 342**		PKP	**PKPdf**	**01 48 35.5**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=54,slow=5.0,SNR=2.8							
GERES	**GERESS Array B**	**157.86 342**		PKIKP	**PKPdf**	**01 48 35.5**	**-0.5**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**157.86 342**		PKP	**PKPdf**	**01 48 35.5**	**-0.5**	
PGB	**Panagyurishte**	**157.86 316**		P	**PKPab**	**01 49 09.8**	**+0.6**	
SOP	**Sopron**	**157.97 336**	⇓		**PKPab**	**01 49 10.0**	**+0.7**	
RZN	**Rozhen**	**157.98 313**		P	**PKPab**	**01 49 10.3**	**+0.4**	
CONA	**Conrad Observa**	**158.00 337**	⇑	*i*PKPab	**PKPab**	**01 49 11.0**	**+1.5**	
	comp=Z,108nm,1.7s							
GIVF	**Givet**	**158.06 358**		*e*PKIKP	**PKPdf**	**01 48 36.2**	**+0.1**	
PKSM	**Moragy**	**158.33 330**	⇑	PKIKP	**PKPdf**	**01 48 36.0**	**-0.5**	
PKSM	**Moragy**	**158.33 330**	⇑	*i*P	**PKPdf**	**01 48 36.0**	**-0.5**	
PKSM	**Moragy**	**158.33 330**	⇓	*e*PKPdf	**PKPdf**	**01 48 36.2**	**-0.3**	
WLF	**Walferdange**	**158.42 355**		PFAKE		01 48 50.0	+13	
WLF				LR	LR			
	comp=Z,4μm,21.0s							
VTS	**Vitosha**	**158.42 317**		P	**PKPab**	**01 49 13.0**	**+1.3**	
MMB	**Musomiste**	**158.66 314**		P	**PKPab**	**01 49 12.9**	**+0.3**	
KKB	**Krupnik**	**158.91 316**		P	**PKPab**	**01 49 15.1**	**+1.4**	
SOKA	**Soboth**	**159.37 337**	⇓	*i*PKPab	**PKPab**	**01 49 15.7**	**+0.2**	
	comp=Z,84nm,1.6s							
PERS	**Pernice**	**159.38 337**		*i* PKPab	**PKPab**	**01 49 15.8**	**+0.3**	
PERS				*i*		01 49 27.2		
BFO	**Black Forest**	**159.50 351**		PFAKE		01 48 50.0	+12	
BFO				LR	LR			
	comp=Z,2μm,19.0s							
CDF	**Champ du Feu**	**159.55 353**		*e*PKIKP	**PKPdf**	**01 48 37.7**	**-0.3**	
ECH	**Echery**	**159.76 353**		PFAKE		01 48 50.0	+12	
ECH				LR	LR			
	comp=Z,2μm,19.0s							
WATA	**Walderalm**	**159.81 344**	⇓	*i*PKPab	**PKPab**	**01 49 17.1**	**-0.4**	
	comp=Z,113nm,1.7s							
LJU	**Ljubljana**	**160.09 337**		*i* PKPab	**PKPab**	**01 49 20.0**	**+1.4**	
LJU				*e*		01 49 31.0		
HINF	**Hinteralfeld**	**160.19 353**		*e*PKIKP	**PKPdf**	**01 48 38.7**	**0.0**	
VISS	**Visnje**	**160.19 336**		*i* PKPab	**PKPab**	**01 49 19.0**	**0.0**	
VISS				*i*		01 49 32.1		
BOJS	**Bojanci**	**160.29 335**		*i* PKPab	**PKPab**	**01 49 19.8**	**+0.3**	
BOJS				*i*		01 49 30.4		
VOY	**Vojsko**	**160.32 338**		*e*PKPab	**PKPab**	**01 49 19.2**	**-0.5**	
VOY				*e*		01 49 31.5		
JAVS	**Javornik**	**160.38 337**		*i* PKPab	**PKPab**	**01 49 19.5**	**-0.4**	
JAVS				*i*		01 49 30.9		
TUE	**Stuetta**	**161.12 347**		*e*PKPdf	**PKPdf**	**01 48 40.6**	**+0.6**	
TUE				*e*PKPab	**PKPab**	**01 49 24.2**	**+0.9**	
TUE				LR	LR			
	comp=Z,4μm,20.0s							
SSF	**Saint Saulge**	**161.13 360**		*e*PKIKP	**PKPdf**	**01 48 39.9**	**+0.2**	
TIR	**Tirane**	**161.16 319**		PFAKE		01 48 50.0	+10	
TIR				LR	LR			
	comp=Z,3μm,21.0s							
TCF	**Toulx Ste Croi**	**161.88 3**		*e*PKIKP	**PKPdf**	**01 48 41.0**	**+0.4**	
	comp=Z,78nm,1.6s							
BNI	**Bardonecchia**	**162.94 352**		PFAKE		01 48 50.0	+8.2	
BNI				LR	LR			
	comp=Z,3μm,20.0s							
AQU	**L'Aquila**	**163.66 333**		PFAKE		01 48 50.0	+7.5	
AQU				LR	LR			
	comp=Z,3μm,22.0s							
CUC	**Castrocucco**	**164.35 322**		PFAKE		01 48 50.0	+6.8	
CUC				LR	LR			
	comp=Z,2μm,20.0s							
TIP	**Timpagrande**	**164.37 318**		*e*PKPab	**PKPab**	**01 49 38.1**	**+0.4**	
TIP				LR	LR			
	comp=Z,2μm,19.0s							
MTE	**Manteigas**	**164.83 34**		PFAKE		01 48 50.0	+6.4	

MTE				LR	LR			
	comp=Z,2μm,19.0s							
TORD	**Torodi Ar. Bea**	**164.98 174**		PKP	**PKPdf**	**01 48 43.9**	**-0.5**	
	comp=Z,3.3nm,0.9s,baz=284,slow=1.0,SNR=14							
TORD				PKPab	**PKPab**	**01 49 41.1**	**+0.5**	
	comp=Z,11nm,0.9s,baz=185,slow=4.2,SNR=6.4							
TORD	**Torodi Ar. Bea**	**164.98 174**		PKP	**PKPdf**	**01 48 43.9**	**-0.5**	
TORD				PKPab	**PKPab**	**01 49 41.1**	**+0.5**	
CEL	**Celeste**	**165.48 317**		PFAKE		01 49 00.0	+16	
CEL				LR	LR			
	comp=Z,2μm,20.0s							
PAB	**San Pablo**	**166.96 27**		PFAKE		01 49 00.0	+15	
PAB				LR	LR			
	comp=Z,3μm,19.0s							
ESDC	**Sonseca Array**	**167.00 26**		PKP	**PKPdf**	**01 48 45.0**	**-0.4**	
	comp=Z,1.8nm,0.8s,baz=331,slow=3.8,SNR=5.1							
ESDC				PKPab	**PKPab**	**01 49 49.2**	**+0.1**	
	comp=Z,4.5nm,0.9s,baz=327,slow=3.3,SNR=6.0							
ESDC	**Sonseca Array**	**167.00 26**		PKP	**PKPdf**	**01 48 45.0**	**-0.4**	
ESDC				PKPab	**PKPab**	**01 49 49.2**	**+0.1**	
ESLA	**Sonseca Array**	**167.00 26**		PFAKE		01 49 00.0	+15	
ESLA				LR	LR			
	comp=Z,17μm,20.0s							
VSL	**Villasalto**	**167.65 338**		PFAKE		01 49 00.0	+14	
VSL				LR	LR			
	comp=Z,2μm,19.0s							
WDD	**Wield Dalam**	**167.82 312**		PFAKE		01 49 00.0	+14	
WDD				LR	LR			
	comp=Z,3μm,19.0s							
RTC	**Rabat Centre**	**169.48 54**		PFAKE		01 49 00.0	+13	
RTC				LR	LR			
	comp=Z,3μm,19.0s							
KEST	**Kesra**	**170.91 328**		PKPab	**PKPab**	**01 50 07.3**	**+0.7**	
	comp=Z,2.2nm,0.8s,baz=14,slow=6.0,SNR=4.2							
KEST	**Kesra**	**170.91 328**		PKPab	**PKPab**	**01 50 07.3**	**+0.7**	
TAM	**Tamanrasset**	**174.32 200**		*e*PKIKP	**PKPdf**	**01 48 49.8**	**-0.1**	
TAM				*e*		01 54 08.8		
TAM				MLR	MLR			
	comp=Z,2μm,20.0s							
TAM	**Tamanrasset**	**174.32 200**		*e*PKPdf	**PKPdf**	**01 48 49.8**	**-0.1**	
TAM				*e*PKPab	**PKPab**	**01 50 24.3**	**+2.3**	
TAM				*e*PP	**PP**	**01 54 08.8**	**-4.4**	
TAM				LR	LR			
	comp=Z,2μm,20.0s							

IDC 24 01:50:43.8±1.1, 28°.10S×176°.75W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/15, mbtmp3.9/4, Error ellipse: s-maj=57.5km s-min=27.9km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.12 254**		P	P	01 57 48.7	+1.0
	2.4nm,0.9s,baz=96,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**44.38 264**		P	P	01 58 56.1	-0.3
	1.0nm,0.8s,baz=95,slow=7.0,SNR=7.0						
WRA	**

FITZ	**Fitzroy Crossi**	**70.11**	**210**	P	**P**	**02 27 16.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=22,slow=5.4,SNR=2.0						
AKASG	**Malin Array Be**	**72.28**	**327**	P	**P**	**02 27 28.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=35,slow=7.4,SNR=3.5						
AKASG	**Malin Array Be**	**72.28**	**327**	P	**P**	**02 27 28.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.94**	**201**	P	**P**	**02 27 34.2**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=16,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**72.94**	**201**	*eP*	**P**	**02 27 34.2**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***24*** *02:19:15.4±0.9, 18°.53N±0'.06×104°.66W±0'.04, h10km, mb3.6/6, Error ellipse: s-maj=8.7km s-min=5.3km az=27.1*
IDC ***24*** *02:19:16.0±2.3, 18°.55N×104°.70W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.8/24, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=43.4km s-min=25.4km az=32.0*
MEX ***24*** *02:19:17.3±1.1, 18°.47N×104°.76W, h12km±16km, MD4.0*

ISC 24 02:19:16.4±1.2, 18°.54N±0'.07×104°.66W±0'.06, h10km, n16, σ1§53/22, mb3.6/6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.89**	**46**	*eP*	**Pg**	**02 19 32.7**	**-0.8**
R15V				*i* S	**Sb**	**02 19 45.7**	**-0.2**
CJM	**Chamela**	**1.02**	**339**	*eP*	**Pg**	**02 19 34.1**	**-1.9**
CJM				*i* S	**Sg**	**02 19 47.2**	**-2.0**
MMIG	**Aquila**	**1.27**	**101**	*eP*	**Pn**	**02 19 39.0**	**-1.2**
MMIG				*i* S	**Sb**	**02 19 54.7**	**-2.1**
EZ5V		**1.36**	**47**	*eP*	**Pn**	**02 19 41.1**	**-0.6**
EZ5V				*i* S	**Sb**	**02 19 59.5**	**-0.3**
ANIG	**Ahuacatlan**	**2.50**	**3**	*i P*	**Pn**	**02 19 56.4**	**-0.8**
ANIG				*i* S	**Sn**	**02 20 27.3**	**-0.5**
MOIG	**Morelia**	**3.47**	**70**	*i P*	**Pn**	**02 20 10.3**	**-0.3**
MOIG				*i* S	**Sn**	**02 20 51.7**	**-0.2**
ZAIG	**Zacatecas**	**4.64**	**25**	*i P*	**Pg**	**02 20 43.9**	**-1.3**
ZAIG				*i* S	**Sb**	**02 21 37.6**	**+3.6**
CMIG	**Matias Romero**	**9.42**	**97**	Pn	**Pn**	**02 21 34.4**	**+2.1**
	0.4nm,0.3s,baz=274,slow=9.9,SNR=4.4						
CMIG				Lg	Lg	02 24 18.1	
	baz=191,slow=10,SNR=3.9						
TXAR	**Lajitas Array**	**10.78**	**5**	Pn	Pn	02 21 53.9	+3.0
	0.0nm,0.3s,baz=184,slow=13,SNR=8.2						
TXAR				Lg	Lg	02 24 57.4	
	0.0nm,0.3s,baz=192,slow=34,SNR=4.0						
ANMO	**Albuquerque**	**16.42**	**355**	Pn	**P**	**02 23 10.3**	**+0.4**
	0.0nm,0.3s,baz=154,slow=16,SNR=4.6						
NVAR	**Mina Array Bea**	**23.11**	**332**	P	**P**	**02 24 25.2**	**+2.4**
	1.2nm,0.8s,baz=146,slow=11,SNR=9.2						
ELK	**Elko**	**23.92**	**340**	P	**P**	**02 24 31.8**	**+1.0**
	1.5nm,1.0s,baz=161,slow=7.8,SNR=4.2						
PDAR	**Pinedale Array**	**24.50**	**351**	P	**P**	**02 24 35.9**	**-0.3**
	0.6nm,0.9s,baz=144,slow=9.9,SNR=3.6						
YKA	**Yellowknife Ar**	**44.45**	**353**	P	**P**	**02 27 27.3**	**0.0**
	1.5nm,1.0s,baz=164,slow=7.5,SNR=14						
INK	**Inuvik**	**52.96**	**347**	P	**P**	**02 28 33.8**	**+1.2**
	4.4nm,1.1s,baz=144,slow=8.2,SNR=7.5						
ILAR	**Eielson Array**	**54.08**	**339**	P	**P**	**02 28 42.1**	**+1.1**
	0.7nm,0.9s,baz=152,slow=7.9,SNR=6.1						

IDC 24 02:24:50.9±14.0, 0°.69S×133°.37E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, ML3.4/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/38, Error ellipse: s-maj=210.0km s-min=120.3km az=159.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**177**	P	Pn	02 29 16.8	-0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.85**	**179**	P	P	02 29 56.3	+0.4
	1.6nm,0.9s,baz=354,slow=11,SNR=13						
STKA	**Stephens Creek**	**31.98**	**167**	P	P	02 31 18.0	-0.9
	1.0nm,0.4s,baz=323,slow=10,SNR=4.1						
KSRS	**Korea Array**	**38.29**	**353**	LR	LR	02 47 35.9	
	comp=Z,438nm,18.5s,baz=215,slow=36						

IDC ***24*** *02:25:05.5±2.2, 18°.50N×104°.40W, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.7/25, mbtmp3.5/8, ML2.9/3, Error ellipse: s-maj=38.8km s-min=24.9km az=36.0*
ISCJB ***24*** *02:25:06.0±0.7, 18°.59N±0'.04×104°.62W±0'.04, h10km, mb3.5/5, Error ellipse: s-maj=7.5km s-min=3.7km az=42.9*
MEX ***24*** *02:25:08.4±0.8, 18°.55N×104°.73W, h12km±9km, MD4.3*

ISC 24 02:25:07.1±1.0, 18°.61N±0'.06×104°.61W±0'.05, h10km, n23, σ1§44/34, mb3.6/5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.82**	**47**	*eP*	**Pb**	**02 25 23.1**	**-0.4**
R15V				*i* S	**Sn**	**02 25 35.2**	**-1.8**
CJM	**Chamela**	**0.98**	**335**	*eP*	**Pg**	**02 25 24.4**	**-1.6**
CJM				*i* S	**Sg**	**02 25 36.5**	**-2.2**
MMIG	**Aquila**	**1.24**	**105**	*eP*	**Pn**	**02 25 28.9**	**-1.7**
MMIG				*i* S	**Sg**	**02 25 45.8**	**-1.4**
EZ5V		**1.29**	**48**	*eP*	**Pg**	**02 25 31.1**	**-0.9**
EZ5V				*i* S	**Sg**	**02 25 49.0**	**+0.2**
SFJM	**Santa Fe**	**2.38**	**38**	*i P*	**Pb**	**02 25 50.2**	**-0.1**
ANIG	**Ahuacatlan**	**2.44**	**2**	*eP*	**Pn**	**02 25 46.9**	**-0.2**
ANIG				*i* S	**Sn**	**02 26 15.7**	**-1.3**
ZIIG	**Zihuatanejo**	**3.15**	**108**	*i P*	**Pn**	**02 25 54.2**	**-2.6**
ZIIG				*i* S	**Sn**	**02 26 36.2**	**+1.6**
MOIG	**Morelia**	**3.41**	**71**	*eP*	**Pn**	**02 26 02.0**	**+1.5**
MOIG				*i* S	**Sn**	**02 26 40.2**	**-0.9**
CAIG	**El Cayaco**	**4.42**	**110**	*i P*	**Pn**	**02 26 15.2**	**+0.9**
CAIG				*i* S	**Sn**	**02 27 06.0**	**+0.2**
ZAIG	**Zacatecas**	**4.56**	**24**	*i P*	**Pn**	**02 26 14.8**	**-1.7**
ZAIG				*i* S	**Sn**	**02 27 10.7**	**+0.9**
PLIG	**Platanillo**	**4.85**	**92**	*i P*	**Pn**	**02 26 20.2**	**-0.2**
PLIG				*i* S	**Sn**	**02 27 18.2**	**+1.5**
YAIG	**Yautepec**	**5.26**	**86**	*i P*	**Pn**	**02 26 26.3**	**+0.3**
YAIG				*i* S	**Sn**	**02 27 25.9**	**-0.9**
PPM	**Popocatepetl**	**5.69**	**84**	*eP*	Pn	02 26 35.4	+3.2
PNIG	**Pinotepa**	**6.57**	**109**	*i P*	**Pn**	**02 26 45.2**	**+1.4**
PNIG				*i* S	**Sn**	**02 27 59.4**	**+0.6**
LNIG	**Linares**	**7.88**	**36**	*i P*	**Pn**	**02 27 03.2**	**+1.4**
CMIG	**Matias Romero**	**9.38**	**98**	Pn	**Pn**	**02 27 20.2**	**-2.3**
	0.1nm,0.3s,baz=278,slow=14,SNR=3.2						
CMIG				Lg	Lg	02 29 56.6	
	0.1nm,0.3s,baz=197,slow=21,SNR=3.5						
TXAR	**Lajitas Array**	**10.71**	**4**	Pn	Pn	02 27 43.7	+2.9
	0.0nm,0.3s,baz=182,slow=12,SNR=4.0						
TXAR				Sn	**Sn**	**02 29 42.1**	**+1.2**
	baz=184,slow=25,SNR=2.7						
TXAR				Lg	Lg	02 30 47.1	
	0.0nm,0.3s,baz=192,slow=34,SNR=5.1						
ANMO	**Albuquerque**	**16.36**	**355**	Pn	**P**	**02 28 59.2**	**-0.8**
	0.0nm,0.3s,baz=175,slow=12,SNR=4.9						
NVAR	**Mina Array Bea**	**23.07**	**332**	P	**P**	**02 30 16.1**	**+3.0**
	1.2nm,0.7s,baz=152,slow=12,SNR=13						
ELK	**Elko**	**23.88**	**340**	P	**P**	**02 30 22.2**	**+1.1**
	1.6nm,0.9s,baz=156,slow=7.2,SNR=6.5						
PDAR	**Pinedale Array**	**24.45**	**351**	P	**P**	**02 30 28.2**	**+1.8**
	0.5nm,0.8s,baz=160,slow=10,SNR=4.7						
YKA	**Yellowknife Ar**	**44.39**	**353**	P	**P**	**02 33 17.6**	**0.0**
	1.7nm,1.0s,baz=165,slow=7.3,SNR=16						
ILAR	**Eielson Array**	**54.03**	**339**	P	**P**	**02 34 32.3**	**+0.9**
	0.7nm,0.8s,baz=158,slow=7.4,SNR=7.4						

ISCJB ***24*** *02:27:29.4±1.3, 4°.99S×0°.06×151°.23E±0°.05, h141km±12km, mb4.2/35, Error ellipse: s-maj=10.0km s-min=7.9km az=164.0*
IDC ***24*** *02:27:30.6±0.6, 5°.05S×151°.24E, h140km±5km, mb4.0/21, mb1 4.1/24, mb1mx4.1/25, mbtmp4.0/24, MS5.2/1, Ms1 5.2/1, ms1mx3.4/34, Error ellipse: s-maj=11.5km s-min=8.6km az=101.0*
NEIC ***24*** *02:27:31.6±1.0, 5°.06S×151°.23E, h152km±9km, mb4.4/19, Error ellipse: s-maj=7.6km s-min=6.9km az=106.0*

ISC 24 02:27:30.5±0.5, 5°.04S±0'.06×151°.25E±0'.06, h140km±4km, h139km:pP-P, n83, σ1§02/109, mb4.3/35, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.94**	**223**	P	**Pn**	**02 28 57.0**	**+0.7**
	37nm,0.3s,baz=41,slow=7.0,SNR=51						
PMG				S	**Sn**	**02 30 04.4**	**+1.0**
	61nm,0.3s,baz=160,slow=20,SNR=16						
PMG	**Port Moresby**	**5.94**	**223**	P	**Pn**	**02 28 57.0**	**+0.7**
	25nm,0.8s						
PMG				S	**Sn**	**02 30 04.4**	**+1.0**
HNR	**Honiara**	**9.67**	**117**	P	**Pn**	**02 29 46.4**	**+0.1**
	5.9nm,0.3s,baz=270,slow=9.1,SNR=5.1						
HNR				S	**Sn**	**02 31 33.4**	**0.0**
	39nm,0.3s,baz=222,slow=11,SNR=3.8						
HNR	**Honiara**	**9.67**	**117**	P	**Pn**	**02 29 46.5**	**+0.1**
HNR				S	**Sn**	**02 31 33.4**	**0.0**
COEN	**Coen**	**11.91**	**221**	*ePn*	**Pn**	**02 30 17.1**	**+1.2**
	21nm,0.7s						
CTA	**Charters Tower**	**15.73**	**198**	P	**P**	**02 31 06.0**	**+0.4**
	0.3nm,0.3s,baz=20,slow=14,SNR=4.4						
CTA	**Charters Tower**	**15.73**	**198**	P	**P**	**02 31 06.0**	**+0.4**
CTAO	**Charters Tower**	**15.73**	**198**	*eP*	**Pn**	**02 31 04.9**	**+0.4**
	7.4nm,0.6s						
WRAB	**Tennant Creek**	**22.13**	**227**	*eP*	**P**	**02 32 14.0**	**-1.0**
	13nm,0.6s						
WB2	**Warramunga Arr**	**22.13**	**227**	*eP*	**P**	**02 32 14.3**	**-0.7**
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**02 32 14.3**	**-0.8**
	8.8nm,0.7s,baz=52,slow=9.9,SNR=69						
WRA				pP	**pP**	**02 32 39.8**	**-0.9**
	9.4nm,0.6s,baz=52,slow=10,SNR=7.6						
WRA				S	**S**	**02 36 06.8**	**-2.6**
	4.2nm,1.0s,baz=47,slow=17,SNR=7.8						
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**02 32 14.3**	**-0.8**
WRA				pP	**pP**	**02 32 39.8**	**-0.9**
WRA				S	**S**	**02 36 06.8**	**-2.6**
DZM	**Mont Dzumac**	**22.43**	**140**	P	**P**	**02 32 19.3**	**+1.3**
	7.3nm,0.5s,baz=338,slow=11,SNR=14						
DZM	**Mont Dzumac**	**22.43**	**140**	*eP*	**P**	**02 32 18.5**	**+0.5**
	7.7nm,0.6s						
AS31	**Alice Springs**	**24.95**	**220**	*eP*	**P**	**02 32 40.8**	**-0.2**
ASAR	**Alice Springs**	**24.95**	**220**	P	**P**	**02 32 40.9**	**-0.2**
	3.5nm,0.4s,baz=56,slow=8.7,SNR=39						
ASAR				pP	**pP**	**02 33 08.5**	**-2.0**
	3.5nm,0.7s,baz=51,slow=9.3,SNR=3.1						
ASAR				S	**S**	**02 36 56.0**	**+1.6**
	1.1nm,0.8s,baz=35,slow=16,SNR=4.8						
ASAR	**Alice Springs**	**24.95**	**220**	P	**P**	**02 32 40.9**	**-0.2**
ASAR				pP	**pP**	**02 33 08.5**	**-2.0**
ASAR				S	**S**	**02 36 56.0**	**+1.6**
STKA	**Stephens Creek**	**28.19**	**198**	P	**P**	**02 33 09.3**	**-0.7**
	2.2nm,0.9s,baz=23,slow=13,SNR=2.7						
STKA				pP	**pP**	**02 33 38.9**	**-0.9**
	3.9nm,0.7s,baz=25,slow=14,SNR=4.3						
STKA	**Stephens Creek**	**28.19**	**198**	P	**P**	**02 33 09.3**	**-0.7**
STKA				pP	**pP**	**02 33 38.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.19**	**240**	P	**P**	**02 33 09.3**	**-0.9**
	3.7nm,0.6s,baz=84,slow=11,SNR=8.1						
FITZ				pP	**pP**	**02 33 39.5**	**-0.5**
	12nm,0.8s,baz=67,slow=8.6,SNR=7.0						
FITZ	**Fitzroy Crossi**	**28.19**	**240**	*eP*	**P**	**02 33 09.2**	**-0.9**
	3.0nm,0.7s						
FITZ				pP	**pP**	**02 33 39.5**	**-0.5**
MBWA	**Marble Bar**	**34.51**	**239**	*eP*	**P**	**02 34 04.8**	**-0.8**
	4.6nm,0.7s						
RPZ	**Rata Peaks**	**42.30**	**159**	P	**P**	**02 35 10.9**	**+0.6**
	6.3nm,0.6s,baz=356,slow=15,SNR=8.4						
RPZ	**Rata Peaks**	**42.30**	**159**	P	**P**	**02 35 10.9**	**+0.6**
JNU	**Nakatsue**	**42.59**	**334**	P	**P**	**02 35 12.1**	**-0.7**
	16nm,0.8s,baz=141,slow=9.3,SNR=6.5						
JNU	**Nakatsue**	**42.59**	**334**	P	**P**	**02 35 12.1**	**-0.7**
MJAR	**Matsushiro Arr**	**43.12**	**345**	P	**P**	**02 35 15.5**	**-1.5**
	1.5nm,0.7s,baz=170,slow=8.8,SNR=4.1						
MJAR	**Matsushiro Arr**	**43.12**	**345**	P	**P**	**02 35 15.5**	**-1.5**
KSRS	**Korea Array**	**47.53**	**335**	P	**P**	**02 35 52.9**	**+1.1**
	1.6nm,0.7s,baz=154,slow=8.5,SNR=4.6						
KSAR	**Wonju Array Be**	**47.54**	**335**	P	**P**	**02 35 52.9**	**+1.1**
RAR	**Rarotonga**	**50.10**	**113**	LR	LR	02 51 56.0	
	comp=Z,2μm,19.8s,baz=327,slow=29						
USRK	**Ussuriysk Arra**	**51.99**	**342**	P	**P**	**02 36 26.6**	**+1.3**
	2.9nm,0.8s,baz=157,slow=10,SNR=5.3						
ENH	**Enshi**	**53.19**	**314**	*eP*	**P**	**02 36 35.5**	**+1.0**
	3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.58**	**296**	P	**P**	**02 37 00.7**	**+1.6**
	1.1nm,0.3s,baz=108,slow=4.5,SNR=9.4						
CMAR				pP	**pP**	**02 37 32.5**	**+0.5**
	1.2nm,0.4s,baz=106,slow=5.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**56.58**	**296**	P	**P**	**02 37 00.7**	**+1.6**
CMAR				pP	**pP**	**02 37 32.5**	**+0.5**
PETK	**Petropavlovsk-**	**58.19**	**5**	P	**P**	**02 37 09.3**	**-0.4**
	3.5nm,0.6s,baz=164,slow=7.6,SNR=3.1						
PETK	**Petropavlovsk-**	**58.19**	**5**	P	**P**	**02 37 09.3**	**-0.4**
HIA	**Hailar**	**60.63**	**337**	*eP*	**P**	**02 37 26.6**	**+0.1**
	6.6nm,0.7s						
ULN	**Ulaanbaatar**	**65.39**	**329**	*eP*	**P**	**02 37 59.5**	**+1.3**
	2.0nm,0.8s						
SONM	**Songino Array**	**65.71**	**329**	P	**P**	**02 38 01.1**	**+0.8**
	4.8nm,0.9s,baz=142,slow=4.5,SNR=20						
SONM				PKPPKP	**P'P'df**	**03 06 40.5**	**+3.6**
	0.6nm,0.8s,baz=273,slow=2.8,SNR=4.6						
SONM	**Songino Array**	**65.71**	**329**	P	**P**	**02 38 01.1**	**+0.8**
SONM				P'P'		03 06 40.5	
VNDA	**Vanda**	**72.65**	**178**	*eP*	**P**	**02 38 42.9**	**+0.5**
	5.9nm,1.2s						
BILL	**Bilibino**	**73.68**	**6**	*eP*	**P**	**02 38 48.9**	**+0.4**
	1.6nm,0.5s						
MK31	**Makanchi Array**	**79.49**	**319**	*eP*	**P**	**02 39 21.7**	**+0.1**
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**02 39 21.8**	**+0.2**
	1.8nm,0.8s,baz=103,slow=6.7,SNR=22						
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**02 39 21.8**	**+0.2**
ZALV	**Zalesovo Beam**	**80.50**	**327**	P	**P**	**02 39 26.1**	**-0.8**
	4.9nm,0.8s,baz=109,slow=5.4,SNR=25						
ZALV				pP	**pP**	**02 40 02.6**	**+0.7**
	0.7nm,0.6s,baz=90,slow=5.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**80.50**	**327**	P	**P**	**02 39 26.1**	**-0.8**
ZALV				pP	**pP**	**02 40 02.6**	**+0.7**
MCK	**McKinley**	**81.68**	**23**	*eP*	**P**	**02 39 32.0**	**-0.9**
	3.7nm,0.6s						
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**02 39 38.0**	**-1.6**
	1.7nm,0.6s,baz=248,slow=5.2,SNR=40						
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**02 39 38.0**	**-1.6**
TKM2	**Tokmak 2**	**82.98**	**314**	*eP*	**P**	**02 39 40.4**	**0.0**
	2.9nm,0.7s						
KURK	**Kurchatov**	**83.01**	**322**	*eP*	**P**	**02 39 39.6**	**-0.5**
	9.5nm,1.1s						
AAK	**Ala-Archa**	**83.71**	**314**	*eP*	**P**	**02 39 44.1**	**0.0**
	19nm,0.9s						
EKS2	**Erkin-Say**	**84.23**	**314**	*eP*	**P**	**02 39 47.0**	**+0.3**
	6.6nm,1.0s						
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**02 39 49.6**	**-0.1**
	5.4nm,0.6s,baz=337,slow=1.8,SNR=15						
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**02 39 49.6**	**-0.1**
BRVK	**Borovoye**	**88.57**	**323**	*eP*	**P**	**02 40 06.2**	**-1.2**
	4.0nm,0.9s						
YBH	**Yreka Blue Hor**	**90.37**	**48**	P	**P**	**02 40 16.9**	**+0.7**
	2.7nm,0.8s,baz=284,slow=4.2,SNR=9.0						
YBH	**Yreka Blue Hor**	**90.37**	**48**	P	**P**	**02 40 16.9**	**+0.7**
ISA	**Isabella**	**93.13**	**55**	*eP*	**P**	**02 40 29.0**	**-0.1**
	1.4nm,0.8s						
NVAR	**Mina Array Bea**	**93.45**	**52**	P	**P**	**02 40 31.6**	**+0.9**
	2.5nm,0.8s,baz=252,slow=6.5,SNR=22						
NVAR	**Mina Array Bea**	**93.45**	**52**	P	**P**	**02 40 31.6**	**+0.9**
ELK	**Elko**	**95.92**	**50**	P	**P**	**02 40 43.4**	**+1.4**
	0.3nm,0.3s,baz=281,slow=5.2,SNR=3.0						
ELK	**Elko**	**95.92**	**50**	P	**P**	**02 40 43.4**	**+1.4**
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**02 40 42.9**	**-0.2**
	0.2nm,0.4s,baz=264,slow=4.5,SNR=4.5						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**02 40 42.9**	**-0.2**
PDAR	**Pinedale Array**	**100.15**	**48**	P	**Pdif**	**02 41 00.5**	**-0.4**
	0.9nm,0.8s,baz=224,slow=1.7,SNR=7.3						
PDAR	**Pinedale Array**	**100.15**	**48**	P	**Pdif**	**02 41 00.5**	**-0.4**
BOSA	**Boshof**	**118.24**	**234**	PKP	**PKPdf**	**02 46 01.5**	**-0.6**
	1.4nm,0.8s,baz=112,slow=5.4,SNR=4.4						
BOSA	**Boshof**	**118.24**	**234**	PKP	**PKPdf**	**02 46 01.5**	**-0.6**
LBTB	**Lobatse**	**119.35**	**238**	PKP	**PKPdf**	**02 46 03.3**	**-0.9**
	1.0nm,0.7s,baz=108,slow=3.2,SNR=4.3						
LBTB	**Lobatse**	**119.35**	**238**	PKP	**PKPdf**	**02 46 03.3**	**-0.9**
PLCA	**Paso Flores**	**120.51**	**144**	PKP	**PKPdf**	**02 46 04.3**	**-1.7**
	1.1nm,0.6s,baz=242,slow=5.0,SNR=3.7						
PLCA	**Paso Flores**	**120.51**	**144**	PKP	**PKPdf**	**02 46 04.3**	**-1.7**
GERES	**GERESS Array B**	**123.44**	**328**	PKP	**PKPdf**	**02 46 10.6**	**-0.8**
	0.4nm,0.5s,baz=82,slow=2.1,SNR=2.6						
GERES	**GERESS Array B**	**123.44**	**328**	PKP	**PKPdf**	**02 46 10.6**	**-0.8**
LPAZ	**La Paz**	**135.66**	**119**	PKP	**PKPdf**	**02 46 36.6**	**+0.5**
	1.6nm,0.7s,baz=271,slow=4.0,SNR=7.1						
LPAZ	**La Paz**	**135.66**	**119**	PKP	**PKPdf**	**02 46 36.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**148.90**	**287**	PKP	**PKPdf**	**02 46 57.8**	**-1.0**
	4.0nm,0.8s,baz=78,slow=2.8,SNR=6.1						
TORD				PKPbc	**PKPbc**	**02 47 01.9**	**-1.0**
	4.0nm,0.8s,baz=83,slow=2.3,SNR=21						
TORD				pPKPbc	**pPKPbc**	**02 47 40.2**	**+0.3**
	1.0nm,0.6s,baz=82,slow=2.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**148.90**	**287**	PKP	**PKPdf**	**02 46 57.8**	**-1.0**
TORD				PKPbc	**PKPbc**	**02 47 01.9**	**-1.0**
TORD				pPKPbc	**pPKPbc**	**02 47 40.2**	**+0.3**
BDFB	**Brasilia**	**151.97**	**137**	PKPbc	**PKPbc**	**02 47 09.6**	**-0.7**
	9.1nm,0.6s,baz=242,slow=2.4,SNR=15						
BDFB				PKPab	**PKPab**	**02 47 20.0**	**+0.1**
	7.7nm,0.9s,baz=255,slow=6.0,SNR=8.3						
BDFB	**Brasilia**	**151.97**	**137**	PKPbc	**PKPbc**	**02 47 09.6**	**-0.7**
BDFB				PKPab	**PKPab**	**02 47 20.0**	**+0.1**

IDC ***24*** *02:33:39.5±0.9, 10°.52S×161°.58E, h97km±7km, mb4.1/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.1/13, MS4.8/3, Ms1 4.8/3, ms1mx3.8/35, Error ellipse: s-maj=15.9km s-min=10.4km az=22.0*
ISCJB ***24*** *02:33:40.2±0.9, 10°.57S±0'.05×161°.52E±0'.07, h110km±7km, mb4.6/29, Error ellipse: s-maj=11.7km s-min=6.5km az=155.8*
NEIC ***24*** *02:33:42.1±1.0, 10°.39S×161°.46E, h116km±9km, mb4.4/11, Error ellipse: s-maj=10.4km s-min=8.2km az=109.0*
BJI ***24*** *02:33:42.3, 9°.90S×161°.76E, h113km, mB4.5/1, mb4.8/9*

ISC 24 02:33:41.1±0.5, 10°.51S±0'.06×161°.64E±0'.07, h107km±3km, h107km:pP-P, n72, σ1§84/95, mb4.7/29, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.99**	**303**	P	**Pn**	**02 34 11.9**	**-1.9**
	898nm,0.3s,baz=152,slow=8.4,SNR=76						
HNR				S	**Sn**	**02 34 36.3**	**-2.5**
	631nm,0.3s,baz=14,slow=20,SNR=13						
HNR	**Honiara**	**1.99**	**303**	*ePn*	**Pn**	**02 34 11.9**	**-1.9**
HNR				S	**Sn**	**02 34 36.3**	**-2.5**
NOUC	**Port Laguerre**	**12.36**	**159**	*eP*	**Pn**	**02 36 34.4**	**+1.1**
NOUC				*eS*	**Sn**	**02 38 46.7**	**-2.6**
DZM	**Mont Dzumac**	**12.38**	**159**	P	**Pn**	**02 36 36.4**	**+2.7**
	5.0nm,0.3s,baz=324,slow=19,SNR=76						
DZM				S	**Sn**	**02 38 48.3**	**-1.7**
	0.9nm,0.3s,baz=300,slow=20,SNR=4.9						
DZM	**Mont Dzumac**	**12.38**	**159**	*eP*	**Pn**	**02 36 35.2**	**+1.4**
DZM	**Mont Dzumac**	**12.38**	**159**	P	**Pn**	**02 36 36.4**	**+2.7**
DZM				S	**Sn**	**02 38 48.3**	**-1.7**
CTA	**Charters Tower**	**17.62**	**235**	P	**Pn**	**02 37 40.7**	**+0.8**
	3.0nm,0.3s,baz=66,slow=13,SNR=69						
CTA	**Charters Tower**	**17.62**	**235**	*eP*	**Pn**	**02 37 41.1**	**+1.1**
	20nm,0.6s						
CTA	**Charters Tower**	**17.62**	**235**	P	**Pn**	**02 37 40.7**	**+0.8**
CTAO	**Charters Tower**	**17.62**	**235**	*eP*	**Pn**	**02 37 41.0**	**+1.1**
	134nm,1.6s						
EIDS	**Eidsvold**	**17.85**	**213**	*eP*	**Pn**	**02 37 43.0**	**+0.4**
	55nm,0.7s						
EIDS	**Eidsvold**	**17.85**	**213**	*eP*	**Pn**	**02 37 43.2**	**+0.5**
	13nm,0.8s						
COEN	**Coen**	**18.37**	**257**	*eP*	**Pn**	**02 37 50.0**	**+1.0**
	66nm,1.0s						
COEN	**Coen**	**18.37**	**257**	*eP*	**Pn**	**02 37 49.9**	**+1.0**
ARMA	**Armidale**	**21.89**	**204**	*eP*	**P**	**02 38 25.5**	**-0.1**
ARMA	**Armidale**	**21.89**	**204**	*eP*	**P**	**02 38 25.8**	**+0.2**
	20nm,0.7s						
WRAB	**Tennant Creek**	**27.91**	**247**	*eP*	**P**	**02 39 20.2**	**-1.1**
	8.1nm,0.6s						
WB2	**Warramunga Arr**	**27.91**	**247**	*eP*	**P**	**02 39 20.0**	**-1.3**
WRA	**Warramunga Arr**	**27.92**	**247**	P	**P**	**02 39 20.0**	**-1.4**
	7.9nm,0.4s,baz=78,slow=9.0,SNR=96			

DIB	**Dawson Inlet,** SNR=4.0	**84.44**	**33**	T	T	04 19 18.6	
NVAR	**Mina Array Bea**	**88.79**	**51**	P	**P**	**02 46 24.9**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=235,slow=5.4,SNR=8.3						
NVAR				pP	**pP**	**02 46 49.2**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=237,slow=6.7,SNR=3.4						
NVAR	**Mina Array Bea**	**88.79**	**51**	P	**P**	**02 46 24.9**	**+1.4**
NVAR				pP	**pP**	**02 46 49.2**	**-2.2**
MKAR	**Makanchi Array**	**90.39**	**318**	P	**P**	**02 46 29.2**	**-1.3**
	comp=Z,6.9nm,0.9s,baz=100,slow=6.5,SNR=38						
MKAR	**Makanchi Array**	**90.39**	**318**	P	**P**	**02 46 29.2**	**-1.3**
ZALV	**Zalesovo Beam**	**90.79**	**325**	P	**P**	**02 46 29.6**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=64,slow=5.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**90.79**	**325**	P	**P**	**02 46 29.6**	**-2.5**
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**02 46 56.8**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=257,slow=4.6,SNR=5.8						
YKA				pP	**pP**	**02 47 21.3**	**-4.3**
	comp=Z,0.2nm,0.7s,baz=253,slow=4.7,SNR=3.3						
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**02 46 56.9**	**-0.6**
YKA				pP	**pP**	**02 47 21.3**	**-4.3**
BVAR	**Borovoye Array**	**99.06**	**322**	LR	LR	03 35 16.9	
	comp=Z,514nm,18.2s,baz=278,slow=37						
TORD	**Torodi Ar. Bea**	**160.20**	**280**	PKP	**PKPdf**	**02 53 28.2**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=113,slow=2.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**160.20**	**280**	PKP	**PKPdf**	**02 53 28.2**	**-0.7**

IDC ***24*** *02:38:51.5±0.4, 24.2°82N×125.2°62E, h0km, mb4.7/34, mb1 4.9/38, mb1mx4.8/40, mbtmp4.8/38, ML5.2/4, MS3.9/2, Ms1 4.1/2, ms1mx3.3/44, Error ellipse: s-maj=14.5km s-min=10.7km az=80.0*

BJI ***24*** *02:38:52.9, 24.2°52N×125.2°99E, h42km, mB5.1/24, mb4.9/54, ML4.4/3, Ms4.5/37, Ms7 4.3/35*

DJA ***24*** *02:38:54, 25.2°14N×126.2°17E, h15km, mb5.3/23*

MOS ***24*** *02:38:55.2±1.1, 24.2°85N×125.2°67E, h33km, mb5.2/72, Error ellipse: s-maj=7.3km s-min=4.2km az=111.5*

ISCJB ***24*** *02:38:56.3±0.4, 24.2°83N±0.2°03×125.2°67E±0.2°02, h38km±3km, mb5.1/170, MS4.4/10, Error ellipse: s-maj=4.6km s-min=3.0km az=159.8*

JMA ***24*** *02:38:57.7±0.2, 24.2°78N×125.2°74E, h50km±2km, M5.1*

JMA Felt III J1.

NEIC ***24*** *02:38:57.5±0.5, 24.2°81N×125.2°69E, h38km±4km, mb5.2/79, MW4.8(NIED), Error ellipse: s-maj=4.4km s-min=3.6km az=144.0*

NEIC Recorded [3 JMA] on Miyako-jima and [1 JMA] on Kume-jima and Tarama-shima.

TEH ***24*** *02:38:58.0, 24.2°79N×125.2°64E, h39km, ML5.1*

SZGRF ***24*** *02:38:59.9, 24.2°54N×124.2°62E, h49km, mb5.2, Southwestern Ryukyu Islands, Japan*

NIED ***24*** *02:39:00, 24.2°70N×125.2°80E, h35km, Mw4.9 Best double couple: M0 2.14000×10^16 NP1:φs197.00000°, δ85.00000°, λ-162.00000°. NP2:φs105.00000°, δ72.00000°, λ-6.00000°.*

ISC 24 02:38:57.7±0.3, 24.2°84N±0.2°03×125.2°70E±0.2°03, h41km±2km, h40km:pP-P, n594, σ1$37/633, mb5.1/163, MS4.5/10, 67C-44D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.28**	**253**	P	**Pn**	**02 39 06.8**	**+1.1**
JOGS				S	**Sn**	**02 39 13.2**	**+1.9**
JMJ	**Miyako jima 2**	**0.37**	**266**	P	**Pn**	**02 39 07.9**	**+1.2**
JMJ				S	**Sn**	**02 39 15.4**	**+2.3**
JTJ	**Tarama**	**0.93**	**258**	P	**Pn**	**02 39 15.0**	**+0.8**
JTJ				S	**Sn**	**02 39 28.2**	**+1.9**
JIJ	**Ishigaki jima**	**1.49**	**252**	P	**Pn**	**02 39 22.2**	**+0.2**
JIJ				S	**Sn**	**02 39 40.3**	**+0.1**
JKRS	**Kuro-shima**	**1.65**	**249**	P	**Pn**	**02 39 24.4**	**+0.2**
JKE	**Kume jima 2**	**1.78**	**33**	P	**Pn**	**02 39 26.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.86**	**255**	P	**Pn**	**02 39 27.1**	**+0.1**
HATJ	**Hateruma jima**	**1.89**	**246**	P	**Pn**	**02 39 27.2**	**-0.3**
JAGN	**Aguni-jima**	**2.23**	**38**	P	**Pn**	**02 39 32.3**	**+0.1**
NAH1	**Naha**	**2.26**	**53**	P	**Pn**	**02 39 32.6**	**+0.1**
JJT2	**Tamagusuku 2**	**2.26**	**55**	P	**Pn**	**02 39 33.3**	**+0.7**
YOJ	**Yonaguni jima**	**2.47**	**262**	P	**Pn**	**02 39 35.6**	**+0.1**
JIH	**Iheya**	**2.99**	**43**	P	**Pn**	**02 39 42.1**	**-0.5**
JOW	**Kunigami**	**3.06**	**49**	Pn	**Pn**	**02 39 43.5**	**0.0**
	858nm,0.3s,baz=197,slow=13,SNR=252						
JOW	**Kunigami**	**3.06**	**49**	Pn	**Pn**	**02 39 43.5**	**0.0**
JOW	**Kunigami**	**3.06**	**49**	P	**Pn**	**02 39 43.1**	**-0.4**
NACB	**Ninganchiao**	**3.79**	**261**	*e*Pn	**Pn**	**02 39 53.0**	**-0.7**
TATO	**Taipei**	**3.82**	**273**	*e*Pn	**Pn**	**02 39 56.5**	**+2.4**
YHNB	**Yeheng**	**3.93**	**268**	*e*Pn	**Pn**	**02 39 57.5**	**+1.9**
JTK	**Tokunoshima**	**4.14**	**44**	P	**Pn**	**02 39 57.6**	**-0.8**
YULB	**Yu-li**	**4.27**	**251**	*e*Pn	**Pn**	**02 39 57.9**	**-2.3**
SSLB	**Suanglung**	**4.45**	**257**	*e*Pn	**Pn**	**02 40 01.8**	**-0.9**
SSLB				*e*Sn	**Sn**	**02 40 50.5**	**-2.8**
TWG	**Pinlang**	**4.69**	**246**	*e*Pn	**Pn**	**02 40 03.0**	**-2.9**
TWG				*e*Sn	**Sn**	**02 40 54.2**	**-4.9**
TPUB	**Ta-pu**	**4.88**	**253**	*e*Pn	**Pn**	**02 40 07.2**	**-1.4**
TPUB				*e*Sn	**Sn**	**02 41 01.3**	**-2.5**
JAM	**Amami Oshima**	**4.99**	**44**	P	**Pn**	**02 40 08.8**	**-1.2**
JMZ	**Minamidaito 2**	**5.09**	**78**	P	Pn	02 40 07.9	-3.6
JMZ				*e*S	Sn	02 41 00.9	-8.2
JZK	**Kikaishima**	**5.16**	**47**	P	**Pn**	**02 40 11.3**	**-1.1**
JNN	**Nakanoshima**	**6.21**	**36**	P	**Pn**	**02 40 26.0**	**-0.9**
QZH	**Quanzhou**	**6.45**	**272**	*i* P	**Pn**	**02 40 31.4**	**+1.2**
QZH				smax	smax		
	comp=N,190nm,0.7s						
QZH				smax	smax		
	comp=E,510nm,1.4s						
QZH				LR	LR		
	comp=Z,2μm,16.2s						
SSE	**Sheshan**	**7.40**	**328**	P	**Pn**	**02 40 45.8**	**+2.7**
SSE				smax	smax		
	comp=N,71nm,1.2s						
SSE				smax	smax		
	comp=E,110nm,1.0s						
JIU2	**Izumi 2**	**8.89**	**29**	P	**Pn**	**02 41 03.6**	**-0.1**
NJ2	**Nanjing**	**9.37**	**322**	*e*P	Pn	02 41 13.3	+3.1
NJ2				pP		02 41 21.0	
NJ2				S	Sn	02 43 00.6	+6.4
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,4μm,12.1s						
NJ2				LR	LR		
	comp=E,5μm,12.3s						
JNU	**Nakatsue**	**9.41**	**28**	Pn	**Pn**	**02 41 10.8**	**-0.1**
	comp=E,18nm,0.3s,baz=210,slow=2.7,SNR=71						
JNU				Sn	**Sn**	**02 42 54.9**	**-0.5**
	comp=E,1.0nm,0.3s,baz=182,slow=12,SNR=0.9						
JNU	**Nakatsue**	**9.41**	**28**	*e*Pn	**Pn**	**02 41 10.7**	**-0.1**
	comp=E,35nm,0.8s						
JNU				Sn	**Sn**	**02 42 54.9**	**-0.5**
WHN	**Wuhan**	**11.54**	**302**	P	**Pn**	**02 41 42.3**	**+2.4**
WHN				S	Sn	02 44 00.8	+13
WHN				LR	LR		
	comp=N,4μm,5.8s						
WHN				LR	LR		
	comp=E,2μm,6.0s						
TGY	**Tagaytay City**	**11.59**	**204**	Pn	**Pn**	**02 41 41.3**	**+0.7**
	comp=E,51nm,0.3s,baz=215,slow=20,SNR=1.9						
TGY				Sn	**Sn**	**02 43 45.9**	**-2.9**
	comp=E,40nm,0.3s,baz=93,slow=21,SNR=1.2						
TGY	**Tagaytay City**	**11.59**	**204**	P	**Pn**	**02 41 41.3**	**+0.7**
TGY						02 43 45.9	
TGY				pmax	pmax		
	comp=Z,51nm,0.3s						
TGY				smax	smax		
	comp=N,40nm,0.3s						
TGY	**Tagaytay City**	**11.59**	**204**	Pn	**Pn**	**02 41 41.3**	**+0.7**
TGY				Sn	**Sn**	**02 43 45.9**	**-2.9**
KSAR	**Wonju Array Be**	**12.70**	**8**	P	**Pn**	**02 41 57.8**	**+2.1**
KSAR	**Wonju Array Be**	**12.70**	**8**	Pn	**Pn**	**02 41 57.8**	**+2.1**
KSRS	**Korea Array**	**12.72**	**8**	Pn	**Pn**	**02 41 57.8**	**+1.9**
	comp=N,0.4nm,0.3s,baz=184,slow=13,SNR=11						
KSRS	**Korea Array**	**12.72**	**8**	P	**Pn**	**02 41 57.8**	**+1.9**
TIA	**Tai'an**	**13.52**	**329**	P	P	02 42 11.6	-3.7
TIA				pmax	pmax		
	comp=Z,30nm,0.8s						
JAO	**Obara**	**14.42**	**41**	P	**P**	**02 42 26.5**	**+1.2**
DL2	**Dalian**	**14.44**	**347**	P	**P**	**02 42 26.8**	**+1.4**
DL2				pmax	pmax		
	comp=Z,40nm,1.1s						
JGF	**Kuroka**	**14.70**	**40**	P	**P**	**02 42 29.3**	**+0.8**
JNY	**Yasuok**	**14.84**	**42**	P	**P**	**02 42 31.3**	**+1.3**
CBIJ	**Chichi jima**	**15.00**	**78**	Pn	**Pn**	**02 42 26.7**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=262,slow=7.1,SNR=6.6						
CBIJ				LR	LR	02 48 11.9	
	comp=Z,419nm,19.0s,baz=77,slow=37						
CBIJ	**Chichi jima**	**15.00**	**78**	Pn	**Pn**	**02 42 26.7**	**-0.3**
ENH	**Enshi**	**15.36**	**294**	*e*Pn	**P**	**02 42 34.0**	**-1.8**
	comp=E,61nm,1.1s						
JNG	**Nsakai**	**15.70**	**40**	P	**P**	**02 42 40.9**	**+1.4**
MAJO	**Matsushiro**	**15.85**	**40**	*e*P	**Pn**	**02 42 38.1**	**+0.2**
MAJO	**Matsushiro**	**15.85**	**40**	*e*Pn	**Pn**	**02 42 38.1**	**+0.2**
MAJO				*e*P	**P**	**02 42 42.4**	**+1.2**
MAT	**Matsushiro**	**15.85**	**40**	*e*S	**S**	**02 45 50.7**	**+5.1**
MJAR	**Matsushiro Arr**	**15.85**	**40**	Pn	**Pn**	**02 42 37.0**	**-1.0**
	comp=Z,6.6nm,0.3s,baz=228,slow=10,SNR=36						
MJAR	**Matsushiro Arr**	**15.85**	**40**	P	**Pn**	**02 42 37.0**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.85**	**40**	Pn	**Pn**	**02 42 37.0**	**-1.0**
SNY	**Shenyang**	**17.03**	**355**	⇓P	**P**	**02 42 55.8**	**+1.6**
SNY				S	**Sn**	**02 45 56.4**	**-4.7**
SNY				pmax	pmax		
	comp=Z,54nm,0.7s						
SNY				pmax	pmax		
	comp=Z,290nm,8.0s						
SNY				LR	LR		
	comp=N,540nm,11.8s						
SNY				LR	LR		
	comp=E,2μm,16.5s						
SNY				LR	LR		
	comp=Z,1μm,15.7s						
BJT	**Baijiatuau**	**17.12**	**334**	*e*P	**P**	**02 42 54.6**	**-0.6**
BJT				pmax	pmax		
	comp=Z,48nm,0.6s						
BJT	**Baijiatuau**	**17.12**	**334**	*e*Pn	**P**	**02 42 54.6**	**-0.6**
	comp=Z,48nm,0.6s						
BJI	**Beijing**	**17.14**	**334**	P	**P**	**02 42 55.9**	**+0.6**
BJI				S	**Sn**	**02 46 02.9**	**-0.7**
BJI				pmax	pmax		
	comp=Z,70nm,0.6s						
BJI				LR	LR		
	comp=N,700nm,18.3s						
BJI				LR	LR		
	comp=E,810nm,18.3s						
BJI				LR	LR		
	comp=Z,470nm,17.1s						
XAN	**Xi'an**	**17.23**	**306**	P	**P**	**02 42 57.3**	**+0.8**
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN				pmax	pmax		
	comp=Z,170nm,12.1s						
GYA	**Guiyang**	**17.24**	**279**	P	**P**	**02 42 58.4**	**+1.7**
GYA				PP	**pP**	**02 43 11.0**	**+4.3**
GYA				S	**Sn**	**02 46 03.4**	**-3.1**
GYA				SS	**SnSn**	**02 46 25.6**	**+5.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=N,2μm,14.9s						
GYA				LR	LR		
	comp=E,1μm,15.4s						
GYA				LR	LR		
	comp=Z,2μm,14.7s						
JHO	**Hitachi**	**17.33**	**44**	P	**Pn**	**02 42 57.0**	**+0.5**
JNS	**Sasagawa**	**17.37**	**39**	P	**P**	**02 42 57.6**	**-0.4**
OFUJ	**Ofunato**	**19.58**	**40**	P	**P**	**02 43 19.8**	**-2.5**
HHC	**Hu-ho-hao-te**	**19.85**	**327**	*e*P	**Pn**	**02 43 26.5**	**-0.6**
HHC				pP	**pP**	**02 43 35.8**	**+0.4**
HHC				PP	**PnPn**	**02 43 46.3**	**+4.5**
HHC				S	**S**	**02 47 03.3**	**-3.4**
HHC				PcP	**PcP**	**02 47 43.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,46nm,1.0s						
HHC				pmax	pmax		
	comp=Z,470nm,8.8s						
HHC				LR	LR		
	comp=N,880nm,14.3s						
HHC				LR	LR		
	comp=E,770nm,13.7s						
HHC				LR	LR		
	comp=Z,790nm,14.3s						
USRK	**Ussuriysk Arra**	**19.99**	**13**	P	**P**	**02 43 26.9**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=193,slow=8.6,SNR=12						
CD2	**Chengdu**	**20.30**	**292**	P	**P**	**02 43 28.9**	**-1.3**
CD2				PP	**PnPn**	**02 43 49.6**	**+1.7**
CD2				S	**S**	**02 47 09.0**	**-6.7**
CD2				pmax	pmax		
	comp=Z,120nm,0.5s						
CD2				pmax	pmax		
	comp=Z,910nm,10.8s						
CD2				LR	LR		
	comp=N,2μm,13.7s						
CD2				LR	LR		
	comp=Z,1μm,11.9s						
BTO	**Baotou**	**20.47**	**324**	*e*P	**P**	**02 43 31.8**	**-0.2**
KKM	**Kota Kinabalu**	**20.78**	**207**	*e*P	**P**	**02 43 36.1**	**+0.5**
	comp=Z,28nm,1.0s						
KMI	**Kunming**	**20.81**	**276**	⇓P	Pn	02 43 38.8	+0.1
KMI				S	**S**	**02 47 22.3**	**-3.9**
KMI				pmax	pmax		
	comp=Z,28nm,0.8s						
KMI				LR	LR		
	comp=N,430nm,15.9s						
KMI				LR	LR		
	comp=E,820nm,15.9s						
KMI				LR	LR		
	comp=Z,660nm,16.6s						
GUMO	**Guam**	**21.25**	**118**	P	**P**	**02 43 40.9**	**+0.3**
	comp=Z,38nm,0.4s,baz=302,slow=11,SNR=2.1						
GUMO	**Guam**	**21.25**	**118**	P	**P**	**02 43 40.9**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,38nm,0.4s						
GUMO	**Guam**	**21.25**	**118**	P	**P**	**02 43 40.9**	**+0.3**
LZH	**Lanzhou**	**21.87**	**306**	⇑P	**P**	**02 43 47.3**	**+0.1**
LZH				pP	**pP**	**02 43 57.0**	**-0.4**
LZH				PP	**PnPn**	**02 44 13.5**	**+4.0**
LZH				*e*S	**S**	**02 47 42.0**	**-4.8**
LZH				pmax	pmax		
	comp=Z,61nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,12.0s						
LZH				LR	LR		
	comp=E,1μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,13.1s						
ERM	**Erimo**	**22.41**	**36**	*c i*P	**P**	**02 43 50.3**	**-2.5**
ERM	**Erimo**	**22.41**	**36**	*e*P	**P**	**02 43 50.8**	**-2.0**
	comp=Z,84nm,0.8s						
ERM	**Erimo**	**22.41**	**36**	P	**P**	**02 43 51.9**	**-0.9**
	comp=Z,763nm,1.0s,SNR=9.2						
ASAJ	**Asahikawa**	**23.66**	**31**	P	**P**	**02 44 04.3**	**-1.0**
	comp=Z,14nm,0.3s,baz=231,slow=10.0,SNR=11						
ASAJ	**Asahikawa**	**23.66**	**31**	P	**P**	**02 44 04.3**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ	**Asahikawa**	**23.66**	**31**	*e*P	**P**	**02 44 03.5**	**-1.9**
HABR	**Khabarovsk**	**24.71**	**15**	*e*P	**P**	**02 44 12.1**	**-2.9**
HABR				*e*PP	**pP**	**02 44 21.2**	**-4.8**
HABR				*e*SP	**sP**	**02 44 25.9**	**-5.0**
HABR				*e*S	**S**	**02 48 31.8**	**-2.3**
HABR				*e*SS	**sS**	**02 48 48.1**	**-4.3**
HABR				*e*SSS	SSS	02 49 34.4	
HABR				*e*		02 55 12.7	
HABR				pmax	pmax		
	comp=N,68nm,2.7s						
HABR				pmax	pmax		
	comp=Z,121nm,2.7s						
HABR				pmax	pmax		
	comp=E,78nm,2.7s						
HABR				MLR	MLR		
	comp=Z,283nm,17.0s						
KLR	**Kul'dur**	**24.80**	**9**	*e*P	**P**	**02 44 11.7**	**-4.1**
KLR				*e*		02 44 24.8	
HIA	**Hailar**	**24.82**	**351**	*e*P	**P**	**02 44 14.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,24nm,0.6s						
HIA	**Hailar**	**24.82**	**351**	*e*P	**P**	**02 44 14.3**	**-1.7**
	comp=Z,24nm,0.6s						
LBMI	**Labuha**	**25.39**	**176**	P	pP	02 44 31.8	-0.6
	comp=Z,113nm,0.9s						
CHTO	**Chiang Mai**	**25.52**	**262**	*e*P	**P**	**02 44 23.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,19nm,1.0s						
CHTO	**Chiang Mai**	**25.52**	**262**	*e*P	**P**	**02 44 23.2**	**+0.5**
	comp=Z,19nm,1.0s						
CHTO	**Chiang Mai**	**25.52**	**262**	P	**P**	**02 44 23.7**	**+1.0**
	comp=Z,43nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.64**	**261**	P	**P**	**02 44 24.1**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=56,slow=8.5,SNR=16						
CMAR				LR	LR	02 54 03.3	
	comp=Z,297nm,18.1s,baz=245,slow=36						
CMAR	**Chiang Mai Arr**	**25.64**	**261**	P	**P**	**02 44 24.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**25.64**	**261**	P	**P**	**02 44 24.1**	**+0.4**
YSS	**Yuzh-Sakhalins**	**25.93**	**27**	P	P	02 44 33.0	+7.0
YSS	**Yuzh-Sakhalins**	**25.93**	**27**	*e*P	**P**	**02 44 26.4**	**+0.4**
	comp=Z,56nm,0.9s						
SWI	**Sorong**	**26.11**	**167**	P	pP	02 44 41.0	+2.0
	comp=Z,43nm,0.8s						
GTA	**Gaotai**	**26.18**	**310**	⇑P	**P**	**02 44 27.8**	**-0.8**
GTA				S	**S**	**02 48 57.1**	**-0.7**
GTA				SS	**SnSn**	**02 50 07.3**	**+8.3**
GTA				pmax	pmax		
	comp=Z,70nm,0.9s						
GTA				pmax	pmax		
	comp=Z,410nm,7.6s						
GTA				LR	LR		
	comp=N,440nm,16.6s						
GTA				LR	LR		
	comp=E,380nm,16.6s						
GTA				LR	LR		
	comp=Z,470nm,16.6s						
ULN	**Ulaanbaatar**	**27.31**	**332**	*e*P	**P**	**02 44 37.7**	**-1.0**
ULN				pmax	pmax		
	comp=Z,43nm,1.1s						
ULN	**Ulaanbaatar**	**27.31**	**332**	*e*P	**P**	**02 44 37.7**	**-1.0**
	comp=Z,43nm,1.1s						
ULN	**Ulaanbaatar**	**27.31**	**332**	P	**P**	**02 44 37.6**	**-1.1**
	comp=Z,36nm,1.1s						
SONM	**Songino Array**	**27.57**	**331**	P	**P**	**02 44 40.0**	**-1.0**
	comp=Z,24nm,0.5s,baz=149,slow=9.6,SNR=96						
SONM	**Songino Array**	**27.57**	**331**	P	**P**	**02 44 40.0**	**-1.0**
SONM				pmax	pmax		
	comp=Z,24nm,0.5s						
SONM	**Songino Array**	**27.57**	**331**	P	**P**	**02 44 40.0**	**-1.0**
KSM	**Kuching**	**27.58**	**215**	*e*P	**P**	**02 44 41.1**	**0.0**
	comp=Z,14nm,0.8s						
NLAI	**Namlea**	**27.95**	**177**	P	sP	02 45 02.2	+1.9
	comp=Z,30nm,1.1s						
FAKI	**Fak Fak**	**28.32**	**166**	P	pP	02 44 59.8	+0.9
	comp=Z,38nm,1.2s						
BBKI	**Banjar Baru**	**30.05**	**202**	P	pP	02 45 16.7	+2.5
	comp=Z,52nm,0.9s						
BBSI	**Bau Bau**	**30.30**	**186**	P	pP	02 45 19.1	+2.7
	comp=Z,80nm,0.9s						
SHL	**Shillong**	**30.56**	**279**	*ex*	**P**	**02 45 06.0**	**-1.8**
ZAK	**Zakamensk**	**30.84**	**332**	*e*P	**P**	**02 45 08.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**31.01**	**287**	*e*P	**P**	**02 45 12.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,24nm,0.6s						
LSA	**Lhasa**	**31.01**	**287**	*e*P	**P**	**02 45 12.8**	**+0.8**
	comp=Z,24nm,0.6s						
IPM	**Ipoh**	**31.18**	**233**	*e*P	**P**	**02 45 12.5**	**-0.6**
	comp=Z,24nm,0.7s						
IPM				*e*pP	**pP**	**02 45 25.1**	**+0.9**
TLY	**Talaya**	**31.66**	**334**	*e*P	**P**	**02 45 14.9**	**-2.1**
TLY				pmax	pmax		
	comp=Z,17nm,0.7s						
TLY				MLR	MLR		
	comp=Z,922nm,17.0s						
TLY	**Talaya**	**31.66**	**334**	*e*P	**P**	**02 45 15.6**	**-1.4**
	comp=Z,19nm,0.7s						
TLY	**Talaya**	**31.66**	**334**	P	**P**	**02 45 16.5**	**-0.5**
	comp=Z,194nm,0.5s,SNR=8.0						
MOY	**Mondy**	**32.76**	**331**	*e*P	**P**	**02 45 25.9**	**-0.9**
MOY				pmax	pmax		
	comp=Z,45nm,2.0s						
BOD	**Bodaibo**	**34.00**	**349**	*e*P	**P**	**02 45 35.3**	**-2.0**
TAPN	**Taplejung**	**34.12**	**283**	*e*P	**P**	**02 45 39.8**	**+0.6**
	comp=Z,82nm,0.7s						
TAPN	**Taplejung**	**34.12**	**283**	*e*P	**P**	**02 45 39.8**	**+0.6**
	comp=Z,82nm,0.7s						
ODAN	**Odare**	**34.45**	**282**	*e*P	**P**	**02 45 42.7**	**+0.8**
	comp=Z,154nm,0.8s						
ODAN	**Odare**	**34.45**	**282**	*e*P	**P**	**02 45 42.7**	**+0.8**
	comp=Z,154nm,0.8s						
RAMN	**Ramite**	**35.14**	**282**	*e*P	**P**	**02 45 48.5**	**+0.6**
	comp=Z,52nm,0.7s						
RAMN	**Ramite**	**35.14**	**282**	*e*P	**P**	**02 45 48.5**	**+0.6**
	comp=Z,52nm,0.7s						
PWJI	**Pagerwojo**	**35.36**	**204**	P	pP	02 46 02.5	+1.8
	comp=Z,31nm,2.4s						
JIRN	**Jiri**	**35.44**	**283**	*e*P	**P**	**02 45 51.3**	**+0.6**
	comp=Z,93nm,0.7s						
JIRN	**Jiri**	**35.44**	**283**	*e*P	**P**	**02 45 51.3**	**+0.6**
	comp=Z,93nm,0.7s						
GUN	**Gumba**	**35.70**	**284**	*e*P	**P**	**02 45 53.3**	**+0.5**
	comp=Z,103nm,0.7s						
GUN	**Gumba**	**35.70**	**284**	*e*P	**P**	**02 45 53.3**	**+0.5**
	comp=Z,103nm,0.7s						
HVS	**Khovu-Aksy**	**35.91**	**325**	*c i*P	**P**	**02 45 53.3**	**-0.8**
LEM	**Lembang**	**36.07**	**212**	P	pP	02 46 10.6	+3.6
PKI	**Pulchoki**	**36.14**	**283**	*e*P	**P**	**02 45 56.9**	**+0.3**
	comp=Z,83nm,0.7s						
PKI	**Pulchoki**	**36.14**	**283**	*e*P	**P**	**02 45 56.9**	**+0.3**
PKI				pmax	pmax		
	comp=Z,83nm,0.7s						
PKI	**Pulchoki**	**36.14**	**283**	*e*P	**P**	**02 45 56.9**	**+0.3**
	comp=Z,83nm,0.7s						
KKN	**Kakani**	**36.23**	**284**	*e*P	**P**	**02 45 57.8**	**+0.5**
	comp=Z,157nm,0.8s						
KKN	**Kakani**	**36.23**	**284**	*e*P	**P**	**02 45 57.8**	**+0.5**
KKN	**Kakani**	**36.23**	**284**	*e*P	**P**	**02 45 57.8**	**+0.5**
	comp=Z,157nm,0.8s						
WMQ	**Urumqi**	**36.25**	**311**	P	**P**	**02 45 57.0**	**0.0**
WMQ				pP	**pP**	**02 46 08.0**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,44nm,0.8s						
LWLI	**Liwa**	**36.39**	**218**	P	pP	02 46 13.3	+3.6
DMN	**Daman**	**36.40**	**283**	*e*P	**P**	**02 45 59.2**	**+0.4**
	comp=Z,110nm,0.8s						
DMN	**Daman**	**36.40**	**283**	*e*P	**P**	**02 45 59.2**	**+0.4**
	comp=Z,110nm,0.8s						
GKN	**Gorkha**	**36.78**	**284**	*e*P	**P**	**02 46 02.3**	**+0.4**
	comp=Z,142nm,0.8s						
GKN	**Gorkha**	**36.78**	**284**	*e*P	**P**	**02 46 02.3**	**+0.4**
	comp=Z,142nm,0.

FITZ Fitzroy Crossi 42.68 180 P **P 02 46 49.2 -1.4**
comp=Z,2.8nm,0.8s,baz=344,slow=8.4,SNR=6.2
FITZ Fitzroy Crossi 42.68 180 *e*P **P 02 46 49.2 -1.4**
comp=Z,6.9nm,0.6s
FITZ *e*pP **pP 02 47 02.3 +0.2**
FITZ Fitzroy Crossi 42.68 180 P **P 02 46 49.2 -1.4**
NVS Novosibirsk 43.24 325⇑ *i*P **P 02 46 53.3 -1.5**
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.7s
NVS pmax pmax
comp=Z,16nm,0.7s
KSH Kashi 44.02 302 *e*P P 02 47 05.1 +3.6
KSH *e*pP pP 02 47 14.8 +1.8
KSH *e*PcP **PcP 02 48 49.8 +3.2**
KSH *e*PP PP 02 48 52.0 +7.5
KSH *e*PcS **PcS 02 52 41.8 +2.0**
KSH *e*S **S 02 53 35.4 +4.3**
KSH *e*SS **SS 02 56 45.5 -3.4**
KSH pmax pmax
comp=Z,26nm,0.9s
KSH pmax pmax
comp=Z,240nm,6.2s
KSH LR LR
comp=N,420nm,9.5s
KSH LR LR
comp=E,350nm,6.4s
KSH LR LR
comp=Z,710nm,16.1s
ULHL Ulahol 44.08 306 P **P 02 47 02.6 +0.5**
SNR=12
ULHL P **P 02 47 02.6 +0.5**
SNR=12
KURK Kurchatov 44.29 318*ce*P **P 02 47 02.3 -1.0**
KURK pmax pmax
comp=Z,32nm,1.7s
KURK Kurchatov 44.29 318 *e*P **P 02 47 02.1 -1.2**
comp=Z,45nm,1.5s
KURK Kurchatov 44.29 318 P **P 02 47 02.9 -0.4**
comp=Z,159nm,0.3s,SNR=12
HYB Hyderabad 44.42 270 *i*P **P 02 47 04.5 -0.4**
TKM2 Tokmak 2 44.64 307 P **P 02 47 07.0 +0.5**
SNR=74
TKM2 P **P 02 47 07.0 +0.5**
SNR=74
TKM2 Tokmak 2 44.64 307 *i*P **P 02 47 07.0 +0.5**
TKM2 Tokmak 2 44.64 307 *e*P **P 02 47 07.0 +0.5**
comp=Z,44nm,0.5s
KZA Kyzart 44.79 305 P **P 02 47 08.8 +0.8**
SNR=18
KZA P **P 02 47 08.8 +0.8**
SNR=18
KBK Karagaybulak 45.08 306 P **P 02 47 10.6 +0.6**
SNR=15
KBK P **P 02 47 10.6 +0.6**
SNR=15
CHMS Chumysh 45.26 307 P **P 02 47 11.5 +0.2**
SNR=20
CHMS P **P 02 47 11.5 +0.2**
SNR=20
WRAB Tennant Creek 45.30 169 *e*P **P 02 47 10.2 -1.5**
WRAB pmax pmax
comp=Z,62nm,0.9s
WRAB Tennant Creek 45.30 169 *e*P **P 02 47 10.2 -1.5**
comp=Z,62nm,0.9s
WRAB Tennant Creek 45.30 169 P **P 02 47 11.2 -0.4**
comp=Z,386nm,0.8s,SNR=5.7
WRA Warramunga Arr 45.30 169 P **P 02 47 10.6 -1.1**
comp=Z,7.6nm,0.8s,baz=349,slow=8.6,SNR=38
WRA Warramunga Arr 45.30 169 P **P 02 47 10.6 -1.1**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 45.30 169 P **P 02 47 10.6 -1.1**
WB2 Warramunga Arr 45.30 169 *e*P **P 02 47 10.5 -1.2**
WB2 *e*pP **pP 02 47 23.5 +0.3**
UCH Uchtor 45.35 306 P **P 02 47 14.4 +1.9**
SNR=8.8
UCH P **P 02 47 14.4 +1.9**
SNR=8.8
AAK Ala-Archa 45.41 306 P **P 02 47 12.8 +0.2**
SNR=8.5
AAK P **P 02 47 12.8 +0.2**
SNR=8.5
AAK Ala-Archa 45.41 306 *i*P **P 02 47 12.7 +0.1**
AAK Ala-Archa 45.41 306 *e*P **P 02 47 12.5 -0.2**
comp=Z,41nm,0.8s
AAK Ala-Archa 45.41 306 P **P 02 47 12.4 -0.2**
comp=Z,79nm,0.5s,SNR=7.6
USP Ospenovka 45.48 307 P **P 02 47 13.7 +0.7**
SNR=9.9
USP P **P 02 47 13.7 +0.7**
SNR=9.9
EKS2 Erkin-Say 45.94 306 P **P 02 47 17.3 +0.5**
SNR=9.8
EKS2 P **P 02 47 17.3 +0.5**
SNR=9.8
EKS2 Erkin-Say 45.94 306 *e*P **P 02 47 17.1 +0.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.9s
EKS2 Erkin-Say 45.94 306 *e*P **P 02 47 17.1 +0.3**
comp=Z,10nm,0.9s
AML Almayashu 45.95 305 P **P 02 47 18.1 +0.9**
SNR=26
AML P **P 02 47 18.1 +0.9**
SNR=26
MBWA Marble Bar 46.09 188 *e*P **P 02 47 18.1 +0.2**
POO Poona 48.36 273 *e*P **P 02 47 38.0 +2.2**
KK31 Karatay Array 48.37 306 *i*P **P 02 47 35.6 +0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 48.37 306 *e*P **P 02 47 35.4 -0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 48.37 306 *e*P **P 02 47 35.4 -0.1**
comp=Z,4.1nm,0.5s
AS31 Alice Springs 48.87 170 *e*P **P 02 47 39.0 -0.5**
AS31 *e*pP **pP 02 47 52.1 +0.9**
ASAR Alice Springs 48.87 170 P **P 02 47 39.0 -0.6**
comp=Z,2.3nm,0.6s,baz=355,slow=7.9,SNR=38
ASAR Alice Springs 48.87 170 P **P 02 47 39.0 -0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 48.87 170 P **P 02 47 39.0 -0.6**
CTA Charters Tower 48.94 154 P **P 02 47 39.8 -0.3**
comp=Z,1.3nm,0.5s,baz=359,slow=5.9,SNR=3.0
CTA Charters Tower 48.94 154 *e*P **P 02 47 39.7 -0.3**
comp=Z,2.9nm,0.8s
CTA *e*pP **pP 02 47 53.3 +1.7**
CTA Charters Tower 48.94 154 P **P 02 47 39.8 -0.3**
CTA Charters Tower 48.94 154 P **P 02 47 39.8 -0.3**
CTAO Charters Tower 48.94 154 *e*P **P 02 47 39.0 -1.0**
CTAO *e**PP **pP 02 47 51.1 -0.5**
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 48.94 154 *e*P **P 02 47 39.0 -1.0**
comp=Z,13nm,0.8s
CTAO *e*pP **pP 02 47 51.0 -0.5**
VOSK Vostochnaya 49.40 319 P **P 02 47 41.5 -1.8**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 49.60 295 *e*P **P 02 47 46.3 +0.9**
KBL pmax pmax
comp=Z,57nm,0.7s
KBL Kabul 49.60 295 *e*P **P 02 47 46.2 +0.9**
comp=Z,57nm,0.7s
BILL Bilibino 49.71 19⇑ *e*P **P 02 47 45.5 +0.1**
BILL *e* 02 49 06.6
BILL pmax pmax
comp=Z,18nm,1.7s
BILL MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 49.71 19 *e*P **P 02 47 44.4 -1.0**
comp=Z,13nm,0.9s
BVA0 Borovoye Array 49.81 319 *i*P **P 02 47 45.7 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 49.88 319*ce*P **P 02 47 46.6 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 49.88 319 *e*P **P 02 47 45.6 -1.4**
comp=Z,12nm,0.6s
BRVK Borovoye 49.88 319 P **P 02 47 46.4 -0.5**
comp=Z,142nm,0.4s,SNR=8.7
ZRNK Zerenda 50.62 319 *i*P **P 02 47 51.4 -1.1**
ZRNK pmax pmax
comp=Z,28nm,0.8s
FORT Forrest 55.35 178 *e*P **P 02 48 27.0 -0.5**
comp=Z,10nm,0.6s
FORT *e*pP **pP 02 48 41.1 +1.8**
FORT Forrest 55.35 178 *e*P **P 02 48 27.0 -0.5**
comp=Z,28nm,0.6s
AB31 Akbulak array 55.94 314*ce*P **P 02 48 31.5 -0.2**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 55.94 314 *e*P **P 02 48 31.1 -0.5**
comp=Z,10nm,0.4s
SVE Sverdlovsk 55.97 323⇑ *i*P **P 02 48 31.7 -0.1**
SVE pmax pmax
comp=Z,49nm,1.2s
IMYA Miami 56.66 298 *e*P **P 02 48 38.8 +1.5**
ARU Arti 57.08 322*c i*P **P 02 48 38.9 -0.7**
ARU 02 49 33.8
ARU 02 50 43.8
ARU S **S 02 56 32.6 +1.1**
ARU pmax pmax
comp=Z,29nm,1.0s
ARU Arti 57.08 322 *e*P **P 02 48 38.6 -1.1**
comp=Z,17nm,0.6s
ARU Arti 57.08 322 P **P 02 48 38.9 -0.7**
comp=Z,176nm,0.8s,SNR=12
AKTO Aktyubinsk 57.19 315 *i*P **P 02 48 39.2 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.8s
IMOG Moghan 57.30 298 *e*P **P 02 48 43.1 +1.1**
IPAY Payeh 57.53 299 *e*P **P 02 48 44.6 +1.1**
IKRD Kardeh 57.86 299 *e*P P 02 48 42.5 -3.3
TNA Tin City 57.90 27 *e*P **P 02 48 47.1 +1.9**
comp=Z,22nm,1.2s
ABKT Ailbek 58.01 300 P **P 02 48 47.3 +0.7**
comp=Z,607nm,0.6s,SNR=21
NWAO Narrogin (SRO) 58.01 188 P **P 02 48 46.9 +0.5**
comp=Z,12nm,1.1s,baz=3.6,slow=11,SNR=3.0
NWAO Narrogin (SRO) 58.01 188 P **P 02 48 46.9 +0.5**
NWAO pmax pmax
comp=Z,12nm,1.1s
NWAO Narrogin (SRO) 58.01 188 P **P 02 48 46.9 +0.5**
SOKR Solikamsk 58.26 326 *e*P **P 02 48 46.9 -0.9**
SOKR pmax pmax
comp=Z,30nm,1.6s
ITEG Tejag 58.32 295 *e*P **P 02 48 50.1 +1.1**
STKA Stephens Creek 58.41 164 P **P 02 48 48.8 -0.4**
comp=Z,6.3nm,0.8s,baz=355,slow=6.7,SNR=9.0
STKA Stephens Creek 58.41 164 *e*P **P 02 48 48.5 -0.7**
comp=Z,11nm,1.8s
STKA *e*pP **pP 02 49 02.4 +1.3**
STKA Stephens Creek 58.41 164 P **P 02 48 48.8 -0.4**
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 58.41 164 *e*P **P 02 48 48.2 -1.0**
comp=Z,3.4nm,0.6s
STKA *e*pP **pP 02 49 02.3 +1.3**
DZM Mont Dzumac 61.16 136 P **P 02 49 07.3 -1.2**
comp=Z,8.1nm,1.0s,baz=315,slow=4.3,SNR=3.2
DZM Mont Dzumac 61.16 136 P **P 02 49 07.3 -1.2**
IANJ Anjilo 61.76 298 *e*P **P 02 49 13.2 +0.6**
IKIA Kiasar 61.80 299 *e*P **P 02 49 14.3 +1.4**
ISHM Shahmirzad 62.19 299 *e*P P 02 49 18.8 +3.2
ILAS Lasjerd 62.54 298 *e*P **P 02 49 18.7 +0.8**
IFIR Firoozkooh 62.65 299 *e*P **P 02 49 19.6 +1.0**
IZEF Zefreh 63.60 296 *e*P **P 02 49 25.4 +0.4**
IKLH Kolahrood 64.11 296 *e*P **P 02 49 28.9 +0.6**
KDAK Kodiak Island 64.98 36*ce*P **P 02 49 34.5 +1.3**
KDAK Kodiak Island 64.98 36 *e*P **P 02 49 34.7 +1.5**
comp=Z,36nm,0.8s
COLD Coldfoot 65.09 25 *e*P **P 02 49 35.2 +1.4**
comp=Z,9.2nm,0.6s
TRF Thorofare Moun 65.43 29 *e*P **P 02 49 37.0 +0.7**
comp=Z,29nm,1.4s
MCK McKinley 66.00 29 *e*P **P 02 49 40.0 +0.3**
MCK pmax pmax
comp=Z,18nm,0.6s
MCK McKinley 66.00 29 *e*P **P 02 49 40.0 +0.3**
comp=Z,18nm,0.6s
PMR Palmer 66.20 31 *e*P **P 02 49 41.5 +0.5**
PMR pmax pmax
comp=Z,10.0nm,0.6s
PMR Palmer 66.20 31 *e*P **P 02 49 41.5 +0.5**
comp=Z,9.8nm,0.6s
COLA College 66.31 28 *e*P **P 02 49 41.5 -0.1**
COLA pmax pmax
comp=Z,8.0nm,0.6s
COLA College 66.31 28 *e*P **P 02 49 41.5 -0.1**
comp=Z,8.3nm,0.6s
IHRS Heris 66.51 303 *e*P **P 02 49 43.5 -0.3**
ILAR Eielson Array 66.73 28 P **P 02 49 44.2 -0.1**
comp=Z,5.7nm,0.6s,baz=268,slow=6.2,SNR=48
ILAR Eielson Array 66.73 28 P **P 02 49 44.3 -0.1**
ILAR pmax pmax
comp=Z,6.0nm,0.6s
ILAR Eielson Array 66.73 28 P **P 02 49 44.2 -0.1**
KLMR Klimovskoe 66.80 328 *e*P **P 02 49 42.2 -2.6**
KLMR pmax pmax
comp=Z,38nm,1.3s
DGRG David-gareji 67.03 306 P **P 02 49 47.9 +1.1**
IKOM Komasi 67.18 298 *e*P **P 02 49 47.8 -0.2**
ITBZ Tabriz 67.22 303 *e*P **P 02 49 48.4 +0.2**
ILIN Lien 67.42 299 *e*P **P 02 49 49.8 +0.2**
TBLG Delisi 67.42 307 *e*P **P 02 49 50.0 +0.8**
TBLG Delisi 67.42 307 P **P 02 49 50.0 +0.8**
IMRD Marand 67.44 303 *e*P **P 02 49 49.8 +0.2**
VRHR Novokhopersk 67.45 317 *e*P **P 02 49 47.8 -1.4**
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
IAZR Azarshahr 67.48 302 *e*P **P 02 49 50.6 +0.6**
IVIS Veis 67.61 299 *e*P **P 02 49 50.5 -0.2**
PAX Paxson 67.66 30 *e*P **P 02 49 50.7 +0.3**
PAX pmax pmax
comp=Z,12nm,0.6s
PAX Paxson 67.66 30 *e*P **P 02 49 50.7 +0.3**
comp=Z,12nm,0.6s
ZEI Tsey 67.78 308 *e*P **P 02 49 51.0 -0.7**
ZEI pmax pmax
comp=Z,44nm,0.8s
GNI Garni 67.80 305*ce*P **P 02 49 53.0 +1.2**
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 67.80 305 *e*P **P 02 49 52.5 +0.7**
comp=Z,17nm,0.9s
GOR Gori 67.82 307 P P 02 49 47.2 -4.5
IDHR Dehrash 67.94 299 *e*P **P 02 49 52.3 -0.5**
KIV Kislovodsk 68.36 310‖ *e*P **P 02 49 55.6 +0.5**
KIV *e* 02 50 21.0
KIV pmax pmax
comp=Z,62nm,0.6s
KIV MLR MLR
comp=Z,700nm,14.0s
KIV Kislovodsk 68.36 310 *e*P **P 02 49 55.5 +0.3**
comp=Z,64nm,0.6s
KIV Kislovodsk 68.36 310 P **P 02 49 55.0 -0.1**
comp=Z,649nm,0.7s,SNR=13
AKH Akhalkalaki 68.41 307 P **P 02 49 56.9 +1.3**
MENT Mentasta 68.45 29 *e*P **P 02 49 56.5 +1.2**
MIB Mutribah 68.53 294 *e*P **P 02 49 56.0 -0.4**
MIB AMb AMb 02 49 59.5
comp=Z,35nm,0.6s
RDF Al-Radifah 68.61 293 *e*P **P 02 49 56.0 -0.9**
RDF AMb AMb 02 50 01.0
comp=Z,36nm,0.5s
NAY Al-Naaiem 68.78 293 *e*P **P 02 49 57.3 -0.6**
NAY AMb AMb 02 49 59.7
comp=Z,15nm,0.9s
MOS Moscow 68.79 323 *e*P **P 02 49 55.7 -1.7**
MOS pmax pmax
comp=Z,59nm,1.2s
VSR Storozhevoye 68.94 318 *e*P **P 02 49 57.8 -0.7**
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.4s
VSR pmax pmax
comp=Z,10.0nm,0.4s
EGAK Eagle 69.14 27 *e*P **P 02 50 00.0 +0.5**
comp=Z,17nm,0.7s
OBN Obninsk 69.52 322‖ *e*P **P 02 50 01.5 -0.5**
OBN pmax pmax
comp=Z,83nm,2.5s
OBN Obninsk 69.52 322 P **P 02 50 01.2 -0.8**
comp=Z,285nm,0.3s,SNR=5.4
SPA0 Spitsbergen Ar 69.71 348 *e*P **P 02 50 02.1 -0.8**
KEV Kevo 69.89 339 *e*P **P 02 50 03.3 -0.7**
KEV pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 69.89 339 *e*P **P 02 50 03.3 -0.7**
comp=Z,6.5nm,0.6s
KEV Kevo 69.89 339 *e*p **P 02 50 03.0 -1.0**
comp=Z,6.0nm,0.5s
KEV Kevo 69.89 339 *e*p **P 02 50 03.0 -1.0**
comp=Z,6.0nm,0.5s
DAWY Dawson 70.06 28 *e*P **P 02 50 06.0 +0.7**
JOF Joensuu 70.14 331 *e*P **P 02 50 05.6 -0.1**
JOF pmax pmax
comp=Z,13nm,0.5s
JOF Joensuu 70.14 331 *e*p **P 02 50 05.6 -0.1**
comp=Z,13nm,0.5s
JOF Joensuu 70.14 331 *e*p **P 02 50 05.6 -0.1**
comp=Z,13nm,0.5s
ARCES ARCESS Array B 70.45 338 P **P 02 50 06.7 -0.8**
comp=Z,1.7nm,0.3s,baz=65,slow=7.1,SNR=56
ARCES ARCESS Array B 70.45 338 P **P 02 50 06.7 -0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 70.45 338 P **P 02 50 06.7 -0.8**
ARE0 ARCESS Array S 70.45 338 *e*P **P 02 50 06.5 -1.0**
INK Inuvik 71.06 23 P **P 02 50 11.3 +0.1**
comp=Z,21nm,0.7s,baz=298,slow=6.7,SNR=34
INK Inuvik 71.06 23 *e*P **P 02 50 11.7 +0.5**
INK pmax pmax
comp=Z,21nm,0.7s
INK Inuvik 71.06 23 *e*P **P 02 50 11.7 +0.5**
comp=Z,21nm,0.7s
KTK1 Kautokeino 71.39 338 *e*P **P 02 50 12.8 -0.4**
TRO Tromso 72.57 339 *e*P **P 02 50 20.4 +0.2**
KAF Kangasniemi 72.60 331 *e*P **P 02 50 19.5 -1.1**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 72.60 331 *e*p **P 02 50 19.5 -1.1**
comp=Z,9.0nm,0.6s
KAF Kangasniemi 72.60 331 *e*p **P 02 50 19.5 -1.1**
comp=Z,9.0nm,0.6s
ALE Alert 72.78 1 P **P 02 50 21.5 +0.1**
comp=Z,100nm,0.8s,SNR=7.5
FINES FINESS Array B 72.94 330 P **P 02 50 22.3 -0.2**
comp=Z,15nm,0.5s,baz=69,slow=7.6,SNR=146
FINES FINESS Array B 72.94 330 P **P 02 50 22.3 -0.2**
FINES pmax pmax
comp=Z,15nm,0.5s
FINES FINESS Array B 72.94 330 P **P 02 50 22.3 -0.2**
SIM Simferopol' 73.96 312 P P 02 50 24.8 -4.1
SIM pmax pmax
comp=Z,31nm,0.8s
NACGM Naroch 74.95 324 *e* P 02 50 31.0 -3.4
AKASG Malin Array Be 75.09 319 P **P 02 50 34.2 -1.1**
comp=Z,22nm,0.6s,baz=65,slow=6.4,SNR=52
AKASG Malin Array Be 75.09 319*ce*P **P 02 50 34.7 -0.6**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKASG Malin Array Be 75.09 319 P **P 02 50 34.2 -1.1**
AKSB Malin Array Si 75.09 319 *e*P **P 02 50 34.2 -1.1**
AKBB Malin Array Si 75.09 319 *e*P **P 02 50 34.2 -1.1**
KIEV Kiev 75.10 319*d i*P **P 02 50 34.7 -0.7**
KIEV Kiev 75.10 319 *e*P **P 02 50 34.4 -1.0**
comp=Z,15nm,0.6s
DAG Danmarks Havn 76.32 352 *i*P **P 02 50 40.9 -1.0**
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 76.32 352 *i*P **P 02 50 40.9 -1.0**
comp=Z,96nm,0.9s
SUW Suwalki 77.23 324 *e*P **P 02 50 47.4 0.0**
SUW Suwalki 77.23 324 *e*P **P 02 50 47.4 0.0**
LEOM Leova 77.26 315⇑ *i*P **P 02 50 46.8 -0.9**
LEOM Leova 77.26 315⇑ *i*P **P 02 50 46.8 -0.9**
RES Resolute Bay 77.33 10 P **P 02 50 47.6 0.0**
comp=Z,7.3nm,0.6s,baz=309,slow=3.7,SNR=55
RES Resolute Bay 77.33 10 *e*P **P 02 50 47.7 +0.1**
RES pmax pmax
comp=Z,8.0nm,0.6s
RES Resolute Bay 77.33 10 *e*P **P 02 50 47.7 +0.1**
comp=Z,7.7nm,0.6s
NSS Namsos 77.37 336 *e*P **P 02 50 46.3 -1.7**
TLCR 77.38 314⇑ *i*P **P 02 50 48.3 -0.2**
TLCR 77.38 314⇑ *i*P **P 02 50 48.3 -0.2**
CFR Carcaliu 77.83 314‖ *i*P **P 02 50 49.7 -1.3**
GHRR 77.96 315‖ *i*P P 02 50 48.1 -3.6
CSS Prodhromos 78.02 303 *e*P **P 02 50 52.1 -0.2**
comp=Z,27nm,0.6s
TESR 78.26 316‖ *i*P **P 02 50 53.4 0.0**
VRI Vrincioaia 78.47 315‖ P **P 02 50 55.8 +1.3**
VRI Vrincioaia 78.47 315‖ *i*P **P 02 50 55.8 +1.3**
GRER 78.50 315⇑ *i*P **P 02 50 55.1 +0.4**
PLOR Plostina 78.52 315⇑ *i*P **P 02 50 57.7 +2.8**
BUR08 Bucovina Ar. S 78.70 317 *e*P **P 02 50 56.1 +0.1**
BURAR Bucovina Array 78.71 317⇑ *i*P **P 02 50 55.7 -0.2**
HFS Hagfors 78.97 332 P **P 02 50 56.8 -0.2**
comp=Z,21nm,0.8s,baz=64,slow=6.6,SNR=47
HFS Hagfors 78.97 332 P **P 02 50 56.8 -0.2**
HFS pmax pmax
comp=Z,21nm,0.8s
HFS Hagfors 78.97 332 P **P 02 50 56.8 -0.2**
MLR Muntele Rosu 79.12 315 P **P 02 50 58.6 +0.3**
comp=Z,1.4nm,0.5s,baz=34,slow=3.6
MLR Muntele Rosu 79.12 315 P **P 02 50 58.6 +0.3**
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 79.12 315 P **P 02 50 58.6 +0.3**
MLR Muntele Rosu 79.12 315⇑ *i*P **P 02 50 58.4 +0.1**
KWP Kalwaria Pacla 79.36 320 *e*P **P 02 50 59.9 +0.6**
KWP Kalwaria Pacla 79.36 320 *e*P **P 02 50 59.9 +0.6**
KWP Kalwaria Pacla 79.36 320 *e*P **P 02 50 59.1 -0.3**
comp=Z,79nm,1.0s
KWP Kalwaria Pacla 79.36 320⇑ *i*P **P 02 50 59.8 +0.5**
BEL Belsk 79.48 322 *e*P **P 02 51 00.5 +0.6**
BEL Belsk 79.48 322 *e*P **P 02 51 00.5 +0.6**
NB2 NORSAR Subarra 79.53 333 P **P 02 50 59.5 -0.6**
comp=Z,11nm,0.7s,baz=56,slow=5.6
NOA NORSAR Array B 79.53 333 P **P 02 50 59.8 -0.3**
comp=Z,12nm,0.8s,baz=56,slow=5.6,SNR=41
NOA NORSAR Array B 79.53 333 P **P 02 50 59.8 -0.3**
NOA pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 79.53 333 P **P 02 50 59.8 -0.3**
NC602 NORSAR Array S 79.56 333 *e*P **P 02 50 59.7 -0.5**
NC602 *e*P PcP 02 50 59.9 -8.1
VOIR 79.72 315⇑ P **P 02 51 00.9 -0.6**
VOIR 79.72 315⇑ *i*P **P 02 51 00.9 -0.6**
BMR Baia Mare 79.74 318⇑ P **P 02 51 02.0 +0.6**
BMR Baia Mare 79.74 318⇑ *i*P **P 02 51 02.0 +0.6**
NAO01 NORSAR Array S 79.77 333 *e*P **P 02 51 01.0 -0.4**
comp=Z,3.6nm,0.6s
DOMB Dombas 79.83 335 *e*P **P 02 51 01.9 +0.2**
KOLS Kolonicke sedl 79.92 319 *e*P **P 02 51 02.5 +0.1**
KOLS pmax pmax
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 79.92 319 *e*P **P 02 51 02.5 +0.1**
UZH Uzhgorod 80.04 319 *e*P **P 02 51 02.5 -0.5**
UZH *i* 02 51 09.7
MOL Molde 80.11 336 *e*P **P 02 51 03.6 +0.5**
TRPA Tarpa 80.12 319‖ *i*P **P 02 51 03.3 -0.1**
HUMR Humele 80.15 314⇑ *i*P **P 02 51 03.1 -0.6**
STHS Stebnicka Huta 80.31 320 *e*P **P 02 51 05.7 +1.2**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 80.31 320 *e*P **P 02 51 05.7 +1.2**
OSL Oslo 80.34 332 *e*P **P 02 51 04.2 -0.2**
CRVS Cervenica-Dubn 80.42 320 *e*P **P 02 51 05.6 +0.5**
CRVS pmax pmax
comp=Z,41nm,2.1s
CRVS Cervenica-Dubn 80.42 320 *e*P **P 02 51 05.6 +0.5**
LOT Lotru 80.53 316⇑ *i*P **P 02 51 05.6 -0.3**
DRGR 80.60 317⇑ P **P 02 51 05.4 -0.8**
DRGR 80.60 317⇑ *i*P **P 02 51 05.3 -0.9**
GKP Gorka Klasztor 80.72 325 *e*P **P 02 51 06.8 +0.3**
GKP Gorka Klasztor 80.72 325 *e*P **P 02 51 06.8 +0.3**
YKA Yellowknife Ar 80.73 24 P **P 02 51 06.6 +0.1**
comp=Z,8.2nm,0.5s,baz=302,slow=4.8,SNR=49
YKA PKKPbc PKKPbc 03 09 57.5 +11
comp=Z,0.1nm,0.4s,baz=132,slow=2.5,SNR=4.4
YKA Yellowknife Ar 80.73 24 P **P 02 51 06.6 +0.1**
YKA pmax pmax
comp=Z,8.0nm,0.5s
YKA Yellowknife Ar 80.73 24 P **P 02 51 06.6 +0.1**

OJC	Ojcow	80.78	321	*e*P		P	02 51 07.4	+0.4
OJC	Ojcow	80.78	321	*e*P		P	02 51 07.4	+0.4
NIE	Niedzica	80.85	320	*e*P		P	02 51 08.3	+0.9
NIE	Niedzica	80.85	320	*e*P		P	02 51 08.3	+0.9
GZR	Gura Zlata	81.18	316	⇑*i*P		P	02 51 10.0	+0.6
GZR	Gura Zlata	81.18	316	⇑*i*P		P	02 51 09.9	+0.6
MPEP	Malo Peshtene	81.46	314	*e*P		P	02 51 11.2	+0.5
FOO	Floro	81.64	335	*e*P		P	02 51 10.4	-0.8
PSZ	Piszkesteto	81.80	319	*e*P		P	02 51 12.4	-0.1
PSZ					pmax	pmax		
	comp=Z,17nm,1.5s							
PSZ	Piszkesteto	81.80	319	*e*P		P	02 51 12.4	-0.1
	comp=Z,16nm,1.5s							
PSZ	Piszkesteto	81.80	319	⇓*i*P		P	02 51 12.4	-0.1
BZS	Buzias	81.81	317	⇓P		P	02 51 12.3	-0.2
BZS	Buzias	81.81	317	⇓*i*P		P	02 51 12.3	-0.2
OKC	Ostrava-Krasne	81.89	321	*e*P		P	02 51 13.3	+0.4
OKC				*e*			02 51 26.9	
OKC	Ostrava-Krasne	81.89	321	*e*P		P	02 51 13.3	+0.4
OKC				*e*pP		pP	02 51 26.9	+1.7
VYHS	Vyhne	82.14	320	*e*P		P	02 51 14.9	+0.6
VYHS					pmax	pmax		
	comp=Z,8.0nm,1.0s							
VYHS	Vyhne	82.14	320	*e*P		P	02 51 14.9	+0.6
VTS	Vitosha	82.15	313	*e*P		P	02 51 15.0	+0.4
HOMB	Homborsund	82.23	332	*e*P		P	02 51 10.4	-4.0
SUMG	Summit	82.24	355	*e*P		P	02 51 15.2	+0.4
SUMG					pmax	pmax		
	comp=Z,10.0nm,0.6s							
SUMG	Summit	82.24	355	*e*P		P	02 51 15.2	+0.4
	comp=Z,10nm,0.6s							
SUMG	Summit	82.24	355	*i* P		P	02 51 15.1	+0.3
	comp=Z,8.9nm,0.6s							
MMB	Musomiste	82.24	312	*e*P		P	02 51 16.0	+1.0
MORC	Moravsky Berou	82.27	322	⇓P		P	02 51 15.1	+0.2
MORC	Moravsky Berou	82.27	322	*e*P		P	02 51 14.8	-0.1
	comp=Z,15nm,1.2s							
MORC	Moravsky Berou	82.27	322	⇓*i*P		P	02 51 15.1	+0.2
KOLL	Kolacno	82.36	320	*e*P		P	02 51 16.0	+0.7
KOLL	Kolacno	82.36	320	*e*P		P	02 51 16.0	+0.7
KSP	Ksiaz	82.43	323	*e*P		P	02 51 16.3	+0.6
KSP	Ksiaz	82.43	323	*e*P		P	02 51 16.3	+0.6
KSP				*e**PP		pP	02 51 32.5	+4.5
DPC	Dobruska-Polom	82.66	322	*e*P		P	02 51 17.6	+0.6
DPC				*e*			02 51 33.3	
DPC	Dobruska-Polom	82.66	322	*e*P		P	02 51 17.6	+0.6
DPC				*ex*		x	02 51 33.3	
UPC	Upice	82.75	323	*e*P		P	02 51 19.6	+2.2
UPC	Upice	82.75	323	*e*P		P	02 51 19.6	+2.2
RUE	Ruedersdorf	82.93	325	*e*P		P	02 51 18.9	+0.7
	comp=Z,21nm,0.9s							
SMOL	Smolenice	82.95	320	*e*P		P	02 51 20.2	+1.7
SMOL	Smolenice	82.95	320	*e*P		P	02 51 20.2	+1.7
MUD	Monsted U'grnd	82.98	330	*i* P		P	02 51 18.1	-0.3
MUD					pmax	pmax		
	comp=Z,18nm,0.9s							
MUD	Monsted U'grnd	82.98	330	*i* P		P	02 51 18.1	-0.3
	comp=Z,18nm,0.9s							
VRAC	Vranov	83.03	321	P		P	02 51 19.6	+0.7
	comp=Z,13nm,0.9s,baz=65,slow=6.3,SNR=22							
VRAC	Vranov	83.03	321	P		P	02 51 19.6	+0.7
VRAC					pmax	pmax		
	comp=Z,13nm,0.9s							
VRAC	Vranov	83.03	321	P		P	02 51 19.6	+0.7
VRAC	Vranov	83.03	321	⇓*i*P		P	02 51 19.1	+0.2
PKSM	Moragy	83.36	318	⇓P		P	02 51 19.9	-0.7
PKSM	Moragy	83.36	318	⇓*i*P		P	02 51 19.9	-0.7
PVCC	Panska Ves	83.53	323	*e*P		P	02 51 23.2	+1.8
PVCC	Panska Ves	83.53	323	*e*P		P	02 51 23.2	+1.8
TREC	Trest	83.67	322	*e*P		P	02 51 22.9	+0.8
TREC	Trest	83.67	322	*e*P		P	02 51 22.9	+0.8
BRG	Berggiesshubel	83.69	324	*e*P		pP	02 51 36.8	+2.3
	comp=Z,8.6nm,0.8s							
BRG	Berggiesshubel	83.69	324	*e*P		pP	02 51 36.8	+2.3
BRG					pmax	pmax		
	comp=Z,9.0nm,0.8s							
PRU	Pruhonice	83.83	323	*e*P		P	02 51 22.9	0.0
PRU	Pruhonice	83.83	323	*e*P		P	02 51 22.9	0.0
BSEG	Bad Segeberg	83.88	328	*e*P		P	02 51 24.3	+1.3
	comp=Z,51nm,1.1s							
BSEG	Bad Segeberg	83.88	328	*e*P		P	02 51 24.3	+1.3
BSEG					pmax	pmax		
	comp=Z,51nm,1.1s							
CLL	Collm	83.96	324	*i* P		P	02 51 23.4	-0.2
CLL				*i*			02 51 30.0	
CLL				*i*			02 51 38.6	
CLL					pmax	pmax		
	comp=Z,9.0nm,0.7s							
CLL	Collm	83.96	324	*i* P		P	02 51 23.4	-0.2
	comp=Z,9.0nm,0.7s							
CLL				*i* PcP		PcP	02 51 30.0	+2.5
CLL				*i* sP		sP	02 51 38.6	-1.9
FBE	Freiberg	83.98	324	*e*P		P	02 51 24.6	+0.9
	comp=Z,26nm,1.3s							
CONA	Conrad Observa	84.15	321	⇑*i*P		P	02 51 25.5	+0.7
	comp=Z,8.8nm,0.7s							
CONA	Conrad Observa	84.15	321	⇑*i*PcP		P	02 51 25.5	+0.7
	comp=Z,8.8nm,0.7s							
KHC	Kasperske Hory	84.82	322	*e*P		P	02 51 28.2	+0.2
KHC	Kasperske Hory	84.82	322	*e*P		P	02 51 28.2	+0.2
GUNZ	Gunzen	84.83	324	*e*P		P	02 51 28.4	+0.3
	comp=Z,12nm,0.9s							
NKC	Novy Kostel	84.84	324	*e*P		P	02 51 28.6	+0.5
NKC	Novy Kostel	84.84	324	*e*P		P	02 51 28.6	+0.5
WERN	Wernitzgruen	84.85	324	*e*P		P	02 51 28.8	+0.7
	comp=Z,12nm,1.1s							
GEC2	GERESS Array S	84.90	322	*e*P		P	02 51 28.6	+0.1
	comp=Z,10.0nm,0.9s							
GEC2	GERESS Array S	84.90	322	*e*P		P	02 51 28.6	+0.1
GEC2					pmax	pmax		
	comp=Z,10.0nm,0.9s							
GERES	GERESS Array B	84.90	322	P		P	02 51 28.3	-0.2
	comp=Z,4.6nm,0.7s,baz=53,slow=5.2,SNR=13							
GERES	GERESS Array B	84.90	322	P		P	02 51 28.4	-0.2
GERES	GERESS Array B	84.90	322	P		P	02 51 28.4	-0.2
MBW	Mount Baker	85.16	38	P		P	02 51 38.1	+8.2
ROTZ	Rotzenmuhle	85.22	323	*e*P		P	02 51 30.6	+0.6
	comp=Z,7.0nm,0.8s							
CMW	Cultus Mountai	85.23	38	P		P	02 51 39.0	+8.8
SOKA	Soboth	85.28	320	⇓*i*P		P	02 51 30.6	+0.2
	comp=Z,6.2nm,0.7s							
SOKA	Soboth	85.28	320	⇓*i*P		P	02 51 30.6	+0.2
	comp=Z,6.2nm,0.7s							
HTW	Haystack Looko	85.77	39	P		P	02 51 41.5	+8.6
GRF	Grafenberg Arr	85.80	324	*e*P		P	02 51 33.1	+0.2
	comp=Z,9.0nm,0.9s							
GRF				*e*pP		pP	02 51 47.3	+2.1
GRF	Grafenberg Arr	85.80	324	*e*P		P	02 51 33.1	+0.2
GRF				*e**PP		pP	02 51 47.3	+2.1
GRF					pmax	pmax		
	comp=Z,9.0nm,0.9s							
RJOB	Jochberg	86.01	321	*e*P		P	02 51 35.6	+1.6
	comp=Z,12nm,0.9s							
IBBN	Ibbenburen	86.08	327	*e*P		P	02 51 35.7	+1.6
	comp=Z,26nm,1.0s							
ETW	Entiat	86.69	38	*e*P		P	02 51 37.5	0.0
	comp=Z,8.5nm,0.6s							
EBG	Ellensburg	86.94	39	P		P	02 51 47.3	+8.7
OD2	Odessa Site #2	87.72	38	P		P	02 51 50.4	+8.1
NEW	Newport	88.08	36	*e*P		P	02 51 44.7	+0.7
NEW					pmax	pmax		
	comp=Z,4.0nm,0.8s							
NEW	Newport	88.08	36	*e*P		P	02 51 44.7	+0.7
	comp=Z,4.3nm,0.8s							
DAVOX	Davos/Dischmat	88.19	322	P		P	02 51 45.0	+0.2
	comp=Z,6.0nm,0.6s,baz=63,slow=6.8,SNR=12							
DAVOX	Davos/Dischmat	88.19	322	P		P	02 51 45.0	+0.2
DAVOX	Davos/Dischmat	88.19	322	P		P	02 51 45.0	+0.2
VIPM	Ingram Point	88.24	41	P		P	02 51 54.1	+9.1
VIPM	Ingram Point	88.24	41	P		P	02 51 54.1	+9.1
A12A	Yaak River Ran	88.46	35	⇑P		P	02 51 47.9	+2.1
	baz=88							
YBH	Yreka Blue Hor	88.47	44	P		P	02 51 46.7	+0.7
	comp=Z,1.8nm,0.9s,baz=295,slow=6.5,SNR=3.6							
YBH	Yreka Blue Hor	88.47	44	P		P	02 51 46.7	+0.7
YBH					pmax	pmax		
	comp=Z,2.0nm,0.9s							
YBH	Yreka Blue Hor	88.47	44	P		P	02 51 46.7	+0.7
WLF	Walferdange	88.48	326	*e*P		P	02 51 47.1	+1.3
WLF					pmax	pmax		
	comp=Z,9.0nm,0.8s							
WLF	Walferdange	88.48	326	*e*P		P	02 51 47.1	+1.3
	comp=Z,9.3nm,0.8s							
AQU	L'Aquila	88.57	317	*e*P		P	02 51 47.2	+0.7
AQU					pmax	pmax		
	comp=Z,16nm,0.9s							
AQU	L'Aquila	88.57	317	*e*P		P	02 51 47.2	+0.7
	comp=Z,16nm,0.9s							
CDF	Champ du Feu	88.66	324	*e*P		P	02 51 47.8	+1.0
	comp=Z,22nm,1.1s							
TUE	Stuetta	88.67	322	*e*P		P	02 51 47.2	+0.2
	comp=Z,15nm,0.9s							
C11A	Tepe Creek (N	88.80	36	⇓P		P	02 51 49.3	+1.8
	baz=89							
KMBO	Kilima Mbogo	89.05	268	*e*P		P	02 51 49.4	-0.1
KMBO					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KMBO	Kilima Mbogo	89.05	268	*e*P		P	02 51 49.4	-0.1
	comp=Z,2.2nm,0.9s							
A13A	Flathead Natio	89.11	35	⇓P		P	02 51 51.0	+2.0
	baz=89							
WALA	Waterton Lakes	89.29	35	*e*P		P	02 51 50.7	+0.8
	comp=Z,0.2nm,0.6s							
BSMT	Bassoo Peak	89.58	36	*e*P		P	02 51 52.9	+1.6
	comp=Z,7.0nm,0.7s							
A14A	Double T Ranch	89.60	34	⇓P		P	02 51 52.9	+1.6
	baz=89,SNR=18							
JTMT	Jette	89.91	36	*e*P		P	02 51 53.1	+0.3
	comp=Z,4.5nm,0.8s							
A15A	Johnson Ranch,	89.95	34	⇓P		P	02 51 54.0	+1.1
	baz=90,SNR=5.1							
SFTF	Sexfontaines	89.96	325	*e*P		P	02 51 53.7	+0.9
E12A	Beaver Dam Sad	90.03	37	⇑P		P	02 51 55.0	+1.6
	baz=90							
B14A	Marquette Ranc	90.06	35	⇑P		P	02 51 55.2	+1.8
	baz=90,SNR=7.7							
SWMT	Swartz Lake	90.21	36	*e*P		P	02 51 55.2	+1.1
	comp=Z,5.0nm,0.6s							
B15A	Bradely Ranch,	90.46	35	⇓P		P	02 51 56.3	+1.1
	baz=90,SNR=6.5							
A16A	West Butte Ran	90.55	34	⇑P		P	02 51 56.4	+0.8
	baz=90							
F12A	Elk City	90.61	38	⇓P		P	02 51 57.0	+1.0
	baz=90,SNR=5.4							
SLMT	Seeley Lake	90.65	36	*e*P		P	02 51 57.1	+0.8
	comp=Z,15nm,0.7s							
LPL	La Plagne	90.70	322	*e*P		P	02 51 56.9	+0.3
	comp=Z,46nm,1.1s							
LPG	La Plagne	90.70	322	*e*P		P	02 51 56.9	+0.2
	comp=Z,51nm,1.0s							
C15A	Salmond Ranch,	90.78	35	⇑P		P	02 51 58.6	+1.7
	baz=91,SNR=6.1							
B16A	M & M Farms, S	90.83	34	⇑P		P	02 51 58.0	+1.0
	baz=91,SNR=8.5							
FFC	Flin Flon	90.83	25	*ce*P		P	02 51 57.8	+1.1
FFC	Flin Flon	90.83	25	*e*P		P	02 51 56.6	-0.1
	comp=Z,6.0nm,0.6s							
G12A	Big Creek, Yel	90.95	38	⇓P		P	02 51 59.0	+1.3
	baz=91							
A17A	Triple J Farms	91.00	33	⇓P		P	02 51 58.8	+1.1
	baz=91,SNR=5.7							
FRB	Frobisher Bay	91.00	6	P		P	02 51 56.6	-0.6
	comp=Z,2.2nm,0.4s,baz=352,slow=7.1,SNR=9.5							
FRB	Frobisher Bay	91.00	6	P		P	02 51 56.6	-0.6
FRB					pmax	pmax		
	comp=Z,2.0nm,0.4s							
FRB	Frobisher Bay	91.00	6	P		P	02 51 56.6	-0.6
BNI	Bardonecchia	91.01	322	*e*P		P	02 51 57.7	-0.3
BNI					pmax	pmax		
	comp=Z,15nm,0.8s							
BNI	Bardonecchia	91.01	322	*e*P		P	02 51 57.7	-0.3
	comp=Z,15nm,0.8s							
MBDF	Montbardon	91.16	321	*e*P		P	02 51 59.8	+1.2
	comp=Z,20nm,0.8s							
C16A	Fuhringer Ranc	91.21	35	⇓P		P	02 51 59.5	+0.8
	baz=91,SNR=5.8							
SBF	Sospel	91.30	320	*e*P		P	02 51 58.8	-0.4
	comp=Z,105nm,1.0s							
B17A	L&G Farms, Che	91.37	34	⇓P		P	02 52 00.5	+1.1
	baz=91,SNR=6.2							
A18A	Metzger Ranch,	91.44	33	⇑P		P	02 52 00.5	+0.8
	baz=91							
ORIF	Oris-en-Rattie	91.55	322	*e*P		P	02 52 01.4	+1.0
	comp=Z,22nm,1.0s							
H12A	Diamond D Ranc	91.56	39	⇑P		P	02 52 02.2	+1.6
	baz=91							
F14A	Wisdom	91.61	37	⇓P		P	02 52 02.1	+1.4
	baz=91,SNR=5.5							
E15A	Deer Lodge	91.62	36	⇑P		P	02 52 02.0	+1.3
	baz=91,SNR=5.3							
D16A	Dana Ranch, Ca	91.81	35	⇑P		P	02 52 02.9	+1.3
	baz=92,SNR=6.7							
B18A	Beardsley Farm	91.82	33	⇑P		P	02 52 03.2	+1.6
	baz=92							
C17A	Wharram Farm,	91.82	34	⇑P		P	02 52 02.3	+0.7
	baz=92							
HRY	Holter Researc	91.86	36	*e*P		P	02 52 03.1	+1.2
	comp=Z,11nm,0.7s							
I12A	Atlanta	91.87	39	⇑P		P	02 52 03.7	+1.7
	baz=92							
H13A	Challis	91.89	38	⇑P		P	02 52 03.5	+1.5
	baz=92							
A19A	Klindworth Far	91.97	32	⇓P		P	02 52 03.4	+1.1
	baz=92							
E16A	East Helena	92.06	36	⇑P		P	02 52 04.1	+1.4
	baz=92							
F15A	Butte	92.07	36	⇑P		P	02 52 04.1	+1.2
	baz=92,SNR=5.3							
EGMT	Eagleton	92.08	34	⇓P		P	02 52 03.8	+1.1
	baz=92							
LRM	Limekiln Ridge	92.10	36	*e*P		P	02 52 04.5	+1.3
	comp=Z,44nm,0.8s							
VIVF	Saint-Julien-l	92.26	322	*e*P		P	02 52 04.4	+0.8
	comp=Z,9.3nm,0.8s							
DLMT	Dillon	92.31	37	*e*P		P	02 52 05.2	+1.2
	comp=Z,10.0nm,0.7s							
LDF	La Druitiere	92.32	327	*e*P		P	02 52 04.1	+0.3
	comp=Z,6.2nm,0.8s							
I13A	Wildhorse Cree	92.37	39	⇓P		P	02 52 06.5	+2.1
	baz=92,SNR=8.3							
HLID	Hailey	92.42	39	⇑P		P	02 52 06.6	+2.0
	baz=92,SNR=9.3							
G15A	Dillon	92.50	37	⇓P		P	02 52 06.4	+1.5
	baz=92,SNR=14							
MCMT	McKenzie Canyo	92.51	37	*e*P		P	02 52 06.0	+0.9
	comp=Z,1.0nm,0.6s							
E17A	Martinsdale	92.54	35	⇑P		P	02 52 06.6	+1.5
	baz=92,SNR=6.2							
F16A	Kennard Place,	92.57	36	⇓P		P	02 52 06.6	+1.5
	baz=92							
D18A	Linhart Farms,	92.60	34	⇓P		P	02 52 06.6	+1.4
	baz=92							
C19A	Slack Wire Ran	92.62	33	⇑P		P	02 52 06.6	+1.3
	baz=92							
BOZ	Bozeman (W)	92.66	36	*e*P		P	02 52 07.1	+1.5
BOZ					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BOZ	Bozeman (W)	92.66	36	*e*P		P	02 52 07.1	+1.5
	comp=Z,0.8nm,0.6s							
BOZ	Bozeman (W)	92.66	36	⇑P		P	02 52 07.0	+1.5
	baz=92							
BOZ					⇑P	P	02 52 07.0	+1.5
	baz=92							
B20A	Solberg Farm,	92.66	33	⇓P		P	02 52 06.3	+1.0
	baz=92							
J13A	Cove Ranch, Pi	92.66	39	⇑P		P	02 52 07.8	+2.2
	baz=92							
I14A	Mackay	92.74	38	⇑P		P	02 52 08.0	+2.0
	baz=92,SNR=11							
H15A	Lima	92.76	37	⇓P		P	02 52 07.4	+1.3
	baz=92							
A21A	Bergtoll Ranch	92.81	32	⇑P		P	02 52 06.9	+0.9
	baz=93							
G16A	Moss Hill, Enn	92.83	37	⇓P		P	02 52 07.3	+0.8
	baz=93							
E18A	Harlowton	92.96	35	⇓P		P	02 52 08.2	+1.3
	baz=93,SNR=5.7							
F17A	Fitzpatrick Pl	93.00	36	⇑P		P	02 52 08.4	+1.2
	baz=93							
D19A	Cripps Ranch,	93.09	34	⇓P		P	02 52 08.5	+1.1
	baz=93							
NVAR	Mina Array Bea	93.11	45	P		P	02 52 09.1	+1.2
	comp=Z,0.8nm,0.8s,baz=303,slow=5.1,SNR=5.7							
NVAR	Mina Array Bea	93.11	45	P		P	02 52 09.1	+1.2
A22A	Carney Farms,	93.28	31	⇑P		P	02 52 08.7	+0.4
	baz=93							
QLMT	Earthquake Lak	93.29	37	*e*P		P	02 52 10.4	+1.9
	comp=Z,0.6nm,0.6s							
H16A	Russell Place,	93.47	37	⇓P		P	02 52 10.4	+1.0
	baz=93							
F18A	Big Timber	93.50	35	⇑P		P	02 52 10.2	+0.8
	baz=93							
ELK	Elko	93.65	42	P		P	02 52 12.0	+1.6
	comp=Z,0.4nm,0.4s,baz=284,slow=8.3,SNR=2.1							
ELK	Elko	93.65	42	P		P	02 52 12.0	+1.6
ELK	Elko	93.65	42	P		P	02 52 12.0	+1.6
K14A	Jones Ranch, D	93.76	39	⇑P		P	02 52 12.4	+1.7
	baz=94							
D21A	La Casta Ranch	94.10	33	⇓P		P	02 52 12.8	+0.7
	baz=94							
PDAR	Pinedale Array	95.66	37	P		P	02 52 20.1	+0.6
	comp=Z,0.2nm,0.5s,baz=293,slow=4.6,SNR=2.8							
PDAR	Pinedale Array	95.66	37	P		P	02 52 20.1	+0.6
ULM	Lac du Bonnet	96.66	25	P		P	02 52 23.8	+0.2
	comp=Z,1.0nm,0.5s,baz=322,slow=5.3,SNR=2.2							
ULM	Lac du Bonnet	96.66	25	P		P	02 52 23.8	+0.2
ULM					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ULM	Lac du Bonnet	96.66	25	P		P	02 52 23.8	+0.2
TORD	Torodi Ar. Bea	113.61	298	PKiKP		PKiKP	02 57 30.9	-1.6
	comp=Z,0.4nm,0.5s,baz=61,slow=1.8,SNR=9.0							
TORD				PP		PP	02 58 15.3	-9.1
	comp=Z,1.1nm,0.7s,baz=49,slow=4.8,SNR=6.9							
TORD	Torodi Ar. Bea	113.61	298	PKiKP		PKiKP	02 57 30.9	-1.6
TORD				PP		PP	02 58 15.3	-9.1
DBIC	Dimbokro	122.58	296	*e*PKiKP		PKPdf	02 57 49.1	-0.6
DBIC	Dimbokro	122.58	296	*e*PKPdf		PKPdf	02 57 49.1	-0.6
OTAV	Otavalo	145.82	47	*e*PKPbc		PKPab	02 58 35.5	+1.1

IDC 24 02:53:14.3±6.0, 23°.79S×66°.84W, h187km±48km, mb3.1/3, mb1 3.4/6, mb1mx3.3/16, mbtmp3.3/6, Error ellipse: s-maj=53.0km s-min=22.2km az=10.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	7.56	351	P	Pn	02 55 03.6	+0.9
	0.5nm,0.3s,baz=155,slow=5.8,SNR=10						
LPAZ				S	Sn	02 56 27.4	-1.2
	0.0nm,0.3s,baz=222,slow=16,SNR=1.8						
SIV	San Ignacio	9.47	36	P	Pn	02 55 27.0	0.0
	1.0nm,0.3s,baz=224,slow=14,SNR=22						
SIV				S	Sn	02 57 10.8	-2.0
	0.1nm,0.3s,baz=233,slow=12,SNR=3.4						
BDFB	Brasilia	19.48	69	P	P	02 57 28.0	+0.8
	2.7nm,0.3s,baz=240,slow=11,SNR=54						
TXAR	Lajitas Array	63.59	324	P	P	03 03 25.5	+0.1
	0.1nm,0.5s,baz=134,slow=5.2,SNR=2.9						
DBIC	Dimbokro	67.60	72	P	P	03 03 50.9	-0.4
	0.8nm,0.6s,baz=234,slow=9.7,SNR=3.6						
TORD	Torodi Ar. Bea	76.36	69	P	P	03 04 43.4	0.0
	0.5nm,0.4s,baz=249,slow=5.8,SNR=20						
ASAR	Alice Springs	128.70	205	PKP	PKPdf	03 11 58.6	-1.4
	0.6nm,0.9s,baz=151,slow=2.1,SNR=4.1						
WRA	Warramunga Arr	131.88	207	PKP	PKPdf	03 12 05.4	-0.7
	0.2nm,0.3s,baz=157,slow=1.7,SNR=8.0						
MKAR	Makanchi Array	146.27	39	PKPbc	PKPab	03 12 33.6	-0.3
	0.2nm,0.6s,baz=320,slow=2.4,SNR=3.4						

IDC 24 03:05:30.0±0.4, 56°.90S×24°.94W, h0km, mb4.7/16, mb1 4.6/17, mb1mx4.6/19, mbtmp4.7/17, ML4.3/1, MS4.6/7, Ms1 4.5/7, ms1mx4.1/21, Error ellipse: s-maj=15.9km s-min=13.4km az=33.0

ISCJB 24 03:05:30.1±0.3, 56°.91S±0°.06×25°.0W±0°.1, h10km, mb4.8/28, MS4.8/13, Error ellipse: s-maj=9.7km s-min=6.7km az=138.4

NEIC 24 03:05:35.8±1.4, 56°.94S×24°.92W, h39km±11km, mb4.9/20, Error ellipse: s-maj=9.3km s-min=6.6km az=214.0

BJI 24 03:05:39.7, 56°.80S×25°.00W, h52km, mB5.2/8, Ms5.5/11, Ms7 5.1/13

ISC 24 03:05:35.0±1.2, 56°.87S±0°.07×24°.91W±0°.07, h30km±7km, n167, σ1³97/195, mb4.8/27, MS4.8/13, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	7.06	287	*e*Pn	Pn	03 07 18.6	+2.6
VNA1	Neumayer--Stat	15.57	159	*e*	Pn	03 09 10.8	-1.1
VNA3	Neumayer Olymp	15.81	162	*e*	Pn	03 09 13.7	-1.3
VNA2	Neumayer--Watz	15.96	159	*e*	Pn	03 09 15.5	-1.5
	baz=330,slow=16						
SNAA	Sanae	17.48	157	*e*	Pn	03 09 32.9	-3.3
SNAA	Sanae	17.48	157	P	Pn	03 09 34.7	-1.4
	0.9nm,0.3s,baz=320,slow=16,SNR=40						
SNAA	Sanae	17.48	157	*e*Pn	Pn	03 09 32.9	-3.3
	18nm,0.7s						
EFI	East Falkland	19.91	271	*e*P	P	03 10 02.9	-0.9
	133nm,1.2s						
PMSA	Palmer Station	20.35	231	P	P	03 10 08.2	-0.1
	46nm,0.9s,baz=90,slow=11,SNR=5.7						
PMSA				LR	LR	03 16 54.1	
	comp=Z,1μm,19.1s,baz=328,slow=34						
PMSA	Palmer Station	20.35	231	*e*P	P	03 10 08.8	+0.4
	49nm,0.8s						
USHA	Ushuaia	24.22	256	P	P	03 10 47.2	-1.4
	25nm,0.8s,

	16nm,0.9s								
SAML	**Samuel**	**56.28**	**313**	*e*P		**P**		**03 15 12.1**	**-0.4**
	19nm,0.8s								
NNA	**Nana**	**59.75**	**297**	P		**P**		**03 15 37.0**	**0.0**
	5.0nm,0.6s,baz=188,slow=7.1,SNR=4.5								
NNA	**Nana**	**59.75**	**297**	*e*P		**P**		**03 15 35.9**	**-1.0**
	8.4nm,0.7s								
DBIC	**Dimbokro**	**65.42**	**22**	P		**P**		**03 16 14.4**	**-0.2**
	4.9nm,0.8s,baz=181,slow=7.4,SNR=8.1								
DBIC	**Dimbokro**	**65.42**	**22**	*e*P		**P**		**03 16 14.3**	**-0.2**
	9.6nm,1.0s								
OTAV	**Otavalo**	**71.16**	**302**	*e*P		**P**		**03 16 51.8**	**+0.7**
	14nm,0.9s								
TORD	**Torodi Ar. Bea**	**73.17**	**27**	P		**P**		**03 17 02.9**	**+0.4**
	13nm,0.8s,baz=195,slow=6.6,SNR=88								
TORD	**Torodi Ar. Bea**	**73.17**	**27**	P		**P**		**03 17 02.9**	**+0.4**
ROSC	**El Rosal**	**73.40**	**308**	P		**P**		**03 17 04.4**	**0.0**
	7.2nm,0.7s,baz=107,slow=11,SNR=6.0								
ROSC	**El Rosal**	**73.40**	**308**	*e*P		**P**		**03 17 05.4**	**+1.0**
SDV	**Santo Domingo**	**75.49**	**313**	*e*P		**P**		**03 17 16.4**	**+0.1**
	14nm,0.8s								
RPZ	**Rata Peaks**	**78.89**	**192**	P		**P**		**03 17 35.7**	**+0.8**
	7.7nm,0.9s,baz=247,slow=4.5,SNR=2.7								
RPZ	**Rata Peaks**	**78.89**	**192**	P		**P**		**03 17 35.7**	**+0.8**
TAM	**Tamanrasset**	**83.39**	**28**	*e*P		**P**		**03 18 01.0**	**+2.0**
	13nm,1.4s								
TBI	**Tubuai**	**87.53**	**229**	*e*LR		LR		03 46 13.9	
	259nm,22.0s								
ATD	**Arta Tunnel**	**87.83**	**65**	LR		LR		03 53 26.1	
	comp=Z,401nm,18.3s,baz=251,slow=33								
FORT	**Forrest**	**89.74**	**157**	*e*P		**P**		**03 18 30.7**	**+0.6**
	17nm,0.8s								
STKA	**Stephens Creek**	**90.87**	**169**	P		**P**		**03 18 35.5**	**+0.2**
	3.6nm,0.8s,baz=180,slow=6.1,SNR=5.2								
STKA	**Stephens Creek**	**90.87**	**169**	P		**P**		**03 18 35.5**	**+0.2**
PPT2	**Papeete2**	**92.69**	**232**	*e*LR		LR		03 48 36.5	
	487nm,25.8s,baz=148								
KEST	**Kesra**	**96.69**	**27**	LR		LR		03 56 20.7	
	comp=Z,150nm,18.8s,baz=47,slow=32								
ASAR	**Alice Springs**	**97.81**	**160**	P		Pdif		03 19 07.5	+0.1
	2.0nm,0.8s,baz=191,slow=4.4,SNR=19								
ASAR				PP		**PP**		**03 23 08.5**	**+3.8**
	0.5nm,0.7s,baz=184,slow=7.3,SNR=5.0								
ASAR	**Alice Springs**	**97.81**	**160**	P		Pdif		03 19 07.5	+0.1
ASAR				PP		**PP**		**03 23 08.5**	**+3.8**
WRA	**Warramunga Arr**	**101.52**	**160**	P		**Pdif**		**03 19 22.6**	**-1.3**
	0.3nm,0.6s,baz=196,slow=4.7,SNR=6.7								
WRA	**Warramunga Arr**	**101.52**	**160**	P		**Pdif**		**03 19 22.6**	**-1.3**
TIP	**Timpagrande**	**101.94**	**32**	*e*Pdif		**Pdif**		**03 19 25.2**	**+0.2**
AQU	**L'Aquila**	**103.98**	**28**	*e*Pdif		**Pdif**		**03 19 32.0**	**-2.1**
KIS	**Kishinev**	**112.76**	**37**	LRM		MLR		03 20 24.0	
	2µm,20.0s								
PMG	**Port Moresby**	**113.64**	**171**	*e*PKP		**PKiKP**		**03 24 10.3**	**0.0**
KSM	**Kuching**	**114.27**	**129**	P		PP		03 25 19.6	+13
	212nm,0.8s,3µm								
LUWI	**Luwuk**	**116.67**	**143**	P		PP		03 25 49.5	+26
	59nm,0.9s,755nm								
MRSI	**Marisa**	**117.82**	**142**	P		PP		03 25 37.1	+5.8
	71nm,0.5s,1µm								
TNTI	**Ternate**	**119.82**	**148**	P		**PP**		**03 25 47.8**	**+2.8**
	107nm,0.5s								
MSU	**Marysvale**	**119.85**	**295**	*e*PKPdf		**PKPdf**		**03 24 22.9**	**+1.2**
TMUT	**Trail Mountain**	**119.98**	**297**	*e*PKPdf		**PKPdf**		**03 24 21.2**	**-0.8**
ULM	**Lac du Bonnet**	**121.72**	**314**	PKP		**PKPdf**		**03 24 23.4**	**-1.2**
	1.7nm,0.6s,baz=146,slow=2.3,SNR=3.3								
ULM	**Lac du Bonnet**	**121.72**	**314**	PKP		**PKPdf**		**03 24 23.4**	**-1.2**
PDAR	**Pinedale Array**	**121.85**	**300**	PKP		**PKPdf**		**03 24 24.0**	**-1.3**
	0.5nm,0.8s,baz=124,slow=4.5,SNR=3.8								
PDAR				PP		**PP**		**03 25 58.9**	**-1.1**
	1.8nm,1.2s,baz=120,slow=6.0,SNR=4.7								
PDAR	**Pinedale Array**	**121.85**	**300**	PKP		**PKPdf**		**03 24 24.0**	**-1.3**
PDAR				PP		**PP**		**03 25 58.9**	**-1.1**
KOLN	**Koldanda**	**122.81**	**89**	*e*P		**PKPdf**		**03 24 25.8**	**-1.9**
	13nm,0.7s								
KOLN	**Koldanda**	**122.81**	**89**	*e*P		**PKPdf**		**03 24 25.8**	**-1.9**
NVAR	**Mina Array Bea**	**122.88**	**291**	PKP		**PKPdf**		**03 24 28.8**	**+1.3**
	0.8nm,0.8s,baz=149,slow=1.9,SNR=6.1								
NVAR				PKKPbc		**PKKPab**		**03 34 21.2**	**+2.9**
	1.2nm,1.1s,baz=236,slow=1.6,SNR=4.0								
NVAR	**Mina Array Bea**	**122.88**	**291**	PKP		**PKPdf**		**03 24 28.8**	**+1.3**
NVAR				PKKPbc		**PKKPab**		**03 34 21.2**	**+2.9**
LOHW	**Long Hollow**	**122.99**	**300**	*e*PKPdf		**PKPdf**		**03 24 27.5**	**0.0**
TPAW	**Teton Pass**	**123.06**	**300**	*e*PKPdf		**PKPdf**		**03 24 28.1**	**+0.3**
MOOW	**Moose Ponds**	**123.16**	**300**	*e*PKPdf		**PKPdf**		**03 24 28.1**	**+0.2**
DANN	**Dangsing**	**123.35**	**88**	*e*P		**PKPdf**		**03 24 28.1**	**-0.7**
	20nm,0.7s								
DANN	**Dangsing**	**123.35**	**88**	*e*P		**PKPdf**		**03 24 28.1**	**-0.7**
DMN	**Daman**	**123.51**	**90**	*e*P		**PKPdf**		**03 24 27.1**	**-2.0**
	6.6nm,0.4s								
DMN	**Daman**	**123.51**	**90**	*e*P		**PKPdf**		**03 24 27.1**	**-2.0**
GKN	**Gorkha**	**123.56**	**89**	*e*P		**PKPdf**		**03 24 27.8**	**-1.2**
GKN	**Gorkha**	**123.56**	**89**	*e*P		**PKPdf**		**03 24 27.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**123.60**	**109**	PKP		**PKPdf**		**03 24 29.4**	**+0.2**
	4.5nm,0.8s,baz=235,slow=3.9,SNR=19								
CMAR	**Chiang Mai Arr**	**123.60**	**109**	PKP		**PKPdf**		**03 24 29.4**	**+0.2**
PKI	**Pulchoki**	**123.64**	**90**	*e*P		**PKPdf**		**03 24 28.0**	**-1.4**
	16nm,1.0s								
PKI	**Pulchoki**	**123.64**	**90**	*e*P		**PKPdf**		**03 24 28.0**	**-1.4**
KKN	**Kakani**	**123.74**	**90**	*e*P		**PKPdf**		**03 24 28.5**	**-1.0**
	8.9nm,0.5s								
KKN	**Kakani**	**123.74**	**90**	*e*P		**PKPdf**		**03 24 28.5**	**-1.0**
RAMN	**Ramite**	**123.81**	**92**	*e*P		**PKPdf**		**03 24 28.6**	**-1.1**
	22nm,0.6s								
RAMN	**Ramite**	**123.81**	**92**	*e*P		**PKPdf**		**03 24 28.6**	**-1.1**
CHTO	**Chiang Mai**	**123.89**	**109**	*e*PKPdf		**PKPdf**		**03 24 29.6**	**-0.1**
JIRN	**Jiri**	**124.14**	**91**	*e*P		**PKPdf**		**03 24 30.0**	**-0.4**
	23nm,0.8s								
JIRN	**Jiri**	**124.14**	**91**	*e*P		**PKPdf**		**03 24 30.0**	**-0.4**
GUN	**Gumba**	**124.17**	**90**	*e*P		**PKPdf**		**03 24 29.1**	**-1.3**
	19nm,0.9s								
GUN	**Gumba**	**124.17**	**90**	*e*P		**PKPdf**		**03 24 29.1**	**-1.3**
ODAN	**Odare**	**124.17**	**93**	*e*P		**PKPdf**		**03 24 29.3**	**-1.0**
	18nm,0.7s								
ODAN	**Odare**	**124.17**	**93**	*e*P		**PKPdf**		**03 24 29.3**	**-1.0**
FINES	**FINESS Array B**	**124.53**	**27**	PKP		**PKPdf**		**03 24 29.3**	**-0.3**
	4.1nm,0.9s,baz=197,slow=1.5,SNR=6.4								
FINES	**FINESS Array B**	**124.53**	**27**	PKP		**PKPdf**		**03 24 29.3**	**-0.3**
TAPN	**Taplejung**	**124.73**	**92**	*e*P		**PKPdf**		**03 24 30.2**	**-1.3**
TAPN	**Taplejung**	**124.73**	**92**	*e*P		**PKPdf**		**03 24 30.2**	**-1.3**
HRY	**Holter Researc**	**125.88**	**302**	*e*PKPdf		**PKPdf**		**03 24 33.3**	**+0.5**
WVOR	**Wild Horse Val**	**126.03**	**294**	*e*PKPdf		**PKPdf**		**03 24 34.0**	**+0.7**
ABKAR	**Akbulak array**	**126.80**	**55**	*e*PKPdf		**PKPdf**		**03 24 33.7**	**-0.6**
AKTO	**Aktyubinsk**	**126.81**	**52**	PKP		**PKPdf**		**03 24 34.2**	**-0.1**
	2.3nm,0.9s,baz=212,slow=1.7,SNR=8.7								
AKTO	**Aktyubinsk**	**126.81**	**52**	PKP		**PKPdf**		**03 24 34.2**	**-0.1**
SLMT	**Seeley Lake**	**127.05**	**301**	*e*PKPdf		**PKPdf**		**03 24 34.5**	**-0.6**
KKAR	**Karatay Array**	**127.37**	**67**	*e*PKPdf		**PKPdf**		**03 24 35.4**	**-0.3**
FFC	**Flin Flon**	**127.55**	**315**	*e*PKPdf		**PKPdf**		**03 24 35.6**	**0.0**
KSH	**Kashi**	**127.58**	**73**	*e*PKP		**PKPdf**		**03 24 36.6**	**+0.3**
KSH				*e*PKS		**PKSdf**		**03 28 11.8**	**-1.1**
KSH				*e*SKS		**SKSdf**		**03 31 43.3**	**-2.2**
KSH				AMB		AMB			
	comp=Z,260nm,6.9s								
KSH				LR		LR			
	comp=N,210nm,7.3s								
KSH				LR		LR			
	comp=E,220nm,6.6s								
KSH				LR		LR			
	comp=Z,320nm,5.0s								
LSA	**Lhasa**	**128.45**	**94**	*e*PKPdf		**PKPdf**		**03 24 39.4**	**+0.7**
EKS2	**Erkin-Say**	**128.71**	**69**	*e*PKPdf		**PKPdf**		**03 24 38.7**	**+0.3**
AAK	**Ala-Archa**	**129.06**	**70**	*e*PKPdf		**PKPdf**		**03 24 39.1**	**+0.1**
TKM2	**Tokmak 2**	**129.84**	**70**	*e*PKPdf		**PKPdf**		**03 24 40.2**	**-0.4**
ARCES	**ARCESS Array B**	**131.24**	**21**	PKP		**PKPdf**		**03 24 42.1**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=217,slow=2.8,SNR=6.1								
ARCES				SKP				03 28 16.4	
	comp=Z,1.6nm,0.8s,baz=202,slow=1.9,SNR=4.8								
ARCES	**ARCESS Array B**	**131.24**	**21**	PKP		**PKPdf**		**03 24 42.1**	**-0.1**
ARCES				SKP				03 28 16.4	
BRVK	**Borovoye**	**134.13**	**57**	*e*PKPdf		**PKPdf**		**03 24 48.4**	**+0.3**
BVAR	**Borovoye Array**	**134.16**	**57**	PKP		**PKPdf**		**03 24 49.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=222,slow=2.0,SNR=14								
BVAR	**Borovoye Array**	**134.16**	**57**	PKP		**PKPdf**		**03 24 49.1**	**+0.9**
GYA	**Guiyang**	**134.19**	**111**	*e*Pdif		**Pdif**		**03 21 50.8**	**+1.9**
GYA				PKP		**PKPdf**		**03 24 49.9**	**+0.7**
GYA				sPKP				03 25 11.3	
GYA				PP		PP		03 27 26.5	+5.7
GYA				PKS		**PKSdf**		**03 28 24.3**	**-1.5**
GYA				SKKS				03 34 11.3	
GYA				SS		**SS**		**03 45 08.9**	**+1.0**
GYA				AMB		AMB			
	comp=Z,110nm,7.8s								
GYA				LR		LR			
	comp=N,110nm,19.9s								
GYA				LR		LR			
	comp=E,90nm,20.4s								
GYA				LR		LR			
	comp=Z,120nm,20.7s								
MK31	**Makanchi Array**	**135.95**	**71**	*e*PKPdf		**PKPdf**		**03 24 50.5**	**-1.3**
MKAR	**Makanchi Array**	**135.95**	**71**	PKhKP		PKPpre		03 24 35.9	
	comp=Z,0.2nm,0.6s,baz=266,slow=4.2,SNR=5.1								
MKAR				PKP		**PKPdf**		**03 24 51.0**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=235,slow=2.4,SNR=10								
MKAR	**Makanchi Array**	**135.95**	**71**	PKPpre		PKPpre		03 24 35.9	
MKAR				PKP		**PKPdf**		**03 24 51.0**	**-0.7**
CD2	**Chengdu**	**136.22**	**104**	PKP		**PKPdf**		**03 24 53.1**	**+0.3**
CD2				PKS		**PKSdf**		**03 28 27.9**	**-1.2**
CD2				SKS		**SKSdf**		**03 31 56.6**	**-4.7**
CD2				SKKS		**SKKSac**		**03 34 23.0**	**-2.8**
CD2				AMB		AMB			
	comp=Z,330nm,6.5s								
CD2				LR		LR			
	comp=N,570nm,5.9s								
CD2				LR		LR			
	comp=Z,370nm,5.9s								
KURK	**Kurchatov**	**136.62**	**64**	PKhKP		PKPpre		03 24 40.3	
	comp=Z,0.3nm,0.7s,baz=232,slow=3.4,SNR=4.8								
KURK				PKP		**PKPdf**		**03 24 52.5**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=234,slow=2.5,SNR=16								
KURK				SKPbc		**SKPbc**		**03 28 23.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=207,slow=3.9,SNR=4.3								
KURK	**Kurchatov**	**136.62**	**64**	PKPpre		PKPpre		03 24 40.3	
KURK				PKP		**PKPdf**		**03 24 52.5**	**-0.2**
KURK				*e*PKPdf		**PKiKP**		**03 24 52.8**	**-1.8**
KURK				SKPbc		**SKPbc**		**03 28 23.1**	**+0.4**
YKA	**Yellowknife Ar**	**137.63**	**316**	PKhKP		PKPpre		03 24 44.4	
	comp=Z,0.1nm,0.4s,baz=122,slow=3.5,SNR=6.2								
YKA				PKP		**PKPdf**		**03 24 54.1**	**-0.1**
	comp=Z,7.0nm,0.9s,baz=126,slow=2.2,SNR=45								
YKA				PP		**PP**		**03 27 43.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=120,slow=6.9,SNR=5.8								
YKA				SKPbc		**SKPbc**		**03 28 25.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=128,slow=2.9,SNR=12								
YKA	**Yellowknife Ar**	**137.63**	**316**	PKPpre		PKPpre		03 24 44.5	
YKA				PKP		**PKPdf**		**03 24 54.1**	**-0.1**
YKA				PP		**PP**		**03 27 43.6**	**+1.6**
YKA				SKPbc		**SKPbc**		**03 28 25.4**	**+0.1**
RES	**Resolute Bay**	**139.09**	**338**	PKP		**PKPdf**		**03 24 54.8**	**-1.8**
	comp=Z,4.4nm,1.0s,baz=120,slow=1.7,SNR=8.2								
RES				SKPbc		**SKiKP**		**03 28 33.1**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=129,slow=5.1,SNR=7.5								
RES	**Resolute Bay**	**139.09**	**338**	PKP		**PKPdf**		**03 24 54.8**	**-1.8**
RES				*e*PKPdf		**PKiKP**		**03 24 56.8**	**-2.1**
RES				SKPbc		**SKiKP**		**03 28 33.1**	**+0.7**
LZH	**Lanzhou**	**140.22**	**99**	*e*PKP		**PKPdf**		**03 25 01.8**	**+1.7**
LZH				SKKS				03 34 43.3	
LZH				AMB		AMB			
	comp=Z,100nm,8.7s								
LZH				LR		LR			
	comp=N,150nm,18.0s								
LZH				LR		LR			
	comp=Z,200nm,20.3s								
GTA	**Gaotai**	**140.42**	**92**	*e*PKP		**PKPdf**		**03 24 59.3**	**-1.1**
GTA				SKS		**SKSdf**		**03 32 03.5**	**-4.6**
GTA				AMB		AMB			
	comp=Z,130nm,8.3s								
GTA				LR		LR			
	comp=N,220nm,15.4s								
GTA				LR		LR			
	comp=E,140nm,15.9s								
GTA				LR		LR			
	comp=Z,99nm,15.9s								
ZALV	**Zalesovo Beam**	**141.59**	**64**	PKhKP		PKPpre		03 24 54.4	
	comp=Z,0.7nm,0.5s,baz=222,slow=4.2,SNR=5.2								
ZALV				PKP		**PKiKP**		**03 25 03.6**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=238,slow=4.9,SNR=6.6								
ZALV	**Zalesovo Beam**	**141.59**	**64**	PKPpre		PKPpre		03 24 54.4	
ZALV				PKP		**PKiKP**		**03 25 03.6**	**-1.0**
NJ2	**Nanjing**	**144.83**	**119**	*e*PKP		**PKPdf**		**03 25 08.3**	**+0.1**
INK	**Inuvik**	**147.24**	**319**	PKPbc		**PKPbc**		**03 25 13.4**	**-0.1**
	comp=Z,13nm,0.8s,baz=93,slow=3.3,SNR=39								
INK				SKPbc		**SKiKP**		**03 28 49.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=103,slow=3.6,SNR=3.2								
INK	**Inuvik**	**147.24**	**319**	*e*PKPbc		**PKPbc**		**03 25 13.3**	**-0.2**
INK				SKPbc		**SKiKP**		**03 28 49.9**	**+0.5**
TIA	**Tai'an**	**147.32**	**113**	PKPbc		**PKPbc**		**03 25 15.3**	**+0.5**
HHC	**Hu-ho-hao-te**	**147.84**	**101**	*e*PKPbc		**PKPbc**		**03 25 16.8**	**+0.6**
HHC				SKS		**SKSdf**		**03 32 19.8**	**+0.6**
HHC				AMB		AMB			
	comp=Z,230nm,9.8s								
HHC				LR		LR			
	comp=N,230nm,17.8s								
HHC				LR		LR			
	comp=E,280nm,19.0s								
HHC				LR		LR			
	comp=Z,320nm,19.0s								
DAWY	**Dawson**	**148.28**	**310**	*e*PKPbc		**PKPbc**		**03 25 16.2**	**-0.4**
SONM	**Songino Array**	**149.51**	**86**	PKPbc		**PKPbc**		**03 25 20.4**	**+0.1**
	comp=Z,17nm,0.7s,baz=225,slow=2.7,SNR=101								
SONM	**Songino Array**	**149.51**	**86**	PKPbc		**PKPbc**		**03 25 20.4**	**+0.1**
BJT	**Baijiatuan**	**149.70**	**107**	*e*PKPbc		**PKPbc**		**03 25 20.9**	**+0.1**
BJI	**Beijing**	**149.72**	**107**	PKPbc		**PKPbc**		**03 25 21.0**	**+0.2**
BJI				LR		LR			
	comp=N,480nm,17.1s								
BJI				LR		LR			
	comp=E,390nm,20.3s								
BJI				LR		LR			
	comp=Z,270nm,19.8s								
ULN	**Ulaanbaatar**	**149.89**	**87**	*e*PKPbc		**PKPbc**		**03 25 20.9**	**-0.3**
ULN	**Ulaanbaatar**	**149.89**	**87**	P		**PKPbc**		**03 25 21.2**	**0.0**
	comp=Z,12nm,0.9s								
TLY	**Talaya**	**150.12**	**78**	*e*PKPbc		**PKPbc**		**03 25 21.4**	**-0.1**
PAX	**Paxson**	**150.57**	**307**	*e*PKPbc		**PKPbc**		**03 25 22.6**	**+0.3**
JNU	**Nakatsue**	**151.02**	**135**	PKPbc		**PKPbc**		**03 25 23.0**	**-1.3**
	comp=Z,14nm,0.9s,baz=245,slow=5.1,SNR=4.1								
JNU	**Nakatsue**	**151.02**	**135**	PKPbc		**PKPbc**		**03 25 23.0**	**-1.3**
ILAR	**Eielson Array**	**151.61**	**310**	PKPbc		**PKPbc**		**03 25 24.7**	**+0.2**
	comp=Z,14nm,0.9s,baz=96,slow=1.8,SNR=67								
ILAR	**Eielson Array**	**151.61**	**310**	PKPbc		**PKPbc**		**03 25 24.7**	**+0.2**
MCK	**McKinley**	**152.27**	**308**	*e*PKPbc		**PKPbc**		**03 25 26.3**	**+0.2**
KDAK	**Kodiak Island**	**152.31**	**294**	PKPbc		**PKPbc**		**03 25 26.6**	**+0.4**
	comp=Z,18nm,0.9s,baz=131,slow=3.1,SNR=6.7								
KDAK	**Kodiak Island**	**152.31**	**294**	PKPbc		**PKPbc**		**03 25 26.6**	**+0.4**
TRF	**Thorofare Moun**	**152.81**	**307**	PKPbc		**PKPbc**		**03 25 27.0**	**-0.5**
COLD	**Coldfoot**	**153.29**	**315**	*e*PKPbc		**PKPbc**		**03 25 28.5**	**+0.3**
CN2	**Changchun**	**157.22**	**112**	*e*PKP		**PKPdf**		**03 25 30.3**	**+3.6**
CN2				LR		LR			
	comp=Z,400nm,20.0s								
USRK	**Ussuriysk Arra**	**160.73**	**121**	PKPab		**PKPab**		**03 26 12.4**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=229,slow=4.8,SNR=3.8								
YSS	**Yuzh-Sakhalins**	**167.51**	**137**	*e*PKPdf		**PKPdf**		**03 25 36.9**	**+0.1**

*ISCJB **24** 03:18:08.7±0.8, 56°.9S±0°.2×25°.0W±0°.5, h22km, mb4.0/4, Error ellipse: s-maj=41.2km s-min=11.5km az=151.9*
*IDC **24** 03:18:08.5±1.1, 56°.72S×24°.83W, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=48.5km s-min=31.1km az=38.0*
*NEIC **24** 03:18:13.2±0.7, 56°.83S×24°.94W, h35km, mb4.4/2, Error ellipse: s-maj=40.8km s-min=17.1km az=55.0*
ISC 24 03:18:10.9±0.8, 56°.9S±0°.2×24°.9W±0°.3, h22km, n19, σ1s03°/19, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**15.76**	**162**	*e*P	**Pn**	**03 21 50.5**	**-0.6**
VNA2	**Neumayer--Watz**	**15.91**	**159**	*e*P	**Pn**	**03 21 52.4**	**-0.8**
	baz=329,slow=15						
SNAA	**Sanae**	**17.43**	**157**	P	**P**	**03 22 13.8**	**+0.3**
	0.1nm,0.3s,baz=319,slow=20,SNR=5.7						
SNAA	**Sanae**	**17.43**	**157**	P	**P**	**03 22 13.8**	**+0.3**
SIV	**San Ignacio**	**49.10**	**311**	P	**P**	**03 26 55.5**	**-1.1**
	0.3nm,0.5s,baz=155,slow=9.4,SNR=4.0						
SIV	**San Ignacio**	**49.10**	**311**	P	**P**	**03 26 55.5**	**-1.1**
LPAZ	**La Paz**	**51.91**	**303**	P	**P**	**03 27 18.4**	**-0.2**
	6.8nm,0.7s,baz=147,slow=5.3,SNR=30						
LPAZ	**La Paz**	**51.91**	**303**	*e*P	**P**	**03 27 18.2**	**-0.3**
	5.7nm,0.6s						
SAML	**Samuel**	**56.32**	**313**	*e*P	**P**	**03 27 49.1**	**-0.8**
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.22**	**27**	P	**P**	**03 29 39.8**	**-0.2**
	0.5nm,0.8s,baz=196,slow=5.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**73.22**	**27**	P	**P**	**03 29 39.8**	**-0.2**
YKA	**Yellowknife Ar**	**137.67**	**316**	PKP	**PKPdf**	**03 37 32.0**	**+0.4**
	0.1nm,0.4s,baz=130,slow=2.4,SNR=4.0						
YKA	**Yellowknife Ar**	**137.67**	**316**	PKP	**PKPdf**	**03 37 32.0**	**+0.4**
INK	**Inuvik**	**147.28**	**319**	PKPbc	**PKPab**	**03 37 52.3**	**-0.5**
	0.4nm,0.6s,baz=67,slow=4.8,SNR=3.7						
INK	**Inuvik**	**147.28**	**319**	PKPbc	**PKPab**	**03 37 52.3**	**-0.5**
SONM	**Songino Array**	**149.52**	**86**	PKPbc	**PKPbc**	**03 37 57.3**	**-0.2**
	0.5nm,0.5s,baz=223,slow=4.4,SNR=5.2						
SONM	**Songino Array**	**149.52**	**86**	PKPbc	**PKPbc**	**03 37 57.3**	**-0.2**
ILAR	**Eielson Array**	**151.64**	**310**	PKPbc	**PKPbc**	**03 38 04.2**	**+2.4**
	1.0nm,0.9s,baz=168,slow=2.0,SNR=7.5						
ILAR	**Eielson Array**	**151.64**	**310**	PKPbc	**PKPbc**	**03 38 04.2**	**+2.4**

*DJA **24** 03:24:18, 3°.84N×126°.31E, h26km, mb4.4/6*
IDC 24 03:24:04.0±1.6, 4°.09N×125°.97E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=115.9km s-min=18.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.06**	**181**	P	P	03 29 02.4	+1.8
	1.2nm,0.4s,baz=351,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**25.26**	**161**	P	P	03 29 31.5	-0.7
	1.2nm,0.3s,baz=336,slow=10,SNR=26						
ASAR	**Alice Springs**	**28.66**	**165**	P	P	03 30 02.0	-0.7
	0.4nm,0.6s,baz=347,slow=7.0,SNR=8.1						
MKAR	**Makanchi Array**	**56.82**	**325**	P	P	03 33 50.1	-0.3
	0.7nm,0.5s,baz=120,slow=8.2,SNR=9.0						
KURK	**Kurchatov**	**61.03**	**328**	P	P	03 34 19.7	+0.2
	1.0nm,0.5s,baz=132,slow=6.3,SNR=8.8						

*IDC **24** 03:27:05.4±4.1, 36°.34N×70°.69E, h173km±38km, mb3.6/13, mb1 3.7/17, mb1mx3.5/29, mbtmp3.6/17, Error ellipse: s-maj=18.8km s-min=13.0km az=37.0*
*BJI **24** 03:27:05.9, 36°.14N×71°.10E, h200km, mb4.0/2*
*ISCJB **24** 03:27:06.7±0.4, 36°.45N±0°.03×70°.75E±0°.07, h204km, mb3.6/12, Error ellipse: s-maj=7.7km s-min=3.2km az=159.8*
*NNC **24** 03:27:09.5±4.4, 36°.87N×70°.47E, h179km±47km, mb3.2, mpv4.8, Error ellipse: s-maj=36.8km s-min=24.4km az=24.0*
ISC 24 03:27:08.1±0.5, 36°.52N±0°.05×70°.82E±0°.07, h204km, n60, σ1s52/78, mb3.8/12, 11C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.83**	**161**	⇓P	**

comp=E,5.8nm,0.5s
BRVK ⇓Sn S 03 33 48.6 -1.3
comp=E,7.2nm,1.3s
AKTO Aktyubinsk 16.69 330 P Pn 03 30 51.0 +0.6
comp=E,1.2nm,0.3s,baz=147,slow=9.6,SNR=30
AKTO S S 03 33 52.3 -0.7
comp=E,0.2nm,0.3s,baz=156,slow=20,SNR=4.5
AKTO Aktyubinsk 16.69 330 ⇓Pn P 03 30 49.1 -0.1
comp=E,1.2nm,1.1s
AKTO ⇑Sn S 03 33 49.4 -3.6
comp=E,0.5nm,0.8s
TAPN Taplejung 16.98 118 *e*P Pn 03 30 55.2 +0.9
comp=E,7.8nm,0.3s
ODAN Odare 17.05 120 *e*P Pn 03 30 57.1 +2.0
comp=E,24nm,0.7s
ZALV Zalesovo Beam 19.95 25 P P 03 31 26.2 +1.8
comp=E,8.2nm,0.6s,baz=219,slow=11,SNR=30
SONM Songino Array 28.44 55 P P 03 32 46.3 +2.4
comp=E,0.4nm,0.8s,baz=268,slow=9.8,SNR=3.5
CMAR Chiang Mai Arr 30.59 118 P P 03 33 03.4 +0.3
comp=E,1.1nm,0.3s,baz=305,slow=8.7,SNR=5.1
AKASG Malin Array Be 32.82 309 P P 03 33 23.3 +1.1
comp=E,0.6nm,0.7s,baz=105,slow=9.7,SNR=4.7
FINES FINESS Array B 37.39 326 P P 03 34 02.3 +1.3
comp=E,1.7nm,0.8s,baz=123,slow=10,SNR=5.6
ARCES ARCESS Array B 41.07 338 P P 03 34 32.1 +0.8
comp=E,0.7nm,0.5s,baz=113,slow=9.3,SNR=8.5
NB2 NORSAR Subarra 44.28 323 P P 03 34 58.4 +1.2
comp=Z,1.4nm,0.7s,baz=100,slow=7.9
NOA NORSAR Array B 44.28 323 P P 03 34 58.4 +1.2
comp=Z,1.2nm,0.6s,baz=96,slow=7.7,SNR=5.0
TORD Torodi Ar. Bea 65.58 269 P P 03 37 29.2 -1.1
comp=Z,1.3nm,0.6s,baz=49,slow=5.6,SNR=28
INK Inuvik 73.91 9 P P 03 38 22.8 +2.5
comp=Z,1.4nm,0.5s,baz=348,slow=5.1,SNR=12
BOSA Boshof 77.67 220 P P 03 38 42.6 +0.4
comp=Z,1.8nm,0.7s,baz=40,slow=7.9,SNR=4.0
YKA Yellowknife Ar 81.23 3 P P 03 39 02.7 +1.9
comp=Z,0.7nm,0.3s,baz=350,slow=5.4,SNR=18
WRA Warramunga Arr 82.12 122 P P 03 39 06.1 0.0
comp=Z,1.2nm,0.5s,baz=324,slow=5.0,SNR=14
ASAR Alice Springs 84.38 125 P P 03 39 17.9 +0.2
comp=Z,1.1nm,0.6s,baz=319,slow=5.2,SNR=12

IDC 24 03:36:13.5±3.7, 3.88N×94.43E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=143.1km s-min=29.9km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.14**	**17**	Pn	P	03 39 54.7	+0.5
	baz=214,slow=12,SNR=12						
MKAR	**Makanchi Array**	**44.03**	**348**	P	P	03 44 23.3	+0.4
	1.7nm,0.4s,baz=169,slow=8.4,SNR=46						
SONM	**Songino Array**	**44.98**	**11**	P	P	03 44 30.6	-0.1
	0.6nm,0.6s,baz=198,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**45.80**	**123**	P	P	03 44 37.3	-0.1
	0.3nm,0.4s,baz=300,slow=9.1,SNR=3.5						
KURK	**Kurchatov**	**48.53**	**347**	P	P	03 44 57.5	-0.8
	1.0nm,0.7s,baz=170,slow=6.8,SNR=11						
ZALV	**Zalesovo Beam**	**50.53**	**353**	P	P	03 45 12.7	-0.7
	0.8nm,0.5s,baz=182,slow=6.9,SNR=5.2						

IDC 24 03:38:31.4±6.2, 6.26S×148.91E, h64km±60km, mb3.3/3, mb1 3.6/5, mb1mx3.3/17, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=91.9km s-min=35.1km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.57**	**209**	P	Pn	03 39 25.2	+0.8
	6.3nm,0.3s,baz=23,slow=13,SNR=12						
PMG				S	Sn	03 40 05.9	+0.5
	11nm,0.3s,baz=140,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**19.63**	**225**	P	P	03 42 54.2	-0.7
	0.3nm,0.3s,baz=51,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.54**	**218**	P	P	03 43 26.2	0.0
	0.8nm,0.5s,baz=47,slow=9.9,SNR=12						
FITZ	**Fitzroy Crossi**	**25.57**	**241**	P	P	03 43 55.3	+0.6
	1.7nm,0.7s,baz=50,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**84.98**	**23**	P	P	03 50 59.2	-0.2
	0.3nm,0.7s,baz=251,slow=5.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**147.00**	**284**	PKPbc	PKPbc	03 58 07.0	-0.9
	0.5nm,1.1s,baz=88,slow=2.0,SNR=5.3						

IDC 24 03:39:10.3±2.4, 21.47S×70.07W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=68.0km s-min=62.0km az=65.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.47**	**20**	Pn	Pn	03 40 33.6	-0.1
	0.2nm,0.3s,baz=179,slow=5.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**78.36**	**71**	P	P	03 51 13.4	+0.2
	0.3nm,0.4s,baz=253,slow=5.7,SNR=4.9						
YKA	**Yellowknife Ar**	**90.80**	**341**	P	P	03 52 15.1	+0.1
	0.2nm,0.7s,baz=129,slow=4.9,SNR=4.3						
MKAR	**Makanchi Array**	**146.23**	**35**	PKPbc	PKPdf	03 58 51.5	-0.2
	0.4nm,0.7s,baz=333,slow=2.4,SNR=5.2						

WEL 24 03:44:53.5±0.1, 39.15S×176.90E, h29km±1km, ML3.5/27, 1D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NMHZ	**Naumai**	**0.09**	**306**	P*	Pb	03 44 58.5	-0.3
NMHZ				S*	Sb	03 45 02.6	+0.2
RAHZ	**Arahi**	**0.27**	**32**	P*	Pb	03 45 00.3	-0.3
RAHZ				S*	Sn	03 45 06.3	-0.6
BKZ	**Black Stump Fm**	**0.32**	**267**	⇓P*	Pb	03 45 00.3	-1.0
BKZ				S*	Sb	03 45 05.7	-0.8
MCHZ	**McNeill Hill**	**0.33**	**208**	P*	Pb	03 45 01.8	+0.3
CKHZ	**Cape Kidnapper**	**0.53**	**165**	P*	Pn	03 45 05.0	-0.1
KNZ	**Kokohu**	**0.62**	**78**	P*	Pb	03 45 05.8	0.0
KAHZ	**Kahuranaki**	**0.65**	**181**	P*	Pn	03 45 06.6	-0.2
HATZ	**Hinemaiaia**	**0.68**	**292**	PN	Pb	03 45 05.9	-1.0
ALRZ	**Allen Road**	**0.73**	**323**	PN	Pb	03 45 06.8	-0.9
BHHZ	**Black Hill Sta**	**0.73**	**242**	PN	Pb	03 45 06.8	-1.1
PRRZ	**Plateau Road**	**0.76**	**329**	PN	Pb	03 45 07.3	-1.0
MHGZ	**Mahia Peninsul**	**0.78**	**91**	PN	Pn	03 45 08.3	-0.3
PRGZ	**Paritu Road**	**0.80**	**74**	PN	Pn	03 45 07.9	-1.0
RITZ	**Rihia Road**	**0.83**	**282**	PN	Pn	03 45 08.8	-0.4
RRRZ	**Republican Roa**	**0.86**	**340**	PN	Pn	03 45 09.0	-0.7
PXZ	**Pawanui**	**0.88**	**182**	PN	Pn	03 45 09.0	-0.9
HRRZ	**Handcock Road**	**0.90**	**327**	PN	Pn	03 45 09.3	-0.9
URZ	**Urewera**	**0.90**	**11**	PN	Pn	03 45 09.4	-0.9
RATZ	**Rangitukua**	**0.92**	**287**	PN	Pn	03 45 09.8	-0.8
MOVZ	**Moawhango**	**0.93**	**253**	PN	Pn	03 45 10.0	-0.7
PNHZ	**Pukenui**	**0.94**	**215**	PN	Pn	03 45 10.1	-0.7
MWZ	**Matawai**	**0.95**	**31**	PN	Pn	03 45 10.8	-0.1
KATZ	**Kakaramea**	**0.95**	**280**	PN	Pn	03 45 10.4	-0.8
OTVZ	**Oturere**	**0.96**	**269**	PN	Pn	03 45 10.8	-0.5
TARZ	**Mount Tarawera**	**0.96**	**341**	PN	Pn	03 45 10.4	-0.9
TUVZ	**Tukino**	**0.97**	**263**	PN	Pn	03 45 11.2	-0.2
KRVZ	**Karewarewa**	**0.98**	**273**	PN	Pn	03 45 10.8	-0.7
WPHZ	**Waipukurau**	**0.98**	**201**	PN	Pn	03 45 10.6	-0.7
NGZ	**Ngauruhoe**	**1.01**	**268**	PN	Pn	03 45 11.4	-0.5
WATZ	**Wairara**	**1.01**	**295**	PN	Pn	03 45 10.6	-1.2
WTVZ	**West Tongariro**	**1.02**	**271**	PN	Pn	03 45 11.5	-0.5
WNVZ	**Wahianoa**	**1.02**	**260**	PN	Pn	03 45 11.9	-0.3
DRZ	**Dome Shelter**	**1.04**	**263**	PN	Pn	03 45 11.9	-0.7
EDRZ	**Edgecumbe**	**1.05**	**353**	PN	Pn	03 45 11.5	-0.9
FWVZ	**Far West T-bar**	**1.05**	**264**	PN	Pn	03 45 12.0	-0.6
WPVZ	**Whakapapa**	**1.05**	**267**	PN	Pn	03 45 12.1	-0.4
TRVZ	**Turoa**	**1.06**	**261**	PN	Pn	03 45 12.3	-0.5
MTVZ	**Mangateitei**	**1.13**	**258**	PN	Pn	03 45 13.2	-0.4
PRHZ	**Porangahau**	**1.14**	**190**	PN	Pn	03 45 12.2	-1.3
TWVZ	**Taurewa**	**1.14**	**273**	PN	Pn	03 45 13.0	-0.6
DVHZ	**Dannevirke**	**1.28**	**206**	PN	Pn	03 45 14.1	-1.4
WAZ	**Wanganui**	**1.60**	**247**	PN	Pn	03 45 20.4	+0.5
HIZ	**Hauiti**	**1.72**	**291**	PN	Pn	03 45 20.4	-1.1
TIWZ	**Tintock**	**1.80**	**205**	PN	Pn	03 45 20.9	-1.8
MRZ	**Mangatainoka R**	**1.82**	**213**	PN	Pn	03 45 20.9	-2.0
OGWZ	**Otaki Gorge**	**2.13**	**218**	PN	Pn	03 45 24.9	-2.2
QRZ	**Quartz Range**	**3.75**	**242**	PN	Pn	03 45 51.8	+2.4
THZ	**Tophouse**	**4.01**	**228**	PN	Pn	03 45 50.0	-3.1

MEX 24 03:55:00.5±0.7, 16.47N×96.11W, h77km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.70**	**180**	*i* P	Pn	03 55 14.4	-1.6
HUIG				*e*S	Sn	03 55 25.9	-1.4
VHO	**Vista Hermosa**	**0.84**	**315**	*i* P	Pn	03 55 16.9	-0.8
VHO				*e*S	Sn	03 55 28.6	-1.9
CMIG	**Matias Romero**	**1.33**	**62**	*i* P	Pn	03 55 23.0	-0.5
CMIG				*e*S	Sn	03 55 38.4	-2.4
PNIG	**Pinotepa**	**1.93**	**268**	*i* P	Pn	03 55 30.2	-1.3
PNIG				*e*S	Sn	03 55 53.0	-2.0
PCIG		**2.89**	**105**	*i* P	Pn	03 55 42.2	-2.1
PCIG				*i* S	Sn	03 56 17.5	-0.5

MEX 24 04:16:37.5±0.6, 16.17N×97.64W, h7km±6km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**295**	*i* P	Pg	04 16 47.0	-0.6
PNIG				*e*S	Sg	04 16 55.0	+0.5
VHO	**Vista Hermosa**	**1.25**	**44**	*i* P	Pn	04 16 58.2	-3.4
VHO				*e*S	Sb	04 17 14.0	-4.2
OXX	**Oaxaca**	**1.26**	**44**	*i* P	Pn	04 16 58.4	-3.5
OXX				*e*S	Sb	04 17 12.8	-5.8
HUIG	**Huatulco**	**1.52**	**105**	*i* P	Pn	04 17 01.6	-3.6
HUIG				*e*S	Sn	04 17 20.8	-4.5
ACX	**Acapulco**	**2.24**	**288**	*i* P	Pn	04 17 12.4	-2.7
ACX				*i* S	Sn	04 17 39.9	-3.1
CMIG	**Matias Romero**	**2.79**	**70**	*i* P	Pn	04 17 18.7	-3.9
CMIG				*e*S	Sn	04 17 52.6	-4.1

IDC 24 04:29:19.4±2.7, 17.55S×178.61W, h538km±32km, mb3.4/9, mb1 3.8/9, mb1mx3.6/17, mbtmp3.4/9, Error ellipse: s-maj=48.2km s-min=10.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.63**	**241**	P	P	04 35 57.1	+0.2
	2.0nm,0.5s,baz=79,slow=9.7,SNR=6.8						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	04 36 43.1	-0.4
	2.0nm,0.5s,baz=95,slow=7.0,SNR=44						
WRA				S	S	04 42 41.4	+1.4
	0.3nm,0.7s,baz=93,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**44.70**	**254**	P	P	04 36 44.6	-0.4
	17nm,0.6s,baz=89,slow=8.2,SNR=228						
ASAR				S	S	04 42 41.7	-1.0
	0.8nm,0.8s,baz=87,slow=17,SNR=6.0						
MJAR	**Matsushiro Arr**	**67.50**	**323**	P	P	04 39 22.6	+0.4
	2.0nm,0.6s,baz=165,slow=6.2,SNR=4.7						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	P	04 40 29.8	+0.2
	2.0nm,0.7s,baz=225,slow=8.2,SNR=18						
ILAR	**Eielson Array**	**85.58**	**13**	P	P	04 40 59.4	-1.1
	0.7nm,0.5s,baz=226,slow=5.1,SNR=14						
TXAR	**Lajitas Array**	**85.97**	**58**	P	P	04 41 03.9	+0.6
	1.9nm,0.7s,baz=215,slow=6.0,SNR=26						
PDAR	**Pinedale Array**	**87.22**	**44**	P	P	04 41 08.3	-0.7
	1.0nm,0.6s,baz=201,slow=3.4,SNR=10.0						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	P	04 41 39.3	-0.7
	0.5nm,0.7s,baz=246,slow=4.6,SNR=7.7						
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	PKPbc	04 48 02.5	0.0
	0.7nm,0.4s,baz=22,slow=3.2,SNR=5.9						

*AZER **24** 04:30:17.9, 37.82N×48.33E, h21km*
*TEH **24** 04:30:19.5, 38.15N×48.01E, h3km, ML3.5*
*CSEM **24** 04:30:20.1±0.2, 38.00N×47.93E, h2km, ML3.5, Error ellipse: s-maj=6.3km s-min=5.4km az=15.0*
*NSSP **24** 04:30:33.7, 38.78N×47.75E, Ms2.8*

ISC 24 04:30:18.8±1.4, 38.14N±0.04×48.04E±0.03, h8km±10km, n55, σ1$67/82, 16C-11D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.81**	**283**	⇓*e*Pg	**Pg**	**04 30 33.5**	**-0.9**
IHRS				*e*Sg	**Sg**	**04 30 44.5**	**-0.4**
IHRS				*e*		04 30 46.1	
	comp=Z,39μm,0.1s						
IHRS	**Heris**	**0.81**	**283**	⇓*e*Pg	**Pg**	**04 30 33.5**	**-0.9**
IHRS				*e*Sg	**Sg**	**04 30 44.5**	**-0.4**
LKRN	**Lenkeran, Azer**	**0.81**	**45**	⇑P	**Pn**	**04 30 36.7**	**+0.2**
	SNR=35						
LKRN				⇑S	**Sn**	**04 30 49.7**	**+0.9**
LKRN	**Lenkeran, Azer**	**0.81**	**45**	P	**Pn**	**04 30 36.7**	**+0.2**
	SNR=35						
LKRN				S	**Sn**	**04 30 49.7**	**+0.9**
GLBA	**Clilabad**	**1.13**	**14**	⇓P	**Pn**	**04 30 43.3**	**+2.3**
	SNR=11						
GLBA				⇑S	**Sn**	**04 31 01.8**	**+5.1**
GLBA	**Clilabad**	**1.13**	**14**	P	**Pn**	**04 30 43.3**	**+2.3**
	SNR=11						
GLBA				S	**Sn**	**04 31 01.8**	**+5.1**
IFTB	**Fath-abad**	**1.31**	**265**	*e*Pg	**Pn**	**04 30 42.3**	**-1.3**
IFTB				*e*Sg	**Sb**	**04 31 00.4**	**-0.4**
IFTB	**Fath-abad**	**1.31**	**265**	*e*Pg	**Pn**	**04 30 42.3**	**-1.3**
IFTB				*e*Sg	**Sb**	**04 31 00.4**	**-0.4**
ITBZ	**Tabriz**	**1.50**	**274**	*e*Pn	**Pn**	**04 30 45.7**	**-0.4**
ITBZ				*e*		04 30 47.7	
	comp=Z,10μm,0.1s						
ITBZ				*e*Sg	**Sg**	**04 31 06.4**	**-0.5**
ITBZ	**Tabriz**	**1.50**	**274**	*e*Pn	**Pn**	**04 30 45.7**	**-0.4**
ITBZ				*e*Sg	**Sg**	**04 31 06.4**	**-0.5**
IAZR	**Azarshahr**	**1.69**	**255**	⇓*e*Pn	**Pn**	**04 30 48.6**	**-0.4**
IAZR				*e*		04 30 52.3	
	comp=Z,11μm,0.1s						
IAZR				*e*Sg	**Sb**	**04 31 11.2**	**-0.8**
IAZR	**Azarshahr**	**1.69**	**255**	⇓*e*Pn	**Pn**	**04 30 48.6**	**-0.4**
IAZR				*e*Sg	**Sb**	**04 31 11.2**	**-0.8**
IMRD	**Marand**	**1.92**	**288**	*e*Pn	**Pn**	**04 30 52.9**	**+0.9**
IMRD				*e*		04 30 56.8	
	comp=Z,10μm,0.2s						
IMRD				*e*Sg	**Sb**	**04 31 19.3**	**+0.8**
IMRD	**Marand**	**1.92**	**288**	*e*Pn	**Pn**	**04 30 52.9**	**+0.9**
IMRD				*e*Sg	**Sb**	**04 31 19.3**	**+0.8**
BRDA	**Brd**	**2.22**	**343**	⇑P	**Pg**	**04 31 01.7**	**+0.3**
	SNR=10						
BRDA				⇓S	**Sg**	**04 31 34.5**	**+4.3**
BRDA	**Brd**	**2.22**	**343**	P	**Pg**	**04 31 01.7**	**+0.3**
	SNR=10						
BRDA				S	**Sg**	**04 31 34.5**	**+4.3**
NAX	**Nakhchivan**	**2.24**	**298**	⇑P	**Pb**	**04 31 00.5**	**+0.8**
	SNR=23						
NAX				⇑S	**Sg**	**04 31 30.6**	**-0.3**
NAX	**Nakhchivan**	**2.24**	**298**	P	**Pb**	**04 31 00.5**	**+0.8**
	SNR=23						
NAX				S	**Sg**	**04 31 30.6**	**-0.3**
IML	**Ismayilli**	**2.65**	**2**	⇑P	**Pb**	**04 31 06.4**	**-0.1**
	SNR=5.7						
IML				⇓S	**Sg**	**04 31 42.6**	**-1.3**
IML	**Ismayilli**	**2.65**	**2**	P	**Pb**	**04 31 06.4**	**-0.1**
	SNR=5.7						
IML				S	**Sg**	**04 31 42.6**	**-1.3**
PQL	**Pirkuli**	**2.68**	**9**	⇓P	**Pb**	**04 31 07.4**	**+0.3**
	SNR=3.7						
PQL	**Pirkuli**	**2.68**	**9**	P	**Pb**	**04 31 07.4**	**+0.3**
	SNR=3.7						
VADZ	**Vardenis**	**2.70**	**319**	*e*P	Pg	04 31 14.0	+3.4
VADZ				⇑S	**Sg**	**04 31 46.0**	**+0.4**
VADZ	**Vardenis**	**2.70**	**319**	P	Pg	04 31 14.0	+3.4
VADZ				S	**Sg**	**04 31 46.0**	**+0.4**
GANJ	**Ganja**	**2.83**	**332**	⇑P	**Pb**	**04 31 08.8**	**-0.9**
	SNR=5.9						
GANJ				⇑S	**Sg**	**04 31 48.0**	**-1.8**
GANJ	**Ganja**	**2.83**	**332**	P	**Pb**	**04 31 08.8**	**-0.9**
	SNR=5.9						
GANJ				S	**Sg**	**04 31 48.0**	**-1.8**
SIZA	**Siyzn**	**3.00**	**12**	⇑P	**Pb**	**04 31 10.9**	**-1.7**
	SNR=6.2						
SIZA	**Siyzn**	**3.00**	**12**	P	**Pb**	**04 31 10.9**	**-1.7**
	SNR=6.2						
SEKA	**Sheki**	**3.13**	**348**	⇑P	**Pb**	**04 31 13.7**	**-1.1**
	SNR=4.4						
SEKA	**Sheki**	**3.13**	**348**	P	**Pb**	**04 31 13.7**	**-1.1**
	SNR=4.4						
IMHD	**Mahdasht**	**3.23**	**139**	*e*Pn	**Pn**	**04 31 11.3**	**+1.4**
IMHD				*e*		04 32 01.6	
	comp=Z,686nm,0.1s						
IMHD	**Mahdasht**	**3.23**	**139**	*e*Pn	**Pn**	**04 31 11.3**	**+1.4**
GNI	**Garni**	**3.26**	**309**	⇑*e*P	**Pb**	**04 31 19.1**	**+2.2**
GNI				⇑S	**Sg**	**04 32 03.2**	**-0.2**
GNI	**Garni**	**3.26**	**309**	⇑P	**Pb**	**04 31 19.1**	**+2.2**
GNI				S	**Sg**	**04 32 03.2**	**-0.2**
ILIN	**Lien**	**3.33**	**195**	*e*Pn	**Pn**	**04 31 12.5**	**+1.0**
ILIN				*e*		04 32 04.8	
	comp=Z,477nm,0.2s						
ILIN	**Lien**	**3.33**	**195**	*e*Pn	**Pn**	**04 31 12.5**	**+1.0**
IDHR	**Dehrash**	**3.69**	**202**	*e*Pn	**Pn**	**04 31 16.3**	**0.0**
IDHR				*e*		04 32 18.2	
	comp=Z,370nm,0.3s						
IDHR	**Dehrash**	**3.69**	**202**	*e*Pn	**Pn**	**04 31 16.3**	**0.0**
DGRG	**David-gareji**	**3.89**	**329**	P	**Pb**	**04 31 28.4**	**+0.6**
DGRG				S	**Sg**	**04 32 22.8**	**-1.0**
IPRN	**Peran**	**3.92**	**118**	*e*Pn	**Pn**	**04 31 20.8**	**+1.4**
IPRN				*e*		04 32 11.2	
	comp=Z,2μm,0.1s						
IKOM	**Komasi**	**3.98**	**186**	*e*Pn	**Pn**	**04 31 21.8**	**+1.5**
IKOM				*e*		04 31 40.9	
	comp=Z,249nm,0.3s						
IKOM	**Komasi**	**3.98**	**186**	*e*Pn	**Pn**	**04 31 21.8**	**+1.5**
IFIR	**Firoozkooh**	**4.53**	**122**	*e*Pn	**Pn**	**04 31 29.0**	**+1.1**
IFIR				*e*		04 31 40.4	
	comp=Z,168nm,0.1s						
IFIR	**Firoozkooh**	**4.53**	**122**	*e*Pn	**Pn**	**04 31 29.0**	**+1.1**
AKH	**Akhalkalaki**	**4.79**	**314**	P	**Pb**	**04 31 45.0**	**+1.9**
ISHM	**Shahmirzad**	**4.81**	**117**	*e*Pn	**Pn**	**04 31 33.7**	**+1.9**
ISHM				*e*		04 32 33.9	
	comp=Z,322nm,0.2s						
ISHM	**Shahmirzad**	**4.81**	**117**	*e*Pn	**Pn**	**04 31 33.7**	**+1.9**
GOR	**Gori**	**4.88**	**323**	P	**Pb**	**04 31 46.9**	**+2.3**
IGLO	**Ghologhah**	**4.89**	**108**	*e*Pn	**Pn**	**04 31 33.5**	**+0.6**
IGLO				*e*		04 32 41.8	
	comp=Z,440nm,0.2s						
IANJ	**Anjilo**	**5.42**	**118**	*e*Pn	**Pn**	**04 31 41.2**	**+1.1**
IANJ				*e*		04 33 20.3	
	comp=Z,70nm,0.2s						
IANJ	**Anjilo**	**5.42**	**118**	*e*Pn	**Pn**	**04 31 41.2**	**+1.1**
AB31	**Akbulak array**	**14.03**	**34**	⇑Pn	**Pn**	**04 33 37.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=4.4						
AB31				⇓Sn	**Sn**	**04 36 09.4**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=218,slow=23,SNR=4.8						
AB31	**Akbulak array**	**14.03**	**34**	Pn	**Pn**	**04 33 37.5**	**-0.3**
	comp=Z,0.1nm,0.3s,SNR=4.4						
AB31				Sn	**Sn**	**04 36 09.4**	**-4.3**
	comp=Z,0.2nm,0.3s,SNR=4.8						
AKTO	**Aktyubinsk**	**14.20**	**27**	⇓Pn	**Pn**	**04 33 39.0**	**-1.1**
	comp=Z,0.2nm,0.8s						
AKTO				⇓Sn	Sn	04 36 10.1	-7.6
	comp=Z,0.2nm,0.6s						
AKTO	**Aktyubinsk**	**14.20**	**27**	Pn	**Pn**	**04 33 39.0**	**-1.1**
	comp=Z,0.2nm,0.8s						
AKTO				Sn	Sn	04 36 10.1	-7.6
	comp=Z,0.2nm,0.6s						

IDC 24 05:00:10.9±3.3, 6.06S×150.58E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=128.4km s-min=41.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**225**	Pn	Pn	05 01 24.5	+0.8
	1.9nm,0.3s,baz=29,slow=6.0,SNR=3.5						
PMG				Sn	Sn	05 02 15.8	-3.7
	3.7nm,0.3s,baz=135,slow=17,SNR=7.6						
WRA	**Warramunga Arr**	**20.96**	**227**	P	P	05 04 54.5	-1.2
	1.0nm,0.5s,baz=53,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.74**	**221**	P	P	05 05 25.6	+0.5
	0.8nm,0.8s,baz=59,slow=9.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc	PKPbc	05 20 00.4	-0.5
	0.5nm,0.5s,baz=82,slow=2.3,SNR=9.2						

*THE **24** 05:02:56.4, 38.17N×22.62E, h29km±2km, ML2.0/2, Error ellipse: s-maj=2.6km s-min=1.1km az=293.0*
*ISCJB **24** 05:02:57.9±0.6, 38.18N±0.04×22.55E±0.05, h22km±7km, Error ellipse: s-maj=7.5km s-min=6.4km az=150.2*
*CSEM **24** 05:02:57.7±0.4, 38.16N×22.54E, h18km±3km, MD2.9, Error ellipse: s-maj=10.1km s-min=7.1km az=171.0*
*ATH **24** 05:02:58.0, 38.11N×22.55E, h26km±4km, MD2.9/5*

ISC 24 05:02:57.5±1.1, 38.18N±0.04×22.58E±0.03, h18km±4km, n17, σ1$13/28, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.23**	**350**	P	**Pg**	**05 03 03.4**	**+0.4**
DSF				S	**Sg**	**05 03 07.8**	**+1.1**
DSF	**Desfina**	**0.23**	**350**	P	**Pg**	**05 03 03.4**	**+0.4**
DSF				S	**Sg**	**05 03 07.8**	**+1.1**
GUR	**Goura**	**0.31**	**217**	P	**Pb**	**05 03 04.4**	**-0.1**
GUR				S	**Sb**	**05 03 09.3**	**+0.1**
GUR	**Goura**	**0.31**	**217**	*e*PB	**Pb**	**05 03 04.4**	**-0.1**
GUR				*e*SB	**Sb**	**05 03 09.1**	**-0.1**
GUR	**Goura**	**0.31**	**217**	P	**Pb**	**05 03 04.4**	**-0.1**
GUR				*e*Sb	**Sb**	**05 03 09.1**	**-0.1**
LTK	**Loutraki**	**0.35**	**117**	*e*PB	**Pb**	**05 03 06.2**	**+1.0

PBX				⇓*e*			05 19 36.8		
	comp=N,2µm,0.5s								
MONP	**Monument Peak**	**0.98**	**323**	⇓P		**Pg**	**05 19 24.1**	**-0.7**
	baz=1.0,SNR=829								
MONP				⇓S		**Sg**	**05 19 36.7**	**-0.9**
	baz=1.0								
BAR	**Barrett**	**0.99**	**306**	*e*Pn		**Pg**	**05 19 23.8**	**-1.2**
BAR				*e*Sn		**Sg**	**05 19 36.3**	**-1.4**
SPX	**San Pedro Mart**	**1.08**	**168**	⇓*e*P		**Pg**	**05 19 25.8**	**-0.9**
SPX				⇑*e*S		**Sg**	**05 19 40.4**	**-0.3**
SPX				⇑*e*			05 19 42.6		
	comp=N,1µm,0.9s								
SPX				⇓*e*			05 19 42.7		
	comp=E,1µm,0.5s								
YMD	**Yuma Desert**	**1.09**	**65**	⇑*i*P		**Pg**	**05 19 25.2**	**-1.7**
GLA	**Glamis**	**1.21**	**38**	*e*Pn		Pg	05 19 26.2	-3.0
GLA				*e*Sn		**Sg**	**05 19 41.5**	**-3.4**
GLA	**Glamis**	**1.21**	**38**	P		Pg	05 19 26.4	-2.8
	baz=1.2,SNR=97								
GLA				⇓S		**Sg**	**05 19 41.6**	**-3.3**
	baz=1.2								
109C	**Camp Elliot, M**	**1.41**	**304**	Pn		**Pn**	**05 19 30.9**	**-0.8**
	baz=1.4,SNR=201								
109C				⇓Sn		**Sb**	**05 19 48.8**	**-1.5**
	baz=1.4								
BC3	**Big Chuckawall**	**1.56**	**8**	Pn		Pn	05 19 31.9	-2.1
	baz=1.6,SNR=22								
113A	**Mohawk Valley,**	**1.78**	**68**	Pn		Pn	05 19 34.7	-2.1
	baz=1.8,SNR=77								
113A				⇓Sn		**Sn**	**05 19 56.0**	**-3.6**
	baz=1.8								
BELC	**Belle Mtn. Jos**	**1.90**	**353**	⇑Pn		**Pn**	**05 19 37.0**	**-1.7**
	baz=1.9,SNR=22								
Y12C	**Blythe**	**1.93**	**31**	⇑Pn		Pn	05 19 36.5	-2.4
	baz=1.9,SNR=9.6								
MURC	**Murrieta**	**1.94**	**321**	⇑Pb		**Pn**	**05 19 40.1**	**+1.0**
	baz=1.9								
MURC				⇓Sb		**Sn**	**05 20 05.2**	**+1.5**
	baz=1.9								
Z13A	**Yuma Proving G**	**2.06**	**57**	Pn		**Pn**	**05 19 38.9**	**-1.8**
	baz=2.0,SNR=61								
214A	**Organ Pipe Nat**	**2.48**	**93**	⇓Pn		**Pn**	**05 19 44.7**	**-1.7**
	baz=2.5,SNR=19								
114A	**Black Gap (USA**	**2.49**	**74**	⇓Pn		Pn	05 19 44.6	-2.0
	baz=2.5								
CIS	**Catalina Islan**	**2.60**	**301**	Pn		**Pn**	**05 19 47.3**	**-0.9**
	baz=2.6,SNR=56								
Z14A	**Wintersburg**	**2.66**	**61**	⇑Pn		**Pn**	**05 19 47.2**	**-1.7**
	baz=2.6								
MWC	**Mount Wilson**	**2.88**	**318**	*e*Pn		Pb	05 19 54.8	-2.8
MWC				*e*Sg		**Sb**	**05 20 33.4**	**+0.4**
PASC	**Pasadena Art C**	**2.92**	**316**	*e*Pn		Pb	05 19 56.2	-2.0
PASC				*e*Sg		**Sb**	**05 20 34.2**	**+0.3**
LDFC	**Landfair**	**3.01**	**10**	*e*Pn		**Pn**	**05 19 53.6**	**-0.2**
GSC	**Goldstone**	**3.31**	**344**	*e*Pn		**Pn**	**05 19 57.2**	**-0.8**
GSC				*e*Pg		**Pb**	**05 20 07.6**	**+2.7**
TUC	**Tucson**	**4.19**	**86**	*e*Pn		**Pn**	**05 20 12.3**	**+2.3**
TUC				*e*Pg		**Pg**	**05 20 28.0**	**+1.8**
TUC				*e*Sg		**Sg**	**05 21 22.6**	**+2.1**
ISA	**Isabella**	**4.22**	**328**	*e*Pn		**Pn**	**05 20 12.1**	**+1.6**
WUAZ	**Wupatki**	**4.97**	**46**	*e*Pn		**Pn**	**05 20 21.4**	**+0.6**
CCUT	**Cedar City**	**5.77**	**19**	*e*Pn		**Pn**	**05 20 32.7**	**+0.8**
	comp=E,2.2nm,0.5s								
ARUT	**Antelope Range**	**5.97**	**18**	*e*Pn		**Pn**	**05 20 34.9**	**+0.2**
	comp=E,3.3nm,0.5s								
MSU	**Marysvale**	**7.02**	**23**	*e*Pn		**Pn**	**05 20 52.2**	**+3.1**
	comp=E,3.6nm,0.7s								
MVCO	**Mesa Verde**	**7.83**	**47**	*e*Pn		**Pn**	**05 21 03.1**	**+2.9**
	comp=E,2.6nm,0.4s								
PV04	**Paradox Valley**	**8.39**	**40**	*e*Pn		**Pn**	**05 21 10.7**	**+2.9**

IDC ***24*** *05:20:00.3±1.7,56.°92S×25.°02W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/13,mbtmp4.1/3,MS3.7/2,Ms1 3.6/2, ms1mx3.3/15,Error ellipse: s-maj=69.6km s-min=35.5km az=9.0*

ISCJB ***24*** *05:20:02.0±0.8,56.°9S±0.°1×24.°7W±0.°4,h22km,mb4.2/5, MS3.6/2,Error ellipse: s-maj=38.7km s-min=12.0km az=154.3*

NEIC ***24*** *05:20:05.7±0.7,56.°92S×24.°80W,h35km,mb4.5/3,Error ellipse: s-maj=35.5km s-min=14.6km az=65.0*

ISC 24 05:20:03.8±0.8,56.°9S±0.°1×24.°9W±0.°3,h22km,n20, σ1§22/20,mb4.4/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**15.79**	**162**	*e*P	**Pn**	**05 23 44.3**	**-0.2**
VNA2	**Neumayer--Watz**	**15.95**	**159**	*e*P	**Pn**	**05 23 46.2**	**-0.3**
	baz=329,slow=16						
SNAA	**Sanae**	**17.47**	**157**	*e*P	**Pn**	**05 24 03.6**	**-2.1**
SNAA	**Sanae**	**17.47**	**157**	*e*Pn	**Pn**	**05 24 03.5**	**-2.1**
	2.2nm,0.7s						
QSPA	**South Pole Qui**	**33.37**	**180**	*e*P	**P**	**05 26 41.6**	**+1.5**
	5.4nm,1.0s						
PLCA	**Paso Flores**	**33.39**	**279**	LR	LR	05 38 08.6	
	comp=Z,82nm,21.0s,baz=133,slow=33						
BOSA	**Boshof**	**44.97**	**73**	LR	LR	05 43 49.6	
	comp=Z,130nm,20.6s,baz=177,slow=32						
SIV	**San Ignacio**	**49.08**	**311**	P	**P**	**05 28 49.5**	**+0.3**
	0.5nm,0.4s,baz=172,slow=11,SNR=5.1						
SIV	**San Ignacio**	**49.08**	**311**	P	**P**	**05 28 49.5**	**+0.3**
LPAZ	**La Paz**	**51.89**	**303**	P	**P**	**05 29 11.4**	**+0.2**
	6.5nm,0.6s,baz=134,slow=3.5,SNR=34						
LPAZ	**La Paz**	**51.89**	**303**	*e*P	**P**	**05 29 11.2**	**-0.1**
	6.1nm,0.6s						
CASY	**Casey**	**52.69**	**159**	P	**P**	**05 29 16.1**	**+0.2**
	3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.19**	**27**	P	**P**	**05 31 33.1**	**+0.5**
	0.6nm,0.5s,baz=203,slow=6.7,SNR=14						
TORD	**Torodi Ar. Bea**	**73.19**	**27**	P		**05 31 33.1**	**+0.5**
YKA	**Yellowknife Ar**	**137.64**	**316**	PKP	**PKPdf**	**05 39 25.1**	**+0.7**
	0.2nm,0.4s,baz=127,slow=2.6,SNR=5.2						
YKA	**Yellowknife Ar**	**137.64**	**316**	PKP	**PKPdf**	**05 39 25.1**	**+0.7**
SONM	**Songino Array**	**149.51**	**86**	PKPbc	**PKPbc**	**05 39 50.8**	**+0.5**
	1.3nm,0.4s,baz=221,slow=3.4,SNR=10						
SONM	**Songino Array**	**149.51**	**86**	PKPbc	**PKPbc**	**05 39 50.8**	**+0.5**
ILAR	**Eielson Array**	**151.62**	**310**	PKPbc	**PKPbc**	**05 39 54.7**	**0.0**
	0.6nm,0.6s,baz=108,slow=2.9,SNR=8.0						
ILAR				PKPab	**PKPab**	**05 40 01.1**	**-2.4**
	2.1nm,0.9s,baz=138,slow=2.5,SNR=9.6						
ILAR	**Eielson Array**	**151.62**	**310**	PKPbc	**PKPbc**	**05 39 54.7**	**0.0**
ILAR				PKPab	**PKPab**	**05 40 01.1**	**-2.4**

IDC 24 05:34:25.1±4.9,5.°70S×147.°83E,h225km±46km,mb3.1/2, mb1 3.1/4,mb1mx2.9/17,mbtmp3.0/4,Error ellipse: s-maj=93.0km s-min=45.4km az=126.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.74**	**190**	P	Pn	05 35 26.1	+1.2
	2.0nm,0.3s,baz=35,slow=7.7,SNR=9.0						
PMG				S	S	05 36 11.7	-0.1
	3.0nm,0.3s,baz=184,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**19.30**	**222**	P	P	05 38 33.9	+0.4
	0.2nm,0.3s,baz=41,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**22.34**	**215**	P	P	05 39 04.8	+0.3
	0.5nm,0.6s,baz=51,slow=8.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**24.93**	**238**	P	P	05 39 27.6	-0.3
	1.4nm,0.4s,baz=58,slow=8.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**145.81**	**285**	PKPbc	PKPdf	05 53 37.6	-0.3
	0.2nm,0.3s,baz=66,slow=3.7,SNR=4.6						

ISCJB ***24*** *05:34:56.8±0.5,22.°55N±0.°05×142.°9E±0.°1,h200km, mb3.7/14,Error ellipse: s-maj=17.3km s-min=6.2km az=175.6*

NEIC ***24*** *05:34:56.6±1.1,22.°49N×142.°85E,h180km±10km,mb4.0/4, Error ellipse: s-maj=16.5km s-min=6.5km az=94.0*

IDC ***24*** *05:34:56.0±1.7,22.°52N×142.°84E,h172km±16km, mb3.6/12,mb1 3.8/14,mb1mx3.6/25,mbtmp3.6/14,Error ellipse: s-maj=22.4km s-min=9.8km az=94.0*

JMA ***24*** *05:34:58.9±0.3,22.°71N×142.°76E,h186km,M4.7*

ISC 24 05:34:58.6±0.5,22.°62N±0.°06×142.°8E±0.°1,h200km,n44, σ1§16/56,mb3.9/14,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.03**	**352**	P	**Pn**	**05 36 00.1**	**-0.6**
JHHJ				*e*S	**Sn**	**05 36 47.1**	**-2.6**
CBIJ	**Chichi jima**	**4.49**	**353**	P	**Pn**	**05 36 05.6**	**-0.9**
	72nm,0.3s,baz=181,slow=2.7,SNR=32						
CBIJ				S	**Sn**	**05 36 58.3**	**-1.8**
	81nm,0.3s,baz=286,slow=23,SNR=14						
CBIJ	**Chichi jima**	**4.49**	**353**	P	**Pn**	**05 36 05.6**	**-0.9**
CBIJ				S	**Sn**	**05 36 58.3**	**-1.8**
CBIJ	**Chichi jima**	**4.49**	**353**	P	**Pn**	**05 36 05.5**	**-0.9**
CBIJ				*e*S	**Sn**	**05 36 58.2**	**-1.8**
JMZ	**Minamidaito 2**	**11.03**	**289**	P	**Pn**	**05 37 31.3**	**+0.2**
JKN2	**Miekihoku**	**12.91**	**335**	P	**P**	**05 37 57.0**	**-1.3**
JOD2	**Odawara 2**	**13.00**	**346**	P	**Pn**	**05 37 56.4**	**+0.3**
JAG	**Ashikaga**	**14.06**	**349**	P	**Pn**	**05 38 07.7**	**-1.5**
MJAR	**Matsushiro Arr**	**14.43**	**345**	P	**P**	**05 38 14.4**	**-0.8**
	1.1nm,0.3s,baz=164,slow=10,SNR=8.6						
MJAR				S	**S**	**05 40 54.4**	**+0.2**
	0.6nm,0.3s,baz=248,slow=22,SNR=4.5						
MJAR	**Matsushiro Arr**	**14.43**	**345**	P	**P**	**05 38 14.4**	**-0.8**
MJAR				S	**S**	**05 40 54.4**	**+0.2**
MAT	**Matsushiro**	**14.43**	**345**	P	**P**	**05 38 17.1**	**+1.9**
KSRS	**Korea Array**	**19.56**	**322**	P	**Pn**	**05 39 16.7**	**+1.7**
	0.6nm,0.3s,baz=148,slow=9.1,SNR=11						
KSAR	**Wonju Array Be**	**19.57**	**322**	P	**Pn**	**05 39 16.7**	**+1.5**
CTA	**Charters Tower**	**42.59**	**175**	P	**P**	**05 42 34.3**	**-0.9**
	1.5nm,0.3s,baz=359,slow=10,SNR=4.0						
CTA	**Charters Tower**	**42.59**	**175**	P	**P**	**05 42 34.3**	**-0.9**
WRAB	**Tennant Creek**	**43.09**	**192**	*e*P	**P**	**05 42 37.7**	**-1.5**
	5.7nm,0.4s						
WB2	**Warramunga Arr**	**43.10**	**192**	*e*P	**P**	**05 42 38.1**	**-1.2**
WRA	**Warramunga Arr**	**43.10**	**192**	P	**P**	**05 42 38.2**	**-1.1**
	2.6nm,0.3s,baz=17,slow=9.4,SNR=52						
WRA	**Warramunga Arr**	**43.10**	**192**	P	**P**	**05 42 38.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**43.81**	**204**	P	**P**	**05 42 44.3**	**-0.6**
	2.2nm,0.3s,baz=26,slow=6.8,SNR=18						
FITZ	**Fitzroy Crossi**	**43.81**	**204**	*e*P	**P**	**05 42 44.3**	**-0.6**
	2.6nm,0.4s						
ASAR	**Alice Springs**	**46.82**	**191**	P	**P**	**05 43 07.2**	**-1.3**
	0.6nm,0.3s,baz=16,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**46.82**	**191**	P	**P**	**05 43 07.2**	**-1.3**
ZALV	**Zalesovo Beam**	**53.26**	**321**	P	**P**	**05 43 57.6**	**+1.1**
	0.6nm,0.5s,baz=99,slow=4.9,SNR=5.3						
ZALV				PcP	**PcP**	**05 45 02.7**	**+1.1**
	0.4nm,0.5s,baz=77,slow=3.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**53.26**	**321**	P	**P**	**05 43 57.6**	**+1.1**
ZALV				PcP	**PcP**	**05 45 02.7**	**+1.1**
MKAR	**Makanchi Array**	**53.81**	**312**	P	**P**	**05 44 02.4**	**+1.6**
	0.2nm,0.4s,baz=86,slow=9.4,SNR=7.1						
MKAR				PcP	**PcP**	**05 45 04.8**	**+0.9**
	0.4nm,0.5s,baz=76,slow=6.3,SNR=5.3						
MKAR	**Makanchi Array**	**53.81**	**312**	P	**P**	**05 44 02.4**	**+1.6**
MKAR				PcP	**PcP**	**05 45 04.8**	**+0.9**
STKA	**Stephens Creek**	**54.20**	**181**	P	**P**	**05 44 03.1**	**-0.5**
	3.2nm,0.3s,baz=7.6,slow=6.4,SNR=11						
STKA	**Stephens Creek**	**54.20**	**181**	*e*P	**P**	**05 44 02.8**	**-0.8**
	0.8nm,0.6s						
ILAR	**Eielson Array**	**61.38**	**27**	P	**P**	**05 44 53.0**	**-0.2**
	0.7nm,0.6s,baz=264,slow=5.1,SNR=7.5						
ILAR	**Eielson Array**	**61.38**	**27**	P	**P**	**05 44 53.0**	**-0.2**
INK	**Inuvik**	**66.87**	**24**	*e*P	**P**	**05 45 29.4**	**+0.6**
	1.5nm,0.8s						
YKA	**Yellowknife Ar**	**75.81**	**28**	P	**P**	**05 46 23.0**	**+0.7**
	1.3nm,0.4s,baz=292,slow=5.7,SNR=19						
YKA	**Yellowknife Ar**	**75.81**	**28**	P	**P**	**05 46 23.1**	**+0.7**
ARCES	**ARCESS Array B**	**77.93**	**341**	P	**P**	**05 46 35.2**	**+1.1**
	1.7nm,0.9s,baz=59,slow=7.1,SNR=5.7						
ARCES	**ARCESS Array B**	**77.93**	**341**	P	**P**	**05 46 35.2**	**+1.1**
FINES	**FINESS Array B**	**82.19**	**334**	P	**P**	**05 46 56.9**	**-0.1**
	2.4nm,0.9s,baz=72,slow=4.5,SNR=7.2						
FINES	**FINESS Array B**	**82.19**	**334**	P	**P**	**05 46 56.9**	**-0.1**
NVAR	**Mina Array Bea**	**82.85**	**51**	P	**P**	**05 47 02.5**	**+1.3**
	0.4nm,0.6s,baz=292,slow=6.1,SNR=4.9						
NVAR	**Mina Array Bea**	**82.85**	**51**	P	**P**	**05 47 02.5**	**+1.3**
PLCA	**Paso Flores**	**146.63**	**131**	PKPbc	**PKPab**	**05 54 17.2**	**-1.3**
	1.2nm,0.5s,baz=248,slow=6.1,SNR=6.5						
PLCA	**Paso Flores**	**146.63**	**131**	PKPbc	**PKPab**	**05 54 17.2**	**-1.3**
LPAZ	**La Paz**	**150.21**	**83**	PKPbc	**PKPbc**	**05 54 28.0**	**+0.5**
	1.5nm,0.7s,baz=329,slow=2.9,SNR=7.6						
LPAZ				PKPab	**PKPab**	**05 54 35.1**	**+0.9**
	0.8nm,0.5s,baz=312,slow=6.1,SNR=3.7						
LPAZ	**La Paz**	**150.21**	**83**	*e*PKPbc	**PKPbc**	**05 54 27.8**	**+0.3**
LPAZ				*e*PKPab	**PKPab**	**05 54 35.3**	**+1.1**

IDC 24 05:40:32.1±4.8,16.°73S×168.°20E,h200km±48km,mb3.7/6, mb1 3.8/7,mb1mx3.6/20,mbtmp3.7/7,Error ellipse: s-maj=52.8km s-min=27.1km az=162.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.57**	**197**	P	Pn	05 41 54.5	+0.5
	2.4nm,0.3s,baz=15,slow=17,SNR=33						
DZM				S	Sn	05 42 58.4	-0.3
	1.1nm,0.3s,baz=151,slow=23,SNR=4.1						
DZM	**Mont Dzumac**	**5.57**	**197**	*e*P	Pn	05 41 52.8	-1.1
DZM				*e*S	Sn	05 42 58.4	-0.3
CTA	**Charters Tower**	**21.09**	**258**	P	P	05 45 01.9	+0.7
	2.5nm,0.5s,baz=82,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**28.45**	**233**	P	P	05 46 08.6	0.0
	7.7nm,0.7s,baz=60,slow=8.5,SNR=11						
WRA	**Warramunga Arr**	**32.27**	**259**	P	P	05 46 41.3	-1.0
	0.5nm,0.4s,baz=90,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**32.86**	**252**	P	P	05 46 47.0	-0.3
	8.9nm,0.4s,baz=79,slow=9.1,SNR=136						
FITZ	**Fitzroy Crossi**	**40.57**	**262**	P	P	05 47 52.9	+0.4
	4.6nm,0.6s,baz=99,slow=7.0,SNR=11						
ILAR	**Eielson Array**	**88.14**	**18**	P	P	05 52 59.6	-0.1
	0.3nm,0.7s,baz=234,slow=5.5,SNR=4.1						
ARCES	**ARCESS Array B**	**122.40**	**345**	PKP	PKPdf	05 59 02.7	-0.2
	1.5nm,0.8s,baz=57,slow=3.3,SNR=3.6						

ISK ***24*** *05:49:25.5,39.°65N×39.°74E,h2km,MD2.6*

CSEM ***24*** *05:49:26.5±0.3,39.°63N×39.°75E,h2km,MD2.6,Error ellipse: s-maj=5.6km s-min=4.8km az=116.0*

DDA ***24*** *05:49:27.1,39.°62N×39.°72E,h2km,MD2.6*

ISC 24 05:49:26.3±1.2,39.°63N±0.°03×39.°74E±0.°03,h1km±11km, n21,σ0§68/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.04**	**200**	*e*PG	**Pg**	**05 49 26.9**	**-0.3**
ERZN				*e*SG	**Sg**	**05 49 28.0**	**+0.3**
EZC	**Erzincan**	**0.32**	**292**	*e*PG	**Pg**	**05 49 32.5**	**0.0**
EZC	**Erzincan**	**0.32**	**292**	*e*Pg	**Pg**	**05 49 32.5**	**0.0**
KELT	**Kelkit**	**0.64**	**324**	*i* P	**Pg**	**05 49 38.9**	**+0.3**
KELT				*i* S	**Sb**	**05 49 48.6**	**-1.3**
KELT	**Kelkit**	**0.64**	**324**	*i* P	**Pg**	**05 49 38.9**	**+0.3**
KELT				*i* S	**Sb**	**05 49 48.6**	**-1.3**
KOPT	**Kop Dagi**	**0.70**	**56**	*i* P	**Pg**	**05 49 39.6**	**-0.1**
KOPT				*i* S	**Sb**	**05 49 51.9**	**+0.2**
KOPT	**Kop Dagi**	**0.70**	**56**	*i* P	**Pg**	**05 49 39.6**	**-0.1**
KOPT				*i* S	**Sb**	**05 49 51.9**	**+0.2**
PTK	**Pertek**	**0.78**	**200**	*e*PG	**Pg**	**05 49 42.0**	**+0.8**
PTK				*e*SG	**Sb**	**05 49 53.8**	**-0.2**
PTK	**Pertek**	**0.78**	**200**	*e*Pg	**Pg**	**05 49 42.1**	**+0.8**
PTK				*e*Sg	**Sb**	**05 49 53.8**	**-0.2**
BAYT	**Ayd¯ntepe-Bay**	**0.82**	**22**	*e*PG	**Pg**	**05 49 42.3**	**+0.2**
BAYT				*e*SG	**Sb**	**05 49 53.9**	**-1.3**
BAYT	**Ayd¯ntepe-Bay**	**0.82**	**22**	*e*Pg	**Pg**	**05 49 42.3**	**+0.2**
BAYT				*e*Sg	**Sb**	**05 49 53.9**	**-1.3**
GUMT	**Gumushane**	**0.85**	**346**	*e*PG	**Pg**	**05 49 42.9**	**+0.2**
GUMT	**Gumushane**	**0.85**	**346**	*e*Pg	**Pg**	**05 49 42.9**	**+0.2**
ILIC	**ilic-Erzincan**	**0.93**	**259**	*e*PG	**Pg**	**05 49 44.2**	**+0.2**
ILIC	**ilic-Erzincan**	**0.93**	**259**	*e*Pg	**Pg**	**05 49 44.2**	**+0.2**
BINT	**Bingol**	**0.95**	**142**	*e*Pg	**Pb**	**05 49 45.5**	**-0.1**
BNGB	**Bing¶ll**	**0.97**	**131**	*e*PG	**Pb**	**05 49 45.5**	**-0.4**
KEMA	**Kemaliye**	**1.03**	**250**	*i* P	**Pg**	**05 49 44.8**	**-1.3**
KEMA				*i* S	**Sb**	**05 50 00.6**	**-0.4**
KEMA	**Kemaliye**	**1.03**	**250**	*i* P	**Pg**	**05 49 44.8**	**-1.3**
KEMA				*i* S	**Sb**	**05 50 00.6**	**-0.4**
SUSE	**Susehri**	**1.32**	**297**	*i* P	**Pb**	**05 49 52.7**	**+0.8**
SUSE				*i* S	**Sn**	**05 50 10.7**	**+0.4**
SUSE	**Susehri**	**1.32**	**297**	*i* P	**Pb**	**05 49 52.7**	**+0.8**
SUSE				*i* S	**Sn**	**05 50 10.7**	**+0.4**

ISCJB ***24*** *05:50:32.3±0.4,32.°96N±0.°04×56.°44E±0.°04,h10km,Error ellipse: s-maj=6.2km s-min=4.4km az=174.8*

CSEM ***24*** *05:50:32.1±0.2,32.°94N×56.°40E,h2km,ML3.5,Error ellipse: s-maj=5.3km s-min=3.7km az=164.0*

THR ***24*** *05:50:33.4±0.3,32.°89N×56.°59E,h14km±5km,ML3.6*

TEH ***24*** *05:50:33.0,32.°91N×56.°40E,h4km,ML3.5*

ISC 24 05:50:32.6±0.8,32.°96N±0.°03×56.°39E±0.°03,h10km,n47, σ1§26/56,1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABS	**Tabas**	**0.92**	**42**	*e*Pg	**Pg**	**05 50 49.9**	**-0.5**
TABS	**Tabas**	**0.92**	**42**	*e*Pg	**Pg**	**05 50 49.9**	**-0.5**
IBAF	**Bafgh**	**1.53**	**207**	*e*Pn	**Pn**	**05 50 59.1**	**-1.1**
IBAF	**Bafgh**	**1.53**	**207**	*e*Pn	**Pn**	**05 50 59.1**	**-1.1**
ICHK	**Chekchek**	**1.82**	**247**	*e*Sg	**Sb**	**05 51 29.0**	**0.0**
ICHK				*e*Pn	**Pn**	**05 51 04.7**	**+0.5**
ICHK				*e*		05 51 31.0	
	comp=Z,25µm,0.1s						
ITEG	**Tejag**	**1.99**	**91**	*e*Sg	**Sb**	**05 51 34.0**	**+0.1**
ITEG				*e*Pn	**Pn**	**05 51 06.8**	**+0.3**
ITEG				*e*		05 51 36.0	
	comp=Z,6µm,0.2s						
IMEH	**Mehriz**	**2.17**	**224**	*e*Sg	**Sb**	**05 51 40.0**	**+0.8**
IMEH				*e*Pn	**Pn**	**05 51 09.4**	**+0.3**
IMEH				*e*		05 51 41.9	
	comp=Z,5µm,0.1s						
IKOO	**Kooshah**	**2.27**	**103**	⇓*e*Pn	**Pn**	**05 51 10.7**	**+0.2**
IKOO				*e*Sg	**Sg**	**05 51 44.2**	**-1.5**
ISAD	**Sadrabad**	**2.51**	**246**	*e*Pn	**Pn**	**05 51 14.5**	**+0.7**
ISAD				*e*Sg	**Sb**	**05 51 50.9**	**+1.8**
ISAD				*e*		05 51 51.1	
	comp=Z,9µm,0.1s						
ISAD	**Sadrabad**	**2.51**	**246**	*e*Pn	**Pn**	**05 51 14.5**	**+0.7**
ISAD				*e*Sg	**Sb**	**05 51 50.9**	**+1.8**
IMON	**Monand**	**2.76**	**84**	*e*Pn	**Pn**	**05 51 17.4**	**+0.2**
IMON				*e*Sg	**Sb**	**05 51 58.6**	**+2.3**
IMON				*e*		05 52 03.4	
	comp=Z,2µm,0.2s						
IMON	**Monand**	**2.76**	**84**	*e*Pn	**Pn**	**05 51 17.4**	**+0.2**
IMON				*e*Sg	**Sb**	**05 51 58.6**	**+2.3**
IDAH	**Dahanechah**	**2.94**	**93**	*e*Pn	**Pn**	**05 51 19.8**	**+0.1**
IDAH				*e*		05 51 32.1	
	comp=Z,1µm,0.3s						
IDAH	**Dahanechah**	**2.94**	**93**	*e*Pn	**Pn**	**05 51 19.8**	**+0.1**
KRBR	**Kerman**	**2.99**	**174**	*e*Pn	**Pn**	**05 51 21.4**	**+1.1**
KRBR				*e*Sg	**Sb**	**05 52 04.2**	**+1.4**
KRBR				AML	AML	05 52 06.8	
	comp=E,267nm,0.5s						
KRBR				AML	AML	05 52 08.6	
	comp=N,248nm,0.3s						
KRBR	**Kerman**	**2.99**	**174**	*e*Pn	**Pn**	**05 51 21.4**	**+1.1**
KRBR				*e*Sg	**Sb**	**05 52 04.2**	**+1.4**
NASN	**Na'in**	**3.02**	**268**	*e*Pn	**Pb**	**05 51 25.4**	**-1.2**
NASN				AML	AML	05 52 09.8	
	comp=N,118nm,0.4s						
NASN	**Na'in**	**3.02**	**268**	*e*Pn	**Pb**	**05 51 25.4**	**-1.2**
IANJ	**Anjilo**	**3.23**	**321**	*e*Pn	**Pn**	**05 51 24.0**	**+0.3**
IANJ				*e*		05 52 18.6	
	comp=Z,1µm,0.2s						
IANJ	**Anjilo**	**3.23**	**321**	*e*Pn	**Pn**	**05 51 24.0**	**+0.3**
IZEF	**Zefreh**	**3.41**	**270**	*e*Pn	**Pn**	**05 51 27.0**	**+0.8**
IZEF				*e*		05 52 20.3	
	comp=Z,1µm,0.1s						
IZEF	**Zefreh**	**3.41**	**270**	*e*Pn	**Pn**	**05 51 27.0**	**+0.8**
ILAS	**Lasjerd**	**3.73**	**311**	*e*Pn	**Pn**	**05 51 31.6**	**+1.1**
ILAS				*e*		05 52 47.4	
	comp=Z,565nm,0.2s						
ILAS	**Lasjerd**	**3.73**	**311**	*e*Pn	**Pn**	**05 51 31.6**	**+1.1**
ISHM	**Shahmirzad**	**3.82**	**319**	*e*Pn	**Pn**	**05 51 32.9**	**+1.1**
ISHM	**Shahmirzad**	**3.82**	**319**	*e*Pn	**Pn**	**05 51 32.9**	**+1.1**
IKIA	**Kiasar**	**3.93**	**326**	*e*Sg	**Sg**	**05 52 37.2**	**-1.7**
IKIA

ISAD				*e*			05 56 44.4	
	comp=Z,5µm,0.3s							
ISAD	**Sadrabad**	**3.46**	**295**	*e*Pn		**Pn**	**05 55 46.4**	**+0.9**
ISAD				*e*Sg		**Sg**	**05 56 41.7**	**-0.8**
IPAR	**Pars**	**3.82**	**261**	*e*Pn		**Pn**	**05 55 51.5**	**+1.0**
IPAR				*e*			05 56 57.0	
	comp=Z,1µm,0.4s							
IPAR	**Pars**	**3.82**	**261**	*e*Pn		**Pn**	**05 55 51.5**	**+1.0**
ISRV	**Sarvestan**	**3.88**	**254**	*e*Pn		**Pn**	**05 55 52.3**	**+1.0**
ISRV				*e*			05 57 26.8	
	comp=Z,4µm,0.7s							
ISRV	**Sarvestan**	**3.88**	**254**	*e*Pn		**Pn**	**05 55 52.3**	**+1.0**
GHIR	**Ghir-Karzin**	**4.44**	**241**	*e*P		**Pn**	**05 55 58.2**	**-0.7**
GHIR				AML		AML	05 57 21.5	
	comp=E,44nm,0.5s							
GHIR	**Ghir-Karzin**	**4.44**	**241**	*e*P		**Pn**	**05 55 58.2**	**-0.7**
NASN	**Na'in**	**4.52**	**301**	*e*P		**Pn**	**05 56 01.6**	**+1.5**
NASN				AML		AML	05 57 22.3	
	comp=E,80nm,0.7s							
NASN				AML		AML	05 57 23.8	
	comp=N,101nm,0.5s							
NASN	**Na'in**	**4.52**	**301**	*e*P		**Pn**	**05 56 01.6**	**+1.5**
IZEF	**Zefreh**	**4.92**	**300**	*e*			05 56 24.6	
	comp=Z,476nm,0.2s							
IZEF				*e*Pn		**Pn**	**05 56 06.2**	**+0.7**
IKLH	**Kolahrood**	**5.67**	**301**	*e*Pn		**Pn**	**05 56 16.6**	**+0.7**
IKLH				*e*			05 58 15.2	
	comp=Z,874nm,0.4s							
IKLH	**Kolahrood**	**5.67**	**301**	*e*Pn		**Pn**	**05 56 16.6**	**+0.7**
IANJ	**Anjilo**	**5.73**	**330**	*e*Pn		**Pn**	**05 56 17.1**	**+0.5**
IANJ	**Anjilo**	**5.73**	**330**	*e*Pn		**Pn**	**05 56 17.1**	**+0.5**
IMOG	**Moghan**	**5.80**	**16**	*e*Pn		**Pn**	**05 56 18.8**	**+1.1**
IMOG	**Moghan**	**5.80**	**16**	*e*Pn		**Pn**	**05 56 18.8**	**+1.1**
ISRO	**Mashad**	**6.03**	**16**	*e*Pn		**Pn**	**05 56 21.2**	**+0.6**
ISRO	**Mashad**	**6.03**	**16**	*e*Pn		**Pn**	**05 56 21.2**	**+0.6**
IPAY	**Payeh**	**6.06**	**12**	*e*Pn		**Pn**	**05 56 21.8**	**+0.6**
IPAY				*e*			05 58 22.6	
	comp=Z,218nm,0.2s							
IPAY	**Payeh**	**6.06**	**12**	*e*Pn		**Pn**	**05 56 21.8**	**+0.6**
ILAS	**Lasjerd**	**6.11**	**324**	*e*Pn		**Pn**	**05 56 22.5**	**+0.6**
ILAS	**Lasjerd**	**6.11**	**324**	*e*Pn		**Pn**	**05 56 22.5**	**+0.6**
IMYA	**Miami**	**6.23**	**21**	*e*Pn		**Pn**	**05 56 24.0**	**+0.6**
IMYA	**Miami**	**6.23**	**21**	*e*Pn		**Pn**	**05 56 24.0**	**+0.6**
ISHM	**Shahmirzad**	**6.29**	**328**	*e*Pn		**Pn**	**05 56 24.8**	**+0.4**
ISHM				*e*			05 58 29.6	
	comp=Z,967nm,0.3s							
ISHM	**Shahmirzad**	**6.29**	**328**	*e*Pn		**Pn**	**05 56 24.8**	**+0.4**
IKRD	**Kardeh**	**6.31**	**8**	*e*Pn		**Pn**	**05 56 27.3**	**+2.8**
IKRD				*e*			05 58 39.1	
	comp=Z,181nm,0.3s							
IKRD	**Kardeh**	**6.31**	**8**	*e*Pn		**Pn**	**05 56 27.3**	**+2.8**
IFIR	**Firoozkooh**	**6.42**	**324**	*e*Pn		**Pn**	**05 56 26.5**	**+0.4**
IFIR				*e*			05 58 36.6	
	comp=Z,254nm,0.2s							
IFIR	**Firoozkooh**	**6.42**	**324**	*e*Pn		**Pn**	**05 56 26.5**	**+0.4**
IDMV	**Damavand**	**6.76**	**320**	*e*Pn		**Pn**	**05 56 31.4**	**+0.6**
IDMV	**Damavand**	**6.76**	**320**	*e*Pn		**Pn**	**05 56 31.4**	**+0.6**
EIL	**Elat**	**19.44**	**273**	LR		LR	06 07 09.3	
	comp=Z,45nm,18.5s,baz=307,slow=38							
AKTO	**Aktyubinsk**	**19.90**	**1**	P		**P**	**05 59 23.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=174,slow=9.8,SNR=5.6							
BVAR	**Borovoye Array**	**24.41**	**19**	P		**P**	**06 00 10.1**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=197,slow=7.5,SNR=13							
MKAR	**Makanchi Array**	**25.18**	**43**	P		**P**	**06 00 16.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=227,slow=7.7,SNR=8.6							
KURK	**Kurchatov**	**25.65**	**32**	P		**P**	**06 00 21.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=232,slow=9.6,SNR=4.5							
ZALV	**Zalesovo Beam**	**30.64**	**32**	P		**P**	**06 01 05.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=221,slow=8.8,SNR=3.8							
TORD	**Torodi Ar. Bea**	**53.29**	**264**	P		**P**	**06 04 13.6**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=56,slow=7.0,SNR=7.3							
YKA	**Yellowknife Ar**	**87.09**	**356**	P		**P**	**06 07 35.9**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=356,slow=4.6,SNR=4.3							

*IDC **24** 06:00:01.5±0.7,56.°90S×25.°02W,h0km,mb4.4/4, mb1 4.4/5,mb1mx4.1/14,mbtmp4.3/5,ML3.7/1,MS3.8/3, Ms1 3.7/3,ms1mx3.4/16,Error ellipse: s-maj=27.5km s-min=22.2km az=45.0*

*ISCJB **24** 06:00:02.3±0.6,56.°94S±0.°08×25.°1W±0.°2,h22km,mb4.3/8, MS3.7/3,Error ellipse: s-maj=18.7km s-min=10.2km az=156.8*

*NEIC **24** 06:00:06.3±0.5,57.°05S×25.°06W,h35km,mb4.6/6,Error ellipse: s-maj=20.8km s-min=15.0km az=55.0*

ISC 24 06:00:04.7±0.5,57.°0S±0.°1×25.°0W±0.°1,h22km,n39, σ1§20/39,mb4.5/8,MS3.6/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.50**	**159**	*e*	**Pn**	**06 03 40.9**	**-0.6**
VNA3	**Neumayer Olymp**	**15.73**	**162**	*e*	**Pn**	**06 03 44.3**	**-0.3**
VNA2	**Neumayer--Watz**	**15.90**	**159**	*e*	**Pn**	**06 03 46.5**	**-0.1**
	baz=330,slow=16						
SNAA	**Sanae**	**17.42**	**156**	*e*	**Pn**	**06 04 03.1**	**-2.8**
SNAA	**Sanae**	**17.42**	**156**	*e*P	**Pn**	**06 04 06.3**	**+0.4**
	0.2nm,0.3s,baz=338,slow=13,SNR=20						
SNAA	**Sanae**	**17.42**	**156**	*e*P	**Pn**	**06 04 02.4**	**-3.6**
	5.5nm,0.8s						
USHA	**Ushuaia**	**24.13**	**257**	LR	LR	06 12 30.7	
	comp=Z,196nm,19.2s,baz=59,slow=31						
QSPA	**South Pole Qui**	**33.28**	**180**	P	**P**	**06 06 40.5**	**+0.3**
	3.4nm,0.6s,baz=206,slow=3.0,SNR=29						
QSPA	**South Pole Qui**	**33.28**	**180**	*e*P	**P**	**06 06 40.3**	**+0.1**
	8.2nm,1.0s						
PLCA	**Paso Flores**	**33.34**	**279**	LR	LR	06 19 19.7	
	comp=Z,112nm,19.8s,baz=33,slow=35						
CFAA	**Coronel Fontan**	**39.02**	**292**	P	**P**	**06 07 27.4**	**-2.0**
	0.1nm,0.3s,baz=149,slow=5.9,SNR=4.0						
CFAA	**Coronel Fontan**	**39.02**	**292**	P	**P**	**06 07 27.4**	**-2.0**
BOSA	**Boshof**	**45.06**	**73**	P	**P**	**06 08 18.0**	**-0.9**
	2.2nm,1.0s,baz=157,slow=9.1,SNR=3.5						
BOSA				LR	LR	06 23 29.8	
	comp=Z,154nm,19.5s,baz=49,slow=31						
BOSA	**Boshof**	**45.06**	**73**	P	**P**	**06 08 18.0**	**-0.9**
TSUM	**Tsumeb**	**49.12**	**58**	*e*P	**P**	**06 08 50.4**	**-0.2**
	3.9nm,0.8s						
LPAZ	**La Paz**	**51.88**	**303**	P	**P**	**06 09 12.1**	**0.0**
	11nm,0.7s,baz=126,slow=5.6,SNR=63						
LPAZ	**La Paz**	**51.88**	**303**	*e*P	**P**	**06 09 11.8**	**-0.3**
	14nm,0.8s						
CASY	**Casey**	**52.63**	**159**	*e*P	**P**	**06 09 17.2**	**+0.9**
	8.5nm,0.8s						
SAML	**Samuel**	**56.30**	**313**	*e*P	**P**	**06 09 42.9**	**-0.7**
	3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.29**	**27**	P	**P**	**06 11 33.9**	**-0.3**
	2.9nm,0.8s,baz=196,slow=6.6,SNR=20						
TORD	**Torodi Ar. Bea**	**73.29**	**27**	P	**P**	**06 11 33.9**	**-0.3**
NVAR	**Mina Array Bea**	**122.85**	**291**	PKP	**PKPdf**	**06 18 59.6**	**+1.2**
	0.1nm,0.3s,baz=178,slow=2.7,SNR=3.2						
NVAR	**Mina Array Bea**	**122.85**	**291**	PKP	**PKPdf**	**06 18 59.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**123.63**	**109**	PKP	**PKPdf**	**06 19 00.8**	**+0.6**
	1.1nm,0.3s,baz=237,slow=3.5,SNR=6.5						
CMAR	**Chiang Mai Arr**	**123.63**	**109**	PKP	**PKPdf**	**06 19 00.8**	**+0.6**
BVAR	**Borovoye Array**	**134.27**	**57**	PKP	**PKPdf**	**06 19 20.4**	**+1.0**
	1.1nm,0.8s,baz=250,slow=4.4,SNR=6.8						
BVAR	**Borovoye Array**	**134.27**	**57**	PKP	**PKPdf**	**06 19 20.4**	**+1.0**
KURK	**Kurchatov**	**136.72**	**64**	PKP	**PKPdf**	**06 19 25.5**	**+1.6**
	0.5nm,0.7s,baz=235,slow=3.3,SNR=3.2						
KURK	**Kurchatov**	**136.72**	**64**	PKP	**PKPdf**	**06 19 25.5**	**+1.6**
YKA	**Yellowknife Ar**	**137.66**	**316**	PKP	**PKPdf**	**06 19 25.1**	**-0.2**
	1.2nm,0.7s,baz=125,slow=2.2,SNR=20						
YKA	**Yellowknife Ar**	**137.66**	**316**	PKP	**PKPdf**	**06 19 25.1**	**-0.2**
INK	**Inuvik**	**147.28**	**319**	PKPbc	**PKPbc**	**06 19 44.5**	**0.0**
	3.2nm,0.8s,baz=93,slow=2.2,SNR=11						
INK	**Inuvik**	**147.28**	**319**	*e*PKPdf	**PKPdf**	**06 19 43.0**	**+0.8**
SONM	**Songino Array**	**149.59**	**86**	PKPbc	**PKPbc**	**06 19 51.3**	**-0.1**
	4.3nm,0.7s,baz=233,slow=2.9,SNR=37						
SONM	**Songino Array**	**149.59**	**86**	PKPbc	**PKPbc**	**06 19 51.3**	**-0.1**
ULN	**Ulaanbaatar**	**149.97**	**87**	*e*PKPbc	**PKPbc**	**06 19 51.9**	**-0.5**
TLY	**Talaya**	**150.21**	**78**	*e*PKPbc	**PKPbc**	**06 19 52.7**	**0.0**
ILAR	**Eielson Array**	**151.62**	**310**	PKPbc	**PKPbc**	**06 19 55.4**	**-0.2**
	5.9nm,0.9s,baz=130,slow=1.7,SNR=46						
ILAR				PKPab	**PKPab**	**06 20 06.3**	**+1.9**
	4.2nm,0.9s,baz=132,slow=2.6,SNR=14						
ILAR	**Eielson Array**	**151.62**	**310**	PKPbc	**PKPbc**	**06 19 55.4**	**-0.2**
ILAR				PKPab	**PKPab**	**06 20 06.3**	**+1.9**

MEX 24 06:07:42.9±0.5,16.°86N×95.°01W,h112km±6km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.26**	**27**	*i*P	Pn	06 07 58.0	-0.9
CMIG				*e*S	Sn	06 08 08.7	-2.1
HUIG	**Huatulco**	**1.51**	**224**	*i*P	Pn	06 08 08.3	-1.7
HUIG				*e*S	Sn	06 08 29.1	-1.5
VHO	**Vista Hermosa**	**1.67**	**278**	*i*P	Pn	06 08 11.6	-0.5
VHO				*i*S	Sn	06 08 32.6	-1.8
TGIG		**1.81**	**92**	*i*P	Pn	06 08 12.4	-1.2
TGIG				*e*S	Sn	06 08 35.0	-2.2
PCIG		**2.06**	**123**	*e*P	Pn	06 08 16.3	-0.5
PCIG				*e*S	Sn	06 08 41.0	-1.8
PNIG	**Pinotepa**	**3.03**	**262**	*i*P	Pn	06 08 28.4	-1.0
PNIG				*e*S	Sn	06 09 03.0	-2.2

*PGC **24** 06:13:37.6±0.9,48.°93N×129.°39W,h10km,ML2.9/14, Mw3.5,242km southwest of Pt. Hardy, Bc Vancouver Island Region*

*NEIC **24** 06:13:37.6,48.°93N×129.°39W,h10km,mb3.9/3, MW3.5(PGC),After PGC.*

*ISCJB **24** 06:13:39.5±1.1,49.°08N±0.°04×129.°01W±0.°09, h11km±11km,mb3.9/2,Error ellipse: s-maj=10.8km s-min=4.8km az=157.3*

*IDC **24** 06:13:40.4±2.2,49.°15N×129.°15W,h0km,mb3.8/1, mb1 3.6/8,mb1mx3.4/27,mbtmp3.4/8,ML3.4/7,MS2.7/1, Ms1 2.7/1,ms1mx2.4/44,Error ellipse: s-maj=40.2km s-min=12.9km az=73.0*

ISC 24 06:13:41.9±2.5,49.°14N±0.°05×128.°93W±0.°06, h14km±15km,n70,σ1§19/94,14D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.26**	**36**	Pn	**Pn**	**06 14 04.1**	**-1.0**
BPBC				Sn	**Sn**	**06 14 23.2**	**+1.3**
BPBC	**Brooks Peninsu**	**1.26**	**36**	⇑Pn	**Pn**	**06 14 04.1**	**-1.0**
BPBC				⇓Sn	**Sn**	**06 14 23.2**	**+1.3**
EDB	**Eliza Dome**	**1.39**	**57**	Pn	**Pn**	**06 14 05.8**	**-0.9**
EDB				Sn	**Sg**	**06 14 26.7**	**+0.2**
EDB	**Eliza Dome**	**1.39**	**57**	⇑Pn	**Pn**	**06 14 05.8**	**-0.9**
EDB				⇑Sn	**Sg**	**06 14 26.7**	**+0.2**
ETB	**Estevan Point**	**1.58**	**81**	Pn	**Pn**	**06 14 08.7**	**-0.7**
ETB	**Estevan Point**	**1.58**	**81**	⇓Pn	**Pn**	**06 14 08.7**	**-0.7**
HOLB	**Holberg**	**1.58**	**19**	Pn	**Pn**	**06 14 07.9**	**-1.6**
HOLB	**Holberg**	**1.58**	**19**	⇓Pn	**Pn**	**06 14 07.9**	**-1.6**
MAYB	**Maynard**	**1.70**	**41**	Pn	**Pn**	**06 14 10.4**	**-0.8**
MAYB				Sn	**Sn**	**06 14 33.3**	**+0.6**
MAYB	**Maynard**	**1.70**	**41**	⇑Pn	**Pn**	**06 14 10.4**	**-0.8**
MAYB				⇑Sn	**Sn**	**06 14 33.3**	**+0.6**
PHC	**Port Hardy**	**1.84**	**31**	Pn	**Pn**	**06 14 12.3**	**-0.6**
PHC				Sn	**Sn**	**06 14 37.0**	**+1.0**
PHC	**Port Hardy**	**1.84**	**31**	⇓Pn	**Pn**	**06 14 12.4**	**-0.5**
PHC				⇑Sn	**Sn**	**06 14 37.0**	**+1.0**
WOSB	**Woss**	**1.84**	**55**	Pn	**Pn**	**06 14 13.0**	**-0.1**
WOSB	**Woss**	**1.84**	**55**	⇑Pn	**Pn**	**06 14 13.0**	**-0.1**
GDR	**Gold River**	**1.99**	**70**	Pn	**Pn**	**06 14 14.5**	**-0.6**
GDR	**Gold River**	**1.99**	**70**	⇓Pn	**Pn**	**06 14 14.5**	**-0.6**
NCRB	**Newcastle Ridg**	**2.25**	**55**	Pn	**Pn**	**06 14 19.2**	**+0.5**
NCRB				Sn	**Sb**	**06 14 49.8**	**-0.2**
NCRB	**Newcastle Ridg**	**2.25**	**55**	⇑Pn	**Pn**	**06 14 19.2**	**+0.5**
NCRB				⇓Sn	**Sb**	**06 14 49.8**	**-0.2**
BTB	**Buttle Lake**	**2.25**	**80**	Pn	**Pn**	**06 14 18.3**	**-0.6**
BTB				Sn	**Sn**	**06 14 47.9**	**+1.5**
BTB	**Buttle Lake**	**2.25**	**80**	⇓Pn	**Pn**	**06 14 18.3**	**-0.6**
BTB				⇑Sn	**Sn**	**06 14 47.9**	**+1.5**
OZB	**Mount Ozzard**	**2.27**	**93**	Pn	**Pn**	**06 14 17.1**	**-1.8**
OZB				Sn	**Sn**	**06 14 46.6**	**-0.1**
OZB	**Mount Ozzard**	**2.27**	**93**	⇓Pn	**Pn**	**06 14 17.1**	**-1.8**
OZB				⇑Sn	**Sn**	**06 14 46.6**	**-0.1**
CBB	**Campbell River**	**2.48**	**68**	Pn	**Pn**	**06 14 22.2**	**+0.4**
CBB				Sn	**Sb**	**06 14 55.4**	**-1.2**
CBB	**Campbell River**	**2.48**	**68**	⇑Pn	**Pn**	**06 14 22.2**	**+0.4**
CBB				⇑Sn	**Sb**	**06 14 55.4**	**-1.2**
BMSB	**Bamfield Mari**	**2.52**	**96**	⇓Pn	**Pn**	**06 14 20.7**	**-1.6**
BMSB				⇑Sn	**Sn**	**06 14 52.7**	**0.0**
ALB	**Alberni**	**2.69**	**86**	Pn	**Pn**	**06 14 24.2**	**-0.5**
ALB	**Alberni**	**2.69**	**86**	⇑Pn	**Pn**	**06 14 24.2**	**-0.5**
MGB	**Mount Grey**	**2.79**	**91**	Pn	**Pn**	**06 14 24.7**	**-1.4**
MGB				Sn	**Sn**	**06 14 60.0**	**+0.4**
MGB	**Mount Grey**	**2.79**	**91**	⇓Pn	**Pn**	**06 14 24.7**	**-1.4**
MGB				⇓Sn	**Sn**	**06 14 60.0**	**+0.4**
PFB	**Port Renfrew**	**3.02**	**99**	Pn	**Pn**	**06 14 27.6**	**-1.6**
PFB				Sn	**Sn**	**06 15 04.6**	**-0.5**
PFB	**Port Renfrew**	**3.02**	**99**	⇑Pn	**Pn**	**06 14 27.6**	**-1.6**
PFB				⇓Sn	**Sn**	**06 15 04.6**	**-0.5**
BBB	**Bella Bella**	**3.09**	**9**	Pn	**Pn**	**06 14 29.5**	**-0.7**
	6.5nm,0.3s,baz=207,slow=11,SNR=155						
BBB				Sn	**Sn**	**06 15 06.7**	**-0.1**
	6.3nm,0.3s,baz=33,slow=15,SNR=6.9						
BBB	**Bella Bella**	**3.09**	**9**	Pn	**Pn**	**06 14 29.5**	**-0.7**
BBB				Sn	**Sn**	**06 15 06.7**	**-0.1**
BBB	**Bella Bella**	**3.09**	**9**	⇓Pn	**Pn**	**06 14 29.4**	**-0.7**
BBB				⇓Sn	**Sn**	**06 15 05.8**	**-1.0**
PGC	**Sidney**	**3.65**	**96**	*e*Pn	**Pn**	**06 14 37.9**	**+0.1**
NLWA	**Neilton Lookou**	**3.81**	**116**	*e*Pn	**Pn**	**06 14 39.3**	**-0.8**
NLWA				*e*Sn	**Sn**	**06 15 21.9**	**-2.7**
ALRB	**Anaheim Lake**	**4.16**	**34**	Pn	**Pn**	**06 14 46.9**	**+2.0**
ALRB	**Anaheim Lake**	**4.16**	**34**	⇑Pn	**Pn**	**06 14 46.9**	**+2.0**
VDB	**Vedder Mountai**	**4.49**	**89**	P	**Pn**	**06 14 49.8**	**+0.5**
MBW	**Mount Baker**	**4.64**	**92**	P	**Pn**	**06 14 52.1**	**+0.4**
JCW	**Jim Creek**	**4.73**	**99**	*e*Pn	**Pn**	**06 14 52.8**	**0.0**
	5.1nm,0.4s						
RPW	**Rockport**	**4.95**	**95**	*e*Pn	**Pn**	**06 14 56.6**	**+0.8**
	7.6nm,0.5s						
LON	**Longmire**	**5.35**	**114**	*e*Pn	**Pn**	**06 15 01.9**	**+0.6**
	2.5nm,0.6s						
LON				*e*Sn	**Sn**	**06 16 02.9**	**+0.2**
RCM	**Mount Rainier-**	**5.35**	**113**	P	**Pn**	**06 15 02.4**	**+0.8**
TBM	**Table Mountain**	**5.91**	**106**	P	**Pn**	**06 15 10.4**	**+1.3**
ETW	**Entiat**	**5.93**	**102**	*e*Pn	**Pn**	**06 15 09.1**	**-0.3**
	2.2nm,0.3s						
ETW				*e*Sn	**Sn**	**06 16 18.0**	**+0.9**
EBG	**Ellensburg**	**6.04**	**109**	P	**Pn**	**06 15 11.9**	**+1.2**
HAWA	**Hanford**	**6.90**	**110**	*e*Pn	**Pn**	**06 15 23.8**	**+1.3**
HUMO	**Hull Mountain**	**7.75**	**145**	*e*Pn	**Pn**	**06 15 36.4**	**+2.1**
NEW	**Newport**	**7.86**	**92**	*e*Pn	**Pn**	**06 15 36.3**	**+0.6**
YBH	**Yreka Blue Hor**	**8.60**	**147**	Pn	**Pn**	**06 15 48.5**	**+2.6**
	0.1nm,0.3s,baz=351,slow=13,SNR=12						
YBH	**Yreka Blue Hor**	**8.60**	**147**	*e*Pn	**Pn**	**06 15 47.6**	**+1.7**
	14nm,1.5s						
DLBC	**Dease Lake**	**9.34**	**356**	LR	LR	06 18 52.6	
	comp=Z,47nm,19.9s,baz=172,slow=34						
MOD	**Modoc**	**9.43**	**137**	*e*Pn	**Pn**	**06 15 58.2**	**+0.8**
WDC	**Whiskeytown Da**	**9.68**	**150**	*e*Pn	**Pn**	**06 16 01.8**	**+1.1**
WVOR	**Wild Horse Val**	**9.83**	**129**	*e*Pn	**Pn**	**06 16 04.4**	**+1.6**
NVAR	**Mina Array Bea**	**13.16**	**141**	Pn	Pn	06 16 52.7	+4.3
	0.1nm,0.3s,baz=313,slow=14,SNR=4.0						
NVAR	**Mina Array Bea**	**13.16**	**141**	Pn	Pn	06 16 52.7	+4.3
PDAR	**Pinedale Array**	**14.88**	**108**	Pn	**P**	**06 17 16.1**	**-1.6**
	0.0nm,0.3s,baz=306,slow=7.6,SNR=3.2						
PDAR	**Pinedale Array**	**14.88**	**108**	Pn	**P**	**06 17 16.1**	**-1.6**
YKA	**Yellowknife Ar**	**15.55**	**25**	Pn	**Pn**	**06 17 19.1**	**-1.3**
	0.1nm,0.3s,baz=217,slow=12,SNR=6.4						
YKA	**Yellowknife Ar**	**15.55**	**25**	Pn	**Pn**	**06 17 19.1**	**-1.3**
FFC	**Flin Flon**	**17.47**	**61**	*e*P	**P**	**06 17 46.3**	**+0.3**
	5.7nm,0.6s						
ILAR	**Eielson Array**	**18.36**	**335**	P	**P**	**06 17 56.0**	**+0.3**
	0.0nm,0.3s,baz=156,slow=13,SNR=5.3						
ILAR	**Eielson Array**	**18.36**	**335**	P	**P**	**06 17 56.0**	**+0.3**
INK	**Inuvik**	**19.36**	**355**	P	**Pn**	**06 18 07.0**	**-0.7**
	0.1nm,0.3s,baz=184,slow=10,SNR=5.4						
INK	**Inuvik**	**19.36**	**355**	P	**Pn**	**06 18 07.0**	**-0.7**
ULM	**Lac du Bonnet**	**21.32**	**74**	P	**P**	**06 18 31.5**	**+3.5**
	2.6nm,0.5s,baz=284,slow=11,SNR=5.2						
ULM	**Lac du Bonnet**	**21.32**	**74**	*e*P	**P**	**06 18 31.3**	**+3.3**
	3.2nm,0.6s						
EYMN	**Ely**	**24.65**	**78**	*e*P	**P**	**06 19 03.4**	**+1.6**
	4.5nm,0.9s						

IDC 24 06:31:17.5±1.0,21.°12N×121.°96E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/22,mbtmp3.6/7,MS3.4/2,Ms1 3.5/2, ms1mx2.8/38,Error ellipse: s-maj=66.3km s-min=19.6km az=65.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.82**	**267**	LR	LR	06 44 17.9	
	comp=Z,44nm,18.7s,baz=85,slow=36						
MKAR	**Makanchi Array**	**41.06**	**318**	P	P	06 39 04.4	+1.5
	0.6nm,0.7s,baz=116,slow=10.0,SNR=8.2						
WRA	**Warramunga Arr**	**42.56**	**163**	P	P	06 39 14.8	-0.6
	0.6nm,0.7s,baz=343,slow=8.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.21**	**329**	P	P	06 39 20.4	+0.1
	2.1nm,0.9s,baz=110,slow=8.5,SNR=5.4						
KURK	**Kurchatov**	**44.92**	**322**	P	P	06 39 32.0	-2.0
	1.4nm,0.8s,baz=125,slow=7.1,SNR=7.0						
ASAR	**Alice Springs**	**46.01**	**165**	P	P	06 39 43.1	+0.2
	0.3nm,0.8s,baz=349,slow=6.9,SNR=3.9						
CTA	**Charters Tower**	**47.34**	**148**	LR	LR	06 59 28.1	
	comp=Z,104nm,19.3s,baz=232,slow=36						
NOA	**NORSAR Array B**	**81.26**	**333**	P	P	06 43 35.2	-0.3
	1.5nm,0.8s,baz=51,slow=6.1,SNR=3.6						
YKA	**Yellowknife Ar**	**85.50**	**23**	P	P	06 43 57.3	+0.2
	0.1nm,0.5s,baz=313,slow=4.4,SNR=4.2						

*IDC **24** 06:41:51.3±1.3,0.°67S×133.°50E,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.7/17,mbtmp3.8/5,ML3.9/2,MS3.7/1, Ms1 3.6/1,ms1mx2.5/29,Error ellipse: s-maj=64.4km s-min=16.2km az=85.0*

*ISCJB **24** 06:41:53.9±0.8,0.°73S±0.°07×133.°3E±0.°2,h28km,mb3.9/4, MS3.6/1,Error ellipse: s-maj=28.3km s-min=10.0km az=171.9*

*NEIC **24** 06:41:56.6±0.7,0.°67S×133.°38E,h35km,mb3.9/4,Error ellipse: s-maj=24.6km s-min=10.1km az=79.0*

*DJA **24** 06:41:58,0.°66S×133.°27E,h56km,mb4.3/5*

ISC 24 06:41:55.6±1.0,0.°6S±0.°1×133.°4E±0.°2,h28km,n16, σ0§75/17,mb4.1/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**16.39**	**144**	*e*P	**Pn**	**06 45 43.5**	**-0.5**
	18nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.98**	**203**	P	**P**	**06 46 14.9**	**-0.2**
	0.4nm,0.3s,baz=32,slow=10.0,SNR=5.9						
FITZ	**Fitzroy Crossi**	**18.98**	**203**	*e*P	**P**	**06 46 13.4**	**-1.7**
	1.9nm,0.4s						
WRAB	**Tennant Creek**	**19.22**	**177**	*e*P	**P**	**06 46 16.3**	**-1.4**
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**19.22**	**177**	P	**P**	**06 46 18.1**	**+0.3**
	0.4nm,0.3s,baz=357,slow=13,SNR=12						
WRA				S	Sn	06 49 45.1	-8.6
	0.1nm,0.3s,baz=354,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**19.22**	**177**	P	**P**	**06 46 18.1**	**+0.3**
WRA				S	Sn	06 49 45.1	-8.6
WB2	**Warramunga Arr**	**19.23**	**177**	*e*P	**P**	**06 46 17.4**	**-0.3**
AS31	**Alice Springs**	**22.91**	**179**	*e*P	**P**	**06 46 57.8**	**+0.3**
ASAR	**Alice Springs**	**22.91**	**179**	P	**P**	**06 46 57.9**	**+0.3**
	4.0nm,0.9s,baz=2.5,slow=9.1,SNR=30						
ASAR				S	**S**	**06 51 06.9**	**+1.0**
	0.1nm,0.4s,baz=221,slow=28,SNR=4.4						
ASAR	**Alice Springs**	**22.91**	**179**	P	**P**	**06 46 57.9**	**+0.3**
ASAR				S	**S**	**06 51 06.9**	**+1.0**
**STK

ARCES	**ARCESS Array B**	**90.43 340**	P	**P**	**07 13 14.6**	**-0.2**		
	comp=Z,1.9nm,0.9s,baz=69,slow=6.6,SNR=7.3							
ARCES	**ARCESS Array B**	**90.43 340**	P	**P**	**07 13 14.6**	**-0.2**		
FINES	**FINESS Array B**	**91.84 332**	P	**P**	**07 13 21.7**	**+0.2**		
	comp=Z,1.2nm,0.8s,baz=62,slow=3.3,SNR=5.7							
FINES	**FINESS Array B**	**91.84 332**	P	**P**	**07 13 21.7**	**+0.2**		
TORD	**Torodi Ar. Bea**	**123.10 288**	PKP	**PKPdf**	**07 19 10.9**	**-0.3**		
	comp=Z,0.2nm,0.4s,baz=83,slow=3.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**123.10 288**	PKP	**PKPdf**	**07 19 10.9**	**-0.3**		

ISC 24 07:01:58.8±1.4, **40°04N**±0°07×**75°61E**±0°08, **h19**km, **n15,**
σ1°**23**/25, **4C-3D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.59**	**151**	⇓*i*Pg	**Pn**	**07 02 13.1**	**+0.7**
KSH				Sg	Sn	07 02 26.8	+5.2
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,870nm,0.4s						
KZA	**Kyzart**	**2.05**	**353**	P	**Pn**	**07 02 32.9**	**+0.2**
	SNR=67						
KZA				P	**Pn**	**07 02 32.9**	**+0.2**
	SNR=67						
ULHL	**Ulahol**	**2.25**	**12**	P	**Pn**	**07 02 35.6**	**+0.3**
	SNR=58						
ULHL				P	**Pn**	**07 02 35.6**	**+0.3**
	SNR=58						
UCH	**Uchtor**	**2.34**	**340**	P	**Pn**	**07 02 37.6**	**+0.9**
	SNR=16						
UCH				P	**Pn**	**07 02 37.6**	**+0.9**
	SNR=16						
AML	**Almayashu**	**2.54**	**326**	P	**Pn**	**07 02 40.4**	**+1.0**
	SNR=46						
AML				P	**Pn**	**07 02 40.4**	**+1.0**
	SNR=46						
KBK	**Karagaybulak**	**2.66**	**349**	P	**Pn**	**07 02 41.7**	**+0.8**
	SNR=49						
KBK				P	**Pn**	**07 02 41.7**	**+0.8**
	SNR=49						
AAK	**Ala-Archa**	**2.72**	**342**	P	**Pn**	**07 02 43.0**	**+1.3**
	SNR=51						
AAK				P	**Pn**	**07 02 43.0**	**+1.3**
	SNR=51						
TKM2	**Tokmak 2**	**2.88**	**360**	P	**Pn**	**07 02 44.8**	**+0.9**
	SNR=33						
TKM2				P	**Pn**	**07 02 44.8**	**+0.9**
	SNR=33						
TKM2	**Tokmak 2**	**2.88**	**360**	⇓Pg	**Pn**	**07 02 44.6**	**+0.8**
	comp=E,12nm,0.5s						
TKM2				⇓Lg	Lg	07 03 25.3	
	comp=E,69nm,0.5s						
EKS2	**Erkin-Say**	**2.96**	**333**	P	**Pn**	**07 02 46.5**	**+1.6**
	SNR=24						
EKS2				P	**Pn**	**07 02 46.5**	**+1.6**
	SNR=24						
CHMS	**Chumysh**	**3.02**	**348**	P	**Pn**	**07 02 46.9**	**+1.2**
	SNR=9.9						
CHMS				P	**Pn**	**07 02 46.9**	**+1.2**
	SNR=9.9						
USP	**Ospenovka**	**3.33**	**346**	P	**Pn**	**07 02 50.7**	**+0.8**
	SNR=53						
USP				P	**Pn**	**07 02 50.7**	**+0.8**
	SNR=53						
KK31	**Karatay Array**	**4.89**	**310**	⇑Pg	**Pb**	**07 03 21.2**	**-2.7**
	comp=E,0.5nm,0.3s,baz=129,slow=15,SNR=4.7						
KK31				⇑Lg	Lg	07 04 28.7	
	comp=E,8.1nm,0.5s,baz=125,slow=30,SNR=9.8						
MK31	**Makanchi Array**	**8.32**	**34**	Pn	**Pn**	**07 03 57.3**	**-1.1**
	comp=E,1.2nm,0.5s,baz=211,slow=15,SNR=17						
MK31				⇑Pg	**Pb**	**07 04 24.0**	**+1.8**
	comp=E,1.1nm,0.7s,baz=0.0,slow=0.1,SNR=5.3						
MK31				⇑Lg	Lg	07 06 10.2	
	comp=E,2.9nm,1.1s,baz=217,slow=29,SNR=3.5						
DDI	**Dehra Dun**	**9.90**	**168**	*ex*	Pn	07 04 15.0	-5.1

BJI ***24*** *07:24:36.8, 7.14S×130.64E, h109km, mB5.2/16, mb4.7/31*
ISCJB ***24*** *07:24:41.3±0.2, 6.37S±0.03×130.39E±0.05, h90km, mb4.8/49, Error ellipse: s-maj=6.7km s-min=4.1km az=156.7*
NEIC ***24*** *07:24:44.5±1.4, 6.36S×130.31E, h106km±14km, mb4.7/20, Error ellipse: s-maj=11.6km s-min=7.2km az=50.0*
IDC ***24*** *07:24:48.7±3.2, 6.27S×130.31E, h140km±31km, mb4.0/13, mb1 4.1/16, mb1mx4.1/17, mbtmp4.0/16, MS3.4/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=18.4km s-min=10.9km az=72.0*
DJA ***24*** *07:24:48, 6.26S×130.41E, h136km, mb5.0/32*

ISC 24 07:24:43.3±0.3, **6.49S**±0.04×**130.41E**±0.05, **h90**km, **n143,**
σ2**°17**/164, **mb4.7**/49, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.02**	**346**	P	Pn	07 25 18.9	+3.2
MSAI	**Masohi**	**3.45**	**335**	P	**Pn**	**07 25 37.4**	**+2.5**
FAKI	**Fak Fak**	**3.99**	**27**	P	**Pn**	**07 25 42.8**	**+0.5**
NLAI	**Namlea**	**4.61**	**314**	P	**Pn**	**07 25 53.6**	**+2.9**
SWI	**Sorong**	**5.65**	**9**	P	**Pn**	**07 26 04.2**	**-0.6**
	292nm,0.6s,20μm3.8nm						
LBMI	**Labuha**	**6.50**	**333**	P	**Pn**	**07 26 18.4**	**+2.1**
	323nm,0.9s,9μm3.5nm						
BAKI	**Biak**	**7.75**	**47**	P	Pn	07 26 36.9	+3.5
	1μm,1.0s,15μm5.3nm						
TNTI	**Ternate**	**7.83**	**337**	P	**Pn**	**07 26 34.9**	**+0.4**
	401nm,0.8s,3μm1.2nm						
BBSI	**Bau Bau**	**7.86**	**277**	P	Pn	07 26 41.2	+6.3
	202nm,0.9s,2μm0.7nm						
KDI	**Kendari**	**8.15**	**288**	P	Pn	07 26 44.2	+5.3
	267nm,1.3s,3μm0.9nm						
MMRI	**Maumere**	**8.37**	**255**	P	Pn	07 26 48.9	+7.0
	57nm,1.2s,0.5nm						
WAMI	**Wamena**	**8.67**	**73**	P	Pn	07 26 55.1	+9.2
LUWI	**Luwuk**	**9.34**	**305**	P	Pn	07 26 58.6	+3.5
	120nm,1.2s,1μm						
BKSI	**Bulukumba**	**10.29**	**276**	P	Pn	07 27 18.7	+11
KAPI	**Kappang**	**10.70**	**277**	P	Pn	07 27 18.0	+4.3
	0.5nm,0.3s,baz=123,slow=13,SNR=5.6						
KAPI	**Kappang**	**10.70**	**277**	*e*Pn	**Pn**	**07 27 15.2**	**+1.5**
KAPI	**Kappang**	**10.70**	**277**	P	Pn	07 27 23.8	+10
SPSI	**Sidrap Palu**	**10.88**	**283**	P	Pn	07 27 20.3	+4.1
	45nm,0.8s						
MRSI	**Marisa**	**10.92**	**309**	P	**Pn**	**07 27 18.5**	**+1.8**
	145nm,0.9s,1μm						
FITZ	**Fitzroy Crossi**	**12.44**	**202**	P	**Pn**	**07 27 37.0**	**-0.2**
	15nm,0.3s,baz=33,slow=12,SNR=125						
FITZ				S	**Sn**	**07 29 48.8**	**-5.2**
	9.6nm,0.3s,baz=132,slow=15,SNR=5.7						
FITZ				LR	LR	07 32 31.0	
	comp=Z,119nm,20.6s,baz=46,slow=37						
FITZ	**Fitzroy Crossi**	**12.44**	**202**	*e*P	**Pn**	**07 27 36.5**	**-0.7**
	206nm,0.7s						
FITZ				*e*S	**Sn**	**07 29 49.7**	**-4.3**
FITZ	**Fitzroy Crossi**	**12.44**	**202**	*e*Pn	**Pn**	**07 27 37.0**	**-0.2**
	81nm,0.6s						
FITZ				S	**Sn**	**07 29 48.8**	**-5.2**
WRAB	**Tennant Creek**	**13.90**	**164**	*e*Pn	**Pn**	**07 27 56.7**	**+0.3**
WRAB				*e*Sn	**Sn**	**07 30 25.3**	**-4.1**
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**07 27 56.2**	**-0.2**
	4.0nm,0.3s,baz=348,slow=13,SNR=62						
WRA				S	**Sn**	**07 30 25.6**	**-4.0**
	22nm,0.3s,baz=348,slow=21,SNR=12						
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**07 27 56.2**	**-0.2**
WRA				S	**Sn**	**07 30 25.6**	**-4.0**
WB2	**Warramunga Arr**	**13.91**	**164**	*e*Pn	**Pn**	**07 27 56.6**	**+0.1**
WB2				*e*Sn	**Sn**	**07 30 25.2**	**-4.4**
KBKI	**Kotabaru**	**14.54**	**282**	P	**P**	**07 28 07.5**	**-1.2**
	64nm,1.1s,4μm						
COEN	**Coen**	**14.59**	**122**	*e*Pn	**Pn**	**07 28 06.3**	**+1.0**
COEN				*e*Sn	Sn	07 30 40.1	-6.0
BBKI	**Banjar Baru**	**15.79**	**280**	P	**P**	**07 28 23.7**	**+1.0**
	270nm,1.1s,3μm						
TSM	**Tawau**	**16.47**	**310**	P	**P**	**07 28 29.7**	**-0.5**
MYLDM	**Lahad Datu**	**16.60**	**314**	P	**P**	**07 28 31.3**	**-0.3**
MYLDM	**Lahad Datu**	**16.60**	**314**	P	**P**	**07 28 35.3**	**+3.7**
	41nm,1.3s						
PMG	**Port Moresby**	**16.84**	**101**	P	**P**	**07 28 36.9**	**+2.6**
	5.4nm,0.3s,baz=265,slow=4.2,SNR=16						
PMG				S	**Sn**	**07 31 37.3**	**-3.3**
	3.4nm,0.3s,baz=199,slow=14,SNR=5.9						
PMG	**Port Moresby**	**16.84**	**101**	*e*P	**P**	**07 28 37.7**	**+3.4**
	58nm,1.0s						
PMG				S	**Sn**	**07 31 37.3**	**-3.3**
PMG	**Port Moresby**	**16.84**	**101**	P	**P**	**07 28 38.5**	**+4.2**
	52nm,1.0s						
AS31	**Alice Springs**	**17.41**	**169**	*e*P	**Pn**	**07 28 43.5**	**+3.0**
AS31				*e*S	**Sn**	**07 31 54.8**	**+0.7**
ASAR	**Alice Springs**	**17.41**	**169**	P	**Pn**	**07 28 43.5**	**+3.0**
	7.4nm,0.3s,baz=343,slow=8.2,SNR=405						
ASAR				S	**Sn**	**07 31 49.9**	**-4.3**
	7.6nm,0.3s,baz=351,slow=28,SNR=10.0						
ASAR	**Alice Springs**	**17.41**	**169**	P	**Pn**	**07 28 43.5**	**+3.0**
ASAR				S	**Sn**	**07 31 49.9**	**-4.3**
SDKM	**Sandakan**	**17.86**	**312**	P	**Pn**	**07 28 47.5**	**+1.3**
MBWA	**Marble Bar**	**17.88**	**214**	*e*P	**Pn**	**07 28 47.6**	**+1.5**
	32nm,0.6s						
PWJI	**Pagerwojo**	**18.52**	**264**	P	Pn	07 29 00.2	+6.3
	28nm,2.1s						
SJI	**Sawahan**	**18.54**	**265**	P	**Pn**	**07 28 56.3**	**+2.0**
	47nm,0.3s,11μm						
KKM	**Kota Kinabalu**	**18.86**	**311**	*e*P	**P**	**07 28 55.9**	**-0.7**
	44nm,0.7s						
KKM	**Kota Kinabalu**	**18.86**	**311**	P	**P**	**07 28 56.2**	**-0.4**
KDM	**Kudat**	**18.99**	**314**	P	**P**	**07 28 58.6**	**+0.7**
BTM	**Bintulu**	**19.79**	**299**	P	**P**	**07 29 05.6**	**-1.1**
SBUM	**Sibu**	**20.21**	**296**	P	**P**	**07 29 11.6**	**+0.4**
SBUM	**Sibu**	**20.21**	**296**	P	**P**	**07 29 10.9**	**-0.3**
CTA	**Charters Tower**	**20.48**	**133**	P	Pn	07 29 18.4	+1.4
	7.8nm,0.6s,baz=309,slow=12,SNR=12						
CTA				S	Sn	07 33 05.5	-2.5
	2.6nm,0.4s,baz=237,slow=20,SNR=3.5						
CTA	**Charters Tower**	**20.48**	**133**	*e*P	Pn	07 29 18.7	+1.7
	10nm,0.7s						
CTA				*e*S	**S**	**07 33 02.6**	**+4.2**
CTA	**Charters Tower**	**20.48**	**133**	P	Pn	07 29 18.4	+1.4
CTA				S	Sn	07 33 05.5	-2.5
CTAO	**Charters Tower**	**20.48**	**133**	*e*P	Pn	07 29 19.1	+2.1
	16nm,0.8s						
KSM	**Kuching**	**21.57**	**291**	*e*P	**P**	**07 29 26.5**	**+0.7**
	8.6nm,0.7s						
KSM	**Kuching**	**21.57**	**291**	P	**P**	**07 29 24.4**	**-1.3**
FORT	**Forrest**	**24.26**	**185**	*e*P	**P**	**07 29 54.2**	**+2.2**
	45nm,0.6s						
FORT	**Forrest**	**24.26**	**185**	*e*P	**P**	**07 29 54.4**	**+2.3**
	69nm,0.7s						
GUMO	**Guam**	**24.58**	**36**	P	**P**	**07 29 56.2**	**+1.1**
	64nm,0.8s,baz=171,slow=5.2,SNR=3.9						
GUMO	**Guam**	**24.58**	**36**	P	**P**	**07 29 56.2**	**+1.1**
STKA	**Stephens Creek**	**27.34**	**159**	P	**P**	**07 30 22.6**	**+2.7**
	8.0nm,0.7s,baz=331,slow=9.9,SNR=21						
STKA				LR	LR	07 41 24.8	
	comp=Z,154nm,19.7s,baz=207,slow=36						
STKA	**Stephens Creek**	**27.34**	**159**	*e*P	**P**	**07 30 22.2**	**+2.4**
	5.8nm,0.6s						
STKA	**Stephens Creek**	**27.34**	**159**	*e*P	**P**	**07 30 22.7**	**+2.9**
	68nm,2.9s						
KLBR	**Kellerberrin**	**27.64**	**204**	*e*P	**P**	**07 30 23.9**	**+1.4**
	9.1nm,0.5s						
MYKOM	**Kota Tinggi**	**27.76**	**286**	P	**P**	**07 30 23.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**29.02**	**203**	P	**P**	**07 30 36.8**	**+2.0**
	3.6nm,0.5s,baz=13,slow=6.4,SNR=9.6						
NWAO	**Narrogin (SRO)**	**29.02**	**203**	P	**P**	**07 30 36.8**	**+2.0**
HNR	**Honiara**	**29.40**	**98**	LR	LR	07 42 59.8	
	comp=Z,67nm,20.6s,baz=269,slow=37						
KTGM	**Kuala Trenggan**	**29.65**	**293**	P	**P**	**07 30 40.8**	**+0.2**
IPM	**Ipoh**	**31.29**	**290**	P	**P**	**07 30 55.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.72**	**309**	P	**P**	**07 32 05.6**	**-1.6**
	5.0nm,0.7s,baz=138,slow=6.9,SNR=32						
CMAR	**Chiang Mai Arr**	**39.72**	**309**	P	**P**	**07 32 05.6**	**-1.6**
NJ2	**Nanjing**	**39.88**	**345**	*e*P	**P**	**07 32 07.3**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CHTO	**Chiang Mai**	**39.93**	**310**	*e*P	**P**	**07 32 07.0**	**-2.0**
	comp=Z,5.7nm,0.6s						
GYA	**Guiyang**	**40.04**	**326**	P	**P**	**07 32 11.0**	**+1.1**
GYA				pP	pP	07 32 36.4	+5.4
GYA				sP	sP	07 32 49.8	+8.5
GYA				PP	**PnPn**	**07 33 48.4**	**+0.4**
GYA				PcS	**PcS**	**07 38 03.0**	**-0.9**
GYA				S	**S**	**07 38 08.6**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**41.70**	**332**	*e*P	**P**	**07 32 21.0**	**-2.3**
	comp=Z,5.1nm,0.4s						
MJAR	**Matsushiro Arr**	**43.42**	**9**	P	**P**	**07 32 34.7**	**-2.5**
	comp=Z,7.1nm,0.7s,baz=192,slow=10,SNR=14						
MJAR	**Matsushiro Arr**	**43.42**	**9**	P	**P**	**07 32 34.7**	**-2.5**
MAT	**Matsushiro**	**43.43**	**9**	P	**P**	**07 32 34.4**	**-2.8**
KSAR	**Wonju Array Be**	**43.77**	**357**	P	**P**	**07 32 39.2**	**-0.7**
KSRS	**Korea Array**	**43.78**	**357**	P	**P**	**07 32 39.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=169,slow=8.9,SNR=5.5						
CD2	**Chengdu**	**45.09**	**327**	P	**P**	**07 32 51.0**	**+0.3**
CD2				pP	**pP**	**07 33 16.8**	**+4.6**
CD2				sP	sP	07 33 29.8	+7.4
CD2				PP	**PP**	**07 34 39.0**	**+1.1**
CD2				S	**S**	**07 39 21.3**	**-2.1**
CD2				sS	sS	07 40 06.4	+6.1
CD2				SS	**ScS**	**07 42 37.6**	**-1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,190nm,5.4s						
CD2				LR	LR		
	comp=E,510nm,5.4s						
CD2				LR	LR		
	comp=Z,410nm,5.9s						
BJI	**Beijing**	**48.12**	**345**	P	**P**	**07 33 12.8**	**-1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**49.15**	**331**	*e*P	**P**	**07 33 21.5**	**-0.8**
LZH				pP	**pP**	**07 33 47.3**	**+3.2**
LZH				sP	sP	07 34 00.3	+6.0
LZH				PP	**PP**	**07 35 17.6**	**+0.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,6.2s						
LZH				LR	LR		
	comp=N,250nm,15.5s						
LZH				LR	LR		
	comp=E,200nm,15.0s						
LZH				LR	LR		
	comp=Z,270nm,17.8s						
HHC	**Hu-ho-hao-te**	**50.19**	**341**	*e*P	**P**	**07 33 31.5**	**+1.5**
HHC				pP	pP	07 33 57.4	+5.5
HHC				sP	sP	07 34 10.5	+8.5
HHC				PP	**PP**	**07 35 30.3**	**+4.1**
HHC				S	**S**	**07 40 34.8**	**-0.6**
HHC				sS	sS	07 41 21.0	+8.1
HHC				ScS	**ScS**	**07 43 08.1**	**-4.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,6.2s						
CN2	**Changchun**	**50.26**	**355**	*e*P	**P**	**07 33 29.1**	**-1.2**
CN2				*e*pP	**pP**	**07 33 55.3**	**+3.1**
CN2				*e*S	**S**	**07 40 32.5**	**-3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Arra**	**50.48**	**1**	P	**P**	**07 33 30.2**	**-1.8**
	comp=Z,2.1nm,0.6s,baz=186,slow=7.6,SNR=4.8						
LSA	**Lhasa**	**52.11**	**316**	*e*P	**P**	**07 33 43.6**	**-1.5**
	comp=Z,14nm,0.7s						
ODAN	**Odare**	**53.23**	**310**	*e*P	**P**	**07 33 51.1**	**-2.0**
	comp=Z,55nm,0.6s						
ODAN	**Odare**	**53.23**	**310**	*e*P	**P**	**07 33 51.1**	**-2.0**
	comp=Z,55nm,0.6s						
TAPN	**Taplejung**	**53.25**	**311**	*e*P	**P**	**07 33 51.2**	**-2.1**
	comp=Z,39nm,0.5s						
TAPN	**Taplejung**	**53.25**	**311**	*e*P	**P**	**07 33 51.2**	**-2.1**
	comp=Z,39nm,0.5s						
GTA	**Gaotai**	**53.73**	**331**	⇓P	P	07 33 50.4	-6.0
GTA				pP	pP	07 34 16.9	-1.6
GTA				sP	sP	07 34 29.6	+1.0
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,170nm,5.5s						
GTA				LR	LR		
	comp=N,140nm,14.3s						
GTA				LR	LR		
	comp=E,150nm,15.2s						
GTA				LR	LR		
	comp=Z,140nm,16.6s						
RAMN	**Ramite**	**53.88**	**310**	*e*P	**P**	**07 33 56.1**	**-1.7**
	comp=Z,141nm,0.6s						
RAMN	**Ramite**	**53.88**	**310**	*e*P	**P**	**07 33 56.1**	**-1.7**
	comp=Z,141nm,0.6s						
JIRN	**Jiri**	**54.56**	**311**	*e*P	**P**	**07 34 00.9**	**-2.0**
	comp=Z,53nm,0.6s						
JIRN	**Jiri**	**54.56**	**311**	*e*P	**P**	**07 34 00.9**	**-2.0**
	comp=Z,53nm,0.6s						
GUN	**Gumba**	**54.92**	**311**	*e*P	**P**	**07 34 03.5**	**-2.0**
	comp=Z,107nm,0.6s						
GUN	**Gumba**	**54.92**	**311**	*e*P	**P**	**07 34 03.5**	**-2.0**
	comp=Z,107nm,0.6s						
PKI	**Pulchoki**	**55.10**	**310**	*e*P	**P**	**07 34 04.4**	**-2.4**
	comp=Z,35nm,0.6s						
PKI	**Pulchoki**	**55.10**	**310**	*e*P	**P**	**07 34 04.4**	**-2.4**
	comp=Z,35nm,0.6s						
KKN	**Kakani**	**55.32**	**310**	*e*P	**P**	**07 34 06.1**	**-2.1**
	comp=Z,47nm,0.6s						
KKN	**Kakani**	**55.32**	**310**	*e*P	**P**	**07 34 06.1**	**-2.1**
	comp=Z,47nm,0.6s						
DMN	**Daman**	**55.35**	**310**	*e*P	**P**	**07 34 06.5**	**-2.0**
	comp=Z,50nm,0.7s						
DMN	**Daman**	**55.35**	**310**	*e*P	**P**	**07 34 06.5**	**-2.0**
	comp=Z,50nm,0.7s						
GKN	**Gorkha**	**55.91**	**310**	*e*P	**P**	**07 34 10.2**	**-2.2**
	comp=Z,89nm,0.6s						
GKN	**Gorkha**	**55.91**	**310**	*e*P	**P**	**07 34 10.2**	**-2.2**
	comp=Z,89nm,0.6s						
HYB	**Hyderabad**	**56.46**	**296**	*i* P	P	07 34 13.0	-3.3
KOLN	**Koldanda**	**56.59**	**309**	*e*P	**P**	**07 34 15.4**	**-1.9**
	comp=Z,56nm,0.7s						
KOLN	**Koldanda**	**56.59**	**309**	*e*P	**P**	**07 34 15.4**	**-1.9**
	comp=Z,56nm,0.7s						
DANN	**Dangsing**	**56.76**	**310**	*e*P	**P**	**07 34 16.3**	**-2.3**
	comp=Z,47nm,0.8s						
DANN	**Dangsing**	**56.76**	**310**	*e*P	**P**	**07 34 16.3**	**-2.3**
	comp=Z,47nm,0.8s						
ULN	**Ulaanbaatar**	**57.91**	**342**	*e*P	**P**	**07 34 24.6**	**-1.5**
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**58.09**	**341**	P	**P**	**07 34 26.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=161,slow=7.0,SNR=8.4						
SONM	**Songino Array**	**58.09**	**341**	P	**P**	**07 34 26.5**	**-0.9**
WMQ	**Urumqi**	**63.19**	**327**	P	**P**	**07 35 01.0**	**-1.0**
WMQ				pP	**pP**	**07 35 28.0**	**+3.2**
WMQ				sP	sP	07 35 41.0	+6.3
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**63.72**	**18**	P	**P**	**07 35 04.7**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=204,slow=3.9,SNR=5.9						
PETK	**Petropavlovsk-**	**63.72**	**18**	P	**P**	**07 35 04.7**	**-0.5**
KSH	**Kashi**	**67.92**	**317**	*e*P	**P**	**07 35 32.0**	**-0.7**
KSH				*e*PcP	**PcP**	**07 35 57.8**	**-0.7**
KSH				*e*pP	**pP**	**07 35 59.6**	**+3.9**
KSH				*e*sP	sP	07 36 12.0	+6.5
KSH				PP	**PP**	**07 38 04.9**	**+1.2**
KSH				*e*ScP		07 39 49.6	
KSH				*e*PcS		07 40 01.1	
KSH				*e*S	S	07 44 17.0	-7.6
KSH				*e*sS	**sS**	**07 45 07.6**	**+3.7**
KSH				*e*ScS	**SKiKP**	**07 45 16.4**	**-4.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,150nm,6.3s						
KSH				LR	LR		
	comp=N,250nm,6.7s						
KSH				LR	LR		
	comp=E,280nm,5.6s						
KSH				LR	LR		
	comp=Z,240nm,6.3s						
MK31	**Makanchi Array**	**68.02**	**327**	*e*P	**P**	**07 35 31.6**	**-1.4**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**07 35 31.8**	**-1.3**
	comp=Z,17nm,0.6s,baz=122,slow=7.8,SNR=231						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**07 35 31.8**	**-1.3**
KZA	**Kyzart**	**69.65**	**319**	P	**P**	**07 35 43.3**	**-0.4**
	SNR=8.1						
KZA				P	**P**	**07 35 43.3**	**-0.4**
	SNR=8.1						
TKM2	**Tokmak 2**	**69.85**	**320**	P	**P**	**07 35 43.7**	**-1.0**
	SNR=13						
TKM2				P	**P**	**07 35 43.7**	**-1.0**
	SNR=13						
TKM2	**Tokmak 2**	**69.85**	**320**	*e*P	**P**	**07 35 43.3**	**-1.4**
	comp=Z,8.6nm,0.7s						
AAK	**Ala-Archa**	**70.41**	**320**	P	**P**	**07 35 47.5**	**-0.6**
	SNR=8.7						
AAK				P	**P**	**07 35 47.5**	**-0.6**
	SNR=8.7						
AAK	**Ala-Archa**	**70.41**	**320**	*e*P	**P**	**07 35 47.4**	**-0.7**
	comp=Z,53nm,1.0s						
AML	**Almayashu**	**70.69**	**319**	P	**P**	**07 35 49.5**	**-0.6**
	SNR=19						
AML				P	**P**	**07 35 49.5**	**-0.6**
	SNR=19						
USP	**Ospenovka**	**70.72**	**320**	P	**P**	**07 35 48.6**	**-1.2**
	SNR=24						
USP				P	**P**	**07 35 48.6**	**-1.2**
	SNR=24						
KBL	**Kabul**	**70.75**	**310**	*e*P	**P**	**07 35 48.5**	**-1.8**
	comp=Z,8.2nm,0.8s						
EKS2	**Erkin-Say**	**70.89**	**319**	P	**P**	**07 35 50.4**	**-0.5**
	SNR=16						
EKS2				P	**P**	**07 35 50.4**	**-0.5**
	SNR=16						
EKS2	**Erkin-Say**	**70.89**	**319**	*e*P	**P**	**07 35 50.1**	**-0.9**
	comp=Z,11nm,0.8s						
ZAA0	**Zalesovo Array**	**71.31**	**334**	*e*P	**P**	**07 35 50.5**	**-2.5**
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**07 35 50.9**	**-2.1**
	comp=Z,2.9nm,0.7s,baz=117,slow=5.7,SNR=18						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**07 35 50.9**	**-2.1**
KURK	**Kurchatov**	**72.30**	**328**	*e*P	**P**	**07 35 57.3**	**-1.7**
	comp=Z,14nm,1.3s						
KKAR	**Karatay Array**	**73.23**	**319**	*e*P	**P**	**07 36 03.2**	**-1.5**
	comp=Z,3.1nm,0.6s						
**BRVK

	15nm,0.3s							
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn		**Pn**	**07 30 57.2**	**-0.9**
MORC				*e*Sg		**Sg**	**07 31 25.9**	**-0.4**
CLL	**Collm**	**1.96**	**266**	*e*Pn		**Pn**	**07 30 57.0**	**-1.2**
CLL				*e*Pg		**Pb**	**07 31 00.0**	**-0.3**
CLL				*i*			07 31 03.0	
CLL				*i* Sg		**Sb**	**07 31 26.5**	**+1.2**
	comp=Z,9.0nm,0.4s							
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*SG		**Sb**	**07 31 29.3**	**-0.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	Sg		**Sb**	**07 31 29.3**	**-0.2**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn		**Pn**	**07 31 02.4**	**+0.6**
VRAC				*e*SG		**Sb**	**07 31 33.5**	**+0.9**
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN		**Pn**	**07 31 07.6**	**-0.1**
NKC				*e*PG		**Pb**	**07 31 12.9**	**+0.9**
NKC				*e*SG		**Sg**	**07 31 48.8**	**0.0**
	comp=Z,11nm,0.3s							
NKC	**Novy Kostel**	**2.65**	**243**	Pn		**Pn**	**07 31 07.6**	**-0.1**
NKC	**Novy Kostel**	**2.65**	**243**	Pg		**Pb**	**07 31 12.9**	**+0.9**
NKC				Sg		**Sg**	**07 31 48.8**	**0.0**
	comp=Z,11nm,0.3s							
OJC	**Ojcow**	**2.66**	**117**	*e*Pg		**Pg**	**07 31 14.6**	**-0.2**
OJC				*e*Sg		**Sg**	**07 31 49.3**	**+0.1**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg		**Pg**	**07 31 14.6**	**-0.2**
OJC				*e*Sg		**Sg**	**07 31 49.3**	**+0.1**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN		**Pn**	**07 31 10.7**	**-0.2**
KHC				*e*PG		**Pb**	**07 31 16.3**	**+0.4**
KHC				*e*SG		**Sg**	**07 31 54.2**	**-1.9**
KHC	**Kasperske Hory**	**2.87**	**215**	Pn		**Pn**	**07 31 10.7**	**-0.2**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg		**Pb**	**07 31 16.3**	**+0.4**
KHC				Sg		**Sg**	**07 31 54.2**	**-1.9**

NIED ***24*** *07:53:00.37.20N×142.20E,h32km,Mw3.5 Best double couple: M₀1.68000×10¹⁴ NP1:φ₀329.00000°,δ60.00000°, λ77.00000°. NP2:φ₀174.00000°,δ32.00000°,λ112.00000°.*
IDC ***24*** *07:53:26.5±5.4,37.18N×142.36E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/22,mbtmp3.3/4,ML3.3/1,Error ellipse: s-maj=133.6km s-min=27.8km az=159.0*
JMA ***24*** *07:53:27.5±0.3,37.17N×142.19E,h31km±5km,M3.6*
ISC 24 07:53:27.7±3.9,37.29N±0.08×142.1E±0.1,h9km±29km, n14,σ0.96/17,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**275**	P	**Pb**	**07 53 46.5**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.04**	**260**	P	**Pb**	**07 53 47.3**	**-0.7**
JMM	**Marumori**	**1.18**	**300**	P	**Pn**	**07 53 50.0**	**-0.4**
JMM				*e*S	**Sb**	**07 54 06.2**	**+0.6**
JIO	**Ouri**	**1.30**	**334**	P	**Pn**	**07 53 51.8**	**-0.3**
JIO				*e*S	**Sn**	**07 54 09.1**	**-0.5**
JFT	**Otama**	**1.41**	**280**	P	**Pb**	**07 53 54.0**	**-0.2**
JFT				*e*S	**Sn**	**07 54 12.1**	**-0.2**
JOU	**Okura**	**1.56**	**314**	P	**Pb**	**07 53 56.7**	**0.0**
JOU				S	**Sb**	**07 54 17.2**	**+0.7**
JMK	**Ichinoseki**	**1.80**	**338**	P	**Pn**	**07 53 59.3**	**+0.4**
JYS	**Shirataka**	**1.85**	**301**	P	**Pb**	**07 54 01.3**	**-0.4**
JYS				*e*S	**Sb**	**07 54 25.2**	**+0.2**
JAG	**Ashikaga**	**2.28**	**249**	P	**Pn**	**07 54 05.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.19**	**258**	Pn	Pn	07 54 19.9	+1.8
	2.9nm,0.3s,baz=90,slow=14,SNR=20						
MJAR				Sn	**Sb**	**07 55 03.5**	**-0.1**
	1.7nm,0.3s,baz=74,slow=14,SNR=4.2						
MAT	**Matsushiro**	**3.19**	**258**	P	**Pn**	**07 54 20.8**	**+2.7**
MAT				*e*S	**Sb**	**07 55 02.1**	**-1.6**
SONM	**Songino Array**	**28.09**	**303**	P	P	07 59 21.7	+1.9
	0.3nm,0.5s,baz=100,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**44.44**	**302**	P	P	08 01 41.1	+2.2
	0.3nm,0.6s,baz=85,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**48.99**	**32**	P	P	08 02 14.2	-0.1
	0.5nm,0.9s,baz=264,slow=7.0,SNR=4.5						

ISCJB ***24*** *07:58:38.2±0.5,32.11N±0.02×115.65W±0.02,h11km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=179.8*
NEIC ***24*** *07:58:40.2±0.7,32.12N×115.71W,h6km,ML3.8(ECX), ML3.6(PAS),After ECX.*
ECX ***24*** *07:58:40.2±0.7,32.12N×115.71W,h6km,MD3.6,ML3.8*
ISC 24 07:58:38.4±1.0,32.12N±0.02×115.68W±0.02,h11km±8km, n39,σ1s26/59,21C-10D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.29**	**230**	⇑*i*P	**Pg**	**07 58 45.0**	**+0.6**
RDX				*e*S	**Sg**	**07 58 48.7**	**+0.3**
EMX	**El Mayor**	**0.39**	**109**	⇑*i*P	Pg	07 58 44.2	-2.0
EMX				*e*S	**Sg**	**07 58 49.8**	**-1.6**
CPBX	**Cerro Prieto**	**0.44**	**46**	⇑*e*P	**Pg**	**07 58 48.4**	**+1.4**
SGL	**Mount Signal**	**0.53**	**356**	⇑*e*P	**Pg**	**07 58 49.5**	**+0.7**
YUH	**Yuha Desert**	**0.57**	**339**	⇑*e*P	**Pg**	**07 58 49.8**	**+0.3**
RMX	**La Rumorosa**	**0.59**	**325**	⇑*e*P	**Pg**	**07 58 50.1**	**+0.2**
RMX				*e*S	**Sg**	**07 58 52.2**	**+0.4**
DVTC	**Desert V Tower**	**0.65**	**327**	P	**Pg**	**07 58 51.3**	**+0.2**
	baz=0.6,SNR=298						
DVTC				⇓S	**Sg**	**07 58 59.4**	**-0.2**
	baz=0.6						
SWSC	**Sam W. Stewart**	**0.83**	**353**	⇓P	**Pg**	**07 58 54.7**	**+0.3**
	baz=0.8,SNR=86						
SWSC				⇓S	**Sg**	**07 59 05.6**	**+0.3**
	baz=0.8						
ECBX	**El Chinero**	**0.83**	**140**	⇓*e*P	Pg	07 58 51.7	-2.8
ECBX				*e*S	Sg	07 59 01.0	-4.4
ECBX				*e*		07 59 02.2	
	comp=N,2μm,0.2s						
ECBX				⇓*e*		07 59 06.0	
	comp=E,3μm,0.6s						
CBX	**Cerro Bola**	**0.86**	**284**	⇑*i*P	**Pg**	**07 58 55.0**	**+0.1**
CBX				*e*S	**Sg**	**07 59 06.1**	**-0.1**
ECNX	**Esteban Cantu**	**0.91**	**240**	⇑*e*P	**Pb**	**07 58 56.0**	**-0.2**
ECNX				⇑*e*P	**Pg**	**07 58 55.5**	**-0.4**
ECNX				*e*S	**Sg**	**07 59 06.9**	**-0.8**
ECNX				*e*S	**Sb**	**07 59 07.8**	**-0.5**
PBX	**Punta Banda**	**0.96**	**248**	⇑*e*P	**Pg**	**07 58 57.0**	**0.0**
PBX				*e*S	**Sg**	**07 59 09.6**	**0.0**
PBX				⇓*e*		07 59 10.4	
	comp=N,3μm,0.4s						
MONP	**Monument Peak**	**0.99**	**321**	⇓P	**Pg**	**07 58 57.5**	**-0.1**
	baz=1.0,SNR=723						
MONP				⇑S	**Sg**	**07 59 09.9**	**-0.7**
	baz=1.0						
BAR	**Barrett**	**1.01**	**304**	*e*Pn	**Pg**	**07 58 57.3**	**-0.6**
BAR				*e*Sn	**Sg**	**07 59 10.0**	**-1.1**
YMD	**Yuma Desert**	**1.05**	**65**	⇑*e*P	**Pg**	**07 58 59.5**	**+0.7**
SPX	**San Pedro Mart**	**1.08**	**170**	⇓*e*P	**Pg**	**07 58 59.5**	**+0.2**
SPX				*e*S	**Sg**	**07 59 14.2**	**+0.8**
SPX				⇑*e*		07 59 18.5	
	comp=N,1μm,0.4s						
GLA	**Glamis**	**1.18**	**37**	*e*Pn	**Pg**	**07 58 59.7**	**-1.3**
GLA				*e*Sn	**Sg**	**07 59 15.3**	**-1.1**
GLA	**Glamis**	**1.18**	**37**	P	**Pg**	**07 58 59.8**	**-1.2**
	baz=1.2,SNR=99						
GLA				⇑S	**Sg**	**07 59 14.8**	**-1.6**
	baz=1.2						
109C	**Camp Elliot, M**	**1.43**	**303**	P	Pn	**07 59 04.3**	**0.0**
	baz=1.4,SNR=169						
109C				⇑S	**Sb**	**07 59 22.2**	**-1.1**
	baz=1.4						
113A	**Mohawk Valley,**	**1.74**	**68**	P	**Pn**	**07 59 08.2**	**-0.4**
	baz=1.8,SNR=83						
113A				⇑S	**Sn**	**07 59 29.2**	**-1.6**
	baz=1.8						
Y12C	**Blythe**	**1.90**	**30**	⇓P	**Pn**	**07 59 10.5**	**-0.3**
	baz=1.9,SNR=10						
BELC	**Belle Mtn. Jos**	**1.90**	**352**	⇑Pn	**Pn**	**07 59 10.4**	**-0.5**
	baz=1.9,SNR=12						
MURC	**Murrieta**	**1.96**	**320**	⇑Pb	**Pn**	**07 59 13.5**	**+1.9**
	baz=1.9,SNR=32						
MURC				⇑Sb	**Sn**	**07 59 38.6**	**+2.3**
	baz=1.9						
Z13A	**Yuma Proving G**	**2.02**	**57**	Pn	**Pn**	**07 59 12.3**	**-0.2**
	baz=2.0,SNR=62						
214A	**Organ Pipe Nat**	**2.44**	**93**	⇓Pn	**Pn**	**07 59 17.7**	**-0.6**
	baz=2.5,SNR=27						
114A	**Black Gap (USA**	**2.45**	**74**	Pn	**Pn**	**07 59 18.1**	**-0.2**
	baz=2.5,SNR=21						
Z14A	**Wintersburg**	**2.62**	**61**	⇑Pn	**Pn**	**07 59 20.6**	**-0.1**
	baz=2.6,SNR=9.6						
CIS	**Catalina Islan**	**2.63**	**300**	Pn	**Pn**	**07 59 21.0**	**+0.1**
	baz=2.6,SNR=53						
CIS				⇑Sb	**Sb**	**07 59 59.5**	**+1.5**
	baz=2.6						
MWC	**Mount Wilson**	**2.90**	**317**	*e*Pn	Pn	07 59 29.1	+4.3
MWC				*e*Sg	**Sb**	**08 00 06.1**	**+0.3**
PASC	**Pasadena Art C**	**2.94**	**315**	*e*Pn	**Pb**	**07 59 29.8**	**-1.1**
PASC				*e*Sg	**Sb**	**08 00 08.5**	**+1.8**
GSC	**Goldstone**	**3.31**	**344**	*e*Pn	**Pn**	**07 59 32.5**	**+2.2**
GSC				*e*Pg	**Pg**	**07 59 42.4**	**+0.5**
TUC	**Tucson**	**4.15**	**86**	*e*Pn	**Pn**	**07 59 43.1**	**+1.3**
TUC				*e*Pg	**Pg**	**08 00 00.7**	**+2.7**
TUC				*e*Sg	**Sg**	**08 00 50.0**	**-1.8**
ISA	**Isabella**	**4.23**	**327**	*e*Pn	**Pn**	**07 59 43.4**	**+0.4**
ISA				*e*Pg	**Pg**	**07 59 58.0**	**-1.5**
ISA				*e*Sg	**Sb**	**08 00 48.4**	**+4.3**
WUAZ	**Wupatki**	**4.93**	**45**	*e*Pn	**Pn**	**07 59 54.6**	**+2.0**
CCUT	**Cedar City**	**5.75**	**19**	*e*Pn	**Pn**	**08 00 06.1**	**+2.2**
	comp=N,4.0nm,0.7s						
ARUT	**Antelope Range**	**5.95**	**17**	*e*Pn	**Pn**	**08 00 08.2**	**+1.6**
	comp=N,6.3nm,0.6s						
ARUT				*e*Sg	Sg	08 01 57.5	+8.1
MSU	**Marysvale**	**6.99**	**23**	*e*Pn	Pn	08 00 26.5	+5.5
	comp=N,5.1nm,0.7s						
MVCO	**Mesa Verde**	**7.80**	**47**	*e*Pn	Pn	08 00 35.3	+3.3
	comp=N,3.9nm,0.6s						
PV04	**Paradox Valley**	**8.36**	**40**	*e*Pn	Pn	08 00 45.1	+5.4

IDC ***24*** *08:00:53.0±1.0,29.68N×105.72E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/24,mbtmp3.6/7,ML4.3/1,MS3.4/2, Ms1 3.4/2,ms1mx2.6/33,Error ellipse: s-maj=48.7km s-min=19.6km az=62.0*
BJI ***24*** *08:00:53.3,29.44N×105.73E,h12km,mb3.9/2,ML3.6/18*
ISCJB ***24*** *08:00:55.8±0.6,29.51N±0.06×105.6E±0.1,h29km, mb3.6/6,MS3.4/1,Error ellipse: s-maj=12.6km s-min=7.8km az=170.2*
ISC 24 08:00:57.9±0.7,29.45N±0.04×105.53E±0.08,h29km,n16, σ1s59/18,mb3.6/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.11**	**314**	Pg	**Pn**	**08 01 31.8**	**+0.5**
CD2				Sg	**Sb**	**08 02 01.6**	**+0.2**
CD2				*s*max	*s*max		
	comp=N,2μm,0.6s						
CD2				*s*max	*s*max		
	comp=E,2μm,0.7s						
GYA	**Guiyang**	**3.15**	**161**	Pn	**Pn**	**08 01 44.3**	**-1.3**
GYA				Pg	**Pb**	**08 01 51.8**	**-1.4**
GYA				Sn	**Sn**	**08 02 22.1**	**-0.2**
GYA				Sg	**Sb**	**08 02 33.8**	**+2.6**
GYA				*s*max	*s*max		
	comp=N,260nm,0.9s						
GYA				*s*max	*s*max		
	comp=E,290nm,0.8s						
KMI	**Kunming**	**4.98**	**211**	Pn	**Pn**	**08 02 13.3**	**+2.4**
KMI				*s*max	*s*max		
	comp=N,15nm,0.9s						
KMI				*s*max	*s*max		
	comp=E,20nm,1.0s						
XAN	**Xi'an**	**5.41**	**31**	Pn	**Pn**	**08 02 15.0**	**-1.6**
XAN				Pg	**Pb**	**08 02 31.1**	**-0.5**
XAN				Sg	Sb	08 03 43.3	+7.3
XAN				*s*max	*s*max		
	comp=N,220nm,0.9s						
XAN				*s*max	*s*max		
	comp=E,83nm,0.9s						
LZH	**Lanzhou**	**6.76**	**348**	*e*Pg	Pb	08 02 58.0	+3.2
LZH				Sg	Sb	08 04 26.4	+11
LZH				*s*max	*s*max		
	comp=N,52nm,1.2s						
LZH				*s*max	*s*max		
	comp=E,63nm,1.1s						
WHN	**Wuhan**	**7.72**	**80**	P	**Pn**	**08 02 51.0**	**+2.6**
WHN				S	Sn	08 04 07.0	-7.9
HHC	**Hu-ho-hao-te**	**12.39**	**22**	*e*P	Pn	08 03 47.9	-4.4
HHC				*p*max	*p*max		
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**12.49**	**210**	Pn	**Pn**	**08 03 54.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=19,slow=13,SNR=6.9						
SONM	**Songino Array**	**18.37**	**2**	P	**Pn**	**08 05 09.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=7.1						
SONM				LR	LR	08 13 10.3	
	comp=Z,84nm,19.3s,baz=208,slow=41						
MKAR	**Makanchi Array**	**25.03**	**320**	P	**P**	**08 06 18.4**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=125,slow=10.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**28.74**	**334**	P	**P**	**08 06 51.0**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=131,slow=9.8,SNR=6.0						
KURK	**Kurchatov**	**29.30**	**324**	LR	LR	08 19 30.0	
	comp=Z,93nm,18.3s,baz=180,slow=38						
BVAR	**Borovoye Array**	**34.85**	**323**	P	**P**	**08 07 45.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=116,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**56.42**	**147**	P	**P**	**08 10 37.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=336,slow=8.1,SNR=3.3						
ASAR	**Alice Springs**	**59.45**	**150**	P	**P**	**08 10 59.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=334,slow=6.9,SNR=7.0						
YKA	**Yellowknife Ar**	**82.89**	**18**	P	**P**	**08 13 17.4**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=327,slow=5.2,SNR=6.3						

NEIC ***24*** *08:19:18.8,17.36N×94.63W,h155km,MD3.9(MEX),After MEX.*
MEX 24 08:19:18.8±0.7,17.36N×94.63W,h155km±8km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.36**	**223**	*i* P	Pn	08 19 38.8	-1.4
CMIG				*e*S	Sn	08 19 54.0	-2.5
CMIG	**Matias Romero**	**0.36**	**223**	*i* P	Pn	08 19 38.8	-1.4
CMIG				*e*S	Sn	08 19 54.0	-2.5
TGIG		**1.55**	**112**	*i* P	Pn	08 19 47.7	-1.7
TGIG				*e*S	Sn	08 20 11.1	-1.7
TGIG		**1.55**	**112**	*i* P	Pn	08 19 47.7	-1.7
TGIG				*e*S	Sn	08 20 11.1	-1.7
VHO	**Vista Hermosa**	**2.03**	**262**	*i* P	Pn	08 19 53.6	-1.3
VHO				*e*S	Sn	08 20 21.7	-1.0
VHO	**Vista Hermosa**	**2.03**	**262**	*i* P	Pn	08 19 53.6	-1.3
VHO				*e*S	Sn	08 20 21.7	-1.0
HUIG	**Huatulco**	**2.12**	**222**	*i* P	Pn	08 19 53.1	-2.7
HUIG				*e*S	Sn	08 20 22.4	-1.8
HUIG	**Huatulco**	**2.12**	**222**	*i* P	Pn	08 19 53.1	-2.7
HUIG				*e*S	Sn	08 20 22.4	-1.8
PCIG		**2.13**	**140**	*e*P	Pn	08 19 54.8	-0.9
PCIG				*i* S	Sn	08 20 22.1	-2.1
PCIG		**2.13**	**140**	*e*P	Pn	08 19 54.8	-0.9
PCIG				*i* S	Sn	08 20 22.1	-2.1
PNIG	**Pinotepa**	**3.49**	**255**	*i* P	Pn	08 20 10.0	-2.6
PNIG				*e*S	Sn	08 20 52.1	-2.3
PNIG	**Pinotepa**	**3.49**	**255**	*i* P	Pn	08 20 10.0	-2.6
PNIG				*e*S	Sn	08 20 52.1	-2.3

ISCJB ***24*** *08:38:51.0±0.4,0.50N±0.04×124.62E±0.05,h169km±4km, mb4.5/48,Error ellipse: s-maj=8.5km s-min=5.3km az=152.7*
DJA ***24*** *08:38:51,0.62N×124.55E,h161km,MLv4.8/10*
BJI ***24*** *08:38:52.2,0.40N×124.70E,h186km,mB4.9/17,mb4.6/28*
IDC ***24*** *08:38:54.0±1.8,0.45N×124.48E,h193km±17km,mb4.1/18, mb1 4.2/20,mb1mx4.1/23,mbtmp4.1/20,Error ellipse: s-maj=15.5km s-min=7.1km az=75.0*
NEIC ***24*** *08:38:55.1±1.6,0.43N×124.64E,h201km±17km,mb4.5/21, Error ellipse: s-maj=14.3km s-min=7.1km az=64.0*
ISC 24 08:38:52.1±0.8,0.50N±0.05×124.63E±0.06,h168km±7km, n110,σ1s29/116,mb4.5/48,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.66**	**277**	P	**Pn**	**08 39 15.1**	**-1.1**
MNI	**Manado**	**0.96**	**12**	P	**Pn**	**08 39 17.6**	**-0.7**
MRSI	**Marisa**	**2.69**	**270**	P	**Pn**	**08 39 34.5**	**-1.9**
TNTI	**Ternate**	**2.75**	**84**	P	**Pn**	**08 39 37.0**	**-0.1**
LBMI	**Labuha**	**3.08**	**111**	P	**Pn**	**08 39 40.6**	**-0.6**
NLAI	**Namlea**	**4.46**	**146**	P	**Pn**	**08 39 58.6**	**-0.1**
KDI	**Kendari**	**4.86**	**204**	P	**Pn**	**08 40 04.6**	**+0.6**
AAI	**Ambon**	**5.47**	**139**	P	Pn	08 40 17.4	+5.4
MSAI	**Masohi**	**5.75**	**132**	P	**Pn**	**08 40 16.0**	**+0.4**
	27nm,0.7s,2μm0.7nm						
SPSI	**Sidrap Palu**	**6.58**	**228**	P	**Pn**	**08 40 27.2**	**+0.6**
	77nm,0.6s,2μm0.9nm						
BNDI	**Bandanaira**	**7.25**	**133**	P	Pn	08 40 30.4	-5.1
KAPI	**Kappang**	**7.33**	**222**	P	**Pn**	**08 40 36.2**	**-0.4**
	5.7nm,0.3s,baz=45,slow=4.4,SNR=14						
KAPI	**Kappang**	**7.33**	**222**	*e*Pn	**Pn**	**08 40 35.8**	**-0.8**
	290nm,0.5s						
KKM	**Kota Kinabalu**	**10.05**	**303**	*e*Pn	Pn	08 41 18.0	+5.4
KSM	**Kuching**	**14.36**	**274**	*e*Pn	**P**	**08 42 11.6**	**+1.5**
	14nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.51**	**177**	P	**P**	**08 42 55.7**	**0.0**
	4.5nm,0.3s,baz=14,slow=9.5,SNR=54						
FITZ	**Fitzroy Crossi**	**18.51**	**177**	*e*P	**P**	**08 42 55.4**	**-0.3**
	26nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.51**	**177**	P	**P**	**08 42 55.7**	**0.0**
WRAB	**Tennant Creek**	**22.43**	**155**	*e*P	**P**	**08 43 36.3**	**-0.8**
	44nm,0.7s						
WRA	**Warramunga Arr**	**22.43**	**155**	P	**P**	**08 43 35.7**	**-1.4**
	38nm,0.6s,baz=334,slow=9.8,SNR=178						
WRA				S	**S**	**08 47 28.0**	**-2.9**
	1.2nm,0.8s,baz=326,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**22.43**	**155**	P	**P**	**08 43 35.8**	**-1.4**
WRA				S	**S**	**08 47 28.0**	**-2.9**
WB2	**Warramunga Arr**	**22.43**	**155**	*e*P	**P**	**08 43 36.4**	**-0.7**
TPUB	**Ta-pu**	**23.00**	**351**	*e*P	**P**	**08 43 41.2**	**-1.1**
	46nm,0.9s						
COEN	**Coen**	**23.31**	**129**	*e*P	**P**	**08 43 45.2**	**0.0**
	27nm,0.4s						
COEN	**Coen**	**23.31**	**129**	*e*P	**P**	**08 43 45.2**	**0.0**
	38nm,0.6s						
QIZ	**Qiongzhong**	**23.45**	**323**	P	**P**	**08 43 48.5**	**+2.1**
YHNB	**Yeheng**	**24.24**	**353**	*e*P	**P**	**08 43 54.8**	**+1.2**
	13nm,0.5s						
PMG	**Port Moresby**	**24.49**	**114**	P	**P**	**08 43 57.1**	**+1.1**
	9.6nm,0.6s,baz=260,slow=4.1,SNR=8.9						
PMG	**Port Moresby**	**24.49**	**114**	P	**P**	**08 43 57.1**	**+1.1**
QIS	**Mount Isa**	**25.55**	**146**	*e*P	**P**	**08 44 05.7**	**+0.2**
AS31	**Alice Springs**	**25.65**	**160**	*e*P	**P**	**08 44 07.1**	**+0.7**
ASAR	**Alice Springs**	**25.65**	**160**	P	**P**	**08 44 06.4**	**0.0**
	4.1nm,0.5s,baz=333,slow=7.3,SNR=95						
ASAR				*p*P	*p*P	08 44 45.5	+4.5
	3.6nm,1.0s,baz=332,slow=8.5,SNR=6.2						
ASAR				S	**S**	**08 48 22.2**	**-0.2**
	0.5nm,0.9s,baz=355,slow=21,SNR=3.8						
ASAR				*Sc*P	**ScP**	**08 50 56.5**	**+0.1**
	0.6nm,0.7s,baz=350,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**25.65**	**160**	P	**P**	**08 44 06.4**	**0.0**
ASAR				*p*P	*p*P	08 44 45.5	+4.5
ASAR				S	**S**	**08 48 22.2**	**-0.2**
ASAR				*Sc*P	**ScP**	**08 50 56.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.90**	**307**	P	**P**	**08 44 53.6**	**+0.6**
	1.1nm,0.4s,baz=140,slow=7.8,SNR=7.5						
CMAR	**Chiang Mai Arr**	**30.90**	**307**	P	**P**	**08 44 53.6**	**+0.6**
GYA	**Guiyang**	**31.07**	**328**	*e*P	P	08 44 57.6	+3.0
GYA				*p*P	*p*P	08 45 36.0	+6.2
GYA				*s*P	*s*P	08 45 58.9	+10
GYA				*Sc*S	**ScS**	**08 55 08.3**	**-2.8**
GYA				*p*max	*p*max		
	comp=Z,10.0nm,0.8s						
CBIJ	**Chichi jima**	**31.37**	**31**	P	**P**	**08 44 56.8**	**-0.2**
	comp=Z,46nm,0.4s,baz=316,slow=14,SNR=8.0						
CBIJ	**Chichi jima**	**31.37**	**31**	P	**P**	**08 44 56.8**	**-0.2**
NJ2	**Nanjing**	**31.86**	**351**	*e*P	P	08 45 05.5	+4.3
NJ2				*p*max	*p*max		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**32.36**	**321**	P	P	08 45 09.6	+3.6
KMI				*p*max	*p*max		
	comp=Z,5.0nm,0.9s						
ENH	**Enshi**	**32.93**	**335**	*e*P	**P**	**08 45 11.8**	**+1.2**
	comp=Z,5.6nm,0.5s						
JNU	**Nakatsue**	**32.98**	**10**	P	**P**	**08 45 10.3**	**-0.8**
	comp=Z,12nm,1.0s,baz=150,slow=10,SNR=3.5						
JNU	**Nakatsue**	**32.98**	**10**	P	**P**	**08 45 10.3**	**-0.8**
STKA	**Stephens Creek**	**35.98**	**155**	P	**P**	**08 45 37.5**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=333,slow=8.7,SNR=27						
STKA	**Stephens Creek**	**35.98**	**155**	*e*P	**P**	**08 45 37.5**	**+0.6**
	comp=Z,4.4nm,0.4s						
STKA	**Stephens Creek**	**35.98**	**155**	*e*P	**P**	**08 45 37.2**	**+0.4**
	comp=Z,2.3nm,0.9s						
CD2	**Chengdu**	**36.15**	**329**	P	P	08 45 41.8	+3.4
CD2				*p*P	*p*P	08 46 21.5	+7.3
CD2				*s*P	*s*P	08 46 42.9	+9.5
CD2				S	**S**	**08 51 08.6**	**+2.8**
CD2				*p*max	*p*max		
	comp=Z,10.0nm,0.5s						
CD2				*p*max	*p*max		
	comp=Z,230nm,5.4s						
XAN	**Xi'an**	**36.47**	**338**	P	**P**	**08 45 41.8**	**+0.7**
XAN				*p*max	*p*max		
	comp=Z,2.0nm,0.8s						
XAN				*p*max	*p*max		
	comp=Z,17nm,3.8s						
KSAR	**Wonju Array Be**	**36.89**	**4**	P	**P**	**08 45 45.5**	**+1.1**
KSRS	**Korea Array**	**36.90**	**4**	P	**P**	**08 45 45.5**	**+1.0**
	comp=Z,3.2nm,0.5s,baz=177,slow=9.3,SNR=13						
CMSA	**Cobar Meteorol**	**37.60**	**150**	*e*P	**P**	**08 45 51.8**	**+1.3**
	comp=Z,64nm,0.6s						
MAJO	**Matsushiro**	**38.01**	**18**	*e*P	**P**	**08 45

MKAR	**Makanchi Array**	**59.06**	**327**	P	**P**	08 48 33.2	**-1.3**
MKAR				pP	**PcP**	**08 49 18.4**	**-3.1**
PETK	**Petropavlovsk-**	**59.20**	**23**	P	**P**	**08 48 36.5**	**+1.2**
	comp=Z,6.7nm,0.7s,baz=187,slow=5.0,SNR=11						
PETK	**Petropavlovsk-**	**59.20**	**23**	P	**P**	**08 48 36.5**	**+1.2**
KZA	**Kyzart**	**60.63**	**320**	P	**P**	08 48 47.9	+2.1
	SNR=6.3						
KZA				P	P	08 48 47.9	+2.1
	SNR=6.3						
TKM2	**Tokmak 2**	**60.83**	**321**	P	**P**	**08 48 48.4**	**+1.5**
	SNR=7.4						
TKM2				P	**P**	**08 48 48.4**	**+1.5**
	SNR=7.4						
AAK	**Ala-Archa**	**61.39**	**320**	*eP*	**P**	**08 48 51.8**	**+1.2**
	comp=Z,22nm,0.9s						
AML	**Almayashu**	**61.67**	**319**	P	**P**	**08 48 54.4**	**+1.6**
	SNR=7.7						
AML				P	**P**	**08 48 54.4**	**+1.6**
	SNR=7.7						
USP	**Ospenovka**	**61.70**	**320**	P	**P**	**08 48 53.9**	**+1.4**
	SNR=8.3						
USP				P	**P**	**08 48 53.9**	**+1.4**
	SNR=8.3						
EKS2	**Erkin-Say**	**61.87**	**320**	P	**P**	**08 48 55.7**	**+1.9**
	SNR=5.7						
EKS2				P	**P**	**08 48 55.7**	**+1.9**
	SNR=5.7						
KBL	**Kabul**	**61.88**	**309**	*eP*	**P**	**08 48 54.1**	**0.0**
	comp=Z,3.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.55**	**335**	P	**P**	**08 48 55.9**	**-2.0**
	comp=Z,3.0nm,0.8s,baz=128,slow=5.7,SNR=9.4						
ZALV	**Zalesovo Beam**	**62.55**	**335**	P	**P**	**08 48 55.9**	**-2.0**
KURK	**Kurchatov**	**63.38**	**329**	P	**P**	**08 49 01.7**	**-1.7**
	comp=Z,6.0nm,0.6s,baz=131,slow=5.9,SNR=44						
KURK	**Kurchatov**	**63.38**	**329**	*eP*	**P**	**08 49 02.1**	**-1.3**
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**64.21**	**319**	*eP*	**P**	**08 49 09.8**	**+0.7**
	comp=Z,4.6nm,0.8s						
BVAR	**Borovoye Array**	**68.91**	**328**	P	**P**	**08 49 37.8**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=131,slow=10,SNR=12						
BVAR	**Borovoye Array**	**68.91**	**328**	P	**P**	**08 49 37.8**	**-0.8**
ABKAR	**Akbulak array**	**73.35**	**322**	*eP*	**P**	**08 50 05.4**	**0.0**
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**88.90**	**25**	P	**P**	**08 51 25.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=248,slow=5.0,SNR=5.1						
ILAR	**Eielson Array**	**88.90**	**25**	P	**P**	**08 51 25.9**	**-1.2**
ARCES	**ARCESS Array B**	**92.74**	**340**	P	**P**	**08 51 43.1**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=97,slow=7.8,SNR=7.2						
ARCES	**ARCESS Array B**	**92.74**	**340**	P	**P**	**08 51 43.1**	**-1.7**
FINES	**FINESS Array B**	**93.67**	**332**	P	**P**	**08 51 47.6**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=183,slow=29,SNR=3.6						
FINES	**FINESS Array B**	**93.67**	**332**	P	**P**	**08 51 47.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**121.85**	**286**	PKP	**PKPdf**	**08 57 25.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=133,slow=1.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**121.85**	**286**	PKP	**PKPdf**	**08 57 25.8**	**-1.5**
SCHQ	**Schefferville**	**124.06**	**8**	PKP	**PKPdf**	**08 57 30.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=351,slow=5.2,SNR=3.9						
SCHQ	**Schefferville**	**124.06**	**8**	PKP	**PKPdf**	**08 57 30.9**	**+0.5**

IDC 24 08:40:08.8±1.1, 7.66S×118.65E, h32km±5km, mb3.7/5, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML4.1/2, Error ellipse: s-maj=39.4km s-min=20.0km az=62.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.85**	**23**	Pn	Pn	08 40 51.7	-0.4
	16nm,0.3s,baz=73,slow=2.0,SNR=28						
KAPI				Sn	Sn	08 41 24.5	-0.8
	68nm,0.3s,baz=174,slow=23,SNR=20						
FITZ	**Fitzroy Crossi**	**12.41**	**147**	Sn	Sn	08 45 11.9	-8.5
	0.6nm,0.3s,baz=188,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**19.50**	**130**	P	P	08 44 32.3	-1.1
	0.8nm,0.3s,baz=306,slow=13,SNR=4.9						
WRA				S	S	08 48 00.5	-12
	0.1nm,0.3s,baz=304,slow=25,SNR=2.7						
ASAR	**Alice Springs**	**21.62**	**139**	P	P	08 44 57.0	+0.7
	5.8nm,0.6s,baz=310,slow=9.5,SNR=10						
ASAR				S	S	08 48 50.1	-4.2
	1.3nm,1.1s,baz=317,slow=20,SNR=4.0						
SONM	**Songino Array**	**56.31**	**350**	P	P	08 49 48.0	+1.4
	0.6nm,0.9s,baz=165,slow=6.0,SNR=3.3						
SONM				pP	pP	08 49 56.4	-0.1
	0.3nm,0.6s,baz=165,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**63.12**	**333**	P	P	08 50 33.3	0.0
	0.6nm,0.6s,baz=137,slow=7.2,SNR=4.2						
MKAR				pP	pP	08 50 43.4	0.0
	1.6nm,0.8s,baz=139,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**67.68**	**339**	P	P	08 51 01.6	-1.0
	0.7nm,0.6s,baz=149,slow=6.6,SNR=3.8						
ZALV				pP	pP	08 51 12.5	-0.2
	1.0nm,0.6s,baz=140,slow=5.6,SNR=3.1						
ZALV				sP	sP	08 51 17.0	+0.5
	1.2nm,0.6s,baz=142,slow=4.4,SNR=5.6						
BVAR	**Borovoye Array**	**72.96**	**332**	P	P	08 51 34.7	-0.3
	0.7nm,0.7s,baz=140,slow=18,SNR=4.4						
BVAR				pP	pP	08 51 45.3	+0.1
	0.9nm,0.8s,baz=134,slow=8.3,SNR=3.2						

*NEIC **24** 09:00:06.0±0.4, 13.80N×145.09E, mb4.3/5, Error ellipse: s-maj=15.4km s-min=9.3km az=102.0*
NEIC Felt at Yigo.
*ISCJB **24** 09:00:06.2±0.6, 13.76N±0.08×145.0E±0.1, h126km±5km, mb4.0/21, Error ellipse: s-maj=19.7km s-min=12.5km az=4.8*
*IDC **24** 09:00:06.4±0.6, 13.81N×145.10E, h114km±3km, mb3.6/16, mb1 3.8/16, mb1mx3.8/23, mbtmp3.6/16, MS4.4/1, Ms1 4.4/1, ms1mx2.7/40, Error ellipse: s-maj=21.9km s-min=13.6km az=97.0*

ISC 24 09:00:06.8±0.7, 13.8N±0.1×145.1E±0.1, h117km±5km, n46, σ0.93/53, mb4.0/21, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.31**	**227**	P	**Pn**	**09 00 24.6**	**+1.1**
	827nm,0.3s,baz=102,slow=1.6,SNR=1089						
GUMO				S	**Sn**	**09 00 36.5**	**+0.5**
	2µm,0.3s,baz=122,slow=24,SNR=24						
GUMO	**Guam**	**0.31**	**227**	P	**Pn**	**09 00 24.6**	**+1.1**
GUMO				S	**Sn**	**09 00 36.5**	**+0.5**
COEN	**Coen**	**27.65**	**184**	*eP*	**P**	**09 05 43.1**	**-0.5**
	43nm,1.5s						
KSRS	**Korea Array**	**28.09**	**330**	P	**P**	**09 05 47.6**	**+0.2**
	0.5nm,0.4s,baz=145,slow=9.5,SNR=4.3						
KSAR	**Wonju Array Be**	**28.10**	**330**	P	**P**	**09 05 47.6**	**+0.1**
WRAB	**Tennant Creek**	**35.16**	**198**	*eP*	**P**	**09 06 48.9**	**-0.6**
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**35.17**	**198**	P	**P**	**09 06 49.2**	**-0.3**
	1.3nm,0.4s,baz=21,slow=9.4,SNR=14						
WRA	**Warramunga Arr**	**35.17**	**198**	P	**P**	**09 06 49.2**	**-0.3**
KSM	**Kuching**	**36.53**	**253**	*eP*	**P**	**09 07 00.4**	**-0.9**
	3.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**37.06**	**212**	P	**P**	**09 07 05.4**	**-0.4**
	2.4nm,0.5s,baz=45,slow=9.8,SNR=8.2						
FITZ	**Fitzroy Crossi**	**37.06**	**212**	P	**P**	**09 07 05.4**	**-0.4**
ASAR	**Alice Springs**	**38.82**	**197**	P	**P**	**09 07 20.1**	**-0.3**
	0.6nm,0.6s,baz=17,slow=12,SNR=19						
ASAR	**Alice Springs**	**38.82**	**197**	P	**P**	**09 07 20.1**	**-0.3**
PETK	**Petropavlovsk-**	**40.47**	**12**	pP	pP	09 07 59.4	-0.9
	1.4nm,0.4s,baz=189,slow=5.5,SNR=3.7						
PETK	**Petropavlovsk-**	**40.47**	**12**	pP	pP	09 07 59.4	-0.9
CMAR	**Chiang Mai Arr**	**44.49**	**282**	P	**P**	**09 08 05.9**	**-0.9**
	0.6nm,0.3s,baz=87,slow=5.8,SNR=5.0						
CMAR				PcP	**PcP**	**09 09 49.6**	**+1.2**
	1.2nm,0.7s,baz=48,slow=1.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**44.49**	**282**	P	**P**	**09 08 05.9**	**-0.9**
CMAR				PcP	**PcP**	**09 09 49.6**	**+1.2**
SONM	**Songino Array**	**46.69**	**325**	P	**P**	**09 08 24.6**	**+0.7**
	0.5nm,0.5s,baz=121,slow=5.9,SNR=6.0						
SONM				PcP	**PcP**	**09 09 56.0**	**+0.4**
	0.3nm,0.5s,baz=173,slow=4.0,SNR=4.5						
SONM	**Songino Array**	**46.69**	**325**	P	**P**	**09 08 24.6**	**+0.7**
SONM				PcP	**PcP**	**09 09 56.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**53.56**	**209**	LR	LR	09 33 47.7	
	comp=Z,347nm,19.8s,baz=284,slow=38						
MKAR	**Makanchi Array**	**61.49**	**316**	P	**P**	**09 10 11.4**	**+0.2**
	1.1nm,0.4s,baz=93,slow=8.7,SNR=22						
MKAR	**Makanchi Array**	**61.49**	**316**	P	**P**	**09 10 11.4**	**+0.2**
ZALV	**Zalesovo Beam**	**61.58**	**324**	P	**P**	**09 10 11.3**	**-0.3**
	0.4nm,0.5s,baz=100,slow=3.5,SNR=3.6						
ZALV				PcP	**PcP**	**09 10 51.8**	**-0.4**
	0.5nm,0.5s,baz=114,slow=4.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**61.58**	**324**	P	**P**	**09 10 11.3**	**-0.3**
ZALV				PcP	**PcP**	**09 10 51.8**	**-0.4**
ILAR	**Eielson Array**	**68.28**	**25**	P	**P**	**09 10 53.4**	**-1.4**
	0.4nm,0.5s,baz=248,slow=5.9,SNR=14						
ILAR				pP	**PcP**	**09 11 21.5**	**+1.8**
	0.2nm,0.5s,baz=260,slow=5.6,SNR=2.1						
ILAR	**Eielson Array**	**68.28**	**25**	P	**P**	**09 10 53.4**	**-1.4**
ILAR				pP	**PcP**	**09 11 21.4**	**+1.8**
BVAR	**Borovoye Array**	**69.90**	**322**	P	**P**	**09 11 04.7**	**-0.3**
	2.9nm,0.5s,baz=103,slow=7.8,SNR=22						
BVAR	**Borovoye Array**	**69.90**	**322**	P	**P**	**09 11 04.7**	**-0.3**
AKTO	**Aktyubinsk**	**77.65**	**319**	P	**P**	**09 11 51.4**	**+1.1**
	0.5nm,0.6s,baz=78,slow=14,SNR=3.1						
AKTO	**Aktyubinsk**	**77.65**	**319**	P	**P**	**09 11 51.4**	**+1.1**
YKA	**Yellowknife Ar**	**82.56**	**27**	P	**P**	**09 12 16.2**	**-0.2**
	0.4nm,0.3s,baz=285,slow=5.0,SNR=9.7						
YKA				pP	**pP**	**09 12 44.6**	**-1.8**
	0.2nm,0.5s,baz=281,slow=5.2,SNR=1.7						
YKA	**Yellowknife Ar**	**82.56**	**27**	P	**P**	**09 12 16.2**	**-0.2**
YKA				pP	**pP**	**09 12 44.6**	**-1.8**
BMO	**Blue Mountains**	**85.68**	**45**	*eP*	**P**	**09 12 32.5**	**-0.2**
	1.5nm,0.9s						
NVAR	**Mina Array Bea**	**86.61**	**51**	P	**P**	**09 12 38.8**	**+1.1**
	1.0nm,0.6s,baz=266,slow=6.4,SNR=6.2						
NVAR	**Mina Array Bea**	**86.61**	**51**	P	**P**	**09 12 38.8**	**+1.1**
ARCES	**ARCESS Array B**	**86.95**	**342**	P	**P**	**09 12 38.1**	**-0.2**
	2.6nm,0.9s,baz=72,slow=6.0,SNR=7.2						
ARCES	**ARCESS Array B**	**86.95**	**342**	P	**P**	**09 12 38.1**	**-0.2**
MFID	**Camas Ranch**	**87.09**	**46**	*eP*	**P**	**09 12 39.4**	**-0.3**
	1.7nm,0.6s						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**09 12 56.2**	**-1.6**
	2.4nm,0.8s,baz=116,slow=4.4,SNR=5.4						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**09 12 56.2**	**-1.6**
PDAR	**Pinedale Array**	**91.65**	**45**	P	**P**	**09 13 02.2**	**+0.9**
	0.2nm,0.6s,baz=215,slow=3.0,SNR=2.5						
PDAR	**Pinedale Array**	**91.65**	**45**	P	**P**	**09 13 02.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**134.93**	**305**	PKP	**PKPdf**	**09 19 13.9**	**+0.9**
	0.8nm,0.6s,baz=32,slow=2.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**134.93**	**305**	PKP	**PKPdf**	**09 19 13.9**	**+0.9**
DBIC	**Dimbokro**	**143.90**	**302**	PKP	PKPbc	09 19 27.3	-0.1
	1.6nm,0.4s,baz=53,slow=5.2,SNR=9.1						
DBIC	**Dimbokro**	**143.90**	**302**	PKP	PKPbc	09 19 27.3	-0.1

*MOS **24** 09:01:55.0±0.9, 19.43S×179.15W, h642km, mb5.3/39, Error ellipse: s-maj=9.7km s-min=7.1km az=48.5*
*BJI **24** 09:01:56.9, 19.60S×179.10W, h660km, mB5.0/21, mb4.7/20*
*SZGRF **24** 09:01:56.8, 20.13S×179.33W, h669km, Fiji Islands region*
*ISCJB **24** 09:01:56.5±0.1, 19.74S±0.03×179.11W±0.02, h670km, mb5.1/197, Error ellipse: s-maj=4.3km s-min=2.3km az=146.9*
*IDC **24** 09:01:57.9±0.4, 19.62S×179.10W, h670km±4km, mb4.5/28, mb1 4.6/30, mb1mx4.6/30, mbtmp4.5/30, Error ellipse: s-maj=10.0km s-min=6.4km az=163.0*
*DJA **24** 09:01:57, 19.67S×179.22W, h644km, Mw5.1/43*
*NEIC **24** 09:01:58.0±0.1, 19.58S×179.11W, mb5.2/132, Error ellipse: s-maj=5.3km s-min=3.0km az=144.0*
*BGS **24** 09:01:58.5±6.4, 19.58S×179.11W, h671km, mb5.2(NEIC)*

ISC 24 09:01:57.5±0.2, 19.62S±0.04×178.99W±0.03, h667km, h667km:pP-P, n1179, σ1.22/1445, mb5.2/197, 253C-223D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.37**	**303**	*eP*	**P**	**09 03 24.9**	**+0.6**
MSVF	**Nonsavu**	**3.37**	**303**	*eP*	**P**	**09 03 24.9**	**+0.6**
MSVF				*eS*	**S**	**09 04 35.7**	**+0.8**
MSVF	**Nonsavu**	**3.37**	**303**	P	**P**	**09 03 25.0**	**+0.6**
	22µm,1.3s						
AFI	**Afiamalu**	**8.94**	**52**	P	**P**	**09 04 06.2**	**-1.6**
	40nm,0.3s,baz=353,slow=1.4,SNR=43						
AFI				S	**S**	**09 05 48.4**	**-6.0**
	5.4nm,0.3s,baz=60,slow=22,SNR=1.9						
AFI	**Afiamalu**	**8.94**	**52**	P	**P**	**09 04 06.2**	**-1.6**
AFI				*eS*	S	09 05 47.3	-7.1
AFI				S	S	09 05 48.4	-6.0
AFI	**Afiamalu**	**8.94**	**52**	P	**P**	**09 04 06.2**	**-1.6**
AFI				*eS*	S	09 05 47.3	-7.1
AFI				S	S	09 05 48.4	-6.0
RAO	**Raoul Island**	**9.64**	**174**	*eP*	**P**	**09 04 13.0**	**-0.9**
RAO	**Raoul Island**	**9.64**	**174**	*eP*	**P**	**09 04 13.0**	**-0.9**
LASL	**Noumea**	**13.77**	**257**	*eP*	**P**	**09 04 52.2**	**+0.1**
DZM	**Mont Dzumac**	**13.84**	**257**	*eP*	**P**	**09 04 53.1**	**+0.3**
	588nm,1.0s						
DZM	**Mont Dzumac**	**13.84**	**257**	P	**P**	**09 04 54.1**	**+1.3**
	4.2nm,0.3s,baz=84,slow=14,SNR=64						
DZM				S	**S**	**09 07 18.2**	**+2.5**
	baz=300,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**13.84**	**257**	*eP*	**P**	**09 04 51.9**	**-1.0**
DZM	**Mont Dzumac**	**13.84**	**257**	P	**P**	**09 04 54.1**	**+1.3**
DZM				S	**S**	**09 07 18.2**	**+2.5**
MVNO	**Noumea**	**13.86**	**256**	*eP*	**P**	**09 04 52.8**	**-0.2**
NOUC	**Port Laguerre**	**13.97**	**257**	*eP*	**P**	**09 04 53.2**	**-0.8**
OUZ	**Omahuta**	**16.87**	**201**	*eP*	**P**	**09 05 23.1**	**+2.9**
	89nm,0.6s						
OUZ	**Omahuta**	**16.87**	**201**	PN	**P**	**09 05 22.9**	**+2.7**
KUZ	**Kuaotunu**	**17.68**	**194**	PN	**P**	**09 05 29.4**	**+1.9**
MXZ	**Matakaoa Point**	**18.04**	**187**	PN	**P**	**09 05 29.1**	**-1.6**
RAR	**Rarotonga**	**18.08**	**98**	P	**P**	**09 05 31.6**	**+0.2**
	2.0nm,0.3s,baz=271,slow=7.0,SNR=4.5						
RAR	**Rarotonga**	**18.08**	**98**	*eP*	**P**	**09 05 32.5**	**+1.1**
RAR	**Rarotonga**	**18.08**	**98**	*eP*	**P**	**09 05 32.5**	**+1.1**
PUZ	**Puketiti**	**18.55**	**187**	*ePN*	**P**	**09 05 34.6**	**-0.7**
PUZ				SN	S	09 08 23.6	-7.6
TOZ	**Tahuroa Road**	**18.68**	**194**	PN	**P**	**09 05 38.9**	**+2.4**
URZ	**Urewera**	**18.88**	**190**	*eP*	**P**	**09 05 36.6**	**-1.7**
	186nm,0.6s						
URZ				*eS*	S	09 08 24.8	-12
URZ	**Urewera**	**18.88**	**190**	PN	**P**	**09 05 35.3**	**-3.0**
URZ				SN	**S**	**09 08 29.4**	**-7.0**
MWZ	**Matawai**	**18.90**	**188**	*ePN*	**P**	**09 05 36.4**	**-2.1**
BKZ	**Black Stump Fm**	**19.87**	**190**	PN	**P**	**09 05 44.4**	**-2.8**
BKZ				*eSN*	S	09 08 43.8	-8.3
BHHZ	**Black Hill Sta**	**20.26**	**191**	PN	**P**	**09 05 49.0**	**-1.8**
BFZ	**Birch Farm**	**21.39**	**190**	PN	**P**	**09 05 59.7**	**-1.0**
MRZ	**Mangatainoka R**	**21.48**	**191**	*ePN*	**P**	**09 05 59.5**	**-2.1**
CAW	**Cannon Point**	**22.01**	**192**	*ePN*	**P**	**09 06 04.3**	**-1.9**
SNZO	**South Karori**	**22.28**	**193**	*eP*	**P**	**09 06 08.1**	**-0.5**
	87nm,1.3s						
SNZO				*eS*	**S**	**09 09 26.5**	**-3.4**
QRZ	**Quartz Range**	**22.35**	**197**	*ePN*	**P**	**09 06 09.4**	**+0.2**
NNZ	**Nelson**	**22.49**	**195**	*ePN*	**P**	**09 06 09.7**	**-0.7**
NNZ				SN	**S**	**09 09 29.1**	**-4.2**
HNR	**Honiara**	**22.74**	**293**	P	**P**	**09 06 13.2**	**+0.2**
	47nm,0.6s,baz=210,slow=5.6,SNR=6.0						
HNR	**Honiara**	**22.74**	**293**	*eP*	**P**	**09 06 12.7**	**-0.3**
HNR				pmax	pmax		
	comp=Z,248nm,1.3s						
HNR	**Honiara**	**22.74**	**293**	*eP*	**P**	**09 06 12.7**	**-0.3**
	comp=Z,248nm,1.3s						
THZ	**Tophouse**	**23.13**	**196**	*ePN*	**P**	**09 06 14.8**	**-1.3**
THZ				SN	**S**	**09 09 38.8**	**-4.6**
DSZ	**Denniston Nort**	**23.41**	**198**	PN	**P**	**09 06 18.6**	**0.0**
KHZ	**Kahutara**	**23.59**	**194**	*eP*	**P**	**09 06 19.1**	**-1.0**
	comp=Z,224nm,2.2s						
KHZ	**Kahutara**	**23.59**	**194**	PN	**P**	**09 06 18.7**	**-1.4**
LTZ	**Lake Taylor**	**24.25**	**196**	PN	**P**	**09 06 24.6**	**-1.4**
WVZ	**Waitaha Valley**	**24.94**	**198**	PN	**P**	**09 06 30.7**	**-1.2**
RPZ	**Rata Peaks**	**25.44**	**197**	P	**P**	**09 06 35.3**	**-1.1**
	comp=Z,14nm,0.7s,baz=329,slow=4.6,SNR=7.5						
RPZ	**Rata Peaks**	**25.44**	**197**	P	**P**	**09 06 35.3**	**-1.1**
	comp=Z,8.3nm,0.6s						
FOZ	**Fox Glacier**	**25.70**	**199**	PN	**P**	**09 06 36.9**	**-1.6**
LBZ	**Lake Benmore**	**26.30**	**198**	PN	**P**	**09 06 42.4**	**-1.5**
JCZ	**Jackson Bay**	**26.45**	**200**	PN	**P**	**09 06 45.0**	**-0.3**
ODZ	**Otahua Downs**	**26.78**	**196**	PN	**P**	**09 06 46.8**	**-1.2**
WKZ	**Wanaka**	**27.05**	**199**	PN	**P**	**09 06 49.3**	**-1.0**
EAZ	**Earnscleugh**	**27.32**	**198**	PN	**P**	**09 06 52.2**	**-0.5**
TBI	**Tubuai**	**27.70**	**103**	*eP*	**P**	**09 06 55.3**	**-1.1**
	comp=Z,144nm,0.9s						
TUZ	**Tuapeka**	**27.89**	**197**	PN	**P**	**09 06 57.5**	**-0.1**
PAE	**Paea**	**27.92**	**91**	*eP*	**P**	**09 06 58.3**	**0.0**
	comp=Z,34nm,1.6s						
TIAR	**Tiarei**	**28.16**	**91**	*eP*	**P**	**09 07 00.7**	**+0.3**
	comp=Z,122nm,0.8s						
EIDS	**Eidsvold**	**28.20**	**253**	*eP*	**P**	**09 07 00.5**	**-0.2**
	comp=Z,169nm,1.1s						
WHZ	**Wether Hill Ro**	**28.34**	**199**	*eP*	**P**	**09 07 02.2**	**+0.8**
ARMA	**Armidale**	**28.63**	**242**	*eP*	**P**	**09 07 05.6**	**+1.2**
	comp=Z,114nm,0.8s						
MEH	**Mehetia**	**29.32**	**92**	*eP*	**P**	**09 07 10.3**	**0.0**
	comp=Z,132nm,1.1s						
PMOR	**Pomariorio Ree**	**30.02**	**86**	*eP*	**P**	**09 07 16.9**	**+0.7**
	comp=Z,129nm,1.1s						
CAN	**Canberra**	**32.25**	**234**	*eP*	**P**	**09 07 35.5**	**+0.6**
CAN				pmax	pmax		
	comp=Z,132nm,0.8s						
CAN	**Canberra**	**32.25**	**234**	*eP*	**P**	**09 07 35.5**	**+0.6**
	comp=Z,132nm,0.8s						
CTA	**Charters Tower**	**32.66**	**263**	P	**P**	**09 07 38.8**	**+0.2**
	comp=Z,239nm,0.4s,baz=89,slow=10,SNR=608						
CTA				S	**S**	**09 12 08.9**	**-1.9**
	comp=Z,3.7nm,0.7s,baz=194,slow=22,SNR=5.6						
CTA				ScP	**ScP**	**09 12 47.6**	**+2.1**
	comp=Z,24nm,0.9s,baz=90,slow=2.1,SNR=10						
CTA	**Charters Tower**	**32.66**	**263**	*iP*	**P**	**09 07 38.8**	**+0.2**
	comp=Z,463nm,0.8s						
CTA				*eS*	**S**	**09 12 08.3**	**-2.5**
CTA				*eSCP*	**ScP**	**09 12 48.2**	**+2.6**
CTA				*eSCS*	**ScS**	**09 16 49.1**	**+1.4**
CTA	**Charters Tower**	**32.66**	**263**	P	**P**	**09 07 38.8**	**+0.2**
CTA				S	**S**	**09 12 08.9**	**-1.9**
CTA	**Charters Tower**	**32.66**	**263**	P	**P**	**09 07 38.8**	**+0.2**
CTA				S	**S**	**09 12 08.9**	**-1.9**
CTA				ScP	**ScP**	**09 12 47.6**	**+2.1**
CTAO	**Charters Tower**	**32.66**	**263**	*eP*	**P**	**09 07 38.8**	**+0.2**
CTAO				*eS*	**S**	**09 12 09.6**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,603nm,1.0s						
CTAO	**Charters Tower**	**32.66**	**263**	*eP*	**P**	**09 07 38.8**	**+0.2**
	comp=Z,603nm,1.0s						
CTAO				*eS*	**S**	**09 12 09.6**	**-1.2**
CTAO				*eScP*	**ScP**	**09 12 48.1**	**+2.5**
PMG	**Port Moresby**	**34.24**	**282**	P	**P**	**09 07 51.8**	**+0.1**
	comp=Z,586nm,1.0s,baz=88,slow=5.7,SNR=188						
PMG				S	**S**	**09 12 34.9**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=198,slow=20,SNR=1.4						
PMG				ScP	**ScP**	**09 12 52.6**	**+1.3**
	comp=Z,14nm,1.0s,baz=60,slow=5.1,SNR=5.4						
PMG	**Port Moresby**	**34.24**	**282**	*ceP*	**P**	**09 07 51.7**	**0.0**
PMG				pmax	pmax		
	comp=Z,865nm,1.2s						
PMG	**Port Moresby**	**34.24**	**282**	*eP*	**P**	**09 07 51.8**	**0.0**
	comp=Z,570nm,0.9s						
PMG				S	**S**	**09 12 34.9**	**+0.3**
PMG				ScP	**ScP**	**09 12 52.6**	**+1.3**
PMG				*eScP*	ScP	09 12 52.7	+1.4
PMG	**Port Moresby**	**34.24**	**282**	P	**P**	**09 07 51.4**	**-0.3**
	comp=Z,749nm,1.0s,comp=Z,7µm						
COEN	**Coen**	**36.60**	**273**	*eP*	**P**	**09 08 11.4**	**+0.3**
	comp=Z,2µm,0.9s						
STKA	**Stephens Creek**	**37.34**	**243**	P	**P**	**09 08 17.6**	**+0.8**
	comp=Z,393nm,1.1s,baz=90,slow=9.1,SNR=269						
STKA				ScP	**ScP**	**09 13 04.2**	**+1.6**
	comp=Z,22nm,1.1s,baz=90,slow=4.5,SNR=5.7						
STKA				S	**S**	**09 13 19.1**	**-1.0**
	comp=Z,15nm,1.2s,baz=266,slow=15,SNR=3.6						
STKA	**Stephens Creek**	**37.34**	**243**	*eP*	**P**	**09 08 17.6**	**+0.8**
	comp=Z,291nm,1.1s						
STKA				*eSCP*	**ScP**	**09 13 05.6**	**+3.0**
STKA				*eS*	**S**	**09 13 17.2**	**-2.9**
STKA	**Stephens Creek**	**37.34**	**243**	*eP*	**P**	**09 08 17.7**	**+0.8**
STKA				S	**S**	**09 13 19.1**	**-1.0**
STKA				pmax	pmax		
	comp=Z,71nm,1.0s						
STKA	**Stephens Creek**	**37.34**	**243**	*eP*	**P**	**09 08 17.7**	**+0.8**
	comp=Z,71nm,1.0s						
STKA				ScP	**ScP**	**09 13 04.2**	**+1.6**
STKA				*eScP*	S	09 13 05.8	-14
STKA				S	S	09 13 19.1	-1.0
BBOO	**Bu

NWAO **Narrogin (SRO)** 57.93 243 *e*P **P** 09 10 48.6 -0.4
NWAO *e**PP **pP** 09 12 51.0 -1.8
NWAO pmax pmax
comp=Z,47nm,1.0s
NWAO **Narrogin (SRO)** 57.93 243 *e*P **P** 09 10 48.6 -0.4
comp=Z,47nm,1.0s
NWAO *e*pP **pP** 09 12 51.0 -1.8
SBA Scott Base 58.69 184 *e*P **P** 09 10 55.4 +2.2
SBA pmax pmax
comp=Z,50nm,1.1s
SBA Scott Base 58.69 184 *e*P **P** 09 10 55.4 +2.2
comp=Z,50nm,1.1s
VNDA Vanda 58.70 185 *e*P **P** 09 10 54.6 +1.2
VNDA pmax pmax
comp=Z,55nm,1.8s
VNDA Vanda 58.70 185 *e*P **P** 09 10 54.6 +1.2
comp=Z,55nm,1.8s
KDI Kendari 58.95 277 P **P** 09 10 55.4 -0.7
DAV Davao City (W) 60.66 290 P **P** 09 11 08.4 +1.1
comp=Z,102nm,0.3s,baz=64,slow=14,SNR=4.0
DAV Davao City (W) 60.66 290 P **P** 09 11 08.4 +1.1
KAPI Kappang 61.28 275 P **P** 09 11 10.3 -1.0
comp=Z,21nm,0.8s,baz=159,slow=1.1,SNR=12
KAPI Kappang 61.28 275 *e*P **P** 09 11 10.4 -1.0
comp=Z,142nm,1.7s
KAPI *e*pP **pP** 09 13 19.4 +2.0
KAPI Kappang 61.28 275 P **P** 09 11 10.4 -1.0
comp=Z,52nm,1.4s,comp=Z,663nm
MTNI Mataram 63.51 270 P **P** 09 11 24.9 -0.7
comp=Z,128nm,0.8s,comp=Z,29µm
KHKI Kahang-Kahang 64.12 270 P **P** 09 11 28.4 -1.1
comp=Z,67nm,1.0s
CASY Casey 64.36 205 *e*P **P** 09 11 30.3 +0.3
comp=Z,33nm,1.1s
IGBI Denpasar 64.42 269 P **P** 09 11 31.3 -0.1
comp=Z,132nm,0.7s
JAGI Jajag, Banyuwa 65.46 269 P **P** 09 11 36.2 -1.7
comp=Z,165nm,1.0s,comp=Z,2µm
KMMI Kalianget 66.07 271 P **P** 09 11 42.2 +0.6
GMJI Gumukmas 66.19 269 P **P** 09 11 41.4 -0.9
comp=Z,90nm,1.1s
BLJI Banyuglugur 66.20 270 P **P** 09 11 42.2 -0.2
MYLDM Lahad Datu 66.21 285 P **P** 09 11 43.2 +0.8
MYLDM Lahad Datu 66.21 285 P **P** 09 11 44.5 +2.1
comp=Z,62nm,1.6s,comp=Z,1µm
TSM Tawau 66.42 284 P **P** 09 11 44.7 +0.9
SDKM Sandakan 67.58 285 P **P** 09 11 51.8 +0.9
PWJI Pagerwojo 67.81 269 P **P** 09 11 51.7 -0.5
comp=Z,122nm,1.2s
SJI Sawahan 67.93 269 P **P** 09 11 53.1 0.0
comp=Z,104nm,1.1s,comp=Z,3µm
PCJI Pacitan 68.35 269 P **P** 09 11 55.4 0.0
comp=Z,384nm,1.0s,comp=Z,4µm
KKM Kota Kinabalu 68.63 285 *e*P **P** 09 11 57.7 +0.4
comp=Z,70nm,0.9s
KKM Kota Kinabalu 68.63 285 P **P** 09 11 57.8 +0.5
MJAR Matsushiro Arr 68.95 324 P **P** 09 11 57.8 -0.8
comp=Z,7.5nm,0.6s,baz=155,slow=5.5,SNR=22
MJAR pP **pP** 09 14 11.3 +1.8
comp=Z,4.3nm,1.1s,baz=155,slow=7.0,SNR=4.0
MJAR Matsushiro Arr 68.95 324 *e*P **P** 09 11 57.8 -0.8
MJAR Matsushiro Arr 68.95 324 P **P** 09 11 57.8 -0.8
MJAR pP **pP** 09 14 11.3 +1.8
UGM Wanagama 69.05 269 *e*P **P** 09 11 59.4 -0.3
comp=Z,105nm,0.8s
BJII Banjamegara 70.00 269 P **P** 09 12 06.6 +1.3
comp=Z,45nm,1.0s
BTM Bintulu 70.42 281 P **P** 09 12 08.5 +0.8
QSPA South Pole Qui 70.44 180 S **S** 09 20 28.1 -0.9
comp=Z,5.6nm,1.1s,baz=152,slow=19,SNR=11
QSPA South Pole Qui 70.44 180 *e*P **P** 09 12 07.9 +0.8
comp=Z,114nm,1.0s
QSPA *e*PcP **PcP** 09 12 23.9 +0.7
QSPA *e*pP **pP** 09 14 20.0 +1.3
CLJI Cilicap 70.53 269 P P 09 12 16.7 +8.3
comp=Z,898nm,0.5s
SBUM Sibu 70.94 280 P **P** 09 12 11.6 +0.9
SBUM Sibu 70.94 280 P **P** 09 12 11.4 +0.6
comp=Z,38nm,1.4s,comp=Z,544nm
JNU Nakatsue 71.00 317 P **P** 09 12 09.3 -1.4
comp=Z,14nm,0.8s,baz=142,slow=9.1,SNR=4.6
JNU Nakatsue 71.00 317 P **P** 09 12 09.3 -1.4
LEM Lembang 72.12 269 P **P** 09 12 18.0 +0.2
comp=Z,274nm,1.0s,comp=Z,2µm
KSM Kuching 72.37 278 *e*P **P** 09 12 19.1 +0.2
comp=Z,117nm,1.2s
KSM Kuching 72.37 278 P **P** 09 12 19.6 +0.6
KSM Kuching 72.37 278 P **P** 09 12 19.4 +0.4
comp=Z,93nm,1.1s,comp=Z,1µm
ASAJ Asahikawa 72.51 332 P **P** 09 12 20.4 +1.3
comp=Z,31nm,0.7s,baz=212,slow=6.3,SNR=33
ASAJ Asahikawa 72.51 332 *e*P **P** 09 12 19.7 +0.6
comp=Z,17nm,0.9s
CBJI Citeko 72.97 269 P **P** 09 12 21.5 -1.0
comp=Z,328nm,0.9s
UNV Unalaska Valle 73.95 8 *e*P **P** 09 12 25.6 -1.3
comp=Z,56nm,0.6s
CGJI Cibinong 74.00 269 P **P** 09 12 27.3 -1.0
comp=Z,226nm,0.9s,comp=Z,4µm
RBSI Rajabasa 74.20 269 P **P** 09 12 29.0 -0.4
comp=Z,97nm,1.0s,comp=Z,848nm
YSS Yuzh-Sakhalins 74.70 334 P **P** 09 12 32.8 +1.5
PEA0B Petropavlovsk- 75.19 346 *e*P **P** 09 12 33.9 -0.1
PETK Petropavlovsk- 75.19 346 P **P** 09 12 33.6 -0.4
comp=Z,31nm,0.8s,baz=142,slow=8.4,SNR=21
PETK Petropavlovsk- 75.19 346 P **P** 09 12 33.6 -0.4
PETK Petropavlovsk- 75.19 346 P **P** 09 12 33.6 -0.4
KSRS Korea Array 75.61 319 P **P** 09 12 36.5 -0.1
comp=Z,3.6nm,0.9s,baz=142,slow=6.1,SNR=6.1
KSAR Wonju Array Be 75.63 319 P **P** 09 12 36.6 -0.1
KSAR Wonju Array Be 75.63 319 P **P** 09 12 36.5 -0.1
LWLI Liwa 76.05 270 P **P** 09 12 39.0 -0.7
comp=Z,189nm,0.8s,comp=Z,5µm
CHGN Chignik 77.59 12 *e*P **P** 09 12 46.8 -0.1
BSC Santa Cruz Isl 77.68 47 ⇑P **P** 09 12 49.0 +1.1
baz=78
USRK Ussuriysk Arra 77.71 326 P **P** 09 12 48.5 +0.7
comp=Z,9.2nm,0.8s,baz=126,slow=3.6,SNR=17
SCI San Clemente I 77.88 48 ⇓P **P** 09 12 50.0 +1.0
baz=78
KSI Kapahiang 77.88 270 P **P** 09 12 49.2 -0.3
comp=Z,142nm,0.9s
SAO San Andreas Ge 78.03 44 *e*P **P** 09 12 51.1 +1.3
SAO *e* 09 15 59.2
SAO pmax pmax
comp=Z,92nm,1.0s
SAO San Andreas Ge 78.03 44 *e*P **P** 09 12 51.0 +1.3
comp=Z,92nm,1.0s
SAO *e*PP **PP** 09 15 59.1 -0.4
PKM Peak Mountain 78.05 46 ⇓P **P** 09 12 51.3 +1.2
baz=78,SNR=16
BLG Laguna Peak 78.13 47 ⇓P **P** 09 12 50.9 +0.5
baz=78
SMMC Simmler 78.16 46 ⇓P **P** 09 12 51.9 +1.4
baz=78,SNR=10
CIS Catalina Islan 78.21 48 ⇑P **P** 09 12 51.3 +0.5
baz=78,SNR=5.3
PTRM Twissleman Ran 78.22 45 *e*P **P** 09 12 52.1 +1.3
HOPS Hopland 78.32 41 *e*P **P** 09 12 52.5 +1.3
comp=Z,103nm,1.0s
KCPM Cahto Peak 78.42 40 *e*P **P** 09 12 52.7 +0.8
comp=Z,69nm,1.2s
FMP Fort Macarthur 78.45 48 ⇑P **P** 09 12 52.7 +0.7
baz=79
MYKOM Kota Tinggi 78.52 276 P **P** 09 12 53.6 +0.7
MYKOM Kota Tinggi 78.52 276 P **P** 09 12 53.7 +0.9
comp=Z,51nm,1.1s
KIPM Iron Peak 78.56 40 *e*P **P** 09 12 54.0 +1.3
comp=Z,134nm,1.2s
NJ2 Nanjing 78.60 310 *e*P **P** 09 12 54.0 +1.2
NJ2 pmax pmax
comp=Z,20nm,1.1s
DECC Green Verdugo 78.72 47 ⇑P **P** 09 12 54.0 +0.6
baz=79,SNR=7.3
PASC Pasadena Art C 78.78 48 *e*P **P** 09 12 54.6 +0.8
comp=Z,43nm,1.0s
109C Camp Elliot, M 78.85 49 ⇑P **P** 09 12 54.9 +0.8
baz=79,SNR=11
ARVC Arvin 78.86 46 ⇓P **P** 09 12 55.0 +0.9
baz=79,SNR=24
MWC Mount Wilson 78.89 48 *e*P **P** 09 12 55.3 +0.7
MWC pmax pmax
comp=Z,68nm,1.1s
MWC Mount Wilson 78.89 48 *e*P **P** 09 12 55.2 +0.7
comp=Z,68nm,1.1s
BAR Barrett 79.05 50 *e*P **P** 09 12 55.9 +0.6
comp=Z,116nm,1.8s
KHMM Horse Mountain 79.06 39 *e*P **P** 09 12 56.6 +1.3
comp=Z,91nm,1.2s
VES Vestal, Richgr 79.08 46 ⇓P **P** 09 12 56.0 +0.7
baz=79,SNR=35
KGM Kluang 79.09 276 P **P** 09 12 56.4 +0.5
MURC Murrieta 79.16 48 ⇓P **P** 09 12 56.5 +0.7
baz=79,SNR=21
BFSC Mount Baldy Ra 79.18 48 ⇑P **P** 09 12 56.4 +0.4
baz=79,SNR=22
HABR Khabarovsk 79.22 331 P **P** 09 12 55.3 -0.4
HABR *e* 09 13 00.6
HABR *e* 09 16 06.7
HABR *e*S **S** 09 22 08.8 +5.7
HABR *e* 09 22 24.1
HABR *e*SS **SS** 09 27 35.1 +3.7
HABR MLR MLR
comp=Z,118nm,17.0s
RCTC Rector, Farmer 79.23 45 ⇑P **P** 09 12 56.6 +0.5
baz=80,SNR=7.1
MDJ Mudanjiang 79.27 325 P **P** 09 12 57.0 +0.9
MDJ pP **pP** 09 15 10.3 -2.2
MDJ sP **sP** 09 16 16.4 -2.9
MDJ S **S** 09 22 05.6 +1.8
MDJ sS **sS** 09 26 03.8 -3.0
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,170nm,4.3s
MDJ Mudanjiang 79.27 325 *e*P **P** 09 12 56.7 +0.7
comp=Z,19nm,1.3s
EDW2 Edwards Air Fo 79.30 47 ⇑P **P** 09 12 57.4 +0.9
baz=80,SNR=54
MONP Monument Peak 79.34 49 ⇓P **P** 09 12 58.1 +1.1
baz=80,SNR=71
KRMB Red Mountain 79.35 39 *e*P **P** 09 12 58.2 +1.5
comp=Z,268nm,1.6s
ISA Isabella 79.39 46 *e*P **P** 09 12 58.1 +1.0
ISA *e* 09 16 10.0
ISA pmax pmax
comp=Z,117nm,1.1s
ISA Isabella 79.39 46 *e*P **P** 09 12 58.1 +1.0
comp=Z,117nm,1.1s
ISA *e*PP **PP** 09 16 09.9 -0.8
ISA Isabella 79.39 46 ⇑P **P** 09 12 58.1 +1.0
baz=80,SNR=80
DVTC Desert V Tower 79.45 50 ⇓P **P** 09 12 58.6 +1.2
baz=80,SNR=21
CMB Columbia Colle 79.46 43 *e*P **P** 09 12 58.1 +0.8
CMB pmax pmax
comp=Z,80nm,1.0s
CMB Columbia Colle 79.46 43 *e*P **P** 09 12 58.1 +0.8
comp=Z,80nm,1.0s
OHCM Honcut 79.51 42 *e*P **P** 09 12 58.1 +0.7
WDC Whiskeytown Da 79.60 40 *e*P **P** 09 12 58.9 +1.0
WDC *e**PP **pP** 09 15 13.8 -0.7
WDC pmax pmax
comp=Z,110nm,1.2s
WDC Whiskeytown Da 79.60 40 *e*P **P** 09 12 58.9 +1.0
comp=Z,110nm,1.2s
WDC *e*pP **pP** 09 15 13.8 -0.7
QIZ Qiongzhong 79.65 294 P **P** 09 13 01.4 +2.8
QIZ pP **pP** 09 15 12.0 -3.2
QIZ sP **sP** 09 16 17.6 -4.4
QIZ S **S** 09 22 08.3 -0.4
PFO Pinyon Flat Ob 79.69 49 *e*P **P** 09 12 59.3 +0.6
PFO pmax pmax
comp=Z,50nm,1.3s
PFO Pinyon Flat Ob 79.69 49 *e*P **P** 09 12 59.3 +0.6
comp=Z,50nm,1.3s
PFO Pinyon Flat Ob 79.69 49 P **P** 09 12 59.9 +1.2
comp=Z,161nm,1.2s,SNR=11
BBRC Big Bear Solar 79.71 48 ⇑P **P** 09 12 59.8 +0.9
baz=80
SWSC Sam W. Stewart 79.81 50 ⇓P **P** 09 13 00.3 +1.1
baz=80,SNR=29
KEBM Edson Butte 79.94 38 *e*P **P** 09 13 01.1 +1.4
comp=Z,105nm,1.2s
RRX Edison Barstow 79.98 47 ⇑P **P** 09 13 00.8 +0.8
baz=80,SNR=7.8
CWC Cottonwood Cre 80.08 46 ⇓P **P** 09 13 01.6 +0.8
baz=80,SNR=43
KDAK Kodiak Island 80.19 14 P **P** 09 13 00.5 0.0
comp=Z,15nm,0.4s,baz=151,slow=2.4,SNR=22
KDAK Kodiak Island 80.19 14 *i* P **P** 09 13 00.5 0.0
KDAK Kodiak Island 80.19 14 *e*P **P** 09 13 00.7 +0.3
KDAK Kodiak Island 80.19 14 P **P** 09 13 01.0 +0.5
comp=Z,346nm,1.6s,SNR=7.8
YBH Yreka Blue Hor 80.19 39 PP PP 09 16 15.2 -2.0
comp=Z,7.9nm,1.1s,baz=174,slow=15,SNR=5.5
YBH Yreka Blue Hor 80.19 39 *e*P **P** 09 13 02.3 +1.2
YBH 09 16 15.2
YBH *e* 09 16 17.5
YBH pmax pmax
comp=Z,124nm,1.3s
YBH Yreka Blue Hor 80.19 39 *e*P **P** 09 13 02.3 +1.2
comp=Z,124nm,1.3s
YBH PP **PP** 09 16 15.2 -1.9
YBH *e*PP **PP** 09 16 17.5 +0.3
BELC Belle Mtn. Jos 80.22 49 ⇑P **P** 09 13 02.6 +1.1
baz=80,SNR=44
MLAC Mammoth Lakes 80.24 44 ⇓P **P** 09 13 02.9 +1.3
baz=80
MTUM Tungsten Hills 80.27 45 *e*P **P** 09 13 02.5 +0.8
MPMC Manual Prospec 80.28 46 ⇑P **P** 09 13 02.7 +0.9
baz=80,SNR=71
TIN Tinemaha 80.32 45 ⇓P **P** 09 13 02.9 +1.0
baz=81,SNR=17
DAC Darwin (Calif) 80.33 46 *e*P **P** 09 12 59.7 -2.3
DAC Darwin (Calif) 80.33 46 *e*P **P** 09 12 59.7 -2.3
comp=Z,3.4nm,0.6s
GSC Goldstone 80.34 47 *e*P **P** 09 13 02.8 +0.8
GSC *e**PP **pP** 09 15 17.3 -1.7
GSC *e* 09 16 15.6
GSC pmax pmax
comp=Z,96nm,1.3s
GSC Goldstone 80.34 47 *e*P **P** 09 13 02.8 +0.8
comp=Z,96nm,1.3s
GSC *e*pP **pP** 09 15 17.3 -1.7
GSC *e*PP **PP** 09 16 15.6 -2.8
GSC Goldstone 80.34 47 ⇓P **P** 09 13 02.8 +0.8
baz=81,SNR=45
HEC Hector,Ludlow 80.42 48 ⇓P **P** 09 13 03.1 +0.7
baz=81,SNR=19
KTGM Kuala Trenggan 80.42 279 P P 09 12 58.9 -3.8
BC3 Big Chuckawall 80.43 49 ⇑P **P** 09 13 03.8 +1.3
baz=81,SNR=34
LBCM Butte Creek Ri 80.48 41 P **P** 09 13 03.6 +1.0
GLA Glamis 80.57 50 *e*P **P** 09 13 04.2 +1.0
GLA pmax pmax
comp=Z,115nm,1.1s
GLA Glamis 80.57 50 *e*P **P** 09 13 04.2 +1.0
comp=Z,115nm,1.1s
GLA Glamis 80.57 50 ⇓P **P** 09 13 04.5 +1.4
baz=81,SNR=17
HUMO Hull Mountain 80.58 38 *e*P **P** 09 13 04.4 +1.4
comp=Z,101nm,1.1s
WCN Washoe City 80.58 43 *e*P **P** 09 13 04.4 +1.1
WCN pmax pmax
comp=Z,110nm,1.1s
WCN Washoe City 80.58 43 *e*P **P** 09 13 04.4 +1.1
comp=Z,110nm,1.1s
WCN Washoe City 80.58 43 ⇓P **P** 09 13 04.3 +1.1
baz=81,SNR=93
GMRC Granite Mounta 80.86 48 ⇓P **P** 09 13 05.6 +0.9
baz=81,SNR=48
GRAC Grapevine Rang 80.87 46 ⇓P **P** 09 13 05.9 +1.3
baz=81,SNR=85
IRM Iron Mountain 80.91 49 ⇑P **P** 09 13 06.1 +1.3
baz=81,SNR=53
FURC Furnace Creek, 80.93 46 ⇑P **P** 09 13 05.6 +0.8
baz=81,SNR=34
SHOC Shoshone 81.02 47 ⇑P **P** 09 13 06.0 +0.6
baz=81,SNR=50
TUQ Turquoise Moun 81.02 47 ⇑P **P** 09 13 06.3 +0.8
baz=81,SNR=18
NVAR Mina Array Bea 81.03 44 P **P** 09 13 06.4 +0.8
comp=Z,73nm,1.0s,baz=225,slow=8.4,SNR=204
NVAR pP **pP** 09 15 25.4 +2.4
comp=Z,0.8nm,0.7s,baz=226,slow=7.4,SNR=2.1
NVAR PKPPKP **P'P'df** 09 39 44.7 +4.7
comp=Z,0.1nm,0.3s,baz=107,slow=2.0,SNR=3.7
NVAR Mina Array Bea 81.03 44 P **P** 09 13 06.4 +0.8
NVAR pP **pP** 09 15 25.4 +2.4
NVAR P'P' 09 39 44.7
CN2 Changchun 81.04 323 *e*P **P** 09 13 06.3 +1.1
CN2 *e*pP **pP** 09 15 23.3 +0.7
CN2 *e*S **S** 09 22 22.3 +0.6
HOG Hogback Mounta 81.10 39 P **P** 09 13 06.8 +1.0
FRIM Kepong 81.10 277 P **P** 09 13 06.9 +0.6
Y12C Blythe 81.14 50 ⇓P **P** 09 13 07.3 +1.3
baz=81,SNR=33
WHN Wuhan 81.17 307 P P 09 13 15.0 +8.8
113A Mohawk Valley, 81.20 51 ⇑P **P** 09 13 07.6 +1.3
baz=81,SNR=40
MPOR Mary's Peak 81.40 37 P **P** 09 13 08.5 +1.3
LDFC Landfair 81.41 48 *e*P **P** 09 13 08.9 +1.5
comp=Z,180nm,0.9s
Z13A Yuma Proving G 81.49 50 ⇑P **P** 09 13 09.1 +1.3
baz=82,SNR=64
214A Organ Pipe Nat 81.50 52 ⇑P **P** 09 13 09.3 +1.4
baz=82,SNR=48
COR Corvallis 81.59 37 *e*P **P** 09 13 09.3 +1.3
COR pmax pmax
comp=Z,46nm,1.0s
COR Corvallis 81.59 37 *e*P **P** 09 13 09.3 +1.3
comp=Z,46nm,1.0s
PDMCI Parker Dam,Lak 81.69 49 ⇓P **P** 09 13 10.0 +1.2
baz=82,SNR=31
HEBO Mount Hebo 81.73 36 *e*P **P** 09 13 10.0 +1.2
comp=Z,152nm,1.2s
MOD Modoc 81.74 40 *e*P **P** 09 13 09.9 +0.8
comp=Z,121nm,1.1s
114A Black Gap (USA 81.83 51 ⇓P **P** 09 13 10.8 +1.3
baz=82,SNR=82
BROR Big Rock Looko 81.88 37 P **P** 09 13 10.2 +0.7
MAW Mawson 82.07 200 P **P** 09 13 11.1 +1.0
comp=Z,8.3nm,0.4s,baz=83,slow=4.0,SNR=13
MAW Mawson 82.07 200 P **P** 09 13 11.1 +1.0
MAW Mawson 82.07 200 P **P** 09 13 11.1 +1.0
Z14A Wintersburg 82.09 51 ⇑P **P** 09 13 12.3 +1.5
baz=82,SNR=34
IPM Ipoh 82.09 278 *e*P **P** 09 13 11.5 +0.2
comp=Z,45nm,0.8s
IPM Ipoh 82.09 278 P **P** 09 13 11.8 +0.5
W13A Hualapai Mount 82.28 49 ⇓P **P** 09 13 12.9 +0.9
baz=82,SNR=43
Y14A Wickenburg 82.33 50 ⇑P **P** 09 13 13.1 +1.0
baz=83,SNR=30
RSO Redoubt South 82.58 13 *e*P **P** 09 13 12.4 -0.5
SVW2 Sparrevohn 82.61 11 *e*P **P** 09 13 12.2 -0.6
comp=Z,162nm,2.2s
R11A Troy Canyon, C 82.78 45 ⇑P **P** 09 13 14.9 +0.5
baz=83
BMW Boistfort Moun 82.80 35 *e*P **P** 09 13 15.1 +1.0
BMW Boistfort Moun 82.80 35 *e*P **P** 09 13 15.1 +1.0
BMN Battle Mountai 82.83 43 *e*P **P** 09 13 15.6 +1.0
BMN pmax pmax
comp=Z,158nm,1.3s
BMN Battle Mountai 82.83 43 *e*P **P** 09 13 15.6 +1.0
comp=Z,158nm,1.3s
HOOD Mount Hood Mea 82.97 37 *e*P **P** 09 13 15.7 +0.6
comp=Z,96nm,1.2s
SEW Seward 82.99 14 *e*P **P** 09 13 14.5 -0.1
comp=Z,60nm,1.0s
NLWA Neilton Lookou 83.03 34 *e*P **P** 09 13 16.3 +1.1
comp=Z,106nm,1.1s
WVOR Wild Horse Val 83.06 40 *e*P **P** 09 13 16.3 +0.7
WVOR pmax pmax
comp=Z,109nm,1.2s
WVOR Wild Horse Val 83.06 40 *e*P **P** 09 13 16.3 +0.7
comp=Z,109nm,1.2s
VIPM Ingram Point 83.08 38 P **P** 09 13 16.4 +0.7
VIPM Ingram Point 83.08 38 P **P** 09 13 16.4 +0.7
SLKM Skilak Lake 83.17 14 *e*P **P** 09 13 15.2 -0.4
SLKM Skilak Lake 83.17 14 *e*P **P** 09 13 15.2 -0.4
TUC Tucson 83.17 52 *e*P **P** 09 13 17.8 +1.4
TUC pmax pmax
comp=Z,113nm,1.3s
TUC Tucson 83.17 52 *e*P **P** 09 13 17.8 +1.4
comp=Z,113nm,1.3s
TDL Tradedollar La 83.28 36 P **P** 09 13 17.6 +1.0
GAMB Gambell 83.32 3 *e*P **P** 09 13 16.3 +0.2
comp=Z,144nm,1.5s
SPU Mount Spurr 83.38 13 *e*P **P** 09 13 15.7 -1.0
PSI Prapat 83.49 275 P **P** 09 13 18.0 -0.4
comp=Z,29nm,1.0s
ASR Mount Adams--S 83.50 36 P **P** 09 13 18.2 +0.6
GNW Green Mountain 83.69 34 *e*P **P** 09 13 19.3 +0.9
comp=Z,26nm,0.9s
X16A Lo Mia Camp, P 83.69 50 ⇓P **P** 09 13 20.2 +1.2
baz=84,SNR=95
LON Longmire 83.74 36 *e*P **P** 09 13 19.0 +0.2
LON pmax pmax
comp=Z,82nm,1.7s
LON Longmire 83.74 36 *e*P **P** 09 13 19.0 +0.2
comp=Z,82nm,1.7s
R13A O'Grain Ranch, 83.78 46 ⇑P **P** 09 13 20.4 +1.1
baz=84
CCUT Cedar City 83.88 47 *e*P **P** 09 13 20.9 +1.0
comp=Z,222nm,2.2s
ARUT Antelope Range 83.95 46 *e*P **P** 09 13 21.1 +0.9
ARUT pmax pmax
comp=Z,85nm,1.6s
ARUT Antelope Range 83.95 46 *e*P **P** 09 13 21.1 +0.9
comp=Z,85nm,1.6s
PGC Sidney 84.03 33 *e*P **P** 09 13 20.3 +0.3
comp=Z,4.5nm,1.2s
U15A North Rim 84.06 48 ⇑P **P** 09 13 22.1 +1.2
baz=84,SNR=82
X17A Forest Lakes 84.12 51 ⇓P **P** 09 13 22.6 +1.4
baz=84,SNR=50
WUAZ Wupatki 84.27 49 *e*P **P** 09 13 22.9 +1.2
comp=Z,84nm,1.3s
WUAZ Wupatki 84.27 49 ⇑P **P** 09 13 22.7 +0.9
baz=84,SNR=33
ELK Elko 84.27 43 *e*P **P** 09 13 22.5 +0.7
ELK Elko 84.27 43 *e*P **P** 09 13 22.5 +0.7
PMR Palmer 84.39 14 *e*P **P** 09 13 20.8 -0.6
PMR pmax pmax
comp=Z,229nm,1.6s
PMR Palmer 84.39 14 *e*P **P** 09 13 20.8 -0.6
comp=Z,229nm,1.6s
Y18A Canyon Day Jun 84.42 51 ⇑P **P** 09 13 24.0 +1.5
baz=85,SNR=70
320A Kipp Ranch, An 84.43 54 ⇓P **P** 09 13 24.5 +1.9
baz=85,SNR=107
W17A Winslow 84.54 50 ⇓P **P** 09 13 24.4 +1.3
baz=85
JCW Jim Creek 84.55 34 *e*P **P** 09 13 23.2 +0.6
BJI Beijing 84.61 316 P **P** 09 13 22.9 -0.1
BJI pP **pP** 09 15 41.6 -0.5
BJI sP **sP** 09 16 48.3 +0.1
BJI S **SKKSac** 09 22 53.5 +0.3
BJI pmax pmax
comp=Z,160nm,3.7s
220A Playas Peak, P 84.69 54 ⇓P **P** 09 13 25.4 +1.6
baz=85,SNR=50
V17A Tonalea, Kykot 84.74 49 ⇓P **P** 09 13 25.1 +1.0
baz=85,SNR=62
U16A Tuba City 84.75 49 ⇑P **P** 09 13 25.2 +1.2
baz=85,SNR=79
SML Sawmill 84.76 14 *e*P **P** 09 13 23.2 -0.1
SML pmax pmax
comp=Z,18nm,1.4s
SML Sawmill 84.76 14 *e*P **P** 09 13 23.2 -0.1
comp=Z,18nm,1.4s
ENH Enshi 84.78 305 *e*P **P** 09 13 24.1 -0.1
comp=Z,41nm,1.2s
DIV Divide 84.78 15 *e*P P 09 13 18.6 -4.9
comp=Z,100nm,1.0s
HAWA Hanford 84.80 37 *e*P **P** 09 13 24.5 +0.7
comp=Z,112nm,1.2s
X18A Snowflake 84.83 51 ⇓P **P** 09 13 25.6 +1.0
baz=85,SNR=35
120A U Bar Ranch, L 84.90 53 ⇓P **P** 09 13 26.2 +1.4
baz=85,SNR=28
RPW Rockport 84.93 34 *e*P **P** 09 13 25.0 +0.5
BMRM Bremner River 84.94 16 *e*P **P** 09 13 23.8 -0.4
comp=Z,200nm,1.4s
R15A Junction 84.95 47 ⇑P **P** 09 13 26.4 +1.3
baz=85,SNR=14
ETW Entiat 85.06 35 *e*P **P** 09 13 25.8 +0.6
Y19A Nutrioso 85.08 52 ⇑P **P** 09 13 27.2 +1.4
baz=85,SNR=57
MSU Marysvale 85.17 46 *e*P **P** 09 13 27.4 +1.3
MSU *e* 09 16 57.3
MSU Marysvale 85.17 46 *e*P **P** 09 13 27.4 +1.3
MSU *e*PP **PP** 09 16 57.3 0.0
S16A Weppner Ranch, 85.18 47 ⇓P **P** 09 13 26.8 +0.6
baz=85,SNR=27
Z20A Nine Sixteen R 85.19 53 ⇑P **P** 09 13 27.7 +1.5

baz=85,SNR=34
BMO Blue Mountains 85.21 39 eP P 09 13 26.2 +0.2
BMO Blue Mountains 85.21 39 eP P 09 13 26.2 +0.2
W18A Petrified Fore 85.26 50 ⇑P P 09 13 27.4 +0.9
baz=86,SNR=7.9
X19A St. Johns 85.27 51 ⇑P P 09 13 27.7 +1.1
baz=86,SNR=33
U17A Shonto 85.30 49 ⇑P P 09 13 27.8 +1.1
baz=86,SNR=19
221A Mesquite Ranch 85.30 54 ⇑P P 09 13 28.4 +1.6
baz=86,SNR=28
SEY Seymchan 85.31 347 ceP P 09 13 23.8 -2.0
MFID Camas Ranch 85.32 41 eP P 09 13 27.4 +0.8
comp=Z,80nm,1.0s
MFID Camas Ranch 85.32 41 ⇓P P 09 13 27.3 +0.8
baz=86,SNR=41
WTV Waterville 85.32 36 P P 09 13 27.0 +0.6
TNA Tin City 85.33 5 eP P 09 13 26.4 +0.6
comp=Z,27nm,1.2s
TNA epP pP 09 15 48.5 +3.1
USHA Ushuaia 85.37 147 P P 09 13 27.7 +1.2
comp=Z,18nm,0.9s,baz=242,slow=7.7,SNR=4.3
USHA Ushuaia 85.37 147 P P 09 13 27.7 +1.2
T17A Navajo Res., N 85.39 48 ⇓P P 09 13 28.3 +1.2
baz=86,SNR=52
V18A Ganado 85.40 50 ⇑P P 09 13 28.1 +0.9
baz=86,SNR=40
GYA Guiyang 85.41 300 P P 09 13 28.3 +1.0
GYA pP pP 09 15 48.5 +1.7
GYA sP sP 09 16 48.4 -4.4
GYA PP PP 09 17 01.3 +2.1
GYA SKS SKSac 09 22 49.0 -1.7
GYA S S 09 23 04.5 -0.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
W19A Sanders 85.51 50 ⇓P P 09 13 28.6 +0.9
baz=86,SNR=14
121A Cookes Peak, D 85.53 53 ⇑P P 09 13 29.2 +1.3
baz=86,SNR=26
R16A Teasdale 85.53 47 ⇑P P 09 13 29.1 +1.2
baz=86,SNR=25
DUG Dugway 85.58 45 eP P 09 13 28.4 +0.5
DUG pmax pmax
comp=Z,299nm,3.0s
DUG Dugway 85.58 45 eP P 09 13 28.4 +0.5
comp=Z,299nm,3.0s
DUG epP pP 09 15 53.9 +6.5
DUG Dugway 85.58 45 ⇑P P 09 13 28.4 +0.5
baz=86,SNR=12
P15A Leamington 85.62 45 ⇑P P 09 13 28.8 +0.7
baz=86,SNR=7.3
S17A Black Ridge (B 85.69 48 ⇑P P 09 13 28.9 +0.4
baz=86,SNR=28
Y20A Horse Springs, 85.70 52 ⇑P P 09 13 30.2 +1.4
baz=86,SNR=48
U18A Rough Rock, Ch 85.77 49 ⇓P P 09 13 29.7 +0.8
baz=86,SNR=34
TRF Thorofare Moun 85.79 12 eP P 09 13 26.4 -1.9
comp=Z,65nm,1.0s
OD2 Odessa Site #2 85.83 36 eP P 09 13 29.3 +0.5
222A Williams Famil 85.86 54 ⇓P P 09 13 30.7 +1.3
baz=86,SNR=28
X20A Quemado 85.90 51 ⇑P P 09 13 30.9 +1.2
baz=86,SNR=30
I12A Atlanta 85.95 41 ⇓P P 09 13 30.6 +0.9
baz=86,SNR=112
Z21A St. Cloud Mine 85.96 53 ⇑P P 09 13 31.5 +1.5
baz=86,SNR=35
V19A Window Rock 86.04 50 ⇓P P 09 13 31.1 +0.8
baz=86,SNR=9.7
Q16A Castle Valley 86.05 46 ⇑P P 09 13 31.5 +1.3
baz=86,SNR=45
P16A Fountain Green 86.06 46 ⇓P P 09 13 31.4 +1.2
baz=86,SNR=7.8
T18A Mexican Hat 86.11 48 ⇑P P 09 13 31.5 +1.1
baz=86,SNR=126
N15A Stansbury Isla 86.12 44 ⇓P P 09 13 31.0 +0.6
baz=86,SNR=20
R17A Hanksville Air 86.13 47 ⇑P P 09 13 31.1 +0.6
baz=86,SNR=37
W20A Ramah 86.17 51 ⇓P P 09 13 31.9 +1.0
baz=86,SNR=68
U19A Dine' College, 86.19 49 ⇑P P 09 13 31.7 +0.8
baz=86,SNR=68
122A Conniff Cattle 86.20 53 ⇑P P 09 13 32.5 +1.5
baz=86,SNR=9
TMUT Trail Mountain 86.21 46 eP P 09 13 32.5 +1.4
comp=Z,416nm,2.2s
L14A Malta 86.23 43 ⇓P P 09 13 31.6 +0.7
baz=86,SNR=43
Y21A Point of Rocks 86.27 52 ⇑P P 09 13 32.8 +1.4
baz=86,SNR=22
HLID Hailey 86.27 41 eP P 09 13 32.1 +1.0
comp=Z,72nm,0.9s
HLID e 09 17 04.4
HLID Hailey 86.27 41 ⇑P P 09 13 32.2 +1.0
baz=86,SNR=133
MPU Maple Canyon 86.28 45 eP P 09 13 32.1 +0.8
comp=Z,178nm,2.2s
S18A Hurst Farm, Bl 86.28 48 ⇑P P 09 13 31.9 +0.5
baz=86,SNR=12
MCK McKinley 86.32 13 eP P 09 13 29.6 -1.1
MCK McKinley 86.32 13 eP P 09 13 29.6 -1.1
223A Chaparral, Ant 86.33 54 ⇓P P 09 13 33.1 +1.5
baz=87,SNR=13
J13A Cove Ranch, Pi 86.34 41 ⇓P P 09 13 32.5 +1.2
baz=87,SNR=167
X21A Alamocita Cree 86.38 52 ⇓P P 09 13 32.9 +1.0
baz=87,SNR=31
HVU Hansel Valley 86.40 43 eP P 09 13 32.8 +1.0
HVU e 09 17 06.0
HVU pmax pmax
comp=Z,103nm,1.3s
HVU Hansel Valley 86.40 43 eP P 09 13 32.8 +1.0
comp=Z,103nm,1.3s
HVU ePP PP 09 17 06.0 -0.8
PAX Paxson 86.44 15 eP P 09 13 30.1 -1.2
PAX pmax pmax
comp=Z,27nm,1.1s
PAX Paxson 86.44 15 eP P 09 13 30.1 -1.2
comp=Z,27nm,1.1s
M15A Larsen Ranch, 86.45 44 ⇓P P 09 13 32.4 +0.5
baz=87,SNR=42
O16A Springville 86.46 45 ⇑P P 09 13 32.7 +0.7
baz=87,SNR=29
Z22A Elephant Butte 86.47 53 ⇑P P 09 13 33.4 +1.2
baz=87,SNR=6.6
SKAG Skagway 86.48 21 eP P 09 13 32.3 +0.9
comp=Z,114nm,1.4s
V20A Brimhall 86.50 50 ⇑P P 09 13 33.0 +0.6
baz=87,SNR=12
H12A Diamond D Ranc 86.52 40 ⇑P P 09 13 32.9 +0.6
baz=87
K14A Jones Ranch, D 86.53 42 ⇑P P 09 13 33.2 +0.9
baz=87,SNR=71
G12A Big Creek, Yel 86.54 39 ⇑P P 09 13 33.0 +0.6
baz=87,SNR=118
T19A Beclabito 86.57 49 ⇓P P 09 13 33.2 +0.5
baz=87,SNR=27
SRU San Rafael 86.59 46 eP P 09 13 33.4 +0.7
SRU e*PP pP 09 15 53.2 +0.4
SRU pmax pmax
comp=Z,166nm,1.5s
SRU San Rafael 86.59 46 eP P 09 13 33.4 +0.7
comp=Z,166nm,1.5s
SRU epP pP 09 15 53.2 +0.4
SRU San Rafael 86.59 46 ⇑P P 09 13 33.4 +0.7
baz=87,SNR=62
P17A Butcher Ranch, 86.61 46 ⇓P P 09 13 33.9 +1.1
baz=87,SNR=28
I13A Wildhorse Cree 86.64 41 ⇓P P 09 13 33.8 +0.9
baz=87,SNR=47
R18A Canyonlands Na 86.68 47 ⇑P P 09 13 33.8 +0.6
baz=87,SNR=71
JLU Jordanelle 86.68 45 eP P 09 13 33.9 +0.6
comp=Z,104nm,1.6s
J14A Carey 86.71 42 ⇓P P 09 13 34.6 +1.5
baz=87
U20A Newcomb 86.72 50 ⇓P P 09 13 33.9 +0.5
baz=87,SNR=7.4
DAU Daniels Canyon 86.72 45 eP P 09 13 33.9 +0.4
DAU Daniels Canyon 86.72 45 eP P 09 13 33.9 +0.4
123A Bell Site, Whi 86.73 54 ⇑P P 09 13 34.8 +1.4
baz=87,SNR=17
L15A Malad City 86.76 43 ⇓P P 09 13 33.9 +0.5
baz=87,SNR=64
Y22A Socorro 86.77 52 ⇑P P 09 13 34.7 +1.0
baz=87
W21A San Fidel 86.78 51 ⇓P P 09 13 34.7 +0.9
baz=87
324A Moseley Ranch, 86.82 55 ⇓P P 09 13 34.8 +0.9
baz=87,SNR=94
N16A Rees Ranch, Co 86.83 45 ⇓P P 09 13 34.9 +1.0
baz=87,SNR=22
LAZ Ladron 86.84 52 eP P 09 13 35.0 +1.0
comp=Z,57nm,1.8s
Q18A Rafter H Ranch 86.85 47 ⇓P P 09 13 34.5 +0.6
baz=87,SNR=58
XAN Xi'an 86.86 308 P P 09 13 33.0 -0.9
LENM Lemitar 86.86 52 eP P 09 13 35.2 +1.1
Y22D IRIS PASSCAL I 86.86 52 ⇑P P 09 13 35.3 +1.2
baz=87
H13A Challis 86.89 40 ⇓P P 09 13 34.8 +0.9
baz=87,SNR=72
S19A Harvey Farm, M 86.91 48 ⇓P P 09 13 34.8 +0.5
baz=87,SNR=26
M16A Huntsville 86.91 44 ⇓P P 09 13 34.7 +0.5
baz=87
F12A Elk City 86.92 39 ⇑P P 09 13 34.4 +0.4
baz=87,SNR=146
425A Indio Mountain 86.93 56 ⇑P P 09 13 35.8 +1.3
baz=87,SNR=82
O17A Robinson Place 86.96 45 ⇓P P 09 13 35.7 +1.2
baz=87,SNR=109
MNTX Cornudas Mount 87.01 55 eP P 09 13 35.6 +0.9
comp=Z,84nm,1.3s
MNTX Cornudas Mount 87.01 55 ⇑P P 09 13 35.7 +1.0
baz=87,SNR=107
MNTX ⇑P P 09 13 35.7 +1.0
baz=87,SNR=107
K15A Arbon 87.01 43 ⇑P P 09 13 35.5 +0.9
baz=87,SNR=46
Z23A Rita Site, Whi 87.03 53 ⇓P P 09 13 35.9 +1.1
baz=87,SNR=17
224A Cornudas Mount 87.06 55 ⇓P P 09 13 36.2 +1.2
baz=87,SNR=67
I14A Mackay 87.06 41 ⇓P P 09 13 35.9 +1.1
baz=87,SNR=144
R19A Curley Farm, L 87.08 48 ⇓P P 09 13 35.5 +0.4
baz=87,SNR=34
E12A Beaver Dam Sad 87.09 38 ⇑P P 09 13 34.6 -0.3
baz=87,SNR=24
626A Big Bend Ranch 87.09 57 ⇑P P 09 13 36.7 +1.5
baz=87,SNR=118
V21A Milan 87.10 50 ⇑P P 09 13 35.9 +0.6
baz=87,SNR=17
HWUT Hardware Ranch 87.10 44 eP P 09 13 35.2 +0.1
comp=Z,46nm,1.1s
HWUT ePP PP 09 17 10.1 -2.3
BNM Barren Site 87.11 52 eP P 09 13 36.1 +0.7
comp=Z,90nm,1.5s
MVCO Mesa Verde 87.11 49 eP P 09 13 35.8 +0.5
comp=Z,38nm,1.4s
MVCO epP pP 09 15 49.3 -6.2
MVCO Mesa Verde 87.11 49 ⇓P P 09 13 35.8 +0.5
baz=87,SNR=9.8
LPM Los Pinos Moun 87.18 52 eP P 09 13 36.5 +0.8
G13A Cobalt 87.18 40 ⇓P P 09 13 35.9 +0.6
baz=87,SNR=44
325A Bean Ranch, Si 87.19 55 ⇑P P 09 13 36.6 +0.9
baz=87,SNR=99
NEW Newport 87.21 36 eP P 09 13 35.3 0.0
NEW pmax pmax
comp=Z,45nm,1.3s
NEW Newport 87.21 36 eP P 09 13 35.2 0.0
comp=Z,45nm,1.3s
NEW Newport 87.21 36 ⇑P P 09 13 35.1 -0.1
baz=88,SNR=19
N17A Moffit Pass 87.26 45 ⇑P P 09 13 36.6 +0.6
baz=88,SNR=26
526A Mary Lane Ranc 87.33 57 ⇓P P 09 13 37.6 +1.2
baz=88,SNR=94
W22A Albuquerque 87.34 51 ⇓P P 09 13 37.4 +1.0
baz=88,SNR=6.4
DOT Dot Lake 87.35 15 eP P 09 13 35.1 -0.4
comp=Z,36nm,0.9s
U21A Nageezi 87.36 50 ⇑P P 09 13 37.3 +0.8
baz=88,SNR=75
PV04 Paradox Valley 87.37 48 eP P 09 13 37.2 +0.8
PV04 ePP PP 09 17 11.2 -3.3
TXAR Lajitas Array 87.37 58 P P 09 13 37.9 +1.4
comp=Z,45nm,0.9s,baz=222,slow=5.0,SNR=290
TXAR pP pP 09 15 57.2 +0.4
comp=Z,0.7nm,0.9s,baz=219,slow=9.9,SNR=2.1
TXAR PKKPbc PKKPbc 09 31 21.8 -0.5
comp=Z,0.4nm,0.8s,baz=123,slow=4.6,SNR=3.7
TXAR PKPPKP P'P'df 09 39 33.6 +4.3
comp=Z,0.7nm,1.0s,baz=128,slow=3.5,SNR=4.4
TXAR Lajitas Array 87.37 58 P P 09 13 37.9 +1.4
TXAR *PP pP 09 15 57.2 +0.4
TXAR Lajitas Array 87.37 58 P P 09 13 37.9 +1.4
TXAR pP pP 09 15 57.2 +0.4
TXAR PKKPbc PKKPbc 09 31 21.8 -0.5
TXAR P'P' 09 39 33.6
124A Stringfield Ra 87.37 54 ⇑P P 09 13 37.6 +1.0
baz=88,SNR=54
Q19A Hogan Spring (87.38 47 ⇓P P 09 13 36.9 +0.6
baz=88,SNR=73
L16A Fish Haven 87.39 44 ⇑P P 09 13 36.9 +0.4
baz=88,SNR=99
J15A Blackfoot 87.43 42 ⇑P P 09 13 38.0 +1.5
baz=88,SNR=113
Y23A Lovelace Mesa, 87.45 53 ⇑P P 09 13 37.6 +0.8
baz=88,SNR=26
C11A Tepee Creek (N 87.46 37 ⇓P P 09 13 37.1 +0.6
baz=88
H14A Leadore 87.46 41 ⇓P P 09 13 37.7 +1.0
baz=88,SNR=80
PV01 Paradox Valley 87.48 48 eP P 09 13 37.3 +0.3
comp=Z,6μm,1.4s
PV01 epP pP 09 15 58.6 +1.2
PV01 ePP PP 09 17 14.5 -1.0
F13A Darby 87.49 39 ⇑P P 09 13 36.9 +0.2
baz=88,SNR=80
O18A Roosevelt 87.49 46 ⇓P P 09 13 37.8 +0.9
baz=88,SNR=52
S20A Disappointment 87.49 48 ⇑P P 09 13 37.6 +0.5
baz=88,SNR=29
COLA College 87.55 13 eP P 09 13 35.3 -1.0
COLA pmax pmax
comp=Z,84nm,1.0s
COLA College 87.55 13 eP P 09 13 35.3 -1.0
comp=Z,84nm,1.0s
COLA epP pP 09 15 56.9 +0.1
D12A Red Ives Fores 87.55 38 ⇑P P 09 13 36.8 -0.1
baz=88
ANMO Albuquerque 87.58 52 pP pP 09 15 58.8 +0.9
comp=Z,1.2nm,0.9s,baz=226,slow=6.7,SNR=2.9
ANMO PP PP 09 17 15.5 -0.8
comp=Z,1.4nm,1.0s,baz=252,slow=3.2,SNR=2.4
ANMO Albuquerque 87.58 52 eP P 09 13 38.2 +0.7
ANMO *PP pP 09 15 58.8 +0.9
ANMO 09 17 15.5
ANMO pmax pmax
comp=Z,74nm,1.3s
ANMO Albuquerque 87.58 52 eP P 09 13 38.1 +0.7
comp=Z,74nm,1.3s
ANMO pP pP 09 15 58.8 +0.9
ANMO PP PP 09 17 15.5 -0.8
DLBC Dease Lake 87.61 23 eP P 09 13 37.3 +0.4
M17A Scullys Gap (B 87.62 44 ⇓P P 09 13 38.0 +0.4
baz=88,SNR=34
X23A Hourglass Bar 87.63 52 ⇑P P 09 13 38.5 +0.8
baz=88,SNR=9.5
426A McDonald Obser 87.63 56 ⇑P P 09 13 39.0 +1.2
baz=88,SNR=81
627A Terlingua Ranc 87.64 58 ⇑P P 09 13 39.1 +1.3
baz=88,SNR=106
R20A Redvale 87.64 48 ⇓P P 09 13 38.1 +0.4
baz=88,SNR=23
ILAR Eielson Array 87.67 13 P P 09 13 35.6 -1.3
comp=Z,27nm,0.8s,baz=220,slow=5.6,SNR=202
ILAR pP pP 09 15 57.7 +0.3
comp=Z,3.2nm,1.1s,baz=230,slow=5.8,SNR=5.9
ILAR S SKSac 09 23 10.0 +7.7
comp=Z,0.7nm,1.2s,baz=233,slow=7.5,SNR=4.4
ILAR PKKPbc PKKPdf 09 31 19.4 +2.3
comp=Z,0.4nm,0.6s,baz=330,slow=1.9,SNR=6.6
ILAR Eielson Array 87.67 13 P P 09 13 35.6 -1.3
ILAR S SKSac 09 23 10.0 +7.7
ILAR Eielson Array 87.67 13 P P 09 13 35.6 -1.3
ILAR pP pP 09 15 57.7 +0.3
ILAR S SKSac 09 23 10.0 +7.7
ILAR PKKPbc PKKPdf 09 31 19.4 +2.3
V22A San Miguel Ran 87.68 51 ⇓P P 09 13 38.5 +0.5
baz=88,SNR=13
K16A Soda Springs 87.69 43 ⇓P P 09 13 38.8 +1.1
baz=88,SNR=70
I15A Monteview 87.70 41 ⇑P P 09 13 39.1 +1.3
baz=88,SNR=54
Z24A Sheeppen Canyo 87.71 54 ⇑P P 09 13 38.9 +0.8
baz=88,SNR=29
G14A Jackson 87.73 40 ⇑P P 09 13 38.6 +0.6
baz=88,SNR=41
527A Woodward Ranch 87.75 57 ⇓P P 09 13 39.3 +1.0
baz=88,SNR=52
L17A Cokeville 87.79 44 ⇓P P 09 13 38.3 0.0
baz=88,SNR=14
S21A Coal Bank Pass 87.82 49 ⇑P P 09 13 39.4 +0.7
baz=88,SNR=41
C12B Naegeli Ranch, 87.83 37 ⇑P P 09 13 38.5 +0.3
baz=88
J16A Bone 87.89 42 ⇓P P 09 13 39.9 +1.1
baz=88,SNR=158
MCMT McKenzie Canyo 87.89 41 eP P 09 13 39.6 +0.9
comp=Z,42nm,1.1s
P19A Cripple Cowboy 87.89 47 ⇓P P 09 13 39.4 +0.5
baz=88,SNR=37
W23A Werner Place, 87.91 52 ⇑P P 09 13 39.6 +0.6
baz=88,SNR=21
H15A Lima 87.91 41 ⇓P P 09 13 39.8 +1.0
baz=88,SNR=43
Y24A Capitan 87.91 53 ⇑P P 09 13 39.9 +0.9
baz=88,SNR=103
E13A Victor 87.91 39 ⇓P P 09 13 38.4 -0.3
baz=88,SNR=24
326A Caldwell Ranch 87.94 56 ⇓P P 09 13 39.6 +0.5
baz=88,SNR=28
AHID Auburn Hatcher 87.97 43 eP P 09 13 39.3 +0.2
comp=Z,154nm,1.4s
M18A Lyman 88.00 45 ⇓P P 09 13 39.9 +0.6
baz=88,SNR=126
GDL2 Guadalupe Moun 88.00 55 eP P 09 13 40.5 +1.1
Q20A Ridgley Place, 88.05 47 ⇓P P 09 13 40.0 +0.5
baz=88,SNR=64
628A Black Gap, Mar 88.05 58 ⇑P P 09 13 40.7 +1.1
baz=88,SNR=63
BILL Bilibino 88.07 355 ⇓eP P 09 13 38.6 -0.1
BILL e 09 23 04.7
BILL pmax pmax
comp=Z,72nm,2.8s
BILL Bilibino 88.07 355 eP P 09 13 38.3 -0.4
comp=Z,20nm,0.9s
F14A Wisdom 88.07 40 ⇓P P 09 13 39.8 +0.2
baz=88
K17A Gardner Place, 88.08 43 ⇓P P 09 13 40.4 +0.8
baz=88,SNR=72
D13A Huson 88.09 38 ⇑P P 09 13 39.4 0.0
baz=88,SNR=25
O19A Miners Draw (B 88.10 46 ⇓P P 09 13 40.2 +0.4
baz=88,SNR=90
RRI2 Red Ridge 88.11 42 eP P 09 13 40.8 +0.9
comp=Z,132nm,1.1s
RRI2 ePP PP 09 17 18.8 -1.5
KMI Kunming 88.12 297 P P 09 13 41.8 +1.6
KMI pP pP 09 16 02.0 +1.2
KMI PP PP 09 17 21.5 +0.8
KMI SKS SKSac 09 23 06.3 -0.9
KMI S S 09 23 30.1 -0.7
KMI SS SS 09 29 47.5 +5.7
V23A Ortiz Mt. (NFS 88.13 51 ⇑P P 09 13 41.2 +1.1
baz=88,SNR=38
226A Malaga, Loving 88.15 55 ⇑P P 09 13 40.9 +0.8
baz=88,SNR=41
T22A Edith 88.17 50 ⇓P P 09 13 40.6 +0.4
baz=88,SNR=17
B12A Libby 88.18 37 ⇓P P 09 13 40.4 +0.6
baz=88,SNR=22
Z25A Roswell 88.18 54 ⇑P P 09 13 41.2 +1.0
baz=88,SNR=52
X24A Lazy VL Ranch, 88.18 52 ⇓P P 09 13 40.5 +0.2
baz=88,SNR=16
427A Hayter Ranch, 88.20 56 ⇓P P 09 13 41.6 +1.3
baz=88,SNR=122
L18A Fontenelle, Gr 88.25 44 ⇓P P 09 13 41.0 +0.5
baz=88,SNR=17
MSO Missoula 88.26 39 eP P 09 13 40.0 -0.3
comp=Z,14nm,1.1s
MSO epP pP 09 16 07.1 +6.1
MSO ePP PP 09 17 18.9 -2.3
MSO Missoula 88.26 39 ⇓P P 09 13 39.9 -0.3
baz=88,SNR=22
I16A Newdale 88.26 42 ⇑P P 09 13 41.8 +1.4
baz=88,SNR=97
G15A Dillon 88.28 40 ⇓P P 09 13 41.1 +0.7
baz=88,SNR=95
BSMT Bassoo Peak 88.30 37 eP P 09 13 40.5 -0.1
BSMT epP pP 09 16 05.4 +4.1
BSMT ePP PP 09 17 19.9 -1.8
R21A Cimarron 88.31 48 ⇑P P 09 13 41.8 +0.9
baz=88,SNR=78
E14A Clinton 88.31 39 ⇓P P 09 13 40.8 +0.2
baz=88,SNR=42
DLMT Dillon 88.31 40 eP P 09 13 41.4 +0.8
comp=Z,81nm,1.3s
DCID1 Drake Creek 88.32 42 eP P 09 13 41.9 +1.2
comp=Z,110nm,1.3s
DCID1 ePP PP 09 17 21.5 -0.4
C13A Hot Springs 88.33 38 ⇑P P 09 13 40.2 -0.4
baz=89,SNR=12
327A Balmorhea Ranc 88.34 56 ⇑P P 09 13 42.0 +1.1
baz=88
N19A John Jarvie Ra 88.34 45 ⇓P P 09 13 41.0 +0.2
baz=89,SNR=20
U23A El Rito 88.38 51 ⇓P P 09 13 42.0 +0.8
baz=89,SNR=42
A12A Yaak River Ran 88.39 36 ⇓P P 09 13 41.4 +0.7
baz=89,SNR=39
CLNB Carlsbad 88.40 55 eP P 09 13 42.0 +0.8
comp=Z,8.2nm,0.8s
528A Cox Ranch, San 88.40 57 ⇓P P 09 13 42.3 +1.0
baz=89,SNR=34
TPAW Teton Pass 88.41 42 eP P 09 13 42.2 +1.0
comp=Z,81nm,1.2s
TPAW ePP PP 09 17 21.0 -1.7
REDW Red Top Meadow 88.42 43 eP P 09 13 42.1 +0.9
comp=Z,137nm,1.2s
126A Clayton Basin, 88.45 55 ⇓P P 09 13 41.9 +0.5
baz=89,SNR=14
Y25A Mesa, Roswell 88.47 53 ⇑P P 09 13 42.0 +0.5
baz=89,SNR=54
W24A Lazy 6 Ranch, 88.48 52 ⇓P P 09 13 41.9 +0.3
baz=89,SNR=36
Q21A Lamborn Mesa, 88.50 48 ⇑P P 09 13 42.3 +0.7
baz=89,SNR=33
J17A Brown Place, J 88.50 43 ⇑P P 09 13 42.4 +0.8
baz=89,SNR=84
SNOW Snow King Moun 88.53 43 eP P 09 13 42.7 +0.9
comp=Z,102nm,1.1s
JTMT Jette 88.54 38 eP P 09 13 41.0 -0.6
S22A 4UR Ranch, Cre 88.54 49 ⇓P P 09 13 42.9 +0.8
baz=89
SWMT Swartz Lake 88.58 38 eP P 09 13 41.6 -0.1
SWMT ePP PP 09 17 21.9 -1.8
K18A Toltan Ranch, 88.59 44 ⇑P P 09 13 43.0 +1.0
baz=89,SNR=134
F15A Butte 88.62 40 ⇑P P 09 13 42.4 +0.4
baz=89,SNR=37
O20A White River Ci 88.62 46 ⇓P P 09 13 42.9 +0.6
baz=89,SNR=41
BLMT Blacktail Moun 88.63 37 eP P 09 13 42.1 +0.1
LRM Limekiln Ridge 88.63 40 eP P 09 13 42.6 +0.4
LRM ePP PP 09 17 22.2 -2.1
M19A Rock Springs 88.64 45 ⇓P P 09 13 42.7 +0.4
baz=89,SNR=23
D14A Greenough 88.64 38 ⇑P P 09 13 41.7 -0.3
baz=89,SNR=37
MOOW Moose Ponds 88.67 42 eP P 09 13 43.1 +0.7
comp=Z,65nm,1.4s
MOOW ePP PP 09 17 23.5 -1.2
LOHW Long Hollow 88.69 42 eP P 09 13 43.2 +0.7
comp=Z,100nm,1.5s
LOHW epP pP 09 16 04.3 +1.0
LOHW ePP PP 09 17 22.9 -1.9
CHMT Chamberlain Mo 88.71 39 eP P 09 13 42.5 0.0
428A Kincaid Ranch, 88.71 57 ⇓P P 09 13 43.9 +1.2
baz=89,SNR=18
CPRX Cap Rock 88.73 54 eP P 09 13 43.2 +0.4
comp=Z,53nm,1.0s

G16A	Moss Hill, Enn	88.73	41	⇑P		P	09 13 43.2	+0.6	
	baz=89,SNR=37								
SLMT	Seeley Lake	88.73	38	*e*P		P	09 13 42.5	0.0	
SLMT				*e*PP		PP	09 17 22.8	-2.2	
Z26A	Caprock	88.74	54	⇑P		P	09 13 43.3	+0.5	
	baz=89,SNR=45								
X25A	Clemmons Ranch	88.74	53	⇓P		P	09 13 43.1	+0.3	
	baz=89,SNR=5.5								
YBMT	Yellow Bay	88.75	38	*e*P		P	09 13 42.6	0.0	
	comp=Z,6.7nm,0.9s								
B13A	Whitefish	88.76	37	⇑P		P	09 13 42.3	-0.2	
	baz=89,SNR=14								
QLMT	Earthquake Lak	88.77	41	*e*P		P	09 13 44.1	+1.3	
L19A	Farson	88.78	44	⇓P		P	09 13 43.6	+0.7	
	baz=89,SNR=42								
V24A	Rampart Ranch,	88.80	51	⇓P		P	09 13 43.9	+0.7	
	baz=89,SNR=13								
T23A	Casias Ranch,	88.80	50	⇑P		P	09 13 43.8	+0.6	
	baz=89,SNR=13								
R22A	Saguache, Gunn	88.81	49	⇑P		P	09 13 44.2	+0.9	
	baz=89,SNR=37								
H16A	Russell Place,	88.82	41	⇓P		P	09 13 44.4	+1.4	
	baz=89,SNR=80								
E15A	Deer Lodge	88.82	39	⇓P		P	09 13 42.9	0.0	
	baz=89,SNR=21								
C14A	Swan Lake	88.86	38	⇑P		P	09 13 42.6	-0.4	
	baz=89,SNR=18								
I17A	Pilgrim Ck,	88.86	42	⇑P		P	09 13 44.6	+1.3	
	baz=89,SNR=50								
FLWY	Flagg Ranch	88.86	42	*e*P		P	09 13 43.8	+0.6	
	comp=Z,94nm,1.1s								
FLWY				*e*PP		PP	09 17 25.2	-0.9	
328A	Wristen Ranch,	88.88	56	⇑P		P	09 13 43.8	+0.4	
	baz=89,SNR=28								
DAWY	Dawson	88.88	16	*e*P		P	09 13 42.5	-0.1	
J18A	Kendall Valley	88.88	43	⇓P		P	09 13 44.0	+0.7	
	baz=89,SNR=180								
P21A	Newcastle	88.89	47	⇑P		P	09 13 43.9	+0.4	
	baz=89,SNR=24								
SNAA	Sanae	88.91	179	*e*		P	09 13 38.6	-4.2	
SNAA	Sanae	88.91	179	*e*P		P	09 13 38.3	-4.5	
SNAA				pmax		pmax			
	comp=Z,11nm,0.8s								
SNAA	Sanae	88.91	179	*e*P		P	09 13 38.3	-4.5	
	comp=Z,11nm,0.8s								
N20A	Spence Gulch,	88.93	46	⇓P		P	09 13 44.2	+0.5	
	baz=89								
CMAR	Chiang Mai Arr	88.94	290	P		P	09 13 45.0	+1.1	
	comp=Z,6.5nm,0.9s,baz=120,slow=2.8,SNR=34								
CMAR				pP		pP	09 16 06.6	+1.8	
	comp=Z,1.4nm,0.3s,baz=122,slow=5.2,SNR=3.4								
CMAR				PP		PP	09 17 28.3	+1.3	
	comp=Z,1.0nm,0.3s,baz=133,slow=6.9,SNR=4.6								
CMAR				PKKPbc		PKKPdf	09 31 14.4	+1.4	
	comp=Z,2.5nm,0.9s,baz=286,slow=4.6,SNR=9.3								
CMAR	Chiang Mai Arr	88.94	290	P		P	09 13 45.0	+1.1	
CMAR				*PP		pP	09 16 06.6	+1.8	
CMAR							09 17 28.3		
CMAR	Chiang Mai Arr	88.94	290	P		P	09 13 45.0	+1.1	
CMAR				pP		pP	09 16 06.6	+1.8	
CMAR				PP		PP	09 17 28.3	+1.3	
CMAR				PKKPbc		PKKPdf	09 31 14.4	+1.4	
YFT	Old Faithful	88.95	42	*e*P		P	09 13 46.0	+2.3	
	comp=Z,68nm,1.2s								
PD01	Pinedale Array	88.95	44	*e*P		P	09 13 43.9	+0.2	
PD01				*e*pP		pP	09 16 04.7	+0.1	
PD01				*e*PP		PP	09 17 24.2	-2.7	
BW06	Boulder Array	88.97	44	*e*P		P	09 13 43.9	+0.1	
BW06	Boulder Array	88.97	44	⇓P		P	09 13 43.9	+0.1	
	baz=89,SNR=60								
BW06				⇓P		P	09 13 43.9	+0.1	
	baz=89,SNR=60								
PD02	Pinedale Array	88.97	44	*e*P		P	09 13 44.0	+0.2	
PD02				*e*PP		PP	09 17 24.4	-2.6	
PDAR	Pinedale Array	88.97	44	P		P	09 13 43.9	+0.1	
	comp=Z,51nm,1.1s,baz=212,slow=2.9,SNR=165								
PDAR				pP		pP	09 16 04.9	+0.2	
	comp=Z,0.8nm,0.9s,baz=205,slow=6.0,SNR=2.2								
PDAR				PP		PP	09 17 22.9	-4.1	
	comp=Z,10nm,1.2s,baz=243,slow=6.3,SNR=13								
PDAR				PKKPbc		PKKPbc	09 31 17.8	-1.5	
	comp=Z,0.5nm,0.6s,baz=103,slow=6.5,SNR=4.5								
PDAR	Pinedale Array	88.97	44	P		P	09 13 43.9	+0.1	
PDAR				pP		pP	09 16 04.9	+0.2	
PDAR				PP		PP	09 17 22.9	-4.1	
PDAR				PKKPbc		PKKPbc	09 31 17.8	-1.5	
127A	Arkansas Junct	88.97	55	⇓P		P	09 13 44.3	+0.4	
	baz=89,SNR=23								
Q22A	Crested Butte,	88.98	48	⇓P		P	09 13 44.8	+0.8	
	baz=89,SNR=27								
YMR	Madison River	88.98	41	*e*P		P	09 13 44.5	+0.8	
	comp=Z,190nm,1.7s								
EGAK	Eagle	89.00	15	*e*P		P	09 13 42.8	-0.3	
	comp=Z,55nm,1.0s								
BOZ	Bozeman (W)	89.05	40	*e*P		P	09 13 44.5	+0.5	
BOZ				pmax		pmax			
	comp=Z,39nm,1.2s								
BOZ	Bozeman (W)	89.05	40	*e*P		P	09 13 44.5	+0.5	
	comp=Z,39nm,1.2s								
BOZ	Bozeman (W)	89.05	40	⇓P		P	09 13 44.6	+0.7	
	baz=89,SNR=46								
BOZ				⇓P		P	09 13 44.6	+0.7	
	baz=89,SNR=46								
CHTO	Chiang Mai	89.07	290	*e*P		P	09 13 44.7	+0.2	
CHTO				pmax		pmax			
	comp=Z,12nm,1.0s								
CHTO	Chiang Mai	89.07	290	*e*P		P	09 13 44.7	+0.2	
	comp=Z,12nm,1.0s								
CHTO	Chiang Mai	89.07	290	P		P	09 13 45.8	+1.3	
SMCO	Snowmass	89.07	48	*e*P		P	09 13 45.0	+0.4	
	comp=Z,49nm,1.1s								
U24A	Moreno Valley	89.08	51	⇓P		P	09 13 45.5	+1.0	
	baz=89,SNR=8.3								
A13A	Flathead Natio	89.08	37	⇑P		P	09 13 44.2	+0.2	
	baz=89								
H17A	Grant Village	89.09	42	⇓P		P	09 13 46.3	+2.0	
	baz=89,SNR=36								
S23A	Nye Farm, Mont	89.11	49	⇓P		P	09 13 45.4	+0.8	
	baz=89,SNR=7.1								
F16A	Kennard Place,	89.11	40	⇓P		P	09 13 45.0	+0.8	
	baz=89,SNR=37								
YNR	Norris Junctio	89.18	41	*e*P		P	09 13 46.9	+2.1	
	comp=Z,90nm,1.6s								
YNR				*e*PP		PP	09 17 29.7	+1.1	
W25A	X Bar L Ranch,	89.18	52	⇓P		P	09 13 45.0	+0.2	
	baz=89,SNR=62								
COLD	Coldfoot	89.19	11	*e*P		P	09 13 44.0	+0.1	
	comp=Z,44nm,1.0s								
O21A	Pagoda	89.19	47	⇑P		P	09 13 45.3	+0.4	
	baz=89,SNR=7.8								
D15A	Lincoln	89.20	39	⇑P		P	09 13 45.0	+0.3	
	baz=89,SNR=38								
I18A	Diamond G Ranc	89.24	43	⇓P		P	09 13 45.7	+0.7	
	baz=90,SNR=22								
M20A	Sweetwater, Wa	89.28	45	⇑P		P	09 13 46.0	+0.7	
	baz=90,SNR=18								
LKWY	Lake	89.28	42	*e*P		P	09 13 47.3	+2.1	
LKWY				*e*			09 17 29.6		
LKWY	Lake	89.28	42	*e*P		P	09 13 47.3	+2.1	
LKWY				*e*PP		PP	09 17 29.6	+0.2	
V25A	Rancho No Teng	89.33	51	⇓P		P	09 13 46.0	+0.4	
	baz=90,SNR=46								
Z27A	Tatum	89.34	54	⇑P		P	09 13 45.4	-0.2	
	baz=90,SNR=21								
X26A	CR and CF Fran	89.39	53	⇓P		P	09 13 45.7	-0.1	
	baz=90,SNR=6.1								
N21A	Black Mountain	89.40	46	⇓P		P	09 13 46.7	+0.9	
	baz=90,SNR=81								
P22A	Eagle	89.40	47	⇓P		P	09 13 46.6	+0.7	
	baz=90,SNR=32								
L20A	Wamsutter	89.41	45	⇑P		P	09 13 46.8	+1.0	
	baz=90,SNR=42								
G17A	Pierce Place,	89.43	41	⇓P		P	09 13 47.0	+1.2	
	baz=90,SNR=18								
WALA	Waterton Lakes	89.43	37	*e*P		P	09 13 45.8	+0.1	
	comp=Z,2.4nm,1.6s								
WALA				*e*PP		PP	09 17 28.7	-1.6	
B14A	Marquette Ranc	89.44	37	⇑P		P	09 13 45.6	-0.1	
	baz=90,SNR=59								
R23A	Moffat	89.45	49	⇑P		P	09 13 46.8	+0.6	
	baz=90,SNR=16								
HRY	Holter Researc	89.45	39	*e*P		P	09 13 46.3	+0.6	
HRY				*e*pP		pP	09 16 11.3	+4.5	
HRY				*e*PP		PP	09 17 27.7	-2.8	
E16A	East Helena	89.45	40	⇓P		P	09 13 46.3	+0.5	
	baz=90,SNR=27								
K19A	Absolon Red Bu	89.45	44	⇑P		P	09 13 45.9	-0.1	
	baz=90,SNR=34								
SDCO	Great Sand Dun	89.49	49	*e*P		P	09 13 46.6	+0.2	
	comp=Z,28nm,1.2s								
SDCO	Great Sand Dun	89.49	49	⇓P		P	09 13 46.8	+0.4	
	baz=90,SNR=35								
SDCO				⇓P		P	09 13 46.8	+0.4	
	baz=90,SNR=35								
C15A	Salmond Ranch,	89.52	38	⇑P		P	09 13 46.0	-0.1	
	baz=90,SNR=32								
J19A	Crowheart	89.53	43	⇑P		P	09 13 46.6	+0.3	
	baz=90,SNR=46								
T24A	Torres, Weston	89.53	50	⇑P		P	09 13 47.5	+0.9	
	baz=90,SNR=24								
CD2	Chengdu	89.53	303	P		P	09 13 47.3	+0.9	
CD2				pP		pP	09 16 07.4	-0.1	
CD2				sP		sP	09 17 11.3	-1.8	
CD2				PP		PP	09 17 34.8	+3.4	
CD2				S		S	09 23 42.5	-0.5	
CD2				sS		sS	09 27 50.8	-3.8	
CD2				SS		SS	09 30 04.1	+2.7	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,250nm,5.9s								
NVL	N'lazarevskaya	89.54	184	i/P		P	09 13 49.9	+4.3	
NVL				pmax		pmax			
	comp=Z,45nm,0.9s								
Y27A	Causey	89.61	54	⇓P		P	09 13 46.9	+0.1	
	baz=90,SNR=22								
W26A	Owens Ranch, T	89.65	52	⇑P		P	09 13 47.0	0.0	
	baz=90,SNR=11								
S24A	Houchin Ranch,	89.65	50	⇑P		P	09 13 47.8	+0.7	
	baz=90,SNR=28								
A14A	Double T Ranch	89.66	37	⇑P		P	09 13 46.9	+0.2	
	baz=90,SNR=39								
K20A	Yellowstone Ra	89.71	44	⇑P		P	09 13 47.1	-0.1	
	baz=90,SNR=35								
U25A	Circle Dot Ran	89.71	51	⇑P		P	09 13 47.6	+0.3	
	baz=90,SNR=30								
Q23A	Hartsel	89.75	48	⇓P		P	09 13 47.9	+0.3	
	baz=90								
F17A	Fitzpatrick Pl	89.76	40	⇑P		P	09 13 48.4	+1.1	
	baz=90,SNR=31								
D16A	Dana Ranch, Ca	89.78	39	⇑P		P	09 13 47.8	+0.5	
	baz=90,SNR=32								
H18A	Shoshone NF, C	89.80	42	⇓P		P	09 13 48.3	+0.7	
	baz=90,SNR=10								
O22A	Kremling	89.80	47	⇓P		P	09 13 48.3	+0.6	
	baz=90,SNR=61								
B15A	Bradely Ranch,	89.82	38	⇑P		P	09 13 46.8	-0.6	
	baz=90,SNR=18								
M21A	Separation Pea	89.88	45	⇓P		P	09 13 48.3	+0.3	
	baz=90,SNR=34								
E17A	Martinsdale	89.91	40	⇑P		P	09 13 48.7	+0.7	
	baz=90,SNR=11								
I19A	Meeteetse	89.92	43	⇑P		P	09 13 48.8	+0.7	
	baz=90,SNR=19								
V26A	Tequesquite Ra	89.92	52	⇑P		P	09 13 48.2	-0.1	
	baz=90								
MSTX	Muleshoe	89.94	54	⇑P		P	09 13 48.6	+0.3	
	baz=90,SNR=15								
P23A	Jefferson	89.95	48	⇓P		P	09 13 49.7	+1.1	
	baz=90,SNR=13								
X27A	F and S Farms,	89.97	53	⇑P		P	09 13 48.8	+0.4	
	baz=90,SNR=15								
R24A	Sanders Place,	89.98	49	⇑P		P	09 13 49.1	+0.5	
	baz=90,SNR=13								
T25A	Trinidad	90.02	50	⇓P		P	09 13 49.2	+0.4	
	baz=90,SNR=20								
RWWY	Rawlins	90.02	45	*e*P		P	09 13 49.1	+0.3	
	comp=Z,99nm,1.2s								
C16A	Fuhringer Ranc	90.04	38	⇓P		P	09 13 48.4	-0.1	
	baz=90,SNR=34								
L21A	Rawlins	90.04	45	⇑P		P	09 13 49.0	+0.2	
	baz=90								
A15A	Johnson Ranch,	90.06	37	⇓P		P	09 13 48.3	-0.2	
	baz=90,SNR=29								
N22A	Wattenberg Ran	90.14	46	⇑P		P	09 13 50.2	+0.9	
	baz=90,SNR=48								
G18A	Lazy EL Ranch,	90.16	41	⇑P		P	09 13 49.8	+0.7	
	baz=90,SNR=22								
W27A	Bowe Ranch, En	90.16	53	⇑P		P	09 13 49.1	-0.2	
	baz=90								
J20A	Shoshoni	90.19	44	⇑P		P	09 13 50.0	+0.7	
	baz=90,SNR=41								
U26A	Atchley Ranch,	90.20	51	⇓P		P	09 13 49.7	+0.1	
	baz=90,SNR=36								
H19A	Powell	90.22	42	⇓P		P	09 13 50.2	+0.8	
	baz=90,SNR=20								
S25A	Robets Cordova	90.22	50	⇓P		P	09 13 50.1	+0.5	
	baz=90,SNR=41								
RLMT	Red Lodge	90.25	42	*e*P		P	09 13 50.6	+0.9	
RLMT	Red Lodge	90.25	42	⇓P		P	09 13 50.5	+0.9	
	baz=90,SNR=24								
RLMT				⇓P		P	09 13 50.5	+0.9	
	baz=90,SNR=24								
O23A	Lake Granby, G	90.25	47	⇑P		P	09 13 50.8	+0.9	
	baz=90,SNR=21								
Q24A	Divide	90.26	48	⇓P		P	09 13 50.6	+0.6	
	baz=90,SNR=18								
CMIG	Matias Romero	90.28	72	P		P	09 13 50.8	+0.7	
	comp=Z,22nm,1.0s,baz=266,slow=6.1								
CMIG	Matias Romero	90.28	72	P		P	09 13 50.8	+0.7	
ISCO	Idaho Springs	90.29	48	*e*P		P	09 13 50.8	+0.7	
ISCO				*e*			09 17 35.1		
ISCO				pmax		pmax			
	comp=Z,78nm,2.0s								
ISCO	Idaho Springs	90.29	48	*e*P		P	09 13 50.8	+0.7	
	comp=Z,78nm,2.0s								
ISCO				*e*PP		PP	09 17 35.1	-2.3	
ISCO	Idaho Springs	90.29	48	⇓P		P	09 13 50.8	+0.7	
	baz=90,SNR=11								
M22A	Cedar Creek Ra	90.31	46	⇑P		P	09 13 50.4	+0.4	
	baz=90,SNR=30								
GCMT	Greycliff	90.32	41	*e*P		P	09 13 50.7	+0.9	
	comp=Z,30nm,1.2s								
GCMT				*e*PP		PP	09 17 36.0	-1.3	
F18A	Big Timber	90.34	41	⇓P		P	09 13 50.8	+0.9	
	baz=91,SNR=23								
D17A	Six Diamond Ra	90.35	39	⇓P		P	09 13 50.6	+0.6	
	baz=91,SNR=72								
K21A	Alcova	90.42	44	⇑P		P	09 13 50.6	+0.1	
	baz=91,SNR=36								
I20A	Wyland	90.44	43	⇓P		P	09 13 50.9	+0.4	
	baz=91,SNR=17								
R25A	Fountain Ranch	90.53	50	⇑P		P	09 13 51.2	+0.1	
	baz=91,SNR=5.1								
N23A	Red Feather La	90.53	46	⇓P		P	09 13 51.8	+0.7	
	baz=91,SNR=35								
E18A	Harlowton	90.53	40	⇓P		P	09 13 51.8	+1.0	
	baz=91,SNR=48								
C17A	Wharram Farm,	90.54	39	⇑P		P	09 13 50.9	+0.2	
	baz=91,SNR=52								
PLCA	Paso Flores	90.55	134	P		P	09 13 52.5	+1.4	
	comp=Z,12nm,0.9s,baz=270,slow=5.6,SNR=3.8								
PLCA	Paso Flores	90.55	134	P		P	09 13 52.5	+1.4	
PLCA	Paso Flores	90.55	134	P		P	09 13 52.5	+1.4	
X28A	Dimmitt	90.60	54	⇓P		P	09 13 51.3	0.0	
	baz=91								
J21A	Lysite	90.61	44	⇑P		P	09 13 51.8	+0.5	
	baz=91,SNR=38								
T26A	Comanche Natio	90.63	51	⇑P		P	09 13 51.4	-0.1	
	baz=91,SNR=15								
P24A	Kohler Place,	90.66	48	⇑P		P	09 13 52.3	+0.6	
	baz=91								
A16A	West Butte Ran	90.69	37	⇑P		P	09 13 51.6	+0.1	
	baz=91								
L22A	Ellis Ranch, M	90.69	45	⇑P		P	09 13 52.6	+0.9	
	baz=91,SNR=37								
H20A	Greybull	90.76	43	⇓P		P	09 13 51.6	-0.3	
	baz=91,SNR=19								
F19A	Roth Farm, Mol	90.80	41	⇓P		P	09 13 52.5	+0.5	
	baz=91,SNR=15								
O24A	Longmont	90.80	47	⇓P		P	09 13 53.1	+0.9	
	baz=91,SNR=6.6								
B17A	L&G Farms, Che	90.83	38	⇓P		P	09 13 52.1	0.0	
	baz=91,SNR=24								
Q25A	Bedland, Calha	90.88	49	⇓P		P	09 13 52.7	0.0	
	baz=91								
W28A	Vega	90.88	53	⇓P		P	09 13 52.6	0.0	
	baz=91								
D18A	Linhart Farms,	90.90	40	⇑P		P	09 13 53.4	+0.9	
	baz=91,SNR=20								
S26A	Kim	90.90	50	⇑P		P	09 13 52.5	-0.3	
	baz=91,SNR=47								
JCT	Junction City	90.91	58	*e*P		P	09 13 52.9	+0.1	
JCT				*e*			09 17 39.6		
JCT				pmax		pmax			
	comp=Z,39nm,1.4s								
JCT	Junction City	90.91	58	*e*P		P	09 13 52.9	+0.1	
	comp=Z,39nm,1.4s								
JCT				*e*PP		PP	09 17 39.6	-2.4	
JCT	Junction City	90.91	58	⇓P		P	09 13 52.7	-0.1	
	baz=91								
K22A	Casper	90.91	45	⇑P		P	09 13 53.0	+0.4	
	baz=91,SNR=21								
I21A	Big Trails, Te	90.91	43	⇓P		P	09 13 52.7	0.0	
	baz=91,SNR=17								
M23A	Laramie	90.93	46	⇓P		P	09 13 53.4	+0.5	
	baz=91,SNR=24								
X29A	Tulia	90.95	54	⇓P		P	09 13 53.1	+0.1	
	baz=91								
YAK	Yakutsk	90.95	338	*e*P		P	09 13 50.5	-1.6	
YAK				pmax		pmax			
	comp=Z,29nm,0.9s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.0s								
YAK	Yakutsk	90.95	338	*e*P		P	09 13 51.3	-0.8	
	comp=E,22nm,0.8s								
G20A	Bridger	90.96	42	⇓P		P	09 13 53.1	+0.3	
	baz=91								
PHWY	Pilot Hill	91.04	46	*e*P		P	09 13 54.0	+0.6	
V28A	Channing	91.07	52	⇑P		P	09 13 53.5	0.0	
	baz=91,SNR=12								
AMTX	Amarillo	91.13	53	*e*P		P	09 13 53.5	-0.3	
	comp=E,28nm,1.0s								
AMTX	Amarillo	91.13	53	⇓P		P	09 13 54.2	+0.4	
	baz=91,SNR=5.6								
AMTX				⇓P		P	09 13 54.2	+0.4	
	baz=91,SNR=5.6								
E19A	Rath Farm, Rou	91.17	41	⇓P		P	09 13 54.4	+0.7	
	baz=91,SNR=20								
P25A	Willow Gulch B	91.18	48	⇓P		P	09 13 54.5	+0.5	
	baz=91,SNR=28								
R26A	Arlington	91.19	50	⇑P		P	09 13 54.1	+0.1	
	baz=91,SNR=39								
A17A	Triple J Farms	91.21	38	⇑P		P	09 13 54.1	+0.4	
	baz=91,SNR=35								
T27A	Campo	91.22	51	⇓P		P	09 13 54.0	-0.2	
	baz=91,SNR=17								
L23A	Garrett	91.22	45	⇑P		P	09 13 54.6	+0.3	
	baz=91,SNR=47								
W29A	Amarillo	91.25	53	⇑P		P	09 13 54.5	+0.1	
	baz=92								
F20A	Billings	91.27	41	⇓P		P	09 13 54.8	+0.6	
	baz=92								
J22A	Midwest	91.27	44	⇓P		P	09 13 54.3	0.0	
	baz=92,SNR=28								
EGMT	Eagleton	91.32	39	*e*P		P	09 13 54.6	+0.3	
	comp=E,40nm,1.3s								
EGMT	Eagleton	91.32	39	⇓P		P	09 13 54.4	+0.1	
	baz=92,SNR=11								
S27A	Las Animas	91.34	50	⇑P		P	09 13 54.8	0.0	
	baz=92,SNR=13								
Q26A	Hugo	91.40	49	⇑P		P	09 13 55.1	+0.2	
	baz=92								
H21A	Big Horn, Sher	91.44	43	⇑P		P	09 13 55.3	+0.3	
	baz=92,SNR=5.6								
D19A	Cripps Ranch,	91.44	40	⇓P		P	09 13 55.6	+0.7	
	baz=92,SNR=44								
O25A	Wiggins	91.46	48	⇑P		P	09 13 55.5	+0.2	
	baz=92,SNR=5.2								
I22A	9 Mile Ranch,	91.47	44	⇑P		P	09 13 55.6	+0.4	
	baz=92								
B18A	Beardsley Farm	91.48	39	⇓P		P	09 13 55.4	+0.3	
	baz=92,SNR=26								
LZH	Lanzhou	91.50	308	⇑P		P	09 13 57.0	+1.5	
LZH				pP		pP	09 16 18.5	+1.5	
LZH				sP		sP	09 17 23.6	+1.3	
LZH				PP		PP	09 17 51.0	+4.3	
LZH				SKS		SKSac	09 23 27.1	+1.3	
LZH				S		S	09 24 00.5	+0.2	
LZH				sS		sS	09 28 11.0	-2.5	
LZH				pmax		pmax			
	comp=Z,35nm,1.2s								
LZH				pmax		pmax			
	comp=Z,180nm,8.0s								
M24A	Cheyenne	91.54	46	⇓P		P	09 13 56.3	+0.7	
	baz=92,SNR=13								
E20A	Meyer Farm, Mu	91.60	41	⇓P		P	09 13 56.6	+0.9	
	baz=92,SNR=9.5								
G21A	Lodge Grass	91.60	42	⇑P		P	09 13 56.5	+0.8	
	baz=92								
C19A	Slack Wire Ran	91.60	39	⇓P		P	09 13 56.4	+0.8	
	baz=92								
V29A	Stinnett	91.64	52	⇑P		P	09 13 56.3	+0.2	
	baz=92								
R27A	Eads	91.66	50	⇑P		P	09 13 56.3	+0.1	
	baz=92,SNR=12								
A18A	Metzger Ranch,	91.69	38	⇑P		P	09 13 56.0	0.0	
	baz=92,SNR=35								
L24A	Wheatland	91.71	46	⇓P		P	09 13 57.3	+0.9	
	baz=92,SNR=5.2								
N25A	Grover	91.77	47	⇑P		P	09 13 57.6	+0.9	
	baz=92								
P26A	Davis Ranch, A	91.78	49	⇓P		P	09 13 57.0	+0.3	
	baz=92,SNR=7.1								
D20A	Manuel Ranch,	91.86	40	⇑P		P	09 13 57.6	+0.8	
	baz=92,SNR=30								
H22A	Clearmont	91.86	43	⇑P		P	09 13 57.3	+0.4	
	baz=92								

E23A Ismay 93.35 42 ⇑P **P** 09 14 04.3 +0.7
baz=94

G24A Alzada 93.42 43 ⇓P **P** 09 14 04.2 +0.1
baz=94

A21A Bergtoll Ranch 93.44 39 ⇓P **P** 09 14 04.3 +0.4
baz=94

C22A Vida 93.52 40 ⇑P **P** 09 14 04.6 +0.3
baz=94

INK Inuvik 93.67 15 *e*P **P** 09 14 03.3 -1.1
INK pmax pmax
comp=Z,31nm,1.3s

INK Inuvik 93.67 15 *e*P **P** 09 14 03.3 -1.1
comp=Z,31nm,1.3s

B22A Reddig Ranch S 93.69 40 ⇑P **P** 09 14 05.8 +0.7
baz=94

D23A Lindsay 93.69 41 ⇓P **P** 09 14 06.1 +0.9
baz=94

K27A Fluecklinger Fa 93.80 46 ⇑P **P** 09 14 06.4 +0.6
baz=94

HKT Hockley 93.92 60 *e*P **P** 09 14 07.8 +1.4
HKT pmax pmax
comp=Z,22nm,1.5s

HKT Hockley 93.92 60 *e*P **P** 09 14 07.8 +1.4
comp=Z,22nm,1.5s

C23A Lambert 93.97 40 ⇑P **P** 09 14 07.3 +0.9
baz=94

E24A Baker 94.00 42 ⇑P **P** 09 14 07.3 +0.7
baz=94

A22A Carney Farms, 94.03 39 ⇑P **P** 09 14 07.0 +0.3
baz=94

CBKS Cedar Bluff 94.07 50 *e*P **P** 09 14 07.8 +0.7
CBKS *e* 09 18 03.3

CBKS Cedar Bluff 94.07 50 *e*P **P** 09 14 07.8 +0.7
comp=Z,112nm,1.4s

CBKS *e*PP **PP** 09 18 03.3 -2.9

CBKS Cedar Bluff 94.07 50 ⇓P **P** 09 14 07.3 +0.3
baz=94

CBKS ⇓P **P** 09 14 07.3 +0.3
baz=94

D24A Glendive 94.22 41 ⇑P **P** 09 14 08.3 +0.8
baz=94

C24A Savage 94.33 41 ⇓P **P** 09 14 09.1 +1.1
baz=94

B23A Brockton 94.37 40 ⇓P **P** 09 14 09.1 +0.9
baz=95

SONM Songino Array 94.48 319 P **P** 09 14 08.2 -0.6
comp=Z,0.3nm,0.4s,baz=124,slow=4.9,SNR=4.6

SONM pP **pP** 09 16 30.6 0.0
comp=Z,0.7nm,1.1s,baz=74,slow=2.1,SNR=2.1

SONM PP PP 09 18 01.7 -7.5
comp=Z,2.8nm,1.1s,baz=108,slow=4.8,SNR=5.8

SONM PKKPbc **PKKPdf** 09 31 03.6 -1.0
comp=Z,1.1nm,0.9s,baz=249,slow=2.0,SNR=7.5

SONM Songino Array 94.48 319 P **P** 09 14 08.2 -0.6
SONM *PP **pP** 09 16 30.6 0.0
SONM 09 31 03.6

SONM Songino Array 94.48 319 P **P** 09 14 08.2 -0.6
SONM pP **pP** 09 16 30.6 0.0
SONM PP PP 09 18 01.6 -7.5
SONM PKKPbc **PKKPdf** 09 31 03.6 -1.0

DGMT Dagmar 94.85 40 *e*P **P** 09 14 10.9 +0.6
comp=Z,68nm,1.0s

DGMT Dagmar 94.85 40 ⇑P **P** 09 14 11.0 +0.7
baz=95

A24A Westby 95.15 40 ⇓P **P** 09 14 12.2 +0.5
baz=95

GTA Gaotai 95.70 310 *e*P **P** 09 14 16.8 +2.3
GTA pP **pP** 09 16 38.8 +2.4
GTA sP **sP** 09 17 42.0 +0.3
GTA pmax pmax
comp=Z,4.0nm,1.0s

YKA Yellowknife Ar 96.11 25 P **P** 09 14 14.7 -0.8
comp=Z,1.7nm,0.5s,baz=238,slow=4.6,SNR=44

YKA pP **pP** 09 16 39.3 +1.7
comp=Z,0.2nm,0.6s,baz=244,slow=4.5,SNR=2.7

YKA PP PP 09 18 11.5 -9.4
comp=Z,0.8nm,0.9s,baz=237,slow=6.5,SNR=4.3

YKA PKKPbc **PKKPbc** 09 30 58.1 -3.2
comp=Z,0.3nm,0.4s,baz=41,slow=2.2,SNR=12

YKA PKPPKP **P'P'df** 09 39 13.5 +3.1
comp=Z,0.4nm,0.8s,baz=60,slow=3.2,SNR=5.8

YKA Yellowknife Ar 96.11 25 P **P** 09 14 14.7 -0.8
YKA Yellowknife Ar 96.11 25 P **P** 09 14 14.7 -0.8
YKA pP **pP** 09 16 39.3 +1.7
YKA PP PP 09 18 11.5 -9.4
YKA PKKPbc **PKKPbc** 09 30 58.1 -3.2
YKA P'P' 09 39 13.5

CFAA Coronel Fontan 96.37 127 P **P** 09 14 18.0 +0.3
comp=Z,0.3nm,0.7s,baz=247,slow=3.8,SNR=7.9

CFAA Coronel Fontan 96.37 127 P **P** 09 14 18.0 +0.3
KSU1 Kansas State U 96.45 51 *e*P **P** 09 14 18.8 +1.1
comp=Z,15nm,0.8s

JTS JuntasAbangare 97.16 82 P **P** 09 14 22.4 +0.9
comp=Z,8.7nm,0.9s,baz=327,slow=5.7,SNR=3.9

JTS JuntasAbangare 97.16 82 ⇑*i*P **P** 09 14 22.5 +1.0
JTS JuntasAbangare 97.16 82 P **P** 09 14 22.4 +0.9
ECSD EROS Data Cent 98.00 47 *e*Pdif Pdif 09 14 24.2 -0.4
comp=Z,20nm,1.4s

LPAZ La Paz 103.26 113 Pdiff **Pdif** 09 14 52.5 +3.2
comp=Z,1.8nm,0.8s,baz=342,slow=3.2,SNR=7.2

LPAZ La Paz 103.26 113 P **Pdif** 09 14 52.5 +3.2
LPAZ La Paz 103.26 113 Pdif **Pdif** 09 14 52.5 +3.2
ZALV Zalesovo Beam 109.23 322 PKiKP **PKiKP** 09 19 11.3 -2.1
comp=Z,1.4nm,0.6s,baz=203,slow=0.3,SNR=10.0

ZALV PP PP 09 19 49.8 -7.3
comp=Z,0.9nm,0.8s,baz=108,slow=4.7,SNR=2.7

ZALV Zalesovo Beam 109.23 322 PKiKP **PKiKP** 09 19 11.3 -2.1
ZALV PP PP 09 19 49.8 -7.3
MK31 Makanchi Array 109.92 314 *e*PKPdf 09 19 13.2
MK31 *e*SKPdf **SKiKP** 09 21 48.6 -0.2
MKAR Makanchi Array 109.92 314 Pdiff **Pdif** 09 15 18.5 +1.1
comp=Z,0.1nm,0.6s,baz=73,slow=7.4,SNR=3.0

MKAR PKiKP **PKiKP** 09 19 13.4 -1.6
comp=Z,1.1nm,0.4s,baz=126,slow=0.8,SNR=27

MKAR PP **PP** 09 19 57.9 -4.3
comp=Z,0.8nm,0.9s,baz=98,slow=6.9,SNR=3.5

MKAR PKKPbc **PKKPbc** 09 30 19.3 -1.2
comp=Z,3.7nm,0.9s,baz=281,slow=3.4,SNR=20

MKAR PKKPab **PKKPab** 09 30 33.5 +0.5
comp=Z,1.6nm,0.9s,baz=269,slow=4.6,SNR=7.3

MKAR Makanchi Array 109.92 314 P **Pdif** 09 15 18.5 +1.1
MKAR Makanchi Array 109.92 314 Pdif **Pdif** 09 15 18.5 +1.1
MKAR PKiKP **PKiKP** 09 19 13.4 -1.6
MKAR PP **PP** 09 19 57.9 -4.3
MKAR PKKPbc **PKKPbc** 09 30 19.3 -1.2
MKAR PKKPab **PKKPab** 09 30 33.5 +0.5

KURK Kurchatov 112.72 318 *e*PKiKP **PKiKP** 09 19 18.5 -1.7
KURK Kurchatov 112.72 318 *e*PKPdf **PKiKP** 09 19 18.5 -1.7
KURK *e*SKPdf **SKiKP** 09 21 54.4 +0.3

AAK Ala-Archa 115.02 309*c* *i*PKIKP **PKPdf** 09 19 24.3 -0.8
AAK pmax pmax
comp=Z,16nm,2.5s

VOSK Vostochnaya 117.47 320 PKIKP **PKPdf** 09 19 27.6 -1.7
VOSK pmax pmax
comp=Z,10.0nm,0.7s

BVA0 Borovoye Array 117.81 320 *i* PKIKP **PKPdf** 09 19 28.5 -1.4
BVA0 pmax pmax
comp=Z,1.0nm,0.4s

BRVK Borovoye 117.87 320*c* *i*PKIKP **PKPdf** 09 19 28.7 -1.3
BRVK pmax pmax
comp=Z,13nm,1.0s

BRVK Borovoye 117.87 320 *e*PKPdf **PKPdf** 09 19 28.8 -1.3
KK31 Karatay Array 117.97 309 *i* PKIKP **PKPdf** 09 19 29.6 -1.0
KK31 pmax pmax
comp=Z,2.0nm,0.5s

KKAR Karatay Array 117.97 309 *e*PKIKP **PKPdf** 09 19 29.4 -1.2
KKAR *e* 09 20 56.6
KKAR Karatay Array 117.97 309 *e*PKPdf **PKPdf** 09 19 29.4 -1.2
KKAR *e*PP **PP** 09 20 56.6 -1.5

SCHQ Schefferville 118.55 38 PKP **PKPdf** 09 19 29.9 -1.5
comp=Z,2.1nm,0.6s,baz=242,slow=1.6,SNR=7.3

SCHQ Schefferville 118.55 38 PKP **PKPdf** 09 19 29.9 -1.5
ZRNK Zerenda 118.65 320 PKIKP **PKPdf** 09 19 30.0 -1.5
ZRNK pmax pmax
comp=Z,11nm,0.5s

KBL Kabul 118.65 299 *e*PKIKP **PKPdf** 09 19 31.8 -0.6
KBL Kabul 118.65 299 *e*PKPdf **PKPdf** 09 19 31.8 -0.6
BDFB Brasilia 120.41 123 PKP **PKPdf** 09 19 35.1 -1.1
comp=Z,6.8nm,0.7s,baz=240,slow=2.4,SNR=10.0

BDFB Brasilia 120.41 123 PKIKP **PKPdf** 09 19 35.1 -1.1
BDFB Brasilia 120.41 123 PKP **PKPdf** 09 19 35.1 -1.1
KBS Kingsbay 120.42 358 *e*P **PKPdf** 09 19 33.9 -0.4
SPA0 Spitsbergen Ar 120.93 356 *e*P **PKPdf** 09 19 34.2 -1.1
SPB4 Spitsbergen Ar 120.93 356 *e*PKPdf **PKPdf** 09 19 34.3 -1.0
DAG Danmarks Havn 121.95 5 *i* PKIKP **PKPdf** 09 19 35.2 -2.0
DAG pmax pmax
comp=Z,6.0nm,1.1s

DAG Danmarks Havn 121.95 5 *i* P **PKPdf** 09 19 35.2 -2.0
comp=Z,61nm,1.1s

SUMG Summit 122.51 13 *i* PKIKP **PKPdf** 09 19 38.6 -0.3
SUMG pmax pmax
comp=Z,10.0nm,1.0s

SUMG Summit 122.51 13 *i* P **PKPdf** 09 19 38.6 -0.3
comp=Z,10nm,1.0s

SVE Sverdlovsk 122.74 326 *e*PKIKP **PKPdf** 09 19 38.8 -0.5
SVE pmax pmax
comp=Z,20nm,1.1s

SOKR Solikamsk 123.86 330*d* *i*PKIKP **PKPdf** 09 19 40.8 -0.5
SOKR pmax pmax
comp=Z,50nm,1.4s

ARU Arti 123.95 326 *i* PKIKP **PKPdf** 09 19 41.2 -0.4
ARU 09 21 37.8
ARU 09 25 47.5
ARU SS SS 09 37 43.6 +5.6

ARU Arti 123.95 326 *e*PKPdf **PKPdf** 09 19 40.9 -0.7
ARU *e*PP **PP** 09 21 33.5 -3.9
AB31 Akbulak array 124.81 317 PKIKP **PKPdf** 09 19 42.5 -1.0
AB31 pmax pmax
comp=Z,22nm,1.2s

ABKAR Akbulak array 124.81 317 *e*PKPdf **PKPdf** 09 19 42.5 -0.9
BOSA Boshof 126.63 207 PKP **PKPdf** 09 19 48.2 +0.4
comp=Z,12nm,1.1s,baz=160,slow=4.4,SNR=9.7

BOSA pPKP **pPKPdf** 09 22 19.9 +0.6
comp=Z,4.8nm,0.9s,baz=155,slow=3.8,SNR=4.6

BOSA PKKPbc **PKKPbc** 09 29 21.1 -1.0
comp=Z,2.8nm,1.0s,baz=243,slow=2.7,SNR=3.9

BOSA Boshof 126.63 207 PKIKP **PKPdf** 09 19 48.3 +0.4
BOSA Boshof 126.63 207 PKP **PKPdf** 09 19 48.2 +0.4
BOSA pPKP **pPKPdf** 09 22 19.9 +0.6
BOSA PKKPbc **PKKPbc** 09 29 21.1 -1.0

KEV Kevo 127.43 349 *e*PKIKP **PKPdf** 09 19 45.5 -2.4
KEV Kevo 127.43 349 *e*pkp **PKPdf** 09 19 45.5 -2.4
KEV Kevo 127.43 349 *e*pkp **PKPdf** 09 19 45.5 -2.4
ARCES ARCESS Array B 127.89 349 PKhKP PKPpre 09 19 34.4
comp=Z,0.9nm,0.6s,baz=227,slow=0.5,SNR=7.5

ARCES PKP **PKPdf** 09 19 48.0 -0.8
comp=Z,8.4nm,0.4s,baz=40,slow=1.0,SNR=126

ARCES SKPbc SKiKP 09 22 08.1 -16
comp=Z,2.1nm,0.6s,baz=60,slow=2.0,SNR=5.4

ARCES PKKP **PKKPdf** 09 29 58.4 -3.4
comp=Z,2.0nm,0.8s,baz=221,slow=2.1,SNR=7.3

ARCES ARCESS Array B 127.89 349 PKHKP PKPpre 09 19 34.4
ARCES 09 19 48.0
ARCES 09 22 08.1
ARCES ARCESS Array B 127.89 349 PKPpre PKPpre 09 19 34.4
ARCES PKP **PKPdf** 09 19 48.0 -0.8
ARCES SKPbc SKiKP 09 22 08.1 -16
ARCES PKKP **PKKPdf** 09 29 58.4 -3.4

ARE0 ARCESS Array S 127.89 349 *e*P **PKPdf** 09 19 48.0 -0.8
TRO Tromso 128.80 352 *e*P **PKPdf** 09 19 51.0 +0.5
TRO AMB AMB 09 19 56.6
comp=Z,39nm,1.9s

LBTB Lobatse 129.59 209 SKPbc SKPab 09 22 15.9 +0.6
comp=Z,14nm,1.0s,baz=140,slow=5.9,SNR=12

LBTB Lobatse 129.59 209 SKPbc SKPab 09 22 15.9 +0.6
KLMR Klimovskoe 130.70 336 *e*PKIKP **PKPdf** 09 19 50.6 -3.7
KLMR *e* 09 22 13.8
KLMR pmax pmax
comp=Z,35nm,1.4s

STEI Steigen 130.87 353 *e*P **PKPdf** 09 19 54.2 -0.2
JOF Joensuu 132.01 342 *e*PKIKP **PKPdf** 09 19 54.1 -2.6
JOF Joensuu 132.01 342 *e*pkp **PKPdf** 09 19 54.1 -2.6
JOF Joensuu 132.01 342 *e*p **SKPbc** 09 22 23.1 +0.7
comp=Z,6.1nm,0.5s

JOF Joensuu 132.01 342 *e*pkp **PKPdf** 09 19 54.1 -2.6
JOF Joensuu 132.01 342 *e*p **SKPbc** 09 22 23.1 +0.7
comp=Z,6.1nm,0.5s

KAF Kangasniemi 134.05 344 *e*PKHKP PKPdf 09 19 53.5 -7.1
KAF Kangasniemi 134.05 344 *e*pkp PKPdf 09 19 53.5 -7.1
KAF Kangasniemi 134.05 344 *e*p **SKPbc** 09 22 29.0 -0.2
comp=Z,3.3nm,0.6s

KAF Kangasniemi 134.05 344 *e*pkp PKPdf 09 19 53.5 -7.1
KAF Kangasniemi 134.05 344 *e*p **SKPbc** 09 22 29.0 -0.2
comp=Z,3.3nm,0.6s

FINES FINESS Array B 134.67 343 PKhKP PKPpre 09 19 46.7
comp=Z,0.8nm,0.5s,baz=56,slow=3.4,SNR=7.2

FINES PKP **PKPdf** 09 20 01.4 -0.3
comp=Z,4.6nm,0.4s,baz=64,slow=2.9,SNR=24

FINES SKPbc **SKPbc** 09 22 31.8 +0.6
comp=Z,4.6nm,0.5s,baz=52,slow=3.8,SNR=9.9

FINES SKP 09 22 35.7
comp=Z,4.1nm,0.7s,baz=35,slow=4.7,SNR=6.4

FINES FINESS Array B 134.67 343 PKHKP PKPpre 09 19 46.7
FINES 09 20 01.4
FINES FINESS Array B 134.67 343 PKPpre PKPpre 09 19 46.7
FINES PKP **PKPdf** 09 20 01.4 -0.3
FINES SKPbc **SKPbc** 09 22 31.8 +0.6
FINES SKP 09 22 35.7

VRHR Novokhopersk 135.26 324 *e*PKIKP **PKPdf** 09 20 02.2 -1.0
VRHR pmax pmax
comp=N,10.0nm,1.1s

VRHR pmax pmax
comp=Z,10.0nm,1.1s

VRHR pmax pmax
comp=E,10.0nm,0.6s

OBN Obninsk 135.54 332 *e*PKIKP **PKPdf** 09 20 02.9 -0.6
OBN *e* 09 26 19.0
OBN *e*PS 09 33 21.2
OBN *e*SS SS 09 40 01.3 +4.0
OBN pmax pmax
comp=Z,18nm,1.0s

RCBR Riachuelo 135.74 121 SKPbc **SKPbc** 09 22 36.4 +0.4
comp=Z,14nm,0.9s,baz=162,slow=2.9,SNR=5.4

RCBR Riachuelo 135.74 121 SKPbc **SKPbc** 09 22 36.4 +0.4
VSR Storozhevoye 136.52 326 *e*PKIKP **PKPdf** 09 20 03.7 -1.8
VSR pmax pmax
comp=N,10.0nm,0.9s

VSR pmax pmax
comp=Z,10.0nm,0.9s

VSR pmax pmax
comp=E,5.0nm,0.4s

DGRG David-gareji 136.61 310 P **SKPbc** 09 22 39.3 +1.6
MIB Mutribah 136.95 293 *e*P **SKPbc** 09 22 39.7 +0.7
MIB AMb AMB 09 22 47.7
comp=Z,50nm,0.9s

TBLG Delisi 136.99 311 P **SKPbc** 09 22 39.0 +0.1
NAY Al-Naaiem 137.06 292 *e*P **SKPbc** 09 22 39.8 +0.4
NAY AMb AMB 09 22 43.2
comp=Z,21nm,1.6s

GNI Garni 137.43 308 *e*PKIKP **PKPdf** 09 20 08.1 +0.3
GNI Garni 137.43 308 *e*PKPdf **PKPdf** 09 20 08.1 +0.3
ONI Oni 137.62 312 P **SKPbc** 09 22 42.0 +1.4
KIV Kislovodsk 137.68 315 *e*PKIKP **PKPdf** 09 20 07.8 -0.2
KIV pmax pmax
comp=Z,11nm,1.0s

AKH Akhalkalaki 137.97 311 P **SKPbc** 09 22 42.8 +1.0
NB2 NORSAR Subarra 138.00 353 PKPdf PKPpre 09 19 57.8
comp=Z,2.1nm,0.4s,baz=27,slow=1.8

NB2 NORSAR Subarra 138.00 353 PKPdf PKPpre 09 19 57.8
baz=27,slow=1.8

NOA NORSAR Array B 138.00 353 PKhKP PKPpre 09 19 59.0
comp=Z,3.3nm,0.7s,baz=16,slow=4.6,SNR=11

NOA PKP **PKiKP** 09 20 09.2 -1.1
comp=Z,3.1nm,0.4s,baz=15,slow=3.7,SNR=12

NOA NORSAR Array B 138.00 353 PKHKP PKPpre 09 19 59.0
NOA 09 20 09.2
NOA NORSAR Array B 138.00 353 PKPpre PKPpre 09 19 59.0
NOA PKP **PKiKP** 09 20 09.2 -1.1
TSUM Tsumeb 138.14 204 *e*PKPdf **PKPdf** 09 20 09.9 +0.3
NC602 NORSAR Array S 138.25 352 *e*P PKPpre 09 19 58.3
KMBO Kilima Mbogo 138.90 244 *e*PKIKP **PKPdf** 09 20 13.6 +2.2
KMBO Kilima Mbogo 138.90 244 *e*PKPdf **PKPdf** 09 20 13.6 +2.2
ODD1 Odda 139.55 356 *e*P PKPdf 09 20 02.2 -8.6
NACGM Naroch 139.71 337 *e* PKPdf 09 20 02.0 -9.2
ANN Anapa 140.75 318 *i* PKIKP PKiKP 09 20 24.5 +8.2
ANN pmax pmax
comp=Z,99nm,1.3s

SNART Snartemo 141.06 355 *e*P PKPpre 09 20 08.2
MVH1 Achvaich 141.55 4 *e*P PKPpre 09 20 09.3
SUW Suwalki 141.69 339 *e*PKP **PKPdf** 09 20 11.5 -3.3
SUW Suwalki 141.69 339 *e*PKHKP PKPpre 09 20 11.5
AKASG Malin Array Be 141.79 331 PKhKP PKPpre 09 20 09.4
AKASG SKPbc **SKPbc** 09 22 51.1 -0.2
comp=Z,5.7nm,0.4s,baz=44,slow=4.2,SNR=4.2

AKASG Malin Array Be 141.79 331 PKHKP PKPpre 09 20 09.4
AKASG Malin Array Be 141.79 331 PKPpre PKPpre 09 20 09.4
AKASG SKPbc **SKPbc** 09 22 51.1 -0.2
comp=Z,15nm,1.0s,baz=39,slow=2.1,SNR=16

KIEV Kiev 141.81 331 *e*PKHKP PKPpre 09 20 10.0
KIEV Kiev 141.81 331 *e*PKPdf PKPpre 09 20 10.0
KIEV *e*SKPbc **SKiKP** 09 22 52.2 -0.5
KAC Achnashellach 141.88 6 *e*P **PKPdf** 09 20 10.8 -4.3
KAC Achnashellach 141.88 6 P **PKPdf** 09 20 10.8 -4.3
MCD Coleburn Disti 141.96 4 *e*P **PKPdf** 09 20 10.4 -4.8
KPL Plockton 142.01 6 *e*P **PKPdf** 09 20 10.5 -4.8
MDO Dochfour 142.02 5 *e*P **PKPdf** 09 20 11.0 -4.3
MUD Monsted U'grnd 142.72 353 *i* PKHKP PKPpre 09 20 13.9
MUD pmax pmax
comp=Z,48nm,1.1s

MUD Monsted U'grnd 142.72 353 *i* P **PKPdf** 09 20 13.9 -2.6
comp=Z,48nm,1.1s

SIM Simferopol' 142.72 320*d* *e*PKHKP PKPpre 09 20 11.2
SIM pmax pmax
comp=Z,43nm,1.0s

COP Copenhagen 142.97 349 *i* PKHKP PKPpre 09 20 14.4
COP pmax pmax
comp=Z,46nm,1.0s

COP Copenhagen 142.97 349 *i* P **PKPdf** 09 20 14.4 -2.6
comp=Z,46nm,1.0s

BSD Bornholm Skovb 143.02 347 *i* PKHKP PKPpre 09 20 14.5
BSD pmax pmax
comp=Z,73nm,1.0s

BSD Bornholm Skovb 143.02 347 *i* P PKPab 09 20 14.5 -0.8
comp=Z,73nm,1.0s

EAB Aberfoyle 143.27 5 *e*P PKPab 09 20 15.2 -1.0
PGBU Glenifferbraes 143.63 5 *e*P PKPbc 09 20 16.4 -1.1
PGBU Glenifferbraes 143.63 5 P PKPbc 09 20 16.4 -1.1
ESY Stoneypath 143.66 3 *e*P PKPbc 09 20 16.5 -1.0
EAU Auchinoon 143.67 4 *e*P PKPbc 09 20 16.5 -1.1
EBL Broad Law 143.77 4 *e*P PKPbc 09 20 17.2 -0.8
SHEL Horse Pasture 144.03 169 *e*PKIKP **PKPab** 09 20 21.1 +0.8
SHEL Horse Pasture 144.03 169 *e*PKPdf **PKPab** 09 20 21.1 +0.8
GKP Gorka Klasztor 144.14 343 *e*PKP PKPbc 09 20 18.8 -0.3
GKP Gorka Klasztor 144.14 343 *e*PKIKP PKPbc 09 20 18.8 -0.3
ESK Eskdalemuir 144.22 4 *e*P **PKPdf** 09 20 18.1 -1.1
BEL Belsk 144.30 339 *e*PKP PKPbc 09 20 19.8 +0.1
BEL Belsk 144.30 339 *e*PKIKP PKPbc 09 20 19.8 +0.2
KIS Kishinev 144.49 327 ⇓*i*PKIKP **PKPdf** 09 20 19.0 -0.9
KIS pmax pmax
comp=Z,200nm,1.0s

KIS Kishinev 144.49 327 ⇓*i*P **PKPdf** 09 20 19.0 -0.9
comp=Z,200nm,1.0s

GAL1 Galloway 144.54 6 *e*P **PKPdf** 09 20 19.3 -0.5
LVV L'vov 144.71 334 *e*PKIKP **PKPdf** 09 20 19.2 -1.0
XAL Allendale 144.73 3 *e*P **PKPdf** 09 20 20.1 0.0
KESW Keswick, Cumbr 144.95 4 *e*P **PKPdf** 09 20 20.4 -0.1
KESW Keswick, Cumbr 144.95 4 P **PKPdf** 09 20 20.4 -0.1
IAS Iasi 145.00 328 PKIKP PKPbc 09 20 22.0 +0.1
BSEG Bad Segeberg 145.00 350 *e*PKP PKPbc 09 20 21.3 -0.3
BSEG Bad Segeberg 145.00 350 *e*PKIKP PKPbc 09 20 21.3 -0.3
LEOM Leova 145.13 326 PKIKP **PKPbc** 09 20 22.7 +0.4
KWP Kalwaria Pacla 145.39 335 *e*PKP **PKPbc** 09 20 22.8 -0.1
KWP Kalwaria Pacla 145.39 335 *e*PKIKP **PKPdf** 09 20 21.5 +0.1
KWP Kalwaria Pacla 145.39 335 *e*PKPdf **PKPdf** 09 20 21.5 +0.1
KWP *e*PKPbc **PKPbc** 09 20 22.9 -0.1
KWP Kalwaria Pacla 145.39 335 ⇓*i*P **PKPdf** 09 20 22.2 +0.8
RUE Ruedersdorf 145.72 346 *e*PKPbc **PKPbc** 09 20 23.8 +0.1
RUE Ruedersdorf 145.72 346 *e*PKPbc **PKPbc** 09 20 23.8 +0.1
BUR08 Bucovina Ar. S 145.83 330 *e*PKPdf **PKPbc** 09 20 24.1 -0.3
DSB Dublin 145.95 8 *e*PKPbc **PKPbc** 09 20 24.0 -0.4
OJC Ojcow 146.00 338 *e*PKPdf **PKPdf** 09 20 22.4 0.0
OJC *e*PKPbc **PKPbc** 09 20 24.2 -0.5
OJC *e*PKPab **PKPab** 09 20 27.0 -0.1
OJC Ojcow 146.00 338 *e*PKP2 **PKPab** 09 20 27.0 -0.1
WME Myndd Eilian 146.03 6 *e*P **PKPdf** 09 20 23.4 +1.1
KOLS Kolonicke sedl 146.12 335 *e*PKIKP **PKPdf** 09 20 23.5 +0.8
KOLS Kolonicke sedl 146.12 335 *e*PKP **PKPdf** 09 20 23.5 +0.8
KOLS *e* 09 22 53.8
WLF1 Llynfaes 146.13 6 *e*P **PKPdf** 09 20 23.5 +1.0
WLF1 Llynfaes 146.13 6 P **PKPdf** 09 20 23.5 +1.0
STHS Stebnicka Huta 146.14 336 *e*PKP2 **PKPbc** 09 20 25.3 +0.2
STHS Stebnicka Huta 146.14 336 *e*PKP **PKPbc** 09 20 25.3 +0.2
WPM1 Penmaenmawr 146.21 5 *e*P **PKPbc** 09 20 24.2 -0.9
VRI Vrincioaia 146.32 327 ⇑PKIKP **PKPbc** 09 20 25.0 -0.7
VRI Vrincioaia 146.32 327 ⇑*i*P **PKPbc** 09 20 25.0 -0.7
UZH Uzhgorod 146.35 334 *e*PKIKP **PKPdf** 09 20 24.2 +1.2
UZH *i* 09 20 25.9
KBI1 Birley Grange 146.37 3 *e*P **PKPbc** 09 20 24.7 -0.8
PLOR Plostina 146.37 327 ⇑PKIKP **PKPbc** 09 20 25.0 -0.9
PLOR Plostina 146.37 327 ⇑*i*P **PKPbc** 09 20 25.0 -0.9
NRDL Niedersach Rie 146.43 350 *e*PKPdf **PKPdf** 09 20 23.7 +0.8
NRDL *e*PKPbc **PKPbc** 09 20 25.4 -0.2
CRVS Cervenica-Dubn 146.47 335 *e*PKIKP **PKPdf** 09 20 23.1 -0.2
CRVS *e* 09 20 26.0
CRVS Cervenica-Dubn 146.47 335 *e*PKP **PKPdf** 09 20 23.1 -0.2
CRVS *e* 09 20 26.0
CRVS *e* 09 22 54.9
NIE Niedzica 146.49 337 *e*PKPdf **PKPdf** 09 20 23.3 0.0
NIE Niedzica 146.49 337 *e*PKIKP **PKPdf** 09 20 23.3 0.0
KSP Ksiaz 146.57 342 *e*PKP **PKPbc** 09 20 26.5 +0.3
KSP Ksiaz 146.57 342 *e*PKIKP **PKPdf** 09 20 23.7 +0.4
BMR Baia Mare 146.58 332 PKP2 **PKPbc** 09 20 26.4 +0.1
KWE Weaver Farm 146.59 3 *e*P **PKPbc** 09 20 25.5 -0.6
FOEL Foel Wylfa 146.63 5 *e*P **PKPbc** 09 20 25.5 -0.8
FOEL Foel Wylfa 146.63 5 P **PKPbc** 09 20 25.5 -0.8
TRPA Tarpa 146.64 333 ⇑*i*P **PKPbc** 09 20 26.1 -0.3
TRPA Tarpa 146.64 333 ⇑*e* **PKPbc** 09 20 26.0 -0.3
OKC Ostrava-Krasne 146.89 340 *e*PKIKP **PKPbc** 09 20 26.7 -0.3
OKC *e* 09 20 30.9
OKC Ostrava-Krasne 146.89 340 ⇑*e*PKP **PKPbc** 09 20 26.7 -0.3
OKC *e*PKPAB **PKPab** 09 20 30.9 +0.2
OKC *e*pPKP **pPKPdf** 09 22 58.1 +2.2
IBBN Ibbenburen 146.95 352 *e*PKPdf **PKPdf** 09 20 24.1 +0.2
IBBN *e*PKPbc **PKPbc** 09 20 27.2 +0.1
IBBN *e*PKPab **PKPab** 09 20 31.0 +0.2
UPC Upice 146.96 342 *e*PKP2 **PKPbc** 09 20 27.2 0.0
UPC Upice 146.96 342 ⇑*e*PKP **PKPbc** 09 20 27.2 0.0
UPC *e*pPKP **pPKPdf** 09 22 55.1 -0.9
MLR Muntele Rosu 146.98 327 ⇑PKIKP **PKPbc** 09 20 26.9 -0.7
MLR Muntele Rosu 146.98 327 ⇑*i*P **PKPbc** 09 20 26.9 -0.7
CLL Collm 146.99 346 *e*PKPdf **PKPdf** 09 20 24.2 +0.2
CLL *e*PKPbc **PKPbc** 09 20 26.9 -0.3
CLL *e*PKPab **PKPab** 09 20 30.9 -0.1
CLL *e*pPKPbc pPKPbc 09 22 57.2 +0.8
CLL Collm 146.99 346 ⇑*e*PKIKP **PKPdf** 09 20 24.0 0.0
CLL *i* 09 20 30.7
CLL pmax pmax
comp=Z,123nm,1.0s

CLL pmax pmax
comp=Z,52nm,0.8s

CLL Collm 146.99 346 *e*PKPdf **PKPdf** 09 20 24.0 0.0
CLL ⇑*i*PKPbc **PKPbc** 09 20 27.0 -0.3
comp=Z,123nm,1.0s

CLL ⇓*i*PKPab **PKPab** 09 20 30.7 -0.3
comp=Z,52nm,0.8s

CLL *e*SKPdf **SKPdf** 09 22 57.0 +0.5
DPC Dobruska-Polom 147.01 342 *e*PKIKP **PKPdf** 09 20 24.4 +0.3
DPC *e* 09 20 32.2
DPC Dobruska-Polom 147.01 342 *e*PKPDF **PKPdf** 09 20 24.4 +0.3
DPC ⇑*i*PKP **PKPbc** 09 20 27.6 +0.2
DPC *e*PKPAB **PKPab** 09 20 32.2 +1.0
DPC *e*pPKP **pPKPdf** 09 22 58.8 +2.7
CLZ Clausthal 147.01 349 *e*PKPdf **PKPdf** 09 20 24.1 0.0
CLZ *e*PKPbc **PKPbc** 09 20 27.4 +0.1
CLZ *e*PKPab **PKPab** 09 20 31.3 +0.1
CLZ Clausthal 147.01 349 *e*PKP2 **PKPab** 09 20 31.3 +0.1
MORC Moravsky Berou 147.14 340 *e*PKIKP **PKPdf** 09 20 23.9 -0.5
MORC Moravsky Berou 147.14 340 *e*PKPdf **PKPdf** 09 20 23.9 -0.5
MORC *e*PKPbc **PKPbc** 09 20 27.8 +0.1
MORC Moravsky Berou 147.14 340 ⇑*i*P **PKPdf** 09 20 24.6 +0.2
BRG Berggiesshubel 147.17 345 *e*PKP **PKPdf** 09 20 25.0 +0.7
comp=Z,29nm,1.7s

BRG *i* 09 20 27.7
comp=Z,150nm,1.8s

BRG pPKP **pPKPdf** 09 22 57.5 +1.1
comp=Z,21nm,1.3s

BRG Berggiesshubel 147.17 345 *e*PKPdf **PKPdf** 09 20 24.2 -0.1
BRG *e*PKPbc **PKPbc** 09 20 27.5 -0.2
BRG *e*PKPab **PKPab** 09 20 32.1 +0.3
BRG Berggiesshubel 147.17 345 *e*PKIKP **PKPdf** 09 20 25.0 +0.7
BRG pmax pmax
comp=Z,29nm,1.7s

FBE Freiberg 147.27 346 *e*PKPdf **PKPdf** 09 20 24.8 +0.3
FBE *e*PKPbc **PKPbc** 09 20 28.2 +0.2
FBE *e*PKPab **PKPab** 09 20 32.6 +0.4
FBE *e*pPKPbc **pPKPbc** 09 22 59.8 +2.6
PVCC Panska Ves 147.33 344 *e*PKIKP **PKPdf** 09 20 24.9 +0.3
PVCC Panska Ves 147.33 344 *e*PKPDF **PKPdf** 09 20 24.9 +0.3
PVCC ⇑*e*PKP **PKPbc** 09 20 28.3 +0.2
PVCC *e*pPKP **pPKPdf** 09 22 57.9 +1.3

NEUB	Neuenburg	147.35	347	*e*PKPdf	**PKPdf**	09 20 24.8	+0.2
NEUB				*e*PKPbc	**PKPbc**	09 20 28.0	-0.2
WTSB	**Winterswijk**	**147.40**	**353**	*e*PKP	**PKPbc**	09 20 27.9	-0.3
	comp=Z,213nm,1.4s						
VOIR		**147.47**	**328**	⇓PKP2	**PKPbc**	09 20 28.7	-0.1
VOIR		**147.47**	**328**	⇓*i*P	**PKPbc**	09 20 28.7	-0.1
MCH1	**Michaelchurch**	**147.53**	**5**	*e*P	**PKPbc**	09 20 27.7	-0.9
DRGR		**147.59**	**332**	⇓PKIKP	**PKPdf**	09 20 24.6	-0.7
DRGR		**147.59**	**332**	⇓*i*P	**PKPdf**	09 20 24.6	-0.7
SSW	**Stow on the Wo**	**147.64**	**3**	*e*P	**PKPbc**	09 20 28.5	-0.4
SSW	**Stow on the Wo**	**147.64**	**3**	P	**PKPbc**	09 20 28.5	-0.4
VYHS	**Vyhne**	**147.79**	**338**	*e*PKIKP	**PKPdf**	09 20 25.0	-0.5
VYHS	**Vyhne**	**147.79**	**338**	*e*PKP	**PKPdf**	09 20 25.0	-0.5
VYHS				*e*		09 20 29.5	
VYHS				*e*		09 22 58.4	
PRU	**Pruhonice**	**147.83**	**344**	*e*PKP2	**PKPbc**	09 20 29.3	-0.1
PRU	**Pruhonice**	**147.83**	**344**	⇑*e*PKP	**PKPbc**	09 20 29.3	-0.1
PRU				*i* PKPAB	**PKPab**	09 20 35.3	+0.8
VRAC	**Vranov**	**147.85**	**341**	⇑PKP2	**PKPbc**	09 20 29.4	-0.1
VRAC	**Vranov**	**147.85**	**341**	⇑*i*P	**PKPbc**	09 20 29.4	-0.1
BUG	**Bochum--Univer**	**147.86**	**353**	*e*PKPdf	**PKPdf**	09 20 25.4	0.0
BUG				*e*PKPbc	**PKPbc**	09 20 29.8	+0.4
KOLL	**Kolacno**	**147.88**	**338**	*e*PKP2	**PKPbc**	09 20 29.9	+0.3
KOLL	**Kolacno**	**147.88**	**338**	*e*PKP	**PKPbc**	09 20 29.9	+0.3
KOLL				*e*		09 23 01.2	
PSZ	**Piszkesteto**	**147.88**	**336**	*e*PKIKP	**PKPdf**	09 20 25.8	+0.1
PSZ				*e*		09 20 35.0	
PSZ	**Piszkesteto**	**147.88**	**336**	*e*PKPdf	**PKPdf**	09 20 25.8	+0.1
PSZ				*e*PKPbc	**PKPbc**	09 20 29.6	-0.1
PSZ				*e*PKPab	**PKPab**	09 20 35.0	0.0
PSZ	**Piszkesteto**	**147.88**	**336**	⇑*i*P	**PKPbc**	09 20 29.6	-0.1
PSZ	**Piszkesteto**	**147.88**	**336**	⇑*e*	**PKPbc**	09 20 29.3	-0.4
MOX	**Moxa**	**147.92**	**347**	*e*PKPdf	**PKPdf**	09 20 25.4	-0.2
MOX				*e*PKPbc	**PKPbc**	09 20 29.5	-0.1
MOX				*e*PKPab	**PKPab**	09 20 34.5	-0.4
MOX	**Moxa**	**147.92**	**347**	*e*PKP2	**PKPab**	09 20 34.5	-0.4
SKP1	**Kophill**	**147.93**	**2**	*e*P	**PKPbc**	09 20 28.5	-1.1
SKP1	**Kophill**	**147.93**	**2**	P	**PKPbc**	09 20 28.5	-1.1
TANN	**Tannenbergstha**	**147.95**	**346**	*e*PKPdf	**PKPdf**	09 20 25.7	0.0
TANN				*e*PKPbc	**PKPbc**	09 20 29.6	-0.2
PLN	**Plauen**	**147.95**	**347**	*e*PKPdf	**PKPdf**	09 20 25.5	-0.1
PLN				*e*PKPbc	**PKPbc**	09 20 29.7	0.0
WERD	**Werda**	**147.95**	**346**	*e*PKPdf	**PKPdf**	09 20 25.7	0.0
WERD				*e*PKPbc	**PKPbc**	09 20 29.7	-0.1
WERD				*e*PKPab	**PKPab**	09 20 35.3	+0.2
WERD				*e*pPKPbc	**pPKPbc**	09 23 00.2	+0.8
GUNZ	**Gunzen**	**148.03**	**346**	*e*PKPdf	**PKPdf**	09 20 25.3	-0.5
GUNZ				*e*PKPbc	**PKPbc**	09 20 30.1	+0.1
GUNZ				*e*PKPab	**PKPab**	09 20 35.4	0.0
GUNZ				*e*pPKPbc	**pPKPbc**	09 23 00.2	+0.6
UBBA	**Unterbreizbach**	**148.06**	**349**	*e*PKPbc	**PKPbc**	09 20 30.0	+0.2
WERN	**Wernitzgruen**	**148.09**	**346**	*e*PKPbc	**PKPbc**	09 20 30.3	+0.2
WERN				*e*PKPab	**PKPab**	09 20 35.9	+0.3
NKC	**Novy Kostel**	**148.12**	**346**	*e*PKPDF	**PKPdf**	09 20 26.1	+0.2
NKC				⇑*i*PKP	**PKPbc**	09 20 30.1	-0.1
NKC				*e*PKPAB	**PKPab**	09 20 35.7	-0.1
TREC	**Trest**	**148.19**	**342**	⇑*e*PKP	**PKPbc**	09 20 29.8	-0.6
SMOL	**Smolenice**	**148.27**	**339**	*e*PKP2	**PKPbc**	09 20 31.7	+1.1
SMOL	**Smolenice**	**148.27**	**339**	*e*PKP	**PKPbc**	09 20 31.7	+1.1
WOL	**Wolverton**	**148.32**	**3**	*e*P	**PKPbc**	09 20 29.8	-0.7
WOL	**Wolverton**	**148.32**	**3**	P	**PKPbc**	09 20 29.8	-0.7
HEX	**Exmoor**	**148.39**	**6**	*e*P	**PKPbc**	09 20 29.9	-0.9
HEX	**Exmoor**	**148.39**	**6**	P	**PKPbc**	09 20 29.9	-0.9
SZH	**Strazhica**	**148.47**	**324**	*i* P	**PKPbc**	09 20 30.4	-0.8
BUD	**Budapest**	**148.57**	**336**	⇓*e*	**PKPbc**	09 20 31.5	+0.2
JMB	**Yambol**	**148.61**	**322**	P	**PKPbc**	09 20 31.8	+0.2
GZR	**Gura Zlata**	**148.62**	**330**	PKHKP	**PKPbc**	09 20 31.8	+0.2
ROTZ	**Rotzenmuhle**	**148.62**	**346**	*e*PKPdf	**PKPdf**	09 20 26.3	-0.4
ROTZ				*e*PKPbc	**PKPbc**	09 20 31.3	-0.1
ZST	**Bratislava**	**148.65**	**339**	*e*PKP2	**PKPbc**	09 20 32.3	+0.8
ZST	**Bratislava**	**148.65**	**339**	*e*PKP	**PKPbc**	09 20 32.3	+0.8
ZST				*e*		09 22 59.9	
BEBN	**Eben Emael**	**148.67**	**354**	PKPbc	**PKPbc**	09 20 31.6	+0.2
BEBN				PKPab	**PKPab**	09 20 38.0	+0.1
HGN	**Heimansgroeve**	**148.68**	**354**	*e*PKP	**PKPbc**	09 20 30.9	-0.5
	comp=Z,106nm,1.3s						
MEM	**Membach**	**148.82**	**354**	PKPbc	**PKPbc**	09 20 31.3	-0.5
KHC	**Kasperske Hory**	**148.87**	**344**	*e*PKIKP	**PKPdf**	09 20 26.0	-1.2
KHC				*e*		09 20 39.9	
KHC	**Kasperske Hory**	**148.87**	**344**	*e*PKPdf	**PKPdf**	09 20 26.0	-1.2
KHC				*e*PKPbc	**PKPbc**	09 20 32.1	0.0
KHC				*e*PKPab	**PKPab**	09 20 39.9	+1.0
KHC	**Kasperske Hory**	**148.87**	**344**	*e*PKPDF	**PKPdf**	09 20 25.0	-2.2
KHC				⇑*i*PKP	**PKPbc**	09 20 31.9	-0.2
KHC				*e*PKPAB	**PKPab**	09 20 39.4	+0.5
KHC				*e*pPKP	**pPKPdf**	09 23 02.6	+3.3
CRAR	**CRAIOVA**	**148.89**	**327**	PKP2	**PKPbc**	09 20 33.1	+0.9
TNS	**Taunus Mts**	**148.89**	**351**	*e*PKPdf	**PKPdf**	09 20 27.1	-0.1
TNS				*e*PKPbc	**PKPbc**	09 20 31.8	-0.3
TNS				*e*PKPab	**PKPab**	09 20 38.8	-0.2
TNS	**Taunus Mts**	**148.89**	**351**	*e*PKIKP	**PKPdf**	09 20 27.1	-0.1
GRF	**Grafenberg Arr**	**148.90**	**347**	*e*PKPbc	**PKPbc**	09 20 32.0	-0.1
GRF				*e*PKPab	**PKPab**	09 20 38.9	-0.1
GRF	**Grafenberg Arr**	**148.90**	**347**	*e*PKP2	**PKPab**	09 20 38.9	-0.1
GRFO	**Grafenberg**	**148.90**	**347**	*e*PKPbc	**PKPbc**	09 20 32.2	+0.2
GRFO				*e*PKPab	**PKPab**	09 20 39.6	+0.6
BZS	**Buzias**	**148.98**	**331**	⇑PKIKP	**PKPdf**	09 20 27.2	-0.2
BZS	**Buzias**	**148.98**	**331**	⇑*i*P	**PKPdf**	09 20 27.2	-0.2
WET	**Wettzell**	**149.04**	**345**	*e*PKPdf	**PKPdf**	09 20 27.0	-0.4
WET				*e*PKPbc	**PKPbc**	09 20 32.3	-0.2
WET				*e*PKPab	**PKPab**	09 20 39.9	+0.3
WET	**Wettzell**	**149.04**	**345**	*e*PKIKP	**PKPdf**	09 20 27.0	-0.4
SNF	**Seneffe**	**149.07**	**356**	PKPbc	**PKPbc**	09 20 32.0	-0.4
SNF				PKPab	**PKPab**	09 20 39.6	0.0
BCLA	**Clavier**	**149.08**	**355**	PKPbc	**PKPbc**	09 20 32.6	+0.1
GEC2	**GERESS Array S**	**149.10**	**344**	*e*PKPdf	**PKPdf**	09 20 27.2	-0.4
GEC2				*e*PKPbc	**PKPbc**	09 20 32.4	-0.3
GEC2				*e*pPKPbc	**pPKPbc**	09 23 01.8	-1.0
GEC2	**GERESS Array S**	**149.10**	**344**	*e*PKIKP	**PKPdf**	09 20 27.2	-0.4
GERES	**GERESS Array B**	**149.10**	**344**	PKP	**PKPdf**	09 20 27.5	-0.1
	comp=Z,8.4nm,0.8s,baz=60,slow=3.2,SNR=8.4						
GERES				PKPbc	**PKPbc**	09 20 32.2	-0.5
	comp=Z,23nm,0.9s,baz=29,slow=2.2,SNR=63						
GERES				pPKPbc	**pPKPbc**	09 23 03.1	+0.3
	comp=Z,4.5nm,1.1s,baz=96,slow=1.3,SNR=5.9						
GERES	**GERESS Array B**	**149.10**	**344**	PKIKP	**PKPdf**	09 20 27.5	-0.1
GERES	**GERESS Array B**	**149.10**	**344**	PKP	**PKPdf**	09 20 27.5	-0.1
GERES				PKPbc	**PKPbc**	09 20 32.2	-0.5
GERES				pPKPbc	**pPKPbc**	09 23 03.1	+0.3
SOP	**Sopron**	**149.28**	**339**	⇑*e*	**PKPbc**	09 20 32.8	-0.2
CONA	**Conrad Observa**	**149.29**	**340**	⇑*i*P	**PKPbc**	09 20 33.3	+0.1
CONA	**Conrad Observa**	**149.29**	**340**	⇑*i*PKPdf	**PKPdf**	09 20 28.5	+0.5
	comp=Z,7.0nm,1.2s						
CONA				⇑*i*PKiKP	**PKPbc**	09 20 33.3	+0.1
	comp=Z,90nm,1.3s						
ABH	**Alteburg**	**149.36**	**352**	PKP	**PKPbc**	09 20 33.2	0.0
TOD	**Tromm**	**149.44**	**350**	PKP	**PKPbc**	09 20 33.2	-0.2
DOU	**Dourbes**	**149.46**	**355**	PKPbc	**PKPbc**	09 20 33.0	-0.4
DIM	**Dimitrovgrad**	**149.48**	**322**	P	**PKPbc**	09 20 33.5	-0.2
RUP	**Ruppelstein**	**149.60**	**352**	PKP	**PKPbc**	09 20 33.8	0.0
WLF	**Walferdange**	**149.74**	**353**	*e*PKPdf	**PKPdf**	09 20 29.0	+0.5
WLF				*e*PKPbc	**PKPbc**	09 20 34.3	+0.2
PKSM	**Moragy**	**149.77**	**335**	⇓PKIKP	**PKPdf**	09 20 28.3	-0.3
PKSM	**Moragy**	**149.77**	**335**	⇓*i*P	**PKPdf**	09 20 28.3	-0.3
PKSM	**Moragy**	**149.77**	**335**	⇑*e*	**PKPbc**	09 20 33.6	-0.6
KDZ	**Kurdzhali**	**149.80**	**322**	*i* P	**PKPbc**	09 20 33.9	-0.6
PGB	**Panagyurishte**	**149.92**	**325**	*i* P	**PKPbc**	09 20 34.3	-0.5
STU	**Stuttgart**	**150.18**	**349**	*e*PKPdf	**PKPdf**	09 20 29.2	0.0
STU				*e*PKPbc	**PKPbc**	09 20 34.8	-0.3
STU				*e*PKPab	**PKPab**	09 20 44.1	-0.2
STU	**Stuttgart**	**150.18**	**349**	*e*PKIKP	**PKPdf**	09 20 29.5	+0.3
STU				*e*		09 20 44.3	
STU	**Stuttgart**	**150.18**	**349**	*e*PKPdf	**PKPdf**	09 20 29.5	+0.3
STU				*e*PKPbc	**PKPbc**	09 20 35.1	0.0
STU				*e*PKPab	**PKPab**	09 20 44.3	0.0
RZN	**Rozhen**	**150.18**	**323**	P	**PKPbc**	09 20 34.8	-0.8
LANF	**Langenberg**	**150.20**	**351**	PKP	**PKPbc**	09 20 35.1	-0.1
BEHE	**Becsehely**	**150.25**	**338**	⇓*e*	**PKPbc**	09 20 35.5	+0.1
FUR	**Furstenfeldbru**	**150.33**	**346**	*e*PKPbc	**PKPbc**	09 20 35.0	-0.5
FUR				*e*PKPab	**PKPab**	09 20 45.3	+0.3
FUR	**Furstenfeldbru**	**150.33**	**346**	*e*PKIKP	**PKPbc**	09 20 35.0	-0.5
RJOB	**Jochberg**	**150.36**	**344**	*e*PKPbc	**PKPbc**	09 20 34.9	-0.7
JSA	**Saint Aubin**	**150.39**	**4**	*e*P	**PKPbc**	09 20 35.0	-0.6
JSA	**Saint Aubin**	**150.39**	**4**	P	**PKPbc**	09 20 35.0	-0.6
VTS	**Vitosha**	**150.41**	**326**	*i* P	**PKPbc**	09 20 35.3	-0.7
SOKA	**Soboth**	**150.66**	**340**	⇑*i*P	**PKPdf**	09 20 29.8	-0.3
SOKA	**Soboth**	**150.66**	**340**	⇑*i*PKPdf	**PKPdf**	09 20 29.8	-0.3
	comp=Z,9.4nm,1.4s						
SOKA				⇑*i*PKPbc	**PKPbc**	09 20 35.0	-1.4
	comp=Z,51nm,1.5s						

BFO	**Black Forest**	**150.75**	**350**	*e*PKPbc	**PKPbc**	09 20 35.9	-0.6
BFO	**Black Forest**	**150.75**	**350**	*e*PKIKP	**PKPbc**	09 20 35.9	-0.6
BFO	**Black Forest**	**150.75**	**350**	*e*PKPbc	**PKPbc**	09 20 36.0	-0.6
BFO				*e*PKPab	**PKPab**	09 20 46.4	-0.4
MMB	**Musomiste**	**150.81**	**324**	*i* P	**PKPbc**	09 20 36.0	-0.8
KBA	**Koelnbreinsper**	**150.81**	**343**	⇑*i*PKIKP	**PKPdf**	09 20 30.0	-0.5
KBA	**Koelnbreinsper**	**150.81**	**343**	⇑*i*P	**PKPdf**	09 20 30.0	-0.5
KBA	**Koelnbreinsper**	**150.81**	**343**	⇑*i*PKPdf	**PKPdf**	09 20 30.0	-0.5
	comp=Z,9.9nm,1.3s,SNR=9.3						
KBA				⇑*i*PKPbc	**PKPbc**	09 20 35.6	-1.3
	comp=Z,32nm,1.1s						
SPAK	**Spaichingen-Ko**	**150.89**	**349**	PKP	**PKPbc**	09 20 36.4	-0.5
KKB	**Krupnik**	**150.97**	**325**	P	**PKPbc**	09 20 36.0	-1.2
WATA	**Walderalm**	**151.04**	**345**	⇑*i*PKIKP	**PKPdf**	09 20 30.7	0.0
WATA	**Walderalm**	**151.04**	**345**	⇑*i*P	**PKPdf**	09 20 30.7	0.0
WATA	**Walderalm**	**151.04**	**345**	⇑*i*PKPdf	**PKPdf**	09 20 30.7	0.0
	comp=Z,1.5nm,0.4s						
WATA				⇑*i*PKPbc	**PKPbc**	09 20 36.4	-0.9
	comp=Z,20nm,0.4s,SNR=12						
ECH	**Echery**	**151.04**	**351**	PKIKP	**PKPbc**	09 20 36.6	-0.5
ECH	**Echery**	**151.04**	**351**	PKP	**PKPbc**	09 20 36.6	-0.5
THEF	**They Montfort**	**151.18**	**353**	PKIKP	**PKPbc**	09 20 37.1	-0.3
THEF	**They Montfort**	**151.18**	**353**	PKP	**PKPbc**	09 20 37.1	-0.3
FELD	**Feldberg im Sc**	**151.24**	**350**	PKP	**PKPbc**	09 20 35.8	-2.0
ABTA	**Abfaltersbach**	**151.34**	**343**	⇓*i*P	**PKPdf**	09 20 30.4	-0.8
ABTA	**Abfaltersbach**	**151.34**	**343**	⇓*i*PKPdf	**PKPdf**	09 20 30.4	-0.8
	comp=Z,25nm,1.2s						
ABTA				⇑*i*PKPbc	**PKPbc**	09 20 37.0	-1.0
	comp=Z,74nm,1.3s						
LJU	**Ljubljana**	**151.39**	**340**	*i* PKPdf	**PKPdf**	09 20 30.1	-1.0
LJU				*i* PKPbc	**PKPbc**	09 20 37.8	-0.2
LJU				*i* pPKPbc	**pPKPbc**	09 23 09.5	+1.0
LJU				*i*		09 23 21.1	
MOF	**Molkenrain**	**151.40**	**351**	PKIKP	**PKPbc**	09 20 37.5	-0.5
MOF	**Molkenrain**	**151.40**	**351**	PKP	**PKPbc**	09 20 37.5	-0.5
VISS	**Visnje**	**151.50**	**339**	*i* PKPdf	**PKPdf**	09 20 29.3	-2.0
VISS				*i* PKPbc	**PKPbc**	09 20 37.9	-0.3
VISS				*i* PKPab	**PKPab**	09 20 44.4	-1.7
VISS				*i* pPKPbc	**pPKPbc**	09 23 09.1	+0.2
FETA	**Feichten**	**151.53**	**346**	⇑*i*P	**PKPbc**	09 20 38.1	-0.4
FETA	**Feichten**	**151.53**	**346**	⇑*i*PKPdf	**PKPdf**	09 20 30.7	-0.8
	comp=Z,19nm,1.0s						
BOJS	**Bojanci**	**151.62**	**339**	*i* PKPdf	**PKPdf**	09 20 31.3	-0.2
BOJS				*i* PKPbc	**PKPbc**	09 20 38.1	-0.3
BOJS				*i* PKPab	**PKPab**	09 20 49.5	-1.1
BOJS				*i* pPKPbc	**pPKPbc**	09 23 09.5	+0.4
JAVS	**Javornik**	**151.67**	**341**	*i* PKPbc	**PKPbc**	09 20 38.4	-0.3
JAVS				*i* PKPab	**PKPab**	09 20 50.2	-0.6
JAVS				*i* pPKPbc	**pPKPbc**	09 23 10.2	+0.9
BBS	**Basel-Blauen**	**151.72**	**351**	PKIKP	**PKPbc**	09 20 35.8	-2.9
BBS	**Basel-Blauen**	**151.72**	**351**	PKP	**PKPbc**	09 20 35.8	-2.9
DAVOX	**Davos/Dischmat**	**151.95**	**347**	pPKPbc	pPKPbc	09 23 09.5	-0.6
	comp=Z,6.4nm,0.9s,baz=139,slow=4.8,SNR=4.1						
DAVOX	**Davos/Dischmat**	**151.95**	**347**	pPKPbc	pPKPbc	09 23 09.5	-0.6
TUE	**Stuetta**	**152.35**	**348**	*e*PKPdf	**PKPdf**	09 20 32.3	-0.5
TUE				*e*PKPbc	**PKPbc**	09 20 40.2	-0.2
TUE				*e*PKPab	**PKPab**	09 20 53.9	0.0
PBRG	**Braganca**	**156.92**	**15**	*e*PKPab	**PKPab**	09 21 14.4	+0.9
POLO	**Lamas de Olo**	**157.05**	**17**	*e*PKPab	**PKPab**	09 21 14.7	+0.6
MVO	**Moncorvo**	**157.45**	**16**	*e*PKPab	**PKPab**	09 21 16.3	+0.5
PTOM	**Tomar**	**158.48**	**20**	*e*PKPab	**PKPab**	09 21 20.6	+0.4
ESDC	**Sonseca Array**	**159.56**	**11**	PKP	**PKPdf**	09 20 42.3	+0.2
	comp=Z,0.8nm,0.7s,baz=46,slow=4.3,SNR=4.0						
ESDC				PKPab	**PKPab**	09 21 24.3	-0.7
	comp=Z,6.7nm,0.8s,baz=352,slow=4.7,SNR=12						
ESDC	**Sonseca Array**	**159.56**	**11**	PKP	**PKPdf**	09 20 42.3	+0.2
ESDC				PKPab	**PKPab**	09 21 24.3	-0.7
PBAR	**Barrancos**	**160.23**	**19**	*e*PKPdf	**PKPdf**	09 20 43.5	+0.7
PVAQ	**Vaqueiros**	**160.71**	**21**	*e*PKPab	**PKPab**	09 21 30.6	+0.5
DBIC	**Dimbokro**	**165.92**	**155**	PKP	**PKPdf**	09 20 47.8	-1.0
	comp=Z,14nm,1.1s,baz=156,slow=1.0,SNR=8.8						
DBIC				PKPab	**PKPab**	09 21 54.1	+0.6
	comp=Z,20nm,0.9s,baz=181,slow=6.0,SNR=16						
DBIC	**Dimbokro**	**165.92**	**155**	PKIKP	**PKPdf**	09 20 47.8	-1.0
DBIC				*e*		09 21 54.1	
DBIC	**Dimbokro**	**165.92**	**155**	PKP	**PKPdf**	09 20 47.8	-1.0
DBIC				*e*PKPdf	PKPdf	09 20 48.0	-0.8
DBIC				*e*PKPab	**PKPab**	09 21 54.1	+0.6
TORD	**Torodi Ar. Bea**	**173.53**	**186**	PKP	**PKPdf**	09 20 51.6	-1.5
	comp=Z,12nm,1.2s,baz=316,slow=0.7,SNR=26						
TORD				PKPab	**PKPab**	09 22 26.3	-0.9
	comp=Z,4.1nm,0.9s,baz=181,slow=3.8,SNR=10.0						
TORD				pPKP	**pPKPdf**	09 23 27.4	+0.8
	comp=Z,0.7nm,0.7s,baz=262,slow=0.9,SNR=2.7						
TORD				pPKPab	**pPKPab**	09 24 49.5	-0.1
	comp=Z,3.2nm,0.9s,baz=163,slow=4.4,SNR=9.4						
TORD				PP	**PP**	09 26 17.7	-0.7
	comp=Z,2.6nm,0.9s,baz=160,slow=6.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**173.53**	**186**	PKP	**PKPdf**	09 20 51.6	-1.5
TORD				PKPab	**PKPab**	09 22 26.3	-0.9
TORD				pPKP	**pPKPdf**	09 23 27.4	+0.8
TORD				pPKPab	**pPKPab**	09 24 49.5	-0.1
TORD				PP	**PP**	09 26 17.7	-0.7

IDC 24 09:29:10.6±3.8, 19°15.5×179°45.W, h691km±54km, mb2.8/5, mb1 3.2/5, mb1mx2.9/16, mbtmp2.8/5, Error ellipse: s-maj=187.4km s-min=16.7km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.45**	**261**	P	P	09 36 16.9	-0.2
	0.7nm,0.5s,baz=97,slow=8.4,SNR=7.7						
ASAR	**Alice Springs**	**43.51**	**256**	P	P	09 36 17.5	0.0
	0.8nm,0.4s,baz=86,slow=8.5,SNR=31						
ASAR				S	S	09 42 00.5	+0.4
	0.2nm,0.6s,baz=91,slow=17,SNR=4.1						
NVAR	**Mina Array Bea**	**81.00**	**44**	P	P	09 40 17.1	+0.3
	0.2nm,0.5s,baz=218,slow=8.9,SNR=4.3						
TXAR	**Lajitas Array**	**87.49**	**58**	P	P	09 40 48.4	0.0
	0.6nm,0.8s,baz=218,slow=7.9,SNR=7.1						
PDAR	**Pinedale Array**	**88.93**	**44**	P	P	09 40 54.5	-0.4
	0.4nm,0.7s,baz=197,slow=3.1,SNR=4.8						
ARCES	**ARCESS Array B**	**127.35**	**349**	PKP	PKPdf	09 46 58.4	-0.4
	1.9nm,0.8s,baz=48,slow=1.8,SNR=7.5						
GERES	**GERESS Array B**	**148.53**	**343**	PKPbc	PKPbc	09 47 42.1	-0.3
	0.3nm,0.6s,baz=8.6,slow=7.2,SNR=3.4						

MEX 24 09:31:41.4±0.7, 16°52N×96°01W, h73km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.75**	**187**	*i* P	Pn	09 31 55.3	-1.8
HUIG				*e*S	Sn	09 32 07.4	-1.3
OXX	**Oaxaca**	**0.88**	**310**	*i* P	Pn	09 31 57.2	-1.8
OXX				*e*S	Sn	09 32 10.1	-1.8
VHO	**Vista Hermosa**	**0.89**	**309**	*i* P	Pn	09 31 57.9	-1.0
VHO				*e*S	Sn	09 32 10.3	-1.7
CMIG	**Matias Romero**	**1.22**	**62**	*i* P	Pn	09 32 01.6	-1.2
CMIG				*e*S	Sn	09 32 16.7	-2.2
PNIG	**Pinotepa**	**2.04**	**267**	*i* P	Pn	09 32 12.1	-1.5
PNIG				*e*S	Sn	09 32 36.6	-1.7
TGIG		**2.78**	**84**	*i* P	Pn	09 32 22.1	-1.7
TGIG				*i* S	Sn	09 32 53.6	-2.7
PCIG		**2.80**	**106**	*e*P	Pn	09 32 23.6	-0.3
PCIG				*e*S	Sn	09 32 54.2	-2.5

NIED ***24*** *09:32:00,38°.20N×140°.60E,h119km,Mw3.9 Best double couple: M0 8.62000×10^14 NP1:φs 172.00000°, δ74.00000°,λ-134.00000°. NP2:φs 66.00000°,δ47.00000°, λ-23.00000°.*

ISCJB ***24*** *09:32:05.5±0.3,38°.28N±0°.04×140°.49E±0°.05, h144km±2km,mb4.0/25,Error ellipse: s-maj=8.3km s-min=4.9km az=40.1*

JMA ***24*** *09:32:06.9±0.1,38°.23N×140°.55E,h138km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs 179.00000°,δ86.00000°,λ-75.00000°. NP2: φs 284.00000°,δ15.00000°,λ-164.00000°. Principal axes: T Plg39.0000°, Azm255.0000°; N Plg15.0000°, Azm357.0000°; P Plg47.0000°, Azm104.0000°; JMA Felt I J1.*

NEIC ***24*** *09:32:07.0,38°.23N×140°.55E,h138km,mb4.5/6, MW3.9(NIED),After JMA.*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Miyagi.

IDC ***24*** *09:32:07.0±1.1,38°.32N×140°.39E,h140km±10km, mb3.6/20,mb1 3.7/24,mb1mx3.7/32,mbtmp3.6/24,MS2.7/1,*

Ms1 2.7/1,ms1mx2.1/39,Error ellipse: s-maj=13.2km s-min=9.9km az=129.0

ISC 24 09:32:06.8±0.5, 38°.27N±0°.05×140°.49E±0°.05, h141km±4km, h141km:pP-P,n75,σ0.74/94,mb4.0/25,6C-9D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOU	**Okura**	**0.16**	**56**	⇑P	**Pn**	**09 32 26.1**	**+0.1**
JOU				S	**Sn**	**09 32 40.6**	**+0.1**
JYS	**Shirataka**	**0.34**	**261**	⇓P	**Pn**	**09 32 26.5**	**+0.1**
JYS				S	**Sn**	**09 32 41.6**	**+0.3**
JMM	**Marumori**	**0.47**	**150**	⇑P	**Pn**	**09 32 26.6**	**-0.4**
JMM				S	**Sn**	**09 32 41.1**	**-1.2**
JYK	**Kaneyama**	**0.65**	**351**	⇓P	**Pn**	**09 32 28.2**	**+0.2**
JYK				S	**Sn**	**09 32 44.1**	**-0.1**
JYA	**Atsumi**	**0.69**	**298**	⇓P	**Pn**	**09 32 28.4**	**+0.1**
JIO	**Ouri**	**0.70**	**75**	⇑P	**Pn**	**09 32 28.0**	**-0.3**
JIO				S	**Sn**	**09 32 43.3**	**-1.3**
JFT	**Otama**	**0.77**	**189**	⇓P	**Pn**	**09 32 28.5**	**-0.4**
JFT				S	**Sn**	**09 32 44.9**	**-0.7**
JMK	**Ichinoseki**	**0.89**	**40**	⇑P	**Pn**	**09 32 29.6**	**-0.1**
JFK	**Kawauchi**	**0.96**	**161**	⇑P	**Pn**	**09 32 29.6**	**-0.8**
JFK				S	**Sn**	**09 32 46.3**	**-2.0**
JAW	**Awa shima**	**0.99**	**281**	⇓P	**Pn**	**09 32 30.8**	**+0.2**
JNS	**Sasagawa**	**1.03**	**244

IDC 24 09:38:15.9±4.7, 23°.14S×179°.72E, h528km±38km, mb3.4/4, mb1 3.6/4, mb1mx3.2/17, mbtmp3.4/4, Error ellipse: s-maj=177.5km s-min=28.1km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.23**	**269**	P	P	09 43 53.6	+1.3
	6.5nm,0.5s,baz=99,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**41.91**	**260**	P	P	09 45 19.4	-0.9
	2.3nm,0.8s,baz=96,slow=7.6,SNR=29						
ASAR				ScP	ScP	09 50 03.8	-0.1
	0.5nm,0.8s,baz=101,slow=4.8,SNR=5.3						
WRA	**Warramunga Arr**	**42.21**	**265**	P	P	09 45 22.0	-0.7
	2.8nm,0.3s,baz=96,slow=8.4,SNR=42						
TXAR	**Lajitas Array**	**90.25**	**58**	P	P	09 50 20.5	0.0
	0.2nm,0.6s,baz=201,slow=7.3,SNR=5.8						

*IDC **24** 09:41:12.2±13.0, 33°.17S×179°.98E, h111km±107km, mb3.6/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=91.0km s-min=29.8km az=47.0*

ISC 24 09:41:16.4±2.3, 33°.2S±0°.1×179°.5E±0°.3, h150km, n60, σ1s86/24, mb3.8/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.48**	**192**	PN	Pn	09 42 31.3	+8.4
MXZ				SN	Sn	09 43 20.8	+6.0
PUZ	**Puketiti**	**4.99**	**191**	PN	Pn	09 42 37.4	+7.7
PUZ				SN	Sn	09 43 31.2	+4.4
OPRZ	**Ohinepanea**	**5.23**	**206**	PN	Pn	09 42 42.0	+9.2
MARZ	**Manawahe**	**5.32**	**205**	PN	Pn	09 42 44.3	+10
MWZ	**Matawai**	**5.39**	**197**	PN	Pn	09 42 42.4	+7.4
MWZ				ePN		09 42 44.7	
MWZ				SN	**Sn**	**09 43 39.1**	**+2.8**
URZ	**Urewera**	**5.43**	**200**	PN	Pn	09 42 42.4	+7.0
URZ				SN	**Sn**	**09 43 40.7**	**+3.5**
RRRZ	**Republican Roa**	**5.69**	**204**	PN	Pn	09 42 48.7	+10
KNZ	**Kokohu**	**6.01**	**194**	PN	Pn	09 42 48.7	+5.5
KNZ				SN	**Sn**	**09 43 53.3**	**+2.1**
RAHZ	**Arahi**	**6.05**	**198**	ePN	Pn	09 42 49.9	+6.1
MHGZ	**Mahia Peninsul**	**6.10**	**192**	ePN	Pn	09 42 50.1	+5.7
NMHZ	**Naumai**	**6.29**	**199**	PN	Pn	09 42 52.7	+5.7
BKZ	**Black Stump Fm**	**6.45**	**201**	PN	Pn	09 42 54.4	+5.3
BKZ				SN	**Sn**	**09 44 02.2**	**+0.5**
WTVZ	**West Tongariro**	**6.71**	**207**	PN	Pn	09 43 00.8	+8.1
CKHZ	**Cape Kidnapper**	**6.75**	**196**	PN	Pn	09 43 00.4	+7.3
NGZ	**Ngauruhoe**	**6.76**	**206**	PN	Pn	09 43 01.3	+8.0
WPVZ	**Whakapapa**	**6.80**	**207**	PN	Pn	09 43 02.2	+8.3
DRZ	**Dome Shelter**	**6.86**	**206**	PN	Pn	09 43 02.3	+7.5
BHHZ	**Black Hill Sta**	**6.88**	**203**	PN	Pn	09 42 59.7	+4.8
MOVZ	**Moawhango**	**6.91**	**205**	ePN	Pn	09 43 00.8	+5.5
MOVZ				SN	**Sn**	**09 44 10.7**	**-2.0**
KAHZ	**Kahuranaki**	**6.93**	**197**	PN	Pn	09 42 59.8	+4.3
MTVZ	**Mangateitei**	**6.99**	**206**	ePN	Pn	09 43 01.9	+5.5
PXZ	**Pawanui**	**7.16**	**196**	ePN	Pn	09 43 01.9	+3.4
PXZ				eSN	**Sn**	**09 44 16.1**	**-2.5**
PNHZ	**Pukenui**	**7.22**	**200**	ePN	Pn	09 43 02.9	+3.5
WPHZ	**Waipukurau**	**7.30**	**199**	ePN	Pn	09 43 03.6	+3.3
TSZ	**Takapari Road**	**7.43**	**201**	ePN	Pn	09 43 05.0	+2.9
TSZ				SN	**Sn**	**09 44 21.1**	**-4.0**
PRHZ	**Porangahau**	**7.44**	**197**	ePN	Pn	09 43 05.2	+3.0
WAZ	**Wanganui**	**7.50**	**208**	ePN	Pn	09 43 07.6	+4.5
WAZ				SN	**Sn**	**09 44 25.7**	**-1.1**
BFZ	**Birch Farm**	**7.92**	**198**	PN	Pn	09 43 11.2	+2.4
BFZ				eSN	Sn	09 44 27.8	-9.2
MRZ	**Mangatainoka R**	**8.10**	**202**	PN	Pn	09 43 13.1	+2.0
MRZ				eSN	Sn	09 44 32.0	-9.2
TIWZ	**Tintock**	**8.11**	**200**	ePN	Pn	09 43 13.5	+2.3
OGWZ	**Otaki Gorge**	**8.37**	**203**	ePN	Pn	09 43 16.3	+1.6
KIW	**Kapiti Island**	**8.50**	**204**	PN	Pn	09 43 18.6	+2.2
KIW				eSN	Sn	09 44 43.4	-7.4
CAW	**Cannon Point**	**8.66**	**203**	PN	Pn	09 43 19.7	+1.1
CAW				eSN	Sn	09 44 47.7	-7.1
TRWZ	**Traveller**	**8.75**	**199**	ePN	Pn	09 43 22.0	+2.3
MSWZ	**Moikau Station**	**8.89**	**201**	ePN	Pn	09 43 23.2	+1.6
MSWZ				SN	Sn	09 44 52.4	-7.8
WEL	**Wellington**	**8.92**	**203**	ePN	Pn	09 43 23.4	+1.4
WEL				eSN	Sn	09 44 53.1	-7.9
SNZO	**South Karori**	**8.96**	**204**	ePN	**Pn**	**09 43 23.2**	**+0.6**
SNZO				eSN	Sn	09 44 54.3	-7.7
BHW	**Baring Head**	**9.00**	**203**	ePN	Pn	09 43 24.9	+1.9
PLWZ	**Palliser**	**9.03**	**201**	ePN	Pn	09 43 25.6	+2.1
TCW	**Tory Channel**	**9.03**	**206**	ePN	**Pn**	**09 43 24.3**	**+0.9**
NNZ	**Nelson**	**9.38**	**209**	PN	Pn	09 43 30.0	+1.9
NNZ				SN	Sn	09 45 06.0	-6.1
QRZ	**Quartz Range**	**9.44**	**214**	PN	Pn	09 43 32.1	+3.1
THZ	**Tophouse**	**10.03**	**209**	PN	**Pn**	**09 43 38.4**	**+1.5**
KHZ	**Kahutara**	**10.35**	**205**	PN	**Pn**	**09 43 42.1**	**+1.2**
DSZ	**Denniston Nort**	**10.50**	**213**	PN	**Pn**	**09 43 43.9**	**+0.9**
CTZ	**Chatham Island**	**10.98**	**165**	ePN	Pn	09 44 02.1	+13
LTZ	**Lake Taylor**	**11.14**	**209**	PN	**Pn**	**09 43 51.2**	**-0.3**
MQZ	**McQueen's Vall**	**11.79**	**205**	PN	**Pn**	**09 43 59.1**	**-0.8**
MQZ				SN	Sn	09 45 55.4	-15
WVZ	**Waitaha Valley**	**12.04**	**212**	PN	**Pn**	**09 44 02.9**	**-0.1**
RPZ	**Rata Peaks**	**12.41**	**210**	P	**Pn**	**09 44 07.4**	**-0.6**
	3.1nm,0.3s,baz=65,slow=0.6,SNR=20						
RPZ				S	Sn	09 46 11.3	-14
	1.5nm,0.3s,baz=12,slow=20,SNR=7.1						
RPZ	**Rata Peaks**	**12.41**	**210**	PN	**Pn**	**09 44 07.7**	**-0.3**
FOZ	**Fox Glacier**	**12.89**	**214**	PN	**Pn**	**09 44 12.6**	**-1.5**
LBZ	**Lake Benmore**	**13.32**	**210**	PN	**Pn**	**09 44 19.5**	**-0.2**
ODZ	**Otahua Downs**	**13.68**	**207**	PN	**Pn**	**09 44 23.9**	**-0.2**
TUZ	**Tuapeka**	**14.83**	**208**	PN	**P**	**09 44 39.1**	**-1.5**
CTA	**Charters Tower**	**32.28**	**285**	P	P	09 47 36.0	+4.9
	2.3nm,0.6s,baz=101,slow=7.8,SNR=6.1						
ASAR	**Alice Springs**	**40.91**	**271**	P	**P**	**09 48 46.4**	**+2.2**
	1.2nm,0.7s,baz=109,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**42.16**	**277**	P	P	09 48 56.7	+2.3
	1.8nm,0.8s,baz=116,slow=7.6,SNR=10						
QSPA	**South Pole Qui**	**56.94**	**180**	P	P	09 50 46.2	+0.4
	1.2nm,1.0s,baz=224,slow=2.0,SNR=3.2						
FINES	**FINESS Array B**	**146.92**	**337**	PKPbc	**PKPab**	**10 00 40.1**	**-2.0**
	2.0nm,0.8s,baz=48,slow=2.8,SNR=6.1						

*ISCJB **24** 10:02:21.6±0.6, 60°.5S±0°.1×25°.1W±0°.3, h10km, mb4.2/12, MS3.8/2, Error ellipse: s-maj=22.2km s-min=8.3km az=142.0*

*IDC **24** 10:02:24.0±0.7, 60°.19S×25°.43W, h0km, mb4.2/10, mb1 4.2/10, mb1mx4.1/15, mbtmp4.2/10, MS3.8/2, Ms1 3.7/2, ms1mx3.3/12, Error ellipse: s-maj=27.9km s-min=18.0km az=52.0*

*NEIC **24** 10:02:24.1±0.6, 60°.38S×25°.16W, h10km, mb4.5/5, Error ellipse: s-maj=22.1km s-min=12.2km az=48.0*

ISC 24 10:02:24.4±0.6, 60°.4S±0°.1×25°.2W±0°.1, h10km, n35, σ1s53/34, mb4.3/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.40**	**153**	ePN	**Pn**	**10 05 19.2**	**-1.4**
VNA3	**Neumayer Olymp**	**12.56**	**157**	ePN	**Pn**	**10 05 20.8**	**-2.1**
VNA2	**Neumayer--Watz**	**12.80**	**153**	ePN	**Pn**	**10 05 24.6**	**-1.5**
	baz=310,slow=14						
SNAA	**Sanae**	**14.38**	**151**	ePN	Pn	10 05 41.3	-6.4
SNAA	**Sanae**	**14.38**	**151**	Pn	**Pn**	**10 05 45.1**	**-2.7**
	1.7nm,0.3s,baz=317,slow=14,SNR=77						
SNAA				Sn	Sn	10 08 12.1	-15
	0.4nm,0.3s,baz=162,slow=23,SNR=6.9						
SNAA	**Sanae**	**14.38**	**151**	Pn	**Pn**	**10 05 45.1**	**-2.7**
	0.9nm,0.5s						
SNAA				Sn	Sn	10 08 12.1	-15
EFI	**East Falkland**	**20.14**	**281**	eP	**P**	**10 06 58.8**	**+0.5**
	22nm,0.7s						
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**10 08 33.9**	**+2.3**
	5.6nm,1.0s,baz=209,slow=6.7,SNR=13						
QSPA	**South Pole Qui**	**29.86**	**180**	eP	**P**	**10 08 32.6**	**+1.0**
	9.2nm,1.1s						
TRQA	**Tornquist**	**32.14**	**297**	eP	**P**	**10 08 52.4**	**+0.6**
	3.9nm,1.0s						
PLCA	**Paso Flores**	**33.97**	**285**	P	**P**	**10 09 07.5**	**-0.4**
	3.4nm,0.8s,baz=176,slow=6.1,SNR=5.2						
PLCA	**Paso Flores**	**33.97**	**285**	P	**P**	**10 09 07.5**	**-0.4**
MAW	**Mawson**	**36.09**	**139**	P	P	10 09 29.8	+4.2
	16nm,0.7s,baz=309,slow=15,SNR=5.6						
MAW				LR	LR	10 23 30.9	
	comp=Z,160nm,18.4s,baz=22,slow=35						
MAW	**Mawson**	**36.09**	**139**	P	P	10 09 29.8	+4.2
CFAA	**Coronel Fontan**	**40.33**	**296**	P	**P**	**10 10 01.3**	**-0.6**
	0.5nm,0.6s,baz=162,slow=6.1,SNR=13						
CFAA				PcP	**PcP**	**10 12 06.6**	**+1.5**
	0.3nm,0.6s,baz=147,slow=2.6,SNR=5.2						
CFAA	**Coronel Fontan**	**40.33**	**296**	P	**P**	**10 10 01.3**	**-0.6**
CFAA				PcP	**PcP**	**10 12 06.6**	**+1.5**
LCO	**Las Campanas**	**43.65**	**295**	eP	**P**	**10 10 28.0**	**-1.3**
	8.2nm,1.2s						
BDFB	**Brasilia**	**47.65**	**330**	P	**P**	**10 10 58.2**	**-2.6**
	1.1nm,0.4s,baz=243,slow=9.0,SNR=2.9						
BDFB				LR	LR	10 26 34.0	
	comp=Z,73nm,19.2s,baz=212,slow=31						
BDFB	**Brasilia**	**47.65**	**330**	P	**P**	**10 10 58.2**	**-2.6**
SIV	**San Ignacio**	**51.34**	**314**	P	**P**	**10 11 28.0**	**-0.8**
	0.9nm,0.8s,baz=168,slow=11,SNR=3.7						
SIV	**San Ignacio**	**51.34**	**314**	P	**P**	**10 11 28.0**	**-0.8**
LPAZ	**La Paz**	**53.77**	**306**	P	**P**	**10 11 47.8**	**+0.3**
	1.4nm,0.5s,baz=112,slow=5.6,SNR=10						
LPAZ	**La Paz**	**53.77**	**306**	eP	**P**	**10 11 46.7**	**-0.8**
	4.7nm,0.9s						
DBIC	**Dimbokro**	**68.74**	**22**	P	**P**	**10 13 27.4**	**-0.7**
	1.8nm,0.8s,baz=157,slow=6.7,SNR=3.1						
DBIC	**Dimbokro**	**68.74**	**22**	P	**P**	**10 13 27.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.38**	**27**	P	**P**	**10 14 15.0**	**+1.4**
	2.8nm,0.8s,baz=200,slow=6.9,SNR=16						
TORD	**Torodi Ar. Bea**	**76.38**	**27**	P	**P**	**10 14 15.0**	**+1.4**
ASAR	**Alice Springs**	**94.53**	**161**	P	**P**	**10 15 45.4**	**+0.4**
	0.2nm,0.5s,baz=174,slow=3.4,SNR=5.8						
ASAR	**Alice Springs**	**94.53**	**161**	P	**P**	**10 15 45.4**	**+0.4**
YKA	**Yellowknife Ar**	**140.03**	**314**	PKP	**PKPdf**	**10 21 53.8**	**+2.5**
	0.7nm,0.7s,baz=129,slow=2.3,SNR=16						
YKA	**Yellowknife Ar**	**140.03**	**314**	PKP	**PKPdf**	**10 21 53.9**	**+2.5**
SONM	**Songino Array**	**149.70**	**92**	PKPbc	**PKPbc**	**10 22 14.0**	**+0.7**
	0.5nm,0.8s,baz=270,slow=1.5,SNR=3.8						
SONM	**Songino Array**	**149.70**	**92**	PKPbc	**PKPbc**	**10 22 14.0**	**+0.7**
ILAR	**Eielson Array**	**153.64**	**305**	PKPbc	**PKPbc**	**10 22 22.6**	**+0.9**
	2.0nm,1.0s,baz=137,slow=1.1,SNR=10						
ILAR	**Eielson Array**	**153.64**	**305**	PKPbc	**PKPbc**	**10 22 22.6**	**+0.9**

KRSC 24 10:34:07.9±0.2, 55°.30N×166°.62E, h22km±22km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**256**	eP	Pn	10 34 17.1	-1.0
BKI				eS	Sb	10 34 23.0	+1.6
KBTR	**Krutoberegovo**	**2.33**	**295**	eP	Pn	10 34 44.0	-0.9
KBTR				eS	Sn	10 35 11.1	-1.8
MKZ	**Mys Kozlova**	**2.92**	**257**	eP	Pn	10 34 54.3	+1.4
MKZ				eS	Sn	10 35 27.1	-0.1
BZGR	**Bezymyannyi-Gr**	**3.42**	**283**	eS	Sn	10 35 44.1	+4.2
BZMR	**Bezymyannaya**	**3.53**	**283**	eP	Pn	10 35 03.8	+2.2
KRSR	**Krestovskiy**	**3.54**	**288**	eP	Pn	10 35 03.4	+1.7
KRSR				eS	Sn	10 35 44.7	+1.8
KMNR	**Kamenistaya**	**3.66**	**280**	eP	Pn	10 35 06.2	+3.0
KMNR				eS	Sn	10 35 49.7	+3.9
KPT	**Kopyto**	**3.69**	**283**	eP	Pn	10 35 05.4	+1.8
KPT				eS	Sn	10 35 48.4	+1.9
TUMR	**Tumrok**	**3.70**	**272**	eP	Pn	10 35 06.2	+2.3
TUMR				eS	Sn	10 35 50.4	+3.5
SRDR	**Sredinnyy**	**4.03**	**287**	eP	Pn	10 35 11.1	+2.8
SRDR				eS	Sn	10 35 56.5	+1.7
SPN	**Mys Shipunski**	**4.46**	**243**	eS	Sn	10 36 06.9	+1.7
NLC	**Nalytchevo**	**4.77**	**246**	eS	Sn	10 36 13.8	+0.9
SDLR	**Sedlovina**	**4.96**	**249**	eP	Pn	10 35 24.1	+2.9
SDLR				eS	Sn	10 36 19.1	+1.1
SMAR	**Somma**	**5.01**	**249**	eS	Sn	10 36 21.6	+2.1
UGLR	**Uglovaya**	**5.03**	**249**	eP	Pn	10 35 25.6	+3.5
AVH	**Avacha**	**5.05**	**249**	eP	Pn	10 35 25.5	+3.2
AVH				eS	Sn	10 36 21.1	+1.1
KOK	**Koryaka**	**5.09**	**250**	eP	Pn	10 35 26.5	+3.6
KOK				eS	Sn	10 36 24.3	+3.2
PET	**Petropavlovsk**	**5.21**	**247**	eS	Sn	10 36 26.1	+2.4
RUS	**Russkaya**	**5.59**	**242**	eP	Pn	10 35 32.6	+3.0
RUS				eS	Sn	10 36 35.4	+2.3

*NEIC **24** 10:44:05.5, 37°.70S×177°.44E, h108km, MG3.8(WEL), After WEL.*

WEL 24 10:44:05.8±0.2, 37°.70S×177°.43E, h104km±2km, ML3.9/11, Error ellipse: s-maj=1.3km s-min=1.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.26**	**312**	PN	Pn	10 44 20.1	-0.5
WIZ				eSN	Sn	10 44 31.2	-0.4
WIZ	**White Island**	**0.26**	**312**	Pn	Pn	10 44 20.1	-0.5
URZ	**Urewera**	**0.61**	**204**	PN	Pn	10 44 22.6	-0.2
URZ				SN	Sn	10 44 35.2	-0.4
URZ	**Urewera**	**0.61**	**204**	Pn	Pn	10 44 22.6	-0.2
MWZ	**Matawai**	**0.64**	**173**	PN	Pn	10 44 23.1	0.0
MWZ				SN	Sn	10 44 36.5	+0.4
MWZ	**Matawai**	**0.64**	**173**	Pn	Pn	10 44 23.1	0.0
MWZ				Sn	Sn	10 44 36.5	+0.4
MARZ	**Manawahe**	**0.66**	**244**	PN	Pn	10 44 23.1	-0.1
MARZ	**Manawahe**	**0.66**	**244**	Pn	Pn	10 44 23.1	-0.1
EDRZ	**Edgecumbe**	**0.68**	**233**	PN	Pn	10 44 23.5	0.0
EDRZ	**Edgecumbe**	**0.68**	**233**	Pn	Pn	10 44 23.5	0.0
MXZ	**Matakaoa Point**	**0.71**	**79**	PN	Pn	10 44 23.7	+0.2
MXZ				SN	Sn	10 44 37.7	+0.7
MXZ	**Matakaoa Point**	**0.71**	**79**	Pn	Pn	10 44 23.8	+0.2
MXZ				Sn	Sn	10 44 37.7	+0.7
OPRZ	**Ohinepanea**	**0.71**	**258**	PN	Pn	10 44 23.4	-0.2
OPRZ	**Ohinepanea**	**0.71**	**258**	Pn	Pn	10 44 23.4	-0.2
PUZ	**Puketiti**	**0.75**	**120**	PN	Pn	10 44 23.7	-0.3
PUZ	**Puketiti**	**0.75**	**120**	Pn	Pn	10 44 23.7	-0.3
MKRZ	**Makatiti**	**0.88**	**240**	PN	Pn	10 44 25.8	+0.6
MKRZ	**Makatiti**	**0.88**	**240**	Pn	Pn	10 44 25.8	+0.6
LIRZ	**Lichensteins R**	**0.88**	**250**	PN	Pn	10 44 25.4	+0.2
LIRZ	**Lichensteins R**	**0.88**	**250**	Pn	Pn	10 44 25.4	+0.2
TARZ	**Mount Tarawera**	**0.91**	**234**	PN	Pn	10 44 25.9	+0.2
TARZ	**Mount Tarawera**	**0.91**	**234**	Pn	Pn	10 44 25.9	+0.2
TGRZ	**Tauranga**	**0.93**	**268**	PN	Pn	10 44 25.7	0.0
TGRZ	**Tauranga**	**0.93**	**268**	Pn	Pn	10 44 25.7	0.0
OMRZ	**Omania**	**0.93**	**244**	PN	Pn	10 44 26.0	+0.2
OMRZ	**Omania**	**0.93**	**244**	Pn	Pn	10 44 26.0	+0.2
RRRZ	**Republican Roa**	**0.97**	**228**	PN	Pn	10 44 26.1	0.0
RRRZ	**Republican Roa**	**0.97**	**228**	Pn	Pn	10 44 26.1	0.0
CNGZ	**Carnagh Statio**	**0.99**	**142**	PN	Pn	10 44 26.6	+0.3
CNGZ	**Carnagh Statio**	**0.99**	**142**	Pn	Pn	10 44 26.6	+0.3
KARZ	**Kaharoa**	**0.99**	**251**	PN	Pn	10 44 26.5	0.0
KARZ	**Kaharoa**	**0.99**	**251**	Pn	Pn	10 44 26.5	0.0
MYRZ	**Mayor Island**	**1.04**	**293**	PN	Pn	10 44 27.0	+0.1
HRRZ	**Handcock Road**	**1.14**	**232**	PN	Pn	10 44 28.1	0.0
HRRZ	**Handcock Road**	**1.14**	**232**	Pn	Pn	10 44 28.1	0.0
PRRZ	**Plateau Road**	**1.14**	**226**	PN	Pn	10 44 28.0	-0.1
PRRZ	**Plateau Road**	**1.14**	**226**	Pn	Pn	10 44 28.0	-0.1
ALRZ	**Allen Road**	**1.22**	**225**	PN	Pn	10 44 28.8	0.0
ALRZ	**Allen Road**	**1.22**	**225**	Pn	Pn	10 44 28.9	0.0
RAHZ	**Arahi**	**1.25**	**193**	PN	Pn	10 44 29.2	-0.1
RAHZ				SN	Sn	10 44 47.5	+0.5
RAHZ	**Arahi**	**1.25**	**193**	Pn	Pn	10 44 29.2	-0.1
RAHZ				Sn	Sn	10 44 47.5	+0.5
PRGZ	**Paritu Road**	**1.27**	**164**	PN	Pn	10 44 29.1	-0.5
PRGZ	**Paritu Road**	**1.27**	**164**	Pn	Pn	10 44 29.1	-0.5
KNZ	**Kokohu**	**1.33**	**172**	PN	Pn	10 44 29.7	-0.4
KNZ	**Kokohu**	**1.33**	**172**	Pn	Pn	10 44 29.7	-0.4
NMHZ	**Naumai**	**1.48**	**199**	PN	Pn	10 44 32.2	+0.1
NMHZ	**Naumai**	**1.48**	**199**	Pn	Pn	10 44 32.2	+0.1
MHGZ	**Mahia Peninsul**	**1.50**	**166**	PN	Pn	10 44 32.0	-0.2
MHGZ	**Mahia Peninsul**	**1.50**	**166**	Pn	Pn	10 44 32.0	-0.2
TOZ	**Tahuroa Road**	**1.53**	**268**	PN	Pn	10 44 32.7	+0.1
TOZ	**Tahuroa Road**	**1.53**	**268**	Pn	Pn	10 44 32.7	+0.1
BKZ	**Black Stump Fm**	**1.64**	**206**	PN	Pn	10 44 33.2	-0.8
BKZ	**Black Stump Fm**	**1.64**	**206**	Pn	Pn	10 44 33.2	-0.8
KUZ	**Kuaotunu**	**1.67**	**304**	PN	Pn	10 44 34.0	-0.2
KUZ	**Kuaotunu**	**1.67**	**304**	Pn	Pn	10 44 34.0	-0.2
MCHZ	**McNeill Hill**	**1.83**	**198**	PN	Pn	10 44 35.9	-0.5
MCHZ	**McNeill Hill**	**1.83**	**198**	Pn	Pn	10 44 35.9	-0.5
KATZ	**Kakaramea**	**1.87**	**227**	PN	Pn	10 44 37.5	+0.5
KATZ	**Kakaramea**	**1.87**	**227**	Pn	Pn	10 44 37.5	+0.5
MKAZ	**Moumakai**	**1.90**	**287**	PN	Pn	10 44 37.5	+0.3
MKAZ	**Moumakai**	**1.90**	**287**	Pn	Pn	10 44 37.5	+0.3
CKHZ	**Cape Kidnapper**	**1.98**	**188**	PN	Pn	10 44 37.2	-1.0
CKHZ	**Cape Kidnapper**	**1.98**	**188**	Pn	Pn	10 44 37.2	-1.0
KRVZ	**Karewarewa**	**1.98**	**225**	PN	Pn	10 44 38.5	+0.1
KRVZ	**Karewarewa**	**1.98**	**225**	Pn	Pn	10 44 38.5	+0.1
OTVZ	**Oturere**	**2.02**	**223**	PN	Pn	10 44 38.7	-0.2
OTVZ	**Oturere**	**2.02**	**223**	Pn	Pn	10 44 38.7	-0.2
WTVZ	**West Tongariro**	**2.02**	**225**	PN	Pn	10 44 39.0	+0.1
WTVZ	**West Tongariro**	**2.02**	**225**	Pn	Pn	10 44 39.0	+0.1
NGZ	**Ngauruhoe**	**2.06**	**224**	PN	Pn	10 44 39.4	0.0
NGZ	**Ngauruhoe**	**2.06**	**224**	Pn	Pn	10 44 39.4	0.0
TWVZ	**Taurewa**	**2.08**	**228**	PN	Pn	10 44 39.5	-0.1
TWVZ	**Taurewa**	**2.08**	**228**	Pn	Pn	10 44 39.5	-0.1
BHHZ	**Black Hill Sta**	**2.08**	**211**	PN	Pn	10 44 38.8	-0.9
BHHZ	**Black Hill Sta**	**2.08**	**211**	Pn	Pn	10 44 38.8	-0.9
TUVZ	**Tukino**	**2.10**	**221**	PN	Pn	10 44 39.5	-0.5
TUVZ	**Tukino**	**2.10**	**221**	Pn	Pn	10 44 39.5	-0.5
WPVZ	**Whakapapa**	**2.11**	**224**	PN	Pn	10 44 40.6	+0.5
WPVZ	**Whakapapa**	**2.11**	**224**	Pn	Pn	10 44 40.6	+0.5
OTAZ	**Otara**	**2.13**	**290**	PN	Pn	10 44 41.3	+1.1
OTAZ	**Otara**	**2.13**	**290**	Pn	Pn	10 44 41.3	+1.1
KAHZ	**Kahuranaki**	**2.14**	**192**	PN	Pn	10 44 39.2	-1.1
KAHZ	**Kahuranaki**	**2.14**	**192**	Pn	Pn	10 44 39.2	-1.1
MOVZ	**Moawhango**	**2.15**	**217**	PN	Pn	10 44 39.4	-1.2
MOVZ	**Moawhango**	**2.15**	**217**	Pn	Pn	10 44 39.4	-1.1
WNVZ	**Wahianoa**	**2.17**	**221**	PN	Pn	10 44 40.4	-0.5
WNVZ	**Wahianoa**	**2.17**	**221**	Pn	Pn	10 44 40.4	-0.5
MTVZ	**Mangateitei**	**2.28**	**222**	PN	Pn	10 44 41.7	-0.5
MTVZ	**Mangateitei**	**2.28**	**222**	Pn	Pn	10 44 41.7	-0.5
PXZ	**Pawanui**	**2.37**	**191**	PN	Pn	10 44 41.4	-1.8
PXZ	**Pawanui**	**2.37**	**191**	Pn	Pn	10 44 41.4	-1.8
PNHZ	**Pukenui**	**2.41**	**203**	PN	Pn	10 44 42.0	-1.9
PNHZ	**Pukenui**	**2.41**	**203**	Pn	Pn	10 44 42.0	-1.9
WPHZ	**Waipukurau**	**2.48**	**198**	PN	Pn	10 44 43.0	-1.8
WPHZ	**Waipukurau**	**2.48**	**198**	Pn	Pn	10 44 43.0	-1.8
TSZ	**Takapari Road**	**2.62**	**206**	PN	Pn	10 44 44.8	-1.8
TSZ	**Takapari Road**	**2.62**	**206**	Pn	Pn	10 44 44.8	-1.8
DVHZ	**Dannevirke**	**2.78**	**200**	PN	Pn	10 44 45.9	-2.7
DVHZ	**Dannevirke**	**2.78**	**200**	Pn	Pn	10 44 45.9	-2.7
WAZ	**Wanganui**	**2.81**	**222**	PN	Pn	10 44 48.6	-0.4
WAZ	**Wanganui**	**2.81**	**222**	Pn	Pn	10 44 48.6	-0.4
POWZ	**Post Office Ro**	**2.98**	**205**	PN	Pn	10 44 49.1	-2.3
POWZ	**Post Office Ro**	**2.98**	**205**	Pn	Pn	10 44 49.1	-2.3
BFZ	**Birch Farm**	**3.12**	**197**	PN	Pn	10 44 50.9	-2.2
BFZ	**Birch Farm**	**3.12**	**197**	Pn	Pn	10 44 50.9	-2.2
TIWZ	**Tintock**	**3.30**	**201**	PN	Pn	10 44 52.8	-2.8
TIWZ	**Tintock**	**3.30**	**201**	Pn	Pn	10 44 52.8	-2.8
HOWZ	**Holdsworth Sta**	**3.52**	**204**	PN	Pn	10 44 55.2	-3.4
HOWZ	**Holdsworth Sta**	**3.52**	**204**	Pn	P

mb3.3/3, Error ellipse: s-maj=5.7km s-min=3.7km az=145.2
*IDC **24** 12:18:46.7±7.7, 59°.31N×153°.01W, h61km±59km, mb3.1/3, mb1 3.4/5, mb1mx3.2/24, mbtmp3.1/5, ML3.9/1, Error ellipse: s-maj=55.5km s-min=37.1km az=2.0*
*NEIC **24** 12:18:46.7, 59°.01N×152°.67W, h60km, ML3.4(AEIC), After AEIC.*

ISC 24 12:18:45.7±0.8, **59°.01N**±0°.04×**152°.62W**±0°.04, **h71**km±7km, **n79**, σ1°**15**/93, **mb3.5**/3, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AUE	**Augustine Isla**	**0.52**	**312**	P		**Pn**	**12 18 58.2**	**-0.5**
AUE				S		**Sn**	**12 19 06.7**	**-1.6**
AUW	**Augustine West**	**0.56**	**310**	P		**Pn**	**12 18 58.9**	**-0.3**
OPT	**Oil Point**	**0.71**	**334**	P		**Pn**	**12 19 00.8**	**0.0**
OPT				S		**Sn**	**12 19 12.5**	**+0.5**
HOM	**Homer**	**0.82**	**37**	P		**Pn**	**12 19 02.6**	**+0.6**
HOM				S		**Sn**	**12 19 14.3**	**+0.3**
KAPH	**Katmai Pasha**	**0.99**	**246**	P		**Pn**	**12 19 03.6**	**-0.5**
KAPH				S		**Sn**	**12 19 17.3**	**-0.5**
INE	**Iliamna NE**	**1.07**	**348**	P		**Pn**	**12 19 05.3**	**+0.1**
ILW	**Iliamna West**	**1.08**	**346**	P		**Pn**	**12 19 05.5**	**+0.1**
BRLK	**Bradley Lake**	**1.17**	**49**	P		**Pn**	**12 19 06.3**	**0.0**
BRLK				S		**Sn**	**12 19 21.6**	**-0.1**
KDAK	**Kodiak Island**	**1.23**	**179**	P		**Pn**	**12 19 06.7**	**-0.4**
KDAK				S		**Sn**	**12 19 24.2**	**+1.1**
KAHC	**Katmai Hardscr**	**1.29**	**255**	P		**Pn**	**12 19 07.4**	**-0.6**
KAHC				S		**Sn**	**12 19 24.1**	**-0.6**
RSO	**Redoubt South**	**1.46**	**357**	P		**Pn**	**12 19 10.7**	**+0.4**
KAKN	**Katmai Knife C**	**1.46**	**242**	P		**Pn**	**12 19 09.8**	**-0.4**
RDN	**Redoubt North**	**1.51**	**357**	P		**Pn**	**12 19 11.4**	**+0.6**
KCE	**Katmai Mt Cerb**	**1.55**	**241**	P		**Pn**	**12 19 11.2**	**-0.1**
NCT	**North Crescent**	**1.56**	**354**	P		**Pn**	**12 19 12.2**	**+0.7**
KABU	**Katmai Buttres**	**1.58**	**243**	P		**Pn**	**12 19 11.7**	**0.0**
DFR	**Drift River**	**1.58**	**359**	P		**Pn**	**12 19 12.4**	**+0.6**
MGLS	**Mageik Landsli**	**1.59**	**238**	P		**Pn**	**12 19 11.8**	**-0.1**
CAHL	**Cahill**	**1.70**	**237**	P		**Pn**	**12 19 13.4**	**0.0**
KELA	**Mount Kelaz**	**1.73**	**252**	P		**Pn**	**12 19 13.2**	**-0.4**
SLKM	**Skilak Lake**	**1.93**	**38**	P		**Pn**	**12 19 16.8**	**+0.5**
SEW	**Seward**	**1.95**	**55**	*e*Pn		**Pn**	**12 19 16.3**	**-0.2**
SEW				*e*Sn		**Sn**	**12 19 39.2**	**-0.9**
BKG	**Blockade Glaci**	**2.07**	**5**	P		**Pn**	**12 19 19.7**	**+1.4**
CKL	**Chakachamna La**	**2.19**	**4**	P		**Pn**	**12 19 21.3**	**+1.3**
SPBG	**Spurr Blockage**	**2.26**	**3**	P		**Pn**	**12 19 22.1**	**+1.3**
SPCG	**Spurr Capps Gl**	**2.31**	**7**	P		**Pn**	**12 19 22.8**	**+1.2**
FIB	**Fire Island**	**2.48**	**29**	P		**Pn**	**12 19 25.6**	**+1.8**
STLK	**Strandline Lak**	**2.52**	**9**	P		**Pn**	**12 19 26.0**	**+1.6**
SUA	**Susitna One**	**2.63**	**20**	P		**Pn**	**12 19 27.2**	**+1.3**
SKT	**Skwentna**	**3.03**	**10**	P		**Pn**	**12 19 32.4**	**+1.2**
PMR	**Palmer**	**3.12**	**32**	P		**Pn**	**12 19 32.7**	**+0.3**
SML	**Sawmill**	**3.52**	**35**	*e*Pn		**Pn**	**12 19 38.3**	**+0.4**
SML				*e*Sn		**Sn**	**12 20 18.1**	**-0.2**
FID	**Port Fidalgo**	**3.55**	**58**	P		**Pn**	**12 19 37.4**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.80**	**63**	P		**Pn**	**12 19 41.2**	**-0.5**
VLZ	**Valdez**	**3.80**	**53**	P		**Pn**	**12 19 41.6**	**-0.1**
SCM	**Sheep Creek Mo**	**3.86**	**41**	P		**Pn**	**12 19 43.1**	**+0.6**
PPLA	**Purkeypile**	**3.90**	**3**	P		**Pn**	**12 19 44.9**	**+1.7**
SGAM	**Sherman Glacie**	**4.04**	**65**	P		**Pn**	**12 19 44.8**	**-0.1**
KLU	**Klutina**	**4.16**	**50**	P		**Pn**	**12 19 46.7**	**0.0**
TT01	**Tatalina**	**4.24**	**338**	P		**Pn**	**12 19 48.3**	**+0.6**
GOAT	**Goat Mountain**	**4.29**	**65**	P		**Pn**	**12 19 48.3**	**-0.1**
BMRM	**Bremner River**	**4.48**	**61**	P		**Pn**	**12 19 50.5**	**-0.5**
BMRM				*e*Sn		**Sn**	**12 20 39.5**	**-2.3**
TRF	**Thorofare Moun**	**4.59**	**13**	P		**Pn**	**12 19 53.6**	**+1.0**
BERG	**Berg Lake**	**4.73**	**69**	P		**Pn**	**12 19 53.9**	**-0.4**
RND	**Reindeer**	**4.77**	**21**	P		**Pn**	**12 19 56.8**	**+0.8**
DHY	**Denali Highway**	**4.81**	**30**	P		**Pn**	**12 19 56.4**	**+0.8**
KHIT	**Khitrov Hills**	**4.96**	**69**	P		**Pn**	**12 19 57.3**	**-0.3**
HARP	**HAARP**	**5.00**	**44**	P		**Pn**	**12 19 58.9**	**+0.8**
MCK	**McKinley**	**5.06**	**19**	P		**Pn**	**12 20 00.2**	**+1.4**
PAX	**Paxson**	**5.28**	**38**	P		**Pn**	**12 20 02.3**	**+0.4**
PAX				*e*Sn		**Sn**	**12 20 58.1**	**-3.3**
BARK	**Barkley Ridge**	**5.32**	**70**	P		**Pn**	**12 20 02.7**	**+0.3**
ISLE	**Juniper Island**	**5.43**	**69**	P		**Pn**	**12 20 04.2**	**+0.2**
BAGL	**Bagley Icefiel**	**5.53**	**70**	P		**Pn**	**12 20 05.9**	**+0.7**
BALM	**Baldy**	**5.54**	**64**	P		**Pn**	**12 20 05.2**	**-0.3**
MESA	**MESA**	**5.55**	**73**	P		**Pn**	**12 20 06.3**	**+0.6**
MENT	**Mentasta**	**5.85**	**44**	*e*Pn		**Pn**	**12 20 10.7**	**+1.0**
RKAV	**Rock Avalanche**	**5.86**	**72**	P		**Pn**	**12 20 10.8**	**+0.8**
TABL	**Table Mountain**	**5.98**	**71**	P		**Pn**	**12 20 12.1**	**+0.4**
GCSA	**Galena City Sc**	**6.09**	**343**	P		**Pn**	**12 20 14.0**	**+1.1**
CCB	**Clear Creek Bu**	**6.09**	**20**	P		**Pn**	**12 20 13.4**	**+0.4**
SAMH	**Samovar Hills**	**6.12**	**74**	P		**Pn**	**12 20 13.8**	**+0.4**
DOT	**Dot Lake** 3.4nm,0.6s	**6.21**	**38**	*e*Pn		**Pn**	**12 20 16.0**	**+1.4**
DOT				*e*Sn		**Sn**	**12 21 22.5**	**-1.5**
COLA	**College**	**6.30**	**19**	P		**Pn**	**12 20 16.4**	**+0.8**
IL1	**Eielson Array**	**6.38**	**23**	P		**Pn**	**12 20 16.1**	**-0.7**
ILAR	**Eielson Array** 1.2nm,0.3s,baz=208,slow=14,SNR=33	**6.38**	**23**	P		**Pn**	**12 20 17.0**	**+0.1**
ILAR				S		**Sn**	**12 21 23.9**	**-4.3**
	4.5nm,0.3s,baz=210,slow=24,SNR=5.8							
ILAR	**Eielson Array**	**6.38**	**23**	P		**Pn**	**12 20 17.0**	**+0.1**
ILAR				S		**Sn**	**12 21 23.9**	**-4.3**
BCA3	**Beaver Creek A**	**6.65**	**48**	P		**Pn**	**12 20 21.3**	**+0.7**
IM3	**Indian Mountai**	**7.02**	**356**	P		**Pn**	**12 20 26.6**	**+1.0**
EGAK	**Eagle** 5.8nm,0.6s	**7.91**	**38**	*e*Pn		**Pn**	**12 20 39.0**	**+1.3**
COLD	**Coldfoot** 2.6nm,0.6s	**8.32**	**7**	*e*Pn		**Pn**	**12 20 43.8**	**+0.5**
TNA	**Tin City**	**9.67**	**319**	*e*Pn		**Pn**	**12 21 04.8**	**+3.1**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=276,slow=9.8,SNR=12	**18.71**	**63**	P		**Pn**	**12 22 59.8**	**+0.7**
YKA	**Yellowknife Ar**	**18.71**	**63**	P		**Pn**	**12 22 59.8**	**+0.7**
SONM	**Songino Array** 0.4nm,0.6s,baz=53,slow=6.6,SNR=3.8	**55.53**	**307**	P		**P**	**12 28 12.6**	**-0.6**
SONM	**Songino Array**	**55.53**	**307**	P		**P**	**12 28 12.6**	**-0.6**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=34,slow=6.2,SNR=2.9	**65.33**	**322**	P		**P**	**12 29 19.1**	**-0.7**
MKAR	**Makanchi Array**	**65.33**	**322**	P		**P**	**12 29 19.1**	**-0.7**
GERES	**GERESS Array B** 0.4nm,0.6s,baz=348,slow=4.3,SNR=6.0	**71.92**	**9**	P		**P**	**12 30 02.3**	**+1.4**
GERES	**GERESS Array B**	**71.92**	**9**	P		**P**	**12 30 02.3**	**+1.4**

*ISCJB **24** 12:29:35.5±1.2, 44°.0N±0°.1×147°.7E±0°.2, h133km±9km, mb3.3/5, Error ellipse: s-maj=26.9km s-min=12.2km az=146.2*
*JMA **24** 12:29:36.7±0.3, 44°.08N×147°.80E, h88km, M3.5*
*IDC **24** 12:29:38.6±3.8, 45°.08N×147°.46E, h94km±98km, mb3.1/5, mb1 3.2/6, mb1mx3.0/23, mbtmp3.1/6, ML2.9/1, Error ellipse: s-maj=250.6km s-min=25.7km az=169.0*

ISC 24 12:29:35.8±2.1, **44°.0N**±0°.1×**147°.8E**±0°.2, **h117**km±16km, **n17**, σ0°**99**/24, **mb3.3**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.63**	**247**	P		**Pn**	**12 30 04.6**	**0.0**
NEM2				*e*S		**Sn**	**12 30 25.7**	**-0.8**
JRA	**Rausu**	**1.94**	**269**	P		**Pn**	**12 30 08.4**	**+0.1**
JRA				*e*S		**Sn**	**12 30 32.3**	**-0.8**
JNK	**Nakash**	**2.28**	**260**	P		**Pn**	**12 30 13.1**	**+0.5**
JNK				*e*S		**Sn**	**12 30 40.3**	**-0.5**
JAK	**Akkeshi**	**2.48**	**247**	P		**Pn**	**12 30 15.7**	**+0.5**
JAK				*e*S		**Sn**	**12 30 45.5**	**+0.1**
JTKR	**Abashiri--Toko**	**2.81**	**270**	P		**Pn**	**12 30 19.6**	**+0.1**
JAR	**Ashorobuto**	**3.02**	**258**	P		**Pn**	**12 30 23.6**	**+1.4**
JAR				*e*S		**Sn**	**12 30 59.7**	**+1.8**
JCH	**Churui**	**3.53**	**248**	P		**Pn**	**12 30 29.8**	**+0.8**
JCH				*e*S		**Sn**	**12 31 10.7**	**+0.5**
ASAJ	**Asahikawa** 0.8nm,0.3s,baz=94,slow=12,SNR=8.9	**3.75**	**273**	P		**Pn**	**12 30 32.1**	**+0.2**
JFR	**Furan**	**3.88**	**259**	P		**Pn**	**12 30 35.2**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.08**	**247**	P		**Pn**	**12 30 37.0**	**+0.6**
JNBK				*e*S		**Sn**	**12 31 23.2**	**-0.1**
JKB	**Kayabe**	**5.41**	**249**	P		**Pn**	**12 30 55.0**	**+0.9**
JKB				*e*S		**Sn**	**12 31 53.6**	**-1.5**
JOT	**Ohata**	**5.63**	**244**	P		**Pn**	**12 30 57.4**	**+0.2**
JOT				*e*S		**Sn**	**12 31 58.3**	**-2.3**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=272,slow=8.7,SNR=6.9	**40.99**	**36**	P		P	12 37 06.2	-0.5
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=75,slow=9.2,SNR=5.8	**44.88**	**298**	P		**P**	**12 37 38.1**	**-0.2**
KURK	**Kurchatov** 0.4nm,0.6s,baz=71,slow=9.1,SNR=3.8	**45.77**	**304**	P		**P**	**12 37 45.0**	**-0.2**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=300,slow=6.9,SNR=4.0	**55.31**	**34**	P		**P**	**12 38 56.6**	**-0.1**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=38,slow=9.3,SNR=9.0	**64.85**	**333**	P		P	12 39 59.5	-2.3

*DJA **24** 12:30:45.0°.45S×132°.85E, h10km, MLv4.0/4*
IDC 24 12:30:38.1±1.8, **0°.09S×133°.13E, h0km, mb3.7**/5, **mb1 3.8**/6, **mb1mx3.6**/18, **mbtmp3.7**/6, **ML3.7**/1, **Error ellipse: s-maj=120.6km s-min=19.0km az=73.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.76**	**177**	P		P	12 35 09.7	-0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=21							
ASAR	**Alice Springs**	**23.45**	**178**	P		P	12 35 49.5	+0.2
	1.5nm,0.5s,baz=356,slow=12,SNR=53							
STKA	**Stephens Creek**	**32.61**	**167**	P		P	12 37 11.5	-0.1
	1.6nm,0.6s,baz=354,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**64.36**	**324**	P		P	12 41 15.6	-0.3
	0.3nm,0.6s,baz=114,slow=7.8,SNR=5.8							
KURK	**Kurchatov**	**68.42**	**326**	P		P	12 41 42.0	+0.3
	0.6nm,0.8s,baz=117,slow=5.8,SNR=6.5							
BVAR	**Borovoye Array**	**74.02**	**326**	P		P	12 42 15.6	0.0
	0.5nm,0.9s,baz=112,slow=3.9,SNR=2.4							

*ISCJB **24** 12:33:54.4±3.0, 33°.1S±0°.1×178°.2W±0°.5, h34km, mb3.5/2, Error ellipse: s-maj=58.3km s-min=12.3km az=14.9*
*IDC **24** 12:33:56.7±5.8, 32°.10S×178°.89W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.6/2, Error ellipse: s-maj=243.4km s-min=57.0km az=159.0*

ISC 24 12:33:59.5±2.5, **33°.2S**±0°.5×**178°.4W**±0°.8, **h34**km, **n6**, σ2°**03**/7, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.61**	**208**	PN		**Pn**	**12 35 18.7**	**-1.8**
PUZ				SN		**Sn**	**12 36 26.0**	**+2.2**
MWZ	**Matawai**	**6.14**	**212**	PN		**Pn**	**12 35 26.2**	**-1.6**
MWZ				SN		**Sn**	**12 36 38.5**	**+1.6**
URZ	**Urewera**	**6.27**	**215**	PN		**Pn**	**12 35 28.5**	**-1.0**
URZ				SN		**Sn**	**12 36 39.7**	**-0.3**
ASAR	**Alice Springs**	**42.73**	**270**	P		P	12 41 52.0	-1.6
	0.4nm,0.6s,baz=106,slow=7.4,SNR=9.0							
WRA	**Warramunga Arr**	**43.97**	**275**	P		P	12 42 01.4	-2.2
	0.5nm,0.3s,baz=116,slow=8.1,SNR=11							
FINES	**FINESS Array B** 1.3nm,0.7s,baz=64,slow=3.2,SNR=6.4	**147.62**	**338**	PKPbc		**PKPdf**	**12 53 38.2**	**+1.4**

*NIED **24** 12:44:00, 44°.50N×148°.10E, h74km, Mw4.0 Best double couple: M0 1.11000×10^15 NP1:φs=352.00000°, δ83.00000°, λ-26.00000°. NP2:φs=86.00000°, δ64.00000°, λ-172.00000°.*
*JMA **24** 12:44:20.5±0.3, 44°.49N×148°.13E, h61km, M4.8*
JMA Felt I J1.
*SKHL **24** 12:44:20.9±0.5, 44°.50N×148°.19E, h72km±6km, mb5.2/3*
*BJI **24** 12:44:21.3, 44°.60N×147°.90E, h80km, mB5.1/4, mb4.6/9, Ms4.4/1, Ms7 4.1/1*
*ISCJB **24** 12:44:21.5±0.5, 44°.67N±0°.04×147°.80E±0°.06, h99km±3km, mb3.6/19, Error ellipse: s-maj=8.7km s-min=4.8km az=135.3*
*MOS **24** 12:44:21.2±1.4, 44°.66N×147°.75E, h99km, mb4.5/9, Error ellipse: s-maj=11.0km s-min=8.5km az=56.2*
*NEIC **24** 12:44:22.1±0.5, 44°.67N×147°.73E, mb4.0/2, Error ellipse: s-maj=12.6km s-min=6.3km az=141.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **24** 12:44:22.2±0.7, 44°.73N×147°.65E, h85km±6km, mb3.3/15, mb1 3.7/19, mb1mx3.6/25, mbtmp3.4/19, Error ellipse: s-maj=18.1km s-min=12.7km az=144.0*

ISC 24 12:44:22.0±0.6, **44°.58N**±0°.05×**147°.85E**±0°.05, **h90**km±5km, **h89**km:**pP-P, n120**, σ1°**44**/148, **mb3.5**/19, **3C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.65**	**1**	*e*PN		**Pn**	**12 44 37.2**	**-0.8**
KUR				*e*S		**Sn**	**12 44 49.0**	**-1.0**
KUR				pmax	pmax			
	comp=N,450nm,0.3s							
KUR				pmax	pmax			
	comp=E,410nm,0.3s							
KUR				pmax	pmax			
	comp=Z,900nm,0.3s							
KUR				smax	smax			
	comp=N,30μm,1.0s							
KUR				smax	smax			
	comp=E,18μm,1.0s							
KUR				smax	smax			
	comp=E,5μm,0.5s							
KUR	**Kuril'sk**	**0.65**	**1**	*e*P		**Pn**	**12 44 37.2**	**-0.8**
KUR				AMB	AMB		12 44 38.5	
	comp=E,230nm,0.3s							
KUR				AMB	AMB		12 44 38.5	
	comp=E,410nm,0.3s							
KUR				AMB	AMB		12 44 38.5	
	comp=E,900nm,0.3s							
KUR				*e*S		**Sn**	**12 44 49.0**	**-1.0**
KUR				A	A		12 44 49.2	
	comp=E,60μm,0.8s							
KUR				A	A		12 44 49.2	
	comp=E,6μm,0.8s							
KUR				A	A		12 44 50.0	
	comp=E,6μm,0.5s							
KUR				A	A		12 44 50.0	
	comp=E,5μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.53**	**250**	*c* iPN		**Pn**	**12 44 48.7**	**+0.7**
YUK				*i* S		**Sn**	**12 45 10.1**	**+2.3**
YUK				pmax	pmax			
	comp=E,361nm,0.1s							
YUK				pmax	pmax			
	comp=N,360nm,0.3s							
YUK				pmax	pmax			
	comp=Z,3μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.53**	**250**	P		**Pn**	**12 44 48.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.53**	**250**	i iP		**Pn**	**12 44 48.8**	**+0.7**
YUK				AMB	AMB		12 44 49.2	
	comp=Z,640nm,0.4s							
YUK				AMB	AMB		12 44 49.2	
	comp=Z,1μm,0.4s							
YUK				AMB	AMB		12 44 49.2	
	comp=Z,4μm,0.4s							
YUK				*i* S		**Sn**	**12 45 10.1**	**+2.3**
YUK				A	A		12 45 16.1	
	comp=Z,6μm,0.5s							
YUK				A	A		12 45 16.1	
	comp=Z,2μm,0.5s							
YUK				A	A		12 45 19.0	
	comp=Z,6μm,1.0s							
YUK				A	A		12 45 19.0	
	comp=Z,8μm,3.0s							
NEM2	**Nemuro 2**	**1.95**	**232**	P		**Pn**	**12 44 53.4**	**0.0**
NEM2				*e*S		**Sn**	**12 45 17.8**	**+0.4**
JRA	**Rausu**	**2.06**	**253**	P		**Pn**	**12 44 56.0**	**+1.1**
JNK	**Nakash**	**2.46**	**247**	P		**Pn**	**12 45 01.6**	**+1.3**
JNK				*e*S		**Sn**	**12 45 31.6**	**+1.9**
JAK	**Akkeshi**	**2.78**	**236**	P		**Pn**	**12 45 04.7**	**+0.2**
JAK				*e*S		**Sn**	**12 45 37.7**	**+0.6**
JTKR	**Abashiri--Toko**	**2.90**	**259**	P		**Pn**	**12 45 07.4**	**+1.4**
JAR	**Ashorobuto**	**3.21**	**248**	P		**Pn**	**12 45 12.3**	**+2.0**
JKK2	**Kamakawa 2**	**3.73**	**261**	P		**Pn**	**12 45 19.5**	**+2.1**
JSE	**Soyaes**	**3.77**	**278**	P		**Pn**	**12 45 19.2**	**+1.4**
ASAJ	**Asahikawa**	**3.80**	**265**	P		**Pn**	**12 45 20.7**	**+2.5**
	comp=Z,6.5nm,0.3s,baz=72,slow=18,SNR=40							
ASAJ	**Asahikawa**	**3.80**	**265**	PN		**Pn**	**12 45 20.7**	**+2.5**
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ASAJ	**Asahikawa**	**3.80**	**265**	*e*Pn		**Pn**	**12 45 18.2**	**0.0**
JCH	**Churui**	**3.81**	**240**	P		**Pn**	**12 45 19.0**	**+0.7**
JCH				*e*S		**Sn**	**12 46 03.8**	**+1.8**
JFR	**Furan**	**4.05**	**251**	P		**Pn**	**12 45 24.1**	**+2.4**
ERM	**Erimo**	**4.28**	**235**	i ePN		**Pn**	**12 45 26.8**	**+2.1**
ERM	**Erimo**	**4.28**	**235**	*e*Pn		**Pn**	**12 45 26.9**	**+2.2**
ERM				*e*Sn		**Sn**	**12 46 12.2**	**-1.2**
ERM	**Erimo**	**4.28**	**235**	*e*P		**Pn**	**12 45 26.8**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.28**	**305**	i iPN		**Pn**	**12 45 26.2**	**+1.4**
YSS				*e*S		**Sn**	**12 46 11.6**	**-1.9**
YSS				pmax	pmax			
	comp=Z,70nm,0.5s							
YSS				smax	smax			
	comp=N,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**4.28**	**305**	*e*Pn		**Pn**	**12 45 24.7**	**0.0**
YSS				*e*Sn		**Sn**	**12 46 17.6**	**+4.0**
YSS	**Yuzh-Sakhalins**	**4.28**	**305**	i iP		**Pn**	**12 45 26.2**	**+1.4**
YSS				AMB	AMB		12 45 27.0	
YSS	comp=N,70nm,0.5s			*e*S		**Sn**	**12 46 11.6**	**-1.9**
YSS				A	A		12 46 16.0	
	comp=N,30nm,1.0s							
JWK2	**Keihoku**	**4.29**	**282**	P		**Pn**	**12 45 27.9**	**+3.0**
JNBK	**Urakawa-nobuka**	**4.37**	**240**	P		**Pn**	**12 45 26.3**	**+0.4**
JNBK				*e*S		**Sn**	**12 46 16.7**	**+1.1**
JEW	**Eniwo**	**4.95**	**252**	P		**Pn**	**12 45 36.9**	**+3.0**
JKB	**Kayabe**	**5.66**	**244**	P		**Pn**	**12 45 43.9**	**+0.4**
JKB				*e*S		**Sn**	**12 46 44.4**	**-2.7**
JOT	**Ohata**	**5.92**	**240**	P		**Pn**	**12 45 47.0**	**-0.1**
JOT				*e*S		**Sn**	**12 46 50.3**	**-3.2**
JANG	**Nango**	**6.29**	**230**	P		**Pn**	**12 45 50.4**	**-1.7**
JANG				*e*S		**Sn**	**12 46 56.8**	**-5.7**
JOSM	**Okushiri--Mats**	**6.60**	**251**	P		**Pn**	**12 45 57.8**	**+1.5**
TEY	**Ternei**	**8.01**	**277**	*e*P		Pn	12 46 19.8	+4.3
HABR	**Khabarovsk**	**9.64**	**298**	PN		**Pn**	**12 46 35.1**	**-2.6**
HABR				*e*S		**Sn**	**12 48 22.9**	**-1.2**
HABR				pmax	pmax			
	comp=E,36nm,1.5s							
HABR				pmax	pmax			
	comp=N,12nm,1.1s							
HABR				pmax	pmax			
	comp=Z,9.0nm,1.1s							
PEA0B	**Petropavlovsk-**	**10.71**	**34**	*e*Pn		**Pn**	**12 46 52.9**	**+0.6**
PETK	**Petropavlovsk-**	**10.71**	**34**	P		**Pn**	**12 46 52.1**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=178,slow=9.5,SNR=20							
PETK	**Petropavlovsk-**	**10.71**	**34**	*e*PN		**Pn**	**12 46 52.1**	**-0.2**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PETK	**Petropavlovsk-**	**10.71**	**34**	P		**Pn**	**12 46 52.1**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**10.85**	**226**	*e*PN		**Pn**	**12 46 52.8**	**-1.4**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**10.87**	**226**	*e*PN		**Pn**	**12 46 53.7**	**-0.8**
MAJO	**Matsushiro**	**10.87**	**226**	*e*Pn		**Pn**	**12 46 53.7**	**-0.8**
MJAR	**Matsushiro Arr**	**10.87**	**226**	P		**Pn**	**12 46 52.9**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=32,slow=15,SNR=10							
MJAR	**Matsushiro Arr**	**10.87**	**226**	PN		**Pn**	**12 46 52.9**	**-1.6**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**10.87**	**226**	P		**Pn**	**12 46 52.9**	**-1.6**
PET	**Petropavlovsk**	**11.04**	**36**	*e*P		**Pn**	**12 46 53.5**	**-3.2**
USRK	**Ussuriysk Arra**	**11.35**	**274**	P		**Pn**	**12 47 02.7**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=89,slow=12,SNR=13							
KLR	**Kul'dur**	**11.95**	**299**	*e*PN		**Pn**	**12 47 07.6**	**-1.4**
KSRS	**Korea Array**	**16.62**	**252**	P		**Pn**	**12 48 08.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=59,slow=13,SNR=3.8							
KSRS	**Korea Array**	**16.62**	**252**	P		**Pn**	**12 48 08.5**	**-0.7**
KSAR	**Wonju Array Be**	**16.65**	**252**	P		**Pn**	**12 48 08.5**	**-1.1**
KSAR	**Wonju Array Be**	**16.65**	**252**	P		**Pn**	**12 48 08.5**	**-1.1**
FX1	**Attu Island--F**	**18.57**	**54**	P		**Pn**	**12 48 34.1**	**+1.2**
	comp=Z,2.3nm,0.3s,baz=276,slow=19,SNR=7.6							
FX1	**Attu Island--F**	**18.57**	**54**	P		**Pn**	**12 48 34.1**	**+1.2**
FX1				pmax	pmax			
	comp=Z,2.0nm,0.3s							
FX1	**Attu Island--F**	**18.57**	**54**	P		**Pn**	**12 48 34.1**	**+1.2**
SONM	**Songino Array**	**28.63**	**291**	P		P	12 50 10.0	+0.2
	comp=Z,0.7nm,0.6s,baz=77,slow=8.2,SNR=7.4							
SONM	**Songino Array**	**28.63**	**291**	P		**P**	**12 50 10.0**	**+0.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**28.63**	**291**	P		**P**	**12 50 10.0**	**+0.2**
ILAR	**Eielson Array**	**40.52**	**37**	P		**P**	**12 51 51.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=273,slow=9.1,SNR=7.8							
ILAR	**Eielson Array**	**40.52**	**37**	P		**P**	**12 51 51.9**	**+0.1**
ILAR	**Eielson Array**	**40.52**	**37**	P		**P**	**12 51 51.9**	**+0.1**
ZALV	**Zalesovo Beam**	**40.91**	**306**	PcP		**PcP**	**12 53 53.9**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=78,slow=3.7,SNR=6.5							
ZALV	**Zalesovo Beam**	**40.91**	**306**	PcP		**PcP**	**12 53 53.9**	**+0.1**
MK31	**Makanchi Array**	**44.65**	**297**	*e*P		**P**	**12 52 24.4**	**-1.0**
MK31				*e*			12

comp=Z,0.9nm,0.6s,baz=245,slow=1.5,SNR=7.1
PDAR Pinedale Array 68.99 50 P P 12 55 18.6 +0.8
PDAR pP pP 12 55 40.4 -0.4
NB2 NORSAR Subarra 69.01 339 P P 12 55 16.9 -0.5
comp=Z,0.5nm,0.6s,baz=30,slow=6.2
NOA NORSAR Array B 69.01 339 P P 12 55 16.9 -0.5
comp=Z,0.3nm,0.4s,baz=31,slow=7.2,SNR=7.0
NOA NORSAR Array B 69.01 339 P P 12 55 16.9 -0.5
NOA NORSAR Array B 69.01 339 P P 12 55 16.9 -0.5
ASAR Alice Springs 69.10 194 P P 12 55 20.4 +2.2
comp=Z,0.2nm,0.5s,baz=7.5,slow=6.7,SNR=5.6
ASAR Alice Springs 69.10 194 P P 12 55 20.4 +2.2
ASAR Alice Springs 69.10 194 P P 12 55 20.4 +2.2
GERES GERESS Array B 78.68 331 P P 12 56 13.6 -0.4
comp=Z,0.2nm,0.4s,baz=46,slow=5.8,SNR=4.4
GERES GERESS Array B 78.68 331 P P 12 56 13.6 -0.4
GERES GERESS Array B 78.68 331 P P 12 56 13.6 -0.4
TXAR Lajitas Array 81.77 57 P P 12 56 31.8 +0.8
comp=Z,0.5nm,0.7s,baz=302,slow=3.8,SNR=5.7
TXAR pP pP 12 56 54.2 -0.4
comp=Z,0.7nm,0.6s,baz=282,slow=4.8,SNR=5.4
TXAR Lajitas Array 81.77 57 P P 12 56 31.8 +0.8
TXAR *PP pP 12 56 54.2 -0.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 81.77 57 P P 12 56 31.8 +0.8
TXAR pP pP 12 56 54.2 -0.4

IDC 24 12:50:58.1±2.9, 6°63S×128°95E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=290.3km s-min=31.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.23**	**159**	Pn	Pn	12 54 19.9	-1.2
	0.3nm,0.3s,baz=333,slow=14,SNR=13						
WRA				Sn	Sn	12 56 46.6	-13
	0.4nm,0.3s,baz=338,slow=24,SNR=7.7						
ASAR	**Alice Springs**	**17.59**	**165**	P	P	12 55 05.8	-0.3
	0.2nm,0.3s,baz=352,slow=12,SNR=10						
ASAR				S	Sn	12 58 12.0	-10
	0.1nm,0.3s,baz=357,slow=27,SNR=5.6						
HNR	**Honiara**	**30.81**	**97**	LR	LR	13 08 57.7	
	comp=Z,70nm,18.6s,baz=228,slow=35						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	13 01 55.2	0.0
	0.2nm,0.5s,baz=116,slow=8.7,SNR=5.0						

*IDC **24** 12:57:31.4±2.6, 32°.94N×94°.47E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.2/24, mbtmp3.3/3, ML3.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/35, Error ellipse: s-maj=89.0km s-min=37.7km az=75.0*
*BJI **24** 12:57:33.9, 32°.97N×93°.97E, h8km, ML3.2/2, Ms3.8/1, Ms7 3.6/1*
ISC 24 12:57:34.1±1.8, 32°.9N±0°.2×93°.5E±0°.2, h35km, n5, σ2°90/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**8.24**	**36**	*eP*	**Pn**	**12 59 32.5**	**+1.3**
LZH	**Lanzhou**	**9.10**	**67**	*eP*	**Pn**	**12 59 44.5**	**+1.5**
LZH				pP		12 59 46.6	
LZH				sP		12 59 48.5	
LZH				LR	LR		
	comp=N,360nm,9.2s						
LZH				LR	LR		
	comp=E,310nm,10.0s						
LZH				LR	LR		
	comp=Z,380nm,11.3s						
MKAR	**Makanchi Array**	**16.28**	**332**	Pn	**P**	**13 01 23.9**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=141,slow=15,SNR=4.2						
SONM	**Songino Array**	**17.80**	**29**	P	**Pn**	**13 01 35.7**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=3.9						
SONM				LR	LR	13 09 30.8	
	comp=Z,134nm,18.1s,baz=143,slow=41						
ASAR	**Alice Springs**	**68.20**	**140**	P	**P**	**13 08 30.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=331,slow=5.3,SNR=5.7						

*NOU **24** 12:58:59.7±1.1, 20°.02S×169°.41E, h30km, MD2.7, ML4.1*
*ISCJB **24** 12:59:00.7±1.9, 20°.85S±0°.5×169°.6E±0°.3, h107km±18km, mb3.9/5, Error ellipse: s-maj=85.2km s-min=19.4km az=154.7*
*IDC **24** 12:59:00.7±4.0, 20°.69S×169°.71E, h92km±33km, mb3.7/5, mb1 4.0/6, mb1mx3.7/16, mbtmp3.8/6, Error ellipse: s-maj=105.3km s-min=28.1km az=153.0*
ISC 24 12:59:00.4±3.1, 20°.9S±0°.5×169°.8E±0°.3, h96km±27km, n14, σ0°76/20, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.00**	**244**	*eP*	**Pn**	**12 59 46.0**	**0.0**
BAYA				*eS*	**Sn**	**13 00 20.7**	**-0.6**
BAYA				AMP		13 00 21.5	
	comp=Z,178nm,0.0s						
PLUM	**Mont Dore**	**3.26**	**244**	*eP*	**Pn**	**12 59 49.4**	**-0.1**
PLUM				*eS*	**Sn**	**13 00 26.9**	**-0.5**
PLUM				AMP		13 00 29.6	
	comp=Z,2μm,0.3s						
LASL	**Noumea**	**3.33**	**245**	*eP*	**Pn**	**12 59 50.7**	**+0.3**
LASL				*eS*	**Sn**	**13 00 29.0**	**0.0**
LASL				AMP		13 00 31.3	
	comp=Z,3μm,0.8s						
DZM	**Mont Dzumac**	**3.35**	**248**	P	**Pn**	**12 59 52.5**	**+1.8**
	comp=Z,62nm,0.3s,baz=58,slow=16,SNR=1104						
DZM				S	**Sn**	**13 00 29.6**	**-0.2**
	comp=Z,270nm,0.3s,baz=192,slow=20,SNR=30						
NORM	**Noumea**	**3.37**	**246**	*eP*	**Pn**	**12 59 51.2**	**+0.2**
NORM				*eS*	**Sn**	**13 00 29.0**	**-1.1**
NORM				AMP		13 00 31.4	
	comp=Z,1μm,1.8s						
NOUC	**Port Laguerre**	**3.48**	**249**	*eP*	**Pn**	**12 59 53.2**	**+0.7**
NOUC				*eS*	**Sn**	**13 00 31.4**	**-1.3**
NOUC				AMP		13 00 34.3	
	comp=Z,522nm,5.2s						
STKA	**Stephens Creek**	**27.47**	**241**	P	**P**	**13 04 38.5**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=102,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**33.21**	**265**	P	**P**	**13 05 28.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=101,slow=8.1,SNR=6.8						
ASAR	**Alice Springs**	**33.28**	**258**	P	**P**	**13 05 29.4**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=86,slow=9.2,SNR=52						
NVAR	**Mina Array Bea**	**89.48**	**48**	P	**P**	**13 11 47.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=226,slow=9.2,SNR=6.6						
ILAR	**Eielson Array**	**91.62**	**17**	P	**P**	**13 11 55.7**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=239,slow=5.0,SNR=12						
ARCES	**ARCESS Array B**	**126.76**	**345**	PKP	**PKPdf**	**13 17 51.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=172,slow=0.9,SNR=6.8						
GERES	**GERESS Array B**	**146.16**	**331**	PKPbc	**PKPbc**	**13 18 29.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=36,slow=2.8,SNR=12						
DAVOX	**Davos/Dischmat**	**149.41**	**332**	PKPbc	**PKPbc**	**13 18 37.9**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=354,slow=6.1,SNR=4.0						

*BER **24** 13:03:51.4±3.7, 74°.92N×9°.24E, h10km, MD2.5, ML2.0, ML3.3(NAO)*
*ISCJB **24** 13:03:51.3±0.6, 74°.94N±0°.03×10°.7E±0°.2, h10km, mb3.6/10, MS3.6/2, Error ellipse: s-maj=8.7km s-min=4.7km az=175.0*
*HEL **24** 13:03:52.0±1.0, 75°.00N×9°.88E, h10km, ML3.0, MD2.5(BER), ML2.0(BER)*
*IDC **24** 13:03:52.4±0.8, 74°.83N×9°.66E, h0km, mb3.5/10, mb1 3.7/14, mb1mx3.6/29, mbtmp3.5/14, ML3.0/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=19.6km s-min=11.2km az=49.0*
*CSEM **24** 13:03:53.9±0.9, 75°.08N×11°.13E, h10km, ML3.0, Error ellipse: s-maj=40.4km s-min=12.0km az=79.0*
*NAO **24** 13:03:55.5±4.6, 75°.01N×11°.17E, h9km±40km, ML3.3*
ISC 24 13:03:51.8±0.7, 74°.98N±0°.05×10°.02E±0°.08, h10km, n42, σ2°54/56, mb3.7/10, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**2.44**	**31**	*eP*	**Pn**	**13 04 32.0**	**+0.4**
HSP				*eS*	**Sn**	**13 04 59.7**	**-1.7**
SPA0	**Spitsbergen Ar**	**3.54**	**22**	Pn	**Pn**	**13 04 47.6**	**+1.0**
	baz=192,slow=16						
SPA0				Sn	**Sn**	**13 05 28.0**	**-0.4**
	baz=210,slow=22						
SPA0	**Spitsbergen Ar**	**3.54**	**22**	*eP*	**Pn**	**13 04 47.6**	**+1.0**
SPA0				*eS*	**Sn**	**13 05 28.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**3.54**	**22**	Pn	**Pn**	**13 04 47.6**	**+1.0**
	SNR=663						
SPA0				Sn	**Sn**	**13 05 28.0**	**-0.4**
	SNR=4.1						
KBS	**Kingsbay**	**3.99**	**5**	Pn	**Pn**	**13 04 51.5**	**-1.4**
KBS				Sn	**Sn**	**13 05 34.2**	**-5.4**
KBS	**Kingsbay**	**3.99**	**5**	Pn	**Pn**	**13 04 51.5**	**-1.4**
KBS				Sn	**Sn**	**13 05 34.2**	**-5.4**
KBS				AML	AML	13 05 35.5	
	comp=Z,7.4nm,0.6s						
KBS	**Kingsbay**	**3.99**	**5**	*eP*	**Pn**	**13 04 51.5**	**-1.4**
KBS				*eS*	**Sn**	**13 05 34.2**	**-5.4**
KBS				AML	AML	13 05 35.5	
	comp=Z,7.4nm,0.6s						
KBS	**Kingsbay**	**3.99**	**5**	P	**Pn**	**13 04 51.4**	**-1.4**
KBS				S	**Sn**	**13 05 34.1**	**-5.4**
	comp=Z,7.4nm,0.6s						
HOPEN	**Hopen**	**4.01**	**60**	*eP*	**Pn**	**13 04 55.6**	**+2.6**
HOPEN				*i* S	**Sn**	**13 05 40.0**	**0.0**
HOPEN	**Hopen**	**4.01**	**60**	*eP*	**Pn**	**13 04 55.6**	**+2.6**
HOPEN				*i* S	**Sn**	**13 05 40.0**	**0.0**
HOPEN	**Hopen**	**4.01**	**60**	*eP*	**Pn**	**13 04 55.6**	**+2.6**
	SNR=49						
HOPEN				*i* S	**Sn**	**13 05 40.0**	**0.0**
	SNR=49						
KIF	**Kilpisjarvi**	**6.86**	**146**	*eP*	**Pn**	**13 05 33.0**	**+0.8**
KIF				MPN		13 05 35.8	
	comp=Z,0.9nm,0.3s						
KIF				*eS*	**Sn**	**13 06 45.6**	**-4.5**
KIF	**Kilpisjarvi**	**6.86**	**146**	P	**Pn**	**13 05 32.9**	**+0.8**
ARA0	**ARCESS Array S**	**7.21**	**132**	Pn	**Pn**	**13 05 36.4**	**-0.6**
	baz=329,slow=12						
ARA0				Sn	**Sn**	**13 06 54.0**	**-4.8**
	baz=326,slow=22						
ARA0	**ARCESS Array S**	**7.21**	**132**	*eP*	**Pn**	**13 05 36.4**	**-0.6**
ARA0				*eS*	**Sn**	**13 06 54.0**	**-4.8**
ARA0	**ARCESS Array S**	**7.21**	**132**	Pn	**Pn**	**13 05 36.3**	**-0.6**
	SNR=50						
ARA0				Sn	**Sn**	**13 06 54.0**	**-4.8**
	SNR=4.2						
ARCES	**ARCESS Array B**	**7.21**	**132**	Pn	**Pn**	**13 05 37.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=328,slow=10,SNR=21						
ARCES				Sn	**Sn**	**13 06 55.7**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=328,slow=21,SNR=9.7						
ARCES				LR	LR	13 08 51.8	
	comp=Z,117nm,20.0s,baz=72,slow=42						
KEV	**Kevo**	**7.33**	**127**	*eP*	**Pn**	**13 05 38.6**	**0.0**
KEV				MPN		13 05 46.4	
	comp=Z,1.3nm,0.5s						
KEV				*eS*	**Sn**	**13 06 56.9**	**-4.7**
KEV	**Kevo**	**7.33**	**127**	P	**Pn**	**13 05 38.6**	**0.0**
KEV				S	**Sn**	**13 06 56.9**	**-4.7**
HEF	**Hetta**	**7.85**	**140**	*eP*	**Pn**	**13 05 47.1**	**+1.2**
HEF				MPN		13 05 56.2	
	comp=Z,1.0nm,0.6s						
HEF				*eS*	Sn	13 07 08.2	-6.3
HEF	**Hetta**	**7.85**	**140**	P	**Pn**	**13 05 47.0**	**+1.2**
VRF	**Varrio**	**9.53**	**130**	*eP*	**Pn**	**13 06 10.1**	**+1.3**
VRF				*eS*	Sn	13 07 49.4	-6.3
VRF	**Varrio**	**9.53**	**130**	P	**Pn**	**13 06 10.1**	**+1.3**
RNF	**Rovaniemi**	**9.87**	**140**	*eP*	**Pn**	**13 06 15.3**	**+1.8**
RNF				*eS*	Sn	13 07 58.3	-5.8
RNF	**Rovaniemi**	**9.87**	**140**	P	**Pn**	**13 06 15.2**	**+1.8**
NOA	**NORSAR Array B**	**14.02**	**178**	Pn	**Pn**	**13 07 09.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=352,slow=18,SNR=2.5						
FINES	**FINESS Array B**	**14.75**	**149**	Pn	**Pn**	**13 07 20.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=5.9,SNR=3.6						
HFS	**Hagfors**	**14.98**	**173**	Pn	**Pn**	**13 07 24.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=358,slow=12,SNR=2.5						
HFS	**Hagfors**	**14.98**	**173**	Pn	**P**	**13 07 27.1**	**-1.6**
	baz=2.8,slow=12						
HFS	**Hagfors**	**14.98**	**173**	*e*	**P**	**13 07 27.1**	**-1.6**
HFS	**Hagfors**	**14.98**	**173**	Pn	**P**	**13 07 27.1**	**-1.6**
	SNR=50						
AKASG	**Malin Array Be**	**25.62**	**151**	P	**P**	**13 09 22.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=343,slow=8.9,SNR=3.4						
GERES	**GERESS Array B**	**26.28**	**174**	P	**P**	**13 09 27.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=35,slow=16,SNR=5.3						
BVAR	**Borovoye Array**	**32.09**	**99**	P	P	13 10 22.8	+4.4
	comp=Z,0.5nm,0.8s,baz=339,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**35.01**	**84**	P	P	13 10 47.5	+3.8
	comp=Z,0.9nm,0.7s,baz=322,slow=11,SNR=4.3						
KURK	**Kurchatov**	**36.32**	**92**	P	**P**	**13 10 57.9**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=333,slow=7.7,SNR=8.2						
KURK				LR	LR	13 27 30.5	
	comp=Z,48nm,19.8s,baz=310,slow=39						
YKA	**Yellowknife Ar**	**38.16**	**322**	P	P	13 11 13.8	+3.3
	comp=Z,3.5nm,1.4s,baz=20,slow=8.3,SNR=6.0						
ILAR	**Eielson Array**	**39.69**	**345**	P	**P**	**13 11 25.0**	**+1.6**
	comp=Z,1.1nm,1.1s,baz=347,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**40.89**	**91**	P	**P**	**13 11 36.4**	**+2.9**
	comp=Z,1.0nm,1.1s,baz=355,slow=5.2,SNR=4.6						
ULM	**Lac du Bonnet**	**46.02**	**301**	LR	LR	13 31 59.1	
	comp=Z,133nm,18.5s,baz=286,slow=37						
TORD	**Torodi Ar. Bea**	**62.00**	**189**	P	**P**	**13 14 11.5**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=358,slow=7.4,SNR=6.4						
TXAR	**Lajitas Array**	**67.72**	**300**	P	**P**	**13 14 51.4**	**+2.3**
	comp=Z,0.6nm,1.1s,baz=61,slow=7.3,SNR=2.8						

*IDC **24** 13:06:57.3±1.2, 32°.89N×93°.48E, h0km, mb3.3/6, mb1 3.6/8, mb1mx3.4/26, mbtmp3.3/8, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/28, Error ellipse: s-maj=60.1km s-min=18.0km az=64.0*
*ISCJB **24** 13:07:00.5±0.5, 32°.84N±0°.06×93°.53E±0°.07, h33km, mb3.2/5, Error ellipse: s-maj=11.0km s-min=5.6km az=136.1*
*BJI **24** 13:07:01.3, 32°.99N×93°.79E, h10km, mB4.2/1, mb4.0/4, ML3.4/2, Ms3.8/1, Ms7 3.6/1*
ISC 24 13:07:02.6±0.8, 32°.85N±0°.09×93°.6E±0°.1, h35km, n23, σ1°08/22, mb3.2/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**7.46**	**224**	*eP*	**Pn**	**13 08 49.2**	**-0.1**
	10nm,0.3s						
ODAN	**Odare**	**8.02**	**224**	*eP*	**Pn**	**13 08 56.1**	**-0.8**
	11nm,0.4s						
JIRN	**Jiri**	**8.21**	**233**	*eP*	**Pn**	**13 09 00.6**	**+1.0**
	7.9nm,0.4s						
GUN	**Gumba**	**8.26**	**235**	*eP*	**Pn**	**13 09 01.4**	**+1.1**
	26nm,0.4s						
GTA	**Gaotai**	**8.27**	**36**	*eP*	**Pn**	**13 09 01.9**	**+1.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
RAMN	**Ramite**	**8.43**	**228**	*eP*	**Pn**	**13 09 02.1**	**-0.4**
	comp=Z,9.9nm,0.3s						
KKN	**Kakani**	**8.75**	**237**	*eP*	**Pn**	**13 09 07.2**	**+0.3**
	comp=Z,10nm,0.4s						
PKI	**Pulchoki**	**8.80**	**235**	*eP*	**Pn**	**13 09 08.0**	**+0.4**
	comp=Z,30nm,0.4s						
DMN	**Daman**	**8.98**	**237**	*eP*	**Pn**	**13 09 10.4**	**+0.3**
	comp=Z,12nm,0.5s						
LZH	**Lanzhou**	**9.08**	**66**	*eP*	Pn	13 09 13.1	+1.7
LZH				pP		13 09 15.5	
LZH				sP		13 09 17.3	
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,43nm,4.1s						
LZH				LR	LR		
	comp=N,330nm,9.0s						
LZH				LR	LR		
	comp=E,300nm,9.6s						
LZH				LR	LR		
	comp=Z,350nm,10.8s						
GKN	**Gorkha**	**9.09**	**240**	*eP*	**Pn**	**13 09 12.7**	**+1.2**
DANN	**Dangsing**	**9.56**	**245**	*eP*	**Pn**	**13 09 18.3**	**+0.2**
	comp=Z,17nm,0.5s						
KOLN	**Koldanda**	**9.98**	**242**	*eP*	**Pn**	**13 09 24.5**	**+0.7**
	comp=Z,3.3nm,0.3s						
CMAR	**Chiang Mai Ar**	**15.13**	**160**	Pn	**Pn**	**13 10 33.1**	**-0.6**
	baz=337,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**16.37**	**332**	Pn	**Pn**	**13 10 50.3**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=132,slow=13,SNR=3.3						
HHC	**Hu-ho-hao-te**	**16.45**	**56**	*eP*	**Pn**	**13 10 50.3**	**-0.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**17.84**	**29**	P	**P**	**13 11 07.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=225,slow=10,SNR=3.9						
SONM				LR	LR	13 18 34.7	
	comp=Z,154nm,18.9s,baz=264,slow=39						
KURK	**Kurchatov**	**20.97**	**333**	P	**P**	**13 11 39.7**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=139,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**21.99**	**346**	P	**P**	**13 11 51.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=146,slow=10,SNR=2.7						
BVAR	**Borovoye Array**	**26.14**	**327**	P	**P**	**13 12 33.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=122,slow=7.0,SNR=2.2						
WRA	**Warramunga Arr**	**65.38**	**137**	P	**P**	**13 17 42.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=319,slow=8.2,SNR=4.0						
ASAR	**Alice Springs**	**68.11**	**140**	P	**P**	**13 17 59.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=326,slow=6.5,SNR=9.4						
YKA	**Yellowknife Ar**	**82.32**	**13**	P	**P**	**13 19 20.3**	**0.0**
	comp=Z,0.1nm,0.5s,baz=340,slow=5.6,SNR=3.4						

IDC 24 13:13:16.9±1.9, 6°46S×155°.12E, h48km±8km, mb3.3/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.4/6, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/16, Error ellipse: s-maj=52.3km s-min=21.8km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.41**	**249**	P	Pn	13 15 18.1	+1.8
	2.8nm,0.3s,baz=48,slow=9.8,SNR=12						
GUMO	**Guam**	**22.37**	**333**	LR	LR	13 26 15.8	
	comp=Z,52nm,19.0s,baz=57,slow=35						
WRA	**Warramunga Arr**	**24.23**	**234**	P	P	13 18 30.4	+0.8
	0.5nm,0.3s,baz=58,slow=10.0,SNR=12						
WRA				pP	pP	13 18 40.7	-1.2
	0.4nm,0.5s,baz=57,slow=9.9,SNR=3.2						
ASAR	**Alice Springs**	**26.62**	**228**	P	P	13 18 51.2	0.0
	0.2nm,0.4s,baz=56,slow=9.1,SNR=3.4						
ASAR				pP	pP	13 19 01.7	-1.9
	0.2nm,0.3s,baz=57,slow=9.3,SNR=1.8						
CMAR	**Chiang Mai Arr**	**60.67**	**295**	P	P	13 23 23.6	-0.1
	0.8nm,0.6s,baz=130,slow=5.7,SNR=6.1						
CMAR				pP	pP	13 23 38.2	+1.1
	0.5nm,0.5s,baz=121,slow=5.7,SNR=1.7						
ILAR	**Eielson Array**	**82.83**	**21**	P	P	13 25 35.0	-0.8
	0.2nm,0.8s,baz=235,slow=4.3,SNR=4.2						
MKAR	**Makanchi Array**	**83.09**	**319**	P	P	13 25 37.7	0.0
	0.1nm,0.4s,baz=94,slow=8.5,SNR=6.1						
MKAR				pP	pP	13 25 52.2	+0.6
	0.3nm,0.7s,baz=87,slow=6.7,SNR=4.4						

IDC 24 13:16:59.9±1.6, 12°.88N×143°.67E, h134km±18km, mb3.3/6, mb1 3.6/6, mb1mx3.2/23, mbtmp3.3/6, Error ellipse: s-maj=38.8km s-min=16.5km az=102.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.36**	**59**	P	Pn	13 17 27.1	+0.3
	66nm,0.3s,baz=242,slow=3.2,SNR=42						
GUMO				S	Sn	13 17 47.2	0.0
	126nm,0.3s,baz=45,slow=22,SNR=26						
WRA	**Warramunga Arr**	**33.88**	**196**	P	P	13 23 29.9	-0.2
	2.9nm,0.6s,baz=17,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**37.55**	**195**	P	P	13 24 01.2	-0.2
	1.4nm,0.6s,baz=19,slow=12,SNR=8.2						
KURK	**Kurchatov**	**64.38**	**320**	P	P	13 27 21.6	+0.1
	0.4nm,0.6s,baz=102,slow=6.9,SNR=6.0						
ILAR	**Eielson Array**	**69.71**	**25**	P	P	13 27 54.4	-0.6
	0.2nm,0.5s,baz=265,slow=5.7,SNR=4.6						
BVAR	**Borovoye Array**	**69.76**	**322**	P	P	13 27 55.8	+0.3
	0.3nm,0.4s,baz=92,slow=10,SNR=4.7						
YKA	**Yellowknife Ar**	**84.02**	**27**	P	P	13 29 15.7	+0.5
	0.2nm,0.5s,baz=289,slow=5.1,SNR=3.9						

IDC 24 13:17:30.4±2.0, 0°.01N×133°.59E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=119.8km s-min=21.4km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.84**	**178**	P	P	13 22 03.2	+0.3
	0.4nm,0.3s,baz=358,slow=11,SNR=36						
ASAR	**Alice Springs**	**23.53**	**179**	P	P	13 22 42.1	-0.3
	2.1nm,0.4s,baz=357,slow=9.5,SNR=46						
STKA	**Stephens Creek**	**32.60**	**167**	P	P	13 24 04.0	+0.2
	6.6nm,1.2s,baz=346,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**64.55**	**324**	P	P	13 28 09.7	+0.2
	0.3nm,0.7s,baz=114,slow=8.5,SNR=3.7						
KURK	**Kurchatov**	**68.59**	**326**	P	P	13 28 35.0	-0.1
	0.7nm,0.8s,baz=120,slow=6.3,SNR=5.7						

IDC 24 13:27:33.3±3.8, 13°.10N×143°.48E, h203km±77km, mb2.9/4, mb1 3.1/4, mb1mx2.9/22, mbtmp2.9/4, Error ellipse: s-maj=158.6km s-min=17.5km az=85.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.43**	**70**	P	Pn	13 28 07.9	+1.3
	4.6nm,0.3s,baz=179,slow=21,SNR=7.9						
GUMO				S		13 28 32.4	+0.2
	16nm,0.3s,baz=155,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**34.05**	**195**	P	P	13 33 57.9	-0.6
	0.9nm,0.5s,baz=17,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**37.73**	**194**	P	P	13 34 30.1	+0.5
	0.4nm,0.7s,baz=20,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**60.91**	**316**	P	P	13 37 24.7	0.0
	0.1nm,0.7s,baz=88,slow=7.4,SNR=4.6						
BVAR	**Borovoye Array**	**69.47**	**322**	P	P	13 38 19.5	-0.1
	0.3nm,0.4s,baz=97,slow=8.0,SNR=4.3						

*ISCJB **24** 13:32:36.9±1.2, 18°.71N±0°.09×64°.30W±0°.09, h69km±7km, Error ellipse: s-maj=18.4km s-min=10.4km az=137.6*
*TRN **24** 13:32:37.1, 18°.66N×64°.35W, h59km, MD2.9(RSPR)*
*NEIC **24** 13:32:38.1, 18°.72N×64°.29W, h63km, MD2.9(RSPR), After RSPR.*
*RSPR **24** 13:32:38.1, 18°.72N×64°.29W, h63km±1km, MD2.

IDC 24 13:33:31.9±3.1, 19°.83N×121°.31E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, 1D, Error ellipse: s-maj=274.2km s-min=21.0km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.64 204**		⇓*i* P	Pn	13 33 57.4	-4.6
WRA	**Warramunga Arr**	**41.54 161**		P	P	13 41 20.5	-0.8
	0.5nm,0.5s,baz=342,slow=9.0,SNR=8.9						
MKAR	**Makanchi Array**	**41.62 319**		P	P	13 41 21.6	-0.2
	0.6nm,0.8s,baz=112,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**44.95 164**		P	P	13 41 49.5	+0.6
	0.2nm,0.3s,baz=344,slow=6.7,SNR=11						
KURK	**Kurchatov**	**45.55 323**		P	P	13 41 53.4	0.0
	0.4nm,0.8s,baz=124,slow=8.0,SNR=4.1						

*BJI **24** 13:41:03.2, 0°.86S×132°.94E, h26km, mB5.1/27, mb4.7/39, Ms5.0/26, Ms7 4.7/24*
*IDC **24** 13:41:03.3±0.5, 0°.53S×132°.78E, h0km, mb4.5/13, mb1 4.7/16, mb1mx4.6/22, mbtmp4.6/16, ML4.4/3, MS4.2/5, Ms1 4.2/5, ms1mx3.6/34, Error ellipse: s-maj=24.6km s-min=10.5km az=73.0*
*NEIC **24** 13:41:06.9±0.2, 0°.51S×132°.91E, mb5.2/32, Error ellipse: s-maj=7.6km s-min=4.1km az=57.0*
*ISCJB **24** 13:41:07.3±0.7, 0°.55S±0°.04×132°.97E±0°.04, h44km±7km, mb4.9/63, MS4.5/11, Error ellipse: s-maj=6.9km s-min=5.1km az=140.1*
*DJA **24** 13:41:10, 0°.50S×132°.92E, h41km, mb5.0/37*
ISC 24 13:41:08.1±0.5, 0°.51S±0°.05×132°.97E±0°.06, h31km±3km, h31km:pP-P,n180,σ1°35/182, mb5.0/63, MS4.5/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.75 258**		P	**Pn**	**13 41 35.3**	**-1.0**
FAKI	**Fak Fak**	**2.50 197**		P	**Pn**	**13 41 46.6**	**-0.1**
BAKI	**Biak**	**3.21 102**		P	**Pn**	**13 41 57.1**	**+0.7**
MSAI	**Masohi**	**4.93 235**		P	**Pn**	**13 42 21.3**	**+1.3**
BNDI	**Bandanaira**	**5.03 217**		P	**Pn**	**13 42 21.4**	**0.0**
TLE	**Tual**	**5.10 183**		P	**Pn**	**13 42 23.9**	**+1.5**
LBMI	**Labuha**	**5.47 269**		P	**Pn**	**13 42 26.7**	**-0.8**
	520nm,0.8s,6μm1.7nm						
AAI	**Ambon**	**5.72 236**		P	**Pn**	**13 42 31.0**	**0.0**
	2μm,1.0s,15μm5.2nm						
TNTI	**Ternate**	**5.75 283**		P	Pn	13 42 36.1	+4.8
	235nm,0.9s,3μm1.1nm						
NLAI	**Namlea**	**6.46 245**		P	**Pn**	**13 42 41.3**	**+0.1**
	269nm,0.8s,3μm1.1nm						
MNI	**Manado**	**8.36 283**		P	**Pn**	**13 43 07.1**	**-0.1**
	185nm,1.0s,3μm						
KMSI	**Cibinong**	**9.05 277**		P	Pn	13 43 21.7	+4.9
	321nm,0.9s,4μm						
LUWI	**Luwuk**	**10.21 267**		P	**Pn**	**13 43 33.8**	**+1.2**
	194nm,1.0s,2μm						
DAV	**Davao City (W)**	**10.54 316**		Pn	**Pn**	**13 43 38.1**	**+1.0**
	26nm,0.3s,baz=257,slow=13,SNR=3.9						
DAV				LR	LR	13 46 58.5	
	comp=Z,869nm,18.8s,baz=144,slow=34						
DAV	**Davao City (W)**	**10.54 316**		Pn	**Pn**	**13 43 38.1**	**+1.0**
KDI	**Kendari**	**10.89 252**		P	**Pn**	**13 43 42.5**	**+0.5**
	80nm,1.1s,938nm						
MRSI	**Marisa**	**11.07 275**		P	**Pn**	**13 43 44.3**	**-0.2**
	66nm,0.9s,665nm						
BBSI	**Bau Bau**	**11.50 244**		P	**Pn**	**13 43 50.7**	**+0.4**
	121nm,1.4s,2μm						
MMRI	**Maumere**	**13.40 233**		P	**Pn**	**13 44 16.6**	**+0.4**
	102nm,1.5s,1μm						
SPSI	**Sidrap Palu**	**13.63 255**		P	**Pn**	**13 44 21.0**	**+1.6**
	66nm,0.9s,886nm						
BKSI	**Bulukumba**	**13.69 249**		P	**Pn**	**13 44 21.7**	**+1.5**
	63nm,1.1s,651nm						
KAPI	**Kappang**	**13.94 251**		Pn	**Pn**	**13 44 22.3**	**-1.3**
	2.2nm,0.3s,baz=108,slow=10.0,SNR=7.6						
KAPI	**Kappang**	**13.94 251**		Pn	**Pn**	**13 44 22.3**	**-1.3**
KAPI	**Kappang**	**13.94 251**		P	Pn	13 44 27.4	+3.8
	37nm,0.9s						
MYLDM	**Lahad Datu**	**15.52 292**		P	**P**	**13 44 48.2**	**-0.8**
MYLDM	**Lahad Datu**	**15.52 292**		P	**Pn**	**13 44 45.8**	**+0.9**
	96nm,1.4s,2μm						
SMKI	**Samarinda**	**15.76 270**		P	P	13 45 01.9	+10
TSM	**Tawau**	**15.82 288**		P	**Pn**	**13 44 50.1**	**+1.3**
PMG	**Port Moresby**	**16.66 122**		Pn	**P**	**13 45 02.2**	**+0.6**
	1.0nm,0.3s,baz=280,slow=10.0,SNR=25						
PMG	**Port Moresby**	**16.66 122**		*e*Pn	**Pn**	**13 44 59.2**	**-0.3**
	59nm,1.0s						
PMG	**Port Moresby**	**16.66 122**		P	**P**	**13 45 02.0**	**+0.4**
	67nm,1.1s,1μm						
COEN	**Coen**	**16.75 143**		*e*Pn	**Pn**	**13 44 58.4**	**-2.2**
	245nm,1.3s						
SDKM	**Sandakan**	**16.90 291**		P	**P**	**13 45 06.2**	**+1.9**
KBKI	**Kotabaru**	**17.02 260**		P	**P**	**13 45 06.0**	**+0.4**
	35nm,1.4s						
KDM	**Kudat**	**17.71 295**		P	**P**	**13 45 17.5**	**+4.3**
KKM	**Kota Kinabalu**	**17.95 292**		P	**P**	**13 45 19.3**	**+3.3**
GUMO	**Guam**	**18.31 40**		LR	LR	13 51 26.2	
	comp=Z,380nm,18.6s,baz=257,slow=34						
BBKI	**Banjar Baru**	**18.35 261**		P	**Pn**	**13 45 22.2**	**+1.7**
	87nm,1.9s,2μm						
MTNI	**Mataram**	**18.58 244**		P	**P**	**13 45 22.6**	**-0.2**
	57nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.91 202**		P	**P**	**13 45 23.3**	**-3.0**
	1.2nm,0.3s,baz=26,slow=16,SNR=13						
FITZ				S	Sn	13 48 47.7	-10
	1.4nm,0.3s,baz=182,slow=9.9,SNR=5.1						
FITZ	**Fitzroy Crossi**	**18.91 202**		*e*P	**P**	**13 45 23.4**	**-3.0**
	16nm,0.4s						
FITZ				*e*S	Sn	13 48 42.3	-16
FITZ	**Fitzroy Crossi**	**18.91 202**		*e*P	**P**	**13 45 23.7**	**-2.7**
FITZ				*ep*P	**pP**	**13 45 32.1**	**-2.5**
FITZ				S	Sn	13 48 47.7	-10
FITZ				*e*S	S	13 48 49.2	-10
KHKI	**Kahang-Kahang**	**18.98 245**		P	**P**	**13 45 26.4**	**-0.8**
	78nm,1.9s,2μm						
WRAB	**Tennant Creek**	**19.35 176**		*e*P	**P**	**13 45 29.3**	**-2.0**
	43nm,0.9s						
WRAB				*e*S	S	13 48 57.9	-11
WRA	**Warramunga Arr**	**19.36 176**		P	**P**	**13 45 31.3**	**0.0**
	2.9nm,0.3s,baz=350,slow=11,SNR=120						
WRA				S	S	13 48 58.4	-10
	1.7nm,0.3s,baz=353,slow=22,SNR=12						
WRA	**Warramunga Arr**	**19.36 176**		P	**P**	**13 45 31.3**	**0.0**
WRA				S	S	13 48 58.4	-10
WB2	**Warramunga Arr**	**19.36 176**		*e*P	**P**	**13 45 30.7**	**-0.6**
WB2				*e*S	S	13 48 57.6	-11
NBBI	**Negara**	**19.88 246**		P	**P**	**13 45 35.7**	**-1.3**
	116nm,1.2s,3μm						
KMMI	**Kalianget**	**20.04 251**		P	Pn	13 45 52.5	+12
BTM	**Bintulu**	**20.22 281**		P	Pn	13 45 42.9	0.0
JAGI	**Jajag, Banyuwa**	**20.35 247**		P	**P**	**13 45 41.1**	**-1.1**
	99nm,1.4s						
GMJI	**Gumukmas**	**20.93 248**		P	Pn	13 45 50.4	-0.7
	66nm,1.2s						
SBUM	**Sibu**	**20.95 278**		P	Pn	13 45 51.4	0.0
SBUM	**Sibu**	**20.95 278**		P	Pn	13 45 52.6	+1.2
	49nm,1.9s,708nm						
PBKI	**Pangkalan Bun**	**21.40 264**		P	P	13 46 05.1	+12
STKI	**Sintang**	**21.50 271**		P	P	13 46 02.5	+7.9
	51nm,1.4s,10μm						
SJI	**Sawahan**	**22.32 251**		P	**P**	**13 46 05.1**	**+1.6**
	49nm,1.2s,6μm						
PWJI	**Pagerwojo**	**22.38 250**		P	**P**	**13 46 05.0**	**+1.0**
	48nm,1.5s						
KSM	**Kuching**	**22.75 275**		*e*P	**P**	**13 46 06.3**	**-1.7**
	45nm,1.1s						
KSM	**Kuching**	**22.75 275**		P	**P**	**13 46 10.1**	**+2.1**
KSM	**Kuching**	**22.75 275**		P	**P**	**13 46 07.5**	**-0.5**
	38nm,1.1s						
PCJI	**Pacitan**	**23.02 250**		P	**P**	**13 46 10.2**	**-0.6**
	76nm,0.9s						
AS31	**Alice Springs**	**23.04 178**		*e*P	**P**	**13 46 11.1**	**+0.2**
ASAR	**Alice Springs**	**23.04 178**		P	**P**	**13 46 10.9**	**0.0**
	25nm,0.6s,baz=352,slow=8.7,SNR=290						
ASAR				S	**S**	**13 50 23.1**	**+3.3**
	9.3nm,1.0s,baz=359,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**23.04 178**		P	**P**	**13 46 10.9**	**0.0**
ASAR				S	**S**	**13 50 23.1**	**+3.3**
CTA	**Charters Tower**	**23.40 147**		P	**P**	**13 46 15.6**	**+1.0**
	33nm,0.8s,baz=334,slow=12,SNR=66						
CTA				LR	LR	13 56 32.4	
	comp=Z,1μm,18.4s,baz=323,slow=40						
CTA	**Charters Tower**	**23.40 147**		*e*P	**P**	**13 46 16.4**	**+1.8**
	26nm,0.8s						
CTA	**Charters Tower**	**23.40 147**		P	**P**	**13 46 15.6**	**+1.0**
CTAO	**Charters Tower**	**23.40 147**		*e*P	**P**	**13 46 14.0**	**-0.5**
	33nm,0.8s						
BJII	**Banjamegara**	**24.16 253**		P	**P**	**13 46 23.7**	**+1.8**
	58nm,0.9s,2μm						
MBWA	**Marble Bar**	**24.26 211**		*e*P	**P**	**13 46 22.7**	**+0.1**
CISI	**Cisompet, Garu**	**26.04 254**		P	**P**	**13 46 37.7**	**-1.2**
	136nm,0.9s,3μm						
HNR	**Honiara**	**28.27 109**		P	**P**	**13 47 00.1**	**+1.2**
	19nm,0.4s,baz=218,slow=14,SNR=4.0						
HNR	**Honiara**	**28.27 109**		P	**P**	**13 47 00.1**	**+1.2**
CBIJ	**Chichi jima**	**28.84 17**		LR	LR	13 55 50.6	
	comp=Z,301nm,20.5s,baz=274,slow=31						
QIZ	**Qiongzhong**	**29.88 312**		P	**P**	**13 47 12.4**	**-0.7**
QIZ				S	**S**	**13 52 09.6**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,81nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,430nm,3.3s						
QIZ				LR	LR		
	comp=N,1μm,6.5s						
QIZ				LR	LR		
	comp=Z,1μm,13.1s						
EIDS	**Eidsvold**	**30.28 146**		*e*P	**P**	**13 47 16.6**	**0.0**
	comp=Z,47nm,1.9s						
KTGM	**Kuala Trenggan**	**30.36 281**		P	**P**	**13 47 19.3**	**+1.8**
FORT	**Forrest**	**30.46 188**		*e*P	**P**	**13 47 17.4**	**-0.8**
	comp=Z,24nm,0.7s						
FRIM	**Kepong**	**31.55 277**		P	**P**	**13 47 28.7**	**+0.7**
STKA	**Stephens Creek**	**32.25 166**		P	**P**	**13 47 33.6**	**-0.2**
	comp=Z,15nm,0.6s,baz=338,slow=8.2,SNR=39						
STKA	**Stephens Creek**	**32.25 166**		*e*P	**P**		
	comp=Z,8.5nm,0.4s						
STKA	**Stephens Creek**	**32.25 166**		*e*P	**P**	**13 47 33.7**	**-0.2**
	comp=Z,5.7nm,1.1s						
IPM	**Ipoh**	**32.30 279**		*e*P	**P**	**13 47 33.4**	**-1.3**
	comp=Z,29nm,1.0s						
IPM				*ep*P	**pP**	**13 47 40.9**	**-2.8**
IPM	**Ipoh**	**32.30 279**		P	**P**	**13 47 35.9**	**+1.3**
MORW	**Morawa**	**32.68 208**		*e*P	**P**	**13 47 37.3**	**-0.4**
	comp=Z,38nm,0.7s						
PSI	**Prapat**	**34.19 276**		P	P	13 47 57.1	+5.8
	comp=Z,28nm,1.1s						
ARMA	**Armidale**	**34.63 151**		*e*P	**P**	**13 47 55.1**	**+0.3**
ARMA	**Armidale**	**34.63 151**		*e*P	**P**	**13 47 54.5**	**-0.3**
	comp=Z,148nm,2.1s						
NJ2	**Nanjing**	**35.03 339**		*e*P	**P**	**13 47 59.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
GSI	**Gunungsitoli**	**35.44 273**		P	**P**	**13 48 02.5**	**+0.6**
	comp=Z,25nm,1.0s,comp=Z,3μm						
WHN	**Wuhan**	**35.60 332**		P	**P**	**13 48 05.0**	**+2.0**
GYA	**Guiyang**	**36.90 319**		*e*P	**P**	**13 48 15.8**	**+1.4**
GYA				PP	PP	13 49 42.1	+3.3
GYA				S	**S**	**13 53 58.1**	**+0.6**
GYA				ScP	**ScP**	**13 54 20.0**	**-0.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,15.4s						
GYA				LR	LR		
	comp=E,1μm,16.2s						
GYA				LR	LR		
	comp=Z,1μm,15.6s						
ARPS	**Mount Arapiles**	**37.00 168**		*e*P	**P**	**13 48 15.9**	**+1.0**
	comp=Z,64nm,0.8s						
MJAR	**Matsushiro Arr**	**37.18 7**		P	**P**	**13 48 17.5**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=182,slow=8.7,SNR=3.3						
MJAR				LR	LR	14 00 46.0	
	comp=Z,359nm,19.1s,baz=225,slow=32						
MJAR	**Matsushiro Arr**	**37.18 7**		P	**P**	**13 48 17.5**	**+1.0**
CM31	**Chiang Mai Arr**	**38.39 301**		*e*P	**P**	**13 48 26.7**	**-0.2**
CM31				*e*		13 48 34.0	
CMAR	**Chiang Mai Arr**	**38.39 301**		P	**P**	**13 48 25.9**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=122,slow=7.0,SNR=19						
CMAR	**Chiang Mai Arr**	**38.39 301**		P	**P**	**13 48 25.9**	**-1.0**
CHTO	**Chiang Mai**	**38.54 302**		*e*P	**P**	**13 48 26.8**	**-1.4**
	comp=Z,23nm,1.2s						
CHTO	**Chiang Mai**	**38.54 302**		P	**P**	**13 48 27.5**	**-0.7**
TOO	**Toolangi**	**38.65 164**		*e*P	**P**	**13 48 30.5**	**+1.6**
	comp=Z,60nm,0.7s						
KMI	**Kunming**	**38.79 313**		P	**P**	**13 48 30.8**	**+0.3**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
DZM	**Mont Dzumac**	**39.01 126**		*e*LR	LR	13 59 35.9	
	comp=Z,481nm,22.9s						
XAN	**Xi'an**	**41.12 329**		P	**P**	**13 48 48.3**	**-1.2**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,43nm,7.2s						
XAN				LR	LR		
	comp=N,680nm,9.7s						
XAN				LR	LR		
	comp=E,270nm,11.3s						
XAN				LR	LR		
	comp=Z,340nm,11.3s						
CD2	**Chengdu**	**41.79 321**		P	**P**	**13 48 54.6**	**-0.4**
CD2				pP	**pP**	**13 49 04.8**	**+0.6**
CD2				PP	PP	13 50 35.3	+3.2
CD2				S	**S**	**13 55 09.9**	**-0.8**
CD2				SS	SS	13 58 11.6	-5.9
CD2				pmax	pmax		
	comp=Z,20nm,1.3s						
CD2				pmax	pmax		
	comp=Z,130nm,6.5s						
CD2				LR	LR		
	comp=N,800nm,8.9s						
CD2				LR	LR		
	comp=Z,960nm,8.3s						
BJT	**Baijiatuan**	**43.16 341**		*e*P	**P**	**13 49 03.6**	**-2.4**
BJI	**Beijing**	**43.17 341**		P	**P**	**13 49 06.4**	**+0.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CN2	**Changchun**	**44.62 352**		*e*P	**P**	**13 49 20.4**	**+2.7**
MDJ	**Mudanjiang**	**45.03 357**		P	**P**	**13 49 21.8**	**+0.9**
MDJ				pP	**pP**	**13 49 30.6**	**+0.4**
MDJ				sP	**sP**	**13 49 34.4**	**+0.5**
MDJ				PP	PP	13 51 07.8	+1.2
MDJ				S	**S**	**13 55 54.0**	**-3.6**
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,100nm,4.3s						
MDJ				LR	LR		
	comp=N,510nm,14.9s						
MDJ				LR	LR		
	comp=E,950nm,17.9s						
MDJ				LR	LR		
	comp=Z,400nm,9.0s						
LZH	**Lanzhou**	**45.38 326**		*e*P	**P**	**13 49 26.0**	**+2.0**
LZH				PP	PP	13 51 13.0	+2.4
LZH				*e*S	**S**	**13 56 05.3**	**+1.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,5.8s						
LZH				LR	LR		
	comp=N,650nm,12.5s						
LZH				LR	LR		
	comp=E,710nm,13.0s						
LZH				LR	LR		
	comp=Z,870nm,17.6s						
HHC	**Hu-ho-hao-te**	**45.53 337**		*e*P	**P**	**13 49 25.8**	**+0.7**
HHC				pP	**pP**	**13 49 35.8**	**+1.4**
HHC				PP	PP	13 51 13.3	+1.2
HHC				S	**S**	**13 56 05.8**	**+0.5**
HHC				ScS	**ScS**	**13 59 16.1**	**-3.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
HHC				LR	LR		
	comp=N,350nm,13.7s						
HHC				LR	LR		
	comp=E,270nm,14.4s						
HHC				LR	LR		
	comp=Z,340nm,14.1s						
LSA	**Lhasa**	**49.91 311**		*e*P	**P**	**13 49 59.4**	**-0.3**
	comp=Z,10nm,0.6s						
GTA	**Gaotai**	**49.99 326**		*e*P	**P**	**13 50 01.3**	**+1.6**
GTA				S	**S**	**13 57 09.6**	**+1.0**
GTA				SS	SS	14 00 39.8	-2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,80nm,5.7s						
GTA				LR	LR		
	comp=N,230nm,14.7s						
GTA				LR	LR		
	comp=E,240nm,15.9s						
GTA				LR	LR		
	comp=Z,250nm,15.2s						
TAPN	**Taplejung**	**51.54 306**		*e*P	**P**	**13 50 10.6**	**-1.2**
	comp=Z,73nm,1.3s						
TAPN	**Taplejung**	**51.54 306**		*e*P	**P**	**13 50 10.6**	**-1.2**
	comp=Z,73nm,1.3s						
ODAN	**Odare**	**51.59 305**		*e*P	**P**	**13 50 10.7**	**-1.4**
	comp=Z,40nm,0.9s						
ODAN	**Odare**	**51.59 305**		*e*P	**P**	**13 50 10.7**	**-1.4**
	comp=Z,40nm,0.9s						
RAMN	**Ramite**	**52.27 305**		*e*P	**P**	**13 50 16.2**	**-1.0**
	comp=Z,108nm,1.2s						
RAMN	**Ramite**	**52.27 305**		*e*P	**P**	**13 50 16.2**	**-1.0**
	comp=Z,108nm,1.2s						
JIRN	**Jiri**	**52.89 306**		*e*P	**P**	**13 50 20.8**	**-1.2**
	comp=Z,79nm,1.2s						
JIRN	**Jiri**	**52.89 306**		*e*P	**P**	**13 50 20.8**	**-1.2**
	comp=Z,79nm,1.2s						
ULN	**Ulaanbaatar**	**53.20 338**		*e*P	**P**	**13 50 22.7**	**-0.8**
	comp=Z,15nm,1.2s						
GUN	**Gumba**	**53.25 306**		*e*P	**P**	**13 50 23.2**	**-1.3**
	comp=Z,84nm,1.2s						
GUN	**Gumba**	**53.25 306**		*e*P	**P**	**13 50 23.2**	**-1.3**
	comp=Z,84nm,1.2s						
SONM	**Songino Array**	**53.41 338**		P	**P**	**13 50 25.7**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=159,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**53.41 338**		P	**P**	**13 50 25.7**	**+0.5**
PKI	**Pulchoki**	**53.49 305**		*e*P	**P**	**13 50 24.8**	**-1.5**
	comp=Z,56nm,1.3s						
PKI	**Pulchoki**	**53.49 305**		*e*P	**P**	**13 50 24.8**	**-1.5**
	comp=Z,56nm,1.3s						
KKN	**Kakani**	**53.68 306**		*e*P	**P**	**13 50 25.9**	**-1.7**
	comp=Z,30nm,0.9s						
KKN	**Kakani**	**53.68 306**		*e*P	**P**	**13 50 25.9**	**-1.7**
	comp=Z,30nm,0.9s						
DMN	**Daman**	**53.75 305**		*e*P	**P**	**13 50 27.0**	**-1.2**
	comp=Z,66nm,1.2s						
DMN	**Daman**	**53.75 305**		*e*P	**P**	**13 50 27.0**	**-1.2**
	comp=Z,66nm,1.2s						
GKN	**Gorkha**	**54.29 306**		*e*P	**P**	**13 50 30.5**	**-1.5**
	comp=Z,69nm,1.3s						
GKN	**Gorkha**	**54.29 306**		*e*P	**P**	**13 50 30.5**	**-1.5**
	comp=Z,69nm,1.3s						
KOLN	**Koldanda**	**55.05 305**		*e*P	**P**	**13 50 36.4**	**-1.1**
	comp=Z,24nm,0.6s						
KOLN	**Koldanda**	**55.05 305**		*e*P	**P**	**13 50 36.4**	**-1.1**
	comp=Z,24nm,0.6s						
DANN	**Dangsing**	**55.14 306**		*e*P	**P**	**13 50 37.0**	**-1.3**
	comp=Z,113nm,1.2s						
DANN	**Dangsing**	**55.14 306**		*e*P	**P**	**13 50 37.0**	**-1.3**
	comp=Z,113nm,1.2s						
HYB	**Hyderabad**	**56.44 291**		*i* P	P	13 50 51.5	+4.1
PET	**Petropavlovsk**	**57.50 18**		*e*P	**P**	**13 50 52.6**	**-1.6**
	comp=Z,90nm,1.3s						
WMQ	**Urumqi**	**59.78 323**		P	**P**	**13 51 10.6**	**+0.1**
WMQ				pP	**pP**	**13 51 20.6**	**+0.6**
WMQ				sP	**sP**	**13 51 24.6**	**+0.9**
WMQ				PcP	**PcP**	**13 51 55.6**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,28nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.0s						
WMQ				LR	LR		
	comp=N,210nm,22.7s						
WMQ				LR	LR		
	comp=E,150nm,20.0s						
WMQ				LR	LR		
	comp=Z,150nm,25.6s						
DDI	**Dehra Dun**	**60.49 306**		*ex*	x	13 51 21.0	
MK31	**Makanchi Array**	**64.60 324**		*e*P	**P**	**13 51 41.9**	**-0.8**
MK31				*ep*P	**pP**	**13 51 50.8**	**-1.4**
MKAR	**Makanchi Array**	**64.60 324**		P	**P**	**13 51 42.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=113,slow=7.9,SNR=36						
MKAR	**Makanchi Array**	**64.60 324**		P	**P**	**13 51 42.1**	**-0.6**
KSH	**Kashi**	**65.44 314**		P	P	13 51 57.1	+8.7
KSH				pmax	pmax		
	comp=Z,110nm,3.4s						
TKM2	**Tokmak 2**	**67.04 318**		*e*P	**P**	**13 51 57.2**	**-1.5**
	comp=Z,27nm,1.6s						
ZAA0	**Zalesovo Array**	**67.22 331**		*e*P	**P**	**13 51 58.1**	**-1.1**
ZALV	**Zalesovo Beam**	**67.22 331**		P	**P**	**13 51 58.4**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=116,slow=5.1,SNR=12						
ZALV	**Zalesovo Beam**	**67.22 331**		P	**P**	**13 51 58.4**	**-0.9**
AAK	**Ala-Archa**	**67.67 317**		*e*P	**P**	**13 52 01.5**	**-1.1**
	comp=Z,46nm,1.3s						
EKS2	**Erkin-Say**	**68.17 317**		*e*P	**P**	**13 52 04.5**	**-1.2**
	comp=Z,10nm,1.1s						
KURK	**Kurchatov**	**68.67 326**		P	**P**	**13 52 08.2**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=120,slow=5.8,SNR=30						
KURK	**Kurchatov**	**68.67 326**		*e*P	**P**	**13 52 07.4**	**-1.1**
	comp=Z,28nm,1.3s						
KBL	**Kabul**	**69.03 307**		*e*P	**P**	**13 52 10.5**	**-0.9**
KKAR	**Karatay Array**	**70.57 316**		*e*P	**P**	**13 52 20.1**	**-0.3**
BVAR	**Borovoye Array**	**74.27 326**		P	**P**	**13 52 42.0**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=128,slow=7.2,SNR=32						
BVAR	**Borovoye Array**	**74.27 326**		P	**P**	**13 52 42.0**	**-0.2**
BRVK	**Borovoye**	**74.34 326**		*e*P	**P**	**13 52 42.4**	**-0.2**
	comp=Z,11nm,0.9s						
PPT2	**Papeete2**	**77.89 108**		*e*LR	LR	14 17 25.9	
	comp=Z,205nm,29.2s						
ABKAR	**Akbulak array**	**79.36 320**		*e*P	**P**	**13 53 10.3**	**-0.7**
SVW2	**Sparrevohn**	**81.56 28**		*e*P	**P**	**13 53 21.2**	**-1.4**
	comp=Z,122nm,2.4s						
ARU	**Arti**	**81.84 327**		*e*P	**P**	**13 53 23.2**	**-0.9**
	comp=Z,7.7nm,0.9s						
SPU	**Mount Spurr**	**83.23 28**		*e*P	**P**	**13 53 29.6**	**-1.8**
ILAR	**Eielson Array**	**86.25 25**		P	**P**	**13 53 45.5**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=250,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**86.25 25**		P	**P**	**13 53 45.5**	**-1.0**
DOT	**Dot Lake**	**87.32 26**		*e*P	**P**	**13 53 50.3**	**-1.5**
	comp=Z,120nm,2.8s						
**ARCES

TWE	**Neicheng**	**0.38**	**247**	⇑*i*P	**Pb**	**13 46 42.6**	**-1.8**
	baz=243							
TWE				*e*S	**Sb**	**13 46 49.7**	**-0.8**
	baz=243							
TWA	**Mucha**	**0.43**	**285**	⇓*i*P	**Pb**	**13 46 43.8**	**-1.7**
	baz=283							
TWA				*e*S	**Sb**	**13 46 49.9**	**-2.3**
	baz=283							
ENTT	**Nioudou**	**0.49**	**242**	*e*P	**Pb**	**13 46 44.7**	**-1.7**
	baz=241							
ENTT				*e*S	**Sb**	**13 46 52.4**	**-1.6**
	baz=241							
TAP1	**Taipei**	**0.50**	**290**	*e*P	**Pb**	**13 46 45.2**	**-1.5**
	baz=288							
TAP1				*e*S	**Sb**	**13 46 52.9**	**-1.4**
	baz=288							
TATO	**Taipei**	**0.52**	**282**	*e*Pg	**Pb**	**13 46 45.2**	**-1.6**
TATO				*e*Sg	**Sb**	**13 46 52.5**	**-2.2**
ENA	**Nanau**	**0.52**	**212**	*e*P	**Pb**	**13 46 45.4**	**-1.6**
	baz=210							
TWY	**Chenhua**	**0.57**	**315**	⇓P	**Pb**	**13 46 46.6**	**-1.2**
	baz=324							
TWS1	**Kuangyinshan**	**0.61**	**292**	P	**Pb**	**13 46 47.8**	**-0.7**
	baz=291							
TWS1				*e*S	**Sn**	**13 46 57.7**	**-3.1**
	baz=291							
EHP	**Heping Village**	**0.62**	**206**	*e*P	**Pb**	**13 46 47.6**	**-1.1**
	baz=204							
EHP				*e*S	**Sb**	**13 46 56.9**	**-0.8**
	baz=204							
YHNB	**Yeheng**	**0.64**	**252**	*e*P	**Pb**	**13 46 47.2**	**-1.8**
YHNB				*e*		13 46 59.7		
NSK	**Sanguang**	**0.65**	**253**	⇓*i*P	**Pb**	**13 46 47.5**	**-1.8**
	baz=251							
NSK				*e*S	**Sb**	**13 46 56.5**	**-2.1**
	baz=251							
NNS	**Nan Shan**	**0.75**	**235**	*e*P	**Pb**	**13 46 49.6**	**-1.3**
	baz=233							
NCU	**National Centr**	**0.79**	**277**	*e*P	**Pn**	**13 46 51.4**	**-1.6**
	baz=266							
NCU				*e*S	**Sn**	**13 47 03.4**	**-1.7**
	baz=266							
NACB	**Ninganchiao**	**0.81**	**211**	*e*P	**Pb**	**13 46 50.7**	**-1.1**
TWD	**Chiawan**	**0.89**	**208**	P	**Pb**	**13 46 52.5**	**-0.7**
	baz=199							
YOJ	**Yonaguni jima**	**0.97**	**115**	*e*P	**Pg**	**13 46 52.9**	**-1.1**
	baz=115							
YOJ				*e*S	**Sn**	**13 47 07.8**	**-1.9**
	baz=115							
HWA	**Hwalien**	**0.98**	**204**	*e*P	**Pn**	**13 46 54.3**	**-1.4**
	baz=203							
HSN	**Hsinchu**	**0.98**	**266**	*e*P	**Pn**	**13 46 54.3**	**-1.3**
	baz=267							
HSN				*e*S	**Sn**	**13 47 07.9**	**-2.0**
	baz=267							
NSTT	**Nanjuang**	**0.98**	**256**	*e*P	**Pb**	**13 46 53.1**	**-1.7**
	baz=256							
NSTT				*e*S	**Sn**	**13 47 08.3**	**-1.5**
	baz=256							
TWT	**Tachien**	**1.00**	**232**	*e*P	**Pn**	**13 46 54.8**	**-1.4**
	baz=223							
WHF	**Hehuan Shan**	**1.01**	**225**	*e*P	**Pg**	**13 46 54.3**	**-0.6**
	baz=224							
ESL	**Shilin**	**1.19**	**208**	*e*P	**Pn**	**13 46 57.6**	**-1.0**
	baz=208							
NSY	**Sanyi**	**1.25**	**249**	*e*P	**Pg**	**13 46 59.7**	**+0.3**
	baz=249							
NSY				*e*S	**Sn**	**13 47 17.4**	**+0.7**
	baz=249							
TWQ1	**Liyutan**	**1.27**	**246**	*e*P	**Pg**	**13 46 59.7**	**0.0**
	baz=247							
TWQ1				*e*S	**Sn**	**13 47 18.7**	**+1.6**
	baz=247							
SMLT	**Sun Moon Lake**	**1.44**	**227**	*e*P	**Pg**	**13 47 02.6**	**-0.3**
	baz=235							
TCU	**Taichung**	**1.44**	**240**	*e*P	**Pg**	**13 47 03.9**	**+0.9**
	baz=241							
TCU				*e*S	**Sg**	**13 47 23.1**	**+1.4**
	baz=241							
TYC	**Yuchr**	**1.45**	**229**	*e*P	**Pg**	**13 47 02.5**	**-0.7**
	baz=236							
SSLB	**Suanglung**	**1.47**	**223**	*e*Pn	**Pg**	**13 47 02.9**	**-0.6**
SSLB				*e*Sn	Sg	13 47 28.0	+5.4
EHY	**Hungye**	**1.51**	**206**	*e*P	**Pg**	**13 47 03.1**	**-1.2**
	baz=209							
WNT	**Mingjian**	**1.59**	**232**	*e*P	**Pg**	**13 47 05.9**	**+0.1**
	baz=233							
WNT				*e*S	**Sg**	**13 47 29.2**	**+2.9**
	baz=233							
YULB	**Yu-li**	**1.62**	**205**	*e*Pn	**Pg**	**13 47 05.4**	**-1.1**
YULB				*e*Sn	**Sb**	**13 47 25.4**	**-1.1**
TWF1	**Yuli**	**1.66**	**204**	*e*P	**Pb**	**13 47 05.2**	**-1.2**
	baz=216							
YUS	**Yu-Shan**	**1.70**	**216**	*e*P	**Pb**	**13 47 07.0**	**-0.3**
	baz=218							
ALS	**Alishan**	**1.77**	**220**	*e*P	**Pg**	**13 47 08.6**	**-0.6**
	baz=221							
CHN5	**Tsauling**	**1.78**	**225**	*e*P	**Pg**	**13 47 09.2**	**-0.3**
	baz=228							
CHN5				*e*S	**Sg**	**13 47 34.3**	**+1.7**
	baz=228							
WGK	**Gukeng**	**1.80**	**229**	*e*P	**Pg**	**13 47 09.3**	**-0.5**
	baz=232							
CHKT	**Chengkung**	**1.87**	**200**	*e*P	**Pn**	**13 47 07.6**	**-0.3**
	baz=218							
ELDTW	**Lidau**	**1.92**	**210**	*e*P	**Pb**	**13 47 09.7**	**-1.2**
	baz=213							
CHN2	**Minshiung**	**1.96**	**227**	*e*P	**Pg**	**13 47 12.5**	**-0.4**
	baz=231							
CHN2				*e*S	**Sg**	**13 47 38.9**	**+0.6**
	baz=231							
CHN4	**Tsaushan**	**2.01**	**222**	*e*P	**Pg**	**13 47 12.4**	**-1.6**
	baz=226							
CHN4				*e*S	**Sg**	**13 47 41.0**	**+1.0**
	baz=226							
CHY	**Chiayi**	**2.02**	**228**	*e*P	**Pg**	**13 47 12.9**	**-1.1**
	baz=231							
CHY				*e*S	**Sg**	**13 47 38.0**	**-2.1**
	baz=231							
TPUB	**Ta-pu**	**2.03**	**220**	*e*Pn	**Pb**	**13 47 11.3**	**-1.4**
TPUB				*e*Sn	**Sn**	**13 47 35.1**	**-0.8**
WSF	**Szhu**	**2.07**	**234**	*e*P	**Pb**	**13 47 11.6**	**-1.7**
	baz=253							
STYT	**Tauyuan**	**2.07**	**215**	*e*P	**Pb**	**13 47 12.3**	**-1.1**
	baz=208							
STYT				*e*S	**Sg**	**13 47 41.2**	**-0.7**
	baz=208							
WTP	**Ta-pu**	**2.08**	**219**	*e*P	**Pb**	**13 47 13.1**	**-0.5**
	baz=211							
WTP				*e*S	**Sg**	**13 47 42.8**	**+0.5**
	baz=211							
TWK	**Hsinying**	**2.14**	**222**	*e*P	**Pb**	**13 47 14.3**	**-0.3**
	baz=226							
TWK				*e*S	**Sg**	**13 47 44.0**	**-0.2**
	baz=226							
CHN1	**Nanshi**	**2.18**	**220**	*e*P	**Pb**	**13 47 14.4**	**-0.8**
	baz=229							
CHN1				*e*S	**Sg**	**13 47 44.5**	**-0.8**
	baz=229							
SGST	**Jiashian**	**2.23**	**217**	*e*P	**Pg**	**13 47 16.0**	**-2.1**
	baz=208							
TWG	**Pinlang**	**2.23**	**204**	*e*P	**Pn**	**13 47 13.3**	**+0.5**
	baz=208							
TWG	**Pinlang**	**2.23**	**204**	*e*Pn	**Pn**	**13 47 13.2**	**+0.3**
CHN8	**Yiju**	**2.26**	**228**	*e*P	**Pb**	**13 47 15.4**	**-1.2**
	baz=248							
TTN	**Taitung**	**2.26**	**201**	*e*P	**Pb**	**13 47 14.1**	**-2.5**
	baz=207							
CHN3	**Shinhua**	**2.36**	**221**	*e*P	**Pg**	**13 47 19.9**	**-0.7**
	baz=224							
SCLT	**Jiali**	**2.39**	**225**	*e*P	**Pb**	**13 47 16.8**	**-2.1**
	baz=232							
TAI1	**Yung-k'ang**	**2.47**	**223**	*e*P	**Pb**	**13 47 19.2**	**-1.0**
	baz=230							
ECL	**Taimali**	**2.48**	**204**	*e*P	**Pn**	**13 47 16.4**	**+0.1**
	baz=197							
SSD	**Sandimen**	**2.48**	**212**	*e*P	**Pb**	**13 47 18.9**	**-1.5**
	baz=217							
TWM1	**Shoushan**	**2.52**	**216**	*e*P	**Pb**	**13 47 20.1**	**-1.1**
	baz=223							
SGLT	**Jiouru**	**2.57**	**214**	*e*P	**Pb**	**13 47 20.5**	**-1.3**
	baz=221							
PNG	**Penghu**	**2.62**	**241**	*e*P	**Pn**	**13 47 19.1**	**+0.9**
	baz=243							
EAST	**Anshuo**	**2.71**	**204**	*e*P	**Pn**	**13 47 20.1**	**+0.5**
	baz=198							
SCZT	**Fangliau**	**2.81**	**208**	*e*P	**Pb**	**13 47 24.9**	**-1.1**
	baz=214							

TWK1	**Hengchun**	**3.13**	**202**	*e*P	**Pn**	**13 47 25.6**	**+0.3**
	baz=196							
QZH	**Quanzhou**	**3.14**	**272**	Pn	**Pn**	**13 47 24.6**	**-0.8**
QZH				Sn	**Sn**	**13 47 59.3**	**-3.8**
QZH				smax	smax			
	comp=N,2μm,0.8s							
QZH				smax	smax			
	comp=E,900nm,0.8s							
QZH				LR	LR			
	comp=N,14μm,12.8s							
QZH				LR	LR			
	comp=E,5μm,10.8s							
QZH				LR	LR			
	comp=Z,10μm,6.4s							
KNM	**Kinmen**	**3.32**	**263**	*e*P	**Pn**	**13 47 28.6**	**+0.7**
	baz=262							
NJ2	**Nanjing**	**7.69**	**339**	*e*Pn	**Pn**	**13 48 29.0**	**+1.1**
NJ2				smax	smax			
	comp=N,210nm,1.1s							
NJ2				smax	smax			
	comp=E,170nm,1.0s							
NJ2				LR	LR			
	comp=N,2μm,10.8s							
NJ2				LR	LR			
	comp=E,3μm,13.7s							
NJ2				LR	LR			
	comp=Z,3μm,7.8s							
WHN	**Wuhan**	**8.85**	**311**	P	Pn	13 48 46.3	+2.4	
WHN				LR	LR			
	comp=N,3μm,8.4s							
WHN				LR	LR			
	comp=E,2μm,10.0s							
WHN				LR	LR			
	comp=Z,4μm,9.8s							
QIZ	**Qiongzhong**	**12.72**	**245**	P	**Pn**	**13 49 37.6**	**+0.6**
QIZ				S	**Sn**	**13 52 01.1**	**+2.0**
QIZ				pmax	pmax			
	comp=Z,32nm,1.7s							
QIZ				LR	LR			
	comp=N,1μm,12.1s							
QIZ				LR	LR			
	comp=Z,1μm,12.6s							
KSAR	**Wonju Array Be**	**13.49**	**20**	P	**P**	**13 49 54.5**	**-2.2**
KSRS	**Korea Array**	**13.51**	**20**	P	**P**	**13 49 54.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=208,slow=14,SNR=2.8							
GYA	**Guiyang**	**13.96**	**280**	*e*P	Pn	13 49 56.0	+2.0	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
BJI	**Beijing**	**15.91**	**343**	P	**P**	**13 50 20.3**	**-3.3**
BJI				S	**Sn**	**13 53 19.3**	**+2.8**
BJI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BJI				LR	LR			
	comp=N,720nm,8.4s							
BJI				LR	LR			
	comp=E,1μm,16.8s							
BJI				LR	LR			
	comp=Z,290nm,27.6s							
CD2	**Chengdu**	**17.24**	**295**	P	**P**	**13 50 38.5**	**0.0**
CD2				pP	**pP**	**13 50 42.0**	**+1.9**
CD2				sP	sP	13 50 45.5	+4.6
CD2				PP	pwP	13 50 52.9	+13
CD2				S	**Sn**	**13 53 49.8**	**+0.7**
CD2				sS	**S**	**13 53 54.5**	**-3.9**
CD2				SS		13 54 10.8		
CD2				pmax	pmax			
	comp=Z,30nm,1.1s							
CD2				pmax	pmax			
	comp=Z,200nm,6.0s							
CD2				LR	LR			
	comp=N,2μm,15.5s							
CD2				LR	LR			
	comp=Z,970nm,9.5s							
KMI	**Kunming**	**17.50**	**275**	P	**P**	**13 50 42.3**	**+0.7**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KMI				LR	LR			
	comp=N,2μm,12.8s							
KMI				LR	LR			
	comp=E,1μm,7.8s							
KMI				LR	LR			
	comp=Z,910nm,12.7s							
MJAR	**Matsushiro Arr**	**18.09**	**46**	P	**P**	**13 50 50.4**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=3.4							
MJAR	**Matsushiro Arr**	**18.09**	**46**	P	**P**	**13 50 50.4**	**+2.6**
HHC	**Hu-ho-hao-te**	**18.18**	**334**	*e*P	**P**	**13 50 50.8**	**+1.9**
HHC				S	**Sn**	**13 54 12.6**	**+0.8**
HHC				PcP	**PcP**	**13 55 25.3**	**+3.4**
HHC				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,240nm,7.1s							
HHC				LR	LR			
	comp=N,1μm,13.1s							
HHC				LR	LR			
	comp=E,730nm,13.1s							
HHC				LR	LR			
	comp=Z,940nm,13.1s							
CN2	**Changchun**	**19.09**	**8**	*e*P	**Pn**	**13 51 01.0**	**+1.5**
CN2				*e*sP	sP	13 51 08.0	+6.9
CN2				*e*S	**Sn**	**13 54 31.6**	**-1.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				LR	LR			
	comp=N,800nm,13.0s							
CN2				LR	LR			
	comp=E,700nm,13.0s							
CN2				LR	LR			
	comp=Z,600nm,13.0s							
LZH	**Lanzhou**	**19.23**	**310**	*e*P	**Pn**	**13 51 04.0**	**+2.6**
LZH				pP	pP	13 51 06.5	+4.4
LZH				sP	sP	13 51 08.6	+5.7
LZH				PP	pwP	13 51 21.5	+19
LZH				*e*S	**Sn**	**13 54 35.6**	**-1.7**
LZH				sS	**sS**	**13 54 40.8**	**-0.6**
LZH				pmax	pmax			
	comp=Z,35nm,1.3s							
LZH				pmax	pmax			
	comp=Z,140nm,4.5s							
LZH				LR	LR			
	comp=N,630nm,12.3s							
LZH				LR	LR			
	comp=E,700nm,12.2s							
LZH				LR	LR			
	comp=Z,850nm,14.5s							
MDJ	**Mudanjiang**	**20.63**	**15**	P	Pn	13 51 16.6	-1.2	
MDJ				S	Sn	13 55 08.3	-2.5	
MDJ				ScP	**ScP**	**13 59 02.3**	**-0.9**
MDJ				ScS	**ScS**	**14 02 45.8**	**-0.5**
MDJ				pmax	pmax			
	comp=Z,9.0nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,190nm,5.2s							
MDJ				LR	LR			
	comp=N,510nm,14.0s							
MDJ				LR	LR			
	comp=E,960nm,17.1s							
MDJ				LR	LR			
	comp=Z,560nm,14.0s							
USRK	**Ussuriysk Arra**	**20.92**	**20**	P	Pn	13 51 21.7	+0.6	
	comp=Z,1.5nm,0.7s,baz=237,slow=46,SNR=2.6							
CHTO	**Chiang Mai**	**22.26**	**259**	*e*P	**P**	**13 51 32.0**	**-1.3**
	comp=Z,9.1nm,1.1s							
CMAR	**Chiang Mai Arr**	**22.38**	**258**	P	P	13 51 38.5	+3.8	
	comp=Z,3.5nm,1.0s,baz=61,slow=8.4,SNR=10							
CMAR	**Chiang Mai Arr**	**22.38**	**258**	P	P	13 51 38.5	+3.8	
GTA	**Gaotai**	**23.67**	**313**	*e*P	**P**	**13 51 49.8**	**+1.9**
GTA				pP	pP	13 51 54.0	+4.4
GTA				sP	sP	13 51 56.8	+6.4
GTA				S	**S**	**13 56 06.1**	**+2.8**
GTA				sS	sS	13 56 13.0	+6.8
GTA				pmax	pmax			
	comp=Z,4.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,230nm,4.3s							
GTA				LR	LR			
	comp=N,440nm,12.6s							
GTA				LR	LR			
	comp=E,410nm,12.6s							
GTA				LR	LR			
	comp=Z,570nm,12.1s							
ULN	**Ulaanbaatar**	**25.84**	**336**	*e*P	**P**	**13 52 08.8**	**+1.1**
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**26.05**	**336**	P	**P**	**13 52 11.0**	**+1.4**
	comp=Z,20nm,1.1s,baz=151,slow=8.7,SNR=19							
SONM	**Songino Array**	**26.05**	**336**	P	**P**	**13 52 11.0**	**+1.4**

TLY	**Talaya**	**30.24**	**337**	*e*P	**P**	**13 52 48.3**	**+1.4**
	comp=Z,12nm,1.5s							
MK31	**Makanchi Array**	**38.40**	**315**	*e*P	**P**	**13 53 58.3**	**+0.7**
MKAR	**Makanchi Array**	**38.40**	**315**	P	**P**	**13 53 59.1**	**+1.5**
	comp=Z,4.0nm,1.0s,baz=105,slow=9.2,SNR=4.8							
MKAR				LR	LR	14 11 00.5		
	comp=Z,220nm,19.4s,baz=252,slow=38							
MKAR	**Makanchi Array**	**38.40**	**315**	*e*P	**P**	**13 53 58.7**	**+1.1**
ZAA0	**Zalesovo Array**	**40.10**	**326**	*e*P	**P**	**13 54 11.2**	**-0.5**
ZALV	**Zalesovo Beam**	**40.10**	**326**	P	**P**	**13 54 11.4**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=115,slow=7.0,SNR=9.8							
ZALV				LR	LR	14 11 40.9		
	comp=Z,216nm,19.5s,baz=79,slow=37							
ZALV	**Zalesovo Beam**	**40.10**	**326**	P	**P**	**13 54 11.4**	**-0.3**
PMG	**Port Moresby**	**41.96**	**141**	*e*P	**P**	**13 54 27.6**	**+0.2**
	comp=Z,12nm,1.0s							
KURK	**Kurchatov**	**42.08**	**319**	P	**P**	**13 54 29.0**	**+1.1**
	comp=Z,2.5nm,1.0s,baz=112,slow=9.9,SNR=4.6							
KURK	**Kurchatov**	**42.08**	**319**	*e*P	**P**	**13 54 29.1**	**+1.1**
	comp=Z,8.1nm,1.2s							
WRAB	**Tennant Creek**	**46.12**	**164**	*e*P	**P**	**13 55 00.6**	**-0.1**
	comp=Z,18nm,1.1s							
WRA	**Warramunga Arr**	**46.12**	**164**	P	**P**	**13 55 00.1**	**-0.6**
	comp=Z,9.2nm,0.9s,baz=345,slow=8.7,SNR=10.0							
WRA	**Warramunga Arr**	**46.12**	**164**	P	**P**	**13 55 00.1**	**-0.6**
WB2	**Warramunga Arr**	**46.13**	**164**	*e*P	**P**	**13 55 00.3**	**-0.4**
BVAR	**Borovoye Array**	**47.65**	**320**	P	**P**	**13 55 13.4**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=101,slow=7.2,SNR=3.7							
BVAR	**Borovoye Array**	**47.65**	**320**	P	**P**	**13 55 13.4**	**+1.1**
BRVK	**Borovoye**	**47.72**	**320**	*e*P	**P**	**13 55 14.3**	**+1.5**
	comp=Z,9.0nm,1.1s							
ASAR	**Alice Springs**	**49.60**	**166**	P	**P**	**13 55 27.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=345,slow=9.2,SNR=5.3							
ASAR	**Alice Springs**	**49.60**	**166**	P	**P**	**13 55 27.3**	**-0.4**
EIL	**Elat**	**75.75**	**296**	LR	LR	14 32 28.6		
	comp=Z,74nm,20.4s,baz=285,slow=36							
NOA	**NORSAR Array B**	**77.98**	**332**	P	**P**	**13 58 34.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=36,slow=4.2,SNR=3.1							
NOA	**NORSAR Array B**	**77.98**	**332**	P	**P**	**13 58 34.6**	**+0.2**
YKA	**Yellowknife Ar**	**82.03**	**23**	P	**P**	**13 58 55.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=315,slow=5.0,SNR=13							
YKA	**Yellowknife Ar**	**82.03**	**23**	P	**P**	**13 58 55.2**	**-1.0**
WCI	**Wyandotte Cave**	**111.83**	**24**	*e*Pdif	**Pdif**	**14 01 14.9**	**+0.5**
TKL	**Tuckaleechee C**	**115.03**	**23**	*e*PKPdf	**PKPdf**	**14 05 18.7**	**+0.9**

TAP ***24*** *13:48:11.5, 24.˚89N×122.˚04E, h5km, ML4.6, C*
NEIC ***24*** *13:48:12.8±1.5, 24.˚86N×122.˚03E, h4km±9km, mb4.6/5, Error ellipse: s-maj=11.3km s-min=7.0km az=86.0*
NEIC Felt at Hsin-chu and Taipei. Recorded [3 TAP] in T'ai-pei, [2 TAP] in I-lan and [1 TAP] in T'ao-yuan.
IDC ***24*** *13:48:20.9±4.5, 24.˚86N×122.˚06E, h74km±42km, mb3.8/13, mb1 3.9/15, mb1mx3.8/26, mbtmp3.8/15, ML3.2/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/36, Error ellipse: s-maj=21.8km s-min=18.3km az=23.0*

ISC 24 13:48:11.5±1.2, 24.˚88N±0.˚03×122.˚06E±0.˚03, h0km±8km, n106, σ1°33/122, mb4.2/16, MS3.8/3, 3C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.14**	**332**	⇓*i*P		**Pg**	**13 48 14.6**	**+0.4**
	baz=342							
ILA	**Ilan**	**0.31**	**248**	P		**Pb**	**13 48 18.5**	**-1.3**
	baz=244							
ILA				S		**Sb**	**13 48 23.3**	**-2.1**
	baz=244							
NWF	**Wu-fen Shan**	**0.32**	**307**	P		**Pb**	**13 48 18.4**	**-1.6**
	baz=308							
NWF				S		**Sb**	**13 48 23.4**	**-2.4**
	baz=308							
TWC	**Suao**	**0.33**	**215**	⇓*i*P		**Pb**	**13 48 18.6**	**-1.6**
	baz=210							
TWC				*e*S		**Sg**	**13 48 21.3**	**-0.9**
	baz=210							
TWE	**Neicheng**	**0.39**	**246**	⇑*i*P		**Pb**	**13 48 19.6**	**-1.7**
	baz=242							
TWE				*e*S		**Sb**	**13 48 25.1**	**-2.7**
	baz=242							
TWA	**Mucha**	**0.44**	**283**	⇓*i*P		**Pb**	**13 48 21.2**	**-1.0**
	baz=283							
TWA				*i* S		**Sb**	**13 48 27.3**	**-2.1**
	baz=283							
ENTT	**Nioudou**	**0.51**	**242**	⇑P		**Pb**	**13 48 21.9**	**-1.4**
	baz=238							
TAP1	**Taipei**	**0.51**	**288**	⇓*i*P		**Pb**	**13 48 22.6**	**-0.8**
	baz=288							
TAP1				*e*S		**Sb**	**13 48 29.2**	**-2.2**
	baz=288							
TATO	**Taipei**	**0.53**	**280**	*e*Pg		**Pb**	**13 48 22.2**	**-1.4**
TATO				*e*Sg		**Sb**	**13 48 30.0**	**-1.8**
ENA	**Nanau**	**0.54**	**213**	⇓P		**Pb**	**13 48 22.6**	**-1.1**
	baz=208							
TWY	**Chenhua**	**0.57**	**313**	⇑P		**Pb**	**13 48 23.5**	**-0.9**
	baz=314							
TWS1	**Kuangyinshan**	**0.62**	**291**	*e*P		**Pb**	**13 48 24.9**	**-0.3**
	baz=291							
TWS1				*e*S		**Sn**	**13 48 35.7**	**-2.6**
	baz=291							
EHP	**Heping Village**	**0.64**	**207**	*e*P		**Pn**	**13 48 25.9**	**-1.9**
	baz=203							
YHNB	**Yeheng**	**0.66**	**251**	*e*Pg		**Pb**	**13 48 24.3**	**-1.6**
NSK	**Sanguang**	**0.67**	**252**	⇓P		**Pg**	**13 48 24.4**	**0.0**
	baz=251							
NSK				*e*S		**Sb**	**13 48 35.2**	**-0.7**
	baz=251							
NNS	**Nan Shan**	**0.77**	**235**	*e*P		**Pb**	**13 48 26.6**	**-1.2**
	baz=231							
NCU	**National Centr**	**0.80**	**276**	*e*P		**Pn**	**13 48 28.7**	**-1.3**
	baz=264							
NCU				*e*S		**Sn**	**13 48 40.6**	**-1.9**
	baz=264							
NACB	**Ninganchiao**	**0.82**	**211**	*e*P		**Pb**	**13 48 28.1**	**-0.6**
TWD	**Chiawan**	**0.90**	**208**	*e*P		**Pb**	**13 48 29.2**	**-0.8**
	baz=197							
TWD				*i* S		**Sb**	**13 48 41.6**	**-1.0**
	baz=197							
YOJ	**Yonaguni jima**	**0.96**	**116**	*e*P		**Pg**	**13 48 29.1**	**-0.8**
	baz=115							
YOJ				*e*S		**Sb**	**13 48 44.5**	**+0.2**
	baz=115							
HWA	**Hwalien**	**0.99**	**205**	*e*P		**Pn**	**13 48 32.5**	**-0.1**
	baz=201							
HSN	**Hsinchu**	**0.99**	**266**	*e*P		**Pn**	**13 48 31.2**	**-1.5**
	baz=267							
HSN				*e*S		**Sn**	**13 48 46.0**	**-1.5**
	baz=267							
NSTT	**Nanjuang**	**0.99**	**256**	*e*P		**Pn**	**13 48 31.6**	**-1.0**
	baz=245							
NSTT				*e*S		**Sn**	**13 48 47.2**	**-0.2**
	baz=245							
TWT	**Tachien**	**1.02**	**232**	*e*P		**Pn**	**13 48 32.3**	**-0.9**
	baz=220							
WHF	**Hehuan Shan**	**1.03**	**225**	*e*P		**Pn**	**13 48 32.8**	**-0.8**
	baz=223							
WHF				*e*S		**Sn**	**13 48 47.0**	**-2.0**
	baz=223							
ESL	**Shilin**	**1.21**	**208**	*e*P		**Pn**	**13 48 34.9**	**-0.7**
	baz=207							
ESL				*e*S		**Sn**	**13 48 52.2**	**-0.5**
	baz=207							
NSY	**Sanyi**	**1.27**	**249**	*e*P		**Pn**	**13 48 36.9**	**+0.4

baz=218
CHN5 Tsauling 1.80 225 *e*P **Pg** 13 48 47.2 +1.3
baz=226
CHN5 *e*S **Sg** 13 49 11.7 +2.4
baz=226
WGK Gukeng 1.81 229 *e*P **Pg** 13 48 47.3 +1.0
baz=228
CHKT Chengkung 1.89 200 *e*P **Pn** 13 48 43.7 -1.2
baz=216
WTCT Ta-ch'eng 1.91 238 *e*P **Pb** 13 48 46.9 -0.9
baz=257
ELDTW Lidau 1.94 210 *e*P **Pb** 13 48 46.9 -0.9
baz=208
CHN2 Minshiung 1.98 227 *e*P **Pg** 13 48 49.8 +0.4
baz=227
CHN4 Tsaushan 2.03 222 *e*P **Pg** 13 48 50.8 +0.4
baz=226
CHY Chiayi 2.03 228 *e*P **Pg** 13 48 50.1 -0.3
baz=227
TPUB Ta-pu 2.05 220 Pn **Pn** 13 48 47.0 -0.2
STYT Tauyuan 2.08 215 *e*P **Pg** 13 48 50.5 -1.0
baz=205
STYT *e*S **Sg** 13 49 19.5 +1.0
baz=205
WSF Szhu 2.09 234 *e*P **Pb** 13 48 49.9 -0.3
baz=252
WTP Ta-pu 2.10 219 *e*P **Pg** 13 48 51.7 0.0
baz=223
TWK Hsinying 2.16 222 *e*P **Pg** 13 48 52.3 -0.5
baz=222
CHN1 Nanshi 2.19 220 *e*P **Pb** 13 48 52.2 +0.1
baz=227
CHN1 *e*S **Sg** 13 49 22.7 +0.6
baz=227
TWG Pinlang 2.24 204 *e*P **Pn** 13 48 50.4 +0.5
baz=203
TWG Pinlang 2.24 204 *e*Pn **Pb** 13 48 50.6 -2.3
SGST Jiashian 2.24 217 *e*P **Pg** 13 48 54.0 -0.5
baz=204
CHN8 Yiju 2.28 228 *e*P **Pb** 13 48 52.6 -0.8
baz=246
CHN3 Shinhua 2.37 221 *e*P **Pb** 13 48 54.2 -0.9
baz=221
SCLT Jiali 2.41 226 *e*P **Pb** 13 48 55.7 0.0
baz=229
TAI1 Yung-k'ang 2.48 223 *e*P **Pb** 13 48 56.5 -0.5
baz=228
ECL Taimali 2.49 204 *e*P **Pb** 13 48 54.5 -2.6
baz=193
SSD Sandimen 2.50 212 *e*P **Pb** 13 48 55.7 -1.5
baz=213
TWM1 Shoushan 2.54 217 *e*P **Pg** 13 48 58.6 -1.5
baz=220
SGLT Jiouru 2.58 214 *e*P **Pb** 13 48 57.6 -1.0
baz=218
PNG Penghu 2.64 241 *e*P Pb 13 48 56.5 -3.1
baz=241
EAST Anshuo 2.73 204 *e*P Pb 13 48 58.0 -3.1
baz=194
SCZT Fangliau 2.83 208 *e*P **Pb** 13 49 02.1 -0.7
baz=211
LAY Lan-yu 2.87 189 *e*P **Pn** 13 48 57.9 -0.6
baz=174
TWK1 Hengchun 3.14 202 *e*P **Pn** 13 49 02.7 +0.4
baz=191
JOW Kunigami 5.92 70 LR LR 13 52 25.0
comp=Z,560nm,18.0s,baz=352,slow=41
KSAR Wonju Array Be 13.47 20 P **P** 13 51 31.0 -2.4
KSRS Korea Array 13.49 20 P **P** 13 51 31.0 -2.7
0.1nm,0.3s,baz=207,slow=13,SNR=3.4
KSRS LR LR 13 56 46.3
comp=Z,155nm,20.0s,baz=185,slow=38
MJAR Matsushiro Arr 18.08 46 P **P** 13 52 26.7 +2.1
0.1nm,0.3s,baz=240,slow=9.5,SNR=6.8
MJAR Matsushiro Arr 18.08 46 P **P** 13 52 26.7 +2.1
USRK Ussuriysk Arra 20.91 20 P Pn 13 52 58.0 +0.2
5.3nm,0.8s,baz=208,slow=9.4,SNR=7.4
USRK LR LR 14 02 14.0
comp=Z,198nm,20.1s,baz=134,slow=40
CHTO Chiang Mai 22.27 259 *e*P **P** 13 53 13.8 +3.4
13nm,1.3s
CMAR Chiang Mai Arr 22.40 258 P **P** 13 53 15.0 +3.3
2.7nm,0.9s,baz=61,slow=8.6,SNR=8.4
CMAR Chiang Mai Arr 22.40 258 P **P** 13 53 15.0 +3.3
ULN Ulaanbaatar 25.83 336 *e*P **P** 13 53 46.2 +1.6
25nm,1.6s
SONM Songino Array 26.05 336 P **P** 13 53 46.7 +0.1
12nm,0.9s,baz=147,slow=8.4,SNR=15
SONM LR LR 14 04 57.7
comp=Z,508nm,18.7s,baz=348,slow=38
SONM Songino Array 26.05 336 P **P** 13 53 46.7 +0.1
TLY Talaya 30.24 337 *e*P **P** 13 54 25.3 +1.4
8.5nm,1.0s
MK31 Makanchi Array 38.40 315 *e*P **P** 13 55 35.6 +1.0
MKAR Makanchi Array 38.40 315 P **P** 13 55 34.1 -0.5
1.1nm,0.6s,baz=100,slow=10,SNR=8.8
MKAR Makanchi Array 38.40 315 *e*P **P** 13 55 36.0 +1.4
PETK Petropavlovsk- 38.84 34 LR LR 14 13 09.0
comp=Z,142nm,18.1s,baz=40,slow=38
ZAA0 Zalesovo Array 40.10 326 *e*P **P** 13 55 49.0 +0.4
ZALV Zalesovo Beam 40.10 326 P **P** 13 55 47.3 -1.3
4.4nm,0.9s,baz=111,slow=8.1,SNR=10
ZALV Zalesovo Beam 40.10 326 P **P** 13 55 47.3 -1.3
PMG Port Moresby 41.96 141 P **P** 13 56 03.5 -0.8
9.6nm,0.9s,baz=284,slow=8.3,SNR=5.1
PMG Port Moresby 41.96 141 *e*P **P** 13 56 03.7 -0.6
8.6nm,0.8s
KURK Kurchatov 42.08 319 P **P** 13 56 05.1 +0.1
1.0nm,1.0s,baz=98,slow=9.5,SNR=5.3
KURK Kurchatov 42.08 319 *e*P **P** 13 56 06.7 +1.8
BVAR Borovoye Array 47.65 320 P **P** 13 56 50.7 +1.3
1.2nm,0.6s,baz=108,slow=8.7,SNR=7.8
BVAR Borovoye Array 47.65 320 P **P** 13 56 50.7 +1.3
BRVK Borovoye 47.72 320 *e*P **P** 13 56 51.2 +1.4
7.2nm,1.0s
ABKAR Akbulak array 53.53 314 *e*P **P** 13 57 33.9 0.0
ILAR Eielson Array 68.23 27 P **P** 13 59 13.2 -0.4
0.6nm,1.1s,baz=276,slow=6.6,SNR=4.8
ILAR Eielson Array 68.23 27 P **P** 13 59 13.2 -0.4
ARCES ARCESS Array B 69.19 338 P **P** 13 59 20.3 +0.7
1.5nm,0.8s,baz=90,slow=2.4,SNR=3.8
ARCES ARCESS Array B 69.19 338 P **P** 13 59 20.3 +0.7
FINES FINESS Array B 71.25 330 P **P** 13 59 32.6 +0.4
1.3nm,0.7s,baz=93,slow=7.6,SNR=4.2
FINES FINESS Array B 71.25 330 P **P** 13 59 32.6 +0.4
YKA Yellowknife Ar 82.02 23 P **P** 14 00 32.7 -0.5
1.1nm,0.7s,baz=311,slow=5.2,SNR=17
YKA Yellowknife Ar 82.02 23 P **P** 14 00 32.7 -0.5
NVAR Mina Array Bea 95.38 43 P **P** 14 01 39.2 +1.0
0.5nm,0.6s,baz=292,slow=4.6,SNR=5.0
NVAR Mina Array Bea 95.38 43 P **P** 14 01 39.2 +1.0

*ISCJB **24** 13:52:11.0±0.8, 13°.30N±0°.06×119°.95E±0°.10, h16km, mb3.6/3, Error ellipse: s-maj=14.0km s-min=8.9km az=5.6*
*MAN **24** 13:52:12, 13°.35N×119°.96E, h33km, mb4.3, ML3.2, MS3.0*
*IDC **24** 13:52:16.7±2.3, 14°.27N×120°.02E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=68.9km s-min=9.8km az=19.0*
ISC 24 13:52:12.0±1.1, 13°.31N±0°.06×120°.0E±0°.1, h16km, n12, σ0.96/11, mb3.6/3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.48**	**29**	*e*P	**Pn**	**13 52 23.4**	**-0.8**
TGY	**Tagaytay City**	**1.20**	**49**	Pg	**Pn**	**13 52 33.5**	**-0.6**
544nm,0.3s,baz=232,slow=5.1,SNR=35							
TGY				Lg	Lg	13 52 47.2	
440nm,0.3s,baz=125,slow=23,SNR=15							
TGY	**Tagaytay City**	**1.20**	**49**	*i*P	**Pn**	**13 52 33.2**	**-1.0**
BUSP	**Coron**	**1.32**	**172**	*e*P	**Pn**	**13 52 35.6**	**-0.1**
BOAC	**Boac**	**1.79**	**85**	*e*P	**Pn**	**13 52 42.8**	**+0.5**
PCPH	**Palayan**	**2.47**	**25**	*i*P	**Pn**	**13 52 50.7**	**-1.0**
CUYO	**Cuyo Island**	**2.64**	**158**	*e*P	**Pn**	**13 52 52.8**	**-1.1**
BALP	**Baler**	**2.85**	**32**	*e*P	**Pn**	**13 52 57.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.89**	**287**	P	Pn	13 56 58.5	+2.3
1.1nm,0.8s,baz=97,slow=8.8,SNR=8.3							
SONM	**Songino Array**	**36.24**	**344**	P	**P**	**13 59 13.8**	**-0.6**
1.1nm,0.6s,baz=156,slow=10.0,SNR=8.4							
MKAR	**Makanchi Array**	**45.95**	**324**	P	**P**	**14 00 35.6**	**+1.4**
0.2nm,0.5s,baz=126,slow=8.7,SNR=4.7							
KURK	**Kurchatov**	**50.14**	**327**	P	**P**	**14 01 07.0**	**+0.5**
0.3nm,0.4s,baz=125,slow=8.2,SNR=6.7							

*BJI **24** 13:52:21.9, 8°.94S×125°.48E, h26km, mB5.2/31, mb5.0/47, Ms4.9/27, Ms7 4.6/26*
*IDC **24** 13:52:25.2±0.4, 8°.34S×124°.96E, h0km, mb4.9/23, mb1 4.9/25, mb1mx4.9/26, mbtmp4.9/25, ML4.6/2, MS4.2/12, Ms1 4.2/12, ms1mx3.9/28, Error ellipse: s-maj=16.2km s-min=11.2km az=68.0*
*DJA **24** 13:52:27, 8°.49S×125°.11E, h10km, Mw4.9/36*
*ISCJB **24** 13:52:28.0±0.5, 8°.46S±0°.03×125°.07E±0°.03, h35km±4km, mb5.0/85, MS4.3/16, Error ellipse: s-maj=4.8km s-min=4.1km az=141.0*
*NEIC **24** 13:52:28.1±0.2, 8°.41S×125°.01E, mb5.2/40, Error ellipse: s-maj=7.0km s-min=3.7km az=57.0*
NEIC Felt [III] at Dili. Also felt [III] on Pulau Alor, Indonesia.
*MOS **24** 13:52:30.3±1.2, 7°.94S×124°.93E, h33km, mb5.3/29, Error ellipse: s-maj=23.6km s-min=8.5km az=109.2*
ISC 24 13:52:28.2±0.4, 8°.54S±0°.03×125°.06E±0°.04, h25km±2km, h25km:pP-P, n282, σ1.9/64/300, mb5.1/85, MS4.2/16, 10C-5D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.79**	**268**	P	**Pn**	**13 53 13.3**	**+2.0**
BBSI	**Bau Bau**	**3.91**	**321**	P	**Pn**	**13 53 25.2**	**-1.5**
WSI	**Waingapu**	**4.83**	**256**	P	Pn	13 53 42.9	+3.5
KDI	**Kendari**	**5.15**	**332**	P	**Pn**	**13 53 41.4**	**-2.4**
567nm,0.8s,4µm1.6nm							
NLAI	**Namlea**	**5.64**	**21**	P	**Pn**	**13 53 51.4**	**+0.9**
280nm,0.7s,3µm0.9nm							
AAI	**Ambon**	**5.74**	**33**	P	Pn	13 53 57.8	+5.9
BKSI	**Bulukumba**	**5.85**	**303**	P	**Pn**	**13 53 53.6**	**+0.2**
188nm,0.6s,2µm0.7nm							
BNDI	**Bandanaira**	**6.25**	**51**	P	**Pn**	**13 54 00.6**	**+1.7**
229nm,1.4s,3µm0.9nm							
KAPI	**Kappang**	**6.32**	**303**	Pn	**Pn**	**13 53 59.0**	**-0.9**
4.7nm,0.3s,baz=148,slow=8.7,SNR=18							
KAPI	**Kappang**	**6.32**	**303**	Pn	**Pn**	**13 53 59.0**	**-0.9**
KAPI	**Kappang**	**6.32**	**303**	P	**Pn**	**13 53 59.2**	**-0.7**
111nm,1.0s,1µm0.4nm							
MSAI	**Masohi**	**6.43**	**37**	P	**Pn**	**13 54 00.9**	**-0.6**
43nm,0.9s,520nm0.1nm							
LUWI	**Luwuk**	**7.79**	**343**	P	**Pn**	**13 54 18.0**	**-2.0**
492nm,1.0s,5µm1.6nm							
TLE	**Tual**	**8.15**	**70**	P	**Pn**	**13 54 26.2**	**+1.2**
231nm,0.8s							
LBMI	**Labuha**	**8.21**	**17**	P	**Pn**	**13 54 27.9**	**+2.0**
139nm,1.2s,2µm							
MTNI	**Mataram**	**8.79**	**269**	P	**Pn**	**13 54 36.5**	**+2.7**
301nm,1.0s							
FAKI	**Fak Fak**	**9.07**	**52**	P	**Pn**	**13 54 37.7**	**0.0**
175nm,1.1s,2µm							
KHKI	**Kahang-Kahang**	**9.35**	**270**	P	**Pn**	**13 54 42.6**	**+1.1**
112nm,1.4s,1µm							
FITZ	**Fitzroy Crossi**	**9.53**	**177**	Pn	**Pn**	**13 54 45.5**	**+1.5**
10nm,0.3s,baz=12,slow=8.0,SNR=84							
FITZ				Sn	**Sn**	**13 56 26.6**	**-3.6**
16nm,0.3s,baz=284,slow=2.5,SNR=9.6							
FITZ				LR	LR	13 58 57.3	
comp=Z,969nm,19.9s,baz=360,slow=40							
FITZ	**Fitzroy Crossi**	**9.53**	**177**	*e*P	**Pn**	**13 54 45.4**	**+1.5**
241nm,0.8s							
FITZ				*e*S	**Sn**	**13 56 29.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**9.53**	**177**	*e*Pn	**Pn**	**13 54 45.4**	**+1.5**
81nm,0.6s							
FITZ				Sn	**Sn**	**13 56 26.6**	**-3.6**
TNTI	**Ternate**	**9.53**	**14**	P	Pn	13 54 47.3	+3.4
179nm,1.3s,2µm							
IGBI	**Denpasar**	**9.80**	**268**	P	**Pn**	**13 54 49.3**	**+1.6**
76nm,1.0s,196µm							
SWI	**Sorong**	**9.81**	**39**	P	**Pn**	**13 54 49.6**	**+1.8**
71nm,1.3s,1µm							
JAGI	**Jajag, Banyuwa**	**10.79**	**270**	P	**Pn**	**13 55 00.4**	**-0.8**
70nm,0.9s							
KMMI	**Kalianget**	**11.09**	**277**	P	Pn	13 55 10.9	+5.6
170nm,1.2s,3µm							
BBKI	**Banjar Baru**	**11.34**	**296**	P	Pn	13 55 13.2	+4.4
180nm,2.1s,4µm							
BLJI	**Banyuglugur**	**11.38**	**273**	P	Pn	13 55 15.6	+6.4
144nm,1.1s,2µm							
GMJI	**Gumukmas**	**11.49**	**270**	P	Pn	13 55 22.7	+12
KRKI	**Karangkates**	**12.48**	**271**	P	Pn	13 55 29.1	+4.8
194nm,0.6s,18µm							
PWJI	**Pagerwojo**	**13.13**	**271**	P	**Pn**	**13 55 32.6**	**-0.6**
87nm,0.7s							
SJI	**Sawahan**	**13.18**	**273**	P	Pn	13 55 38.7	+4.7
205nm,0.8s,3µm							
BAKI	**Biak**	**13.20**	**57**	P	**Pn**	**13 55 35.0**	**+0.7**
300nm,1.8s,5µm							
MBWA	**Marble Bar**	**13.56**	**202**	*e*P	**Pn**	**13 55 41.1**	**+2.0**
MBWA	**Marble Bar**	**13.56**	**202**	*e*Pn	**Pn**	**13 55 41.2**	**+2.1**
PCJI	**Pacitan**	**13.74**	**270**	P	**Pn**	**13 55 41.1**	**-0.4**
168nm,0.9s							
WRA	**Warramunga Arr**	**14.47**	**143**	Pn	Pn	13 55 48.8	-2.8
12nm,0.3s,baz=319,slow=13,SNR=108							
WRA				Sn	**Sn**	**13 58 27.0**	**-4.2**
5.1nm,0.3s,baz=316,slow=23,SNR=8.2							
WRA	**Warramunga Arr**	**14.47**	**143**	P	Pn	13 55 48.8	-2.8
WRA	**Warramunga Arr**	**14.47**	**143**	Pn	Pn	13 55 48.8	-2.8
WRA				Sn	**Sn**	**13 58 27.0**	**-4.2**
WRAB	**Tennant Creek**	**14.47**	**143**	*e*P	**Pn**	**13 55 49.2**	**-2.3**
WRAB	**Tennant Creek**	**14.47**	**143**	*e*Pn	**Pn**	**13 55 49.1**	**-2.3**
WRAB				*e*Sn	Sn	13 58 24.0	-7.2
WRAB	**Tennant Creek**	**14.47**	**143**	Pn	Pn	13 55 49.0	-2.5
1µm,0.5s							
WB2	**Warramunga Arr**	**14.47**	**143**	*e*Pn	Pn	13 55 49.1	-2.5
WB2				*e*Sn	**Sn**	**13 58 29.1**	**-2.3**
PBKI	**Pangkalan Bun**	**14.52**	**293**	P	**P**	**13 55 58.0**	**-0.7**
176nm,1.2s,2µm							
SMRI	**Semarang**	**14.56**	**275**	P	**Pn**	**13 55 54.2**	**+1.4**
286nm,0.9s							
TSM	**Tawau**	**14.62**	**330**	P	**Pn**	**13 55 52.6**	**-1.0**
MYLDM	**Lahad Datu**	**15.11**	**334**	P	**Pn**	**13 56 01.6**	**+1.3**
MYLDM	**Lahad Datu**	**15.11**	**334**	P	**Pn**	**13 55 57.9**	**-2.3**
43nm,1.7s							
BJII	**Banjamegara**	**15.25**	**273**	P	**Pn**	**13 56 01.1**	**-1.0**
79nm,1.3s,1µm							
DAV	**Davao City (W)**	**15.51**	**2**	LR	LR	14 01 46.1	
comp=Z,713nm,19.4s,baz=182,slow=37							
CTBH	**Cotabato--PC H**	**15.67**	**357**	*i*P	**Pn**	**13 56 07.7**	**+0.2**
STKI	**Sintang**	**16.00**	**302**	P	**P**	**13 56 14.2**	**-0.9**
101nm,1.3s,14µm							
SDKM	**Sandakan**	**16.12**	**331**	P	**P**	**13 56 16.0**	**-0.4**
BTM	**Bintulu**	**16.69**	**314**	P	**P**	**13 56 24.2**	**+1.5**
SBUM	**Sibu**	**16.82**	**310**	P	**P**	**13 56 24.6**	**+0.4**
SBUM	**Sibu**	**16.82**	**310**	P	**P**	**13 56 24.0**	**-0.2**
40nm,1.7s,819nm							
KKM	**Kota Kinabalu**	**16.96**	**328**	*e*Pn	**Pn**	**13 56 23.5**	**-0.6**
208nm,1.6s							
KKM	**Kota Kinabalu**	**16.96**	**328**	P	**P**	**13 56 26.7**	**+0.9**
KKM	**Kota Kinabalu**	**16.96**	**328**	P	**P**	**13 56 28.6**	**+2.8**
84nm,1.7s,1µm							
CISI	**Cisompet, Garu**	**17.10**	**272**	P	**Pn**	**13 56 25.3**	**-0.5**
110nm,0.8s,1µm							
AS31	**Alice Springs**	**17.27**	**152**	*e*Pn	**Pn**	**13 56 27.8**	**0.0**
AS31				*e*Sn	**Sn**	**13 59 40.1**	**+0.8**
ASAR	**Alice Springs**	**17.27**	**152**	P	**Pn**	**13 56 27.2**	**-0.6**
5.3nm,0.3s,baz=320,slow=10,SNR=85							
ASAR				S	**Sn**	**13 59 36.2**	**-3.2**
2.3nm,0.3s,baz=326,slow=20,SNR=8.1							
ASAR	**Alice Springs**	**17.27**	**152**	P	**Pn**	**13 56 27.3**	**-0.6**
ASAR	**Alice Springs**	**17.27**	**152**	P	**Pn**	**13 56 27.2**	**-0.6**
ASAR				S	**Sn**	**13 59 36.2**	**-3.2**
LEM	**Lembang**	**17.37**	**274**	P	**Pn**	**13 56 29.0**	**-0.2**
96nm,0.8s							
KDM	**Kudat**	**17.40**	**332**	P	**P**	**13 56 32.3**	**+1.7**
KSM	**Kuching**	**17.75**	**303**	*e*P	**Pn**	**13 56 33.0**	**-0.8**
145nm,1.2s							
KSM	**Kuching**	**17.75**	**303**	P	**P**	**13 56 36.4**	**+1.9**
KSM	**Kuching**	**17.75**	**303**	P	**P**	**13 56 36.0**	**+1.5**
KSM	**Kuching**	**17.75**	**303**	P	**P**	**13 56 35.8**	**+1.3**
104nm,1.3s,953nm							
CBJI	**Citeko**	**18.17**	**275**	P	**Pn**	**13 56 37.6**	**-1.4**
415nm,1.0s,15µm							
COEN	**Port Moresby**	**18.56**	**108**	*e*P	**Pn**	**13 56 44.2**	**+0.4**
357nm,0.6s							
PPBI	**Pangkal Pinang**	**19.86**	**288**	P	**Pn**	**13 57 00.4**	**+1.0**
68nm,1.7s,2µm							
PMG	**Port Moresby**	**21.85**	**94**	P	**P**	**13 57 22.0**	**+2.8**
154nm,0.8s,baz=284,slow=5.2,SNR=40							
PMG	**Port Moresby**	**21.85**	**94**	*ce*P	**P**	**13 57 21.8**	**+2.6**
PMG				pmax	pmax		
comp=Z,207nm,1.0s							
PMG	**Port Moresby**	**21.85**	**94**	*e*P	**P**	**13 57 20.5**	**+1.3**
comp=Z,179nm,0.9s							
PMG	**Port Moresby**	**21.85**	**94**	P	**P**	**13 57 21.8**	**+2.6**
comp=Z,211nm,0.9s,comp=Z,2µm							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORT	**Forrest**	**22.31**	**173**	*e*P	**P**	**13 57 26.0**	**+2.1**
comp=Z,64nm,0.6s							
FORT	**Forrest**	**22.31**	**173**	*e*P	**P**	**13 57 26.2**	**+2.2**
comp=Z,98nm,0.8s							
CTA	**Charters Tower**	**23.50**	**122**	P	**P**	**13 57 39.4**	**+3.0**
comp=Z,15nm,0.9s,baz=300,slow=12,SNR=20							
CTA	**Charters Tower**	**23.50**	**122**	*e*P	**P**	**13 57 38.7**	**+2.3**
comp=Z,24nm,1.2s							
CTA	**Charters Tower**	**23.50**	**122**	P	**P**	**13 57 39.4**	**+3.0**
CTA	**Charters Tower**	**23.50**	**122**	P	**P**	**13 57 39.4**	**+3.0**
CTAO	**Charters Tower**	**23.50**	**122**	*e*P	**P**	**13 57 37.8**	**+1.4**
CTAO				pmax	pmax		
comp=Z,96nm,1.4s							
CTAO	**Charters Tower**	**23.50**	**122**	*e*P	**P**	**13 57 37.8**	**+1.4**
comp=Z,96nm,1.4s							
MYKOM	**Kota Tinggi**	**23.50**	**295**	P	**P**	**13 57 39.2**	**+2.8**
KLBR	**Kellerberrin**	**23.93**	**196**	*e*P	**P**	**13 57 42.7**	**+2.3**
comp=Z,47nm,1.0s							
KGM	**Kluang**	**24.07**	**295**	P	**P**	**13 57 45.7**	**+3.8**
NWAO	**Narrogin (SRO)**	**25.33**	**196**	P	**P**	**13 57 55.1**	**+2.1**
comp=Z,15nm,0.8s,baz=17,slow=7.2,SNR=6.0							
NWAO				LR	LR	14 09 27.3	
comp=Z,774nm,19.6s,baz=13,slow=40							
NWAO	**Narrogin (SRO)**	**25.33**	**196**	*e*P	**P**	**13 57 55.2**	**+2.1**
NWAO				pmax	pmax		
comp=Z,65nm,1.4s							
NWAO	**Narrogin (SRO)**	**25.33**	**196**	*e*P	**P**	**13 57 55.2**	**+2.1**
comp=Z,65nm,1.4s							
KTGM	**Kuala Trenggan**	**25.84**	**301**	P	**P**	13 58 02.9	+4.9
PPI	**Padang Panjang**	**25.84**	**287**	P	**P**	13 58 03.6	+5.6
comp=Z,28nm,1.1s							
FRIM	**Kepong**	**26.13**	**296**	P	**P**	**13 58 04.3**	**+3.7**
BBOO	**Buckleboo**	**26.22**	**159**	*e*P	**P**	**13 58 03.5**	**+2.3**
comp=Z,103nm,0.6s							
BBOO	**Buckleboo**	**26.22**	**159**	*e*P	**P**	**13 58 03.8**	**+2.6**
comp=Z,3µm,1.8s							
MNSI	**Mandailing Nat**	**27.03**	**289**	P	**P**	**13 58 11.4**	**+2.7**
STKA	**Stephens Creek**	**27.85**	**149**	P	**P**	**13 58 18.5**	**+2.6**
comp=Z,8.4nm,0.4s,baz=316,slow=9.2,SNR=25							
STKA				LR	LR	14 11 27.9	
comp=Z,1µm,18.0s,baz=319,slow=41							
STKA	**Stephens Creek**	**27.85**	**149**	*e*P	**P**	**13 58 18.1**	**+2.2**
comp=Z,11nm,0.6s							
STKA	**Stephens Creek**	**27.85**	**149**	*e*P	**P**	**13 58 17.4**	**+1.5**
STKA				pmax	pmax		
comp=Z,17nm,1.6s							
STKA	**Stephens Creek**	**27.85**	**149**	*e*P	**P**	**13 58 17.4**	**+1.5**
comp=Z,16nm,1.6s							
GUMO	**Guam**	**29.50**	**42**	LR	LR	14 08 03.7	
comp=Z,268nm,21.4s,baz=31,slow=32							
ARPS	**Mount Arapiles**	**31.98**	**154**	*e*P	P	13 58 55.7	+3.3
comp=Z,25nm,0.4s							
ARMA	**Armidale**	**33.03**	**135**	*e*P	P	13 59 06.3	+4.5
TOO	**Toolangi**	**34.31**	**151**	*e*P	P	13 59 17.2	+4.4
comp=Z,114nm,0.8s							
HNR	**Honiara**	**34.47**	**94**	P	**P**	**13 59 14.6**	**+0.2**
comp=Z,43nm,0.8s,baz=216,slow=2.6,SNR=7.8							
HNR	**Honiara**	**34.47**	**94**	*e*P	**P**	**13 59 15.3**	**+0.9**
HNR				pmax	pmax		
comp=Z,80nm,1.0s							
HNR	**Honiara**	**34.47**	**94**	*e*P	**P**	**13 59 15.3**	**+0.9**
comp=Z,80nm,1.0s							
CM31	**Chiang Mai Arr**	**37.20**	**316**	*e*P	**P**	**13 59 36.9**	**-0.8**
comp=Z,30nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.20**	**316**	P	**P**	**13 59 37.4**	**-0.3**
comp=Z,26nm,0.9s,baz=141,slow=6.7,SNR=158							
CMAR				ScP	**ScP**	**14 05 44.0**	**+0.9**
comp=Z,1.2nm,0.9s,baz=175,slow=4.0,SNR=4.9							
CMAR				LR	LR	14 16 22.1	
comp=Z,364nm,19.1s,baz=152,slow=39							
CMAR	**Chiang Mai Arr**	**37.20**	**316**	P	**P**	**13 59 37.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**37.20**	**316**	P	**P**	**13 59 37.4**	**-0.3**
CMAR				ScP	**ScP**	**14 05 44.0**	**+0.9**
CHTO	**Chiang Mai**	**37.44**	**317**	*e*P	**P**	**13 59 39.4**	**-0.4**
CHTO				*e*		14 01 01.5	
CHTO				pmax	pmax		
comp=Z,53nm,1.0s							
CHTO	**Chiang Mai**	**37.44**	**317**	*e*P	**P**	**13 59 39.4**	**-0.4**
comp=Z,53nm,1.0s							
CHTO				*e*PP	PP	14 01 01.5	-4.0
GYA	**Guiyang**	**39.10**	**333**	↓*i*P	**P**	**13 59 53.4**	**-0.4**
GYA				pmax	pmax		
comp=Z,20nm,1.0s							
GYA	**Guiyang**	**39.10**	**333**	P	**P**	**13 59 56.3**	**+2.5**
GYA				PP	PP	14 01 30.8	+7.0
GYA				S	**S**	**14 05 54.5**	**+2.3**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,140nm,4.8s							
GYA				LR	LR		
comp=N,2µm,15.5s							
GYA				LR	LR		
comp=E,1µm,16.6s							
GYA				LR	LR		
comp=Z,1µm,15.8s							
KMI	**Kunming**	**39.90**	**328**	P	**P**	**14 00 02.3**	**+1.7**
KMI				pmax	pmax		
comp=Z,40nm,1.2s							
KMI				LR	LR		
comp=Z,220nm,30.2s							
WHN	**Wuhan**	**40.19**	**346**	P	**P**	**14 00 02.3**	**-0.4**
NJ2	**Nanjing**	**40.79**	**352**	*e*P	**P**	**14 00 07.6**	**0.0**
NJ2				pmax	pmax		
comp=Z,70nm,1.2s							
ENH	**Enshi**	**41.38**	**339**	*e*P	**P**	**14 00 11.9**	**-0.6**
comp=Z,20nm,1.0s							
ENH				*e*pP	**pP**	**14 00 17.2**	**-3.0**
ENH				*e*sP	**sP**	**14 00 20.8**	**-2.4**
JNU	**Nakatsue**	**41.80**	**7**	P	**P**	**14 00 15.7**	**-0.2**
comp=Z,8.8nm,0.9s,baz=68,slow=9.4,SNR=4.9							
JNU				LR	LR	14 14 14.8	
comp=Z,109nm,21.1s,baz=14,slow=32							
JNU	**Nakatsue**	**41.80**	**7**	P	**P**	**14 00 15.7**	**-0.2**
DZM	**Mont Dzumac**	**41.98**	**114**	P	**P**	**14 00 20.5**	**+2.8**
comp=Z,8.9nm,0.8s,baz=97,slow=20,SNR=3.8							
DZM	**Mont Dzumac**	**41.98**	**114**	P	**P**	**14 00 20.5**	**+2.8**
CD2	**Chengdu**	**44.22**	**333**	P	**P**

BJI					pmax	pmax		
	comp=Z,18nm,1.1s							
BJI					pmax	pmax		
	comp=Z,160nm,6.8s							
LSA	**Lhasa**	**50.09**	**321**	*e*P	**P**		**14 01 21.3**	**-0.7**
LSA					pmax	pmax		
	comp=Z,60nm,0.8s							
LSA	**Lhasa**	**50.09**	**321**	*e*P	**P**		**14 01 21.3**	**-0.7**
	comp=Z,60nm,0.8s							
SNY	**Shenyang**	**50.13**	**359**	⇑P	**P**		**14 01 21.3**	**-0.1**
SNY				S	**S**		**14 08 30.8**	**-0.8**
SNY				pmax	pmax			
	comp=Z,20nm,0.8s							
SNY				pmax	pmax			
	comp=Z,460nm,4.1s							
SNY				LR	LR			
	comp=N,290nm,3.9s							
SNY				LR	LR			
	comp=E,500nm,5.1s							
SNY				LR	LR			
	comp=Z,320nm,5.9s							
HHC	**Hu-ho-hao-te**	**50.69**	**347**	*e*P	**P**		**14 01 27.5**	**+1.7**
HHC				PP	PP		14 03 27.4	+5.2
HHC				S	**S**		**14 08 42.5**	**+2.9**
HHC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,310nm,6.3s							
HHC				LR	LR			
	comp=N,510nm,14.0s							
HHC				LR	LR			
	comp=E,340nm,13.4s							
HHC				LR	LR			
	comp=Z,310nm,14.5s							
ODAN	**Odare**	**50.72**	**315**	*e*P	**P**		**14 01 26.2**	**-0.3**
	comp=Z,30nm,0.7s							
ODAN	**Odare**	**50.72**	**315**	*e*P	**P**		**14 01 26.2**	**-0.3**
	comp=Z,30nm,0.7s							
TAPN	**Taplejung**	**50.80**	**316**	*e*P	**P**		**14 01 26.8**	**-0.4**
	comp=Z,108nm,1.0s							
TAPN	**Taplejung**	**50.80**	**316**	*e*P	**P**		**14 01 26.8**	**-0.4**
	comp=Z,108nm,1.0s							
RAMN	**Ramite**	**51.33**	**315**	*e*P	**P**		**14 01 31.0**	**-0.1**
	comp=Z,73nm,0.8s							
RAMN	**Ramite**	**51.33**	**315**	*e*P	**P**		**14 01 31.0**	**-0.1**
	comp=Z,73nm,0.8s							
OUZ	**Omahuta**	**51.62**	**128**	*e*P	P		14 01 36.9	+4.1
JIRN	**Jiri**	**52.05**	**315**	*e*P	**P**		**14 01 36.3**	**-0.3**
	comp=Z,37nm,0.9s							
JIRN	**Jiri**	**52.05**	**315**	*e*P	**P**		**14 01 36.3**	**-0.3**
	comp=Z,37nm,0.9s							
CN2	**Changchun**	**52.09**	**0**	*e*P	**P**		**14 01 35.8**	**-0.3**
GUN	**Gumba**	**52.42**	**315**	*e*P	**P**		**14 01 38.9**	**-0.4**
	comp=Z,124nm,1.1s							
GUN	**Gumba**	**52.42**	**315**	*e*P	**P**		**14 01 38.9**	**-0.4**
	comp=Z,124nm,1.1s							
PKI	**Pulchoki**	**52.54**	**314**	*e*P	**P**		**14 01 39.4**	**-0.8**
	comp=Z,22nm,0.7s							
PKI	**Pulchoki**	**52.54**	**314**	*e*P	**P**		**14 01 39.4**	**-0.8**
PKI				pmax	pmax			
	comp=Z,22nm,0.7s							
PKI	**Pulchoki**	**52.54**	**314**	*e*P	**P**		**14 01 39.4**	**-0.8**
	comp=Z,22nm,0.7s							
HYB	**Hyderabad**	**52.69**	**299**	*i* P	**P**		**14 01 40.0**	**-1.1**
KKN	**Kakani**	**52.77**	**315**	*e*P	**P**		**14 01 41.2**	**-0.5**
	comp=Z,29nm,0.9s							
KKN	**Kakani**	**52.77**	**315**	*e*P	**P**		**14 01 41.2**	**-0.5**
KKN				pmax	pmax			
	comp=Z,29nm,0.9s							
KKN	**Kakani**	**52.77**	**315**	*e*P	**P**		**14 01 41.2**	**-0.5**
	comp=Z,29nm,0.9s							
DMN	**Daman**	**52.78**	**314**	*e*P	**P**		**14 01 41.2**	**-0.7**
	comp=Z,34nm,0.9s							
DMN	**Daman**	**52.78**	**314**	*e*P	**P**		**14 01 41.2**	**-0.7**
	comp=Z,34nm,0.9s							
USRK	**Ussuriysk Arra**	**52.86**	**6**	P	**P**		**14 01 41.5**	**-0.3**
	comp=Z,27nm,0.6s,baz=191,slow=6.9,SNR=65							
USRK				LR	LR		14 21 42.4	
	comp=Z,119nm,20.6s,baz=145,slow=33							
MDJ	**Mudanjiang**	**53.06**	**4**	P	**P**		**14 01 43.4**	**+0.1**
MDJ				pmax	pmax			
	comp=Z,83nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,250nm,9.1s							
MDJ	**Mudanjiang**	**53.06**	**4**	*e*P	**P**		**14 01 43.2**	**-0.1**
	comp=Z,62nm,0.8s							
GTA	**Gaotai**	**53.14**	**336**	P	**P**		**14 01 44.4**	**+0.2**
GTA				S	**S**		**14 09 11.8**	**-1.7**
GTA				SS	SS		14 12 53.1	-0.4
GTA				pmax	pmax			
	comp=Z,17nm,1.5s							
GTA				pmax	pmax			
	comp=Z,420nm,6.4s							
GTA				LR	LR			
	comp=N,260nm,15.9s							
GTA				LR	LR			
	comp=E,280nm,17.6s							
GTA				LR	LR			
	comp=Z,250nm,15.4s							
RPZ	**Rata Peaks**	**53.15**	**139**	*e*P	**P**		**14 01 45.4**	**+1.3**
	comp=Z,70nm,1.0s							
GKN	**Gorkha**	**53.35**	**314**	*e*P	**P**		**14 01 45.3**	**-0.7**
	comp=Z,23nm,0.6s							
GKN	**Gorkha**	**53.35**	**314**	*e*P	**P**		**14 01 45.3**	**-0.7**
	comp=Z,23nm,0.6s							
KOLN	**Koldanda**	**53.95**	**313**	*e*P	**P**		**14 01 49.7**	**-0.7**
	comp=Z,23nm,0.7s							
KOLN	**Koldanda**	**53.95**	**313**	*e*P	**P**		**14 01 49.7**	**-0.7**
	comp=Z,23nm,0.7s							
DANN	**Dangsing**	**54.18**	**314**	*e*P	**P**		**14 01 51.7**	**-0.5**
	comp=Z,52nm,0.6s							
DANN	**Dangsing**	**54.18**	**314**	*e*P	**P**		**14 01 51.7**	**-0.5**
	comp=Z,52nm,0.6s							
KHZ	**Kahutara**	**54.23**	**137**	*e*P	**P**		**14 01 53.3**	**+1.3**
	comp=Z,31nm,0.8s							
ASAJ	**Asahikawa**	**54.76**	**15**	P	**P**		**14 01 55.9**	**+0.2**
	comp=Z,30nm,0.9s,baz=229,slow=9.0,SNR=10							
ASAJ	**Asahikawa**	**54.76**	**15**	P	**P**		**14 01 55.9**	**+0.2**
URZ	**Urewera**	**55.27**	**131**	*e*P	**P**		**14 02 00.9**	**+1.3**
	comp=Z,30nm,1.2s							
HABR	**Khabarovsk**	**57.44**	**8**	*ce*P	**P**		**14 02 14.3**	**-0.5**
HABR				*e**PP	**pP**		**14 02 23.5**	**+0.8**
HABR				*e**SP	**sP**		**14 02 27.9**	**+2.2**
HABR				*e*			14 04 21.5	
HABR				*e*PPP			14 05 38.9	
HABR				S	**S**		**14 10 11.1**	**+0.8**
HABR				*e*S	S		14 10 22.9	+13
HABR				*e*			14 12 00.3	
HABR				pmax	pmax			
	comp=Z,39nm,1.1s							
HABR				pmax	pmax			
	comp=E,35nm,1.8s							
HABR				pmax	pmax			
	comp=N,25nm,1.8s							
HABR				MLR	MLR			
	comp=Z,103nm,15.0s							
HIA	**Hailar**	**57.74**	**356**	*e*P	**P**		**14 02 16.4**	**-0.6**
HIA				*e**SP	**sP**		**14 02 27.5**	**-0.4**
HIA				pmax	pmax			
	comp=Z,17nm,0.9s							
HIA	**Hailar**	**57.74**	**356**	*e*P	**P**		**14 02 16.4**	**-0.6**
	comp=Z,17nm,0.9s							
HIA				*e*pP	**pP**		**14 02 24.3**	**-0.5**
HIA				*e*sP	**sP**		**14 02 27.5**	**-0.4**
KLR	**Kul'dur**	**57.82**	**5**	*e*P	P		14 02 13.0	-4.5
ULN	**Ulaanbaatar**	**58.38**	**346**	*e*P	**P**		**14 02 20.7**	**-0.9**
ULN				pmax	pmax			
	comp=Z,16nm,1.0s							
ULN	**Ulaanbaatar**	**58.38**	**346**	*e*P	**P**		**14 02 20.7**	**-0.9**
	comp=Z,16nm,1.0s							
SONM	**Songino Array**	**58.51**	**345**	P	**P**		**14 02 22.0**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=164,slow=8.4,SNR=40							
SONM	**Songino Array**	**58.51**	**345**	P	**P**		**14 02 22.0**	**-0.5**
SONM	**Songino Array**	**58.51**	**345**	P	**P**		**14 02 22.0**	**-0.5**
DRV	**Dumont d'Urvil**	**58.94**	**173**	P	**P**		**14 02 25.0**	**-0.1**
DRV				S	S		14 10 24.0	-5.5
ZAK	**Zakamensk**	**61.66**	**344**	⇓*i*P	**P**		**14 02 43.2**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
WMQ	**Urumqi**	**62.14**	**330**	P	**P**		**14 02 47.3**	**-0.1**
WMQ				PcP	**PcP**		**14 03 28.3**	**+0.9**
WMQ				pmax	pmax			
	comp=Z,21nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,6.3s							
TLY	**Talaya**	**62.75**	**345**	*e*P	**P**		**14 02 50.2**	**-1.0**
TLY				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MOY	**Mondy**	**63.44**	**344**	*e*P	**P**		**14 02 55.6**	**-0.3**
HVS	**Khovu-Aksy**	**65.31**	**339**	⇑*i*P	**P**		**14 03 07.7**	**-0.5**
HVS				pmax	pmax			
	comp=Z,88nm,1.2s							
KSH	**Kashi**	**65.94**	**320**	P	**P**		**14 03 13.0**	**+0.5**
KSH				*e*PcP	**PcP**		**14 03 44.3**	**+1.1**
KSH				*e*ScP			14 07 44.1	
KSH				*e*PcS			14 07 47.3	
KSH				*e*S	**S**		**14 11 54.9**	**-3.8**
KSH				*e*ScS	**SKSac**		**14 13 03.1**	**-4.0**
KSH				pmax	pmax			
	comp=Z,13nm,0.7s							
KSH				pmax	pmax			
	comp=Z,140nm,6.3s							
KSH				LR	LR			
	comp=N,220nm,6.6s							
KSH				LR	LR			
	comp=E,200nm,7.4s							
KSH				LR	LR			
	comp=Z,290nm,7.3s							
BOD	**Bodaibo**	**66.74**	**354**	*e*P	**P**		**14 03 16.5**	**-0.5**
BOD				pmax	pmax			
	comp=Z,17nm,1.0s							
MK31	**Makanchi Array**	**66.94**	**330**	*ce*P	**P**		**14 03 18.2**	**-0.4**
MK31				pmax	pmax			
	comp=Z,22nm,0.6s							
MK31	**Makanchi Array**	**66.94**	**330**	*e*P	**P**		**14 03 18.3**	**-0.4**
MKAR	**Makanchi Array**	**66.94**	**330**	P	**P**		**14 03 18.2**	**-0.4**
	comp=Z,25nm,0.6s,baz=128,slow=7.2,SNR=347							
MKAR	**Makanchi Array**	**66.94**	**330**	*ce*P	**P**		**14 03 18.2**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,25nm,0.6s							
MKAR	**Makanchi Array**	**66.94**	**330**	P	**P**		**14 03 18.2**	**-0.4**
PETK	**Petropavlovsk-**	**67.39**	**21**	P	**P**		**14 03 20.6**	**-0.6**
	comp=Z,8.9nm,0.6s,baz=193,slow=6.3,SNR=20							
PETK	**Petropavlovsk-**	**67.39**	**21**	P	**P**		**14 03 20.7**	**-0.6**
PETK	**Petropavlovsk-**	**67.39**	**21**	P	**P**		**14 03 20.6**	**-0.6**
KBL	**Kabul**	**68.09**	**312**	*e*P	**P**		**14 03 25.6**	**-0.8**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KBL	**Kabul**	**68.09**	**312**	*e*P	**P**		**14 03 25.6**	**-0.8**
	comp=Z,6.0nm,0.8s							
TKM2	**Tokmak 2**	**68.15**	**323**	P	**P**		**14 03 26.9**	**+0.3**
	SNR=9.1							
TKM2				P	**P**		**14 03 26.9**	**+0.3**
	SNR=9.1							
TKM2	**Tokmak 2**	**68.15**	**323**	*i* P	**P**		**14 03 26.8**	**+0.3**
TKM2	**Tokmak 2**	**68.15**	**323**	*e*P	**P**		**14 03 25.9**	**-0.8**
	comp=Z,8.8nm,0.8s							
AAK	**Ala-Archa**	**68.64**	**322**	P	**P**		**14 03 30.2**	**+0.6**
	SNR=13							
AAK				P	**P**		**14 03 30.2**	**+0.6**
	SNR=13							
AAK	**Ala-Archa**	**68.64**	**322**	⇑*i*P	**P**		**14 03 29.3**	**-0.4**
AAK				pmax	pmax			
	comp=Z,25nm,0.7s							
AAK	**Ala-Archa**	**68.64**	**322**	*e*P	**P**		**14 03 28.8**	**-0.8**
	comp=Z,39nm,0.6s							
AAK				*e*PP	**PP**		**14 05 55.7**	**-5.8**
AAK	**Ala-Archa**	**68.64**	**322**	P	**P**		**14 03 30.9**	**+1.2**
	comp=Z,86nm,0.9s,SNR=9.6							
AML	**Almayashu**	**68.85**	**321**	P	**P**		**14 03 31.6**	**+0.4**
	SNR=11							
AML				P	**P**		**14 03 31.6**	**+0.4**
	SNR=11							
USP	**Ospenovka**	**69.00**	**323**	P	**P**		**14 03 31.9**	**+0.2**
	SNR=9.8							
USP				P	**P**		**14 03 31.9**	**+0.2**
	SNR=9.8							
EKS2	**Erkin-Say**	**69.10**	**322**	P	**P**		**14 03 32.7**	**+0.3**
	SNR=6.5							
EKS2				P	**P**		**14 03 32.7**	**+0.3**
	SNR=6.5							
EKS2	**Erkin-Say**	**69.10**	**322**	*e*P	**P**		**14 03 31.8**	**-0.6**
EKS2				pmax	pmax			
	comp=Z,7.0nm,0.8s							
EKS2	**Erkin-Say**	**69.10**	**322**	*e*P	**P**		**14 03 31.8**	**-0.6**
	comp=Z,6.9nm,0.8s							
YAK	**Yakutsk**	**70.44**	**2**	*e*P	**P**		**14 03 39.1**	**-1.0**
YAK				pmax	pmax			
	comp=Z,25nm,0.9s							
YAK	**Yakutsk**	**70.44**	**2**	*e*P	**P**		**14 03 39.4**	**-0.7**
	comp=Z,38nm,0.8s							
ZAA0	**Zalesovo Array**	**70.89**	**336**	*e*P	**P**		**14 03 41.4**	**-1.6**
ZALV	**Zalesovo Beam**	**70.89**	**336**	P	**P**		**14 03 41.5**	**-1.4**
	comp=Z,16nm,0.7s,baz=128,slow=4.7,SNR=96							
ZALV	**Zalesovo Beam**	**70.89**	**336**	P	**P**		**14 03 41.6**	**-1.4**
ZALV	**Zalesovo Beam**	**70.89**	**336**	P	**P**		**14 03 41.5**	**-1.4**
KURK	**Kurchatov**	**71.37**	**331**	P	**P**		**14 03 45.2**	**-0.7**
	comp=Z,20nm,0.7s,baz=142,slow=5.3,SNR=260							
KURK	**Kurchatov**	**71.37**	**331**	*d*P	**P**		**14 03 45.3**	**-0.7**
KURK				pmax	pmax			
	comp=Z,43nm,0.9s							
KURK	**Kurchatov**	**71.37**	**331**	P	**P**		**14 03 45.2**	**-0.7**
KURK	**Kurchatov**	**71.37**	**331**	P	**P**		**14 03 45.1**	**-0.8**
	comp=Z,289nm,0.7s,SNR=38							
MAW	**Mawson**	**71.76**	**201**	LR	LR		14 31 20.9	
	comp=Z,335nm,18.3s,baz=319,slow=32							
NVS	**Novosibirsk**	**72.18**	**336**	⇓*i*P	**P**		**14 03 49.2**	**-1.5**
NVS				*e*S	S		14 13 04.2	-7.4
NVS				pmax	pmax			
	comp=Z,23nm,1.7s							
NVS				pmax	pmax			
	comp=N,10.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,12nm,1.2s							
NVS				smax	smax			
	comp=N,6.0nm,2.1s							
NVS				smax	smax			
	comp=E,27nm,2.3s							
OPO	**Ambohidratompo**	**75.89**	**253**	P	**P**		**14 04 14.4**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=92,slow=3.9,SNR=11							
OPO	**Ambohidratompo**	**75.89**	**253**	P	**P**		**14 04 14.4**	**+0.9**
BVA0	**Borovoye Array**	**76.82**	**330**	*i* P	**P**		**14 04 15.6**	**-2.2**
BVA0				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BVAR	**Borovoye Array**	**76.82**	**330**	P	**P**		**14 04 17.1**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=128,slow=9.3,SNR=22							
BVAR	**Borovoye Array**	**76.82**	**330**	P	**P**		**14 04 17.1**	**-0.7**
BVAR	**Borovoye Array**	**76.82**	**330**	P	**P**		**14 04 17.1**	**-0.7**
BRVK	**Borovoye**	**76.89**	**330**	⇑*i*P	**P**		**14 04 17.3**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,11nm,1.4s							
BRVK	**Borovoye**	**76.89**	**330**	*e*P	**P**		**14 04 17.2**	**-0.9**
	comp=Z,12nm,1.3s							
BRVK	**Borovoye**	**76.89**	**330**	P	**P**		**14 04 17.4**	**-0.8**
	comp=Z,41nm,1.3s,SNR=5.3							
AB31	**Akbulak array**	**80.72**	**323**	*ce*P	**P**		**14 04 37.7**	**-1.6**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ABKAR	**Akbulak array**	**80.72**	**323**	*e*P	**P**		**14 04 38.2**	**-1.1**
	comp=Z,5.3nm,0.7s							
QSPA	**South Pole Qui**	**81.45**	**180**	P	**P**		**14 04 45.0**	**+1.8**
	comp=Z,14nm,0.7s,baz=301,slow=2.3,SNR=47							
QSPA	**South Pole Qui**	**81.45**	**180**	P	**P**		**14 04 45.0**	**+1.8**
	comp=Z,9.0nm,0.7s							
BILL	**Bilibino**	**81.77**	**15**	*e*P	**P**		**14 04 43.6**	**-0.8**
BILL				*e*			14 07 49.1	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
QRN	**Al-Qurain**	**82.95**	**300**	*e*P	**P**		**14 04 50.7**	**-0.8**
NAY	**Al-Naaiem**	**83.64**	**301**	*e*P	**P**		**14 04 53.7**	**-1.4**
NAY				AMb	AMB		14 04 55.5	
	comp=Z,22nm,0.9s							
MIB	**Mutribah**	**83.69**	**301**	*e*P	**P**		**14 04 54.2**	**-1.1**
MIB				AMb	AMB		14 05 04.0	
	comp=Z,29nm,1.1s							
ARU	**Arti**	**84.46**	**329**	*c i*P	**P**		**14 05 00.0**	**+1.4**
ARU							14 08 08.5	
ARU				S	**S**		**14 15 20.5**	**-2.9**
ARU				SS	**SS**		**14 20 55.0**	**+0.6**
ARU				pmax	pmax			
	comp=Z,11nm,1.2s							
KIV	**Kislovodsk**	**90.41**	**314**	P	**P**		**14 05 26.3**	**-1.5**
KIV				*e*			14 09 00.1	
KIV				*e*S	S		14 15 55.6	-26
KIV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
SNAA	**Sanae**	**93.00**	**194**	*e*	**P**		**14 05 39.0**	**-0.3**
SNAA	**Sanae**	**93.00**	**194**	P	**P**		**14 05 41.9**	**+2.6**
	comp=Z,3.5nm,0.7s,baz=163,slow=5.7,SNR=20							
SNAA	**Sanae**	**93.00**	**194**	*e*P	**P**		**14 05 37.7**	**-1.6**
SNAA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SNAA	**Sanae**	**93.00**	**194**	*e*PKPdf	**P**		**14 05 37.7**	**-1.6**
	comp=Z,7.1nm,0.6s							
KDAK	**Kodiak Island**	**93.10**	**32**	LR	LR		14 45 03.2	
	comp=Z,109nm,21.7s,baz=256,slow=34							
BOSA	**Boshof**	**94.46**	**240**	P	**P**		**14 05 48.8**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=71,slow=5.5,SNR=4.2							
BOSA				LR	LR		14 45 50.0	
	comp=Z,169nm,18.9s,baz=166,slow=34							
BOSA	**Boshof**	**94.46**	**240**	P	**P**		**14 05 48.8**	**+1.8**
BOSA	**Boshof**	**94.46**	**240**	P	**P**		**14 05 48.8**	**+1.8**
VNA2	**Neumayer--Watz**	**94.60**	**194**	*e*	P		14 05 50.0	+3.4
	baz=109,slow=3.3							
OBN	**Obninsk**	**96.07**	**325**	*e*P	**P**		**14 05 55.6**	**+2.2**
OBN				*e*			14 09 46.8	
OBN				*e*PS	PS		14 18 35.4	+2.3
OBN				pmax	pmax			
	comp=Z,7.0nm,1.2s							
ILAR	**Eielson Array**	**96.83**	**26**	P	**P**		**14 05 57.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=269,slow=4.8,SNR=4.2							
ILAR				PP	**PP**		**14 09 44.9**	**-7.1**
	comp=Z,2.0nm,1.1s,baz=266,slow=6.5,SNR=7.1							
ILAR				PKKPbc	**PKKPbc**		**14 22 40.1**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=69,slow=1.3,SNR=5.2							
ILAR	**Eielson Array**	**96.83**	**26**	P	**P**		**14 05 57.6**	**+0.9**
ILAR	**Eielson Array**	**96.83**	**26**	P	**P**		**14 05 57.6**	**+0.9**
ILAR				PP	**PP**		**14 09 44.9**	**-7.1**
ILAR				PKKPbc	**PKKPbc**		**14 22 40.1**	**-1.3**
YKA	**Yellowknife Ar**	**111.26**	**25**	PKiKP	**PKiKP**		**14 10 58.1**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=297,slow=1.6,SNR=6.0							
YKA				PKKPbc	**PKKPbc**		**14 21 56.2**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=110,slow=3.3,SNR=14							
YKA	**Yellowknife Ar**	**111.26**	**25**	PKIKP			14 10 58.1	
YKA	**Yellowknife Ar**	**111.26**	**25**	PKiKP	**PKiKP**		**14 10 58.1**	**-1.5**
YKA				PKKPbc	**PKKPbc**		**14 21 56.2**	**-1.6**
PDAR	**Pinedale Array**	**121.44**	**45**	PKP	**PKPdf**		**14 11 20.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=18,slow=2.4,SNR=4.4							
PDAR				PKKPbc	**PKKPbc**		**14 21 24.2**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=126,slow=7.5,SNR=3.5							
PDAR	**Pinedale Array**	**121.44**	**45**	PKP	**PKPdf**		**14 11 20.3**	**+0.3**
PDAR				PKKPbc	**PKKPbc**		**14 21 24.2**	**+2.5**
TORD	**Torodi Ar. Bea**	**124.28**	**280**	PKP	**PKPdf**		**14 11 25.4**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=68,slow=1.8,SNR=16							
TORD	**Torodi Ar. Bea**	**124.28**	**280**	PKP	**PKPdf**		**14 11 25.4**	**-0.6**
TXAR	**Lajitas Array**	**129.91**	**59**	PKP	**PKPdf**		**14 11 37.8**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=5.7,slow=3.8,SNR=3.8							
TXAR	**Lajitas Array**	**129.91**	**59**	PKIKP	**PKPdf**		**14 11 37.8**	**+1.3**
TXAR	**Lajitas Array**	**129.91**	**59**	PKP	**PKPdf**		**14 11 37.8**	**+1.3**
DBIC	**Dimbokro**	**130.34**	**272**	PKP	**PKPdf**		**14 11 40.4**	**+2.8**
	comp=Z,1.9nm,0.7s,baz=166,slow=10,SNR=3.9							
DBIC	**Dimbokro**	**130.34**	**272**	PKIKP	**PKPdf**		**14 11 40.4**	**+2.8**
DBIC	**Dimbokro**	**130.34**	**272**	PKP	**PKPdf**		**14 11 40.4**	**+2.8**
SCHQ	**Schefferville**	**132.86**	**9**	PKP	**PKPdf**		**14 11 41.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=60,slow=20,SNR=3.8							
SCHQ	**Schefferville**	**132.86**	**9**	PKP	**PKPdf**		**14 11 41.3**	**+0.2**
NNA	**Nana**	**150.17**	**133**	*i* PKIKP	**PKPbc**		**14 12 20.1**	**+2.0**
LPAZ	**La Paz**	**152.09**	**152**	PKIKP	**PKPbc**		**14 12 25.1**	**+1.9**
	comp=Z,6.4nm,0.8s,baz=207,slow=1.8,SNR=18							
LPAZ	**La Paz**	**152.09**	**152**	PKIKP	**PKPbc**		**14 12 25.2**	**+1.9**
LPAZ	**La Paz**	**152.09**	**152**	PKPbc	**PKPbc**		**14 12 25.1**	**+1.9**

MEX 24 14:05:36.9±1.1, 16.82N×100.23W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**350**	*e*P		Pg	14 05 41.0	-0.5
CAIG				*i* S		Sg	14 05 44.7	+0.1
ACX	**Acapulco**	**0.35**	**82**	*i* P		Pg	14 05 42.1	-1.7
ACX				*i* S		Sg	14 05 46.0	-2.5
MEIG	**Mezcala**	**1.24**	**28**	*i* P		Pg	14 05 56.7	-4.2
MEIG				*i* S		Sg	14 06 13.0	-4.2
ZIIG	**Zihuatanejo**	**1.42**	**304**	*i* P		Pn	14 05 59.2	-4.2
ZIIG				*i* S		Sb	14 06 17.8	-4.5
PLIG	**Platanillo**	**1.71**	**24**	*e*P		Pn	14 06 04.3	-3.3
PLIG				*i* S		Sn	14 06 26.6	-3.2
PNIG	**Pinotepa**	**2.06**	**102**	*e*P		Pn	14 06 10.6	-1.6
PNIG				*i* S		Sn	14 06 33.8	-4.5
YAIG	**Yautepec**	**2.31**	**28**	*i* P		Pn	14 06 13.7	-2.2
YAIG				*i* S		Sn	14 06 41.8	-3.0
PPM	**Popocatepetl**	**2.70**	**34**	*i* P		Pn	14 06 17.3	-4.4
PPM				*i* S		Sn	14 06 51.5	-3.8
MMIG	**Aquila**	**3.32**	**297**	*i* P		Pn	14 06 25.4	-4.1

*TAP **24** 14:05:48.9,25.13N×122.12E,h197km,ML3.4,D*
*ISCJB **24** 14:05:49.1±0.9,25.13N±0.09×122.16E±0.04,*
h190km±6km,Error ellipse: s-maj=15.1km s-min=5.3km az=174.9
*JMA **24** 14:05:49.2±0.3,25.23N×122.22E,h193km,M2.7*

ISC 24 14:05:49.2±3.0,25.1N±0.1×122.15E±0.06,h192km±16km, n35,σ0.946/52,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**228**	*i* P		**Pn**	**14 06 14.7**	**+0.2**
	baz=227							
NWF	**Wu-fen Shan**	**0.34**	**259**	*e*P		**Pn**	**14 06 15.0**	**+0.1**
	baz=261							
TWA	**Mucha**	**0.54**	**253**

YUS	**Yu-Shan**	**1.97 214**	*e*P	**Pn**	**14 06 27.4**	**0.0**
	baz=217					
ALS	**Alishan**	**2.03 217**	P	**Pn**	**14 06 27.9**	**+0.1**
	baz=225					
CHN5	**Tsauling**	**2.04 221**	P	**Pn**	**14 06 27.8**	**+0.1**
	baz=230					
CHN5			*e*S	**Sn**	**14 06 57.0**	**-0.5**
	baz=230					
ELDTW	**Lidau**	**2.20 208**	*e*P	**Pn**	**14 06 29.5**	**+0.1**
	baz=201					
WTP	**Ta-pu**	**2.35 217**	*e*P	**Pn**	**14 06 30.9**	**-0.1**
	baz=216					
JTJ	**Tarama**	**2.37 102**	P	**Pn**	**14 06 31.4**	**+0.3**
JTJ			*e*S	**Sn**	**14 07 03.2**	**-0.5**
TWK	**Hsinying**	**2.40 219**	*e*P	**Pn**	**14 06 31.8**	**+0.2**
	baz=225					
CHN1	**Nanshi**	**2.44 218**	*e*P	**Pn**	**14 06 31.7**	**-0.3**
	baz=225					
SGST	**Jiashian**	**2.50 215**	*e*P	**Pn**	**14 06 32.9**	**+0.2**
	baz=214					
SSD	**Sandimen**	**2.76 211**	*e*P	**Pn**	**14 06 36.3**	**+0.6**
	baz=209					

IDC 24 14:21:20.6±4.1, 30.76S×177.22W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=143.0km s-min=48.3km az=153.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.52**	**279**	P	P	14 28 10.9	+0.1
	1.1nm,0.4s,baz=90,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**35.06**	**257**	P	P	14 28 14.6	-0.7
	0.7nm,0.6s,baz=110,slow=15,SNR=2.7						
ASAR	**Alice Springs**	**43.77**	**267**	P	P	14 29 28.4	+0.3
	0.3nm,0.5s,baz=106,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.79**	**272**	P	P	14 29 36.2	-0.1
	0.4nm,0.3s,baz=110,slow=8.2,SNR=20						
FINES	**FINESS Array B**	**145.71**	**340**	PKPbc	PKPdf	14 40 59.7	-0.5
	2.1nm,0.7s,baz=66,slow=4.6,SNR=9.9						

*ISCJB **24** 14:22:00.3±0.6, 26.44N±0.05×128.93E±0.04, h35km, mb3.4/5, Error ellipse: s-maj=6.8km s-min=4.6km az=2.6*
*JMA **24** 14:22:00.6±0.2, 26.47N×128.91E, h34km±3km, M3.1*
*IDC **24** 14:22:03.0±5.7, 25.65N×128.78E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=322.1km s-min=21.2km az=64.0*
ISC 24 14:22:01.1±1.3, 26.46N±0.06×128.91E±0.04, h35km, n14, σ0s55/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.68**	**303**	P	**Pn**	**14 22 13.6**	**-0.7**
JOW				*e*S	**Sn**	**14 22 22.6**	**-1.1**
JIH	**Iheya**	**1.02**	**304**	P	**Pn**	**14 22 18.9**	**0.0**
JIH				*e*S	**Sn**	**14 22 31.8**	**-0.2**
JJT2	**Tamagusuku 2**	**1.09**	**253**	P	**Pn**	**14 22 19.7**	**-0.1**
JJT2				*e*S	**Sn**	**14 22 33.7**	**0.0**
NAH1	**Naha**	**1.13**	**257**	P	**Pn**	**14 22 20.9**	**+0.6**
NAH1				*e*S	**Sn**	**14 22 35.1**	**+0.5**
JTK	**Tokunoshima**	**1.32**	**1**	P	**Pn**	**14 22 23.5**	**+0.4**
JTK				*e*S	**Sn**	**14 22 39.8**	**+0.3**
JAGN	**Aguni-jima**	**1.50**	**275**	P	**Pn**	**14 22 26.1**	**+0.6**
JAGN				*e*S	**Sn**	**14 22 44.0**	**+0.1**
JKE	**Kume jima 2**	**1.91**	**267**	P	**Pn**	**14 22 30.9**	**-0.2**
JKE				*e*S	**Sn**	**14 22 54.0**	**0.0**
JAM	**Amami Oshima**	**2.04**	**17**	P	**Pn**	**14 22 33.4**	**+0.5**
JMZ	**Minamidaito 2**	**2.17**	**106**	P	**Pn**	**14 22 34.9**	**+0.2**
JMZ				*e*S	**Sn**	**14 22 59.4**	**-0.9**
MKAR	**Makanchi Array**	**41.84**	**312**	P	pP	14 29 58.1	+0.2
	0.4nm,0.7s,baz=108,slow=10,SNR=7.6						
KURK	**Kurchatov**	**45.08**	**316**	P	pP	14 30 24.8	+0.8
	0.3nm,0.4s,baz=102,slow=8.8,SNR=4.7						
WRA	**Warramunga Arr**	**46.42**	**173**	P	P	14 30 25.9	+1.5
	0.4nm,0.7s,baz=354,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**50.06**	**174**	P	P	14 30 53.0	+0.5
	0.4nm,1.0s,baz=0.6,slow=9.4,SNR=6.7						
BVAR	**Borovoye Array**	**50.52**	**318**	P	pP	14 31 06.9	+0.7
	0.8nm,0.8s,baz=88,slow=9.0,SNR=6.4						

IDC 24 14:36:45.9±2.9, 6.55S×154.25E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=77.4km s-min=32.9km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**248**	Pn	Pn	14 38 39.5	+1.7
	0.8nm,0.3s,baz=49,slow=11,SNR=3.0						
PMG				Sn	Sn	14 40 06.3	+1.9
	0.4nm,0.3s,baz=190,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**23.48**	**234**	P	P	14 41 57.0	-0.4
	0.7nm,0.6s,baz=60,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**25.93**	**227**	P	P	14 42 19.9	-0.2
	0.1nm,0.3s,baz=56,slow=9.3,SNR=6.8						
MKAR	**Makanchi Array**	**82.58**	**319**	P	P	14 49 11.1	0.0
	0.2nm,0.8s,baz=101,slow=6.9,SNR=3.6						

IDC 24 14:38:36.2±13.0, 0.74S×133.81E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/17, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=198.6km s-min=85.6km az=171.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.03**	**204**	P	Pn	14 43 00.8	+0.2
	0.1nm,0.3s,baz=18,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**19.09**	**178**	P	Pn	14 43 01.3	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**22.79**	**180**	P	P	14 43 40.4	-0.3
	0.9nm,0.6s,baz=3.4,slow=10,SNR=18						
STKA	**Stephens Creek**	**31.83**	**167**	P	P	14 45 02.1	-0.7
	2.3nm,0.9s,baz=343,slow=14,SNR=2.9						

MAN 24 15:02:51, 16.45N×122.43E, h29km, mb4.7, ML3.6, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.76**	**310**	*e*P	Pb	15 03 05.2	-0.5
CAUP				*e*S	Sb	15 03 13.5	-2.2
BALP	**Baler**	**1.08**	**229**	*e*P	Pn	15 03 10.1	-0.1
BALP				*e*S	Sn	15 03 17.5	-6.8
PCPH	**Palayan**	**1.56**	**236**	*e*P	Pb	15 03 18.4	-0.8

*ISCJB **24** 15:22:48.6±0.5, 50.25N±0.04×18.78E±0.03, h0km, Error ellipse: s-maj=5.3km s-min=2.6km az=9.7*
*WAR **24** 15:22:49.1, 50.25N×18.88E*
*CSEM **24** 15:22:49.4±0.3, 50.26N×18.79E, h2km, ML2.7/4, Error ellipse: s-maj=7.1km s-min=3.2km az=6.0*
*IPEC **24** 15:22:49.3±0.2, 50.25N×18.87E, h3km±2km, ML1.9/3, Error ellipse: s-maj=2.6km s-min=1.1km az=167.0*
*PRU **24** 15:22:50.0, 50.27N×18.78E, h0km*
ISC 24 15:22:49.0±0.8, 50.26N±0.04×18.85E±0.02, h0km, n33, σ0s97/57, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.61**	**93**	*e*Pg	**Pg**	**15 23 01.0**	**+0.3**
OJC				*e*Sg	**Sg**	**15 23 09.6**	**+1.1**
OJC	**Ojcow**	**0.61**	**93**	*e*Pg	**Pg**	**15 23 01.0**	**+0.3**
	baz=274						
OJC				*e*Sg	**Sg**	**15 23 09.6**	**+1.1**
OKC	**Ostrava-Krasne**	**0.62**	**227**	*e*PG	**Pg**	**15 23 01.5**	**+0.6**
OKC				*e*SG	**Sg**	**15 23 10.1**	**+1.2**
	comp=Z,14nm,0.4s						
OKC	**Ostrava-Krasne**	**0.62**	**227**	*e*Pg	**Pg**	**15 23 01.4**	**+0.6**
	baz=48						
OKC				Sg	**Sg**	**15 23 10.1**	**+1.2**
	14nm,0.4s						
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg	**Pg**	**15 23 07.4**	**-0.2**
	baz=60						
MORC				*e*Sg	**Sg**	**15 23 20.7**	**+0.5**
	19nm,0.2s,baz=60						
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	**Pg**	**15 23 13.2**	**0.0**
NIE				*e*Sg	**Sn**	**15 23 31.0**	**-0.7**
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	**Pg**	**15 23 13.2**	**0.0**
NIE				*e*Sg	**Sn**	**15 23 31.0**	**-0.7**
KRLC	**Kraliky**	**1.34**	**263**	*e*PG	**Pg**	**15 23 13.5**	**-1.3**
KRLC				*e*SG	**Sg**	**15 23 30.6**	**-1.6**
KRLC	**Kraliky**	**1.34**	**263**	Pg	**Pg**	**15 23 13.5**	**-1.3**
KRLC				Sg	**Sg**	**15 23 30.6**	**-1.6**
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG	**Pn**	**15 23 18.3**	**-0.6**
DPC				*e*SG	**Sn**	**15 23 40.3**	**-0.3**
	comp=Z,15nm,0.3s						
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*Pn	**Pn**	**15 23 18.4**	**-0.5**
	baz=92						
DPC				*e*Sg	**Sn**	**15 23 40.7**	**+0.1**
	baz=92						
KOLL	**Kolacno**	**1.71**	**190**	*e*SN	**Sb**	**15 23 43.0**	**-0.2**
KOLL	**Kolacno**	**1.71**	**190**	*e*Sn	**Sb**	**15 23 43.0**	**-0.2**
KSP	**Ksiaz**	**1.73**	**291**	*e*Pn	**Pb**	**15 23 22.0**	**+0.3**
KSP				*e*Sn	**Sg**	**15 23 45.0**	**+0.4**
KSP	**Ksiaz**	**1.73**	**291**	*e*Pg	**Pb**	**15 23 22.0**	**+0.3**
KSP				*e*Sg	**Sb**	**15 23 44.9**	**+0.9**
KSP	**Ksiaz**	**1.73**	**291**	*e*Pg	**Pb**	**15 23 22.0**	**+0.3**
KSP				*e*Sg	**Sb**	**15 23 44.9**	**+0.9**
VRAC	**Vranov**	**1.75**	**238**	*e*Pn	**Pn**	**15 23 20.8**	**+0.2**
	baz=56						
VRAC				*e*Sg	**Sn**	**15 23 43.9**	**+0.4**
	9.6nm,0.3s,baz=56						
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	**Pg**	**15 23 22.5**	**-0.3**
STHS				*e*SN	**Sg**	**15 23 46.7**	**+1.1**
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*Pn	**Pg**	**15 23 22.5**	**-0.3**
STHS				*e*Sn	**Sg**	**15 23 46.7**	**+1.1**
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	**Pn**	**15 23 20.2**	**-0.6**
VYHS				*e*SN	**Sn**	**15 23 43.2**	**-0.8**
VYHS	**Vyhne**	**1.77**	**180**	*e*Pn	**Pn**	**15 23 20.2**	**-0.6**
VYHS				*e*Sn	**Sn**	**15 23 43.2**	**-0.8**
UPC	**Upice**	**1.83**	**279**	*e*SG	**Sb**	**15 23 47.1**	**+0.1**
UPC	**Upice**	**1.83**	**279**	Sg	**Sb**	**15 23 47.1**	**+0.1**
KRUC	**Moravsky**	**2.00**	**234**	*e*Pn	**Pn**	**15 23 24.4**	**+0.4**
	baz=52						
KRUC				*e*Sg	**Sb**	**15 23 51.5**	**-0.1**
	5.3nm,0.2s,baz=52						
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*	**Pg**	**15 23 31.0**	**+0.4**
KOLS	**Kolonicke sedl**	**2.59**	**119**	*e*PN	**Pb**	**15 23 34.4**	**-1.9**
KOLS				*e*SN	**Sn**	**15 24 04.4**	**+0.1**
KOLS	**Kolonicke sedl**	**2.59**	**119**	*e*Pn	**Pb**	**15 23 34.4**	**-1.9**
KOLS				*e*Sn	**Sn**	**15 24 04.4**	**+0.1**
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	**Sb**	**15 24 14.9**	**+0.6**
	comp=Z,4.4nm,0.5s						
PRU	**Pruhonice**	**2.79**	**266**	Sg	**Sb**	**15 24 14.9**	**+0.6**
	4.4nm,0.5s						
BRG	**Berggiesshubel**	**3.19**	**283**	SG	**Sg**	**15 24 29.3**	**-2.1**
	4.7nm,0.5s						
KHC	**Kasperske Hory**	**3.60**	**254**	*e*PN	**Pn**	**15 23 47.5**	**+1.4**
KHC				*e*PG	**Pb**	**15 23 55.5**	**+1.9**
KHC				*ex*	x	15 24 31.5	
KHC				*e*SG	**Sg**	**15 24 42.7**	**-2.1**
KHC	**Kasperske Hory**	**3.60**	**254**	Pn	**Pn**	**15 23 47.5**	**+1.4**
KHC	**Kasperske Hory**	**3.60**	**254**	Pg	**Pb**	**15 23 55.5**	**+1.9**

*ISCJB **24** 15:23:58.7±0.7, 6.91N±0.07×73.10W±0.09, h169km±8km, mb3.6/1, Error ellipse: s-maj=16.1km s-min=7.5km az=34.9*
*FUNV **24** 15:23:59.4, 6.78N×73.17W, h168km, MW3.4*
*IDC **24** 15:24:02.3±6.4, 6.78N×73.54W, h178km±30km, mb3.3/1, mb1 3.6/2, mb1mx3.0/20, mbtmp3.5/2, Error ellipse: s-maj=215.1km s-min=31.1km az=93.0*
ISC 24 15:23:59.4±1.0, 6.88N±0.07×73.09W±0.09, h166km±9km, n18, σ0s82/23, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.24**	**38**	↓*i*P	**Pn**	**15 24 28.8**	**+0.8**
CAPV				*e*S	**Sn**	**15 24 50.2**	**+0.1**
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**	**15 24 40.4**	**+0.3**
	33nm,0.3s,baz=90,slow=20,SNR=27						
ROSC				S	**Sn**	**15 25 10.5**	**-1.2**
	44nm,0.3s,baz=106,slow=17,SNR=8.2						
VIGV	**El Vigia**	**2.58**	**41**	*e*P	**Pn**	**15 24 43.3**	**+0.9**
VIGV				*e*S	**Sn**	**15 25 15.2**	**-0.6**
SOCV	**Socops**	**2.61**	**58**	*e*P	**Pn**	**15 24 43.5**	**+0.8**
SOCV				*e*S	**Sn**	**15 25 15.7**	**-0.6**
ELOV	**Elorza**	**3.58**	**88**	*e*P	**Pn**	**15 24 54.6**	**-0.1**
VIRV	**Villa del Rosa**	**3.66**	**11**	*e*P	**Pn**	**15 24 55.4**	**-0.3**
VIRV				*e*S	**Sn**	**15 25 38.2**	**-1.6**
QARV	**Quebrada Arrib**	**4.16**	**37**	*e*P	**Pn**	**15 25 03.5**	**+1.2**
CURV	**Curarigua**	**4.38**	**45**	*e*P	**Pn**	**15 25 05.4**	**+0.2**
TEPV	**Terepaima**	**4.92**	**51**	*e*P	**Pn**	**15 25 13.0**	**+0.9**
SIQV	**Siquisique**	**4.95**	**41**	*e*P	**Pn**	**15 25 12.6**	**+0.1**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**15 25 17.3**	**-1.1**
MAPV	**Macapo**	**5.43**	**57**	*e*P	**Pn**	**15 25 18.8**	**-0.1**
IMOV	**Isla Los Monje**	**5.85**	**21**	*e*P	**Pn**	**15 25 23.4**	**-0.9**
MONV	**Montecano**	**5.90**	**31**	*e*P	**Pn**	**15 25 24.9**	**-0.1**
TURV	**Turiamo**	**6.28**	**55**	*e*P	**Pn**	**15 25 29.8**	**-0.2**
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**15 34 10.9**	**+1.2**
	0.6nm,0.6s,baz=132,slow=6.8,SNR=17						
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	**PKPbc**	**15 43 28.7**	**-0.5**
	0.3nm,0.7s,baz=122,slow=3.5,SNR=4.4						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**15 43 32.2**	**0.0**
	0.2nm,0.4s,baz=107,slow=2.5,SNR=8.9						

*MOS **24** 15:37:41.7±1.7, 49.82N×88.33E, h14km, mb4.0/4, Error ellipse: s-maj=9.3km s-min=7.3km az=117.3*
*IDC **24** 15:37:41.7±0.8, 49.86N×88.46E, h0km, mb3.6/7, mb1 3.8/13, mb1mx3.7/30, mbtmp3.7/13, ML3.8/6, MS3.0/2, Ms1 3.0/2, ms1mx2.4/42, Error ellipse: s-maj=12.8km s-min=9.8km az=5.0*
*ASRS **24** 15:37:42.3±1.4, 49.90N×88.28E, h15km, Ms3.2*
*BJI **24** 15:37:45.0, 49.63N×88.16E, h8km, mb3.8/2, ML4.0/7*
*NNC **24** 15:37:50.4±2.2, 49.65N×88.00E, h172km±22km, mb3.1, mpv4.2, Error ellipse: s-maj=18.0km s-min=12.4km az=83.0*
ISC 24 15:37:42.8±0.8, 49.95N±0.04×88.25E±0.04, h10km±4km, n68, σ1s77/72, mb3.6/8, 14C-11D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.55**	**313**	*e*Pg	**Pg**	**15 37 51.4**	**-2.2**
AKAR				*e*Sg	**Sg**	**15 37 59.9**	**-1.0**
AKAR	**Aktash**	**0.55**	**313**	*e*PG	**Pg**	**15 37 51.4**	**-2.2**
AKAR				*e*		15 37 59.9	
ARTR	**Artybash**	**1.95**	**342**	*e*Pg	**Pg**	**15 38 20.8**	**+0.5**
ARTR				*e*Sg	**Sb**	**15 38 43.5**	**+0.6**
ARTR	**Artybash**	**1.95**	**342**	*e*PN	**Pg**	**15 38 20.8**	**+0.5**
ARTR				*e*		15 38 43.5	
UKR	**Ust'-Kan**	**2.43**	**295**	*e*Pg	**Pb**	**15 38 26.6**	**-0.1**
UKR				*e*Sg	**Sg**	**15 39 00.5**	**-0.5**
UKR	**Ust'-Kan**	**2.43**	**295**	*e*PN	**Pb**	**15 38 26.6**	**-0.1**
UKR				*e*		15 39 00.5	
TASR	**Tashtagol**	**2.83**	**355**	*e*Pg	**Pb**	**15 38 33.2**	**-0.2**
TASR				*e*Sg	**Sg**	**15 39 12.0**	**-1.6**
TASR	**Tashtagol**	**2.83**	**355**	*e*PN	**Pb**	**15 38 33.2**	**-0.2**
TASR				*e*		15 39 12.0	
ELT	**Yel'tsovka**	**3.55**	**340**	*e*Pg	**Pg**	**15 38 48.6**	**-2.2**
ELT				*e*Sg	**Sg**	**15 39 34.3**	**-2.4**
ELT	**Yel'tsovka**	**3.55**	**340**	*e*PN	**Pg**	**15 38 48.6**	**-2.2**
ELT				*e*		15 39 34.3	
HVS	**Khovu-Aksy**	**3.68**	**69**	*e*PN	Pn	15 38 42.0	+2.2
ZALV	**Zalesovo Beam**	**4.54**	**333**	Pn	Pn	15 38 54.8	+3.4
	2.3nm,0.3s,baz=155,slow=13,SNR=31						
ZALV				Pg	Pg	15 39 06.2	-3.4
	6.2nm,0.3s,baz=161,slow=14,SNR=29						
ZALV				Sn	**Sn**	**15 39 47.7**	**+3.6**
	4.8nm,0.3s,baz=158,slow=17,SNR=5.6						
ZALV				Lg	Lg	15 40 03.8	
	5.1nm,0.3s,baz=144,slow=26,SNR=4.1						
ZALV	**Zalesovo Beam**	**4.54**	**333**	PN	Pn	15 38 54.8	+3.4
ZALV						15 39 06.2	
ZALV						15 39 47.7	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV				smax	smax		
	comp=N,5.0nm,0.3s						
MK31	**Makanchi Array**	**5.07**	**234**	↑Pn	Pn	15 39 02.0	+3.1
	comp=N,37nm,0.5s,baz=63,slow=13,SNR=969						
MK31				↑Sn	**Sn**	**15 39 59.7**	**+2.3**
	comp=N,18nm,0.4s,baz=61,slow=23,SNR=6.1						
MK31				↓Lg	Lg	15 40 25.9	
	comp=N,97nm,0.8s,baz=55,slow=28,SNR=7.9						
MK31	**Makanchi Array**	**5.07**	**234**	PN	Pn	15 39 01.9	+3.1
MK31						15 39 59.6	
MK31				pmax	pmax		
	comp=Z,22nm,0.2s						
MK31				smax	smax		
	comp=N,24nm,0.3s						
MKAR	**Makanchi Array**	**5.07**	**234**	Pn	Pn	15 39 01.8	+2.9
	comp=N,14nm,0.3s,baz=56,slow=15,SNR=1201						
MKAR				Sn	**Sn**	**15 39 59.6**	**+2.2**
	comp=N,13nm,0.3s,baz=57,slow=25,SNR=9.6						
MKAR				Lg	Lg	15 40 23.8	
	comp=N,19nm,0.3s,baz=55,slow=29,SNR=12						
MKAR	**Makanchi Array**	**5.07**	**234**	*e*PN	Pn	15 39 01.7	+2.9
MKAR				pmax	pmax		
	comp=Z,14nm,0.3s						
NVS	**Novosibirsk**	**5.78**	**330**	*e*Pn	**Pn**	**15 39 10.9**	**+2.4**
NVS				*e*Pg	Pg	15 39 28.7	-4.8
NVS				*e*Sn	**Sn**	**15 40 17.5**	**+2.7**
NVS				*e*Sg	**Sg**	**15 40 45.3**	**-3.0**
NVS	**Novosibirsk**	**5.78**	**330**	*e*PN	**Pn**	**15 39 10.9**	**+2.4**
NVS				*e*		15 39 28.7	
NVS				*e*		15 40 17.5	
NVS				*e*		15 40 45.3	
WMQ	**Urumqi**	**6.14**	**184**	Pn	Pn	15 39 15.0	+1.5
WMQ				Sg	Sg	15 40 51.1	-8.7
WMQ				smax	smax		
	comp=N,120nm,0.7s						
WMQ				smax	smax		
	comp=E,110nm,0.7s						
KURK	**Kurchatov**	**6.21**	**281**	Pn	Pn	15 39 17.8	+3.3
	comp=E,1.4nm,0.3s,baz=93,slow=15,SNR=201						
KURK				Sn	**Sn**	**15 40 29.7**	**+4.2**
	comp=E,1.7nm,0.3s,baz=87,slow=26,SNR=8.4						
KURK				Lg	Lg	15 41 00.8	
	comp=E,1.9nm,0.3s,baz=87,slow=33,SNR=4.6						
KURK	**Kurchatov**	**6.21**	**281**	↓Pn	Pn	15 39 18.2	+3.7
	comp=E,26nm,0.7s						
KURK				↓Sn	Sn	15 40 30.9	+5.4
	comp=E,37nm,0.8s						
KURK	**Kurchatov**	**6.21**	**281**	*c i*PN	Pn	15 39 16.9	+2.4
KURK				pmax	pmax		
	comp=Z,22nm,0.9s						
KURBB	**Kurchatov Arra**	**6.26**	**280**	↓Pn	Pn	15 39 18.4	+3.2
	comp=Z,5.0nm,0.6s						
KURBB				↑Sn	**Sn**	**15 40 29.0**	**+2.2**
	comp=Z,16nm,0.6s						
TLY	**Talaya**	**9.90**	**74**	*e*P	**Pn**	**15 40 03.9**	**-1.2**
VOSK	**Vostochnaya**	**11.15**	**291**	↑Pn	**Pn**	**15 40 23.3**	**+1.1**
	comp=Z,4.8nm,1.4s						
VOSK				↑Sn	**Sn**	**15 42 26.9**	**+0.1**
	comp=Z,4.7nm,0.6s						
VOSK				↓Lg	Lg	15 43 44.6	
	comp=Z,24nm,1.5s						
TKM2	**Tokmak 2**	**11.20**	**236**	↑Pn	**Pn**	**15 40 23.1**	**+0.1**
	comp=Z,3.5nm,0.5s						
TKM2				↑Lg	Lg	15 43 40.5	
	comp=Z,22nm,1.1s						
BVA0	**Borovoye Array**	**11.55**	**292**	Pn	**Pn**	**15 40 28.5**	**+0.9**
	comp=Z,0.5nm,1.1s,baz=105,slow=14,SNR=16						
BVA0				Sn	**Sn**	**15 42 36.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=106,slow=21,SNR=5.4						
BVA0	**Borovoye Array**	**11.55**	**292**	*e*P	**Pn**	**15 40 28.5**	**+0.9**
BVA0				*i*		15 42 34.4	
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BVA0				smax	smax		
	comp=N,1.0nm,0.8s						
BVAR	**Borovoye Array**	**11.55**	**292**	Pn	**Pn**	**15 40 28.5**	**+0.9**
	comp=N,0.4nm,0.3s,baz=104,slow=14,SNR=12						
BVAR				Sn	**Sn**	**15 42 35.1**	**-1.4**
	comp=N,0.5nm,0.3s,baz=101,slow=22,SNR=6.8						
BVAR	**Borovoye Array**	**11.55**	**292**	P	**Pn**	**15 40 28.5**	**+0.9**
BVAR						15 42 35.1	
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**11.62**	**292**	↓Pn	**Pn**	**15 40 29.5**	**+1.0**
	comp=N,5.4nm,1.1s						
BRVK				↑Sn	**Sn**	**15 42 39.9**	**+1.7**
	comp=N,12nm,0.7s						
BRVK	**Borovoye**	**11.62**	**292**	*i* P	**Pn**	**15 40 30.1**	**+1.6**
AAK	**Ala-Archa**	**11.99**	**238**	↑*i*P	Pn	15 40 35.7	+1.9
AAK				pmax	pmax		
	comp=Z,22nm,0.7s						
SONM	**Songino Array**	**12.13**	**93**	Pn	**Pn**	**15 40 35.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=293,slow=12,SNR=3.5						
SONM				Lg	Lg	15 44 03.0	
	comp=Z,0.1nm,0.3s,baz=279,slow=28,SNR=6.5						
SONM				LR	LR	15 45 25.0	
	comp=Z,74nm,18.8s,baz=7.0,slow=39						
SONM	**Songino Array**	**12.13**	**93**	P	**Pn**	**15 40 35.5**	**-0.2**
ZRNK	**Zerenda**	**12.37**	**291**	↓Pn	**Pn**	**15 40 39.9**	**+1.1**
	comp=Z,4.0nm,0.8s						
ZRNK				↓Sn	**Sn**	**15 42 56.8**	**+0.2**
	comp=Z,4.1nm,0.7s						
ZRNK				↑Lg	Lg	15 44 23.5	
	comp=Z,18nm,1.1s						
ULN	**Ulaanbaatar**	**12.55**	**92**	*i* P	Pn	15 40 42.9	+1.5
KSH	**Kashi**	**13.57**	**224**	*e*P	**P**	**15 41 05.0**	**+0.5**
KK31	**Karatay Array**	**13.98**	**247**	Pn	**Pn**	**15 40 59.3**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=54,slow=13,SNR=29						
KK31				↑Sn	**Sn**	**15 43 32.1**	**-3.8**
	comp=Z,2.0nm,0.6s,baz=57,slow=25,SNR=6.6						
KK31				↓Lg	Lg	15 45 09.1	
	comp=Z,12nm,0.9s,baz=51,slow=27,SNR=4.5						
KK31	**Karatay Array**	**13.98**	**247**

CSEM ***24*** *15:55:27.0±0.8,38°.89N×42°.13E,h5km,MD2.9,Error ellipse: s-maj=19.5km s-min=9.2km az=170.0*
DDA ***24*** *15:55:29.8,39°.07N×42°.19E,h7km,MD3.0*

ISK 24 15:55:28.2,39.01N×42.18E,h5km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.58**	**285**	*e*PG	Pb	15 55 40.8	-0.3
VRTB				*e*SG	Sb	15 55 49.4	-0.4
VRTB	**Varto-Mus**	**0.58**	**285**	*e*Pg	Pb	15 55 40.8	-0.3
VRTB				*e*Sg	Sb	15 55 49.4	-0.4
TUTA	**Tutak**	**0.63**	**52**	*i* P	Pb	15 55 41.6	-0.4
TUTA				*i* S	Sg	15 55 50.1	+1.0
TUTA	**Tutak**	**0.63**	**52**	*i* P	Pb	15 55 41.6	-0.4
TUTA				*i* S	Sg	15 55 50.1	+1.1
AGRB	**Hanur-Agry**	**0.84**	**48**	*e*PG	Pb	15 55 45.5	-0.2
AGRB				*e*SG	Sb	15 55 58.1	+0.6
AGRB	**Hanur-Agry**	**0.84**	**48**	*e*Pg	Pb	15 55 45.5	-0.2
AGRB				*e*Sg	Sb	15 55 58.1	+0.6
HOMI	**Horasan**	**1.05**	**349**	*i* P	Pb	15 55 49.2	0.0
HOMI				*i* S	Sn	15 56 05.3	0.0
ERZM	**Erzurum**	**1.09**	**325**	*i* P	Pb	15 55 49.8	-0.2
ERZM				*i* S	Sn	15 56 06.2	0.0
ERZM	**Erzurum**	**1.09**	**325**	*i* P	Pb	15 55 49.8	-0.1
ERZM				*i* S	Sn	15 56 06.2	-0.1
EZM	**Erzurum**	**1.09**	**325**	*e*PN	Pg	15 55 49.8	+0.2
BNGB	**Bingˆ¶l**	**1.17**	**269**	*e*PN	Pn	15 55 51.3	-0.1
BINT	**Bingol**	**1.32**	**265**	*e*Pn	Pn	15 55 51.3	-2.3
BEST	**Besiri**	**1.33**	**213**	*i* P	Pg	15 55 55.9	+2.0
BEST				*i* S	Sn	15 56 15.9	+4.2
CLDR	**Caldiran**	**1.36**	**84**	*e*PN	Pg	15 55 54.9	+0.3
CLDR	**Caldiran**	**1.36**	**84**	*e*Pn	Pg	15 55 54.9	+0.3
ERZN	**Erzincan**	**1.99**	**287**	*e*PN	Pb	15 56 04.4	-0.7
EZC	**Erzincan**	**2.31**	**289**	*e*Pn	Pn	15 56 04.4	-2.7

IDC 24 15:58:04.6±2.3,0°.27N×126°.69E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/16,mbtmp3.2/3,Error ellipse: s-maj=229.1km s-min=25.0km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.44**	**160**	P	P	16 02 54.0	-0.6
	0.5nm,0.8s,baz=338,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.81**	**164**	P	P	16 03 29.1	+0.5
	0.3nm,0.8s,baz=342,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**60.37**	**326**	P	P	16 08 15.6	-0.1
	0.2nm,0.3s,baz=124,slow=7.9,SNR=12						

MOS ***24*** *15:58:37.0±1.3,40°.74N×27°.60E,h12km,mb4.1/12,Error ellipse: s-maj=11.3km s-min=5.0km az=88.7*
IDC ***24*** *15:58:37.5±0.8,40°.77N×27°.71E,h0km,mb3.8/14, mb1 3.9/18,mb1mx3.9/30,mbtmp3.8/18,ML3.7/3,MS3.3/6, Ms1 3.4/6,ms1mx3.0/37,Error ellipse: s-maj=14.6km s-min=13.7km az=67.0*
ISCJB ***24*** *15:58:38.5±0.3,40°.84N±0°.01×27°.75E±0°.02,h13km±2km, mb4.0/20,MS3.3/4,Error ellipse: s-maj=2.2km s-min=2.0km az=27.3*
NEIC ***24*** *15:58:38.0,40°.80N×27°.79E,h11km,ML4.6(THE), ML4.2(ISK),After ISK.*
SOF ***24*** *15:58:38.4,40°.92N×27°.67E,h2km,MD3.8*
ISK ***24*** *15:58:39.0,40°.79N×27°.77E,h16km,ML4.1*
CSEM ***24*** *15:58:39.1±0.1,40°.81N×27°.77E,h10km,ML4.1,Error ellipse: s-maj=1.7km s-min=1.5km az=27.0*
THE ***24*** *15:58:39.0,40°.80N×27°.72E,h10km±2km,ML4.3/6,Error ellipse: s-maj=4.9km s-min=0.6km az=52.0*
DDA ***24*** *15:58:39.9,40°.81N×27°.73E,h14km,ML4.2*
ATH ***24*** *15:58:46.9,40°.57N×27°.01E,h37km±10km,MD3.7/9*
BEO ***24*** *15:58:49.4±9.2,41°.56N×27°.10E,h0km,ML4.6/1*

ISC 24 15:58:39.5±0.9,40°.80N±0°.01×27°.78E±0°.01,h12km±6km, n438,σ0s99/489,mb4.0/20,MS3.3/4,34C-33D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.27**	**316**	PG	Pb	15 58 45.7	-0.5
TKR				*e*SG	Sb	15 58 49.9	-0.8
TKR	**Tekirdag**	**0.27**	**316**	Pg	Pg	15 58 45.0	0.0
TKR	**Tekirdag**	**0.27**	**316**	Pg	Pg	15 58 45.0	0.0
TKR				*e*Sg	Sb	15 58 49.9	-0.8
CRLT	**Corlu**	**0.33**	**354**	PG	Pb	15 58 47.2	-0.2
CRLT				*e*SG	Sb	15 58 52.7	+0.1
CRLT	**Corlu**	**0.33**	**354**	Pg	Pg	15 58 46.5	+0.3
CRLT	**Corlu**	**0.33**	**354**	Pg	Pg	15 58 46.5	+0.3
MFT	**Murefte**	**0.38**	**268**	PG	Pg	15 58 46.9	-0.2
MFT				*e*SG	Sg	15 58 52.3	+0.1
MFT	**Murefte**	**0.38**	**268**	Pg	Pg	15 58 46.5	-0.6
MFT	**Murefte**	**0.38**	**268**	Pg	Pg	15 58 46.5	-0.6
MFT				*e*Sg	Sg	15 58 52.3	+0.1
BNT	**Bandirma**	**0.46**	**166**	*e*PG	Pg	15 58 48.8	+0.3
BNT				*e*SG	Sg	15 58 54.6	0.0
BNT	**Bandirma**	**0.46**	**166**	Pg	Pg	15 58 48.4	-0.1
BNT	**Bandirma**	**0.46**	**166**	Pg	Pg	15 58 48.4	-0.1
BNT				*e*Sg	Sg	15 58 54.6	0.0
EDC	**Edincik**	**0.46**	**172**	*e*PG	Pb	15 58 49.0	-0.6
EDC				*e*SG	Sg	15 58 55.3	+0.7
EDC	**Edincik**	**0.46**	**172**	Pg	Pg	15 58 48.0	-0.5
EDC	**Edincik**	**0.46**	**172**	Pg	Pg	15 58 48.0	-0.5
EDC				*e*Sg	Sg	15 58 55.3	+0.7
SART	**Tekirdag**	**0.47**	**256**	*i* P	Pg	15 58 48.4	-0.3
SART				*i* S	Sg	15 58 54.6	-0.4
SART	**Tekirdag**	**0.47**	**256**	*i* P	Pg	15 58 48.4	-0.3
SART				*i* S	Sg	15 58 54.6	-0.4
RKY	**Sarkoy-Tekirda**	**0.47**	**256**	*e*PG	Pg	15 58 48.3	-0.5
RKY	**Sarkoy-Tekirda**	**0.47**	**256**	Pg	Pg	15 58 47.8	-1.0
RKY	**Sarkoy-Tekirda**	**0.47**	**256**	*e*Pg	Pg	15 58 48.3	-0.5
SLVT	**Silivri**	**0.54**	**37**	*e*PG	Pb	15 58 50.7	-0.2
SLVT	**Silivri**	**0.54**	**37**	Pg	Pg	15 58 49.3	-0.7
SLVT	**Silivri**	**0.54**	**37**	Pg	Pg	15 58 49.3	-0.7
KRBG	**Karabiga-Canak**	**0.55**	**222**	*e*PG	Pg	15 58 49.2	-0.6
KRBG	**Karabiga-Canak**	**0.55**	**222**	Pg	Pg	15 58 49.5	-0.7
KRBG	**Karabiga-Canak**	**0.55**	**222**	*e*Pg	Pg	15 58 49.6	-0.6
ELBA	**Catalca**	**0.60**	**55**	*i* P	Pb	15 58 51.6	-0.4
ELBA				*i* S	Sg	15 58 59.8	+0.6
ELBA	**Catalca**	**0.60**	**55**	*i* P	Pb	15 58 51.6	-0.4
ELBA				*i* S	Sg	15 58 59.8	+0.6
KCTX	**Karacabey (Bur**	**0.69**	**140**	*e*PG	Pb	15 58 53.4	-0.1
KCTX	**Karacabey (Bur**	**0.69**	**140**	*e*Pg	Pb	15 58 53.4	-0.1
CTKS	**Kestanelik-??a**	**0.70**	**51**	*e*PG	Pg	15 58 53.1	0.0
CTKS	**Kestanelik-??a**	**0.70**	**51**	Pg	Pg	15 58 52.3	-0.8
CTKS	**Kestanelik-??a**	**0.70**	**51**	Pg	Pg	15 58 52.3	-0.8
GONE	**Gonen-Balikesi**	**0.76**	**185**	*e*PG	Pg	15 58 54.2	+0.1
GONE	**Gonen-Balikesi**	**0.76**	**185**	Pg	Pg	15 58 53.3	-0.9
GONE	**Gonen-Balikesi**	**0.76**	**185**	*e*Pg	Pg	15 58 54.2	+0.1
CTYL	**Yal??k??y-??at**	**0.78**	**30**	*e*PG	Pg	15 58 54.5	0.0
CTYL	**Yal??k??y-??at**	**0.78**	**30**	Pg	Pg	15 58 53.7	-0.8
CTYL	**Yal??k??y-??at**	**0.78**	**30**	Pg	Pg	15 58 53.7	-0.8
BGKT	**Bogazkoy**	**0.84**	**63**	*e*PG	Pg	15 58 55.6	-0.2
BGKT	**Bogazkoy**	**0.84**	**63**	Pg	Pg	15 58 55.3	-0.5
BGKT	**Bogazkoy**	**0.84**	**63**	Pg	Pg	15 58 55.3	-0.5
ARMT	**Armutlu**	**0.85**	**106**	*e*PG	Pg	15 58 55.8	-0.2
ARMT	**Armutlu**	**0.85**	**106**	Pg	Pg	15 58 55.0	-1.0
ARMT	**Armutlu**	**0.85**	**106**	*e*Pg	Pg	15 58 55.8	-0.2
LPK	**Lapseki**	**0.89**	**241**	*e*PG	Pg	15 58 55.4	-1.2
LPK	**Lapseki**	**0.89**	**241**	Pg	Pg	15 58 55.2	-1.4
LPK	**Lapseki**	**0.89**	**241**	*e*Pg	Pg	15 58 55.4	-1.2
MDNY	**Mudanya-Bursa**	**0.94**	**117**	*e*PG	Pb	15 58 57.7	-0.1
MDNY	**Mudanya-Bursa**	**0.94**	**117**	Pg	Pg	15 58 57.2	-0.5
MDNY	**Mudanya-Bursa**	**0.94**	**117**	*e*Pg	Pb	15 58 57.7	-0.1
ERIK	**Erikli-Kesan**	**0.97**	**263**	*e*PG	Pg	15 58 57.2	-1.0
ERIK	**Erikli-Kesan**	**0.97**	**263**	Pg	Pg	15 58 56.7	-1.5
ERIK	**Erikli-Kesan**	**0.97**	**263**	*e*Pg	Pg	15 58 57.2	-1.0
ISK	**Istanbul-Kandi**	**1.00**	**74**	*e*PG	Pg	15 58 58.2	-0.7
ISK	**Istanbul-Kandi**	**1.00**	**74**	Pg	Pg	15 58 57.4	-1.5
ISK	**Istanbul-Kandi**	**1.00**	**74**	*e*Pg	Pg	15 58 58.2	-0.7
BUY	**Buyukada**	**1.02**	**87**	*i* P	Pg	15 58 58.3	-0.8
BUY				*i* S	Sb	15 59 12.8	+0.5
BUY	**Buyukada**	**1.02**	**87**	*i* P	Pg	15 58 58.3	-0.8
BUY				*i* S	Sb	15 59 12.8	+0.5
KLYT	**Kilyos**	**1.06**	**64**	*e*PG	Pg	15 58 59.5	-0.3
KLYT	**Kilyos**	**1.06**	**64**	Pg	Pg	15 58 58.9	-1.0
KLYT	**Kilyos**	**1.06**	**64**	*e*Pg	Pg	15 58 59.5	-0.3
BALY	**Balya**	**1.07**	**187**	*i* P	Pb	15 59 00.1	+0.2
BALY				*i* S	Sb	15 59 14.4	+0.6
BALY	**Balya**	**1.07**	**187**	*i* P	Pb	15 59 00.1	+0.2
BALY				*i* S	Sb	15 59 14.4	+0.6
GELI	**Tayfur-Gelibol**	**1.07**	**248**	*e*PG	Pg	15 58 58.7	-1.5
GELI	**Tayfur-Gelibol**	**1.07**	**248**	Pg	Pg	15 58 58.1	-2.0
GELI	**Tayfur-Gelibol**	**1.07**	**248**	*e*Pg	Pg	15 58 58.7	-1.5
GEMT	**Gemlik**	**1.13**	**108**	*e*PN	Pb	15 59 00.4	-0.6
GEMT	**Gemlik**	**1.13**	**108**	Pn	Pb	15 58 59.7	-1.3
GEMT	**Gemlik**	**1.13**	**108**	*e*Pn	Pb	15 59 00.4	-0.6
ORLT	**Orhaneli**	**1.14**	**131**	*e*PN	Pg	15 59 01.2	-0.2
ORLT	**Orhaneli**	**1.14**	**131**	Pn	Pb	15 59 00.5	-0.6
ORLT	**Orhaneli**	**1.14**	**131**	*e*Pn	Pg	15 59 01.2	-0.2
BALB	**Balikesir**	**1.16**	**176**	*e*PN	Pg	15 59 01.7	-0.2
BALB	**Balikesir**	**1.16**	**176**	Pn	Pb	15 59 00.8	-0.7
BALB	**Balikesir**	**1.16**	**176**	*e*Pn	Pg	15 59 01.7	-0.2
ULDT	**Uludag**	**1.23**	**122**	*i* P	Pn	15 59 02.0	-0.6
ULDT				*i* S	Sb	15 59 18.8	+0.2
ULDT	**Uludag**	**1.23**	**122**	*i* P	Pn	15 59 02.0	-0.6
ULDT				*i* S	Sb	15 59 18.8	+0.2
YLV	**Yalova**	**1.23**	**100**	*e*PN	Pn	15 59 01.9	-0.7
YLV	**Yalova**	**1.23**	**100**	*e*Pn	Pn	15 59 01.9	-0.7
ENEZ	**Enez**	**1.24**	**268**	*e*PN	Pn	15 59 01.9	-0.7
ENEZ	**Enez**	**1.24**	**268**	*e*Pn	Pn	15 59 01.9	-0.7
EDRB	**Edirne**	**1.30**	**324**	*e*PN	Pn	15 59 02.7	-0.8
EDRB	**Edirne**	**1.30**	**324**	Pn	Pn	15 59 02.8	-0.7
EDRB	**Edirne**	**1.30**	**324**	Pn	Pn	15 59 02.8	-0.7
DURS	**Dursunbey**	**1.31**	**156**	*i* P	Pn	15 59 03.9	+0.2
DURS				*i* S	Sn	15 59 21.5	+0.3
DURS	**Dursunbey**	**1.31**	**156**	*i* P	Pn	15 59 03.9	+0.2
DURS				*i* S	Sn	15 59 21.5	+0.3
ALN	**Alexandroupoli**	**1.32**	**275**	P	Pn	15 59 03.3	-0.4
ALN				S	Sg	15 59 28.4	+6.4
ALN	**Alexandroupoli**	**1.32**	**275**	P	Pn	15 59 03.0	-0.7
ALN				S	Sn	15 59 21.3	+0.1
ALN	**Alexandroupoli**	**1.32**	**275**	*e*PN	Pn	15 59 02.7	-1.0
ALN	**Alexandroupoli**	**1.32**	**275**	*e*Pn	Pn	15 59 03.3	-0.4
ALN	**Alexandroupoli**	**1.32**	**275**	P	Pn	15 59 03.3	-0.4
ALN				S	Sn	15 59 21.3	+0.1
DST	**Dursunbey**	**1.36**	**151**	*e*PN	Pn	15 59 04.0	-0.3
DST	**Dursunbey**	**1.36**	**151**	Pn	Pn	15 59 04.0	-0.3
DST	**Dursunbey**	**1.36**	**151**	*e*Pn	Pn	15 59 04.0	-0.3
HRT	**Hereke**	**1.43**	**89**	*e*PN	Pn	15 59 04.5	-0.8
HRT	**Hereke**	**1.43**	**89**	*e*Pn	Pn	15 59 04.5	-0.8
SILT	**Sile**	**1.45**	**75**	*e*PN	Pn	15 59 05.8	+0.2
SILT	**Sile**	**1.45**	**75**	Pn	Pn	15 59 05.0	-0.6
SILT	**Sile**	**1.45**	**75**	*e*Pn	Pn	15 59 05.8	+0.2
EZN	**Ezine**	**1.48**	**229**	*e*PN	Pn	15 59 05.7	-0.2
EZN	**Ezine**	**1.48**	**229**	Pn	Pn	15 59 05.5	-0.4
EZN	**Ezine**	**1.48**	**229**	*e*Pn	Pn	15 59 05.7	-0.2
ADVT	**Abdulvahap**	**1.54**	**103**	*e*PN	Pn	15 59 06.1	-0.6
ADVT	**Abdulvahap**	**1.54**	**103**	Pn	Pn	15 59 06.1	-0.6
ADVT	**Abdulvahap**	**1.54**	**103**	*e*Pn	Pn	15 59 06.1	-0.6
BOZC	**Bozcaada**	**1.63**	**235**	*i* P	Pn	15 59 07.5	-0.5
BOZC				*i* S	Sn	15 59 29.2	+0.2
CAVI	**Cavuskoy**	**1.68**	**110**	*e*PN	Pn	15 59 08.7	-0.1
CAVI	**Cavuskoy**	**1.68**	**110**	*e*Pn	Pn	15 59 08.7	-0.1
AYVA	**Ayvalik**	**1.71**	**210**	*i* P	Pn	15 59 09.0	-0.1
AYVA				*i* S	Sb	15 59 31.9	-0.3
AYVA				*i* S	Sg	15 59 34.7	+0.2
AYVA	**Ayvalik**	**1.71**	**210**	*i* P	Pn	15 59 09.0	-0.1
AYVA				*i* S	Sb	15 59 31.9	-0.3
JMB	**Yambol**	**1.89**	**332**	P	Pn	15 59 12.0	+0.4
JMB	**Yambol**	**1.89**	**332**	P	Pn	15 59 12.0	+0.4
DEMI	**Demirci**	**1.90**	**157**	*e*P	Pn	15 59 11.9	+0.1
DEMI				*e*S	Sb	15 59 37.4	-0.4
DEMI	**Demirci**	**1.90**	**157**	*e*P	Pn	15 59 11.9	+0.1
DEMI				*e*S	Sb	15 59 37.4	-0.4
AKHS	**Akhisar**	**1.92**	**179**	*i* P	Pn	15 59 11.8	-0.2
AKHS				*i* S	Sn	15 59 35.3	-0.8
AKHS	**Akhisar**	**1.92**	**179**	*i* P	Pn	15 59 11.8	-0.2
AKHS				*i* S	Sn	15 59 35.3	-0.8
AKS	**Akhisar**	**1.92**	**179**	*e*PN	Pn	15 59 12.2	+0.2
AKS	**Akhisar**	**1.92**	**179**	Pn	Pn	15 59 12.2	+0.2
AKS	**Akhisar**	**1.92**	**179**	*e*Pn	Pn	15 59 12.2	+0.2
SPNC	**Sapanca-Adapaz**	**1.92**	**93**	*e*PN	Pn	15 59 12.2	+0.1
SPNC	**Sapanca-Adapaz**	**1.92**	**93**	Pn	Pn	15 59 11.8	-0.3
SPNC	**Sapanca-Adapaz**	**1.92**	**93**	*e*Pn	Pn	15 59 12.2	+0.1
PRK	**Paraskevi**	**1.94**	**217**	P	Pn	15 59 11.8	-0.4
PRK				S	Sg	15 59 44.2	+2.4
PRK	**Paraskevi**	**1.94**	**217**	P	Pn	15 59 12.2	0.0
PRK				S	Sn	15 59 37.4	+0.9
PRK	**Paraskevi**	**1.94**	**217**	*e*PN	Pn	15 59 12.4	+0.2
PRK	**Paraskevi**	**1.94**	**217**	*e*PB	Pn	15 59 12.4	+0.2
PRK	**Paraskevi**	**1.94**	**217**	P	Pn	15 59 12.2	0.0
PRK	**Paraskevi**	**1.94**	**217**	*e*Pn	Pn	15 59 12.4	+0.2
PRK				S	Sn	15 59 37.4	+0.9
KDZ	**Kurdzhali**	**1.97**	**296**	P	Pn	15 59 12.8	0.0
KDZ	**Kurdzhali**	**1.97**	**296**	P	Pn	15 59 12.8	0.0
GPA	**Golpazari**	**1.99**	**104**	*e*PN	Pn	15 59 13.0	-0.1
GPA	**Golpazari**	**1.99**	**104**	Pn	Pn	15 59 13.0	-0.1
GPA	**Golpazari**	**1.99**	**104**	*e*Pn	Pn	15 59 13.0	-0.1
DIM	**Dimitrovgrad**	**2.10**	**307**	P	Pn	15 59 14.0	-0.5
DIM	**Dimitrovgrad**	**2.10**	**307**	P	Pn	15 59 14.0	-0.5
GULT	**Gulveren**	**2.11**	**99**	*e*PN	Pn	15 59 14.7	-0.1
GULT	**Gulveren**	**2.11**	**99**	Pn	Pn	15 59 14.4	-0.4
GULT	**Gulveren**	**2.11**	**99**	*e*Pn	Pn	15 59 14.7	-0.1
LIA	**Limnos Island**	**2.18**	**246**	P	Pn	15 59 15.7	+0.1
LIA				S	Sg	15 59 51.4	+1.9
LIA	**Limnos Island**	**2.18**	**246**	P	Pn	15 59 14.9	-0.7
LIA				S	Sn	15 59 43.1	+0.6
LIA	**Limnos Island**	**2.18**	**246**	*e*PB	Pn	15 59 14.9	-0.7
LIA	**Limnos Island**	**2.18**	**246**	*e*PN	Pn	15 59 14.8	-0.8
LIA	**Limnos Island**	**2.18**	**246**	*e*Pb	Pn	15 59 14.9	-0.7
LIA	**Limnos Island**	**2.18**	**246**	P	Pn	15 59 15.7	+0.1
LIA				S	Sn	15 59 43.1	+0.6
BORA	**Eskisehir**	**2.24**	**113**	*i* P	Pn	15 59 16.8	+0.3
BORA	**Eskisehir**	**2.24**	**113**	*i* P	Pn	15 59 16.8	+0.3
KULA	**Kula-Manisa**	**2.38**	**163**	*e*PN	Pn	15 59 18.6	+0.1
KULA	**Kula-Manisa**	**2.38**	**163**	Pn	Pn	15 59 18.6	+0.1
KULA	**Kula-Manisa**	**2.38**	**163**	*e*Pn	Pn	15 59 18.6	+0.1
IZM	**Izmir**	**2.43**	**190**	*e*PN	Pn	15 59 19.4	+0.3
IZM	**Izmir**	**2.43**	**190**	Pn	Pn	15 59 19.4	+0.3
IZM	**Izmir**	**2.43**	**190**	*e*Pn	Pn	15 59 19.4	+0.3
RZN	**Rozhen**	**2.48**	**292**	*i* P	Pg	15 59 25.8	-1.1
BLCB	**Balcova**	**2.48**	**194**	*e*PN	Pn	15 59 19.5	-0.2
BLCB	**Balcova**	**2.48**	**194**	Pn	Pn	15 59 19.6	-0.1
BLCB	**Balcova**	**2.48**	**194**	Pn	Pn	15 59 19.6	-0.1
KAVA	**Kavala**	**2.48**	**276**	P	Pn	15 59 19.3	-0.4
KAVA				S	Sg	15 59 57.1	-2.2
KAVA	**Kavala**	**2.48**	**276**	P	Pn	15 59 19.3	-0.4
KAVA	**Kavala**	**2.48**	**276**	P	Pn	15 59 19.3	-0.4
ALT	**Altintas**	**2.50**	**133**	*e*PN	Pn	15 59 20.7	+0.6
ALT	**Altintas**	**2.50**	**133**	Pn	Pn	15 59 19.8	-0.3
ALT	**Altintas**	**2.50**	**133**	Pn	Pn	15 59 19.8	-0.3
MDUB	**Mudurnu**	**2.62**	**96**	*e*PN	Pn	15 59 21.7	-0.1
MDUB	**Mudurnu**	**2.62**	**96**	Pn	Pn	15 59 21.7	-0.1
MDUB	**Mudurnu**	**2.62**	**96**	*e*Pn	Pn	15 59 21.7	-0.1
PLD	**Plovdiv**	**2.65**	**300**	*i* P	Pn	15 59 22.1	0.0
PLD	**Plovdiv**	**2.65**	**300**	*i* P	Pn	15 59 22.1	0.0
ESKT	**Eskisehir**	**2.68**	**118**	*e*PN	Pn	15 59 22.5	-0.1
ESKT	**Eskisehir**	**2.68**	**118**	Pn	Pn	15 59 22.5	-0.1
ESKT	**Eskisehir**	**2.68**	**118**	*e*Pn	Pn	15 59 22.5	-0.1
CHOS	**Chios island**	**2.75**	**209**	P	Pn	15 59 23.5	-0.1
CHOS				S	Sn	15 59 58.3	+1.5
CHOS	**Chios island**	**2.75**	**209**	*e*PN	Pn	15 59 23.9	+0.3
CHOS	**Chios island**	**2.75**	**209**	*e*PN	Pn	15 59 23.8	+0.2
CHOS	**Chios island**	**2.75**	**209**	P	Pn	15 59 23.5	-0.1
CHOS	**Chios island**	**2.75**	**209**	*e*Pn	Pn	15 59 23.9	+0.3
CHOS				S	Sn	15 59 58.3	+1.5
KDZE	**Karadeniz Ereo**	**2.82**	**78**	*e*PN	Pn	15 59 24.1	-0.3
KDZE	**Karadeniz Ereo**	**2.82**	**78**	*e*Pn	Pn	15 59 24.1	-0.3
KHL	**Karahalli**	**2.82**	**151**	*e*PN	Pn	15 59 24.9	+0.5
KHL	**Karahalli**	**2.82**	**151**	Pn	Pn	15 59 24.9	+0.5
KHL	**Karahalli**	**2.82**	**151**	*e*Pn	Pn	15 59 24.9	+0.5
SZH	**Strazhica**	**2.82**	**331**	P	Pn	15 59 24.8	+0.4
SZH	**Strazhica**	**2.82**	**331**	P	Pn	15 59 24.8	+0.4
PSN	**Preselentsi**	**2.90**	**6**	*i* P	Pn	15 59 24.8	-0.6
PSN	**Preselentsi**	**2.90**	**6**	*i* P	Pn	15 59 24.8	-0.6
OUR	**Ouranopolis**	**2.93**	**262**	P	Pn	15 59 26.1	+0.2
OUR	**Ouranopolis**	**2.93**	**262**	P	Pn	15 59 25.6	-0.3
OUR	**Ouranopolis**	**2.93**	**262**	P	Pn	15 59 25.6	-0.3
NVR	**Nevrokopi**	**3.01**	**282**	*e*PN	Pn	15 59 26.7	-0.4
NVR	**Nevrokopi**	**3.01**	**282**	*e*PN	Pn	15 59 27.2	+0.1
NVR	**Nevrokopi**	**3.01**	**282**	*e*Pn	Pn	15 59 26.7	-0.4
PVL	**Pavlikeni**	**3.02**	**324**	*i* P	Pn	15 59 27.7	+0.5
PVL	**Pavlikeni**	**3.02**	**324**	*i* P	Pn	15 59 27.7	+0.5
MANR	**Mangalia**	**3.07**	**11**	*i* P	Pn	15 59 29.7	+1.9
MANR	**Mangalia**	**3.07**	**11**	*i* P	Pn	15 59 28.2	+0.4
SHUT	**Suhut-Afyon**	**3.10**	**136**	*e*PN	Pn	15 59 28.6	+0.3
SHUT	**Suhut-Afyon**	**3.10**	**136**	*e*Pn	Pn	15 59 28.7	+0.3
MMB	**Musomiste**	**3.16**	**286**	*i* P	Pn	15 59 29.4	+0.3
MMB	**Musomiste**	**3.16**	**286**	*i* P	Pn	15 59 29.4	+0.3
SVRH	**Sivrihisar-ESK**	**3.17**	**114**	*e*PN	Pn	15 59 29.6	+0.3
SVRH	**Sivrihisar-ESK**	**3.17**	**114**	Pn	Pn	15 59 29.6	+0.3
SVRH	**Sivrihisar-ESK**	**3.17**	**114**	*e*Pn	Pn	15 59 29.6	+0.3
SMG	**Samos**	**3.17**	**194**	P	Pn	15 59 27.2	-2.1
SMG				S	Sb	16 00 10.9	-3.5
SMG	**Samos**	**3.17**	**194**	P	Pn	15 59 29.1	-0.2
SMG				S	Sn	16 00 08.9	+1.9
SMG	**Samos**	**3.17**	**194**	*e*PN	Pn	15 59 32.5	+3.2
SMG	**Samos**	**3.17**	**194**	*e*PN	Pn	15 59 28.8	-0.5
SMG	**Samos**	**3.17**	**194**	P	Pn	15 59 29.1	-0.2
SMG	**Samos**	**3.17**	**194**	*e*Pn	Pn	15 59 32.5	+3.2
SMG				S	Sn	16 00 08.9	+1.9
SRS	**Serrai**	**3.19**	**277**	P	Pn	15 59 29.1	-0.3
SRS				S	Sb	16 00 14.1	-0.7
SRS	**Serrai**	**3.19**	**277**	P	Pn	15 59 29.1	-0.3
SRS	**Serrai**	**3.19**	**277**	P	Pn	15 59 29.1	-0.3
PGB	**Panagyurishte**	**3.22**	**304**	P	Pn	15 59 31.4	+1.4
PGB				Pg	Pb	15 59 38.8	+2.1
PGB	**Panagyurishte**	**3.22**	**304**	P	Pn	15 59 31.4	+1.4
PAIG	**Paliouri**	**3.25**	**256**	P	Pn	15 59 30.4	+0.1
PAIG				S	Sb	16 00 18.1	+1.4
PAIG	**Paliouri**	**3.25**	**256**	P	Pn	15 59 29.8	-0.5
PAIG	**Paliouri**	**3.25**	**256**	P	Pn	15 59 29.8	-0.5
PLG	**Polygyros**	**3.33**	**264**	P	Pn	15 59 31.5	+0.1
PLG	**Polygyros**	**3.33**	**264**	P	Pn	15 59 31.0	-0.4
PLG	**Polygyros**	**3.33**	**264**	*e*PN	Pn	15 59 30.6	-0.8
PLG	**Polygyros**	**3.33**	**264**	*e*PN	Pn	15 59 30.5	-0.8
PLG	**Polygyros**	**3.33**	**264**	*e*

AKASG	**Malin Array Be**	**9.95**	**5**	Pn		**Pn**	**16 01 00.3**	**-1.9**
	comp=E,1.0nm,0.3s,baz=190,slow=13,SNR=6.1							
AKASG				Sn		**Sn**	**16 02 54.1**	**+0.3**
	comp=E,2.6nm,0.3s,baz=192,slow=25,SNR=13							
AKASG	**Malin Array Be**	**9.95**	**5**	*eP*		**Pn**	**16 01 00.3**	**-1.9**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**9.95**	**5**	Pn		**Pn**	**16 01 00.3**	**-1.9**
AKASG	**Malin Array Be**	**9.95**	**5**	Pn		**Pn**	**16 01 00.3**	**-1.9**
VYHS	**Vyhne**	**9.98**	**323**	*eP*		**Pn**	**16 01 01.5**	**-1.2**
VYHS	**Vyhne**	**9.98**	**323**	*eP*N		**Pn**	**16 01 01.5**	**-1.2**
VYHS	**Vyhne**	**9.98**	**323**	*eP*n		**Pn**	**16 01 01.5**	**-1.2**
ARSA	**Arzberg**	**10.92**	**310⇑**	*iP*		**Pn**	**16 01 15.5**	**-0.1**
ARSA	**Arzberg**	**10.92**	**310⇑**	*iP*		**Pn**	**16 01 15.5**	**-0.1**
	comp=Z,4.4nm,0.6s							
ARSA	**Arzberg**	**10.92**	**310⇑**	*iP*		**Pn**	**16 01 15.5**	**-0.1**
SOKA	**Soboth**	**10.93**	**307⇑**	*iP*		**Pn**	**16 01 15.8**	**+0.1**
SOKA	**Soboth**	**10.93**	**307⇑**	*iP*		**Pn**	**16 01 15.8**	**+0.1**
	comp=Z,7.2nm,1.1s							
SOKA	**Soboth**	**10.93**	**307⇑**	*iP*		**Pn**	**16 01 15.8**	**+0.1**
GERES	**GERESS Array B**	**12.81**	**314**	Pn		**Pn**	**16 01 40.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=118,slow=14,SNR=6.5							
GERES				LR		LR	16 06 48.3	
	comp=Z,126nm,20.2s,baz=112,slow=38							
GERES	**GERESS Array B**	**12.81**	**314**	P		**Pn**	**16 01 40.5**	**-1.0**
GERES	**GERESS Array B**	**12.81**	**314**	Pn		**Pn**	**16 01 40.5**	**-1.0**
GERES	**GERESS Array B**	**12.81**	**314**	Pn		**Pn**	**16 01 40.5**	**-1.0**
GNI	**Garni**	**12.94**	**87**	LR		LR	16 07 01.5	
	comp=Z,121nm,19.5s,baz=272,slow=39							
KHC	**Kasperske Hory**	**13.04**	**314**	*eP*		**Pn**	**16 01 44.0**	**-0.5**
KHC	**Kasperske Hory**	**13.04**	**314**	*eP*		**Pn**	**16 01 44.0**	**-0.5**
KHC				*ex*		x	16 02 09.5	
VSR	**Storozhevoye**	**13.06**	**33**	*eP*		Pn	16 01 48.6	+3.8
VSR				pmax		pmax		
	comp=N,10.0nm,0.8s							
VSR				pmax		pmax		
	comp=E,7.0nm,0.8s							
VSR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
VRHR	**Novokhopersk**	**14.07**	**38**	*eP*		**Pn**	**16 01 59.8**	**+1.3**
VRHR				pmax		pmax		
	comp=N,10.0nm,0.6s							
VRHR				pmax		pmax		
	comp=E,3.0nm,0.6s							
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
DAVA	**Damuels**	**14.40**	**303⇓**	*iP*		**P**	**16 02 11.5**	**+1.3**
DAVA	**Damuels**	**14.40**	**303⇓**	*i*pP		**P**	**16 02 11.5**	**+1.3**
	comp=Z,12nm,0.8s							
DAVA	**Damuels**	**14.40**	**303⇓**	*i*P		**P**	**16 02 11.5**	**+1.3**
SBF	**Sospel**	**15.35**	**288**	*eP*		**P**	**16 02 18.9**	**-1.8**
	comp=Z,82nm,0.9s							
OBN	**Obninsk**	**15.46**	**19**	*eP*		**P**	**16 02 20.4**	**-1.3**
OBN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MBDF	**Montbardon**	**15.91**	**291**	*eP*		**P**	**16 02 27.7**	**+0.7**
	comp=Z,19nm,0.8s							
LPG	**La Plagne**	**16.04**	**294**	*eP*		**P**	**16 02 30.8**	**+2.3**
	comp=Z,25nm,1.0s							
LPL	**La Plagne**	**16.05**	**294**	*eP*		**P**	**16 02 30.8**	**+2.2**
	comp=Z,28nm,0.9s							
CDF	**Champ du Feu**	**16.43**	**304**	*eP*		**P**	**16 02 34.5**	**+1.8**
	comp=Z,55nm,1.1s							
CABF	**La Chapelle**	**16.70**	**298**	*eP*		**P**	**16 02 37.2**	**+1.5**
HAU	**Haudorpre**	**16.89**	**302**	*eP*		**P**	**16 02 38.8**	**+1.1**
PAGF	**Fort de Pagny**	**17.46**	**304**	*eP*		**P**	**16 02 47.5**	**+3.6**
LOR	**Lormes**	**18.34**	**299**	*eP*		**P**	**16 02 55.6**	**+2.0**
	comp=Z,14nm,0.8s							
SSF	**Saint Saulge**	**18.53**	**298**	*eP*		**Pn**	**16 02 58.2**	**+2.3**
BAIF	**Baives**	**18.89**	**307**	*eP*		**Pn**	**16 03 01.0**	**+0.8**
	comp=Z,6.5nm,0.7s							
MIB	**Mutribah**	**19.33**	**118**	*eP*		**Pn**	**16 03 05.4**	**-0.2**
MIB				AMb		AMB	16 03 13.0	
	comp=Z,32nm,0.8s							
MIB	**Mutribah**	**19.33**	**118**	*eP*		**Pn**	**16 03 05.4**	**-0.2**
NAY	**Al-Naaiem**	**19.62**	**120**	*eP*		**P**	**16 03 07.0**	**-0.8**
NAY				AMb		AMB	16 03 15.8	
	comp=Z,9.6nm,0.9s							
NAY	**Al-Naaiem**	**19.62**	**120**	*eP*		**P**	**16 03 07.0**	**-0.8**
	comp=Z,9.6nm,0.9s							
FINES	**FINESS Array B**	**20.70**	**358**	P		**P**	**16 03 17.7**	**-1.5**
	comp=Z,4.0nm,0.9s,baz=196,slow=14,SNR=4.5							
FINES	**FINESS Array B**	**20.70**	**358**	P		**P**	**16 03 17.7**	**-1.5**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**20.70**	**358**	P		**P**	**16 03 17.7**	**-1.5**
FINES	**FINESS Array B**	**20.70**	**358**	P		**P**	**16 03 17.7**	**-1.5**
LDF	**La Druitiere**	**21.22**	**301**	*eP*		**P**	**16 03 23.9**	**-1.1**
	comp=Z,29nm,0.8s							
HFS	**Hagfors**	**21.24**	**340**	P		**P**	**16 03 24.8**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=192,slow=13,SNR=4.5							
HFS	**Hagfors**	**21.24**	**340**	P		**P**	**16 03 24.8**	**-0.4**
HFS				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HFS	**Hagfors**	**21.24**	**340**	P		**P**	**16 03 24.8**	**-0.4**
HFS	**Hagfors**	**21.24**	**340**	P		**P**	**16 03 24.8**	**-0.4**
KLMR	**Klimovskoe**	**21.34**	**16**	*eP*		**P**	**16 03 24.4**	**-1.7**
KLMR				pmax		pmax		
	comp=Z,23nm,1.8s							
GRR	**Gorron**	**21.67**	**300**	*eP*		**P**	**16 03 30.0**	**+0.2**
	comp=Z,30nm,0.6s							
NB2	**NORSAR Subarra**	**22.67**	**339**	P		**P**	**16 03 38.8**	**-1.7**
	comp=Z,3.5nm,0.7s,baz=144,slow=11							
NB2	**NORSAR Subarra**	**22.67**	**339**	P		**P**	**16 03 38.8**	**-1.7**
	comp=Z,3.5nm,0.7s,baz=144,slow=10,SNR=0.1							
NOA	**NORSAR Array B**	**22.67**	**339**	P		**P**	**16 03 39.3**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=144,slow=11,SNR=9.5							
NOA				LR		LR	16 13 29.8	
	comp=Z,54nm,20.0s,baz=65,slow=39							
NOA	**NORSAR Array B**	**22.67**	**339**	P		**P**	**16 03 39.3**	**-1.2**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
NOA				MLR		MLR		
	comp=Z,54nm,20.0s							
NOA	**NORSAR Array B**	**22.67**	**339**	P		**P**	**16 03 39.3**	**-1.2**
NOA	**NORSAR Array B**	**22.67**	**339**	P		**P**	**16 03 39.3**	**-1.2**
SGMF	**Saint Gilles**	**22.77**	**299**	*eP*		**P**	**16 03 42.0**	**+0.4**
	comp=Z,24nm,0.7s							
AKTO	**Aktyubinsk**	**23.10**	**55**	P		**P**	**16 03 46.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=269,slow=14,SNR=3.4							
AKTO				LR		LR	16 14 18.9	
	comp=Z,88nm,19.9s,baz=83,slow=41							
AKTO	**Aktyubinsk**	**23.10**	**55**	P		**P**	**16 03 46.3**	**+1.3**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKTO				MLR		MLR		
	comp=Z,88nm,19.9s							
AKTO	**Aktyubinsk**	**23.10**	**55**	P		**P**	**16 03 46.3**	**+1.3**
AKTO	**Aktyubinsk**	**23.10**	**55**	P		**P**	**16 03 46.3**	**+1.3**
ESDC	**Sonseca Array**	**24.19**	**278**	P		**P**	**16 03 55.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=71,slow=10,SNR=8.6							
ESDC	**Sonseca Array**	**24.19**	**278**	P		**P**	**16 03 55.9**	**0.0**
ESDC	**Sonseca Array**	**24.19**	**278**	P		**P**	**16 03 55.8**	**0.0**
ARU	**Arti**	**25.37**	**42**	*d iP*		**P**	**16 04 11.0**	**+4.7**
ARU							16 04 48.4	
ARU				S		S	16 08 41.1	+8.8
ARU				SS			16 09 35.6	
ARU				pmax		pmax		
	comp=Z,22nm,1.2s							
ARCES	**ARCESS Array B**	**28.82**	**358**	P		**P**	**16 04 37.0**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=214,slow=5.9,SNR=5.0							
ARCES	**ARCESS Array B**	**28.82**	**358**	P		**P**	**16 04 37.0**	**-0.2**
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**28.82**	**358**	P		**P**	**16 04 37.0**	**-0.2**
ARCES	**ARCESS Array B**	**28.82**	**358**	P		**P**	**16 04 37.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**35.78**	**227**	P		**P**	**16 05 38.0**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=35,slow=8.9,SNR=16							
TORD	**Torodi Ar. Bea**	**35.78**	**227**	P		**P**	**16 05 38.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**35.78**	**227**	P		**P**	**16 05 38.0**	**-0.5**
MKAR	**Makanchi Array**	**39.13**	**62**	P		**P**	**16 06 07.5**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=275,slow=7.0,SNR=16							
MKAR	**Makanchi Array**	**39.13**	**62**	P		**P**	**16 06 07.6**	**+0.9**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**39.13**	**62**	*eP*		P	16 06 10.1	+3.4
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**39.13**	**62**	P		**P**	**16 06 07.5**	**+0.9**
MKAR	**Makanchi Array**	**39.13**	**62**	P		**P**	**16 06 07.6**	**+0.9**
ZALV	**Zalesovo Beam**	**39.72**	**51**	P		**P**	**16 06 12.2**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=274,slow=9.1,SNR=6.6							
ZALV				LR		LR	16 23 22.0	
	comp=Z,70nm,18.4s,baz=263,slow=37							
ZALV	**Zalesovo Beam**	**39.72**	**51**	*eP*		**P**	**16 06 12.2**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**39.72**	**51**	P		**P**	**16 06 12.2**	**+0.7**
ZALV	**Zalesovo Beam**	**39.72**	**51**	P		**P**	**16 06 12.2**	**+0.7**
DBIC	**Dimbokro**	**44.76**	**230**	P		**P**	**16 06 51.9**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=58,slow=10,SNR=4.4							
DBIC	**Dimbokro**	**44.76**	**230**	P		**P**	**16 06 51.9**	**-1.0**
DBIC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
DBIC	**Dimbokro**	**44.76**	**230**	P		**P**	**16 06 51.9**	**-1.0**
DBIC	**Dimbokro**	**44.76**	**230**	P		**P**	**16 06 51.9**	**-1.0**
LIC	**Lamto**	**45.21**	**229**	*eP*		**P**	**16 06 55.8**	**-0.8**
	comp=Z,9.8nm,0.8s							
ZAK	**Zakamensk**	**51.56**	**52**	*eP*		P	16 07 41.5	-3.8
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**54.41**	**54**	P		**P**	**16 08 05.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=291,slow=4.5,SNR=2.6							
SONM	**Songino Array**	**54.41**	**54**	P		**P**	**16 08 05.8**	**-0.6**
SONM	**Songino Array**	**54.41**	**54**	P		**P**	**16 08 05.8**	**-0.6**
SONM	**Songino Array**	**54.41**	**54**	P		**P**	**16 08 05.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**64.06**	**87**	P		**P**	**16 09 13.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=3.2							
CMAR				LR		LR	16 42 29.9	
	comp=Z,21nm,18.2s,baz=315,slow=41							
CMAR	**Chiang Mai Arr**	**64.06**	**87**	P		**P**	**16 09 13.3**	**-0.2**
CMAR				MLR		MLR		
	comp=Z,21nm,18.2s							
CMAR	**Chiang Mai Arr**	**64.06**	**87**	P		**P**	**16 09 13.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**64.06**	**87**	P		**P**	**16 09 13.2**	**-0.2**
YKA	**Yellowknife Ar**	**72.70**	**343**	P		**P**	**16 10 07.1**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=21,slow=6.9,SNR=8.2							
YKA	**Yellowknife Ar**	**72.70**	**343**	P		**P**	**16 10 07.1**	**+0.3**
YKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**72.70**	**343**	P		**P**	**16 10 07.1**	**+0.3**
YKA	**Yellowknife Ar**	**72.70**	**343**	P		**P**	**16 10 07.1**	**+0.3**
ILAR	**Eielson Array**	**74.68**	**358**	P		**P**	**16 10 18.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=349,slow=4.9,SNR=13							
ILAR	**Eielson Array**	**74.68**	**358**	P		**P**	**16 10 18.5**	**0.0**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**74.68**	**358**	P		**P**	**16 10 18.4**	**0.0**
ILAR	**Eielson Array**	**74.68**	**358**	P		**P**	**16 10 18.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**75.25**	**40**	*eP*		**P**	**16 10 22.0**	**0.0**

*NEIC **24** 16:00:30.6±1.0,29.°13S×177.°98W,h89km±8km, mb4.7/4, Error ellipse: s-maj=19.7km s-min=12.8km az=158.0*
*IDC **24** 16:00:33.3±12.0,28.°96S×178.°11W,h106km±106km, mb4.1/5,mb1 4.3/5,mb1mx3.9/16,mbtmp4.1/5,MS3.6/3, Ms1 3.6/3,ms1mx3.3/20, Error ellipse: s-maj=41.7km s-min=25.1km az=56.0*

ISC 24 16:00:32.0±0.7,29.°1S±0.°2×177.°9W±0.°1,h100km,n65, σ1ŝ31/45,mb4.5/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.18**	**177**	*e*Sg	Sn	16 00 43.6	-13
MXZ	**Matakaoa Point**	**9.03**	**199**	*e*PN	Pn	16 02 21.0	-18
MXZ				*e*SN	Sn	16 03 57.4	-22
OUZ	**Omahuta**	**9.44**	**227**	*e*P	Pn	16 02 41.3	-3.7
	15nm,0.5s						
PUZ	**Puketiti**	**9.52**	**199**	PN	Pn	16 02 25.7	-20
PUZ				*e*SN	Sn	16 04 05.8	-26
CNGZ	**Carnagh Statio**	**9.92**	**198**	PN	Pn	16 02 32.4	-19
MWZ	**Matawai**	**9.98**	**201**	PN	Pn	16 02 33.2	-19
MWZ				*e*SN	Sn	16 04 19.9	-23
URZ	**Urewera**	**10.05**	**203**	*e*PN	Pn	16 02 34.3	-19
BKZ	**Black Stump Fm**	**11.08**	**203**	PN	Pn	16 02 45.7	-22
BFZ	**Birch Farm**	**12.53**	**201**	*e*PN	Pn	16 03 08.6	-18
MRZ	**Mangatainoka R**	**12.73**	**203**	*e*SN	Sn	16 05 17.8	-31
CTZ	**Chatham Island**	**14.67**	**176**	PN	Pn	16 03 35.7	-19
THZ	**Tophouse**	**14.69**	**208**	*e*PN	Pn	16 03 35.5	-19
DZM	**Mont Dzumac**	**15.72**	**293**	*e*LR	LR	16 08 14.0	
	230nm,25.6s						
DZM	**Mont Dzumac**	**15.72**	**293**	LR	LR	16 08 41.6	
	comp=Z,138nm,20.5s,baz=198,slow=31						
TBI	**Tubuai**	**26.13**	**84**	*e*LR	LR	16 12 22.9	
	118nm,26.5s						
EIDS	**Eidsvold**	**27.76**	**270**	*e*P	**P**	**16 06 12.1**	**+0.6**
	5.8nm,0.7s						
PPT2	**Papeete2**	**28.36**	**72**	*e*LR	LR	16 13 22.3	
	120nm,25.5s						
CTA	**Charters Tower**	**33.67**	**277**	P	**P**	**16 07 06.1**	**+2.6**
	9.9nm,0.5s,baz=103,slow=11,SNR=40						
CTA	**Charters Tower**	**33.67**	**277**	P	**P**	**16 07 06.1**	**+2.6**
CTAO	**Charters Tower**	**33.67**	**277**	*e*P	**P**	**16 07 05.9**	**+2.4**
	8.6nm,0.6s						
STKA	**Stephens Creek**	**34.86**	**255**	P	**P**	**16 07 13.4**	**-0.2**
	4.5nm,0.6s,baz=100,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.86**	**255**	*e*P	**P**	**16 07 12.0**	**-1.6**
AS31	**Alice Springs**	**43.26**	**266**	*e*P	**P**	**16 08 22.2**	**-1.6**
ASAR	**Alice Springs**	**43.26**	**265**	P	**P**	**16 08 22.6**	**-1.1**
	3.6nm,0.5s,baz=101,slow=7.2,SNR=99						
ASAR				PcP	**PcP**	**16 10 11.7**	**+0.4**
	0.4nm,0.6s,baz=109,slow=4.3,SNR=4.1						
ASAR	**Alice Springs**	**43.26**	**265**	P		**16 08 22.6**	**-1.1**
ASAR				PcP	**PcP**	**16 10 11.7**	**+0.4**
WB2	**Warramunga Arr**	**44.12**	**271**	*e*P	**P**	**16 08 29.6**	**-1.0**
WRAB	**Tennant Creek**	**44.12**	**271**	*e*P	**P**	**16 08 29.7**	**-1.0**
	6.0nm,0.7s						
WRA	**Warramunga Arr**	**44.13**	**271**	P	**P**	**16 08 30.1**	**-0.7**
	6.0nm,0.6s,baz=111,slow=7.5,SNR=66						
WRA	**Warramunga Arr**	**44.13**	**271**	P	**P**	**16 08 30.1**	**-0.7**
VNDA	**Vanda**	**49.42**	**186**	P	**P**	**16 09 10.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.44**	**269**	LR	LR	16 32 59.2	
	comp=Z,69nm,18.0s,baz=292,slow=37						
GUMO	**Guam**	**55.59**	**315**	LR	LR	16 30 49.9	
	comp=Z,60nm,18.7s,baz=95,slow=33						
QSPA	**South Pole Qui**	**61.03**	**180**	P	**P**	**16 10 36.3**	**+1.4**
	10.0nm,0.6s,baz=33,slow=1.5,SNR=57						
QSPA	**South Pole Qui**	**61.03**	**180**	*e*P	**P**	**16 10 36.0**	**+1.1**
	11nm,0.7s						
ISA	**Isabella**	**85.31**	**45**	P	**P**	**16 12 58.3**	**+0.4**
CMB	**Columbia Colle**	**85.73**	**42**	P	**P**	**16 12 59.6**	**-0.3**
NVAR	**Mina Array Bea**	**87.22**	**43**	P	**P**	**16 13 07.6**	**+0.2**
	0.7nm,0.8s,baz=225,slow=8.3,SNR=6.4						
NVAR	**Mina Array Bea**	**87.22**	**43**	P	**P**	**16 13 07.6**	**+0.2**
MKAR	**Makanchi Array**	**116.97**	**311**	PKP	**PKPdf**	**16 19 03.4**	**-1.4**
	0.2nm,0.6s,baz=270,slow=1.0,SNR=3.6						
MKAR	**Makanchi Array**	**116.97**	**311**	PKP	**PKPdf**	**16 19 03.4**	**-1.4**
KURK	**Kurchatov**	**120.17**	**314**	PKP	**PKPdf**	**16 19 09.6**	**-1.2**
	0.9nm,0.6s,baz=114,slow=1.9,SNR=12						
KURK	**Kurchatov**	**120.17**	**314**	PKP	**PKPdf**	**16 19 09.6**	**-1.2**
BVAR	**Borovoye Array**	**125.50**	**316**	PKP	**PKPdf**	**16 19 20.7**	**-0.3**
	0.9nm,0.6s,baz=108,slow=1.9,SNR=7.9						
BVAR	**Borovoye Array**	**125.50**	**316**	PKP	**PKPdf**	**16 19 20.7**	**-0.3**
AKTO	**Aktyubinsk**	**133.25**	**313**	PKP	**PKPdf**	**16 19 36.2**	**+0.5**
	0.9nm,0.7s,baz=251,slow=3.8,SNR=4.6						
AKTO	**Aktyubinsk**	**133.25**	**313**	PKP	**PKPdf**	**16 19 36.2**	**+0.5**
ARCES	**ARCESS Array B**	**137.31**	**348**	PKhKP	PKPpre	16 19 34.7	
	0.6nm,0.5s,baz=55,slow=1.6,SNR=10						
ARCES				PKP	**PKPdf**	**16 19 42.7**	**-0.1**
	1.4nm,0.7s,baz=225,slow=0.9,SNR=4.4						
ARCES	**ARCESS Array B**	**137.31**	**348**	PKPpre	PKPpre	16 19 34.7	
ARCES				PKP	**PKPdf**	**16 19 42.7**	**-0.1**
JOF	**Joensuu**	**141.21**	**339**	*e*pkp	**PKPdf**	**16 19 46.9**	**-3.2**
JOF	**Joensuu**	**141.21**	**339**	*e*pkp	**PKPdf**	**16 19 46.9**	**-3.2**
KAF	**Kangasniemi**	**143.32**	**341**	*e*pkp	PKPab	16 19 50.0	0.0
KAF	**Kangasniemi**	**143.32**	**341**	*e*pkp	PKPab	16 19 50.0	0.0
FINES	**FINESS Array B**	**143.92**	**341**	PKP	PKPab	16 19 53.0	+0.6
	8.9nm,0.5s,baz=53,slow=3.8,SNR=88						
FINES	**FINESS Array B**	**143.92**	**341**	PKP	PKPab	16 19 53.0	+0.6
NB2	**NORSAR Subarra**	**147.45**	**352**	PKP	**PKPbc**	**16 20 03.3**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**147.45**	**352**	PKPbc	**PKPbc**	**16 20 03.6**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=15,slow=4.4,SNR=8.9						
NOA	**NORSAR Array B**	**147.45**	**352**	PKPbc	**PKPbc**	**16 20 03.6**	**-0.1**
HFS	**Hagfors**	**147.96**	**349**	PKPbc	**PKPbc**	**16 20 04.9**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=62,slow=3.5,SNR=11						
HFS	**Hagfors**	**147.96**	**349**	PKPbc	PKPbc	**16 20 04.9**	**-0.1**
AKASG	**Malin Array Be**	**150.28**	**324**	PKPbc	**PKPbc**	**16 20 10.8**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=48,slow=2.8,SNR=16						
AKASG	**Malin Array Be**	**150.28**	**324**	PKPbc	**PKPbc**	**16 20 10.8**	**-0.3**
GERES	**GERESS Array B**	**158.33**	**339**	PKPab	**PKPab**	**16 20 53.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**164.15**	**179**	PKPab	**PKPab**	**16 21 19.5**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=177,slow=4.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**164.15**	**179**	PKPab	**PKPab**	**16 21 19.5**	**+1.4**

IDC 24 16:07:17.2±11.0,1.°66S×132.°78E,h0km,mb3.6/2,
mb1 3.6/3,mb1mx3.3/16,mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=182.9km s-min=130.8km az=131.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.24**	**175**	P	Pn	16 11 32.1	+0.1
	0.0nm,0.3s,baz=354,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**21.91**	**177**	P	P	16 12 11.9	-0.3
	0.3nm,0.3s,baz=358,slow=11,SNR=12						
STKA	**Stephens Creek**	**31.19**	**165**	P	P	16 13 38.3	+0.1
	2.3nm,0.8s,baz=344,slow=15,SNR=3.7						

*MAN **24** 16:11:52,9.°12N×126.°40E,h6km, mb4.9,ML3.8,MS3.8*
*IDC **24** 16:11:54.4±7.4,9.°50N×127.°05E,h78km±65km,mb3.2/6, mb1 3.4/7,mb1mx3.2/22,mbtmp3.3/7,ML4.2/1,Error ellipse: s-maj=70.2km s-min=18.3km az=67.0*

ISC 24 16:11:50.8±2.3,9.°2N±0.°1×126.°5E±0.°1,h10km,n14, σ1ŝ73/10,mb3.4/6,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.88**	**253**	*eP*	**Pg**	**16 12 07.1**	**-0.6**
MSLP	**Maasin**	**1.82**	**300**	*eP*	**Pn**	**16 12 21.5**	**-0.7**
CGP	**Cagayan de Oro**	**1.92**	**246**	*eP*	**Pn**	**16 12 23.2**	**-0.3**
CGP				*e*S	**Sn**	**16 12 47.0**	**-0.7**
BUKP	**Musuan**	**1.94**	**226**	*eP*	**Pb**	**16 12 25.0**	**-1.3**
MATI	**Mati**	**2.28**	**185**	*eP*	**Pn**	**16 12 29.0**	**+0.4**
DAV	**Davao City (W)**	**2.32**	**202**	P	**Pg**	**16 12 37.2**	**+1.8**
	36nm,0.3s,baz=243,slow=11,SNR=5.8						
DAV				S	Sg	16 13 11.0	+5.5
	67nm,0.3s,baz=322,slow=16,SNR=7.2						
TBP	**Tagbilaran**	**2.61**	**280**	*eP*	**Pn**	**16 12 35.5**	**+2.4**
TBP				*e*S	**Sn**	**16 13 07.4**	**+2.5**
CTBH	**Cotabato--PC H**	**2.97**	**228**	*i*P	Pn	16 12 32.1	-6.0
FITZ	**Fitzroy Crossi**	**27.17**	**182**	P	**P**	**16 17 33.1**	**-1.5**
	1.3nm,0.8s,baz=351,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**30.01**	**165**	P	P	16 17 56.6	-3.3
	0.2nm,0.6s,baz=347,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**33.50**	**168**	P	P	16 18 27.7	-2.9
	0.2nm,0.5s,baz=350,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**52.97**	**323**	P	P	16 21 03.0	-4.6
	0.2nm,0.7s,baz=134,slow=6.6,SNR=3.2						
KURK	**Kurchatov**	**57.03**	**326**	P	P	16 21 32.8	-4.0
	0.3nm,0.6s,baz=122,slow=6.7,SNR=3.7						
ARCES	**ARCESS Array B**	**85.23**	**340**	P	P	16 24 23.4	-3.9
	2.4nm,1.0s,baz=72,slow=7.8,SNR=6.2						

*BJI **24** 16:15:42.9,13.°10N×89.°40W,h70km, mB5.2/2,Ms5.0/2, Ms7 4.7/2*
*ISCJB **24** 16:15:43.4±0.4,13.°13N±0.°04×89.°

HUIG Huatulco 7.07 292 *i* P Pn 16 17 24.6 0.0
HUIG *i* S Sn 16 18 36.0 -7.5
TEIG Tepich 7.09 8 *e*Pn Pn 16 17 26.9 +2.0
comp=Z,199nm,0.5s
TEIG *e* 16 17 36.9
VHO Vista Hermosa 8.15 299 *i* P Pn 16 17 41.6 +2.1
VHO *i* S Sn 16 19 06.0 -4.2
VHO Vista Hermosa 8.15 299 *i* P Pn 16 17 41.6 +2.1
VHO *i* S Sn 16 19 06.0 -4.2
PNIG Pinotepa 9.11 292 *i* P Pn 16 17 52.9 +0.5
PNIG *i* S Sn 16 19 28.7 -4.7
PNIG Pinotepa 9.11 292 *i* P Pn 16 17 52.9 +0.5
PNIG *i* S Sn 16 19 28.7 -4.7
BCIP Isla Barro Col 10.11 112 *e*Pn Pn 16 18 07.7 +1.5
comp=Z,86nm,1.0s
MTDJ Mount Denham 12.41 65 *e*Pn Pn 16 18 40.5 +2.9
comp=Z,106nm,0.8s
DWPF Disney 16.59 25 *e*Pn P 16 19 34.7 +1.5
comp=Z,71nm,0.9s
OTAV Otavalo 16.76 139 *e*Pn Pn 16 19 30.1 -4.4
comp=Z,12nm,1.2s
ROSC El Rosal 16.94 118 P P 16 19 38.7 +1.1
comp=Z,0.9nm,0.3s,baz=120,slow=17,SNR=4.9
ROSC LR LR 16 26 26.4
comp=Z,128nm,18.3s,baz=343,slow=38
ROSC El Rosal 16.94 118 P P 16 19 38.7 +1.1
SDV Santo Domingo 18.82 101 *e*P P 16 19 57.8 -0.3
comp=Z,24nm,0.8s
SDV *e* 16 20 15.0
VBMS Vicksburg 19.00 357 *e*P Pn 16 20 02.4 +1.4
comp=Z,66nm,0.7s
NATX Nacogdoches 19.15 346 P Pn 16 20 03.0 +0.2
comp=Z,97nm,0.4s
JCT Junction City 19.77 332 *e*P P 16 20 08.0 -0.1
comp=Z,18nm,0.9s
JCT Junction City 19.77 332 ⇓P Pn 16 20 09.7 -0.5
baz=20
JCT ⇓P Pn 16 20 09.7 -0.5
baz=20
LRAL Lakeview Retre 19.89 6 *e*P Pn 16 20 11.0 -0.6
comp=Z,22nm,1.0s
628A Black Gap, Mar 20.55 324 ⇑P Pn 16 20 18.8 -0.7
baz=21,SNR=14
628A ⇑P Pn 16 20 18.8 -0.7
baz=21,SNR=14
627A Terlingua Ranc 20.81 323 ⇑P Pn 16 20 21.7 -1.0
baz=21,SNR=23
627A ⇑P Pn 16 20 21.7 -1.0
baz=21,SNR=23
GOGA Godfrey 20.85 14 *e*P P 16 20 20.4 +0.7
comp=Z,27nm,0.9s
TXAR Lajitas Array 20.89 323 P Pn 16 20 22.7 -0.8
comp=Z,7.6nm,0.8s,baz=143,slow=9.7,SNR=45
TXAR pP pP 16 20 36.3 +1.2
comp=Z,10nm,1.0s,baz=140,slow=9.9,SNR=8.4
TXAR PcP **PcP 16 24 27.6 +1.4**
comp=Z,0.7nm,0.7s,baz=176,slow=3.8,SNR=4.1
TXAR Lajitas Array 20.89 323 P Pn 16 20 22.7 -0.8
TXAR pP pP 16 20 36.3 +1.2
TXAR PcP **PcP 16 24 27.6 +1.4**
OXF Oxford 21.25 360 *e*P P 16 20 25.5 +1.4
comp=Z,162nm,1.1s
OXF *e* 16 20 42.2
626A Big Bend Ranch 21.32 322 ⇓P P 16 20 26.8 +1.8
baz=21,SNR=7.9
626A ⇓P P 16 20 26.8 +1.8
baz=21,SNR=7.9
527A Woodward Ranch 21.45 324 ⇑P P 16 20 27.7 +1.3
baz=22,SNR=7.2
527A ⇑P P 16 20 27.7 +1.3
baz=22,SNR=7.2
NHSC New Hope 21.53 21 *e*P P 16 20 29.6 +2.6
comp=Z,178nm,1.2s
NHSC *e* 16 20 44.8
526A Mary Lane Ranc 21.67 323 ⇑P P 16 20 30.2 +1.4
baz=22,SNR=11
526A ⇑P P 16 20 30.2 +1.4
baz=22,SNR=11
UALR University of 21.69 353 *e*P P 16 20 30.1 +1.4
comp=Z,35nm,0.9s
UALR *e* 16 20 45.2
328A Wristen Ranch, 21.97 328 ⇑P P 16 20 33.1 +1.2
baz=22,SNR=20
328A ⇑P P 16 20 33.1 +1.2
baz=22,SNR=20
426A McDonald Obser 22.09 324 ⇓P P 16 20 34.6 +1.3
baz=22
426A ⇓P P 16 20 34.6 +1.3
baz=22
SWET Sewanee 22.16 7 *e*P P 16 20 34.2 +0.3
comp=Z,9.9nm,0.7s
SWET *e* 16 20 47.3
HBAR Harrisburg 22.32 357 P P 16 20 36.8 +1.3
CPCT Cooper Cave 22.60 10 *e*P P 16 20 38.5 0.0
CPCT *e* 16 20 54.1
HALT Halls 22.65 360 P P 16 20 38.9 -0.1
ATAH Atahualpa 22.90 151 P P 16 20 46.0 +3.7
comp=Z,7.5nm,0.8s,baz=25,slow=7.1,SNR=4.3
ATAH Atahualpa 22.90 151 P P 16 20 46.0 +3.7
WVT Waverly 22.90 3 *e*P P 16 20 38.6 -3.0
comp=Z,11nm,0.9s
TKL Tuckaleechee C 22.95 12 P P 16 20 43.0 +0.9
comp=Z,12nm,0.4s,baz=154,slow=9.6,SNR=17
TKL LR LR 16 30 09.3
comp=Z,242nm,21.0s,baz=240,slow=38
TKL Tuckaleechee C 22.95 12 *e*P P 16 20 42.5 +0.4
KMSC Kings Mountain 23.04 17 ⇓P P 16 20 44.0 +1.0
baz=23
KMSC ⇓P P 16 20 44.0 +1.0
baz=23
WMOK Wichita Mounta 23.12 340 *e*P P 16 20 42.5 -1.4
comp=Z,39nm,1.1s
WMOK *e* 16 20 58.2
PARMO Parma 23.40 359 *e*P P 16 20 47.7 +1.3
PARMO *e* 16 21 02.9
GDL2 Guadalupe Moun 23.43 326 *e*P P 16 20 48.4 +1.4
comp=Z,2.2nm,0.5s
324A Moseley Ranch, 23.49 323 ⇓P P 16 20 48.6 +1.1
baz=24
324A ⇓P P 16 20 48.6 +1.1
baz=24
MNTX Cornudas Mount 23.62 324 ⇓P P 16 20 49.6 +1.1
baz=24,SNR=8.9
MNTX ⇓P P 16 20 49.6 +1.1
baz=24,SNR=8.9
MNTX ⇓P P 16 20 49.6 +1.1
baz=24,SNR=8.9
MNTX ⇓P P 16 20 49.6 +1.1
baz=24,SNR=8.9
Z27A Tatum 23.73 330 ⇑P P 16 20 48.8 -0.8
baz=24,SNR=10.0
Z27A ⇑P P 16 20 48.8 -0.8
baz=24,SNR=10.0
CPRX Cap Rock 23.82 328 *e*P P 16 20 50.5 +0.1
comp=Z,14nm,0.9s
TZTN Tazewell 23.85 12 *e*P P 16 20 50.8 +0.3
comp=Z,24nm,1.0s
TZTN *e* 16 21 06.6
X29A Tulia 23.98 334 ⇓P P 16 20 52.3 +0.5
baz=24
X29A ⇓P P 16 20 52.3 +0.5
baz=24
224A Cornudas Mount 23.98 324 ⇓P P 16 20 52.1 +0.1
baz=24,SNR=9.1
224A ⇓P P 16 20 52.1 +0.1
baz=24,SNR=9.1
MSTX Muleshoe 24.05 332 ⇑P P 16 20 52.3 -0.2
baz=24,SNR=10
MSTX ⇑P P 16 20 52.3 -0.2
baz=24,SNR=10
Z26A Caprock 24.07 329 ⇓P P 16 20 53.1 +0.4
baz=24,SNR=6.8
Z26A ⇓P P 16 20 53.1 +0.4
baz=24,SNR=6.8
Y27A Causey 24.17 331 ⇓P P 16 20 53.3 -0.2
baz=24,SNR=18
Y27A ⇓P P 16 20 53.3 -0.2
baz=24,SNR=18
CNNC Cliffs of the 24.28 23 P P 16 20 54.6 +0.3
comp=Z,52nm,0.9s
AMTX Amarillo 24.35 335 *e*P P 16 20 55.7 +0.6
comp=Z,21nm,0.6s
AMTX Amarillo 24.35 335 ⇓P P 16 20 55.7 +0.6
baz=24,SNR=12
AMTX ⇓P P 16 20 55.7 +0.6
baz=24,SNR=12
124A Stringfield Ra 24.41 325 ⇑P P 16 20 58.1 +2.2
baz=24,SNR=10
124A ⇑P P 16 20 58.1 +2.2
baz=24,SNR=10
SIUC Southern Illin 24.45 0 *e*P P 16 20 55.8 -0.1
comp=Z,64nm,1.0s
Z25A Roswell 24.46 327 ⇑P P 16 20 57.2 +1.0
baz=24,SNR=5.2
Z25A ⇑P P 16 20 57.2 +1.0
baz=24,SNR=5.2
Y26A Elida 24.52 330 ⇑P P 16 20 56.8 +0.1
baz=25,SNR=11
Y26A ⇑P P 16 20 56.8 +0.1
baz=25,SNR=11
FVM French Village 24.73 358 *e*P P 16 20 57.5 -1.0
comp=Z,12nm,0.8s
FVM *e* 16 21 13.2
USIN University of 24.74 3 *e*P P 16 21 01.0 +2.5
comp=Z,19nm,0.8s
X27A F and S Farms, 24.77 332 ⇑P P 16 20 59.4 +0.4
baz=25
X27A ⇑P P 16 20 59.4 +0.4
baz=25
W28A Vega 24.89 334 ⇓P P 16 21 00.4 +0.4
baz=25
W28A ⇓P P 16 21 00.4 +0.4
baz=25
Y25A Mesa, Roswell 24.95 328 ⇓P P 16 21 01.6 +0.9
baz=25,SNR=7.8
Y25A ⇓P P 16 21 01.6 +0.9
baz=25,SNR=7.8
W27A Bowe Ranch, En 25.10 333 ⇓P P 16 21 02.3 +0.4
baz=25
W27A ⇓P P 16 21 02.3 +0.4
baz=25
WCI Wyandotte Cave 25.10 6 *e*P P 16 21 01.3 -0.6
comp=Z,38nm,0.8s
BLA Blacksburg 25.23 17 *e*P P 16 21 02.8 -0.3
comp=Z,27nm,0.6s
Y24A Capitan 25.34 327 ⇓P P 16 21 05.1 +0.8
baz=25
Y24A ⇓P P 16 21 05.1 +0.8
baz=25
SLM Saint Louis 25.38 358 *e*P P 16 21 06.3 +2.0
comp=Z,47nm,0.8s
OLIL Olney 25.49 2 *e*P P 16 21 05.0 -0.3
comp=Z,18nm,0.8s
OLIL *e* 16 21 21.4
220A Playas Peak, P 25.66 320 ⇑P P 16 21 09.8 +2.6
baz=26,SNR=6.7
220A ⇑P P 16 21 09.8 +2.6
baz=26,SNR=6.7
Y23A Lovelace Mesa, 25.67 326 ⇑P P 16 21 09.2 +1.9
baz=26,SNR=8.4
Y23A ⇑P P 16 21 09.2 +1.9
baz=26,SNR=8.4
W25A X Bar L Ranch, 25.87 331 ⇓P P 16 21 10.1 +1.1
baz=26,SNR=7.5
W25A ⇓P P 16 21 10.1 +1.1
baz=26,SNR=7.5
V26A Tequesquite Ra 26.03 332 ⇓P P 16 21 11.4 +1.0
baz=26
V26A ⇓P P 16 21 11.4 +1.0
baz=26
BNM Barren Site 26.15 326 *e*P P 16 21 12.8 +1.1
comp=Z,4.0nm,1.0s
BNM *e* 16 21 27.4
120A U Bar Ranch, L 26.16 321 ⇓P P 16 21 15.9 +4.2
baz=26,SNR=5.3
120A ⇓P P 16 21 15.9 +4.2
baz=26,SNR=5.3
Y22A Socorro 26.17 325 ⇓P P 16 21 14.6 +2.8
baz=26
Y22A ⇓P P 16 21 14.6 +2.8
baz=26
V25A Rancho No Teng 26.45 331 ⇓P P 16 21 15.6 +1.3
baz=26,SNR=11
V25A ⇓P P 16 21 15.6 +1.3
baz=26,SNR=11
KSU1 Kansas State U 26.63 347 *e*P P 16 21 15.5 -0.1
comp=Z,22nm,0.8s
ANMO Albuquerque 26.66 327 P P 16 21 18.4 +2.2
comp=Z,0.6nm,0.5s,baz=150,slow=11,SNR=4.6
ANMO PcP **PcP 16 24 39.4 +0.8**
comp=Z,1.6nm,0.8s,baz=190,slow=7.0,SNR=3.7
ANMO LR LR 16 32 26.9
comp=Z,98nm,21.4s,baz=157,slow=38
ANMO Albuquerque 26.66 327 P P 16 21 18.4 +2.2
ANMO PcP **PcP 16 24 39.4 +0.8**
W23A Werner Place, 26.66 328 ⇓P P 16 21 17.6 +1.3
baz=27,SNR=6.3
W23A ⇓P P 16 21 17.6 +1.3
baz=27,SNR=6.3
V24A Rampart Ranch, 26.67 330 ⇓P P 16 21 17.6 +1.3
baz=27
V24A ⇓P P 16 21 17.6 +1.3
baz=27
U25A Circle Dot Ran 26.81 332 ⇓P P 16 21 18.2 +0.7
baz=27
U25A ⇓P P 16 21 18.2 +0.7
baz=27
X21A Alamocita Cree 27.01 325 ⇓P P 16 21 21.7 +2.3
baz=27
X21A ⇓P P 16 21 21.7 +2.3
baz=27
TUC Tucson 27.38 318 *e*P P 16 21 22.4 -0.1
comp=Z,3.6nm,0.9s
TUC *e* 16 21 42.3
T25A Trinidad 27.43 333 ⇓P P 16 21 24.6 +1.5
baz=28,SNR=12
T25A ⇓P P 16 21 24.6 +1.5
baz=28,SNR=12
S26A Kim 27.43 335 ⇑P P 16 21 23.8 +0.7
baz=28
S26A ⇑P P 16 21 23.8 +0.7
baz=28
ACSO Alum Creek Sta 27.53 11 *e*P P 16 21 19.4 -4.4
comp=Z,9.8nm,0.5s
U23A El Rito 27.60 330 ⇓P P 16 21 26.4 +1.7
baz=28,SNR=17
U23A ⇓P P 16 21 26.4 +1.7
baz=28,SNR=17
V22A San Miguel Ran 27.64 328 ⇓P P 16 21 26.8 +1.8
baz=28,SNR=5.0
V22A ⇓P P 16 21 26.8 +1.8
baz=28,SNR=5.0
T24A Torres, Weston 27.66 332 ⇓P P 16 21 27.0 +1.8
baz=28,SNR=6.0
T24A ⇓P P 16 21 27.0 +1.8
baz=28,SNR=6.0
R27A Eads 27.74 337 ⇓P P 16 21 25.9 +0.2
baz=28
R27A ⇓P P 16 21 25.9 +0.2
baz=28
S25A Robets Cordova 27.87 334 ⇑P P 16 21 28.4 +1.4
baz=28
S25A ⇑P P 16 21 28.4 +1.4
baz=28
R25A Fountain Ranch 28.22 334 ⇑P P 16 21 31.4 +1.3
baz=28,SNR=6.5
R25A ⇑P P 16 21 31.4 +1.3
baz=28,SNR=6.5
SDCO Great Sand Dun 28.41 332 ⇓P P 16 21 33.2 +1.2
baz=28,SNR=6.7
SDCO ⇓P P 16 21 33.2 +1.2
baz=28,SNR=6.7
SDCO ⇓P P 16 21 33.2 +1.2
baz=28,SNR=6.7
SDCO ⇓P P 16 21 33.2 +1.2
baz=28,SNR=6.7
R24A Sanders Place, 28.64 333 ⇓P P 16 21 35.1 +1.2
baz=29
R24A ⇓P P 16 21 35.1 +1.2
baz=29
Q25A Bedland, Calha 28.86 335 ⇓P P 16 21 36.8 +1.0
baz=29,SNR=12
Q25A ⇓P P 16 21 36.8 +1.0
baz=29,SNR=12
S22A 4UR Ranch, Cre 29.03 331 ⇑P P 16 21 38.9 +1.4
baz=29,SNR=12
S22A ⇑P P 16 21 38.9 +1.4
baz=29,SNR=12
R22A Saguache, Gunn 29.39 331 ⇑P P 16 21 42.1 +1.5
baz=30
R22A ⇑P P 16 21 42.1 +1.5
baz=30
S21A Coal Bank Pass 29.44 329 ⇑P P 16 21 42.5 +1.4
baz=30
S21A ⇑P P 16 21 42.5 +1.4
baz=30
P23A Jefferson 29.91 334 ⇓P P 16 21 46.9 +1.7
baz=30,SNR=8.5
P23A ⇓P P 16 21 46.9 +1.7
baz=30,SNR=8.5
Q22A Crested Butte, 29.97 332 ⇓P P 16 21 47.0 +1.3
baz=30,SNR=6.9
Q22A ⇓P P 16 21 47.0 +1.3
baz=30,SNR=6.9
ISCO Idaho Springs 30.17 335 *e*P P 16 21 47.8 +0.3
comp=Z,6.7nm,0.8s
ISCO Idaho Springs 30.17 335 ⇓P P 16 21 48.7 +1.2
baz=30,SNR=11
ISCO ⇓P P 16 21 48.7 +1.2
baz=30,SNR=11
S19A Harvey Farm, M 30.19 328 ⇓P P 16 21 49.0 +1.4
baz=30
S19A ⇓P P 16 21 49.0 +1.4
baz=30
SMCO Snowmass 30.25 332 *e*P P 16 21 49.2 +0.8
comp=Z,5.8nm,0.8s
P22A Eagle 30.49 333 ⇑P P 16 21 51.7 +1.4
baz=31,SNR=5.8
P22A ⇑P P 16 21 51.7 +1.4
baz=31,SNR=5.8
PV04 Paradox Valley 30.56 329 *e*P P 16 21 52.5 +1.7
O23A Lake Granby, G 30.64 335 ⇑P P 16 21 52.6 +1.0
baz=31
O23A ⇑P P 16 21 52.6 +1.0
baz=31
R19A Curley Farm, L 30.66 328 ⇓P P 16 21 53.0 +1.1
baz=31
R19A ⇓P P 16 21 53.0 +1.1
baz=31
P21A Newcastle 30.75 332 ⇓P P 16 21 53.9 +1.4
baz=31
P21A ⇓P P 16 21 53.9 +1.4
baz=31
O22A Kremmling 30.87 334 ⇓P P 16 21 54.3 +0.7
baz=31,SNR=6.1
O22A ⇓P P 16 21 54.3 +0.7
baz=31,SNR=6.1
ECSD EROS Data Cent 31.10 350 *e*P P 16 21 54.1 -1.2
comp=Z,14nm,1.3s
ECSD *e* 16 22 10.9
Q19A Hogan Spring (31.17 329 ⇑P P 16 21 57.3 +1.1
baz=31,SNR=6.6
Q19A ⇑P P 16 21 57.3 +1.1
baz=31,SNR=6.6
N23A Red Feather La 31.22 335 ⇑P P 16 21 57.9 +1.2
baz=31
N23A ⇑P P 16 21 57.9 +1.2
baz=31
M24A Cheyenne 31.27 337 ⇓P P 16 21 58.4 +1.3
baz=31
M24A ⇓P P 16 21 58.4 +1.3
baz=31
O21A Pagoda 31.32 333 ⇓P P 16 21 59.1 +1.6
baz=31
O21A ⇓P P 16 21 59.1 +1.6
baz=31
N22A Wattenberg Ran 31.36 335 ⇑P P 16 21 59.6 +1.6
baz=32,SNR=12
N22A ⇑P P 16 21 59.6 +1.6
baz=32,SNR=12
PHWY Pilot Hill 31.38 336 *e*P P 16 21 58.0 -0.1
comp=Z,5.2nm,0.9s
O20A White River Ci 31.60 332 ⇑P P 16 22 01.7 +1.7
baz=32,SNR=13
O20A ⇑P P 16 22 01.7 +1.7
baz=32,SNR=13
Q18A Rafter H Ranch 31.72 328 ⇓P P 16 22 02.6 +1.6
baz=32
Q18A ⇓P P 16 22 02.6 +1.6
baz=32
N21A Black Mountain 31.78 333 ⇑P P 16 22 03.7 +2.0
baz=32
N21A ⇑P P 16 22 03.7 +2.0
baz=32
SPMN St. Paul 32.09 355 ⇑P P 16 22 03.2 -0.7
baz=32,SNR=7.4
SPMN ⇑P P 16 22 03.2 -0.7
baz=32,SNR=7.4
O19A Miners Draw (B 32.14 331 ⇑P P 16 22 05.9 +1.1
baz=32,SNR=6.3
O19A ⇑P P 16 22 05.9 +1.1
baz=32,SNR=6.3
L23A Garrett 32.16 337 ⇓P P 16 22 06.0 +1.0
baz=32
L23A ⇓P P 16 22 06.0 +1.0
baz=32
N20A Spence Gulch, 32.17 332 ⇑P P 16 22 06.7 +1.6
baz=32
N20A ⇑P P 16 22 06.7 +1.6
baz=32
P17A Butcher Ranch, 32.31 328 ⇑P P 16 22 07.6 +1.4
baz=32,SNR=8.9
P17A ⇑P P 16 22 07.6 +1.4
baz=32,SNR=8.9
M21A Separation Pea 32.41 334 ⇑P P 16 22 08.4 +1.3
baz=32,SNR=6.2
M21A ⇑P P 16 22 08.4 +1.3
baz=32,SNR=6.2
O18A Roosevelt 32.54 330 ⇓P P 16 22 10.2 +2.0
baz=33
O18A ⇓P P 16 22 10.2 +2.0
baz=33
N19A John Jarvie Ra 32.64 331 ⇑P P 16 22 09.9 +0.9
baz=33
N19A ⇑P P 16 22 09.9 +0.9
baz=33
M20A Sweetwater, Wa 32.67 333 ⇓P P 16 22 10.3 +1.0
baz=33
M20A ⇓P P 16 22 10.3 +1.0
baz=33
K23A Bowen Ranch, D 32.69 337 ⇑P P 16 22 10.8 +1.3
baz=33
K23A ⇑P P 16 22 10.8 +1.3
baz=33
L21A Rawlins 32.71 335 ⇑P P 16 22 10.7 +1.0
baz=33
L21A ⇑P P 16 22 10.7 +1.0
baz=33
COWI Conover 32.83 0 *e*P P 16 22 08.8 -1.7
comp=Z,9.9nm,0.8s
COWI *e* 16 22 25.3
O17A Robinson Place 32.85 329 ⇑P P 16 22 12.7 +1.7
baz=33,SNR=5.8
O17A ⇑P P 16 22 12.7 +1.7
baz=33,SNR=5.8
K22A Casper 32.94 336 ⇓P P 16 22 12.8 +1.1
baz=33
K22A ⇓P P 16 22 12.8 +1.1
baz=33
O16A Springville 33.25 328 ⇓P P 16 22 16.1 +1.7
baz=33,SNR=11
O16A ⇓P P 16 22 16.1 +1.7
baz=33,SNR=11
RSSD Black Hills 33.33 341 *e*P P 16 22 15.6 +0.5
comp=Z,4.8nm,0.8s
N17A Moffit Pass 33.47 330 ⇑P P 16 22 17.8 +1.4
baz=34
N17A ⇑P P 16 22 17.8 +1.4
baz=34
M18A Lyman 33.47 331 ⇑P P 16 22 17.5 +1.1
baz=34
M18A ⇑P P 16 22 17.5 +1.1
baz=34
J22A Midwest 33.57 337 ⇑P P 16 22 17.8 +0.7
baz=34
J22A ⇑P P 16 22 17.8 +0.7
baz=34
M17A Scullys Gap (B 33.79 331 ⇑P P 16 22 20.3 +1.1
baz=34,SNR=5.8
M17A ⇑P P 16 22 20.3 +1.1
baz=34,SNR=5.8
L18A Fontenelle, Gr 33.85 332 ⇓P P 16 22 20.6 +0.9
baz=34,SNR=8.0
L18A ⇓P P 16 22 20.6 +0.9
baz=34,SNR=8.0
J21A Lysite 33.89 336 ⇓P P 16 22 21.3 +1.4
baz=34,SNR=9.0
J21A ⇓P P 16 22 21.3 +1.4
baz=34,SNR=9.0

I22A	**9 Mile Ranch,**	**33.98**	**338**	⇓P	**P**	**16 22 21.7 +1.0**
	baz=34					
I22A				⇓P	**P**	**16 22 21.7 +1.0**
	baz=34					
SAML	**Samuel**	**34.01**	**129**	*e*P	**P**	**16 22 20.5 -0.6**
	comp=Z,34nm,1.0s					
SAML				*e*		16 22 37.4
SAML				*e*PcP	**PcP**	**16 24 57.3 -0.4**
SAML				*e*		16 25 16.9
K19A	**Absolon Red Bu**	**34.04**	**334**	⇑P	**P**	**16 22 21.7 +0.5**
	baz=34					
K19A				⇑P	**P**	**16 22 21.7 +0.5**
	baz=34					
H24A	**Dirks Ranch, A**	**34.06**	**340**	⇓P	**P**	**16 22 22.2 +0.9**
	baz=34,SNR=15					
H24A				⇓P	**P**	**16 22 22.2 +0.9**
	baz=34,SNR=15					
I21A	**Big Trails, Te**	**34.22**	**337**	⇓P	**P**	**16 22 24.1 +1.3**
	baz=34					
I21A				⇓P	**P**	**16 22 24.1 +1.3**
	baz=34					
BW06	**Boulder Array**	**34.30**	**333**	⇑P	**P**	**16 22 24.4 +0.8**
	baz=34					
BW06				⇑P	**P**	**16 22 24.4 +0.8**
	baz=34					
BW06				⇑P	**P**	**16 22 24.4 +0.8**
	baz=34					
BW06				⇑P	**P**	**16 22 24.4 +0.8**
	baz=34					
PDAR	**Pinedale Array**	**34.30**	**333**	P	**P**	**16 22 24.2 +0.6**
	comp=Z,2.1nm,0.8s,baz=130,slow=10,SNR=16					
PDAR				PcP	**PcP**	**16 24 58.4 -0.1**
	comp=Z,1.5nm,0.7s,baz=137,slow=5.7,SNR=7.9					
PDAR				ScP	**ScP**	**16 28 39.6 +2.2**
	comp=Z,1.2nm,0.9s,baz=141,slow=7.3,SNR=6.4					
PDAR	**Pinedale Array**	**34.30**	**333**	P	**P**	**16 22 24.2 +0.6**
PDAR				PcP	**PcP**	**16 24 58.4 -0.1**
PDAR				ScP	**ScP**	**16 28 39.6 +2.2**
PD02	**Pinedale Array**	**34.31**	**333**	*e*P	**P**	**16 22 21.4 -2.3**
PD01	**Pinedale Array**	**34.32**	**333**	*e*P	**P**	**16 22 21.6 -2.1**
L17A	**Cokeville**	**34.37**	**331**	⇓P	**P**	**16 22 24.9 +0.7**
	baz=34,SNR=5.3					
L17A				⇓P	**P**	**16 22 24.9 +0.7**
	baz=34,SNR=5.3					
K18A	**Toltan Ranch,**	**34.41**	**332**	⇓P	**P**	**16 22 25.8 +1.3**
	baz=34,SNR=8.1					
K18A				⇓P	**P**	**16 22 25.8 +1.3**
	baz=34,SNR=8.1					
G24A	**Alzada**	**34.53**	**341**	⇑P	**P**	**16 22 26.4 +1.1**
	baz=35,SNR=5.4					
G24A				⇑P	**P**	**16 22 26.4 +1.1**
	baz=35,SNR=5.4					
H22A	**Clearmont**	**34.54**	**338**	⇓P	**P**	**16 22 26.2 +0.7**
	baz=35,SNR=5.8					
H22A				⇓P	**P**	**16 22 26.2 +0.7**
	baz=35,SNR=5.8					
L16A	**Fish Haven**	**34.57**	**330**	⇑P	**P**	**16 22 26.8 +0.8**
	baz=35,SNR=17					
L16A				⇑P	**P**	**16 22 26.8 +0.8**
	baz=35,SNR=17					
M15A	**Larsen Ranch,**	**34.66**	**329**	⇑P	**P**	**16 22 28.1 +1.5**
	baz=35					
M15A				⇑P	**P**	**16 22 28.1 +1.5**
	baz=35					
I20A	**Worland**	**34.66**	**336**	⇑P	**P**	**16 22 27.7 +1.1**
	baz=35,SNR=13					
I20A				⇑P	**P**	**16 22 27.7 +1.1**
	baz=35,SNR=13					
EYMN	**Ely**	**34.72**	**357**	*e*P	**P**	**16 22 25.4 -1.4**
	comp=Z,12nm,0.6s					
EYMN				*e*		16 22 43.5
G23A	**Biddle**	**34.73**	**340**	⇑P	**P**	**16 22 27.8 +0.7**
	baz=35,SNR=6.7					
G23A				⇑P	**P**	**16 22 27.8 +0.7**
	baz=35,SNR=6.7					
H21A	**Big Horn, Sher**	**34.82**	**338**	⇓P	**P**	**16 22 28.3 +0.4**
	baz=35,SNR=6.1					
H21A				⇓P	**P**	**16 22 28.3 +0.4**
	baz=35,SNR=6.1					
J18A	**Kendall Valley**	**34.86**	**333**	⇓P	**P**	**16 22 29.2 +0.8**
	baz=35,SNR=15					
J18A				⇓P	**P**	**16 22 29.2 +0.8**
	baz=35,SNR=15					
F24A	**Ekalaka**	**35.00**	**341**	⇑P	**P**	**16 22 30.2 +0.7**
	baz=35,SNR=9.6					
F24A				⇑P	**P**	**16 22 30.2 +0.7**
	baz=35,SNR=9.6					
L15A	**Malad City**	**35.03**	**329**	⇓P	**P**	**16 22 30.3 +0.5**
	baz=35,SNR=10					
L15A				⇓P	**P**	**16 22 30.3 +0.5**
	baz=35,SNR=10					
G22A	**Birney**	**35.06**	**339**	⇑P	**P**	**16 22 30.2 +0.3**
	baz=35,SNR=6.5					
G22A				⇑P	**P**	**16 22 30.2 +0.3**
	baz=35,SNR=6.5					
H20A	**Greybull**	**35.06**	**336**	⇑P	**P**	**16 22 30.3 +0.3**
	baz=35					
H20A				⇑P	**P**	**16 22 30.3 +0.3**
	baz=35					
I19A	**Meeteetse**	**35.09**	**335**	⇑P	**P**	**16 22 31.7 +1.3**
	baz=35,SNR=7.4					
I19A				⇑P	**P**	**16 22 31.7 +1.3**
	baz=35,SNR=7.4					
I18A	**Diamond G Ranc**	**35.16**	**334**	⇑P	**P**	**16 22 32.1 +1.1**
	baz=35,SNR=10					
I18A				⇑P	**P**	**16 22 32.1 +1.1**
	baz=35,SNR=10					
F23A	**Volborg**	**35.20**	**340**	⇑P	**P**	**16 22 31.4 +0.3**
	baz=35,SNR=8.5					
F23A				⇑P	**P**	**16 22 31.4 +0.3**
	baz=35,SNR=8.5					
J17A	**Brown Place, J**	**35.28**	**333**	⇑P	**P**	**16 22 33.3 +1.3**
	baz=35,SNR=16					
J17A				⇑P	**P**	**16 22 33.3 +1.3**
	baz=35,SNR=16					
REDW	**Red Top Meadow**	**35.35**	**332**	*e*P	**P**	**16 22 33.5 +0.9**
	comp=Z,21nm,0.6s					
REDW				*e*		16 22 49.1
SNOW	**Snow King Moun**	**35.38**	**333**	*e*P	**P**	**16 22 34.3 +1.4**
	comp=Z,30nm,0.8s					
SNOW				*e*		16 22 50.4
G21A	**Lodge Grass**	**35.39**	**338**	⇓P	**P**	**16 22 33.2 +0.4**
	baz=36,SNR=8.0					
G21A				⇓P	**P**	**16 22 33.2 +0.4**
	baz=36,SNR=8.0					
LOHW	**Long Hollow**	**35.43**	**333**	*e*P	**P**	**16 22 34.5 +1.2**
	comp=Z,7.9nm,0.7s					
AGMN	**Agassiz Nation**	**35.45**	**352**	*e*P	**P**	**16 22 32.2 -0.9**
	comp=Z,22nm,0.9s					
TPAW	**Teton Pass**	**35.49**	**332**	*e*P	**P**	**16 22 35.0 +1.1**
	comp=Z,6.5nm,0.7s					
TPAW				*e*		16 22 51.4
F22A	**Rosebud**	**35.53**	**339**	⇑P	**P**	**16 22 34.1 +0.1**
	baz=36					
F22A				⇑P	**P**	**16 22 34.1 +0.1**
	baz=36					
RRI2	**Red Ridge**	**35.55**	**332**	*e*P	**P**	**16 22 34.7 +0.3**
	comp=Z,16nm,1.2s					
RRI2				*e*PcP	**PcP**	**16 25 02.1 0.0**
E24A	**Baker**	**35.60**	**342**	⇑P	**P**	**16 22 35.4 +0.9**
	baz=36,SNR=19					
E24A				⇑P	**P**	**16 22 35.4 +0.9**
	baz=36,SNR=19					
MOOW	**Moose Ponds**	**35.60**	**333**	*e*P	**P**	**16 22 35.8 +1.0**
	comp=Z,4.0nm,0.8s					
H19A	**Powell**	**35.61**	**336**	⇑P	**P**	**16 22 35.8 +1.1**
	baz=36					
H19A				⇑P	**P**	**16 22 35.8 +1.1**
	baz=36					
K15A	**Arbon**	**35.61**	**330**	⇑P	**P**	**16 22 35.6 +0.8**
	baz=36					
K15A				⇑P	**P**	**16 22 35.6 +0.8**
	baz=36					
MDND	**Maddock**	**35.62**	**348**	⇓P	**P**	**16 22 34.6 0.0**
	baz=36,SNR=11					
MDND				⇓P	**P**	**16 22 34.6 0.0**
	baz=36,SNR=11					
J16A	**Bone**	**35.63**	**332**	⇓P	**P**	**16 22 35.9 +0.9**
	baz=36,SNR=16					
J16A				⇓P	**P**	**16 22 35.9 +0.9**
	baz=36,SNR=16					
I17A	**Pilgrim Ck.**	**35.67**	**333**	⇓P	**P**	**16 22 37.6 +2.3**
	baz=36,SNR=8.3					
I17A				⇓P	**P**	**16 22 37.6 +2.3**
	baz=36,SNR=8.3					
G20A	**Bridger**	**35.76**	**337**	⇑P	**P**	**16 22 35.8 -0.2**
	baz=36					
G20A				⇑P	**P**	**16 22 35.8 -0.2**
	baz=36					
K14A	**Jones Ranch, D**	**35.83**	**329**	⇑P	**P**	**16 22 37.8 +1.2**
	baz=36,SNR=11					
K14A				⇑P	**P**	**16 22 37.8 +1.2**
	baz=36,SNR=11					
FLWY	**Flagg Ranch**	**35.85**	**333**	*e*P	**P**	**16 22 37.5 +0.7**
	comp=Z,4.3nm,0.6s					
FLWY				*e*PcP	**PcP**	**16 25 02.5 -0.4**
H18A	**Shoshone NF, C**	**35.89**	**335**	⇑P	**P**	**16 22 37.8 +0.6**
	baz=36,SNR=24					
H18A				⇑P	**P**	**16 22 37.8 +0.6**
	baz=36,SNR=24					
NVAR	**Mina Array Bea**	**35.97**	**320**	P	**P**	**16 22 40.5 +2.4**
	comp=Z,4.6nm,0.9s,baz=136,slow=7.3,SNR=28					
NVAR				pP	**pP**	**16 22 55.3 0.0**
	comp=Z,5.0nm,0.7s,baz=136,slow=9.3,SNR=7.1					
NVAR				PcP	**PcP**	**16 25 05.2 +1.7**
	comp=Z,3.1nm,0.8s,baz=144,slow=3.9,SNR=11					
NVAR				ScP	**ScP**	**16 28 46.0 +2.4**
	comp=Z,2.0nm,0.8s,baz=147,slow=4.6,SNR=13					
NVAR	**Mina Array Bea**	**35.97**	**320**	P	**P**	**16 22 40.5 +2.4**
NVAR				pP	**pP**	**16 22 55.3 0.0**
NVAR				PcP	**PcP**	**16 25 05.2 +1.7**
NVAR				ScP	**ScP**	**16 28 46.0 +2.4**
LPAZ	**La Paz**	**35.99**	**144**	P	**P**	**16 22 40.6 +1.9**
	comp=Z,1.6nm,0.6s,baz=331,slow=7.3,SNR=7.4					
LPAZ				pP	**pP**	**16 22 57.0 +1.1**
	comp=Z,2.5nm,0.7s,baz=330,slow=6.5,SNR=5.9					
LPAZ	**La Paz**	**35.99**	**144**	*e*P	**P**	**16 22 39.1 +0.4**
	comp=Z,2.9nm,0.8s					
LPAZ				pP	**pP**	**16 22 57.0 +1.1**
E22A	**Miles City**	**36.01**	**340**	⇑P	**P**	**16 22 38.8 +0.8**
	baz=36					
E22A				⇑P	**P**	**16 22 38.8 +0.8**
	baz=36					
RLMT	**Red Lodge**	**36.09**	**336**	*e*P	**P**	**16 22 39.2 +0.3**
	comp=Z,9.9nm,0.9s					
RLMT				*e*PcP	**PcP**	**16 25 03.0 -0.7**
RLMT	**Red Lodge**	**36.09**	**336**	⇓P	**P**	**16 22 39.5 +0.5**
	baz=36,SNR=13					
RLMT				⇓P	**P**	**16 22 39.5 +0.5**
	baz=36,SNR=13					
RLMT				⇓P	**P**	**16 22 39.5 +0.5**
	baz=36,SNR=13					
RLMT				⇓P	**P**	**16 22 39.5 +0.5**
	baz=36,SNR=13					
D24A	**Glendive**	**36.11**	**343**	⇓P	**P**	**16 22 39.9 +1.0**
	baz=36,SNR=14					
D24A				⇓P	**P**	**16 22 39.9 +1.0**
	baz=36,SNR=14					
G18A	**Lazy EL Ranch,**	**36.37**	**336**	⇓P	**P**	**16 22 41.9 +0.6**
	baz=36,SNR=9.4					
G18A				⇓P	**P**	**16 22 41.9 +0.6**
	baz=36,SNR=9.4					
D23A	**Lindsay**	**36.43**	**342**	⇓P	**P**	**16 22 42.5 +0.9**
	baz=36,SNR=9.1					
D23A				⇓P	**P**	**16 22 42.5 +0.9**
	baz=36,SNR=9.1					
YMR	**Madison River**	**36.43**	**334**	*e*P	**P**	**16 22 43.6 +1.8**
	comp=Z,10nm,0.8s					
E21A	**Keefer Ranch,**	**36.48**	**339**	⇓P	**P**	**16 22 42.3 +0.3**
	baz=37,SNR=8.9					
E21A				⇓P	**P**	**16 22 42.3 +0.3**
	baz=37,SNR=8.9					
C24A	**Savage**	**36.51**	**343**	⇑P	**P**	**16 22 43.4 +1.1**
	baz=37					
C24A				⇑P	**P**	**16 22 43.4 +1.1**
	baz=37					
J14A	**Carey**	**36.57**	**330**	⇓P	**P**	**16 22 43.9 +0.9**
	baz=37					
J14A				⇓P	**P**	**16 22 43.9 +0.9**
	baz=37					
F19A	**Roth Farm, Mol**	**36.57**	**337**	⇑P	**P**	**16 22 43.5 +0.6**
	baz=37,SNR=12					
F19A				⇑P	**P**	**16 22 43.5 +0.6**
	baz=37,SNR=12					
D22A	**Cohagen**	**36.71**	**341**	⇓P	**P**	**16 22 44.9 +0.9**
	baz=37,SNR=23					
D22A				⇓P	**P**	**16 22 44.9 +0.9**
	baz=37,SNR=23					
GCMT	**Greycliff**	**36.80**	**336**	*e*P	**P**	**16 22 45.2 +0.3**
	comp=Z,4.3nm,0.8s					
E20A	**Meyer Farm, Mu**	**36.82**	**338**	⇓P	**P**	**16 22 45.9 +1.0**
	baz=37,SNR=11					
E20A				⇓P	**P**	**16 22 45.9 +1.0**
	baz=37,SNR=11					
F18A	**Big Timber**	**36.92**	**336**	⇑P	**P**	**16 22 46.8 +1.0**
	baz=37,SNR=9.1					
F18A				⇑P	**P**	**16 22 46.8 +1.0**
	baz=37,SNR=9.1					
J13A	**Cove Ranch, Pi**	**36.95**	**329**	⇑P	**P**	**16 22 47.2 +1.0**
	baz=37					
J13A				⇑P	**P**	**16 22 47.2 +1.0**
	baz=37					
C23A	**Lambert**	**36.98**	**342**	⇑P	**P**	**16 22 47.2 +0.9**
	baz=37,SNR=12					
C23A				⇑P	**P**	**16 22 47.2 +0.9**
	baz=37,SNR=12					
I14A	**Mackay**	**36.99**	**331**	⇓P	**P**	**16 22 48.0 +1.4**
	baz=37,SNR=12					
I14A				⇓P	**P**	**16 22 48.0 +1.4**
	baz=37,SNR=12					
E19A	**Rath Farm, Rou**	**37.02**	**338**	⇓P	**P**	**16 22 47.4 +0.7**
	baz=37,SNR=5.7					
E19A				⇓P	**P**	**16 22 47.4 +0.7**
	baz=37,SNR=5.7					
H15A	**Lima**	**37.14**	**332**	⇑P	**P**	**16 22 50.3 +2.5**
	baz=37,SNR=8.6					
H15A				⇑P	**P**	**16 22 50.3 +2.5**
	baz=37,SNR=8.6					
C22A	**Vida**	**37.15**	**341**	⇓P	**P**	**16 22 48.7 +1.1**
	baz=37,SNR=18					
C22A				⇓P	**P**	**16 22 48.7 +1.1**
	baz=37,SNR=18					
F17A	**Fitzpatrick Pl**	**37.30**	**335**	⇑P	**P**	**16 22 50.7 +1.6**
	baz=37,SNR=11					
F17A				⇑P	**P**	**16 22 50.7 +1.6**
	baz=37,SNR=11					
I13A	**Wildhorse Cree**	**37.30**	**330**	⇓P	**P**	**16 22 51.7 +2.5**
	baz=37,SNR=10.0					
I13A				⇓P	**P**	**16 22 51.7 +2.5**
	baz=37,SNR=10.0					
DGMT	**Dagmar**	**37.30**	**344**	*e*P	**P**	**16 22 49.2 +0.3**
	comp=Z,71nm,1.0s					
DGMT	**Dagmar**	**37.30**	**344**	⇑P	**P**	**16 22 49.5 +0.6**
	baz=37					
DGMT				⇑P	**P**	**16 22 49.5 +0.6**
	baz=37					
D20A	**Manuel Ranch,**	**37.32**	**339**	⇓P	**P**	**16 22 50.3 +1.1**
	baz=37,SNR=17					
D20A				⇓P	**P**	**16 22 50.3 +1.1**
	baz=37,SNR=17					
ULM	**Lac du Bonnet**	**37.37**	**353**	P	**P**	**16 22 48.1 -1.3**
	comp=Z,11nm,0.8s,baz=172,slow=8.9,SNR=17					
ULM	**Lac du Bonnet**	**37.37**	**353**	*e*P	**P**	**16 22 47.9 -1.5**
	comp=Z,9.8nm,0.9s					
ULM				*e*		16 23 05.0
MCMT	**McKenzie Canyo**	**37.39**	**332**	*e*P	**P**	**16 22 51.6 +1.6**
	comp=Z,4.8nm,0.7s					
MCMT				*e*		16 23 08.2
H14A	**Leadore**	**37.47**	**331**	⇓P	**P**	**16 22 51.9 +1.2**
	baz=38,SNR=10					
H14A				⇓P	**P**	**16 22 51.9 +1.2**
	baz=38,SNR=10					
G15A	**Dillon**	**37.49**	**333**	⇑P	**P**	**16 22 52.2 +1.4**
	baz=38					
G15A				⇑P	**P**	**16 22 52.2 +1.4**
	baz=38					
BOZ	**Bozeman (W)**	**37.49**	**334**	*e*P	**P**	**16 22 51.8 +1.0**
	comp=Z,4.6nm,0.9s					
BOZ				*e*		16 23 08.7
BOZ	**Bozeman (W)**	**37.49**	**334**	⇑P	**P**	**16 22 52.5 +1.8**
	baz=38,SNR=6.5					
BOZ				⇑P	**P**	**16 22 52.5 +1.8**
	baz=38,SNR=6.5					
BOZ				⇑P	**P**	**16 22 52.5 +1.8**
	baz=38,SNR=6.5					
BOZ				⇑P	**P**	**16 22 52.5 +1.8**
	baz=38,SNR=6.5					
B23A	**Brockton**	**37.52**	**343**	⇓P	**P**	**16 22 52.0 +1.2**
	baz=38,SNR=14					
B23A				⇓P	**P**	**16 22 52.0 +1.2**
	baz=38,SNR=14					
E18A	**Harlowton**	**37.54**	**337**	⇑P	**P**	**16 22 52.2 +1.1**
	baz=38,SNR=6.7					
E18A				⇑P	**P**	**16 22 52.2 +1.1**
	baz=38,SNR=6.7					
C21A	**Desert Coulee**	**37.60**	**340**	⇑P	**P**	**16 22 52.6 +1.1**
	baz=38,SNR=6.5					
C21A				⇑P	**P**	**16 22 52.6 +1.1**
	baz=38,SNR=6.5					
D19A	**Cripps Ranch,**	**37.65**	**338**	⇑P	**P**	**16 22 52.8 +0.8**
	baz=38,SNR=6.9					
D19A				⇑P	**P**	**16 22 52.8 +0.8**
	baz=38,SNR=6.9					
A24A	**Westby**	**37.66**	**344**	⇓P	**P**	**16 22 52.8 +0.8**
	baz=38,SNR=9.0					
A24A				⇓P	**P**	**16 22 52.8 +0.8**
	baz=38,SNR=9.0					
B22A	**Reddig Ranch S**	**37.67**	**342**	⇑P	**P**	**16 22 52.8 +0.7**
	baz=38,SNR=6.6					
B22A				⇑P	**P**	**16 22 52.8 +0.7**
	baz=38,SNR=6.6					
I12A	**Atlanta**	**37.72**	**329**	⇑P	**P**	**16 22 53.8 +1.1**
	baz=38,SNR=8.0					
I12A				⇑P	**P**	**16 22 53.8 +1.1**
	baz=38,SNR=8.0					
C20A	**Veseth Ranch,**	**37.81**	**339**	⇑P	**P**	**16 22 54.0 +0.7**
	baz=38,SNR=6.1					
C20A				⇑P	**P**	**16 22 54.0 +0.7**
	baz=38,SNR=6.1					
H13A	**Challis**	**37.85**	**331**	⇓P	**P**	**16 22 54.7 +0.9**
	baz=38,SNR=22					
H13A				⇓P	**P**	**16 22 54.7 +0.9**
	baz=38,SNR=22					
A23A	**Redstone**	**37.94**	**343**	⇓P	**P**	**16 22 55.3 +1.1**
	baz=38,SNR=5.8					
A23A				⇓P	**P**	**16 22 55.3 +1.1**
	baz=38,SNR=5.8					
LRM	**Limekiln Ridge**	**37.99**	**333**	*e*P	**P**	**16 22 56.1 +1.1**
	comp=Z,51nm,0.7s					
LRM				*e*		16 23 12.5
F15A	**Butte**	**38.02**	**333**	⇑P	**P**	**16 22 55.9 +0.7**
	baz=38,SNR=11					
F15A				⇑P	**P**	**16 22 55.9 +0.7**
	baz=38,SNR=11					
D18A	**Linhart Farms,**	**38.02**	**337**	⇑P	**P**	**16 22 56.2 +1.0**
	baz=38					
D18A				⇑P	**P**	**16 22 56.2 +1.0**
	baz=38					
C19A	**Slack Wire Ran**	**38.20**	**338**	⇓P	**P**	**16 22 57.6 +1.1**
	baz=38,SNR=16					
C19A				⇓P	**P**	**16 22 57.6 +1.1**
	baz=38,SNR=16					
E16A	**East Helena**	**38.22**	**335**	⇑P	**P**	**16 22 57.9 +1.1**
	baz=38,SNR=5.0					
E16A				⇑P	**P**	**16 22 57.9 +1.1**
	baz=38,SNR=5.0					
G13A	**Cobalt**	**38.23**	**331**	⇓P	**P**	**16 22 58.5 +1.5**
	baz=38,SNR=8.8					
G13A				⇓P	**P**	**16 22 58.5 +1.5**
	baz=38,SNR=8.8					
A22A	**Carney Farms,**	**38.27**	**342**	⇑P	**P**	**16 22 58.2 +1.1**
	baz=38,SNR=11					
A22A				⇑P	**P**	**16 22 58.2 +1.1**
	baz=38,SNR=11					
D17A	**Six Diamond Ra**	**38.33**	**336**	⇑P	**P**	**16 22 58.5 +0.8**
	baz=38,SNR=8.6					
D17A				⇑P	**P**	**16 22 58.5 +0.8**
	baz=38,SNR=8.6					
HRY	**Holter Researc**	**38.43**	**335**	*e*P	**P**	**16 22 58.5 -0.1**
	comp=Z,2.6nm,0.7s					
B20A	**Solberg Farm,**	**38.44**	**340**	⇓P	**P**	**16 22 59.5 +0.9**
	baz=39,SNR=9.4					
B20A				⇓P	**P**	**16 22 59.5 +0.9**
	baz=39,SNR=9.4					
E15A	**Deer Lodge**	**38.54**	**334**	⇑P	**P**	**16 23 00.6 +1.1**
	baz=39,SNR=7.4					
E15A				⇑P	**P**	**16 23 00.6 +1.1**
	baz=39,SNR=7.4					
D16A	**Dana Ranch, Ca**	**38.57**	**335**	⇑P	**P**	**16 23 00.8 +1.1**
	baz=39					
D16A				⇑P	**P**	**16 23 00.8 +1.1**
	baz=39					
A21A	**Bergtoll Ranch**	**38.57**	**341**	⇑P	**P**	**16 23 00.7 +1.1**
	baz=39					
A21A				⇑P	**P**	**16 23 00.7 +1.1**
	baz=39					
EGMT	**Eagleton**	**38.70**	**338**	*e*P	**P**	**16 23 01.2 +0.5**
	comp=Z,8.1nm,0.8s					
EGMT	**Eagleton**	**38.70**	**338**	⇑P	**P**	**16 23 01.7 +0.9**
	baz=39,SNR=7.9					
EGMT				⇑P	**P**	**16 23 01.7 +0.9**
	baz=39,SNR=7.9					
B19A	**Brinkman Farms**	**38.77**	**339**	⇓P	**P**	**16 23 02.3 +1.0**
	baz=39					
B19A				⇓P	**P**	**16 23 02.3 +1.0**
	baz=39					
A20A	**Cobblestone Ra**	**38.79**	**340**	⇓P	**P**	**16 23 02.5 +1.0**
	baz=39,SNR=22					
A20A				⇓P	**P**	**16 23 02.5 +1.0**
	baz=39,SNR=22					
F13A	**Darby**	**38.80**	**332**	⇑P	**P**	**16 23 02.5 +0.8**
	baz=39,SNR=7.0					
F13A				⇑P	**P**	**16 23 02.5 +0.8**
	baz=39,SNR=7.0					
E14A	**Clinton**	**38.90**	**333**	⇓P	**P**	**16 23 03.3 +0.7**
	baz=39					
E14A				⇓P	**P**	**16 23 03.3 +0.7**
	baz=39					
B18A	**Beardsley Farm**	**39.02**	**338**	⇓P	**P**	**16 23 04.3 +1.0**
	baz=39					
B18A				⇓P	**P**	**16 23 04.3 +1.0**
	baz=39					
A19A	**Klindworth Far**	**39.11**	**340**	⇑P	**P**	**16 23 05.0 +0.9**
	baz=39,SNR=8.6					
A19A				⇑P	**P**	**16 23 05.0 +0.9**
	baz=39,SNR=8.6					
CHMT	**Chamberlain Mo**	**39.19**	**334**	*e*P	**P**	**16 23 04.6 -0.4**
	comp=Z,2.0nm,0.9s					
F12A	**Elk City**	**39.21**	**331**	⇓P	**P**	**16 23 05.5 +0.4**
	baz=39,SNR=19					
F12A				⇓P	**P**	**16 23 05.5 +0.4**
	baz=39,SNR=19					
E13A	**Victor**	**39.23**	**333**	⇑P	**P**	**16 23 05.6 +0.3**
	baz=39,SNR=7.4					
E13A				⇑P	**P**	**16 23 05.6 +0.3**
	baz=39,SNR=7.4					
C16A	**Fuhringer Ranc**	**39.27**	**336**	⇑P	**P**	**16 23 06.2 +0.6**
	baz=39					
C16A				⇑P	**P**	**16 23 06.2 +0.6**
	baz=39					
D14A	**Greenough**	**39.42**	**334**	⇓P	**P**	**16 23 07.2 +0.3**
	baz=40					
D14A				⇓P	**P**	**16 23 07.2 +0.3**
	baz=40					
C15A	**Salmond Ranch,**	**39.59**	**335**	⇑P	**P**	**16 23 09.4 +1.1**
	baz=40,SNR=5.5					
C15A				⇑P	**P**	**16 23 09.4 +1.1**
	baz=40,SNR=5.5					
A17A	**Triple J Farms**	**39.81**	**338**	⇓P	**P**	**16 23 10.4 +0.4**
	baz=40,SNR=6.6					
A17A				⇓P	**P**	**16 23 10.4 +0.4**
	baz=40,SNR=6.6					
E12A	**Beaver Dam Sad**	**39.84**	**331**	⇓P	**P**	**16 23 10.6 +0.2**
	baz=40					
E12A				⇓P	**P**	**16 23 10.6 +0.2**
	baz=40					
D13A	**Huson**	**39.85**	**333**	⇑P	**P**	**16 23 10.9 +0.5**
	baz=40					
D13A				⇑P	**P**	**16 23 10.9 +0.5**
	baz=40					
SIV	**San Ignacio**	**40.24**	**135**	P	**P**	**16 23 14.9 +1.0**
	comp=Z,12nm,0.8s,baz=322,slow=10.0,SNR=40					
SIV				pP	**pP**	**16 23 30.0 -1.3**
	comp=Z,27nm,1.2s,baz=330,slow=8.4,SNR=9.4					
SIV				PcP	**PcP**	**16 25 18.6 +1.9**
	comp=Z,3.1nm,0.7s,baz=51,slow=4.8,SNR=4.1					
SIV	**San Ignacio**	**40.24**	**135**	P	**P**	**16 23 14.9 +1.0**
SIV				pP	**pP**	**16 23 30.0 -1.3**
SIV				PcP	**PcP**	**16 25 18.6 +1.9**
B13A	**Whitefish**	**40.84**	**334**	⇓P	**P**	**16 23 19.3 +0.8**

comp=Z,1.5nm,0.3s,baz=228,slow=7.5,SNR=6.9
SCHQ LR LR 16 41 51.2
comp=Z,139nm,20.3s,baz=15,slow=35
SCHQ Schefferville 45.14 18 P **P** **16 23 51.0 -2.1**
SCHQ PcP **PcP** **16 25 31.2 -1.2**
BDFB Brasilia 49.88 124 P **P** **16 24 30.6 0.0**
comp=Z,3.5nm,0.6s,baz=266,slow=8.6,SNR=6.0
BDFB pP **pP** **16 24 47.3 -1.2**
comp=Z,5.5nm,0.5s,baz=280,slow=13,SNR=5.8
BDFB Brasilia 49.88 124 P **P** **16 24 30.6 0.0**
BDFB pP **pP** **16 24 47.3 -1.2**
YKA Yellowknife Ar 52.46 346 P **P** **16 24 48.4 -0.5**
comp=Z,11nm,0.8s,baz=143,slow=7.6,SNR=144
YKA ScP **ScP** **16 29 50.3 +0.6**
comp=Z,0.3nm,0.7s,baz=153,slow=5.1,SNR=5.3
YKA Yellowknife Ar 52.46 346 P **P** **16 24 48.5 -0.5**
YKA ScP **ScP** **16 29 50.4 +0.6**
PLCA Paso Flores 56.38 163 P **P** **16 25 18.8 +1.0**
comp=Z,5.7nm,1.0s,baz=341,slow=12,SNR=6.8
PLCA LR LR 16 44 27.0
comp=Z,80nm,21.6s,baz=359,slow=30
PLCA Paso Flores 56.38 163 P **P** **16 25 18.8 +1.0**
RES Resolute Bay 61.59 358 *eP* **P** **16 25 51.6 -1.6**
comp=Z,4.0nm,0.6s
INK Inuvik 61.98 343 *eP* **P** **16 25 55.4 -0.6**
comp=Z,7.1nm,1.0s
ILAR Eielson Array 64.64 336 P **P** **16 26 12.8 -0.8**
comp=Z,2.7nm,0.9s,baz=168,slow=4.6,SNR=24
ILAR LR LR 16 55 21.2
comp=Z,68nm,20.9s,baz=356,slow=37
ILAR Eielson Array 64.64 336 P **P** **16 26 12.8 -0.8**
ESDC Sonseca Array 78.18 52 P **P** **16 27 34.2 -1.6**
comp=Z,0.1nm,0.3s,baz=269,slow=7.4,SNR=4.1
ESDC Sonseca Array 78.18 52 P **P** **16 27 34.2 -1.6**
DBIC Dimbokro 83.14 85 P **P** **16 28 00.2 -2.4**
comp=Z,3.4nm,0.9s,baz=331,slow=7.5,SNR=3.2
DBIC LR LR 17 00 21.3
comp=Z,52nm,19.9s,baz=287,slow=32
DBIC Dimbokro 83.14 85 P **P** **16 28 00.2 -2.4**
NOA NORSAR Array B 83.62 29 P **P** **16 28 02.1 -2.1**
comp=Z,0.7nm,0.7s,baz=289,slow=5.1,SNR=4.7
NOA LR LR 17 07 45.2
comp=Z,72nm,20.3s,baz=275,slow=38
NOA NORSAR Array B 83.62 29 P **P** **16 28 02.1 -2.1**
ARCES ARCESS Array B 86.10 19 P **P** **16 28 15.2 -1.3**
comp=Z,1.7nm,0.7s,baz=292,slow=5.3,SNR=5.6
ARCES LR LR 17 06 19.1
comp=Z,81nm,19.2s,baz=351,slow=36
ARCES ARCESS Array B 86.10 19 P **P** **16 28 15.2 -1.3**
TORD Torodi Ar. Bea 88.03 77 P P 16 28 23.8 -3.1
comp=Z,0.3nm,0.5s,baz=296,slow=5.2,SNR=3.8
TORD LR LR 17 01 19.9
comp=Z,84nm,21.0s,baz=280,slow=31
TORD Torodi Ar. Bea 88.03 77 P P 16 28 23.8 -3.1
GERES GERESS Array B 88.57 40 P **P** **16 28 26.5 -2.4**
comp=Z,0.3nm,0.8s,baz=96,slow=1.3,SNR=3.4
GERES GERESS Array B 88.57 40 P **P** **16 28 26.5 -2.4**
FINES FINESS Array B 90.13 26 LR LR 17 12 00.4
comp=Z,125nm,18.4s,baz=321,slow=38
BOSA Boshof 117.64 115 PKP **PKPdf** **16 34 22.6 +0.1**
comp=Z,3.5nm,0.9s,baz=263,slow=3.4,SNR=6.8
BOSA Boshof 117.64 115 PKP **PKPdf** **16 34 22.6 +0.1**
SONM Songino Array 117.68 348 PKP **PKPdf** **16 34 21.8 -0.3**
comp=Z,0.8nm,0.6s,baz=354,slow=1.5,SNR=7.9
SONM Songino Array 117.68 348 PKP **PKPdf** **16 34 21.8 -0.3**
MKAR Makanchi Array 119.84 7 PKP **PKPdf** **16 34 24.8 -1.4**
comp=Z,0.4nm,0.6s,baz=323,slow=3.0,SNR=9.7
MKAR Makanchi Array 119.84 7 PKP **PKPdf** **16 34 24.8 -1.4**
HHC Hu-ho-hao-te 122.88 341 *ePKP* **PKPdf** **16 34 29.5 -2.8**
HHC PP **PP** **16 36 14.4 +4.2**
HHC PKS **PKSdf** **16 38 05.0 -4.0**
HHC SKKS 16 42 55.1
HHC SS **SS** **16 52 46.3 -1.2**
HHC AMB AMB
comp=Z,180nm,6.3s
HHC LR LR
comp=N,140nm,19.0s
HHC LR LR
comp=E,230nm,20.2s
HHC LR LR
comp=Z,220nm,20.2s
GTA Gaotai 127.01 351 *ePKP* **PKPdf** **16 34 40.0 -0.2**
NJ2 Nanjing 127.56 330 *eP* PKPdf 16 34 49.3 +8.0
NJ2 pmax pmax
comp=Z,20nm,1.2s
LZH Lanzhou 129.46 346 *ePKP* **PKPdf** **16 34 43.5 -1.6**
LZH LR LR
comp=N,100nm,18.0s
LZH LR LR
comp=Z,140nm,20.3s
CD2 Chengdu 134.41 344 PKP **PKPdf** **16 34 52.8 -1.6**
WRAB Tennant Creek 137.70 255 *ePKPdf* **PKPdf** **16 35 01.0 +0.3**
WRA Warramunga Arr 137.71 255 PKhKP PKPpre 16 34 54.5
comp=Z,0.2nm,0.6s,baz=88,slow=3.0,SNR=4.6
WRA PKP **PKiKP** **16 35 02.9 +0.2**
comp=Z,1.7nm,0.7s,baz=89,slow=2.0,SNR=30
WRA Warramunga Arr 137.71 255 PKPpre PKPpre 16 34 54.5
WRA PKP **PKiKP** **16 35 02.9 +0.2**
ASAR Alice Springs 137.83 249 PKhKP PKPpre 16 34 55.3
comp=Z,0.4nm,0.8s,baz=100,slow=3.1,SNR=5.8
ASAR PKP **PKiKP** **16 35 03.9 +1.0**
comp=Z,1.1nm,0.8s,baz=97,slow=1.8,SNR=13
ASAR Alice Springs 137.83 249 PKPpre PKPpre 16 34 55.3
ASAR PKP **PKiKP** **16 35 03.9 +1.0**
DANN Dangsing 138.19 9 *eP* **PKPdf** **16 35 00.4 -1.4**
comp=Z,17nm,0.8s
GKN Gorkha 138.66 8 *eP* **PKPdf** **16 35 01.4 -1.1**
comp=Z,8.8nm,0.8s
KOLN Koldanda 138.73 10 *eP* **PKPdf** **16 34 59.3 -3.4**
comp=Z,3.9nm,0.5s
KOLN Koldanda 138.73 10 *eP* **PKPdf** **16 34 59.3 -3.4**
GUN Gumba 138.90 6 *eP* **PKPdf** **16 35 02.8 -0.4**
KKN Kakani 138.95 7 *eP* **PKPdf** **16 35 02.0 -1.1**
DMN Daman 139.11 8 *eP* **PKPdf** **16 35 02.9 -0.6**
PKI Pulchoki 139.18 7 *eP* **PKPdf** **16 35 02.8 -0.9**
TAPN Taplejung 139.62 4 *eP* **PKPdf** **16 35 06.2 +1.7**
TAPN Taplejung 139.62 4 *eP* **PKPdf** **16 35 06.2 +1.7**
FITZ Fitzroy Crossi 146.02 257 PKPbc **PKPab** **16 35 18.0 +1.0**
comp=Z,7.0nm,0.9s,baz=105,slow=3.6,SNR=10
FITZ pPKPbc pPKPbc 16 35 37.0 +0.5
comp=Z,6.6nm,0.6s,baz=62,slow=0.3,SNR=7.2
FITZ Fitzroy Crossi 146.02 257 *ePKPdf* **PKPab** **16 35 17.3 +0.2**
FITZ PKPbc **PKPab** **16 35 18.0 +1.0**
FITZ *e* 16 35 36.6
FITZ pPKPbc pPKPbc 16 35 37.0 +0.5
CHTO Chiang Mai 147.19 345 *ePKPdf* **PKPdf** **16 35 17.8 +0.2**
HYB Hyderabad 147.34 22 *i* PKP **PKPdf** **16 35 18.0 +0.2**
CM31 Chiang Mai Arr 147.54 345 *ePKPdf* **PKPdf** **16 35 19.1 +0.9**
CMAR Chiang Mai Arr 147.54 345 PKPbc **PKPdf** **16 35 18.9 +0.8**
comp=Z,5.7nm,0.8s,baz=338,slow=3.3,SNR=54
CMAR Chiang Mai Arr 147.54 345 PKPbc **PKPdf** **16 35 18.9 +0.8**

*ISCJB **24** 16:46:12.2±0.4,23.90N±0.03×122.64E±0.02,h19km±4km,*
Error ellipse: s-maj=4.3km s-min=2.8km az=167.4
*JMA **24** 16:46:12.6±0.3,24.05N×122.59E,h34km,M2.3*
*TAP **24** 16:46:13.5,23.97N×122.57E,h25km±1km,ML3.0,D*
ISC 24 16:46:11.3±1.2,23.91N±0.03×122.64E±0.02,h14km±10km,
n41,σ0.67/74,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
YOJ	**Yonaguni jima**	**0.65**	**31**	P	**Pg**		**16 46 23.9**	**-0.1**
YOJ				*eS*	**Sg**		**16 46 31.7**	**-0.9**
HWA	**Hwalien**	**0.95**	**274**	*eP*	**Pg**		**16 46 29.9**	**+0.2**
	baz=257							
TWD	**Chiawan**	**0.97**	**281**	*eP*	**Pb**		**16 46 29.9**	**0.0**
	baz=277							
TWD				*eS*	**Sb**		**16 46 42.4**	**-0.2**
	baz=277							
ENA	**Nanau**	**0.97**	**302**	*eP*	**Pn**		**16 46 30.4**	**-0.1**
	baz=301							
ENA				*eS*	**Sb**		**16 46 42.8**	**+0.1**
	baz=301							
TWC	**Suao**	**1.01**	**314**	P	**Pb**		**16 46 30.4**	**-0.1**
	baz=315							
TWC				*eS*	**Sb**		**16 46 43.3**	**-0.3**
	baz=315							
HATJ	**Hateruma jima**	**1.07**	**82**	P	**Pb**		**16 46 31.9**	**+0.2**
HATJ				*eS*	**Sg**		**16 46 46.8**	**+0.7**
IRIF	**Iriomote-Funau**	**1.08**	**67**	P	**Pb**		**16 46 32.0**	**+0.2**
IRIF				*eS*	**Sn**		**16 46 46.5**	**-0.3**
ESL	**Shilin**	**1.11**	**266**	*eP*	**Pb**		**16 46 31.8**	**-0.5**
	baz=261							
ESL				*eS*	**Sn**		**16 46 47.2**	**-0.3**
	baz=261							
ILA	**Ilan**	**1.18**	**317**	*eP*	**Pb**		**16 46 33.9**	**+0.4**
	baz=307							
ILA				*eS*	**Sn**		**16 46 49.4**	**+0.1**
	baz=307							
TWE	**Neicheng**	**1.20**	**313**	*eP*	**Pb**		**16 46 34.3**	**+0.5**
	baz=313							
TWE				*eS*	**Sn**		**16 46 50.0**	**+0.1**
	baz=313							
ENTT	**Nioudou**	**1.22**	**307**	*eP*	**Pb**		**16 46 34.8**	**+0.6**
	baz=291							
ENTT				*eS*	**Sn**		**16 46 50.4**	**+0.1**
	baz=291							
TWB1	**Santiao Chiao**	**1.25**	**332**	*eP*	**Pb**		**16 46 34.8**	**+0.2**
	baz=334							
EHY	**Hungye**	**1.27**	**252**	*eP*	**Pn**		**16 46 34.6**	**-0.1**
	baz=248							
EHY				*eS*	**Sb**		**16 46 50.7**	**-0.6**
	baz=248							
NNS	**Nan Shan**	**1.27**	**295**	*eP*	**Pb**		**16 46 35.2**	**0.0**
	baz=293							
NNS				*eS*	**Sb**		**16 46 51.1**	**-0.4**
	baz=293							
WHF	**Hehuan Shan**	**1.28**	**281**	*eP*	**Pn**		**16 46 35.0**	**-0.2**
	baz=265							
JKRS	**Kuro-shima**	**1.29**	**75**	P	**Pb**		**16 46 35.3**	**-0.1**
JKRS				*eS*	**Sb**		**16 46 52.4**	**+0.6**
TWF1	**Yuli**	**1.35**	**246**	*eP*	**Pn**		**16 46 35.9**	**+0.2**
	baz=242							
TWF1				*eS*	**Sb**		**16 46 53.5**	**-0.1**
	baz=242							
NSK	**Sanguang**	**1.40**	**303**	P	**Pb**		**16 46 37.0**	**-0.2**
	baz=289							
NSK				*eS*	**Sn**		**16 46 53.9**	**-0.8**
	baz=289							
NWF	**Wu-fen Shan**	**1.40**	**326**	*eP*	**Pb**		**16 46 37.0**	**-0.2**
	baz=327							
NWF				*eS*	**Sb**		**16 46 55.1**	**+0.1**
	baz=327							
CHKT	**Chengkung**	**1.42**	**236**	*eP*	**Pn**		**16 46 37.2**	**+0.5**
	baz=219							
CHKT				*eS*	**Sn**		**16 46 53.7**	**-1.4**
	baz=219							
TWA	**Mucha**	**1.44**	**318**	*eP*	**Pb**		**16 46 38.1**	**+0.2**
	baz=319							
JIJ	**Ishigaki jima**	**1.45**	**71**	P	**Pn**		**16 46 36.6**	**-0.4**
JIJ				*eS*	**Sn**		**16 46 54.6**	**-1.2**
SMLT	**Sun Moon Lake**	**1.59**	**270**	*eP*	**Pn**		**16 46 39.5**	**+0.3**
	baz=267							
SMLT				*eS*	**Sb**		**16 47 00.2**	**-0.5**
	baz=267							
YUS	**Yu-Shan**	**1.60**	**255**	*eP*	**Pn**		**16 46 39.8**	**+0.2**
	baz=252							
TWS1	**Kuangyinshan**	**1.63**	**317**	*eP*	**Pn**		**16 46 39.8**	**+0.2**
	baz=335							
TWS1				*eS*	**Sb**		**16 47 01.1**	**-0.4**
	baz=335							
TYC	**Yuchr**	**1.63**	**270**	*eP*	**Pn**		**16 46 40.2**	**+0.6**
	baz=268							
TYC				*eS*	**Sn**		**16 46 59.8**	**-0.6**
	baz=268							
ELDTW	**Lidau**	**1.65**	**245**	*eP*	**Pn**		**16 46 40.7**	**+0.7**
	baz=241							
ELDTW				*eS*	**Sn**		**16 47 00.3**	**-0.8**
	baz=241							
NSTT	**Nanjuang**	**1.66**	**296**	*eP*	**Pb**		**16 46 42.0**	**+0.4**
	baz=295							
NSTT				*eS*	**Sn**		**16 47 01.5**	**+0.4**
	baz=295							
ALS	**Alishan**	**1.73**	**257**	*eP*	**Pn**		**16 46 41.8**	**+0.6**
	baz=254							
TWQ1	**Liyutan**	**1.76**	**285**	*eP*	**Pn**		**16 46 41.7**	**+0.3**
	baz=284							
TWG	**Pinlang**	**1.80**	**233**	*eP*	**Pn**		**16 46 43.0**	**+1.1**
	baz=220							
TWG				*eS*	**Sn**		**16 47 03.4**	**-1.2**
	baz=220							
CHN5	**Tsauling**	**1.82**	**261**	*eP*	**Pb**		**16 46 44.2**	**-0.3**
	baz=248							
CHN5				*eS*	**Sn**		**16 47 05.6**	**+0.3**
	baz=248							
STYT	**Tauyuan**	**1.88**	**247**	*eP*	**Pn**		**16 46 44.3**	**+1.2**
	baz=233							
CHN4	**Tsushan**	**1.96**	**254**	*eP*	**Pb**		**16 46 45.9**	**-0.8**
	baz=251							
CHN4				*eS*	**Sn**		**16 47 09.4**	**+0.9**
	baz=251							
WTP	**Ta-pu**	**1.97**	**251**	*eP*	**Pb**		**16 46 47.1**	**+0.1**
	baz=238							
WTP				*eS*	**Sb**		**16 47 10.6**	**-0.9**
	baz=238							
ECL	**Taimali**	**2.03**	**230**	*eP*	**Pn**		**16 46 45.5**	**+0.5**
	baz=228							
ECL				*eS*	**Sn**		**16 47 09.4**	**-0.7**
	baz=228							
SGST	**Jiashian**	**2.06**	**247**	*eP*	**Pb**		**16 46 48.0**	**-0.5**
	baz=244							
SGST				*eS*	**Sn**		**16 47 12.2**	**+1.2**
	baz=244							
CHN1	**Nanshi**	**2.07**	**250**	*eP*	**Pb**		**16 46 48.2**	**-0.4**
	baz=247							
CHN1				*eS*	**Sn**		**16 47 12.5**	**+1.3**
	baz=247							
SSD	**Sandimen**	**2.18**	**238**	*eP*	**Pb**		**16 46 49.0**	**-1.5**
	baz=230							
SSD				*eS*	**Sn**		**16 47 14.7**	**+0.9**
	baz=230							
EAST	**Anshuo**	**2.24**	**228**	*eP*	**Pn**		**16 46 49.2**	**+1.2**
	baz=225							
EAST				*eS*	**Sn**		**16 47 15.8**	**+0.3**
	baz=225							
SCZT	**Fangliau**	**2.41**	**231**	*eP*	**Pn**		**16 46 52.4**	**+2.1**
	baz=221							
SCZT				*eS*	**Sn**		**16 47 19.1**	**-0.5**
	baz=221							

IDC 24 17:00:33.2±1.6,57.13S×25.35W,h0km,mb4.1/3,
mb1 4.2/3,mb1mx4.0/12,mbtmp4.1/3,MS3.6/2,Ms1 3.5/2,
ms1mx3.3/12,Error ellipse: s-maj=66.4km
s-min=39.0km az=23.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLCA	**Paso Flores**	**33.19**	**280**	LR	LR		17 21 05.5	
	comp=Z,62nm,18.8s,baz=98,slow=37							
BDFB	**Brasilia**	**44.81**	**328**	P	P		17 08 47.2	-1.6
	2.3nm,0.8s,baz=135,slow=7.1,SNR=2.9							
BOSA	**Boshof**	**45.28**	**73**	LR	LR		17 22 59.6	
	comp=Z,97nm,18.6s,baz=56,slow=30							
LPAZ	**La Paz**	**51.83**	**304**	P	P		17 09 44.9	+1.2
	0.9nm,0.4s,baz=276,slow=1.3,SNR=6.0							
TORD	**Torodi Ar. Bea**	**73.52**	**28**	P	P		17 12 08.4	+0.8
	1.1nm,0.7s,baz=197,slow=6.8,SNR=6.0							
FINES	**FINESS Array B**	**124.87**	**27**	PKP	PKPdf		17 19 33.8	+0.4
	2.2nm,1.0s,baz=140,slow=4.5,SNR=1.0							
YKA	**Yellowknife Ar**	**137.65**	**316**	PKP	PKPdf		17 19 56.3	-1.2
	0.1nm,0.4s,baz=131,slow=2.0,SNR=3.3							
SONM	**Songino Array**	**149.78**	**87**	PKPbc	PKPbc		17 20 23.0	-1.2
	0.4nm,0.6s,baz=214,slow=3.8,SNR=5.2							
ILAR	**Eielson Array**	**151.59**	**310**	PKPbc	PKPbc		17 20 27.2	-0.5
	1.0nm,0.9s,baz=144,slow=4.8,SNR=12							

*IDC **24** 17:01:22.9±0.6,2.76S×140.30E,h0km,mb4.3/10,*
mb1 4.5/11,mb1mx4.3/15,mbtmp4.3/11,ML4.5/1,MS3.5/3,
Ms1 3.5/3,ms1mx2.9/26,Error ellipse: s-maj=23.7km
s-min=12.9km az=100.0
*BJI **24** 17:01:23.9,2.51S×141.06E,h11km,mB4.4/2,mb4.5/11*
*ISCJB **24** 17:01:24.1±0.3,2.82S±0.04×140.98E±0.05,h23km,*
mb4.6/43,MS3.5/2,Error ellipse: s-maj=8.2km
s-min=4.9km az=156.3
*DJA **24** 17:01:26,2.80S×140.90E,h10km,mb4.7/10*
*NEIC **24** 17:01:28.7±1.6,2.85S×140.89E,h43km±15km,mb4.7/33,*
Error ellipse: s-maj=9.1km s-min=7.3km az=66.0
ISC 24 17:01:26.1±0.4,2.79S±0.05×140.85E±0.06,h23km,n107,
σ1.38/115,mb4.6/42,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JAY	**Jayapura**	**0.31**	**332**	P	**Pb**		**17 01 31.5**	**-1.8**
SMPI	**Sarmi**	**2.29**	**290**	P	**Pb**		**17 02 06.1**	**-0.6**
PMG	**Port Moresby**	**9.08**	**137**	Pn	**Pn**		**17 03 38.1**	**+2.2**
	0.7nm,0.3s,baz=17,slow=3.0,SNR=8.6							
PMG				Sn	**Sn**		**17 05 16.1**	**-1.4**
	baz=131,slow=12,SNR=2.1							

PMG	**Port Moresby**	**9.08 137**	Pn	**Pn**	**17 03 38.1**	**+2.2**
PMG			Sn	**Sn**	**17 05 16.1**	**-1.4**
PMG	**Port Moresby**	**9.08 137**	P	Pn	17 03 40.2	+4.3
	24nm,1.0s					
SWI	**Sorong**	**9.78 281**	P	Pn	17 03 54.9	+9.4
AAI	**Ambon**	**12.67 266**	P	Pn	17 04 29.8	+4.7
	28nm,0.7s					
LBMI	**Labuha**	**13.52 279**	P	**P**	**17 04 43.4**	**-2.2**
CTA	**Charters Tower**	**17.98 163**	LR	LR	17 12 11.6	
	comp=Z,123nm,20.4s,baz=349,slow=36					
CTAO	**Charters Tower**	**17.98 163**	*e*Pn	**Pn**	**17 05 34.0**	**-0.8**
	8.3nm,1.1s					
WRAB	**Tennant Creek**	**18.18 200**	*eP*	**Pn**	**17 05 36.2**	**-1.0**
	21nm,0.8s					
WRAB			*e*Sn	Sn	17 08 50.7	-8.9
WB2	**Warramunga Arr**	**18.19 200**	*eP*	**Pn**	**17 05 36.3**	**-1.0**
WB2			*eS*	Sn	17 08 39.4	-21
WRA	**Warramunga Arr**	**18.19 200**	P	**P**	**17 05 37.9**	**+0.4**
	1.6nm,0.3s,baz=21,slow=12,SNR=34					
WRA			S	Sn	17 08 52.4	-7.6
	0.3nm,0.3s,baz=10,slow=24,SNR=3.7					
WRA	**Warramunga Arr**	**18.19 200**	P	**P**	**17 05 37.9**	**+0.4**
WRA			S	Sn	17 08 52.4	-7.6
MRSI	**Marisa**	**19.18 279**	P	**Pn**	**17 05 52.9**	**+3.5**
HNR	**Honiara**	**20.09 110**	P	**P**	**17 05 58.5**	**+0.2**
	15nm,0.5s,baz=191,slow=16,SNR=3.5					
HNR	**Honiara**	**20.09 110**	*eP*	**P**	**17 05 53.8**	**-4.5**
	55nm,1.0s					
FITZ	**Fitzroy Crossi**	**21.30 223**	P	**P**	**17 06 11.7**	**+0.2**
	11nm,0.9s,baz=49,slow=11,SNR=12					
FITZ			S	**S**	**17 10 01.1**	**-6.1**
	6.1nm,0.8s,baz=117,slow=12,SNR=3.6					
FITZ			LR	LR	17 15 25.2	
	comp=Z,121nm,18.1s,baz=200,slow=39					
FITZ	**Fitzroy Crossi**	**21.30 223**	*eP*	**P**	**17 06 11.7**	**+0.2**
	17nm,0.6s					
FITZ	**Fitzroy Crossi**	**21.30 223**	*eP*	**P**	**17 06 11.4**	**-0.1**
	7.8nm,0.6s					
FITZ			*eS*	S	17 09 52.7	-14
FITZ			S	Sn	17 10 01.1	-14
AS31	**Alice Springs**	**21.81 197**	*eP*	**P**	**17 06 16.2**	**-0.6**
AS31			*eS*	**S**	**17 10 17.0**	**-0.1**
ASAR	**Alice Springs**	**21.81 197**	P	**P**	**17 06 16.8**	**-0.1**
	6.8nm,0.7s,baz=30,slow=10,SNR=32					
ASAR			S	**S**	**17 10 21.0**	**+3.8**
	2.8nm,0.9s,baz=12,slow=28,SNR=4.4					
ASAR	**Alice Springs**	**21.81 197**	P	**P**	**17 06 16.8**	**-0.1**
ASAR			S	**S**	**17 10 21.0**	**+3.8**
QLP	**Quilpie**	**23.88 173**	*eP*	**P**	**17 06 37.1**	**-1.0**
EIDS	**Eidsvold**	**24.51 157**	*eP*	**P**	**17 06 45.1**	**+1.1**
	133nm,0.5s					
EIDS	**Eidsvold**	**24.51 157**	*eP*	**P**	**17 06 44.9**	**+1.0**
	26nm,0.6s					
STKA	**Stephens Creek**	**28.94 179**	LR	LR	17 18 35.2	
	comp=Z,134nm,18.9s,baz=199,slow=36					
STKA	**Stephens Creek**	**28.94 179**	*eP*	**P**	**17 07 23.3**	**-0.5**
	0.8nm,0.9s					
CMSA	**Cobar Meteorol**	**28.95 171**	*eP*	**P**	**17 07 24.6**	**+0.7**
	60nm,1.0s					
FORT	**Forrest**	**30.35 202**	*eP*	**P**	**17 07 36.8**	**+0.5**
	23nm,0.9s					
FORT	**Forrest**	**30.35 202**	*eP*	**P**	**17 07 36.3**	**+0.1**
	26nm,0.8s					
KSM	**Kuching**	**30.83 278**	*eP*	**P**	**17 07 40.8**	**+0.1**
	22nm,1.2s					
KSAR	**Wonju Array Be**	**41.81 344**	PcP	**PcP**	**17 11 11.0**	**+1.0**
KSRS	**Korea Array**	**41.81 345**	PcP	**PcP**	**17 11 11.0**	**+1.0**
	2.3nm,0.7s,baz=151,slow=4.4,SNR=6.0					
ENH	**Enshi**	**44.48 320**	*eP*	**P**	**17 09 35.9**	**0.0**
	9.5nm,1.2s					
CM31	**Chiang Mai Arr**	**46.34 299**	P	**P**	**17 09 50.6**	**-0.3**
	8.2nm,1.0s					
CMAR	**Chiang Mai Arr**	**46.34 299**	P	**P**	**17 09 52.1**	**+1.2**
	3.3nm,0.6s,baz=118,slow=6.2,SNR=19					
CMAR	**Chiang Mai Arr**	**46.34 299**	P	**P**	**17 09 52.1**	**+1.2**
CHTO	**Chiang Mai**	**46.48 299**	*eP*	**P**	**17 09 51.9**	**0.0**
	5.0nm,1.1s					
XAN	**Xi'an**	**47.40 323**	P	**P**	**17 09 59.8**	**+0.9**
XAN			pmax	pmax		
	comp=Z,3.0nm,1.3s					
XAN			pmax	pmax		
	comp=Z,27nm,4.9s					
LZH	**Lanzhou**	**51.85 322**	*eP*	**P**	**17 10 35.0**	**+2.0**
LZH			pP	**pP**	**17 10 39.3**	**-0.9**
LZH			sP	**sP**	**17 10 41.5**	**-1.5**
LZH			pmax	pmax		
	comp=Z,23nm,1.3s					
GTA	**Gaotai**	**56.42 322**	*eP*	**P**	**17 11 08.0**	**+1.8**
GTA			pP	**pP**	**17 11 12.0**	**-1.5**
GTA			sP	**sP**	**17 11 14.1**	**-2.2**
GTA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
LSA	**Lhasa**	**57.44 308**	*eP*	**P**	**17 11 13.0**	**-1.0**
	comp=Z,6.9nm,1.3s					
PETK	**Petropavlovsk-**	**57.47 12**	P	**P**	**17 11 14.0**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=184,slow=5.8,SNR=2.7					
PETK	**Petropavlovsk-**	**57.47 12**	P	**P**	**17 11 14.0**	**+0.7**
ULN	**Ulaanbaatar**	**58.46 334**	*eP*	**P**	**17 11 20.9**	**+0.4**
	comp=Z,1.8nm,0.9s					
SONM	**Songino Array**	**58.73 334**	P	**P**	**17 11 22.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=153,slow=6.3,SNR=3.8					
SONM			PcP	**PcP**	**17 12 11.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=160,slow=3.9,SNR=6.0					
SONM	**Songino Array**	**58.73 334**	P	**P**	**17 11 22.9**	**+0.6**
SONM			PcP	**PcP**	**17 12 11.8**	**-0.2**
TAPN	**Taplejung**	**59.28 304**	*eP*	**P**	**17 11 28.1**	**+1.3**
TAPN	**Taplejung**	**59.28 304**	*eP*	**P**	**17 11 28.1**	**+1.3**
ODAN	**Odare**	**59.37 303**	*eP*	**P**	**17 11 28.3**	**+1.0**
ODAN	**Odare**	**59.37 303**	*eP*	**P**	**17 11 28.3**	**+1.0**
RAMN	**Ramite**	**60.06 303**	*eP*	**P**	**17 11 33.3**	**+1.2**
	comp=Z,12nm,0.8s					
RAMN	**Ramite**	**60.06 303**	*eP*	**P**	**17 11 33.3**	**+1.2**
	comp=Z,12nm,0.8s					
JIRN	**Jiri**	**60.66 304**	*eP*	**P**	**17 11 37.2**	**+0.9**
	comp=Z,19nm,1.2s					
JIRN	**Jiri**	**60.66 304**	*eP*	**P**	**17 11 37.2**	**+0.9**
	comp=Z,19nm,1.2s					
GUN	**Gumba**	**61.00 304**	*eP*	**P**	**17 11 39.8**	**+1.2**
	comp=Z,14nm,0.9s					
GUN	**Gumba**	**61.00 304**	*eP*	**P**	**17 11 39.8**	**+1.2**
	comp=Z,14nm,0.9s					
KKN	**Kakani**	**61.46 304**	*eP*	**P**	**17 11 42.5**	**+1.0**
	comp=Z,12nm,1.0s					
KKN	**Kakani**	**61.46 304**	*eP*	**P**	**17 11 42.5**	**+1.0**
	comp=Z,12nm,1.0s					
DMN	**Daman**	**61.54 303**	*eP*	**P**	**17 11 43.3**	**+1.2**
	comp=Z,23nm,1.2s					
DMN	**Daman**	**61.54 303**	*eP*	**P**	**17 11 43.3**	**+1.2**
	comp=Z,23nm,1.2s					
GKN	**Gorkha**	**62.06 304**	*eP*	**P**	**17 11 46.7**	**+1.2**
	comp=Z,11nm,0.7s					
GKN	**Gorkha**	**62.

MCK	**McKinley**	**83.85**	**25**	*e*P		**P**	**17 13 52.5**	**-1.2**
	comp=Z,8.1nm,0.9s								
COLD	**Coldfoot**	**84.54**	**21**	*e*P		**P**	**17 13 56.6**	**-0.5**
	comp=Z,7.2nm,1.2s								
COLA	**College**	**84.67**	**24**	*e*P		**P**	**17 13 55.3**	**-2.4**
	comp=Z,4.4nm,0.8s								
ILAR	**Eielson Array**	**85.03**	**24**	P		**P**	**17 13 58.0**	**-1.6**
	comp=Z,3.6nm,0.8s,baz=263,slow=4.5,SNR=53								
ILAR	**Eielson Array**	**85.03**	**24**	P		**P**	**17 13 58.0**	**-1.6**
ABKAR	**Akbulak array**	**86.17**	**320**	*e*P		**P**	**17 14 04.0**	**-1.6**
	comp=Z,1.4nm,0.9s								
QSPA	**South Pole Qui**	**87.15**	**180**	*e*P		**P**	**17 14 09.7**	**-0.5**
	comp=Z,7.5nm,1.1s								
DAWY	**Dawson**	**88.02**	**26**	*e*P		**P**	**17 14 14.7**	**+0.4**
YKA	**Yellowknife Ar**	**99.17**	**27**	P		**Pdif**	**17 15 04.9**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=286,slow=4.9,SNR=5.8								
YKA	**Yellowknife Ar**	**99.17**	**27**	P		**Pdif**	**17 15 05.0**	**-0.6**
ARCES	**ARCESS Array B**	**101.29**	**341**	P		**Pdif**	**17 15 14.8**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=329,slow=9.1,SNR=4.0								
ARCES	**ARCESS Array B**	**101.29**	**341**	P		**Pdif**	**17 15 14.8**	**-0.1**
GERES	**GERESS Array B**	**115.78**	**324**	PKP		**PKPdf**	**17 20 07.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=286,slow=22,SNR=2.8								
GERES	**GERESS Array B**	**115.78**	**324**	PKP		**PKPdf**	**17 20 07.0**	**0.0**
SCHQ	**Schefferville**	**123.45**	**19**	PKP		**PKPdf**	**17 20 21.5**	**0.0**
	comp=Z,3.0nm,0.8s,baz=279,slow=2.3,SNR=5.5								
SCHQ	**Schefferville**	**123.45**	**19**	PKP		**PKPdf**	**17 20 21.5**	**0.0**
PLCA	**Paso Flores**	**128.05**	**150**	PKP		**PKPdf**	**17 20 31.8**	**+0.9**
	comp=Z,3.7nm,1.0s,baz=236,slow=7.3,SNR=3.4								
PLCA	**Paso Flores**	**128.05**	**150**	PKP		**PKPdf**	**17 20 31.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**138.33**	**287**	PKP		**PKPdf**	**17 20 52.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=70,slow=1.4,SNR=3.1								
TORD	**Torodi Ar. Bea**	**138.33**	**287**	PKP		**PKPdf**	**17 20 52.3**	**+1.6**
DBIC	**Dimbokro**	**145.62**	**278**	PKPbc		**PKPbc**	**17 21 04.2**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=44,slow=2.6,SNR=8.6								
DBIC	**Dimbokro**	**145.62**	**278**	*e*PKPdf		**PKPbc**	**17 21 04.1**	**+0.1**
DBIC				PKPbc		**PKPbc**	**17 21 04.2**	**+0.1**
LPAZ	**La Paz**	**145.65**	**124**	PKPbc		**PKPab**	**17 21 05.5**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=302,slow=1.9,SNR=16								
LPAZ	**La Paz**	**145.65**	**124**	PKPbc		**PKPab**	**17 21 05.5**	**+0.4**

MAN 24 17:23:01,7.15N×123.51E,h30km,mb3.7,ML2.4,MS2.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.71**	**350**	*e*P	Pn	17 23 15.8	+0.8
PAGZ				*e*S	Sn	17 23 25.5	+0.6
CTBH	**Cotabato--PC H**	**0.73**	**84**	*i*P	Pb	17 23 14.8	-0.5
CTBH				S	Sn	17 23 26.1	+0.6
IPIL	**Ipil**	**1.13**	**304**	*e*P	Pn	17 23 21.0	+0.3
IPIL				*e*S	Sn	17 23 32.7	-2.5

NIED ***24*** *17:33:00,33.60N×131.90E,h83km,Mw4.7 Best double couple: M0 1.25000×10^16 NP1:φs185.00000°,δ76.00000°, λ-81.00000°. NP2:φs330.00000°,δ17.00000°, λ-124.00000°.*

BJI ***24*** *17:33:31.4,33.12N×132.41E,h81km,mB4.9/28,mb4.7/46, Ms4.4/20,Ms7 4.0/22*

MOS ***24*** *17:33:36.8±1.1,33.48N×131.69E,h85km,mb4.7/33,Error ellipse: s-maj=8.7km s-min=5.7km az=110.1*

ISCJB ***24*** *17:33:37.5±0.1,33.50N±0.02×131.69E±0.02,h81km, mb4.6/105,Error ellipse: s-maj=3.4km s-min=2.6km az=169.2*

NEIC ***24*** *17:33:38.6±0.1,33.52N×131.69E,mb4.8/47, MW4.7(NIED),Error ellipse: s-maj=4.5km s-min=3.2km az=149.0*

NEIC Felt [II] at Iwakuni, Honshu. Felt at Beppu and Oita, Kyushu. Recorded [2 JMA] in Oita and [1 JMA] in Fukuoka, Kumamoto, Miyazaki and Saga, Kyushu. Recorded [2 JMA] in Hiroshima and Yamaguchi and [1 JMA] in Shimane, Honshu. Also recorded [2 JMA] in Ehime and Kochi and [1 JMA] in Tokushima, Shikoku.

JMA ***24*** *17:33:38.4,33.56N×131.88E,h78km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs179.00000°,δ78.00000°,λ-77.00000°. NP2: φs310.00000°,δ18.00000°,λ-137.00000°. Principal axes: T Plg32.0000°, Azm258.0000°; N Plg13.0000°, Azm356.0000°; P Plg55.0000°, Azm105.0000°;*

JMA Felt II J1.

IDC ***24*** *17:33:39.2±0.6,33.54N×131.66E,h89km±5km,mb4.1/28, mb1 4.2/32,mb1mx4.2/36,mbtmp4.0/32,MS3.6/11, Ms1 3.6/11,ms1mx3.3/41 Error ellipse: s-maj=11.5km s-min=9.5km az=81.0*

ISC 24 17:33:38.0±0.3,33.52N±0.03×131.82E±0.03,h82km, h82km:pP-P,n421,σ1§37/506,mb4.7/104,93C-78D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKI	**Kunimi**	**0.24**	**299**	⇓P	**Pn**	**17 33 50.3**	**+0.1**
JKI				S	**Sn**	**17 33 59.0**	**-0.2**
OIT2	**Oita 2**	**0.39**	**233**	⇓P	**Pn**	**17 33 51.7**	**+0.6**
JUS	**Usuki**	**0.45**	**188**	⇓P	**Pn**	**17 33 52.1**	**+0.5**
JUS				S	**Sn**	**17 34 01.9**	**+0.3**
JKD	**Kudamatsu**	**0.54**	**5**	⇓P	**Pn**	**17 33 51.9**	**-0.4**
JKD				S	**Sn**	**17 34 01.6**	**-1.3**
JNA	**Nagahama**	**0.55**	**85**	⇑P	**Pn**	**17 33 51.9**	**-0.5**
JNA				S	**Sn**	**17 34 01.1**	**-1.1**
UWA2	**Uwa jima 2**	**0.74**	**114**	⇑P	**Pn**	**17 33 53.7**	**-0.5**
UWA2				S	**Sn**	**17 34 05.4**	**-0.9**
JHM	**Kurahashi**	**0.86**	**43**	⇑P	**Pn**	**17 33 54.9**	**-0.6**
JHM				S	**Sn**	**17 34 07.5**	**-1.0**
JFA	**Akaike**	**0.88**	**283**	⇓P	**Pn**	**17 33 56.2**	**+0.5**
JFA				S	**Sn**	**17 34 09.4**	**+0.4**
JNU	**Nakatsue**	**0.88**	**244**	P	**Pn**	**17 33 56.8**	**+1.0**
	325nm,0.3s,baz=57,slow=6.8						
JNU				S	**Sn**	**17 34 10.3**	**+1.2**
	1μm,0.3s,baz=256,slow=5.8,SNR=114						
JNU	**Nakatsue**	**0.88**	**244**	⇓*e*Pn	**Pn**	**17 33 56.8**	**+1.0**
JNU				*e*Sn	**Sn**	**17 34 10.2**	**+1.1**
JNU				S		17 34 10.3	
JNU	**Nakatsue**	**0.88**	**244**	⇓P	**Pn**	**17 33 56.8**	**+1.0**
JNU				S	**Sn**	**17 34 10.2**	**+1.1**
JKIT	**Kitakata**	**0.94**	**199**	⇓P	**Pn**	**17 33 56.9**	**+0.4**
JTY	**Toyota**	**0.98**	**320**	⇓P	**Pn**	**17 33 57.3**	**+0.4**
JTY				S	**Sn**	**17 34 11.2**	**+0.2**
JHIK	**Hikimi**	**1.02**	**5**	⇓P	**Pn**	**17 33 57.4**	**0.0**
JHIK				S	**Sn**	**17 34 11.1**	**-0.8**
JIU2	**Izumi 2**	**1.28**	**221**	P	**Pn**	**17 34 01.8**	**+1.1**
KSRS	**Korea Array**	**5.06**	**322**	P	**Pn**	**17 34 52.3**	**+1.0**
	6.0nm,0.3s,baz=141,slow=14,SNR=156						
KSRS				S	**Sn**	**17 35 48.0**	**-0.3**
	5.5nm,0.3s,baz=139,slow=23,SNR=8.1						
KSRS				LR	LR	17 36 41.0	
	comp=Z,553nm,21.6s,baz=122,slow=37						
KSRS	**Korea Array**	**5.06**	**322**	P	**Pn**	**17 34 52.3**	**+1.0**
KSRS				S	**Sn**	**17 35 48.0**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KSRS				smax	smax		
	comp=N,6.0nm,0.3s						
KSAR	**Wonju Array Be**	**5.07**	**322**	P	**Pn**	**17 34 52.3**	**+0.9**
KSAR				S	**Sn**	**17 35 48.0**	**-0.6**
KSAR	**Wonju Array Be**	**5.07**	**322**	P	**Pn**	**17 34 52.3**	**+0.9**
KSAR				S	**Sn**	**17 35 48.0**	**-0.6**
INCN	**Inchon**	**5.79**	**315**	*e*Pn	**Pn**	**17 35 02.0**	**+0.6**
INCN				*e*Sn	**Sn**	**17 36 05.7**	**-0.8**
MAJO	**Matsushiro**	**6.05**	**58**	*e*P	**Pn**	**17 35 05.6**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,122nm,0.9s						
MAJO	**Matsushiro**	**6.05**	**58**	*e*Pn	**Pn**	**17 35 05.6**	**+0.8**
	comp=Z,122nm,0.9s						
MAT	**Matsushiro**	**6.05**	**58**	P	**Pn**	**17 35 05.6**	**+0.8**
MAT				S	**Sn**	**17 36 11.7**	**-0.9**
MJAR	**Matsushiro Arr**	**6.05**	**58**	P	**Pn**	**17 35 06.1**	**+1.3**
	comp=Z,16nm,0.3s,baz=244,slow=14,SNR=357						
MJAR	**Matsushiro Arr**	**6.05**	**58**	P	**Pn**	**17 35 06.1**	**+1.3**
MJAR	**Matsushiro Arr**	**6.05**	**58**	P	**Pn**	**17 35 06.1**	**+1.3**
JOW	**Kunigami**	**7.33**	**206**	P	**Pn**	**17 35 21.6**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=350,slow=11,SNR=4.8						
JOW				S	**Sn**	**17 36 39.0**	**-5.1**
	comp=Z,5.2nm,0.3s,baz=105,slow=27,SNR=7.5						
JOW	**Kunigami**	**7.33**	**206**	P	**Pn**	**17 35 21.6**	**-0.9**
JOW				S	**Sn**	**17 36 39.0**	**-5.1**
SSE	**Sheshan**	**9.32**	**258**	P	**Pn**	**17 35 47.6**	**-1.9**
SSE				S	**Sn**	**17 37 30.8**	**-1.8**
SSE				pmax	pmax		
	comp=Z,41nm,1.2s						
SSE				pmax	pmax		
	comp=Z,120nm,4.8s						
SNY	**Shenyang**	**10.56**	**324**	⇑P	Pn	17 36 10.8	+4.6
SNY				S	Sn	17 38 13.3	+11
SNY				pmax	pmax		
	comp=Z,18nm,2.1s						
SNY				pmax	pmax		
	comp=Z,360nm,3.8s						
SNY				LR	LR		
	comp=N,510nm,4.5s						
SNY				LR	LR		
	comp=E,780nm,5.1s						
SNY				LR	LR		
	comp=Z,540nm,11.6s						
USRK	**Ussuriysk Arra**	**10.67**	**1**	P	**Pn**	**17 36 10.1**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=8.1						
NJ2	**Nanjing**	**11.01**	**266**	*e*P	Pn	17 36 16.3	+3.7
NJ2				S	**Sn**	**17 38 19.5**	**+5.6**
NJ2				pmax	pmax		
	comp=Z,60nm,1.4s						
NJ2				LR	LR		
	comp=N,500nm,6.0s						
NJ2				LR	LR		
	comp=E,360nm,6.0s						
NJ2				LR	LR		
	comp=Z,240nm,6.8s						
CN2	**Changchun**	**11.41**	**336**	*e*P	Pn	17 36 24.5	+6.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YHNB	**Yeheng**	**12.69**	**229**	*e*Pn	**Pn**	**17 36 36.5**	**+1.2**
	comp=Z,32nm,1.0s						
NACB	**Ninganchiao**	**12.91**	**227**	*e*Pn	**Pn**	**17 36 39.0**	**+0.7**
NACB				*e*Sn	**Sn**	**17 38 58.1**	**-2.1**
ASAJ	**Asahikawa**	**13.50**	**35**	LR	LR	17 42 21.5	
	comp=Z,34nm,18.1s,baz=149,slow=38						
BJI	**Beijing**	**14.12**	**302**	P	**Pn**	**17 36 53.8**	**-0.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BJI				LR	LR		
	comp=N,320nm,7.7s						
BJI				LR	LR		
	comp=E,260nm,8.3s						
BJI				LR	LR		
	comp=Z,260nm,30.8s						
WHN	**Wuhan**	**15.11**	**263**	P	**P**	**17 37 12.0**	**+1.8**
WHN				S	**S**	**17 40 02.9**	**-2.7**
WHN				LR	LR		
	comp=Z,620nm,16.5s						
KLR	**Kul'dur**	**15.70**	**360**	*e*P	**Pn**	**17 37 15.3**	**+1.1**
YSS	**Yuzh-Sakhalins**	**15.78**	**29**	*e*P	**P**	**17 37 17.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**15.78**	**29**	Pn	**P**	**17 37 17.1**	**-0.5**
HHC	**Hu-ho-hao-te**	**17.70**	**300**	*e*P	**Pn**	**17 37 41.8**	**+2.6**
HHC				pP	**pP**	**17 37 55.8**	**+0.8**
HHC				PP	**pwP**	**17 37 59.4**	**+4.4**
HHC				sP	**sP**	**17 38 06.5**	**+1.1**
HHC				S	**Sn**	**17 40 53.3**	**-2.8**
HHC				pmax	pmax		
	comp=Z,51nm,1.0s						
HHC				pmax	pmax		
	comp=Z,400nm,5.2s						
HHC				LR	LR		
	comp=N,640nm,6.3s						
HHC				LR	LR		
	comp=E,290nm,7.2s						
HHC				LR	LR		
	comp=Z,280nm,6.7s						
BTO	**Baotou**	**18.76**	**298**	*e*P	**Pn**	**17 37 51.8**	**-0.1**
XAN	**Xi'an**	**19.04**	**278**	P	**Pn**	**17 37 54.5**	**-0.7**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,11nm,3.4s						
GYA	**Guiyang**	**22.86**	**259**	⇓*i*P	**P**	**17 38 33.4**	**-1.4**
GYA				pP	**pP**	**17 38 52.1**	**+0.6**
GYA				sP	**sP**	**17 39 04.3**	**+2.6**
GYA				S	**S**	**17 42 33.0**	**-5.2**
GYA				sS	**sS**	**17 43 04.8**	**-3.7**
GYA				SS	**SnSn**	**17 43 21.8**	**+4.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,15.0s						
GYA				LR	LR		
	comp=E,390nm,16.4s						
GYA				LR	LR		
	comp=Z,460nm,15.2s						
LZH	**Lanzhou**	**23.09**	**284**	*e*P	**P**	**17 38 37.0**	**+0.1**
LZH				pP	**pP**	**17 38 54.1**	**+0.2**
LZH				sP	**sP**	**17 39 03.5**	**-0.6**
LZH				PP	**PnPn**	**17 39 10.3**	**+4.3**
LZH				*e*S	**S**	**17 42 37.4**	**-4.3**
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
LZH				LR	LR		
	comp=N,260nm,10.0s						
LZH				LR	LR		
	comp=E,220nm,10.2s						
LZH				LR	LR		
	comp=Z,380nm,13.5s						
ULN	**Ulaanbaatar**	**23.49**	**315**	*e*P	**P**	**17 38 40.5**	**-0.1**
ULN				*e**PP	**pP**	**17 38 58.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,25nm,0.7s						
ULN	**Ulaanbaatar**	**23.49**	**315**	*e*P	**P**	**17 38 40.5**	**-0.1**
	comp=Z,25nm,0.7s						
ULN				*e*pP	**pP**	**17 38 58.8**	**+0.6**
CD2	**Chengdu**	**23.86**	**271**	P	**P**	**17 38 43.4**	**-0.5**
CD2				pP	**pP**	**17 39 01.5**	**-0.5**
CD2				sP	**sP**	**17 39 11.5**	**-0.6**
CD2				PP	**PnPn**	**17 39 19.6**	**+3.1**
CD2				S	**S**	**17 42 49.0**	**-5.1**
CD2				pmax	pmax		
	comp=Z,110nm,0.7s						
CD2				pmax	pmax		
	comp=Z,220nm,5.3s						
CD2				LR	LR		
	comp=N,510nm,6.0s						
CD2				LR	LR		
	comp=Z,320nm,7.1s						
SONM	**Songino Array**	**23.87**	**314**	P	**P**	**17 38 44.7**	**+0.8**
	comp=Z,18nm,0.7s,baz=132,slow=10.0,SNR=120						
SONM				ScP	**ScP**	**17 45 53.6**	**-2.1**
	comp=Z,1.3nm,1.0s,baz=151,slow=3.4,SNR=5.8						
SONM				LR	LR	17 48 35.5	
	comp=Z,164nm,18.1s,baz=83,slow=38						
SONM	**Songino Array**	**23.87**	**314**	P	**P**	**17 38 44.7**	**+0.8**
SONM	**Songino Array**	**23.87**	**314**	P	**P**	**17 38 44.7**	**+0.8**
SONM				ScP	**ScP**	**17 45 53.6**	**-2.1**
GTA	**Gaotai**	**26.32**	**292**	*e*P	**P**	**17 39 06.3**	**+0.1**
GTA				pP	**pP**	**17 39 23.4**	**-1.6**
GTA				sP	**sP**	**17 39 32.3**	**-2.3**
GTA				S	**S**	**17 43 31.6**	**-1.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,80nm,5.5s						
GTA				LR	LR		
	comp=N,160nm,15.4s						
GTA				LR	LR		
	comp=E,180nm,15.0s						
GTA				LR	LR		
	comp=Z,300nm,16.6s						
KMI	**Kunming**	**26.63**	**259**	P	**P**	**17 39 08.8**	**-0.5**
KMI				S	**S**	**17 43 34.6**	**-4.0**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
KMI				LR	LR		
	comp=Z,140nm,36.0s						
ZAK	**Zakamensk**	**26.87**	**317**	⇑*i*P	P	17 39 18.4	+7.4
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOD	**Bodaibo**	**27.14**	**339**	*e*P	**P**	**17 39 13.6**	**+0.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s						
TLY	**Talaya**	**27.31**	**320**	*e*P	**P**	**17 39 15.6**	**+0.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,106nm,17.0s						
TLY	**Talaya**	**27.31**	**320**	*e*P	**P**	**17 39 14.4**	**-0.4**
	comp=Z,2.1nm,0.6s						
TLY				*e*pP	**pP**	**17 39 33.9**	**+0.3**
YAK	**Yakutsk**	**28.57**	**358**	*e*P	**P**	**17 39 23.1**	**-2.7**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**28.57**	**358**	*e*P	**P**	**17 39 23.1**	**-2.7**
	comp=Z,5.6nm,0.6s						
CM31	**Chiang Mai Arr**	**32.97**	**251**	P	**P**	**17 40 06.4**	**+1.3**
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.97**	**251**	P	**P**	**17 40 06.0**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=45,slow=6.9,SNR=11						
CMAR				LR	LR	17 53 11.9	
	comp=Z,56nm,18.1s,baz=142,slow=36						
CMAR	**Chiang Mai Arr**	**32.97**	**251**	P	**P**	**17 40 06.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**32.97**	**251**	P	**P**	**17 40 06.0**	**+0.9**
WMQ	**Urumqi**	**35.58**	**300**	P	**P**	**17 40 27.4**	**-0.1**
WMQ				pP	**pP**	**17 40 47.3**	**+0.5**
WMQ				sP	**sP**	**17 40 57.4**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,24nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,250nm,6.2s						
WMQ				LR	LR		
	comp=N,100nm,17.8s						
WMQ				LR	LR		
	comp=E,97nm,24.6s						
WMQ				LR	LR		
	comp=Z,110nm,22.8s						
KSM	**Kuching**	**37.72**	**217**	*e*P	**P**	**17 40 45.3**	**-0.5**
	comp=Z,9.1nm,1.0s						
TAPN	**Taplejung**	**38.31**	**273**	*e*P	**P**	**17 40 50.7**	**-0.4**
	comp=Z,9.0nm,0.5s						
TAPN	**Taplejung**	**38.31**	**273**	*e*P	**P**	**17 40 50.7**	**-0.4**
	comp=Z,9.0nm,0.5s						
ZAA0	**Zalesovo Array**	**38.73**	**316**	*e*P	**P**	**17 40 53.5**	**-0.5**
ZAA0				*e*pP	**pP**	**17 41 12.8**	**-0.6**
ZALV	**Zalesovo Beam**	**38.73**	**316**	P	**P**	**17 40 53.7**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=95,slow=8.2,SNR=18						
ZALV				ScP	**ScP**	**17 46 41.9**	**-2.9**
	comp=Z,1.4nm,0.6s,baz=107,slow=5.1,SNR=8.8						
ZALV				LR	LR	17 56 46.0	
	comp=Z,127nm,21.2s,baz=52,slow=36						
ZALV	**Zalesovo Beam**	**38.73**	**316**	P	**P**	**17 40 53.7**	**-0.3**
ZALV						17 46 41.9	
ZALV	**Zalesovo Beam**	**38.73**	**316**	P	**P**	**17 40 53.7**	**-0.3**
ZALV				ScP	**ScP**	**17 46 41.9**	**-2.9**
ODAN	**Odare**	**38.75**	**272**	*e*P	**P**	**17 40 54.0**	**-0.7**
	comp=Z,16nm,0.6s						
ODAN	**Odare**	**38.75**	**272**	*e*P	**P**	**17 40 54.0**	**-0.7**
	comp=Z,16nm,0.6s						
RAMN	**Ramite**	**39.38**	**273**	*e*P	**P**	**17 40 58.7**	**-1.3**
RAMN	**Ramite**	**39.38**	**273**	*e*P	**P**	**17 40 58.7**	**-1.3**
JIRN	**Jiri**	**39.47**	**274**	*e*P	**P**	**17 41 00.8**	**-0.1**
	comp=Z,47nm,1.1s						
JIRN	**Jiri**	**39.47**	**274**	*e*P	**P**	**17 41 00.8**	**-0.1**
	comp=Z,47nm,1.1s						
MK31	**Makanchi Array**	**39.48**	**305**	*ce*P	**P**	**17 40 59.7**	**-0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	**Makanchi Array**	**39.48**	**305**	*e*P	**P**	**17 40 59.6**	**-0.7**
MK31				*e*pP	**pP**	**17 41 19.3**	**-0.5**
MKAR	**Makanchi Array**	**39.48**	**305**	P	**P**	**17 40 59.9**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=94,slow=10,SNR=42						
MKAR				ScP	**ScP**	**17 46 45.2**	**-2.6**
	comp=Z,2.2nm,0.8s,baz=81,slow=5.4,SNR=16						
MKAR				LR	LR	17 57 27.8	
	comp=Z,70nm,19.5s,baz=251,slow=36						
MKAR	**Makanchi Array**	**39.48**	**305**	*ce*P	**P**	**17 40 59.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**39.48**	**305**	P	**P**	**17 40 59.9**	**-0.4**
MKAR				ScP	**ScP**	**17 46 45.2**	**-2.6**
GUN	**Gumba**	**39.64**	**275**	*e*P	**P**	**17 41 02.4**	**+0.1**
	comp=Z,119nm,1.0s						
GUN	**Gumba**	**39.64**	**275**	*e*P	**P**	**17 41 02.4**	**+0.1**
	comp=Z,119nm,1.0s						
BILL	**Bilibino**	**39.79**	**19**	⇓*i*P	**P**	**17 41 03.6**	**+1.0**
BILL				*e**PP	**pP**	**17 41 22.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,13nm,1.8s						
BILL	**Bilibino**	**39.79**	**19**	*e*P	**P**	**17 41 03.4**	**+0.8**
	comp=Z,5.0nm,0.8s						
BILL				*e*pP	**pP**	**17 41 22.3**	**+0.2**
NVS	**Novosibirsk**	**39.83**	**317**	*i*P	**P**	**17 41 02.1**	**-0.9**
NVS				*e*		17 41 22.7	
NVS				pmax	pmax		
	comp=Z,11nm,1.3s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
PKI	**Pulchoki**	**40.15**	**274**	*e*P	**P**	**17 41 05.9**	**-0.6**
	comp=E,18nm,0.6s						
PKI	**Pulchoki**	**40.15**	**274**	*e*P	**P**	**17 41 05.9**	**-0.6**
PKI				pmax	pmax		
	comp=Z,18nm,0.6s						
PKI	**Pulchoki**	**40.15**	**274**	*e*P	**P**	**17 41 05.9**	**-0.6**
	comp=Z,18nm,0.6s						
KKN	**Kakani**	**40.18**	**275**	*e*P	**P**	**17 41 06.4**	**-0.2**
	comp=Z,29nm,0.8s						
KKN	**Kakani**	**40.18**	**275**	*e*P	**P**	**17 41 06.4**	**-0.2**
KKN				pmax	pmax		
	comp=Z,29nm,0.8s						
KKN	**Kakani**	**40.18**	**275**	*e*P	**P**	**17 41 06.4**	**-0.2**
	comp=Z,29nm,0.8s						
DMN	**Daman**	**40.39**	**274**	*e*P	**P**	**17 41 07.9**	**-0.5**
	comp=Z,15nm,0.9s						
DMN	**Daman**	**40.39**	**274**	*e*P	**P**	**17 41 07.9**	**-0.5**
	comp=Z,15nm,0.9s						
GKN	**Gorkha**	**40.65**	**275**	*e*P	**P**	**17 41 09.8**	**-0.6**
	comp=Z,42nm,1.0s						
GKN	**Gorkha**	**40.65**	**275**	*e*P	**P**	**17 41 09.8**	**-0.6**
	comp=Z,42nm,1.0s						
DANN	**Dangsing**	**41.26**	**276**	*e*P	**P**	**17 41 15.5**	**-0.1**
	comp=Z,40nm,0.6s						
DANN	**Dangsing**	**41.26**	**276**	*e*P	**P**	**17 41 15.5**	**-0.1**
	comp=Z,40nm,0.6s						
KOLN	**Koldanda**	**41.59**	**275**	*e*P	**P**	**17 41 17.8**	**-0.4**
	comp=Z,25nm,0.9s						
KOLN	**Koldanda**	**41.59**	**275**	*e*P	**P**	**17 41 17.8**	**-0.4**
	comp=Z,25nm,0.9s						
KURK	**Kurchatov**	**42.07**	**311**	P	**P**	**17 41 21.3**	**-0.2**
	comp=Z,8.0nm,0.7s,baz=97,slow=9.1,SNR=19						
KURK				LR	LR	17 59 58.4	
	comp=Z,87nm,20.6s,baz=295,slow=38						
KURK	**Kurchatov**	**42.07**	**311**	*ce*P	**P**	**17 41 21.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s						
KURK	**Kurchatov**

EKS2 e*PP pP 17 42 11.6 0.0
EKS2 Erkin-Say 45.80 299 eP P 17 41 50.4 -1.2
EKS2 epP pP 17 42 11.6 0.0
VOSK Vostochnaya 46.86 313 P P 17 41 59.0 -0.7
VOSK pmax pmax
comp=Z,6.0nm,0.5s
BVA0 Borovoye Array 47.21 314 *i* P P 17 42 02.2 -0.2
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 47.21 314 P P 17 42 02.2 -0.2
comp=Z,11nm,0.6s,baz=100,slow=9.3,SNR=19
BVAR LR LR 18 03 15.0
comp=Z,76nm,18.7s,baz=81,slow=38
BVAR Borovoye Array 47.21 314 P P 17 42 02.2 -0.2
BVAR Borovoye Array 47.21 314 P P 17 42 02.2 -0.2
BRVK Borovoye 47.27 314*ce*P P 17 42 02.7 -0.2
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 47.27 314 *eP* P 17 42 02.6 -0.2
comp=Z,18nm,0.7s
BRVK epP pP 17 42 22.9 0.0
ZRNK Zerenda 48.05 314 P P 17 42 08.4 -0.5
ZRNK pmax pmax
comp=Z,19nm,0.7s
KK31 Karatay Array 48.09 300*ce*P P 17 42 08.9 -0.5
KK31 pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 48.09 300 *eP* P 17 42 09.0 -0.4
KKAR e*PP pP 17 42 29.7 +0.2
KKAR pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 48.09 300 *eP* P 17 42 09.0 -0.4
comp=Z,19nm,0.9s
KKAR epP pP 17 42 29.7 +0.2
HYB Hyderabad 50.17 265 *i* P P 17 42 24.0 -1.6
HYB epP pP 17 42 45.0 -0.8
HNR Honiara 50.40 143 LR LR 17 59 41.7
comp=Z,89nm,19.2s,baz=328,slow=31
KBL Kabul 51.27 290 *eP* P 17 42 33.4 -0.5
KBL e*PP pP 17 42 54.5 +0.4
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 51.27 290 *eP* P 17 42 33.4 -0.5
comp=Z,8.2nm,0.7s
KBL epP pP 17 42 54.5 +0.4
FITZ Fitzroy Crossi 51.66 188 *eP* P 17 42 37.1 +0.6
comp=Z,13nm,0.6s
SVE Sverdlovsk 52.61 319 *eP* P 17 42 43.4 +0.2
SVE pmax pmax
comp=Z,12nm,1.0s
WRAB Tennant Creek 53.20 177 *eP* P 17 42 48.0 +0.1
WRAB e*PP pP 17 43 07.9 -0.4
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 53.20 177 *eP* P 17 42 48.0 +0.1
comp=Z,5.6nm,0.8s
WRAB epP pP 17 43 07.9 -0.4
WRA Warramunga Arr 53.21 177 P P 17 42 48.2 +0.2
comp=Z,6.4nm,0.8s,baz=354,slow=7.7,SNR=49
WRA Warramunga Arr 53.21 177 P P 17 42 48.2 +0.2
WRA Warramunga Arr 53.21 177 P P 17 42 48.2 +0.2
WB2 Warramunga Arr 53.21 177 *eP* P 17 42 48.5 +0.5
ARU Arti 53.80 319*c i*P P 17 42 51.3 -0.6
ARU *P pP 17 43 12.0 -0.3
ARU 17 44 50.3
ARU PPP PPP 17 46 01.6
ARU S S 17 50 20.3 +0.2
ARU SS SKiKP 17 53 57.3 +0.1
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 53.80 319 *eP* P 17 42 51.1 -0.8
comp=Z,9.4nm,0.9s
ARU epP pP 17 43 11.5 -0.8
ARU *es*P sP 17 43 19.8 -1.8
AB31 Akbulak array 54.17 310*ce*P P 17 42 53.8 -0.9
AB31 pmax pmax
comp=Z,10.0nm,0.6s
QIS Mount Isa 54.28 171 *eP* P 17 42 55.9 +0.1
RSO Redoubt South 54.44 36 *eP* P 17 42 58.5 +1.7
comp=Z,21nm,0.8s
KDAK Kodiak Island 54.87 39 P P 17 42 59.7 +0.1
comp=Z,4.4nm,0.6s,baz=295,slow=20,SNR=4.9
KDAK Kodiak Island 54.87 39*ce*P P 17 43 04.0 +4.4
KDAK Kodiak Island 54.87 39 P P 17 42 59.7 +0.1
CTA Charters Tower 55.05 163 *eP* P 17 42 58.8 -2.6
comp=Z,7.4nm,1.0s
CTAO Charters Tower 55.05 163 *eP* P 17 43 02.2 +0.8
CTAO e*PP pP 17 43 22.5 +0.6
CTAO Charters Tower 55.05 163 *eP* P 17 43 02.2 +0.8
CTAO epP pP 17 43 22.5 +0.6
AKTO Aktyubinsk 55.14 312 P P 17 43 00.6 -1.2
MBWA Marble Bar 55.58 194 *eP* P 17 43 04.9 -0.2
comp=Z,9.8nm,0.7s
MCK McKinley 55.84 32 *eP* P 17 43 07.4 +0.9
MCK e*PP pP 17 43 27.2 +0.1
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 55.84 32 *eP* P 17 43 07.4 +0.9
comp=Z,12nm,1.0s
MCK epP pP 17 43 27.2 +0.1
PMR Palmer 56.04 34 *eP* P 17 43 07.9 -0.1
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 56.04 34 *eP* P 17 43 07.8 -0.1
comp=Z,13nm,1.0s
COLA College 56.16 30 *eP* P 17 43 09.9 +1.2
COLA College 56.16 30 *eP* P 17 43 09.9 +1.2
SML Sawmill 56.38 34 *eP* P 17 43 11.4 +0.9
SML Sawmill 56.38 34 *eP* P 17 43 11.4 +0.9
ILAR Eielson Array 56.58 31 P P 17 43 12.0 +0.2
comp=Z,1.8nm,0.7s,baz=266,slow=6.2,SNR=29
ILAR Eielson Array 56.58 31 P P 17 43 12.0 +0.2
ILAR Eielson Array 56.58 31 P P 17 43 12.0 +0.2
AS31 Alice Springs 56.90 178 *eP* P 17 43 14.7 +0.2
ASAR Alice Springs 56.90 178 P P 17 43 15.1 +0.6
comp=Z,4.2nm,0.8s,baz=5.4,slow=6.0,SNR=55
ASAR Alice Springs 56.90 178 P P 17 43 15.1 +0.6
ASAR Alice Springs 56.90 178 P P 17 43 15.1 +0.6
MENT Mentasta 58.29 32 *eP* P 17 43 24.1 +0.2
MENT epP pP 17 43 45.3 +0.7
INK Inuvik 60.99 25 P P 17 43 42.8 +0.5
comp=Z,3.5nm,0.9s,baz=286,slow=8.8,SNR=11
INK Inuvik 60.99 25 *eP* P 17 43 42.8 +0.5
INK e*PP pP 17 44 02.9 -0.2
INK Inuvik 60.99 25 *eP* P 17 43 42.8 +0.5
INK epP pP 17 44 02.9 -0.2
KLMR Klimovskoe 62.43 327 *eP* P 17 43 48.9 -3.2
KLMR pmax pmax
comp=Z,30nm,2.0s
KEV Kevo 63.84 338 *eP* P 17 43 59.8 -1.4
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 63.84 338 *ep* P 17 43 59.8 -1.4
comp=Z,7.2nm,0.6s
KEV Kevo 63.84 338 *ep* P 17 43 59.8 -1.4
comp=Z,7.2nm,0.6s
DZM Mont Dzumac 64.38 144 LR LR 18 09 42.6
comp=Z,84nm,18.9s,baz=207,slow=34
ARCES ARCESS Array B 64.41 338 P P 17 44 04.4 -0.6
comp=Z,2.9nm,0.6s,baz=67,slow=9.3,SNR=16
ARCES ARCESS Array B 64.41 338 P P 17 44 04.4 -0.6
ARCES ARCESS Array B 64.41 338 P P 17 44 04.4 -0.6
ARE0 ARCESS Array S 64.41 338 *eP* P 17 44 04.2 -0.8
VRHR Novokhopersk 64.87 316 *eP* P 17 44 06.4 -1.8
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 65.23 330 *eP* P 17 44 07.2 -3.2
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 65.23 330 *ep* P 17 44 07.2 -3.2
comp=Z,3.7nm,0.6s
JOF Joensuu 65.23 330 *ep* P 17 44 07.2 -3.2
comp=Z,3.7nm,0.6s
STKA Stephens Creek 65.69 171 P P 17 44 14.8 +1.2
comp=Z,3.4nm,0.6s,baz=340,slow=7.7,SNR=12
STKA LR LR 18 13 34.3
comp=Z,127nm,18.1s,baz=206,slow=36
STKA Stephens Creek 65.69 171 *eP* P 17 44 14.8 +1.2
comp=Z,2.6nm,0.6s
STKA Stephens Creek 65.69 171 *eP* P 17 44 14.4 +0.7
STKA Stephens Creek 65.69 171 P P 17 44 14.9 +1.2
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA MLR MLR
comp=Z,127nm,18.2s
STKA Stephens Creek 65.69 171 *eP* P 17 44 14.4 +0.7
STKA P P 17 44 14.8 +1.2
CMSA Cobar Meteorol 66.02 167 *eP* P 17 44 17.3 +1.6
comp=Z,28nm,0.7s
OBN Obninsk 66.05 321 *eP* P 17 44 18.1 +2.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
DLBC Dease Lake 66.10 35 P P 17 44 18.3 +2.1
comp=Z,1.8nm,0.7s,baz=285,slow=9.5,SNR=3.4
DLBC Dease Lake 66.10 35 P P 17 44 18.3 +2.1
VSR Storozhevoye 66.24 317 *eP* P 17 44 15.7 -1.4
VSR e*PP pP 17 44 37.0 -1.2
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,4.0nm,0.6s
KIV Kislovodsk 67.09 308 *eP* P 17 44 23.9 +1.1
KIV *e* 17 46 52.2
KIV *es*SS SS 17 57 32.3 +2.0
KIV pmax pmax
comp=N,16nm,1.3s
NWAO Narrogin (SRO) 67.50 193 *eP* P 17 44 24.6 -0.6
NWAO pmax pmax
comp=Z,25nm,1.1s
NWAO Narrogin (SRO) 67.50 193 *eP* P 17 44 24.6 -0.6
comp=Z,25nm,1.1s
KAF Kangasniemi 67.67 331 *eP* P 17 44 24.9 -1.1
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 67.67 331 *ep* P 17 44 24.9 -1.1
comp=Z,3.4nm,0.7s
KAF Kangasniemi 67.67 331 *ep* P 17 44 24.9 -1.1
comp=Z,3.4nm,0.7s
RES Resolute Bay 67.81 12 P P 17 44 26.5 -0.2
comp=Z,1.1nm,0.9s,baz=14,slow=9.9,SNR=3.7
RES Resolute Bay 67.81 12 P P 17 44 26.5 -0.2
RES Resolute Bay 67.81 12 *eP* P 17 44 26.3 -0.4
comp=Z,1.8nm,0.3s
RES P P 17 44 26.5 -0.2
RES *ep*P pP 17 44 46.8 -1.0
FINES FINESS Array B 68.10 330 P P 17 44 28.0 -0.6
comp=Z,5.8nm,0.8s,baz=70,slow=5.4,SNR=17
FINES FINESS Array B 68.10 330 P P 17 44 28.0 -0.6
FINES FINESS Array B 68.10 330 P P 17 44 28.0 -0.6
DAG Danmarks Havn 68.44 353 *i* P P 17 44 30.9 +0.3
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 68.44 353 *i* P P 17 44 30.9 +0.3
comp=Z,58nm,0.9s
YKA Yellowknife Ar 70.63 27 P P 17 44 45.1 +0.8
comp=Z,1.8nm,0.8s,baz=303,slow=6.0,SNR=25
YKA Yellowknife Ar 70.63 27 P P 17 44 45.1 +0.8
YKA Yellowknife Ar 70.63 27 P P 17 44 45.1 +0.8
AKASG Malin Array Be 72.05 319 P P 17 44 52.1 -0.9
comp=Z,0.6nm,0.4s,baz=50,slow=5.9,SNR=5.6
AKASG Malin Array Be 72.05 319 P P 17 44 52.1 -0.9
AKASG Malin Array Be 72.05 319 P P 17 44 52.1 -0.9
SUMG Summit 73.98 357 *i* P P 17 45 05.9 +1.3
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 73.98 357 *i* P P 17 45 05.9 +1.3
comp=Z,9.5nm,0.8s
NB2 NORSAR Subarra 74.15 334 P P 17 45 03.7 -1.6
comp=Z,2.9nm,0.8s,baz=46,slow=5.9
NOA NORSAR Array B 74.15 334 P P 17 45 04.3 -1.0
comp=Z,1.4nm,0.8s,baz=50,slow=5.7,SNR=3.2
NOA NORSAR Array B 74.15 334 P P 17 45 04.3 -1.0
NOA NORSAR Array B 74.15 334 P P 17 45 04.3 -1.0
OSR Olympics--Salm 74.64 43 P P 17 45 11.1 +2.7
NLWA Neilton Lookou 74.75 43 *eP* P 17 45 10.8 +1.7
comp=Z,21nm,1.0s
CMW Cultus Mountai 75.17 41 P P 17 45 13.7 +2.2
JCW Jim Creek 75.40 42 *eP* P 17 45 13.9 +1.2
RPW Rockport 75.49 41 *eP* P 17 45 14.3 +1.0
comp=Z,9.4nm,1.0s
NLW Nelson Butte 76.35 41 P P 17 45 20.0 +1.7
BSD Bornholm Skovb 76.55 328 *i* P P 17 45 17.5 -1.6
BSD pmax pmax
comp=Z,16nm,0.8s
BSD Bornholm Skovb 76.55 328 *i* P P 17 45 17.5 -1.6
comp=Z,16nm,0.8s
ETW Entiat 76.62 41 *eP* P 17 45 20.9 +1.0
HOOD Mount Hood Mea 77.18 44 *eP* P 17 45 24.9 +1.8
comp=Z,27nm,1.0s
VFP Flag Point 77.29 44 P P 17 45 25.7 +2.0
OD2 Odessa Site #2 77.64 41 *eP* P 17 45 26.5 +1.1
HAWA Hanford 77.77 42 *eP* P 17 45 27.8 +1.7
comp=Z,59nm,0.8s
VTHM Trough 77.89 44 P P 17 45 29.0 +2.1
NEW Newport 77.97 40 *eP* P 17 45 28.4 +1.1
NEW Newport 77.97 40 *eP* P 17 45 28.4 +1.1
NEW Newport 77.97 40 ⇑P P 17 45 28.7 +1.4
baz=78
VIPM Ingram Point 78.25 44 P P 17 45 30.6 +1.6
VIPM Ingram Point 78.25 44 P P 17 45 30.6 +1.6
YBH Yreka Blue Hor 78.60 47 P P 17 45 31.6 +0.7
comp=Z,5.7nm,0.9s,baz=346,slow=5.0,SNR=8.3
YBH Yreka Blue Hor 78.60 47 P P 17 45 31.6 +0.7
YBH Yreka Blue Hor 78.60 47 P P 17 45 31.6 +0.7
C11A Tepee Creek (N 78.69 40 ⇑P P 17 45 33.1 +1.8
baz=78
A13A Flathead Natio 78.98 38 ⇓P P 17 45 34.2 +1.4
baz=79
WALA Waterton Lakes 79.16 38 *eP* P 17 45 34.8 +0.9
comp=Z,0.2nm,0.9s
B13A Whitefish 79.30 38 ⇓P P 17 45 36.6 +2.0
baz=79,SNR=8.7
A14A Double T Ranch 79.46 37 ⇓P P 17 45 37.0 +1.4
baz=79,SNR=13
BSMT Bassoo Peak 79.47 39 *eP* P 17 45 37.2 +1.6
comp=Z,11nm,1.0s
D12A Red Ives Fores 79.66 40 ⇑P P 17 45 37.8 +1.2
baz=80
C13A Hot Springs 79.69 39 ⇓P P 17 45 38.2 +1.6
baz=80,SNR=8.6
A15A Johnson Ranch, 79.81 37 ⇑P P 17 45 38.5 +1.1
baz=80,SNR=9.9
CLL Collm 79.92 326 *eP* P 17 45 37.0 -0.8
CLL *e* 17 45 52.0
B14A Marquette Ranc 79.93 38 ⇑P P 17 45 39.8 +1.8
baz=80,SNR=14
E12A Beaver Dam Sad 79.94 40 ⇓P P 17 45 39.7 +1.5
baz=80
BMO Blue Mountains 79.94 42 *eP* P 17 45 39.3 +1.1
comp=Z,9.4nm,1.1s
MOD Modoc 79.97 46 *eP* P 17 45 39.6 +1.2
comp=Z,12nm,1.0s
C14A Swan Lake 80.06 39 ⇓P P 17 45 40.2 +1.4
baz=80
SWMT Swartz Lake 80.09 39 *eP* P 17 45 39.9 +1.0
comp=Z,6.9nm,1.0s
D13A Huson 80.11 39 ⇑P P 17 45 40.2 +1.2
baz=80
B15A Bradely Ranch, 80.32 38 ⇑P P 17 45 41.4 +1.2
baz=80,SNR=19
A16A West Butte Ran 80.40 37 ⇑P P 17 45 41.5 +0.9
baz=80
F12A Elk City 80.53 41 ⇑P P 17 45 42.5 +1.2
baz=80,SNR=25
SLMT Seeley Lake 80.53 39 *eP* P 17 45 42.0 +0.7
comp=Z,12nm,0.9s
MSO Missoula 80.56 39 *eP* P 17 45 42.1 +0.6
comp=Z,10nm,1.4s
MSO Missoula 80.56 39 ⇑P P 17 45 42.6 +1.2
baz=80
D14A Greenough 80.62 39 ⇓P P 17 45 42.7 +0.9
baz=80,SNR=13
WVOR Wild Horse Val 80.64 45 *eP* P 17 45 43.1 +1.1
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 80.64 45 *eP* P 17 45 43.0 +1.1
comp=Z,6.6nm,0.9s
C15A Salmond Ranch, 80.65 38 ⇑P P 17 45 43.6 +1.7
baz=80,SNR=20
E13A Victor 80.67 40 ⇑P P 17 45 42.6 +0.5
baz=80
B16A M & M Farms, S 80.69 37 ⇓P P 17 45 43.2 +1.1
baz=80,SNR=10
FFC Flin Flon 80.71 28*ce*P P 17 45 43.3 +1.4
FFC Flin Flon 80.71 28 *eP* P 17 45 42.4 +0.5
comp=Z,7.5nm,0.8s
A17A Triple J Farms 80.85 36 ⇓P P 17 45 43.9 +1.0
baz=81,SNR=7.1
F13A Darby 81.01 40 ⇑P P 17 45 44.4 +0.5
baz=81,SNR=5.1
E14A Clinton 81.06 40 ⇑P P 17 45 45.1 +0.9
baz=81,SNR=6.4
C16A Fuhringer Ranc 81.07 38 ⇑P P 17 45 45.2 +1.1
baz=81,SNR=17
D15A Lincoln 81.17 39 ⇓P P 17 45 45.9 +1.2
baz=81,SNR=5.2
B17A L&G Farms, Che 81.23 37 ⇑P P 17 45 46.2 +1.2
baz=81,SNR=14
GERES GERESS Array B 81.23 324 P P 17 45 44.8 -0.1
comp=Z,0.7nm,0.7s,baz=46,slow=3.9,SNR=5.9
GERES GERESS Array B 81.23 324 P P 17 45 44.8 -0.1
GERES GERESS Array B 81.23 324 P P 17 45 44.8 -0.1
A18A Metzger Ranch, 81.28 36 ⇓P P 17 45 46.3 +1.1
baz=81
E15A Deer Lodge 81.50 39 ⇑P P 17 45 47.6 +1.1
baz=81,SNR=8.1
G13A Cobalt 81.50 41 ⇑P P 17 45 47.2 +0.7
baz=81
H12A Diamond D Ranc 81.50 42 ⇓P P 17 45 47.7 +1.1
baz=81
F14A Wisdom 81.51 40 ⇑P P 17 45 47.6 +1.0
baz=81
B18A Beardsley Farm 81.67 36 ⇑P P 17 45 48.5 +1.2
baz=82,SNR=7.0
MFID Camas Ranch 81.67 43 ⇑P P 17 45 48.9 +1.5
baz=82,SNR=6.8
D16A Dana Ranch, Ca 81.68 38 ⇓P P 17 45 48.9 +1.5
baz=82,SNR=8.2
A19A Klindworth Far 81.82 35 ⇓P P 17 45 49.1 +1.1
baz=82,SNR=6.4
I12A Atlanta 81.83 42 ⇓P P 17 45 49.4 +1.1
baz=82
H13A Challis 81.83 41 ⇓P P 17 45 49.4 +1.1
baz=82,SNR=6.1
EGMT Eagleton 81.93 37 ⇑P P 17 45 49.8 +1.2
baz=82,SNR=8.2
E16A East Helena 81.94 39 ⇑P P 17 45 50.3 +1.5
baz=82,SNR=9.9
F15A Butte 81.96 40 ⇑P P 17 45 50.4 +1.4
baz=82,SNR=16
LRM Limekiln Ridge 82.00 40 *eP* P 17 45 50.3 +1.1
comp=Z,90nm,1.1s
D17A Six Diamond Ra 82.04 38 ⇑P P 17 45 50.6 +1.3
baz=82,SNR=7.0
DLMT Dillon 82.22 40 *eP* P 17 45 51.2 +0.9
comp=Z,20nm,1.1s
I13A Wildhorse Cree 82.32 42 ⇑P P 17 45 52.8 +1.8
baz=82,SNR=24
HLID Hailey 82.38 42 ⇑P P 17 45 52.8 +1.6
baz=82,SNR=11
G15A Dillon 82.40 40 ⇓P P 17 45 52.5 +1.2
baz=82,SNR=11
E17A Martinsdale 82.41 38 ⇓P P 17 45 52.8 +1.5
baz=82,SNR=11
F16A Kennard Place, 82.46 39 ⇑P P 17 45 53.0 +1.5
baz=82,SNR=6.7
D18A Linhart Farms, 82.46 37 ⇓P P 17 45 52.9 +1.4
baz=82
C19A Slack Wire Ran 82.48 36 ⇓P P 17 45 52.9 +1.4
baz=82,SNR=6.3
BOZ Bozeman (W) 82.55 39 ⇑P P 17 45 53.3 +1.3
baz=82,SNR=8.1
BOZ ⇑P P 17 45 53.3 +1.3
baz=82,SNR=8.1
J13A Cove Ranch, Pi 82.61 42 ⇓P P 17 45 54.4 +2.0
baz=82,SNR=12
A21A Bergtell Ranch 82.64 35 ⇑P P 17 45 53.4 +1.1
baz=82,SNR=5.6
I14A Mackay 82.68 41 ⇑P P 17 45 54.4 +1.6
baz=82,SNR=12
G16A Moss Hill, Enn 82.73 40 ⇑P P 17 45 54.2 +1.2
baz=82,SNR=7.2
E18A Harlowton 82.83 38 ⇓P P 17 45 54.6 +1.2
baz=83
F17A Fitzpatrick Pl 82.88 39 ⇑P P 17 45 55.2 +1.4
baz=83
A22A Carney Farms, 83.12 34 ⇑P P 17 45 55.9 +1.1
baz=83
NVAR Mina Array Bea 83.27 48 P P 17 45 57.6 +1.6
comp=Z,5.2nm,0.7s,baz=302,slow=5.2,SNR=44
NVAR Mina Array Bea 83.27 48 P P 17 45 57.6 +1.6
D20A Manuel Ranch, 83.37 37 ⇓P P 17 45 57.4 +1.3
baz=83,SNR=5.5
H16A Russell Place, 83.37 40 ⇓P P 17 45 58.1 +1.7
baz=83,SNR=7.8
F18A Big Timber 83.37 38 ⇓P P 17 45 57.7 +1.4
baz=83,SNR=6.0
E19A Rath Farm, Rou 83.47 37 ⇑P P 17 45 57.9 +1.2
baz=83,SNR=6.3
GCMT Greycliff 83.47 38 *eP* P 17 45 58.5 +1.7
comp=Z,2.2nm,0.7s
ELK Elko 83.69 45 P P 17 46 00.1 +2.1
comp=Z,4.2nm,0.8s,baz=297,slow=6.9,SNR=12
ELK Elko 83.69 45 P P 17 46 00.2 +2.1
ELK Elko 83.69 45 P P 17 46 00.1 +2.1
E20A Meyer Farm, Mu 83.77 37 ⇓P P 17 45 59.6 +1.4
baz=84,SNR=5.9
I16A Newdale 83.79 41 ⇑P P 17 46 00.6 +2.1
baz=84,SNR=6.6
LKWY Lake 83.91 39 *eP* P 17 46 02.3 +3.1
LKWY pmax pmax
comp=Z,6.0nm,0.9s
LKWY Lake 83.91 39 *eP* P 17 46 02.3 +3.1
comp=Z,5.9nm,0.9s
B23A Brockton 83.93 34 ⇓P P 17 45 59.8 +0.9
baz=84
H17A Grant Village 83.93 40 ⇑P P 17 46 02.4 +3.1
baz=84,SNR=10.0
FLWY Flagg Ranch 84.08 40 *eP* P 17 46 02.6 +2.6
comp=Z,6.1nm,1.2s
H18A Shoshone NF, C 84.23 39 ⇑P P 17 46 01.0 +0.2
baz=84
I17A Pilgrim Ck. 84.25 40 ⇓P P 17 46 02.3 +1.4
baz=84,SNR=5.5
D22A Cohagen 84.29 36 ⇓P P 17 46 02.2 +1.4
baz=84
DGMT Dagmar 84.29 34 ⇑P P 17 46 02.0 +1.3
baz=84
C23A Lambert 84.31 35 ⇑P P 17 46 01.2 +0.3
baz=84
TPAW Teton Pass 84.33 41 *eP* P 17 46 02.5 +1.1
K16A Soda Springs 84.42 41 ⇑P P 17 46 03.9 +2.2
baz=84
L15A Malad City 84.52 42 ⇑P P 17 46 03.5 +1.2
baz=84
CWC Cottonwood Cre 84.63 50 ⇓P P 17 46 03.8 +0.9
baz=84,SNR=5.6
GRAC Grapevine Rang 84.74 49 ⇑P P 17 46 04.7 +1.5
baz=85
M15A Larsen Ranch, 84.84 43 ⇓P P 17 46 04.5 +0.7
baz=85
E22A Miles City 84.90 36 ⇓P P 17 46 05.1 +1.2
baz=85
R11A Troy Canyon, C 85.00 47 ⇓P P 17 46 05.9 +1.2
baz=85,SNR=11
J18A Kendall Valley 85.03 40 ⇓P P 17 46 06.1 +1.2
baz=85,SNR=7.1
G21A Lodge Grass 85.12 37 ⇑P P 17 46 05.8 +0.8
baz=85
N15A Stansbury Isla 85.17 43 ⇓P P 17 46 07.1 +1.6
baz=85
MPMC Manual Prospec 85.24 50 ⇓P P 17 46 06.9 +0.9
baz=85,SNR=8.6
M16A Huntsville 85.40 43 ⇓P P 17 46 07.8 +1.1
baz=85
DUG Dugway 85.46 44 *eP* P 17 46 08.7 +1.8
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway 85.46 44 *eP* P 17 46 08.7 +1.8
comp=Z,5.3nm,1.0s
DUG Dugway 85.46 44 ⇓P P 17 46 08.4 +1.5
baz=85,SNR=6.7
J19A Crowheart 85.51 40 ⇑P P 17 46 08.5 +1.3
baz=85
PD02 Pinedale Array 85.56 40 *eP* P 17 46 07.8 +0.3
BW06 Boulder Array 85.58 40 ⇑P P 17 46 07.9 +0.4
baz=85
BW06 ⇑P P 17 46 07.9 +0.4
baz=85
PDAR Pinedale Array 85.58 40 P P 17 46 08.6 +1.0
comp=Z,2.2nm,0.8s,baz=304,slow=1.3,SNR=18
PDAR Pinedale Array 85.58 40 P P 17 46 08.6 +1.0

EDW2	Edwards Air Fo	85.65	51	⇓P		P	17 46 09.0	+1.1
	baz=86,SNR=5.0							
F23A	Volborg	85.68	36	⇑P		P	17 46 08.4	+0.6
	baz=86							
I21A	Big Trails, Te	86.06	39	⇑P		P	17 46 10.5	+0.6
	baz=86							
R13A	O'Grain Ranch,	86.08	46	⇑P		P	17 46 11.3	+1.2
	baz=86							
GSC	Goldstone	86.15	50	⇑P		P	17 46 11.4	+1.0
	baz=86							
J21A	Lysite	86.31	39	⇓P		P	17 46 12.5	+1.4
	baz=86							
ULM	Lac du Bonnet	86.54	28	P		P	17 46 11.9	+0.1
	comp=Z,2.9nm,0.7s,baz=338,slow=3.1,SNR=4.8							
ULM	Lac du Bonnet	86.54	28	P		P	17 46 11.9	+0.1
ULM	Lac du Bonnet	86.54	28	P		P	17 46 11.9	+0.1
O17A	Robinson Place	86.65	43	⇑P		P	17 46 13.9	+1.0
	baz=86							
J22A	Midwest	86.76	38	⇓P		P	17 46 13.8	+0.5
	baz=87,SNR=6.5							
K21A	Alcova	86.90	39	⇓P		P	17 46 15.1	+1.1
	baz=87,SNR=8.6							
N19A	John Jarvie Ra	87.06	42	⇑P		P	17 46 15.7	+0.9
	baz=87							
P17A	Butcher Ranch,	87.13	43	⇓P		P	17 46 16.6	+1.5
	baz=87							
Q16A	Castle Valley	87.25	44	⇑P		P	17 46 17.3	+1.5
	baz=87							
L21A	Rawlins	87.31	40	⇓P		P	17 46 17.1	+1.1
	baz=87							
P18A	Preston Nutter	87.31	43	⇑P		P	17 46 17.9	+1.6
	baz=87							
PFO	Pinyon Flat Ob	87.44	51	⇑P		P	17 46 18.0	+1.3
	baz=87							
SRU	San Rafael	87.50	44	⇓P		P	17 46 18.1	+1.1
	baz=87							
M21A	Separation Pea	87.56	40	⇓P		P	17 46 18.3	+1.1
	baz=87,SNR=5.6							
N20A	Spence Gulch,	87.60	41	⇑P		P	17 46 18.9	+1.4
	baz=87							
P19A	Cripple Cowboy	88.03	42	⇓P		P	17 46 20.8	+1.3
	baz=88,SNR=6.9							
BC3	Big Chuckawall	88.05	50	⇓P		P	17 46 20.9	+1.3
	baz=88							
N21A	Black Mountain	88.06	41	⇑P		P	17 46 21.0	+1.3
	baz=88							
L23A	Garrett	88.08	39	⇓P		P	17 46 20.6	+0.9
	baz=88,SNR=6.6							
S17A	Black Ridge (B	88.33	45	⇓P		P	17 46 21.7	+0.8
	baz=88							
Q19A	Hogan Spring (	88.33	43	⇓P		P	17 46 21.9	+1.1
	baz=88							
R18A	Canyonlands Na	88.35	44	⇑P		P	17 46 21.5	+0.5
	baz=88							
S18A	Hurst Farm, Bl	88.76	44	⇑P		P	17 46 24.0	+0.9
	baz=89							
R19A	Curley Farm, L	88.78	44	⇑P		P	17 46 24.1	+1.0
	baz=89							
N23A	Red Feather La	88.82	40	⇓P		P	17 46 24.1	+0.8
	baz=89,SNR=6.3							
Q20A	Ridgley Place,	88.88	43	⇑P		P	17 46 24.7	+1.2
	baz=89							
M24A	Cheyenne	89.00	39	⇓P		P	17 46 25.2	+1.2
	baz=89							
O22A	Kremmling	89.01	41	⇓P		P	17 46 25.1	+0.9
	baz=89							
T18A	Mexican Hat	89.21	45	⇑P		P	17 46 25.7	+0.7
	baz=89,SNR=5.1							
P22A	Eagle	89.29	41	⇓P		P	17 46 26.4	+1.0
	baz=89							
R20A	Redvale	89.36	43	⇓P		P	17 46 27.0	+1.2
	baz=89,SNR=9.0							
SMCO	Snowmass	89.46	42	eP		P	17 46 27.7	+1.2
	comp=Z,3.9nm,0.8s							
V17A	Tonalea, Kykot	89.68	46	⇑P		P	17 46 28.9	+1.6
	baz=90,SNR=8.0							
U18A	Rough Rock, Ch	89.70	45	⇓P		P	17 46 29.0	+1.6
	baz=90,SNR=6.0							
Q22A	Crested Butte,	89.72	42	⇑P		P	17 46 29.2	+1.6
	baz=90,SNR=6.2							
ISCO	Idaho Springs	89.77	40	⇑P		P	17 46 29.1	+1.3
	baz=90							
T19A	Beclabito	89.92	44	⇓P		P	17 46 29.7	+1.3
	baz=90,SNR=6.4							
S22A	4UR Ranch, Cre	90.55	43	⇑P		P	17 46 33.2	+1.7
	baz=90,SNR=5.5							
R23A	Moffat	90.80	42	⇑P		P	17 46 33.8	+1.2
	baz=91							
X18A	Snowflake	90.92	47	⇓P		P	17 46 34.3	+1.2
	baz=91							
U21A	Nageezi	90.99	44	⇑P		P	17 46 34.7	+1.2
	baz=91,SNR=5.3							
R24A	Sanders Place,	91.16	41	⇑P		P	17 46 36.0	+1.8
	baz=91,SNR=7.0							
SDCO	Great Sand Dun	91.29	42	⇓P		P	17 46 35.9	+1.0
	baz=91							
SDCO				⇓P		P	17 46 35.9	+1.0
	baz=91							
X19A	St. Johns	91.39	46	⇑P		P	17 46 36.4	+1.0
	baz=91							
R25A	Fountain Ranch	91.68	41	⇓P		P	17 46 37.5	+1.0
	baz=92							
U23A	El Rito	91.90	43	⇑P		P	17 46 39.6	+2.0
	baz=92,SNR=6.4							
R26A	Arlington	92.02	40	⇑P		P	17 46 39.5	+1.4
	baz=92							
X21A	Alamocita Cree	92.28	46	⇓P		P	17 46 41.7	+2.2
	baz=92,SNR=5.4							
Y20A	Horse Springs,	92.30	46	⇑P		P	17 46 41.9	+2.3
	baz=92,SNR=6.6							
Y21A	Point of Rocks	92.65	46	⇓P		P	17 46 43.4	+2.2
	baz=92,SNR=5.4							
Z20A	Nine Sixteen R	92.71	47	⇓P		P	17 46 43.3	+1.9
	baz=92,SNR=7.3							
ANMO	Albuquerque	92.72	44	P		P	17 46 43.2	+1.8
	comp=Z,0.4nm,0.4s,baz=338,slow=0.7,SNR=3.8							
ANMO	Albuquerque	92.72	44	P		P	17 46 43.2	+1.8
ANMO	Albuquerque	92.72	44	P		P	17 46 43.2	+1.8
V24A	Rampart Ranch,	92.86	43	⇑P		P	17 46 44.3	+2.2
	baz=93,SNR=5.2							
W24A	Lazy 6 Ranch,	93.14	44	⇓P		P	17 46 45.3	+1.9
	baz=93							
W27A	Bowe Ranch, En	94.58	42	⇑P		P	17 46 51.1	+1.2
	baz=94							
Z27A	Tatum	95.77	44	⇑P		P	17 46 56.5	+1.2
	baz=96							
TXAR	Lajitas Array	98.36	47	P		Pdif	17 47 08.9	+1.8
	comp=Z,0.4nm,0.6s,baz=294,slow=3.0,SNR=5.2							
TXAR	Lajitas Array	98.36	47	P		Pdif	17 47 08.9	+1.8
TXAR	Lajitas Array	98.36	47	P		Pdif	17 47 08.9	+1.8

*PNSN **24** 17:39:36.9,48.49N×119.96W,h0km,MD2.9,Fault plane solution: NP1:φs135.00000°,δ65.00000°, NP2: φs239.00000°,δ63.00000°, Principal axes: T Plg38.0000°, Azm96.0000°; P Plg1.0000°, Azm187.0000°;*

*NEIC **24** 17:39:36.9,48.49N×119.96W,h0km,MD2.9(SEA),After SEA.*

*PGC **24** 17:39:37.1±0.6,48.51N×120.03W,h1km,ML2.6/16, 112km Sse of Princeton, Bc Washington*

ISC 24 17:39:36.3±1.2,48.48N±0.02×120.03W±0.02,h3km±12km, n48,σ1$01/70,1C-29D,Washington

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NLW	Nelson Butte	0.45	208	⇓P		Pg	17 39 45.9	+1.0
DHW2	Dyer Hill 2	0.52	161	⇓P		Pg	17 39 46.5	+0.3
CBSW	Chelan Butte S	0.67	181	⇓P		Pg	17 39 49.5	+0.3
WTV	Waterville	0.78	176	⇓P		Pg	17 39 51.4	+0.2
SAW	Saint Andrews	0.88	151	⇓P		Pg	17 39 52.8	-0.3
SAW				S		Sg	17 40 04.4	-0.2
PNT	Penticton	0.88	18	⇓P		Pg	17 39 52.4	-0.8
PNT	Penticton	0.88	18	⇓P		Pg	17 39 52.4	-0.8
PNT				⇑S		Sg	17 40 03.6	-1.1
ETW	Entiat	0.90	193	⇓P		Pg	17 39 53.6	+0.2
RPW	Rockport	0.99	269	ePg		Pg	17 39 55.4	+0.1
RPW				eSg		Sg	17 40 09.1	+1.0
EPH	Ephrata	1.16	165	P		Pb	17 39 58.2	-0.8
MBW	Mount Baker	1.28	285	P		Pn	17 40 00.7	-0.6
LTY	Liberty	1.29	200	⇓P		Pn	17 40 01.1	-0.3
HOPB	Hope	1.29	315	⇑P		Pn	17 40 00.4	-0.9
HOPB				⇑S		Sb	17 40 17.1	-1.3
JCW	Jim Creek	1.30	258	P		Pb	17 40 01.4	0.0
HTW	Haystack Looko	1.35	241	P		Pb	17 40 02.4	+0.2
DPW	Davenport	1.36	116	P		Pn	17 40 00.6	-1.7
TBM	Table Mountain	1.36	197	⇓P		Pn	17 40 02.5	+0.2
CMW	Cultus Mountai	1.40	269	P		Pb	17 40 03.1	+0.1
OD2	Odessa Site #2	1.40	140	P		Pn	17 40 02.1	-0.7
VDB	Vedder Mountai	1.48	293	P		Pb	17 40 04.7	+0.2
VDB					S	Sg	17 40 24.3	+0.4
VDB	Vedder Mountai	1.48	293	⇓P		Pn	17 40 03.6	-0.3
VDB					⇑Sg	Sb	17 40 23.9	+0.2
FHE	Frenchman Hill	1.57	167	P		Pb	17 40 05.7	-0.2
BVW	Beverly	1.67	177	P		Pb	17 40 07.9	+0.2
CRF	Corfu	1.71	165	P		Pb	17 40 08.1	-0.3
WRD	Warden	1.78	160	⇑P		Pn	17 40 06.4	-1.5
HNB	Haney	1.86	296	⇓Pn		Pb	17 40 10.2	-0.8
HNB				⇑Sg		Sb	17 40 34.8	0.0
MDW	Midway	1.87	174	P		Pb	17 40 11.6	+0.5
OT3	Othello 3	1.89	163	P		Pb	17 40 11.3	-0.1
GBB	Gable Butte	1.89	172	P		Pb	17 40 11.8	+0.5
FMW	Mount Fremont	1.90	216	P		Pn	17 40 09.7	-0.2
NEW	Newport	1.95	95	ePn		Pn	17 40 10.6	+0.3
NEW				eSn		Sn	17 40 35.1	-0.2
LON	Longmire	2.11	216	ePn		Pn	17 40 10.0	-2.5
LON				eSn		Sb	17 40 41.2	-0.5
SNB	Saturna Island	2.11	279	⇓Pn		Pn	17 40 13.6	+1.1
HAWA	Hanford	2.11	171	ePn		Pn	17 40 13.8	+1.3
HAWA				eSn		Sb	17 40 40.5	-1.3
VGZ	Gonzales	2.20	270	⇑Sg		Sb	17 40 44.8	+0.5
PGC	Sidney	2.28	276	ePn		Pb	17 40 17.7	-0.4
PGC				eSn		Sb	17 40 45.9	-0.8
PGC	Sidney	2.28	276	⇓Sg		Sb	17 40 47.3	+0.6
BIB	Bowen Island	2.35	295	⇓Sg		Sb	17 40 49.8	+1.0
WPB	Watts Point	2.41	301	⇓Pg		Pb	17 40 19.2	-1.0
WPB				⇑Sg		Sb	17 40 50.7	+0.4
LLLB	Lillooet	2.45	331	⇑Pn		Pn	17 40 17.2	0.0
LLLB				⇑Pg		Pb	17 40 20.9	-0.1
LLLB				⇑Sg		Sb	17 40 52.8	+0.1
WSLR	Whistler	2.51	312	⇓Pg		Pb	17 40 21.5	-0.6
WSLR				⇓Sg		Sb	17 40 53.7	+0.2
LZB	Mount Lazard	2.53	274	⇓Pn		Pn	17 40 18.0	-0.4
LZB				⇓Sg		Sb	17 40 54.0	+0.1
SHB	Sechelt	2.77	295	⇓Sg		Sb	17 41 01.2	+0.4
SLEB	Sale Mountain	2.96	24	⇑Pg		Pb	17 40 28.2	-1.6
SLEB				⇓Sg		Sb	17 41 06.6	+0.2
DOWB	Downie Slide	3.20	17	⇑Pn		Pn	17 40 26.3	-1.2
DOWB				⇑Pg		Pb	17 40 33.7	0.0
DOWB				⇓Sg		Sb	17 41 14.6	+1.5
BLBC	Blue River	3.61	8	⇓Pn		Pn	17 40 33.0	-0.3
BLBC				⇓Pg		Pb	17 40 42.1	+1.2
BLBC				⇓Sg		Sb	17 41 28.1	+3.0
MNB	Mounoet Dainar	3.87	15	⇑Sg		Sb	17 41 36.1	+3.3
WALA	Waterton Lakes	4.09	80	⇓Pn		Pn	17 40 40.0	+0.2
WALA				⇓Sg		Sb	17 41 41.2	+2.4

*ISCJB **24** 17:53:29.9±0.5,38.64N±0.02×26.96E±0.03,h11km±4km, Error ellipse: s-maj=3.6km s-min=3.4km az=1.5*

*DDA **24** 17:53:29.9,38.60N×27.01E,h7km,MD3.5,ML3.7*

*ATH **24** 17:53:29.2,38.68N×27.07E,h38km±3km,MD3.2/6*

*ISK **24** 17:53:29.3,38.65N×26.98E,h8km,MD3.5*

*CSEM **24** 17:53:30.1±0.1,38.63N×26.96E,h10km,MD3.5, Error ellipse: s-maj=3.8km s-min=3.1km az=75.0*

ISC 24 17:53:30.2±1.0,38.64N±0.02×27.00E±0.02,h10km±8km, n123,σ0$87/149,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BLCB	Balcova	0.26	173	ePG		Pg	17 53 34.9	-0.5
BLCB				eSG		Sg	17 53 39.0	+0.1
BLCB	Balcova	0.26	173	ePg		Pg	17 53 34.9	-0.5
BLCB				eSg		Sg	17 53 39.0	+0.1
IZM	Izmir	0.32	139	ePG		Pg	17 53 36.2	-0.3
IZM	Izmir	0.32	139	ePg		Pg	17 53 36.3	-0.3
URLA	Izmir	0.42	229	iP		Pg	17 53 38.3	-0.2
URLA				iS		Sg	17 53 44.9	+0.8
URLA	Izmir	0.42	229	iP		Pg	17 53 38.3	-0.2
URLA				iS		Sg	17 53 44.9	+0.8
AKS	Akhisar	0.68	69	ePG		Pg	17 53 43.4	0.0
AKS	Akhisar	0.68	69	ePg		Pg	17 53 43.4	0.0
AKHS	Akhisar	0.68	69	iP		Pg	17 53 43.4	0.0
AKHS				iS		Sb	17 53 53.0	-0.6
AKHS	Akhisar	0.68	69	iP		Pg	17 53 43.4	0.0
AKHS				iS		Sb	17 53 53.0	-0.6
AYVA	Ayvalik	0.71	340	iP		Pb	17 53 44.6	-0.1
AYVA				iS		Sb	17 53 55.1	+0.6
AYVA	Ayvalik	0.71	340	iP		Pb	17 53 44.6	-0.1
AYVA				iS		Sb	17 53 55.1	+0.6
CHOS	Chios island	0.78	252	ePN		Pg	17 53 45.4	+0.1
CHOS				eSN		Sb	17 53 57.7	+1.0
CHOS	Chios island	0.78	252	ePn		Pg	17 53 45.4	+0.1
CHOS				eSn		Sb	17 53 57.7	+1.0
PRK	Paraskevi	0.83	317	ePN		Pg	17 53 45.7	-0.5
PRK				eSN		Sb	17 53 58.3	+0.3
PRK	Paraskevi	0.83	317	ePn		Pg	17 53 45.8	-0.5
PRK				eSn		Sb	17 53 58.3	+0.3
SMG	Samos	0.94	188	ePB		Pg	17 53 47.6	-0.7
SMG				eSN		Sn	17 54 02.5	-0.4
SMG	Samos	0.94	188	ePb		Pg	17 53 47.6	-0.7
SMG				eSn		Sn	17 54 02.5	-0.4
AYDN	Tasoluk	1.20	144	iP		Pb	17 53 52.3	-0.7
AYDN				iS		Sb	17 54 07.8	-0.8
AYDN	Tasoluk	1.20	144	iP		Pb	17 53 52.3	-0.7
AYDN				iS		Sb	17 54 07.8	-0.8
BALY	Balya	1.20	23	iP		Pn	17 53 52.9	-0.2
BALY				iS		Sn	17 54 09.1	-0.3
BALY	Balya	1.20	23	iP		Pn	17 53 52.9	-0.2
BALY				iS		Sn	17 54 09.1	-0.3
BALB	Balikesir	1.21	34	ePN		Pb	17 53 52.9	-0.3
BALB				eSN		Sn	17 54 10.1	+0.5
BALB	Balikesir	1.21	34	ePn		Pb	17 53 52.9	-0.3
BALB				eSn		Sn	17 54 10.1	+0.5
MANT	Manisa	1.23	96	iP		Pn	17 53 53.0	-0.7
MANT				iS		Sb	17 54 08.7	-1.0
MANT	Manisa	1.23	96	iP		Pn	17 53 53.0	-0.7
MANT				iS		Sb	17 54 08.7	-1.0
EZN	Ezine	1.30	336	ePN		Pn	17 53 54.1	-0.3
EZN	Ezine	1.30	336	ePn		Pn	17 53 54.1	-0.3
KULA	Kula-Manisa	1.31	95	ePN		Pn	17 53 54.0	-0.6
KULA	Kula-Manisa	1.31	95	ePn		Pn	17 53 54.0	-0.6
DURS	Dursunbey	1.50	50	iP		Pn	17 53 56.8	-0.4
DURS				iS		Sn	17 54 16.4	-0.4
DURS	Dursunbey	1.50	50	iP		Pn	17 53 56.8	-0.4
DURS				iS		Sn	17 54 16.4	-0.4
GONE	Gonen-Balikesi	1.50	21	ePN		Pn	17 53 56.3	-0.9
GONE	Gonen-Balikesi	1.50	21	ePn		Pn	17 53 56.3	-0.9
DST	Dursunbey	1.58	52	ePN		Pn	17 53 58.0	-0.4
DST	Dursunbey	1.58	52	ePn		Pn	17 53 58.0	-0.4
LPK	Lapseki	1.74	354	ePN		Pn	17 54 00.8	+0.3
LPK	Lapseki	1.74	354	ePn		Pn	17 54 00.8	+0.3
KRBG	Karabiga-Canak	1.77	7	ePN		Pn	17 54 00.1	-0.7
KRBG	Karabiga-Canak	1.77	7	ePn		Pn	17 54 00.1	-0.7
GELI	Tayfur-Gelibol	1.80	347	ePN		Pn	17 54 01.2	-0.1
GELI	Tayfur-Gelibol	1.80	347	ePn		Pn	17 54 01.2	-0.1
YER	Yerkesik	1.81	146	ePN		Pn	17 54 02.2	+0.7
YER	Yerkesik	1.81	146	ePn		Pn	17 54 02.2	+0.7
EDC	Edincik	1.83	21	ePN		Pn	17 54 01.5	-0.2
EDC	Edincik	1.83	21	ePn		Pn	17 54 01.5	-0.2
BNT	Bandirma	1.86	22	ePN		Pn	17 54 01.5	-0.6
BNT	Bandirma	1.86	22	ePn		Pn	17 54 01.5	-0.6
LIA	Limnos Island	1.89	312	ePN		Pn	17 54 01.2	-1.3
LIA				eSN		Sn	17 54 24.2	-2.1
LIA	Limnos Island	1.89	312	ePn		Pn	17 54 01.2	-1.3
LIA				eSn		Sn	17 54 24.3	-2.1
KCTX	Karacabey (Bur	1.93	32	ePN		Pn	17 54 02.3	-0.9
KCTX	Karacabey (Bur	1.93	32	ePn		Pn	17 54 02.3	-0.9
APE	Apeiranthos	1.95	217	ePN		Pn	17 54 04.5	+1.1
APE	Apeiranthos	1.95	217	ePN		Pn	17 54 03.3	-0.1
APE	Apeiranthos	1.95	217	ePn		Pn	17 54 03.3	-0.1
KHL	Karahalli	2.00	98	ePN		Pn	17 54 05.2	+1.0
KHL	Karahalli	2.00	98	ePn		Pn	17 54 05.2	+1.0
ORLT	Orhaneli	2.03	46	ePN		Pn	17 54 04.2	-0.4
ORLT	Orhaneli	2.03	46	ePn		Pn	17 54 04.2	-0.4
RKY	Sarkoy-Tekirda	2.05	4	ePN		Pn	17 54 05.0	+0.2
RKY	Sarkoy-Tekirda	2.05	4	ePn		Pn	17 54 05.0	+0.2
ERIK	Erikli-Kesan	2.06	350	ePN		Pn	17 54 04.6	-0.3
ERIK	Erikli-Kesan	2.06	350	ePn		Pn	17 54 04.6	-0.3
MFT	Murefte	2.16	6	ePN		Pn	17 54 07.0	+0.7
MFT	Murefte	2.16	6	ePn		Pn	17 54 07.0	+0.7
ENEZ	Enez	2.19	343	ePN		Pn	17 54 06.8	+0.1
ENEZ	Enez	2.19	343	ePn		Pn	17 54 06.8	+0.1
MDNY	Mudanya-Bursa	2.26	40	ePN		Pn	17 54 07.7	+0.1
MDNY	Mudanya-Bursa	2.26	40	ePn		Pn	17 54 07.7	+0.1
ALN	Alexandroupoli	2.37	342	ePN		Pn	17 54 06.7	-2.4
ALN	Alexandroupoli	2.37	342	ePn		Pn	17 54 06.7	-2.4
TKR	Tekirdag	2.38	10	ePN		Pn	17 54 10.2	+0.9
TKR	Tekirdag	2.38	10	ePn		Pn	17 54 10.2	+0.9
ARMT	Armutlu	2.40	36	ePN		Pn	17 54 10.7	+1.1
ARMT	Armutlu	2.40	36	ePn		Pn	17 54 10.7	+1.1
ALT	Altintas	2.46	79	ePN		Pn	17 54 10.9	+0.4
ALT	Altintas	2.46	79	ePn		Pn	17 54 10.9	+0.4
GEMT	Gemlik	2.47	43	ePN		Pn	17 54 11.5	+1.1
GEMT	Gemlik	2.47	43	ePn		Pn	17 54 11.5	+1.1
CRLT	Corlu	2.55	13	ePN		Pn	17 54 12.4	+0.8
CRLT	Corlu	2.55	13	ePn		Pn	17 54 12.4	+0.8
FETY	Fethiye	2.59	140	ePN		Pn	17 54 13.5	+1.2
FETY	Fethiye	2.59	140	ePn		Pn	17 54 13.5	+1.2
YLV	Yalova	2.66	43	ePN		Pn	17 54 14.6	+1.4
YLV	Yalova	2.66	43	ePn		Pn	17 54 14.6	+1.4
CAVI	Cavuskoy	2.70	54	ePN		Pn	17 54 15.0	+1.4
CAVI	Cavuskoy	2.70	54	ePn		Pn	17 54 15.0	+1.4
SLVT	Silivri	2.75	19	ePN		Pn	17 54 15.2	+0.9
SLVT	Silivri	2.75	19	ePn		Pn	17 54 15.2	+0.9
ADVT	Abdulvahap	2.77	49	ePN		Pn	17 54 14.5	-0.2
ADVT	Abdulvahap	2.77	49	ePn		Pn	17 54 14.5	-0.2
SHUT	Suhut-Afyon	2.78	91	ePN		Pn	17 54 16.4	+1.5
SHUT	Suhut-Afyon	2.78	91	ePn		Pn	17 54 16.4	+1.5
CTKS	Kestanelik-??a	2.84	24	ePN		Pn	17 54 15.7	+0.1
CTKS	Kestanelik-??a	2.84	24	ePn		Pn	17 54 15.7	+0.1
BGKT	Bogazkoy	2.88	28	ePN		Pn	17 54 17.5	+1.3
BGKT	Bogazkoy	2.88	28	ePn		Pn	17 54 17.5	+1.3
ISK	Istanbul-Kandi	2.90	33	ePN		Pn	17 54 16.6	+0.2
ISK	Istanbul-Kandi	2.90	33	ePn		Pn	17 54 16.6	+0.2
ELL	Elmali	2.98	128	ePN		Pn	17 54 18.6	+0.9
ELL	Elmali	2.98	128	ePn		Pn	17 54 18.6	+0.9
HRT	Hereke	3.00	43	ePN		Pn	17 54 18.3	+0.5
HRT	Hereke	3.00	43	ePn		Pn	17 54 18.3	+0.5
CTYL	Yal??k??y-??at	3.00	19	ePN		Pn	17 54 19.2	+1.4
CTYL	Yal??k??y-??at	3.00	19	ePn		Pn	17 54 19.2	+1.4
GPA	Golpazari	3.04	56	ePN		Pn	17 54 18.8	+0.3
GPA	Golpazari	3.04	56	ePn		Pn	17 54 18.8	+0.3
KLYT	Kilyos	3.05	30	ePN		Pn	17 54 19.4	+1.0
KLYT	Kilyos	3.05	30	ePn		Pn	17 54 19.4	+1.0
BCK	Bucak	3.07	111	ePN		Pn	17 54 19.7	+0.9
BCK	Bucak	3.07	111	ePn		Pn	17 54 19.7	+0.9
ESKT	Eskisehir	3.12	72	ePN		Pn	17 54 20.6	+1.0
ESKT	Eskisehir	3.12	72	ePn		Pn	17 54 20.6	+1.0
SEYT	Eskypehyr	3.12	72	iP		Pg	17 54 29.9	-0.2
EDRB	Edirne	3.21	357	ePN		Pn	17 54 21.9	+1.2
EDRB	Edirne	3.21	357	ePn		Pn	17 54 21.9	+1.2
SILT	Sile	3.23	38	ePN		Pn	17 54 22.3	+1.4
SILT	Sile	3.23	38	ePn		Pn	17 54 22.3	+1.4
GULT	Gulveren	3.25	56	ePN		Pn	17 54 22.3	+0.9
GULT	Gulveren	3.25	56	ePn		Pn	17 54 22.3	+0.9
SVRH	Sivrihisar-ESK	3.61	76	ePN		Pn	17 54 28.4	+2.1
SVRH	Sivrihisar-ESK	3.61	76	ePn		Pn	17 54 28.4	+2.1
BARS	Barje	5.74	318	⇑iP		Pn	17 54 56.8	+1.4

*NEIC **24** 17:58:21.0±1.2,21.06S×178.05W,h488km±11km, mb4.2/10,Error ellipse: s-maj=16.3km s-min=11.0km az=128.0*

*IDC **24** 17:58:22.6±2.3,20.91S×178.19W,h495km±24km, mb3.4/13,mb1 3.5/13,mb1mx3.4/19,mbtmp3.4/13,Error ellipse: s-maj=23.7km s-min=12.4km az=148.0*

ISC 24 17:58:17.3±1.3,20.85S±0.1×178.0W±0.1,h445km±16km, n58,σ1$40/66,mb3.9/20,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSVF	Nonsavu	4.79	309	eP		P	17 59 47.2	+7.6
AFI	Afiamalu	9.09	42	P		P	18 00 25.0	+0.4
	3.0nm,0.3s,baz=297,slow=11,SNR=4.1							
AFI				S		S	18 02 06.1	-3.1
	4.0nm,0.3s,baz=53,slow=23,SNR=7.3							
AFI	Afiamalu	9.09	42	eP		P

BUR08	**Bucovina Ar. S**	**147.29**	**330**	*e*PKPbc	**PKPbc**	**18 17 09.9**	**+0.1**
CLL	**Collm**	**148.34**	**347**	*i* PKPbc	**PKPbc**	**18 17 12.4**	**+0.1**
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**148.46**	**327**	PKPbc	**PKPbc**	**18 17 12.8**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=340,slow=3.4,SNR=5.1						
MLR	**Muntele Rosu**	**148.46**	**327**	PKPbc	**PKPbc**	**18 17 12.8**	**-0.1**
KHC	**Kasperske Hory**	**150.25**	**345**⇑	*e*PKP	**PKPbc**	**18 17 17.0**	**-0.1**
GERES	**GERESS Array B**	**150.48**	**344**	PKPbc	**PKPbc**	**18 17 17.1**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=6.8,slow=3.4,SNR=8.2						
GERES	**GERESS Array B**	**150.48**	**344**	PKPbc	**PKPbc**	**18 17 17.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**172.39**	**178**	PKPab	**PKPab**	**18 19 01.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=179,slow=3.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**172.39**	**178**	PKPab	**PKPab**	**18 19 01.7**	**-0.5**

*NEIC **24** 18:08:40.5,35.99N×117.30W,h0km,ML3.1(PAS),After PAS.*

ISC 24 18:08:40.3±1.1,35.99N±0.02×117.30W±0.02,h6km±10km, n31,σ0.969/48,15C-11D,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.17**	**295**	⇓P	**Pg**	**18 08 44.2**	**+0.4**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**18 08 46.8**	**+0.7**
	baz=0.2						
FURC	**Furnace Creek,**	**0.60**	**36**	P	**Pg**	**18 08 52.2**	**+0.4**
	baz=0.6,SNR=106						
FURC				⇑S	**Sb**	**18 09 00.7**	**-1.1**
	baz=0.6						
LRMC	**Laurel Mountai**	**0.60**	**212**	P	**Pg**	**18 08 51.8**	**-0.1**
	baz=0.6,SNR=17						
LRMC				⇑S	**Sg**	**18 08 59.9**	**+0.1**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.78**	**306**	P	**Pg**	**18 08 55.5**	**+0.3**
	baz=0.8,SNR=91						
CWC				⇓S	**Sg**	**18 09 05.9**	**+0.6**
	baz=0.8						
GSC	**Goldstone**	**0.80**	**150**	*e*Pg	**Pg**	**18 08 55.6**	**0.0**
GSC				*e*Sg	**Sb**	**18 09 08.7**	**+1.0**
GSC	**Goldstone**	**0.80**	**150**	⇓P	**Pg**	**18 08 55.7**	**+0.2**
	baz=0.8,SNR=18						
SHOC	**Shoshone**	**0.83**	**96**	⇑P	**Pb**	**18 08 57.0**	**-0.2**
	baz=0.8						
ISA	**Isabella**	**1.01**	**252**	*e*Pg	**Pg**	**18 08 59.4**	**-0.3**
ISA				*e*Sg	**Sg**	**18 09 12.6**	**-0.2**
ISA	**Isabella**	**1.01**	**252**	P	**Pg**	**18 08 59.7**	**+0.1**
	baz=1.0,SNR=102						
ISA				⇓S	**Sg**	**18 09 12.9**	**+0.1**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.01**	**357**	P	**Pg**	**18 08 59.9**	**+0.2**
	baz=1.0,SNR=98						
GRAC				⇑S	**Sb**	**18 09 13.9**	**+0.1**
	baz=1.0						
RRX	**Edison Barstow**	**1.13**	**167**	⇑P	**Pb**	**18 09 02.3**	**0.0**
	baz=1.1,SNR=11						
RRX				⇑S	**Sn**	**18 09 19.1**	**+0.4**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.24**	**207**	⇑P	**Pg**	**18 09 03.4**	**-0.7**
	baz=1.2,SNR=278						
EDW2				⇓S	**Sb**	**18 09 21.2**	**+0.7**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.25**	**116**	P	**Pg**	**18 09 03.8**	**-0.5**
	baz=1.2,SNR=74						
TUQ				⇑S	**Sb**	**18 09 21.6**	**+0.8**
	baz=1.2						
TIN	**Tinemaha**	**1.30**	**325**	⇓P	**Pg**	**18 09 05.3**	**0.0**
	baz=1.3,SNR=20						
TIN				⇑S	**Sb**	**18 09 23.2**	**+0.9**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.40**	**145**	⇑P	**Pn**	**18 09 06.8**	**+0.3**
	baz=1.4,SNR=38						
HEC				⇓S	**Sn**	**18 09 26.5**	**+1.1**
	baz=1.4						
VES	**Vestal, Richgr**	**1.46**	**265**	⇑Pb	**Pg**	**18 09 08.0**	**-0.3**
	baz=1.5,SNR=22						
VES				⇓S	**Sn**	**18 09 27.5**	**+0.9**
	baz=1.5						
BBRC	**Big Bear Solar**	**1.75**	**170**	⇑Pb	**Pb**	**18 09 13.4**	**+0.5**
	baz=1.8						
GMRC	**Granite Mounta**	**1.80**	**132**	⇓Sb	**Sb**	**18 09 37.7**	**+1.0**
	baz=1.8						
MWC	**Mount Wilson**	**1.87**	**200**	*e*Pg	**Pn**	**18 09 12.6**	**-0.4**
DECC	**Green Verdugo**	**1.93**	**206**	⇑Pb	**Pb**	**18 09 16.3**	**+0.4**
	baz=1.9						
PASC	**Pasadena Art C**	**1.95**	**202**	*e*Pn	**Pn**	**18 09 14.4**	**+0.4**
LDFC	**Landfair**	**2.00**	**116**	*e*Pn	**Pb**	**18 09 16.5**	**-0.7**
BELC	**Belle Mtn. Jos**	**2.25**	**151**	⇓Pn	**Pn**	**18 09 17.8**	**-0.4**
	baz=2.3,SNR=47						
BELC				⇓Sb	**Sg**	**18 09 52.6**	**-0.1**
	baz=2.3						
SMMC	**Simmler**	**2.30**	**254**	⇑Pb	**Pb**	**18 09 22.1**	**-0.2**
	baz=2.3						
PFO	**Pinyon Flat Ob**	**2.47**	**163**	*e*Pn	**Pn**	**18 09 20.0**	**-1.3**
CMB	**Columbia Colle**	**3.21**	**310**	*e*Pn	**Pb**	**18 09 36.8**	**-0.9**
CMB				*e*Sn	**Sb**	**18 10 16.4**	**-0.6**
BAR	**Barrett**	**3.34**	**171**	*e*Pn	**Pb**	**18 09 39.8**	**-0.2**
BAR				*e*Sn	**Sb**	**18 10 19.6**	**-1.4**
SAO	**San Andreas Ge**	**3.44**	**284**	*e*Pn	Pb	18 09 38.4	-3.2
CCUT	**Cedar City**	**3.52**	**63**	*e*Pn	**Pn**	**18 09 37.0**	**+1.1**
GLA	**Glamis**	**3.57**	**144**	*e*Pn	Pn	18 09 32.7	-3.6
GLA				*e*Sg	**Sg**	**18 10 33.8**	**-1.2**
WCN	**Washoe City**	**3.84**	**330**	*e*Pn	**Pn**	**18 09 39.7**	**-0.4**
WCN				*e*Pg	**Pg**	**18 09 52.4**	**-1.4**

*DJA **24** 18:09:40,59.39N×153.53W,h10km,mb5.5/14*
*BJI **24** 18:09:46.8,59.53N×153.07W,h103km,mB5.8/39, mb5.6/60*
*IDC **24** 18:09:47.9±0.9,59.53N×153.18W,h81km±9km,mb5.1/30, mb1 5.1/34,mb1mx5.1/35,mbtmp5.1/34,MS4.5/29, Ms1 4.5/29,ms1mx4.4/40,Error ellipse: s-maj=8.4km s-min=8.3km az=166.0*
*ISCJB **24** 18:09:48.8±0.1,59.66N±0.01×153.23W±0.02,h99km, mb5.7/472,Error ellipse: s-maj=2.1km s-min=1.3km az=30.7*
*MOS **24** 18:09:48.6±0.9,59.62N×153.21W,h101km,mb5.8/125, MS5.2/15,Error ellipse: s-maj=7.4km s-min=5.0km az=94.6*
*NEIC **24** 18:09:50.8,59.43N×152.89W,h98km,mb5.8/271,MW5.7, MW5.7,Moment Tensor Solution. s76 Moment tensor: Scale 10^{17}Nm; M_{rr}2.54; $M_{\theta\theta}$-3.79; $M_{\phi\phi}$1.25; $M_{r\theta}$1.38; $M_{\theta\phi}$1.78; $M_{\phi r}$2.58; Best double couple: M_o4.80000×10^{17} NP1:ϕ_s320.00000°,δ53.00000°,λ145.00000°. NP2: ϕ_s74.00000°,δ62.00000°,λ42.00000°. Principal axes: T 5.0900, Plg48.0000°, Azm291.0000°; N -0.6900, Plg40.0000°, Azm100.0000°; P -4.4100, Plg5.0000°, Azm195.0000°; After AEIC.*
NEIC Felt [IV] at Anchor Point, Homer, Kasilof, Sterling and Willow; [III] at Anchorage, Eagle River, Girdwood, Kenai, Nikiski, Ninilchik, Palmer, Seward, Soldotna and Talkeetna; [II] at Chugiak, Elmendorf AFB, Indian, Kodiak, Seldovia, Valdez and Wasilla. Also felt at Big Lake, Clam Gulch, Cooper Landing, Cordova, Eek, Glennallen, Houston, Moose Pass, Pedro Bay, Port Alsworth, Port Lions, Sutton and Whittier.
*SZGRF **24** 18:09:53.3,59.68N×153.01W,h104km,mb6.2,Southern Alaska, United States*
*BGS **24** 18:09:57.7±1.5,60.57N×151.59W,h98km,mb5.7*
*NEIC **24** 18:10:07.9±0.0,60.01N×152.40W,h86km,Moment Tensor Solution. s175 Moment tensor: Scale 10^{17}Nm; M_{rr}1.64; $M_{\theta\theta}$-3.81; $M_{\phi\phi}$2.16; $M_{r\theta}$1.16; $M_{\theta\phi}$1.93; $M_{\phi r}$1.60; Best double couple: M_o4.30000×10^{17} NP1:ϕ_s68.00000°, δ70.00000°,λ33.00000°. NP2:ϕ_s325.00000°,δ59.00000°, λ156.00000°. Principal axes: T 4.1400, Plg37.0000°, Azm289.0000°; N 0.3000, Plg52.0000°, Azm96.0000°; P -4.4600, Plg6.0000°, Azm194.0000°;*

ISC 24 18:09:49.9±0.1,59.55N±0.02×153.12W±0.02,h100km, h100km:pP-P,n1656,σ1.936/2623,mb5.8/472,586C-500D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.12**	**332**	P	**Pn**	**18 10 04.6**	**+0.6**
AUE	**Augustine Isla**	**0.23**	**214**	P	**Pn**	**18 10 04.5**	**+0.3**
AUNW	**Augustine NWes**	**0.25**	**226**	P	**Pn**	**18 10 04.8**	**+0.5**
AUW	**Augustine West**	**0.26**	**225**	P	**Pn**	**18 10 04.8**	**+0.5**
ILW	**Iliamna West**	**0.51**	**359**	P	**Pn**	**18 10 07.0**	**+1.0**
INE	**Iliamna NE**	**0.51**	**3**	P	**Pn**	**18 10 06.9**	**+0.9**
RDN	**Redoubt North**	**0.98**	**10**	P	**Pn**	**18 10 11.5**	**+1.2**
NCT	**North Crescent**	**1.02**	**5**	P	**Pn**	**18 10 12.0**	**+1.3**
DFR	**Drift River**	**1.07**	**12**	P	**Pn**	**18 10 12.5**	**+1.3**
KAPH	**Katmai Pasha**	**1.15**	**214**	P	**Pn**	**18 10 11.8**	**-0.2**
BRLK	**Bradley Lake**	**1.16**	**78**	P	**Pn**	**18 10 11.0**	**-1.1**
BRLK				S	**Sn**	**18 10 26.5**	**-2.3**
BKG	**Blockade Glaci**	**1.58**	**15**	P	**Pn**	**18 10 18.6**	**+1.3**
KAKN	**Katmai Knife C**	**1.61**	**219**	P	**Pn**	**18 10 17.4**	**-0.3**
KAKN				S	**Sn**	**18 10 38.0**	**-0.7**
KCE	**Katmai Mt Cerb**	**1.69**	**220**	P	**Pn**	**18 10 18.8**	**+0.2**
CKL	**Chakachamna La**	**1.70**	**13**	P	**Pn**	**18 10 20.2**	**+1.5**
SLKM	**Skilak Lake**	**1.74**	**55**	P	**Pn**	**18 10 18.8**	**-0.4**
SLKM	**Skilak Lake**	**1.74**	**55**	P	**Pn**	**18 10 18.8**	**-0.4**
SPBG	**Spurr Blockage**	**1.75**	**12**	P	**Pn**	**18 10 21.2**	**+1.8**
KELA	**Mount Kelaz**	**1.75**	**232**	P	**Pn**	**18 10 19.5**	**+0.1**
MGLS	**Mageik Landsli**	**1.77**	**218**	P	**Pn**	**18 10 19.4**	**-0.2**
KDAK	**Kodiak Island**	**1.80**	**171**	P	**Pn**	**18 10 17.7**	**-2.1**
	3μm,0.3s,baz=11,slow=10,SNR=9436						
KDAK				S	**Sn**	**18 10 38.0**	**-4.7**
	13μm,0.3s,baz=3.5,slow=22,SNR=33						
KDAK	**Kodiak Island**	**1.80**	**171**	*i* P	**Pn**	**18 10 17.0**	**-2.8**
KDAK	**Kodiak Island**	**1.80**	**171**	P	**Pn**	**18 10 17.3**	**-2.5**
KDAK				S	**Sn**	**18 10 37.8**	**-4.8**
SPCG	**Spurr Capps Gl**	**1.83**	**17**	P	**Pn**	**18 10 21.9**	**+1.5**
SPCG				S	**Sn**	**18 10 46.2**	**+2.6**
CAHL	**Cahill**	**1.88**	**218**	P	**Pn**	**18 10 20.9**	**-0.1**
SEW	**Seward**	**1.94**	**72**	P	**Pn**	**18 10 20.4**	**-1.2**
SEW				S	**Sn**	**18 10 43.4**	**-2.4**
STLK	**Strandline Lak**	**2.06**	**18**	P	**Pn**	**18 10 24.7**	**+1.5**
FIB	**Fire Island**	**2.18**	**41**	P	**Pn**	**18 10 26.3**	**+1.5**
FIB				S	**Sn**	**18 10 53.1**	**+1.6**
FIB	**Fire Island**	**2.18**	**41**	P	**Pn**	**18 10 26.3**	**+1.5**
FIB				S	**Sn**	**18 10 53.1**	**+1.6**
SUA	**Susitna One**	**2.25**	**30**	P	**Pn**	**18 10 26.9**	**+1.1**
SUA				S	**Sn**	**18 10 54.9**	**+1.6**
SKT	**Skwentna**	**2.56**	**17**	P	**Pn**	**18 10 31.0**	**+1.2**
SKT				S	**Sn**	**18 11 03.1**	**+2.7**
PMR	**Palmer**	**2.84**	**42**	P	**Pn**	**18 10 33.2**	**-0.2**
PMR				S	**Sn**	**18 11 04.9**	**-2.1**
PMR	**Palmer**	**2.84**	**42**	P	**Pn**	**18 10 33.2**	**-0.2**
PMR				S	**Sn**	**18 11 04.9**	**-2.1**
SML	**Sawmill**	**3.27**	**44**	P	**Pn**	**18 10 39.0**	**-0.2**
SML				S	**Sn**	**18 11 14.8**	**-2.4**
SML	**Sawmill**	**3.27**	**44**	P	**Pn**	**18 10 39.0**	**-0.2**
SML				S	**Sn**	**18 11 14.8**	**-2.4**
PPLA	**Purkeypile**	**3.39**	**7**	P	**Pn**	**18 10 43.1**	**+2.2**
MID	**Middleton Isla**	**3.46**	**89**	P	**Pn**	**18 10 40.1**	**-1.6**
MID				S	**Sn**	**18 11 16.7**	**-5.1**
MID	**Middleton Isla**	**3.46**	**89**	P	**Pn**	**18 10 40.1**	**-1.6**
MID				S	**Sn**	**18 11 16.7**	**-5.1**
FID	**Port Fidalgo**	**3.53**	**67**	P	**Pn**	**18 10 40.9**	**-1.8**
TT01	**Tatalina**	**3.65**	**339**	P	**Pn**	**18 10 46.0**	**+1.8**
SCM	**Sheep Creek Mo**	**3.65**	**49**	P	**Pn**	**18 10 44.1**	**-0.3**
SCM	**Sheep Creek Mo**	**3.65**	**49**	P	**Pn**	**18 10 44.1**	**-0.3**
VLZ	**Valdez**	**3.73**	**62**	P	**Pn**	**18 10 44.4**	**-1.0**
ANNW	**Aniakchak Nort**	**3.74**	**228**	P	**Pn**	**18 10 46.1**	**+0.6**
ANPK	**Aniakchak Peak**	**3.79**	**226**	P	**Pn**	**18 10 46.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.83**	**72**	P	**Pn**	**18 10 45.3**	**-1.4**
DIV	**Divide**	**3.98**	**63**	⇓*e*Pn	Pn	18 10 43.3	-5.5
DIV				*e*Sn	Sn	18 11 26.3	-8.2
KLU	**Klutina**	**4.06**	**58**	P	**Pn**	**18 10 49.3**	**-0.6**
SGAM	**Sherman Glacie**	**4.08**	**73**	P	**Pn**	**18 10 48.8**	**-1.4**
TRF	**Thorofare Moun**	**4.14**	**1**	P	**Pn**	**18 10 50.9**	**-0.2**
CHGN	**Chignik**	**4.31**	**223**	*e*Pn	**Pn**	**18 10 52.0**	**-1.2**
GOAT	**Goat Mountain**	**4.33**	**73**	P	**Pn**	**18 10 52.4**	**-1.2**
RND	**Reindeer**	**4.38**	**26**	P	**Pn**	**18 10 54.1**	**0.0**
RND	**Reindeer**	**4.38**	**26**	P	**Pn**	**18 10 54.1**	**0.0**
KAIM	**Kayak Island**	**4.42**	**81**	P	**Pn**	**18 10 54.0**	**-0.7**
BMRM	**Bremner River**	**4.47**	**68**	P	**Pn**	**18 10 54.1**	**-1.4**
DHY	**Denali Highway**	**4.49**	**36**	P	**Pn**	**18 10 56.0**	**+0.2**
VNHG	**Veniaminof 1**	**4.64**	**227**	P	**Pn**	**18 10 58.3**	**+0.5**
MCK	**McKinley**	**4.65**	**24**	P	**Pn**	**18 10 57.9**	**+0.1**
MCK	**McKinley**	**4.65**	**24**	P	**Pn**	**18 10 57.9**	**+0.1**
VNSG	**Veniaminof 6**	**4.69**	**225**	P	**Pn**	**18 10 58.6**	**+0.2**
VNFG	**Veniaminof 2**	**4.74**	**229**	P	**Pn**	**18 10 58.4**	**-0.7**
BERG	**Berg Lake**	**4.81**	**76**	P	**Pn**	**18 10 58.4**	**-1.6**
HARP	**HAARP**	**4.82**	**50**	P	**Pn**	**18 11 00.0**	**-0.1**
GRIN	**Grindle Hills**	**4.99**	**77**	P	**Pn**	**18 11 01.2**	**-1.2**
KHIT	**Khitrov Hills**	**5.04**	**76**	P	**Pn**	**18 11 01.6**	**-1.5**
PAX	**Paxson**	**5.04**	**44**	P	**Pn**	**18 11 03.1**	**0.0**
PAX	**Paxson**	**5.04**	**44**	P	**Pn**	**18 11 03.1**	**0.0**
KULT	**Kultieth River**	**5.28**	**78**	P	**Pn**	**18 11 05.1**	**-1.4**
BARK	**Barkley Ridge**	**5.41**	**76**	P	**Pn**	**18 11 07.5**	**-0.7**
ISLE	**Juniper Island**	**5.50**	**74**	P	**Pn**	**18 11 08.2**	**-1.3**
GCSA	**Galena City Sc**	**5.50**	**343**	P	**Pn**	**18 11 11.1**	**+1.8**
MLY	**Manley**	**5.61**	**10**	P	**Pn**	**18 11 10.9**	**+0.1**
BAGL	**Bagley Icefiel**	**5.61**	**76**	P	**Pn**	**18 11 09.8**	**-1.0**
WRG	**White River Gl**	**5.62**	**80**	P	**Pn**	**18 11 10.4**	**-0.5**
MESA	**MESA**	**5.67**	**79**	P	**Pn**	**18 11 10.9**	**-0.9**
MENT	**Mentasta**	**5.67**	**49**	*e*Pn	**Pn**	**18 11 10.6**	**-1.0**
MENT				*e*Sn	**Sn**	**18 12 10.7**	**-4.6**
HDA	**Harding Lake**	**5.67**	**28**	P	**Pn**	**18 11 12.4**	**+0.8**
CCB	**Clear Creek Bu**	**5.69**	**24**	P	**Pn**	**18 11 11.4**	**-0.4**
SDPT	**Sand Point**	**5.79**	**226**	P	**Pn**	**18 11 11.7**	**-1.6**
COLA	**College**	**5.88**	**23**	*e*P	**Pn**	**18 11 13.8**	**-0.6**
COLA	**College**	**5.88**	**23**	*e*Pn	**Pn**	**18 11 13.8**	**-0.6**
	10μm,1.1s						
DOT	**Dot Lake**	**5.96**	**43**	*e*Pn	**Pn**	**18 11 14.9**	**-0.7**
	6.7nm,0.3s						
ILAR	**Eielson Array**	**6.00**	**26**	P	**Pn**	**18 11 15.1**	**-0.9**
	baz=220,slow=8.9,SNR=19						
ILAR				S	**Sn**	**18 12 18.6**	**-4.5**
	193nm,0.3s,baz=198,slow=16,SNR=4.5						
ILAR				P3KPbc		18 49 17.1	
	0.1nm,0.3s,baz=250,slow=2.9,SNR=4.1						
ILAR	**Eielson Array**	**6.00**	**26**	P	**Pn**	**18 11 15.1**	**-0.9**
ILAR				S	**Sn**	**18 12 18.7**	**-4.5**
ILAR	**Eielson Array**	**6.00**	**26**	P	**Pn**	**18 11 15.1**	**-0.9**
ILAR				S	**Sn**	**18 12 18.6**	**-4.5**
ILAR				*e*		18 49 17.1	
YKU2	**Yakutat**	**6.84**	**85**	*e*Pn	**Pn**	**18 11 25.9**	**-1.6**
YKU2				*e*Sn	Sn	18 12 37.7	-6.0
PNL	**Peninsula**	**6.97**	**83**	*e*Pn	**Pn**	**18 11 27.6**	**-1.7**
	34nm,0.8s						
PNL				*e*Sn	Sn	18 12 38.5	-8.4
EGAK	**Eagle**	**7.66**	**42**	*e*Pn	**Pn**	**18 11 37.9**	**-0.7**
	224nm,1.1s						
COLD	**Coldfoot**	**7.82**	**8**	*e*Pn	**Pn**	**18 11 40.4**	**-0.3**
	143nm,0.9s						
DAWY	**Dawson**	**7.91**	**49**	*e*Pn	**Pn**	**18 11 41.9**	**-0.2**
AKUT	**Akutan**	**8.80**	**237**	*e*Pn	**Pn**	**18 11 53.9**	**-0.1**
	2μm,1.3s						
SKAG	**Skagway**	**9.05**	**83**	*e*Pn	**Pn**	**18 11 56.0**	**-1.5**
	3μm,0.9s						
SKAG				*e*Sn	**Sn**	**18 13 34.2**	**-3.2**
TNA	**Tin City**	**9.09**	**318**	*e*Pn	Pn	18 12 01.4	+3.3
	370nm,1.3s						
TNA				*e*		18 12 13.2	
UNV	**Unalaska Valle**	**9.31**	**238**	*e*Pn	**Pn**	**18 12 00.1**	**-0.9**
	493nm,0.5s						
UNV				*e*Sn	**Sn**	**18 13 38.3**	**-5.5**
SIT	**Sitka**	**9.69**	**97**	*e*P	Pn	18 12 02.8	-3.4
SIT				pmax	pmax		
	comp=Z,714nm,0.5s						
SIT	**Sitka**	**9.69**	**97**	*e*Pn	Pn	18 12 02.8	-3.4
	comp=Z,714nm,0.5s						
SIT				*e*Sn	Sn	18 13 41.0	-12
GAMB	**Gambell**	**9.78**	**304**	⇑*i*Pn	**Pn**	**18 12 10.4**	**+3.0**
	comp=Z,86nm,0.9s						
NIKO	**Nikolski**	**10.93**	**240**	*e*Pn	**Pn**	**18 12 21.4**	**-1.7**
	comp=Z,474nm,0.7s						
NIKO				*e*Sn	**Sn**	**18 14 18.4**	**-4.8**
WRAK	**Wrangell Islan**	**11.45**	**97**	*e*Pn	**Pn**	**18 12 28.1**	**-1.9**
	comp=Z,887nm,0.6s						
WRAK				*e*Sn	Sn	18 14 29.5	-6.2
CRAG	**Craig**	**11.49**	**102**	*e*Pn	Pn	18 12 26.6	-4.0
	comp=Z,509nm,0.4s						
CRAG				*e*Sn	Sn	18 14 23.1	-14
DLBC	**Dease Lake**	**11.95**	**85**	P	**Pn**	**18 12 35.1**	**-1.6**
	comp=Z,30nm,0.3s,baz=285,slow=14,SNR=248						
DLBC				S	**Sn**	**18 14 43.2**	**-4.7**
	comp=Z,23nm,0.3s,baz=162,slow=18,SNR=4.5						
DLBC	**Dease Lake**	**11.95**	**85**	*e*Pn	**Pn**	**18 12 34.5**	**-2.2**
DLBC				P		18 12 35.1	
DLBC				*e*Sn	Sn	18 14 40.0	-7.9
DLBC				S	**Sn**	**18 14 43.2**	**-4.7**
INK	**Inuvik**	**12.24**	**36**	P	**Pn**	**18 12 38.9**	**-1.5**
	comp=Z,18nm,0.3s,baz=228,slow=15,SNR=652						
INK	**Inuvik**	**12.24**	**36**	P	**Pn**	**18 12 38.9**	**-1.5**
INK				pmax	pmax		
	comp=Z,18nm,0.3s						
INK	**Inuvik**	**12.24**	**36**	*e*Pn	**Pn**	**18 12 38.7**	**-1.7**
	comp=Z,0.8nm,0.9s						
INK				P	**Pn**	**18 12 38.9**	**-1.5**
BBB	**Bella Bella**	**15.78**	**107**	P	**Pn**	**18 13 25.4**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=294,slow=14,SNR=31						
BBB				S	Sn	18 16 11.2	-9.3
	comp=Z,1.8nm,0.3s,baz=63,slow=22,SNR=4.9						
BBB				LR	LR	18 18 56.3	
	comp=Z,1μm,18.7s,baz=320,slow=35						
BBB	**Bella Bella**	**15.78**	**107**	P	**Pn**	**18 13 25.4**	**-0.8**
BBB				S	Sn	18 16 11.2	-9.3
YKA	**Yellowknife Ar**	**18.70**	**64**	P	**P**	**18 14 00.4**	**+0.4**
	comp=Z,13nm,0.3s,baz=277,slow=10.0,SNR=756						
YKA				ScP	**ScP**	**18 21 50.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=282,slow=2.4,SNR=6.1						
YKA				P3KPbc		18 48 32.3	
	comp=Z,0.0nm,0.3s,baz=97,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**18.70**	**64**	P	**P**	**18 14 00.4**	**+0.4**
YKA	**Yellowknife Ar**	**18.70**	**64**	P	**P**	**18 14 00.4**	**+0.4**
YKA				ScP	**ScP**	**18 21 50.6**	**+1.1**
YKA				*e*		18 48 32.3	
SMY	**Shemya**	**19.34**	**264**	*e*P	**P**	**18 14 07.4**	**+0.3**
SMY				pmax	pmax		
	comp=Z,4μm,1.6s						
SMY	**Shemya**	**19.34**	**264**	*e*P	**P**	**18 14 07.4**	**+0.3**
	comp=Z,4μm,1.6s						
BILL	**Bilibino**	**19.47**	**313**	⇑*i*P	**P**	**18 14 08.2**	**-0.2**
BILL				*e*S	**S**	**18 17 43.9**	**+1.2**
BILL				pmax	pmax		
	comp=Z,844nm,1.4s						
BILL				MLR	MLR		
	comp=Z,3μm,22.0s						
BILL	**Bilibino**	**19.47**	**313**	*e*P	**P**	**18 14 09.3**	**+0.9**
FX1	**Attu Island--F**	**19.73**	**265**	P	**P**	**18 14 12.0**	**+0.7**
	comp=Z,195nm,0.3s,baz=292,slow=2.0,SNR=275						
FX1	**Attu Island--F**	**19.73**	**265**	P	**P**	**18 14 12.0**	**+0.7**
FX1	**Attu Island--F**	**19.73**	**265**	P	**P**	**18 14 12.0**	**+0.7**
PGC	**Sidney**	**20.35**	**109**	*e*P	**P**	**18 14 17.2**	**-0.8**
	comp=Z,28nm,1.3s						
OSR	**Olympics--Salm**	**20.91**	**112**	P	Pn	18 14 26.2	-1.4
NLWA	**Neilton Lookou**	**21.04**	**112**	*e*P	**P**	**18 14 25.6**	**+0.1**
	comp=Z,744nm,1.3s						
JCW	**Jim Creek**	**21.40**	**108**	*e*P	**P**	**18 14 30.6**	**+1.3**
	comp=Z,743nm,1.0s						
RPW	**Rockport**	**21.42**	**107**	*e*P	**P**	**18 14 30.3**	**+0.6**
	comp=Z,572nm,1.4s						
ON2	**Olympics--Nort**	**21.45**	**113**	P	**P**	**18 14 32.4**	**+2.6**
BMW	**Boistfort Moun**	**22.01**	**113**	P	**P**	**18 14 37.9**	**+2.1**
BMW	**Boistfort Moun**	**22.01**	**113**	P	**P**	**18 14 37.9**	**+2.1**
NLW	**Nelson Butte**	**22.25**	**106**	P	**P**	**18 14 41.4**	**+2.9**
LON	**Longmire**	**22.48**	**111**	*e*P	**P**	**18 14 42.2**	**+1.5**
LON				pmax	pmax		
	comp=Z,281nm,1.2s						
LON	**Longmire**	**22.48**	**111**	*e*P	**P**	**18 14 42.2**	**+1.5**
	comp=Z,282nm,1.2s						
TDL	**Tradedollar La**	**22.57**	**112**	P	**P**	**18 14 44.0**	**+2.1**
ETW	**Entiat**	**22.58**	**107**	*e*P	**P**	**18 14 43.5**	**+1.6**
	comp=Z,926nm,1.2s						
WPW	**White Pass**	**22.64**	**111**	P	**P**	**18 14 44.5**	**+2.0**
WTV	**Waterville**	**22.70**	**107**	P	**P**	**18 14 45.2**	**+2.2**
HEBO	**Mount Hebo**	**22.71**	**116**	*e*P	**P**	**18 14 44.7**	**+1.6**
	comp=Z,877nm,1.1s						
HEBO				*e*pP	**pP**	**18 15 00.5**	**-2.2**
MTMW	**Mount Mitchell**	**22.81**	**113**	P	**P**	**18 14 46.2**	**+2.0**
COR	**Corvallis**	**23.39**	**117**	*e*P	**P**	**18 14 51.2**	**+1.6**
COR				*e**PP	**pP**	**18 15 12.0**	**+2.0**
COR				pmax	pmax		
	comp=Z,828nm,1.3s						
COR	**Corvallis**	**23.39**	**117**	*e*P	**P**	**18 14 51.1**	**+1.6**
	comp=Z,828nm,1.3s						
COR				*e*pP	**pP**	**18 15 12.0**	**+2.0**
OD2	**Odessa Site #2**	**23

C14A	**Swan Lake**	**25.73**	**100**	⇓P		**P**		**18 15 11.9**	**+1.0**
	baz=26									
C14A				⇓P		**P**		**18 15 11.9**	**+1.0**
	baz=26									
E12A	**Beaver Dam Sad**	**25.75**	**104**	⇓P		**P**		**18 15 11.9**	**+0.9**
	baz=26									
E12A				⇓P		**P**		**18 15 11.9**	**+0.9**
	baz=26									
SEY	**Seymchan**	**25.77**	**301**	⇑*i*P		**P**		**18 15 10.3**	**-0.6**
SWMT	**Swartz Lake**	**25.78**	**100**	*e*P		**P**		**18 15 12.4**	**+1.2**
	comp=Z,479nm,0.8s									
SWMT				*e*pP		**pP**		**18 15 34.0**	**+0.6**
D13A	**Huson**	**25.83**	**102**	⇓P		**P**		**18 15 12.9**	**+1.2**
	baz=26,SNR=11									
D13A				⇓P		**P**		**18 15 12.9**	**+1.2**
	baz=26,SNR=11									
YBH	**Yreka Blue Hor**	**25.91**	**120**	P		**P**		**18 15 14.7**	**+2.2**
	comp=Z,14nm,0.8s,baz=345,slow=3.1,SNR=26									
YBH				LR		LR		18 23 50.6		
	comp=Z,1µm,21.5s,baz=319,slow=32									
YBH	**Yreka Blue Hor**	**25.91**	**120**	P		**P**		**18 15 14.7**	**+2.2**
YBH	**Yreka Blue Hor**	**25.91**	**120**	*e*P		**P**		**18 15 14.1**	**+1.6**
	comp=Z,526nm,1.0s									
YBH				*e*pP		**pP**		**18 15 37.3**	**+2.8**
B15A	**Bradely Ranch,**	**25.96**	**98**	⇓P		**P**		**18 15 13.4**	**+0.4**
	baz=26,SNR=24									
B15A				⇓P		**P**		**18 15 13.4**	**+0.4**
	baz=26,SNR=24									
BMO	**Blue Mountains**	**26.02**	**108**	*e*P		**P**		**18 15 14.7**	**+1.2**
	comp=Z,535nm,1.4s									
BMO				*e*pP		**pP**		**18 15 36.8**	**+1.3**
A16A	**West Butte Ran**	**26.04**	**95**	⇓P		**P**		**18 15 14.3**	**+0.6**
	baz=26									
A16A				⇓P		**P**		**18 15 14.3**	**+0.6**
	baz=26									
KHMM	**Horse Mountain**	**26.17**	**122**	*e*P		**P**		**18 15 16.1**	**+1.3**
	comp=Z,753nm,1.4s									
KHMM				*e*pP		**pP**		**18 15 39.5**	**+2.6**
SLMT	**Seeley Lake**	**26.21**	**100**	*e*P		**P**		**18 15 15.9**	**+0.6**
	comp=Z,946nm,1.1s									
SLMT				*e*pP		**pP**		**18 15 34.5**	**-2.8**
MSO	**Missoula**	**26.27**	**101**	*e*P		**P**		**18 15 14.9**	**-0.8**
	comp=Z,477nm,1.4s									
MSO				*e*pP		**pP**		**18 15 38.5**	**+0.7**
MSO	**Missoula**	**26.27**	**101**	⇑P		**P**		**18 15 16.8**	**+1.1**
	baz=26									
MSO				⇑P		**P**		**18 15 16.8**	**+1.1**
	baz=26									
MSO				⇓pP		**pP**		**18 15 37.9**	**+0.1**
	baz=26,SNR=9.4									
MSO				⇓pP		**pP**		**18 15 37.9**	**+0.1**
	baz=26,SNR=9.4									
C15A	**Salmond Ranch,**	**26.30**	**98**	⇑P		**P**		**18 15 17.1**	**+1.1**
	baz=26,SNR=9.6									
C15A				⇑P		**P**		**18 15 17.1**	**+1.1**
	baz=26,SNR=9.6									
D14A	**Greenough**	**26.31**	**101**	⇓P		**P**		**18 15 17.2**	**+1.1**
	baz=26,SNR=35									
D14A				⇓P		**P**		**18 15 17.2**	**+1.1**
	baz=26,SNR=35									
B16A	**M & M Farms, S**	**26.33**	**96**	⇑P		**P**		**18 15 16.8**	**+0.6**
	baz=26									
B16A				⇑P		**P**		**18 15 16.8**	**+0.6**
	baz=26									
B16A				⇓pP		**pP**		**18 15 38.0**	**-0.3**
	baz=26,SNR=15									
B16A				⇓pP		**pP**		**18 15 38.0**	**-0.3**
	baz=26,SNR=15									
F12A	**Elk City**	**26.37**	**105**	⇓P		**P**		**18 15 17.7**	**+1.1**
	baz=26,SNR=21									
F12A				⇓P		**P**		**18 15 17.7**	**+1.1**
	baz=26,SNR=21									
E13A	**Victor**	**26.41**	**102**	⇑P		**P**		**18 15 17.8**	**+0.8**
	baz=26									
E13A				⇑P		**P**		**18 15 17.8**	**+0.8**
	baz=26									
A17A	**Triple J Farms**	**26.50**	**95**	⇑pP		**pP**		**18 15 39.8**	**0.0**
	baz=26,SNR=16									
A17A				⇑pP		pP		18 15 39.8	0.0
	baz=26,SNR=16									
CHMT	**Chamberlain Mo**	**26.55**	**101**	*e*P		**P**		**18 15 18.6**	**+0.2**
	comp=Z,23nm,0.5s									
CHMT				*e*pP		**pP**		**18 15 40.9**	**+0.4**
C16A	**Fuhringer Ranc**	**26.71**	**98**	⇓P		**P**		**18 15 20.0**	**+0.3**
	baz=26,SNR=22									
C16A				⇓P		**P**		**18 15 20.0**	**+0.3**
	baz=26,SNR=22									
E14A	**Clinton**	**26.78**	**102**	⇓P		**P**		**18 15 21.4**	**+1.1**
	baz=26,SNR=16									
E14A				⇓P		**P**		**18 15 21.4**	**+1.1**
	baz=26,SNR=16									
G12A	**Big Creek, Yel**	**26.78**	**106**	⇑P		**P**		**18 15 21.4**	**+1.0**
	baz=26									
G12A				⇑P		**P**		**18 15 21.4**	**+1.0**
	baz=26									
F13A	**Darby**	**26.80**	**104**	⇑P		**P**		**18 15 21.7**	**+1.1**
	baz=27,SNR=24									
F13A				⇑P		**P**		**18 15 21.7**	**+1.1**
	baz=27,SNR=24									
D15A	**Lincoln**	**26.83**	**100**	⇑P		**P**		**18 15 21.8**	**+1.0**
	baz=27,SNR=15									
D15A				⇑P		**P**		**18 15 21.8**	**+1.0**
	baz=27,SNR=15									
MOD	**Modoc**	**26.86**	**116**	*e*P		**P**		**18 15 22.6**	**+1.5**
	comp=Z,359nm,1.3s									
MOD				*e*pP		**pP**		**18 15 44.2**	**+1.0**
B17A	**L&G Farms, Che**	**26.87**	**96**	⇑P		**P**		**18 15 21.7**	**+0.7**
	baz=27,SNR=27									
B17A				⇑P		**P**		**18 15 21.7**	**+0.7**
	baz=27,SNR=27									
WDC	**Whiskeytown Da**	**26.92**	**121**	*e*P		**P**		**18 15 22.8**	**+1.3**
WDC				*e**PP		**pP**		**18 15 45.6**	**+2.0**
WDC				pmax		pmax				
	comp=Z,255nm,1.1s									
WDC	**Whiskeytown Da**	**26.92**	**121**	*e*P		**P**		**18 15 22.8**	**+1.3**
	comp=Z,255nm,1.1s									
WDC				*e*pP		**pP**		**18 15 45.5**	**+2.0**
A18A	**Metzger Ranch,**	**26.95**	**94**	⇑P		**P**		**18 15 22.0**	**+0.2**
	baz=27									
A18A				⇑P		**P**		**18 15 22.0**	**+0.2**
	baz=27									
A18A				⇑pP		**pP**		**18 15 43.5**	**-0.4**
	baz=27,SNR=8.7									
A18A				⇑pP		**pP**		**18 15 43.5**	**-0.4**
	baz=27,SNR=8.7									
PET	**Petropavlovsk**	**27.03**	**278**	*e*P		**P**		**18 15 21.9**	**-0.3**
PET				pmax		pmax				
	comp=Z,1µm,1.5s									
PET	**Petropavlovsk**	**27.03**	**278**	*e*P		**P**		**18 15 21.9**	**-0.3**
	comp=Z,1µm,1.5s									
KIPM	**Iron Peak**	**27.16**	**123**	*e*P		**P**		**18 15 25.0**	**+1.2**
	comp=Z,489nm,1.1s									
KIPM				*e*pP		**pP**		**18 15 48.0**	**+2.1**
E15A	**Deer Lodge**	**27.20**	**101**	⇓P		**P**		**18 15 25.0**	**+0.9**
	baz=27,SNR=7.5									
E15A				⇓P		**P**		**18 15 25.0**	**+0.9**
	baz=27,SNR=7.5									
WVOR	**Wild Horse Val**	**27.21**	**114**	*e*P		**P**		**18 15 24.7**	**+0.5**
WVOR				*e**PP		**pP**		**18 15 48.1**	**+1.7**
WVOR				pmax		pmax				
	comp=Z,338nm,1.4s									
WVOR	**Wild Horse Val**	**27.21**	**114**	*e*P		**P**		**18 15 24.7**	**+0.5**
	comp=Z,338nm,1.4s									
WVOR				*e*pP		**pP**		**18 15 48.0**	**+1.7**
KCPM	**Cahto Peak**	**27.22**	**124**	*e*P		**P**		**18 15 25.5**	**+1.2**
	comp=Z,242nm,1.2s									
KCPM				*e*pP		**pP**		**18 15 48.6**	**+2.2**
F14A	**Wisdom**	**27.26**	**102**	⇓P		**P**		**18 15 26.1**	**+1.4**
	baz=27,SNR=27									
F14A				⇓P		**P**		**18 15 26.1**	**+1.4**
	baz=27,SNR=27									
B18A	**Beardsley Farm**	**27.32**	**95**	⇓P		**P**		**18 15 25.8**	**+0.7**
	baz=27,SNR=17									
B18A				⇓P		**P**		**18 15 25.8**	**+0.7**
	baz=27,SNR=17									
C17A	**Wharram Farm,**	**27.32**	**97**	⇑P		**P**		**18 15 25.9**	**+0.7**
	baz=27,SNR=6.3									
C17A				⇑P		**P**		**18 15 25.9**	**+0.7**
	baz=27,SNR=6.3									
C17A				⇑pP		**pP**		**18 15 46.8**	**-0.5**
	baz=27,SNR=7.7									
C17A				⇑pP		**pP**		**18 15 46.8**	**-0.5**
	baz=27,SNR=7.7									
D16A	**Dana Ranch, Ca**	**27.33**	**99**	⇑P		**P**		**18 15 26.3**	**+1.0**
	baz=27,SNR=17									
D16A				⇑P		**P**		**18 15 26.3**	**+1.0**
	baz=27,SNR=17									
G13A	**Cobalt**	**27.34**	**104**	⇑P		**P**		**18 15 26.6**	**+1.2**
	baz=27,SNR=42									
G13A				⇑P		**P**		**18 15 26.6**	**+1.2**
	baz=27,SNR=42									
HRY	**Holter Researc**	**27.41**	**99**	*e*P		**P**		**18 15 26.7**	**+0.8**
	comp=Z,459nm,1.3s									
HRY				*e*pP		**pP**		**18 15 48.2**	**+0.1**
H12A	**Diamond D Ranc**	**27.43**	**106**	⇓P		**P**		**18 15 27.2**	**+1.0**
	baz=27									
H12A				⇓P		**P**		**18 15 27.2**	**+1.0**
	baz=27									
PEA0B	**Petropavlovsk-**	**27.46**	**278**	*e*P		**P**		**18 15 26.3**	**+0.1**
PETK	**Petropavlovsk-**	**27.46**	**278**	P		**P**		**18 15 26.8**	**+0.6**
	comp=Z,56nm,0.6s,baz=69,slow=12,SNR=46									
PETK	**Petropavlovsk-**	**27.46**	**278**	P		**P**		**18 15 26.8**	**+0.6**
PETK	**Petropavlovsk-**	**27.46**	**278**	P		**P**		**18 15 26.8**	**+0.6**
A19A	**Klindworth Far**	**27.50**	**93**	⇑P		**P**		**18 15 27.4**	**+0.7**
	baz=27,SNR=13									
A19A				⇑P		**P**		**18 15 27.4**	**+0.7**
	baz=27,SNR=13									
EGMT	**Eagleton**	**27.57**	**95**	*e*P		**P**		**18 15 28.3**	**+1.0**
	comp=Z,419nm,1.0s									
EGMT				*e*pP		**pP**		**18 15 49.8**	**+0.2**
EGMT	**Eagleton**	**27.57**	**95**	⇑P		**P**		**18 15 28.0**	**+0.6**
	baz=27,SNR=19									
EGMT				⇑P		**P**		**18 15 28.0**	**+0.6**
	baz=27,SNR=19									
FFC	**Flin Flon**	**27.58**	**77**	*i* P		**P**		**18 15 28.7**	**+1.5**
FFC	**Flin Flon**	**27.58**	**77**	*e*P		**P**		**18 15 27.7**	**+0.5**
	comp=Z,170nm,1.1s									
E16A	**East Helena**	**27.61**	**100**	⇓P		**P**		**18 15 29.0**	**+1.3**
	baz=27,SNR=19									
E16A				⇓P		**P**		**18 15 29.0**	**+1.3**
	baz=27,SNR=19									
G14A	**Jackson**	**27.62**	**103**	⇑P		**P**		**18 15 29.2**	**+1.3**
	baz=27,SNR=12									
G14A				⇑P		**P**		**18 15 29.2**	**+1.3**
	baz=27,SNR=12									
F15A	**Butte**	**27.68**	**101**	⇓P		**P**		**18 15 29.7**	**+1.3**
	baz=27,SNR=10									
F15A				⇓P		**P**		**18 15 29.7**	**+1.3**
	baz=27,SNR=10									
D17A	**Six Diamond Ra**	**27.68**	**98**	⇓P		**P**		**18 15 29.1**	**+0.7**
	baz=27,SNR=14									
D17A				⇓P		**P**		**18 15 29.1**	**+0.7**
	baz=27,SNR=14									
B19A	**Brinkman Farms**	**27.71**	**94**	⇑P		**P**		**18 15 29.4**	**+0.9**
	baz=28,SNR=18									
B19A				⇑P		**P**		**18 15 29.4**	**+0.9**
	baz=28,SNR=18									
LRM	**Limekiln Ridge**	**27.71**	**101**	*e*P		**P**		**18 15 29.4**	**+0.6**
	comp=Z,3µm,1.4s									
LRM				*e*pP		**pP**		**18 15 51.5**	**+0.5**
H13A	**Challis**	**27.71**	**105**	⇑P		**P**		**18 15 29.8**	**+1.1**
	baz=28,SNR=52									
H13A				⇑P		**P**		**18 15 29.8**	**+1.1**
	baz=28,SNR=52									
MFID	**Camas Ranch**	**27.80**	**109**	*e*P		**P**		**18 15 30.6**	**+1.1**
	comp=Z,301nm,1.4s									
MFID				*e*pP		**pP**		**18 15 51.8**	**+0.1**
MFID	**Camas Ranch**	**27.80**	**109**	⇓P		**P**		**18 15 30.5**	**+1.1**
	baz=28,SNR=24									
MFID				⇓P		**P**		**18 15 30.5**	**+1.1**
	baz=28,SNR=24									
I12A	**Atlanta**	**27.85**	**107**	⇑P		**P**		**18 15 31.4**	**+1.4**
	baz=28									
I12A				⇑P		**P**		**18 15 31.4**	**+1.4**
	baz=28									
A20A	**Cobblestone Ra**	**27.95**	**92**	⇓P		**P**		**18 15 31.7**	**+1.0**
	baz=28									
A20A				⇓P		**P**		**18 15 31.7**	**+1.0**
	baz=28									
A20A				⇑pP		**pP**		**18 15 53.1**	**+0.2**
	baz=28,SNR=18									
A20A				⇑pP		**pP**		**18 15 53.1**	**+0.2**
	baz=28,SNR=18									
DLMT	**Dillon**	**27.96**	**102**	*e*P		**P**		**18 15 30.8**	**-0.1**
	comp=Z,444nm,1.4s									
DLMT				*e*pP		**pP**		**18 15 53.8**	**+0.7**
HOPS	**Hopland**	**28.01**	**124**	*e*P		**P**		**18 15 28.6**	**-2.6**
	comp=Z,47nm,1.3s									
HOPS				*e*pP		**pP**		**18 15 55.0**	**+1.6**
E17A	**Martinsdale**	**28.07**	**99**	⇓P		**P**		**18 15 33.1**	**+1.2**
	baz=28									
E17A				⇓P		**P**		**18 15 33.1**	**+1.2**
	baz=28									
E17A				⇑pP		**pP**		**18 15 54.9**	**+0.8**
	baz=28,SNR=9.0									
E17A				⇑pP		**pP**		**18 15 54.9**	**+0.8**
	baz=28,SNR=9.0									
D18A	**Linhart Farms,**	**28.10**	**97**	⇑P		**P**		**18 15 33.2**	**+1.1**
	baz=28									
D18A				⇑P		**P**		**18 15 33.2**	**+1.1**
	baz=28									
D18A				⇑pP		**pP**		**18 15 54.9**	**+0.6**
	baz=28,SNR=15									
D18A				⇑pP		**pP**		**18 15 54.9**	**+0.6**
	baz=28,SNR=15									
H14A	**Leadore**	**28.11**	**104**	⇓P		**P**		**18 15 33.7**	**+1.4**
	baz=28,SNR=16									
H14A				⇓P		**P**		**18 15 33.7**	**+1.4**
	baz=28,SNR=16									
C19A	**Slack Wire Ran**	**28.12**	**95**	⇑P		**P**		**18 15 33.6**	**+1.4**
	baz=28,SNR=21									
C19A				⇑P		**P**		**18 15 33.6**	**+1.4**
	baz=28,SNR=21									
F16A	**Kennard Place,**	**28.15**	**101**	⇓P		**P**		**18 15 33.8**	**+1.2**
	baz=28									
F16A				⇓P		**P**		**18 15 33.8**	**+1.2**
	baz=28									
F16A				⇓pP		**pP**		**18 15 55.1**	**+0.3**
	baz=28,SNR=10									
F16A				⇓pP		**pP**		**18 15 55.1**	**+0.3**
	baz=28,SNR=10									
G15A	**Dillon**	**28.16**	**102**	⇓P		**P**		**18 15 34.1**	**+1.4**
	baz=28,SNR=18									
G15A				⇓P		**P**		**18 15 34.1**	**+1.4**
	baz=28,SNR=18									
B20A	**Solberg Farm,**	**28.19**	**93**	⇑pP		**pP**		**18 15 54.9**	**-0.1**
	baz=28,SNR=11									
B20A				⇑pP		pP		18 15 54.9	-0.1
	baz=28,SNR=11									
MCMT	**McKenzie Canyo**	**28.22**	**103**	*e*P		**P**		**18 15 34.3**	**+1.0**
	comp=Z,77nm,1.4s									
MCMT				*e*pP		**pP**		**18 15 55.1**	**-0.5**
BOZ	**Bozeman (W)**	**28.24**	**101**	*e*P		**P**		**18 15 35.4**	**+2.0**
BOZ				*e**PP		**pP**		**18 15 56.6**	**+1.0**
BOZ				pmax		pmax				
	comp=Z,201nm,1.4s									
BOZ	**Bozeman (W)**	**28.24**	**101**	*e*P		**P**		**18 15 35.4**	**+2.0**
	comp=Z,201nm,1.4s									
BOZ				*e*pP		**pP**		**18 15 56.6**	**+1.0**
BOZ	**Bozeman (W)**	**28.24**	**101**	⇓P		**P**		**18 15 35.0**	**+1.6**
	baz=28,SNR=27									
BOZ				⇓P		**P**		**18 15 35.0**	**+1.6**
	baz=28,SNR=27									
BOZ				⇓P		**P**		**18 15 35.0**	**+1.6**
	baz=28,SNR=27									
BOZ				⇓P		**P**		**18 15 35.0**	**+1.6**
	baz=28,SNR=27									
I13A	**Wildhorse Cree**	**28.26**	**106**	⇓P		**P**		**18 15 34.9**	**+1.3**
	baz=28,SNR=26									
I13A				⇓P		**P**		**18 15 34.9**	**+1.3**
	baz=28,SNR=26									
HLID	**Hailey**	**28.37**	**107**	*e*P		**P**		**18 15 35.4**	**+0.8**
	comp=Z,61nm,1.0s									
HLID				*e*pP		**pP**		**18 15 56.3**	**-0.5**
HLID	**Hailey**	**28.37**	**107**	⇑P		**P**		**18 15 36.3**	**+1.7**
	baz=28,SNR=18									
HLID				⇑P		**P**		**18 15 36.3**	**+1.7**
	baz=28,SNR=18									
A21A	**Bergtoll Ranch**	**28.39**	**91**	⇓P		**P**		**18 15 35.8**	**+1.3**
	baz=28,SNR=10									
A21A				⇓P		**P**		**18 15 35.8**	**+1.3**
	baz=28,SNR=10									
G16A	**Moss Hill, Enn**	**28.45**	**102**	⇓P		**P**		**18 15 36.6**	**+1.3**
	baz=28,SNR=29									
G16A				⇓P		**P**		**18 15 36.6**	**+1.3**
	baz=28,SNR=29									
E18A	**Harlowton**	**28.47**	**98**	⇑P		**P**		**18 15 37.0**	**+1.6**
	baz=28,SNR=14									
E18A				⇑P		**P**		**18 15 37.0**	**+1.6**
	baz=28,SNR=14									
H15A	**Lima**	**28.47**	**103**	⇑P		**P**		**18 15 36.8**	**+1.3**
	baz=28,SNR=17									
H15A				⇑P		**P**		**18 15 36.8**	**+1.3**
	baz=28,SNR=17									
F17A	**Fitzpatrick Pl**	**28.55**	**99**	⇓P		**P**		**18 15 38.0**	**+1.8**
	baz=28,SNR=23									
F17A				⇓P		**P**		**18 15 38.0**	**+1.8**
	baz=28,SNR=23									
I14A	**Mackay**	**28.57**	**105**	⇓P		**P**		**18 15 37.9**	**+1.5**
	baz=28,SNR=19									
I14A				⇓P		**P**		**18 15 37.9**	**+1.5**
	baz=28,SNR=19									
D19A	**Cripps Ranch,**	**28.59**	**96**	⇓P		**P**		**18 15 37.2**	**+0.8**
	baz=28,SNR=10									
D19A				⇓P		**P**		**18 15 37.2**	**+0.8**
	baz=28,SNR=10									
J13A	**Cove Ranch, Pi**	**28.61**	**107**	⇓P		**P**		**18 15 38.6**	**+1.9**
	baz=28,SNR=9.6									
J13A				⇓P		**P**		**18 15 38.6**	**+1.9**
	baz=28,SNR=9.6									
C20A	**Veseth Ranch,**	**28.67**	**94**	⇑P		**P**		**18 15 38.4**	**+1.4**
	baz=28,SNR=7.2									
C20A				⇑P		**P**		**18 15 38.4**	**+1.4**
	baz=28,SNR=7.2									
C20A				⇑pP		**pP**		**18 15 59.7**	**+0.4**
	baz=28,SNR=8.6									
C20A				⇑pP		**pP**		**18 15 59.7**	**+0.4**
	baz=28,SNR=8.6									
B21A	**Ellsworth Farm**	**28.70**	**92**	⇓pP		**pP**		**18 15 59.8**	**+0.2**
	baz=28,SNR=8.9									
B21A				⇓pP		pP		18 15 59.8	+0.2
	baz=28,SNR=8.9									
MCCM	**Marconi Confer**	**28.81**	**125**	P		**P**		**18 15 39.2**	**+1.0**
	comp=Z,223nm,1.3s									
MCCM				*e*pP		**pP**		**18 16 01.8**	**+1.3**
A22A	**Carney Farms,**	**28.90**	**90**	⇑pP		**pP**		**18 16 02.1**	**+0.7**
	baz=29,SNR=13									
A22A				⇑pP		pP		18 16 02.1	+0.7
	baz=29,SNR=13									
G17A	**Pierce Place,**	**28.92**	**100**	⇓pP		**pP**		**18 16 02.7**	**+1.0**
	baz=29,SNR=11									
G17A				⇓pP		pP		18 16 02.7	+1.0
	baz=29,SNR=11									
QLMT	**Earthquake Lak**	**28.92**	**102**	*e*P		**P**		**18 15 41.6**	**+2.1**
	comp=Z,61nm,1.3s									
QLMT				*e*pP		**pP**		**18 16 02.8**	**+1.0**
J14A	**Carey**	**28.99**	**106**	⇓P		**P**		**18 15 42.1**	**+2.0**
	baz=29									
J14A				⇓P		**P**		**18 15 42.1**	**+2.0**
	baz=29									
I15A	**Monteview**	**29.00**	**104**	⇑pP		**pP**		**18 16 03.0**	**+0.6**
	baz=29,SNR=9.1									
I15A				⇑pP		pP		18 16 03.0	+0.6
	baz=29,SNR=9.1									
D20A	**Manuel Ranch,**	**29.02**	**95**	⇓P		**P**		**18 15 41.6**	**+1.5**
	baz=29									
D20A				⇓P		**P**		**18 15 41.6**	**+1.5**
	baz=29									
D20A				⇑pP		**pP**		**18 16 02.9**	**+0.5**
	baz=29,SNR=7.2									
D20A				⇑pP		**pP**		**18 16 02.9**	**+0.5**
	baz=29,SNR=7.2									
F18A	**Big Timber**	**29.02**	**99**	⇑P		**P**		**18 15 42.4**	**+2.1**
	baz=29,SNR=14									
F18A				⇑P		**P**		**18 15 42.4**	**+2.1**
	baz=29,SNR=14									
C21A	**Desert Coulee**	**29.05**	**93**	⇓P		**P**		**18 15 41.4**	**+0.9**
	baz=29,SNR=5.1									
C21A				⇓P		**P**		**18 15 41.4**	**+0.9**
	baz=29,SNR=5.1									
C21A				⇑pP		**pP**		**18 16 03.2**	**+0.5**
	baz=29,SNR=7.4									
C21A				⇑pP		**pP**		**18 16 03.2**	**+0.5**
	baz=29,SNR=7.4									
H16A	**Russell Place,**	**29.10**	**102**	⇓P		**P**		**18 15 42.8**	**+1.7**
	baz=29,SNR=42									
H16A				⇓P		**P**		**18 15 42.8**	**+1.7**
	baz=29,SNR=42									
E19A	**Rath Farm, Rou**	**29.11**	**97**	⇑P		**P**		**18 15 42.3**	**+1.3**
	baz=29,SNR=20									
E19A				⇑P		**P**		**18 15 42.3**	**+1.3**
	baz=29,SNR=20									
GCMT	**Greycliff**	**29.13**	**99**	*e*P		**P**		**18 15 43.7**	**+2.5**
	comp=Z,548nm,1.4s									
GCMT				*e*pP		**pP**		**18 16 05.3**	**+1.8**
WCN	**Washoe City**	**29.20**	**119**	*e*P		**P**		**18 15 42.9**	**+0.9**
WCN				*e**PP		**pP**		**18 16 05.6**	**+1.4**
WCN				pmax		pmax				
	comp=Z,322nm,1.0s									
WCN	**Washoe City**	**29.20**	**119**	*e*P		**P**		**18 15 42.9**	**+0.9**
	comp=Z,322nm,1.0s									
WCN				*e*pP		**pP**		**18 16 05.6**	**+1.4**
WCN	**Washoe City**	**29.20**	**119**	⇑P		**P**		**18 15 43.4**	**+1.4**
	baz=29,SNR=13									
WCN				⇑P		**P**		**18 15 43.4**	**+1.4**
	baz=29,SNR=13									
WCN				⇑pP		**pP**		**18 16 05.5**	**+1.2**
	baz=29,SNR=14									
WCN				⇑pP		**pP**		**18 16 05.5**	**+1.2**
	baz=29,SNR=14									
YMR	**Madison River**	**29.27**	**102**	*e*P		**P**		**18 15 44.5**	**+2.0**
	comp=Z,778nm,1.3s									
YMR				*e*pP		**pP**		**18 16 06.1**	**+1.2**
B22A	**Reddig Ranch S**	**29.31**	**91**	⇑pP		**pP**		**18 16 05.4**	**+0.5**
	baz=29,SNR=6.9									
B22A				⇑pP		pP		18 16 05.4	+0.5
	baz=29,SNR=6.9									
**YNR

B23A ⇓P P 18 15 47.1 +0.9
baz=30
B23A ⇑pP pP 18 16 08.7 +0.2
baz=30,SNR=8.2
B23A ⇑pP pP 18 16 08.7 +0.2
baz=30,SNR=8.2
C22A Vida 29.73 92 ⇓P P 18 15 47.6 +1.3
baz=30
C22A ⇓P P 18 15 47.6 +1.3
baz=30
K14A Jones Ranch, D 29.73 107 ⇑P P 18 15 48.6 +2.0
baz=30,SNR=13
K14A ⇑P P 18 15 48.6 +2.0
baz=30,SNR=13
RLMT Red Lodge 29.80 99 *e*P P 18 15 48.5 +1.3
comp=Z,262nm,0.6s
RLMT *ep*P pP 18 16 11.7 +2.1
RLMT Red Lodge 29.80 99 ⇑P P 18 15 49.5 +2.2
baz=30,SNR=34
RLMT ⇑P P 18 15 49.5 +2.2
baz=30,SNR=34
RLMT ⇑P P 18 15 49.5 +2.2
baz=30,SNR=34
RLMT ⇑P P 18 15 49.5 +2.2
baz=30,SNR=34
FLWY Flagg Ranch 29.82 102 *e*P P 18 15 49.8 +2.3
comp=Z,934nm,1.5s
FLWY *ep*P pP 18 16 10.2 +0.4
F20A Billings 29.89 97 ⇓P P 18 15 49.5 +1.6
baz=30,SNR=17
F20A ⇓P P 18 15 49.5 +1.6
baz=30,SNR=17
H18A Shoshone NF, C 29.91 100 ⇓P P 18 15 49.9 +1.6
baz=30,SNR=17
H18A ⇓P P 18 15 49.9 +1.6
baz=30,SNR=17
A24A Westby 29.92 89 ⇓pP pP 18 16 11.0 +0.6
baz=30,SNR=8.4
A24A ⇓pP pP 18 16 11.0 +0.6
baz=30,SNR=8.4
DCID1 Drake Creek 29.94 103 *e*P P 18 15 50.6 +2.1
comp=Z,390nm,1.2s
DCID1 *ep*P pP 18 16 12.8 +2.0
K15A Arbon 29.95 106 ⇑P P 18 15 50.9 +2.4
baz=30,SNR=22
K15A ⇑P P 18 15 50.9 +2.4
baz=30,SNR=22
J16A Bone 29.96 104 ⇑P P 18 15 50.8 +2.1
baz=30,SNR=20
J16A ⇑P P 18 15 50.8 +2.1
baz=30,SNR=20
CMB Columbia Colle 29.97 121 *e*P P 18 15 49.1 +0.5
CMB *e**PP pP 18 16 12.3 +1.4
CMB pmax pmax
comp=Z,230nm,1.4s
CMB Columbia Colle 29.97 121 *e*P P 18 15 49.1 +0.5
comp=Z,230nm,1.4s
CMB *ep*P pP 18 16 12.3 +1.4
D22A Cohagen 29.97 93 ⇑P P 18 15 50.1 +1.5
baz=30,SNR=14
D22A ⇑P P 18 15 50.1 +1.5
baz=30,SNR=14
I17A Pilgrim Ck. 30.00 102 ⇓P P 18 15 51.7 +2.7
baz=30,SNR=22
I17A ⇓P P 18 15 51.7 +2.7
baz=30,SNR=22
MOOW Moose Ponds 30.04 103 *e*P P 18 15 51.4 +2.0
comp=Z,234nm,1.5s
MOOW *ep*P pP 18 16 13.2 +1.4
C23A Lambert 30.04 91 ⇓P P 18 15 49.9 +0.7
baz=30,SNR=11
C23A ⇓P P 18 15 49.9 +0.7
baz=30,SNR=11
RRI2 Red Ridge 30.05 104 *e*P P 18 15 51.0 +1.4
comp=Z,273nm,1.5s
RRI2 *ep*P pP 18 16 12.4 +0.5
L14A Malta 30.09 108 ⇑P P 18 15 51.8 +2.1
baz=30,SNR=15
L14A ⇑P P 18 15 51.8 +2.1
baz=30,SNR=15
DGMT Dagmar 30.11 90 *e*P P 18 15 49.7 -0.1
comp=Z,198nm,1.2s
DGMT *ep*P pP 18 16 11.8 -0.3
DGMT Dagmar 30.11 90 ⇑P P 18 15 50.3 +0.5
baz=30
DGMT ⇑P P 18 15 50.3 +0.5
baz=30
DGMT ⇑pP pP 18 16 12.4 +0.3
baz=30,SNR=6.2
DGMT ⇑pP pP 18 16 12.4 +0.3
baz=30,SNR=6.2
TPAW Teton Pass 30.13 103 *e*P P 18 15 52.2 +2.0
comp=Z,368nm,1.2s
TPAW *ep*P pP 18 16 13.9 +1.3
LOHW Long Hollow 30.21 103 *e*P P 18 15 52.7 +1.7
comp=Z,294nm,1.2s
LOHW *ep*P pP 18 16 14.7 +1.4
SNOW Snow King Moun 30.25 103 *e*P P 18 15 53.6 +2.3
comp=Z,180nm,1.0s
SNOW *ep*P pP 18 16 13.1 -0.5
H19A Powell 30.26 100 ⇓P P 18 15 53.5 +2.3
baz=30,SNR=15
H19A ⇓P P 18 15 53.5 +2.3
baz=30,SNR=15
G20A Bridger 30.26 98 ⇓P P 18 15 52.7 +1.4
baz=30,SNR=12
G20A ⇓P P 18 15 52.7 +1.4
baz=30,SNR=12
REDW Red Top Meadow 30.27 103 *e*P P 18 15 53.4 +1.9
comp=Z,434nm,1.3s
REDW *ep*P pP 18 16 15.7 +1.9
K16A Soda Springs 30.30 105 ⇑pP pP 18 16 14.8 +0.8
baz=30,SNR=6.1
K16A ⇑pP pP 18 16 14.8 +0.8
baz=30,SNR=6.1
J17A Brown Place, J 30.34 103 ⇓P P 18 15 54.2 +2.2
baz=30,SNR=15
J17A ⇓P P 18 15 54.2 +2.2
baz=30,SNR=15
F21A Absaloka Mine, 30.39 96 ⇓pP pP 18 16 15.3 +0.6
baz=30,SNR=8.9
F21A ⇓pP pP 18 16 15.3 +0.6
baz=30,SNR=8.9
D23A Lindsay 30.45 92 ⇑P P 18 15 54.2 +1.4
baz=30,SNR=7.2
D23A ⇑P P 18 15 54.2 +1.4
baz=30,SNR=7.2
D23A ⇓pP pP 18 16 15.8 +0.6
baz=30,SNR=5.8
D23A ⇓pP pP 18 16 15.8 +0.6
baz=30,SNR=5.8
HVU Hansel Valley 30.51 107 *e*P P 18 15 55.0 +1.5
HVU *e**PP pP 18 16 17.6 +1.8
HVU pmax pmax
comp=Z,334nm,1.5s
HVU Hansel Valley 30.51 107 *e*P P 18 15 55.0 +1.5
comp=Z,334nm,1.5s
HVU *ep*P pP 18 16 17.6 +1.8
L15A Malad City 30.53 107 ⇑P P 18 15 55.5 +1.8
baz=30,SNR=22
L15A ⇑P P 18 15 55.5 +1.8
baz=30,SNR=22
I18A Diamond G Ranc 30.54 102 ⇑P P 18 15 55.8 +1.9
baz=30,SNR=16
I18A ⇑P P 18 15 55.8 +1.9
baz=30,SNR=16
NVAR Mina Array Bea 30.56 118 P P 18 15 55.5 +1.5
comp=Z,9.9nm,0.8s,baz=310,slow=9.2,SNR=37
NVAR ScP ScP 18 22 24.4 +1.1
comp=Z,1.3nm,0.6s,baz=274,slow=2.6,SNR=3.6
NVAR LR LR 18 26 35.7
comp=Z,1μm,20.9s,baz=42,slow=33
NVAR Mina Array Bea 30.56 118 P P 18 15 55.5 +1.5
NVAR ScP ScP 18 22 24.4 +1.1
E22A Miles City 30.57 94 ⇓P P 18 15 55.3 +1.5
baz=30,SNR=6.5
E22A ⇓P P 18 15 55.3 +1.5
baz=30,SNR=6.5
SAO San Andreas Ge 30.58 124 *e*P P 18 15 51.8 -2.1
SAO *e**PP pP 18 16 14.9 -1.4
SAO pmax pmax
comp=Z,77nm,1.2s
SAO San Andreas Ge 30.58 124 *e*P P 18 15 51.8 -2.1
comp=Z,77nm,1.2s
SAO *ep*P pP 18 16 14.9 -1.4
C24A Savage 30.61 91 ⇓P P 18 15 55.9 +1.7
baz=30,SNR=6.2
C24A ⇓P P 18 15 55.9 +1.7
baz=30,SNR=6.2
C24A ⇑pP pP 18 16 17.6 +1.1
baz=30,SNR=7.4
C24A ⇑pP pP 18 16 17.6 +1.1
baz=30,SNR=7.4
I19A Meeteetse 30.71 100 ⇓P P 18 15 57.7 +2.4
baz=30,SNR=18
I19A ⇓P P 18 15 57.7 +2.4
baz=30,SNR=18
G21A Lodge Grass 30.76 97 ⇑P P 18 15 56.9 +1.2
baz=30,SNR=13
G21A ⇑P P 18 15 56.9 +1.2
baz=30,SNR=13
J18A Kendall Valley 30.80 103 ⇓P P 18 15 57.9 +1.8
baz=30,SNR=34
J18A ⇓P P 18 15 57.9 +1.8
baz=30,SNR=34
F22A Rosebud 30.86 95 ⇑P P 18 15 57.8 +1.4
baz=31,SNR=5.0
F22A ⇑P P 18 15 57.8 +1.4
baz=31,SNR=5.0
F22A ⇓pP pP 18 16 19.1 +0.3
baz=31,SNR=6.7
F22A ⇓pP pP 18 16 19.1 +0.3
baz=31,SNR=6.7
H20A Greybull 30.89 99 ⇑P P 18 15 58.2 +1.5
baz=31,SNR=12
H20A ⇑P P 18 15 58.2 +1.5
baz=31,SNR=12
H20A ⇓pP pP 18 16 19.4 +0.3
baz=31,SNR=8.8
H20A ⇓pP pP 18 16 19.4 +0.3
baz=31,SNR=8.8
M15A Larsen Ranch, 30.91 108 ⇓P P 18 15 58.8 +1.8
baz=31,SNR=17
M15A ⇓P P 18 15 58.8 +1.8
baz=31,SNR=17
D24A Glendive 30.93 92 ⇑P P 18 15 59.1 +2.1
baz=31
D24A ⇑P P 18 15 59.1 +2.1
baz=31
MLAC Mammoth Lakes 30.98 120 ⇑P P 18 16 00.2 +2.4
baz=31
MLAC ⇑P P 18 16 00.2 +2.4
baz=31
MLAC ⇓pP pP 18 16 22.5 +2.4
baz=31,SNR=7.0
MLAC ⇓pP pP 18 16 22.5 +2.4
baz=31,SNR=7.0
L16A Fish Haven 30.99 106 ⇓P P 18 16 00.1 +2.3
baz=31,SNR=13
L16A ⇓P P 18 16 00.1 +2.3
baz=31,SNR=13
L17A Cokeville 31.20 105 ⇑P P 18 16 01.7 +2.1
baz=31
L17A ⇑P P 18 16 01.7 +2.1
baz=31
I20A Worland 31.20 100 ⇑P P 18 16 01.3 +1.7
baz=31,SNR=8.9
I20A ⇑P P 18 16 01.3 +1.7
baz=31,SNR=8.9
K18A Toltan Ranch, 31.21 103 ⇓P P 18 16 02.1 +2.4
baz=31,SNR=13
K18A ⇓P P 18 16 02.1 +2.4
baz=31,SNR=13
HWUT Hardware Ranch 31.23 106 *e*P P 18 16 01.6 +1.8
comp=Z,102nm,0.9s
HWUT *ep*P pP 18 16 22.5 +0.3
G22A Birney 31.23 96 ⇓P P 18 16 01.4 +1.6
baz=31
G22A ⇓P P 18 16 01.4 +1.6
baz=31
G22A ⇑pP pP 18 16 22.4 +0.3
baz=31,SNR=9.4
G22A ⇑pP pP 18 16 22.4 +0.3
baz=31,SNR=9.4
J19A Crowheart 31.24 102 ⇓pP pP 18 16 23.4 +1.1
baz=31,SNR=7.1
J19A ⇓pP pP 18 16 23.4 +1.1
baz=31,SNR=7.1
H21A Big Horn, Sher 31.27 98 ⇑P P 18 16 01.6 +1.5
baz=31,SNR=15
H21A ⇑P P 18 16 01.6 +1.5
baz=31,SNR=15
N15A Stansbury Isla 31.31 108 ⇑P P 18 16 02.6 +2.1
baz=31,SNR=5.7
N15A ⇑P P 18 16 02.6 +2.1
baz=31,SNR=5.7
E24A Baker 31.32 92 ⇑P P 18 16 02.2 +1.7
baz=31,SNR=6.4
E24A ⇑P P 18 16 02.2 +1.7
baz=31,SNR=6.4
PD01 Pinedale Array 31.33 103 *e*P P 18 16 02.0 +1.2
PD01 *ep*P pP 18 16 24.2 +1.0
F23A Volborg 31.33 95 ⇓P P 18 16 01.8 +1.2
baz=31,SNR=12
F23A ⇓P P 18 16 01.8 +1.2
baz=31,SNR=12
PD02 Pinedale Array 31.34 103 *e*P P 18 16 02.0 +1.1
PD02 *ep*P pP 18 16 23.7 +0.5
BW06 Boulder Array 31.35 103 *e*P P 18 16 02.1 +1.2
comp=Z,284nm,0.5s
BW06 *ep*P pP 18 16 24.3 +0.9
BW06 Boulder Array 31.35 103 ⇑P P 18 16 02.4 +1.4
baz=31,SNR=30
BW06 ⇑P P 18 16 02.4 +1.4
baz=31,SNR=30
BW06 ⇑P P 18 16 02.4 +1.4
baz=31,SNR=30
BW06 ⇑P P 18 16 02.4 +1.4
baz=31,SNR=30
PDAR Pinedale Array 31.35 103 P P 18 16 02.4 +1.4
comp=Z,4.9nm,0.7s,baz=327,slow=4.0,SNR=34
PDAR ScP ScP 18 22 25.5 -0.4
comp=Z,2.2nm,0.9s,baz=345,slow=2.8,SNR=3.1
PDAR LR LR 18 30 33.3
comp=Z,683nm,18.3s,baz=338,slow=40
PDAR Pinedale Array 31.35 103 P P 18 16 02.4 +1.4
PDAR ScP ScP 18 22 25.5 -0.4
M16A Huntsville 31.42 107 ⇑P P 18 16 03.7 +2.2
baz=31
M16A ⇑P P 18 16 03.7 +2.2
baz=31
ALE Alert 31.54 15 P P 18 16 01.2 -0.8
comp=Z,395nm,1.1s,SNR=33
H22A Clearmont 31.64 97 ⇑P P 18 16 04.9 +1.5
baz=31
H22A ⇑P P 18 16 04.9 +1.5
baz=31
H22A ⇓pP pP 18 16 26.3 +0.5
baz=31,SNR=6.3
H22A ⇓pP pP 18 16 26.3 +0.5
baz=31,SNR=6.3
J20A Shoshoni 31.66 100 ⇓P P 18 16 05.7 +2.1
baz=31,SNR=29
J20A ⇓P P 18 16 05.7 +2.1
baz=31,SNR=29
K19A Absolon Red Bu 31.66 102 ⇑P P 18 16 05.1 +1.4
baz=31,SNR=22
K19A ⇑P P 18 16 05.1 +1.4
baz=31,SNR=22
G23A Biddle 31.70 95 ⇑P P 18 16 05.1 +1.3
baz=32,SNR=5.8
G23A ⇑P P 18 16 05.1 +1.3
baz=32,SNR=5.8
G23A ⇓pP pP 18 16 26.9 +0.7
baz=32,SNR=5.3
G23A ⇓pP pP 18 16 26.9 +0.7
baz=32,SNR=5.3
DUG Dugway 31.71 109 *e*P P 18 16 05.2 +1.2
DUG *e**PP pP 18 16 27.7 +1.2
DUG pmax pmax
comp=Z,253nm,1.5s
DUG Dugway 31.71 109 *e*P P 18 16 05.2 +1.2
comp=Z,253nm,1.5s
DUG *ep*P pP 18 16 27.7 +1.2
DUG Dugway 31.71 109 ⇑P P 18 16 05.4 +1.3
baz=32,SNR=25
DUG ⇑P P 18 16 05.4 +1.3
baz=32,SNR=25
I21A Big Trails, Te 31.72 99 ⇑P P 18 16 05.4 +1.3
baz=32,SNR=14
I21A ⇑P P 18 16 05.4 +1.3
baz=32,SNR=14
TIN Tinemaha 31.73 120 ⇓P P 18 16 06.2 +2.0
baz=32
TIN ⇓P P 18 16 06.2 +2.0
baz=32
TIN ⇓pP pP 18 16 28.6 +2.0
baz=32,SNR=7.1
TIN ⇓pP pP 18 16 28.6 +2.0
baz=32,SNR=7.1
F24A Ekalaka 31.73 94 ⇓P P 18 16 05.6 +1.5
baz=32,SNR=12
F24A ⇓P P 18 16 05.6 +1.5
baz=32,SNR=12
L18A Fontenelle, Gr 31.74 104 ⇑P P 18 16 05.4 +1.0
baz=32,SNR=6.2
L18A ⇑P P 18 16 05.4 +1.0
baz=32,SNR=6.2
R11A Troy Canyon, C 31.87 115 ⇑P P 18 16 06.7 +1.2
baz=32,SNR=40
R11A ⇑P P 18 16 06.7 +1.2
baz=32,SNR=40
L19A Farson 31.94 103 ⇑P P 18 16 07.5 +1.4
baz=32,SNR=10
L19A ⇑P P 18 16 07.5 +1.4
baz=32,SNR=10
J21A Lysite 31.98 100 ⇓P P 18 16 08.3 +1.9
baz=32,SNR=12
J21A ⇓P P 18 16 08.3 +1.9
baz=32,SNR=12
K20A Yellowstone Ra 32.04 102 ⇑P P 18 16 07.9 +1.0
baz=32
K20A ⇑P P 18 16 07.9 +1.0
baz=32
JLU Jordanelle 32.05 107 *e*P P 18 16 08.3 +1.1
comp=Z,241nm,1.6s
JLU *ep*P pP 18 16 31.1 +1.5
I22A 9 Mile Ranch, 32.07 98 ⇑P P 18 16 09.0 +1.8
baz=32
I22A ⇑P P 18 16 09.0 +1.8
baz=32
N17A Moffit Pass 32.09 106 ⇑P P 18 16 09.1 +1.6
baz=32,SNR=18
N17A ⇑P P 18 16 09.1 +1.6
baz=32,SNR=18
G24A Alzada 32.11 94 ⇓pP pP 18 16 30.3 +0.5
baz=32,SNR=5.5
G24A ⇓pP pP 18 16 30.3 +0.5
baz=32,SNR=5.5
H23A Clabaugh Cattl 32.14 96 ⇑P P 18 16 08.9 +1.2
baz=32
H23A ⇑P P 18 16 08.9 +1.2
baz=32
GRAC Grapevine Rang 32.16 118 ⇑P P 18 16 09.8 +2.0
baz=32,SNR=9.9
GRAC ⇑P P 18 16 09.8 +2.0
baz=32,SNR=9.9
DAU Daniels Canyon 32.29 107 *e*P P 18 16 11.2 +1.9
DAU *e**PP pP 18 16 33.1 +1.3
DAU pmax pmax
comp=Z,120nm,1.2s
DAU Daniels Canyon 32.29 107 *e*P P 18 16 11.2 +1.9
comp=Z,120nm,1.2s
DAU *ep*P pP 18 16 33.1 +1.3
CWC Cottonwood Cre 32.31 120 ⇑P P 18 16 10.9 +1.6
baz=32,SNR=20
CWC ⇑P P 18 16 10.9 +1.6
baz=32,SNR=20
O16A Springville 32.33 108 ⇑P P 18 16 11.5 +2.0
baz=32
O16A ⇑P P 18 16 11.5 +2.0
baz=32
VES Vestal, Richgr 32.37 122 ⇓P P 18 16 10.7 +1.1
baz=32,SNR=6.9
VES ⇓P P 18 16 10.7 +1.1
baz=32,SNR=6.9
VES ⇑pP pP 18 16 33.1 +1.0
baz=32,SNR=9.5
VES ⇑pP pP 18 16 33.1 +1.0
baz=32,SNR=9.5
MPU Maple Canyon 32.42 108 *e*P P 18 16 11.8 +1.5
comp=Z,82nm,1.0s
MPU *ep*P pP 18 16 34.0 +1.3
J22A Midwest 32.42 99 ⇑P P 18 16 11.5 +1.2
baz=32,SNR=14
J22A ⇑P P 18 16 11.5 +1.2
baz=32,SNR=14
SMMC Simmler 32.43 124 ⇑P P 18 16 12.0 +1.7
baz=32
SMMC ⇑P P 18 16 12.0 +1.7
baz=32
H24A Dirks Ranch, A 32.44 95 ⇑P P 18 16 11.4 +1.0
baz=32,SNR=13
H24A ⇑P P 18 16 11.4 +1.0
baz=32,SNR=13
P15A Leamington 32.45 110 ⇑P P 18 16 12.0 +1.4
baz=32,SNR=6.1
P15A ⇑P P 18 16 12.0 +1.4
baz=32,SNR=6.1
P15A ⇑pP pP 18 16 33.9 +0.9
baz=32,SNR=5.4
P15A ⇑pP pP 18 16 33.9 +0.9
baz=32,SNR=5.4
L20A Wamsutter 32.52 102 ⇑P P 18 16 12.2 +1.0
baz=32
L20A ⇑P P 18 16 12.2 +1.0
baz=32
L20A ⇑pP pP 18 16 33.9 +0.2
baz=32,SNR=7.1
L20A ⇑pP pP 18 16 33.9 +0.2
baz=32,SNR=7.1
K21A Alcova 32.60 101 ⇓P P 18 16 12.8 +0.9
baz=32,SNR=21
K21A ⇓P P 18 16 12.8 +0.9
baz=32,SNR=21
O17A Robinson Place 32.71 107 ⇑P P 18 16 15.0 +2.1
baz=32,SNR=12
O17A ⇑P P 18 16 15.0 +2.1
baz=32,SNR=12
R13A O'Grain Ranch, 32.75 113 ⇑P P 18 16 14.6 +1.4
baz=32,SNR=10
R13A ⇑P P 18 16 14.6 +1.4
baz=32,SNR=10
ISA Isabella 32.79 121 *e*P P 18 16 13.7 +0.3
ISA *e**PP pP 18 16 37.2 +1.3
ISA pmax pmax
comp=Z,198nm,1.1s
ISA Isabella 32.79 121 *e*P P 18 16 13.7 +0.3
comp=Z,198nm,1.1s
ISA *ep*P pP 18 16 37.2 +1.3
ISA Isabella 32.79 121 ⇓P P 18 16 14.4 +1.0
baz=33,SNR=22
ISA ⇓P P 18 16 14.4 +1.0
baz=33,SNR=22
FURC Furnace Creek, 32.83 118 ⇓P P 18 16 15.4 +1.8
baz=33,SNR=22
FURC ⇓P P 18 16 15.4 +1.8
baz=33,SNR=22
MDND Maddock 32.85 87 ⇓P P 18 16 15.0 +1.2
baz=33
MDND ⇓P P 18 16 15.0 +1.2
baz=33
MDND ⇑pP pP 18 16 36.9 +0.7
baz=33,SNR=6.8
MDND ⇑pP pP 18 16 36.9 +0.7
baz=33,SNR=6.8
PKM Peak Mountain 32.86 124 ⇓P P 18 16 15.8 +1.6
baz=33,SNR=22
PKM ⇓P P 18 16 15.8 +1.6
baz=33,SNR=22
MPMC Manual Prospec 32.89 120 ⇓P P 18 16 15.9 +1.5
baz=33,SNR=26
MPMC ⇓P P 18 16 15.9 +1.5
baz=33,SNR=26
N19A John Jarvie Ra 32.94 105 ⇑P P 18 16 15.9 +1.1
baz=33,SNR=27
N19A ⇑P P 18 16 15.9 +1.1
baz=33,SNR=27
K22A Casper 32.95 100 ⇓P P 18 16 16.9 +2.0
baz=33,SNR=5.9
K22A ⇓P P 18 16 16.9 +2.0
baz=33,SNR=5.9
M20A Sweetwater, Wa 32.98 103 ⇓P P 18 16 17.0 +1.8
baz=33,SNR=15
M20A ⇓P P 18 16 17.0 +1.8
baz=33,SNR=15
O18A Roosevelt 33.01 106 ⇑P P 18 16 17.5 +2.1
baz=33,SNR=5.6
O18A ⇑P P 18 16 17.5 +2.1
baz=33,SNR=5.6
I24A Kuemmerle Ranc 33.03 96 ⇓P P 18 16 16.6 +1.1
baz=33,SNR=6.2
I24A ⇓P P 18 16 16.6 +1.1

baz=33,SNR=6.2
I24A ⇑pP **pP** **18 16 38.0 -0.1**
baz=33,SNR=7.8
I24A ⇑pP **pP** **18 16 38.0 -0.1**
baz=33,SNR=7.8
L21A **Rawlins** **33.03 101** ⇓P **P** **18 16 16.9 +1.2**
baz=33
L21A ⇓P **P** **18 16 16.9 +1.2**
baz=33
ARVC **Arvin** **33.09 122** ⇑P **P** **18 16 17.3 +1.4**
baz=33
ARVC ⇑P **P** **18 16 17.3 +1.4**
baz=33
ARVC ⇓pP **pP** **18 16 39.2 +0.8**
baz=33,SNR=5.1
ARVC ⇓pP **pP** **18 16 39.2 +0.8**
baz=33,SNR=5.1
RSSD **Black Hills** **33.15 96** *e*P **P** **18 16 18.3 +1.6**
RSSD *e**PP **pP** **18 16 40.0 +0.9**
RSSD pmax pmax
comp=Z,541nm,1.4s
RSSD **Black Hills** **33.15 96** *e*P **P** **18 16 18.3 +1.6**
comp=Z,541nm,1.4s
RSSD *e*pP **pP** **18 16 40.0 +0.9**
TMUT **Trail Mountain** **33.18 109** *e*P **P** **18 16 18.8 +1.7**
comp=Z,99nm,0.9s
TMUT *e*pP **pP** **18 16 40.9 +1.3**
ULM **Lac du Bonnet** **33.20 80** P **P** **18 16 17.9 +1.1**
comp=Z,11nm,0.6s,baz=306,slow=9.1,SNR=17
ULM LR LR 18 29 49.3
comp=Z,985nm,21.3s,baz=86,slow=36
ULM **Lac du Bonnet** **33.20 80** *e*P **P** **18 16 17.3 +0.5**
ULM *e**PP **pP** **18 16 39.6 +0.3**
ULM pmax pmax
comp=Z,131nm,1.1s
ULM **Lac du Bonnet** **33.20 80** P **P** **18 16 17.9 +1.1**
ULM pmax pmax
comp=Z,11nm,0.6s
ULM MLR MLR
comp=Z,985nm,21.3s
ULM **Lac du Bonnet** **33.20 80** *e*P **P** **18 16 17.3 +0.5**
comp=Z,131nm,1.1s
ULM P **P** **18 16 17.9 +1.1**
ULM *e*pP **pP** **18 16 39.6 +0.3**
P17A **Butcher Ranch,** **33.27 108** ⇓P **P** **18 16 18.7 +1.0**
baz=33
P17A ⇓P **P** **18 16 18.7 +1.0**
baz=33
P17A ⇓pP **pP** **18 16 41.2 +1.0**
baz=33,SNR=9.6
P17A ⇓pP **pP** **18 16 41.2 +1.0**
baz=33,SNR=9.6
LRMC **Laurel Mountai** **33.29 120** ⇓P **P** **18 16 19.0 +1.2**
baz=33
LRMC ⇓P **P** **18 16 19.0 +1.2**
baz=33
M21A **Separation Pea** **33.30 102** ⇓P **P** **18 16 19.3 +1.2**
baz=33,SNR=22
M21A ⇓P **P** **18 16 19.3 +1.2**
baz=33,SNR=22
ARUT **Antelope Range** **33.32 113** *e*P **P** **18 16 19.8 +1.7**
ARUT *e**PP **pP** **18 16 42.4 +1.8**
ARUT pmax pmax
comp=Z,391nm,1.4s
ARUT **Antelope Range** **33.32 113** *e*P **P** **18 16 19.8 +1.7**
comp=Z,391nm,1.4s
ARUT *e*pP **pP** **18 16 42.4 +1.8**
RWWY **Rawlins** **33.32 102** *e*P **P** **18 16 19.0 +0.8**
comp=Z,762nm,1.3s
RWWY *e*pP **pP** **18 16 41.8 +1.0**
MSU **Marysvale** **33.34 111** *e*P **P** **18 16 20.2 +1.9**
MSU *e**PP **pP** **18 16 42.7 +1.9**
MSU pmax pmax
comp=Z,393nm,1.3s
MSU **Marysvale** **33.34 111** *e*P **P** **18 16 20.2 +1.9**
comp=Z,393nm,1.3s
MSU *e*pP **pP** **18 16 42.7 +1.9**
MSU *e*ScP **ScP** **18 22 32.3 -0.4**
O19A **Miners Draw (B** **33.42 105** ⇑P **P** **18 16 21.1 +2.1**
baz=33,SNR=14
O19A ⇑P **P** **18 16 21.1 +2.1**
baz=33,SNR=14
N20A **Spence Gulch,** **33.44 104** ⇓P P 18 16 21.9 +2.7
baz=33
N20A ⇓P P 18 16 21.9 +2.7
baz=33
L22A **Ellis Ranch, M** **33.45 100** ⇑P **P** **18 16 21.6 +2.3**
baz=33,SNR=13
L22A ⇑P **P** **18 16 21.6 +2.3**
baz=33,SNR=13
Q16A **Castle Valley** **33.50 109** ⇑P **P** **18 16 21.4 +1.7**
baz=33
Q16A ⇑P **P** **18 16 21.4 +1.7**
baz=33
R15A **Junction** **33.53 111** ⇓P **P** **18 16 21.8 +1.9**
baz=33
R15A ⇓P **P** **18 16 21.8 +1.9**
baz=33
CCUT **Cedar City** **33.55 113** *e*P **P** **18 16 21.5 +1.4**
comp=Z,342nm,1.5s
CCUT *e*pP **pP** **18 16 44.2 +1.5**
SHOC **Shoshone** **33.56 118** ⇓pP **pP** **18 16 44.5 +2.0**
baz=33,SNR=11
SHOC ⇓pP pP 18 16 44.5 +2.0
baz=33,SNR=11
SRU **San Rafael** **33.66 108** *e*P **P** **18 16 22.7 +1.6**
SRU *e**PP **pP** **18 16 45.3 +1.7**
SRU pmax pmax
comp=Z,714nm,1.3s
SRU **San Rafael** **33.66 108** *e*P **P** **18 16 22.6 +1.6**
comp=Z,714nm,1.3s
SRU *e*pP **pP** **18 16 45.2 +1.7**
SRU **San Rafael** **33.66 108** ⇓P **P** **18 16 22.6 +1.5**
baz=33,SNR=96
SRU ⇓P **P** **18 16 22.6 +1.5**
baz=33,SNR=96
EDW2 **Edwards Air Fo** **33.66 121** ⇑P **P** **18 16 22.4 +1.5**
baz=33,SNR=11
EDW2 ⇑P **P** **18 16 22.4 +1.5**
baz=33,SNR=11
EDW2 ⇑pP **pP** **18 16 44.5 +1.0**
baz=33,SNR=9.9
EDW2 ⇑pP **pP** **18 16 44.5 +1.0**
baz=33,SNR=9.9
BSC **Santa Cruz Isl** **33.71 124** ⇓pP **pP** **18 16 45.1 +1.2**
baz=34,SNR=5.8
BSC ⇓pP pP 18 16 45.1 +1.2
baz=34,SNR=5.8
L23A **Garrett** **33.76 100** ⇑P **P** **18 16 23.5 +1.5**
baz=34,SNR=26
L23A ⇑P **P** **18 16 23.5 +1.5**
baz=34,SNR=26
GSC **Goldstone** **33.82 120** *e*P **P** **18 16 23.7 +1.2**
GSC *e**PP **pP** **18 16 46.4 +1.4**
GSC pmax pmax
comp=Z,358nm,1.1s
GSC **Goldstone** **33.82 120** *e*P **P** **18 16 23.6 +1.2**
comp=Z,358nm,1.1s
GSC *e*pP **pP** **18 16 46.4 +1.4**
GSC **Goldstone** **33.82 120** ⇑P **P** **18 16 23.9 +1.5**
baz=34,SNR=28
GSC ⇑P **P** **18 16 23.9 +1.5**
baz=34,SNR=28
M22A **Cedar Creek Ra** **33.84 101** ⇓P **P** **18 16 23.8 +1.1**
baz=34,SNR=14
M22A ⇓P **P** **18 16 23.8 +1.1**
baz=34,SNR=14
R16A **Teasdale** **33.85 110** ⇑P **P** **18 16 25.0 +2.2**
baz=34,SNR=16
R16A ⇑P **P** **18 16 25.0 +2.2**
baz=34,SNR=16
BLG **Laguna Peak** **33.85 123** ⇓pP **pP** **18 16 46.2 +1.1**
baz=34,SNR=6.1
BLG ⇓pP pP 18 16 46.2 +1.1
baz=34,SNR=6.1
Q18A **Rafter H Ranch** **33.85 108** ⇑P **P** **18 16 24.1 +1.4**
baz=34,SNR=15
Q18A ⇑P **P** **18 16 24.1 +1.4**
baz=34,SNR=15
N21A **Black Mountain** **33.86 103** ⇓P **P** **18 16 24.4 +1.5**
baz=34,SNR=16
N21A ⇓P **P** **18 16 24.4 +1.5**
baz=34,SNR=16
O20A **White River Ci** **33.98 105** ⇑P **P** **18 16 25.5 +1.7**
baz=34,SNR=15
O20A ⇑P **P** **18 16 25.5 +1.7**
baz=34,SNR=15

P19A **Cripple Cowboy** **34.00 106** ⇓P **P** **18 16 25.6 +1.5**
baz=34,SNR=16
P19A ⇓P **P** **18 16 25.6 +1.5**
baz=34,SNR=16
DECC **Green Verdugo** **34.05 122** ⇓pP **pP** **18 16 48.2 +1.3**
baz=34,SNR=5.1
DECC ⇓pP pP 18 16 48.2 +1.3
baz=34,SNR=5.1
RRX **Edison Barstow** **34.09 120** ⇓P **P** **18 16 26.1 +1.5**
baz=34
RRX ⇓P **P** **18 16 26.1 +1.5**
baz=34
RRX ⇑pP **pP** **18 16 49.0 +1.7**
baz=34,SNR=10
RRX ⇑pP **pP** **18 16 49.0 +1.7**
baz=34,SNR=10
TUQ **Turquoise Moun** **34.10 118** ⇑P **P** **18 16 26.3 +1.4**
baz=34,SNR=18
TUQ ⇑P **P** **18 16 26.3 +1.4**
baz=34,SNR=18
TUQ ⇑pP **pP** **18 16 49.0 +1.5**
baz=34,SNR=10
TUQ ⇑pP **pP** **18 16 49.0 +1.5**
baz=34,SNR=10
R17A **Hanksville Air** **34.11 109** ⇑P **P** **18 16 26.2 +1.3**
baz=34,SNR=6.2
R17A ⇑P **P** **18 16 26.2 +1.3**
baz=34,SNR=6.2
R17A ⇓pP **pP** **18 16 48.5 +1.0**
baz=34,SNR=7.8
R17A ⇓pP **pP** **18 16 48.5 +1.0**
baz=34,SNR=7.8
PASC **Pasadena Art C** **34.18 122** *e*P **P** **18 16 24.9 -0.5**
comp=Z,657nm,1.6s
PASC *e*pP **pP** **18 16 49.2 +1.3**
MWC **Mount Wilson** **34.19 122** *e*P **P** **18 16 27.1 +1.4**
MWC *e**PP **pP** **18 16 49.7 +1.4**
MWC pmax pmax
comp=Z,609nm,1.5s
MWC **Mount Wilson** **34.19 122** *e*P **P** **18 16 27.1 +1.4**
comp=Z,609nm,1.5s
MWC *e*pP **pP** **18 16 49.7 +1.4**
M23A **Laramie** **34.23 100** ⇑pP **pP** **18 16 49.4 +0.8**
baz=34,SNR=8.5
M23A ⇑pP pP 18 16 49.4 +0.8
baz=34,SNR=8.5
S16A **Weppner Ranch,** **34.24 111** ⇑P **P** **18 16 28.1 +2.0**
baz=34,SNR=36
S16A ⇑P **P** **18 16 28.1 +2.0**
baz=34,SNR=36
O21A **Pagoda** **34.30 104** ⇓P **P** **18 16 28.2 +1.5**
baz=34,SNR=11
O21A ⇓P **P** **18 16 28.2 +1.5**
baz=34,SNR=11
K25A **Mack Ranch, Ha** **34.32 97** ⇓pP **pP** **18 16 49.3 +0.1**
baz=34,SNR=8.2
K25A ⇓pP pP 18 16 49.3 +0.1
baz=34,SNR=8.2
BFSC **Mount Baldy Ra** **34.35 122** ⇓P **P** **18 16 28.4 +1.4**
baz=34,SNR=34
BFSC ⇓P **P** **18 16 28.4 +1.4**
baz=34,SNR=34
N22A **Wattenberg Ran** **34.36 102** ⇑P **P** **18 16 28.9 +1.7**
baz=34,SNR=17
N22A ⇑P **P** **18 16 28.9 +1.7**
baz=34,SNR=17
Q19A **Hogan Spring (** **34.39 107** ⇑P **P** **18 16 29.0 +1.7**
baz=34,SNR=18
Q19A ⇑P **P** **18 16 29.0 +1.7**
baz=34,SNR=18
HEC **Hector,Ludlow** **34.43 119** ⇓P **P** **18 16 28.8 +1.2**
baz=34
HEC ⇓P **P** **18 16 28.8 +1.2**
baz=34
HEC ⇓pP **pP** **18 16 51.7 +1.4**
baz=34,SNR=10
HEC ⇓pP **pP** **18 16 51.7 +1.4**
baz=34,SNR=10
AGMN **Agassiz Nation** **34.46 83** *e*P **P** **18 16 28.0 +0.3**
comp=Z,224nm,1.1s
AGMN *e*pP **pP** **18 16 50.8 +0.5**
PHWY **Pilot Hill** **34.48 100** *e*P **P** **18 16 28.8 +0.4**
comp=Z,214nm,1.5s
PHWY *e*pP **pP** **18 16 51.2 +0.3**
R18A **Canyonlands Na** **34.53 108** ⇓P **P** **18 16 29.2 +0.5**
baz=34,SNR=18
R18A ⇓P **P** **18 16 29.2 +0.5**
baz=34,SNR=18
N23A **Red Feather La** **34.55 101** ⇓P **P** **18 16 30.1 +1.3**
baz=34,SNR=13
N23A ⇓P **P** **18 16 30.1 +1.3**
baz=34,SNR=13
M24A **Cheyenne** **34.68 100** ⇑P **P** **18 16 31.9 +2.1**
baz=34,SNR=11
M24A ⇑P **P** **18 16 31.9 +2.1**
baz=34,SNR=11
S17A **Black Ridge (B** **34.69 110** ⇓P **P** **18 16 31.4 +1.5**
baz=34,SNR=63
S17A ⇓P **P** **18 16 31.4 +1.5**
baz=34,SNR=63
CIS **Catalina Islan** **34.74 123** ⇓P **P** **18 16 30.9 +0.6**
baz=34
CIS ⇓P **P** **18 16 30.9 +0.6**
baz=34
CIS ⇓pP **pP** **18 16 54.0 +1.1**
baz=34,SNR=5.6
CIS ⇓pP **pP** **18 16 54.0 +1.1**
baz=34,SNR=5.6
LDFC **Landfair** **34.77 118** *e*P **P** **18 16 31.2 +0.6**
comp=Z,567nm,1.1s
LDFC *e*pP **pP** **18 16 54.5 +1.3**
GMRC **Granite Mounta** **34.77 119** ⇓P **P** **18 16 32.0 +1.4**
baz=34,SNR=40
GMRC ⇓P **P** **18 16 32.0 +1.4**
baz=34,SNR=40
O22A **Kremmling** **34.80 103** ⇓pP **pP** **18 16 54.6 +0.9**
baz=34,SNR=10
O22A ⇓pP pP 18 16 54.6 +0.9
baz=34,SNR=10
P21A **Newcastle** **34.84 104** ⇓P **P** **18 16 33.1 +1.8**
baz=35,SNR=24
P21A ⇓P **P** **18 16 33.1 +1.8**
baz=35,SNR=24
Q20A **Ridgley Place,** **34.87 106** ⇓P **P** **18 16 32.7 +1.3**
baz=35,SNR=6.2
Q20A ⇓P **P** **18 16 32.7 +1.3**
baz=35,SNR=6.2
R19A **Curley Farm, L** **34.91 108** ⇑P **P** **18 16 33.3 +1.3**
baz=35,SNR=22
R19A ⇑P **P** **18 16 33.3 +1.3**
baz=35,SNR=22
U15A **North Rim** **34.95 113** ⇑P **P** **18 16 33.9 +1.5**
baz=35,SNR=26
U15A ⇑P **P** **18 16 33.9 +1.5**
baz=35,SNR=26
PV04 **Paradox Valley** **35.01 107** *e*P **P** **18 16 34.1 +1.4**
PV04 *e*pP **pP** **18 16 56.4 +1.1**
S18A **Hurst Farm, BI** **35.03 109** ⇓P **P** **18 16 34.1 +1.1**
baz=35,SNR=18
S18A ⇓P **P** **18 16 34.1 +1.1**
baz=35,SNR=18
SCI **San Clemente I** **35.04 124** ⇓P **P** **18 16 34.0 +1.2**
baz=35
SCI ⇓P **P** **18 16 34.0 +1.2**
baz=35
SCI ⇑pP **pP** **18 16 56.9 +1.5**
baz=35,SNR=5.5
SCI ⇑pP **pP** **18 16 56.9 +1.5**
baz=35,SNR=5.5
O23A **Lake Granby, G** **35.08 102** ⇑P **P** **18 16 35.8 +2.4**
baz=35,SNR=16
O23A ⇑P **P** **18 16 35.8 +2.4**
baz=35,SNR=16
K27A **Flueckinger Fa** **35.08 96** ⇓P **P** **18 16 34.3 +1.2**
baz=35
K27A ⇓P **P** **18 16 34.3 +1.2**
baz=35
K27A ⇑pP **pP** **18 16 56.0 +0.2**
baz=35,SNR=7.1
K27A ⇑pP **pP** **18 16 56.0 +0.2**
baz=35,SNR=7.1
M25A **Palm-Egli Farm** **35.09 99** ⇓P **P** **18 16 35.1 +1.8**
baz=35,SNR=10.0
M25A ⇓P **P** **18 16 35.1 +1.8**
baz=35,SNR=10.0
M25A ⇑pP **pP** **18 16 57.1 +1.1**
baz=35,SNR=6.6
M25A ⇑pP **pP** **18 16 57.1 +1.1**

baz=35,SNR=6.6
MURC **Murrieta** **35.09 122** ⇑P **P** **18 16 34.0 +0.7**
baz=35
MURC ⇑P **P** **18 16 34.0 +0.7**
baz=35
MURC ⇓pP **pP** **18 16 56.9 +1.0**
baz=35,SNR=9.3
MURC ⇓pP **pP** **18 16 56.9 +1.0**
baz=35,SNR=9.3
P22A **Eagle** **35.13 104** ⇑P **P** **18 16 35.6 +1.8**
baz=35,SNR=14
P22A ⇑P **P** **18 16 35.6 +1.8**
baz=35,SNR=14
BELC **Belle Mtn. Jos** **35.28 120** ⇑P **P** **18 16 35.8 +0.8**
baz=35,SNR=20
BELC ⇑P **P** **18 16 35.8 +0.8**
baz=35,SNR=20
W13A **Hualapai Mount** **35.31 116** ⇓P **P** **18 16 36.9 +1.5**
baz=35,SNR=17
W13A ⇓P **P** **18 16 36.9 +1.5**
baz=35,SNR=17
Q21A **Lamborn Mesa,** **35.31 105** ⇓P **P** **18 16 36.7 +1.3**
baz=35,SNR=7.9
Q21A ⇓P **P** **18 16 36.7 +1.3**
baz=35,SNR=7.9
SMCO **Snowmass** **35.34 104** *e*P **P** **18 16 37.3 +1.5**
comp=Z,46nm,1.0s
SMCO *e*pP **pP** **18 16 59.1 +0.6**
PV01 **Paradox Valley** **35.37 107** *e*P **P** **18 16 37.1 +1.1**
comp=Z,38μm,1.4s
PV01 *e*pP **pP** **18 16 58.9 +0.3**
S19A **Harvey Farm, M** **35.40 108** ⇓P **P** **18 16 37.1 +0.9**
baz=35,SNR=31
S19A ⇓P **P** **18 16 37.1 +0.9**
baz=35,SNR=31
PFO **Pinyon Flat Ob** **35.41 121** ⇑P **P** **18 16 36.8 +0.7**
baz=35,SNR=6.1
PFO ⇑P **P** **18 16 36.8 +0.7**
baz=35,SNR=6.1
PFO ⇑pP **pP** **18 16 59.6 +0.9**
baz=35,SNR=9.7
PFO ⇑pP **pP** **18 16 59.6 +0.9**
baz=35,SNR=9.7
R20A **Redvale** **35.42 107** ⇑P **P** **18 16 37.4 +1.1**
baz=35,SNR=42
R20A ⇑P **P** **18 16 37.4 +1.1**
baz=35,SNR=42
BRSD **Miller** **35.50 91** ⇓P **P** **18 16 37.1 +0.4**
baz=35,SNR=5.9
BRSD ⇓P **P** **18 16 37.1 +0.4**
baz=35,SNR=5.9
IRM **Iron Mountain** **35.52 119** ⇓P **P** **18 16 38.6 +1.6**
baz=35,SNR=59
IRM ⇓P **P** **18 16 38.6 +1.6**
baz=35,SNR=59
T18A **Mexican Hat** **35.53 110** ⇑P **P** **18 16 37.7 +0.5**
baz=35,SNR=47
T18A ⇑P **P** **18 16 37.7 +0.5**
baz=35,SNR=47
N25A **Grover** **35.54 100** ⇑pP **pP** **18 17 00.9 +1.0**
baz=35,SNR=7.8
N25A ⇑pP pP 18 17 00.9 +1.0
baz=35,SNR=7.8
ISCO **Idaho Springs** **35.54 102** *e*P **P** **18 16 37.6 +0.2**
ISCO *e**PP **pP** **18 17 01.1 +1.0**
ISCO pmax pmax
comp=Z,54nm,1.1s
ISCO **Idaho Springs** **35.54 102** *e*P **P** **18 16 37.6 +0.2**
comp=Z,54nm,1.1s
ISCO *e*pP **pP** **18 17 01.1 +1.0**
U17A **Shonto** **35.59 111** ⇓P **P** **18 16 38.8 +1.1**
baz=35,SNR=10
U17A ⇓P **P** **18 16 38.8 +1.1**
baz=35,SNR=10
R21A **Cimarron** **35.69 106** ⇑P **P** **18 16 40.1 +1.5**
baz=35,SNR=21
R21A ⇑P **P** **18 16 40.1 +1.5**
baz=35,SNR=21
YAK **Yakutsk** **35.69 308***c iP* **P** **18 16 38.1 0.0**
YAK *e**PP **pP** **18 17 00.4 -0.3**
YAK *e* 18 18 00.2
YAK *e* 18 19 03.5
YAK *e*S **S** **18 22 08.2 +1.3**
YAK *e**SS **sS** **18 22 48.3 +2.1**
YAK pmax pmax
comp=Z,404nm,1.2s
YAK pmax pmax
comp=N,126nm,1.4s
YAK pmax pmax
comp=E,264nm,1.2s
YAK pmax pmax
comp=Z,1μm,2.9s
YAK pmax pmax
comp=N,743nm,3.2s
YAK pmax pmax
comp=E,1μm,2.8s
YAK smax smax
comp=N,77nm,1.7s
YAK smax smax
comp=E,79nm,1.8s
YAK **Yakutsk** **35.69 308** *e*P **P** **18 16 37.8 -0.3**
comp=E,804nm,1.3s
YAK *e*pP **pP** **18 16 57.4 -3.3**
YAK *e*ScP **ScP** **18 22 38.1 -2.3**
S20A **Disappointment** **35.71 107** ⇑P **P** **18 16 40.3 +1.4**
baz=36,SNR=30
S20A ⇑P **P** **18 16 40.3 +1.4**
baz=36,SNR=30
U16A **Tuba City** **35.73 112** ⇑P **P** **18 16 40.1 +1.2**
baz=36,SNR=17
U16A ⇑P **P** **18 16 40.1 +1.2**
baz=36,SNR=17
109C **Camp Elliot, M** **35.74 122** ⇓P **P** **18 16 40.3 +1.5**
baz=36
109C ⇓P **P** **18 16 40.3 +1.5**
baz=36
109C ⇓pP **pP** **18 17 03.1 +1.6**
baz=36,SNR=10.0
109C ⇓pP **pP** **18 17 03.1 +1.6**
baz=36,SNR=10.0
P23A **Jefferson** **35.75 103** ⇑P **P** **18 16 41.4 +2.1**
baz=36,SNR=13
P23A ⇑P **P** **18 16 41.4 +2.1**
baz=36,SNR=13
BC3 **Big Chuckawall** **35.81 119** ⇑P **P** **18 16 40.3 +0.8**
baz=36,SNR=19
BC3 ⇑P **P** **18 16 40.3 +0.8**
baz=36,SNR=19
N26A **Koester Ranch,** **35.96 99** ⇓P **P** **18 16 42.6 +1.8**
baz=36
N26A ⇓P **P** **18 16 42.6 +1.8**
baz=36
N26A ⇓pP **pP** **18 17 05.0 +1.5**
baz=36,SNR=7.2
N26A ⇓pP **pP** **18 17 05.0 +1.5**
baz=36,SNR=7.2
MONP **Monument Peak** **36.03 121** ⇑P **P** **18 16 42.8 +1.2**
baz=36,SNR=20
MONP ⇑P **P** **18 16 42.8 +1.2**
baz=36,SNR=20
O25A **Wiggins** **36.05 100** ⇓P **P** **18 16 43.1 +1.6**
baz=36
O25A ⇓P **P** **18 16 43.1 +1.6**
baz=36
O25A ⇓pP **pP** **18 17 05.0 +0.8**
baz=36,SNR=5.3
O25A ⇓pP **pP** **18 17 05.0 +0.8**
baz=36,SNR=5.3
BAR **Barrett** **36.10 122** *e*P **P** **18 16 42.9 +1.0**
comp=E,704nm,1.6s
BAR *e*pP **pP** **18 17 06.6 +1.9**
P24A **Kohler Place,** **36.11 102** ⇓pP **pP** **18 17 06.4 +1.5**
baz=36,SNR=6.6
P24A ⇓pP pP 18 17 06.4 +1.5
baz=36,SNR=6.6
U18A **Rough Rock, Ch** **36.11 110** ⇑P **P** **18 16 42.8 +0.6**
baz=36,SNR=7.3
U18A ⇑P **P** **18 16 42.8 +0.6**
baz=36,SNR=7.3
S21A **Coal Bank Pass** **36.12 107** ⇑P **P** **18 16 44.0 +1.5**
baz=36,SNR=35
S21A ⇑P **P** **18 16 44.0 +1.5**
baz=36,SNR=35
WUAZ **Wupatki** **36.13 113** *e*P **P** **18 16 43.8 +1.5**
comp=E,715nm,1.3s
WUAZ *e*pP **pP** **18 17 07.1 +2.1**
WUAZ **Wupatki** **36.13 113** ⇑P **P** **18 16 43.8 +1.5**
baz=36,SNR=36

WUAZ				⇑P		P	18 16 43.8	+1.5
	baz=36,SNR=36							
MVCO	**Mesa Verde**	**36.14**	**108**	*e*P		P	18 16 43.3	+0.9
	comp=E,66nm,0.7s							
MVCO				*ep*P		pP	18 17 03.4	-1.8
MVCO	**Mesa Verde**	**36.14**	**108**	⇑P		P	18 16 43.7	+1.2
	baz=36,SNR=23							
MVCO				⇑P		P	18 16 43.7	+1.2
	baz=36,SNR=23							
R22A	**Saguache, Gunn**	**36.19**	**105**	⇑P		P	18 16 44.4	+1.5
	baz=36,SNR=6.9							
R22A				⇑P		P	18 16 44.4	+1.5
	baz=36,SNR=6.9							
R22A				⇑pP		pP	18 17 06.7	+1.0
	baz=36,SNR=7.5							
R22A				⇑pP		pP	18 17 06.7	+1.0
	baz=36,SNR=7.5							
T19A	**Beclabito**	**36.19**	**109**	⇓P		P	18 16 44.3	+1.5
	baz=36,SNR=24							
T19A				⇓P		P	18 16 44.3	+1.5
	baz=36,SNR=24							
SWSC	**Sam W. Stewart**	**36.26**	**120**	⇓P		P	18 16 44.1	+0.9
	baz=36,SNR=10							
SWSC				⇓P		P	18 16 44.1	+0.9
	baz=36,SNR=10							
SWSC				⇑pP		pP	18 17 07.3	+1.3
	baz=36,SNR=15							
SWSC				⇑pP		pP	18 17 07.3	+1.3
	baz=36,SNR=15							
V17A	**Tonalea, Kykot**	**36.31**	**112**	⇑P		P	18 16 45.7	+1.8
	baz=36,SNR=67							
V17A				⇑P		P	18 16 45.7	+1.8
	baz=36,SNR=67							
N27A	**Anderson Farm,**	**36.32**	**98**	⇓P		P	18 16 45.4	+1.6
	baz=36							
N27A				⇓P		P	18 16 45.4	+1.6
	baz=36							
N27A				⇑pP		pP	18 17 07.2	+0.6
	baz=36,SNR=5.3							
N27A				⇑pP		pP	18 17 07.2	+0.6
	baz=36,SNR=5.3							
O26A	**Horse Wrangler**	**36.35**	**99**	⇑P		P	18 16 45.6	+1.4
	baz=36							
O26A				⇑P		P	18 16 45.6	+1.4
	baz=36							
O26A				⇓pP		pP	18 17 07.7	+0.8
	baz=36,SNR=9.1							
O26A				⇓pP		pP	18 17 07.7	+0.8
	baz=36,SNR=9.1							
DVTC	**Desert V Tower**	**36.37**	**121**	⇓P		P	18 16 45.4	+1.2
	baz=36,SNR=9.3							
DVTC				⇓P		P	18 16 45.4	+1.2
	baz=36,SNR=9.3							
DVTC				⇓pP		pP	18 17 08.7	+1.7
	baz=36,SNR=14							
DVTC				⇓pP		pP	18 17 08.7	+1.7
	baz=36,SNR=14							
Q24A	**Divide**	**36.41**	**103**	⇓P		P	18 16 46.7	+1.8
	baz=36,SNR=16							
Q24A				⇓P		P	18 16 46.7	+1.8
	baz=36,SNR=16							
OGNE	**Ogallala**	**36.47**	**97**	*e*P		P	18 16 46.5	+1.4
	comp=E,485nm,1.6s							
OGNE				*ep*P		pP	18 17 07.1	-0.7
P25A	**Willow Gulch B**	**36.48**	**101**	⇓P		P	18 16 47.3	+2.0
	baz=36,SNR=13							
P25A				⇓P		P	18 16 47.3	+2.0
	baz=36,SNR=13							
S22A	**4UR Ranch, Cre**	**36.53**	**106**	⇑P		P	18 16 47.8	+1.9
	baz=36,SNR=11							
S22A				⇑P		P	18 16 47.8	+1.9
	baz=36,SNR=11							
U19A	**Dine' College,**	**36.53**	**110**	⇓P		P	18 16 47.0	+1.2
	baz=36,SNR=11							
U19A				⇓P		P	18 16 47.0	+1.2
	baz=36,SNR=11							
GLA	**Glamis**	**36.60**	**119**	*e*P		P	18 16 46.3	+0.1
GLA				*e**PP		pP	18 17 09.9	+1.0
GLA				pmax		pmax		
	comp=Z,679nm,1.4s							
GLA	**Glamis**	**36.60**	**119**	*e*P		P	18 16 46.3	+0.1
	comp=Z,679nm,1.4s							
GLA				*ep*P		pP	18 17 09.8	+1.0
GLA	**Glamis**	**36.60**	**119**	⇓P		P	18 16 47.1	+1.0
	baz=36,SNR=5.3							
GLA				⇓P		P	18 16 47.1	+1.0
	baz=36,SNR=5.3							
GLA				⇑pP		pP	18 17 10.2	+1.2
	baz=36,SNR=11							
GLA				⇑pP		pP	18 17 10.2	+1.2
	baz=36,SNR=11							
V18A	**Ganado**	**36.65**	**111**	⇓P		P	18 16 48.2	+1.4
	baz=36,SNR=9.8							
V18A				⇓P		P	18 16 48.2	+1.4
	baz=36,SNR=9.8							
R23A	**Moffat**	**36.67**	**104**	⇓P		P	18 16 49.4	+2.3
	baz=36,SNR=20							
R23A				⇓P		P	18 16 49.4	+2.3
	baz=36,SNR=20							
Y14A	**Wickenburg**	**36.67**	**116**	⇑P		P	18 16 48.3	+1.5
	baz=36,SNR=13							
Y14A				⇑P		P	18 16 48.3	+1.5
	baz=36,SNR=13							
U20A	**Newcomb**	**36.79**	**109**	⇓P		P	18 16 49.0	+1.0
	baz=36							
U20A				⇓P		P	18 16 49.0	+1.0
	baz=36							
U20A				⇓pP		pP	18 17 12.0	+1.3
	baz=36,SNR=6.6							
U20A				⇓pP		pP	18 17 12.0	+1.3
	baz=36,SNR=6.6							
W17A	**Winslow**	**36.80**	**113**	⇓P		P	18 16 48.6	+0.7
	baz=37							
W17A				⇓P		P	18 16 48.6	+0.7
	baz=37							
W17A				⇑pP		pP	18 17 12.4	+1.6
	baz=37,SNR=8.4							
W17A				⇑pP		pP	18 17 12.4	+1.6
	baz=37,SNR=8.4							
P26A	**Davis Ranch, A**	**36.85**	**100**	⇓pP		pP	18 17 12.1	+0.9
	baz=37,SNR=11							
P26A				⇓pP		pP	18 17 12.1	+0.9
	baz=37,SNR=11							
EYMN	**Ely**	**36.89**	**80**	*e*P		P	18 16 48.9	+0.4
	comp=Z,241nm,1.1s							
EYMN				*ep*P		pP	18 17 09.8	-1.4
Q25A	**Bedland, Calha**	**36.90**	**102**	⇑P		P	18 16 50.5	+1.6
	baz=37							
Q25A				⇑P		P	18 16 50.5	+1.6
	baz=37							
Q25A				⇑pP		pP	18 17 12.7	+1.0
	baz=37,SNR=6.3							
Q25A				⇑pP		pP	18 17 12.7	+1.0
	baz=37,SNR=6.3							
Z13A	**Yuma Proving G**	**37.00**	**118**	⇓P		P	18 16 50.8	+1.3
	baz=37,SNR=16							
Z13A				⇓P		P	18 16 50.8	+1.3
	baz=37,SNR=16							
R24A	**Sanders Place,**	**37.00**	**103**	⇓P		P	18 16 51.2	+1.5
	baz=37							
R24A				⇓P		P	18 16 51.2	+1.5
	baz=37							
R24A				⇑pP		pP	18 17 13.8	+1.3
	baz=37,SNR=6.6							
R24A				⇑pP		pP	18 17 13.8	+1.3
	baz=37,SNR=6.6							
X16A	**Lo Mia Camp, P**	**37.00**	**114**	⇑P		P	18 16 51.6	+1.9
	baz=37,SNR=15							
X16A				⇑P		P	18 16 51.6	+1.9
	baz=37,SNR=15							
T22A	**Edith**	**37.07**	**107**	⇓P		P	18 16 52.3	+2.0
	baz=37,SNR=20							
T22A				⇓P		P	18 16 52.3	+2.0
	baz=37,SNR=20							
V19A	**Window Rock**	**37.07**	**110**	⇓P		P	18 16 51.6	+1.2
	baz=37,SNR=9.4							
V19A				⇓P		P	18 16 51.6	+1.2
	baz=37,SNR=9.4							
U21A	**Nageezi**	**37.17**	**108**	⇑P		P	18 16 52.7	+1.5
	baz=37,SNR=20							
U21A				⇑P		P	18 16 52.7	+1.5
	baz=37,SNR=20							
SDCO	**Great Sand Dun**	**37.18**	**104**	*e*P		P	18 16 53.2	+1.9
	comp=Z,174nm,1.2s							
SDCO				*ep*P		pP	18 17 14.7	+0.5
SDCO	**Great Sand Dun**	**37.18**	**104**	⇓P		P	18 16 53.4	+2.0
	baz=37,SNR=62							
SDCO				⇓P		P	18 16 53.4	+2.0
	baz=37,SNR=62							
SDCO				⇓P		P	18 16 53.4	+2.0
	baz=37,SNR=62							
Z14A	**Wintersburg**	**37.18**	**117**	⇑P		P	18 16 52.4	+1.3
	baz=37,SNR=9.5							
Z14A				⇑P		P	18 16 52.4	+1.3
	baz=37,SNR=9.5							
ECSD	**EROS Data Cent**	**37.20**	**89**	*e*P		P	18 16 50.6	-0.5
	comp=Z,79nm,1.1s							
ECSD				*ep*P		pP	18 17 14.0	+0.1
W18A	**Petrified Fore**	**37.23**	**111**	⇓P		P	18 16 53.2	+1.6
	baz=37							
W18A				⇓P		P	18 16 53.2	+1.6
	baz=37							
W18A				⇑pP		pP	18 17 15.9	+1.4
	baz=37,SNR=9.0							
W18A				⇑pP		pP	18 17 15.9	+1.4
	baz=37,SNR=9.0							
Q26A	**Hugo**	**37.25**	**101**	⇑P		P	18 16 53.7	+1.8
	baz=37,SNR=13							
Q26A				⇑P		P	18 16 53.7	+1.8
	baz=37,SNR=13							
Q26A				⇑pP		pP	18 17 15.9	+1.3
	baz=37,SNR=9.6							
Q26A				⇑pP		pP	18 17 15.9	+1.3
	baz=37,SNR=9.6							
V20A	**Brimhall**	**37.28**	**109**	⇑P		P	18 16 53.3	+1.1
	baz=37,SNR=10							
V20A				⇑P		P	18 16 53.3	+1.1
	baz=37,SNR=10							
V20A				⇑pP		pP	18 17 16.0	+1.1
	baz=37,SNR=6.5							
V20A				⇑pP		pP	18 17 16.0	+1.1
	baz=37,SNR=6.5							
113A	**Mohawk Valley,**	**37.31**	**118**	⇓P		P	18 16 53.2	+1.1
	baz=37,SNR=8.1							
113A				⇓P		P	18 16 53.2	+1.1
	baz=37,SNR=8.1							
113A				⇑pP		pP	18 17 16.2	+1.3
	baz=37,SNR=15							
113A				⇑pP		pP	18 17 16.2	+1.3
	baz=37,SNR=15							
X17A	**Forest Lakes**	**37.36**	**113**	⇑pP		pP	18 17 17.4	+1.7
	baz=37,SNR=6.1							
X17A				⇑pP		pP	18 17 17.4	+1.7
	baz=37,SNR=6.1							
W19A	**Sanders**	**37.40**	**111**	⇓P		P	18 16 54.6	+1.5
	baz=37,SNR=14							
W19A				⇓P		P	18 16 54.6	+1.5
	baz=37,SNR=14							
S24A	**Houchin Ranch,**	**37.41**	**104**	⇓P		P	18 16 55.0	+1.7
	baz=37,SNR=18							
S24A				⇓P		P	18 16 55.0	+1.7
	baz=37,SNR=18							
R25A	**Fountain Ranch**	**37.47**	**103**	⇓P		P	18 16 55.7	+2.1
	baz=37,SNR=34							
R25A				⇓P		P	18 16 55.7	+2.1
	baz=37,SNR=34							
X18A	**Snowflake**	**37.60**	**112**	⇓P		P	18 16 56.4	+1.5
	baz=37,SNR=17							
X18A				⇓P		P	18 16 56.4	+1.5
	baz=37,SNR=17							
V21A	**Milan**	**37.67**	**108**	⇓P		P	18 16 57.0	+1.5
	baz=37							
V21A				⇓P		P	18 16 57.0	+1.5
	baz=37							
114A	**Black Gap (USA**	**37.72**	**117**	⇑P		P	18 16 57.1	+1.5
	baz=38,SNR=9.5							
114A				⇑P		P	18 16 57.1	+1.5
	baz=38,SNR=9.5							
114A				⇑pP		pP	18 17 19.9	+1.4
	baz=38,SNR=11							
114A				⇑pP		pP	18 17 19.9	+1.4
	baz=38,SNR=11							
R26A	**Arlington**	**37.77**	**102**	⇓P		P	18 16 57.7	+1.5
	baz=38,SNR=11							
R26A				⇓P		P	18 16 57.7	+1.5
	baz=38,SNR=11							
S25A	**Robets Cordova**	**37.77**	**103**	⇓P		P	18 16 57.2	+0.9
	baz=38,SNR=20							
S25A				⇓P		P	18 16 57.2	+0.9
	baz=38,SNR=20							
W20A	**Ramah**	**37.81**	**110**	⇓P		P	18 16 58.0	+1.4
	baz=38,SNR=78							
W20A				⇓P		P	18 16 58.0	+1.4
	baz=38,SNR=78							
T24A	**Torres, Weston**	**37.93**	**105**	⇑pP		pP	18 17 21.9	+1.4
	baz=38,SNR=5.7							
T24A				⇑pP		pP	18 17 21.9	+1.4
	baz=38,SNR=5.7							
V22A	**San Miguel Ran**	**37.94**	**108**	⇓P		P	18 16 59.1	+1.3
	baz=38,SNR=22							
V22A				⇓P		P	18 16 59.1	+1.3
	baz=38,SNR=22							
U23A	**El Rito**	**37.96**	**106**	⇓P		P	18 16 59.7	+1.9
	baz=38,SNR=26							
U23A				⇓P		P	18 16 59.7	+1.9
	baz=38,SNR=26							
X19A	**St. Johns**	**38.00**	**112**	⇓P		P	18 16 59.4	+1.2
	baz=38,SNR=16							
X19A				⇓P		P	18 16 59.4	+1.2
	baz=38,SNR=16							
SPMN	**St. Paul**	**38.09**	**84**	⇑P		P	18 16 59.5	+0.9
	baz=38,SNR=12							
SPMN				⇑P		P	18 16 59.5	+0.9
	baz=38,SNR=12							
BGNE	**Belgrade**	**38.10**	**93**	⇓P		P	18 16 59.9	+1.2
	baz=38,SNR=16							
BGNE				⇓P		P	18 16 59.9	+1.2
	baz=38,SNR=16							
R27A	**Eads**	**38.10**	**101**	⇓P		P	18 17 00.4	+1.4
	baz=38							
R27A				⇓P		P	18 17 00.4	+1.4
	baz=38							
R27A				⇓pP		pP	18 17 22.4	+0.6
	baz=38,SNR=6.1							
R27A				⇓pP		pP	18 17 22.4	+0.6
	baz=38,SNR=6.1							
Y18A	**Canyon Day Jun**	**38.18**	**113**	⇑P		P	18 17 01.7	+2.0
	baz=38,SNR=51							
Y18A				⇑P		P	18 17 01.7	+2.0
	baz=38,SNR=51							
T25A	**Trinidad**	**38.20**	**104**	⇓P		P	18 17 01.6	+1.8
	baz=38,SNR=14							
T25A				⇓P		P	18 17 01.6	+1.8
	baz=38,SNR=14							
W21A	**San Fidel**	**38.22**	**109**	⇑pP		pP	18 17 24.0	+1.1
	baz=38,SNR=6.1							
W21A				⇑pP		pP	18 17 24.0	+1.1
	baz=38,SNR=6.1							
KIP	**Kipapa**	**38.25**	**187**	*ce*P		P	18 17 01.0	+0.9
KIP				pmax		pmax		
	comp=Z,215nm,1.7s							
KIP	**Kipapa**	**38.25**	**187**	*e*P		P	18 17 00.1	0.0
	comp=Z,238nm,1.4s							
X20A	**Quenado**	**38.28**	**111**	⇑P		P	18 17 01.9	+1.3
	baz=38,SNR=7.7							
X20A				⇑P		P	18 17 01.9	+1.3
	baz=38,SNR=7.7							
X20A				⇓pP		pP	18 17 25.0	+1.5
	baz=38,SNR=12							
X20A				⇓pP		pP	18 17 25.0	+1.5
	baz=38,SNR=12							
S26A	**Kim**	**38.28**	**102**	⇑P		P	18 17 02.1	+1.6
	baz=38,SNR=16							
S26A				⇑P		P	18 17 02.1	+1.6
	baz=38,SNR=16							
Y19A	**Nutrioso**	**38.40**	**112**	⇑P		P	18 17 03.8	+2.2
	baz=38,SNR=31							
Y19A				⇑P		P	18 17 03.8	+2.2
	baz=38,SNR=31							
214A	**Organ Pipe Nat**	**38.43**	**118**	⇓P		P	18 17 02.8	+1.2
	baz=38,SNR=14							
214A				⇓P		P	18 17 02.8	+1.2
	baz=38,SNR=14							
V23A	**Ortiz Mt. (NFS**	**38.43**	**107**	⇑P		P	18 17 04.5	+2.8
	baz=38,SNR=6.6							
V23A				⇑P		P	18 17 04.5	+2.8
	baz=38,SNR=6.6							
V23A				⇓pP		pP	18 17 26.5	+1.8
	baz=38,SNR=6.8							
V23A				⇓pP		pP	18 17 26.5	+1.8
	baz=38,SNR=6.8							
T26A	**Comanche Natio**	**38.57**	**103**	⇓P		P	18 17 04.4	+1.4
	baz=38,SNR=24							
T26A				⇓P		P	18 17 04.4	+1.4
	baz=38,SNR=24							
X21A	**Alamocita Cree**	**38.70**	**110**	⇓P		P	18 17 05.8	+1.7
	baz=38,SNR=74							
X21A				⇓P		P	18 17 05.8	+1.7
	baz=38,SNR=74							
U25A	**Circle Dot Ran**	**38.78**	**105**	⇓P		P	18 17 06.5	+1.8
	baz=38,SNR=29							
U25A				⇓P		P	18 17 06.5	+1.8
	baz=38,SNR=29							
YSS	**Yuzh-Sakhalins**	**38.81**	**280**	*α iP*		P	18 17 06.0	+1.4
YSS				*e**SP		sP	18 17 41.0	+2.1
YSS				*eS*		ScP	18 22 53.0	+0.6
YSS				pmax		pmax		
	comp=Z,2μm,4.0s							
YSS				MLR		MLR		
	comp=E,600nm,18.0s							
YSS				MLR		MLR		
	comp=Z,500nm,18.0s							
YSS	**Yuzh-Sakhalins**	**38.81**	**280**	*e*P		P	18 17 04.6	+0.1
	comp=Z,210nm,0.9s							
Y20A	**Horse Springs,**	**38.86**	**111**	⇑P		P	18 17 07.4	+2.0
	baz=39,SNR=14							
Y20A				⇑P		P	18 17 07.4	+2.0
	baz=39,SNR=14							
W23A	**Werner Place,**	**38.91**	**108**	⇓P		P	18 17 08.1	+2.2
	baz=39,SNR=6.6							
W23A				⇓P		P	18 17 08.1	+2.2
	baz=39,SNR=6.6							
ANMO	**Albuquerque**	**38.93**	**108**	LR		LR	18 34 48.4	
	comp=Z,477nm,19.9s,baz=134,slow=38							
ANMO	**Albuquerque**	**38.93**	**108**	*e*P		P	18 17 06.5	+0.6
ANMO				*e*			18 22 51.4	
ANMO				pmax		pmax		
	comp=Z,187nm,1.6s							
ANMO	**Albuquerque**	**38.93**	**108**	*e*P		P	18 17 06.5	+0.6
	comp=Z,187nm,1.6s							
ANMO				*e*ScP		ScP	18 22 51.4	-1.9
LAZ	**Ladron**	**39.05**	**109**	*e*P		P	18 17 08.6	+1.6
	comp=Z,197nm,1.6s							
LAZ				*ep*P		pP	18 17 32.1	+2.2
TUC	**Tucson**	**39.05**	**115**	*e*P		P	18 17 08.5	+1.6
TUC				*e**PP		pP	18 17 31.0	+1.2
TUC				pmax		pmax		
	comp=Z,398nm,1.4s							
TUC	**Tucson**	**39.05**	**115**	*e*P		P	18 17 08.5	+1.6
	comp=Z,398nm,1.4s							
TUC				*ep*P		pP	18 17 31.0	+1.2
U26A	**Atchley Ranch,**	**39.11**	**104**	⇑pP		pP	18 17 31.6	+1.2
	baz=39,SNR=6.5							
U26A				⇑pP		pP	18 17 31.6	+1.2
	baz=39,SNR=6.5							
Y21A	**Point of Rocks**	**39.11**	**110**	⇓P		P	18 17 09.6	+2.1
	baz=39,SNR=30							
Y21A				⇓P		P	18 17 09.6	+2.1
	baz=39,SNR=30							
V25A	**Rancho No Teng**	**39.12**	**105**	⇑P		P	18 17 09.7	+2.2
	baz=39,SNR=15							
V25A				⇑P		P	18 17 09.7	+2.2
	baz=39,SNR=15							
W24A	**Lazy 6 Ranch,**	**39.23**	**107**	⇑P		P	18 17 10.5	+2.0
	baz=39,SNR=14							
W24A				⇑P		P	18 17 10.5	+2.0
	baz=39,SNR=14							
CBKS	**Cedar Bluff**	**39.24**	**98**	*e*P		P	18 17 08.5	+0.2
CBKS				*e**PP		pP	18 17 30.8	-0.5
CBKS				pmax		pmax		
	comp=Z,657nm,1.5s							
CBKS	**Cedar Bluff**	**39.24**	**98**	*e*P		P	18 17 08.5	+0.2
	comp=Z,658nm,1.5s							
CBKS				*ep*P		pP	18 17 30.8	-0.5
CBKS	**Cedar Bluff**	**39.24**	**98**	⇑P		P	18 17 09.6	+1.3
	baz=39,SNR=19							
CBKS				⇑P		P	18 17 09.6	+1.3
	baz=39,SNR=19							
CBKS				⇑P		P	18 17 09.6	+1.3
	baz=39,SNR=19							
CBKS				⇑P		P	18 17 09.6	+1.3
	baz=39,SNR=19							
YUK	**Yuzh-Kuril'sk**	**39.28**	**275**	*d iP*		P	18 17 08.8	+0.3
YUK				*i* S		S	18 23 03.7	+2.2
YUK				pmax		pmax		
	comp=N,948nm,1.4s							
YUK				pmax		pmax		
	comp=E,701nm,1.4s							
YUK				pmax		pmax		
	comp=Z,2μm,1.4s							
YUK				pmax		pmax		
	comp=Z,3μm,1.4s							
LENM	**Lemitar**	**39.32**	**109**	*e*P		P	18 17 10.9	+1.7
	comp=Z,166nm,1.2s							
LENM				*ep*P		pP	18 17 33.7	+1.5
T28A	**Walsh**	**39.35**	**102**	⇓P		P	18 17 10.7	+1.4
	baz=39							
T28A				⇓P		P	18 17 10.7	+1.4
	baz=39							
X23A	**Hourglass Bar**	**39.36**	**108**	⇓P		P	18 17 10.8	+1.2
	baz=39,SNR=9.7							
X23A				⇓P		P	18 17 10.8	+1.2
	baz=39,SNR=9.7							
LPM	**Los Pinos Moun**	**39.36**	**109**	*e*P		P	18 17 10.1	+0.5
	comp=Z,12nm,1.0s							
LPM				*ep*P		pP	18 17 34.0	+1.4
Z20A	**Nine Sixteen R**	**39.41**	**112**	⇓P		P	18 17 11.5	+1.5
	baz=39,SNR=24							
Z20A				⇓P		P	18 17 11.5	+1.5
	baz=39,SNR=24							
BNM	**Barren Site**	**39.50**	**109**	*e*P		P	18 17 12.2	+1.4
	comp=Z,283nm,1.5s							
BNM				*ep*P		pP	18 17 35.0	+1.2
Y22A	**Socorro**	**39.51**	**110**	⇑P		P	18 17 12.2	+1.4
	baz=39,SNR=18							
Y22A				⇑P		P	18 17 12.2	+1.4
	baz=39,SNR=18							
Z21A	**St. Cloud Mine**	**39.69**	**111**	⇓pP		pP	18 17 36.7	+1.4
	baz=39,SNR=16							
Z21A				⇓pP		pP	18 17 36.7	+1.4
	baz=39,SNR=16							
W25A	**X Bar L Ranch,**	**39.69**	**106**	⇑P		P	18 17 14.1	+1.9
	baz=39,SNR=15							
W25A				⇑P		P	18 17 14.1	+1.9
	baz=39,SNR=15							
120A	**U Bar Ranch, L**	**39.86**	**113**	⇑P		P	18 17 15.2	+1.5
	baz=40,SNR=9.8							
120A				⇑P		P	18 17 15.2	+1.5
	baz=40,SNR=9.8							
Y23A	**Lovelace Mesa,**	**39.95**	**109**	⇑P		P	18 17 15.9	+1.5
	baz=40,SNR=20							
Y23A				⇑P		P	18 17 15.9	+1.5
	baz=40,SNR=20							
Z22A	**Elephant Butte**	**40.07**	**110**	⇓P		P	18 17 17.0	+1.7
	baz=40,SNR=38							
Z22A				⇓P		P	18 17 17.0	+1.7
	baz=40,SNR=38							
SCIA	**State Center**	**40.24**	**89**	*e*P		P	18 17 15.7	-0.8
	comp=Z,261nm,1.4s							
SCIA				*ep*P		pP	18 17 39.7	+0.1
Y24A	**Capitan**	**40.26**	**108**	⇓P		P	18 17 18.5	+1.5
	baz=40,SNR=25							
Y24A				⇓P		P	18 17 18.5	+1.5
	baz=40,SNR=25							
121A	**Cookes Peak, D**	**40.27**	**112**	⇓P		P	18 17 18.8	+1.7
	baz=40,SNR=18							
121A				⇓P		P	18 17 18.8	+1.7
	baz=40,SNR=18							
V28A	**Channing**	**40.37**	**103**	⇑P		P	18 17 19.0	+1.2
	baz=40,SNR=13							
V28A				⇑P		P	18 17 19.0	+1.2
	baz=40,SNR=13							
Z23A	**Rita Site, Whi**	**40.41**	**109**	⇓P		P	18 17 19.4	+1.2
	baz=40,SNR=7.3							
Z23A				⇓P		P	18 17 19.4	+1.2
	baz=40,SNR=7.3							
220A	**Playas Peak, P**	**40.44**	**113**	⇑P		P	18 17 19.9	+1.4
	baz=40,SNR=30							
220A				⇑P		P	18 17 19.9	+1.4
	ba

Y25A	**Mesa, Roswell**	**40.62**	**107**	⇓P		**P**	**18 17 21.5**	**+1.7**
	baz=40,SNR=26							
Y25A				⇓P		**P**	**18 17 21.5**	**+1.7**
	baz=40,SNR=26							
V29A	**Stinnett**	**40.62**	**102**	⇑P		**P**	**18 17 21.1**	**+1.3**
	baz=40							
V29A				⇑P		**P**	**18 17 21.1**	**+1.3**
	baz=40							
221A	**Mesquite Ranch**	**40.71**	**112**	⇑P		**P**	**18 17 22.2**	**+1.6**
	baz=40							
221A				⇑P		**P**	**18 17 22.2**	**+1.6**
	baz=40							
221A				⇑pP		**pP**	**18 17 45.4**	**+1.7**
	baz=40,SNR=15							
221A				⇑pP		**pP**	**18 17 45.4**	**+1.7**
	baz=40,SNR=15							
CLNS	**Chul'man**	**40.71**	**303**	*e*P		**P**	**18 17 20.4**	**+0.1**
CLNS				*e*			18 18 52.5	
CLNS				*e*			18 19 19.1	
CLNS				*e*PPP		PPP	18 19 23.7	
CLNS				*e*S		**S**	**18 23 25.8**	**+3.0**
CLNS				pmax		pmax		
	comp=Z,277nm,1.3s							
CLNS				pmax		pmax		
	comp=E,196nm,1.3s							
CLNS				pmax		pmax		
	comp=N,112nm,1.4s							
CLNS				pmax		pmax		
	comp=N,43nm,1.2s							
CLNS				pmax		pmax		
	comp=E,36nm,1.1s							
CLNS				pmax		pmax		
	comp=Z,34nm,1.2s							
CLNS				smax		smax		
	comp=N,297nm,15.6s							
CLNS				smax		smax		
	comp=E,277nm,15.9s							
CLNS				MLR		MLR		
	comp=E,788nm,15.0s							
CLNS				MLR		MLR		
	comp=N,267nm,14.0s							
CLNS				MLR		MLR		
	comp=Z,553nm,14.0s							
W28A	**Vega**	**40.77**	**103**	⇓pP		**pP**	**18 17 44.7**	**+0.5**
	baz=40,SNR=5.9							
W28A				⇓pP		pP	18 17 44.7	+0.5
	baz=40,SNR=5.9							
Z24A	**Sheeppen Canyo**	**40.77**	**108**	⇑P		**P**	**18 17 22.5**	**+1.2**
	baz=40,SNR=30							
Z24A				⇑P		**P**	**18 17 22.5**	**+1.2**
	baz=40,SNR=30							
X27A	**F and S Farms,**	**40.82**	**105**	⇑P		**P**	**18 17 23.0**	**+1.5**
	baz=41							
X27A				⇑P		**P**	**18 17 23.0**	**+1.5**
	baz=41							
SUMG	**Summit**	**40.84**	**25**	*i* P		**P**	**18 17 22.4**	**+0.9**
SUMG				*i*			18 17 45.9	
SUMG				pmax		pmax		
	comp=Z,170nm,0.8s							
SUMG	**Summit**	**40.84**	**25**	*e*P		**P**	**18 17 21.7**	**+0.2**
	comp=Z,281nm,1.0s							
SUMG				*e*pP		**pP**	**18 17 44.9**	**+0.3**
SUMG	**Summit**	**40.84**	**25**	*i* P		**P**	**18 17 22.4**	**+0.9**
	comp=Z,169nm,0.8s							
SUMG				*i* pP		**pP**	**18 17 45.9**	**+1.3**
ASAJ	**Asahikawa**	**40.87**	**277**	P		**P**	**18 17 21.7**	**0.0**
	comp=Z,90nm,0.7s,baz=24,slow=2.5,SNR=62							
ASAJ	**Asahikawa**	**40.87**	**277**	P		**P**	**18 17 21.7**	**0.0**
ASAJ				pmax		pmax		
	comp=Z,90nm,0.7s							
ASAJ	**Asahikawa**	**40.87**	**277**	*e*P		**P**	**18 17 22.0**	**+0.3**
	comp=Z,63nm,0.8s							
320A	**Kipp Ranch, An**	**40.91**	**113**	⇓P		**P**	**18 17 24.0**	**+1.6**
	baz=41,SNR=8.4							
320A				⇓P		**P**	**18 17 24.0**	**+1.6**
	baz=41,SNR=8.4							
320A				⇓pP		**pP**	**18 17 47.0**	**+1.6**
	baz=41,SNR=14							
320A				⇓pP		**pP**	**18 17 47.0**	**+1.6**
	baz=41,SNR=14							
222A	**Williams Famil**	**40.95**	**111**	⇓pP		**pP**	**18 17 47.2**	**+1.5**
	baz=41,SNR=9.4							
222A				⇓pP		pP	18 17 47.2	+1.5
	baz=41,SNR=9.4							
DAG	**Danmarks Havn**	**40.95**	**15**	⇑*i*P		**P**	**18 17 21.3**	**-0.6**
DAG				pmax		pmax		
	comp=Z,72nm,0.9s							
DAG	**Danmarks Havn**	**40.95**	**15**	⇑*i*P		**P**	**18 17 21.3**	**-0.6**
	comp=Z,722nm,0.9s							
Y26A	**Elida**	**41.04**	**106**	⇓P		**P**	**18 17 24.8**	**+1.4**
	baz=41							
Y26A				⇓P		**P**	**18 17 24.8**	**+1.4**
	baz=41							
Z25A	**Roswell**	**41.13**	**108**	⇓P		**P**	**18 17 25.3**	**+1.2**
	baz=41,SNR=9.9							
Z25A				⇓P		**P**	**18 17 25.3**	**+1.2**
	baz=41,SNR=9.9							
124A	**Stringfield Ra**	**41.24**	**109**	⇓P		**P**	**18 17 26.4**	**+1.3**
	baz=41,SNR=12							
124A				⇓P		**P**	**18 17 26.4**	**+1.3**
	baz=41,SNR=12							
124A				⇑pP		**pP**	**18 17 49.7**	**+1.5**
	baz=41,SNR=6.7							
124A				⇑pP		**pP**	**18 17 49.7**	**+1.5**
	baz=41,SNR=6.7							
AMTX	**Amarillo**	**41.33**	**103**	*e*P		**P**	**18 17 26.6**	**+0.9**
	comp=Z,577nm,1.4s							
AMTX				*e*pP		**pP**	**18 17 50.4**	**+1.6**
AMTX	**Amarillo**	**41.33**	**103**	⇑P		**P**	**18 17 27.2**	**+1.5**
	baz=41,SNR=18							
AMTX				⇑P		**P**	**18 17 27.2**	**+1.5**
	baz=41,SNR=18							
AMTX				⇑P		**P**	**18 17 27.2**	**+1.5**
	baz=41,SNR=18							
AMTX				⇑P		**P**	**18 17 27.2**	**+1.5**
	baz=41,SNR=18							
Y27A	**Causey**	**41.40**	**106**	⇑P		**P**	**18 17 27.7**	**+1.4**
	baz=41,SNR=18							
Y27A				⇑P		**P**	**18 17 27.7**	**+1.4**
	baz=41,SNR=18							
KBS	**Kingsbay**	**41.48**	**4**	*c i*P		**P**	**18 17 26.9**	**+0.7**
KBS	**Kingsbay**	**41.48**	**4**	*e*P		**P**	**18 17 26.5**	**+0.2**
	comp=Z,44nm,0.8s							
KBS				*e*PcP		**PcP**	**18 19 21.7**	**-0.1**
Z26A	**Caprock**	**41.49**	**107**	⇑P		**P**	**18 17 28.0**	**+0.9**
	baz=41,SNR=15							
Z26A				⇑P		**P**	**18 17 28.0**	**+0.9**
	baz=41,SNR=15							
MSTX	**Muleshoe**	**41.52**	**105**	⇓P		**P**	**18 17 28.5**	**+1.3**
	baz=41,SNR=16							
MSTX				⇓P		**P**	**18 17 28.5**	**+1.3**
	baz=41,SNR=16							
HABR	**Khabarovsk**	**41.58**	**288**	*c i*P		**P**	**18 17 27.1**	**-0.3**
HABR				*e**SP		**pP**	**18 17 47.2**	**-3.3**
HABR				*e*			18 19 01.5	
HABR				*e*			18 19 21.5	
HABR				*e*S		**S**	**18 23 36.4**	**+0.8**
HABR				*e*SS		**SS**	**18 26 43.7**	**0.0**
HABR				*e*SSS		SSS	18 27 15.0	
HABR				*e*			18 27 22.4	
HABR				pmax		pmax		
	comp=Z,1μm,1.9s							
HABR				pmax		pmax		
	comp=E,279nm,1.5s							
HABR				pmax		pmax		
	comp=Z,685nm,1.5s							
HABR				pmax		pmax		
	comp=N,173nm,1.5s							
HABR				MLR		MLR		
	comp=Z,694nm,21.0s							
SFJD	**Kangerlussuaq**	**41.58**	**35**	*i* P		**P**	**18 17 28.2**	**+1.0**
SFJD				pmax		pmax		
	comp=Z,61nm,0.8s							
SFJD	**Kangerlussuaq**	**41.58**	**35**	*e*P		**P**	**18 17 27.9**	**+0.8**
	comp=Z,162nm,1.0s							
SFJD				*e*pP		**pP**	**18 17 47.1**	**-3.2**
SFJD	**Kangerlussuaq**	**41.58**	**35**	*i* P		**P**	**18 17 28.2**	**+1.0**
	comp=Z,61nm,0.8s							
125A	**Gardner Draw,**	**41.66**	**108**	P		**P**	**18 17 29.8**	**+1.4**
	baz=41							
125A				P		**P**	**18 17 29.8**	**+1.4**
	baz=41							
X29A	**Tulia**	**41.67**	**104**	⇓P		**P**	**18 17 29.6**	**+1.2**
	baz=41							
X29A				⇓P		**P**	**18 17 29.6**	**+1.2**
	baz=41							
224A	**Cornudas Mount**	**41.72**	**110**	⇓P		**P**	**18 17 30.6**	**+1.6**
	baz=42,SNR=24							
224A				⇓P		**P**	**18 17 30.6**	**+1.6**
	baz=42,SNR=24							
CPRX	**Cap Rock**	**41.74**	**107**	*e*P		**P**	**18 17 26.9**	**-2.2**
	comp=Z,76nm,1.0s							
CPRX				*e*pP		**pP**	**18 17 52.9**	**+0.6**
Z27A	**Tatum**	**41.83**	**106**	⇑P		**P**	**18 17 30.9**	**+1.1**
	baz=42,SNR=9.1							
Z27A				⇑P		**P**	**18 17 30.9**	**+1.1**
	baz=42,SNR=9.1							
MNTX	**Cornudas Mount**	**42.10**	**110**	*e*P		**P**	**18 17 33.3**	**+1.4**
	comp=Z,232nm,1.2s							
MNTX				*e*pP		**pP**	**18 17 57.4**	**+2.3**
MNTX	**Cornudas Mount**	**42.10**	**110**	⇓P		**P**	**18 17 33.3**	**+1.4**
	baz=42,SNR=60							
MNTX				⇓P		**P**	**18 17 33.3**	**+1.4**
	baz=42,SNR=60							
MNTX				⇓P		**P**	**18 17 33.3**	**+1.4**
	baz=42,SNR=60							
ERM	**Erimo**	**42.11**	**275**	*d i*P		**P**	**18 17 32.1**	**+0.4**
ERM	**Erimo**	**42.11**	**275**	*e*P		**P**	**18 17 32.9**	**+1.1**
	comp=Z,512nm,1.3s							
GDL2	**Guadalupe Moun**	**42.18**	**108**	*e*P		**P**	**18 17 34.0**	**+1.4**
	comp=Z,321nm,1.2s							
GDL2				*e*pP		**pP**	**18 17 57.4**	**+1.6**
324A	**Moseley Ranch,**	**42.27**	**110**	⇓P		**P**	**18 17 35.0**	**+1.6**
	baz=42,SNR=29							
324A				⇓P		**P**	**18 17 35.0**	**+1.6**
	baz=42,SNR=29							
CLNB	**Carlsbad**	**42.36**	**108**	*e*P		**P**	**18 17 35.1**	**+1.0**
	comp=Z,75nm,1.6s							
CLNB				*e*pP		**pP**	**18 17 58.2**	**+0.9**
SPB4	**Spitsbergen Ar**	**42.37**	**3**	*e*P		**P**	**18 17 32.6**	**-0.9**
226A	**Malaga, Loving**	**42.42**	**108**	⇑P		**P**	**18 17 36.1**	**+1.5**
	baz=42,SNR=14							
226A				⇑P		**P**	**18 17 36.1**	**+1.5**
	baz=42,SNR=14							
GLMI	**Grayling**	**42.49**	**79**	P		**P**	**18 17 33.6**	**-1.3**
	comp=Z,76nm,0.6s							
GLMI				*e*pP		**pP**	**18 17 58.0**	**-0.1**
325A	**Bean Ranch, Si**	**42.57**	**110**	⇓P		**P**	**18 17 37.1**	**+1.2**
	baz=42,SNR=17							
325A				⇓P		**P**	**18 17 37.1**	**+1.2**
	baz=42,SNR=17							
KLR	**Kul'dur**	**42.64**	**291**	⇓*i*P		P	18 17 32.2	-3.9
KLR				pmax		pmax		
	comp=N,220nm,1.6s							
KLR				pmax		pmax		
	comp=E,430nm,1.6s							
KLR				pmax		pmax		
	comp=Z,1μm,1.6s							
KLR				pmax		pmax		
	comp=Z,2μm,8.0s							
WMOK	**Wichita Mounta**	**42.89**	**101**	*e*P		**P**	**18 17 38.9**	**+0.7**
WMOK				*e**PP		**pP**	**18 18 00.4**	**-1.1**
WMOK				pmax		pmax		
	comp=Z,116nm,1.0s							
WMOK	**Wichita Mounta**	**42.89**	**101**	*e*P		**P**	**18 17 38.9**	**+0.7**
	comp=Z,116nm,1.0s							
WMOK				*e*pP		**pP**	**18 18 00.4**	**-1.1**
425A	**Indio Mountain**	**43.05**	**110**	⇓P		**P**	**18 17 41.4**	**+1.8**
	baz=43,SNR=62							
425A				⇓P		**P**	**18 17 41.4**	**+1.8**
	baz=43,SNR=62							
326A	**Caldwell Ranch**	**43.09**	**109**	⇓P		**P**	**18 17 40.7**	**+0.7**
	baz=43,SNR=23							
326A				⇓P		**P**	**18 17 40.7**	**+0.7**
	baz=43,SNR=23							
HDIL	**Hopedale**	**43.24**	**87**	*e*P		**P**	**18 17 40.6**	**-0.3**
	comp=Z,174nm,0.8s							
TUL1	**Tulsa**	**43.47**	**97**	⇓P		**P**	**18 17 43.2**	**+0.3**
	baz=43,SNR=9.1							
TUL1				⇓P		**P**	**18 17 43.2**	**+0.3**
	baz=43,SNR=9.1							
426A	**McDonald Obser**	**43.60**	**109**	⇓P		**P**	**18 17 45.1**	**+0.9**
	baz=43,SNR=25							
426A				⇓P		**P**	**18 17 45.1**	**+0.9**
	baz=43,SNR=25							
427A	**Hayter Ranch,**	**43.76**	**108**	⇓P		**P**	**18 17 46.5**	**+1.2**
	baz=44,SNR=6.9							
427A				⇓P		**P**	**18 17 46.5**	**+1.2**
	baz=44,SNR=6.9							
427A				⇓pP		**pP**	**18 18 09.7**	**+1.1**
	baz=44,SNR=7.3							
427A				⇓pP		**pP**	**18 18 09.7**	**+1.1**
	baz=44,SNR=7.3							
SCHQ	**Schefferville**	**43.86**	**56**	P		**P**	**18 17 46.1**	**+0.3**
	comp=Z,9.8nm,0.5s,baz=314,slow=8.6,SNR=35							
SCHQ				LR		LR	18 36 46.6	
	comp=Z,1μm,20.6s,baz=135,slow=37							
SCHQ	**Schefferville**	**43.86**	**56**	*e*P		**P**	**18 17 45.7**	**-0.1**
	comp=Z,264nm,1.1s							
SCHQ				*e*pP		**pP**	**18 18 09.2**	**0.0**
526A	**Mary Lane Ranc**	**44.08**	**110**	⇓P		**P**	**18 17 49.1**	**+1.1**
	baz=44,SNR=15							
526A				⇓P		**P**	**18 17 49.1**	**+1.1**
	baz=44,SNR=15							
HOPEN	**Hopen**	**44.19**	**1**	*e*P		**P**	**18 17 47.9**	**-0.2**
HOPEN				*e*S		**S**	**18 24 14.8**	**+1.6**
HOPEN				*e*SS		**ScS**	**18 27 37.9**	**+2.7**
SLM	**Saint Louis**	**44.20**	**89**	*e*P		**P**	**18 17 47.6**	**-1.0**
SLM				*e**PP		**pP**	**18 18 11.8**	**-0.2**
SLM				pmax		pmax		
	comp=Z,44nm,0.6s							
SLM	**Saint Louis**	**44.20**	**89**	*e*P		**P**	**18 17 47.6**	**-1.0**
	comp=Z,44nm,0.6s							
SLM				*e*pP		**pP**	**18 18 11.8**	**-0.2**
428A	**Kincaid Ranch,**	**44.20**	**108**	⇓P		**P**	**18 17 50.0**	**+1.1**
	baz=44,SNR=48							
428A				⇓P		**P**	**18 17 50.0**	**+1.1**
	baz=44,SNR=48							
527A	**Woodward Ranch**	**44.24**	**109**	⇓P		**P**	**18 17 49.9**	**+0.7**
	baz=44,SNR=19							
527A				⇓P		**P**	**18 17 49.9**	**+0.7**
	baz=44,SNR=19							
626A	**Big Bend Ranch**	**44.48**	**110**	⇓P		**P**	**18 17 52.1**	**+1.0**
	baz=44,SNR=18							
626A				⇓P		**P**	**18 17 52.1**	**+1.0**
	baz=44,SNR=18							
SFIN	**Scholer Farm**	**44.48**	**85**	⇓P		**P**	**18 17 51.3**	**+0.5**
	baz=44							
SFIN				⇓P		**P**	**18 17 51.3**	**+0.5**
	baz=44							
BOD	**Bodaibo**	**44.49**	**310**	⇓*i*P		**P**	**18 17 50.3**	**-0.5**
BOD				pmax		pmax		
	comp=Z,256nm,1.3s							
FVM	**French Village**	**44.60**	**90**	*e*P		**P**	**18 17 51.6**	**-0.3**
FVM				*e**PP		**pP**	**18 18 14.6**	**-0.7**
FVM				*e**SP		**sP**	**18 18 24.9**	**-1.7**
FVM				pmax		pmax		
	comp=Z,42nm,0.6s							
FVM	**French Village**	**44.60**	**90**	*e*P		**P**	**18 17 51.6**	**-0.3**
	comp=Z,42nm,0.6s							
FVM				*e*pP		**pP**	**18 18 14.6**	**-0.7**
FVM				*e*sP		**sP**	**18 18 24.9**	**-1.7**
528A	**Cox Ranch, San**	**44.62**	**108**	⇓P		**P**	**18 17 53.4**	**+1.1**
	baz=44,SNR=46							
528A				⇓P		**P**	**18 17 53.4**	**+1.1**
	baz=44,SNR=46							
AAM	**Ann Arbor**	**44.80**	**80**	*e*P		**P**	**18 17 53.7**	**+0.3**
AAM				pmax		pmax		
	comp=Z,64nm,0.8s							
AAM	**Ann Arbor**	**44.80**	**80**	*e*P		**P**	**18 17 53.7**	**+0.3**
	comp=Z,64nm,0.8s							
TXAR	**Lajitas Array**	**44.88**	**110**	P		**P**	**18 17 55.7**	**+1.4**
	comp=Z,14nm,0.8s,baz=328,slow=5.9,SNR=106							
TXAR				LR		LR	18 35 59.1	
	comp=Z,704nm,20.3s,baz=255,slow=35							
TXAR				PKPPKP		P'P'df	18 49 11.7	-20
	comp=Z,0.2nm,0.7s,baz=190,slow=3.8,SNR=4.2							
TXAR	**Lajitas Array**	**44.88**	**110**	P		**P**	**18 17 55.7**	**+1.4**
TXAR	**Lajitas Array**	**44.88**	**110**	P		**P**	**18 17 55.7**	**+1.4**
TXAR				P'P'			18 49 11.7	
627A	**Terlingua Ranc**	**44.92**	**110**	⇓P		**P**	**18 17 55.5**	**+0.9**
	baz=45,SNR=41							
627A				⇓P		**P**	**18 17 55.5**	**+0.9**
	baz=45,SNR=41							
628A	**Black Gap, Mar**	**45.13**	**109**	⇑P		**P**	**18 17 57.2**	**+1.0**
	baz=45,SNR=64							
628A				⇑P		**P**	**18 17 57.2**	**+1.0**
	baz=45,SNR=64							
OLIL	**Olney**	**45.21**	**87**	*e*P		**P**	**18 17 56.3**	**-0.4**
	comp=Z,159nm,0.8s							
RFTA	**Plano**	**45.31**	**100**	*e*P		**P**	**18 17 58.5**	**+0.9**
RFTA				*e*pP		**pP**	**18 18 21.1**	**+0.1**
SIUC	**Southern Illin**	**45.42**	**89**	*e*P		**P**	**18 17 57.9**	**-0.5**
	comp=Z,79nm,0.9s							
SIUC				*e*pP		**pP**	**18 18 22.1**	**+0.3**
SIUC				*e*PP		**PP**	**18 19 46.9**	**+0.7**
MIAR	**Mount Ida**	**45.67**	**96**	*e*P		**P**	**18 18 00.4**	**+0.1**
MIAR				*e**PP		**pP**	**18 18 24.5**	**+0.7**
MIAR				*e**SP		**sP**	**18 18 34.6**	**-0.5**
MIAR				pmax		pmax		
	comp=Z,74nm,0.7s							
MIAR	**Mount Ida**	**45.67**	**96**	*e*P		**P**	**18 18 00.4**	**+0.1**
	comp=Z,74nm,0.7s							
MIAR				*e*pP		**pP**	**18 18 24.5**	**+0.7**
MIAR				*e*sP		**sP**	**18 18 34.6**	**-0.5**
BLO	**Bloomington**	**45.68**	**86**	*e*P		**P**	**18 18 00.3**	**-0.1**
BLO				pmax		pmax		
	comp=Z,109nm,0.8s							
BLO	**Bloomington**	**45.68**	**86**	*e*P		**P**	**18 18 00.3**	**-0.1**
	comp=Z,109nm,0.8s							
SCO	**Scoresbysund**	**45.74**	**21**	⇓*i*P		**P**	**18 18 01.2**	**+0.7**
SCO				pmax		pmax		
	comp=Z,38nm,1.1s							
SCO	**Scoresbysund**	**45.74**	**21**	⇓*i*P		**P**	**18 18 01.2**	**+0.7**
	comp=Z,38nm,1.1s							
JCT	**Junction City**	**45.81**	**105**	*e*P		**P**	**18 18 02.5**	**+0.9**
JCT				*e**PP		**pP**	**18 18 24.8**	**-0.3**
JCT				*e**SP		**sP**	**18 18 36.5**	**+0.2**
JCT				pmax		pmax		
	comp=Z,393nm,0.8s							
JCT	**Junction City**	**45.81**	**105**	*e*P		**P**	**18 18 02.5**	**+0.9**
	comp=Z,393nm,0.8s							
JCT				*e*pP		**pP**	**18 18 24.8**	**-0.3**
JCT				*e*sP		**sP**	**18 18 36.5**	**+0.2**
JCT	**Junction City**	**45.81**	**105**	⇑P		**P**	**18 18 02.6**	**+1.0**
	baz=46,SNR=114							
JCT				⇑P		**P**	**18 18 02.6**	**+1.0**
	baz=46,SNR=114							
PARMO	**Parma**	**45.96**	**91**	P		**P**	**18 18 00.7**	**-1.9**
PARMO				*e*pP		**pP**	**18 18 26.5**	**+0.4**
PARMO				*e*sP		**sP**	**18 18 36.5**	**-0.8**
USIN	**University of**	**46.02**	**88**	*e*P		**P**	**18 18 01.5**	**-1.6**
	comp=Z,126nm,0.8s							
USRK	**Ussuriysk Arra**	**46.09**	**285**	P		**P**	**18 18 03.0**	**-0.5**
	comp=Z,28nm,0.6s,baz=56,slow=8.1,SNR=83							
USRK				PcP		**PcP**	**18 19 38.5**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=65,slow=1.5,SNR=4.8							
USRK				LR		LR	18 37 08.2	
	comp=Z,1μm,21.5s,baz=227,slow=36							
UALR	**University of**	**46.11**	**95**	*e*P		**P**	**18 18 03.3**	**-0.5**
	comp=Z,34nm,0.8s							
GNAR	**Gosnell**	**46.36**	**91**	*e*P		**P**	**18 18 05.3**	**-0.4**
	comp=Z,933nm,1.1s							
WCI	**Wyandotte Cave**	**46.52**	**86**	*e*P		**P**	**18 18 05.9**	**-1.1**
WCI				pmax		pmax		
	comp=Z,122nm,1.0s							
WCI	**Wyandotte Cave**	**46.52**	**86**	*e*P		**P**	**18 18 05.9**	**-1.1**
	comp=Z,122nm,1.0s							
UTMT	**University of**	**46.66**	**90**	*e*P		**P**	**18 18 08.3**	**+0.3**
	comp=Z,270nm,1.0s							
ACSO	**Alum Creek Sta**	**46.68**	**82**	*e*P		**P**	**18 18 08.3**	**+0.1**
	comp=Z,9.0nm,0.6s							
HALT	**Halls**	**46.75**	**91**	P		**P**	**18 18 08.7**	**-0.1**
HALT				*e*pP		**pP**	**18 18 33.0**	**+0.6**
ERPA	**Erie**	**46.77**	**78**	*e*P		**P**	**18 18 09.3**	**+0.4**
	comp=Z,93nm,0.7s							
VLA	**Vladivostok**	**46.94**	**285**	*c i*P		**P**	**18 18 09.2**	**-1.0**
VLA				pmax		pmax		
	comp=Z,379nm,1.8s							
MDJ	**Mudanjiang**	**46.97**	**288**	P		**P**	**18 18 09.9**	**-0.5**
MDJ				pP		**pP**	**18 18 33.6**	**-0.4**
MDJ				sP		**sP**	**18 18 45.1**	**-0.1**
MDJ				PP		**PP**	**18 20 01.0**	**-0.5**
MDJ				S		**S**	**18 24 53.8**	**0.0**
MDJ				sS		**sS**	**18 25 34.8**	**+0.4**
MDJ				pmax		pmax		
	comp=Z,110nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,560nm,4.6s							
MDJ				LR		LR		
	comp=N,1μm,24.7s							
MDJ				LR		LR		
	comp=E,890nm,23.3s							
MDJ				LR		LR		
	comp=Z,1μm,36.4s							
MDJ	**Mudanjiang**	**46.97**	**288**	*e*P		**P**	**18 18 10.3**	**-0.1**
	comp=Z,249nm,1.4s							
MDJ				*e*pP		**pP**	**18 18 30.8**	**-3.2**
MDJ				*e*PP		**PP**	**18 20 02.8**	**+1.3**
ALLY	**Alegheny Colle**	**47.04**	**78**	*e*P		**P**	**18 18 11.5**	**+0.5**
	comp=Z,176nm,0.8s							
ALLY				*e*pP		**pP**	**18 18 34.4**	**-0.2**
MSNY	**Massena**	**47.16**	**71**	*e*P		**P**	**18 18 11.7**	**-0.1**
	comp=Z,1μm,0.9s							
NATX	**Nacogdoches**	**47.34**	**99**	*e*P		**P**	**18 18 13.8**	**+0.4**
	comp=Z,240nm,1.1s							
WVT	**Waverly**	**47.35**	**89**	*e*P		**P**	**18 18 13.3**	**-0.1**
WVT				pmax		pmax		
	comp=Z,28nm,0.6s							
WVT	**Waverly**	**47.35**	**89**	*e*P		**P**	**18 18 13.3**	**-0.1**
	comp=Z,28nm,0.6s							
LONY	**Lake Ozonia**	**47.57**	**71**	*e*P		**P**	**18 18 14.2**	**-0.9**
	comp=Z,47nm,0.9s							
LONY				*e*pP		**pP**	**18 18 38.1**	**-0.6**
OXF	**Oxford**	**47.81**	**92**	*e*P		**P**	**18 18 17.2**	**+0.2**
OXF				*e**PP		**pP**	**18 18 41.2**	**+0.5**
OXF				pmax		pmax		
	comp=Z,606nm,1.0s							
OXF	**Oxford**	**47.81**	**92**	*e*P		**P**	**18 18 17.2**	**+0.2**
	comp=Z,606nm,1.0s							
OXF				*e*pP		**pP**	**18 18 41.2**	**+0.5**
FRNY	**Flat Rock**	**47.89**	**71**	*e*P		**P**	**18 18 16.7**	**-0.8**
	comp=Z,80nm,0.8s							
FRNY				*e*pP		**pP**	**18 18 40.8**	**-0.4**
PLAL	**Pickwick Lake**	**48.12**	**91**	*e*P		**P**	**18 18 19.4**	**+0.1**
	comp=Z,254nm,0.8s							
PLAL				*e*pP		**pP**	**18 18 41.7**	**-1.3**
PLAL				*e*sP		**sP**	**18 18 53.9**	**-0.4**
HIA	**Hailar**	**48.17**	**299**	*e*P		**P**	**18 18 18.9**	**-0.8**
HIA				pmax		pmax		
	comp=Z,321nm,1.4s							
HIA	**Hailar**	**48.17**	**299**	*e*P		**P**	**18 18 18.9**	**-0.8**
	comp=Z,321nm,1.4s							
HIA				*e*ScP		**ScP**	**18 23 29.8**	**-0.6**
HKT	**Hockley**	**48.21**	**102**	*e*P		**P**	**18 18 21.2**	**+1.1**
HKT				*e**PP		**pP**	**18 18 44.7**	**+0.9**
HKT				pmax		pmax		
	comp=Z,

LBNH Lisbon 49.13 70 *e*P **P** 18 18 26.2 -0.9
LBNH *e**PP **pP** 18 18 50.4 -0.4
LBNH pmax pmax
comp=Z,256nm,1.4s
LBNH Lisbon 49.13 70 *e*P **P** 18 18 26.2 -0.9
comp=Z,256nm,1.4s
LBNH *e*pP **pP** 18 18 50.4 -0.4
PQI Presque Isle 49.16 65 *e*P **P** 18 18 29.8 +2.6
comp=Z,526nm,1.4s
TZTN Tazewell 49.20 85 *e*P **P** 18 18 28.8 +1.1
comp=Z,127nm,0.9s
TZTN *e*pP **pP** 18 18 51.3 -0.2
TRY Troy 49.42 73 *e*P **P** 18 18 28.8 -0.5
comp=Z,90nm,0.9s
TRY *e*pP **pP** 18 18 53.3 +0.2
CPCT Cooper Cave 49.56 87 *e*P **P** 18 18 30.1 -0.4
CPCT *e*pP **pP** 18 18 52.7 -1.6
CN2 Changchun 49.57 290⇑ *i*P **P** 18 18 30.3 -0.1
CN2 *e*pP **pP** 18 18 56.6 +2.4
CN2 *e*sP **sP** 18 19 04.8 -0.6
CN2 *e*S **S** 18 25 29.6 -0.9
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,20.0s
CN2 LR LR
comp=E,600nm,20.0s
CN2 LR LR
comp=Z,700nm,22.0s
TKL Tuckaleechee C 49.78 86 LR LR 18 38 54.5
comp=Z,948nm,21.1s,baz=330,slow=35
TKL Tuckaleechee C 49.78 86 *e*P **P** 18 18 31.5 -0.6
TKL *e**PP **pP** 18 18 55.6 -0.3
TKL Tuckaleechee C 49.78 86 *e*P **P** 18 18 31.5 -0.6
TKL *e*pP **pP** 18 18 55.6 -0.3
WVL Waterville 49.96 68 P **P** 18 18 33.3 0.0
comp=Z,1μm,1.9s
WVL *e*pP **pP** 18 18 56.9 -0.3
ELN Prospectdale 50.09 83 *e*P **P** 18 18 34.0 -0.5
ELN *e*pP **pP** 18 18 57.3 -1.0
LRAL Lakeview Retre 50.20 91 *e*P **P** 18 18 34.1 -1.1
comp=Z,53nm,0.8s
LRAL *e*pP **pP** 18 18 59.3 +0.2
BLA Blacksburg 50.27 82 *e*P **P** 18 18 35.5 -0.3
BLA *e**PP **pP** 18 18 59.2 -0.5
BLA pmax pmax
comp=Z,100nm,0.7s
BLA Blacksburg 50.27 82 *e*P **P** 18 18 35.5 -0.3
comp=Z,100nm,0.7s
BLA *e*pP **pP** 18 18 59.2 -0.5
SDMD Soldier's Deli 50.38 78 *e*P **P** 18 18 36.5 0.0
comp=Z,142nm,1.0s
SDMD *e*pP **pP** 18 18 58.7 -1.7
QUA2 Belchertown 50.40 72 *e*P **P** 18 18 36.9 +0.2
comp=Z,84nm,0.8s
QUA2 *e*pP **pP** 18 19 01.5 +1.0
BRNJ Basking Ridge 50.53 75 *e*P P 18 18 42.5 +4.9
comp=Z,27μm,0.9s
BRNJ *e*pP pP 18 19 01.2 -0.3
PAL Palisades 50.61 74 *e*P **P** 18 18 38.4 +0.2
PAL *e**PP **pP** 18 19 01.2 -0.9
PAL pmax pmax
comp=Z,143nm,0.8s
PAL Palisades 50.61 74 *e*P **P** 18 18 38.4 +0.2
comp=Z,144nm,0.8s
PAL *e*pP **pP** 18 19 01.2 -0.9
CPNY Central Park 50.74 74 P **P** 18 18 40.5 +1.3
comp=Z,89nm,1.0s
CPNY *e*pP **pP** 18 19 05.3 +2.2
WES Weston 50.81 71 *e*P **P** 18 18 39.9 +0.1
WES *e**PP **pP** 18 19 03.8 +0.1
WES pmax pmax
comp=Z,225nm,0.8s
WES Weston 50.81 71 *e*P **P** 18 18 39.9 +0.1
comp=Z,225nm,0.8s
WES *e*pP **pP** 18 19 03.8 +0.1
BORG Borgarnes 50.82 24 LR LR 18 39 46.1
comp=Z,870nm,20.3s,baz=335,slow=35
BORG Borgarnes 50.82 24 *e*P **P** 18 18 40.0 +0.5
BORG pmax pmax
comp=Z,95nm,0.9s
BORG Borgarnes 50.82 24 *e*P **P** 18 18 40.0 +0.5
comp=Z,95nm,0.9s
YLE Yale 50.85 73 *e*P P 18 18 42.9 +2.9
comp=Z,184nm,0.8s
YLE *e*pP pP 18 19 04.5 +0.6
EMMW East Machias 50.89 66 *e*P **P** 18 18 42.4 +2.1
comp=Z,447nm,1.2s
EMMW *e*pP **pP** 18 19 04.2 0.0
TRO Tromso 50.98 4 *e*P **P** 18 18 43.0 +2.4
TRO *e*S **S** 18 25 50.9 +1.5
KEV Kevo 50.99 360 *e*P **P** 18 18 39.4 -1.3
KEV pmax pmax
comp=Z,30nm,0.8s
KEV Kevo 50.99 360 *e*P **P** 18 18 39.4 -1.3
comp=Z,30nm,0.8s
KEV Kevo 50.99 360 *e*p **P** 18 18 39.1 -1.6
comp=Z,15nm,0.7s
KEV Kevo 50.99 360 *e*p **P** 18 18 39.1 -1.6
comp=Z,15nm,0.7s
CBN Corbin 51.04 79 P **P** 18 18 40.8 -0.7
comp=Z,65nm,0.6s
CBN *e*pP **pP** 18 19 04.9 -0.5
BRYW Bryant College 51.07 72 *e*P **P** 18 18 41.2 -0.5
comp=Z,152nm,0.8s
BRYW *e*pP **pP** 18 19 05.3 -0.3
ARCES ARCESS Array B 51.20 1 P **P** 18 18 41.4 -1.0
comp=Z,14nm,0.6s,baz=353,slow=6.2,SNR=80
ARCES ARCESS Array B 51.20 1 P **P** 18 18 41.4 -1.0
ARCES ARCESS Array B 51.20 1 P **P** 18 18 41.4 -1.0
ARE0 ARCESS Array S 51.20 1 *e*P **P** 18 18 42.1 -0.3
ARE0 ARCESS Array S 51.20 1 *e*P **P** 18 18 40.8 -1.6
ANIG Ahuacatlan 51.54 117 P **P** 18 18 46.4 +0.8
ANIG S **pP** 18 19 10.7 +1.1
GOGA Godfrey 51.70 88 *e*P **P** 18 18 45.9 -0.6
GOGA *e**PP **pP** 18 19 09.7 -0.8
GOGA pmax pmax
comp=Z,110nm,1.0s
GOGA Godfrey 51.70 88 *e*P **P** 18 18 45.9 -0.6
comp=Z,110nm,1.0s
GOGA *e*pP **pP** 18 19 09.7 -0.8
KTK1 Kautokeino 51.71 2 *e*P **P** 18 18 46.2 +0.1
SNY Shenyang 51.96 290⇑ P **P** 18 18 48.6 +0.3
SNY S **S** 18 26 05.5 +2.0
SNY pmax pmax
comp=Z,220nm,1.5s
SNY pmax pmax
comp=Z,2μm,3.5s
SNY LR LR
comp=N,830nm,16.3s
SNY LR LR
comp=Z,1μm,19.6s
IRK Irkutsk 52.39 311⇑ *i*P **P** 18 18 51.3 -0.1
IRK *e* 18 19 14.3
IRK pmax pmax
comp=Z,321nm,2.2s
STEI Steigen 52.54 6 *e*P **P** 18 18 52.9 +0.7
SFJM Santa Fe 52.71 115 P P 18 18 48.3 -6.0
LVZ Lovozero 52.73 356 *ce*P **P** 18 18 53.2 -0.5
LVZ pmax pmax
comp=Z,61nm,1.0s
LVZ Lovozero 52.73 356 *e*P **P** 18 18 53.1 -0.6
comp=Z,175nm,1.4s
TLY Talaya 53.07 311 *c i*P **P** 18 18 55.3 -1.1
TLY *e* 18 19 24.6
TLY *e*S **S** 18 26 22.9 +4.4
TLY pmax pmax
comp=Z,146nm,1.7s
TLY MLR MLR
comp=Z,701nm,21.0s
TLY Talaya 53.07 311 *e*P **P** 18 18 56.6 +0.2
comp=Z,352nm,1.7s
TLY *e*pP **pP** 18 19 22.9 +2.5
TLY Talaya 53.07 311 P **P** 18 18 57.4 +1.0
comp=Z,468nm,1.7s,SNR=38
CNNC Cliffs of the 53.09 82 P **P** 18 18 55.1 -1.6
comp=Z,174nm,0.9s
CNNC *e*pP **pP** 18 19 19.6 -1.1
APA Apatity 53.09 357⇓ *i*P **P** 18 18 55.4 -0.9
APA *i* *PP **pP** 18 19 21.0 +0.6
APA *i* S **S** 18 26 16.0 -2.3
APA *i* 18 26 56.0
APA *i* 18 28 26.0
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,900nm,19.0s
KSRS Korea Array 53.22 283 P **P** 18 18 58.2 +0.6
comp=Z,68nm,0.8s,baz=38,slow=7.0,SNR=180
KSRS LR LR 18 41 49.1
comp=Z,192nm,19.5s,baz=44,slow=36
KSRS Korea Array 53.22 283 P **P** 18 18 58.2 +0.6
KSRS pmax pmax
comp=Z,68nm,0.8s
KSRS MLR MLR
comp=Z,192nm,19.5s
KSAR Wonju Array Be 53.25 283 P **P** 18 18 58.2 +0.4
KSAR Wonju Array Be 53.25 283 P **P** 18 18 58.2 +0.4
NHSC New Hope 53.61 85 *e*P **P** 18 19 01.2 +0.6
comp=Z,96nm,0.8s
NHSC *e*pP **pP** 18 19 23.9 -0.8
INCN Inchon 53.83 284 *e*P **P** 18 19 02.0 -0.2
comp=Z,201nm,1.3s
MOY Mondy 54.09 312 *e*P **P** 18 19 04.7 +0.7
MOY pmax pmax
comp=Z,356nm,2.5s
ZAK Zakamensk 54.24 310 *e*P **P** 18 19 03.9 -1.1
ZAK pmax pmax
comp=Z,22nm,1.5s
MOR8 Moi Rana 54.25 6 *e*P **P** 18 19 04.9 +0.1
CBIJ Chichi jima 54.27 263 P **P** 18 19 05.9 +0.5
comp=Z,160nm,0.7s,baz=357,slow=8.4,SNR=7.7
CBIJ LR LR 18 38 19.1
comp=Z,342nm,21.7s,baz=34,slow=32
CBIJ Chichi jima 54.27 263 P **P** 18 19 05.9 +0.5
MMIG Aquila 54.49 117 P **P** 18 19 07.5 +0.5
MMIG S pP 18 19 36.9 +5.6
ULN Ulaanbaatar 54.71 306⇑ *i*P **P** 18 19 08.6 0.0
ULN pmax pmax
comp=Z,42nm,0.9s
ULN Ulaanbaatar 54.71 306⇑ *i*P **P** 18 19 08.6 0.0
comp=Z,42nm,0.9s
ULN *e*ScP **ScP** 18 23 58.3 -0.6
SONM Songino Array 55.00 306 P **P** 18 19 11.6 +0.9
comp=Z,50nm,0.9s,baz=38,slow=5.8,SNR=245
SONM ScP **ScP** 18 24 00.4 +0.3
comp=Z,7.7nm,1.2s,baz=100,slow=1.5,SNR=4.3
SONM LR LR 18 44 19.5
comp=Z,554nm,18.9s,baz=206,slow=38
SONM PKPPKP P'P'df 18 49 13.4 -6.3
comp=Z,0.4nm,0.8s,baz=250,slow=4.4,SNR=4.2
SONM PKP2ab 18 50 02.5
comp=Z,1.0nm,1.0s,baz=193,slow=6.1,SNR=4.4
SONM Songino Array 55.00 306 P **P** 18 19 11.6 +0.9
SONM Songino Array 55.00 306 P **P** 18 19 11.6 +0.9
SONM ScP **ScP** 18 24 00.4 +0.3
SONM P'P' 18 49 13.4
SONM P'P'ab P'P'ab 18 50 02.5 +8.0
JNU Nakatsue 55.15 277 P **P** 18 19 12.8 +1.0
comp=Z,30nm,0.9s,baz=32,slow=7.1,SNR=22
JNU LR LR 18 41 33.9
comp=Z,449nm,19.9s,baz=50,slow=35
JNU Nakatsue 55.15 277 *e*P **P** 18 19 12.3 +0.5
comp=Z,48nm,1.4s
DL2 Dalian 55.17 289 P P 18 19 08.3 -3.4
DL2 S **S** **18 26 43.8 -3.1**
DL2 sS sS 18 27 25.5 -2.9
DL2 pmax pmax
comp=Z,370nm,7.0s
DL2 LR LR
comp=N,750nm,30.1s
DL2 LR LR
comp=Z,520nm,36.9s
NSS Namsos 55.72 8 *e*P **P** 18 19 15.1 -0.2
ZIIG Zihuatanejo 55.94 115 P P 18 19 11.7 -5.8
ZIIG S pP 18 19 42.2 +0.4
BJI Beijing 56.86 294 P **P** 18 19 23.3 -0.5
BJI sP **sP** 18 19 59.9 +0.7
BJI PP **PP** 18 21 31.3 +0.5
BJI S **S** 18 27 10.3 +1.0
BJI sS **sS** 18 27 55.1 +4.0
BJI pmax pmax
comp=Z,140nm,1.3s
BJI pmax pmax
comp=Z,1μm,3.3s
BJI LR LR
comp=N,690nm,17.0s
BJI LR LR
comp=E,700nm,13.5s
BJI LR LR
comp=Z,530nm,27.1s
BJT Baijiatuau 56.88 294 *e*P **P** 18 19 23.6 -0.4
BJT pmax pmax
comp=Z,62nm,0.5s
BJT Baijiatuau 56.88 294 *e*P **P** 18 19 23.6 -0.4
comp=Z,62nm,0.5s
DWPF Disney 56.99 90 P **P** 18 19 23.6 -1.2
comp=Z,55nm,1.2s
HVS Khovu-Aksy 57.18 316 *c i*P **P** 18 19 26.6 +0.6
HVS pmax pmax
comp=Z,839nm,1.5s
MOL Molde 57.30 10 *e*P **P** 18 19 26.8 +0.3
NVS Novosibirsk 57.40 325⇑ *i*P **P** 18 19 26.1 -1.3
NVS *e* 18 19 49.2
NVS *i*S **S** 18 27 15.5 -0.5
NVS *i* 18 29 04.3
NVS pmax pmax
comp=N,163nm,2.0s
NVS pmax pmax
comp=Z,447nm,2.0s
NVS pmax pmax
comp=E,109nm,1.7s
NVS smax smax
comp=N,61nm,2.6s
NVS smax smax
comp=E,182nm,2.8s
ZAA0 Zalesovo Array 57.70 324⇑ *i*P **P** 18 19 28.7 -0.8
ZALV Zalesovo Beam 57.70 324 P **P** 18 19 29.1 -0.4
comp=E,47nm,0.7s,baz=29,slow=6.2,SNR=113
ZALV LR LR 18 43 56.1
comp=E,516nm,20.9s,baz=184,slow=36
ZALV PKP2ab 18 49 52.0
comp=E,0.2nm,0.3s,baz=286,slow=1.1,SNR=3.7
ZALV Zalesovo Beam 57.70 324 P **P** 18 19 29.1 -0.4
ZALV Zalesovo Beam 57.70 324 P **P** 18 19 29.1 -0.4
ZALV P'P'ab P'P'ab 18 49 52.0 +8.8
JOF Joensuu 57.81 358 *e*P **P** 18 19 29.4 -0.7
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 57.81 358 *e*p **P** 18 19 29.4 -0.7
comp=Z,10nm,0.7s
JOF Joensuu 57.81 358 *e*p **P** 18 19 29.4 -0.7
comp=Z,10nm,0.7s
HHC Hu-ho-hao-te 58.34 297 *e*P **P** 18 19 34.4 +0.1
HHC PP **PP** 18 21 45.3 +1.3
HHC S **S** 18 27 28.9 0.0
HHC pmax pmax
comp=Z,160nm,1.3s
HHC pmax pmax
comp=Z,1μm,5.6s
HHC LR LR
comp=N,2μm,15.5s
HHC LR LR
comp=E,840nm,16.7s
HHC LR LR
comp=Z,940nm,16.7s
KAF Kangasniemi 58.66 0 *e*P **P** 18 19 35.8 -0.3
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 58.66 0 *e*p **P** 18 19 35.8 -0.3
comp=Z,12nm,0.5s
KAF Kangasniemi 58.66 0 *e*p **P** 18 19 35.8 -0.3
comp=Z,12nm,0.5s
SOKR Solikamsk 58.93 343 *d i*P **P** 18 19 37.4 -0.5
SOKR S **S** 18 27 32.5 -3.2
SOKR pmax pmax
comp=Z,210nm,1.4s
SOKR MLR MLR
comp=Z,750nm,23.0s
ASK Askoy 59.12 12 *e*P **P** 18 19 38.9 -0.3
NB2 NORSAR Subarra 59.13 9 P **P** 18 19 38.9 -0.5
comp=Z,164nm,1.1s,baz=352,slow=6.9
NOA NORSAR Array B 59.13 9 P **P** 18 19 39.1 -0.3
comp=Z,67nm,1.0s,baz=351,slow=6.8,SNR=70
NOA PKP2ab 18 49 41.3
comp=Z,3.5nm,1.0s,baz=149,slow=2.4,SNR=4.1
NOA NORSAR Array B 59.13 9 P **P** 18 19 39.1 -0.3
NOA NORSAR Array B 59.13 9 P **P** 18 19 39.1 -0.3
NOA P'P'ab **P'P'ab** 18 49 41.3 +4.0
RUND Rundenannen 59.20 12 *e*P **P** 18 19 39.5 -0.4
BTO Baotou 59.23 298 *e*P **P** 18 19 39.8 -0.7
BTO pmax pmax
comp=Z,29nm,1.6s
BER Bergen 59.23 12 *e*P **P** 18 19 38.9 -1.0
NAO01 NORSAR Array S 59.30 9⇓ *i*P **P** 18 19 40.1 -0.4
comp=Z,198nm,1.3s
EGD Espegrend 59.33 12 *e*P **P** 18 19 40.3 -0.3
FINES FINESS Array B 59.33 0 P **P** 18 19 40.1 -0.6
comp=Z,30nm,0.8s,baz=6.1,slow=5.2,SNR=63
FINES PKP2ab 18 49 46.1
comp=Z,4.6nm,1.0s,baz=225,slow=4.3,SNR=4.4
FINES FINESS Array B 59.33 0 P **P** 18 19 40.1 -0.6
FINES FINESS Array B 59.33 0 P **P** 18 19 40.1 -0.6
FINES P'P'ab P'P'ab 18 49 46.1 +10
NC602 NORSAR Array S 59.45 9 *e*P **P** 18 19 41.7 +0.1
CMIG Matias Romero 59.48 109 LR LR 18 45 01.4
comp=Z,267nm,21.2s,baz=153,slow=36
KLMR Klimovskoe 59.53 353 *c i*P **P** 18 19 41.3 -0.7
KLMR *e**SP **pP** 18 20 04.8 -1.8
KLMR *e*S S 18 27 35.5 -7.9
KLMR pmax pmax
comp=Z,179nm,1.5s
KLMR MLR MLR
comp=Z,526nm,16.0s
ODD1 Odda 59.83 12 *e*P **P** 18 19 42.9 -1.3
ODD1 AMB AMB 18 19 44.3
comp=Z,107nm,1.4s
TEIG Tepich 60.06 101 *e*P **P** 18 19 45.8 -0.5
comp=Z,112nm,1.1s
TEIG *e*pP **pP** 18 20 09.8 -1.1
TEIG *e*sP **sP** 18 20 21.1 -0.8
OSL Oslo 60.18 9 *e*P **P** 18 19 47.1 +0.6
BLS5 Blasjo 60.29 12 *e*P **P** 18 19 47.9 +0.5
BLS5 AMB AMB 18 19 49.0
comp=Z,86nm,1.3s
MVH1 Achvaich 60.33 18⇑ *e*P **P** 18 19 47.3 -0.3
MVH1 Achvaich 60.33 18 P **P** 18 19 47.3 -0.3
KONO Kongsberg 60.37 10 *e*P **P** 18 19 47.6 -0.2
KONO *e*S **S** 18 27 56.9 +2.7
KONO Kongsberg 60.37 10⇑ *e*P **P** 18 19 46.9 -0.9
KONO *e**PP **pP** 18 20 14.7 +2.3
KONO pmax pmax
comp=Z,218nm,1.1s
KONO Kongsberg 60.37 10⇑ *e*P **P** 18 19 46.9 -0.9
comp=Z,218nm,1.1s
KONO *e*pP **pP** 18 20 14.7 +2.3
KAC Achnashellach 60.55 19⇑ *e*P **P** 18 19 48.8 -0.3
KAC Achnashellach 60.55 19 P **P** 18 19 48.8 -0.3
KPL Plockton 60.64 20⇑ *e*P **P** 18 19 49.3 -0.4
KPL AMB AMB 18 19 50.3
comp=Z,220nm,1.4s
KPL Plockton 60.64 20 P **P** 18 19 49.3 -0.4
KPL AMB AMB 18 19 50.3
comp=Z,220nm,1.4s
MDO Dochfour 60.76 19⇑ *e*P **P** 18 19 50.2 -0.3
MDO Dochfour 60.76 19 P **P** 18 19 50.2 -0.3
MCD Coleburn Disti 60.80 18⇑ *e*P **P** 18 19 50.1 -0.7
MCD Coleburn Disti 60.80 18 P **P** 18 19 50.1 -0.7
SVE Sverdlovsk 60.91 340 *de*P **P** 18 19 50.9 -0.7
SVE *e* 18 20 32.0
SVE *e*PPP PPP 18 23 34.4
SVE *e*S **S** **18 27 59.4 -1.9**
SVE *e*SS **SS** **18 32 01.4 +0.4**
SVE pmax pmax
comp=Z,166nm,1.2s
MME1 Meikle Cairn 61.10 18⇑ *e*P **P** 18 19 51.6 -1.3
MME1 Meikle Cairn 61.10 18 P **P** 18 19 51.6 -1.3
SNART Snartemo 61.43 12 *e*P **P** 18 19 54.2 -0.8
JOW Kunigami 61.56 275 P **P** 18 19 57.9 +1.6
comp=Z,106nm,0.9s,baz=351,slow=5.5,SNR=6.7
JOW LR LR 18 50 04.8
comp=Z,222nm,18.5s,baz=10,slow=39
JOW Kunigami 61.56 275 *e*P **P** 18 19 57.6 +1.3
comp=Z,201nm,1.5s
JOW *e*pP **pP** 18 20 22.6 +1.6
HOMB Homborsund 61.63 11 *e*P **P** 18 19 57.4 +1.1
SSE Sheshan 61.63 284 P **P** 18 19 58.3 +1.5
SSE PP **PP** 18 22 14.8 +1.6
SSE S S 18 28 17.4 +6.4
SSE pmax pmax
comp=Z,60nm,1.1s
SSE pmax pmax
comp=Z,610nm,7.5s
SSE LR LR
comp=N,470nm,24.0s
SSE LR LR
comp=E,520nm,24.0s
SSE LR LR
comp=Z,660nm,24.0s
ARU Arti 61.65 341 *c i*P **P** 18 19 55.5 -1.0
ARU *SP sP 18 20 21.1 -11
ARU *e* 18 20 36.3
ARU PPP PPP 18 23 39.0
ARU S **S** **18 28 11.4 +0.8**
ARU *SS sS 18 28 40.6 -12
ARU 18 29 35.6
ARU SS **SS** **18 32 07.6 -4.9**
ARU SSS SSS 18 34 48.9
ARU pmax pmax
comp=Z,159nm,1.2s
ARU Arti 61.65 341⇑ *e*P **P** 18 19 54.8 -1.7
comp=Z,184nm,1.2s
ARU Arti 61.65 341 P **P** 18 19 55.6 -1.0
comp=Z,570nm,0.8s,SNR=45
BBSR BB Station 61.94 73 *e*P **P** 18 19 57.4 -1.5
comp=Z,39nm,1.0s
BBSR *e*pP **pP** 18 20 22.6 -0.9
EAB Aberfoyle 61.96 19⇑ *e*P **P** 18 19 57.6 -1.0
EAB Aberfoyle 61.96 19 P **P** 18 19 57.6 -1.0
NJ2 Nanjing 62.00 286 *e*P **P** 18 19 58.5 -0.8
NJ2 pP **pP** 18 20 22.9 -1.1
NJ2 sP **sP** 18 20 31.9 -3.0
NJ2 S **S** 18 28 15.0 -0.7
NJ2 pmax pmax
comp=Z,230nm,1.2s
NJ2 pmax pmax
comp=Z,650nm,8.0s
NJ2 LR LR
comp=N,2μm,28.4s
NJ2 LR LR
comp=E,820nm,25.7s
NJ2 LR LR
comp=Z,3μm,20.4s
PGBU Glenifferbraes 62.30 19⇑ *e*P **P** 18 20 00.6 -0.3
PGBU AMB AMB 18 20 02.1
comp=Z,226nm,1.0s
PGBU Glenifferbraes 62.30 19 P **P** 18 20 00.6 -0.3
PGBU AMB AMB 18 20 02.1
comp=Z,226nm,1.0s
VSU Vasula 62.33 0 *i*P **P** 18 20 00.5 -0.5
KURK Kurchatov 62.37 326 P **P** 18 20 01.4 0.0
comp=Z,45nm,0.9s,baz=25,slow=6.1,SNR=77
KURK Kurchatov 62.37 326 *c i*P **P** 18 20 00.5 -0.9
KURK pmax pmax
comp=Z,143nm,1.3s
KURK Kurchatov 62.37 326⇑ *i*P **P** 18 20 00.5 -0.9
comp=Z,101nm,1.1s
KURK *e*pP **pP** 18 20 27.2 +1.1
KURK *e*ScP **ScP** 18 24 30.7 -1.7
KURK *e*S **S** 18 28 17.4 -2.3
BRVK Borovoye 62.43 332 *c i*P **P** 18 20 01.1 -0.7
BRVK pmax pmax
comp=Z,229nm,1.6s
BRVK Borovoye 62.43 332⇑ *i*P **P** 18 20 00.7 -1.1
comp=Z,158nm,1.0s
BRVK *e*pP **pP** 18 20 27.4 +0.8
BRVK *e*PP **PP** 18 22 19.3 -0.3
BVA0 Borovoye Array 62.44 332 *i*P **P** 18 20 01.1 -0.8
BVA0 pmax pmax
comp=Z,53nm,1.5s
BVAR Borovoye Array 62.44 332 P **P** 18 20 01.5 -0.4
comp=Z,61nm,0.6s,baz=24,slow=5.1,SNR=134
BVAR Borovoye Array 62.44 332 P **P** 18 20 01.5 -0.4
BVAR Borovoye Array 62.44 332 P **P** 18 20 01.5 -0.4
EAU Auchinoon 62.44 19⇑ *e*P **P** 18 20 01.9 0.0
EAU Auchinoon 62.44 19 P **P** 18 20 01.9 0.0
ESY Stoneypath 62.50 18⇑ *e*P **P** 18 20 01.6 -0.6
ESY Stoneypath 62.50 18 P **P** 18 20 01.6 -0.6
VOSK Vostochnaya 62.57 332 P **P** 18 20 01.1 -1.7
VOSK pmax pmax
comp=Z,96nm,0.9s
EBL Broad Law 62.57 19⇑ *e*P **P** 18 20 02.5 -0.2
EBL Broad Law 62.57 19 P **P** 18 20 02.5 -0.2

ZRNK	**Zerenda**	**62.83**	**333**		P	**P**	**18 20 03.5**	**-1.0**
ZRNK					pmax	pmax			
	comp=Z,70nm,0.5s								
ESK	**Eskdalemuir**	**62.98**	**19**	⇑	*e*P	**P**	**18 20 04.9**	**-0.5**
ESK					AMB	AMB	18 20 06.8		
	comp=Z,223nm,1.2s								
ESK	**Eskdalemuir**	**62.98**	**19**		P	**P**	**18 20 04.9**	**-0.5**
ESK					AMB	AMB	18 20 06.8		
	comp=Z,223nm,1.2s								
ESK	**Eskdalemuir**	**62.98**	**19**		*e*P	**P**	**18 20 05.4**	**-0.1**
ESK					*e**PP	**pP**	**18 20 30.3**	**+0.1**
ESK					pmax	pmax			
	comp=Z,223nm,1.0s								
ESK	**Eskdalemuir**	**62.98**	**19**		*e*P	**P**	**18 20 05.4**	**-0.1**
	comp=Z,223nm,1.0s								
ESK					*e*pP	**pP**	**18 20 30.3**	**+0.1**
GAL1	**Galloway**	**63.16**	**20**	⇑	*e*P	**P**	**18 20 06.5**	**-0.1**
GAL1					AMB	AMB	18 20 07.8		
	comp=Z,295nm,0.9s								
GAL1	**Galloway**	**63.16**	**20**		P	**P**	**18 20 06.5**	**-0.1**
GAL1					AMB	AMB	18 20 07.8		
	comp=Z,295nm,0.9s								
GCD	**Castle Douglas**	**63.30**	**19**	⇑	*e*P	**P**	**18 20 07.0**	**-0.5**
GCD	**Castle Douglas**	**63.30**	**19**		P	**P**	**18 20 07.0**	**-0.5**
MUD	**Monsted U'grnd**	**63.48**	**11**		*i* P	**P**	**18 20 09.3**	**+0.6**
MUD					pmax	pmax			
	comp=Z,91nm,0.9s								
MUD	**Monsted U'grnd**	**63.48**	**11**		*i* P	**P**	**18 20 09.3**	**+0.6**
	comp=Z,91nm,0.9s								
GMM	**Mts of Mourne**	**63.54**	**21**	⇑	*e*P	**P**	**18 20 08.9**	**-0.3**
GMM	**Mts of Mourne**	**63.54**	**21**		P	**P**	**18 20 08.9**	**-0.3**
XAL	**Allendale**	**63.58**	**18**	⇑	*e*P	**P**	**18 20 09.2**	**-0.3**
XAL	**Allendale**	**63.58**	**18**		P	**P**	**18 20 09.2**	**-0.3**
KESW	**Keswick, Cumbr**	**63.70**	**19**	⇑	*e*P	**P**	**18 20 10.0**	**-0.1**
KESW					AMB	AMB	18 20 11.4		
	comp=Z,264nm,1.1s								
KESW	**Keswick, Cumbr**	**63.70**	**19**		P	**P**	**18 20 10.0**	**-0.1**
KESW					AMB	AMB	18 20 11.4		
	comp=Z,264nm,1.1s								
GUMO	**Guam**	**64.32**	**252**		LR	LR	18 42 14.9		
	comp=Z,289nm,21.6s,baz=39,slow=30								
COP	**Copenhagen**	**64.53**	**9**		*i* P	**P**	**18 20 16.8**	**+1.2**
COP					*i*		18 20 43.5		
COP					pmax	pmax			
	comp=Z,79nm,0.9s								
COP	**Copenhagen**	**64.53**	**9**		*i* P	**P**	**18 20 16.8**	**+1.2**
	comp=Z,79nm,0.9s								
COP					*i* pP	**pP**	**18 20 43.5**	**+3.1**
GTA	**Gaotai**	**64.63**	**305**	⇑	P	**P**	**18 20 16.5**	**-0.2**
GTA					pP	**pP**	**18 20 41.5**	**-0.1**
GTA					sP	**sP**	**18 20 52.4**	**-0.1**
GTA					S	**S**	**18 28 50.4**	**+1.9**
GTA					sS	**sS**	**18 29 32.8**	**+1.7**
GTA					SS	**SS**	**18 33 05.5**	**+5.5**
GTA					pmax	pmax			
	comp=Z,82nm,1.8s								
GTA					pmax	pmax			
	comp=Z,880nm,4.5s								
GTA					LR	LR			
	comp=N,650nm,18.5s								
GTA					LR	LR			
	comp=E,890nm,20.0s								
GTA					LR	LR			
	comp=Z,640nm,17.1s								
WME	**Myndd Eilian**	**64.64**	**20**	⇑	*e*P	**P**	**18 20 15.4**	**-0.9**
WME	**Myndd Eilian**	**64.64**	**20**		P	**P**	**18 20 15.4**	**-0.9**
WLF1	**Llynfaes**	**64.73**	**20**	⇑	*e*P	**P**	**18 20 16.3**	**-0.5**
WLF1					AMB	AMB	18 20 17.2		
	comp=Z,104nm,1.3s								
WLF1	**Llynfaes**	**64.73**	**20**		P	**P**	**18 20 16.3**	**-0.5**
WLF1					AMB	AMB	18 20 17.2		
	comp=Z,104nm,1.3s								
MOS	**Moscow**	**64.74**	**353**		*e*P	**P**	**18 20 14.4**	**-2.5**
MOS					*e*		18 20 48.7		
MOS					*e*S	**S**	**18 28 48.5**	**-0.5**
MOS					pmax	pmax			
	comp=Z,84nm,1.3s								
MK31	**Makanchi Array**	**64.74**	**321**	⇑	*i* P	**P**	**18 20 15.7**	**-1.5**
MK31	**Makanchi Array**	**64.74**	**321**	⇑	*i* P	**P**	**18 20 15.7**	**-1.5**
MKAR	**Makanchi Array**	**64.74**	**321**		P	**P**	**18 20 16.6**	**-0.6**
	comp=Z,5.6nm,0.5s,baz=37,slow=5.6,SNR=75								
MKAR					LR	LR	18 48 33.5		
	comp=Z,417nm,19.6s,baz=15,slow=36								
MKAR					PKPPKP	**P'P'df**	**18 49 00.1**	**-4.2**
	comp=Z,0.7nm,1.0s,baz=191,slow=2.5,SNR=3.6								
MKAR					PKP2ab		18 49 29.5		
	comp=Z,4.1nm,0.9s,baz=200,slow=2.5,SNR=8.9								
MKAR	**Makanchi Array**	**64.74**	**321**		P	**P**	**18 20 16.6**	**-0.6**
MKAR	**Makanchi Array**	**64.74**	**321**		P	**P**	**18 20 16.6**	**-0.6**
MKAR					P'P'		18 49 00.1		
MKAR					P'P'ab	P'P'ab	18 49 29.5	+15	
WPM1	**Penmaenmawr**	**64.84**	**20**	⇑	*e*P	**P**	**18 20 16.8**	**-0.9**
WPM1	**Penmaenmawr**	**64.84**	**20**		P	**P**	**18 20 16.8**	**-0.9**
LLD	**Lille Linde**	**64.87**	**9**		*e*P	**P**	**18 20 18.3**	**+0.6**
LLD					pmax	pmax			
	comp=Z,91nm,1.0s								
LLD	**Lille Linde**	**64.87**	**9**		*i* P	**P**	**18 20 18.3**	**+0.6**
	comp=Z,91nm,1.0s								
XAN	**Xi'an**	**65.10**	**295**		P	**P**	**18 20 18.9**	**-0.8**
XAN					pP	**pP**	**18 20 44.0**	**-0.6**
XAN					sP	**sP**	**18 20 54.5**	**-1.1**
XAN					PP	**PP**	**18 22 45.5**	**+1.9**
XAN					S	**S**	**18 28 52.3**	**-1.9**
XAN					sS	**sS**	**18 29 35.3**	**-1.6**
XAN					SS	**SS**	**18 33 07.1**	**-0.4**
XAN					LR	LR			
	comp=N,420nm,12.8s								
XAN					LR	LR			
	comp=E,180nm,16.1s								
XAN					LR	LR			
	comp=Z,200nm,13.5s								
KBI1	**Birley Grange**	**65.24**	**18**	⇑	*e*P	**P**	**18 20 19.7**	**-0.6**
KBI1	**Birley Grange**	**65.24**	**18**		P	**P**	**18 20 19.7**	**-0.6**
BSD	**Bornholm Skovb**	**65.28**	**8**		*e*P	**P**	**18 20 21.3**	**+0.9**
BSD					*e*		18 20 47.9		
BSD					pmax	pmax			
	comp=Z,34nm,0.9s								
BSD	**Bornholm Skovb**	**65.28**	**8**		*i* P	**P**	**18 20 21.3**	**+0.9**
	comp=Z,34nm,0.9s								
BSD					*e*pP	**pP**	**18 20 47.9**	**+2.6**
STNC	**Stoke**	**65.29**	**19**		*e*P	**P**	**18 20 20.4**	**-0.2**
STNC					AMB	AMB	18 20 21.6		
	comp=Z,195nm,1.3s								
STNC	**Stoke**	**65.29**	**19**		P	**P**	**18 20 20.4**	**-0.2**
STNC					AMB	AMB	18 20 21.6		
	comp=Z,195nm,1.3s								
FOEL	**Foel Wylfa**	**65.32**	**20**	⇑	*e*P	**P**	**18 20 20.7**	**-0.1**
FOEL					AMB	AMB	18 20 21.6		
	comp=Z,218nm,1.2s								
FOEL	**Foel Wylfa**	**65.32**	**20**		P	**P**	**18 20 20.7**	**-0.1**
FOEL					AMB	AMB	18 20 21.6		
	comp=Z,218nm,1.2s								
OBN	**Obninsk**	**65.42**	**354**	*c*	*i* P	**P**	**18 20 20.2**	**-1.1**
OBN					*e*		18 20 52.8		
OBN					*e*S	**S**	**18 28 58.9**	**+1.6**
OBN					*e*SS	**SS**	**18 33 16.5**	**+5.4**
OBN					pmax	pmax			
	comp=Z,97nm,1.4s								
OBN					MLR	MLR			
	comp=Z,700nm,22.0s								
OBN	**Obninsk**	**65.42**	**354**		*e*P	**P**	**18 20 19.9**	**-1.4**
	comp=Z,82nm,0.8s								
KWE	**Weaver Farm**	**65.42**	**19**	⇑	*e*P	**P**	**18 20 21.4**	**0.0**
KWE	**Weaver Farm**	**65.42**	**19**		P	**P**	**18 20 21.4**	**0.0**
WHN	**Wuhan**	**65.43**	**289**		P	**P**	**18 20 20.0**	**-1.8**
WHN					S	S	18 28 46.6	-12	
WHN					pmax	pmax			
	comp=Z,1μm,7.0s								
WHN					LR	LR			
	comp=N,2μm,31.8s								
WHN					LR	LR			
	comp=E,2μm,38.4s								
WHN					LR	LR			
	comp=Z,1μm,19.4s								
WMQ	**Urumqi**	**65.54**	**316**		P	**P**	**18 20 22.3**	**-0.1**
WMQ					PcP	**PcP**	**18 20 54.1**	**+0.8**
WMQ					S	**S**	**18 29 02.1**	**+2.7**
WMQ					SS	**SS**	**18 33 18.3**	**+4.5**
WMQ					pmax	pmax			
	comp=Z,66nm,1.4s								
WMQ					pmax	pmax			
	comp=Z,940nm,3.2s								
WMQ					LR	LR			
	comp=N,580nm,28.4s								
WMQ					LR	LR			
	comp=E,800nm,21.1s								
WMQ					LR	LR			
	comp=Z,620nm,28.4s								
HLG	**Helgoland**	**65.59**	**12**		*e*P	**P**	**18 20 23.6**	**+1.2**
	comp=Z,302nm,1.1s								
LZH	**Lanzhou**	**65.69**	**300**	⇑	P	**P**	**18 20 23.5**	**-0.1**
LZH					PP	**PP**	**18 22 49.0**	**+0.2**
LZH					*e*S	**S**	**18 29 02.1**	**+0.5**
LZH					SS	**SS**	**18 33 17.5**	**+0.8**
LZH					pmax	pmax			
	comp=Z,110nm,1.5s								
LZH					pmax	pmax			
	comp=Z,640nm,7.8s								
LZH					LR	LR			
	comp=N,580nm,16.5s								
LZH					LR	LR			
	comp=E,980nm,14.7s								
LZH					LR	LR			
	comp=Z,1μm,18.1s								
HLM1	**Long Mynd**	**65.73**	**19**	⇑	*e*P	**P**	**18 20 23.1**	**-0.3**
HLM1					AMB	AMB	18 20 24.9		
	comp=Z,259nm,1.4s								
HLM1	**Long Mynd**	**65.73**	**19**		P	**P**	**18 20 23.1**	**-0.3**
HLM1					AMB	AMB	18 20 24.9		
	comp=Z,259nm,1.4s								
RGN	**Rugen**	**65.73**	**9**		*e*P	**P**	**18 20 24.0**	**+0.7**
	comp=Z,343nm,1.2s								
TGUH	**Tegucigalpa,Un**	**65.80**	**104**		*e*P	**P**	**18 20 23.3**	**-1.0**
	comp=Z,162nm,1.1s								
NACGM	**Naroch**	**65.90**	**0**		*e*	P	18 20 21.0	-3.4	
BSEG	**Bad Segeberg**	**66.08**	**11**		*e*P	**P**	**18 20 26.0**	**+0.4**
	comp=Z,368nm,1.1s								
BSEG	**Bad Segeberg**	**66.08**	**11**		*e*P	**P**	**18 20 26.0**	**+0.4**
BSEG					pmax	pmax			
	comp=Z,368nm,1.1s								
MCH1	**Michaelchurch**	**66.21**	**20**	⇑	*e*P	**P**	**18 20 26.2**	**-0.2**
MCH1					AMB	AMB	18 20 27.9		
	comp=Z,204nm,1.1s								
MCH1	**Michaelchurch**	**66.21**	**20**		P	**P**	**18 20 26.2**	**-0.2**
MCH1					AMB	AMB	18 20 27.9		
	comp=Z,204nm,1.1s								
MICGM	**Minsk**	**66.30**	**359**		*e*P	**P**	**18 20 25.0**	**-2.0**
MNK	**Minsk**	**66.30**	**359**		*e*P	**P**	**18 20 25.0**	**-2.0**
MNK					pmax	pmax			
	comp=Z,190nm,1.5s								
SSW	**Stow on the Wo**	**66.43**	**19**	⇑	*e*P	**P**	**18 20 28.4**	**+0.5**
SSW	**Stow on the Wo**	**66.43**	**19**		P	**P**	**18 20 28.4**	**+0.5**
SUW	**Suwalki**	**66.75**	**2**		*e*P	**P**	**18 20 28.4**	**-1.4**
SUW					*e*PcP	**PcP**	**18 20 58.3**	**+0.3**
SUW					*e*S	**S**	**18 29 14.4**	**+0.9**
SUW					LMZ	LR	18 45 37.2		
	comp=Z,600nm,23.1s								
SUW	**Suwalki**	**66.75**	**2**		*e*P	**P**	**18 20 28.6**	**-1.2**
SUW					*e**PP	**pP**	**18 20 54.6**	**-0.3**
SUW					pmax	pmax			
	comp=Z,187nm,0.9s								
SUW	**Suwalki**	**66.75**	**2**		*e*P	**P**	**18 20 28.6**	**-1.2**
	comp=Z,187nm,0.9s								
SUW					*e*pP	**pP**	**18 20 54.6**	**-0.3**
SKP1	**Kophill**	**66.84**	**18**	⇑	*e*P	**P**	**18 20 30.4**	**0.0**
SKP1	**Kophill**	**66.84**	**18**		P	**P**	**18 20 30.4**	**0.0**
SWN1	**Swindon**	**66.88**	**19**		*e*P	**P**	**18 20 31.5**	**+0.8**
SWN1					AMB	AMB	18 20 32.5		
	comp=Z,379nm,1.8s								
SWN1	**Swindon**	**66.88**	**19**		P	**P**	**18 20 31.5**	**+0.8**
SWN1					AMB	AMB	18 20 32.5		
	comp=Z,379nm,1.8s								
HTL	**Hartland**	**66.91**	**21**		*e*P	**P**	**18 20 31.5**	**+0.6**
HTL					AMB	AMB	18 20 32.5		
	comp=Z,205nm,1.3s								
HTL	**Hartland**	**66.91**	**21**		P	**P**	**18 20 31.5**	**+0.6**
HTL					AMB	AMB	18 20 32.5		
	comp=Z,205nm,1.3s								
HEX	**Exmoor**	**66.97**	**20**	⇑	*e*P	**P**	**18 20 30.7**	**-0.6**
HEX	**Exmoor**	**66.97**	**20**		P	**P**	**18 20 30.7**	**-0.6**
GTBY	**Guantanamo Bay**	**66.98**	**90**		P	**P**	**18 20 33.4**	**+1.7**
	comp=Z,75nm,1.1s								
GTBY					*e*pP	**pP**	**18 20 52.0**	**-4.8**
MTDJ	**Mount Denham**	**67.17**	**93**		*e*P	**P**	**18 20 31.8**	**-1.3**
	comp=Z,348nm,1.1s								
MTDJ					*e*pP	**pP**	**18 20 56.8**	**-1.4**
MTDJ					*e*sP	**sP**	**18 21 06.1**	**-2.9**
WOL	**Wolverton**	**67.17**	**19**	⇑	*e*P	**P**	**18 20 32.8**	**+0.3**
WOL					AMB	AMB	18 20 34.3		
	comp=Z,630nm,1.4s								
WOL	**Wolverton**	**67.17**	**19**		P	**P**	**18 20 32.8**	**+0.3**
WOL					AMB	AMB	18 20 34.3		
	comp=Z,630nm,1.4s								
GKP	**Gorka Klasztor**	**67.26**	**6**		*e*P	**P**	**18 20 33.0**	**-0.1**
GKP					*e*PcP	**PcP**	**18 20 59.4**	**-0.8**
GKP					*e*S	**S**	**18 29 21.4**	**+1.7**
GKP	**Gorka Klasztor**	**67.26**	**6**		*e*P	**P**	**18 20 33.0**	**-0.1**
GKP					*e*		18 20 59.4		
GKP					*e*S	**S**	**18 29 21.4**	**+1.7**
IBBN	**Ibbenburen**	**67.43**	**13**		*e*P	**P**	**18 20 34.5**	**+0.3**
	comp=Z,261nm,1.2s								
AKTO	**Aktyubinsk**	**67.49**	**339**		P	**P**	**18 20 33.5**	**-1.1**
	comp=Z,33nm,0.6s,baz=21,slow=7.1,SNR=70								
AKTO	**Aktyubinsk**	**67.49**	**339**		P	**P**	**18 20 33.6**	**-1.1**
AKTO	**Aktyubinsk**	**67.49**	**339**		P	**P**	**18 20 33.5**	**-1.1**
NRDL	**Niedersach Rie**	**67.49**	**11**		*e*P	**P**	**18 20 34.7**	**+0.2**
	comp=Z,275nm,1.3s								
DYA	**Yadsworthy**	**67.55**	**21**	⇑	*e*P	**P**	**18 20 34.8**	**-0.2**
DYA					AMB	AMB	18 20 36.3		
	comp=Z,252nm,1.3s								
DYA	**Yadsworthy**	**67.55**	**21**		P	**P**	**18 20 34.8**	**-0.2**
DYA					AMB	AMB	18 20 36.3		
	comp=Z,252nm,1.3s								
WTSB	**Winterswijk**	**67.66**	**13**		*e*P	**P**	**18 20 35.2**	**-0.4**
	comp=Z,255nm,1.2s								
SSLB	**Suanglung**	**67.77**	**279**		*e*P	**P**	**18 20 35.1**	**-1.7**
	comp=Z,28nm,0.5s								
RUE	**Ruedersdorf**	**67.82**	**9**		*e*P	**P**	**18 20 37.0**	**+0.4**
	comp=Z,288nm,1.1s								
RUE					*e*pP	**PcP**	**18 21 02.4**	**-0.1**
RUE	**Ruedersdorf**	**67.82**	**9**	⇑	*i* P	**P**	**18 20 36.6**	**0.0**
	comp=Z,325nm,1.3s								
RUE					*e*pP	**PcP**	**18 21 02.5**	**-0.1**
ENH	**Enshi**	**67.98**	**292**		*e*P	**P**	**18 20 36.8**	**-1.3**
	comp=Z,103nm,1.4s								
ENH					*e*pP	**pP**	**18 21 02.8**	**-0.3**
QZH	**Quanzhou**	**67.99**	**282**	⇑	*i* P	**P**	**18 20 37.3**	**-0.8**
QZH					PP	**PP**	**18 23 09.8**	**+0.9**
QZH					S	**S**	**18 29 30.8**	**+1.7**
QZH					pmax	pmax			
	comp=Z,1μm,9.2s								
CLZ	**Clausthal**	**68.16**	**11**		*e*P	**P**	**18 20 39.4**	**+0.5**
	comp=Z,295nm,1.1s								
CLZ	**Clausthal**	**68.16**	**11**		*e*P	**P**	**18 20 39.4**	**+0.5**
CLZ					pmax	pmax			
	comp=Z,295nm,1.1s								
BUG	**Bochum--Univer**	**68.23**	**13**		*e*P	**P**	**18 20 39.1**	**-0.1**
	comp=Z,269nm,1.0s								
AB31	**Akbulak array**	**68.25**	**337**		*i* P	**P**	**18 20 38.5**	**-0.9**
ABKAR	**Akbulak array**	**68.25**	**337**	⇑	*i* P	**P**	**18 20 37.7**	**-1.7**
	comp=Z,71nm,0.8s								
BEBN	**Eben Emael**	**68.67**	**14**		P	**P**	**18 20 42.5**	**+0.5**
	comp=Z,46nm,1.2s								
HGN	**Heimansgroeve**	**68.73**	**14**		*e*P	**P**	**18 20 42.1**	**-0.2**
	comp=Z,270nm,1.2s								
SNF	**Seneffe**	**68.77**	**15**		P	**P**	**18 20 42.7**	**+0.2**
	comp=Z,102nm,2.1s								
BEL	**Belsk**	**68.86**	**4**		*e*P	**P**	**18 20 43.4**	**+0.3**
BEL					*e*PcP	**PcP**	**18 21 06.6**	**-0.3**
BEL	**Belsk**	**68.86**	**4**		*e*P	**P**	**18 20 43.4**	**+0.3**
BEL					*e*		18 21 06.6		
MEM	**Membach**	**68.89**	**14**		P	**P**	**18 20 43.6**	**+0.3**
	comp=Z,126nm,1.4s								
NEUB	**Neuenburg**	**68.92**	**10**		*e*P	**P**	**18 20 43.7**	**+0.2**
	comp=Z,255nm,1.2s								
CLL	**Collm**	**68.92**	**9**		*e*P	**P**	**18 20 43.4**	**-0.1**
	comp=Z,160nm,1.3s								
CLL					*e*sP	**sP**	**18 21 21.8**	**+2.2**
CLL	**Collm**	**68.92**	**9**	⇑	*i* P	**P**	**18 20 43.2**	**-0.3**
CLL					*i*		18 21 07.5		
CLL					*i*		18 21 22.2		
CLL					*e*S	**S**	**18 29 37.0**	**-2.5**
CLL					pmax	pmax			
	comp=Z,159nm,1.3s								
CLL	**Collm**	**68.92**	**9**	⇑	*i* P	**P**	**18 20 43.2**	**-0.3**
	comp=Z,159nm,1.3s								
CLL					*i* PcP	**PcP**	**18 21 07.5**	**+0.3**
CLL					*e*pP	**pP**	**18 21 12.0**	**+3.3**
CLL					*i* sP	**sP**	**18 21 22.2**	**+2.6**
CLL					*e*PP	PP	18 23 30.0	+14	
CLL					*e*S	**S**	**18 29 37.0**	**-2.5**
	comp=N,300nm,16.2s								
CLL					*e*S	**S**	**18 29 37.0**	**-2.5**
	comp=E,500nm,25.8s								
CLL					*e*PS	**PnS**	**18 30 16.0**	**-1.8**
CLL					*e*(pSKSac)		18 31 12.0		
CLL					*e*SS	SS	18 33 54.0	-11	
CLL					*e*		18 36 48.0		
CLL					*e*SSS	SSS	18 37 36.0		
CLL					*e*PKPPKPdf	**P'P'df**	**18 48 59.0**	**+1.7**
BCLA	**Clavier**	**68.99**	**15**		P	**P**	**18 20 44.1**	**+0.2**
	comp=Z,121nm,2.1s								
VRHR	**Novokhopersk**	**69.06**	**350**		*e*P	**P**	**18 20 42.1**	**-2.3**
VRHR					*e**SP	pP	18 21 03.1	-6.4	
VRHR					*e*S	**S**	**18 29 36.9**	**-4.2**
VRHR					pmax	pmax			
	comp=N,60nm,1.0s								
VRHR					pmax	pmax			
	comp=E,20nm,1.0s								
VRHR					pmax	pmax			
	comp=Z,20nm,1.0s								
VRHR					smax	smax			
	comp=N,150nm,2.0s								
VRHR					smax	smax			
	comp=Z,4.0nm,0.3s								
VRHR					smax	smax			
	comp=E,130nm,2.0s								
UBBA	**Unterbreizbach**	**69.14**	**11**		*e*P	**P**	**18 20 46.0**	**+1.3**
	comp=Z,180nm,1.5s								
VSR	**Storozhevoye**	**69.14**	**352**		*e*P	**P**	**18 20 43.0**	**-1.9**
VSR					*e**SP	**pP**	**18 21 05.8**	**-4.2**
VSR					*e*S	**S**	**18 29 38.8**	**-3.2**
VSR					pmax	pmax			
	comp=N,40nm,1.0s								
VSR					pmax	pmax			
	comp=E,9.0nm,1.0s								
VSR					pmax	pmax			
	comp=Z,40nm,1.0s								
VSR					smax	smax			
	comp=N,130nm,2.8s								
VSR					smax	smax			
	comp=E,90nm,2.8s								
VSR					smax	smax			
	comp=Z,140nm,2.8s								
BAIF	**Baives**	**69.20**	**15**	⇑	*i* P	**P**	**18 20 45.4**	**+0.1**
	comp=Z,514nm,1.2s								
DOU	**Dourbes**	**69.22**	**15**		P	**P**	**18 20 45.5**	**+0.2**
	comp=Z,92nm,1.6s								
GIVF	**Givet**	**69.24**	**15**	⇑	*i* P	**P**	**18 20 45.5**	**0.0**
	comp=Z,653nm,1.3s								
GIVF					*e*pP	**pP**	**18 21 13.8**	**+3.1**
FBE	**Freiberg**	**69.34**	**9**		*e*P	**P**	**18 20 46.4**	**+0.3**
	comp=Z,264nm,1.4s								
BRG	**Berggiesshubel**	**69.43**	**9**		*i* P	**P**	**18 20 46.7**	**0.0**
	comp=Z,185nm,1.3s								
BRG					PCP	**PcP**	**18 21 07.1**	**-2.3**
	comp=Z,40nm,1.1s								
BRG					pP	**pP**	**18 21 12.6**	**+0.7**
	comp=Z,57nm,1.1s								
BRG					sP	**sP**	**18 21 25.8**	**+3.0**
	comp=Z,132nm,1.4s								
BRG					S	**S**	**18 29 49.0**	**+3.5**
BRG					PKPPKP	P'P'df	18 49 21.6	+25	
	comp=Z,21nm,1.6s								
BRG	**Berggiesshubel**	**69.43**	**9**		*e*P	**P**	**18 20 46.8**	**0.0**
	comp=Z,186nm,1.3s								
BRG					*e*sP	**sP**	**18 21 25.3**	**+2.6**
BRG	**Berggiesshubel**	**69.43**	**9**		*i* P	**P**	**18 20 46.7**	**0.0**
BRG					*PP	**pP**	**18 21 12.6**	**+0.7**
BRG					*SP	**sP**	**18 21 25.8**	**+3.0**
BRG					S	**S**	**18 29 49.0**	**+3.5**
BRG					pmax	pmax			
	comp=Z,185nm,1.3s								
MOX	**Moxa**	**69.46**	**10**		*e*P	**P**	**18 20 47.0**	**+0.1**
	comp=Z,207nm,1.1s								
MOX					*e*pP	**pP**	**18 21 13.1**	**+1.0**
MOX	**Moxa**	**69.46**	**10**		*e*P	**P**	**18 20 47.0**	**+0.1**
MOX					*e**PP	**pP**	**18 21 13.1**	**+1.0**
MOX					pmax	pmax			
	comp=Z,207nm,1.1s								
TNS	**Taunus Mts**	**69.56**	**13**		*e*P	**P**	**18 20 47.8**	**+0.2**
	comp=Z,168nm,1.1s								
TNS	**Taunus Mts**	**69.56**	**13**		*e*P	**P**	**18 20 47.8**	**+0.2**
TNS					pmax	pmax			
	comp=Z,168nm,1.1s								
BST	**Brest**	**69.57**	**21**		*e*P	**P**	**18 20 48.2**	**+0.6**
BST	**Brest**	**69.57**	**21**		*e*P	**P**	**18 20 48.2**	**+0.6**
KSP	**Ksiaz**	**69.63**	**7**		*e*P	**P**	**18 20 47.9**	**0.0**
KSP					*e*pP	**PcP**	**18 21 06.0**	**-4.2**
KSP					*e*PcP	**pP**	**18 21 09.5**	**-3.6**
KSP	**Ksiaz**	**69.63**	**7**	⇑	*e*P	**P**	**18 20 47.9**	**0.0**
KSP					*e*		18 21 09.1		
KSP					*e**PP	**pP**	**18 21 13.9**	**+0.8**
KSP					*e*S	**S**	**18 29 48.0**	**+0.2**
PLN	**Plauen**	**69.67**	**10**		*e*P	**P**	**18 20 48.4**	**+0.2**
	comp=Z,701nm,1.2s								
ROSF	**Rostrenen**	**69.69**	**21**	⇑	*i* P	**P**	**18 20 48.3**	**0.0**
	comp=Z,560nm,1.5s								
SDDR	**Presa de Saban**	**69.71**	**87**		*e*P	**P**	**18 20 48.7**	**-0.2**
	comp=Z,35nm,1.2s								
SDDR					*e*pP	**pP**	**18 21 12.7**	**-1.5**
WERD	**Werda**	**69.72**	**10**		*e*P	**P**	**18 20 48.7**	**+0.2**
	comp=Z,140nm,1.4s								
WERD					*e*pP	**pP**	**18 21 14.8**	**+1.1**
FLN	**La Foliniere**	**69.76**	**19**	⇑	*i* P	**P**

CD2 LR LR
comp=N,510nm,14.3s
CD2 LR LR
comp=Z,800nm,12.5s
KIEV Kiev 70.09 358 *c iP* **P 18 20 49.6 -1.1**
KIEV Kiev 70.09 358 *eP* **P 18 20 49.1 -1.7**
comp=Z,131nm,1.3s
QUIF Quistinic 70.11 21⇑ *iP* **P 18 20 50.9 0.0**
comp=Z,291nm,1.3s
DPC Dobruska-Polom 70.12 7 *eP* **P 18 20 51.1 +0.1**
DPC *e* 18 21 17.4
DPC *eS* **S 18 29 52.3 -1.4**
DPC Dobruska-Polom 70.12 7 *eP* **P 18 20 51.1 +0.1**
DPC *epP* **pP 18 21 17.4 +1.2**
DPC *eS* **S 18 29 52.3 -1.4**
TOD Tromm 70.21 12 *eP* **P 18 20 51.9 +0.4**
TOD Tromm 70.21 12 *eP* **P 18 20 51.9 +0.4**
PRA Prague 70.27 8 P **P 18 20 52.0 +0.2**
PRA *pP* **PcP 18 21 09.0 -3.9**
TKM2 Tokmak 2 70.30 324 P **P 18 20 52.7 +0.2**
SNR=41
TKM2 *P* **P 18 20 52.7 +0.2**
SNR=41
TKM2 Tokmak 2 70.30 324 *i* P **P 18 20 52.6 +0.2**
TKM2 Tokmak 2 70.30 324⇑ *iP* **P 18 20 51.7 -0.7**
comp=Z,62nm,1.3s
TKM2 *epP* **pP 18 21 19.5 +1.9**
TKM2 *ePP* **PP 18 23 28.0 -0.6**
USP Ospenovka 70.31 325 P **P 18 20 52.4 +0.2**
SNR=25
USP *P* **P 18 20 52.4 +0.2**
SNR=25
PRU Pruhonice 70.36 8 *eP* **P 18 20 52.5 +0.1**
PRU *e* 18 21 18.1
PRU *eS* **S 18 29 56.7 +0.4**
PRU Pruhonice 70.36 8 *eP* **P 18 20 52.5 +0.1**
PRU *epP* **pP 18 21 18.1 +0.5**
PRU *eS* **S 18 29 56.7 +0.4**
GRF Grafenberg Arr 70.37 11 *eP* **P 18 20 52.9 +0.4**
comp=Z,170nm,1.2s
GRF *epP* **pP 18 21 19.0 +1.3**
GRF *esP* **sP 18 21 30.4 +1.8**
GRF Grafenberg Arr 70.37 11 *eP* **P 18 20 52.9 +0.4**
GRF *e*PP* **pP 18 21 19.0 +1.3**
GRF *e*SP* **sP 18 21 30.4 +1.8**
GRF pmax pmax
comp=Z,170nm,1.2s
GRFO Grafenberg 70.37 11 *eP* **P 18 20 52.9 +0.4**
GRFO pmax pmax
comp=Z,123nm,1.7s
GRFO Grafenberg 70.37 11 *eP* **P 18 20 52.9 +0.4**
comp=Z,123nm,1.7s
ROTZ Rotzenmuhle 70.39 10 *eP* **P 18 20 53.1 +0.5**
comp=Z,152nm,1.1s
KTD Kalmit 70.41 13 *eP* **P 18 20 52.9 +0.1**
KTD Kalmit 70.41 13 *eP* **P 18 20 52.9 +0.1**
KRLC Kraliky 70.42 7 *eP* **P 18 20 52.9 +0.1**
KRLC *epP* **pP 18 21 18.7 +0.6**
OJC Ojcow 70.44 5 *eP* **P 18 20 52.6 -0.2**
OJC Ojcow 70.44 5 *eP* **P 18 20 52.6 -0.2**
CHMS Chumysh 70.48 325 P **P 18 20 53.7 +0.4**
SNR=40
CHMS *P* **P 18 20 53.7 +0.4**
SNR=40
FRU Bishkek 70.67 325 *i* P **P 18 20 54.0 -0.4**
FRU *i* 18 23 32.0
FRU pmax pmax
comp=Z,240nm,2.0s
FRU pmax pmax
comp=Z,240nm,1.9s
LANF Langenberg 70.71 13 *eP* **P 18 20 55.1 +0.5**
LANF Langenberg 70.71 13 *eP* **P 18 20 55.1 +0.5**
LANF Langenberg 70.71 13 *eP* **P 18 20 55.1 +0.5**
KBK Karagaybulak 70.73 324 P **P 18 20 55.5 +0.4**
SNR=42
KBK *P* **P 18 20 55.5 +0.4**
SNR=42
OKC Ostrava-Krasne 70.74 6 *eP* **P 18 20 55.2 +0.5**
OKC *e* 18 21 21.0
OKC Ostrava-Krasne 70.74 6 *eP* **P 18 20 55.2 +0.5**
OKC *epP* **pP 18 21 21.0 +1.1**
MORC Moravsky Berou 70.77 6 ⇓ *P* **P 18 20 55.1 +0.2**
MORC Moravsky Berou 70.77 6 *eP* **P 18 20 54.6 -0.3**
comp=Z,64nm,1.3s
MORC *epP* **pP 18 21 20.8 +0.7**
MORC Moravsky Berou 70.77 6⇓ *iP* **P 18 20 55.1 +0.2**
MEZF Maizieres J'vi 70.84 15⇑ *iP* **P 18 20 55.5 +0.2**
comp=Z,522nm,1.2s
MEZF *epP* **pP 18 21 23.8 +3.2**
PAGF Fort de Pagny 70.88 15⇑ *iP* **P 18 20 56.0 +0.5**
comp=Z,153nm,1.2s
AAK Ala-Archa 70.89 325 P **P 18 20 55.9 -0.1**
SNR=31
AAK *P* **P 18 20 55.9 -0.1**
SNR=31
AAK Ala-Archa 70.89 325 *c iP* **P 18 20 55.7 -0.2**
AAK pmax pmax
comp=Z,151nm,1.2s
AAK Ala-Archa 70.89 325 *eP* **P 18 20 55.8 -0.1**
comp=Z,427nm,1.4s
AAK *epP* **pP 18 21 20.6 -0.6**
AAK *ePP* **PP 18 23 33.2 -0.3**
LVV L'vov 70.96 2 *eP* **P 18 20 55.2 -0.8**
LVV *eS* S 18 29 57.6 -5.8
WET Wettzell 71.06 10 *eP* **P 18 20 57.3 +0.6**
comp=Z,236nm,1.5s
WET Wettzell 71.06 10 *eP* **P 18 20 57.3 +0.6**
WET pmax pmax
comp=Z,236nm,1.5s
EKS2 Erkin-Say 71.07 325 P **P 18 20 56.7 -0.3**
SNR=45
EKS2 *P* **P 18 20 56.7 -0.3**
SNR=45
EKS2 Erkin-Say 71.07 325 *eP* **P 18 20 56.5 -0.5**
EKS2 *e*PP* **pP 18 21 24.4 +2.1**
EKS2 pmax pmax
comp=Z,170nm,1.4s
EKS2 Erkin-Say 71.07 325 *eP* **P 18 20 56.5 -0.5**
comp=Z,170nm,1.4s
EKS2 *epP* **pP 18 21 24.4 +2.1**
STU Stuttgart 71.07 12 *eP* **P 18 20 56.8 +0.1**
comp=Z,134nm,1.1s
STU *epP* **pP 18 21 23.0 +1.0**
STU Stuttgart 71.07 12 *eP* **P 18 20 56.5 -0.2**
STU pmax pmax
comp=Z,144nm,1.1s
STU Stuttgart 71.07 12 *eP* **P 18 20 56.5 -0.2**
comp=Z,144nm,1.1s
TREC Trest 71.11 8 *eP* **P 18 20 57.3 +0.3**
TREC *e* 18 21 23.1
TREC *eS* **S 18 30 06.4 +1.2**
TREC Trest 71.11 8 *eP* **P 18 20 57.3 +0.3**
TREC *epP* **pP 18 21 23.1 +0.8**
TREC *eS* **S 18 30 06.4 +1.2**
KWP Kalwaria Pacla 71.12 3 *eP* **P 18 20 57.3 +0.3**
KWP *ePcP* **PcP 18 21 17.4 +0.8**
KWP *eS* **S 18 30 04.3 -0.9**
KWP LMZ LR 18 49 07.3
comp=Z,600nm,23.3s
KWP Kalwaria Pacla 71.12 3⇑ *P* **P 18 20 57.9 +0.9**
KWP Kalwaria Pacla 71.12 3⇑ *eP* **P 18 20 56.8 -0.2**
comp=Z,121nm,1.1s
KWP *epP* **pP 18 21 21.4 -0.9**
KWP Kalwaria Pacla 71.12 3⇑ *iP* **P 18 20 57.9 +0.9**
SFTF Sexfontaines 71.13 15⇑ *iP* **P 18 20 57.0 -0.1**
comp=Z,627nm,1.2s
SFTF *epP* **pP 18 21 25.2 +2.8**
KHC Kasperske Hory 71.13 9 *eP* **P 18 20 57.4 +0.2**
KHC *e* 18 21 23.6
KHC *e* 18 21 35.0
KHC *eS* **S 18 30 08.9 +3.4**
KHC Kasperske Hory 71.13 9 *eP* **P 18 20 57.3 +0.1**
comp=Z,217nm,1.4s
KHC *ePcP* **PcP 18 21 16.1 -0.6**
KHC *epP* **pP 18 21 23.6 +1.2**
KHC Kasperske Hory 71.13 9 *eP* **P 18 20 57.4 +0.2**
KHC *epP* **pP 18 21 23.6 +1.2**
KHC *esP* **sP 18 21 35.0 +1.7**
KHC *eS* **S 18 30 08.9 +3.4**
KZA Kyzart 71.17 324 P **P 18 20 58.5 +0.5**
SNR=10
KZA *P* **P 18 20 58.5 +0.5**
SNR=10
VRAC Vranov 71.17 7 P **P 18 20 57.9 +0.5**
VRAC Vranov 71.17 7⇓ *iP* **P 18 20 57.8 +0.4**
CDF Champ du Feu 71.21 14⇑ *iP* **P 18 20 57.7 0.0**
comp=Z,452nm,1.3s
THEF They Montfort 71.23 15 *eP* **P 18 20 58.1 +0.4**
THEF They Montfort 71.23 15 *eP* **P 18 20 58.1 +0.4**
THEF They Montfort 71.23 15 *eP* **P 18 20 58.1 +0.4**
NIE Niedzica 71.26 5 *eP* **P 18 20 58.1 +0.2**
NIE Niedzica 71.26 5 *eP* **P 18 20 58.1 +0.2**
STHS Stebnicka Huta 71.29 4 *eP* **P 18 20 59.5 +1.4**
STHS pmax pmax
comp=Z,32nm,0.8s
STHS Stebnicka Huta 71.29 4 *eP* **P 18 20 59.5 +1.4**
STHS *esP* sP 18 21 25.5 -8.7
ECH Echery 71.39 14 *eP* **P 18 20 58.5 -0.2**
ECH *e*PP* **pP 18 21 23.0 -1.0**
ECH pmax pmax
comp=Z,202nm,1.1s
ECH Echery 71.39 14 *eP* **P 18 20 58.5 -0.2**
comp=Z,202nm,1.1s
ECH *epP* **pP 18 21 23.0 -1.0**
ECH Echery 71.39 14 *eP* **P 18 20 59.0 +0.3**
BFO Black Forest 71.41 13 *eP* **P 18 20 58.9 +0.1**
comp=Z,147nm,1.1s
BFO *epP* **pP 18 21 25.2 +1.1**
BFO Black Forest 71.41 13 *eP* **P 18 20 58.9 +0.1**
BFO *e*PP* **pP 18 21 23.2 -0.9**
BFO pmax pmax
comp=Z,154nm,1.3s
BFO Black Forest 71.41 13 *eP* **P 18 20 58.9 +0.1**
comp=Z,154nm,1.3s
BFO *epP* **pP 18 21 23.2 -0.9**
GEC2 GERESS Array S 71.43 9 *eP* **P 18 20 59.2 +0.2**
comp=Z,132nm,1.4s
GEC2 *epP* **pP 18 21 25.2 +0.9**
GEC2 GERESS Array S 71.43 9 *eP* **P 18 20 59.2 +0.2**
GEC2 *e*PP* **pP 18 21 25.2 +0.9**
GEC2 pmax pmax
comp=Z,132nm,1.4s
GERES GERESS Array B 71.43 9 P **P 18 20 59.0 0.0**
comp=Z,21nm,0.9s,baz=351,slow=4.4,SNR=104
GERES PKPPKP P'P'df 18 48 45.0 -8.1
comp=Z,0.5nm,0.8s,baz=264,slow=12,SNR=3.6
GERES PKP2ab 18 49 13.8
comp=Z,1.7nm,1.1s,baz=236,slow=1.4,SNR=3.6
GERES GERESS Array B 71.43 9 P **P 18 20 59.0 0.0**
GERES GERESS Array B 71.43 9 P **P 18 20 59.0 0.0**
GERES P'P' 18 48 45.0
GERES P'P'ab P'P'ab 18 49 13.8 +25
HAU Haudompre 71.50 14⇑ *iP* **P 18 20 59.3 0.0**
comp=Z,370nm,1.1s
HAU *eR*
comp=Z,330nm,19.9s
LIBD Limburg 71.51 13 *eP* **P 18 20 59.6 +0.3**
LIBD Limburg 71.51 13 *eP* **P 18 20 59.6 +0.3**
LIKS Likavka 71.57 5 *eP* **P 18 21 01.4 +1.7**
LIKS pmax pmax
comp=Z,35nm,0.8s
LIKS Likavka 71.57 5 *eP* **P 18 21 01.4 +1.7**
KK31 Karatay Array 71.58 328 *i* P **P 18 20 58.1 -1.8**
KK31 pmax pmax
comp=Z,37nm,0.9s
KKAR Karatay Array 71.58 328 *eP* **P 18 20 59.0 -0.9**
KKAR *e*PP* **pP 18 21 25.6 +0.4**
KKAR *e* 18 23 39.1
KKAR pmax pmax
comp=Z,25nm,0.8s
KKAR Karatay Array 71.58 328 *eP* **P 18 20 59.0 -0.9**
comp=Z,25nm,0.8s
KKAR *epP* **pP 18 21 25.6 +0.4**
KKAR *ePP* **PP 18 23 39.1 -0.1**
AML Almayashu 71.58 325 P **P 18 21 01.1 +0.7**
SNR=42
AML *P* **P 18 21 01.1 +0.7**
SNR=42
SPAK Spaichingen-Ko 71.69 13 *eP* **P 18 20 00.9 +0.3**
HYF Humbligny 71.70 17⇑ *iP* **P 18 21 00.7 +0.1**
HINF Hinteralfeld 71.74 14⇑ *iP* **P 18 21 00.7 -0.1**
comp=Z,272nm,1.1s
MOF Molkenrain 71.74 14 *eP* **P 18 21 00.9 0.0**
MOF Molkenrain 71.74 14 *eP* **P 18 21 00.9 0.0**
MOF Molkenrain 71.74 14 *eP* **P 18 21 00.9 0.0**
KOLS Kolonicke sedl 71.81 3 *eP* **P 18 21 01.2 0.0**
KOLS pmax pmax
comp=Z,65nm,1.4s
KOLS Kolonicke sedl 71.81 3 *eP* **P 18 21 01.2 0.0**
KOLS *epP* **pP 18 21 27.5 +1.0**
CRVS Cervenica-Dubn 71.81 4 *eP* **P 18 21 01.1 -0.2**
CRVS pmax pmax
comp=Z,79nm,1.6s
CRVS Cervenica-Dubn 71.81 4 *eP* **P 18 21 01.0 -0.2**
FELD Feldberg im Sc 71.82 13 *eP* **P 18 21 01.4 0.0**
LOR Lormes 71.88 16⇑ *iP* **P 18 21 01.5 -0.2**
comp=Z,626nm,1.2s,baz=353
LOR *eR*
comp=Z,403nm,21.8s
FUR Furstenfeldbru 71.89 11 *eP* **P 18 21 01.8 +0.1**
comp=Z,231nm,1.1s
FUR Furstenfeldbru 71.89 11 *eP* **P 18 21 01.8 +0.1**
FUR pmax pmax
comp=Z,231nm,1.1s
MFF Saint Martin d 71.91 19⇑ *iP* **P 18 21 01.8 0.0**
comp=Z,524nm,1.1s
MFF *epP* **pP 18 21 30.0 +2.9**
KOLL Kolacno 72.01 6 *eP* **P 18 21 03.1 +0.8**
KOLL *eSP* 18 21 28.4
KOLL Kolacno 72.01 6 *eP* **P 18 21 03.1 +0.8**
KOLL *epP* **pP 18 21 28.4 +0.8**
SMOL Smolenice 72.02 7 *eP* **P 18 21 03.4 +1.0**
SMOL *eSP* 18 21 29.6
SMOL Smolenice 72.02 7 *eP* **P 18 21 03.4 +1.0**
SMOL *epP* **pP 18 21 29.6 +1.9**
SSF Saint Saulge 72.03 17⇑ *iP* **P 18 21 02.5 0.0**
comp=Z,850nm,1.2s
UZH Uzhgorod 72.11 3 *d iP* **P 18 21 02.5 -0.4**
UZH *e* 18 21 23.3
UZH *e* 18 21 30.0
UZH *i* 18 25 33.5
VYHS Vyhne 72.11 6 *eP* **P 18 21 03.0 0.0**
VYHS pmax pmax
comp=Z,57nm,1.2s
VYHS Vyhne 72.11 6 *eP* **P 18 21 03.0 0.0**
VYHS *epP* **pP 18 21 29.2 +0.9**
BBS Basel-Blauen 72.17 14 *eP* **P 18 21 03.5 +0.1**
BBS Basel-Blauen 72.17 14 *eP* **P 18 21 03.5 +0.1**
LOMF Lomont 72.20 14 *eP* **P 18 21 04.0 +0.4**
LOMF Lomont 72.20 14 *eP* **P 18 21 04.0 +0.4**
LOMF Lomont 72.20 14 *eP* **P 18 21 04.0 +0.4**
AVF Avril sur Loir 72.28 17⇑ *iP* **P 18 21 03.7 -0.3**
comp=Z,625nm,1.1s
ZST Bratislava 72.31 7 *eP* **P 18 21 05.2 +1.0**
ZST pmax pmax
comp=Z,36nm,0.8s
ZST Bratislava 72.31 7 *eP* **P 18 21 05.2 +1.0**
ZST *epP* **pP 18 21 30.7 +1.2**
BGF Bois d'Agland 72.43 17⇑ *iP* **P 18 21 04.7 -0.2**
comp=Z,517nm,1.1s
RJOB Jochberg 72.45 10 *eP* **P 18 21 05.1 0.0**
comp=Z,110nm,1.0s
MOA Molln 72.46 9⇓ *iP* **P 18 21 05.2 +0.1**
comp=Z,101nm,1.5s
MOA Molln 72.46 9⇓ *iP* **P 18 21 05.2 +0.1**
comp=Z,101nm,1.5s,SNR=26
SMF Signal de Mont 72.49 16⇑ *iP* **P 18 21 06.0 +0.7**
comp=Z,667nm,1.2s
CONA Conrad Observa 72.50 8⇑ *iP* **P 18 21 05.6 +0.2**
comp=Z,176nm,1.7s
CONA Conrad Observa 72.50 8⇑ *iP* **P 18 21 05.6 +0.2**
comp=Z,176nm,1.7s,SNR=42
RETA Reutte 72.51 11⇑ *iP* **P 18 21 05.5 +0.1**
comp=Z,103nm,1.4s
RETA Reutte 72.51 11⇑ *iP* **P 18 21 05.5 +0.1**
comp=Z,103nm,1.4s,SNR=25
GYA Guiyang 72.52 292⇑ *P* **P 18 21 05.3 -0.6**
GYA *PcP* **PcP 18 21 25.5 +2.5**
GYA *pP* **pP 18 21 33.0 +1.8**
GYA *sP* **sP 18 21 45.8 +3.8**
GYA *PP* **PP 18 23 52.6 +4.7**
GYA *S* **S 18 30 22.8 +0.7**
GYA *SKS* **SKSac 18 30 57.6 -3.9**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA *pmax* pmax
comp=Z,180nm,5.4s
LRS Lares 72.55 84 P **P 18 21 05.6 -0.4**
TCF Toulx Ste Croi 72.60 18⇑ *iP* **P 18 21 05.6 -0.3**
comp=Z,482nm,1.3s
DAVA Damuels 72.61 12⇑ *iP* **P 18 21 06.3 +0.1**
comp=Z,104nm,1.7s
DAVA Damuels 72.61 12⇑ *iP* **P 18 21 06.3 +0.1**
comp=Z,104nm,1.7s,SNR=12
TRPA Tarpa 72.62 3⇑ *e* **P 18 21 06.1 +0.2**
MOTA Moosalm 72.68 11⇑ *iP* **P 18 21 06.6 0.0**
MOTA pmax pmax
comp=Z,102nm,1.0s
MOTA Moosalm 72.68 11⇑ *iP* **P 18 21 06.6 0.0**
comp=Z,102nm,1.0s
MOTA Moosalm 72.68 11⇑ *iP* **P 18 21 06.6 0.0**
comp=Z,102nm,1.0s,SNR=33
PSZ Piszkesteto 72.74 5 P **P 18 21 07.4 +0.6**
PSZ Piszkesteto 72.74 5 *eP* **P 18 21 06.8 0.0**
comp=Z,61nm,0.9s
PSZ *epP* **pP 18 21 31.9 -0.2**
PSZ Piszkesteto 72.74 5⇑ *eP* **P 18 21 07.2 +0.4**
WATA Walderalm 72.74 11⇑ *iP* **P 18 21 07.0 +0.1**
WATA pmax pmax
comp=Z,168nm,1.2s
WATA Walderalm 72.74 11⇑ *iP* **P 18 21 07.0 +0.1**
comp=Z,168nm,1.2s
WATA Walderalm 72.74 11⇑ *iP* **P 18 21 07.0 +0.1**
comp=Z,168nm,1.2s,SNR=31
SOP Sopron 72.79 7⇑ *e* **P 18 21 07.6 +0.6**
WTTA Wattenberg 72.81 11⇑ *iP* **P 18 21 07.8 +0.4**
WTTA pmax pmax
comp=Z,215nm,1.0s
WTTA Wattenberg 72.81 11⇑ *iP* **P 18 21 07.8 +0.4**
comp=Z,215nm,1.0s
WTTA Wattenberg 72.81 11⇑ *iP* **P 18 21 07.8 +0.4**
comp=Z,215nm,1.0s
CABF La Chapelle 72.83 15⇑ *iP* **P 18 21 07.6 +0.2**
comp=Z,325nm,1.0s
OBIP Obispado Ponce 72.88 84 *eP* **P 18 21 06.8 -1.1**
comp=Z,31nm,0.6s
OBIP *epP* **pP 18 21 33.4 +0.1**
AGO Saint Agoulin 72.97 17 *eP* **P 18 21 08.5 +0.4**
AGO Saint Agoulin 72.97 17 *eP* **P 18 21 08.5 +0.4**
FETA Feichten 72.97 11⇑ *iP* **P 18 21 08.6 +0.3**
comp=Z,146nm,1.1s
FETA Feichten 72.97 11⇑ *iP* **P 18 21 08.6 +0.3**
comp=Z,146nm,1.1s,SNR=41
SJG San Juan 73.05 83 LR LR 18 53 14.6
comp=Z,258nm,18.1s,baz=270,slow=36
SJG San Juan 73.05 83 *eP* **P 18 21 07.9 -1.0**
SJG *e*PP* **pP 18 21 33.8 -0.5**
SJG pmax pmax
comp=Z,80nm,1.1s
SJG San Juan 73.05 83 *eP* **P 18 21 07.9 -1.0**
comp=Z,80nm,1.1s
SJG *epP* **pP 18 21 33.8 -0.5**
BMR Baia Mare 73.10 2 P **P 18 21 09.2 +0.4**
PLDF La Plantade 73.12 17 *eP* **P 18 21 09.4 +0.3**
PLDF La Plantade 73.12 17 *eP* **P 18 21 09.4 +0.3**
PLDF La Plantade 73.12 17 *eP* **P 18 21 09.4 +0.3**
BUD Budapest 73.13 6⇑ *eP* **P 18 21 09.4 +0.4**
ARSA Arzberg 73.15 8 *iP* **P 18 21 09.7 +0.5**
comp=Z,86nm,1.4s
ARSA Arzberg 73.15 8 *iP* **P 18 21 09.7 +0.5**
comp=Z,86nm,1.4s,SNR=27
KBA Koelnbreinsper 73.15 10 *iP* **P 18 21 10.1 +0.7**
KBA pmax pmax
comp=Z,276nm,1.1s
KBA Koelnbreinsper 73.15 10 *iP* **P 18 21 10.1 +0.7**
comp=Z,276nm,1.1s
KBA Koelnbreinsper 73.15 10 *iP* **P 18 21 10.1 +0.7**
comp=Z,276nm,1.1s,SNR=74
BUR08 Bucovina Ar. S 73.16 1 *eP* **P 18 21 09.3 0.0**
VERF Verneugheol 73.16 18 *eP* **P 18 21 11.8 +2.5**
VERF Verneugheol 73.16 18 *eP* **P 18 21 11.8 +2.5**
BURAR Bucovina Array 73.19 1 *P* **P 18 21 09.8 +0.3**
BURAR Bucovina Array 73.19 1⇑ *iP* **P 18 21 10.1 +0.6**
OG01 Vacheresse 73.19 14 *eP* **P 18 21 09.9 +0.4**
OG01 Vacheresse 73.19 14 *eP* **P 18 21 09.9 +0.4**
PYM Petit Puy Mans 73.24 17 *eP* **P 18 21 10.1 +0.3**
PYM Petit Puy Mans 73.24 17 *eP* **P 18 21 10.1 +0.3**
PYM Petit Puy Mans 73.24 17 *eP* **P 18 21 10.1 +0.3**
KSH Kashi 73.30 322 P **P 18 21 12.8 +2.5**
KSH *ePcP* **PcP 18 21 29.8 +3.6**
KSH *eS* **S 18 30 30.3 -0.3**
KSH *eSKS* **SKKSac 18 31 08.0 +0.7**
KSH *eSS* **SS 18 35 15.9 +2.8**
KSH pmax pmax
comp=Z,86nm,1.4s
KSH pmax pmax
comp=Z,460nm,5.6s
KSH LR LR
comp=N,420nm,10.1s
KSH LR LR
comp=E,400nm,9.1s
KSH LR LR
comp=Z,300nm,8.7s
OG35 Corcelles 73.32 15 *eP* **P 18 21 10.6 +0.4**
OG35 Corcelles 73.32 15 *eP* **P 18 21 11.4 +1.2**
TUE Stuetta 73.36 13 *eP* **P 18 21 11.1 +0.5**
comp=Z,78nm,0.8s
TUE *epP* **pP 18 21 36.0 -0.1**
MTP Monte Pirata 73.37 83 *eP* **P 18 21 09.1 -1.7**
comp=Z,177nm,1.4s
MTP *epP* **pP 18 21 31.5 -4.7**
ABTA Abfaltersbach 73.41 10⇑ *iP* **P 18 21 10.7 -0.1**
comp=Z,104nm,1.3s
ABTA Abfaltersbach 73.41 10⇑ *iP* **P 18 21 10.7 -0.1**
comp=Z,104nm,1.3s,SNR=23
RJF Les Rejaudoux 73.44 18⇑ *iP* **P 18 21 10.5 -0.4**
comp=Z,345nm,1.3s
RJF *eR*
comp=Z,640nm,18.8s
FRNF Fournols 73.53 18 *eP* **P 18 21 12.5 +1.1**
FRNF Fournols 73.53 18 *eP* **P 18 21 12.5 +1.1**
IAS Iasi 73.61 360 P **P 18 21 11.5 -0.3**
MYKA Terra Mystica 73.62 9⇑ *iP* **P 18 21 11.7 -0.3**
comp=Z,77nm,1.2s
MYKA Terra Mystica 73.62 9⇑ *iP* **P 18 21 11.7 -0.3**
comp=Z,77nm,1.2s
SOKA Soboth 73.69 8⇑ *iP* **P 18 21 12.3 -0.1**
comp=Z,172nm,1.5s
SOKA Soboth 73.69 8⇑ *iP* **P 18 21 12.3 -0.1**
comp=Z,172nm,1.5s
PERS Pernice 73.73 8 *i* P **P 18 21 12.9 +0.2**
PERS *i* 18 21 39.8
LBL Lubilhac 73.78 17 *eP* **P 18 21 13.3 +0.3**
LBL Lubilhac 73.78 17 *eP* **P 18 21 13.3 +0.3**
LBL Lubilhac 73.78 17 *eP* **P 18 21 13.3 +0.3**
KIS Kishinev 73.80 359 *eP* **P 18 21 10.0 -2.9**
KIS *e*PP* **pP 18 21 36.0 -2.3**
KIS pmax pmax
comp=Z,300nm,20.0s
KIS Kishinev 73.80 359 *eP* **P 18 21 10.0 -2.9**
KIS *epP* **pP 18 21 36.0 -2.3**
KIS LRM MLR 18 50 16.0
comp=Z,300nm,20.0s
RSL Roselend 73.81 15 *eP* **P 18 21 14.8 +1.6**
RSL Roselend 73.81 15 *eP* **P 18 21 14.8 +1.6**
RSL Roselend 73.81 15 *eP* **P 18 21 14.8 +1.6**
OBKA Obir 73.82 9⇑ *iP* **P 18 21 13.0 -0.1**
comp=Z,197nm,1.0s
OBKA Obir 73.82 9⇑ *iP* **P 18 21 13.0 -0.1**
comp=Z,197nm,1.0s,SNR=95
CAF Calviac 73.90 18⇑ *iP* **P 18 21 13.5 -0.1**
comp=Z,547nm,1.3s
SSB Saint Sauveur 73.93 16 *eP* **P 18 21 14.0 +0.2**
SSB Saint Sauveur 73.93 16 *eP* **P 18 21 14.0 +0.2**
SSB Saint Sauveur 73.93 16 *eP* **P 18 21 14.0 +0.2**
DRGR 73.96 3 ⇓ *P* **P 18 21 13.9 -0.1**
DRGR 73.96 3⇓ *iP* **P 18 21 13.9 -0.1**
LPL La Plagne 73.99 15⇑ *iP* **P 18 21 15.2 +0.8**
comp=Z,326nm,1.2s
LPG La Plagne 74.01 15⇑ *iP* **P 18 21 15.5 +0.9**
comp=Z,504nm,1.3s
BEHE Becsehely 74.01 7⇑ *eP* **P 18 21 14.8 +0.6**
CDVI St. Croix 74.06 82 P **P 18 21 13.9 -0.9**
CDVI *epP* **pP 18 21 39.3 -1.0**
CDVI *esP* **sP 18 21 50.0 -1.0**
GRN Grenoble 74.13 15 *eP* **P 18 21 15.6 +0.6**
GRN Grenoble 74.13 15 *eP* **P 18 21 15.6 +0.6**
GRN Grenoble 74.13 15 *eP* **P 18 21 15.6 +0.6**
GDM Grand'Maison 74.22 15 *eP* **P 18 21 16.3 +0.7**
GDM Grand'Maison 74.22 15 *eP* **P 18 21 16.3 +0.7**
VOY Vojsko 74.24 9 *eP* **P 18 21 14.5 -1.1**
VOY *e* 18 21 35.7

LJU	**Ljubljana**	**74.28**	**9**	*i* P		**P**	**18 21 16.2 +0.4**	LSA			*e*PP		**PP**	**18 24 20.4 -2.3**	KBL			*e*PP		**PP**	**18 24 48.6 -1.7**
TESR		**74.30**	**0**⇑	*i*P		**P**	**18 21 17.0 +1.1**	**SOC**	**Sochi**	**76.68**	**350**	*e*P	P	18 21 19.6 -10	**TAPN**	**Taplejung**	**80.07**	**308**	*e*P	**P**	**18 21 48.4 -0.4**
LEOM	**Leova**	**74.33**	**359**	P		**P**	**18 21 16.1 +0.1**	SOC				*e**SP	pP	18 21 52.3 -2.8		comp=Z,155nm,0.7s					
VIVF	**Saint-Julien-l**	**74.36**	**16**⇑	*i*P		**P**	**18 21 16.4 +0.1**	SOC				*e*S	S	18 30 57.4 -10	**TAPN**	**Taplejung**	**80.07**	**308**	*e*P	**P**	**18 21 48.4 -0.4**
	comp=Z,388nm,1.1s							SOC				*e**SS	**ScS**	**18 31 38.8 +2.4**		comp=Z,155nm,0.7s					
PKSM	**Moragy**	**74.38**	**6**	⇓P		**P**	**18 21 17.0 +0.7**	SOC				*e*		18 32 05.3	**CTBH**	**Cotabato--PC H**	**80.08**	**267**⇑	*i*P	**P**	**18 21 48.2 -0.4**
PKSM	**Moragy**	**74.38**	**6**⇓	*i*P		**P**	**18 21 17.0 +0.7**	SOC				pmax	pmax		**ROSC**	**El Rosal**	**80.15**	**97**	LR	LR	18 58 41.4
PKSM	**Moragy**	**74.38**	**6**⇑	*e*P		**P**	**18 21 16.0 -0.3**		comp=Z,33nm,0.8s							comp=Z,201nm,21.4s,baz=20,slow=37					
JAVS	**Javornik**	**74.39**	**9**	*i* P		**P**	**18 21 16.4 -0.2**	SOC				MLR	MLR		**ROSC**	**El Rosal**	**80.15**	**97**	*e*P	P	18 21 39.9 -10
JAVS				*i*			18 21 41.9		comp=Z,794nm,22.0s						**GUN**	**Gumba**	**80.29**	**310**	*e*P	**P**	**18 21 49.7 -0.4**
PMOR	**Pomariorio Ree**	**74.41**	**175**	*e*pP		pP	18 21 42.3 +0.1	**TIAR**	**Tiarei**	**76.89**	**176**	*e*pP	pP	18 21 56.6 +0.1		comp=Z,200nm,1.2s					
	comp=Z,352nm,1.3s								comp=Z,268nm,0.9s						**GUN**	**Gumba**	**80.29**	**310**	*e*P	**P**	**18 21 49.7 -0.4**
BNI	**Bardonecchia**	**74.44**	**15**	*e*P		**P**	**18 21 17.7 +0.8**	**PPT2**	**Papeete2**	**76.92**	**177**	*e*S	S	18 31 02.4 -8.3		comp=Z,200nm,1.2s					
BNI				*e**PP		**pP**	**18 21 44.2 +1.9**		comp=Z,1µm,28.5s						**PLG**	**Polygyros**	**80.39**	**3**	*e*P	**P**	**18 21 49.3 -0.7**
BNI				pmax		pmax		PPT2				*e*SS	SS	18 36 00.2 -10	**JIRN**	**Jiri**	**80.39**	**309**	*e*P	**P**	**18 21 50.6 0.0**
	comp=Z,254nm,1.3s								comp=Z,331nm,24.5s							comp=Z,244nm,0.7s					
BNI	**Bardonecchia**	**74.44**	**15**	*e*P		**P**	**18 21 17.7 +0.8**	PPT2				*e*LQ	LQ	18 41 41.7	**JIRN**	**Jiri**	**80.39**	**309**	*e*P	**P**	**18 21 50.6 0.0**
	comp=Z,254nm,1.3s								comp=Z,2µm,29.2s							comp=Z,244nm,0.7s					
BNI				*e*pP		**pP**	**18 21 44.2 +1.9**	PPT2				*e*LR	LR	18 45 22.0	**KZN**	**Kozani**	**80.41**	**4**	*e*P	pP	18 22 19.2 +3.3
ORIF	**Oris-en-Rattie**	**74.47**	**15**⇑	*i*P		**P**	**18 21 17.3 +0.3**		comp=Z,2µm,30.2s,baz=347						**MSVF**	**Nonsavu**	**80.52**	**208**	*e*P	**P**	**18 21 51.9 +1.1**
	comp=Z,87nm,0.8s							**PTOM**	**Tomar**	**76.97**	**27**	*e*P	**P**	**18 21 32.2 +1.0**	MSVF				*e**SP	**pP**	**18 22 19.2 +2.6**
ORIF				*e*R					comp=Z,180nm,1.6s						MSVF				pmax	pmax	
	comp=Z,506nm,20.2s							**PCBR**	**Castelo Branco**	**76.97**	**26**	*e*P	**P**	**18 21 32.4 +1.2**		comp=Z,77nm,1.4s					
OG22	**Abries**	**74.70**	**15**	*e*P		**P**	**18 21 20.3 +1.8**		comp=Z,218nm,1.6s						**MSVF**	**Nonsavu**	**80.52**	**208**	*e*P	**P**	**18 21 51.9 +1.1**
OG22	**Abries**	**74.70**	**15**	*e*P		**P**	**18 21 20.2 +1.8**	PCBR				*e*pP	**pP**	**18 21 57.9 +1.1**		comp=Z,77nm,1.4s					
OG22	**Abries**	**74.70**	**15**	*e*P		**P**	**18 21 20.3 +1.8**	**PAE**	**Paea**	**76.99**	**177**	*e*pP	pP	18 21 56.9 0.0	MSVF				*e*pP	**pP**	**18 22 11.6 -5.0**
AFI	**Afiamalu**	**74.75**	**199**	P		P	18 21 14.8 -4.0		comp=Z,28nm,1.2s						MSVF				*e*sP	**pP**	**18 22 19.2 +2.6**
AFI	**Afiamalu**	**74.75**	**199**	P		P	18 21 14.8 -4.0	**ZEI**	**Tsey**	**77.08**	**347**	*e*P	**P**	**18 21 29.7 -2.3**	**ODAN**	**Odare**	**80.63**	**308**	*e*P	**P**	**18 21 51.4 -0.3**
PGAV	**Gavieira, Arco**	**74.77**	**26**	*e*P		**P**	**18 21 20.1 +1.3**	ZEI				pmax	pmax			comp=Z,210nm,1.4s					
	comp=Z,259nm,1.5s								comp=Z,69nm,1.4s						**ODAN**	**Odare**	**80.63**	**308**	*e*P	**P**	**18 21 51.4 -0.3**
MBDF	**Montbardon**	**74.77**	**15**⇑	*i*P		**P**	**18 21 19.8 +1.0**	**PSN**	**Preselentsi**	**77.12**	**359**	*i* P	**P**	**18 21 32.4 +0.4**		comp=Z,210nm,1.4s					
	comp=Z,132nm,0.9s							**ZIMR**		**77.14**	**1**	⇓P	**P**	**18 21 32.9 +0.8**	**KKN**	**Kakani**	**80.64**	**310**	*e*P	**P**	**18 21 51.2 -0.5**
BOJS	**Bojanci**	**74.87**	**8**	*i* P		**P**	**18 21 18.9 -0.2**	**ZIMR**		**77.14**	**1**⇓	*i*P	**P**	**18 21 32.9 +0.8**		comp=Z,65nm,0.7s					
BOJS				*i*			18 21 45.2	**PGF**	**Pioggiola**	**77.19**	**13**⇑	*i*P	**P**	**18 21 32.5 0.0**	**KKN**	**Kakani**	**80.64**	**310**	*e*P	**P**	**18 21 51.2 -0.5**
VRI	**Vrincioaia**	**74.94**	**0**	⇓P		**P**	**18 21 21.0 +1.4**		comp=Z,822nm,1.2s						KKN				pmax	pmax	
VRI	**Vrincioaia**	**74.94**	**0**⇓	*i*P		**P**	**18 21 21.0 +1.4**	**MEH**	**Mehetia**	**77.26**	**175**	*e*pP	pP	18 21 58.0 -0.5		comp=Z,65nm,0.7s					
PLOR	**Plostina**	**74.96**	**0**⇑	*i*P		**P**	**18 21 20.3 +0.6**		comp=Z,131nm,1.2s						**KKN**	**Kakani**	**80.64**	**310**	*e*P	**P**	**18 21 51.2 -0.5**
PLOR	**Plostina**	**74.96**	**0**⇑	*i*P		**P**	**18 21 20.3 +0.6**	**PLE**	**Pljevlja**	**77.29**	**6**⇓	*i*P	P	18 21 39.5 +6.4		comp=Z,65nm,0.7s					
LASF	**Ste Croix**	**75.01**	**17**⇑	*i*P		**P**	**18 21 20.5 +0.5**	**QIZ**	**Qiongzhong**	**77.30**	**286**	P	**P**	**18 21 31.5 -1.8**	**LIT**	**Litokhoron**	**80.64**	**3**	P	**P**	**18 21 52.5 +1.2**
	comp=Z,312nm,1.3s							QIZ				pP	**pP**	**18 21 58.9 0.0**	**LIT**	**Litokhoron**	**80.64**	**3**	P	**P**	**18 21 52.5 +1.2**
SURF	**Saint Ours**	**75.02**	**15**	*e*P		**P**	**18 21 21.6 +1.3**	QIZ				sP	**sP**	**18 22 10.9 +1.2**	**LIT**	**Litokhoron**	**80.64**	**3**	P	**P**	**18 21 52.5 +1.2**
SURF	**Saint Ours**	**75.02**	**15**	*e*P		**P**	**18 21 21.6 +1.3**	QIZ				S	**S**	**18 31 11.5 -3.6**	**LIT**	**Litokhoron**	**80.64**	**3**	*e*P	**P**	**18 21 50.4 -0.9**
BZS	**Buzias**	**75.10**	**4**	⇓P		**P**	**18 21 20.3 -0.2**	QIZ				pmax	pmax		**GKN**	**Gorkha**	**80.69**	**311**	*e*P	**P**	**18 21 51.4 -0.6**
BZS	**Buzias**	**75.10**	**4**⇓	*i*P		**P**	**18 21 20.3 -0.2**		comp=Z,390nm,4.8s							comp=Z,286nm,1.4s					
PBRG	**Braganca**	**75.26**	**25**	*e*P		**P**	**18 21 23.0 +1.5**	**ONI**	**Oni**	**77.30**	**348**	P	**P**	**18 21 32.8 -0.3**	**GKN**	**Gorkha**	**80.69**	**311**	*e*P	**P**	**18 21 51.4 -0.6**
	comp=Z,187nm,1.7s							**PMRV**	**Marv??o**	**77.38**	**27**	*e*P	**P**	**18 21 34.6 +1.1**		comp=Z,286nm,1.4s					
PBRG				*e*pP		**pP**	**18 21 48.6 +1.6**		comp=Z,182nm,1.6s						**DANN**	**Dangsing**	**80.72**	**312**	*e*P	**P**	**18 21 52.2 -0.1**
MLR	**Muntele Rosu**	**75.32**	**1**	P		**P**	**18 21 22.9 +1.0**	**PMAFR**	**Mafra**	**77.39**	**28**	*e*P	**P**	**18 21 34.8 +1.2**		comp=Z,209nm,0.6s					
MLR	**Muntele Rosu**	**75.32**	**1**⇑	*i*P		**P**	**18 21 22.8 +0.9**		comp=Z,763nm,1.4s						**DANN**	**Dangsing**	**80.72**	**312**	*e*P	**P**	**18 21 52.2 -0.1**
SMRF	**Simiane la Rot**	**75.35**	**16**⇑	*i*P		**P**	**18 21 22.9 +0.9**	**UPM**	**Unac-Piva**	**77.39**	**6**⇓	*i*P	P	18 21 37.1 +3.3		comp=Z,209nm,0.6s					
	comp=Z,394nm,1.1s							**PMTG**	**Montargil**	**77.53**	**27**	*e*P	**P**	**18 21 35.3 +0.9**	**PKI**	**Pulchoki**	**80.78**	**310**	*e*P	**P**	**18 21 52.0 -0.6**
SMRF				*e*pP		**pP**	**18 21 51.4 +3.9**		comp=Z,125nm,2.1s							comp=Z,128nm,1.1s					
VOIR		**75.36**	**1**	P		**P**	**18 21 22.8 +0.7**	PMTG				*e*pP	**pP**	**18 22 01.0 +1.0**	**PKI**	**Pulchoki**	**80.78**	**310**	*e*P	**P**	**18 21 52.0 -0.6**
VOIR		**75.36**	**1**⇑	*i*P		**P**	**18 21 22.6 +0.5**	**SZH**	**Strazhica**	**77.54**	**1**	P	**P**	**18 21 32.0 -2.3**	PKI				pmax	pmax	
GZR	**Gura Zlata**	**75.36**	**3**	P		**P**	**18 21 22.1 0.0**	**PRD**	**Provadia**	**77.61**	**360**	*i* P	**P**	**18 21 34.5 -0.2**		comp=Z,128nm,1.1s					
GZR	**Gura Zlata**	**75.36**	**3**⇓	*i*P		**P**	**18 21 22.0 0.0**	**LIS**	**Lisbon**	**77.65**	**28**	*e*P	**P**	**18 21 36.1 +1.1**	**PKI**	**Pulchoki**	**80.78**	**310**	*e*P	**P**	**18 21 52.0 -0.6**
ETSF	**Etsaut**	**75.43**	**20**⇑	*i*P		**P**	**18 21 23.1 +0.6**	**STON**	**Ston**	**77.66**	**7**	P	**P**	**18 21 32.9 -2.1**		comp=Z,128nm,1.1s					
	comp=Z,366nm,1.1s							**BRY**	**Bratogost**	**77.67**	**6**⇓	*i*P	**P**	**18 21 34.3 -1.0**	**DMN**	**Daman**	**80.86**	**310**	*e*P	**P**	**18 21 52.8 -0.2**
ETSF				*e*pP		**pP**	**18 21 51.3 +3.2**	**IVA**	**Berane**	**77.77**	**5**⇓	*i*P	**P**	**18 21 35.0 -0.7**		comp=Z,88nm,0.8s					
POLO	**Lamas de Olo**	**75.44**	**26**	*e*P		**P**	**18 21 24.0 +1.4**	**NKY**	**Niksic**	**77.79**	**6**⇓	*i*P	**P**	**18 21 35.6 -0.2**	**DMN**	**Daman**	**80.86**	**310**	*e*P	**P**	**18 21 52.8 -0.2**
	comp=Z,92nm,1.4s							**GOR**	**Gori**	**77.83**	**347**	P	**P**	**18 21 36.1 +0.1**		comp=Z,88nm,0.8s					
POLO				*e*pP		**pP**	**18 21 49.5 +1.4**	**AQU**	**L'Aquila**	**77.85**	**10**	*e*P	**P**	**18 21 33.8 -2.3**	**RAMN**	**Ramite**	**80.87**	**309**	*e*P	**P**	**18 21 52.5 -0.5**
EPF	**Esparros**	**75.46**	**20**⇑	*i*P		**P**	**18 21 22.1 -0.6**	AQU				pmax	pmax			comp=Z,293nm,1.0s					
	comp=Z,158nm,1.1s								comp=Z,89nm,1.0s						**RAMN**	**Ramite**	**80.87**	**309**	*e*P	**P**	**18 21 52.5 -0.5**
MTLF	**Montolieu**	**75.47**	**18**⇑	*i*P		**P**	**18 21 22.8 +0.1**	**AQU**	**L'Aquila**	**77.85**	**10**	*e*P	**P**	**18 21 33.8 -2.3**		comp=Z,293nm,1.0s					
	comp=Z,446nm,1.1s								comp=Z,89nm,1.0s						**PTH**	**Pithoragarh**	**80.95**	**315**	*e*P	**P**	**18 21 53.7 +0.4**
PTO	**Porto**	**75.48**	**27**	*e*P		**P**	**18 21 23.8 +1.1**	**ESDC**	**Sonseca Array**	**77.89**	**24**	P	**P**	**18 21 37.0 +0.6**	PTH				*ex*	**PP**	**18 24 56.9 -1.6**
	comp=Z,372nm,1.7s								comp=Z,73nm,0.9s,baz=343,slow=5.4,SNR=135						**DDI**	**Dehra Dun**	**81.01**	**317**	*ex*	x	18 21 52.4
PTO				*e*pP		**pP**	**18 21 49.6 +1.4**	ESDC				LR	LR	18 55 19.4	DDI				*ex*	**PP**	**18 24 57.4 -1.4**
KMI	**Kunming**	**75.49**	**295**	P		**P**	**18 21 22.3 -1.0**		comp=Z,248nm,18.5s,baz=320,slow=35						**JAN**	**Janina**	**81.02**	**5**	*e*P	**P**	**18 21 54.2 +0.8**
KMI				pP		**pP**	**18 21 48.5 -0.3**	**ESDC**	**Sonseca Array**	**77.89**	**24**	P	**P**	**18 21 37.0 +0.6**	**THL**	**Klokotos Trika**	**81.16**	**4**	P	**P**	**18 21 54.8 +0.8**
KMI				PP		**PP**	**18 24 13.5 +0.3**	**ESLA**	**Sonseca Array**	**77.89**	**24**	*e*P	**P**	**18 21 36.8 +0.3**	**THL**	**Klokotos Trika**	**81.16**	**4**	*e*P	**P**	**18 21 53.2 -0.8**
KMI				S		S	18 30 48.3 -7.4		comp=Z,123nm,1.5s						**TIP**	**Timpagrande**	**81.27**	**8**	*e*P	**P**	**18 21 53.8 -1.0**
KMI				SKS		SKSac	18 31 16.8 -7.3	ESLA				*e*pP	**pP**	**18 22 01.3 -0.8**		comp=Z,87nm,1.3s					
KMI				sS		**sS**	**18 31 34.8 -4.6**	**PAB**	**San Pablo**	**77.94**	**24**	*e*P	**P**	**18 21 36.8 +0.1**	TIP				*e*pP	**pP**	**18 22 20.9 +0.4**
KMI				pmax		pmax		PAB				*e**PP	**pP**	**18 22 03.2 +0.8**	**KOLN**	**Koldanda**	**81.30**	**311**	*e*P	**P**	**18 21 54.8 -0.4**
	comp=Z,24nm,1.6s							PAB				pmax	pmax			comp=Z,54nm,0.7s					
KMI				LR		LR			comp=Z,192nm,1.4s						**KOLN**	**Koldanda**	**81.30**	**311**	*e*P	**P**	**18 21 54.8 -0.4**
	comp=N,510nm,23.6s							**PAB**	**San Pablo**	**77.94**	**24**	*e*P	**P**	**18 21 36.8 +0.1**		comp=Z,54nm,0.7s					
KMI				LR		LR			comp=Z,192nm,1.4s						**NEO**	**Neokhori**	**81.45**	**3**	*e*P	**P**	**18 21 55.3 -0.3**
	comp=E,300nm,22.3s							PAB				*e*pP	**pP**	**18 22 03.2 +0.8**	**SKIA**	**Skiathos**	**81.60**	**3**	P	**P**	**18 21 57.1 +0.7**
KMI				LR		LR		**TBLG**	**Delisi**	**78.00**	**346**	*e*P	**P**	**18 21 36.5 -0.4**	**KKR**	**Kurukshetra**	**81.77**	**318**	*e*P	**P**	**18 21 57.4 0.0**
	comp=Z,680nm,35.8s							**TBLG**	**Delisi**	**78.00**	**346**	P	**P**	**18 21 36.6 -0.4**	KKR				AMb	AMB	18 21 58.6
TOUF	**Mont Tournerai**	**75.53**	**14**	*e*P		**P**	**18 21 24.2 +0.9**	**PVY**	**Plav**	**78.05**	**5**⇓	*i*P	**P**	**18 21 34.9 -2.4**		comp=Z,96nm,0.4s					
TOUF	**Mont Tournerai**	**75.53**	**14**	*e*P		**P**	**18 21 24.2 +0.9**	**EVO**	**Evora**	**78.10**	**27**	*e*P	**P**	**18 21 38.7 +1.2**	**EVR**	**Evrytania**	**81.80**	**4**	*e*P	**P**	**18 21 58.2 +0.7**
TOUF	**Mont Tournerai**	**75.53**	**14**	*e*P		**P**	**18 21 24.2 +0.9**		comp=Z,214nm,1.5s						**LKD2**	**Lefkada island**	**81.88**	**5**	*e*P	**P**	**18 21 56.5 -1.4**
VIEF	**Viey**	**75.55**	**20**	*e*P		**P**	**18 21 24.0 +0.8**	**EVO**	**Evora**	**78.10**	**27**⇑	*i*P	**P**	**18 21 37.6 +0.1**	**OTAV**	**Otavalo**	**82.06**	**103**	*e*P	**P**	**18 21 58.6 -1.0**
VIEF	**Viey**	**75.55**	**20**	*e*P		**P**	**18 21 24.0 +0.8**	EVO				*e*R				comp=Z,41nm,0.8s					
PVRL	**Vila Real**	**75.55**	**26**	*e*P		**P**	**18 21 24.6 +1.4**		comp=Z,708nm,22.9s						OTAV				*e*pP	**pP**	**18 22 22.7 -2.8**
	comp=Z,300nm,1.6s							**HCY**	**Herceg Novi**	**78.12**	**6**⇓	*i*P	**P**	**18 21 34.9 -2.7**	**LKR**	**Lokris**	**82.10**	**3**	*e*P	**P**	**18 21 58.2 -0.8**
PVRL				*e*pP		**pP**	**18 21 50.3 +1.6**	**TTG**	**Podgorica**	**78.18**	**6**⇓	*i*P	**P**	**18 21 36.4 -1.5**	**EFP**	**Efpalio**	**82.29**	**4**	P	**P**	**18 22 01.3 +1.3**
AUTN	**L'Aution**	**75.58**	**14**	*e*P		**P**	**18 21 23.7 +0.2**	**DGRG**	**David-gareji**	**78.20**	**346**	P	**P**	**18 21 38.1 0.0**	**EFP**	**Efpalio**	**82.29**	**4**	*e*P	**P**	**18 22 00.3 +0.3**
AUTN	**L'Aution**	**75.58**	**14**	*e*P		**P**	**18 21 23.7 +0.2**	**HNR**	**Honiara**	**78.28**	**227**	P	P	18 21 41.8 +3.1	**DESF**	**Desfina**	**82.33**	**3**	P	**P**	**18 21 59.4 -0.9**
AUTN	**L'Aution**	**75.58**	**14**	*e*P		**P**	**18 21 23.7 +0.2**		comp=Z,9.1nm,0.4s,baz=83,slow=19,SNR=4.6						**DSF**	**Desfina**	**82.33**	**3**	P	**P**	**18 22 00.5 +0.2**
SAOF	**Saorge**	**75.60**	**14**	*e*P		**P**	**18 21 23.7 +0.3**	HNR				LR	LR	18 55 03.5	**DSF**	**Desfina**	**82.33**	**3**	P	**P**	**18 22 00.5 +0.2**
SAOF	**Saorge**	**75.60**	**14**	*e*P		**P**	**18 21 23.7 +0.3**		comp=Z,575nm,18.7s,baz=30,slow=35						**VLS**	**Valsamata**	**82.49**	**5**	*e*P	**P**	**18 22 00.1 -0.9**
SAOF	**Saorge**	**75.60**	**14**	*e*P		**P**	**18 21 23.7 +0.3**	**HNR**	**Honiara**	**78.28**	**227**	P	P	18 21 41.8 +3.1	**ASOR**	**Ausora**	**82.54**	**317**	*e*P	**P**	**18 22 01.4 0.0**
CFR	**Carcaliu**	**75.63**	**359**⇑	P		**P**	**18 21 23.0 -0.5**	HNR				pmax	pmax		ASOR				AMb	AMB	18 22 03.2
CFR	**Carcaliu**	**75.63**	**359**⇑	P		**P**	**18 21 23.0 -0.5**		comp=Z,9.0nm,0.4s							comp=Z,361nm,0.3s					
MVIF	**Mont Vial**	**75.64**	**15**	*e*P		**P**	**18 21 24.3 +0.5**	HNR				MLR	MLR		**RLS**	**Riolos of Patr**	**82.64**	**4**	P	**P**	**18 22 03.8 +2.0**
MVIF	**Mont Vial**	**75.64**	**15**	*e*P		**P**	**18 21 24.3 +0.5**		comp=Z,575nm,18.7s						**RLS**	**Riolos of Patr**	**82.64**	**4**	P	**P**	**18 22 03.8 +2.0**
MVIF	**Mont Vial**	**75.64**	**15**	*e*P		**P**	**18 21 24.3 +0.5**	**HNR**	**Honiara**	**78.28**	**227**	*e*P	**P**	**18 21 39.0 +0.3**	**RLS**	**Riolos of Patr**	**82.64**	**4**	*e*P	**P**	**18 22 02.0 +0.2**
ANN	**Anapa**	**75.65**	**352**	*e*P		**P**	**18 21 23.3 -0.3**		comp=Z,41nm,0.8s						**TBI**	**Tubuai**	**82.65**	**177**	*e*pP	**pP**	**18 22 28.1 +0.4**
ANN				pmax		pmax		**BUM**	**Brajici-Budva**	**78.29**	**6**⇓	*i*P	**P**	**18 21 36.8 -1.8**		comp=Z,162nm,1.2s					
	comp=Z,81nm,1.3s							**AKH**	**Akhalkalaki**	**78.46**	**347**	P	**P**	**18 21 39.8 +0.1**	TBI				*e*S	**S**	**18 32 04.7 -5.9**
MLS	**Moulis**	**75.66**	**19**	*e*P		**P**	**18 21 23.9 +0.1**	**SDV**	**Santo Domingo**	**78.59**	**92**	*e*P	**P**	**18 21 40.1 -0.6**		comp=Z,545nm,27.8s					
MLS	**Moulis**	**75.66**	**19**	*e*P		**P**	**18 21 23.9 +0.1**		comp=Z,86nm,0.9s						TBI				*e*SS	**SS**	**18 37 36.0 +0.6**
RESF	**Ens**	**75.68**	**20**	*e*P		**P**	**18 21 24.6 +0.6**	SDV				*e*pP	**pP**	**18 22 04.9 -1.5**		comp=Z,416nm,30.2s					
RESF	**Ens**	**75.68**	**20**	*e*P		**P**	**18 21 24.6 +0.6**	**PBEJ**	**Beja**	**78.61**	**27**	*e*P	**P**	**18 21 41.3 +1.0**	TBI				*e*LQ	LQ	18 44 10.9
SIM	**Simferopol'**	**75.69**	**355**	*ce*P		P	18 21 18.8 -5.1		comp=Z,118nm,1.9s							comp=Z,572nm,28.0s					
SIM				S		**S**	**18 30 57.6 +0.7**	PBEJ				*e*pP	**pP**	**18 22 09.3 +3.3**	TBI				*e*LR	LR	18 48 02.0
SIM				pmax		pmax		**ULC**	**Ulcinj**	**78.65**	**6**⇓	*i*P	**P**	**18 21 41.2 +0.7**		comp=Z,2µm,33.8s,baz=356					
	comp=Z,25nm,1.2s							**PBAR**	**Barrancos**	**78.66**	**27**	*e*P	**P**	**18 21 41.9 +1.3**	**CHTO**	**Chiang Mai**	**82.69**	**295**	*e*P	**P**	**18 22 00.2 -2.2**
SIM				MLR		MLR			comp=Z,313nm,1.8s						CHTO				*e**SP	**pP**	**18 22 27.6 -0.6**
	comp=Z,320nm,18.0s							PBAR				*e*pP	**pP**	**18 22 08.4 +2.1**	CHTO				pmax	pmax	
SBF	**Sospel**	**75.71**	**14**⇑	*i*P		**P**	**18 21 24.1 0.0**	**PCVE**	**Castro Verde**	**78.95**	**28**	*e*P	**P**	**18 21 43.6 +1.4**		comp=Z,45nm,1.4s					
	comp=Z,442nm,1.1s								comp=Z,117nm,1.6s						**CHTO**	**Chiang Mai**	**82.69**	**295**	*e*P	**P**	**18 22 00.1 -2.2**
CALN	**Calern**	**75.75**	**15**	*e*P		**P**	**18 21 23.2 -1.2**	**RZN**	**Rozhen**	**79.10**	**2**	*i* P	**P**	**18 21 43.0 -0.2**		comp=Z,45nm,1.4s					
CALN	**Calern**	**75.75**	**15**	*e*P		**P**	**18 21 23.2 -1.2**	**MORF**	**Marmelete**	**79.11**	**28**	*e*P	**P**	**18 21 44.4 +1.3**	CHTO				*e*sP	**pP**	**18 22 27.6 -0.6**
CALN	**Calern**	**75.75**	**15**	*e*P		**P**	**18 21 23.2 -1.2**		comp=Z,256nm,1.8s						**PTL**	**Penteli**	**82.72**	**2**	*e*P	**P**	**18 22 01.6 -0.7**
NVLJ	**Novalja**	**75.78**	**9**	P		P	**18 21 23.6 -0.7**	MORF				*e*pP	**pP**	**18 22 12.2 +3.3**	**LTK**	**Loutraki**	**82.73**	**3**	*e*P	**P**	**18 22 00.7 -1.6**
MVO	**Moncorvo**	**75.81**	**26**	*e*P		**P**	**18 21 26.1 +1.4**	**KDZ**	**Kurdzhali**	**79.15**	**1**	*i* P	**P**	**18 21 43.1 -0.1**	**GUR**	**Goura**	**82.79**	**4**	P	**P**	**18 22 03.7 +0.9**
	comp=Z,234nm,1.4s							**MMB**	**Musomiste**	**79.19**	**2**	*i* P	**P**	**18 21 43.5 0.0**	**GUR**	**Goura**	**82.79**	**4**	*e*P	**P**	**18 22 01.9 -0.9**
MVO				*e*pP		**pP**	**18 21 50.9 +0.7**	**PVAQ**	**Vaqueiros**	**79.24**	**27**	*e*P	**P**	**18 21 44.7 +0.9**	**NDI**	**New Delhi**	**82.80**	**317**	*e*P	**P**	**18 22 04.5 +1.7**
REVF	**Revere**	**75.82**	**14**	*e*P		**P**	**18 21 24.8 +0.1**		comp=Z,279nm,1.7s						**BISR**	**Bishrakh**	**82.83**	**317**	*ex*	**P**	**18 22 02.1 -0.8**
REVF	**Revere**	**75.82**	**14**	*e*P		**P**	**18 21 24.8 +0.1**	PVAQ				*e*pP	**pP**	**18 22 11.4 +1.9**	BISR				AMb	AMB	18 22 04.7
REVF	**Revere**	**75.82**	**14**	*e*P		**P**	**18 21 24.8 +0.1**	**PBDV**	**Barranco-do-Ve**	**79.34**	**28**	*e*P	**P**	**18 21 46.1 +1.7**		comp=Z,144nm,0.8s					
KIV	**Kislovodsk**	**76.03**	**348**c	*i*P		**P**	**18 21 25.5 -0.5**		comp=Z,332nm,1.9s						**BHGR**	**Bahadurgarh**	**82.89**	**317**	*e*P	**P**	**18 22 02.5 -0.7**
KIV				*e*			18 24 13.5	PBDV				*e*pP	**pP**	**18 22 12.7 +2.6**	**CKFL**	**Kef-Lekhel**	**82.95**	**16**	P	**P**	**18 22 03.2 -0.4**
KIV				pmax		pmax		**NVR**	**Nevrokopi**	**79.43**	**2**	*e*P	**P**	**18 21 44.8 0.0**	**SET**	**Setif**	**82.95**	**17**	P	P	18 22 09.0 +5.4
	comp=Z,136nm,1.4s							**ABKT**	**Ailbek**	**79.49**	**335**	P	**P**	**18 21 44.2 -1.0**	**CM31**	**Chiang Mai Arr**	**83.00**	**295**	*e*P	**P**	**18 22 02.6 -1.3**
KIV	**Kislovodsk**	**76.03**	**348**	*e*P		**P**	**18 21 25.3 -0.6**		comp=Z,256nm,1.2s,SNR=22							comp=Z,14nm,0.6s					
	comp=Z,138nm,1.3s							**GNI**	**Garni**	**79.56**	**346**c	*i*P	**P**	**18 21 46.4 +0.7**	**CMAR**	**Chiang Mai Arr**	**83.00**	**295**	P	**P**	**18 22 03.0 -1.0**
KIV	**Kislovodsk**	**76.03**	**348**	P		**P**	**18 21 25.9 -0.1**	GNI				pmax	pmax			comp=Z,12nm,0.5s,baz=9.3,slow=5.1,SNR=101					
	comp=Z,419nm,1.0s,SNR=12								comp=Z,134nm,1.5s						CMAR				PKPPKP	P'P'df	18 48 43.6 +12
PVIS	**Viseu**	**76.04**	**27**	*e*P		**P**	**18 21 26.9 +0.9**	**GNI**	**Garni**	**79.56**	**346**	*e*P	**P**	**18 21 45.7 0.0**		comp=Z,0.2nm,0.6s,baz=202,slow=3.1,SNR=4.3					
	comp=Z,219nm,1.6s								comp=Z,125nm,1.4s						CMAR				LR	LR	18 59 19.2
PVIS				*e*pP		**pP**	**18 21 53.5 +1.9**	**KNT**	**Kendrikon**	**79.59**	**3**	P	**P**	**18 21 46.8 +1.2**		comp=Z,406nm,19.4s,baz=30,slow=36					
LMR	**La Mourre**	**76.11**	**15**⇑	*i*P		**P**	**18 21 26.5 +0.2**	**KNT**	**Kendrikon**	**79.59**	**3**	P	**P**	**18 21 46.8 +1.2**	**CMAR**	**Chiang Mai Arr**	**83.00**	**295**	P	**P**	**18 22 03.0 -1.0**
	comp=Z,192nm,1.0s							**KNT**	**Kendrikon**	**79.59**	**3**	P	**P**	**18 21 46.8 +1.2**	**CMAR**	**Chiang Mai Arr**	**83.00**	**295**	P	**P**	**18 22 03.0 -1.0**
TIRR	**Tirgusor**	**76.34**	**359**	*e*P		**P**	**18

RKT				*e*LR	LR	18 48 33.4		
	comp=Z,2µm,31.5s,baz=353							
KHET	**Khetri**	**83.84**	**318**	*ex*	**P**	**18 22 07.1**	**-1.1**	
KHET				AMb	AMB	18 22 09.6		
	comp=Z,49nm,1.3s							
AGRA	**Agra**	**83.87**	**316**	*ex*	**P**	**18 22 07.8**	**-0.5**	
AGRA				AMb	AMB	18 22 11.6		
	comp=Z,69nm,0.3s							
KEST	**Kesra**	**83.96**	**14**	P	**P**	**18 22 08.9**	**+0.1**	
	comp=Z,60nm,1.0s,baz=256,slow=1.0,SNR=43							
KEST				LR	LR	19 03 02.2		
	comp=Z,118nm,18.7s,baz=301,slow=38							
KEST	**Kesra**	**83.96**	**14**	*e*P	**P**	**18 22 08.8**	**+0.1**	
KEST				*e*pP	**pP**	**18 22 35.6**	**+0.9**	
VLI	**Veliai**	**84.03**	**3**	*e*P	**P**	**18 22 07.2**	**-1.8**	
ARG	**Arkhangelos**	**84.58**	**359**	*e*P	P	18 22 07.1	-4.6	
MYLDM	**Lahad Datu**	**84.75**	**271**	P	**P**	**18 22 14.1**	**+1.3**	
MYLDM	**Lahad Datu**	**84.75**	**271**	P	**P**	**18 22 14.2**	**+1.3**	
	comp=Z,70nm,1.9s,comp=Z,2µm							
SDKM	**Sandakan**	**85.02**	**273**	P	**P**	**18 22 13.9**	**-0.4**	
KKM	**Kota Kinabalu**	**85.17**	**274**	*e*P	**P**	**18 22 14.6**	**-0.6**	
	comp=Z,135nm,1.4s							
KKM				*e*pP	**pP**	**18 22 39.9**	**-1.2**	
KKM	**Kota Kinabalu**	**85.17**	**274**	P	**P**	**18 22 16.1**	**+1.0**	
KKM	**Kota Kinabalu**	**85.17**	**274**	P	**P**	**18 22 15.9**	**+0.8**	
	comp=Z,78nm,1.8s,comp=Z,2µm							
VAM	**Vamos**	**85.36**	**2**	*e*P	**P**	**18 22 15.6**	**-0.1**	
NPS	**Neapolis**	**85.53**	**1**	*e*P	**P**	**18 22 16.3**	**-0.2**	
TSM	**Tawau**	**85.82**	**271**	P	**P**	**18 22 18.6**	**+0.4**	
BHD	**Baghdad**	**86.39**	**345**	*e*p	**P**	**18 22 19.0**	**-1.8**	
BHD				*e*PP	PP	18 25 32.0	-10	
BHD				*i* SKS	S	18 32 35.0	-13	
BHD				*i* S	**SKKSac**	**18 32 47.0**	**+1.1**	
BHD				*i* PPS	PPS	18 34 08.0		
DZM	**Mont Dzumac**	**87.82**	**217**	*e*S	S	18 32 52.7	-9.1	
	comp=Z,448nm,27.7s							
DZM				*e*LR	LR	18 50 33.0		
	comp=Z,608nm,25.2s							
COEN	**Coen**	**89.27**	**241**	*e*P	**P**	**18 22 33.4**	**-1.2**	
	comp=Z,74nm,0.9s							
COEN	**Coen**	**89.27**	**241**	*e*P	**P**	**18 22 33.2**	**-1.4**	
	comp=Z,201nm,0.9s							
COEN				*e*pP	**pP**	**18 22 60.0**	**-0.8**	
MIB	**Mutribah**	**89.38**	**342**	*e*P	**P**	**18 22 34.4**	**-0.7**	
MIB				AMb	AMB	18 23 07.2		
	comp=Z,47nm,0.9s							
UMR	**Umm Al-Rimmam**	**89.57**	**342**	*e*P	**P**	**18 22 35.3**	**-0.7**	
UMR				AMb	AMB	18 23 16.4		
	comp=Z,50nm,0.9s							
RDF	**Al-Radifah**	**90.21**	**342**	*e*P	**P**	**18 22 38.3**	**-0.7**	
RDF				AMb	AMB	18 23 10.2		
	comp=Z,47nm,0.7s							
SBUM	**Sibu**	**90.27**	**275**	P	**P**	**18 22 39.7**	**+0.3**	
SBUM	**Sibu**	**90.27**	**275**	P	**P**	**18 22 39.8**	**+0.4**	
	comp=Z,22nm,1.6s,comp=Z,600nm							
KSM	**Kuching**	**92.08**	**276**	P	**P**	**18 22 48.1**	**+0.4**	
KSM	**Kuching**	**92.08**	**276**	P	**P**	**18 22 48.4**	**+0.6**	
	comp=Z,28nm,1.6s							
MTSU	**Mount Surprise**	**92.47**	**238**	⇑*i*P	**P**	**18 22 49.1**	**-0.3**	
	comp=Z,180nm,1.4s							
HYB	**Hyderabad**	**92.61**	**311**	*i* P	**P**	**18 22 48.0**	**-2.3**	
HYB				*e*pP	**pP**	**18 23 21.0**	**+4.5**	
HYB				*e*SKS	**SKSac**	**18 33 10.0**	**-4.7**	
HYB				*e*S	**S**	**18 33 42.0**	**-4.3**	
KAPI	**Kappang**	**92.83**	**265**	*e*P	**P**	**18 22 48.1**	**-3.0**	
	comp=Z,107nm,1.6s							
KAPI	**Kappang**	**92.83**	**265**	P	**P**	**18 22 49.9**	**-1.3**	
	comp=Z,43nm,1.7s,comp=Z,916nm							
POO	**Poona**	**93.32**	**316**	*ex*	**P**	**18 22 52.0**	**-1.5**	
CTA	**Charters Tower**	**93.38**	**235**	*e*P	**P**	**18 22 53.0**	**-0.5**	
	comp=Z,23nm,1.6s							
CTAO	**Charters Tower**	**93.38**	**235**	*e*P	**P**	**18 22 53.0**	**-0.5**	
CTAO				*e**PP	**pP**	**18 23 16.4**	**-3.4**	
CTAO				pmax	pmax			
	comp=Z,147nm,1.7s							
CTAO	**Charters Tower**	**93.38**	**235**	*e*P	**P**	**18 22 53.0**	**-0.5**	
	comp=Z,147nm,1.7s							
CTAO				*e*pP	**pP**	**18 23 16.4**	**-3.4**	
NNA	**Nana**	**93.41**	**108**	*e*P	**P**	**18 22 53.1**	**-0.7**	
NNA				*e**PP	**pP**	**18 23 18.7**	**-1.4**	
NNA				pmax	pmax			
	comp=Z,26nm,1.0s							
NNA	**Nana**	**93.41**	**108**	*e*P	**P**	**18 22 53.1**	**-0.7**	
	comp=Z,26nm,1.0s							
NNA				*e*pP	**pP**	**18 23 18.7**	**-1.4**	
IPM	**Ipoh**	**94.12**	**286**	*e*P	**P**	**18 22 54.8**	**-2.5**	
	comp=Z,8.2nm,0.6s							
IPM	**Ipoh**	**94.12**	**286**	P	**P**	**18 22 56.1**	**-1.1**	
TAM	**Tamanrasset**	**96.10**	**20**	*e*P	**P**	**18 23 05.6**	**-0.7**	
TAM				pmax	pmax			
	comp=Z,41nm,1.7s							
TAM	**Tamanrasset**	**96.10**	**20**	*e*P	**P**	**18 23 05.6**	**-0.7**	
	comp=Z,41nm,1.7s							
PSI	**Prapat**	**96.61**	**287**	P	**P**	**18 23 08.1**	**-0.6**	
	comp=Z,20nm,1.4s							
QIS	**Mount Isa**	**96.66**	**240**	*e*P	**P**	**18 23 06.8**	**-1.7**	
SAML	**Samuel**	**97.61**	**95**	*e*P	P	18 23 09.8	-3.2	
	comp=Z,24nm,0.9s							
SAML				*e*pP	pP	18 23 35.9	-3.5	
WRAB	**Tennant Creek**	**98.50**	**245**	*e*P	**P**	**18 23 14.5**	**-2.3**	
WRAB				pmax	pmax			
	comp=Z,24nm,1.5s							
WRAB	**Tennant Creek**	**98.50**	**245**	*e*P	**P**	**18 23 14.4**	**-2.3**	
	comp=Z,24nm,1.5s							
WRA	**Warramunga Arr**	**98.51**	**245**	P	**P**	**18 23 15.2**	**-1.7**	
	comp=Z,5.6nm,1.2s,baz=36,slow=5.6,SNR=18							
WRA				PKKPab	PKKPdf	18 40 35.6	+48	
	comp=Z,1.4nm,1.0s,baz=210,slow=3.4,SNR=5.1							
WRA				LR	LR	19 00 49.0		
	comp=Z,197nm,21.0s,baz=165,slow=31							
WRA	**Warramunga Arr**	**98.51**	**245**	P	**P**	**18 23 15.2**	**-1.7**	
WRA	**Warramunga Arr**	**98.51**	**245**	P	**P**	**18 23 15.2**	**-1.7**	
WRA				PKKPab	PKKPdf	18 40 35.6	+48	
FITZ	**Fitzroy Crossi**	**101.07**	**253**	P	**Pdif**	**18 23 26.6**	**-1.7**	
	comp=Z,14nm,1.1s,baz=40,slow=4.7,SNR=7.5							
FITZ	**Fitzroy Crossi**	**101.07**	**253**	*e*P	**Pdif**	**18 23 27.0**	**-1.3**	
	comp=Z,19nm,1.2s							
FITZ	**Fitzroy Crossi**	**101.07**	**253**	*e*Pdif	**Pdif**	**18 23 26.9**	**-1.3**	
	comp=Z,19nm,1.3s							
FITZ				*e*PP	**PP**	**18 27 33.4**	**-4.7**	
ASAR	**Alice Springs**	**101.93**	**244**	P	**Pdif**	**18 23 31.6**	**-0.5**	
	comp=Z,0.5nm,0.5s,baz=31,slow=5.6,SNR=13							
ASAR				PKKPbc	**PKKPdf**	**18 39 40.8**	**-0.3**	
	comp=Z,0.5nm,0.7s,baz=197,slow=3.1,SNR=5.3							
ASAR				PKKPab	PKKPbc	18 40 15.6	+41	
	comp=Z,0.8nm,0.8s,baz=209,slow=2.6,SNR=3.3							
ASAR	**Alice Springs**	**101.93**	**244**	P	**Pdif**	**18 23 31.6**	**-0.5**	
ASAR	**Alice Springs**	**101.93**	**244**	P	**Pdif**	**18 23 31.6**	**-0.5**	
ASAR				PKKPbc	**PKKPdf**	**18 39 40.8**	**-0.3**	
ASAR				PKKPab	PKKPbc	18 40 15.6	+41	
TORD	**Torodi Ar. Bea**	**104.74**	**25**	Pdif	**Pdif**	**18 23 48.9**	**+4.1**	
	comp=Z,1.4nm,1.0s,baz=227,slow=33,SNR=6.1							
TORD				PP	**PKiKP**	**18 27 56.4**	**-3.4**	
	comp=Z,4.7nm,1.2s,baz=343,slow=6.7,SNR=4.3							
TORD				PKKPbc	**PKKPbc**	**18 39 27.6**	**+2.4**	
	comp=Z,1.2nm,0.7s,baz=169,slow=1.8,SNR=8.4							
TORD	**Torodi Ar. Bea**	**104.74**	**25**	Pdif	**Pdif**	**18 23 48.9**	**+4.1**	
TORD				PP	**PKiKP**	**18 27 56.4**	**-3.4**	
TORD				PKKPbc	**PKKPbc**	**18 39 27.6**	**+2.4**	
NWAO	**Narrogin (SRO)**	**117.58**	**252**	PKP	**PKPdf**	**18 28 21.0**	**-2.4**	
	comp=Z,7.5nm,0.8s,baz=198,slow=3.9,SNR=3.0							
NWAO	**Narrogin (SRO)**	**117.58**	**252**	PKIKP	**PKPdf**	**18 28 21.0**	**-2.4**	
NWAO	**Narrogin (SRO)**	**117.58**	**252**	PKP	**PKPdf**	**18 28 21.0**	**-2.4**	
KMBO	**Kilima Mbogo**	**121.18**	**348**	⇑*i*P	**PKPdf**	**18 28 31.2**	**0.0**	
KMBO	**Kilima Mbogo**	**121.18**	**348**	*e*PKIKP	**PKPdf**	**18 28 31.3**	**0.0**	
KMBO	**Kilima Mbogo**	**121.18**	**348**	*e*PKPdf	**PKPdf**	**18 28 31.3**	**0.0**	
EFI	**East Falkland**	**134.54**	**120**	*e*PKIKP	**PKPdf**	**18 28 55.0**	**-0.1**	
EFI				*e*		18 29 23.1		
EFI				*e*		18 29 31.9		
EFI	**East Falkland**	**134.54**	**120**	*e*PKPdf	**PKPdf**	**18 28 55.0**	**-0.1**	
EFI				*ep*PKPdf	**pPKPdf**	**18 29 23.1**	**+0.6**	
EFI				*es*PKPdf	**sPKPdf**	**18 29 31.9**	**-0.9**	
DRV	**Dumont d'Urvil**	**135.21**	**211**	PP	PP	18 31 28.0	-5.9	
ABPO	**Ambohimpanom**	**136.93**	**331**	*e*PKIKP	**PKPdf**	**18 28 59.8**	**-1.1**	
ABPO	**Ambohimpanom**	**136.93**	**331**	*e*PKPdf	**PKPdf**	**18 28 59.8**	**-1.1**	
ABPO				*e*SKPbc	**SKPbc**	**18 32 24.2**	**-0.2**	
TSUM	**Tsumeb**	**139.14**	**13**	*e*P	**PKPdf**	**18 29 04.6**	**-0.2**	
TSUM				AMB	AMB	18 29 07.5		
	comp=Z,1µm,1.2s							
TSUM	**Tsumeb**	**139.14**	**13**	*e*PKPpre	PKPpre	18 28 55.6		
TSUM				*e*PKPdf	**PKPdf**	**18 29 04.9**	**+0.1**	
MSNA	**Messina**	**142.76**	**355**	*e*P	**PKPdf**	**18 29 07.9**	**-3.2**	
MSNA				AMB	AMB	18 29 08.5		
	comp=Z,82nm,1.6s							

CASY	**Casey**	**144.07**	**223**	*e*P	**PKPab**	**18 29 09.5**	**-0.3**	
CASY	**Casey**	**144.07**	**223**	*e*PKPpre	PKPpre	18 29 09.5		
LBTB	**Lobatse**	**145.47**	**2**	⇑*i*P	**PKPab**	**18 29 16.4**	**-0.1**	
LBTB				AMB	AMB	18 29 17.9		
	comp=Z,872nm,1.4s							
LBTB	**Lobatse**	**145.47**	**2**	*i* PKP2	**PKPab**	**18 29 16.4**	**-0.1**	
LBTB	**Lobatse**	**145.47**	**2**	*i* PKPdf	**PKPab**	**18 29 16.4**	**-0.1**	
SLR	**Silverton**	**146.19**	**358**	*e*P	**PKPdf**	**18 29 17.5**	**+0.3**	
SLR				AMB	AMB	18 29 19.8		
	comp=Z,549nm,1.2s							
TRIS	**Tristan da Cun**	**146.33**	**66**	*e*PKPbc	**PKPbc**	**18 29 18.1**	**-0.1**	
PRYS	**Parys**	**147.38**	**359**	*e*P	**PKPdf**	**18 29 18.7**	**-0.5**	
PRYS				AMB	AMB	18 29 21.8		
	comp=Z,171nm,1.5s							
SWZ	**Schweizer**	**147.62**	**3**	*e*P	**PKPdf**	**18 29 18.9**	**-0.7**	
SWZ				AMB	AMB	18 29 23.4		
	comp=Z,257nm,1.6s							
POGA	**Pongola**	**147.66**	**352**	*e*P	**PKPdf**	**18 29 19.2**	**-0.2**	
POGA				AMB	AMB	18 29 22.7		
	comp=Z,182nm,1.4s							
SEK	**Senekal**	**148.78**	**359**	*e*P	**PKPdf**	**18 29 21.3**	**-0.1**	
SEK				AMB	AMB	18 29 25.7		
	comp=Z,303nm,1.4s							
BOSA	**Boshof**	**149.05**	**3**	PKP	**PKPdf**	**18 29 21.6**	**-0.2**	
	comp=Z,84nm,1.0s,baz=270,slow=0.2,SNR=11							
BOSA				PKPbc	**PKPbc**	**18 29 25.6**	**-0.4**	
	comp=Z,84nm,1.0s,baz=16,slow=2.4,SNR=74							
BOSA	**Boshof**	**149.05**	**3**	*e*P	**PKPdf**	**18 29 21.4**	**-0.4**	
BOSA				AMB	AMB	18 29 27.0		
	comp=Z,224nm,1.7s							
BOSA	**Boshof**	**149.05**	**3**	PKIKP	**PKPdf**	**18 29 21.6**	**-0.2**	
BOSA						18 29 25.6		
BOSA				pmax	pmax			
	comp=Z,84nm,1.0s							
BOSA				pmax	pmax			
	comp=Z,84nm,1.0s							
BOSA	**Boshof**	**149.05**	**3**	*e*PKPdf	**PKPdf**	**18 29 20.9**	**-0.9**	
BOSA				PKP	**PKPdf**	**18 29 21.6**	**-0.2**	
BOSA				PKPbc	**PKPbc**	**18 29 25.6**	**-0.4**	
BOSA				*e*PKPbc	**PKPbc**	**18 29 25.6**	**-0.4**	
BOSA				*e*PKPab	PKPab	18 29 31.0	+0.6	
QSPA	**South Pole Qui**	**149.35**	**180**	PKPbc	**PKPbc**	**18 29 24.5**	**-1.0**	
	comp=Z,43nm,1.1s,baz=44,slow=0.5,SNR=31							
QSPA	**South Pole Qui**	**149.35**	**180**	*e*PKPdf	**PKPdf**	**18 29 17.3**	**-3.6**	
QSPA				PKPbc	**PKPbc**	**18 29 24.5**	**-1.0**	
QSPA				*e*PKPbc	**PKiKP**	**18 29 25.3**	**-1.2**	
QSPA				*e*PKPab	**PKPab**	**18 29 31.0**	**+0.4**	
CVNA	**Calvinia**	**151.52**	**13**	*e*P	**PKPdf**	**18 29 25.3**	**-0.2**	
CVNA				AMB	AMB	18 29 32.9		
	comp=Z,133nm,1.7s							
SUR	**Sutherland**	**152.52**	**11**	PKP	**PKPdf**	**18 29 27.3**	**+0.2**	
	comp=Z,9.0nm,1.1s,baz=288,slow=2.6,SNR=4.5							
SUR				PKPbc	**PKiKP**	**18 29 34.8**	**+0.5**	
	comp=Z,4.8nm,0.4s,baz=314,slow=2.0,SNR=13							
SUR	**Sutherland**	**152.52**	**11**	*e*P	**PKPbc**	**18 29 33.0**	**-1.1**	
SUR				AMB	AMB	18 29 35.7		
	comp=Z,68nm,2.1s							
SUR	**Sutherland**	**152.52**	**11**	PKP	**PKPdf**	**18 29 27.3**	**+0.2**	
SUR				PKPbc	**PKiKP**	**18 29 34.8**	**+0.5**	
SOE	**Somerset East**	**153.14**	**2**	*e*P	**PKPdf**	**18 29 26.5**	**-1.4**	
SOE				AMB	AMB	18 29 36.5		
	comp=Z,80nm,2.1s							
CER	**Ceres**	**153.32**	**14**	*e*P	**PKPbc**	**18 29 33.5**	**-2.1**	
CER				AMB	AMB	18 29 49.0		
	comp=Z,19nm,3.9s							
MAW	**Mawson**	**162.33**	**228**	PKPab	**PKPab**	**18 30 26.1**	**+0.1**	
	comp=Z,17nm,0.6s,baz=90,slow=7.5,SNR=16							
MAW	**Mawson**	**162.33**	**228**	*e*P	**PKPab**	**18 30 25.9**	**-0.1**	
	comp=Z,28nm,1.4s							
MAW	**Mawson**	**162.33**	**228**	PKP2	**PKPab**	**18 30 26.1**	**+0.1**	
MAW	**Mawson**	**162.33**	**228**	PKPab	**PKPab**	**18 30 26.1**	**+0.1**	
SNAA	**Sanae**	**163.00**	**148**	PKPab	**PKPab**	**18 30 28.7**	**-0.3**	
	comp=Z,1.4nm,0.8s,baz=200,slow=5.6,SNR=5.7							
SNAA	**Sanae**	**163.00**	**148**	PKP2	**PKPab**	**18 30 28.7**	**-0.3**	
SNAA	**Sanae**	**163.00**	**148**	PKPab	**PKPab**	**18 30 28.7**	**-0.3**	

*IDC **24** 18:23:08.4±0.8,2°.51N×128°.69E,h0km,mb3.9/9, mb1 4.0/9,mb1mx3.9/18,mbtmp3.9/9, Error ellipse: s-maj=48.5km s-min=15.9km az=71.0*
*ISCJB **24** 18:23:12.1±0.6,2°.47N±0°.05×128°.75E±0°.07,h35km, mb4.1/16, Error ellipse: s-maj=10.1km s-min=7.8km az=0.7*
*DJA **24** 18:23:13,2°.38N×128°.47E,h10km,mb4.7/8*
*NEIC **24** 18:23:17.9±2.9,2°.39N×128°.56E,h78km±28km,mb4.3/9, Error ellipse: s-maj=21.7km s-min=8.9km az=66.0*

ISC 24 18:23:13.5±0.7,2°40N±0°07×128°8E±0°1,h35km,n43, σ1s29/39,mb4.2/16,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.14**	**221**	P	**Pn**	**18 23 46.2**	**-0.6**
LBMI	**Labuha**	**3.27**	**203**	P	Pn	18 24 10.3	+7.9
SGSI	**Sangihe**	**3.49**	**292**	P	**Pn**	**18 24 05.7**	**+0.3**
MNI	**Manado**	**4.05**	**257**	P	**Pn**	**18 24 12.2**	**-0.9**
CTBH	**Cotabato--PC H**	**6.59**	**317**	⇑*i*P	**Pn**	**18 24 50.2**	**+2.3**
MRSI	**Marisa**	**7.10**	**255**	P	**Pn**	**18 24 56.4**	**+1.4**
	75nm,0.8s,842nm0.3nm						
KDI	**Kendari**	**8.82**	**224**	P	Pn	18 25 27.5	+8.9
KKM	**Kota Kinabalu**	**13.04**	**287**	*e*P	**Pn**	**18 26 17.2**	**+0.6**
	31nm,1.0s						
MTNI	**Mataram**	**16.68**	**229**	P	**P**	**18 27 07.6**	**+0.8**
	26nm,1.1s,866nm						
KHKI	**Kahang-Kahang**	**16.93**	**231**	P	**Pn**	**18 27 08.6**	**+0.7**
	30nm,1.9s						
KMMI	**Kalianget**	**17.51**	**237**	P	**P**	**18 27 17.6**	**+1.6**
	101nm,1.1s,6µm						
BLJI	**Banyuglugur**	**18.19**	**236**	P	P	18 27 29.7	+6.2
	43nm,0.8s						
KSM	**Kuching**	**18.48**	**267**	*e*P	**P**	**18 27 24.7**	**-2.1**
	16nm,0.9s						
SJI	**Sawahan**	**19.73**	**239**	P	**P**	**18 27 40.5**	**0.0**
	50nm,1.7s						
PWJI	**Pagerwojo**	**19.84**	**238**	P	**P**	**18 27 41.7**	**+0.1**
	33nm,1.3s						
BJII	**Banjamegara**	**21.34**	**243**	P	**P**	**18 27 57.7**	**-0.3**
WRAB	**Tennant Creek**	**22.85**	**166**	P	**P**	**18 28 16.1**	**+2.1**
	22nm,1.3s						
WRA	**Warramunga Arr**	**22.86**	**166**	P	**P**	**18 28 15.8**	**+1.8**
	3.8nm,0.7s,baz=345,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**22.86**	**166**	P	**P**	**18 28 15.8**	**+1.8**
YHNB	**Yeheng**	**23.27**	**343**	P	**P**	**18 28 18.5**	**+0.3**
	93nm,1.8s						
ASAR	**Alice Springs**	**26.38**	**169**	P	P	**18 28 47.5**	**+0.6**
	0.4nm,0.3s,baz=345,slow=7.2,SNR=6.8						
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**18 28 47.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**33.31**	**301**	P	**P**	**18 29 48.0**	**-0.2**
	0.9nm,0.9s,baz=119,slow=6.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**33.31**	**301**	P	**P**	**18 29 48.0**	**-0.2**
CHTO	**Chiang Mai**	**33.46**	**301**	P	**P**	**18 29 49.7**	**+0.1**
	3.2nm,1.0s						
MJAR	**Matsushiro Arr**	**35.08**	**13**	P	**P**	**18 30 02.8**	**-0.6**
	3.6nm,0.9s,baz=184,slow=8.5,SNR=6.4						
MJAR	**Matsushiro Arr**	**35.08**	**13**	P	**P**	**18 30 02.8**	**-0.6**
STKA	**Stephens Creek**	**36.19**	**161**	P	**P**	**18 30 14.4**	**+1.4**
	2.7nm,0.6s,baz=332,slow=6.2,SNR=5.0						
STKA	**Stephens Creek**	**36.19**	**161**	*e*P	**P**	**18 30 14.4**	**+1.4**
	0.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.79**	**196**	*e*P	**P**	**18 30 16.0**	**-2.1**
	7.3nm,0.8s						
LSA	**Lhasa**	**44.85**	**311**	P	**P**	**18 31 26.3**	**+1.1**
	4.3nm,1.1s						
ULN	**Ulaanbaatar**	**49.03**	**341**	P	**P**	**18 31 56.2**	**-1.0**
	6.2nm,1.1s						
SONM	**Songino Array**	**49.22**	**340**	P	**P**	**18 31 59.5**	**+0.9**
	0.8nm,0.9s,baz=150,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**49.22**	**340**	P	**P**	**18 31 59.5**	**+0.9**
MKAR	**Makanchi Array**	**59.81**	**325**	P	**P**	**18 33 15.0**	**-0.4**
	0.5nm,0.4s,baz=116,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**59.81**	**325**	P	**P**	**18 33 15.0**	**-0.4**
ZALV	**Zalesovo Beam**	**62.70**	**333**	P	**P**	**18 33 32.5**	**-2.3**
	0.2nm,0.3s,baz=145,slow=8.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**62.70**	**333**	P	**P**	**18 33 32.5**	**-2.3**
KURK	**Kurchatov**	**63.96**	**327**	P	**P**	**18 33 42.5**	**-0.7**
	1.3nm,0.7s,baz=129,slow=6.2,SNR=7.8						
KURK	**Kurchatov**	**63.96**	**327**	P	**P**	**18 33 42.5**	**-0.7**
MCK	**McKinley**	**84.44**	**26**	P	P	18 35 38.5	-3.9
	3.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**125.28**	**288**	PKP	**PKPdf**	**18 42 10.0**	**-1.7**
	0.2nm,0.4s,baz=108,slow=2.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**125.28**	**288**	PKP	**PKPdf**	**18 42 10.0**	**-1.7**

IDC 24 18:24:11.9±15.0,17°29S×173°10W,h0km,mb4.4/5,
mb1 4.5/5,mb1mx3.9/21,mbtmp4.4/5,Error ellipse: s-maj=301.2km s-min=154.1km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.54**	**259**	P	P	18 31 37.2	+0.7
	4.7nm,0.6s,baz=91,slow=10,SNR=12						
STKA	**Stephens Creek**	**43.37**	**242**	P	P	18 32 16.5	+0.3
	1.0nm,0.3s,baz=89,slow=9.8,SNR=3.6						
WRA	**Warramunga Arr**	**49.72**	**258**	P	P	18 33 05.7	-0.6
	2.7nm,0.3s,baz=97,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**49.82**	**253**	P	P	18 33 06.5	-0.6
	3.2nm,0.5s,baz=87,slow=8.3,SNR=83						
FITZ	**Fitzroy Crossi**	**58.12**	**259**	P	P	18 34 07.6	-0.1
	1.6nm,0.6s,baz=116,slow=5.0,SNR=4.3						

IDC 24 18:27:44.9±6.2,20°21S×177°89W,h609km±76km, mb3.0/9,mb1 3.3/9,mb1mx3.2/16,mbtmp3.0/9,Error ellipse: s-maj=50.3km s-min=29.9km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.62**	**264**	P	P	18 33 36.8	-0.2
	1.4nm,0.3s,baz=92,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**38.01**	**244**	P	P	18 34 12.7	-0.1
	1.1nm,0.4s,baz=23,slow=19,SNR=4.6						
ASAR	**Alice Springs**	**44.69**	**256**	P	P	18 35 05.6	+0.1
	3.6nm,0.8s,baz=87,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**44.74**	**262**	P	P	18 35 05.8	-0.2
	0.9nm,0.3s,baz=97,slow=7.8,SNR=16						
MJAR	**Matsushiro Arr**	**70.03**	**324**	P	P	18 37 57.0	+0.1
	0.9nm,0.5s,baz=154,slow=6.4,SNR=5.9						
NVAR	**Mina Array Bea**	**80.74**	**43**	P	P	18 38 56.2	-0.2
	0.2nm,0.4s,baz=227,slow=6.8,SNR=4.0						
TXAR	**Lajitas Array**	**86.81**	**57**	P	P	18 39 26.8	+0.5
	0.3nm,0.7s,baz=216,slow=6.2,SNR=4.5						
ILAR	**Eielson Array**	**88.01**	**13**	P	P	18 39 30.4	-0.5
	0.4nm,0.5s,baz=218,slow=5.2,SNR=10						
PDAR	**Pinedale Array**	**88.68**	**43**	P	P	18 39 34.9	0.0
	0.3nm,0.6s,baz=207,slow=1.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**90.11**	**290**	P	P	18 39 44.8	+3.1
	0.5nm,0.7s,baz=122,slow=3.0,SNR=5.9						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	PKPdf	18 46 08.1	-1.7
	1.0nm,0.5s,baz=40,slow=2.8,SNR=7.0						
GERES	**GERESS Array B**	**149.94**	**345**	PKP	PKPdf	18 46 20.4	-1.6
	0.1nm,0.3s,baz=250,slow=2.7,SNR=3.5						
GERES				PKPbc	PKiKP	18 46 28.4	+0.1
	0.8nm,0.8s,baz=48,slow=2.0,SNR=6.1						

*TIR **24** 18:36:43.0±1.0,41°60N×20°52E,h12km±5km,ML2.6*
*CSEM **24** 18:36:44.2±0.2,41°55N×20°43E,h2km,ML2.6,Error ellipse: s-maj=4.8km s-min=3.0km az=25.0*
*PDG **24** 18:36:44.0±0.2,41°57N×20°47E,h11km,ML2.6/9,Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*
*BEO **24** 18:36:49.2±1.2,41°84N×20°26E,h8km±4km,ML1.9/4*

**ISC 24 18:36:44.2±0

UPC	**Upice**	**0.95**	**184**	*e*PG	Pg	18 41 41.9	-0.6
UPC	**Upice**	**0.95**	**184**	Pg	Pg	18 41 41.9	-0.6
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	Pg	18 41 44.5	-1.1
DPC				*e*SG	Sg	18 41 59.5	-0.5
	comp=Z,5.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.11**	**173**	Pg	Pg	18 41 44.5	-1.1
DPC				Sg	Sg	18 41 59.5	-0.5
	5.0nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	Pg	18 41 49.0	-1.2
PVCC				*e*SG	Sb	18 42 08.5	+0.2
	comp=Z,22nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**227**	Pg	Pg	18 41 49.0	-1.2
PVCC				Sg	Sb	18 42 08.5	+0.2
	22nm,0.2s						
KRLC	**Kraliky**	**1.44**	**163**	*e*PG	Pn	18 41 50.1	-1.6
KRLC				*e*SG	Sg	18 42 09.0	-1.6
KRLC	**Kraliky**	**1.44**	**163**	Pg	Pn	18 41 50.1	-1.6
KRLC				Sg	Sg	18 42 09.0	-1.6
BRG	**Berggiesshubel**	**1.49**	**248**	PG	Pn	18 41 51.7	-0.6
BRG				SG	Sn	18 42 12.5	0.0
	11nm,0.4s						
PRU	**Pruhonice**	**1.78**	**215**	*e*PG	Pn	18 41 56.6	+0.3
PRU				*e*SG	Sg	18 42 21.4	0.0
	comp=Z,5.8nm,0.4s						
PRU	**Pruhonice**	**1.78**	**215**	Pg	Pn	18 41 56.6	+0.3
PRU				Sg	Sg	18 42 21.4	0.0
	5.8nm,0.4s						
CLL	**Collm**	**1.96**	**267**	*i* Pg	Pb	18 42 00.1	-0.8
CLL				*e*Sg	Sb	18 42 26.0	+0.1
NKC	**Novy Kostel**	**2.63**	**244**	*e*SG	Sg	18 42 50.0	+1.1
	comp=Z,6.9nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	Sg	Sg	18 42 50.0	+1.1
	6.9nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	Pn	18 42 10.0	-0.9
KHC				*e*PG	Pb	18 42 15.8	-0.1
KHC				*e*SG	Sg	18 42 55.5	-0.1
KHC	**Kasperske Hory**	**2.84**	**216**	Pn	Pn	18 42 10.0	-0.9
KHC	**Kasperske Hory**	**2.84**	**216**	Pg	Pb	18 42 15.8	-0.1
KHC				Sg	Sg	18 42 55.5	-0.1

MEX 24 18:47:16.1±0.4,**17°73N**×**103°29W,h13**km±25km,**MD3.8, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.56**	**354**	*i* P	Pg	18 47 25.8	-1.3
MMIG				*i* S	Sg	18 47 32.8	-1.6
ZIIG	**Zihuatanejo**	**1.74**	**94**	*i* P	Pn	18 47 42.7	-3.3
ZIIG				*i* S	Sn	18 48 03.2	-4.9
SFJM	**Santa Fe**	**2.75**	**5**	*i* P	Pn	18 47 56.5	-3.6
SFJM				*i* S	Sn	18 48 30.1	-3.3
ANIG	**Ahuacatlan**	**3.50**	**341**	*i* P	Pn	18 48 08.0	-2.5
ANIG				*i* S	Sn	18 48 47.9	-3.9

*ISCJB **24** 19:19:09.4±0.5,36°53N×0°03×70°22E±0°08,h204km, mb3.7/2,Error ellipse: s-maj=9.2km s-min=4.5km az=175.2*

*NEIC **24** 19:19:10.8±0.7,36°58N×70°31E,h188km±10km,mb4.2/11, Error ellipse: s-maj=11.7km s-min=6.3km az=67.0*

*IDC **24** 19:19:22.4±23.0,37°14N×70°51E,h281km±182km, mb3.4/2,mb1 2.9/5,mb1mx2.6/26,mbtmp2.8/5,Error ellipse: s-maj=444.9km s-min=86.3km az=160.0*

ISC 24 19:19:08.9±1.5,**36°64N**×0°06×**70°3E**±0°1,**h204**km,**n38,** σ2**s74**/12,**1C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.32**	**206**	*e*Pn	Pn	19 19 51.5	+0.2
KBL				*e*Sn	**S**	**19 20 22.0**	**-1.8**
CEP	**Cherat**	**3.11**	**154**	P	Pn	19 20 00.3	+0.1
CEP				S	**S**	**19 20 37.0**	**-2.7**
CHCP	**Chirah Chowk**	**3.85**	**140**	P	Pn	19 20 09.4	+0.4
THW	**Thamme Wali**	**4.02**	**162**	⇓P	Pn	19 20 10.6	-0.5
SARP	**Sargodha**	**5.10**	**156**	P	Pn	19 20 23.7	-1.0
KK31	**Karatay Array**	**6.46**	**2**	Pn	Pn	19 20 44.7	+2.7
	0.6nm,0.2s,baz=181,slow=12,SNR=34						
KK31				Sn	**S**	**19 21 57.2**	**+1.4**
	baz=190,slow=26						
KKAR	**Karatay Array**	**6.46**	**2**	*e*Pn	Pn	19 20 43.9	+1.8
	3.0nm,0.2s						
KKAR				*e*Sn	**S**	**19 21 52.7**	**-3.2**
EKS2	**Erkin-Say**	**6.59**	**23**	*e*Pn	Pn	19 20 46.6	+2.7
EKS2				*e*Sn	**S**	**19 21 53.7**	**-5.4**
AAK	**Ala-Archa**	**6.81**	**27**	*e*Pn	Pn	19 20 48.7	+1.9
	9.5nm,0.4s						
TKM2	**Tokmak 2**	**7.49**	**31**	⇑Pn	Pn	19 20 58.3	+2.6
	3.4nm,0.5s						
TKM2				⇓Sn	**S**	**19 22 23.5**	**+3.0**
	1.6nm,0.6s						
TKM2	**Tokmak 2**	**7.49**	**31**	*e*Pn	Pn	19 20 57.5	+1.9
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**13.53**	**38**	P	P	19 22 18.0	+3.0
	0.1nm,0.3s,baz=204,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**13.53**	**38**	P	P	19 22 18.0	+3.0
ABKAR	**Akbulak array**	**14.69**	**332**	*e*Pn	P	19 22 32.0	+4.1
	0.8nm,0.4s						
GKN	**Gorkha**	**14.87**	**121**	*e*P	P	19 22 32.2	+2.0
	3.0nm,0.3s						
GKN	**Gorkha**	**14.87**	**121**	*e*P	P	19 22 32.2	+2.0
	3.0nm,0.3s						
KURK	**Kurchatov**	**15.30**	**20**	P	**P**	**19 22 36.4**	**+1.9**
	0.0nm,0.3s,baz=216,slow=9.2,SNR=3.8						
KURK	**Kurchatov**	**15.30**	**20**	P	**P**	**19 22 36.4**	**+1.9**
KKN	**Kakani**	**15.45**	**121**	*e*P	P	19 22 38.8	+2.1
	5.1nm,0.4s						
KKN	**Kakani**	**15.45**	**121**	*e*P	P	19 22 38.8	+2.1
	5.1nm,0.4s						
PKI	**Pulchoki**	**15.67**	**121**	*e*P	Pn	19 22 41.6	+2.2
	7.6nm,0.5s						
PKI	**Pulchoki**	**15.67**	**121**	*e*P	Pn	19 22 41.6	+2.2
	7.6nm,0.5s						
GUN	**Gumba**	**15.79**	**119**	*e*P	Pn	19 22 43.0	+2.1
	4.9nm,0.4s						
GUN	**Gumba**	**15.79**	**119**	*e*P	Pn	19 22 43.0	+2.1
	4.9nm,0.4s						
JIRN	**Jiri**	**16.16**	**119**	*e*P	Pn	19 22 47.7	+2.4
	10nm,0.5s						
JIRN	**Jiri**	**16.16**	**119**	*e*P	Pn	19 22 47.7	+2.4
	10nm,0.5s						
RAMN	**Ramite**	**16.89**	**120**	*e*P	Pn	19 22 54.9	+1.1
	5.3nm,0.4s						
RAMN	**Ramite**	**16.89**	**120**	*e*P	Pn	19 22 54.9	+1.1
	5.3nm,0.4s						
TAPN	**Taplejung**	**17.43**	**117**	*e*P	**Pn**	**19 23 00.5**	**+0.3**
	2.1nm,0.4s						
TAPN	**Taplejung**	**17.43**	**117**	*e*P	**Pn**	**19 23 00.5**	**+0.3**
	2.1nm,0.4s						
ODAN	**Odare**	**17.49**	**119**	*e*P	**Pn**	**19 23 00.5**	**-0.5**
ODAN	**Odare**	**17.49**	**119**	*e*P	**Pn**	**19 23 00.5**	**-0.5**
ZALV	**Zalesovo Beam**	**20.04**	**26**	P	Pn	19 23 28.9	-1.7
	0.4nm,0.3s,baz=217,slow=10,SNR=7.9						
ZALV	**Zalesovo Beam**	**20.04**	**26**	P	Pn	19 23 28.9	-1.7
FINES	**FINESS Array B**	**37.05**	**326**	P	P	19 26 02.5	+3.7
	2.8nm,0.9s,baz=105,slow=14,SNR=2.7						
FINES	**FINESS Array B**	**37.05**	**326**	P	P	19 26 02.5	+3.7
ARCES	**ARCESS Array B**	**40.80**	**338**	P	P	19 26 33.6	+3.8
	2.2nm,1.0s,baz=101,slow=6.3,SNR=3.8						
ARCES	**ARCESS Array B**	**40.80**	**338**	P	P	19 26 33.6	+3.8

*ISCJB **24** 19:30:16.6±0.2, 18°92S±0°04×67°85W±0°04,h179km, mb5.0/153,Error ellipse: s-maj=5.9km s-min=4.1km az=41.5*

*IDC **24** 19:30:17.0±1.0, 19°07S×67°88W,h173km±7km,mb4.6/18, mb1 4.7/22,mb1mx4.7/24,mbtmp4.6/22,MS3.1/2, Ms1 3.2/2,ms1mx3.0/29,Error ellipse: s-maj=14.1km s-min=8.8km az=68.0*

*NEIC **24** 19:30:18.1±0.2, 18°92S×67°71W,mb5.1/114,Error ellipse: s-maj=7.3km s-min=4.7km az=60.0*

ISC 24 19:30:16.8±0.4,**19°05S**±0°05×**67°84W**±0°06,**h175**km±3km, **h175**km:**pP-P,n684,** σ1**s18**/743,**mb5.0**/151,**183C-225D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.76**	**354**	P	**Pn**	**19 31 04.9**	**+1.9**
	307nm,0.3s,baz=163,slow=6.7,SNR=5866						
LPAZ				S	**Sn**	**19 31 40.0**	**+1.0**
	142nm,0.3s,baz=292,slow=21,SNR=18						
LPAZ	**La Paz**	**2.76**	**354**	*e*Pn	**Pn**	**19 31 04.7**	**+1.7**
LPAZ				*e*Sn	**Sn**	**19 31 39.4**	**+0.5**
LPAZ				S	**Sn**	19 31 40.0	
SIV	**San Ignacio**	**7.14**	**66**	P	**Pn**	**19 31 59.3**	**+0.4**
	216nm,0.3s,baz=268,slow=11,SNR=5074						
SIV	**San Ignacio**	**7.14**	**66**	P	**Pn**	**19 31 59.3**	**+0.4**
LCO	**Las Campanas**	**10.25**	**194**	*e*Pn	Pn	19 32 32.8	-7.1
LCO				*e*Sn	Sn	19 34 16.3	-18
SAML	**Samuel**	**11.01**	**25**	⇓*i*Pn	**Pn**	**19 32 48.9**	**-0.8**
	30nm,0.9s						
NNA	**Nana**	**11.16**	**308**	P	**Pn**	**19 32 49.1**	**-2.5**
	72nm,0.3s,baz=131,slow=11,SNR=63						
NNA				S	Sn	19 34 46.4	-9.2
	12nm,0.3s,baz=53,slow=20,SNR=4.4						
NNA	**Nana**	**11.16**	**308**	*e*Pn	Pn	19 32 47.7	-3.9
	147nm,0.4s						
NNA				*e*Sn	Sn	19 34 45.6	-10
NNA				S	S	19 34 46.4	-18
NNA	**Nana**	**11.16**	**308**	Pn	**Pn**	**19 32 48.6**	**-3.0**
	2µm,0.4s,SNR=48						
CFAA	**Coronel Fontan**	**12.50**	**182**	P	Pn	19 33 05.3	-3.5
	0.4nm,0.3s,baz=354,slow=13,SNR=44						
CFAA				S	Sn	19 35 14.1	-14
	0.7nm,0.3s,baz=212,slow=19,SNR=7.3						
CFAA				LR	LR	19 38 44.5	
	comp=Z,17nm,18.6s,baz=5.2,slow=41						
CFAA	**Coronel Fontan**	**12.50**	**182**	P	Pn	19 33 05.3	-3.5
CFAA				S	Sn	19 35 14.1	-14
FCH	**Farellones**	**14.38**	**188**	⇓*e*P	**Pn**	**19 33 31.8**	**-0.9**
CLCH	**Cerro Calan**	**14.49**	**189**	*e*P	**Pn**	**19 33 32.5**	**-1.3**
ATAH	**Atahualpa**	**15.67**	**318**	P	**Pn**	**19 33 47.7**	**-1.1**
	1.7nm,0.3s,baz=137,slow=11,SNR=34						
ATAH	**Atahualpa**	**15.67**	**318**	P	**Pn**	**19 33 47.7**	**-1.1**
BDFB	**Brasilia**	**19.23**	**83**	P	**Pn**	**19 34 30.2**	**-0.6**
	7.1nm,0.3s,baz=257,slow=13,SNR=38						
BDFB	**Brasilia**	**19.23**	**83**	P	**Pn**	**19 34 30.2**	**-0.6**
SPB	**Sao Paulo**	**19.54**	**107**	⇑*e*Pn	**P**	**19 34 31.0**	**0.0**
	43nm,0.7s						
TRQA	**Tornquist**	**19.61**	**166**	⇑*i*P	**P**	**19 34 30.8**	**-0.9**
	233nm,1.1s						
PLCA	**Paso Flores**	**21.73**	**186**	P	**P**	**19 34 53.4**	**-0.9**
	42nm,0.8s,baz=4.1,slow=11,SNR=71						
PLCA	**Paso Flores**	**21.73**	**186**	P	**P**	**19 34 53.4**	**-0.9**
OTAV	**Otavalo**	**21.82**	**330**	*e*P	**P**	**19 34 56.0**	**+0.1**
	18nm,0.7s						
OTAV				*e*S	**S**	**19 38 45.3**	**-0.1**
CAM4	**Nova Friburgo**	**23.86**	**102**	⇑*i*P	**P**	**19 35 15.4**	**+0.9**
CAM4				*i*		19 35 21.6	
CAM4				*i*		19 35 26.4	
CAM4				*i*		19 35 32.4	
CAM4				*i*		19 35 37.9	
CAM4				*i*		19 35 46.0	
ROSC	**El Rosal**	**24.60**	**344**	P	**P**	**19 35 23.4**	**+2.0**
	22nm,0.6s,baz=72,slow=9.2,SNR=10						
ROSC	**El Rosal**	**24.60**	**344**	⇓*e*P	**P**	**19 35 21.6**	**+0.2**
SDV	**Santo Domingo**	**27.90**	**354**	⇓*i*P	**P**	**19 35 49.5**	**-1.3**
	51nm,0.8s						
GRGR	**Grnville**	**31.58**	**12**	⇓*i*P	**P**	**19 36 22.3**	**-0.8**
	227nm,0.7s						
EFI	**East Falkland**	**33.45**	**169**	P	**P**	**19 36 38.1**	**-0.8**
	1µm,0.7s,SNR=14						
JTS	**JuntasAbangare**	**33.69**	**329**	⇓*e*P	**P**	**19 36 43.4**	**+2.0**
	25nm,0.7s						
JTS				*e*pP	**pP**	**19 37 14.7**	**-3.5**
JTS				*e*sP	sP	19 37 28.9	-9.4
JTS	**JuntasAbangare**	**33.69**	**329**	P	**P**	**19 36 43.7**	**+2.3**
	234nm,0.6s,SNR=5.5						
RCBR	**Riachuelo**	**33.77**	**71**	*e*P	**P**	**19 36 42.9**	**+0.7**
	50nm,0.6s						
MVM	**Montagne Vaucl**	**34.09**	**12**	*e*P	**P**	**19 36 43.9**	**-0.9**
FDF	**Fort de France**	**34.22**	**12**	⇓*i*P	**P**	**19 36 43.9**	**-2.0**
	173nm,0.6s						
FDF				*e*PP	PP	19 38 09.2	+1.9
FDF	**Fort de France**	**34.22**	**12**	⇑*e*P	**P**	**19 36 44.6**	**-1.3**
USHA	**Ushuaia**	**35.72**	**181**	P	**P**	**19 36 58.9**	**+0.6**
	25nm,0.7s,baz=354,slow=5.1,SNR=12						
USHA	**Ushuaia**	**35.72**	**181**	P	**P**	**19 36 58.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**36.84**	**1**	⇓*i*P	**P**	**19 37 06.4**	**-1.8**
	43nm,0.8s						
OBIP	**Obispado Ponce**	**36.88**	**2**	*e*P	**P**	**19 37 06.8**	**-1.8**
	138nm,0.7s						
CELP	**Cerrillos**	**36.92**	**2**	*e*P	**P**	**19 37 07.4**	**-1.5**
CELP				*e*S	**S**	**19 42 36.4**	**-4.4**
SJG	**San Juan**	**36.97**	**3**	*e*P	**P**	**19 37 06.8**	**-2.5**
	147nm,0.9s						
MTP	**Monte Pirata**	**36.99**	**4**	⇓*e*P	**P**	**19 37 06.9**	**-2.6**
	68nm,1.0s						
MTP				*e*PP	PP	19 38 37.9	+0.2
LSP	**Las Mesas**	**37.01**	**1**	*e*P	**P**	**19 37 08.0**	**-1.7**
HUMP	**Col San Antoni**	**37.02**	**3**	*e*P	**P**	**19 37 07.9**	**-1.8**
	71nm,1.4s						
MPR	**Mayaguez**	**37.04**	**1**	*e*P	**P**	**19 37 08.5**	**-1.4**
	135nm,0.9s						
LRS	**Lares**	**37.12**	**2**	*e*P	**P**	**19 37 08.7**	**-2.0**
CBYP	**Canovanas**	**37.14**	**3**	⇓*i*P	**P**	**19 37 09.0**	**-1.9**
	137nm,1.1s						
CBYP				*e*PP	PP	19 38 40.5	+1.0
AOPR	**Arecibo Observ**	**37.18**	**2**	*e*P	**P**	**19 37 09.5**	**-1.7**
	52nm,0.8s						
SDDR	**Presa de Saban**	**37.95**	**355**	*e*P	**P**	**19 37 16.0**	**-1.6**
	9.3nm,0.6s						
TGUH	**Tegucigalpa,Un**	**38.06**	**328**	*e*P	**P**	**19 37 18.1**	**-0.5**
	36nm,1.0s						
GRTK	**Grand Turk**	**40.44**	**355**	P	**P**	**19 37 36.7**	**-1.5**
	166nm,1.1s						
HOPE	**Hope Point**	**42.57**	**153**	*e*P	**P**	**19 37 56.8**	**+1.7**
	103nm,0.8s						
TEIG	**Tepich**	**43.88**	**332**	⇓*i*P	**P**	**19 38 05.5**	**-0.5**
	71nm,1.0s						
PMSA	**Palmer Station**	**45.76**	**178**	P	**P**	**19 38 21.7**	**+1.4**
	22nm,0.7s,baz=346,slow=9.8,SNR=5.3						
PMSA	**Palmer Station**	**45.76**	**178**	P	**P**	**19 38 21.7**	**+1.4**
DWPF	**Disney**	**48.70**	**344**	⇓*i*P	**P**	**19 38 42.7**	**-0.7**
	77nm,0.7s						
BBSR	**BB Station**	**51.22**	**3**	⇓*i*P	**P**	**19 39 01.6**	**-0.8**
	94nm,0.7s						
NHSC	**New Hope**	**53.19**	**347**	*e*P	**P**	**19 39 16.7**	**-0.1**
	236nm,1.0s						
GOGA	**Godfrey**	**54.26**	**344**	⇓*i*P	**P**	**19 39 23.6**	**-1.1**
	15nm,0.9s						
LRAL	**Lakeview Retre**	**54.94**	**340**	⇓*i*P	**P**	**19 39 28.3**	**-1.2**
	19nm,0.6s						
KMSC	**Kings Mountain**	**55.40**	**347**	⇓P	**P**	**19 39 32.5**	**-0.3**
	baz=56,SNR=12						
VBMS	**Vicksburg**	**55.42**	**337**	*e*P	**P**	**19 39 32.3**	**-0.7**
	38nm,0.7s						
HKT	**Hockley**	**55.69**	**330**	*e*P	**P**	**19 39 35.2**	**+0.3**
	12nm,0.9s						
CPCT	**Cooper Cave**	**56.47**	**344**	⇓*i*P	**P**	**19 39 39.2**	**-1.2**
TKL	**Tuckaleechee C**	**56.47**	**344**	⇓*e*P	**P**	**19 39 38.2**	**-2.2**
SWET	**Sewanee**	**56.64**	**342**	⇓*i*P	**P**	**19 39 40.4**	**-1.2**
	42nm,0.6s						
NATX	**Nacogdoches**	**56.69**	**333**	*e*P	**P**	**19 39 43.1**	**+1.0**
	79nm,0.8s						
PLAL	**Pickwick Lake**	**57.07**	**340**	*e*P	**P**	**19 39 43.1**	**-1.5**
	22nm,0.8s						
OXF	**Oxford**	**57.09**	**339**	*e*P	**P**	**19 39 43.2**	**-1.5**
	97nm,1.8s						
VWCC	**Virginia Weste**	**57.15**	**348**	*e*P	**P**	**19 39 45.2**	**0.0**
BLA	**Blacksburg**	**57.21**	**348**	*e*P	**P**	**19 39 45.3**	**-0.3**
	32nm,1.0s						
ELN	**Prospectdale**	**57.29**	**348**	*e*P	**P**	**19 39 45.9**	**-0.3**
WVT	**Waverly**	**58.05**	**341**	⇓*i*P	**P**	**19 39 49.8**	**-1.7**
	42nm,0.8s						
JCT	**Junction City**	**58.06**	**327**	*e*P	**P**	**19 39 51.7**	**0.0**
	14nm,0.8s						
JCT	**Junction City**	**58.06**	**327**	⇑P	**P**	**19 39 51.5**	**-0.2**
	baz=58,SNR=9.5						
UALR	**University of**	**58.38**	**336**	*e*P	**P**	**19 39 52.5**	**-1.2**
	43nm,0.8s						
GNAR	**Gosnell**	**58.61**	**339**	*e*P	**P**	**19 39 55.3**	**-0.1**
	1µm,0.5s						
GLAT	**Glass**	**58.64**	**340**	*e*P	**P**	**19 39 54.2**	**-1.3**
RFTA	**Plano**	**58.66**	**332**	*e*P	**P**	**19 39 56.0**	**+0.3**
628A	**Black Gap, Mar**	**58.92**	**324**	⇑P	**P**	**19 39 58.1**	**+0.4**
	baz=59,SNR=28						
PARMO	**Parma**	**59.16**	**340**	*e*P	**P**	**19 39 58.3**	**-0.8**
627A	**Terlingua Ranc**	**59.17**	**324**	⇓P	**P**	**19 39 59.4**	**-0.1**
	baz=59,SNR=13						
TXAR	**Lajitas Array**	**59.23**	**324**	P	**P**	**19 39 59.7**	**-0.3**
	4.0nm,0.6s,baz=150,slow=8.7,SNR=55						
TXAR	**Lajitas Array**	**59.23**	**324**	P	**P**	**19 39 59.7**	**-0.3**
MVL	**Millersville**	**59.28**	**352**	*e*P	**P**	**19 40 00.1**	**+0.3**
	139nm,1.8s						
528A	**Cox Ranch, San**	**59.38**	**325**	⇓P	**P**	**19 40 00.6**	**-0.3**
	baz=60,SNR=7.1						
WCI	**Wyandotte Cave**	**59.56**	**343**	*e*P	**P**	**19 39 59.9**	**-1.9**
	27nm,0.6s						
626A	**Big Bend Ranch**	**59.67**	**323**	⇓P	**P**	**19 40 03.1**	**+0.2**
	baz=60,SNR=29						
USIN	**University of**	**59.70**	**342**	*e*P	**P**	**19 40 00.7**	**-2.1**
	25nm,0.7s						
428A	**Kincaid Ranch,**	**59.77**	**325**	⇓P	**P**	**19 40 03.7**	**+0.1**
	baz=60						
527A	**Woodward Ranch**	**59.83**	**324**	⇓P	**P**	**19 40 03.6**	**-0.4**
	baz=60,SNR=12						
SIUC	**Southern Illin**	**59.94**	**340**	*e*P	**P**	**19 40 02.9**	**-1.5**
	179nm,0.8s						
526A	**Mary Lane Ranc**	**60.03**	**324**	⇑P	**P**	**19 40 05.4**	**0.0**
	baz=60,SNR=23						
SSPA	**Standing Stone**	**60.11**	**351**	*e*P	**P**	**19 40 05.3**	**-0.3**
	275nm,2.9s						
YLE	**Yale**	**60.24**	**356**	*e*P	**P**	**19 40 05.8**	**-0.6**
	174nm,1.1s						
427A	**Hayter Ranch,**	**60.25**	**325**	⇓P	**P**	**19 40 06.7**	**-0.2**
	baz=60,SNR=14						
328A	**Wristen Ranch,**	**60.34**	**326**	⇑P	**P**	**19 40 07.4**	**0.0**
	baz=60,SNR=19						
426A	**McDonald Obser**	**60.46**	**324**	⇑P	**P**	**19 40 08.3**	**-0.1**
	baz=61,SNR=18						
BLO	**Bloomington**	**60.50**	**343**	*e*P	**P**	**19 40 06.7**	**-1.6**
	42nm,0.6s						
OLIL	**Olney**	**60.54**	**342**	*e*P	**P**	**19 40 06.3**	**-2.2**
	13nm,0.8s						
FVM	**French Village**	**60.58**	**340**	⇓*i*P	**P**	**19 40 08.1**	**-0.7**
	179nm,0.8s						
FVM				*e*pP	**pP**	**19 40 46.9**	**-2.7**
ACSO	**Alum Creek Sta**	**60.64**	**347**	*e*P	**P**	**19 40 07.8**	**-1.3**
	48nm,0.8s						
TUL1	**Tulsa**	**60.74**	**334**	⇑P	**P**	**19 40 09.7**	**-0.2**
	baz=61,SNR=10						
BRYW	**Bryant College**	**60.76**	**357**	*e*P	**P**	**19 40 09.6**	**-0.3**
	323nm,1.2s						
326A	**Caldwell Ranch**	**60.92**	**325**	⇓P	**P**	**19 40 11.2**	**-0.2**
	baz=61,SNR=14						
WMOK	**Wichita Mounta**	**61.05**	**331**	*e*P	**P**	**19 40 11.4**	**-0.6**
	6.1nm,0.6s						
WMOK				*e*PcP	**pP**	**19 40 52.6**	**-0.3**
425A	**Indio Mountain**	**61.08**	**324**	⇑P	**P**	**19 40 12.2**	**-0.2**
	baz=61,SNR=25						
227A	**Bennet, Jal**	**61.09**	**326**	⇓P	**P**	**19 40 12.6**	**+0.1**
	baz=61,SNR=7.4						
SLM	**Saint Louis**	**61.11**	**340**	*e*P	**P**	**19 40 11.5**	**-0.8**
	43nm,0.6s						
BINY	**Binghamton**	**61.41**	**353**	*e*P	**P**	**19 40 14.0**	**-0.3**
	779nm,2.5s						
ALLY	**Alegheny Colle**	**61.46**	**350**	*e*P	**P**	**19 40 14.1**	**-0.6**
	69nm,0.8s						
325A	**Bean Ranch, Si**	**61.51**	**324**	⇑P	**P**	**19 40 15.2**	**-0.2**
	baz=62,SNR=12						
226A	**Malaga, Loving**	**61.56**	**325**	⇓P	**P**	**19 40 16.1**	**+0.4**
	baz=62,SNR=11						
CLNB	**Carlsbad**	**61.60**	**325**	*e*P	**P**	**19 40 16.0**	**+0.1**
	2.0nm,0.5s						
TRY	**Troy**	**61.71**	**355**	*e*P	**P**	**19 40 16.2**	**0.0**
SFIN	**Scholer Farm**	**61.79**	**343**	⇑P	**P**	**19 40 15.0**	**-1.8**
	baz=62,SNR=17						
GDL2	**Guadalupe Moun**	**61.81**	**325**	*e*P	**P**	**19 40 17.4**	**+0.1**
324A	**Moseley Ranch,**	**61.85**	**324**	⇑P	**P**	**19 40 16.6**	**-1.0**
	baz=62,SNR=20						
ERPA	**Erie**	**61.89**	**350**	⇓*i*P	**P**	**19 40 16.9**	**-0.6**
	117nm,0.7s						
126A	**Clayton Basin,**	**61.97**	**326**	⇓P	**P**	**19 40 18.2**	**-0.1**
	baz=62,SNR=6.7						
MNTX	**Cornudas Mount**	**61.99**	**324**	*e*P	**P**	**19 40 16.7**	**-1.7**
	8.4nm,1.0s						
MNTX				*e*pP	**PcP**	**19 40 53.9**	**-3.4**
MNTX	**Cornudas Mount**	**61.99**	**324**	⇑P	**P**	**19 40 17.5**	**-0.9**
	baz=62,SNR=15						
MNTX				⇑P	**P**	**19 40 17.5**	**-0.9**
	baz=62,SNR=15						
Z27A	**Tatum**	**62.07**	**327**	⇓P	**P**	**19 40 18.3**	**-0.8**
	baz=62						
VNA3	**Neumayer Olymp**	**62.07**	**162**	*e*	**P**	**19 40 19.5**	**+1.1**
CPRX	**Cap Rock**	**62.19**	**326**	*e*P	**P**	**19 40 19.8**	**-0.1**
	11nm,0.7s						
CPRX				*e*pP	**PcP**	**19 40 55.6**	**-2.6**
X29A	**Tulia**	**62.20**	**329**	⇑P	**P**	**19 40 19.2**	**-0.7**
	baz=62						
VNA1	**Neumayer--Stat**	**62.25**	**161**	*e*	**P**	**19 40 21.2**	**+1.6**
125A	**Gardner Draw,**	**62.32**	**325**	⇓P	**P**	**19 40 19.9**	**-0.8**
	baz=62						
224A	**Cornudas Mount**	**62.35**	**324**	⇓P	**P**	**19 40 20.3**	**-0.7**
	baz=62,SNR=31						
MSTX	**Muleshoe**	**62.35**	**328**	⇓P	**P

X23A Hourglass Bar 64.61 325 ⇑P P 19 40 36.1 +0.2
baz=65,SNR=6.1
LPM Los Pinos Moun 64.65 325 eP P 19 40 36.2 +0.2
W24A Lazy 6 Ranch, 64.68 326 ⇓P P 19 40 36.3 0.0
baz=65,SNR=8.5
V25A Rancho No Teng 64.76 327 ⇓P P 19 40 36.8 +0.1
baz=65,SNR=17
T27A Campo 64.79 330 ⇓P P 19 40 36.6 -0.2
baz=65,SNR=9.5
Z20A Nine Sixteen R 64.85 323 ⇑P P 19 40 38.2 +0.9
baz=65,SNR=16
CBKS Cedar Bluff 64.86 333 eP P 19 40 37.3 +0.2
65nm,0.8s
CBKS Cedar Bluff 64.86 333 ⇓P P 19 40 37.4 +0.2
baz=65,SNR=9.7
CBKS ⇓P P 19 40 37.4 +0.2
baz=65,SNR=9.7
LAZ Ladron 64.99 325 eP P 19 40 38.7 +0.4
7.1nm,1.1s
LAZ e 19 41 22.0
Y21A Point of Rocks 64.99 324 ⇑P P 19 40 39.2 +0.9
baz=65,SNR=11
V24A Rampart Ranch, 65.00 327 ⇓P P 19 40 38.3 -0.1
baz=65,SNR=6.9
ANMO Albuquerque 65.04 326⇓eP P 19 40 38.9 +0.3
6.4nm,0.8s
ANMO e 19 41 22.7
SCIA State Center 65.04 339⇓iP P 19 40 37.4 -0.8
80nm,0.8s
U25A Circle Dot Ran 65.09 328 ⇑P P 19 40 39.1 +0.2
baz=65,SNR=19
T26A Comanche Natio 65.30 329 ⇓P P 19 40 40.4 +0.2
baz=66,SNR=11
Y20A Horse Springs, 65.31 323 ⇓P P 19 40 41.1 +0.7
baz=66,SNR=7.1
W22A Albuquerque 65.35 325 ⇓P P 19 40 41.5 +0.9
baz=66,SNR=5.7
X21A Alamocita Cree 65.38 324 ⇓P P 19 40 41.8 +1.0
baz=66,SNR=8.6
V23A Ortiz Mt. (NFS 65.49 326 ⇑P P 19 40 42.2 +0.7
baz=66
TUC Tucson 65.56 321 eP P 19 40 41.6 -0.2
7.8nm,1.2s
S26A Kim 65.59 329 ⇓P P 19 40 42.5 +0.5
baz=66,SNR=24
T25A Trinidad 65.67 328 ⇓P P 19 40 43.2 +0.6
baz=66,SNR=8.7
R27A Eads 65.80 330 ⇓P P 19 40 44.3 +1.0
baz=66
Y19A Nutrioso 65.84 323 ⇓P P 19 40 45.1 +1.2
baz=66,SNR=35
X20A Quemado 65.84 324 ⇑P P 19 40 44.7 +0.9
baz=66,SNR=7.3
T24A Torres, Weston 65.94 328 ⇑P P 19 40 45.4 +1.0
baz=66
U23A El Rito 65.94 327 ⇓P P 19 40 45.1 +0.7
baz=66,SNR=5.4
V22A San Miguel Ran 66.00 326 ⇑P P 19 40 45.8 +1.0
baz=66,SNR=22
S25A Robets Cordova 66.09 329 ⇑P P 19 40 45.8 +0.5
baz=66,SNR=11
R26A Arlington 66.12 330 ⇓P P 19 40 45.7 +0.3
baz=66,SNR=15
Y18A Canyon Day Jun 66.16 322 ⇑P P 19 40 46.5 +0.7
baz=66,SNR=7.9
X19A St. Johns 66.21 323 ⇑P P 19 40 46.7 +0.6
baz=66,SNR=5.1
W20A Ramah 66.28 324 ⇑P P 19 40 47.4 +0.8
baz=66,SNR=20
V21A Milan 66.31 325 ⇓P P 19 40 47.7 +0.9
baz=66
BGNE Belgrade 66.39 336 ⇑P P 19 40 47.1 +0.2
baz=67,SNR=51
R25A Fountain Ranch 66.40 329 ⇓P P 19 40 47.4 +0.3
baz=67,SNR=5.2
T23A Casias Ranch, 66.41 327 ⇑P P 19 40 47.9 +0.5
baz=67
S24A Houchin Ranch, 66.46 328 ⇓P P 19 40 48.5 +0.8
baz=67,SNR=9.6
214A Organ Pipe Nat 66.55 319 ⇑P P 19 40 49.3 +1.2
baz=67,SNR=13
Q26A Hugo 66.65 330 ⇑P P 19 40 49.4 +0.6
baz=67,SNR=10
X18A Snowflake 66.66 323 ⇓P P 19 40 49.4 +0.5
baz=67
SDCO Great Sand Dun 66.68 328 eP P 19 40 49.7 +0.6
SDCO epP pP 19 41 32.7 +2.1
SDCO Great Sand Dun 66.68 328 ⇓P P 19 40 49.9 +0.7
baz=67,SNR=38
SDCO ⇓P P 19 40 49.9 +0.7
baz=67,SNR=38
LIC Lamto 66.75 74 eP P 19 40 49.2 -0.5
28nm,0.9s,baz=245
V20A Brimhall 66.76 325 ⇑P P 19 40 50.2 +0.7
baz=67,SNR=6.0
U21A Nageezi 66.79 326 ⇑P P 19 40 50.3 +0.6
baz=67,SNR=8.4
T22A Edith 66.83 327 ⇑P P 19 40 50.9 +0.8
baz=67,SNR=13
R24A Sanders Place, 66.87 329 ⇑P P 19 40 51.1 +0.9
baz=67,SNR=22
W18A Petrified Fore 66.96 323 ⇓P P 19 40 51.6 +0.8
baz=67
Q25A Bedland, Calha 66.99 330 ⇑P P 19 40 51.1 +0.2
baz=67
V19A Window Rock 67.01 324 ⇓P P 19 40 52.0 +0.8
baz=67,SNR=12
P26A Davis Ranch, A 67.08 331 ⇓P P 19 40 52.0 +0.6
baz=67
DBIC Dimbokro 67.09 74 P P 19 40 51.7 -0.1
31nm,0.8s,baz=225,slow=6.4,SNR=42
DBIC LR LR 20 09 52.7
comp=Z,82nm,20.3s,baz=322,slow=35
DBIC Dimbokro 67.09 74⇓iP P 19 40 51.6 -0.3
114A Black Gap (USA 67.14 320 ⇑P P 19 40 52.7 +0.9
baz=67,SNR=6.5
R23A Moffat 67.19 328 ⇑P P 19 40 53.1 +0.8
baz=67,SNR=11
O27A Beecher Island 67.20 332 ⇑P P 19 40 52.9 +0.8
baz=67,SNR=8.6
U20A Newcomb 67.21 325 ⇑P P 19 40 52.9 +0.5
baz=67,SNR=5.9
S22A 4UR Ranch, Cre 67.36 327 ⇓P P 19 40 53.9 +0.5
baz=68,SNR=14
P25A Willow Gulch B 67.42 330 ⇓P P 19 40 54.4 +0.7
baz=68,SNR=12
X16A Lo Mia Camp, P 67.44 322 ⇓P P 19 40 55.0 +1.2
baz=68,SNR=12
Q24A Divide 67.46 329 ⇑P P 19 40 54.8 +0.8
baz=68,SNR=16
V18A Ganado 67.50 324 ⇓P P 19 40 54.7 +0.4
baz=68
U19A Dine' College, 67.52 325 ⇓P P 19 40 54.4 0.0
baz=68
OGNE Ogallala 67.61 333 eP P 19 40 55.2 +0.6
22nm,0.5s
113A Mohawk Valley, 67.69 319 ⇓P P 19 40 56.0 +0.7
baz=68,SNR=10
P24A Kohler Place, 67.78 330 ⇑P P 19 40 56.9 +1.1
baz=68,SNR=6.3
S21A Coal Bank Pass 67.79 327 ⇓P P 19 40 56.6 +0.5
baz=68,SNR=13
MVCO Mesa Verde 67.82 326⇓iP P 19 40 56.7 +0.4
12nm,0.8s
MVCO Mesa Verde 67.82 326 ⇑P P 19 40 56.8 +0.6
baz=68,SNR=14
T19A Beclabito 67.82 325 ⇑P P 19 40 56.6 +0.4
baz=68,SNR=13
ECSD EROS Data Cent 67.82 338⇓iP P 19 40 55.3 -0.6
73nm,1.5s
O25A Wiggins 67.88 331 ⇑P P 19 40 57.4 +0.9
baz=68
SPMN St. Paul 67.89 341 ⇓P P 19 40 55.3 -0.9
baz=68,SNR=20
Z13A Yuma Proving G 67.92 320 ⇓P P 19 40 57.7 +1.1
baz=68,SNR=7.6
V17A Tonalea, Kykot 67.92 323 ⇑P P 19 40 57.8 +1.0
baz=68
U18A Rough Rock, Ch 67.98 324 ⇑P P 19 40 57.9 +0.7
baz=68,SNR=7.9
P23A Jefferson 68.11 329 ⇑P P 19 40 58.9 +0.8
baz=68,SNR=9.4
WUAZ Wupatki 68.18 323⇓iP P 19 40 59.4 +1.0
20nm,0.9s
WUAZ epP pP 19 41 46.0 +5.9
WUAZ Wupatki 68.18 323 ⇓P P 19 40 59.6 +1.1
baz=68,SNR=10
R21A Cimarron 68.20 327 ⇑P P 19 40 59.4 +0.8
baz=68,SNR=12
S20A Disappointment 68.21 326 ⇑P P 19 40 59.6 +0.9
baz=68,SNR=14
M27A Reverse DX Ran 68.24 333 ⇑P P 19 40 59.2 +0.6
baz=68
Q22A Crested Butte, 68.25 328 ⇑P P 19 40 59.7 +0.8
baz=68,SNR=7.9
ISCO Idaho Springs 68.34 329⇓iP P 19 41 00.0 +0.5
16nm,0.8s
ISCO Idaho Springs 68.34 329 ⇓P P 19 41 00.3 +0.8
baz=68,SNR=21
N25A Grover 68.42 331 ⇓P P 19 41 00.9 +1.1
baz=69
U16A Tuba City 68.48 323 ⇓P P 19 41 01.3 +1.0
baz=69,SNR=11
R20A Redvale 68.49 327 ⇑P P 19 41 01.5 +1.1
baz=69,SNR=21
T18A Mexican Hat 68.51 325 ⇓P P 19 41 00.9 +0.6
baz=69,SNR=21
SMCO Snowmass 68.52 328⇓iP P 19 41 01.6 +0.8
20nm,0.6s
SMCO epP pP 19 41 46.9 +4.4
GLA Glamis 68.54 319 ⇑P P 19 41 01.6 +1.0
baz=69
PV01 Paradox Valley 68.55 326 eP P 19 41 01.6 +0.9
2µm,1.1s
PV01 epP pP 19 41 42.5 0.0
U17A Shonto 68.55 324 ⇑P P 19 41 01.8 +1.0
baz=69,SNR=8.6
S19A Harvey Farm, M 68.56 326 ⇓P P 19 41 01.3 +0.5
baz=69,SNR=13
Q21A Lamborn Mesa, 68.56 328 ⇑P P 19 41 01.6 +0.8
baz=69,SNR=6.9
MAIT Maitri 68.72 160 eP P 19 41 03.3 +2.2
P22A Eagle 68.74 329 ⇑P P 19 41 02.6 +0.7
baz=69,SNR=15
N24A Carr 68.80 331 ⇑P P 19 41 03.2 +1.0
baz=69,SNR=6.3
O23A Lake Granby, G 68.81 330 ⇓P P 19 41 03.2 +0.8
baz=69,SNR=31
Y12C Blythe 68.82 319 ⇑P P 19 41 03.5 +1.3
baz=69,SNR=6.3
M25A Palm-Egli Farm 68.91 332 ⇓P P 19 41 03.5 +0.7
baz=69
T17A Navajo Res., N 68.92 324 ⇓P P 19 41 04.5 +1.5
baz=69,SNR=8.4
S18A Hurst Farm, Bl 68.98 325 ⇑P P 19 41 04.4 +1.0
baz=69,SNR=18
Q20A Ridgley Place, 69.02 327 ⇓P P 19 41 04.2 +0.6
baz=69
P21A Newcastle 69.03 328 ⇓P P 19 41 04.8 +1.1
baz=69,SNR=34
R19A Curley Farm, L 69.03 326 ⇑P P 19 41 04.2 +0.5
baz=69,SNR=7.7
O22A Kremmling 69.07 329 ⇓P P 19 41 04.6 +0.6
baz=69,SNR=37
K27A Flueckinger Fa 69.14 334 ⇑P P 19 41 04.9 +0.8
baz=69,SNR=5.3
M24A Cheyenne 69.28 331 ⇑P P 19 41 06.2 +1.1
baz=70,SNR=18
BRSD Miller 69.29 337 ⇑P P 19 41 04.5 -0.5
baz=70
BC3 Big Chuckawall 69.33 319 ⇓P P 19 41 06.6 +1.0
baz=70,SNR=14
U15A North Rim 69.34 323 ⇑P P 19 41 07.3 +1.5
baz=70,SNR=23
N23A Red Feather La 69.35 330 ⇓P P 19 41 06.4 +0.7
baz=70,SNR=7.2
W13A Hualapai Mount 69.35 321 ⇓P P 19 41 07.0 +1.3
baz=70,SNR=14
S17A Black Ridge (B 69.38 325 ⇑P P 19 41 06.8 +1.0
baz=70,SNR=9.0
R18A Canyonlands Na 69.43 326 ⇑P P 19 41 06.5 +0.3
baz=70
MONP Monument Peak 69.44 318 ⇓P P 19 41 07.5 +1.2
baz=70,SNR=8.6
PHWY Pilot Hill 69.44 331⇓eP P 19 41 06.2 -0.1
65nm,1.8s
BAR Barrett 69.47 317 eP P 19 41 07.3 +1.0
15nm,0.8s
BAR epP pP 19 41 50.3 +2.2
P20A De Beque 69.48 328 ⇑P P 19 41 07.4 +1.0
baz=70
IRM Iron Mountain 69.48 319 ⇓P P 19 41 07.5 +1.1
baz=70,SNR=18
N22A Wattenberg Ran 69.52 330 ⇓P P 19 41 07.7 +1.0
baz=70,SNR=6.9
Q19A Hogan Spring (69.52 327 ⇑P P 19 41 07.4 +0.8
baz=70,SNR=25
O21A Pagoda 69.56 329 ⇑P P 19 41 08.1 +1.1
baz=70,SNR=7.4
M23A Laramie 69.69 331 ⇓P P 19 41 08.4 +0.7
baz=70,SNR=16
K25A Mack Ranch, Ha 69.77 332 ⇑P P 19 41 09.3 +1.3
baz=70
S16A Weppner Ranch, 69.87 324 ⇑P P 19 41 09.8 +0.9
baz=70,SNR=5.5
P19A Cripple Cowboy 69.88 327 ⇑P P 19 41 09.9 +0.9
baz=70,SNR=19
O20A White River Ci 69.89 328 ⇓P P 19 41 09.7 +0.8
baz=70,SNR=13
R17A Hanksville Air 69.89 325 ⇑P P 19 41 09.7 +0.8
baz=70,SNR=6.4
BELC Belle Mtn. Jos 69.90 319 ⇓P P 19 41 10.2 +1.2
baz=70,SNR=7.7
PFO Pinyon Flat Ob 69.93 318 P P 19 41 10.0 +0.8
55nm,1.1s,SNR=5.3
PFO Pinyon Flat Ob 69.93 318 ⇑P P 19 41 10.4 +1.2
baz=70
EYMN Ely 69.98 343 eP P 19 41 07.6 -1.5
27nm,0.6s
N21A Black Mountain 70.00 329 ⇓P P 19 41 10.9 +1.2
baz=70,SNR=7.8
M22A Cedar Creek Ra 70.06 330 ⇓P P 19 41 10.8 +0.8
baz=70,SNR=11
LDFC Landfair 70.08 320 eP P 19 41 12.0 +2.0
30nm,1.0s
Q18A Rafter H Ranch 70.09 326 ⇓P P 19 41 10.8 +0.7
baz=70,SNR=5.4
L23A Gatt 70.19 331 ⇓P P 19 41 10.9 +0.1
baz=70,SNR=5.8
GMRC Granite Mounta 70.21 320 ⇑P P 19 41 12.3 +1.4
baz=70,SNR=18
R16A Teasdale 70.22 325 ⇑P P 19 41 11.9 +0.9
baz=70,SNR=5.2
SRU San Rafael 70.30 326 eP P 19 41 11.8 +0.4
20nm,0.8s
SRU San Rafael 70.30 326 ⇑P P 19 41 12.1 +0.7
baz=70,SNR=19
N20A Spence Gulch, 70.42 329 ⇓P P 19 41 12.9 +0.7
baz=71,SNR=16
O19A Miners Draw (B 70.45 328 ⇑P P 19 41 13.1 +0.8
baz=71,SNR=18
Q16A Castle Valley 70.50 325 ⇑P P 19 41 13.6 +0.9
baz=71
P18A Preston Nutter 70.53 326 ⇑P P 19 41 14.0 +1.0
baz=71
M21A Sensation Pea 70.58 330 ⇑P P 19 41 13.8 +0.7
baz=71,SNR=7.7
R15A Junction 70.60 324 ⇓P P 19 41 14.4 +1.2
baz=71
HEC Hector,Ludlow 70.66 319 ⇑P P 19 41 15.1 +1.5
baz=71,SNR=12
P17A Butcher Ranch, 70.68 326 ⇓P P 19 41 14.6 +0.9
baz=71,SNR=11
J24A Dixon Ranch, L 70.69 332 ⇓P P 19 41 14.7 +1.1
baz=71,SNR=8.2
CCUT Cedar City 70.74 323 eP P 19 41 15.7 +1.5
24nm,0.9s
CCUT ePcP PcP 19 41 32.8 -1.1
CCUT epP pP 19 42 00.2 +4.0
MSU Marysvale 70.76 325 eP P 19 41 15.5 +1.3
TMUT Trail Mountain 70.80 326 eP P 19 41 15.6 +1.0
10nm,0.7s
TUQ Turquoise Moun 70.81 320 ⇑P P 19 41 15.7 +1.2
baz=71
L21A Rawlins 70.86 330 ⇑P P 19 41 15.2 +0.4
baz=71
O18A Roosevelt 70.88 327 ⇑P P 19 41 16.0 +1.1
baz=71
M20A Sweetwater, Wa 70.89 329 ⇑P P 19 41 15.7 +0.8
baz=71,SNR=6.3
N19A John Jarvie Ra 70.92 328 ⇓P P 19 41 15.6 +0.5
baz=71,SNR=19
ARUT Antelope Range 70.95 323 eP P 19 41 17.2 +1.8
32nm,0.9s
ARUT epP pP 19 42 00.5 +3.2
K22A Casper 70.99 331 ⇑P P 19 41 15.9 +0.4
baz=71,SNR=7.8
RSSD Black Hills 71.06 333 eP P 19 41 16.4 +0.5
24nm,0.9s
I24A Kuemmerle Ranc 71.10 333 ⇓P P 19 41 16.4 +0.4
baz=71,SNR=15
QSPA South Pole Qui 71.13 180 eP P 19 41 16.8 +0.8
QSPA epP pP 19 41 58.0 0.0
O17A Robinson Place 71.20 327 ⇓P P 19 41 18.0 +1.1
baz=71
GSC Goldstone 71.26 319 eP P 19 41 18.7 +1.5
22nm,1.3s
P16A Fountain Green 71.27 326 ⇑P P 19 41 18.4 +1.1
baz=72
K21A Alcova 71.32 330 ⇓P P 19 41 18.4 +0.9
baz=72,SNR=44
MWC Mount Wilson 71.34 318 eP P 19 41 18.7 +0.9
34nm,1.4s
MWC epP pP 19 42 04.3 +4.5
L20A Wamsutter 71.35 329 ⇑P P 19 41 18.4 +0.7
baz=72,SNR=10
R13A O'Grain Ranch, 71.53 323 ⇑P P 19 41 20.4 +1.5
baz=72,SNR=10.0
MPU Maple Canyon 71.55 326 eP P 19 41 19.7 +0.8
18nm,0.9s
J22A Midwest 71.57 331 ⇑P P 19 41 19.2 +0.3
baz=72,SNR=24
P15A Leamington 71.57 325 ⇑P P 19 41 20.1 +1.1
baz=72
AGMN Agassiz Nation 71.58 341 eP P 19 41 18.5 -0.1
50nm,0.6s
DAU Daniels Canyon 71.63 326 eP P 19 41 21.1 +1.6
EDW2 Edwards Air Fo 71.72 318 ⇑P P 19 41 20.7 +0.8
baz=72,SNR=11
M18A Lyman 71.77 328 ⇑P P 19 41 20.4 +0.1
baz=72,SNR=8.2
H24A Dirks Ranch, A 71.78 333 ⇑P P 19 41 20.3 +0.3
baz=72,SNR=37
N17A Moffit Pass 71.80 327 ⇑P P 19 41 21.7 +1.2
baz=72,SNR=46
K20A Yellowstone Ra 71.85 330 ⇓P P 19 41 21.0 +0.3
baz=72
JLU Jordanelle 71.87 326 eP P 19 41 22.2 +1.3
L19A Farson 71.92 329 ⇑P P 19 41 21.9 +0.8
baz=72,SNR=12
I22A 9 Mile Ranch, 71.94 332 ⇑P P 19 41 21.6 +0.5
baz=72
J21A Lysite 71.96 331 ⇑P P 19 41 21.9 +0.6
baz=72
N16A Rees Ranch, Co 72.07 327 ⇓P P 19 41 23.4 +1.3
baz=72,SNR=7.1
M17A Scullys Gap (B 72.11 328 ⇓P P 19 41 22.6 +0.4
baz=72,SNR=5.6
L18A Fontenelle, Gr 72.12 328 ⇑P P 19 41 22.8 +0.5
baz=72,SNR=24
MPMC Manual Prospec 72.18 320 ⇑P P 19 41 23.6 +0.8
baz=72,SNR=11
G24A Alzada 72.19 334 ⇓P P 19 41 22.9 +0.4
baz=72,SNR=14
K19A Absolon Red Bu 72.22 330 ⇑P P 19 41 23.0 +0.2
baz=72,SNR=13
I21A Big Trails, Te 72.25 331 ⇑P P 19 41 23.1 +0.1
baz=72,SNR=42
J20A Shoshoni 72.26 330 ⇓P P 19 41 23.9 +0.9
baz=72,SNR=8.3
DUG Dugway 72.30 325 eP P 19 41 24.2 +0.8
16nm,0.9s
DUG Dugway 72.30 325 ⇑P P 19 41 24.3 +0.9
baz=72,SNR=19
MDND Maddock 72.43 338 ⇑P P 19 41 24.2 +0.5
baz=73,SNR=26
H22A Clearmont 72.44 332 ⇓P P 19 41 24.1 +0.1
baz=73,SNR=8.5
M16A Huntsville 72.48 327 ⇓P P 19 41 24.7 +0.3
baz=73
G23A Biddle 72.50 333 ⇑P P 19 41 24.8 +0.4
baz=73,SNR=22
BW06 Boulder Array 72.52 329 eP P 19 41 24.9 +0.2
BW06 Boulder Array 72.52 329 ⇑P P 19 41 24.8 +0.1
baz=73,SNR=10
BW06 ⇑P P 19 41 24.8 +0.1
baz=73,SNR=10
PDAR Pinedale Array 72.52 329 P P 19 41 24.8 +0.1
4.2nm,0.5s,baz=123,slow=8.6,SNR=53
PDAR Pinedale Array 72.52 329 P P 19 41 24.8 +0.1
ISA Isabella 72.53 319⇓iP P 19 41 25.9 +1.2
ISA epP pP 19 42 09.1 +2.2
ISA Isabella 72.53 319 ⇓P P 19 41 26.1 +1.4
baz=73,SNR=15
PD02 Pinedale Array 72.53 329 eP P 19 41 24.4 -0.4
PD01 Pinedale Array 72.54 329 eP P 19 41 24.5 -0.3
R11A Troy Canyon, C 72.56 322 ⇑P P 19 41 26.5 +1.5
baz=73,SNR=28
F24A Ekalaka 72.62 334 ⇓P P 19 41 25.3 +0.2
baz=73,SNR=7.9
N15A Stansbury Isla 72.64 326 ⇓P P 19 41 25.9 +0.5
baz=73,SNR=7.8
J19A Crowheart 72.65 330 ⇓P P 19 41 25.8 +0.4
baz=73,SNR=21
K18A Toltan Ranch, 72.66 329 ⇓P P 19 41 26.4 +0.9
baz=73,SNR=8.7
L17A Cokeville 72.67 328 ⇓P P 19 41 25.9 +0.3
baz=73
I20A Worland 72.74 331 ⇓P P 19 41 26.1 +0.3
baz=73,SNR=8.4
H21A Big Horn, Sher 72.77 332 ⇓P P 19 41 25.9 0.0
baz=73,SNR=21
PKM Peak Mountain 72.89 317 ⇑P P 19 41 28.2 +1.2
baz=73,SNR=11
G22A Birney 72.90 333 ⇑P P 19 41 26.6 -0.1
baz=73,SNR=11
F23A Volborg 72.92 333 ⇑P P 19 41 27.1 +0.3
baz=73,SNR=24
M15A Larsen Ranch, 73.02 327 ⇓P P 19 41 28.1 +0.6
baz=73,SNR=25
J18A Kendall Valley 73.08 329 ⇓P P 19 41 28.3 +0.3
baz=73,SNR=55
H20A Greybull 73.09 331 ⇓P P 19 41 28.0 +0.1
baz=73,SNR=18
E24A Baker 73.14 335 ⇓P P 19 41 28.8 +0.8
baz=73,SNR=9.1
K17A Gardner Place, 73.18 328 ⇑P P 19 41 29.0 +0.5
baz=73,SNR=6.5
I19A Meeteetse 73.21 330 ⇑P P 19 41 29.3 +0.6
baz=73,SNR=14
SMMC Simmler 73.27 318 ⇑P P 19 41 30.5 +1.5
baz=74,SNR=5.6
AHID Auburn Hatcher 73.28 328 P P 19 41 29.0 -0.1
17nm,0.7s
G21A Lodge Grass 73.31 332 ⇑P P 19 41 29.4 +0.3
baz=74,SNR=11
ULM Lac du Bonnet 73.31 342 P P 19 41 28.4 -0.4
54nm,0.5s,baz=152,slow=6.5,SNR=104
ULM Lac du Bonnet 73.31 342 P P 19 41 28.4 -0.4
F22A Rosebud 73.33 333 ⇑P P 19 41 29.3 +0.1
baz=74,SNR=15
I18A Diamond G Ranc 73.34 330 ⇓P P 19 41 30.3 +0.8
baz=74,SNR=35
L15A Malad City 73.37 327 ⇓P P 19 41 30.1 +0.4
baz=74,SNR=41
HVU Hansel Valley 73.42 327 eP P 19 41 30.2 +0.3
HVU epP pP 19 42 11.0 -1.1
E23A Ismay 73.50 334 ⇑P P 19 41 30.4 +0.3
baz=74
J17A Brown Place, J 73.53 329 ⇑P P 19 41 31.5 +1.0
baz=74,SNR=15
K16A Soda Springs 73.57 328 ⇓P P 19 41 31.9 +1.1
baz=74,SNR=25
SCHQ Schefferville 73.59 1 P P 19 41 30.2 -0.2
27nm,0.7s,baz=186,slow=4.6,SNR=52
SCHQ Schefferville 73.59 1 eP P 19 41 30.1 -0.3
34nm,1.0s
REDW Red Top Meadow 73.59 329 eP P 19 41 31.7 +0.7
D24A Glendive 73.60 335 ⇑P P 19 41 31.5 +0.8
baz=74
SNOW Snow King Moun 73.62 329 eP P 19 41 31.7 +0.5
19nm,0.9s
LOHW Long Hollow 73.66 329 eP P 19 41 31.6 +0.3
MTUM Tungsten Hills 73.67 320 eP P 19 41 32.8 +1.3
H19A Powell 73.69 331 ⇓P P 19 41 32.0 +0.6
baz=74,SNR=16
TPAW Teton Pass 73.74 329 eP P 19 41 32.4 +0.6
F21A Absaloka Mine, 73.74 333 ⇑P P 19 41 32.0 +0.4
baz=74
G20A Bridger 73.75 332 ⇓P P 19 41 31.8 0.0
baz=74,SNR=18
RRI2 Red Ridge 73.81 328⇓iP P 19 41 33.0 +0.7
RRI2 epP pP 19 42 18.1 +3.5

MOOW **Moose Ponds** 73.83 329 *e*P P 19 41 32.8 +0.5
MOOW *e*pP pP 19 42 14.2 -0.4
L14A **Malta** 73.84 326 ⇑P P 19 41 32.9 +0.6
baz=74,SNR=10
I17A **Pilgrim Ck.** 73.87 329 ⇓P P 19 41 34.1 +1.5
baz=74,SNR=12
J16A **Bone** 73.90 328 ⇓P P 19 41 33.6 +0.8
baz=74,SNR=8.5
DCID1 **Drake Creek** 73.93 329 *e*P P 19 41 34.4 +1.6
K15A **Arbon** 73.94 327 ⇑P P 19 41 33.8 +0.9
baz=74,SNR=21
C24A **Savage** 73.97 335 ⇓P P 19 41 33.6 +0.8
baz=74,SNR=14
D23A **Lindsay** 74.00 334 ⇑P P 19 41 33.9 +0.8
baz=74,SNR=14
H18A **Shoshone NF, C** 74.01 330 ⇓P P 19 41 33.9 +0.5
baz=74,SNR=41
ELK **Elko** 74.01 324 *e*P P 19 41 34.0 +0.5
ELK *e*PcP PcP 19 41 48.1 +0.3
ELK *e*pP pP 19 42 13.6 -2.2
FLWY **Flagg Ranch** 74.05 329 *e*P P 19 41 35.1 +1.5
RLMT **Red Lodge** 74.16 331⇓*e*P P 19 41 34.7 +0.5
RLMT **Red Lodge** 74.16 331 ⇑P P 19 41 35.1 +0.9
baz=74,SNR=22
RLMT ⇑P P 19 41 35.1 +0.9
baz=74,SNR=22
K14A **Jones Ranch, D** 74.17 327 ⇓P P 19 41 35.0 +0.8
baz=74,SNR=7.1
F20A **Billings** 74.17 332 ⇓P P 19 41 34.6 +0.5
baz=74,SNR=6.7
NVAR **Mina Array Bea** 74.21 321 P P 19 41 35.9 +1.2
9.0nm,0.9s,baz=152,slow=6.4,SNR=46
NVAR **Mina Array Bea** 74.21 321 P P 19 41 35.9 +1.2
H17A **Grant Village** 74.23 330 ⇑P P 19 41 36.1 +1.5
baz=74,SNR=13
LKWY **Lake** 74.27 330⇓*i*P P 19 41 36.6 +1.7
E21A **Keefer Ranch,** 74.28 333 ⇑P P 19 41 35.3 +0.7
baz=74,SNR=13
D22A **Cohagen** 74.38 334 ⇓P P 19 41 36.2 +0.9
baz=75,SNR=35
YFT **Old Faithful** 74.39 330 *e*P P 19 41 37.4 +1.8
24nm,1.1s
J15A **Blackfoot** 74.41 328 ⇓P P 19 41 36.7 +1.1
baz=75,SNR=12
G18A **Lazy EL Ranch,** 74.44 331 ⇓P P 19 41 36.5 +0.7
baz=75,SNR=31
C23A **Lambert** 74.50 335 ⇓P P 19 41 36.6 +0.7
baz=75,SNR=8.0
YNR **Norris Junctio** 74.52 330 *e*P P 19 41 37.6 +1.3
12nm,0.7s
F19A **Roth Farm, Mol** 74.57 332 ⇓P P 19 41 37.0 +0.6
baz=75,SNR=29
YMR **Madison River** 74.62 330 *e*P P 19 41 38.2 +1.3
40nm,0.9s
DGMT **Dagmar** 74.65 336⇓*e*P P 19 41 37.2 +0.5
DGMT *e*pP pP 19 42 19.9 +0.8
DGMT **Dagmar** 74.65 336 ⇑P P 19 41 37.5 +0.8
baz=75,SNR=11
D21A **La Casta Ranch** 74.66 333 ⇑P P 19 41 37.7 +0.9
baz=75,SNR=23
E20A **Meyer Farm, Mu** 74.71 332 ⇑P P 19 41 37.8 +0.7
baz=75,SNR=27
C22A **Vida** 74.73 334 ⇓P P 19 41 37.8 +0.5
baz=75,SNR=17
H16A **Russell Place,** 74.78 329 ⇑P P 19 41 39.2 +1.4
baz=75,SNR=28
GCMT **Greycliff** 74.85 331 *e*P P 19 41 38.7 +0.6
20nm,0.8s
I15A **Monteview** 74.87 328 ⇑P P 19 41 39.7 +1.5
baz=75,SNR=10
J14A **Carey** 74.90 327 ⇓P P 19 41 39.7 +1.2
baz=75
A24A **Westby** 74.94 336 ⇓P P 19 41 39.4 +1.0
baz=75,SNR=10
B23A **Brockton** 74.95 335 ⇓P P 19 41 39.1 +0.6
baz=75,SNR=15
F18A **Big Timber** 74.96 331 ⇓P P 19 41 39.5 +0.8
baz=75,SNR=34
QLMT **Earthquake Lak** 74.96 329 *e*P P 19 41 40.2 +1.4
E19A **Rath Farm, Rou** 74.96 332 ⇑P P 19 41 39.3 +0.7
baz=75,SNR=45
G17A **Pierce Place,** 75.00 330 ⇓P P 19 41 40.0 +1.1
baz=75,SNR=5.4
D20A **Manuel Ranch,** 75.17 333 ⇑P P 19 41 40.2 +0.5
baz=75,SNR=28
CMB **Columbia Colle** 75.22 320 *e*P P 19 41 40.8 +0.5
B22A **Reddig Ranch S** 75.22 335 ⇑P P 19 41 40.6 +0.6
baz=75,SNR=12
J13A **Cove Ranch, Pi** 75.29 327 ⇓P P 19 41 41.8 +1.1
baz=76,SNR=18
C21A **Desert Coulee** 75.30 334 ⇑P P 19 41 41.0 +0.5
baz=76,SNR=13
I14A **Mackay** 75.30 328 ⇑P P 19 41 42.0 +1.3
baz=76,SNR=34
F17A **Fitzpatrick Pl** 75.39 331 ⇑P P 19 41 42.3 +1.1
baz=76,SNR=27
H15A **Lima** 75.39 329 ⇑P P 19 41 42.7 +1.4
baz=76,SNR=10.0
G16A **Moss Hill, Enn** 75.43 330 ⇓P P 19 41 42.5 +1.0
baz=76,SNR=13
HLID **Hailey** 75.53 327⇓*i*P P 19 41 43.0 +0.9
HLID **Hailey** 75.53 327 ⇓P P 19 41 43.5 +1.4
baz=76,SNR=47
D19A **Cripps Ranch,** 75.55 332 ⇓P P 19 41 42.3 +0.4
baz=76,SNR=14
E18A **Harlowton** 75.55 331 ⇑P P 19 41 42.8 +0.7
baz=76,SNR=17
C20A **Veseth Ranch,** 75.59 333 ⇓P P 19 41 42.7 +0.5
baz=76
TOA0 **Torodi Ar. St** 75.59 70⇓*i*P P 19 41 42.6 -0.3
TORD **Torodi Ar. Bea** 75.59 70 P P 19 41 42.8 0.0
68nm,0.7s,baz=252,slow=5.4,SNR=551
TORD **Torodi Ar. Bea** 75.59 70 P P 19 41 42.8 0.0
I13A **Wildhorse Cree** 75.63 327 ⇓P P 19 41 43.9 +1.3
baz=76,SNR=29
WCN **Washoe City** 75.64 321 *e*P P 19 41 43.4 +0.6
MCMT **McKenzie Canyo** 75.65 329 P P 19 41 44.3 +1.5
BOZ **Bozeman (W)** 75.66 330 *e*P P 19 41 43.2 +0.5
15nm,1.0s
BOZ **Bozeman (W)** 75.66 330 ⇑P P 19 41 43.3 +0.6
baz=76,SNR=6.8
BOZ ⇑P P 19 41 43.3 +0.6
baz=76,SNR=6.8
G15A **Dillon** 75.72 329 ⇓P P 19 41 44.2 +1.1
baz=76,SNR=11
A22A **Carney Farms,** 75.74 335 ⇓P P 19 41 43.8 +0.8
baz=76,SNR=14
H14A **Leadore** 75.75 328 ⇑P P 19 41 44.6 +1.3
baz=76,SNR=9.4
F16A **Kennard Place,** 75.76 330 ⇑P P 19 41 44.0 +0.8
baz=76,SNR=11
E17A **Martinsdale** 75.90 331 ⇓P P 19 41 44.9 +0.8
baz=76,SNR=29
DLMT **Dillon** 75.91 329 *e*P P 19 41 44.6 +0.5
D18A **Linhart Farms,** 75.98 332 ⇓P P 19 41 45.1 +0.7
baz=76,SNR=11
C19A **Slack Wire Ran** 76.06 333 ⇑P P 19 41 45.3 +0.5
baz=76,SNR=21
I12A **Atlanta** 76.07 327 ⇓P P 19 41 46.4 +1.3
baz=76
A21A **Bergtoll Ranch** 76.14 335 ⇓P P 19 41 45.6 +0.4
baz=76,SNR=12
H13A **Challis** 76.16 328 ⇓P P 19 41 46.9 +1.3
baz=76,SNR=43
B20A **Solberg Farm,** 76.16 334 ⇑P P 19 41 45.8 +0.4
baz=76,SNR=14
MFID **Camas Ranch** 76.17 326⇓*e*P P 19 41 46.7 +1.2
35nm,1.1s
MFID *e*pP pP 19 42 30.6 +2.4
MFID **Camas Ranch** 76.17 326 ⇑P P 19 41 46.8 +1.2
baz=76,SNR=12
LRM **Limekiln Ridge** 76.18 330 *e*P P 19 41 46.4 +0.7
F15A **Butte** 76.21 330 ⇑P P 19 41 46.7 +0.8
baz=76,SNR=13
G14A **Jackson** 76.25 329 ⇑P P 19 41 47.2 +1.0
baz=76,SNR=11
E16A **East Helena** 76.33 331 ⇓P P 19 41 47.3 +0.8
baz=76,SNR=9.7
D17A **Six Diamond Ra** 76.34 331 ⇓P P 19 41 47.3 +0.7
baz=76,SNR=21
H12A **Diamond D Ranc** 76.45 327 ⇑P P 19 41 48.5 +1.3
baz=77
A20A **Cobblestone Ra** 76.47 334 ⇑P P 19 41 47.4 +0.4
baz=77,SNR=22
G13A **Cobalt** 76.52 328 ⇓P P 19 41 49.0 +1.4
baz=77,SNR=74
HRY **Holter Researc** 76.54 331 *e*P P 19 41 48.4 +0.8

B19A **Brinkman Farms** 76.56 333 ⇓P P 19 41 48.1 +0.4
baz=77,SNR=18
EGMT **Eagleton** 76.58 333⇓*i*P P 19 41 47.9 +0.1
EGMT *e*pP pP 19 42 31.5 +1.1
EGMT **Eagleton** 76.58 333 ⇓P P 19 41 48.1 +0.3
baz=77,SNR=14
F14A **Wisdom** 76.61 329 ⇓P P 19 41 49.5 +1.3
baz=77,SNR=27
D16A **Dana Ranch, Ca** 76.64 331 ⇑P P 19 41 49.4 +1.2
baz=77,SNR=55
E15A **Deer Lodge** 76.71 330 ⇓P P 19 41 49.7 +1.1
baz=77,SNR=22
C17A **Wharram Farm,** 76.73 332 ⇓P P 19 41 48.8 +0.2
baz=77,SNR=14
A19A **Klindworth Far** 76.84 334 ⇓P P 19 41 49.5 +0.2
baz=77,SNR=16
B18A **Beardsley Farm** 76.88 333 ⇓P P 19 41 50.0 +0.6
baz=77,SNR=20
F13A **Darby** 77.06 329 ⇑P P 19 41 51.8 +1.2
baz=77,SNR=58
G12A **Big Creek, Yel** 77.10 328 ⇓P P 19 41 51.6 +0.8
baz=77
D15A **Lincoln** 77.10 330 ⇑P P 19 41 52.1 +1.3
baz=77,SNR=27
E14A **Clinton** 77.11 330 ⇓P P 19 41 52.0 +1.2
baz=77,SNR=19
B17A **L&G Farms, Che** 77.25 332 ⇑P P 19 41 51.7 +0.3
baz=77,SNR=6.6
C16A **Fuhringer Ranc** 77.30 331 ⇑P P 19 41 52.3 +0.4
baz=78,SNR=15
A18A **Metzger Ranch,** 77.31 333 ⇓P P 19 41 52.0 +0.3
baz=78
CHMT **Chamberlain Mo** 77.35 330 *e*P P 19 41 53.1 +0.9
E13A **Victor** 77.46 329 ⇑P P 19 41 54.0 +1.2
baz=78,SNR=32
F12A **Elk City** 77.50 328 ⇑P P 19 41 53.9 +0.9
baz=78,SNR=20
D14A **Greenough** 77.59 330 ⇓P P 19 41 54.3 +0.8
baz=78,SNR=9.0
MSO **Missoula** 77.62 330 *e*P P 19 41 54.8 +1.2
8.6nm,1.1s
MSO *e*pP pP 19 42 40.6 +4.3
MSO **Missoula** 77.62 330 ⇑P P 19 41 54.8 +1.2
baz=78,SNR=10
MOD **Modoc** 77.62 323 *e*P P 19 41 54.3 +0.5
11nm,0.6s
C15A **Salmond Ranch,** 77.68 331 ⇓P P 19 41 55.1 +1.1
baz=78,SNR=35
A17A **Triple J Farms** 77.69 333 ⇓P P 19 41 54.4 +0.5
baz=78,SNR=9.9
SLMT **Seeley Lake** 77.70 330 *e*P P 19 41 55.0 +0.9
SLMT *e*pP pP 19 42 39.4 +2.5
B16A **M & M Farms, S** 77.74 332 ⇓P P 19 41 54.4 +0.1
baz=78,SNR=5.8
BMO **Blue Mountains** 77.92 326⇓*i*P P 19 41 56.2 +0.9
22nm,0.8s
BMO *e*pP pP 19 42 40.3 +2.2
B15A **Bradely Ranch,** 78.05 331 ⇑P P 19 41 56.1 +0.1
baz=78,SNR=24
D13A **Huson** 78.06 330 ⇓P P 19 41 57.1 +1.1
baz=78,SNR=30
A16A **West Butte Ran** 78.09 332 ⇑P P 19 41 56.7 +0.5
baz=78
WDC **Whiskeytown Da** 78.11 321 *e*P P 19 41 55.8 -0.5
E12A **Beaver Dam Sad** 78.12 328 ⇑P P 19 41 57.3 +0.9
baz=78,SNR=19
SWMT **Swartz Lake** 78.13 330 *e*P P 19 41 57.1 +0.7
C14A **Swan Lake** 78.20 330 ⇓P P 19 41 57.8 +1.0
baz=78,SNR=17
YBMT **Yellow Bay** 78.39 330 *e*P P 19 41 59.0 +1.1
14nm,0.9s
B14A **Marquette Ranc** 78.41 331 ⇑P P 19 41 58.3 +0.3
baz=79,SNR=8.5
JTMT **Jette** 78.44 330 *e*P P 19 41 58.9 +0.8
D12A **Red Ives Fores** 78.46 329 ⇓P P 19 41 59.1 +0.8
baz=79
C13A **Hot Springs** 78.53 330 ⇑P P 19 41 59.7 +1.1
baz=78,SNR=14
A15A **Johnson Ranch,** 78.61 332 ⇓P P 19 41 58.9 -0.2
baz=79,SNR=6.6
BLMT **Blacktail Moun** 78.66 330 *e*P P 19 42 00.3 +0.8
BSMT **Bassoo Peak** 78.75 330 *e*P P 19 42 00.8 +0.9
YBH **Yreka Blue Hor** 78.92 321 *e*P P 19 42 00.3 -0.5
9.0nm,1.2s
A14A **Double T Ranch** 78.92 331 ⇓P P 19 42 00.8 0.0
baz=79,SNR=10
B13A **Whitefish** 78.97 330 ⇓P P 19 42 01.8 +0.8
baz=78,SNR=16
C12B **Naegeli Ranch,** 78.98 329 ⇓P P 19 42 02.1 +1.1
baz=79
MORF **Marmelete** 79.02 44 *e*P P 19 42 04.2 +2.7
18nm,1.1s
FFC **Flin Flon** 79.06 341⇓*i*P P 19 42 01.1 -0.1
13nm,1.0s
FFC **Flin Flon** 79.06 341 P P 19 42 01.7 +0.5
72nm,0.9s,SNR=5.6
WALA **Waterton Lakes** 79.21 331 *e*P P 19 42 02.6 +0.3
0.5nm,0.8s
A13A **Flathead Natio** 79.35 331 ⇓P P 19 42 04.1 +1.1
baz=80,SNR=34
C11A **Tepee Creek (N** 79.45 329 ⇓P P 19 42 04.4 +0.9
baz=80
PBDV **Barranco-do-Ve** 79.46 45 *e*P P 19 42 06.2 +2.4
24nm,0.6s
VIPM **Ingram Point** 79.47 325 P P 19 42 05.6 +1.7
B12A **Libby** 79.57 330 ⇓P P 19 42 05.3 +1.1
baz=80,SNR=15
HUMO **Hull Mountain** 79.60 322 *e*P P 19 42 04.1 -0.3
3.7nm,0.6s
PCVE **Castro Verde** 79.61 44 *e*P P 19 42 06.9 +2.3
70nm,1.9s
JBO **Jordan Butte** 79.67 326 P P 19 42 06.8 +2.0
PVAQ **Vaqueiros** 79.69 45 *e*P P 19 42 06.9 +1.9
10nm,0.7s
TSUM **Tsumeb** 79.78 107 *e*P P 19 42 07.3 +1.1
6.8nm,1.1s
A12A **Yaak River Ran** 79.92 330 ⇓P P 19 42 07.0 +0.9
baz=80,SNR=19
PBEJ **Beja** 79.94 44 *e*P P 19 42 08.5 +2.1
17nm,0.7s
FRIS **Frissel Point** 80.11 324 P P 19 42 08.5 +1.2
HAWA **Hanford** 80.12 327⇓*i*P P 19 42 08.2 +1.1
EVO **Evora** 80.12 43 *e*P P 19 42 09.1 +1.8
11nm,0.6s
EVO **Evora** 80.12 43 *e*P P 19 42 08.3 +1.0
39nm,0.8s
NEW **Newport** 80.16 329 *e*P P 19 42 06.9 -0.5
NEW **Newport** 80.16 329 ⇓P P 19 42 07.4 0.0
baz=80
PMTG **Montargil** 80.29 43 *e*P P 19 42 10.1 +1.9
23nm,0.7s
BROR **Big Rock Looko** 80.34 324 P P 19 42 09.0 +0.7
OD2 **Odessa Site #2** 80.36 328 *e*P P 19 42 09.4 +1.0
VFP **Flag Point** 80.45 325 P P 19 42 10.7 +1.5
PTOM **Tomar** 80.48 42 *e*P P 19 42 10.8 +1.6
20nm,0.6s
HOOD **Mount Hood Mea** 80.56 325 *e*P P 19 42 11.0 +1.3
34nm,0.8s
PBAR **Barrancos** 80.57 44 *e*P P 19 42 11.6 +1.9
12nm,0.7s
PMRV **Marv??o** 81.02 43 *e*P P 19 42 13.1 +1.0
8.9nm,1.0s
WTV **Waterville** 81.19 327 P P 19 42 14.1 +1.2
PCBR **Castelo Branco** 81.20 43 *e*P P 19 42 13.9 +0.9
6.9nm,0.8s
ETW **Entiat** 81.32 327 P P 19 42 14.8 +1.1
LON **Longmire** 81.55 326 *e*P P 19 42 15.0 +0.2
PGAV **Longora, Arco** 81.89 41 *e*P P 19 42 18.5 +1.8
19nm,0.9s
RMW **Rattlesnake Mo** 82.00 326 P P 19 42 17.5 +0.4
MVO **Moncorvo** 82.21 42 *e*P P 19 42 19.9 +1.5
13nm,1.2s
RPW **Rockport** 82.47 327 *e*P P 19 42 19.5 0.0
22nm,1.1s
JCW **Jim Creek** 82.53 327 *e*P P 19 42 19.4 -0.4
55nm,1.0s
JCW *e*pP pP 19 43 04.6 +1.6
PBRG **Braganca** 82.75 41 *e*P P 19 42 22.5 +1.4
9.3nm,0.7s
TAM **Tamanrasset** 82.83 63 *e*P P 19 42 23.0 +0.9
32nm,1.0s
NLWA **Neilton Lookou** 83.05 325 *e*P P 19 42 23.4 +0.9
23nm,1.0s
PAB **San Pablo** 83.07 44 *e*P P 19 42 23.5 +0.6
34nm,0.9s
ESDC **Sonseca Array** 83.39 44 P P 19 42 26.2 +1.8
12nm,0.7s,baz=248,slow=5.5,SNR=42

ESDC **Sonseca Array** 83.39 44 P P 19 42 26.2 +1.8
BOSA **Boshof** 83.70 118 P P 19 42 27.1 +0.6
5.7nm,0.9s,baz=243,slow=4.8,SNR=12
BOSA **Boshof** 83.70 118 P P 19 42 27.1 +0.6
LBTB **Lobatse** 85.13 115 P P 19 42 34.5 +0.8
4.4nm,0.9s,baz=263,slow=6.6,SNR=9.0
LBTB **Lobatse** 85.13 115 *e*P P 19 42 34.3 +0.6
3.6nm,0.6s
YKA **Yellowknife Ar** 89.23 340 P P 19 42 52.7 +0.4
42nm,0.7s,baz=131,slow=4.6,SNR=743
YKA **Yellowknife Ar** 89.23 340 P P 19 42 52.7 +0.4
MFF **Saint Martin d** 89.29 40 *e*P P 19 42 54.4 +1.5
GRR **Gorron** 89.74 38 *e*P P 19 42 56.0 +1.0
35nm,1.0s
LDF **La Druitiere** 90.26 38 *e*P P 19 42 56.7 -0.7
4.7nm,0.6s
TCF **Toulx Ste Croi** 90.58 41 *e*P P 19 43 00.0 +1.0
BGF **Bois d'Agland** 91.09 41 *e*P P 19 43 02.7 +1.4
16nm,0.7s
AVF **Avril sur Loir** 91.51 41 *e*P P 19 43 04.4 +1.2
SSF **Saint Saulge** 91.72 40 *e*P P 19 43 05.2 +0.9
8.5nm,0.7s
LOR **Lormes** 92.03 40 *e*P P 19 43 06.6 +0.9
9.7nm,0.9s
ORIF **Oris-en-Rattie** 92.29 43 *e*P P 19 43 09.0 +1.9
SFTF **Sexfontaines** 93.15 40 *e*P P 19 43 12.0 +1.2
20nm,0.9s
MEZF **Maizieres J'vi** 93.28 40 *e*P P 19 43 12.7 +1.3
BAIF **Baives** 93.45 38 *e*P P 19 43 13.0 +0.9
SUMG **Summit** 93.50 9 *e*P P 19 43 13.1 +0.7
25nm,1.0s
SUMG **Summit** 93.50 9 *i*P P 19 43 13.0 +0.6
18nm,0.8s
HINF **Hinteralfeld** 94.10 41 *e*P P 19 43 16.2 +0.9
CDF **Champ du Feu** 94.60 40 *e*P P 19 43 18.7 +1.1
DAVOX **Davos/Dischmat** 95.59 42 P P 19 43 22.7 +0.4
2.4nm,0.9s,baz=162,slow=20,SNR=3.1
DAVOX **Davos/Dischmat** 95.59 42 P P 19 43 22.7 +0.4
GERES **GERESS Array B** 98.73 41 P Pdif 19 43 36.4 +0.1
0.7nm,0.8s,baz=256,slow=3.7,SNR=3.7
GERES **GERESS Array B** 98.73 41 P Pdif 19 43 36.4 +0.1
DAG **Danmarks Havn** 99.99 10 *i*P **Pdif** **19 43 43.5 +2.4**
12nm,0.8s
ILAR **Eielson Array** 102.48 334 P **Pdif** **19 43 52.1 -0.3**
0.3nm,0.7s,baz=94,slow=1.7,SNR=7.1
ILAR PP PP 19 47 55.1 -13
1.1nm,0.9s,baz=101,slow=7.1,SNR=4.5
ILAR **Eielson Array** 102.48 334 P **Pdif** **19 43 52.1 -0.3**
ILAR PP PP 19 47 55.1 -13
ABKAR **Akbulak array** 128.67 42 *e*PKPdf **PKPdf** **19 49 04.0 +1.0**
ABKAR *e*SKP 19 52 07.5
ASAR **Alice Springs** 132.53 207 PKP **PKPdf** **19 49 11.2 0.0**
0.7nm,0.7s,baz=129,slow=2.1,SNR=15
ASAR SKPbc **SKPbc** **19 52 21.5 -0.5**
4.2nm,0.8s,baz=143,slow=4.2,SNR=25
ASAR **Alice Springs** 132.53 207 PKP **PKPdf** **19 49 11.2 0.0**
ASAR SKPbc **SKPbc** **19 52 21.5 -0.5**
WRA **Warramunga Arr** 135.56 210 PKP **PKPdf** **19 49 17.0 0.0**
1.5nm,0.9s,baz=156,slow=1.5,SNR=4.9
WRA SKPbc **SKPbc** **19 52 32.0 0.0**
6.4nm,0.9s,baz=148,slow=2.9,SNR=14
WRA **Warramunga Arr** 135.56 210 PKP **PKPdf** **19 49 17.0 0.0**
WRA SKPbc **SKPbc** **19 52 32.0 0.0**
KURK **Kurchatov** 138.74 32 PKP **PKPdf** **19 49 22.7 +0.9**
2.8nm,0.8s,baz=301,slow=2.6,SNR=27
KURK PP **PP** **19 52 18.4 +3.7**
1.5nm,0.9s,baz=308,slow=5.9,SNR=5.8
KURK **Kurchatov** 138.74 32 *e*PKPdf **PKPdf** **19 49 22.3 +0.5**
KURK PKP **PKPdf** **19 49 22.6 +0.9**
KURK PP **PP** **19 52 18.4 +3.7**
KURK *e*PP PP 19 52 22.2 +7.5
ZAA0 **Zalesovo Array** 139.32 25 *e*PKPpre PKPpre 19 49 17.9
ZAA0 *e*PKPdf **PKPdf** **19 49 23.7 +1.0**
ZAA0 *e*SKP 19 52 42.4
ZALV **Zalesovo Beam** 139.32 25 PKhKP PKPpre 19 49 18.1
1.8nm,0.5s,baz=314,slow=2.0,SNR=10
ZALV PKP **PKPdf** **19 49 23.7 +0.9**
10nm,0.6s,baz=307,slow=2.5,SNR=13
ZALV SKPbc **SKiKP** **19 52 43.5 -1.2**
4.0nm,0.8s,baz=316,slow=4.1,SNR=9.2
ZALV **Zalesovo Beam** 139.32 25 PKPpre PKPpre 19 49 18.1
ZALV PKP **PKPdf** **19 49 23.7 +0.9**
ZALV SKPbc **SKiKP** **19 52 43.5 -1.2**
AAK **Ala-Archa** 140.49 45 *e*PKPdf **PKPdf** **19 49 26.5 +1.0**
AAK *e*PP **PP** **19 52 25.5 -0.8**
AAK *e*SKP 19 52 47.4
KSH **Kashi** 142.77 49 *e*PKP **PKPdf** **19 49 31.3 +1.7**
KSH *e*pPKP **pPKPdf** **19 50 13.4 -2.2**
KSH *e*PKS **PKSdf** **19 53 04.8 -0.7**
KSH *e*SKS **SKSdf** **19 56 22.8 -0.2**
KSH AMB AMB
comp=Z,210nm,6.7s
KSH LR LR
comp=N,210nm,6.3s
KSH LR LR
comp=E,190nm,5.8s
KSH LR LR
comp=Z,180nm,5.2s
MK31 **Makanchi Array** 143.07 35 *e*PKPdf PKPbc 19 49 26.7 -0.5
MK31 *e*SKP 19 52 49.9
MKAR **Makanchi Array** 143.07 35 PKhKP PKPpre 19 49 26.9
comp=Z,1.9nm,0.7s,baz=318,slow=3.2,SNR=26
MKAR SKPbc **SKPbc** **19 52 52.3 +0.7**
comp=Z,0.9nm,0.6s,baz=306,slow=3.3,SNR=6.7
MKAR **Makanchi Array** 143.07 35 PKPpre PKPpre 19 49 26.9
MKAR SKPbc **SKPbc** **19 52 52.3 +0.7**
ASAJ **Asahikawa** 144.34 321 PKP PKPbc 19 49 31.2 +0.4
comp=Z,20nm,0.8s,baz=275,slow=6.2,SNR=11
ASAJ **Asahikawa** 144.34 321 PKP PKPbc 19 49 31.2 +0.4
TLY **Talaya** 146.76 10 *e*PKPbc **PKPbc** **19 49 38.2 +0.3**
DDI **Dehra Dun** 147.17 63 *ex* **PKPbc** **19 49 37.5 -2.3**
HYB **Hyderabad** 148.07 87 *i*PKP **PKPbc** **19 49 42.0 -0.5**
HYB *e*pPKP *s*PKPab 19 51 00.0 +11
USRK **Ussuriysk Arra** 149.93 331 PKPbc **PKPbc** **19 49 47.1 +0.8**
comp=Z,22nm,0.9s,baz=20,slow=1.8,SNR=31
SONM **Songino Array** 150.91 8 PKPbc **PKPbc** **19 49 49.6 +0.8**
comp=Z,27nm,0.6s,baz=321,slow=1.6,SNR=185
SONM **Songino Array** 150.91 8 PKPbc **PKPbc** **19 49 49.6 +0.8**
ULN **Ulaanbaatar** 150.96 7 *e*PKPdf **PKPdf** **19 49 42.9 -0.1**
ULN *e*PKPbc **PKiKP** **19 49 49.7 +0.2**
ULN *e*PP PP 19 53 27.7 +0.7
MJAR **Matsushiro Arr** 151.25 313 PKPbc **PKPbc** **19 49 50.0 +0.2**
comp=Z,5.6nm,0.8s,baz=93,slow=1.3,SNR=20
MJAR **Matsushiro Arr** 151.25 313 PKPbc **PKPbc** **19 49 50.0 +0.2**
MAT **Matsushiro** 151.25 313 PKP **PKPbc** **19 49 49.9 +0.1**
DANN **Dangsing** 152.46 65 *e*P **PKPdf** **19 49 47.2 +1.1**
comp=Z,60nm,0.6s
DANN **Dangsing** 152.46 65 *e*P **PKPdf** **19 49 47.2 +1.1**
CN2 **Changchun** 152.92 339 *e*PKPbc **PKPdf** **19 49 44.3 -1.6**
GKN **Gorkha** 153.29 65 *e*P **PKPdf** **19 49 47.7 +0.6**
comp=Z,45nm,1.2s
GKN **Gorkha** 153.29 65 *e*P **PKPdf** **19 49 47.7 +0.6**
DMN **Daman** 153.79 66 *e*P **PKPdf** **19 49 47.6 -0.4**
comp=Z,14nm,0.6s
DMN **Daman** 153.79 66 *e*P **PKPdf** **19 49 47.6 -0.4**
KKN **Kakani** 153.89 66 *e*P **PKPdf** **19 49 48.8 +0.7**
comp=Z,12nm,0.6s
KKN **Kakani** 153.89 66 *e*P **PKPdf** **19 49 48.8 +0.7**
PKI **Pulchoki** 154.06 66 *e*P **PKPdf** **19 49 48.3 -0.1**
PKI **Pulchoki** 154.06 66 *e*P **PKPdf** **19 49 48.3 -0.1**
GUN **Gumba** 154.38 65 *e*P **PKPdf** **19 49 49.6 +0.7**
comp=Z,17nm,0.8s
GUN **Gumba** 154.38 65 *e*P **PKPdf** **19 49 49.6 +0.7**
JIRN **Jiri** 154.71 65 *e*P **PKPdf** **19 49 50.0 +0.6**
comp=Z,7.5nm,0.7s
JIRN **Jiri** 154.71 65 *e*P **PKPdf** **19 49 50.0 +0.6**
RAMN **Ramite** 155.23 67 *e*P **PKPdf** **19 49 51.0 +1.0**
comp=Z,12nm,0.6s
RAMN **Ramite** 155.23 67 *e*P **PKPdf** **19 49 51.0 +1.0**
SNY **Shenyang** 155.30 339 ⇑PKP **PKPab** **19 50 16.1 +0.9**
SNY PP PP 19 53 46.4 -5.0
SNY AMB AMB
comp=Z,20nm,3.6s
ODAN **Odare** 155.94 67 *e*P **PKPdf** **19 49 51.4 +0.5**
comp=Z,9.5nm,0.7s
ODAN **Odare** 155.94 67 *e*P **PKPdf** **19 49 51.4 +0.5**
TAPN **Taplejung** 156.09 65 *e*P **PKPdf** **19 49 51.8 +0.6**
TAPN **Taplejung** 156.09 65 *e*P **PKPdf** **19 49 51.8 +0.6**
GTA **Gaotai** 157.08 25 *e*PKP **PKPdf** **19 49 53.3 +1.4**
GTA PKPab **PKPab** **19 50 23.8 +0.7**
GTA *e*PKP **pPKPdf** **19 50 33.5 -4.5**
HHC **Hu-ho-hao-te** 158.27 1 *e*PKP **PKPdf** **19 49 51.4 -1.9**
HHC PKP **PKPab** **19 50 32.1 +4.0**
HHC *s*PKP 19 50 49.9

HHC				PKS	**PKSdf**	**19 53 23.3**	**-3.7**
HHC				PP	PP	19 54 09.8	+2.1
HHC				SKS	**SKSdf**	**19 56 38.4**	**-4.2**
HHC				SKKS	**SKKSac**	**20 00 41.0**	**+0.4**
HHC				SS	SS	20 13 54.3	+1.7
HHC				AMB	AMB		
	comp=Z,150nm,8.3s						
NJ2	**Nanjing**	**165.72**	**336**	*e*PKP	**PKPdf**	**19 49 57.3**	**-3.6**
CD2	**Chengdu**	**165.96**	**31**	PKP	**PKPdf**	**19 50 00.4**	**-0.8**
CD2				pPKP	**pPKPdf**	**19 50 40.8**	**-6.7**
CD2				sPKP		19 50 56.5	
CD2				PKPab	**PKPab**	**19 51 03.1**	**+1.0**
CD2				PKS	**PKSdf**	**19 53 31.8**	**-2.3**
CD2				PP	PP	19 54 51.6	+2.6
CD2				SKS	**SKSdf**	**19 56 47.6**	**-1.5**
CD2				SKKS	**SKKSac**	**20 01 21.6**	**+1.2**
CD2				SS	SS	20 15 15.0	+1.7
CD2				AMB	AMB		
	comp=Z,270nm,5.4s						
CMAR	**Chiang Mai Arr**	**167.47**	**91**	PKP	**PKPdf**	**19 50 04.1**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=278,slow=2.6,SNR=4.9						
CMAR				PKPab	**PKPab**	**19 51 08.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=270,slow=6.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**167.47**	**91**	PKP	**PKPdf**	**19 50 04.1**	**+1.5**
CMAR				PKPab	**PKPab**	**19 51 08.9**	**-0.3**
GYA	**Guiyang**	**171.06**	**34**	PKP	**PKPdf**	**19 50 03.3**	**-1.5**
GYA				pPKP	pPKPdf	19 50 43.8	-7.3
GYA				sPKP		19 50 59.6	
GYA				PKPab	**PKPab**	**19 51 25.4**	**+0.6**
GYA				PKS	**PKSdf**	**19 53 33.9**	**-3.5**
GYA				PP	PP	19 55 17.0	+2.0
GYA				AMB	AMB		
	comp=Z,130nm,8.0s						

IDC 24 19:40:10.7±0.8, 15°03N×145°09E, h264km±7km, mb3.0/8, mb1 3.2/8, mb1mx3.0/20, mbtmp3.0/8, Error ellipse: s-maj=26.9km s-min=15.1km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.45**	**188**	P	Pn	19 40 50.8	+0.8
	54nm,0.3s,baz=142,slow=2.1,SNR=53						
GUMO				S	S	19 41 21.1	0.0
	43nm,0.3s,baz=330,slow=23,SNR=9.2						
MJAR	**Matsushiro Arr**	**22.29**	**345**	P	P	19 44 46.8	+0.6
	1.1nm,0.4s,baz=171,slow=5.1,SNR=17						
WRA	**Warramunga Arr**	**36.33**	**197**	P	P	19 46 49.8	-0.1
	0.3nm,0.6s,baz=7.7,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**39.98**	**196**	P	P	19 47 20.6	+0.3
	0.1nm,0.5s,baz=5.2,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**44.23**	**281**	P	P	19 47 53.5	-1.1
	0.4nm,0.5s,baz=80,slow=5.9,SNR=5.3						
MKAR	**Makanchi Array**	**60.61**	**315**	P	P	19 49 54.2	+0.2
	0.4nm,0.4s,baz=91,slow=8.7,SNR=8.0						
KURK	**Kurchatov**	**63.63**	**319**	P	P	19 50 14.3	+0.5
	0.7nm,0.4s,baz=101,slow=7.2,SNR=7.0						
ILAR	**Eielson Array**	**67.18**	**26**	P	P	19 50 34.8	-1.5
	0.4nm,0.7s,baz=255,slow=5.4,SNR=5.1						
NVAR	**Mina Array Bea**	**85.86**	**51**	P	P	19 52 22.3	+0.9
	0.6nm,0.7s,baz=255,slow=6.6,SNR=5.2						
JOF	**Joensuu**	**87.08**	**335**	*ep*	P	19 52 24.4	-2.1
	1.7nm,0.7s						
JOF	**Joensuu**	**87.08**	**335**	*es*	P	19 52 24.4	-2.1
	1.7nm,0.7s						
FINES	**FINESS Array B**	**89.95**	**335**	P	P	19 52 39.4	-0.6
	6.3nm,1.1s,baz=60,slow=3.9,SNR=17						

IDC 24 19:55:39.0±2.5, 0°44S×133°74E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.3/17, mbtmp3.3/4, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=98.6km s-min=24.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.28**	**204**	P	P	20 00 05.0	-0.5
	0.2nm,0.3s,baz=55,slow=7.3,SNR=2.4						
WRA	**Warramunga Arr**	**19.40**	**178**	P	P	20 00 06.9	+0.1
	0.0nm,0.3s,baz=358,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**23.09**	**180**	P	P	20 00 47.0	+0.3
	0.4nm,0.4s,baz=354,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**37.02**	**6**	LR	LR	20 17 32.9	
	comp=Z,70nm,19.2s,baz=310,slow=36						
MKAR	**Makanchi Array**	**64.99**	**324**	P	P	20 06 20.9	0.0
	0.2nm,0.8s,baz=114,slow=7.5,SNR=2.9						

IDC 24 20:10:01.2±2.2, 3°40N×128°25E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=150.9km s-min=26.3km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**166**	P	P	20 15 17.4	0.0
	0.7nm,0.4s,baz=346,slow=10,SNR=20						
ASAR	**Alice Springs**	**27.46**	**169**	P	P	20 15 48.9	-0.3
	0.3nm,0.4s,baz=352,slow=8.0,SNR=9.6						
MKAR	**Makanchi Array**	**58.69**	**325**	P	P	20 20 00.8	+0.2
	0.1nm,0.5s,baz=117,slow=7.8,SNR=4.4						

*NEIC **24** 20:19:30.1, 45°07S×167°42E, h94km, MG4.3(WEL), After WEL.*
NEIC Felt at Arthurs Point, Queenstown and Te Anau.
WEL 24 20:19:30.4±0.2, 45°08S×167°43E, h91km±1km, ML4.2/13, 4C-2D, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.44**	**206**	PN	Pn	20 19 44.4	-0.3
DCZ				SN	Sn	20 19 54.4	-1.0
DCZ	**Deep Cove**	**0.44**	**206**	Pn	Pn	20 19 44.4	-0.3
DCZ				Sn	Sn	20 19 55.9	+0.5
MSZ	**Milford Sound**	**0.54**	**41**	PN	Pn	20 19 45.4	-0.1
MSZ				SN	Sn	20 19 56.4	-0.3
MSZ	**Milford Sound**	**0.54**	**41**	Pn	Pn	20 19 45.4	-0.1
MSZ				Sn	Sn	20 19 56.3	-0.4
MLZ	**Mavora Lakes**	**0.59**	**117**	⇑PN	Pn	20 19 45.6	-0.3
MLZ				SN	Sn	20 19 57.1	-0.6
MLZ	**Mavora Lakes**	**0.59**	**117**	⇑Pn	Pn	20 19 45.6	-0.3
WHZ	**Wether Hill Ro**	**0.89**	**156**	PN	Pn	20 19 48.8	-0.1
WHZ				SN	Sn	20 20 02.4	-0.4
WHZ	**Wether Hill Ro**	**0.89**	**156**	Pn	Pn	20 19 48.8	-0.1
WKZ	**Wanaka**	**1.16**	**78**	PN	Pn	20 19 51.8	-0.2
WKZ	**Wanaka**	**1.16**	**78**	Pn	Pn	20 19 51.8	-0.1
PYZ	**Puysegur Point**	**1.21**	**206**	PN	Pn	20 19 52.9	+0.4
PYZ	**Puysegur Point**	**1.21**	**206**	Pn	Pn	20 19 52.9	+0.4
EAZ	**Earnscleugh**	**1.34**	**97**	PN	Pn	20 19 53.9	-0.2
EAZ	**Earnscleugh**	**1.34**	**97**	Pn	Pn	20 19 53.9	-0.2
JCZ	**Jackson Bay**	**1.38**	**44**	⇑PN	Pn	20 19 54.0	-0.9
JCZ	**Jackson Bay**	**1.38**	**44**	⇑Pn	Pn	20 19 54.0	-0.9
TUZ	**Tuapeka**	**1.78**	**120**	⇓PN	Pn	20 19 59.3	-0.3
TUZ	**Tuapeka**	**1.78**	**120**	⇓Pn	Pn	20 19 59.3	-0.3
APZ	**The Paps**	**1.80**	**168**	PN	Pn	20 19 59.5	-0.4
APZ	**The Paps**	**1.80**	**168**	Pn	Pn	20 19 59.5	-0.4
SYZ	**Scrubby Hill**	**1.89**	**141**	PN	Pn	20 20 00.6	-0.4
SYZ	**Scrubby Hill**	**1.89**	**141**	Pn	Pn	20 20 00.6	-0.4
LBZ	**Lake Benmore**	**2.08**	**72**	PN	Pn	20 20 01.9	-1.8
LBZ	**Lake Benmore**	**2.08**	**72**	Pn	Pn	20 20 01.9	-1.8
FOZ	**Fox Glacier**	**2.22**	**48**	PN	Pn	20 20 04.7	-0.8
FOZ	**Fox Glacier**	**2.22**	**48**	Pn	Pn	20 20 04.7	-0.8
ODZ	**Otahua Downs**	**2.28**	**90**	PN	Pn	20 20 04.8	-1.5
ODZ	**Otahua Downs**	**2.28**	**90**	Pn	Pn	20 20 04.8	-1.5
RPZ	**Rata Peaks**	**2.94**	**64**	PN	Pn	20 20 12.5	-2.5
RPZ	**Rata Peaks**	**2.94**	**64**	Pn	Pn	20 20 12.5	-2.5
WVZ	**Waitaha Valley**	**3.11**	**51**	PN	Pn	20 20 14.7	-2.6
WVZ	**Waitaha Valley**	**3.11**	**51**	Pn	Pn	20 20 14.8	-2.6
MQZ	**McQueen's Vall**	**3.99**	**72**	PN	Pn	20 20 26.5	-2.7
MQZ	**McQueen's Vall**	**3.99**	**72**	Pn	Pn	20 20 26.5	-2.7
LTZ	**Lake Taylor**	**4.18**	**58**	PN	Pn	20 20 28.5	-3.4
LTZ	**Lake Taylor**	**4.18**	**58**	Pn	Pn	20 20 28.5	-3.4
DSZ	**Denniston Nort**	**4.61**	**45**	PN	Pn	20 20 34.8	-2.9
DSZ	**Denniston Nort**	**4.61**	**45**	Pn	Pn	20 20 34.8	-3.0
THZ	**Tophouse**	**5.18**	**52**	PN	Pn	20 20 42.1	-3.5
THZ	**Tophouse**	**5.18**	**52**	Pn	Pn	20 20 42.1	-3.5
QRZ	**Quartz Range**	**5.66**	**43**	PN	Pn	20 20 50.3	-1.7
NNZ	**Nelson**	**5.82**	**51**	PN	Pn	20 20 51.6	-2.4
TUWZ	**Tuamarina**	**5.99**	**55**	PN	Pn	20 20 55.3	-1.2

*CSEM **24** 20:20:16.9, 38°14N×20°35E, h5km, MD3.5, After ATH*
ATH 24 20:20:16.9, 38°14N×20°35E, h5km, MD3.5/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.19**	**79**	*e*PG	Pg	20 20 21.2	+0.4
VLS				*e*SG	Sg	20 20 24.5	+1.2
VLS	**Valsamata**	**0.19**	**79**	*e*Pg	Pg	20 20 21.2	+0.4
VLS				*e*Sg	Sg	20 20 24.5	+1.2
RLS	**Riolos of Patr**	**0.89**	**95**	*e*PB	Pg	20 20 34.1	+0.2
RLS				*e*SB	Sb	20 20 46.4	-0.5
RLS	**Riolos of Patr**	**0.89**	**95**	*e*Pb	Pg	20 20 34.1	+0.2
RLS				*e*Sb	Sb	20 20 46.4	-0.5
EFP	**Efpalio**	**1.26**	**76**	*e*PB	Pg	20 20 41.0	0.0
EFP				*e*SB	Sn	20 20 58.5	+0.1
EFP	**Efpalio**	**1.26**	**76**	*e*Pb	Pg	20 20 41.0	0.0
EFP				*e*Sb	Sn	20 20 58.5	+0.1
EVR	**Evrytania**	**1.38**	**55**	*e*PB	Pg	20 20 43.5	-0.1
EVR	**Evrytania**	**1.38**	**55**	*e*Pb	Pg	20 20 43.5	-0.1
ITM	**Ithomi**	**1.58**	**127**	*e*PB	Pb	20 20 46.7	+0.1
ITM				*e*SB	Sg	20 21 08.9	+1.2
ITM	**Ithomi**	**1.58**	**127**	*e*Pb	Pb	20 20 46.7	+0.1
ITM				*e*Sb	Sg	20 21 08.9	+1.2
GUR	**Goura**	**1.59**	**97**	*e*PB	Pg	20 20 47.2	-0.3
GUR				*e*SB	Sg	20 21 09.0	+0.8
GUR	**Goura**	**1.59**	**97**	*e*Pb	Pg	20 20 47.2	-0.3
GUR				*e*Sb	Sg	20 21 09.0	+0.8
THL	**Klokotos Trika**	**1.93**	**42**	*e*PN	Pb	20 20 53.1	+0.6
THL	**Klokotos Trika**	**1.93**	**42**	*e*Pn	Pb	20 20 53.1	+0.6
LKR	**Lokris**	**2.14**	**75**	*e*PN	Pb	20 20 56.2	0.0
LKR	**Lokris**	**2.14**	**75**	*e*Pn	Pb	20 20 56.2	0.0
DID	**Didima**	**2.37**	**105**	*e*PN	Pb	20 20 59.2	-1.0
DID	**Didima**	**2.37**	**105**	*e*Pn	Pb	20 20 59.2	-1.0

IDC 24 20:23:40.4±32.0, 22°70S×177°77W, h381km±273km, mb3.3/4, mb1 3.5/4, mb1mx3.1/17, mbtmp3.3/4, Error ellipse: s-maj=221.9km s-min=91.0km az=121.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.55**	**268**	P	P	20 29 46.7	+0.3
	3.9nm,0.6s,baz=96,slow=8.1,SNR=7.6						
ASAR	**Alice Springs**	**44.27**	**259**	P	P	20 31 14.5	+0.3
	1.6nm,0.7s,baz=95,slow=7.6,SNR=5.7						
ASAR				PcP	PcP	20 32 51.3	+0.3
	0.3nm,0.6s,baz=105,slow=3.7,SNR=4.8						
WRA	**Warramunga Arr**	**44.55**	**264**	P	P	20 31 15.8	-0.7
	0.6nm,0.3s,baz=100,slow=8.0,SNR=25						
CMAR	**Chiang Mai Arr**	**91.05**	**289**	P	P	20 36 03.3	+0.3
	0.2nm,0.5s,baz=104,slow=3.8,SNR=2.9						
ARCES	**ARCESS Array B**	**131.11**	**349**	PKP	PKPdf	20 42 05.7	-1.1
	1.8nm,1.0s,baz=11,slow=0.9,SNR=4.2						
AKASG	**Malin Array Be**	**145.02**	**330**	PKPbc	PKPdf	20 42 30.6	-2.0
	0.6nm,0.4s,baz=45,slow=4.3,SNR=6.2						
GERES	**GERESS Array B**	**152.36**	**344**	PKPbc	PKPbc	20 42 53.6	+1.8
	0.3nm,0.7s,baz=350,slow=5.4,SNR=2.9						

TRN 24 20:25:19.9, 13°88N×60°44W, h29km, MD3.5, M3.0(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**0.52**	**251**	*e*P	Pn	20 25 31.2	-0.2
MCLT				*e*S	Sn	20 25 40.6	+1.4
SLB	**Belfond**	**0.58**	**265**	*e*P	Pn	20 25 33.9	+1.5
SLB				*e*S	Sn	20 25 43.1	+2.1
MVM	**Montagne Vaucl**	**0.80**	**327**	*e*P	Pb	20 25 36.0	+0.6
MVM				*e*S	Sn	20 25 48.2	+1.8
BIM	**Bigot**	**0.88**	**316**	*e*P	Pb	20 25 37.4	+0.7
BIM				*e*S	Sn	20 25 49.9	+1.6
SVV	**Soufriere Volc**	**0.94**	**233**	*e*P	Pb	20 25 38.2	+0.6
SVV				*e*S	Sb	20 25 51.6	+1.8
SVB	**Belmont**	**0.99**	**233**	*e*P	Pb	20 25 39.4	+0.8
SVB				*e*S	Sb	20 25 52.9	+1.5
FDF	**Fort de France**	**1.09**	**321**	*e*P	Pb	20 25 40.6	+0.3
FDF				*e*S	Sb	20 25 55.6	+1.3

*ISCJB **24** 20:41:29.1±0.6, 30°2N±0°1×67°49E±0°06, h17km, mb3.5/8, Error ellipse: s-maj=15.6km s-min=6.6km az=9.9*
*IDC **24** 20:41:29.0±2.4, 30°20N×67°49E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.5/30, mbtmp3.6/9, Error ellipse: s-maj=60.0km s-min=23.6km az=141.0*
ISC 24 20:41:30.7±0.9, 30°1N±0°2×67°50E±0°08, h17km, n21, σ1°16/21, mb3.5/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOLN	**Koldanda**	**14.29**	**95**	*e*P	**Pn**	**20 44 53.1**	**+0.6**
	8.6nm,0.4s						
DANN	**Dangsing**	**14.31**	**93**	*e*P	**Pn**	**20 44 50.9**	**-1.9**
	23nm,0.6s						
GKN	**Gorkha**	**15.14**	**94**	*e*P	**Pn**	**20 45 02.7**	**-1.2**
	6.5nm,0.3s						
KKN	**Kakani**	**15.74**	**94**	*e*P	**Pn**	**20 45 10.4**	**-1.5**
GUN	**Gumba**	**16.23**	**93**	*e*P	**Pn**	**20 45 17.7**	**-0.6**
	60nm,0.6s						
JIRN	**Jiri**	**16.55**	**94**	*e*P	**Pn**	**20 45 22.6**	**+0.1**
	24nm,0.7s						
RAMN	**Ramite**	**17.08**	**96**	*e*P	**P**	**20 45 31.0**	**+0.3**
	20nm,0.5s						
RDF	**Al-Radifah**	**17.41**	**271**	*e*P	**Pn**	**20 45 31.4**	**-1.5**
RDF				AMb	AMB	20 45 37.4	
	comp=Z,14nm,1.0s						
MIB	**Mutribah**	**17.48**	**274**	*e*P	**P**	**20 45 34.4**	**-0.4**
MIB				AMb	AMB	20 45 36.6	
	comp=Z,11nm,0.5s						
NAY	**Al-Naaiem**	**17.63**	**272**	*e*P	**Pn**	**20 45 34.4**	**-1.2**
NAY				AMb	AMB	20 45 38.4	
	comp=Z,4.2nm,0.5s						
ODAN	**Odare**	**17.78**	**96**	*e*P	**P**	**20 45 39.8**	**+1.3**
	comp=Z,26nm,0.8s						
TAPN	**Taplejung**	**17.94**	**94**	*e*P	**P**	**20 45 39.9**	**-0.3**
	comp=Z,13nm,0.7s						
MKAR	**Makanchi Array**	**20.22**	**30**	P	**P**	**20 46 04.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=207,slow=11,SNR=22						
AKTO	**Aktyubinsk**	**21.50**	**343**	P	**P**	**20 46 18.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=157,slow=14,SNR=3.2						
KURK	**Kurchatov**	**22.19**	**19**	P	**P**	**20 46 23.9**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=212,slow=9.0,SNR=6.7						
BVAR	**Borovoye Array**	**22.98**	**4**	P	**P**	**20 46 33.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=168,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**26.91**	**23**	P	**P**	**20 47 12.2**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=226,slow=10,SNR=12						
GERES	**GERESS Array B**	**44.53**	**311**	P	**P**	**20 49 42.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=101,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**62.69**	**270**	P	**P**	**20 51 55.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=60,slow=6.2,SNR=13						
INK	**Inuvik**	**80.62**	**8**	P	**P**	**20 53 42.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=13,slow=6.6,SNR=5.0						
YKA	**Yellowknife Ar**	**87.69**	**1**	P	**P**	**20 54 19.3**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=349,slow=4.8,SNR=8.1						

*IDC **24** 20:44:58.1±0.9, 13°36N×120°52E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/22, mbtmp4.2/8, MS2.8/3, Ms1 2.8/3, ms1mx2.6/35, Error ellipse: s-maj=19.7km s-min=10.4km az=112.0*
*MAN **24** 20:44:59, 13°51N×120°38E, h17km, mb4.9, ML3.8, MS3.8 MAN INTENSITY I - PALUAN OCC. MINDORO.*
*ISCJB **24** 20:45:01.7±0.3, 13°42N±0°04×120°51E±0°05, h33km, mb4.5/31, MS2.7/1, Error ellipse: s-maj=7.1km s-min=5.7km az=156.7*
*NEIC **24** 20:45:03.1±1.2, 13°53N×120°82E, h40km±12km, mb4.6/23, Error ellipse: s-maj=12.6km s-min=6.1km az=58.0*
NEIC Felt [I PIVS] at Paluan.
ISC 24 20:45:03.0±0.7, 13°52N±0°05×120°7E±0°1, h35km, n71, σ0°78/60, mb4.5/31, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.51**	**295**	*e*P	Pn	20 45 07.2	-6.5
TGY	**Tagaytay City**	**0.62**	**20**	Pg	**Pn**	**20 45 14.3**	**-1.1**
	338nm,0.3s,baz=230,slow=4.2,SNR=24						
TGY				Lg	Lg	20 45 26.1	
	746nm,0.3s,baz=258,slow=20,SNR=21						
TGY	**Tagaytay City**	**0.62**	**20**	Pg	**Pn**	**20 45 14.3**	**-1.1**
TGY				Lg	Lg	20 45 26.1	
TGY	**Tagaytay City**	**0.62**	**20**	⇓*i*P	**Pn**	**20 45 14.4**	**-1.1**
BUSP	**Coron**	**1.59**	**199**	*e*P	Pn	20 45 25.8	-2.9
OTRP	**Odiongan**	**1.71**	**132**	*e*P	**Pn**	**20 45 32.2**	**+1.8**
GQP	**Guinayangan**	**1.73**	**77**	⇑*e*P	Pn	20 45 33.6	+3.0
GQP				*e*S	Sn	20 46 00.0	+8.6
AUQP	**San Andres**	**1.92**	**96**	*e*P	Pn	20 45 37.4	+4.2
PCPH	**Palayan**	**2.07**	**10**	⇑*e*P	**Pn**	**20 45 36.1**	**+0.8**
BALP	**Baler**	**2.36**	**21**	*e*P	Pn	20 45 42.4	+3.1
SCZP	**Santa Cruz**	**2.38**	**341**	*e*P	Pn	20 45 36.4	-3.2
ENPP	**El Nido**	**2.62**	**209**	*e*P	Pn	20 45 39.9	-3.0
CUYO	**Cuyo Island**	**2.67**	**174**	*e*P	**Pn**	**20 45 42.0**	**-1.6**
CAUP	**Cauayan**	**3.57**	**17**	*e*P	Pn	20 45 59.7	+3.7
DAV	**Davao City (W)**	**8.00**	**143**	LR	LR	20 50 13.5	
	comp=Z,108nm,19.6s,baz=61,slow=40						
JOW	**Kugami**	**15.02**	**27**	LR	LR	20 53 26.6	
	comp=Z,24nm,19.8s,baz=62,slow=33						
ENH	**Enshi**	**19.64**	**330**	P	**Pn**	**20 49 30.5**	**+0.1**
	4.5nm,1.0s						
CM31	**Chiang Mai Arr**	**21.49**	**286**	*e*P	**P**	**20 49 50.1**	**+1.1**
	4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.49**	**286**	P	**P**	**20 49 50.9**	**+1.9**
	4.2nm,0.9s,baz=99,slow=8.3,SNR=19						
CMAR	**Chiang Mai Arr**	**21.49**	**286**	P	**P**	**20 49 50.9**	**+1.9**
KSRS	**Korea Array**	**24.69**	**14**	LR	LR	20 59 34.8	
	comp=Z,27nm,20.5s,baz=62,slow=35						
TAPN	**Taplejung**	**33.73**	**299**	*e*P	**P**	**20 51 41.9**	**+0.2**
	35nm,1.6s						
TAPN	**Taplejung**	**33.73**	**299**	*e*P	**P**	**20 51 41.9**	**+0.2**
	35nm,1.6s						
ODAN	**Odare**	**33.86**	**298**	*e*P	**P**	**20 51 43.2**	**+0.4**
	13nm,0.8s						
ODAN	**Odare**	**33.86**	**298**	*e*P	**P**	**20 51 43.2**	**+0.4**
	13nm,0.8s						
RAMN	**Ramite**	**34.56**	**298**	*e*P	**P**	**20 51 49.5**	**+0.6**
	13nm,0.7s						
RAMN	**Ramite**	**34.56**	**298**	*e*P	**P**	**20 51 49.5**	**+0.6**
	13nm,0.7s						
JIRN	**Jiri**	**35.11**	**299**	*e*P	**P**	**20 51 53.6**	**-0.2**
	18nm,0.7s						
JIRN	**Jiri**	**35.11**	**299**	*e*P	**P**	**20 51 53.6**	**-0.2**
	18nm,0.7s						
GUN	**Gumba**	**35.45**	**299**	*e*P	**P**	**20 51 56.8**	**+0.2**
	20nm,0.8s						
GUN	**Gumba**	**35.45**	**299**	*e*P	**P**	**20 51 56.8**	**+0.2**
	20nm,0.8s						
PKI	**Pulchoki**	**35.75**	**299**	*e*P	**P**	**20 51 59.0**	**-0.2**
	14nm,0.8s						
PKI	**Pulchoki**	**35.75**	**299**	*e*P	**P**	**20 51 59.0**	**-0.2**
	14nm,0.8s						
WRA	**Warramunga Arr**	**35.85**	**158**	P	**P**	**20 51 58.6**	**-1.1**
	4.6nm,0.4s,baz=335,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**35.85**	**158**	P	**P**	**20 51 58.6**	**-1.1**
KKN	**Kakani**	**35.92**	**299**	*e*P	**P**	**20 52 00.5**	**0.0**
	12nm,0.9s						
KKN	**Kakani**	**35.92**	**299**	*e*P	**P**	**20 52 00.5**	**0.0**
	12nm,0.9s						
DMN	**Daman**	**36.02**	**299**	*e*P	**P**	**20 52 01.5**	**+0.1**
	22nm,1.0s						
DMN	**Daman**	**36.02**	**299**	*e*P	**P**	**20 52 01.5**	**+0.1**
	22nm,1.0s						
ULN	**Ulaanbaatar**	**36.09**	**344**	*e*P	**P**	**20 52 01.7**	**+0.1**
	1.0nm,0.5s						
SONM	**Songino Array**	**36.24**	**344**	P	**P**	**20 52 03.1**	**+0.3**
	1.8nm,0.7s,baz=150,slow=9.0,SNR=16						
SONM	**Songino Array**	**36.24**	**344**	P	**P**	**20 52 03.1**	**+0.3**
GKN	**Gorkha**	**36.53**	**299**	*e*P	**P**	**20 52 05.3**	**-0.4**
	15nm,0.9s						
GKN	**Gorkha**	**36.53**	**299**	*e*P	**P**	**20 52 05.3**	**-0.4**
	15nm,0.9s						
KOLN	**Koldanda**	**37.35**	**298**	*e*P	**P**	**20 52 12.9**	**+0.2**
	15nm,0.8s						
KOLN	**Koldanda**	**37.35**	**298**	*e*P	**P**	**20 52 12.9**	**+0.2**
	15nm,0.8s						
DANN	**Dangsing**	**37.37**	**299**	*e*P	**P**	**20 52 12.9**	**0.0**
	24nm,0.9s						
DANN	**Dangsing**	**37.37**	**299**	*e*P	**P**	**20 52 12.9**	**0.0**
	24nm,0.9s						
AS31	**Alice Springs**	**39.14**	**161**	*e*P	**P**	**20 52 27.4**	**-0.1**
ASAR	**Alice Springs**	**39.14**	**161**	P	**P**	**20 52 27.4**	**-0.1**
	6.6nm,0.6s,baz=338,slow=6.7,SNR=62						
ASAR	**Alice Springs**	**39.14**	**161**	P	**P**	**20 52 27.4**	**-0.1**
MK31	**Makanchi Array**	**46.19**	**324**	*e*P	**P**	**20 53 25.4**	**+0.9**
MKAR	**Makanchi Array**	**46.19**	**324**	P	**P**	**20 53 25.8**	**+1.3**
	1.1nm,0.7s,baz=131,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**46.19**	**

AKTO	**Aktyubinsk**	**33.47 115**	LR	LR	21 12 07.6	
	comp=Z,51nm,18.3s,baz=131,slow=44					
ZALV	**Zalesovo Beam**	**35.46 86**	P	P	20 55 04.2	+5.2
	comp=Z,1.1nm,0.8s,baz=324,slow=4.2,SNR=4.0					
ILAR	**Eielson Array**	**36.26 341**	P	P	20 55 17.9	+12
	comp=Z,0.3nm,1.0s,baz=6.2,slow=9.2,SNR=4.2					
KURK	**Kurchatov**	**37.25 93**	P	P	20 55 19.7	+5.5
	comp=Z,0.4nm,0.2s,baz=337,slow=7.6,SNR=1.7					
MKAR	**Makanchi Array**	**41.73 92**	P	P	20 55 57.5	+5.8
	comp=Z,0.9nm,0.9s,baz=340,slow=6.8,SNR=7.5					
SONM	**Songino Array**	**45.54 69**	P	P	20 56 29.1	+6.6
	comp=Z,0.1nm,0.3s,baz=344,slow=4.7,SNR=2.8					
BBB	**Bella Bella**	**46.92 323**	LR	LR	21 18 32.9	
	comp=Z,124nm,20.7s,baz=174,slow=38					
TKL	**Tuckaleechee C**	**55.48 279**	LR	LR	21 21 55.8	
	comp=Z,89nm,18.8s,baz=307,slow=36					
KSRS	**Korea Array**	**59.41 52**	LR	LR	21 24 58.3	
	comp=Z,35nm,19.1s,baz=25,slow=38					

*IDC **24** 21:03:47.3±2.4, 43°.28N×105°.22W, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/47, Error ellipse: s-maj=51.8km s-min=8.0km az=154.0*

*ISCJB **24** 21:03:49.6±0.2, 43°.66N±0°.02×105°.27W±0°.02, h0km, mb3.5/2, Error ellipse: s-maj=2.6km s-min=2.2km az=172.1*

*NEIC **24** 21:03:50.7±0.3, 43°.69N×105°.20W, h0km, ML3.3, Error ellipse: s-maj=4.2km s-min=3.7km az=148.0, Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 24 21:03:50.0±0.6, 43°.65N±0°.02×105°.31W±0°.02, h0km, n94, σ1§57/128, 19C-20D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.30**	**215**	⇓P	**Pg**	**21 03 57.0**	**+1.2**
	baz=0.4,SNR=1000						
I23A	**Meade Ranch, G**	**0.33**	**341**	⇓P	**Pg**	**21 03 57.5**	**+1.2**
	baz=0.3,SNR=44						
I24A	**Kuemmerle Ranc**	**0.54**	**67**	⇑P	**Pg**	**21 04 00.7**	**+0.4**
	baz=0.4,SNR=670						
J24A	**Dixon Ranch, L**	**0.57**	**124**	⇑P	**Pg**	**21 04 01.2**	**+0.2**
	baz=0.5						
J22A	**Midwest**	**0.88**	**255**	⇓P	**Pg**	**21 04 07.2**	**+0.3**
	baz=1.0						
J22A				⇓S	**Sg**	**21 04 19.6**	**+1.2**
	baz=1.0						
I22A	**9 Mile Ranch,**	**0.88**	**286**	⇑P	**Pg**	**21 04 07.5**	**+0.5**
	baz=0.9						
H23A	**Clabaugh Cattl**	**0.91**	**356**	⇓P	**Pg**	**21 04 07.4**	**-0.1**
	baz=0.9,SNR=38						
K24A	**Anderson Ranch**	**1.00**	**158**	⇑P	**Pg**	**21 04 09.1**	**-0.1**
	baz=1.0						
K24A				⇓S	**Sb**	**21 04 22.9**	**-1.1**
	baz=1.0						
RSSD	**Black Hills**	**1.03**	**63**	*e*Pg	**Pg**	**21 04 09.3**	**-0.5**
H22A	**Clearmont**	**1.20**	**322**	P	**Pg**	**21 04 13.4**	**+0.3**
	baz=1.2,SNR=122						
H22A				⇓S	**Sb**	**21 04 30.3**	**+0.3**
	baz=1.2						
H24A	**Dirks Ranch, A**	**1.22**	**26**	P	**Pg**	**21 04 12.6**	**-0.9**
	baz=1.2,SNR=283						
H24A				⇓S	**Sg**	**21 04 29.9**	**+0.5**
	baz=1.2						
K22A	**Casper**	**1.34**	**222**	⇑Pb	**Pg**	**21 04 15.1**	**-0.5**
	baz=1.4						
I21A	**Big Trails, Te**	**1.45**	**277**	⇓Pb	**Pn**	**21 04 16.9**	**-0.6**
	baz=1.5						
G23A	**Biddle**	**1.55**	**358**	⇓Pb	**Pn**	**21 04 18.7**	**-0.3**
	baz=1.5,SNR=249						
L23A	**Garrett**	**1.56**	**191**	⇑Pb	**Pn**	**21 04 19.0**	**-0.3**
	baz=1.6						
L23A				⇑Sb	**Sg**	**21 04 40.6**	**+0.4**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.58**	**309**	⇓Pb	**Pn**	**21 04 19.9**	**+0.4**
	baz=1.6,SNR=42						
J21A	**Lysite**	**1.58**	**260**	⇑Pb	**Pn**	**21 04 19.3**	**-0.3**
	baz=1.7						
J21A				⇑Sb	**Sn**	**21 04 41.0**	**+0.2**
	baz=1.7						
L24A	**Wheatland**	**1.63**	**170**	⇑Pb	**Pn**	**21 04 20.2**	**+0.1**
	baz=1.7						
L24A				⇓Sb	**Sg**	**21 04 42.4**	**0.0**
	baz=1.7						
G22A	**Birney**	**1.72**	**336**	Pb	**Pn**	**21 04 21.9**	**+0.6**
	baz=1.7,SNR=173						
K21A	**Alcova**	**1.75**	**235**	Pb	**Pb**	**21 04 22.5**	**-0.6**
	baz=1.8,SNR=1000						
K21A				⇓Sb	**Sg**	**21 04 46.3**	**+0.2**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.79**	**146**	⇓Pb	**Pb**	**21 04 23.5**	**-0.3**
	baz=1.8,SNR=11						
G24A	**Alzada**	**1.79**	**21**	⇑Pb	**Pn**	**21 04 23.0**	**+0.7**
	baz=1.7,SNR=47						
L22A	**Ellis Ranch, M**	**1.82**	**207**	⇑Pb	**Pb**	**21 04 23.6**	**-0.7**
	baz=1.9,SNR=68						
L22A				⇓Sb	**Sb**	**21 04 48.0**	**+0.3**
	baz=1.9						
K26A	**Motz Farm, Whi**	**1.83**	**121**	⇑Pb	**Pb**	**21 04 23.4**	**-0.9**
	baz=1.8,SNR=21						
J20A	**Shoshoni**	**2.04**	**263**	⇑Pb	**Pb**	**21 04 28.2**	**+0.2**
	baz=2.1,SNR=92						
I20A	**Worland**	**2.06**	**279**	⇓Pb	**Pb**	**21 04 27.5**	**-0.9**
	baz=2.1,SNR=52						
F23A	**Volborg**	**2.07**	**358**	Pb	**Pn**	**21 04 26.6**	**+0.5**
	baz=2.0,SNR=190						
F23A				⇑Sb	**Sb**	**21 04 54.9**	**0.0**
	baz=2.0						
G21A	**Lodge Grass**	**2.08**	**320**	Pb	**Pn**	**21 04 27.2**	**+0.9**
	baz=2.1,SNR=35						
M23A	**Laramie**	**2.20**	**188**	⇓Pb	**Pb**	**21 04 30.3**	**-0.6**
	baz=2.3,SNR=42						
M24A	**Cheyenne**	**2.21**	**170**	⇑Pb	**Pb**	**21 04 30.4**	**-0.6**
	baz=2.2,SNR=186						
L21A	**Rawlins**	**2.27**	**223**	⇓Pb	**Pb**	**21 04 30.7**	**-1.2**
	baz=2.3						
F24A	**Ekalaka**	**2.28**	**15**	⇓Pb	**Pb**	**21 04 30.9**	**-1.2**
	baz=2.2,SNR=43						
L26A	**Underwood Farm**	**2.30**	**134**	⇑Pb	**Pb**	**21 04 31.9**	**-0.6**
	baz=2.3						
PHWY	**Pilot Hill**	**2.35**	**183**	*e*Pn	**Pn**	**21 04 31.1**	**+0.9**
PHWY				*e*S	**Sb**	**21 05 03.4**	**+0.3**
M25A	**Palm-Egli Farm**	**2.40**	**157**	⇓Pb	**Pb**	**21 04 32.5**	**-1.7**
	baz=2.4,SNR=22						
RWWY	**Rawlins**	**2.41**	**216**	*e*Pn	**Pb**	**21 04 32.9**	**-1.5**
RWWY				*e*S	**Sg**	**21 05 06.4**	**-1.0**
K20A	**Yellowstone Ra**	**2.43**	**247**	⇑Pb	**Pb**	**21 04 33.5**	**-1.2**
	baz=2.5						
M22A	**Cedar Creek Ra**	**2.44**	**203**	Pb	**Pb**	**21 04 34.0**	**-1.0**
	baz=2.5,SNR=351						
K27A	**Flueckinger Fa**	**2.44**	**112**	Pb	**Pb**	**21 04 33.1**	**-1.7**
	baz=2.4,SNR=22						
M21A	**Separation Pea**	**2.54**	**217**	Pb	**Pb**	**21 04 35.1**	**-1.5**
	baz=2.6,SNR=86						
K19A	**Absolon Red Bu**	**2.71**	**253**	⇑Pb	**Pb**	**21 04 38.5**	**-1.1**
	baz=2.8						
RLMT	**Red Lodge**	**3.19**	**299**	*e*Pn	**Pn**	**21 04 42.5**	**+0.8**
RLMT				*e*S	**Sn**	**21 05 23.4**	**+2.8**
BW06	**Boulder Array**	**3.23**	**256**	*e*Pn	**Pn**	**21 04 43.2**	**+1.0**
BW06				*e*S	**Sb**	**21 05 30.3**	**+2.0**
PDAR	**Pinedale Array**	**3.23**	**256**	Pn	**Pn**	**21 04 43.0**	**+0.9**
	5.4nm,0.3s,baz=78,slow=18,SNR=92						
PDAR				Pg	**Pb**	**21 04 48.1**	**-0.2**
	23nm,0.3s,baz=65,slow=19,SNR=121						
PDAR				Lg	Lg	21 05 28.2	
	31nm,0.3s,baz=70,slow=32,SNR=11						
PDAR	**Pinedale Array**	**3.23**	**256**	Pn	**Pn**	**21 04 43.0**	**+0.9**
PDAR				Pg	**Pb**	**21 04 48.1**	**-0.2**
PDAR				Lg	Lg	21 05 28.2	
PD02	**Pinedale Array**	**3.23**	**256**	*e*Pn	**Pn**	**21 04 43.2**	**+1.0**
PD02				*e*S	**Sb**	**21 05 26.4**	**-2.0**
PD01	**Pinedale Array**	**3.24**	**256**	*e*Pn	**Pn**	**21 04 43.5**	**+1.1**
PD01				*e*S	**Sb**	**21 05 26.0**	**-2.8**
OGNE	**Ogallala**	**3.64**	**137**	*e*Pn	**Pn**	**21 04 49.1**	**+1.5**
GCMT	**Greycliff**	**3.77**	**306**	*e*Pn	**Pn**	**21 04 50.7**	**+1.1**
GCMT				*e*S	**Sg**	**21 05 50.1**	**-1.0**
LKWY	**Lake**	**3.78**	**286**	*e*Pn	**Pn**	**21 04 51.9**	**+2.1**
LKWY				*e*S	**Sb**	**21 05 44.3**	**+0.2**
LOHW	**Long Hollow**	**3.84**	**271**	*e*Pn	Pn	21 04 53.9	+3.2
ISCO	**Idaho Springs**	**3.85**	**183**	*e*Pn	**Pn**	**21 04 52.1**	**+1.2**
ISCO				*e*S	**Sb**	**21 05 49.8**	**+3.3**
FLWY	**Flagg Ranch**	**3.92**	**278**	*e*Pn	**Pn**	**21 04 53.8**	**+2.2**
FLWY				*e*S	**Sb**	**21 05 46.9**	**-1.3**
MOOW	**Moose Ponds**	**3.94**	**273**	*e*Pn	**Pn**	**21 04 53.2**	**+1.2**
SNOW	**Snow King Moun**	**3.96**	**269**	*e*Pn	Pn	21 04 56.0	+3.7
REDW	**Red Top Meadow**	**4.04**	**268**	*e*Pn	**Pn**	**21 04 55.5**	**+2.2**
REDW				*e*Pg	**Pg**	**21 05 08.5**	**+1.1**
REDW				*e*S	**Sg**	**21 05 57.6**	**-2.3**
YFT	**Old Faithful**	**4.06**	**283**	*e*Pn	**Pb**	**21 05 01.1**	**-1.5**
YFT				*e*S	**Sg**	**21 05 58.9**	**-1.6**
TPAW	**Teton Pass**	**4.10**	**270**	*e*Pn	**Pn**	**21 04 55.9**	**+1.7**
TPAW				*e*Pg	**Pg**	**21 05 09.1**	**+0.5**
YMR	**Madison River**	**4.19**	**286**	*e*Pn	**Pn**	**21 04 58.2**	**+2.8**
RRI2	**Red Ridge**	**4.38**	**268**	*e*Pn	**Pn**	**21 04 59.9**	**+1.8**
QLMT	**Earthquake Lak**	**4.55**	**287**	*e*Pn	**Pn**	**21 05 01.4**	**+1.1**
QLMT				*e*S	**Sg**	**21 06 15.4**	**-0.8**
DGMT	**Dagmar**	**4.88**	**9**	*e*Pn	**Pn**	**21 05 06.3**	**+1.6**
DGMT				*e*S	**Sg**	**21 06 23.9**	**-2.9**
BOZ	**Bozeman (W)**	**4.93**	**296**	*e*Pn	**Pn**	**21 05 06.3**	**+0.8**
BOZ				*e*S	**Sb**	**21 06 19.0**	**+1.8**
HWUT	**Hardware Ranch**	**5.04**	**248**	*e*Pn	**Pn**	**21 05 08.1**	**+1.0**
	12nm,0.5s						
EGMT	**Eagleton**	**5.36**	**326**	*e*Pn	**Pn**	**21 05 12.4**	**+1.0**
	14nm,0.5s						
DAU	**Daniels Canyon**	**5.48**	**236**	*e*Pn	**Pn**	**21 05 15.6**	**+2.4**
	23nm,0.6s						
DLMT	**Dillon**	**5.48**	**291**	*e*Pn	**Pn**	**21 05 14.3**	**+1.2**
DLMT				*e*S	**Sg**	**21 06 46.4**	**-0.2**
JLU	**Jordanelle**	**5.49**	**238**	*e*Pn	**Pn**	**21 05 14.5**	**+1.2**
	9.9nm,0.5s						
JLU				*e*S	**Sg**	**21 06 40.4**	**-5.9**
LRM	**Limekiln Ridge**	**5.53**	**296**	*e*Pn	**Pn**	**21 05 15.6**	**+1.8**
	28nm,0.4s						
LRM				*e*S	**Sg**	**21 06 46.6**	**-1.0**
HRY	**Holter Researc**	**5.53**	**306**	*e*Pn	**Pn**	**21 05 15.1**	**+1.4**
	12nm,0.4s						
MCMT	**McKenzie Canyo**	**5.54**	**285**	*e*Pn	Pn	21 05 20.2	+6.3
	2.3nm,0.4s						
HVU	**Hansel Valley**	**5.81**	**254**	*e*Pn	**Pn**	**21 05 18.9**	**+1.4**
	6.8nm,0.5s						
HVU				*e*S	**Sg**	**21 06 50.8**	**-5.7**
PV04	**Paradox Valley**	**5.91**	**209**	*e*Pn	**Pn**	**21 05 20.9**	**+1.8**
MPU	**Maple Canyon**	**5.96**	**235**	*e*Pn	**Pn**	**21 05 21.9**	**+2.3**
	8.6nm,0.6s						
SRU	**San Rafael**	**5.99**	**223**	*e*Pn	**Pn**	**21 05 20.8**	**+0.6**
	15nm,0.5s						
SRU				*e*S	Sb	21 06 55.0	+7.2
TMUT	**Trail Mountain**	**6.21**	**228**	*e*Pn	**Pn**	**21 05 25.3**	**+2.1**
	12nm,0.4s						
TMUT				*e*S	**Sg**	**21 07 04.9**	**-4.5**
ECSD	**EROS Data Cent**	**6.31**	**86**	*e*Pn	**Pn**	**21 05 23.8**	**-0.4**
	8.6nm,0.4s						
ECSD				*e*S	**Sg**	**21 07 12.5**	**0.0**
CBKS	**Cedar Bluff**	**6.40**	**137**	*e*Pn	**Pn**	**21 05 26.4**	**+0.7**
	15nm,0.4s						
CBKS				*e*Pg	**Pg**	**21 05 51.6**	**-1.1**
CBKS				*e*S	**Sg**	**21 07 16.8**	**+1.2**
CHMT	**Chamberlain Mo**	**6.48**	**303**	*e*Pn	**Pn**	**21 05 27.7**	**+0.9**
	2.3nm,0.4s						
CHMT				*e*S	**Sg**	**21 07 14.4**	**-3.8**
DUG	**Dugway**	**6.57**	**241**	*e*Pn	**Pn**	**21 05 28.6**	**+0.5**
	5.0nm,0.5s						
HLID	**Hailey**	**6.61**	**272**	*e*Pn	**Pn**	**21 05 29.1**	**+0.6**
	3.1nm,0.8s						
MSU	**Marysvale**	**7.29**	**228**	*e*Pn	**Pn**	**21 05 40.0**	**+1.9**
	10nm,0.9s						
YBMT	**Yellow Bay**	**7.40**	**308**	*e*Pn	**Pn**	**21 05 41.2**	**+1.9**
	6.5nm,0.3s						
CCUT	**Cedar City**	**8.64**	**228**	*e*Pn	**Pn**	**21 05 58.5**	**+2.1**
	1.4nm,0.5s						
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	**21 06 02.7**	**-1.6**
	2.3nm,0.3s,baz=239,slow=12,SNR=15						
ULM				Lg	Lg	21 08 38.3	
	0.3nm,0.3s,baz=134,slow=18,SNR=3.8						
ULM	**Lac du Bonnet**	**9.23**	**41**	*e*Pn	**Pn**	**21 06 02.1**	**-2.1**
	4.5nm,0.4s						
ULM				Lg	Lg	21 08 38.3	
FFC	**Flin Flon**	**11.29**	**10**	*e*Pn	**Pn**	**21 06 30.6**	**-1.9**
	2.9nm,0.4s						
YBH	**Yreka Blue Hor**	**12.95**	**267**	LR	LR	21 12 23.1	
	comp=Z,75nm,19.5s,baz=107,slow=40						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**21 08 19.6**	**-0.3**
	0.3nm,0.4s,baz=156,slow=12,SNR=6.5						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**21 08 19.6**	**-0.3**
ILAR	**Eielson Array**	**31.33**	**327**	P	**P**	**21 10 13.4**	**+1.7**
	0.1nm,0.7s,baz=123,slow=8.2,SNR=2.8						
ILAR	**Eielson Array**	**31.33**	**327**	P	**P**	**21 10 13.4**	**+1.7**
ARCES	**ARCESS Array B**	**61.51**	**18**	P	**P**	**21 14 07.2**	**-0.9**
	1.4nm,0.9s,baz=327,slow=5.7,SNR=6.5						
ARCES	**ARCESS Array B**	**61.51**	**18**	P	**P**	**21 14 07.2**	**-0.9**

*IDC **24** 21:17:02.6±1.6, 0°.45S×132°.81E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=83.5km s-min=22.8km az=68.0*

*DJA **24** 21:17:03, 0°.29S×132°.94E, h10km, mb4.6/5*

ISC 24 21:17:07.8±1.4, 0°.6S±0°.1×132°.8E±0°.1, h33km, n13, σ1§01/9, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.57**	**260**	P	**Pn**	**21 17 33.1**	**-0.3**
FAKI	**Fak Fak**	**2.37**	**194**	P	**Pb**	**21 17 48.4**	**-1.5**
MSAI	**Masohi**	**4.74**	**235**	P	Pb	21 18 23.9	-6.4
BNDI	**Bandanaira**	**4.86**	**217**	P	**Pb**	**21 18 32.4**	**+0.2**
TLE	**Tual**	**5.00**	**181**	P	Pn	21 18 24.7	+4.0
	85nm,0.7s,0.3nm						
LBMI	**Labuha**	**5.31**	**270**	P	Pn	21 18 28.8	+4.0
	27nm,0.9s,0.1nm						
AAI	**Ambon**	**5.54**	**236**	P	Pn	21 18 31.6	+3.6
	70nm,0.9s,0.3nm						
PCI	**Palu**	**12.97**	**269**	P	**Pn**	**21 20 10.5**	**+0.5**
WRA	**Warramunga Arr**	**19.28**	**176**	P	**Pn**	**21 21 31.2**	**0.0**
	0.4nm,0.3s,baz=355,slow=11,SNR=22						
WRA				S	S	21 24 59.6	-7.0
	0.1nm,0.3s,baz=353,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**22.95**	**177**	P	**P**	**21 22 10.8**	**+1.3**
	2.6nm,0.6s,baz=355,slow=11,SNR=67						
CTA	**Charters Tower**	**23.42**	**147**	P	**P**	**21 22 15.3**	**+1.1**
	1.9nm,0.6s,baz=296,slow=8.7,SNR=2.0						
STKA	**Stephens Creek**	**32.20**	**166**	P	**P**	**21 23 32.8**	**-0.2**
	0.8nm,0.3s,baz=328,slow=9.5,SNR=6.4						
MKAR	**Makanchi Array**	**64.58**	**324**	P	**P**	**21 27 41.1**	**-0.8**
	0.2nm,0.5s,baz=111,slow=8.3,SNR=7.4						

*ISCJB **24** 21:27:27.5±0.3, 6°.16S±0°.03×130°.29E±0°.07, h90km, mb4.7/24, Error ellipse: s-maj=9.7km s-min=4.5km az=167.0*

*NEIC **24** 21:27:28.1±1.9, 6°.07S×130°.40E, h81km±19km, mb4.4/6, Error ellipse: s-maj=13.6km s-min=9.4km az=48.0*

*IDC **24** 21:27:29.8±5.0, 6°.10S×130°.37E, h94km±48km, mb4.0/7, mb1 4.3/10, mb1mx4.2/13, mbtmp4.2/10, MS2.7/1, Ms1 2.7/1, ms1mx2.1/29, Error ellipse: s-maj=42.3km s-min=17.1km az=65.0*

*DJA **24** 21:27:33, 6°.18S×130°.49E, h82km, mb4.8/10*

ISC 24 21:27:30.1±0.7, 6°.45S±0°.05×130°.56E±0°.06, h90km, n78, σ2§76/41, mb4.7/24, 20C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.02**	**341**	P	**Pn**	**21 28 03.6**	**+1.0**
TLE	**Tual**	**2.32**	**70**	P	Pn	21 28 12.6	+6.1
MSAI	**Masohi**	**3.48**	**332**	P	**Pn**	**21 28 22.0**	**-0.2**
AAI	**Ambon**	**3.61**	**319**	P	**Pn**	**21 28 24.9**	**+0.9**
FAKI	**Fak Fak**	**3.89**	**26**	P	**Pn**	**21 28 27.1**	**-0.7**
SWI	**Sorong**	**5.59**	**7**	P	Pn	21 28 48.2	-2.7
	152nm,0.5s,16μm2.9nm						
LBMI	**Labuha**	**6.53**	**332**	P	**Pn**	**21 29 03.1**	**-0.5**
	46nm,0.4s,2μm0.5nm						
BAKI	**Biak**	**7.61**	**47**	P	**Pn**	**21 29 20.8**	**+2.4**
	415nm,0.8s,4μm1.3nm						
BBSI	**Bau Bau**	**8.00**	**276**	P	Pn	21 29 30.4	+6.7
	25nm,1.2s,0.1nm						
KDI	**Kendari**	**8.28**	**287**	P	Pn	21 29 31.6	+4.1
	38nm,1.2s,0.1nm						
KAPI	**Kappang**	**10.84**	**277**	P	Pn	21 30 10.0	+7.5
	0.4nm,0.3s,baz=86,slow=19,SNR=2.0						
KAPI				LR	LR	21 34 20.4	
	comp=Z,42nm,20.2s,baz=85,slow=39						
KAPI	**Kappang**	**10.84**	**277**	P	Pn	21 30 10.0	+7.5
PCI	**Palu**	**12.03**	**297**	P	P	21 30 32.0	+4.3
FITZ	**Fitzroy Crossi**	**12.54**	**202**	P	**Pn**	**21 30 27.7**	**+2.5**
	5.6nm,0.3s,baz=36,slow=10.0,SNR=49						
FITZ				S	**Sn**	**21 32 40.6**	**-2.5**
	2.6nm,0.3s,baz=265,slow=23,SNR=9.3						
FITZ	**Fitzroy Crossi**	**12.54**	**202**	*e*P	**Pn**	**21 30 27.0**	**+1.8**
	21nm,0.2s						
FITZ				*e*S	**Sn**	**21 32 39.9**	**-3.2**
FITZ	**Fitzroy Crossi**	**12.54**	**202**	*e*Pn	**Pn**	**21 30 27.4**	**+2.1**
	14nm,0.3s						
FITZ				*e*Sn	**Sn**	**21 32 37.5**	**-5.5**
WRAB	**Tennant Creek**	**13.90**	**165**	*e*Pn	**Pn**	**21 30 45.1**	**+1.8**
	10nm,0.4s						
WRAB				*e*Sn	**Sn**	**21 33 14.0**	**-2.3**
WRA	**Warramunga Arr**	**13.91**	**165**	P	**Pn**	**21 30 46.1**	**+2.8**
	2.1nm,0.3s,baz=337,slow=14,SNR=66						
WRA				S	**Sn**	**21 33 14.6**	**-1.8**
	4.9nm,0.3s,baz=342,slow=21,SNR=11						
WRA	**Warramunga Arr**	**13.91**	**165**	P	**Pn**	**21 30 46.1**	**+2.8**
WRA				S	**Sn**	**21 33 14.6**	**-1.8**
WB2	**Warramunga Arr**	**13.91**	**165**	*e*Pn	**Pn**	**21 30 45.0**	**+1.7**
WB2				*e*Sn	**Sn**	**21 33 13.0**	**-3.5**
COEN	**Coen**	**14.48**	**122**	*e*P	**P**	**21 30 54.8**	**-0.1**
	39nm,0.3s						
COEN				*e*S	**Sn**	**21 33 25.6**	**-4.8**
COEN	**Coen**	**14.48**	**122**	*e*Pn	**P**	**21 30 54.7**	**-0.3**
	61nm,0.4s						
COEN				*e*Sn	**Sn**	**21 33 26.7**	**-3.6**
BBKI	**Banjar Baru**	**15.93**	**280**	P	**P**	**21 31 12.5**	**+1.4**
	66nm,1.0s						
QIS	**Mount Isa**	**16.54**	**149**	*e*P	**P**	**21 31 21.4**	**+3.6**
QIS				*e*S	**Sn**	**21 34 14.0**	**-6.2**
AS31	**Alice Springs**	**17.42**	**170**	*e*P	**Pn**	**21 31 31.9**	**+4.4**
AS31				*e*Sn	**Sn**	**21 34 40.5**	**-0.7**
ASAR	**Alice Springs**	**17.42**	**170**	P	Pn	21 31 32.3	+4.8
	3.8nm,0.3s,baz=343,slow=9.9,SNR=211						
ASAR				S	**Sn**	**21 34 41.5**	**+0.2**
	2.1nm,0.3s,baz=351,slow=21,SNR=10						
ASAR	**Alice Springs**	**17.42**	**170**	P	Pn	21 31 32.3	+4.8
ASAR				S	**Sn**	**21 34 41.5**	**+0.2**
MBWA	**Marble Bar**	**17.99**	**215**	*e*P	**Pn**	**21 31 35.9**	**+1.5**
MBWA				*e*S	**Sn**	**21 34 50.3**	**-4.8**
STKA	**Stephens Creek**	**27.32**	**159**	P	**P**	**21 33 09.5**	**+2.9**
	3.0nm,0.4s,baz=333,slow=9.3,SNR=19						
STKA	**Stephens Creek**	**27.32**	**159**	*e*P	**P**	**21 33 09.4**	**+2.9**
	2.9nm,0.6s						
STKA	**Stephens Creek**	**27.32**	**159**	*e*P	**P**	**21 33 09.3**	**+2.7**
CM31	**Chiang Mai Arr**	**39.81**	**309**	*e*P	P	21 34 50.7	-4.1
	1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.81**	**309**	P	P	21 34 51.4	-3.4
	5.8nm,0.5s,baz=134,slow=7.2,SNR=70						
CMAR	**Chiang Mai Arr**	**39.81**	**309**	P	P	21 34 51.4	-3.4
CHTO	**Chiang Mai**	**40.02**	**309**	*e*P	P	21 34 52.9	-3.7
	9.0nm,0.7s						
CHTO	**Chiang Mai**	**40.02**	**309**	P	P	21 34 53.1	-3.4
	19nm,0.7s						
KSAR	**Wonju Array Be**	**43.73**	**357**	P	P	21 35 23.1	-3.4
KSRS	**Korea Array**	**43.74**	**357**	P	P	21 35 23.1	-3.5
	0.6nm,0.5s,baz=171,slow=8.2,SNR=4.0						
LSA	**Lhasa**	**52.19**	**316**	*e*P	P	21 36 29.1	-3.4
	2.7nm,0.4s						
ODAN	**Odare**	**53.32**	**310**	⇑*i*P	P	21 36 36.7	-3.9
	19nm,0.6s						
ODAN	**Odare**	**53.32**	**310**	⇑*i*P	P	21 36 36.7	-3.9
	19nm,0.6s						
TAPN	**Taplejung**	**53.34**	**311**	⇑*i*P	P	21 36 36.9	-3.9
	20nm,0.4s						
TAPN	**Taplejung**	**53.34**	**311**	⇑*i*P	P	21 36 36.9	-3.9
	20nm,0.4s						
RAMN	**Ramite**	**53.97**	**310**	⇑*i*P	P	21 36 41.8	-3.5
	60nm,0.5s						
RAMN	**Ramite**	**53.97**	**310**	⇑*i*P	P	21 36 41.8	-3.5
	60nm,0.5s						
JIRN	**Jiri**	**54.65**	**310**	⇑*i*P	P	21 36 46.6	-3.8
	9.4nm,0.3s						
JIRN	**Jiri**	**54.65**	**310**	⇑*i*P	P	21 36 46.6	-3.8
	9.4nm,0.3s						
GUN	**Gumba**	**55.01**	**311**	⇑*i*P	P	21 36 49.1	-3.9
	35nm,0.6s						
GUN	**Gumba**	**55.01**	**311**	⇑*i*P	P	21 36 49.1	-3.9
	35nm,0.6s						
PKI	**Pulchoki**	**55.19**	**310**	⇑*i*P	P	21 36 50.0	-4.3
	12nm,0.6s						
PKI	**Pulchoki**	**55.19**	**310**	⇑*i*P	P	21 36 50.0	-4.3
	12nm,0.6s						
KKN	**Kakani**	**55.40**	**310**	⇑*i*P	P	21 36 51.7	-4.0
	17nm,0.6s						
KKN	**Kakani**	**55.40**	**310**	⇑*i*P	P	21 36 51.7	-4.0
	17nm,0.6s						
DMN	**Daman**	**55.44**	**310**	⇑*i*P	P	21 36 52.2	-3.8
	12nm,0.5s						
DMN	**Daman**	**55.44**	**310**	⇑*i*P	P	21 36 52.2	-3.8

KULA	Kula-Manisa	1.11	52	ePN	Pg	21 28 43.1	-0.6
KULA	Kula-Manisa	1.11	52	ePn	Pg	21 28 43.1	-0.6
KHL	Karahalli	1.63	72	ePn	Pn	21 28 52.2	+0.2
KHL	Karahalli	1.63	72	ePn	Pn	21 28 52.2	+0.2
FETY	Fethiye	1.71	134	ePn	Pn	21 28 53.2	+0.2
FETY	Fethiye	1.71	134	ePn	Pn	21 28 53.2	+0.2
APE	Apeiranthos	1.78	245	ePn	Pb	21 28 55.3	-0.3
APE	Apeiranthos	1.78	245	ePn	Pb	21 28 55.3	-0.3
BALB	Balikesir	1.82	8	ePN	Pn	21 28 54.7	+0.1
BALB	Balikesir	1.82	8	ePn	Pn	21 28 54.7	+0.1
DST	Dursunbey	1.96	25	ePN	Pn	21 28 57.0	+0.5
DST	Dursunbey	1.96	25	ePn	Pn	21 28 57.0	+0.5
EZN	Ezine	2.21	335	ePN	Pn	21 29 00.1	+0.2
EZN	Ezine	2.21	335	ePn	Pn	21 29 00.1	+0.2
GONE	Gonen-Balikesi	2.21	3	ePN	Pn	21 29 00.6	+0.6
GONE	Gonen-Balikesi	2.21	3	ePn	Pn	21 29 00.6	+0.6
ORLT	Orhaneli	2.45	25	ePN	Pn	21 29 03.6	+0.4
ORLT	Orhaneli	2.45	25	ePn	Pn	21 29 03.6	+0.4
KCTX	Karacabey (Bur	2.51	14	ePN	Pn	21 29 04.2	+0.1
KCTX	Karacabey (Bur	2.51	14	ePn	Pn	21 29 04.2	+0.1
EDC	Edincik	2.52	5	ePN	Pn	21 29 04.7	+0.4
EDC	Edincik	2.52	5	ePn	Pn	21 29 04.7	+0.4
BNT	Bandirma	2.54	6	ePN	Pn	21 29 05.3	+0.9
BNT	Bandirma	2.54	6	ePn	Pn	21 29 05.3	+0.9
KRBG	Karabiga-Canak	2.57	356	ePN	Pn	21 29 04.9	+0.1
KRBG	Karabiga-Canak	2.57	356	ePn	Pn	21 29 04.9	+0.1
LPK	Lapseki	2.61	347	ePN	Pn	21 29 05.7	+0.2
LPK	Lapseki	2.61	347	ePn	Pn	21 29 05.7	+0.2
GELI	Tayfur-Gelibol	2.70	342	ePN	Pn	21 29 07.0	+0.4
GELI	Tayfur-Gelibol	2.70	342	ePn	Pn	21 29 07.0	+0.4
RKY	Sarkoy-Tekirda	2.87	354	ePN	Pn	21 29 09.3	+0.3
RKY	Sarkoy-Tekirda	2.87	354	ePn	Pn	21 29 09.3	+0.3
GEMT	Gemlik	2.90	26	ePN	Pn	21 29 10.4	+1.1
GEMT	Gemlik	2.90	26	ePn	Pn	21 29 10.4	+1.1
ARMT	Armutlu	2.91	20	ePN	Pn	21 29 09.7	+0.1
ARMT	Armutlu	2.91	20	ePn	Pn	21 29 09.7	+0.1

*MOS **24** 21:54:31.5±0.9,56°.04N×161°.30E, h137km, mb4.1/1, Error ellipse: s-maj=37.0km s-min=20.6km az=73.8*
*ISCJB **24** 21:54:32.7±0.4,55°.83N±0°.03×161°.47E±0°.06, h151km±3km, mb3.2/5, Error ellipse: s-maj=6.2km s-min=4.5km az=31.2*
*KRSC **24** 21:54:32.8±0.7,55°.77N×161°.47E, h148km±37km, ML3.9*
*IDC **24** 21:54:32.4±3.4,55°.92N×161°.34E, h134km±51km, mb3.0/5, mb1 3.2/7, mb1mx3.0/29, mbtmp3.0/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12, Error ellipse: s-maj=65.9km s-min=16.0km az=177.0*

ISC 24 21:54:33.7±0.8, 55°.83N±0°.04×161°.46E±0°.04, h151km±6km, n48, σ0°.96/77, mb3.1/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZLN	Zelenaya	0.42	298	eP	Pn	21 54 55.0	+0.2
ZLN				*i* S	Sn	21 55 11.4	+0.5
BZGR	Bezymyannyi-Gr	0.45	285	eP	Pn	21 54 55.2	+0.3
BZGR				*i* S	Sn	21 55 11.5	+0.4
CIRR	Tsirk	0.49	306	eP	Pn	21 54 55.5	+0.3
CIRR				*i* S	Sn	21 55 12.1	+0.5
LGNR	Loginova	0.51	301	eP	Pn	21 54 55.1	-0.3
LGNR				*i* S	Sn	21 55 11.3	-0.7
BZMR	Bezymyannaya	0.56	282	eP	Pn	21 54 55.6	+0.1
BZMR				*i* S	Sn	21 55 12.0	-0.2
BZWR	Bezymyannyi-We	0.56	285	eP	Pn	21 54 55.6	0.0
BZWR				*i* S	Sn	21 55 11.9	-0.3
KRSR	Krestovskiy	0.64	308	eP	Pn	21 54 55.3	-0.6
KRSR				*i* S	Sn	21 55 12.0	-0.9
KIRR	Kirishev	0.64	282	eP	Pn	21 54 55.8	-0.2
KIRR				*i* S	Sn	21 55 12.7	-0.3
KLY	Klyuchi	0.67	317	eP	Pn	21 54 54.9	-1.0
KLY				*i* S	Sn	21 55 11.3	-1.7
KMNR	Kamenistaya	0.69	265	eP	Pn	21 54 56.3	0.0
KMNR				*i* S	Sn	21 55 13.5	0.0
KPT	Kopyto	0.71	282	eP	Pn	21 54 56.0	-0.4
KPT				*i* S	Sn	21 55 13.5	-0.2
BDR	Baidarnaya	0.76	349	eP	Pn	21 54 56.5	-0.1
BDR				*i* S	Sn	21 55 13.2	-1.1
SMKR	Semkarok	0.76	0	eP	Pn	21 54 56.5	-0.1
SMKR				*i* S	Sn	21 55 14.0	-0.3
SRKR	Sorokina	0.85	349	eP	Pn	21 54 57.0	-0.3
SRKR				*i* S	Sn	21 55 14.4	-1.0
KBTR	Krutoberegovo	0.85	63	eP	Pn	21 54 56.9	-0.3
KBTR				*i* S	Sn	21 55 14.3	-0.9
KOZ	Kozyrevsk	0.92	285	eP	Pn	21 54 57.5	-0.3
KOZ				*i* S	Sn	21 55 16.1	-0.2
TUMR	Tumrok	0.93	234	eP	Pn	21 54 58.5	+0.5
SRDR	Sredinnyy	1.09	297	eP	Pn	21 54 58.8	-0.5
SRDR				*i* S	Sn	21 55 18.2	-0.8
MKZ	Mys Kozlova	1.28	173	eP	Pn	21 55 00.9	-0.1
MKZ				*i* S	Sn	21 55 21.7	-0.2
ESO	Esso	1.56	275	eP	Pn	21 55 03.5	-0.3
ESO				*i* S	Sn	21 55 25.9	-1.1
KII	Karymskiy	2.14	214	eP	Pn	21 55 11.5	+1.0
KII				*i* S	Sn	21 55 39.3	+0.6
BKI	Bering	2.64	102	eP	Pn	21 55 17.1	+0.7
BKI				*i* S	Sn	21 55 49.5	+0.1
SPN	Mys Shipunski	2.86	198	eP	Pn	21 55 18.0	-1.2
SPN				*i* S	Sn	21 55 51.7	-2.7
NLC	Nalytchevo	2.93	206	eP	Pn	21 55 19.9	-0.2
NLC				*i* S	Sn	21 55 54.5	-1.5
SDLR	Sedlovina	2.96	212	eP	Pn	21 55 21.1	+0.5
SMAR	Somma	3.00	212	eP	Pn	21 55 21.7	+0.5
SMAR				*i* S	Sn	21 55 57.3	-0.6
AVH	Avacha	3.02	213	eP	Pn	21 55 22.4	+1.1
AVH				*i* S	Sn	21 55 58.5	+0.4
KOK	Koryaka	3.03	214	eP	Pn	21 55 22.6	+1.2
UGLR	Uglovaya	3.04	211	eP	Pn	21 55 22.2	+0.6
PET	Petropavlovsk	3.25	211	ePN	Pn	21 55 24.6	+0.4
PET				eS	Sn	21 56 03.8	+0.5
PET	comp=Z,56nm,0.5s			pmax	pmax		
PET	comp=N,47nm,0.5s			smax	smax		
PET	comp=E,46nm,0.6s			smax	smax		
PET	Petropavlovsk	3.25	211	eP	Pn	21 55 24.4	+0.2
PET				*i* S	Sn	21 56 02.0	-1.3
PETK	Petropavlovsk-	3.50	220	P	Pn	21 55 27.8	+0.4
	comp=E,2.6nm,0.3s,baz=68,slow=15,SNR=32						
PETK	Petropavlovsk-	3.50	220	PN	Pn	21 55 27.8	+0.4
PETK	comp=Z,3.0nm,0.3s			pmax	pmax		
RUS	Russkaya	3.82	208	eP	Pn	21 55 31.1	-0.4
RUS				*i* S	Sn	21 56 13.2	-3.1
ASAK	Asacha	4.04	213	eP	Pn	21 55 34.6	+0.2
FX1	Attu Island--F	7.45	108	P	Pn	21 56 19.5	0.0
	comp=Z,1.2nm,0.3s,baz=258,slow=19,SNR=9.2						
FX1				S	Sn	21 57 40.4	-2.3
	comp=Z,0.8nm,0.3s,baz=72,slow=20,SNR=2.9						
FX1	Attu Island--F	7.45	108	PN	Pn	21 56 19.5	0.0
FX1				S	Sn	21 57 40.4	-2.3
FX1	comp=Z,1.0nm,0.3s			pmax	pmax		
FX1	comp=N,1.0nm,0.3s			smax	smax		
ILAR	Eielson Array	26.37	49	P	P	21 59 55.6	+0.2
	comp=N,0.3nm,0.5s,baz=260,slow=7.7,SNR=8.7						
ILAR	Eielson Array	26.37	49	P	P	21 59 55.6	+0.2
JOW	Kunigami	37.57	233	LR	LR	22 16 45.4	
	comp=N,19nm,19.4s,baz=102,slow=36						
YKA	Yellowknife Ar	40.63	45	P	P	22 01 59.4	+1.1
	comp=N,0.1nm,0.3s,baz=301,slow=7.9,SNR=4.2						
YKA	Yellowknife Ar	40.63	45	P	P	22 01 59.4	+1.1
KURK	Kurchatov	47.00	300	P	P	22 02 48.0	-1.2
	comp=N,0.2nm,0.2s,baz=62,slow=7.2,SNR=4.5						
KURK	Kurchatov	47.00	300	P	P	22 02 48.0	-1.2
BVAR	Borovoye Array	49.34	307	P	P	22 03 05.6	-1.5
	comp=N,0.5nm,0.5s,baz=67,slow=6.8,SNR=4.5						
BVAR	Borovoye Array	49.34	307	P	P	22 03 05.6	-1.5
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax		
TXAR	Lajitas Array	68.87	69	P	P	22 05 23.5	+1.6
	comp=Z,0.2nm,0.6s,baz=275,slow=5.0,SNR=4.7						
TXAR	Lajitas Array	68.87	69	P	P	22 05 23.5	+1.6

*DJA **24** 21:58:01.3°.30N×96°.13E, h10km, MLv3.3/5*

IDC 24 21:57:54.4±3.2, 2°.75N×95°.54E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/25, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=125.3km s-min=30.5km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.96	12	Pn	Pn	22 01 40.9	+0.4
	0.1nm,0.3s,baz=200,slow=11,SNR=6.3						
WRA	Warramunga Arr	44.26	122	P	P	22 06 05.9	-0.1
	0.2nm,0.4s,baz=302,slow=9.0,SNR=2.9						
MKAR	Makanchi Array	45.36	347	P	P	22 06 14.2	-0.3
	0.3nm,0.4s,baz=159,slow=8.7,SNR=12						
KURK	Kurchatov	49.89	346	P	P	22 06 49.0	-0.5
	0.3nm,0.4s,baz=170,slow=7.0,SNR=3.4						
ZALV	Zalesovo Beam	51.79	352	P	P	22 07 03.8	0.0
	0.3nm,0.5s,baz=191,slow=5.9,SNR=2.5						

*ISCJB **24** 21:58:14.4±1.1,30°.4N±0°.2×67°.8E±0°.1, h13km, mb3.7/6, Error ellipse: s-maj=24.5km s-min=10.0km az=27.0*
*IDC **24** 21:58:14.8±3.1,30°.36N×67°.64E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=81.3km s-min=26.9km az=141.0*

ISC 24 21:58:15.9±1.3, 30°.3N±0°.2×67°.9E±0°.1, h13km, n15, σ0°.94/15, mb3.8/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GKN	Gorkha	14.85	95	eP	Pn	22 01 45.2	-0.6
KKN	Kakani	15.45	95	eP	Pn	22 01 53.4	-0.5
GUN	Gumba	15.94	94	eP	Pn	22 02 00.4	+0.1
JIRN	Jiri	16.27	95	eP	Pn	22 02 05.4	+0.9
	3.8nm,0.4s						
RAMN	Ramite	16.80	97	eP	Pn	22 02 10.7	-0.5
	6.7nm,0.5s						
ODAN	Odare	17.50	96	eP	P	22 02 21.0	-0.1
TAPN	Taplejung	17.65	95	eP	P	22 02 23.2	+0.3
MKAR	Makanchi Array	19.93	30	P	P	22 02 46.9	-0.5
	0.1nm,0.3s,baz=210,slow=10,SNR=10						
MKAR	Makanchi Array	19.93	30	P	P	22 02 46.9	-0.5
KURK	Kurchatov	21.94	19	P	P	22 03 07.4	-1.7
	0.8nm,0.7s,baz=209,slow=9.6,SNR=4.1						
ZALV	Zalesovo Beam	26.64	23	P	P	22 03 56.0	+1.9
	1.2nm,0.6s,baz=223,slow=11,SNR=10						
FINES	FINESS Array B	41.40	331	P	P	22 06 01.3	-0.3
	6.2nm,1.1s,baz=104,slow=12,SNR=3.4						
ARCES	ARCESS Array B	46.00	341	P	P	22 06 38.6	0.0
	1.7nm,0.9s,baz=126,slow=9.0,SNR=3.4						
TORD	Torodi Ar. Bea	62.99	270	P	P	22 08 42.2	-0.7
	0.5nm,1.1s,baz=54,slow=7.3,SNR=2.7						
YKA	Yellowknife Ar	87.52	1	P	P	22 11 04.4	+1.3
	0.4nm,0.6s,baz=350,slow=5.2,SNR=10						

IDC 24 21:59:18.1±3.1, 26°.40S×176°.40W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.0/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/28, Error ellipse: s-maj=118.2km s-min=42.1km az=24.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	16.23	282	eLR	LR	22 07 24.5	
	219nm,24.4s						
DZM	Mont Dzumac	16.23	282	LR	LR	22 08 06.1	
	comp=Z,157nm,21.1s,baz=296,slow=32						
PPT2	Papeete2	26.32	76	eLR	LR	22 11 07.8	
	120nm,28.8s						
HNR	Honiara	28.05	303	LR	LR	22 14 41.7	
	comp=Z,82nm,20.1s,baz=60,slow=33						
CTA	Charters Tower	34.89	272	P	P	22 06 10.2	-0.6
	2.4nm,0.6s,baz=85,slow=11,SNR=3.9						
CTA				LR	LR	22 19 19.1	
	comp=Z,123nm,18.1s,baz=54,slow=34						
STKA	Stephens Creek	36.93	251	LR	LR	22 19 16.2	
	comp=Z,137nm,18.3s,baz=183,slow=32						
ASAR	Alice Springs	44.90	262	P	P	22 07 35.4	+0.7
	1.0nm,0.8s,baz=107,slow=8.8,SNR=9.1						
WRA	Warramunga Arr	45.53	267	P	P	22 07 39.2	-0.6
	0.6nm,1.1s,baz=107,slow=7.4,SNR=5.3						
CMAR	Chiang Mai Arr	93.44	289	P	P	22 12 36.4	+0.4
	0.8nm,0.3s,baz=123,slow=5.3,SNR=5.3						
TORD	Torodi Ar. Bea	166.69	172	PKPab	PKPab	22 20 28.0	-0.6
	0.4nm,0.9s,baz=182,slow=4.8,SNR=2.5						

*NEIC **24** 22:11:02.3, 35°.43S×178°.62E, h206km, MG4.3(WEL), After WEL.*

WEL 24 22:11:04.5±0.6, 35°.66S×178°.54E, h217km±10km, ML4.2/4, Error ellipse: s-maj=10.1km s-min=9.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.91	186	PN	Pn	22 11 43.3	-0.1
MXZ				SN	S	22 12 13.0	-0.7
MXZ	Matakaoa Point	1.91	186	Pn	Pn	22 11 43.3	-0.1
MXZ				Sn	S	22 12 13.0	-0.7
PUZ	Puketiti	2.42	185	PN	Pn	22 11 48.7	+0.1
PUZ				SN	S	22 12 23.2	+0.2
PUZ	Puketiti	2.42	185	Pn	Pn	22 11 48.7	+0.1
PUZ				Sn	S	22 12 23.2	+0.2
MWZ	Matawai	2.79	197	PN	Pn	22 11 53.4	+0.7
MWZ				SN	S	22 12 30.1	-0.2
MWZ	Matawai	2.79	197	Pn	Pn	22 11 53.8	+1.1
CNGZ	Carnagh Statio	2.84	185	PN	Pn	22 11 53.9	+0.8
CNGZ	Carnagh Statio	2.84	185	Pn	Pn	22 11 53.9	+0.8
CNGZ				Sn	S	22 12 33.9	+2.8
URZ	Urewera	2.84	203	PN	Pn	22 11 53.4	+0.3
URZ				SN	S	22 12 30.3	-0.8
URZ	Urewera	2.84	203	Pn	Pn	22 11 53.4	+0.3
PRGZ	Paritu Road	3.30	189	ePN	Pn	22 11 58.5	-0.1
PRGZ	Paritu Road	3.30	189	Pn	Pn	22 11 58.8	+0.2
ALRZ	Allen Road	3.39	211	PN	Pn	22 12 00.9	+1.3
ALRZ	Allen Road	3.39	211	Pn	Pn	22 12 00.9	+1.3
KNZ	Kokohu	3.43	191	PN	Pn	22 11 59.8	-0.1
KNZ	Kokohu	3.43	191	Pn	Pn	22 11 59.8	-0.1
RAHZ	Arahi	3.46	199	PN	Pn	22 12 00.9	+0.5
RAHZ	Arahi	3.46	199	Pn	Pn	22 12 00.9	+0.5
MHGZ	Mahia Peninsul	3.53	188	PN	Pn	22 12 01.4	+0.3
MHGZ	Mahia Peninsul	3.53	188	Pn	Pn	22 12 01.4	+0.3
NMHZ	Naumai	3.70	201	PN	Pn	22 12 03.9	+0.5
NMHZ	Naumai	3.70	201	Pn	Pn	22 12 03.9	+0.5
BKZ	Black Stump Fm	3.87	204	PN	Pn	22 12 04.5	-0.7
BKZ	Black Stump Fm	3.87	204	Pn	Pn	22 12 04.5	-0.7
MCHZ	McNeill Hill	4.05	201	PN	Pn	22 12 08.1	+0.6
MCHZ	McNeill Hill	4.05	201	Pn	Pn	22 12 08.1	+0.6
CKHZ	Cape Kidnapper	4.16	196	PN	Pn	22 12 08.9	+0.1
CKHZ	Cape Kidnapper	4.16	196	Pn	Pn	22 12 08.9	+0.1
KAHZ	Kahuranaki	4.34	197	PN	Pn	22 12 11.0	0.0
KAHZ	Kahuranaki	4.34	197	Pn	Pn	22 12 11.1	0.0
PXZ	Pawanui	4.57	196	PN	Pn	22 12 12.8	-0.9
PXZ	Pawanui	4.57	196	Pn	Pn	22 12 12.8	-0.9
PNHZ	Pukenui	4.64	203	PN	Pn	22 12 14.0	-0.7
PNHZ	Pukenui	4.64	203	Pn	Pn	22 12 14.0	-0.7
PRHZ	Porangahau	4.84	198	PN	Pn	22 12 16.5	-0.8
PRHZ	Porangahau	4.84	198	Pn	Pn	22 12 16.5	-0.8
BFZ	Birch Farm	5.33	199	PN	Pn	22 12 22.3	-1.2
BFZ	Birch Farm	5.33	199	Pn	Pn	22 12 22.3	-1.2
MRZ	Mangatainoka R	5.51	204	PN	Pn	22 12 24.2	-1.6
MRZ	Mangatainoka R	5.51	204	Pn	Pn	22 12 24.2	-1.6
HOWZ	Holdsworth Sta	5.75	204	PN	Pn	22 12 26.9	-1.9
HOWZ	Holdsworth Sta	5.75	204	Pn	Pn	22 12 26.9	-1.9
OGWZ	Otaki Gorge	5.80	206	PN	Pn	22 12 28.1	-1.2
OGWZ	Otaki Gorge	5.80	206	Pn	Pn	22 12 28.1	-1.2
TMWZ	Te Maipa	5.83	200	PN	Pn	22 12 28.1	-1.6
TMWZ	Te Maipa	5.83	200	Pn	Pn	22 12 28.1	-1.6
KIW	Kapiti Island	5.93	208	PN	Pn	22 12 30.0	-1.0
KIW	Kapiti Island	5.93	208	Pn	Pn	22 12 30.0	-1.0
TCW	Tory Channel	6.48	210	PN	Pn	22 12 37.7	-0.3
TCW	Tory Channel	6.48	210	Pn	Pn	22 12 37.7	-0.3
TUWZ	Tuamarina	6.80	211	PN	Pn	22 12 41.4	-0.7
TUWZ	Tuamarina	6.80	211	Pn	Pn	22 12 41.4	-0.7
THZ	Tophouse	7.52	214	PN	Pn	22 12 50.7	-0.9
THZ	Tophouse	7.52	214	Pn	Pn	22 12 50.7	-0.9
KHZ	Kahutara	7.79	208	Pn	Pn	22 12 53.0	-1.9

IDC 24 22:19:50.3±1.9, 8°.17S×128°.23E, h0km, mb3.0/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=77.0km s-min=25.3km az=78.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.19	194	Pn	Pn	22 22 19.1	+1.2
	0.4nm,0.3s,baz=20,slow=12,SNR=8.9						
FITZ				Sn	Sn	22 24 14.4	+1.4
	0.2nm,0.3s,baz=306,slow=19,SNR=3.2						
WRA	Warramunga Arr	13.11	154	Pn	Pn	22 22 57.4	-0.6
	0.2nm,0.3s,baz=322,slow=13,SNR=13						
WRA				Sn	Sn	22 25 18.1	-6.6
	0.5nm,0.3s,baz=329,slow=23,SNR=8.7						
ASAR	Alice Springs	16.34	161	Pn	Pn	22 23 40.5	-0.8
	0.2nm,0.3s,baz=342,slow=11,SNR=34						
ASAR				Sn	Sn	22 26 37.2	-6.2
	0.1nm,0.3s,baz=348,slow=26,SNR=3.6						
MKAR	Makanchi Array	68.26	328	P	P	22 30 53.1	0.0
	0.1nm,0.5s,baz=122,slow=7.6,SNR=2.6						

IDC 24 22:26:44.2±2.4, 6°.79S×156°.42E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=83.0km s-min=23.4km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.10	236	P	P	22 32 11.2	+0.3
	1.0nm,0.4s,baz=62,slow=9.9,SNR=26						
ASAR	Alice Springs	27.38	230	P	P	22 32 31.8	+0.2
	0.7nm,0.4s,baz=59,slow=9.4,SNR=24						
FITZ	Fitzroy Crossi	32.03	247	P	P	22 33 12.0	-0.8
	2.1nm,0.6s,baz=62,slow=6.6,SNR=3.6						
SONM	Songino Array	69.93	327	P	P	22 37 58.5	+1.1
	0.4nm,0.4s,baz=144,slow=5.9,SNR=6.4						
ILAR	Eielson Array	82.67	21	P	P	22 39 09.4	+0.1
	0.1nm,0.4s,baz=247,slow=5.7,SNR=6.3						
MKAR	Makanchi Array	84.18	318	P	P	22 39 17.5	-0.1
	1.0nm,0.5s,baz=97,slow=7.5,SNR=24						
ZALV	Zalesovo Beam	84.80	326	P	P	22 39 19.1	-1.4
	0.6nm,0.4s,baz=109,slow=7.5,SNR=4.9						

JSN 24 22:31:32.5±0.8, 18°.04N×76°.62W, h3km±3km, MD3.5, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GWJ	Greenwich	0.11	290	*i* P	Pg	22 31 34.5	-0.4
HOJ	Hope	0.13	256	*i* P	Pg	22 31 36.0	+0.9
YHJ	Yallahs	0.19	140	*i* P	Pg	22 31 36.4	+0.2
STH	Stony Hill	0.19	283	*i* P	Pg	22 31 36.0	-0.3
STH				*i* S	Sg	22 31 39.2	+0.5
CMJ	Castle Mountai	0.25	67	*i* P	Pg	22 31 38.0	+0.6
BNJ	Bonny Gate	0.43	312	*i* P	Pg	22 31 40.4	-0.4
PCJ	Portland Cotta	0.59	240	*i* P	Pg	22 31 43.2	-0.7
BBJ	Bamboo Saint A	0.71	299	*i* P	Pg	22 31 45.6	-0.6
MCJ	Malvern	1.02	264	*i* P	Pg	22 31 51.0	-1.3
MBJ	Montego Bay	1.24	287	*i* P	Pg	22 31 54.8	-1.6
MBJ				*i* S	Sg	22 32 10.9	-1.6

*MAN **24** 22:43:05.5°.27N×126°.36E, h142km, mb5.3, ML4.3, MS4.6*
*ISCJB **24** 22:43:06.7±0.1,5°.45N±0°.02×126°.36E±0°.03, h140km, mb5.0/133, Error ellipse: s-maj=3.7km s-min=2.2km az=171.0*
*BJI **24** 22:43:06.5,5°.31N×126°.22E, h145km, mB5.1/32, mb4.8/55*
*IDC **24** 22:43:07.9±0.5,5°.43N×126°.26E, h135km±3km, mb4.6/32, mb1 4.6/33, mb1mx4.6/33, mbtmp4.6/33, MS3.5/7, Ms1 3.6/7, ms1mx3.2/36, Error ellipse: s-maj=13.6km s-min=5.9km az=72.0*
*MOS **24** 22:43:08.7±1.0,5°.42N×126°.14E, h158km, mb5.2/41, Error ellipse: s-maj=13.3km s-min=5.6km az=116.7*
*NEIC **24** 22:43:08.8±0.6,5°.49N×126°.28E, h144km±6km, mb5.1/55, Error ellipse: s-maj=5.9km s-min=3.4km az=70.0*
NEIC Felt [I PIVS] at General Santos.
*DJA **24** 22:43:09,5°.41N×126°.40E, h133km, Mw5.0/56*

ISC 24 22:43:08.4±0.2, 5°.41N±0°.03×126°.28E±0°.04, h142km, h142km:pP-P,n431,σ1937/567, mb4.9/131, 25C-18D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	1.49	297	⇓*i* P	Pn	22 43 34.9	-2.5
GSPH				*i* S	Sn	22 43 56.2	-3.2
MATI	Mati	1.53	359	eP	Pn	22 43 36.5	-1.2
MATI				eS	Sn	22 43 55.2	-4.9
DAV	Davao City (W)	1.79	337	P	Pn	22 43 40.7	0.0
	1μm,0.3s,baz=172,slow=1.6,SNR=85						
DAV				S	Sn	22 44 03.8	-1.5
	2μm,0.3s,baz=107,slow=20,SNR=22						
DAV				LR	LR	22 44 37.1	
	comp=Z,2μm,20.3s,baz=329,slow=50						
DAV	Davao City (W)	1.79	337	ePn	Pn	22 43 41.4	+0.7
DAV				eS	Sn	22 44 03.6	-1.8
DAV				S		22 44 03.9	
DAV	Davao City (W)	1.79	337	P	Pn	22 43 41.1	+0.5
DMPH	Davao City--Mi	1.83	335	⇓*i* P	Pn	22 43 40.6	-0.5
DMPH				*i* S	Sn	22 44 16.9	+11
SGSI	Sangihe	1.87	204	P	Pn	22 43 41.1	-0.4
BUKP	Musuan	2.74	334	eP	Pn	22 43 51

SBUM **Sibu** 14.33 259 P **P** 22 46 30.4 +2.5
SBUM **Sibu** 14.33 259 P **P** 22 46 29.9 +2.0
248nm,0.9s,2µm
SMPI **Sarmi** 14.43 120 P **Pn** 22 46 25.6 -0.5
83nm,1.1s
BBKI **Banjar Baru** 14.43 233 P **P** 22 46 28.5 -0.5
356nm,0.7s,3µm
MMRI **Maumere** 14.52 196 P **Pn** 22 46 26.8 -0.5
540nm,0.9s,5µm
STKI **Sintang** 15.71 251 P **P** 22 46 44.7 +1.6
172nm,1.1s,5µm
WSI **Waingapu** 16.12 202 P **P** 22 46 48.1 +0.4
906nm,0.8s,8µm
KSM **Kuching** 16.41 257 *e*Pn **P** 22 46 53.4 +2.5
219nm,0.8s
KSM **Kuching** 16.41 257 P **P** 22 46 53.6 +2.7
KSM **Kuching** 16.41 257 P **P** 22 46 53.3 +2.4
310nm,0.9s,3µm
PBKI **Pangkalan Bun** 16.67 241 P **Pn** 22 46 55.4 +1.5
621nm,0.9s,4µm
MTNI **Mataram** 17.21 216 P **Pn** 22 47 00.4 0.0
563nm,0.8s,5µm
KHKI **Kahang-Kahang** 17.34 218 P **Pn** 22 47 01.5 -0.3
279nm,1.0s,2µm
KMMI **Kalianget** 17.44 225 P **Pn** 22 47 05.0 +1.9
410nm,1.0s,4µm
NBBI **Negara** 17.96 220 P **Pn** 22 47 11.3 +2.0
270nm,0.7s,3µm
IGBI **Denpasar** 17.97 218 P **Pn** 22 47 10.2 +0.7
249nm,0.7s
TWG **Pinlang** 18.03 344 *e*P **P** 22 47 06.5 -2.1
51nm,0.5s
BLJI **Banyuglugur** 18.19 224 P **Pn** 22 47 11.6 -0.5
209nm,0.7s
JAGI **Jajag, Banyuwa** 18.34 221 P **Pn** 22 47 12.5 -1.3
330nm,0.8s,3µm
YULB **Yu-li** 18.51 345 *e*P **P** 22 47 11.5 -2.4
20nm,0.6s
TPUB **Ta-pu** 18.60 344 *e*P **P** 22 47 13.4 -1.5
72nm,0.7s
GMJI **Gumukmas** 18.67 223 P **Pn** 22 47 17.5 -0.2
209nm,0.9s,2µm
SSLB **Suanglung** 18.98 345 *e*P **P** 22 47 17.0 -2.0
36nm,0.6s
NACB **Ninganchiao** 19.19 347 *e*P **P** 22 47 19.9 -1.4
KRKI **Karangkates** 19.29 226 P **Pn** 22 47 23.9 -1.0
445nm,0.8s,23µm
SJI **Sawahan** 19.50 228 P **Pn** 22 47 25.4 -2.1
204nm,1.1s
PWJI **Pagerwojo** 19.66 227 P **Pn** 22 47 27.0 -2.3
216nm,0.7s,2µm
YHNB **Yeheng** 19.72 347 *e*P **P** 22 47 26.7 -0.4
32nm,0.6s
SMRI **Semarang** 20.08 232 P Pn 22 47 33.6 -0.6
516nm,0.9s,5µm
PCJI **Pacitan** 20.24 228 P Pn 22 47 33.6 -2.5
248nm,0.9s,3µm
TPI **Tanjungpandan** 20.30 247 P Pn 22 47 35.2 -1.6
97nm,1.0s,637nm46µm
UGM **Wanagama** 20.55 230 *e*P Pn 22 47 37.2 -2.6
260nm,0.9s
UGM **Wanagama** 20.55 230 P Pn 22 47 38.6 -1.2
360nm,1.2s,4µm
YOGI **Yogyakarta** 20.66 231 P Pn 22 47 39.6 -1.5
2µm,0.8s,11µm
QZH **Quanzhou** 20.78 340 P **P** 22 47 39.0 +0.7
QZH *e*S **S** 22 51 18.1 -4.4
BJII **Banjamegara** 20.82 233 P Pn 22 47 41.1 -2.1
178nm,0.9s,2µm
QIZ **Qiongzhong** 20.98 312 P **P** 22 47 41.3 +0.8
QIZ sP **sP** 22 48 24.3 +0.4
QIZ S **S** 22 51 27.4 +0.9
QIZ pmax pmax
comp=Z,46nm,1.2s
QIZ **Qiongzhong** 20.98 312 *e*P **P** 22 47 40.4 -0.2
JOW **Kunigami** 21.39 5 P **P** 22 47 44.1 -0.8
comp=Z,65nm,1.0s,baz=203,slow=5.9,SNR=7.1
JOW LR LR 22 56 50.1
comp=Z,64nm,18.2s,baz=353,slow=38
JOW **Kunigami** 21.39 5 P **P** 22 47 44.1 -0.8
PPBI **Pangkal Pinang** 21.48 250 P **P** 22 47 46.7 +0.7
comp=Z,66nm,1.1s,comp=Z,2µm
LEM **Lembang** 22.24 237 P **P** 22 47 55.0 +1.0
comp=Z,188nm,0.7s,comp=Z,2µm
CISI **Cisompet, Garu** 22.48 235 P **P** 22 47 55.6 -0.6
comp=Z,222nm,0.8s,comp=Z,2µm
MYKOM **Kota Tinggi** 22.67 262 P **P** 22 47 59.1 +1.1
MYKOM **Kota Tinggi** 22.67 262 P **P** 22 47 59.1 +1.1
comp=Z,121nm,1.0s,comp=Z,1µm
CBJI **Citeko** 22.68 239 P **P** 22 47 59.9 +1.9
comp=Z,644nm,1.2s
PMBI **Palembang** 23.03 249 P **P** 22 48 04.2 +2.9
comp=Z,734nm,1.0s
KGM **Kluang** 23.16 262 P **P** 22 48 03.4 +0.9
SKJI **Sukabumi** 23.23 238 P **P** 22 48 05.3 +2.1
comp=Z,200nm,0.9s
FITZ **Fitzroy Crossi** 23.37 182 P **P** 22 48 04.1 -0.3
comp=Z,78nm,0.6s,baz=11,slow=9.2,SNR=84
FITZ ScP **ScP** 22 55 12.7 +0.5
comp=Z,5.4nm,0.7s,baz=303,slow=2.1,SNR=5.2
FITZ **Fitzroy Crossi** 23.37 182 *e*P **P** 22 48 04.1 -0.3
comp=Z,145nm,0.6s
FITZ **Fitzroy Crossi** 23.37 182 P **P** 22 48 04.1 -0.3
FITZ ScP **ScP** 22 55 12.7 +0.5
CGJI **Cibinong** 23.77 240 P **P** 22 48 07.5 -0.6
comp=Z,133nm,0.7s,comp=Z,2µm
LWLI **Liwa** 24.49 245 P **P** 22 48 16.1 +1.3
comp=Z,275nm,0.8s
RGRI **Rengat** 24.59 257 P **P** 22 48 19.0 +3.4
comp=Z,184nm,0.8s
FRIM **Kepong** 24.68 266 P **P** 22 48 17.7 +1.4
IPM **Ipoh** 25.18 269 *e*P **P** 22 48 21.8 +0.8
comp=Z,22nm,0.8s
IPM **Ipoh** 25.18 269 P **P** 22 48 22.1 +1.2
KSI **Kapahiang** 25.32 250 P P 22 48 26.8 +4.6
comp=Z,105nm,0.8s
PMG **Port Moresby** 25.49 125 P **P** 22 48 23.2 -0.4
comp=Z,70nm,0.8s,baz=336,slow=6.1,SNR=50
PMG **Port Moresby** 25.49 125 *ce*P **P** 22 48 23.4 -0.3
PMG pmax pmax
comp=Z,100nm,1.0s
PMG **Port Moresby** 25.49 125 *e*P **P** 22 48 23.2 -0.4
comp=Z,61nm,0.7s
PMG **Port Moresby** 25.49 125 P **P** 22 48 23.3 -0.4
comp=Z,99nm,1.0s
COEN **Coen** 25.52 139 *e*P **P** 22 48 24.3 +0.3
comp=Z,796nm,0.8s
CBIJ **Chichi jima** 26.36 33 P **P** 22 48 29.2 -2.2
comp=Z,124nm,0.4s,baz=290,slow=22,SNR=7.1
CBIJ **Chichi jima** 26.36 33 P **P** 22 48 29.2 -2.2
WRAB **Tennant Creek** 26.40 163 *e*P **P** 22 48 31.7 -0.2
WRAB pmax pmax
comp=Z,31nm,0.5s
WRAB **Tennant Creek** 26.40 163 *e*P **P** 22 48 31.7 -0.2
comp=Z,31nm,0.5s
WRAB *e*S S 22 53 06.9 +12
WRAB **Tennant Creek** 26.40 163 P **P** 22 48 31.0 -0.9
comp=Z,590nm,0.6s
WRA **Warramunga Arr** 26.41 163 P **P** 22 48 31.4 -0.6
comp=Z,27nm,0.6s,baz=329,slow=11,SNR=157
WRA S **S** 22 52 52.7 -2.4
comp=Z,3.8nm,0.9s,baz=331,slow=15,SNR=6.0
WRA ScP **ScP** 22 55 22.0 +1.2
comp=Z,4.8nm,0.8s,baz=345,slow=3.2,SNR=6.7
WRA **Warramunga Arr** 26.41 163 P **P** 22 48 31.4 -0.6
WRA S **S** 22 52 52.7 -2.4
WRA **Warramunga Arr** 26.41 163 P **P** 22 48 31.4 -0.6
WRA S **S** 22 52 52.7 -2.4
WRA ScP **ScP** 22 55 22.0 +1.2
WB2 **Warramunga Arr** 26.41 163 *e*P **P** 22 48 31.8 -0.2
PPI **Padang Panjang** 26.50 258 P **P** 22 48 33.5 +0.7
comp=Z,36nm,1.3s,comp=Z,604nm
PDSI **Padang** 26.54 257 P **P** 22 48 36.1 +2.9
comp=Z,107nm,1.1s,comp=Z,1µm
MNSI **Mandailing Nat** 27.05 261 P **P** 22 48 37.7 0.0
comp=Z,34nm,0.8s,comp=Z,615nm
MBWA **Marble Bar** 27.17 193 *e*P **P** 22 48 38.9 +0.2
comp=Z,113nm,0.8s
MBWA *e*PcP **PcP** 22 51 56.1 +0.4
NJ2 **Nanjing** 27.40 346 *e*P **P** 22 48 41.3 +0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
PSI **Prapat** 27.41 266 P **P** 22 48 41.1 0.0
comp=Z,64nm,0.8s,comp=Z,427nm
WHN **Wuhan** 27.41 337 P **P** 22 48 41.8 +1.1
WHN pmax pmax
comp=Z,28nm,0.9s
WHN LR LR
comp=Z,480nm,18.0s
JNU **Nakatsue** 27.90 8 P **P** 22 48 44.1 -1.0
comp=Z,14nm,0.9s,baz=129,slow=3.2,SNR=5.3
JNU **Nakatsue** 27.90 8 P **P** 22 48 44.1 -1.0
GYA **Guiyang** 28.09 320 ⇓*i*P **P** 22 48 47.1 +0.1
GYA pP **pP** 22 49 19.8 +2.6
GYA sP **sP** 22 49 37.6 +4.0
GYA PP **PnPn** 22 49 45.0 +2.1
GYA PcP **PcP** 22 52 00.8 +2.8
GYA S **S** 22 53 22.5 +0.8
GYA sS **sS** 22 54 16.9 +2.1
GYA ScP **ScP** 22 55 25.0 -1.0
GYA PcS **PcS** 22 55 40.8 +0.2
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GSI **Gunungsitoli** 28.94 263 P **P** 22 48 53.7 -0.9
comp=Z,115nm,0.8s,comp=Z,1µm
TPTI 29.09 267 P **P** 22 48 57.2 +1.3
comp=Z,58nm,1.3s
ENH **Enshi** 29.36 329 *e*P **P** 22 48 57.5 -0.6
comp=Z,23nm,0.9s
ENH *e*ScP **ScP** 22 55 30.5 +0.7
CMAR **Chiang Mai Arr** 29.66 298 P **P** 22 49 01.4 +0.5
comp=Z,3.6nm,0.7s,baz=114,slow=7.4,SNR=25
CMAR PcP **PcP** 22 52 03.0 +1.0
comp=Z,2.5nm,0.7s,baz=124,slow=1.6,SNR=7.5
CMAR ScP **ScP** 22 55 32.5 +1.5
comp=Z,7.1nm,0.8s,baz=131,slow=1.4,SNR=20
CMAR LR LR 23 03 22.8
comp=Z,183nm,18.5s,baz=208,slow=41
CMAR **Chiang Mai Arr** 29.66 298 P **P** 22 49 01.5 +0.5
CMAR 22 52 03.0
CMAR 22 55 32.5
CMAR **Chiang Mai Arr** 29.66 298 P **P** 22 49 01.4 +0.5
CMAR PcP **PcP** 22 52 03.0 +1.0
CMAR ScP **ScP** 22 55 32.5 +1.5
CHTO **Chiang Mai** 29.80 299 *e*P **P** 22 49 02.3 +0.2
CHTO *e* 22 52 04.0
CHTO *e* 22 55 32.9
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO **Chiang Mai** 29.80 299 *e*P **P** 22 49 02.3 +0.2
comp=Z,4.3nm,0.6s
CHTO *e*PcP **PcP** 22 52 04.0 +1.6
CHTO *e*ScP **ScP** 22 55 32.9 +1.6
CHTO **Chiang Mai** 29.80 299 P **P** 22 49 02.5 +0.4
comp=Z,9.5nm,1.0s
AS31 **Alice Springs** 29.84 166 *e*P **P** 22 49 02.7 +0.3
ASAR **Alice Springs** 29.84 166 P **P** 22 49 02.8 +0.4
comp=Z,61nm,0.5s,baz=344,slow=7.1,SNR=1197
ASAR PcP **PcP** 22 52 03.1 +0.8
comp=Z,13nm,0.7s,baz=339,slow=1.9,SNR=10
ASAR S **S** 22 53 47.6 -1.4
comp=Z,4.7nm,0.9s,baz=350,slow=21,SNR=5.7
ASAR ScP **ScP** 22 55 32.8 +1.4
comp=Z,6.2nm,0.9s,baz=331,slow=2.3,SNR=11
ASAR **Alice Springs** 29.84 166 P **P** 22 49 02.8 +0.4
ASAR 22 52 03.2
ASAR S **S** 22 53 47.7 -1.4
ASAR 22 55 32.8
ASAR **Alice Springs** 29.84 166 P **P** 22 49 02.8 +0.4
ASAR PcP **PcP** 22 52 03.1 +0.8
ASAR S **S** 22 53 47.6 -1.4
ASAR ScP **ScP** 22 55 32.8 +1.4
KMI **Kunming** 29.90 313 P **P** 22 49 04.1 +0.9
KMI S **S** 22 53 54.9 +4.6
KMI pmax pmax
comp=Z,19nm,1.2s
KMI LR LR
comp=Z,130nm,26.9s
KSAR **Wonju Array Be** 31.92 2 P **P** 22 49 21.5 +1.0
KSAR 22 52 09.0
KSAR **Wonju Array Be** 31.92 2 P **P** 22 49 21.5 +1.0
KSAR PcP **PcP** 22 52 08.9 +1.4
KSRS **Korea Array** 31.93 2 P **P** 22 49 21.5 +0.9
comp=Z,2.3nm,0.6s,baz=188,slow=10,SNR=7.8
KSRS PcP **PcP** 22 52 08.9 +1.4
comp=Z,2.4nm,0.7s,baz=196,slow=2.6,SNR=6.0
KSRS LR LR 23 03 44.6
comp=Z,63nm,18.6s,baz=10,slow=39
CTA **Charters Tower** 32.06 143 P P 22 49 23.9 +1.9
comp=Z,42nm,0.8s,baz=327,slow=11,SNR=63
CTA **Charters Tower** 32.06 143 *e*P **P** 22 49 23.6 +1.7
comp=Z,36nm,0.8s
CTA **Charters Tower** 32.06 143 P P 22 49 23.9 +1.9
CTA **Charters Tower** 32.06 143 P P 22 49 23.9 +1.9
CTAO **Charters Tower** 32.06 143 *e*P P 22 49 23.9 +1.9
CTAO pmax pmax
comp=Z,42nm,0.8s
CTAO **Charters Tower** 32.06 143 *e*P P 22 49 23.9 +1.9
comp=Z,42nm,0.8s
XAN **Xi'an** 32.73 333 P **P** 22 49 26.8 -0.9
XAN pP **pP** 22 49 57.3 -0.9
XAN sP **sP** 22 50 14.0 -0.5
XAN pmax pmax
comp=Z,10.0nm,0.9s
MJAR **Matsushiro Arr** 32.86 18 P **P** 22 49 26.4 -2.4
comp=Z,2.5nm,0.8s,baz=180,slow=8.5,SNR=5.9
MJAR ScP **ScP** 22 55 43.4 +2.1
comp=Z,6.7nm,1.1s,baz=190,slow=3.5,SNR=6.9
MJAR LR LR 23 02 22.7
comp=Z,62nm,19.3s,baz=255,slow=35
MJAR **Matsushiro Arr** 32.86 18 P **P** 22 49 26.4 -2.4
MJAR **Matsushiro Arr** 32.86 18 P **P** 22 49 26.4 -2.4
MJAR ScP **ScP** 22 55 43.4 +2.1
MAT **Matsushiro** 32.86 18 P P 22 49 38.5 +10
CD2 **Chengdu** 33.04 323 P **P** 22 49 30.1 -0.3
CD2 pP **pP** 22 50 01.5 +0.5
CD2 sP **sP** 22 50 18.4 +1.1
CD2 PP **PnPn** 22 50 46.8 +1.3
CD2 S **S** 22 54 37.3 -1.5
CD2 sS **sS** 22 55 34.3 +2.0
CD2 SS **SnSn** 22 56 48.8 -5.4
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,170nm,4.4s
BJT **Baijiatuau** 35.64 347 *e*P **P** 22 49 52.9 +0.3
BJT pmax pmax
comp=Z,55nm,0.6s
BJT **Baijiatuau** 35.64 347 *e*P **P** 22 49 52.9 +0.3
comp=Z,55nm,0.6s
BJI **Beijing** 35.66 347 P **P** 22 49 53.1 +0.3
BJI S **S** 22 55 21.3 +2.6
BJI ScP **ScP** 22 55 52.6 +1.5
BJI pmax pmax
comp=Z,83nm,0.6s
BJI LR LR
comp=Z,49nm,21.0s
FORT **Forrest** 36.02 177 ⇑*i*P **P** 22 49 56.6 +0.6
comp=Z,147nm,0.5s
FORT **Forrest** 36.02 177 *e*P **P** 22 49 56.2 +0.2
comp=Z,174nm,0.6s
SNY **Shenyang** 36.34 357 ⇓P **P** 22 50 00.0 +1.4
SNY sP **sP** 22 50 45.9 +0.2
SNY S S 22 55 35.6 +6.5
SNY pmax pmax
comp=Z,68nm,0.6s
SNY pmax pmax
comp=Z,250nm,5.9s
SNY LR LR
comp=N,160nm,3.3s
SNY LR LR
comp=E,420nm,3.5s
SNY LR LR
comp=Z,280nm,4.4s
HNR **Honiara** 36.65 114 P **P** 22 50 00.3 -1.2
comp=Z,101nm,0.6s,baz=161,slow=1.9,SNR=5.7
HNR **Honiara** 36.65 114 P **P** 22 50 00.3 -1.2
HNR **Honiara** 36.65 114 P **P** 22 50 00.3 -1.2
LZH **Lanzhou** 36.84 329 *e*P **P** 22 50 03.3 +0.2
LZH pP **pP** 22 50 34.5 +0.4
LZH sP **sP** 22 50 51.6 +1.3
LZH PP **PnPn** 22 51 33.8 +1.8
LZH *e*S **S** 22 55 37.0 -0.2
LZH sS **sS** 22 56 31.5 +0.2
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,180nm,6.8s
HHC **Hu-ho-hao-te** 37.67 342 *e*P **P** 22 50 10.8 +0.8
HHC pP **pP** 22 50 44.1 +3.0
HHC sP **sP** 22 50 59.6 +2.3
HHC PP **PnPn** 22 51 44.8 +3.0
HHC PcP **PcP** 22 52 25.3 +0.8
HHC S **S** 22 55 51.0 +1.4
HHC sS **sS** 22 56 45.8 +2.0
HHC SS **SS** 22 58 35.1 -6.0
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.5s
KLBR **Kellerberrin** 37.68 192 ⇑*i*P **P** 22 50 10.4 +0.3
comp=Z,48nm,0.5s
CN2 **Changchun** 38.24 359 *e*P **P** 22 50 15.3 +0.7
CN2 *e*pP **pP** 22 50 46.3 +0.6
CN2 *e*S **S** 22 55 59.0 +1.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
SHL **Shillong** 38.54 305 *e*P **P** 22 50 17.0 -0.6
EIDS **Eidsvold** 38.95 143 *e*P **P** 22 50 21.0 +0.3
comp=Z,40nm,1.0s
USRK **Ussuriysk Arra** 38.96 7 P **P** 22 50 21.3 +0.8
comp=Z,6.4nm,0.6s,baz=185,slow=7.0,SNR=23
NWAO **Narrogin (SRO)** 39.08 192 P **P** 22 50 22.7 +1.0
comp=Z,81nm,0.5s,baz=20,slow=8.0,SNR=241
NWAO **Narrogin (SRO)** 39.08 192 *e*P **P** 22 50 22.7 +1.0
NWAO pmax pmax
comp=Z,67nm,0.6s
NWAO **Narrogin (SRO)** 39.08 192 *e*P **P** 22 50 22.7 +1.0
comp=Z,67nm,0.6s
BBOO **Buckleboo** 39.13 167 *e*P **P** 22 50 23.1 +1.0
comp=Z,4µm,0.6s
MDJ **Mudanjiang** 39.16 4 P **P** 22 50 23.5 +1.3
MDJ pP **pP** 22 50 54.3 +0.8
MDJ sP **sP** 22 51 10.0 +0.4
MDJ PP **PP** 22 51 56.3 +1.3
MDJ S **S** 22 56 13.6 +2.0
MDJ sS **sS** 22 57 07.5 +1.5
MDJ ScS **ScS** 23 00 16.3 +0.3
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,170nm,5.9s
MDJ LR LR
comp=N,42nm,29.3s
MDJ LR LR
comp=E,52nm,24.6s
MDJ LR LR
comp=Z,63nm,24.0s
MDJ **Mudanjiang** 39.16 4 *e*P **P** 22 50 23.2 +1.0
comp=Z,22nm,0.9s
STKA **Stephens Creek** 39.85 159 P **P** 22 50 29.1 +1.0
comp=Z,62nm,0.6s,baz=336,slow=7.9,SNR=156
STKA PcP **PcP** 22 52 31.9 +0.6
comp=Z,7.9nm,0.5s,baz=343,slow=5.4,SNR=3.5
STKA **Stephens Creek** 39.85 159 ⇑*i*P **P** 22 50 29.1 +1.0
comp=Z,52nm,0.6s
STKA **Stephens Creek** 39.85 159 *e*P **P** 22 50 29.0 +0.9
STKA 22 52 31.9
STKA pmax pmax
comp=Z,15nm,0.7s
STKA **Stephens Creek** 39.85 159 *e*P **P** 22 50 29.0 +0.9
comp=Z,15nm,0.7s
STKA PcP **PcP** 22 52 31.9 +0.6
LSA **Lhasa** 41.01 310 P **P** 22 50 40.6 +2.3
LSA pmax pmax
comp=Z,20nm,1.0s
LSA **Lhasa** 41.01 310 *e*P **P** 22 50 38.9 +0.6
LSA *e* 22 52 37.2
LSA pmax pmax
comp=Z,16nm,0.8s
LSA **Lhasa** 41.01 310 *e*P **P** 22 50 38.9 +0.6
comp=Z,16nm,0.8s
LSA *e*PcP **PcP** 22 52 37.2 +1.4
LSA *e*ScP **ScP** 22 56 12.7 +0.3
ASAJ **Asahikawa** 41.13 18 P **P** 22 50 38.5 -0.1
comp=Z,7.0nm,0.6s,baz=190,slow=22,SNR=8.1
ASAJ LR LR 23 07 24.7
comp=Z,71nm,20.7s,baz=147,slow=35
ASAJ **Asahikawa** 41.13 18 P **P** 22 50 38.5 -0.1
GTA **Gaotai** 41.44 329 ⇓P **P** 22 50 41.3 +0.1
GTA pP **pP** 22 51 12.3 -0.5
GTA sP **sP** 22 51 28.6 -0.3
GTA PcP **PcP** 22 52 38.6 +2.1
GTA ScP **ScP** 22 56 14.6 +1.1
GTA S **S** 22 56 43.8 -2.1
GTA SS SS 22 59 46.5 -10
GTA ScS **ScS** 23 00 29.4 -0.8
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,240nm,5.0s
GTA LR LR
comp=N,200nm,15.9s
GTA LR LR
comp=E,180nm,15.7s
GTA LR LR
comp=Z,110nm,17.1s
TAPN **Taplejung** 42.68 305 *e*P **P** 22 50 51.6 -0.1
comp=Z,34nm,0.5s
TAPN **Taplejung** 42.68 305 *e*P **P** 22 50 51.6 -0.1
comp=Z,34nm,0.5s
ODAN **Odare** 42.75 304 *e*P **P** 22 50 52.2 0.0
comp=Z,38nm,0.6s
ODAN **Odare** 42.75 304 *e*P **P** 22 50 52.2 0.0
comp=Z,38nm,0.6s
ARMA **Armidale** 43.11 147 *e*P **P** 22 50 56.2 +1.4
ARMA **Armidale** 43.11 147 *e*P **P** 22 50 56.4 +1.6
comp=Z,88nm,1.3s
RAMN **Ramite** 43.43 304 *e*P **P** 22 50 57.8 +0.1
comp=Z,48nm,0.7s
RAMN **Ramite** 43.43 304 *e*P **P** 22 50 57.8 +0.1
comp=Z,48nm,0.7s
HABR **Khabarovsk** 43.56 8 *e*P **P** 22 50 58.2 +0.2
HABR *e**SP **sP** 22 51 47.4 +1.6
HABR *e* 22 52 41.6
HABR *e*S **S** 22 57 17.1 +0.8
HABR *e**SS **sS** 22 58 14.6 +3.0
HABR *e*SS **SS** 23 00 38.5 +1.6
HABR pmax pmax
comp=Z,62nm,2.1s
HABR pmax pmax
comp=E,71nm,3.2s
HABR pmax pmax
comp=N,51nm,2.6s
HABR MLR MLR
comp=Z,43nm,15.0s
KLR **Kul'dur** 43.91 5 *e*P P 22 50 57.3 -3.6
JIRN **Jiri** 44.04 305 *e*P **P** 22 51 02.6 -0.1
comp=Z,45nm,0.5s
JIRN **Jiri** 44.04 305 *e*P **P** 22 51 02.6 -0.1
comp=Z,45nm,0.5s
HIA **Hailar** 44.05 354 *e*P **P** 22 51 03.1 +1.0
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA **Hailar** 44.05 354 *e*P **P** 22 51 03.0 +1.0
comp=Z,10nm,0.8s
GUN **Gumba** 44.39 305 *e*P **P** 22 51 05.3 -0.2
comp=Z,93nm,0.6s
GUN **Gumba** 44.39 305 *e*P **P** 22 51 05.3 -0.2
comp=Z,93nm,0.6s
PKI **Pulchoki** 44.65 304 *e*P **P** 22 51 07.4 -0.1
comp=Z,21nm,0.7s
PKI **Pulchoki** 44.65 304 *e*P **P** 22 51 07.4 -0.1
PKI pmax pmax
comp=Z,21nm,0.7s
PKI **Pulchoki** 44.65 304 *e*P **P** 22 51 07.4 -0.1
comp=Z,21nm,0.7s
KKN **Kakani** 44.84 304 *e*P **P** 22 51 08.8 -0.1
comp=Z,41nm,0.9s
KKN **Kakani** 44.84 304 *e*P **P** 22 51 08.8 -0.1
KKN pmax pmax
comp=Z,41nm,0.9s
KKN **Kakani** 44.84 304 *e*P **P** 22 51 08.8 -0.1
comp=Z,41nm,0.9s
DMN **Daman** 44.91 304 *e*P **P** 22 51 09.5 0.0
comp=Z,46nm,0.9s
DMN **Daman** 44.91 304 *e*P **P** 22 51 09.5 0.0
comp=Z,46nm,0.9s
ULN **Ulaanbaatar** 45.39 342 *e*P **P** 22 51 11.9 -0.9
ULN pmax pmax
comp=Z,24nm,1.2s
ULN **Ulaanbaatar** 45.39 342 *e*P **P** 22 51 11.9 -0.9
comp=Z,24nm,1.2s
ULN *e*ScP **ScP** 22 56 30.7 +1.3
ULN **Ulaanbaatar** 45.39 342 P **P** 22 51 13.3 +0.5

comp=Z,13nm,1.0s
GKN Gorkha 45.45 304 *e*P **P** **22 51 13.1 -0.5**
comp=Z,27nm,0.7s
GKN Gorkha 45.45 304 *e*P **P** **22 51 13.1 -0.5**
comp=Z,27nm,0.7s
SONM Songino Array 45.57 341 P **P** **22 51 14.1 -0.1**
comp=Z,1.3nm,0.5s,baz=164,slow=7.4,SNR=7.1
SONM pP **pP** **22 51 43.8 -2.5**
comp=Z,5.8nm,1.0s,baz=161,slow=8.9,SNR=3.9
SONM PcP **PcP** **22 52 51.0 +0.7**
comp=Z,3.5nm,0.8s,baz=175,slow=4.4,SNR=4.3
SONM ScP **ScP** **22 56 31.2 +1.1**
comp=Z,2.6nm,0.9s,baz=156,slow=3.5,SNR=6.7
SONM LR LR 23 11 16.8
comp=Z,82nm,20.1s,baz=148,slow=37
SONM Songino Array 45.57 341 P **P** **22 51 14.1 -0.1**
SONM 22 52 51.0
SONM Songino Array 45.57 341 P **P** **22 51 14.1 -0.1**
SONM pP **pP** **22 51 43.8 -2.5**
SONM PcP **PcP** **22 52 51.0 +0.7**
SONM ScP **ScP** **22 56 31.2 +1.1**
CAN Canberra 45.80 154 *e*P P 22 51 18.1 +2.0
CAN pmax pmax
comp=Z,33nm,0.8s
CAN Canberra 45.80 154 *e*P P 22 51 18.1 +2.0
comp=Z,33nm,0.8s
CNB Canberra Magne 45.96 154⇑ *i*P **P** **22 51 18.7 +1.3**
comp=Z,130nm,0.9s
KOLN Koldanda 46.22 304 *e*P **P** **22 51 19.3 -0.4**
comp=Z,93nm,0.7s
KOLN Koldanda 46.22 304 *e*P **P** **22 51 19.3 -0.4**
comp=Z,93nm,0.7s
DANN Dangsing 46.29 305 *e*P **P** **22 51 20.2 -0.2**
DANN Dangsing 46.29 305 *e*P **P** **22 51 20.2 -0.2**
TOO Toolangi 46.36 159⇑ *i*P P 22 51 22.5 +2.1
comp=Z,127nm,0.8s
DZM Mont Dzumac 47.87 126 *e*P **P** **22 51 34.1 +1.7**
DZM Mont Dzumac 47.87 126 *e*P P 22 51 34.4 +2.0
comp=Z,41nm,0.8s
HYB Hyderabad 48.15 288 *i* P **P** **22 51 33.0 -1.6**
HYB *e*pP **pP** **22 52 08.0 +1.1**
ZAK Zakamensk 48.80 341 *e*P P 22 51 35.9 -3.3
ZAK *e* 22 53 01.3
TLY Talaya 49.80 342 *e*P P 22 51 52.2 +5.5
TLY pmax pmax
comp=Z,12nm,1.1s
TLY Talaya 49.80 342 *e*P **P** **22 51 47.7 +1.1**
comp=Z,11nm,1.0s
MOY Mondy 50.66 340 *e*P **P** **22 51 55.4 +2.2**
WMQ Urumqi 51.10 325 P **P** **22 51 57.0 +0.4**
WMQ pP **pP** **22 52 29.0 -0.3**
WMQ sP **sP** **22 52 45.0 -0.1**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ pmax pmax
comp=Z,240nm,5.0s
WMQ LR LR
comp=N,270nm,26.4s
WMQ LR LR
comp=E,160nm,25.3s
WMQ LR LR
comp=Z,71nm,18.7s
CLNS Chul'man 51.30 359 *e*P **P** **22 51 59.0 +1.2**
CLNS pmax pmax
comp=Z,12nm,0.8s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.9s
DDI Dehra Dun 51.64 305 *ex* **P** **22 52 03.5 +2.6**
BOD Bodaibo 53.15 352 *e*P **P** **22 52 11.9 +0.5**
BOD pmax pmax
comp=Z,12nm,1.2s
PETK Petropavlovsk- 54.06 23 P **P** **22 52 18.8 +0.7**
comp=Z,15nm,0.8s,baz=183,slow=2.9,SNR=13
PETK pP **pP** **22 52 48.0 -3.2**
comp=Z,8.2nm,0.7s,baz=191,slow=7.1,SNR=3.1
PETK Petropavlovsk- 54.06 23 P **P** **22 52 18.8 +0.7**
PETK Petropavlovsk- 54.06 23 P **P** **22 52 18.8 +0.7**
PETK pP **pP** **22 52 48.0 -3.2**
MK31 Makanchi Array 55.93 325*ce*P **P** **22 52 31.3 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 55.93 325 *e*P **P** **22 52 31.4 -0.3**
MKAR Makanchi Array 55.93 325 P **P** **22 52 31.4 -0.4**
comp=Z,12nm,0.6s,baz=117,slow=7.1,SNR=210
MKAR pP **pP** **22 53 04.8 -0.1**
comp=Z,9.3nm,0.7s,baz=126,slow=7.6,SNR=3.7
MKAR PcP **PcP** **22 53 29.1 +0.5**
comp=Z,8.2nm,0.6s,baz=143,slow=4.4,SNR=5.7
MKAR ScP **ScP** **22 57 15.1 +0.5**
comp=Z,3.5nm,0.8s,baz=121,slow=4.8,SNR=7.9
MKAR LR LR 23 15 27.9
comp=Z,57nm,21.5s,baz=341,slow=35
MKAR PKP2bc 23 22 41.5
comp=Z,0.6nm,0.9s,baz=349,slow=2.5,SNR=4.1
MKAR Makanchi Array 55.93 325*ce*P **P** **22 52 31.3 -0.4**
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 55.93 325 P **P** **22 52 31.4 -0.4**
MKAR pP **pP** **22 53 04.8 -0.1**
MKAR PcP **PcP** **22 53 29.1 +0.5**
MKAR ScP **ScP** **22 57 15.1 +0.5**
MKAR ⇑*e* 23 22 41.5
MSVF Nonsavu 56.02 115 *e*P **P** **22 52 34.7 +1.8**
MSVF pmax pmax
comp=Z,28nm,0.8s
MSVF Nonsavu 56.02 115 *e*P **P** **22 52 34.7 +1.8**
comp=Z,28nm,0.8s
KSH Kashi 56.55 314 P **P** **22 52 37.6 +1.2**
KSH *es*P **sP** **22 53 26.0 +0.7**
KSH *e*PcP **PcP** **22 53 32.6 +1.3**
KSH *e*PP PP 22 54 50.3 +6.5
KSH *e*ScP **ScP** **22 57 17.3 -0.3**
KSH *e*PcS **PcS** **22 57 32.0 -0.3**
KSH *e*S **S** **23 00 13.8 -3.4**
KSH *e*ScS **ScS** **23 02 08.8 -3.1**
KSH *e*SS **SS** **23 04 05.1 -1.8**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,190nm,6.0s
KSH LR LR
comp=N,210nm,5.8s
KSH LR LR
comp=E,260nm,6.1s
KSH LR LR
comp=Z,240nm,6.1s
YAK Yakutsk 56.55 2 *e*P **P** **22 52 36.2 +0.4**
YAK *e*'PP **pP** **22 53 08.8 -0.3**
YAK *e* 22 53 28.4
YAK *e*PPP PPP 22 56 00.7
YAK *e*S **S** **23 00 17.2 +1.1**
YAK *e* 23 02 10.0
YAK *e*SS **SS** **23 04 01.5 -4.3**
YAK *e*SSS SSS 23 06 31.8
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,192nm,3.4s
YAK smax smax
comp=E,199nm,4.4s
YAK Yakutsk 56.55 2 *e*P **P** **22 52 35.7 0.0**
comp=E,34nm,0.8s
KZA Kyzart 58.09 317 P **P** **22 52 48.2 +0.7**
SNR=9.2
KZA P **P** **22 52 48.2 +0.7**
SNR=9.2
TKM2 Tokmak 2 58.20 318 P **P** **22 52 48.0 -0.1**
SNR=14
TKM2 P **P** **22 52 48.0 -0.1**
SNR=14
TKM2 Tokmak 2 58.20 318 *i* P **P** **22 52 47.9 -0.1**
TKM2 Tokmak 2 58.20 318 *e*P **P** **22 52 47.9 -0.1**
comp=E,10nm,0.7s
KBK Karagaybulak 58.53 318 P **P** **22 52 51.2 +1.0**
SNR=9.9
KBK P **P** **22 52 51.2 +1.0**
SNR=9.9
CHMS Chumysh 58.80 318 P **P** **22 52 51.5 -0.4**
SNR=5.3
CHMS P **P** **22 52 51.5 -0.4**
SNR=5.3
AAK Ala-Archa 58.82 317 P **P** **22 52 54.6 +2.4**
SNR=5.5
AAK P **P** **22 52 54.6 +2.4**
SNR=5.5
AAK Ala-Archa 58.82 317⇑ *i*P **P** **22 52 52.3 +0.1**
AAK pmax pmax
comp=Z,36nm,2.0s
AAK Ala-Archa 58.82 317 *e*P **P** **22 52 52.4 +0.1**
comp=Z,30nm,0.8s
AAK *e*ScP **ScP** **22 57 27.7 +0.1**
AAK Ala-Archa 58.82 317 P **P** **22 52 53.0 +0.7**
comp=Z,48nm,0.6s,SNR=5.6
ZAA0 Zalesovo Array 58.90 333 *e*P **P** **22 52 51.3 -1.0**
ZALV Zalesovo Beam 58.90 333 P **P** **22 52 51.1 -1.1**
comp=Z,2.9nm,0.4s,baz=120,slow=6.6,SNR=19
ZALV pP **pP** **22 53 23.5 -2.4**
comp=Z,6.2nm,0.9s,baz=109,slow=8.2,SNR=2.6
ZALV PKP2bc 23 22 35.6
comp=Z,1.6nm,0.9s,baz=325,slow=2.3,SNR=7.9
ZALV Zalesovo Beam 58.90 333 P **P** **22 52 51.2 -1.1**
ZALV Zalesovo Beam 58.90 333 P **P** **22 52 51.1 -1.1**
ZALV pP **pP** **22 53 23.5 -2.4**
ZALV ⇑*e* 23 22 35.6
USP Ospenovka 59.08 318 P **P** **22 52 53.6 -0.2**
SNR=35
USP P **P** **22 52 53.6 -0.2**
SNR=35
AML Almayashu 59.17 317 P **P** **22 52 55.2 +0.3**
SNR=16
AML P **P** **22 52 55.2 +0.3**
SNR=16
EKS2 Erkin-Say 59.32 317 P **P** **22 52 56.2 +0.6**
SNR=17
EKS2 P **P** **22 52 56.2 +0.6**
SNR=17
EKS2 Erkin-Say 59.32 317 *e*P **P** **22 52 55.8 +0.2**
EKS2 pmax pmax
comp=Z,15nm,0.9s
EKS2 Erkin-Say 59.32 317 *e*P **P** **22 52 55.8 +0.2**
comp=Z,15nm,0.9s
EKS2 *e*ScP **ScP** **22 57 30.2 +0.4**
KURK Kurchatov 60.09 327 P **P** **22 52 59.5 -1.1**
comp=Z,14nm,0.5s,baz=127,slow=6.0,SNR=46
KURK pP **pP** **22 53 32.8 -1.5**
comp=Z,7.9nm,0.6s,baz=127,slow=5.9,SNR=2.4
KURK PKPPKP P'P'df 23 22 15.9 -8.2
comp=Z,1.1nm,1.0s,baz=265,slow=2.8,SNR=5.0
KURK Kurchatov 60.09 327⇓ *i*P **P** **22 52 59.8 -0.8**
KURK pmax pmax
comp=Z,37nm,1.1s
KURK Kurchatov 60.09 327 *e*P **P** **22 52 60.0 -0.6**
comp=Z,28nm,0.7s
KURK pP **pP** **22 53 32.8 -1.5**
KURK P'P' 23 22 15.9
KURK Kurchatov 60.09 327 P **P** **22 53 00.4 -0.2**
comp=Z,226nm,0.5s,SNR=33
KBL Kabul 60.16 307 *e*P **P** **22 53 00.5 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 60.16 307 *e*P **P** **22 53 00.5 -1.1**
comp=Z,7.5nm,0.6s
NVS Novosibirsk 60.18 333 *e*P **P** **22 53 01.8 +0.7**
NVS pmax pmax
comp=Z,23nm,1.5s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.3s
SEY Seymchan 60.51 13*ce*P **P** **22 53 04.3 +1.1**
KK31 Karatay Array 61.71 317*ce*P **P** **22 53 11.0 -0.7**
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 61.71 317 *e*P **P** **22 53 11.0 -0.7**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 61.71 317 *e*P **P** **22 53 11.0 -0.7**
comp=Z,11nm,0.8s
BVAR Borovoye Array 65.68 327 P **P** **22 53 37.6 +0.1**
comp=Z,16nm,0.9s,baz=126,slow=7.5,SNR=43
BVAR pP **pP** **22 54 11.3 -0.4**
comp=Z,5.6nm,0.8s,baz=132,slow=6.6,SNR=2.1
BVAR Borovoye Array 65.68 327 P **P** **22 53 37.6 +0.1**
BVAR *PP **pP** **22 54 11.3 -0.4**
BVAR Borovoye Array 65.68 327 P **P** **22 53 37.6 +0.1**
BVAR pP **pP** **22 54 11.3 -0.4**
BRVK Borovoye 65.75 327⇓ *i*P **P** **22 53 37.3 -0.6**
BRVK pmax pmax
comp=Z,37nm,1.2s
BRVK Borovoye 65.75 327 *e*P **P** **22 53 37.1 -0.9**
comp=Z,31nm,0.9s
BILL Bilibino 68.06 15⇓ *i*P **P** **22 53 52.7 +0.5**
AB31 Akbulak array 70.58 320*ce*P **P** **22 54 07.4 -0.7**
AB31 pmax pmax
comp=Z,18nm,0.8s
ABKAR Akbulak array 70.58 320 *e*P **P** **22 54 07.7 -0.5**
comp=Z,10nm,0.6s
AKTO Aktyubinsk 72.08 321 P **P** **22 54 16.9 -0.2**
comp=Z,15nm,0.6s,baz=97,slow=8.8,SNR=67
AKTO Aktyubinsk 72.08 321 *i* P **P** **22 54 16.4 -0.7**
AKTO Aktyubinsk 72.08 321 P **P** **22 54 16.9 -0.2**
SVE Sverdlovsk 72.31 326⇓ *e*P **P** **22 54 18.2 -0.1**
SVE pmax pmax
comp=Z,24nm,1.0s
CASY Casey 72.42 187⇑ *i*P **P** **22 54 20.1 +1.4**
CASY Casey 72.42 187 *e*P **P** **22 54 20.2 +1.4**
comp=Z,46nm,0.8s
DRV Dumont d'Urvil 72.58 174 S **SKiKP** **23 03 35.0 -4.9**
DRV SS SS 23 07 53.0 -22
ARU Arti 73.29 328*c i*P **P** **22 54 23.4 -0.7**
ARU 22 54 36.4
ARU PPP PPP 22 58 51.8
ARU S **SKiKP** **23 03 39.3 -2.0**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 73.29 328 *e*P **P** **22 54 23.4 -0.7**
comp=Z,18nm,0.8s
RDF Al-Radifah 77.55 298 *e*P **P** **22 54 47.1 -2.0**
RDF AMb AMB 22 54 57.0
comp=Z,16nm,1.3s
MIB Mutribah 77.74 299 *e*P **P** **22 54 48.8 -1.4**
MIB AMb AMB 22 54 51.0
comp=Z,25nm,0.8s
NAY Al-Naaiem 77.82 299 *e*P **P** **22 54 49.0 -1.6**
NAY AMb AMB 22 55 01.1
comp=Z,8.2nm,1.1s
RAYN Ar Rayn 79.42 293 P **P** **22 54 58.5 -1.0**
comp=Z,60nm,0.6s,SNR=5.9
KDAK Kodiak Island 80.72 32 *i* P **P** **22 55 07.4 +1.8**
KDAK Kodiak Island 80.72 32 P **P** **22 55 06.0 +0.4**
comp=Z,203nm,1.8s,SNR=5.4
ZEI Tsey 80.76 312 *e*P **P** **22 55 05.6 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
ABPO Ambohimpanom 81.46 250 *e*P **P** **22 55 10.4 -0.2**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
ABPO Ambohimpanom 81.46 250 *e*P **P** **22 55 10.4 -0.2**
comp=Z,9.9nm,0.8s
VRHR Novokhopersk 82.47 321 *e*P **P** **22 55 13.8 -1.2**
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
COLD Coldfoot 82.53 23 *e*P **P** **22 55 16.9 +1.9**
comp=Z,7.7nm,0.7s
MCK McKinley 82.87 27 *e*P **P** **22 55 17.6 +0.8**
MCK pmax pmax
comp=Z,57nm,1.4s
MCK McKinley 82.87 27 *e*P **P** **22 55 17.6 +0.8**
comp=Z,57nm,1.4s
KLMR Klimovskoe 83.73 331*d i*P **P** **22 55 18.6 -2.7**
KLMR pmax pmax
comp=Z,22nm,1.5s
ILAR Eielson Array 83.79 25 P **P** **22 55 21.1 -0.4**
comp=Z,2.1nm,0.6s,baz=246,slow=5.0,SNR=32
ILAR Eielson Array 83.79 25 P **P** **22 55 21.1 -0.4**
ILAR Eielson Array 83.79 25 P **P** **22 55 21.1 -0.4**
VSR Storozhevoye 84.01 321 *e*P **P** **22 55 21.7 -1.2**
VSR pmax pmax
comp=E,1.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,2.0nm,0.3s
VNDA Vanda 85.14 173 *e*P **P** **22 55 28.6 +0.6**
VNDA pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 85.14 173 *e*P **P** **22 55 28.6 +0.6**
comp=Z,14nm,1.0s
MAW Mawson 85.17 200 P **P** **22 55 27.8 -0.4**
comp=Z,16nm,0.8s,baz=57,slow=6.4,SNR=7.4
MAW Mawson 85.17 200 P **P** **22 55 27.8 -0.4**
MAW Mawson 85.17 200 P **P** **22 55 27.8 -0.4**
OBN Obninsk 85.44 325⇑ *i*P **P** **22 55 30.3 +0.4**
OBN *e* 22 58 50.0
OBN *eS* S 23 05 39.8 -9.4
OBN pmax pmax
comp=Z,29nm,1.7s
JOF Joensuu 87.49 333 *e*P **P** **22 55 38.6 -1.2**
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 87.49 333 *ep* **P** **22 55 38.6 -1.2**
comp=Z,10.0nm,0.7s
JOF Joensuu 87.49 333 *ep* **P** **22 55 38.6 -1.2**
comp=Z,10.0nm,0.7s
KEV Kevo 88.17 340 *e*P **P** **22 55 41.3 -1.6**
KEV pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 88.17 340 *ep* **P** **22 55 41.3 -1.6**
comp=Z,3.4nm,0.7s
KEV Kevo 88.17 340 *ep* **P** **22 55 41.3 -1.6**
comp=Z,3.4nm,0.7s
BRTR Keskin Array B 88.61 310 P **P** **22 55 44.7 -1.2**
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 88.61 310 P **P** **22 55 44.7 -1.2**
BRTR Keskin Array B 88.61 310 P **P** **22 55 44.7 -1.2**
ARCES ARCESS Array B 88.73 340 P **P** **22 55 44.6 -1.0**
comp=Z,6.8nm,0.7s,baz=82,slow=5.8,SNR=21
ARCES pP **pP** **22 56 19.8 -1.9**
comp=Z,7.2nm,0.9s,baz=64,slow=5.5,SNR=3.2
ARCES ARCESS Array B 88.73 340 P **P** **22 55 44.6 -1.0**
ARCES ARCESS Array B 88.73 340 P **P** **22 55 44.6 -1.0**
ARCES pP **pP** **22 56 19.8 -1.9**
INK Inuvik 88.77 21 P **P** **22 55 46.0 +0.3**
comp=Z,3.6nm,1.0s,baz=261,slow=8.0,SNR=4.4
INK PKKPbc **PKKPbc** **23 13 24.8 -3.3**
comp=Z,2.2nm,0.6s,baz=72,slow=2.7,SNR=14
INK Inuvik 88.77 21 *e*P **P** **22 55 46.1 +0.3**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 88.77 21 *e*P **P** **22 55 46.0 +0.3**
comp=Z,9.0nm,1.1s
INK PKKPbc **PKKPbc** **23 13 24.8 -3.3**
KAF Kangasniemi 89.91 332 *e*P **P** **22 55 50.1 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 89.91 332 *ep* **P** **22 55 50.1 -1.1**
comp=Z,5.2nm,0.5s
KAF Kangasniemi 89.91 332 *ep* **P** **22 55 50.1 -1.1**
comp=Z,5.2nm,0.5s
FINES FINESS Array B 90.15 332 P **P** **22 55 51.5 -0.8**
comp=Z,3.0nm,0.5s,baz=60,slow=4.6,SNR=34
FINES FINESS Array B 90.15 332 P **P** **22 55 51.5 -0.8**
FINES FINESS Array B 90.15 332 P **P** **22 55 51.5 -0.8**
AKASG Malin Array Be 90.32 321 P **P** **22 55 52.1 -1.2**
comp=Z,1.2nm,0.6s,baz=68,slow=5.0,SNR=5.0
AKASG pP **pP** **22 56 28.2 -1.3**
comp=Z,1.2nm,0.6s,baz=72,slow=3.8,SNR=3.0
AKASG Malin Array Be 90.32 321*ce*P **P** **22 55 53.0 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 90.32 321 P **P** **22 55 52.1 -1.2**
AKASG pP **pP** **22 56 28.2 -1.3**
MLR Muntele Rosu 93.39 316 P **P** **22 56 07.0 -0.8**
comp=Z,0.3nm,0.6s,baz=112,slow=5.4,SNR=6.0
MLR Muntele Rosu 93.39 316 P **P** **22 56 07.0 -0.8**
MLR Muntele Rosu 93.39 316 P **P** **22 56 07.0 -0.8**
QSPA South Pole Qui 95.30 180 P **P** **22 56 16.7 +0.6**
comp=Z,9.4nm,0.9s,baz=19,slow=2.5,SNR=18
QSPA South Pole Qui 95.30 180 *e*P **P** **22 56 16.7 +0.6**
comp=Z,16nm,1.1s
DAG Danmarks Havn 95.54 352 *i* P **P** **22 56 15.8 -1.1**
DAG *i* S **S** **23 07 16.8 -4.2**
NB2 NORSAR Subarra 97.09 334 P **P** **22 56 22.9 -1.4**
comp=Z,3.0nm,0.7s,baz=67,slow=4.6
NOA NORSAR Array B 97.09 334 P **P** **22 56 22.6 -1.7**
comp=Z,2.6nm,0.7s,baz=66,slow=4.6,SNR=11
NOA NORSAR Array B 97.09 334 P **P** **22 56 22.6 -1.7**
NOA NORSAR Array B 97.09 334 P **P** **22 56 22.6 -1.7**
YKA Yellowknife Ar 98.16 24 P Pdif 22 56 29.0 +0.1
comp=Z,0.7nm,0.8s,baz=298,slow=4.8,SNR=10
YKA PKiKP **PKiKP** **23 01 01.3 +0.3**
comp=Z,0.3nm,0.7s,baz=297,slow=2.0,SNR=5.2
YKA PKKPbc **PKKPbc** **23 13 00.1 -3.3**
comp=Z,1.5nm,0.6s,baz=117,slow=2.5,SNR=27
YKA Yellowknife Ar 98.16 24 P Pdif 22 56 29.1 +0.1
YKA Yellowknife Ar 98.16 24 P Pdif 22 56 29.1 +0.1
YKA PKiKP **PKiKP** **23 01 01.4 +0.3**
YKA PKKPbc **PKKPbc** **23 13 00.1 -3.3**
GERES GERESS Array B 100.50 322 P **Pdif** **22 56 39.0 -0.9**
comp=Z,0.5nm,0.8s,baz=97,slow=8.0,SNR=2.6
GERES GERESS Array B 100.50 322 P **Pdif** **22 56 39.0 -0.9**
GERES GERESS Array B 100.50 322 P **Pdif** **22 56 39.0 -0.9**
NVAR Mina Array Bea 106.12 48 Pdiff **Pdif** **22 57 06.5 +1.3**
comp=Z,0.2nm,0.3s,baz=289,slow=5.6,SNR=2.7
NVAR PKKPbc **PKKPbc** **23 12 40.1 +0.5**
comp=Z,0.9nm,0.7s,baz=126,slow=3.9,SNR=7.7
NVAR PKKP **PKKPab** **23 12 55.5 -0.7**
comp=Z,0.8nm,0.7s,baz=119,slow=5.6,SNR=6.1
NVAR Mina Array Bea 106.12 48 Pdif **Pdif** **22 57 06.5 +1.3**
NVAR PKKPbc **PKKPbc** **23 12 40.1 +0.5**
NVAR PKKP **PKKPab** **23 12 55.5 -0.7**
FRB Frobisher Bay 110.13 7 PKKPbc PKKPbc 23 12 24.3 -3.3
comp=Z,0.8nm,0.5s,baz=167,slow=3.3,SNR=5.6
FRB Frobisher Bay 110.13 7 PKKPbc PKKPbc 23 12 24.3 -3.3
PDAR Pinedale Array 110.39 41 PKKPbc PKKPbc 23 12 22.0 -4.4
comp=Z,0.4nm,0.7s,baz=102,slow=6.2,SNR=4.2
PDAR PKKP **PKKPab** **23 12 35.3 -2.0**
comp=Z,1.7nm,0.7s,baz=123,slow=7.0,SNR=14
PDAR Pinedale Array 110.39 41 PKKPbc PKKPbc 23 12 22.0 -4.4
PDAR PKKP **PKKPab** **23 12 35.3 -2.0**
S21A Coal Bank Pass 113.99 45⇑P **PKiKP** **23 01 32.5 +1.0**
baz=114
ANMO Albuquerque 116.21 47 PKP **PKPdf** **23 01 36.0 +0.3**
comp=Z,1.1nm,0.7s,baz=104,slow=7.3,SNR=3.8
ANMO Albuquerque 116.21 47 PKIKP **PKPdf** **23 01 36.0 +0.3**
ANMO Albuquerque 116.21 47 PKP **PKPdf** **23 01 36.0 +0.3**
W24A Lazy 6 Ranch, 116.85 46⇓P **PKPdf** **23 01 38.4 +1.4**
baz=117
V25A Rancho No Teng 117.11 45⇑P **PKPdf** **23 01 38.4 +0.9**
baz=117
Y24A Capitan 117.44 47⇓P **PKPdf** **23 01 39.2 +1.0**
baz=117
Y25A Mesa, Roswell 117.99 47⇑P **PKPdf** **23 01 39.7 +0.6**
baz=118
SCHQ Schefferville 118.99 9 PKP **PKPdf** **23 01 40.8 +0.5**
comp=Z,2.6nm,0.6s,baz=257,slow=5.2,SNR=8.7
SCHQ PKKPbc **PKKPbc** **23 11 54.7 -2.4**
comp=Z,2.1nm,0.6s,baz=39,slow=15,SNR=5.1
SCHQ Schefferville 118.99 9 PKP **PKPdf** **23 01 40.8 +0.5**
SCHQ PKKPbc **PKKPbc** **23 11 54.7 -2.4**
Z27A Tatum 119.36 47⇑P **PKPdf** **23 01 42.4 +0.7**
baz=119
527A Woodward Ranch 120.58 50⇑P **PKPdf** **23 01 45.0 +0.9**
baz=120
328A Wristen Ranch, 120.60 49⇓P **PKPdf** **23 01 44.9 +0.8**
baz=120
TXAR Lajitas Array 120.92 51 PKP **PKPdf** **23 01 45.0 +0.2**
comp=Z,0.6nm,0.7s,baz=152,slow=0.6,SNR=9.9
TXAR pPKP **pPKPdf** **23 02 21.2 -1.4**
comp=Z,0.5nm,0.7s,baz=252,slow=2.4,SNR=2.6
TXAR SKP 23 05 08.7
comp=Z,0.5nm,0.9s,baz=189,slow=4.7,SNR=4.0
TXAR PKKPbc **PKKPbc** **23 11 47.9 -1.4**
comp=Z,0.7nm,0.7s,baz=129,slow=5.3,SNR=8.8
TXAR Lajitas Array 120.92 51 PKIKP **PKPdf** **23 01 45.0 +0.2**
TXAR 23 02 21.3
TXAR Lajitas Array 120.92 51 PKP **PKPdf** **23 01 45.0 +0.2**
TXAR pPKP **pPKPdf** **23 02 21.2 -1.4**
TXAR SKP 23 05 08.7
TXAR PKKPbc **PKKPbc** **23 11 47.9 -1.4**
428A Kincaid Ranch, 121.01 49⇓P **PKPdf** **23 01 46.2 +1.3**
baz=121
627A Terlingua Ranc 121.08 51⇓P **PKPdf** **23 01 45.9 +0.8**
baz=121
TOA0 Torodi Ar. Sit 121.96 289 *e*PKPdf **PKPdf** **23 01 46.9 -0.1**
TORD Torodi Ar. Bea 121.96 289 PKP **PKPdf** **23 01 46.8 -0.2**
comp=Z,6.4nm,0.7s,baz=75,slow=1.9,SNR=45

TORD				SKP			23 05 09.8		
	comp=Z,1.0nm,0.7s,baz=37,slow=1.6,SNR=3.8								
TORD	**Torodi Ar. Bea**	**121.96**	**289**	PKP	**PKPdf**		**23 01 46.8**	**-0.2**	
TORD				SKP			23 05 09.8		
JCT	**Junction City**	**123.29**	**48**	*e*PKIKP	**PKPdf**		**23 01 50.4**	**+1.1**	
JCT	**Junction City**	**123.29**	**48**	*e*PKPdf	**PKPdf**		**23 01 50.4**	**+1.1**	
JCT	**Junction City**	**123.29**	**48**	⇓P	**PKPdf**		**23 01 50.3**	**+1.0**	
	baz=123								
SFIN	**Scholer Farm**	**125.08**	**31**	⇑P	**PKPdf**		**23 01 53.0**	**+0.7**	
	baz=125								
SADO	**Sadowa**	**125.08**	**22**	PKP	**PKPdf**		**23 01 51.2**	**-1.0**	
	comp=Z,3.0nm,0.5s,baz=350,slow=1.4,SNR=5.1								
SADO	**Sadowa**	**125.08**	**22**	PKP	**PKPdf**		**23 01 51.2**	**-1.0**	
MIAR	**Mount Ida**	**125.31**	**40**	*e*PKIKP	**PKPdf**		**23 01 54.3**	**+1.3**	
MIAR	**Mount Ida**	**125.31**	**40**	*e*PKPdf	**PKPdf**		**23 01 54.3**	**+1.3**	
USHA	**Ushuaia**	**129.31**	**169**	PKP	**PKPdf**		**23 02 01.2**	**+1.4**	
	comp=Z,13nm,0.8s,baz=131,slow=2.3,SNR=6.9								
USHA	**Ushuaia**	**129.31**	**169**	PKP	**PKPdf**		**23 02 01.2**	**+1.4**	
DBIC	**Dimbokro**	**129.78**	**283**	PKP	**PKPdf**		**23 02 02.2**	**+0.2**	
	comp=Z,5.4nm,0.7s,baz=76,slow=4.0,SNR=10								
DBIC				SKPbc	SKPbc		23 05 11.8	+0.4	
	comp=Z,29nm,0.8s,baz=59,slow=4.2,SNR=41								
DBIC	**Dimbokro**	**129.78**	**283**	PKIKP	**PKPdf**		**23 02 02.2**	**+0.2**	
DBIC	**Dimbokro**	**129.78**	**283**	PKP	**PKPdf**		**23 02 02.2**	**+0.2**	
DBIC				SKPbc	SKPbc		23 05 11.8	+0.4	
TKL	**Tuckaleechee C**	**130.35**	**32**	PKP	**PKPdf**		**23 02 02.3**	**-0.3**	
	comp=Z,3.9nm,0.6s,baz=160,slow=7.6,SNR=7.2								
TKL				SKPbc	**SKPbc**		**23 05 13.9**	**+1.0**	
	comp=Z,4.1nm,0.6s,baz=197,slow=4.5,SNR=6.3								
TKL	**Tuckaleechee C**	**130.35**	**32**	PKIKP	**PKPdf**		**23 02 02.3**	**-0.3**	
TKL	**Tuckaleechee C**	**130.35**	**32**	PKP	**PKPdf**		**23 02 02.3**	**-0.3**	
TKL				SKPbc	**SKPbc**		**23 05 13.9**	**+1.0**	
KMSC	**Kings Mountain**	**132.02**	**31**	⇓P	**PKPdf**		**23 02 06.2**	**+0.5**	
	baz=132								
PLCA	**Paso Flores**	**141.72**	**159**	PKhKP	PKPpre		23 02 19.5		
	comp=Z,4.0nm,0.7s,baz=201,slow=6.2,SNR=5.4								
PLCA				SKPbc	**SKiKP**		**23 05 48.9**	**-0.6**	
	comp=Z,5.2nm,0.9s,baz=167,slow=4.7,SNR=5.8								
PLCA	**Paso Flores**	**141.72**	**159**	PKIKP	**PKPdf**		**23 02 19.5**	**-4.0**	
PLCA	**Paso Flores**	**141.72**	**159**	PKPpre	PKPpre		23 02 19.5		
PLCA				SKPbc	**SKiKP**		**23 05 48.9**	**-0.6**	
TRQA	**Tornquist**	**146.64**	**168**	*e*PKPbc	**PKPab**		**23 02 34.3**	**-0.9**	
CFAA	**Coronel Fontan**	**150.60**	**154**	PKP	**PKPdf**		**23 02 39.8**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=199,slow=4.2,SNR=6.2								
CFAA				PKPbc	**PKiKP**		**23 02 45.2**	**+0.3**	
	comp=Z,7.8nm,0.7s,baz=203,slow=3.6,SNR=94								
CFAA	**Coronel Fontan**	**150.60**	**154**	PKP	**PKPdf**		**23 02 39.8**	**+1.0**	
CFAA				PKPbc	**PKiKP**		**23 02 45.2**	**+0.3**	
LCO	**Las Campanas**	**151.55**	**148**	*e*PKPbc	**PKPbc**		**23 02 48.1**	**+1.3**	
SDV	**Santo Domingo**	**157.95**	**50**	*e*PKPdf	**PKPdf**		**23 02 50.3**	**+0.7**	
LPAZ	**La Paz**	**162.21**	**129**	PKP	**PKPdf**		**23 02 55.3**	**+0.5**	
	comp=Z,4.6nm,1.0s,baz=336,slow=1.2,SNR=14								
LPAZ	**La Paz**	**162.21**	**129**	PKIKP	**PKPdf**		**23 02 55.3**	**+0.5**	
LPAZ	**La Paz**	**162.21**	**129**	PKP	**PKPdf**		**23 02 55.3**	**+0.5**	
SIV	**San Ignacio**	**167.25**	**146**	PKP	**PKPdf**		**23 02 59.3**	**+0.8**	
	comp=Z,7.3nm,1.0s,baz=193,slow=0.9,SNR=13								
SIV				PKPab	**PKPab**		**23 04 04.8**	**+1.2**	
	comp=Z,1.5nm,0.7s,baz=213,slow=4.7,SNR=4.1								
SIV	**San Ignacio**	**167.25**	**146**	PKP	**PKPdf**		**23 02 59.3**	**+0.8**	
SIV				PKPab	**PKPab**		**23 04 04.8**	**+1.2**	
BDFB	**Brasilia**	**168.39**	**208**	PKP	**PKPdf**		**23 02 59.5**	**+0.1**	
	comp=Z,4.8nm,0.9s,baz=99,slow=0.6,SNR=4.9								
BDFB				PKPab	**PKPab**		**23 04 08.9**	**+0.2**	
	comp=Z,6.5nm,0.8s,baz=72,slow=0.4,SNR=6.8								
BDFB	**Brasilia**	**168.39**	**208**	PKIKP	**PKPdf**		**23 02 59.5**	**+0.1**	
BDFB							23 04 08.9		
BDFB	**Brasilia**	**168.39**	**208**	PKP	**PKPdf**		**23 02 59.5**	**+0.1**	
BDFB				PKPab	**PKPab**		**23 04 08.9**	**+0.2**	

*IDC **24** 22:53:53.6±0.8,56˚.88S×25˚.12W,h0km,mb4.3/5, mb1 4.2/6,mb1mx4.0/15,mbtmp4.2/6,ML3.6/1,MS3.6/6, Ms1 3.6/6,ms1mx3.4/20,Error ellipse: s-maj=28.4km s-min=21.0km az=54.0*
*ISCJB **24** 22:53:54.8±0.7,56˚.9S±0˚.1×25˚.1W±0˚.2,h22km,mb4.3/8, MS3.6/6, Error ellipse: s-maj=21.5km s-min=9.8km az=145.9*
*NEIC **24** 22:53:58.7±0.4,56˚.89S×25˚.18W,h35km,mb4.9/4, Error ellipse: s-maj=14.5km s-min=10.0km az=50.0*

ISC 24 22:53:56.7±0.6,56˚.9S±0˚.1×25˚.1W±0˚.1,h22km,n40, σ0s97/36,mb4.4/8,MS3.6/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**15.54**	**159**	*e*P		**Pn**	**22 57 34.9**	**+0.8**
VNA2	**Neumayer--Watz**	**15.94**	**159**	*e*P		**Pn**	**22 57 38.9**	**-0.3**
	baz=326,slow=16							
SNAA	**Sanae**	**17.46**	**156**	*e*P		**Pn**	**22 57 55.8**	**-2.7**
SNAA	**Sanae**	**17.46**	**156**	P		**P**	**22 58 00.1**	**+0.4**
	0.2nm,0.3s,baz=335,slow=21,SNR=21							
SNAA	**Sanae**	**17.46**	**156**	P		**P**	**22 58 00.1**	**+0.4**
EFI	**East Falkland**	**19.80**	**271**	*e*P		**P**	**22 58 25.9**	**+0.6**
	96nm,1.1s							
PMSA	**Palmer Station**	**20.21**	**231**	LR		LR	23 04 45.3	
	comp=Z,200nm,21.7s,baz=113,slow=32							
USHA	**Ushuaia**	**24.09**	**257**	P		**P**	**22 59 10.3**	**+0.1**
	11nm,0.8s,baz=98,slow=10,SNR=6.5							
USHA				LR		LR	23 06 11.7	
	comp=Z,194nm,19.9s,baz=232,slow=31							
USHA	**Ushuaia**	**24.09**	**257**	P		**P**	**22 59 10.3**	**+0.1**
PLCA	**Paso Flores**	**33.29**	**279**	LR		LR	23 13 29.5	
	comp=Z,71nm,19.6s,baz=131,slow=35							
QSPA	**South Pole Qui**	**33.31**	**180**	P		**P**	**23 00 33.0**	**+0.5**
	2.0nm,0.6s,baz=249,slow=2.3,SNR=7.7							
QSPA	**South Pole Qui**	**33.31**	**180**	*e*P		**P**	**23 00 32.8**	**+0.3**
	4.9nm,0.7s							
CFAA	**Coronel Fontan**	**38.97**	**292**	P		**P**	**23 01 19.3**	**-1.7**
	0.2nm,0.3s,baz=143,slow=9.9,SNR=4.1							
CFAA	**Coronel Fontan**	**38.97**	**292**	P		**P**	**23 01 19.3**	**-1.7**
BDFB	**Brasilia**	**44.72**	**328**	P		**P**	**23 02 08.5**	**+0.3**
	1.6nm,0.5s,baz=126,slow=8.7,SNR=2.5							
BDFB	**Brasilia**	**44.72**	**328**	P		**P**	**23 02 08.5**	**+0.3**
BOSA	**Boshof**	**45.10**	**73**	LR		LR	23 17 45.2	
	comp=Z,70nm,21.2s,baz=75,slow=32							
SIV	**San Ignacio**	**49.03**	**312**	P		**P**	**23 02 42.2**	**+0.4**
	2.4nm,0.5s,baz=169,slow=7.0,SNR=18							
SIV	**San Ignacio**	**49.03**	**312**	P		**P**	**23 02 42.2**	**+0.4**
LPAZ	**La Paz**	**51.83**	**304**	P		**P**	**23 03 04.4**	**+0.7**
	24nm,0.6s,baz=155,slow=3.7,SNR=102							
LPAZ	**La Paz**	**51.83**	**304**	*e*P		P	23 02 56.6	-7.1
	20nm,0.4s							
SAML	**Samuel**	**56.25**	**313**	*e*P		**P**	**23 03 35.1**	**-0.1**
	4.9nm,0.5s							
MSKU	**Masuku**	**63.16**	**44**	LR		LR	23 25 16.2	
	comp=Z,42nm,18.3s,baz=140,slow=30							
TORD	**Torodi Ar. Bea**	**73.29**	**27**	P		**P**	**23 05 25.6**	**-0.6**
	1.5nm,0.7s,baz=204,slow=6.2,SNR=6.4							
TORD	**Torodi Ar. Bea**	**73.29**	**27**	P		**P**	**23 05 25.6**	**-0.6**
KEST	**Kesra**	**96.81**	**28**	LR		LR	23 44 34.3	
	comp=Z,44nm,18.7s,baz=262,slow=31							
FINES	**FINESS Array B**	**124.64**	**27**	PKP		**PKPdf**	**23 12 53.2**	**+0.4**
	1.2nm,0.8s,baz=252,slow=4.1,SNR=3.6							
FINES	**FINESS Array B**	**124.64**	**27**	PKP		**PKPdf**	**23 12 53.2**	**+0.4**
YKA	**Yellowknife Ar**	**137.61**	**316**	PKP		**PKPdf**	**23 13 16.6**	**-0.7**
	0.6nm,0.6s,baz=121,slow=2.3,SNR=7.4							
YKA				PP		**PP**	**23 16 07.1**	**+2.3**
	0.1nm,0.3s,baz=124,slow=6.1,SNR=3.8							
YKA	**Yellowknife Ar**	**137.61**	**316**	PKP		**PKPdf**	**23 13 16.6**	**-0.7**
YKA				PP		**PP**	**23 16 07.1**	**+2.3**
ZALV	**Zalesovo Beam**	**141.73**	**64**	PKP		**PKPdf**	**23 13 25.7**	**+0.7**
	0.4nm,0.5s,baz=268,slow=4.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**141.73**	**64**	PKP		**PKPdf**	**23 13 25.7**	**+0.7**
INK	**Inuvik**	**147.22**	**319**	PKPbc		**PKPbc**	**23 13 36.1**	**-0.3**
	2.5nm,0.7s,baz=49,slow=1.6,SNR=9.2							
INK	**Inuvik**	**147.22**	**319**	*e*PKPbc		**PKPbc**	**23 13 35.8**	**-0.7**
SONM	**Songino Array**	**149.63**	**86**	PKPbc		**PKPbc**	**23 13 43.9**	**+0.3**
	0.6nm,0.5s,baz=215,slow=3.6,SNR=9.8							
SONM	**Songino Array**	**149.63**	**86**	PKPbc		**PKPbc**	**23 13 43.9**	**+0.3**
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc		**PKPbc**	**23 13 47.5**	**0.0**
	1.8nm,0.8s,baz=143,slow=3.8,SNR=23							
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc		**PKPbc**	**23 13 47.5**	**0.0**
KDAK	**Kodiak Island**	**152.24**	**294**	PKPbc		**PKPbc**	**23 13 49.9**	**+0.7**
	10nm,0.8s,baz=134,slow=13,SNR=5.7							
KDAK	**Kodiak Island**	**152.24**	**294**	PKPbc		**PKPbc**	**23 13 49.9**	**+0.7**

IDC 24 22:57:33.1±1.2,6˚.11N×127˚.64E,h0km,mb3.7/5, mb1 3.7/6,mb1mx3.5/21,mbtmp3.7/6,ML4.0/1,Error ellipse: s-maj=52.0km s-min=19.0km az=59.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**2.26**	**295**	Pn		Pn	22 58 12.8	+1.1
	37nm,0.3s,baz=236,slow=7.8,SNR=7.3							
DAV				Sn		Sb	22 58 42.0	-1.3
	29nm,0.3s,baz=289,slow=23,SNR=6.0							
WRA	**Warramunga Arr**	**26.71**	**166**	P		P	23 03 14.5	+0.1
	0.5nm,0.5s,baz=342,slow=10,SNR=6.9							
ASAR	**Alice Springs**	**30.22**	**169**	P		P	23 03 45.8	+0.1
	0.2nm,0.8s,baz=355,slow=7.5,SNR=1.4							
MKAR	**Makanchi Array**	**56.15**	**324**	P		P	23 07 14.2	-0.5
	0.3nm,0.4s,baz=117,slow=7.7,SNR=20							
ZALV	**Zalesovo Beam**	**58.91**	**332**	P		P	23 07 34.5	+0.6
	0.3nm,0.2s,baz=138,slow=9.0,SNR=2.1							
KURK	**Kurchatov**	**60.25**	**326**	P		P	23 07 42.5	-0.7
	0.8nm,0.2s,baz=128,slow=5.9,SNR=3.2							

*IDC **24** 22:57:36.9±0.8,17˚.74S×168˚.15E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.2/21,mbtmp4.3/11,ML4.1/1,MS3.6/7, Ms1 3.5/7,ms1mx3.3/33,Error ellipse: s-maj=27.3km s-min=21.4km az=129.0*
*NEIC **24** 22:57:42.2±0.7,17˚.85S×168˚.09E,h35km,mb4.5/5,Error ellipse: s-maj=18.4km s-min=13.9km az=128.0*
*NOU **24** 22:57:46.7±0.6,18˚.17S×168˚.08E,h30km,MD3.2,ML3.8, MS1.6*

ISC 24 22:57:38.4±1.1,17˚.89S±0˚.08×168˚.1E±0˚.2,h11km±5km, n49,σ1s86/54,mb4.3/14,MS3.4/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**4.43**	**200**	Pn		**Pn**	**22 58 48.6**	**+3.0**
	9.6nm,0.3s,baz=32,slow=15,SNR=133							
DZM				Sn		**Sn**	**22 59 37.6**	**+0.4**
	13nm,0.3s,baz=118,slow=23,SNR=14							
DZM				LR		LR	23 00 22.6	
	comp=Z,506nm,19.3s,baz=17,slow=36							
DZM	**Mont Dzumac**	**4.43**	**200**	*e*P		**Pn**	**22 58 47.0**	**+1.4**
DZM				*e*S		**Sn**	**22 59 31.9**	**-5.3**
DZM				AMP			22 59 37.5	
	comp=Z,485nm,3.5s							
DZM	**Mont Dzumac**	**4.43**	**200**	*e*Pn		**Pn**	**22 58 47.0**	**+1.4**
DZM				*e*Sn		**Sn**	**22 59 36.8**	**-0.4**
NOUC	**Port Laguerre**	**4.50**	**201**	*e*P		**Pn**	**22 58 48.6**	**+2.1**
NOUC				*e*S		**Sn**	**22 59 34.0**	**-4.9**
NOUC				AMP			22 59 43.6	
	comp=Z,23nm,11.9s							
NORM	**Noumea**	**4.56**	**199**	*e*S		**Sn**	**22 59 35.4**	**-5.0**
HNR	**Honiara**	**11.52**	**316**	LR		LR	23 04 07.5	
	comp=Z,121nm,19.2s,baz=51,slow=34							
CTA	**Charters Tower**	**20.73**	**260**	P		Pn	23 02 22.0	+0.6
	comp=Z,6.0nm,0.9s,baz=102,slow=12,SNR=5.8							
CTA				LR		LR	23 08 24.0	
	comp=Z,108nm,20.8s,baz=51,slow=31							
CTA	**Charters Tower**	**20.73**	**260**	P		Pn	23 02 22.0	+0.6
QLP	**Quilpie**	**23.65**	**244**	*e*P		**P**	**23 02 52.1**	**+2.2**
COEN	**Coen**	**24.23**	**276**	*e*P		**P**	**23 02 54.8**	**-0.7**
	comp=Z,25nm,1.0s							
CMSA	**Cobar Meteorol**	**24.38**	**232**	*e*P		**P**	**23 02 58.9**	**+2.3**
	comp=Z,28nm,0.6s							
STKA	**Stephens Creek**	**27.66**	**235**	P		**P**	**23 03 28.9**	**+2.6**
	comp=Z,2.3nm,0.5s,baz=63,slow=6.6,SNR=11							
STKA				LR		LR	23 13 27.6	
	comp=Z,94nm,19.3s,baz=27,slow=34							
STKA	**Stephens Creek**	**27.66**	**235**	*e*P		**P**	**23 03 28.8**	**+2.5**
	comp=Z,3.3nm,0.8s							
STKA	**Stephens Creek**	**27.66**	**235**	*e*P		**P**	**23 03 28.8**	**+2.5**
	comp=Z,0.8nm,0.6s							
WB2	**Warramunga Arr**	**31.92**	**261**	*e*P		**P**	**23 04 04.6**	**+0.4**
WRAB	**Tennant Creek**	**31.92**	**261**	*e*P		**P**	**23 04 04.5**	**+0.2**
	comp=Z,2nm,0.6s							
WRA	**Warramunga Arr**	**31.93**	**261**	P		**P**	**23 04 04.6**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=81,slow=6.2,SNR=22							
WRA				PcP		**PcP**	**23 06 54.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=86,slow=2.8,SNR=5.9							
WRA	**Warramunga Arr**	**31.93**	**261**	P		**P**	**23 04 04.6**	**+0.3**
WRA				PcP		**PcP**	**23 06 54.5**	**-0.3**
AS31	**Alice Springs**	**32.39**	**254**	*e*P		**P**	**23 04 08.6**	**+0.3**
ASAR	**Alice Springs**	**32.39**	**254**	P		**P**	**23 04 08.6**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=78,slow=8.9,SNR=4.4							
ASAR				PcP		**PcP**	**23 06 55.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=96,slow=2.6,SNR=5.2							
ASAR	**Alice Springs**	**32.39**	**254**	P		**P**	**23 04 08.6**	**+0.2**
ASAR				PcP		**PcP**	**23 06 55.5**	**-0.4**
GUMO	**Guam**	**38.75**	**322**	LR		LR	23 19 09.3	
	comp=Z,65nm,20.9s,baz=61,slow=33							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	P		**P**	**23 05 17.0**	**+1.2**
	comp=Z,14nm,0.8s,baz=118,slow=5.8,SNR=25							
FITZ				LR		LR	23 21 25.6	
	comp=Z,76nm,19.4s,baz=142,slow=35							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	*e*P		**P**	**23 05 17.2**	**+1.4**
	comp=Z,25nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.27**	**263**	*e*P		**P**	**23 05 17.2**	**+1.4**
	comp=Z,11nm,0.7s							
QSPA	**South Pole Qui**	**72.16**	**180**	P		**P**	**23 09 05.0**	**+2.0**
	comp=Z,6.6nm,1.0s,baz=3.8,slow=0.9,SNR=17							
QSPA	**South Pole Qui**	**72.16**	**180**	P		**P**	**23 09 05.0**	**+2.0**
LZH	**Lanzhou**	**80.99**	**312**	*e*P		**P**	**23 09 51.5**	**-2.0**
LZH				pP		**pP**	**23 09 56.0**	**-1.3**
LZH				sP		**sP**	**23 09 58.6**	**0.0**
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
ULN	**Ulaanbaatar**	**85.12**	**324**	*e*P		**P**	**23 10 16.0**	**+1.5**
	comp=Z,3.0nm,0.7s							
GTA	**Gaotai**	**85.39**	**314**	*e*P		P	23 10 11.6	-4.5
GTA				pP		**PcP**	**23 10 16.3**	**-2.8**
GTA				sP		sP	23 10 18.8	-2.4
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**85.47**	**323**	P		**P**	**23 10 17.5**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=154,slow=5.2,SNR=8.6							
SONM	**Songino Array**	**85.47**	**323**	P		**P**	**23 10 17.5**	**+1.2**
BBB	**Bella Bella**	**88.97**	**34**	LR		LR	23 41 12.7	
	comp=Z,192nm,21.9s,baz=271,slow=30							
ILAR	**Eielson Array**	**89.29**	**18**	P		**P**	**23 10 33.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=231,slow=6.1,SNR=3.8							
ILAR	**Eielson Array**	**89.29**	**18**	P		**P**	**23 10 33.8**	**-0.4**
SNAA	**Sanae**	**90.45**	**183**	P		**P**	**23 10 40.2**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=209,slow=10,SNR=4.5							
SNAA	**Sanae**	**90.45**	**183**	P		**P**	**23 10 40.2**	**+0.4**
MKAR	**Makanchi Array**	**99.99**	**316**	P		**Pdif**	**23 11 24.3**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=85,slow=7.5,SNR=4.1							
MKAR	**Makanchi Array**	**99.99**	**316**	P		**Pdif**	**23 11 24.3**	**+0.7**
ARCES	**ARCESS Array B**	**123.48**	**345**	PKP		**PKPdf**	**23 16 34.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=104,slow=2.2,SNR=12							
ARCES	**ARCESS Array B**	**123.48**	**345**	PKP		**PKPdf**	**23 16 34.0**	**-1.1**
FINES	**FINESS Array B**	**128.92**	**338**	PKP		**PKPdf**	**23 16 45.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=60,slow=4.6,SNR=6.0							
FINES	**FINESS Array B**	**128.92**	**338**	PKP		**PKPdf**	**23 16 45.5**	**-0.2**
GERES	**GERESS Array B**	**142.78**	**332**	PKP		**PKPdf**	**23 17 09.7**	**-2.3**
	comp=Z,0.3nm,0.6s,baz=9.5,slow=3.0,SNR=3.1							
GERES	**GERESS Array B**	**142.78**	**332**	PKP		**PKPdf**	**23 17 09.7**	**-2.3**
DAVOX	**Davos/Dischmat**	**146.03**	**333**	PKPbc		**PKPab**	**23 17 19.6**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=207,slow=4.5,SNR=7.7							
DAVOX	**Davos/Dischmat**	**146.03**	**333**	PKPbc		**PKPab**	**23 17 19.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**166.04**	**252**	PKPab		**PKPab**	**23 18 44.4**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=149,slow=3.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**166.04**	**252**	PKPab		**PKPab**	**23 18 44.4**	**-0.3**

*NIED **24** 23:30:00,29˚.20N×130˚.60E,h35km,Mw4.5 Best double couple: M0 6.56000×10^15 NP1:φ±16.00000°,δ82.00000°, λ85.00000°. NP2:φ±228.00000°,δ9.00000°,λ122.00000°.*
*BJI **24** 23:30:07.1,28˚.72N×131˚.89E,h31km,mB4.7/12,mb4.5/21, Ms4.2/16,Ms7 4.1/16*
*JMA **24** 23:30:18.9±0.2,29˚.19N×130˚.60E,h20km±3km,M4.3*
*MOS **24** 23:30:19.1±0.8,29˚.31N×130˚.40E,h33km,mb4.7/11,Error ellipse: s-maj=12.5km s-min=7.5km az=111.4*
*ISCJB **24** 23:30:20.2±0.6,29˚.19N±0˚.03×130˚.50E±0˚.06,h50km±4km, mb4.3/41,MS3.6/9,Error ellipse: s-maj=9.1km s-min=4.2km az=24.3*
*NEIC **24** 23:30:21.6±0.7,29˚.23N×130˚.42E,h44km±6km,mb4.3/9, Error ellipse: s-maj=8.8km s-min=5.9km az=135.0*
*IDC **24** 23:30:21.7±1.5,29˚.24N×130˚.32E,h42km±13km,mb3.7/18, mb1 3.8/22,mb1mx3.8/31,mbtmp3.7/22,ML3.1/4,MS3.6/6, Ms1 3.7/6,ms1mx3.2/35,Error ellipse: s-maj=18.2km s-min=8.9km az=110.0*

ISC 24 23:30:21.1±0.8,29˚.18N±0˚.04×130˚.48E±0˚.07,h40km±5km, n136,σ1s10/145,mb4.3/41,MS3.7/9,4C,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNN	**Nakanoshima**	**0.84**	**321**	P		**Pn**	**23 30 35.8**	**-0.8**
JNN				S		**Sn**	**23 30 48.0**	**+0.2**
JZK	**Kikaishima**	**0.97**	**207**	P		**Pn**	**23 30 37.9**	**-0.4**
JAM	**Amami Oshima**	**1.09**	**225**	P		**Pn**	**23 30 40.0**	**+0.1**
JAM				*e*S		**Sn**	**23 30 54.9**	**+1.2**
JKC	**Kuchinoerabu**	**1.30**	**349**	P		**Pn**	**23 30 42.6**	**-0.2**
JKC				*e*S		**Sn**	**23 31 00.1**	**+1.1**
JTN	**Tanegashima 3**	**1.53**	**16**	P		**Pn**	**23 30 45.5**	**-0.5**
JTK	**Tokunoshima**	**1.94**	**224**	P		**Pn**	**23 30 52.0**	**+0.4**
JTK				*e*S		**Sn**	**23 31 16.3**	**+1.6**
JTSR	**Tashiro 2**	**2.02**	**11**	P		**Pn**	**23 30 52.6**	**-0.1**
JTSR				*e*S		**Sn**	**23 31 17.3**	**+0.6**
JOW	**Kunigami**	**3.05**	**220**	P		**Pn**	**23 31 06.6**	**-0.2**
	2.7nm,0.3s,baz=91,slow=5.4,SNR=28							
JOW				S		**Sn**	**23 31 41.4**	**-0.7**
	15nm,0.3s,baz=155,slow=26,SNR=3.5							
JOW	**Kunigami**	**3.05**	**220**	*e*Pn		**Pn**	**23 31 06.3**	**-0.5**
JOW				S		**Sn**	**23 31 41.4**	**-0.7**
JNU	**Nakatsue**	**3.94**	**5**	P		**Pn**	**23 31 19.8**	**+0.6**
	4.0nm,0.3s,baz=195,slow=3.3,SNR=153							
JNU				S		**Sn**	**23 32 04.7**	**+0.5**
	3.3nm,0.3s,baz=72,slow=16,SNR=5.6							
JNU	**Nakatsue**	**3.94**	**5**	*e*Pn		**Pn**	**23 31 19.8**	**+0.6**
JNU				S		**Sn**	**23 32 04.7**	**+0.5**
KSAR	**Wonju Array Be**	**8.52**	**346**	P		**Pn**	**23 32 20.9**	**-1.0**
KSAR	**Wonju Array Be**	**8.52**	**346**	P		**Pn**	**23 32 20.9**	**-1.0**
KSRS	**Korea Array**	**8.52**	**346**	P		**Pn**	**23 32 20.9**	**-1.1**
	0.1nm,0.3s,baz=154,slow=14,SNR=2.7							
KSRS				LR		LR	23 35 54.1	
	comp=Z,218nm,20.0s,baz=164,slow=39							
KSRS	**Korea Array**	**8.52**	**346**	P		**Pn**	**23 32 20.9**	**-1.1**
MAJO	**Matsushiro**	**9.80**	**40**	*e*P		**Pn**	**23 32 39.8**	**+0.3**
MAJO	**Matsushiro**	**9.80**	**40**	*e*Pn		**Pn**	**23 32 39.8**	**+0.3**
MJAR	**Matsushiro Arr**	**9.80**	**40**	P		**Pn**	**23 32 39.7**	**+0.2**
	0.4nm,0.3s,baz=237,slow=16,SNR=4.7							
MJAR	**Matsushiro Arr**	**9.80**	**40**	P		**Pn**	**23 32 39.7**	**+0.2**
MJAR	**Matsushiro Arr**	**9.80**	**40**	P		**Pn**	**23 32 39.7**	**+0.2**
SSLB	**Suanglung**	**10.08**	**240**	*e*Pn		**Pn**	**23 32 42.6**	**-0.8**
BJT	**Baijiatuau**	**15.97**	**316**	*e*P		**P**	**23 34 04.4**	**-1.5**
BJT				pmax		pmax		
	comp=Z,10.0n

comp=Z,12nm,0.7s
GKN Gorkha 40.08 280 *e*P P **23 37 52.3 -0.7**
comp=Z,12nm,0.7s
DANN Dangsing 40.75 281 *e*P P **23 37 58.5 -0.3**
comp=Z,24nm,0.7s
DANN Dangsing 40.75 281 *e*P P **23 37 58.5 -0.3**
comp=Z,24nm,0.7s
KOLN Koldanda 41.02 280 *e*P P **23 38 00.1 -0.8**
comp=Z,12nm,0.7s
KOLN Koldanda 41.02 280 *e*P P **23 38 00.1 -0.8**
comp=Z,12nm,0.7s
MKAR Makanchi Array 41.15 309 P P **23 38 00.5 -0.9**
comp=Z,1.6nm,0.7s,baz=95,slow=10,SNR=21
MKAR PcP **PcP 23 39 59.9 -0.3**
comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=3.8
MKAR Makanchi Array 41.15 309*ce*P P **23 38 01.2 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 41.15 309 P P **23 38 00.6 -0.9**
MKAR PcP **PcP 23 39 59.9 -0.3**
ZALV Zalesovo Beam 41.19 320 P P **23 38 00.7 -0.9**
comp=Z,1.2nm,0.6s,baz=101,slow=7.4,SNR=7.6
ZALV PcP **PcP 23 39 58.7 -1.4**
comp=Z,0.2nm,0.4s,baz=129,slow=2.0,SNR=3.5
ZALV Zalesovo Beam 41.19 320 P P **23 38 00.7 -0.9**
ZALV 23 39 58.7
ZALV Zalesovo Beam 41.19 320 P P **23 38 00.7 -0.9**
ZALV PcP **PcP 23 39 58.7 -1.4**
KURK Kurchatov 44.13 314 P P **23 38 25.1 -0.4**
comp=Z,7.9nm,0.6s,baz=100,slow=9.1,SNR=26
KURK LR LR 23 58 05.9
comp=Z,104nm,21.1s,baz=110,slow=38
KURK Kurchatov 44.13 314*ce*P P **23 38 24.8 -0.7**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 44.13 314 *e*P P **23 38 25.0 -0.5**
comp=Z,9.4nm,0.7s
BILL Bilibino 44.25 18 *e*P P **23 38 27.2 +0.9**
BILL pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 48.98 175 P P **23 39 05.1 +1.3**
comp=Z,0.6nm,0.7s,baz=354,slow=8.3,SNR=4.5
WRA Warramunga Arr 48.98 175 P P **23 39 05.1 +1.3**
WRA Warramunga Arr 48.98 175 P P **23 39 05.1 +1.3**
KKAR Karatay Array 49.40 303 *e*P P **23 39 06.9 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 49.40 303 *e*P P **23 39 06.9 0.0**
comp=Z,2.1nm,0.7s
BVAR Borovoye Array 49.46 316 P P **23 39 06.3 -0.9**
comp=Z,6.4nm,0.7s,baz=91,slow=9.5,SNR=48
BVAR Borovoye Array 49.46 316 P P **23 39 06.3 -0.9**
BVAR Borovoye Array 49.46 316 P P **23 39 06.3 -0.9**
BRVK Borovoye 49.53 316*ce*P P **23 39 06.2 -1.5**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 49.53 316 *e*P P **23 39 07.1 -0.6**
comp=Z,9.2nm,0.7s
KBL Kabul 51.76 293 *e*P P **23 39 24.8 -0.3**
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 51.76 293 *e*P P **23 39 24.8 -0.3**
comp=Z,3.5nm,0.8s
ASAR Alice Springs 52.65 176 P P **23 39 32.9 +1.5**
comp=Z,0.4nm,0.7s,baz=9.5,slow=12,SNR=5.7
ASAR Alice Springs 52.65 176 P P **23 39 32.9 +1.5**
ASAR Alice Springs 52.65 176 P P **23 39 32.9 +1.5**
ABKAR Akbulak array 56.13 312 *e*P P **23 39 56.1 -0.4**
comp=Z,8.2nm,0.6s
ARU Arti 56.35 321 P P 23 39 49.7 -8.2
AKTO Aktyubinsk 57.22 314 P P **23 40 03.5 -0.7**
comp=Z,4.4nm,0.8s,baz=80,slow=12,SNR=13
AKTO Aktyubinsk 57.22 314 P P **23 40 03.5 -0.7**
AKTO Aktyubinsk 57.22 314 P P **23 40 03.5 -0.7**
ILAR Eielson Array 60.90 29 P P **23 40 29.1 -0.3**
comp=Z,0.6nm,0.8s,baz=271,slow=5.7,SNR=10
ILAR Eielson Array 60.90 29 P P **23 40 29.2 -0.3**
ILAR Eielson Array 60.90 29 P P **23 40 29.1 -0.3**
INK Inuvik 65.40 24 P P **23 40 59.4 +0.3**
comp=Z,0.5nm,0.5s,baz=336,slow=5.1,SNR=4.4
INK Inuvik 65.40 24 P P **23 40 59.4 +0.3**
INK Inuvik 65.40 24 P P **23 40 59.4 +0.3**
ARCES ARCESS Array B 68.00 339 LR LR 00 15 12.4
comp=Z,84nm,19.0s,baz=17,slow=40
JOF Joensuu 68.44 331 *e*P P 23 41 15.2 -3.4
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 68.44 331 *ep* P 23 41 15.2 -3.4
comp=Z,2.6nm,0.6s
JOF Joensuu 68.44 331 *ep* P 23 41 15.2 -3.4
comp=Z,2.6nm,0.6s
OBN Obninsk 68.73 322 *e*P P **23 41 20.3 -0.2**
OBN pmax pmax
comp=Z,5.0nm,1.4s
GNI Garni 68.82 305 P P **23 41 22.4 +0.8**
comp=Z,1.2nm,0.4s,baz=66,slow=10.0,SNR=3.6
GNI Garni 68.82 305 P P **23 41 22.4 +0.8**
GNI Garni 68.82 305 P P **23 41 22.4 +0.8**
KIV Kislovodsk 68.91 309 *e*P P **23 41 21.9 -0.1**
KIV pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 71.28 331 P P **23 41 35.1 -1.0**
comp=Z,1.6nm,0.6s,baz=102,slow=8.0,SNR=8.4
FINES FINESS Array B 71.28 331 P P **23 41 35.1 -1.0**
FINES FINESS Array B 71.28 331 P P **23 41 35.1 -1.0**
RES Resolute Bay 72.28 11 *e*P P **23 41 42.0 +0.2**
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 72.28 11 *e*P P **23 41 42.0 +0.2**
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 74.58 320 P P **23 41 54.7 -1.2**
comp=Z,2.2nm,0.5s,baz=60,slow=5.8,SNR=8.0
AKASG Malin Array Be 74.58 320*ce*P P **23 41 55.4 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 74.58 320 P P **23 41 54.7 -1.2**
KIEV Kiev 74.60 320 *e*P P **23 41 54.7 -1.2**
KIEV pmax pmax
comp=Z,77nm,2.9s
KIEV Kiev 74.60 320 *e*P P **23 41 54.7 -1.2**
comp=Z,77nm,2.9s
YKA Yellowknife Ar 75.01 26 P P **23 41 58.6 +0.5**
comp=Z,0.3nm,0.6s,baz=303,slow=5.6,SNR=9.5
YKA Yellowknife Ar 75.01 26 P P **23 41 58.6 +0.5**
YKA Yellowknife Ar 75.01 26 P P **23 41 58.6 +0.5**
BRTR Keskin Array B 76.80 308 P P **23 42 09.3 +0.4**
comp=Z,2.4nm,0.7s,baz=82,slow=5.6,SNR=13
BRTR Keskin Array B 76.80 308 P P **23 42 09.4 +0.4**
BRTR Keskin Array B 76.80 308 P P **23 42 09.3 +0.4**
NOA NORSAR Array B 77.54 334 P P **23 42 11.5 -1.1**
comp=Z,0.5nm,0.6s,baz=50,slow=5.6,SNR=3.1
NOA LR LR 00 22 54.4
comp=Z,53nm,19.2s,baz=200,slow=41
NOA NORSAR Array B 77.54 334 P P **23 42 11.5 -1.1**
NOA NORSAR Array B 77.54 334 P P **23 42 11.4 -1.1**
OJC Ojcow 80.02 322 *e*P P **23 42 26.4 +0.1**
OJC Ojcow 80.02 322 *e*P P **23 42 26.4 +0.1**
CLL Collm 82.86 326 *e*P P **23 42 42.0 +0.7**
CLL Collm 82.86 326 *e*P P **23 42 42.0 +0.7**
GERES GERESS Array B 84.04 324 P P **23 42 47.0 -0.6**
comp=Z,0.5nm,0.7s,baz=52,slow=8.6,SNR=4.2
GERES GERESS Array B 84.04 324 P P **23 42 47.0 -0.6**
GERES GERESS Array B 84.04 324 P P **23 42 47.0 -0.6**
GRFO Grafenberg 84.76 325 *e*P P **23 42 52.5 +1.4**
GRFO Grafenberg 84.76 325 *e*P P **23 42 52.5 +1.4**
comp=Z,153nm,2.6s
FFC Flin Flon 85.06 27 *i* P P 23 42 47.9 -4.6
NVAR Mina Array Bea 87.03 47 P P **23 43 03.1 +0.2**
comp=Z,0.4nm,0.6s,baz=284,slow=6.0,SNR=4.0
NVAR Mina Array Bea 87.03 47 P P **23 43 03.1 +0.2**

IDC 24 23:32:10.8±27.0, 23°39S×173°26W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=493.7km s-min=151.8km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.67**	**267**	P	P	23 39 28.3	+0.2
	6.4nm,0.5s,baz=93,slow=10,SNR=15						
STKA	**Stephens Creek**	**40.65**	**248**	P	P	23 39 52.6	-0.2
	0.7nm,0.4s,baz=88,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**48.21**	**259**	P	P	23 40 53.0	-0.5
	0.5nm,0.5s,baz=99,slow=8.7,SNR=7.1						
WRA	**Warramunga Arr**	**48.61**	**263**	P	P	23 40 56.6	0.0
	1.0nm,0.3s,baz=103,slow=8.1,SNR=54						

*MDD **24** 23:39:31.2±3.2, 37.°14N×15.°91W, h0km, mb3.8/5, Error ellipse: s-maj=40.2km s-min=17.1km az=137.0, PRXIMO SOLUCIN POBRE*
*INMG **24** 23:39:33.9±0.8, 37.°42N×16.°31W, h10km, ML2.7, Error ellipse: s-maj=9.8km s-min=2.8km az=123.0*
CSEM 24 23:39:35.2±0.9, 36.°88N×15.°47W, h10km, mb3.8/5, Error ellipse: s-maj=26.0km s-min=10.5km az=138.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**3.86**	**191**	*e*Sn	Sn	23 41 18.6	-1.4
PMPST				A	A	23 41 20.3	
	59nm,0.4s						
PMPST	**Porto Santo, M**	**3.86**	**191**	*e*Sn	Sn	23 41 18.6	-1.4
	59nm,0.4s						
PMPS	**Porto Santo**	**3.88**	**191**	*e*Sn	Sn	23 41 19.0	-1.4
PMPS				A	A	23 41 25.9	
	40nm,0.4s						
PMPS	**Porto Santo**	**3.88**	**191**	S	Sn	23 41 19.0	-1.4
	20nm,0.4s						
PMPS	**Porto Santo**	**3.88**	**191**	S	Sn	23 41 19.0	-1.4
	20nm,0.4s						
PMAFR	**Mafra**	**5.31**	**65**	*e*Pn	Pn	23 40 53.2	-1.4
PMAFR				*e*Sn	Sn	23 41 52.1	-3.8
PMAFR				A	A	23 41 53.5	
	25nm,0.6s						
PMAFR	**Mafra**	**5.31**	**65**	P	Pn	23 40 53.4	-1.2
	6.2nm,0.2s,SNR=7.9						
PMAFR				S	Sn	23 41 51.5	-4.4
	36nm,0.5s,SNR=4.0						
PMAFR	**Mafra**	**5.31**	**65**	P	Pn	23 40 53.4	-1.2
	6.2nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	Sn	23 41 52.1	-3.8
	25nm,0.6s						
PFVI	**Vila Bisbo**	**5.32**	**85**	*e*Sn	Sn	23 41 57.9	+1.8
PFVI	**Vila Bisbo**	**5.32**	**85**	*e*Sn	Sn	23 41 57.9	+1.8
MORF	**Marmelete**	**5.47**	**83**	*e*Pn	Pn	23 40 57.5	+0.7
MORF				*e*Sn	Sn	23 42 01.3	+1.5
MORF				A	A	23 42 05.9	
	3.8nm,0.2s						
MORF	**Marmelete**	**5.47**	**83**	P	Pn	23 40 57.5	+0.7
MORF				S	Sn	23 42 01.3	+1.5
	3.8nm,0.2s						
MORF	**Marmelete**	**5.47**	**83**	P	Pn	23 40 57.5	+0.7
MORF				S	Sn	23 42 01.3	+1.5
	3.8nm,0.2s						
PCVE	**Castro Verde**	**5.97**	**81**	*e*Sn	Sn	23 42 12.3	+0.1
PCVE				A	A	23 42 16.1	
	3.0nm,0.5s						
PCVE	**Castro Verde**	**5.97**	**81**	S	Sn	23 42 12.3	+0.1
	3.0nm,0.5s						
PCVE	**Castro Verde**	**5.97**	**81**	S	Sn	23 42 12.3	+0.1
	3.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**6.04**	**84**	*e*Pn	Pn	23 41 05.7	+1.1
PBDV				*e*Sn	Sn	23 42 14.6	+0.7
PBDV				A	A	23 42 22.9	
	3.4nm,0.5s						
PBDV	**Barranco-do-Ve**	**6.04**	**84**	P	Pn	23 41 05.7	+1.1
PBDV				S	Sn	23 42 14.6	+0.7
	3.4nm,0.5s						
PBDV	**Barranco-do-Ve**	**6.04**	**84**	P	Pn	23 41 05.7	+1.1
PBDV				S	Sn	23 42 14.6	+0.7
	3.4nm,0.5s						
PMTG	**Montargil**	**6.13**	**67**	*e*Sn	Sn	23 42 11.9	-4.0
EVO	**Evora**	**6.14**	**72**	*e*Sn	Sn	23 42 13.6	-2.6
EVO				A	A	23 42 16.4	
	2.9nm,0.1s						
EVO	**Evora**	**6.14**	**72**	S	Sn	23 42 13.6	-2.6
	2.9nm,0.1s						
EVO	**Evora**	**6.14**	**72**	S	Sn	23 42 13.6	-2.6
	2.9nm,0.1s						
PBEJ	**Beja**	**6.16**	**77**	*e*Sn	Sn	23 42 15.4	-1.3
PBEJ				A	A	23 42 19.6	
	1.8nm,0.3s						
PBEJ	**Beja**	**6.16**	**77**	S	Sn	23 42 15.4	-1.3
	0.9nm,0.3s						
PBEJ	**Beja**	**6.16**	**77**	S	Sn	23 42 15.4	-1.3
	0.9nm,0.3s						
PVAQ	**Vaqueiros**	**6.21**	**83**	*e*Pn	Pn	23 41 08.0	+1.0
PVAQ				*e*Sn	Sn	23 42 18.4	+0.3
PVAQ				A	A	23 42 24.3	
	2.2nm,0.3s						
PVAQ	**Vaqueiros**	**6.21**	**83**	P	Pn	23 41 08.0	+1.0
PVAQ				S	Sn	23 42 18.4	+0.3
	2.2nm,0.3s						
PVAQ	**Vaqueiros**	**6.21**	**83**	P	Pn	23 41 08.0	+1.0
PVAQ				S	Sn	23 42 18.4	+0.3
	2.2nm,0.3s						
EGRO	**El Granado**	**6.41**	**82**	P	Pn	23 41 11.0	+1.3
	0.6nm,0.2s,SNR=4.0						
EGRO				S	Sn	23 42 22.4	-0.5
	1.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.41**	**82**	P	Pn	23 41 11.0	+1.4
	0.6nm,0.2s,SNR=4.0						
EGRO				S	Sn	23 42 22.4	-0.4
	1.2nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**6.82**	**77**	*e*Sn	Sn	23 42 31.0	-2.1
PBAR				A	A	23 42 41.7	
	1.8nm,0.6s						
PBAR	**Barrancos**	**6.82**	**77**	S	Sn	23 42 31.0	-2.1
	1.8nm,0.6s						
PBAR	**Barrancos**	**6.82**	**77**	S	Sn	23 42 31.0	-2.1
	1.8nm,0.6s						
PCBR	**Castelo Branco**	**6.94**	**62**	*e*Sn	Sn	23 42 30.1	-5.9
PCBR				A	A	23 42 34.2	
	2.5nm,0.6s						
PCBR	**Castelo Branco**	**6.94**	**62**	S	Sn	23 42 30.1	-5.9
	1.2nm,0.6s						
EBAD	**Badajoz**	**6.95**	**72**	P	Pn	23 41 15.7	-1.4
	0.1nm,0.1s,SNR=4.0						
EBAD				S	Sn	23 42 31.8	-4.4
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.95**	**72**	P	Pn	23 41 15.7	-1.4
	0.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**7.07**	**80**	P	Pn	23 41 19.7	+1.0
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	23 42 37.9	-1.2
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.07**	**80**	P	Pn	23 41 19.7	+1.0
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	23 42 37.9	-1.2
	0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**8.02**	**64**	S	Sn	23 42 56.3	-6.4
	0.6nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**8.75**	**78**	P	Pn	23 41 41.7	-0.1
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	23 43 18.1	-2.5
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.75**	**78**	P	Pn	23 41 41.7	-0.1
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	23 43 18.1	-2.5
	0.4nm,0.1s,SNR=7.9						

*TIR **24** 23:43:12.9±1.9, 42.°01N×20.°46E, h2km, 999km, ML2.7*
*CSEM **24** 23:43:15.2±0.2, 42.°00N×20.°49E, h2km, ML2.7, Error ellipse: s-maj=3.6km s-min=3.0km az=32.0*
*BEO **24** 23:43:16.5±0.4, 42.°01N×20.°45E, h16km±4km, ML2.2/6*
*PDG **24** 23:43:16.0±0.1, 42.°06N×20.°48E, h7km, ML2.3/9, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
ISC 24 23:43:14.7±1.1, 42.°01N±0.°02×20.°52E±0.°02, h0km±10km, n50, σ0°88/98, 12C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.33**	**190**	*e*PG	**Pg**	**23 43 21.0**	**-0.1**
PHP				*i* SG	**Sg**	**23 43 25.3**	**-0.1**
PHP	**Peshkopia**	**0.33**	**190**	*e*Pg	**Pg**	**23 43 21.0**	**-0.1**
	SNR=90						
PHP				*i* Sg	**Sg**	**23 43 25.3**	**-0.1**
	SNR=90						
PUK	**Puka**	**0.47**	**274**	*e*PG	**Pg**	**23 43 22.6**	**-1.1**
PUK				*i* SG	**Sg**	**23 43 29.2**	**-0.5**
PUK	**Puka**	**0.47**	**274**	*e*Pg	**Pg**	**23 43 22.6**	**-1.1**
	SNR=90						
PUK				*i* Sg	**Sg**	**23 43 29.2**	**-0.5**
	SNR=90						
BCI	**Bajram Curri**	**0.49**	**317**	*e*PG	**Pg**	**23 43 23.8**	**-0.3**
BCI				*i* SG	**Sg**	**23 43 30.2**	**-0.2**
BCI	**Bajram Curri**	**0.49**	**317**	*e*Pg	**Pg**	**23 43 23.8**	**-0.3**
	SNR=90						
BCI				*i* Sg	**Sg**	**23 43 30.2**	**-0.2**
	SNR=90						
SKO	**Skopje**	**0.69**	**93**	*e*Pg	**Pb**	**23 43 29.5**	**-0.1**
SKO				*e*Sg	**Sb**	**23 43 40.5**	**+0.9**
SKO				*e*Lg	Lg	23 43 41.5	
	102nm,0.3s						
PVY	**Plav**	**0.71**	**325**	⇑*i*Pg	**Pg**	**23 43 28.1**	**-0.3**
PVY				*e*Sg	**Sg**	**23 43 38.7**	**+1.0**
PVY	**Plav**	**0.71**	**325**	*e*PG	**Pg**	**23 43 28.8**	**+0.4**
PVY				*i* SG	**Sg**	**23 43 38.7**	**+1.0**
PVY	**Plav**	**0.71**	**325**	*e*Pg	**Pg**	**23 43 28.8**	**+0.4**
	SNR=90						
PVY				*i* Sg	**Sg**	**23 43 38.7**	**+1.0**
	SNR=90						
TIR	**Tirane**	**0.83**	**217**	*e*PG	**Pg**	**23 43 30.6**	**+0.1**
TIR				*i* SG	**Sg**	**23 43 42.0**	**+0.8**
TIR	**Tirane**	**0.83**	**217**	*e*Pg	**Pg**	**23 43 30.1**	**-0.4**
TIR				*e*Sg	**Sb**	**23 43 43.9**	**+0.3**
TIR	**Tirane**	**0.83**	**217**	*e*Pg	**Pg**	**23 43 30.6**	**+0.1**
	SNR=90						
TIR				*i* Sg	**Sg**	**23 43 42.0**	**+0.8**
	SNR=90						
KRUS	**Krusevo**	**0.84**	**139**	*e*Pg	**Pg**	**23 43 30.7**	**-0.2**
ULC	**Ulcinj**	**0.95**	**267**	⇓*i*Pg	**Pg**	**23 43 33.2**	**+0.3**
ULC				*e*Sg	**Sb**	**23 43 47.9**	**+0.7**
ULC	**Ulcinj**	**0.95**	**267**	*e*PG	**Pg**	**23 43 33.2**	**+0.3**
ULC				*i* SG	**Sb**	**23 43 47.9**	**+0.7**
ULC	**Ulcinj**	**0.95**	**267**	*e*Pg	**Pg**	**23 43 33.2**	**+0.3**
	SNR=90						
ULC				*i* Sg	**Sb**	**23 43 47.9**	**+0.7**
	SNR=90						
IVA	**Berane**	**0.97**	**332**	⇑*i*Pg	**Pg**	**23 43 33.4**	**0.0**
IVA				*e*Sg	**Sb**	**23 43 47.6**	**-0.4**
BEY	**Berane**	**0.97**	**332**	*e*PG	**Pg**	**23 43 33.4**	**0.0**
BEY				*i* SG	**Sb**	**23 43 47.7**	**-0.3**
BEY	**Berane**	**0.97**	**332**	*e*Pg	**Pg**	**23 43 33.4**	**0.0**
	SNR=90						
BEY				*e*Sg	**Sb**	**23 43 47.6**	**-0.4**
TTG	**Podgorica**	**1.02**	**294**	⇑*i*Pg	**Pg**	**23 43 33.8**	**-0.5**
TTG				*e*Sg	**Sb**	**23 43 49.4**	**+0.1**
PDG	**Podgorica**	**1.03**	**294**	*e*Pg	**Pg**	**23 43 32.9**	**-1.5**
PDG				*e*Sg	**Sb**	**23 43 48.6**	**-0.8**
PDG	**Podgorica**	**1.03**	**294**	⇑*i*Pg	**Pg**	**23 43 33.8**	**-0.6**
PDG				*e*Sg	**Sb**	**23 43 48.6**	**-0.8**
BIA	**Bitola**	**1.16**	**148**	*e*Pg	**Pn**	**23 43 38.0**	**-0.3**
BIA				*e*Sg	**Sn**	**23 43 54.1**	**-0.8**
BIA				*e*Lg	Lg	23 43 55.6	
	15nm,0.3s						
BUM	**Brajici-Budva**	**1.24**	**284**	⇓*i*Pg	**Pg**	**23 43 38.4**	**-0.1**
BUM				*e*Sg	**Sn**	**23 43 57.0**	**+0.1**
BUM	**Brajici-Budva**	**1.24**	**284**	⇓*i*Pg	**Pg**	**23 43 38.4**	**-0.1**
BUM				*e*Sg	**Sn**	**23 43 57.0**	**+0.1**
BARS	**Barje**	**1.25**	**50**	*e*Pg	**Pn**	**23 43 39.7**	**+0.2**
BARS				*e*Sg	**Sb**	**23 43 56.6**	**+0.7**
BARS	**Barje**	**1.25**	**50**	*e*Pg	**Pn**	**23 43 39.7**	**+0.2**
BARS				*e*Sg	**Sb**	**23 43 56.6**	**+0.7**
SELS	**Selova**	**1.28**	**20**	*e*Pg	**Pb**	**23 43 40.0**	**+0.2**
SELS				*e*Sg	**Sn**	**23 43 58.6**	**+0.7**
NKY	**Niksic**	**1.38**	**306**	⇓*i*Pg	**Pn**	**23 43 40.4**	**-1.0**
NKY				*e*Sg	**Sn**	**23 44 01.5**	**+1.0**
NKY	**Niksic**	**1.38**	**306**	⇓*i*Pg	**Pn**	**23 43 40.4**	**-1.0**
NKY				*e*Sg	**Sn**	**23 44 01.5**	**+1.0**
HCY	**Herceg Novi**	**1.56**	**287**	⇑*i*Pg	**Pn**	**23 43 43.9**	**+0.1**
HCY				*e*Sg	**Sg**	**23 44 07.3**	**+2.3**
HCY	**Herceg Novi**	**1.56**	**287**	⇑*i*Pg	**Pn**	**23 43 43.9**	**+0.1**
HCY				*e*Sg	**Sg**	**23 44 07.3**	**+2.3**
UPM	**Unac-Piva**	**1.68**	**315**	⇑*i*Pn	**Pn**	**23 43 46.1**	**+0.5**
UPM				*e*Sn	**Sg**	**23 44 10.1**	**+1.3**
UPM	**Unac-Piva**	**1.68**	**315**	⇑*i*Pn	**Pn**	**23 43 46.1**	**+0.5**
UPM				*e*Sn	**Sg**	**23 44 10.1**	**+1.3**
VAY	**Valandovo**	**1.69**	**114**	*e*Pn	**Pb**	**23 43 46.1**	**-0.5**
BRY	**Bratogost**	**1.71**	**302**	⇑*i*Pn	**Pb**	**23 43 46.8**	**-0.4**
BRY				*e*Sn	**Sg**	**23 44 10.9**	**+1.1**
BRY	**Bratogost**	**1.71**	**302**	⇑*i*Pn	**Pb**	**23 43 46.8**	**-0.4**
BRY				*e*Sn	**Sg**	**23 44 10.9**	**+1.1**
GRUS	**Gruza**	**1.88**	**4**	*e*Pn	**Pn**	**23 43 47.6**	**-0.5**
GRUS				*e*Sg	**Sg**	**23 44 16.8**	**+1.7**
GRUS	**Gruza**	**1.88**	**4**	*e*Pn	**Pn**	**23 43 47.6**	**-0.5**
GRUS				*e*Sg	**Sg**	**23 44 16.8**	**+1.7**
ZAPS	**Zavoj**	**2.00**	**50**	*e*Pn	**Pb**	**23 43 51.4**	**-0.7**
ZAPS				*e*Sn	**Sn**	**23 44 16.2**	**+0.5**
ZAPS	**Zavoj**	**2.00**	**50**	*e*Pn	**Pb**	**23 43 51.4**	**-0.7**
ZAPS				*e*Sn	**Sn**	**23 44 16.2**	**+0.5**
DIVS	**Divibare**	**2.12**	**350**	⇑*i*Pn	**Pn**	**23 43 50.7**	**-0.8**
DIVS				*e*Sn	**Sn**	**23 44 16.9**	**-1.7**
DIVS	**Divibare**	**2.12**	**350**	⇑*i*Pn	**Pn**	**23 43 50.7**	**-0.8**
DIVS				*e*Sn	**Sn**	**23 44 16.9**	**-1.7**
STON	**Ston**	**2.26**	**293**	*i* Pn	**Pb**	**23 43 54.9**	**-1.5**
STON				Sn	**Sb**	**23 44 25.7**	**+1.0**
STON	**Ston**	**2.26**	**293**	*i* Pn	**Pb**	**23 43 54.8**	**-1.5**
STON				Sn	**Sb**	**23 44 25.7**	**+1.0**
BZS	**Buzias**	**3.69**	**12**	*e*Pn	**Pn**	**23 44 12.3**	**-0.7**
BZS				*e*Sn	**Sn**	**23 44 55.2**	**-1.9**
BZS	**Buzias**	**3.69**	**12**	*e*Pn	**Pn**	**23 44 12.3**	**-0.7**
BZS				*e*Sn	**Sn**	**23 44 55.2**	**-1.9**
NVLJ	**Novalja**	**4.85**	**304**	*i* Pn	**Pn**	**23 44 30.0**	**+1.1**
NVLJ				Sn	**Sn**	**23 45 26.8**	**+1.2**
NVLJ	**Novalja**	**4.85**	**304**	*i* Pn	**Pn**	**23 44 29.9**	**+1.1**
NVLJ				Sn	**Sn**	**23 45 26.8**	**+1.2**

*SOF **24** 23:59:42.5, 40.°71N×27.°65E, h0km, MD3.1*
*ISK **24** 23:59:44.9, 40.°82N×27.°75E, h6km, ML3.1*
*CSEM **24** 23:59:45.3±0.1, 40.°83N×27.°74E, h5km, ML3.1, Error ellipse: s-maj=2.7km s-min=1.9km az=177.0*
*DDA **24** 23:59:45.3, 40.°79N×27.°78E, h7km, MD3.1*
*THE **24** 23:59:45.0, 40.°87N×27.°74E, h0km±2km, ML3.2/7, Error ellipse: s-maj=4.0km s-min=0.7km az=59.0*
*ATH **25** 23:59:48.3, 40.°72N×27.°45E, h24km±14km, MD3.6/5*
ISC 24 23:59:44.7±0.8, 40.°86N±0.°02×27.°74E±0.°02, h0km, n135, σ0°66/164, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFT	**Murefte**	**0.35**	**259**	*e*PG	**Pb**	**23 59 53.1**	**-0.8**
MFT	**Murefte**	**0.35**	**259**	*e*Pg	**Pb**	**23 59 53.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**0.46**	**249**	*e*PG	**Pg**	**23 59 54.5**	**+1.0**
RKY				*e*SG	**Sg**	**00 00 01.1**	**+1.7**
RKY	**Sarkoy-Tekirda**	**0.46**	**249**	*e*Pg	**Pg**	**23 59 54.5**	**+1.0**
RKY				*e*Sg	**Sg**	**00 00 01.1**	**+1.7**
BNT	**Bandirma**	**0.52**	**164**	*e*PG	**Pg**	**23 59 55.3**	**+0.7**
BNT				*e*SG	**Sg**	**00 00 01.3**	**0.0**
BNT	**Bandirma**	**0.52**	**164**	*e*Pg	**Pg**	**23 59 55.3**	**+0.7**
BNT				*e*Sg	**Sg**	**00 00 01.3**	**0.0**
EDC

GELI	**Tayfur-Gelibol**	**1.06**	**245**	*e*Pg	**Pg**	**00 00 04.8**	**-0.3**
BALY	**Balya**	**1.12**	**185**	*i* P	**Pg**	**00 00 06.5**	**+0.4**
BALY				*i* S	**Sg**	**00 00 20.9**	**+0.3**
BALY	**Balya**	**1.12**	**185**	*i* P	**Pg**	**00 00 06.5**	**+0.4**
BALY				*i* S	**Sg**	**00 00 20.9**	**+0.3**
GEMT	**Gemlik**	**1.18**	**110**	*e*PN	**Pg**	**00 00 06.6**	**-0.7**
GEMT	**Gemlik**	**1.18**	**110**	*e*Pn	**Pg**	**00 00 06.6**	**-0.7**
ORLT	**Orhaneli**	**1.20**	**132**	*e*PN	**Pg**	**00 00 07.5**	**-0.2**
ORLT	**Orhaneli**	**1.20**	**132**	*e*Pn	**Pg**	**00 00 07.5**	**-0.2**
ENEZ	**Enez**	**1.21**	**265**	*e*PN	**Pb**	**00 00 08.2**	**-0.2**
ENEZ	**Enez**	**1.21**	**265**	*e*Pn	**Pb**	**00 00 08.2**	**-0.2**
BALB	**Balikesir**	**1.22**	**175**	*e*PN	**Pg**	**00 00 08.0**	**0.0**
BALB	**Balikesir**	**1.22**	**175**	*e*Pn	**Pg**	**00 00 08.0**	**0.0**
EDRB	**Edirne**	**1.24**	**323**	*e*PN	**Pn**	**00 00 09.4**	**+0.1**
EDRB	**Edirne**	**1.24**	**323**	*e*Pn	**Pn**	**00 00 09.4**	**+0.1**
YLV	**Yalova**	**1.27**	**103**	*e*PN	**Pg**	**00 00 09.1**	**0.0**
YLV	**Yalova**	**1.27**	**103**	*e*Pn	**Pg**	**00 00 09.1**	**0.0**
ULDT	**Uludag**	**1.28**	**123**	*i* P	**Pg**	**00 00 09.0**	**-0.3**
ULDT				*i* S	**Sg**	**00 00 23.2**	**-2.6**
ULDT	**Uludag**	**1.28**	**123**	*i* P	**Pg**	**00 00 09.0**	**-0.3**
ULDT				*i* S	**Sg**	**00 00 23.2**	**-2.6**
ALN	**Alexandroupoli**	**1.28**	**272**	P	**Pg**	**00 00 09.1**	**-0.2**
ALN				S	**Sn**	**00 00 27.5**	**-0.3**
ALN	**Alexandroupoli**	**1.28**	**272**	*e*PN		00 00 08.8	
ALN				*e*SN		00 00 25.0	
ALN	**Alexandroupoli**	**1.28**	**272**	*e*Pn	**Pg**	**00 00 08.8**	**-0.5**
ALN	**Alexandroupoli**	**1.28**	**272**	P	**Pg**	**00 00 09.1**	**-0.2**
ALN				*e*Sn	**Sg**	**00 00 25.0**	**-1.0**
ALN				S	**Sn**	**00 00 27.5**	**-0.3**
DURS	**Dursunbey**	**1.37**	**156**	*i* P	**Pb**	**00 00 11.3**	**0.0**
DURS				*i* S	**Sg**	**00 00 28.3**	**-0.5**
DURS	**Dursunbey**	**1.37**	**156**	*i* P	**Pb**	**00 00 11.3**	**0.0**
DURS				*i* S	**Sg**	**00 00 28.3**	**-0.5**
DST	**Dursunbey**	**1.42**	**151**	*e*PN	**Pb**	**00 00 12.2**	**+0.1**
DST	**Dursunbey**	**1.42**	**151**	*e*Pn	**Pb**	**00 00 12.2**	**+0.1**
HRT	**Hereke**	**1.46**	**91**	*e*PN	**Pn**	**00 00 11.9**	**-0.5**
HRT	**Hereke**	**1.46**	**91**	*e*Pn	**Pn**	**00 00 11.9**	**-0.5**
SILT	**Sile**	**1.47**	**78**	*e*PN	**Pn**	**00 00 11.9**	**-0.6**
SILT	**Sile**	**1.47**	**78**	*e*Pn	**Pn**	**00 00 11.9**	**-0.6**
EZN	**Ezine**	**1.49**	**227**	*e*PN	**Pn**	**00 00 12.4**	**-0.3**
EZN	**Ezine**	**1.49**	**227**	*e*Pn	**Pn**	**00 00 12.4**	**-0.3**
ADVT	**Abdulvahap**	**1.58**	**105**	*e*PN	**Pn**	**00 00 13.7**	**-0.2**
ADVT	**Abdulvahap**	**1.58**	**105**	*e*Pn	**Pn**	**00 00 13.7**	**-0.2**
BOZC	**Bozcaada**	**1.64**	**232**	*i* P	**Pn**	**00 00 14.5**	**-0.3**
BOZC				*i* S	**Sn**	**00 00 36.2**	**-0.3**
CAVI	**Cavuskoy**	**1.73**	**111**	*e*PN	**Pn**	**00 00 16.8**	**+0.7**
CAVI	**Cavuskoy**	**1.73**	**111**	*e*Pn	**Pn**	**00 00 16.8**	**+0.7**
AYVA	**Ayvalik**	**1.74**	**208**	*i* P	**Pb**	**00 00 17.2**	**-0.3**
AYVA				*i* S	**Sn**	**00 00 39.4**	**+0.3**
AYVA	**Ayvalik**	**1.74**	**208**	*i* P	**Pb**	**00 00 17.2**	**-0.3**
AYVA				*i* S	**Sn**	**00 00 39.4**	**+0.3**
JMB	**Yambol**	**1.83**	**332**	P	**Pb**	**00 00 19.0**	**0.0**
JMB	**Yambol**	**1.83**	**332**	P	**Pb**	**00 00 19.0**	**0.0**
KDZ	**Kurdzhali**	**1.92**	**295**	*i* P	**Pn**	**00 00 18.9**	**+0.2**
KDZ	**Kurdzhali**	**1.92**	**295**	*i* P	**Pn**	**00 00 18.9**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.96**	**94**	*e*PN	**Pn**	**00 00 19.6**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.96**	**94**	*e*Pn	**Pn**	**00 00 19.6**	**+0.4**
PRK	**Paraskevi**	**1.96**	**215**	P	**Pn**	**00 00 18.4**	**-0.8**
PRK				S	**Sn**	**00 00 45.1**	**+0.6**
PRK	**Paraskevi**	**1.96**	**215**	*e*PB		00 00 18.3	
PRK	**Paraskevi**	**1.96**	**215**	*e*Pb	**Pn**	**00 00 18.3**	**-0.9**
PRK	**Paraskevi**	**1.96**	**215**	P	**Pn**	**00 00 18.4**	**-0.8**
PRK				S	**Sn**	**00 00 45.1**	**+0.6**
AKS	**Akhisar**	**1.98**	**178**	*e*PN	**Pn**	**00 00 19.4**	**0.0**
AKS	**Akhisar**	**1.98**	**178**	*e*Pn	**Pn**	**00 00 19.4**	**0.0**
GPA	**Golpazari**	**2.04**	**105**	*e*PN	**Pn**	**00 00 20.6**	**+0.3**
GPA	**Golpazari**	**2.04**	**105**	*e*Pn	**Pn**	**00 00 20.6**	**+0.3**
DIM	**Dimitrovgrad**	**2.04**	**306**	P	**Pn**	**00 00 20.1**	**-0.2**
DIM	**Dimitrovgrad**	**2.04**	**306**	P	**Pn**	**00 00 20.1**	**-0.2**
GULT	**Gulveren**	**2.15**	**100**	*e*PN	**Pn**	**00 00 22.3**	**+0.3**
GULT	**Gulveren**	**2.15**	**100**	*e*Pn	**Pn**	**00 00 22.3**	**+0.3**
LIA	**Limnos Island**	**2.17**	**245**	P	**Pn**	**00 00 21.2**	**-0.9**
LIA				S	**Sn**	**00 00 50.2**	**+0.5**
LIA	**Limnos Island**	**2.17**	**245**	*e*PB		00 00 21.0	
LIA	**Limnos Island**	**2.17**	**245**	*e*Pb	**Pn**	**00 00 21.0**	**-1.1**
LIA	**Limnos Island**	**2.17**	**245**	P	**Pn**	**00 00 21.2**	**-0.9**
LIA				S	**Sn**	**00 00 50.2**	**+0.5**
KULA	**Kula-Manisa**	**2.44**	**163**	*e*PN	**Pn**	**00 00 26.1**	**+0.2**
KULA	**Kula-Manisa**	**2.44**	**163**	*e*Pn	**Pn**	**00 00 26.1**	**+0.2**
KAVA	**Kavala**	**2.45**	**274**	P	**Pn**	**00 00 25.4**	**-0.5**
KAVA				S	**Sn**	**00 00 57.0**	**+0.5**
KAVA	**Kavala**	**2.45**	**274**	P	**Pn**	**00 00 25.4**	**-0.5**
KAVA				S	**Sn**	**00 00 57.0**	**+0.5**
IZM	**Izmir**	**2.48**	**189**	*e*PN	**Pn**	**00 00 26.6**	**+0.2**
IZM	**Izmir**	**2.48**	**189**	*e*Pn	**Pn**	**00 00 26.6**	**+0.2**
BLCB	**Balcova**	**2.52**	**193**	*e*PN	**Pn**	**00 00 27.3**	**+0.4**
BLCB	**Balcova**	**2.52**	**193**	*e*Pn	**Pn**	**00 00 27.3**	**+0.4**
ALT	**Altintas**	**2.56**	**134**	*e*PN	**Pn**	**00 00 27.6**	**0.0**
ALT	**Altintas**	**2.56**	**134**	*e*Pn	**Pn**	**00 00 27.6**	**0.0**
MDUB	**Mudurnu**	**2.66**	**97**	*e*PN	**Pn**	**00 00 29.4**	**+0.5**
MDUB	**Mudurnu**	**2.66**	**97**	*e*Pn	**Pn**	**00 00 29.4**	**+0.5**
ESKT	**Eskisehir**	**2.73**	**118**	*e*PN	**Pn**	**00 00 30.3**	**+0.4**
ESKT	**Eskisehir**	**2.73**	**118**	*e*Pn	**Pn**	**00 00 30.3**	**+0.4**
CHOS	**Chios island**	**2.79**	**208**	P	**Pn**	**00 00 30.2**	**-0.4**
CHOS				S	**Sn**	**00 01 05.9**	**+0.9**
CHOS	**Chios island**	**2.79**	**208**	*e*PB		00 00 31.9	
CHOS	**Chios island**	**2.79**	**208**	P	**Pn**	**00 00 30.2**	**-0.4**
CHOS	**Chios island**	**2.79**	**208**	*e*Pb	**Pn**	**00 00 31.9**	**+1.3**
CHOS				S	**Sn**	**00 01 05.9**	**+0.9**
KDZE	**Karadeniz Ereo**	**2.84**	**80**	*e*PN	**Pn**	**00 00 32.0**	**+0.7**
KDZE	**Karadeniz Ereo**	**2.84**	**80**	*e*Pn	**Pn**	**00 00 32.0**	**+0.7**
KHL	**Karahalli**	**2.88**	**151**	*e*PN	**Pn**	**00 00 32.4**	**+0.4**
KHL	**Karahalli**	**2.88**	**151**	*e*Pn	**Pn**	**00 00 32.4**	**+0.4**
OUR	**Ouranopolis**	**2.91**	**261**	P	**Pn**	**00 00 32.1**	**-0.1**
OUR				S	**Sn**	**00 01 08.2**	**+0.4**
OUR	**Ouranopolis**	**2.91**	**261**	P	**Pn**	**00 00 32.1**	**-0.1**
OUR				S	**Sn**	**00 01 08.2**	**+0.4**
NVR	**Nevrokopi**	**2.97**	**281**	*e*PN		00 00 33.2	
NVR	**Nevrokopi**	**2.97**	**281**	*e*Pn	**Pn**	**00 00 33.2**	**+0.1**
MMB	**Musomiste**	**3.11**	**285**	P	**Pn**	**00 00 35.2**	**+0.1**
MMB	**Musomiste**	**3.11**	**285**	P	**Pn**	**00 00 35.2**	**+0.1**
SRS	**Serrai**	**3.15**	**276**	P	**Pn**	**00 00 35.1**	**-0.5**
SRS				S	**Sn**	**00 01 14.3**	**+0.4**
SRS	**Serrai**	**3.15**	**276**	P	**Pn**	**00 00 35.1**	**-0.5**
SRS				S	**Sn**	**00 01 14.3**	**+0.4**
PGB	**Panagyurishte**	**3.17**	**304**	*i* P	**Pg**	**00 00 44.8**	**-0.6**
KKB	**Krupnik**	**3.65**	**288**	*i* P	**Pg**	**00 00 52.9**	**-1.7**
KNT	**Kendrikon**	**3.67**	**276**	P	**Pn**	**00 00 42.6**	**-0.2**
KNT				S	**Sn**	**00 01 27.3**	**+0.5**
KNT	**Kendrikon**	**3.67**	**276**	P	**Pn**	**00 00 42.6**	**-0.2**
KNT				S	**Sn**	**00 01 27.3**	**+0.5**
MLR	**Muntele Rosu**	**4.81**	**345⇑**	*i* P	**Pn**	**00 01 00.9**	**+2.3**
VOIR		**4.98**	**338⇑**	*i* P	**Pn**	**00 01 00.7**	**-0.1**
PLOR	**Plostina**	**5.06**	**351⇑**	*i* P	**Pn**	**00 01 04.0**	**+2.2**
VRI	**Vrincioaia**	**5.06**	**352⇑**	*i* P	**Pn**	**00 01 03.6**	**+1.7**

IDC 25 00:09:05.5±2.8, 5.71N×127.34E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=272.2km s-min=22.6km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.41**	**165**	P	P	00 14 44.9	+0.9
	0.2nm,0.7s,baz=343,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**29.90**	**168**	P	P	00 15 14.6	-0.6
	0.2nm,0.4s,baz=4.7,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**56.30**	**324**	P	P	00 18 48.0	0.0
	0.2nm,0.6s,baz=127,slow=7.6,SNR=4.9						
MKAR				PcP	PcP	00 19 44.5	-1.0
	0.4nm,0.6s,baz=130,slow=3.8,SNR=5.6						
KURK	**Kurchatov**	**60.41**	**327**	P	P	00 19 17.1	+0.4
	0.4nm,0.5s,baz=122,slow=6.1,SNR=4.8						

*CSEM **25** 00:19:25.6±0.1, 40.31N×27.61E, h15km, MD2.9, Error ellipse: s-maj=2.3km s-min=1.9km az=22.0*
*DDA **25** 00:19:25.6, 40.32N×27.63E, h11km, MD2.5*

ISK 25 00:19:25.2, 40.32N×27.62E, h14km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.19**	**80**	*e*PG	Pb	00 19 30.1	-0.3
EDC				*e*SG	Sg	00 19 33.0	+0.6
EDC	**Edincik**	**0.19**	**80**	*e*Pg	Pb	00 19 30.1	-0.3
EDC				*e*Sg	Sg	00 19 33.1	+0.6
BNT	**Bandirma**	**0.23**	**80**	*e*PG	Pg	00 19 30.4	+0.2
BNT				*e*SG	Sg	00 19 33.7	0.0
BNT	**Bandirma**	**0.23**	**80**	*e*Pg	Pg	00 19 30.5	+0.2
BNT				*e*Sg	Sg	00 19 33.7	0.0
KRBG	**Karabiga-Canak**	**0.26**	**287**	*e*PG	Pg	00 19 31.1	+0.4
KRBG				*e*SG	Sb	00 19 35.5	-0.6
KRBG	**Karabiga-Canak**	**0.26**	**287**	*e*Pg	Pg	00 19 31.2	+0.4
KRBG				*e*Sg	Sb	00 19 35.5	-0.6
GONE	**Gonen-Balikesi**	**0.27**	**170**	*e*PG	Pb	00 19 31.8	-0.1
GONE				*e*SG	Sb	00 19 35.7	-0.6
GONE	**Gonen-Balikesi**	**0.27**	**170**	*e*Pg	Pb	00 19 31.8	-0.1
GONE				*e*Sg	Sb	00 19 35.7	-0.7
RKY	**Sarkoy-Tekirda**	**0.50**	**318**	*e*PG	Pb	00 19 35.7	-0.3
RKY	**Sarkoy-Tekirda**	**0.50**	**318**	*e*Pg	Pb	00 19 35.7	-0.3
MFT	**Murefte**	**0.54**	**331**	*e*PG	Pb	00 19 36.3	-0.3
MFT	**Murefte**	**0.54**	**331**	*e*Pg	Pb	00 19 36.3	-0.3
KCTX	**Karacabey (Bur**	**0.56**	**95**	*e*PG	Pg	00 19 36.6	+0.3
KCTX	**Karacabey (Bur**	**0.56**	**95**	*e*Pg	Pg	00 19 36.6	+0.3
LPK	**Lapseki**	**0.66**	**275**	*e*PG	Pb	00 19 38.6	+0.1
LPK	**Lapseki**	**0.66**	**275**	*e*Pg	Pb	00 19 38.6	0.0
TKR	**Tekirdag**	**0.68**	**354**	*e*PG	Pb	00 19 39.1	+0.2
TKR	**Tekirdag**	**0.68**	**354**	*e*Pg	Pb	00 19 39.1	+0.3
BALB	**Balikesir**	**0.70**	**164**	*e*PG	Pg	00 19 38.8	-0.1
BALB	**Balikesir**	**0.70**	**164**	*e*Pg	Pg	00 19 38.8	-0.1
CRLT	**Corlu**	**0.82**	**6**	*e*PG	Pb	00 19 41.7	+0.5
CRLT	**Corlu**	**0.82**	**6**	*e*Pg	Pb	00 19 41.7	+0.5
GELI	**Tayfur-Gelibol**	**0.88**	**276**	*e*PG	Pn	00 19 43.1	-0.1
GELI	**Tayfur-Gelibol**	**0.88**	**276**	*e*Pg	Pn	00 19 43.1	-0.1
ERIK	**Erikli-Kesan**	**0.92**	**293**	*e*PG	Pg	00 19 43.0	+0.1
ERIK	**Erikli-Kesan**	**0.92**	**293**	*e*Pg	Pg	00 19 43.0	0.0
MDNY	**Mudanya-Bursa**	**0.96**	**86**	*e*PG	Pn	00 19 44.3	0.0
MDNY	**Mudanya-Bursa**	**0.96**	**86**	*e*Pg	Pn	00 19 44.3	0.0
SLVT	**Silivri**	**1.02**	**26**	*e*PG	Pn	00 19 45.3	+0.3
SLVT	**Silivri**	**1.02**	**26**	*e*Pg	Pn	00 19 45.3	+0.2
DST	**Dursunbey**	**1.04**	**133**	*e*PG	Pg	00 19 45.5	0.0
DST	**Dursunbey**	**1.04**	**133**	*e*Pg	Pg	00 19 45.5	0.0
EZN	**Ezine**	**1.11**	**244**	*e*PN	Pb	00 19 46.0	-0.1
EZN	**Ezine**	**1.11**	**244**	*e*Pn	Pb	00 19 46.1	-0.1
CTKS	**Kestanelik-??a**	**1.14**	**36**	*e*PN	Pg	00 19 47.0	-0.1
CTKS	**Kestanelik-??a**	**1.14**	**36**	*e*Pn	Pg	00 19 47.1	-0.1
ENEZ	**Enez**	**1.20**	**291**	*e*PN	Pb	00 19 47.6	-0.1
ENEZ	**Enez**	**1.20**	**291**	*e*Pn	Pb	00 19 47.6	-0.1
BGKT	**Bogazkoy**	**1.23**	**45**	*e*PN	Pb	00 19 48.1	-0.1
BGKT	**Bogazkoy**	**1.23**	**45**	*e*Pn	Pb	00 19 48.1	-0.1
CTYL	**Yal??k??y-??at**	**1.26**	**23**	*e*PN	Pb	00 19 49.0	+0.2
CTYL	**Yal??k??y-??at**	**1.26**	**23**	*e*Pn	Pb	00 19 49.0	+0.2
ISK	**Istanbul-Kandi**	**1.32**	**55**	*e*PN	Pb	00 19 49.9	+0.1
ISK	**Istanbul-Kandi**	**1.32**	**55**	*e*Pn	Pb	00 19 49.9	+0.1
YLV	**Yalova**	**1.36**	**79**	*e*PN	Pb	00 19 50.7	+0.2
YLV	**Yalova**	**1.36**	**79**	*e*Pn	Pb	00 19 50.7	+0.2
KLYT	**Kilyos**	**1.43**	**49**	*e*PN	Pb	00 19 51.4	-0.1
KLYT	**Kilyos**	**1.43**	**49**	*e*Pn	Pb	00 19 51.4	-0.2
ADVT	**Abdulvahap**	**1.62**	**85**	*e*PN	Pn	00 19 54.1	-0.7
ADVT	**Abdulvahap**	**1.62**	**85**	*e*Pn	Pn	00 19 54.1	+0.8
HRT	**Hereke**	**1.64**	**71**	*e*PN	Pn	00 19 54.4	+0.7
HRT	**Hereke**	**1.64**	**71**	*e*Pn	Pn	00 19 54.4	+0.7
EDRB	**Edirne**	**1.67**	**337**	*e*PN	Pn	00 19 54.6	+0.6
EDRB	**Edirne**	**1.67**	**337**	*e*Pn	Pn	00 19 54.7	+0.7
SILT	**Sile**	**1.75**	**61**	*e*PN	Pn	00 19 56.1	+1.0
SILT	**Sile**	**1.75**	**61**	*e*Pn	Pb	00 19 56.1	-0.9
ALT	**Altintas**	**2.29**	**122**	*e*PN	Pn	00 20 04.1	+1.4
ALT	**Altintas**	**2.29**	**122**	*e*Pn	Pn	00 20 04.1	+1.3

*DDA **25** 00:19:42.8, 38.66N×27.45E, h13km, MD3.1*
*CSEM **25** 00:19:43.1±0.1, 38.66N×27.44E, h5km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.8km az=124.0*

ISK 25 00:19:42.4, 38.66N×27.45E, h6km, MD3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.30**	**210**	PG	Pg	00 19 48.8	+0.4
IZM				*e*SG	Sg	00 19 53.5	+1.1
IZM	**Izmir**	**0.30**	**210**	*i* Pg	Pg	00 19 48.8	+0.4
IZM				*e*Sg	Sg	00 19 53.5	+1.1
AKS	**Akhisar**	**0.36**	**52**	PG	Pg	00 19 49.7	+0.3
AKS				*e*SG	Sb	00 19 56.1	-1.0
AKS	**Akhisar**	**0.36**	**52**	*i* Pg	Pg	00 19 49.7	+0.3
AKS				*e*Sg	Sb	00 19 56.1	-1.0
AKHS	**Akhisar**	**0.36**	**52**	*i* P	Pg	00 19 49.8	+0.4
AKHS				*i* S	Sb	00 19 55.8	-1.4
AKHS	**Akhisar**	**0.36**	**52**	*i* P	Pg	00 19 49.8	+0.4
BLCB	**Balcova**	**0.42**	**230**	*e*PG	Pg	00 19 51.4	+0.8
BLCB				*e*SG	Sb	00 19 57.7	-1.3
BLCB	**Balcova**	**0.42**	**230**	*e*Pg	Pg	00 19 51.4	+0.8
BLCB				*e*Sg	Sb	00 19 57.7	-1.2
URLA	**Izmir**	**0.74**	**246**	*i* P	Pg	00 19 56.5	-0.1
URLA				*i* S	Sb	00 20 07.5	-0.5
URLA	**Izmir**	**0.74**	**246**	*i* P	Pg	00 19 56.5	-0.1
URLA				*i* S	Sb	00 20 07.5	-0.6
MANT	**Manisa**	**0.88**	**101**	*i* P	Pg	00 19 59.7	0.0
MANT				*i* S	Sg	00 20 10.7	-0.6
MANT	**Manisa**	**0.88**	**101**	*i* P	Pg	00 19 59.7	0.0
KULA	**Kula-Manisa**	**0.96**	**98**	*e*PG	Pg	00 20 01.1	+0.1
KULA				*e*SG	Sb	00 20 14.4	-0.1
KULA	**Kula-Manisa**	**0.96**	**98**	*e*Pg	Pg	00 20 01.1	+0.2
KULA				*e*Sg	Sb	00 20 14.5	-0.1
AYDN	**Tasoluk**	**1.05**	**161**	*i* P	Pb	00 20 03.0	-0.2
AYDN				*i* S	Sg	00 20 16.5	0.0
AYDN	**Tasoluk**	**1.05**	**161**	*i* P	Pb	00 20 03.0	-0.1
AYDN				*i* S	Sg	00 20 16.5	+0.1
DEMI	**Demirci**	**1.06**	**68**	*i* P	Pb	00 20 03.2	-0.1
DEMI				*i* S	Sb	00 20 17.1	-0.3
DEMI	**Demirci**	**1.06**	**68**	*i* P	Pb	00 20 03.2	-0.1
DEMI				*i* S	Sb	00 20 17.1	-0.4
DST	**Dursunbey**	**1.31**	**44**	*e*PN	Pg	00 20 08.4	+0.8
DST	**Dursunbey**	**1.31**	**44**	*e*Pn	Pg	00 20 08.4	+0.8
GONE	**Gonen-Balikesi**	**1.40**	**7**	*e*PN	Pn	00 20 08.6	+0.1
GONE	**Gonen-Balikesi**	**1.40**	**7**	*e*Pn	Pn	00 20 08.6	+0.2
YER	**Yerkesik**	**1.66**	**156**	*e*PN	Pb	00 20 12.8	-0.6
YER	**Yerkesik**	**1.66**	**156**	*e*Pn	Pb	00 20 12.9	-0.6
KHL	**Karahalli**	**1.66**	**101**	*e*PN	Pb	00 20 13.1	-0.5
KHL	**Karahalli**	**1.66**	**101**	*e*Pn	Pb	00 20 13.1	-0.4
EDC	**Edincik**	**1.71**	**11**	*e*PN	Pb	00 20 13.7	-0.6
EDC	**Edincik**	**1.71**	**11**	*e*Pn	Pb	00 20 13.7	-0.6
BNT	**Bandirma**	**1.73**	**12**	*e*PN	Pn	00 20 13.6	+0.5
BNT	**Bandirma**	**1.73**	**12**	*e*Pn	Pn	00 20 13.6	+0.5
KRBG	**Karabiga-Canak**	**1.73**	**356**	*e*PN	Pn	00 20 13.7	+0.6
KRBG	**Karabiga-Canak**	**1.73**	**356**	*e*Pn	Pn	00 20 13.7	+0.6
KCTX	**Karacabey (Bur**	**1.75**	**23**	*e*PN	Pn	00 20 13.9	+0.6
KCTX	**Karacabey (Bur**	**1.75**	**23**	*e*Pn	Pn	00 20 13.9	+0.6
LPK	**Lapseki**	**1.79**	**343**	*e*PN	Pn	00 20 14.8	+0.9
LPK	**Lapseki**	**1.79**	**343**	*e*Pn	Pb	00 20 14.8	-0.9
GELI	**Tayfur-Gelibol**	**1.89**	**337**	*e*PN	Pn	00 20 16.1	+0.9
GELI	**Tayfur-Gelibol**	**1.89**	**337**	*e*Pn	Pn	00 20 16.1	+0.8
MDNY	**Mudanya-Bursa**	**2.03**	**33**	*e*PN	Pn	00 20 18.3	+1.1
MDNY	**Mudanya-Bursa**	**2.03**	**33**	*e*Pn	Pn	00 20 18.3	+1.1
RKY	**Sarkoy-Tekirda**	**2.04**	**354**	*e*PN	Pn	00 20 18.0	+0.7
RKY	**Sarkoy-Tekirda**	**2.04**	**354**	*e*Pn	Pn	00 20 18.0	+0.7
ALT	**Altintas**	**2.11**	**78**	*e*PN	Pn	00 20 19.3	+0.9
ALT	**Altintas**	**2.11**	**78**	*e*Pn	Pn	00 20 19.3	+0.9
ERIK	**Erikli-Kesan**	**2.13**	**340**	*e*PN	Pn	00 20 19.5	+0.9
ERIK	**Erikli-Kesan**	**2.13**	**340**	*e*Pn	Pn	00 20 19.5	+0.9
ARMT	**Armutlu**	**2.19**	**29**	*e*PN	Pn	00 20 20.4	+1.0
ARMT	**Armutlu**	**2.19**	**29**	*e*Pn	Pn	00 20 20.4	+1.0
FETY	**Fethiye**	**2.40**	**147**	*e*PN	Pn	00 20 22.5	+0.2
FETY	**Fethiye**	**2.40**	**147**	*e*Pn	Pn	00 20 22.5	+0.2
SHUT	**Suhut-Afyon**	**2.43**	**92**	*e*PN	Pn	00 20 24.3	+1.5
SHUT	**Suhut-Afyon**	**2.43**	**92**	*e*Pn	Pn	00 20 24.3	+1.5
CRLT	**Corlu**	**2.48**	**5**	*e*PN	Pn	00 20 23.9	+0.6
CRLT	**Corlu**	**2.48**	**5**	*e*Pn	Pn	00 20 23.9	+0.6
CTKS	**Kestanelik-??a**	**2.70**	**17**	*e*PN	Pn	00 20 27.5	+1.2
CTKS	**Kestanelik-??a**	**2.70**	**17**	*e*Pn	Pn	00 20 27.5	+1.2
BGKT	**Bogazkoy**	**2.71**	**22**	*e*PN	Pn	00 20 27.7	+1.1
BGKT	**Bogazkoy**	**2.71**	**22**	*e*Pn	Pn	00 20 27.7	+1.2
ELL	**Elmali**	**2.73**	**134**	*e*PN	Pn	00 20 28.5	+1.6
ELL	**Elmali**	**2.73**	**134**	*e*Pn	Pn	00 20 28.5	+1.6
HRT	**Hereke**	**2.75**	**38**	*e*PN	Pn	00 20 28.4	+1.3
HRT	**Hereke**	**2.75**	**38**	*e*Pn	Pn	00 20 28.4	+1.2
ESKT	**Eskisehir**	**2.78**	**71**	*e*PN	Pn	00 20 29.1	+1.4
ESKT	**Eskisehir**	**2.78**	**71**	*e*Pn	Pn	00 20 29.1	+1.5
GULT	**Gulveren**	**2.96**	**52**	*e*PN	Pn	00 20 31.4	+1.4
GULT	**Gulveren**	**2.96**	**52**	*e*Pn	Pn	00 20 31.4	+1.4
SVRH	**Sivrihisar-ESK**	**3.27**	**75**	*e*PN	Pn	00 20 36.1	+1.8
SVRH	**Sivrihisar-ESK**	**3.27**	**75**	*e*Pn	Pn	00 20 36.1	+1.8
MDUB	**Mudurnu**	**3.41**	**57**	*e*PN	Pn	00 20 38.0	+1.7
MDUB	**Mudurnu**	**3.41**	**57**	*e*Pn	Pn	00 20 38.0	+1.7

*IDC **25** 00:42:40.7±1.0, 37.91N×21.28E, h0km, mb3.7/12, mb1 3.7/15, mb1mx3.7/30, mbtmp3.7/15, ML3.7/3, Error ellipse: s-maj=19.9km s-min=17.5km az=27.0*

*ISCJB **25** 00:42:44.2±0.5, 37.79N±0.03×21.12E±0.03, h28km±3km, mb3.7/12, Error ellipse: s-maj=4.5km s-min=3.0km az=27.2*
*CSEM **25** 00:42:44.3±0.2, 37.79N×21.20E, h8km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.0km az=40.0*
*ATH **25** 00:42:44.4, 37.79N×21.27E, h19km±1km, ML3.3*
*THE **25** 00:42:45.1, 37.80N×21.26E, h10km±1km, ML3.4/10, Error ellipse: s-maj=1.3km s-min=0.5km az=249.0*

ISC 25 00:42:44.0±1.0, 37.80N±0.02×21.18E±0.03, h24km±7km, n120, σ1°25/172, mb3.8/12, 1C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.34**	**41**	P	**Pb**	**00 42 51.4**	**-0.1**
RLS				S	**Sb**	**00 42 55.7**	**-0.9**
RLS	**Riolos of Patr**	**0.34**	**41**	*e*PB	**Pb**	**00 42 51.6**	**+0.1**
RLS				*e*SB	**Sb**	**00 42 56.5**	**-0.1**
RLS	**Riolos of Patr**	**0.34**	**41**	P	**Pb**	**00 42 51.4**	**-0.1**
RLS				S	**Sb**	**00 42

BAI	Bari	4.69	316	*e*Pn	Pn	00	43	56.0 +2.8
CDT	Castel del Mon	5.02	312	*e*Pn	Pn	00	44	00.0 +2.2
BARS	Barje	5.03	5⇑	*e*Pn	Pn	00	43	59.3 +1.3
STON	Ston	5.72	333	*e*Pn	Pn	00	44	07.4 0.0
STON				Sn	Sn	00	45	09.5 -2.7
IVAS	Ivanjica	5.82	353	⇓*i*Pn	Pn	00	44	10.1 +1.3
GRUS	Gruza	6.09	357	⇓*i*Pn	Pn	00	44	13.2 +0.7
NVLJ	Novalja	8.26	327	*e*Pn	Pn	00	44	42.9 +0.6
NVLJ				Sn	Sn	00	46	11.2 -3.5
NVLJ	Novalja	8.26	327	*e*Pn	Pn	00	44	42.8 +0.6
MLR	Muntele Rosu 0.1nm,0.3s,baz=127,slow=14,SNR=5.8	8.47	23	Pn	Pn	00	44	50.5 +5.3
BRTR	Keskin Array B 0.1nm,0.3s,baz=259,slow=13,SNR=2.7	9.92	75	Pn	Pn	00	45	07.9 +2.7
GERES	GERESS Array B 0.1nm,0.3s,baz=157,slow=14,SNR=7.4	12.30	336	Pn	Pn	00	45	38.9 +1.2
GERES				Sn	Sn	00	47	50.4 -3.5
MMAI	Mount Meron Ar 0.3nm,0.3s,baz=306,slow=12,SNR=2.7	12.54	108	Pn	Pn	00	45	35.9 -5.1
MMAI				Sn	Sn	00	47	52.4 -7.6
EIL	Elat 0.5nm,0.3s,baz=324,slow=29,SNR=2.5	14.03	121	Pn	Pn	00	46	01.4 +0.2
ESDC	Sonseca Array 0.1nm,0.3s,baz=90,slow=11,SNR=3.2	19.69	283	P	P	00	47	12.1 +0.6
HFS	Hagfors 2.2nm,0.6s,baz=168,slow=13,SNR=12	22.85	350	P	P	00	47	44.7 -0.6
FINES	FINESS Array B 4.0nm,0.8s,baz=176,slow=9.4,SNR=10	23.86	6	P	P	00	47	54.5 -0.8
NOA	NORSAR Array B 2.2nm,1.1s,baz=161,slow=10,SNR=3.2	24.09	348	P	P	00	47	57.0 -0.5
AKTO	Aktyubinsk 1.2nm,0.9s,baz=256,slow=11,SNR=4.7	28.99	52	P	P	00	48	41.1 -0.5
TORD	Torodi Ar. Bea 0.5nm,0.6s,baz=32,slow=8.9,SNR=8.0	30.08	220	P	P	00	48	52.7 +1.1
ARCES	ARCESS Array B 1.5nm,0.9s,baz=192,slow=10,SNR=7.0	31.88	3	P	P	00	49	06.2 -0.8
BVAR	Borovoye Array 0.5nm,0.5s,baz=253,slow=7.0,SNR=6.3	36.96	50	P	P	00	49	50.7 -0.4
MKAR	Makanchi Array 0.8nm,0.5s,baz=274,slow=7.3,SNR=26	45.05	58	P	P	00	50	57.0 -0.8
ZALV	Zalesovo Beam 2.4nm,0.5s,baz=274,slow=8.6,SNR=18	45.55	48	P	P	00	51	00.7 -1.0
SCHQ	Schefferville 3.1nm,1.0s,baz=71,slow=8.9,SNR=4.4	59.09	318	P	P	00	52	42.5 +0.4
SONM	Songino Array 0.2nm,0.7s,baz=284,slow=7.2,SNR=3.5	60.29	51	P	P	00	52	49.6 -1.1
YKA	Yellowknife Ar 0.2nm,0.6s,baz=38,slow=5.6,SNR=4.5	73.92	340	P	P	00	54	17.0 +0.3

IDC 25 00:45:49.9±2.9, 0°13S×133°13E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=137.5km s-min=29.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=356,slow=11,SNR=14	19.72	177	P	P	00 50 21.3	+0.1
WRA				S	S	00 53 51.1	-14
ASAR	0.0nm,0.3s,baz=5.3,slow=23,SNR=3.3 Alice Springs 0.8nm,0.5s,baz=356,slow=11,SNR=25	23.41	178	P	P	00 51 00.7	0.0
MKAR	Makanchi Array 0.2nm,0.6s,baz=114,slow=5.9,SNR=2.8	64.39	324	P	P	00 56 27.8	-0.1

IDC 25 00:52:08.9±2.1, 1°45N×126°40E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=168.7km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.7nm,0.3s,baz=339,slow=11,SNR=20	22.64	160	P	P	00 57 12.0	+0.2
ASAR	Alice Springs 0.2nm,0.3s,baz=343,slow=7.6,SNR=6.7	26.01	164	P	P	00 57 43.7	-0.2
MKAR	Makanchi Array 0.1nm,0.3s,baz=116,slow=7.5,SNR=4.4	59.24	326	P	P	01 02 12.2	0.0

IDC 25 01:11:27.4±3.8, 17°41S×174°47W, h103km±38km, mb3.9/5, mb1 4.0/6, mb1mx3.6/19, mbtmp3.8/6, Error ellipse: s-maj=38.6km s-min=25.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 5.4nm,0.3s,baz=197,slow=11,SNR=5.0	4.34	37	P	Pn	01 12 31.4	0.0
AFI				S	Sn	01 13 16.8	-4.2
STKA	13nm,0.3s,baz=119,slow=19,SNR=9.5 Stephens Creek 4.2nm,0.9s,baz=71,slow=9.6,SNR=6.4	42.16	242	P	P	01 19 09.6	-0.3
WRA	Warramunga Arr 1.0nm,0.4s,baz=98,slow=6.0,SNR=33	48.41	259	P	P	01 19 59.5	0.0
ASAR	Alice Springs 15nm,0.8s,baz=85,slow=8.7,SNR=124	48.53	254	P	P	01 20 00.3	-0.1
QSPA	South Pole Qui 0.9nm,0.6s,baz=36,slow=19,SNR=5.5	72.65	180	P	P	01 22 43.9	+0.2
ILAR	Eielson Array 0.2nm,0.5s,baz=225,slow=5.8,SNR=7.4	84.61	11	P	P	01 23 48.8	-0.1

IGQ 25 01:14:30.4, 1°43S×79°88W, h26km±49km, Mb4.2, Ms4.0, 9C-27D, Error ellipse: s-maj=1.6km s-min=1.4km az=2.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	0.93	294	⇑P	Pb	01 14 49.3	+1.4
JAMA	Jama	1.20	344	P	Pb	01 14 52.5	-0.1
IGUA	Igualata	1.24	93	⇓P	Pb	01 14 54.1	+0.1
BIL2	Estacion Bilba	1.38	91	⇑P	Pb	01 14 56.3	+0.4
BBIL	Ulba Tungurahu	1.39	91	⇓P	Pb	01 14 56.3	+0.1
BMAS	Trigal station	1.40	93	⇓P	Pb	01 14 56.3	-0.1
JUI6	Juive	1.41	90	⇓P	Pb	01 14 56.5	0.0
ARRY	Arrayan	1.43	93	⇓P	Pb	01 14 56.5	-0.4
RETU	Refugio	1.43	91	⇑P	Pb	01 14 57.4	+0.2
PAT1	Patacocha	1.44	93	⇓P	Pb	01 14 57.3	0.0
RUN5	Runtun	1.46	90	P	Pb	01 14 57.2	-0.1
BRUN	Tungurahua Vol	1.47	90	⇓P	Pb	01 14 57.2	-0.4
ULBA	Ulba	1.47	91	⇑P	Pb	01 14 57.7	+0.1
BMOR	Cotopaxi Volca	1.58	64	⇓P	Pb	01 14 59.7	0.0
MOV1	Cotopaxi Vol s	1.60	64	⇓S	Sb	01 15 21.6	+1.0
MOV1	Cotopaxi Vol s	1.60	64	⇓P	Pb	01 14 60.0	-0.2
NAS2	Nasa	1.61	61	⇑S	Sb	01 15 22.0	+1.4
NAS2	Nasa	1.61	61	⇑P	Pb	01 15 00.8	+0.6
BREF	Cotopaxi Volca	1.62	62	⇓S	Sb	01 15 22.2	+1.1
BREF	Cotopaxi Volca	1.62	62	⇓P	Pb	01 15 00.8	+0.3
BVC2	Cotopaxi Volca	1.65	63	⇓S	Sb	01 15 24.1	+2.1
BVC2	Cotopaxi Volca	1.65	63	⇓P	Pb	01 15 01.1	+0.1
BTAM	Cotopaxi Volca	1.66	63	⇓P	Pb	01 15 01.1	0.0
VC1	Cotopaxi 1	1.67	62	⇓P	Pb	01 15 01.4	+0.2
PITA	Cotopaxi Volc	1.68	59	⇓P	Pb	01 15 01.3	-0.1
COV1	Cotopaxi Volc	1.71	64	⇓P	Pb	01 15 01.0	-1.1
JUA2	San Juan 2	1.75	47	⇓P	Pb	01 15 01.3	-1.2
JUA2	San Juan 2	1.75	47	⇓S	Sb	01 15 23.5	-1.1
TERV	Terraza Guagua	1.78	46	⇑P	Pb	01 15 01.9	-1.3
GGP	Refugio Guagua	1.79	46	⇑P	Pn	01 15 01.8	+1.4
PINO	Pino	1.79	45	⇑P	Pn	01 15 01.7	+1.3
YANA	Yana	1.84	45	P	Pn	01 15 02.4	+1.3
ARNL	Arenillas	2.12	185	⇓S	Sn	01 15 31.1	+1.5
ARNL	Arenillas	2.12	185	⇓P	Pn	01 15 05.4	+1.2
OTAV	Otavalo	2.18	41	⇓P	Pn	01 15 06.7	+1.0
OTAV	Otavalo	2.18	41	⇓S	Sn	01 15 34.4	+2.0
COTA	Cotacachi	2.33	41	⇓S	Sb	01 15 39.6	-1.8
COTA	Cotacachi	2.33	41	⇓P	Pn	01 15 10.0	+2.1
CAYR	Refugio Cayamb	2.36	53	P	Pb	01 15 11.1	-2.0
CAYA	Cayambe	2.40	52	⇓P	Pb	01 15 11.3	-2.4
CATE	Catamayo	2.57	169	S	Sn	01 15 43.8	+2.6
CATE	Catamayo	2.57	169	P	Pn	01 15 13.1	+2.4
CHAR	Charly	2.58	59	P	Pb	01 15 15.2	-1.4

IDC 25 01:16:58.8±0.7, 1°22S×148°78E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.3/21, ML3.9/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/28, Error ellipse: s-maj=23.6km s-min=13.9km az=106.0
ISCJB 25 01:17:02.6±0.3, 1°25S±0°04×148°64E±0°08, h33km,
mb4.4/44, MS3.8/7, Error ellipse: s-maj=11.8km s-min=6.3km az=5.2
BJI 25 01:17:05.3, 1°30S×148°60E, h63km, mB5.2/9, mb4.7/26, Ms4.8/8, Ms7 4.5/8
NEIC 25 01:17:08.8±1.6, 1°29S×148°65E, h77km±15km, mb4.6/19, Error ellipse: s-maj=10.0km s-min=7.2km az=90.0

ISC 25 01:17:04.3±0.5, 1°25E±0°07×148°7E±0°1, h35km, n87, σ0°99/86, mb4.5/43, MS3.6/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 0.8nm,0.3s,baz=6.9,slow=12,SNR=11	8.24	190	Pn	Pn	01 19 05.6	+4.3
PMG	Port Moresby	8.24	190	Pn	Pn	01 19 05.6	+4.3
COEN	Coen	13.74	203	*e*Pn	Pn	01 20 15.2	-1.5
GUMO	Guam comp=Z,93nm,19.8s,baz=177,slow=32	15.21	346	LR	LR	01 25 10.7	
CTA	Charters Tower 0.2nm,0.3s,baz=4.8,slow=12,SNR=3.5	18.87	187	P	Pn	01 21 22.5	+0.1
CTA				LR	LR	01 27 43.3	
CTA	comp=Z,187nm,20.9s,baz=112,slow=34 Charters Tower	18.87	187	P	Pn	01 21 22.5	+0.1
CTAO	Charters Tower 2.9nm,0.5s	18.87	187	*e*P	Pn	01 21 23.0	+0.6
WRAB	Tennant Creek 20nm,0.8s	23.25	216	*e*P	P	01 22 07.5	-1.3
WB2	Warramunga Arr	23.25	216	*e*P	P	01 22 08.5	-0.3
WRA	Warramunga Arr 21nm,0.9s,baz=40,slow=10,SNR=86	23.26	216	P	P	01 22 08.7	-0.2
WRA	Warramunga Arr	23.26	216	P	P	01 22 08.7	-0.2
EIDS	Eidsvold 14nm,0.9s	24.09	175	*e*P	P	01 22 17.7	+1.0
AS31	Alice Springs	26.47	212	*e*P	P	01 22 39.1	+0.7
ASAR	Alice Springs 5.0nm,0.6s,baz=40,slow=7.5,SNR=65	26.48	212	P	P	01 22 39.2	+0.8
ASAR	Alice Springs	26.48	212	P	P	01 22 39.2	+0.8
FITZ	Fitzroy Crossi 4.3nm,0.8s,baz=91,slow=7.6,SNR=5.3	28.12	232	P	P	01 22 53.6	+0.3
FITZ				LR	LR	01 33 20.3	
FITZ	comp=Z,62nm,19.9s,baz=278,slow=35 Fitzroy Crossi	28.12	232	P	P	01 22 53.6	+0.3
CBIJ	Chichi jima comp=Z,212nm,20.1s,baz=81,slow=32	28.86	348	LR	LR	01 32 10.8	
KAPI	Kappang 4.4nm,0.7s,baz=113,slow=15,SNR=3.5	29.09	262	P	P	01 23 01.8	0.0
KAPI	Kappang 8.4nm,0.9s	29.09	262	*e*P	P	01 23 01.9	0.0
STKA	Stephens Creek 1.0nm,0.6s,baz=26,slow=6.8,SNR=4.9	31.18	192	P	P	01 23 19.4	-0.8
STKA	Stephens Creek	31.18	192	P	P	01 23 19.4	-0.8
FORT	Forrest 30nm,0.7s	35.26	212	*e*P	P	01 23 56.0	+0.2
JNU	Nakatsue 17nm,1.0s,baz=176,slow=19,SNR=4.4	38.08	335	P	P	01 24 18.2	-1.5
JNU	Nakatsue	38.08	335	P	P	01 24 18.2	-1.5
MJAR	Matsushiro Arr comp=Z,74nm,19.6s,baz=165,slow=31	38.84	347	LR	LR	01 37 02.3	
KSRS	Korea Array comp=Z,69nm,18.5s,baz=5.2,slow=35	43.03	336	LR	LR	01 41 53.3	
NWAO	Narrogin (SRO) comp=Z,85nm,21.2s,baz=284,slow=34	43.17	220	LR	LR	01 41 37.1	
NJ2	Nanjing	43.51	322	*e*P	P	01 25 06.3	+1.8
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
USRK	Ussuriysk Arra comp=Z,1.6nm,0.8s,baz=168,slow=9.8,SNR=5.4	47.63	344	P	P	01 25 37.2	+0.3
IPM	Ipoh comp=Z,9.2nm,0.8s	47.93	277	*e*P	P	01 25 40.0	+0.2
MDJ	Mudanjiang	48.73	342	P	P	01 25 46.8	+1.4
MDJ	comp=Z,9.0nm,1.8s			pmax	pmax		
MDJ	comp=Z,180nm,4.4s			pmax	pmax		
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.4s,baz=108,slow=5.6,SNR=10	52.64	294	P	P	01 26 17.0	+1.6
CMAR	Chiang Mai Arr	52.64	294	P	P	01 26 17.0	+1.6
CD2	Chengdu	53.30	311	P	P	01 26 21.1	+1.0
CD2				pP	pP	01 26 37.5	+6.8
CD2				sP	sP	01 26 45.0	+10
CD2				PP	PP	01 28 23.8	+3.1
CD2				S	S	01 33 46.8	-2.8
CD2				sS	sS	01 34 15.0	+8.1
CD2				SS	SS	01 37 26.8	-3.1
CD2	comp=Z,20nm,0.8s			pmax	pmax		
CD2	comp=Z,160nm,6.4s			pmax	pmax		
CD2	comp=N,320nm,6.5s			LR	LR		
CD2	comp=Z,320nm,8.3s			LR	LR		
HHC	Hu-ho-hao-te	53.78	325	*e*P	P	01 26 24.5	+0.9
HHC				pP	pP	01 26 40.4	+6.3
HHC				sP	sP	01 26 47.5	+9.3
HHC				PP	PP	01 28 28.3	+3.4
HHC				S	S	01 33 54.4	-1.5
HHC				sS	sS	01 34 20.6	+7.3
HHC				SS	SKiKP	01 37 35.9	+0.6
HHC	comp=Z,7.0nm,0.9s			pmax	pmax		
HHC	comp=Z,120nm,6.9s			pmax	pmax		
HHC	comp=N,210nm,15.1s			LR	LR		
HHC	comp=E,250nm,14.3s			LR	LR		
HHC	comp=Z,160nm,14.2s			LR	LR		
PETK	Petropavlovsk- comp=Z,8.1nm,1.0s,baz=169,slow=6.6,SNR=6.1	54.70	7	P	P	01 26 29.9	0.0
PETK	Petropavlovsk-	54.70	7	P	P	01 26 29.9	0.0
LZH	Lanzhou	55.82	316	*e*P	P	01 26 41.3	+2.8
LZH				pP	pP	01 26 57.3	+8.2
LZH				PP	PP	01 28 48.5	+5.2
LZH	comp=Z,20nm,1.3s			pmax	pmax		
LZH	comp=Z,59nm,6.3s			pmax	pmax		
LZH	comp=N,310nm,14.7s			LR	LR		
LZH	comp=E,290nm,15.3s			LR	LR		
LZH	comp=Z,350nm,18.2s			LR	LR		
HIA	Hailar comp=Z,3.3nm,0.6s	56.16	338	*e*P	P	01 26 41.7	+1.2
ULN	Ulaanbaatar comp=Z,46nm,2.8s	60.83	329	*e*P	P	01 27 14.3	+1.0
SONM	Songino Array	61.15	329	P	P	01 27 16.1	+0.7
SONM	comp=Z,1.6nm,0.7s,baz=143,slow=6.2,SNR=14 Songino Array	61.15	329	P	P	01 27 16.1	+0.7
WMQ	Urumqi	70.35	318	*e*P	P	01 28 15.8	+1.1
WMQ				pP	PcP	01 28 32.8	-3.3
WMQ				sP	sP	01 28 38.8	+9.2
WMQ	comp=Z,5.0nm,1.0s			pmax	pmax		
MK31	Makanchi Array	74.95	319	*e*P	P	01 28 42.1	+0.2
MKAR	Makanchi Array comp=Z,1.1nm,0.8s,baz=102,slow=7.1,SNR=13	74.95	319	P	P	01 28 42.5	+0.5
MKAR	Makanchi Array	74.95	319	*e*P	P	01 28 42.5	+0.5
ZALV	Zalesovo Beam comp=Z,0.5nm,0.4s,baz=103,slow=7.5,SNR=5.2	75.93	327	P	P	01 28 46.7	-0.6
ZALV	Zalesovo Beam	75.93	327	P	P	01 28 46.7	-0.6
VNDA	Vanda comp=Z,19nm,1.7s	76.53	177	*e*P	P	01 28 50.7	+0.3
KURK	Kurchatov comp=Z,1.6nm,0.7s,baz=112,slow=4.8,SNR=6.6	78.45	322	P	P	01 29 01.6	0.0
KURK	Kurchatov comp=Z,14nm,1.3s	78.45	322	*e*P	P	01 29 02.0	+0.4
TKM2	Tokmak 2 comp=Z,17nm,1.3s	78.50	314	*e*P	P	01 29 03.0	+0.6
AAK	Ala-Archa comp=Z,5.8nm,0.8s	79.24	314	*e*P	P	01 29 05.9	-0.5
MCK	McKinley comp=Z,7.5nm,1.0s	79.25	24	*e*P	P	01 29 04.9	-0.9
EKS2	Erkin-Say comp=Z,1.5nm,0.8s	79.76	314	*e*P	P	01 29 08.7	-0.4
COLA	College comp=Z,2.9nm,0.8s	80.16	23	*e*P	P	01 29 11.4	+0.9
ILAR	Eielson Array comp=Z,1.5nm,0.8s,baz=249,slow=5.1,SNR=20	80.50	23	P	P	01 29 10.9	-1.5
ILAR	Eielson Array	80.50	23	P	P	01 29 10.9	-1.5
KBL	Kabul comp=Z,2.0nm,0.7s	82.15	305	*e*P	P	01 29 22.0	-0.2
KKAR	Karatay Array comp=Z,2.4nm,0.9s	82.20	314	*e*P	P	01 29 22.3	+0.3
BVAR	Borovoye Array comp=Z,3.7nm,0.8s,baz=105,slow=6.1,SNR=4.7	83.94	324	P	P	01 29 31.3	+0.6
BVAR	Borovoye Array	83.94	324	P	P	01 29 31.3	+0.6
BRVK	Borovoye comp=Z,4.1nm,0.9s	84.01	324	*e*P	P	01 29 31.7	+0.7
INK	Inuvik comp=Z,3.8nm,1.0s	86.66	21	*e*P	P	01 29 43.8	-0.2
QSPA	South Pole Qui comp=Z,2.2nm,0.9s,baz=291,slow=4.8,SNR=3.3	88.68	180	P	P	01 29 54.3	+0.4
QSPA	South Pole Qui	88.68	180	P	P	01 29 54.3	+0.4
YBH	Yreka Blue Hor comp=Z,1.2nm,0.7s,baz=298,slow=5.5,SNR=3.9	89.81	48	P	P	01 29 59.5	-0.2
YBH	Yreka Blue Hor	89.81	48	P	P	01 29 59.5	-0.2
ABKAR	Akbulak array comp=Z,1.3nm,1.0s	90.09	319	*e*P	P	01 29 58.2	-2.5
NVAR	Mina Array Bea comp=Z,1.3nm,0.8s,baz=244,slow=6.7,SNR=11	93.16	52	P	P	01 30 15.7	+0.2
NVAR	Mina Array Bea	93.16	52	P	P	01 30 15.7	+0.2
BMO	Blue Mountains comp=Z,10nm,1.9s	93.75	45	*e*P	P	01 30 18.2	+0.4
YKA	Yellowknife Ar comp=Z,0.5nm,0.7s,baz=276,slow=4.6,SNR=7.1	94.23	28	P	P	01 30 19.2	-0.3
YKA	Yellowknife Ar	94.23	28	P	P	01 30 19.2	-0.3
PDAR	Pinedale Array comp=Z,0.2nm,0.6s,baz=270,slow=4.3,SNR=2.5	99.50	47	P	Pdif	01 30 43.3	-0.9
PDAR	Pinedale Array	99.50	47	P	Pdif	01 30 43.3	-0.9
GERES	GERESS Array B comp=Z,0.3nm,0.8s,baz=25,slow=2.6,SNR=3.2	118.87	328	PKP	PKPdf	01 35 49.1	-0.3
GERES	GERESS Array B	118.87	328	PKP	PKPdf	01 35 49.1	-0.3
TSUM	Tsumeb	127.85	244	*e*PKPdf	PKPdf	01 36 06.8	-0.6
LPAZ	La Paz	139.72	117	*e*PKPdf	PKPdf	01 36 28.7	-1.6
TOA0	Torodi Ar. Sit	145.21	291	*e*PKPbc	PKPbc	01 36 38.9	-0.1
TORD	Torodi Ar. Bea comp=Z,0.9nm,0.5s,baz=70,slow=3.4,SNR=19	145.21	291	PKPbc	PKPbc	01 36 39.0	0.0
TORD	Torodi Ar. Bea	145.21	291	PKPbc	PKPbc	01 36 39.0	0.0
SAML	Samuel	146.70	108	*e*PKPbc	PKPdf	01 36 42.4	+0.5
DBIC	Dimbokro comp=Z,1.8nm,0.8s,baz=54,slow=2.2,SNR=5.3	153.04	282	PKPbc	PKPbc	01 36 59.5	+0.2
DBIC				PKPab	PKPab	01 37 10.3	-0.4
DBIC	comp=Z,1.7nm,0.6s,baz=74,slow=4.5,SNR=5.4 Dimbokro	153.04	282	PKPbc	PKPbc	01 36 59.5	+0.2
DBIC				PKPab	PKPab	01 37 10.3	-0.4

IDC 25 01:17:36.0±0.7, 28°16S×176°63W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, MS4.2/10, Ms1 4.2/10, ms1mx3.9/27, Error ellipse: s-maj=25.5km s-min=19.9km az=173.0
NEIC 25 01:17:37.2±0.4, 28°12S×176°59W, h10km, mb4.8/8, Error ellipse: s-maj=12.7km s-min=9.0km az=160.0
ISCJB 25 01:17:40.1±0.5, 28°22S±0°08×176°68W±0°09, h37km, mb4.3/17, MS4.3/9, Error ellipse: s-maj=14.1km s-min=8.0km az=43.0

ISC 25 01:17:41.5±0.6, 28°3S±0°1×176°7W±0°1, h37km, n66, σ0°94/49, mb4.3/17, MS4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.47	227	*e*Pn	Pn	01 18 06.7	+1.2
RAO				*e*Sn	Sn	01 18 23.3	-0.2
OUZ	Omahuta 18nm,0.7s	10.80	228	*e*Pn	Pn	01 20 17.2	+3.7
URZ	Urewera 9.5nm,0.6s	11.25	206	*e*Pn	Pn	01 20 12.2	-7.3
MSVF	Nonsavu 42nm,1.2s	11.54	334	*e*Pn	Pn	01 20 27.7	+3.9
AFI	Afiamalu 2.7nm,0.3s,baz=176,slow=13,SNR=4.2	14.99	19	Pn	Pn	01 21 02.9	-7.9
AFI				Sn	Sn	01 23 35.7	-20
AFI	2.4nm,0.3s,baz=204,slow=20,SNR=4.6 Afiamalu	14.99	19	Pn	Pn	01 21 02.9	-7.9
AFI				Sn	Sn	01 23 35.7	-20
KHZ	Kahutara 22nm,0.4s	16.21	207	*e*Pn	Pn	01 21 19.9	-6.5
DZM	Mont Dzumac 94nm,1.4s	16.47	288	*e*P	P	01 21 37.6	+5.4
DZM				*e*LR	LR	01 25 29.7	
DZM	2μm,26.5s Mont Dzumac	16.47	288	LR	LR	01 26 35.7	
DZM	comp=Z,1μm,18.8s,baz=216,slow=33 Mont Dzumac	16.47	288	*e*Pn	Pn	01 21 28.9	-0.9
RPZ	Rata Peaks 1.3nm,0.3s,baz=26,slow=7.9,SNR=4.3	18.31	209	P	P	01 21 49.6	-2.8
RPZ				S	Sn	01 25 00.6	-15
RPZ	0.4nm,0.3s,baz=81,slow=16,SNR=2.6 Rata Peaks	18.31	209	*e*P	P	01 21 49.2	-3.2
RPZ	20nm,0.9s			S	Sn	01 25 00.6	-15
TBI	Tubuai 2μm,27.8s	24.96	85	*e*LQ	LQ	01 27 41.0	
TBI				*e*LR	LR	01 28 59.5	
PPT2	571nm,27.8s,baz=240 Papeete2 2μm,24.5s	27.06	73	*e*LQ	LQ	01 28 29.5	
PPT2				*e*LR	LR	01 29 55.5	
HNR	250nm,24.0s Honiara comp=Z,425nm,18.1s,baz=10,slow=34	28.88	306	LR	LR	01 33 53.1	
CTA	Charters Tower 1.7nm,0.4s,baz=82,slow=14,SNR=3.6	34.68	275	P	P	01 24 27.7	-0.1
CTA				LR	LR	01 37 09.0	
CTA	comp=Z,741nm,18.1s,baz=228,slow=34 Charters Tower	34.68	275	P	P	01 24 27.7	-0.1
CTAO	Charters Tower 2.7nm,0.4s	34.68	275	*e*P	P	01 24 28.7	+0.9
STKA	Stephens Creek 1.0nm,0.5s,baz=88,slow=14,SNR=3.0	36.14	254	P	P	01 24 40.8	+0.6
STKA	Stephens Creek	36.14	254	P	P	01 24 40.8	+0.6
RKT	Rikitea 441nm,27.0s	37.79	92	*e*LR	LR	01 34 49.2	
COEN	Coen	39.87	282	*e*P	P	01 25 11.7	-0.1
ASAR	Alice Springs 1.1nm,0.5s,baz=95,slow=6.5,SNR=12	44.43	264	P	P	01 25 49.2	+0.2
ASAR	Alice Springs	44.43	264	P	P	01 25 49.2	+0.2
WB2	Warramunga Arr	45.22	269	*e*P	P	01 25 54.4	-0.9
WRA	Warramunga Arr 0.8nm,0.3s,baz=105,slow=7.9,SNR=17	45.23	269	P	P	01 25 54.7	-0.6
WRA				LR	LR	01 43 00.8	
WRA	comp=Z,139nm,18.5s,baz=115,slow=34 Warramunga Arr	45.23	269	P	P	01 25 54.7	-0.6
FORT	Forrest 17nm,0.9s	47.75	253	*e*P	P	01 26 15.1	+0.1
FITZ	Fitzroy Crossi 0.8nm,0.6s,baz=80,slow=12,SNR=2.3	53.56	268	P	P	01 26 59.7	+0.8
FITZ				LR	LR	01 49 12.9	
FITZ	comp=Z,267nm,20.0s,baz=107,slow=35

LPAZ	**La Paz**	**97.94**	**113**	LR	LR	02 05 19.3		
	comp=Z,68nm,21.8s,baz=38,slow=29							
ARCES	**ARCESS Array B**	**136.73**	**349**	PKP	**PKPdf**	**01 36 59.7**	**+0.7**	
	1.4nm,0.7s,baz=50,slow=2.8,SNR=4.0							
ARCES	**ARCESS Array B**	**136.73**	**349**	PKP	**PKPdf**	**01 36 59.7**	**+0.7**	
FINES	**FINESS Array B**	**143.51**	**342**	PKhKP	PKPpre	01 37 08.3		
	1.9nm,0.8s,baz=238,slow=3.6,SNR=7.9							
FINES	**FINESS Array B**	**143.51**	**342**	PKPpre	PKPpre	01 37 08.3		
KIV	**Kislovodsk**	**144.92**	**307**	*e*PKPdf	**PKPdf**	**01 37 14.3**	**-0.4**	
NB2	**NORSAR Subarra**	**146.79**	**353**	PKP	**PKPbc**	**01 37 18.6**	**-0.4**	
	comp=Z,3.8nm,0.8s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**146.79**	**353**	PKPbc	**PKPbc**	**01 37 18.4**	**-0.6**	
	comp=Z,2.1nm,0.7s,baz=14,slow=4.4,SNR=6.3							
NOA	**NORSAR Array B**	**146.79**	**353**	PKPbc	**PKPbc**	**01 37 18.4**	**-0.6**	
AKASG	**Malin Array Be**	**150.24**	**326**	PKPbc	**PKPbc**	**01 37 27.9**	**-0.3**	
	comp=Z,2.4nm,0.7s,baz=47,slow=3.3,SNR=7.6							
AKASG	**Malin Array Be**	**150.24**	**326**	PKPbc	**PKPbc**	**01 37 27.9**	**-0.3**	
KIEV	**Kiev**	**150.25**	**326**	*e*PKPbc	**PKPbc**	**01 37 27.5**	**-0.8**	
BUR08	**Bucovina Ar. S**	**154.23**	**325**	*e*PKPab	**PKPab**	**01 37 51.1**	**-0.4**	
TORD	**Torodi Ar. Bea**	**164.89**	**174**	PKPab	**PKPab**	**01 38 37.9**	**-0.3**	
	comp=Z,1.0nm,1.0s,baz=193,slow=3.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**164.89**	**174**	PKPab	**PKPab**	**01 38 37.9**	**-0.3**	

DJA ***25*** *01:25:52.1˚16N×126˚61E,h117km,MLv3.6/4*
IDC 25 01:25:36.3±1.1,2˚80N×127˚63E,h0km,mb3.8/8,mb1 4.0/8,mb1mx3.8/20,mbtmp3.9/8,MS3.3/1,Ms1 3.3/1,ms1mx2.6/33,Error ellipse: s-maj=89.9km s-min=15.6km az=70.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.13**	**57**	LR	LR	01 36 12.7	
	comp=Z,86nm,18.3s,baz=282,slow=32						
FITZ	**Fitzroy Crossi**	**20.86**	**185**	P	P	01 30 19.6	-0.4
	1.7nm,0.5s,baz=12,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**23.54**	**164**	P	P	01 30 48.2	-0.3
	4.0nm,0.5s,baz=343,slow=11,SNR=28						
ASAR	**Alice Springs**	**27.01**	**167**	P	P	01 31 19.9	-0.3
	0.7nm,0.4s,baz=349,slow=7.3,SNR=8.3						
STKA	**Stephens Creek**	**36.95**	**160**	P	P	01 32 47.6	+0.3
	2.2nm,0.7s,baz=330,slow=6.1,SNR=6.5						
SONM	**Songino Array**	**48.46**	**341**	P	P	01 34 19.3	-1.4
	0.2nm,0.4s,baz=150,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**58.83**	**325**	P	P	01 35 36.1	-0.6
	0.3nm,0.4s,baz=117,slow=7.7,SNR=7.1						
KURK	**Kurchatov**	**63.00**	**327**	P	P	01 36 05.9	+1.0
	0.5nm,0.6s,baz=130,slow=6.4,SNR=8.3						
BVAR	**Borovoye Array**	**68.58**	**327**	P	P	01 36 41.9	+0.9
	0.4nm,0.4s,baz=98,slow=4.4,SNR=3.6						

IDC 25 01:38:11.5±26.0,17˚62S×178˚19W,h418km±242km, mb3.1/3,mb1 3.4/3,mb1mx3.0/17,mbtmp3.1/3,Error ellipse: s-maj=298.9km s-min=68.4km az=136.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.89**	**259**	P	P	01 45 47.0	-0.2
	0.5nm,0.5s,baz=94,slow=6.9,SNR=7.7						
ASAR	**Alice Springs**	**45.07**	**254**	P	P	01 45 48.5	-0.1
	3.3nm,0.6s,baz=88,slow=8.2,SNR=37						
ILAR	**Eielson Array**	**85.56**	**13**	P	P	01 50 03.6	0.0
	0.2nm,0.4s,baz=226,slow=5.1,SNR=8.8						
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc	PKPbc	01 57 06.4	-0.7
	1.5nm,0.5s,baz=45,slow=3.2,SNR=4.5						

IDC 25 01:38:56.9±22.0,1˚61N×127˚37E,h125km±212km, mb3.7/4,mb1 3.7/5,mb1mx3.4/18,mbtmp3.6/5,ML3.8/1, Error ellipse: s-maj=123.5km s-min=32.8km az=56.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.67**	**185**	P	P	01 43 16.3	+0.2
	0.2nm,0.3s,baz=14,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**22.49**	**163**	P	P	01 43 45.8	-0.3
	2.9nm,0.3s,baz=341,slow=10,SNR=59						
ASAR	**Alice Springs**	**25.92**	**166**	P	P	01 44 17.4	-0.2
	1.0nm,0.5s,baz=347,slow=6.6,SNR=17						
STKA	**Stephens Creek**	**35.94**	**159**	P	P	01 45 45.6	+0.2
	4.9nm,0.4s,baz=344,slow=7.3,SNR=12						
KURK	**Kurchatov**	**63.86**	**328**	P	P	01 49 16.0	0.0
	0.7nm,0.6s,baz=126,slow=6.5,SNR=5.3						

IDC ***25*** *01:47:43.9±0.4,43˚24N×80˚86E,h0km,mb4.8/29, mb1 4.9/35,mb1mx4.9/35,mbtmp4.8/35,ML4.7/6,MS4.4/20, Ms1 4.4/20,ms1mx4.2/33,Error ellipse: s-maj=9.0km s-min=7.7km az=45.0*
LDG ***25*** *01:47:43.1±0.1,43˚15N×80˚83E,h10km,Mb5.0/29, Ms4.3/10,Error ellipse: s-maj=5.7km s-min=4.5km az=26.0*
BJI ***25*** *01:47:44.3,43˚30N×80˚80E,h7km,mB5.2/39,mb5.0/52, ML5.2/9,Ms5.0/54,Ms7 4.8/53*
ISCJB ***25*** *01:47:45.7±0.1,43˚24N±0˚02×80˚90E±0˚02,h20km, mb5.1/226,MS4.6/47,Error ellipse: s-maj=2.6km s-min=1.9km az=13.8*
MOS ***25*** *01:47:47.9±0.9,43˚37N×80˚92E,h33km,mb5.3/71, MS4.6/18,Error ellipse: s-maj=5.4km s-min=3.7km az=123.8*
NEIC ***25*** *01:47:47.2±0.1,43˚24N×80˚89E,mb5.3/108,Error ellipse: s-maj=3.1km s-min=2.4km az=48.0*
NEIC Felt at Almaty, Kazakhstan.
DJA ***25*** *01:47:49,43˚17N×80˚88E,h21km,mb5.3/28*
NNC ***25*** *01:47:50.5±0.9,43˚75N×80˚51E,h0km,mb5.2,mpv5.1, Error ellipse: s-maj=10.1km s-min=3.9km az=138.0*
SZGRF ***25*** *01:47:58.1,44˚41N×79˚90E,h24km,mb5.3,MS4.6, Eastern Kazakhstan*
ISC 25 01:47:47.4±0.2,43˚32N±0˚03×80˚90E±0˚02,h20km, h20km:pP-P,n778,σ1s26/933,mb5.2/226,MS4.5/47, 121C-81D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**2.87**	**269**	⇑Pn	**Pn**	**01 48 33.7**	**+1.6**
	2μm,0.8s						
KNDC				⇑Sn	**Sn**	**01 49 09.0**	**+2.9**
	11μm,0.5s						
AAA	**Alma-Ata**	**2.88**	**270**	*e*PN	**Pb**	**01 48 38.7**	**+0.5**
AAA				*e*S	**Sb**	**01 49 15.0**	**+2.0**
AAA				pmax	pmax		
	comp=Z,3μm,0.5s						
AAA				smax	smax		
	comp=E,20μm,0.6s						
ULHL	**Ulahol**	**3.59**	**254**	P	**Pn**	**01 48 43.0**	**+0.9**
	SNR=284						
ULHL				P	**Pn**	**01 48 43.0**	**+0.9**
	SNR=284						
MK31	**Makanchi Array**	**3.62**	**15**	⇑Pn	**Pn**	**01 48 44.0**	**+1.8**
	comp=E,23nm,0.2s,baz=201,slow=14,SNR=7609						
MK31				⇑Pg	**Pb**	**01 48 51.6**	**+1.0**
	comp=E,571nm,0.6s,baz=197,slow=14,SNR=24						
MK31				Lg	Lg	01 49 35.2	
	comp=E,4μm,0.7s,baz=193,slow=26,SNR=18						
MK31	**Makanchi Array**	**3.62**	**15**	*e*PN	**Pn**	**01 48 43.8**	**+1.6**
MK31	**Makanchi Array**	**3.62**	**15**	*e*Pn	**Pn**	**01 48 43.8**	**+1.6**
MK31				*e*Sn	Sn	01 49 14.9	-9.5
MKAR	**Makanchi Array**	**3.62**	**15**	Pn	**Pn**	**01 48 44.3**	**+2.1**
	comp=E,45nm,0.3s,baz=202,slow=13,SNR=499						
MKAR				Pg	**Pb**	**01 48 50.6**	**0.0**
	comp=E,118nm,0.3s,baz=197,slow=22,SNR=72						
MKAR				Lg	Lg	01 49 41.0	
	comp=E,259nm,0.3s,baz=193,slow=27,SNR=6.3						
MKAR	**Makanchi Array**	**3.62**	**15**	*i* PN	**Pn**	**01 48 44.0**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,62nm,0.3s						
MKAR	**Makanchi Array**	**3.62**	**15**	*e*Pn	**Pn**	**01 48 44.9**	**+2.7**
MKAR				Pg	**Pb**	**01 48 50.6**	**0.0**
MKAR				*e*Sn	**Sn**	**01 49 20.9**	**-3.4**
MKAR				Lg	Lg	01 49 41.0	
TKM2	**Tokmak 2**	**3.90**	**266**	P	**Pn**	**01 48 48.0**	**+1.7**
	SNR=99						
TKM2				P	**Pn**	**01 48 48.0**	**+1.7**
	SNR=99						
TKM2	**Tokmak 2**	**3.90**	**266**	⇑Pn	**Pn**	**01 48 47.8**	**+1.4**
	comp=Z,110nm,0.6s						
TKM2				⇓Pg	**Pb**	**01 48 58.1**	**+2.5**
	comp=Z,1μm,0.8s						
TKM2				⇓Lg	Lg	01 49 46.7	
	comp=Z,8μm,0.9s						
TKM2	**Tokmak 2**	**3.90**	**266**	*i* PN	**Pn**	**01 48 48.0**	**+1.7**
TKM2				*e*Sn	**Sn**	**01 49 29.5**	**-2.2**
KZA	**Kyzart**	**4.34**	**255**	P	**Pn**	**01 48 54.3**	**+1.7**
	SNR=115						
KZA				P	**Pn**	**01 48 54.3**	**+1.7**
	SNR=115						
KBK	**Karagaybulak**	**4.41**	**263**	P	**Pn**	**01 48 55.5**	**+2.1**
	SNR=79						
KBK				P	**Pn**	**01 48 55.5**	**+2.1**
	SNR=79						
CHMS	**Chumysh**	**4.51**	**268**	P	**Pn**	**01 48 55.7**	**+1.2**
	SNR=75						
CHMS				P	**Pn**	**01 48 55.7**	**+1.2**
	SNR=75						
FRU	**Bishkek**	**4.63**	**266**	⇑*i* PN	**Pn**	**01 48 57.8**	**+1.6**
FRU				*i*		01 49 11.0	
FRU				*e*S	**Sb**	**01 50 08.0**	**+4.9**
FRU				pmax	pmax		
	comp=Z,5μm,1.5s						
FRU				smax	smax		
	comp=E,12μm,1.8s						
USP	**Ospenovka**	**4.67**	**272**	P	**Pn**	**01 48 57.6**	**+0.9**
	SNR=337						
USP				P	**Pn**	**01 48 57.6**	**+0.9**
	SNR=337						
AAK	**Ala-Archa**	**4.75**	**264**	P	**Pn**	**01 48 60.0**	**+2.0**
	SNR=39						
AAK				P	**Pn**	**01 48 60.0**	**+2.0**
	SNR=39						
AAK	**Ala-Archa**	**4.75**	**264**	*i* PN	**Pn**	**01 48 59.6**	**+1.7**
AAK	**Ala-Archa**	**4.75**	**264**	*e*Pn	**Pn**	**01 48 59.5**	**+1.5**
AAK				*e*Sn	**Sn**	**01 49 54.0**	**+1.6**
AAK	**Ala-Archa**	**4.75**	**264**	Pn	**Pn**	**01 48 59.0**	**+1.1**
	comp=E,2μm,0.4s,SNR=82						
AAK	**Ala-Archa**	**4.75**	**264**	P	**Pn**	**01 48 59.7**	**+1.8**
	SNR=149						
UCH	**Uchtor**	**4.82**	**259**	P	**Pn**	**01 49 01.4**	**+2.2**
	SNR=25						
UCH				P	**Pn**	**01 49 01.4**	**+2.2**
	SNR=25						
WMQ	**Urumqi**	**4.97**	**82**	Pn	**Pn**	**01 49 03.5**	**+2.7**
WMQ				Sn	Sn	01 50 04.0	+6.3
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				smax	smax		
	comp=E,3μm,0.7s						
WMQ				LR	LR		
	comp=N,1μm,10.9s						
WMQ				LR	LR		
	comp=E,2μm,15.2s						
WMQ				LR	LR		
	comp=Z,3μm,14.6s						
EKS2	**Erkin-Say**	**5.26**	**265**	P	**Pn**	**01 49 06.5**	**+1.5**
	SNR=43						
EKS2				P	**Pn**	**01 49 06.5**	**+1.5**
	SNR=43						
EKS2	**Erkin-Say**	**5.26**	**265**	*e*PN	**Pn**	**01 49 06.3**	**+1.3**
EKS2				*e*		01 50 27.7	
EKS2	**Erkin-Say**	**5.26**	**265**	*e*Pn	**Pn**	**01 49 06.3**	**+1.3**
EKS2				*e*Lg	Lg	01 50 27.7	
KSH	**Kashi**	**5.30**	**226**	*e*Pn	Pb	01 49 13.6	-5.8
KSH				*e*Sn	**Sb**	**01 50 18.8**	**-3.8**
KSH				LR	LR		
	comp=N,9μm,3.0s						
KSH				LR	LR		
	comp=E,9μm,2.0s						
KSH				LR	LR		
	comp=Z,18μm,11.1s						
AML	**Almayashu**	**5.44**	**260**	P	**Pn**	**01 49 09.0**	**+1.4**
	SNR=26						
AML				P	**Pn**	**01 49 09.0**	**+1.4**
	SNR=26						
KURK	**Kurchatov**	**7.56**	**349**	Pn	**Pn**	**01 49 35.0**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=175,slow=12,SNR=66						
KURK				Lg	Lg	01 51 42.4	
	comp=Z,24nm,0.3s,baz=168,slow=28,SNR=8.8						
KURK				LR	LR	01 52 52.8	
	comp=Z,3μm,21.7s,baz=165,slow=41						
KURK	**Kurchatov**	**7.56**	**349**	⇓Pn	**Pn**	**01 49 35.7**	**-0.7**
	comp=Z,398nm,1.1s						
KURK				⇑Lg	Lg	01 51 34.7	
	comp=Z,2μm,1.0s						
KURK	**Kurchatov**	**7.56**	**349**	*e*P	**Pn**	**01 49 36.3**	**-0.1**
KURK				*e*		01 51 00.4	
KURK				pmax	pmax		
	comp=Z,259nm,0.8s						
KURK	**Kurchatov**	**7.56**	**349**	*e*Pn	**Pn**	**01 49 36.3**	**-0.1**
	comp=Z,259nm,0.8s						
KURK				*e*Sn	**Sn**	**01 51 00.4**	**-1.1**
KURK				*e*Lg	Lg	01 51 50.4	
KURK	**Kurchatov**	**7.56**	**349**	P	**Pn**	**01 49 36.6**	**+0.3**
	SNR=29						
KURK	**Kurchatov**	**7.56**	**349**	Pn	**Pn**	**01 49 36.7**	**+0.3**
	comp=Z,421nm,0.6s,SNR=7.2						
KK31	**Karatay Array**	**7.59**	**272**	Pn	**Pn**	**01 49 37.5**	**+0.7**
	comp=Z,68nm,1.1s,baz=82,slow=14,SNR=230						
KK31				⇓Pg	Pb	01 50 03.0	+4.7
	comp=Z,193nm,0.8s						
KK31				⇑Lg	Lg	01 51 41.8	
	comp=Z,361nm,0.6s,baz=90,slow=25,SNR=3.6						
KK31	**Karatay Array**	**7.59**	**272**	*i* P	**Pn**	**01 49 37.5**	**+0.7**
KK31				pmax	pmax		
	comp=Z,17nm,0.3s						
KKAR	**Karatay Array**	**7.59**	**272**	*e*P	**Pn**	**01 49 37.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,116nm,0.6s						
KKAR	**Karatay Array**	**7.59**	**272**	*e*Pn	**Pn**	**01 49 37.2**	**+0.4**
	comp=Z,116nm,0.6s						
KKAR				*e*Lg	Lg	01 51 43.0	
ZAA0	**Zalesovo Array**	**10.95**	**12**	*e*Pn	**Pn**	**01 50 22.9**	**+0.1**
ZAA0				*e*Sn	Sn	01 52 14.1	-11
ZALV	**Zalesovo Beam**	**10.95**	**12**	Pn	**Pn**	**01 50 23.1**	**+0.3**
	comp=Z,9.1nm,0.3s,baz=196,slow=15,SNR=123						
ZALV				Sn	**Sn**	**01 52 21.4**	**-3.1**
	comp=Z,3.3nm,0.3s,baz=193,slow=19,SNR=3.1						
ZALV				Lg	Lg	01 53 34.7	
	comp=Z,4.5nm,0.3s,baz=197,slow=24,SNR=3.5						
ZALV				LR	LR	01 55 03.5	
	comp=Z,2μm,20.6s,baz=9.7,slow=40						
ZALV	**Zalesovo Beam**	**10.95**	**12**	P	**Pn**	**01 50 23.1**	**+0.3**
ZALV						01 52 21.5	
ZALV	**Zalesovo Beam**	**10.95**	**12**	Pn	**Pn**	**01 50 23.1**	**+0.3**
ZALV				Sn	**Sn**	**01 52 21.4**	**-3.1**
ZALV				Lg	Lg	01 53 34.7	
DLH	**Dalhousie**	**11.44**	**201**	*e*P	**Pn**	**01 50 30.0**	**+0.3**
DLH				*ex*	x	01 52 32.0	
VOSK	**Vostochnaya**	**11.51**	**328**	⇑Pn	**Pn**	**01 50 29.6**	**-0.8**
	comp=Z,26nm,0.8s						
VOSK				⇑Lg	Lg	01 53 39.6	
	comp=Z,2μm,1.4s						
THN	**Thein Dam**	**11.61**	**202**	*e*P	**Pn**	**01 50 30.6**	**-1.2**
THN				*ex*	x	01 52 35.8	
NVS	**Novosibirsk**	**11.63**	**7**	*e*P	**Pn**	**01 50 32.0**	**-0.1**
NVS				*e*		01 52 36.2	
BVA0	**Borovoye Array**	**11.97**	**328**	⇑Pn	**Pn**	**01 50 35.4**	**-1.4**
	comp=Z,5.9nm,1.0s,baz=142,slow=14,SNR=94						
BVA0				⇓Sn	**Sn**	**01 52 44.6**	**-4.9**
	comp=Z,8.2nm,0.9s						
BVA0				⇓Lg	Lg	01 53 55.1	
	comp=Z,117nm,1.1s,baz=145,slow=28,SNR=3.7						
BVA0	**Borovoye Array**	**11.97**	**328**	*i* P	**Pn**	**01 50 36.0**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**11.97**	**328**	Pn	**Pn**	**01 50 35.9**	**-0.8**
	comp=Z,5.0nm,0.3s,baz=145,slow=14,SNR=91						
BVAR				Sn	**Sn**	**01 52 45.8**	**-3.7**
	comp=Z,5.8nm,0.3s,baz=140,slow=21,SNR=3.7						
BVAR	**Borovoye Array**	**11.97**	**328**	P	**Pn**	**01 50 35.9**	**-0.8**
BVAR						01 52 45.9	
BVAR	**Borovoye Array**	**11.97**	**328**	Pn	**Pn**	**01 50 35.9**	**-0.8**
BVAR				Sn	**Sn**	**01 52 45.9**	**-3.7**
BRVK	**Borovoye**	**12.04**	**328**	⇑Pn	**Pn**	**01 50 36.7**	**-0.9**
	comp=Z,84nm,0.8s						
BRVK				⇓Sn	Sn	01 52 45.0	-6.1
	comp=Z,133nm,1.4s						
BRVK				⇓Lg	Lg	01 53 56.7	
	comp=Z,2μm,1.2s						
BRVK	**Borovoye**	**12.04**	**328**	*ce*P	**Pn**	**01 50 37.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**12.04**	**328**	*e*Pn	**Pn**	**01 50 36.9**	**-0.7**
BRVK				*e*Sn	**Sn**	**01 52 46.7**	**-4.4**
BRVK				*e*Lg	Lg	01 53 35.9	
BRVK	**Borovoye**	**12.04**	**328**	Pn	**Pn**	**01 50 37.0**	**-0.6**
	comp=Z,198nm,0.4s,SNR=17						
BHK	**Bhakra**	**12.40**	**198**	*e*P	**Pn**	**01 50 43.2**	**+0.5**
BHK				*ex*	x	01 52 53.0	
ZRNK	**Zerenda**	**12.47**	**325**	⇓Pn	**Pn**	**01 50 41.8**	**-1.9**
	comp=Z,27nm,0.7s						
ZRNK				⇑Sn	Sn	01 52 55.8	-6.0
ZRNK				⇓Lg	Lg	01 54 09.4	
	comp=Z,1μm,1.1s						
KBL	**Kabul**	**12.71**	**230**	*e*P	**Pn**	**01 50 46.3**	**-0.9**
KBL	**Kabul**	**12.71**	**230**	*e*Pn	**Pn**	**01 50 46.3**	**-0.9**
DDI	**Dehra Dun**	**13.17**	**191**	*e*P	**Pn**	**01 50 51.2**	**-2.0**
DDI				*ex*	x	01 53 14.2	
KKR	**Kurukshetra**	**13.72**	**195**	*e*P	**Pn**	**01 50 59.5**	**-1.3**
PTH	**Pithoragarh**	**13.75**	**182**	*ex*	P	01 51 04.9	-4.9
PTH				*ex*	x	01 53 23.9	
GTA	**Gaotai**	**14.73**	**99**	⇓P	**Pn**	**01 51 13.0**	**-1.6**
GTA				pP	**P**	**01 51 17.6**	**-3.0**
GTA				sP		01 51 21.5	
GTA				S	**Sn**	**01 53 57.3**	**+0.1**
GTA				sS	S	01 54 04.6	-11
GTA				SS	**SnSn**	**01 54 14.1**	**+4.5**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,170nm,4.5s						
GTA				LR	LR		
	comp=N,3μm,11.9s						
GTA				LR	LR		
	comp=E,3μm,11.6s						
GTA				LR	LR		
	comp=Z,3μm,13.1s						
NDI	**New Delhi**	**14.90**	**193**	*ex*	P	01 51 12.5	-10
NDI				AMb	AMB	01 51 15.9	
	comp=Z,127nm,1.2s						
NDI				*ex*	x	01 53 49.0	
AYAN	**Aya Nagar**	**15.11**	**193**	*e*P	**Pn**	**01 51 17.6**	**-2.1**
AYAN				AMb	AMB	01 51 24.9	
	comp=Z,216nm,0.9s						
DANN	**Dangsing**	**15.11**	**170**	*e*P	**Pn**	**01 51 17.2**	**-2.8**
	comp=Z,37nm,0.4s						
DANN	**Dangsing**	**15.11**	**170**	*e*P	**Pn**	**01 51 17.2**	**-2.8**
	comp=Z,37nm,0.4s						
GKN	**Gorkha**	**15.58**	**168**	*e*P	**Pn**	**01 51 23.9**	**-2.0**
	comp=Z,72nm,0.7s						
GKN	**Gorkha**	**15.58**	**168**	*e*P	**Pn**	**01 51 23.9**	**-2.0**
	comp=Z,72nm,0.7s						
AB31	**Akbulak array**	**15.63**	**300**	Pn	**Pn**	**01 51 24.2**	**-2.2**
	comp=E,18nm,0.5s,baz=104,slow=12,SNR=576						
AB31				⇓Sn	**Sn**	**01 54 15.7**	**-3.2**
	comp=Z,35nm,0.8s						
AB31				⇑Lg	Lg	01 55 52.5	
	comp=Z,451nm,1.4s,baz=98,slow=29,SNR=3.9						
AB31	**Akbulak array**	**15.63**	**300**	*i* P	**Pn**	**01 51 24.2**	**-2.2**
AB31				pmax	pmax		
	comp=Z,25nm,0.4s						
ABKAR	**Akbulak array**	**15.63**	**300**	*e*Pn	**Pn**	**01 51 24.5**	**-1.8**
KOLN	**Koldanda**	**15.67**	**171**	*e*P	**Pn**	**01 51 24.2**	**-2.9**
	comp=Z,55nm,0.5s						
KOLN	**Koldanda**	**15.67**	**171**	*e*P	**Pn**	**01 51 24.2**	**-2.9**
	comp=Z,55nm,0.5s						
KHET	**Khetri**	**15.76**	**197**	*ex*	x	01 51 24.9	
KHET				AMb	AMB	01 51 32.2	
	comp=Z,165nm,1.2s						
LSA	**Lhasa**	**15.88**	**146**	P	**P**	**01 51 32.3**	**-1.4**
LSA				pP	**pP**	**01 51 38.3**	**-1.0**
LSA				S	**Sn**	**01 54 28.3**	**+2.6**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA				pmax	pmax		
	comp=Z,320nm,4.0s						
LSA				LR	LR		
	comp=N,2μm,14.0s						
LSA				LR	LR		
	comp=E,1μm,10.0s						
LSA				LR	LR		
	comp=Z,3μm,14.0s						
LSA	**Lhasa**	**15.88**	**146**	*e*P	**P**	**01 51 31.8**	**-1.9**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s						
LSA	**Lhasa**	**15.88**	**146**	*e*Pn	**P**	**01 51 31.8**	**-1.9**
	comp=Z,26nm,0.8s						
GUN	**Gumba**	**15.89**	**164**	*e*P	**Pn**	**01 51 28.0**	**-2.2**
	comp=Z,235nm,0.5s						
GUN	**Gumba**	**15.89**	**164**	*e*P	**Pn**	**01 51 28.0**	**-2.2**
	comp=Z,235nm,0.5s						
KKN	**Kakani**	**15.89**	**166**	*e*P	**Pn**	**01 51 27.8**	**-2.3**
	comp=Z,73nm,0.5s						
KKN	**Kakani**	**15.89**	**166**	*e*P	**Pn**	**01 51 27.8**	**-2.3**
KKN				pmax	pmax		
	comp=Z,73nm,0.5s						
KKN	**Kakani**	**15.89**	**166**	*e*P	**Pn**	**01 51 27.8**	**-2.3**
	comp=Z,73nm,0.5s						
MOY	**Mondy**	**15.91**	**51**	*e*P	**Pn**	**01 51 30.8**	**+0.8**
MOY				pmax	pmax		
	comp=Z,45nm,1.5s						
DMN	**Daman**	**16.04**	**166**	*e*P	**Pn**	**01 51 29.9**	**-2.1**
	comp=Z,48nm,0.6s						
DMN	**Daman**	**16.04**	**166**	*e*P	**Pn**	**01 51 29.9**	**-2.1**
	comp=Z,48nm,0.6s						
PKI	**Pulchoki**	**16.13**	**165**	*e*P	**Pn**	**01 51 31.1**	**-2.1**
	comp=Z,111nm,0.9s						
PKI	**Pulchoki**	**16.13**	**165**	*e*P	**Pn**	**01 51 31.1**	**-2.1**
PKI				pmax	pmax		
	comp=Z,111nm,0.9s						
PKI	**Pulchoki**	**16.13**	**165**	*e*P	**Pn**	**01 51 31.1**	**-2.1**
	comp=Z,111nm,0.9s						
JIRN	**Jiri**	**16.20**	**163**	*e*P	**Pn**	**01 51 32.4**	**-1.7**
	comp=Z,277nm,0.7s						
JIRN	**Jiri**	**16.20**	**163**	*e*P	**Pn**	**01 51 32.4**	**-1.7**
	comp=Z,277nm,0.7s						
ZAK	**Zakamensk**	**16.82**	**57**	*e*Pn	**Pn**	**01 51 41.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,34nm,0.9s						
TAPN	**Taplejung**	**16.86**	**159**	*e*P	**Pn**	**01 51 41.6**	**-0.9**
	comp=Z,241nm,0.8s						
TAPN	**Taplejung**	**16.86**	**159**	*e*P	**Pn**	**01 51 41.6**	**-0.9**
	comp=Z,241nm,0.8s						
RAMN	**

SVE					MLR	MLR			
	comp=Z,2μm,11.0s								
ULN	**Ulaanbaatar**	**18.82**	**67**	*e*P	**Pn**	**01 52 06.2**	**-0.2**
ULN					pmax	pmax			
	comp=Z,42nm,0.9s								
ULN	**Ulaanbaatar**	**18.82**	**67**	*e*P	**Pn**	**01 52 06.2**	**-0.2**
	comp=Z,42nm,0.9s								
ULN	**Ulaanbaatar**	**18.82**	**67**	P	**Pn**	**01 52 06.4**	**0.0**
	comp=Z,30nm,2.0s,comp=Z,1μm								
LZH	**Lanzhou**	**19.04**	**105**	⇑P	**Pn**	**01 52 09.1**	**0.0**
LZH				pP	**pP**	**01 52 14.0**	**0.0**
LZH				sP	**sP**	**01 52 17.6**	**+1.0**
LZH				PP	**PnPn**	**01 52 25.8**	**+4.1**
LZH				S	**Sn**	**01 55 37.0**	**-4.9**
LZH				sS	**S**	**01 55 45.6**	**+1.9**
LZH				SS	**SnSn**	**01 56 02.5**	**+6.8**
LZH				pmax	pmax				
	comp=Z,69nm,1.0s								
LZH				pmax	pmax				
	comp=Z,500nm,4.1s								
LZH				LR	LR				
	comp=N,2μm,11.0s								
LZH				LR	LR				
	comp=E,3μm,12.3s								
LZH				LR	LR				
	comp=Z,3μm,15.0s								
ARU	**Arti**	**19.36**	**320**	*d* *i*P	**Pn**	**01 52 12.4**	**-0.2**
ARU				S	**S**	**01 55 51.5**	**+2.0**
ARU				pmax	pmax				
	comp=Z,19nm,0.5s								
ARU				MLR	MLR				
	comp=Z,2μm,17.0s								
ARU	**Arti**	**19.36**	**320**	*e*P	**P**	**01 52 12.1**	**+0.6**
	comp=Z,120nm,1.5s								
ARU	**Arti**	**19.36**	**320**	Pn	**Pn**	**01 52 12.8**	**+0.2**
	comp=Z,294nm,0.6s,SNR=15								
CAL	**Calcutta**	**21.62**	**161**	*e*P	**P**	**01 52 34.7**	**-1.5**
CAL				*ex*	x	01 56 16.0			
BTO	**Baotou**	**21.78**	**87**	*e*P	**P**	**01 52 37.3**	**-0.6**
SOKR	**Solikamsk**	**21.95**	**326**	*d* *i*P	**P**	**01 52 40.5**	**+1.1**
SOKR				S	**S**	**01 56 42.3**	**+1.7**
SOKR				pmax	pmax				
	comp=Z,30nm,0.6s								
SOKR				MLR	MLR				
	comp=Z,2μm,17.0s								
CD2	**Chengdu**	**21.96**	**117**	P	**P**	**01 52 41.1**	**+1.3**
CD2				pP	**pP**	**01 52 46.8**	**+1.2**
CD2				sP	**sP**	**01 52 50.1**	**+2.0**
CD2				PP	**PnPn**	**01 53 06.8**	**+5.2**
CD2				S	**S**	**01 56 37.5**	**-3.9**
CD2				sS	**sS**	**01 56 46.6**	**-4.0**
CD2				SS	**SnSn**	**01 57 15.4**	**+8.1**
CD2				pmax	pmax				
	comp=Z,60nm,0.6s								
CD2				pmax	pmax				
	comp=Z,320nm,8.3s								
CD2				LR	LR				
	comp=N,2μm,10.7s								
CD2				LR	LR				
	comp=Z,2μm,11.3s								
NGP	**Nagpur**	**22.16**	**185**	*e*P	**P**	**01 52 41.9**	**-0.1**
NGP				AMb	AMB	01 52 45.8			
	comp=Z,141nm,0.8s								
NGP				*e*S	**S**	**01 56 46.2**	**+1.0**
AKL	**Akola**	**22.78**	**189**	⇓*i*P	**P**	**01 52 48.9**	**+0.3**
AKL				AMb	AMB	01 52 59.8			
	comp=Z,254nm,2.0s								
AKL				*i* x	x	01 56 52.8			
HHC	**Hu-ho-hao-te**	**22.83**	**86**	*e*P	**P**	**01 52 47.3**	**-1.9**
HHC				pP	**pP**	**01 52 52.8**	**-2.1**
HHC				sP	**sP**	**01 52 56.1**	**-1.4**
HHC				PP	**PnPn**	**01 53 16.3**	**+2.8**
HHC				S	S	01 56 50.0	-7.5
HHC				sS	sS	01 57 00.1	-7.3
HHC				SS	**SnSn**	**01 57 34.1**	**+5.5**
HHC				pmax	pmax				
	comp=Z,22nm,1.0s								
HHC				pmax	pmax				
	comp=Z,310nm,5.1s								
HHC				LR	LR				
	comp=N,2μm,12.2s								
HHC				LR	LR				
	comp=E,2μm,10.0s								
HHC				LR	LR				
	comp=Z,2μm,11.3s								
CIT	**Chita**	**23.48**	**57**	*e*P	**P**	**01 52 56.7**	**+1.1**
CIT				*e*		01 53 01.3			
CIT				*e*		01 53 09.8			
CIT				*e*		01 53 27.1			
CIT				pmax	pmax				
	comp=Z,255nm,2.2s								
XAN	**Xi'an**	**23.67**	**104**	P	**P**	**01 52 56.4**	**-1.1**
XAN				pP	**pP**	**01 53 06.0**	**+2.5**
XAN				S	**S**	**01 57 08.1**	**-3.2**
XAN				pmax	pmax				
	comp=Z,18nm,0.9s								
XAN				pmax	pmax				
	comp=Z,94nm,7.1s								
XAN				LR	LR				
	comp=N,1μm,13.4s								
XAN				LR	LR				
	comp=E,640nm,14.3s								
XAN				LR	LR				
	comp=Z,630nm,14.3s								
MAK	**Makhachkala**	**24.28**	**281**	*e*P	**P**	**01 53 05.9**	**+2.7**
MAK				MLR	MLR				
	comp=Z,2μm,11.0s								
TIY	**Taiyuan**	**24.53**	**92**	*e*P	**P**	**01 53 06.1**	**+0.5**
TIY				S	**S**	**01 57 26.3**	**+1.1**
TIY				pmax	pmax				
	comp=Z,340nm,3.9s								
TIY				LR	LR				
	comp=N,820nm,6.2s								
TIY				LR	LR				
	comp=E,680nm,11.0s								
TIY				LR	LR				
	comp=Z,1μm,12.4s								
LATR	**Latur**	**25.09**	**190**	*e*P	**P**	**01 53 10.0**	**-0.6**
BOD	**Bodaibo**	**25.23**	**43**	*e*P	**P**	**01 53 11.5**	**-0.1**
BOD				pmax	pmax				
	comp=Z,72nm,0.9s								
POO	**Poona**	**25.42**	**196**	*e*P	**P**	**01 53 12.6**	**-1.0**
POO				AMb	AMB	01 53 24.2			
	comp=Z,170nm,1.6s								
KMI	**Kunming**	**25.48**	**128**	P	**P**	**01 53 15.6**	**+1.2**
KMI				sP	**sP**	**01 53 24.4**	**+1.4**
KMI				PcP	**PcP**	**01 56 48.3**	**+2.4**
KMI				S	**S**	**01 57 39.0**	**-1.7**
KMI				sS	**sS**	**01 57 50.3**	**-0.5**
KMI				SS	**SnSn**	**01 58 40.8**	**+7.0**
KMI				ScP	**ScP**	**02 00 24.8**	**+0.8**
KMI				PcS	**PcS**	**02 00 27.3**	**+0.5**
KMI				pmax	pmax				
	comp=Z,33nm,0.9s								
KMI				pmax	pmax				
	comp=Z,190nm,5.4s								
KMI				LR	LR				
	comp=N,1μm,13.2s								
KMI				LR	LR				
	comp=E,670nm,12.6s								
KMI				LR	LR				
	comp=Z,1μm,14.4s								
HYB	**Hyderabad**	**25.89**	**185**	*i* P	**P**	**01 53 17.5**	**-0.5**
HYB				*e*S	**S**	**01 57 49.0**	**+2.0**
DGRG	**David-gareji**	**26.19**	**278**	P	**P**	**01 53 22.4**	**+1.8**
ENH	**Enshi**	**26.20**	**110**	*e*P	**P**	**01 53 21.1**	**+0.4**
	comp=Z,61nm,0.7s								
ENH				*e*PcP	**PcP**	**01 56 47.5**	**+0.3**
BJI	**Beijing**	**26.43**	**85**	P	**P**	**01 53 22.3**	**-0.4**
BJI				pmax	pmax				
	comp=Z,18nm,0.6s								
BJI				pmax	pmax				
	comp=Z,230nm,7.3s								
BJI				LR	LR				
	comp=N,1μm,12.0s								
BJI				LR	LR				
	comp=E,1μm,10.2s								
BJI				LR	LR				
	comp=Z,470nm,21.6s								
BJT	**Baijiatuau**	**26.43**	**85**	*e*P	**P**	**01 53 23.2**	**+0.5**
BJT				pmax	pmax				
	comp=Z,22nm,0.6s								
BJT	**Baijiatuau**	**26.43**	**85**	*e*P	**P**	**01 53 23.2**	**+0.5**
	comp=Z,22nm,0.6s								
KAD	**Karad**	**26.55**	**194**	*e*P	**P**	**01 53 23.4**	**-0.5**
KAD				AMb	AMB	01 53 34.5			
	comp=Z,62nm,1.6s								
TBLG	**Delisi**	**26.57**	**279**	*e*P	**P**	**01 53 24.5**	**+0.5**
TBLG	**Delisi**	**26.57**	**279**	P	**P**	**01 53 24.5**	**+0.5**
GYA	**Guiyang**	**26.85**	**120**	⇑*i*P	**P**	**01 53 26.8**	**+0.1**
GYA				pP	**pP**	**01 53 33.8**	**+1.0**
GYA				PP	**PnPn**	**01 54 14.0**	**+5.4**
GYA				SS		01 59 15.3			
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,130nm,4.4s								
GYA				LR	LR				
	comp=N,1μm,16.2s								
GYA				LR	LR				
	comp=E,710nm,12.1s								
GYA				LR	LR				
	comp=Z,1μm,12.1s								
ZEI	**Tsey**	**26.91**	**282**	*e*P	**P**	**01 53 26.4**	**-0.8**
ZEI				pmax	pmax				
	comp=Z,44nm,2.0s								
GOR	**Gori**	**26.95**	**280**	P	**P**	**01 53 29.9**	**+2.5**
GNI	**Garni**	**27.03**	**276**	P	**P**	**01 53 29.5**	**+1.2**
	comp=Z,4.1nm,0.5s,baz=165,slow=10,SNR=15								
GNI				LR	LR	02 05 57.9			
	comp=Z,372nm,18.1s,baz=265,slow=40								
GNI	**Garni**	**27.03**	**276**	*c* *i*P	**P**	**01 53 30.0**	**+1.7**
GNI				pmax	pmax				
	comp=Z,52nm,1.2s								
GNI	**Garni**	**27.03**	**276**	*e*P	**P**	**01 53 30.1**	**+1.8**
	comp=Z,107nm,1.3s								
GNI				LR	LR				
	comp=Z,368nm,19.0s								
HIA	**Hailar**	**27.27**	**64**	*e*P	**P**	**01 53 30.6**	**+0.4**
HIA	**Hailar**	**27.27**	**64**	*e*P	**P**	**01 53 30.6**	**+0.4**
KIV	**Kislovodsk**	**27.50**	**285**	*e*P	**P**	**01 53 33.1**	**+0.7**
KIV				*e*S	**S**	**01 58 13.1**	**+0.9**
KIV				pmax	pmax				
	comp=Z,12nm,0.9s								
KIV				MLR	MLR				
	comp=Z,575nm,14.0s								
KIV	**Kislovodsk**	**27.50**	**285**	*e*P	**P**	**01 53 31.3**	**-1.1**
	comp=Z,30nm,1.0s								
VRHR	**Novokhopersk**	**27.52**	**300**	*e*P	**P**	**01 53 32.3**	**-0.1**
VRHR				*e*S	**S**	**01 58 11.6**	**-0.5**
VRHR				*e*SS	**SnSn**	**01 59 24.9**	**+2.1**
VRHR				pmax	pmax				
	comp=N,9.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,30nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.9s								
VRHR				smax	smax				
	comp=E,60nm,1.5s								
VRHR				smax	smax				
	comp=Z,20nm,1.5s								
VRHR				smax	smax				
	comp=N,20nm,0.7s								
VRHR				MLR	MLR				
	comp=E,890nm,17.0s								
VRHR				MLR	MLR				
	comp=Z,1μm,17.0s								
VRHR				MLR	MLR				
	comp=N,180nm,8.0s								
TIA	**Tai'an**	**28.57**	**92**	P	**P**	**01 53 42.4**	**+0.5**
TIA				pmax	pmax				
	comp=Z,20nm,0.5s								
CHTO	**Chiang Mai**	**28.78**	**142**	*e*P	**P**	**01 53 44.5**	**+0.6**
CHTO				pmax	pmax				
	comp=Z,42nm,1.4s								
CHTO				MLR	MLR				
	comp=Z,454nm,20.0s								
CHTO	**Chiang Mai**	**28.78**	**142**	*e*P	**P**	**01 53 44.5**	**+0.6**
	comp=Z,42nm,1.4s								
CHTO				LR	LR				
	comp=Z,454nm,20.0s								
CHTO	**Chiang Mai**	**28.78**	**142**	P	**P**	**01 53 44.9**	**+1.0**
	comp=Z,22nm,1.4s								
VSR	**Storozhevoye**	**29.07**	**300**	*e*P	**P**	**01 53 46.2**	**0.0**
VSR				*e*		01 54 37.3			
VSR				*e*S	**S**	**01 58 36.5**	**0.0**
VSR				*e*SS	**SnSn**	**02 00 03.1**	**+2.6**
VSR				pmax	pmax				
	comp=N,5.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,10.0nm,0.8s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,70nm,1.5s								
VSR				pmax	pmax				
	comp=Z,50nm,1.5s								
VSR				pmax	pmax				
	comp=N,7.0nm,0.5s								
VSR				smax	smax				
	comp=N,50nm,1.2s								
VSR				smax	smax				
	comp=E,10.0nm,1.2s								
VSR				smax	smax				
	comp=Z,10.0nm,0.6s								
VSR				MLR	MLR				
	comp=E,600nm,16.0s								
VSR				MLR	MLR				
	comp=Z,1μm,16.0s								
VSR				MLR	MLR				
	comp=N,320nm,8.0s								
CM31	**Chiang Mai Arr**	**29.09**	**143**	*e*P	**P**	**01 53 47.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.09**	**143**	P	**P**	**01 53 47.1**	**+0.5**
	comp=N,9.1nm,0.7s,baz=317,slow=8.6,SNR=42								
CMAR				PcP	**PcP**	**01 56 54.5**	**+0.2**
	comp=N,1.3nm,0.4s,baz=310,slow=2.9,SNR=4.5								
CMAR	**Chiang Mai Arr**	**29.09**	**143**	P	**P**	**01 53 47.1**	**+0.5**
CMAR						01 56 54.6			
CMAR	**Chiang Mai Arr**	**29.09**	**143**	P	**P**	**01 53 47.1**	**+0.5**
CMAR				PcP	**PcP**	**01 56 54.5**	**+0.2**
SOC	**Sochi**	**29.68**	**285**	*e*P	**sP**	**01 54 02.9**	**+2.6**
SOC				*e*S	**S**	**01 58 45.4**	**-0.9**
SOC				MLR	MLR				
	comp=Z,720nm,13.0s								
UMR	**Umm Al-Rimmam**	**29.81**	**254**	*e*P	**P**	**01 53 53.1**	**+0.2**
UMR				AMb	AMB	01 54 02.6			
	comp=Z,78nm,1.3s								
MIB	**Mutribah**	**29.92**	**254**	*e*P	**P**	**01 53 54.0**	**0.0**
MIB				AMb	AMB	01 54 03.5			
	comp=Z,54nm,1.5s								
MOS	**Moscow**	**30.20**	**310**	*e*P	**P**	**01 53 55.5**	**-0.6**
MOS				*i*		01 54 02.2			
MOS				*e*		01 54 53.1			
MOS				*e*S	**S**	**01 58 53.2**	**-0.9**
MOS				pmax	pmax				
	comp=Z,66nm,0.7s								
MOS				MLR	MLR				
	comp=E,2μm,11.0s								
MOS				MLR	MLR				
	comp=Z,2μm,12.0s								
KLMR	**Klimovskoe**	**30.21**	**320**	*c* *i*P	**P**	**01 53 54.8**	**-1.4**
KLMR						01 56 53.6			
KLMR				*e*S	**S**	**01 58 53.9**	**-0.3**
KLMR				pmax	pmax				
	comp=Z,87nm,1.4s								
KLMR				MLR	MLR				
	comp=Z,951nm,9.0s								
RDF	**Al-Radifah**	**30.30**	**253**	*e*P	**P**	**01 53 57.5**	**+0.2**
RDF				AMb	AMB	01 54 06.9			
	comp=Z,43nm,1.6s								
NAY	**Al-Naaiem**	**30.32**	**254**	*e*P	**P**	**01 53 57.5**	**0.0**
NAY				AMb	AMB	01 54 07.0			
	comp=Z,48nm,1.5s								
CLNS	**Chul'man**	**30.72**	**48**	*e*P	**P**	**01 54 00.6**	**-0.2**
CLNS				*e**PP	**pP**	**01 54 08.4**	**+1.5**
CLNS				*e*		01 55 04.5			
CLNS				*e*PPP	PPP	01 55 14.7			
CLNS				*e*		01 56 52.3			
CLNS				*e*S	**S**	**01 59 08.1**	**+5.7**
CLNS				pmax	pmax				
	comp=Z,13nm,0.9s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.8s								
CLNS				pmax	pmax				
	comp=N,4.0nm,0.7s								
CLNS				pmax	pmax				
	comp=E,3.0nm,0.7s								
CLNS				pmax	pmax				
	comp=Z,3.0nm,0.9s								
CLNS				pmax	pmax				
	comp=N,3.0nm,0.9s								
CLNS				smax	smax				
	comp=N,128nm,12.9s								
CLNS				smax	smax				
	comp=E,334nm,14.5s								
CLNS				MLR	MLR				
	comp=N,228nm,12.0s								
CLNS				MLR	MLR				
	comp=Z,736nm,14.0s								
CLNS				MLR	MLR				
	comp=E,905nm,14.0s								
OBN	**Obninsk**	**30.74**	**308**	⇑*i*P	**P**	**01 54 01.1**	**+0.3**
OBN				*e**PP	**pP**	**01 54 07.1**	**+0.1**
OBN						01 55 19.0			
OBN						01 56 56.0			
OBN				*e*		02 00 43.1			
OBN				pmax	pmax				
	comp=Z,52nm,1.5s								
OBN				MLR	MLR				
	comp=Z,900nm,15.0s								
OBN	**Obninsk**	**30.74**	**308**	*e*P	**P**	**01 54 01.2**	**+0.3**
	comp=Z,183nm,1.9s								
ANN	**Anapa**	**31.00**	**288**	*e*P	P	01 54 08.8	+5.5
ANN				*e*S	S	01 59 16.4	+10
ANN				pmax	pmax				
	comp=Z,63nm,1.0s								
ANN				MLR	MLR				
	comp=E,373nm,14.0s								
ANN				MLR	MLR				
	comp=Z,826nm,14.0s								
SNY	**Shenyang**	**31.22**	**78**	⇑P	**P**	**01 54 05.3**	**0.0**
SNY				S	**S**	**01 59 11.8**	**+1.4**
SNY				pmax	pmax				
	comp=Z,17nm,1.5s								
SNY				pmax	pmax				
	comp=Z,280nm,6.0s								
SNY				LR	LR				
	comp=N,2μm,17.1s								
SNY				LR	LR				
	comp=E,900nm,18.3s								
SNY				LR	LR				
	comp=Z,2μm,14.4s								
NJ2	**Nanjing**	**31.82**	**98**	*e*P	**P**	**01 54 09.3**	**-1.3**
NJ2				S	**S**	**01 59 24.5**	**+4.5**
NJ2				LR	LR				
	comp=N,890nm,19.1s								
NJ2				LR	LR				
	comp=E,2μm,16.2s								
NJ2				LR	LR				
	comp=Z,2μm,13.4s								
CN2	**Changchun**	**32.00**	**73**	*e*P	**P**	**01 54 12.3**	**+0.2**
CN2				*e*S	**S**	**01 59 18.6**	**-3.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=N,1μm,12.0s								
CN2				LR	LR				
	comp=E,2μm,12.0s								
CN2				LR	LR				
	comp=Z,2μm,14.0s								
YAK	**Yakutsk**	**33.95**	**39**	*e*P	**P**	**01 54 27.9**	**-1.0**
YAK				*e**PP	**pP**	**01 54 35.6**	**+0.6**
YAK				*e*		01 55 37.4			
YAK				*e*PPP	PPP	01 55 55.0			
YAK				*e*S	**S**	**01 59 52.0**	**-0.4**
YAK				*e**SS	sS	02 00 07.9	+5.4
YAK				*e*SSS	SSS	02 02 16.8			
YAK				pmax	pmax				
	comp=Z,49nm,1.5s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,28nm,1.3s								
YAK				pmax	pmax				
	comp=Z,356nm,4.0s								
YAK				smax	smax				
	comp=N,131nm,2.2s								
YAK				smax	smax				
	comp=E,107nm,1.7s								
YAK				MLR	MLR				
	comp=Z,1μm,13.0s								
YAK				MLR	MLR				
	comp=E,1μm,13.0s								
YAK				MLR	MLR				
	comp=N,434nm,13.0s								
YAK	**Yakutsk**	**33.95**	**39**	*e*P	**P**	**01 54 28.8**	**-0.1**
	comp=N,57nm,0.7s								
SSE	**Sheshan**	**34.02**	**97**	P	**P**	**01 54 30.3**	**+0.5**
SSE				pmax	pmax				
	comp=Z,27nm,0.9s								
SSE				pmax	pmax				
	comp=Z,170nm,4.2s								
SSE				LR	LR				
	comp=N,660nm,12.9s								
SSE				LR	LR				
	comp=E,650nm,12.9s								
SSE				LR	LR				
	comp=Z,1μm,16.7s								
QIZ	**Qiongzhong**	**34.33**	**126**	P	**P**	**01 54 33.3**	**+0.6**
QIZ				pP	**pP**	**01 54 40.0**	**+1.2**
QIZ				sP	**sP**	**01 54 42.0**	**+0.7**
QIZ				S	**S**	**02 00 00.0**	**+0.8**
QIZ				pmax	pmax				
	comp=Z,370nm,4.7s								
QIZ				LR	LR				
	comp=Z,1μm,14.1s								
QIZ	**Qiongzhong**	**34.33**	**126**	*e*P	**P**	**01 54 33.8**	**+1.1**
	comp=Z,29nm,0.8s								
JOF	**Joensuu**	**34.48**	**322**	*e*P	**P**	**01 54 32.7**	**-0.8**
JOF				pmax	pmax				
	comp=Z,16nm,0.5s								
JOF	**Joensuu**	**34.48**	**322**	*e*p	**P**	**01 54 32.7**	**-0.8**
	comp=Z,16nm,0.5s								
JOF	**Joensuu**	**34.48**	**322**	*e*p	**P**	**01 54 32.7**	**-0.8**
	comp=Z,16nm,0.5s								
LVZ	**Lovozero**	**34.54**	**331**	*e*P	**P**	**01 54 34.0**	**0.0**
LVZ				pmax	pmax				
	comp=Z,22nm,0.7s								
LVZ	**Lovozero**	**34.54**	**331**	*e*P	**P**	**01 54 34.0**	**0.0**
	comp=Z,22nm,0.7s								
LVZ	**Lovozero**	**34.54**	**331**	P	**P**	**01 54 34.2**	**+0.2**
	comp=Z,212nm,0.6s,SNR=5.3								
MDJ	**Mudanjiang**	**34.66**	**71**	P	**P**	**01 54 34.6**	**-0.7**
MDJ				pP	**pP**	**01 54 40.8**	**-0.6**
MDJ				sP	**sP**	**01 54 43.4**	**-0.5**
MDJ				PP	**PP**	**01 55 53.3**	**-0.5**
MDJ				PcP	**PcP**	**01 57 06.9**	**-2.2**
MDJ				S	**S**	**02 00 02.6**	**-1.2**
MDJ				ScP	**ScP**	**02 00 51.3**	**-1.8**
MDJ				PcS	**PcS**	**02 00 53.6**	**-1.9**
MDJ				ScS	**ScS**	**02 04 54.6**	**-1.5**
MDJ				pmax	pmax				
	comp=Z,10.0nm,2.4s								
MDJ				pmax	pmax				
	comp=Z,96nm,5.8s								
MDJ				LR	LR				
	comp=N,460nm,17.4s								
MDJ				LR	LR				
	comp=E,1μm,15.4s								
MDJ				LR	LR				
	comp=Z,2μm,17.4s								
APA	**Apatity**	**34.87**	**330**	⇓*i*P	**P**	**01 54 37.0**	**+0.2**
APA				pmax	pmax				
	comp=Z,14nm,0.5s								
INCN	**Inchon**	**34.97**	**84**	*e*P	**P**	**01 54 38.3**	**+0.2**
	comp=Z,32nm,0.7s								
KLR	**Kul'dur**	**35.09**	**62**	*e*P	P	01 54 35.7	-3.2
KLR				MLR	MLR				
	comp=E,600nm,12.5s								
KLR				MLR	MLR				
	comp=Z,4μm,12.5s								
RAYN	**Ar Rayn**	**35.17**	**247**	P	**P**	**01 54 39.0**	**-1.0**
	comp=Z,194nm,0.8s,SNR=22								
AKASG	**Malin Array Be**	**35.37**	**300**	P	**P**	**01 54 41.2**	**-0.1**
	comp=Z,10.0nm,0.6s,baz=70,slow=8.4,SNR=23								
AKASG				PcP	**PcP**	**01 57 10.6**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=71,slow=3.5,SNR=6.9								
AKASG	**Malin Array Be**	**35.37**	**300**	*ce*P	**P**	**01 54 41.2**	**-0.1**
AKASG				pmax	pmax				
	comp=Z,10.0nm,0.6s								
AKASG	**Malin Array Be**	**35.37**	**300**	P	**P**	**01 54 41.2**	**-0.1**
AKASG				PcP	**PcP**	**01 57 10.6**	**-0.4**
AKBB	**Malin Array Si**	**35.37**	**300**	*e*P	**P**	**01 54 41.0**	**-0.4**
AKBB	**Malin Array Si**	**35.37**	**300**	*e*P	**P**	**01 54 41.0**	**-0.4**
KIEV	**Kiev**	**35.38**	**300**	*d* *i*P	**P**	**01 54 41.9**	**+0.5**

KIEV Kiev 35.38 300 eP P 01 54 40.8 -0.7
comp=Z,97nm,1.7s
MICGM Minsk 35.77 307 e P 01 54 43.0 -1.7
MNK Minsk 35.80 307 eP P 01 54 43.0 -2.0
KSAR Wonju Array Be 35.89 83 P P 01 54 45.7 -0.3
KSAR 01 57 12.6
KSAR Wonju Array Be 35.89 83 P P 01 54 45.7 -0.3
KSAR PcP PcP 01 57 12.6 -0.2
KSRS Korea Array 35.92 83 P P 01 54 45.7 -0.5
comp=Z,7.9nm,0.6s,baz=284,slow=7.8,SNR=40
KSRS PcP PcP 01 57 12.6 -0.3
comp=Z,2.0nm,0.7s,baz=284,slow=3.3,SNR=4.7
KSRS LR LR 02 11 02.1
comp=Z,448nm,19.8s,baz=296,slow=39
KSRS Korea Array 35.92 83 P P 01 54 45.7 -0.5
KSRS 01 57 12.6
KSRS pmax pmax
comp=Z,8.0nm,0.6s
KSRS MLR MLR
comp=Z,448nm,19.8s
VSU Vasula 36.28 314 c iP P 01 54 49.5 +0.5
VSU pmax pmax
comp=Z,46nm,1.0s
KIS Kishinev 36.35 294 ⇓iP P 01 54 49.0 -0.8
KIS e 01 56 21.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,1μm,13.0s
KIS MLR MLR
comp=Z,1μm,14.0s
KIS Kishinev 36.35 294 P P 01 54 50.6 +0.8
KIS Kishinev 36.35 294 ⇓iP P 01 54 49.0 -0.8
comp=Z,200nm,1.0s
KIS LRM MLR 02 11 05.0
comp=Z,1μm,13.0s
USRK Ussuriysk Arra 36.43 70 P P 01 54 51.3 +0.8
comp=Z,2.5nm,0.7s,baz=290,slow=9.2,SNR=7.2
USRK LR LR 02 11 38.1
comp=Z,987nm,21.1s,baz=98,slow=39
KAF Kangasniemi 36.66 320 eP P 01 54 51.6 -0.7
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 36.66 320 ep P 01 54 51.6 -0.7
comp=Z,5.3nm,0.7s
KAF Kangasniemi 36.66 320 ep P 01 54 51.6 -0.7
comp=Z,5.3nm,0.7s
FINES FINESS Array B 36.72 319 P P 01 54 53.0 +0.2
comp=Z,8.9nm,0.6s,baz=100,slow=8.7,SNR=40
FINES PcP PcP 01 57 14.5 -0.3
comp=Z,3.2nm,0.5s,baz=81,slow=6.4,SNR=3.5
FINES LR LR 02 10 47.9
comp=Z,1μm,18.6s,baz=105,slow=38
FINES FINESS Array B 36.72 319 P P 01 54 53.0 +0.2
FINES 01 57 14.5
FINES FINESS Array B 36.72 319 P P 01 54 53.0 +0.2
FINES PcP PcP 01 57 14.5 -0.3
LEOM Leova 36.86 294 P P 01 54 54.9 +0.8
CFR Carcaliu 37.28 292 ⇑iP P 01 54 58.5 +0.8
CFR Carcaliu 37.28 292 ⇑iP P 01 54 58.5 +0.8
CSS Prodhromos 37.40 274 eP P 01 54 59.8 +0.9
KEV Kevo 37.76 333 eP P 01 55 01.1 -0.4
KEV pmax pmax
comp=Z,13nm,0.6s
KEV Kevo 37.76 333 ep P 01 55 01.1 -0.4
comp=Z,13nm,0.6s
KEV Kevo 37.76 333 ep P 01 55 01.1 -0.4
comp=Z,13nm,0.6s
TESR 37.92 294 ⇓iP P 01 55 04.6 +1.5
VRI Vrincioaia 38.04 293 ⇑iP P 01 55 05.5 +1.3
VRI Vrincioaia 38.04 293 ⇑iP P 01 55 05.5 +1.3
PLOR Plostina 38.10 293 ⇑iP P 01 55 06.0 +1.3
PLOR Plostina 38.10 293 ⇑iP P 01 55 06.0 +1.3
SSLB Suanglung 38.20 108 eP P 01 55 06.6 +0.9
comp=Z,63nm,1.4s
ARCES ARCESS Array B 38.21 332 P P 01 55 05.9 +0.6
comp=Z,17nm,0.5s,baz=95,slow=9.9,SNR=147
ARCES LR LR 02 11 25.1
comp=Z,625nm,18.4s,baz=286,slow=37
ARCES ARCESS Array B 38.21 332 P P 01 55 05.9 +0.6
ARCES ARCESS Array B 38.21 332 P P 01 55 05.9 +0.6
ARE0 ARCESS Array S 38.21 332 eP P 01 55 06.0 +0.7
ARE0 ARCESS Array S 38.21 332 eP P 01 55 05.7 +0.3
SUW Suwalki 38.56 307 eP P 01 55 08.7 +0.3
SUW e 01 55 15.3
SUW Suwalki 38.56 307 eP P 01 55 08.7 +0.3
SUW e 01 55 15.3
SUW Suwalki 38.56 307 eP P 01 55 08.7 +0.3
comp=Z,63nm,1.1s
BURAR Bucovina Array 38.58 296 ⇑iP P 01 55 09.5 +0.7
BUR08 Bucovina Ar. S 38.58 296 eP P 01 55 09.2 +0.4
MLR Muntele Rosu 38.67 293 ⇓P P 01 55 11.0 +1.3
MLR Muntele Rosu 38.67 293 ⇓iP P 01 55 11.0 +1.3
LVV L'vov 38.81 300 eP P 01 55 11.4 +0.8
TWG Pinlang 38.91 109 eP P 01 55 12.9 +1.2
comp=Z,34nm,0.6s
VOIR 39.29 293 ⇓P P 01 55 16.1 +1.3
VOIR 39.29 293 ⇓iP P 01 55 16.1 +1.3
KWP Kalwaria Pacla 39.69 300 eP P 01 55 19.0 +1.1
KWP e 01 55 25.1
KWP Kalwaria Pacla 39.69 300 eP P 01 55 18.5 +0.6
KWP pmax pmax
comp=Z,133nm,1.3s
KWP Kalwaria Pacla 39.69 300 eP P 01 55 18.5 +0.6
comp=Z,133nm,1.3s
KWP Kalwaria Pacla 39.69 300 ⇓iP P 01 55 19.0 +1.1
JNU Nakatsue 40.04 88 eP P 01 55 20.4 -0.6
comp=Z,89nm,2.0s
TRPA Tarpa 40.18 298 ⇓iP P 01 55 23.0 +1.1
TRPA Tarpa 40.18 298 ⇑e P 01 55 23.1 +1.1
UZH Uzhgorod 40.20 299 eP P 01 55 22.5 +0.3
UZH i 01 55 30.5
UZH i 01 55 39.1
UZH i 01 56 57.3
UZH eS S 02 01 26.7 -1.2
UZH e 02 04 21.0
BEL Belsk 40.38 304 eP P 01 55 24.3 +0.7
BEL e 01 55 31.3
BEL Belsk 40.38 304 eP P 01 55 24.3 +0.7
BEL e 01 55 31.3
DRGR 40.44 296 ⇑P P 01 55 25.5 +1.2
DRGR 40.44 296 ⇑iP P 01 55 25.5 +1.2
TRO Tromso 40.50 332 eP P 01 55 26.2 +1.8
PRK Paraskevi 40.64 284 eP P 01 55 26.7 +0.8
GZR Gura Zlata 40.83 294 ⇓iP P 01 55 28.6 +1.1
SMG Samos 40.88 281 eP P 01 55 28.4 +0.5
NIE Niedzica 41.25 300 eP P 01 55 32.5 +1.6
NIE Niedzica 41.25 300 eP P 01 55 32.5 +1.6
OJC Ojcow 41.37 302 eP P 01 55 32.3 +0.5
OJC Ojcow 41.37 302 eP P 01 55 32.3 +0.5
OJC Ojcow 41.37 302 eP P 01 55 32.3 +0.5
comp=Z,201nm,1.9s
NVR Nevrokopi 41.50 288 eP P 01 55 34.1 +1.0
BZS Buzias 41.53 294 ⇑P P 01 55 34.2 +1.0
BZS Buzias 41.53 294 ⇑iP P 01 55 34.2 +1.0
JOW Kunigami 41.54 97 P P 01 55 33.2 -0.2
comp=Z,26nm,0.6s,baz=308,slow=2.6,SNR=7.5
JOW Kunigami 41.54 97 P P 01 55 33.2 -0.2
PSZ Piszkesteto 41.94 298 ⇑P P 01 55 37.5 +0.9
PSZ Piszkesteto 41.94 298 eP P 01 55 37.7 +1.1
comp=Z,72nm,1.7s
PSZ Piszkesteto 41.94 298 ⇑iP P 01 55 37.5 +0.9
PSZ Piszkesteto 41.94 298 ⇑eP P 01 55 37.5 +0.9
MOR8 Moi Rana 42.01 326 eP P 01 55 35.9 -0.9
MOR8 epP pP 01 55 42.6 -0.5
SOH Sokhos 42.06 287 eP P 01 55 38.3 +0.6
APE Apeiranthos 42.09 281 ⇓P P 01 55 38.6 +0.7
APE Apeiranthos 42.09 281 eP P 01 55 38.4 +0.5
APE Apeiranthos 42.09 281 ⇓iP P 01 55 38.6 +0.7
PLG Polygyros 42.18 286 eP P 01 55 39.6 +1.0
GKP Gorka Klasztor 42.18 307 eP P 01 55 39.3 +1.0
GKP e 01 55 45.4
GKP Gorka Klasztor 42.18 307 eP P 01 55 39.3 +1.0
GKP e 01 55 45.4
LOF Lofoten 42.35 329 eP P 01 55 31.5 -8.1
LOF AMB AMB 01 55 38.7
comp=Z,132nm,1.4s
OKC Ostrava-Krasne 42.50 302 ⇑iP P 01 55 41.5 +0.5
OKC e 01 55 46.8
OKC Ostrava-Krasne 42.50 302 ⇑iP P 01 55 41.5 +0.5
OKC epP pP 01 55 46.8 -0.4
IPM Ipoh 42.59 150 eP P 01 55 41.9 -0.2
comp=Z,9.4nm,0.6s
KOLL Kolacno 42.70 300 eP P 01 55 44.0 +1.3
KOLL Kolacno 42.70 300 eP P 01 55 44.0 +1.3
NEO Neokhori 42.77 285 eP P 01 55 43.6 +0.2
SPA0 Spitsbergen Ar 42.81 344 eP P 01 55 45.5 +2.2
PTL Penteli 42.85 283 eP P 01 55 44.3 +0.2
NPS Neapolis 42.86 279 eP P 01 55 43.9 -0.3
MORC Moravsky Berou 42.89 302 eP P 01 55 45.2 +0.9
MORC pmax pmax
comp=Z,58nm,1.6s
MORC Moravsky Berou 42.89 302 eP P 01 55 45.2 +0.9
comp=Z,58nm,1.6s
MORC Moravsky Berou 42.89 302 ⇑iP P 01 55 45.1 +0.8
ATH Athens Observa 42.99 283 eP P 01 55 51.7 +6.6
PKSG 43.07 298 ⇑eP P 01 55 46.8 +1.1
KRLC Kraliky 43.27 302 ⇑iP P 01 55 48.1 +0.7
PKSM Moragy 43.30 296 ⇑P P 01 55 47.9 +0.4
PKSM Moragy 43.30 296 ⇑iP P 01 55 47.9 +0.4
PKSM Moragy 43.30 296 ⇑eP P 01 55 47.8 +0.3
PKST T"s 43.34 298 ⇑eP P 01 55 48.5 +0.6
KSP Ksiaz 43.36 303 eP P 01 55 48.9 +1.0
KSP e 01 55 54.8
KSP Ksiaz 43.36 303 ⇑eP P 01 55 48.7 +0.7
KSP e*PP pP 01 55 54.6 +0.4
KSP e 01 57 29.0
PKS9 Tamasi 43.41 297 ⇑eP P 01 55 49.0 +0.6
DPC Dobruska-Polom 43.48 303 eP P 01 55 50.4 +1.4
DPC pmax pmax
comp=Z,142nm,1.7s
DPC Dobruska-Polom 43.48 303 eP P 01 55 50.4 +1.4
comp=Z,142nm,1.7s
DPC Dobruska-Polom 43.48 303 ⇑iP P 01 55 50.2 +1.2
DPC epP pP 01 55 55.8 +0.5
THL Klokotos Trika 43.51 286 eP P 01 55 49.0 -0.3
VRAC Vranov 43.62 301 ⇓P P 01 55 51.2 +1.1
VRAC Vranov 43.62 301 ⇓iP P 01 55 51.2 +1.1
UPC Upice 43.62 303 ⇑iP P 01 55 51.3 +1.2
UPC e 01 55 57.3
UPC Upice 43.62 303 ⇑iP P 01 55 51.3 +1.2
UPC epP pP 01 55 57.3 +0.9
ZST Bratislava 43.64 300 eP P 01 55 51.9 +1.6
ZST pmax pmax
comp=Z,16nm,1.4s
ZST Bratislava 43.64 300 eP P 01 55 51.8 +1.5
RHK3 Tenkes 43.66 296 ⇑eP P 01 55 50.4 -0.1
MAJO Matsushiro 43.72 79 eP P 01 55 50.6 -0.5
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 43.72 79 eP P 01 55 50.6 -0.5
comp=Z,8.7nm,0.8s
MJAR Matsushiro Arr 43.72 79 P P 01 55 51.0 -0.1
comp=Z,3.1nm,0.7s,baz=282,slow=9.6,SNR=9.0
MJAR LR LR 02 15 50.9
comp=Z,232nm,19.6s,baz=25,slow=38
MJAR Matsushiro Arr 43.72 79 P P 01 55 51.0 -0.1
MJAR Matsushiro Arr 43.72 79 P P 01 55 51.0 -0.1
NC602 NORSAR Array S 43.80 318 eP P 01 55 51.6 +0.3
VAM Vamos 43.81 280 eP P 01 55 51.0 -0.8
KBS Kingsbay 43.83 345 eP P 01 55 53.5 +2.0
NB2 NORSAR Subarra 43.90 319 P P 01 55 52.1 -0.2
comp=Z,16nm,0.7s,baz=80,slow=8.6
NOA NORSAR Array B 43.90 319 P P 01 55 52.3 0.0
comp=Z,12nm,0.6s,baz=81,slow=8.0,SNR=51
NOA NORSAR Array B 43.90 319 P P 01 55 52.3 0.0
NOA NORSAR Array B 43.90 319 P P 01 55 52.3 0.0
EVR Evrytania 43.93 285 eP P 01 55 52.9 0.0
NA001 NORSAR Array S 44.09 319 eP P 01 55 53.7 0.0
comp=Z,13nm,0.6s
VLI Velíai 44.10 282 eP P 01 55 52.0 -2.2
SOP Sopron 44.15 299 ⇑eP P 01 55 55.5 +1.1
JAN Janina 44.29 287 eP P 01 55 56.5 +0.9
TREC Trest 44.31 302 eP P 01 55 56.6 +0.9
TREC e 01 56 03.2
TREC Trest 44.31 302 ⇑eP P 01 55 56.6 +0.9
TREC epP pP 01 56 03.2 +1.3
OSL Oslo 44.34 317 eP P 01 55 56.0 +0.3
COP Copenhagen 44.35 311 iP P 01 55 57.2 +1.4
COP Copenhagen 44.35 311 iP P 01 55 57.2 +1.4
RUE Ruedersdorf 44.41 306 eP P 01 55 56.3 0.0
comp=Z,33nm,1.3s
SEY Seymchan 44.45 38 ⇓iP P 01 55 56.5 0.0
PVCC Panska Ves 44.50 303 ⇑iP P 01 55 58.3 +1.2
PVCC e 01 56 04.3
PVCC Panska Ves 44.50 303 ⇑iP P 01 55 58.3 +1.2
PVCC epP pP 01 56 04.3 +0.9
CONA Conrad Observa 44.52 300 iP P 01 55 58.7 +1.3
comp=Z,55nm,1.4s
CONA Conrad Observa 44.52 300 iP P 01 55 58.7 +1.3
comp=Z,55nm,1.4s,SNR=15
PRU Pruhonice 44.68 303 ⇑iP P 01 55 59.5 +0.9
PRU e 01 56 05.0
PRU Pruhonice 44.68 303 ⇑iP P 01 55 59.5 +0.9
PRU epP pP 01 56 05.0 +0.2
PRU AMS AMS 02 15 00.0
BRG Berggiesshubel 44.77 304 iP P 01 55 60.0 +0.7
comp=Z,28nm,1.3s
BRG i 01 56 06.2
comp=Z,65nm,1.8s
BRG e 01 56 55.7
comp=Z,36nm,1.8s
BRG Berggiesshubel 44.77 304 eP P 01 56 00.5 +1.2
comp=Z,28nm,1.3s
BRG Berggiesshubel 44.77 304 iP P 01 56 00.0 +0.7
BRG i 01 56 06.2
BRG pmax pmax
comp=Z,28nm,1.3s
LKD2 Lefkada island 44.80 286 eP P 01 55 58.7 -1.0
PYL PYLOS 44.88 283 eP P 01 55 57.9 -2.4
KONO Kongsberg 44.95 317 eP P 01 56 01.3 +0.7
KONO epP pP 01 56 07.0 +0.2
KONO Kongsberg 44.95 317 eP P 01 56 00.3 -0.3
KONO pmax pmax
comp=Z,17nm,0.7s
KONO Kongsberg 44.95 317 eP P 01 56 00.3 -0.3
comp=Z,17nm,0.7s
ARSA Arzberg 44.96 299 iP P 01 56 01.5 +0.6
comp=Z,22nm,1.4s
ARSA Arzberg 44.96 299 iP P 01 56 01.5 +0.6
comp=Z,22nm,1.4s,SNR=9.0
VLS Valsamata 45.11 285 eP P 01 56 01.1 -1.1
CLL Collm 45.21 305 eP P 01 56 03.0 +0.2
comp=Z,23nm,0.6s
CLL epP pP 01 56 09.6 +0.6
CLL Collm 45.21 305 ⇑iP P 01 56 03.3 +0.5
CLL i 01 56 09.1
CLL pmax pmax
comp=Z,23nm,0.6s
CLL Collm 45.21 305 ⇑iP P 01 56 03.3 +0.5
comp=Z,23nm,0.6s
CLL iP pP 01 56 09.1 +0.1
CLL ePP PP 01 57 49.0 +0.7
CLL eSS SS 02 06 04.0 +0.2
CLL LmH 02 12 00.0
comp=N,700nm,21.6s
CLL LmH 02 12 00.0
comp=E,200nm,21.3s
PERS Pernice 45.44 298 iP P 01 56 05.1 +0.4
SOKA Soboth 45.47 298 ⇑iP P 01 56 05.7 +0.6
comp=E,42nm,1.5s
SOKA Soboth 45.47 298 ⇑iP P 01 56 05.7 +0.6
comp=E,42nm,1.5s
KHC Kasperske Hory 45.55 302 ⇑iP P 01 56 06.5 +1.0
KHC e 01 56 11.6
KHC Kasperske Hory 45.55 302 eP P 01 56 06.6 +1.0
comp=E,101nm,2.3s
KHC Kasperske Hory 45.55 302 ⇑iP P 01 56 06.5 +1.0
KHC epP pP 01 56 11.6 -0.2
GEC2 GERESS Array S 45.57 301 eP P 01 56 06.7 +0.9
comp=Z,53nm,1.7s
GEC2 GERESS Array S 45.57 301 eP P 01 56 06.7 +0.9
GEC2 pmax pmax
comp=Z,53nm,1.7s
GERES GERESS Array B 45.57 301 P P 01 56 06.5 +0.7
comp=Z,4.0nm,0.6s,baz=65,slow=7.7,SNR=63
GERES PcP PcP 01 57 43.8 -0.3
comp=Z,1.8nm,0.9s,baz=90,slow=3.9,SNR=2.8
GERES LR LR 02 16 28.9
comp=Z,434nm,19.1s,baz=80,slow=38
GERES GERESS Array B 45.57 301 P P 01 56 06.5 +0.7
GERES 01 57 43.8
GERES GERESS Array B 45.57 301 P P 01 56 06.5 +0.7
GERES PcP PcP 01 57 43.8 -0.3
BOJS Bojanci 45.76 297 iP P 01 56 08.0 +0.8
TANN Tannenbergstha 45.81 304 eP P 01 56 08.6 +0.9
comp=Z,82nm,2.0s
NKC Novy Kostel 45.88 304 eP P 01 56 09.3 +1.2
NKC e 01 56 14.9
NKC Novy Kostel 45.88 304 ⇑eP P 01 56 09.3 +1.2
NKC epP pP 01 56 14.9 +0.5
WERD Werda 45.90 304 eP P 01 56 08.8 +0.5
comp=Z,48nm,1.9s
WERD epP pP 01 56 15.2 +0.7
WERN Wernitzgruen 45.91 304 eP P 01 56 09.2 +0.8
comp=Z,24nm,1.4s
GUNZ Gunzen 45.91 304 eP P 01 56 09.1 +0.7
comp=Z,19nm,0.8s
GUNZ epP pP 01 56 15.3 +0.6
MUD Monsted U'grnd 45.92 313 iP P 01 56 09.7 +1.4
MUD pmax pmax
comp=Z,11nm,0.7s
MUD Monsted U'grnd 45.92 313 iP P 01 56 09.7 +1.4
comp=Z,11nm,0.7s
NEUB Neuenburg 45.97 305 eP P 01 56 09.2 +0.4
comp=Z,26nm,0.6s
NEUB epP pP 01 56 15.6 +0.5
PLN Plauen 45.97 304 eP P 01 56 09.8 +0.9
comp=Z,246nm,1.8s
WET Wettzell 45.98 302 eP P 01 56 09.9 +1.0
comp=Z,33nm,1.5s
WET Wettzell 45.98 302 eP P 01 56 09.9 +1.0
WET pmax pmax
comp=Z,33nm,1.5s
BSEG Bad Segeberg 45.99 309 eP P 01 56 09.6 +0.7
comp=Z,73nm,1.5s
BSEG Bad Segeberg 45.99 309 eP P 01 56 09.6 +0.7
BSEG pmax pmax
comp=Z,73nm,1.5s
LJU Ljubljana 46.03 298 iP P 01 56 10.0 +0.6
ROTZ Rotzenmuhle 46.18 303 eP P 01 56 11.5 +1.0
comp=Z,36nm,1.6s
MOX Moxa 46.25 304 eP P 01 56 11.7 +0.7
comp=Z,47nm,1.5s
MOX Moxa 46.25 304 eP P 01 56 11.7 +0.7
MOX pmax pmax
comp=Z,47nm,1.5s
ODD1 Odda 46.36 318 eP P 01 56 12.0 +0.3
JAVS Javornik 46.39 298 iP P 01 56 12.3 0.0
KBA Koelnbreinsper 46.41 299 iP P 01 56 13.1 +0.6
KBA pmax pmax
comp=Z,10.0nm,0.5s
KBA Koelnbreinsper 46.41 299 iP P 01 56 13.1 +0.6
comp=Z,10nm,0.5s
KBA Koelnbreinsper 46.41 299 iP P 01 56 13.1 +0.6
comp=Z,10nm,0.5s,SNR=12
SNART Snartemo 46.46 316 eP P 01 56 13.8 +1.3
RJOB Jochberg 46.52 300 eP P 01 56 14.5 +1.2
comp=Z,60nm,2.0s
CLZ Clausthal 46.60 306 eP P 01 56 15.0 +1.2
comp=Z,35nm,1.6s
CLZ Clausthal 46.60 306 eP P 01 56 15.0 +1.2
CLZ pmax pmax
comp=Z,35nm,1.6s
GRF Grafenberg Arr 46.81 303 eP P 01 56 16.7 +1.3
comp=Z,26nm,0.9s
GRF epP pP 01 56 23.2 +1.5
GRF eL L 02 16 49.5
comp=Z,647nm,20.0s
GRF Grafenberg Arr 46.81 303 eP P 01 56 16.7 +1.3
GRF e*PP pP 01 56 23.2 +1.5
GRF pmax pmax
comp=Z,26nm,0.9s
GRF MLR MLR
comp=Z,600nm,20.0s
GRFO Grafenberg 46.81 303 eP P 01 56 17.0 +1.6
GRFO pmax pmax
comp=Z,113nm,1.7s
GRFO Grafenberg 46.81 303 eP P 01 56 17.0 +1.6
comp=Z,113nm,1.7s
RUND Rundenannen 46.84 319 eP P 01 56 15.9 +0.3
BER Bergen 46.87 319 eP P 01 56 15.5 -0.2
BER epP pP 01 56 21.9 -0.1
ASK Askoy 46.91 319 eP P 01 56 15.9 -0.1
ASK epP pP 01 56 22.0 -0.3
EGD Espegrend 46.95 319 eP P 01 56 16.5 +0.2
UBBA Unterbreizbach 47.16 305 eP P 01 56 19.8 +1.8
comp=Z,55nm,1.8s
HLG Helgoland 47.28 310 epP pP 01 56 25.4 +0.1
FUR Furstenfeldbru 47.32 301 eP P 01 56 20.6 +1.2
comp=Z,223nm,2.0s
FUR pmax pmax
comp=Z,223nm,2.0s
WTTA Wattenberg 47.42 300 ⇓iP P 01 56 21.2 +0.7
WTTA pmax pmax
comp=Z,35nm,0.8s
WTTA Wattenberg 47.42 300 ⇓iP P 01 56 21.2 +0.7
comp=Z,35nm,0.8s
WTTA Wattenberg 47.42 300 ⇓iP P 01 56 21.2 +0.7
comp=Z,35nm,0.8s
WATA Walderalm 47.44 300 ⇑iP P 01 56 21.0 +0.5
WATA pmax pmax
comp=Z,17nm,0.7s
WATA Walderalm 47.44 300 ⇑iP P 01 56 21.0 +0.5
comp=Z,17nm,0.7s
WATA Walderalm 47.44 300 ⇑iP P 01 56 21.0 +0.5
comp=Z,17nm,0.7s,SNR=10
MOTA Moosalm 47.73 300 iP P 01 56 23.2 +0.4
MOTA pmax pmax
comp=Z,18nm,0.6s
MOTA Moosalm 47.73 300 iP P 01 56 23.2 +0.4
comp=Z,18nm,0.6s
MOTA Moosalm 47.73 300 iP P 01 56 23.2 +0.4
comp=Z,18nm,0.6s,SNR=14
RETA Reutte 47.89 301 iP P 01 56 24.7 +0.8
comp=Z,19nm,0.6s
RETA Reutte 47.89 301 iP P 01 56 24.7 +0.8
comp=Z,19nm,0.6s,SNR=19
IBBN Ibbenburen 47.97 308 eP P 01 56 25.1 +0.7
comp=Z,14nm,0.7s
FETA Feichten 48.09 300 ⇑iP P 01 56 26.0 +0.4
comp=Z,38nm,1.4s
FETA Feichten 48.09 300 ⇑iP P 01 56 26.0 +0.4
comp=Z,38nm,1.4s
AQU L'Aquila 48.25 293 eP P 01 56 27.2 +0.4
AQU pmax pmax
comp=Z,64nm,1.3s
AQU L'Aquila 48.25 293 eP P 01 56 27.2 +0.4
comp=Z,64nm,1.3s
CEL Celeste 48.37 287 eP P 01 56 28.5 +0.7
comp=Z,166nm,1.2s
STU Stuttgart 48.38 303 eP P 01 56 28.4 +0.8
comp=Z,39nm,1.2s
STU Stuttgart 48.38 303 eP P 01 56 27.8 +0.2
STU pmax pmax
comp=Z,18nm,0.7s
STU Stuttgart 48.38 303 eP P 01 56 27.8 +0.2
comp=Z,18nm,0.7s
KKM Kota Kinabalu 48.41 130 eP P 01 56 27.9 -0.5
comp=Z,36nm,1.1s
DAVA Damuels 48.52 301 iP P 01 56 29.3 +0.3
comp=Z,18nm,0.6s
DAVA Damuels 48.52 301 iP P 01 56 29.3 +0.3
comp=Z,18nm,0.7s,SNR=13
FUORN Ofenpass-Fuorn 48.54 300 eP P 01 56 29.7 +0.5
comp=Z,78nm,1.6s
BUG Bochum--Univer 48.55 307 eP P 01 56 29.9 +1.0
comp=Z,74nm,1.7s
BILL Bilibino 49.04 30 ⇓iP P 01 56 33.1 +0.7
BILL i 01 56 43.1
BILL e 01 58 01.7
BILL e 01 58 25.6
BILL pmax pmax
comp=Z,17nm,1.1s
BILL MLR MLR
comp=Z,700nm,15.0s
BILL Bilibino 49.04 30 eP P 01 56 33.2 +0.8
comp=Z,12nm,0.6s
BFO Black Forest 49.08 303 eP P 01 56 33.7 +0.7
comp=Z,157nm,2.2s
BFO Black Forest 49.08 303 eP P 01 56 33.3 +0.3
BFO pmax pmax
comp=Z,99nm,1.8s
BFO Black Forest 49.08 303 eP P 01 56 33.3 +0.3
comp=Z,99nm,1.8s
TUE Stuetta 49.18 300 eP P 01 56 33.7 -0.3
comp=Z,94nm,1.8s
KSM Kuching 49.23 140 eP P 01 56 36.0 +1.5
comp=Z,74nm,1.7s
KSM Kuching 49.23 140 P sP 01 56 44.6 +1.4
SBUM Sibu 49.31 137 P P 01 56 37.6 +2.5

comp=Z,31nm,1.4s
CDF Champ du Feu 49.69 303 *e*P **P 01 56 37.9 +0.1**
comp=Z,10nm,0.7s
PETK Petropavlovsk- 49.77 50 P **P 01 56 38.4 +0.1**
comp=Z,7.1nm,0.9s,baz=279,slow=3.8,SNR=4.5
PETK LR LR 02 18 57.4
comp=Z,287nm,18.0s,baz=292,slow=38
PETK Petropavlovsk- 49.77 50 P **P 01 56 38.4 +0.1**
PETK Petropavlovsk- 49.77 50 P **P 01 56 38.4 +0.1**
WLF Walferdange 49.88 305 P **P 01 56 40.2 +1.2**
comp=Z,32nm,2.7s
WLF Walferdange 49.88 305 *e*P **P 01 56 40.1 +1.0**
WLF pmax pmax
comp=Z,11nm,0.9s
WLF Walferdange 49.88 305 *e*P **P 01 56 40.1 +1.0**
comp=Z,11nm,0.9s
HINF Hinteralfeld 50.19 302 *e*P **P 01 56 41.7 +0.2**
comp=Z,50nm,1.0s
DAG Danmarks Havn 50.41 343 *i* P **P 01 56 43.1 +0.4**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 50.41 343 *i* P **P 01 56 43.1 +0.4**
comp=Z,89nm,0.9s
HAU Haudompre 50.42 303 *e*P **P 01 56 43.4 +0.1**
comp=Z,16nm,0.7s
HAU *e*R
comp=Z,735nm,18.5s
GIVF Givet 50.50 306 *e*P **P 01 56 44.4 +0.6**
SENIN Lac Senin/Sane 50.52 301 *e*P **P 01 56 44.2 0.0**
comp=Z,41nm,1.4s
PAGF Fort de Pagny 50.58 304 *e*P **P 01 56 44.9 +0.5**
comp=Z,3.7nm,0.8s
BAIF Baives 50.88 306 *e*P **P 01 56 47.3 +0.7**
comp=Z,8.5nm,0.6s
MEZF Maizieres J'vi 51.01 304 *e*P **P 01 56 48.4 +0.8**
comp=Z,41nm,0.9s
SFTF Sexfontaines 51.14 304 *e*P **P 01 56 49.1 +0.4**
comp=Z,52nm,0.8s
LPG La Plagne 51.23 300 *e*P **P 01 56 50.5 +0.8**
comp=Z,66nm,0.7s
LPL La Plagne 51.23 300 *e*P **P 01 56 50.4 +0.7**
comp=Z,78nm,0.8s
BNI Bardonecchia 51.47 299 *e*P **P 01 56 51.5 +0.1**
BNI pmax pmax
comp=Z,31nm,0.7s
BNI Bardonecchia 51.47 299 *e*P **P 01 56 51.5 +0.1**
comp=Z,31nm,0.7s
SBF Sospel 51.52 298 *e*P **P 01 56 51.9 +0.3**
comp=Z,56nm,0.7s
MBDF Montbardon 51.56 299 *e*P **P 01 56 51.7 -0.3**
comp=Z,21nm,0.6s
ORIF Oris-en-Rattie 52.04 299 *e*P **P 01 56 55.5 0.0**
comp=Z,33nm,0.6s
ORIF *e*R
comp=Z,712nm,22.8s
LOR Lormes 52.26 303 *e*P **P 01 56 56.5 -0.6**
comp=Z,14nm,0.6s
LOR *e*R
comp=Z,338nm,20.2s
SSF Saint Saulge 52.57 303 *e*P **P 01 56 58.9 -0.4**
comp=Z,15nm,0.8s
SMRF Simiane la Rot 52.66 299 *e*P **P 01 57 00.3 +0.2**
AVF Avril sur Loir 52.78 303 *e*P **P 01 57 00.8 -0.1**
comp=Z,51nm,0.9s
VIVF Saint-Julien-l 52.83 300 *e*P **P 01 57 01.5 +0.2**
comp=Z,34nm,0.8s
ESK Eskdalemuir 52.86 314 *e*P **P 01 57 02.3 +1.0**
ESK Eskdalemuir 52.86 314 *e*P **P 01 57 02.3 +1.0**
ALE Alert 53.07 354 P **P** 01 56 56.3 -6.2
comp=Z,66nm,0.5s,SNR=11
BGF Bois d'Agland 53.20 303 *e*P **P 01 57 03.9 -0.1**
comp=Z,23nm,0.8s
DAV Davao City (W) 53.23 119 LR LR 02 21 52.5
comp=Z,410nm,18.1s,baz=262,slow=38
LASF Ste Croix 53.71 299 *e*P **P 01 57 08.3 +0.5**
TCF Toulx Ste Croi 53.71 302 *e*P **P 01 57 08.1 +0.3**
comp=Z,43nm,0.8s
LDF La Druitiere 54.07 306 *e*P **P 01 57 10.0 -0.3**
comp=Z,9.7nm,0.6s
KEST Kesra 54.17 288 P **P 01 57 11.8 +0.5**
comp=Z,2.2nm,0.6s,baz=38,slow=5.6,SNR=5.5
KEST Kesra 54.17 288 *e*P **P 01 57 12.8 +1.4**
FLN La Foliniere 54.20 306 *e*P **P 01 57 11.3 0.0**
comp=Z,25nm,0.7s
FLN *e*R
comp=Z,581nm,18.5s
CAF Calviac 54.44 301 *e*P **P 01 57 13.6 +0.5**
GRR Gorron 54.60 306 *e*P **P 01 57 13.9 -0.2**
RJF Les Rejaudoux 54.60 302 *e*P **P 01 57 14.9 +0.6**
comp=Z,47nm,0.9s
RJF *e*R
comp=Z,524nm,17.8s
MFF Saint Martin d 55.01 304 *e*P **P 01 57 17.2 +0.1**
MTLF Montolieu 55.11 299 *e*P **P 01 57 18.3 +0.4**
comp=Z,29nm,1.0s
SGMF Saint Gilles 55.66 306 *e*P **P 01 57 22.0 +0.2**
ROSF Rostrenen 56.04 307 *e*P **P 01 57 24.5 0.0**
comp=Z,50nm,0.8s
QUIF Quistinic 56.18 306 *e*P **P 01 57 25.4 -0.1**
EPF Esparros 56.45 300 *e*P **P 01 57 27.0 -0.7**
comp=Z,33nm,1.0s
SUMG Summit 57.04 342 *i* P **P 01 57 32.3 +0.5**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG Summit 57.04 342 *e*P **P 01 57 32.6 +0.9**
comp=Z,318nm,2.9s
SUMG Summit 57.04 342 *i* P **P 01 57 32.3 +0.5**
comp=Z,8.4nm,0.7s
ETSF Etsaut 57.09 300 *e*P **P 01 57 32.6 +0.4**
comp=Z,20nm,0.7s
SJPF Ste Jean 57.40 301 *e*P **P 01 57 34.5 +0.2**
FX1 Attu Island--F 58.25 45 *e*P **P 01 57 39.7 -0.4**
FX1 Attu Island--F 58.25 45 *e*P **P 01 57 39.6 -0.4**
KMBO Kilima Mbogo 59.02 234 *e*P **P 01 57 46.0 -0.2**
KMBO Kilima Mbogo 59.02 234 *e*P **P 01 57 45.8 -0.4**
KMBO pmax pmax
comp=Z,18nm,1.1s
KMBO Kilima Mbogo 59.02 234 *e*P **P 01 57 45.8 -0.4**
comp=Z,18nm,1.1s
TNA Tin City 59.21 27 *e*P **P 01 57 48.4 +1.9**
comp=Z,93nm,1.6s
KAPI Kappang 59.54 134 P **P 01 57 48.1 -1.4**
comp=Z,6.0nm,0.7s,baz=46,slow=6.6,SNR=4.3
KAPI Kappang 59.54 134 *e*P **P 01 57 48.2 -1.4**
comp=Z,14nm,1.1s
ESDC Sonseca Array 60.98 298 P **P 01 57 58.7 -0.5**
comp=Z,2.1nm,0.5s,baz=55,slow=6.8,SNR=24
ESDC PP **PP 02 00 12.5 -0.8**
comp=Z,1.8nm,0.9s,baz=53,slow=6.3,SNR=3.2
ESDC LR LR 02 28 40.9
comp=Z,172nm,19.1s,baz=230,slow=40
ESDC Sonseca Array 60.98 298 P **P 01 57 58.7 -0.5**
ESDC PP **PP 02 00 12.5 -0.8**
MVO Moncorvo 62.08 301 *e*P **P 01 58 06.3 -0.3**
comp=Z,61nm,1.9s
RES Resolute Bay 62.25 359 *e*P **P 01 58 07.2 +0.1**
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 62.25 359 *e*P **P 01 58 07.2 +0.1**
comp=Z,5.0nm,1.0s
MBAR Mbarara 62.58 240 *e*P **P 01 58 08.7 -1.7**
COLD Coldfoot 63.18 20 *e*P **P 01 58 14.3 +0.8**
comp=Z,42nm,0.7s
PMRV Marv??o 63.30 300 *e*P **P 01 58 15.6 +0.9**
comp=Z,42nm,1.3s
PBAR Barrancos 63.80 299 *e*P **P 01 58 19.0 +1.0**
comp=Z,51nm,1.6s
SFJD Kangerlussuaq 64.00 341 *i* P **P 01 58 19.0 +0.2**
SFJD pmax pmax
comp=Z,10.0nm,0.7s
SFJD Kangerlussuaq 64.00 341 *i* P **P 01 58 19.0 +0.2**
comp=Z,10nm,0.7s
TAM Tamanrasset 64.32 278 *e*P **P 01 58 21.5 -0.3**
TAM Tamanrasset 64.32 278 *e*P **P 01 58 21.5 -0.3**
COLA College 65.63 21 *e*P **P 01 58 30.0 +0.5**
COLA *e**PP **pP 01 58 35.5 -0.4**
COLA pmax pmax
comp=Z,31nm,0.7s
COLA College 65.63 21 *e*P **P 01 58 30.0 +0.5**
comp=Z,31nm,0.7s
COLA *e*pP **pP 01 58 35.5 -0.4**
INK Inuvik 65.75 13 *e*P **P 01 58 30.6 +0.4**
INK pmax pmax
comp=Z,19nm,0.9s
INK Inuvik 65.75 13 *e*P **P 01 58 30.6 +0.4**
comp=Z,19nm,0.9s
ILAR Eielson Array 65.96 20 P **P 01 58 31.6 -0.1**
comp=Z,12nm,0.6s,baz=321,slow=4.9,SNR=229
ILAR PP **PP 02 00 55.3 -0.9**
comp=Z,1.7nm,0.7s,baz=316,slow=6.1,SNR=5.1
ILAR LR LR 02 27 48.9
comp=Z,290nm,19.6s,baz=161,slow=36
ILAR Eielson Array 65.96 20 P **P 01 58 31.6 -0.1**
ILAR 02 00 55.3
ILAR Eielson Array 65.96 20 P **P 01 58 31.6 -0.1**
ILAR PP **PP 02 00 55.3 -0.9**
TRF Thorofare Moun 66.10 23 *e*P **P 01 58 32.5 -0.3**
comp=Z,179nm,2.1s
TRF *e*pP **pP 01 58 38.7 -0.6**
MCK McKinley 66.25 22 *e*P **P 01 58 34.2 +0.6**
MCK pmax pmax
comp=Z,93nm,2.2s
MCK McKinley 66.25 22 *e*P **P 01 58 34.2 +0.6**
comp=Z,93nm,2.2s
SVW2 Sparrevohn 66.32 26 *e*P **P 01 58 36.0 +2.0**
comp=Z,64nm,2.1s
EGAK Eagle 67.33 18 *e*P **P 01 58 40.8 +0.4**
comp=Z,17nm,0.8s
EGAK *e*pP **pP 01 58 46.7 -0.1**
EGAK LR LR
comp=Z,293nm,19.0s
SPU Mount Spurr 67.36 25 *e*P **P 01 58 41.3 +0.6**
DOT Dot Lake 67.59 20 *e*P **P 01 58 42.0 -0.1**
comp=Z,13nm,0.6s
RSO Redoubt South 67.70 26 *e*P **P 01 58 45.0 +1.9**
PAX Paxson 67.79 21 *e*P **P 01 58 43.5 +0.1**
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 67.79 21 *e*P **P 01 58 43.5 +0.1**
comp=Z,17nm,0.8s
PMR Palmer 67.91 23 *e*P **P 01 58 44.4 +0.4**
PMR pmax pmax
comp=Z,17nm,0.7s
PMR Palmer 67.91 23 *e*P **P 01 58 44.4 +0.4**
comp=Z,17nm,0.7s
SML Sawmill 67.96 23 *e*P **P 01 58 45.1 +0.6**
SML pmax pmax
comp=Z,12nm,0.6s
SML Sawmill 67.96 23 *e*P **P 01 58 45.1 +0.6**
comp=Z,12nm,0.6s
DAWY Dawson 68.34 18 *e*P **P 01 58 46.6 -0.2**
ABPO Ambohimpanom 69.31 214 *e*P **P 01 58 53.4 -0.1**
ABPO pmax pmax
comp=Z,11nm,0.8s
ABPO Ambohimpanom 69.31 214 *e*P **P 01 58 53.4 -0.1**
comp=Z,11nm,0.8s
BMRM Bremner River 69.68 22 *e*P **P 01 58 56.3 +1.0**
comp=Z,125nm,1.8s
KDAK Kodiak Island 69.85 27 *i* P **P 01 58 56.5 +0.4**
KDAK Kodiak Island 69.85 27 P **P 01 58 56.0 -0.1**
comp=Z,411nm,0.7s,SNR=19
PNL Peninsula 72.15 20 *e*P **P 01 59 11.0 +0.8**
comp=Z,29nm,0.7s
TOA0 Torodi Ar. Sit 73.28 272 *e*P **P 01 59 16.6 -0.9**
TORD Torodi Ar. Bea 73.28 272 P **P 01 59 16.6 -0.9**
comp=Z,10nm,0.5s,baz=45,slow=5.1,SNR=347
TORD Torodi Ar. Bea 73.28 272 P **P 01 59 16.6 -0.9**
SKAG Skagway 73.32 18 *e*P **P 01 59 18.1 +1.0**
comp=Z,109nm,1.7s
MBWA Marble Bar 73.42 142 *e*P **P 01 59 18.2 +0.1**
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 73.62 136 P **P 01 59 19.0 -0.3**
comp=Z,9.0nm,0.7s,baz=325,slow=4.0,SNR=21
FITZ Fitzroy Crossi 73.62 136 *e*P **P 01 59 19.5 +0.2**
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 73.62 136 *e*P **P 01 59 19.0 -0.3**
comp=Z,9.4nm,0.8s
YKA Yellowknife Ar 73.81 7 P **P 01 59 19.9 +0.1**
comp=Z,8.2nm,0.6s,baz=342,slow=6.0,SNR=208
YKA Yellowknife Ar 73.81 7 P **P 01 59 19.9 +0.1**
YKA Yellowknife Ar 73.81 7 P **P 01 59 19.9 +0.1**
SCHQ Schefferville 78.43 342 P **P 01 59 45.9 -0.5**
comp=Z,5.7nm,0.6s,baz=12,slow=7.2,SNR=19
SCHQ LR LR 02 36 39.7
comp=Z,264nm,19.8s,baz=76,slow=37
SCHQ Schefferville 78.43 342 *e*P **P 01 59 46.3 -0.1**
comp=Z,53nm,1.6s
PMG Port Moresby 79.69 113 P **P 01 59 53.3 -0.4**
baz=336,slow=12
PMG Port Moresby 79.69 113 *ce*P **P 01 59 53.9 +0.1**
PMG pmax pmax
comp=Z,13nm,1.0s
PMG Port Moresby 79.69 113 *e*P **P 01 59 53.9 +0.1**
comp=Z,9.1nm,0.8s
PMG Port Moresby 79.69 113 P **P 01 59 54.7 +0.9**
comp=Z,18nm,0.8s
WRAB Tennant Creek 79.79 130 *e*P **P 01 59 54.1 -0.1**
WRAB *e**PP **pP 02 00 00.0 -0.8**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 79.79 130 *e*P **P 01 59 54.1 -0.1**
comp=Z,18nm,0.8s
WRAB *e*pP **pP 01 59 60.0 -0.8**
WRAB Tennant Creek 79.79 130 P **P 01 59 53.5 -0.7**
comp=Z,141nm,0.6s,SNR=9.4
WRA Warramunga Arr 79.79 130 P **P 01 59 53.9 -0.3**
comp=Z,15nm,0.7s,baz=330,slow=5.4,SNR=235
WRA PKKPbc **PKKPbc 02 18 40.3 +0.3**
comp=Z,0.8nm,0.5s,baz=146,slow=2.1,SNR=27
WRA Warramunga Arr 79.79 130 P **P 01 59 53.9 -0.3**
WRA Warramunga Arr 79.79 130 P **P 01 59 53.9 -0.3**
WRA PKKPbc **PKKPbc 02 18 40.3 +0.3**
WB2 Warramunga Arr 79.80 130 *e*P **P 01 59 53.8 -0.4**
WB2 *e*pP **pP 01 59 59.2 -1.6**
MSNA Messina 80.33 227 *e*P **P 01 59 54.6 -2.4**
MSNA AMB AMB 02 00 06.2
comp=Z,32nm,1.4s
COEN Coen 80.46 119 *e*P **P 01 59 57.2 -0.6**
COEN *e*pP **pP 02 00 03.5 -1.0**
KLBR Kellerberrin 81.84 149 *e*P **P 02 00 03.6 -1.2**
comp=Z,8.4nm,0.7s
FFC Flin Flon 82.30 2 *i* P **P 02 00 07.1 -0.1**
FFC Flin Flon 82.30 2 *e*P **P 02 00 07.0 -0.1**
comp=Z,25nm,1.1s
FFC Flin Flon 82.30 2 P **P 02 00 07.0 -0.1**
comp=Z,105nm,1.2s,SNR=14
DBIC Dimbokro 82.38 272 P **P 02 00 07.5 -0.7**
comp=Z,4.1nm,0.4s,baz=35,slow=6.4,SNR=26
DBIC LR LR 02 42 04.9
comp=Z,239nm,19.1s,baz=22,slow=40
DBIC Dimbokro 82.38 272 *e*P **P 02 00 06.8 -1.4**
DBIC Dimbokro 82.38 272 P **P 02 00 07.5 -0.7**
DBIC pmax pmax
comp=Z,4.0nm,0.4s
DBIC Dimbokro 82.38 272 *e*P **P 02 00 07.2 -1.0**
comp=Z,25nm,1.1s
DBIC *e*pP **PcP 02 00 13.3 0.0**
AS31 Alice Springs 82.54 132 *e*P **P 02 00 08.1 -0.7**
ASAR Alice Springs 82.54 132 P **P 02 00 08.4 -0.3**
comp=Z,14nm,0.6s,baz=323,slow=5.0,SNR=284
ASAR PKKPbc **PKKPbc 02 18 34.6 +0.7**
comp=Z,0.4nm,0.6s,baz=129,slow=2.5,SNR=6.7
ASAR Alice Springs 82.54 132 P **P 02 00 08.4 -0.3**
ASAR Alice Springs 82.54 132 P **P 02 00 08.4 -0.3**
ASAR PKKPbc **PKKPbc 02 18 34.6 +0.7**
LIC Lamto 82.81 272 *e*P **P 02 00 08.8 -1.6**
comp=Z,62nm,1.3s
LIC *e*R
comp=Z,198nm,19.0s
POGA Pongola 83.64 223 *e*P **P 02 00 12.6 -1.7**
POGA AMB AMB 02 00 13.0
comp=Z,37nm,2.9s
SLR Silverton 84.00 226 *e*P **P 02 00 15.7 -0.7**
SLR AMB AMB 02 00 23.8
comp=Z,16nm,3.9s
LBTB Lobatse 84.86 228 *e*P **P 02 00 20.8 0.0**
LBTB AMB AMB 02 00 21.1
comp=Z,16nm,1.6s
LBTB Lobatse 84.86 228 *e*P **P 02 00 20.9 +0.2**
LBTB *e**PP **pP 02 00 26.4 -1.0**
LBTB pmax pmax
comp=Z,41nm,1.5s
LBTB Lobatse 84.86 228 *e*P **P 02 00 20.9 +0.2**
comp=Z,41nm,1.5s
LBTB *e*pP **pP 02 00 26.4 -1.0**
TSUM Tsumeb 85.05 238 *e*P **P 02 00 21.5 -0.3**
TSUM AMB AMB 02 00 22.6
comp=Z,694nm,1.6s
TSUM Tsumeb 85.05 238 *e*P **P 02 00 22.0 +0.2**
comp=Z,40nm,1.1s
TSUM *e*pP **pP 02 00 27.4 -1.0**
PRYS Parys 85.45 226 *e*P **P 02 00 21.1 -2.6**
PRYS AMB AMB 02 00 24.1
comp=Z,15nm,2.1s
FORT Forrest 85.47 141 *e*P **P 02 00 23.0 -0.4**
comp=Z,35nm,0.6s
FORT Forrest 85.47 141 *e*P **P 02 00 22.7 -0.7**
comp=Z,37nm,0.6s
SEK Senekal 86.44 225 *e*P **P 02 00 27.6 -0.9**
SEK AMB AMB 02 00 34.8
comp=Z,33nm,1.2s
JCW Jim Creek 86.68 15 *e*P **P 02 00 29.7 +0.2**
JCW *e*pP **pP 02 00 34.8 -1.4**
SWZ Schweizer 86.73 227⇑ *i*P **P 02 00 29.0 -1.0**
SWZ AMB AMB 02 00 35.6
comp=Z,28nm,1.2s
ULM Lac du Bonnet 86.77 358 P **P 02 00 29.0 -0.8**
comp=Z,2.3nm,0.8s,baz=44,slow=2.4,SNR=3.7
ULM LR LR 02 45 53.6
comp=Z,284nm,18.7s,baz=125,slow=40
ULM Lac du Bonnet 86.77 358 P **P 02 00 29.0 -0.8**
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 86.77 358 *e*P **P 02 00 28.7 -1.1**
comp=Z,18nm,1.4s
CTA Charters Tower 86.98 121 P **P 02 00 30.7 -0.5**
comp=Z,13nm,0.6s,baz=322,slow=6.8,SNR=33
CTA Charters Tower 86.98 121 *e*P **P 02 00 30.7 -0.5**
comp=Z,10.0nm,0.6s
CTA Charters Tower 86.98 121 P **P 02 00 30.7 -0.5**
CTA Charters Tower 86.98 121 P **P 02 00 30.7 -0.5**
CTAO Charters Tower 86.98 121 *e*P **P 02 00 30.8 -0.5**
CTAO *e**PP **pP 02 00 36.2 -1.7**
CTAO pmax pmax
comp=Z,14nm,0.6s
CTAO Charters Tower 86.98 121 *e*P **P 02 00 30.8 -0.4**
comp=Z,14nm,0.6s
CTAO *e*pP **pP 02 00 36.2 -1.7**
A12A Yaak River Ran 86.99 11⇑ P **P 02 00 30.6 -0.4**
baz=87
NLWA Neilton Lookou 87.06 17 *e*P **P 02 00 32.6 +1.2**
comp=Z,29nm,1.3s
WALA Waterton Lakes 87.09 10 *e*P **P 02 00 30.6 -1.0**
comp=Z,1.4nm,1.7s
A13A Flathead Natio 87.15 10⇓ P **P 02 00 31.3 -0.5**
baz=87
A14A Double T Ranch 87.24 9⇑ P **P 02 00 31.9 -0.4**
baz=87
A15A Johnson Ranch, 87.31 9⇓ P **P 02 00 31.8 -0.9**
baz=87
NEW Newport 87.43 12 *e*P **P 02 00 32.7 -0.5**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW MLR MLR
comp=Z,197nm,20.0s
NEW Newport 87.43 12 *e*P **P 02 00 32.6 -0.5**
comp=Z,6.6nm,1.0s
NEW LR LR
comp=Z,197nm,20.0s
NEW Newport 87.43 12⇓ P **P 02 00 33.1 -0.1**
baz=87
A16A West Butte Ran 87.47 8⇑ P **P 02 00 32.7 -0.8**
baz=87
ETW Entiat 87.54 14 *e*P **P 02 00 33.7 -0.1**
ETW *e*pP **pP 02 00 41.1 +0.6**
A17A Triple J Farms 87.56 8⇓ P **P 02 00 33.2 -0.6**
baz=87,SNR=7.5
A18A Metzger Ranch, 87.66 7⇓ P **P 02 00 33.8 -0.5**
baz=87,SNR=12
B13A Whitefish 87.70 10⇓ P **P 02 00 34.3 -0.2**
baz=87
A19A Klindworth Far 87.75 6⇓ P **P 02 00 34.5 -0.2**
baz=87,SNR=9.7
A21A Bergtoll Ranch 87.82 5⇑ P **P 02 00 34.7 -0.3**
baz=88,SNR=9.1
B14A Marquette Ranc 87.86 9⇑ P **P 02 00 34.7 -0.7**
baz=88
A20A Cobblestone Ra 87.86 6⇓ P **P 02 00 34.9 -0.3**
baz=88,SNR=5.5
BOSA Boshof 87.91 227 P **P 02 00 34.6 -1.0**
comp=Z,4.5nm,0.6s,baz=28,slow=4.2,SNR=27
BOSA LR LR 02 44 39.1
comp=Z,129nm,18.3s,baz=352,slow=39
BOSA Boshof 87.91 227 *e*P **P 02 00 33.9 -1.7**
BOSA AMB AMB 02 00 41.9
comp=Z,32nm,5.6s
BOSA Boshof 87.91 227 P **P 02 00 34.6 -1.0**
BOSA pmax pmax
comp=Z,5.0nm,0.6s
BOSA Boshof 87.91 227 *e*P **P 02 00 34.8 -0.8**
comp=Z,30nm,1.3s
BOSA *e*pP **pP 02 00 40.6 -1.7**
B15A Bradely Ranch, 87.99 9⇑ P **P 02 00 35.0 -0.9**
baz=88
OD2 Odessa Site #2 88.03 13 *e*P **P 02 00 36.1 +0.1**
LON Longmire 88.09 15 *e*P **P 02 00 36.8 +0.5**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 88.09 15 *e*P **P 02 00 36.8 +0.5**
comp=Z,7.4nm,1.0s
BSMT Bassoo Peak 88.17 10 *e*P **P 02 00 37.2 +0.3**
BSMT *e*pP **pP 02 00 43.6 +0.1**
B18A Beardsley Farm 88.19 7⇓ P **P 02 00 36.5 -0.3**
baz=88,SNR=12
B17A L&G Farms, Che 88.19 8⇑ P **P 02 00 36.4 -0.5**
baz=88,SNR=6.4
B19A Brinkman Farms 88.20 7⇓ P **P 02 00 36.5 -0.4**
baz=88,SNR=10.0
C12B Naegeli Ranch, 88.21 11⇑ P **P 02 00 37.3 +0.4**
baz=88
C13A Hot Springs 88.36 10⇑ P **P 02 00 37.8 +0.2**
baz=88
B23A Brockton 88.46 4⇓ P **P 02 00 38.2 +0.2**
baz=88
DGMT Dagmar 88.49 3 *e*P **P 02 00 38.6 +0.5**
comp=Z,36nm,1.4s
DGMT *e*pP **pP 02 00 45.3 +0.5**
DGMT Dagmar 88.49 3⇑ P **P 02 00 38.5 +0.3**
baz=88
C15A Salmond Ranch, 88.51 9⇑ P **P 02 00 37.9 -0.6**
baz=88,SNR=16
EGMT Eagleton 88.56 7 *e*P **P 02 00 38.4 -0.1**
comp=Z,93nm,1.9s
EGMT Eagleton 88.56 7⇓ P **P 02 00 38.2 -0.4**
baz=88,SNR=8.8
SWMT Swartz Lake 88.61 10 *e*P **P 02 00 39.5 +0.6**
SWMT *e*pP **pP 02 00 45.7 +0.1**
C17A Wharram Farm, 88.85 8⇓ P **P 02 00 39.3 -0.7**
baz=89,SNR=8.1
HAWA Hanford 88.86 14 *e*P **P 02 00 41.1 +1.2**
comp=Z,19nm,1.7s
D12A Red Ives Fores 88.87 11⇑ P **P 02 00 39.8 -0.3**
baz=89
EYMN Ely 88.87 355 *e*P **P 02 00 39.9 -0.1**
comp=Z,18nm,0.9s
SLMT Seeley Lake 88.93 10 *e*P **P 02 00 40.0 -0.5**
D13A Huson 88.95 10⇑ P **P 02 00 40.3 -0.2**
baz=89,SNR=8.2
C21A Desert Coulee 88.97 5⇓ P **P 02 00 40.6 +0.2**
baz=89,SNR=10
D14A Greenough 89.09 10⇑ P **P 02 00 40.4 -0.7**
baz=89,SNR=8.6
C23A Lambert 89.11 4⇑ P **P 02 00 41.9 +0.8**
baz=89,SNR=6.5
C22A Vida 89.12 5⇑ P **P 02 00 41.6 +0.5**
baz=89,SNR=5.9
D15A Lincoln 89.25 9⇑ P **P 02 00 41.8 -0.1**
baz=89
MSO Missoula 89.28 10 *e*P **P 02 00 41.9 -0.1**
comp=Z,26nm,1.9s
CHMT Chamberlain Mo 89.28 10 *e*P **P 02 00 41.6 -0.6**
D17A Six Diamond Ra 89.33 8⇑ P **P 02 00 42.3 0.0**
baz=89,SNR=7.0
D16A Dana Ranch, Ca 89.36 8⇑ P **P 02 00 41.8 -0.7**
baz=89
C24A Savage 89.42 4⇑ P **P 02 00 43.1 +0.5**
baz=89
E12A Beaver Dam Sad 89.47 11⇑ P **P 02 00 42.6 -0.4**
baz=89
D19A Cripps Ranch, 89.49 7⇓ P **P 02 00 42.4 -0.6**
baz=89,SNR=8.9
E13A Victor 89.63 10⇑ P **P 02 00 43.1 -0.6**
baz=89,SNR=6.3
HRY Holter Researc 89.65 9 *e*P **P 02 00 44.0 +0.2**
D22A Cohagen 89.70 5⇑ P **P 02 00 44.6 +0.7**
baz=89,SNR=10.0
D21A La Casta Ranch 89.73 5⇓ P **P 02 00 43.7 -0.4**
baz=89,SNR=5.3
E14A Clinton 89.74 10⇑ P **P 02 00 43.9 -0.4**
baz=89,SNR=7.9

LONY	Lake Ozonia	89.75	343	*e*P		P	02 00 45.0	+0.8
	comp=Z,270nm,2.7s							
E15A	Deer Lodge	89.84	9	⇑P		P	02 00 44.3	-0.4
	baz=90,SNR=5.4							
E16A	East Helena	89.84	9	⇑P		P	02 00 44.7	+0.1
	baz=90,SNR=6.7							
E18A	Harlowton	89.99	7	⇑P		P	02 00 45.6	+0.2
	baz=90							
E17A	Martinsdale	90.00	8	⇑P		P	02 00 45.6	+0.1
	baz=90							
MDV	Middlebury	90.03	342	*e*P		P	02 00 45.7	+0.3
F12A	Elk City	90.16	11	⇓P		P	02 00 45.7	-0.5
	baz=90							
E19A	Rath Farm, Rou	90.19	7	⇓P		P	02 00 45.7	-0.6
	baz=90,SNR=6.3							
E20A	Meyer Farm, Mu	90.21	6	⇓P		P	02 00 46.1	-0.2
	baz=90							
F13A	Darby	90.25	11	⇓P		P	02 00 46.3	-0.3
	baz=90,SNR=10.0							
F15A	Butte	90.43	9	⇓P		P	02 00 47.2	-0.4
	baz=90,SNR=7.5							
LRM	Limekiln Ridge	90.46	9	*e*P		P	02 00 47.9	+0.2
F17A	Fitzpatrick Pl	90.57	8	⇓P		P	02 00 48.4	+0.3
	baz=90,SNR=8.2							
F16A	Kennard Place,	90.59	9	⇓P		P	02 00 47.9	-0.3
	baz=90,SNR=6.8							
F18A	Big Timber	90.66	7	⇑P		P	02 00 48.7	+0.2
	baz=90,SNR=7.8							
BOZ	Bozeman (W)	90.72	9	*e*P		P	02 00 48.4	-0.4
BOZ				pmax		pmax		
	comp=Z,32nm,1.6s							
BOZ	Bozeman (W)	90.72	9	*e*P		P	02 00 48.4	-0.4
	comp=Z,32nm,1.6s							
BOZ	Bozeman (W)	90.72	9	⇓P		P	02 00 48.9	+0.1
	baz=90,SNR=5.3							
BOZ				⇓P		P	02 00 48.9	+0.1
	baz=90,SNR=5.3							
F19A	Roth Farm, Mol	90.78	7	⇑P		P	02 00 49.1	+0.1
	baz=90,SNR=7.7							
DLMT	Dillon	90.89	9	*e*P		P	02 00 48.8	-0.8
	comp=Z,26nm,1.5s							
G14A	Jackson	90.90	10	⇑P		P	02 00 49.6	-0.1
	baz=91							
G13A	Cobalt	90.95	11	⇑P		P	02 00 49.5	-0.4
	baz=91,SNR=7.1							
G15A	Dillon	91.10	9	⇓P		P	02 00 50.6	0.0
	baz=91,SNR=7.3							
G16A	Moss Hill, Enn	91.12	9	⇑P		P	02 00 50.7	0.0
	baz=91,SNR=9.6							
MCMT	McKenzie Canyo	91.39	10	*e*P		P	02 00 51.6	-0.4
	comp=Z,5.3nm,1.4s							
H13A	Challis	91.46	11	⇑P		P	02 00 51.9	-0.4
	baz=91							
G20A	Bridger	91.47	6	⇑P		P	02 00 52.1	-0.2
	baz=91,SNR=7.3							
RLMT	Red Lodge	91.48	7	*e*P		P	02 00 52.4	0.0
	comp=Z,25nm,1.4s							
RLMT	Red Lodge	91.48	7	⇑P		P	02 00 52.6	+0.1
	baz=91,SNR=7.8							
RLMT				⇑P		P	02 00 52.6	+0.1
	baz=91,SNR=7.8							
H14A	Leadore	91.53	10	⇑P		P	02 00 52.6	-0.1
	baz=91,SNR=8.8							
G24A	Alzada	91.61	4	⇓P		P	02 00 53.0	+0.1
	baz=91							
H15A	Lima	91.62	10	⇓P		P	02 00 53.0	-0.1
	baz=91,SNR=5.3							
H16A	Russell Place,	91.70	9	⇑P		P	02 00 54.5	+1.0
	baz=91							
H19A	Powell	91.95	7	⇓P		P	02 00 55.6	+1.0
	baz=92							
I12A	Atlanta	92.09	12	⇓P		P	02 00 55.2	-0.1
	baz=92,SNR=7.0							
H24A	Dirks Ranch, A	92.19	4	⇑P		P	02 00 55.1	-0.5
	baz=92							
I14A	Mackay	92.20	10	⇓P		P	02 00 56.0	+0.3
	baz=92,SNR=7.1							
MFID	Camas Ranch	92.36	12	⇓P		P	02 00 56.6	+0.2
	baz=92							
FLWY	Flagg Ranch	92.37	8	*e*P		P	02 00 58.1	+1.6
	comp=Z,16nm,1.3s							
HLID	Hailey	92.42	11	*e*P		P	02 00 57.2	+0.4
	comp=Z,31nm,2.3s							
HLID	Hailey	92.42	11	⇑P		P	02 00 56.9	+0.1
	baz=92							
I16A	Newdale	92.49	9	⇑P		P	02 00 58.0	+0.9
	baz=92,SNR=5.4							
J13A	Cove Ranch, Pi	92.62	11	⇓P		P	02 00 57.6	0.0
	baz=92							
MOOW	Moose Ponds	92.69	8	*e*P		P	02 00 58.6	+0.5
	comp=Z,20nm,1.8s							
MOOW				*e*pP		pP	02 01 06.2	+1.4
I20A	Worland	92.74	7	⇑P		P	02 00 58.5	+0.3
	baz=92							
RSSD	Black Hills	92.83	4	*e*P		P	02 00 59.2	+0.5
RSSD				pmax		pmax		
	comp=Z,7.0nm,0.6s							
RSSD	Black Hills	92.83	4	*e*P		P	02 00 59.2	+0.5
	comp=Z,7.0nm,0.6s							
LOHW	Long Hollow	92.84	8	*e*P		P	02 00 59.3	+0.5
WVOR	Wild Horse Val	92.85	14	*e*P		P	02 00 58.7	0.0
WVOR				pmax		pmax		
	comp=Z,9.0nm,1.3s							
WVOR	Wild Horse Val	92.85	14	*e*P		P	02 00 58.7	0.0
	comp=Z,9.2nm,1.3s							
I21A	Big Trails, Te	92.95	6	⇓P		P	02 00 59.1	-0.1
	baz=93							
MOD	Modoc	93.05	16	*e*P		P	02 01 00.0	+0.4
	comp=Z,13nm,1.3s							
REDW	Red Top Meadow	93.06	9	*e*P		P	02 00 60.0	+0.2
	comp=Z,20nm,1.8s							
STKA	Stephens Creek	93.17	132	P		P	02 00 58.8	-1.2
	comp=Z,3.6nm,0.5s,baz=324,slow=6.8,SNR=9.9							
STKA	Stephens Creek	93.17	132	*e*P		P	02 00 58.7	-1.2
	comp=Z,3.4nm,0.6s							
STKA	Stephens Creek	93.17	132	P		P	02 00 58.8	-1.2
STKA	Stephens Creek	93.17	132	P		P	02 00 58.8	-1.2
J18A	Kendall Valley	93.30	8	⇓P		P	02 01 00.8	-0.2
	baz=93							
J19A	Crowheart	93.34	7	⇑P		P	02 01 01.7	+0.6
	baz=93							
J22A	Midwest	93.40	5	⇓P		P	02 01 00.9	-0.3
	baz=93							
PD01	Pinedale Array	93.78	8	*e*P		P	02 01 02.4	-0.7
BW06	Boulder Array	93.79	8	*e*P		P	02 01 02.8	-0.3
	comp=Z,1.3nm,0.6s							
PDAR	Pinedale Array	93.79	8	P		P	02 01 02.7	-0.4
	comp=Z,1.3nm,0.6s,baz=38,slow=2.8,SNR=17							
PDAR				PKiKP		PKiKP	02 05 46.9	-1.2
	comp=Z,0.4nm,0.6s,baz=77,slow=2.5,SNR=4.7							
PDAR				LR		LR	02 48 20.4	
	comp=Z,145nm,18.9s,baz=156,slow=39							
PDAR	Pinedale Array	93.79	8	P		P	02 01 02.7	-0.4
PDAR				PKiKP		PKiKP	02 05 46.9	-1.2
K19A	Absolon Red Bu	93.80	7	⇑P		P	02 01 03.1	-0.1
	baz=94							
K20A	Yellowstone Ra	94.01	7	⇓P		P	02 01 04.1	0.0
	baz=94							
L15A	Malad City	94.23	10	⇓P		P	02 01 05.2	+0.1
	baz=94							
L16A	Fish Haven	94.33	9	⇓P		P	02 01 05.9	+0.2
	baz=94							
HVU	Hansel Valley	94.40	10	*e*P		P	02 01 06.4	+0.5
HVU				pmax		pmax		
	comp=Z,48nm,2.2s							
HVU	Hansel Valley	94.40	10	*e*P		P	02 01 06.4	+0.5
	comp=Z,48nm,2.2s							
L19A	Farson	94.47	8	⇓P		P	02 01 06.1	-0.2
	baz=94							
HWUT	Hardware Ranch	94.72	9	*e*P		P	02 01 07.4	0.0
	comp=Z,5.6nm,0.6s							
L23A	Garrett	94.75	5	⇑P		P	02 01 07.0	-0.5
	baz=94							
M15A	Larsen Ranch,	94.75	10	⇑P		P	02 01 07.5	+0.1
	baz=94							
ELK	Elko	95.06	12	*e*P		P	02 01 09.4	+0.3
ELK	Elko	95.06	12	*e*P		P	02 01 09.4	+0.3
DUG	Dugway	95.95	11	*e*P		P	02 01 13.2	+0.2
DUG				pmax		pmax		
	comp=Z,25nm,1.8s							
DUG	Dugway	95.95	11	*e*P		P	02 01 13.2	+0.2
	comp=Z,25nm,1.8s							
DUG	Dugway	95.95	11	⇑P		P	02 01 12.7	-0.3
	baz=96							
NVAR	Mina Array Bea	96.79	15	P		P	02 01 16.7	-0.3
	comp=Z,0.7nm,0.7s,baz=356,slow=3.9,SNR=7.2							
NVAR	Mina Array Bea	96.79	15	P		P	02 01 16.7	-0.3

WVT	Waverly	100.27	351	*e*P		Pdif	02 01 32.9	+0.7
WVT	Waverly	100.27	351	*e*Pdif		Pdif	02 01 32.9	+0.7
ANMO	Albuquerque	101.82	6	*e*P		Pdif	02 01 41.2	+1.8
ANMO	Albuquerque	101.82	6	*e*Pdif		Pdif	02 01 41.2	+1.8
TXAR	Lajitas Array	107.58	4	PKiKP		PKiKP	02 06 13.0	0.0
	comp=Z,0.2nm,0.5s,baz=69,slow=1.2,SNR=3.7							
TXAR	Lajitas Array	107.58	4	PKiKP		PKiKP	02 06 13.0	0.0
SYO	Syowa Base	116.11	195	*e*pPdiff		pPdif	02 02 47.6	-0.7
ROSC	El Rosal	127.08	328	*e*PKPdf		PKPdf	02 06 51.8	+0.8
BDFB	Brasilia	128.67	286	PKP		PKPdf	02 06 53.4	-0.1
	comp=Z,1.6nm,0.7s,baz=342,slow=3.2,SNR=3.1							
BDFB	Brasilia	128.67	286	PKiKP		PKPdf	02 06 53.4	-0.1
BDFB	Brasilia	128.67	286	PKP		PKPdf	02 06 53.4	-0.1
VNDA	Vanda	129.96	164	*e*PKiKP		PKPdf	02 06 53.6	-0.4
VNDA	Vanda	129.96	164	*e*PKPdf		PKPdf	02 06 53.6	-0.4
QSPA	South Pole Qui	133.09	180	SKPbc		SKPbc	02 10 26.6	-0.2
	comp=Z,1.5nm,0.7s,baz=248,slow=6.0,SNR=7.3							
QSPA	South Pole Qui	133.09	180	*e*PKPdf		PKPdf	02 06 59.7	-0.6
QSPA				SKPbc		SKPbc	02 10 26.6	-0.2
SAML	Samuel	133.60	307	*e*PKPdf		PKPdf	02 07 02.8	0.0
LPAZ	La Paz	142.33	306	PKP		PKPdf	02 07 19.7	+0.2
	comp=Z,1.6nm,0.6s,baz=315,slow=2.9,SNR=7.3							
LPAZ	La Paz	142.33	306	*e*PKiKP		PKPdf	02 07 19.3	-0.2
LPAZ	La Paz	142.33	306	*e*PKPdf		PKPdf	02 07 19.3	-0.2
LPAZ				PKP		PKPdf	02 07 19.7	+0.2
TRQA	Tornquist	151.53	268	*e*PKPbc		PKPbc	02 07 39.2	-0.5
LCO	Las Campanas	153.15	293	*e*PKPbc		PKPbc	02 07 42.8	-1.1
PLCA	Paso Flores	158.67	267	PKP		PKPdf	02 07 45.2	+2.0
	comp=Z,6.4nm,1.1s,baz=62,slow=4.2,SNR=3.1							
PLCA				PKPab		PKPab	02 08 18.0	-0.8
	comp=Z,1.1nm,0.6s,baz=359,slow=3.8,SNR=3.1							
PLCA	Paso Flores	158.67	267	PKiKP		PKPdf	02 07 45.2	+2.0
PLCA							02 08 18.0	
PLCA	Paso Flores	158.67	267	PKP		PKPdf	02 07 45.2	+2.0
PLCA				PKPab		PKPab	02 08 18.0	-0.8

MEX 25 01:55:29.1±0.8, 18°.12N×103°.35W, h5km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.16	2	*i*	P	Pg		01 55 31.6	-0.8
MMIG				*i*	S	Sg		01 55 34.9	+0.3
ZIIG	Zihuatanejo	1.87	106	*i*	P	Pn		01 55 58.1	-3.6
ZIIG				*i*	S	Sn		01 56 21.5	-4.3
SFJM	Santa Fe	2.37	7	*i*	P	Pn		01 56 07.2	-1.7
SFJM				*i*	S	Sn		01 56 34.0	-4.5
MOIG	Morelia	2.57	53	*i*	P	Pn		01 56 07.7	-4.0
MOIG				*i*	S	Sn		01 56 37.4	-6.1
ANIG	Ahuacatlan	3.12	339	*i*	P	Pn		01 56 17.6	-1.5
ANIG				*i*	S	Sn		01 56 53.5	-3.4

IDC 25 02:02:30.3±3.2, 20°.47S×178°.47W, h587km±39km, mb3.1/5, mb1 3.4/6, mb1mx3.0/19, mbtmp3.3/6, Error ellipse: s-maj=30.4km s-min=17.5km az=179.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	17.50	96	P		P		02 06 01.7	-0.2
	6.8nm,0.3s,baz=176,slow=16,SNR=3.8								
CTA	Charters Tower	33.05	264	P		P		02 08 19.0	+0.1
	3.8nm,0.5s,baz=96,slow=9.0,SNR=7.9								
ASAR	Alice Springs	44.10	257	P		P		02 09 47.8	-0.1
	2.6nm,0.8s,baz=87,slow=8.5,SNR=28								
ASAR				PcP		PcP		02 11 20.4	+0.5
	0.2nm,0.6s,baz=98,slow=4.4,SNR=5.3								
WRA	Warramunga Arr	44.17	262	P		P		02 09 47.9	-0.5
	0.7nm,0.3s,baz=96,slow=7.3,SNR=59								
QSPA	South Pole Qui	69.60	180	P		P		02 12 41.3	0.0
	0.9nm,0.6s,baz=77,slow=5.2,SNR=5.2								
ILAR	Eielson Array	88.38	13	P		P		02 14 20.4	+0.5
	0.2nm,0.4s,baz=220,slow=6.3,SNR=5.9								
BVAR	Borovoye Array	118.77	320	PKP		PKPdf		02 20 10.4	-1.9
	0.4nm,0.3s,baz=129,slow=0.3,SNR=5.0								
AKASG	Malin Array Be	142.77	331	PKP		PKPdf		02 20 55.1	-2.3
	1.5nm,0.4s,baz=45,slow=4.2,SNR=9.1								
GERES	GERESS Array B	150.05	344	PKPbc		PKPbc		02 21 16.5	+1.1
	0.8nm,0.8s,baz=318,slow=1.8,SNR=4.9								

IDC 25 02:07:21.0±1.0, 57°.17S×25°.58W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, Error ellipse: s-maj=42.7km s-min=30.4km az=78.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	15.64	161	*e*P		Pn		02 11 03.5	+1.1
VNA3				*e*				02 11 17.0	
VNA2	Neumayer--Watz	15.82	158	*e*P		Pn		02 11 05.5	+0.7
	baz=329,slow=16								
VNA2				*e*				02 11 19.0	
QSPA	South Pole Qui	33.08	180	P		P		02 13 59.2	+1.0
	1.1nm,0.6s,baz=122,slow=3.9,SNR=7.8								
LPAZ	La Paz	51.74	304	P		P		02 16 30.9	+0.1
	4.1nm,0.5s,baz=148,slow=5.1,SNR=30								
TORD	Torodi Ar. Bea	73.61	28	P		P		02 18 57.1	+1.2
	0.2nm,0.7s,baz=199,slow=8.9,SNR=3.2								
YKA	Yellowknife Ar	137.60	316	PKP		PKPdf		02 26 43.7	-1.5
	0.2nm,0.7s,baz=132,slow=1.6,SNR=5.6								
SONM	Songino Array	149.90	87	PKPbc		PKPdf		02 27 09.8	+2.4
	0.4nm,0.8s,baz=214,slow=3.3,SNR=5.4								
ILAR	Eielson Array	151.52	310	PKPbc		PKPbc		02 27 14.6	-0.8
	1.3nm,1.0s,baz=146,slow=5.0,SNR=9.7								

IDC 25 02:18:40.4±1.8, 24°.07S×66°.50W, h184km±22km, mb3.1/1, mb1 3.0/5, mb1mx2.9/17, mbtmp2.9/5, Error ellipse: s-maj=41.5km s-min=17.1km az=103.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.67	191	P		Pn		02 20 31.2	+1.9
	0.1nm,0.3s,baz=3.2,slow=11,SNR=10								
CFAA				S		Sn		02 21 53.6	-2.0
	0.1nm,0.3s,baz=299,slow=22,SNR=7.0								
LPAZ	La Paz	7.89	349	P		Pn		02 20 32.6	-0.5
	0.5nm,0.3s,baz=162,slow=12,SNR=12								
LPAZ				S		Sn		02 21 55.4	-7.0
	0.1nm,0.3s,baz=346,slow=8.3,SNR=2.8								
SIV	San Ignacio	9.51	33	P		Pn		02 20 52.8	-0.8
	0.2nm,0.3s,baz=227,slow=12,SNR=4.0								
BDFB	Brasilia	19.29	68	P		P		02 22 53.1	+1.6
	0.2nm,0.3s,baz=221,slow=11,SNR=4.5								
TORD	Torodi Ar. Bea	76.17	69	P		P		02 30 07.7	-1.0
	0.3nm,0.5s,baz=256,slow=6.0,SNR=11								
MKAR	Makanchi Array	146.28	40	PKPbc		PKPbc		02 37 59.7	+0.4
	0.4nm,1.0s,baz=273,slow=4.8,SNR=5.9								

IDC 25 02:22:44.1±1.9, 22°.62S×66°.02W, h251km±19km, mb3.3/2, mb1 3.2/6, mb1mx3.0/17, mbtmp3.1/6, Error ellipse: s-maj=30.2km s-min=23.2km az=109.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.60	342	P		Pn		02 24 20.5	-0.2
	0.4nm,0.3s,baz=165,slow=10,SNR=10								
LPAZ				S		S		02 25 31.9	-6.1
	0.1nm,0.3s,baz=241,slow=19,SNR=3.6								
SIV	San Ignacio	8.08	36	P		Pn		02 24 37.9	-0.7
	0.9nm,0.3s,baz=241,slow=9.2,SNR=30								
CFAA	Coronel Fontan	9.17	192	P		Pn		02 24 52.1	-0.1
	0.1nm,0.3s,baz=22,slow=14,SNR=16								
CFAA				S		S		02 26 28.4	-7.4
	0.1nm,0.3s,baz=108,slow=23,SNR=9.9								
BDFB	Brasilia	18.36	71	P		P		02 26 42.5	+1.6
	0.2nm,0.3s,baz=229,slow=14,SNR=4.2								
TORD	Torodi Ar. Bea	75.23	69	P		P		02 33 59.2	-0.6
	0.4nm,0.4s,baz=250,slow=5.7,SNR=19								
YKA	Yellowknife Ar	93.14	340	P		P		02 35 29.1	-0.1
	0.2nm,0.5s,baz=133,slow=4.9,SNR=5.3								
MKAR	Makanchi Array	144.89	39	PKP		PKPdf		02 41 52.0	+0.8
	0.4nm,0.7s,baz=310,slow=3.2,SNR=6.7								

IDC 25 02:52:35.5±6.6, 36°.59N×71°.16E, h76km±58km, mb2.9/5, mb1 3.2/9, mb1mx3.1/27, mbtmp3.1/9, ML3.2/3, 1C, Error ellipse: s-maj=38.7km s-min=24.7km az=4.0, Afghanistan-Tajikistan border region

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

KK31	Karatay Array	6.53	356	P		Pn	02 54 08.0	-0.9
	3.1nm,0.5s,baz=185,slow=13,SNR=46							
KK31				⇑S		Sn	02 55 16.0	-6.0
	4.9nm,0.5s,baz=186,slow=21,SNR=4.8							
MKAR	Makanchi Array	13.15	36	P		P	02 55 38.0	-1.1
	0.0nm,0.3s,baz=218,slow=12,SNR=4.4							
KURK	Kurchatov	15.11	18	P		Pn	02 56 05.0	+0.5
	0.0nm,0.3s,baz=207,slow=10,SNR=4.6							
AKTO	Aktyubinsk	16.77	330	P		P	02 56 26.7	+0.3
	0.2nm,0.3s,baz=132,slow=17,SNR=5.1							
ZALV	Zalesovo Beam	19.78	24	P		P	02 56 57.8	-1.6
	0.5nm,0.3s,baz=219,slow=12,SNR=7.4							
SONM	Songino Array	28.18	55	P		P	02 58 21.8	+0.9
	0.2nm,0.5s,baz=267,slow=8.4,SNR=2.8							
TORD	Torodi Ar. Bea	65.84	269	P		P	03 03 13.2	0.0
	0.2nm,0.8s,baz=43,slow=4.5,SNR=4.1							
YKA	Yellowknife Ar	81.15	3	P		P	03 04 42.1	-0.1
	0.1nm,0.3s,baz=349,slow=5.6,SNR=3.4							
WRA	Warramunga Arr	81.93	122	P		P	03 04 46.8	-0.2
	0.3nm,0.7s,baz=325,slow=4.8,SNR=6.4							
ASAR	Alice Springs	84.20	125	P		P	03 04 58.7	+0.1
	0.1nm,0.6s,baz=326,slow=5.9,SNR=3.5							

IDC 25 02:59:18.7±8.4, 22°.87S×178°.13W, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.3/16, mbtmp3.2/2, Error ellipse: s-maj=350.9km s-min=60.7km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.90	259	P		P		03 07 26.8	-0.6
	0.2nm,0.6s,baz=106,slow=7.4,SNR=3.1								
WRA	Warramunga Arr	44.20	264	P		P		03 07 30.0	+0.2
	0.1nm,0.3s,baz=94,slow=8.3,SNR=13								
AKASG	Malin Array Be	145.00	329	PKPbc		PKPab		03 18 57.3	+0.3
	0.4nm,0.3s,baz=45,slow=5.0,SNR=4.7								

IDC 25 03:04:14.6±1.4, 1°.61S×133°.06E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=67.9km s-min=25.7km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.26	176	P		P		03 08 30.1	+0.2
	0.2nm,0.3s,baz=356,slow=12,SNR=21								
ASAR	Alice Springs	21.94	178	P		P		03 09 09.8	-0.2
	2.2nm,0.7s,baz=353,slow=8.9,SNR=37								
MKAR	Makanchi Array	65.54	324	P		P		03 15 00.5	+0.4
	0.2nm,0.5s,baz=113,slow=8.1,SNR=4.5								
ILAR	Eielson Array	87.21	25	P		P		03 17 02.1	-0.5
	0.2nm,0.5s,baz=249,slow=6.9,SNR=6.3								

*ISCJB **25** 03:13:36.7±1.1, 37°.28N±0°.03×39°.34E±0°.04, h0km±8km, Error ellipse: s-maj=6.9km s-min=4.2km az=139.6*
*CSEM **25** 03:13:36.4±0.7, 37°.27N×39°.36E, h2km, MD2.9, Error ellipse: s-maj=14.5km s-min=7.0km az=157.0*
*ISK **25** 03:13:36.0, 37°.26N×39°.30E, h5km, MD2.9*
*DDA **25** 03:13:36.8, 37°.29N×39°.32E, h7km, MD3.0*
*NSSC **25** 03:13:38.6±0.5, 36°.68N×38°.88E, h10km±7km, ML1.7*

ISC 25 03:13:36.8±1.2, 37°.27N±0°.04×39°.36E±0°.04, h6km±11km, n20, σ0°.54/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.46	292	*e*PG		Pg		03 13 45.3	-0.4
URFA				*e*SG		Sg		03 13 52.1	+0.4
URFA	Urfa	0.46	292	*e*Pg		Pg		03 13 45.3	-0.4
URFA				*e*Sg		Sg		03 13 52.1	+0.4
ATAB	Bozova	0.87	284	*i* P		Pg		03 13 53.1	-0.4
ATAB				*i* S		Sg		03 14 04.9	+0.1
ATAB	Bozova	0.87	284	*i* P		Pg		03 13 53.1	-0.4
ATAB				*i* S		Sg		03 14 04.9	+0.1
SFNV	Sufian	1.04	144	*e*P		Pn		03 13 57.8	-0.2
SFNV				*e*S		Sn		03 14 12.6	-0.4
SFNV				AML		AML		03 14 17.8	
	comp=Z,16nm,0.1s								
SVRC	Sivrice-ELAZID	1.11	358	*e*PN		Pg		03 13 58.2	+0.2
SVRC				*e*SN		Sn		03 14 14.8	0.0
SVRC	Sivrice-ELAZID	1.11	358	*e*Pn		Pg		03 13 58.3	+0.2
SVRC				*e*Sn		Sn		03 14 14.8	0.0
MARD	Mardin	1.14	87	*i* P		Pg		03 13 58.7	+0.1
MARD				*i* S		Sn		03 14 15.6	+0.3
MALT	Malatya	1.28	325	*e*PN		Pg		03 14 01.0	-0.3
MALT				*e*SN		Sn		03 14 20.0	+1.2
MALT	Malatya	1.28	325	*e*Pn		Pg		03 14 01.0	-0.3
MALT				*e*Sn		Sn		03 14 20.0	+1.2
KSRV	Kasrt alli	1.43	192	*e*P		Pg		03 14 04.5	+0.2
KSRV				*e*S		Sg		03 14 24.4	+1.6
KSRV				AML		AML		03 14 26.5	
	comp=E,13nm,0.4s								
KSRV				AML		AML		03 14 26.9	
	comp=N,33nm,0.1s								
KSRV				AML		AML		03 14 29.1

KIW	Kapiti Island	2.79 198	PN	Pn	03 23 44.5 -2.5
TMWZ	Te Maipa	2.91 182	PN	Pn	03 23 45.9 -2.5
MTW	Mount Morrison	2.98 188	PN	Pn	03 23 46.5 -2.8
CAW	Cannon Point	3.00 194	PN	Pn	03 23 46.9 -2.6
DUWZ	D'Urville Isla	3.07 211	PN	Pn	03 23 47.7 -2.7
TRWZ	Traveller	3.21 185	PN	Pn	03 23 49.4 -2.7
PAWZ	Paruwai Farm	3.21 188	PN	Pn	03 23 49.2 -3.0
MSWZ	Moikau Station	3.27 190	PN	Pn	03 23 49.8 -3.1
TCW	Tory Channel	3.30 204	PN	Pn	03 23 50.5 -2.8
PLWZ	Palliser	3.42 190	PN	Pn	03 23 51.5 -3.4
NNZ	Nelson	3.64 213	PN	Pn	03 23 54.4 -3.2
KHZ	Kahutara	4.62 203	PN	Pn	03 24 06.9 -3.5
DSZ	Denniston Nort	4.80 221	PN	Pn	03 24 08.6 -4.2
MQZ	McQueen's Vall	6.07 204	SN		03 25 27.4

ATH ***25*** *03:26:51.6,40°.90N×27°.89E,h31km±12km,MD3.8/5*
ISCJB ***25*** *03:26:52.9±0.3,40°.84N±0°.02×27°.75E±0°.02,h9km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=9.2*
ISK ***25*** *03:26:53.0,40°.79N×27°.76E,h15km,ML3.5*
THE ***25*** *03:26:53.2,40°.91N×27°.72E,h0km±1km,ML3.7/10, Error ellipse: s-maj=3.6km s-min=0.6km az=54.0*
DDA ***25*** *03:26:53.5,40°.78N×27°.78E,h7km,MD3.5*
CSEM ***25*** *03:26:53.5±0.1,40°.80N×27°.77E,h10km,ML3.5, Error ellipse: s-maj=1.8km s-min=1.4km az=14.0*
SOF ***25*** *03:26:53.1,40°.96N×27°.64E,h2km,MD3.3*

ISC 25 03:26:54.0±0.8, 40°.79N±0°.01×27°.76E±0°.01, h14km±6km, n285, σ0°83/370, 21C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKR	Tekirdag	0.26	320	PG	Pg	03 26 59.7	+0.2
TKR				eSG	Sg	03 27 03.9	+0.6
TKR	Tekirdag	0.26	320	i Pg	Pg	03 26 59.7	+0.2
TKR				eSg	Sg	03 27 03.9	+0.6
TKR	Tekirdag	0.26	320	i Pg	Pg	03 26 59.7	+0.2
TKR				eSg	Sg	03 27 03.9	+0.6
CRLT	Corlu	0.34	357	PG	Pg	03 27 01.2	+0.3
CRLT				eSG	Sg	03 27 06.2	+0.6
CRLT	Corlu	0.34	357	i Pg	Pg	03 27 01.2	+0.3
CRLT				eSg	Sg	03 27 06.2	+0.6
CRLT	Corlu	0.34	357	i Pg	Pg	03 27 01.2	+0.3
CRLT				eSg	Sg	03 27 06.2	+0.6
MFT	Murefte	0.36	270	PG	Pg	03 27 01.1	-0.3
MFT	Murefte	0.36	270	i Pg	Pg	03 27 01.1	-0.3
MFT	Murefte	0.36	270	i Pg	Pg	03 27 01.1	-0.3
EDC	Edincik	0.45	170	ePG	Pg	03 27 03.2	+0.3
EDC				eSG	Sg	03 27 09.1	+0.1
EDC	Edincik	0.45	170	ePg	Pg	03 27 03.2	+0.3
EDC				eSg	Sg	03 27 09.1	+0.1
EDC	Edincik	0.45	170	ePg	Pg	03 27 03.2	+0.3
EDC				eSg	Sg	03 27 09.1	+0.1
BNT	Bandirma	0.45	164	ePG	Pg	03 27 03.1	+0.2
BNT	Bandirma	0.45	164	ePg	Pg	03 27 03.1	+0.2
BNT	Bandirma	0.45	164	ePg	Pg	03 27 03.1	+0.2
SART	Tekirdag	0.45	257	i P	Pg	03 27 02.5	-0.5
SART				i S	Sg	03 27 09.0	-0.1
SART	Tekirdag	0.45	257	i P	Pg	03 27 02.5	-0.5
SART				i S	Sg	03 27 09.0	-0.1
SART	Tekirdag	0.45	257	i P	Pg	03 27 02.5	-0.5
SART				i S	Sg	03 27 09.0	-0.1
RKY	Sarkoy-Tekirda	0.45	257	ePG	Pg	03 27 02.6	-0.4
RKY				eSG	Sg	03 27 08.7	-0.4
RKY	Sarkoy-Tekirda	0.45	257	ePg	Pg	03 27 02.6	-0.4
RKY				eSg	Sg	03 27 08.7	-0.4
RKY	Sarkoy-Tekirda	0.45	257	ePg	Pg	03 27 02.6	-0.4
RKY				eSg	Sg	03 27 08.7	-0.4
KRBG	Karabiga-Canak	0.53	222	ePG	Pg	03 27 03.8	-0.6
KRBG	Karabiga-Canak	0.53	222	ePg	Pg	03 27 03.8	-0.6
KRBG	Karabiga-Canak	0.53	222	ePg	Pg	03 27 03.8	-0.6
SLVT	Silivri	0.56	38	ePG	Pg	03 27 04.7	-0.2
SLVT	Silivri	0.56	38	ePg	Pg	03 27 04.7	-0.2
SLVT	Silivri	0.56	38	ePg	Pg	03 27 04.7	-0.2
ELBA	Catalca	0.62	55	i P	Pg	03 27 05.6	-0.5
ELBA				i S	Sb	03 27 15.0	-0.2
ELBA	Catalca	0.62	55	i P	Pg	03 27 05.6	-0.5
ELBA				i S	Sb	03 27 15.0	-0.2
ELBA	Catalca	0.62	55	i P	Pg	03 27 05.6	-0.5
ELBA				i S	Sb	03 27 15.0	-0.2
KCTX	Karacabey (Bur	0.69	139	ePG	Pg	03 27 07.3	-0.2
KCTX	Karacabey (Bur	0.69	139	ePg	Pg	03 27 07.3	-0.2
KCTX	Karacabey (Bur	0.69	139	ePg	Pg	03 27 07.3	-0.2
CTKS	Kestanelik-??a	0.72	52	ePG	Pg	03 27 07.3	-0.7
CTKS	Kestanelik-??a	0.72	52	ePg	Pg	03 27 07.3	-0.7
CTKS	Kestanelik-??a	0.72	52	ePg	Pg	03 27 07.3	-0.7
GONE	Gonen-Balikesi	0.74	184	ePG	Pg	03 27 08.3	-0.2
GONE	Gonen-Balikesi	0.74	184	ePg	Pg	03 27 08.3	-0.2
GONE	Gonen-Balikesi	0.74	184	ePg	Pg	03 27 08.3	-0.2
CTYL	Yal??k??y-??at	0.79	30	ePG	Pb	03 27 08.6	-0.9
CTYL	Yal??k??y-??at	0.79	30	ePg	Pb	03 27 08.6	-0.9
CTYL	Yal??k??y-??at	0.79	30	ePg	Pb	03 27 08.6	-0.9
BGKT	Bogazkoy	0.86	63	ePG	Pb	03 27 09.7	-1.0
BGKT	Bogazkoy	0.86	63	ePg	Pb	03 27 09.7	-1.0
BGKT	Bogazkoy	0.86	63	ePg	Pb	03 27 09.7	-1.0
ARMT	Armutlu	0.87	105	ePG	Pb	03 27 10.0	-0.8
ARMT	Armutlu	0.87	105	ePg	Pb	03 27 10.0	-0.8
ARMT	Armutlu	0.87	105	ePg	Pb	03 27 10.0	-0.8
LPK	Lapseki	0.87	242	ePG	Pb	03 27 09.5	-1.3
LPK	Lapseki	0.87	242	ePg	Pb	03 27 09.5	-1.3
LPK	Lapseki	0.87	242	ePg	Pb	03 27 09.5	-1.3
MDNY	Mudanya-Bursa	0.95	116	ePG	Pb	03 27 11.6	-0.7
MDNY	Mudanya-Bursa	0.95	116	ePg	Pb	03 27 11.6	-0.7
MDNY	Mudanya-Bursa	0.95	116	ePg	Pb	03 27 11.6	-0.7
ERIK	Erikli-Kesan	0.95	263	ePG	Pb	03 27 11.2	-1.1
ERIK	Erikli-Kesan	0.95	263	ePg	Pb	03 27 11.2	-1.1
ERIK	Erikli-Kesan	0.95	263	ePg	Pb	03 27 11.2	-1.1
ISK	Istanbul-Kandi	1.02	74	ePG	Pb	03 27 12.2	-1.3
ISK	Istanbul-Kandi	1.02	74	ePg	Pb	03 27 12.2	-1.3
ISK	Istanbul-Kandi	1.02	74	ePg	Pb	03 27 12.2	-1.3
BUY	Buyukada	1.03	86	i P	Pg	03 27 16.0	+2.1
BUY				i S	Sn	03 27 28.0	-0.3
BUY	Buyukada	1.03	86	i P	Pg	03 27 16.0	+2.1
BUY				i S	Sn	03 27 28.0	-0.3
BUY	Buyukada	1.03	86	i P	Pg	03 27 16.0	+2.1
BUY				i S	Sn	03 27 28.0	-0.3
BALY	Balya	1.05	186	i P	Pb	03 27 14.0	0.0
BALY				i S	Sn	03 27 29.4	+0.4
BALY	Balya	1.05	186	i P	Pb	03 27 14.0	0.0
BALY				i S	Sn	03 27 29.4	+0.4
BALY	Balya	1.05	186	i P	Pb	03 27 14.0	0.0
BALY				i S	Sn	03 27 29.4	+0.4
GELI	Tayfur-Gelibol	1.05	249	ePG	Pb	03 27 12.8	-1.2
GELI	Tayfur-Gelibol	1.05	249	ePg	Pb	03 27 12.8	-1.2
GELI	Tayfur-Gelibol	1.05	249	ePg	Pb	03 27 12.8	-1.2
KLYT	Kilyos	1.07	64	ePG	Pb	03 27 13.5	-0.8
KLYT	Kilyos	1.07	64	ePg	Pb	03 27 13.5	-0.8
KLYT	Kilyos	1.07	64	ePg	Pb	03 27 13.5	-0.8
ORLT	Orhaneli	1.14	130	ePN	Pn	03 27 15.3	-0.3
ORLT	Orhaneli	1.14	130	ePn	Pn	03 27 15.3	-0.3
ORLT	Orhaneli	1.14	130	ePn	Pn	03 27 15.3	-0.3
BALB	Balikesir	1.15	175	ePN	Pb	03 27 15.6	-0.1
BALB	Balikesir	1.15	175	ePn	Pb	03 27 15.6	-0.1
BALB	Balikesir	1.15	175	ePn	Pb	03 27 15.6	-0.1
ENEZ	Enez	1.22	268	ePN	Pn	03 27 16.1	-0.6
ENEZ	Enez	1.22	268	ePn	Pn	03 27 16.1	-0.6
ENEZ	Enez	1.22	268	ePn	Pn	03 27 16.1	-0.6
ULDT	Uludag	1.23	121	i P	Pn	03 27 16.1	-0.9
ULDT				i S	Sg	03 27 35.0	+1.2
ULDT	Uludag	1.23	121	i P	Pn	03 27 16.1	-0.9
ULDT				i S	Sg	03 27 35.0	+1.2
ULDT	Uludag	1.23	121	i P	Pn	03 27 16.1	-0.9
ULDT				i S	Sg	03 27 35.0	+1.2
YLV	Yalova	1.25	100	ePN	Pn	03 27 15.9	-1.2
YLV	Yalova	1.25	100	ePn	Pn	03 27 15.9	-1.2
YLV	Yalova	1.25	100	ePn	Pn	03 27 15.9	-1.2
EDRB	Edirne	1.30	324	ePN	Pn	03 27 17.3	-0.5
EDRB	Edirne	1.30	324	ePn	Pn	03 27 17.3	-0.5
EDRB	Edirne	1.30	324	ePn	Pn	03 27 17.3	-0.5
ALN	Alexandroupoli	1.30	275	P	Pn	03 27 17.3	-0.5
ALN				S	Sb	03 27 35.3	+0.4
ALN	Alexandroupoli	1.30	275	ePN	Pn	03 27 17.1	-0.7
ALN				eSN	Sb	03 27 35.1	+0.2
ALN	Alexandroupoli	1.30	275	P	Pn	03 27 17.3	-0.5
ALN				eSn	Sb	03 27 35.1	+0.2
ALN	Alexandroupoli	1.30	275	P	Pn	03 27 17.3	-0.5
ALN				eSn	Sb	03 27 35.1	+0.2
DURS	Dursunbey	1.31	155	i P	Pn	03 27 17.5	-0.4
DURS				i S	Sg	03 27 37.1	+0.9
DURS	Dursunbey	1.31	155	i P	Pn	03 27 17.5	-0.4
DURS				i S	Sg	03 27 37.1	+0.9
DST	Dursunbey	1.36	151	ePN	Pn	03 27 18.1	-0.4
DST	Dursunbey	1.36	151	ePn	Pn	03 27 18.2	-0.4
DST	Dursunbey	1.36	151	ePn	Pn	03 27 18.2	-0.4
HRT	Hereke	1.45	88	ePN	Pn	03 27 18.6	-1.2
HRT	Hereke	1.45	88	ePn	Pn	03 27 18.6	-1.2
HRT	Hereke	1.45	88	ePn	Pn	03 27 18.6	-1.2
SILT	Sile	1.47	75	ePN	Pn	03 27 19.6	-0.5
SILT	Sile	1.47	75	ePn	Pn	03 27 19.6	-0.5
SILT	Sile	1.47	75	ePn	Pn	03 27 19.6	-0.5
ADVT	Abdulvahap	1.55	103	ePN	Pn	03 27 20.5	-0.6
ADVT	Abdulvahap	1.55	103	ePn	Pn	03 27 20.5	-0.6
ADVT	Abdulvahap	1.55	103	ePn	Pn	03 27 20.5	-0.6
BOZC	Bozcaada	1.61	235	i P	Pn	03 27 22.4	+0.3
BOZC				i S	Sb	03 27 44.5	+0.8
AYVA	Ayvalik	1.69	209	i P	Pn	03 27 23.6	+0.5
AYVA				i S	Sg	03 27 49.6	+1.2
AYVA	Ayvalik	1.69	209	i P	Pn	03 27 23.6	+0.5
AYVA				i S	Sg	03 27 49.6	+1.2
AYVA	Ayvalik	1.69	209	i P	Pn	03 27 23.6	+0.5
AYVA				i S	Sg	03 27 49.6	+1.2
CAVI	Cavuskoy	1.69	110	ePN	Pn	03 27 23.8	+0.6
CAVI	Cavuskoy	1.69	110	ePn	Pn	03 27 23.8	+0.6
CAVI	Cavuskoy	1.69	110	ePn	Pn	03 27 23.8	+0.6
JMB	Yambol	1.89	333	P	Pn	03 27 26.6	+0.7
JMB	Yambol	1.89	333	P	Pn	03 27 26.6	+0.7
JMB	Yambol	1.89	333	P	Pn	03 27 26.6	+0.7
DEMI	Demirci	1.89	157	i P	Pn	03 27 26.0	0.0
DEMI				i S	Sg	03 27 54.6	-0.3
DEMI	Demirci	1.89	157	i P	Pn	03 27 26.0	0.0
DEMI				i S	Sg	03 27 54.6	-0.3
DEMI	Demirci	1.89	157	i P	Pn	03 27 26.0	0.0
DEMI				i S	Sg	03 27 54.6	-0.3
AKHS	Akhisar	1.91	179	i P	Pn	03 27 26.1	0.0
AKHS				i S	Sg	03 27 56.5	+1.1
AKHS	Akhisar	1.91	179	i P	Pn	03 27 26.1	0.0
AKHS	Akhisar	1.91	179	i P	Pn	03 27 26.1	0.0
AKS	Akhisar	1.91	179	ePN	Pn	03 27 26.1	0.0
AKS	Akhisar	1.91	179	ePn	Pn	03 27 26.1	0.0
AKS	Akhisar	1.91	179	ePn	Pn	03 27 26.1	0.0
PRK	Paraskevi	1.92	217	P	Pn	03 27 27.0	+0.7
PRK				S	Sb	03 27 54.0	+1.4
PRK	Paraskevi	1.92	217	ePN	Pn	03 27 26.2	-0.1
PRK				eSN	Sb	03 27 51.4	-1.2
PRK	Paraskevi	1.92	217	ePn	Pn	03 27 26.2	-0.1
PRK	Paraskevi	1.92	217	P	Pn	03 27 27.0	+0.7
PRK				eSn	Sb	03 27 51.4	-1.2
PRK				S	Sb	03 27 54.0	+1.4
SPNC	Sapanca-Adapaz	1.94	92	ePN	Pn	03 27 26.8	+0.3
SPNC	Sapanca-Adapaz	1.94	92	ePn	Pn	03 27 26.8	+0.3
SPNC	Sapanca-Adapaz	1.94	92	ePn	Pn	03 27 26.8	+0.3
KDZ	Kurdzhali	1.96	297	i P	Pb	03 27 30.1	+0.5
KDZ	Kurdzhali	1.96	297	i P	Pb	03 27 30.1	+0.5
KDZ	Kurdzhali	1.96	297	i P	Pb	03 27 30.1	+0.5
GPA	Golpazari	2.01	104	ePN	Pn	03 27 27.6	+0.1
GPA	Golpazari	2.01	104	ePn	Pn	03 27 27.6	+0.1
GPA	Golpazari	2.01	104	ePn	Pn	03 27 27.6	+0.1
DIM	Dimitrovgrad	2.10	308	P	Pn	03 27 28.1	-0.6
DIM	Dimitrovgrad	2.10	308	P	Pn	03 27 28.1	-0.6
DIM	Dimitrovgrad	2.10	308	P	Pn	03 27 28.1	-0.6
GULT	Gulveren	2.13	99	ePN	Pn	03 27 29.1	-0.1
GULT	Gulveren	2.13	99	ePn	Pn	03 27 29.1	-0.1
GULT	Gulveren	2.13	99	ePn	Pn	03 27 29.1	-0.1
GDZ	Gediz	2.15	142	i P	Pn	03 27 30.1	+0.5
GDZ				i S	Sg	03 28 02.9	-0.3
GDZ	Gediz	2.15	142	i P	Pn	03 27 30.1	+0.5
GDZ	Gediz	2.15	142	i P	Pn	03 27 30.1	+0.5
LIA	Limnos Island	2.16	246	P	Pn	03 27 29.5	-0.1
LIA				S	Sb	03 27 58.6	-1.0
LIA	Limnos Island	2.16	246	ePN	Pn	03 27 28.9	-0.7
LIA				eSN	Sn	03 27 57.3	+1.1
LIA	Limnos Island	2.16	246	ePn	Pn	03 27 28.9	-0.7
LIA	Limnos Island	2.16	246	P	Pn	03 27 29.5	-0.1
LIA				eSn	Sn	03 27 57.3	+1.1
LIA				S	Sb	03 27 58.6	-1.0
LIA	Limnos Island	2.16	246	ePn	Pn	03 27 28.9	-0.7
LIA	Limnos Island	2.16	246	P	Pn	03 27 29.5	-0.1
LIA				eSn	Sn	03 27 57.3	+1.1
LIA				S	Sb	03 27 58.6	-1.0
KULA	Kula-Manisa	2.38	163	ePN	Pn	03 27 32.8	+0.2
KULA	Kula-Manisa	2.38	163	ePn	Pn	03 27 32.8	+0.2
KULA	Kula-Manisa	2.38	163	ePn	Pn	03 27 32.8	+0.2
HENT	Hendek	2.38	88	i P	Pn	03 27 32.3	-0.4
HENT	Hendek	2.38	88	i P	Pn	03 27 32.3	-0.4
HENT	Hendek	2.38	88	i P	Pn	03 27 32.3	-0.4
IZM	Izmir	2.42	189	ePN	Pn	03 27 33.3	+0.1
IZM	Izmir	2.42	189	ePn	Pn	03 27 33.3	+0.1
IZM	Izmir	2.42	189	ePn	Pn	03 27 33.3	+0.1
PRD	Provadia	2.42	354	i P	Pn	03 27 32.6	-0.6
PRD	Provadia	2.42	354	i P	Pn	03 27 32.6	-0.6
PRD	Provadia	2.42	354	i P	Pn	03 27 32.6	-0.6
RZN	Rozhen	2.46	292	P	Pn	03 27 33.5	-0.4
RZN	Rozhen	2.46	292	P	Pn	03 27 33.5	-0.4
RZN	Rozhen	2.46	292	P	Pn	03 27 33.5	-0.4
BLCB	Balcova	2.46	193	ePN	Pn	03 27 34.4	+0.6
BLCB	Balcova	2.46	193	ePn	Pn	03 27 34.4	+0.6
BLCB	Balcova	2.46	193	ePn	Pn	03 27 34.4	+0.6
KAVA	Kavala	2.47	276	P	Pn	03 27 33.6	-0.2
KAVA				S	Sn	03 28 04.5	+0.7
KAVA	Kavala	2.47	276	P	Pn	03 27 33.6	-0.2
KAVA				S	Sn	03 28 04.5	+0.7
KAVA	Kavala	2.47	276	P	Pn	03 27 33.6	-0.2
KAVA				S	Sn	03 28 04.5	+0.7
ALT	Altintas	2.50	133	ePN	Pn	03 27 34.5	+0.2
ALT	Altintas	2.50	133	ePn	Pn	03 27 34.6	+0.2
ALT	Altintas	2.50	133	ePn	Pn	03 27 34.6	+0.2
MDUB	Mudurnu	2.63	96	ePN	Pn	03 27 36.5	+0.3
MDUB	Mudurnu	2.63	96	ePn	Pn	03 27 36.5	+0.3
MDUB	Mudurnu	2.63	96	ePn	Pn	03 27 36.5	+0.3
ESKT	Eskisehir	2.69	117	ePN	Pn	03 27 37.0	+0.1
ESKT	Eskisehir	2.69	117	ePn	Pn	03 27 37.0	+0.1
ESKT	Eskisehir	2.69	117	ePn	Pn	03 27 37.0	+0.1
SEYT	Eskypehyr	2.69	117	i P	Pn	03 27 37.2	+0.3
SEYT	Eskypehyr	2.69	117	i P	Pn	03 27 37.2	+0.3
SEYT	Eskypehyr	2.69	117	i P	Pn	03 27 37.2	+0.3
CHOS	Chios island	2.74	209	P	Pn	03 27 38.8	+1.2
CHOS				S	Sb	03 28 14.4	-1.8
CHOS	Chios island	2.74	209	ePN	Pn	03 27 38.0	+0.4
CHOS	Chios island	2.74	209	ePn	Pn	03 27 38.0	+0.4
CHOS	Chios island	2.74	209	P	Pn	03 27 38.8	+1.2
CHOS				S	Sb	03 28 14.4	-1.8
CHOS	Chios island	2.74	209	ePn	Pn	03 27 38.0	+0.4
CHOS	Chios island	2.74	209	P	Pn	03 27 38.8	+1.2
CHOS				S	Sb	03 28 14.4	-1.8
KHAL	Karahalli	2.76	150	i P	Pn	03 27 38.3	+0.3
KHAL				i S	Sg	03 28 23.6	+0.9
KHAL	Karahalli	2.76	150	i P	Pn	03 27 38.3	+0.3
KHAL	Karahalli	2.76	150	i P	Pn	03 27 38.3	+0.3
KHL	Karahalli	2.82	150	ePN	Pn	03 27 39.3	+0.6
KHL	Karahalli	2.82	150	ePn	Pn	03 27 39.3	+0.6
KHL	Karahalli	2.82	150	ePn	Pn	03 27 39.3	+0.6
SZH	Strazhica	2.82	332	i P	Pn	03 27 38.2	-0.5
SZH	Strazhica	2.82	332	i P	Pn	03 27 38.2	-0.5
SZH	Strazhica	2.82	332	i P	Pn	03 27 38.2	-0.5
KDZE	Karadeniz Ereo	2.83	78	ePN	Pn	03 27 38.4	-0.4
KDZE	Karadeniz Ereo	2.83	78	ePn	Pn	03 27 38.4	-0.4
KDZE	Karadeniz Ereo	2.83	78	ePn	Pn	03 27 38.4	-0.4
OUR	Ouranopolis	2.91	262	P	Pn	03 27 39.6	-0.3
OUR				S	Sn	03 28 16.8	+2.1
OUR	Ouranopolis	2.91	262	P	Pn	03 27 39.6	-0.3
OUR				S	Sn	03 28 16.8	+2.1
OUR	Ouranopolis	2.91	262	P	Pn	03 27 39.6	-0.3
OUR				S	Sn	03 28 16.8	+2.1
PVL	Pavlikeni	3.02	324	i P	Pn	03 27 41.4	0.0
PVL	Pavlikeni	3.02	324	i P	Pn	03 27 41.4	0.0
PVL	Pavlikeni	3.02	324	i P	Pn	03 27 41.4	0.0
SHUT	Suhut-Afyon	3.10	135	ePN	Pn	03 27 43.1	+0.4
SHUT	Suhut-Afyon	3.10	135	ePn	Pn	03 27 43.1	+0.4
SHUT	Suhut-Afyon	3.10	135	ePn	Pn	03 27 43.1	+0.4
MMB	Musomiste	3.15	286	P	Pn	03 27 43.4	+0.2
MMB	Musomiste	3.15	286	P	Pn	03 27 43.4	+0.2
MMB	Musomiste	3.15	286	P	Pn	03 27 43.4	+0.2
SMG	Samos	3.16	193	P	Pn	03 27 45.2	+1.9
SMG				S	Sb	03 28 25.6	-2.7
SMG	Samos	3.16	193	ePN	Pn	03 27 43.3	0.0
SMG	Samos	3.16	193	ePn	Pn	03 27 43.3	0.0
SMG	Samos	3.16	193	P	Pn	03 27 45.2	+1.9
SMG				S	Sb	03 28 25.6	-2.7
SMG	Samos	3.16	193	ePn	Pn	03 27 43.3	0.0
SMG	Samos	3.16	193	P	Pn	03 27 45.2	+1.9
SMG				S	Sb	03 28 25.6	-2.7
SRS	Serrai	3.17	277	P	Pn	03 27 43.0	-0.5
SRS				S	Sn	03 28 21.8	+0.6
SRS	Serrai	3.17	277	P	Pn	03 27 43.0	-0.5
SRS				S	Sn	03 28 21.8	+0.6
SRS	Serrai	3.17	277	P	Pn	03 27 43.0	-0.5
SRS				S	Sn	03 28 21.8	+0.6
SVRH	Sivrihisar-ESK	3.18	114	ePN	Pn	03 27 43.4	-0.3
SVRH	Sivrihisar-ESK	3.18	114	ePn	Pn	03 27 43.4	-0.3
SVRH	Sivrihisar-ESK	3.18	114	ePn	Pn	03 27 43.4	-0.3
PGB	Panagyurishte	3.21	304	P	Pn	03 27 44.5	+0.4
PGB	Panagyurishte	3.21	304	P	Pn	03 27 44.5	+0.4
PGB	Panagyurishte	3.21	304	P	Pn	03 27 44.5	+0.4
PAIG	Paliouri	3.23	256	P	Pn	03 27 44.8	+0.5
PAIG				S	Sn	03 28 24.5	+1.8
PAIG	Paliouri	3.23	256	P	Pn	03 27 44.8	+0.5
PAIG				S	Sn	03 28 24.5	+1.8
PAIG	Paliouri	3.23	256	P	Pn	03 27 44.8	+0.5
PAIG				S	Sn	03 28 24.5	+1.8
PLG	Polygyros	3.31	264	P	Pn	03 27 45.4	-0.1
PLG				S	Sn	03 28 26.5	+1.8
PLG	Polygyros	3.31	264	P	Pn	03 27 45.4	-0.1
PLG				S	Sn	03 28 26.5	+1.8
PLG	Polygyros	3.31	264	P	Pn	03 27 45.4	-0.1
PLG				S	Sn	03 28 26.5	+1.8
SOH	Sokhos	3.34	272	P	Pn	03 27 45.4	-0.5
SOH				S	Sn	03 28 26.2	+0.7
SOH	Sokhos	3.34	272	P	Pn	03 27 45.4	-0.5
SOH				S	Sn	03 28 26.2	+0.7
SOH	Sokhos	3.34	272	P	Pn	03 27 45.4	-0.5
SOH				S	Sn	03 28 26.2	+0.7
KNT	Kendrikon	3.70	277	P	Pn	03 27 50.8	0.0
KNT				S	Sn	03 28 35.5	+1.3
KNT	Kendrikon	3.70	277	P	Pn	03 27 50.8	0.0
KNT				S	Sn	03 28 35.5	+1.3
KNT	Kendrikon	3.70	277	P	Pn	03 27 50.8	0.0
KNT				S	Sn	03 28 35.5	+1.3
VTS	Vitosha	3.85	299	P	Pn	03 27 53.5	+0.5
VTS	Vitosha	3.85	299	P	Pn	03 27 53.5	+0.5
VTS	Vitosha	3.85	299	P	Pn	03 27 53.5	+0.5
VAY	Valandovo	3.96	279	ePn	Pn	03 27 54.6	+0.3
VAY				eSg	Sg	03 28 59.9	-1.2
VAY	Valandovo	3.96	279	ePn	Pn	03 27 54.6	+0.3
VAY				eSg	Sg	03 28 59.9	-1.2
CFR	Carcaliu	4.39	3	iP	Pn	03 27 59.3	-0.9
CFR	Carcaliu	4.39	3	iP	Pn	03 27 59.3	-0.9
CFR	Carcaliu	4.39	3	iP	Pn	03 27 59.3	-0.9
MLR	Muntele Rosu	4.88	345	iP	Pn	03 28 08.9	+1.8
MLR	Muntele Rosu	4.88	345	iP	Pn	03 28 08.9	+1.8
MLR	Muntele Rosu	4.88	345	iP	Pn	03 28 08.9	+1.8
KRUS	Krusevo	4.96	279	ePn	Pn	03 28 08.0	-0.1
KRUS	Krusevo	4.96	279	ePn	Pn	03 28 08.0	-0.1
VOIR		5.05	338	iP	Pn	03 28 09.8	+0.4
VOIR		5.05	338

SMG					*e*SN	**Sn**	03 53 47.4	+0.1	
SMG	**Samos**	**0.90**	**188**		P	**Pg**	03 53 34.2	-0.1	
SMG	**Samos**	**0.90**	**188**		*e*Pn	**Pn**	03 53 34.4	-0.3	
SMG					*e*Sn	**Sn**	03 53 47.4	+0.1	
SMG					S	**Sn**	03 53 47.7	+0.4	
AYDN	**Tasoluk**	**1.17**	**143**	*i*	P	**Pb**	03 53 38.7	+0.1	
AYDN				*i*	S	**Sg**	03 53 54.4	-0.3	
AYDN	**Tasoluk**	**1.17**	**143**	*i*	P	**Pb**	03 53 38.7	+0.1	
AYDN				*i*	S	**Sg**	03 53 54.4	-0.3	
MANT	**Manisa**	**1.23**	**95**	*i*	P	**Pb**	03 53 39.6	-0.2	
MANT				*i*	S	**Sg**	03 53 56.6	-0.1	
MANT	**Manisa**	**1.23**	**95**	*i*	P	**Pb**	03 53 39.6	-0.2	
MANT				*i*	S	**Sg**	03 53 56.6	-0.1	
BALY	**Balya**	**1.24**	**23**	*i*	P	**Pb**	03 53 39.5	-0.3	
BALY				*i*	S	**Sg**	03 53 56.8	-0.1	
BALY	**Balya**	**1.24**	**23**	*i*	P	**Pb**	03 53 39.5	-0.3	
BALY				*i*	S	**Sg**	03 53 56.8	-0.1	
BALB	**Balikesir**	**1.25**	**33**	*e*	PN	**Pb**	03 53 39.5	-0.4	
BALB	**Balikesir**	**1.25**	**33**	*e*	Pn	**Pb**	03 53 39.5	-0.4	
KULA	**Kula-Manisa**	**1.31**	**93**	*e*	PN	**Pn**	03 53 40.2	-0.2	
KULA	**Kula-Manisa**	**1.31**	**93**	*e*	Pn	**Pn**	03 53 40.2	-0.2	
EZN	**Ezine**	**1.33**	**337**	*e*	PN	**Pn**	03 53 40.5	-0.1	
EZN	**Ezine**	**1.33**	**337**	*e*	Pn	**Pn**	03 53 40.5	-0.1	
BOZC	**Bozcaada**	**1.44**	**330**	*i*	P	**Pb**	03 53 42.5	-0.6	
BOZC				*i*	S	**Sb**	03 54 01.4	+0.2	
DURS	**Dursunbey**	**1.52**	**49**	*i*	P	**Pn**	03 53 43.4	0.0	
DURS				*i*	S	**Sb**	03 54 03.4	-0.4	
DURS	**Dursunbey**	**1.52**	**49**	*i*	P	**Pn**	03 53 43.4	0.0	
DURS				*i*	S	**Sb**	03 54 03.4	-0.4	
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*	PN	**Pn**	03 53 43.2	-0.3	
GONE	**Gonen-Balikesi**	**1.54**	**20**	*e*	Pn	**Pn**	03 53 43.2	-0.3	
BDRM	**Kayabasi**	**1.57**	**167**	*i*	P	**Pn**	03 53 44.2	+0.2	
BDRM				*i*	S	**Sg**	03 54 07.6	0.0	
BDRM	**Kayabasi**	**1.57**	**167**	*i*	P	**Pn**	03 53 44.2	+0.2	
BDRM				*i*	S	**Sg**	03 54 07.6	0.0	
DST	**Dursunbey**	**1.61**	**51**	*e*	PN	**Pn**	03 53 44.7	+0.1	
DST	**Dursunbey**	**1.61**	**51**	*e*	Pn	**Pn**	03 53 44.7	+0.1	
LPK	**Lapseki**	**1.78**	**354**	*e*	PN	**Pn**	03 53 47.0	+0.3	
LPK	**Lapseki**	**1.78**	**354**	*e*	Pn	**Pn**	03 53 47.0	+0.3	
YER	**Yerkesik**	**1.79**	**145**	*e*	PN	**Pb**	03 53 47.8	-1.3	
YER	**Yerkesik**	**1.79**	**145**	*e*	Pn	**Pb**	03 53 47.8	-1.3	
KRBG	**Karabiga-Canak**	**1.81**	**7**	*e*	PN	**Pn**	03 53 46.9	-0.2	
KRBG	**Karabiga-Canak**	**1.81**	**7**	*e*	Pn	**Pn**	03 53 46.9	-0.2	
GELI	**Tayfur-Gelibol**	**1.84**	**348**	*e*	PN	**Pn**	03 53 47.9	+0.3	
GELI	**Tayfur-Gelibol**	**1.84**	**348**	*e*	Pn	**Pn**	03 53 47.9	+0.3	
EDC	**Edincik**	**1.87**	**21**	*e*	PN	**Pn**	03 53 48.0	0.0	
EDC	**Edincik**	**1.87**	**21**	*e*	Pn	**Pn**	03 53 48.0	0.0	
BNT	**Bandirma**	**1.89**	**22**	*e*	PN	**Pn**	03 53 48.7	+0.3	
BNT	**Bandirma**	**1.89**	**22**	*e*	Pn	**Pn**	03 53 48.7	+0.3	
APE	**Apeiranthos**	**1.92**	**216**	*e*	PN	**Pn**	03 53 48.2	+0.5	
APE	**Apeiranthos**	**1.92**	**218**		P	**Pn**	03 53 48.9	+0.2	
APE					S	**Sb**	03 54 14.2	-0.8	
APE	**Apeiranthos**	**1.92**	**218**	*e*	PB	**Pn**	03 53 49.8	+1.1	
APE	**Apeiranthos**	**1.92**	**218**		P	**Pn**	03 53 48.9	+0.2	
APE	**Apeiranthos**	**1.92**	**218**	*e*	Pn	**Pn**	03 53 49.2	+0.5	
APE	**Apeiranthos**	**1.92**	**218**	*e*	Pb	**Pn**	03 53 49.8	+1.1	
APE					S	**Sb**	03 54 14.2	-0.8	
KCTX	**Karacabey (Bur**	**1.97**	**32**	*e*	PN	**Pn**	03 53 49.1	-0.3	
KCTX	**Karacabey (Bur**	**1.97**	**32**	*e*	Pn	**Pn**	03 53 49.1	-0.3	
KHAL	**Karahalli**	**1.97**	**96**	*i*	P	**Pn**	03 53 50.2	+0.6	
KHAL				*i*	S	**Sg**	03 54 19.2	-1.2	
KHAL	**Karahalli**	**1.97**	**96**	*i*	P	**Pn**	03 53 50.2	+0.6	
KHL	**Karahalli**	**2.00**	**97**	*e*	PN	**Pn**	03 53 51.1	+1.1	
KHL	**Karahalli**	**2.00**	**97**	*e*	Pn	**Pn**	03 53 51.1	+1.1	
ORLT	**Orhaneli**	**2.06**	**45**	*e*	PN	**Pn**	03 53 51.6	+0.9	
ORLT	**Orhaneli**	**2.06**	**45**	*e*	Pn	**Pn**	03 53 51.6	+0.9	
RKY	**Sarkoy-Tekirda**	**2.09**	**4**	*e*	PN	**Pn**	03 53 51.1	0.0	
RKY	**Sarkoy-Tekirda**	**2.09**	**4**	*e*	Pn	**Pn**	03 53 51.1	0.0	
ERIK	**Erikli-Kesan**	**2.10**	**350**	*e*	PN	**Pn**	03 53 51.5	+0.3	
ERIK	**Erikli-Kesan**	**2.10**	**350**	*e*	Pn	**Pn**	03 53 51.5	+0.3	
MFT	**Murefte**	**2.19**	**6**	*e*	PN	**Pn**	03 53 53.4	+0.8	
MFT	**Murefte**	**2.19**	**6**	*e*	Pn	**Pn**	03 53 53.4	+0.8	
ENEZ	**Enez**	**2.23**	**343**	*e*	PN	**Pn**	03 53 53.0	+0.1	
ENEZ	**Enez**	**2.23**	**343**	*e*	Pn	**Pn**	03 53 53.1	+0.1	
MDNY	**Mudanya-Bursa**	**2.29**	**39**	*e*	PN	**Pn**	03 53 54.5	+0.7	
MDNY	**Mudanya-Bursa**	**2.29**	**39**	*e*	Pn	**Pn**	03 53 54.5	+0.7	
ALN	**Alexandroupoli**	**2.41**	**343**	*e*	PN	**Pn**	03 53 56.3	+0.9	
ALN	**Alexandroupoli**	**2.41**	**343**	*e*	Pn	**Pn**	03 53 56.3	+0.9	
ARMT	**Armutlu**	**2.44**	**36**	*e*	PN	**Pn**	03 53 56.6	+0.8	
ARMT	**Armutlu**	**2.44**	**36**	*e*	Pn	**Pn**	03 53 56.6	+0.8	
ALT	**Altintas**	**2.48**	**78**	*e*	PN	**Pn**	03 53 56.8	+0.4	
ALT	**Altintas**	**2.48**	**78**	*e*	Pn	**Pn**	03 53 56.8	+0.4	
CRLT	**Corlu**	**2.59**	**13**	*e*	PN	**Pn**	03 53 58.2	+0.3	
CRLT	**Corlu**	**2.59**	**13**	*e*	Pn	**Pn**	03 53 58.2	+0.3	
YLV	**Yalova**	**2.69**	**42**	*e*	PN	**Pn**	03 54 00.5	+1.2	
YLV	**Yalova**	**2.69**	**42**	*e*	Pn	**Pn**	03 54 00.5	+1.2	
SLVT	**Silivri**	**2.79**	**19**	*e*	PN	**Pn**	03 54 01.4	+0.8	
SLVT	**Silivri**	**2.79**	**19**	*e*	Pn	**Pn**	03 54 01.4	+0.8	
SHUT	**Suhut-Afyon**	**2.79**	**90**	*e*	PN	**Pn**	03 54 01.1	+0.3	
SHUT	**Suhut-Afyon**	**2.79**	**90**	*e*	Pn	**Pn**	03 54 01.1	+0.3	
ADVT	**Abdulvahap**	**2.80**	**48**	*e*	PN	**Pn**	03 54 02.2	+1.4	
ADVT	**Abdulvahap**	**2.80**	**48**	*e*	Pn	**Pn**	03 54 02.2	+1.4	
CTKS	**Kestanelik-??a**	**2.88**	**23**	*e*	PN	**Pn**	03 54 02.5	+0.6	
CTKS	**Kestanelik-??a**	**2.88**	**23**	*e*	Pn	**Pn**	03 54 02.5	+0.6	
BGKT	**Bogazkoy**	**2.92**	**27**	*e*	PN	**Pn**	03 54 03.3	+0.9	
BGKT	**Bogazkoy**	**2.92**	**27**	*e*	Pn	**Pn**	03 54 03.3	+0.9	
ISK	**Istanbul-Kandi**	**2.93**	**32**	*e*	PN	**Pn**	03 54 03.8	+1.2	
ISK	**Istanbul-Kandi**	**2.93**	**32**	*e*	Pn	**Pn**	03 54 03.8	+1.2	
ELL	**Elmali**	**2.96**	**128**	*e*	PN	**Pn**	03 54 04.1	+0.9	
ELL	**Elmali**	**2.96**	**128**	*e*	Pn	**Pn**	03 54 04.1	+0.9	
HRT	**Hereke**	**3.03**	**42**	*e*	PN	**Pn**	03 54 05.7	+1.7	
HRT	**Hereke**	**3.03**	**42**	*e*	Pn	**Pn**	03 54 05.7	+1.7	
GPA	**Golpazari**	**3.07**	**56**	*e*	PN	**Pn**	03 54 04.8	+0.2	
GPA	**Golpazari**	**3.07**	**56**	*e*	Pn	**Pn**	03 54 04.8	+0.2	
ESKT	**Eskisehir**	**3.14**	**72**	*e*	PN	**Pn**	03 54 06.3	+0.7	
ESKT	**Eskisehir**	**3.14**	**72**	*e*	Pn	**Pn**	03 54 06.3	+0.7	

IDC 25 04:24:40.8±4.2, 5°58S×152°27E, **h0**km, **mb3.3**/2, **mb1 3.6**/2, **mb1mx3.2**/16, **mbtmp3.3**/2, **Error ellipse: s-maj=208.2km s-min=48.0km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**22.53**	**229**	P	P	04 29	42.6	0.0
	0.5nm,0.8s,baz=53,slow=10,SNR=5.3							
ASAR	**Alice Springs**	**25.22**	**223**	P	P	04 30	08.6	-0.1
	0.7nm,0.7s,baz=60,slow=9.1,SNR=10							
TORD	**Torodi Ar. Bea**	**150.03**	**287**	PKPbc	PKPbc	04 44	34.2	-0.3
	0.4nm,0.9s,baz=93,slow=1.7,SNR=3.3							

*IDC **25** 04:31:05.7±6.5, 24°.86N×124°.65E, h143km±40km, mb3.3/5, mb1 3.4/7, mb1mx3.1/24, mbtmp3.3/7, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=90.4km s-min=34.1km az=9.0*

*ISCJB **25** 04:31:08.9±0.5, 25°.6N±0°.1×124°.65E±0°.09, h147km±11km, mb3.5/5, Error ellipse: s-maj=24.4km s-min=5.7km az=148.3*

*JMA **25** 04:31:10.7±0.2, 25°.64N×124°.56E, h129km, M3.3*

ISC 25 04:31:09.8±0.8, **25°.6N±0°.2×124°.7E±0°.1, h147**km±15km, **n20**, σ1**8**08/31, **mb3.6**/5, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JTJ	**Tarama**	**0.91**	**180**	P	**Pn**	04 31	33.8	+0.2
JTJ				S	**Sn**	04 31	50.9	-0.8
JMJ	**Miyako jima 2**	**0.91**	**144**	P	**Pn**	04 31	34.4	+0.8
JMJ				S	**Sn**	04 31	52.0	+0.3
JOGS	**Gusukube**	**1.02**	**141**	P	**Pn**	04 31	35.6	+1.1
JOGS				S	**Sn**	04 31	53.8	+0.5
JIJ	**Ishigaki jima**	**1.29**	**203**	P	**Pn**	04 31	36.6	-0.4
JIJ				S	**Sn**	04 31	55.6	-2.2
JKRS	**Kuro-shima**	**1.46**	**206**	P	**Pn**	04 31	38.5	-0.2
JKRS				S	**Sn**	04 31	59.5	-1.3
IRIF	**Iriomote-Funau**	**1.50**	**216**	P	**Pn**	04 31	38.7	-0.5
IRIF				S	**Sn**	04 32	00.2	-1.4
HATJ	**Hateruma jima**	**1.70**	**209**	P	**Pn**	04 31	41.2	-0.1
HATJ				S	**Sn**	04 32	04.6	-0.9
YOJ	**Yonaguni jima**	**1.88**	**235**	P	**Pn**	04 31	43.5	+0.1
YOJ				S	**Sn**	04 32	08.9	-0.2
JKE	**Kume jima 2**	**2.03**	**67**	P	**Pn**	04 31	45.8	+0.7
JKE				S	**Sn**	04 32	12.8	+0.6
JAGN	**Aguni-jima**	**2.51**	**65**	P	**Pn**	04 31	51.4	+0.6
JAGN				S	**Sn**	04 32	22.0	-0.5
JOW	**Kunigami**	**3.45**	**68**	P	**Pn**	04 32	03.0	+0.1
	6.6nm,0.3s,baz=134,slow=26,SNR=21							
JOW				S	**Sn**	04 32	41.1	-2.9
	10.0nm,0.3s,baz=132,slow=26,SNR=13							
JOW	**Kunigami**	**3.45**	**68**	P	**Pn**	04 32	03.0	+0.1
JOW				S	**Sn**	04 32	41.2	-2.8
JTK	**Tokunoshima**	**4.40**	**59**	P	**Pn**	04 32	14.6	-0.7
KSRS	**Korea Array**	**12.17**	**12**	P	**P**	04 34	05.0	+0.3
	0.3nm,0.3s,baz=200,slow=11,SNR=8.6							
MJAR	**Matsushiro Arr**	**15.92**	**43**	LR	LR	04 42	09.1	
	comp=Z,35nm,18.1s,baz=80,slow=40							
SONM	**Songino Array**	**26.51**	**332**	P	**P**	04 36	33.5	-0.1
	0.2nm,0.3s,baz=150,slow=9.7,SNR=4.3							
MKAR	**Makanchi Array**	**39.65**	**313**	P	**P**	04 38	27.3	+0.1
	1.2nm,0.5s,baz=98,slow=10,SNR=18							
BVAR	**Borovoye Array**	**48.68**	**319**	P	**P**	04 39	39.6	+0.6
	0.4nm,0.3s,baz=102,slow=9.0,SNR=2.6							
FINES	**FINESS Array B**	**71.87**	**330**	P	**P**	04 42	16.7	+0.4
	2.7nm,0.9s,baz=68,slow=4.8,SNR=4.5							
YKA	**Yellowknife Ar**	**80.45**	**24**	P	**P**	04 43	04.7	-0.2
	0.2nm,0.6s,baz=309,slow=5.2,SNR=6.1							

*CASC **25** 04:34:09.4±1.5, 10°.34N×86°.32W, h0km±6km, MD4.3, mb4.5(NEIC)*

*NEIC **25** 04:34:14.9±1.0, 10°.52N×85°.99W, h49km±9km, mb4.5/32, Error ellipse: s-maj=13.9km s-min=7.0km az=48.0*

NEIC Felt at Belen.

*BJI **25** 04:34:14.0, 10°.50N×86°.00W, h53km, mB5.4/1, Ms4.9/2, Ms7 4.7/2*

*IDC **25** 04:34:14.6±2.4, 11°.12N×85°.58W, h26km±19km, mb3.9/9, mb1 4.2/10, mb1mx3.9/23, mbtmp3.9/10, ML3.3/1, MS3.8/4, Ms1 3.7/4, ms1mx3.3/31, Error ellipse: s-maj=44.7km s-min=17.3km az=52.0*

ISC 25 04:34:08.4±1.6, **10°.32N**±0°.06×**86°.35W**±0°.05, **h3**km±9km, **n169**, σ1**8**21/169, **mb4.3**/46, **MS4.4**/5, **40C-32D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
NY14	**Universidad de**	**0.87**	**68**	*i*	P	**Pb**	04 34	26.6	+0.5
NY14				*i*	S	**Sn**	04 34	40.0	-0.7
GBS3	**Finca Las Im˜¡**	**0.99**	**63**	*i*	P	**Pg**	04 34	28.0	+0.5
GBS3				*i*	S	**Sb**	04 34	42.0	+0.2
LAPC	**Finca la Perla**	**1.01**	**64**	*i*	P	**Pg**	04 34	28.1	+0.4
GBS2	**Las Lilas**	**1.02**	**60**	*i*	P	**Pg**	04 34	28.5	+0.5
GB1A	**Borinquen Arri**	**1.06**	**62**	*i*	P	**Pg**	04 34	29.0	+0.3
GPS3	**Bodega del ICE**	**1.06**	**66**	*i*	P	**Pb**	04 34	30.1	+0.6
GPS3				*i*	S	**Sb**	04 34	44.8	+1.0
GPS2	**Hotel Rinc˜‡n**	**1.07**	**66**	*i*	P	**Pg**	04 34	29.4	+0.4
GPS1	**Guardaparques**	**1.08**	**65**	*i*	P	**Pg**	04 34	29.1	-0.1
LIM1	**Limonal**	**1.15**	**71**	*i*	P	**Pg**	04 34	30.5	+0.2
COLC	**Colonia**	**1.18**	**73**	*i*	P	**Pb**	04 34	31.6	+0.1
COLC				*i*	S	**Sn**	04 34	48.3	-0.1
MESS	**Mesas**	**1.21**	**70**	*i*	P	**Pg**	04 34	31.9	+0.2
CUI	**Cuipilapa**	**1.22**	**74**	*i*	P	**Pb**	04 34	32.2	+0.2
JCR	**Jicaral**	**1.31**	**111**	*e*	P	**Pg**	04 34	33.0	-0.5
JCR				*e*	S	Sn	04 34	59.1	+7.5
AMAS	**Alto Masis**	**1.37**	**78**	*i*	P	**Pg**	04 34	34.0	-0.6
JTS	**JuntasAbangare**	**1.38**	**91**	P	g	**Pg**	04 34	33.7	-1.1
	14nm,0.3s,baz=295,slow=14,SNR=75							
JTS				L	g	Lg	04 34	54.8	
	95nm,0.3s,baz=300,slow=20,SNR=8.9							
JTS	**JuntasAbangare**	**1.38**	**91**	*e*	Pn	**Pg**	04 34	33.8	-1.1
JTS				L	g	Lg	04 34	54.8	
CHPA	**Chiripa**	**1.43**	**85**	*i*	P	**Pn**	04 34	35.8	+0.6
LAJ	**Bijagual**	**2.24**	**102**	*e*	P	Pn	04 34	42.3	-4.3
SJS	**Escuela Geolog**	**2.29**	**99**	*e*	P	**Pn**	04 34	47.8	+0.5
URSC	**Ursasca**	**2.58**	**101**	*e*	P	**Pn**	04 34	52.6	+1.4
BUS	**Buena Vista**	**2.67**	**106**	*e*	P	**Pn**	04 34	54.3	+1.7
CNCH	**Conchagua**	**3.27**	**334**	*e*	P	**Pn**	04 35	02.5	+1.8
BLLM	**Bellamira**	**3.61**	**329**	*e*	P	**Pn**	04 35	07.5	+2.2
VSM	**San Miguel**	**3.62**	**329**	*e*	P	**Pn**	04 35	07.7	+2.2
TGUH	**Tegucigalpa,Un**	**3.82**	**346**	*e*	Pn	**Pn**	04 35	09.4	+1.3
CAHU	**Cacacuatique**	**3.88**	**332**	*e*	P	**Pn**	04 35	11.5	+2.3
LFRS	**El Faro**	**4.22**	**321**	*e*	P	**Pn**	04 35	15.2	+1.5
LFRS				*e*	S	**Sn**	04 35	59.5	-4.1
BCIP	**Isla Barro Col**	**6.52**	**100**	*e*	Pn	**Pn**	04 35	44.7	-0.7
CMIG	**Matias Romero**	**10.67**	**310**	Pn	Pn	04 36	46.1	+3.8
	0.2nm,0.3s,baz=135,slow=11,SNR=8.8							
CMIG	**Matias Romero**	**10.67**	**310**	Pn	Pn	04 36	46.1	+3.8
ATAH	**Atahualpa**	**19.07**	**155**	LR	LR	04 44	58.8	
	comp=Z,210nm,20.9s,baz=161,slow=33							
HKT	**Hockley**	**21.44**	**337**	*e*	P	**P**	04 38	58.9	+1.1
	47nm,1.8s							
LRAL	**Lakeview Retre**	**22.61**	**359**	*e*	P	**P**	04 39	10.7	+0.3
	14nm,0.8s							
NATX	**Nacogdoches**	**22.68**	**341**	*e*	P	**P**	04 39	13.0	+2.0
	23nm,0.8s							
JCT	**Junction City**	**23.64**	**330**	*e*	P	**P**	04 39	21.9	+0.9
	7.7nm,0.9s							
OXF	**Oxford**	**24.24**	**354**	*e*	P	**P**	04 39	24.9	-1.7
	36nm,1.0s							
628A	**Black Gap, Mar**	**24.54**	**323**	⇓	P	**P**	04 39	30.6	+1.1
	baz=25								
PLAL	**Pickwick Lake**	**24.60**	**357**	*e*	P	**P**	04 39	29.9	0.0
	13nm,0.8s								
SWET	**Sewanee**	**24.78**	**1**	*e*	P	**P**	04 39	30.8	-0.8
	15nm,0.8s								
627A	**Terlingua Ranc**	**24.82**	**322**	⇓	P	**P**	04 39	33.1	+1.0
	baz=25								
TXAR	**Lajitas Array**	**24.90**	**322**	P	P	**P**	04 39	34.6	+1.9
	3.2nm,0.6s,baz=136,slow=10,SNR=37								
TXAR					PcP	**PcP**	04 43	11.0	+2.3
	0.8nm,0.8s,baz=141,slow=4.8,SNR=5.8								
TXAR	**Lajitas Array**	**24.90**	**322**	P	P	**P**	04 39	34.6	+1.9
TXAR					PcP	**PcP**	04 43	11.0	+2.3
UALR	**University of**	**24.95**	**348**	*e*	P	**P**	04 39	32.4	-0.6
	15nm,0.8s								
528A	**Cox Ranch, San**	**24.99**	**325**	⇓	P	**P**	04 39	34.4	+0.8
	baz=25,SNR=5.1								
CPCT	**Cooper Cave**	**25.07**	**4**	*e*	P	**P**	04 39	34.0	-0.1
TKL	**Tuckaleechee C**	**25.33**	**5**	P	P	**P**	04 39	35.4	-1.1
	6.7nm,0.7s,baz=183,slow=15,SNR=10								
TKL					LR	LR	04 49	19.2	
	comp=Z,92nm,20.4s,baz=224,slow=37								
TKL	**Tuckaleechee C**	**25.33**	**5**	*e*	P	**P**	04 39	35.7	-0.8
626A	**Big Bend Ranch**	**25.34**	**322**	⇑	P	**P**	04 39	38.6	+1.8
	baz=26								
428A	**Kincaid Ranch,**	**25.36**	**326**	⇑	P	**P**	04 39	38.5	+1.6
	baz=26								
527A	**Woodward Ranch**	**25.45**	**323**	⇑	P	**P**	04 39	39.2	+1.4
	baz=26								
WVT	**Waverly**	**25.73**	**357**	*e*	P	**P**	04 39	38.2	-1.9
	2.7nm,0.7s								
426A	**McDonald Obser**	**26.08**	**323**	⇑	P	**P**	04 39	45.4	+1.8
	baz=26								
WMOK	**Wichita Mounta**	**26.83**	**337**	*e*	P	**P**	04 39	52.3	+2.2
	13nm,0.8s								
TUL1	**Tulsa**	**26.88**	**343**	⇓	P	**P**	04 39	49.3	-1.3
	baz=27								
SIUC	**Southern Illin**	**27.40**	**355**	*e*	P	**P**	04 39	54.1	-1.0
	14nm,0.7s								
324A	**Moseley Ranch,**	**27.50**	**323**	⇑	P	**P**	04 39	56.7	+0.4
	baz=28								
MNTX	**Cornudas Mount**	**27.62**	**323**	*e*	P	**P**	04 39	58.7	+1.4
	3.4nm,1.3s								
Z27A	**Tatum**	**27.64**	**328**	⇑	P	**P**	04 39	56.9	-0.7
	baz=28								
WCI	**Wyandotte Cave**	**27.79**	**0**	*e*	P	**P**	04 39	56.6	-2.1
	17nm,0.9s								
MSTX	**Muleshoe**	**27.94**	**330**	⇓	P	**P**	04 40	00.7	+0.5
	baz=28								
Y27A	**Causey**	**28.07**	**329**	⇓	P	**P**	04 40	01.7	+0.4
	baz=28,SNR=5.6								
AMTX	**Amarillo**	**28.17**	**333**	*e*	P	**P**	04 40	02.1	-0.1
	5.9nm,0.8s								
124A	**Stringfield Ra**	**28.39**	**325**	⇑	P	**P**	04 40	05.9	+1.5
	baz=28								
Y25A	**Mesa, Roswell**	**28.89**	**327**	⇑	P	**P**	04 40	10.0	+1.3
	baz=29								
Y24A	**Capitan**	**29.29**	**326**	⇑	P	**P**	04 40	13.7	+1.3
	baz=29								
Y23A	**Lovelace Mesa,**	**29.64**	**325**	⇑	P	**P**	04 40	16.8	+1.4
	baz=30,SNR=5.9								
ACSO	**Alum Creek Sta**	**29.94**	**5**	*e*	P	**P**	04 40	16.6	-1.2
	14nm,0.7s								
Y22A	**Socorro**	**30.16**	**324**	⇑	P	**P**	04 40	21.8	+1.8
	baz=30								
HDIL	**Hopedale**	**30.23**	**356**	*e*	P	**P**	04 40	18.7	-1.6
	18nm,0.8s								
ANMO	**Albuquerque**	**30.62**	**326**	P	P	**P**	04 40	26.9	+2.8
	1.8nm,0.7s,baz=134,slow=5.4,SNR=11								
ANMO	**Albuquerque**	**30.62**	**326**	*e*	P	**P**	04 40	26.0	+2.0
	2.9nm,0.9s								
U23A	**El Rito**	**31.52**	**328**	⇑	P	**P**	04 40	33.0	+1.0
	baz=32,SNR=9.1								
S25A	**Robets Cordova**	**31.71**	**332**	⇑	P	**P**	04 40	33.5	-0.2
	baz=32								
LPAZ	**La Paz**	**32.00**	**145**	*e*	P	**P**	04 40	36.9	0.0
	4.8nm,1.4s								
SDCO	**Great Sand Dun**	**32.28**	**331**	*e*	P	**P**	04 40	40.7	+1.8
	31nm,1.8s								
SDCO	**Great Sand Dun**	**32.28**	**331**	⇓	P	**P**	04 40	40.2	+1.3
	baz=32,SNR=5.2								
SDCO				⇓	P	**P**	04 40	40.2	+1.3
	baz=32,SNR=5.2								
R23A	**Moffat**	**32.79**	**331**	⇑	P	**P**	04 40	44.4	+1.1
	baz=33								
R22A	**Saguache, Gunn**	**33.27**	**330**	⇑	P	**P**	04 40	48.7	+1.2
	baz=33								
S21A	**Coal Bank Pass**	**33.36**	**328**	⇓	P	**P**	04 40	49.7	+1.4
	baz=34								
Q22A	**Crested Butte,**	**33.84**	**331**	⇑	P	**P**	04 40	53.6	+1.1
	baz=34								
T18A	**Mexican Hat**	**34.10**	**325**	⇑	P	**P**	04 40	56.2	+1.7
	baz=34								
S19A	**Harvey Farm, M**	**34.14**	**327**	⇑	P	**P**	04 40	55.7	+0.8
	baz=34								
S18A	**Hurst Farm, Bl**	**34.56**	**326**	⇓	P	**P**	04 41	00.1	+1.4
	baz=35								
O22A	**Kremmling**	**34.70**	**332**	⇓	P	**P**	04 41	00.4	+0.5
	baz=35								
R17A	**Hanksville Air**	**35.48**	**326**	⇑	P	**P**	04 41	07.9	+1.4
	baz=36								
O20A	**White River Ci**	**35.48**	**330**	⇓	P	**P**	04 41	07.8	+1.3
	baz=36								
SRU	**San Rafael**	**35.88**	**327**	*e*	P	**P**	04 41	11.8	+1.9
	3.4nm,0.9s								
SRU	**San R

LON	Longmire	47.12	327	*e*P		P	04 42 42.5	+0.6	
	4.6nm,1.2s								
YKA	Yellowknife Ar	55.94	345	P		P	04 43 45.6	-1.9	
	1.1nm,0.9s,baz=137,slow=7.2,SNR=19								
YKA				PcP		PcP	04 44 45.9	-0.1	
	0.3nm,0.6s,baz=142,slow=4.1,SNR=10								
YKA	Yellowknife Ar	55.94	345	P		P	04 43 45.6	-1.9	
YKA				PcP		PcP	04 44 46.0	-0.1	
ILAR	Eielson Array	68.39	336	P		P	04 45 09.9	-1.2	
	1.1nm,0.9s,baz=109,slow=4.8,SNR=8.0								
ILAR	Eielson Array	68.39	336	P		P	04 45 09.9	-1.2	
GERES	GERESS Array B	88.84	41	LR		LR	05 23 46.4		
	comp=Z,145nm,21.1s,baz=163,slow=34								
HHC	Hu-ho-hao-te	126.46	343	*e*PKP		PKPdf	04 53 08.3	-5.2	
HHC				PKS		PKSdf	04 56 43.9	-6.3	
HHC				SKS		SKSdf	05 00 14.6	-12	
HHC				AMB		AMB			
	comp=Z,200nm,8.0s								
HHC				LR		LR			
	comp=N,150nm,21.1s								
HHC				LR		LR			
	comp=E,110nm,20.8s								
HHC				LR		LR			
	comp=Z,160nm,22.0s								
LZH	Lanzhou	132.85	349	*e*PKP		PKPdf	04 53 25.0	-0.8	
LZH				sPKP			04 53 46.8		
LZH				LR		LR			
	comp=E,110nm,18.3s								
LZH				LR		LR			
	comp=Z,150nm,20.1s								
CD2	Chengdu	137.87	347	PKP		PKPdf	04 53 33.1	-2.1	
WRA	Warramunga Arr	139.67	251	PKP		PKPdf	04 53 40.6	+2.0	
	comp=Z,0.4nm,0.8s,baz=99,slow=1.8,SNR=2.9								
WRA	Warramunga Arr	139.67	251	PKP		PKPdf	04 53 40.6	+2.0	
CMAR	Chiang Mai Arr	150.93	350	PKPbc		PKPbc	04 54 03.9	+0.3	
	comp=Z,1.1nm,0.6s,baz=334,slow=2.9,SNR=7.9								
CMAR	Chiang Mai Arr	150.93	350	PKPbc		PKPbc	04 54 03.9	+0.3	

TIR ***25*** *04:35:14.6±1.1, 41.83N×19.82E, h28km±7km, ML3.0*
CSEM ***25*** *04:35:15.3±0.2, 41.82N×19.81E, h10km, ML3.0, Error ellipse: s-maj=4.5km s-min=2.9km az=47.0*
BEO ***25*** *04:35:15.8±0.3, 41.86N×20.03E, h0km, ML2.7/7*
THE ***25*** *04:35:15.7±0.2, 41.84N×19.82E, h14km, MD2.9/3, ML2.8/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
ISCJB ***25*** *04:35:16.4±0.4, 41.80N±0.02×19.81E±0.03, h15km±5km, Error ellipse: s-maj=4.4km s-min=2.9km az=42.4*

ISC 25 04:35:15.8±0.9, 41.82N±0.02×19.81E±0.02, h17km±7km, n60, σ0.83/113, 14C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUK	Puka	0.23	15	*e*PG		Pg	04 35 21.4	+0.2
PUK				*i* SG		Sb	04 35 26.2	+0.7
PUK	Puka	0.23	15	*e*Pg		Pg	04 35 21.4	+0.2
	SNR=136							
PUK				*i* Sg		Sb	04 35 26.2	+0.7
	SNR=136							
ULC	Ulcinj	0.45	289	⇑ *i*Pg		Pg	04 35 24.2	-0.7
ULC				*e*Sg		Sg	04 35 31.5	+0.5
ULC	Ulcinj	0.45	289	*e*PG		Pg	04 35 24.2	-0.7
ULC				*i* SG		Sg	04 35 31.5	+0.5
ULC	Ulcinj	0.45	289	*e*Pg		Pg	04 35 24.2	-0.7
	SNR=113							
ULC				*i* Sg		Sg	04 35 31.5	+0.5
	SNR=113							
TIR	Tirane	0.47	175	*e*PG		Pg	04 35 24.6	-0.8
TIR				*i* SG		Sb	04 35 33.7	+1.4
TIR	Tirane	0.47	175	P		Pg	04 35 24.9	-0.5
TIR				S		Sb	04 35 33.5	+1.2
TIR	Tirane	0.47	175	⇑ *i*Pg		Pg	04 35 24.5	-0.8
TIR				*e*Sg		Sb	04 35 33.3	+1.0
TIR	Tirane	0.47	175	*e*Pg		Pg	04 35 24.6	-0.8
	SNR=111							
TIR	Tirane	0.47	175	P		Pg	04 35 24.9	-0.5
TIR				*e*Sg		Sb	04 35 33.3	+1.0
PHP	Peshkopia	0.49	106	*e*PG		Pg	04 35 25.0	-0.6
PHP				*i* SG		Sg	04 35 32.9	+0.6
PHP	Peshkopia	0.49	106	P		Pg	04 35 25.1	-0.6
PHP				S		Sg	04 35 32.9	+0.6
PHP	Peshkopia	0.49	106	P		Pg	04 35 25.1	-0.6
PHP				S		Sg	04 35 32.9	+0.6
BCI	Bajram Curri	0.58	19	*e*PG		Pg	04 35 26.5	-0.8
BCI				*i* SG		Sb	04 35 35.9	+0.5
BCI	Bajram Curri	0.58	19	*e*Pg		Pg	04 35 26.5	-0.8
	SNR=107							
BCI				*i* Sg		Sb	04 35 35.9	+0.5
	SNR=107							
TTG	Podgorica	0.73	326	⇓ *i*Pg		Pb	04 35 29.2	-0.8
TTG				*e*Sg		Sg	04 35 40.9	+0.9
PDG	Podgorica	0.74	326	*e*PG		Pb	04 35 29.4	-0.7
PDG				*i* SG		Sg	04 35 40.9	+0.9
PDG	Podgorica	0.74	326	⇑ *i*Pg		Pb	04 35 29.3	-0.9
PDG				*e*Sg		Sn	04 35 41.5	-0.7
PDG	Podgorica	0.74	326	*e*Pg		Pb	04 35 29.4	-0.7
	SNR=101							
PDG				*i* Sg		Sg	04 35 40.9	+0.9
	SNR=101							
PVY	Plav	0.78	8	⇑ *i*Pg		Pb	04 35 29.9	-1.1
PVY				*e*Sg		Sg	04 35 42.2	+0.7
PVY	Plav	0.78	8	⇑ *i*Pg		Pb	04 35 29.9	-1.1
PVY				*e*Sg		Sg	04 35 42.2	+0.7
BUM	Brajici-Budva	0.83	305	⇑ *i*Pg		Pb	04 35 31.9	0.0
BUM				*e*Sg		Sn	04 35 44.8	+0.1
BUM	Brajici-Budva	0.83	305	⇑ *i*Pg		Pb	04 35 31.9	0.0
BUM				*e*Sg		Sn	04 35 44.8	+0.1
BEY	Berane	1.05	3	⇓ *i*Pg		Pb	04 35 35.0	-0.6
BEY				*e*Sg		Sg	04 35 51.1	+1.0
IVA	Berane	1.05	4	⇓ *i*Pg		Pb	04 35 35.0	-0.6
IVA				*e*Sg		Sg	04 35 51.1	+1.0
HCY	Herceg Novi	1.16	303	⇓ *i*Pg		Pn	04 35 37.5	+0.2
HCY				*e*Sg		Sg	04 35 54.7	+1.2
HCY	Herceg Novi	1.16	303	⇓ *i*Pg		Pn	04 35 37.5	+0.2
HCY				*e*Sg		Sg	04 35 54.7	+1.2
NKY	Niksic	1.16	329	⇑ *i*Pg		Pb	04 35 37.7	+0.2
NKY				*e*Sg		Sg	04 35 54.8	+1.3
NKY	Niksic	1.16	329	⇑ *i*Pg		Pb	04 35 37.7	+0.2
NKY				*e*Sg		Sg	04 35 54.8	+1.3
KRUS	Krusevo	1.17	112	*e*Pg		Pn	04 35 36.3	-1.1
SKO	Skopje	1.23	82	*e*Pg		Pb	04 35 38.7	+0.2
SKO				*e*Sg		Sg	04 35 56.0	+0.5
SKO				*e*Lg		Lg	04 35 57.1	
	92nm,0.3s							
BIA	Bitola	1.39	125	*e*Pg		Pn	04 35 40.1	-0.3
BIA				*e*Sg		Sb	04 36 00.2	+1.4
BRY	Bratogost	1.43	319	⇑ *i*Pg		Pn	04 35 41.7	+0.6
BRY				*e*Sg		Sg	04 36 02.6	+0.4
BRY	Bratogost	1.43	319	⇑ *i*Pg		Pn	04 35 41.7	+0.6
BRY				*e*Sg		Sg	04 36 02.6	+0.4
UPM	Unac-Piva	1.54	334	⇑ *i*Pg		Pb	04 35 44.1	+0.2
UPM				*e*Sg		Sg	04 36 05.6	+0.2
UPM	Unac-Piva	1.54	334	⇑ *i*Pg		Pb	04 35 44.1	+0.2
UPM				*e*Sg		Sg	04 36 05.6	+0.2
PLE	Pljevlja	1.54	348	⇓ *i*Pg		Pn	04 35 43.5	+0.9
PLE				*e*Sg		Sg	04 36 05.5	-0.1
PLE	Pljevlja	1.54	348	⇓ *i*Pg		Pn	04 35 43.5	+0.9
PLE				*e*Sg		Sg	04 36 05.5	-0.1
NEST	Nestorio	1.69	146	P		Pb	04 35 46.5	+0.1
NEST				S		Sg	04 36 10.2	0.0
NEST	Nestorio	1.69	146	P		Pb	04 35 46.5	+0.1
NEST				S		Sg	04 36 10.2	0.0
SELS	Selova	1.70	34	⇑ *i*Pn		Pb	04 35 46.2	-0.4
IVAS	Ivanjica	1.77	8	*e*Pn		Pb	04 35 47.1	-0.8
IVAS				*e*Sg		Sb	04 36 11.1	+1.3
IVAS	Ivanjica	1.77	8	*e*Pn		Pb	04 35 47.1	-0.8
IVAS				*e*Sg		Sb	04 36 11.1	+1.3
STON	Ston	1.88	305	*e*Pn		Pn	04 35 47.2	+0.1
STON				Sn		Sn	04 36 11.6	+1.1
STON	Ston	1.88	305	*e*Pn		Pn	04 35 47.2	+0.1
STON				Sn		Sn	04 36 11.6	+1.1
VAY	Valandovo	2.13	103	*e*Pn		Pn	04 35 52.4	+1.9
VAY				*e*Sn		Sb	04 36 19.0	-1.0
VAY				*e*Lg		Lg	04 36 21.4	
	29nm,0.7s							
GRUS	Gruza	2.17	18	⇓ *i*Pn		Pn	04 35 52.0	+0.9
GRUS				*e*Sg		Sb	04 36 21.8	+0.6
GRUS	Gruza	2.17	18	⇓ *i*Pn		Pn	04 35 52.0	+0.9
GRUS				*e*Sg		Sb	04 36 21.8	+0.6
DIVS	Divibare	2.28	3	P		Pn	04 35 53.7	+1.0
DIVS	Divibare	2.28	3	⇓ *i*Pn		Pn	04 35 53.7	+1.0
DIVS				*e*Sn		Sb	04 36 23.1	-1.4
DIVS	Divibare	2.28	3	P		Pn	04 35 53.7	+1.0
DIVS				*e*Sn		Sb	04 36 23.1	-1.4
TRUS	Trudelj	2.44	10	⇓ *i*Pn		Pn	04 35 55.1	+0.3
TRUS				*e*Sn		Sn	04 36 26.2	+1.9
TRUS	Trudelj	2.44	10	⇓ *i*Pn		Pn	04 35 55.1	+0.3
TRUS				*e*Sn		Sn	04 36 26.2	+1.9
ZAPS	Zavoj	2.54	54	*e*Pn		Pn	04 35 55.2	-1.1
ZAPS				*e*Sg		Sb	04 36 31.2	-0.7
ZAPS	Zavoj	2.54	54	*e*Pn		Pn	04 35 55.2	-1.1
BOLS	Boljevac	2.55	37	*e*Pn		Pn	04 35 56.9	+0.5
BOLS				*e*Sn		Sn	04 36 27.1	+0.1
BOLS	Boljevac	2.55	37	*e*Pn		Pn	04 35 56.9	+0.5
BOLS				*e*Sn		Sn	04 36 27.1	+0.1
SVIS	Svilajnac	2.65	22	*e*Sn		Sn	04 36 30.4	+1.0
NVLJ	Novalja	4.53	309	*i* Pn		Pn	04 36 22.8	-0.7
NVLJ				Sn		Sn	04 37 14.5	-1.4
NVLJ	Novalja	4.53	309	*i* Pn		Pn	04 36 22.8	-0.7
NVLJ				Sn		Sn	04 37 14.4	-1.4

VIE ***25*** *04:48:38.8±1.0, 43.61N×16.75E, h10km, mb2.9/2, ML2.5/4, Error ellipse: s-maj=16.2km s-min=7.4km az=74.0 25 km ENE of Split*
BEO ***25*** *04:48:41.1±1.1, 43.47N×16.72E, h0km, ML2.8/3*

CSEM 25 04:48:38.7±0.4, 43.59N×16.48E, h2km, ML2.8, 1C-4D, Error ellipse: s-maj=13.1km s-min=4.0km az=36.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	Ston	1.14	128	*e*Pg		Pg	04 48 57.1	-3.5
STON				Sg		Sg	04 49 14.6	-0.8
STON	Ston	1.14	128	*e*Pg		Pg	04 48 57.1	-3.5
STON				Sg		Sg	04 49 14.5	-0.8
NVLJ	Novalja	1.52	311	*e*Pn		Pn	04 49 06.4	-0.5
NVLJ				Sn		Sg	04 49 28.8	+1.4
NVLJ	Novalja	1.52	311	*e*Pn		Pn	04 49 06.3	-0.5
NVLJ				Sn		Sg	04 49 28.8	+1.4
SISC	Sisak	1.89	358	*e*Pn		Pn	04 49 11.2	-0.7
SISC	Sisak	1.89	358	*e*Pn		Pn	04 49 11.2	-0.7
PDG	Podgorica	2.34	119	*e*Pn		Pn	04 49 18.4	+0.2
PDG				*e*Sg		Sn	04 49 48.8	+1.3
PDG	Podgorica	2.34	119	*e*Pn		Pn	04 49 18.4	+0.2
PDG				*e*Sg		Sn	04 49 48.8	+1.3
DIVS	Divibare	2.59	77	*e*Pn		Pn	04 49 22.2	+0.4
DIVS				*e*Sn		Sn	04 49 53.7	-0.2
DIVS	Divibare	2.59	77	*e*Pn		Pn	04 49 22.2	+0.4
DIVS				*e*Sn		Sn	04 49 53.7	-0.2
IVAS	Ivanjica	2.67	89	*e*Pn		Pn	04 49 22.2	-0.6
IVAS	Ivanjica	2.67	89	*e*Pn		Pn	04 49 22.2	-0.6
GRUS	Gruza	3.08	83	*e*Pn		Pn	04 49 28.5	+0.1
GRUS	Gruza	3.08	83	*e*Pn		Pn	04 49 28.5	+0.1
OBKA	Obir	3.23	336	⇓ *i*Pn		Pn	04 49 31.1	+0.6
OBKA	Obir	3.23	336	Pn		Pn	04 49 31.1	+0.6
SOKA	Soboth	3.26	342	⇓ *i*Pn		Pn	04 49 30.5	-0.5
SOKA				⇓ *i*Sn		Sn	04 50 09.3	-1.1
SOKA	Soboth	3.26	342	Pn		Pn	04 49 30.5	-0.4
SOKA				Sn		Sn	04 50 09.3	-1.1
ZAPS	Zavoj	4.49	92	*e*Pn		Pn	04 49 48.4	+0.6
ZAPS				*e*Sn		Sn	04 50 36.9	-3.8
MOA	Molln	4.54	341	⇓ *i*Pn		Pn	04 49 48.7	+0.3
MOA				⇓ *i*Sn		Sn	04 50 43.0	+1.2
MOA	Molln	4.54	341	Pn		Pn	04 49 48.7	+0.3
MOA				Sn		Sn	04 50 43.0	+1.2

DJA ***25*** *04:57:40, 1.60S×131.96E, h10km, MLv4.0/4*

IDC 25 04:57:19.1±1.7, 0.38S×133.07E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/18, mbtmp3.9/6, ML3.9/2, MS4.0/2, Ms1 4.0/2, ms1mx2.8/31, Error ellipse: s-maj=66.0km s-min=24.4km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.07	202	P		Pn	05 01 44.0	0.0
	0.2nm,0.3s,baz=22,slow=15,SNR=2.6							
FITZ				LR		LR	05 09 20.2	
	comp=Z,50nm,20.7s,baz=13,slow=38							
WRA	Warramunga Arr	19.48	176	P		P	05 01 47.9	0.0
	0.6nm,0.3s,baz=356,slow=12,SNR=14							
WRA				S		Sn	05 05 17.5	-11
	0.1nm,0.3s,baz=349,slow=24,SNR=4.6							
ASAR	Alice Springs	23.17	178	P		P	05 02 27.6	0.0
	3.9nm,0.6s,baz=355,slow=11,SNR=52							
CTA	Charters Tower	23.46	147	P		P	05 02 31.3	+0.8
	1.5nm,0.5s,baz=323,slow=10,SNR=3.8							
JOW	Kunigami	27.44	351	LR		LR	05 12 17.1	
	comp=Z,3μm,21.9s,baz=252,slow=33							
STKA	Stephens Creek	32.35	166	P		P	05 03 49.4	-1.0
	1.3nm,0.3s,baz=331,slow=8.7,SNR=5.6							
MKAR	Makanchi Array	64.55	324	P		P	05 07 58.2	0.0
	0.2nm,0.5s,baz=113,slow=7.2,SNR=4.5							

IDC 25 05:00:25.6±5.8, 30.05S×177.38W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=236.6km s-min=49.6km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	Stephens Creek	35.08	256	P		P	05 07 21.1	+0.5
	0.5nm,0.4s,baz=114,slow=10.0,SNR=2.9							
ASAR	Alice Springs	43.67	266	P		P	05 08 31.4	-1.0
	0.5nm,0.5s,baz=100,slow=7.3,SNR=6.4							
WRA	Warramunga Arr	44.63	271	P		P	05 08 39.2	-0.9
	0.9nm,0.3s,baz=111,slow=7.8,SNR=5.9							
FINES	FINESS Array B	145.00	341	PKPbc		PKPbc	05 20 02.9	-0.5
	0.9nm,0.4s,baz=63,slow=3.4,SNR=15							

NIED ***25*** *05:13:00, 36.60N×142.20E, h17km, Mw3.6 Best double couple: M0 2.42000×10^14 NP1: φ 22.00000°, δ 77.00000°, λ 67.00000°. NP2: φ 264.00000°, δ 27.00000°, λ 150.00000°.*
JMA ***25*** *05:13:07.0±0.3, 36.65N×142.15E, h19km, M3.8*
IDC ***25*** *05:13:15.2±1.4, 37.11N×140.89E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.6/23, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=32.5km s-min=28.2km az=81.0*

ISC 25 05:13:08.3±2.4, 36.70N±0.08×141.97E±0.09, h3km±12km, n18, σ0.90/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.02	294	P		Pg	05 13 27.9	+0.1
ONAJ				S		Sn	05 13 45.1	+0.7
JFK	Kawauchi	1.10	308	P		Pg	05 13 29.2	-0.2
JFK				S		Sn	05 13 45.9	-0.4
JHO	Hitachi	1.13	266	P		Pg	05 13 29.4	-0.5
JHO				S		Sb	05 13 46.2	+0.7
JMM	Marumori	1.50	322	P		Pn	05 13 34.9	-1.1
JMM				S		Sn	05 13 54.6	-1.4
JFT	Otama	1.54	303	P		Pn	05 13 36.5	-0.1
JFT				S		Sb	05 13 57.6	+0.2
JIO	Ouri	1.82	345	P		Pn	05 13 40.6	+0.1
JIO				S		Sn	05 14 03.8	-0.2
JFY	Yanaizu	1.94	292	P		Pn	05 13 43.1	+0.9
JFY				S		Sb	05 14 10.1	+1.1
JAG	Ashikaga	2.04	263	P		Pn	05 13 42.9	-0.6
JAG				S		Sn	05 14 09.2	-0.3
JMK	Ichinoseki	2.33	345	P		Pn	05 13 47.5	+0.1
MJAR	Matsushiro Arr	3.03	268	Pn		Pn	05 13 56.8	-0.3
	11nm,0.3s,baz=110,slow=33,SNR=1.51							
MJAR				Sn		Sn	05 14 35.6	+1.7
	3.5nm,0.3s,baz=201,slow=30,SNR=4.5							
MAT	Matsushiro	3.03	268	P		Pn	05 13 58.4	+1.3
MAT				*e*S		Sn	05 14 32.0	-1.9
ASAJ	Asahikawa	7.43	4	Pn		Pn	05 14 58.6	+1.2
	0.7nm,0.3s,baz=317,slow=18,SNR=3.4							
SONM	Songino Array	28.34	304	P		P	05 19 03.7	+0.2
	1.7nm,0.8s,baz=106,slow=9.0,SNR=15							
ZALV	Zalesovo Beam	42.47	313	P		P	05 21 04.0	-0.3
	0.4nm,0.3s,baz=101,slow=8.0,SNR=5.2							
MKAR	Makanchi Array	44.67	302	P		P	05 21 21.6	-0.6
	0.5nm,0.7s,baz=88,slow=9.4,SNR=7.3							
KURK	Kurchatov	46.49	308	P		P	05 21 36.1	-0.4
	0.8nm,0.4s,baz=82,slow=7.8,SNR=6.9							
ILAR	Eielson Array	49.54	32	P		P	05 22 08.8	+8.9
	0.4nm,0.7s,baz=267,slow=5.6,SNR=6.1							
ASAR	Alice Springs	60.52	188	P		P	05 23 28.8	+9.1
	0.5nm,1.1s,baz=3.8,slow=5.7,SNR=4.2							

IDC 25 05:15:07.8±4.7, 0.67S×131.17E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML3.6/1, Error ellipse: s-maj=328.1km s-min=26.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	19.41	171	P		P	05 19 36.1	+0.4
	0.2nm,0.3s,baz=352,slow=11,SNR=5.9							
ASAR	Alice Springs	23.02	174	P		P	05 20 14.3	-0.3
	0.8nm,0.9s,baz=354,slow=12,SNR=8.7							
MKAR	Makanchi Array	63.68	325	P		P	05 25 41.1	0.0
	0.1nm,0.5s,baz=108,slow=7.9,SNR=2.7							

ISCJB ***25*** *05:21:34.5±0.4, 46.86N±0.06×155.34E±0.09, h10km, mb4.2/35, MS3.5/3, Error ellipse: s-maj=10.4km s-min=5.6km az=44.4*
IDC ***25*** *05:21:35.2±0.6, 46.90N×155.34E, h0km, mb4.0/20, mb1 4.2/24, mb1mx4.2/29, mbtmp4.1/24, ML3.5/4, MS3.5/3, Ms1 3.5/3, ms1mx2.9/37, Error ellipse: s-maj=18.2km s-min=11.5km az=145.0*
NEIC ***25*** *05:21:36.7±0.4, 46.93N×155.39E, h10km, mb4.7/8, Error ellipse: s-maj=9.6km s-min=5.7km az=145.0*
MOS ***25*** *05:21:38.3±1.3, 46.91N×155.23E, h33km, mb4.4/14, Error ellipse: s-maj=11.4km s-min=8.0km az=89.7*

ISC 25 05:21:36.2±0.6, 46.81N±0.08×155.44E±0.08, h10km, n125, σ1.18/16/125, mb4.3/35, MS3.6/3, 9C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	Severo-Kuril's	3.90	6	*e*PN		Pn	05 22 27.0	-9.2
PEA0B	Petropavlovsk-	6.47	12	*e*Pn		Pn	05 23 10.0	-1.5
PEA0B				*e*Sn		Sn	05 24 28.0	+2.7
PETK	Petropavlovsk-	6.47	12	Pn		Pn	05 23 09.9	-1.6
	2.9nm,0.3s,baz=185,slow=14,SNR=36							
PETK				Sn		Sn	05 24 30.0	+4.7
	baz=161,slow=14,SNR=2.1							
PETK	Petropavlovsk-	6.47	12	PN		Pn	05 23 09.9	-1.6
PETK							05 24 30.0	
PETK	Petropavlovsk-	6.47	12	Pn		Pn	05 23 09.9	-1.6
PETK				Sn		Sn	05 24 30.0	+4.7
PET	Petropavlovsk	6.56	17	*e*PN		Pn	05 23 09.8	-2.8
ASAJ	Asahikawa	9.42	258	Pn		Pn	05 23 51.6	-0.2
	0.6nm,0.3s,baz=120,slow=24,SNR=4.4							
ASAJ	Asahikawa	9.42	258	PN		Pn	05 23 51.7	-0.2
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	Asahikawa	9.42	258	Pn		Pn	05 23 51.6	-0.2
ERM	Erimo	10.01	246	*e*PN		Pn	05 23 58.4	-1.5
FX1	Attu Island--F	12.94	55	Pn		Pn	05 24 38.4	-1.6
	comp=Z,1.3nm,0.3s,baz=220,slow=7.9,SNR=4.5							
FX1				Sn		Sn	05 26 51.5	-12
	comp=Z,1.4nm,0.3s,baz=252,slow=20,SNR=3.7							
FX1	Attu Island--F	12.94	55	PN		Pn	05 24 38.4	-1.6
FX1	Attu Island--F	12.94	55	Pn		Pn	05 24 38.4	-1.6
FX1				Sn		Sn	05 26 51.5	-12
MAJO	Matsushiro	16.43	238	*e*P		Pn	05 25 24.4	-2.3
MJAR	Matsushiro Arr	16.43	238	Pn		Pn	05 25 24.1	-2.6
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=5.2							
MJAR	Matsushiro Arr	16.43	238	P		Pn	05 25 24.2	-2.6
MJAR	Matsushiro Arr	16.43	238	Pn		Pn	05 25 24.1	-2.6
USRK	Ussuriysk Arra	16.62	270	Pn		Pn	05 25 29.1	-0.1
	comp=Z,0.3nm,0.3s,baz=74,slow=12,SNR=6.7							
YAK	Yakutsk	21.16	325	*e*P		P	05 26 19.5	-1.6
YAK				pmax		pmax		
	comp=Z,12nm,0.9s							
BILL	Bilibino	22.00	11	⇓ *i*P		P	05 26 29.8	-0.4
BILL				*i*			05 26 51.0	
BILL				pmax		pmax		
	comp=Z,10.0nm,0.9s							
BILL	Bilibino	22.00	11	*e*P		P	05 26 29.2	-1.0
	comp=Z,7.4nm,0.6s							
KSRS	Korea Array	22.35	255	P		P	05 26 35.5	+1.5
	comp=Z,3.9nm,0.8s,baz=57,slow=9.6,SNR=8.1							
KSRS	Korea Array	22.35	255	P		P	05 26 35.6	+1.5
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KSAR	Wonju Array Be	22.38	255	P		P	05 26 35.6	+1.1
KSAR	Wonju Array Be	22.38	255	P		P	05 26 35.5	+1.1
ULN	Ulaanbaatar	32.38	290	*e*P		P	05 28 05.0	-1.0
SONM	Songino Array	32.82	290	P		P	05 28 08.2	-1.6
	comp=Z,0.4nm,0.5s,baz=65,slow=8.7,SNR=6.5							
SONM	Songino Array	32.82	290	P		P	05 28 08.2	-1.6
SONM	Songino Array	32.82	290	P		P	05 28 08.2	-1.6
KDAK	Kodiak Island	32.82	51	P		P	05 28 09.0	-0.5
	comp=Z,6.0nm,0.9s,baz=278,slow=7.1,SNR=

	comp=Z,6.5nm,0.7s							
ARU	**Arti**	**56.04**	**318**	*c i*	P	**P**	**05 31 14.8**	**0.0**
ARU							05 33 17.5	
ARU					S	**S**	**05 39 05.6**	**+2.7**
ARU					pmax	pmax		
	comp=Z,14nm,1.0s							
ARU	**Arti**	**56.04**	**318**	*e*	P	**P**	**05 31 14.6**	**-0.2**
	comp=Z,9.9nm,0.6s							
KKAR	**Karatay Array**	**57.36**	**300**	*e*	P	**P**	**05 31 24.4**	**0.0**
KKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KKAR	**Karatay Array**	**57.36**	**300**	*e*	P	**P**	**05 31 24.4**	**0.0**
	comp=Z,0.9nm,0.6s							
ARCES	**ARCESS Array B**	**58.31**	**342**		P	**P**	**05 31 30.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=46,slow=7.0,SNR=6.0							
ARCES	**ARCESS Array B**	**58.31**	**342**		P	**P**	**05 31 30.7**	**0.0**
ARCES	**ARCESS Array B**	**58.31**	**342**		P	**P**	**05 31 30.7**	**0.0**
AB31	**Akbulak array**	**59.61**	**311**	*c e*	P	**P**	**05 31 40.0**	**+0.1**
AB31					pmax	pmax		
	comp=Z,4.0nm,0.4s							
ABKAR	**Akbulak array**	**59.61**	**311**	*e*	P	**P**	**05 31 40.1**	**+0.2**
	comp=Z,4,4nm,0.5s							
KLMR	**Klimovskoe**	**60.87**	**330**	*e*	P	**P**	**05 31 46.8**	**-1.6**
KLMR					pmax	pmax		
	comp=Z,30nm,2.3s							
JOF	**Joensuu**	**61.98**	**335**	*e*	P	**P**	**05 31 54.3**	**-1.5**
JOF					pmax	pmax		
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**61.98**	**335**	*e*	p	P	**05 31 54.3**	**-1.5**
	comp=Z,2.6nm,0.6s							
JOF	**Joensuu**	**61.98**	**335**	*e*	p	P	**05 31 54.3**	**-1.5**
	comp=Z,2.6nm,0.6s							
PDAR	**Pinedale Array**	**63.41**	**55**		P	**P**	**05 32 06.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=3.4							
PDAR	**Pinedale Array**	**63.41**	**55**		P	**P**	**05 32 06.0**	**0.0**
KAF	**Kangasniemi**	**64.05**	**336**	*e*	P	P	05 32 13.6	+4.0
KAF					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KAF	**Kangasniemi**	**64.05**	**336**	*e*	p	P	05 32 13.6	+4.0
	comp=Z,2.2nm,0.7s							
KAF	**Kangasniemi**	**64.05**	**336**	*e*	p	P	05 32 13.6	+4.0
	comp=Z,2.2nm,0.7s							
FINES	**FINESS Array B**	**64.66**	**336**		P	**P**	**05 32 13.3**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=33,slow=7.5,SNR=29							
FINES	**FINESS Array B**	**64.66**	**336**		P	**P**	**05 32 13.3**	**-0.3**
FINES	**FINESS Array B**	**64.66**	**336**		P	**P**	**05 32 13.3**	**-0.3**
MOS	**Moscow**	**65.28**	**327**	*e*	P	**P**	**05 32 18.5**	**+0.7**
MOS					*e*		05 34 36.9	
NB2	**NORSAR Subarra**	**68.67**	**342**		P	**P**	**05 32 36.8**	**-2.5**
	comp=Z,14nm,1.4s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.67**	**342**		P	**P**	**05 32 39.4**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=27,slow=6.4,SNR=5.8							
NOA	**NORSAR Array B**	**68.67**	**342**		P	**P**	**05 32 39.4**	**+0.1**
NOA	**NORSAR Array B**	**68.67**	**342**		P	**P**	**05 32 39.4**	**+0.1**
WRA	**Warramunga Arr**	**69.12**	**201**		P	**P**	**05 32 42.9**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=20,slow=6.8,SNR=9.9							
WRA	**Warramunga Arr**	**69.12**	**201**		P	**P**	**05 32 42.9**	**+0.5**
WRA	**Warramunga Arr**	**69.12**	**201**		P	**P**	**05 32 42.9**	**+0.5**
AKASG	**Malin Array Be**	**72.37**	**327**		P	**P**	**05 33 01.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=42,slow=7.8,SNR=4.6							
AKASG	**Malin Array Be**	**72.37**	**327**		P	**P**	**05 33 01.0**	**-1.0**
AKASG	**Malin Array Be**	**72.37**	**327**		P	**P**	**05 33 01.0**	**-1.0**
AS31	**Alice Springs**	**72.80**	**201**	*e*	P	**P**	**05 33 05.4**	**+0.7**
ASAR	**Alice Springs**	**72.80**	**201**		P	**P**	**05 33 06.1**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=216,slow=5.3,SNR=41							
ASAR	**Alice Springs**	**72.80**	**201**		P	**P**	**05 33 06.1**	**+1.3**
ASAR	**Alice Springs**	**72.80**	**201**		P	**P**	**05 33 06.1**	**+1.3**
KWP	**Kalwaria Pacla**	**75.58**	**330**	⇑	P	**P**	**05 33 21.7**	**+0.9**
KWP	**Kalwaria Pacla**	**75.58**	**330**	⇑ *i*	P	**P**	**05 33 21.7**	**+0.9**
TXAR	**Lajitas Array**	**76.06**	**62**		P	**P**	**05 33 25.2**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=302,slow=3.9,SNR=18							
TXAR	**Lajitas Array**	**76.06**	**62**		P	**P**	**05 33 25.2**	**+1.2**
TXAR	**Lajitas Array**	**76.06**	**62**		P	**P**	**05 33 25.2**	**+1.2**
BUR08	**Bucovina Ar. S**	**76.39**	**328**	*e*	P	**P**	**05 33 25.6**	**0.0**
BURAR	**Bucovina Array**	**76.40**	**328**	⇑ *i*	P	**P**	**05 33 24.7**	**-1.0**
TESR		**76.80**	**326**	⇑ *i*	P	**P**	**05 33 28.8**	**+1.0**
MLR	**Muntele Rosu**	**77.92**	**326**	⇓	P	**P**	**05 33 35.4**	**+1.1**
MLR	**Muntele Rosu**	**77.92**	**326**	⇓ *i*	P	**P**	**05 33 35.4**	**+1.1**
DRGR		**78.00**	**329**	⇓	P	**P**	**05 33 34.6**	**0.0**
DRGR		**78.00**	**329**	⇓ *i*	P	**P**	**05 33 34.6**	**0.0**
KHC	**Kasperske Hory**	**78.86**	**336**	*e*	P	**P**	**05 33 39.0**	**-0.3**
KHC	**Kasperske Hory**	**78.86**	**336**	*e*	P	**P**	**05 33 39.0**	**-0.3**
GERES	**GERESS Array B**	**79.09**	**335**		P	**P**	**05 33 40.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=39,slow=6.6,SNR=3.6							
GERES	**GERESS Array B**	**79.09**	**335**		P	**P**	**05 33 40.7**	**+0.1**
GERES	**GERESS Array B**	**79.09**	**335**		P	**P**	**05 33 40.7**	**+0.1**
STKA	**Stephens Creek**	**79.31**	**192**		P	**P**	**05 33 42.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=317,slow=9.5,SNR=3.0							
STKA	**Stephens Creek**	**79.31**	**192**		P	**P**	**05 33 42.1**	**+0.5**
STKA	**Stephens Creek**	**79.31**	**192**		P	**P**	**05 33 42.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**115.84**	**312**		PKP	**PKPdf**	**05 40 19.0**	**-0.3**
	comp=Z,0.2nm,0.9s,baz=20,slow=0.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**115.84**	**331**		PKP	**PKPdf**	**05 40 19.0**	**-0.3**

CSEM ***25*** *05:27:02.5, 35.62N×21.61E, h19km, MD3.5, After ATH*
ATH 25 05:27:02.5, 35.62N×21.61E, h19km±2km, MD3.5/10, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.28**	**5**	*e* PN		Pb	05 27 26.0	0.0
PYL	**PYLOS**	**1.28**	**5**	*e* Pn		Pb	05 27 26.0	0.0
KYTH	**Kithira**	**1.33**	**60**	*e* Pn		Pg	05 27 27.8	-0.5
KYTH	**Kithira**	**1.33**	**60**	*e* Pn		Pg	05 27 27.8	-0.5
VLI	**Veliai**	**1.53**	**44**	*e* PN		Pb	05 27 31.0	+0.7
VLI				*e* SN		Sg	05 27 51.6	-0.6
VLI	**Veliai**	**1.53**	**44**	*e* Pn		Pb	05 27 31.0	+0.7
VLI				*e* Sn		Sg	05 27 51.6	-0.6
ITM	**Ithomi**	**1.58**	**9**	*e* PN		Pb	05 27 31.4	+0.3
ITM	**Ithomi**	**1.58**	**9**	*e* Pn		Pb	05 27 31.4	+0.3
VLX	**Vlachokerasia**	**1.85**	**19**	*e* PN		Pb	05 27 36.6	+0.7
VLX	**Vlachokerasia**	**1.85**	**19**	*e* Pn		Pb	05 27 36.6	+0.7
VAM	**Vamos**	**2.12**	**95**	*e* PN		Pb	05 27 39.3	-1.1
VAM	**Vamos**	**2.12**	**95**	*e* Pn		Pb	05 27 39.3	-1.1
DID	**Didima**	**2.29**	**34**	*e* PB		Pn	05 27 41.3	+1.9
DID	**Didima**	**2.29**	**34**	*e* Pb		Pn	05 27 41.3	+1.9
GUR	**Goura**	**2.38**	**14**	*e* PB		Pb	05 27 43.8	-1.2
GUR	**Goura**	**2.38**	**14**	*e* Pb		Pb	05 27 43.8	-1.2
LTK	**Loutraki**	**2.63**	**24**	*e* PN		Pn	05 27 46.0	+2.0
LTK	**Loutraki**	**2.63**	**24**	*e* Pn		Pn	05 27 46.0	+2.0
EFP	**Efpalio**	**2.81**	**5**	*e* PB		Pb	05 27 50.4	-1.7
EFP	**Efpalio**	**2.81**	**5**	*e* Pb		Pb	05 27 50.4	-1.7
STON	**Ston**	**7.85**	**338**	*i* Pn		Pn	05 28 52.6	-3.0
STON					Sn	Sn	05 30 15.9	-8.0

IDC 25 05:28:37.4±2.5, 46.95N×154.85E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=62.5km s-min=30.4km az=171.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.44**	**16**	P	Pn	Pn	05 30 13.6	+0.2
	0.7nm,0.3s,baz=176,slow=14,SNR=7.1							
ILAR	**Eielson Array**	**35.65**	**39**	P		P	05 35 36.5	-0.1
	0.5nm,0.7s,baz=249,slow=8.2,SNR=10							
INK	**Inuvik**	**40.85**	**33**	P		P	05 36 19.4	-0.9
	0.5nm,0.7s,baz=280,slow=5.3,SNR=5.4							
MKAR	**Makanchi Array**	**47.90**	**298**	P		P	05 37 16.3	-0.8
	0.1nm,0.4s,baz=101,slow=8.9,SNR=4.9							
YKA	**Yellowknife Ar**	**50.05**	**37**	P		P	05 37 33.0	-0.2
	0.2nm,0.7s,baz=294,slow=6.9,SNR=4.5							
FINES	**FINESS Array B**	**64.36**	**335**	P		P	05 39 15.4	+0.9
	4.8nm,1.1s,baz=39,slow=9.1,SNR=3.7							
TXAR	**Lajitas Array**	**76.36**	**62**	P		P	05 40 28.9	+0.3
	0.3nm,0.7s,baz=296,slow=3.8,SNR=5.3							

ISCJB ***25*** *05:29:48.3±0.7, 23.94N±0.02×122.50E±0.02, h3km±5km, Error ellipse: s-maj=3.7km s-min=2.6km az=174.0*
JMA ***25*** *05:29:50.6±0.3, 24.08N×122.47E, h34km, M2.7*
TAP ***25*** *05:29:50.3, 24.01N×122.50E, h31km, ML3.5, D*
ISC 25 05:29:49.4±1.2, 23.92N±0.03×122.51E±0.02, h23km±14km, n43, σ0963/79, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**40**	P		**Pb**	**05 30 02.8**	**-0.3**
YOJ				S		**Sb**	**05 30 11.3**	**-1.1**
TWD	**Chiawan**	**0.85**	**281**	*i* P		**Pb**	**05 30 05.3**	**-0.1**
	baz=275							
TWD				*i* S		**Sb**	**05 30 16.7**	**+0.4**
ENA	**Nanau**	**0.86**	**306**	*i* P		**Pb**	**05 30 05.6**	**-0.1**
	baz=301							
ENA				*e* S		**Sb**	**05 30 16.6**	**-0.2**
	baz=301							
TWC	**Suao**	**0.91**	**319**	P		**Pb**	**05 30 06.0**	**-0.5**
	baz=315							
TWC				*e* S		**Sb**	**05 30 17.2**	**-1.1**
	baz=315							
ESL	**Shilin**	**0.99**	**264**	*e* P		**Pn**	**05 30 07.7**	**-0.2**
	baz=247							
ESL				*e* S		**Sb**	**05 30 19.9**	**-0.5**
	baz=247							
ILA	**Ilan**	**1.09**	**321**	*e* P		**Pb**	**05 30 10.1**	**+0.5**
	baz=306							
ILA				S		**Sn**	**05 30 24.1**	**+0.4**
	baz=306							
TWE	**Neicheng**	**1.11**	**316**	P		**Pb**	**05 30 09.6**	**-0.2**
	baz=302							
TWE				*e* S		**Sn**	**05 30 24.9**	**+0.8**
	baz=302							
ENTT	**Nioudou**	**1.12**	**310**	⇓ *i* P		**Pb**	**05 30 09.8**	**-0.2**
	baz=306							
ENTT				*e* S		**Sn**	**05 30 25.3**	**+0.8**
	baz=306							
NNS	**Nan Shan**	**1.16**	**297**	*i* P		**Pn**	**05 30 10.4**	**0.0**
	baz=281							
NNS				S		**Sb**	**05 30 25.4**	**-0.1**
	baz=281							
WHF	**Hehuan Shan**	**1.16**	**281**	*i* P		**Pn**	**05 30 10.5**	**-0.1**
	baz=265							
WHF				*e* S		**Sn**	**05 30 25.7**	**-0.2**
	baz=265							
EHY	**Hungye**	**1.16**	**249**	*e* P		**Pn**	**05 30 10.3**	**0.0**
	baz=245							
EHY				*e* S		**Sn**	**05 30 25.1**	**-0.3**
	baz=245							
TWB1	**Santiao Chiao**	**1.18**	**337**	⇑ *i* P		**Pn**	**05 30 10.3**	**-0.3**
	baz=335							
TWB1				*e* S		**Sn**	**05 30 24.6**	**-1.3**
	baz=335							
IRIF	**Iriomote-Funau**	**1.19**	**69**	P		**Pb**	**05 30 11.1**	**-0.2**
IRIF				*e* S		**Sb**	**05 30 27.4**	**+1.1**
HATJ	**Hateruma jima**	**1.20**	**83**	P		**Pb**	**05 30 11.8**	**+0.4**
HATJ				*e* S		**Sb**	**05 30 27.5**	**+1.1**
TWF1	**Yuli**	**1.24**	**243**	*e* P		**Pb**	**05 30 12.0**	**-0.2**
	baz=239							
TWF1				*e* S		**Sn**	**05 30 27.6**	**+0.1**
	baz=239							
TWT	**Tachien**	**1.26**	**286**	*i* P		**Pb**	**05 30 12.8**	**+0.2**
	baz=270							
TWT				S		**Sb**	**05 30 29.3**	**+0.8**
	baz=270							
NSK	**Sanguang**	**1.29**	**306**	*i* P		**Pn**	**05 30 12.3**	**+0.2**
	baz=287							
NSK				*e* S		**Sn**	**05 30 28.3**	**-0.4**
	baz=287							
NWF	**Wu-fen Shan**	**1.32**	**330**	P		**Pn**	**05 30 12.4**	**-0.2**
	baz=328							
NWF				S		**Sb**	**05 30 30.7**	**+0.5**
	baz=328							
TWA	**Mucha**	**1.35**	**322**	*i* P		**Pb**	**05 30 13.5**	**-0.5**
	baz=337							
TWA				*e* S		**Sb**	**05 30 32.1**	**+1.3**
	baz=337							
JKRS	**Kuro-shima**	**1.41**	**77**	P		**Pb**	**05 30 14.8**	**-0.2**
JKRS				*e* S		**Sb**	**05 30 33.1**	**+0.5**
SMLT	**Sun Moon Lake**	**1.47**	**269**	*i* P		**Pb**	**05 30 16.0**	**-0.2**
	baz=264							
SMLT				*e* S		**Sn**	**05 30 33.7**	**+0.4**
	baz=264							
YUS	**Yu-Shan**	**1.49**	**254**	*e* P		**Pn**	**05 30 16.3**	**+1.1**
	baz=249							
YUS				*e* S		**Sn**	**05 30 34.2**	**0.0**
	baz=249							
TYC	**Yuchr**	**1.51**	**270**	*e* P		**Pb**	**05 30 16.1**	**-0.6**
	baz=265							
TYC				*e* S		**Sb**	**05 30 35.2**	**-0.2**
	baz=265							
TWS1	**Kuangyinshan**	**1.54**	**320**	*e* P		**Pn**	**05 30 15.8**	**+0.4**
	baz=335							
TWS1				*e* S		**Sb**	**05 30 35.8**	**-0.5**
	baz=335							
NSTT	**Nanjuang**	**1.54**	**298**	*i* P		**Pb**	**05 30 17.1**	**-0.2**
	baz=294							
NSTT				S		**Sb**	**05 30 36.5**	**0.0**
	baz=294							
JIJ	**Ishigaki jima**	**1.56**	**73**	P		**Pn**	**05 30 16.0**	**+0.3**
JIJ				*e* S		**Sn**	**05 30 35.2**	**-0.1**
ALS	**Alishan**	**1.61**	**256**	*e* P		**Pb**	**05 30 18.4**	**-0.2**
	baz=251							
ALS				*e* S		**Sb**	**05 30 38.2**	**-0.4**
	baz=251							
TWQ1	**Liyutan**	**1.64**	**285**	*e* P		**Pb**	**05 30 18.9**	**-0.1**
	baz=281							
TWQ1				S		**Sb**	**05 30 39.4**	**+0.2**
	baz=281							
NSY	**Sanyi**	**1.67**	**288**	*e* P		**Pb**	**05 30 19.5**	**+0.1**
	baz=283							
NSY				*e* S		**Sb**	**05 30 41.1**	**+1.0**
	baz=283							
TCU	**Taichung**	**1.69**	**278**	*e* P		**Pb**	**05 30 19.8**	**0.0**
	baz=274							
TCU				*e* S		**Sb**	**05 30 41.5**	**+0.9**
	baz=274							
CHN5	**Tsauling**	**1.71**	**260**	*e* P		**Pn**	**05 30 18.5**	**+0.7**
	baz=246							
CHN5				*e* S		**Sb**	**05 30 40.6**	**-0.5**
	baz=246							
TWG	**Pinlang**	**1.71**	**231**	*e* P		**Pb**	**05 30 18.2**	**+0.4**
	baz=238							
STYT	**Taoyuan**	**1.77**	**245**	*e* S			05 30 42.1	
	baz=241							
CHN4	**Tsaushan**	**1.84**	**253**	*e* P		**Pb**	**05 30 23.1**	**+0.7**
	baz=249							
CHN4				S		**Sb**	**05 30 46.1**	**+1.1**
	baz=249							
CHN2	**Minshiung**	**1.90**	**259**	*e* S			05 30 47.6	
	baz=255							
ECL	**Taimali**	**1.94**	**228**	*e* P		**Pb**	**05 30 23.0**	**-1.1**
	baz=235							
SGST	**Jiashian**	**1.95**	**245**	*i* P		**Pb**	**05 30 24.0**	**-0.2**
	baz=234							
SGST				S		**Sb**	**05 30 49.5**	**+1.3**
	baz=234							
CHN1	**Nanshi**	**1.96**	**248**	P		**Pb**	**05 30 24.3**	**0.0**
	baz=245							
CHN1				*i* S		**Sb**	**05 30 48.7**	**+0.3**
	baz=245							
TWK	**Hsinying**	**1.96**	**251**	P		**Pb**	**05 30 24.0**	**-0.5**
	baz=247							
TWK				S		**Sb**	**05 30 48.8**	**+0.2**
	baz=247							
LAY	**Lan-yu**	**2.07**	**205**	*e* P		**Pn**	**05 30 22.2**	**-0.6**
	baz=203							
LAY				*e* S		**Sn**	**05 30 46.5**	**-1.4**
	baz=203							
EAST	**Anshuo**	**2.16**	**225**	*e* P		**Pn**	**05 30 24.5**	**+0.5**
	baz=223							
TWM1	**Shoushan**	**2.20**	**241**	*e* P		**Pb**	**05 30 29.0**	**+0.4**
	baz=237							
TWM1				*e* S		**Sb**	**05 30 57.0**	**+1.5**
	baz=237							
SCZT	**Fangliau**	**2.32**	**229**	*e* P		**Pb**	**05 30 29.7**	**-0.9**
	baz=220							
SCZT				*e* S		**Sb**	**05 30 58.2**	**-0.5**
	baz=220							

ISCJB ***25*** *05:32:33.9±0.6, 6.52N±0.07×125.79E±0.1, h152km±5km, mb3.6/9, Error ellipse: s-maj=17.8km s-min=11.2km az=2.5*
IDC ***25*** *05:32:35.2±0.6, 6.47N×125.70E, h148km±3km, mb3.3/9, mb1 3.5/9, mb1mx3.3/19, mbtmp3.3/9, Error ellipse: s-maj=41.3km s-min=12.9km az=82.0*
MAN ***25*** *05:32:38, 6.85N×125.85E, h99km, mb4.5, ML3.4, MS3.3*
ISC 25 05:32:34.7±0.8, 6.52N±0.08×125.96E±0.09, h143km±6km, n20, σ1923/25, mb3.6/9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**35**	*e* P		**Pn**	**05 32 55.6**	**+0.2**
MATI				*e* S		**Sn**	**05 33 07.7**	**-3.4**
DAV	**Davao City (W)**	**0.66**	**325**	P		**Pn**	**05 32 57.6**	**+1.3**
	206nm,0.3s,baz=252,slow=3.0,SNR=29							
DAV				S		**Sn**	**05 33 14.8**	**+2.1**
	1μm,0.3s,baz=131,slow=23,SNR=67							
DMPH	**Davao City--Mi**	**0.71**	**321**	*e* P		**Pn**	**05 32 56.6**	**-0.1**
DMPH				*e* S		**Sn**	**05 33 13.6**	**+0.3**
KCP	**Kidapawan**	**0.99**	**299**	⇑ *e* P		**Pn**	**05 32 58.6**	**-0.3**
KCP				*i* S		**Sn**	**05 33 17.1**	**-0.1**
GSPH	**General Santos**	**1.09**	**247**	⇑ *i* P		**Pn**	**05 32 59.3**	**-0.6**
GSPH				*i* S		**Sn**	**05 33 18.4**	**-0.6**
BUKP	**Musuan**	**1.61**	**327**	*e* P		**Pn**	**05 33 05.0**	**-0.2**
BUKP				*e* S		Sn	05 33 21.1	-7.3
CTBH	**Cotabato--PC H**	**1.84**	**292**	⇓ *i* P		**Pn**	**05 33 06.9**	**-0.7**
CGP	**Cagayan de Oro**	**2.29**	**327**	*e* P		**Pn**	**05 33 11.7**	**-1.3**
PAGZ	**Pagadian**	**2.88**	**297**	*e* P		**Pn**	**05 33 20.2**	**-0.1**
MSLP	**Maasin**	**3.75**	**343**	*e* P		**Pn**	**05 33 30.6**	**-1.0**
WRA	**Warramunga Arr**	**27.56**	**163**	P		P	**05 38 09.2**	**+0.7**
	0.2nm,0.3s,baz=343,slow=9.4,SNR=3.4							
KSRS	**Korea Array**	**30.84**	**3**	P		**P**	**05 38 38.1**	**+0.8**
	1.0nm,0.8s,baz=186,slow=9.1,SNR=4.2							
ASAR	**Alice Springs**	**30.99**	**166**	P		**P**	**05 38 40.0**	**+1.2**
	0.4nm,0.3s,baz=341,slow=7.4,SNR=8.5							
USRK	**Ussuriysk Arra**	**37.90**	**7**	P		**P**	**05 39 38.1**	**+0.2**
	1.6nm,0.6s,baz=180,slow=7.8,SNR=4.0							
STKA	**Stephens Creek**	**41.00**	**160**	P		**P**	**05 40 02.2**	**-1.6**
	0.9nm,0.6s,baz=326,slow=15,SNR=2.3							
PETK	**Petropavlovsk-**	**53.17**	**23**	P		**P**	**05 41 39.5**	**+1.6**
	4.7nm,0.8s,baz=198,slow=8.7,SNR=3.0							
MKAR	**Makanchi Array**	**54.84**	**325**	P		**P**	**05 41 49.1**	**-1.1**
	0.3nm,0.5s,baz=115,slow=7.5,SNR=6.9							
ILAR	**Eielson Array**	**82.93**	**26**	P		**P**	**05 44 43.8**	**+0.4**
	0.4nm,0.5s,baz=238,slow=5.2,SNR=13							
YKA	**Yellowknife Ar**	**97.28**	**24**	P		**P**	**05 45 51.2**	**0.0**
	0.1nm,0.5s,baz=286,slow=7.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**121.29**	**290**	PKP		**PKPdf**	**05 51 11.3**	**-0.6**
	0.2nm,0.3s,baz=63,slow=1.6,SNR=5.2							

IDC 25 05:40:04.3±51.0, 16.63S×178.00W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=945.1km s-min=171.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.59**	**240**	P		P	05 47 37.6	-0.1
	1.0nm,0.6s,baz=68,slow=5.4,SNR=3.2							
WRA	**Warramunga Arr**	**45.26**	**258**	P		P	05 48 24.2	+0.2
	0.3nm,0.3s,baz=91,slow=8.2,SNR=4.8							
ASAR	**Alice Springs**	**45.52**	**253**	P		P	05 48 25.6	-0.5
	2.6nm,0.6s,baz=88,slow=8.5,SNR=39							

IDC 25 06:19:33.7±7.3, 6.86S×129.35E, h64km±68km, mb3.5/2, mb1 3.7/4, mb1mx3.4/14, mbtmp3.6/4, ML4.0/2, MS3.5/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=112.3km s-min=30.8km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**160**	P		Pn	06 22 47.5	0.0
	0.9nm,0.3s,baz=339,slow=13,SNR=15							
WRA				S		Sn	06 25 08.7	-11
	0.7nm,0.3s,baz=329,slow=24,SNR=6.4							
ASAR	**Alice Springs**	**17.27**	**166**	P		Pn	06 23 30.7	-0.1
	0.4nm,0.3s,baz=341,slow=11,SNR=41							
ASAR				S		Sn	06 26 30.2	-12
	0.1nm,0.3s,baz=333,slow=20,SNR=4.2							
STKA	**Stephens Creek**	**27.39**	**157**	LR		LR	06 37 47.6	
	comp=Z,94nm,18.9s,baz=32,slow=40							
MKAR	**Makanchi Array**	**67.76**	**327**	P		P	06 30 24.9	+0.2
	0.4nm,0.4s,baz=118,slow=5.7,SNR=21							
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		P	06 30 45.3	-0.3
	0.5nm,0.5s,baz=134,slow=6.2,SNR=3.2							
LPAZ	**La Paz**	**151.22**	**143**	PKPbc		PKPbc	06 39 21.5	-0.2
	1.4nm,1.1s,baz=169,slow=5.2,SNR=2.8							

IDC 25 06:31:47.0±5.3, 5.33S×151.10E, h90km±44km, mb3.6/4, mb1 3.8/5, mb1mx3.4/17, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/24, Error ellipse: s-maj=95.1km s-min=32.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**224**	P		Pn	06 33 06.7	-1.5
	0.8nm,0.3s,baz=36,slow=7.4,SNR=12							
PMG				S		Sn	06 34 14.0	+2.5
	1.7nm,0.3s,baz=29,slow=19,SNR=6.5							
WRA	**Warramunga Arr**	**21.84**	**227**	P		P	06 36 32.6	+0.4
	3.0nm,0.8s,baz=53,slow=10,SNR=20							
DZM	**Mont Dzumac**	**22.31**	**140**	LR		LR	06 44 05.8	
	comp=Z,81nm,19.6s,baz=198,slow=33							
ASAR	**Alice Springs**	**24.63**	**221**	P		P	06 36 58.4	-0.8
	4.8nm,0.8s,baz=54,slow

	comp=E,220nm,12.0s						
NJ2				LR	LR		
	comp=Z,200nm,17.5s						
MDJ	**Mudanjiang**	**24.72**	**334**	P	**P**	**07 02 17.0**	**+0.7**
MDJ				pP	**pP**	**07 02 25.5**	**+0.3**
MDJ				sP	**sP**	**07 02 29.8**	**+0.8**
MDJ				PcP	**PcP**	**07 05 52.8**	**+0.1**
MDJ				S	**S**	**07 06 37.3**	**+1.0**
MDJ				ScP	**ScP**	**07 09 29.3**	**-0.1**
MDJ				PcS	**PcS**	**07 09 32.5**	**-0.2**
MDJ				ScS	**ScS**	**07 13 18.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,13nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.4s						
MDJ	**Mudanjiang**	**24.72**	**334**	*e*P	**P**	**07 02 16.8**	**+0.5**
	comp=Z,4.6nm,0.6s						
SNY	**Shenyang**	**25.56**	**322**	⇓P	**P**	**07 02 25.5**	**+1.6**
SNY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2	**Changchun**	**25.94**	**328**	*e*P	**P**	**07 02 27.8**	**+0.4**
BJI	**Beijing**	**29.22**	**312**	P	**P**	**07 02 57.5**	**+0.7**
QIZ	**Qiongzhong**	**32.36**	**270**	P	**P**	**07 03 25.5**	**+0.7**
HHC	**Hu-ho-hao-te**	**32.76**	**311**	*e*P	**P**	**07 03 27.5**	**-0.6**
HHC				pP	**pP**	**07 03 37.0**	**-0.1**
HHC				sP	**sP**	**07 03 41.0**	**+0.2**
HHC				PP	PP	07 04 38.0	-4.4
HHC				S	**S**	**07 08 41.0**	**-2.0**
HHC				sS	**sS**	**07 08 56.8**	**-1.1**
HHC				SS	SS	07 10 41.3	-23
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,400nm,12.2s						
HHC				LR	LR		
	comp=E,300nm,11.3s						
HHC				LR	LR		
	comp=Z,560nm,13.7s						
GYA	**Guiyang**	**34.29**	**284**	P	**P**	**07 03 43.3**	**+1.7**
GYA				pP	**pP**	**07 03 53.8**	**+3.2**
GYA				PP	PP	07 04 59.0	-0.5
GYA				S	**S**	**07 09 07.3**	**+0.2**
GYA				ScP	**ScP**	**07 10 02.0**	**+1.5**
GYA				SS	SS	07 11 17.8	-18
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,15.5s						
GYA				LR	LR		
	comp=E,440nm,16.4s						
GYA				LR	LR		
	comp=Z,460nm,15.9s						
COEN	**Coen**	**36.73**	**182**	*e*P	**P**	**07 04 02.5**	**+0.1**
	comp=Z,28nm,0.8s						
CD2	**Chengdu**	**36.84**	**291**	P	**P**	**07 04 03.8**	**+0.4**
CD2				pP	**pP**	**07 04 14.0**	**+1.5**
CD2				sP	**sP**	**07 04 18.0**	**+1.8**
CD2				PP	PP	07 05 30.5	+2.9
CD2				S	**S**	**07 09 45.5**	**-0.5**
CD2				sS	**sS**	**07 10 02.3**	**+1.3**
CD2				SS	SS	07 12 14.8	-13
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,180nm,4.9s						
CD2				LR	LR		
	comp=N,320nm,6.5s						
CD2				LR	LR		
	comp=Z,330nm,6.5s						
LZH	**Lanzhou**	**37.28**	**300**	*e*P	**P**	**07 04 07.5**	**+0.2**
LZH				pP	**pP**	**07 04 17.5**	**+1.1**
LZH				sP	**sP**	**07 04 21.5**	**+1.4**
LZH				PP	PP	07 05 35.3	+2.8
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,76nm,4.6s						
LZH				LR	LR		
	comp=N,400nm,12.7s						
LZH				LR	LR		
	comp=E,370nm,13.0s						
LZH				LR	LR		
	comp=Z,470nm,17.0s						
ULN	**Ulaanbaatar**	**38.65**	**319**	*e*P	**P**	**07 04 18.7**	**+0.1**
	comp=Z,4.9nm,1.3s						
SONM	**Songino Array**	**39.03**	**319**	P	**P**	**07 04 21.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=131,slow=8.3,SNR=10						
SONM	**Songino Array**	**39.03**	**319**	P	**P**	**07 04 21.6**	**-0.2**
GTA	**Gaotai**	**40.99**	**304**	P	**P**	**07 04 38.0**	**-0.2**
GTA				pP	**pP**	**07 04 47.8**	**+0.5**
GTA				sP	**sP**	**07 04 51.8**	**+0.7**
GTA				S	**S**	**07 10 48.0**	**-0.5**
GTA				sS	**sS**	**07 11 04.0**	**+0.4**
GTA				SS	SS	07 13 46.0	-5.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,220nm,5.7s						
GTA				LR	LR		
	comp=N,230nm,17.6s						
GTA				LR	LR		
	comp=E,260nm,18.1s						
GTA				LR	LR		
	comp=Z,150nm,16.2s						
TLY	**Talaya**	**42.35**	**323**	*e*P	**P**	**07 04 48.4**	**-0.5**
	comp=Z,26nm,1.9s						
CMAR	**Chiang Mai Arr**	**42.54**	**273**	P	**P**	**07 04 50.4**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=60,slow=8.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**42.54**	**273**	P	**P**	**07 04 50.4**	**-0.5**
CTA	**Charters Tower**	**42.85**	**177**	P	**P**	**07 04 53.1**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=19,slow=6.6,SNR=4.1						
CTA				LR	LR	07 20 11.2	
	comp=Z,90nm,20.6s,baz=52,slow=33						
CTA	**Charters Tower**	**42.85**	**177**	P	**P**	**07 04 53.1**	**-0.2**
WRAB	**Tennant Creek**	**43.75**	**194**	*e*P	**P**	**07 04 59.9**	**-0.6**
	comp=Z,1.5nm,0.6s						
WB2	**Warramunga Arr**	**43.76**	**194**	*e*P	**P**	**07 04 59.8**	**-0.8**
WRA	**Warramunga Arr**	**43.76**	**194**	P	**P**	**07 04 59.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=17,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**43.76**	**194**	P	**P**	**07 04 59.8**	**-0.9**
ASAR	**Alice Springs**	**47.46**	**193**	P	**P**	**07 05 28.8**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=16,slow=8.2,SNR=7.4						
ASAR	**Alice Springs**	**47.46**	**193**	P	**P**	**07 05 28.8**	**-1.1**
WMQ	**Urumqi**	**50.58**	**309**	P	**P**	**07 05 54.8**	**+1.1**
WMQ				pP	**pP**	**07 06 04.8**	**+1.7**
WMQ				sP	**sP**	**07 06 08.8**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.3s						
WMQ				LR	LR		
	comp=N,46nm,17.6s						
WMQ				LR	LR		
	comp=Z,47nm,21.5s						
ZAA0	**Zalesovo Array**	**53.86**	**321**	*e*P	**P**	**07 06 17.1**	**-0.7**
ZALV	**Zalesovo Beam**	**53.86**	**321**	P	**P**	**07 06 16.0**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=106,slow=9.4,SNR=7.4						
ZALV				PcP	**PcP**	**07 07 21.5**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=122,slow=3.9,SNR=4.3						
ZALV				LR	LR	07 28 36.9	
	comp=Z,62nm,20.3s,baz=82,slow=35						
ZALV	**Zalesovo Beam**	**53.86**	**321**	P	**P**	**07 06 16.0**	**-1.8**
ZALV				PcP	**PcP**	**07 07 21.5**	**-1.7**
MK31	**Makanchi Array**	**54.60**	**312**	*e*P	**P**	**07 06 23.2**	**-0.3**
MKAR	**Makanchi Array**	**54.60**	**312**	P	**P**	**07 06 23.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=87,slow=9.0,SNR=15						
MKAR	**Makanchi Array**	**54.60**	**312**	P	**P**	**07 06 23.2**	**-0.3**
STKA	**Stephens Creek**	**54.61**	**183**	P	**P**	**07 06 22.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=342,slow=9.4,SNR=6.9						
STKA	**Stephens Creek**	**54.61**	**183**	P	**P**	**07 06 22.7**	**-0.7**
KURK	**Kurchatov**	**57.25**	**316**	P	**P**	**07 06 42.0**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=93,slow=8.6,SNR=25						
KURK	**Kurchatov**	**57.25**	**316**	*e*P	**P**	**07 06 41.6**	**-0.6**
	comp=Z,62nm,2.7s						
KSH	**Kashi**	**59.38**	**303**	*e*P	P	07 07 00.8	+3.3
KSH				*e*pP	pP	07 07 10.8	+3.8
KSH				*e*sP	sP	07 07 14.8	+4.1
KSH				*e*PP	**PP**	**07 09 14.5**	**+5.8**
KSH				*e*ScP	**ScP**	**07 11 43.8**	**-0.1**
KSH				*e*PcS	**PcS**	**07 11 47.5**	**+0.1**
KSH				*e*S	**S**	**07 15 06.5**	**+1.9**
KSH				*e*sS	sS	07 15 24.8	+4.6
KSH				ScS	**ScS**	**07 16 44.8**	**-1.0**
KSH				*e*SS	**SS**	**07 19 05.5**	**+6.0**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,210nm,6.9s						
KSH				LR	LR		
	comp=N,220nm,5.7s						
KSH				LR	LR		
	comp=E,210nm,5.8s						
KSH				LR	LR		
	comp=Z,210nm,6.1s						
ILAR	**Eielson Array**	**60.43**	**27**	P	**P**	**07 07 04.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=251,slow=5.9,SNR=17						
ILAR	**Eielson Array**	**60.43**	**27**	P	**P**	**07 07 04.8**	**+0.8**
EKS2	**Erkin-Say**	**60.74**	**307**	*e*P	**P**	**07 07 07.3**	**+0.5**
	comp=Z,4.2nm,1.0s						
BVAR	**Borovoye Array**	**62.38**	**319**	P	**P**	**07 07 17.4**	**-0.1**
	comp=Z,6.9nm,0.5s,baz=89,slow=7.1,SNR=58						
BVAR	**Borovoye Array**	**62.38**	**319**	P	**P**	**07 07 17.4**	**-0.1**
BRVK	**Borovoye**	**62.44**	**319**	*e*P	**P**	**07 07 17.2**	**-0.6**
	comp=Z,6.4nm,0.8s						
KKAR	**Karatay Array**	**63.08**	**308**	*e*P	**P**	**07 07 22.2**	**-0.1**
	comp=Z,3.6nm,0.8s						
KBL	**Kabul**	**65.63**	**299**	*e*P	**P**	**07 07 39.3**	**-0.1**
	comp=Z,13nm,0.8s						
ARU	**Arti**	**68.85**	**324**	*e*P	**P**	**07 07 58.8**	**-0.3**
	comp=Z,5.0nm,0.7s						
ABKAR	**Akbulak array**	**69.35**	**316**	*e*P	**P**	**07 08 01.6**	**-0.8**
AKTO	**Aktyubinsk**	**70.33**	**317**	P	**P**	**07 08 07.3**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=84,slow=15,SNR=5.4						
AKTO	**Aktyubinsk**	**70.33**	**317**	P	**P**		
YKA	**Yellowknife Ar**	**74.84**	**28**	P	**P**	**07 08 36.4**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=293,slow=5.5,SNR=18						
YKA	**Yellowknife Ar**	**74.84**	**28**	P	**P**	**07 08 36.4**	**+1.4**
ARCES	**ARCESS Array B**	**78.04**	**342**	P	**P**	**07 08 53.4**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=53,slow=11,SNR=6.8						
ARCES	**ARCESS Array B**	**78.04**	**342**	P	**P**	**07 08 53.4**	**+0.3**
JOF	**Joensuu**	**79.61**	**335**	*e*p	**P**	**07 09 00.2**	**-1.5**
	comp=Z,2.5nm,0.6s						
JOF	**Joensuu**	**79.61**	**335**	*e*p	**P**	**07 09 00.2**	**-1.5**
	comp=Z,2.5nm,0.6s						
NVAR	**Mina Array Bea**	**81.54**	**52**	P	**P**	**07 09 14.4**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=270,slow=6.5,SNR=9.9						
NVAR	**Mina Array Bea**	**81.54**	**52**	P	**P**	**07 09 14.4**	**+1.5**
FINES	**FINESS Array B**	**82.47**	**335**	P	**P**	**07 09 16.2**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=65,slow=4.3,SNR=11						
FINES	**FINESS Array B**	**82.47**	**335**	P	**P**	**07 09 16.2**	**-0.8**
PDAR	**Pinedale Array**	**85.75**	**45**	P	**P**	**07 09 36.5**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=325,slow=2.3,SNR=3.9						
PDAR	**Pinedale Array**	**85.75**	**45**	P	**P**	**07 09 36.5**	**+2.0**
AKASG	**Malin Array Be**	**87.06**	**325**	P	**P**	**07 09 38.8**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=52,slow=5.1,SNR=7.1						
AKASG	**Malin Array Be**	**87.06**	**325**	P	**P**	**07 09 38.8**	**-1.6**
NOA	**NORSAR Array B**	**88.12**	**339**	P	**P**	**07 09 44.6**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=38,slow=4.5,SNR=3.3						
NOA	**NORSAR Array B**	**88.12**	**339**	P	**P**	**07 09 44.6**	**-0.8**
BRTR	**Keskin Array B**	**90.21**	**314**	P	**P**	**07 09 54.5**	**-1.3**
BRTR	**Keskin Array B**	**90.21**	**314**	P	**P**	**07 09 54.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**128.72**	**311**	PKP	**PKPdf**	**07 16 02.3**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=8.0,slow=1.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**128.72**	**311**	PKP	**PKPdf**	**07 16 02.3**	**-0.6**
PLCA	**Paso Flores**	**145.80**	**129**	PKPbc	**PKPbc**	**07 16 34.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=232,slow=5.2,SNR=8.5						
PLCA	**Paso Flores**	**145.80**	**129**	PKPbc	**PKPbc**	**07 16 34.2**	**+0.1**
LPAZ	**La Paz**	**148.78**	**84**	PKPbc	**PKPbc**	**07 16 43.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=245,slow=6.0,SNR=5.4						
LPAZ	**La Paz**	**148.78**	**84**	PKPbc	**PKPbc**	**07 16 43.6**	**-0.1**

***IDC* 25 07:16:56.8±9.1, 5.55S×151.74E, h49km±65km, mb3.5/3, mb1 3.7/4, mb1mx3.3/17, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=105.9km s-min=61.5km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.95**	**230**	P	Pn	07 18 23.1	+0.7
	0.7nm,0.3s,baz=27,slow=16,SNR=3.9						
PMG				S	Sn	07 19 29.9	+0.7
	1.0nm,0.3s,baz=61,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**22.16**	**228**	P	P	07 21 48.9	+0.1
	1.3nm,0.7s,baz=52,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**24.89**	**222**	P	P	07 22 14.8	-0.5
	1.2nm,0.7s,baz=60,slow=8.6,SNR=17						
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	P	07 22 46.9	+0.1
	1.5nm,0.6s,baz=82,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.52**	**286**	PKPbc	PKPbc	07 36 41.5	-0.3
	0.2nm,0.5s,baz=80,slow=2.9,SNR=3.8						

DJA ***25*** *07:30:22, 0.38S×132.82E, h10km, MLv3.8/4*

***IDC* 25 07:30:20.1±3.2, 0.54S×133.44E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=161.7km s-min=29.6km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.06**	**203**	LR	LR	07 42 24.0	
	comp=Z,63nm,20.7s,baz=338,slow=38						
WRA	**Warramunga Arr**	**19.31**	**177**	P	P	07 34 46.8	-0.1
	0.2nm,0.3s,baz=357,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**23.00**	**179**	P	P	07 35 26.8	+0.1
	0.6nm,0.5s,baz=357,slow=11,SNR=11						
MKAR	**Makanchi Array**	**64.90**	**324**	P	P	07 41 01.4	0.0
	0.3nm,0.9s,baz=133,slow=8.2,SNR=3.0						

ISCJB ***25*** *07:32:17.9±0.9, 42.77S±0.08×72.7W±0.1, h10km, mb3.9/3, Error ellipse: s-maj=17.5km s-min=5.1km az=39.2*
GUC ***25*** *07:32:17.0±0.5, 42.85S×72.61W, h8km±18km, ML3.2*
IDC ***25*** *07:32:18.1±1.3, 42.74S×72.70W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.8/15, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=40.0km s-min=16.7km az=126.0*

ISC 25 07:32:18.3±1.4, 42.8S±0.1×72.7W±0.1, h10km, n8, σ1s22/10, mb4.1/3, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUNY	**Huinay**	**0.46**	**25**	*e*P	**Pg**	**07 32 26.1**	**-1.2**
HUNY				*e*S	**Sg**	**07 32 33.5**	**+0.2**
HUNY				AML	AML	07 32 36.6	
	comp=E,1μm,0.5s						
ILCA	**Isla Las Cabra**	**0.74**	**8**	↑*i*P	**Pg**	**07 32 31.6**	**-1.0**
ILCA				*i* S	**Sg**	**07 32 42.4**	**+0.1**
ILCA				AML	AML	07 32 43.8	
	comp=E,934nm,0.4s						
QLLN	**Quelln**	**0.76**	**246**	*e*P	**Pg**	**07 32 31.5**	**-1.4**
QLLN				*e*S	**Sg**	**07 32 42.8**	**0.0**
QLLN				AML	AML	07 32 43.4	
	comp=E,5μm,0.3s						
PLCA	**Paso Flores**	**2.60**	**38**	Pn	**Pn**	**07 33 01.1**	**+0.6**
	comp=E,6.6nm,0.3s,baz=202,slow=13,SNR=100						
PLCA				Pg	**Pb**	**07 33 03.8**	**-1.3**
	comp=E,10nm,0.3s,baz=222,slow=17,SNR=108						
PLCA				Lg	Lg	07 33 40.5	
	comp=E,19nm,0.3s,baz=292,slow=18,SNR=12						
COYC	**Coyhaique**	**2.81**	**171**	AML	AML	07 33 48.3	
	comp=N,77nm,0.5s						
QSPA	**South Pole Qui**	**47.45**	**180**	P	P	07 40 54.7	+1.8
	comp=N,3.5nm,0.8s,baz=134,slow=4.5,SNR=5.9						
TXAR	**Lajitas Array**	**77.23**	**333**	P	**P**	**07 44 14.5**	**+2.0**
	comp=N,0.4nm,0.7s,baz=158,slow=8.1,SNR=5.8						
PDAR	**Pinedale Array**	**91.40**	**334**	P	**P**	**07 45 24.8**	**+0.4**
	comp=N,0.9nm,1.0s,baz=136,slow=5.7,SNR=4.7						

ISCJB ***25*** *07:34:20.9±0.4, 39.63N±0.03×28.53E±0.04, h8km±4km, Error ellipse: s-maj=6.1km s-min=4.6km az=27.5*
CSEM ***25*** *07:34:20.9±0.1, 39.63N×28.55E, h8km, MD2.7, Error ellipse: s-maj=3.9km s-min=3.1km az=112.0*
DDA ***25*** *07:34:20.6, 39.63N×28.52E, h9km, MD2.7*
ISK ***25*** *07:34:20.7, 39.64N×28.53E, h7km, MD2.7*

ISC 25 07:34:21.1±0.9, 39.63N±0.02×28.53E±0.03, h8km±5km, n34, σ0s45/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.05**	**238**	*i* P	**Pg**	**07 34 22.8**	**-0.1**
DURS				*i* S	**Sg**	**07 34 23.9**	**-0.2**
DURS	**Dursunbey**	**0.05**	**238**	*i* P	**Pg**	**07 34 22.8**	**-0.1**
DURS				*i* S	**Sg**	**07 34 23.9**	**-0.2**
DST	**Dursunbey**	**0.07**	**109**	*e*PG	**Pg**	**07 34 22.9**	**-0.1**
DST				*e*SG	**Sg**	**07 34 25.1**	**+0.5**
DST	**Dursunbey**	**0.07**	**109**	*e*Pg	**Pg**	**07 34 23.0**	**-0.1**
DST				*e*Sg	**Sg**	**07 34 25.1**	**+0.5**
BALB	**Balikesir**	**0.50**	**272**	*e*PG	**Pg**	**07 34 31.2**	**+0.4**
BALB	**Balikesir**	**0.50**	**272**	*e*Pg	**Pg**	**07 34 31.2**	**+0.4**
ORLT	**Orhaneli**	**0.50**	**34**	*e*Pg	**Pg**	**07 34 30.6**	**-0.3**
ORLT				*e*SG	**Sg**	**07 34 38.4**	**+0.9**
ORLT	**Orhaneli**	**0.50**	**34**	*e*Pg	**Pg**	**07 34 30.6**	**-0.3**
ORLT				*e*Sg	**Sg**	**07 34 38.4**	**+0.9**
DEMI	**Demirci**	**0.60**	**166**	*i* P	**Pg**	**07 34 32.7**	**0.0**
DEMI				*i* S	**Sg**	**07 34 41.1**	**+0.5**
DEMI	**Demirci**	**0.60**	**166**	*i* P	**Pg**	**07 34 32.7**	**0.0**
DEMI				*i* S	**Sg**	**07 34 41.1**	**+0.5**
KCTX	**Karacabey (Bur**	**0.65**	**348**	*e*PG	**Pg**	**07 34 33.5**	**-0.1**
KCTX	**Karacabey (Bur**	**0.65**	**348**	*e*Pg	**Pg**	**07 34 33.5**	**-0.1**
GONE	**Gonen-Balikesi**	**0.77**	**303**	*e*PG	**Pg**	**07 34 35.4**	**-0.5**
GONE	**Gonen-Balikesi**	**0.77**	**303**	*e*Pg	**Pg**	**07 34 35.4**	**-0.5**
EDC	**Edincik**	**0.88**	**325**	*e*PG	**Pg**	**07 34 38.2**	**+0.1**
EDC	**Edincik**	**0.88**	**325**	*e*Pg	**Pg**	**07 34 38.2**	**+0.1**
AKHS	**Akhisar**	**0.93**	**217**	*i* P	**Pb**	**07 34 39.6**	**+0.1**
AKHS				*i* S	**Sb**	**07 34 51.9**	**-0.2**
AKHS	**Akhisar**	**0.93**	**217**	*i* P	**Pb**	**07 34 39.6**	**+0.1**
AKHS				*i* S	**Sb**	**07 34 51.9**	**-0.2**
AKS	**Akhisar**	**0.93**	**217**	*e*PG	**Pg**	**07 34 38.5**	**-0.5**
AKS	**Akhisar**	**0.93**	**217**	*e*Pg	**Pg**	**07 34 38.5**	**-0.5**
YLV	**Yalova**	**1.14**	**34**	*e*PN	**Pg**	**07 34 42.3**	**-0.7**
YLV	**Yalova**	**1.14**	**34**	*e*Pn	**Pg**	**07 34 42.3**	**-0.7**
CAVI	**Cavuskoy**	**1.16**	**60**	*e*PN	**Pg**	**07 34 42.2**	**-1.1**
CAVI	**Cavuskoy**	**1.16**	**60**	*e*Pn	**Pg**	**07 34 42.3**	**-1.1**
ADVT	**Abdulvahap**	**1.23**	**49**	*e*PN	**Pg**	**07 34 44.9**	**+0.2**
ADVT	**Abdulvahap**	**1.23**	**49**	*e*Pn	**Pg**	**07 34 44.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.48**	**316**	*e*PN	**Pb**	**07 34 48.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.48**	**316**	*e*Pn	**Pb**	**07 34 48.9**	**0.0**
MFT	**Murefte**	**1.50**	**321**	*e*PN	**Pb**	**07 34 49.1**	**-0.2**
MFT	**Murefte**	**1.50**	**321**	*e*Pn	**Pb**	**07 34 49.1**	**-0.2**
CTKS	**Kestanelik-??a**	**1.61**	**359**	*e*PN	**Pn**	**07 34 49.6**	**-0.2**
CTKS	**Kestanelik-??a**	**1.61**	**359**	*e*Pn	**Pn**	**07 34 49.6**	**-0.2**
GULT	**Gulveren**	**1.72**	**62**	*e*PN	**Pn**	**07 34 51.6**	**+0.1**
GULT	**Gulveren**	**1.72**	**62**	*e*Pn	**Pn**	**07 34 51.6**	**+0.1**

IDC ***25*** *08:07:55.5±0.9, 54.54N×161.94W, h0km, mb4.0/15, mb1 4.1/19, mb1mx4.0/32, mbtmp4.0/19, ML3.6/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/40, Error ellipse: s-maj=23.6km s-min=13.5km az=162.0*
BJI ***25*** *08:07:56.0, 54.40N×161.40W, h9km, mB4.9/2, mb4.6/6, Ms4.8/3, Ms7 4.6/3*
NEIC ***25*** *08:08:00.3, 54.45N×161.49W, h16km, ML3.8(AEIC), After AEIC.*

ISC 25 08:07:57.8±0.8, 54.40N±0.07×161.51W±0.04, h20km±2km, n91, σ1s64/98, mb4.2/20, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**0.72**	**323**	P	**Pn**	**08 08 13.7**	**+0.8**
DOL	**Dolgoi Island**	**0.78**	**345**	P	**Pn**	**08 08 14.5**	**+0.7**
DT1	**Dutton Round H**	**0.84**	**328**	P	**Pn**	**08 08 15.4**	**+0.8**
PS4A	**Pavlof South-4**	**0.97**	**348**	P	**Pg**	**08 08 17.8**	**+1.1**
PVV	**Pavlof Volcano**	**0.99**	**351**	P	**Pg**	**08 08 18.1**	**+1.0**
SDPT	**Sand Point**	**1.12**	**32**	P	**Pg**	**08 08 19.9**	**+0.3**
SDPT				S	**Sg**	**08 08 35.2**	**+0.9**
FALS	**False Pass**	**1.20**	**293**	P	**Pg**	**08 08 21.1**	**0.0**
FALS				S	**Sg**	**08 08 36.9**	**+0.1**
BRPK	**Brown Peak**	**1.32**	**282**	P	**Pg**	**08 08 23.7**	**+0.3**
SSLS	**Shishaldin Sou**	**1.48**	**283**	P	**Pg**	**08 08 26.4**	**0.0**
SSLS				S	**Sb**	**08 08 44.8**	**+1.6**
VNFG	**Veniaminof 2**	**2.20**	**30**	P	**Pb**	**08 08 35.6**	**-1.3**
VNSG	**Veniaminof 6**	**2.22**	**38**	P	**Pb**	**08 08 36.4**	**-0.8**
VNHG	**Veniaminof 1**	**2.26**	**35**	P	**Pb**	**08 08 35.9**	**+1.7**
AKUT	**Akutan**	**2.52**	**266**	P	**Pb**	**08 08 40.7**	**-1.5**
AKUT				S	**Sb**	**08 09 11.2**	**-1.5**
AHR	**Akutan Harbor**	**2.54**	**265**	P	**Pb**	**08 08 41.0**	**-1.7**
CHGN	**Chignik**	**2.60**	**42**	*e*Pn	**Pb**	**08 08 41.4**	**-2.3**
CHGN				*e*Sn	**Sb**	**08 09 14.7**	**-0.4**
ZRO	**Akutan Zero**	**2.64**	**265**	P	**Pb**	**08 08 42.5**	**-1.9**
UNV	**Unalaska Valle**	**2.99**	**261**	P	**Pn**	**08 08 46.4**	**+2.4**
ANPK	**Aniakchak Peak**	**3.11**	**37**	P	**Pn**	**08 08 48.7**	**+2.9**
MSW	**Makushin Switc**	**3.14**	**263**	P	**Pn**	**08 08 48.5**	**+2.3**
ANNW	**Aniakchak Nort**	**3.18**	**35**	P	Pn	08 08 50.0	+3.3
MSOM	**Makushin Julie**	**3.26**	**262**	P	**Pn**	**08 08 50.8**	**+3.0**
NIKO	**Nikolski**	**4.59**	**255**	*e*Pn	**Pn**	**08 09 08.2**	**+2.1**
CAHL	**Cahill**	**5.04**	**41**	P	**Pn**	**08 09 14.9**	**+2.6**
MGLS	**Mageik Landsli**	**5.15**	**41**	P	**Pn**	**08 09 16.4**	**+2.6**
KABU	**Katmai Buttres**	**5.20**	**39**	P	**Pn**

	2.1nm,0.9s,baz=22,slow=8.3,SNR=5.6						
ARCES	**ARCESS Array B**	**56.27**	**357**	P	**P**	**08 17 34.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**56.47**	**295**	*e*P	**P**	**08 17 41.0**	**+2.8**
HHC				sP	**sP**	**08 17 48.0**	**+1.2**
HHC				PP	**PP**	**08 19 48.0**	**+4.4**
HHC				S	**S**	**08 25 30.0**	**+1.8**
HHC				sS	**sS**	**08 25 37.5**	**-1.0**
HHC				SS	**SS**	**08 29 17.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,320nm,14.3s						
HHC				LR	LR		
	comp=E,230nm,13.7s						
HHC				LR	LR		
	comp=Z,420nm,13.6s						
JOF	**Joensuu**	**62.59**	**353**	*e*p	**P**	**08 18 17.5**	**-2.4**
	comp=Z,2.3nm,0.5s						
JOF	**Joensuu**	**62.59**	**353**	*e*p	**P**	**08 18 17.5**	**-2.4**
	comp=Z,2.3nm,0.5s						
GTA	**Gaotai**	**63.60**	**301**	*e*P	**P**	**08 18 27.8**	**+0.6**
GTA				pP	**pP**	**08 18 32.3**	**-1.2**
GTA				sP	**sP**	**08 18 35.0**	**-0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KAF	**Kangasniemi**	**63.67**	**356**	*e*p	**P**	**08 18 26.1**	**-0.9**
	comp=Z,2.3nm,0.4s						
KAF	**Kangasniemi**	**63.67**	**356**	*e*p	**P**	**08 18 26.1**	**-0.9**
	comp=Z,2.3nm,0.4s						
KURK	**Kurchatov**	**63.83**	**322**	P	**P**	**08 18 27.3**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.3,SNR=3.7						
KURK	**Kurchatov**	**63.83**	**322**	P	**P**	**08 18 27.3**	**-1.0**
FINES	**FINESS Array B**	**64.34**	**356**	P	**P**	**08 18 31.1**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=17,slow=7.8,SNR=24						
FINES	**FINESS Array B**	**64.34**	**356**	P	**P**	**08 18 31.1**	**-0.3**
BVAR	**Borovoye Array**	**64.62**	**328**	P	**P**	**08 18 32.6**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=40,slow=6.7,SNR=13						
BVAR	**Borovoye Array**	**64.62**	**328**	P	**P**	**08 18 32.6**	**-0.9**
NB2	**NORSAR Subarra**	**64.76**	**4**	P	**P**	**08 18 34.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**64.76**	**4**	P	**P**	**08 18 34.5**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=357,slow=6.5,SNR=4.4						
NOA	**NORSAR Array B**	**64.76**	**4**	P	**P**	**08 18 34.5**	**+0.1**
CD2	**Chengdu**	**68.09**	**293**	P	P	08 19 00.3	+4.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AKTO	**Aktyubinsk**	**70.41**	**334**	P	**P**	**08 19 09.3**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=41,slow=4.8,SNR=13						
AKTO	**Aktyubinsk**	**70.41**	**334**	P	**P**	**08 19 09.3**	**-0.8**
AKASG	**Malin Array Be**	**74.89**	**353**	P	**P**	**08 19 36.1**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=10,slow=5.8,SNR=10						
AKASG	**Malin Array Be**	**74.89**	**353**	P	**P**	**08 19 36.1**	**-0.5**
GERES	**GERESS Array B**	**77.05**	**3**	P	**P**	**08 19 49.9**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=3.7,slow=4.8,SNR=8.9						
GERES	**GERESS Array B**	**77.05**	**3**	P	**P**	**08 19 49.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**80.61**	**288**	P	**P**	**08 20 08.7**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=2.2,slow=6.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**80.61**	**288**	P	**P**	**08 20 08.7**	**-0.4**

*SOF **25** 08:08:14.7,40.23N×28.24E,h5km,MD2.6*
*ISK **25** 08:08:25.0,40.82N×27.75E,h6km,MD3.1*
*DDA **25** 08:08:26.0,40.78N×27.77E,h13km,MD2.9*
*CSEM **25** 08:08:25.5±0.1,40.83N×27.76E,h5km,MD3.1,Error ellipse: s-maj=2.3km s-min=1.9km az=163.0*

ISC 25 08:08:25.8±0.9,40.84N±0.02×27.75E±0.02,h13km±10km, n93,σ0s71/109,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLT	**Corlu**	**0.29**	**358**	*e*PG	**Pg**	**08 08 32.0**	**+0.1**
CRLT	**Corlu**	**0.29**	**358**	*e*Pg	**Pg**	**08 08 32.0**	**+0.1**
MFT	**Murefte**	**0.36**	**262**	*e*PG	**Pg**	**08 08 33.0**	**-0.1**
MFT				*e*SG	**Sg**	**08 08 38.6**	**+0.5**
MFT	**Murefte**	**0.36**	**262**	*e*Pg	**Pg**	**08 08 33.0**	**-0.1**
MFT				*e*Sg	**Sg**	**08 08 38.6**	**+0.5**
SART	**Tekirdag**	**0.46**	**252**	*i* P	**Pg**	**08 08 34.8**	**-0.1**
SART				*i* S	**Sg**	**08 08 41.3**	**+0.2**
SART	**Tekirdag**	**0.46**	**252**	*i* P	**Pg**	**08 08 34.8**	**-0.1**
SART				*i* S	**Sg**	**08 08 41.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.46**	**251**	*e*PG	**Pg**	**08 08 34.8**	**-0.2**
RKY				*e*SG	**Sg**	**08 08 41.0**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.46**	**251**	*e*Pg	**Pg**	**08 08 34.8**	**-0.2**
RKY				*e*Sg	**Sg**	**08 08 41.1**	**0.0**
BNT	**Bandirma**	**0.50**	**165**	*e*PG	**Pg**	**08 08 35.0**	**-0.6**
BNT	**Bandirma**	**0.50**	**165**	*e*Pg	**Pg**	**08 08 35.0**	**-0.6**
EDC	**Edincik**	**0.50**	**170**	*e*PG	**Pg**	**08 08 35.0**	**-0.6**
EDC	**Edincik**	**0.50**	**170**	*e*Pg	**Pg**	**08 08 35.0**	**-0.6**
SLVT	**Silivri**	**0.53**	**41**	*e*PG	**Pg**	**08 08 36.3**	**+0.2**
SLVT	**Silivri**	**0.53**	**41**	*e*Pg	**Pg**	**08 08 36.3**	**+0.2**
KRBG	**Karabiga-Canak**	**0.56**	**218**	*e*PG	**Pg**	**08 08 36.1**	**-0.6**
KRBG				*e*SG	**Sg**	**08 08 43.9**	**-0.3**
KRBG	**Karabiga-Canak**	**0.56**	**218**	*e*Pg	**Pg**	**08 08 36.2**	**-0.6**
KRBG				*e*Sg	**Sg**	**08 08 43.9**	**-0.3**
ELBA	**Catalca**	**0.60**	**59**	*i* P	**Pg**	**08 08 38.0**	**+0.4**
ELBA	**Catalca**	**0.60**	**59**	*i* P	**Pg**	**08 08 38.0**	**+0.4**
CTKS	**Kestanelik-??a**	**0.70**	**55**	*e*PG	**Pg**	**08 08 39.0**	**-0.4**
CTKS	**Kestanelik-??a**	**0.70**	**55**	*e*Pg	**Pg**	**08 08 39.0**	**-0.4**
KCTX	**Karacabey (Bur**	**0.73**	**141**	*e*PG	**Pg**	**08 08 39.5**	**-0.6**
KCTX	**Karacabey (Bur**	**0.73**	**141**	*e*Pg	**Pg**	**08 08 39.5**	**-0.6**
CTYL	**Yal??k??y-??at**	**0.76**	**32**	*e*PG	**Pg**	**08 08 40.6**	**+0.1**
CTYL	**Yal??k??y-??at**	**0.76**	**32**	*e*Pg	**Pg**	**08 08 40.6**	**+0.1**
GONE	**Gonen-Balikesi**	**0.79**	**184**	*e*PG	**Pg**	**08 08 40.5**	**-0.6**
GONE	**Gonen-Balikesi**	**0.79**	**184**	*e*Pg	**Pg**	**08 08 40.5**	**-0.6**
BGKT	**Bogazkoy**	**0.85**	**66**	*e*PG	**Pg**	**08 08 41.5**	**-0.7**
BGKT	**Bogazkoy**	**0.85**	**66**	*e*Pg	**Pg**	**08 08 41.5**	**-0.7**
ARMT	**Armutlu**	**0.89**	**107**	*e*PG	**Pb**	**08 08 42.3**	**-0.7**
ARMT	**Armutlu**	**0.89**	**107**	*e*Pg	**Pb**	**08 08 42.3**	**-0.7**
LPK	**Lapseki**	**0.89**	**239**	*e*PG	**Pb**	**08 08 41.6**	**-1.4**
LPK	**Lapseki**	**0.89**	**239**	*e*Pg	**Pb**	**08 08 41.6**	**-1.4**
ERIK	**Erikli-Kesan**	**0.95**	**260**	*e*PG	**Pb**	**08 08 43.3**	**-0.9**
ERIK	**Erikli-Kesan**	**0.95**	**260**	*e*Pg	**Pb**	**08 08 43.3**	**-0.9**
MDNY	**Mudanya-Bursa**	**0.98**	**118**	*e*PG	**Pb**	**08 08 43.6**	**-0.9**
MDNY	**Mudanya-Bursa**	**0.98**	**118**	*e*Pg	**Pb**	**08 08 43.7**	**-0.9**
ISK	**Istanbul-Kandi**	**1.02**	**77**	*e*PG	**Pb**	**08 08 44.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.02**	**77**	*e*Pg	**Pb**	**08 08 44.1**	**-1.1**
KLYT	**Kilyos**	**1.06**	**66**	*e*PG	**Pb**	**08 08 45.5**	**-0.5**
KLYT	**Kilyos**	**1.06**	**66**	*e*Pg	**Pb**	**08 08 45.5**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.07**	**246**	*e*PG	**Pb**	**08 08 44.7**	**-1.3**
GELI	**Tayfur-Gelibol**	**1.07**	**246**	*e*Pg	**Pb**	**08 08 44.7**	**-1.3**
BALY	**Balya**	**1.10**	**185**	*i* P	**Pb**	**08 08 46.5**	**-0.2**
BALY				*i* S	**Sg**	**08 09 01.5**	**+0.2**
BALY	**Balya**	**1.10**	**185**	*i* P	**Pb**	**08 08 46.5**	**-0.2**
BALY				*i* S	**Sg**	**08 09 01.5**	**+0.2**
ORLT	**Orhaneli**	**1.18**	**132**	*e*PN	**Pb**	**08 08 48.1**	**+0.1**
ORLT	**Orhaneli**	**1.18**	**132**	*e*Pn	**Pb**	**08 08 48.1**	**+0.1**
BALB	**Balikesir**	**1.20**	**175**	*e*PN	**Pb**	**08 08 48.2**	**-0.1**
BALB	**Balikesir**	**1.20**	**175**	*e*Pn	**Pb**	**08 08 48.2**	**-0.1**
ENEZ	**Enez**	**1.22**	**266**	*e*PN	**Pn**	**08 08 48.4**	**-0.1**
ENEZ	**Enez**	**1.22**	**266**	*e*Pn	**Pn**	**08 08 48.4**	**-0.1**
YLV	**Yalova**	**1.26**	**102**	*e*PN	**Pn**	**08 08 49.3**	**+0.2**
YLV	**Yalova**	**1.26**	**102**	*e*Pn	**Pn**	**08 08 49.3**	**+0.2**
EDRB	**Edirne**	**1.26**	**323**	*e*PN	**Pn**	**08 08 49.1**	**0.0**
EDRB	**Edirne**	**1.26**	**323**	*e*Pn	**Pn**	**08 08 49.1**	**0.0**
DURS	**Dursunbey**	**1.35**	**156**	*i* P	**Pb**	**08 08 50.9**	**-0.1**
DURS				*i* S	**Sb**	**08 09 08.6**	**+0.4**
DURS	**Dursunbey**	**1.35**	**156**	*i* P	**Pb**	**08 08 50.9**	**-0.1**
DURS				*i* S	**Sb**	**08 09 08.6**	**+0.4**
SILT	**Sile**	**1.47**	**77**	*e*PN	**Pn**	**08 08 51.8**	**-0.1**
SILT	**Sile**	**1.47**	**77**	*e*Pn	**Pn**	**08 08 51.8**	**-0.1**
EZN	**Ezine**	**1.49**	**228**	*e*PN	**Pb**	**08 08 53.0**	**-0.2**
EZN	**Ezine**	**1.49**	**228**	*e*Pn	**Pb**	**08 08 53.0**	**-0.2**
ADVT	**Abdulvahap**	**1.56**	**104**	*e*PN	**Pn**	**08 08 53.5**	**+0.3**
ADVT	**Abdulvahap**	**1.56**	**104**	*e*Pn	**Pn**	**08 08 53.5**	**+0.3**
CAVI	**Cavuskoy**	**1.71**	**111**	*e*PN	**Pb**	**08 08 56.3**	**-0.8**
CAVI	**Cavuskoy**	**1.71**	**111**	*e*Pn	**Pb**	**08 08 56.3**	**-0.8**
AYVA	**Ayvalik**	**1.73**	**208**	*i* P	**Pb**	**08 08 57.6**	**+0.2**
AYVA				*i* S	**Sg**	**08 09 21.3**	**-0.1**
AYVA	**Ayvalik**	**1.73**	**208**	*i* P	**Pb**	**08 08 57.6**	**+0.2**
AYVA				*i* S	**Sg**	**08 09 21.3**	**-0.1**
JMB	**Yambol**	**1.85**	**332**	*e*P	**Pb**	**08 08 58.9**	**-0.5**
JMB	**Yambol**	**1.85**	**332**	*e*P	**Pb**	**08 08 58.9**	**-0.5**
DEMI	**Demirci**	**1.94**	**157**	*i* P	**Pn**	**08 08 59.6**	**+1.2**
DEMI				*i* S	**Sg**	**08 09 27.1**	**-1.0**
DEMI	**Demirci**	**1.94**	**157**	*i* P	**Pn**	**08 08 59.6**	**+1.2**
DEMI				*i* S	**Sg**	**08 09 27.1**	**-1.0**
KDZ	**Kurdzhali**	**1.94**	**296**	*e*P	**Pn**	**08 08 58.9**	**+0.5**
KDZ	**Kurdzhali**	**1.94**	**296**	*e*P	**Pn**	**08 08 58.9**	**+0.5**
GULT	**Gulveren**	**2.14**	**100**	*e*PN	**Pn**	**08 09 02.4**	**+1.1**
GULT	**Gulveren**	**2.14**	**100**	*e*Pn	**Pn**	**08 09 02.4**	**+1.1**
BORA	**Eskisehir**	**2.27**	**114**	*i* P	**Pn**	**08 09 03.1**	**0.0**
BORA	**Eskisehir**	**2.27**	**114**	*i* P	**Pn**	**08 09 03.1**	**0.0**
PRD	**Provadia**	**2.38**	**354**	*e*P	**Pg**	**08 09 10.9**	**-0.5**
KULA	**Kula-Manisa**	**2.42**	**163**	*e*PN	**Pn**	**08 09 06.1**	**+1.0**
KULA	**Kula-Manisa**	**2.42**	**163**	*e*Pn	**Pn**	**08 09 06.1**	**+1.0**
RZN	**Rozhen**	**2.44**	**291**	P	**Pn**	**08 09 05.7**	**+0.2**
RZN	**Rozhen**	**2.44**	**291**	P	**Pn**	**08 09 05.7**	**+0.2**
BLCB	**Balcova**	**2.51**	**193**	*e*PN	**Pn**	**08 09 07.3**	**+1.1**
BLCB	**Balcova**	**2.51**	**193**	*e*Pn	**Pn**	**08 09 07.3**	**+1.1**
ALT	**Altintas**	**2.54**	**134**	*e*PN	**Pn**	**08 09 08.4**	**+1.7**
ALT	**Altintas**	**2.54**	**134**	*e*Pn	**Pn**	**08 09 08.4**	**+1.7**
ESKT	**Eskisehir**	**2.71**	**118**	*e*PN	**Pn**	**08 09 10.4**	**+1.2**
ESKT	**Eskisehir**	**2.71**	**118**	*e*Pn	**Pn**	**08 09 10.4**	**+1.2**
SZH	**Strazhica**	**2.78**	**331**	P	**Pn**	**08 09 10.3**	**+0.3**
SZH	**Strazhica**	**2.78**	**331**	P	**Pn**	**08 09 10.3**	**+0.3**
KHL	**Karahalli**	**2.86**	**151**	*e*PN	**Pn**	**08 09 12.3**	**+1.2**
KHL	**Karahalli**	**2.86**	**151**	*e*Pn	**Pn**	**08 09 12.3**	**+1.2**
PVL	**Pavlikeni**	**2.98**	**324**	P	**Pn**	**08 09 14.4**	**+1.6**
PVL	**Pavlikeni**	**2.98**	**324**	P	**Pn**	**08 09 14.4**	**+1.6**

IDC 25 08:11:01.2±3.6,14.20N×92.91W,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.4/23,mbtmp3.2/5,ML3.1/2,Error ellipse: s-maj=147.4km s-min=57.4km az=52.0,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.44**	**327**	Pn	Pn	08 11 55.2	-1.0
	1.9nm,0.3s,baz=150,slow=9.8,SNR=99						
CMIG				Sn	Sn	08 12 32.0	-5.7
	10.0nm,0.3s,baz=122,slow=15,SNR=13						
TXAR	**Lajitas Array**	**18.05**	**328**	P	P	08 15 15.2	+0.9
	0.0nm,0.3s,baz=154,slow=13,SNR=2.9						
YKA	**Yellowknife Ar**	**50.63**	**347**	P	P	08 20 02.4	+0.6
	0.1nm,0.4s,baz=152,slow=7.2,SNR=3.9						
INK	**Inuvik**	**59.99**	**344**	P	P	08 21 08.2	-1.1
	0.3nm,0.4s,baz=117,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**62.31**	**337**	P	P	08 21 25.1	0.0
	0.3nm,0.7s,baz=138,slow=4.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**145.51**	**340**	PKPbc	PKPbc	08 30 41.8	-0.6
	0.8nm,0.4s,baz=347,slow=3.7,SNR=4.9						

*NNC **25** 08:11:13.4±0.9,42.87N×77.58E,h1km±7km,mb3.0, mpv2.9,Error ellipse: s-maj=12.5km s-min=4.9km az=7.0*

ISC 25 08:11:15.0±1.7,42.86N±0.08×77.48E±0.09,h14km,n16, σ0s59/25,5C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.52**	**314**	⇑P	**Pg**	**08 11 24.5**	**-0.8**
KNDC				⇓S	**Sg**	**08 11 32.7**	**+0.4**
	23nm,0.5s						
	208nm,0.4s						
ULHL	**Ulahol**	**1.10**	**237**	P	**Pn**	**08 11 35.9**	**-0.3**
	SNR=247						
ULHL				P	**Pn**	**08 11 35.9**	**-0.3**
	SNR=247						
TKM2	**Tokmak 2**	**1.38**	**273**	P	**Pg**	**08 11 41.3**	**-0.3**
	SNR=15						
TKM2				P	**Pg**	**08 11 41.3**	**-0.3**
	SNR=15						
TKM2	**Tokmak 2**	**1.38**	**273**	⇓P	**Pb**	**08 11 40.9**	**+0.2**
	5.1nm,0.3s						
TKM2				⇑S	**Sg**	**08 12 00.1**	**+0.5**
	18nm,0.2s						
KZA	**Kyzart**	**1.82**	**245**	P	**Pb**	**08 11 49.0**	**+0.7**
	SNR=58						
KZA				P	**Pb**	**08 11 49.0**	**+0.7**
	SNR=58						
KBK	**Karagaybulak**	**1.87**	**265**	P	**Pg**	**08 11 50.2**	**-0.8**
	SNR=32						
KBK				P	**Pg**	**08 11 50.2**	**-0.8**
	SNR=32						
CHMS	**Chumysh**	**2.01**	**275**	P	**Pb**	**08 11 51.8**	**+0.6**
	SNR=14						
CHMS				P	**Pb**	**08 11 51.8**	**+0.6**
	SNR=14						
AAK	**Ala-Archa**	**2.21**	**265**	P	**Pb**	**08 11 55.7**	**+1.0**
	SNR=37						
AAK				P	**Pb**	**08 11 55.7**	**+1.0**
	SNR=37						
USP	**Ospenovka**	**2.22**	**282**	P	**Pb**	**08 11 55.3**	**+0.4**
	SNR=26						
USP				P	**Pb**	**08 11 55.3**	**+0.4**
	SNR=26						
UCH	**Uchtor**	**2.28**	**255**	P	**Pb**	**08 11 56.9**	**+0.8**
	SNR=5.8						
UCH				P	**Pb**	**08 11 56.9**	**+0.8**
	SNR=5.8						
EKS2	**Erkin-Say**	**2.73**	**267**	P	**Pb**	**08 12 03.6**	**-0.1**
	SNR=19						
EKS2				P	**Pb**	**08 12 03.6**	**-0.1**
	SNR=19						
AML	**Almayashu**	**2.89**	**257**	P	**Pb**	**08 12 06.3**	**-0.2**
	SNR=10						
AML				P	**Pb**	**08 12 06.3**	**-0.2**
	SNR=10						
KK31	**Karatay Array**	**5.12**	**275**	⇑Pg	Pb	08 12 48.2	+4.0
	0.2nm,0.2s,baz=328,slow=39,SNR=4.1						
KK31				Lg	Lg	08 13 57.7	
	3.8nm,0.5s,baz=90,slow=29,SNR=17						
MK31	**Makanchi Array**	**5.22**	**39**	⇓Pn	**Pn**	**08 12 32.6**	**+0.1**
	0.3nm,0.2s,baz=220,slow=13,SNR=24						
MK31				⇑Lg	Lg	08 13 56.1	
	9.1nm,1.1s,baz=217,slow=26,SNR=8.1						
KURBB	**Kurchatov Arra**	**7.80**	**5**	Lg	Lg	08 15 17.4	
	0.5nm,0.6s						
KURK	**Kurchatov**	**7.90**	**5**	⇑Lg	Lg	08 15 19.9	
	8.1nm,1.3s						

*IDC **25** 08:32:18.3±2.9,6.77S×107.05E,h114km±22km,mb3.7/6, mb1 3.9/6,mb1mx3.6/18,mbtmp3.7/6,MS2.7/1,Ms1 2.7/1, ms1mx2.3/35,Error ellipse: s-maj=60.6km s-min=14.0km az=51.0*
*DJA **25** 08:32:19,7.27S×106.72E,h108km,MLv4.6/20*

ISC 25 08:32:17.2±0.8,6.7S±0.1×107.0E±0.1,h95km,n35, σ2s50/19,mb4.2/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.52**	**236**	P	**Pn**	**08 32 34.9**	**+2.3**
LEM	**Lembang**	**0.63**	**101**	P	Pn	08 32 40.4	+6.7
SBJI	**Serang**	**1.04**	**304**	P	Pn	08 32 43.8	+6.2
CISI	**Cisompet, Garu**	**1.18**	**136**	P	**Pn**	**08 32 41.5**	**+2.2**
CCJI	**Cibinong**	**1.29**	**274**	P	**Pn**	**08 32 43.3**	**+2.7**
RBSI	**Rajabasa**	**1.51**	**305**	P	Pn	08 32 49.2	+5.9
CLJI	**Cilicap**	**2.25**	**117**	P	Pn	08 32 56.8	+4.0
BJII	**Banjamegara**	**2.77**	**103**	P	Pn	08 33 04.7	+4.9
KLI	**Kotabumi**	**2.81**	**311**	P	Pn	08 33 06.4	+6.2
LWLI	**Liwa**	**3.37**	**300**	P	Pn	08 33 13.4	+5.6
UGM	**Wanagama**	**3.70**	**109**	P	Pn	08 33 24.9	+13
PCJI	**Pacitan**	**4.41**	**110**	P	Pn	08 33 25.0	+3.2
PPBI	**Pangkal Pinang**	**4.59**	**349**	P	Pn	08 33 34.3	+10
	39nm,1.0s,3µm0.2nm						
MNAI	**Manna**	**4.64**	**300**	P	Pn	08 33 28.8	+3.8
SJI	**Sawahan**	**4.85**	**102**	P	Pn	08 33 39.1	+11
PWJI	**Pagerwojo**	**4.95**	**106**	P	Pn	08 33 33.5	+4.3
	88nm,0.6s,3µm1.0nm						
KSI	**Kapahiang**	**5.33**	**305**	P	Pn	08 33 38.7	+4.3
	561nm,0.7s,6µm2.1nm						
JAGI	**Jajag, Banyuwa**	**7.31**	**104**	P	Pn	08 34 07.4	+6.1
	55nm,1.1s,2µm0.6nm						
STKI	**Sintang**	**8.08**	**34**	P	Pn	08 34 22.7	+11
	34nm,0.8s,0.4nm						
PDSI	**Padang**	**8.69**	**311**	P	**Pn**	**08 34 22.2**	**+2.0**
	114nm,0.7s,4µm0.7nm						
PPI	**Padang Panjang**	**9.05**	**313**	P	Pn	08 34 33.0	+8.0
	31nm,0.7s						
MTNI	**Mataram**	**9.30**	**102**	P	**Pn**	**08 34 30.3**	**+1.9**
	66nm,0.7s,9µm						
MNSI	**Mandailing Nat**	**10.50**	**315**	P	**Pn**	**08 34 45.4**	**+0.6**
	27nm,0.5s,978nm						
KAPI	**Kappang**	**12.80**	**83**	LR	LR	08 41 44.1	
	comp=Z,39nm,21.5s,baz=266,slow=44						
FITZ	**Fitzroy Crossi**	**21.42**	**124**	P	**P**	**08 36 55.8**	**-1.8**
	1.9nm,0.7s,baz=304,slow=9.5,SNR=3.0						
FITZ				S	**S**	**08 40 46.7**	**-3.4**
	2.9nm,0.6s,baz=209,slow=17,SNR=5.0						
TNTI	**Ternate**	**21.65**	**71**	P	**P**	**08 37 04.9**	**+4.8**
	68nm,0.8s						
SWI	**Sorong**	**24.89**	**78**	P	**P**	**08 37 32.8**	**+1.4**
	33nm,0.7s						
WRA	**Warramunga Arr**	**29.62**	**119**	P	**P**	**08 38 12.8**	**-0.9**
	3.4nm,0.7s,baz=293,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**30.87**	**126**	P	**P**	**08 38 23.7**	**-1.0**
	2.3nm,0.8s,baz=299,slow=7.6,SNR=27						
PMG	**Port Moresby**	**39.85**	**97**	P	**P**	**08 39 43.0**	**+1.2**
STKA	**Stephens Creek**	**40.84**	**132**	P	**P**	**08 39 49.0**	**-0.8**
	6.8nm,0.5s,baz=316,slow=8.1,SNR=34						
SONM	**Songino Array**	**54.31**	**360**	PcP	**PcP**	**08 42 35.2**	**-1.5**
	0.6nm,0.4s,baz=179,slow=4.3,SNR=8.5						
SONM				ScP	**ScP**	**08 46 22.4**	**-4.1**
	0.4nm,0.6s,baz=168,slow=3.3,SNR=4.1						
USRK	**Ussuriysk Arra**	**55.47**	**22**	P	**P**	**08 41 42.2**	**+0.2**
	1.1nm,0.5s,baz=235,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**57.61**	**340**	P	**P**	**08 41 55.7**	**-1.6**
	0.2nm,0.5s,baz=146,slow=7.7,SNR=3.3						
TXAR	**Lajitas Array**	**143.38**	**48**	PKP	PKPbc	08 51 39.2	+0.4
	0.4nm,0.5s,baz=341,slow=1.9,SNR=19						
TXAR				SKPbc	**SKPbc**	**08 55 08.4**	**-3.0**
	0.2nm,0.6s,baz=4.9,slow=0.4,SNR=5.1						

IDC 25 08:54:07.6±52.0,17.14S×174.15W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/18,mbtmp4.0/3,Error ellipse: s-maj=992.0km s-min=174.0km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.56**	**241**	P	P	09 02 05.9	+0.5
	1.4nm,0.7s,baz=78,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**48.77**	**258**	P	P	09 02 54.4	-0.4
	0.9nm,0.4s,baz=97,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**48.91**	**253**	P	P	09 02 55.4	-0.4
	1.2nm,0.4s,baz=90,slow=8.1,SNR=31						

*ISCJB **25** 09:14:56.5±1.4,67.52N±0.04×33.8E±0.2,h10km,Error ellipse: s-maj=11.6km s-min=6.1km az=174.9*
*CSEM **25** 09:14:56.3±0.6,67.80N×33.86E,h2km,ML2.7,Error ellipse: s-maj=12.0km s-min=6.9km az=88.0,Mining explosion.*
*HEL **25** 09:14:58.1±0.3,67.67N×33.81E,h0km,ML2.3, ML2.7(NAO),Explosion*
*NAO **25** 09:14:58.1±1.2,67.63N×33.76E,ML2.7*
*IDC **25** 09:15:00.3±2.3,67.68N×33.53E,h0km,mb1 3.4/4, mb1mx3.1/26,mbtmp3.4/4,ML2.8/4,Error ellipse: s-maj=22.2km s-min=9.5km az=80.0*

ISC 25 09:14:55.5±1.6,67.57N±0.04×33.98E±0.09,h0km,n31, σ1s63/48,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.38**	**276**	Pg	**Pg**	**09 15 03.7**	**+0.9**
	baz=84,slow=16						
APA0				Lg	Lg	09 15 08.0	
	baz=84,slow=37						
APA0				Rg	Rg	09 15 09.2	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.38**	**276**	*i* P	**Pg**	**09 15 03.7**	**+0.9**
APA0				*i* S	**Sg**	**09 15 08.0**	**+0.3**
APA0				*e*RG	Rg	09 15 09.2	
APA0	**Apatity Array**	**0.38**	**276**	P	**Pg**	**09 15 03.6**	**+0.9**
APA0				S	**Sg**	**09 15 07.9**	**+0.3**
APA0				Lg	Lg	09 15 08.0	
	baz=84,slow=35						
VRF	**Varrio**	**1.68**	**278**	*e*P	**Pn**	**09 15 26.6**	**+0.5**
VRF				MSG		09 15 48.5	
	comp=Z,12nm,0.1s						
VRF				*e*SN		09 15 48.5	
**VRF

s-min=17.9km az=124.0
*BJI **25** 09:15:36.5,29°.94S×176°.81W,h40km,mB5.7/19,*
mb5.2/19,Ms5.5/11,Ms7 5.0/11
*MOS **25** 09:15:38.1±1.0,30°.03S×177°.85W,h33km,mb5.2/21,*
Error ellipse: s-maj=13.8km s-min=12.5km az=114.1
*ISCJB **25** 09:15:39.4±0.2,30°.61S±0°.03×177°.85W±0°.05,h50km,*
mb5.0/45,MS4.2/16,Error ellipse: s-maj=7.3km
s-min=2.2km az=28.4
*NEIC **25** 09:15:41.2±1.2,30°.01S×177°.84W,h51km±10km,mb5.0/23,*
Error ellipse: s-maj=10.8km s-min=7.7km az=136.0
ISC 25 09:15:41.2±0.3,30°.15S±0°.05×177°.86W±0°.07,h50km,
h49km:pP-P,n358,σ1§60/327,mb5.0/45,MS4.0/16,
38C-35D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
RAO	**Raoul Island**	**0.90**	**356**	*e*P		**Pn**	**09 15 54.8**	**-2.7**
RAO	**Raoul Island**	**0.90**	**356**	*e*Pn		**Pn**	**09 15 54.8**	**-2.7**
MXZ	**Matakaoa Point**	**8.05**	**202**	*e*Pn		Pn	09 17 30.7	-4.8
MXZ						**Sn**	**09 19 02.6**	**-2.5**
PUZ	**Puketiti**	**8.53**	**201**	*e*Pn		Pn	09 17 37.2	-5.0
PUZ						Sn	09 19 09.6	-7.4
WCZ	**Waipu Caves**	**8.73**	**227**			PN	09 17 49.1	+4.3
OUZ	**Omahuta**	**8.80**	**233**	*e*Pn		Pn	09 17 52.8	+7.1
OUZ	**Omahuta**	**8.80**	**233**			PN	09 17 52.3	+6.6
CNGZ	**Carnagh Statio**	**8.93**	**200**			PN	09 17 42.6	-4.9
OPRZ	**Ohinepanea**	**8.97**	**210**	*e*PN		Pn	09 17 45.4	-2.6
MWZ	**Matawai**	**9.01**	**204**	*e*PN		Pn	09 17 43.2	-5.5
MWZ						**Sn**	**09 19 26.1**	**-2.7**
URZ	**Urewera**	**9.10**	**206**	*e*Pn		Pn	09 17 45.1	-4.7
URZ				*e*Sn		Sn	09 19 25.7	-5.1
URZ	**Urewera**	**9.10**	**206**			PN	09 17 45.0	-4.8
URZ						Sn	09 19 26.7	-4.1
KNZ	**Kokohu**	**9.58**	**201**	*e*PN		Pn	09 17 51.4	-5.0
KNZ						Sn	09 19 36.6	-6.0
RAHZ	**Arahi**	**9.69**	**204**			SN	09 19 42.1	-3.1
NMHZ	**Naumai**	**9.95**	**205**	*e*PN		Pn	09 17 56.1	-5.4
NMHZ						SN	09 19 48.1	-3.7
BKZ	**Black Stump Fm**	**10.12**	**206**	*e*PN		Pn	09 17 53.5	-10
BKZ						SN	09 19 50.4	-5.6
MCHZ	**McNeill Hill**	**10.29**	**204**			SN	09 19 56.2	-3.9
KAHZ	**Kahuranaki**	**10.54**	**203**			PN	09 18 03.4	-6.3
BHHZ	**Black Hill Sta**	**10.57**	**207**	*e*PN		Pn	09 18 05.3	-4.7
PXZ	**Pawanui**	**10.76**	**202**	*e*PN		Pn	09 18 05.6	-7.0
PXZ						SN	09 20 02.0	-10
PNHZ	**Pukenui**	**10.89**	**205**			SN	09 20 07.7	-7.0
WPHZ	**Waipukurau**	**10.94**	**204**			SN	09 20 09.8	-6.0
PRHZ	**Porangahau**	**11.05**	**203**	*e*PN		Pn	09 18 09.0	-7.5
PRHZ						SN	09 20 11.3	-7.3
DVHZ	**Dannevirke**	**11.24**	**204**			SN	09 20 15.5	-7.8
BFZ	**Birch Farm**	**11.55**	**203**	*e*PN		Pn	09 18 15.6	-7.7
BFZ						SN	09 20 20.4	-10
TIWZ	**Tintock**	**11.76**	**204**			SN	09 20 27.5	-8.5
MRZ	**Mangatainoka R**	**11.77**	**205**	*e*PN		Pn	09 18 18.2	-8.2
MRZ						SN	09 20 25.9	-10
HOWZ	**Holdsworth Sta**	**12.00**	**205**			SN	09 20 30.7	-11
TMWZ	**Te Maipa**	**12.05**	**203**			SN	09 20 32.0	-11
OGWZ	**Otaki Gorge**	**12.06**	**206**	*e*PN		Pn	09 18 22.8	-7.5
OGWZ						SN	09 20 33.9	-9.4
KIW	**Kapiti Island**	**12.20**	**207**			SN	09 20 37.4	-9.2
MTW	**Mount Morrison**	**12.23**	**204**			SN	09 20 36.8	-11
CAW	**Cannon Point**	**12.35**	**206**			SN	09 20 40.0	-10
PAWZ	**Paruwai Farm**	**12.46**	**204**			SN	09 20 41.9	-11
TCW	**Tory Channel**	**12.75**	**208**			SN	09 20 49.4	-11
TUWZ	**Tuamarina**	**13.07**	**208**			SN	09 20 56.7	-11
NNZ	**Nelson**	**13.13**	**210**			SN	09 20 58.6	-11
QRZ	**Quartz Range**	**13.21**	**214**			SN	09 21 03.8	-7.6
CTZ	**Chatham Island**	**13.60**	**176**	*e*PN		Pn	09 18 46.1	-5.2
CTZ						SN	09 21 04.8	-16
THZ	**Tophouse**	**13.78**	**210**			PN	09 18 45.9	-8.0
THZ						SN	09 21 15.5	-10
KHZ	**Kahutara**	**14.06**	**207**	*e*Pn		Pn	09 18 53.7	-3.8
KHZ				*e*Sn		Sn	09 21 21.4	-11
KHZ	**Kahutara**	**14.06**	**207**	*e*PN		Pn	09 18 48.6	-8.9
DSZ	**Denniston Nort**	**14.27**	**213**	*e*PN		Pn	09 18 58.2	-2.1
DSZ						SN	09 21 28.3	-12
LTZ	**Lake Taylor**	**14.88**	**209**			PN	09 19 03.6	-4.9
LTZ						SN	09 21 35.6	-17
MQZ	**McQueen's Vall**	**15.50**	**207**			SN	09 21 50.4	-16
WVZ	**Waitaha Valley**	**15.80**	**212**	*e*PN		**Pn**	**09 19 19.9**	**-0.4**
RPZ	**Rata Peaks**	**16.16**	**210**			Pn	**09 19 24.1**	**-0.8**
	3.3nm,0.3s,baz=2.5,slow=0.8,SNR=24							
RPZ						Sn	09 22 07.5	-16
	1.2nm,0.3s,baz=317,slow=19,SNR=7.1							
RPZ	**Rata Peaks**	**16.16**	**210**	*e*P		**Pn**	**09 19 22.2**	**-2.7**
	22nm,0.6s							
RPZ				*e*Sn		Sn	09 22 11.5	-12
DZM	**Mont Dzumac**	**16.22**	**296**	*e*LR		LR	09 23 19.4	
	1μm,25.1s							
DZM	**Mont Dzumac**	**16.22**	**296**	Pn		P	09 19 33.0	+4.7
	1.0nm,0.3s,baz=98,slow=15,SNR=9.0							
DZM				LR		LR	09 24 22.0	
	comp=Z,701nm,20.2s,baz=200,slow=33							
DZM	**Mont Dzumac**	**16.22**	**296**	Pn		P	09 19 33.0	+4.7
FOZ	**Fox Glacier**	**16.66**	**213**	*e*PN		**Pn**	**09 19 29.5**	**-1.6**
AFI	**Afiamalu**	**17.11**	**20**	Pn		Pn	09 19 28.1	-8.9
	1.6nm,0.3s,baz=202,slow=5.4,SNR=2.9							
AFI						Sn	09 22 28.8	-18
	2.6nm,0.3s,baz=225,slow=19,SNR=3.3							
AFI	**Afiamalu**	**17.11**	**20**	P		Pn	09 19 28.1	-8.9
AFI	**Afiamalu**	**17.11**	**20**	Pn		Pn	09 19 28.1	-8.9
AFI						Sn	09 22 28.8	-18
ODZ	**Otahua Downs**	**17.41**	**208**	*e*P		**Pn**	**09 19 40.5**	**+0.1**
	719nm,2.0s							
RAR	**Rarotonga**	**18.55**	**66**	LR		LR	09 25 01.7	
	comp=Z,556nm,18.5s,baz=250,slow=31							
TBI	**Tubuai**	**26.20**	**82**	*e*LR		LR	09 27 35.6	
	530nm,27.0s							
ARMA	**Armidale**	**26.32**	**262**	*e*P		**P**	**09 21 15.7**	**+3.2**
ARMA	**Armidale**	**26.32**	**262**	*e*P		**P**	**09 21 15.7**	**+3.2**
	18nm,0.6s							
EIDS	**Eidsvold**	**27.85**	**272**	*e*P		**P**	**09 21 27.9**	**+1.7**
	21nm,0.7s							
CNB	**Canberra Magne**	**27.98**	**251**	*e*P		**P**	**09 21 30.1**	**+2.9**
	99nm,0.6s							
CAN	**Canberra**	**28.27**	**251**	*e*P		**P**	**09 21 32.3**	**+2.4**
CAN					pmax	pmax		
	comp=Z,57nm,1.0s							
CAN	**Canberra**	**28.27**	**251**	*e*P		**P**	**09 21 32.3**	**+2.4**
	comp=Z,57nm,1.0s							
PPT2	**Papeete2**	**28.64**	**71**	*e*S		S	09 26 10.4	-8.2
	comp=Z,80nm,26.0s							
PPT2				*e*LR		LR	09 28 47.0	
	comp=Z,516nm,26.2s,baz=238							
HNR	**Honiara**	**29.23**	**310**	LR		LR	09 31 26.4	
	comp=Z,148nm,18.7s,baz=100,slow=33							
TOO	**Toolangi**	**31.18**	**246**	*e*P		**P**	**09 21 57.0**	**+1.5**
	comp=Z,78nm,0.6s							
CTA	**Charters Tower**	**33.88**	**279**	LR		LR	09 34 41.3	
	comp=Z,285nm,18.3s,baz=42,slow=34							
CTA	**Charters Tower**	**33.88**	**279**	*e*P		**P**	**09 22 21.1**	**+1.8**
	comp=Z,54nm,0.4s							
CTAO	**Charters Tower**	**33.88**	**279**	*e*P		**P**	**09 22 21.1**	**+1.8**
CTAO					pmax	pmax		
	comp=Z,78nm,0.6s							
CTAO	**Charters Tower**	**33.88**	**279**	*e*P		**P**	**09 22 21.1**	**+1.8**
	comp=Z,78nm,0.6s							
STKA	**Stephens Creek**	**34.66**	**257**	P		**P**	**09 22 28.2**	**+2.3**
	comp=Z,38nm,0.5s,baz=99,slow=10,SNR=152							
STKA				LR		LR	09 33 50.3	
	comp=Z,275nm,19.2s,baz=289,slow=32							
STKA	**Stephens Creek**	**34.66**	**257**	*e*P		**P**	**09 22 27.6**	**+1.7**
	comp=Z,28nm,0.4s							
STKA	**Stephens Creek**	**34.66**	**257**	*e*P		**P**	**09 22 27.6**	**+1.7**
STKA					pmax	pmax		
	comp=Z,8.0nm,0.6s							
STKA	**Stephens Creek**	**34.66**	**257**	*e*P		**P**	**09 22 27.6**	**+1.7**
	comp=Z,8.1nm,0.6s							
PMG	**Port Moresby**	**38.61**	**295**	P		**P**	**09 22 59.7**	**0.0**
	comp=Z,9.5nm,0.9s,baz=141,slow=2.0,SNR=5.5							
PMG	**Port Moresby**	**38.61**	**295**	*de*P		**P**	**09 23 00.7**	**+0.9**
PMG					pmax	pmax		
	comp=Z,13nm,0.9s							
PMG	**Port Moresby**	**38.61**	**295**	P		**P**	**09 22 59.7**	**0.0**
RKT	**Rikitea**	**38.79**	**90**	*e*LR		LR	09 33 21.4	
	comp=Z,346nm,27.8s							
BBOO	**Buckleboo**	**39.16**	**254**	*e*P		**P**	**09 23 03.9**	**-0.2**
	comp=Z,354nm,0.8s							
COEN	**Coen**	**39.32**	**286**	*e*P		**P**	**09 23 06.7**	**+1.0**
	comp=Z,26nm,0.5s							
AS31	**Alice Springs**	**43.25**	**267**	*e*P		**P**	**09 23 37.8**	**-0.2**
ASAR	**Alice Springs**	**43.25**	**267**	P		**P**	**09 23 37.6**	**-0.3**
	comp=Z,19nm,0.6s,baz=102,slow=7.0,SNR=310							
ASAR						ScP	ScP	09 29 21.2	+7.7
	comp=Z,1.8nm,0.9s,baz=107,slow=4.3,SNR=7.1							
ASAR	**Alice Springs**	**43.25**	**267**	P		**P**	**09 23 37.6**	**-0.3**
ASAR	**Alice Springs**	**43.25**	**267**	P		**P**	**09 23 37.6**	**-0.3**
ASAR						ScP	ScP	09 29 21.2	+7.7
WB2	**Warramunga Arr**	**44.20**	**272**	*e*P		**P**	**09 23 45.1**	**-0.4**
WRAB	**Tennant Creek**	**44.21**	**272**	*e*P		**P**	**09 23 45.3**	**-0.3**
WRAB					pmax	pmax		
	comp=Z,44nm,0.6s							
WRAB	**Tennant Creek**	**44.21**	**272**	*e*P		**P**	**09 23 45.3**	**-0.3**
	comp=Z,44nm,0.6s							
WRAB	**Tennant Creek**	**44.21**	**272**	P		**P**	**09 23 45.7**	**+0.1**
	comp=Z,524nm,0.5s,SNR=25							
WRA	**Warramunga Arr**	**44.21**	**272**	P		**P**	**09 23 45.4**	**-0.3**
	comp=Z,51nm,0.5s,baz=111,slow=7.9,SNR=339							
WRA						ScP	**ScP**	**09 29 23.6**	**+6.1**
	comp=Z,2.1nm,1.0s,baz=108,slow=4.0,SNR=5.8							
WRA						S	**S**	**09 30 18.4**	**+2.6**
	comp=Z,1.0nm,0.9s,baz=109,slow=15,SNR=3.9							
WRA						LR	LR	09 40 15.3	
	comp=Z,186nm,21.5s,baz=90,slow=33							
WRA	**Warramunga Arr**	**44.21**	**272**	P		**P**	**09 23 45.4**	**-0.3**
WRA						S	**S**	**09 30 18.4**	**+2.6**
WRA	**Warramunga Arr**	**44.21**	**272**	P		**P**	**09 23 45.4**	**-0.3**
WRA						ScP	**ScP**	**09 29 23.6**	**+6.1**
WRA						S	**S**	**09 30 18.4**	**+2.6**
FORT	**Forrest**	**46.23**	**255**	*e*P		**P**	**09 24 00.8**	**-0.7**
	comp=Z,20nm,0.5s							
FORT	**Forrest**	**46.23**	**255**	*e*P		**P**	**09 24 00.5**	**-1.0**
	comp=Z,24nm,0.6s							
SBA	**Scott Base**	**48.29**	**184**	*e*P		**P**	**09 24 19.1**	**+2.2**
SBA					pmax	pmax		
	comp=Z,12nm,0.7s							
SBA	**Scott Base**	**48.29**	**184**	*e*P		**P**	**09 24 19.1**	**+2.2**
	comp=Z,12nm,0.7s							
VNDA	**Vanda**	**48.35**	**186**	*e*P		P	09 24 20.6	+3.2
VNDA					pmax	pmax		
	comp=Z,4.0nm,0.5s							
VNDA	**Vanda**	**48.35**	**186**	*e*P		P	09 24 20.6	+3.2
	comp=Z,4.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**52.48**	**270**	LR		LR	09 46 04.5	
	comp=Z,126nm,18.2s,baz=111,slow=35							
FITZ	**Fitzroy Crossi**	**52.48**	**270**	*e*P		**P**	**09 24 49.1**	**-0.3**
	comp=Z,26nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.48**	**270**	*e*P		**P**	**09 24 49.3**	**-0.1**
	comp=Z,16nm,0.7s							
NWAO	**Narrogin (SRO)**	**54.60**	**249**	LR		LR	09 44 22.9	
	comp=Z,140nm,21.9s,baz=28,slow=32							
CASY	**Casey**	**55.42**	**208**	*e*P		**P**	**09 25 09.8**	**-0.3**
CASY	**Casey**	**55.42**	**208**	*e*P		**P**	**09 25 09.7**	**-0.4**
	comp=Z,27nm,0.7s							
QSPA	**South Pole Qui**	**59.96**	**180**	P		**P**	**09 25 44.5**	**+2.4**
	comp=Z,67nm,1.3s,baz=75,slow=1.0,SNR=22							
QSPA	**South Pole Qui**	**59.96**	**180**	P		**P**	**09 25 44.5**	**+2.4**
MAW	**Mawson**	**72.58**	**201**	P		**P**	**09 27 03.4**	**+0.7**
	comp=Z,6.2nm,0.8s,baz=129,slow=4.3,SNR=4.1							
MAW						LR	LR	09 57 43.3	
	comp=Z,176nm,18.0s,baz=22,slow=35							
MAW	**Mawson**	**72.58**	**201**	P		**P**	**09 27 03.4**	**+0.7**
MAW	**Mawson**	**72.58**	**201**	P		**P**	**09 27 03.4**	**+0.7**
SYO	**Syowa Base**	**77.38**	**193**	*e*P		**P**	**09 27 29.7**	**-0.7**
SYO	**Syowa Base**	**77.38**	**193**	*e*PcP		**PcP**	**09 27 39.6**	**-1.1**
SYO	**Syowa Base**	**77.38**	**193**	*e*sP		sP	09 27 45.0	-5.3
MJAR	**Matsushiro Arr**	**78.11**	**325**	P		**P**	**09 27 33.6**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=165,slow=5.2,SNR=7.3							
MJAR	**Matsushiro Arr**	**78.11**	**325**	P		**P**	**09 27 33.6**	**-1.2**
MJAR	**Matsushiro Arr**	**78.11**	**325**	P		**P**	**09 27 33.6**	**-1.2**
MAT	**Matsushiro**	**78.11**	**325**	P		**P**	**09 27 35.4**	**+0.6**
SNAA	**Sanae**	**78.40**	**178**	*e*		P	09 27 33.2	-2.9
SNAA	**Sanae**	**78.40**	**178**	*e*P		P	09 27 33.0	-3.1
SNAA					pmax	pmax		
	comp=Z,9.0nm,0.6s							
SNAA	**Sanae**	**78.40**	**178**	*e*P		P	09 27 33.0	-3.1
	comp=Z,8.8nm,0.6s							
VNA3	**Neumayer Olymp**	**78.54**	**176**	*e*		**P**	**09 27 37.6**	**+0.8**
VNA2	**Neumayer--Watz**	**78.98**	**177**	*e*		**P**	**09 27 40.4**	**+1.2**
PLCA	**Paso Flores**	**82.58**	**133**	P		**P**	**09 28 00.5**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=243,slow=4.9,SNR=5.5							
PLCA						LR	LR	09 54 34.9	
	comp=Z,64nm,21.3s,baz=240,slow=28							
PLCA	**Paso Flores**	**82.58**	**133**	*e*P		**P**	**09 28 00.5**	**+1.4**
PLCA					pmax	pmax		
	comp=Z,7.0nm,0.9s							
PLCA	**Paso Flores**	**82.58**	**133**	*e*P		**P**	**09 28 00.5**	**+1.4**
	comp=Z,6.6nm,0.9s							
UNV	**Unasla Valle**	**84.23**	**7**	*e*P		**P**	**09 28 06.2**	**-0.5**
	comp=Z,35nm,1.1s							
KSRS	**Korea Array**	**84.24**	**320**	P		**P**	**09 28 07.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=137,slow=6.3,SNR=7.6							
KSAR	**Wonju Array Be**	**84.25**	**320**	P		**P**	**09 28 07.3**	**-0.1**
KSAR	**Wonju Array Be**	**84.25**	**320**	P		**P**	**09 28 07.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**84.58**	**334**	*e*P		**P**	**09 28 10.9**	**+2.1**
PETK	**Petropavlovsk-**	**85.60**	**346**	P		**P**	**09 28 13.8**	**0.0**
	comp=Z,8.2nm,0.6s,baz=125,slow=7.2,SNR=23							
PETK	**Petropavlovsk-**	**85.60**	**346**	P		**P**	**09 28 13.8**	**0.0**
PETK	**Petropavlovsk-**	**85.60**	**346**	P		**P**	**09 28 13.8**	**0.0**
VES	**Vestal, Richgr**	**85.78**	**44**	⇑P		**P**	**09 28 15.4**	**+0.3**
	baz=86							
EDW2	**Edwards Air Fo**	**85.81**	**45**	⇑P		**P**	**09 28 16.1**	**+0.7**
	baz=86							
PFO	**Pinyon Flat Ob**	**85.95**	**47**	⇓P		**P**	**09 28 16.8**	**+0.7**
	baz=86							
ISA	**Isabella**	**86.03**	**45**	*e*P		**P**	**09 28 17.0**	**+0.5**
ISA					pmax	pmax		
	comp=Z,13nm,1.4s							
ISA	**Isabella**	**86.03**	**45**	*e*P		**P**	**09 28 17.0**	**+0.5**
	comp=Z,14nm,1.4s							
ISA	**Isabella**	**86.03**	**45**	⇓P		**P**	**09 28 17.3**	**+0.8**
	baz=86							
NJ2	**Nanjing**	**86.18**	**311**	*e*P		P	09 28 20.5	+3.4
NJ2						sP	sP	09 28 33.5	-3.7
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
BELC	**Belle Mtn. Jos**	**86.49**	**47**	⇓P		**P**	**09 28 19.9**	**+1.0**
	baz=87,SNR=5.4							
CMB	**Columbia Colle**	**86.49**	**42**	*e*P		**P**	**09 28 18.6**	**0.0**
CMB					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CMB	**Columbia Colle**	**86.49**	**42**	*e*P		**P**	**09 28 18.6**	**0.0**
	comp=Z,4.3nm,0.8s							
BC3	**Big Chuckawall**	**86.62**	**48**	⇓P		**P**	**09 28 20.6**	**+1.2**
	baz=87							
GSC	**Goldstone**	**86.82**	**46**	⇓P		**P**	**09 28 21.2**	**+0.8**
	baz=87							
MPMC	**Manual Prospec**	**86.90**	**45**	⇓P		**P**	**09 28 21.5**	**+0.7**
	baz=87							
USRK	**Usuriysk Arra**	**87.02**	**326**	P		**P**	**09 28 21.5**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=106,slow=4.8,SNR=5.2							
USRK						LR	LR	10 06 42.8	
	comp=Z,64nm,18.1s,baz=260,slow=35							
IRM	**Iron Mountain**	**87.13**	**48**	⇑P		**P**	**09 28 23.0**	**+1.2**
	baz=87,SNR=5.4							
214A	**Organ Pipe Nat**	**87.28**	**50**	⇑P		**P**	**09 28 23.6**	**+1.0**
	baz=87							
Z13A	**Yuma Proving G**	**87.49**	**49**	⇑P		**P**	**09 28 24.4**	**+0.9**
	baz=88,SNR=6.1							
SHOC	**Shoshone**	**87.54**	**46**	⇓P		**P**	**09 28 24.6**	**+0.9**
	baz=88							
114A	**Black Gap (USA**	**87.72**	**50**	⇓P		**P**	**09 28 25.6**	**+0.9**
	baz=88							
NVAR	**Mina Array Bea**	**87.97**	**43**	P		**P**	**09 28 26.1**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=220,slow=8.1,SNR=25							
NVAR						LR	LR	09 59 14.0	
	comp=Z,123nm,21.3s,baz=97,slow=30							
NVAR	**Mina Array Bea**	**87.97**	**43**	P		**P**	**09 28 26.1**	**+0.2**
Z14A	**Wintersburg**	**88.06**	**49**	⇑P		**P**	**09 28 27.5**	**+1.3**
	baz=88							
Y14A	**Wickenburg**	**88.38**	**49**	⇑P		**P**	**09 28 28.8**	**+1.0**
	baz=88,SNR=7.3							
MDJ	**Mudanjiang**	**88.49**	**325**	P		**P**	**09 28 30.0**	**+2.0**
MDJ						pP	**pP**	**09 28 39.5**	**-3.1**
MDJ						sP	**sP**	**09 28 43.3**	**-4.8**
MDJ						PP	**PP**	**09 31 58.8**	**+1.8**
MDJ						S	**ScS**	**09 39 15.0**	**-0.4**
MDJ						SS	**SS**	**09 45 05.3**	**+3.3**
MDJ					pmax	pmax			
	comp=Z,3.0nm,1.2s							
MDJ					pmax	pmax			
	comp=Z,93nm,5.0s							
W13A	**Hualapai Mount**	**88.53**	**47**	⇓P		**P**	**09 28 29.8**	**+1.1**
	baz=89							
TUC	**Tucson**	**88.86**	**51**	*e*P		**P**	**09 28 31.1**	**+0.9**
TUC					pmax	pmax		
	comp=Z,10.0nm,1.4s							
TUC	**Tucson**	**88.86**	**51**	*e*P		**P**	**09 28 31.1**	**+0.9**
	comp=Z,10nm,1.4s							
HABR	**Khabarovsk**	**88.89**	**331**	*e*P		**P**	**09 28 29.8**	**+0.1**
HABR				*e**PP		**pP**	**09 28 40.3**	**-4.1**
HABR				*e**SP			09 31 59.7	
HABR				*e*S		**SKSac**	**09 38 56.3**	**+1.6**
HABR				*e*S		**S**	**09 39 10.6**	**-2.7**
HABR				*e*SS		**SS**	**09 45 11.1**	**+3.6**
HABR					SSS	SSS	09 48 46.7	
HABR					pmax	pmax		
	comp=N,7.0nm,1.2s							
HABR					pmax	pmax		
	comp=E,10.0nm,1.2s							
HABR					pmax	pmax		
	comp=Z,5.0nm,1.2s							
HABR					MLR	MLR		
	comp=Z,44nm,18.0s							
X16A	**Lo Mia Camp, P**	**89.69**	**49**	⇑P		**P**	**09 28 35.6**	**+1.5**
	baz=90,SNR=12							
CN2	**Changchun**	**90.02**	**323**	*e*P		**P**	**09 28 34.8**	**-0.4**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
Y18A	**Canyon Day Jun**	**90.24**	**50**	⇑P		**P**	**09 28 38.1**	**+1.5**
	baz=90,SNR=11							
U15A	**North Rim**	**90.37**	**47**	⇑P		**P**	**09 28 38.7**	**+1.4**
	baz=90							
WUAZ	**Wupatki**	**90.41**	**48**	⇓P		**P**	**09 28 38.5**	**+1.1**
	baz=90							
120A	**U Bar Ranch, L**	**90.46**	**52**	⇓P		**P**	**09 28 39.2**	**+1.5**
	baz=91,SNR=6.0							
X18A	**Snowflake**	**90.75**	**50**	⇑P		**P**	**09 28 40.1**	**+1.1**
	baz=91							
Z20A	**Nine Sixteen R**	**90.82**	**52**	⇑P		**P**	**09 28 40.8**	**+1.4**
	baz=91,SNR=7.3							
V17A	**Tonalea, Kykot**	**90.84**	**49**	⇑P		**P**	**09 28 40.7**	**+1.2**
	baz=91							
Y19A	**Nutrioso**	**90.87**	**51**	⇑P		**P**	**09 28 40.8**	**+1.1**
	baz=91							
KLR	**Kul'dur**	**90.88**	**330**	*e*P		P	09 28 34.3	-4.8
Y20A	**Horse Springs,**	**91.43**	**51**	⇓P		**P**	**09 28 43.7**	**+1.4**
	baz=92,SNR=7.5							
V18A	**Ganado**	**91.46**	**49**	⇓P		**P**	**09 28 43.7**	**+1.3**
	baz=92							
GYA	**Guiyang**	**91.54**	**300**	P		**P**	**09 28 43.5**	**+0.7**
GYA				pP		**pP**	**09 28 55.8**	**-1.7**
GYA				sP		**sP**	**09 29 01.3**	**-1.7**
GYA				PP		**PP**	**09 32 25.3**	**+3.5**
GYA				SKS		**SKSac**	**09 39 12.0**	**+0.5**
GYA				S		**S**	**09 39 39.0**	**-0.1**
GYA				sS		sS	09 39 58.5	-5.3
GYA				SS		**SS**	**09 45 51.0**	**+4.1**
GYA					pmax	pmax		
	comp=Z,20nm,1.0s							
GYA					pmax	pmax		
	comp=Z,130nm,5.6s							
GYA					LR	LR		
	comp=N,580nm,19.5s							
GYA					LR	LR		
	comp=E,540nm,20.4s							
GYA					LR	LR		
	comp=Z,560nm,19.9s							
ENH	**Enshi**	**91.56**	**304**	*e*P		**P**	**09 28 41.7**	**-1.0**
	comp=Z,5.6nm,0.7s							
X20A	**Quemado**	**91.72**	**51**	⇑P		**P**	**09 28 44.9**	**+1.3**
	baz=92,SNR=5.4							
626A	**Big Bend Ranch**	**91.93**	**57**	⇓P		**P**	**09 28 45.2**	**+0.6**
	baz=92							
Y21A	**Point of Rocks**	**91.97**	**51**	⇓P		**P**	**09 28 46.2**	**+1.4**
	baz=92							
Z22A	**Elephant Butte**	**92.02**	**52**	⇑P		**P**	**09 28 45.7**	**+0.8**
	baz=92							
W20A	**Ramah**	**92.06**	**50**	⇑P		**P**	**09 28 46.5**	**+1.3**
	baz=92,SNR=7.0							
X21A	**Alamocita Cree**	**92.14**	**51**	⇑P		**P**	**09 28 46.8**	**+1.2**
	baz=92							
TXAR	**Lajitas Array**

HHC				PP	**PP**	**09 33 01.8**	**+4.2**	
HHC				S	**ScS**	**09 40 20.0**	**+0.4**	
HHC				sS	sS	09 40 37.8	-6.1	
HHC				SS	**SS**	**09 46 58.0**	**+5.6**	
HHC				pmax	pmax			
	comp=Z,150nm,7.2s							
HHC				LR	LR			
	comp=N,260nm,17.5s							
HHC				LR	LR			
	comp=E,260nm,18.8s							
HHC				LR	LR			
	comp=Z,270nm,18.2s							
ILAR	**Eielson Array**	**97.66**	**13**	P	**P**	**09 29 08.8**	**-1.0**	
	comp=Z,0.7nm,0.8s,baz=219,slow=5.8,SNR=5.8							
ILAR				LR	LR	10 08 16.9		
	comp=Z,54nm,20.6s,baz=75,slow=32							
ILAR	**Eielson Array**	**97.66**	**13**	P	**P**	**09 29 08.8**	**-1.0**	
ILAR	**Eielson Array**	**97.66**	**13**	P	**P**	**09 29 08.8**	**-1.0**	
LPAZ	**La Paz**	**98.13**	**114**	LR	LR	10 04 47.2		
	comp=Z,46nm,18.8s,baz=238,slow=30							
LZH	**Lanzhou**	**98.67**	**307**	*e*P	Pdif	09 29 17.8	+2.5	
LZH				pP	pP	09 29 29.0	-0.9	
LZH				sP	sP	09 29 32.8	-2.7	
LZH				PP	**PP**	**09 33 23.0**	**+5.9**	
LZH				pmax	pmax			
	comp=Z,17nm,1.5s							
LZH				pmax	pmax			
	comp=Z,85nm,8.3s							
LZH				LR	LR			
	comp=N,220nm,17.5s							
LZH				LR	LR			
	comp=E,210nm,18.3s							
LZH				LR	LR			
	comp=Z,280nm,19.8s							
SONM	**Songino Array**	**103.04**	**318**	P	**Pdif**	**09 29 33.7**	**-0.6**	
	comp=Z,0.2nm,0.7s,baz=98,slow=2.9,SNR=2.7							
SONM				PKiKP	**PKiKP**	**09 33 55.0**	**+1.0**	
	comp=Z,0.2nm,0.5s,baz=83,slow=0.9,SNR=3.1							
SONM	**Songino Array**	**103.04**	**318**	P	**Pdif**	**09 29 33.8**	**-0.6**	
SONM				*i*		09 33 55.0		
SONM	**Songino Array**	**103.04**	**318**	P	**Pdif**	**09 29 33.8**	**-0.6**	
SONM				PKiKP	**PKiKP**	**09 33 55.0**	**+1.0**	
YKA	**Yellowknife Ar**	**105.17**	**25**	PKiKP	**PKiKP**	**09 33 56.0**	**-1.2**	
	comp=Z,0.3nm,0.6s,baz=256,slow=1.4,SNR=9.6							
YKA				PKKPbc	**PKKPbc**	**09 45 23.8**	**-1.9**	
	comp=Z,0.5nm,0.6s,baz=40,slow=3.1,SNR=12							
YKA	**Yellowknife Ar**	**105.17**	**25**	PKiKP	**PKiKP**	**09 33 56.0**	**-1.2**	
YKA				PKKPbc	**PKKPbc**	**09 45 23.8**	**-1.9**	
BOSA	**Boshof**	**117.54**	**203**	PKP	**PKPdf**	**09 34 21.8**	**-0.3**	
	comp=Z,0.9nm,0.5s,baz=176,slow=4.0,SNR=3.9							
BOSA	**Boshof**	**117.54**	**203**	PKiKP	**PKPdf**	**09 34 21.8**	**-0.3**	
BOSA	**Boshof**	**117.54**	**203**	PKP	**PKPdf**	**09 34 21.8**	**-0.3**	
MK31	**Makanchi Array**	**117.71**	**310***c*	*i*PKiKP	**PKPdf**	**09 34 20.1**	**-1.5**	
MK31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MK31	**Makanchi Array**	**117.71**	**310**	*e*PKPdf	**PKPdf**	**09 34 20.4**	**-1.2**	
MKAR	**Makanchi Array**	**117.71**	**310**	PKP	**PKPdf**	**09 34 20.0**	**-1.5**	
	comp=Z,2.4nm,0.6s,baz=98,slow=3.2,SNR=38							
MKAR				PKKPbc	**PKKPbc**	**09 44 43.6**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=261,slow=3.8,SNR=6.6							
MKAR	**Makanchi Array**	**117.71**	**310***c*	*i*PKiKP	**PKPdf**	**09 34 20.1**	**-1.5**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**117.71**	**310**	PKP	**PKPdf**	**09 34 20.0**	**-1.5**	
MKAR				PKKPbc	**PKKPbc**	**09 44 43.6**	**-0.1**	
ZALV	**Zalesovo Beam**	**117.93**	**318**	PKP	**PKPdf**	**09 34 20.1**	**-1.6**	
	comp=Z,1.7nm,0.6s,baz=151,slow=3.3,SNR=8.6							
ZALV	**Zalesovo Beam**	**117.93**	**318**	PKiKP	**PKPdf**	**09 34 20.1**	**-1.6**	
ZALV	**Zalesovo Beam**	**117.93**	**318**	PKP	**PKPdf**	**09 34 20.1**	**-1.6**	
NVS	**Novosibirsk**	**119.03**	**319**	*e*PKiKP	**PKPdf**	**09 34 22.3**	**-1.5**	
KSH	**Kashi**	**120.22**	**301**	*e*PKP	**PKPdf**	**09 34 27.0**	**+0.2**	
KSH				*e*PKS	**PKSdf**	**09 38 02.3**	**-1.2**	
KSH				*e*SKKS		09 42 44.5		
KSH				AMB	AMB			
	comp=Z,120nm,4.9s							
KSH				LR	LR			
	comp=N,190nm,6.2s							
KSH				LR	LR			
	comp=E,180nm,5.5s							
KSH				LR	LR			
	comp=Z,250nm,5.5s							
ULHL	**Ulahol**	**120.73**	**304**	P	**PKPdf**	**09 34 27.2**	**-0.5**	
	SNR=6.8							
ULHL				P	**PKPdf**	**09 34 27.2**	**-0.5**	
	SNR=6.8							
KURK	**Kurchatov**	**120.97**	**314**	PKP	**PKPdf**	**09 34 26.4**	**-1.2**	
	comp=Z,9.3nm,0.6s,baz=109,slow=1.8,SNR=62							
KURK	**Kurchatov**	**120.97**	**314**	*i*PKiKP	**PKPdf**	**09 34 26.2**	**-1.4**	
KURK				pmax	pmax			
	comp=Z,15nm,1.2s							
KURK	**Kurchatov**	**120.97**	**314**	*e*PKPdf	**PKPdf**	**09 34 26.1**	**-1.6**	
KURK				PKP	**PKPdf**	**09 34 26.4**	**-1.2**	
TKM2	**Tokmak 2**	**121.35**	**304**	P	PKPdf	09 34 21.2	-7.8	
	SNR=5.2							
TKM2				P	PKPdf	09 34 21.2	-7.8	
	SNR=5.2							
TKM2	**Tokmak 2**	**121.35**	**304**	*i*PKiKP	PKPdf	09 34 21.1	-7.8	
KZA	**Kyzart**	**121.40**	**303**	P	**PKPdf**	**09 34 29.0**	**-0.3**	
	SNR=9.2							
KZA				P	**PKPdf**	**09 34 29.0**	**-0.3**	
	SNR=9.2							
CHMS	**Chumysh**	**121.98**	**304**	P	**PKPdf**	**09 34 29.1**	**-0.8**	
	SNR=6.3							
CHMS				P	**PKPdf**	**09 34 29.1**	**-0.8**	
	SNR=6.3							
AAK	**Ala-Archa**	**122.08**	**304**	*i*PKiKP	**PKPdf**	**09 34 29.9**	**-0.4**	
AAK				pmax	pmax			
	comp=Z,16nm,1.2s							
AAK	**Ala-Archa**	**122.08**	**304**	*e*PKPdf	**PKPdf**	**09 34 29.1**	**-1.2**	
USP	**Ospenovka**	**122.22**	**305**	P	**PKPdf**	**09 34 29.6**	**-0.8**	
	SNR=7.9							
USP				P	**PKPdf**	**09 34 29.6**	**-0.8**	
	SNR=7.9							
AML	**Almayashu**	**122.54**	**303**	P	PKPpre	09 34 15.0		
	SNR=9.0							
EKS2	**Erkin-Say**	**122.60**	**304**	P	**PKPdf**	**09 34 31.1**	**-0.2**	
	SNR=6.5							
EKS2				P	**PKPdf**	**09 34 31.1**	**-0.2**	
	SNR=6.5							
KBL	**Kabul**	**124.24**	**293**	*e*PKiKP	**PKPdf**	**09 34 34.7**	**-0.1**	
KBL	**Kabul**	**124.24**	**293**	*e*PKPdf	**PKPdf**	**09 34 34.7**	**-0.1**	
KK31	**Karatay Array**	**125.04**	**304***c*	*i*PKiKP	**PKPdf**	**09 34 34.7**	**-1.1**	
KK31				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KKAR	**Karatay Array**	**125.04**	**304**	*e*PKiKP	**PKPdf**	**09 34 34.8**	**-1.0**	
KKAR	**Karatay Array**	**125.04**	**304**	*e*PKPdf	**PKPdf**	**09 34 34.8**	**-1.0**	
VOSK	**Vostochnaya**	**125.94**	**316**	PKiKP	**PKPdf**	**09 34 35.4**	**-1.8**	
VOSK				pmax	pmax			
	comp=Z,12nm,0.7s							
BVA0	**Borovoye Array**	**126.31**	**316**	*i*PKiKP	**PKPdf**	**09 34 36.8**	**-1.1**	
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**126.31**	**316**	PKP	**PKPdf**	**09 34 37.1**	**-0.8**	
	comp=Z,8.1nm,0.5s,baz=102,slow=1.6,SNR=96							
BVAR	**Borovoye Array**	**126.31**	**316**	PKiKP	**PKPdf**	**09 34 37.1**	**-0.8**	
BVAR	**Borovoye Array**	**126.31**	**316**	PKP	**PKPdf**	**09 34 37.1**	**-0.8**	
BRVK	**Borovoye**	**126.38**	**316**	*e*PKiKP	**PKPdf**	**09 34 36.8**	**-1.2**	
BRVK	**Borovoye**	**126.38**	**316**	*e*PKPdf	**PKPdf**	**09 34 36.8**	**-1.2**	
AB31	**Akbulak array**	**132.84**	**311***c*	*i*PKiKP	**PKPdf**	**09 34 50.5**	**+0.1**	
AB31				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**132.84**	**311**	*e*PKPdf	**PKPdf**	**09 34 50.4**	**+0.1**	
ARU	**Arti**	**132.98**	**321**	*i*PKiKP	**PKPdf**	**09 34 49.6**	**-0.8**	
ARU	**Arti**	**132.98**	**321**	*e*PKPdf	**PKPdf**	**09 34 50.2**	**-0.1**	
AKTO	**Aktyubinsk**	**134.03**	**313**	PKP	**PKPdf**	**09 34 52.0**	**-0.6**	
	comp=Z,4.4nm,0.6s,baz=97,slow=4.7,SNR=20							
AKTO	**Aktyubinsk**	**134.03**	**313**	PKiKP	**PKPdf**	**09 34 52.0**	**-0.6**	
AKTO	**Aktyubinsk**	**134.03**	**313**	PKP	**PKPdf**	**09 34 52.0**	**-0.6**	
ARCES	**ARCESS Array B**	**138.37**	**348**	PKhKP	PKPpre	09 34 50.0		
	comp=Z,1.2nm,0.5s,baz=60,slow=2.9,SNR=11							
ARCES	**ARCESS Array B**	**138.37**	**348**	PKHKP	PKPpre	09 34 50.0		
ARCES	**ARCESS Array B**	**138.37**	**348**	PKPpre	PKPpre	09 34 50.0		
KLMR	**Klimovskoe**	**140.60**	**332**	*e*PKHKP	PKPpre	09 34 47.3		
KLMR				pmax	pmax			
	comp=Z,43nm,3.4s							
JOF	**Joensuu**	**142.23**	**339**	*e*PKHKP	PKPpre	09 35 00.5		
JOF	**Joensuu**	**142.23**	**339**	*e*pkp	PKPdf	09 35 00.5	-6.7	
JOF	**Joensuu**	**142.23**	**339**	*e*pkp	PKPdf	09 35 00.5	-6.7	
VRHR	**Novokhopersk**	**144.04**	**317**	*e*PKiKP	PKPab	09 35 07.5	-0.8	
VRHR				pmax	pmax			
	comp=N,9.0nm,0.5s							
VRHR				pmax	pmax			
	comp=E,5.0nm,0.5s							
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KAF	**Kangasniemi**	**144.36**	**341**	*e*pkp	**PKPab**	**09 35 06.9**	**-2.3**	
KAF	**Kangasniemi**	**144.36**	**341**	*e*pkp	**PKPab**	**09 35 06.9**	**-2.3**	
ZEI	**Tsey**	**144.48**	**302**	*i* PKiKP	**PKPab**	**09 35 09.6**	**-1.0**	
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
HAKT	**HAKKARI**	**144.93**	**293**	*i* P	PKPbc	09 35 12.3	-0.1	
FINES	**FINESS Array B**	**144.96**	**340**	PKP	**PKPab**	**09 35 10.3**	**-1.1**	
	comp=Z,44nm,0.5s,baz=57,slow=3.7,SNR=438							
FINES	**FINESS Array B**	**144.96**	**340**	PKiKP	**PKPab**	**09 35 10.3**	**-1.1**	
FINES	**FINESS Array B**	**144.96**	**340**	PKP	**PKPab**	**09 35 10.3**	**-1.1**	
OBN	**Obninsk**	**145.04**	**325***c*	*i*PKiKP	**PKPab**	**09 35 10.9**	**-1.0**	
OBN				*e*		09 35 17.7		
OBN				*e*		09 38 37.2		
OBN				pmax	pmax			
	comp=Z,23nm,0.6s							
OBN	**Obninsk**	**145.04**	**325**	*e*PKPdf	**PKPab**	**09 35 10.6**	**-1.2**	
TVAN	**Van**	**145.16**	**295**	*i* P	**PKPdf**	**09 35 14.8**	**+1.4**	
KIV	**Kislovodsk**	**145.19**	**305**	*e*PKiKP	**PKPbc**	**09 35 12.3**	**-0.6**	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
VSR	**Storozhevoye**	**145.44**	**318**	*e*PKiKP	**PKPbc**	**09 35 12.2**	**-1.1**	
VSR				pmax	pmax			
	comp=N,6.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,6.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,20nm,0.6s							
TUTA	**Tutak**	**145.59**	**297**	*i* P	**PKPab**	**09 35 15.2**	**+0.4**	
DAGI	**Agillar**	**146.14**	**300**	*i* P	**PKPbc**	**09 35 15.9**	**0.0**	
MARD	**Mardin**	**147.26**	**293**	*i* P	**PKPbc**	**09 35 19.7**	**+0.4**	
NB2	**NORSAR Subarra**	**148.53**	**352**	PKP	**PKPbc**	**09 35 20.9**	**-0.9**	
	comp=Z,15nm,0.7s,baz=12,slow=2.8							
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**09 35 20.9**	**-0.9**	
	comp=Z,10nm,0.7s,baz=17,slow=4.5,SNR=34							
NOA	**NORSAR Array B**	**148.53**	**352**	PKP2	**PKPbc**	**09 35 20.9**	**-0.9**	
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**09 35 20.9**	**-0.9**	
ANN	**Anapa**	**148.68**	**308**	*i* PKP2	**PKPbc**	**09 35 21.8**	**-0.8**	
ANN				pmax	pmax			
	comp=Z,69nm,1.0s							
HFS	**Hagfors**	**149.03**	**349**	PKPbc	**PKPbc**	**09 35 21.7**	**-1.3**	
	comp=Z,13nm,0.5s,baz=41,slow=2.7,SNR=33							
HFS	**Hagfors**	**149.03**	**349**	PKP2	**PKPbc**	**09 35 21.7**	**-1.3**	
HFS	**Hagfors**	**149.03**	**349**	PKPbc	**PKPbc**	**09 35 21.7**	**-1.3**	
NACGM	**Naroch**	**149.62**	**332**	*e*	**PKPdf**	**09 35 21.0**	**+1.0**	
GZT	**Gaziantep**	**149.82**	**293**	*i* P	**PKPdf**	**09 35 21.3**	**+0.2**	
SCER	**sogukcermik**	**149.91**	**298**	*i* P	**PKPbc**	**09 35 26.8**	**+0.7**	
SIM	**Simferopol'**	**150.89**	**309**	*de*PKiKP	**PKPdf**	**09 35 23.1**	**+0.8**	
SIM				pmax	pmax			
	comp=Z,24nm,0.8s							
AKASG	**Malin Array Be**	**151.18**	**323**	PKPbc	**PKPbc**	**09 35 27.7**	**-0.8**	
	comp=Z,30nm,0.6s,baz=48,slow=3.0,SNR=103							
AKASG	**Malin Array Be**	**151.18**	**323**	PKiKP	**PKPbc**	**09 35 27.7**	**-0.8**	
AKASG	**Malin Array Be**	**151.18**	**323**	PKPbc	**PKPbc**	**09 35 27.7**	**-0.8**	
AKBB	**Malin Array Si**	**151.18**	**323**	*e*PKiKP	**PKPbc**	**09 35 27.4**	**-1.1**	
AKBB	**Malin Array Si**	**151.18**	**323**	*e*PKPbc	**PKPbc**	**09 35 27.4**	**-1.1**	
KIEV	**Kiev**	**151.19**	**323**	*e*PKiKP	**PKPbc**	**09 35 27.3**	**-1.2**	
KIEV	**Kiev**	**151.19**	**323**	*e*PKPbc	**PKPbc**	**09 35 27.3**	**-1.2**	
SUW	**Suwalki**	**151.71**	**333**	*e*PKP	**PKPbc**	**09 35 29.3**	**-0.3**	
SUW	**Suwalki**	**151.71**	**333**	*e*PKiKP	**PKPbc**	**09 35 28.8**	**-0.8**	
SUW	**Suwalki**	**151.71**	**333**	*e*PKPbc	**PKPbc**	**09 35 28.8**	**-0.8**	
GULE	**Gulek**	**152.04**	**293**	*i* P	**PKPbc**	**09 35 31.6**	**+0.4**	
BALT	**Daday**	**152.39**	**303**	*i* P	**PKPbc**	**09 35 31.8**	**-0.1**	
BEL	**Belsk**	**154.31**	**333**	*e*PKP	**PKPbc**	**09 35 35.7**	**+0.3**	
BEL	**Belsk**	**154.31**	**333**	*e*PKiKP	**PKPbc**	**09 35 35.7**	**+0.3**	
BUR08	**Bucovina Ar. S**	**155.11**	**321**	*e*PKPbc	PKiKP	09 35 38.2		
BURAR	**Bucovina Array**	**155.12**	**321**	⇑*i*P	PKiKP	09 35 38.4		
KSP	**Ksiaz**	**156.78**	**337**	*e*PKP	**PKPab**	**09 36 00.2**	**0.0**	
KSP	**Ksiaz**	**156.78**	**337**	*e*PKP2	**PKPab**	**09 36 00.1**	**-0.1**	
OKC	**Ostrava-Krasne**	**156.92**	**333**	*e*PKP2	**PKPab**	**09 35 58.4**	**-2.4**	
OKC	**Ostrava-Krasne**	**156.92**	**333**	*e*PKPab	**PKPab**	**09 35 58.4**	**-2.4**	
DPC	**Dobruska-Polom**	**157.18**	**336**	*e*PKP2	**PKPab**	**09 36 05.6**	**+3.6**	
DPC	**Dobruska-Polom**	**157.18**	**336**	*e*PKPab	**PKPab**	**09 36 05.6**	**+3.6**	
KRLC	**Kraliky**	**157.25**	**335**	*e*PKPbc	PKiKP	09 35 48.9		
KRLC				*e*PKPab	**PKPab**	**09 36 04.3**	**+2.0**	
CLL	**Collm**	**157.37**	**342**⇓	*e*PKiKP	PKiKP	09 35 42.0		
CLL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**157.37**	**342**	*e*PKPdiff	PKiKP	09 35 42.0		
CLL				⇓*i*PKPab	**PKPab**	**09 36 01.8**	**-0.9**	
	comp=Z,10.0nm,0.8s							
IBBN	**Ibbenburen**	**157.48**	**351**	*e*PKPab	**PKPab**	**09 36 02.3**	**-0.8**	
BRG	**Berggiesshubel**	**157.50**	**340**	*i* PKP	**PKPab**	**09 36 02.9**	**-0.4**	
	comp=Z,6.0nm,0.6s							
BRG				*i*		09 36 06.5		
	comp=Z,6.3nm,0.7s							
BRG	**Berggiesshubel**	**157.50**	**340**	*e*PKPab	**PKPab**	**09 36 02.8**	**-0.5**	
BRG	**Berggiesshubel**	**157.50**	**340**	*i* PKP2	**PKPab**	**09 36 02.9**	**-0.4**	
BRG				pmax	pmax			
	comp=Z,6.0nm,0.6s							
FBE	**Freiberg**	**157.62**	**341**	*e*PKPab	**PKPab**	**09 36 03.4**	**-0.4**	
WERN	**Wernitzgruen**	**158.46**	**342**	*e*PKPab	**PKPab**	**09 36 07.3**	**-0.2**	
NKC	**Novy Kostel**	**158.49**	**342**	*e*PKP2	**PKPab**	**09 36 07.1**	**-0.5**	
NKC	**Novy Kostel**	**158.49**	**342**	*e*PKPab	**PKPab**	**09 36 07.1**	**-0.5**	
KHC	**Kasperske Hory**	**159.14**	**339**	*e*PKP2	**PKPab**	**09 36 09.8**	**-0.7**	
KHC	**Kasperske Hory**	**159.14**	**339**	*e*PKPab	**PKPab**	**09 36 09.8**	**-0.7**	
KHC				*ex*	x	09 36 13.6		
GRF	**Grafenberg Arr**	**159.31**	**343**	*e*PKPab	**PKPab**	**09 36 09.8**	**-1.4**	
GRF	**Grafenberg Arr**	**159.31**	**343**	*e*PKP2	**PKPab**	**09 36 09.8**	**-1.4**	
GERES	**GERESS Array B**	**159.35**	**338**	PKPab	**PKPab**	**09 36 10.8**	**-0.7**	
	comp=Z,1.4nm,0.6s,baz=35,slow=4.9,SNR=6.9							
GERES	**GERESS Array B**	**159.35**	**338**	PKP2	**PKPab**	**09 36 10.8**	**-0.7**	
GERES	**GERESS Array B**	**159.35**	**338**	PKPab	**PKPab**	**09 36 10.8**	**-0.7**	
FUR	**Furstenfeldbru**	**160.69**	**341**	*e*PKPab	**PKPab**	**09 36 17.1**	**-0.2**	
FUR	**Furstenfeldbru**	**160.69**	**341**	*e*PKP2	**PKPab**	**09 36 17.1**	**-0.2**	
DAVOX	**Davos/Dischmat**	**162.34**	**342**	PKPab	**PKPab**	**09 36 24.1**	**-0.7**	
	comp=Z,5.6nm,0.6s,baz=22,slow=3.7,SNR=9.5							
DAVOX	**Davos/Dischmat**	**162.34**	**342**	PKP2	**PKPab**	**09 36 24.1**	**-0.7**	
DAVOX	**Davos/Dischmat**	**162.34**	**342**	PKPab	**PKPab**	**09 36 24.1**	**-0.7**	
TORD	**Torodi Ar. Bea**	**163.07**	**178**	PKP	**PKPdf**	**09 35 38.0**	**-0.7**	
	comp=Z,0.7nm,0.8s,baz=198,slow=0.7,SNR=4.1							
TORD				PKPab	**PKPab**	**09 36 28.1**	**-0.3**	
	comp=Z,2.8nm,0.7s,baz=184,slow=3.4,SNR=12							
TORD	**Torodi Ar. Bea**	**163.07**	**178**	PKP	**PKPdf**	**09 35 38.0**	**-0.7**	
TORD				PKPab	**PKPab**	**09 36 28.1**	**-0.3**	

NEIC ***25*** *10:33:59.1, 16°.23N×98°.52W, h8km, MD4.0(MEX), After MEX.*

MEX 25 10:33:59.1±0.8, 16°.23N×98°.52W, h8km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**66**	*e*P	Pg	10 34 06.9	-0.3
PNIG				*i* S	Sg	10 34 12.4	-0.2
PNIG	**Pinotepa**	**0.41**	**66**	*e*P	Pg	10 34 06.9	-0.3
PNIG				*i* S	Sg	10 34 12.4	-0.2
CAIG	**El Cayaco**	**1.87**	**296**	*e*P	Pn	10 34 28.5	-2.8
CAIG				*i* S	Sn	10 34 50.7	-4.4
CAIG	**El Cayaco**	**1.87**	**296**	*e*P	Pn	10 34 28.5	-2.8
CAIG				*i* S	Sn	10 34 50.7	-4.4
VHO	**Vista Hermosa**	**1.91**	**64**	*i* P	Pn	10 34 28.3	-3.9
VHO				*i* S	Sn	10 34 52.3	-4.3
VHO	**Vista Hermosa**	**1.91**	**64**	*i* P	Pn	10 34 28.3	-3.9
VHO				*i* S	Sn	10 34 52.3	-4.3
MEIG	**Mezcala**	**1.99**	**328**	*e*P	Pn	10 34 30.6	-2.7
MEIG				*i* S	Sn	10 34 52.8	-5.7
MEIG	**Mezcala**	**1.99**	**328**	*e*P	Pn	10 34 30.6	-2.7
MEIG				*i* S	Sn	10 34 52.8	-5.7
PLIG	**Platanillo**	**2.35**	**337**	*i* P	Pn	10 34 35.6	-2.5
PLIG				*i* S	Sn	10 35 02.8	-4.5
PLIG	**Platanillo**	**2.35**	**337**	*i* P	Pn	10 34 35.6	-2.5
PLIG				*i* S	Sn	10 35 02.8	-4.5
YAIG	**Yautepec**	**2.67**	**349**	*i* P	Pn	10 34 39.7	-3.0
YAIG				*i* S	Sn	10 35 12.2	-3.2
YAIG	**Yautepec**	**2.67**	**349**	*i* P	Pn	10 34 39.7	-3.0
YAIG				*i* S	Sn	10 35 12.2	-3.2
PPM	**Popocatepetl**	**2.83**	**358**	*e*P	Pn	10 34 42.3	-2.9
PPM				*i* S	Sn	10 35 15.5	-4.5
PPM	**Popocatepetl**	**2.83**	**358**	*e*P	Pn	10 34 42.3	-2.9
PPM				*i* S	Sn	10 35 15.5	-4.5
ZIIG	**Zihuatanejo**	**3.14**	**296**	*i* P	Pn	10 34 46.0	-2.9
ZIIG				*i* S	Sn	10 35 23.3	-3.2
ZIIG	**Zihuatanejo**	**3.14**	**296**	*i* P	Pn	10 34 46.0	-2.9
ZIIG				*i* S	Sn	10 35 23.3	-3.2

NIED ***25*** *10:45:00, 40°.40N×144°.90E, h5km, Mw4.1 Best double couple: M0 1.74000×10^15 NP1:φs 32.00000°, δ 57.00000°, λ -86.00000°. NP2:φs 206.00000°, δ 33.00000°, λ -96.00000°.*

ISCJB ***25*** *10:45:35.7±1.0, 40°.49N±0°.03×144°.86E±0°.03, h17km±7km, mb4.4/72, MS3.7/10, Error ellipse: s-maj=4.4km s-min=3.8km az=147.3*

JMA ***25*** *10:45:36.6±0.3, 40°.45N×144°.93E, h48km, M4.6*

BJI ***25*** *10:45:37.9, 40°.68N×145°.06E, h36km, mB5.1/17, mb4.6/27, Ms4.4/13, Ms7 4.2/11*

MOS ***25*** *10:45:37.8±1.1, 40°.46N×144°.95E, h33km, mb4.7/31, Error ellipse: s-maj=9.0km s-min=5.9km az=95.9*

SZGRF ***25*** *10:45:38.9, 39°.80N×144°.44E, h33km, mb4.6, Off east coast of Honshu, Japan*

IDC ***25*** *10:45:39.4±4.4, 40°.41N×144°.93E, h33km±33km, mb4.1/27, mb1 4.2/31, mb1mx4.2/35, mbtmp4.1/31, ML3.7/4, MS3.4/9, Ms1 3.4/9, ms1mx3.2/39, Error ellipse: s-maj=14.6km s-min=12.2km az=140.0*

NEIC ***25*** *10:45:39.9±0.2, 40°.44N×144°.94E, h35km, mb4.5/28, MW4.1(NIED), Error ellipse: s-maj=6.2km s-min=4.4km az=155.0*

ISC 25 10:45:39.6±0.5, 40°.47N±0°.04×144°.93E±0°.04, h34km±1km, h34km:pP-P, n209, σ1s 33/247, mb4.5/72, MS3.8/10, 6C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**2.04**	**320**	*i* P	**Pn**	**10 46 10.2**	**-1.4**
ERM	**Erimo**	**2.04**	**320**	*e*Pn	**Pn**	**10 46 10.5**	**-1.0**
ERM				*e*Sn	Sn	10 46 29.3	-6.5
JEM	**Erimo**	**2.04**	**320**	P	**Pn**	**10 46 09.9**	**-1.7**
JEM				*e*S	**Sn**	**10 46 34.4**	**-1.4**
JTH	**Tanohata**	**2.41**	**258**	P	**Pn**	**10 46 14.5**	**-2.1**
JTH				*e*S	**Sn**	**10 46 41.8**	**-3.1**
JNBK	**Urakawa-nobuka**	**2.44**	**318**	P	**Pn**	**10 46 16.0**	**-1.0**
JNBK				*e*S	**Sn**	**10 46 44.6**	**-1.1**
JCH	**Churui**	**2.44**	**332**	P	**Pn**	**10 46 15.4**	**-1.7**
JCH				*e*S	**Sn**	**10 46 43.5**	**-2.3**
JAK	**Akkeshi**	**2.53**	**356**	P	**Pn**	**10 46 15.5**	**-2.7**
JAK				*e*S	**Sn**	**10 46 45.3**	**-2.5**
JANG	**Nango**	**2.61**	**269**	P	**Pn**	**10 46 17.4**	**-2.0**
JANG				*e*S	**Sn**	**10 46 46.9**	**-3.0**
JAR	**Ashorobuto**	**2.95**	**343**	P	**Pn**	**10 46 21.9**	**-2.2**
JAR				*e*S	**Sn**	**10 46 55.9**	**-2.4**
NEM2	**Nemuro 2**	**2.95**	**12**	P	Pn	10 46 20.7	-3.4
NEM2				*e*S	**Sn**	**10 46 53.5**	**-4.8**
JOM	**Ohasama**	**2.97**	**252**	P	**Pn**	**10 46 23.1**	**-1.2**
JOM				*e*S	**Sn**	**10 46 56.9**	**-1.9**
JOT	**Ohata**	**3.08**	**288**	P	**Pn**	**10 46 25.0**	**-0.8**
JOT				*e*S	**Sn**	**10 47 00.3**	**-1.2**
JMK	**Ichinoseki**	**3.24**	**243**	P	**Pn**	**10 46 26.5**	**-1.5**
JMK				*e*S	**Sn**	**10 47 02.4**	**-3.0**
JKB	**Kayabe**	**3.27**	**297**	P	**

comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 27.94 298 *e*P **P 10 51 29.5 +2.7**
ULN pmax pmax
comp=Z,6.0nm,1.2s
ULN Ulaanbaatar 27.94 298 *e*P **P 10 51 29.5 +2.7**
comp=Z,6.4nm,1.2s
SONM Songino Array 28.38 298 P **P 10 51 31.2 +0.5**
comp=Z,1.5nm,0.6s,baz=82,slow=8.3,SNR=14
SONM LR LR 11 02 34.7
comp=Z,78nm,21.3s,baz=251,slow=36
SONM Songino Array 28.38 298 P **P 10 51 31.2 +0.5**
SONM Songino Array 28.38 298 P **P 10 51 31.2 +0.5**
BILL Bilibino 29.96 16 *e*P **P 10 51 44.9 +0.6**
BILL *i* 10 52 00.6
BILL *i* 10 52 37.6
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 29.96 16 *e*P **P 10 51 44.3 0.0**
comp=Z,3.7nm,0.8s
TLY Talaya 30.36 306 *e*P P 10 51 56.5 +8.4
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,67nm,19.0s
ZAK Zakamensk 30.50 303 *e*P **P 10 51 49.5 +0.1**
LZH Lanzhou 32.34 276 *e*P **P 10 52 08.5 +2.7**
LZH pP **pP 10 52 15.0 -0.7**
LZH sP **sP 10 52 18.0 -1.8**
LZH PP PP 10 53 18.8 -0.3
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,67nm,4.7s
LZH LR LR
comp=N,310nm,12.8s
LZH LR LR
comp=E,270nm,13.2s
LZH LR LR
comp=Z,360nm,17.1s
GTA Gaotai 34.32 283 P **P 10 52 24.5 +1.5**
GTA pP **pP 10 52 34.3 +1.4**
GTA sP **sP 10 52 38.0 +0.9**
GTA S **S 10 57 49.0 +0.8**
GTA sS **sS 10 58 04.5 -0.1**
GTA SS SS 11 00 00.5 -17
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,120nm,15.4s
GTA LR LR
comp=E,110nm,15.9s
GTA LR LR
comp=Z,110nm,16.2s
CD2 Chengdu 34.51 267 P **P 10 52 26.0 +1.4**
CD2 pP **pP 10 52 36.0 +1.5**
CD2 sP **sP 10 52 40.0 +1.3**
CD2 PP PP 10 53 42.0 -1.1
CD2 S **S 10 57 50.5 -0.6**
CD2 sS **sS 10 58 07.0 -0.5**
CD2 SS SS 11 00 02.0 -19
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,170nm,5.5s
CD2 LR LR
comp=N,330nm,5.9s
CD2 LR LR
comp=Z,250nm,8.3s
GYA Guiyang 34.57 258 *e*P **P 10 52 26.0 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 36.86 245 P **P 10 52 45.5 +0.7**
ZALV Zalesovo Beam 41.74 310 P **P 10 53 25.9 +0.7**
comp=Z,0.7nm,0.4s,baz=86,slow=7.6,SNR=9.5
ZALV PcP **PcP 10 55 21.3 +0.3**
comp=Z,1.2nm,0.5s,baz=72,slow=4.8,SNR=3.9
ZALV LR LR 11 12 15.5
comp=Z,57nm,19.9s,baz=28,slow=38
ZALV Zalesovo Beam 41.74 310 P **P 10 53 25.9 +0.7**
ZALV 10 55 21.3
ZALV Zalesovo Beam 41.74 310 P **P 10 53 25.9 +0.7**
ZALV PcP **PcP 10 55 21.3 +0.3**
KDAK Kodiak Island 42.71 44 P **P 10 53 32.8 -0.1**
comp=Z,6.8nm,0.7s,baz=169,slow=21,SNR=5.7
KDAK Kodiak Island 42.71 44*c*e**P P 10 53 32.9 -0.1**
KDAK Kodiak Island 42.71 44 P **P 10 53 32.8 -0.1**
COLD Coldfoot 43.81 31 *e*P **P 10 53 42.7 +1.0**
comp=Z,3.7nm,1.0s
PMR Palmer 44.23 39 *e*P **P 10 53 45.2 +0.1**
PMR pmax pmax
comp=Z,20nm,1.3s
PMR Palmer 44.23 39 *e*P **P 10 53 45.2 +0.1**
comp=Z,20nm,1.3s
MCK McKinley 44.24 36 *e*P **P 10 53 45.0 -0.3**
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 44.24 36 *e*P **P 10 53 45.0 -0.3**
comp=Z,10.0nm,1.0s
COLA College 44.70 34 *e*P **P 10 53 49.2 +0.3**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 44.70 34 *e*P **P 10 53 49.2 +0.3**
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 44.71 300 *e*P **P 10 53 49.5 +0.2**
MK31 Makanchi Array 44.71 300 *e*P **P 10 53 49.5 +0.2**
MKAR Makanchi Array 44.71 300 P **P 10 53 49.5 +0.2**
comp=Z,1.7nm,0.8s,baz=84,slow=9.3,SNR=23
MKAR PcP **PcP 10 55 31.1 -0.1**
comp=Z,0.1nm,0.4s,baz=144,slow=39,SNR=1.8
MKAR LR LR 11 13 17.9
comp=Z,43nm,18.4s,baz=358,slow=37
MKAR Makanchi Array 44.71 300 *e*P **P 10 53 49.7 +0.4**
MKAR 10 55 31.1
MKAR Makanchi Array 44.71 300 *e*P **P 10 53 49.7 +0.4**
MKAR PcP **PcP 10 55 31.1 -0.1**
ILAR Eielson Array 45.12 34 P **P 10 53 52.2 0.0**
comp=Z,3.6nm,0.7s,baz=258,slow=7.0,SNR=54
ILAR Eielson Array 45.12 34 P **P 10 53 52.2 0.0**
ILAR Eielson Array 45.12 34 P **P 10 53 52.2 0.0**
KURK Kurchatov 46.06 306 P **P 10 54 00.6 +0.7**
comp=Z,4.4nm,0.9s,baz=79,slow=8.4,SNR=14
KURK Kurchatov 46.06 306*c*e**P P 10 54 00.3 +0.5**
KURK pmax pmax
comp=Z,13nm,2.5s
KURK Kurchatov 46.06 306 *e*P **P 10 53 60.0 +0.1**
comp=Z,8.6nm,1.1s
PMG Port Moresby 49.67 177 *e*P **pP 10 54 38.9 +0.6**
PMG pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 50.07 29 P **P 10 54 31.4 +0.9**
comp=Z,4.4nm,0.5s,baz=309,slow=6.9,SNR=19
INK Inuvik 50.07 29 P **P 10 54 31.4 +0.9**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 50.07 29 *e*P **P 10 54 30.9 +0.3**
comp=Z,3.5nm,0.5s
BVAR Borovoye Array 50.35 311 P **P 10 54 33.7 +0.7**
comp=Z,1.7nm,0.6s,baz=76,slow=8.8,SNR=13
BVAR Borovoye Array 50.35 311 P **P 10 54 33.7 +0.7**
BVAR Borovoye Array 50.35 311 P **P 10 54 33.7 +0.7**
BRVK Borovoye 50.40 311*c*e**P P 10 54 34.4 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 50.40 311 *e*P **P 10 54 34.0 +0.7**
comp=Z,3.1nm,0.5s
BRVK *e* 10 54 47.0
TKM2 Tokmak 2 50.47 297 *e*P **P 10 54 34.8 +0.5**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 50.47 297 *e*P **P 10 54 34.8 +0.5**
comp=Z,8.4nm,1.1s
KKAR Karatay Array 53.82 299 *e*P **P 10 54 59.2 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 53.82 299 *e*P **P 10 54 59.2 +0.2**
comp=Z,3.2nm,0.7s
ARU Arti 55.64 318*c i*P **P 10 55 12.3 +0.4**
ARU 10 57 12.5
ARU S **S 11 02 56.5 +1.2**
ARU SS SS 11 06 36.7 -3.4
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 55.64 318 *e*P **P 10 55 12.2 +0.4**
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 57.85 310 *e*P **P 10 55 28.2 +0.5**
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 58.45 311 P **P 10 55 32.4 +0.6**
comp=Z,1.2nm,0.5s,baz=64,slow=12,SNR=7.1
AKTO Aktyubinsk 58.45 311 P **P 10 55 32.4 +0.6**
AKTO Aktyubinsk 58.45 311 P **P 10 55 32.4 +0.6**
RES Resolute Bay 58.57 16 P **P 10 55 32.0 -0.3**
comp=Z,8.4nm,0.7s,baz=310,slow=7.7,SNR=11
RES Resolute Bay 58.57 16 *e*P **P 10 55 32.3 0.0**
RES *e* 10 55 40.1
RES pmax pmax
comp=Z,14nm,0.7s
RES Resolute Bay 58.57 16 *e*P **P 10 55 32.3 0.0**
comp=Z,14nm,0.7s
RES *e* 10 55 40.1
YKA Yellowknife Ar 59.45 32 P **P 10 55 38.5 0.0**
comp=Z,1.0nm,0.7s,baz=302,slow=6.5,SNR=26
YKA PcP **PcP 10 56 25.6 -0.3**
comp=Z,0.4nm,0.7s,baz=304,slow=4.3,SNR=5.3
YKA Yellowknife Ar 59.45 32 P **P 10 55 38.6 0.0**
YKA 10 56 25.6
YKA Yellowknife Ar 59.45 32 P **P 10 55 38.5 0.0**
YKA PcP **PcP 10 56 25.6 -0.3**
WRAB Tennant Creek 60.90 191 *e*P **P 10 55 47.8 -1.1**
WRAB *e* 10 55 58.3
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 60.90 191 *e*P **P 10 55 47.8 -1.1**
comp=Z,9.3nm,0.9s
WRAB *e* 10 55 58.3
WB2 Warramunga Arr 60.91 191 *e*P **P 10 55 47.9 -1.1**
WB2 *e* 10 55 57.6
WRA Warramunga Arr 60.91 191 P **P 10 55 48.1 -0.9**
comp=Z,4.1nm,0.7s,baz=10,slow=7.1,SNR=22
WRA Warramunga Arr 60.91 191 P **P 10 55 48.1 -0.9**
WRA Warramunga Arr 60.91 191 P **P 10 55 48.1 -0.9**
FITZ Fitzroy Crossi 60.98 201 P **P 10 55 49.8 +0.3**
comp=Z,2.8nm,0.9s,baz=29,slow=9.9,SNR=3.5
FITZ Fitzroy Crossi 60.98 201 P **P 10 55 49.8 +0.3**
ARCES ARCESS Array B 61.74 340 P **P 10 55 55.1 +1.0**
comp=Z,2.7nm,0.8s,baz=60,slow=13,SNR=3.1
ARCES ARCESS Array B 61.74 340 P **P 10 55 55.1 +1.0**
ARCES ARCESS Array B 61.74 340 P **P 10 55 55.1 +1.0**
KLMR Klimovskoe 62.32 328 *e*P **P 10 55 56.8 -1.3**
KLMR pmax pmax
comp=Z,14nm,1.6s
JOF Joensuu 64.22 332 *e*P **P 10 56 09.3 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 64.22 332 *e*p **P 10 56 09.3 -1.3**
comp=Z,3.6nm,0.8s
JOF Joensuu 64.22 332 *e*p **P 10 56 09.3 -1.3**
comp=Z,3.6nm,0.8s
ASAR Alice Springs 64.63 191 P **P 10 56 13.2 -0.6**
comp=Z,1.5nm,1.0s,baz=7.2,slow=6.5,SNR=18
ASAR Alice Springs 64.63 191 P **P 10 56 13.2 -0.6**
ASAR Alice Springs 64.63 191 P **P 10 56 13.2 -0.6**
YBH Yreka Blue Hor 66.09 55 P **P 10 56 25.0 +1.7**
comp=Z,1.2nm,0.8s,baz=32,slow=5.9,SNR=3.2
YBH Yreka Blue Hor 66.09 55 P **P 10 56 25.0 +1.7**
YBH Yreka Blue Hor 66.09 55 P **P 10 56 25.0 +1.7**
KAF Kangasniemi 66.50 333 *e*P P 10 56 16.9 -8.5
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 66.50 333 *e*p P 10 56 16.9 -8.5
comp=Z,3.2nm,0.8s
KAF Kangasniemi 66.50 333 *e*p P 10 56 16.9 -8.5
comp=Z,3.2nm,0.8s
OBN Obninsk 66.98 324 P **P 10 56 29.0 +0.5**
OBN *e*S S 11 05 25.5 +6.3
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,12.0s
VRHR Novokhopersk 66.98 318 *e*P **P 10 56 27.9 -0.7**
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 67.04 333 P **P 10 56 29.0 +0.2**
comp=Z,4.9nm,0.7s,baz=56,slow=8.2,SNR=16
FINES FINESS Array B 67.04 333 P **P 10 56 29.0 +0.2**
FINES FINESS Array B 67.04 333 P **P 10 56 29.0 +0.2**
SWMT Swartz Lake 67.91 46 *e*P **P 10 56 34.8 0.0**
VSR Storozhevoye 68.14 319 *e*P **P 10 56 35.9 -0.1**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 69.32 35*c*e**P P 10 56 44.1 +0.8**
LRM Limekiln Ridge 69.78 47 *e*P **P 10 56 47.2 +0.6**
BOZ Bozeman (W) 70.34 46 *e*P **P 10 56 50.4 +0.5**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 70.34 46 *e*P **P 10 56 50.4 +0.5**
comp=Z,2.9nm,0.9s
KIV Kislovodsk 70.71 312 *e*P **P 10 56 54.1 +2.0**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 70.71 312 *e*P **P 10 56 54.1 +2.0**
comp=Z,3.1nm,0.5s
NVAR Mina Array Bea 70.75 56 P **P 10 56 53.6 +1.0**
comp=Z,1.2nm,0.8s,baz=286,slow=6.2,SNR=10
NVAR Mina Array Bea 70.75 56 P **P 10 56 53.6 +1.0**
RRI2 Red Ridge 71.94 48 *e*P **P 10 57 01.0 +1.2**
comp=Z,7.8nm,1.5s
MOOW Moose Ponds 72.02 48 *e*P **P 10 57 01.4 +1.2**
comp=Z,3.6nm,1.3s
NB2 NORSAR Subarra 72.05 338 P **P 10 56 59.6 -0.2**
comp=Z,1.9nm,0.8s,baz=35,slow=6.2
NOA NORSAR Array B 72.05 338 P **P 10 56 59.9 +0.1**
comp=Z,2.7nm,0.8s,baz=39,slow=5.7,SNR=8.4
NOA NORSAR Array B 72.05 338 P **P 10 56 59.9 +0.1**
NOA NORSAR Array B 72.05 338 P **P 10 56 59.9 +0.1**
HFS Hagfors 72.06 337 P **P 10 57 00.1 +0.2**
comp=Z,2.8nm,0.8s,baz=64,slow=6.8,SNR=6.3
HFS Hagfors 72.06 337 P **P 10 57 00.1 +0.2**
HFS Hagfors 72.06 337 P **P 10 57 00.1 +0.2**
HWUT Hardware Ranch 72.89 50 *e*P **P 10 57 06.1 +0.7**
comp=Z,2.8nm,1.0s
DUG Dugway 73.05 51 *e*P **P 10 57 06.4 +0.1**
DUG pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway 73.05 51 *e*P **P 10 57 06.3 +0.1**
comp=Z,1.8nm,0.8s
ANN Anapa 73.10 315 *e*P **sP 10 57 20.1 -0.8**
ANN pmax pmax
comp=Z,115nm,1.9s
AKASG Malin Array Be 73.23 323 P **P 10 57 07.0 0.0**
comp=Z,2.5nm,0.5s,baz=44,slow=5.6,SNR=12
AKASG Malin Array Be 73.23 323 P **P 10 57 07.0 0.0**
AKASG Malin Array Be 73.23 323 P **P 10 57 07.0 0.0**
KIEV Kiev 73.24 323*c i*P **P 10 57 07.2 +0.2**
KIEV Kiev 73.24 323 *e*P **P 10 57 06.9 -0.1**
comp=Z,7.7nm,1.1s
PD02 Pinedale Array 73.30 48 *e*P **P 10 57 07.7 -0.1**
BW06 Boulder Array 73.31 48 *e*P **P 10 57 07.8 -0.1**
comp=Z,0.9nm,0.9s
PDAR Pinedale Array 73.31 48 P **P 10 57 07.8 -0.1**
comp=Z,1.4nm,0.8s,baz=267,slow=2.7,SNR=12
PDAR Pinedale Array 73.31 48 P **P 10 57 07.8 -0.1**
MPU Maple Canyon 73.86 51 *e*P **P 10 57 11.3 +0.2**
comp=Z,3.4nm,0.9s
SRU San Rafael 75.10 51 *e*P **P 10 57 19.2 +0.9**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael 75.10 51 *e*P **P 10 57 19.2 +0.9**
comp=Z,2.7nm,0.8s
ULM Lac du Bonnet 75.12 35 P **P 10 57 17.1 -0.9**
comp=Z,0.9nm,0.6s,baz=332,slow=15,SNR=2.9
ULM Lac du Bonnet 75.12 35 P **P 10 57 17.1 -0.9**
ULM Lac du Bonnet 75.12 35 P **P 10 57 17.1 -0.9**
PV10 Paradox Valley 76.46 51 *e*P **P 10 57 27.1 +1.0**
comp=Z,146nm,0.8s
PV01 Paradox Valley 76.89 51 *e*P **P 10 57 29.9 +1.3**
BUR08 Bucovina Ar. S 77.26 323 *e*P **P 10 57 30.7 +0.3**
OJC Ojcow 77.67 327 *e*P **P 10 57 33.6 +1.1**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 77.67 327 *e*P **P 10 57 33.6 +1.1**
comp=Z,7.7nm,0.9s
MORC Moravsky Berou 78.93 328 *e*P **P 10 57 39.8 +0.3**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 78.93 328 *e*P **P 10 57 39.8 +0.3**
comp=Z,5.2nm,1.0s
VYHS Vyhne 79.41 327 *e*P **P 10 57 43.2 +1.1**
VYHS pmax pmax
comp=Z,6.0nm,1.7s
VYHS Vyhne 79.41 327 *e*P **P 10 57 43.2 +1.1**
CLL Collm 79.44 332 *i*P **P 10 57 41.9 -0.2**
CLL *e* 10 57 53.0
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 79.44 332 *i*P **P 10 57 41.9 -0.2**
comp=Z,9.0nm,1.0s
CLL *e*pP **pP 10 57 53.0 +0.1**
KHC Kasperske Hory 81.00 330 *e*P **P 10 57 51.0 +0.3**
KHC Kasperske Hory 81.00 330 *e*P **P 10 57 51.0 +0.3**
GERES GERESS Array B 81.19 330 P **P 10 57 52.0 +0.3**
comp=Z,0.8nm,0.6s,baz=34,slow=5.0,SNR=8.0
GERES LR LR 11 35 24.7
comp=Z,92nm,21.8s,baz=76,slow=37
GERES GERESS Array B 81.19 330 P **P 10 57 52.0 +0.3**
GERES GERESS Array B 81.19 330 P **P 10 57 52.0 +0.3**
SCHQ Schefferville 81.25 18 P **P 10 57 51.5 -0.3**
comp=Z,3.4nm,0.7s,baz=40,slow=18,SNR=5.0
SCHQ Schefferville 81.25 18 P **P 10 57 51.5 -0.3**
GRF Grafenberg Arr 81.41 332 *e*P **P 10 57 53.4 +0.6**
comp=Z,5.0nm,1.1s
GRF Grafenberg Arr 81.41 332 *e*P **P 10 57 53.4 +0.6**
GRF pmax pmax
comp=Z,5.0nm,1.1s
MMAI Mount Meron Ar 82.16 307 LR LR 11 35 52.1
comp=Z,44nm,20.9s,baz=230,slow=37
TXAR Lajitas Array 85.87 55 P **P 10 58 16.4 +0.3**
comp=Z,0.5nm,0.6s,baz=297,slow=3.4,SNR=12
TXAR Lajitas Array 85.87 55 P **P 10 58 16.5 +0.3**
TXAR Lajitas Array 85.87 55 P **P 10 58 16.4 +0.3**
LOR Lormes 86.03 335 *e*P **P 10 58 15.9 -0.6**
comp=Z,9.4nm,0.9s
SSF Saint Saulge 86.33 335 *e*P **P 10 58 17.5 -0.4**
AVF Avril sur Loir 86.61 335 *e*P **P 10 58 19.0 -0.3**
comp=Z,30nm,1.1s
TORD Torodi Ar. Bea 116.69 319 PKP **PKPdf 11 04 19.2 -1.5**
comp=Z,0.3nm,0.7s,baz=6.3,slow=3.0,SNR=2.9
TORD PP **PP 11 05 24.3 -3.5**
comp=Z,0.7nm,1.0s,baz=3.8,slow=5.6,SNR=4.2
TORD Torodi Ar. Bea 116.69 319 PKP **PKPdf 11 04 19.2 -1.5**
TORD PP **PP 11 05 24.3 -3.5**
VNA2 Neumayer--Watz 146.38 196 *e* **PKPbc 11 05 15.1 -0.6**

MEX 25 11:04:12.2±0.4, 17.40N×100.88W, h16km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.60**	**290**	*e*P		Pg	11 04 21.9	-2.1
ZIIG				*i* S		Sg	11 04 29.8	-2.1
CAIG	**El Cayaco**	**0.68**	**121**	*e*P		Pg	11 04 23.4	-2.1
CAIG				*i* S		Sg	11 04 31.3	-2.9
PLIG	**Platanillo**	**1.64**	**53**	*e*P		Pn	11 04 37.0	-3.5
PLIG				*i* S		Sn	11 04 57.3	-4.2
YAIG	**Yautepec**	**2.25**	**50**	*i* P		Pn	11 04 45.9	-3.2
YAIG				*i* S		Sn	11 05 12.3	-4.4
MMIG	**Aquila**	**2.51**	**291**	*i* P		Pn	11 04 50.1	-2.4
MMIG				*i* S		Sn	11 05 19.1	-3.7
PPM	**Popocatepetl**	**2.70**	**52**	*e*P		Pn	11 04 50.4	-5.3
PNIG	**Pinotepa**	**2.82**	**111**	*i* P		Pn	11 04 50.0	-6.7

IDC 25 11:17:07.8±1.3, 0.62S×132.64E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/23, Error ellipse: s-maj=62.8km s-min=23.2km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**201**	P		Pn	11 21 28.0	0.0
	0.2nm,0.3s,baz=34,slow=11,SNR=2.5							
FITZ				LR		LR	11 28 44.4	
	comp=Z,51nm,20.5s,baz=28,slow=37							
WRA	**Warramunga Arr**	**19.27**	**175**	P		P	11 21 34.3	+0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**22.94**	**177**	P		P	11 22 13.5	-0.3
	0.8nm,0.4s,baz=356,slow=10,SNR=26							
MKAR	**Makanchi Array**	**64.50**	**324**	P		P	11 27 46.1	-0.4
	0.2nm,0.5s,baz=106,slow=8.7,SNR=4.6							
ILAR	**Eielson Array**	**86.49**	**25**	P		P	11 29 52.6	+0.4
	0.2nm,0.9s,baz=271,slow=5.2,SNR=2.8							

IDC ***25*** *11:18:18.0±3.5, 18.22S×174.62W, h48km±33km, mb3.8/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.8/10, ML2.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=47.1km s-min=17.3km az=139.0*

NEIC 25 11:18:16.5±1.5, 18.42S×174.48W, h42km±14km, mb4.6/6, Error ellipse: s-maj=22.4km s-min=8.7km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.19**	**30**	P		Pn	11 19 31.7	0.0
	4.1nm,0.3s,baz=36,slow=5.2,SNR=7.9							
AFI				S		Sn	11 20 22.9	-7.4
	9.5nm,0.3s,baz=81,slow=22,SNR=7.3							
AFI	**Afiamalu**	**5.19**	**30**	*e*Pn		Pn	11 19 31.5	-0.2
AFI				*e*Sn		Sn	11 20 26.3	-4.0
DZM	**Mont Dzumac**	**18.26**	**255**	LR		LR	11 27 42.0	
	comp=Z,81nm,19.2s,baz=209,slow=31							
URZ	**Urewera**	**21.08**	**199**	*e*P		P	11 22 57.2	0.0
	6.6nm,0.5s							
RPZ	**Rata Peaks**	**28.01**	**203**	P		P	11 24 05.6	+2.2
	7.6nm,0.8s,baz=226,slow=21,SNR=5.6							
CTA	**Charters Tower**	**37.05**	**261**	P		P	11 25 24.1	+1.4
	3.3nm,0.5s,baz=94,slow=12,SNR=6.5							
CTA	**Charters Tower**	**37.05**	**261**	P		P	11 25 24.1	+1.4
CTAO	**Charters Tower**	**37.05**	**261**	*e*P		P	11 25 23.4	+0.7
	4.1nm,0.6s							
COEN	**Coen**	**40.84**	**270**	*e*P		P	11 25 55.2	+0.7
	14nm,0.7s							
STKA	**Stephens Creek**	**41.68**	**243**	P		P	11 26 02.1	+0.9
	1.2nm,0.7s,baz=75,slow=12,SNR=2.9							
WB2	**Warramunga Arr**	**48.20**	**259**	*e*P		P	11 26 52.5	-0.8
WRAB	**Tennant Creek**	**48.20**	**259**	*e*P		P	11 26 52.2	-1.0
	2.5nm,0.4s							
WRA	**Warramunga Arr**	**48.21**	**259**	P		P	11 26 52.9	-0.5
	3.4nm,0.4s,baz=98,slow=7.6,SNR=61							
WRA	**Warramunga Arr**	**48.21**	**259**	P		P	11 26 52.9	-0.5
AS31	**Alice Springs**	**48.25**	**254**	*e*P		P	11 26 53.0	-0.5
ASAR	**Alice Springs**	**48.25**	**254**	P		P	11 26 53.2	-0.3
	4.1nm,0.5s,baz=88,slow=8.2,SNR=94							
ASAR	**Alice Springs**	**48.25**	**254**	P		P	11 26 53.2	-0.3
FITZ	**Fitzroy Crossi**	**56.62**	**260**	P		P	11 27 55.9	+0.2
	0.9nm,0.5s,baz=338,slow=16,SNR=3.0							
NVAR	**Mina Array Bea**	**77.26**	**42**	P		P	11 30 07.7	+0.9
	0.1nm,0.4s,baz=228,slow=3.5,SNR=2.3							
NVAR				sP		sP	11 30 28.9	+4.9
	0.1nm,0.4s,baz=239,slow=7.8,SNR=3.6							
NVAR	**Mina Array Bea**	**77.26**	**42**	P		P	11 30 07.7	+0.9
NVAR				sP		sP	11 30 28.9	+4.9
COLA	**College**	**85.51**	**11**	*e*P		P	11 30 49.3	-0.1
	4.4nm,1.1s							
ILAR	**Eielson Array**	**85.60**	**11**	P		P	11 30 49.9	-0.1
	0.3nm,0.5s,baz=229,slow=6.1,SNR=12							
ILAR	**Eielson Array**	**85.60**	**11**	P		P	11 30 49.9	-0.1
BILL	**Bilibino**	**87.36**	**353**	*e*P		P	11 30 58.2	-0.3
	3.1nm,0.8s							
YKA	**Yellowknife Ar**	**93.27**	**24**	P		P	11 31 25.8	-0.4
	0.1nm,0.7s,baz=240,slow=5.6,SNR=3.8							
YKA	**Yellowknife Ar**	**93.27**	**24**	P		P	11 31 25.8	-0.4
CLL	**Collm**	**146.66**	**351**	*e*PKPbc		PKPbc	11 37 54.0	+0.5
GERES	**GERESS Array B**	**148.94**	**349**	PKPbc		PKPbc	11 38 00.0	+0.1
	0.6nm,0.8s,baz=15,slow=4.1,SNR=3.2							
GERES	**GERESS Array B**	**148.94**	**349**	PKPbc		PKPbc	11 38 00.0	+0.1

IDC ***25*** *11:22:02.8±0.8, 26.89N×56.03E, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.8/28, mbtmp3.8/15, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=21.2km s-min=18.2km az=135.0*

TEH ***25*** *11:22:03.7, 26.94N×55.96E, h10km, ML3.8*

NEIC ***25*** *11:22:04.0±2.9, 26.86N×56.15E, h7km±16km, mb4.1/7,*

ML3.7(THR),MN3.7(TEH),Error ellipse: s-maj=16.4km s-min=10.7km az=172.0
*CSEM **25** 11:22:06.6±0.2, 26°.99N×56°.05E, h20km, mb4.2/4, Error ellipse: s-maj=7.5km s-min=4.5km az=92.0*
*MOS **25** 11:22:06.2±1.2, 26°.90N×56°.09E, h33km, mb4.4/10, Error ellipse: s-maj=13.2km s-min=7.7km az=86.1*
*OMAN **25** 11:22:07.2±4.2, 26°.96N×55°.99E, h55km±57km, Error ellipse: s-maj=48.8km s-min=27.1km az=165.0*

ISC 25 11:22:04.3±1.4, **26°.92N**±0°.03×**55°.95E**±0°.04, **h7**km±8km, **n138,** σ1**9**28/145, **mb4.0**/24, **6C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.51**	**23**	Pg		**Pg**	**11 22 13.0**	**-1.3**
BNDS	**Bandar-Abbas**	**0.51**	**23**	*e*Pg		**Pg**	**11 22 13.6**	**-0.7**
IBND	**Bandar-abas**	**0.74**	**45**	*e*Pg		**Pg**	**11 22 18.4**	**-0.2**
IBND				*e*Sg		**Sb**	**11 22 29.4**	**-0.5**
IBND				*e*			11 22 46.3	
	comp=Z,37μm,0.3s							
IBND	**Bandar-abas**	**0.74**	**45**	*e*Pg		**Pg**	**11 22 18.4**	**-0.2**
IBND				*e*Sg		**Sb**	**11 22 29.4**	**-0.5**
BANOM	**Banah**	**1.05**	**162**	P		**Pb**	**11 22 25.2**	**+0.5**
	SNR=455							
BANOM				ml			11 22 27.2	
	SNR=384							
BANOM				⇓S		**Sn**	**11 22 40.4**	**+0.1**
BANOM	**Banah**	**1.05**	**162**	P		**Pb**	**11 22 25.2**	**+0.5**
	SNR=455							
BANOM				S		**Sn**	**11 22 40.4**	**+0.1**
NAZ	**Nazwa, Dubai**	**1.94**	**188**	P		**Pb**	**11 22 40.4**	**+0.3**
HATD	**Hatta, Dubai**	**2.10**	**175**	⇑P		**Pb**	**11 22 41.6**	**-1.0**
	SNR=8.5							
HATD				ml			11 22 45.7	
	SNR=213							
HATD				ml			11 23 18.6	
	SNR=352							
HATD	**Hatta, Dubai**	**2.10**	**175**	P		**Pb**	**11 22 41.6**	**-1.0**
	SNR=8.5							
FAQ	**Al Faqa, Dubai**	**2.19**	**188**	P		**Pb**	**11 22 43.1**	**-1.2**
	SNR=30							
ASHO	**Ashiyiah**	**2.23**	**177**	P		**Pb**	**11 22 43.7**	**-1.3**
	SNR=107							
ASHO				ml			11 23 28.8	
	SNR=175							
ASHO	**Ashiyiah**	**2.23**	**177**	P		**Pn**	**11 22 43.4**	**+1.6**
	SNR=107							
ASUD	**Al Ashush, Dub**	**2.35**	**194**	P		**Pb**	**11 22 46.1**	**-0.9**
	SNR=20							
ASUD				ml			11 22 59.2	
	SNR=23							
ASUD				ml			11 23 20.2	
	SNR=24							
ASUD	**Al Ashush, Dub**	**2.35**	**194**	P		**Pb**	**11 22 46.1**	**-0.9**
	SNR=20							
GHIR	**Ghir-Karzin**	**2.96**	**298**	Pn		**Pb**	**11 22 58.0**	**+0.6**
GHIR				Sg		Sg	11 23 49.0	+10
KRBR	**Kerman**	**3.13**	**13**	*e*Pn		**Pn**	**11 22 55.8**	**+1.4**
ISRV	**Sarvestan**	**3.50**	**315**	*e*Pn		**Pn**	**11 23 01.6**	**+2.2**
ISRV	**Sarvestan**	**3.50**	**315**	*e*Pn		**Pn**	**11 23 01.6**	**+2.2**
ARQ	**Araqi**	**3.61**	**172**	P		**Pn**	**11 23 02.7**	**+2.0**
	SNR=11							
ARQ	**Araqi**	**3.61**	**172**	P		**Pn**	**11 23 02.7**	**+2.0**
	SNR=11							
IPAR	**Pars**	**3.87**	**319**	*e*Pn		**Pn**	**11 23 06.7**	**+2.2**
IPAR				*e*			11 24 34.7	
	comp=Z,1μm,0.4s							
IPAR	**Pars**	**3.87**	**319**	*e*Pn		**Pn**	**11 23 06.7**	**+2.2**
SMDO	**Samad**	**4.29**	**153**	P		**Pn**	**11 23 12.7**	**+2.4**
	SNR=15							
SMDO	**Samad**	**4.29**	**153**	P		**Pn**	**11 23 12.6**	**+2.4**
	SNR=15							
IMEH	**Mehriz**	**4.60**	**346**	*e*Pn		**Pn**	**11 23 16.2**	**+1.7**
IMEH				*e*			11 23 28.5	
	comp=Z,676nm,0.2s							
IMEH	**Mehriz**	**4.60**	**346**	*e*Pn		**Pn**	**11 23 16.2**	**+1.7**
JMDO	**Jabal Madar**	**4.94**	**156**	⇓P		**Pn**	**11 23 21.1**	**+2.1**
JMDO	**Jabal Madar**	**4.94**	**156**	P		**Pn**	**11 23 21.1**	**+2.1**
WBK	**Wadi Bani Khal**	**5.10**	**147**	P		**Pn**	**11 23 21.2**	**0.0**
	SNR=12							
WBK	**Wadi Bani Khal**	**5.10**	**147**	P		**Pn**	**11 23 21.2**	**0.0**
	SNR=12							
ICHK	**Chekchek**	**5.47**	**346**	*e*Pn		**Pn**	**11 23 28.0**	**+1.6**
ICHK				*e*			11 23 33.3	
	comp=Z,738nm,0.3s							
ICHK	**Chekchek**	**5.47**	**346**	*e*Pn		**Pn**	**11 23 28.0**	**+1.6**
IKOO	**Kooshah**	**6.09**	**25**	*e*Pn		**Pn**	**11 23 36.6**	**+1.6**
IKOO				*e*			11 24 15.1	
	comp=Z,271nm,0.3s							
IGAR	**Gharneh**	**6.43**	**329**	*e*Pn		**Pn**	**11 23 41.6**	**+2.0**
ITEG	**Tejag**	**6.43**	**22**	*e*Pn		**Pn**	**11 23 41.1**	**+1.5**
ITEG				*e*			11 25 34.8	
	comp=Z,490nm,0.4s							
NASN	**Na'in**	**6.46**	**336**	Pn		**Pn**	**11 23 43.0**	**+2.9**
IZEF	**Zefreh**	**6.73**	**333**	*e*Pn		**Pn**	**11 23 44.8**	**+1.0**
IZEF				*e*			11 24 05.0	
	comp=Z,161nm,0.3s							
IMON	**Monand**	**7.03**	**26**	*e*Pn		**Pn**	**11 23 49.6**	**+1.7**
IMON				*e*			11 25 52.5	
	comp=E,530nm,0.4s							
IPIR	**Pirpir**	**7.23**	**324**	*e*Pn		**Pn**	**11 23 52.5**	**+1.9**
IKLH	**Kolahrood**	**7.41**	**330**	*e*Pn		**Pn**	**11 23 54.9**	**+1.8**
IKLH				*e*			11 25 42.0	
	comp=Z,170nm,0.3s							
NAY	**Al-Naaiem**	**8.03**	**289**	*e*P		**Pn**	**11 24 02.8**	**+1.4**
NAY				*e*S		**Sn**	**11 25 29.4**	**-3.1**
NAY				AML		AML	11 25 42.4	
	comp=Z,7.3nm,0.6s							
NAY	**Al-Naaiem**	**8.03**	**289**	*e*P		**Pn**	**11 24 02.8**	**+1.4**
NAY				*e*S		**Sn**	**11 25 29.4**	**-3.1**
	comp=Z,7.3nm,0.6s							
ABTO	**Aybut**	**9.84**	**195**	P		**Pn**	**11 24 26.4**	**+0.2**
	SNR=8.8							
KBL	**Kabul**	**13.57**	**53**	*e*P		**Pn**	**11 25 17.6**	**+0.1**
KBL	**Kabul**	**13.57**	**53**	*e*Pn		**Pn**	**11 25 17.6**	**+0.1**
KBL	**Kabul**	**13.57**	**53**	*e*Pn		**Pn**	**11 25 17.6**	**+0.1**
GNI	**Garni**	**16.14**	**328**	Pn		**P**	**11 25 58.9**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=17,slow=3.8,SNR=7.7							
GNI	**Garni**	**16.14**	**328**	*ce*P		**P**	**11 25 55.2**	**+0.1**
GNI				pmax		pmax		
	comp=Z,17nm,0.8s							
GNI	**Garni**	**16.14**	**328**	*e*P		**Pn**	**11 25 53.0**	**+1.2**
	comp=Z,18nm,1.0s							
GNI	**Garni**	**16.14**	**328**	*e*P		**Pn**	**11 25 53.0**	**+1.2**
	comp=Z,18nm,1.0s							
ZEI	**Tsey**	**18.61**	**331**	*e*P		**Pn**	**11 26 23.5**	**+0.8**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
KKAR	**Karatay Array**	**20.02**	**33**	*e*P		**P**	**11 26 36.5**	**-1.2**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**20.02**	**33**	*e*P		**P**	**11 26 36.5**	**-1.2**
	comp=Z,1.6nm,0.6s							
KKAR	**Karatay Array**	**20.02**	**33**	*e*P		**P**	**11 26 36.5**	**-1.2**
	comp=Z,1.6nm,0.6s							
KIV	**Kislovodsk**	**20.09**	**331**	*e*P		Pn	11 26 41.9	+1.6
KIV				pmax		pmax		
	comp=Z,27nm,1.0s							
KIV	**Kislovodsk**	**20.09**	**331**	*e*P		Pn	11 26 41.8	+1.5
	comp=Z,37nm,1.1s							
EKS2	**Erkin-Say**	**21.40**	**38**	*e*P		**P**	**11 26 52.5**	**-0.3**
EKS2				pmax		pmax		
	comp=Z,15nm,1.1s							
EKS2	**Erkin-Say**	**21.40**	**38**	*e*P		**P**	**11 26 52.5**	**-0.3**
	comp=Z,15nm,1.1s							
EKS2	**Erkin-Say**	**21.40**	**38**	*e*P		**P**	**11 26 52.5**	**-0.3**
	comp=Z,15nm,1.1s							
AAK	**Ala-Archa**	**21.78**	**39**	*ce*P		**P**	**11 26 57.2**	**+0.3**
AAK				pmax		pmax		
	comp=Z,11nm,0.9s							
AAK	**Ala-Archa**	**21.78**	**39**	*e*P		**P**	**11 26 56.8**	**-0.1**
	comp=Z,36nm,1.1s							
AAK	**Ala-Archa**	**21.78**	**39**	*e*P		**P**	**11 26 56.8**	**-0.1**
	comp=Z,36nm,1.1s							
ABKAR	**Akbulak array**	**22.51**	**7**	*e*P		**P**	**11 27 03.1**	**-1.3**
	comp=Z,2.3nm,0.6s							
ABKAR	**Akbulak array**	**22.51**	**7**	*e*P		**P**	**11 27 03.1**	**-1.3**
	comp=Z,2.3nm,0.6s							
ANN	**Anapa**	**23.21**	**325**	*e*P		**P**	**11 27 13.7**	**+1.9**
ANN				*e**PP		pP	11 27 26.1	+12
ANN				*e*S		**S**	**11 31 25.1**	**+1.1**
ANN				pmax		pmax		
	comp=Z,43nm,1.0s							
AKTO	**Aktyubinsk**	**23.53**	**3**	P		**P**	**11 27 14.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=169,slow=11,SNR=7.4							
AKTO	**Aktyubinsk**	**23.53**	**3**	P		**P**	**11 27 14.6**	**-0.4**
AKTO	**Aktyubinsk**	**23.53**	**3**	P		**P**	**11 27 14.6**	**-0.4**
VRHR	**Novokhopersk**	**26.48**	**340**	*e*P		**P**	**11 27 43.1**	**+1.1**
VRHR				pmax		pmax		
	comp=N,2.0nm,0.3s							
VRHR				pmax		pmax		
	comp=E,3.0nm,0.3s							
VRHR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
VSR	**Storozhevoye**	**27.40**	**337**	*e*P		**P**	**11 27 49.2**	**-1.1**
VSR				pmax		pmax		
	comp=N,4.0nm,0.5s							
VSR				pmax		pmax		
	comp=E,4.0nm,0.5s							
VSR				pmax		pmax		
	comp=Z,6.0nm,0.5s							
BRVK	**Borovoye**	**28.21**	**18**	*ce*P		**P**	**11 27 57.6**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,9.0nm,2.5s							
BVAR	**Borovoye Array**	**28.21**	**19**	P		**P**	**11 27 56.9**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=198,slow=7.6,SNR=12							
BVAR				LR		LR	11 41 14.7	
	comp=Z,50nm,18.4s,baz=289,slow=41							
BVAR	**Borovoye Array**	**28.21**	**19**	P		**P**	**11 27 56.9**	**-0.7**
BVAR	**Borovoye Array**	**28.21**	**19**	P		**P**	**11 27 56.9**	**-0.7**
BVAR	**Borovoye Array**	**28.21**	**19**	P		**P**	**11 27 56.9**	**-0.7**
MK31	**Makanchi Array**	**28.72**	**39**	*e*P		**P**	**11 28 01.5**	**-0.7**
MK31	**Makanchi Array**	**28.72**	**39**	*e*P		**P**	**11 28 01.4**	**-0.7**
MK31	**Makanchi Array**	**28.72**	**39**	*e*P		**P**	**11 28 01.5**	**-0.7**
MKAR	**Makanchi Array**	**28.72**	**39**	P		**P**	**11 28 01.1**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=230,slow=9.4,SNR=11							
MKAR	**Makanchi Array**	**28.72**	**39**	*ce*P		**P**	**11 28 01.1**	**-1.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**28.72**	**39**	P		**P**	**11 28 01.1**	**-1.1**
MKAR	**Makanchi Array**	**28.72**	**39**	P		**P**	**11 28 01.1**	**-1.1**
KURK	**Kurchatov**	**29.38**	**30**	P		**P**	**11 28 06.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=229,slow=8.7,SNR=8.6							
KURK	**Kurchatov**	**29.38**	**30**	*e*P		**P**	**11 28 08.3**	**+0.4**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
KURK	**Kurchatov**	**29.38**	**30**	*e*P		**P**	**11 28 07.2**	**-0.8**
	comp=Z,2.5nm,1.1s							
KURK	**Kurchatov**	**29.38**	**30**	*e*P		**P**	**11 28 07.2**	**-0.8**
	comp=Z,2.5nm,1.1s							
ARU	**Arti**	**29.54**	**3**	*c i*P		**P**	**11 28 11.1**	**+1.8**
ARU							11 29 04.7	
ARU				S		**S**	**11 33 04.4**	**+0.1**
ARU				SS		**SnSn**	**11 34 35.3**	**+3.5**
ARU				pmax		pmax		
	comp=Z,6.0nm,2.0s							
OBN	**Obninsk**	**31.51**	**339**	P		**P**	**11 28 27.0**	**+0.3**
OBN				pmax		pmax		
	comp=Z,7.0nm,1.3s							
ZAA0	**Zalesovo Array**	**34.37**	**30**	*e*P		**P**	**11 28 50.1**	**-1.5**
ZAA0	**Zalesovo Array**	**34.37**	**30**	*e*P		**P**	**11 28 50.2**	**-1.5**
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**11 28 50.5**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=245,slow=9.6,SNR=14							
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**11 28 50.5**	**-1.2**
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**11 28 50.5**	**-1.2**
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**11 28 50.5**	**-1.2**
GERES	**GERESS Array B**	**39.22**	**315**	P		**P**	**11 29 34.8**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.8,SNR=4.5							
GERES	**GERESS Array B**	**39.22**	**315**	P		**P**	**11 29 34.8**	**+1.6**
GERES	**GERESS Array B**	**39.22**	**315**	P		**P**	**11 29 34.8**	**+1.6**
GERES	**GERESS Array B**	**39.22**	**315**	P		**P**	**11 29 34.8**	**+1.6**
KHC	**Kasperske Hory**	**39.38**	**316**	*e*P		**P**	**11 29 33.0**	**-1.6**
KHC	**Kasperske Hory**	**39.38**	**316**	*e*P		**P**	**11 29 33.0**	**-1.6**
FINES	**FINESS Array B**	**39.91**	**338**	P		**P**	**11 29 39.4**	**+0.7**
	comp=Z,2.8nm,1.0s,baz=142,slow=9.6,SNR=5.8							
FINES	**FINESS Array B**	**39.91**	**338**	P		**P**	**11 29 39.4**	**+0.7**
FINES	**FINESS Array B**	**39.91**	**338**	P		**P**	**11 29 39.4**	**+0.7**
FINES	**FINESS Array B**	**39.91**	**338**	P		**P**	**11 29 39.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**40.40**	**93**	P		**P**	**11 29 43.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=278,slow=9.1,SNR=4.6							
CMAR	**Chiang Mai Arr**	**40.40**	**93**	P		**P**	**11 29 43.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.40**	**93**	P		**P**	**11 29 43.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.40**	**93**	P		**P**	**11 29 43.4**	**+0.1**
SONM	**Songino Array**	**44.29**	**48**	P		**P**	**11 30 14.9**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=262,slow=10,SNR=8.5							
SONM	**Songino Array**	**44.29**	**48**	P		**P**	**11 30 14.9**	**+0.1**
SONM	**Songino Array**	**44.29**	**48**	P		**P**	**11 30 14.9**	**+0.1**
SONM	**Songino Array**	**44.29**	**48**	P		**P**	**11 30 14.9**	**+0.1**
TOA0	**Torodi Ar. Sit**	**52.42**	**266**	*e*P		**P**	**11 31 17.2**	**-0.6**
TOA0	**Torodi Ar. Sit**	**52.42**	**266**	*e*P		**P**	**11 31 17.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**52.42**	**266**	P		**P**	**11 31 17.3**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=61,slow=7.1,SNR=18							
TORD	**Torodi Ar. Bea**	**52.42**	**266**	P		**P**	**11 31 17.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**52.42**	**266**	P		**P**	**11 31 17.3**	**-0.5**
BOSA	**Boshof**	**62.58**	**210**	P		**P**	**11 32 29.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=82,slow=10,SNR=3.8							
BOSA	**Boshof**	**62.58**	**210**	P		**P**	**11 32 29.2**	**-0.1**
BOSA	**Boshof**	**62.58**	**210**	P		**P**	**11 32 29.2**	**-0.1**
BOSA	**Boshof**	**62.58**	**210**	P		**P**	**11 32 29.2**	**-0.1**
ILAR	**Eielson Array**	**86.89**	**10**	P		**P**	**11 34 48.0**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.2,SNR=5.0							
ILAR	**Eielson Array**	**86.89**	**10**	P		**P**	**11 34 48.0**	**-1.5**
ILAR	**Eielson Array**	**86.89**	**10**	P		**P**	**11 34 48.0**	**-1.5**
ILAR	**Eielson Array**	**86.89**	**10**	P		**P**	**11 34 48.0**	**-1.5**
WRA	**Warramunga Arr**	**89.07**	**113**	P		**P**	**11 34 59.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=310,slow=4.2,SNR=9.1							
WRA	**Warramunga Arr**	**89.07**	**113**	P		**P**	**11 34 59.5**	**-1.1**
WRA	**Warramunga Arr**	**89.07**	**113**	P		**P**	**11 34 59.5**	**-1.1**
WRA	**Warramunga Arr**	**89.07**	**113**	P		**P**	**11 34 59.5**	**-1.1**
ASAR	**Alice Springs**	**90.52**	**116**	P		**P**	**11 35 06.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=297,slow=4.9,SNR=7.6							
ASAR	**Alice Springs**	**90.52**	**116**	P		**P**	**11 35 06.4**	**-1.0**
ASAR	**Alice Springs**	**90.52**	**116**	P		**P**	**11 35 06.4**	**-1.0**
ASAR	**Alice Springs**	**90.52**	**116**	P		**P**	**11 35 06.4**	**-1.0**
YKA	**Yellowknife Ar**	**90.57**	**356**	P		**P**	**11 35 06.9**	**0.0**
	comp=Z,0.3nm,1.0s,baz=12,slow=3.9,SNR=4.8							
YKA	**Yellowknife Ar**	**90.57**	**356**	P		**P**	**11 35 06.9**	**0.0**
YKA	**Yellowknife Ar**	**90.57**	**356**	P		**P**	**11 35 06.9**	**0.0**
YKA	**Yellowknife Ar**	**90.57**	**356**	P		**P**	**11 35 06.9**	**0.0**

IDC 25 11:22:28.9±8.7, **19°.52S**×**177°.67W**, **h588**km±102km, **mb2.9/9,mb1 3.2/9,mb1mx3.0/19,mbtmp2.9/9, Error ellipse: s-maj=41.3km s-min=30.8km az=102.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**33.91**	**263**	P		P	11 28 24.7	+0.1
	1.4nm,0.5s,baz=74,slow=14,SNR=4.0							
STKA	**Stephens Creek**	**38.50**	**243**	P		P	11 29 02.1	0.0
	1.4nm,0.7s,baz=79,slow=4.9,SNR=3.6							
ASAR	**Alice Springs**	**45.05**	**256**	P		P	11 29 53.5	-0.2
	1.1nm,0.7s,baz=86,slow=7.8,SNR=11							
ASAR				PP		pP	11 31 43.8	+5.5
	0.8nm,0.7s,baz=90,slow=7.9,SNR=5.0							
WRA	**Warramunga Arr**	**45.05**	**261**	P		P	11 29 53.2	-0.6
	0.7nm,0.4s,baz=97,slow=7.6,SNR=13							
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P		P	11 30 56.0	+0.4
	1.5nm,0.7s,baz=58,slow=9.5,SNR=2.3							
MJAR	**Matsushiro Arr**	**69.61**	**323**	P		P	11 32 40.3	+0.1
	0.9nm,0.5s,baz=158,slow=6.8,SNR=4.2							
TXAR	**Lajitas Array**	**86.27**	**57**	P		P	11 34 10.2	+0.5
	0.7nm,0.7s,baz=218,slow=7.0,SNR=12							
ILAR	**Eielson Array**	**87.30**	**13**	P		P	11 34 12.5	-1.0
	0.2nm,0.6s,baz=227,slow=5.8,SNR=7.0							
PDAR	**Pinedale Array**	**88.04**	**43**	P		P	11 34 17.5	-0.3
	0.2nm,0.6s,baz=192,slow=1.7,SNR=2.5							
GERES	**GERESS Array B**	**149.34**	**345**	PKPbc		PKPbc	11 41 12.4	+0.1
	0.5nm,0.6s,baz=0.0,slow=3.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**173.63**	**174**	PKPab		PKPab	11 43 05.4	-0.7
	0.3nm,0.7s,baz=189,slow=4.5,SNR=3.2							

*IDC **25** 11:33:14.9±1.4, 23°.96N×124°.99E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.3/22, mbtmp3.4/6, ML2.5/1, Error ellipse: s-maj=33.2km s-min=24.8km az=69.0*
*JMA **25** 11:33:18.7±0.2, 23°.89N×124°.97E, h29km, M3.3*

ISC 25 11:33:16.6±2.7, **23°.89N**±0°.08×**124°.98E**±0°.06, **h11**km±17km, **n14,** σ0**°63**/19, **mb3.5/5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTJ	**Tarama**	**0.79**	**341**	P		**Pn**	**11 33 33.4**	**-0.2**
JTJ				S		**Sb**	**11 33 43.7**	**+0.8**
JIJ	**Ishigaki jima**	**0.90**	**302**	P		**Pn**	**11 33 34.8**	**-0.3**
JIJ				S		**Sb**	**11 33 46.9**	**+0.8**
JOGS	**Gusukube**	**0.95**	**24**	P		**Pn**	**11 33 36.2**	**+0.4**
JOGS				S		**Sn**	**11 33 49.4**	**+0.1**
JKRS	**Kuro-shima**	**0.95**	**291**	P		**Pn**	**11 33 36.3**	**+0.4**
JMJ	**Miyako jima 2**	**0.96**	**17**	P		**Pn**	**11 33 36.5**	**+0.5**
JMJ				*e*S		**Sn**	**11 33 49.1**	**-0.6**
HATJ	**Hateruma jima**	**1.09**	**279**	P		**Pn**	**11 33 37.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.22**	**291**	P		**Pg**	**11 33 39.9**	**-0.2**
YOJ	**Yonaguni jima**	**1.89**	**288**	P		**Pn**	**11 33 49.1**	**+0.4**
JOW	**Kunigami**	**4.18**	**45**	Pn		**Pn**	**11 34 19.9**	**-0.3**
	0.6nm,0.3s,baz=133,slow=19,SNR=5.0							
JOW				Sn		**Sn**	**11 35 09.5**	**+0.4**
	1.2nm,0.3s,baz=121,slow=19,SNR=2.5							
SONM	**Songino Array**	**28.10**	**333**	P		**P**	**11 39 08.4**	**0.0**
	0.2nm,0.6s,baz=149,slow=6.4,SNR=2.3							
MKAR	**Makanchi Array**	**40.98**	**315**	P		**P**	**11 40 59.4**	**-0.1**
	0.4nm,0.4s,baz=100,slow=10,SNR=12							
ZALV	**Zalesovo Beam**	**42.41**	**326**	P		**P**	**11 41 09.3**	**-1.7**
	0.4nm,0.4s,baz=128,slow=9.5,SNR=3.6							
WRA	**Warramunga Arr**	**44.52**	**167**	P		**P**	**11 41 28.8**	**+0.4**
	0.2nm,0.4s,baz=1.1,slow=8.4,SNR=5.7							
KURK	**Kurchatov**	**44.56**	**319**	P		**P**	**11 41 28.2**	**-0.2**
	0.3nm,0.4s,baz=110,slow=8.0,SNR=6.9							

IDC 25 11:37:07.4±3.2, **17°.82N**×**145°.73E**, **h347**km±31km, **mb3.0**/6, **mb1 3.1**/7, **mb1mx2.9**/23, **mbtmp3.1**/7, **Error ellipse: s-maj=66.3km s-min=26.0km az=84.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.29**	**191**	P		Pn	11 38 19.4	+0.1
	4.2nm,0.3s,baz=200,slow=20,SNR=3.1							
GUMO				S		S	11 39 12.2	-5.1
	18nm,0.3s,baz=1.0,slow=23,SNR=8.9							
WRA	**Warramunga Arr**	**39.16**	**197**	P		P	11 44 03.1	+0.1
	0.1nm,0.4s,baz=29,slow=9.1,SNR=3.4							
SONM	**Songino Array**	**43.85**	**322**	P		P	11 44 40.5	-0.2
	0.4nm,0.5s,baz=135,slow=9.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**44.37**	**278**	P		P	11 44 44.4	-0.6
	0.7nm,0.6s,baz=71,slow=6.7,SNR=7.4							
MKAR	**Makanchi Array**	**59.09**	**314**	P		P	11 46 32.5	+0.1
	0.6nm,0.4s,baz=90,slow=8.0,SNR=26							
KURK	**Kurchatov**	**61.94**	**318**	P		P	11 46 51.7	+0.3
	2.9nm,0.6s,baz=97,slow=7.4,SNR=30							
BVAR	**Borovoye Array**	**67.17**	**321**	P		P	11 47 24.7	-0.2
	0.4nm,0.3s,baz=98,slow=8.6,SNR=5.0							

*IDC **25** 11:45:05.7±5.7, 30°.97S×178°.96W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=222.1km s-min=59.4km az=156.0*

ISC 25 11:45:02.2±2.1, **32°.7S**±0°.1×**177°.8W**±0°.2, **h20**km, **n13,** σ2**°14**/12, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**6.27**	**209**	*e*PN		**Pn**	**11 46 35.3**	**+1.7**
PUZ				SN		**Sn**	**11 47 44.9**	**+0.2**
CNGZ	**Carnagh Statio**	**6.64**	**208**	*e*PN		**Pn**	**11 46 41.0**	**+2.4**
MWZ	**Matawai**	**6.81**	**212**	*e*PN		**Pn**	**11 46 42.5**	**+1.5**
MWZ				SN		**Sn**	**11 47 57.5**	**-0.4**
OUZ	**Omahuta**	**7.56**	**248**	*e*PN		**Pn**	**11 46 53.5**	**+2.2**
NMHZ	**Naumai**	**7.75**	**213**	*e*PN		**Pn**	**11 46 54.8**	**+0.8**
NMHZ				SN		**Sn**	**11 48 22.2**	**+1.0**
BFZ	**Birch Farm**	**9.31**	**209**	SN		**Sn**	**11 48 55.0**	**-4.

SART					*i* S		Sg	12 34 36.7	+0.3				
RKY	**Sarkoy-Tekirda**	**0.46**	**254**		PG		Pg	12 34 29.8	-0.5				
RKY					*e*SG		Sg	12 34 36.8	+0.4				
RKY	**Sarkoy-Tekirda**	**0.46**	**254**		*i* Pg		Pg	12 34 29.8	-0.5				
RKY					*e*Sg		Sg	12 34 36.8	+0.4				
BNT	**Bandirma**	**0.47**	**165**		*e*PG		Pg	12 34 30.5	0.0				
BNT	**Bandirma**	**0.47**	**165**		*e*Pg		Pg	12 34 30.5	0.0				
EDC	**Edincik**	**0.47**	**170**		*e*PG		Pg	12 34 30.7	+0.2				
EDC					*e*SG		Sg	12 34 36.7	0.0				
EDC	**Edincik**	**0.47**	**170**		*e*Pg		Pg	12 34 30.7	+0.2				
EDC					*e*Sg		Sg	12 34 36.7	0.0				
SLVT	**Silivri**	**0.54**	**39**		*e*PG		Pg	12 34 31.9	+0.2				
SLVT	**Silivri**	**0.54**	**39**		*e*Pg		Pg	12 34 31.9	+0.2				
KRBG	**Karabiga-Canak**	**0.55**	**220**		*e*PG		Pg	12 34 31.5	-0.4				
KRBG	**Karabiga-Canak**	**0.55**	**220**		*e*Pg		Pg	12 34 31.5	-0.4				
ELBA	**Catalca**	**0.61**	**56**		*i* P		Pg	12 34 33.1	+0.1				
ELBA					*i* S		Sb	12 34 42.3	+0.1				
ELBA	**Catalca**	**0.61**	**56**		*i* P		Pg	12 34 33.1	+0.1				
ELBA					*i* S		Sb	12 34 42.3	+0.1				
CTKS	**Kestanelik-??a**	**0.70**	**53**		*e*PG		Pg	12 34 34.5	-0.3				
CTKS	**Kestanelik-??a**	**0.70**	**53**		*e*Pg		Pg	12 34 34.5	-0.3				
KCTX	**Karacabey (Bur**	**0.71**	**140**		*e*PG		Pg	12 34 34.7	-0.3				
KCTX	**Karacabey (Bur**	**0.71**	**140**		*e*Pg		Pg	12 34 34.7	-0.3				
GONE	**Gonen-Balikesi**	**0.77**	**184**		*e*PG		Pg	12 34 35.9	-0.1				
GONE	**Gonen-Balikesi**	**0.77**	**184**		*e*Pg		Pg	12 34 35.9	-0.1				
CTYL	**Yal??k??y-??at**	**0.77**	**31**		*e*PG		Pg	12 34 35.7	-0.4				
CTYL	**Yal??k??y-??at**	**0.77**	**31**		*e*Pg		Pg	12 34 35.7	-0.4				
BGKT	**Bogazkoy**	**0.85**	**64**		*e*PG		Pg	12 34 37.2	-0.4				
BGKT	**Bogazkoy**	**0.85**	**64**		*e*Pg		Pg	12 34 37.2	-0.4				
ARMT	**Armutlu**	**0.87**	**106**		*e*PG		Pg	12 34 38.0	0.0				
ARMT	**Armutlu**	**0.87**	**106**		*e*Pg		Pg	12 34 38.0	0.0				
LPK	**Lapseki**	**0.88**	**240**		*e*PG		Pg	12 34 37.3	-0.9				
LPK	**Lapseki**	**0.88**	**240**		*e*Pg		Pg	12 34 37.3	-0.9				
ERIK	**Erikli-Kesan**	**0.96**	**262**		*e*PG		Pg	12 34 38.6	-1.1				
ERIK	**Erikli-Kesan**	**0.96**	**262**		*e*Pg		Pg	12 34 38.6	-1.1				
MDNY	**Mudanya-Bursa**	**0.96**	**117**		*e*PG		Pb	12 34 39.3	-0.4				
MDNY	**Mudanya-Bursa**	**0.96**	**117**		*e*Pg		Pb	12 34 39.3	-0.4				
ISK	**Istanbul-Kandi**	**1.01**	**75**		*e*PG		Pb	12 34 39.6	-1.0				
ISK	**Istanbul-Kandi**	**1.01**	**75**		*e*Pg		Pb	12 34 39.7	-0.9				
BUY	**Buyukada**	**1.03**	**87**		*i* P		Pb	12 34 39.8	-1.1				
BUY					*i* S		Sg	12 34 54.5	+0.1				
BUY	**Buyukada**	**1.03**	**87**		*i* P		Pb	12 34 39.8	-1.1				
BUY					*i* S		Sg	12 34 54.5	+0.1				
GELI	**Tayfur-Gelibol**	**1.06**	**248**		*e*PG		Pb	12 34 40.6	-0.9				
GELI	**Tayfur-Gelibol**	**1.06**	**248**		*e*Pg		Pb	12 34 40.6	-0.9				
KLYT	**Kilyos**	**1.06**	**65**		*e*PG		Pb	12 34 40.6	-0.8				
KLYT	**Kilyos**	**1.06**	**65**		*e*Pg		Pb	12 34 40.6	-0.8				
BALY	**Balya**	**1.08**	**186**		*i* P		Pb	12 34 41.2	-0.5				
BALY					*i* S		Sn	12 34 57.4	+0.5				
BALY	**Balya**	**1.08**	**186**		*i* P		Pb	12 34 41.2	-0.5				
BALY					*i* S		Sn	12 34 57.4	+0.5				
ORLT	**Orhaneli**	**1.16**	**131**		*e*PN		Pg	12 34 43.4	0.0				
ORLT	**Orhaneli**	**1.16**	**131**		*e*Pn		Pg	12 34 43.4	0.0				
BALB	**Balikesir**	**1.18**	**176**		*e*PN		Pg	12 34 43.7	0.0				
BALB	**Balikesir**	**1.18**	**176**		*e*Pn		Pg	12 34 43.7	0.0				
ENEZ	**Enez**	**1.22**	**267**		*e*PN		Pn	12 34 43.5	-0.5				
ENEZ	**Enez**	**1.22**	**267**		*e*Pn		Pn	12 34 43.5	-0.5				
ULDT	**Uludag**	**1.24**	**122**		*i* P		Pn	12 34 44.0	-0.5				
ULDT	**Uludag**	**1.24**	**122**		*i* P		Pn	12 34 44.0	-0.5				
YLV	**Yalova**	**1.25**	**101**		*e*PN		Pn	12 34 43.9	-0.6				
YLV	**Yalova**	**1.25**	**101**		*e*Pn		Pn	12 34 43.9	-0.6				
EDRB	**Edirne**	**1.29**	**324**		*e*PN		Pn	12 34 44.3	-0.6				
EDRB	**Edirne**	**1.29**	**324**		*e*Pn		Pn	12 34 44.3	-0.6				
ALN	**Alexandroupoli**	**1.30**	**274**		P		Pn	12 34 44.5	-0.6				
ALN					S		Sn	12 35 02.6	+0.2				
ALN	**Alexandroupoli**	**1.30**	**274**		*e*PG		Pn	12 34 45.1	0.0				
ALN	**Alexandroupoli**	**1.30**	**274**		P		Pn	12 34 44.5	-0.6				
ALN	**Alexandroupoli**	**1.30**	**274**		*e*Pg		Sn	12 35 02.6	+0.2				
ALN					S		Sn	12 35 02.6	+0.2				
DURS	**Dursunbey**	**1.33**	**155**		*i* P		Pb	12 34 46.1	+0.1				
DURS					*i* S		Sg	12 35 03.9	-0.1				
DURS	**Dursunbey**	**1.33**	**155**		*i* P		Pb	12 34 46.1	+0.1				
DURS					*i* S		Sg	12 35 03.9	-0.1				
DST	**Dursunbey**	**1.37**	**151**		*e*PN		Pb	12 34 46.9	+0.1				
DST	**Dursunbey**	**1.37**	**151**		*e*Pn		Pb	12 34 46.9	+0.1				
HRT	**Hereke**	**1.45**	**89**		*e*PN		Pn	12 34 46.2	-0.9				
HRT	**Hereke**	**1.45**	**89**		*e*Pn		Pn	12 34 46.2	-0.9				
SILT	**Sile**	**1.47**	**76**		*e*PN		Pn	12 34 46.7	-0.6				
SILT	**Sile**	**1.47**	**76**		*e*Pn		Pn	12 34 46.7	-0.6				
EZN	**Ezine**	**1.48**	**229**		*e*PN		Pn	12 34 47.7	+0.2				
EZN	**Ezine**	**1.48**	**229**		*e*Pn		Pn	12 34 47.7	+0.2				
ADVT	**Abdulvahap**	**1.55**	**103**		*e*PN		Pn	12 34 47.9	-0.6				
ADVT	**Abdulvahap**	**1.55**	**103**		*e*Pn		Pn	12 34 47.9	-0.6				
BOZC	**Bozcaada**	**1.63**	**234**		*i* P		Pn	12 34 49.8	+0.2				
BOZC					*i* S		Sb	12 35 11.3	+0.4				
CAVI	**Cavuskoy**	**1.70**	**110**		*e*PN		Pn	12 34 51.2	+0.6				
CAVI	**Cavuskoy**	**1.70**	**110**		*e*Pn		Pn	12 34 51.2	+0.6				
AYVA	**Ayvalik**	**1.71**	**209**		*i* P		Pn	12 34 51.0	+0.3				
AYVA					*i* S		Sg	12 35 16.4	+0.1				
AYVA	**Ayvalik**	**1.71**	**209**		*i* P		Pn	12 34 51.0	+0.3				
AYVA					*i* S		Sg	12 35 16.4	+0.1				
JMB	**Yambol**	**1.87**	**332**		P		Pn	12 34 53.9	+0.9				
JMB	**Yambol**	**1.87**	**332**		P		Pn	12 34 53.9	+0.9				
DEMI	**Demirci**	**1.91**	**157**		*i* P		Pn	12 34 53.0	-0.6				
DEMI					*i* S		Sg	12 35 23.0	+0.3				
DEMI	**Demirci**	**1.91**	**157**		*i* P		Pn	12 34 53.0	-0.6				
DEMI					*i* S		Sg	12 35 23.0	+0.3				
AKHS	**Akhisar**	**1.93**	**179**		*i* P		Pn	12 34 53.5	-0.3				
AKHS	**Akhisar**	**1.93**	**179**		*i* P		Pn	12 34 53.5	-0.3				
AKS	**Akhisar**	**1.93**	**179**		*e*PN		Pn	12 34 54.1	+0.3				
AKS	**Akhisar**	**1.93**	**179**		*e*Pn		Pn	12 34 54.1	+0.3				
PRK	**Paraskevi**	**1.94**	**217**		P		Pn	12 34 53.6	-0.2				
PRK					S		Sn	12 35 18.1	+0.1				
PRK	**Paraskevi**	**1.94**	**217**		*e*PN		Pn	12 34 56.0	-0.3				
PRK	**Paraskevi**	**1.94**	**217**		P		Pn	12 34 53.6	-0.2				
PRK	**Paraskevi**	**1.94**	**217**		*e*Pn		Pn	12 34 56.0	-0.3				
PRK					S		Sn	12 35 18.1	+0.1				
SPNC	**Sapanca-Adapaz**	**1.94**	**93**		*e*PN		Pn	12 34 54.7	+0.9				
SPNC	**Sapanca-Adapaz**	**1.94**	**93**		*e*Pn		Pn	12 34 54.7	+0.9				
KDZ	**Kurdzhali**	**1.96**	**296**		*i* P		Pn	12 34 54.1	0.0				
KDZ	**Kurdzhali**	**1.96**	**296**		*i* P		Pn	12 34 54.1	0.0				
GPA	**Golpazari**	**2.01**	**104**		*e*PN		Pn	12 34 55.4	+0.5				
GPA	**Golpazari**	**2.01**	**104**		*e*Pn		Pn	12 34 55.4	+0.5				
DIM	**Dimitrovgrad**	**2.08**	**307**		P		Pn	12 34 55.4	-0.4				
DIM	**Dimitrovgrad**	**2.08**	**307**		P		Pn	12 34 55.4	-0.4				
GULT	**Gulveren**	**2.13**	**99**		*e*PN		Pn	12 34 57.3	+0.8				
GULT	**Gulveren**	**2.13**	**99**		*e*Pn		Pn	12 34 57.3	+0.8				
GDZ	**Gediz**	**2.17**	**142**		*i* P		Pn	12 34 57.9	+0.7				
GDZ					*i* S		Sg	12 35 30.4	-0.5				
GDZ	**Gediz**	**2.17**	**142**		*i* P		Pn	12 34 57.9	+0.7				
LIA	**Limnos Island**	**2.17**	**246**		P		Pn	12 34 56.4	-0.6				
LIA					S		Sn	12 35 24.1	+0.3				
LIA	**Limnos Island**	**2.17**	**246**		*e*PG		Pn	12 34 56.0	-1.0				
LIA	**Limnos Island**	**2.17**	**246**		P		Pn	12 34 56.4	-0.6				
LIA					S		Sn	12 35 24.1	+0.3				
BORA	**Eskisehir**	**2.26**	**113**		*i* P		Pn	12 34 58.2	-0.1				
BORA					*i* S		Sg	12 35 33.4	-0.4				
BORA	**Eskisehir**	**2.26**	**113**		*i* P		Pn	12 34 58.2	-0.1				
HENT	**Hendek**	**2.38**	**89**		*i* P		Pn	12 34 59.4	-0.6				
HENT	**Hendek**	**2.38**	**89**		*i* P		Pn	12 34 59.4	-0.6				
KULA	**Kula-Manisa**	**2.40**	**163**		*e*PN		Pn	12 35 01.1	+0.9				
KULA	**Kula-Manisa**	**2.40**	**163**		*e*Pn		Pn	12 35 01.1	+0.9				
MANT	**Manisa**	**2.40**	**165**		*i* P		Pn	12 35 00.4	0.0				
MANT					*i* S		Sg	12 35 37.2	-1.1				
MANT	**Manisa**	**2.40**	**165**		*i* P		Pn	12 35 00.4	0.0				
PRD	**Provadia**	**2.40**	**354**		*i* P		Pn	12 34 59.9	-0.3				
PRD	**Provadia**	**2.40**	**354**		*i* P		Pn	12 34 59.9	-0.3				
IZM	**Izmir**	**2.44**	**189**		*e*PN		Pn	12 35 01.8	+1.0				
IZM	**Izmir**	**2.44**	**189**		*e*Pn		Pn	12 35 01.8	+1.0				
RZN	**Rozhen**	**2.46**	**292**		*i* P		Pn	12 35 00.9	-0.3				
RZN	**Rozhen**	**2.46**	**292**		*i* P		Pn	12 35 00.9	-0.3				
KAVA	**Kavala**	**2.47**	**275**		P		Pn	12 35 01.0	-0.1				
KAVA	**Kavala**	**2.47**	**275**		P		Pn	12 35 01.0	-0.1				
BLCB	**Balcova**	**2.49**	**193**		*e*PN		Pn	12 35 02.4	+1.0				
BLCB	**Balcova**	**2.49**	**193**		*e*Pn		Pn	12 35 02.4	+1.0				
ALT	**Altintas**	**2.52**	**133**		*e*PN		Pn	12 35 02.5	+0.6				
ALT	**Altintas**	**2.52**	**133**		*e*Pn		Pn	12 35 02.5	+0.6				
PLD	**Plovdiv**	**2.64**	**300**		P		Pn	12 35 03.4	0.0				
PLD	**Plovdiv**	**2.64**	**300**		P		Pn	12 35 03.4	0.0				
MDUB	**Mudurnu**	**2.64**	**96**		*e*PN		Pn	12 35 04.6	+1.0				
MDUB	**Mudurnu**	**2.64**	**96**		*e*Pn		Pn	12 35 04.6	+1.0				
ESKT	**Eskisehir**	**2.70**	**118**		*e*PN		Pn	12 35 05.0	+0.6				
ESKT	**Eskisehir**	**2.70**	**118**		*e*Pn		Pn	12 35 05.0	+0.6				
CHOS	**Chios island**	**2.76**	**209**		P		Pn	12 35 05.1	-0.1				
CHOS	**Chios island**	**2.76**	**209**		*e*PG		Pg	12 35 12.9	-1.1				
CHOS	**Chios island**	**2.76**	**209**		P		Pn	12 35 05.1	-0.1				
CHOS	**Chios island**	**2.76**	**209**		*e*Pg		Pg	12 35 12.9	-1.1				
SZH	**Strazhica**	**2.81**	**332**		P		Pn	12 35 05.4	-0.4				
SZH	**Strazhica**	**2.81**	**332**		P		Pn	12 35 05.4	-0.4				
KHL	**Karahalli**	**2.83**	**151**		*e*PN		Pn	12 35 07.5	+1.2				
KHL	**Karahalli**	**2.83**	**151**		*e*Pn		Pn	12 35 07.5	+1.2				
PSN	**Preselentsi**	**2.88**	**6**		*e*P		Pn	12 35 06.1	-0.7				
PSN	**Preselentsi**	**2.88**	**6**		*e*P		Pn	12 35 06.1	-0.7				
OUR	**Ouranopolis**	**2.92**	**262**		P		Pn	12 35 06.7	-0.6				
OUR	**Ouranopolis**	**2.92**	**262**		P		Pn	12 35 06.7	-0.6				
NVR	**Nevrokopi**	**3.00**	**282**		*e*PG		Pb	12 35 15.5	+1.1				
NVR	**Nevrokopi**	**3.00**	**282**		*e*Pg		Pb	12 35 15.5	+1.1				
PVL	**Pavlikeni**	**3.01**	**324**		*i* P		Pn	12 35 08.8	+0.3				
PVL	**Pavlikeni**	**3.01**	**324**		*i* P		Pn	12 35 08.8	+0.3				
SHUT	**Suhut-Afyon**	**3.12**	**135**		*e*PN		Pn	12 35 11.3	+1.1				
SHUT	**Suhut-Afyon**	**3.12**	**135**		*e*Pn		Pn	12 35 11.3	+1.1				
SRS	**Serrai**	**3.17**	**277**		P		Pn	12 35 10.8	0.0				
SRS	**Serrai**	**3.17**	**277**		P		Pn	12 35 10.8	0.0				
SMG	**Samos**	**3.18**	**193**		P		Pn	12 35 10.6	-0.4				
SMG	**Samos**	**3.18**	**193**		P		Pn	12 35 10.6	-0.4				
SVRH	**Sivrihisar-ESK**	**3.19**	**114**		*e*PN		Pn	12 35 11.5	+0.4				
SVRH	**Sivrihisar-ESK**	**3.19**	**114**		*e*Pn		Pn	12 35 11.5	+0.4				
PGB	**Panagyurishte**	**3.20**	**304**		P		Pn	12 35 11.9	+0.6				
PGB	**Panagyurishte**	**3.20**	**304**		P		Pn	12 35 11.9	+0.6				
PAIG	**Paliouri**	**3.24**	**255**		P		Pn	12 35 11.1	-0.6				
PAIG	**Paliouri**	**3.24**	**255**		P		Pn	12 35 11.1	-0.6				
SOH	**Sokhos**	**3.34**	**272**		P		Pn	12 35 13.4	+0.2				
SOH	**Sokhos**	**3.34**	**272**		P		Pn	12 35 13.4	+0.2				
TIRR	**Tirgusor**	**3.67**	**7**	‖	*i* P		Pn	12 35 21.8	+4.1				
TIRR	**Tirgusor**	**3.67**	**7**	‖	*i* P		Pn	12 35 21.8	+4.1				
KNT	**Kendrikon**	**3.70**	**277**		P		Pn	12 35 18.2	+0.2				
KNT					S		Sn	12 36 02.4	+0.9				
KNT	**Kendrikon**	**3.70**	**277**		P		Pn	12 35 18.2	+0.2				
KNT					S		Sn	12 36 02.4	+0.9				
CFR	**Carcaliu**	**4.37**	**3**	‖	*i* P		Pn	12 35 27.9	+0.6				
CFR	**Carcaliu**	**4.37**	**3**	‖	*i* P		Pn	12 35 27.9	+0.6				
ZAPS	**Zavoj**	**4.54**	**304**		*e*Pn		Pn	12 35 30.6	+0.9				
MLR	**Muntele Rosu**	**4.86**	**345**	‖	*i* P		Pn	12 35 36.3	+2.2				
MLR	**Muntele Rosu**	**4.86**	**345**	‖	*i* P		Pn	12 35 36.3	+2.2				
KRUS	**Krusevo**	**4.95**	**279**		*e*Pn		Pn	12 35 36.0	+0.6				
VOIR		**5.03**	**338**	‖	*i* P		Pn	12 35 37.3	+0.9				
VOIR		**5.03**	**338**	‖	*i* P		Pn	12 35 37.3	+0.9				
PLOR	**Plostina**	**5.10**	**351**	‖	*i* P		Pn	12 35 39.1	+1.8				
PLOR	**Plostina**	**5.10**	**351**	‖	*i* P		Pn	12 35 39.1	+1.8				
VRI	**Vrincioaia**	**5.11**	**352**	‖	*i* P		Pn	12 35 39.1	+1.7				
VRI	**Vrincioaia**	**5.11**	**352**	‖	*i* P		Pn	12 35 39.1	+1.7				
LOT	**Lotru**	**5.48**	**329**	‖	*i* P		Pn	12 35 43.0	+0.4				
LOT	**Lotru**	**5.48**	**329**	‖	*i* P		Pn	12 35 43.0	+0.4				
SELS	**Selova**	**5.50**	**298**		*e*Pn		Pn	12 35 42.9	+0.1				
SELS	**Selova**	**5.50**	**298**		*e*Pn		Pn	12 35 42.9	+0.1				
TESR		**5.75**	**352**	‖	*i* P		Pn	12 35 47.7	+1.4				
TESR		**5.75**	**352**	‖	*i* P		Pn	12 35 47.7	+1.4				
GZR	**Gura Zlata**	**5.85**	**323**	‖	*i* P		Pn	12 35 47.4	-0.3				
GZR	**Gura Zlata**	**5.85**	**323**	‖	*i* P		Pn	12 35 47.4	-0.3				
GRUS	**Gruza**	**6.06**	**303**		*e*Pn		Sg	12 37 34.7	-0.8				
IVAS	**Ivanjica**	**6.29**	**299**		*e*Pn		Pn	12 35 53.5	-0.2				
IVAS	**Ivanjica**	**6.29**	**299**		*e*Pn		Pn	12 35 53.5	-0.2				
BZS	**Buzias**	**6.57**	**319**	‖	*i* P		Pn	12 35 54.8	-2.7				
DIVS	**Divibare**	**6.62**	**302**		*e*Pn		Sg	12 37 41.1	-12				

*NEIC **25** 12:38:40.0, 17°.93N×101°.87W, h23km, MD3.8(MEX), After MEX.*

MEX 25 12:38:40.0±0.5, 17°.93N×101°.87W, h23km±28km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**130**	*i* P		Pb	12 38 48.2	-1.9
ZIIG				*i* S		Sb	12 38 55.4	-1.6
ZIIG	**Zihuatanejo**	**0.50**	**130**	*i* P		Pb	12 38 48.2	-1.9
ZIIG				*i* S		Sb	12 38 55.4	-1.6
MMIG	**Aquila**	**1.45**	**285**	*e*P		Pn	12 39 02.8	-2.1
MMIG				*i* S		Sn	12 39 19.4	-3.8
MMIG	**Aquila**	**1.45**	**285**	*e*P		Pn	12 39 02.8	-2.1
MMIG				*i* S		Sn	12 39 19.4	-3.8
CAIG	**El Cayaco**	**1.76**	**120**	*e*P		Pn	12 39 07.3	-1.7
CAIG				*i* S		Sn	12 39 26.4	-4.4
CAIG	**El Cayaco**	**1.76**	**120**	*e*P		Pn	12 39 07.3	-1.7
CAIG				*i* S		Sn	12 39 26.4	-4.4
MOIG	**Morelia**	**1.86**	**20**	*i* P		Pn	12 39 07.9	-2.9
MOIG				*i* S		Sn	12 39 29.9	-3.9
MOIG	**Morelia**	**1.86**	**20**	*i* P		Pn	12 39 07.9	-2.9
MOIG				*i* S		Sn	12 39 29.9	-3.9
MEIG	**Mezcala**	**2.14**	**90**	*e*P		Pn	12 39 12.8	-1.7
MEIG				*i* S		Sn	12 39 37.1	-3.3
MEIG	**Mezcala**	**2.14**	**90**	*e*P		Pn	12 39 12.8	-1.7
MEIG				*i* S		Sn	12 39 37.1	-3.3
PLIG	**Platanillo**	**2.29**	**78**	*e*P		Pn	12 39 14.9	-1.7
PLIG				*i* S		Sn	12 39 41.5	-2.7
PLIG	**Platanillo**	**2.29**	**78**	*e*P		Pn	12 39 14.9	-1.7
PLIG				*i* S		Sn	12 39 41.5	-2.7
YAIG	**Yautepec**	**2.82**	**70**	*i* P		Pn	12 39 22.2	-1.7
YAIG				*i* S		Sn	12 39 53.3	-4.0
YAIG	**Yautepec**	**2.82**	**70**	*i* P		Pn	12 39 22.2	-1.7
YAIG				*i* S		Sn	12 39 53.3	-4.0
PNIG	**Pinotepa**	**3.89**	**113**	*i* P		Sn	12 40 20.7	-2.8
PNIG				*i* S		Sb	12 40 36.2	+1.6

*TRN **25** 12:48:01.1, 19°.13N×64°.74W, h34km, MD3.5(RSPR)*
*NEIC **25** 12:48:02.5, 19°.21N×64°.69W, h43km, MD3.5(RSPR), After RSPR.*

RSPR 25 12:48:02.5, 19°.21N×64°.69W, h43km±20km, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.89**	**196**	‖ *e*P		Pn	12 48 17.1	-1.4
STVI	**Saint Thomas**	**0.89**	**196**	*e*S		Sn	12 48 29.1	-1.1
STVI	**Saint Thomas**	**0.89**	**196**	‖ *e*P		Pn	12 48 17.1	-1.4
STVI				*e*S		Sn	12 48 29.1	-1.1
STVI	**Saint Thomas**	**0.89**	**196**	‖ *e*P		Pn	12 48 17.1	-1.4
STVI				*e*S		Sn	12 48 29.1	-1.1
MTP	**Monte Pirata**	**1.37**	**217**	‖ *e*P		Pn	12 48 24.1	-1.1
MTP	**Monte Pirata**	**1.37**	**217**	*e*S		Sn	12 48 41.7	-0.4
MTP	**Monte Pirata**	**1.37**	**217**	‖ *e*P		Pn	12 48 24.1	-1.1
MTP				*e*S		Sn	12 48 41.7	-0.4
MTP	**Monte Pirata**	**1.37**	**217**	‖ *e*P		Pn	12 48 24.1	-1.1
MTP				*e*S		Sn	12 48 41.7	-0.4
CBYP	**Canovanas**	**1.44**	**230**	‖ *e*P		Pn	12 48 25.2	-1.0
CBYP	**Canovanas**	**1.44**	**230**	*e*S		Sn	12 48 42.6	-1.5
CBYP	**Canovanas**	**1.44**	**230**	‖ *e*P		Pn	12 48 25.2	-1.0
CBYP				*e*S		Sn	12 48 42.6	-1.5
CBYP	**Canovanas**	**1.44**	**230**	‖ *e*P		Pn	12 48 25.2	-1.0
CBYP				*e*S		Sn	12 48 42.6	-1.5
HUMP	**Col San Antoni**	**1.52**	**226**	‖ *e*P		Pn	12 48 26.5	-0.8
HUMP	**Col San Antoni**	**1.52**	**226**	*e*S		Sn	12 48 44.3	-1.6
HUMP	**Col San Antoni**	**1.52**	**226**	‖ *e*P		Pn	12 48 26.5	-0.8
HUMP				*e*S		Sn	12 48 44.3	-1.6
HUMP	**Col San Antoni**	**1.52**	**226**	‖ *e*P		Pn	12 48 26.5	-0.8
HUMP				*e*S		Sn	12 48 44.3	-1.6

*CNRM **25** 12:49:48.8, 36°.54N×10°.49W, h30km, MD3.2*
*IGIL **25** 12:49:51.7, 36°.33N×10°.85W, h17km, ML3.1*
*LDG **25** 12:49:51.3±0.6, 36°.49N×10°.58W, h10km, Ml3.5/4, Error ellipse: s-maj=10.7km s-min=9.1km az=49.0*
*CSEM **25** 12:49:52.6±0.3, 36°.54N×10°.65W, h10km, ML3.5/4, Error ellipse: s-maj=5.2km s-min=3.8km az=43.0*
*INMG **25** 12:49:52.2±0.8, 36°.37N×10°.80W, h10km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.6km az=81.0*

MDD 25 12:49:51.1±1.3, 36°.54N×10°.84W, h0km, mbLg3.1/33, Error ellipse: s-maj=11.4km s-min=7.1km az=55.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.72**	**69**	*e*Pn		Pn	12 50 20.6	-1.7
PFVI				*e*Sn		Sn	12 50 42.2	-2.8
PFVI				A		A	12 50 46.1	
	61nm,0.4s							
PFVI	**Vila Bisbo**	**1.72**	**69**	P		Pn	12 50 20.7	-1.6
	18nm,0.1s,SNR=18							
PFVI				S		Sn	12 50 42.0	-3.0
	80nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.72**	**69**	P		Pn	12 50 20.7	-1.6
	18nm,0.1s,SNR=18							
PFVI				*e*Sn		Sn	12 50 42.2	-2.8
	61nm,0.4s							
MORF	**Marmelete**	**1.91**	**66**	*e*Pn		Pn	12

	6.6nm,0.9s							
MTE	**Manteigas**	**4.64**	**33**	S	Sn	12 51 54.6	-2.7	
	6.6nm,0.9s							
PVIS	**Viseu**	**4.77**	**28**	*e*Pn	Pn	12 51 03.9	-0.4	
PVIS				*e*Sn	Sn	12 51 57.4	-2.9	
PVIS				A	A	12 52 01.0		
	15nm,0.3s							
PVIS	**Viseu**	**4.77**	**28**	P	Pn	12 51 03.9	-0.4	
PVIS				S	Sn	12 51 57.4	-2.9	
	7.4nm,0.3s							
PVIS	**Viseu**	**4.77**	**28**	P	Pn	12 51 03.9	-0.4	
PVIS				S	Sn	12 51 57.4	-2.9	
	7.4nm,0.3s							
EMIJ	**Mijas**	**4.88**	**88**	P	Pn	12 51 03.0	-2.8	
	0.5nm,0.1s,SNR=7.9							
EMIJ				S	Sn	12 51 57.1	-6.0	
	SNR=7.9							
EMIJ	**Mijas**	**4.88**	**88**	P	Pn	12 51 03.0	-2.8	
	0.5nm,0.1s,SNR=7.9							
EMIJ				S	Sn	12 51 57.1	-6.0	
	SNR=7.9							
EPLA	**Plasencia**	**5.14**	**45**	P	Pn	12 51 08.7	-0.7	
	1.6nm,0.1s,SNR=13							
EPLA				S	Sn	12 52 06.4	-3.0	
	5.4nm,0.1s,SNR=7.6							
EPLA	**Plasencia**	**5.14**	**45**	P	Pn	12 51 08.7	-0.7	
	1.6nm,0.1s,SNR=13							
EPLA				S	Sn	12 52 06.4	-3.0	
	5.4nm,0.1s,SNR=7.6							
EADA	**Adamuz**	**5.25**	**70**	P	Pn	12 51 09.4	-1.5	
	1.6nm,0.1s,SNR=24							
EADA				S	Sn	12 52 07.4	-4.7	
	8.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.25**	**70**	P	Pn	12 51 09.4	-1.4	
	1.6nm,0.1s,SNR=24							
EADA				S	Sn	12 52 07.4	-4.7	
	8.7nm,0.2s,SNR=7.9							
CIA	**Chichaoua**	**5.25**	**160**	P	Pn	12 51 03.0	-7.9	
CIA				S	Sn	12 51 58.0	-14	
CIA	**Chichaoua**	**5.25**	**160**	*i* P	Pn	12 51 03.0	-7.9	
CIA				*i* S	Sn	12 51 58.0	-14	
PVRL	**Vila Real**	**5.32**	**26**	*e*Sn	Sn	12 52 10.8	-3.2	
PVRL				A	A	12 52 14.4		
	13nm,0.3s							
PVRL	**Vila Real**	**5.32**	**26**	S	Sn	12 52 10.8	-3.2	
	6.6nm,0.3s							
PVRL	**Vila Real**	**5.32**	**26**	S	Sn	12 52 10.8	-3.2	
	6.6nm,0.3s							
ELUQ	**Luque**	**5.35**	**77**	P	Pn	12 51 10.7	-1.6	
	2.4nm,0.1s,SNR=7.9							
ELUQ				S	Sn	12 52 09.8	-4.9	
	4.6nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**5.35**	**77**	P	Pn	12 51 10.7	-1.7	
	2.4nm,0.1s,SNR=7.9							
ELUQ				S	Sn	12 52 09.8	-5.0	
	4.6nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**5.38**	**25**	*e*Sn	Sn	12 52 11.9	-3.7	
POLO				A	A	12 52 20.3		
	3.0nm,0.4s							
POLO	**Lamas de Olo**	**5.38**	**25**	*e*Sn	Sn	12 52 11.9	-3.7	
	3.0nm,0.4s							
MVO	**Moncorvo**	**5.50**	**32**	*e*Pn	Pn	12 51 13.5	-0.8	
MVO				*e*Sn	Sn	12 52 14.3	-4.0	
MVO				A	A	12 52 16.9		
	10nm,0.3s							
MVO	**Moncorvo**	**5.50**	**32**	P	Pn	12 51 13.4	-0.9	
	2.5nm,0.1s,SNR=11							
MVO				S	Sn	12 52 14.1	-4.2	
	8.2nm,0.1s,SNR=8.6							
MVO	**Moncorvo**	**5.50**	**32**	P	Pn	12 51 13.4	-0.9	
	2.5nm,0.1s,SNR=11							
MVO				*e*Sn	Sn	12 52 14.3	-4.0	
	10nm,0.3s							
TZC	**Tazercounte**	**5.66**	**139**	P	Pn	12 51 09.0	-7.8	
TZC				S	Sn	12 52 08.0	-15	
TZC	**Tazercounte**	**5.66**	**139**	*i* P	Pn	12 51 09.0	-7.8	
TZC				*i* S	Sn	12 52 08.0	-15	
ERON	**Agron**	**5.66**	**83**	P	Pn	12 51 14.9	-1.8	
	0.4nm,0.1s,SNR=7.9							
ERON				S	Sn	12 52 18.7	-3.9	
	0.6nm,0.2s,SNR=7.9							
ERON	**Agron**	**5.66**	**83**	P	Pn	12 51 14.9	-1.8	
	0.4nm,0.1s,SNR=7.9							
ERON				S	Sn	12 52 18.7	-3.9	
	0.6nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.74**	**21**	P	Pn	12 51 17.3	-0.5	
	1.1nm,0.1s,SNR=7.9							
ELOB				S	Sn	12 52 19.9	-4.5	
	3.4nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.74**	**21**	P	Pn	12 51 17.3	-0.5	
	1.1nm,0.1s,SNR=7.9							
ELOB				S	Sn	12 52 19.9	-4.6	
	3.4nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.78**	**19**	*e*Pn	Pn	12 51 18.0	-0.2	
PGAV	**Gavieira, Arco**	**5.78**	**19**	*e*Pn	Pn	12 51 18.0	-0.2	
EZAM	**Zamans**	**5.85**	**16**	S	Sn	12 52 22.1	-4.7	
	6.2nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**5.85**	**85**	P	Pn	12 51 17.9	-1.3	
	0.9nm,0.1s,SNR=7.9							
EGUA				S	Sn	12 52 21.1	-5.8	
	2.4nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**5.85**	**85**	P	Pn	12 51 17.9	-1.2	
	0.9nm,0.1s,SNR=7.9							
EGUA				S	Sn	12 52 21.1	-5.8	
	2.4nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**5.96**	**112**	P	Pn	12 51 11.0	-10	
TZK				S	Sn	12 52 11.0	-19	
TZK	**Tazeka**	**5.96**	**112**	*i* P	Pn	12 51 11.0	-10	
TZK				*i* S	Sn	12 52 11.0	-19	
EQUE	**Quentar**	**5.97**	**81**	P	Pn	12 51 19.4	-1.5	
	0.3nm,0.1s,SNR=7.9							
EQUE				S	Sn	12 52 25.9	-4.1	
	0.7nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**5.97**	**81**	P	Pn	12 51 19.4	-1.4	
	0.3nm,0.1s,SNR=7.9							
EQUE				S	Sn	12 52 25.9	-4.1	
	0.7nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.15**	**30**	*e*Sn	Sn	12 52 29.8	-4.5	
PBRG				A	A	12 52 33.8		
	6.8nm,0.2s							
PBRG	**Braganca**	**6.15**	**30**	S	Sn	12 52 29.8	-4.5	
	3.4nm,0.2s							
PBRG	**Braganca**	**6.15**	**30**	S	Sn	12 52 29.8	-4.5	
	3.4nm,0.2s							
ESDC	**Sonseca Array**	**6.26**	**58**	P	Pn	12 51 23.3	-1.5	
	19nm,0.1s,baz=243,slow=13,SNR=28							
ESDC				S	Sn	12 52 32.6	-4.6	
	2.4nm,0.1s,baz=243,slow=24,SNR=16							
ESDC	**Sonseca Array**	**6.26**	**58**	P	Pn	12 51 23.3	-1.5	
	19nm,0.1s,baz=243,slow=13,SNR=28							
ESDC				S	Sn	12 52 32.6	-4.5	
	2.4nm,0.1s,baz=243,slow=24,SNR=16							
ECAL	**Calabor**	**6.27**	**29**	P	Pn	12 51 22.5	-2.4	
	0.8nm,0.1s,SNR=7.9							
ECAL				S	Sn	12 52 32.5	-4.8	
	8.8nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.27**	**29**	P	Pn	12 51 22.5	-2.4	
	0.8nm,0.1s,SNR=7.9							
ECAL				S	Sn	12 52 32.5	-4.8	
	8.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.33**	**76**	P	Pn	12 51 23.5	-2.3	
	0.8nm,0.1s,SNR=7.9							
EQES				S	Sn	12 52 33.0	-5.9	
	0.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.33**	**76**	P	Pn	12 51 23.5	-2.3	
	0.8nm,0.1s,SNR=7.9							
EQES				S	Sn	12 52 33.0	-5.9	
	0.8nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.56**	**12**	P	Pn	12 51 27.6	-1.3	
	3.0nm,0.1s,SNR=7.9							
EMAZ				S	Sn	12 52 37.8	-6.7	
	4.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.56**	**12**	P	Pn	12 51 27.6	-1.3	
	3.0nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**6.65**	**50**	P	Pn	12 51 28.7	-1.6	
	0.7nm,0.1s,SNR=7.9							
GUD				S	Sn	12 52 42.0	-4.9	
	1.1nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**6.65**	**50**	P	Pn	12 51 28.7	-1.5	
	0.7nm,0.1s,SNR=7.9							
GUD				S	Sn	12 52 42.0	-4.9	
	1.1nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**6.70**	**77**	P	Pn	12 51 28.7	-2.2	
	0.4nm,0.1s,SNR=7.9							
EHUE				S	Sn	12 52 42.0	-6.1	
	1.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**6.70**	**77**	P	Pn	12 51 28.7	-2.3	
	0.4nm,0.1s,SNR=7.9							
EHUE				S	Sn	12 52 42.0	-6.1	
	1.5nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**6.94**	**70**	P	Pn	12 51 32.1	-2.1	
	3.7nm,0.1s,SNR=6.8							
EVIA				S	Sn	12 52 49.0	-5.0	
	1.4nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**6.94**	**70**	P	Pn	12 51 32.1	-2.1	
	3.7nm,0.1s,SNR=6.8							
EVIA				S	Sn	12 52 49.0	-5.0	
	1.4nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**7.35**	**22**	P	Pn	12 51 38.3	-1.4	
	0.6nm,0.1s,SNR=7.9							
EPON				S	Sn	12 52 58.5	-5.3	
	0.2nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**7.35**	**22**	P	Pn	12 51 38.3	-1.4	
	0.6nm,0.1s,SNR=7.9							
EPON				S	Sn	12 52 58.5	-5.3	
	0.2nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**8.02**	**31**	S	Sn	12 53 14.5	-5.9	
	0.3nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**8.02**	**31**	S	Sn	12 53 14.5	-5.9	
	0.3nm,0.1s,SNR=7.9							
ETOR	**Torete**	**8.09**	**55**	P	Pn	12 51 48.9	-1.1	
	8.8nm,0.1s,SNR=16							
ETOR				S	Sn	12 53 14.9	-7.3	
	6.0nm,0.1s,SNR=7.9							
ETOR	**Torete**	**8.09**	**55**	P	Pn	12 51 48.8	-1.2	
	8.8nm,0.1s,SNR=16							
ETOR				S	Sn	12 53 14.9	-7.3	
	6.0nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**8.98**	**62**	P	Pn	12 52 01.5	-0.8	
	0.3nm,0.1s,SNR=7.9							
EMOS				S	Sn	12 53 37.9	-6.4	
	0.1nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**8.98**	**62**	P	Pn	12 52 01.5	-0.8	
	0.3nm,0.1s,SNR=7.9							
EMOS				S	Sn	12 53 37.9	-6.5	
	0.1nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**9.88**	**45**	*e*Pn	Pn	12 52 09.9	-4.6	
SJPF				*e*Sn	Sn	12 53 54.2	-12	
	2.5nm,0.4s							
ETSF	**Etsaut**	**10.15**	**48**	*e*Pn	Pn	12 52 13.2	-4.9	
ETSF				*e*Sn	Sn	12 54 00.3	-12	
	1.7nm,0.3s							
EPF	**Esparros**	**10.77**	**50**	*e*Pn	Pn	12 52 21.4	-5.2	
EPF				*e*Sn	Sn	12 54 15.0	-13	
	2.8nm,0.5s							

ISCJB ***25*** *12:53:04.8±1.3,54.°19N±0.°07×162.°29W±0.°07,h23km±9km, mb3.7/9, Error ellipse: s-maj=13.1km s-min=4.3km az=155.6*
NEIC ***25*** *12:53:04.2,54.°23N×162.°37W,h3km, ML3.5(AEIC), After AEIC.*
IDC ***25*** *12:53:08.6±3.1,54.°55N×162.°45W,h44km±28km, mb3.6/9, mb1 3.8/13,mb1mx3.6/30,mbtmp3.6/13, ML3.6/4, MS2.9/1, Ms1 3.0/1,ms1mx2.6/32, Error ellipse: s-maj=29.0km s-min=15.2km az=4.0*

ISC 25 12:53:04.8±2.0, 54.°26N±0.°08×162.°38W±0.°04, h14km±13km, n52, σ1s27/55, mb3.8/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**0.71**	**5**	P	**Pb**	**12 53 19.6**	**+0.6**
FALS	**False Pass**	**0.85**	**315**	P	**Pb**	**12 53 21.8**	**+0.4**
FALS				S	**Sb**	**12 53 33.8**	**+1.1**
DT1	**Dutton Round H**	**0.85**	**4**	P	**Pb**	**12 53 21.6**	**+0.2**
BRPK	**Brown Peak**	**0.89**	**297**	P	**Pb**	**12 53 22.3**	**+0.3**
DOL	**Dolgoi Island**	**0.94**	**18**	P	**Pb**	**12 53 23.2**	**+0.3**
SSLS	**Shishaldin Sou**	**1.05**	**296**	P	**Pb**	**12 53 25.4**	**+0.7**
SSLS				S	**Sb**	**12 53 40.4**	**+2.0**
HAG	**Hague Volcano**	**1.10**	**14**	P	**Pb**	**12 53 26.2**	**+0.6**
PS4A	**Pavlof South-4**	**1.13**	**15**	P	**Pb**	**12 53 26.5**	**+0.3**
PVV	**Pavlof Volcano**	**1.17**	**17**	P	**Pb**	**12 53 27.4**	**+0.6**
WESE	**West Dahl East**	**1.31**	**280**	P	**Pg**	**12 53 28.8**	**-1.2**
SDPT	**Sand Point**	**1.55**	**44**	P	**Pn**	**12 53 32.5**	**+0.6**
SDPT				S	**Sn**	**12 53 52.8**	**+0.9**
AKUT	**Akutan**	**2.00**	**268**	P	**Pn**	**12 53 38.6**	**+0.5**
AKUT				S	**Sb**	**12 54 05.2**	**-0.3**
AHB	**Akutan Harbor**	**2.02**	**267**	P	**Pn**	**12 53 39.0**	**+0.5**
AKLV	**Akutan Long Va**	**2.10**	**269**	P	**Pn**	**12 53 39.9**	**+0.3**
ZRO	**Akutan Zero**	**2.12**	**267**	P	**Pn**	**12 53 40.5**	**+0.7**
UNV	**Unalaska Valle**	**2.46**	**262**	P	**Pn**	**12 53 44.7**	**+0.2**
MREP	**Makushin Rep't**	**2.61**	**262**	P	**Pn**	**12 53 47.9**	**+1.3**
VNSG	**Veniaminof 6**	**2.66**	**44**	P	**Pn**	**12 53 49.3**	**+2.1**
VNHG	**Veniaminof 1**	**2.70**	**42**	P	**Pn**	**12 53 47.2**	**-0.5**
MSOM	**Makushin Julie**	**2.73**	**263**	P	**Pn**	**12 53 48.9**	**+0.7**
CHGN	**Chignik**	**3.06**	**46**	*e*Pn	**Pn**	**12 53 53.8**	**+1.2**
CHGN				*e*Sn	**Sn**	**12 54 30.6**	**+1.6**
OKFG	**Magazine Ridge**	**3.39**	**258**	P	**Pn**	**12 53 59.0**	**+1.8**
ANNW	**Aniakchak Nort**	**3.60**	**39**	P	**Pn**	**12 54 02.5**	**+2.3**
NIKO	**Nikolski**	**4.06**	**254**	P	**Pn**	**12 54 07.8**	**+1.3**
KDAK	**Kodiak Island**	**6.53**	**53**	P	**Pn**	**12 54 39.5**	**-0.7**
	1.2nm,0.3s,baz=152,slow=20,SNR=16						
KDAK				S	**Sn**	**12 55 50.7**	**-3.7**
	baz=127,slow=20,SNR=1.9						
KDAK	**Kodiak Island**	**6.53**	**53**	*e*Pn	**Pn**	**12 54 41.6**	**+1.4**
	45nm,1.1s						
KDAK				*e*S	**Sb**	**12 56 18.0**	**+2.2**
TRF	**Thorofare Moun**	**11.12**	**29**	*e*Pn	**Pn**	**12 55 42.5**	**-0.9**
	13nm,1.1s						
PAX	**Paxson**	**12.37**	**38**	*e*Pn	**Pn**	**12 56 00.0**	**-0.2**
	2.9nm,0.6s						
ILAR	**Eielson Array**	**13.10**	**30**	P	**Pn**	**12 56 08.6**	**-1.6**
	0.1nm,0.3s,baz=212,slow=13,SNR=9.6						
ILAR				LR	LR	13 00 25.0	
	comp=Z,60nm,21.7s,baz=179,slow=34						
ILAR	**Eielson Array**	**13.10**	**30**	P	**Pn**	**12 56 08.6**	**-1.6**
FX1	**Attu Island--F**	**14.58**	**275**	P	**Pn**	**12 56 32.7**	**+2.2**
	0.8nm,0.3s,baz=230,slow=17,SNR=6.4						
FX1	**Attu Island--F**	**14.58**	**275**	P	**Pn**	**12 56 32.7**	**+2.2**
INK	**Inuvik**	**19.48**	**33**	P	**Pn**	**12 57 30.1**	**-0.7**
	0.2nm,0.3s,baz=236,slow=11,SNR=8.1						
INK	**Inuvik**	**19.48**	**33**	P	**P**	**12 57 30.1**	**-0.7**
PETK	**Petropavlovsk-**	**23.46**	**284**	P	**P**	**12 58 12.1**	**-1.4**
	7.6nm,0.9s,baz=86,slow=14,SNR=11						
PETK	**Petropavlovsk-**	**23.46**	**284**	P	**P**	**12 58 12.1**	**-1.4**
YKA	**Yellowknife Ar**	**25.80**	**52**	P	**P**	**12 58 35.2**	**+0.2**
	1.3nm,0.7s,baz=274,slow=9.7,SNR=30						
YKA	**Yellowknife Ar**	**25.80**	**52**	P	**P**	**12 58 35.2**	**+0.2**
YBH	**Yreka Blue Hor**	**28.95**	**99**	P	**P**	**12 59 04.5**	**+1.0**
	1.5nm,0.8s,baz=222,slow=3.6,SNR=3.9						
YBH	**Yreka Blue Hor**	**28.95**	**99**	P	**P**	**12 59 04.5**	**+1.0**
NVAR	**Mina Array Bea**	**33.66**	**100**	P	**P**	**12 59 46.1**	**+0.9**
	1.5nm,0.8s,baz=296,slow=9.0,SNR=10						
NVAR	**Mina Array Bea**	**33.66**	**100**	P	**P**	**12 59 46.1**	**+0.9**
TXAR	**Lajitas Array**	**48.64**	**96**	P	**P**	**13 01 47.5**	**-0.7**
	0.5nm,0.7s,baz=298,slow=6.2,SNR=7.5						
TXAR	**Lajitas Array**	**48.64**	**96**	P	**P**	**13 01 47.5**	**-0.7**
MKAR	**Makanchi Array**	**65.42**	**317**	P	P	13 03 44.5	-2.2
	0.2nm,0.5s,baz=37,slow=6.7,SNR=6.2						
MKAR	**Makanchi Array**	**65.42**	**317**	P	P	13 03 44.5	-2.2
AKASG	**Malin Array Be**	**74.96**	**352**	P	P	13 04 41.4	-3.6
	0.5nm,0.4s,baz=9.4,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**74.96**	**352**	P	P	13 04 41.4	-3.6
GERES	**GERESS Array B**	**77.22**	**3**	P	**P**	**13 04 56.9**	**-1.1**
	0.4nm,0.7s,baz=25,slow=3.5,SNR=4.0						
GERES	**GERESS Array B**	**77.22**	**3**	P	**P**	**13 04 56.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**80.17**	**288**	P	**P**	**13 05 14.1**	**-0.5**
	0.7nm,0.4s,baz=6.4,slow=5.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**80.17**	**288**	P	**P**	**13 05 14.1**	**-0.5**

TRN ***25*** *12:57:47.7,18.°72N×63.°90W,h34km, MD3.4(RSPR)*
NEIC ***25*** *12:57:49.6,18.°69N×63.°81W,h24km, MD3.4(RSPR), After RSPR.*

RSPR 25 12:57:49.6, 18.°69N×63.°81W, h24km±14km, MD3.4/4, 12C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.49**	**274**	⇑*e*P	Pb	12 57 58.7	-1.0
ABV				*e*S	Sb	12 58 06.1	-0.5
ABV	**Anegada**	**0.49**	**274**	⇑*e*P	Pb	12 57 58.7	-1.0
ABV				*e*S	Sb	12 58 06.6	+0.1
ABVI	**Anegada Island**	**0.49**	**274**	⇑*e*P	Pb	12 57 58.7	-1.0
ABVI				*e*S	Sb	12 58 06.1	-0.5
STVI	**Saint Thomas**	**1.14**	**253**	*e*S	Sn	12 58 21.6	-3.2
STVI	**Saint Thomas**	**1.14**	**253**	⇑*e*P	Pn	12 58 08.0	-2.0
STVI	**Saint Thomas**	**1.14**	**253**	⇑*e*P	Pn	12 58 08.0	-2.0
STVI				*e*S	Sn	12 58 21.6	-3.2
STVI	**Saint Thomas**	**1.14**	**253**	⇑*e*P	Pn	12 58 08.0	-2.0
STVI				*e*S	Sn	12 58 21.6	-3.2
MTP	**Monte Pirata**	**1.76**	**251**	⇑*e*P	Pn	12 58 16.6	-2.0
MTP	**Monte Pirata**	**1.76**	**251**	*e*S	Sn	12 58 38.2	-2.0
MTP	**Monte Pirata**	**1.76**	**251**	⇑*e*P	Pn	12 58 16.6	-2.0
MTP				*e*S	Sn	12 58 38.2	-2.0
MTP	**Monte Pirata**	**1.76**	**251**	⇑*e*P	Pn	12 58 16.6	-2.0
MTP				*e*S	Sn	12 58 38.2	-2.0
CBYP	**Canovanas**	**1.98**	**258**	⇑*e*P	Pn	12 58 19.3	-2.5
CBYP	**Canovanas**	**1.98**	**258**	*e*S	Sn	12 58 43.2	-2.8
CBYP	**Canovanas**	**1.98**	**258**	⇑*e*P	Pn	12 58 19.3	-2.5
CBYP				*e*S	Sn	12 58 43.2	-2.8
CBYP	**Canovanas**	**1.98**	**258**	⇑*e*P	Pn	12 58 19.3	-2.5
CBYP				*e*S	Sn	12 58 43.2	-2.8

IDC ***25*** *13:10:52.4±7.2,30.°47S×177.°11W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/15,mbtmp3.6/2,Error ellipse: s-maj=300.0km s-min=58.3km az=155.0*

ISC 25 13:10:53.8±2.7, 31.°3S±0.°2×176.°6W±0.°4, h35km, n9, σ1s98/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.98**	**211**	*e*PN	**Pn**	**13 12 47.6**	**+0.3**
PUZ				SN	**Sn**	**13 14 19.3**	**+2.9**
CNGZ	**Carnagh Statio**	**8.35**	**210**	*e*PN	**Pn**	**13 12 52.4**	**+0.2**
MWZ	**Matawai**	**8.53**	**213**	*e*PN	**Pn**	**13 12 54.7**	**-0.1**
MWZ				SN	**Sn**	**13 14 31.3**	**+1.5**
URZ	**Urewera**	**8.67**	**215**	*e*PN	**Pn**	**13 12 56.2**	**-0.5**
URZ				SN	**Sn**	**13 14 34.8**	**+1.6**
MRZ	**Mangatainoka R**	**11.29**	**212**	*e*PN	**Pn**	**13 13 30.6**	**-2.0**
MRZ				SN	**Sn**	**13 15 33.5**	**-4.1**
NNZ	**Nelson**	**12.79**	**217**	SN		13 16 09.0	
ASAR	**Alice Springs**	**44.30**	**267**	P	**P**	**13 19 00.5**	**+0.1**
	0.2nm,0.4s,baz=105,slow=7.1,SNR=9.0						
WRA	**Warramunga Arr**	**45.37**	**272**	P	**P**	**13 19 08.8**	**-0.1**
	0.6nm,0.3s,baz=111,slow=8.1,SNR=22						
FINES	**FINESS Array B**	**146.41**	**340**	PKPbc	**PKPbc**	**13 30 30.9**	**+0.6**
	2.8nm,1.0s,baz=46,slow=4.0,SNR=4.8						

IDC 25 13:32:45.0±6.5, 31.°33S×178.°93W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.7/2, Error ellipse: s-maj=265.8km s-min=57.9km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.27**	**268**	P	P	13 40 40.0	-0.5
	0.3nm,0.3s,baz=108,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**43.35**	**274**	P	P	13 40 49.4	+0.2
	0.6nm,0.4s,baz=114,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.73**	**339**	PKPbc	PKPdf	13 52 24.3	-0.4
	2.3nm,1.0s,baz=11,slow=2.8,SNR=5.2						

MAN 25 13:37:08,9.°99N×126.°21E, h25km, mb4.4, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.17**	**210**	*e*P	Pb	13 37 29.2	-0.4
BUTP				*e*S	Sn	13 37 43.6	-0.4
MSLP	**Maasin**	**1.34**	**276**	*e*P	Pn	13 37 31.8	+0.6
PLP	**Palo**	**1.69**	**314**	*e*P	Pn	13 37 35.9	0.0
PLP				*e*S	Sb	13 37 58.4	-0.8
TBP	**Tagbilaran**	**2.34**	**263**	*e*P	Pn	13 37 46.2	+1.4
BUKP	**Musuan**	**2.39**	**209**	*e*P	Pb	13 37 48.3	-2.1

IDC ***25*** *13:46:33.8±7.0,30.°65S×179.°08W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.7/15,mbtmp3.8/2,Error ellipse: s-maj=287.9km s-min=55.7km az=156.0*

WEL 25 13:47:21.8±0.8, 36.°74S×177.°42E, h128km±20km, ML2.5/4, Error ellipse: s-maj=16.7km s-min=13.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.08**	**139**	PN	Pn	13 47 45.3	+0.1
MXZ				SN	Sn	13 48 03.1	0.0
URZ	**Urewera**	**1.53**	**189**	PN	Pn	13 47 50.4	+0.4
URZ				SN	Sn	13 48 11.0	-0.7
MWZ	**Matawai**	**1.59**	**177**	*e*PN	Pn	13 47 50.9	+0.1
MWZ				SN	Sn	13 48 13.6	+0.6
PXZ	**Pawanui**	**3.31**	**187**	*e*PN	Pn	13 48 10.9	-1.5
ASAR	**Alice Springs**	**39.48**	**277**	P	P	13 54 28.1	-12
	0.3nm,0.4s,baz=106,slow=

2.2nm,0.3s,baz=69,slow=22,SNR=4.2
AFI Sn Sn 14 01 52.6 -12
1.0nm,0.3s,baz=123,slow=19,SNR=2.6
DZM Mont Dzumac 16.70 265 *e*LR LR 14 06 34.7
77nm,23.6s
PPT2 Papeete2 24.81 85 *e*LR LR 14 09 25.6
57nm,22.2s
STKA Stephens Creek 39.36 246 P P 14 05 53.8 -0.6
0.8nm,0.5s,baz=74,slow=7.4,SNR=2.5
ASAR Alice Springs 46.47 257 P P 14 06 51.8 -0.5
2.3nm,0.8s,baz=101,slow=7.0,SNR=28
WRA Warramunga Arr 46.69 263 P P 14 06 53.6 -0.4
0.9nm,0.3s,baz=92,slow=8.5,SNR=38
CMAR Chiang Mai Arr 92.63 289 P P 14 11 39.0 +1.7
1.7nm,1.0s,baz=126,slow=3.3,SNR=8.5
AKASG Malin Array Be 145.10 332 PKPbc PKPbc 14 18 00.1 -1.6
0.5nm,0.4s,baz=41,slow=4.5,SNR=4.0

IDC 25 14:10:48.1±3.1, 6°06S×147°25E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=68.7km s-min=33.3km az=88.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.33**	**182**	Pn	Pn	14 11 41.3	-0.1
	3.7nm,0.3s,baz=39,slow=6.2,SNR=20						
PMG				Sn	Sn	14 12 24.7	+3.0
	4.5nm,0.3s,baz=0.3,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**18.65**	**221**	P	Pn	14 15 07.9	0.0
	0.1nm,0.3s,baz=48,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**21.71**	**215**	P	P	14 15 41.0	-0.1
	0.6nm,0.5s,baz=43,slow=10.0,SNR=28						
FITZ	**Fitzroy Crossi**	**24.25**	**239**	P	P	14 16 05.6	-1.4
	0.7nm,0.4s,baz=46,slow=7.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**145.34**	**284**	PKPbc	PKPbc	14 30 28.8	-0.1
	0.2nm,0.6s,baz=85,slow=3.6,SNR=2.6						

IDC 25 14:19:53.0±2.0, 3°82N×123°00E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=300.9km s-min=24.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.11**	**155**	P	P	14 25 29.2	+0.3
	0.6nm,0.3s,baz=336,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**29.32**	**159**	P	P	14 25 57.2	-0.4
	0.3nm,0.6s,baz=332,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**55.40**	**327**	P	P	14 29 29.1	-0.1
	0.1nm,0.4s,baz=131,slow=7.9,SNR=8.7						

*JMA **25** 14:25:48.1±0.1, 24°39N×122°58E, h54km, M1.7*
*TAP **25** 14:25:48.5, 24°27N×122°49E, h54km±1km, ML2.7, C*
ISC 25 14:25:48.5±2.4, 24°29N±0°06×122°55E±0°03, h33km±5km, n30, σ1s05/47, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.45**	**68**	P	Pn	**14 25 58.6**	**-0.1**
YOJ				S	Sn	**14 26 06.1**	**+0.5**
ENA	**Nanau**	**0.75**	**281**	P	Pn	**14 26 02.4**	**-0.3**
	baz=283						
TWD	**Chiawan**	**0.90**	**257**	P	Pn	**14 26 03.9**	**-0.9**
	baz=248						
TWD				*e*S	Sn	**14 26 15.5**	**-1.1**
	baz=248						
TWE	**Neicheng**	**0.91**	**298**	P	Pn	**14 26 05.3**	**+0.3**
	baz=310						
TWE				*e*S	Sb	**14 26 17.9**	**+0.1**
	baz=310						
ENTT	**Nioudou**	**0.96**	**291**	*i* P	Pn	**14 26 06.0**	**+0.3**
	baz=286						
ENTT				*e*S	Sb	**14 26 18.9**	**-0.4**
	baz=286						
NWF	**Wu-fen Shan**	**1.05**	**318**	*e*P	Pn	**14 26 06.6**	**-0.3**
	baz=321						
IRIF	**Iriomote-Funau**	**1.07**	**87**	P	Pn	**14 26 06.7**	**-0.5**
IRIF				S	Sn	**14 26 20.9**	**-0.1**
NNS	**Nan Shan**	**1.09**	**278**	P	Pn	**14 26 07.2**	**-0.2**
	baz=269						
TWA	**Mucha**	**1.12**	**308**	P	Pn	**14 26 07.9**	**0.0**
	baz=322						
TWA				*e*S	Sn	**14 26 22.2**	**+0.1**
	baz=322						
ESL	**Shilin**	**1.13**	**245**	P	Pn	**14 26 06.7**	**-1.3**
	baz=237						
ESL				*e*S	Sn	**14 26 20.3**	**-2.0**
	baz=237						
NSK	**Sanguang**	**1.15**	**290**	P	Pn	**14 26 08.7**	**+0.3**
	baz=282						
NSK				*e*S	Sn	**14 26 23.0**	**-0.1**
	baz=282						
WHF	**Hehuan Shan**	**1.18**	**263**	*e*P	Pn	**14 26 08.3**	**-0.8**
	baz=254						
JKRS	**Kuro-shima**	**1.33**	**92**	P	Pn	**14 26 10.7**	**0.0**
JKRS				*e*S	Sn	**14 26 27.8**	**+0.5**
EHY	**Hungye**	**1.37**	**235**	*e*P	Pn	**14 26 10.0**	**-1.3**
	baz=244						
EHY				*e*S	Sn	**14 26 26.5**	**-1.8**
	baz=244						
JIJ	**Ishigaki jima**	**1.45**	**87**	P	Pn	**14 26 11.9**	**-0.5**
JIJ				S	Sn	**14 26 29.1**	**-1.2**
NSTT	**Nanjuang**	**1.45**	**284**	*e*P	Pn	**14 26 12.3**	**-0.1**
	baz=284						
TWF1	**Yuli**	**1.48**	**231**	P	Pn	**14 26 11.9**	**-0.9**
	baz=243						
TWF1				*e*S	Sn	**14 26 29.4**	**-1.7**
	baz=243						
SMLT	**Sun Moon Lake**	**1.56**	**255**	*e*P	Pn	**14 26 13.7**	**-0.3**
	baz=255						
TYC	**Yuchr**	**1.60**	**256**	P	Pn	**14 26 14.5**	**+0.1**
	baz=249						
CHKT	**Chengkung**	**1.61**	**223**	*e*S		14 26 31.0	
	baz=215						
YUS	**Yu-Shan**	**1.67**	**242**	*e*P	Pn	**14 26 15.6**	**-0.2**
	baz=234						
ALS	**Alishan**	**1.78**	**244**	P	Pn	**14 26 17.6**	**+0.5**
	baz=244						
ELDTW	**Lidau**	**1.78**	**232**	P	Pn	**14 26 16.1**	**-1.0**
	baz=223						
ELDTW				*e*S	Sn	**14 26 35.9**	**-2.8**
	baz=223						
CHN5	**Tsauling**	**1.85**	**248**	P	Pn	**14 26 19.0**	**+1.0**
	baz=238						
CHN5				*e*S	Sn	**14 26 41.2**	**+0.9**
	baz=238						
JTJ	**Tarama**	**1.99**	**79**	P	Pn	**14 26 19.9**	**+0.1**
JTJ				*e*S	Sn	**14 26 43.5**	**-0.1**
STYT	**Tauyuan**	**1.99**	**236**	*e*P	Pn	**14 26 21.3**	**+1.4**
	baz=228						
WTP	**Ta-pu**	**2.06**	**240**	*e*P	Pn	**14 26 21.9**	**+1.1**
	baz=239						
WTP				*e*S	Sn	**14 26 46.9**	**+1.5**
	baz=239						
CHN1	**Nanshi**	**2.16**	**240**	*e*P	Pn	**14 26 23.6**	**+1.5**
	baz=239						
CHN1				*e*S	Sn	**14 26 48.9**	**+1.1**
	baz=239						
SGST	**Jiashian**	**2.17**	**237**	*e*P	Pn	**14 26 23.5**	**+1.2**
	baz=236						
SGST				*e*S	Sn	**14 26 50.0**	**+2.0**
	baz=236						
SSD	**Sandimen**	**2.34**	**229**	*e*P	Pn	**14 26 26.2**	**+1.5**
	baz=225						

*ISCJB **25** 14:36:31.1±0.7, 23°94N±0°03×122°49E±0°02, h3km±5km, Error ellipse: s-maj=5.3km s-min=2.7km az=170.0*
*TAP **25** 14:36:32.2, 23°94N×122°36E, h3km±1km, ML2.7, D*
*JMA **25** 14:36:33.2±0.3, 24°12N×122°46E, h25km, M1.9*
ISC 25 14:36:31.2±1.2, 23°93N±0°05×122°49E±0°02, h11km±10km, n33, σ0s37/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.71**	**42**	P	Pg	**14 36 45.1**	**+0.1**
YOJ				*e*S	Sg	**14 36 53.5**	**-0.8**
HWA	**Hwalien**	**0.81**	**273**	*e*P	Pn	**14 36 48.7**	**+0.2**
	baz=273						
TWD	**Chiawan**	**0.83**	**280**	*e*P	Pb	**14 36 48.0**	**+0.5**
	baz=281						
TWD				*e*S	Sg	**14 36 57.9**	**-0.1**
	baz=281						
ENA	**Nanau**	**0.84**	**306**	P	Pb	**14 36 48.1**	**+0.3**
	baz=311						
ESL	**Shilin**	**0.97**	**263**	*e*P	Pn	**14 36 51.2**	**+0.5**
	baz=261						
ESL				*e*S	Sg	**14 37 02.4**	**-0.2**
	baz=261						
TWE	**Neicheng**	**1.08**	**317**	*e*P	Pb	**14 36 51.9**	**0.0**
	baz=321						
TWE				S	Sn	**14 37 07.2**	**-0.1**
	baz=321						
ENTT	**Nioudou**	**1.10**	**310**	P	Pb	**14 36 52.2**	**0.0**
	baz=314						
ENTT				*e*S	Sn	**14 37 07.9**	**+0.2**
	baz=314						
NNS	**Nan Shan**	**1.14**	**297**	*e*P	Pb	**14 36 52.9**	**0.0**
	baz=299						
NNS				*e*S	Sb	**14 37 07.5**	**-0.2**
	baz=299						
WHF	**Hehuan Shan**	**1.14**	**281**	*e*P	Pb	**14 36 52.8**	**-0.3**
	baz=281						
WHF				*e*S	Sb	**14 37 08.3**	**+0.3**
	baz=281						
EHY	**Hungye**	**1.15**	**249**	*e*P	Pn	**14 36 53.3**	**+0.2**
	baz=245						
EHY				*e*S	Sb	**14 37 07.8**	**-0.2**
	baz=245						
IRIF	**Iriomote-Funau**	**1.21**	**70**	P	Pb	**14 36 54.3**	**+0.3**
IRIF				*e*S	Sb	**14 37 09.7**	**+0.2**
HATJ	**Hateruma jima**	**1.21**	**84**	P	Pg	**14 36 55.1**	**+0.6**
HATJ				*e*S	Sb	**14 37 10.1**	**+0.3**
TWF1	**Yuli**	**1.23**	**242**	P	Pn	**14 36 54.3**	**0.0**
	baz=238						
TWF1				*e*S	Sb	**14 37 10.5**	**+0.1**
	baz=238						
NSK	**Sanguang**	**1.27**	**306**	P	Pn	**14 36 54.7**	**-0.2**
	baz=308						
NSK				*e*S	Sg	**14 37 12.6**	**+0.5**
	baz=308						
TWA	**Mucha**	**1.33**	**322**	*e*P	Pn	**14 36 55.5**	**-0.2**
	baz=326						
TWA				*e*S	Sg	**14 37 14.1**	**0.0**
	baz=326						
JKRS	**Kuro-shima**	**1.42**	**77**	P	Pg	**14 36 58.5**	**0.0**
JKRS				*e*S	Sg	**14 37 16.9**	**-0.2**
SMLT	**Sun Moon Lake**	**1.45**	**268**	*e*P	Pg	**14 36 58.9**	**-0.2**
	baz=267						
SMLT				*e*S	Sn	**14 37 16.1**	**-0.4**
	baz=267						
YUS	**Yu-Shan**	**1.47**	**253**	*e*P	Pg	**14 37 00.1**	**+0.6**
	baz=250						
TYC	**Yuchr**	**1.49**	**269**	*e*P	Pb	**14 36 59.2**	**+0.3**
	baz=268						
TYC				*e*S	Sn	**14 37 17.4**	**+0.1**
	baz=268						
TWS1	**Kuangyinshan**	**1.52**	**320**	*e*P	Pn	**14 36 58.5**	**+0.2**
	baz=323						
NSTT	**Nanjuang**	**1.52**	**297**	*e*P	Pb	**14 36 59.2**	**-0.2**
	baz=299						
ELDTW	**Lidau**	**1.54**	**242**	*e*P	Pn	**14 36 58.3**	**-0.3**
	baz=238						
JIJ	**Ishigaki jima**	**1.57**	**74**	P	Pn	**14 36 59.2**	**+0.2**
JIJ				*e*S	Sn	**14 37 18.6**	**-0.7**
TWQ1	**Liyutan**	**1.62**	**285**	*e*P	Pb	**14 37 00.8**	**-0.3**
	baz=285						
TWQ1				*e*S	Sg	**14 37 22.4**	**-0.9**
	baz=285						
CHN5	**Tsauling**	**1.69**	**259**	*e*P	Pb	**14 37 02.6**	**+0.2**
	baz=257						
CHN5				*e*S	Sb	**14 37 23.8**	**+0.2**
	baz=257						
TWG	**Pinlang**	**1.71**	**230**	*e*P	Pn	**14 37 00.9**	**0.0**
	baz=226						
STYT	**Tauyuan**	**1.76**	**245**	*e*S		14 37 24.5	
	baz=242						
CHN4	**Tsaushan**	**1.83**	**252**	*e*S		14 37 28.8	
	baz=250						
WTP	**Ta-pu**	**1.85**	**249**	*e*P	Pb	**14 37 04.2**	**-0.8**
	baz=246						
WTP				*e*S	Sb	**14 37 28.0**	**-0.1**
	baz=246						
SGST	**Jiashian**	**1.94**	**245**	*e*S		14 37 31.6	
	baz=242						
CHN1	**Nanshi**	**1.94**	**248**	*e*P	Pb	**14 37 06.4**	**-0.2**
	baz=245						
CHN1				S	Sb	**14 37 30.8**	**-0.1**
	baz=245						
TWK	**Hsinying**	**1.95**	**251**	*e*S		14 37 31.0	
	baz=248						
SSD	**Sandimen**	**2.07**	**236**	*e*P	Pb	**14 37 08.2**	**-0.6**
	baz=232						

IDC 25 14:46:18.5±4.0, 6°23S×154°75E, h407km±38km, mb2.9/7, mb1 3.1/8, mb1mx3.0/17, mbtmp3.0/8, Error ellipse: s-maj=43.7km s-min=20.3km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.16**	**247**	P	P	14 48 16.1	+0.4
	0.8nm,0.3s,baz=34,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**24.06**	**234**	P	P	14 50 59.4	-0.1
	0.2nm,0.3s,baz=56,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**26.50**	**227**	P	P	14 51 20.9	-0.4
	0.2nm,0.3s,baz=57,slow=9.3,SNR=15						
ASAR				PcP	PcP	14 54 34.8	+1.0
	0.3nm,0.6s,baz=54,slow=2.5,SNR=5.3						
ASAR				S	S	14 55 22.6	-2.7
	0.4nm,0.7s,baz=56,slow=14,SNR=6.1						
PETK	**Petropavlovsk-**	**59.16**	**2**	P	P	14 55 38.6	+0.4
	1.4nm,0.5s,baz=151,slow=8.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**60.24**	**295**	P	P	14 55 46.1	0.0
	0.4nm,0.6s,baz=120,slow=6.1,SNR=6.4						
SONM	**Songino Array**	**68.57**	**327**	P	P	14 56 39.2	+0.2
	0.5nm,0.6s,baz=136,slow=6.7,SNR=5.7						
MKAR	**Makanchi Array**	**82.67**	**319**	P	P	14 57 57.8	-0.2
	1.0nm,0.8s,baz=106,slow=8.0,SNR=12						
ILAR	**Eielson Array**	**82.76**	**22**	P	P	14 57 57.4	-0.6
	0.4nm,0.7s,baz=266,slow=4.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**152.59**	**287**	PKPbc	PKPbc	15 05 28.4	-0.3
	0.2nm,0.4s,baz=98,slow=1.9,SNR=4.3						
TORD				PKPab	PKPab	15 05 40.3	-0.8
	0.3nm,0.7s,baz=45,slow=2.2,SNR=2.7						

*NIED **25** 14:50:00, 37°70N×144°60E, h11km, Mw4.1 Best double couple: M0 1.47000×10^15 NP1:φs217.00000°, δ55.00000°, λ-97.00000°. NP2:φs49.00000°, δ36.00000°, λ-80.00000°.*
*IDC **25** 14:50:39.3±0.6, 37°49N×144°97E, h0km, mb4.0/21, mb1 4.2/25, mb1mx4.2/31, mbtmp4.0/25, ML4.0/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/30, Error ellipse: s-maj=16.5km s-min=13.9km az=155.0*
*ISCJB **25** 14:50:40.6±0.4, 37°78N±0°04×144°68E±0°04, h10km, mb4.0/27, MS3.3/2, Error ellipse: s-maj=6.0km s-min=4.4km az=167.2*
*JMA **25** 14:50:43.7±0.2, 37°67N×144°62E, h46km, M4.5*
*MOS **25** 14:50:43.0±1.2, 37°62N×144°82E, h33km, mb4.3/21, Error ellipse: s-maj=13.7km s-min=9.1km az=106.9*
ISC 25 14:50:41.4±0.5, 37°75N±0°04×144°71E±0°06, h10km, n89, σ1s49/84, mb4.2/27, 5C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.73**	**300**	P	Pn	**14 51 26.1**	**+0.8**
OFUJ				*e*S	Sn	**14 51 57.5**	**-0.9**
JIO	**Ouri**	**2.74**	**286**	P	Pn	**14 51 26.1**	**+0.6**
JIO				*e*S	Sn	**14 51 57.6**	**-1.1**
JMK	**Ichinoseki**	**2.99**	**295**	P	Pn	**14 51 29.9**	**+1.0**
JMK				*e*S	Sn	**14 52 04.5**	**-0.4**
JFT	**Otama**	**3.48**	**267**	P	Pn	**14 51 36.4**	**+0.8**
JFT				*e*S	Sn	**14 52 15.5**	**-1.4**
JRG	**Rokugo**	**3.59**	**298**	P	Pn	**14 51 38.7**	**+1.5**
JAH	**Hinai**	**4.00**	**309**	P	Pn	**14 51 44.6**	**+1.8**
JAH				*e*S	Sn	**14 52 30.9**	**+1.2**
BSO1	**Boso 1**	**4.32**	**225**	P	Pn	**14 51 44.5**	**-2.2**
BSO1				*e*S	Sn	**14 52 32.9**	**-3.9**
ERM	**Erimo**	**4.42**	**345**	*e* *i* P	Pn	**14 51 49.5**	**+0.9**
JOT	**Ohata**	**4.60**	**323**	P	Pn	**14 51 52.1**	**+1.1**
JOT				*e*S	Sn	**14 52 42.6**	**-1.8**
JCH	**Churui**	**4.96**	**348**	P	Pn	**14 51 55.9**	**-0.1**
JCH				*e*S	Sn	**14 52 50.8**	**-2.7**
JRY	**Ryogami san**	**4.97**	**251**	P	Pn	**14 51 55.4**	**-0.7**
JRY				*e*S	Sn	**14 52 48.3**	**-5.3**
JKB	**Kayabe**	**5.01**	**327**	P	Pn	**14 51 57.1**	**+0.5**
JKB				*e*S	Sn	**14 52 52.0**	**-2.5**
JOD2	**Odawara 2**	**5.16**	**243**	*e*S	Sn	14 52 52.2	-6.3
MJAR	**Matsushiro Arr**	**5.33**	**259**	Pn	Pn	**14 52 02.1**	**+1.0**
	6.0nm,0.3s,baz=91,slow=15,SNR=89						
MJAR				Sn	Sn	**14 53 02.2**	**-0.4**
	1.8nm,0.3s,baz=85,slow=25,SNR=5.7						
MJAR	**Matsushiro Arr**	**5.33**	**259**	P	Pn	**14 52 02.1**	**+1.0**
MJAR						14 53 02.2	
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MAT	**Matsushiro**	**5.33**	**259**	P	Pn	**14 52 02.3**	**+1.2**
MAT				S	Sn	**14 53 03.2**	**+0.6**
MAT	**Matsushiro**	**5.33**	**259**	P	Pn	**14 52 02.4**	**+1.3**
MAT				*e*S	Sn	**14 53 02.1**	**-0.5**
NEM2	**Nemuro 2**	**5.66**	**8**	P	Pn	**14 52 03.9**	**-1.7**
NEM2				*e*S	Sn	14 53 04.1	-6.5
JOSM	**Okushiri--Mats**	**5.91**	**319**	P	Pn	**14 52 10.6**	**+1.6**
JHJ2	**Mitsune**	**6.11**	**222**	P	Pn	**14 52 08.8**	**-3.0**
JHJ2				*e*S	Sn	14 53 14.5	-7.3
JTKR	**Abashiri--Toko**	**6.24**	**355**	P	Pn	**14 52 13.6**	**+0.1**
JTKR				*e*S	Sn	**14 53 21.1**	**-3.8**
YUK	**Yuzh-Kuril'sk**	**6.34**	**8**	*c* *i* P	Pn	**14 52 13.5**	**-1.3**
YUK				pmax	pmax		
	comp=E,98nm,0.2s						
YUK				pmax	pmax		
	comp=N,88nm,0.5s						
YUK				pmax	pmax		
	comp=Z,203nm,0.3s						
JHR	**Hokuryu**	**6.40**	**340**	P	Pn	**14 52 17.9**	**+2.2**
JHR				*e*S	Sn	**14 53 28.5**	**-0.3**
ASAJ	**Asahikawa**	**6.56**	**347**	Pn	Pn	**14 52 19.1**	**+1.2**
	comp=Z,14nm,0.3s,baz=194,slow=12,SNR=158						
ASAJ				Sn	Sn	**14 53 30.7**	**-1.9**
	comp=Z,3.1nm,0.3s,baz=100,slow=18,SNR=3.7						
ASAJ				LR	LR	14 55 51.1	
	comp=Z,78nm,20.7s,baz=163,slow=45						
ASAJ	**Asahikawa**	**6.56**	**347**	P	Pn	**14 52 19.1**	**+1.2**
ASAJ						14 53 30.7	
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
CBIJ	**Chichi jima**	**10.84**	**192**	Pn	Pn	14 53 09.0	-7.7
	comp=N,9.9nm,0.3s,baz=72,slow=20,SNR=3.2						
CBIJ				Sn	Sn	14 55 03.0	-15
	comp=N,7.0nm,0.3s,baz=288,slow=19,SNR=3.3						
USRK	**Ussuriysk Arra**	**11.56**	**308**	Pn	Pn	14 53 29.7	+3.3
	comp=N,1.3nm,0.3s,baz=113,slow=14,SNR=17						
USRK				LR	LR	14 57 34.4	
	comp=N,43nm,20.1s,baz=298,slow=35						
HABR	**Khabarovsk**	**12.82**	**330**	*e*P	Pn	**14 53 42.9**	**-0.7**
HABR				*e*		14 56 07.6	
HABR				pmax	pmax		
	comp=Z,19nm,2.3s						
KSRS	**Korea Array**	**13.32**	**274**	Pn	Pn	14 53 53.0	+2.6
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=9.4						
KSRS				LR	LR	14 58 58.5	
	comp=Z,45nm,20.0s,baz=80,slow=37						
KSRS	**Korea Array**	**13.32**	**274**	P	Pn	14 53 53.1	+2.6
KLR	**Kul'dur**	**14.81**	**325**	*e*P	Pn	14 54 07.9	-2.9
SONM	**Songino Array**	**29.59**	**302**	P	P	14 56 49.4	+2.7
	comp=Z,0.7nm,0.4s,baz=93,slow=9.2,SNR=10						
SONM				LR	LR	15 09 37.3	
	comp=Z,47nm,20.2s,baz=174,slow=38						
SONM	**Songino Array**	**29.59**	**302**	P	P	14 56 49.4	+2.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,47nm,20.2s						
BILL	**Bilibino**	**32.63**	**15**	*e*P	**P**	**14 57 13.8**	**+0.8**
BILL				*i*		14 58 18.4	
BILL				pmax	pmax		
	comp=Z,12nm,2.5s						
ZALV	**Zalesovo Beam**	**43.38**	**312**	P	P	14 58 46.6	+2.8
	comp=Z,1.3nm,1.0s,baz=93,slow=7.2,SNR=2.8						
ZALV				PcP	**PcP**	**15 00 32.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=82,slow=3.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**43.38**	**312**	P	P	14 58 46.6	+2.8
ZALV						15 00 32.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.22**	**257**	P	**P**	**14 58 52.4**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=38,slow=7.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**44.22**	**257**	P	**P**	**14 58 52.4**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KDAK	**Kodiak Island**	**44.80**	**42**	P	**P**	**14 58 54.6**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=272,slow=5.4,SNR=14						
KDAK	**Kodiak Island**	**44.80**	**42**	*ce*P	**P**	**14 58 55.7**	**+0.6**
MKAR	**Makanchi Array**	**45.96**	**302**	P	P	14 59 06.8	+2.2
	comp=Z,0.7nm,0.7s,baz=81,slow=8.5,SNR=7.9						
MKAR				LR	LR	15 19 13.9	
	comp=Z,56nm,20.3s,baz=218,slow=37						
MKAR	**Makanchi Array**	**45.96**	**302**	P	P	14 59 06.8	+2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,56nm,20.3s						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**14 59 16.2**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=260,slow=6.7,SNR=40						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**14 59 16.2**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**47.56**	**308**	P	P	14 59 19.2	+2.4
	comp=Z,0.8nm,0.3s,baz=83,slow=8.7,SNR=6.4						
KURK	**Kurchatov**	**47.56**	**308**	*d* *i* P	P	14 59 19.3	+2.4
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BVAR	**Borovoye Array**	**52.03**	**312**	P	P	14 59 53.1	+2.2
	comp=Z,0.8nm,0.7s,baz=72,slow=9.3,SNR=4.3						
BVAR	**Borovoye Array**	**52.03**	**312**	P	P	14 59 53.1	+2.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**52.08**	**313**	*e*P	**P**	**14 59 53.1**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
INK	**Inuvik**	**52.54**	**28**	P	**P**	**14 59 55.2**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=307,slow=5.7,SNR=33						
INK	**Inuvik**	**52.54**	**28**	P	**P**	**14 59 55.2**	**+0.7**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**57.55**	**319**	*c* *i* P	P	15 00 33.2	+2.3
ARU				S	S	15 08 33.7	+5.3
ARU				SS	SS	15 12 24.6	+6.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**58.21**	**191**	P	**P**	**15 00 33.5**	**-2.3**
	comp=Z,2.8nm,0.6s,baz=13,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**58.21**	**191**	P	**P**	**15 00 33.5**	**-2.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**58.38**	**201**	P	P	15 00 38.8	+1.8
	comp=Z,1.8nm,0.7s,baz=26,slow=6.6,SNR=3.3						
AKTO	**Aktyubinsk**	**60.13**	**313**	P	P	15 00 51.0	+2.0
	comp=Z,0.9nm,0.8s,baz=72,slow=16,SNR=3.9						
AKTO	**Aktyubinsk**	**60.13**	**313**	P	P	15 00 51.0	+2.0
AKTO				pmax	pmax		
	comp=Z,

FFC	**Flin Flon**	**71.66**	**34**	*ce*P		**P**	**15 02 04.0**	**+0.9**
KIV	**Kislovodsk**	**72.39**	**312**	*e*P		**P**	**15 02 07.3**	**-0.5**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NVAR	**Mina Array Bea**	**72.44**	**55**	P		**P**	**15 02 08.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=314,slow=7.5,SNR=3.5							
HFS	**Hagfors**	**74.49**	**337**	P		**P**	**15 02 20.9**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=69,slow=7.9,SNR=4.4							
HFS	**Hagfors**	**74.49**	**337**	P		**P**	**15 02 20.9**	**+1.2**
HFS				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NB2	**NORSAR Subarra**	**74.51**	**339**	P		**P**	**15 02 20.5**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=36,slow=5.9							
NOA	**NORSAR Array B**	**74.51**	**339**	P		**P**	**15 02 20.8**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=37,slow=5.9,SNR=4.4							
NOA	**NORSAR Array B**	**74.51**	**339**	P		**P**	**15 02 20.8**	**+0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**75.27**	**47**	P		**P**	**15 02 24.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=285,slow=2.2,SNR=16							
AKASG	**Malin Array Be**	**75.31**	**324**	P		**P**	**15 02 25.4**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=45,slow=5.9,SNR=6.6							
AKASG	**Malin Array Be**	**75.31**	**324**	*i* P		**P**	**15 02 25.3**	**+0.7**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CLL	**Collm**	**81.75**	**332**	*e*P		**P**	**15 03 01.0**	**+0.9**
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**81.75**	**332**	*e*(P)		**P**	**15 03 01.0**	**+0.9**
	comp=Z,7.0nm,1.0s							
GERES	**GERESS Array B**	**83.45**	**330**	P		**P**	**15 03 09.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=35,slow=4.9,SNR=4.0							
GERES	**GERESS Array B**	**83.45**	**330**	P		**P**	**15 03 09.9**	**+0.7**
TXAR	**Lajitas Array**	**87.59**	**54**	P		**P**	**15 03 29.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=315,slow=3.5,SNR=8.2							
TXAR	**Lajitas Array**	**87.59**	**54**	P		**P**	**15 03 29.9**	**-0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**118.62**	**318**	PKP		**PKPdf**	**15 09 29.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=67,slow=2.6,SNR=2.5							
LPAZ	**La Paz**	**144.05**	**63**	PKP		**PKPdf**	**15 10 17.3**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=292,slow=2.0,SNR=3.8							
LPAZ	**La Paz**	**144.05**	**63**	PKIKP		**PKPdf**	**15 10 17.3**	**-1.2**
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							

WEL 25 14:56:53.4±0.5, 36.88S×177.43E, h160km±4km, ML3.5/14, Error ellipse: s-maj=5.4km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**134**		PN	Pn	14 57 19.1	+0.2
MXZ					SN	Sn	14 57 37.9	-0.7
PUZ	**Puketiti**	**1.36**	**151**		PN	Pn	14 57 22.5	+0.1
PUZ					SN	Sn	14 57 44.0	-0.8
URZ	**Urewera**	**1.40**	**190**		PN	Pn	14 57 22.9	+0.2
URZ					SN	Sn	14 57 46.0	+0.6
MWZ	**Matawai**	**1.45**	**177**		PN	Pn	14 57 23.5	+0.1
MWZ					SN	Sn	14 57 46.6	+0.1
CNGZ	**Carnagh Statio**	**1.72**	**159**		PN	Pn	14 57 26.5	+0.5
RAHZ	**Arahi**	**2.05**	**187**		PN	Pn	14 57 29.9	+0.2
PRGZ	**Paritu Road**	**2.07**	**170**	*e*PN		Pn	14 57 29.9	-0.1
KNZ	**Kokohu**	**2.15**	**175**		PN	Pn	14 57 30.4	-0.4
KNZ					SN	Sn	14 57 58.7	-1.1
NMHZ	**Naumai**	**2.27**	**192**		PN	Pn	14 57 33.0	+0.7
MHGZ	**Mahia Peninsul**	**2.30**	**171**		PN	Pn	14 57 32.6	0.0
BKZ	**Black Stump Fm**	**2.40**	**198**		PN	Pn	14 57 33.4	-0.5
BKZ				*e*	SN	Sn	14 58 04.0	-1.3
MCHZ	**McNeill Hill**	**2.62**	**192**		PN	Pn	14 57 36.3	-0.2
TUVZ	**Tukino**	**2.77**	**210**		PN	Pn	14 57 38.5	+0.1
BHHZ	**Black Hill Sta**	**2.82**	**202**		PN	Pn	14 57 38.2	-0.7
MTVZ	**Mangateitei**	**2.94**	**211**		PN	Pn	14 57 40.5	0.0
KAHZ	**Kahuranaki**	**2.94**	**188**		PN	Pn	14 57 39.7	-0.8
PXZ	**Pawanui**	**3.18**	**188**		PN	Pn	14 57 41.7	-1.6
PXZ					SN	Sn	14 58 20.3	-1.9
PNHZ	**Pukenui**	**3.18**	**197**		PN	Pn	14 57 41.9	-1.6
WPHZ	**Waipukurau**	**3.27**	**193**		PN	Pn	14 57 42.7	-1.9
TSZ	**Takapari Road**	**3.38**	**199**		PN	Pn	14 57 44.1	-1.9
PRHZ	**Porangahau**	**3.44**	**190**		PN	Pn	14 57 45.0	-1.7
WAZ	**Wanganui**	**3.45**	**213**		PN	Pn	14 57 46.5	-0.4
POWZ	**Post Office Ro**	**3.74**	**200**		PN	Pn	14 57 48.5	-2.0
BFZ	**Birch Farm**	**3.91**	**193**		PN	Pn	14 57 50.4	-2.3
BFZ					SN	Sn	14 58 35.4	-3.5
MRZ	**Mangatainoka R**	**4.04**	**200**		PN	Pn	14 57 51.6	-2.9
MRZ					SN	Sn	14 58 38.7	-3.4
TIWZ	**Tintock**	**4.07**	**197**		PN	Pn	14 57 52.4	-2.4
HOWZ	**Holdsworth Sta**	**4.28**	**200**		PN	Pn	14 57 54.6	-3.0
OGWZ	**Otaki Gorge**	**4.31**	**203**		PN	Pn	14 57 55.2	-2.6
OGWZ					SN	Sn	14 58 44.8	-3.4
TMWZ	**Te Maipa**	**4.39**	**195**		PN	Pn	14 57 56.2	-2.8
KIW	**Kapiti Island**	**4.43**	**206**		PN	Pn	14 57 56.8	-2.8
MTW	**Mount Morrison**	**4.53**	**199**		PN	Pn	14 57 57.4	-3.4
CAW	**Cannon Point**	**4.60**	**203**		PN	Pn	14 57 58.4	-3.3
CAW					SN	Sn	14 58 51.1	-4.1
TCW	**Tory Channel**	**4.97**	**209**		PN	Pn	14 58 02.9	-3.7
TCW					SN	Sn	14 58 58.5	-5.3
PLWZ	**Palliser**	**4.98**	**199**		PN	Pn	14 58 02.7	-4.0
TUWZ	**Tuamarina**	**5.29**	**210**		PN	Pn	14 58 07.0	-3.7
NNZ	**Nelson**	**5.36**	**215**		PN	Pn	14 58 08.4	-3.2
QRZ	**Quartz Range**	**5.49**	**223**		SN		14 59 11.9	
THZ	**Tophouse**	**6.00**	**214**	*e*PN		Pn	14 58 16.6	-3.7
KHZ	**Kahutara**	**6.29**	**207**		PN	Pn	14 58 20.0	-4.0
MQZ	**McQueen's Vall**	**7.73**	**207**		SN		14 59 59.5	

GUC 25 15:01:51.2±0.5, 27.52S×70.90W, h43km±3km, ML4.0, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.46**	**9**	⇓*i*P		Pn	15 02 01.5	0.0
CDCH				*i* S		Sn	15 02 09.2	+0.4
CDCH					AML	AML	15 02 09.6	
	comp=N,15μm,0.3s							
CPCH	**Copiapo**	**0.51**	**72**	⇑*i*P		Pn	15 02 02.7	+0.4
CPCH				*e*S		Sn	15 02 10.9	+0.7
VACH	**Vallenar**	**1.06**	**173**	⇑*i*P		Pn	15 02 10.5	+0.8
VACH				*i* S		Sn	15 02 25.0	+1.7
VACH					AML	AML	15 02 28.8	
	comp=E,12μm,0.5s							
LCO	**Las Campanas**	**1.50**	**173**	⇑*i*P		Pn	15 02 16.9	+0.9
LCO				*i* S		Sn	15 02 36.5	+2.0
LCO					AML	AML	15 02 39.2	
	comp=E,3μm,0.4s							
TLL	**Tololo Astrono**	**2.64**	**178**	⇑*i*P		Pn	15 02 33.1	+1.4
TLL					AML	AML	15 03 17.5	
	comp=N,666nm,0.7s							

*SZGRF **25** 15:05:33.4, 19.63S×177.13W, h33km, Fiji Islands region*
*ISCJB **25** 15:06:34.9±0.4, 18.65S±0.07×177.84W±0.09, h557km, mb4.1/17, Error ellipse: s-maj=12.3km s-min=7.1km az=36.1*
*IDC **25** 15:06:37.3±1.6, 18.51S×177.86W, h572km±19km, mb3.6/17, mb1 3.8/19, mb1mx3.7/23, mbtmp3.6/19, Error ellipse: s-maj=18.7km s-min=11.1km az=144.0*
ISC 25 15:06:35.7±0.6, 18.66S±0.1×177.8W±0.1, h557km, n65, σ0.89/69, mb4.2/17, 4C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.44**	**52**	P		**P**	**15 08 29.6**	**+1.2**
	3.6nm,0.3s,baz=354,slow=10,SNR=6.5							
AFI					S	**S**	**15 09 59.6**	**-1.0**
	4.7nm,0.3s,baz=30,slow=20,SNR=6.2							
DZM	**Mont Dzumac**	**15.14**	**254**	P		**P**	**15 09 47.5**	**+0.9**
	0.2nm,0.3s,baz=77,slow=19,SNR=2.4							
URZ	**Urewera**	**20.11**	**192**	PN		**P**	**15 10 30.5**	**-1.7**
MRZ	**Mangatainoka R**	**22.73**	**193**	*e*PN		**P**	**15 10 55.1**	**-0.8**
CAW	**Cannon Point**	**23.27**	**194**	*e*PN		**P**	**15 10 59.5**	**-1.1**
QRZ	**Quartz Range**	**23.68**	**198**	PN		**P**	**15 11 04.8**	**+0.6**
NNZ	**Nelson**	**23.80**	**197**	PN		**P**	**15 11 04.6**	**-0.7**
THZ	**Tophouse**	**24.43**	**197**	PN		**P**	**15 11 10.7**	**-0.3**
RPZ	**Rata Peaks**	**26.76**	**198**	P		**P**	**15 11 32.1**	**+0.7**
	7.3nm,0.5s,baz=2.4,slow=2.6,SNR=9.9							
TUZ	**Tuapeka**	**29.22**	**198**	PN		**P**	**15 11 53.4**	**+0.6**
CTA	**Charters Tower**	**33.87**	**261**	P		**P**	**15 12 33.5**	**+0.5**
	8.9nm,0.6s,baz=102,slow=9.0,SNR=12							
PMG	**Port Moresby**	**35.10**	**280**	P		**P**	**15 12 44.6**	**+1.4**
	27nm,0.8s,baz=79,slow=5.6,SNR=14							
STKA	**Stephens Creek**	**38.79**	**242**	P		**P**	**15 13 14.5**	**+1.3**
	2.0nm,0.8s,baz=18,slow=4.6,SNR=5.4							
STKA				PcP		**PcP**	**15 15 11.3**	**+1.0**
	1.5nm,0.8s,baz=56,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**45.04**	**260**	P		**P**	**15 14 02.1**	**-0.5**
	5.4nm,0.4s,baz=97,slow=7.6,SNR=192							
WRA				PcP		**PcP**	**15 15 31.3**	**-0.3**
	1.9nm,0.7s,baz=96,slow=3.2,SNR=7.6							
WRA				S			15 19 54.5	-7.0
	1.0nm,0.8s,baz=98,slow=13,SNR=6.5							
ASAR	**Alice Springs**	**45.13**	**255**	P		**P**	**15 14 03.5**	**+0.2**
	11nm,0.7s,baz=92,slow=7.9,SNR=250							
ASAR				PcP		**PcP**	**15 15 31.4**	**-0.5**
	2.0nm,0.5s,baz=99,slow=3.9,SNR=13							
ASAR				S		**S**	**15 19 59.2**	**-3.5**
	2.6nm,0.9s,baz=86,slow=16,SNR=17							
MJAR	**Matsushiro Arr**	**68.75**	**323**	P		**P**	**15 16 44.0**	**-0.4**
	5.0nm,0.7s,baz=162,slow=6.7,SNR=18							
FX1	**Attu Island--F**	**71.58**	**354**	P		**P**	**15 16 59.7**	**-1.0**
	5.7nm,0.7s,baz=135,slow=4.3,SNR=4.1							
PETK	**Petropavlovsk-**	**74.45**	**345**	P		**P**	**15 17 16.9**	**-0.3**
	5.4nm,0.6s,baz=124,slow=7.9,SNR=16							
KSRS	**Korea Array**	**75.55**	**318**	P		**P**	**15 17 24.2**	**+0.6**
	1.4nm,0.6s,baz=131,slow=6.7,SNR=6.7							
NVAR	**Mina Array Bea**	**79.53**	**44**	P		**P**	**15 17 46.5**	**+1.0**
	1.9nm,0.7s,baz=224,slow=9.2,SNR=17							
TXAR	**Lajitas Array**	**85.90**	**57**	P		**P**	**15 18 19.2**	**+1.8**
	2.5nm,0.7s,baz=219,slow=6.4,SNR=39							
ILAR	**Eielson Array**	**86.41**	**13**	P		**P**	**15 18 17.9**	**-1.1**
	1.3nm,0.4s,baz=219,slow=4.9,SNR=63							
PDAR	**Pinedale Array**	**87.46**	**43**	P		**P**	**15 18 24.9**	**+0.2**
	1.2nm,0.6s,baz=205,slow=3.6,SNR=11							
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P		**P**	**15 18 36.0**	**+1.0**
	2.7nm,0.8s,baz=116,slow=2.9,SNR=24							
SONM	**Songino Array**	**94.40**	**319**	P		**P**	**15 18 57.1**	**+0.7**
	0.4nm,0.6s,baz=133,slow=3.7,SNR=5.2							
YKA	**Yellowknife Ar**	**94.70**	**25**	P		**P**	**15 18 56.9**	**-0.4**
	0.5nm,0.6s,baz=238,slow=4.4,SNR=11							
ZALV	**Zalesovo Beam**	**109.08**	**322**	PKiKP		**PKiKP**	**15 24 00.4**	**-1.8**
	0.3nm,0.3s,baz=191,slow=1.5,SNR=3.4							
MKAR	**Makanchi Array**	**109.98**	**314**	PKiKP		**PKiKP**	**15 24 02.6**	**-1.6**
	0.6nm,0.5s,baz=177,slow=0.4,SNR=24							
ARCES	**ARCESS Array B**	**127.06**	**350**	PKP		**PKPdf**	**15 24 35.1**	**-1.1**
	1.5nm,0.4s,baz=11,slow=1.7,SNR=18							
JOF	**Joensuu**	**131.34**	**343**	*e*pkp		**PKPdf**	**15 24 44.2**	**-0.3**
JOF	**Joensuu**	**131.34**	**343**	epkp		**PKPdf**	**15 24 44.2**	**-0.3**
FINES	**FINESS Array B**	**133.97**	**344**	PKhKP		PKPpre	15 24 43.2	
	1.4nm,0.8s,baz=110,slow=6.1,SNR=4.1							
FINES				PKP		**PKPdf**	**15 24 49.1**	**-0.4**
	1.1nm,0.5s,baz=80,slow=2.5,SNR=13							
AKASG	**Malin Array Be**	**141.39**	**332**	PKhKP		PKPpre	15 24 57.4	
	2.0nm,0.4s,baz=45,slow=4.2,SNR=12							
KWP	**Kalwaria Pacla**	**144.89**	**337**	⇑*i*P		**PKPdf**	**15 25 09.9**	**+0.3**
OJC	**Ojcow**	**145.41**	**340**	*e*PKP		**PKPbc**	**15 25 11.3**	**-0.5**
NRDL	**Niedersach Rie**	**145.57**	**351**	*e*PKPbc		**PKPbc**	**15 25 11.7**	**-0.3**
TESR		**145.60**	**330**	⇑*i*P		**PKPbc**	**15 25 13.0**	**+0.6**
CFR	**Carcaliu**	**145.78**	**327**	⇑*i*P		**PKPbc**	**15 25 12.9**	**0.0**
NIE	**Niedzica**	**145.93**	**339**	*e*PKP		**PKPbc**	**15 25 13.6**	**+0.3**
VRI	**Vrincioaia**	**146.02**	**329**	⇓*i*P		**PKPbc**	**15 25 13.6**	**0.0**
TRPA	**Tarpa**	**146.17**	**335**	⇓*i*P		**PKPbc**	**15 25 13.4**	**-0.5**
CLL	**Collm**	**146.22**	**348**	*e*PKPbc		**PKPbc**	**15 25 13.7**	**-0.3**
CLL	**Collm**	**146.22**	**348**	⇓*i*PKP		**PKPbc**	**15 25 13.6**	**-0.4**
	comp=Z,24nm,1.0s							
CLL				*i*			15 25 15.4	
OKC	**Ostrava-Krasne**	**146.27**	**341**	*e*PKP		**PKPbc**	**15 25 13.5**	**-0.7**
UPC	**Upice**	**146.27**	**344**	*e*PKP		**PKPbc**	**15 25 14.1**	**-0.1**
DPC	**Dobruska-Polom**	**146.33**	**344**	*e*PKP		**PKPbc**	**15 25 14.6**	**+0.2**
BRG	**Berggiesshubel**	**146.43**	**346**	*i* PKP		**PKPbc**	**15 25 14.2**	**-0.4**
	comp=Z,5.5nm,0.6s							
BRG				*i*			15 25 14.2	
	comp=Z,5.5nm,0.6s							
BRG	**Berggiesshubel**	**146.43**	**346**	*e*PKPbc		**PKPbc**	**15 25 14.2**	**-0.4**
KRLC	**Kraliky**	**146.45**	**343**	*e*PKP		**PKPbc**	**15 25 14.6**	**-0.1**
FBE	**Freiberg**	**146.51**	**347**	*e*PKPbc		**PKPbc**	**15 25 14.7**	**-0.1**
PVCC	**Panska Ves**	**146.61**	**346**	*e*PKP		**PKPbc**	**15 25 15.1**	**0.0**
MLR	**Muntele Rosu**	**146.67**	**329**	⇓*i*P		**PKPbc**	**15 25 14.6**	**-1.0**
PRU	**Pruhonice**	**147.12**	**345**	*e*PKP		**PKPbc**	**15 25 16.2**	**-0.2**
WERD	**Werda**	**147.18**	**348**	*e*PKPbc		**PKPbc**	**15 25 16.5**	**-0.1**
TANN	**Tannenbergstha**	**147.18**	**348**	*e*PKPbc		**PKPbc**	**15 25 16.5**	**-0.2**
GUNZ	**Gunzen**	**147.25**	**348**	*e*PKPbc		**PKPbc**	**15 25 16.7**	**-0.1**
TREC	**Trest**	**147.52**	**344**	*e*PKP		**PKPbc**	**15 25 17.3**	**-0.3**
KHC	**Kasperske Hory**	**148.15**	**346**	*e*PKP		**PKPbc**	**15 25 18.9**	**-0.3**
KHC				*ex*		x	15 25 24.0	
GEC2	**GERESS Array S**	**148.38**	**345**	*e*PKPbc		**PKPbc**	**15 25 19.2**	**-0.7**
GERES	**GERESS Array B**	**148.38**	**345**	PKPbc		**PKPbc**	**15 25 19.6**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=16,slow=3.1,SNR=25							
WATA	**Walderalm**	**150.29**	**347**	⇓*i*PKPbc		**PKPbc**	**15 25 23.9**	**-0.7**
	comp=Z,4.2nm,0.4s							
WTTA	**Wattenberg**	**150.34**	**347**	⇓*i*PKPbc		**PKPbc**	**15 25 24.0**	**-0.7**
	comp=Z,6.6nm,0.5s							
ABTA	**Abfaltersbach**	**150.63**	**345**	⇑*i*PKPbc		**PKPbc**	**15 25 24.4**	**-0.9**
	comp=Z,7.5nm,0.6s							
FETA	**Feichten**	**150.76**	**348**	⇑*i*PKPbc		**PKPbc**	**15 25 25.3**	**-0.3**
	comp=Z,7.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**174.59**	**175**	PKP		**PKPdf**	**15 25 41.1**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=215,slow=1.8,SNR=2.8							

*MOS **25** 15:29:47.2±0.2, 55.60N×111.92E, h11km, mb4.2/1, Error ellipse: s-maj=41.8km s-min=22.4km az=82.0*
*BYKL **25** 15:29:47.9±0.3, 55.58N×111.98E*
ISC 25 15:29:47.5±1.1, 55.60N±0.03×112.01E±0.02, h7km±9km, n29, σ1.96/54, 1C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.54**	**303**	*e*PG		**Pg**	**15 29 58.2**	**+0.3**
KMO				*e*			15 30 05.0	
KMO				pmax	pmax			
	comp=Z,68nm,0.2s							
KMO				smax	smax			
	comp=N,1μm,0.6s							
KMO	**Kumora**	**0.54**	**303**	⇑*i*Pg		**Pg**	**15 29 58.3**	**+0.3**
KMO				*e*Sg		**Sg**	**15 30 05.6**	**+0.6**
KMO				Pmax				
	comp=N,105nm,0.3s							
KMO				Smax				
	comp=N,1μm,0.8s							
YOA	**Uoyan**	**0.56**	**344**	⇓*i*PG		**Pg**	**15 29 59.0**	**+0.6**
YOA				*i*			15 30 07.4	
YOA				pmax	pmax			
	comp=Z,349nm,0.2s							
YOA				smax	smax			
	comp=E,2μm,0.4s							
YOA	**Uoyan**	**0.56**	**344**	⇓*i*Pg		**Pg**	**15 29 58.9**	**+0.6**
YOA				*e*Sg		**Sb**	**15 30 07.3**	**-0.5**
YOA				Pmax				
	comp=E,314nm,0.4s							
YOA				Smax				
	comp=E,2μm,0.6s							
YLYR	**Ulyunkhan**	**0.87**	**214**	*e*PG		**Pg**	**15 30 03.8**	**-0.4**
YLYR				*i*			15 30 15.5	
YLYR				pmax	pmax			
	comp=Z,6.0nm,0.1s							
YLYR				smax	smax			
	comp=E,453nm,0.1s							
YLYR	**Ulyunkhan**	**0.87**	**214**	*i* Pg		**Pg**	**15 30 03.9**	**-0.3**
YLYR				*e*Sg		**Sg**	**15 30 15.8**	**+0.3**
YLYR				Smax				
	comp=E,599nm,0.3s							
SVKR	**Severomuysk**	**1.02**	**59**	*e*PG		**Pg**	**15 30 07.2**	**+0.1**
SVKR				*e*			15 30 21.0	
SVKR				pmax	pmax			
	comp=Z,75nm,0.2s							
SVKR				smax	smax			
	comp=E,950nm,0.4s							
SVKR	**Severomuysk**	**1.02**	**59**	*e*Pg		**Pg**	**15 30 07.2**	**+0.1**
SVKR				*e*Sg		**Sb**	**15 30 21.2**	**+0.1**
SVKR				Pmax				
	comp=E,75nm,0.4s							
SVKR				Smax				
	comp=E,949nm,0.6s							
NIZ	**Nizh Angarsk**	**1.41**	**278**	*e*Pg		**Pn**	**15 30 13.6**	**+0.1**
NIZ				*e*			15 30 21.1	
NIZ				*e*Sg		**Sn**	**15 30 32.6**	**+0.3**
NIZ				max				
	comp=E,29nm,0.2s							
NIZ				Smax				
	comp=E,155nm,0.7s							
NLYR	**Nelyaty**	**2.26**	**65**	*e*Pn		**Pn**	**15 30 24.9**	**-0.4**
NLYR				*e*Pg		**Pb**	**15 30 28.0**	**-0.6**
NLYR				*e*			15 30 33.7	
NLYR				*i* Sg		**Sb**	**15 30 58.3**	**+1.6**
NLYR				max				
	comp=E,33nm,0.6s							
NLYR				Smax				
	comp=E,132nm,1.0s							
SYVR	**Suvo**	**2.27**	**212**	*e*Pn		**Pn**	**15 30 25.2**	**-0.2**
SYVR				*e*Pg		**Pb**	**15 30 28.4**	**-0.3**
SYVR				*e*Sg		**Sb**	**15 30 57.7**	**+0.7**
SYVR				Pmax				
	comp=E,29nm,0.7s							
SYVR				Smax				
	comp=E,162nm,0.6s							
BOD	**Bodaibo**	**2.48**	**26**	*e*Pn		**Pn**	**15 30 28.2**	**-0.1**
BOD				*e*Pg		**Pb**	**15 30 31.7**	**-0.7**
BOD				*e*Sn		**Sn**	**15 30 57.4**	**-1.4**
BOD				*e*Sg		**Sb**	**15 31 03.3**	**+0.2**
BOD				Pmax				
	comp=E,18nm,0.2s							
BOD				Smax				
	comp=E,227nm,0.5s							
MXMB	**Maximikha**	**3.02**	**220**	*e*Pn		**Pn**	**15 30 34.6**	**-1.1**
MXMB				*e*Pg		**Pb**	**15 30 41.3**	**-0.2**
MXMB				*e*Sg		**Sb**	**15 31 20.6**	**+2.1**
MXMB				Pmax				
	comp=E,15nm,0.7s							
MXMB				Smax				
	comp=E,127nm,0.8s							
OGRR	**Ongureny**	**3.23**	**234**	*e*Pn		**Pn**	**15 30 38.8**	**+0.3**
OGRR				*e*Pg		**Pb**	**15 30 44.8**	**-0.3**
OGRR				*e*Sn		**Sn**	**15 31 16.7**	**-0.5**
OGRR				*e*Sg		**Sb**	**15 31 26.2**	**+1.6**
OGRR				Pmax				
	comp=E,12nm,0.3s							
OGRR				Smax				
	comp=E,60nm,1.4s							
CIT	**Chita**	**3.70**	**165**	*e*Sg		**Sg**	**15 31 44.2**	**-2.1**
CIT				Smax				
	comp=E,107nm,0.3s							
CRS	**Chara**	**3.73**	**67**	*e*PN		**Pn**	**15 30 47.3**	**+1.8**
CRS				*e*			15 30 54.5	
CRS				*e*			15 31 42.8	
CRS				pmax	pmax			
	comp=Z,39nm,1.3s							
CRS				smax	smax			
	comp=E,52nm,1.4s							
CRS	**Chara**	**3.73**	**67**	*e*Pg		**Pb**	**15 30 55.0**	**+1.3**
CRS				*e*Sg		**Sb**	**15 31 43.2**	**+4.2**
CRS				Pmax				
	comp=E,17nm,1.0s							
CRS				Smax				
	comp=E,52nm,1.4s							
ZRHB	**Zarechye**	**4.18**	**225**	*e*Pg		**Pb**	**15 31 03.6**	**+2.3**
ZRHB				*e*Sg		**Sg**	**15 31 57.9**	**-3.8**
ZRHB				Pmax				
	comp=E,35nm,0.7s							
ZRHB				Smax				
	comp=E,116nm,0.8s							
TRG	**Tyrgan**	**4.37**	**232**	Pn		**Pn**	**15 30 56.4**	**+2.1**
TRG				*e*Pg		**Pb**	**15 31 05.6**	**+1.0**
TRG				*e*Sg		**Sb**	**15 32 01.4**	**+3.8**
TRG				Pmax				
	comp=E,2.0nm,0.3s							
TRG				Smax				
	comp=E,28nm,0.9s							
UUDB	**Ulan-Yde**	**4.54**	**216**	*e*Sg		**Sg**	**15 32 08.5**	**-4.8**
UUDB				Smax				
	comp=E,52nm,1.0s							
TUP	**Tupik**	**4.72**	**101**	*e*Pn		**Pn**	**15 30 58.6**	**-0.5**
TUP				*e*Pg		**Pb**	**15 31 13.4**	**+2.8**
TUP				*e*Sn		**Sn**	**15 31 54.5**	**+0.4**
TUP				*e*Sg		**Sg**	**15 32 15.0**	**-4.1**
TUP				Pmax				
	comp=E,7.0nm,0.8s							
TUP				Smax				
	comp=E,40nm,1.0s							
HRMR	**Khuramsha**	**4.99**	**219**	*e*Pn		**Pn**	**15 31 03.7**	**+1.0**
HRMR				*e*Pg		**Pb**	**15 31 16.2**	**+1.1**
HRMR				*e*Sg		**Sb**	**15 32 19.6**	**+4.5**
HRMR				Pmax				
	comp=E,12nm,0.7s							
HRMR				Smax				
	comp=E,105nm,0.7s							
LSTR	**Listvyanka**	**5.66**	**232**	*e*Sg		Sb	15 32 41.3	+6.7

SALA					AML	AML	15 36 10.1	
	comp=N,741nm,0.2s							
SALA	**Sala**	**0.92**	**93**	⇑*eP*	**Pb**		**15 35 56.8**	**-0.1**
	SNR=66							
SALA				*eS*	**Sn**		**15 36 09.7**	**+0.2**
	comp=N,741nm,0.2s,SNR=62							
QASN	**Qassioun**	**0.94**	**35**	*eP*	**Pn**		**15 35 54.7**	**-2.4**
QASN				AML	AML		15 36 09.6	
	comp=N,223nm,0.2s							
QASN				AML	AML		15 36 09.7	
	comp=Z,493nm,0.2s							
QASN				AML	AML		15 36 12.9	
	comp=E,458nm,0.4s							
QASN	**Qassioun**	**0.94**	**35**	⇑*eP*	**Pn**		**15 35 54.7**	**-2.4**
	SNR=66							
BHL	**Bhannes**	**1.14**	**1**	*eP*	**Pn**		**15 36 00.5**	**+0.6**
BHL	**Bhannes**	**1.14**	**1**	*eP*	**Pn**		**15 36 00.5**	**+0.6**
DSI	**Dead Sea**	**1.21**	**191**	Pg	**Pn**		**15 36 00.1**	**-0.6**
DSI				Sg	**Sb**		**15 36 16.3**	**-0.5**
ZALF	**Zalf**	**1.44**	**83**	*eP*	**Pb**		**15 36 05.0**	**-0.5**
ZALF				AML	AML		15 36 26.6	
	comp=E,138nm,0.5s							
ZALF				AML	AML		15 36 28.8	
	comp=N,170nm,0.5s							
ZALF				AML	AML		15 36 29.3	
	comp=Z,94nm,0.6s							
ZALF	**Zalf**	**1.44**	**83**	⇑*eP*	**Pb**		**15 36 05.0**	**-0.5**
	SNR=66							
MZDA	**Masada**	**1.47**	**189**	Pn	**Pn**		**15 36 04.8**	**+0.6**
MZDA				Sn	**Sb**		**15 36 24.5**	**+0.4**
HWQ	**Hawqa**	**1.54**	**10**	*eP*	**Pb**		**15 36 07.7**	**+0.4**
HWQ	**Hawqa**	**1.54**	**10**	*eP*	**Pb**		**15 36 07.7**	**+0.4**
FKH	**Fakeheh**	**1.61**	**23**	*eP*	**Pb**		**15 36 08.7**	**0.0**
FKH	**Fakeheh**	**1.61**	**23**	*eP*	**Pb**		**15 36 08.7**	**0.0**
RTMI	**Retamim**	**1.88**	**206**	Pn	**Pb**		**15 36 11.9**	**-1.2**
PRNI	**Paran**	**2.46**	**193**	Pn	**Pn**		**15 36 19.2**	**+1.2**
KRMI	**Paran Flat**	**2.75**	**197**	Pn	**Pn**		**15 36 23.6**	**+1.7**

DJA ***25*** *15:35:18, 3.°28S×131.°60E, h380km, MLv3.4/7*

IDC 25 15:35:40.9±1.7, 3.°86S×128.°95E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/16, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=138.3km s-min=25.3km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**16.83**	**162**			Pn	Pn	15 39 38.5	+0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=3.2								
WRA						Sn	Sn	15 42 32.2	-14
	0.1nm,0.3s,baz=355,slow=23,SNR=3.1								
ASAR	**Alice Springs**	**20.27**	**167**	P		P	P	15 40 17.9	-0.2
	0.8nm,0.4s,baz=350,slow=10,SNR=30								
SONM	**Songino Array**	**55.15**	**342**	P		P	P	15 45 14.3	-0.9
	0.3nm,1.1s,baz=150,slow=9.9,SNR=3.6								
MKAR	**Makanchi Array**	**65.04**	**327**	P		P	P	15 46 23.6	+0.5
	0.2nm,0.8s,baz=115,slow=9.7,SNR=2.8								

IDC 25 15:58:23.2±2.1, 0.°14S×133.°08E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/16, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=119.4km s-min=23.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**19.71**	**176**	P		P	P	16 02 54.4	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=18								
ASAR	**Alice Springs**	**23.40**	**178**	P		P	P	16 03 34.0	+0.2
	0.8nm,0.5s,baz=355,slow=12,SNR=28								
STKA	**Stephens Creek**	**32.57**	**166**	P		P	P	16 04 56.2	-0.2
	1.8nm,0.8s,baz=357,slow=6.9,SNR=3.0								
MKAR	**Makanchi Array**	**64.37**	**324**	P		P	P	16 09 01.0	0.0
	0.5nm,0.6s,baz=112,slow=7.6,SNR=13								

IDC 25 16:04:36.8±1.9, 16.°25S×174.°70W, h278km±19km, mb3.7/9, mb1 3.9/10, mb1mx3.6/20, mbtmp3.7/10, Error ellipse: s-maj=58.5km s-min=14.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AFI	**Afiamalu**	**3.66**	**51**	P		P	Pn	16 05 38.3	+0.1
	11nm,0.3s,baz=66,slow=4.7,SNR=17								
AFI				S		S	S	16 06 24.8	-2.5
	12nm,0.3s,baz=79,slow=22,SNR=13								
ARMA	**Armidale**	**33.83**	**239**	*eP*		P	P	16 10 53.0	-0.6
CTA	**Charters Tower**	**37.24**	**258**	P		P	P	16 11 23.0	+0.6
	2.8nm,0.4s,baz=53,slow=4.1,SNR=6.6								
CTA	**Charters Tower**	**37.24**	**258**	*eP*		P	P	16 11 22.8	+0.4
	1.8nm,0.4s								
CMSA	**Cobar Meteorol**	**39.05**	**240**	*eP*		P	P	16 11 36.7	-0.6
	33nm,0.5s								
STKA	**Stephens Creek**	**42.53**	**240**	P		P	P	16 12 05.8	+0.1
	5.4nm,0.5s,baz=90,slow=9.2,SNR=21								
STKA	**Stephens Creek**	**42.53**	**240**	*eP*		P	P	16 12 05.6	0.0
	4.1nm,0.6s								
WRA	**Warramunga Arr**	**48.43**	**258**	P		P	P	16 12 51.0	-0.9
	4.4nm,0.4s,baz=97,slow=6.5,SNR=191								
WRA				PcP		PcP	PcP	16 14 13.8	+0.3
	0.8nm,0.6s,baz=93,slow=3.6,SNR=3.6								
ASAR	**Alice Springs**	**48.66**	**253**	P		P	P	16 12 53.0	-0.5
	15nm,0.7s,baz=90,slow=7.2,SNR=359								
FITZ	**Fitzroy Crossi**	**56.81**	**259**	P		P	P	16 13 52.8	-0.2
	1.5nm,0.8s,baz=90,slow=2.0,SNR=3.9								
PETK	**Petropavlovsk-**	**73.06**	**343**	P		P	P	16 15 36.5	+0.1
	3.4nm,0.7s,baz=126,slow=9.5,SNR=5.5								
ILAR	**Eielson Array**	**83.52**	**12**	P		P	P	16 16 32.6	-0.6
	0.9nm,1.0s,baz=208,slow=6.1,SNR=11								
PDAR	**Pinedale Array**	**83.73**	**42**	P		P	P	16 16 35.1	0.0
	0.3nm,0.6s,baz=251,slow=2.8,SNR=3.4								
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P		P	P	16 17 14.4	+1.1
	0.7nm,0.7s,baz=106,slow=2.6,SNR=8.1								
MKAR	**Makanchi Array**	**110.52**	**314**	PKiKP		PKiKP	PKiKP	16 22 34.4	-1.8
	0.2nm,0.7s,baz=207,slow=1.3,SNR=2.7								
GERES	**GERESS Array B**	**146.77**	**350**	PKPbc		PKPbc	PKPbc	16 23 46.3	0.0
	0.6nm,0.7s,baz=350,slow=1.5,SNR=6.0								

IDC 25 16:12:35.9±2.8, 0.°16S×133.°02E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=140.3km s-min=27.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**19.71**	**176**	P		P	P	16 17 06.9	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=6.4								
ASAR	**Alice Springs**	**23.39**	**178**	P		P	P	16 17 46.6	+0.1
	0.3nm,0.4s,baz=356,slow=12,SNR=14								
MKAR	**Makanchi Array**	**64.35**	**324**	P		P	P	16 23 13.5	-0.1
	0.2nm,0.8s,baz=110,slow=7.0,SNR=5.5								

IDC 25 16:15:23.2±1.9, 6.°15S×150.°58E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/17, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=65.9km s-min=24.9km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**4.69**	**226**	Pn		Pn	Pn	16 16 37.5	+2.2
	3.0nm,0.3s,baz=58,slow=2.6,SNR=16								
PMG				Sn		Sn	Sn	16 17 27.5	-2.9
	5.8nm,0.3s,baz=124,slow=18,SNR=9.5								
WRA	**Warramunga Arr**	**20.91**	**228**	P		P	P	16 20 07.6	+0.2
	2.4nm,0.5s,baz=53,slow=11,SNR=39								
ASAR	**Alice Springs**	**23.68**	**221**	P		P	P	16 20 36.3	-0.5
	1.1nm,0.5s,baz=55,slow=9.2,SNR=16								
STKA	**Stephens Creek**	**26.94**	**197**	P		P	P	16 21 05.7	-0.7
	2.0nm,0.9s,baz=12,slow=9.3,SNR=4.1								
FITZ	**Fitzroy Crossi**	**27.08**	**242**	P		P	P	16 21 07.4	-0.4
	0.9nm,0.3s,baz=51,slow=12,SNR=3.6								
MKAR	**Makanchi Array**	**79.90**	**320**	P		P	P	16 27 33.5	-0.6
	0.3nm,0.9s,baz=117,slow=5.0,SNR=3.4								
GERES	**GERESS Array B**	**124.01**	**327**	PKP		PKPdf	PKPdf	16 34 24.1	+0.3
	0.3nm,0.5s,baz=112,slow=2.6,SNR=3.2								
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc		PKPbc	PKPbc	16 35 13.2	0.0
	1.2nm,0.6s,baz=52,slow=2.8,SNR=13								

JMA ***25*** *16:43:36.6±0.2, 24.°54N×122.°00E, h74km, M3.2*
TAP ***25*** *16:43:36.9, 24.°33N×121.°97E, h61km, ML3.9, B*
ISCJB ***25*** *16:43:37.1±0.3, 24.°34N±0.°02×122.°02E±0.°02, h60km±4km, Error ellipse: s-maj=4.0km s-min=2.4km az=150.2*

ISC 25 16:43:38.0±1.2, 24.°33N±0.°03×122.°01E±0.°02, h54km±7km, n71, σ0.88/119, 11C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
EHP	**Heping Village**	**0.24**	**265**	*eP*		**Pn**		**16 43 49.0**	**+1.9**
	baz=262								
EHP				*eS*		**Sn**		16 43 54.4	+0.7
	baz=262								
ENA	**Nanau**	**0.26**	**292**	*i* P		**Pn**		16 43 47.0	-0.2
	baz=300								
ENA				*eS*		**Sn**		16 43 54.0	+0.2
	baz=300								
TWD	**Chiawan**	**0.45**	**236**	⇑P		**Pn**		16 43 48.2	-0.8
	baz=226								
TWD				*eS*		**Sn**		16 43 56.9	0.0
	baz=226								
ILA	**Ilan**	**0.49**	**332**	*eP*		**Pn**		16 43 49.5	+0.1
	baz=339								
ILA				*eS*		**Sn**		16 43 58.8	+1.1
	baz=339								
TWE	**Neicheng**	**0.49**	**322**	⇓*i* P		**Pn**		16 43 49.4	0.0
	baz=326								
TWE				*eS*		**Sn**		16 43 58.0	+0.3
	baz=326								
ENTT	**Nioudou**	**0.50**	**308**	*eP*		**Pn**		16 43 49.2	-0.4
	baz=304								
ENTT				*eS*		**Sn**		16 43 58.1	+0.1
	baz=304								
HWA	**Hwalien**	**0.51**	**226**	*eP*		**Pn**		16 43 49.2	-0.5
	baz=222								
HWA				*eS*		**Sn**		16 43 57.2	-0.8
	baz=222								
NNS	**Nan Shan**	**0.59**	**281**	⇑*i* P		**Pn**		16 43 50.0	-0.7
	baz=281								
NNS				*eS*		**Sn**		16 43 59.1	-0.8
	baz=281								
ESF	**Shoufeng Towns**	**0.65**	**225**	*eP*		**Pn**		16 43 49.8	-1.5
	baz=234								
ESF				*eS*		**Sn**		16 44 00.6	-0.3
	baz=234								
TWB1	**Santiao Chiao**	**0.67**	**359**	⇓*i* P		**Pn**		16 43 51.2	-0.5
	baz=12								
NSK	**Sanguang**	**0.68**	**300**	⇑*i* P		**Pn**		16 43 51.2	-0.5
	baz=294								
NSK				S		**Sn**		16 44 01.0	-0.8
	baz=294								
WHF	**Hehuan Shan**	**0.70**	**255**	⇑*i* P		**Pn**		16 43 51.7	-0.6
	baz=253								
WHF				*eS*		**Sn**		16 44 02.2	-0.5
	baz=253								
ESL	**Shilin**	**0.73**	**226**	⇑*i* P		**Pn**		16 43 51.1	-1.3
	baz=231								
TWA	**Mucha**	**0.75**	**329**	⇓*i* P		**Pn**		16 43 52.5	-0.1
	baz=332								
TWA				*eS*		**Sn**		16 44 03.5	+0.3
	baz=332								
TWT	**Tachien**	**0.76**	**264**	⇑*i* P		**Pn**		16 43 52.9	0.0
	baz=257								
TWT				*eS*		**Sn**		16 44 03.9	+0.2
	baz=257								
NWF	**Wu-fen Shan**	**0.76**	**345**	⇓*i* P		**Pn**		16 43 52.7	-0.2
	baz=347								
NWF				*eS*		**Sn**		16 44 03.4	-0.3
	baz=347								
TAP1	**Taipei**	**0.83**	**328**	*eP*		**Pn**		16 43 53.1	-0.5
	baz=319								
TAP1				*eS*		**Sn**		16 44 04.7	-0.3
	baz=319								
YOJ	**Yonaguni jima**	**0.93**	**82**	⇓*i* P		**Pn**		16 43 54.6	-0.2
	baz=82								
YOJ				*eS*		**Sn**		16 44 07.2	-0.1
	baz=82								
YOJ	**Yonaguni jima**	**0.93**	**82**	P		**Pn**		16 43 54.6	-0.2
YOJ				S		**Sn**		16 44 07.9	+0.6
TWS1	**Kuangyinshan**	**0.93**	**325**	*i* P		**Pn**		16 43 54.7	-0.3
	baz=317								
TWS1				*eS*		**Sn**		16 44 07.6	+0.1
	baz=317								
NSTT	**Nanjuang**	**0.96**	**288**	⇑P		**Pn**		16 43 55.0	-0.3
	baz=288								
NSTT				*eS*		**Sn**		16 44 08.0	-0.2
	baz=288								
NCU	**National Centr**	**0.98**	**311**	*eP*		**Pn**		16 43 55.0	-0.6
	baz=312								
NCU				*eS*		**Sn**		16 44 08.2	-0.3
	baz=312								
TWY	**Chenhua**	**1.01**	**339**	*eP*		**Pn**		16 43 55.8	-0.2
	baz=340								
TWY				*eS*		**Sn**		16 44 09.0	-0.3
	baz=340								
EHY	**Hungye**	**1.03**	**217**	*eP*		**Pn**		16 43 54.5	-1.8
	baz=223								
HSN	**Hsinchu**	**1.05**	**297**	*eP*		**Pn**		16 43 55.6	-0.9
	baz=299								
HSN				*eS*		**Sn**		16 44 09.7	-0.6
	baz=299								
SMLT	**Sun Moon Lake**	**1.10**	**246**	P		**Pn**		16 43 57.0	-0.4
	baz=239								
SMLT				*eS*		**Sn**		16 44 13.2	+1.5
	baz=239								
TWQ1	**Liyutan**	**1.12**	**271**	⇑P		**Pn**		16 43 57.3	-0.2
	baz=270								
TWQ1				*eS*		**Sn**		16 44 13.4	+1.4
	baz=270								
TYC	**Yuchr**	**1.13**	**248**	⇑P		**Pn**		16 43 57.4	-0.2
	baz=241								
TYC				*eS*		**Sn**		16 44 12.7	+0.6
	baz=241								
NSY	**Sanyi**	**1.14**	**275**	*eP*		**Pn**		16 43 57.5	-0.2
	baz=273								
TWF1	**Yuli**	**1.17**	**214**	*eP*		**Pn**		16 43 56.4	-1.8
	baz=220								
TCU	**Taichung**	**1.23**	**262**	*eP*		**Pn**		16 43 58.5	-0.4
	baz=260								
YUS	**Yu-Shan**	**1.28**	**229**	P		**Pn**		16 43 59.5	-0.5
	baz=221								
YUS				S		**Sn**		16 44 15.4	-0.9
	baz=221								
WNT	**Mingjian**	**1.29**	**250**	*eP*		**Pn**		16 44 00.1	+0.4
	baz=248								
WNT				*eS*		**Sn**		16 44 17.7	+1.7
	baz=248								
CHKT	**Chengkung**	**1.36**	**206**	*eP*		**Pn**		16 43 58.9	-1.8
	baz=195								
ALS	**Alishan**	**1.37**	**234**	⇑P		**Pn**		16 44 01.1	0.0
	baz=224								
ALS				*eS*		**Sn**		16 44 17.9	-0.4
	baz=224								
CHN5	**Tsauling**	**1.42**	**239**	⇑*i* P		**Pn**		16 44 01.8	+0.2
	baz=229								
CHN5				*eS*		**Sn**		16 44 20.6	+1.4
	baz=229								
ELDTW	**Lidau**	**1.45**	**219**	*eP*		**Pn**		16 44 00.5	-1.5
	baz=211								
WGK	**Gukeng**	**1.47**	**244**	*eP*		**Pn**		16 44 02.5	+0.4
	baz=243								
WGK				*eS*		**Sn**		16 44 22.4	+2.1
	baz=243								
IRIF	**Iriomote-Funau**	**1.57**	**90**	P		**Pn**		16 44 03.0	-0.6
IRIF				S		**Sn**		16 44 23.6	+0.8
CHN2	**Minshiung**	**1.61**	**241**	*eP*		**Pn**		16 44 04.7	+0.7
	baz=230								
CHN2				*eS*		**Sn**		16 44 25.9	+2.2
	baz=230								
CHN4	**Tsaushan**	**1.62**	**233**	*eP*		**Pn**		16 44 04.8	+0.5
	baz=232								
CHN4				*eS*		**Sn**		16 44 25.7	+1.7
	baz=232								
STYT	**Tauyuan**	**1.63**	**225**	*eP*		**Pn**		16 44 04.5	+0.1
	baz=223								
STYT				*eS*		**Sn**		16 44 24.3	0.0
	baz=223								
WTCT	**Ta-ch'eng**	**1.64**	**254**	*eP*		**Pn**		16 44 03.8	-0.7
	baz=253								
WTCT				*eS*		**Sn**		16 44 24.3	-0.2
	baz=253								
HATJ	**Hateruma jima**	**1.67**	**99**	P		**Pn**		16 44 05.1	+0.3
HATJ				*eS*		**Sn**		16 44 26.4	+1.3
CHY	**Chiayi**	**1.67**	**240**	*eP*		**Pn**		16 44 04.6	-0.3
	baz=251								
WTP	**Ta-pu**	**1.67**	**230**	*eP*		**Pn**		16 44 05.2	+0.2
	baz=228								
WTP				*eS*		**Sn**		16 44 26.2	+0.9
	baz=228								
TWG	**Pinlang**	**1.73**	**210**	*eP*		**Pn**		16 44 03.8	-1.9
	baz=201								
TWK	**Hsinying**	**1.75**	**233**	*eP*		**Pn**		16 44 06.4	+0.4
	baz=231								
TWK				*eS*		**Sn**		16 44 27.6	+0.5
	baz=231								
CHN1	**Nanshi**	**1.77**	**230**	*eP*		**Pn**		16 44 06.2	0.0
	baz=229								
CHN1				*eS*		**Sn**		16 44 29.1	+1.4
	baz=229								
WSF	**Szhu**	**1.77**	**247**	⇓P		**Pn**		16 44 06.0	-0.2
	baz=256								
WSF				*eS*		**Sn**		16 44 27.8	+0.2
	baz=256								
SGST	**Jiashian**	**1.80**	**227**	*eP*		**Pn**		16 44 07.2	+0.5
	baz=225								
SGST				*eS*		**Sn**		16 44 29.4	+1.0
	baz=225								
JKRS	**Kuro-shima**	**1.83**	**93**	P		**Pn**		16 44 07.1	0.0
JKRS				*eS*		**Sn**		16 44 29.3	+0.2
CHN8	**Yiju**	**1.91**	**240**	*eP*		**Pn**		16 44 08.2	0.0
	baz=228								
CHN8				*eS*		**Sn**		16 44 32.6	+1.5
	baz=228								
JIJ	**Ishigaki jima**	**1.95**	**89**	P		**Pn**		16 44 08.1	-0.6
JIJ				*eS*		**Sn**		16 44 32.0	0.0
ECL	**Taimali**	**1.98**	**209**	*eP*		**Pn**		16 44 07.5	-1.6
	baz=202								
SCLT	**Jiali**	**2.02**	**236**	*eP*		**Pn**		16 44 09.6	-0.1
	baz=224								
SCLT				*eS*		**Sn**		16 44 35.4	+1.7
	baz=224								
SSD	**Sandimen**	**2.02**	**219**	*eP*		**Pn**		16 44 10.3	+0.6
	baz=228								
SSD				*eS*		**Sn**		16 44 34.2	+0.5
	baz=228								
TAI1	**Yung-k'ang**	**2.08**	**232**	*eP*		**Pn**		16 44 11.0	+0.6
	baz=230								
TWM1	**Shoushan**	**2.09**	**224**	*eP*		**Pn**		16 44 12.0	+1.4
	baz=222								
LAY	**Lan-yu**	**2.32**	**190**	*eP*		**Pn**		16 44 12.2	-1.6
	baz=182								
SCZT	**Fangliau**	**2.33**	**213**	*eP*		**Pn**		16 44 14.8	+0.9
	baz=211								
SCZT				*eS*		**Sn**		16 44 42.1	+0.8
	baz=211								
PNG	**Penghu**	**2.37**	**252**	*eP*		**Pn**		16 44 12.5	-1.9
	baz=249								
JTJ	**Tarama**	**2.48**	**82**	P		**Pn**		16 44 16.1	+0.2
JTJ				*eS*		**Sn**		16 44 44.4	-0.5
TWK1	**Hengchun**	**2.62**	**205**	*eP*		**Pn**		16 44 16.4	-1.5
	baz=215								
JOGS	**Gusukube**	**3.13**	**81**	P		**Pn**		16 44 25.4	+0.6
KNM	**Kinmen**	**3.26**	**272**	*eP*		**Pn**		16 44 26.4	-0.2
	baz=270								
JKE	**Kume jima 2**	**4.76**	**64**	P		**Pn**		16 44 47.4	+0.2
JJT2	**Tamagusuku 2**	**5.50**	**70**	P		**Pn**		16 44 57.6	+0.2
JIH	**Iheya**	**6.01**	**62**	P		**Pn**		16 45 04.0	-0.4
JOW	**Kunigami**	**6.18**	**65**	*eP*		**Pn**		16 45 05.5	-1.3
	baz=65								
JOW	**Kunigami**	**6.18**	**65**	P		**Pn**		16 45 05.4	-1.3

NIED ***25*** *17:07:00, 34.°60N×141.°90E, h11km, Mw3.9 Best double couple: M0 9.15000×10^14 NP1:φ=325.00000°, δ=69.00000°, λ=45.00000°. NP2:φ=215.00000°, δ=48.00000°, λ=151.00000°.*
IDC ***25*** *17:07:51.3±0.7, 34.°61N×141.°78E, h0km, mb4.1/21, mb1 4.2/25, mb1mx4.2/34, mbtmp4.1/25, ML3.8/4, MS2.8/3, Ms1 2.8/3, ms1mx2.7/28, Error ellipse: s-maj=19.0km s-min=13.7km az=170.0*
JMA ***25*** *17:07:52.6±0.3, 34.°63N×141.°91E, h42km±3km, M4.0*
ISCJB ***25*** *17:07:54.4±0.9, 34.°59N±0.°05×141.°73E±0.°06, h36km±6km, mb4.3/31, Error ellipse: s-maj=8.6km s-min=7.4km az=150.0*
NEIC ***25*** *17:07:56.5±0.9, 34.°55N×141.°68E, h39km±8km, mb4.8/10, MW3.9(NIED), Error ellipse: s-maj=8.5km s-min=7.4km az=179.0*

ISC 25 17:07:54.6±0.7, 34.°64N±0.°06×141.°76E±0.°07, h21km±7km, n94, σ0.96/98, mb4.2/31, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BSO1	**Boso 1**	**0.64**	**271**	⇑P		**Pb**		**17 08 06.9**	**+0.1**
BSO2	**Boso 2**	**0.83**	**278**	*eS*		**Sn**		**17 08 23.8**	**+1.6**
BSO3	**Boso 3**	**1.04**	**279**	P		**Pn**		**17 08 13.2**	**-0.4**
BSO4	**Boso 4**	**1.22**	**287**	P		**Pn**		**17 08 16.4**	**+0.2**
CHOJ	**Chosi**	**1.29**	**325**	P		**Pn**		**17 08 15.9**	**-1.4**
CHOJ				*eS*		**Sn**		**17 08 32.8**	**-1.1**
KTR	**Katsuura**	**1.29**	**293**	P		**Pn**		**17 08 17.2**	**-0.1**
KTR				S		**Sn**		**17 08 33.8**	**0.0**
JIM2	**Oshima 3**	**1.92**	**273**	P		**Pn**		**17 08 24.7**	**-1.3**
JMY	**Miyakejima3**	**1.94**	**254**	P		**Pn**		**17 08 26.3**	**0.0**
JHJ2	**Mitsune**	**2.22**	**227**	P		**Pn**		**17 08 29.3**	**-0.8**
JOD2	**Odawara 2**	**2.28**	**287**	P		**Pn**		**17 08 29.7**	**-1.2**
JOD2				*eS*		**Sn**		**17 08 57.1**	**-1.2**
JIZS	**Izushimoda**	**2.37**	**273**	⇓P		**Pn**		**17 08 31.3**	**-0.9**
JIZS				*eS*		**Sn**		**17 08 59.4**	**-1.2**
JAG	**Ashikaga**	**2.58**	**314**	P		**Pn**		**17 08 34.7**	**-0.5**
JAG				*eS*		**Sn**		**17 09 04.3**	**-1.6**
MJAR	**Matsushiro Arr**	**3.46**	**304**	Pn		**Pn**		**17 08 46.7**	**-0.4**
	8.5nm,0.3s,baz=215,slow=8.3,SNR=112								
MJAR				Sn		**Sn**		**17 09 28.4**	**+1.0**
	9.4nm,0.3s,baz=128,slow=16,SNR=8.4								
MJAR	**Matsushiro Arr**	**3.46**	**304**	Pn		**Pn**		**17 08 46.7**	**-0.4**
MJAR				Sn		**Sn**		**17 09 28.4**	**+1.0**
MAJO	**Matsushiro**	**3.46**	**304**	*e*Pn		**Pn**		**17 08 47.1**	**-0.1**
MAT	**Matsushiro**	**3.46**	**304**	P		**Pn**		**17 08 47.1**	**-0.1**
MAT				S		**Sn**		**17 09 27.9**	**+0.4**
ERM	**Erimo**	**7.44**	**8**	*eP*		Pn		17 09 37.8	-4.0
CBIJ	**Chichi jima**	**7.53**	**177**	Pn		**Pn**		**17 09 42.2**	**-0.9**
	11nm,0

KURK	Kurchatov	47.65	310	P	P	17 16 29.3	+0.3
	4.2nm,0.6s,baz=82,slow=7.4,SNR=8.0							
KURK	Kurchatov	47.65	310	P	P	17 16 29.3	+0.3
GUN	Gumba	47.71	278	*eP*	P	17 16 29.7	-0.6
	17nm,0.8s							
GUN	Gumba	47.71	278	*eP*	P	17 16 29.7	-0.6
	17nm,0.8s							
PKI	Pulchoki	48.23	278	*eP*	P	17 16 32.7	-1.6
PKI	Pulchoki	48.23	278	*eP*	P	17 16 32.7	-1.6
KKN	Kakani	48.25	278	*eP*	P	17 16 33.4	-0.9
	11nm,0.7s							
KKN	Kakani	48.25	278	*eP*	P	17 16 33.4	-0.9
	11nm,0.7s							
DMN	Daman	48.46	278	*eP*	P	17 16 35.2	-0.8
DMN	Daman	48.46	278	*eP*	P	17 16 35.2	-0.8
GKN	Gorkha	48.69	279	*eP*	P	17 16 36.7	-0.9
	13nm,0.7s							
GKN	Gorkha	48.69	279	*eP*	P	17 16 36.7	-0.9
	13nm,0.7s							
KDAK	Kodiak Island	48.71	41	P	P	17 16 37.0	-0.1
	3.3nm,0.5s,baz=279,slow=10,SNR=9.6							
KDAK	Kodiak Island	48.71	41	P	P	17 16 37.0	-0.1
DANN	Dangsing	49.27	280	*eP*	P	17 16 41.7	-0.5
DANN	Dangsing	49.27	280	*eP*	P	17 16 41.7	-0.5
ILAR	Eielson Array	51.37	31	P	P	17 16 57.1	-0.2
	2.6nm,0.8s,baz=263,slow=6.1,SNR=33							
ILAR	Eielson Array	51.37	31	P	P	17 16 57.1	-0.2
AAK	Ala-Archa	51.90	300	P	P	17 17 02.0	+0.3
	0.4nm,0.4s,baz=148,slow=9.5,SNR=2.5							
AAK	Ala-Archa	51.90	300	P	P	17 17 02.0	+0.3
BVAR	Borovoye Array	52.40	314	P	P	17 17 04.9	-0.2
	0.6nm,0.5s,baz=91,slow=8.8,SNR=4.1							
BVAR	Borovoye Array	52.40	314	P	P	17 17 04.9	-0.2
WRA	Warramunga Arr	54.74	189	P	P	17 17 22.1	-0.5
	3.1nm,0.5s,baz=5.5,slow=7.4,SNR=4.6							
WRA	Warramunga Arr	54.74	189	P	P	17 17 22.1	-0.5
INK	Inuvik	56.39	26	P	P	17 17 34.4	+0.5
	3.1nm,0.7s,baz=273,slow=3.8,SNR=14							
INK	Inuvik	56.39	26	P	P	17 17 34.4	+0.5
ABKAR	Akbulak array	59.70	311	*eP*	P	17 17 57.1	-0.2
	0.7nm,0.4s							
AKTO	Aktyubinsk	60.49	313	P	P	17 18 05.0	+2.3
	0.9nm,0.6s,baz=90,slow=7.1,SNR=3.7							
AKTO	Aktyubinsk	60.49	313	P	P	17 18 05.0	+2.3
RES	Resolute Bay	64.84	14	P	P	17 18 31.4	+0.1
	3.0nm,0.6s,baz=320,slow=8.4,SNR=14							
RES	Resolute Bay	64.84	14	P	P	17 18 31.4	+0.1
YKA	Yellowknife Ar	65.74	30	P	P	17 18 37.1	-0.2
	0.8nm,0.7s,baz=297,slow=6.2,SNR=12							
YKA	Yellowknife Ar	65.74	30	P	P	17 18 37.1	-0.2
FINES	FINESS Array B	71.06	333	P	P	17 19 11.3	+0.7
	4.1nm,1.1s,baz=93,slow=5.6,SNR=2.8							
FINES	FINESS Array B	71.06	333	P	P	17 19 11.3	+0.7
NVAR	Mina Array Bea	76.20	53	P	P	17 19 42.7	+1.1
	1.5nm,0.7s,baz=293,slow=5.8,SNR=10							
NVAR	Mina Array Bea	76.20	53	P	P	17 19 42.7	+1.1
AKASG	Malin Array Be	76.36	323	P	P	17 19 42.9	+1.0
	0.6nm,0.4s,baz=47,slow=5.6,SNR=4.7							
AKASG	Malin Array Be	76.36	323	P	P	17 19 42.9	+1.0
NOA	NORSAR Array B	76.50	338	P	P	17 19 42.3	-0.3
	0.5nm,0.7s,baz=44,slow=5.3,SNR=3.1							
NOA	NORSAR Array B	76.50	338	P	P	17 19 42.3	-0.3
FRB	Frobisher Bay	79.03	13	P	P	17 19 56.4	-0.2
	3.1nm,0.5s,baz=7.7,slow=9.4,SNR=8.3							
FRB	Frobisher Bay	79.03	13	P	P	17 19 56.4	-0.2
PDAR	Pinedale Array	79.14	45	P	P	17 19 58.2	+0.3
	0.5nm,0.8s,baz=305,slow=3.2,SNR=3.2							
PDAR	Pinedale Array	79.14	45	P	P	17 19 58.2	+0.3
TXAR	Lajitas Array	91.35	53	P	P	17 20 59.7	+0.6
	0.6nm,0.7s,baz=302,slow=3.2,SNR=9.4							
TXAR	Lajitas Array	91.35	53	P	P	17 20 59.7	+0.6
LPAZ	La Paz	147.59	63	PKPbc	PKPbc	17 27 38.8	+0.2
	1.5nm,0.5s,baz=338,slow=3.4,SNR=8.6							
LPAZ	La Paz	147.59	63	*e*PKPbc	PKPbc	17 27 38.3	-0.2

*IDC **25** 17:09:27.6±0.7, 3°.21S×131°.02E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.1/16, mbtmp4.0/12, ML3.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/22, Error ellipse: s-maj=28.2km s-min=14.6km az=71.0*

*BJI **25** 17:09:29.9, 2°.79S×130°.88E, h11km, mb4.3/7*

*ISCJB **25** 17:09:30.5±0.3, 3°.27S±0°.04×130°.88E±0°.04, h33km, mb4.5/34, MS3.5/5, Error ellipse: s-maj=6.9km s-min=5.2km az=136.1*

*DJA **25** 17:09:32, 3°.17S×130°.98E, h89km, mb4.7/9*

*NEIC **25** 17:09:33.0±1.6, 3°.29S×130°.88E, h40km±15km, mb4.7/18, Error ellipse: s-maj=12.2km s-min=7.3km az=222.0*

ISC 25 17:09:32.4±0.4, 3°.21S±0°.05×130°.95E±0°.05, h35km, n99, σ1s20/90, mb4.6/34, MS3.5/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.33	78	P		Pn	17 09 55.0	+0.5
BNDI	Bandanaira	1.67	219	P		Pn	17 10 00.2	+1.0
MSAI	Masohi	2.02	266	P		Pn	17 10 05.3	+1.2
SWI	Sorong	2.35	8	P		Pn	17 10 07.5	-1.1
AAI	Ambon	2.79	260	P		Pn	17 10 14.3	-0.3
TLE	Tual	3.00	144	P		Pn	17 10 24.8	+7.3
LBMI	Labuha	4.29	306	P		Pn	17 10 34.7	-0.6
TNTI	Ternate	5.33	318	P		Pn	17 10 59.6	+10
BAKI	Biak	5.53	69	P		Pn	17 10 54.5	+2.2
	312nm,0.9s,4μm1.1nm							
KMSI	Cibinong	7.91	298	P		Pn	17 11 24.7	-0.4
	125nm,0.7s,0.5nm							
MRSI	Marisa	9.72	292	P		Pn	17 11 47.3	-2.6
	23nm,0.5s							
KAPI	Kappang	11.31	261	Pn		Pn	17 12 12.2	+0.5
	0.4nm,0.3s,baz=71,slow=5.5,SNR=5.1							
KAPI	Kappang	11.31	261	*eP*		Pn	17 12 11.8	+0.1
	12nm,0.6s							
DAV	Davao City (W)	11.53	332	P		Pn	17 12 10.9	-3.7
	336nm,0.4s							
DAV	Davao City (W)	11.53	332	P		Pn	17 12 14.1	-0.6
	346nm,0.5s,5μm							
MTNI	Mataram	15.65	249	P		Pn	17 13 11.1	+0.6
	42nm,0.7s,6μm86μm							
FITZ	Fitzroy Crossi	15.69	199	Pn		Pn	17 13 06.2	-4.7
	1.3nm,0.3s,baz=39,slow=10,SNR=14							
FITZ				Sn		Sn	17 15 50.1	-14
	0.3nm,0.3s,baz=270,slow=20,SNR=3.1							
FITZ	Fitzroy Crossi	15.69	199	*eP*		Pn	17 13 06.3	-4.7
	7.4nm,0.5s							
FITZ	Fitzroy Crossi	15.69	199	*eP*		Pn	17 13 06.2	-4.7
	4.7nm,0.6s							
FITZ				Sn		Sn	17 15 50.1	-14
BBKI	Banjar Baru	16.08	269	P		P	17 13 20.9	+1.8
COEN	Coen	16.12	132	*eP*		Pn	17 13 14.6	-1.9
	29nm,0.6s							
COEN				*eS*		Sn	17 16 00.5	-14
COEN	Coen	16.12	132	*eP*		Pn	17 13 14.8	-1.7
	29nm,0.5s							
WRAB	Tennant Creek	16.95	169	*eP*		Pn	17 13 20.0	-7.0
	7.6nm,0.4s							
WRA	Warramunga Arr	16.96	169	Pn		Pn	17 13 20.1	-7.0
	0.7nm,0.3s,baz=352,slow=13,SNR=40							
WRA				Sn		Sn	17 16 20.8	-14
	0.7nm,0.3s,baz=233,slow=7.5,SNR=5.5							
WRA	Warramunga Arr	16.96	169	Pn		Pn	17 13 20.1	-7.0
WRA				Sn		Sn	17 16 20.8	-14
WB2	Warramunga Arr	16.96	169	*e*Pn		Pn	17 13 19.9	-7.3
PMG	Port Moresby	17.24	112	P		P	17 13 32.4	+0.5
	0.3nm,0.3s,baz=350,slow=11,SNR=5.3							
PMG	Port Moresby	17.24	112	*eP*		P	17 13 32.7	+0.8
QIS	Mount Isa	19.20	155	*eP*		Pn	17 13 53.9	-0.7
AS31	Alice Springs	20.54	172	*eP*		P	17 14 08.1	+0.1
ASAR	Alice Springs	20.54	172	P		P	17 14 07.8	-0.2
	47nm,0.5s,baz=351,slow=10,SNR=1642							
ASAR				S		S	17 17 48.1	-8.0
	1.8nm,0.6s,baz=358,slow=27,SNR=5.0							
ASAR	Alice Springs	20.54	172	P		P	17 14 07.8	-0.2
ASAR				S		S	17 17 48.1	-8.0
MBWA	Marble Bar	20.92	211	*eP*		P	17 14 08.4	-3.8
	7.2nm,0.5s							
KSM	Kuching	21.15	282	*eP*		P	17 14 15.1	+0.4
	22nm,0.7s							
KSM	Kuching	21.15	282	P		P	17 14 15.9	+1.2
	38nm,0.7s							
GUMO	Guam	21.66	39	LR		LR	17 22 08.7	
	comp=Z,78nm,18.1s,baz=16,slow=35							
CTA	Charters Tower	22.46	140	P		P	17 14 29.2	+0.5
	2.2nm,0.6s,baz=333,slow=14,SNR=3.5							
CTA	Charters Tower	22.46	140	P		P	17 14 29.2	+0.5
JOW	Kunigami	29.98	355	LR		LR	17 25 26.7	
	comp=Z,110nm,21.5s,baz=63,slow=32							
STKA	Stephens Creek	30.23	162	P		P	17 15 40.0	+0.1
	2.3nm,0.4s,baz=344,slow=6.4,SNR=21							
STKA	Stephens Creek	30.23	162	*eP*		P	17 15 40.0	+0.1
	5.1nm,1.0s							
STKA	Stephens Creek	30.23	162	*eP*		P	17 15 40.0	+0.1
PDSI	Padang	30.55	274	P		P	17 15 43.0	0.0
	27nm,0.9s							
PPI	Padang Panjang	30.66	274	P		P	17 15 44.1	+0.2
	20nm,0.8s							
KLBR	Kellerberrin	30.85	202	*eP*		P	17 15 43.4	-2.0
	10nm,0.5s							
CMSA	Cobar Meteorol	31.42	155	*eP*		P	17 15 50.9	+0.5
	16nm,0.8s							
MNSI	Mandailing Nat	31.61	277	P		P	17 15 54.2	+1.9
	11nm,0.7s							
YNG	Young	34.94	154	*eP*		P	17 16 22.2	+1.0
	5.2nm,0.7s							
CAN	Canberra	36.07	155	*eP*		P	17 16 32.1	+1.2
	4.0nm,0.6s							
CMAR	Chiang Mai Arr	38.17	306	P		P	17 16 49.4	+0.5
	0.9nm,0.9s,baz=136,slow=7.1,SNR=7.8							
CMAR	Chiang Mai Arr	38.17	306	P		P	17 16 49.4	+0.5
MJAR	Matsushiro Arr	40.12	9	P		P	17 17 03.2	-1.7
	1.4nm,0.6s,baz=182,slow=11,SNR=6.2							
MJAR				LR		LR	17 32 15.2	
	comp=Z,73nm,19.6s,baz=160,slow=34							
MJAR	Matsushiro Arr	40.12	9	P		P	17 17 03.2	-1.7
KSAR	Wonju Array Be	40.54	356	P		P	17 17 09.1	+0.7
KSRS	Korea Array	40.55	356	P		P	17 17 09.1	+0.7
	1.0nm,0.7s,baz=180,slow=10,SNR=4.1							
KSRS				LR		LR	17 33 28.1	
	comp=Z,53nm,18.1s,baz=170,slow=36							
LZH	Lanzhou	46.58	329	*eP*		P	17 18 10.0	+13
LZH				pP		pP	17 18 15.3	+7.6
LZH				sP		sP	17 18 17.8	+6.0
LZH				pmax		pmax		
	comp=Z,17nm,1.3s							
USRK	Ussuriysk Arra	47.20	1	P		P	17 18 02.5	+0.7
	comp=Z,2.1nm,0.6s,baz=193,slow=7.2,SNR=4.7							
GTA	Gaotai	51.18	329	P		P	17 18 34.8	+2.4
GTA				pP		pP	17 18 40.5	-2.4
GTA				sP		sP	17 18 43.0	-4.1
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
TAPN	Taplejung	51.57	309	*eP*		P	17 18 35.5	-0.3
	comp=Z,6.3nm,0.4s							
TAPN	Taplejung	51.57	309	*eP*		P	17 18 35.5	-0.3
	comp=Z,6.3nm,0.4s							
ODAN	Odare	51.58	308	*eP*		P	17 18 35.7	-0.1
	comp=Z,15nm,0.7s							
ODAN	Odare	51.58	308	*eP*		P	17 18 35.7	-0.1
	comp=Z,15nm,0.7s							
RAMN	Ramite	52.25	308	*eP*		P	17 18 40.9	+0.1
	comp=Z,26nm,0.6s							
RAMN	Ramite	52.25	308	*eP*		P	17 18 40.9	+0.1
	comp=Z,26nm,0.6s							
JIRN	Jiri	52.90	308	*eP*		P	17 18 45.3	-0.5
	comp=Z,9.7nm,0.6s							
JIRN	Jiri	52.90	308	*eP*		P	17 18 45.3	-0.5
	comp=Z,9.7nm,0.6s							
GUN	Gumba	53.26	309	*eP*		P	17 18 48.2	-0.2
	comp=Z,15nm,0.6s							
GUN	Gumba	53.26	309	*eP*		P	17 18 48.2	-0.2
	comp=Z,15nm,0.6s							
KKN	Kakani	53.67	308	*eP*		P	17 18 50.7	-0.6
KKN	Kakani	53.67	308	*eP*		P	17 18 50.7	-0.6
DMN	Daman	53.73	308	*eP*		P	17 18 51.5	-0.2
	comp=Z,11nm,0.7s							
DMN	Daman	53.73	308	*eP*		P	17 18 51.5	-0.2
	comp=Z,11nm,0.7s							
GKN	Gorkha	54.28	308	*eP*		P	17 18 55.1	-0.5
GKN	Gorkha	54.28	308	*eP*		P	17 18 55.1	-0.5
KOLN	Koldanda	54.99	307	*eP*		P	17 19 00.8	-0.1
	comp=Z,15nm,0.7s							
KOLN	Koldanda	54.99	307	*eP*		P	17 19 00.8	-0.1
	comp=Z,15nm,0.7s							
DANN	Dangsing	55.12	308	*eP*		P	17 19 01.7	-0.2
	comp=Z,22nm,0.8s							
DANN	Dangsing	55.12	308	*eP*		P	17 19 01.7	-0.2
	comp=Z,22nm,0.8s							
SONM	Songino Array	55.19	340	P		P	17 19 04.4	+2.5
	comp=Z,1.2nm,1.0s,baz=157,slow=8.0,SNR=5.7							
SONM	Songino Array	55.19	340	P		P	17 19 04.4	+2.5
PETK	Petropavlovsk-	60.45	18	P		P	17 19 39.7	+1.2
	comp=Z,4.8nm,0.8s,baz=205,slow=9.5,SNR=3.8							
PETK				LR		LR	17 43 55.5	
	comp=Z,49nm,19.3s,baz=71,slow=34							
PETK	Petropavlovsk-	60.45	18	P		P	17 19 39.7	+1.2
MK31	Makanchi Array	65.62	326	*eP*		P	17 20 13.4	+0.4
MKAR	Makanchi Array	65.62	326	P		P	17 20 13.6	+0.6
	comp=Z,2.4nm,0.6s,baz=117,slow=8.3,SNR=29							
MKAR	Makanchi Array	65.62	326	P		P	17 20 13.6	+0.6
TKM2	Tokmak 2	67.71	319	*eP*		P	17 20 27.3	+0.6
	comp=Z,1.9nm,0.6s							
ZALV	Zalesovo Beam	68.64	333	P		P	17 20 32.0	0.0
	comp=Z,0.6nm,0.4s,baz=126,slow=7.5,SNR=5.0							
ZALV	Zalesovo Beam	68.64	333	P		P	17 20 32.0	0.0
KURK	Kurchatov	69.82	328	*eP*		P	17 20 39.7	+0.4
	comp=Z,6.4nm,0.8s							
KKAR	Karaganda Array	71.16	318	*eP*		P	17 20 48.1	+0.4
	comp=Z,1.1nm,0.8s							
MAW	Mawson	78.80	201	*eP*		P	17 21 31.5	+0.1
	comp=Z,8.2nm,1.4s							
ABKAR	Akbulak array	80.16	321	*eP*		P	17 21 39.0	-0.1
	comp=Z,1.3nm,0.7s							
ILAR	Eielson Array	89.53	25	P		P	17 22 25.7	-0.3
	comp=Z,0.4nm,0.6s,baz=246,slow=5.2,SNR=12							
ILAR	Eielson Array	89.53	25	P		P	17 22 25.6	-0.3
PSZ	Piszkesteto	106.41	319	*eP*		Pdif	17 23 40.7	-2.0
	comp=Z,6.7nm,0.7s							
TORD	Torodi Ar. Bea	128.90	284	PKP		PKPdf	17 28 37.9	+0.4
	comp=Z,0.5nm,0.7s,baz=68,slow=1.7,SNR=3.3							
TORD	Torodi Ar. Bea	128.90	284	PKP		PKPdf	17 28 37.9	+0.4
LPAZ	La Paz	152.96	136	PKPbc		PKPbc	17 29 29.2	+1.3
	comp=Z,0.8nm,0.7s,baz=342,slow=3.2,SNR=4.4							
LPAZ				PKPab		PKPab	17 29 37.3	-1.8
	comp=Z,0.7nm,0.4s,baz=338,slow=3.0,SNR=5.0							
LPAZ	La Paz	152.96	136	PKPbc		PKPbc	17 29 29.2	+1.3
LPAZ				PKPab		PKPab	17 29 37.3	-1.8

*ISCJB **25** 17:16:43.7±0.7, 11°.30N±0°.04×62°.25W±0°.05, h129km±7km, Error ellipse: s-maj=9.1km s-min=4.6km az=40.3*

*TRN **25** 17:16:44.7, 11°.30N×61°.84W, h136km, MD3.6*

*FUNV **25** 17:16:45.4, 11°.18N×62°.04W, h121km, MW3.2*

ISC 25 17:16:42.2±1.5, 11°.24N±0°.04×62°.15W±0°.05, h147km±10km, n23, σ2s09/37, 5C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUIV	Guiria	0.60	187	*u*P		Pn	17 17 03.5	-0.3
GUIV				*e*S		Sn	17 17 17.0	-3.2
TRN	Trinidad (W)	0.94	129	*i*P		Pn	17 17 15.0	+8.8
TRN				*e*S		Sn	17 17 29.2	+4.7
GRW	Mount Saint Ca	1.03	27	*e*P		Pn	17 17 08.0	+1.9
GRW				*e*S		Sn	17 17 24.5	-1.6
GRHS	Sauteurs	1.09	27	*e*P		Pn	17 17 08.8	+1.3
GRHS				*e*S		Sn	17 17 25.2	-1.8
GRSS	Sisters	1.17	26	*e*P		Pn	17 17 09.4	+1.1
GRSS				*e*S		Sn	17 17 27.6	-0.6
GRIC	Isle de Caille	1.17	28	*e*P		Pn	17 17 09.9	+1.6
GRIC				*e*S		Sn	17 17 27.6	-0.7
CRUV	Carupano	1.21	242	*e*P		Pn	17 17 09.4	+0.8
CRUV				*e*S		Sn	17 17 27.5	-1.3
TBH	Brigand Hill	1.30	125	*i*P		Pn	17 17 18.5	+9.0
TBH				*e*S		Sn	17 17 34.3	+3.9
GUNV	Guanoco	1.33	216	*e*P		Pn	17 17 10.8	+1.0
GUNV				*e*S		Sn	17 17 28.6	-2.3
TPR	Prospect	1.34	92	*i*P		Pn	17 17 18.4	+8.4
TPR				*e*S		Sn	17 17 34.2	+3.1
TOSP	Speyside	1.58	88	*i*P		Pn	17 17 11.7	-0.7
TOSP				*e*S		Sn	17 17 31.9	-3.7
SVB	Belmont	2.20	23	*e*P		Pn	17 17 20.3	+0.7
SVB				*e*S		Sn	17 17 47.2	-1.1
ORIV	Oritupano	2.49	210	*e*P		Pn	17 17 25.1	+2.0
PCRV	Puerto La Cruz	2.67	247	*e*P		Pn	17 17 27.5	+2.2
PCRV				*e*S		Sn	17 17 57.6	-0.9
MCLT	Moule a Chique	2.72	26	*e*P		Pn	17 17 26.3	+0.3
MCLT				*e*S		Sn	17 17 57.6	-2.2
RIOV	Rio Grande	3.17	174	*e*P		Pn	17 17 32.3	+0.7
GURV	El Guri	3.58	195	*e*P		Pn	17 17 38.2	+1.2
GURV				*e*S		Sn	17 18 16.4	-3.0
CUPV	Cœpira	3.77	252	*e*P		Pn	17 17 41.4	+1.9
MERV	Las Mercedes	4.54	245	*e*P		Pn	17 17 50.6	+1.1
MERV				*e*S		Sn	17 18 40.7	-1.2
LUEV	Luepa	5.41	173	*e*P		Pn	17 18 00.5	-0.7
TURV	Turiamo	5.65	263	*e*P		Pn	17 18 06.4	+2.2
BAUV	El Baul	6.24	249	*e*P		Pn	17 18 13.1	+1.0
BAUV				*e*S		Sn	17 19 19.7	-2.7
MAPV	Macapo	6.36	258	*e*P		Pn	17 18 15.8	+2.0

*CSEM **25** 17:22:35.7±0.1, 44°.55N×19°.04E, h2km, ML3.0, Error ellipse: s-maj=3.1km s-min=2.5km az=70.0*

*PDG **25** 17:22:35.9±0.3, 44°.55N×18°.99E, h11km±1km, ML2.9/10, Error ellipse: s-maj=1.0km s-min=1.9km az=0.0*

*BEO **25** 17:22:36.3±0.3, 44°.51N×19°.00E, h7km±2km, ML3.0/1*

ISC 25 17:22:36.8±1.0, 44°.54N±0°.02×19°.06E±0°.02, h11km±8km, n89, σ1s05/149, 35C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TEKS	Tekeris	0.33	89	⇑*i*Pg		Pg	17 22 43.6	+0.1
TEKS				*e*Sg		Sg	17 22 48.9	+0.9
TEKS	Tekeris	0.33	89	⇑*i*Pg		Pg	17 22 43.6	+0.1
TEKS				*e*Sg		Sg	17 22 48.9	+0.9
DIVS	Divibare	0.80	123	⇑*i*Pg		Pg	17 22 51.6	-0.7
DIVS				*e*Sg		Sg	17 23 02.7	-0.1
DIVS	Divibare	0.80	123	⇑*i*Pg		Pg	17 22 51.6	-0.7
DIVS				*e*Sg		Sg	17 23 02.7	-0.1
FGSL	Fruska Gora	0.81	41	⇑*i*Pg		Pg	17 22 52.3	-0.2
FRGS	Fruska Gora	0.81	41	⇑*i*Pg		Pg	17 22 52.3	-0.2
FRGS				*e*Sg		Sb	17 23 04.8	+0.8
TRUS	Trudelj	1.01	108	⇓*i*Pg		Pg	17 22 54.8	-1.5
TRUS				*e*Sg		Sg	17 23 09.3	-0.3
TRUS	Trudelj	1.01	108	⇓*i*Pg		Pg	17 22 54.8	-1.5
TRUS				*e*Sg		Sg	17 23 09.3	-0.3
BEO	Beograd	1.04	75	*e*Pg		Pb	17 22 55.8	-1.0
BEO				*e*Sg		Sn	17 23 11.5	-0.4
PLE	Pljevlja	1.24	169	⇑*i*Pg		Pn	17 22 58.9	-1.2
PLE				*e*Sg		Sn	17 23 18.4	+1.5
PLE	Pljevlja	1.24	169	⇑*i*Pg		Pn	17 22 58.9	-1.2
PLE				*e*Sg		Sn	17 23 18.4	+1.5
IVAS	Ivanjica	1.25	140	⇑*i*Pg		Pn	17 22 59.2	-1.0
IVAS				*e*Sg		Sb	17 23 16.3	-0.1
IVAS	Ivanjica	1.25	140	⇑*i*Pg		Pn	17 22 59.2	-1.0
IVAS				*e*Sg		Sb	17 23 16.3	-0.1
UPM	Unac-Piva	1.34	185	⇑*i*Pg		Pn	17 23 01.0	-0.7
UPM				*e*Sg		Sg	17 23 21.3	+1.2
UPM	Unac-Piva	1.34	185	⇑*i*Pg		Pn	17 23 01.0	-0.7
UPM				*e*Sg		Sg	17 23 21.3	+1.2
BLY	Banja Luka	1.36	279	⇑*i*Pg		Pn	17 23 00.5	-1.2
BLY				*e*Sg		Sb	17 23 18.2	-1.4
BLY	Banja Luka	1.36	279	⇑*i*Pg		Pn	17 23 00.5	-1.2
BLY				*e*Sg		Sb	17 23 18.2	-1.4
GRUS	Gruza	1.36	118	⇑*e*Pg		Pn	17 23 00.8	-0.9
GRUS				*e*Sg		Sg	17 23 20.9	+0.4
GRUS	Gruza	1.36	118	⇑*e*Pg		Pn	17 23 00.8	-0.9
GRUS				*e*Sg		Sg	17 23 20.9	+0.4
RHK3	Tenkes	1.46	337	*e*Pn		Pn	17 23 02.9	-0.3
RHK3				*e*Sn		Sg	17 23 24.9	+1.0
RHK3	Tenkes	1.46	337	*e*Pn		Pn	17 23 02.9	-0.3
RHK3				*e*Sn		Sg	17 23 24.9	+1.0
SVIS	Svilajnac	1.57	99	*e*Pg		Pn	17 23 04.8	+0.2
SVIS				*e*Sg		Sg	17 23 27.6	+0.4
SVIS	Svilajnac	1.57	99	*e*Pg		Pn	17 23 04.8	+0.2
SVIS				*e*Sg		Sg	17 23 27.6	+0.4
BRY	Bratogost	1.68	193	⇑*i*Pn		Pn	17 23 06.3	0.0
BRY				*e*Sn		Sg	17 23 30.4	-0.6
BRY	Bratogost	1.68	193	⇑*i*Pn		Pn	17 23 06.3	0.0
BRY				*e*Sn		Sg	17 23 30.4	-0.6
PKSM	Moragy	1.69	350	⇑*i*P		Pn	17 23 06.0	-0.3
PKSM	Moragy	1.69	350	S		Sg	17 23 45.2	+0.2
PKSM	Moragy	1.69	350	*e*Pn		Pn	17 23 06.5	+0.2
PKSM				*e*Sg		Sg	17 23 31.3

VYHS				*e*Sn	**Sn**	17 24 25.9	**+2.1**		
KOLL	**Kolacno**	**4.06**	**354**	*e*PN	**Pn**	17 23 39.8	**+0.9**		
KOLL				*e*SN	**Sn**	17 24 25.4	**-1.0**		
KOLL	**Kolacno**	**4.06**	**354**	*e*Pn	**Pn**	17 23 39.8	**+0.9**		
KOLL				*e*Sn	**Sn**	17 24 25.4	**-1.0**		
SMOL	**Smolenice**	**4.13**	**345**	*e*PN	**Pb**	17 23 47.6	**-1.9**		
SMOL				*e*SN	**Sn**	17 24 28.7	**+0.6**		
SMOL	**Smolenice**	**4.13**	**345**	*e*Sn	**Sn**	17 24 28.7	**+0.6**		
VOIR		**4.34**	**76**⇑	*i*P	**Pn**	17 23 45.3	**+2.5**		
VOIR		**4.34**	**76**⇑	*i*P	**Pn**	17 23 45.3	**+2.5**		
MLR	**Muntele Rosu**	**4.97**	**77**⇑	*i*P	Pb	17 24 00.1	-3.8		
KHC	**Kasperske Hory**	**5.93**	**323**	*e*P	Pn	17 24 00.0	-4.6		
KHC				*ex*	x	17 24 32.0			
KHC				*ex*	x	17 25 24.5			

IDC 25 18:05:39.4±2.6,5°20S×131°46E,h0km,mb3.3/1, mb1 3.4/4,mb1mx3.3/14,mbtmp3.3/4,ML3.3/3,Error ellipse: s-maj=116.5km s-min=29.3km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.03**	**203**	Pn		Pn	18 09 00.8	**+1.2**
	0.2nm,0.3s,baz=25,slow=16,SNR=6.6							
FITZ				Sn		Sn	18 11 29.9	-6.3
	0.3nm,0.3s,baz=186,slow=13,SNR=6.3							
WRA	**Warramunga Arr**	**14.92**	**169**	Pn		Pn	18 09 10.0	-1.8
	0.1nm,0.3s,baz=351,slow=13,SNR=9.4							
WRA				Sn		Sn	18 11 47.7	-10
	0.4nm,0.3s,baz=354,slow=24,SNR=9.4							
ASAR	**Alice Springs**	**18.51**	**173**	P		P	18 09 57.5	0.0
	0.1nm,0.3s,baz=347,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**67.55**	**326**	P		P	18 16 37.7	0.0
	0.1nm,0.5s,baz=117,slow=7.1,SNR=4.9							

IDC 25 18:20:52.1±1.0,21°82S×170°41E,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.3/20,mbtmp4.3/12,ML3.8/1,MS3.6/5, Ms1 3.6/5,ms1mx3.3/20,Error ellipse: s-maj=24.9km s-min=20.9km az=71.0
NOU 25 18:20:52.8±1.1,20°65S×170°27E,h30km,MD3.3,ML3.1
ISCJB 25 18:20:54.5±4.1,21°8S±0°1×170°28E±0°06,h25km±29km, mb4.3/14,MS3.6/4,Error ellipse: s-maj=20.0km s-min=9.5km az=175.3
NEIC 25 18:20:54.2±0.7,21°84S×170°33E,h15km,mb4.5/4,Error ellipse: s-maj=16.5km s-min=14.3km az=58.0
SZGRF 25 18:21:02.5,21°005×168°18E,h33km,Loyalty Islands
ISC 25 18:20:55.1±4.8,21°8S±0°1×170°3E±0°1,h19km±21km,n75, σ0s88/74,mb4.3/14,MS3.6/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.20**	**263**	*e*S		**Sn**	**18 22 21.0**	**-0.9**
PLUM	**Mont Dore**	**3.43**	**262**	*e*S		**Sn**	**18 22 28.0**	**+0.2**
DZM	**Mont Dzumac**	**3.60**	**265**	*e*Pn		**Pn**	**18 21 49.7**	**-0.2**
	25nm,0.2s							
DZM				*e*Sn		Sn	18 22 23.9	-8.1
	18nm,0.2s							
DZM	**Mont Dzumac**	**3.60**	**265**	Pn		**Pn**	**18 21 50.8**	**+0.9**
	7.7nm,0.3s,baz=93,slow=16,SNR=157							
DZM				Sn		**Sn**	**18 22 32.3**	**+0.3**
	6.9nm,0.3s,baz=157,slow=21,SNR=6.5							
DZM	**Mont Dzumac**	**3.60**	**265**	*e*P		**Pn**	**18 21 49.1**	**-0.9**
DZM				*e*S		**Sn**	**18 22 30.9**	**-1.1**
DZM				AMP			18 22 42.4	
	comp=Z,422nm,0.9s							
DZM	**Mont Dzumac**	**3.60**	**265**	*e*Pn		**Pn**	**18 21 48.6**	**-1.4**
DZM				Pn		**Pn**	**18 21 50.8**	**+0.9**
DZM				*e*Sn		**Sn**	**18 22 31.3**	**-0.7**
NOUC	**Port Laguerre**	**3.73**	**265**	*e*P		**Pn**	**18 21 51.3**	**-0.4**
NOUC				*e*S		**Sn**	**18 22 34.7**	**-0.4**
NOUC				AMP			18 22 40.8	
	comp=Z,22nm,0.8s							
HNR	**Honiara**	**15.84**	**319**	LR		LR	18 29 31.3	
	comp=Z,164nm,19.4s,baz=134,slow=33							
RMQ	**Roma**	**20.20**	**252**	*e*P		Pn	18 25 32.3	+1.4
	comp=Z,66nm,1.4s							
RPZ	**Rata Peaks**	**21.85**	**179**	P		**P**	**18 25 46.4**	**-0.2**
	comp=Z,18nm,1.0s,baz=37,slow=16,SNR=4.0							
RPZ				LR		LR	18 32 37.7	
	comp=Z,163nm,21.6s,baz=245,slow=32							
RPZ	**Rata Peaks**	**21.85**	**179**	P		**P**	**18 25 46.4**	**-0.2**
CMSA	**Cobar Meteorol**	**23.99**	**241**	*e*P		**P**	**18 26 09.3**	**+0.7**
	comp=Z,84nm,0.6s							
QLP	**Quilpie**	**24.23**	**254**	*e*P		**P**	**18 26 12.2**	**+1.3**
PMG	**Port Moresby**	**25.43**	**295**	P		**P**	**18 26 22.5**	**+0.7**
	comp=Z,12nm,0.7s,baz=123,slow=8.0,SNR=8.5							
PMG	**Port Moresby**	**25.43**	**295**	*e*P		**P**	**18 26 17.8**	**-4.0**
PMG				P		**P**	**18 26 22.5**	**+0.7**
COEN	**Coen**	**26.95**	**282**	*e*P		**P**	**18 26 33.7**	**-1.9**
STKA	**Stephens Creek**	**27.44**	**243**	P		**P**	**18 26 41.8**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=74,slow=8.0,SNR=6.2							
STKA	**Stephens Creek**	**27.44**	**243**	P		**P**	**18 26 41.8**	**+1.9**
ASAR	**Alice Springs**	**33.57**	**260**	P		**P**	**18 27 34.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=82,slow=9.1,SNR=28							
ASAR	**Alice Springs**	**33.57**	**260**	P		**P**	**18 27 34.0**	**-0.1**
WRA	**Warramunga Arr**	**33.61**	**266**	P		**P**	**18 27 34.3**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=98,slow=8.3,SNR=52							
WRA				LR		LR	18 41 34.4	
	comp=Z,137nm,18.2s,baz=100,slow=37							
WRA	**Warramunga Arr**	**33.61**	**266**	P		**P**	**18 27 34.3**	**-0.3**
TBI	**Tubuai**	**37.10**	**100**	*e*LR		LR	18 38 24.3	
	comp=Z,80nm,27.0s							
PPT2	**Papeete2**	**37.93**	**91**	*e*LR		LR	18 38 47.5	
	comp=Z,79nm,28.0s							
FITZ	**Fitzroy Crossi**	**42.04**	**267**	P		**P**	**18 28 46.7**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=122,slow=8.3,SNR=15							
FITZ	**Fitzroy Crossi**	**42.04**	**267**	*e*P		**P**	**18 28 46.5**	**+0.7**
	comp=Z,17nm,0.8s							
FITZ	**Fitzroy Crossi**	**42.04**	**267**	P		**P**	**18 28 46.7**	**+0.9**
RKT	**Rikitea**	**50.33**	**102**	*e*LR		LR	18 44 35.9	
	comp=Z,717nm,37.2s							
MJAR	**Matsushiro Arr**	**65.48**	**332**	P		**P**	**18 31 37.3**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=180,slow=5.4,SNR=3.6							
MJAR	**Matsushiro Arr**	**65.48**	**332**	P		**P**	**18 31 37.3**	**+0.3**
QSPA	**South Pole Qui**	**68.25**	**180**	P		**P**	**18 31 54.9**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=23,slow=4.8,SNR=11							
QSPA	**South Pole Qui**	**68.25**	**180**	*e*P		**P**	**18 31 53.0**	**-1.5**
	comp=Z,7.6nm,1.1s							
QSPA				P		**P**	**18 31 54.9**	**+0.4**
KSRS	**Korea Array**	**71.19**	**325**	LR		LR	19 03 18.1	
	comp=Z,22nm,18.9s,baz=195,slow=36							
PETK	**Petropavlovsk-**	**75.41**	**352**	LR		LR	18 58 56.3	
	comp=Z,64nm,21.3s,baz=277,slow=30							
ENH	**Enshi**	**78.08**	**309**	*e*P		**P**	**18 32 52.4**	**-0.6**
	comp=Z,2.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**80.47**	**294**	P		**P**	**18 33 08.0**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=136,slow=4.1,SNR=20							
CMAR	**Chiang Mai Arr**	**80.47**	**294**	P		**P**	**18 33 08.0**	**+1.8**
CHTO	**Chiang Mai**	**80.63**	**295**	*e*P		**P**	**18 33 06.4**	**-0.7**
	comp=Z,3.3nm,0.9s							
SONM	**Songino Array**	**89.87**	**323**	P		**P**	**18 33 52.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=134,slow=6.4,SNR=7.3							
SONM	**Songino Array**	**89.87**	**323**	P		**P**	**18 33 52.5**	**-0.2**
ILAR	**Eielson Array**	**92.38**	**17**	P		**P**	**18 34 03.5**	**-0.4**
	comp=Z,0.6nm,1.1s,baz=225,slow=5.1,SNR=4.2							
ILAR	**Eielson Array**	**92.38**	**17**	P		**P**	**18 34 03.5**	**-0.4**
OKC	**Ostrava-Krasne**	**144.45**	**329**	*e*PKP		**PKPab**	**18 40 28.1**	**-0.1**
BSEG	**Bad Segeberg**	**144.51**	**340**	*e*PKPbc		PKPbc	18 40 28.9	+0.4
DPC	**Dobruska-Polom**	**144.95**	**331**	*e*PKP		**PKPdf**	**18 40 30.8**	**-0.1**
VYHS	**Vyhne**	**144.98**	**326**	*e*PKP		**PKPdf**	**18 40 30.8**	**-0.2**
UPC	**Upice**	**144.98**	**331**	*e*PKP		**PKPdf**	**18 40 30.8**	**-0.1**
KOLL	**Kolacno**	**145.15**	**327**	*e*PKP		**PKPdf**	**18 40 31.5**	**+0.3**
PVCC	**Panska Ves**	**145.60**	**332**	*e*PKP		**PKPab**	**18 40 33.0**	**+0.6**
BRG	**Berggiesshubel**	**145.61**	**333**	*i*P		**PKPab**	**18 40 32.5**	**+0.1**
	comp=Z,17nm,1.3s							
BRG				*e*			18 40 38.3	
	comp=Z,30nm,1.9s							
BRG	**Berggiesshubel**	**145.61**	**333**	*e*PKPbc		**PKPbc**	**18 40 32.4**	**+0.2**
CLL	**Collm**	**145.66**	**335**	*e*PKPbc		**PKPdf**	**18 40 32.2**	**+0.2**
CLL	**Collm**	**145.66**	**335**	*i* PKPbc		**PKPdf**	**18 40 32.2**	**+0.2**
	comp=Z,12nm,1.0s							
CLL				*i* (pPKPbc)			18 40 37.9	
SMOL	**Smolenice**	**145.68**	**327**	*e*PKP		**PKPab**	**18 40 33.5**	**+0.7**
NRDL	**Niedersach Rie**	**145.78**	**338**	*e*PKPbc		**PKPab**	**18 40 33.1**	**+0.2**
PRU	**Pruhonice**	**146.01**	**332**	*e*PKP		**PKPab**	**18 40 34.3**	**+0.3**
ZST	**Bratislava**	**146.05**	**327**	*e*PKP		**PKPab**	**18 40 34.4**	**+0.2**
TREC	**Trest**	**146.08**	**330**	*e*PKP		**PKPab**	**18 40 34.2**	**-0.1**
NEUB	**Neuenburg**	**146.22**	**336**	*e*PKPbc		**PKPab**	**18 40 34.6**	**-0.1**
TANN	**Tannenbergstha**	**146.57**	**334**	*e*PKPbc		**PKPbc**	**18 40 35.5**	**+0.3**
WERD	**Werda**	**146.61**	**334**	*e*PKPbc		**PKPbc**	**18 40 35.6**	**+0.3**
GUNZ	**Gunzen**	**146.66**	**334**	*e*PKPbc		**PKPab**	**18 40 36.1**	**-0.4**
NKC	**Novy Kostel**	**146.72**	**334**	*e*PKPbc		**PKPbc**	**18 40 36.2**	**+0.6**
NKC	**Novy Kostel**	**146.72**	**334**	*e*PKP		**PKPab**	**18 40 36.5**	**-0.2**
MOX	**Moxa**	**146.73**	**335**	*e*PKPbc		**PKPbc**	**18 40 35.7**	**+0.1**
KHC	**Kasperske Hory**	**147.06**	**331**	*e*PKP		**PKPbc**	**18 40 37.0**	**+0.4**
ROTZ	**Rotzenmuhle**	**147.17**	**334**	*e*PKPbc		**PKPbc**	**18 40 37.3**	**+0.4**
GEC2	**GERESS Array S**	**147.22**	**331**	*e*PKPbc		**PKPbc**	**18 40 36.5**	**-0.7**
GERES	**GERESS Array B**	**147.22**	**331**	PKPbc		**PKPbc**	**18 40 37.4**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=29,slow=3.0,SNR=15							
GERES	**GERESS Array B**	**147.22**	**331**	PKPbc		**PKPbc**	**18 40 37.4**	**+0.2**
WET	**Wettzell**	**147.36**	**332**	*e*PKPbc		**PKPbc**	**18 40 37.7**	**+0.3**
DBIC	**Dimbokro**	**164.24**	**198**	PKPab		**PKPab**	**18 41 51.1**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=111,slow=3.3,SNR=5.6							
DBIC	**Dimbokro**	**164.24**	**198**	PKPab		**PKPab**	**18 41 51.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**166.14**	**233**	PKPab		**PKPab**	**18 41 59.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=142,slow=4.6,SNR=6.4							
TORD	**Torodi Ar. Bea**	**166.14**	**233**	PKPab		**PKPab**	**18 41 59.5**	**-0.8**

NEIC 25 18:53:13.3,18°13N×68°19W,h14km,MD2.9(RSPR), After RSPR.
RSPR 25 18:53:13.3,18°13N×68°19W,h14km±8km,4C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.04**	**97**⇑	*e*P		Pb	18 53 30.1	-2.9
CRPR	**Cabo Rojo, PR**	**1.04**	**97**⇑	*e*P		Pb	18 53 30.1	-2.9
DR12	**Loma Pena Alta**	**1.30**	**300**⇓	*e*P		Pn	18 53 33.8	-3.5
DR12				*e*S		Sb	18 53 50.6	-3.8
DR12	**Loma Pena Alta**	**1.30**	**300**⇓	*e*P		Pn	18 53 33.8	-3.5
DR12				*e*S		Sb	18 53 50.6	-3.8
SJG	**San Juan**	**1.94**	**90**	*e*Pn		Pn	18 53 45.7	-0.2
SJG				*e*Sn		Sn	18 54 07.1	-3.0
CBYP	**Canovanas**	**2.22**	**86**	*e*S			18 54 13.2	
CBYP	**Canovanas**	**2.22**	**86**	*e*Pn		Pn	18 53 49.2	-0.6
CBYP				*e*Sn		Sn	18 54 13.5	-3.8
MTP	**Monte Pirata**	**2.51**	**90**⇑	*e*P		Pn	18 53 51.7	-2.0
MTP	**Monte Pirata**	**2.51**	**90**	*e*S			18 54 20.6	
MTP	**Monte Pirata**	**2.51**	**90**⇑	*e*P		Pn	18 53 51.7	-2.0
MTP				*e*S		Sn	18 54 20.6	-3.6
SDDR	**Presa de Saban**	**3.06**	**286**	*e*Pn		Pn	18 54 00.3	-1.0

BJI 25 19:12:54.7,37°05N×71°21E,h77km,mB4.5/8,mb4.6/20, Ms4.2/4,Ms7 3.9/4
MOS 25 19:12:58.8±1.2,36°91N×71°68E,h111km,mb4.2/16,Error ellipse: s-maj=9.6km s-min=5.5km az=88.6
ISCJB 25 19:12:59.4±0.4,36°95N±0°02×71°73E±0°04,h117km±5km, mb4.2/34,Error ellipse: s-maj=5.6km s-min=3.5km az=173.0
IDC 25 19:13:00.9±0.8,36°84N×71°51E,h118km±6km,mb3.8/15, mb1 4.0/17,mb1mx3.8/28,mbtmp3.9/17,Error ellipse: s-maj=15.4km s-min=12.8km az=37.0
NEIC 25 19:13:00.2±0.3,36°92N×71°79E,mb4.8/16,Error ellipse: s-maj=8.1km s-min=5.0km az=53.0
NNC 25 19:13:05.1±3.0,37°39N×71°44E,h144km±32km,mb3.6, mpv4.8,Error ellipse: s-maj=26.2km s-min=14.6km az=18.0
ISC 25 19:13:00.8±0.4,36°99N±0°04×71°66E±0°04,h118km±4km, h118km:pP-P,n165,σ1s55/186,mb4.2/34,10C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.16**	**176**	⇓P		**Pn**	**19 13 50.4**	**+1.0**
CEP				S		**Sn**	**19 14 28.0**	**+1.2**
KBL	**Kabul**	**3.24**	**222**	*e*PN		**Pn**	**19 13 50.6**	**+0.1**
KBL	**Kabul**	**3.24**	**222**	*e*Pn		**Pn**	**19 13 50.6**	**+0.1**
KBL				*e*Sn		**Sn**	**19 14 24.2**	**-4.6**
CHCP	**Chirah Chowk**	**3.57**	**158**	P		Pn	19 13 56.7	+2.0
THW	**Thamme Wali**	**4.18**	**179**	P		**Pn**	**19 14 03.2**	**+0.3**
KSH	**Kashi**	**4.23**	**52**	Pn		**Pn**	**19 14 01.0**	**-2.5**
KSH				Sn		Sn	19 14 38.5	-14
KSH				smax		smax		
	comp=N,4μm,0.4s							
KSH				smax		smax		
	comp=E,3μm,0.8s							
SARP	**Sargodha**	**5.12**	**170**	P		**Pn**	**19 14 15.4**	**0.0**
AML	**Almayashu**	**5.37**	**16**	P		**Pn**	**19 14 19.2**	**+0.2**
	SNR=496							
AML				P		**Pn**	**19 14 19.2**	**+0.2**
	SNR=496							
THN	**Thein Dam**	**5.64**	**143**	*e*P		**Pn**	**19 14 22.6**	**+0.3**
THN				*e*S		**Sn**	**19 15 25.0**	**-0.9**
UCH	**Uchtor**	**5.68**	**22**	P		**Pn**	**19 14 24.4**	**+1.1**
	SNR=10							
UCH				P		**Pn**	**19 14 24.4**	**+1.1**
	SNR=10							
KZA	**Kyzart**	**5.79**	**27**	P		**Pn**	**19 14 25.1**	**+0.4**
	SNR=47							
KZA				P		**Pn**	**19 14 25.1**	**+0.4**
	SNR=47							
EKS2	**Erkin-Say**	**5.89**	**15**	P		**Pn**	**19 14 26.3**	**+0.4**
	SNR=98							
EKS2				P		**Pn**	**19 14 26.3**	**+0.4**
	SNR=98							
AAK	**Ala-Archa**	**6.04**	**20**	P		**Pn**	**19 14 28.6**	**+0.6**
	SNR=146							
AAK				P		**Pn**	**19 14 28.6**	**+0.6**
	SNR=146							
AAK	**Ala-Archa**	**6.04**	**20**	*d* / PN		**Pn**	**19 14 28.5**	**+0.6**
KK31	**Karatay Array**	**6.17**	**352**	⇓P		**Pn**	**19 14 28.5**	**-1.1**
	comp=E,44nm,0.3s,baz=180,slow=12,SNR=784							
KK31				⇓S		Sn	19 15 33.9	-4.8
	comp=E,23nm,0.3s,baz=183,slow=24,SNR=5.3							
KKAR	**Karatay Array**	**6.17**	**352**	*e*PN		**Pn**	**19 14 28.4**	**-1.1**
KKAR	**Karatay Array**	**6.17**	**352**	*e*Pn		**Pn**	**19 14 28.4**	**-1.1**
	comp=E,0.1nm,0.7s							
KKAR				*e*Sn		Sn	19 15 32.0	-6.7
KBK	**Karagaybulak**	**6.20**	**23**	P		**Pn**	**19 14 30.6**	**+0.6**
	SNR=36							
KBK				P		**Pn**	**19 14 30.6**	**+0.6**
	SNR=36							
FRU	**Bishkek**	**6.26**	**20**	⇓ / PN		**Pn**	**19 14 31.0**	**+0.2**
FRU				pmax		pmax		
	comp=Z,38nm,1.8s							
ULHL	**Ulahol**	**6.33**	**33**	P		**Pn**	**19 14 33.4**	**+1.5**
	SNR=34							
ULHL				P		**Pn**	**19 14 33.4**	**+1.5**
	SNR=34							
CHMS	**Chumysh**	**6.45**	**21**	P		**Pn**	**19 14 34.1**	**+0.7**
	SNR=101							
CHMS				P		**Pn**	**19 14 34.1**	**+0.7**
	SNR=101							
USP	**Ospenovka**	**6.64**	**18**	P		**Pn**	**19 14 35.8**	**0.0**
	SNR=110							
USP				P		**Pn**	**19 14 35.8**	**0.0**
	SNR=110							
TKM2	**Tokmak 2**	**6.65**	**26**	P		**Pn**	**19 14 36.9**	**+0.7**
	SNR=102							
TKM2				P		**Pn**	**19 14 36.9**	**+0.7**
	SNR=102							
TKM2	**Tokmak 2**	**6.65**	**26**	⇓P		**Pn**	**19 14 36.7**	**+0.5**
	comp=Z,21nm,0.5s							
TKM2				⇓S		**Sn**	**19 15 49.4**	**-1.2**
	comp=Z,46nm,0.6s							
TKM2	**Tokmak 2**	**6.65**	**26**	*i* PN		**Pn**	**19 14 36.8**	**+0.7**
KNDC	**Almaty**	**7.43**	**32**	⇓P		**Pn**	**19 14 49.0**	**+2.4**
	comp=Z,40nm,0.5s							
KKR	**Kurukshetra**	**8.22**	**147**	*e*S			19 16 20.9	
DDI	**Dehra Dun**	**8.52**	**139**	*e*P		**Pn**	**19 15 02.5**	**+1.1**
NDI	**New Delhi**	**9.51**	**149**	*e*P		**Pn**	**19 15 13.9**	**-0.7**
NDI				*e*P			19 15 14.5	
NDI				*e*S		Sn	19 16 51.4	-8.3
NDI				*e*S			19 16 52.0	
KHET	**Khetri**	**9.55**	**157**	*e*P		**Pn**	**19 15 13.0**	**-2.3**
KHET				*e*S		Sn	19 16 51.4	-9.4
AYAN	**Aya Nagar**	**9.65**	**150**	*e*P		**Pn**	**19 15 16.4**	**-0.1**
AYAN				*e*S		Sn	19 16 55.9	-7.2
ASOR	**Ausora**	**9.68**	**146**	*e*S			19 16 55.0	
AGRA	**Agra**	**11.09**	**150**	*e*P		**Pn**	**19 15 34.3**	**-1.7**
AGRA				*e*S		Sn	19 17 27.8	-10
AGRA				AML		AML	19 17 42.4	
	comp=E,121nm,0.8s							
AGRA				AML		AML	19 17 46.5	
	comp=N,200nm,0.6s							
MK31	**Makanchi Array**	**12.58**	**36**	P		**Pn**	**19 15 54.8**	**-0.8**
	comp=N,2.3nm,0.4s,baz=221,slow=12,SNR=85							
MK31				⇑P		P	19 15 55.1	-7.2
MKAR	**Makanchi Array**	**12.58**	**36**	P		**Pn**	**19 15 54.3**	**-1.3**
	comp=N,0.4nm,0.3s,baz=223,slow=14,SNR=79							
MKAR	**Makanchi Array**	**12.58**	**36**	P		**Pn**	**19 15 54.3**	**-1.3**
MKAR	**Makanchi Array**	**12.58**	**36**	P		**Pn**	**19 15 54.3**	**-1.3**
DANN	**Dangsing**	**13.33**	**127**	*e*P		**Pn**	**19 16 03.1**	**-2.6**
	comp=N,33nm,0.4s							
DANN	**Dangsing**	**13.33**	**127**	*e*P		**Pn**	**19 16 03.1**	**-2.6**
	comp=N,33nm,0.4s							
KOLN	**Koldanda**	**13.63**	**129**	*e*P		**Pn**	**19 16 06.8**	**-2.8**
	comp=N,38nm,0.4s							
KOLN	**Koldanda**	**13.63**	**129**	*e*P		**Pn**	**19 16 06.8**	**-2.8**
	comp=N,38nm,0.4s							
WMQ	**Urumqi**	**13.98**	**56**	P		**Pn**	**19 16 13.8**	**+0.1**
WMQ				S		**Sn**	**19 18 43.8**	**-4.1**
WMQ				pmax		pmax		
	comp=Z,17nm,0.6s							
GKN	**Gorkha**	**14.13**	**126**	*e*P		**Pn**	**19 16 13.0**	**-2.9**
	comp=Z,114nm,0.7s							
GKN	**Gorkha**	**14.13**	**126**	*e*P		**Pn**	**19 16 13.0**	**-2.9**
	comp=Z,114nm,0.7s							
KURBB	**Kurchatov Arra**	**14.49**	**18**	P		Pn	19 16 17.8	**-2.3**
	comp=Z,3.2nm,0.7s							
KURK	**Kurchatov**	**14.60**	**18**	P		Pn	19 16 17.1	-4.3
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=19							
KURK	**Kurchatov**	**14.60**	**18**	*d* / P		**P**	**19 16 24.5**	**-0.1**
KURK				pmax		pmax		
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**14.60**	**18**	*e*Sn		Sn	19 19 02.7	+0.1
KKN	**Kakani**	**14.70**	**125**	*e*P		**Pn**	**19 16 20.3**	**-2.8**
	comp=Z,23nm,0.4s							
KKN	**Kakani**	**14.70**	**125**	*e*P		**Pn**	**19 16 20.3**	**-2.8**
KKN				pmax		pmax		
	comp=Z,23nm,0.4s							
KKN	**Kakani**	**14.70**	**125**	*e*P		**Pn**	**19 16 20.3**	**-2.8**
	comp=Z,23nm,0.4s							
DMN	**Daman**	**14.71**	**126**	*e*P		**Pn**	**19 16 20.1**	**-3.2**
	comp=Z,20nm,0.4s							
DMN	**Daman**	**14.71**	**126**	*e*P		**Pn**	**19 16 20.1**	**-3.2**
	comp=Z,20nm,0.4s							
AB31	**Akbulak array**	**14.93**	**329**	⇓P		**Pn**	**19 16 21.8**	**-3.8**
	comp=Z,6.1nm,0.5s,baz=136,slow=14,SNR=378							
AB31				S		Sn	19 19 04.6	-5.9
	comp=Z,0.8nm,0.2s,baz=340,slow=28,SNR=4.1							
PKI	**Pulchoki**	**14.93**	**125**	*e*P		Pn	19 16 22.9	-3.3
	comp=Z,38nm,0.6s							
PKI	**Pulchoki**	**14.93**	**125**	*e*P		Pn	19 16 22.9	-3.3
PKI				pmax		pmax		
	comp=Z,38nm,0.6s							
PKI	**Pulchoki**	**14.93**	**125**	*e*P		Pn	19 16 22.9	-3.3
	comp=Z,38nm,0.6s							
GUN	**Gumba**	**15.02**	**123**	*e*P		**Pn**	**19 16 25.4**	**-1.9**
	comp=Z,144nm,0.9s							
GUN	**Gumba**	**15.02**	**123**	*e*P		**Pn**	**19 16 25.4**	**-1.9**
	comp=Z,144nm,0.9s							
JIRN	**Jiri**	**15.39**	**123**	*e*P		**Pn**	**19 16 29.1**	**-2.9**
	comp=Z,131nm,0.7s							
JIRN	**Jiri**	**15.39**	**123**	*e*P		**Pn**	**19 16 29.1**	**-2.9**
	comp=Z,131nm,0.7s							
VOSK	**Vostochnaya**	**15.74**	**358**	⇑P		**Pn**	**19 16 33.1**	**-2.7**
	comp=Z,8.0nm,1.3s							
BVA0	**Borovoye Array**	**16.06**	**357**	⇑P		**Pn**	**19 16 39.2**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=164,slow=12,SNR=6.8							
BVAR	**Borovoye Array**	**16.06**	**357**	P		**Pn**	**19 16 38.0**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=161,slow=10.0,SNR=23							
BVAR				S		Sn	19 19 30.4	-7.4
	comp=Z,0.5nm,0.3s,baz=172,slow=23,SNR=4.1							
BVAR	**Borovoye Array**	**16.06**	**357**	P		**Pn**	**19 16 38.0**	**-1.7**
BVAR				S		Sn	19 19 30.4	-7.4
BVAR	**Borovoye Array**	**16.06**	**357**	P		**Pn**	**19 16 38.0**	**-1.7**
BVAR				S		Sn	19 19 30.4	-7.4
ZRNK	**Zerenda

ULN	**Ulaanbaatar**	**28.06**	**56**	*e*P		**P**		**19 18 41.3**	**+0.1**
ULN					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ULN	**Ulaanbaatar**	**28.06**	**56**	*e*P		**P**		**19 18 41.2**	**+0.1**
	comp=Z,3.0nm,0.7s								
ULN				*e*PP		PP		19 19 48.3	+1.7
OBN	**Obninsk**	**29.92**	**319**	P		**P**		**19 18 58.0**	**+0.8**
OBN					pmax	pmax			
	comp=Z,7.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**30.23**	**120**	P		**P**		**19 19 01.2**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=309,slow=8.9,SNR=14								
CMAR	**Chiang Mai Arr**	**30.23**	**120**	P		**P**		**19 19 01.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.23**	**120**	P		**P**		**19 19 01.2**	**+0.8**
ENH	**Enshi**	**32.04**	**91**	*e*P		**P**		**19 19 15.7**	**-0.6**
	comp=Z,5.1nm,1.0s								
ENH				*e*PP		PP		19 20 28.0	-2.8
AKASG	**Malin Array Be**	**33.06**	**308**	P		**P**		**19 19 25.9**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=87,slow=7.9,SNR=6.6								
AKASG	**Malin Array Be**	**33.06**	**308**	*c*e	P	**P**		**19 19 25.8**	**+1.0**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**33.06**	**308**		P	**P**		**19 19 25.9**	**+1.0**
BOD	**Bodaibo**	**34.63**	**39**	*e*P		**P**		**19 19 39.9**	**+1.5**
BOD					pmax	pmax			
	comp=Z,5.0nm,2.0s								
BUR08	**Bucovina Ar. S**	**35.48**	**302**	*e*P		**P**		**19 19 45.9**	**0.0**
JOF	**Joensuu**	**35.72**	**329**	*e*P		**P**		**19 19 47.8**	**+0.2**
JOF					pmax	pmax			
	comp=Z,2.0nm,0.5s								
JOF	**Joensuu**	**35.72**	**329**	*e*p		**P**		**19 19 47.8**	**+0.2**
	comp=Z,2.2nm,0.5s								
JOF	**Joensuu**	**35.72**	**329**	*e*p		**P**		**19 19 47.8**	**+0.2**
	comp=Z,2.2nm,0.5s								
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**		**19 20 02.7**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=125,slow=8.3,SNR=22								
FINES					pP	**pP**		**19 20 29.4**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=113,slow=9.0,SNR=2.0								
FINES					sP	**sP**		**19 20 42.3**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=114,slow=8.5,SNR=2.3								
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**		**19 20 02.7**	**+1.0**
FINES				*PP		**pP**		**19 20 29.4**	**+1.3**
FINES				*SP		**sP**		**19 20 42.3**	**+0.6**
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**		**19 20 02.7**	**+1.0**
FINES					pP	**pP**		**19 20 29.4**	**+1.3**
FINES					sP	**sP**		**19 20 42.3**	**+0.6**
ARCES	**ARCESS Array B**	**40.90**	**337**	P		**P**		**19 20 32.0**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=112,slow=8.6,SNR=25								
ARCES					pP	**pP**		**19 20 59.4**	**+1.7**
	comp=Z,5.9nm,1.0s,baz=110,slow=6.6,SNR=2.5								
ARCES	**ARCESS Array B**	**40.90**	**337**	P		**P**		**19 20 32.0**	**+1.1**
ARCES				*PP		**pP**		**19 20 59.4**	**+1.7**
ARCES	**ARCESS Array B**	**40.90**	**337**	P		**P**		**19 20 32.0**	**+1.1**
ARCES					pP	**pP**		**19 20 59.4**	**+1.7**
YAK	**Yakutsk**	**43.26**	**36**	*e*P		**P**		**19 20 50.6**	**+0.5**
YAK					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KSAR	**Wonju Array Be**	**44.19**	**72**	P		**P**		**19 20 59.5**	**+1.6**
KSAR	**Wonju Array Be**	**44.19**	**72**	P		**P**		**19 20 59.5**	**+1.6**
KSRS	**Korea Array**	**44.22**	**72**	P		**P**		**19 20 59.5**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=271,slow=6.6,SNR=6.0								
KSRS	**Korea Array**	**44.22**	**72**	P		**P**		**19 20 59.5**	**+1.4**
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NB2	**NORSAR Subarra**	**44.31**	**323**	P		**P**		**19 20 58.9**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=94,slow=7.9								
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**		**19 20 59.2**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=95,slow=7.8,SNR=18								
NOA					pP	**pP**		**19 21 25.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=97,slow=8.1,SNR=4.8								
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**		**19 20 59.2**	**+0.6**
NOA				*PP		**pP**		**19 21 25.8**	**+0.1**
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**		**19 20 59.2**	**+0.6**
NOA					pP	**pP**		**19 21 25.8**	**+0.1**
DAG	**Danmarks Havn**	**54.41**	**344**	*i* P		**P**		**19 22 16.2**	**+1.2**
DAG					pmax	pmax			
	comp=Z,2.0nm,0.8s								
DAG	**Danmarks Havn**	**54.41**	**344**	*i* P		**P**		**19 22 16.2**	**+1.2**
	comp=Z,21nm,0.8s								
ESDC	**Sonseca Array**	**57.70**	**298**	pP		pP		19 23 06.7	-0.8
	comp=Z,2.2nm,0.8s,baz=50,slow=7.2,SNR=5.3								
ESDC	**Sonseca Array**	**57.70**	**298**	pP		pP		19 23 06.7	-0.8
BILL	**Bilibino**	**57.94**	**26**	*e*P		**P**		**19 22 42.0**	**+1.8**
BILL					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SUMG	**Summit**	**60.77**	**341**	*i* P		**P**		**19 23 01.8**	**+1.7**
SUMG					pmax	pmax			
	comp=Z,5.0nm,0.7s								
SUMG	**Summit**	**60.77**	**341**	*i* P		**P**		**19 23 01.8**	**+1.7**
	comp=Z,4.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P		**P**		**19 23 34.8**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.3,SNR=18								
TORD					pP	**pP**		**19 24 03.9**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.8,SNR=3.8								
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P		**P**		**19 23 34.8**	**-1.8**
TORD					pP	**pP**		**19 24 03.9**	**-1.8**
INK	**Inuvik**	**73.34**	**10**	P		**P**		**19 24 20.2**	**+1.2**
	comp=Z,2.4nm,0.5s,baz=351,slow=5.2,SNR=34								
INK	**Inuvik**	**73.34**	**10**	P		**P**		**19 24 20.2**	**+1.2**
INK					pmax	pmax			
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**73.34**	**10**	*e*P		**P**		**19 24 19.9**	**+0.8**
	comp=Z,2.4nm,0.5s								
ILAR	**Eielson Array**	**74.16**	**16**	P		**P**		**19 24 24.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=322,slow=4.6,SNR=11								
ILAR	**Eielson Array**	**74.16**	**16**	P		**P**		**19 24 24.6**	**+0.6**
ILAR	**Eielson Array**	**74.16**	**16**	P		**P**		**19 24 24.6**	**+0.6**
LBTB	**Lobatse**	**75.40**	**222**	P		**P**		**19 24 32.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=50,slow=7.1,SNR=4.0								
LBTB	**Lobatse**	**75.40**	**222**	P		**P**		**19 24 32.0**	**+0.3**
LBTB	**Lobatse**	**75.40**	**222**	P		**P**		**19 24 32.0**	**+0.3**
KDAK	**Kodiak Island**	**78.54**	**22**	P		**P**		**19 24 50.2**	**+1.5**
	comp=Z,21nm,1.3s,baz=86,slow=14,SNR=4.2								
KDAK	**Kodiak Island**	**78.54**	**22**	P		**P**		**19 24 50.2**	**+1.5**
KDAK	**Kodiak Island**	**78.54**	**22**	P		**P**		**19 24 50.2**	**+1.5**
YKA	**Yellowknife Ar**	**80.73**	**3**	P		**P**		**19 25 01.3**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=349,slow=5.5,SNR=54								
YKA	**Yellowknife Ar**	**80.73**	**3**	P		**P**		**19 25 01.3**	**+0.8**
YKA	**Yellowknife Ar**	**80.73**	**3**	P		**P**		**19 25 01.3**	**+0.8**
NWAO	**Narrogin (SRO)**	**81.53**	**143**	P		**P**		**19 25 04.8**	**-0.3**
	comp=Z,12nm,0.8s,baz=318,slow=12,SNR=2.4								
NWAO	**Narrogin (SRO)**	**81.53**	**143**	P		**P**		**19 25 04.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**81.53**	**143**	P		**P**		**19 25 04.8**	**-0.3**
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**		**19 25 06.5**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=320,slow=4.7,SNR=2.3								
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**		**19 25 06.5**	**-0.3**
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**		**19 25 06.5**	**-0.3**
FFC	**Flin Flon**	**88.49**	**356**	*c*e	P	**P**		**19 25 39.6**	**0.0**

BJI ***25*** *19:13:43.6,7.˝37S×130.˚51E,h79km,mB5.1/29,mb4.9/44, Ms4.8/19,Ms7 4.5/20*

ISCJB ***25*** *19:13:47.4±0.2,6.˚99S±0.˚03×130.˚42E±0.˚05,h80km, mb4.9/54,Error ellipse: s-maj=6.6km s-min=3.9km az=168.7*

NEIC ***25*** *19:13:47.9±0.9,6.˚91S×130.˚28E,h69km±8km,mb5.2/23, Error ellipse: s-maj=7.7km s-min=5.0km az=53.0*

IDC ***25*** *19:13:52.1±2.3,6.˚88S×130.˚22E,h102km±20km,mb4.5/20, mb1 4.5/22,mb1mx4.5/24,mbtmp4.5/22,MS3.4/4, Ms1 3.3/4,ms1mx2.9/27,Error ellipse: s-maj=17.3km s-min=11.8km az=73.0*

DJA ***25*** *19:13:53,7.˚20S×130.˚42E,h135km,mb4.8/20*

ISC 25 19:13:49.3±0.4,7.˚02S±0.˚04×130.˚31E±0.˚06,h81km±2km, n206,σ1§55/244,mb5.0/54,2D,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.51**	**351**	P		Pn	19 14 32.6	+4.6
TLE	**Tual**	**2.78**	**61**	P		Pn	19 14 37.7	+6.1
MSAI	**Masohi**	**3.90**	**339**	P		Pn	19 14 52.0	+5.2
AAI	**Ambon**	**3.92**	**327**	P		Pn	19 14 51.4	+4.2
FAKI	**Fak Fak**	**4.51**	**25**	P		**Pn**	**19 14 56.8**	**+1.7**
SWI	**Sorong**	**6.19**	**9**	P		**Pn**	**19 15 19.0**	**+0.9**
	131nm,0.6s,16µm3.3nm							
LBMI	**Labuha**	**6.93**	**336**	P		Pn	19 15 31.9	+3.7
	239nm,0.5s,3µm0.9nm							
BBSI	**Bau Bau**	**7.84**	**281**	P		Pn	19 15 47.0	+6.3
	146nm,1.0s,1µm0.5nm							
MMRI	**Maumere**	**8.16**	**258**	P		Pn	19 15 49.0	+4.0
	102nm,0.8s,1µm0.4nm							
KDI	**Kendari**	**8.23**	**291**	P		Pn	19 15 52.8	+6.8
	32nm,1.5s,0.2nm							
TNTI	**Ternate**	**8.28**	**339**	P		**Pn**	**19 15 49.3**	**+2.7**
	134nm,0.7s,1µm0.4nm							
WAMI	**Wamena**	**8.92**	**70**	P		Pn	19 16 02.0	+6.6
	327nm,0.7s,3µm							
KMSI	**Cibinong**	**9.84**	**320**	P		Pn	19 16 14.6	+6.7
	181nm,1.0s							
MNI	**Manado**	**10.02**	**327**	P		Pn	19 16 14.2	+3.8
	100nm,0.8s							
WSI	**Waingapu**	**10.25**	**254**	P		**Pn**	**19 16 15.0**	**+1.5**
	513nm,0.6s,8µm							
BKSI	**Bulukumba**	**10.27**	**279**	P		Pn	19 16 19.0	+5.2
	54nm,1.0s							
KAPI	**Kappang**	**10.69**	**280**	P		**Pn**	**19 16 20.8**	**+1.3**
	0.3nm,0.3s,baz=130,slow=6.6,SNR=6.9							
KAPI	**Kappang**	**10.69**	**280**	*e*Pn		**Pn**	**19 16 18.5**	**-1.0**
KAPI					P	P	19 16 20.8	
KAPI	**Kappang**	**10.69**	**280**	P		Pn	19 16 23.9	+4.4
	22nm,0.8s							
SPSI	**Sidrap Palu**	**10.92**	**286**	P		Pn	19 16 32.8	+10
MRSI	**Marisa**	**11.19**	**311**	P		Pn	19 16 30.9	+4.6
	135nm,0.7s,1µm							
JAY	**Jayapura**	**11.28**	**67**	P		Pn	19 16 35.1	+7.4
	42nm,1.0s,5µm							
FITZ	**Fitzroy Crossi**	**11.92**	**202**	P		**Pn**	**19 16 35.9**	**-0.4**
	5.1nm,0.3s,baz=32,slow=10,SNR=77							
FITZ					S	Sn	19 18 37.3	-10
	25nm,0.3s,baz=221,slow=21,SNR=14							
FITZ	**Fitzroy Crossi**	**11.92**	**202**	*e*P		**Pn**	**19 16 36.1**	**-0.2**
	47nm,0.3s							
FITZ					eS	Sn	19 18 36.7	-11
FITZ	**Fitzroy Crossi**	**11.92**	**202**	P		**Pn**	**19 16 35.9**	**-0.4**
FITZ					ePn	Pn	19 16 36.3	0.0
FITZ					S	Sn	19 18 37.3	-10
WRAB	**Tennant Creek**	**13.43**	**163**	*e*Pn		**Pn**	**19 16 55.9**	**-0.6**
WRA	**Warramunga Arr**	**13.43**	**163**	P		**Pn**	**19 16 55.5**	**-1.0**
	10nm,0.3s,baz=341,slow=15,SNR=136							
WRA					S	Sn	19 19 15.2	-9.0
	5.5nm,0.3s,baz=345,slow=22,SNR=5.3							
WRA	**Warramunga Arr**	**13.43**	**163**	P		**Pn**	**19 16 55.5**	**-1.0**
WRA					S	Sn	19 19 15.2	-9.0
WB2	**Warramunga Arr**	**13.44**	**163**	*e*Pn		**Pn**	**19 16 55.8**	**-0.8**
COEN	**Coen**	**14.40**	**120**	*e*P		**Pn**	**19 17 08.9**	**-0.4**
	206nm,0.6s							
COEN					eS	Sn	19 19 39.4	-8.5
COEN	**Coen**	**14.40**	**120**	*e*Pn		**Pn**	**19 17 09.4**	**+0.1**
MATI	**Mati**	**14.45**	**344**	*e*P		**P**	**19 17 13.8**	**-0.6**
KBKI	**Kotabaru**	**14.56**	**284**	P		P	19 17 21.1	+5.5
	36nm,0.9s							
CTBH	**Cotabato--PC H**	**15.38**	**337**	⇓ *i* P		**Pn**	**19 17 22.8**	**+0.9**
BUKP	**Musuan**	**15.70**	**340**	*e*P		**Pn**	**19 17 26.9**	**+1.1**
BBKI	**Banjar Baru**	**15.80**	**282**	P		P	19 17 34.2	+4.8
	116nm,0.9s							
PAGZ	**Pagadian**	**16.30**	**335**	*e*P		**P**	**19 17 35.0**	**+0.1**
CGP	**Cagayan de Oro**	**16.36**	**340**	*e*P		**Pn**	**19 17 34.7**	**+0.6**
BUTP	**Butuan**	**16.55**	**344**	*e*P		**P**	**19 17 38.1**	**+0.4**
BLJI	**Banyuglugur**	**16.59**	**266**	P		**P**	**19 17 40.1**	**+1.9**
	80nm,0.5s,2µm55µm							
PMG	**Port Moresby**	**16.84**	**99**	P		**P**	**19 17 44.2**	**+3.3**
	7.8nm,0.3s,baz=346,slow=7.8,SNR=32							
PMG	**Port Moresby**	**16.84**	**99**	P		**P**	**19 17 44.2**	**+3.3**
PMG	**Port Moresby**	**16.84**	**99**	P		P	19 17 46.6	+5.6
	55nm,0.9s							
AS31	**Alice Springs**	**16.91**	**169**	*e*Pn		**Pn**	**19 17 41.6**	**+0.6**
AS31				*e*Sn		Sn	19 20 38.2	-10
ASAR	**Alice Springs**	**16.91**	**169**	P		**Pn**	**19 17 41.6**	**+0.7**
	4.6nm,0.3s,baz=338,slow=8.9,SNR=163							
ASAR					S	**Sn**	**19 20 42.8**	**-5.8**
	3.4nm,0.3s,baz=348,slow=25,SNR=8.7							
ASAR	**Alice Springs**	**16.91**	**169**	P		**Pn**	**19 17 41.6**	**+0.7**
ASAR					S	**Sn**	**19 20 42.8**	**-5.8**
MBWA	**Marble Bar**	**17.39**	**215**	*e*Pn		**P**	**19 17 47.2**	**+0.3**
	153nm,1.8s							
KRKI	**Karangkates**	**17.74**	**265**	P		**Pn**	**19 17 53.5**	**+2.5**
	142nm,0.6s							
MSLP	**Maasin**	**17.88**	**342**	*e*P		**Pn**	**19 17 53.8**	**+1.0**
SJI	**Sawahan**	**18.40**	**267**	P		**Pn**	**19 18 00.4**	**+1.2**
	55nm,0.7s							
OCLP	**Ormoc**	**18.82**	**342**	*e*P		**Pn**	**19 18 04.8**	**+0.6**
PBKI	**Pangkalan Bun**	**19.06**	**282**	P		**Pn**	**19 18 10.3**	**+3.4**
	116nm,1.0s,1µm							
CTA	**Charters Tower**	**20.20**	**132**	P		Pn	19 18 20.2	-0.1
	9.2nm,0.7s,baz=324,slow=12,SNR=7.5							
CTA					LR	LR	19 26 45.3	
	comp=Z,76nm,21.4s,baz=306,slow=38							
CTA	**Charters Tower**	**20.20**	**132**	P		Pn	19 18 20.2	-0.1
SBUM	**Sibu**	**20.36**	**297**	P		Pn	19 18 22.7	+0.5
	25nm,1.1s							
FORT	**Forrest**	**23.73**	**185**	*e*P		**P**	**19 18 55.5**	**+1.4**
	27nm,0.5s							
FORT	**Forrest**	**23.73**	**185**	*e*P		**P**	**19 18 55.7**	**+1.6**
	44nm,0.7s							
STKA	**Stephens Creek**	**26.88**	**158**	P		**P**	**19 19 24.7**	**+2.1**
	9.2nm,0.5s,baz=336,slow=9.3,SNR=22							
STKA					LR	LR	19 30 51.6	
	comp=Z,78nm,20.4s,baz=24,slow=38							
STKA	**Stephens Creek**	**26.88**	**158**	*e*P		**P**	**19 19 24.6**	**+2.0**
	6.1nm,0.4s							
STKA	**Stephens Creek**	**26.88**	**158**	*e*P		**P**	**19 19 24.4**	**+1.8**
	2.1nm,0.6s							
STKA					P	**P**	**19 19 24.7**	**+2.1**
KLBR	**Kellerberrin**	**27.12**	**204**	*e*P		**P**	**19 19 26.1**	**+1.4**
	41nm,1.3s							
CMSA	**Cobar Meteorol**	**28.32**	**151**	*e*P		**P**	**19 19 38.0**	**+2.6**
	28nm,0.5s							
NWAO	**Narrogin (SRO)**	**28.50**	**203**	P		**P**	**19 19 38.4**	**+1.4**
	5.9nm,0.7s,baz=33,slow=5.0,SNR=3.9							
NWAO					LR	LR	19 30 12.2	
	comp=Z,126nm,21.3s,baz=117,slow=34							
NWAO	**Narrogin (SRO)**	**28.50**	**203**	P		**P**	**19 19 38.4**	**+1.4**
RGRI	**Rengat**	**28.68**	**282**	P		P	19 19 47.7	+8.9
YNG	**Young**	**31.87**	**151**	*e*P		**P**	**19 20 09.9**	**+3.0**
	5.0nm,0.4s							
QIZ	**Qiongzhong**	**32.81**	**322**	P		**P**	**19 20 16.5**	**+1.3**
QIZ					pP	**pP**	**19 20 33.3**	**-0.8**
QIZ					sP	**sP**	**19 20 41.8**	**-1.7**
QIZ					S	**S**	**19 25 30.8**	**+4.0**
QIZ					pmax	pmax		
	comp=Z,29nm,2.0s							
QIZ					pmax	pmax		
	comp=Z,250nm,4.5s							
JOW	**Kunigami**	**33.71**	**357**	*e*P		**P**	**19 20 23.1**	**+0.2**
	comp=Z,18nm,0.7s							
JNU	**Nakatsue**	**39.92**	**1**	P		**P**	**19 21 15.2**	**-0.4**
	comp=Z,14nm,0.7s,baz=168,slow=9.7,SNR=9.3							
JNU	**Nakatsue**	**39.92**	**1**	P		**P**	**19 21 15.2**	**-0.4**
CM31	**Chiang Mai Arr**	**39.98**	**310**	*e*P		**P**	**19 21 13.7**	**-2.6**
	comp=Z,2.4nm,0.4s							
CM31					ePcP	**PcP**	**19 23 20.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**39.98**	**310**	P		**P**	**19 21 15.7**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=137,slow=7.4,SNR=33							
CMAR					PcP	**PcP**	**19 23 21.4**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=168,slow=2.6,SNR=15							
CMAR					ScP	**ScP**	**19 26 58.4**	**-3.8**
	comp=Z,0.6nm,0.7s,baz=158,slow=3.3,SNR=5.0							
CMAR	**Chiang Mai Arr**	**39.98**	**310**	P		**P**	**19 21 15.7**	**-0.6**
CMAR					PcP	**PcP**	**19 23 21.4**	**+1.2**
CMAR					ScP	**ScP**	**19 26 58.4**	**-3.8**
CHTO	**Chiang Mai**	**40.19**	**310**	*e*P		**P**	**19 21 17.5**	**-0.5**
	comp=Z,6.7nm,0.8s							
GYA	**Guiyang**	**40.42**	**326**	P		**P**	**19 21 22.0**	**+2.1**
GYA					pP	**pP**	**19 21 41.5**	**+2.2**
GYA					sP	**sP**	**19 21 50.8**	**+2.2**
GYA					PP	**PnPn**	**19 23 01.8**	**+2.8**
GYA					ScP	**ScP**	**19 27 03.5**	**-0.4**
GYA					S	**S**	**19 27 24.8**	**+2.1**
GYA					sS	**sS**	**19 27 59.0**	**+3.1**
GYA					SS	**SS**	**19 30 20.5**	**-4.4**
GYA					pmax	pmax		
	comp=Z,20nm,1.0s							
GYA					pmax	pmax		
	comp=Z,120nm,5.0s							
GYA					LR	LR		
	comp=N,480nm,17.5s							
GYA					LR	LR		
	comp=E,340nm,18.4s							
GYA					LR	LR		
	comp=Z,460nm,17.9s							
KMI	**Kunming**	**41.72**	**321**	P		**P**	**19 21 31.0**	**+0.2**
KMI					pmax	pmax		
	comp=Z,15nm,1.3s							
ENH	**Enshi**	**42.12**	**333**	*e*P		**P**	**19 21 31.9**	**-1.7**
	comp=Z,8.6nm,0.7s							
MJAR	**Matsushiro Arr**	**43.96**	**9**	P		**P**	**19 21 47.2**	**-1.2**
	comp=Z,16nm,0.7s,baz=188,slow=9.8,SNR=59							
MJAR	**Matsushiro Arr**	**43.96**	**9**	P		**P**	**19 21 47.2**	**-1.2**
MAJO	**Matsushiro**	**43.96**	**9**	*e*P		**P**	**19 21 47.1**	**-1.3**
	comp=Z,25nm,0.7s							
MAT	**Matsushiro**	**43.96**	**9**	P		**P**	**19 21 46.9**	**-1.5**
KSAR	**Wonju Array Be**	**44.28**	**357**	P		**P**	**19 21 51.1**	**+0.1**
KSAR				PcP		**PcP**	**19 23 34.5**	**+0.4**
KSRS	**Korea Array**	**44.30**	**357**	P		**P**	**19 21 51.1**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=173,slow=9.3,SNR=35							
KSRS				PcP		**PcP**	**19 23 34.5**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=194,slow=3.8,SNR=6.6							
KSRS				LR		LR	19 40 22.5	
	comp=Z,30nm,19.5s,baz=167,slow=36							
CD2	**Chengdu**	**45.48**	**327**	P		**P**	**19 21 59.0**	**-1.7**
CD2				pP		**pP**	**19 22 18.5**	**-1.9**
CD2				sP		**sP**	**19 22 28.0**	**-1.6**
CD2				PP		**PP**	**19 23 47.5**	**-1.2**
CD2				S		**S**	**19 28 35.0**	**-1.6**
CD2				sS		**sS**	**19 29 09.0**	**-1.3**
CD2				SS		**ScS**	**19 31 52.5**	**+2.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CD2				pmax	pmax			
	comp=Z,120nm,5.9s							
CD2				LR	LR			
	comp=N,290nm,5.9s							
CD2				LR	LR			
	comp=Z,200nm,6.5s							
BJT	**Baijiatuau**	**48.59**	**346**	*e*P		**P**	**19 22 22.6**	**-2.0**
	comp=Z,36nm,0.7s							
SNY	**Shenyang**	**49.00**	**353**	⇓P		**P**	**19 22 27.5**	**-0.2**
SNY				pP		**pP**	**19 22 51.0**	**+3.4**
SNY				S		**S**	**19 29 26.8**	**+0.8**
SNY				pmax	pmax			
	comp=Z,10.0nm,0.5s							
SNY				pmax	pmax			
	comp=Z,210nm,3.9s							
SNY				LR	LR			
	comp=N,110nm,4.0s							
SNY				LR	LR			
	comp=E,280nm,4.5s							
SNY				LR	LR			
	comp=Z,190nm,4.6s							
LZH	**Lanzhou**	**49.56**	**332**	*e*P		**P**	**19 22 32.5**	**+0.1**
LZH				PP		**PP**	**19 24 28.8**	**+1.3**
LZH				pmax	pmax			
	comp=Z,24nm,1.2s							
LZH				pmax	pmax			
	comp=Z,69nm,6.0s							
LZH				LR	LR			
	comp=N,370nm,14.0s							
LZH				LR	LR			
	comp=E,310nm,13.7s							
LZH				LR	LR			
	comp=Z,400nm,17.8s							
HHC	**Hu-ho-hao-te**	**50.66**	**342**	*e*P		**P**	**19 22 41.8**	**+1.3**
HHC				pP		**pP**	**19 23 05.0**	**+4.5**
HHC				PP		**PP**	**19 24 40.5**	**+3.2**
HHC				S		**S**	**19 29 49.8**	**+0.3**
HHC				sS		sS	19 30 30.0	+6.3
HHC				SS		**SS**	**19 33 23.8**	**-1.2**
HHC				pmax	pmax			
	comp=Z,48nm,0.6s							
HHC				pmax	pmax			
	comp=Z,160nm,5.3s							
HHC				LR	LR			
	comp=N,240nm,13.2s							
HHC				LR	LR			
	comp=E,250nm,12.4s							
HHC				LR	LR			
	comp=Z,250nm,13.7s							
CN2	**Changchun**	**50.77**	**355**	*e*P		P	19 22 44.3	+3.2
USRK	**Ussuriysk Arra**	**51.00**	**2**	P		**P**	**19 22 42.4**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=186,slow=6.8,SNR=12							
MDJ	**Mudanjiang**	**51.40**	**359**	P		**P**	**19 22 45.8**	**0.0**
MDJ				pmax	pmax			
	comp=Z,14nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,94nm,5.6s							
ASAJ	**Asahikawa**	**52.09**	**11**	P		**P**	**19 22 50.8**	**-0.2**
	comp=Z,20nm,0.6s,baz=221,slow=8.2,SNR=11							
ASAJ	**Asahikawa**	**52.09**	**11**	P		**P**

MK31	**Makanchi Array**	**68.41**	**327**	*e*P		**P**	**19 24 42.3**	**-0.1**
MKAR	**Makanchi Array**	**68.41**	**327**	P		**P**	**19 24 42.3**	**-0.1**
	comp=Z,34nm,0.5s,baz=114,slow=8.6,SNR=662							
MKAR	**Makanchi Array**	**68.41**	**327**	P		**P**	**19 24 42.3**	**-0.1**
YAK	**Yakutsk**	**68.84**	**360**	*e*P		**P**	**19 24 43.2**	**-1.5**
	comp=Z,10nm,0.4s							
FX1	**Attu Island--F**	**69.85**	**26**	P		**P**	**19 24 51.2**	**0.0**
	comp=Z,23nm,0.8s,baz=43,slow=3.1,SNR=5.9							
FX1	**Attu Island--F**	**69.85**	**26**	P		**P**	**19 24 51.2**	**0.0**
KZA	**Kyzart**	**69.99**	**319**	P		**P**	**19 24 53.5**	**+0.7**
	SNR=17							
KZA				P		**P**	**19 24 53.5**	**+0.7**
	SNR=17							
TKM2	**Tokmak 2**	**70.19**	**320**	P		**P**	**19 24 54.0**	**+0.2**
	SNR=39							
TKM2				P		**P**	**19 24 54.0**	**+0.2**
	SNR=39							
TKM2	**Tokmak 2**	**70.19**	**320**	*e*P		**P**	**19 24 53.4**	**-0.4**
	comp=Z,79nm,1.2s							
KBK	**Karagaybulak**	**70.47**	**320**	P		**P**	**19 24 55.8**	**+0.3**
	SNR=18							
KBK				P		**P**	**19 24 55.8**	**+0.3**
	SNR=18							
AAK	**Ala-Archa**	**70.75**	**320**	P		**P**	**19 24 57.6**	**+0.5**
	SNR=17							
AAK				P		**P**	**19 24 57.6**	**+0.5**
	SNR=17							
AAK	**Ala-Archa**	**70.75**	**320**	*e*P		**P**	**19 24 57.2**	**+0.1**
CHMS	**Chumnysh**	**70.77**	**320**	P		**P**	**19 24 56.9**	**-0.1**
	SNR=11							
CHMS				P		**P**	**19 24 56.9**	**-0.1**
	SNR=11							
AML	**Almayashu**	**71.02**	**319**	P		**P**	**19 24 59.6**	**+0.5**
	SNR=39							
AML				P		**P**	**19 24 59.6**	**+0.5**
	SNR=39							
USP	**Ospenovka**	**71.06**	**320**	P		**P**	**19 24 58.9**	**+0.1**
	SNR=47							
USP				P		**P**	**19 24 58.9**	**+0.1**
	SNR=47							
EKS2	**Erkin-Say**	**71.23**	**319**	P		**P**	**19 25 00.6**	**+0.6**
	SNR=34							
EKS2				P		**P**	**19 25 00.6**	**+0.6**
	SNR=34							
EKS2	**Erkin-Say**	**71.23**	**319**	*e*P		**P**	**19 24 59.9**	**-0.1**
	comp=Z,21nm,0.7s							
ZALV	**Zalesovo Beam**	**71.73**	**334**	P		**P**	**19 25 01.3**	**-1.3**
	comp=Z,5.8nm,0.5s,baz=127,slow=5.6,SNR=22							
ZALV	**Zalesovo Beam**	**71.73**	**334**	P		**P**	**19 25 01.3**	**-1.3**
KURK	**Kurchatov**	**72.69**	**329**	P		**P**	**19 25 07.8**	**-0.6**
	comp=Z,11nm,0.6s,baz=129,slow=5.1,SNR=98							
KURK	**Kurchatov**	**72.69**	**329**	P		**P**	**19 25 07.8**	**-0.6**
KKAR	**Karatay Array**	**73.56**	**319**	*e*P		**P**	**19 25 13.3**	**-0.3**
	comp=Z,12nm,0.9s							
BVAR	**Borovoye Array**	**78.24**	**328**	P		**P**	**19 25 39.4**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=126,slow=9.3,SNR=15							
BVAR	**Borovoye Array**	**78.24**	**328**	P		**P**	**19 25 39.4**	**-0.7**
ABKAR	**Akbulak array**	**82.71**	**322**	*e*P		**P**	**19 26 03.0**	**-1.1**
AKTO	**Aktyubinsk**	**84.27**	**322**	P		**P**	**19 26 11.5**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=104,slow=6.8,SNR=18							
AKTO	**Aktyubinsk**	**84.27**	**322**	P		**P**	**19 26 11.5**	**-0.6**
TNA	**Tin City**	**85.12**	**22**	*e*P		**P**	**19 26 15.8**	**-0.2**
	comp=Z,3.8nm,0.7s							
KDAK	**Kodiak Island**	**89.07**	**31**	P		**P**	**19 26 35.0**	**-0.3**
	comp=Z,6.1nm,1.0s,baz=270,slow=5.1,SNR=3.6							
KDAK	**Kodiak Island**	**89.07**	**31**	P		**P**	**19 26 35.0**	**-0.3**
COLD	**Coldfoot**	**92.37**	**23**	*e*P		**P**	**19 26 48.8**	**-1.6**
	comp=Z,8.0nm,0.9s							
ILAR	**Eielson Array**	**93.23**	**25**	P		**P**	**19 26 52.5**	**-2.0**
	comp=Z,3.2nm,0.7s,baz=272,slow=4.3,SNR=30							
ILAR	**Eielson Array**	**93.23**	**25**	P		**P**	**19 26 52.5**	**-2.0**
INK	**Inuvik**	**98.76**	**22**	P		**P**	**19 27 17.9**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=278,slow=4.1,SNR=4.8							
INK	**Inuvik**	**98.76**	**22**	*e*P		**P**	**19 27 17.0**	**-2.4**
	comp=Z,3.9nm,1.2s							
INK				P		**P**	**19 27 17.9**	**-1.5**
INK				*e*PcP		Pdif	19 27 18.6	-0.9
ARCES	**ARCESS Array B**	**101.70**	**340**	P		**Pdif**	**19 27 33.8**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=90,slow=8.5,SNR=5.5							
ARCES	**ARCESS Array B**	**101.70**	**340**	P		**Pdif**	**19 27 33.8**	**+1.2**
FINES	**FINESS Array B**	**102.93**	**331**	PKiKP		**PKiKP**	**19 31 57.0**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=100,slow=3.3,SNR=14							
FINES	**FINESS Array B**	**102.93**	**331**	PKiKP		**PKiKP**	**19 31 57.0**	**-1.0**
RES	**Resolute Bay**	**107.63**	**11**	Pdiff		**Pdif**	**19 27 58.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=313,slow=3.9,SNR=4.8							
RES				PKiKP		**PKiKP**	**19 32 06.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=308,slow=5.1,SNR=4.5							
RES	**Resolute Bay**	**107.63**	**11**	Pdif		**Pdif**	**19 27 58.9**	**+0.1**
RES				PKiKP		**PKiKP**	**19 32 06.3**	**0.0**
YKA	**Yellowknife Ar**	**107.63**	**26**	Pdiff		**Pdif**	**19 27 58.9**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=288,slow=4.8,SNR=3.5							
YKA				PKiKP		**PKiKP**	**19 32 06.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=294,slow=1.7,SNR=13							
YKA				PKKPbc		**PKKPbc**	**19 43 20.0**	**-3.7**
	comp=Z,0.4nm,0.7s,baz=100,slow=2.8,SNR=6.9							
YKA	**Yellowknife Ar**	**107.63**	**26**	Pdif		**Pdif**	**19 27 58.9**	**-0.2**
YKA				PKiKP		**PKiKP**	**19 32 06.2**	**-0.4**
YKA				PKKPbc		**PKKPbc**	**19 43 20.0**	**-3.7**
NOA	**NORSAR Array B**	**109.93**	**333**	Pdiff		**Pdif**	**19 28 13.3**	**+3.9**
	comp=Z,1.0nm,0.8s,baz=37,slow=6.5,SNR=3.9							
NOA	**NORSAR Array B**	**109.93**	**333**	Pdif		**Pdif**	**19 28 13.3**	**+3.9**
GERES	**GERESS Array B**	**112.63**	**320**	PKiKP		**PKiKP**	**19 32 16.2**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=64,slow=1.1,SNR=20							
GERES	**GERESS Array B**	**112.63**	**320**	PKiKP		**PKiKP**	**19 32 16.2**	**-0.4**
PDAR	**Pinedale Array**	**116.68**	**45**	PKP		**PKPdf**	**19 32 25.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=315,slow=1.3,SNR=4.0							
PDAR	**Pinedale Array**	**116.68**	**45**	PKP		**PKPdf**	**19 32 25.3**	**+0.5**
HINF	**Hinteralfeld**	**117.29**	**321**	*e*PKiKP		**PKPdf**	**19 32 23.9**	**-1.6**
	comp=Z,5.1nm,0.6s							
LPG	**La Plagne**	**118.18**	**318**	*e*PKiKP		**PKPdf**	**19 32 27.2**	**-0.4**
	comp=Z,5.6nm,0.6s							
LPL	**La Plagne**	**118.18**	**318**	*e*PKiKP		**PKPdf**	**19 32 27.1**	**-0.5**
	comp=Z,6.4nm,0.5s							
CABF	**La Chapelle**	**118.21**	**320**	*e*PKiKP		**PKPdf**	**19 32 27.1**	**-0.3**
	comp=Z,12nm,0.6s							
MBDF	**Montbardon**	**118.43**	**317**	*e*PKiKP		**PKPdf**	**19 32 28.3**	**+0.3**
	comp=Z,5.8nm,0.7s							
ORIF	**Oris-en-Rattie**	**118.95**	**318**	*e*PKiKP		**PKPdf**	**19 32 28.2**	**-0.7**
	comp=Z,6.2nm,0.7s							
KEST	**Kesra**	**119.08**	**307**	PKP		**PKPdf**	**19 32 29.1**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=67,slow=9.2,SNR=7.8							
KEST	**Kesra**	**119.08**	**307**	PKP		**PKPdf**	**19 32 29.1**	**-0.3**
LOR	**Lormes**	**119.37**	**321**	*e*PKiKP		**PKPdf**	**19 32 28.9**	**-0.6**
	comp=Z,1.6nm,0.5s							
SMRF	**Simiane la Rot**	**119.49**	**317**	*e*PKiKP		**PKPdf**	**19 32 29.8**	**-0.1**
SSF	**Saint Saulge**	**119.68**	**321**	*e*PKiKP		**PKPdf**	**19 32 29.8**	**-0.3**
	comp=Z,7.9nm,0.7s							
VIVF	**Saint-Julien-l**	**119.78**	**318**	*e*PKiKP		**PKPdf**	**19 32 29.7**	**-0.7**
AVF	**Avril sur Loir**	**119.88**	**321**	*e*PKiKP		**PKPdf**	**19 32 29.7**	**-0.8**
	comp=Z,4.9nm,0.5s							
BGF	**Bois d'Agland**	**120.30**	**321**	*e*PKiKP		**PKPdf**	**19 32 31.1**	**-0.2**
	comp=Z,14nm,0.6s							
LASF	**Ste Croix**	**120.61**	**318**	*e*PKiKP		**PKPdf**	**19 32 31.5**	**-0.5**
TCF	**Toulx Ste Croi**	**120.81**	**321**	*e*PKiKP		**PKPdf**	**19 32 32.0**	**-0.3**
	comp=Z,10nm,0.7s							
ANMO	**Albuquerque**	**121.07**	**53**	PKP		**PKPdf**	**19 32 34.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=186,slow=6.2,SNR=3.8							
ANMO	**Albuquerque**	**121.07**	**53**	PKP		**PKPdf**	**19 32 34.2**	**+0.8**
MTLF	**Montolieu**	**121.99**	**317**	*e*PKiKP		**PKPdf**	**19 32 34.1**	**-0.6**
MFF	**Saint Martin d**	**122.14**	**322**	*e*PKiKP		**PKPdf**	**19 32 34.3**	**-0.5**
ULM	**Lac du Bonnet**	**122.29**	**33**	PKP		**PKPdf**	**19 32 34.3**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=193,slow=5.6,SNR=3.7							
ULM	**Lac du Bonnet**	**122.29**	**33**	PKP		**PKPdf**	**19 32 34.3**	**-0.7**
EPF	**Esparros**	**123.37**	**318**	*e*PKiKP		**PKPdf**	**19 32 37.2**	**-0.2**
TXAR	**Lajitas Array**	**124.67**	**59**	PKP		**PKPdf**	**19 32 40.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=290,slow=1.7,SNR=4.1							
TXAR	**Lajitas Array**	**124.67**	**59**	PKP		**PKPdf**	**19 32 40.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**129.11**	**281**	PKP		**PKPdf**	**19 32 49.3**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=75,slow=2.3,SNR=27							
TORD				SKPbc		SKPab	19 35 58.3	-4.0
	comp=Z,0.6nm,0.7s,baz=81,slow=3.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**129.11**	**281**	PKP		**PKPdf**	**19 32 49.3**	**+0.3**
TORD				SKPbc		SKPab	19 35 58.3	-4.0
DBIC	**Dimbokro**	**135.50**	**272**	PKP		**PKPdf**	**19 33 02.0**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=81,slow=1.6,SNR=11							
DBIC	**Dimbokro**	**135.50**	**272**	PKP		**PKPdf**	**19 33 02.0**	**+0.9**
LIC	**Lamto**	**135.64**	**272**	*e*PKiKP		**PKPdf**	**19 33 00.5**	**-0.9**
	comp=Z,6.2nm,0.5s							
LPAZ	**La Paz**	**150.52**	**142**	PKPbc		**PKPbc**	**19 33 34.9**	**+1.3**
	comp=Z,2.8nm,0.4s,baz=319,slow=0.7,SNR=21							
LPAZ	**La Paz**	**150.52**	**142**	*e*PKPdf		**PKPdf**	**19 33 28.1**	**0.0**
LPAZ				PKPbc		**PKPbc**	**19 33 34.9**	**+1.3**

*IDC **25** 19:41:44.8±1.5,38°.42N×72°.03E,h0km,mb3.5/5,*
mb1 3.6/10,mb1mx3.4/29,mbtmp3.5/10,ML3.2/5,MS3.7/1,
Ms1 3.7/1,ms1mx2.5/39,Error ellipse: s-maj=25.8km
s-min=21.3km az=40.0
*NNC **25** 19:41:47.2±3.1,38°.51N×71°.67E,h0km,mb3.9,mpv3.7,*
Error ellipse: s-maj=31.9km s-min=20.6km az=47.0

ISC 25 19:41:48.6±3.6,38°.6N±0°.3×71°.6E±0°.2,h47km,n24,
σ1§54/12,mb3.4/5,1C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.90**	**23**	P	**Pn**	**19 42 47.8**	**+1.4**
	SNR=83						
AML				P	**Pn**	**19 42 47.8**	**+1.4**
	SNR=83						
EKS2	**Erkin-Say**	**4.41**	**21**	P	Pn	19 42 58.0	+4.9
	SNR=9.9						
EKS2				P	Pn	19 42 58.0	+4.9
	SNR=9.9						
KK31	**Karatay Array**	**4.61**	**350**	⇓Pn	Pn	19 42 59.5	+3.8
	4.3nm,0.3s,baz=164,slow=13,SNR=118						
KK31				⇓Sn	Sn	19 43 55.9	+7.9
	7.1nm,0.4s,baz=144,slow=23,SNR=4.7						
KK31				⇓Lg	Lg	19 44 13.2	
	14nm,0.5s						
AAK	**Ala-Archa**	**4.62**	**28**	P	Pn	19 42 59.4	+3.4
	SNR=12						
AAK				P	Pn	19 42 59.4	+3.4
	SNR=12						
KBK	**Karagaybulak**	**4.81**	**31**	P	Pn	19 43 03.4	+4.7
	SNR=8.8						
KBK				P	Pn	19 43 03.4	+4.7
	SNR=8.8						
CHMS	**Chumysh**	**5.03**	**27**	P	Pn	19 43 05.3	+3.8
	SNR=11						
CHMS				P	Pn	19 43 05.3	+3.8
	SNR=11						
USP	**Ospenovka**	**5.18**	**24**	P	Pn	19 43 07.0	+3.4
	SNR=6.6						
USP				P	Pn	19 43 07.0	+3.4
	SNR=6.6						
TKM2	**Tokmak 2**	**5.30**	**34**	P	Pn	19 43 08.9	+3.5
	SNR=7.0						
TKM2				P	Pn	19 43 08.9	+3.5
	SNR=7.0						
TKM2	**Tokmak 2**	**5.30**	**34**	⇓Pn	Pn	19 43 08.1	+2.7
	7.0nm,0.6s						
TKM2				⇓Lg	Lg	19 44 33.0	
	17nm,0.6s						
MK31	**Makanchi Array**	**11.37**	**40**	P	Pn	19 44 31.9	+3.6
	0.9nm,0.7s,baz=226,slow=13,SNR=11						
MKAR	**Makanchi Array**	**11.37**	**40**	Pn	**Pn**	**19 44 27.2**	**-1.1**
	0.1nm,0.3s,baz=222,slow=17,SNR=6.2						
KURK	**Kurchatov**	**13.13**	**20**	Pn	**Pn**	**19 44 51.6**	**-0.6**
	0.0nm,0.3s,baz=216,slow=12,SNR=2.9						
AB31	**Akbulak array**	**13.58**	**326**	P	**Pn**	**19 44 58.8**	**+0.4**
	1.7nm,0.5s,baz=152,slow=14,SNR=48						
BVA0	**Borovoye Array**	**14.49**	**357**	P	**P**	**19 45 13.6**	**-2.7**
	baz=152,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**14.49**	**357**	Pn	**Pn**	**19 45 11.0**	**+0.4**
	0.2nm,0.3s,baz=172,slow=12,SNR=4.8						
ZRNK	**Zerenda**	**14.50**	**354**	⇑P	**Pn**	**19 45 11.1**	**+0.3**
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**15.29**	**325**	Pn	**P**	**19 45 23.0**	**-2.3**
	0.1nm,0.3s,baz=133,slow=17,SNR=3.6						
AKTO	**Aktyubinsk**	**15.29**	**325**	⇓P	**P**	**19 45 26.7**	**+1.4**
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**17.84**	**26**	P	**P**	**19 45 53.0**	**-0.5**
	0.1nm,0.3s,baz=216,slow=7.1,SNR=2.8						
SONM	**Songino Array**	**26.81**	**58**	P	**P**	**19 47 25.1**	**+0.7**
	0.3nm,1.0s,baz=90,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**36.06**	**324**	P	P	19 48 50.0	+4.7
	2.1nm,1.0s,baz=118,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**39.43**	**336**	P	P	19 49 17.6	+4.0
	3.0nm,1.0s,baz=112,slow=9.3,SNR=3.5						
ARCES				LR	LR	20 06 41.0	
	comp=Z,105nm,21.9s,baz=231,slow=38						
YKA	**Yellowknife Ar**	**79.16**	**3**	P	P	19 53 51.8	+3.9
	0.2nm,0.7s,baz=351,slow=5.6,SNR=5.0						
WRA	**Warramunga Arr**	**82.68**	**123**	P	P	19 54 08.9	+1.6
	0.2nm,0.6s,baz=323,slow=4.4,SNR=3.0						

MEX 25 19:46:01.3±0.7,16°.80N×100°.13W,h5km±3km,MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.27**	**74**	*i* P	Pg	19 46 05.2	-1.4
ACX				*i* S	Sg	19 46 08.7	-1.5
CAIG	**El Cayaco**	**0.28**	**332**	*e*P	Pg	19 46 06.4	-0.5
CAIG				*e*S	Sg	19 46 10.9	+0.2
MEIG	**Mezcala**	**1.22**	**23**	*e*P	Pg	19 46 20.9	-4.1
MEIG				*i* S	Sg	19 46 37.1	-3.8
ZIIG	**Zihuatanejo**	**1.51**	**302**	*e*P	Pn	19 46 27.2	-1.8
ZIIG				*i* S	Sn	19 46 45.9	-3.2
PLIG	**Platanillo**	**1.70**	**21**	*e*P	Pn	19 46 28.1	-3.5
PLIG				*i* S	Sn	19 46 48.8	-5.1
PNIG	**Pinotepa**	**1.96**	**102**	*e*P	Pn	19 46 31.8	-3.5
PNIG				*i* S	Sn	19 46 56.5	-3.7
YAIG	**Yautepec**	**2.29**	**26**	*e*P	Pn	19 46 36.2	-3.7
YAIG				*e*S	Sn	19 47 03.8	-4.8
MOIG	**Morelia**	**3.04**	**341**	*i* S		19 47 23.8	
VHO	**Vista Hermosa**	**3.26**	**85**	*e*P	Pn	19 46 53.1	-0.2
VHO				*e*S	Sn	19 47 31.5	-1.2

*DJA **25** 20:09:29,8°.58S×112°.22E,h91km,MLv3.6/12*
IDC 25 20:09:12.9±2.3,8°.18S×112°.11E,h0km,mb3.8/5,
mb1 3.9/5,mb1mx3.6/16,mbtmp3.8/5,Error ellipse:
s-maj=142.9km s-min=19.3km az=52.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.49**	**121**	P	P	20 14 33.9	-0.2
	0.8nm,0.4s,baz=295,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.94**	**129**	P	P	20 14 47.5	+0.3
	1.2nm,0.6s,baz=304,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**36.16**	**135**	P	P	20 16 16.9	-0.3
	1.9nm,1.0s,baz=328,slow=9.5,SNR=4.7						
MKAR	**Makanchi Array**	**60.83**	**337**	P	P	20 19 27.9	+0.9
	0.5nm,0.4s,baz=151,slow=7.3,SNR=13						
ZALV	**Zalesovo Beam**	**66.04**	**343**	P	P	20 20 00.3	-1.0
	0.5nm,0.4s,baz=142,slow=7.3,SNR=2.8						

IDC 25 20:31:50.3±3.8,34°.04N×80°.98E,h0km,mb3.3/5,
mb1 3.7/5,mb1mx3.3/25,mbtmp3.4/5,Error ellipse:
s-maj=208.5km s-min=24.7km az=60.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVAR	**Borovoye Array**	**20.43**	**341**	P	P	20 36 28.6	-0.4
	0.1nm,0.3s,baz=141,slow=7.4,SNR=2.0						
CMAR	**Chiang Mai Arr**	**22.32**	**130**	P	P	20 36 49.7	+0.1
	2.5nm,0.7s,baz=310,slow=11,SNR=32						
WRA	**Warramunga Arr**	**73.90**	**128**	P	P	20 43 27.4	0.0
	0.2nm,0.5s,baz=327,slow=5.5,SNR=5.4						
ASAR	**Alice Springs**	**76.32**	**131**	P	P	20 43 41.1	-0.2
	0.2nm,0.6s,baz=310,slow=5.1,SNR=5.1						
YKA	**Yellowknife Ar**	**82.99**	**7**	P	P	20 44 17.4	+0.4
	0.5nm,0.6s,baz=337,slow=5.6,SNR=5.3						

*IDC **25** 21:16:16.7±0.6,38°.37N×72°.17E,h0km,mb4.2/18,*
mb1 4.4/23,mb1mx4.4/27,mbtmp4.3/23,ML4.0/5,MS4.0/26,
Ms1 4.0/26,ms1mx3.9/43,Error ellipse: s-maj=13.2km
s-min=12.4km az=173.0
*NNC **25** 21:16:18.9±3.5,38°.53N×71°.95E,h0km,mb5.1,mpv5.1,*
Error ellipse: s-maj=30.1km s-min=18.8km az=3.0
*NEIC **25** 21:16:19.0±0.3,38°.18N×72°.24E,h20km,mb4.8/40,Error*
ellipse: s-maj=7.4km s-min=4.6km az=219.0
*ISCJB **25** 21:16:18.5±1.0,38°.46N±0°.03×72°.20E±0°.03,h16km±7km,*
mb4.5/83,MS4.1/37,Error ellipse: s-maj=4.2km
s-min=3.6km az=2.3
*MOS **25** 21:16:21.4±1.5,38°.53N×72°.19E,h37km,mb4.9/38,*
MS4.0/6,Error ellipse: s-maj=6.7km s-min=4.5km
az=106.2
*SZGRF **25** 21:16:22.4,38°.09N×72°.05E,h33km,mb4.6,Tajikistan*
*BJI **25** 21:16:27.9,38°.75N×72°.80E,h52km,mB4.9/34,mb4.6/36,*
ML4.5/3,Ms4.5/36,Ms7 4.2/34
ISC 25 21:16:21.7±0.6,38°.44N±0°.03×72°.12E±0°.03,h30km±4km,
n368,σ1§68/333,mb4.6/83,MS4.1/38,44C-20D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.19**	**69**	⇑*i*P	**Pn**	**21 17 07.8**	**-2.0**
KSH				sP	x	21 17 21.0	
AML	**Almayashu**	**3.88**	**18**	P	**Pn**	**21 17 21.0**	**+1.4**
	SNR=160						
AML				P	**Pn**	**21 17 21.0**	**+1.4**
	SNR=160						
UCH	**Uchtor**	**4.20**	**25**	P	Pn	21 17 27.6	+3.6
	SNR=27						
UCH				P	Pn	21 17 27.6	+3.6
	SNR=27						
KZA	**Kyzart**	**4.35**	**32**	P	**Pn**	**21 17 28.3**	**+2.3**
	SNR=19						
KZA				P	**Pn**	**21 17 28.3**	**+2.3**
	SNR=19						
EKS2	**Erkin-Say**	**4.40**	**16**	P	**Pn**	**21 17 28.1**	**+1.6**
	SNR=100						
EKS2				P	**Pn**	**21 17 28.1**	**+1.6**
	SNR=100						
EKS2	**Erkin-Say**	**4.40**	**16**	*e*PN	**Pn**	**21 17 28.1**	**+1.6**
EKS2	**Erkin-Say**	**4.40**	**16**	*e*Pn	**Pn**	**21 17 28.1**	**+1.6**
EKS2				*e*Sn	**Sn**	**21 18 14.8**	**-2.0**
AAK	**Ala-Archa**	**4.56**	**23**	P	Pn	21 17 31.9	+3.1
	SNR=86						
AAK				P	Pn	21 17 31.9	+3.1
	SNR=86						
AAK	**Ala-Archa**	**4.56**	**23**	*c i* PN	**Pn**	**21 17 30.8**	**+2.0**
AAK	**Ala-Archa**	**4.56**	**23**	*e*Pn	**Pn**	**21 17 30.1**	**+1.3**
AAK				*e*Sn	**Sn**	**21 18 20.3**	**-0.5**
CEP	**Cherat**	**4.61**	**182**	⇓P	Pn	21 17 33.5	+4.0
CEP				S	Sb	21 18 45.0	+7.8
KBL	**Kabul**	**4.62**	**213**	*e*PN	Pn	21 17 34.6	+5.0
KBL				*e*		21 18 32.6	
KBL	**Kabul**	**4.62**	**213**	*e*Pn	Pn	21 17 34.6	+5.0
KBL				*e*Sn	**Sb**	**21 18 32.6**	**-4.8**
KBK	**Karagaybulak**	**4.73**	**26**	P	**Pn**	**21 17 33.4**	**+2.3**
	SNR=69						
KBK				P	**Pn**	**21 17 33.4**	**+2.3**
	SNR=69						
FRU	**Bishkek**	**4.78**	**23**	⇓*i*PN	**Pn**	**21 17 34.0**	**+2.4**
FRU				pmax	pmax		
	comp=Z,304nm,1.8s						
KK31	**Karatay Array**	**4.81**	**346**	⇑Pn	**Pn**	**21 17 32.0**	**-0.1**
	comp=Z,55nm,0.4s,baz=168,slow=12,SNR=1169						
KK31				⇓Sn	**Sn**	**21 18 28.6**	**+1.7**
	comp=Z,168nm,0.6s,baz=164,slow=23,SNR=2.7						
KK31				⇑Lg	Lg	21 18 48.7	
	comp=Z,508nm,0.8s,baz=163,slow=26,SNR=3.6						
KKAR	**Karatay Array**	**4.81**	**346**	*e*PN	**Pn**	**21 17 33.3**	**+1.2**
KKAR				*e*		21 18 27.7	
KKAR	**Karatay Array**	**4.81**	**346**	*e*Pn	**Pn**	**21 17 33.3**	**+1.2**
KKAR				*e*Sn	**Sn**	**21 18 27.7**	**+0.9**
CHCP	**Chirah Chowk**	**4.86**	**169**	P	Pn	21 17 37.2	+4.4
ULHL	**Ulahol**	**4.93**	**38**	P	**Pn**	**21 17 35.8**	**+1.9**
	SNR=11						
ULHL				P	**Pn**	**21 17 35.8**	**+1.9**
	SNR=11						
CHMS	**Chumysh**	**4.97**	**23**	P	Pn	21 17 38.4	+4.1
	SNR=19						
CHMS				P	Pn	21 17 38.4	+4.1
	SNR=19						
USP	**Ospenovka**	**5.14**	**20**	P	**Pn**	**21 17 38.9**	**+2.2**
	SNR=88						
USP				P	**Pn**	**21 17 38.9**	**+2.2**
	SNR=88						
TKM2	**Tokmak 2**	**5.19**	**29**	P	Pn	21 17 42.0	+4.4
	SNR=79						
TKM2				P	Pn	21 17 42.0	+4.4
	SNR=79						
TKM2	**Tokmak 2**	**5.19**	**29**	⇓Pn	**Pn**	**21 17 39.5**	**+2.0**
	comp=Z,319nm,1.1s						
TKM2				⇑Lg	Lg	21 19 04.2	
	comp=Z,413nm,0.9s						
TKM2	**Tokmak 2**	**5.19**	**29**	*i* PN	Pn	21

comp=Z,121nm,0.6s
DANN Dangsing 13.98 133 *e*P Pn 21 19 32.7 -5.3
comp=Z,121nm,0.6s
VOSK Vostochnaya 14.30 357 ⇓Pn **Pn** **21 19 39.8 -2.2**
comp=Z,40nm,1.9s
VOSK Lg Lg 21 23 47.5
KOLN Koldanda 14.33 135 *e*P Pn 21 19 37.4 -5.3
comp=Z,48nm,0.4s
KOLN Koldanda 14.33 135 *e*P Pn 21 19 37.4 -5.3
comp=Z,48nm,0.4s
BVA0 Borovoye Array 14.63 356 ⇑Pn **Pn** **21 19 43.6 -2.8**
comp=Z,3.4nm,0.7s
BVA0 ⇓Sn **Sn** **21 22 33.2 +5.7**
comp=Z,4.0nm,1.1s,baz=171,slow=25,SNR=5.1
BVA0 Lg Lg 21 24 05.4
BVAR Borovoye Array 14.63 356 Pn **Pn** **21 19 43.7 -2.8**
comp=Z,1.1nm,0.3s,baz=165,slow=12,SNR=26
BVAR Sn **Sn** **21 22 24.5 -3.0**
comp=Z,1.2nm,0.3s,baz=170,slow=26,SNR=6.1
BVAR Lg Lg 21 23 54.8
comp=Z,0.2nm,0.3s,baz=186,slow=26,SNR=3.2
BVAR LR LR 21 25 48.1
comp=Z,327nm,21.9s,baz=353,slow=39
BVAR Borovoye Array 14.63 356 P **Pn** **21 19 43.7 -2.8**
BVAR 21 22 24.5
BVAR Borovoye Array 14.63 356 Pn **Pn** **21 19 43.7 -2.8**
BVAR Sn **Sn** **21 22 24.5 -3.0**
BVAR Lg Lg 21 23 54.8
ZRNK Zerenda 14.67 353 ⇑Pn **Pn** **21 19 44.0 -3.0**
comp=Z,14nm,0.6s
ZRNK Lg Lg 21 23 58.7
BRVK Borovoye 14.67 356 ⇓Pn **Pn** **21 19 44.4 -2.6**
comp=Z,105nm,1.5s
BRVK ⇑Sn **Sn** **21 22 32.3 +3.9**
comp=Z,47nm,1.1s
BRVK Borovoye 14.67 356*ce*P **Pn** **21 19 44.9 -2.1**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 14.67 356 *e*Pn **Pn** **21 19 45.0 -2.1**
BRVK *e*Sn **Sn** **21 22 25.4 -3.0**
GKN Gorkha 14.75 131 *e*P Pn 21 19 42.3 -6.1
comp=Z,69nm,0.5s
GKN Gorkha 14.75 131 *e*P Pn 21 19 42.3 -6.1
comp=Z,69nm,0.5s
BHJ Bhuj 15.29 189 *ex* x 21 20 55.1
BHJ AMb AMB 21 20 58.9
comp=Z,65nm,1.1s
KKN Kakani 15.29 130 *e*P Pn 21 19 48.8 -6.8
comp=Z,58nm,0.6s
KKN Kakani 15.29 130 *e*P Pn 21 19 48.8 -6.8
KKN pmax pmax
comp=Z,58nm,0.6s
KKN Kakani 15.29 130 *e*P Pn 21 19 48.8 -6.8
comp=Z,58nm,0.6s
DMN Daman 15.32 131 *e*P Pn 21 19 50.0 -6.0
comp=Z,58nm,0.6s
DMN Daman 15.32 131 *e*P Pn 21 19 50.0 -6.0
comp=Z,58nm,0.6s
PKI Pulchoki 15.53 130 *e*P Pn 21 19 52.2 -6.6
comp=Z,73nm,0.6s
PKI Pulchoki 15.53 130 *e*P Pn 21 19 52.2 -6.6
PKI pmax pmax
comp=Z,73nm,0.6s
PKI Pulchoki 15.53 130 *e*P Pn 21 19 52.2 -6.6
comp=Z,73nm,0.6s
GUN Gumba 15.57 128 *e*P Pn 21 19 52.6 -6.7
comp=Z,92nm,0.8s
GUN Gumba 15.57 128 *e*P Pn 21 19 52.6 -6.7
comp=Z,92nm,0.8s
AKTO Aktyubinsk 15.63 325 Pn **Pn** **21 19 56.0 -3.6**
comp=Z,0.9nm,0.3s,baz=132,slow=14,SNR=37
AKTO Sn **Sn** **21 22 48.8 -2.8**
comp=Z,1.3nm,0.3s,baz=348,slow=13,SNR=4.6
AKTO Lg Lg 21 24 42.8
comp=Z,0.2nm,0.3s,baz=49,slow=19,SNR=2.3
AKTO LR LR 21 26 21.2
comp=Z,326nm,21.1s,baz=299,slow=38
AKTO Aktyubinsk 15.63 325 ⇓Pn **Pn** **21 19 55.5 -4.1**
comp=Z,13nm,0.7s
AKTO ⇑Sn **Sn** **21 22 53.5 +1.8**
comp=Z,4.7nm,0.8s
AKTO Lg Lg 21 24 31.1
AKTO Aktyubinsk 15.63 325 P **Pn** **21 19 56.0 -3.6**
AKTO 21 22 48.8
AKTO Aktyubinsk 15.63 325 Pn **Pn** **21 19 56.0 -3.6**
AKTO Sn **Sn** **21 22 48.8 -2.8**
AKTO Lg Lg 21 24 42.8
JIRN Jiri 15.94 128 *e*P Pn 21 19 57.9 -6.2
comp=Z,68nm,0.6s
JIRN Jiri 15.94 128 *e*P Pn 21 19 57.9 -6.2
comp=Z,68nm,0.6s
RAMN Ramite 16.70 129 *e*P Pn 21 20 07.3 -6.4
comp=Z,60nm,0.5s
RAMN Ramite 16.70 129 *e*P Pn 21 20 07.3 -6.4
comp=Z,60nm,0.5s
TAPN Taplejung 17.11 126 *e*P Pn 21 20 11.9 -7.0
comp=Z,67nm,0.8s
TAPN Taplejung 17.11 126 *e*P Pn 21 20 11.9 -7.0
comp=Z,67nm,0.8s
ODAN Odare 17.25 128 *e*P Pn 21 20 14.2 -6.4
comp=Z,66nm,0.7s
ODAN Odare 17.25 128 *e*P Pn 21 20 14.2 -6.4
comp=Z,66nm,0.7s
ZAA0 Zalesovo Array 17.78 25 *e*Pn **Pn** **21 20 24.9 -1.8**
ZAA0 *e*Sn **Sn** **21 23 42.4 -1.4**
ZALV Zalesovo Beam 17.78 25 P **Pn** **21 20 25.1 -1.6**
comp=Z,1.3nm,0.3s,baz=224,slow=10,SNR=36
ZALV LR LR 21 27 37.0
comp=Z,235nm,19.6s,baz=184,slow=38
ZALV Zalesovo Beam 17.78 25 P **Pn** **21 20 25.1 -1.6**
ZALV Zalesovo Beam 17.78 25 P **Pn** **21 20 25.1 -1.6**
LSA Lhasa 17.99 113 P **Pn** **21 20 27.3 -2.6**
LSA pmax pmax
comp=Z,30nm,1.0s
LSA Lhasa 17.99 113 *e*P **Pn** **21 20 27.0 -2.9**
LSA pmax pmax
comp=Z,34nm,1.1s
LSA Lhasa 17.99 113 *e*P **Pn** **21 20 27.0 -2.9**
comp=Z,34nm,1.1s
NVS Novosibirsk 18.05 21 ⇑*i*P **Pn** **21 20 27.8 -2.2**
NVS *i* 21 23 44.8
NVS pmax pmax
comp=N,26nm,0.8s
NVS pmax pmax
comp=E,15nm,1.1s
NVS smax smax
comp=N,42nm,2.0s
NVS smax smax
comp=E,13nm,1.5s
AKL Akola 18.18 165 *e*P **Pn** **21 20 29.6 -2.2**
NGP Nagpur 18.24 159 *e*P **Pn** **21 20 28.4 -4.1**
NGP *ex* x 21 20 50.0
comp=Z,32nm,1.1s
NGP *ex* x 21 23 40.6
MAK Makhachkala 19.18 291 P Pn 21 20 49.3 +5.5
MAK MLR MLR
comp=Z,1μm,12.0s
POO Poona 19.90 175 *e*P **P** **21 20 49.1 -1.7**
SVE Sverdlovsk 19.91 341 ⇓*i*P **P** **21 20 49.8 -0.7**
SVE pmax pmax
comp=Z,48nm,1.2s
SVE MLR MLR
comp=Z,647nm,11.0s
ARU Arti 20.13 338*d i*P **P** **21 20 52.1 -0.9**
ARU 21 21 23.1
ARU S S 21 24 25.3 -12
ARU SS Sn 21 25 05.7 +25
ARU pmax pmax
comp=Z,56nm,1.7s
ARU Arti 20.13 338 *e*P **P** **21 20 52.2 -0.7**
comp=Z,34nm,0.9s
ARU S **S** **21 24 34.5 -2.8**
SHL Shillong 21.05 122 *e*P **P** **21 21 00.2 -3.3**
SHL *e*S S 21 24 47.0 -9.4
KAD Karad 21.13 175 *e*P **P** **21 21 04.4 +0.2**
KAD AMb AMB 21 21 08.7
comp=Z,18nm,1.5s
TBLG Delisi 21.17 288 *e*P **P** **21 21 08.7 +4.3**
TBLG Delisi 21.17 288 P **P** **21 21 08.7 +4.3**
GNI Garni 21.23 283 P **P** **21 21 07.5 +2.2**
comp=Z,7.2nm,0.5s,baz=304,slow=4.2,SNR=11
GNI Garni 21.23 283*ce*P P 21 21 10.3 +5.0
GNI pmax pmax
comp=Z,59nm,1.2s
GNI Garni 21.23 283 *e*P **P** **21 21 04.4 -0.9**
comp=Z,144nm,1.4s
GNI *e*S **S** **21 25 00.5 +0.7**
GTA Gaotai 21.54 79 P **P** **21 21 09.8 +1.3**
GTA pP pP 21 21 22.0 +5.3
GTA sP sP 21 21 29.5 +9.0
GTA S **S** **21 25 03.5 -2.2**
GTA pmax pmax
comp=Z,12nm,1.6s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=N,570nm,15.4s
GTA LR LR
comp=E,570nm,16.4s
GTA LR LR
comp=Z,530nm,17.3s
HYB Hyderabad 21.69 163 *i* P **P** **21 21 11.5 +1.4**
HYB *e*S S 21 24 58.0 -11
ZEI Tsey 21.81 290 *e*P **P** **21 21 12.9 +1.4**
ZEI pmax pmax
comp=Z,35nm,0.7s
AKH Akhalkalaki 22.11 287 P **P** **21 21 17.1 +2.4**
ONI Oni 22.14 290 P **P** **21 21 16.8 +2.0**
KIV Kislovodsk 22.75 293 *e*P **P** **21 21 23.7 +2.2**
KIV *e**PP pP 21 21 41.6 +12
KIV *e*S **S** **21 25 25.0 -3.3**
KIV pmax pmax
comp=Z,21nm,0.7s
KIV MLR MLR
comp=Z,255nm,15.0s
KIV Kislovodsk 22.75 293 *e*P **P** **21 21 23.1 +1.6**
comp=Z,54nm,0.8s
KIV S **S** **21 25 27.3 -1.0**
VIS Vishakhapatnam 22.85 152 *ex* x 21 21 07.4
SOKR Solikamsk 23.30 340*c i*P **P** **21 21 27.6 +0.9**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,390nm,15.0s
MOY Mondy 24.12 47 *e*P **P** **21 21 35.8 +1.0**
VRHR Novokhopersk 24.88 310 *e*P **P** **21 21 40.5 -1.0**
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,2.0nm,0.3s
ZAK Zakamensk 25.06 51 *e*P **P** **21 21 42.8 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.0s
LZH Lanzhou 25.29 85 *e*P **P** **21 21 47.5 +1.9**
LZH pP pP 21 22 00.3 +5.9
LZH sP sP 21 22 06.8 +8.7
LZH PP pwP 21 22 27.0 +33
LZH *e*S **S** **21 26 07.0 -2.7**
LZH sS sS 21 26 28.5 +4.2
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,170nm,6.0s
LZH LR LR
comp=N,1μm,12.0s
LZH LR LR
comp=E,1μm,13.2s
LZH LR LR
comp=Z,1μm,14.5s
TLY Talaya 25.67 49 *e*P P 21 21 54.5 +5.7
TLY *e*S **S** **21 26 13.8 -1.4**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,86nm,14.0s
TLY Talaya 25.67 49 *e*P **P** **21 21 49.1 +0.3**
VSR Storozhevoye 26.39 310 *e*P **P** **21 21 55.0 -0.2**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,50nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
SONM Songino Array 26.52 58 P **P** **21 21 57.5 +0.8**
comp=Z,7.7nm,1.0s,baz=254,slow=8.1,SNR=29
SONM LR LR 21 33 30.2
comp=Z,851nm,21.6s,baz=348,slow=39
SONM Songino Array 26.52 58 P **P** **21 21 57.5 +0.8**
SONM Songino Array 26.52 58 P **P** **21 21 57.5 +0.8**
ANN Anapa 26.56 295 *e*P **P** **21 21 58.6 +1.8**
ANN *e*S **S** **21 26 23.5 -5.7**
ANN pmax pmax
comp=Z,70nm,1.4s
ULN Ulaanbaatar 26.97 58 *e*P **P** **21 22 00.7 0.0**
ULN pmax pmax
comp=Z,17nm,1.4s
ULN Ulaanbaatar 26.97 58 *e*P **P** **21 22 00.7 0.0**
comp=Z,17nm,1.4s
CD2 Chengdu 26.98 97 P **P** **21 22 03.5 +2.6**
CD2 pP pP 21 22 16.5 +6.9
CD2 sP sP 21 22 23.0 +10
CD2 PP PP 21 22 50.5 -12
CD2 S **S** **21 26 35.0 -1.4**
CD2 sS sS 21 26 57.3 +6.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,4.2s
CD2 LR LR
comp=N,670nm,11.9s
CD2 LR LR
comp=Z,510nm,14.3s
MOS Moscow 28.76 318 *e*P **P** **21 22 14.6 -1.8**
MOS pmax pmax
comp=Z,32nm,0.8s
SIM Simferopol' 28.92 295 *e*P **P** **21 22 16.4 -1.5**
SIM *PP pP 21 22 33.0 +6.3
SIM pmax pmax
comp=Z,24nm,1.1s
KMI Kunming 29.07 108 P **P** **21 22 22.0 +2.3**
KMI S **S** **21 27 11.0 +1.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI LR LR
comp=N,230nm,8.5s
KMI LR LR
comp=E,130nm,8.8s
KMI LR LR
comp=Z,300nm,15.1s
OBN Obninsk 29.09 317 ⇑*e*P **P** **21 22 19.3 0.0**
OBN *e* 21 22 30.4
OBN 21 23 12.0
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 29.09 317 *e*P **P** **21 22 19.4 +0.1**
comp=Z,17nm,0.6s
ASF Jabal al Asfar 29.30 268 LR LR 21 36 33.9
comp=Z,141nm,18.7s,baz=301,slow=42
MMAI Mount Meron Ar 30.16 271 LR LR 21 36 13.7
comp=Z,175nm,20.9s,baz=60,slow=40
KLMR Klimovskoe 30.26 328 *e*P **P** **21 22 27.4 -2.2**
KLMR pmax pmax
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 30.29 73 *e*P **P** **21 22 30.5 +0.2**
HHC pP pP 21 22 45.5 +6.4
HHC sP sP 21 22 52.8 +10
HHC PP PP 21 23 31.0 -7.8
HHC S **S** **21 27 25.5 -2.8**
HHC sS sS 21 27 50.0 +7.1
HHC pmax pmax
comp=Z,140nm,6.3s
HHC LR LR
comp=N,500nm,14.6s
HHC LR LR
comp=E,510nm,14.0s
HHC LR LR
comp=Z,500nm,15.1s
CHTO Chiang Mai 30.43 122 *e*P **P** **21 22 32.0 +0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 30.43 122 *e*P **P** **21 22 32.0 +0.5**
comp=Z,2.2nm,0.9s
CM31 Chiang Mai Arr 30.68 123 *e*P **P** **21 22 34.1 +0.4**
comp=Z,4.7nm,1.0s
CMAR Chiang Mai Arr 30.68 123 P **P** **21 22 32.9 -0.8**
comp=Z,0.9nm,0.8s,baz=313,slow=8.8,SNR=12
CMAR Chiang Mai Arr 30.68 123 P **P** **21 22 32.9 -0.8**
CMAR Chiang Mai Arr 30.68 123 P **P** **21 22 32.9 -0.8**
GYA Guiyang 31.32 102 P **P** **21 22 41.8 +2.3**
GYA pP pP 21 22 55.0 +6.6
GYA sP sP 21 23 02.5 +10
GYA PP PP 21 23 46.5 -4.0
GYA PcP **PcP** **21 25 35.0 +1.9**
GYA S **S** **21 27 44.0 -0.7**
GYA sS sS 21 28 06.5 +7.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,480nm,16.5s
GYA LR LR
comp=E,370nm,17.4s
GYA LR LR
comp=Z,440nm,16.9s
EIL Elat 31.84 265 LR LR 21 38 34.7
comp=Z,252nm,19.1s,baz=69,slow=42
AKASG Malin Array Be 32.47 306 P **P** **21 22 49.0 -0.2**
comp=Z,3.1nm,0.5s,baz=80,slow=7.3,SNR=16
AKASG Malin Array Be 32.47 306 P **P** **21 22 49.0 -0.2**
AKASG Malin Array Be 32.47 306 P **P** **21 22 49.0 -0.2**
AKBB Malin Array Si 32.47 306 *e*P **P** **21 22 49.5 +0.3**
AKBB Malin Array Si 32.47 306 *e*P **P** **21 22 49.5 +0.3**
KIEV Kiev 32.48 306*c i*P **P** **21 22 49.4 +0.1**
KIEV Kiev 32.48 306 *e*P **P** **21 22 48.9 -0.4**
comp=Z,9.8nm,0.8s
ISP Isparta 32.53 282 *e*P **P** **21 22 50.0 0.0**
ISP Isparta 32.53 282 *e*P **P** **21 22 50.0 0.0**
TLCR 32.66 296 ⇑*i*P **P** **21 22 53.0 +2.1**
TIRR Tirgusor 33.00 295 *e*P **P** **21 22 53.0 -0.9**
TIRR Tirgusor 33.00 295 *e*P **P** **21 22 53.0 -0.9**
CFR Carcaliu 33.14 296 ⇓*i*P **P** **21 22 57.2 +2.1**
BOD Bodaibo 33.29 41 *e*P **P** **21 22 55.4 -0.8**
BOD pmax pmax
comp=Z,14nm,1.2s
BJT Baijiatuan 33.90 73 *e*P **P** **21 23 02.3 +0.6**
BJT pmax pmax
comp=Z,5.0nm,0.6s
BJT Baijiatuan 33.90 73 *e*P **P** **21 23 02.3 +0.6**
comp=Z,4.8nm,0.6s
VRI Vrincioaia 34.08 297 ⇑P P 21 23 06.4 +3.1
VRI Vrincioaia 34.08 297 ⇑*i*P P 21 23 06.4 +3.1
TESR 34.10 299 ⇑*i*P **P** **21 23 04.8 +1.4**
PLOR Plostina 34.14 297 ⇑P **P** **21 23 05.7 +1.9**
PLOR Plostina 34.14 297 ⇑*i*P **P** **21 23 05.7 +1.9**
NACGM Naroch 34.49 313 *e* P 21 23 03.0 -3.7
MLR Muntele Rosu 34.66 297 ⇑P **P** **21 23 10.8 +2.3**
MLR Muntele Rosu 34.66 297 ⇑*i*P **P** **21 23 10.8 +2.3**
JOF Joensuu 34.66 328 *e*P **P** **21 23 07.2 -0.9**
JOF pmax pmax
comp=Z,17nm,0.7s
JOF Joensuu 34.66 328 *ep* **P** **21 23 07.2 -0.9**
comp=Z,17nm,0.7s
JOF Joensuu 34.66 328 *ep* **P** **21 23 07.2 -0.9**
comp=Z,17nm,0.7s
BURAR Bucovina Array 35.02 301 ⇑*i*P P 21 23 17.4 +5.8
BUR08 Bucovina Ar. S 35.03 301 *e*P **P** **21 23 12.3 +0.7**
VSU Vasula 35.25 320*c i*P **P** **21 23 13.1 -0.1**
VSU pmax pmax
comp=Z,17nm,1.0s
VOIR 35.29 297 ⇑P P 21 23 08.8 -5.0
VOIR 35.29 297 ⇑*i*P P 21 23 08.8 -5.0
LVV L'vov 35.76 304 *e*P **P** **21 23 18.4 +0.7**
LOT Lotru 36.19 297 ⇑*i*P P 21 23 17.7 -3.9
APA Apatity 36.21 336 ⇑*e*P **P** **21 23 22.4 +1.1**
APA *i* 21 23 29.0
APA MLR MLR
comp=Z,500nm,12.0s
FINES FINESS Array B 36.40 324 P **P** **21 23 23.1 +0.1**
comp=Z,9.5nm,0.7s,baz=108,slow=8.4,SNR=43
FINES LR LR 21 39 29.6
comp=Z,228nm,20.5s,baz=308,slow=38
FINES FINESS Array B 36.40 324 P **P** **21 23 23.1 +0.1**
FINES FINESS Array B 36.40 324 P **P** **21 23 23.1 +0.1**
SUW Suwalki 36.46 312 *e*P **P** **21 23 23.7 +0.1**
SUW pmax pmax
comp=Z,20nm,0.9s
SUW Suwalki 36.46 312 *e*P **P** **21 23 23.7 +0.1**
comp=Z,20nm,0.9s
KAF Kangasniemi 36.51 325 *e*P **P** **21 23 22.7 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 36.51 325 *ep* **P** **21 23 22.7 -1.2**
comp=Z,4.1nm,0.5s
KAF Kangasniemi 36.51 325 *ep* **P** **21 23 22.7 -1.2**
comp=Z,4.1nm,0.5s
KWP Kalwaria Pacla 36.62 304 *e*P **P** **21 23 25.2 +0.1**
KWP pmax pmax
comp=Z,9.0nm,0.5s
KWP Kalwaria Pacla 36.62 304 *e*P **P** **21 23 25.2 +0.1**
comp=Z,9.3nm,0.5s
KWP Kalwaria Pacla 36.62 304 ⇓*i*P **P** **21 23 25.7 +0.6**
DRGR 36.78 299 ⇑P **P** **21 23 27.6 +1.0**
DRGR 36.78 299 ⇑*i*P **P** **21 23 27.6 +1.0**
TRPA Tarpa 36.80 302 ⇑*i*P **P** **21 23 28.5 +1.9**
GZR Gura Zlata 36.89 297 ⇓P **P** **21 23 29.4 +1.9**
GZR Gura Zlata 36.89 297 ⇓*i*P **P** **21 23 29.4 +1.9**
UZH Uzhgorod 36.93 302 *e*P **P** **21 23 28.3 +0.6**
UZH *e* 21 23 37.7
ATD Arta Tunnel 37.41 232 LR LR 21 40 28.3
comp=Z,167nm,21.7s,baz=204,slow=39
BZS Buzias 37.67 298 ⇑P **P** **21 23 35.5 +1.5**
BZS Buzias 37.67 298 ⇑*i*P **P** **21 23 35.5 +1.5**
QIZ Qiongzhong 37.97 110 P **P** **21 23 35.5 -1.4**
QIZ S **S** **21 29 27.5 +0.4**
QIZ LR LR
comp=N,320nm,30.3s
QIZ LR LR
comp=Z,150nm,23.5s
NIE Niedzica 38.19 304 *e*P **P** **21 23 40.0 +1.6**
NIE Niedzica 38.19 304 *e*P **P** **21 23 40.0 +1.6**
NJ2 Nanjing 38.37 85 *e*P **P** **21 23 40.8 +0.8**
NJ2 pP **pP** **21 23 50.3 +1.3**
NJ2 sP sP 21 23 59.0 +6.3
NJ2 S **S** **21 29 34.5 +1.7**
NJ2 pmax pmax
comp=Z,20nm,1.3s
NJ2 pmax pmax
comp=Z,150nm,9.8s
NJ2 LR LR
comp=N,280nm,22.4s
NJ2 LR LR
comp=E,150nm,20.1s
NJ2 LR LR
comp=Z,260nm,16.7s
OJC Ojcow 38.48 305 *e*P **P** **21 23 39.8 -1.0**
OJC Ojcow 38.48 305 *e*P **P** **21 23 41.5 +0.7**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 38.48 305 *e*P **P** **21 23 41.5 +0.7**
comp=Z,14nm,0.9s
PSZ Piszkesteto 38.58 302 *e*P **P** **21 23 41.9 +0.1**
PSZ Piszkesteto 38.58 302 *e*P **P** **21 23 41.9 +0.1**
KEV Kevo 39.35 337 *e*P **P** **21 23 49.8 +2.0**
KEV Kevo 39.35 337 *e*P **P** **21 23 49.8 +2.0**
PKSM Moragy 39.64 299 ⇑P pP 21 24 00.6 +1.0
PKSM Moragy 39.64 299 ⇑*i*P pP 21 24 00.6 +1.0
ARCES ARCESS Array B 39.71 336 P **P** **21 23 51.0 +0.2**
comp=Z,2.3nm,0.4s,baz=112,slow=7.7,SNR=34
ARCES LR LR 21 41 17.3
comp=Z,351nm,19.0s,baz=274,slow=38
ARCES ARCESS Array B 39.71 336 P **P** **21 23 51.0 +0.2**
ARCES ARCESS Array B 39.71 336 P **P** **21 23 51.0 +0.2**
ARE0 ARCESS Array S 39.71 336 *e*P **P** **21 23 51.2 +0.4**
ARE0 ARCESS Array S 39.71 336 *e*P **P** **21 23 51.5 +0.7**
CN2 Changchun 39.95 65 *e*P **P** **21 23 54.0 +0.9**
MORC Moravsky Berou 39.96 305 *e*P **P** **21 23 53.7 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 39.96 305 *e*P **P** **21 23 53.7 +0.4**
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 39.96 305 ⇑*i*P **P** **21 23 54.5 +1.2**
KTK1 Kautokeino 40.22 335 *e*P **P** **21 23 55.2 +0.2**
KTK1 *ep*P **pP** **21 24 01.0 -3.0**
KRLC Kraliky 40.43 305 *e*P **P** **21 23 58.7 +1.6**
VRAC Vranov 40.62 304 ⇓P **P** **21 24 00.1 +1.4**
VRAC Vranov 40.62 304 ⇓*i*P **P** **21 24 00.1 +1.4**
DPC Dobruska-Polom 40.70 306 *e*P **P** **21 24 00.5 +1.2**
DPC Dobruska-Polom 40.70 306 *e*P **P** **21 24 00.5 +1.2**
UPC Upice 40.88 306 *e*P **P** **21 24 02.9 +2.1**

UPC	**Upice**	**40.88**	**306**	*e*P		**P**	**21 24 02.9 +2.1**
CONA	**Conrad Observa**	**41.28**	**302**	⇑*i*P		**P**	**21 24 05.3 +1.2**
	comp=Z,18nm,1.3s						
CONA	**Conrad Observa**	**41.28**	**302**	*i*P		**P**	**21 24 05.4 +1.2**
	comp=Z,18nm,1.3s						
PVCC	**Panska Ves**	**41.79**	**306**	*e*P		P	21 24 12.5 +4.2
PVCC	**Panska Ves**	**41.79**	**306**	*e*P		P	21 24 12.5 +4.2
PRU	**Pruhonice**	**41.87**	**305**	*e*P		**P**	**21 24 11.2 +2.3**
PRU	**Pruhonice**	**41.87**	**305**	*e*P		**P**	**21 24 11.2 +2.3**
YAK	**Yakutsk**	**41.87**	**37**	*e*P		P	21 24 12.7 +4.0
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,22nm,1.2s						
YAK	**Yakutsk**	**41.87**	**37**	*e*P		**P**	**21 24 08.8 +0.1**
	comp=E,50nm,1.2s						
BRG	**Berggiesshubel**	**42.15**	**307**	*e*P		**P**	**21 24 13.0 +1.8**
	comp=E,3.8nm,0.7s						
BRG				*e*			22 39 21.6
BRG	**Berggiesshubel**	**42.15**	**307**	*e*P		**P**	**21 24 13.0 +1.8**
BRG				*e*			21 24 21.0
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**42.57**	**304**	P		**P**	**21 24 15.4 +0.7**
	comp=Z,1.0nm,0.6s,baz=72,slow=8.6,SNR=10						
GERES				PP	PP		21 25 54.8 +1.3
	comp=Z,2.1nm,1.0s,baz=81,slow=6.1,SNR=3.6						
GERES	**GERESS Array B**	**42.57**	**304**	P		**P**	**21 24 15.4 +0.7**
GERES				PP	PP		21 25 54.9
GERES	**GERESS Array B**	**42.57**	**304**	P		**P**	**21 24 15.4 +0.7**
GERES				PP	PP		21 25 54.9 +1.3
MOR8	**Moi Rana**	**42.58**	**330**	*e*P		**P**	**21 24 14.4 -0.1**
MOR8				AMB	AMB		21 24 19.4
	comp=Z,42nm,2.2s						
KHC	**Kasperske Hory**	**42.61**	**304**	*e*P		**P**	**21 24 15.9 +0.9**
KHC	**Kasperske Hory**	**42.61**	**304**	*e*P		**P**	**21 24 16.0 +1.1**
	comp=Z,9.0nm,1.2s						
KHC	**Kasperske Hory**	**42.61**	**304**	*e*P		**P**	**21 24 15.9 +0.9**
KHC				*e*pP		**pP**	**21 24 19.0 -5.0**
CLL	**Collm**	**42.70**	**307**	*e*P		P	21 24 19.0 +3.4
CLL				*i*			21 24 25.1
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CLL				MLR	MLR		
	comp=Z,200nm,20.5s						
CLL	**Collm**	**42.70**	**307**	*e*(P)		P	21 24 19.0 +3.4
	comp=Z,7.0nm,1.1s						
CLL				*i* sP		sP	21 24 25.1 -3.2
CLL				LmV			21 41 00.0
	comp=Z,200nm,20.5s						
MDJ	**Mudanjiang**	**42.70**	**63**	P		**P**	**21 24 15.0 -0.7**
MDJ				pP		**pP**	**21 24 28.3 +3.6**
MDJ				sP		sP	21 24 34.0 +5.6
MDJ				PP		PP	21 25 52.5 -2.3
MDJ				PcP		**PcP**	**21 26 06.8 -0.2**
MDJ				ScP		**ScP**	**21 29 53.5 -2.2**
MDJ				S		**S**	**21 30 32.8 -4.3**
MDJ				ScS		**ScS**	**21 34 11.8 -2.7**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,77nm,4.1s						
MDJ				LR	LR		
	comp=N,200nm,29.5s						
MDJ				LR	LR		
	comp=E,94nm,32.8s						
MDJ				LR	LR		
	comp=Z,150nm,29.0s						
NC602	**NORSAR Array S**	**43.22**	**321**	*e*P		**P**	**21 24 20.4 +0.7**
KLR	**Kul'dur**	**43.29**	**56**	*e*P		P	21 24 16.8 -3.7
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
HOPEN	**Hopen**	**43.34**	**345**	*e*P		**P**	**21 24 21.6 +1.2**
NB2	**NORSAR Subarra**	**43.39**	**322**	P		**P**	**21 24 20.5 -0.6**
	comp=Z,10nm,0.9s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**43.39**	**322**	P		**P**	**21 24 20.6 -0.5**
	comp=Z,6.5nm,0.8s,baz=92,slow=8.0,SNR=18						
NOA				LR		LR	21 45 11.4
	comp=Z,197nm,18.4s,baz=95,slow=40						
NOA	**NORSAR Array B**	**43.39**	**322**	P		**P**	**21 24 20.7 -0.5**
NOA	**NORSAR Array B**	**43.39**	**322**	P		**P**	**21 24 20.6 -0.5**
KSAR	**Wonju Array Be**	**43.41**	**73**	P		**P**	**21 24 23.9 +2.4**
KSAR	**Wonju Array Be**	**43.41**	**73**	P		**P**	**21 24 23.9 +2.4**
KSRS	**Korea Array**	**43.43**	**73**	P		**P**	**21 24 23.9 +2.2**
	comp=Z,3.7nm,1.1s,baz=291,slow=6.1,SNR=4.9						
KSRS				LR		LR	21 44 48.6
	comp=Z,244nm,18.4s,baz=106,slow=39						
KSRS	**Korea Array**	**43.43**	**73**	P		**P**	**21 24 23.9 +2.2**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KSRS				MLR	MLR		
	comp=Z,244nm,18.4s						
NAO01	**NORSAR Array S**	**43.54**	**321**	*e*P		**P**	**21 24 22.2 -0.1**
YHNB	**Yeheng**	**43.67**	**93**	*e*P		**P**	**21 24 24.3 +0.4**
GRF	**Grafenberg Arr**	**44.04**	**305**	*e*P		**P**	**21 24 27.5 +1.0**
	comp=Z,12nm,1.1s						
GRF	**Grafenberg Arr**	**44.04**	**305**	*e*P		**P**	**21 24 27.5 +1.0**
GRF				pmax	pmax		
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Arra**	**44.47**	**63**	P		**P**	**21 24 32.2 +2.3**
	comp=Z,1.5nm,0.7s,baz=322,slow=6.0,SNR=5.3						
USRK				LR		LR	21 44 58.3
	comp=Z,208nm,18.9s,baz=237,slow=39						
DAVOX	**Davos/Dischmat**	**45.48**	**301**	P		**P**	**21 24 38.2 0.0**
	comp=Z,3.8nm,0.6s,baz=58,slow=9.2,SNR=9.8						
DAVOX	**Davos/Dischmat**	**45.48**	**301**	P		**P**	**21 24 38.2 0.0**
DAVOX	**Davos/Dischmat**	**45.48**	**301**	P		**P**	**21 24 38.2 0.0**
SPA0	**Spitsbergen Ar**	**45.81**	**346**	*e*P		**P**	**21 24 41.9 +1.7**
CDF	**Champ du Feu**	**46.84**	**304**	*e*P		**P**	**21 24 50.0 +1.3**
	comp=Z,25nm,1.2s						
HINF	**Hinteralfeld**	**47.25**	**304**	*e*P		**P**	**21 24 53.8 +1.9**
JNU	**Nakatsue**	**47.27**	**78**	LR		LR	21 46 58.5
	comp=Z,239nm,18.2s,baz=118,slow=39						
JNU	**Nakatsue**	**47.27**	**78**	P		**P**	**21 24 52.5 +0.2**
LPG	**La Plagne**	**47.91**	**301**	*e*P		**P**	**21 24 58.6 +1.2**
	comp=Z,9.3nm,0.6s						
LPL	**La Plagne**	**47.92**	**301**	*e*P		**P**	**21 24 59.0 +1.6**
	comp=Z,7.0nm,0.6s						
MBDF	**Montbardon**	**48.11**	**300**	*e*P		**P**	**21 24 59.9 +1.1**
	comp=Z,18nm,1.0s						
KEST	**Kesra**	**49.29**	**287**	P		P	21 25 12.2 +4.4
	comp=Z,1.3nm,0.9s,baz=340,slow=11,SNR=6.5						
KEST	**Kesra**	**49.29**	**287**	P		P	21 25 12.2 +4.4
AVF	**Avril sur Loir**	**49.82**	**303**	*e*P		P	21 25 15.2 +3.6
TCF	**Toulx Ste Croi**	**50.72**	**303**	*e*P		P	21 25 22.3 +3.8
KMBO	**Kilima Mbogo**	**50.80**	**228**	P		P	21 25 15.2 -4.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**50.80**	**228**	P		P	21 25 15.2 -4.5
	comp=Z,9.9nm,1.0s						
MAJO	**Matsushiro**	**51.43**	**70**	*e*P		**P**	**21 25 24.3 +0.3**
MAJO	**Matsushiro**	**51.43**	**70**	*e*P		**P**	**21 25 24.3 +0.3**
MAT	**Matsushiro**	**51.43**	**70**	P		**P**	**21 25 26.5 +2.5**
MJAR	**Matsushiro Arr**	**51.43**	**70**	P		**P**	**21 25 23.4 -0.6**
	comp=Z,3.0nm,0.8s,baz=298,slow=8.9,SNR=7.2						
MJAR				LR		LR	21 48 44.5
	comp=Z,146nm,19.4s,baz=280,slow=38						
MJAR	**Matsushiro Arr**	**51.43**	**70**	P		**P**	**21 25 23.4 -0.6**
MJAR	**Matsushiro Arr**	**51.43**	**70**	P		**P**	**21 25 23.4 -0.6**
LDF	**La Druitiere**	**51.54**	**306**	*e*P		**P**	**21 25 25.8 +1.2**
	comp=Z,6.6nm,0.5s						
ASAJ	**Asahikawa**	**51.79**	**60**	LR		LR	21 49 10.9
	comp=Z,290nm,18.2s,baz=175,slow=38						
SEY	**Seymchan**	**52.31**	**35**	*ce*P		**P**	**21 25 32.2 +2.1**
DAG	**Danmarks Havn**	**53.12**	**343**	*i* P		**P**	**21 25 35.5 -0.4**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DAG	**Danmarks Havn**	**53.12**	**343**	*i* P		**P**	**21 25 35.5 -0.4**
	comp=Z,61nm,0.9s						
BILL	**Bilibino**	**56.47**	**27**	*e*P		**P**	**21 26 00.0 -0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**56.47**	**27**	*e*P		**P**	**21 26 00.0 -0.3**
	comp=Z,4.5nm,0.8s						
DAV	**Davao City (W)**	**57.33**	**109**	LR		LR	21 55 07.9
	comp=Z,131nm,18.2s,baz=204,slow=41						
ESDC	**Sonseca Array**	**57.35**	**297**	P		**P**	**21 26 07.1 +0.1**
	comp=Z,1.3nm,0.7s,baz=54,slow=7.6,SNR=5.1						
ESDC	**Sonseca Array**	**57.35**	**297**	P		**P**	**21 26 07.1 +0.1**
PETK	**Petropavlovsk-**	**57.96**	**45**	LR		LR	21 51 44.1
	comp=Z,156nm,18.3s,baz=289,slow=37						
SUMG	**Summit**	**59.52**	**341**	*i* P		**P**	**21 26 22.9 +0.9**
SUMG				pmax	pmax		
	comp=Z,18nm,0.8s						
SUMG	**Summit**	**59.52**	**341**	*e*P		**P**	**21 26 22.8 +0.7**
	comp=Z,24nm,0.9s						
SUMG	**Summit**	**59.52**	**341**	*i* P		**P**	**21 26 22.9 +0.9**
	comp=Z,18nm,0.8s						
FX1	**Attu Island--F**	**66.34**	**40**	LR		LR	21 56 42.9
	comp=Z,94nm,19.8s,baz=309,slow=37						
TOA0	**Torodi Ar. Sit**	**66.66**	**268**	*e*P		**P**	**21 27 09.2 -0.6**
TORD	**Torodi Ar. Bea**	**66.66**	**268**	P		**P**	**21 27 09.4 -0.4**
	comp=Z,3.9nm,0.6s,baz=50,slow=5.7,SNR=43						
TORD				LR		LR	21 57 52.4
	comp=Z,72nm,20.4s,baz=105,slow=37						
TORD	**Torodi Ar. Bea**	**66.66**	**268**	P		**P**	**21 27 09.4 -0.4**
RES	**Resolute Bay**	**66.82**	**356**	*e*P		**P**	**21 27 08.8 -1.1**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RES	**Resolute Bay**	**66.82**	**356**	*e*P		**P**	**21 27 08.8 -1.1**
	comp=Z,2.3nm,0.8s						
COLD	**Coldfoot**	**69.86**	**16**	*e*P		**P**	**21 27 29.6 +0.5**
	comp=Z,9.3nm,1.0s						
INK	**Inuvik**	**71.84**	**10**	*e*P		**P**	**21 27 41.1 +0.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**71.84**	**10**	*e*P		**P**	**21 27 41.1 +0.1**
	comp=Z,5.9nm,0.5s						
COLA	**College**	**72.36**	**17**	*e*P		**P**	**21 27 44.3 +0.1**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
COLA	**College**	**72.36**	**17**	*e*P		**P**	**21 27 44.2 +0.1**
	comp=Z,8.0nm,0.8s						
ILAR	**Eielson Array**	**72.67**	**16**	P		**P**	**21 27 45.5 -0.6**
	comp=Z,2.2nm,0.8s,baz=320,slow=5.4,SNR=25						
ILAR				LR		LR	22 02 02.8
	comp=Z,123nm,18.0s,baz=288,slow=38						
ILAR	**Eielson Array**	**72.67**	**16**	P		**P**	**21 27 45.5 -0.6**
ILAR	**Eielson Array**	**72.67**	**16**	P		**P**	**21 27 45.5 -0.6**
FRB	**Frobisher Bay**	**73.47**	**343**	LR		LR	22 04 02.0
	comp=Z,90nm,19.0s,baz=199,slow=39						
PAX	**Paxson**	**74.54**	**17**	*e*P		**P**	**21 27 57.1 -0.1**
PAX				pmax	pmax		
	comp=Z,130nm,2.6s						
PAX	**Paxson**	**74.54**	**17**	*e*P		**P**	**21 27 57.1 -0.1**
	comp=Z,130nm,2.6s						
SML	**Sawmill**	**74.86**	**19**	*e*P		**P**	**21 27 59.0 0.0**
SML				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**74.86**	**19**	*e*P		**P**	**21 27 59.0 0.0**
	comp=Z,4.3nm,0.8s						
DBIC	**Dimbokro**	**75.69**	**267**	P		**P**	**21 28 04.6 +0.1**
	comp=Z,0.8nm,0.5s,baz=48,slow=3.0,SNR=3.9						
DBIC				LR		LR	22 03 14.5
	comp=Z,145nm,19.0s,baz=28,slow=37						
DBIC	**Dimbokro**	**75.69**	**267**	*e*P		**P**	**21 28 04.5 +0.1**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**75.69**	**267**	*e*P		**P**	**21 28 04.5 +0.1**
	comp=Z,2.8nm,0.8s						
LIC	**Lamto**	**76.10**	**267**	*e*P		P	21 28 12.2 +5.4
	comp=Z,13nm,0.9s						
LBTB	**Lobatse**	**76.71**	**223**	*e*P		**P**	**21 28 11.1 +1.0**
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LBTB	**Lobatse**	**76.71**	**223**	*e*P		**P**	**21 28 11.1 +1.0**
	comp=Z,8.9nm,1.1s						
TSUM	**Tsumeb**	**76.81**	**232**	*e*P		**P**	**21 28 11.9 +1.1**
YKA	**Yellowknife Ar**	**79.26**	**3**	P		**P**	**21 28 23.5 -0.1**
	comp=Z,3.3nm,0.7s,baz=350,slow=5.7,SNR=62						
YKA	**Yellowknife Ar**	**79.26**	**3**	P		**P**	**21 28 23.5 -0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**79.26**	**3**	P		**P**	**21 28 23.6 -0.1**
BOSA	**Boshof**	**79.80**	**221**	P		**P**	**21 28 28.6 +1.5**
BOSA	**Boshof**	**79.80**	**221**	P		**P**	**21 28 28.6 +1.5**
SCHQ	**Schefferville**	**80.66**	**337**	P		**P**	**21 28 31.2 -0.2**
SCHQ				LR		LR	22 04 46.5
	comp=Z,126nm,20.1s,baz=50,slow=36						
SCHQ	**Schefferville**	**80.66**	**337**	P		**P**	**21 28 31.2 -0.2**
WRA	**Warramunga Arr**	**82.28**	**123**	P		**P**	**21 28 39.5 -0.8**
	comp=Z,1.0nm,0.7s,baz=321,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**82.28**	**123**	P		**P**	**21 28 39.6 -0.8**
WRA	**Warramunga Arr**	**82.28**	**123**	P		**P**	**21 28 39.5 -0.8**
WRAB	**Tennant Creek**	**82.28**	**123**	*e*P		**P**	**21 28 40.3 -0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**82.28**	**123**	*e*P		**P**	**21 28 40.2 -0.1**
	comp=Z,4.4nm,0.6s						
COEN	**Coen**	**84.31**	**113**	*e*P		**P**	**21 28 52.0 +1.0**
ASAR	**Alice Springs**	**84.65**	**126**	P		**P**	**21 28 50.9 -1.6**
	comp=Z,0.6nm,0.7s,baz=312,slow=4.5,SNR=4.8						
ASAR	**Alice Springs**	**84.65**	**126**	P		**P**	**21 28 50.9 -1.6**
ASAR	**Alice Springs**	**84.65**	**126**	P		**P**	**21 28 50.9 -1.6**
FFC	**Flin Flon**	**87.06**	**357**	*e*P		**P**	**21 29 04.1 +0.1**
FFC	**Flin Flon**	**87.06**	**357**	*e*P		**P**	**21 29 04.1 +0.1**
ULM	**Lac du Bonnet**	**91.05**	**352**	P		**P**	**21 29 24.8 +1.8**
	comp=Z,2.7nm,0.9s,baz=358,slow=5.2,SNR=5.4						
ULM				LR		LR	22 18 29.1
	comp=Z,90nm,18.0s,baz=18,slow=41						
ULM	**Lac du Bonnet**	**91.05**	**352**	P		**P**	**21 29 24.8 +1.8**
ULM	**Lac du Bonnet**	**91.05**	**352**	P		**P**	**21 29 24.8 +1.8**
NEW	**Newport**	**93.28**	**6**	*e*P		P	21 29 38.5 +5.1
NEW	**Newport**	**93.28**	**6**	*e*P		P	21 29 38.5 +5.1
BSMT	**Bassoo Peak**	**93.86**	**5**	*e*P		**P**	**21 29 36.4 +0.2**
	comp=Z,5.8nm,1.0s						
CHMT	**Chmberlain Mo**	**94.89**	**4**	*e*P		**P**	**21 29 40.8 -0.2**
	comp=Z,1.7nm,0.9s						
RSSD	**Black Hills**	**97.74**	**357**	*e*P		P	21 29 45.6 -8.4
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RSSD	**Black Hills**	**97.74**	**357**	*e*P		P	21 29 45.6 -8.4
	comp=Z,8.1nm,0.8s						
CFAA	**Coronel Fontan**	**147.02**	**270**	PKPbc		**PKPab**	**21 36 02.3 -0.8**
	comp=Z,0.2nm,0.6s,baz=110,slow=4.2,SNR=2.5						
CFAA	**Coronel Fontan**	**147.02**	**270**	PKPbc		**PKPab**	**21 36 02.3 -0.8**
PLCA	**Paso Flores**	**151.28**	**254**	PKPbc		**PKPbc**	**21 36 13.1 +1.1**
	comp=Z,2.6nm,0.9s,baz=343,slow=2.0,SNR=6.8						
PLCA				PKPab		**PKPab**	**21 36 18.5 -1.7**
	comp=Z,3.0nm,0.8s,baz=97,slow=2.4,SNR=8.6						
PLCA	**Paso Flores**	**151.28**	**254**	PKIKP		**PKPbc**	**21 36 13.1 +1.1**
PLCA							21 36 18.5
PLCA	**Paso Flores**	**151.28**	**254**	PKPbc		**PKPbc**	**21 36 13.1 +1.1**
PLCA				PKPab		**PKPab**	**21 36 18.5 -1.7**

*ISCJB **25** 21:16:49.9±1.0,38°.20S±0'.06×176°.08E±0'.06,h212km±9km,*
Error ellipse: s-maj=9.9km s-min=8.2km az=166.6
*WEL **25** 21:16:55.3±0.3,38°.23S×176°.09E,h161km±2km,ML4.4/22,*
Error ellipse: s-maj=1.5km s-min=1.5km az=90.0
*NEIC **25** 21:16:55.5,38°.23S×176°.08E,h160km,MG4.4(WEL),*
After WEL.

ISC 25 21:16:52.1±1.8,38°26S±0'.05×176°08E±0'.05,
h181km±10km,n184,s1941/178,34C-6D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.21**	**129**	⇑PN		**Pn**	**21 17 17.1**	**+0.9**
HRRZ	**Handcock Road**	**0.21**	**129**	Pn		**Pn**	**21 17 17.1**	**+0.9**
KARZ	**Kaharoa**	**0.27**	**29**	⇓PN		**Pn**	**21 17 17.1**	**+0.7**
KARZ				SN		**Sn**	**21 17 34.0**	**-0.9**
KARZ	**Kaharoa**	**0.27**	**29**	Pn		**Pn**	**21 17 17.1**	**+0.7**
KARZ				Sn		**Sn**	**21 17 34.0**	**-0.9**
TARZ	**Mount Tarawera**	**0.34**	**86**	PN		**Pn**	**21 17 17.3**	**+0.8**
TARZ	**Mount Tarawera**	**0.34**	**86**	Pn		**Pn**	**21 17 17.4**	**+0.8**
PRRZ	**Plateau Road**	**0.34**	**134**	⇑PN		**Pn**	**21 17 17.2**	**+0.8**
PRRZ				SN		**Sn**	**21 17 34.0**	**-1.3**
PRRZ	**Plateau Road**	**0.34**	**134**	Pn		**Pn**	**21 17 17.2**	**+0.8**
PRRZ				Sn		**Sn**	**21 17 34.0**	**-1.3**
RRRZ	**Republican Roa**	**0.35**	**103**	PN		**Pn**	**21 17 17.2**	**+0.7**
ALRZ	**Allen Road**	**0.37**	**145**	PN		**Pn**	**21 17 17.4**	**+0.8**
WHTZ	**Whakaora**	**0.42**	**193**	⇑PN		**Pn**	**21 17 18.0**	**+1.2**
WHTZ	**Whakaora**	**0.42**	**193**	Pn		**Pn**	**21 17 18.0**	**+1.2**
WATZ	**Wairara**	**0.52**	**211**	⇑PN		**Pn**	**21 17 18.4**	**+1.3**
WATZ	**Wairara**	**0.52**	**211**	Pn		**Pn**	**21 17 18.4**	**+1.3**
EDRZ	**Edgecumbe**	**0.54**	**74**	PN		**Pn**	**21 17 18.3**	**+1.0**
EDRZ	**Edgecumbe**	**0.54**	**74**	Pn		**Pn**	**21 17 18.3**	**+1.0**
MARZ	**Manawahe**	**0.55**	**60**	⇓PN		**Pn**	**21 17 18.1**	**+0.9**
MARZ	**Manawahe**	**0.55**	**60**	Pn		**Pn**	**21 17 18.1**	**+0.9**
TGRZ	**Tauranga**	**0.55**	**15**	⇓PN		**Pn**	**21 17 17.9**	**+0.7**
TGRZ				SN		**Sn**	**21 17 35.7**	**-0.8**
TGRZ	**Tauranga**	**0.55**	**15**	Pn		**Pn**	**21 17 17.9**	**+0.7**
TGRZ				Sn		**Sn**	**21 17 35.7**	**-0.8**
OPRZ	**Ohinepanea**	**0.56**	**42**	⇓PN		**Pn**	**21 17 17.9**	**+0.6**
OPRZ				SN		**Sn**	**21 17 35.4**	**-1.2**
OPRZ	**Ohinepanea**	**0.56**	**42**	Pn		**Pn**	**21 17 17.9**	**+0.6**
OPRZ				Sn		**Sn**	**21 17 35.4**	**-1.2**
HATZ	**Hinemaiaia**	**0.63**	**179**	PN		**Pn**	**21 17 18.7**	**+1.1**
HATZ	**Hinemaiaia**	**0.63**	**179**	Pn		**Pn**	**21 17 18.7**	**+1.1**
RATZ	**Rangitukua**	**0.65**	**201**	⇑PN		**Pn**	**21 17 19.0**	**+1.2**
RATZ	**Rangitukua**	**0.65**	**201**	Pn		**Pn**	**21 17 19.0**	**+1.2**
KATZ	**Kakaramea**	**0.77**	**203**	⇑PN		**Pn**	**21 17 19.8**	**+1.3**
KATZ	**Kakaramea**	**0.77**	**203**	Pn		**Pn**	**21 17 19.8**	**+1.3**
URZ	**Urewera**	**0.81**	**90**	PN		**Pn**	**21 17 19.1**	**+0.5**
URZ				SN		**Sn**	**21 17 36.5**	**-2.5**
URZ	**Urewera**	**0.81**	**90**	Pn		**Pn**	**21 17 19.1**	**+0.5**
URZ				Sn		**Sn**	**21 17 36.5**	**-2.5**
KRVZ	**Karewarewa**	**0.90**	**202**	⇑PN		**Pn**	**21 17 20.7**	**+1.3**
KRVZ	**Karewarewa**	**0.90**	**202**	Pn		**Pn**	**21 17 20.7**	**+1.3**
WTVZ	**West Tongariro**	**0.94**	**204**	⇑PN		**Pn**	**21 17 21.0**	**+1.4**
WTVZ	**West Tongariro**	**0.94**	**204**	Pn		**Pn**	**21 17 21.0**	**+1.4**
TWVZ	**Taurewa**	**0.95**	**211**	⇑PN		**Pn**	**21 17 21.2**	**+1.5**
TWVZ	**Taurewa**	**0.95**	**211**	Pn		**Pn**	**21 17 21.2**	**+1.5**
BKZ	**Black Stump Fm**	**0.96**	**160**	PN		**Pn**	**21 17 20.9**	**+1.2**
BKZ	**Black Stump Fm**	**0.96**	**160**	Pn		**Pn**	**21 17 20.6**	**+1.0**
NGZ	**Ngauruhoe**	**0.99**	**202**	PN		**Pn**	**21 17 20.5**	**+0.6**
NGZ	**Ngauruhoe**	**0.99**	**202**	Pn		**Pn**	**21 17 20.6**	**+0.6**
HIZ	**Hauiti**	**0.99**	**255**	PN		**Pn**	**21 17 21.1**	**+1.3**
HIZ	**Hauiti**	**0.99**	**255**	Pn		**Pn**	**21 17 21.1**	**+1.3**
NMHZ	**Naumai**	**1.01**	**146**	⇑PN		**Pn**	**21 17 22.3**	**+2.2**
NMHZ	**Naumai**	**1.01**	**146**	Pn		**Pn**	**21 17 22.3**	**+2.2**
RAHZ	**Arahi**	**1.03**	**130**	PN		**Pn**	**21 17 21.8**	**+1.8**
RAHZ	**Arahi**	**1.03**	**130**	Pn		**Pn**	**21 17 21.9**	**+1.8**
WPVZ	**Whakapapa**	**1.03**	**204**	PN		**Pn**	**21 17 21.7**	**+1.5**
WPVZ	**Whakapapa**	**1.03**	**204**	Pn		**Pn**	**21 17 21.7**	**+1.5**
TUVZ	**Tukino**	**1.06**	**198**	PN		**Pn**	**21 17 22.1**	**+1.6**
TUVZ	**Tukino**	**1.06**	**198**	Pn		**Pn**	**21 17 22.1**	**+1.6**
FWVZ	**Far West T-bar**	**1.07**	**202**	PN		**Pn**	**21 17 22.0**	**+1.3**
FWVZ	**Far West T-bar**	**1.07**	**202**	Pn		**Pn**	**21 17 22.0**	**+1.3**
DRZ	**Dome Shelter**	**1.09**	**201**	PN		**Pn**	**21 17 22.1**	**+1.2**
DRZ	**Dome Shelter**	**1.09**	**201**	Pn		**Pn**	**21 17 22.5**	**+1.6**
TRVZ	**Turoa**	**1.12**	**202**	PN		**Pn**	**21 17 22.3**	**+1.3**
TRVZ	**Turoa**	**1.12**	**202**	Pn		**Pn**	**21 17 22.6**	**+1.5**
WNVZ	**Wahianoa**	**1.13**	**199**	⇑PN		**Pn**	**21 17 22.6**	**+1.6**
WNVZ	**Wahianoa**	**1.13**	**199**	Pn		**Pn**	**21 17 22.6**	**+1.6**
MWZ	**Matawai**	**1.14**	**94**	PN		**Pn**	**21 17 22.1**	**+1.0**
MWZ	**Matawai**	**1.14**	**94**	Pn		**Pn**	**21 17 22.1**	**+1.0**
MOVZ	**Moawhango**	**1.17**	**192**	⇑PN		**Pn**	**21 17 22.6**	**+1.3**
MOVZ	**Moawhango**	**1.17**	**192**	Pn		**Pn**	**21 17 22.6**	**+1.3**
PKVZ	**Pokaka**	**1.18**	**209**	⇑PN		**Pn**	**21 17 22.9**	**+1.6**
MTVZ	**Mangateitei**	**1.22**	**203**	⇑PN		**Pn**	**21 17 23.3**	**+1.6**
MTVZ	**Mangateitei**	**1.22**	**203**	Pn		**Pn**	**21 17 23.3**	**+1.6**
BHHZ	**Black Hill Sta**	**1.23**	**180**	⇑PN		**Pn**	**21 17 23.1**	**+1.4**
BHHZ	**Black Hill Sta**	**1.23**	**180**	Pn		**Pn**	**21 17 23.1**	**+1.4**
MCHZ	**McNeill Hill**	**1.28**	**158**	⇑PN		**Pn**	**21 17 24.4**	**+2.3**
MCHZ	**McNeill Hill**	**1.28**	**158**	Pn		**Pn**	**21 17 24.5**	**+2.3**
VRZ	**Vera Road**	**1.34**	**230**	⇑PN		**Pn**	**21 17 24.8**	**+2.1**
VRZ

LBZ	**Lake Benmore**	**7.55**	**214**	Pn		Pn	21 18 38.4	-1.1
CTZ	**Chatham Island**	**7.77**	**137**	*e*PN		Pn	21 18 47.7	+5.5
CTZ	**Chatham Island**	**7.77**	**137**	Pn		Pn	21 18 50.5	+8.3
ODZ	**Otahua Downs**	**7.90**	**209**	PN		Pn	21 18 43.5	-0.5
ODZ	**Otahua Downs**	**7.90**	**209**	Pn		Pn	21 18 43.5	-0.5
JCZ	**Jackson Bay**	**8.01**	**221**	Pn		Pn	21 18 44.8	-0.7

*IDC **25** 21:28:20.7±1.2,38°.37N×72°.03E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.5/29,mbtmp3.6/10,ML3.2/4, Error ellipse: s-maj=23.5km s-min=17.9km az=136.0*
*NEIC **25** 21:28:25.3±2.9,38°.43N×71°.90E,h30km±22km,mb4.0/3, Error ellipse: s-maj=12.0km s-min=10.4km az=146.0*
ISC 25 21:28:23.3±4.6,38°.51N±0°.06×71°.98E±0°.08,h14km±29km, n31,σ1s47/36,mb3.6/9,1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**4.36**	**18**	*e*Pn	**Pn**	**21 29 31.1**	**+1.7**
EKS2				*e*Sn	**Sn**	**21 30 19.5**	**-0.7**
AAK	**Ala-Archa**	**4.54**	**24**	*e*Pn	**Pn**	**21 29 34.5**	**+2.7**
AAK				*e*Sn	**Sn**	**21 30 24.1**	**-0.4**
KBL	**Kabul**	**4.62**	**212**	*e*Pn	**Pn**	**21 29 32.4**	**-0.5**
KBL				*e*Sn	**Sn**	**21 30 28.2**	**+1.7**
KK31	**Karatay Array** 11nm,0.5s,baz=158,slow=11,SNR=24	**4.72**	**347**	⇓Pn	**Pn**	**21 29 35.3**	**+1.1**
KK31				Sn	Sn	21 30 35.1	+6.4
KKAR	**Karatay Array** 20nm,0.4s,baz=168,slow=23,SNR=5.4	**4.72**	**347**	*e*Pn	**Pn**	**21 29 35.2**	**+1.1**
KKAR				*e*Sn	**Sn**	**21 30 28.6**	**-0.1**
TKM2	**Tokmak 2** 10nm,0.6s	**5.19**	**31**	⇑Pn	**Pn**	**21 29 43.8**	**+3.0**
TKM2	**Tokmak 2** 15nm,0.8s	**5.19**	**31**	*e*Pn	**Pn**	**21 29 43.6**	**+2.8**
TKM2				*e*Sn	**Sn**	**21 30 39.4**	**-1.3**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=235,slow=12,SNR=4.0	**11.22**	**39**	Pn	**Pn**	**21 31 04.5**	**+1.1**
MKAR				Lg	Lg	21 34 18.9	
MKAR	**Makanchi Array** baz=237,slow=24,SNR=3.9	**11.22**	**39**	Pn	**Pn**	**21 31 04.5**	**+1.1**
MKAR				Lg	Lg	21 34 18.9	
KURK	**Kurchatov** 0.0nm,0.3s,baz=215,slow=12,SNR=4.2	**13.08**	**19**	Pn	**Pn**	**21 31 26.4**	**-2.2**
KURK				Lg	Lg	21 35 16.3	
KURK	**Kurchatov** 0.0nm,0.3s,baz=208,slow=24,SNR=5.2	**13.08**	**19**	Pn	**Pn**	**21 31 26.4**	**-2.2**
KURK				Lg	Lg	21 35 16.3	
ABKAR	**Akbulak array** 2.3nm,0.5s	**13.79**	**325**	*e*Pn	**Pn**	**21 31 37.5**	**-0.9**
ABKAR				*e*Sn	Sn	21 34 03.6	-7.6
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=132,slow=15,SNR=3.3	**15.50**	**325**	Pn	**Pn**	**21 32 00.9**	**-0.6**
AKTO	**Aktyubinsk**	**15.50**	**325**	Pn	**Pn**	**21 32 00.9**	**-0.6**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=220,slow=13,SNR=2.7	**17.76**	**26**	P	**Pn**	**21 32 28.9**	**-1.2**
ZALV	**Zalesovo Beam**	**17.76**	**26**	P	Pn	**21 32 28.9**	**-1.2**
ULN	**Ulaanbaatar** 0.5nm,0.7s	**27.03**	**58**	*e*P	**P**	**21 34 04.1**	**-1.1**
ENH	**Enshi** 1.6nm,0.8s	**31.85**	**93**	*e*P	**P**	**21 34 47.0**	**-1.0**
BJT	**Baijiatuan** 3.9nm,0.4s	**33.98**	**73**	*e*P	**P**	**21 35 06.2**	**-0.3**
FINES	**FINESS Array B** 1.5nm,0.7s,baz=107,slow=6.6,SNR=5.5	**36.28**	**324**	P	**P**	**21 35 25.5**	**-0.5**
FINES	**FINESS Array B**	**36.28**	**324**	P	**P**	**21 35 25.5**	**-0.5**
ARCES	**ARCESS Array B** 3.8nm,1.1s,baz=113,slow=9.3,SNR=4.3	**39.60**	**336**	P	**P**	**21 35 55.4**	**+1.5**
ARCES	**ARCESS Array B**	**39.60**	**336**	P	**P**	**21 35 55.4**	**+1.5**
NOA	**NORSAR Array B** 0.8nm,0.9s,baz=97,slow=7.6,SNR=2.8	**43.26**	**322**	P	**P**	**21 36 25.6**	**+1.5**
NOA	**NORSAR Array B**	**43.26**	**322**	P	**P**	**21 36 25.6**	**+1.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=48,slow=7.8,SNR=3.0	**66.55**	**268**	P	**P**	**21 39 11.5**	**-1.8**
TORD	**Torodi Ar. Bea**	**66.55**	**268**	P	**P**	**21 39 11.5**	**-1.8**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=356,slow=5.6,SNR=7.2	**79.20**	**3**	P	**P**	**21 40 27.4**	**-0.1**
YKA	**Yellowknife Ar**	**79.20**	**3**	P	**P**	**21 40 27.4**	**-0.1**
WRA	**Warramunga Arr** 0.5nm,1.1s,baz=322,slow=4.4,SNR=3.2	**82.41**	**123**	P	**P**	**21 40 45.5**	**+0.3**
WRA	**Warramunga Arr**	**82.41**	**123**	P	**P**	**21 40 45.5**	**+0.3**

*IDC **25** 21:30:03.1±1.8,7°.68S×147°.16E,h134km±20km,mb3.2/7, mb1 3.3/8,mb1mx3.2/16,mbtmp3.1/8, Error ellipse: s-maj=32.4km s-min=25.1km az=116.0*
NEIC 25 21:30:04.1±1.2,7°.69S×147°.14E,h144km±12km,mb3.9/3, Error ellipse: s-maj=23.2km s-min=11.9km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 23nm,0.3s,baz=15,slow=6.3,SNR=85	**1.70**	**179**	P	Pn	21 30 35.5	+0.1
PMG				S	Sn	21 30 57.6	-1.9
PMG	**Port Moresby** 43nm,0.3s,baz=215,slow=23,SNR=12	**1.70**	**179**	P	Pn	21 30 35.5	+0.1
PMG				S	Sn	21 30 57.6	-1.9
WRAB	**Tennant Creek** 2.5nm,0.7s	**17.37**	**224**	*e*P	P	21 33 56.9	-0.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=56,slow=12,SNR=6.5	**17.38**	**224**	P	P	21 33 56.1	-1.0
WRA	**Warramunga Arr**	**17.38**	**224**	P	P	21 33 56.1	-1.0
AS31	**Alice Springs**	**20.33**	**217**	*e*P	P	21 34 29.7	+0.6
ASAR	**Alice Springs** 0.4nm,0.5s,baz=49,slow=9.0,SNR=8.6	**20.33**	**217**	P	P	21 34 29.7	+0.5
ASAR	**Alice Springs**	**20.33**	**217**	P	P	21 34 29.7	+0.5
FITZ	**Fitzroy Crossi** 2.8nm,0.8s,baz=61,slow=12,SNR=3.1	**23.34**	**242**	P	P	21 35 00.0	+0.3
FITZ	**Fitzroy Crossi** 3.9nm,0.8s	**23.34**	**242**	*e*P	P	21 34 59.7	0.0
CMAR	**Chiang Mai Arr** 1.1nm,0.8s,baz=113,slow=5.7,SNR=7.8	**54.18**	**299**	P	P	21 39 13.9	-1.1
CMAR	**Chiang Mai Arr**	**54.18**	**299**	P	P	21 39 13.9	-1.1
ULN	**Ulaanbaatar** 1.4nm,0.3s	**65.65**	**332**	*e*P	P	21 40 33.4	+0.3
SONM	**Songino Array** 0.2nm,0.7s,baz=130,slow=6.8,SNR=3.1	**65.94**	**331**	P	P	21 40 35.4	+0.5
SONM	**Songino Array**	**65.94**	**331**	P	P	21 40 35.4	+0.5
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=93,slow=5.8,SNR=3.3	**78.88**	**321**	P	P	21 41 51.6	+0.2
MKAR	**Makanchi Array**	**78.88**	**321**	P	P	21 41 51.6	+0.2
ILAR	**Eielson Array** 0.6nm,0.7s,baz=254,slow=4.9,SNR=8.9	**86.97**	**23**	P	P	21 42 32.0	-0.7
ILAR	**Eielson Array**	**86.97**	**23**	P	P	21 42 32.0	-0.7
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=123,slow=5.3,SNR=3.4	**88.21**	**324**	P	P	21 42 39.4	+0.6
BVAR	**Borovoye Array**	**88.21**	**324**	P	P	21 42 39.4	+0.6
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=80,slow=3.1,SNR=8.9	**145.60**	**282**	PKPbc	PKPab	21 49 27.6	+0.3
TORD	**Torodi Ar. Bea**	**145.60**	**282**	PKPbc	PKPab	21 49 27.6	+0.3
BDFB	**Brasilia** 1.8nm,0.5s,baz=198,slow=6.1,SNR=4.2	**152.38**	**147**	PKPbc	PKPbc	21 49 44.0	-0.3
BDFB	**Brasilia**	**152.38**	**147**	PKPbc	PKPbc	21 49 44.0	-0.3

CASC 25 21:31:34.8±1.3,13°.04N×90°.00W,h21km±4km,MD3.6,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.91**	**25**	*e*P	Pb	21 31 51.5	-0.7
BOQS	**Boqueron**	**0.98**	**45**	*e*P	Pb	21 31 52.8	-0.6
BOQS				*e*S	Sn	21 32 06.8	-0.3
LFRS	**El Faro**	**1.08**	**58**	*e*P	Pn	21 31 54.0	-0.8
LFRS				*e*S	Sn	21 32 09.2	-0.2
RBDL	**Robledal**	**1.11**	**16**	*e*P	Pn	21 31 54.7	-0.6
LBRS	**Las Brisas**	**1.16**	**53**	*e*P	Pn	21 31 55.6	-0.3
LBRS				*e*S	Sb	21 32 10.5	-0.5
IXG	**Ixpaco**	**1.21**	**339**	*e*P	Pn	21 31 56.1	-0.6
SNVI	**San Vicente**	**1.26**	**63**	*e*P	Pn	21 31 57.1	-0.3
SNVI				*e*S	Sb	21 32 15.1	+1.0
MTO2	**Montecristo 2**	**1.49**	**25**	*e*P	Pn	21 32 00.6	0.0
MTO2				*e*S	Sb	21 32 21.4	+0.7
NBG	**Las Nubes**	**1.57**	**348**	*e*P	Pn	21 32 02.3	+0.4
FUG	**Fuego 3**	**1.62**	**330**	*e*P	Pn	21 32 02.7	+0.3
FG6		**1.74**	**330**	*e*S		21 32 25.3	
CAHU	**Cacacuatique**	**1.89**	**67**	*e*P	Pn	21 32 06.0	0.0
MRL	**Marmol**	**2.04**	**8**	*e*P	Pb	21 32 10.7	-0.6
CNCH	**Conchagua**	**2.12**	**83**	*e*P	Pn	21 32 09.5	+0.3
CNCH				*e*S	Sn	21 32 35.6	+0.5

WEL 25 21:44:35.9±0.2,45°.15S×167°.40E,h109km±1km,ML3.6/10, 1C-1D,Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**207**	PN	Pn	21 44 51.2	-0.6
DCZ				SN	Sn	21 45 03.2	-0.7
MLZ	**Mavora Lakes**	**0.58**	**111**	PN	Pn	21 44 52.9	-0.4
MLZ				SN	Sn	21 45 05.5	-0.9
MSZ	**Milford Sound**	**0.60**	**39**	PN	Pn	21 44 53.4	0.0
MSZ				SN	Sn	21 45 06.4	-0.1
WHZ	**Wether Hill Ro**	**0.84**	**153**	⇑PN	Pn	21 44 55.4	-0.1
WHZ				SN	Sn	21 45 09.7	-0.5
PYZ	**Puysegur Point**	**1.14**	**206**	PN	Pn	21 44 58.6	+0.1
WKZ	**Wanaka**	**1.19**	**75**	PN	Pn	21 44 59.2	+0.1
EAZ	**Earnscleugh**	**1.35**	**94**	PN	Pn	21 45 00.8	-0.1
JCZ	**Jackson Bay**	**1.45**	**43**	PN	Pn	21 45 01.6	-0.5
APZ	**The Paps**	**1.74**	**167**	PN	Pn	21 45 05.3	-0.3
TUZ	**Tuapeka**	**1.77**	**118**	⇓PN	Pn	21 45 05.7	-0.2
SYZ	**Scrubby Hill**	**1.85**	**139**	PN	Pn	21 45 06.8	-0.1
LBZ	**Lake Benmore**	**2.12**	**70**	PN	Pn	21 45 09.0	-1.5
ODZ	**Otahua Downs**	**2.30**	**89**	PN	Pn	21 45 11.5	-1.2
RPZ	**Rata Peaks**	**2.98**	**63**	PN	Pn	21 45 19.6	-2.1
MQZ	**McQueen's Vall**	**4.03**	**71**	SN		21 46 15.6	
LTZ	**Lake Taylor**	**4.24**	**58**	*e*PN	Pn	21 45 36.3	-2.2
DSZ	**Denniston Nort**	**4.67**	**45**	*e*PN	Pn	21 45 43.6	-0.7

*JMA **25** 21:47:41.7±0.5,45°.70N×150°.83E,h180km,M3.5*
*IDC **25** 21:47:42.1±3.0,46°.80N×150°.30E,h211km±29km,mb3.1/8, mb1 3.4/9,mb1mx3.1/23,mbtmp3.2/9, Error ellipse: s-maj=24.9km s-min=15.0km az=110.0*
ISC 25 21:47:37.4±3.5,46°.9N±0°.3×150°.1E±0°.5,h167km,n20, σ2s04/8,mb3.5/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.66**	**223**	P	**Pn**	**21 48 47.3**	**+0.6**
NEM2				*e*S	**Sn**	**21 49 38.6**	**-2.2**
JNK	**Nakash**	**5.01**	**231**	P	Pn	21 48 54.7	+3.4
JTKR	**Abashiri--Toko**	**5.22**	**238**	P	Pn	21 48 58.8	+4.8
JAK	**Akkeshi**	**5.44**	**226**	P	**Pn**	**21 48 58.4**	**+1.5**
JAK				*e*S	**Sn**	**21 49 57.9**	**-1.3**
JAR	**Ashorobuto**	**5.72**	**233**	P	Pn	21 49 05.1	+4.5
ASAJ	**Asahikawa** 3.0nm,0.3s,baz=74,slow=14,SNR=10.0	**5.94**	**245**	P	Pn	21 49 10.2	+6.7
ASAJ	**Asahikawa**	**5.94**	**245**	P	Pn	21 49 10.1	+6.7
JOB	**Onbets**	**5.95**	**230**	P	**Pn**	**21 49 06.1**	**+2.5**
JKK2	**Kamakawa 2**	**5.97**	**242**	P	Pn	21 49 09.7	+5.8
JCH	**Churui**	**6.40**	**231**	P	**Pn**	**21 49 11.5**	**+1.9**
JCH				*e*S	**Sn**	**21 50 21.2**	**-0.8**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=13,slow=15,SNR=6.7	**13.59**	**225**	P	P	21 50 50.2	+3.4
ILAR	**Eielson Array** 0.2nm,0.5s,baz=266,slow=7.2,SNR=9.3	**37.75**	**39**	P	P	21 54 36.2	-0.4
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=294,slow=6.7,SNR=4.8	**52.05**	**36**	P	P	21 56 29.8	+0.4
ARCES	**ARCESS Array B** 2.2nm,0.8s,baz=55,slow=7.8,SNR=3.9	**57.02**	**340**	P	P	21 57 07.5	+2.3
FINES	**FINESS Array B** 0.9nm,0.5s,baz=40,slow=7.0,SNR=8.3	**63.01**	**333**	P	P	21 57 47.1	+1.2
NB2	**NORSAR Subarra** comp=Z,0.2nm,0.4s,baz=30,slow=6.2	**67.40**	**340**	P	P	21 58 15.6	+1.3
WRA	**Warramunga Arr** comp=Z,0.8nm,0.9s,baz=10,slow=7.1,SNR=4.2	**68.01**	**196**	P	P	21 58 17.6	-0.9
AKASG	**Malin Array Be** comp=Z,0.6nm,0.3s,baz=37,slow=5.9,SNR=4.9	**70.25**	**325**	P	**P**	**21 58 30.9**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,baz=11,slow=6.9,SNR=7.8	**71.72**	**196**	P	P	21 58 41.7	+0.6
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=298,slow=3.8,SNR=3.2	**79.23**	**59**	P	P	21 59 23.6	-0.5

*IDC **25** 22:29:40.6±1.1,49°.63N×159°.04E,h0km,mb3.4/7, mb1 3.6/8,mb1mx3.4/27,mbtmp3.4/8,ML3.6/1,Error ellipse: s-maj=28.0km s-min=27.5km az=109.0*
*MOS **25** 22:29:47.3±1.7,50°.29N×159°.24E,h13km,mb4.2/1,Error ellipse: s-maj=26.7km s-min=10.1km az=91.5*
*KRSC **25** 22:29:48.5±0.8,50°.33N×159°.17E,h5km±5km,ML4.2*
ISC 25 22:29:47.3±2.4,50°.1N±0°.1×159°.0E±0°.1,h10km,n39, σ1s10/38,mb3.5/7,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.94**	**288**	*e*PN	Sn	22 30 41.0	-3.7
SKR	comp=Z,140nm,0.5s			pmax	pmax		
SKR	comp=N,50nm,0.4s			pmax	pmax		
SKR	comp=E,70nm,0.4s			pmax	pmax		
RUS	**Russkaya**	**2.32**	**352**	PN	**Pn**	**22 30 25.8**	**+0.3**
RUS				S	**Sn**	**22 30 52.7**	**-1.4**
RUS	**Russkaya**	**2.32**	**352**	*i* P	**Pn**	**22 30 25.8**	**+0.3**
RUS				*e*S	**Sn**	**22 30 52.7**	**-1.4**
ASAK	**Asacha**	**2.36**	**343**	*i* P	**Pn**	**22 30 26.6**	**+0.5**
ASAK				*e*S	**Sn**	**22 30 55.0**	**-0.2**
MTVR	**Mutnovka**	**2.41**	**348**	*i* P	**Pn**	**22 30 27.3**	**+0.4**
MTVR				*i* S	**Sn**	**22 30 55.8**	**-0.7**
MIPR	**Malaya Ipel'ka**	**2.58**	**327**	*i* P	**Pn**	**22 30 29.4**	**+0.4**
PET	**Petropavlovsk**	**2.90**	**356**	*i* PN	**Pn**	**22 30 34.2**	**+0.7**
PET				*e*S	**Sn**	**22 31 08.2**	**-0.2**
PET	comp=Z,75nm,0.5s			pmax	pmax		
PET	comp=N,300nm,0.5s			smax	smax		
PET	**Petropavlovsk**	**2.90**	**356**	*e*P	**Pn**	**22 30 34.1**	**+0.6**
PET				*e*S	**Sn**	**22 31 07.3**	**-1.1**
SPN	**Mys Shipunski**	**3.03**	**11**	PN	**Pn**	**22 30 36.4**	**+1.1**
SPN				S	**Sn**	**22 31 11.2**	**-0.4**
SPN	**Mys Shipunski**	**3.03**	**11**	P	**Pn**	**22 30 36.4**	**+1.1**
SPN				*e*S	**Sn**	**22 31 11.2**	**-0.4**
NLC	**Nalytchevo**	**3.05**	**4**	*e*S	**Sn**	**22 31 10.3**	**-1.6**
UGLR	**Uglovaya**	**3.08**	**358**	*e*P	**Pn**	**22 30 36.9**	**+0.8**
UGLR				S	**Sn**	**22 31 11.7**	**-1.3**
PETK	**Petropavlovsk-** comp=N,4.9nm,0.3s,baz=131,slow=17,SNR=18	**3.09**	**345**	Pn	**Pn**	**22 30 37.3**	**+1.2**
PETK				Sn	**Sn**	**22 31 16.1**	**+3.1**
PETK	**Petropavlovsk-** comp=N,3.2nm,0.3s,baz=264,slow=14,SNR=5.4	**3.09**	**345**	PN	**Pn**	**22 30 37.3**	**+1.2**
PETK						22 31 16.2	
PETK	comp=Z,5.0nm,0.3s			pmax	pmax		
PETK	comp=N,3.0nm,0.3s			smax	smax		
SMAR	**Somma**	**3.13**	**357**	*e*P	**Pn**	**22 30 38.9**	**+2.0**
SMAR				S	**Sn**	**22 31 15.4**	**+0.9**
AVH	**Avacha**	**3.14**	**357**	*i* P	**Pn**	**22 30 37.9**	**+1.1**
AVH				S	**Sn**	**22 31 13.8**	**-0.6**
SDLR	**Sedlovina**	**3.15**	**358**	*e*P	**Pn**	**22 30 37.4**	**+0.4**
SDLR				*e*S	Sn	22 31 12.2	-2.5
KOK	**Koryaka**	**3.17**	**356**	*e*P	**Pn**	**22 30 38.6**	**+1.3**
KOK				S	**Sn**	**22 31 14.7**	**-0.5**
MKZ	**Mys Kozlova**	**4.73**	**19**	PN	**Pn**	**22 30 59.0**	**+0.5**
MKZ	**Mys Kozlova**	**4.73**	**19**	*e*P	**Pn**	**22 30 59.0**	**+0.5**
MKZ				*i* S	Sn	22 31 50.2	-3.1
TUMR	**Tumrok**	**5.20**	**7**	P	**Pn**	**22 31 06.3**	**+1.1**
KMNR	**Kamenistaya**	**5.68**	**7**	P	**Pn**	**22 31 12.6**	**+0.9**
KBTR	**Krutoberegovo**	**6.50**	**19**	PN	**Pn**	**22 31 24.0**	**+1.2**
KBTR	**Krutoberegovo**	**6.50**	**19**	*e*P	**Pn**	**22 31 24.0**	**+1.2**
FX1	**Attu Island--F** comp=N,2.6nm,0.3s,baz=261,slow=19,SNR=13	**9.23**	**67**	Sn	Sn	22 33 36.4	-7.9
YKA	**Yellowknife Ar** comp=N,0.3nm,0.8s,baz=294,slow=7.5,SNR=4.3	**45.82**	**40**	P	P	22 38 05.0	-3.9
YKA	**Yellowknife Ar**	**45.82**	**40**	P	P	22 38 05.0	-3.9
KURK	**Kurchatov** comp=N,0.3nm,0.6s,baz=62,slow=7.9,SNR=2.8	**48.77**	**304**	P	P	22 38 30.2	-1.8
KURK	**Kurchatov**	**48.77**	**304**	P	P	22 38 30.2	-1.8
MKAR	**Makanchi Array** comp=N,0.1nm,0.5s,baz=67,slow=7.8,SNR=2.5	**48.88**	**297**	P	P	22 38 29.2	-3.8
MKAR	**Makanchi Array**	**48.88**	**297**	P	P	22 38 29.2	-3.8
BVAR	**Borovoye Array** comp=N,0.3nm,0.5s,baz=59,slow=5.3,SNR=4.2	**51.74**	**310**	P	P	22 38 50.8	-3.7
BVAR	**Borovoye Array**	**51.74**	**310**	P	P	22 38 50.8	-3.7
HFS	**Hagfors** comp=N,0.8nm,0.6s,baz=46,slow=8.4,SNR=4.5	**66.56**	**342**	P	**P**	**22 40 36.2**	**-0.8**
HFS	**Hagfors** comp=Z,1.0nm,0.6s	**66.56**	**342**	P	**P**	**22 40 36.2**	**-0.8**
HFS				pmax	pmax		
TXAR	**Lajitas Array** comp=Z,0.1nm,0.6s,baz=330,slow=5.2,SNR=3.6	**72.44**	**65**	P	P	22 41 11.1	-2.8
TXAR	**Lajitas Array**	**72.44**	**65**	P	P	22 41 11.1	-2.8
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=19,slow=6.0,SNR=3.3	**73.11**	**204**	P	P	22 41 09.8	-7.9
WRA	**Warramunga Arr**	**73.11**	**204**	P	P	22 41 09.8	-7.9

RSPR 25 22:37:02.8,19°.03N×66°.75W,h58km±4km,MD3.2/3,9C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.68**	**180**	⇑*e*P	Pn	22 37 15.3	-1.4
AOPR	**Arecibo Observ**	**0.68**	**180**	*e*S	Sn	22 37 25.3	-1.6
AOPR	**Arecibo Observ**	**0.68**	**180**	*e*S	Sn	22 37 26.1	-0.8
AOPR	**Arecibo Observ**	**0.68**	**180**	*e*S	Sn	22 37 26.1	-0.8
LSP	**Las Mesas**	**0.91**	**200**	⇑*e*P	Pn	22 37 18.8	-0.8
LSP	**Las Mesas**	**0.91**	**200**	⇑*e*P	Pn	22 37 18.8	-0.8
OBIP	**Obispado Ponce**	**0.99**	**172**	*e*S	Sn	22 37 33.0	-0.9
CRPR	**Cabo Rojo, PR**	**1.08**	**198**	⇑*e*P	Pn	22 37 20.3	-1.4
CRPR	**Cabo Rojo, PR**	**1.08**	**198**	⇑*e*P	Pn	22 37 20.9	-0.8
CRPR	**Cabo Rojo, PR**	**1.08**	**198**	*e*S	Sn	22 37 35.2	-0.6
CRPR	**Cabo Rojo, PR**	**1.08**	**198**	⇑*e*P	Pn	22 37 20.9	-0.8
CRPR				*e*S	Sn	22 37 35.2	-0.6
CBYP	**Canovanas**	**1.14**	**132**	*e*S	Sn	22 37 36.2	-1.2
CBYP	**Canovanas**	**1.14**	**132**	*e*S	Sn	22 37 36.7	-0.7
CBYP	**Canovanas**	**1.14**	**132**	*e*S	Sn	22 37 36.7	-0.7
HUMP	**Col San Antoni**	**1.23**	**136**	*e*S	Sn	22 37 38.9	-0.6
HUMP	**Col San Antoni**	**1.23**	**136**	*e*S	Sn	22 37 38.9	-0.6
MTP	**Monte Pirata**	**1.47**	**129**	⇑*e*P	Pn	22 37 25.7	-1.3
MTP	**Monte Pirata**	**1.47**	**129**	*e*S	Sn	22 37 44.4	-0.8
MTP	**Monte Pirata**	**1.47**	**129**	⇑*e*P	Pn	22 37 26.0	-1.0
MTP	**Monte Pirata**	**1.47**	**129**	*e*S	Sn	22 37 44.3	-0.9
MTP	**Monte Pirata**	**1.47**	**129**	⇑*e*P	Pn	22 37 26.0	-1.0
MTP				*e*S	Sn	22 37 44.3	-0.9

*NNC **25** 23:25:45.2±5.7,38°.06N×71°.14E,h0km,mb4.0,mpv4.1, Error ellipse: s-maj=47.0km s-min=40.8km az=7.0*
*IDC **25** 23:25:49.6±2.2,38°.49N×72°.12E,h0km,mb3.7/4, mb1 3.7/9,mb1mx3.5/29,mbtmp3.6/9,ML3.2/5, Error ellipse: s-maj=31.9km s-min=19.8km az=6.0*
*MOS **25** 23:25:53.7±1.5,38°.63N×71°.91E,h33km,mb4.4/3,Error ellipse: s-maj=14.3km s-min=7.5km az=84.5*
*NEIC **25** 23:25:55.2±0.8,38°.55N×72°.01E,h35km,mb3.8/4,Error ellipse: s-maj=12.4km s-min=8.4km az=169.0*
ISC 25 23:25:54.9±2.9,38°.59N±0°.08×71°.91E±0°.06,h32km±21km, n69,σ1s66/76,mb4.0/8,2C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=61	**3.79**	**21**	P	**Pn**	**23 26 53.3**	**+1.8**
AML				P	**Pn**	**23 26 53.3**	**+1.8**
EKS2	**Erkin-Say** SNR=23	**4.31**	**19**	P	**Pn**	**23 26 59.4**	**+1.0**
EKS2				P	**Pn**	**23 26 59.4**	**+1.0**
EKS2	**Erkin-Say**	**4.31**	**19**	*e*PN	**Pn**	**23 26 59.0**	**+0.6**
EKS2				*e*		23 27 48.5	
EKS2	**Erkin-Say**	**4.31**	**19**	*e*Pn	**Pn**	**23 26 59.0**	**+0.6**
EKS2				*e*Sn	**Sn**	**23 27 48.5**	**+0.9**
KZA	**Kyzart** SNR=15	**4.32**	**35**	P	**Pn**	**23 26 58.4**	**-0.4**
KZA				P	**Pn**	**23 26 58.4**	**-0.4**
AAK	**Ala-Archa** SNR=18	**4.50**	**25**	P	Pb	23 27 07.2	-6.0
AAK				P	Pb	23 27 07.2	-6.0
AAK	**Ala-Archa**	**4.50**	**25**	*e*PN	**Pn**	**23 27 02.4**	**+1.4**
AAK	**Ala-Archa**	**4.50**	**25**	*e*Pn	**Pn**	**23 27 02.4**	**+1.4**
AAK				*e*Sn	**Sn**	**23 27 50.1**	**-2.1**
KK31	**Karatay Array** 12nm,0.5s,baz=154,slow=23,SNR=3.6	**4.63**	**347**	⇑P	**Pn**	**23 27 04.0**	**+1.3**
KK31				⇓S	Sn	23 28 02.0	+6.6
KKAR	**Karatay Array** 38nm,0.6s	**4.63**	**347**	*e*PN	**Pn**	**23 27 04.5**	**+1.8**
KKAR				*e*		23 27 58.5	
KKAR	**Karatay Array**	**4.63**	**347**	*e*Pn	**Pn**	**23 27 04.5**	**+1.8**
KKAR				*e*Sn	**Sn**	**23 27 58.5**	**+3.1**
KBK	**Karagaybulak** SNR=12	**4.68**	**29**	P	Pn	23 27 07.9	+4.5
KBK				P	Pn	23 27 07.9	+4.5
FRU	**Bishkek**	**4.72**	**25**	*e*PN	Pb	23 27 11.8	-5.1
FRU				*i*		23 27 17.0	
FRU				*e*S	Sb	23 28 06.0	-7.2
FRU	comp=E,342nm,1.8s			smax	smax		
**CHMS

ZALV	**Zalesovo Beam**	**17.72**	**26**	P		**Pn**	**23 29 57.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=214,slow=10,SNR=3.7							
ZALV	**Zalesovo Beam**	**17.72**	**26**	P		**Pn**	**23 29 57.4**	**-1.6**
ZALV	**Zalesovo Beam**	**17.72**	**26**	P		**Pn**	**23 29 57.4**	**-1.6**
LSA	**Lhasa**	**18.20**	**113**	*e*P		**Pn**	**23 30 04.7**	**-0.9**
LSA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
LSA	**Lhasa**	**18.20**	**113**	*e*Pn		**Pn**	**23 30 04.7**	**-0.9**
	comp=Z,5.0nm,1.1s							
ARU	**Arti**	**19.93**	**338**	*e*P		**P**	**23 30 24.1**	**+0.3**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARU	**Arti**	**19.93**	**338**	*e*P		**P**	**23 30 24.1**	**+0.3**
	comp=Z,1.9nm,0.6s							
GNI	**Garni**	**21.03**	**283**	*e*P		**P**	**23 30 36.5**	**+0.4**
GNI	**Garni**	**21.03**	**283**	*e*P		**P**	**23 30 36.5**	**+0.4**
KIV	**Kislovodsk**	**22.54**	**293**	*e*P		**P**	23 30 58.9	+6.7
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**22.54**	**293**	*e*P		**P**	**23 30 52.8**	**+0.6**
ZAK	**Zakamensk**	**25.11**	**52**	*e*P		**P**	**23 31 18.6**	**+1.9**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.2s							
SONM	**Songino Array**	**26.59**	**58**	P		**P**	**23 31 30.3**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=262,slow=9.8,SNR=2.9							
SONM	**Songino Array**	**26.59**	**58**	P		**P**	**23 31 30.3**	**+0.1**
SONM	**Songino Array**	**26.59**	**58**	P		**P**	**23 31 30.3**	**+0.1**
FINES	**FINESS Array B**	**36.18**	**324**	P		**P**	**23 32 55.2**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=104,slow=8.0,SNR=7.8							
FINES	**FINESS Array B**	**36.18**	**324**	P		**P**	**23 32 55.2**	**+1.1**
FINES	**FINESS Array B**	**36.18**	**324**	P		**P**	**23 32 55.2**	**+1.1**
PSZ	**Piszkesteto**	**38.36**	**301**	*e*P		**P**	**23 33 14.2**	**+1.3**
PSZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
PSZ	**Piszkesteto**	**38.36**	**301**	*e*P		**P**	**23 33 14.2**	**+1.3**
	comp=Z,1.9nm,0.7s							
ARCES	**ARCESS Array B**	**39.51**	**336**	P		**P**	**23 33 23.8**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=106,slow=7.7,SNR=3.9							
ARCES	**ARCESS Array B**	**39.51**	**336**	P		**P**	**23 33 23.8**	**+1.7**
ARCES	**ARCESS Array B**	**39.51**	**336**	P		**P**	**23 33 23.8**	**+1.7**
MORC	**Moravsky Berou**	**39.74**	**304**	*e*P		**P**	**23 33 24.9**	**+0.6**
MORC				pmax	pmax			
	comp=Z,11nm,1.6s							
MORC	**Moravsky Berou**	**39.74**	**304**	*e*P		**P**	**23 33 24.9**	**+0.6**
	comp=Z,11nm,1.6s							
YKA	**Yellowknife Ar**	**79.13**	**3**	P		**P**	**23 37 54.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=349,slow=6.0,SNR=4.7							
YKA	**Yellowknife Ar**	**79.13**	**3**	P		**P**	**23 37 54.8**	**-1.0**
YKA	**Yellowknife Ar**	**79.13**	**3**	P		**P**	**23 37 54.8**	**-1.0**

IDC 25 23:52:48.3±5.5, 26.74S×178.67W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.9/14, mbtmp3.6/2, Error ellipse: s-maj=243.4km s-min=61.0km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.83**	**263**	P	P	00 00 47.9	-0.5
	0.5nm,0.8s,baz=97,slow=7.5,SNR=7.7						
WRA	**Warramunga Arr**	**43.48**	**269**	P	P	00 00 53.7	+0.1
	0.8nm,0.6s,baz=108,slow=7.8,SNR=16						
AKASG	**Malin Array Be**	**148.00**	**326**	PKPbc	PKPbc	00 12 34.8	-0.6
	1.0nm,0.6s,baz=45,slow=3.6,SNR=4.7						

*IDC **26** 00:07:36.7±0.6, 9.36S×159.76E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, MS3.7/6, Ms1 3.7/6, ms1mx3.4/22, Error ellipse: s-maj=20.3km s-min=7.2km az=22.0*

NEIC 26 00:07:40.9±0.9, 9.52S×159.79E, h32km±8km, mb4.3/9, Error ellipse: s-maj=22.3km s-min=10.5km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.18**	**60**	Pn	Pn	00 07 47.3	-0.1
	4μm,0.3s,baz=207,slow=3.2,SNR=622						
HNR				Sn	Sb	00 07 53.0	+1.5
	7μm,0.3s,baz=228,slow=23,SNR=129						
HNR	**Honiara**	**0.18**	**60**	Pn	Pn	00 07 47.3	-0.1
HNR				Sn	Sb	00 07 53.0	+1.5
DZM	**Mont Dzumac**	**14.02**	**154**	LR	LR	00 15 28.1	
	comp=Z,280nm,18.1s,baz=32,slow=33						
ARMA	**Armidale**	**22.14**	**199**	*e*P	P	00 12 33.5	-0.6
	2.7nm,0.6s						
WRAB	**Tennant Creek**	**26.66**	**244**	*e*P	P	00 13 15.5	-1.5
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**26.67**	**244**	P	P	00 13 16.1	-1.0
	2.7nm,0.9s,baz=72,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**26.67**	**244**	P	P	00 13 16.1	-1.0
GUMO	**Guam**	**27.32**	**327**	LR	LR	00 22 27.2	
	comp=Z,117nm,21.2s,baz=152,slow=33						
GUMO	**Guam**	**27.32**	**327**	*e*P	P	00 13 21.8	-1.2
STKA	**Stephens Creek**	**27.92**	**215**	P	P	00 13 29.9	+1.7
	1.4nm,0.7s,baz=39,slow=13,SNR=2.6						
STKA	**Stephens Creek**	**27.92**	**215**	*e*P	P	00 13 29.2	+1.0
	1.9nm,1.2s						
AFI	**Afiamalu**	**28.17**	**102**	LR	LR	00 22 01.6	
	comp=Z,228nm,18.4s,baz=336,slow=31						
ASAR	**Alice Springs**	**28.45**	**237**	P	P	00 13 34.6	+1.5
	0.4nm,0.9s,baz=64,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**28.45**	**237**	P	P	00 13 34.6	+1.5
MJAR	**Matsushiro Arr**	**50.11**	**337**	P	P	00 16 30.4	-2.6
	1.1nm,0.4s,baz=166,slow=7.7,SNR=4.5						
MJAR	**Matsushiro Arr**	**50.11**	**337**	P	P	00 16 30.4	-2.6
KSRS	**Korea Array**	**55.45**	**329**	P	P	00 17 12.8	+0.4
	2.0nm,0.8s,baz=163,slow=7.5,SNR=5.1						
KSRS				LR	LR	00 38 08.2	
	comp=Z,34nm,20.6s,baz=44,slow=33						
KSAR	**Wonju Array Be**	**55.46**	**329**	P	P	00 17 12.8	+0.3
PETK	**Petropavlovsk-**	**62.41**	**359**	LR	LR	00 42 13.6	
	comp=Z,57nm,18.8s,baz=306,slow=33						
ENH	**Enshi**	**62.44**	**311**	*e*P	P	00 18 00.3	-0.9
	18nm,1.4s						
CMAR	**Chiang Mai Arr**	**66.15**	**295**	P	P	00 18 26.6	+0.9
	1.2nm,0.7s,baz=120,slow=4.6,SNR=12						
CMAR	**Chiang Mai Arr**	**66.15**	**295**	P	P	00 18 26.6	+0.9
ULN	**Ulaanbaatar**	**73.70**	**326**	*e*P	P	00 19 13.2	+1.4
	3.3nm,0.9s						
SONM	**Songino Array**	**74.05**	**326**	P	P	00 19 15.0	+1.3
	2.3nm,0.9s,baz=128,slow=4.9,SNR=17						
SONM				LR	LR	00 46 26.2	
	comp=Z,69nm,21.9s,baz=269,slow=32						
SONM	**Songino Array**	**74.05**	**326**	P	P	00 19 15.0	+1.3
LSA	**Lhasa**	**76.61**	**304**	*e*P	P	00 19 29.8	+0.5
	5.7nm,1.2s						
MCK	**McKinley**	**82.68**	**20**	*e*P	P	00 20 00.8	-0.2
	14nm,1.1s						
ILAR	**Eielson Array**	**84.03**	**20**	P	P	00 20 07.4	-0.4
	1.2nm,0.6s,baz=250,slow=5.2,SNR=23						
ILAR	**Eielson Array**	**84.03**	**20**	P	P	00 20 07.4	-0.4
MK31	**Makanchi Array**	**88.44**	**318**	*e*P	P	00 20 30.1	+0.1
MKAR	**Makanchi Array**	**88.44**	**318**	P	P	00 20 30.0	+0.1
	2.2nm,0.7s,baz=103,slow=5.7,SNR=28						
MKAR	**Makanchi Array**	**88.44**	**318**	P	P	00 20 30.0	+0.1
ZALV	**Zalesovo Beam**	**88.93**	**325**	P	P	00 20 31.6	-0.4
	0.3nm,0.3s,baz=90,slow=3.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**88.93**	**325**	P	P	00 20 31.6	-0.4
KURK	**Kurchatov**	**91.75**	**321**	*e*P	P	00 20 44.7	-0.6
	4.0nm,1.7s						
TKM2	**Tokmak 2**	**92.19**	**313**	*e*P	P	00 20 47.3	-0.5
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**96.34**	**28**	P	P	00 21 05.7	-0.3
	0.3nm,0.7s,baz=260,slow=4.8,SNR=5.1						
YKA	**Yellowknife Ar**	**96.34**	**28**	P	P	00 21 05.7	-0.3

*IDC **26** 00:28:34.3±2.3, 38.19N×72.28E, h0km, mb3.7/4, mb1 3.7/9, mb1mx3.5/30, mbtmp3.6/9, ML3.3/5, Error ellipse: s-maj=35.3km s-min=22.0km az=145.0*

*NNC **26** 00:28:35.9±6.4, 38.32N×71.67E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=124.1km s-min=40.1km az=90.0*

ISC 26 00:28:41.4±1.8, 38.6N±0.1×71.8E±0.1, h25km, n20, σ1.972/30, mb3.7/4, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.80**	**21**	P	**Pn**	**00 29 39.7**	**+1.0**
	SNR=80						
AML				P	**Pn**	**00 29 39.7**	**+1.0**
	SNR=80						
EKS2	**Erkin-Say**	**4.31**	**19**	P	**Pn**	**00 29 45.8**	**+0.3**
	SNR=10						
EKS2				P	**Pn**	**00 29 45.8**	**+0.3**
	SNR=10						
KZA	**Kyzart**	**4.34**	**36**	P	**Pn**	**00 29 44.7**	**-1.4**
	SNR=9.0						
KZA				P	**Pn**	**00 29 44.7**	**-1.4**
	SNR=9.0						
AAK	**Ala-Archa**	**4.50**	**26**	P	**Pn**	**00 29 50.0**	**+1.8**
	SNR=12						
AAK				P	**Pn**	**00 29 50.0**	**+1.8**
	SNR=12						
KK31	**Karatay Array**	**4.60**	**348**	Pn	**Pn**	**00 29 50.5**	**+1.1**
	2.9nm,0.3s,baz=168,slow=13,SNR=77						
KK31				↑Pg	**Pb**	**00 30 02.6**	**+1.2**
	6.6nm,0.5s,baz=172,slow=15,SNR=5.0						
KK31				↑Sn	Sb	00 30 49.6	-6.8
	11nm,0.5s,baz=171,slow=22,SNR=5.0						
KK31				↑Lg	Lg	00 31 06.3	
	11nm,0.5s,baz=160,slow=25,SNR=4.0						
KBK	**Karagaybulak**	**4.69**	**29**	P	**Pn**	**00 29 53.6**	**+2.9**
	SNR=6.3						
KBK				P	**Pn**	**00 29 53.6**	**+2.9**
	SNR=6.3						
CHMS	**Chumysh**	**4.91**	**26**	P	**Pn**	**00 29 55.6**	**+1.9**
	SNR=9.3						
CHMS				P	**Pn**	**00 29 55.6**	**+1.9**
	SNR=9.3						
USP	**Ospenovka**	**5.07**	**23**	P	**Pn**	**00 29 57.2**	**+1.3**
	SNR=8.1						
USP				P	**Pn**	**00 29 57.2**	**+1.3**
	SNR=8.1						
TKM2	**Tokmak 2**	**5.17**	**32**	P	**Pn**	**00 29 59.1**	**+1.8**
	SNR=11						
TKM2				P	**Pn**	**00 29 59.1**	**+1.8**
	SNR=11						
MKAR	**Makanchi Array**	**11.22**	**40**	Pn	**Pn**	**00 31 18.2**	**-2.0**
	0.1nm,0.3s,baz=220,slow=13,SNR=8.7						
MKAR				Lg	Lg	00 34 34.1	
	0.0nm,0.3s,baz=238,slow=23,SNR=4.3						
KURK	**Kurchatov**	**13.03**	**19**	Pn	**Pn**	**00 31 41.9**	**-2.8**
	0.0nm,0.3s,baz=213,slow=12,SNR=4.1						
KURK				Lg	Lg	00 35 33.2	
	0.0nm,0.3s,baz=167,slow=31,SNR=4.9						
AB31	**Akbulak array**	**13.65**	**325**	↓P	**Pn**	**00 31 50.3**	**-2.9**
	1.1nm,0.5s,baz=133,slow=13,SNR=37						
BVAR	**Borovoye Array**	**14.46**	**357**	Pn	**Pn**	**00 32 04.3**	**+0.1**
	0.1nm,0.3s,baz=159,slow=14,SNR=4.2						
BVAR				Sn	**Sn**	**00 34 41.5**	**-2.1**
	0.1nm,0.3s,baz=166,slow=26,SNR=5.6						
AKTO	**Aktyubinsk**	**15.36**	**325**	Pn	**Pn**	**00 32 17.8**	**+1.4**
	0.2nm,0.3s,baz=136,slow=13,SNR=8.0						
AKTO	**Aktyubinsk**	**15.36**	**325**	↓P	**P**	**00 32 19.9**	**-0.9**
	1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**17.73**	**26**	P	**Pn**	**00 32 45.2**	**-1.1**
	0.3nm,0.3s,baz=220,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**36.13**	**324**	P	**P**	**00 35 40.5**	**-0.7**
	1.4nm,0.7s,baz=109,slow=10,SNR=6.4						
ARCES	**ARCESS Array B**	**39.47**	**336**	P	**P**	**00 36 09.8**	**+0.5**
	2.1nm,0.8s,baz=98,slow=6.5,SNR=3.2						
NOA	**NORSAR Array B**	**43.12**	**322**	P	**P**	**00 36 40.2**	**+0.8**
	0.7nm,0.9s,baz=103,slow=8.1,SNR=2.8						
YKA	**Yellowknife Ar**	**79.11**	**3**	P	**P**	**00 40 43.9**	**+0.6**
	0.2nm,0.6s,baz=349,slow=5.3,SNR=3.9						

*IDC **26** 00:29:17.8±0.7, 32.70S×138.92E, h0km, mb4.3/5, mb1 4.4/9, mb1mx4.2/16, mbtmp4.3/9, ML4.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=22.4km s-min=21.0km az=53.0*

*NEIC **26** 00:29:20.0, 32.79S×139.01E, h17km, mb4.6/1, ML4.6(AUST), After AUST.*

NEIC Felt at Peterborough and Adelaide.

ISC 26 00:29:18.9±2.3, 32.63S±0.05×139.06E±0.03, h16km±14km, n66, σ2.914/92, mb4.4/5, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.28**	**72**	Pn	**Pb**	**00 29 58.8**	**-0.8**
	297nm,0.3s,baz=247,slow=12,SNR=1017						
STKA				Sn	**Sb**	**00 30 29.0**	**+1.5**
	142nm,0.3s,baz=12,slow=22,SNR=3.2						
STKA				Lg	Lg	00 30 39.9	
	317nm,0.3s,baz=255,slow=23,SNR=5.8						
STKA				LR	LR	00 31 03.5	
	comp=Z,612nm,18.1s,baz=213,slow=44						
STKA	**Stephens Creek**	**2.28**	**72**	*e*P	**Pb**	**00 29 58.8**	**-0.8**
STKA				*e*S	**Sb**	**00 30 28.1**	**+0.6**
	2μm,0.8s						
STKA	**Stephens Creek**	**2.28**	**72**	*e*Pn	**Pb**	**00 29 59.0**	**-0.6**
STKA				*e*Sn	**Sb**	**00 30 27.3**	**-0.3**
STKA				Lg	Lg	00 30 39.9	
BBOO	**Buckleboo**	**2.53**	**265**	*e*P	**Pn**	**00 30 00.2**	**+0.8**
BBOO				*e*S	**Sb**	**00 30 35.8**	**+0.8**
	6μm,0.3s						
BBOO	**Buckleboo**	**2.53**	**265**	*e*Pn	**Pn**	**00 30 00.2**	**+0.8**
BBOO				*e*Sn	**Sn**	**00 30 31.1**	**+1.2**
ARPS	**Mount Arapiles**	**4.73**	**152**	*e*P	**Pn**	**00 30 28.1**	**-1.4**
ARPS				*e*S	**Sn**	**00 31 18.7**	**-5.3**
	324nm,0.3s						
CMSA	**Cobar Meteorol**	**5.73**	**81**	*e*P	**Pn**	**00 30 43.4**	**0.0**
CMSA				*e*S	**Sn**	**00 31 44.8**	**-4.1**
	625nm,0.6s						
TOO	**Toolangi**	**7.22**	**135**	*e*P	**Pn**	**00 31 02.7**	**-1.1**
TOO				*e*S	**Sn**	**00 32 22.1**	**-3.4**
	352nm,1.1s						
QLP	**Quilpie**	**7.52**	**38**	*e*P	**Pn**	**00 31 10.4**	**+2.5**
YNG	**Young**	**7.98**	**105**	*e*P	**Pn**	**00 31 13.8**	**-0.5**
YNG				*e*S	**Sn**	**00 32 40.4**	**-3.8**
	34nm,0.4s						
CAN	**Canberra**	**8.68**	**111**	*e*P	**Pn**	**00 31 23.0**	**-0.9**
CAN	**Canberra**	**8.68**	**111**	*e*Pn	**Pn**	**00 31 23.1**	**-0.8**
	15nm,0.4s						
CAN				*e*Sn	**Sn**	**00 33 00.5**	**-1.1**
CNB	**Canberra Magne**	**8.97**	**110**	*e*P	**Pn**	**00 31 26.8**	**-1.1**
CNB				*e*S	**Sn**	**00 33 05.2**	**-3.4**
	105nm,0.4s						
MILA	**Mila**	**9.40**	**121**	*e*P	**Pn**	**00 31 32.7**	**-1.1**
FORT	**Forrest**	**9.55**	**278**	*e*P	**Pn**	**00 31 35.8**	**+0.1**
FORT				*e*S	**Sn**	**00 33 17.4**	**-5.3**
	85nm,0.6s						
FORT	**Forrest**	**9.55**	**278**	*e*Pn	**Pn**	**00 31 36.4**	**+0.6**
	53nm,0.5s						
FORT				*e*Sn	**Sn**	**00 33 17.5**	**-5.3**
ASAR	**Alice Springs**	**10.01**	**332**	Pn	**Pn**	**00 31 42.5**	**+0.3**
	2.2nm,0.3s,baz=150,slow=13,SNR=96						
ASAR				Sn	**Sn**	**00 33 33.7**	**-0.5**
	5.0nm,0.3s,baz=153,slow=22,SNR=7.6						
ASAR				Lg	Lg	00 34 42.7	
	0.6nm,0.3s,baz=156,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**10.01**	**332**	Pn	**Pn**	**00 31 42.5**	**+0.3**
ASAR				Sn	**Sn**	**00 33 33.8**	**-0.5**
ASAR				Lg	Lg	00 34 42.7	
AS31	**Alice Springs**	**10.02**	**332**	*e*Pn	**Pn**	**00 31 43.5**	**+1.3**
MGCD	**Mangrove Creek**	**10.15**	**97**	*e*P	**Pn**	**00 31 44.2**	**+0.2**
MGCD				*e*S	**Sn**	**00 33 36.0**	**-1.4**
	14nm,0.4s						
ARMA	**Armidale**	**10.95**	**82**	*e*P	**Pn**	**00 31 55.2**	**+0.1**
ARMA				*e*S	**Sn**	**00 33 54.2**	**-3.1**
QIS	**Mount Isa**	**12.03**	**2**	*e*P	**Pn**	**00 32 11.4**	**+1.6**
QIS				*e*S	**Sn**	**00 34 18.4**	**-5.3**
EIDS	**Eidsvold**	**12.76**	**59**	*e*Pn	**Pn**	**00 32 21.8**	**+2.0**
	12nm,0.9s						
WB2	**Warramunga Arr**	**13.31**	**340**	*e*Pn	**Pn**	**00 32 25.7**	**-1.6**
WB2				*e*Sn	**Sn**	**00 34 51.8**	**-3.3**
WRA	**Warramunga Arr**	**13.32**	**340**	Pn	**Pn**	**00 32 26.5**	**-0.9**
	1.8nm,0.3s,baz=158,slow=13,SNR=76						
WRA				Sn	**Sn**	**00 34 52.0**	**-3.2**
	1.6nm,0.3s,baz=167,slow=23,SNR=6.2						
WRA				Lg	Lg	00 36 20.8	
	baz=168,slow=25,SNR=2.4						
WRA	**Warramunga Arr**	**13.32**	**340**	Pn	**Pn**	**00 32 26.5**	**-0.9**
WRA				Sn	**Sn**	**00 34 52.0**	**-3.2**
WRA				Lg	Lg	00 36 20.8	
WRAB	**Tennant Creek**	**13.32**	**340**	*e*Pn	**Pn**	**00 32 26.4**	**-1.0**
	13nm,0.6s						
WRAB				*e*Sn	**Sn**	**00 34 50.3**	**-5.0**
CTA	**Charters Tower**	**14.05**	**29**	Pn	**Pn**	**00 32 36.4**	**-0.9**
	2.3nm,0.3s,baz=210,slow=13,SNR=13						
CTA				Sn	**Sn**	**00 35 13.5**	**+0.5**
	1.3nm,0.3s,baz=268,slow=16,SNR=3.9						
CTA				Lg	Lg	00 36 53.4	
	0.3nm,0.3s,baz=272,slow=17,SNR=1.3						
CTA				LR	LR	00 38 53.8	
	comp=Z,101nm,21.5s,baz=223,slow=41						
CTA	**Charters Tower**	**14.05**	**29**	*e*P	**Pn**	**00 32 36.4**	**-0.9**
	6.2nm,0.3s						
CTA				*e*S	**Sn**	**00 35 11.7**	**-1.2**
	15nm,0.6s						
CTA	**Charters Tower**	**14.05**	**29**	Pn	**Pn**	**00 32 36.4**	**-0.9**
CTA				Sn	**Sn**	**00 35 13.5**	**+0.5**
CTA				Lg	Lg	00 36 53.4	
CTAO	**Charters Tower**	**14.05**	**29**	*e*Pn	**Pn**	**00 32 36.0**	**-1.3**
	9.8nm,0.6s						
CTAO				*e*Sn	**Sn**	**00 35 09.8**	**-3.2**
KLBR	**Kellerberrin**	**18.08**	**268**	*e*P	**P**	**00 33 30.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**18.36**	**263**	P	**P**	**00 33 31.1**	**-1.7**
	0.3nm,0.3s,baz=113,slow=7.7,SNR=3.2						
NWAO				S	Sn	00 36 49.4	-8.1
	0.4nm,0.3s,baz=156,slow=15,SNR=2.0						
NWAO				Lg	Lg	00 38 49.8	
	1.3nm,0.3s,baz=178,slow=23,SNR=4.6						
NWAO	**Narrogin (SRO)**	**18.36**	**263**	P	**P**	**00 33 31.1**	**-1.7**
NWAO				S	Sn	00 36 49.4	-8.1
NWAO				Lg	Lg	00 38 49.8	
MEEK	**Meekatharra**	**18.74**	**283**	*e*P	**P**	**00 33 32.3**	**-4.8**
MEEK				*e*S	Sn	00 36 48.8	-18
	28nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.84**	**317**	*e*P	**P**	**00 33 36.7**	**-1.5**
COEN	**Coen**	**18.96**	**12**	*e*P	**Pn**	**00 33 40.6**	**+0.4**
COEN	**Coen**	**18.96**	**12**	*e*Pn	**Pn**	**00 33 41.1**	**+0.8**
	23nm,0.6s						
COEN				*e*Sn	**Sn**	**00 37 09.5**	**-2.7**
MTN	**Manton Dam**	**20.98**	**338**	*e*P	**P**	**00 34 02.6**	**+1.0**
PMG	**Port Moresby**	**24.29**	**20**	P	**P**	**00 34 38.9**	**+3.3**
	3.7nm,0.5s,baz=158,slow=9.6,SNR=5.4						
PMG	**Port Moresby**	**24.29**	**20**	P	**P**	**00 34 38.9**	**+3.3**
DZM	**Mont Dzumac**	**26.43**	**73**	LR	LR	00 44 27.6	
	comp=Z,105nm,19.6s,baz=276,slow=34						
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**00 39 08.3**	**+1.4**
	2.7nm,0.8s,baz=12,slow=2.3,SNR=6.6						
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**00 39 08.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**63.66**	**317**	P	**P**	**00 39 52.4**	**+2.8**
	1.3nm,0.4s,baz=156,slow=6.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**63.66**	**317**	P	**P**	**00 39 52.4**	**+2.8**
SONM	**Songino Array**	**85.29**	**339**	P	**P**	**00 41 56.7**	**+1.9**
	1.7nm,0.7s,baz=158,slow=5.5,SNR=18						
SONM	**Songino Array**	**85.29**	**339**	P	**P**	**00 41 56.7**	**+1.9**
MKAR	**Makanchi Array**	**94.14**	**325**	P	**P**	**00 42 37.5**	**+1.0**
	1.4nm,0.9s,baz=134,slow=5.7,SNR=15						
MKAR	**Makanchi Array**	**94.14**	**325**	P	**P**	**00 42 37.5**	**+1.0**
YKA	**Yellowknife Ar**	**125.83**	**33**	PKP	**PKPdf**	**00 48 20.3**	**+1.2**
	0.7nm,0.8s,baz=269,slow=1.6,SNR=9.4						
YKA	**Yellowknife Ar**	**125.83**	**33**	PKP	**PKPdf**	**00 48 20.3**	**+1.2**
PDAR	**Pinedale Array**	**126.13**	**58**	PKP	**PKPdf**	**00 48 22.4**	**+1.7**
	0.2nm,0.5s,baz=249,slow=2.5,SNR=4.9						
PDAR	**Pinedale Array**	**126.13**	**58**	PKP	**PKPdf**	**00 48 22.4**	**+1.7**
TXAR	**Lajitas Array**	**126.81**	**76**	PKP	**PKPdf**	**00 48 24.1**	**+2.0**
	0.8nm,0.8s,baz=208,slow=3.2,SNR=10						
TXAR	**Lajitas Array**	**126.81**	**76**	PKP	**PKPdf**	**00 48 24.1**	**+2.0**
ARCES	**ARCESS Array B**	**128.38**	**336**	PKP	**PKPdf**	**00 48 24.3**	**+0.5**
	2.5nm,0.8s,baz=27,slow=4.2,SNR=3.1						
ARCES	**ARCESS Array B**	**128.38**	**336**	PKP	**PKPdf**	**00 48 24.3**	**+0.5**
FINES	**FINESS Array B**	**128.97**	**325**	PKP	**PKPdf**	**00 48 26.2**	**+1.2**
	0.9nm,0.5s,baz=122,slow=1.1,SNR=9.4						
FINES	**FINESS Array B**	**128.97**	**325**	PKP	**PKPdf**	**00 48 26.2**	**+1.2**
TKL	**Tuckaleechee C**	**144.62**	**73**	PKP	**PKPdf**	**00 48 54.3**	**-0.5**
	9.5nm,0.8s,baz=191,slow=5.6,SNR=13						
TKL	**Tuckaleechee C**	**144.62**	**73**	PKP	**PKPdf**	**00 48 54.3**	**-0.5**
ESDC	**Sonseca Array**	**149.48**	**294**	PKPbc	**PKPbc**	**00 49 08.7**	**+1.3**
	1.8nm,0.7s,baz=60,slow=2.5,SNR=8.1						
ESDC	**Sonseca Array**	**149.48**	**294**	PKPbc	**PKPbc**	**00 49 08.7**	**+1.3**
SCHQ	**Schefferville**	**151.27**	**32**	PKPbc	**PKPbc**	**00 49 12.1**	**+1.0**
	2.2nm,0.6s,baz=307,slow=5.1,SNR=4.4						
SCHQ	**Schefferville**	**151.27**	**32**	PKPbc	**PKPbc**	**00 49 12.1**	**+1.0**

IDC 26 00:51:12.7±8.7, 17.19S×171.66W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=379.0km s-min=39.6km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.08**	**258**	P	P	01 00 16.7	-0.8
	0.4nm,1.1s,ba

ZALV	**Zalesovo Beam**	**45.52**	**46**	P		P		01 15 52.2	+3.5
	0.5nm,0.3s,baz=274,slow=9.4,SNR=2.7								

IDC ***26*** *01:08:46.6±0.6,56°92′S×24°85′W,h0km,mb4.4/9, mb1 4.4/10,mb1mx4.3/16,mbtmp4.4/10,ML3.8/1,MS4.0/3, Ms1 4.0/3,ms1mx3.6/17,Error ellipse: s-maj=21.2km s-min=20.0km az=85.0*

ISCJB ***26*** *01:08:48.0±0.4,56°94S±0°06′×24°8W±0°1,h22km, mb4.5/12,MS4.0/3,Error ellipse: s-maj=14.2km s-min=7.2km az=154.2*

NEIC ***26*** *01:08:51.5±0.3,57°00S×24°84W,h35km,mb4.5/9,Error ellipse: s-maj=10.3km s-min=8.2km az=47.0*

ISC 26 01:08:49.8±0.5,56°99S±0°09′×24°8W±0°1,h22km,n43, σ0s70/41,mb4.5/11,MS4.0/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.44**	**159**	*e*		**Pn**	**01 12 27.1**	**+1.3**
VNA3	**Neumayer Olymp**	**15.68**	**162**	*e*		**Pn**	**01 12 29.4**	**+0.4**
VNA2	**Neumayer--Watz**	**15.83**	**159**	*e*		**Pn**	**01 12 31.6**	**+0.6**
	baz=332,slow=18							
SNAA	**Sanae**	**17.35**	**157**	*e*		**Pn**	**01 12 48.1**	**-2.1**
SNAA	**Sanae**	**17.35**	**157**	P		**P**	**01 12 52.4**	**+0.9**
	0.3nm,0.3s,baz=329,slow=12,SNR=21							
SNAA	**Sanae**	**17.35**	**157**	*e*Pn		**Pn**	**01 12 49.0**	**-1.2**
	9.2nm,0.6s							
SNAA				*e*Sn		**Sn**	**01 16 01.0**	**-1.5**
USHA	**Ushuaia**	**24.23**	**256**	P		**P**	**01 14 04.3**	**-0.3**
	6.8nm,0.8s,baz=27,slow=12,SNR=4.2							
USHA	**Ushuaia**	**24.23**	**256**	P		**P**	**01 14 04.3**	**-0.3**
TRQA	**Tornquist**	**30.89**	**292**	P		**P**	**01 15 04.4**	**-0.1**
QSPA	**South Pole Qui**	**33.26**	**180**	P		**P**	**01 15 26.1**	**+1.0**
	6.0nm,0.6s,baz=205,slow=2.8,SNR=24							
QSPA	**South Pole Qui**	**33.26**	**180**	*e*P		**P**	**01 15 25.9**	**+0.8**
	7.7nm,0.8s							
PLCA	**Paso Flores**	**33.45**	**279**	LR		LR	01 27 53.2	
	comp=Z,191nm,21.3s,baz=280,slow=34							
BDFB	**Brasilia**	**44.85**	**327**	P		**P**	**01 17 03.4**	**+1.1**
	1.7nm,0.5s,baz=163,slow=10,SNR=3.6							
BDFB	**Brasilia**	**44.85**	**327**	P		**P**	**01 17 03.4**	**+1.1**
BOSA	**Boshof**	**44.96**	**73**	P		**P**	**01 17 03.1**	**0.0**
	2.3nm,0.7s,baz=206,slow=11,SNR=5.7							
BOSA				LR		LR	01 31 56.7	
	comp=Z,278nm,19.4s,baz=182,slow=31							
BOSA	**Boshof**	**44.96**	**73**	*e*P		**P**	**01 17 02.9**	**-0.3**
	2.7nm,0.7s							
LBTB	**Lobatse**	**48.06**	**70**	P		**P**	**01 17 27.1**	**-0.3**
	2.9nm,0.9s,baz=211,slow=8.6,SNR=5.0							
LBTB	**Lobatse**	**48.06**	**70**	*e*P		**P**	**01 17 27.5**	**0.0**
	3.3nm,0.8s							
LPAZ	**La Paz**	**51.99**	**303**	P		**P**	**01 17 57.5**	**-0.4**
	17nm,0.6s,baz=153,slow=6.2,SNR=67							
LPAZ	**La Paz**	**51.99**	**303**	*e*P		**P**	**01 17 57.4**	**-0.5**
	26nm,0.7s							
SAML	**Samuel**	**56.40**	**313**	*e*P		**P**	**01 18 28.1**	**-1.3**
	8.7nm,1.2s							
DBIC	**Dimbokro**	**65.51**	**22**	P		**P**	**01 19 31.2**	**+0.1**
	1.0nm,0.8s,baz=170,slow=9.8,SNR=3.0							
DBIC	**Dimbokro**	**65.51**	**22**	*e*P		**P**	**01 19 30.8**	**-0.3**
	2.4nm,1.0s							
OTAV	**Otavalo**	**71.27**	**302**	*e*P		**P**	**01 20 07.5**	**-0.3**
	11nm,1.3s							
TOA0	**Torodi Ar. Sit**	**73.26**	**27**	*e*P		**P**	**01 20 18.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.26**	**27**	P		**P**	**01 20 19.4**	**+0.3**
	4.0nm,0.8s,baz=194,slow=6.2,SNR=27							
TORD				LR		LR	01 44 38.9	
	comp=Z,86nm,21.5s,baz=350,slow=29							
TORD	**Torodi Ar. Bea**	**73.26**	**27**	P		**P**	**01 20 19.4**	**+0.3**
SDV	**Santo Domingo**	**75.61**	**313**	*e*P		**P**	**01 20 33.0**	**0.0**
	5.8nm,0.8s							
STKA	**Stephens Creek**	**90.74**	**168**	*e*P		**P**	**01 21 50.6**	**-0.2**
ASAR	**Alice Springs**	**97.68**	**160**	P		Pdif	01 22 23.4	+0.6
	1.3nm,0.8s,baz=193,slow=5.1,SNR=9.8							
ASAR	**Alice Springs**	**97.68**	**160**	P		Pdif	01 22 23.4	+0.6
WRA	**Warramunga Arr**	**101.39**	**160**	P		**Pdif**	**01 22 39.6**	**+0.3**
	0.3nm,0.8s,baz=202,slow=4.6,SNR=3.6							
WRA	**Warramunga Arr**	**101.39**	**160**	P		**Pdif**	**01 22 39.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**123.51**	**109**	PKP		**PKPdf**	**01 27 45.4**	**+0.3**
	1.0nm,0.6s,baz=232,slow=3.9,SNR=6.9							
CMAR	**Chiang Mai Arr**	**123.51**	**109**	PKP		**PKPdf**	**01 27 45.4**	**+0.3**
MKAR	**Makanchi Array**	**135.95**	**71**	PKP		**PKPdf**	**01 28 08.0**	**+0.1**
	0.4nm,0.7s,baz=247,slow=2.5,SNR=4.6							
MKAR	**Makanchi Array**	**135.95**	**71**	PKP		**PKPdf**	**01 28 08.0**	**+0.1**
YKA	**Yellowknife Ar**	**137.75**	**316**	PKP		**PKPdf**	**01 28 10.4**	**-0.2**
	1.2nm,0.8s,baz=126,slow=2.3,SNR=14							
YKA	**Yellowknife Ar**	**137.75**	**316**	PKP		**PKPdf**	**01 28 10.4**	**-0.2**
SONM	**Songino Array**	**149.48**	**86**	PKPbc		**PKPbc**	**01 28 36.4**	**+0.1**
	5.8nm,0.7s,baz=225,slow=2.9,SNR=54							
SONM	**Songino Array**	**149.48**	**86**	PKPbc		**PKPbc**	**01 28 36.4**	**+0.1**
ILAR	**Eielson Array**	**151.72**	**310**	PKPbc		**PKPbc**	**01 28 40.6**	**-0.2**
	6.0nm,0.9s,baz=133,slow=1.8,SNR=45							
ILAR	**Eielson Array**	**151.72**	**310**	PKPbc		**PKPbc**	**01 28 40.6**	**-0.2**

IDC 26 01:30:24.9±2.4,0°46S×132°90E,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.5/17,mbtmp3.6/4,ML3.6/2,Error ellipse: s-maj=94.3km s-min=20.8km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.93**	**202**	P		Pn	01 34 49.0	+0.9
	0.1nm,0.3s,baz=28,slow=13,SNR=3.4							
FITZ				S		Sn	01 38 07.5	-13
	0.1nm,0.3s,baz=139,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**19.41**	**176**	P		Pn	01 34 53.5	-0.5
	0.2nm,0.3s,baz=354,slow=11,SNR=20							
WRA				S		Sn	01 38 21.5	-11
	0.1nm,0.3s,baz=357,slow=23,SNR=4.8							
ASAR	**Alice Springs**	**23.09**	**178**	P		P	01 35 33.2	+0.7
	1.0nm,0.4s,baz=0.1,slow=13,SNR=29							
ASAR				S		S	01 39 44.9	0.0
	1.9nm,1.2s,baz=5.5,slow=30,SNR=4.4							
MKAR	**Makanchi Array**	**64.52**	**324**	P		P	01 41 03.3	-0.5
	0.1nm,0.6s,baz=110,slow=7.9,SNR=4.1							

IDC ***26*** *01:49:55.0±0.7,15°85S×74°75W,h0km,mb4.1/13, mb1 4.3/16,mb1mx4.2/19,mbtmp4.1/16,ML3.7/3,MS4.1/7, Ms1 4.0/7,ms1mx3.7/23,Error ellipse: s-maj=27.9km s-min=15.1km az=43.0*

ISCJB ***26*** *01:49:57.5±0.4,15°89S±0°07′×74°71W±0°08,h30km, mb4.5/30,MS4.2/7,Error ellipse: s-maj=14.2km s-min=5.0km az=140.3*

NEIC ***26*** *01:49:59.3±3.1,15°85S×74°80W,h28km±21km,mb4.9/19, Error ellipse: s-maj=17.2km s-min=8.3km az=45.0*

NEIC Felt at Coracora, Nazca and Puquio.

BJI ***26*** *01:50:02.6,16°19S×74°23W,h50km,mB5.3/6,Ms5.4/5, Ms7 5.2/5*

ISC 26 01:49:59.5±0.5,15°82S±0°08×74°77W±0°10,h30km,n94, σ1s49/94,mb4.5/30,MS4.2/7,1C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.31**	**332**	Pn		**Pn**	**01 51 03.3**	**+0.2**
	5.1nm,0.3s,baz=167,slow=13,SNR=9.5							
NNA				Sn		Sn	01 51 58.9	+6.4
	80nm,0.3s,baz=156,slow=19,SNR=5.3							
NNA	**Nana**	**4.31**	**332**	*e*Pn		**Pn**	**01 51 01.3**	**-1.9**
NNA				*e*S		**Sb**	**01 52 02.0**	**-4.3**
ARCH	**Arica**	**5.03**	**123**	*e*P		**Pn**	**01 51 13.8**	**+0.8**
PSGC	**Pisagua**	**5.80**	**131**	*e*P		**Pn**	**01 51 21.8**	**-2.0**
MNMC	**Minimini**	**5.93**	**124**	*e*P		**Pn**	**01 51 24.6**	**-1.1**
LPAZ	**La Paz**	**6.40**	**95**	Pn		Pn	01 51 36.5	+4.1
	2.4nm,0.3s,baz=275,slow=9.0,SNR=76							
LPAZ				Sn		Sn	01 52 54.7	+10
	baz=232,slow=13,SNR=1.0							
LPAZ	**La Paz**	**6.40**	**95**	*e*Pn		Pn	01 51 36.3	+3.9
LPAZ				*e*S		Sb	01 53 01.2	-5.6
HMBC	**Humberstone**	**6.42**	**134**	*e*P		**Pn**	**01 51 30.0**	**-2.3**
PB01	**Plate Boundary**	**7.22**	**137**	*e*P		**Pn**	**01 51 40.8**	**-2.3**
PB07	**Plate Boundary**	**7.48**	**143**	↑*i*P		**Pn**	**01 51 45.0**	**-1.8**
PB09	**Plate Boundary**	**7.92**	**139**	*e*P		**Pn**	**01 51 52.4**	**-0.5**
ATAH	**Atahualpa**	**9.33**	**337**	Pn		Pn	01 52 19.4	+6.9
	0.9nm,0.3s,baz=335,slow=1.6,SNR=3.9							
ATAH				Sn		Sn	01 54 09.6	+13
	1.6nm,0.3s,baz=138,slow=9.5,SNR=2.4							
ATAH	**Atahualpa**	**9.33**	**337**	Pn		Pn	01 52 19.4	+6.9
ATAH				Sn		Sn	01 54 09.6	+13
SIV	**San Ignacio**	**13.18**	**93**	Pn		**Pn**	**01 53 03.7**	**-1.0**
	1.1nm,0.3s,baz=279,slow=12,SNR=16							
SIV				LR		LR	01 58 47.7	
	comp=Z,639nm,18.6s,slow=40							
SIV	**San Ignacio**	**13.18**	**93**	Pn		**Pn**	**01 53 03.7**	**-1.0**
SAML	**Samuel**	**13.21**	**60**	*e*P		**Pn**	**01 53 05.0**	**-0.2**
	6.4nm,0.6s							
SAML				*e*S		S	01 56 10.1	+15
OTAV	**Otavalo**	**16.36**	**347**	*e*Pn		**Pn**	**01 53 47.4**	**-0.3**
	14nm,1.0s							
OTAV				*e*S		**S**	**01 57 02.1**	**+1.6**
CFAA	**Coronel Fontan**	**16.80**	**160**	Pn		**Pn**	**01 53 52.2**	**-0.6**
	0.0nm,0.3s,baz=337,slow=12,SNR=15							
CFAA				LR		LR	01 59 21.5	
	comp=Z,15nm,20.6s,baz=203,slow=34							
CFAA	**Coronel Fontan**	**16.80**	**160**	Pn		**Pn**	**01 53 52.2**	**-0.6**
ROSC	**El Rosal**	**20.55**	**1**	P		Pn	01 54 45.0	+6.3
	5.4nm,0.5s,baz=98,slow=23,SNR=7.1							
ROSC	**El Rosal**	**20.55**	**1**	*e*P		Pn	01 54 39.2	+0.5
SDV	**Santo Domingo**	**24.89**	**10**	*e*P		**P**	**01 55 20.8**	**+0.7**
	12nm,0.8s							
PLCA	**Paso Flores**	**25.09**	**172**	P		**P**	**01 55 21.5**	**-0.2**
	1.1nm,0.6s,baz=355,slow=7.4,SNR=3.9							
PLCA	**Paso Flores**	**25.09**	**172**	*e*P		pP	01 55 31.8	+1.4
BDFB	**Brasilia**	**25.75**	**93**	P		**P**	**01 55 28.5**	**+0.6**
	8.4nm,0.8s,baz=246,slow=11,SNR=13							
BDFB				LR		LR	02 07 10.6	
	comp=Z,161nm,21.5s,baz=315,slow=40							
BDFB	**Brasilia**	**25.75**	**93**	P		**P**	**01 55 28.5**	**+0.6**
JTS	**JuntasAbangare**	**27.83**	**338**	LR		LR	02 06 14.4	
	comp=Z,315nm,19.5s,baz=168,slow=35							
TEIG	**Tepich**	**38.20**	**339**	*e*P		**P**	**01 57 17.5**	**+0.7**
TXAR	**Lajitas Array**	**52.86**	**328**	P		**P**	**01 59 13.0**	**+0.2**
	1.7nm,0.8s,baz=151,slow=7.9,SNR=19							
TXAR	**Lajitas Array**	**52.86**	**328**	P		**P**	**01 59 13.0**	**+0.2**
WCI	**Wyandotte Cave**	**54.84**	**349**	*e*P		**P**	**01 59 26.2**	**-0.8**
	16nm,0.7s							
SIUC	**Southern Illin**	**54.96**	**346**	*e*P		**P**	**01 59 27.3**	**-0.5**
	11nm,0.7s							
OLIL	**Olney**	**55.68**	**347**	*e*P		**P**	**01 59 32.2**	**-0.9**
	19nm,0.8s							
RKT	**Rikitea**	**56.90**	**252**	*e*LR		LR	02 16 26.8	
	164nm,26.8s							
RKT				*e*T		T	03 00 54.7	
	3.6nm,0.2s							
ANMO	**Albuquerque**	**58.78**	**330**	P		**P**	**01 59 56.1**	**+0.9**
	0.5nm,0.3s,baz=148,slow=2.7,SNR=4.2							
ANMO	**Albuquerque**	**58.78**	**330**	*e*P		**P**	**01 59 55.8**	**+0.5**
	34nm,2.6s							
TUC	**Tucson**	**58.99**	**324**	*e*P		**P**	**01 59 58.2**	**+1.6**
	19nm,2.3s							
SCIA	**State Center**	**59.91**	**344**	*e*P		**P**	**02 00 02.0**	**-0.7**
	6.3nm,0.5s							
SDCO	**Great Sand Dun**	**60.61**	**332**	*e*P		**P**	**02 00 08.3**	**+0.4**
	3.4nm,0.8s							
ECSD	**EROS Data Cent**	**62.55**	**342**	*e*P		**P**	**02 00 20.1**	**-0.5**
	11nm,0.9s							
CCUT	**Cedar City**	**64.31**	**327**	*e*P		P	02 00 36.0	+3.4
	19nm,2.0s							
ARUT	**Antelope Range**	**64.53**	**327**	*e*P		**P**	**02 00 35.4**	**+1.5**
	4.0nm,1.1s							
DUG	**Dugway**	**66.01**	**329**	*e*P		**P**	**02 00 45.2**	**+1.6**
	32nm,2.2s							
PDAR	**Pinedale Array**	**66.49**	**333**	P		**P**	**02 00 46.4**	**-0.3**
	0.5nm,0.6s,baz=150,slow=6.3,SNR=4.8							
PDAR	**Pinedale Array**	**66.49**	**333**	P		**P**	**02 00 46.4**	**-0.3**
HWUT	**Hardware Ranch**	**66.50**	**331**	*e*P		**P**	**02 00 46.9**	**+0.3**
	85nm,2.9s							
AGMN	**Agassiz Nation**	**66.54**	**345**	*e*P		**P**	**02 00 44.8**	**-1.8**
	79nm,2.5s							
NVAR	**Mina Array Bea**	**67.64**	**324**	P		**P**	**02 00 55.5**	**+1.5**
	0.2nm,0.3s,baz=146,slow=6.6,SNR=3.4							
NVAR	**Mina Array Bea**	**67.64**	**324**	P		**P**	**02 00 55.5**	**+1.5**
RRI2	**Red Ridge**	**67.74**	**332**	*e*P		**P**	**02 00 55.4**	**+0.7**
	5.9nm,0.9s							
ULM	**Lac du Bonnet**	**68.36**	**346**	P		**P**	**02 00 57.1**	**-0.9**
	2.9nm,0.7s,baz=159,slow=5.8,SNR=8.6							
ULM	**Lac du Bonnet**	**68.36**	**346**	P		**P**	**02 00 57.1**	**-0.9**
MFID	**Camas Ranch**	**69.92**	**329**	*e*P		**P**	**02 01 09.9**	**+1.9**
	6.4nm,1.0s							
TBI	**Tuticorin**	**70.11**	**251**	*e*LR		LR	02 22 34.5	
	92nm,24.8s							
TBI				*e*T		T	03 17 24.2	
	4.8nm,0.4s							
SCHQ	**Schefferville**	**70.69**	**5**	P		**P**	**02 01 12.2**	**-0.1**
	3.1nm,0.7s,baz=168,slow=9.6,SNR=3.9							
SCHQ	**Schefferville**	**70.69**	**5**	P		**P**	**02 01 12.2**	**-0.1**
PPT2	**Papeete2**	**71.22**	**256**	*e*LR		LR	02 23 03.4	
	113nm,23.5s							
MSO	**Missoula**	**71.61**	**333**	*e*P		**P**	**02 01 20.1**	**+1.9**
	5.6nm,1.3s							
YBH	**Yreka Blue Hor**	**72.36**	**324**	P		**P**	**02 01 24.1**	**+1.3**
	1.6nm,0.9s,baz=127,slow=7.7,SNR=3.2							
YBH				LR		LR	02 30 13.4	
	comp=Z,107nm,21.0s,baz=293,slow=33							
YBH	**Yreka Blue Hor**	**72.36**	**324**	P		**P**	**02 01 24.1**	**+1.3**
DBIC	**Dimbokro**	**72.71**	**78**	P		**P**	**02 01 25.2**	**-0.1**
	8.7nm,0.6s,baz=237,slow=6.2,SNR=35							
DBIC				LR		LR	02 32 21.6	
	comp=Z,228nm,19.9s,baz=231,slow=35							
DBIC	**Dimbokro**	**72.71**	**78**	*e*P		**P**	**02 01 25.1**	**-0.2**
	12nm,0.8s							
TOA0	**Torodi Ar. Sit**	**80.89**	**74**	*e*P		**P**	**02 02 11.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**80.89**	**74**	P		**P**	**02 02 11.8**	**+0.4**
	28nm,0.7s,baz=265,slow=5.7,SNR=380							
TORD				LR		LR	02 36 57.9	
	comp=Z,177nm,19.1s,baz=305,slow=35							
TORD	**Torodi Ar. Bea**	**80.89**	**74**	P		**P**	**02 02 11.8**	**+0.4**
YKA	**Yellowknife Ar**	**84.07**	**343**	P		**P**	**02 02 26.6**	**-0.3**
	0.7nm,0.6s,baz=139,slow=5.3,SNR=14							
YKA	**Yellowknife Ar**	**84.07**	**343**	P		**P**	**02 02 26.6**	**-0.3**
ESDC	**Sonseca Array**	**85.87**	**47**	P		**P**	**02 02 36.9**	**+0.3**
	0.8nm,0.6s,baz=270,slow=4.9,SNR=4.3							
ESDC	**Sonseca Array**	**85.87**	**47**	P		**P**	**02 02 37.0**	**+0.3**
BOSA	**Boshof**	**91.05**	**120**	P		**P**	**02 03 00.9**	**-0.9**
	1.9nm,0.8s,baz=321,slow=11,SNR=3.6							
BOSA				LR		LR	02 40 21.6	
	comp=Z,91nm,18.2s,baz=166,slow=33							
BOSA	**Boshof**	**91.05**	**120**	P		**P**	**02 03 00.9**	**-0.9**
ABKAR	**Akbulak array**	**130.42**	**38**	*e*PKPdf		**PKPdf**	**02 09 08.4**	**+1.3**
ASAR	**Alice Springs**	**131.78**	**216**	PKP		**PKPdf**	**02 09 09.9**	**-0.7**
	0.6nm,0.7s,baz=120,slow=1.8,SNR=7.4							
ASAR	**Alice Springs**	**131.78**	**216**	PKP		**PKPdf**	**02 09 09.9**	**-0.7**
WRA	**Warramunga Arr**	**134.38**	**220**	PKP		**PKPdf**	**02 09 15.1**	**-0.5**
	1.4nm,0.7s,baz=141,slow=1.9,SNR=19							
WRA	**Warramunga Arr**	**134.38**	**220**	PKP		**PKPdf**	**02 09 15.1**	**-0.5**
ZAA0	**Zalesovo Array**	**138.75**	**18**	*e*PKPdf		**PKPdf**	**02 09 23.3**	**+0.7**
ZALV	**Zalesovo Beam**	**138.75**	**18**	PKP		**PKPdf**	**02 09 23.3**	**+0.7**
	2.6nm,0.7s,baz=318,slow=2.0,SNR=14							
ZALV	**Zalesovo Beam**	**138.75**	**18**	PKP		**PKPdf**	**02 09 23.3**	**+0.7**
MKAR	**Makanchi Array**	**143.70**	**27**	PKP		PKPbc	02 09 29.5	+0.3
	0.6nm,0.6s,baz=331,slow=3.8,SNR=9.4							
MKAR	**Makanchi Array**	**143.70**	**27**	PKP		PKPbc	02 09 29.5	+0.3
USRK	**Ussuriysk Array**	**143.74**	**327**	PKP		PKPbc	02 09 29.3	-0.1
	1.7nm,0.8s,baz=42,slow=8.8,SNR=4.5							
MDJ	**Mudanjiang**	**144.68**	**329**	PKPbc		**PKPdf**	**02 09 35.3**	**+1.8**
KSH	**Kashi**	**145.22**	**42**	*e*PKPbc		**PKPdf**	**02 09 35.5**	**+0.8**
KSH				*ep*PKP		**pPKPdf**	**02 09 46.0**	**+1.3**
KSH				*e*PKS		**PKSdf**	**02 13 09.5**	**-0.8**
KSH				*e*SKS		**SKSdf**	**02 16 40.0**	**-2.1**
KSH				AMB		AMB		
	comp=Z,190nm,5.8s							
KSH				LR		LR		
	comp=N,170nm,6.3s							
KSH				LR		LR		
	comp=E,290nm,7.3s							
KSH				LR		LR		
	comp=Z,220nm,6.2s							
CN2	**Changchun**	**147.24**	**332**	*e*PKPbc		**PKPbc**	**02 09 40.0**	**-0.1**
CN2				PP		**PP**	**02 13 09.5**	**+4.7**
SONM	**Songino Array**	**148.06**	**359**	PKPbc		**PKPbc**	**02 09 43.0**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=333,slow=1.6,SNR=35							
SONM	**Songino Array**	**148.06**	**359**	PKPbc		**PKPbc**	**02 09 43.0**	**+0.5**
WMQ	**Urumqi**	**148.35**	**25**	PKPbc		**PKPbc**	**02 09 42.5**	**-0.8**
KSRS	**Korea Array**	**150.55**	**321**	PKPbc		**PKPbc**	**02 09 49.3**	**+0.5**
	comp=Z,3.5nm,1.0s,baz=355,slow=1.6,SNR=7.5							
KSRS				PKPab		**PKPab**	**02 09 55.6**	**+0.2**
	comp=Z,6.4nm,1.1s,baz=20,slow=1.3,SNR=7.2							
KSAR	**Wonju Array Be**	**150.58**	**321**	PKPbc		**PKPbc**	**02 09 49.3**	**+0.4**
KSAR				PKPab		**PKPab**	**02 09 55.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**154.46**	**349**	*e*PKPbc		**PKPdf**	**02 09 52.8**	**+3.6**
HHC				pPKP		**pPKPdf**	**02 10 03.3**	**+4.1**
HHC				sPKP			02 10 07.3	
HHC				PP		PP	02 13 53.0	+7.0
HHC				SS		SS	02 33 23.5	-0.4
HHC				LR		LR		
	comp=N,160nm,14.3s							
HHC				LR		LR		
	comp=E,220nm,14.3s							
HHC				LR		LR		
	comp=Z,140nm,11.9s							
CD2	**Chengdu**	**164.92**	**5**	PKP		**PKPdf**	**02 10 02.3**	**+1.0**
CD2				pPKP		pPKPdf	02 10 10 19.8	+8.5
CD2				sPKP			02 10 26.3	
CD2				PKPab		**PKPab**	**02 10 58.8**	**+1.4**
CD2				PKS		**PKSdf**	**02 13 34.0**	**-0.3**
CD2				PP		PP	02 14 46.0	+3.5
CD2				SKS		**SKSdf**	**02 16 58.8**	**-5.0**
CD2				SKKS		**SKKSac**	**02 21 25.3**	**-4.3**
CD2				AMB		AMB		
	comp=Z,250nm,5.9s							
CD2				LR		LR		
	comp=N,360nm,7.1s							
CD2				LR		LR		
	comp=Z,220nm,8.3s							
GYA	**Guiyang**	**169.33**	**353**	PKP		**PKPdf**	**02 10 05.3**	**+0.5**
GYA				pPKP		pPKPdf	02 10 24.5	+10
GYA				PKPab		**PKPab**	**02 11 17.8**	**+0.8**
GYA				PKS		**PKSdf**	**02 13 36.8**	**-0.7**
GYA				PP		PP	02 15 08.5	+3.2
GYA				SKKS			02 21 47.0	
GYA				AMB		AMB		
	comp=Z,110nm,8.0s							
GYA				LR		LR		
	comp=N,110nm,21.5s							
GYA				LR		LR		
	comp=E,90nm,22.4s							
GYA				LR		LR		
	comp=Z,120nm,20.9s							
KMI	**Kunming**	**170.45**	**14**	PKP		**PKPdf**	**02 10 06.8**	**+1.2**

IDC 26 01:51:57.4±25.0,19°13S×173°46W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.9/19,mbtmp4.3/4,Error ellipse: s-maj=463.7km s-min=159.3km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**37.90**	**262**	P		P	01 59 17.2	+0.6
	5.3nm,0.4s,baz=93,slow=11,SNR=12							
STKA	**Stephens Creek**	**42.22**	**243**	P		P	01 59 52.8	+0.3
	1.0nm,0.7s,baz=84,slow=9.2,SNR=3.0							
ASAR	**Alice Springs**	**49.00**	**255**	P		P	02 00 45.8	-0.5
	2.7nm,0.6s,baz=96,slow=7.5,SNR=36							
WRA	**Warramunga Arr**	**49.03**	**260**	P		P	02 00 45.9	-0.6
	2.1nm,0.7s,baz=98,slow=8.4,SNR=21							

ISCJB ***26*** *01:53:11.1±0.7,36°93N±0°03×28°20E±0°03,h2km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=6.8*

CSEM ***26*** *01:53:11.7±0.1,36°94N×28°19E,h5km,MD3.1,Error ellipse: s-maj=2.9km s-min=2.6km az=159.0*

DDA ***26*** *01:53:11.6,36°97N×28°21E,h7km,MD3.0*

ATH ***26*** *01:53:11.1,36°97N×28°41E,h35km±11km,MD3.0/3*

ISK ***26*** *01:53:11.2,36°96N×28°20E,h5km,MD3.1*

ISC 26 01:53:11.5±1.2,36°95N±0°02×28°21E±0°02,h2km±11km, n37,σ0s72/54,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**17**	*e*PG		**Pg**	**01 53 15.4**	**+0.1**
YER				*e*SG		**Sg**	**01 53 18.6**	**+0.8**
YER	**Yerkesik**	**0.20**	**17**	*e*Pg		**Pg**	**01 53 15.4**	**+0.1**
YER				*e*Sg		**Sg**	**01 53 18.6**	**+0.8**
TURN	**Turunc**	**0.32**	**103**	*i* Pg		**Pg**	**01 53 15.8**	**-1.8**
TURN				*i* Sg		**Sg**	**01 53 19.2**	**-2.6**
BDRM	**Kayabasi**	**0.63**	**281**	*e*P		**Pg**	**01 53 23.4**	**-0.1**
BDRM

*CSEM **26** 02:15:34.0±0.1,40.12N×20.02E,h2km,ML3.2,Error ellipse: s-maj=4.2km s-min=2.6km az=72.0*
*THE **26** 02:15:34.7,40.11N×20.09E,h5km±1km,ML3.0/3,Error ellipse: s-maj=2.0km s-min=0.7km az=228.0*

ISC 26 02:15:33.9±1.1,40.12N±0.02×19.99E±0.02,h1km±9km, n76,σ1§18/116,1C-1D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.18**	**6**	*e*PG	**Pg**	**02 15 37.0**	**-0.4**
TPE				*i* SG	**Sg**	**02 15 40.4**	**+0.7**
TPE	**Tepelena**	**0.18**	**6**	*e*Pg	**Pg**	**02 15 37.0**	**-0.4**
	SNR=92						
TPE				*i* Sg	**Sg**	**02 15 40.4**	**+0.7**
	SNR=92						
SRN	**Sarande**	**0.23**	**177**	*e*PG	**Pg**	**02 15 37.3**	**-1.1**
SRN				*i* SG	**Sg**	**02 15 41.5**	**+0.1**
SRN	**Sarande**	**0.23**	**177**	P	**Pg**	**02 15 36.8**	**-1.6**
SRN	**Sarande**	**0.23**	**177**	P	**Pg**	**02 15 36.8**	**-1.6**
SRN	**Sarande**	**0.23**	**177**	*e*Pg	**Pg**	**02 15 37.3**	**-1.1**
	SNR=91						
SRN				*i* Sg	**Sg**	**02 15 41.5**	**+0.1**
	SNR=91						
KEK	**Kerkira**	**0.43**	**200**	P	**Pg**	**02 15 42.4**	**+0.4**
KEK				S	**Sb**	**02 15 49.9**	**-1.2**
KEK	**Kerkira**	**0.43**	**200**	*e*PB	**Pg**	**02 15 42.3**	**+0.3**
KEK				*e*SB	**Sg**	**02 15 49.5**	**+1.9**
KEK	**Kerkira**	**0.43**	**200**	P	**Pg**	**02 15 42.4**	**+0.4**
KEK				*e*Sg	**Sg**	**02 15 49.5**	**+1.9**
KEK				S	**Sb**	**02 15 49.9**	**-1.2**
VLO	**Vlora**	**0.52**	**313**	*e*PG	**Pb**	**02 15 45.3**	**-0.4**
VLO				*i* SG	**Sn**	**02 15 56.0**	**-1.8**
VLO	**Vlora**	**0.52**	**313**	P	**Pb**	**02 15 45.3**	**-0.4**
VLO				S	**Sb**	**02 15 54.6**	**+0.9**
VLO	**Vlora**	**0.52**	**313**	P	**Pb**	**02 15 45.3**	**-0.4**
VLO				S	**Sb**	**02 15 54.6**	**+0.9**
IGT	**Igoumenitsa**	**0.64**	**155**	*e*PG	**Pg**	**02 15 46.4**	**+0.3**
IGT				*i* SG	**Sb**	**02 15 57.5**	**+0.3**
IGT	**Igoumenitsa**	**0.64**	**155**	P	**Pg**	**02 15 46.2**	**+0.1**
IGT				S	**Sg**	**02 15 54.5**	**+0.1**
IGT	**Igoumenitsa**	**0.64**	**155**	*e*Pg	**Pg**	**02 15 46.4**	**+0.3**
	SNR=90						
IGT				S	**Sg**	**02 15 54.5**	**+0.1**
JAN	**Janina**	**0.81**	**124**	P	**Pg**	**02 15 48.1**	**-1.3**
JAN				S	**Sg**	**02 15 59.6**	**-0.2**
JAN	**Janina**	**0.81**	**124**	*e*PB	**Pg**	**02 15 49.0**	**-0.4**
JAN				*e*SB	**Sb**	**02 16 02.5**	**+0.4**
JAN	**Janina**	**0.81**	**124**	P	**Pg**	**02 15 48.1**	**-1.3**
JAN	**Janina**	**0.81**	**124**	*e*Pg	**Pg**	**02 15 49.0**	**-0.4**
JAN				S	**Sg**	**02 15 59.6**	**-0.2**
JAN				*e*Sg	**Sb**	**02 16 02.5**	**+0.4**
RGA	**Parga**	**0.84**	**160**	P	**Pg**	**02 15 50.3**	**+0.3**
RGA				S	**Sb**	**02 16 02.4**	**-0.7**
RGA	**Parga**	**0.84**	**160**	P	**Pg**	**02 15 50.3**	**+0.3**
RGA				S	**Sb**	**02 16 02.4**	**-0.7**
NEST	**Nestorio**	**0.87**	**69**	P	**Pg**	**02 15 49.0**	**-1.5**
NEST	**Nestorio**	**0.87**	**69**	P	**Pg**	**02 15 49.0**	**-1.5**
TIR	**Tirane**	**1.23**	**356**	*e*PG	**Pg**	**02 15 57.1**	**-0.5**
TIR	**Tirane**	**1.23**	**356**	P	**Pg**	**02 15 57.2**	**-0.3**
TIR				S	**Sn**	**02 16 16.4**	**+0.8**
TIR	**Tirane**	**1.23**	**356**	*e*Pn	**Pn**	**02 15 59.0**	**+0.7**
TIR				*e*Sg	**Sn**	**02 16 21.7**	**+6.1**
TIR	**Tirane**	**1.23**	**356**	P	**Pg**	**02 15 57.2**	**-0.3**
TIR	**Tirane**	**1.23**	**356**	*e*Pn	**Pn**	**02 15 59.0**	**+0.7**
TIR				S	**Sn**	**02 16 16.4**	**+0.8**
BIA	**Bitola**	**1.36**	**48**	*e*Pn	**Pg**	**02 16 00.5**	**+0.5**
BIA				*e*Sn	**Sn**	**02 16 22.7**	**+3.9**
KZN	**Kozani**	**1.38**	**81**	P	**Pn**	**02 15 59.3**	**-1.0**
KZN				S	**Sg**	**02 16 17.6**	**-0.6**
KZN	**Kozani**	**1.38**	**81**	*e*PB	**Pg**	**02 16 00.5**	**+0.2**
KZN	**Kozani**	**1.38**	**81**	P	**Pg**	**02 15 59.3**	**-1.0**
KZN	**Kozani**	**1.38**	**81**	*e*Pb	**Pg**	**02 16 00.5**	**+0.2**
KZN				S	**Sg**	**02 16 17.6**	**-0.6**
LKD2	**Lefkada island**	**1.42**	**158**	P	**Pn**	**02 16 00.8**	**-0.1**
LKD2				S	**Sb**	**02 16 18.7**	**-1.1**
LKD2	**Lefkada island**	**1.42**	**158**	*e*PB	**Pg**	**02 16 02.2**	**+1.1**
LKD2				*e*SB	**Sn**	**02 16 22.3**	**+2.1**
LKD2	**Lefkada island**	**1.42**	**158**	P	**Pn**	**02 16 00.8**	**-0.1**
LKD2	**Lefkada island**	**1.42**	**158**	*e*Pb	**Pg**	**02 16 02.2**	**+1.1**
LKD2				S	**Sb**	**02 16 18.7**	**-1.1**
LKD2				*e*Sb	**Sn**	**02 16 22.3**	**+2.1**
KRUS	**Krusevo**	**1.58**	**37**	*e*Pn	**Pg**	**02 16 04.1**	**0.0**
PHP	**Peshkopia**	**1.60**	**12**	*e*PG	**Pg**	**02 16 04.7**	**0.0**
PHP	**Peshkopia**	**1.60**	**12**	P	**Pn**	**02 16 03.4**	**0.0**
PHP				S	**Sn**	**02 16 24.4**	**-0.4**
PHP	**Peshkopia**	**1.60**	**12**	P	**Pn**	**02 16 03.4**	**0.0**
PHP	**Peshkopia**	**1.60**	**12**	*e*Pg	**Pg**	**02 16 04.7**	**0.0**
	SNR=90						
PHP				S	**Sn**	**02 16 24.4**	**-0.4**
THL	**Klokotos Trika**	**1.66**	**109**	*e*PN	**Pg**	**02 16 05.9**	**+0.3**
THL	**Klokotos Trika**	**1.66**	**109**	*e*Pb	**Pg**	**02 16 05.9**	**+0.3**
EVR	**Evrytania**	**1.85**	**130**	*e*PN	**Pg**	**02 16 09.0**	**-0.3**
EVR	**Evrytania**	**1.85**	**130**	*e*Pg	**Pg**	**02 16 09.0**	**-0.3**
PUK	**Puka**	**1.93**	**358**	*e*PG	**Pb**	**02 16 10.1**	**+0.2**
PUK	**Puka**	**1.93**	**358**	*e*Pg	**Pb**	**02 16 10.1**	**+0.2**
	SNR=90						
VLS	**Valsamata**	**1.99**	**166**	*e*PG	**Pg**	**02 16 12.6**	**+0.6**
VLS	**Valsamata**	**1.99**	**166**	*e*Pg	**Pg**	**02 16 12.6**	**+0.6**
PE1	**Pezze di Greco**	**2.07**	**290**	*e*Pn	**Pn**	**02 16 10.3**	**+0.5**
SKO	**Skopje**	**2.16**	**30**	*e*Pn	**Pb**	**02 16 13.9**	**+0.2**
VAY	**Valandovo**	**2.30**	**58**	*e*Pn	**Pn**	**02 16 12.8**	**-0.1**
PDG	**Podgorica**	**2.38**	**347**	*e*Pn	**Pn**	**02 16 13.5**	**-0.5**
PDG				*e*Sn	**Sn**	**02 16 45.2**	**+1.5**
PDG	**Podgorica**	**2.38**	**347**	*e*Pn	**Pn**	**02 16 13.5**	**-0.5**
PDG				*e*Sn	**Sn**	**02 16 45.2**	**+1.5**
BAI	**Bari**	**2.56**	**294**	*e*Pn	**Pn**	**02 16 15.9**	**-0.6**
BAI				*e*Sn	**Sn**	**02 16 49.0**	**+0.7**
PLG	**Polygyros**	**2.66**	**83**	*e*PN	**Pn**	**02 16 16.6**	**-1.3**
PLG	**Polygyros**	**2.66**	**83**	*e*Pn	**Pn**	**02 16 16.6**	**-1.3**
SOH	**Sokhos**	**2.66**	**74**	*e*PB	**Pn**	**02 16 19.0**	**+1.0**
SOH	**Sokhos**	**2.66**	**74**	*e*Pb	**Pn**	**02 16 19.0**	**+1.0**
CDT	**Castel del Mon**	**2.99**	**290**	*e*Pn	**Pn**	**02 16 23.9**	**+1.5**
SELS	**Selova**	**3.22**	**15**	*e*Pn	**Pn**	**02 16 26.0**	**+0.5**
STON	**Ston**	**3.25**	**329**	*e*Pn	**Pn**	**02 16 24.6**	**-1.3**
STON					Sn	**Sn**	**02 17 03.5**	**-1.7**
STON	**Ston**	**3.25**	**329**	*e*Pn	**Pn**	**02 16 24.6**	**-1.3**
STON					Sn	**Sn**	**02 17 03.4**	**-1.7**
ZAPS	**Zavoj**	**3.73**	**31**	*e*Pn	**Pn**	**02 16 34.1**	**+1.5**
GRUS	**Gruza**	**3.81**	**8**	*e*Pn	**Pn**	**02 16 34.5**	**+0.9**
GRUS	**Gruza**	**3.81**	**8**	*e*Pn	**Pn**	**02 16 34.5**	**+0.9**
DIVS	**Divibare**	**3.98**	**0**	*e*Pn	**Pn**	**02 16 36.3**	**+0.2**
DIVS	**Divibare**	**3.98**	**0**	*e*Pn	**Pn**	**02 16 36.3**	**+0.2**
BLY	**Banja Luka**	**5.07**	**337**	*e*Pn	**Pn**	**02 16 48.9**	**-2.1**
BLY	**Banja Luka**	**5.07**	**337**	*e*Pn	**Pn**	**02 16 48.9**	**-2.1**
BZS	**Buzias**	**5.63**	**12**	*e*Pn	**Pn**	**02 16 58.7**	**+0.1**
NVLJ	**Novalja**	**5.84**	**321**	*i* Pn	**Pn**	**02 17 00.9**	**-0.6**
NVLJ					Sn	**Sn**	**02 18 06.2**	**-2.9**
GBRS	**Gornja Briga**	**6.62**	**327**	*i* Pn	**Pn**	**02 17 13.4**	**+1.2**
OBKA	**Obir**	**7.52**	**330**	*i* Pn	**Pn**	**02 17 24.2**	**-0.5**
OBKA				*i* Sn	**Sn**	**02 18 49.8**	**-0.7**
OBKA	**Obir**	**7.52**	**330**	Pn	**Pn**	**02 17 24.2**	**-0.5**
OBKA					Sn	**Sn**	**02 18 49.8**	**-0.7**

IDC 26 02:50:31.7±4.3,30.31S×178.92W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.7/15,mbtmp3.7/2,Error ellipse: s-maj=241.6km s-min=61.7km az=167.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.32**	**267**	P	P	02 58 27.1	-0.4
	0.5nm,0.4s,baz=106,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**43.30**	**273**	P	P	02 58 35.6	+0.1
	0.8nm,0.5s,baz=112,slow=7.9,SNR=15						
ARCES	**ARCESS Array B**	**138.33**	**347**	PKP	PKPdf	03 09 58.0	-0.1
	1.5nm,0.8s,baz=54,slow=2.0,SNR=5.1						
FINES	**FINESS Array B**	**144.78**	**339**	PKP	PKPbc	03 10 09.0	+0.2
	2.3nm,1.1s,baz=204,slow=4.2,SNR=3.5						

IDC 26 02:51:57.8±51.0,14.36S×162.57E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/16,mbtmp3.6/3,Error ellipse: s-maj=848.1km s-min=103.2km az=62.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.92**	**224**	P	P	02 57 31.9	+0.1
	0.4nm,0.3s,baz=354,slow=2.6,SNR=3.7						
WRA	**Warramunga Arr**	**27.52**	**254**	P	P	02 57 46.3	-0.1
	0.1nm,0.5s,baz=84,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**28.59**	**247**	P	P	02 57 56.0	0.0
	0.3nm,0.7s,baz=74,slow=9.4,SNR=4.2						

IDC 26 03:01:06.4±1.2,5.59S×77.36W,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.8/17,mbtmp3.7/6,MS2.9/1,Ms1 2.9/1, ms1mx2.5/30,Error ellipse: s-maj=41.9km s-min=12.7km az=112.0,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.85**	**214**	Pg	Pb	03 01 41.3	-0.4
	41nm,0.3s,baz=23,slow=11,SNR=200						
ATAH				Lg	Lg	03 02 04.8	
	59nm,0.3s,baz=232,slow=21,SNR=11						
ATAH				LR	LR	03 02 34.1	
	comp=Z,1μm,19.3s,baz=50,slow=47						
NNA	**Nana**	**6.38**	**175**	Pn	Pn	03 02 47.3	+5.5
	8.4nm,0.3s,baz=343,slow=12,SNR=32						
NNA				Sn	Sn	03 04 00.8	+5.3
	7.8nm,0.3s,baz=100,slow=23,SNR=7.4						
ROSC	**El Rosal**	**10.80**	**16**	Pn	Pn	03 03 48.3	+5.3
	0.8nm,0.3s,baz=95,slow=9.2,SNR=3.7						
SIV	**San Ignacio**	**19.03**	**124**	LR	LR	03 14 18.8	
	comp=Z,36nm,21.8s,slow=42						
SJG	**San Juan**	**26.02**	**25**	P	P	03 06 42.0	+0.7
	14nm,0.7s,baz=360,slow=23,SNR=3.3						
PLCA	**Paso Flores**	**35.52**	**171**	P	P	03 08 10.1	+4.9
	2.8nm,1.0s,baz=346,slow=9.8,SNR=4.1						
TXAR	**Lajitas Array**	**42.95**	**325**	P	P	03 09 08.0	+0.5
	0.6nm,0.8s,baz=148,slow=7.4,SNR=2.9						
PDAR	**Pinedale Array**	**56.30**	**332**	P	P	03 10 48.0	-1.4
	0.2nm,0.7s,baz=133,slow=10.0,SNR=3.0						
ULM	**Lac du Bonnet**	**57.88**	**346**	P	P	03 10 59.5	-0.5
	1.0nm,0.6s,baz=150,slow=9.8,SNR=3.3						
NVAR	**Mina Array Bea**	**57.96**	**323**	P	P	03 11 01.4	+0.3
	0.9nm,0.7s,baz=131,slow=7.8,SNR=4.9						
YKA	**Yellowknife Ar**	**73.61**	**343**	P	P	03 12 41.4	+0.2
	0.2nm,0.5s,baz=136,slow=5.9,SNR=5.7						
QSPA	**South Pole Qui**	**84.50**	**180**	P	P	03 13 39.8	-1.4
	1.9nm,0.7s,baz=224,slow=3.4,SNR=3.5						
ASAR	**Alice Springs**	**137.86**	**225**	PKP	PKPdf	03 20 32.6	-1.3
	0.1nm,0.3s,baz=130,slow=26,SNR=2.9						
WRA	**Warramunga Arr**	**139.81**	**230**	PKhKP	PKPpre	03 20 30.9	
	0.2nm,0.6s,baz=119,slow=2.2,SNR=4.8						
WRA				PKP	PKiKP	03 20 39.1	-0.8
	0.6nm,0.7s,baz=125,slow=2.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**147.31**	**223**	PKPbc	PKPbc	03 20 53.4	+0.4
	2.9nm,0.7s,baz=16,slow=2.6,SNR=7.8						

IDC 26 03:01:43.6±1.2,22.85S×63.71W,h526km±14km, mb3.7/10,mb1 3.8/15,mb1mx3.6/23,mbtmp3.7/15,Error ellipse: s-maj=14.7km s-min=12.3km az=42.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**7.26**	**21**	P	P	03 03 34.5	+1.0
LPAZ	**La Paz**	**7.74**	**327**	P	P	03 03 39.2	+0.2
	16nm,0.3s,baz=116,slow=5.2,SNR=375						
LPAZ				S	S	03 05 11.7	-1.7
	1.7nm,0.3s,baz=250,slow=23,SNR=4.5						
CFAA	**Coronel Fontan**	**9.61**	**204**	P	P	03 03 57.2	+0.1
	3.1nm,0.3s,baz=25,slow=11,SNR=501						
CFAA				S	S	03 05 45.1	-1.8
	1.6nm,0.3s,baz=228,slow=20,SNR=22						
BDFB	**Brasilia**	**16.45**	**67**	P	P	03 05 07.6	-1.1
	5.6nm,0.3s,baz=240,slow=11,SNR=112						
PLCA	**Paso Flores**	**18.75**	**196**	P	P	03 05 30.2	+0.8
	0.5nm,0.3s,baz=9.8,slow=11,SNR=13						
RCBR	**Riachuelo**	**31.71**	**62**	P	P	03 07 25.5	+1.1
	10nm,0.6s,baz=239,slow=12,SNR=13						
JTS	**JuntasAbangare**	**38.96**	**325**	P	P	03 08 26.3	+1.6
	9.0nm,0.7s,baz=189,slow=2.7,SNR=5.0						
SJG	**San Juan**	**40.78**	**356**	P	P	03 08 37.2	-1.9
	4.4nm,0.4s,baz=181,slow=21,SNR=6.9						
CMIG	**Matias Romero**	**50.05**	**320**	P	P	03 09 49.6	-0.5
	4.9nm,0.7s,baz=96,slow=3.7,SNR=7.9						
DBIC	**Dimbokro**	**64.57**	**70**	P	P	03 11 29.2	-0.3
	10nm,0.6s,baz=214,slow=6.9,SNR=38						
TXAR	**Lajitas Array**	**64.58**	**322**	P	P	03 11 29.1	-0.2
	0.8nm,0.6s,baz=150,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**73.34**	**68**	P	P	03 12 21.7	-0.6
	14nm,0.5s,baz=257,slow=6.1,SNR=365						
PDAR	**Pinedale Array**	**77.76**	**327**	P	P	03 12 46.6	+0.1
	0.7nm,0.5s,baz=126,slow=8.0,SNR=7.3						
BOSA	**Boshof**	**78.55**	**116**	P	P	03 12 50.6	-0.5
	2.1nm,0.6s,baz=274,slow=5.1,SNR=9.8						
ESDC	**Sonseca Array**	**83.50**	**42**	P	P	03 13 16.6	+0.4
	2.3nm,0.8s,baz=244,slow=4.8,SNR=9.7						
ZALV	**Zalesovo Beam**	**140.94**	**29**	PKP	PKPdf	03 20 13.8	+0.3
	1.1nm,0.5s,baz=285,slow=1.4,SNR=5.0						
MKAR	**Makanchi Array**	**143.70**	**40**	PKP	PKPbc	03 20 17.6	0.0
	5.1nm,0.7s,baz=304,slow=3.9,SNR=77						
SONM	**Songino Array**	**153.84**	**15**	PKP	PKPdf	03 20 34.8	-0.1
	0.4nm,0.8s,baz=216,slow=2.0,SNR=2.5						
SONM				PKPbc	PKiKP	03 20 44.0	+0.6
	0.4nm,0.6s,baz=120,slow=1.6,SNR=4.3						
SONM				PKPab	PKPab	03 20 59.7	+0.7
	0.9nm,0.6s,baz=307,slow=3.9,SNR=7.5						

*ISCJB **26** 03:20:24.0±0.3,59.97N±0.02×152.82W±0.05, h117km±2km,mb3.9/5,Error ellipse: s-maj=4.9km s-min=3.4km az=37.8*
*IDC **26** 03:20:23.3±1.4,59.99N×153.10W,h81km±20km,mb3.6/5, mb1 3.7/10,mb1mx3.4/28,mbtmp3.6/10,Error ellipse: s-maj=22.7km s-min=10.4km az=107.0*
*NEIC **26** 03:20:26.0,59.95N×152.86W,h106km,MG3.4(AEIC), After AEIC.*

ISC 26 03:20:25.4±0.7,59.94N±0.03×152.82W±0.04, h110km±5km,n93,σ1§10/112,mb4.2/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INE	**Iliamna NE**	**0.17**	**314**	P	**Pn**	**03 20 40.3**	**-0.7**
INE				S	**Sn**	**03 20 52.5**	**-0.2**
ILW	**Iliamna West**	**0.20**	**307**	P	**Pn**	**03 20 40.4**	**-0.7**
OPT	**Oil Point**	**0.36**	**216**	P	**Pn**	**03 20 41.0**	**-0.6**
RSO	**Redoubt South**	**0.52**	**3**	P	**Pn**	**03 20 42.5**	**-0.3**
RDN	**Redoubt North**	**0.58**	**3**	P	**Pn**	**03 20 42.6**	**-0.4**
RDN				S	**Sn**	**03 20 55.4**	**-0.8**
NCT	**North Crescent**	**0.62**	**355**	P	**Pn**	**03 20 42.8**	**-0.6**
NCT				S	**Sn**	**03 20 55.6**	**-1.2**
AUE	**Augustine Isla**	**0.65**	**206**	P	**Pn**	**03 20 42.9**	**-0.5**
AUNW	**Augustine NWes**	**0.66**	**211**	P	**Pn**	**03 20 43.1**	**-0.4**
DFR	**Drift River**	**0.66**	**6**	P	**Pn**	**03 20 43.0**	**-0.5**
DFR				S	**Sn**	**03 20 56.5**	**-0.7**
HOM	**Homer**	**0.66**	**115**	P	**Pn**	**03 20 43.6**	**+0.2**
HOM				S	**Sn**	**03 20 57.5**	**+0.5**
AUW	**Augustine West**	**0.66**	**210**	P	**Pn**	**03 20 43.0**	**-0.5**
BRLK	**Bradley Lake**	**0.99**	**99**	P	**Pn**	**03 20 46.3**	**-0.3**
BRLK				S	**Sn**	**03 21 02.3**	**-0.2**
BKG	**Blockade Glaci**	**1.17**	**13**	P	**Pn**	**03 20 48.2**	**-0.3**
BKG				S	**Sn**	**03 21 05.9**	**0.0**
FOSS	**Fourpeaked Sta**	**1.23**	**202**	P	**Pn**	**03 20 48.5**	**-0.6**
CKL	**Chakachamna La**	**1.28**	**10**	P	**Pn**	**03 20 49.4**	**-0.4**
CKL				S	**Sn**	**03 21 08.7**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.41**	**16**	P	**Pn**	**03 20 51.1**	**-0.2**
SLKM	**Skilak Lake**	**1.42**	**65**	P	**Pn**	**03 20 50.9**	**-0.3**
KAPH	**Katmai Pasha**	**1.56**	**211**	P	**Pn**	**03 20 52.6**	**-0.4**
STLK	**Strandline Lak**	**1.64**	**17**	P	**Pn**	**03 20 53.7**	**-0.2**
SEW	**Seward**	**1.70**	**83**	P	**Pn**	**03 20 54.1**	**-0.5**
SEW				S	**Sn**	**03 21 15.8**	**-1.0**
FIB	**Fire Island**	**1.79**	**46**	P	**Pn**	**03 20 56.5**	**+0.8**
SUA	**Susitna One**	**1.84**	**33**	P	**Pn**	**03 20 56.5**	**+0.1**
KAKN	**Katmai Knife C**	**2.01**	**216**	P	**Pn**	**03 20 58.1**	**-0.6**
KAKN				S	**Sn**	**03 21 22.5**	**-1.6**
KCE	**Katmai Mt Cerb**	**2.10**	**217**	P	**Pn**	**03 20 59.7**	**+0.1**
KABU	**Katmai Buttres**	**2.10**	**218**	P	**Pn**	**03 20 59.6**	**-0.2**
KELA	**Mount Kelaz**	**2.13**	**226**	P	**Pn**	**03 20 59.5**	**-0.6**
SKT	**Skwentna**	**2.14**	**16**	P	**Pn**	**03 20 59.7**	**-0.5**
KDAK	**Kodiak Island**	**2.17**	**177**	P	**Pn**	**03 20 59.0**	**-1.5**
	36nm,0.3s,baz=38,slow=9.0,SNR=401						
KDAK				S	**Sn**	**03 21 25.3**	**-2.0**
	52nm,0.3s,baz=116,slow=23,SNR=20						
KDAK	**Kodiak Island**	**2.17**	**177**	P	**Pn**	**03 20 59.0**	**-1.5**
KDAK				S	**Sn**	**03 21 25.3**	**-2.0**
MGLS	**Mageik Landsli**	**2.18**	**215**	P	**Pn**	**03 21 00.4**	**-0.3**
CAHL	**Cahill**	**2.29**	**215**	P	**Pn**	**03 21 01.9**	**-0.2**
PMR	**Palmer**	**2.45**	**46**	P	**Pn**	**03 21 03.2**	**-0.9**
TRAP	**Trapper Creek**	**2.71**	**26**	P	**Pn**	**03 21 07.3**	**-0.2**
SML	**Sawmill**	**2.88**	**48**	P	**Pn**	**03 21 08.8**	**-1.1**
PPLA	**Purkeypile**	**2.98**	**6**	P	**Pn**	**03 21 11.4**	**+0.1**
SCM	**Sheep Creek Mo**	**3.29**	**52**	P	**Pn**	**03 21 14.4**	**-0.8**
TT01	**Tatalina**	**3.35**	**334**	P	**Pn**	**03 21 15.0**	**-1.0**
VLZ	**Valdez**	**3.42**	**67**	P	**Pn**	**03 21 15.7**	**-1.2**
EYAK	**Cordova Ski Ar**	**3.58**	**77**	P	**Pn**	**03 21 18.0**	**-1.0**
DIV	**Divide**	**3.68**	**68**	*e*Pn	**Pn**	**03 21 20.5**	**+0.1**
DIV				*e*Sn	**Sn**	**03 21 59.5**	**-3.5**
TRF	**Thorofare Moun**	**3.72**	**18**	P	**Pn**	**03 21 20.2**	**-0.9**
KLU	**Klutina**	**3.73**	**62**	P	**Pn**	**03 21 19.9**	**-1.2**
SGAM	**Sherman Glacie**	**3.84**	**78**	P	**Pn**	**03 21 21.6**	**-0.9**
RND	**Reindeer**	**3.96**	**27**	P	**Pn**	**03 21 23.7**	**-0.5**
GOAT	**Goat Mountain**	**4.08**	**77**	P	**Pn**	**03 21 25.5**	**-0.3**
DHY	**Denali Highway**	**4.09**	**37**	P	**Pn**	**03 21 25.1**	**-0.9**
BMRM	**Bremner River**	**4.20**	**72**	P	**Pn**	**03 21 27.2**	**-0.2**
MCK	**McKinley**	**4.23**	**24**	P	**Pn**	**03 21 27.8**	**0.0**
HARP	**HAARP**	**4.46**	**53**	P	**Pn**	**03 21 30.1**	**-0.7**
PAX	**Paxson**	**4.65**	**46**	P	**Pn**	**03 21 33.0**	**-0.5**
CHGN	**Chignik**	**4.70**	**222**	*e*Pn	**Pn**	**03 21 33.4**	**-0.7**
CHGN				*e*Sn	**Sn**	**03 22 23.5**	**-4.0**
VRDI	**Verde Repeater**	**4.79**	**70**	P	**Pn**	**03 21 34.4**	**-1.1**
NEA	**Nenana**	**4.97**	**19**	P	**Pn**	**03 21 37.0**	**-0.7**
BARK	**Barkley Ridge**	**5.18**	**80**	P	**Pn**	**03 21 40.7**	**+0.1**
MLY	**Manley**	**5.20**	**10**	P	**Pn**	**03 21 40.3**	**-0.5**
ISLE	**Juniper Island**	**5.26**	**78**	P	**Pn**	**03 21 41.5**	**-0.3**
CCB	**Clear Creek Bu**	**5.27**	**24**	P	**Pn**	**03 21 40.6**	**-1.1**
KIAG	**Kiagna River**	**5.27**	**75**	P	**Pn**	**03 21 42.0**	**0.0**
BALM	**Baldy**	**5.29**	**74**	P	**Pn**	**03 21 42.0**	**-0.2**
BAGL	**Bagley Icefiel**	**5.38**	**79**	P	**Pn**	**03 21 43.2**	**0.0**
COLA	**College**	**5.46**	**23**	P	**Pn**	**03 21 43.5**	**-0.8**
MDM	**Murphy Dome**	**5.47**	**21**	P	**Pn**	**03 21 43.7**	**-0.8**
DOT	**Dot Lake**	**5.57**	**44**	*e*Pn	**Pn**	**03 21 45.3**	**-0.6**
DOT				*e*Sn	**Sn**	**03 22 45.5**	**-3.1**
IL1	**Eielson Array**	**5.58**	**27**	P	**Pn**	**03 21 44.6**	**-1.3**
ILAR	**Eielson Array**	**5.58**	**27**	P	**Pn**	**03 21 44.6**	**-1.3**
	3.0nm,0.3s,baz=218,slow=14,SNR=173						
ILAR				S	**Sn**	**03 22 46.2**	**-2.4**
	7.6nm,0.3s,baz=199,slow=28,SNR=3.0						
ILAR	**Eielson Array**	**5.58**	**27**	P	**Pn**	**03 21 44.6**	**-1.3**
ILAR				S	**Sn**	**03 22 46.2**	**-2.4**
BARN	**Barnard Glacie**	**5.63**	**74**	P	**Pn**	**03 21 47.3**	**+0.5**
TABL	**Table Mountain**	**5.85**	**80**	P	**Pn**	**03 21 50.1**	**+0.4**
CHX	**Chaix Hills**	**5.87**	**84**	P	**Pn**	**03 21 50.8**	**+0.8**
SAMH	**Samovar Hills**	**6.04**	**83**	P	**Pn**	**03 21 53.2**	**+0.9**
IM3	**Indian Mountai**	**6.08**	**356**	P	**Pn**	**03 21 52.1**	**-0.6**
BCA3	**Beaver Creek A**	**6.14**	**55**	P	**Pn**	**03 21 53.4**	**-0.2**
PNL	**Peninsula**	**6.78**	**86**	P	**Pn**	**03 22 02.0**	**-0.2**
EGAK	**Eagle**	**7.27**	**43**	*e*Pn	**Pn**	**03 22 07.5**	**-1.3**
EGAK				*e*Sn	**Sn**	**03 23 28.2**	**-1.4**
COLD	**Coldfoot**	**7.41**	**8**	*e*Pn	**Pn**	**03 22 09

baz=229
CHN5 *e*S **S** **03 32 33.4 +0.5**
baz=229

IDC 26 04:15:03.9±6.3, 0°33S×20°91W, h0km, mb3.5/1, mb1 3.6/2, mb1mx3.3/23, mbtmp3.6/2, Error ellipse: s-maj=280.3km s-min=52.4km az=134.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DBIC	**Dimbokro**	**17.46**	**66**	P		Pn	04 19 08.9	-0.1
	0.2nm,0.3s,baz=230,slow=15,SNR=4.3							
TORD	**Torodi Ar. Bea**	**26.10**	**58**	P		P	04 20 39.7	+0.1
	0.7nm,0.8s,baz=236,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**145.84**	**136**	PKPbc		PKPdf	04 34 45.2	-0.4
	0.2nm,0.6s,baz=227,slow=2.7,SNR=4.6							

NIED ***26*** *04:26:00,33°10N×137°00E,h11km,Mw3.5 Best double couple: M₀2.12000×10¹⁴ NP1:φs56.00000°,δ55.00000°, λ90.00000°. NP2:φs237.00000°,δ35.00000°,λ90.00000°.*
JMA ***26*** *04:26:52.2±0.1,33°12N×136°99E,h55km±1km,M3.7*
ISC 26 04:26:52.1±2.4, 33°1N±0°1×136°99E±0°05, h50km±19km, n18,σ0°74/34,13D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TTO1	**TONANKAI O.B.S**	**0.58**	**342**	⇓P		**Pn**	**04 27 04.0**	**0.0**
TTO1				*e*S		**Sn**	**04 27 13.1**	**+0.5**
TTO2	**TONANKAI O.B.S**	**0.66**	**2**	⇓P		**Pn**	**04 27 05.3**	**+0.2**
TTO2				*e*S		**Sn**	**04 27 15.6**	**+1.1**
TK01	**Tokai 1**	**0.85**	**36**	*e*S		**Sn**	**04 27 18.0**	**-1.0**
TTO3	**TONANKAI O.B.S**	**0.86**	**23**	⇓P		**Pn**	**04 27 07.9**	**+0.1**
TTO3				*e*S		**Sn**	**04 27 19.6**	**+0.3**
TTO4	**TONANKAI O.B.S**	**1.04**	**26**	⇓P		**Pn**	**04 27 10.1**	**0.0**
TTO4				S		**Sn**	**04 27 23.0**	**-0.5**
TK02	**Tokai 2**	**1.08**	**36**	P		**Pn**	**04 27 10.7**	**0.0**
TK02				S		**Sn**	**04 27 24.1**	**-0.5**
JWZ	**Kozaga**	**1.17**	**293**	⇓P		**Pn**	**04 27 12.0**	**-0.1**
JWZ				S		**Sn**	**04 27 26.0**	**-0.9**
JKN2	**Miekihoku**	**1.31**	**333**	⇓P		**Pn**	**04 27 14.1**	**+0.1**
JKN2				*e*S		**Sn**	**04 27 28.8**	**-1.6**
TTO5	**TONANKAI O.B.S**	**1.32**	**27**	⇓P		**Pn**	**04 27 14.1**	**0.0**
TTO5				S		**Sn**	**04 27 29.7**	**-0.8**
JIE	**Ise**	**1.34**	**350**	⇓P		**Pn**	**04 27 14.6**	**+0.2**
JIE				S		**Sn**	**04 27 30.4**	**-0.7**
TK03	**Tokai 3**	**1.36**	**36**	S		**Sn**	**04 27 31.1**	**-0.3**
TK04	**Tokai 4**	**1.50**	**29**	P		**Pn**	**04 27 16.8**	**+0.2**
TK04				S		**Sn**	**04 27 34.3**	**-0.6**
JAA	**Atsumi**	**1.56**	**5**	⇓P		**Pn**	**04 27 17.5**	**0.0**
JAA				*e*S		**Sn**	**04 27 35.0**	**-1.5**
JWM	**Minabe**	**1.57**	**300**	⇓P		**Pn**	**04 27 18.0**	**+0.4**
JWM				*e*S		**Sn**	**04 27 36.4**	**-0.5**
JWY	**Kouya**	**1.64**	**315**	⇓P		**Pn**	**04 27 19.4**	**+0.8**
JWY				*e*S		**Sn**	**04 27 38.3**	**-0.2**
TSUJ	**Tsu 2**	**1.70**	**344**	⇓P		**Pn**	**04 27 19.8**	**+0.4**
TSUJ				*e*S		**Sn**	**04 27 39.2**	**-0.8**
JHE	**Heguri**	**1.92**	**326**	⇓P		**Pn**	**04 27 23.2**	**+0.8**
JHE				S		**Sn**	**04 27 45.3**	**0.0**
MAT	**Matsushiro**	**3.60**	**16**	P		**Pn**	**04 27 47.3**	**+1.8**
MAT				S		**Sn**	**04 28 26.6**	**-0.2**

TAP 26 04:28:54.6, 24°91N×121°97E, h5km±1km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TWB1	**Santiao Chiao**	**0.10**	**9**	*i* P		Pg	04 28 57.5	+0.8
	baz=13							
NWF	**Wu-fen Shan**	**0.24**	**313**	*e*P		Pg	04 29 00.6	+1.2
	baz=312							
TWC	**Suao**	**0.32**	**200**	*e*P		Pg	04 29 00.8	-0.1
	baz=198							
TWE	**Neicheng**	**0.34**	**236**	*e*P		Pb	04 29 02.2	-0.8
	baz=233							
ENTT	**Nioudou**	**0.46**	**234**	*e*P		Pb	04 29 04.6	-0.6
	baz=233							
NSK	**Sanguang**	**0.60**	**247**	*e*P		Pb	04 29 07.6	-0.2
	baz=246							

TAP 26 04:28:56.4, 24°89N×122°04E, h9km, ML2.1, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TWB1	**Santiao Chiao**	**0.12**	**339**	*i* P		Pg	04 28 59.5	+0.4
	baz=342							
TWB1				*i* S		Sg	04 29 01.5	+0.3
	baz=342							
NWF	**Wu-fen Shan**	**0.29**	**307**	*e*P		Pb	04 29 03.2	-0.7
	baz=298							
NWF				*e*S		Sb	04 29 07.7	-1.2
	baz=298							
TWC	**Suao**	**0.33**	**211**	P		Pg	04 29 03.2	+0.3
	baz=211							
TWC				*e*S		Sg	04 29 07.5	+0.1
	baz=211							
TWE	**Neicheng**	**0.38**	**243**	P		Pg	04 29 04.3	+0.5
	baz=243							
TWE				*e*S		Sg	04 29 09.4	+0.6
	baz=243							
TWA	**Mucha**	**0.42**	**282**	*e*P		Pb	04 29 05.6	-0.4
	baz=282							
TWA				*e*S		Sb	04 29 11.8	-0.7
	baz=282							
ENTT	**Nioudou**	**0.50**	**240**	P		Pg	04 29 06.5	+0.5
	baz=242							
TWY	**Chenhua**	**0.55**	**314**	*e*P		Pb	04 29 08.2	+0.1
	baz=323							
TWS1	**Kuangyinshan**	**0.60**	**290**	P		Pb	04 29 09.6	+0.6
	baz=291							
NSK	**Sanguang**	**0.65**	**251**	*e*P		Pg	04 29 09.1	0.0
	baz=252							
NSK				*e*S		Sg	04 29 18.1	+0.3
	baz=252							

ISCJB ***26*** *04:38:23.6±0.7,18°76N±0°05×119°92E±0°07,h24km, mb3.9/9,Error ellipse: s-maj=10.6km s-min=6.8km az=153.9*
MAN ***26*** *04:38:24,18°70N×120°03E,h12km,mb4.8,ML3.8,MS3.8*
IDC ***26*** *04:38:36.9±4.3,18°52N×121°52E,h96km±40km,mb3.7/9, mb1 3.8/11,mb1mx3.6/22,mbtmp3.7/11,MS2.9/2, Ms1 2.9/2,ms1mx2.6/34,Error ellipse: s-maj=32.8km s-min=13.6km az=81.0*
ISC 26 04:38:25.5±0.9, 18°68N±0°06×120°11E±0°08, h24km, n19, σ1°19/19, mb4.1/8,2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PIP	**Pasuquin**	**0.60**	**126**	⇑*i*P		**Pn**	**04 38 38.1**	**-0.4**
ABRA	**Dolores**	**1.18**	**151**	*e*P		**Pb**	**04 38 46.1**	**-1.0**
ABRA				*e*S		**Sb**	**04 39 04.6**	**+2.7**
SGCP	**Mt. Cagua**	**1.89**	**103**	*e*P		**Pb**	**04 38 58.6**	**-0.6**
SGCP				*e*S		**Sb**	**04 39 23.6**	**+1.1**
CVP	**Callao Caves**	**1.90**	**121**	*e*P		**Pn**	**04 38 57.4**	**+1.1**
CVP				*e*S		**Sb**	**04 39 23.0**	**+0.3**
BOLP	**Bolinao**	**2.29**	**185**	*e*P		**Pn**	**04 39 02.7**	**+0.9**
BCPH	**Baguio City Da**	**2.33**	**169**	⇑*i*P		**Pn**	**04 39 03.3**	**+0.8**
CAUP	**Cauayan**	**2.38**	**136**	*e*P		**Pb**	**04 39 06.2**	**-1.4**
BALP	**Baler**	**3.24**	**154**	*e*P		Pb	04 39 18.0	-4.4
JOW	**Kunigami**	**11.07**	**41**	P		**Pn**	**04 41 02.3**	**0.0**
	2.1nm,0.3s,baz=155,slow=6.5,SNR=2.1							
JOW					LR	LR	04 45 00.3	
	comp=Z,86nm,20.0s,baz=292,slow=37							
KSRS	**Korea Array**	**19.92**	**19**	P		**Pn**	**04 42 57.2**	**0.0**
	0.2nm,0.3s,baz=194,slow=10,SNR=8.8							
KSRS					LR	LR	04 51 25.4	
	comp=Z,26nm,20.6s,baz=170,slow=39							
WRA	**Warramunga Arr**	**40.84**	**159**	P		**P**	**04 46 03.6**	**-2.0**
	3.1nm,0.8s,baz=337,slow=9.4,SNR=15							
MKAR	**Makanchi Array**	**41.77**	**321**	P		pP	04 46 25.0	+4.7
	1.1nm,0.9s,baz=116,slow=8.2,SNR=6.8							
ASAR	**Alice Springs**	**44.19**	**162**	P		**P**	**04 46 31.6**	**-1.1**
	3.3nm,0.5s,baz=337,slow=6.7,SNR=48							
ZALV	**Zalesovo Beam**	**44.43**	**331**	P		P	04 46 44.1	+10
	0.8nm,0.3s,baz=100,slow=7.6,SNR=2.9							
PETK	**Petropavlovsk-**	**45.02**	**31**	P		**P**	**04 46 40.1**	**+1.1**
	2.9nm,0.8s,baz=188,slow=8.7,SNR=2.8							
STKA	**Stephens Creek**	**54.33**	**157**	P		**P**	**04 47 49.9**	**-0.2**
	3.0nm,0.6s,baz=354,slow=4.2,SNR=8.4							
ILAR	**Eielson Array**	**74.55**	**26**	P		**P**	**04 50 01.2**	**-0.8**
	0.3nm,0.9s,baz=256,slow=4.5,SNR=5.0							
INK	**Inuvik**	**78.68**	**21**	P		**P**	**04 50 25.6**	**+0.3**
	0.8nm,0.8s,baz=195,slow=6.1,SNR=3.8							
YKA	**Yellowknife Ar**	**88.41**	**22**	P		**P**	**04 51 15.9**	**+0.6**
	0.7nm,0.7s,baz=315,slow=4.8,SNR=17							

IDC 26 04:52:57.3±1.7, 4°33N×124°01E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=129.0km s-min=23.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
FITZ	**Fitzroy Crossi**	**22.35**	**176**	P		P	04 57 56.8	-0.2
	1.7nm,0.6s,baz=5.7,slow=10,SNR=3.4							
WRA	**Warramunga Arr**	**26.17**	**158**	P		P	04 58 34.5	+0.8
	1.3nm,0.3s,baz=337,slow=9.5,SNR=22							
ASAR	**Alice Springs**	**29.45**	**161**	P		P	04 59 03.0	-0.1
	0.7nm,0.5s,baz=337,slow=7.0,SNR=13							
STKA	**Stephens Creek**	**39.71**	**156**	P		P	05 00 30.6	-1.0
	1.9nm,0.8s,baz=333,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**55.54**	**326**	P		P	05 02 34.5	0.0
	0.4nm,0.5s,baz=128,slow=7.5,SNR=7.3							

IDC 26 04:54:37.4±1.8, 2°99S×140°34E, h0km, mb3.6/2, mb1 4.2/3, mb1mx3.6/14, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=162.6km s-min=28.8km az=109.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
WRA	**Warramunga Arr**	**17.83**	**199**	P		P	04 58 48.5	+0.4
	1.1nm,0.3s,baz=15,slow=12,SNR=25							
ASAR	**Alice Springs**	**21.47**	**196**	P		P	04 59 27.3	-0.5
	2.0nm,0.7s,baz=31,slow=9.9,SNR=24							
ILAR	**Eielson Array**	**85.42**	**24**	P		P	05 07 16.6	-0.1
	0.4nm,0.7s,baz=269,slow=4.5,SNR=7.6							

IDC 26 05:01:28.1±2.2, 0°49S×131°84E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=124.5km s-min=20.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DAV	**Davao City (W)**	**9.77**	**320**		LR	LR	05 07 40.1	
	comp=Z,176nm,18.0s,baz=170,slow=38							
FITZ	**Fitzroy Crossi**	**18.53**	**199**	P		P	05 05 46.1	-0.4
	0.1nm,0.3s,baz=34,slow=12,SNR=3.3							
WRA	**Warramunga Arr**	**19.49**	**173**	P		P	05 05 57.1	+0.2
	0.2nm,0.3s,baz=353,slow=12,SNR=7.7							
ASAR	**Alice Springs**	**23.13**	**175**	P		P	05 06 36.1	0.0
	1.7nm,0.8s,baz=350,slow=8.8,SNR=13							
MKAR	**Makanchi Array**	**63.92**	**324**	P		P	05 12 04.0	+0.9
	0.2nm,0.6s,baz=108,slow=7.8,SNR=4.0							
KURK	**Kurchatov**	**68.03**	**327**	P		P	05 12 30.3	+0.9
	0.6nm,0.2s,baz=133,slow=5.3,SNR=4.7							
BVAR	**Borovoye Array**	**73.63**	**326**	P		P	05 13 02.1	-1.3
	0.3nm,0.5s,baz=120,slow=8.5,SNR=2.6							

ISCJB ***26*** *05:02:54.0±0.4,1°07N±0°04×126°25E±0°05,h44km, mb4.2/19,MS3.0/1,Error ellipse: s-maj=7.8km s-min=6.3km az=169.6*
NEIC ***26*** *05:02:55.9±1.6,0°97N×126°17E,h51km±16km,mb4.5/6, Error ellipse: s-maj=13.6km s-min=6.2km az=66.0*
BJI ***26*** *05:02:56.0,1°33N×125°59E,h37km,mb4.8/4*
DJA ***26*** *05:02:56,0°99N×126°11E,h19km,MLv4.8/5*
IDC ***26*** *05:02:58.1±3.0,0°90N×126°04E,h74km±29km,mb3.9/13, mb1 4.0/15,mb1mx3.9/21,mbtmp3.9/15,MS3.0/2, Ms1 3.0/2,ms1mx2.7/31,Error ellipse: s-maj=26.4km s-min=10.2km az=74.0*
ISC 26 05:02:55.3±0.5, 0°99N±0°07×126°11E±0°07, h44km, n57, σ1°14/50, mb4.4/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TNTI	**Ternate**	**1.27**	**100**	P		**Pn**	**05 03 17.7**	**+1.1**
MNI	**Manado**	**1.35**	**290**	P		**Pn**	**05 03 18.8**	**+1.0**
LBMI	**Labuha**	**2.13**	**139**	P		**Pn**	**05 03 30.5**	**+2.1**
KMSI	**Cibinong**	**2.17**	**259**	P		**Pn**	**05 03 30.4**	**+1.4**
SGSI	**Sangihe**	**2.75**	**348**	P		Pn	05 03 41.1	+4.2
LUWI	**Luwuk**	**3.90**	**239**	P		Pn	05 03 57.6	+4.8
MRSI	**Marisa**	**4.20**	**263**	P		Pn	05 04 01.2	+4.2
NLAI	**Namlea**	**4.31**	**167**	P		**Pn**	**05 04 01.2**	**+2.8**
SPSI	**Sidrap Palu**	**8.02**	**232**	P		Pn	05 04 53.2	+3.8
	47nm,0.6s,0.2nm							
BKSI	**Bulukumba**	**8.66**	**224**	P		Pn	05 05 02.0	+3.8
	25nm,0.9s							
MYLDM	**Lahad Datu**	**8.67**	**299**	P		Pn	05 05 05.4	+7.1
KAPI	**Kappang**	**8.71**	**227**	P		**Pn**	**05 05 00.3**	**+1.4**
	1.7nm,0.3s,baz=66,slow=4.8,SNR=11							
KAPI					LR	LR	05 09 29.0	
	comp=Z,59nm,18.5s,baz=352,slow=45							
KAPI	**Kappang**	**8.71**	**227**	P		**Pn**	**05 05 00.3**	**+1.4**
KAPI				*e*Pn		Pn	05 05 00.8	+1.9
FITZ	**Fitzroy Crossi**	**18.97**	**181**	P		**P**	**05 07 11.9**	**-1.3**
	0.3nm,0.3s,baz=12,slow=9.5,SNR=3.7							
FITZ	**Fitzroy Crossi**	**18.97**	**181**	P		**P**	**05 07 11.9**	**-1.3**
WRAB	**Tennant Creek**	**22.30**	**159**	*e*P		**P**	**05 07 48.4**	**-0.8**
	5.3nm,0.3s							
WRA	**Warramunga Arr**	**22.31**	**159**	P		**P**	**05 07 48.1**	**-1.2**
	3.7nm,0.4s,baz=338,slow=11,SNR=38							
WRA					S	**S**	**05 11 49.4**	**-2.7**
	1.2nm,1.0s,baz=334,slow=16,SNR=3.9							
WRA	**Warramunga Arr**	**22.31**	**159**	P		**P**	**05 07 48.1**	**-1.2**
WRA					S	**S**	**05 11 49.4**	**-2.7**
WB2	**Warramunga Arr**	**22.31**	**159**	*e*P		**P**	**05 07 48.4**	**-1.0**
GUMO	**Guam**	**22.39**	**55**	LR		LR	05 15 12.3	
	comp=Z,61nm,21.4s,baz=70,slow=33							
COEN	**Coen**	**22.50**	**132**	*e*P		**P**	**05 07 49.8**	**-1.5**
	72nm,0.8s							
TPUB	**Ta-pu**	**22.81**	**347**	*e*P		**P**	**05 07 54.8**	**+0.2**
	14nm,0.6s							
PMG	**Port Moresby**	**23.36**	**117**	P		**P**	**05 08 00.3**	**+0.1**
	6.2nm,0.5s,baz=309,slow=6.5,SNR=4.4							
PMG	**Port Moresby**	**23.36**	**117**	P		**P**	**05 08 00.3**	**+0.1**
AS31	**Alice Springs**	**25.65**	**163**	*e*P		**P**	**05 08 22.0**	**+0.8**
ASAR	**Alice Springs**	**25.65**	**163**	P		**P**	**05 08 22.0**	**+0.9**
	4.7nm,0.4s,baz=344,slow=11,SNR=27							
ASAR	**Alice Springs**	**25.65**	**163**	P		**P**	**05 08 22.0**	**+0.9**
STKA	**Stephens Creek**	**35.83**	**157**	P		**P**	**05 09 50.6**	**-0.2**
	3.8nm,0.8s,baz=327,slow=9.1,SNR=5.0							
STKA	**Stephens Creek**	**35.83**	**157**	P		**P**	**05 09 50.6**	**-0.2**
KSAR	**Wonju Array Be**	**36.31**	**2**	P		**P**	**05 09 55.4**	**+0.5**
KSRS	**Korea Array**	**36.33**	**2**	P		**P**	**05 09 55.4**	**+0.4**
	1.4nm,0.6s,baz=180,slow=9.5,SNR=6.2							
MJAR	**Matsushiro Arr**	**37.11**	**16**	P		**P**	**05 10 01.2**	**-0.6**
	3.5nm,0.7s,baz=196,slow=10,SNR=7.8							
MJAR	**Matsushiro Arr**	**37.11**	**16**	P		**P**	**05 10 01.2**	**-0.6**
USRK	**Ussuriysk Arra**	**43.35**	**6**	P		**P**	**05 10 54.9**	**+1.7**
	6.8nm,0.9s,baz=184,slow=7.4,SNR=11							
MDJ	**Mudanjiang**	**43.55**	**4**	*e*P		**P**	**05 10 55.7**	**+0.8**
	11nm,0.9s							
SONM	**Songino Array**	**49.70**	**343**	P		**P**	**05 11 43.9**	**+0.7**
	1.0nm,0.8s,baz=162,slow=7.7,SNR=7.1							
SONM	**Songino Array**	**49.70**	**343**	P		**P**	**05 11 43.9**	**+0.7**
PETK	**Petropavlovsk-**	**58.19**	**22**	P		**P**	**05 12 44.5**	**-0.3**
	2.9nm,0.6s,baz=176,slow=4.3,SNR=3.3							
PETK	**Petropavlovsk-**	**58.19**	**22**	P		**P**	**05 12 44.5**	**-0.3**
MK31	**Makanchi Array**	**59.47**	**326**	*e*P		**P**	**05 12 53.8**	**-0.1**
MKAR	**Makanchi Array**	**59.47**	**326**	P		**P**	**05 12 52.8**	**-1.1**
	1.1nm,0.6s,baz=122,slow=7.9,SNR=15							
MKAR	**Makanchi Array**	**59.47**	**326**	P		**P**	**05 12 52.8**	**-1.1**
ZALV	**Zalesovo Beam**	**62.75**	**334**	P		P	05 13 10.7	-5.3
	0.3nm,0.3s,baz=180,slow=8.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**62.75**	**334**	P		P	05 13 10.7	-5.3
KURK	**Kurchatov**	**63.73**	**328**	P		**P**	**05 13 21.2**	**-1.2**
	0.9nm,0.3s,baz=130,slow=6.0,SNR=9.8							
KURK	**Kurchatov**	**63.73**	**328**	*e*P		**P**	**05 13 22.1**	**-0.4**
	3.0nm,0.6s							
BVAR	**Borovoye Array**	**69.28**	**328**	P		**P**	**05 13 57.5**	**-0.5**
	0.4nm,0.4s,baz=130,slow=8.0,SNR=5.3							
BVAR	**Borovoye Array**	**69.28**	**328**	P		**P**	**05 13 57.5**	**-0.5**
ABKAR	**Akbulak array**	**73.89**	**321**	*e*P		**P**	**05 14 25.6**	**-0.1**
	0.9nm,0.6s							
ILAR	**Eielson Array**	**87.83**	**25**	P		**P**	**05 15 39.0**	**-0.7**
	0.5nm,0.9s,baz=240,slow=4.7,SNR=5.6							
ILAR	**Eielson Array**	**87.83**	**25**	P		**P**	**05 15 39.0**	**-0.7**
YKA	**Yellowknife Ar**	**102.23**	**24**	P		**Pdif**	**05 16 46.5**	**+0.9**
	0.1nm,0.4s,baz=300,slow=4.0,SNR=3.9							
YKA	**Yellowknife Ar**	**102.23**	**24**	P		**Pdif**	**05 16 46.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**123.14**	**286**	PKP		**PKPdf**	**05 21 48.5**	**+0.2**
	0.3nm,0.5s,baz=33,slow=2.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.14**	**286**	PKP		**PKPdf**	**05 21 48.5**	**+0.2**
TXAR	**Lajitas Array**	**123.74**	**53**	PKP		**PKPdf**	**05 21 49.7**	**+0.5**
	0.2nm,0.8s,baz=222,slow=1.7,SNR=3.9							
TXAR	**Lajitas Array**	**123.74**	**53**	PKP		**PKPdf**	**05 21 49.7**	**+0.5**

MEX 26 05:07:03.9±0.5, 15°45N×99°41W, h5km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ACX	**Acapulco**	**1.48**	**343**	*i* P		Pn	05 07 27.2	-4.0
PNIG	**Pinotepa**	**1.55**	**52**	*i* P		Pn	05 07 29.1	-3.1
PNIG				*i* S		Sn	05 07 47.7	-5.0
CAIG	**El Cayaco**	**1.79**	**333**	*i* P		Pn	05 07 32.6	-2.9
CAIG				*i* S		Sn	05 07 54.1	-4.6
PLIG	**Platanillo**	**2.93**	**358**	*i* P		Pn	05 07 47.3	-4.0
PLIG				*i* S		Sn	05 08 23.0	-4.0
YAIG	**Yautepec**	**3.41**	**5**	*i* P		Pn	05 07 56.1	-1.9
YAIG				*i* S		Sn	05 08 36.1	-2.8

GUC 26 05:14:54.4±0.6, 32°68S×71°70W, h24km±7km, ML3.7, 12C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
IHA	**Instituto Hidr**	**0.35**	**171**	⇑*i*P		Pb	05 15 02.1	-0.1
IHA				*i* S		Sb	05 15 07.7	+0.2
ROCH	**El Roble**	**0.65**	**117**	⇓*i*P		Pb	05 15 06.9	-0.6
ROCH				*i* S		Sb	05 15 16.1	-0.3
ROCH				AML		AML	05 15 16.8	
	comp=N,5μm,0.2s							
PTCH	**Petorca**	**0.77**	**58**	⇑*i*P		Pb	05 15 08.9	-0.4
PTCH				*i* S		Sb	05 15 19.6	+0.2
PTCH				AML		AML	05 15 21.8	
	comp=E,4μm,0.2s							
LCCH	**Las Cruces**	**0.81**	**172**	*e*P		Pb	05 15 09.4	-0.4
LCCH				*i* S		Sb	05 15 19.9	-0.4
CHNG	**Los Chungos**	**0.81**	**12**	⇓*i*P		Pb	05 15 09.0	-0.8
CHNG				*i* S		Sb	05 15 20.0	-0.3
CHNG				AML		AML	05 15 20.8	
	comp=E,1μm,0.3s							
JACH	**Jahuel**	**0.94**	**91**	⇑*i*P		Pb	05 15 11.0	-1.2
PEL	**Peldehue**	**0.98**	**119**	⇓*i*P		Pn	05 15 11.9	-0.7
PEL				*i* S		Sb	05 15 25.4	+0.1
PEL				AML		AML	05 15 26.8	
	comp=E,9μm,0.2s							
TACH	**Talagante**	**1.17**	**147**	⇑*i*P		Pn	05 15 14.8	-0.5
TACH				*i* S		Sn	05 15 29.5	-1.0
SAN	**Santiago**	**1.17**	**132**	⇑*i*P		Pn	05 15 15.0	-0.3
SAN				*i* S		Sn	05 15 30.4	-0.1
SAN				AML		AML	05 15 34.0	
	comp=N,1μm,0.3s							
STL	**Santa Lucia**	**1.17**	**131**	*e*P		Pn	05 15 14.8	-0.6
STL				*i* S		Sn	05 15 30.2	-0.4
CLCH	**Cerro Calan**	**1.22**	**127**	⇑*i*P		Pn	05 15 15.6	-0.4
CLCH				*i* S		Sb	05 15 32.0	-0.2
CLCH				AML		AML	05 15 33.3	
	comp=N,3μm,0.4s							
ANTU	**Antumapu**	**1.27**	**135**	⇑*i*P		Pn	05 15 16.5	-0.1
ANTU				*e*S		Sb	05 15 33.3	-0.3
ANTU				AML		AML	05 15 36.1	
	comp=N,2μm,0.3s							
FSR	**Penalolen**	**1.27**	**129**	⇑*i*P		Pn	05 15 16.7	-0.1
FSR				*i* S		Sb	05 15 33.5	-0.3
FSR				AML		AML	05 15 40.2	
	comp=N,602nm,0.4s							
FCH	**Farellones**	**1.35**	**119**	*i* P		Pn	05 15 18.5	+0.2
FCH				*i* S		Sb	05 15 36.4	-0.4
FCH				AML		AML	05 15 37.3	
	comp=E,2μm,0.3s							
PCH	**Pirque**	**1.37**	**134**	⇑*i*P		Pn	05 15 18.3	+0.1
PCH				*i* S		Sn	05 15 36.2	+0.5
SJCH	**San Jose de Ma**	**1.49**	**131**	⇑*i*P		Pn	05 15 19.1	-0.6
CMCH	**Combarbala**	**1.61**	**22**	*e*P		Pn	05 15 21.1	-0.4
CMCH				*i* S		Sn	05 15 42.1	+0.5
CMCH				AML		AML	05 15 46.7	
	comp=E,8μm,0.2s							
CACH	**El Canelo**	**1.71**	**148**	⇑*i*P		Pn	05 15 24.0	+1.1
CACH				*i* S		Sb	05 15 46.8	+0.3
LMEL	**Las Melosas**	**1.72**	**133**	⇑*i*P		Pn	05 15 23.8	+0.8
LMEL				*e*S		Sb	05 15 46.3	-0.6
LMEL				AML		AML	05 15 49.2	
	comp=N,2μm,0.2s							
TLL	**Tololo Astrono**	**2.62**	**17**	*e*P		Pn	05 15 36.3	+0.8
TLL				AML		AML	05 16 18.7	
	comp=N,508nm,0.4s							
LCO	**Las Campanas**	**3.75**	**14**	*e*P		Pn	05 15 50.9	-0.3
LCO				*e*S		Sn	05 16 35.2	+0.3
LCO				AML		AML	05 16 45.8	
	comp=E,181nm,0.5s							
LCO				AML		AML	05 16 53.2	
	comp=N,162n

905nm,0.9s,3.7nm
LHMI Lhok Sumawe 5.95 329 P **Pn** **05 24 51.5 +0.2**
420nm,0.8s,6µm1.7nm
LWLI Liwa 6.50 141 P **Pn** **05 24 57.4 -1.4**
1µm,0.6s,22µm4.8nm
PPBI Pangkal Pinang 6.55 110 P **Pn** **05 25 00.3 +0.9**
156nm,0.8s,3µm0.6nm
KLI Kotabumi 6.92 135 P **Pn** **05 25 04.1 -0.3**
579nm,0.8s,2.1nm
BSI Banda Aceh 7.13 319 P **Pn** **05 25 05.5 -1.8**
2µm,1.0s,15µm4.0nm
RBSI Rajabasa 8.23 136 P **Pn** **05 25 20.5 -1.5**
195nm,0.7s,2µm
SBJI Serang 8.70 135 P Pn 05 25 24.5 -3.8
230nm,1.2s
CGJI Cibinong 8.76 139 P Pn 05 25 24.6 -4.5
192nm,0.7s,5µm
SKJI Sukabumi 9.62 137 P Pn 05 25 36.0 -4.7
369nm,0.5s,5µm
LEM Lembang 10.25 132 P **Pn** **05 25 47.6 -1.7**
154nm,0.7s,2µm
KSM Kuching 10.43 82 *e*Pn **Pn** **05 25 52.4 +0.9**
KSM Kuching 10.43 82 P Pn 05 25 46.4 -5.1
KSM Kuching 10.43 82 P **Pn** **05 25 53.0 +1.5**
50nm,1.2s
CISI Cisompet, Garu 10.89 134 P Pn 05 25 53.4 -4.3
326nm,0.6s,5µm
STKI Sintang 11.50 90 P **P** **05 26 17.0 +3.2**
173nm,0.9s
XMIS Christmas Isla 11.91 152 *e*Pn Pn 05 26 02.4 -8.7
BJII Banjamegara 12.18 127 P **Pn** **05 26 13.3 -1.4**
92nm,0.7s,2µm
SBUM Sibu 12.47 79 P **Pn** **05 26 19.8 +1.5**
SBUM Sibu 12.47 79 P **Pn** **05 26 20.2 +1.9**
129nm,1.2s,1µm
COCO West Island 12.58 194 *e*P **Pn** **05 26 21.1 +1.4**
COCO West Island 12.58 194 *e*Pn **Pn** **05 26 21.1 +1.4**
UGM Wanagama 13.17 127 *e*Pn **Pn** **05 26 24.5 -3.0**
BTM Bintulu 13.46 77 P **Pn** **05 26 30.3 -1.0**
SJI Sawahan 14.09 124 P **Pn** **05 26 39.3 +0.1**
129nm,0.5s,6µm
PWJI Pagerwojo 14.27 125 P **Pn** **05 26 39.5 -2.0**
84nm,1.1s
BBKI Banjar Baru 15.27 103 P **P** **05 26 58.3 +2.6**
201nm,1.0s,3µm
GMJI Gumukmas 15.78 122 P **P** **05 27 00.9 -0.5**
66nm,2.0s,2µm
KBKI Kotabaru 16.53 102 P **P** **05 27 12.3 +2.6**
54nm,1.1s,2µm
KKM Kota Kinabalu 17.26 70 *e*Pn **Pn** **05 27 19.4 +0.9**
167nm,0.9s
KKM Kota Kinabalu 17.26 70 P **Pn** **05 27 19.3 +0.8**
KKM Kota Kinabalu 17.26 70 P **Pn** **05 27 19.6 +1.1**
197nm,0.9s,2µm
KHKI Kahang-Kahang 17.69 119 P **Pn** **05 27 23.8 +0.3**
138nm,0.8s,1µm
SDKM Sandakan 18.06 72 P **Pn** **05 27 28.6 +0.5**
KDM Kudat 18.14 68 P **Pn** **05 27 29.5 +0.7**
CMAR Chiang Mai Arr 18.30 357 P **P** **05 27 27.7 -1.4**
0.2nm,0.3s,baz=188,slow=11,SNR=23
CMAR PcP **PcP** **05 31 56.9 +1.6**
0.6nm,0.3s,baz=211,slow=2.8,SNR=9.7
CMAR ScP **ScP** **05 35 18.2 -0.1**
0.5nm,0.3s,baz=212,slow=3.7,SNR=19
CMAR LR LR 05 35 26.3
comp=Z,105nm,18.0s,baz=170,slow=39
CMAR Chiang Mai Arr 18.30 357 P **P** **05 27 27.7 -1.4**
CMAR Chiang Mai Arr 18.30 357 P **P** **05 27 27.7 -1.4**
CMAR PcP **PcP** **05 31 56.9 +1.6**
CMAR ScP **ScP** **05 35 18.2 -0.1**
MTNI Mataram 18.31 119 P **Pn** **05 27 31.0 +0.1**
48nm,0.5s,8µm
TSM Tawau 18.36 77 P **Pn** **05 27 30.9 -0.6**
CHTO Chiang Mai 18.65 357 *e*P **P** **05 27 32.9 0.0**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 18.65 357 *e*P **P** **05 27 32.9 0.0**
comp=Z,6.3nm,0.6s
CHTO Chiang Mai 18.65 357 P **P** **05 27 33.0 0.0**
comp=Z,14nm,1.0s,comp=Z,395nm
MYLDM Lahad Datu 19.18 74 P **Pn** **05 27 41.1 0.0**
MYLDM Lahad Datu 19.18 74 P **Pn** **05 27 41.2 0.0**
comp=Z,211nm,1.1s,comp=Z,2µm
SPSI Sidrap Palu 20.18 102 P **P** **05 27 50.2 +0.6**
comp=Z,78nm,0.9s
KAPI Kappang 20.39 105 P **P** **05 27 51.5 -0.3**
comp=Z,40nm,0.3s,baz=293,slow=7.1,SNR=27
KAPI Kappang 20.39 105 *e*P **P** **05 27 52.2 +0.5**
comp=Z,59nm,0.6s
KAPI Kappang 20.39 105 P Pn 05 27 55.2 -0.1
comp=Z,11nm,0.9s,comp=Z,848nm
BKSI Bulukumba 20.82 105 P **P** **05 27 58.1 +1.7**
comp=Z,111nm,0.6s,comp=Z,1µm
QIZ Qiongzhong 21.18 27 *e*P **P** **05 28 00.7 +0.5**
comp=Z,36nm,1.0s
MRSI Marisa 21.97 89 P **P** **05 28 09.3 +0.6**
comp=Z,336nm,0.7s,comp=Z,3µm
WSI Waingapu 22.42 116 P P 05 28 06.7 -6.5
comp=Z,930nm,0.4s,comp=Z,36µm
LUWI Luwuk 22.82 93 P **P** **05 28 18.4 +1.4**
comp=Z,367nm,1.2s,comp=Z,5µm
KDI Kendari 22.98 100 P **P** **05 28 19.8 +1.3**
comp=Z,127nm,0.8s,comp=Z,1µm
BBSI Bau Bau 23.23 104 P **P** **05 28 24.1 +3.3**
comp=Z,173nm,0.8s,comp=Z,2µm
MMRI Maumere 23.81 112 P **P** **05 28 24.8 -1.3**
comp=Z,69nm,0.9s
MNI Manado 24.90 87 P **P** **05 28 39.7 +3.7**
comp=Z,427nm,1.0s,comp=Z,3µm
KMI Kunming 25.05 6 P **P** **05 28 41.0 +3.6**
KMI pmax pmax
comp=Z,5.0nm,0.7s
KMI LR LR
comp=Z,62nm,18.8s
SHL Shillong 26.52 343 *e*P **P** **05 28 50.7 0.0**
SHL *ex* x 05 33 13.0
GYA Guiyang 27.01 13 P **P** **05 28 58.3 +3.3**
GYA pP **pP** **05 29 26.0 +2.1**
GYA sP **sP** **05 29 42.5 +2.8**
GYA PP **PnPn** **05 29 50.3 +4.2**
GYA S **S** **05 33 26.8 +4.0**
GYA sS **sS** **05 34 15.0 +1.3**
GYA ScS **ScS** **05 39 31.5 -1.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
HYB Hyderabad 27.23 310 *i* P **P** **05 28 57.0 0.0**
NLAI Namlea 27.31 97 P **P** **05 29 01.1 +3.4**
comp=Z,131nm,0.8s
LBMI Labuha 27.54 92 P **P** **05 29 01.1 +1.4**
comp=Z,166nm,0.8s,comp=Z,2µm
AAI Ambon 28.45 98 P **P** **05 29 08.9 +1.1**
comp=Z,63nm,0.7s,comp=Z,13µm
MBWA Marble Bar 28.60 139 *e*P **P** **05 29 09.0 0.0**
comp=Z,47nm,1.3s
MSAI Masohi 29.14 97 P **P** **05 29 14.7 +0.8**
comp=Z,40nm,0.7s,comp=Z,2µm
ODAN Odare 29.26 337 *e*P **P** **05 29 15.9 +0.8**
comp=Z,83nm,0.5s
ODAN Odare 29.26 337 *e*P **ScP** **05 35 48.4 +0.2**
ODAN Odare 29.26 337 *e*P **P** **05 29 15.9 +0.8**
comp=Z,83nm,0.5s
TAPN Taplejung 29.57 337 *e*P **P** **05 29 19.1 +1.2**
comp=Z,43nm,0.4s
TAPN Taplejung 29.57 337 *e*P **ScP** **05 35 49.5 +0.3**
comp=Z,31nm,0.9s
RAMN Ramite 29.66 335 *e*P **P** **05 29 19.8 +1.1**
comp=Z,37nm,0.4s
RAMN Ramite 29.66 335 *e*P **ScP** **05 35 49.7 +0.2**
JIRN Jiri 30.45 335 *e*P **P** **05 29 26.7 +0.9**
comp=Z,72nm,0.4s
JIRN Jiri 30.45 335 *e*P **ScP** **05 35 52.2 0.0**
TPUB Ta-pu 30.59 40 *e*P **P** **05 29 27.4 +0.8**
comp=Z,46nm,0.8s
LSA Lhasa 30.64 345 P **P** **05 29 28.3 +0.8**
LSA pmax pmax
comp=Z,30nm,1.0s
LSA Lhasa 30.64 345 *e*P **P** **05 29 28.6 +1.0**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 30.64 345 *e*P **P** **05 29 28.6 +1.0**
comp=Z,16nm,0.6s
PKI Pulchoki 30.71 334 *e*P **P** **05 29 28.6 +0.6**
comp=Z,37nm,0.5s
PKI Pulchoki 30.71 334 *e*P **ScP** **05 35 52.7 -0.3**

PKI Pulchoki 30.71 334 *e*P **P** **05 29 28.6 +0.6**
PKI pmax pmax
comp=Z,37nm,0.5s
PKI Pulchoki 30.71 334 *e*P **P** **05 29 28.6 +0.6**
comp=Z,37nm,0.5s
GUN Gumba 30.80 335 *e*P **P** **05 29 30.0 +1.1**
comp=Z,238nm,0.5s
GUN Gumba 30.80 335 *e*P **ScP** **05 35 53.3 0.0**
comp=Z,23nm,0.7s
GUN Gumba 30.80 335 *e*P **P** **05 29 30.0 +1.1**
comp=Z,238nm,0.5s
DMN Daman 30.88 334 *e*P **P** **05 29 30.1 +0.7**
comp=Z,18nm,0.3s
DMN Daman 30.88 334 *e*P **ScP** **05 35 53.5 0.0**
comp=Z,96nm,1.1s
CD2 Chengdu 30.88 6 P P 05 29 32.8 +3.7
CD2 pP pP 05 30 01.0 +2.6
CD2 sP sP 05 30 16.5 +2.5
CD2 PP **PP** **05 30 40.8 -0.8**
CD2 S **S** **05 34 28.0 +4.8**
CD2 sS sS 05 35 17.5 +3.1
CD2 SS **SnSn** **05 36 23.5 +4.2**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,160nm,7.1s
CD2 LR LR
comp=N,360nm,6.5s
CD2 LR LR
comp=Z,260nm,6.5s
KKN Kakani 30.96 334 *e*P **P** **05 29 30.7 +0.6**
comp=Z,93nm,0.5s
KKN Kakani 30.96 334 *e*P **ScP** **05 35 53.6 -0.1**
KKN Kakani 30.96 334 *e*P **P** **05 29 30.7 +0.6**
KKN Kakani 30.96 334 *e*P **P** **05 29 30.7 +0.6**
comp=Z,93nm,0.5s
FITZ Fitzroy Crossi 31.03 127 P **P** **05 29 27.8 -2.8**
comp=Z,3.9nm,0.6s,baz=303,slow=8.2,SNR=9.3
FITZ ScP **ScP** **05 35 53.5 -0.3**
comp=Z,4.9nm,0.7s,baz=326,slow=3.6,SNR=6.8
FITZ Fitzroy Crossi 31.03 127 *e*P **P** **05 29 28.4 -2.2**
comp=Z,2.8nm,0.3s
FITZ Fitzroy Crossi 31.03 127 *e*P **P** **05 29 28.9 -1.7**
comp=Z,4.0nm,0.7s
FITZ ScP **ScP** **05 35 53.5 -0.3**
YULB Yu-li 31.09 40 *e*P **P** **05 29 32.0 +0.9**
comp=Z,22nm,0.6s
SSLB Suanglung 31.15 39 *e*P **P** **05 29 32.2 +0.7**
comp=Z,38nm,0.6s
SWI Sorong 31.30 92 P **P** **05 29 33.2 +0.2**
comp=Z,96nm,1.1s,comp=Z,1µm
ENH Enshi 31.37 16 *e*P **P** **05 29 31.5 -2.0**
comp=Z,8.0nm,0.6s
GKN Gorkha 31.43 333 *e*P **P** **05 29 34.7 +0.6**
comp=Z,54nm,0.5s
GKN Gorkha 31.43 333 *e*P **ScP** **05 35 54.7 -0.5**
GKN Gorkha 31.43 333 *e*P **P** **05 29 34.7 +0.6**
comp=Z,54nm,0.5s
POO Poona 31.54 307 *ex* x 05 29 30.0
KOLN Koldanda 31.71 332 *e*P **P** **05 29 37.7 +1.1**
comp=Z,136nm,0.6s
KOLN Koldanda 31.71 332 *e*P **ScP** **05 35 55.7 -0.5**
comp=Z,19nm,0.7s
KOLN Koldanda 31.71 332 *e*P **P** **05 29 37.7 +1.1**
comp=Z,136nm,0.6s
NACB Ninganchiao 31.83 40 *e*P **P** **05 29 38.1 +0.6**
comp=Z,33nm,1.1s
YHNB Yeheng 32.05 39 *e*P **P** **05 29 40.5 +1.0**
comp=Z,20nm,0.7s
MEEK Meekatharra 32.05 147 *e*P **P** **05 29 40.9 +1.4**
comp=Z,24nm,0.4s
DANN Dangsing 32.12 332 *e*P **P** **05 29 41.2 +0.8**
comp=Z,86nm,0.4s
DANN Dangsing 32.12 332 *e*P **ScP** **05 35 57.1 -0.6**
comp=Z,51nm,0.9s
FAKI Fak Fak 32.40 96 P **P** **05 29 42.5 -0.2**
XAN Xi'an 34.81 13 P **P** **05 30 01.0 -2.4**
XAN pP **pP** **05 30 30.3 -2.6**
XAN sP **sP** **05 30 44.3 -4.2**
XAN PP **PnPn** **05 31 24.3 -0.4**
XAN S **S** **05 35 23.5 -0.7**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,48nm,6.6s
KLBR Kellerberrin 35.71 153 *e*P **P** **05 30 12.3 +1.2**
comp=Z,72nm,1.6s
NDI New Delhi 35.82 324 *ex* x 05 30 11.0
LZH Lanzhou 36.01 5 *e*P **P** **05 30 14.3 +0.6**
LZH pP **pP** **05 30 44.0 +0.6**
LZH sP **sP** **05 30 56.3 -2.7**
LZH PP **PnPn** **05 31 42.0 +2.6**
LZH *e*S **S** **05 35 45.0 +2.4**
LZH ScP **ScP** **05 36 11.0 -0.1**
LZH sS **sS** **05 36 36.3 +1.8**
LZH ScS **ScS** **05 40 15.8 -1.3**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.6s
NJ2 Nanjing 36.47 28 *e*P **P** **05 30 19.0 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 36.63 155 P **P** **05 30 20.0 +1.2**
comp=Z,8.2nm,0.5s,baz=308,slow=5.6,SNR=9.5
NWAO LR LR 05 42 40.2
comp=Z,136nm,21.9s,baz=315,slow=32
NWAO Narrogin (SRO) 36.63 155 *e*P **P** **05 30 20.7 +1.8**
NWAO Narrogin (SRO) 36.63 155 *e*P **P** **05 30 20.7 +1.8**
SSE Sheshan 36.83 31 P **P** **05 30 21.0 +0.5**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,84nm,3.9s
JOW Kunigami 38.06 43 P **P** **05 30 31.5 +0.5**
comp=Z,36nm,0.5s,baz=227,slow=8.9,SNR=24
JOW Kunigami 38.06 43 *e*P **P** **05 30 31.6 +0.5**
comp=Z,16nm,0.5s
WRA Warramunga Arr 39.09 123 P **P** **05 30 38.2 -1.5**
comp=Z,12nm,0.4s,baz=304,slow=8.8,SNR=141
WRA PcP **PcP** **05 32 47.0 +0.1**
comp=Z,4.7nm,0.3s,baz=317,slow=2.6,SNR=12
WRA ScP **ScP** **05 36 21.8 -1.1**
comp=Z,6.0nm,0.9s,baz=313,slow=3.1,SNR=10
WRA Warramunga Arr 39.09 123 P **P** **05 30 38.2 -1.5**
WRA 05 32 47.1
WRA 05 36 21.8
WRA Warramunga Arr 39.09 123 P **P** **05 30 38.2 -1.5**
WRA PcP **PcP** **05 32 47.0 +0.1**
WRA ScP **ScP** **05 36 21.8 -1.1**
WRAB Tennant Creek 39.10 123 *e*P **P** **05 30 38.3 -1.5**
WRAB *e* 05 32 47.3
WRAB *e* 05 36 21.8
WRAB pmax pmax
comp=Z,13nm,0.5s
WRAB Tennant Creek 39.10 123 *e*P **P** **05 30 38.2 -1.5**
comp=Z,12nm,0.5s
WRAB *e*PcP **PcP** **05 32 47.3 +0.3**
WRAB *e*ScP **ScP** **05 36 21.8 -1.2**
WRAB Tennant Creek 39.10 123 P **P** **05 30 38.0 -1.8**
comp=Z,165nm,0.4s,SNR=76
WB2 Warramunga Arr 39.10 123 *e*P **P** **05 30 38.2 -1.6**
WB2 *e*PcP **PcP** **05 32 47.3 +0.3**
GTA Gaotai 39.15 360 P **P** **05 30 39.3 -0.7**
GTA pP **pP** **05 31 08.0 -2.1**
GTA sP **sP** **05 31 22.0 -3.6**
GTA PcP **PcP** **05 32 47.8 +0.9**
GTA ScP **ScP** **05 36 22.3 -0.6**
GTA S **S** **05 36 29.5 -0.4**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,63nm,4.0s
GTA LR LR
comp=N,170nm,14.7s
GTA LR LR
comp=E,200nm,14.5s
GTA LR LR
comp=Z,150nm,15.4s
ASAR Alice Springs 40.51 128 P **P** **05 30 49.7 -1.8**
comp=Z,10nm,0.4s,baz=299,slow=7.6,SNR=273
ASAR PcP **PcP** **05 32 52.0 +0.5**
comp=Z,8.1nm,0.7s,baz=306,slow=2.3,SNR=15
ASAR ScP **ScP** **05 36 27.4 -1.0**
comp=Z,2.8nm,0.6s,baz=303,slow=4.0,SNR=16

ASAR S S 05 36 43.6 -7.0
comp=Z,4.9nm,0.9s,baz=290,slow=14,SNR=13
ASAR Alice Springs 40.51 128 P **P** **05 30 49.7 -1.8**
ASAR 05 32 52.0
ASAR S S 05 36 43.6 -7.0
ASAR Alice Springs 40.51 128 P **P** **05 30 49.7 -1.8**
ASAR PcP **PcP** **05 32 52.0 +0.5**
ASAR ScP **ScP** **05 36 27.4 -1.0**
ASAR S S 05 36 43.6 -7.0
AS31 Alice Springs 40.51 128 *e*P **P** **05 30 49.7 -1.8**
AS31 *e*PcP **PcP** **05 32 52.1 +0.6**
FORT Forrest 40.65 142 *e*P **P** **05 30 53.0 +0.6**
comp=Z,48nm,0.6s
FORT Forrest 40.65 142 *e*P **P** **05 30 53.1 +0.7**
comp=Z,63nm,0.6s
HHC Hu-ho-hao-te 41.93 13 *e*P **P** **05 31 02.3 -0.5**
HHC pP **pP** **05 31 33.3 +0.1**
HHC sP **sP** **05 31 48.8 +0.2**
HHC PP **PP** **05 32 43.8 +1.1**
HHC *e*S **S** **05 37 11.8 +0.7**
HHC sS **sS** **05 38 05.8 +1.9**
HHC pmax pmax
comp=Z,7.0nm,1.3s
HHC pmax pmax
comp=Z,170nm,6.5s
BJT Baijiatuau 42.41 19 *e*P **P** **05 31 06.2 -0.4**
BJT pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 42.41 19 *e*P **P** **05 31 06.2 -0.4**
comp=Z,22nm,0.8s
BJI Beijing 42.43 19 P **P** **05 31 05.5 -1.3**
BJI pP **pP** **05 31 35.0 -2.2**
BJI sP **sP** **05 31 50.3 -2.3**
BJI S S 05 37 27.5 +9.2
BJI sS **sS** **05 38 11.0 -0.2**
BJI pmax pmax
comp=Z,26nm,0.9s
JNU Nakatsue 43.88 38 *e*P **P** **05 31 18.8 +0.2**
comp=Z,45nm,1.7s
WMQ Urumqi 44.92 347 P **P** **05 31 27.5 +0.8**
WMQ pP **pP** **05 31 55.5 -1.9**
WMQ sP **sP** **05 32 10.5 -2.2**
WMQ pmax pmax
comp=Z,32nm,0.9s
WMQ pmax pmax
comp=Z,300nm,4.5s
KSH Kashi 44.97 334 ⇓ *i*P **P** **05 31 26.0 -1.3**
KSH *e*pP **pP** **05 31 54.8 -3.2**
KSH *e*sP **sP** **05 32 09.3 -4.0**
KSH *e*PcP **PcP** **05 33 06.5 +0.3**
KSH *e*PP **PP** **05 33 13.5 -1.6**
KSH *e*ScP **ScP** **05 36 45.8 -0.4**
KSH *e*PcS **PcS** **05 36 58.8 -1.4**
KSH *e*ScS **ScS** **05 41 08.0 -2.6**
KSH pmax pmax
comp=Z,14nm,0.5s
KSH pmax pmax
comp=Z,280nm,6.0s
KSH LR LR
comp=N,230nm,5.6s
KSH LR LR
comp=E,290nm,8.0s
KSH LR LR
comp=Z,240nm,6.6s
COEN Coen 44.98 110 *e*P **P** **05 31 26.8 -0.7**
comp=Z,116nm,1.2s
COEN *e*PcP **PcP** **05 33 07.1 +0.5**
COEN *e*ScP **ScP** **05 36 46.2 -0.4**
KSAR Wonju Array Be 45.24 32 P **P** **05 31 28.7 -0.6**
KSAR 05 33 07.2
KSAR Wonju Array Be 45.24 32 P **P** **05 31 28.6 -0.6**
KSAR PcP **PcP** **05 33 07.2 +0.2**
KSRS Korea Array 45.27 32 P **P** **05 31 28.6 -0.8**
comp=Z,8.8nm,0.6s,baz=223,slow=7.9,SNR=41
KSRS PcP **PcP** **05 33 07.2 +0.1**
comp=Z,2.8nm,0.8s,baz=240,slow=4.2,SNR=5.2
GUMO Guam 46.44 71 LR LR 05 52 05.4
comp=Z,32nm,20.8s,baz=76,slow=37
BBOO Buckleboo 47.17 137 *e*P **P** **05 31 43.9 -0.5**
comp=Z,6µm,3.0s
BBOO *e*PcP **PcP** **05 33 14.6 +0.7**
KZA Kyzart 47.38 335 P **P** **05 31 47.6 +1.1**
SNR=8.8
KZA P P **05 31 47.6 +1.1**
SNR=8.8
SONM Songino Array 47.90 6 P **P** **05 31 49.3 -0.6**
comp=Z,14nm,0.7s,baz=189,slow=8.8,SNR=80
SONM PcP **PcP** **05 33 16.4 0.0**
comp=Z,5.5nm,0.6s,baz=184,slow=4.5,SNR=6.1
SONM ScP **ScP** **05 36 56.8 -1.4**
comp=Z,6.1nm,0.6s,baz=202,slow=3.7,SNR=23
SONM Songino Array 47.90 6 P **P** **05 31 49.3 -0.6**
SONM 05 33 16.4
SONM Songino Array 47.90 6 P **P** **05 31 49.3 -0.6**
SONM PcP **PcP** **05 33 16.4 0.0**
SONM ScP **ScP** **05 36 56.8 -1.4**
PMG Port Moresby 47.90 103 P **P** **05 31 50.4 +0.1**
comp=Z,14nm,0.5s,baz=309,slow=6.5,SNR=9.9
PMG Port Moresby 47.90 103 *e*P **P** **05 31 50.2 -0.2**
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 47.90 103 *e*P **P** **05 31 50.5 +0.1**
comp=Z,20nm,0.9s
PMG *e*PcP **PcP** **05 33 17.8 +0.9**
TKM2 Tokmak 2 47.94 336 P **P** **05 31 51.6 +1.1**
SNR=26
TKM2 P P **05 31 51.6 +1.1**
SNR=26
TKM2 Tokmak 2 47.94 336 *i* P **P** **05 31 51.6 +1.1**
TKM2 Tokmak 2 47.94 336 *e*P **P** **05 31 51.6 +1.1**
comp=Z,20nm,0.6s
KBK Karagaybulak 47.99 335 P **P** **05 31 52.5 +1.6**
SNR=17
KBK P P **05 31 52.5 +1.6**
SNR=17
ULN Ulaanbaatar 48.00 6 *e*P **P** **05 31 50.4 -0.4**
ULN *e* 05 33 16.4
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 48.00 6 *e*P **P** **05 31 50.4 -0.4**
comp=Z,8.5nm,0.7s
ULN *e*PcP **PcP** **05 33 16.4 -0.3**
ULN *e*ScP **ScP** **05 36 56.8 -1.9**
AML Almayashu 48.10 334 P **P** **05 31 53.2 +1.3**
SNR=40
AML P P **05 31 53.2 +1.3**
SNR=40
AAK Ala-Archa 48.16 335 P **P** **05 31 54.0 +1.8**
SNR=7.1
AAK P P **05 31 54.0 +1.8**
SNR=7.1
AAK Ala-Archa 48.16 335 *i* P **P** **05 31 53.9 +1.8**
AAK Ala-Archa 48.16 335 *e*P **P** **05 31 53.5 +1.3**
comp=Z,22nm,0.6s
AAK Ala-Archa 48.16 335 P **P** **05 31 53.6 +1.5**
comp=Z,54nm,0.5s,SNR=8.1
CHMS Chumysh 48.35 335 P **P** **05 31 54.2 +0.7**
SNR=6.2
CHMS P P **05 31 54.2 +0.7**
SNR=6.2
EKS2 Erkin-Say 48.49 334 P **P** **05 31 56.4 +1.8**
SNR=29
EKS2 P P **05 31 56.4 +1.8**
SNR=29
EKS2 Erkin-Say 48.49 334 *e*P **P** **05 31 56.2 +1.6**
EKS2 *e**PP **pP** **05 32 25.9 +0.1**
EKS2 pmax pmax
comp=Z,21nm,0.6s
EKS2 Erkin-Say 48.49 334 *e*P **P** **05 31 56.2 +1.6**
comp=Z,21nm,0.6s
EKS2 *e*pP **pP** **05 32 25.9 +0.1**
USP Ospenovka 48.68 335 P **P** **05 31 57.0 +1.0**
SNR=18
USP P P **05 31 57.0 +1.0**
SNR=18
MK31 Makanchi Array 49.04 344 *ce*P **P** **05 31 58.8 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.3s
MK31 Makanchi Array 49.04 344 *e*P **P** **05 31 59.0 +0.4**
MKAR Makanchi Array 49.04 344 P **P** **05 31 59.0 +0.4**
comp=Z,9.6nm,0.3s,baz=157,slow=8.4,SNR=284
MKAR ScP **ScP** **05 37 00.9 -2.1**
comp=Z,1.5nm,0.8s,baz=147,slow=6.8,SNR=4.4
MKAR Makanchi Array 49.04 344 *i* P **P** **05 31 59.0 +0.4**
MKAR pmax pmax

comp=Z,10.0nm,0.3s
MKAR Makanchi Array 49.04 344 *e*P **P** 05 31 59.1 +0.4
MKAR ScP **ScP** 05 37 00.9 -2.1
CN2 Changchun 49.11 24 ⇑P **P** 05 31 57.8 -1.4
CN2 *e*pP **pP** 05 32 26.0 -4.4
CN2 *e*sP sP 05 32 39.8 -5.8
CN2 PcP **PcP** 05 33 20.5 -0.2
CN2 *e*S **S** 05 38 53.8 -0.1
CN2 pmax pmax
comp=Z,20nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CTA Charters Tower 49.52 117 P **P** 05 32 02.2 -0.5
comp=Z,22nm,0.8s,baz=289,slow=9.5,SNR=18
CTA ScP **ScP** 05 37 04.8 -0.8
comp=Z,6.1nm,1.0s,baz=18,slow=1.6,SNR=3.2
CTA Charters Tower 49.52 117 *e*P **P** 05 32 02.5 -0.2
comp=Z,17nm,0.9s
CTA *e*PCP **PcP** 05 33 23.0 +0.3
CTA Charters Tower 49.52 117 P **P** 05 32 02.2 -0.5
CTA Charters Tower 49.52 117 P **P** 05 32 02.2 -0.5
CTA ScP **ScP** 05 37 04.8 -0.8
CTAO Charters Tower 49.52 117 *e*P **P** 05 32 02.8 +0.1
CTAO *e* 05 33 23.4
CTAO pmax pmax
comp=Z,22nm,0.8s
CTAO Charters Tower 49.52 117 *e*P **P** 05 32 02.8 +0.1
comp=Z,22nm,0.8s
CTAO *e*PcP **PcP** 05 33 23.4 +0.7
ZAK Zakamensk 50.20 3 *e*P P 05 32 02.8 -4.6
ZAK pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 50.32 332 *ce*P **P** 05 32 08.5 +0.2
KK31 pmax pmax
comp=Z,5.0nm,0.3s
KKAR Karatay Array 50.32 332 *e*P **P** 05 32 08.7 +0.4
KKAR Karatay Array 50.32 332 *e*P **P** 05 32 08.7 +0.4
KKAR *e*ScP **ScP** 05 37 08.4 -0.2
STKA Stephens Creek 50.55 133 P **P** 05 32 09.9 -0.4
comp=Z,18nm,0.6s,baz=309,slow=7.3,SNR=55
STKA ScP **ScP** 05 37 08.7 -1.1
comp=Z,2.2nm,0.8s,baz=4.8,slow=5.8,SNR=3.2
STKA Stephens Creek 50.55 133 ⇑*i*P **P** 05 32 09.5 -0.8
comp=Z,15nm,0.6s
STKA Stephens Creek 50.55 133 *e*P **P** 05 32 09.5 -0.8
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 50.55 133 *e*P **P** 05 32 09.5 -0.8
comp=Z,3.7nm,0.7s
STKA ScP **ScP** 05 37 08.7 -1.1
MJAR Matsushiro Arr 50.70 40 P **P** 05 32 10.0 -1.4
comp=Z,5.3nm,0.7s,baz=228,slow=7.9,SNR=13
MJAR Matsushiro Arr 50.70 40 P **P** 05 32 10.0 -1.4
MJAR Matsushiro Arr 50.70 40 P **P** 05 32 10.0 -1.4
VLA Vladivostok 51.51 30 *e*P **P** 05 32 17.0 -0.2
VLA pmax pmax
comp=Z,13nm,0.6s
TLY Talaya 51.51 3 *e*P **P** 05 32 15.7 -1.4
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY Talaya 51.51 3 *e*P **P** 05 32 17.2 +0.1
comp=Z,6.6nm,0.8s
MDJ Mudanjiang 51.55 27 P P 05 32 20.8 +3.3
MDJ pP pP 05 32 48.5 -0.5
MDJ sP sP 05 33 02.0 -2.1
MDJ S S 05 39 34.8 +7.1
MDJ sS sS 05 40 23.0 +0.8
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,180nm,3.9s
MDJ LR LR
comp=N,70nm,27.5s
MDJ LR LR
comp=E,64nm,20.5s
MDJ LR LR
comp=Z,37nm,22.1s
MDJ Mudanjiang 51.55 27 *e*P **P** 05 32 17.4 -0.2
USRK Ussuriysk Arra 52.36 29 P **P** 05 32 23.1 -0.4
comp=Z,28nm,0.7s,baz=228,slow=5.0,SNR=66
IEMG Emamgholi 53.22 319 *e*P **P** 05 32 29.5 -0.8
ISRV Sarvestan 53.32 307 *e*P **P** 05 32 31.1 -0.1
IPAR Pars 53.56 308 *e*P **P** 05 32 32.7 -0.3
KURK Kurchatov 53.63 343 *ce*P **P** 05 32 32.9 +0.3
KURK pmax pmax
comp=Z,17nm,0.6s
KURK Kurchatov 53.63 343 *e*P **P** 05 32 32.5 -0.1
comp=Z,26nm,0.8s
KURK *e*PcP **PcP** 05 33 36.6 -0.8
KURK *e*ScP **ScP** 05 37 22.0 -0.7
KURK Kurchatov 53.63 343 P **P** 05 32 33.9 +1.3
comp=Z,190nm,0.7s,SNR=20
OPO Ambohidratompo 55.02 247 P **P** 05 32 45.3 +1.8
comp=Z,3.3nm,0.9s,baz=58,slow=8.8,SNR=4.6
OPO Ambohidratompo 55.02 247 P **P** 05 32 45.3 +1.8
ZAA0 Zalesovo Array 55.14 349 *e*P **P** 05 32 43.0 -0.5
ZAA0 *e*pP **pP** 05 33 14.1 -1.4
ZAA0 *e*ScP **ScP** 05 37 27.2 -2.0
ZALV Zalesovo Beam 55.14 349 P **P** 05 32 43.2 -0.3
comp=Z,26nm,0.6s,baz=185,slow=6.8,SNR=88
ZALV ScP **ScP** 05 37 27.1 -2.1
comp=Z,1.7nm,0.6s,baz=168,slow=4.4,SNR=4.6
ZALV Zalesovo Beam 55.14 349 P **P** 05 32 43.2 -0.3
ZALV Zalesovo Beam 55.14 349 P **P** 05 32 43.2 -0.3
ZALV ScP **ScP** 05 37 27.1 -2.1
IZEF Zefreh 55.42 311 *e*P **P** 05 32 45.3 -1.0
EIDS Eidsvold 55.43 121 *e*P **P** 05 32 46.0 -0.2
comp=Z,15nm,0.6s
IANJ Anjilo 55.45 314 *e*P **P** 05 32 46.1 -0.3
KLR Kul'dur 56.06 25 *e*P P 05 32 45.7 -4.5
NVS Novosibirsk 56.29 348 ⇓*i*P **P** 05 32 51.1 -0.6
NVS *e* 05 33 20.5
NVS *e*PPP PPP 05 36 21.9
NVS *i* S **S** 05 40 28.2 -2.9
NVS *i* PS **SPn** 05 40 40.5 +0.5
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s
NVS smax smax
comp=N,18nm,1.3s
NVS smax smax
comp=E,22nm,1.3s
IFIR Firoozkooh 56.36 314 *e*P **P** 05 32 52.6 -0.4
IPIR Pirpir 56.43 310 *e*P **P** 05 32 54.1 +0.6
IALA Alasht 56.53 315 *e*P **P** 05 32 53.2 -1.0
KBD Kabd 57.61 305 *e*P **P** 05 33 02.2 +0.7
KBD AMb AMB 05 33 02.9
comp=Z,35nm,0.7s
CAN Canberra 57.62 133 *e*P **P** 05 33 01.8 +0.2
CAN pmax pmax
comp=Z,10.0nm,0.5s
CAN Canberra 57.62 133 *e*P **P** 05 33 01.8 +0.2
comp=Z,10nm,0.5s
ARMA Armidale 57.64 127 *e*P **P** 05 33 02.5 +0.7
RDF Al-Radifah 57.64 305 *e*P **P** 05 33 03.0 +1.2
RDF AMb AMB 05 33 03.9
comp=Z,56nm,0.7s
ASAJ Asahikawa 57.94 35 *e*P **P** 05 33 03.7 +0.2
comp=Z,45nm,2.1s
NAY Al-Naaiem 58.01 305 *e*P **P** 05 33 04.7 +0.4
NAY AMb AMB 05 33 05.5
comp=Z,31nm,0.6s
MIB Mutribah 58.12 306 *e*P **P** 05 33 05.5 +0.5
MIB AMb AMB 05 33 06.5
comp=Z,78nm,0.6s
BVA0 Borovoye Array 58.24 339 *i* P **P** 05 33 05.3 -0.2
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 58.31 339 *d*⇓*i*P **P** 05 33 05.8 -0.1
BRVK pmax pmax
comp=Z,23nm,1.4s
BRVK Borovoye 58.31 339 *e*P **P** 05 33 05.9 0.0
comp=Z,18nm,0.9s
BRVK Borovoye 58.31 339 P **P** 05 33 06.0 0.0
comp=Z,161nm,0.4s,SNR=9.3
BOD Bodaibo 58.65 9 *e*P **P** 05 33 06.6 -1.6
BOD pmax pmax
comp=Z,12nm,0.9s
IKOM Komasi 59.61 310 *e*P **P** 05 33 13.5 -2.0
YSS Yuzh-Sakhalins 59.75 33 *e*P **P** 05 33 16.5 +0.5
YSS pmax pmax
comp=Z,30nm,0.8s
ABKAR Akbulak array 59.83 331 *e*P **P** 05 33 16.3 -0.2
comp=Z,12nm,0.6s
ABKAR *e*PP **PP** 05 35 32.6 +2.5
ABKAR *e*ScP **ScP** 05 37 46.4 -3.6
IGHG Ghaleghazi 60.39 310 *e*P **P** 05 33 20.0 -0.9
IDHR Dehrash 60.67 310 *e*P **P** 05 33 21.7 -1.1
KMBO Kilima Mbogo 62.73 269 *e*P **P** 05 33 39.6 +2.6
KMBO *e**PP **pP** 05 34 09.8 +0.1
KMBO *e**SP **sP** 05 34 26.7 +2.2
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 62.73 269 *e*P **P** 05 33 39.6 +2.6
comp=Z,3.0nm,0.8s
KMBO *e*pP **pP** 05 34 09.8 +0.1
KMBO *e*sP **sP** 05 34 26.6 +2.2
KMBO *e*ScP **ScP** 05 38 06.6 +2.5
SVE Sverdlovsk 64.77 337 ⇑*e*P **P** 05 33 50.0 +0.8
SVE pmax pmax
comp=Z,37nm,0.9s
ARU Arti 65.31 336 *e*P **P** 05 33 52.8 +0.1
ARU *e* 05 34 23.1
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 65.31 336 *e*P **P** 05 33 52.8 +0.1
comp=Z,15nm,1.0s
ARU *e*PcP **PcP** 05 34 23.1 -0.8
ZEI Tsey 65.68 318 *e*P **P** 05 33 55.5 -0.2
ZEI pmax pmax
comp=Z,11nm,0.8s
CASY Casey 66.64 175 *e*P **P** 05 34 01.2 +0.2
comp=Z,6.2nm,0.9s
CASY *e*PP **PP** 05 36 26.4 -3.2
KIV Kislovodsk 66.97 319 *e*P **P** 05 34 04.3 +0.6
KIV pmax pmax
comp=Z,13nm,1.0s
SOKR Solikamsk 68.14 338 *d*⇓*i*P **P** 05 34 11.6 +1.0
SOKR pmax pmax
comp=Z,40nm,1.1s
DZM Mont Dzumac 68.29 114 LR LR 06 05 22.6
comp=Z,116nm,18.8s,baz=343,slow=37
DZM Mont Dzumac 68.29 114 *e*P **P** 05 34 12.9 +0.5
comp=Z,27nm,0.8s
VRHR Novokhopersk 70.62 325 *e*P **P** 05 34 25.8 -0.2
VRHR *e*S **S** 05 43 24.3 -4.6
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR smax smax
comp=N,150nm,1.0s
VRHR smax smax
comp=E,200nm,1.0s
VRHR smax smax
comp=Z,30nm,1.0s
ANN Anapa 70.78 318 *e*P **P** 05 34 30.1 +3.0
ANN pmax pmax
comp=Z,69nm,1.4s
PETK Petropavlovsk- 71.16 33 P **P** 05 34 28.2 -1.0
comp=Z,4.1nm,0.7s,baz=272,slow=4.0,SNR=4.3
PETK Petropavlovsk- 71.16 33 P **P** 05 34 28.3 -1.0
PETK Petropavlovsk- 71.16 33 P **P** 05 34 28.2 -1.0
VSR Storozhevoye 72.08 325 *e*P **P** 05 34 34.5 -0.3
VSR *e**PP **pP** 05 35 06.5 -1.7
VSR *e*S **S** 05 43 41.6 -4.1
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
VSR smax smax
comp=N,70nm,1.2s
VSR smax smax
comp=E,50nm,1.2s
VSR smax smax
comp=Z,130nm,2.4s
SEY Seymchan 73.73 22 *de*P **P** 05 34 44.0 -0.3
OBN Obninsk 75.03 328 ⇑*e*P **P** 05 34 52.5 +0.5
OBN *e* 05 35 03.7
OBN *e* 05 37 42.5
OBN *e*S **S** 05 44 17.1 -1.6
OBN *e*SS **SS** 05 49 12.8 +2.3
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,200nm,18.0s
OBN Obninsk 75.03 328 *e*P **P** 05 34 51.8 -0.1
comp=Z,20nm,0.6s
KLMR Klimovskoe 75.97 334 *e*P **P** 05 34 56.5 -0.7
KLMR *e**PP **pP** 05 35 26.9 -4.0
KLMR pmax pmax
comp=Z,10.0nm,0.8s
BOSA Boshof 76.64 241 P **P** 05 35 03.1 +1.2
comp=Z,2.5nm,0.8s,baz=135,slow=6.3,SNR=5.2
BOSA Boshof 76.64 241 *e*P **P** 05 35 04.1 +2.2
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 76.64 241 *e*P **P** 05 35 04.1 +2.2
comp=Z,3.4nm,0.8s
AKASG Malin Array Be 77.84 322 P **P** 05 35 07.7 -0.2
comp=Z,2.3nm,0.6s,baz=86,slow=5.1,SNR=7.4
AKASG *i* P **P** 05 35 07.6 -0.3
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 77.84 322 P **P** 05 35 07.7 -0.2
KIEV Kiev 77.85 322 *e*P **P** 05 35 07.9 0.0
KIEV pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 77.85 322 *e*P **P** 05 35 07.9 0.0
comp=Z,7.0nm,1.1s
VRI Vrincioaia 78.33 317 ⇓P **P** 05 35 12.1 +1.3
VRI Vrincioaia 78.33 317 ⇓*i*P **P** 05 35 12.1 +1.3
TESR 78.52 318 ⇑*i*P **P** 05 35 13.8 +2.0
MLR Muntele Rosu 78.79 316 ⇑P **P** 05 35 14.5 +1.0
MLR Muntele Rosu 78.79 316 ⇑*i*P **P** 05 35 14.4 +1.0
VOIR 79.40 316 ⇑P **P** 05 35 17.0 +0.3
VOIR 79.40 316 ⇑*i*P **P** 05 35 17.0 +0.3
BURAR Bucovina Array 79.70 318 ⇓*i*P **P** 05 35 20.1 +1.8
BUR08 Bucovina Ar. S 79.72 318 *e*P **P** 05 35 19.9 +1.5
NACGM Naroch 80.33 326 *e* **P** 05 35 19.0 -2.3
JOF Joensuu 80.35 334 *e*P **P** 05 35 21.4 +0.1
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 80.35 334 *ep* **P** 05 35 21.4 +0.1
comp=Z,0.7nm,0.3s
JOF Joensuu 80.35 334 *ep* **P** 05 35 21.4 +0.1
comp=Z,0.7nm,0.3s
SUR Sutherland 80.89 237 LR LR 06 07 32.0
comp=Z,58nm,18.8s,baz=65,slow=33
VSU Vasula 81.22 329 *d*⇓*i*P **P** 05 35 26.8 +0.8
VSU pmax pmax
comp=Z,15nm,1.0s
DRGR 81.23 317 ⇓P **P** 05 35 26.9 +0.4
DRGR 81.23 317 ⇓*i*P **P** 05 35 26.9 +0.4
TRPA Tarpa 81.56 319 ⇑*i*P **P** 05 35 29.3 +1.2
KWP Kalwaria Pacla 81.70 320 ⇑P **P** 05 35 30.7 +1.9
KWP Kalwaria Pacla 81.70 320 ⇑*i*P **P** 05 35 30.7 +1.9
BZS Buzias 81.81 316 ⇑P **P** 05 35 30.6 +1.2
BZS Buzias 81.81 316 ⇑*i*P **P** 05 35 30.6 +1.2
SUW Suwalki 82.19 325 *e*P **P** 05 35 31.5 +0.3
SUW Suwalki 82.19 325 *e*P **P** 05 35 31.5 +0.3
comp=Z,65nm,1.0s
FINES FINESS Array B 82.28 332 P **P** 05 35 32.3 +0.8
comp=Z,8.4nm,0.5s,baz=104,slow=5.3,SNR=44
FINES FINESS Array B 82.28 332 P **P** 05 35 32.3 +0.8
FINES FINESS Array B 82.28 332 P **P** 05 35 32.3 +0.8
KAF Kangasniemi 82.34 333 *e*P **P** 05 35 31.9 +0.1
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 82.34 333 *ep* **P** 05 35 31.9 +0.1
comp=Z,2.3nm,0.3s
KAF Kangasniemi 82.34 333 *ep* **P** 05 35 31.9 +0.1
comp=Z,2.3nm,0.3s
TSUM Tsumeb 82.84 251 *e*P **P** 05 35 35.1 -0.4
KEV Kevo 84.08 340 *e*P **P** 05 35 40.6 0.0
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 84.08 340 *ep* **P** 05 35 40.6 0.0
comp=Z,0.8nm,0.4s
KEV Kevo 84.08 340 *ep* **P** 05 35 40.6 0.0
comp=Z,0.8nm,0.4s
VNDA Vanda 84.19 169 *e*P **P** 05 35 42.5 +1.4
VNDA pmax pmax
comp=Z,2.0nm,0.4s
VNDA Vanda 84.19 169 *e*P **P** 05 35 42.5 +1.4
comp=Z,2.3nm,0.4s
ARCES ARCESS Array B 84.53 340 P **P** 05 35 43.2 +0.3
comp=Z,4.2nm,0.5s,baz=111,slow=5.6,SNR=61
ARCES ARCESS Array B 84.53 340 P **P** 05 35 43.2 +0.3
ARCES ARCESS Array B 84.53 340 P **P** 05 35 43.2 +0.3
MSKU Masuku 86.37 268 LR LR 06 12 45.3
comp=Z,80nm,19.8s,baz=1.9,slow=34
BRG Berggiesshubel 87.43 321 *e*P **P** 05 35 60.0 +2.4
comp=Z,8.5nm,1.3s
BRG Berggiesshubel 87.43 321 *e*P **P** 05 36 00.0 +2.4
BRG pmax pmax
comp=Z,9.0nm,1.3s
GERES GERESS Array B 87.48 319 P **P** 05 35 58.6 +0.6
comp=Z,0.9nm,0.6s,baz=72,slow=4.3,SNR=8.7
GERES GERESS Array B 87.48 319 P **P** 05 35 58.6 +0.6
GERES GERESS Array B 87.48 319 P **P** 05 35 58.6 +0.6
KHC Kasperske Hory 87.58 319 *e*P **P** 05 36 00.0 +1.7
CLL Collm 88.04 321 ⇓*i*P **P** 05 36 01.7 +1.3
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 88.04 321 ⇓*i*P **P** 05 36 01.7 +1.3
comp=Z,8.0nm,1.2s
SPB4 Spitsbergen Ar 88.62 348 *e*P **P** 05 36 02.4 -0.2
GRF Grafenberg Arr 89.14 320 *e*P **P** 05 36 07.9 +2.3
comp=Z,7.0nm,1.2s
GRF Grafenberg Arr 89.14 320 *e*P **P** 05 36 07.9 +2.3
GRF pmax pmax
comp=Z,7.0nm,1.2s
NOA NORSAR Array B 89.33 331 P **P** 05 36 06.0 -0.3
comp=Z,0.8nm,0.6s,baz=119,slow=4.0,SNR=3.7
NOA NORSAR Array B 89.33 331 P **P** 05 36 06.0 -0.3
NOA NORSAR Array B 89.33 331 P **P** 05 36 06.0 -0.3
QSPA South Pole Qui 90.02 180 *e*P **P** 05 36 11.6 +2.1
comp=Z,5.7nm,0.9s
KEST Kesra 90.47 306 P **P** 05 36 14.1 +1.8
comp=Z,1.9nm,1.0s,baz=69,slow=8.6,SNR=3.3
KEST Kesra 90.47 306 P **P** 05 36 14.1 +1.8
TORD Torodi Ar. Bea 98.05 283 P Pdif 05 36 47.6 +0.3
comp=Z,0.6nm,1.1s,baz=131,slow=6.7,SNR=2.7
TORD pP pP 05 37 20.4 -1.7
comp=Z,0.6nm,0.9s,baz=83,slow=5.9,SNR=2.6
TORD PKiKP **PKiKP** 05 41 20.2 +0.3
comp=Z,0.5nm,0.9s,baz=79,slow=4.0,SNR=2.9
TORD Torodi Ar. Bea 98.05 283 P Pdif 05 36 47.6 +0.3
TORD pP pP 05 37 20.4 -1.7
TORD PKiKP **PKiKP** 05 41 20.2 +0.3
MCK McKinley 99.15 25 *e*P **Pdif** 05 36 51.1 -0.1
MCK McKinley 99.15 25 *e*Pdif **Pdif** 05 36 51.1 -0.1
comp=Z,13nm,1.1s
ILAR Eielson Array 99.63 24 P **Pdif** 05 36 51.6 -1.6
comp=Z,0.3nm,0.6s,baz=270,slow=3.1,SNR=5.9
ILAR Eielson Array 99.63 24 P **Pdif** 05 36 51.6 -1.6
ILAR Eielson Array 99.63 24 P **Pdif** 05 36 51.6 -1.6
YKA Yellowknife Ar 112.40 17 PKiKP **PKiKP** 05 41 44.4 -0.7
comp=Z,0.3nm,0.6s,baz=354,slow=2.2,SNR=8.9
YKA Yellowknife Ar 112.40 17 PKiKP 05 41 44.4
YKA Yellowknife Ar 112.40 17 PKiKP **PKiKP** 05 41 44.4 -0.7
NEW Newport 122.14 28 ⇓P **PKPdf** 05 42 04.1 -0.2
baz=122
HAWA Hanford 122.22 31 *e*PKPdf **PKPdf** 05 42 04.8 +0.3
A12A Yaak River Ran 122.35 27 ⇑P **PKPdf** 05 42 04.9 +0.1
baz=122
FFC Flin Flon 122.48 15 *i* PKiKP **PKPdf** 05 42 05.0 +0.3
A13A Flathead Natio 122.90 26 ⇑P **PKPdf** 05 42 05.9 +0.1
baz=123
B13A Whitefish 123.29 27 ⇓P **PKPdf** 05 42 06.0 -0.6
baz=123
A15A Johnson Ranch, 123.60 25 ⇓P **PKPdf** 05 42 06.6 -0.6
baz=123
B14A Marquette Ranc 123.83 26 ⇑P **PKPdf** 05 42 06.9 -0.8
baz=124
C14A Swan Lake 124.07 27 ⇑P **PKPdf** 05 42 07.5 -0.6
baz=124
B15A Bradely Ranch, 124.18 26 ⇑P **PKPdf** 05 42 07.7 -0.6
baz=124
SCHQ Schefferville 124.21 351 PKP **PKPdf** 05 42 07.5 -0.6
comp=Z,3.0nm,0.6s,baz=22,slow=4.2,SNR=9.1
SCHQ Schefferville 124.21 351 PKP **PKPdf** 05 42 07.5 -0.6
B16A M & M Farms, S 124.47 25 ⇓P **PKPdf** 05 42 08.4 -0.5
baz=124
A17A Triple J Farms 124.48 24 ⇓P **PKPdf** 05 42 08.9 +0.1
baz=124
C15A Salmond Ranch, 124.57 26 ⇑P **PKPdf** 05 42 08.9 -0.2
baz=124
MSO Missoula 124.67 28 ⇓P **PKPdf** 05 42 08.9 -0.4
baz=124
E13A Victor 124.84 28 ⇓P **PKPdf** 05 42 09.3 -0.4
baz=125
A18A Metzger Ranch, 124.84 24 ⇓P **PKPdf** 05 42 09.2 -0.3
baz=125
D15A Lincoln 125.16 27 ⇑P **PKPdf** 05 42 10.0 -0.3
baz=125
E14A Clinton 125.18 28 ⇓P **PKPdf** 05 42 10.2 -0.2
baz=125
F13A Darby 125.24 29 ⇑P **PKPdf** 05 42 09.8 -0.7
baz=125
A19A Klindworth Far 125.27 23 ⇑P **PKPdf** 05 42 10.0 -0.3
baz=125
C17A Wharram Farm, 125.48 25 ⇑P **PKPdf** 05 42 10.6 -0.2
baz=125
B19A Brinkman Farms 125.57 23 ⇓P **PKPdf** 05 42 10.8 -0.1
baz=125
EGMT Eagleton 125.59 24 *e*PKPdf **PKPdf** 05 42 11.2 +0.2
EGMT Eagleton 125.59 24 ⇓P **PKPdf** 05 42 11.2 +0.2
baz=125
D16A Dana Ranch, Ca 125.60 26 ⇑P **PKPdf** 05 42 11.2 0.0
baz=125
H12A Diamond D Ranc 125.87 30 ⇓P **PKPdf** 05 42 11.8 0.0
baz=126
D17A Six Diamond Ra 125.88 25 ⇑P **PKPdf** 05 42 11.5 -0.1
baz=126
A21A Bergtoll Ranch 125.91 22 ⇑P **PKPdf** 05 42 11.5 0.0
baz=126
G14A Jackson 126.06 29 ⇑P **PKPdf** 05 42 12.5 +0.3
baz=126
C19A Slack Wire Ran 126.11 24 ⇑P **PKPdf** 05 42 12.3 +0.3
baz=126
H13A Challis 126.17 30 ⇑P **PKPdf** 05 42 12.3 0.0
baz=126
MFID Camas Ranch 126.17 32 *e*PKPdf **PKPdf** 05 42 13.0 +0.7
MFID Camas Ranch 126.17 32 ⇓P **PKPdf** 05 42 12.4 +0.2
baz=126
I12A Atlanta 126.27 31 ⇑P **PKPdf** 05 42 12.6 +0.1
baz=126
A22A Carney Farms, 126.27 21 ⇑P **PKPdf** 05 42 12.3 +0.1
baz=126
C20A Veseth Ranch, 126.54 23 ⇓P **PKPdf** 05 42 13.3 +0.6
baz=126
H14A Leadore 126.56 29 ⇓P **PKPdf** 05 42 13.4 +0.3
baz=126
G15A Dillon 126.58 28 ⇓P **PKPdf** 05 42 13.7 +0.6
baz=126
BOZ Bozeman (W) 126.62 27 ⇓P **PKPdf** 05 42 13.6 +0.4
baz=126
BOZ ⇓P **PKPdf** 05 42 13.6 +0.4
baz=126
I13A Wildhorse Cree 126.70 30 ⇓P **PKPdf** 05 42 13.8 +0.4
baz=126
HLID Hailey 126.80 31 ⇓P **PKPdf** 05 42 14.1 +0.5
baz=127
F17A Fitzpatrick Pl 126.86 26 ⇑P **PKPdf** 05 42 13.8 +0.2
baz=127
H15A Lima 126.92 29 ⇓P **PKPdf** 05 42 13.9 +0.1
baz=127
A24A Westby 126.99 20 ⇑P **PKPdf** 05 42 13.7 +0.1
baz=127
I14A Mackay 127.02 30 ⇓P **PKPdf** 05 42 14.1 +0.1
baz=127
J13A Cove Ranch, Pi 127.04 31 ⇓P **PKPdf** 05 42 14.6 +0.6
baz=127
B23A Brockton 127.04 21 ⇑P **PKPdf** 05 42 13.8 +0.1
baz=127
J14A Carey 127.43 30 ⇓P **PKPdf** 05 42 15.1 +0.4
baz=127
D21A La Casta Ranch 127.47 23 ⇑P **PKPdf** 05 42 15.0 +0.4
baz=127
D22A Cohagen 127.71 22 ⇑P **PKPdf** 05 42 15.3 +0.2
baz=128
E21A Keefer Ranch, 127.87 23 ⇑P **PKPdf** 05 42 15.5 +0.2
baz=128
NVAR Mina Array Bea 128.01 38 PKP **PKPdf** 05 42 16.0 -0.1
comp=Z,1.2nm,0.7s,baz=224,slow=1.9,SNR=4.0
NVAR Mina Array Bea 128.01 38 PKP **PKPdf** 05 42 16.0 -0.1
D23A Lindsay 128.06 22 ⇓P **PKPdf** 05 42 16.8 +1.1
baz=128

ULM	Lac du Bonnet	128.07	13	PKP	PKPdf	05 42 15.2	-0.3	
	comp=Z,4.1nm,0.5s,baz=333,slow=1.5,SNR=13							
ULM	Lac du Bonnet	128.07	13	ePKIKP	PKPdf	05 42 15.2	-0.3	
ULM	Lac du Bonnet	128.07	13	ePKPdf	PKPdf	05 42 15.2	-0.3	
K14A	Jones Ranch, D	128.16	31	⇓P	PKPdf	05 42 16.9	+0.7	
	baz=128							
E22A	Miles City	128.39	23	⇓P	PKPdf	05 42 17.4	+1.0	
	baz=128							
G20A	Bridger	128.47	25	⇓P	PKPdf	05 42 17.2	+0.5	
	baz=128							
H19A	Powell	128.56	26	⇓P	PKPdf	05 42 17.7	+0.9	
	baz=128							
TPAW	Teton Pass	128.57	29	ePKPdf	PKPdf	05 42 18.0	+0.9	
J17A	Brown Place, J	128.78	29	⇓P	PKPdf	05 42 18.2	+0.8	
	baz=129							
I20A	Worland	129.51	26	⇓P	PKPdf	05 42 19.0	+0.3	
	baz=129							
R11A	Troy Canyon, C	129.71	36	⇓P	PKPdf	05 42 19.8	+0.5	
	baz=130							
BW06	Boulder Array	129.78	28	⇑SKP	SKPbc	05 45 28.0	-1.4	
BW06				⇑SKP		05 45 28.0		
	baz=130							
PDAR	Pinedale Array	129.78	28	PKP	PKPdf	05 42 18.4	-0.9	
	comp=Z,1.2nm,0.7s,baz=208,slow=1.4,SNR=9.1							
PDAR	Pinedale Array	129.78	28	PKP	PKPdf	05 42 18.4	-0.9	
G24A	Alzada	129.91	22	⇓SKP	SKPbc	05 45 29.2	-0.4	
	baz=130,SNR=6.9							
MPMC	Manual Prospec	129.97	40	⇓P	PKPdf	05 42 20.7	+0.9	
	baz=130							
MPMC				⇓SKP	SKPbc	05 45 30.0	-0.3	
	baz=130							
I21A	Big Trails, Te	129.99	26	⇓P	PKPdf	05 42 20.3	+0.6	
	baz=130							
I21A				⇑SKP	SKPbc	05 45 29.7	-0.2	
	baz=130,SNR=10							
J20A	Shoshoni	130.00	27	⇑P	PKPdf	05 42 20.1	+0.4	
	baz=130							
J20A				⇓SKP	SKPbc	05 45 30.2	+0.2	
	baz=130							
DUG	Dugway	130.03	33	ePKIKP	PKPdf	05 42 21.0	+1.2	
DUG	Dugway	130.03	33	ePKPdf	PKPdf	05 42 21.0	+1.2	
DUG	Dugway	130.03	33	⇓SKP	SKPbc	05 45 29.5	-0.7	
	baz=130							
K19A	Absolon Red Bu	130.07	28	⇓P	PKPdf	05 42 19.8	-0.1	
	baz=130							
I22A	9 Mile Ranch,	130.27	25	⇓SKP	SKPbc	05 45 30.0	-0.9	
	baz=130,SNR=6.2							
J21A	Lysite	130.29	26	⇑SKP	SKPbc	05 45 30.6	-0.5	
	baz=130,SNR=10.0							
H24A	Dirks Ranch, A	130.34	23	⇓P	PKPdf	05 42 20.6	+0.4	
	baz=130							
H24A				⇑SKP	SKPbc	05 45 30.5	-0.6	
	baz=130,SNR=6.3							
L19A	Farson	130.39	29	⇑SKP	SKPbc	05 45 31.7	+0.2	
	baz=130							
K20A	Yellowstone Ra	130.43	27	⇓P	PKPdf	05 42 20.7	+0.2	
	baz=130							
K20A				⇓SKP	SKPbc	05 45 31.0	-0.6	
	baz=130							
J22A	Midwest	130.66	25	⇑P	PKPdf	05 42 21.0	+0.1	
	baz=130							
J22A				⇑SKP	SKPbc	05 45 30.2	-2.1	
	baz=130,SNR=39							
GSC	Goldstone	130.87	40	⇑SKP	SKPbc	05 45 31.8	-1.6	
	baz=131							
K21A	Alcova	130.95	27	⇑SKP	SKPbc	05 45 33.1	-0.4	
	baz=131,SNR=18							
RSSD	Black Hills	131.07	23	ePKIKP	PKPdf	05 42 22.3	+0.5	
RSSD	Black Hills	131.07	23	ePKPdf	PKPdf	05 42 22.3	+0.5	
O17A	Robinson Place	131.13	31	⇑P	PKPdf	05 42 22.7	+0.7	
	baz=131							
O17A				⇓SKP	SKPbc	05 45 34.8	+0.5	
	baz=131							
K22A	Casper	131.25	26	⇓SKP	SKPbc	05 45 33.9	-0.7	
	baz=131,SNR=11							
N19A	John Jarvie Ra	131.39	29	⇑SKP	SKPbc	05 45 34.7	-0.4	
	baz=131							
M20A	Sweetwater, Wa	131.41	28	⇓SKP	SKPbc	05 45 34.8	-0.4	
	baz=131,SNR=13							
L21A	Rawlins	131.42	27	⇓SKP	SKPbc	05 45 34.2	-1.1	
	baz=131,SNR=7.1							
O18A	Roosevelt	131.45	31	⇓P	PKPdf	05 42 22.8	+0.3	
	baz=131							
O18A				⇓SKP	SKPbc	05 45 36.2	+0.9	
	baz=131							
K23A	Bowen Ranch, D	131.56	25	⇓SKP	SKPbc	05 45 34.9	-0.8	
	baz=131,SNR=7.7							
MSU	Marysvale	131.56	34	ePKIKP	PKPdf	05 42 24.2	+1.4	
MSU	Marysvale	131.56	34	ePKPdf	PKPdf	05 42 24.2	+1.4	
P17A	Butcher Ranch,	131.65	32	⇓P	PKPdf	05 42 23.7	+0.8	
	baz=132							
M21A	Separation Pea	131.71	27	⇑SKP	SKPbc	05 45 35.7	-0.7	
	baz=132,SNR=12							
R15A	Junction	131.72	34	⇓SKP	SKPbc	05 45 37.4	+0.9	
	baz=132							
L22A	Ellis Ranch, M	131.79	26	⇑SKP	SKPbc	05 45 37.4	+0.8	
	baz=132							
P18A	Preston Nutter	131.80	31	⇓SKP	SKPbc	05 45 37.1	+0.2	
	baz=132							
Q16A	Castle Valley	131.82	33	⇑SKP	SKPbc	05 45 36.6	-0.3	
	baz=132							
O19A	Miners Draw (B	131.87	30	⇓P	PKPdf	05 42 23.9	+0.6	
	baz=132							
O19A				⇑SKP	SKPbc	05 45 36.8	-0.1	
	baz=132							
N20A	Spence Gulch,	131.89	29	⇓SKP	SKPbc	05 45 36.8	-0.2	
	baz=132,SNR=14							
GMRC	Granite Mounta	131.93	40	⇓SKP	SKPbc	05 45 37.7	+0.5	
	baz=132							
SRU	San Rafael	132.03	32	⇑P	PKPdf	05 42 24.0	+0.3	
	baz=132							
SRU				⇓SKP	SKPbc	05 45 37.0	-0.5	
	baz=132							
L23A	Garrett	132.05	26	⇓SKP	SKPbc	05 45 36.4	-1.1	
	baz=132,SNR=13							
R16A	Teasdale	132.11	34	⇓SKP	SKPbc	05 45 38.7	+0.8	
	baz=132							
Q18A	Rafter H Ranch	132.25	32	⇓SKP	SKPbc	05 45 38.2	0.0	
	baz=132,SNR=5.8							
N21A	Black Mountain	132.30	28	⇑P	PKPdf	05 42 23.9	-0.3	
	baz=132							
N21A				⇑SKP	SKPbc	05 45 38.2	-0.3	
	baz=132,SNR=12							
O20A	White River Ci	132.43	29	⇑P	PKPdf	05 42 25.1	+0.7	
	baz=132							
O20A				⇓SKP	SKPbc	05 45 39.3	+0.4	
	baz=132,SNR=9.7							
L24A	Wheatland	132.43	25	⇑SKP	SKPbc	05 45 38.4	-0.4	
	baz=132,SNR=5.4							
R17A	Hanksville Air	132.43	33	⇑P	PKPdf	05 42 25.0	+0.6	
	baz=132							
R17A				⇑SKP	SKPbc	05 45 39.0	+0.1	
	baz=132							
P19A	Cripple Cowboy	132.45	30	⇓SKP	SKPbc	05 45 38.7	-0.3	
	baz=132,SNR=6.7							
M23A	Laramie	132.56	26	⇑SKP	SKPbc	05 45 38.8	-0.5	
	baz=132,SNR=16							
IRM	Iron Mountain	132.65	40	⇓SKP	SKPbc	05 45 39.9	+0.2	
	baz=132							
L25A	Engebretsen Ra	132.75	24	⇑SKP	SKPbc	05 45 39.7	-0.1	
	baz=133							
N22A	Wattenberg Ran	132.76	27	⇓SKP	SKPbc	05 45 39.3	-0.9	
	baz=133,SNR=9.0							
Q19A	Hogan Spring (	132.81	31	⇓P	PKPdf	05 42 25.5	+0.4	
	baz=133							
Q19A				⇑SKP	SKPbc	05 45 40.0	-0.2	
	baz=133,SNR=14							
W13A	Hualapai Mount	132.86	39	⇓P	PKPdf	05 42 25.7	+0.4	
	baz=133							
W13A				⇑SKP	SKPbc	05 45 41.1	+0.5	
	baz=133,SNR=7.2							
R18A	Canyonlands Na	132.90	32	⇓SKP	SKPbc	05 45 40.6	0.0	
	baz=133							
N23A	Red Feather La	132.92	27	⇓SKP	SKPbc	05 45 40.1	-0.6	
	baz=133,SNR=8.3							
M24A	Cheyenne	132.95	26	⇓SKP	SKPbc	05 45 39.8	-0.9	
	baz=133							
O22A	Kremmling	133.23	28	⇑SKP	SKPbc	05 45 40.5	-1.3	
	baz=133,SNR=5.3							
R19A	Curley Farm, L	133.30	32	⇑P	PKPdf	05 42 26.4	+0.3	
	baz=133							
R19A				⇑SKP	SKPbc	05 45 41.7	-0.3	
	baz=133,SNR=9.7							
S18A	Hurst Farm, Bl	133.35	33	⇓SKP	SKPbc	05 45 41.9	-0.3	
	baz=133,SNR=8.5							
N24A	Carr	133.45	26	⇓SKP	SKPbc	05 45 41.7	-0.7	
	baz=133,SNR=6.3							
O23A	Lake Granby, G	133.48	27	⇑P	PKPdf	05 42 25.6	-0.9	
	baz=133							
O23A				⇑SKP	SKPbc	05 45 41.8	-0.8	
	baz=133,SNR=12							
P22A	Eagle	133.57	29	⇓SKP	SKPbc	05 45 42.3	-0.5	
	baz=133,SNR=8.6							
U17A	Shonto	133.76	35	⇑SKP	SKPbc	05 45 43.9	+0.3	
	baz=134,SNR=6.5							
Q21A	Lamborn Mesa,	133.76	30	⇑SKP	SKPbc	05 45 43.2	-0.3	
	baz=134,SNR=6.8							
U16A	Tuba City	133.81	35	⇑SKP	SKPbc	05 45 43.7	0.0	
	baz=134,SNR=6.5							
T18A	Mexican Hat	133.82	33	⇓SKP	SKPbc	05 45 44.0	+0.4	
	baz=134,SNR=5.6							
R20A	Redvale	133.84	31	⇓SKP	SKPbc	05 45 43.7	-0.1	
	baz=134,SNR=7.3							
M27A	Reverse DX Ran	133.91	23	⇑SKP	SKPbc	05 45 42.9	-0.9	
	baz=134							
ECSD	EROS Data Cent	133.93	17	ePKPdf	PKPdf	05 42 26.7	-0.2	
ISCO	Idaho Springs	133.95	28	⇑SKP	SKPbc	05 45 43.8	-0.4	
	baz=134,SNR=6.5							
Q22A	Crested Butte,	134.07	29	⇑SKP	SKPbc	05 45 44.5	-0.1	
	baz=134,SNR=7.5							
WUAZ	Wupatki	134.10	36	⇑SKP	SKPbc	05 45 44.9	+0.2	
	baz=134,SNR=5.4							
S20A	Disappointment	134.12	32	⇓SKP	SKPbc	05 45 44.3	-0.4	
	baz=134,SNR=7.8							
R21A	Cimarron	134.13	30	⇓SKP	SKPbc	05 45 44.5	-0.3	
	baz=134,SNR=7.0							
Y14A	Wickenburg	134.16	39	⇑SKP	SKPbc	05 45 44.6	-0.2	
	baz=134,SNR=5.9							
P23A	Jefferson	134.18	28	⇓SKP	SKPbc	05 45 44.9	-0.2	
	baz=134							
Z13A	Yuma Proving G	134.22	40	⇑SKP	SKPbc	05 45 45.5	+0.6	
	baz=134,SNR=8.7							
V17A	Tonalea, Kykot	134.37	36	⇑SKP	SKPbc	05 45 45.6	+0.1	
	baz=134,SNR=8.5							
113A	Mohawk Valley,	134.42	41	⇓SKP	SKPbc	05 45 46.6	+1.1	
	baz=134							
N27A	Anderson Farm,	134.46	24	⇑SKP	SKPbc	05 45 45.8	+0.2	
	baz=134							
T19A	Beclabito	134.51	33	⇓SKP	SKPbc	05 45 45.8	-0.1	
	baz=134							
MVCO	Mesa Verde	134.51	32	⇓SKP	SKPbc	05 45 45.9	-0.1	
	baz=134,SNR=6.5							
S21A	Coal Bank Pass	134.54	31	⇓P	PKPdf	05 42 28.1	-0.5	
	baz=134							
S21A				⇓SKP	SKPbc	05 45 46.5	+0.3	
	baz=134,SNR=18							
R22A	Saguache, Gunn	134.64	30	⇑SKP	SKPbc	05 45 47.0	+0.5	
	baz=134,SNR=5.3							
V18A	Ganado	134.81	35	⇑SKP	SKPbc	05 45 47.0	0.0	
	baz=135,SNR=9.6							
X16A	Lo Mia Camp, P	134.81	37	⇓SKP	SKPbc	05 45 47.4	+0.4	
	baz=135,SNR=8.7							
P25A	Willow Gulch B	134.84	26	⇑SKP	SKPbc	05 45 45.7	-1.2	
	baz=135							
O27A	Beecher Island	135.00	24	⇑SKP	SKPbc	05 45 46.4	-0.9	
	baz=135							
114A	Black Gap (USA	135.00	40	⇓SKP	SKPbc	05 45 47.9	+0.5	
	baz=135,SNR=5.1							
R23A	Moffat	135.12	29	⇓SKP	SKPbc	05 45 46.9	-1.1	
	baz=135							
T21A	Navajo Lake	135.18	32	⇓SKP	SKPbc	05 45 49.2	+1.1	
	baz=135							
V19A	Window Rock	135.31	34	⇑SKP	SKPbc	05 45 49.4	+0.8	
	baz=135,SNR=5.2							
R24A	Sanders Place,	135.44	28	⇑SKP	SKPbc	05 45 48.7	-0.2	
	baz=135							
T22A	Edith	135.50	31	⇓SKP	SKPbc	05 45 49.7	+0.6	
	baz=135,SNR=5.5							
U21A	Nageezi	135.54	32	⇓SKP	SKPbc	05 45 50.0	+0.7	
	baz=135,SNR=9.1							
214A	Organ Pipe Nat	135.56	41	⇑SKP	SKPbc	05 45 48.7	-0.5	
	baz=135							
BGNE	Belgrade	135.56	20	⇓SKP	SKPbc	05 45 47.5	-1.4	
	baz=135							
Q26A	Hugo	135.61	26	⇑SKP	SKPbc	05 45 47.8	-1.5	
	baz=135							
T23A	Casias Ranch,	135.92	30	⇓SKP	SKPbc	05 45 49.9	-0.6	
	baz=136							
KSCO	Kaye Shedlock'	135.93	25	⇑SKP	SKPbc	05 45 50.3	0.0	
	baz=136							
W20A	Ramah	136.04	34	⇓SKP	SKPbc	05 45 50.4	-0.4	
	baz=136							
X19A	St. Johns	136.09	36	⇓P	PKPdf	05 42 32.2	+0.7	
	baz=136							
X19A				⇓SKP	SKPbc	05 45 51.2	+0.2	
	baz=136,SNR=6.2							
Y18A	Canyon Day Jun	136.10	37	⇓SKP	SKPbc	05 45 50.9	-0.1	
	baz=136,SNR=5.8							
R26A	Arlington	136.15	27	⇑SKP	SKPbc	05 45 50.7	-0.3	
	baz=136							
V22A	San Miguel Ran	136.33	32	⇑SKP	SKPbc	05 45 51.6	-0.1	
	baz=136							
Y19A	Nutrioso	136.44	36	⇓SKP	SKPbc	05 45 52.7	+0.5	
	baz=136							
R27A	Eads	136.45	26	⇓SKP	SKPbc	05 45 51.3	-0.6	
	baz=136							
X20A	Quemado	136.46	35	⇓SKP	SKPbc	05 45 52.4	+0.3	
	baz=136							
T25A	Trinidad	136.64	29	⇑SKP	SKPbc	05 45 52.1	-0.5	
	baz=136							
S26A	Kim	136.69	27	⇑SKP	SKPbc	05 45 51.9	-0.7	
	baz=136							
V23A	Ortiz Mt. (NFS	136.84	32	⇓SKP	SKPbc	05 45 54.3	+1.0	
	baz=137							
X21A	Alamocita Cree	136.94	34	⇑SKP	SKPbc	05 45 53.4	-0.2	
	baz=137							
U25A	Circle Dot Ran	137.23	29	⇑SKP	SKPbc	05 45 54.4	0.0	
	baz=137							
ANMO	Albuquerque	137.29	33	ePKIKP	PKPdf	05 42 34.6	+0.9	
ANMO	Albuquerque	137.29	33	ePKPdf	PKPdf	05 42 34.6	+0.9	
W23A	Werner Place,	137.30	32	⇑SKP	SKPbc	05 45 53.5	-1.1	
	baz=137							
Y21A	Point of Rocks	137.32	35	⇑SKP	SKPbc	05 45 55.5	+0.7	
	baz=137							
T27A	Campo	137.50	27	⇓SKP	SKPbc	05 45 54.4	-0.6	
	baz=137							
U26A	Atchey Ranch,	137.56	29	⇓SKP	SKPbc	05 45 55.1	-0.2	
	baz=137							
V25A	Rancho No Teng	137.57	30	⇓SKP	SKPbc	05 45 55.1	-0.3	
	baz=137							
W24A	Lazy 6 Ranch,	137.65	31	⇓SKP	SKPbc	05 45 54.9	-0.7	
	baz=138							
Y22A	Socorro	137.77	34	⇓SKP	SKPbc	05 45 55.9	0.0	
	baz=138							
120A	U Bar Ranch, L	137.80	37	⇓SKP	SKPbc	05 45 55.8	-0.3	
	baz=138							
Z21A	St. Cloud Mine	137.83	35	⇑SKP	SKPbc	05 45 57.1	+0.9	
	baz=138							
W25A	X Bar L Ranch,	138.13	30	⇑SKP	SKPbc	05 45 56.4	-0.5	
	baz=138							
Z22A	Elephant Butte	138.27	35	⇓SKP	SKPbc	05 45 57.4	0.0	
	baz=138							
Y23A	Lovelace Mesa,	138.28	33	⇑SKP	SKPbc	05 45 56.5	-1.0	
	baz=138							
220A	Pisgah Peak, P	138.31	38	⇑SKP	SKPbc	05 45 57.6	+0.1	
	baz=138							
121A	Cookes Peak, D	138.31	36	⇑SKP	SKPbc	05 45 57.5	0.0	
	baz=138							
X25A	Clemmons Ranch	138.57	31	⇑SKP	SKPbc	05 45 56.5	-1.7	
	baz=138							
Y24A	Capitan	138.62	33	⇑P	PKPdf	05 42 36.4	+0.3	
	baz=138							
Y24A				⇑SKP	SKPbc	05 45 57.8	-0.6	
	baz=138							
PLCA	Paso Flores	138.62	191	PKP	PKPdf	05 42 35.4	-0.4	
	comp=Z,0.7nm,0.3s,baz=202,slow=3.7,SNR=4.6							
PLCA				SKPbc	SKPbc	05 45 59.4	+1.4	
	comp=Z,1.2nm,0.6s,baz=141,slow=4.5,SNR=6.3							
PLCA	Paso Flores	138.62	191	PKIKP	PKPdf	05 42 35.4	-0.4	
PLCA	Paso Flores	138.62	191	PKP	PKPdf	05 42 35.4	-0.4	
PLCA				SKPbc	SKPbc	05 45 59.4	+1.4	
122A	Conniff Cattle	138.65	35	⇓SKP	SKPbc	05 45 58.2	-0.3	
	baz=138							
320A	Kipp Ranch, An	138.70	38	⇑SKP	SKPbc	05 45 58.8	+0.2	
	baz=138							
W27A	Bowe Ranch, En	138.95	29	⇑P	PKPdf	05 42 36.4	-0.2	
	baz=139							
W27A				⇓SKP	SKPbc	05 45 58.4	-0.8	
	baz=139							
X26A	CR and CF Fran	138.99	30	⇓SKP	SKPbc	05 45 58.2	-1.1	
	baz=139							
Y25A	Mesa, Roswell	139.02	32	⇓SKP	SKPbc	05 45 58.2	-1.3	
	baz=139							
222A	Williams Famil	139.03	36	⇑SKP	SKPbc	05 45 59.1	-0.4	
	baz=139							
Z24A	Sheeppen Canyo	139.11	33	⇓SKP	SKPbc	05 45 59.3	-0.5	
	baz=139							
SFIN	Scholer Farm	139.22	8	⇓P	PKPdf	05 42 36.4	-0.3	
	baz=139							
Y26A	Elida	139.47	31	⇑SKP	SKPbc	05 45 59.7	-1.0	
	baz=139							
Z25A	Roswell	139.50	33	⇓SKP	SKPbc	05 46 01.1	+0.3	
	baz=139							
124A	Stringfield Ra	139.53	34	⇑SKP	SKPbc	05 46 01.2	+0.2	
	baz=139							
Y27A	Causey	139.84	30	⇑SKP	SKPbc	05 46 00.5	-1.1	
	baz=140							
Z26A	Caprock	139.90	32	⇓SKP	SKPbc	05 46 00.8	-1.0	
	baz=140							
224A	Cornudas Mount	139.96	35	⇓SKP	SKPbc	05 46 01.4	-0.7	
	baz=140							
MSTX	Muleshoe	139.97	30	⇓P	PKPdf	05 42 37.7	-0.8	
	baz=140							
MSTX				⇑SKP	SKPbc	05 46 01.4	-0.6	
	baz=140							
X29A	Tulia	140.11	28	⇑P	PKPdf	05 42 38.9	+0.2	
	baz=140							
Z27A	Tatum	140.26	31	⇑SKP	SKPbc	05 46 01.6	-1.2	
	baz=140							
MNTX	Cornudas Mount	140.32	35	⇓P	PKPdf	05 42 35.4	-3.6	
	baz=140							
MNTX				⇓P	PKPdf	05 42 35.4	-3.6	
	baz=140							
MNTX				⇓SKP		05 46 01.5		
	baz=140							
MNTX				⇓SKP		05 46 01.5		
	baz=140							
126A	Clayton Basin,	140.36	33	⇑SKP	SKPbc	05 46 01.5	-1.5	
	baz=140							
324A	Moseley Ranch,	140.45	35	⇓SKP	SKPbc	05 46 02.6	-0.8	
	baz=140							
127A	Arkansas Junct	140.69	32	⇑P	PKPdf	05 42 34.5	-5.3	
	baz=140							
127A				⇓SKP	SKPbc	05 46 03.9	-0.1	
	baz=140							
226A	Malaga, Loving	140.76	33	⇓SKP	SKPbc	05 46 03.6	-0.5	
	baz=141							
325A	Bean Ranch, Si	140.80	35	⇑SKP	SKPbc	05 46 03.4	-0.9	
	baz=141							
WMOK	Wichita Mounta	141.18	25	ePKHKP	PKPpre	05 42 34.3		
WMOK	Wichita Mounta	141.18	25	ePKPdf	PKPpre	05 42 34.3		
425A	Indio Mountain	141.22	35	⇑SKP	SKPbc	05 46 04.7	-0.7	
	baz=141							
TUL1	Tulsa	141.31	21	⇑SKP	SKPbc	05 46 04.2	-1.0	
	baz=141							
326A	Caldwell Ranch	141.40	34	⇑P	PKPdf	05 42 37.8	-3.3	
	baz=141							
326A				⇓SKP	SKPbc	05 46 04.7	-1.1	
	baz=141							
426A	McDonald Obser	141.86	35	⇓SKP	SKPbc	05 46 06.3	-0.9	
	baz=142							
328A	Wristen Ranch,	141.99	33	⇓SKP	SKPbc	05 46 06.3	-0.9	
	baz=142							
427A	Hayter Ranch,	142.07	34	⇓SKP	SKPbc	05 46 07.1	-0.4	
	baz=142							
526A	Mary Lane Ranc	142.28	35	⇑SKP	SKPbc	05 46 07.5	-0.6	
	baz=142							
527A	Woodward Ranch	142.49	35	⇓P	PKPdf	05 42 39.9	-3.2	
	baz=142							
527A				⇓SKP	SKPbc	05 46 08.0	-0.7	
	baz=142							
428A	Kincaid Ranch,	142.56	33	⇓SKP	SKPbc	05 46 08.3	-0.4	
	baz=142							
626A	Big Bend Ranch	142.62	36	⇓P	PKPdf	05 42 40.1	-3.2	
	baz=142							
626A				⇑SKP	SKPbc	05 46 08.0	-0.9	
	baz=142							
528A	Cox Ranch, San	142.94	34	⇓SKP	SKPbc	05 46 09.6	-0.1	
	baz=143							
TXAR	Lajitas Array	143.06	36	PKP	PKPbc	05 42 41.3	0.0	
	comp=Z,3.1nm,0.7s,baz=231,slow=0.5,SNR=57							
TXAR				SKPbc	SKPbc	05 46 08.9	-1.0	
	comp=Z,3.2nm,0.7s,baz=351,slow=0.4,SNR=13							
TXAR	Lajitas Array	143.06	36	PKIKP	PKPbc	05 42 41.3	0.0	
TXAR	Lajitas Array	143.06	36	PKP	PKPbc	05 42 41.3	0.0	
TXAR				SKPbc	SKPbc	05 46 08.9	-1.0	
627A	Terlingua Ranc	143.13	35	⇓P	PKPbc	05 42 41.4	-0.1	
	baz=143							
627A				⇑SKP	SKPbc	05 46 09.5	-0.7	
	baz=143							
WVT	Waverly	143.26	11	ePKIKP	PKPbc	05 42 41.1	-0.3	
WVT	Waverly	143.26	11	ePKPdf	PKPbc	05 42 41.1	-0.3	
MIAR	Mount Ida	143.30	19	ePKIKP	PKPbc	05 42 41.6	0.0	
MIAR	Mount Ida	143.30	19	ePKPdf	PKPbc	05 42 41.6	-0.1	
628A	Black Gap, Mar	143.39	35	⇑P	PKPbc	05 42 42.2	+0.1	
	baz=143							
628A				⇑SKP	SKPbc	05 46 09.8	-0.9	
	baz=143							
TZTN	Tazewell	143.42	5	ePKPdf	PKPbc	05 42 42.3	+0.4	
JCT	Junction City	144.26	30	ePKIKP	PKPab	05 42 44.5	+0.2	
JCT	Junction City	144.26	30	ePKPdf	PKPab	05 42 44.5	+0.2	
JCT	Junction City	144.26	30	⇓P	PKPab	05 42 44.2	-0.1	
	baz=144							
JCT				⇓SKP	SKPbc	05 46 11.6	-1.2	
	baz=144							
TKL	Tuckaleechee C	144.28	5	PKP	PKPab

4.4nm,0.5s,baz=94,slow=19,SNR=7.2
WRA Warramunga Arr 40.06 199 P P 06 03 23.9 -0.3
1.4nm,0.8s,baz=19,slow=9.0,SNR=8.2
ASAR Alice Springs 43.70 198 P P 06 03 54.4 +0.4
0.6nm,0.6s,baz=16,slow=9.0,SNR=12
SONM Songino Array 44.26 321 P P 06 03 58.0 -0.4
0.3nm,0.5s,baz=131,slow=10,SNR=3.2
ZALV Zalesovo Beam 59.12 322 P P 06 05 49.0 -0.1
0.9nm,0.6s,baz=113,slow=6.8,SNR=5.2
MKAR Makanchi Array 59.68 314 P P 06 05 53.4 +0.1
0.2nm,0.6s,baz=82,slow=10,SNR=2.6
YKA Yellowknife Ar 77.67 28 P P 06 07 45.3 +0.1
0.1nm,0.7s,baz=289,slow=5.9,SNR=3.3

IDC 26 06:57:17.6±1.6, 27°.08N×88°.47E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, Error ellipse: s-maj=71.5km s-min=20.3km az=64.0, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTK	**Gangtok**	**0.28**	**28**	*e*PG	Pg	06 57 17.5	-5.9
GTK				*e*SG	Sg	06 57 19.0	-8.4
SHL	**Shillong**	**3.42**	**115**	*e*P	Pn	06 58 13.0	+0.5
SHL				*e*S	Sb	06 58 59.0	-2.7
MKAR	**Makanchi Array**	**20.27**	**348**	P	P	07 01 55.5	+0.7
	0.5nm,0.6s,baz=170,slow=9.6,SNR=8.8						
KURK	**Kurchatov**	**24.77**	**345**	P	P	07 02 40.2	-0.7
	0.5nm,0.5s,baz=167,slow=8.6,SNR=7.1						
SONM	**Songino Array**	**25.02**	**29**	P	P	07 02 43.4	-0.1
	0.3nm,0.7s,baz=213,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**55.50**	**338**	P	P	07 06 53.6	-0.4
	3.7nm,1.1s,baz=100,slow=8.1,SNR=5.6						
WRA	**Warramunga Array**	**64.50**	**132**	P	P	07 07 56.8	+0.2
	0.3nm,0.4s,baz=324,slow=6.9,SNR=2.3						
ASAR	**Alice Springs**	**66.87**	**135**	P	P	07 08 11.6	-0.2
	0.5nm,1.0s,baz=322,slow=5.9,SNR=2.8						

*IDC **26** 07:11:08.0±0.8, 17°.92S×172°.90W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.3/20, mbtmp4.1/10, ML2.4/1, Error ellipse: s-maj=40.0km s-min=18.3km az=146.0*
*NEIC **26** 07:11:10.2±0.6, 17°.75S×173°.00W, h10km, mb4.8/5, Error ellipse: s-maj=24.6km s-min=10.4km az=134.0*
ISC 26 07:11:13.1±0.7, 17°.5S±0°.1×173°.0W±0°.2, h28km, n36, σ1§86/38, mb4.4/14, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.77**	**19**	Pn	**Pn**	**07 12 11.4**	**+1.9**
	13nm,0.3s,baz=32,slow=3.8,SNR=9.8						
AFI				Sn	**Sn**	**07 12 48.5**	**-4.5**
	32nm,0.3s,baz=23,slow=23,SNR=6.6						
AFI	**Afiamalu**	**3.77**	**19**	Pn	**Pn**	**07 12 11.4**	**+1.9**
AFI				Sn	**Sn**	**07 12 48.5**	**-4.5**
URZ	**Urewera**	**22.41**	**201**	*e*P	**P**	**07 16 08.0**	**-1.4**
	38nm,0.9s						
STKA	**Stephens Creek**	**43.33**	**242**	P	**P**	**07 19 12.7**	**-0.2**
	0.6nm,0.5s,baz=60,slow=16,SNR=4.8						
STKA	**Stephens Creek**	**43.33**	**242**	P	**P**	**07 19 12.7**	**-0.2**
WB2	**Warramunga Arr**	**49.73**	**258**	*e*P	**P**	**07 20 02.8**	**-0.5**
WRAB	**Tennant Creek**	**49.73**	**258**	*e*P	**P**	**07 20 02.4**	**-0.9**
	3.8nm,0.5s						
WRA	**Warramunga Arr**	**49.74**	**258**	P	**P**	**07 20 02.2**	**-1.2**
	3.9nm,0.5s,baz=98,slow=6.7,SNR=61						
WRA	**Warramunga Arr**	**49.74**	**258**	P	**P**	**07 20 02.2**	**-1.2**
AS31	**Alice Springs**	**49.83**	**254**	*e*P	**P**	**07 20 03.0**	**-1.0**
ASAR	**Alice Springs**	**49.83**	**254**	P	**P**	**07 20 01.1**	**-2.9**
	9.8nm,0.6s,baz=90,slow=8.7,SNR=44						
ASAR	**Alice Springs**	**49.83**	**254**	P	**P**	**07 20 01.1**	**-2.9**
NVAR	**Mina Array Bea**	**75.65**	**41**	P	**P**	**07 22 57.4**	**+1.3**
	2.1nm,0.8s,baz=227,slow=10,SNR=9.2						
NVAR	**Mina Array Bea**	**75.65**	**41**	P	**P**	**07 22 57.4**	**+1.3**
KSRS	**Korea Array**	**77.91**	**316**	P	P	07 23 11.5	+3.0
	3.5nm,1.1s,baz=128,slow=5.6,SNR=4.6						
KSAR	**Wonju Array Be**	**77.92**	**316**	P	P	07 23 11.5	+2.9
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**07 23 26.7**	**-1.6**
	0.8nm,1.0s,baz=218,slow=7.9,SNR=7.1						
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**07 23 26.7**	**-1.6**
GDL2	**Guadalupe Mount**	**82.19**	**53**	*e*P	**P**	**07 23 31.6**	**-0.4**
	5.1nm,1.0s						
PDAR	**Pinedale Array**	**83.59**	**42**	P	**P**	**07 23 39.5**	**+0.3**
	1.1nm,0.9s,baz=238,slow=2.8,SNR=8.3						
PDAR	**Pinedale Array**	**83.59**	**42**	P	**P**	**07 23 39.5**	**+0.3**
COLA	**College**	**84.35**	**11**	*e*P	**P**	**07 23 43.7**	**+1.6**
	11nm,1.0s						
ILAR	**Eielson Array**	**84.43**	**11**	P	**P**	**07 23 44.1**	**+1.6**
	1.8nm,1.0s,baz=221,slow=6.0,SNR=17						
ILAR	**Eielson Array**	**84.43**	**11**	P	**P**	**07 23 44.1**	**+1.6**
BILL	**Bilibino**	**86.63**	**352**	*e*P	**P**	**07 23 55.9**	**+2.5**
	8.2nm,1.1s						
YKA	**Yellowknife Ar**	**91.88**	**23**	P	**P**	**07 24 19.2**	**+1.0**
	0.4nm,0.8s,baz=238,slow=3.7,SNR=7.4						
YKA	**Yellowknife Ar**	**91.88**	**23**	P	**P**	**07 24 19.2**	**+1.0**
ARCES	**ARCESS Array B**	**126.73**	**352**	PKP	**PKPdf**	**07 30 13.3**	**0.0**
	0.9nm,0.7s,baz=92,slow=3.6,SNR=5.7						
ARCES	**ARCESS Array B**	**126.73**	**352**	PKP	**PKPdf**	**07 30 13.3**	**0.0**
CLL	**Collm**	**145.93**	**353**	⇓*i*PKPbc	**PKPab**	**07 30 52.3**	**+1.9**
	comp=Z,15nm,1.1s						
CLL				⇓*i*(pPKPbc)		07 31 01.4	
	comp=Z,33nm,1.3s						
CLL				*e*		07 31 14.0	
BRG	**Berggiesshubel**	**146.25**	**352**	*e*P	**PKPab**	**07 30 53.2**	**+1.6**
	comp=Z,6.8nm,1.1s						
BRG				*e*		07 31 03.0	
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**148.00**	**352**	*e*PKPab	**PKPab**	**07 31 00.0**	**+1.4**
GERES	**GERESS Array B**	**148.26**	**352**	PKPbc	**PKPab**	**07 30 58.0**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=343,slow=4.2,SNR=5.6						
GERES	**GERESS Array B**	**148.26**	**352**	PKPbc	**PKPab**	**07 30 58.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**173.31**	**130**	PKP	**PKPdf**	**07 31 21.7**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=272,slow=0.4,SNR=2.6						
TORD				PKPab	**PKPab**	**07 32 46.7**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=261,slow=3.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**173.31**	**130**	PKP	**PKPdf**	**07 31 21.7**	**+1.0**
TORD				PKPab	**PKPab**	**07 32 46.7**	**-2.1**

IDC 26 07:24:18.9±1.3, 30°.76N×67°.76E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/28, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=39.2km s-min=25.7km az=124.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.56**	**31**	P	P	07 28 47.4	-0.9
	0.2nm,0.3s,baz=211,slow=10,SNR=13						
KURK	**Kurchatov**	**21.52**	**19**	P	P	07 29 08.6	-0.8
	0.6nm,0.6s,baz=208,slow=9.8,SNR=6.3						
BVAR	**Borovoye Array**	**22.33**	**4**	P	P	07 29 16.6	-1.5
	0.7nm,0.7s,baz=187,slow=10.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**26.24**	**23**	P	P	07 29 56.1	+0.7
	1.2nm,0.4s,baz=227,slow=11,SNR=7.7						
TORD	**Torodi Ar. Bea**	**62.92**	**270**	P	P	07 34 47.2	-0.2
	0.5nm,0.8s,baz=81,slow=4.2,SNR=2.9						
ASAR	**Alice Springs**	**83.33**	**122**	P	P	07 36 47.7	-0.3
	0.2nm,0.7s,baz=311,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**87.06**	**1**	P	P	07 37 07.1	+1.0
	0.3nm,0.8s,baz=354,slow=5.0,SNR=3.0						

*ISCJB **26** 07:39:12.6±1.2, 43°.99N±0°.09×82°.37E±0°.09, h33km, Error ellipse: s-maj=13.7km s-min=7.5km az=31.9*
*NNC **26** 07:39:13.8±5.3, 43°.98N×82°.08E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=49.8km s-min=27.3km az=122.0*
ISC 26 07:39:14.6±1.4, 43°.9N±0°.1×82°.41E±0°.08, h35km, n6, σ1§85/6, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.88**	**358**	⇑Pn	Pn	07 40 02.2	+4.2
	1.9nm,0.2s,baz=175,slow=16,SNR=18						
MK31				⇑Lg	Lg	07 40 46.5	
	7.3nm,0.3s,baz=175,slow=29,SNR=21						
WMQ	**Urumqi**	**3.82**	**90**	Pn	**Pn**	**07 40 09.5**	**-1.5**
WMQ				Sg	**Sn**	**07 40 57.0**	**+2.2**
WMQ				*s*max	*s*max		
	comp=N,32nm,0.4s						
WMQ				*s*max	*s*max		
	comp=E,35nm,0.6s						
TKM2	**Tokmak 2**	**5.06**	**261**	⇑Pn	**Pn**	**07 40 28.5**	**+0.3**
	comp=E,4.4nm,0.8s						
TKM2				⇓Lg	Lg	07 41 43.8	
	comp=E,22nm,0.6s						
KURBB	**Kurchatov Arra**	**7.21**	**340**	Sn	**Sn**	**07 42 19.4**	**+1.5**
	comp=E,0.4nm,0.5s						
KURK	**Kurchatov**	**7.27**	**341**	⇑Pn	**Pn**	**07 40 58.0**	**-0.2**
	comp=E,1.0nm,0.4s						
KURK				⇑Sn	**Sn**	**07 42 18.7**	**-0.7**
	comp=E,1.6nm,0.5s						
KURK				⇑Lg	Lg	07 42 58.0	
	comp=E,16nm,0.9s						
KK31	**Karatay Array**	**8.69**	**269**	⇓Lg	Lg	07 43 42.0	
	comp=E,4.1nm,0.7s,baz=72,slow=28,SNR=5.0						

IDC 26 07:49:08.5±1.3, 13°.65N×121°.19E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=60.8km s-min=20.0km az=60.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.90**	**286**	P	P	07 54 04.9	+1.4
	1.0nm,0.4s,baz=95,slow=8.5,SNR=5.6						
WRA	**Warramunga Arr**	**35.81**	**159**	P	P	07 56 09.3	-0.5
	0.3nm,0.4s,baz=330,slow=10,SNR=5.7						
SONM	**Songino Array**	**36.24**	**343**	P	P	07 56 13.8	+0.3
	0.2nm,0.6s,baz=157,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**39.12**	**161**	P	P	07 56 38.1	+0.2
	0.5nm,0.5s,baz=336,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**46.35**	**323**	P	P	07 57 35.2	-1.3
	0.3nm,0.8s,baz=142,slow=7.3,SNR=3.7						

*NEIC **26** 08:31:03.0±0.6, 17°.47S×173°.11W, h10km, mb4.7/7, Error ellipse: s-maj=26.4km s-min=9.9km az=140.0*
*IDC **26** 08:31:02.7±0.8, 17°.07S×173°.30W, h0km, mb4.2/11, mb1 4.5/12, mb1mx4.3/22, mbtmp4.2/12, ML1.9/1, MS3.7/5, Ms1 3.8/5, ms1mx3.4/35, Error ellipse: s-maj=44.1km s-min=15.1km az=138.0*
ISC 26 08:31:06.0±0.8, 17°.3S±0°.1×173°.1W±0°.2, h28km, n49, σ1§37/41, mb4.3/19, MS3.9/3, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.64**	**21**	Pn	**Pn**	**08 31 58.2**	**-2.3**
	6.4nm,0.3s,baz=45,slow=1.4,SNR=6.4						
AFI				LR	LR	08 32 37.5	
	comp=Z,344nm,20.4s,baz=112,slow=27						
AFI				Sn	**Sn**	**08 32 41.8**	**-0.8**
	24nm,0.3s,baz=18,slow=23,SNR=8.5						
AFI	**Afiamalu**	**3.64**	**21**	Pn	**Pn**	**08 31 58.2**	**-2.3**
AFI				Sn	**Sn**	**08 32 41.8**	**-0.8**
RAR	**Rarotonga**	**13.19**	**109**	LR	LR	08 38 27.7	
	comp=Z,292nm,18.2s,baz=60,slow=33						
DZM	**Mont Dzumac**	**19.80**	**253**	*e*LR	LR	08 40 47.1	
	138nm,26.2s						
PPT2	**Papeete2**	**22.47**	**94**	*e*LR	LR	08 40 50.4	
	156nm,26.0s						
URZ	**Urewera**	**22.54**	**200**	*e*P	**P**	**08 35 59.7**	**-4.1**
	44nm,1.0s						
TBI	**Tubuai**	**22.97**	**109**	*e*LR	LR	08 41 20.6	
	165nm,28.2s						
RPZ	**Rata Peaks**	**29.52**	**204**	P	P	08 37 11.5	+3.5
	6.4nm,0.6s,baz=315,slow=4.9,SNR=6.6						
RPZ	**Rata Peaks**	**29.52**	**204**	P	P	08 37 11.4	+3.5
CTAO	**Charters Tower**	**38.51**	**259**	*e*P	**P**	**08 38 25.4**	**-0.8**
	6.9nm,0.8s						
COEN	**Coen**	**42.15**	**268**	*e*P	**P**	**08 38 56.8**	**+0.4**
	18nm,0.6s						
STKA	**Stephens Creek**	**43.33**	**242**	P	**P**	**08 39 07.6**	**+1.8**
	1.9nm,0.6s,baz=105,slow=8.7,SNR=5.9						
STKA	**Stephens Creek**	**43.33**	**242**	P	**P**	**08 39 07.6**	**+1.8**
WB2	**Warramunga Arr**	**49.67**	**258**	*e*P	**P**	**08 39 54.9**	**-0.8**
WRAB	**Tennant Creek**	**49.68**	**258**	*e*P	**P**	**08 39 54.6**	**-1.1**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**49.69**	**258**	P	**P**	**08 39 55.0**	**-0.8**
	5.3nm,0.4s,baz=97,slow=6.6,SNR=31						
WRA	**Warramunga Arr**	**49.69**	**258**	P	**P**	**08 39 55.0**	**-0.8**
AS31	**Alice Springs**	**49.79**	**253**	*e*P	**P**	**08 39 55.5**	**-1.1**
ASAR	**Alice Springs**	**49.79**	**253**	P	**P**	**08 39 55.3**	**-1.3**
	9.2nm,0.5s,baz=90,slow=9.1,SNR=171						
ASAR	**Alice Springs**	**49.79**	**253**	P	**P**	**08 39 55.3**	**-1.3**
CBIJ	**Chichi jima**	**61.88**	**315**	LR	LR	09 07 51.4	
	comp=Z,67nm,18.1s,baz=131,slow=36						
NWAO	**Narrogin (SRO)**	**63.92**	**241**	LR	LR	09 06 38.4	
	comp=Z,72nm,18.5s,baz=0.7,slow=33						
NVAR	**Mina Array Bea**	**75.58**	**42**	P	**P**	**08 42 49.2**	**+0.6**
	2.3nm,0.7s,baz=225,slow=11,SNR=13						
NVAR				LR	LR	09 12 45.1	
	comp=Z,114nm,18.8s,baz=111,slow=33						
NVAR	**Mina Array Bea**	**75.58**	**42**	P	**P**	**08 42 49.2**	**+0.6**
KSRS	**Korea Array**	**77.71**	**316**	P	P	08 43 04.7	+4.5
	2.9nm,1.1s,baz=132,slow=3.8,SNR=4.8						
KSAR	**Wonju Array Be**	**77.73**	**316**	P	P	08 43 04.7	+4.4
ELK	**Elko**	**78.85**	**41**	P	**P**	**08 43 06.7**	**-0.2**
	1.1nm,0.9s,baz=252,slow=9.0,SNR=4.3						
ELK	**Elko**	**78.85**	**41**	P	**P**	**08 43 06.7**	**-0.2**
TXAR	**Lajitas Array**	**81.47**	**56**	P	**P**	**08 43 21.5**	**+0.5**
	0.8nm,0.8s,baz=217,slow=8.0,SNR=9.9						
TXAR	**Lajitas Array**	**81.47**	**56**	P	**P**	**08 43 21.5**	**+0.5**
ANMO	**Albuquerque**	**81.84**	**50**	P	**P**	**08 43 23.3**	**+0.3**
	0.3nm,0.3s,baz=214,slow=4.7,SNR=6.0						
ANMO	**Albuquerque**	**81.84**	**50**	P	**P**	**08 43 23.3**	**+0.3**
MCMT	**McKenzie Canyo**	**82.59**	**39**	*e*P	**P**	**08 43 28.3**	**+1.5**
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**83.52**	**42**	P	**P**	**08 43 31.9**	**+0.3**
	1.3nm,0.8s,baz=209,slow=3.9,SNR=10						
PDAR	**Pinedale Array**	**83.52**	**42**	P	**P**	**08 43 31.9**	**+0.3**
COLA	**College**	**84.20**	**11**	*e*P	**P**	**08 43 36.4**	**+2.2**
	14nm,1.1s						
HRY	**Holter Researc**	**84.21**	**37**	*e*P	**P**	**08 43 35.1**	**+0.2**
	2.8nm,0.8s						
ILAR	**Eielson Array**	**84.28**	**11**	P	**P**	**08 43 36.2**	**+1.5**
	0.8nm,0.7s,baz=231,slow=6.0,SNR=13						
ILAR	**Eielson Array**	**84.28**	**11**	P	**P**	**08 43 36.2**	**+1.5**
YKA	**Yellowknife Ar**	**91.75**	**23**	P	**P**	**08 44 11.7**	**+1.1**
	0.5nm,0.8s,baz=232,slow=4.2,SNR=12						
YKA	**Yellowknife Ar**	**91.75**	**23**	P	**P**	**08 44 11.7**	**+1.1**
ARCES	**ARCESS Array B**	**126.54**	**352**	PKP	**PKPdf**	**08 50 06.9**	**+1.0**
	2.3nm,0.9s,baz=348,slow=1.7,SNR=5.4						
ARCES	**ARCESS Array B**	**126.54**	**352**	PKP	**PKPdf**	**08 50 06.9**	**+1.0**
KMBO	**Kilima Mbogo**	**144.89**	**242**	*e*PKPdf	**PKPdf**	**08 50 41.3**	**-0.5**
CLL	**Collm**	**145.75**	**353**	⇑*i*PKPbc	**PKPab**	**08 50 44.2**	**+1.7**
	comp=Z,13nm,1.1s						
CLL				⇓*i*(pPKPbc)		08 50 53.8	
	comp=Z,22nm,1.0s						
CLL				*e*		08 51 00.0	
BRG	**Berggiesshubel**	**146.06**	**352**	*e*P	**PKPab**	**08 50 45.5**	**+1.7**
	comp=Z,12nm,1.3s						
BRG				*e*		08 50 55.3	
	comp=Z,14nm,1.2s						
KHC	**Kasperske Hory**	**147.81**	**352**	*e*PKPab	**PKPab**	**08 50 50.5**	**-0.2**
GERES	**GERESS Array B**	**148.07**	**351**	PKPbc	**PKPab**	**08 50 50.4**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=29,slow=3.0,SNR=6.4						
GERES	**GERESS Array B**	**148.07**	**351**	PKPbc	**PKPab**	**08 50 50.4**	**-1.4**

*DJA **26** 08:42:31, 1°.70N×126°.34E, h10km, MLv3.8/5*
IDC 26 08:42:24.9±2.0, 1°.97N×126°.78E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=175.0km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.00**	**162**	P	P	08 47 31.7	+0.1
	1.1nm,0.4s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.41**	**165**	P	P	08 48 03.5	+0.1
	0.8nm,0.8s,baz=344,slow=11,SNR=8.4						
JNU	**Nakatsue**	**31.23**	**7**	LR	LR	09 01 44.4	
	comp=Z,43nm,18.4s,baz=72,slow=37						
MKAR	**Makanchi Array**	**59.03**	**326**	P	P	08 52 26.6	-0.1
	0.3nm,0.5s,baz=121,slow=7.9,SNR=14						

*IDC **26** 08:48:06.5±0.7, 7°.16N×127°.18E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/28, Error ellipse: s-maj=21.1km s-min=18.5km az=72.0*
*ISCJB **26** 08:48:07.2±0.6, 7°.06N±0°.09×127°.27E±0°.05, h10km, mb3.8/8, MS2.9/1, Error ellipse: s-maj=13.1km s-min=7.0km az=16.3*
*MAN **26** 08:48:10, 7°.05N×126°.99E, h6km, mb4.6, ML3.5, MS3.5*
ISC 26 08:48:08.1±0.7, 7°.13N±0°.08×127°.12E±0°.06, h10km, n19, σ1§33/21, mb3.8/8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.88**	**258**	*e*P	**Pb**	**08 48 25.1**	**-0.4**
DAV	**Davao City (W)**	**1.54**	**268**	Pn	**Pg**	**08 48 37.9**	**+0.3**
	233nm,0.3s,baz=102,slow=1.9,SNR=14						
DAV				Sn	**Sg**	**08 48 58.9**	**+1.4**
	198nm,0.3s,baz=81,slow=23,SNR=9.3						
DMPH	**Davao City--Mi**	**1.60**	**269**	⇓*e*P	**Pg**	**08 48 38.6**	**-0.3**
BUKP	**Musuan**	**2.18**	**290**	*e*P	**Pb**	**08 48 47.0**	**-0.7**
BUTP	**Butuan**	**2.36**	**321**	*e*P	**Pb**	**08 48 51.4**	**+0.7**
CGP	**Cagayan de Oro**	**2.75**	**299**	*e*P	**Pn**	**08 48 54.4**	**+2.2**
CGP				*i* S	**Sb**	**08 49 28.3**	**-2.8**
CTBH	**Cotabato--PC H**	**2.86**	**272**	⇑*i*P	**Pn**	**08 48 55.5**	**+1.7**
PAGZ	**Pagadian**	**3.78**	**281**	*e*P	**Pn**	**08 49 08.8**	**+2.3**
WRA	**Warramunga Arr**	**27.82**	**165**	P	**P**	**08 53 57.6**	**-0.2**
	0.3nm,0.3s,baz=343,slow=10,SNR=5.3						
PSI	**Prapat**	**28.41**	**263**	LR	LR	09 06 52.1	
	comp=Z,31nm,18.9s,baz=338,slow=40						
ASAR	**Alice Springs**	**31.31**	**168**	P	**P**	**08 54 28.8**	**0.0**
	0.4nm,0.4s,baz=344,slow=7.3,SNR=16						
ASAR				PcP	**PcP**	**08 57 22.6**	**-0.4**
	0.5nm,0.5s,baz=347,slow=2.4,SNR=10						
STKA	**Stephens Creek**	**41.17**	**161**	P	**P**	**08 55 53.1**	**+0.2**
	1.8nm,0.9s,baz=323,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**55.04**	**324**	P	**P**	**08 57 38.8**	**-1.3**
	1.1nm,0.6s,baz=118,slow=7.3,SNR=18						
KDAK	**Kodiak Island**	**78.83**	**33**	P	**P**	**09 00 12.5**	**+1.3**
	5.6nm,0.8s,baz=247,slow=4.0,SNR=3.8						
ILAR	**Eielson Array**	**81.89**	**26**	P	**P**	**09 00 27.5**	**-0.1**
	0.4nm,0.5s,baz=247,slow=5.3,SNR=16						
INK	**Inuvik**	**86.88**	**22**	P	**P**	**09 00 52.5**	**-0.3**
	1.6nm,1.2s,baz=308,slow=9.2,SNR=5.4						
YKA	**Yellowknife Ar**	**96.26**	**24**	P	**P**	**09 01 36.3**	**-0.3**
	0.2nm,0.8s,baz=303,slow=5.2,SNR=4.9						
TXAR	**Lajitas Array**	**119.19**	**51**	PKP	**PKPdf**	**09 06 58.8**	**+0.4**
	0.3nm,0.9s,baz=253,slow=0.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**122.18**	**290**	PKP	**PKPdf**	**09 07 02.3**	**-2.1**
	0.5nm,1.1s,baz=357,slow=2.9,SNR=2.7						

*NIED **26** 08:54:00, 36°.50N×139°.60E, h130km, Mw4.4 Best double couple: M0 4.50000×10^15 NP1:φs90.00000°, δ82.00000°, λ36.00000°. NP2:φs354.00000°, δ55.00000°, λ170.00000°.*
*BJI **26** 08:54:18.2, 36°.56N×139°.75E, h139km, mB4.9/30, mb4.7/44*
*SZGRF **26** 08:54:20.9, 35°.98N×139°.33E, h130km, mb5.2, Near south coast of eastern Honshu, Japan*
*MOS **26** 08:54:20.6±1.2, 36°.58N×139°.57E, h143km, mb4.7/36, Error ellipse: s-maj=8.4km s-min=5.0km az=110.4*
*ISCJB **26** 08:54:20.8±0.3, 36°.48N±0°.02×139°.56E±0°.04, h145km±1km, mb4.5/84, Error ellipse: s-maj=5.0km s-min=4.1km az=13.0*
*JMA **26** 08:54:22.7±0.1, 36°.45N×139°.58E, h136km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs94.00000°, δ87.00000°, λ28.00000°. NP2:φs2.00000°, δ62.00000°, λ176.00000°. Principal axes: T Plg22.0000°, Azm322.0000°; N Plg62.0000°, Azm100.0000°; P Plg17.0000°, Azm225.0000°;*
JMA Felt II J1.
*NEIC **26** 08:54:22.1±0.5, 36°.49N×139°.47E, h141km±4km, mb4.8/22, MW4.4(NIED) Error ellipse: s-maj=7.4km s-min=5.4km az=127.0*
NEIC Felt at Machida, Midaka, Tokyo and Zushi. Recorded [2 JMA] in Ibaraki, Kanagawa, Saitama and Shizuoka; [1 JMA] in Fukushima, Gumma, Nagano, Tochigi, Tokyo and Yamanashi.
*IDC **26** 08:54:22.6±0.5, 36°.48N×139°.48E, h147km±3km, mb4.1/32, mb1 4.2/35, mb1mx4.2/37, mbtmp4.1/35, Error ellipse: s-maj=9.7km s-min=8.0km az=123.0*
ISC 26 08:54:22.0±0.4, 36°.53N±0°.03×139°.52E±0°.04, h140km±2km, h139km:pP-P, n280, σ1§15/345, mb4.6/85, 15C-16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.12**	**208**	⇑P	**Pn**	**08 54 41.2**	**+0.3**
JAG				S	**Sn**	**08 54 54.5**	**-0.7**
JKT	**Katashina**	**0.32**	**318**	⇓P	**Pn**	**08 54 42.3**	**+0.8**
JKT				S	**Sn**	**08 54 57.0**	**+0.6**
JRY	**Ryogami san**	**0.71**	**225**	⇓P	**Pn**	**08 54 44.2**	**+0.7**
JRY				S	**Sn**	**08 55 00.3**	**+0.4**
MJAR	**Matsushiro Arr**	**1.06**	**271**	P	**Pn**	**08 54 46.5**	**+0.2**
	90nm,0.3s,baz=158,slow=9.7,SNR=400						
MJAR				S	**Sn**	**08 55 06.6**	**+1.7**
	113nm,0.3s,baz=98,slow=13,SNR=20						
MJAR	**Matsushiro Arr**	**1.06**	**271**	P	**Pn**	**08 54 46.5**	**+0.2**
MJAR				S	**Sn**	**08 55 06.6**	**+1.7**
MJAR	**Matsushiro Arr**	**1.06**	**271**	P	**Pn**

KUR	**Kuril'sk**	**10.74**	**33**	⇑*i*	P		**Pn**	**08 56 49.4**	**-2.4**
KUR					pmax		pmax		
	comp=Z,640nm,0.8s								
MDJ	**Mudanjiang**	**11.05**	**320**		P		**Pn**	**08 56 56.0**	**0.0**
MDJ					S		**Sn**	**08 58 58.8**	**+0.9**
MDJ					ScP		**ScP**	**09 05 59.5**	**-0.6**
MDJ					PcS		**PcS**	**09 06 14.5**	**+0.3**
MDJ					ScS		**ScS**	**09 09 36.5**	**+1.3**
MDJ					pmax	pmax			
	comp=Z,14nm,1.3s								
MDJ					pmax	pmax			
	comp=Z,56nm,3.6s								
MDJ	**Mudanjiang**	**11.05**	**320**	*e*	Pn		**Pn**	**08 56 56.4**	**+0.4**
	comp=Z,22nm,0.8s								
HABR	**Khabarovsk**	**12.38**	**346**		P		**Pn**	**08 57 12.0**	**-1.3**
HABR				*e*	S		**Sn**	**08 59 29.8**	**-0.1**
HABR					pmax	pmax			
	comp=Z,41nm,1.4s								
HABR					pmax	pmax			
	comp=E,53nm,2.8s								
HABR					pmax	pmax			
	comp=N,26nm,1.4s								
CN2	**Changchun**	**12.98**	**308**	*e*	P		**Pn**	**08 57 20.8**	**-0.3**
CN2				*e*	P			08 57 56.5	
CN2				*e*	S		**Sn**	**08 59 43.0**	**-1.3**
CN2					pmax	pmax			
	comp=Z,20nm,0.8s								
CN2					pmax	pmax			
	comp=Z,200nm,4.0s								
SNY	**Shenyang**	**13.45**	**298**	⇑	P		**Pn**	**08 57 27.5**	**+0.4**
SNY					S		**Sn**	**08 59 58.3**	**+2.6**
SNY					pmax	pmax			
	comp=Z,29nm,1.5s								
SNY					LR	LR			
	comp=N,200nm,5.5s								
SNY					LR	LR			
	comp=E,230nm,4.7s								
SNY					LR	LR			
	comp=Z,210nm,5.1s								
JOW	**Kunigami**	**13.60**	**228**		P		**P**	**08 57 32.2**	**-1.1**
	comp=Z,9.5nm,0.3s,baz=25,slow=7.4,SNR=14								
JOW	**Kunigami**	**13.60**	**228**	*e*	Pn		**Pn**	**08 57 27.7**	**-1.4**
NJ2	**Nanjing**	**17.65**	**261**	*e*	P		**P**	**08 58 17.5**	**-0.5**
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
BJI	**Beijing**	**18.65**	**288**		P		**P**	**08 58 27.5**	**-1.4**
BJI					pmax	pmax			
	comp=Z,51nm,0.6s								
BJT	**Baijiatuan**	**18.65**	**288**	*e*	P		**P**	**08 58 27.7**	**-1.3**
BJT					pmax	pmax			
	comp=Z,43nm,0.4s								
BJT	**Baijiatuan**	**18.65**	**288**	*e*	P		**P**	**08 58 27.6**	**-1.3**
	comp=Z,43nm,0.4s								
HIA	**Hailar**	**19.22**	**318**	*e*	P		**P**	**08 58 32.9**	**-2.1**
HIA					pmax	pmax			
	comp=Z,60nm,1.5s								
HIA	**Hailar**	**19.22**	**318**	*e*	P		**P**	**08 58 32.9**	**-2.1**
	comp=Z,60nm,1.5s								
SSLB	**Suanglung**	**20.42**	**237**	*e*	P		**P**	**08 58 45.2**	**-3.1**
	comp=Z,12nm,0.3s								
PETK	**Petropavlovsk-**	**20.90**	**32**		P		Pn	08 58 55.7	-1.6
	comp=Z,6.5nm,0.9s,baz=216,slow=7.3,SNR=4.5								
PETK	**Petropavlovsk-**	**20.90**	**32**		P		Pn	08 58 55.7	-1.6
PETK	**Petropavlovsk-**	**20.90**	**32**		P		Pn	08 58 55.7	-1.6
TPUB	**Ta-pu**	**20.97**	**236**	*e*	P		**P**	**08 58 50.7**	**-3.4**
	comp=Z,814nm,2.6s								
WHN	**Wuhan**	**21.78**	**261**	*e*	P		**P**	**08 59 02.0**	**-0.7**
HHC	**Hu-ho-hao-te**	**22.20**	**290**	*e*	P		P	08 58 57.8	-9.2
HHC					pP		pP	08 59 25.0	-7.6
HHC					PP		pwP	08 59 32.5	-0.1
HHC					sP		sP	08 59 43.3	-6.7
HHC					S		S	09 02 48.3	-13
HHC					sS		Sn	09 03 33.3	+8.1
HHC					SS			09 03 40.5	
HHC					pmax	pmax			
	comp=Z,7.0nm,0.8s								
HHC					pmax	pmax			
	comp=Z,140nm,5.2s								
CLNS	**Chul'man**	**22.57**	**339**	*e*	P		**P**	**08 59 08.1**	**-2.2**
CLNS					pmax	pmax			
	comp=Z,73nm,1.1s								
CLNS					pmax	pmax			
	comp=N,36nm,1.0s								
CLNS					pmax	pmax			
	comp=E,15nm,0.9s								
XAN	**Xi'an**	**25.05**	**273**		P		**P**	**08 59 32.5**	**-0.8**
XAN					pmax	pmax			
	comp=Z,2.0nm,0.4s								
XAN					pmax	pmax			
	comp=Z,17nm,5.2s								
ENH	**Enshi**	**25.77**	**265**	*e*	P		**P**	**08 59 39.0**	**-0.9**
	comp=Z,7.6nm,0.6s								
YAK	**Yakutsk**	**26.26**	**350**	*e*	P		**P**	**08 59 43.0**	**-0.8**
YAK				*e*				09 00 25.9	
YAK				*e*				09 03 08.7	
YAK				*e*	S		**S**	**09 04 05.6**	**0.0**
YAK					pmax	pmax			
	comp=N,23nm,1.1s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,32nm,1.0s								
YAK					pmax	pmax			
	comp=Z,12nm,0.8s								
YAK					smax	smax			
	comp=N,199nm,3.8s								
YAK	**Yakutsk**	**26.26**	**350**	*e*	P		**P**	**08 59 45.6**	**+1.8**
	comp=N,31nm,0.6s								
ULN	**Ulaanbaatar**	**26.40**	**306**	*e*	P		**P**	**08 59 44.9**	**-0.5**
ULN					pmax	pmax			
	comp=Z,13nm,0.9s								
ULN	**Ulaanbaatar**	**26.40**	**306**	*e*	P		**P**	**08 59 44.9**	**-0.5**
	comp=Z,13nm,0.9s								
SONM	**Songino Array**	**26.82**	**305**		P		**P**	**08 59 48.8**	**-0.4**
	comp=Z,12nm,0.6s,baz=105,slow=8.3,SNR=85								
SONM	**Songino Array**	**26.82**	**305**		P		**P**	**08 59 48.8**	**-0.4**
SONM	**Songino Array**	**26.82**	**305**		P		**P**	**08 59 48.8**	**-0.4**
BOD	**Bodaibo**	**27.17**	**330**	*e*	P		**P**	**08 59 51.5**	**-0.5**
BOD					pmax	pmax			
	comp=Z,14nm,0.8s								
SEY	**Seymchan**	**27.60**	**13**	⇓*e*	P		**P**	**08 59 56.9**	**+1.2**
LZH	**Lanzhou**	**28.66**	**280**	*e*	P		**P**	**09 00 06.5**	**+0.8**
LZH					pP		**pP**	**09 00 35.5**	**+0.1**
LZH					sP		**sP**	**09 00 49.8**	**-1.8**
LZH					PP		PP	09 01 02.0	-11
LZH				*e*	S		**S**	**09 04 42.0**	**-2.2**
LZH					SS		ScP	09 06 19.0	-22
LZH					pmax	pmax			
	comp=Z,22nm,1.2s								
LZH					pmax	pmax			
	comp=Z,140nm,5.2s								
ZAK	**Zakamensk**	**29.41**	**310**	*e*	P		**P**	**09 00 11.0**	**-1.1**
ZAK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
TLY	**Talaya**	**29.53**	**312**	*e*	P		**P**	**09 00 12.2**	**-0.8**
TLY					pmax	pmax			
	comp=Z,6.0nm,0.8s								
TLY	**Talaya**	**29.53**	**312**	*e*	P		**P**	**09 00 13.0**	**0.0**
	comp=Z,6.4nm,0.7s								
GYA	**Guiyang**	**29.64**	**260**		P		**P**	**09 00 16.5**	**+2.1**
GYA					pP		**pP**	**09 00 44.8**	**+0.6**
GYA					sP		**sP**	**09 01 01.5**	**+1.2**
GYA					PP		PP	09 01 17.3	-6.6
GYA					PcP		**PcP**	**09 03 17.5**	**+2.0**
GYA					S		**S**	**09 05 01.0**	**+1.3**
GYA					sS		**sS**	**09 05 51.8**	**-0.3**
GYA					ScP		**ScP**	**09 06 45.0**	**+0.7**
GYA					PcS		**PcS**	**09 06 59.3**	**+0.3**
GYA					ScS		**ScS**	**09 10 38.8**	**-0.8**
GYA					pmax	pmax			
	comp=Z,20nm,0.8s								
GYA					pmax	pmax			
	comp=Z,120nm,4.8s								
CD2	**Chengdu**	**30.15**	**270**		P		**P**	**09 00 20.0**	**+1.2**
CD2					pP		**pP**	**09 00 48.5**	**-0.2**
CD2					sP		**sP**	**09 01 04.0**	**-0.8**
CD2					PP		PP	09 01 23.8	-5.7
CD2					S		**S**	**09 05 08.0**	**+0.4**
CD2					sS		**sS**	**09 05 58.0**	**-2.0**
CD2					SS		ScP	09 06 56.5	+11
CD2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CD2					pmax	pmax			
	comp=Z,240nm,7.3s								
CD2					LR	LR			
	comp=N,340nm,7.7s								
CD2					LR	LR			
	comp=Z,230nm,7.7s								
GTA	**Gaotai**	**31.26**	**288**	*e*	P		**P**	**09 00 28.0**	**-0.6**
GTA					pP		**pP**	**09 00 56.8**	**-1.7**
GTA					sP		**sP**	**09 01 12.3**	**-2.4**
GTA					S		**S**	**09 05 23.5**	**-1.4**
GTA					SS		SS	09 07 18.8	-26
GTA					pmax	pmax			
	comp=Z,3.0nm,0.6s								
GTA					pmax	pmax			
	comp=Z,200nm,4.7s								
GTA					LR	LR			
	comp=N,130nm,15.7s								
GTA					LR	LR			
	comp=E,150nm,16.6s								
GTA					LR	LR			
	comp=Z,130nm,16.9s								
KMI	**Kunming**	**33.38**	**261**		P		**P**	**09 00 48.3**	**+1.0**
KMI					pmax	pmax			
	comp=Z,7.0nm,1.1s								
WMQ	**Urumqi**	**39.72**	**297**		P		**P**	**09 01 41.5**	**+0.9**
WMQ					pP		**pP**	**09 02 11.5**	**0.0**
WMQ					pmax	pmax			
	comp=Z,16nm,0.7s								
CMAR	**Chiang Mai Arr**	**39.90**	**254**		P		**P**	**09 01 42.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=51,slow=6.4,SNR=5.4								
CMAR	**Chiang Mai Arr**	**39.90**	**254**		P		**P**	**09 01 42.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.90**	**254**		P		**P**	**09 01 42.4**	**+0.1**
ZAA0	**Zalesovo Array**	**41.14**	**313**	*e*	P		**P**	**09 01 52.2**	**+0.1**
ZALV	**Zalesovo Beam**	**41.14**	**313**		P		**P**	**09 01 52.3**	**+0.3**
	comp=Z,6.2nm,0.4s,baz=95,slow=7.1,SNR=36								
ZALV					PcP		**PcP**	**09 03 47.6**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=108,slow=2.3,SNR=3.8								
ZALV	**Zalesovo Beam**	**41.14**	**313**		P		**P**	**09 01 52.3**	**+0.3**
ZALV								09 03 47.6	
ZALV	**Zalesovo Beam**	**41.14**	**313**		P		**P**	**09 01 52.3**	**+0.3**
ZALV					PcP		**PcP**	**09 03 47.5**	**-1.1**
NVS	**Novosibirsk**	**42.10**	**314**	⇓*i*	P		**P**	**09 02 00.0**	**+0.2**
NVS					pmax	pmax			
	comp=N,4.0nm,1.2s								
NVS					pmax	pmax			
	comp=E,13nm,1.2s								
NVS					pmax	pmax			
	comp=Z,17nm,1.2s								
MK31	**Makanchi Array**	**43.10**	**302**	*i*	P		**P**	**09 02 08.3**	**+0.2**
MK31					pmax	pmax			
	comp=Z,19nm,0.8s								
MK31	**Makanchi Array**	**43.10**	**302**	*e*	P		**P**	**09 02 08.3**	**+0.2**
MKAR	**Makanchi Array**	**43.10**	**302**		P		**P**	**09 02 08.7**	**+0.5**
	comp=Z,13nm,0.8s,baz=90,slow=9.8,SNR=136								
MKAR					ScP		**ScP**	**09 07 33.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=79,slow=5.1,SNR=5.0								
MKAR	**Makanchi Array**	**43.10**	**302**	*i*	P		**P**	**09 02 08.6**	**+0.5**
MKAR					pmax	pmax			
	comp=Z,13nm,0.8s								
MKAR	**Makanchi Array**	**43.10**	**302**		P		**P**	**09 02 08.7**	**+0.5**
MKAR					ScP		**ScP**	**09 07 33.3**	**-0.1**
TAPN	**Taplejung**	**44.46**	**273**	*e*	P		**P**	**09 02 20.5**	**+1.0**
	comp=Z,5.7nm,0.4s								
TAPN	**Taplejung**	**44.46**	**273**	*e*	P		**P**	**09 02 20.5**	**+1.0**
	comp=Z,5.7nm,0.4s								
KURK	**Kurchatov**	**45.05**	**308**		P		**P**	**09 02 23.6**	**+0.1**
	comp=Z,25nm,0.7s,baz=83,slow=7.6,SNR=14								
KURK	**Kurchatov**	**45.05**	**308**	*c*	*i* P		**P**	**09 02 23.2**	**-0.3**
KURK					pmax	pmax			
	comp=Z,24nm,0.6s								
KURK	**Kurchatov**	**45.05**	**308**		P		**P**	**09 02 23.6**	**+0.1**
KURK	**Kurchatov**	**45.05**	**308**		P		**P**	**09 02 23.0**	**-0.5**
	comp=Z,253nm,0.6s,SNR=30								
KAPI	**Kappang**	**45.28**	**208**		P		**P**	**09 02 24.5**	**-1.2**
	comp=Z,13nm,0.6s,baz=73,slow=6.3,SNR=6.7								
KAPI	**Kappang**	**45.28**	**208**		P		**P**	**09 02 24.5**	**-1.2**
GUN	**Gumba**	**45.69**	**275**	*e*	P		**P**	**09 02 29.7**	**+0.4**
	comp=Z,14nm,0.3s								
GUN	**Gumba**	**45.69**	**275**	*e*	P		**P**	**09 02 29.7**	**+0.4**
	comp=Z,14nm,0.3s								
GKN	**Gorkha**	**46.65**	**276**	*e*	P		**P**	**09 02 36.7**	**+0.1**
GKN	**Gorkha**	**46.65**	**276**	*e*	P		**P**	**09 02 36.7**	**+0.1**
DANN	**Dangsing**	**47.20**	**277**	*e*	P		**P**	**09 02 41.5**	**+0.4**
	comp=Z,43nm,0.7s								
DANN	**Dangsing**	**47.20**	**277**	*e*	P		**P**	**09 02 41.5**	**+0.4**
	comp=Z,43nm,0.7s								
ULHL	**Ulahol**	**48.25**	**297**		P		**P**	**09 02 47.6**	**-1.3**
	SNR=7.4								
ULHL					P		**P**	**09 02 47.6**	**-1.3**
	SNR=7.4								
KDAK	**Kodiak Island**	**48.49**	**42**		P		**P**	**09 02 51.2**	**+1.1**
	comp=Z,12nm,1.1s,baz=348,slow=10,SNR=6.2								
KDAK	**Kodiak Island**	**48.49**	**42**		P		**P**	**09 02 51.2**	**+1.1**
KDAK	**Kodiak Island**	**48.49**	**42**		P		**P**	**09 02 51.2**	**+1.1**
TKM2	**Tokmak 2**	**48.53**	**298**		P		**P**	**09 02 52.1**	**+1.1**
	SNR=25								
TKM2					P		**P**	**09 02 52.1**	**+1.1**
	SNR=25								
TKM2	**Tokmak 2**	**48.53**	**298**	*i*	P		**P**	**09 02 52.1**	**+1.1**
TKM2	**Tokmak 2**	**48.53**	**298**	*e*	P		**P**	**09 02 52.0**	**+1.0**
	comp=Z,14nm,0.4s								
KZA	**Kyzart**	**49.01**	**297**		P		**P**	**09 02 56.5**	**+1.7**
	SNR=16								
KZA					P		**P**	**09 02 56.5**	**+1.7**
	SNR=16								
KBK	**Karagaybulak**	**49.06**	**298**		P		**P**	**09 02 55.9**	**+0.9**
	SNR=11								
KBK					P		**P**	**09 02 55.9**	**+0.9**
	SNR=11								
USP	**Ospenovka**	**49.22**	**299**		P		**P**	**09 02 56.3**	**+0.3**
	SNR=12								
USP					P		**P**	**09 02 56.3**	**+0.3**
	SNR=12								
KSH	**Kashi**	**49.22**	**294**		P		P	09 03 00.0	+3.8
KSH				*e*	pP		pP	09 03 33.3	+5.1
KSH				*e*	sP		sP	09 03 49.0	+5.2
KSH				*e*	ScS		**ScS**	**09 12 31.8**	**-2.1**
KSH					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KSH					pmax	pmax			
	comp=Z,110nm,4.2s								
KSH					LR	LR			
	comp=N,170nm,5.9s								
KSH					LR	LR			
	comp=E,130nm,5.0s								
KSH					LR	LR			
	comp=Z,240nm,6.2s								
AAK	**Ala-Archa**	**49.39**	**298**		P		**P**	**09 02 58.0**	**+0.5**
	SNR=8.2								
AAK					P		**P**	**09 02 58.0**	**+0.5**
	SNR=8.2								
AAK	**Ala-Archa**	**49.39**	**298**		P		**P**	**09 02 58.1**	**+0.5**
	comp=Z,5.7nm,0.4s,baz=108,slow=5.5,SNR=8.3								
AAK	**Ala-Archa**	**49.39**	**298**	*c*	*i* P		**P**	**09 02 57.7**	**+0.2**
AAK					pmax	pmax			
	comp=Z,22nm,1.1s								
AAK	**Ala-Archa**	**49.39**	**298**		P		**P**	**09 02 58.1**	**+0.5**
AAK	**Ala-Archa**	**49.39**	**298**		P		**P**	**09 02 57.0**	**-0.5**
	comp=Z,77nm,0.5s,SNR=8.1								
BVA0	**Borovoye Array**	**49.79**	**312**	*i*	P		**P**	**09 02 59.6**	**-0.5**
BVAR	**Borovoye Array**	**49.79**	**312**		P		**P**	**09 02 58.8**	**-1.4**
	comp=Z,3.0nm,0.4s,baz=69,slow=7.0,SNR=5.4								
BVAR	**Borovoye Array**	**49.79**	**312**		P		**P**	**09 02 58.8**	**-1.4**
BVAR	**Borovoye Array**	**49.79**	**312**		P		**P**	**09 02 58.8**	**-1.4**
BRVK	**Borovoye**	**49.85**	**312**	*e*	P		**P**	**09 03 00.7**	**+0.2**
BRVK					pmax	pmax			
	comp=Z,9.0nm,1.1s								
BRVK	**Borovoye**	**49.85**	**312**	*e*	P		**P**	**09 03 00.7**	**+0.2**
	comp=Z,9.0nm,1.1s								
EKS2	**Erkin-Say**	**49.89**	**298**		P		**P**	**09 03 01.8**	**+0.6**
	SNR=9.1								
EKS2					P		**P**	**09 03 01.8**	**+0.6**
	SNR=9.1								
EKS2	**Erkin-Say**	**49.89**	**298**	*e*	P		**P**	**09 03 01.8**	**+0.6**
EKS2	**Erkin-Say**	**49.89**	**298**	*e*	P		**P**	**09 03 01.8**	**+0.6**
AML	**Almayashu**	**50.10**	**298**		P		**P**	**09 03 04.4**	**+1.2**
	SNR=56								
AML					P		**P**	**09 03 04.4**	**+1.2**
	SNR=56								
PSI	**Prapat**	**50.23**	**238**		P		**P**	**09 03 03.2**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=118,slow=3.5,SNR=5.4								
PSI	**Prapat**	**50.23**	**238**		P		**P**	**09 03 03.3**	**-0.8**
PSI	**Prapat**	**50.23**	**238**		P		**P**	**09 03 03.2**	**-0.8**
COEN	**Coen**	**50.33**	**175**	*e*	P		**P**	**09 03 05.3**	**+0.8**
	comp=Z,52nm,0.8s								
ILAR	**Eielson Array**	**50.73**	**32**		P		**P**	**09 03 07.8**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=273,slow=5.0,SNR=54								
ILAR					pP		**pP**	**09 03 40.2**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=264,slow=5.6,SNR=3.1								
ILAR	**Eielson Array**	**50.73**	**32**		P		**P**	**09 03 07.8**	**+0.8**
ILAR					*PP		**pP**	**09 03 40.2**	**+1.0**
ILAR	**Eielson Array**	**50.73**	**32**		P		**P**	**09 03 07.8**	**+0.8**
ILAR					pP		**pP**	**09 03 40.2**	**+1.0**
KK31	**Karatay Array**	**52.06**	**300**	*i*	P		**P**	**09 03 17.5**	**+0.2**
KK31					pmax	pmax			
	comp=Z,3.0nm,0.4s								
KKAR	**Karatay Array**	**52.06**	**300**	*e*	P		**P**	**09 03 17.8**	**+0.5**
KKAR					pmax	pmax			
	comp=Z,12nm,0.9s								
KKAR	**Karatay Array**	**52.06**	**300**	*e*	P		**P**	**09 03 17.8**	**+0.5**
	comp=Z,12nm,0.9s								
DOT	**Dot Lake**	**52.07**	**33**	*e*	P		**P**	**09 03 18.0**	**+1.0**
	comp=Z,1.7nm,0.8s								
MENT	**Mentasta**	**52.31**	**34**	*e*	P		**P**	**09 03 20.7**	**+1.8**
EGAK	**Eagle**	**53.17**	**32**	*e*	P		**P**	**09 03 26.4**	**+1.3**
	comp=Z,92nm,3.0s								
SVE	**Sverdlovsk**	**54.52**	**319**	*e*	P		**P**	**09 03 35.8**	**+0.8**
SVE					pmax	pmax			
	comp=Z,15nm,0.6s								
INK	**Inuvik**	**55.53**	**27**		P		**P**	**09 03 42.5**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=304,slow=6.9,SNR=36								
INK					pP		**pP**	**09 04 15.7**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=267,slow=11,SNR=4.8								
INK	**Inuvik**	**55.53**	**27**	*e*	P		**P**	**09 03 43.4**	**+1.4**
INK					*PP		**pP**	**09 04 15.7**	**+1.0**
INK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**55.53**	**27**	*e*	P		**P**	**09 03 43.4**	**+1.4**
	comp=Z,4.8nm,0.9s								
INK					pP		**pP**	**09 04 15.7**	**+1.0**
ARU	**Arti**	**55.73**	**318**	*e*	P		**P**	**09 03 43.7**	**0.0**
ARU					pmax	pmax			
	comp=Z,11nm,0.6s								
ARU	**Arti**	**55.73**	**318**	*e*	P		**P**	**09 03 43.7**	**0.0**
	comp=Z,11nm,0.6s								
FITZ	**Fitzroy Crossi**	**55.90**	**196**		P		**P**	**09 03 45.4**	**+0.2**
	comp=Z,12nm,0.6s,baz=19,slow=6.4,SNR=29								
FITZ	**Fitzroy Crossi**	**55.90**	**196**	*e*	P		**P**	**09 03 45.7**	**+0.5**
	comp=Z,18nm,0.6s								
FITZ	**Fitzroy Crossi**	**55.90**	**196**	*e*	P		**P**	**09 03 45.8**	**+0.5**
	comp=Z,9.5nm,0.6s								
WRAB	**Tennant Creek**	**56.37**	**186**	*e*	P		**P**	**09 03 47.9**	**-0.6**
WRAB					pmax	pmax			
	comp=Z,14nm,0.9s								
WRAB	**Tennant Creek**	**56.37**	**186**	*e*	P		**P**	**09 03 47.9**	**-0.6**
	comp=Z,14nm,0.9s								
WRAB	**Tennant Creek**	**56.37**	**186**		P		**P**	**09 03 48.6**	**+0.1**
	comp=Z,82nm,0.7s,SNR=10.0								
WB2	**Warramunga Arr**	**56.38**	**186**	*e*	P		**P**	**09 03 47.9**	**-0.7**
WRA	**Warramunga Arr**	**56.38**	**186**		P		**P**	**09 03 47.9**	**-0.7**
	comp=Z,8.9nm,0.6s,baz=1.7,slow=7.5,SNR=78								
WRA					pP		**pP**	**09 04 21.4**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=2.5,slow=7.6,SNR=2.6								
WRA	**Warramunga Arr**	**56.38**	**186**		P		**P**	**09 03 47.9**	**-0.7**
WRA					*PP		**pP**	**09 04 21.4**	**-0.1**
WRA	**Warramunga Arr**	**56.38**	**186**		P		**P**	**09 03 47.9**	**-0.7**
WRA					pP		**pP**	**09 04 21.4**	**-0.1**
AB31	**Akbulak array**	**57.10**	**310**	*i*	P		**P**	**09 03 53.3**	**-0.2**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.4s								
ABKAR	**Akbulak array**	**57.10**	**310**	*e*	P		**P**	**09 03 53.4**	**-0.1**
AKTO	**Aktyubinsk**	**57.88**	**312**		P		**P**	**09 03 58.4**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=84,slow=9.0,SNR=7.1								
AKTO	**Aktyubinsk**	**57.88**	**312**		P		**P**	**09 03 58.4**	**-0.5**
AKTO	**Aktyubinsk**	**57.88**	**312**		P		**P**	**09 03 58.4**	**-0.5**
AS31	**Alice Springs**	**60.10**	**186**	*e*	P		**P**	**09 04 14.1**	**-0.4**
ASAR	**Alice Springs**	**60.10**	**186**		P		**P**	**09 04 14.2**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=14,slow=4.8,SNR=35								
ASAR	**Alice Springs**	**60.10**	**186**		P		**P**	**09 04 14.2**	**-0.3**
ASAR	**Alice Springs**	**60.10**	**186**		P		**P**	**09 04 14.2**	**-0.3**
APA	**Apatity**	**62.52**	**335**	⇑*i*	P		**P**	**09 04 31.0**	**+0.8**
APA					pmax	pmax			
	comp=Z,12nm,0.8s								
APA					MLR	MLR			
	comp=Z,600nm,25.0s								
KLMR	**Klimovskoe**	**63.37**	**327**	*e*	P		**P**	**09 04 34.4**	**-1.5**
KLMR					pmax	pmax			
	comp=Z,14nm,0.8s								
RES	**Resolute Bay**	**63.46**	**14**		P		**P**	**09 04 36.8**	**+0.5**
	comp=Z,7.3nm,0.8s,baz=307,slow=7.3,SNR=12								
RES	**Resolute Bay**	**63.46**	**14**		P		**P**	**09 04 36.8**	**+0.5**
RES	**Resolute Bay**	**63.46**	**14**		P		**P**	**09 04 36.8**	**+0.5**
ARCES	**ARCESS Array B**	**63.93**	**339**		P		**P**	**09 04 39.6**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=48,slow=7.3,SNR=15								
ARCES	**ARCESS Array B**	**63.93**	**339**		P		**P**	**09 04 39.6**	**+0.1**
ARCES	**ARCESS Array B**	**63.93**	**339**		P		**P**	**09 04 39.6**	**+0.1**
YKA	**Yellowknife Ar**	**65.00**	**30**		P		**P**	**09 04 46.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=305,slow=6.8,SNR=23								
YKA					pP		**pP**	**09 05 20.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=304,slow=6.6,SNR=4.3								
YKA	**Yellowknife Ar**	**65.00**	**30**		P		**P**	**09 04 46.9**	**+0.3**
YKA					*PP		**pP**	**09 05 20.1**	**-0.1**
YKA	**Yellowknife Ar**	**65.00**	**30**		P

	comp=Z,4.1nm,0.4s,baz=47,slow=6.0,SNR=22							
AKASG	**Malin Array Be**	**73.76**	**322**	*i* P		**P**	**09 05 40.2**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
AKASG	**Malin Array Be**	**73.76**	**322**	P		**P**	**09 05 40.2**	**-0.3**
AKBB	**Malin Array Si**	**73.76**	**322**	*e*P		**P**	**09 05 40.1**	**-0.4**
AKBB	**Malin Array Si**	**73.76**	**322**	*e*P		**P**	**09 05 40.1**	**-0.4**
KIEV	**Kiev**	**73.77**	**322**	*e*P		**P**	**09 05 39.9**	**-0.7**
KIEV				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KIEV	**Kiev**	**73.77**	**322**	*e*P		**P**	**09 05 39.9**	**-0.7**
	comp=Z,9.1nm,0.8s							
HFS	**Hagfors**	**73.91**	**335**	P		**P**	**09 05 41.9**	**+0.6**
	comp=Z,6.5nm,0.9s,baz=42,slow=2.3,SNR=5.8							
HFS	**Hagfors**	**73.91**	**335**	P		**P**	**09 05 41.9**	**+0.6**
HFS	**Hagfors**	**73.91**	**335**	P		**P**	**09 05 41.9**	**+0.6**
NB2	**NORSAR Subarra**	**74.06**	**337**	P		**P**	**09 05 41.5**	**-0.7**
	comp=Z,16nm,1.1s,baz=42,slow=6.2							
NOA	**NORSAR Array B**	**74.06**	**337**	P		**P**	**09 05 42.1**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=40,slow=5.8,SNR=18							
NOA	**NORSAR Array B**	**74.06**	**337**	P		**P**	**09 05 42.1**	**-0.1**
NOA	**NORSAR Array B**	**74.06**	**337**	P		**P**	**09 05 42.1**	**-0.1**
FFC	**Flin Flon**	**74.94**	**32**	*i* P		**P**	**09 05 49.1**	**+1.8**
NVAR	**Mina Array Bea**	**76.50**	**52**	pP		pP	09 06 33.7	+2.2
	comp=Z,0.5nm,0.6s,baz=281,slow=6.0,SNR=2.8							
NVAR	**Mina Array Bea**	**76.50**	**52**	pP		pP	09 06 33.7	+2.2
BSD	**Bornholm Skovb**	**77.16**	**331**	*e*P		**P**	**09 05 59.4**	**-0.4**
BSD				pmax		pmax		
	comp=Z,11nm,0.8s							
BSD	**Bornholm Skovb**	**77.16**	**331**	*i* P		**P**	**09 05 59.4**	**-0.4**
	comp=Z,11nm,0.8s							
FRB	**Frobisher Bay**	**77.60**	**12**	P		**P**	**09 06 02.3**	**+0.2**
	comp=Z,6.9nm,0.6s,baz=333,slow=7.7,SNR=11							
FRB	**Frobisher Bay**	**77.60**	**12**	P		**P**	**09 06 02.3**	**+0.2**
FRB	**Frobisher Bay**	**77.60**	**12**	P		**P**	**09 06 02.3**	**+0.2**
KWP	**Kalwaria Pacla**	**77.64**	**324**	*e*P		**P**	**09 06 03.5**	**+0.7**
KWP	**Kalwaria Pacla**	**77.64**	**324**	⇓P		**P**	**09 06 03.8**	**+1.1**
KWP	**Kalwaria Pacla**	**77.64**	**324**	*e*P		**P**	**09 06 03.4**	**+0.7**
	comp=Z,12nm,0.7s							
KWP	**Kalwaria Pacla**	**77.64**	**324**	⇓*i*P		**P**	**09 06 03.8**	**+1.1**
TESR		**77.74**	**319**	⇑*i*P		**P**	**09 06 04.6**	**+1.3**
BUR08	**Bucovina Ar. S**	**77.75**	**321**	*e*P		**P**	**09 06 03.7**	**+0.3**
BURAR	**Bucovina Array**	**77.75**	**321**	⇑*i*P		**P**	**09 06 03.7**	**+0.2**
VRI	**Vrincioaia**	**78.12**	**319**	⇓P		**P**	**09 06 06.9**	**+1.5**
VRI	**Vrincioaia**	**78.12**	**319**	⇓*i*P		**P**	**09 06 06.9**	**+1.5**
KOLS	**Kolonicke sedl**	**78.33**	**323**	*e*P		**P**	**09 06 06.7**	**+0.2**
KOLS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KOLS	**Kolonicke sedl**	**78.33**	**323**	*e*P		**P**	**09 06 06.7**	**+0.2**
OJC	**Ojcow**	**78.60**	**325**	*e*P		**P**	**09 06 08.5**	**+0.5**
OJC	**Ojcow**	**78.60**	**325**	*e*P		**P**	**09 06 08.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**78.74**	**324**	*e*P		**P**	**09 06 09.2**	**+0.5**
CRVS				pmax		pmax		
	comp=Z,19nm,2.2s							
CRVS	**Cervenica-Dubn**	**78.74**	**324**	*e*P		**P**	**09 06 09.2**	**+0.5**
TRPA	**Tarpa**	**78.75**	**323**	⇑*i*P		**P**	**09 06 09.8**	**+1.1**
MLR	**Muntele Rosu**	**78.78**	**319**	P		**P**	**09 06 09.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=119,slow=13,SNR=2.4							
MLR	**Muntele Rosu**	**78.78**	**319**	P		**P**	**09 06 09.1**	**-0.1**
MLR	**Muntele Rosu**	**78.78**	**319**	P		**P**	**09 06 09.1**	**-0.1**
PDAR	**Pinedale Array**	**79.10**	**44**	P		**P**	**09 06 11.9**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=196,slow=1.8,SNR=4.4							
PDAR				pP		pP	**09 06 48.9**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=264,slow=0.7,SNR=3.1							
PDAR	**Pinedale Array**	**79.10**	**44**	P		**P**	**09 06 11.9**	**+0.8**
PDAR				pP		pP	**09 06 48.9**	**+2.9**
KSP	**Ksiaz**	**79.72**	**327**	*e*P		**P**	**09 06 14.5**	**+0.5**
MORC	**Moravsky Berou**	**79.94**	**326**	⇓P		**P**	**09 06 16.0**	**+0.7**
MORC	**Moravsky Berou**	**79.94**	**326**	⇓*i*P		**P**	**09 06 16.0**	**+0.7**
DPC	**Dobruska-Polom**	**80.07**	**327**	*e*P		**P**	**09 06 17.0**	**+1.0**
VYHS	**Vyhne**	**80.27**	**325**	*e*P		**P**	**09 06 17.7**	**+0.7**
VYHS				pmax		pmax		
	comp=Z,3.0nm,0.9s							
VYHS	**Vyhne**	**80.27**	**325**	*e*P		**P**	**09 06 17.7**	**+0.7**
BRG	**Berggiesshubel**	**80.70**	**329**	*e*P		**P**	**09 06 18.8**	**-0.4**
	comp=Z,17nm,1.9s							
BRG	**Berggiesshubel**	**80.70**	**329**	*e*P		**P**	**09 06 18.8**	**-0.4**
BRG				pmax		pmax		
	comp=Z,17nm,1.9s							
ULM	**Lac du Bonnet**	**80.75**	**32**	P		**P**	**09 06 19.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=298,slow=5.4,SNR=3.4							
ULM	**Lac du Bonnet**	**80.75**	**32**	P		**P**	**09 06 19.8**	**+0.3**
ULM	**Lac du Bonnet**	**80.75**	**32**	P		**P**	**09 06 19.8**	**+0.3**
CLL	**Collm**	**80.77**	**329**	⇑*i*P		**P**	**09 06 19.4**	**-0.2**
CLL				pmax		pmax		
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**80.77**	**329**	⇑*i*P		**P**	**09 06 19.4**	**-0.2**
	comp=Z,9.0nm,0.8s							
KHC	**Kasperske Hory**	**82.17**	**328**	*e*P		**P**	**09 06 27.6**	**+0.5**
GERES	**GERESS Array B**	**82.33**	**327**	P		**P**	**09 06 27.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=38,slow=6.8,SNR=14							
GERES	**GERESS Array B**	**82.33**	**327**	P		**P**	**09 06 27.9**	**-0.1**
GERES	**GERESS Array B**	**82.33**	**327**	P		**P**	**09 06 27.9**	**-0.1**
GRF	**Grafenberg Arr**	**82.74**	**329**	*e*P		**P**	**09 06 30.7**	**+0.7**
	comp=Z,17nm,1.1s							
GRF	**Grafenberg Arr**	**82.74**	**329**	*e*P		**P**	**09 06 30.7**	**+0.7**
GRF				pmax		pmax		
	comp=Z,17nm,1.1s							
PERS	**Pernice**	**83.35**	**325**	*i* P		**P**	**09 06 33.8**	**+0.6**
PERS				*i*			09 06 39.0	
VISS	**Visnje**	**84.09**	**325**	*i* P		**P**	**09 06 36.9**	**-0.1**
VISS				*i*			09 06 45.2	
BOJS	**Bojanci**	**84.12**	**324**	*i* P		**P**	**09 06 36.9**	**-0.2**
JAVS	**Javornik**	**84.39**	**325**	*i* P		**P**	**09 06 37.5**	**-1.1**
JAVS				*i*			09 06 44.0	
SCHQ	**Schefferville**	**86.23**	**15**	P		**P**	**09 06 48.2**	**+0.7**
	comp=Z,4.3nm,1.1s,baz=299,slow=13,SNR=2.5							
SCHQ	**Schefferville**	**86.23**	**15**	P		**P**	**09 06 48.2**	**+0.7**
TXAR	**Lajitas Array**	**91.63**	**51**	P		**P**	**09 07 13.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=274,slow=2.4,SNR=9.8							
TXAR	**Lajitas Array**	**91.63**	**51**	P		**P**	**09 07 13.5**	**0.0**
TXAR	**Lajitas Array**	**91.63**	**51**	P		**P**	**09 07 13.5**	**0.0**
TORD	**Torodi Ar. Bea**	**116.59**	**313**	PKP		**PKPdf**	**09 12 48.4**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=345,slow=1.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**116.59**	**313**	PKP		**PKPdf**	**09 12 48.4**	**-1.5**
SAML	**Samuel**	**145.66**	**43**	*e*PKPdf		**PKPdf**	**09 13 44.2**	**0.0**

IDC 26 09:39:59.9±2.0, 7.69S×127.16E, h0km, mb3.2/1, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/15, Error ellipse: s-maj=215.7km s-min=31.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.03**	**151**	Pn	Pn	09 43 19.2	-0.8
	0.7nm,0.3s,baz=324,slow=14,SNR=14						
WRA				Sn	Sn	09 45 41.0	-16
	1.5nm,0.3s,baz=322,slow=25,SNR=13						
ASAR	**Alice Springs**	**17.15**	**159**	P	Pn	09 44 01.9	+0.7
	0.4nm,0.3s,baz=338,slow=11,SNR=24						
ASAR				S	Sn	09 47 01.2	-12
	0.4nm,0.3s,baz=346,slow=26,SNR=9.3						
CBIJ	**Chichi jima**	**37.52**	**22**	LR	LR	10 00 43.1	
	comp=Z,70nm,19.5s,baz=89,slow=33						
MKAR	**Makanchi Array**	**67.29**	**328**	P	P	09 50 56.6	0.0
	0.1nm,0.4s,baz=134,slow=6.2,SNR=3.1						

MAN 26 09:40:06, 5.96N×124.76E, h1km, mb4.2, ML3.0, MS2.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.23**	**57**	⇓*i*P	Pg	09 40 16.6	+6.0
GSPH				*i* S	Sg	09 40 24.1	+10
DMPH	**Davao City--Mi**	**1.34**	**34**	⇑*i*P	Pb	09 40 33.4	+1.4
CTBH	**Cotabato--PC H**	**1.35**	**338**	⇑*i*P	Pg	09 40 31.6	-0.3
CTBH				*i* S	Sn	09 40 51.7	+1.1
BUKP	**Musuan**	**1.93**	**9**	*e*P	Pb	09 40 41.9	-0.2
BUKP				*e*S	Sn	09 40 56.0	-9.0
PAGZ	**Pagadian**	**2.32**	**324**	*e*P	Pn	09 40 47.0	+1.6
PAGZ				*e*S	Sn	09 41 03.5	-11

*NIED **26** 09:45:00, 25.90N×129.20E, h8km, Mw3.6 Best double couple: M0 2.38000×10^14 NP1: φs 17.00000°, δ 71.00000°, λ -121.00000°. NP2: φs 259.00000°, δ 36.00000°, λ -33.00000°.*

JMA 26 09:45:47.3±0.2, 25.91N×129.21E, h48km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.24**	**318**	P	Pn	09 46 08.8	+0.5
JOW				S	Sn	09 46 23.8	-0.2
JJT2	**Tamagusuku 2**	**1.33**	**280**	P	Pn	09 46 10.1	+0.6
JJT2				S	Sn	09 46 25.7	-0.4
NAH1	**Naha**	**1.40**	**282**	P	Pn	09 46 11.1	+0.7
NAH1				S	Sn	09 46 27.1	-0.6
JIH	**Iheya**	**1.58**	**315**	P	Pn	09 46 13.8	+0.9
JIH				S	Sn	09 46 32.6	+0.5
JMZ	**Minamidaito 2**	**1.81**	**92**	P	Pn	09 46 16.5	+0.4
JMZ				S	Sn	09 46 36.2	-1.7
JTK	**Tokunoshima**	**1.88**	**353**	P	Pn	09 46 18.2	+1.2
JTK				S	Sn	09 46 38.7	-0.9
JAGN	**Aguni-jima**	**1.89**	**291**	P	Pn	09 46 18.0	+0.9
JAGN				S	Sn	09 46 39.4	-0.4
JKE	**Kume jima 2**	**2.22**	**281**	P	Pn	09 46 21.5	-0.1
JKE				S	Sn	09 46 46.1	-1.7
JZK	**Kikaishima**	**2.49**	**16**	S	Sn	09 46 56.9	+2.4
JAM	**Amami Oshima**	**2.52**	**8**	P	Pn	09 46 26.8	+1.1
JAM				S	Sn	09 46 55.5	+0.4

*ISK **26** 09:50:45.4, 38.66N×43.24E, h4km, MD2.9*
*DDA **26** 09:50:45.9, 38.65N×43.19E, h20km, MD3.3*
*CSEM **26** 09:50:45.6±0.2, 38.65N×43.22E, h2km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.5km az=57.0*

ISC 26 09:50:46.2±0.8, 38.65N±0.02×43.22E±0.03, h12km±6km, n29, σ1§17/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**110**	PG	Pg	**09 50 49.2**	**-0.6**
VANB				*e*SG	**Sg**	**09 50 51.5**	**-0.8**
VANB	**Van**	**0.14**	**110**	*i* Pg	**Pg**	**09 50 49.2**	**-0.6**
VANB				*e*Sg	**Sg**	**09 50 51.5**	**-0.8**
TVAN	**Van**	**0.19**	**128**	*i* P	**Pg**	**09 50 49.1**	**-1.4**
TVAN				*i* S	**Sg**	**09 50 55.9**	**+2.4**
TVAN	**Van**	**0.19**	**128**	*i* P	**Pg**	**09 50 49.1**	**-1.4**
TVAN				*i* S	**Sg**	**09 50 55.9**	**+2.4**
VANT	**Van**	**0.23**	**171**	PG	**Pg**	**09 50 50.2**	**-0.9**
VANT				*e*SG	**Sg**	**09 50 55.0**	**+0.5**
VANT	**Van**	**0.23**	**171**	*i* Pg	**Pg**	**09 50 50.2**	**-0.9**
VANT				*e*Sg	**Sg**	**09 50 55.0**	**+0.5**
CLDR	**Caldiran**	**0.74**	**47**	*e*PG	**Pg**	**09 50 59.1**	**-1.4**
CLDR				*e*SG	**Sg**	**09 51 10.2**	**-0.1**
CLDR	**Caldiran**	**0.74**	**47**	*e*Pg	**Pg**	**09 50 59.1**	**-1.4**
CLDR				*e*Sg	**Sg**	**09 51 10.2**	**-0.1**
TATV	**Tatvan**	**0.76**	**260**	*i* P	**Pg**	**09 51 00.2**	**-0.7**
TATV				*i* S	**Sg**	**09 51 10.1**	**-0.9**
TATV	**Tatvan**	**0.76**	**260**	*i* P	**Pg**	**09 51 00.2**	**-0.7**
TATV				*i* S	**Sg**	**09 51 10.0**	**-0.9**
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pg**	**09 51 01.4**	**-0.7**
TUTA				*i* S	**Sb**	**09 51 13.2**	**-0.4**
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pg**	**09 51 01.4**	**-0.7**
TUTA				*i* S	**Sb**	**09 51 13.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*PG	**Pb**	**09 51 04.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*Pg	**Pb**	**09 51 04.0**	**-0.7**
HAKT	**HAKKARI**	**1.15**	**160**	*i* P	**Pg**	**09 51 05.5**	**-2.9**
HAKT				*i* S	**Sb**	**09 51 23.3**	**+0.2**
HAKT	**HAKKARI**	**1.15**	**160**	*i* P	**Pg**	**09 51 05.5**	**-2.9**
HAKT				*i* S	**Sb**	**09 51 23.3**	**+0.2**
SIRN	**S¨–rnak**	**1.31**	**209**	*i* P	**Pb**	**09 51 10.5**	**-0.3**
SIRN				*i* S	**Sn**	**09 51 30.0**	**+2.2**
SIRN	**S¨–rnak**	**1.31**	**209**	*i* P	**Pb**	**09 51 10.5**	**-0.3**
SIRN				*i* S	**Sn**	**09 51 30.0**	**+2.2**
CUKT	**Cukurca**	**1.43**	**167**	*e*PN	**Pb**	**09 51 12.6**	**-0.2**
CUKT	**Cukurca**	**1.43**	**167**	*e*Pn	**Pb**	**09 51 12.6**	**-0.2**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*PN	**Pg**	**09 51 13.4**	**-1.0**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*Pn	**Pg**	**09 51 13.4**	**-1.0**
BNGL	**BINGOL**	**1.65**	**281**	*i* P	**Pn**	**09 51 15.8**	**+0.7**
BNGL				*i* S	**Sg**	**09 51 39.3**	**+0.1**
BEST	**Besiri**	**1.71**	**244**	*i* P	**Pb**	**09 51 17.4**	**-0.1**
BEST				*i* S	**Sg**	**09 51 40.0**	**-1.2**
ERZM	**Erzurum**	**1.91**	**312**	*i* P	**Pb**	**09 51 21.4**	**+0.2**
ERZM				*i* S	**Sb**	**09 51 45.3**	**+0.3**
ERZM	**Erzurum**	**1.91**	**312**	*i* P	**Pb**	**09 51 21.4**	**+0.2**
ERZM				*i* S	**Sb**	**09 51 45.3**	**+0.3**
EZM	**Erzurum**	**1.91**	**312**	*e*PN	**Pn**	**09 51 20.0**	**+1.1**
BNGB	**Bing¶l**	**2.02**	**281**	*e*PN	**Pb**	**09 51 21.9**	**-0.8**
BINT	**Bingol**	**2.15**	**277**	*e*Pn	**Pn**	**09 51 22.0**	**+0.1**

IDC 26 10:05:40.6±2.0, 46.84N×155.38E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.4/25, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=63.4km s-min=28.4km az=156.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.45**	**13**	Pn	Pn	10 07 15.9	-1.0
	0.6nm,0.3s,baz=175,slow=14,SNR=5.7						
ASAJ	**Asahikawa**	**9.39**	**258**	Pn	Pn	10 07 57.9	+0.8
	0.6nm,0.3s,baz=140,slow=21,SNR=5.1						
USRK	**Usuriysk Arra**	**16.59**	**269**	Pn	Pn	10 09 33.7	-0.7
	0.0nm,0.3s,baz=74,slow=13,SNR=6.6						
ILAR	**Eielson Array**	**35.51**	**39**	P	P	10 12 39.6	+0.9
	0.2nm,0.8s,baz=255,slow=6.9,SNR=4.9						
TXAR	**Lajitas Array**	**76.08**	**62**	P	P	10 17 29.8	-0.4
	0.4nm,0.5s,baz=304,slow=4.5,SNR=9.3						

TAP 26 10:10:17.2, 23.17N×121.11E, h5km, ML3.5, 10C-11D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.09**	**282**	⇑*i*P	Pg	10 10 19.5	+0.2
	baz=281						
ELDTW				*e*S	Sg	10 10 20.7	0.0
	baz=281						
CHKT	**Chengkung**	**0.25**	**107**	⇑*i*P	Pg	10 10 23.8	+1.7
	baz=106						
CHKT				*e*S	Sg	10 10 28.7	+3.3
	baz=106						
TWF1	**Yuli**	**0.25**	**44**	⇓*i*P	Pg	10 10 22.8	+0.6
	baz=45						
TWF1				S	Sg	10 10 26.1	+0.6
	baz=45						
STYT	**Tauyuan**	**0.32**	**268**	⇑*i*P	Pg	10 10 24.1	+0.5
	baz=269						
STYT				S	Sg	10 10 28.2	+0.3
	baz=269						
YUS	**Yu-Shan**	**0.35**	**336**	⇑*i*P	Pg	10 10 24.7	0.0
	baz=337						
YUS				*i* S	Sg	10 10 29.4	-0.2
	baz=337						
TWG	**Pinlang**	**0.35**	**185**	⇓*i*P	Pg	10 10 24.4	+0.4
	baz=185						
TWG				*e*S	Sg	10 10 29.7	+1.0
	baz=185						
EHY	**Hungye**	**0.39**	**31**	⇓*i*P	Pg	10 10 25.0	+0.2
	baz=31						
EHY				*e*S	Sg	10 10 30.3	+0.4
	baz=31						
TTN	**Taitung**	**0.42**	**175**	*e*P	Pb	10 10 26.2	-0.8
	baz=192						
ALS	**Alishan**	**0.44**	**321**	*i* P	Pg	10 10 26.6	+0.5
	baz=321						
ALS				*e*S	Sg	10 10 32.8	+0.7
	baz=321						
WTP	**Ta-pu**	**0.46**	**279**	⇑*i*P	Pb	10 10 27.2	-0.7
	baz=274						
WTP				*e*S	Sb	10 10 33.8	-1.3
	baz=274						
SGST	**Jiashian**	**0.49**	**260**	⇓P	Pb	10 10 27.8	-0.6
	baz=260						
SGST				*e*S	Sb	10 10 34.8	-1.1
	baz=260						
CHN4	**Tsaushan**	**0.51**	**291**	⇑*i*P	Pb	10 10 28.3	-0.3
	baz=300						
CHN4				S	Sb	10 10 35.8	-0.6
	baz=300						
CHN1	**Nanshi**	**0.53**	**272**	⇑P	Pb	10 10 28.9	-0.2
	baz=272						
CHN1				*e*S	Sb	10 10 37.1	0.0
	baz=272						
TWK	**Hsinying**	**0.58**	**280**	⇑*i*P	Pb	10 10 29.7	-0.2
	baz=288						
TWK				*e*S	Sb	10 10 38.5	+0.1
	baz=288						
CHN5	**Tsauling**	**0.58**	**317**	⇑*i*P	Pb	10 10 29.6	-0.4
	baz=317						
CHN5				*e*S	Sg	10 10 37.0	+0.9
	baz=317						
ECL	**Taimali**	**0.59**	**194**	⇓*i*P	Pg	10 10 28.4	-0.2
	baz=194						
ECL				*e*S	Sg	10 10 36.2	0.0
	baz=194						
SSD	**Sandimen**	**0.61**	**226**	⇓*i*P	Pg	10 10 28.8	-0.2
	baz=232						
CHN2	**Minshiung**	**0.68**	**302**	*e*P	Pb	10 10 32.0	+0.4
	baz=302						
CHN3	**Shinhua**	**0.69**	**262**	*e*P	Pb	10 10 32.4	+0.6
	baz=260						
CHN3				*e*S	Sn	10 10 45.0	+0.2
	baz=260						
ESL	**Shilin**	**0.71**	**25**	⇓P	Pg	10 10 30.6	-0.3
	baz=25						
ESL				*e*S	Sg	10 10 39.8	-0.2
	baz=25						
CHY	**Chiayi**	**0.71**	**297**	⇑*i*P	Pb	10 10 32.3	+0.2
	baz=298						
CHY				*e*S	Sb	10 10 43.2	+1.2
	baz=298						
WGK	**Gukeng**	**0.72**	**316**	P	Pb	10 10 32.6	+0.4
	baz=323						
WGK				*e*S	Sn	10 10 44.0	-1.4
	baz=323						
TWM1	**Shoushan**	**0.72**	**241**	*e*P	Pb	10 10 32.8	+0.5
	baz=242						
SGLT	**Jiouru**	**0.72**	**232**	*e*P	Pb	10 10 32.0	-0.3
	baz=228						
SGLT				*e*S	Sn	10 10 45.6	+0.1
	baz=228						
SMLT	**Sun Moon Lake**	**0.73**	**345**	*e*P	Pb	10 10 31.5	-0.1
	baz=345						
TYC	**Yuchr**	**0.76**	**343**	*e*P	Pg	10 10 32.5	+0.5
	baz=349						
WNT	**Mingjian**	**0.80**	**331**	P	Pn	10 10 34.6	-0.6
	baz=332						
WNT				*e*S	Sn	10 10 46.9	-0.6
	baz=332						
TAI1	**Yung-k'ang**	**0.82**	**261**	*e*P	Pn	10 10 35.2	-0.1
	baz=277						
EAST	**Anshuo**	**0.82**	**197**	⇓*i*P	Pg	10 10 32.9	-0.2
	baz=183						
TAW	**Tawu**	**0.83**	**194**	*e*P	Pg	10 10 33.0	-0.3
	baz=180						
SCLT	**Jiali**	**0.84**	**270**	*e*P	Pn	10 10 35.4	-0.3
	baz=271						
SCLT				*e*S	Sn	10 10 48.7	+0.2
	baz=271						
CHN8	**Yiju**	**0.84**	**282**	*e*P	Pb	10 10 34.2	-0.1
	baz=283						
SCZT	**Fangliau**	**0.91**	**210**	⇓*i*P	Pg	10 10 34.5	-0.3
	baz=211						
HWA	**Hwalien**	**0.92**	**30**	*e*P	Pb	10 10 35.5	-0.2
	baz=28						
WSF	**Szhu**	**0.94**	**300**	*e*P	Pb	10 10 35.7	-0.3
	baz=301						
KAU	**Kaohsiung**	**0.95**	**231**	*e*P	Pn	10 10 38.9	+1.7
	baz=232						
WHF	**Hehuan Shan**	**0.98**	**8**	*e*P	Pg	10 10 35.4	-1.2
	baz=19						
TWD	**Chiawan**	**1.01**	**26**	*e*P	Pg	10 10 36.3	-0.3
	baz=26						
TWD				*e*S	Sg	10 10 49.9	+0.1
	baz=26						
WTCT	**Ta-ch'eng**	**1.02**	**312**	*e*P	Pb	10 10 37.6	+0.1
	baz=313						
TCU	**Taichung**	**1.05**	**338**	*e*P	Pn	10 10 38.7	+0.1
	baz=338						
TWP	**Hsiaoliuchiu**	**1.07**	**220**	*e*P	Pn	10 10 40.9	+2.0
	baz=238						
TWT	**Tachien**	**1.08**	**3**	*e*P	Pg	10 10 37.5	-0.8
	baz=12						
LAY	**Lan-yu**	**1.20**	**160**	*e*P	Pg	10 10 38.0	-2.4
	baz=176						
HEN	**Hengchun**	**1.21**	**196**	*e*P	Pn	10 10 41.1	+0.3
	baz=186						
TWQ1	**Liyutan**	**1.21**	**345**	⇓P	Pn	10 10 41.7	+0.9
	baz=346						
TWQ1				*e*S	Sn	10 10 59.5	+1.8
	baz=346						
TWK1	**Hengchun**	**1.25**	**193**	*e*P	Pg	10 10 40.8	-0.6
	baz=183						
NSY	**Sanyi**	**1.28**	**346**	⇓*e*P	Pb	10 10 43.1	+1.3
	baz=346						
NSY				*e*S	Sn	10 11 01.6	+2.2
	baz=346						
TSEB	**Hengchuen, Pin**	**1.28**	**189**	*e*P	Pb	10 10 43.9	+2.0
	baz=181						
NNS	**Nan Shan**	**1.29**	**11**	*e*P	Pn	10 10 41.2	-0.9
	baz=20						
NNS				*e*S	Sg	10 10 58.9	-0.1
	baz=20						
ENA	**Nanau**	**1.38**	**25**	*e*P	Pn	10 10 42.9	-0.2
	baz=22						
NSTT	**Nanjuang**	**1.46**	**356**	*e*P	Pg	10 10 45.6	+0.4
	baz=8.0						
NSTT				*e*S	Sg	10 11 05.6	+1.4
	baz=8.0						
PNG	**Penghu**	**1.48**	**286**	*e*P	Pn	10 10 44.3	-0.2
	baz=287						
PNG				*e*S	Sn	10 11 03.8	-0.5
	baz=287						
NSK	**Sanguang**	**1.52**	**9**	*e*P	Pn	10 10 45.4	+0.3
	baz=9.0						
NSK				*e*S	Sg	10 11 06.0	-0.1
	baz=9.0						
ENTT	**Nioudou**	**1.52**	**16**	*e*P	Pb	10 10 45.6	-0.3
	baz=28						
ENTT				*e*S	Sb	10 11 05.9	+0.3
	baz=28						
TWC	**Suao**	**1.58**

LAST	**Lasithi**	**1.32**	**72**	*e*Pn	**Pb**	**10 19 04.0**	**+0.6**
XRY	**Khrisi**	**1.44**	**85**	*e*PN	**Pb**	**10 19 05.8**	**+0.4**
XRY	**Khrisi**	**1.44**	**85**	*e*Pn	**Pb**	**10 19 05.8**	**+0.4**
NPS	**Neapolis**	**1.45**	**69**	P	**Pb**	**10 19 06.6**	**+0.9**
NPS				S	**Sn**	**10 19 22.0**	**+0.1**
NPS	**Neapolis**	**1.45**	**69**	*e*PN	**Pb**	**10 19 06.7**	**+1.0**
NPS				*e*SN	**Sb**	**10 19 26.2**	**+2.5**
NPS	**Neapolis**	**1.45**	**69**	P	**Pb**	**10 19 06.6**	**+0.9**
KYTH	**Kithira**	**1.70**	**334**	P	**Pb**	**10 19 10.6**	**+0.7**
KYTH	**Kithira**	**1.70**	**334**	*e*PN	**Pb**	**10 19 09.9**	**0.0**
KYTH	**Kithira**	**1.70**	**334**	*e*Pn	**Pb**	**10 19 09.9**	**0.0**
KYTH	**Kithira**	**1.70**	**334**	P	**Pb**	**10 19 10.6**	**+0.7**
ZKR	**Zakros**	**1.89**	**78**	*e*PN	**Pb**	**10 19 12.4**	**-0.8**
VLI	**Veliai**	**2.13**	**337**	P	**Pb**	**10 19 16.4**	**-0.8**
VLI				S	**Sn**	**10 19 41.0**	**+2.5**
VLI	**Veliai**	**2.13**	**337**	*e*PB	**Pn**	**10 19 15.1**	**+2.1**
VLI	**Veliai**	**2.13**	**337**	*e*Pb	**Pn**	**10 19 15.1**	**+2.1**
VLI	**Veliai**	**2.13**	**337**	P	**Pb**	**10 19 16.4**	**-0.8**
VLI				S	**Sn**	**10 19 41.0**	**+2.5**
APE	**Apeiranthos**	**2.64**	**29**	P	**Pn**	**10 19 21.1**	**+1.0**
APE				S	**Sn**	**10 19 51.3**	**+0.1**
APE	**Apeiranthos**	**2.64**	**29**	*e*PN	**Pn**	**10 19 21.1**	**+1.0**
APE	**Apeiranthos**	**2.64**	**29**	P	**Pn**	**10 19 21.1**	**+1.0**
APE				S	**Sn**	**10 19 51.3**	**+0.1**
KARP	**Karpathos**	**2.74**	**72**	P	**Pn**	**10 19 23.8**	**+2.2**
KARP				S	**Sn**	**10 19 55.8**	**+2.0**
KARP	**Karpathos**	**2.74**	**72**	*e*PN	**Pn**	**10 19 23.7**	**+2.2**
KARP	**Karpathos**	**2.74**	**72**	*e*Pn	**Pn**	**10 19 23.7**	**+2.2**
PYL	**PYLOS**	**2.79**	**321**	P	**Pn**	**10 19 24.6**	**+2.4**
PYL				S	**Sn**	**10 19 56.5**	**+1.6**
PYL	**PYLOS**	**2.79**	**321**	*e*PN	**Pn**	**10 19 24.5**	**+2.4**
PYL	**PYLOS**	**2.79**	**321**	*e*Pn	**Pn**	**10 19 24.5**	**+2.4**
PYL				S	**Sn**	**10 19 56.5**	**+1.6**
DID	**Didima**	**2.81**	**348**	P	**Pn**	**10 19 24.4**	**+2.0**
DID				S	**Sn**	**10 19 56.5**	**+1.2**
DID	**Didima**	**2.81**	**348**	*e*PN	**Pn**	**10 19 24.3**	**+1.9**
DID	**Didima**	**2.81**	**348**	*e*Pn	**Pn**	**10 19 24.3**	**+1.9**
DID				S	**Sn**	**10 19 56.5**	**+1.2**
VLX	**Vlachokerasia**	**2.91**	**334**	*e*PN	**Pn**	**10 19 24.8**	**+1.0**
VLX	**Vlachokerasia**	**2.91**	**334**	*e*Pn	**Pn**	**10 19 24.8**	**+1.0**
ITM	**Ithomi**	**2.93**	**326**	P	**Pn**	**10 19 26.9**	**+2.9**
ITM	**Ithomi**	**2.93**	**326**	*e*PN	**Pn**	**10 19 26.1**	**+2.1**
ITM				*e*SN	**Sn**	**10 19 59.9**	**+1.6**
ITM	**Ithomi**	**2.93**	**326**	*e*Pn	**Pn**	**10 19 26.1**	**+2.1**
ITM	**Ithomi**	**2.93**	**326**	P	**Pn**	**10 19 26.9**	**+2.9**
ITM				*e*Sn	**Sn**	**10 19 59.9**	**+1.6**
NAIG	**Nisos Aigina**	**3.02**	**353**	*e*PN	**Pn**	**10 19 26.9**	**+1.6**
NAIG	**Nisos Aigina**	**3.02**	**353**	*e*Pn	**Pn**	**10 19 26.9**	**+1.6**
VLY	**Voula,Athens**	**3.10**	**358**	P	**Pn**	**10 19 27.9**	**+1.6**
VLY	**Voula,Athens**	**3.10**	**358**	*e*PN	**Pn**	**10 19 27.9**	**+1.6**
VLY	**Voula,Athens**	**3.10**	**358**	P	**Pn**	**10 19 27.9**	**+1.6**
PTL	**Penteli**	**3.29**	**359**	*e*PN	**Pn**	**10 19 30.1**	**+1.1**
PTL	**Penteli**	**3.29**	**359**	*e*Pn	**Pn**	**10 19 30.1**	**+1.1**
LTK	**Loutraki**	**3.36**	**347**	*e*PN	**Pn**	**10 19 31.9**	**+2.0**
LTK	**Loutraki**	**3.36**	**347**	*e*Pn	**Pn**	**10 19 31.9**	**+2.0**
SLUM		**3.42**	**162**	P	**Pn**	**10 19 30.3**	**-0.5**
GUR	**Goura**	**3.43**	**338**	*e*PN	**Pn**	**10 19 33.9**	**+2.9**
GUR				*e*SN	**Sn**	**10 20 12.7**	**+1.8**
GUR	**Goura**	**3.43**	**338**	*e*Pn	**Pn**	**10 19 33.9**	**+2.9**
GUR				*e*Sn	**Sn**	**10 20 12.7**	**+1.8**
ARG	**Arkhangelos**	**3.70**	**66**	P	**Pn**	**10 19 36.4**	**+1.7**
ARG				S	**Sn**	**10 20 17.1**	**-0.3**
ARG	**Arkhangelos**	**3.70**	**66**	*e*PN	**Pn**	**10 19 36.4**	**+1.7**
ARG	**Arkhangelos**	**3.70**	**66**	P	**Pn**	**10 19 36.4**	**+1.7**
SMG	**Samos**	**3.76**	**37**	*e*PN	**Pn**	**10 19 36.8**	**+1.4**
SMG	**Samos**	**3.76**	**37**	*e*Pn	**Pn**	**10 19 36.8**	**+1.4**
RLS	**Riolos of Patr**	**3.86**	**329**	*e*PN	**Pn**	**10 19 39.1**	**+2.3**
RLS	**Riolos of Patr**	**3.86**	**329**	*e*Pn	**Pn**	**10 19 39.1**	**+2.3**
CHOS	**Chios island**	**4.00**	**24**	*e*PN	**Pn**	**10 19 41.9**	**+3.1**
CHOS	**Chios island**	**4.00**	**24**	*e*Pn	**Pn**	**10 19 41.9**	**+3.1**
EFP	**Efpalio**	**4.02**	**336**	*e*PN	**Pn**	**10 19 41.8**	**+2.8**
EFP	**Efpalio**	**4.02**	**336**	*e*Pn	**Pn**	**10 19 41.8**	**+2.8**
AYDN	**Tasoluk**	**4.30**	**46**	*i* P	**Pn**	**10 19 45.5**	**+2.6**
AYDN	**Tasoluk**	**4.30**	**46**	*i* P	**Pn**	**10 19 45.5**	**+2.6**
TURN	**Turunc**	**4.33**	**59**	*i* P	**Pn**	**10 19 40.8**	**-2.4**
TURN	**Turunc**	**4.33**	**59**	*i* P	**Pn**	**10 19 40.8**	**-2.4**
VLS	**Valsamata**	**4.36**	**323**	*e*PN	**Pn**	**10 19 45.7**	**+2.0**
VLS	**Valsamata**	**4.36**	**323**	*e*Pn	**Pn**	**10 19 45.7**	**+2.0**
HMAT	**Matruh**	**4.50**	**143**	P	**Pn**	**10 19 45.3**	**-0.4**
DNZL	**Cakiroluk**	**5.05**	**53**	*i* P	**Pn**	**10 19 54.0**	**+0.6**
DNZL	**Cakiroluk**	**5.05**	**53**	*i* P	**Pn**	**10 19 54.0**	**+0.6**
GOLH	**Golhisar**	**5.18**	**60**	*i* P	**Pn**	**10 19 56.6**	**+1.6**
GOLH	**Golhisar**	**5.18**	**60**	*i* P	**Pn**	**10 19 56.6**	**+1.6**
KORT	**Korkueli**	**5.66**	**65**	*i* P	Pn	10 19 57.8	-3.8
KHAL	**Karahalli**	**5.73**	**49**	*i* P	**Pn**	**10 20 04.8**	**+2.1**
KHAL	**Karahalli**	**5.73**	**49**	*i* P	**Pn**	**10 20 04.8**	**+2.1**
HNAT	**Natroun**	**7.61**	**130**	P	**Pn**	**10 20 28.1**	**-0.3**
AWBH		**7.68**	**145**	P	**Pn**	**10 20 28.8**	**-0.5**
CSS	**Prodhromos**	**7.71**	**86**	Pn	**Pn**	**10 20 27.6**	**-2.1**
GLL	**Jalalah**	**8.36**	**126**	P	**Pn**	**10 20 37.8**	**-0.8**
HFRF	**Wahat Farafira**	**8.45**	**153**	P	**Pn**	**10 20 39.4**	**-0.5**
AMAG	**Maghara**	**8.81**	**115**	P	**Pn**	**10 20 43.5**	**-1.3**
SUZ		**8.97**	**121**	P	**Pn**	**10 20 46.0**	**-1.0**
RSH		**9.04**	**112**	P	**Pn**	**10 20 46.2**	**-1.8**
STON	**Ston**	**9.46**	**331**	*e*Pn	**Pn**	**10 20 52.0**	**-1.6**
STON				Sn	Sn	10 22 28.9	-10
KZIT	**Kziot**	**9.59**	**111**	Pn	**Pn**	**10 20 53.0**	**-2.5**
MMAI	**Mount Meron Ar**	**9.67**	**97**	Pn	**Pn**	**10 20 54.7**	**-2.0**
	4.5nm,0.3s,baz=323,slow=12,SNR=7.5						
MMAI				Sn	Sn	10 22 37.6	-6.9
	4.8nm,0.3s,baz=269,slow=26,SNR=5.7						
ASUT		**9.81**	**136**	P	**Pn**	**10 20 57.7**	**-0.9**
DSI	**Dead Sea**	**10.09**	**105**	Pn	**Pn**	**10 21 00.3**	**-2.0**
PRNI	**Paran**	**10.30**	**112**	Pn	**Pn**	**10 21 04.1**	**-1.2**
HDK1	**Dakhla**	**10.32**	**151**	P	**Pn**	**10 21 05.0**	**-0.5**
MBRI	**Mt Berech**	**10.51**	**115**	Pn	**Pn**	**10 21 06.6**	**-1.6**
EIL	**Elat**	**10.60**	**116**	Pn	**Pn**	**10 21 07.4**	**-1.9**
	0.9nm,0.3s,baz=174,slow=12,SNR=9.8						
EIL				Sn	Sn	10 22 57.9	-9.3
	1.3nm,0.3s,baz=282,slow=18,SNR=4.2						
NVLJ	**Novalja**	**12.03**	**327**	Sn	Sn	10 23 32.1	-10
GERES	**GERESS Array B**	**16.00**	**335**	Pn	**P**	**10 22 24.7**	**-1.0**
	0.0nm,0.3s,baz=148,slow=15,SNR=2.5						
KHC	**Kasperske Hory**	**16.28**	**335**	*e*P	**P**	**10 22 32.0**	**+3.3**
HFS	**Hagfors**	**26.26**	**348**	P	**P**	**10 24 12.1**	**+0.2**
	2.6nm,0.9s,baz=162,slow=10,SNR=6.5						
NOA	**NORSAR Array B**	**27.55**	**347**	P	**P**	**10 24 22.9**	**-0.7**
	0.8nm,0.7s,baz=136,slow=15,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.48**	**229**	P	**P**	**10 24 41.2**	**+0.1**
	1.6nm,0.5s,baz=36,slow=8.6,SNR=28						
ARCES	**ARCESS Array B**	**34.84**	**1**	P	**P**	**10 25 25.9**	**-1.7**
	0.7nm,0.7s,baz=190,slow=9.6,SNR=4.4						
DBIC	**Dimbokro**	**38.55**	**230**	P	**P**	**10 25 59.9**	**+0.2**
	1.6nm,1.1s,baz=22,slow=2.6,SNR=3.6						
KURK	**Kurchatov**	**42.20**	**51**	P	**P**	**10 26 28.4**	**-1.2**
	1.2nm,0.4s,baz=276,slow=8.4,SNR=8.8						
MKAR	**Makanchi Array**	**44.82**	**56**	P	**P**	**10 26 50.5**	**-0.2**
	0.4nm,0.3s,baz=267,slow=7.7,SNR=23						
ZALV	**Zalesovo Beam**	**46.00**	**46**	P	**P**	**10 26 59.0**	**-0.9**
	1.1nm,0.4s,baz=268,slow=9.1,SNR=7.4						
SONM	**Songino Array**	**60.51**	**50**	P	**P**	**10 28 46.8**	**-0.1**
	0.2nm,0.5s,baz=298,slow=6.9,SNR=4.2						
YKA	**Yellowknife Ar**	**77.53**	**342**	P	**P**	**10 30 32.4**	**+0.3**
	0.1nm,0.3s,baz=29,slow=5.5,SNR=2.9						

*TRN **26** 10:32:37.8, 18˚.70N×64˚.44W, h35km, MD3.5(RSPR)*
*NEIC **26** 10:32:38.9, 18˚.73N×64˚.34W, h40km, MD3.5(RSPR), After RSPR.*
*RSPR **26** 10:32:38.9, 18˚.73N×64˚.34W, h40km±7km*
ISC 26 10:32:37.7±4.6, 18˚.7N±0˚.5×64˚.3W±0˚.3, h47km±32km, n15, σ0.36/21, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TBVI	**Tortola**	**0.38**	**230**	⇑*e*P		**Pn**	**10 32 47.2**	**-0.2**
TBVI				*e*S		**Sn**	**10 32 54.6**	**+0.3**
TBVI	**Tortola**	**0.38**	**230**	⇑*e*P		**Pn**	**10 32 47.2**	**-0.2**
TBVI				*e*S		**Sn**	**10 32 54.6**	**+0.3**
TBVI	**Tortola**	**0.38**	**230**	⇑*e*P		**Pn**	**10 32 47.2**	**-0.2**
TBVI				*e*S		**Sn**	**10 32 54.6**	**+0.3**
STVI	**Saint Thomas**	**0.69**	**243**	⇑*e*P		**Pn**	**10 32 51.0**	**-0.2**
STVI	**Saint Thomas**	**0.69**	**243**	*e*S			10 33 01.0	
STVI	**Saint Thomas**	**0.69**	**243**	⇑*e*P		**Pn**	**10 32 51.0**	**-0.2**
STVI				*e*S		**Sn**	**10 33 01.0**	**+0.1**
STVI	**Saint Thomas**	**0.69**	**243**	⇑*e*P		**Pn**	**10 32 51.2**	**0.0**
STVI				*e*S		**Sn**	**10 33 01.3**	**+0.4**
MTP	**Monte Pirata**	**1.31**	**245**	⇑*e*P		**Pn**	**10 32 59.7**	**+0.1**
MTP	**Monte Pirata**	**1.31**	**245**	*e*S			10 33 15.8	
MTP	**Monte Pirata**	**1.31**	**245**	⇑*e*P		**Pn**	**10 32 59.7**	**+0.1**
MTP				*e*S		**Sn**	**10 33 15.8**	**-0.1**
MTP	**Monte Pirata**	**1.31**	**245**	⇑*e*P		**Pn**	**10 32 59.7**	**+0.1**
MTP				*e*S		**Sn**	**10 33 15.8**	**-0.1**
CBYP	**Canovanas**	**1.52**	**255**	⇑*e*P		**Pn**	**10 33 03.0**	**+0.4**
CBYP				*e*S			10 33 20.5	
CBYP	**Canovanas**	**1.52**	**255**	⇑*e*P		**Pn**	**10 33 03.0**	**+0.4**
CBYP				*e*S		**Sn**	**10 33 20.5**	**-0.7**
CBYP	**Canovanas**	**1.52**	**255**	⇑*e*P		**Pn**	**10 33 03.0**	**+0.4**
CBYP				*e*S		**Sn**	**10 33 20.5**	**-0.7**

*BJI **26** 10:33:29.9, 3˚.48N×126˚.79E, h26km, mB5.0/28, mb4.8/48, Ms4.6/24, Ms7 4.3/28*
*IDC **26** 10:33:30.2±0.4, 3˚.74N×126˚.43E, h0km, mb4.5/32, mb1 4.6/32, mb1mx4.6/33, mbtmp4.5/32, MS3.7/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=20.3km s-min=9.2km az=76.0*
*ISCJB **26** 10:33:32.2±0.2, 3˚.70N±0˚.03×126˚.60E±0˚.05, h26km, mb4.7/78, MS3.9/18, Error ellipse: s-maj=8.2km s-min=4.3km az=159.8*
*MOS **26** 10:33:33.1±1.0, 3˚.73N×126˚.59E, h33km, mb5.1/25, Error ellipse: s-maj=14.8km s-min=6.1km az=111.6*
*NEIC **26** 10:33:35.1±0.2, 3˚.72N×126˚.53E, h35km, mb4.9/23, Error ellipse: s-maj=8.3km s-min=4.8km az=74.0*
*DJA **26** 10:33:37, 3.53N×126˚.71E, h10km, MLv4.9/9*
ISC 26 10:33:34.3±0.4, 3.78N±0˚.04×126˚.62E±0˚.06, h27km±1km, h26km:pP-P, n229, σ1$20/272, mb4.7/76, MS3.9/18, 7C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.10**	**265**	P		**Pb**	**10 33 56.6**	**+1.9**
GSPH	**General Santos**	**2.83**	**324**	⇑*i*P		**Pn**	**10 34 20.7**	**+2.7**
GSPH				*e*S		**Sb**	**10 34 56.3**	**-2.3**
MNI	**Manado**	**2.93**	**218**	P		**Pb**	**10 34 25.7**	**-0.2**
TNTI	**Ternate**	**3.08**	**166**	P		**Pn**	**10 34 23.9**	**+2.6**
MATI	**Mati**	**3.16**	**353**	*e*P		**Pb**	**10 34 27.3**	**-2.6**
MATI				*e*S		**Sb**	**10 35 06.4**	**-1.7**
DAV	**Davao City (W)**	**3.43**	**342**	Pn		Pn	10 34 29.7	+3.7
	22nm,0.3s,baz=234,slow=14,SNR=3.7							
DAV	**Davao City (W)**	**3.43**	**342**	*e*Pn		**Pn**	**10 34 27.6**	**+1.5**
DMPH	**Davao City--Mi**	**3.46**	**341**	*e*P		Pb	10 34 31.2	-3.8
KCP	**Kidapawan**	**3.55**	**335**	⇓*e*P		Pb	10 34 32.6	-3.9
KCP				*i* S		**Sb**	**10 35 15.6**	**-3.6**
KMSI	**Cibinong**	**4.14**	**220**	P		**Pb**	**10 34 44.5**	**-2.0**
KMSI	**Cibinong**	**4.14**	**220**	P		S	10 35 28.6	
CTBH	**Cotabato--PC H**	**4.16**	**325**	⇓*e*P		Pn	10 34 39.7	+3.6
BUKP	**Musuan**	**4.36**	**339**	*e*P		Pn	10 34 43.4	+4.5
LBMI	**Labuha**	**4.48**	**169**	P		Pn	10 34 45.7	+5.2
CGP	**Cagayan de Oro**	**5.02**	**338**	*e*P		Pn	10 34 52.5	+4.5
PAGZ	**Pagadian**	**5.17**	**322**	*e*P		Pn	10 34 54.7	+4.7
MRSI	**Marisa**	**5.72**	**235**	P		Pn	10 35 02.7	+5.2
	256nm,0.6s,3μm1.0nm							
MRSI	**Marisa**	**5.72**	**235**	P		Pn	10 35 02.7	+5.2
	256nm,0.6s,3μm							
LUWI	**Luwuk**	**6.15**	**219**	P		Pb	10 35 12.6	-8.1
	179nm,1.1s,3μm1.0nm							
LUWI	**Luwuk**	**6.15**	**219**	P		Pb	10 35 12.6	-8.1
	179nm,1.1s,3μm							
SWI	**Sorong**	**6.54**	**135**	P		**Pn**	**10 35 11.0**	**+2.2**
	51nm,0.7s,0.2nm							
KDI	**Kendari**	**8.67**	**208**	P		Pn	10 35 43.1	+5.0
	20nm,0.6s							
FAKI	**Fak Fak**	**8.71**	**140**	P		**Pn**	**10 35 41.0**	**+2.3**
	13nm,1.1s,0.2nm							
TTSI	**Tana Toraja**	**9.60**	**225**	P		Pn	10 35 59.5	+8.6
KSM	**Kuching**	**16.46**	**262**	*e*Pn		**Pn**	**10 37 21.3**	**-2.3**
	18nm,0.8s							
MTN	**Manton Dam**	**17.11**	**165**	*e*P		**Pn**	**10 37 29.4**	**-2.4**
TWG	**Pinlang**	**19.68**	**345**	*e*P		**P**	**10 38 00.0**	**-1.5**
	38nm,0.5s							
YULB	**Yu-li**	**20.16**	**346**	*e*P		**P**	**10 38 04.5**	**-2.3**
	20nm,0.3s							
TPUB	**Ta-pu**	**20.25**	**344**	*e*P		**P**	**10 38 06.6**	**-1.2**
	709nm,2.3s							
GUMO	**Guam**	**20.48**	**60**	LR		LR	10 45 38.1	
	comp=Z,75nm,19.3s,baz=116,slow=35							
SSLB	**Suanglung**	**20.63**	**345**	*e*P		**P**	**10 38 10.0**	**-1.9**
	94nm,1.3s							
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P		**P**	**10 38 23.2**	**-0.9**
	5.3nm,0.8s,baz=4.6,slow=12,SNR=8.1							
FITZ	**Fitzroy Crossi**	**21.77**	**183**	*e*P		**P**	**10 38 22.9**	**-1.2**
	17nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.77**	**183**	*e*P		**P**	**10 38 23.8**	**-0.3**
QIZ	**Qiongzhong**	**22.33**	**314**	P		**P**	**10 38 31.3**	**+1.1**
QIZ				S		**S**	**10 42 38.0**	**+3.6**
QIZ				LR	LR			
	comp=Z,350nm,8.8s							
JOW	**Kunigami**	**22.98**	**4**	P		**P**	**10 38 37.5**	**+0.6**
	comp=Z,16nm,0.7s,baz=189,slow=15,SNR=6.8							
JOW				LR	LR		10 47 33.3	
	comp=Z,134nm,19.2s,baz=38,slow=37							
JOW	**Kunigami**	**22.98**	**4**	P		**P**	**10 38 37.5**	**+0.6**
WRAB	**Tennant Creek**	**24.76**	**162**	*e*P		**P**	**10 38 52.7**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,21nm,0.6s							
WRAB	**Tennant Creek**	**24.76**	**162**	*e*P		**P**	**10 38 52.7**	**-1.3**
	comp=Z,21nm,0.6s							
WRA	**Warramunga Arr**	**24.77**	**162**	P		**P**	**10 38 52.5**	**-1.5**
	comp=Z,14nm,0.5s,baz=343,slow=10,SNR=84							
WRA	**Warramunga Arr**	**24.77**	**162**	P		**P**	**10 38 52.5**	**-1.5**
WRA	**Warramunga Arr**	**24.77**	**162**	P		**P**	**10 38 52.5**	**-1.5**
WB2	**Warramunga Arr**	**24.77**	**162**	*e*P		**P**	**10 38 52.5**	**-1.5**
CBIJ	**Chichi jima**	**27.55**	**31**	LR		LR	10 49 06.1	
	comp=Z,120nm,21.1s,baz=260,slow=34							
SSE	**Sheshan**	**27.65**	**350**	*e*P		**P**	**10 39 20.8**	**+0.9**
SSE				pmax	pmax			
	comp=Z,11nm,1.0s							
SSE				pmax	pmax			
	comp=Z,120nm,4.8s							
AS31	**Alice Springs**	**28.19**	**166**	*e*P		**P**	**10 39 24.0**	**-0.9**
ASAR	**Alice Springs**	**28.19**	**166**	P		**P**	**10 39 23.8**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=344,slow=7.6,SNR=47							
ASAR				PcP	PcP		**10 42 38.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=355,slow=2.0,SNR=5.3							
ASAR				S	S		10 44 15.2	+6.1
	comp=Z,1.1nm,0.8s,baz=346,slow=17,SNR=4.7							
ASAR	**Alice Springs**	**28.19**	**166**	P		**P**	**10 39 23.8**	**-1.1**
ASAR							10 42 38.6	
ASAR				S	S		10 44 15.2	+6.1
ASAR	**Alice Springs**	**28.19**	**166**	P		**P**	**10 39 23.8**	**-1.1**
ASAR				PcP	PcP		**10 42 38.6**	**+0.1**
ASAR				S	S		10 44 15.2	+6.1
WHN	**Wuhan**	**29.03**	**338**	*e*P		**P**	**10 39 32.5**	**+0.2**
WHN				pP	pP		**10 39 43.5**	**+3.3**
WHN				LR	LR			
	comp=Z,750nm,19.4s							
JNU	**Nakatsue**	**29.46**	**7**	P		**P**	**10 39 35.9**	**-0.2**
	comp=Z,6.4nm,0.5s,baz=326,slow=6.6,SNR=7.9							
JNU	**Nakatsue**	**29.46**	**7**	P		**P**	**10 39 35.9**	**-0.2**
GYA	**Guiyang**	**29.56**	**322**	P		**P**	**10 39 40.0**	**+2.8**
GYA				pP		**pP**	**10 39 46.8**	**+1.7**
GYA				S		**S**	**10 44 33.8**	**+3.0**
GYA				sS		**sS**	**10 44 45.5**	**+1.6**
GYA				ScP		**ScP**	**10 46 21.3**	**-1.0**
GYA				ScS		**ScS**	**10 50 15.5**	**-1.8**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.7s							
GYA				LR	LR			
	comp=N,480nm,16.5s							
GYA				LR	LR			
	comp=E,390nm,17.4s							
GYA				LR	LR			
	comp=Z,460nm,16.9s							
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P		**P**	**10 39 47.5**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=113,slow=7.4,SNR=19							
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P		**P**	**10 39 47.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P		**P**	**10 39 47.5**	**-0.1**
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**10 39 50.1**	**+1.1**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**10 39 50.1**	**+1.1**
	comp=Z,6.1nm,0.9s							
ENH	**Enshi**	**30.93**	**330**	*e*P		**P**	**10 39 48.9**	**-0.3**
	comp=Z,17nm,0.8s							
KMI	**Kunming**	**31.27**	**315**	P		**P**	**10 39 55.3**	**+2.9**
KMI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
KMI				LR	LR			
	comp=Z,150nm,24.0s							
KSAR	**Wonju Array Be**	**33.52**	**2**	P		**P**	**10 40 12.8**	**+1.1**
KSAR							10 42 53.7	
KSAR	**Wonju Array Be**	**33.52**	**2**	P		**P**	**10 40 12.8**	**+1.1**
KSAR				PcP		**PcP**	**10 42 53.6**	**+1.4**
KSRS	**Korea Array**	**33.53**	**2**	P		**P**	**10 40 12.8**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=179,slow=10,SNR=20							
KSRS				PcP		**PcP**	**10 42 53.6**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=195,slow=2.5,SNR=7.1							
MJAR	**Matsushiro Arr**	**34.30**	**17**	P		**P**	**10 40 18.0**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=180,slow=9.0,SNR=3.5							
MJAR				LR		LR	10 52 39.3	
	comp=Z,88nm,18.5s,baz=185,slow=33							
MJAR	**Matsushiro Arr**	**34.30**	**17**	P		**P**	**10 40 18.0**	**-0.6**
MJAR	**Matsushiro Arr**	**34.30**	**17**	P		**P**	**10 40 18.0**	**-0.6**
XAN	**Xi'an**	**34.32**	**333**	P		**P**	**10 40 18.3**	**-0.5**
XAN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
FORT	**Forrest**	**34.39**	**178**	*e*P		**P**	**10 40 18.7**	**-0.7**
	comp=Z,15nm,0.8s							
CD2	**Chengdu**	**34.54**	**324**	P		**P**	**10 40 20.8**	**+0.1**
CD2				pP		**pP**	**10 40 28.0**	**-0.7**
CD2				sP		**sP**	**10 40 31.0**	**-1.0**
CD2				PP		PP	10 41 38.3	-1.0
CD2				S		**S**	**10 45 49.0**	**+0.8**
CD2				sS		**sS**	**10 46 00.8**	**-0.6**
CD2				SS		SS	10 48 02.8	-16
CD2				pmax	pmax			
	comp=Z,20nm,0.9s							
CD2				pmax	pmax			
	comp=Z,90nm,5.5s							
CD2				LR	LR			
	comp=E,350nm,5.9s							
CD2				LR	LR			
	comp=Z,440nm,7.1s							
KLBR	**Kellerberrin**	**36.18**	**193**	*e*P		**P**	**10 40 34.7**	**0.0**
	comp=Z,102nm,1.8s							
BJT	**Baijiatuan**	**37.29**	**347**	*e*P		**P**	**10 40 44.9**	**+0.7**
BJT	**Baijiatuan**	**37.29**	**347**	*e*P		**P**	**10 40 44.9**	**+0.7**
	comp=Z,87nm,0.5s							
BJI	**Beijing**	**37.31**	**347**	P		**P**	**10 40 44.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**37.58**	**193**	P		**P**	**10 40 45.2**	**-1.4**
	comp=Z,11nm,0.9s,baz=34,slow=4.1,SNR=7.2							
NWAO	**Narrogin (SRO)**	**37.58**	**193**	P		**P**	**10 40 45.3**	**-1.4**
NWAO	**Narrogin (SRO)**	**37.58**	**193**	P		**P**	**10 40 45.2**	**-1.4**
SNY	**Shenyang**	**37.98**	**356**	⇑P		**P**	**10 40 51.0**	**+1.1**
SNY				S		**S**	**10 46 45.0**	**+4.7**
SNY				pmax	pmax			
	comp=Z,30nm,0.8s							
SNY				pmax	pmax			
	comp=Z,300nm,3.6s							
SNY				LR	LR		

comp=Z,45nm,2.5s
HABR pmax pmax
comp=E,25nm,1.5s
YSS Yuzh-Sakhalins 45.22 16 *e*P **P 10 41 50.0 +0.9**
JIRN Jiri 45.26 306 *e*P **P 10 41 49.9 -0.3**
comp=E,13nm,0.4s
KLR Kul'dur 45.49 5 *e*P P 10 41 45.4 -5.9
KLR pmax pmax
comp=Z,38nm,1.2s
GUN Gumba 45.61 306 *e*P **P 10 41 52.7 -0.3**
GUN Gumba 45.61 306 *e*P **P 10 41 52.7 -0.3**
HIA Hailar 45.70 354 *e*P **P 10 41 53.8 +0.8**
HIA pmax pmax
comp=Z,23nm,0.8s
HIA Hailar 45.70 354 *e*P **P 10 41 53.8 +0.8**
comp=Z,23nm,0.8s
KKN Kakani 46.05 306 *e*P **P 10 41 55.4 -0.9**
KKN Kakani 46.05 306 *e*P **P 10 41 55.4 -0.9**
KKN Kakani 46.05 306 *e*P **P 10 41 55.4 -0.9**
DMN Daman 46.12 305 *e*P **P 10 41 56.5 -0.4**
DMN Daman 46.12 305 *e*P **P 10 41 56.5 -0.4**
DZM Mont Dzumac 46.65 125 P **P 10 42 02.8 +1.8**
comp=Z,4.0nm,0.6s,baz=78,slow=23,SNR=5.7
DZM Mont Dzumac 46.65 125 P **P 10 42 02.8 +1.8**
ULN Ulaanbaatar 47.04 342 *e*P **P 10 42 04.0 +0.3**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 47.04 342 *e*P **P 10 42 04.0 +0.3**
comp=Z,8.6nm,0.9s
SONM Songino Array 47.22 341 P **P 10 42 05.5 +0.5**
comp=Z,3.0nm,0.6s,baz=157,slow=8.3,SNR=31
SONM PcP **PcP 10 43 36.6 +0.5**
comp=Z,2.1nm,0.8s,baz=160,slow=4.8,SNR=5.0
SONM LR LR 11 03 35.3
comp=Z,129nm,19.6s,baz=176,slow=38
SONM Songino Array 47.22 341 P **P 10 42 05.5 +0.5**
SONM 10 43 36.6
SONM Songino Array 47.22 341 P **P 10 42 05.5 +0.5**
SONM PcP **PcP 10 43 36.6 +0.5**
KOLN Koldanda 47.41 305 *e*P **P 10 42 07.0 0.0**
comp=Z,24nm,0.4s
DANN Dangsing 47.50 306 *e*P **P 10 42 07.4 -0.4**
comp=Z,27nm,0.4s
ZAK Zakamensk 50.44 341 *e*P **P 10 42 27.5 -2.2**
ZAK *e* 10 43 47.5
TLY Talaya 51.45 342 *e*P **P 10 42 36.5 -0.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,75nm,18.0s
MOY Mondy 52.30 340 *e*P **P 10 42 44.8 +1.2**
WMQ Urumqi 52.62 325 P **P 10 42 46.0 -0.1**
WMQ pP **pP 10 42 53.8 -0.6**
WMQ sP **sP 10 42 57.8 +0.1**
WMQ pmax pmax
comp=Z,7.0nm,1.0s
CLNS Chul'man 52.92 359 *e*P **P 10 42 49.1 +1.0**
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.9s
BOD Bodaibo 54.80 352⇑ *i*P **P 10 43 02.5 +0.8**
BOD pmax pmax
comp=Z,10.0nm,1.3s
PETK Petropavlovsk- 55.42 22 P **P 10 43 07.5 +1.2**
comp=Z,8.1nm,0.8s,baz=186,slow=6.7,SNR=6.0
PETK LR LR 11 03 48.1
comp=Z,48nm,21.9s,baz=285,slow=33
PETK Petropavlovsk- 55.42 22 P **P 10 43 07.5 +1.2**
PETK Petropavlovsk- 55.42 22 P **P 10 43 07.5 +1.2**
MK31 Makanchi Array 57.45 325 *e*P **P 10 43 20.8 -0.1**
MK31 Makanchi Array 57.45 325 *e*P **P 10 43 20.8 -0.1**
MKAR Makanchi Array 57.45 325 P **P 10 43 20.8 -0.1**
comp=Z,4.8nm,0.4s,baz=116,slow=7.4,SNR=91
MKAR LR LR 11 10 01.5
comp=Z,94nm,20.1s,baz=240,slow=38
MKAR Makanchi Array 57.45 325 *i*P **P 10 43 20.7 -0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 57.45 325 P **P 10 43 20.8 -0.1**
KSH Kashi 57.93 315 *e*P **P 10 43 25.5 +0.9**
KSH *ep*P **pP 10 43 33.0 0.0**
KSH *es*P **sP 10 43 36.5 +0.3**
KSH *e*PcP **PcP 10 44 17.0 +0.3**
KSH *e*ScP **ScP 10 48 14.0 -1.2**
KSH *e*PcS **PcS 10 48 17.3 -0.8**
KSH *e*S **S 10 51 21.5 -1.8**
KSH *e*ScS **ScS 10 53 09.8 -2.9**
KSH *e*SS **SS 10 55 15.5 +0.9**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,180nm,6.2s
KSH LR LR
comp=N,230nm,5.5s
KSH LR LR
comp=E,170nm,5.4s
KSH LR LR
comp=Z,260nm,5.5s
YAK Yakutsk 58.16 2 *e*P **P 10 43 25.9 +0.3**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK Yakutsk 58.16 2 *e*P **P 10 43 25.8 +0.3**
comp=E,48nm,0.9s
ULHL Ulahol 58.91 318 P **P 10 43 32.8 +1.3**
SNR=5.4
ULHL P **P 10 43 32.8 +1.3**
SNR=5.4
KZA Kyzart 59.51 318 P **P 10 43 37.7 +1.9**
SNR=7.0
KZA P **P 10 43 37.7 +1.9**
SNR=7.0
TKM2 Tokmak 2 59.64 319 P **P 10 43 37.6 +1.1**
SNR=8.2
TKM2 P **P 10 43 37.6 +1.1**
SNR=8.2
TKM2 Tokmak 2 59.64 319 *i*P **P 10 43 37.6 +1.1**
TKM2 Tokmak 2 59.64 319 *e*P **P 10 43 36.5 0.0**
comp=E,2.4nm,0.5s
AAK Ala-Archa 60.25 318 P **P 10 43 40.5 -0.1**
comp=E,1.5nm,0.6s,baz=161,slow=11,SNR=4.4
AAK Ala-Archa 60.25 318⇓ *i*P **P 10 43 41.4 +0.8**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 60.25 318 *e*P **P 10 43 40.1 -0.5**
ZALV Zalesovo Beam 60.49 333 P **P 10 43 40.8 -1.0**
comp=Z,2.4nm,0.4s,baz=121,slow=6.5,SNR=16
ZALV LR LR 11 10 19.2
comp=Z,92nm,19.9s,baz=87,slow=36
ZALV Zalesovo Beam 60.49 333 P **P 10 43 40.8 -1.0**
ZALV Zalesovo Beam 60.49 333 P **P 10 43 40.8 -1.0**
USP Ospenovka 60.51 319 P **P 10 43 43.5 +1.3**
SNR=10
USP P **P 10 43 43.5 +1.3**
SNR=10
AML Almayashu 60.58 317 P **P 10 43 44.6 +1.4**
SNR=12
AML P **P 10 43 44.6 +1.4**
SNR=12
EKS2 Erkin-Say 60.74 318 P **P 10 43 45.1 +1.1**
SNR=8.8
EKS2 P **P 10 43 45.1 +1.1**
SNR=8.8
EKS2 Erkin-Say 60.74 318 *e*P **P 10 43 44.5 +0.6**
EKS2 Erkin-Say 60.74 318 *e*P **P 10 43 44.5 +0.6**
KURK Kurchatov 61.64 328 P **P 10 43 49.7 0.0**
comp=Z,9.9nm,0.6s,baz=121,slow=7.2,SNR=51
KURK Kurchatov 61.64 328*c i*P **P 10 43 49.3 -0.4**
KURK pmax pmax
comp=Z,16nm,0.8s
KURK Kurchatov 61.64 328 *e*P **P 10 43 49.2 -0.5**
comp=Z,15nm,0.8s
NVS Novosibirsk 61.78 333⇑ *i*P **P 10 43 49.0 -1.5**
NVS pmax pmax
comp=Z,13nm,1.9s
NVS pmax pmax
comp=N,6.0nm,1.8s
NVS pmax pmax
comp=E,5.0nm,1.5s
SEY Seymchan 62.01 13⇑ *i*P **P 10 43 52.4 +0.5**

KK31 Karatay Array 63.12 317 *e*P **P 10 43 59.7 -0.1**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 63.12 317 *e*P **P 10 43 58.9 -0.9**
KKAR Karatay Array 63.12 317 *e*P **P 10 43 58.9 -0.9**
BVA0 Borovoye Array 67.22 327 *i*P **P 10 44 26.2 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 67.22 327 P **P 10 44 25.7 -0.5**
comp=Z,13nm,1.0s,baz=126,slow=7.5,SNR=39
BVAR Borovoye Array 67.22 327 P **P 10 44 25.7 -0.5**
BVAR Borovoye Array 67.22 327 P **P 10 44 25.7 -0.5**
BRVK Borovoye 67.29 327*c i*P **P 10 44 26.2 -0.4**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 67.29 327 *e*P **P 10 44 25.9 -0.7**
comp=Z,14nm,0.9s
ABKAR Akbulak array 72.04 321 *e*P **P 10 44 55.1 -0.9**
comp=Z,6.1nm,0.7s
AKTO Aktyubinsk 73.55 322 P **P 10 45 04.8 -0.2**
comp=Z,5.0nm,0.7s,baz=104,slow=6.0,SNR=16
AKTO Aktyubinsk 73.55 322 P **P 10 45 04.8 -0.2**
AKTO Aktyubinsk 73.55 322 P **P 10 45 04.8 -0.2**
SVE Sverdlovsk 73.86 328 *e*P **P 10 45 07.8 +1.2**
SVE pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 74.84 328 *e*P **P 10 45 11.2 -1.1**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 74.84 328 *e*P **P 10 45 11.2 -1.1**
comp=Z,8.6nm,0.6s
ZEI Tsey 82.10 312 *e*P **P 10 45 53.2 +0.2**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
TRF Thorofare Moun 83.54 27 *e*P **P 10 45 59.3 -0.7**
comp=Z,20nm,1.5s
VRHR Novokhopersk 83.93 321 *e*P **P 10 46 01.1 -0.9**
VRHR pmax pmax
comp=E,2.0nm,0.5s
VRHR pmax pmax
comp=Z,8.0nm,0.5s
VRHR pmax pmax
comp=N,1.0nm,0.3s
MCK McKinley 84.16 26 *e*P **P 10 46 02.8 -0.1**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 84.16 26 *e*P **P 10 46 02.8 -0.1**
comp=Z,12nm,1.1s
ILAR Eielson Array 85.10 25 P **P 10 46 07.3 -0.3**
comp=Z,0.8nm,0.8s,baz=263,slow=5.8,SNR=11
ILAR Eielson Array 85.10 25 P **P 10 46 07.4 -0.3**
ILAR Eielson Array 85.10 25 P **P 10 46 07.3 -0.3**
KLMR Klimovskoe 85.31 331 *e*P **P 10 46 07.7 -1.0**
KLMR pmax pmax
comp=Z,49nm,1.4s
VSR Storozhevoye 85.48 321 *e*P **P 10 46 09.1 -0.7**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
ANN Anapa 86.79 315 *e*P **P 10 46 17.5 +1.1**
ANN pmax pmax
comp=Z,108nm,1.4s
OBN Obninsk 86.96 325⇓ *i*P **P 10 46 17.2 +0.3**
OBN *e**PP **pP 10 46 28.8 +3.1**
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
ASF Jabal al Asfar 87.78 302 P **P 10 46 21.4 -0.2**
comp=Z,2.5nm,0.7s,baz=326,slow=8.5,SNR=4.9
ASF Jabal al Asfar 87.78 302 P **P 10 46 21.4 -0.2**
ASF Jabal al Asfar 87.78 302 P **P 10 46 21.4 -0.2**
KMBO Kilima Mbogo 89.45 269 *e*P **P 10 46 29.9 -0.1**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 89.45 269 *e*P **P 10 46 29.9 -0.1**
comp=Z,3.9nm,1.0s
INK Inuvik 90.15 21 P **P 10 46 31.4 -0.4**
comp=Z,1.3nm,0.9s,baz=248,slow=7.9,SNR=7.0
INK Inuvik 90.15 21 P **P 10 46 31.4 -0.4**
INK Inuvik 90.15 21 P **P 10 46 31.4 -0.4**
ARCES ARCESS Array B 90.36 340 P **P 10 46 32.4 -0.4**
comp=Z,3.0nm,0.6s,baz=75,slow=5.2,SNR=17
ARCES ARCESS Array B 90.36 340 P **P 10 46 32.4 -0.4**
ARCES ARCESS Array B 90.36 340 P **P 10 46 32.4 -0.4**
FINES FINESS Array B 91.74 332 P **P 10 46 38.5 -0.8**
comp=Z,1.2nm,0.5s,baz=101,slow=6.2,SNR=5.2
FINES FINESS Array B 91.74 332 P **P 10 46 38.5 -0.8**
FINES FINESS Array B 91.74 332 P **P 10 46 38.5 -0.8**
AKASG Malin Array Be 91.78 321 P **P 10 46 38.7 -1.1**
comp=Z,1.2nm,0.5s,baz=73,slow=4.4,SNR=9.5
AKASG Malin Array Be 91.78 321 *i*P **P 10 46 39.5 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 91.78 321 P **P 10 46 38.7 -1.1**
MLR Muntele Rosu 94.79 316 P **P 10 46 53.7 -0.3**
comp=Z,0.7nm,0.8s,baz=280,slow=9.4,SNR=3.3
MLR Muntele Rosu 94.79 316 P **P 10 46 53.7 -0.3**
MLR Muntele Rosu 94.79 316 P **P 10 46 53.7 -0.3**
RES Resolute Bay 97.78 10 P Pdif 10 47 06.9 +0.1
comp=Z,1.1nm,0.8s,baz=309,slow=4.5,SNR=12
RES Resolute Bay 97.78 10 P Pdif 10 47 06.9 +0.1
RES Resolute Bay 97.78 10 P Pdif 10 47 06.9 +0.1
HFS Hagfors 97.92 332 P **P 10 47 06.4 -1.3**
comp=Z,1.0nm,0.5s,baz=101,slow=7.7,SNR=5.2
HFS Hagfors 97.92 332 P **P 10 47 06.4 -1.3**
HFS Hagfors 97.92 332 P **P 10 47 06.4 -1.3**
NB2 NORSAR Subarra 98.69 334 P **P 10 47 09.6 -1.6**
comp=Z,1.0nm,0.7s,baz=66,slow=4.8
NOA NORSAR Array B 98.69 334 P **P 10 47 09.4 -1.8**
comp=Z,1.6nm,0.8s,baz=67,slow=4.6,SNR=5.0
NOA LR LR 11 33 40.7
comp=Z,70nm,19.1s,baz=125,slow=37
NOA NORSAR Array B 98.69 334 P **P 10 47 09.4 -1.8**
NOA NORSAR Array B 98.69 334 P **P 10 47 09.4 -1.8**
YKA Yellowknife Ar 99.50 24 P **Pdif 10 47 15.0 +0.4**
comp=Z,0.4nm,0.7s,baz=302,slow=4.7,SNR=8.7
YKA Yellowknife Ar 99.50 24 P **Pdif 10 47 15.1 +0.4**
YKA Yellowknife Ar 99.50 24 P **Pdif 10 47 15.1 +0.4**
GERES GERESS Array B 101.98 322 P **Pdif 10 47 25.4 -0.7**
comp=Z,0.8nm,0.9s,baz=59,slow=5.1,SNR=4.2
GERES GERESS Array B 101.98 322 P **Pdif 10 47 25.4 -0.7**
GERES GERESS Array B 101.98 322 P **Pdif 10 47 25.4 -0.7**
TXAR Lajitas Array 121.65 52 PKP **PKPdf 10 52 26.9 +0.4**
comp=Z,0.2nm,0.5s,baz=24,slow=1.1,SNR=4.8
TXAR Lajitas Array 121.65 52 PKIKP **PKPdf 10 52 27.0 +0.4**
TXAR Lajitas Array 121.65 52 PKP **PKPdf 10 52 26.9 +0.4**
TORD Torodi Ar. Bea 122.80 288 PKP **PKPdf 10 52 28.4 -0.6**
comp=Z,1.0nm,0.7s,baz=7.5,slow=1.3,SNR=6.0
TORD Torodi Ar. Bea 122.80 288 PKP **PKPdf 10 52 28.4 -0.6**
JTS JuntasAbangare 145.59 66 PKPbc **PKPab 10 53 13.3 +1.5**
comp=Z,12nm,0.9s,baz=266,slow=9.1,SNR=4.7
JTS JuntasAbangare 145.59 66 PKP2 **PKPab 10 53 13.3 +1.5**
JTS JuntasAbangare 145.59 66 PKPbc **PKPab 10 53 13.3 +1.5**

NNC 26 10:38:02.6±3.8, 38.55N×70.19E, h0km, mb3.6, mpv3.2, 2C-4D, Error ellipse: s-maj=31.9km s-min=22.7km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.55**	**3**	⇑Pn	Pn	10 39 12.2	-0.6
	0.8nm,0.2s,baz=174,slow=12,SNR=80						
KK31				⇓Sn	Sn	10 40 07.9	+1.5
	1.1nm,0.3s,baz=175,slow=21,SNR=13						
TKM2	**Tokmak 2**	**5.99**	**42**	⇓Pn	Pn	10 39 34.0	+1.2
	2.2nm,0.5s						
TKM2				⇑Sn	Sn	10 40 42.7	+0.4
	1.9nm,0.7s						
AB31	**Akbulak array**	**12.99**	**329**	⇓P	Pn	10 41 05.9	-2.4
	1.3nm,0.5s,baz=146,slow=11,SNR=4.5						
AKTO	**Aktyubinsk**	**14.69**	**328**	⇓P	Pn	10 41 33.9	+2.2
	0.3nm,0.6s						

IDC 26 11:13:15.3±1.5, 3.94N×127.12E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=145.4km s-min=19.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**164**	P	P	11 18 39.3	+0.2
	1.1nm,0.7s,baz=344,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**28.23**	**167**	P	P	11 19 10.0	-0.2
	0.2nm,0.7s,baz=350,slow=7.8,SNR=3.2						
SONM	**Songino Array**	**47.22**	**341**	P	P	11 21 50.3	0.0
	0.5nm,1.0s,baz=168,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	11 23 06.6	-0.6
	0.5nm,0.4s,baz=118,slow=7.7,SNR=23						
KURK	**Kurchatov**	**61.77**	**327**	P	P	11 23 36.4	+0.6
	0.3nm,0.4s,baz=122,slow=6.4,SNR=6.7						
BVAR	**Borovoye Array**	**67.36**	**327**	P	P	11 24 12.2	-0.1
	0.3nm,0.4s,baz=134,slow=10,SNR=3.5						

NNC 26 11:41:14.1±6.7, 47.76N×84.46E, h0km, mb4.0, mpv4.0, 4C-2D, Error ellipse: s-maj=54.6km s-min=26.8km az=80.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.76**	**238**	P	Pg	11 41 48.0	0.0
	34nm,0.3s,baz=63,slow=14,SNR=2790						
MK31				S	Sn	11 42 08.5	-0.6
	56nm,0.3s,baz=61,slow=26,SNR=9.9						
KURK	**Kurchatov**	**4.84**	**310**	⇓Pn	Pn	11 42 29.9	+1.7
	14nm,0.5s						
KURK				⇑Sn	Sn	11 43 23.1	-1.7
	54nm,0.5s						
VOSK	**Vostochnaya**	**9.96**	**305**	⇑Pn	Pn	11 43 38.3	-0.1
	1.2nm,0.7s						
VOSK				⇓Sn	Sn	11 45 27.6	-3.2
	9.7nm,0.4s						
ZRNK	**Zerenda**	**11.15**	**304**	⇑Pn	Pn	11 43 51.0	-3.7
	0.4nm,0.3s						
ZRNK				⇑Sn	Sn	11 45 55.5	-4.5
	5.3nm,0.4s						

*ISCJB **26** 11:49:45.6±0.6, 17.9S±0.1×178.4W±0.1, h579km, mb4.0/19, Error ellipse: s-maj=18.0km s-min=10.8km az=138.9*
*IDC **26** 11:49:47.7±1.6, 17.90S×178.40W, h594km±20km, mb3.5/17, mb1 3.6/19, mb1mx3.6/24, mbtmp3.5/19, Error ellipse: s-maj=15.8km s-min=12.3km az=137.0*
ISC 26 11:49:46.6±0.6, 17.8S±0.1×178.4W±0.1, h579km, n32, σ0=96/32, mb4.1/19, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.49**	**59**	P	**P**	**11 51 42.8**	**+2.2**
	6.8nm,0.3s,baz=9.2,slow=1.0,SNR=13						
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**11 52 55.1**	**+1.1**
	0.8nm,0.3s,baz=83,slow=22,SNR=7.4						
RPZ	**Rata Peaks**	**27.28**	**197**	P	**P**	**11 54 45.0**	**-0.8**
	5.0nm,0.7s,baz=11,slow=1.6,SNR=4.5						
CTA	**Charters Tower**	**33.45**	**260**	P	**P**	**11 55 38.8**	**-0.2**
	4.8nm,0.6s,baz=86,slow=17						
CTA	**Charters Tower**	**33.45**	**260**	*e*P	**P**	**11 55 38.6**	**-0.3**
	2.8nm,0.6s						
CNB	**Canberra Magne**	**33.46**	**232**	*e*P	**P**	**11 55 39.9**	**+1.0**
	40nm,0.6s						
PMG	**Port Moresby**	**34.44**	**279**	P	**P**	**11 55 48.0**	**+0.7**
	29nm,0.8s,baz=74,slow=7.1,SNR=9.0						
TOO	**Toolangi**	**37.20**	**231**	*e*P	**P**	**11 56 10.6**	**+0.8**
	43nm,0.9s						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**11 56 22.4**	**+0.8**
	1.6nm,0.3s,baz=85,slow=9.6,SNR=19						
STKA	**Stephens Creek**	**38.65**	**241**	*e*P	**P**	**11 56 22.3**	**+0.7**
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**11 57 08.0**	**-0.9**
	5.0nm,0.7s,baz=94,slow=7.2,SNR=57						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**11 57 09.8**	**-0.4**
	13nm,0.5s,baz=88,slow=8.5,SNR=318						
MTN	**Manton Dam**	**48.79**	**268**	*e*P	**P**	**11 57 39.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**53.03**	**260**	P	**P**	**11 58 10.4**	**-0.5**
	1.0nm,0.3s,baz=148,slow=5.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**11 59 47.6**	**-0.4**
	4.1nm,0.5s,baz=155,slow=6.0,SNR=15						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**12 00 13.4**	**-0.2**
	6.3nm,0.8s,baz=17,slow=1.5,SNR=27						
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**12 00 21.5**	**0.0**
	4.3nm,0.7s,baz=139,slow=9.9,SNR=4.7						
KSRS	**Korea Array**	**74.65**	**318**	P	**P**	**12 00 28.5**	**+0.9**
	1.3nm,0.7s,baz=118,slow=5.9,SNR=6.4						
USRK	**Ussuriysk Arra**	**76.55**	**326**	P	**P**	**12 00 38.7**	**+0.7**
	1.4nm,0.5s,baz=93,slow=5.3,SNR=4.6						
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**12 01 24.2**	**-0.9**
	0.6nm,0.4s,baz=221,slow=4.9,SNR=31						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**12 01 25.6**	**-1.1**
	0.4nm,0.8s,baz=205,slow=5.5,SNR=5.4						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**12 01 33.9**	**+0.9**
	0.3nm,0.5s,baz=240,slow=3.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**88.85**	**290**	P	**P**	**12 01 41.5**	**+1.2**
	2.0nm,0.9s,baz=112,slow=2.8,SNR=13						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**12 02 03.4**	**-0.8**
	0.1nm,0.4s,baz=233,slow=4.7,SNR=4.8						
MKAR	**Makanchi Array**	**109.08**	**314**	PKiKP	**PKiKP**	**12 07 09.3**	**-1.9**
	0.3nm,0.5s,baz=225,slow=0.9,SNR=7.1						
KURK	**Kurchatov**	**111.77**	**318**	PKiKP	**PKiKP**	**12 07 14.2**	**-1.9**
	0.3nm,0.6s,baz=58,slow=2.4,SNR=5.0						
BVAR	**Borovoye Array**	**116.79**	**321**	PKP	**PKPdf**	**12 07 24.7**	**-1.0**
	0.7nm,0.4s,baz=146,slow=2.5,SNR=7.8						
ARCES	**ARCESS Array B**	**126.25**	**350**	PKP	**PKPdf**	**12 07 43.4**	**0.0**
	2.2nm,0.8s,baz=146,slow=0.4,SNR=5.9						
CLL	**Collm**	**145.40**	**347**⇓ *i*(P)		**PKPbc**	**12 08 20.2**	**-0.2**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**145.60**	**346** *e*(P)		**PKPab**	**12 08 22.2**	**-0.4**
	comp=Z,9.2nm,1.4s						
KHC	**Kasperske Hory**	**147.31**	**345**	*e*P	**PKPbc**	**12 08 26.0**	**+0.2**
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	**PKPbc**	**12 08 26.6**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=22,slow=3.0,SNR=20						

*MOS **26** 11:54:38.2±0.9, 17.61S×178.57W, h563km, mb5.5/57, Error ellipse: s-maj=11.1km s-min=7.8km az=79.3*
*BGS **26** 11:54:39.0±4.9, 17.80S×178.59W, h580km, mb5.5(NEIC)*
*ISCJB **26** 11:54:39.4±0.1, 17.91S±0.02×178.61W±0.02, h591km, mb5.6/285, Error ellipse: s-maj=3.3km s-min=1.9km az=142.8*
*NEIC **26** 11:54:39.6±0.4, 17.80S×178.59W, h580km±4km, mb5.5/175, MW5.8, Error ellipse: s-maj=4.8km s-min=2.9km az=143.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.72; $M_{\theta\theta}$3.66; $M_{\phi\phi}$-1.94; $M_{r\theta}$3.06; $M_{r\phi}$2.51; $M_{\theta\phi}$-3.45; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s35.00000°, δ45.00000°, λ-160.00000°. NP2:ϕ_s291.00000°, δ76.00000°, λ-46.00000°. Principal axes: T 5.1900, Plg19.0000°, Azm349.0000°; N 1.5700, Plg42.0000°, Azm98.0000°; P -6.7700, Plg41.0000°, Azm241.0000°;*
*BJI **26** 11:54:39.9, 17.45S×178.17W, h597km, mb5.3/28, mb5.4/61*
*IDC **26** 11:54:41.1±0.5, 17.85S×178.64W, h590km±4km, mb5.1/31, mb1 5.1/33, mb1mx5.1/33, mbtmp5.1/33, Error ellipse: s-maj=8.9km s-min=6.5km az=159.0*
*DJA **26** 11:54:43, 17.94S×178.73W, h620km, Mw5.9/85*
ISC 26 11:54:40.7±0.2, 17.84S±0.03×178.52W±0.03, h595km, h595km:pP-P, n1513, σ1=19/2202, mb5.5/285, 484C-483D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.27**	**271**	*e*P	**P**	**11 56 02.5**	**+1.3**
MSVF	**Nonsavu**	**3.27**	**271**	*e*P	**P**	**11 56 02.5**	**+1.3**
MSVF	**Nonsavu**	**3.27**	**271**	P	**P**	**11 56 02.7**	**+1.5**
	26µm,0.7s						
AFI	**Afiamalu**	**7.57**	**60**	P	**P**	**11 56 34.6**	**-1.3**
	264nm,0.3s,baz=27,slow=6.0,SNR=87						
AFI				S	**S**	**11 58 08.3**	**-1.9**
	74nm,0.3s,baz=6.0,slow=21,SNR=4.7						
AFI	**Afiamalu**	**7.57**	**60**	*e*P	**P**	**11 56 34.5**	**-1.5**
AFI				*e*S	**S**	**11 58 06.8**	**-3.5**
AFI				S	S	11 58 08.3	-2.0
AFI	**Afiamalu**	**7.57**	**60**	*e*P	**P**	**11 56 34.5**	**-1.5**
AFI				P	P	11 56 34.6	-1.4
AFI				*e*S	**S**	**11 58 06.8**	**-3.5**
AFI				S	S	11 58 08.3	-2.0
FUNA	**Funafuti**	**9.52**	**346**	*e*P	**P**	**11 56 53.7**	**-1.1**
	1µm,1.1s						
FUNA				*e*S	**S**	**11 58 42.9**	**-1.8**
LASL	**Noumea**	**14.71**	**250**	*e*P	**P**	**11 57 46.1**	**-0.2**
DZM	**Mont Dzumac**	**14.75**	**251**⇓ *i*P		**P**	**11 57 46.6**	**-0.3**
	1µm,1.1s						
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**11 57 47.5**	**+0.6**
	21nm,0.3s,baz=82,slow=17,SNR=105						

DZM S **S** **12 00 18.8 -0.2**
baz=120,slow=22,SNR=4.5
DZM ScP **ScP** **12 04 56.5 +3.9**
0.4nm,0.3s,baz=47,slow=14,SNR=4.2
DZM **Mont Dzumac** **14.75 251** *e*P **P** **11 57 46.2 -0.7**
491nm,0.9s
DZM *e*S **S** **12 00 18.4 -0.6**
DZM S S 12 00 18.8 -0.2
DZM ScP **ScP** **12 04 56.5 +3.9**
NORM Noumea 14.75 250 *e*P **P** **11 57 46.1 -0.7**
NOUC Port Laguerre 14.89 251 *e*P **P** **11 57 46.0 -2.0**
RAR Rarotonga 17.98 104 P **P** **11 58 17.8 +1.4**
7.7nm,0.3s,baz=247,slow=7.6,SNR=50
RAR **Rarotonga** **17.98 104** P **P** **11 58 17.8 +1.4**
RAR pmax pmax
comp=Z,8.0nm,0.3s
RAR **Rarotonga** **17.98 104** *e*P **P** **11 58 16.9 +0.4**
comp=Z,604nm,1.0s
OUZ **Omahuta** **18.68 201** *e*P **P** **11 58 24.7 +2.1**
comp=Z,2µm,1.0s
OUZ **Omahuta** **18.68 201** *e*PN **P** **11 58 24.1 +1.5**
WCZ **Waipu Caves** **19.11 198** *e*PN **P** **11 58 28.0 +1.6**
KUZ **Kuaotunu** **19.51 194** *e*PN **P** **11 58 30.6 +0.5**
RVAZ **Riverhead Bore** **19.82 197** *e*PN **P** **11 58 34.6 +1.7**
KAAZ **Kauri Point** **19.83 196** *e*PN **P** **11 58 34.2 +1.2**
MXZ **Matakaoa Point** **19.85 187** PN **P** **11 58 30.2 -2.9**
OTAZ **Otara** **19.90 196** *e*PN **P** **11 58 34.9 +1.3**
WTAZ **Waiatarua** **19.97 196** *e*PN **P** **11 58 35.5 +1.2**
MKAZ **Moumakai** **19.99 195** *e*PN **P** **11 58 35.0 +0.6**
TGRZ **Tauranga** **20.34 192** *e*PN **P** **11 58 37.9 +0.3**
PUZ **Puketiti** **20.36 187** PN **P** **11 58 35.7 -2.0**
PUZ *e*SN **S** **12 01 43.8 -5.3**
OPRZ **Ohinepanea** **20.39 191** *e*PN **P** **11 58 37.4 -0.7**
TOZ **Tahuroa Road** **20.50 194** *e*PN **P** **11 58 40.2 +1.2**
URZ **Urewera** **20.70 190** *e*P **P** **11 58 38.5 -2.3**
comp=Z,698nm,0.9s
URZ **Urewera** **20.70 190** *e*PN **P** **11 58 37.5 -3.3**
URZ *e*SN **S** **12 01 48.0 -6.5**
MWZ **Matawai** **20.71 189** *e*PN **P** **11 58 38.4 -2.5**
MWZ *e*SN S 12 01 47.3 -7.5
RRRZ **Republican Roa** **20.88 191** *e*PN **P** **11 58 41.0 -1.4**
KNZ **Kokohu** **21.36 188** *e*PN **P** **11 58 45.8 -0.9**
HIZ **Hauiti** **21.40 194** *e*PN **P** **11 58 48.3 +1.3**
BKZ **Black Stump Fm** **21.69 191** *e*PN **P** **11 58 47.3 -2.5**
BKZ *e*SN **S** **12 02 03.3 -6.9**
OTVZ **Oturere** **21.84 192** *e*PN **P** **11 58 49.3 -2.0**
MCHZ **McNeill Hill** **21.93 190** *e*PN **P** **11 58 49.5 -2.3**
BHHZ **Black Hill Sta** **22.08 191** *e*PN **P** **11 58 50.1 -3.1**
KAHZ **Kahuranaki** **22.24 189** *e*PN **P** **11 58 52.5 -2.1**
PXZ **Pawanui** **22.47 189** *e*PN **P** **11 58 53.0 -3.6**
HNR **Honiara** **22.52 289** P **P** **11 58 56.8 -0.6**
comp=Z,714nm,0.6s,baz=66,slow=2.1,SNR=16
HNR **Honiara** **22.52 289** P **P** **11 58 56.8 -0.6**
HNR pmax pmax
comp=Z,714nm,0.6s
HNR **Honiara** **22.52 289** *e*P **P** **11 58 56.6 -0.7**
comp=Z,2µm,1.0s
TSZ **Takapari Road** **22.65 191** *e*PN **P** **11 58 56.3 -1.9**
BFZ **Birch Farm** **23.21 190** *e*PN **P** **11 59 00.9 -2.3**
MRZ **Mangatainoka R** **23.31 191** *e*PN **P** **11 59 00.5 -3.6**
MRZ *e*SN **S** **12 02 30.7 -4.9**
KIW **Kapiti Island** **23.63 193** *e*PN **P** **11 59 05.3 -1.6**
DUWZ **D'Urville Isla** **23.79 194** *e*PN **P** **11 59 06.5 -1.9**
CAW **Cannon Point** **23.84 192** *e*PN **P** **11 59 06.1 -2.6**
TCW **Tory Channel** **24.10 193** *e*PN **P** **11 59 09.7 -1.4**
SNZO **South Karori** **24.11 193** *e*P **P** **11 59 08.8 -2.2**
comp=Z,444nm,0.9s
QRZ **Quartz Range** **24.17 197** *e*PN **P** **11 59 11.8 +0.1**
QRZ *e*SN **S** **12 02 49.4 +0.3**
NNZ **Nelson** **24.32 195** *e*PN **P** **11 59 11.1 -1.8**
NNZ *e*SN **S** **12 02 47.2 -4.2**
THZ **Tophouse** **24.95 195** *e*PN **P** **11 59 17.0 -1.6**
THZ *e*SN **S** **12 02 56.6 -4.8**
DSZ **Denniston Nort** **25.23 197** *e*PN **P** **11 59 20.0 -1.0**
DSZ *e*SN **S** **12 03 03.2 -2.5**
KHZ **Kahutara** **25.42 194** *e*P **P** **11 59 20.7 -1.9**
comp=Z,357nm,1.2s
KHZ **Kahutara** **25.42 194** *e*PN **P** **11 59 19.9 -2.7**
LTZ **Lake Taylor** **26.07 196** *e*PN **P** **11 59 26.6 -1.8**
CRLZ **Canterbury Las** **26.73 194** *e*PN **P** **11 59 32.6 -1.5**
WVZ **Waitaha Valley** **26.76 198** *e*PN **P** **11 59 32.9 -1.5**
RPZ **Rata Peaks** **27.26 197** P **P** **11 59 37.4 -1.5**
comp=Z,131nm,0.8s,baz=61,slow=1.4,SNR=77
RPZ **Rata Peaks** **27.26 197** *e*P **P** **11 59 37.6 -1.2**
comp=Z,137nm,0.8s
RPZ **Rata Peaks** **27.26 197** *e*PN **P** **11 59 36.6 -2.2**
PAE **Paea** **27.55 94** ⇓*i*P **P** **11 59 42.8 +1.1**
comp=Z,129nm,1.2s
PAE *e*pP **pP** **12 01 12.1 -3.3**
comp=Z,53nm,1.3s
PAE *e*ScP **ScP** **12 05 26.9 +2.4**
comp=Z,9.0nm,1.0s
PPT2 **Papeete2** **27.56 94** ⇓*i*P **P** **11 59 43.2 +1.4**
comp=Z,507nm,1.1s
PPT2 *e*pP **pP** **12 01 12.6 -3.0**
comp=Z,244nm,1.2s
PPT2 *e*ScP **ScP** **12 05 27.0 +2.3**
comp=Z,78nm,1.2s
TBI **Tubuai** **27.72 106** ⇓*i*P **P** **11 59 44.5 +1.4**
comp=Z,646nm,0.8s
TBI *e*pP **pP** **12 01 14.9 -2.0**
comp=Z,2µm,1.5s
TIAR **Tiarei** **27.78 94** ⇓*i*P **P** **11 59 45.0 +1.3**
comp=Z,630nm,0.8s
TIAR *e*pP **pP** **12 01 14.6 -3.0**
TIAR *e*ScP **ScP** **12 05 27.7 +2.4**
comp=Z,47nm,0.9s
LBZ **Lake Benmore** **28.12 197** *e*PN **P** **11 59 43.8 -2.5**
JCZ **Jackson Bay** **28.27 200** *e*PN **P** **11 59 46.3 -1.4**
JCZ *e*SN S 12 03 46.6 -6.6
ODZ **Otahua Downs** **28.60 196** *e*P **P** **11 59 49.0 -1.4**
comp=Z,479nm,0.8s
ODZ **Otahua Downs** **28.60 196** *e*PN **P** **11 59 48.8 -1.7**
XMAS **Kiritimati** **28.66 49** *e*P **P** **11 59 51.3 -0.1**
comp=Z,388nm,1.0s
WKZ **Wanaka** **28.86 199** *e*PN **P** **11 59 50.8 -1.9**
MEH **Mehetia** **28.97 95** ⇓*i*P **P** **11 59 55.1 +1.1**
comp=Z,208nm,1.0s
MEH *e*pP **pP** **12 01 25.3 -3.2**
comp=Z,187nm,1.3s
MSZ **Milford Sound** **29.07 200** *e*PN **P** **11 59 54.3 -0.1**
EAZ **Earnscleugh** **29.15 198** *e*PN **P** **11 59 53.9 -1.2**
EIDS **Eidsvold** **29.19 250** *e*P **P** **11 59 55.3 -0.6**
comp=Z,440nm,0.8s
PMOR **Pomariorio Ree** **29.49 89** ⇓*i*P **P** **11 59 59.8 +1.3**
comp=Z,665nm,1.2s
PMOR *e*pP **pP** **12 01 29.6 -3.7**
comp=Z,263nm,1.3s
PMOR *e*ScP **ScP** **12 05 32.7 +1.9**
comp=Z,94nm,1.0s
MLZ **Mavora Lakes** **29.59 199** *e*PN **P** **11 59 58.7 -0.4**
TUZ **Tuapeka** **29.72 197** *e*PN **P** **11 59 59.2 -0.8**
ARMA **Armidale** **29.89 240** *e*P **P** **12 00 02.5 +0.6**
ARMA *e*S **S** **12 04 18.3 -0.3**
ARMA *e*SCP **ScP** **12 05 36.2 +4.2**
ARMA **Armidale** **29.89 240** *e*P **P** **12 00 02.3 +0.4**
comp=Z,349nm,0.7s
DCZ **Deep Cove** **30.04 200** PN **P** **12 00 02.9 +0.1**
WHZ **Wether Hill Ro** **30.15 199** *e*P **P** **12 00 03.6 -0.1**
WHZ **Wether Hill Ro** **30.15 199** *e*PN **P** **12 00 04.0 +0.2**
RIV **Riverview** **31.45 234** *e*P **P** **12 00 14.5 -0.5**
CTA **Charters Tower** **33.36 260** P **P** **12 00 30.9 -0.4**
comp=Z,495nm,0.7s,baz=87,slow=9.9,SNR=364
CTA ScP **ScP** **12 05 46.2 +2.3**
comp=Z,29nm,0.8s,baz=190,slow=3.4,SNR=5.5
CTA **Charters Tower** **33.36 260** ⇓*i*P **P** **12 00 30.9 -0.4**
comp=Z,471nm,0.7s
CTA *e*PCP **PcP** **12 02 56.3 +1.1**
CTA *e*S **S** **12 05 09.1 -2.4**
CTA *e*SCP **ScP** **12 05 46.3 +2.3**
CTA *e*SCS **ScS** **12 09 49.8 +2.8**
CTA **Charters Tower** **33.36 260** P **P** **12 00 31.0 -0.4**
CTA **Charters Tower** **33.36 260** P **P** **12 00 30.9 -0.4**
CTA ScP **ScP** **12 05 46.2 +2.3**
CTAO **Charters Tower** **33.36 260** *e*P **P** **12 00 31.1 -0.3**
CTAO pmax pmax
comp=Z,627nm,0.8s
CTAO **Charters Tower** **33.36 260** *e*P **P** **12 00 31.1 -0.3**
comp=Z,628nm,0.8s
CNB **Canberra Magne** **33.39 232** *e*P **P** **12 00 32.1 +0.6**
comp=Z,2µm,0.6s
CNB *e*PCP **PcP** **12 02 54.2 -0.9**
CNB *e*S **S** **12 05 11.7 0.0**
CNB *e*SCP **ScP** **12 05 47.8 +3.9**
CNB *e*SCS **ScS** **12 09 52.7 +5.9**
CAN **Canberra** **33.66 232** *e*P **P** **12 00 34.2 +0.4**
CAN pmax pmax
comp=Z,185nm,0.8s
CAN **Canberra** **33.66 232** *e*P **P** **12 00 34.2 +0.4**
comp=Z,185nm,0.8s
PMG **Port Moresby** **34.35 280** P **P** **12 00 40.5 +0.8**
comp=Z,3µm,0.9s,baz=79,slow=5.8,SNR=463
PMG S **S** **12 05 27.2 +0.7**
comp=Z,14nm,0.9s,baz=214,slow=22,SNR=10
PMG **Port Moresby** **34.35 280** *d*P **P** **12 00 40.3 +0.6**
PMG **Port Moresby** **34.35 280** *e*P **P** **12 00 40.4 +0.8**
comp=Z,3µm,0.9s
PMG S **S** **12 05 27.2 +0.7**
PMG **Port Moresby** **34.35 280** P **P** **12 00 40.1 +0.4**
comp=Z,4µm,1.0s,comp=Z,31µm
COEN **Coen** **37.00 270** *e*P **P** **12 01 02.0 +0.4**
comp=Z,9µm,0.8s
TOO **Toolangi** **37.13 231** *e*P **P** **12 01 02.7 +0.3**
comp=Z,2µm,0.8s
TOO *e*PCP **PcP** **12 03 05.1 -1.2**
TOO *e*S **S** **12 06 06.7 -0.8**
MOO **Moorlands** **38.07 223** *e*P **P** **12 01 11.3 +1.4**
comp=Z,416nm,0.6s
MOO *e*PCP **PcP** **12 03 04.8 -4.3**
TAU **Tasmania Unive** **38.22 222** *e*P **P** **12 01 11.8 +0.8**
TAU pmax pmax
comp=Z,77nm,0.7s
TAU **Tasmania Unive** **38.22 222** *e*P **P** **12 01 11.8 +0.8**
comp=Z,78nm,0.7s
TAU **Tasmania Unive** **38.22 222** P **P** **12 01 12.9 +1.9**
comp=Z,660nm,0.7s,SNR=18
STKA **Stephens Creek** **38.57 241** P **P** **12 01 14.7 +0.6**
comp=Z,596nm,0.8s,baz=81,slow=8.0,SNR=6.8
STKA ScP **ScP** **12 06 05.8 +2.7**
comp=Z,23nm,0.8s,baz=25,slow=6.4,SNR=3.1
STKA S **S** **12 06 28.5 -0.3**
comp=Z,33nm,1.0s,baz=231,slow=18,SNR=4.8
STKA **Stephens Creek** **38.57 241** ⇓*i*P **P** **12 01 14.6 +0.5**
comp=Z,533nm,0.8s
STKA *e*S **S** **12 06 27.4 -1.4**
STKA *e*SCS **ScS** **12 10 19.0 +2.9**
STKA **Stephens Creek** **38.57 241** P **P** **12 01 14.7 +0.6**
STKA S **S** **12 06 28.5 -0.3**
STKA **Stephens Creek** **38.57 241** P **P** **12 01 14.7 +0.6**
STKA ScP **ScP** **12 06 05.8 +2.7**
STKA S S **12 06 28.5 -0.3**
RKT **Rikitea** **41.02 105** ⇓*i*P P 12 01 36.2 +2.5
comp=Z,330nm,1.4s
RKT *e*pP pP 12 03 13.6 -2.5
comp=Z,89nm,1.3s
RKT *e*ScP **ScP** **12 06 15.8 +2.9**
comp=Z,72nm,1.7s
BBOO **Buckleboo** **43.35 241** *e*P **P** **12 01 51.7 -0.1**
comp=Z,10µm,0.8s
STCH **Steam Cracks** **43.55 33** *e*P **P** **12 01 53.5 -0.1**
POHA **Pohakuloa** **43.65 32** *e*P **P** **12 01 53.9 -0.6**
comp=Z,962nm,1.2s
HON **Honolulu** **43.81 28** *e*P **P** **12 01 55.7 +0.3**
HON **Honolulu** **43.81 28** *e*P **P** **12 01 55.7 +0.3**
KIP **Kipapa** **43.89 28** *c*P **P** **12 01 56.6 +0.6**
KIP pmax pmax
comp=Z,546nm,1.0s
KIP **Kipapa** **43.89 28** *e*P **P** **12 01 56.2 +0.2**
comp=Z,1µm,1.4s
OPA **Opana** **44.12 28** *e*P **P** **12 01 59.0 +1.2**
OPA **Opana** **44.12 28** *e*P **P** **12 01 59.0 +1.2**
WRAB **Tennant Creek** **44.53 259** *e*P **P** **12 02 00.2 -1.0**
WRAB **Tennant Creek** **44.53 259** *e*P **P** **12 02 00.2 -1.0**
comp=Z,709nm,0.7s
WRAB **Tennant Creek** **44.53 259** P **P** **12 02 00.0 -1.1**
comp=Z,6µm,0.6s
WRA **Warramunga Arr** **44.54 259** P **P** **12 02 00.0 -1.2**
comp=Z,586nm,0.7s,baz=94,slow=7.3,SNR=830
WRA PcP **PcP** **12 03 32.0 +0.8**
comp=Z,78nm,0.9s,baz=89,slow=4.8,SNR=4.9
WRA ScP **ScP** **12 06 29.4 +2.0**
comp=Z,14nm,0.8s,baz=92,slow=5.0,SNR=5.5
WRA S **S** **12 07 51.1 -3.7**
comp=Z,34nm,0.8s,baz=94,slow=13,SNR=7.4
WRA PKP2bc 12 33 52.5
comp=Z,2.9nm,1.1s,baz=295,slow=2.5,SNR=7.1
WRA P4KPbc 12 39 45.6
comp=Z,1.4nm,0.6s,baz=90,slow=4.1,SNR=15
WRA **Warramunga Arr** **44.54 259** P **P** **12 02 00.0 -1.2**
WRA 12 03 32.0
WRA S **S** **12 07 51.1 -3.7**
WRA **Warramunga Arr** **44.54 259** P **P** **12 02 00.0 -1.2**
WRA PcP **PcP** **12 03 32.0 +0.8**
WRA ScP **ScP** **12 06 29.4 +2.0**
WRA S **S** **12 07 51.1 -3.7**
WRA ⇑*e* 12 33 52.5
WRA *e* 12 39 45.6
AS31 **Alice Springs** **44.71 254** *e*P **P** **12 02 02.1 -0.4**
ASAR **Alice Springs** **44.71 254** P **P** **12 02 02.1 -0.3**
comp=Z,3µm,0.7s,baz=86,slow=8.5,SNR=4821
ASAR PcP **PcP** **12 03 32.3 +0.5**
comp=Z,93nm,0.7s,baz=103,slow=4.0,SNR=4.7
ASAR S **S** **12 07 54.6 -2.4**
comp=Z,164nm,1.1s,baz=88,slow=16,SNR=42
ASAR P3KPbc 12 30 40.8
comp=Z,0.4nm,1.0s,baz=282,slow=3.6,SNR=6.0
ASAR PKP2bc 12 33 50.4
comp=Z,1.7nm,0.9s,baz=267,slow=4.1,SNR=11
ASAR P4KPbc 12 39 45.8
comp=Z,0.7nm,0.6s,baz=91,slow=4.7,SNR=18
ASAR **Alice Springs** **44.71 254** P **P** **12 02 02.2 -0.3**
ASAR 12 03 32.3
ASAR S **S** **12 07 54.7 -2.4**
ASAR **Alice Springs** **44.71 254** P **P** **12 02 02.1 -0.3**
ASAR PcP **PcP** **12 03 32.3 +0.5**
ASAR S **S** **12 07 54.6 -2.4**
ASAR *e* 12 30 40.8
ASAR ⇑*e* 12 33 50.4
ASAR *e* 12 39 45.8
MIDW **Midway** **45.80 1** *e*P **P** **12 02 09.7 -0.8**
comp=Z,96nm,0.7s
GUMO **Guam** **47.75 308** *e*P **P** **12 02 24.9 -0.5**
GUMO **Guam** **47.75 308** *e*P **P** **12 02 24.9 -0.5**
comp=Z,1µm,0.9s
MTN **Manton Dam** **48.70 268** ⇓*i*P **P** **12 02 31.4 -1.1**
TLE **Tual** **49.10 278** P **P** **12 02 35.5 +0.1**
FORT **Forrest** **49.94 245** *e*P **P** **12 02 40.4 -1.0**
comp=Z,1µm,0.6s
FORT *e*PCP **PcP** **12 03 51.3 +0.7**
FORT *e*S **S** **12 09 06.0 -2.8**
FORT *e*SCS **ScS** **12 11 31.2 +1.6**
FORT **Forrest** **49.94 245** *e*P **P** **12 02 40.4 -1.0**
FAKI **Fak Fak** **50.47 281** P **P** **12 02 44.7 -0.8**
comp=Z,396nm,1.4s,comp=Z,5µm
BNDI **Bandanaira** **52.12 278** P **P** **12 02 57.2 -0.2**
comp=Z,2µm,1.4s,comp=Z,18µmcomp=Z,5µm
BNDI **Bandanaira** **52.12 278** P **P** **12 02 57.2 -0.2**
SWI **Sorong** **52.13 283** P **P** **12 02 57.0 -0.4**
FITZ **Fitzroy Crossi** **52.94 261** P **P** **12 03 02.8 -0.3**
comp=Z,141nm,0.8s,baz=130,slow=4.2,SNR=199
FITZ S **S** **12 09 48.0 -1.1**
comp=Z,19nm,0.9s,baz=224,slow=20,SNR=8.1
FITZ **Fitzroy Crossi** **52.94 261** ⇓*i*P **P** **12 03 02.7 -0.4**
comp=Z,435nm,1.1s
FITZ *e*S **S** **12 09 49.5 +0.4**
FITZ **Fitzroy Crossi** **52.94 261** *e*P **P** **12 03 02.8 -0.3**
comp=Z,12nm,1.2s
FITZ S **S** **12 09 48.0 -1.1**
MSAI **Masohi** **53.43 279** P **P** **12 03 06.1 -0.6**
comp=Z,226nm,0.7s,comp=Z,2µm
AAI **Ambon** **54.01 279** P **P** **12 03 10.0 -0.7**
comp=Z,1µm,0.7s,comp=Z,13µm
NLAI **Namlea** **55.19 279** P **P** **12 03 18.7 -0.3**
comp=Z,1µm,1.1s,comp=Z,11µm
DRV **Dumont d'Urvil** **55.70 199** P P 12 03 10.0 -12
DRV **Dumont d'Urvil** **55.70 199** PP PP 12 05 57.0 +22
DRV S S 12 10 01.0 -22
DRV SS SS 12 14 10.0 -11
DRV L L 12 17 00.0
TNTI **Ternate** **56.35 283** P **P** **12 03 26.7 -0.3**
comp=Z,2µm,1.0s,comp=Z,20µmcomp=Z,7.4nm
MBWA **Marble Bar** **57.99 256** *e*P **P** **12 03 37.3 -0.7**
comp=Z,332nm,0.7s
MMRI **Maumere** **58.20 271** P **P** **12 03 38.6 -0.9**
comp=Z,1µm,0.9s,comp=Z,10µm
MMRI **Maumere** **58.20 271** P **P** **12 03 38.6 -0.9**
KLBR **Kellerberrin** **58.77 244** *e*P **P** **12 03 41.8 -1.3**
comp=Z,694nm,0.7s
KLBR *e*S **S** **12 11 00.9 -3.0**
KLBR *e* 12 11 09.3
BBSI **Bau Bau** **58.77 274** P **P** **12 03 44.9 +1.5**
NWAO **Narrogin (SRO)** **59.15 242** P **P** **12 03 45.1 -0.6**
comp=Z,146nm,0.7s,baz=105,slow=5.7,SNR=126
NWAO **Narrogin (SRO)** **59.15 242** P **P** **12 03 45.1 -0.6**
NWAO pmax pmax
comp=Z,146nm,0.7s
NWAO **Narrogin (SRO)** **59.15 242** *e*P **P** **12 03 44.9 -0.8**
comp=Z,144nm,0.8s
KDI **Kendari** **59.19 276** P **P** **12 03 45.5 -0.7**
comp=Z,357nm,1.1s,comp=Z,4µm
KMSI **Cibinong** **59.42 282** P **P** **12 03 47.3 -0.4**
WSI **Waingapu** **59.77 269** P **P** **12 03 50.3 +0.3**
SBA **Scott Base** **60.48 184** *e*P **P** **12 03 55.9 +2.3**
SBA pmax pmax
comp=Z,115nm,1.0s
SBA **Scott Base** **60.48 184** *e*P **P** **12 03 55.9 +2.3**
comp=Z,115nm,1.0s
DAV **Davao City (W)** **60.48 289** P **P** **12 03 55.6 +0.9**
comp=Z,1,000nm,0.7s,baz=38,slow=1.6,SNR=28
DAV **Davao City (W)** **60.48 289** P **P** **12 03 55.6 +0.9**
VNDA **Vanda** **60.50 185** *e*P **P** **12 03 55.2 +1.4**
VNDA pmax pmax
comp=Z,191nm,1.5s
VNDA **Vanda** **60.50 185** *e*P **P** **12 03 55.2 +1.4**
comp=Z,191nm,1.5s
APSI **Ampana** **61.09 279** P P 12 04 08.8 +10
comp=Z,11µm,1.0s
BKSI **Bulukumba** **61.14 274** P **P** **12 03 58.3 -0.8**
comp=Z,238nm,0.7s,comp=Z,3µm
KAPI **Kappang** **61.59 274** P **P** **12 04 01.0 -1.0**
comp=Z,184nm,0.7s,baz=138,slow=3.7,SNR=63
KAPI **Kappang** **61.59 274** *e*P **P** **12 04 00.5 -1.4**
comp=Z,234nm,0.8s
KAPI **Kappang** **61.59 274** P **P** **12 04 01.7 -0.3**
SNR=25
KAPI mb 12 04 03.2
SNR=42
KAPI **Kappang** **61.59 274** P **P** **12 04 00.8 -1.2**
comp=Z,314nm,1.1s,comp=Z,4µm
CTBH **Cotabato--PC H** **61.74 289** ⇑*i*P **P** **12 04 03.1 +0.2**
MTNI **Mataram** **63.97 269** P **P** **12 04 16.4 -0.9**
comp=Z,724nm,0.8s,comp=Z,7µm
MTNI **Mataram** **63.97 269** P **P** **12 04 16.4 -0.9**
comp=Z,724nm,0.8s,comp=Z,7µm
KHKI **Kahang-Kahang** **64.58 269** P **P** **12 04 19.9 -1.2**
comp=Z,400nm,0.9s,comp=Z,4µm
KHKI **Kahang-Kahang** **64.58 269** P **P** **12 04 19.9 -1.2**
comp=Z,400nm,0.9s,comp=Z,4µm
IGBI **Denpasar** **64.90 268** P **P** **12 04 22.8 -0.3**
comp=Z,882nm,0.8s,comp=Z,39µm
IGBI **Denpasar** **64.90 268** P **P** **12 04 22.8 -0.3**
comp=Z,882nm,0.8s,comp=Z,39µm
NBBI **Negara** **65.52 269** P **P** **12 04 26.5 -0.5**
comp=Z,544nm,0.7s,comp=Z,5µm
NBBI **Negara** **65.52 269** P **P** **12 04 26.5 -0.5**
comp=Z,544nm,0.7s,comp=Z,5µm
BYJI **Banyuwangi** **65.81 269** P **P** **12 04 29.2 +0.4**
comp=Z,1µm,0.8s,comp=Z,16µm
BYJI **Banyuwangi** **65.81 269** P **P** **12 04 29.2 +0.4**
comp=Z,1µm,0.8s,comp=Z,16µm
JAGI **Jajag, Banyuwa** **65.94 269** P **P** **12 04 28.1 -1.5**
comp=Z,1µm,0.8s,comp=Z,10µm
JAGI **Jajag, Banyuwa** **65.94 269** P **P** **12 04 28.1 -1.5**
comp=Z,1µm,0.8s,comp=Z,10µm
CASY **Casey** **66.16 205** *e*P **P** **12 04 29.7 -0.3**
CASY *e* 12 06 32.2
CASY *e*S **S** **12 12 32.2 +0.3**
CASY **Casey** **66.16 205** *e*P **P** **12 04 30.6 +0.7**
comp=Z,205nm,1.2s
CASY *e*pP **pP** **12 06 26.9 -1.5**
MYLDM **Lahad Datu** **66.20 284** P **P** **12 04 33.5 +2.4**
TSM **Tawau** **66.45 283** P **P** **12 04 33.8 +1.0**
KMMI **Kalianget** **66.51 270** P **P** **12 04 33.7 +0.6**
comp=Z,578nm,1.0s,comp=Z,6µm
BLJI **Banyuglugur** **66.67 269** P **P** **12 04 33.7 -0.4**
comp=Z,1µm,0.8s,comp=Z,11µm
BLJI **Banyuglugur** **66.67 269** P **P** **12 04 33.7 -0.4**
comp=Z,1µm,0.8s,comp=Z,11µm
GMJI **Gumukmas** **66.67 269** P **P** **12 04 33.2 -0.9**
comp=Z,731nm,0.8s,comp=Z,7µm
GMJI **Gumukmas** **66.67 269** P **P** **12 04 33.2 -0.9**
comp=Z,731nm,0.8s,comp=Z,7µm
SDKM **Sandakan** **67.57 284** P **P** **12 04 39.7 0.0**
TGY **Tagaytay City** **67.62 294** P **P** **12 04 40.1 +0.2**
comp=Z,248nm,0.4s,baz=155,slow=15,SNR=10
TGY **Tagaytay City** **67.62 294** P **P** **12 04 40.1 +0.2**
TGY **Tagaytay City** **67.62 294** P **P** **12 04 40.1 +0.2**
KRKI **Karangkates** **67.64 268** P **P** **12 04 40.5 +0.5**
comp=Z,2µm,0.7s,comp=Z,24µm
KRKI **Karangkates** **67.64 268** P **P** **12 04 40.5 +0.5**
MJAR **Matsushiro Arr** **67.79 323** P **P** **12 04 39.8 -0.7**
comp=Z,56nm,0.6s,baz=166,slow=6.4,SNR=134
MJAR **Matsushiro Arr** **67.79 323** P **P** **12 04 39.8 -0.7**
MJAR **Matsushiro Arr** **67.79 323** P **P** **12 04 39.8 -0.7**
MAJO **Matsushiro** **67.79 323** *e*P **P** **12 04 39.9 -0.6**
MAJO *e**PP **pP** **12 06 39.5 -0.4**
MAJO pmax pmax
comp=Z,94nm,0.8s
MAJO **Matsushiro** **67.79 323** *e*P **P** **12 04 39.9 -0.6**
comp=Z,94nm,0.8s
MAJO *e*pP **pP** **12 06 39.5 -0.4**
MAT **Matsushiro** **67.79 323** P **P** **12 04 39.9 -0.6**
MAT S **S** **12 12 51.0 -1.6**
JOW **Kunigami** **68.10 310** P **P** **12 04 42.8 +0.2**
comp=Z,112nm,0.7s,baz=132,slow=6.7,SNR=26
JOW **Kunigami** **68.10 310** *e*P **P** **12 04 43.3 +0.7**
comp=Z,86nm,0.9s
PWJI **Pagerwojo** **68.30 268** P **P** **12 04 43.6 -0.4**
comp=Z,686nm,0.7s,comp=Z,6µm
KDM **Kudat** **68.38 285** P **P** **12 04 44.7 +0.2**
SJI **Sawahan** **68.41 269** P **P** **12 04 44.8 0.0**
comp=Z,666nm,0.7s,comp=Z,8µm
KKM **Kota Kinabalu** **68.63 284** *e*P **P** **12 04 45.5 -0.6**
comp=Z,268nm,0.8s
KKM **Kota Kinabalu** **68.63 284** P **P** **12 04 46.4 +0.3**
PCJI **Pacitan** **68.85 268** P **P** **12 04 47.2 -0.1**
comp=Z,3µm,0.7s,comp=Z,24µm
ERM **Erimo** **69.28 330** *i*P P 12 04 52.0 +2.7
UGM **Wanagama** **69.55 268** P **P** **12 04 51.6 0.0**
comp=Z,2µm,0.7s,comp=Z,13µm
YUK **Yuzh-Kuril'sk** **69.67 333** ⇑*i*P P 12 04 46.6 -4.9
YUK *e* 12 05 07.7
YUK *i* 12 07 33.0
YUK *i*S **S** **12 13 10.6 -3.0**
YUK *e* 12 13 55.4
YUK *e*SS **SS** **12 17 53.2 -5.6**
YUK *e*SSS SSS 12 21 09.6
YUK pmax pmax
comp=E,131nm,1.4s
YUK pmax pmax
comp=N,285nm,1.4s
YUK pmax pmax
comp=Z,400nm,1.4s
YUK pmax pmax
comp=Z,484nm,1.4s
YOGI **Yogyakarta** **69.79 268** P **P** **12 04 53.4 +0.4**
comp=Z,2µm,0.8s,comp=Z,19µm
SMRI **Semarang** **69.86 269** P **P** **12 04 54.3 +0.9**
comp=Z,1µm,1.0s,comp=Z,11µm
JNU **Nakatsue** **70.02 316** P **P** **12 04 54.4 +0.4**
comp=Z,58nm,0.9s,baz=90,slow=4.3,SNR=18
JNU **Nakatsue** **70.02 316** *e*P **P** **12 04 53.8 -0.2**
comp=Z,34nm,1.0s
BJII **Banjamegara** **70.48 268** P **P** **12 04 57.0 -0.1**
comp=Z,443nm,0.8s,comp=Z,4µm
BTM **Bintulu** **70.54 280** P **P** **12 04 58.3 +0.9**
NIKO **Nikolski** **71.01 6** *e*P **P** **12 04 58.1 -1.1**
comp=Z,468nm,1.1s
CLJI **Cilicap** **71.04 268** P **P** **12 05 00.5 +0.2**
comp=Z,2µm,0.7s,comp=Z,16µm
SBUM **Sibu** **71.09 279** P **P** **12 05 01.6 +1.0**
ASAJ **Asahikawa** **71.17 331** P **P** **12 05 01.4 +1.0**
comp=Z,16nm,0.4s,baz=221,slow=5.5,SNR=52
ASAJ **Asahikawa** **71.17 331** P **P** **12 05 01.4 +1.0**
ASAJ pmax pmax
comp=Z,16nm,0.4s
ASAJ **Asahikawa** **71.17 331** *e*P **P** **12 05 01.1 +0.8**
comp=Z,168nm,1.8s
TGJI **Tegal** **71.17 269** P **P** **12 05 00.6 -0.5**
comp=Z,730nm,0.9s,comp=Z,6µm
TWG **Pinlang** **71.55 302** *e*P **P** **12 05 01.3 -1.8**
comp=Z,116nm,0.6s
YULB **Yu-li** **71.65 303** *e*P **P** **12 05 02.8 -0.8**
comp=Z,60nm,0.6s
SKR **Severo-Kuril's** **71.79 343** *e*P **P** **12 05 03.5 -0.3**

SKR pmax pmax
comp=Z,80nm,0.5s
NACB Ninganchiao 71.79 304 *e*P **P 12 05 03.4 -1.0**
comp=Z,535nm,1.1s
SSLB Suanglung 72.11 303 *e*P **P 12 05 04.9 -1.5**
comp=Z,170nm,0.5s
TPUB Ta-pu 72.14 302 *e*P **P 12 05 05.0 -1.5**
comp=Z,568nm,0.8s
UNV Unalaska Valle 72.14 7 *e*P **P 12 05 04.5 -1.2**
comp=Z,169nm,0.7s
QSPA South Pole Qui 72.21 180 P **P 12 05 07.3 +0.9**
comp=Z,72nm,0.5s,baz=27,slow=1.3,SNR=416
QSPA S **SKiKP 12 13 38.1 -0.9**
comp=Z,6.0nm,0.9s,baz=60,slow=9.9,SNR=8.2
QSPA South Pole Qui 72.21 180 *e*P **P 12 05 06.5 +0.2**
comp=Z,105nm,0.7s
QSPA *e*pP **pP 12 07 06.7 -1.1**
QSPA S **SKiKP 12 13 38.1 -0.9**
YHNB Yeheng 72.21 304 *e*P **P 12 05 06.8 -0.2**
comp=Z,335nm,1.1s
CISI Cisompet, Garu 72.22 268 P **P 12 05 06.2 -1.1**
AKUT Akutan 72.51 8 *e*P **P 12 05 06.5 -1.4**
comp=Z,163nm,0.8s
KSM Kuching 72.57 277 *e*P **P 12 05 09.4 +0.2**
comp=Z,910nm,0.8s
KSM Kuching 72.57 277 P **P 12 05 10.2 +1.0**
LEM Lembang 72.61 268 P **P 12 05 09.7 0.0**
comp=Z,2µm,0.8s,comp=Z,14µm
MIR Mirnyy 73.19 205 ⇑*i*P **P 12 05 12.4 +0.7**
MIR pmax pmax
comp=Z,350nm,1.8s
PET Petropavlovsk 73.28 346 ⇑*i*P **P 12 05 12.1 -0.2**
PET *i* S **S 12 13 53.2 -0.5**
PET pmax pmax
comp=Z,67nm,0.7s
PET pmax pmax
comp=Z,100nm,12.4s
PET Petropavlovsk 73.28 346 *e*P **P 12 05 11.4 -0.9**
comp=Z,32nm,0.5s
YSS Yuzh-Sakhalins 73.31 333 *ei*P **P 12 05 14.4 +1.8**
YSS *i* S **S 12 13 59.0 +4.7**
YSS *e* 12 14 26.0
YSS *e* 12 14 31.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.0s
YSS smax smax
comp=E,1µm,9.0s
YSS Yuzh-Sakhalins 73.31 333 *e*P **P 12 05 11.6 -1.1**
comp=E,52nm,0.8s
CBJI Citeko 73.46 268 P **P 12 05 13.1 -1.2**
comp=E,3µm,0.9s,comp=E,21µm
SKJI Sukabumi 73.58 268 P **P 12 05 13.5 -1.4**
PEA0B Petropavlovsk- 73.59 345 *e*P **P 12 05 14.2 +0.1**
PETK Petropavlovsk- 73.59 345 P **P 12 05 14.5 +0.4**
comp=E,91nm,0.7s,baz=140,slow=8.6,SNR=104
PETK Petropavlovsk- 73.59 345 P **P 12 05 14.5 +0.4**
PETK Petropavlovsk- 73.59 345 P **P 12 05 14.5 +0.4**
TNG Tangerang 73.73 269 P **P 12 05 16.3 +0.5**
comp=E,1µm,0.9s
TNG Tangerang 73.73 269 P **P 12 05 16.3 +0.5**
comp=E,2µm,0.9s
SBJI Serang 74.23 269 P **P 12 05 18.3 -0.3**
comp=E,989nm,1.1s,comp=E,9µm
SDPT Sand Point 74.49 11 *e*P **P 12 05 17.7 -1.4**
comp=E,340nm,1.0s
QZH Quanzhou 74.56 303 ⇓*i*P **P 12 05 21.5 +1.3**
QZH S **S 12 14 10.5 +1.8**
QZH pmax pmax
comp=Z,510nm,0.8s
QZH pmax pmax
comp=Z,2µm,3.2s
KSRS Korea Array 74.58 318 P **P 12 05 20.7 +0.7**
comp=Z,19nm,0.7s,baz=130,slow=6.3,SNR=56
KSRS Korea Array 74.58 318 P **P 12 05 20.7 +0.7**
KSRS pmax pmax
comp=Z,19nm,0.7s
KSAR Wonju Array Be 74.60 318 P **P 12 05 20.7 +0.6**
KSAR Wonju Array Be 74.60 318 P **P 12 05 20.7 +0.6**
INCN Inchon 75.42 318 *e*P **P 12 05 25.5 +0.8**
comp=Z,96nm,1.1s
SSE Sheshan 75.62 310 P **P 12 05 26.0 +0.1**
SSE sP sP 12 08 35.3 +5.5
SSE S **S 12 14 21.8 +1.9**
SSE pmax pmax
comp=Z,77nm,1.0s
SSE pmax pmax
comp=Z,94nm,5.3s
CHGN Chignik 75.77 11 *e*P **P 12 05 25.0 -1.1**
KLI Kotabumi 75.81 269 P **P 12 05 27.3 -0.1**
comp=Z,160nm,1.0s
VLA Vladivostok 75.83 325 ⇑*i*P **P 12 05 27.8 +1.0**
VLA *i* 12 05 35.8
VLA *i* 12 08 27.3
VLA *e*S **S 12 14 22.1 +0.4**
VLA pmax pmax
comp=Z,109nm,1.5s
BSC Santa Cruz Isl 76.14 47 ⇓P **P 12 05 29.8 +0.9**
baz=76
BSC ⇓P **P 12 05 29.8 +0.9**
baz=76
SCI San Clemente I 76.37 48 ⇓P **P 12 05 30.7 +0.6**
baz=77
SCI ⇓P **P 12 05 30.7 +0.6**
baz=77
SAO San Andreas Ge 76.45 44 *e*P **P 12 05 31.2 +0.8**
SAO pmax pmax
comp=Z,275nm,1.0s
SAO San Andreas Ge 76.45 44 *e*P **P 12 05 31.2 +0.8**
comp=Z,275nm,1.0s
PMBI Palembang 76.46 271 P **P 12 05 32.2 +1.2**
USRK Ussuriysk Arra 76.50 326 P **P 12 05 32.0 +1.6**
comp=Z,28nm,0.9s,baz=132,slow=2.8,SNR=56
PKM Peak Mountain 76.50 46 ⇑P **P 12 05 32.3 +1.3**
baz=77,SNR=20
PKM ⇑P **P 12 05 32.3 +1.3**
baz=77,SNR=20
LWLI Liwa 76.52 269 P **P 12 05 30.4 -1.1**
comp=Z,969nm,0.7s,comp=Z,8µm
BLG Laguna Peak 76.60 47 ⇑P **P 12 05 31.7 +0.4**
baz=77
BLG ⇑P **P 12 05 31.7 +0.4**
baz=77
SMMC Simmler 76.61 46 ⇓P **P 12 05 32.7 +1.3**
baz=77,SNR=19
SMMC ⇓P **P 12 05 32.7 +1.3**
baz=77,SNR=19
HOPS Hopland 76.69 41 *e*P **P 12 05 32.3 +0.6**
comp=Z,163nm,1.1s
CIS Catalina Islan 76.69 48 ⇑P **P 12 05 32.3 +0.5**
baz=77
CIS ⇑P **P 12 05 32.3 +0.5**
baz=77
KCPM Cahto Peak 76.78 40 *e*P **P 12 05 33.4 +1.0**
comp=Z,124nm,1.3s
KCPM *e*PcP **PcP 12 05 40.8 +0.2**
KIPM Iron Peak 76.92 40 *e*P **P 12 05 34.1 +1.0**
comp=Z,217nm,1.0s
FMP Fort Macarthur 76.93 48 ⇑P **P 12 05 33.8 +0.7**
baz=77
FMP ⇑P **P 12 05 33.8 +0.7**
baz=77
DECC Green Verdugo 77.19 47 ⇓P **P 12 05 34.9 +0.4**
baz=77,SNR=17
DECC ⇓P **P 12 05 34.9 +0.4**
baz=77,SNR=17
PASC Pasadena Art C 77.25 48 *e*P **P 12 05 34.5 -0.3**
comp=Z,122nm,0.8s
ARVC Arvin 77.31 46 ⇓P **P 12 05 35.8 +0.7**
baz=78,SNR=32
ARVC ⇓P **P 12 05 35.8 +0.7**
baz=78,SNR=32
109C Camp Elliot, M 77.35 49 ⇓P **P 12 05 36.1 +0.7**
baz=78,SNR=9.0
109C ⇓P **P 12 05 36.1 +0.7**
baz=78,SNR=9.0
MWC Mount Wilson 77.37 48 *e*P **P 12 05 36.2 +0.5**
MWC pmax pmax
comp=Z,158nm,0.8s
MWC Mount Wilson 77.37 48 *e*P **P 12 05 36.2 +0.5**
comp=Z,158nm,0.8s
KHMM Horse Mountain 77.41 39 *e*P **P 12 05 36.5 +0.8**
comp=Z,194nm,1.1s
VES Vestal, Richgr 77.52 46 ⇑P **P 12 05 36.7 +0.5**
baz=78,SNR=86
VES ⇑P **P 12 05 36.7 +0.5**
baz=78,SNR=86
BAR Barrett 77.56 50 *e*P **P 12 05 36.9 +0.4**
comp=Z,57nm,1.0s
MURC Murrieta 77.65 49 ⇑P **P 12 05 37.8 +0.8**
baz=78,SNR=23
MURC ⇑P **P 12 05 37.8 +0.8**
baz=78,SNR=23
BFSC Mount Baldy Ra 77.66 48 ⇑P **P 12 05 37.6 +0.4**
baz=78,SNR=23
BFSC ⇑P **P 12 05 37.6 +0.4**
baz=78,SNR=23
RCTC Rector, Farmer 77.67 45 ⇓P **P 12 05 37.3 +0.3**
baz=78,SNR=36
RCTC ⇓P **P 12 05 37.3 +0.3**
baz=78,SNR=36
KRMB Red Mountain 77.69 39 *e*P **P 12 05 38.4 +1.2**
comp=Z,127nm,1.0s
EDW2 Edwards Air Fo 77.76 47 ⇓P **P 12 05 38.4 +0.8**
baz=78,SNR=87
EDW2 ⇓P **P 12 05 38.4 +0.8**
baz=78,SNR=87
MNAI Manna 77.77 269 P **P 12 05 38.1 0.0**
comp=Z,1µm,0.8s,comp=Z,9µm
NJ2 Nanjing 77.82 310 *e*P **P 12 05 39.0 +1.1**
NJ2 pP **pP 12 07 40.5 -1.5**
NJ2 sP **sP 12 08 39.5 -3.0**
NJ2 PP **PP 12 08 46.0 +1.0**
NJ2 S **S 12 14 47.5 +4.3**
NJ2 SS **SS 12 20 02.0 +0.3**
NJ2 pmax pmax
comp=Z,190nm,1.0s
NJ2 pmax pmax
comp=Z,550nm,3.5s
ISA Isabella 77.84 46 *e*P **P 12 05 39.1 +1.0**
ISA pmax pmax
comp=Z,244nm,1.0s
ISA Isabella 77.84 46 *e*P **P 12 05 39.0 +1.0**
comp=Z,244nm,1.0s
ISA Isabella 77.84 46 ⇑P **P 12 05 39.0 +0.9**
baz=78,SNR=98
ISA ⇑P **P 12 05 39.0 +0.9**
baz=78,SNR=98
MONP Monument Peak 77.85 50 ⇓P **P 12 05 39.3 +1.0**
baz=78,SNR=28
MONP ⇓P **P 12 05 39.3 +1.0**
baz=78,SNR=28
CMB Columbia Colle 77.86 43 *e*P **P 12 05 38.5 +0.4**
CMB pmax pmax
comp=Z,202nm,1.0s
CMB Columbia Colle 77.86 43 *e*P **P 12 05 38.5 +0.4**
comp=Z,202nm,1.0s
HABR Khabarovsk 77.90 330 *ce*P **P 12 05 39.5 +1.5**
HABR *PP **pP 12 07 41.2 -0.9**
HABR *e* 12 08 44.3
HABR PPP x 12 10 37.3
HABR *e*S **S 12 14 45.8 +2.5**
HABR *e* 12 15 02.9
HABR *e*SS **SS 12 20 02.8 +0.5**
HABR *e*SSS SSS 12 23 34.4
HABR pmax pmax
comp=N,36nm,1.6s
HABR pmax pmax
comp=E,32nm,1.0s
HABR pmax pmax
comp=Z,117nm,1.0s
HABR MLR MLR
comp=Z,81nm,23.0s
WDC Whiskeytown Da 77.96 40 *e*P **P 12 05 39.4 +0.9**
WDC pmax pmax
comp=Z,146nm,1.3s
WDC Whiskeytown Da 77.96 40 *e*P **P 12 05 39.4 +0.9**
comp=Z,146nm,1.3s
DVTC Desert V Tower 77.97 50 ⇓P **P 12 05 40.2 +1.4**
baz=78,SNR=19
DVTC ⇓P **P 12 05 40.2 +1.4**
baz=78,SNR=19
MDJ Mudanjiang 78.07 325 P **P 12 05 40.0 +1.0**
MDJ pP **pP 12 07 42.5 -0.7**
MDJ sP **sP 12 08 43.3 -0.4**
MDJ S **S 12 14 47.0 +1.7**
MDJ ScS **ScS 12 15 05.5 +0.9**
MDJ pmax pmax
comp=Z,130nm,1.2s
MDJ pmax pmax
comp=Z,170nm,2.9s
MDJ Mudanjiang 78.07 325 *e*P **P 12 05 39.7 +0.8**
comp=Z,153nm,1.0s
PFO Pinyon Flat Ob 78.19 49 *e*P **P 12 05 40.5 +0.4**
PFO pmax pmax
comp=Z,57nm,1.0s
PFO Pinyon Flat Ob 78.19 49 *e*P **P 12 05 40.5 +0.4**
comp=Z,57nm,1.0s
PFO Pinyon Flat Ob 78.19 49 P **P 12 05 41.0 +0.9**
comp=Z,350nm,1.1s,SNR=13
PFO Pinyon Flat Ob 78.19 49 ⇑P **P 12 05 40.8 +0.7**
baz=78,SNR=7.9
PFO ⇑P **P 12 05 40.8 +0.7**
baz=78,SNR=7.9
BBRC Big Bear Solar 78.19 48 ⇑P **P 12 05 40.3 +0.1**
baz=78
BBRC ⇑P **P 12 05 40.3 +0.1**
baz=78
LRMC Laurel Mountai 78.29 47 ⇑P **P 12 05 41.4 +0.9**
baz=78,SNR=8.6
LRMC ⇑P **P 12 05 41.4 +0.9**
baz=78,SNR=8.6
KSI Kapahiang 78.32 270 P **P 12 05 40.5 -0.6**
comp=Z,594nm,0.7s
SWSC Sam W. Stewart 78.33 50 ⇑P **P 12 05 41.5 +0.9**
baz=78,SNR=25
SWSC ⇑P **P 12 05 41.5 +0.9**
baz=78,SNR=25
KDAK Kodiak Island 78.36 14 P **P 12 05 40.1 0.0**
comp=Z,168nm,0.8s,baz=166,slow=1.7,SNR=43
KDAK Kodiak Island 78.36 14 *i*P **P 12 05 40.0 -0.2**
KDAK Kodiak Island 78.36 14 *e*P **P 12 05 40.0 -0.2**
comp=Z,356nm,1.1s
KDAK *e*PcP **PcP 12 05 47.5 +0.7**
KDAK Kodiak Island 78.36 14 P **P 12 05 40.8 +0.6**
comp=Z,1µm,1.0s,SNR=18
RRX Edis Barstow 78.46 48 ⇑P **P 12 05 41.8 +0.5**
baz=79
RRX ⇑P **P 12 05 41.8 +0.5**
baz=79
CWC Cottonwood Cre 78.53 46 ⇑P **P 12 05 42.5 +0.6**
baz=79,SNR=37
CWC ⇑P **P 12 05 42.5 +0.6**
baz=79,SNR=37
YBH Yreka Blue Hor 78.54 39 *e*P **P 12 05 42.7 +1.0**
YBH pmax pmax
comp=Z,154nm,0.9s
YBH Yreka Blue Hor 78.54 39 *e*P **P 12 05 42.7 +1.0**
comp=Z,154nm,0.9s
MLAC Mammoth Lakes 78.66 44 ⇓P **P 12 05 43.6 +1.0**
baz=79,SNR=48
MLAC ⇓P **P 12 05 43.6 +1.0**
baz=79,SNR=48
BELC Belle Mtn. Jos 78.72 49 ⇑P **P 12 05 43.7 +0.8**
baz=79,SNR=23
BELC ⇑P **P 12 05 43.7 +0.8**
baz=79,SNR=23
MPMC Manual Prospec 78.73 46 ⇓P **P 12 05 43.8 +0.8**
baz=79,SNR=65
MPMC ⇓P **P 12 05 43.8 +0.8**
baz=79,SNR=65
TIN Tinemaha 78.76 45 ⇓P **P 12 05 44.0 +1.0**
baz=79,SNR=15
TIN ⇓P **P 12 05 44.0 +1.0**
baz=79,SNR=15
MYKOM Kota Tinggi 78.79 276 P **P 12 05 44.2 +0.7**
GSC Goldstone 78.81 47 *e*P **P 12 05 44.0 +0.7**
GSC *e*PP **PP 12 07 44.1 -3.7**
GSC pmax pmax
comp=Z,77nm,1.1s
GSC Goldstone 78.81 47 *e*P **P 12 05 44.0 +0.7**
comp=Z,76nm,1.1s
GSC *e*pP **pP 12 07 44.1 -3.7**
GSC Goldstone 78.81 47 ⇑P **P 12 05 44.0 +0.7**
baz=79,SNR=30
GSC ⇑P **P 12 05 44.0 +0.7**
baz=79,SNR=30
HEC Hector,Ludlow 78.90 48 ⇓P **P 12 05 44.2 +0.4**
baz=79,SNR=31
HEC ⇓P **P 12 05 44.2 +0.4**
baz=79,SNR=31
HUMO Hull Mountain 78.91 38 *e*P **P 12 05 43.9 +0.4**
comp=Z,197nm,1.0s
HUMO *e*pP **pP 12 07 49.2 +1.1**
BC3 Big Chuckawall 78.93 49 ⇑P **P 12 05 44.9 +0.9**
baz=79,SNR=22
BC3 ⇑P **P 12 05 44.9 +0.9**
baz=79,SNR=22
WCN Washoe City 78.98 43 *e*P **P 12 05 44.9 +0.8**
WCN pmax pmax
comp=Z,161nm,0.9s
WCN Washoe City 78.98 43 *e*P **P 12 05 44.9 +0.8**
comp=Z,160nm,0.9s
WCN Washoe City 78.98 43 ⇓P **P 12 05 45.0 +0.8**
baz=79,SNR=116
WCN ⇓P **P 12 05 45.0 +0.8**
baz=79,SNR=116
GLA Glamis 79.09 50 *e*P **P 12 05 46.0 +1.2**
GLA pmax pmax
comp=Z,175nm,1.0s
GLA Glamis 79.09 50 *e*P **P 12 05 46.0 +1.2**
comp=Z,175nm,1.0s
GLA Glamis 79.09 50 ⇑P **P 12 05 46.2 +1.4**
baz=79,SNR=45
GLA ⇑P **P 12 05 46.2 +1.4**
baz=79,SNR=45
GRAC Grapevine Rang 79.31 46 ⇑P **P 12 05 46.9 +1.1**
baz=80,SNR=55
GRAC ⇑P **P 12 05 46.9 +1.1**
baz=80,SNR=55
QIZ Qiongzhong 79.33 294 P **P 12 05 47.5 +1.3**
QIZ sP **sP 12 08 49.0 -2.3**
QIZ S **S 12 15 02.3 +2.9**
QIZ pmax pmax
comp=Z,56nm,0.9s
QIZ pmax pmax
comp=Z,320nm,4.9s
QIZ Qiongzhong 79.33 294 *e*P **P 12 05 46.8 +0.5**
comp=Z,117nm,1.4s
GMRC Granite Mounta 79.35 48 ⇓P **P 12 05 46.9 +0.7**
baz=80,SNR=35
GMRC ⇓P **P 12 05 46.9 +0.7**
baz=80,SNR=35
KGM Kluang 79.36 276 P **P 12 05 47.4 +0.9**
FURC Furnace Creek, 79.38 46 ⇑P **P 12 05 46.9 +0.8**
baz=80,SNR=70
FURC ⇑P **P 12 05 46.9 +0.8**
baz=80,SNR=70
IRM Iron Mountain 79.40 49 ⇑P **P 12 05 47.4 +1.0**
baz=80,SNR=41
IRM ⇑P **P 12 05 47.4 +1.0**
baz=80,SNR=41
NVAR Mina Array Bea 79.45 44 P **P 12 05 47.4 +0.7**
comp=Z,141nm,0.9s,baz=226,slow=7.7,SNR=338
NVAR pP **pP 12 07 52.5 +1.0**
comp=Z,8.2nm,1.0s,baz=226,slow=8.6,SNR=4.6
NVAR PKPPKP **P'P'df 12 32 35.5 +2.3**
comp=Z,0.8nm,0.7s,baz=72,slow=4.8,SNR=4.4
NVAR Mina Array Bea 79.45 44 P **P 12 05 47.4 +0.7**
NVAR pP **pP 12 07 52.5 +1.0**
NVAR P'P' 12 32 35.5
DL2 Dalian 79.47 317 P **P 12 05 47.3 +0.8**
DL2 sP **sP 12 08 54.5 +2.9**
DL2 S **SKSac 12 15 03.3 -3.5**
DL2 pmax pmax
comp=Z,60nm,0.9s
DL2 pmax pmax
comp=Z,160nm,5.7s
SHOC Shoshone 79.49 47 ⇑P **P 12 05 47.4 +0.6**
baz=80,SNR=41
SHOC ⇑P **P 12 05 47.4 +0.6**
baz=80,SNR=41
TUQ Turquoise Moun 79.50 48 ⇑P **P 12 05 47.7 +0.7**
baz=80,SNR=89
TUQ ⇑P **P 12 05 47.7 +0.7**
baz=80,SNR=89
RGRI Rengat 79.56 273 P **P 12 05 49.4 +1.8**
Y12C Blythe 79.65 50 ⇓P **P 12 05 48.8 +1.2**
baz=80,SNR=54
Y12C ⇓P **P 12 05 48.8 +1.2**
baz=80,SNR=54
113A Mohawk Valley, 79.73 51 ⇑P **P 12 05 49.1 +1.0**
baz=80,SNR=32
113A ⇑P **P 12 05 49.1 +1.0**
baz=80,SNR=32
KRJI Kerinci 79.86 271 P **P 12 05 49.7 +0.4**
comp=Z,489nm,1.2s
SNY Shenyang 79.87 320 ⇓P **P 12 05 49.5 +1.0**
SNY S S 12 15 09.8 +5.9
SNY pmax pmax
comp=Z,340nm,2.5s
LDFC Landfair 79.89 48 *e*P **P 12 05 50.1 +1.1**
comp=Z,433nm,1.0s
COR Corvallis 79.91 37 *e*P **P 12 05 49.2 +0.6**
COR pmax pmax
comp=Z,183nm,1.4s
COR Corvallis 79.91 37 *e*P **P 12 05 49.2 +0.6**
comp=Z,183nm,1.4s
CN2 Changchun 79.91 322 *e*P **P 12 05 49.0 +0.3**
CN2 *e*pP **pP 12 07 56.3 +2.6**
CN2 PP **PP 12 09 03.3 +1.4**
CN2 *e*S **S 12 15 04.3 +0.1**
CN2 SS **SS 12 20 36.0 +3.8**
CN2 pmax pmax
comp=Z,60nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
KLR Kul'dur 80.00 329 *e*P **P 12 05 46.0 -3.1**
KLR *e*S **S 12 15 05.0 0.0**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s
KLR smax smax
comp=N,2µm,8.0s
KLR smax smax
comp=E,1µm,8.0s
Z13A Yuma Proving G 80.02 50 ⇓P **P 12 05 50.8 +1.2**
baz=80,SNR=68
Z13A ⇓P **P 12 05 50.8 +1.2**
baz=80,SNR=68
HEBO Mount Hebo 80.03 36 *e*P **P 12 05 49.6 +0.2**
comp=E,217nm,0.9s
214A Organ Pipe Nat 80.05 52 ⇑P **P 12 05 51.1 +1.3**
baz=80,SNR=38
214A ⇑P **P 12 05 51.1 +1.3**
baz=80,SNR=38
MOD Modoc 80.10 40 *e*P **P 12 05 50.4 +0.5**
comp=E,185nm,0.8s
PDMCI Parker Dam,Lak 80.20 49 ⇑P **P 12 05 51.4 +1.0**
baz=80,SNR=38
PDMCI ⇑P **P 12 05 51.4 +1.0**
baz=80,SNR=38
114A Black Gap (USA 80.38 51 ⇑P **P 12 05 52.6 +1.2**
baz=81,SNR=26
114A ⇑P **P 12 05 52.6 +1.2**
baz=81,SNR=26
WHN Wuhan 80.48 306 ⇓P **P 12 05 53.0 +1.0**
WHN S **S 12 15 13.5 +2.8**
WHN pmax pmax
comp=Z,290nm,1.1s
Z14A Wintersburg 80.62 51 ⇓P **P 12 05 53.9 +1.3**
baz=81,SNR=40
Z14A ⇓P **P 12 05 53.9 +1.3**
baz=81,SNR=40
W13A Hualapai Mount 80.77 49 ⇑P **P 12 05 54.6 +0.9**
baz=81,SNR=49
W13A ⇑P **P 12 05 54.6 +0.9**
baz=81,SNR=49
Y14A Wickenburg 80.85 50 ⇑P **P 12 05 54.7 +0.8**
baz=81,SNR=72
Y14A ⇑P **P 12 05 54.7 +0.8**
baz=81,SNR=72
BKNI Bangkinang 81.00 273 P **P 12 05 55.8 +0.7**
SEW Seward 81.17 14 *e*P **P 12 05 54.0 -0.8**
comp=Z,124nm,0.9s
SEW *e*pP **pP 12 07 59.5 -0.8**
PDSI Padang 81.17 272 P **P 12 05 54.5 -1.5**
comp=Z,512nm,0.9s,comp=Z,4µm
BMN Battle Mountai 81.23 43 *e*P **P 12 05 56.8 +0.9**
BMN pmax pmax
comp=Z,199nm,1.0s
BMN Battle Mountai 81.23 43 *e*P **P 12 05 56.8 +0.9**
comp=Z,198nm,1.0s
HOOD Mount Hood Mea 81.28 37 *e*P **P 12 05 56.5 +0.5**
comp=Z,232nm,1.0s
NLWA Neilton Lookou 81.31 34 *e*P **P 12 05 56.7 +0.8**
comp=Z,146nm,1.0s
COCO West Island 81.33 260 *i*P **P 12 05 59.1 +2.4**
COCO West Island 81.33 260 *e*P **P 12 05 57.1 +0.4**

comp=Z,180nm,1.1s
SLKM Skilak Lake 81.35 14 eP P 12 05 55.4 -0.4
SLKM Skilak Lake 81.35 14 eP P 12 05 55.4 -0.4
FRIM Kepong 81.35 276 P P 12 05 57.3 +0.5
VLL Laurance Lake 81.35 37 P P 12 05 56.8 +0.6
PPI Padang Panjang 81.37 272 P P 12 05 57.5 +0.5
comp=Z,1µm,1.3s,comp=Z,73µm
VIPM Ingram Point 81.41 38 P P 12 05 57.1 +0.5
VIPM Ingram Point 81.41 38 P P 12 05 57.1 +0.5
WVOR Wild Horse Val 81.42 40 P P 12 05 57.5 +0.8
WVOR pmax pmax
comp=Z,290nm,1.0s
WVOR Wild Horse Val 81.42 40 P P 12 05 57.5 +0.8
comp=Z,290nm,1.0s
GAMB Gambell 81.53 3 eP P 12 05 56.5 -0.1
comp=Z,84nm,0.7s
TDL Tradedollar La 81.58 36 P P 12 05 58.4 +0.9
TUC Tucson 81.74 52 eP P 12 05 59.9 +1.4
TUC pmax pmax
comp=Z,158nm,1.1s
TUC Tucson 81.74 52 eP P 12 05 59.9 +1.4
comp=Z,158nm,1.1s
LON Longmire 82.04 35 eP P 12 05 59.6 -0.1
LON pmax pmax
comp=Z,59nm,1.0s
LON Longmire 82.04 35 eP P 12 05 59.6 -0.1
comp=Z,59nm,1.0s
RCM Mount Rainier- 82.14 35 P P 12 06 00.9 +0.4
WPW White Pass 82.16 36 P P 12 06 00.9 +0.6
X16A Lo Mia Camp, P 82.22 50 ⇑P P 12 06 02.2 +1.2
baz=82,SNR=165
X16A ⇑P P 12 06 02.2 +1.2
baz=82,SNR=165
R13A O'Grain Ranch, 82.23 46 ⇑P P 12 06 02.1 +1.0
baz=82,SNR=54
R13A ⇑P P 12 06 02.1 +1.0
baz=82,SNR=54
IPM Ipoh 82.31 277 eP P 12 06 01.9 +0.2
comp=Z,364nm,0.8s
IPM Ipoh 82.31 277 P P 12 06 02.6 +0.8
PGC Sidney 82.31 33 eP P 12 06 01.1 +0.3
comp=Z,8.1nm,0.9s
CCUT Cedar City 82.34 47 eP P 12 06 02.4 +0.8
comp=Z,116nm,1.0s
ARUT Antelope Range 82.40 46 eP P 12 06 02.3 +0.4
ARUT pmax pmax
comp=Z,119nm,1.1s
ARUT Antelope Range 82.40 46 eP P 12 06 02.3 +0.4
comp=Z,119nm,1.1s
CRAG Craig 82.50 24 eP P 12 06 01.0 -0.6
comp=Z,97nm,1.0s
MNSI Mandailing Nat 82.53 273 P P 12 06 01.9 -1.0
comp=Z,178nm,0.9s,comp=Z,2µm
PMR Palmer 82.56 14 eP P 12 06 01.3 -0.5
PMR e*PP pP 12 08 06.4 -1.5
PMR pmax pmax
comp=Z,97nm,0.6s
PMR Palmer 82.56 14 eP P 12 06 01.3 -0.5
comp=Z,97nm,0.6s
PMR epP pP 12 08 06.4 -1.5
X17A Forest Lakes 82.65 51 ⇑P P 12 06 04.6 +1.3
baz=83,SNR=42
X17A ⇑P P 12 06 04.6 +1.3
baz=83,SNR=42
ELK Elko 82.68 43 eP P 12 06 03.8 +0.5
ELK Elko 82.68 43 eP P 12 06 03.8 +0.5
ELK epP pP 12 08 11.1 +1.7
WUAZ Wupatki 82.78 49 eP P 12 06 04.8 +1.0
comp=Z,198nm,1.0s
WUAZ Wupatki 82.78 49 ⇓P P 12 06 04.8 +1.0
baz=83,SNR=146
WUAZ ⇓P P 12 06 04.8 +1.0
baz=83,SNR=146
JCW Jim Creek 82.84 34 eP P 12 06 03.9 +0.2
comp=Z,174nm,1.0s
JCW epP pP 12 08 09.2 -0.7
SML Sawmill 82.93 14 eP P 12 06 03.1 -0.7
SML Sawmill 82.93 14 eP P 12 06 03.1 -0.7
comp=Z,16nm,0.8s
SML epP pP 12 08 10.1 +0.1
DIV Divide 82.96 15 eP P 12 06 03.5 -0.5
comp=Z,192nm,0.8s
TBM Table Mountain 82.96 36 P P 12 06 04.7 +0.4
Y18A Canyon Day Jun 82.96 51 ⇑P P 12 06 06.2 +1.4
baz=83,SNR=113
Y18A ⇑P P 12 06 06.2 +1.4
baz=83,SNR=113
320A Kipp Ranch, An 83.03 54 ⇑P P 12 06 06.9 +1.8
baz=83,SNR=75
320A ⇑P P 12 06 06.9 +1.8
baz=83,SNR=75
W17A Winslow 83.06 50 ⇑P P 12 06 06.4 +1.2
baz=83,SNR=16
W17A ⇑P P 12 06 06.4 +1.2
baz=83,SNR=16
RSW Rattlesnake Hi 83.08 37 eP P 12 06 05.4 +0.5
comp=Z,325nm,1.0s
HAWA Hanford 83.11 37 eP P 12 06 05.6 +0.6
comp=Z,230nm,1.0s
BMRM Bremner River 83.12 16 eP P 12 06 04.4 -0.3
comp=Z,288nm,1.0s
RPW Rockport 83.21 34 eP P 12 06 05.2 -0.3
comp=Z,62nm,0.8s
U16A Tuba City 83.24 49 ⇓P P 12 06 07.3 +1.2
baz=83,SNR=181
U16A ⇓P P 12 06 07.3 +1.2
baz=83,SNR=181
V17A Tonalea, Kykot 83.25 49 ⇑P P 12 06 07.3 +1.2
baz=83,SNR=177
V17A ⇑P P 12 06 07.3 +1.2
baz=83,SNR=177
220A Playas Peak, P 83.28 54 ⇓P P 12 06 07.8 +1.4
baz=83,SNR=68
220A ⇓P P 12 06 07.8 +1.4
baz=83,SNR=68
ETW Entiat 83.36 35 eP P 12 06 06.6 +0.2
comp=Z,230nm,0.8s
X18A Snowflake 83.36 51 ⇓P P 12 06 07.6 +0.9
baz=84,SNR=44
X18A ⇓P P 12 06 07.6 +0.9
baz=84,SNR=44
R15A Junction 83.41 47 ⇓P P 12 06 08.2 +1.3
baz=84,SNR=70
R15A ⇓P P 12 06 08.2 +1.3
baz=84,SNR=70
120A U Bar Ranch, L 83.47 53 ⇓P P 12 06 08.6 +1.2
baz=84,SNR=20
120A ⇓P P 12 06 08.6 +1.2
baz=84,SNR=20
WRAK Wrangell Islan 83.49 24 eP P 12 06 07.0 +0.5
comp=Z,147nm,0.9s
PNL Peninsula 83.53 19 eP P 12 06 06.3 -0.5
comp=Z,135nm,0.9s
TNA Tin City 83.53 4 eP P 12 06 07.0 +0.4
comp=Z,100nm,1.0s
TNA epP pP 12 08 11.9 -1.2
LNOR Lincton Mounta 83.54 38 eP P 12 06 07.2 0.0
LNOR pmax pmax
comp=Z,37nm,0.9s
LNOR Lincton Mounta 83.54 38 eP P 12 06 07.2 0.0
comp=Z,37nm,0.9s
BMO Blue Mountains 83.56 39 eP P 12 06 07.3 -0.1
BMO pmax pmax
comp=Z,51nm,1.0s
BMO Blue Mountains 83.56 39 eP P 12 06 07.3 -0.1
comp=Z,51nm,1.0s
BMO epP pP 12 08 14.2 +0.4
MSU Marysvale 83.62 46 eP P 12 06 09.3 +1.3
MSU pmax pmax
comp=Z,107nm,1.2s
MSU Marysvale 83.62 46 eP P 12 06 09.3 +1.3
comp=Z,107nm,1.2s
WTV Waterville 83.62 35 P P 12 06 07.9 +0.3
Y19A Nutrioso 83.62 51 ⇑P P 12 06 09.3 +1.1
baz=84,SNR=44
Y19A ⇑P P 12 06 09.3 +1.1
baz=84,SNR=44
S16A Weppner Ranch, 83.65 47 ⇓P P 12 06 08.7 +0.5
baz=84,SNR=34
S16A ⇓P P 12 06 08.7 +0.5
baz=84,SNR=34
BJT Baijiatuau 83.66 315 eP P 12 06 07.5 -0.3
BJT Baijiatuau 83.66 315 eP P 12 06 07.5 -0.3
BJI Beijing 83.67 315 P P 12 06 08.0 +0.2
BJI pP pP 12 08 13.8 -0.6
BJI PP PP 12 09 30.0 -2.3
BJI S S 12 15 43.5 +1.6
BJI sS sS 12 19 28.8 +1.5
BJI SS SS 12 21 30.5 +3.1
BJI pmax pmax
comp=Z,140nm,1.1s
BJI pmax pmax
comp=Z,740nm,4.7s
SEY Seymchan 83.69 347 eP P 12 06 07.3 -0.1
MFID Camas Ranch 83.69 41 eP P 12 06 08.3 +0.2
comp=Z,191nm,1.1s
MFID epP pP 12 08 18.3 +3.7
MFID Camas Ranch 83.69 41 ⇓P P 12 06 08.6 +0.6
baz=84,SNR=191
MFID ⇓P P 12 06 08.6 +0.6
baz=84,SNR=191
Z20A Nine Sixteen R 83.75 52 ⇓P P 12 06 10.0 +1.3
baz=84,SNR=26
Z20A ⇓P P 12 06 10.0 +1.3
baz=84,SNR=26
PSI Prapat 83.78 275 P P 12 06 08.1 -1.1
comp=Z,493nm,1.0s,comp=Z,4µm
W18A Petrified Fore 83.79 50 ⇑P P 12 06 09.7 +0.8
baz=84,SNR=19
W18A ⇑P P 12 06 09.7 +0.8
baz=84,SNR=19
U17A Shonto 83.79 49 ⇓P P 12 06 09.8 +0.9
baz=84,SNR=52
U17A ⇓P P 12 06 09.8 +0.9
baz=84,SNR=52
X19A St. Johns 83.81 51 ⇓P P 12 06 10.1 +1.1
baz=84,SNR=72
X19A ⇓P P 12 06 10.1 +1.1
baz=84,SNR=72
T17A Navajo Res., N 83.87 48 ⇓P P 12 06 10.5 +1.2
baz=84,SNR=93
T17A ⇓P P 12 06 10.5 +1.2
baz=84,SNR=93
MAW Mawson 83.89 200 P P 12 06 09.8 +1.3
comp=Z,70nm,0.8s,baz=136,slow=6.4,SNR=58
MAW Mawson 83.89 200 eP P 12 06 09.7 +1.3
comp=Z,37nm,0.6s
MAW Mawson 83.89 200 P P 12 06 09.8 +1.3
MAW Mawson 83.89 200 P P 12 06 09.8 +1.3
221A Mesquite Ranch 83.90 54 ⇓P P 12 06 10.7 +1.3
baz=84,SNR=15
221A ⇓P P 12 06 10.7 +1.3
baz=84,SNR=15
V18A Ganado 83.91 50 ⇓P P 12 06 10.4 +0.9
baz=84,SNR=80
V18A ⇓P P 12 06 10.4 +0.9
baz=84,SNR=80
TRF Thorofare Moun 83.97 12 eP P 12 06 07.3 -1.7
comp=Z,277nm,0.8s
TRF epP pP 12 08 15.4 -0.3
R16A Teasdale 84.00 47 ⇓P P 12 06 11.0 +1.1
baz=84,SNR=25
R16A ⇓P P 12 06 11.0 +1.1
baz=84,SNR=25
DUG Dugway 84.00 45 eP P 12 06 09.9 +0.2
DUG pmax pmax
comp=Z,19nm,0.9s
DUG Dugway 84.00 45 eP P 12 06 09.9 +0.2
comp=Z,19nm,0.9s
DUG Dugway 84.00 45 ⇓P P 12 06 10.0 +0.3
baz=84,SNR=21
DUG ⇓P P 12 06 10.0 +0.3
baz=84,SNR=21
W19A Sanders 84.04 50 ⇓P P 12 06 10.9 +0.8
baz=84,SNR=56
W19A ⇓P P 12 06 10.9 +0.8
baz=84,SNR=56
P15A Leamington 84.06 45 ⇓P P 12 06 10.6 +0.6
baz=84,SNR=19
P15A ⇓P P 12 06 10.6 +0.6
baz=84,SNR=19
121A Cookes Peak, D 84.11 53 ⇑P P 12 06 11.5 +1.0
baz=84,SNR=54
121A ⇑P P 12 06 11.5 +1.0
baz=84,SNR=54
OD2 Odessa Site #2 84.14 36 eP P 12 06 10.4 +0.3
comp=Z,244nm,1.0s
ENH Enshi 84.15 304 eP P 12 06 11.1 +0.5
comp=Z,394nm,0.9s
S17A Black Ridge (B 84.17 48 ⇑P P 12 06 10.8 +0.2
baz=84,SNR=33
S17A ⇑P P 12 06 10.8 +0.2
baz=84,SNR=33
Y20A Horse Springs, 84.26 52 ⇑P P 12 06 12.5 +1.2
baz=84,SNR=52
Y20A ⇑P P 12 06 12.5 +1.2
baz=84,SNR=52
U18A Rough Rock, Ch 84.28 49 ⇑P P 12 06 11.8 +0.6
baz=84,SNR=45
U18A ⇑P P 12 06 11.8 +0.6
baz=84,SNR=45
O15A The Old Anders 84.28 45 ⇑P P 12 06 11.7 +0.6
baz=84,SNR=8.5
O15A ⇑P P 12 06 11.7 +0.6
baz=84,SNR=8.5
I12A Atlanta 84.32 41 ⇑P P 12 06 11.9 +0.6
baz=84
I12A ⇑P P 12 06 11.9 +0.6
baz=84
TSI Tuntungan 84.33 275 P P 12 06 11.8 0.0
comp=Z,658nm,0.9s,comp=Z,5µm
X20A Quemado 84.44 51 ⇑P P 12 06 13.1 +0.9
baz=85,SNR=37
X20A ⇑P P 12 06 13.1 +0.9
baz=85,SNR=37
222A Williams Famil 84.46 54 ⇓P P 12 06 13.2 +1.0
baz=85
222A ⇓P P 12 06 13.2 +1.0
baz=85
MCK McKinley 84.50 13 eP P 12 06 10.4 -1.0
MCK pmax pmax
comp=Z,194nm,0.9s
MCK McKinley 84.50 13 eP P 12 06 10.4 -1.0
comp=Z,194nm,0.9s
MCK epP pP 12 08 18.9 +0.6
P16A Fountain Green 84.50 46 ⇓P P 12 06 13.1 +0.9
baz=85
P16A ⇓P P 12 06 13.1 +0.9
baz=85
Q16A Castle Valley 84.51 46 ⇑P P 12 06 13.4 +1.1
baz=85,SNR=27
Q16A ⇑P P 12 06 13.4 +1.1
baz=85,SNR=27
Z21A St. Cloud Mine 84.53 53 ⇑P P 12 06 13.8 +1.3
baz=85,SNR=26
Z21A ⇑P P 12 06 13.8 +1.3
baz=85,SNR=26
N15A Stansbury Isla 84.54 44 ⇑P P 12 06 12.7 +0.4
baz=85,SNR=5.1
N15A ⇑P P 12 06 12.7 +0.4
baz=85,SNR=5.1
V19A Window Rock 84.56 50 ⇓P P 12 06 13.3 +0.7
baz=85,SNR=11
V19A ⇓P P 12 06 13.3 +0.7
baz=85,SNR=11
R17A Hanksville Air 84.59 47 ⇓P P 12 06 13.1 +0.5
baz=85,SNR=51
R17A ⇓P P 12 06 13.1 +0.5
baz=85,SNR=51
T18A Mexican Hat 84.60 48 ⇑P P 12 06 13.5 +0.8
baz=85,SNR=264
T18A ⇑P P 12 06 13.5 +0.8
baz=85,SNR=264
GSI Gunungsitoli 84.60 273 P P 12 06 13.8 +0.7
comp=Z,782nm,0.9s,comp=Z,7µm
PAX Paxson 84.61 14 eP P 12 06 11.1 -1.0
PAX e*PP pP 12 08 17.5 -1.5
PAX pmax pmax
comp=Z,72nm,0.9s
PAX Paxson 84.61 14 eP P 12 06 11.1 -1.0
comp=Z,72nm,0.9s
PAX epP pP 12 08 17.5 -1.5
L14A Malta 84.63 43 ⇑P P 12 06 13.2 +0.5
baz=85,SNR=41
L14A ⇑P P 12 06 13.2 +0.5
baz=85,SNR=41
HLID Hailey 84.65 41 eP P 12 06 13.5 +0.7
comp=Z,97nm,0.9s
HLID epP pP 12 08 19.8 0.0
HLID Hailey 84.65 41 ⇑P P 12 06 13.6 +0.8
baz=85,SNR=170
HLID ⇑P P 12 06 13.6 +0.8
baz=85,SNR=170
TMUT Trail Mountain 84.66 46 eP P 12 06 14.2 +1.0
comp=Z,92nm,0.9s
SKAG Skagway 84.67 21 eP P 12 06 13.1 +0.8
comp=Z,133nm,1.2s
U19A Dine' College, 84.70 49 ⇑P P 12 06 13.9 +0.5
baz=85,SNR=93
U19A ⇑P P 12 06 13.9 +0.5
baz=85,SNR=93
W20A Ramah 84.70 51 ⇓P P 12 06 14.2 +0.8
baz=85,SNR=61
W20A ⇓P P 12 06 14.2 +0.8
baz=85,SNR=61
MPU Maple Canyon 84.71 45 eP P 12 06 14.0 +0.7
comp=Z,36nm,0.9s
J13A Cove Ranch, Pi 84.71 41 ⇓P P 12 06 14.0 +0.8
baz=85,SNR=221
J13A ⇓P P 12 06 14.0 +0.8
baz=85,SNR=221
S18A Hurst Farm, Bl 84.76 48 ⇓P P 12 06 14.1 +0.4
baz=85,SNR=28
S18A ⇓P P 12 06 14.1 +0.4
baz=85,SNR=28
122A Conniff Cattle 84.78 53 ⇓P P 12 06 15.1 +1.3
baz=85,SNR=11
122A ⇓P P 12 06 15.1 +1.3
baz=85,SNR=11
HVU Hansel Valley 84.80 43 eP P 12 06 13.9 +0.3
HVU pmax pmax
comp=Z,72nm,1.1s
HVU Hansel Valley 84.80 43 eP P 12 06 13.9 +0.3
comp=Z,72nm,1.1s
Y21A Point of Rocks 84.83 52 ⇓P P 12 06 15.3 +1.2
baz=85,SNR=51
Y21A ⇓P P 12 06 15.3 +1.2
baz=85,SNR=51
M15A Larsen Ranch, 84.86 44 ⇑P P 12 06 14.2 +0.3
baz=85,SNR=18
M15A ⇑P P 12 06 14.2 +0.3
baz=85,SNR=18
O16A Springville 84.89 45 ⇓P P 12 06 14.6 +0.5
baz=85
O16A ⇓P P 12 06 14.6 +0.5
baz=85
G12A Big Creek, Yel 84.89 39 ⇓P P 12 06 14.5 +0.5
baz=85,SNR=403
G12A ⇓P P 12 06 14.5 +0.5
baz=85,SNR=403
GYA Guiyang 84.91 300 ⇑iP P 12 06 15.3 +0.8
GYA pP pP 12 08 22.5 +1.0
GYA sP sP 12 09 20.8 -0.5
GYA PP PP 12 09 45.5 +2.8
GYA SKS SKSac 12 15 42.3 -0.8
GYA S S 12 15 55.0 +0.2
GYA sS sS 12 19 39.0 -2.2
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,230nm,8.4s
K14A Jones Ranch, D 84.92 42 ⇓P P 12 06 14.8 +0.7
baz=85,SNR=64
K14A ⇓P P 12 06 14.8 +0.7
baz=85,SNR=64
X21A Alamocita Cree 84.93 52 ⇓P P 12 06 15.5 +1.0
baz=85,SNR=39
X21A ⇓P P 12 06 15.5 +1.0
baz=85,SNR=39
223A Chaparral, Ant 84.94 54 ⇓P P 12 06 15.8 +1.3
baz=85,SNR=18
223A ⇓P P 12 06 15.8 +1.3
baz=85,SNR=18
I13A Wildhorse Cree 85.01 41 ⇑P P 12 06 15.5 +0.8
baz=85,SNR=73
I13A ⇑P P 12 06 15.5 +0.8
baz=85,SNR=73
MENT Mentasta 85.01 15 eP P 12 06 13.7 -0.2
MENT epP pP 12 08 20.6 -0.5
V20A Brimhall 85.02 50 ⇓P P 12 06 15.2 +0.3
baz=85,SNR=13
V20A ⇓P P 12 06 15.2 +0.3
baz=85,SNR=13
SRU San Rafael 85.04 46 eP P 12 06 15.4 +0.5
SRU pmax pmax
comp=Z,77nm,0.8s
SRU San Rafael 85.04 46 eP P 12 06 15.4 +0.5
comp=Z,76nm,0.8s
SRU San Rafael 85.04 46 ⇓P P 12 06 15.5 +0.6
baz=85,SNR=65
SRU ⇓P P 12 06 15.5 +0.6
baz=85,SNR=65
Z22A Elephant Butte 85.05 53 ⇓P P 12 06 16.0 +1.0
baz=85,SNR=54
Z22A ⇓P P 12 06 16.0 +1.0
baz=85,SNR=54
P17A Butcher Ranch, 85.06 46 ⇓P P 12 06 15.5 +0.5
baz=85,SNR=16
P17A ⇓P P 12 06 15.5 +0.5
baz=85,SNR=16
T19A Beclabito 85.07 49 ⇓P P 12 06 15.7 +0.7
baz=85
T19A ⇓P P 12 06 15.7 +0.7
baz=85
JLU Jordanelle 85.11 45 eP P 12 06 15.8 +0.5
comp=Z,36nm,0.9s
JLU epP pP 12 08 23.4 +1.0
R18A Canyonlands Na 85.15 47 ⇓P P 12 06 15.8 +0.3
baz=85,SNR=30
R18A ⇓P P 12 06 15.8 +0.3
baz=85,SNR=30
DAU Daniels Canyon 85.15 45 eP P 12 06 16.2 +0.7
DAU pmax pmax
comp=Z,37nm,1.0s
DAU Daniels Canyon 85.15 45 eP P 12 06 16.2 +0.7
comp=Z,37nm,1.0s
L15A Malad City 85.17 43 ⇑P P 12 06 15.6 +0.2
baz=85,SNR=44
L15A ⇑P P 12 06 15.6 +0.2
baz=85,SNR=44
U20A Newcomb 85.23 50 ⇓P P 12 06 16.4 +0.5
baz=85,SNR=22
U20A ⇓P P 12 06 16.4 +0.5
baz=85,SNR=22
H13A Challis 85.25 40 ⇑P P 12 06 16.5 +0.8
baz=86,SNR=75
H13A ⇑P P 12 06 16.5 +0.8
baz=86,SNR=75
N16A Rees Ranch, Co 85.26 44 ⇓P P 12 06 16.6 +0.7
baz=85,SNR=22
N16A ⇓P P 12 06 16.6 +0.7
baz=85,SNR=22
Q18A Rafter H Ranch 85.31 47 ⇓P P 12 06 16.3 +0.2
baz=86,SNR=29
Q18A ⇓P P 12 06 16.3 +0.2
baz=86,SNR=29
123A Bell Site, Whi 85.32 54 ⇓P P 12 06 17.3 +1.0
baz=86
123A ⇓P P 12 06 17.3 +1.0
baz=86
W21A San Fidel 85.32 51 ⇓P P 12 06 17.1 +0.8
baz=86,SNR=7.9
W21A ⇓P P 12 06 17.1 +0.8
baz=86,SNR=7.9
Y22A Socorro 85.33 52 ⇑P P 12 06 17.2 +0.8
baz=86,SNR=39
Y22A ⇑P P 12 06 17.2 +0.8
baz=86,SNR=39
S19A Harvey Farm, M 85.39 48 ⇓P P 12 06 17.1 +0.4
baz=86,SNR=46
S19A ⇓P P 12 06 17.1 +0.4
baz=86,SNR=46
LAZ Ladron 85.40 52 eP P 12 06 17.6 +0.9
comp=Z,14nm,1.0s
O17A Robinson Place 85.40 45 ⇑P P 12 06 17.5 +0.9
baz=86,SNR=160
O17A ⇑P P 12 06 17.5 +0.9
baz=86,SNR=160
K15A Arbon 85.40 43 ⇑P P 12 06 17.1 +0.6
baz=86,SNR=63
K15A ⇑P P 12 06 17.1 +0.6
baz=86,SNR=63
LENM Lemitar 85.42 52 eP P 12 06 17.6 +0.8
comp=Z,33nm,1.0s
Y22D IRIS PASSCAL I 85.42 52 ⇑P P 12 06 17.4 +0.6
baz=86,SNR=11
Y22D ⇑P P 12 06 17.4 +0.6
baz=86,SNR=11
I14A Mackay 85.43 41 ⇑P P 12 06 17.7 +1.0
baz=86,SNR=163
I14A ⇑P P 12 06 17.7 +1.0
baz=86,SNR=163

324A	**Moseley Ranch,**	**85.44**	**55**	⇓P		**P**	**12 06 17.8**	**+0.9**
	baz=86,SNR=107							
324A				⇓P		**P**	**12 06 17.8**	**+0.9**
	baz=86,SNR=107							
P18A	**Preston Nutter**	**85.47**	**46**	⇑P		**P**	**12 06 17.5**	**+0.4**
	baz=86,SNR=31							
P18A				⇑P		**P**	**12 06 17.5**	**+0.4**
	baz=86,SNR=31							
HWUT	**Hardware Ranch**	**85.51**	**44**	*e*P		**P**	**12 06 17.1**	**0.0**
	comp=Z,21nm,0.7s							
NEW	**Newport**	**85.52**	**36**	*e*P		**P**	**12 06 16.6**	**-0.1**
NEW				pmax		pmax		
	comp=Z,79nm,0.9s							
NEW	**Newport**	**85.52**	**36**	*e*P		**P**	**12 06 16.6**	**-0.1**
	comp=Z,78nm,0.9s							
NEW	**Newport**	**85.52**	**36**	⇑P		**P**	**12 06 16.6**	**-0.1**
	baz=86,SNR=70							
NEW				⇑P		**P**	**12 06 16.6**	**-0.1**
	baz=86,SNR=70							
DOT	**Dot Lake**	**85.53**	**15**	*e*P		**P**	**12 06 16.1**	**-0.3**
	comp=Z,61nm,1.1s							
DOT				*e*pP		**pP**	**12 08 23.4**	**-0.4**
G13A	**Cobalt**	**85.54**	**40**	⇓P		**P**	**12 06 17.4**	**+0.3**
	baz=86,SNR=75							
G13A				⇓P		**P**	**12 06 17.4**	**+0.3**
	baz=86,SNR=75							
R19A	**Curley Farm, L**	**85.55**	**48**	⇓P		**P**	**12 06 17.6**	**+0.2**
	baz=86,SNR=72							
R19A				⇓P		**P**	**12 06 17.6**	**+0.2**
	baz=86,SNR=72							
425A	**Indio Mountain**	**85.57**	**56**	⇓P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=111							
425A				⇓P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=111							
TPTI		**85.57**	**275**	P		**P**	**12 06 18.3**	**+0.5**
	comp=Z,143nm,0.8s							
Z23A	**Rita Site, Whi**	**85.61**	**53**	⇑P		**P**	**12 06 18.5**	**+0.8**
	baz=86,SNR=14							
Z23A				⇑P		**P**	**12 06 18.5**	**+0.8**
	baz=86,SNR=14							
MVCO	**Mesa Verde**	**85.61**	**49**	*e*P		**P**	**12 06 17.9**	**+0.2**
	comp=Z,28nm,1.0s							
MVCO	**Mesa Verde**	**85.61**	**49**	⇓P		**P**	**12 06 17.9**	**+0.2**
	baz=86,SNR=22							
MVCO				⇓P		**P**	**12 06 17.9**	**+0.2**
	baz=86,SNR=22							
MNTX	**Cornudas Mount**	**85.62**	**55**	*e*P		**P**	**12 06 18.3**	**+0.7**
	comp=Z,48nm,1.0s							
MNTX	**Cornudas Mount**	**85.62**	**55**	⇑P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=114							
MNTX				⇑P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=114							
MNTX				⇑P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=114							
MNTX				⇑P		**P**	**12 06 18.6**	**+1.0**
	baz=86,SNR=114							
V21A	**Milan**	**85.63**	**50**	⇓P		**P**	**12 06 18.3**	**+0.5**
	baz=86,SNR=20							
V21A				⇓P		**P**	**12 06 18.3**	**+0.5**
	baz=86,SNR=20							
224A	**Cornudas Mount**	**85.67**	**55**	⇓P		**P**	**12 06 18.9**	**+0.9**
	baz=86,SNR=89							
224A				⇓P		**P**	**12 06 18.9**	**+0.9**
	baz=86,SNR=89							
BNM	**Barren Site**	**85.67**	**52**	*e*P		**P**	**12 06 18.4**	**+0.3**
	comp=Z,42nm,1.2s							
N17A	**Moffit Pass**	**85.69**	**45**	⇑P		**P**	**12 06 18.4**	**+0.4**
	baz=86,SNR=22							
N17A				⇑P		**P**	**12 06 18.4**	**+0.4**
	baz=86,SNR=22							
COLA	**College**	**85.73**	**13**	*e*P		**P**	**12 06 16.2**	**-1.1**
COLA				pmax		pmax		
	comp=Z,198nm,1.1s							
COLA	**College**	**85.73**	**13**	*e*P		**P**	**12 06 16.2**	**-1.1**
	comp=Z,198nm,1.1s							
LPM	**Los Pinos Moun**	**85.74**	**52**	*e*P		**P**	**12 06 19.2**	**+0.8**
	comp=Z,52nm,1.1s							
626A	**Big Bend Ranch**	**85.76**	**57**	⇑P		**P**	**12 06 19.8**	**+1.4**
	baz=86,SNR=186							
626A				⇑P		**P**	**12 06 19.8**	**+1.4**
	baz=86,SNR=186							
C11A	**Tepee Creek (N**	**85.78**	**37**	⇓P		**P**	**12 06 18.6**	**+0.6**
	baz=86							
C11A				⇓P		**P**	**12 06 18.6**	**+0.6**
	baz=86							
L16A	**Fish Haven**	**85.80**	**43**	⇑P		**P**	**12 06 18.8**	**+0.4**
	baz=86,SNR=10							
L16A				⇑P		**P**	**12 06 18.8**	**+0.4**
	baz=86,SNR=10							
DLBC	**Dease Lake**	**85.81**	**23**	*e*P		**P**	**12 06 18.2**	**+0.3**
325A	**Bean Ranch, Si**	**85.81**	**55**	⇑P		**P**	**12 06 19.4**	**+0.7**
	baz=86,SNR=54							
325A				⇑P		**P**	**12 06 19.4**	**+0.7**
	baz=86,SNR=54							
J15A	**Blackfoot**	**85.81**	**42**	⇑P		**P**	**12 06 19.5**	**+1.1**
	baz=86,SNR=284							
J15A				⇑P		**P**	**12 06 19.5**	**+1.1**
	baz=86,SNR=284							
H14A	**Leadore**	**85.83**	**41**	⇑P		**P**	**12 06 19.2**	**+0.7**
	baz=86,SNR=138							
H14A				⇑P		**P**	**12 06 19.2**	**+0.7**
	baz=86,SNR=138							
F13A	**Darby**	**85.83**	**39**	⇑P		**P**	**12 06 18.5**	**+0.1**
	baz=86,SNR=156							
F13A				⇑P		**P**	**12 06 18.5**	**+0.1**
	baz=86,SNR=156							
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**12 06 17.0**	**-0.9**
	comp=Z,35nm,0.5s,baz=219,slow=4.7,SNR=423							
ILAR				pP		**pP**	**12 08 25.8**	**+0.5**
	comp=Z,42nm,1.1s,baz=227,slow=5.5,SNR=14							
ILAR				PP		**PP**	**12 09 50.5**	**+1.3**
	comp=Z,26nm,1.0s,baz=221,slow=6.9,SNR=7.7							
ILAR				PKKPbc		**PKKPbc**	**12 24 14.4**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=345,slow=2.5,SNR=15							
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**12 06 17.0**	**-0.9**
ILAR							12 09 50.5	
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**12 06 17.0**	**-0.9**
ILAR				pP		**pP**	**12 08 25.8**	**+0.5**
ILAR				PP		**PP**	**12 09 50.5**	**+1.3**
ILAR				PKKPbc		**PKKPbc**	**12 24 14.4**	**-3.4**
Q19A	**Hogan Spring (**	**85.85**	**47**	⇑P		**P**	**12 06 19.1**	**+0.4**
	baz=86,SNR=58							
Q19A				⇑P		**P**	**12 06 19.1**	**+0.4**
	baz=86,SNR=58							
U21A	**Nageezi**	**85.88**	**50**	⇑P		**P**	**12 06 19.6**	**+0.6**
	baz=86,SNR=166							
U21A				⇑P		**P**	**12 06 19.6**	**+0.6**
	baz=86,SNR=166							
D12A	**Red Ives Fores**	**85.88**	**38**	⇓P		**P**	**12 06 18.4**	**-0.2**
	baz=86							
D12A				⇓P		**P**	**12 06 18.4**	**-0.2**
	baz=86							
W22A	**Albuquerque**	**85.88**	**51**	⇓P		**P**	**12 06 20.0**	**+1.0**
	baz=86,SNR=23							
W22A				⇓P		**P**	**12 06 20.0**	**+1.0**
	baz=86,SNR=23							
O18A	**Roosevelt**	**85.93**	**46**	⇑P		**P**	**12 06 19.7**	**+0.7**
	baz=86,SNR=16							
O18A				⇑P		**P**	**12 06 19.7**	**+0.7**
	baz=86,SNR=16							
PV01	**Paradox Valley**	**85.97**	**48**	*e*P		**P**	**12 06 19.8**	**+0.4**
	comp=Z,4µm,0.9s							
124A	**Stringfield Ra**	**85.97**	**54**	⇑P		**P**	**12 06 20.3**	**+0.8**
	baz=86,SNR=49							
124A				⇑P		**P**	**12 06 20.3**	**+0.8**
	baz=86,SNR=49							
S20A	**Disappointment**	**85.98**	**48**	⇑P		**P**	**12 06 20.0**	**+0.5**
	baz=86,SNR=29							
S20A				⇑P		**P**	**12 06 20.0**	**+0.5**
	baz=86,SNR=29							
526A	**Mary Lane Ranc**	**85.99**	**57**	⇓P		**P**	**12 06 20.8**	**+1.2**
	baz=86,SNR=95							
526A				⇓P		**P**	**12 06 20.8**	**+1.2**
	baz=86,SNR=95							
Y23A	**Lovelace Mesa,**	**86.02**	**53**	⇓P		**P**	**12 06 20.1**	**+0.4**
	baz=86,SNR=52							
Y23A				⇓P		**P**	**12 06 20.1**	**+0.4**
	baz=86,SNR=52							
M17A	**Scullys Gap (B**	**86.05**	**44**	⇑P		**P**	**12 06 19.5**	**-0.2**
	baz=86,SNR=52							
M17A				⇑P		**P**	**12 06 19.5**	**-0.2**
	baz=86,SNR=52							
TXAR	**Lajitas Array**	**86.05**	**58**	P		**P**	**12 06 21.2**	**+1.5**
	comp=Z,152nm,1.0s,baz=221,slow=5.1,SNR=413							
TXAR				pP		**pP**	**12 08 28.8**	**+1.5**
	comp=Z,6.0nm,1.2s,baz=280,slow=5.4,SNR=2.5							
TXAR				PKKPbc		**PKKPbc**	**12 24 15.7**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=111,slow=3.9,SNR=4.1							
TXAR				PKPPKP		P'P'df	12 32 27.4	+5.5
	comp=Z,0.6nm,0.8s,baz=106,slow=2.1,SNR=4.7							
TXAR	**Lajitas Array**	**86.05**	**58**	P		**P**	**12 06 21.3**	**+1.5**
TXAR	**Lajitas Array**	**86.05**	**58**	P		**P**	**12 06 21.2**	**+1.5**
TXAR				pP		**pP**	**12 08 28.8**	**+1.5**
TXAR				PKKPbc		**PKKPbc**	**12 24 15.7**	**-0.1**
TXAR				P'P'			12 32 27.4	
I15A	**Monteview**	**86.08**	**41**	⇑P		**P**	**12 06 20.7**	**+1.1**
	baz=86,SNR=54							
I15A				⇑P		**P**	**12 06 20.7**	**+1.1**
	baz=86,SNR=54							
K16A	**Soda Springs**	**86.08**	**43**	⇓P		**P**	**12 06 20.5**	**+0.7**
	baz=86,SNR=88							
K16A				⇓P		**P**	**12 06 20.5**	**+0.7**
	baz=86,SNR=88							
G14A	**Jackson**	**86.08**	**40**	⇓P		**P**	**12 06 20.2**	**+0.5**
	baz=86,SNR=83							
G14A				⇓P		**P**	**12 06 20.2**	**+0.5**
	baz=86,SNR=83							
R20A	**Redvale**	**86.13**	**48**	⇓P		**P**	**12 06 20.3**	**+0.2**
	baz=86,SNR=23							
R20A				⇓P		**P**	**12 06 20.3**	**+0.2**
	baz=86,SNR=23							
ANMO	**Albuquerque**	**86.14**	**52**	P		**P**	**12 06 21.1**	**+0.9**
	comp=Z,69nm,1.1s,baz=220,slow=5.1,SNR=100							
ANMO				pP		**pP**	**12 08 29.6**	**+1.8**
	comp=Z,9.1nm,1.2s,baz=202,slow=6.5,SNR=4.4							
ANMO	**Albuquerque**	**86.14**	**52**	*e*P		**P**	**12 06 20.7**	**+0.5**
ANMO				*e**PP		**pP**	**12 08 28.0**	**+0.3**
ANMO				pmax		pmax		
	comp=Z,78nm,1.1s							
ANMO	**Albuquerque**	**86.14**	**52**	*e*P		**P**	**12 06 20.7**	**+0.5**
	comp=Z,78nm,1.1s							
ANMO				*e*pP		**pP**	**12 08 28.0**	**+0.3**
ANMO				pP		**pP**	**12 08 29.6**	**+1.8**
XAN	**Xi'an**	**86.14**	**307**	P		**P**	**12 06 20.8**	**+0.8**
XAN				pP		**pP**	**12 08 29.0**	**+1.4**
XAN				sP		**sP**	**12 09 28.5**	**+1.3**
XAN				SKS		**SKSac**	**12 15 50.0**	**-0.1**
XAN				S		**ScS**	**12 16 11.0**	**-0.6**
XAN				pmax		pmax		
	comp=Z,96nm,1.0s							
XAN				pmax		pmax		
	comp=Z,97nm,5.6s							
C12B	**Naegeli Ranch,**	**86.15**	**37**	⇑P		**P**	**12 06 20.0**	**+0.2**
	baz=86,SNR=92							
C12B				⇑P		**P**	**12 06 20.0**	**+0.2**
	baz=86,SNR=92							
X23A	**Hourglass Bar**	**86.19**	**52**	⇑P		**P**	**12 06 21.0**	**+0.5**
	baz=86,SNR=7.0							
X23A				⇑P		**P**	**12 06 21.0**	**+0.5**
	baz=86,SNR=7.0							
L17A	**Cokeville**	**86.20**	**44**	⇑P		**P**	**12 06 20.1**	**-0.3**
	baz=86,SNR=16							
L17A				⇑P		**P**	**12 06 20.1**	**-0.3**
	baz=86,SNR=16							
V22A	**San Miguel Ran**	**86.21**	**51**	⇓P		**P**	**12 06 20.8**	**+0.2**
	baz=86,SNR=21							
V22A				⇓P		**P**	**12 06 20.8**	**+0.2**
	baz=86,SNR=21							
T21A	**Navajo Lake**	**86.21**	**49**	⇑P		**P**	**12 06 20.9**	**+0.3**
	baz=86,SNR=31							
T21A				⇑P		**P**	**12 06 20.9**	**+0.3**
	baz=86,SNR=31							
E13A	**Victor**	**86.25**	**39**	⇓P		**P**	**12 06 20.0**	**-0.4**
	baz=86,SNR=68							
E13A				⇓P		**P**	**12 06 20.0**	**-0.4**
	baz=86,SNR=68							
MCMT	**McKenzie Canyo**	**86.25**	**41**	*e*P		**P**	**12 06 21.4**	**+0.9**
	comp=Z,56nm,0.9s							
HIA	**Hailar**	**86.25**	**325**	*e*P		**P**	**12 06 19.6**	**-0.6**
HIA				pmax		pmax		
	comp=Z,82nm,1.4s							
HIA	**Hailar**	**86.25**	**325**	*e*P		**P**	**12 06 19.6**	**-0.6**
	comp=Z,82nm,1.4s							
426A	**McDonald Obser**	**86.28**	**56**	⇑P		**P**	**12 06 22.0**	**+1.0**
	baz=86,SNR=108							
426A				⇑P		**P**	**12 06 22.0**	**+1.0**
	baz=86,SNR=108							
H15A	**Lima**	**86.28**	**41**	⇑P		**P**	**12 06 21.5**	**+0.9**
	baz=86,SNR=248							
H15A				⇑P		**P**	**12 06 21.5**	**+0.9**
	baz=86,SNR=248							
J16A	**Bone**	**86.28**	**42**	⇓P		**P**	**12 06 21.7**	**+1.0**
	baz=86,SNR=292							
J16A				⇓P		**P**	**12 06 21.7**	**+1.0**
	baz=86,SNR=292							
Z24A	**Sheeppen Canyo**	**86.30**	**53**	⇑P		**P**	**12 06 21.2**	**+0.2**
	baz=86,SNR=23							
Z24A				⇑P		**P**	**12 06 21.2**	**+0.2**
	baz=86,SNR=23							
627A	**Terlingua Ranc**	**86.31**	**58**	⇓P		**P**	**12 06 22.4**	**+1.3**
	baz=86,SNR=198							
627A				⇓P		**P**	**12 06 22.4**	**+1.3**
	baz=86,SNR=198							
S21A	**Coal Bank Pass**	**86.31**	**49**	⇓P		**P**	**12 06 21.6**	**+0.5**
	baz=86,SNR=84							
S21A				⇓P		**P**	**12 06 21.6**	**+0.5**
	baz=86,SNR=84							
P19A	**Cripple Cowboy**	**86.35**	**46**	⇓P		**P**	**12 06 21.5**	**+0.4**
	baz=86,SNR=8.3							
P19A				⇓P		**P**	**12 06 21.5**	**+0.4**
	baz=86,SNR=8.3							
BILL	**Bilibino**	**86.36**	**354**	*e*P		**P**	**12 06 20.1**	**-0.1**
BILL				pmax		pmax		
	comp=Z,43nm,0.8s							
BILL	**Bilibino**	**86.36**	**354**	*e*P		**P**	**12 06 20.1**	**-0.1**
	comp=Z,43nm,0.8s							
BILL				*e*pP		**pP**	**12 08 27.9**	**+0.1**
AHID	**Auburn Hatcher**	**86.37**	**43**	*e*P		**P**	**12 06 21.1**	**0.0**
	comp=Z,86nm,1.1s							
LHMI	**Lhok Sumawe**	**86.40**	**277**	P		**P**	**12 06 23.3**	**+1.6**
	comp=Z,493nm,0.8s,comp=Z,5µm							
527A	**Woodward Ranch**	**86.40**	**57**	⇓P		**P**	**12 06 22.3**	**+0.8**
	baz=87,SNR=76							
527A				⇓P		**P**	**12 06 22.3**	**+0.8**
	baz=87,SNR=76							
M18A	**Lyman**	**86.42**	**44**	⇓P		**P**	**12 06 21.7**	**+0.3**
	baz=87,SNR=50							
M18A				⇓P		**P**	**12 06 21.7**	**+0.3**
	baz=87,SNR=50							
F14A	**Wisdom**	**86.42**	**39**	⇓P		**P**	**12 06 21.4**	**+0.1**
	baz=87,SNR=69							
F14A				⇓P		**P**	**12 06 21.4**	**+0.1**
	baz=87,SNR=69							
D13A	**Huson**	**86.42**	**38**	⇓P		**P**	**12 06 21.6**	**+0.5**
	baz=87,SNR=51							
D13A				⇓P		**P**	**12 06 21.6**	**+0.5**
	baz=87,SNR=51							
W23A	**Werner Place,**	**86.45**	**51**	⇓P		**P**	**12 06 22.2**	**+0.5**
	baz=87,SNR=35							
W23A				⇓P		**P**	**12 06 22.2**	**+0.5**
	baz=87,SNR=35							
K17A	**Gardner Place,**	**86.48**	**43**	⇑P		**P**	**12 06 22.2**	**+0.6**
	baz=87,SNR=30							
K17A				⇑P		**P**	**12 06 22.2**	**+0.6**
	baz=87,SNR=30							
Y24A	**Capitan**	**86.48**	**53**	⇓P		**P**	**12 06 22.3**	**+0.5**
	baz=87,SNR=179							
Y24A				⇓P		**P**	**12 06 22.3**	**+0.5**
	baz=87,SNR=179							
B12A	**Libby**	**86.49**	**36**	⇑P		**P**	**12 06 21.7**	**+0.4**
	baz=87,SNR=45							
B12A				⇑P		**P**	**12 06 21.7**	**+0.4**
	baz=87,SNR=45							
RRI2	**Red Ridge**	**86.50**	**42**	*e*P		**P**	**12 06 22.5**	**+0.6**
	comp=Z,243nm,0.9s							
Q20A	**Ridgley Place,**	**86.52**	**47**	⇓P		**P**	**12 06 22.2**	**+0.3**
	baz=87,SNR=50							
Q20A				⇓P		**P**	**12 06 22.2**	**+0.3**
	baz=87,SNR=50							
O19A	**Miners Draw (B**	**86.55**	**46**	⇓P		**P**	**12 06 22.3**	**+0.3**
	baz=87,SNR=32							
O19A				⇓P		**P**	**12 06 22.3**	**+0.3**
	baz=87,SNR=32							
326A	**Caldwell Ranch**	**86.57**	**56**	⇓P		**P**	**12 06 23.1**	**+0.9**
	baz=87,SNR=25							
326A				⇓P		**P**	**12 06 23.1**	**+0.9**
	baz=87,SNR=25							
MSO	**Missoula**	**86.59**	**38**	*e*P		**P**	**12 06 21.8**	**-0.2**
	comp=Z,20nm,0.6s							
MSO	**Missoula**	**86.59**	**38**	⇑P		**P**	**12 06 21.5**	**-0.4**
	baz=87,SNR=51							
MSO				⇑P		**P**	**12 06 21.5**	**-0.4**
	baz=87,SNR=51							
GDL2	**Guadalupe Moun**	**86.61**	**55**	*e*P		**P**	**12 06 23.4**	**+0.9**
	comp=Z,86nm,1.0s							
BSMT	**Bassoo Peak**	**86.62**	**37**	*e*P		**P**	**12 06 21.8**	**-0.4**
	comp=Z,59nm,0.8s							
BSMT				*e*pP		**pP**	**12 08 30.1**	**+0.1**
G15A	**Dillon**	**86.64**	**40**	⇑P		**P**	**12 06 23.0**	**+0.6**
	baz=87,SNR=222							
G15A				⇑P		**P**	**12 06 23.0**	**+0.6**
	baz=87,SNR=222							
I16A	**Newdale**	**86.65**	**42**	⇓P		**P**	**12 06 23.4**	**+1.0**
	baz=87,SNR=197							
I16A				⇓P		**P**	**12 06 23.4**	**+1.0**
	baz=87,SNR=197							
E14A	**Clinton**	**86.65**	**39**	⇑P		**P**	**12 06 22.4**	**0.0**
	baz=87,SNR=126							
E14A				⇑P		**P**	**12 06 22.4**	**0.0**
	baz=87,SNR=126							
C13A	**Hot Springs**	**86.66**	**37**	⇓P		**P**	**12 06 21.9**	**-0.3**
	baz=87,SNR=27							
C13A				⇓P		**P**	**12 06 21.9**	**-0.3**
	baz=87,SNR=27							
L18A	**Fontenelle, Gr**	**86.67**	**44**	⇑P		**P**	**12 06 22.6**	**0.0**
	baz=87,SNR=25							
L18A				⇑P		**P**	**12 06 22.6**	**0.0**
	baz=87,SNR=25							
V23A	**Ortiz Mt. (NFS**	**86.67**	**51**	⇑P		**P**	**12 06 23.8**	**+1.0**
	baz=87,SNR=62							
V23A				⇑P		**P**	**12 06 23.8**	**+1.0**
	baz=87,SNR=62							
DLMT	**Dillon**	**86.67**	**40**	*e*P		**P**	**12 06 23.0**	**+0.6**
	comp=Z,101nm,0.9s							
DLMT				*e*pP		**pP**	**12 08 31.3**	**+1.1**
T22A	**Edith**	**86.68**	**50**	⇑P		**P**	**12 06 23.1**	**+0.4**
	baz=87,SNR=24							
T22A				⇑P		**P**	**12 06 23.1**	**+0.4**
	baz=87,SNR=24							
A12A	**Yaak River Ran**	**86.70**	**36**	⇑P		**P**	**12 06 23.0**	**+0.6**
	baz=87,SNR=16							
A12A				⇑P		**P**	**12 06 23.0**	**+0.6**
	baz=87,SNR=16							
DCID1	**Drake Creek**	**86.70**	**42**	*e*P		**P**	**12 06 22.1**	**-0.6**
	comp=Z,88nm,0.9s							
628A	**Black Gap, Mar**	**86.73**	**58**	⇑P		**P**	**12 06 23.6**	**+0.7**
	baz=87							
628A				⇑P		**P**	**12 06 23.6**	**+0.7**
	baz=87							
226A	**Malaga, Loving**	**86.77**	**55**	⇑P		**P**	**12 06 23.8**	**+0.7**
	baz=87,SNR=65							
226A				⇑P		**P**	**12 06 23.8**	**+0.7**
	baz=87,SNR=65							
Z25A	**Roswell**	**86.77**	**54**	⇑P		**P**	**12 06 23.9**	**+0.7**
	baz=87							
Z25A				⇑P		**P**	**12 06 23.9**	**+0.7**
	baz=87							
N19A	**John Jarvie Ra**	**86.78**	**45**	⇑P		**P**	**12 06 23.1**	**0.0**
	baz=87,SNR=33							
N19A				⇑P		**P**	**12 06 23.1**	**0.0**
	baz=87,SNR=33							
R21A	**Cimarron**	**86.79**	**48**	⇑P		**P**	**12 06 24.1**	**+0.8**
	baz=87,SNR=77							
R21A				⇑P		**P**	**12 06 24.1**	**+0.8**
	baz=87,SNR=77							
TPAW	**Teton Pass**	**86.81**	**42**	*e*P		**P**	**12 06 23.9**	**+0.6**
	comp=Z,100nm,1.0s							
REDW	**Red Top Meadow**	**86.81**	**43**	*e*P		**P**	**12 06 23.7**	**+0.5**
	comp=Z,192nm,1.1s							
REDW				*e*pP		**pP**	**12 08 31.4**	**+0.3**
427A	**Hayter Ranch,**	**86.84**	**56**	⇓P		**P**	**12 06 24.7**	**+1.2**
	baz=87,SNR=128							
427A				⇓P		**P**	**12 06 24.7**	**+1.2**
	baz=87,SNR=128							
JTMT	**Jette**	**86.86**	**37**	*e*P		**P**	**12 06 22.9**	**-0.3**
	comp=Z,32nm,0.9s							
J17A	**Brown Place, J**	**86.90**	**43**	⇓P		**P**	**12 06 24.4**	**+0.8**
	baz=87,SNR=169							
J17A				⇓P		**P**	**12 06 24.4**	**+0.8**
	baz=87,SNR=169							
SWMT	**Swartz Lake**	**86.91**	**38**	*e*P		**P**	**12 06 22.8**	**-0.6**
	comp=Z,23nm,0.9s							
U23A	**El Rito**	**86.91**	**50**	⇓P		**P**	**12 06 24.5**	**+0.6**
	baz=87,SNR=54							
U23A				⇓P		**P**	**12 06 24.5**	**+0.6**
	baz=87,SNR=54							
SNOW	**Snow King Moun**	**86.92**	**42**	*e*P		**P**	**12 06 24.4**	**+0.7**
	comp=Z,196nm,1.0s							
BLMT	**Blacktail Moun**	**86.95**	**37**	*e*P		**P**	**12 06 23.4**	**-0.3**
	comp=Z,30nm,1.0s							
F15A	**Butte**	**86.97**	**40**	⇓P		**P**	**12 06 24.0**	**+0.1**
	baz=87,SNR=68							
F15A				⇓P		**P**	**12 06 24.0**	**+0.1**
	baz=87,SNR=68							
327A	**Balmorhea Ranc**	**86.97**	**56**	⇓P		**P**	**12 06 25.1**	**+1.0**
	baz=87							
327A				⇓P		**P**	**12 06 25.1**	**+1.0**
	baz=87							
Q21A	**Lamborn Mesa,**	**86.98**	**48**	⇑P		**P**	**12 06 24.7**	**+0.6**
	baz=87,SNR=46							
Q21A				⇑P		**P**	**12 06 24.7**	**+0.6**
	baz=87,SNR=46							
D14A	**Greenough**	**86.98**	**38**	⇑P		**P**	**12 06 23.5**	**-0.3**
	baz=87,SNR=74							
D14A				⇑P		**P**	**12 06 23.5**	**-0.3**
	baz=87,SNR=74							
LRM	**Limekiln Ridge**	**86.99**	**40**	*e*P		**P**	**12 06 24.5**	**+0.5**
	comp=Z,535nm,1.0s							
K18A	**Toltan Ranch,**	**87.00**	**43**	⇓P		**P**	**12 06 24.9**	**+0.7**
	baz=87,SNR=193							
K18A				⇓P		**P**	**12 06 24.9**	**+0.7**
	baz=87,SNR=193							
W24A	**Lazy 6 Ranch,**	**87.03**	**52**	⇓P		**P**	**12 06 24.5**	**+0.1**
	baz=87,SNR=46							
W24A				⇓P		**P**	**12 06 24.5**	**+0.1**
	baz=87,SNR=46							
S22A	**4UR Ranch, Cre**	**87.04**	**49**	⇓P		**P**	**12 06 25.2**	**+0.7**
	baz=87,SNR=31							
S22A				⇓P		**P**	**12 06 25.2**	**+0.7**

E15A **Deer Lodge** 87.17 39 ⇓P P 12 06 24.6 -0.1
baz=87,SNR=51
E15A ⇓P P 12 06 24.6 -0.1
baz=87,SNR=51
EGAK **Eagle** 87.18 15 eP P 12 06 23.7 -0.4
comp=Z,110nm,1.1s
EGAK epP pP 12 08 32.1 0.0
H16A **Russell Place,** 87.19 41 ⇑P P 12 06 26.2 +1.2
baz=87,SNR=289
H16A ⇑P P 12 06 26.2 +1.2
baz=87,SNR=289
L19A **Farson** 87.20 44 ⇑P P 12 06 25.7 +0.6
baz=87,SNR=127
L19A ⇑P P 12 06 25.7 +0.6
baz=87,SNR=127
I17A **Pilgrim Ck.** 87.25 42 ⇑P P 12 06 26.3 +1.1
baz=87,SNR=109
I17A ⇑P P 12 06 26.3 +1.1
baz=87,SNR=109
J18A **Kendall Valley** 87.28 43 ⇓P P 12 06 25.9 +0.5
baz=88,SNR=268
J18A ⇓P P 12 06 25.9 +0.5
baz=88,SNR=268
R22A **Saguache, Gunn** 87.30 48 ⇑P P 12 06 26.5 +0.8
baz=88,SNR=57
R22A ⇑P P 12 06 26.5 +0.8
baz=88,SNR=57
X25A **Clemmons Ranch** 87.31 53 ⇑P P 12 06 25.8 +0.1
baz=88
X25A ⇑P P 12 06 25.8 +0.1
baz=88
T23A **Casias Ranch,** 87.31 50 ⇑P P 12 06 26.2 +0.4
baz=88,SNR=8.6
T23A ⇑P P 12 06 26.2 +0.4
baz=88,SNR=8.6
CPRX **Cap Rock** 87.33 54 eP P 12 06 26.4 +0.7
comp=Z,64nm,0.9s
YFT **Old Faithful** 87.33 42 eP P 12 06 27.8 +2.1
comp=Z,110nm,0.9s
Z26A **Caprock** 87.33 54 ⇑P P 12 06 26.1 +0.4
baz=88,SNR=88
Z26A ⇑P P 12 06 26.1 +0.4
baz=88,SNR=88
V24A **Rampart Ranch,** 87.34 51 ⇓P P 12 06 26.3 +0.4
baz=88,SNR=44
V24A ⇓P P 12 06 26.3 +0.4
baz=88,SNR=44
PD01 **Pinedale Array** 87.36 43 eP P 12 06 25.9 +0.1
P21A **Newcastle** 87.36 47 ⇑P P 12 06 26.5 +0.6
baz=88,SNR=12
P21A ⇑P P 12 06 26.5 +0.6
baz=88,SNR=12
428A **Kincaid Ranch,** 87.37 57 ⇑P P 12 06 27.0 +1.0
baz=88,SNR=26
428A ⇑P P 12 06 27.0 +1.0
baz=88,SNR=26
COLD **Coldfoot** 87.37 11 eP P 12 06 24.9 -0.1
comp=Z,86nm,0.9s
BW06 **Boulder Array** 87.37 43 ⇑P P 12 06 25.9 0.0
baz=88,SNR=130
BW06 ⇑P P 12 06 25.9 0.0
baz=88,SNR=130
BW06 ⇑P P 12 06 25.9 0.0
baz=88,SNR=130
BW06 ⇑P P 12 06 25.9 0.0
baz=88,SNR=130
PD02 **Pinedale Array** 87.37 43 eP P 12 06 25.8 -0.1
PDAR **Pinedale Array** 87.37 43 P P 12 06 25.9 0.0
comp=Z,75nm,0.8s,baz=205,slow=2.6,SNR=301
PDAR PP PP 12 09 59.7 -2.3
comp=Z,27nm,1.1s,baz=243,slow=5.6,SNR=15
PDAR PKKPbc PKKPbc 12 24 11.3 -2.1
comp=Z,1.3nm,0.7s,baz=118,slow=3.3,SNR=9.1
PDAR SKKPbc SKKPbc 12 26 56.0 -1.4
comp=Z,0.8nm,0.8s,baz=99,slow=4.7,SNR=4.8
PDAR **Pinedale Array** 87.37 43 P P 12 06 25.9 0.0
PDAR PP PP 12 09 59.7 -2.3
PDAR PKKPbc PKKPbc 12 24 11.3 -2.1
PDAR SKKPbc SKKPbc 12 26 56.0 -1.4
BOZ **Bozeman (W)** 87.41 40 eP P 12 06 26.3 +0.4
BOZ e*PP pP 12 08 34.1 +0.2
BOZ pmax pmax
comp=Z,88nm,1.3s
BOZ **Bozeman (W)** 87.41 40 eP P 12 06 26.3 +0.4
comp=Z,88nm,1.3s
BOZ epP pP 12 08 34.1 +0.2
BOZ **Bozeman (W)** 87.41 40 ⇓P P 12 06 26.3 +0.4
baz=88,SNR=78
BOZ ⇓P P 12 06 26.3 +0.4
baz=88,SNR=78
BOZ ⇓P P 12 06 26.3 +0.4
baz=88,SNR=78
BOZ ⇓P P 12 06 26.3 +0.4
baz=88,SNR=78
Q22A **Crested Butte,** 87.46 48 ⇑P P 12 06 27.1 +0.6
baz=88,SNR=19
Q22A ⇑P P 12 06 27.1 +0.6
baz=88,SNR=19
H17A **Grant Village** 87.47 42 ⇑P P 12 06 28.1 +1.8
baz=88,SNR=128
H17A ⇑P P 12 06 28.1 +1.8
baz=88,SNR=128
F16A **Kennard Place,** 87.47 40 ⇓P P 12 06 26.6 +0.5
baz=88,SNR=77
F16A ⇓P P 12 06 26.6 +0.5
baz=88,SNR=77
328A **Wristen Ranch,** 87.52 56 ⇑P P 12 06 26.8 +0.2
baz=88,SNR=47
328A ⇑P P 12 06 26.8 +0.2
baz=88,SNR=47
D15A **Lincoln** 87.54 39 ⇓P P 12 06 26.5 +0.1
baz=88,SNR=112
D15A ⇓P P 12 06 26.5 +0.1
baz=88,SNR=112
SMCO **Snowmass** 87.55 48 eP P 12 06 27.5 +0.5
comp=Z,49nm,1.0s
YNR **Norris Junctio** 87.55 41 eP P 12 06 28.6 +1.9
comp=Z,49nm,1.0s
127A **Arkansas Junct** 87.58 55 ⇓P P 12 06 27.3 +0.3
baz=88,SNR=53
127A ⇓P P 12 06 27.3 +0.3
baz=88,SNR=53
S23A **Nye Farm, Mont** 87.62 49 ⇑P P 12 06 27.6 +0.5
baz=88
S23A ⇑P P 12 06 27.6 +0.5
baz=88
I18A **Diamond G Ranc** 87.63 43 ⇓P P 12 06 27.6 +0.5
baz=88,SNR=60
I18A ⇓P P 12 06 27.6 +0.5
baz=88,SNR=60
O21A **Pagoda** 87.65 46 ⇑P P 12 06 27.5 +0.3
baz=88,SNR=18
O21A ⇑P P 12 06 27.5 +0.3
baz=88,SNR=18
LKWY **Lake** 87.66 42 eP P 12 06 29.2 +2.0
LKWY pmax pmax
comp=Z,131nm,1.1s
LKWY **Lake** 87.66 42 eP P 12 06 29.2 +2.0
comp=Z,131nm,1.1s
KMI **Kunming** 87.71 297 P P 12 06 29.5 +1.7
KMI pP pP 12 08 39.8 +3.8
KMI sP sP 12 09 34.5 -1.0
KMI PP PP 12 10 07.5 +2.5
KMI SKS SKSac 12 16 00.0 -0.3
KMI S S 12 16 21.5 +0.1
KMI sS sS 12 20 07.0 -2.7
KMI SS SS 12 22 29.5 +2.6
KMI pmax pmax
comp=Z,120nm,1.0s
KMI pmax pmax
comp=Z,470nm,3.1s
Y26A **Elida** 87.71 53 ⇓P P 12 06 27.6 0.0
baz=88,SNR=9.4
Y26A ⇓P P 12 06 27.6 0.0
baz=88,SNR=9.4
M20A **Sweetwater, Wa** 87.71 45 ⇑P P 12 06 28.0 +0.5
baz=88,SNR=52
M20A ⇑P P 12 06 28.0 +0.5
baz=88,SNR=52
W25A **X Bar L Ranch,** 87.74 52 ⇓P P 12 06 27.5 -0.2
baz=88,SNR=37
W25A ⇓P P 12 06 27.5 -0.2
baz=88,SNR=37
WALA **Waterton Lakes** 87.74 36 eP P 12 06 27.4 +0.1
comp=Z,2.1nm,0.9s
B14A **Marquette Ranc** 87.76 37 ⇓P P 12 06 27.2 -0.3
baz=88,SNR=140
B14A ⇓P P 12 06 27.2 -0.3
baz=88,SNR=140
HRY **Holter Researc** 87.80 39 eP P 12 06 28.0 +0.3
comp=Z,55nm,0.9s
G17A **Pierce Place,** 87.80 41 ⇓P P 12 06 28.6 +0.9
baz=88,SNR=61
G17A ⇓P P 12 06 28.6 +0.9
baz=88,SNR=61
E16A **East Helena** 87.80 39 ⇓P P 12 06 27.8 +0.2
baz=88,SNR=36
E16A ⇓P P 12 06 27.8 +0.2
baz=88,SNR=36
L20A **Wamsutter** 87.84 45 ⇓P P 12 06 28.6 +0.6
baz=88,SNR=97
L20A ⇓P P 12 06 28.6 +0.6
baz=88,SNR=97
N21A **Black Mountain** 87.85 46 ⇓P P 12 06 28.8 +0.7
baz=88,SNR=90
N21A ⇓P P 12 06 28.8 +0.7
baz=88,SNR=90
C15A **Salmond Ranch,** 87.85 38 ⇑P P 12 06 27.8 -0.1
baz=88,SNR=91
C15A ⇑P P 12 06 27.8 -0.1
baz=88,SNR=91
K19A **Absolon Red Bu** 87.87 44 ⇑P P 12 06 27.9 -0.2
baz=88,SNR=98
K19A ⇑P P 12 06 27.9 -0.2
baz=88,SNR=98
V25A **Rancho No Teng** 87.87 51 ⇓P P 12 06 28.5 +0.1
baz=88,SNR=50
V25A ⇓P P 12 06 28.5 +0.1
baz=88,SNR=50
P22A **Eagle** 87.88 47 ⇑P P 12 06 28.6 +0.2
baz=88
P22A ⇑P P 12 06 28.6 +0.2
baz=88
J19A **Crowheart** 87.93 43 ⇓P P 12 06 28.7 +0.3
baz=88,SNR=124
J19A ⇓P P 12 06 28.7 +0.3
baz=88,SNR=124
Z27A **Tatum** 87.94 54 ⇑P P 12 06 28.6 0.0
baz=88,SNR=32
Z27A ⇑P P 12 06 28.6 0.0
baz=88,SNR=32
R23A **Moffat** 87.95 49 ⇑P P 12 06 29.3 +0.6
baz=88,SNR=30
R23A ⇑P P 12 06 29.3 +0.6
baz=88,SNR=30
X26A **CR and CF Fran** 87.97 53 ⇓P P 12 06 29.0 +0.3
baz=88,SNR=6.0
X26A ⇓P P 12 06 29.0 +0.3
baz=88,SNR=6.0
A14A **Double T Ranch** 87.98 37 ⇑P P 12 06 28.5 0.0
baz=88,SNR=122
A14A ⇑P P 12 06 28.5 0.0
baz=88,SNR=122
SDCO **Great Sand Dun** 88.00 49 ⇓P P 12 06 29.1 +0.1
baz=88,SNR=9.8
SDCO ⇓P P 12 06 29.1 +0.1
baz=88,SNR=9.8
SDCO ⇓P P 12 06 29.1 +0.1
baz=88,SNR=9.8
SDCO ⇓P P 12 06 29.1 +0.1
baz=88,SNR=9.8
BSI **Banda Aceh** 88.05 276 P P 12 06 29.4 0.0
comp=Z,282nm,1.0s,comp=Z,3µm
T24A **Torres, Weston** 88.05 50 ⇑P P 12 06 29.7 +0.5
baz=88
T24A ⇑P P 12 06 29.7 +0.5
baz=88
CLNS **Chul'man** 88.06 333 eP P 12 06 29.7 +1.2
CLNS eS S 12 16 22.3 -0.6
CLNS eSS SS 12 22 25.7 -4.6
CLNS pmax pmax
comp=Z,30nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.4s
CLNS pmax pmax
comp=N,19nm,1.4s
CLNS smax smax
comp=E,481nm,12.1s
CLNS smax smax
comp=N,363nm,11.7s
BTO **Baotou** 88.10 314 eP P 12 06 29.3 +0.1
D16A **Dana Ranch, Ca** 88.12 39 ⇑P P 12 06 29.4 +0.2
baz=88,SNR=52
D16A ⇑P P 12 06 29.4 +0.2
baz=88,SNR=52
K20A **Yellowstone Ra** 88.12 44 ⇓P P 12 06 29.1 -0.3
baz=88,SNR=118
K20A ⇓P P 12 06 29.1 -0.3
baz=88,SNR=118
F17A **Fitzpatrick Pl** 88.13 40 ⇓P P 12 06 30.1 +0.9
baz=88,SNR=51
F17A ⇓P P 12 06 30.1 +0.9
baz=88,SNR=51
B15A **Bradely Ranch,** 88.15 38 ⇓P P 12 06 28.5 -0.7
baz=88,SNR=48
B15A ⇓P P 12 06 28.5 -0.7
baz=88,SNR=48
S24A **Houchin Ranch,** 88.16 50 ⇓P P 12 06 30.6 +0.8
baz=88,SNR=21
S24A ⇓P P 12 06 30.6 +0.8
baz=88,SNR=21
Y27A **Causey** 88.20 54 ⇑P P 12 06 29.8 -0.1
baz=88,SNR=45
Y27A ⇑P P 12 06 29.8 -0.1
baz=88,SNR=45
W26A **Owens Ranch, T** 88.21 52 ⇓P P 12 06 29.7 -0.2
baz=88,SNR=15
W26A ⇓P P 12 06 29.7 -0.2
baz=88,SNR=15
Q23A **Hartsel** 88.24 48 ⇓P P 12 06 30.7 +0.6
baz=88
Q23A ⇓P P 12 06 30.7 +0.6
baz=88
U25A **Circle Dot Ran** 88.25 51 ⇓P P 12 06 30.1 0.0
baz=88,SNR=44
U25A ⇓P P 12 06 30.1 0.0
baz=88,SNR=44
O22A **Kremmling** 88.26 47 ⇑P P 12 06 30.5 +0.3
baz=88,SNR=84
O22A ⇑P P 12 06 30.5 +0.3
baz=88,SNR=84
E17A **Martinsdale** 88.27 40 ⇓P P 12 06 30.5 +0.6
baz=88,SNR=26
E17A ⇓P P 12 06 30.5 +0.6
baz=88,SNR=26
I19A **Meeteetse** 88.31 43 ⇑P P 12 06 30.8 +0.6
baz=88,SNR=63
I19A ⇑P P 12 06 30.8 +0.6
baz=88,SNR=63
M21A **Separation Pea** 88.32 45 ⇓P P 12 06 30.4 +0.1
baz=88,SNR=92
M21A ⇓P P 12 06 30.4 +0.1
baz=88,SNR=92
C16A **Fuhringer Ranc** 88.37 38 ⇑P P 12 06 30.2 -0.1
baz=89,SNR=108
C16A ⇑P P 12 06 30.2 -0.1
baz=89,SNR=108
A15A **Johnson Ranch,** 88.38 37 ⇓P P 12 06 30.0 -0.2
baz=89,SNR=85
A15A ⇓P P 12 06 30.0 -0.2
baz=89,SNR=85
P23A **Jefferson** 88.43 48 ⇑P P 12 06 32.0 +1.0
baz=89,SNR=21
P23A ⇑P P 12 06 32.0 +1.0
baz=89,SNR=21
RWWY **Rawlins** 88.46 45 eP P 12 06 31.2 +0.2
comp=N,133nm,1.1s
L21A **Rawlins** 88.47 45 ⇑P P 12 06 31.0 0.0
baz=89,SNR=52
L21A ⇑P P 12 06 31.0 0.0
baz=89,SNR=52
R24A **Sanders Place,** 88.48 49 ⇑P P 12 06 31.6 +0.5
baz=89,SNR=29
R24A ⇑P P 12 06 31.6 +0.5
baz=89,SNR=29
MSTX **Muleshoe** 88.53 54 ⇓P P 12 06 31.5 +0.2
baz=89,SNR=40
MSTX ⇓P P 12 06 31.5 +0.2
baz=89,SNR=40
G18A **Lazy EL Ranch,** 88.53 41 ⇓P P 12 06 31.9 +0.7
baz=89,SNR=60
G18A ⇓P P 12 06 31.9 +0.7
baz=89,SNR=60
T25A **Trinidad** 88.54 50 ⇓P P 12 06 31.7 +0.2
baz=89,SNR=16
T25A ⇓P P 12 06 31.7 +0.2
baz=89,SNR=16
X27A **F and S Farms,** 88.55 53 ⇓P P 12 06 31.6 +0.1
baz=89,SNR=28
X27A ⇓P P 12 06 31.6 +0.1
baz=89,SNR=28
N22A **Wattenberg Ran** 88.60 46 ⇓P P 12 06 32.3 +0.6
baz=89,SNR=104
N22A ⇓P P 12 06 32.3 +0.6
baz=89,SNR=104
J20A **Shoshoni** 88.60 43 ⇓P P 12 06 32.0 +0.6
baz=89,SNR=226
J20A ⇓P P 12 06 32.0 +0.6
baz=89,SNR=226
H19A **Powell** 88.61 42 ⇑P P 12 06 32.3 +0.9
baz=89,SNR=99
H19A ⇑P P 12 06 32.3 +0.9
baz=89,SNR=99
RLMT **Red Lodge** 88.63 41 eP P 12 06 32.1 +0.4
comp=N,88nm,1.0s
RLMT **Red Lodge** 88.63 41 ⇑P P 12 06 32.7 +1.0
baz=89,SNR=88
RLMT ⇑P P 12 06 32.7 +1.0
baz=89,SNR=88
RLMT ⇑P P 12 06 32.7 +1.0
baz=89,SNR=88
RLMT ⇑P P 12 06 32.7 +1.0
baz=89,SNR=88
GCMT **Greycliff** 88.69 41 eP P 12 06 32.5 +0.7
comp=N,36nm,1.0s
GCMT epP pP 12 08 40.0 -0.3
B16A **M & M Farms, S** 88.69 38 ⇑P P 12 06 31.4 -0.3
baz=89,SNR=41
B16A ⇑P P 12 06 31.4 -0.3
baz=89,SNR=41
D17A **Six Diamond Ra** 88.69 39 ⇓P P 12 06 32.4 +0.6
baz=89,SNR=106
D17A ⇓P P 12 06 32.4 +0.6
baz=89,SNR=106
F18A **Big Timber** 88.71 41 ⇑P P 12 06 32.5 +0.6
baz=89,SNR=42
F18A ⇑P P 12 06 32.5 +0.6
baz=89,SNR=42
O23A **Lake Granby, G** 88.72 47 ⇑P P 12 06 33.0 +0.7
baz=89,SNR=37
O23A ⇑P P 12 06 33.0 +0.7
baz=89,SNR=37
S25A **Robets Cordova** 88.74 50 ⇑P P 12 06 32.3 0.0
baz=89,SNR=40
S25A ⇑P P 12 06 32.3 0.0
baz=89,SNR=40
U26A **Atchley Ranch,** 88.74 51 ⇑P P 12 06 32.2 -0.1
baz=89,SNR=28
U26A ⇑P P 12 06 32.2 -0.1
baz=89,SNR=28
Q24A **Divide** 88.75 48 ⇓P P 12 06 33.0 +0.5
baz=89,SNR=30
Q24A ⇓P P 12 06 33.0 +0.5
baz=89,SNR=30
ISCO **Idaho Springs** 88.76 47 eP P 12 06 33.1 +0.6
ISCO pmax pmax
comp=Z,25nm,1.1s
ISCO **Idaho Springs** 88.76 47 eP P 12 06 33.1 +0.6
comp=Z,25nm,1.1s
ISCO **Idaho Springs** 88.76 47 ⇑P P 12 06 32.9 +0.4
baz=89,SNR=35
ISCO ⇑P P 12 06 32.9 +0.4
baz=89,SNR=35
CM31 **Chiang Mai Arr** 88.77 290 eP P 12 06 33.6 +1.0
comp=Z,109nm,1.0s
CMAR **Chiang Mai Arr** 88.77 290 P P 12 06 33.6 +1.1
comp=Z,99nm,0.9s,baz=111,slow=2.7,SNR=320
CMAR PP PP 12 10 04.9 -8.2
comp=Z,6.4nm,1.0s,baz=127,slow=2.7,SNR=4.6
CMAR PKKPbc PKKPbc 12 24 09.3 +0.6
comp=Z,0.8nm,0.6s,baz=282,slow=3.8,SNR=5.8
CMAR **Chiang Mai Arr** 88.77 290 P P 12 06 33.7 +1.1
CMAR **Chiang Mai Arr** 88.77 290 P P 12 06 33.6 +1.1
CMAR PP PP 12 10 04.9 -8.2
CMAR PKKPbc PKKPbc 12 24 09.3 +0.6
I20A **Worland** 88.84 43 ⇑P P 12 06 32.8 +0.3
baz=89,SNR=96
I20A ⇑P P 12 06 32.8 +0.3
baz=89,SNR=96
K21A **Alcova** 88.84 44 ⇓P P 12 06 32.8 +0.1
baz=89,SNR=73
K21A ⇓P P 12 06 32.8 +0.1
baz=89,SNR=73
C17A **Wharram Farm,** 88.88 39 ⇑P P 12 06 32.7 +0.2
baz=89,SNR=114
C17A ⇑P P 12 06 32.7 +0.2
baz=89,SNR=114
CHTO **Chiang Mai** 88.88 290 eP P 12 06 33.3 +0.2
CHTO pmax pmax
comp=Z,101nm,0.8s
CHTO **Chiang Mai** 88.88 290 eP P 12 06 33.3 +0.2
comp=Z,101nm,0.8s
CHTO **Chiang Mai** 88.88 290 P P 12 06 33.7 +0.6
comp=Z,168nm,0.9s,comp=Z,2µm
E18A **Harlowton** 88.89 40 ⇓P P 12 06 33.6 +0.9
baz=89,SNR=50
E18A ⇓P P 12 06 33.6 +0.9
baz=89,SNR=50
CD2 **Chengdu** 88.95 303 P P 12 06 34.0 +0.7
CD2 pP pP 12 08 41.8 0.0
CD2 sP sP 12 09 39.3 -1.9
CD2 PP PP 12 10 17.0 +2.6
CD2 S S 12 16 31.5 -0.6
CD2 sS sS 12 20 17.5 -3.9
CD2 SS SS 12 22 46.8 +2.7
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,290nm,5.9s
N23A **Red Feather La** 88.99 46 ⇑P P 12 06 34.1 +0.6
baz=89,SNR=85
N23A ⇑P P 12 06 34.1 +0.6
baz=89,SNR=85
A16A **West Butte Ran** 89.01 37 ⇑P P 12 06 33.5 +0.2
baz=89
A16A ⇑P P 12 06 33.5 +0.2
baz=89
J21A **Lysite** 89.02 44 ⇑P P 12 06 33.8 +0.3
baz=89,SNR=226
J21A ⇑P P 12 06 33.8 +0.3
baz=89,SNR=226
R25A **Fountain Ranch** 89.04 49 ⇓P P 12 06 33.8 +0.1
baz=89
R25A ⇓P P 12 06 33.8 +0.1
baz=89
L22A **Ellis Ranch, M** 89.13 45 ⇓P P 12 06 34.8 +0.7
baz=89,SNR=100
L22A ⇓P P 12 06 34.8 +0.7
baz=89,SNR=100
P24A **Kohler Place,** 89.14 48 ⇑P P 12 06 34.6 +0.5
baz=89
P24A ⇑P P 12 06 34.6 +0.5
baz=89
H20A **Greybull** 89.16 42 ⇑P P 12 06 33.9 -0.1
baz=89,SNR=58
H20A ⇑P P 12 06 33.9 -0.1
baz=89,SNR=58
T26A **Comanche Natio** 89.16 50 ⇑P P 12 06 34.6 +0.3
baz=89,SNR=12
T26A ⇑P P 12 06 34.6 +0.3
baz=89,SNR=12
F19A **Roth Farm, Mol** 89.17 41 ⇓P P 12 06 34.3 +0.3
baz=89,SNR=59
F19A ⇓P P 12 06 34.3 +0.3
baz=89,SNR=59
B17A **L&G Farms, Che** 89.17 38 ⇑P P 12 06 33.9 0.0
baz=89,SNR=37
B17A ⇑P P 12 06 33.9 0.0
baz=89,SNR=37
D18A **Linhart Farms,** 89.25 39 ⇑P P 12 06 35.1 +0.7
baz=89,SNR=23
D18A ⇑P P 12 06 35.1 +0.7
baz=89,SNR=23
O24A **Longmont** 89.27 47 ⇓P P 12 06 35.6 +0.9
baz=89,SNR=16
O24A ⇓P P 12 06 35.6 +0.9
baz=89,SNR=16
CMIG **Matias Romero** 89.31 72 P P 12 06 36.3 +1.1
comp=Z,22nm,0.9s,baz=269,slow=5.9,SNR=16
CMIG pP pP 12 08 45.3 +1.6
comp=Z,8.5nm,1.2s,baz=309,slow=11,SNR=3.0
CMIG **Matias Romero** 89.31 72 P P 12 06 36.3 +1.1
CMIG pP pP 12 08 45.3 +1.6

I21A	**Big Trails, Te**	**89.32**	**43**	⇑P		**P**	**12 06 34.8**	**0.0**
	baz=90,SNR=133							
I21A				⇑P		**P**	**12 06 34.8**	**0.0**
	baz=90,SNR=133							
K22A	**Casper**	**89.33**	**45**	⇑P		**P**	**12 06 34.9**	**0.0**
	baz=90,SNR=26							
K22A				⇑P		**P**	**12 06 34.9**	**0.0**
	baz=90,SNR=26							
G20A	**Bridger**	**89.34**	**42**	⇓P		**P**	**12 06 35.0**	**+0.2**
	baz=90,SNR=20							
G20A				⇓P		**P**	**12 06 35.0**	**+0.2**
	baz=90,SNR=20							
Q25A	**Bedland, Calha**	**89.37**	**49**	⇓P		**P**	**12 06 35.5**	**+0.2**
	baz=90							
Q25A				⇓P		**P**	**12 06 35.5**	**+0.2**
	baz=90							
M23A	**Laramie**	**89.38**	**46**	⇓P		**P**	**12 06 35.6**	**+0.3**
	baz=90,SNR=69							
M23A				⇓P		**P**	**12 06 35.6**	**+0.3**
	baz=90,SNR=69							
S26A	**Kim**	**89.42**	**50**	⇓P		**P**	**12 06 35.1**	**-0.3**
	baz=90,SNR=24							
S26A				⇓P		**P**	**12 06 35.1**	**-0.3**
	baz=90,SNR=24							
W28A	**Vega**	**89.46**	**53**	⇑P		**P**	**12 06 35.4**	**-0.2**
	baz=90,SNR=12							
W28A				⇑P		**P**	**12 06 35.4**	**-0.2**
	baz=90,SNR=12							
YAK	**Yakutsk**	**89.48**	**338**	*e*P		**P**	**12 06 35.1**	**+0.3**
YAK				*e*			12 10 20.4	
YAK				*e*S		**SKSac**	**12 16 08.0**	**-0.4**
YAK				*e*			12 16 30.7	
YAK					pmax	pmax		
	comp=Z,14nm,1.1s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.3s							
YAK					pmax	pmax		
	comp=E,6.0nm,1.4s							
YAK					pmax	pmax		
	comp=Z,228nm,4.1s							
YAK					pmax	pmax		
	comp=N,222nm,3.3s							
YAK					smax	smax		
	comp=E,332nm,4.1s							
YAK					smax	smax		
	comp=N,313nm,4.2s							
PHWY	**Pilot Hill**	**89.49**	**46**	*e*P		**P**	**12 06 36.2**	**+0.4**
	comp=N,57nm,0.9s							
A17A	**Triple J Farms**	**89.53**	**38**	⇑P		**P**	**12 06 36.0**	**+0.4**
	baz=90,SNR=109							
A17A				⇑P		**P**	**12 06 36.0**	**+0.4**
	baz=90,SNR=109							
E19A	**Rath Farm, Rou**	**89.54**	**40**	⇓P		**P**	**12 06 36.3**	**+0.6**
	baz=90,SNR=48							
E19A				⇓P		**P**	**12 06 36.3**	**+0.6**
	baz=90,SNR=48							
JCT	**Junction City**	**89.58**	**58**	*e*P		**P**	**12 06 36.6**	**+0.4**
JCT					pmax	pmax		
	comp=Z,47nm,0.8s							
JCT	**Junction City**	**89.58**	**58**	*e*P		**P**	**12 06 36.6**	**+0.4**
	comp=Z,47nm,0.8s							
JCT	**Junction City**	**89.58**	**58**	⇓P		**P**	**12 06 36.4**	**+0.2**
	baz=90,SNR=38							
JCT				⇓P		**P**	**12 06 36.4**	**+0.2**
	baz=90,SNR=38							
V28A	**Channing**	**89.63**	**52**	⇓P		**P**	**12 06 36.5**	**+0.1**
	baz=90,SNR=8.1							
V28A				⇓P		**P**	**12 06 36.5**	**+0.1**
	baz=90,SNR=8.1							
F20A	**Billings**	**89.64**	**41**	⇓P		**P**	**12 06 36.5**	**+0.3**
	baz=90,SNR=11							
F20A				⇓P		**P**	**12 06 36.5**	**+0.3**
	baz=90,SNR=11							
L23A	**Garrett**	**89.66**	**45**	⇓P		**P**	**12 06 36.9**	**+0.3**
	baz=90,SNR=106							
L23A				⇓P		**P**	**12 06 36.9**	**+0.3**
	baz=90,SNR=106							
EGMT	**Eagleton**	**89.66**	**39**	*e*P		**P**	**12 06 36.6**	**+0.4**
	comp=Z,42nm,1.0s							
EGMT	**Eagleton**	**89.66**	**39**	⇑P		**P**	**12 06 36.5**	**+0.3**
	baz=90,SNR=23							
EGMT				⇑P		**P**	**12 06 36.5**	**+0.3**
	baz=90,SNR=23							
P25A	**Willow Gulch B**	**89.67**	**48**	⇑P		**P**	**12 06 37.0**	**+0.4**
	baz=90,SNR=19							
P25A				⇑P		**P**	**12 06 37.0**	**+0.4**
	baz=90,SNR=19							
J22A	**Midwest**	**89.68**	**44**	⇓P		**P**	**12 06 36.7**	**+0.1**
	baz=90,SNR=78							
J22A				⇓P		**P**	**12 06 36.7**	**+0.1**
	baz=90,SNR=78							
N24A	**Carr**	**89.69**	**47**	⇑P		**P**	**12 06 37.4**	**+0.7**
	baz=90,SNR=82							
N24A				⇑P		**P**	**12 06 37.4**	**+0.7**
	baz=90,SNR=82							
R26A	**Arlington**	**89.70**	**49**	⇑P		**P**	**12 06 36.7**	**0.0**
	baz=90,SNR=36							
R26A				⇑P		**P**	**12 06 36.7**	**0.0**
	baz=90,SNR=36							
AMTX	**Amarillo**	**89.72**	**53**	*e*P		**P**	**12 06 36.6**	**-0.2**
	comp=Z,70nm,1.0s							
AMTX	**Amarillo**	**89.72**	**53**	⇑P		**P**	**12 06 36.7**	**-0.1**
	baz=90,SNR=37							
AMTX				⇑P		**P**	**12 06 36.7**	**-0.1**
	baz=90,SNR=37							
AMTX				⇑P		**P**	**12 06 36.7**	**-0.1**
	baz=90,SNR=37							
AMTX				⇑P		**P**	**12 06 36.7**	**-0.1**
	baz=90,SNR=37							
T27A	**Campo**	**89.76**	**51**	⇓P		**P**	**12 06 37.4**	**+0.4**
	baz=90,SNR=22							
T27A				⇓P		**P**	**12 06 37.4**	**+0.4**
	baz=90,SNR=22							
D19A	**Cripps Ranch,**	**89.80**	**40**	⇑P		**P**	**12 06 37.5**	**+0.6**
	baz=90,SNR=98							
D19A				⇑P		**P**	**12 06 37.5**	**+0.6**
	baz=90,SNR=98							
B18A	**Beardsley Farm**	**89.82**	**38**	⇓P		**P**	**12 06 37.1**	**+0.2**
	baz=90,SNR=86							
B18A				⇓P		**P**	**12 06 37.1**	**+0.2**
	baz=90,SNR=86							
H21A	**Big Horn, Sher**	**89.83**	**43**	⇑P		**P**	**12 06 37.4**	**+0.3**
	baz=90,SNR=35							
H21A				⇑P		**P**	**12 06 37.4**	**+0.3**
	baz=90,SNR=35							
I22A	**9 Mile Ranch,**	**89.88**	**43**	⇓P		**P**	**12 06 37.5**	**+0.1**
	baz=90,SNR=85							
I22A				⇓P		**P**	**12 06 37.5**	**+0.1**
	baz=90,SNR=85							
Q26A	**Hugo**	**89.90**	**49**	⇑P		**P**	**12 06 37.8**	**+0.2**
	baz=90,SNR=10							
Q26A				⇑P		**P**	**12 06 37.8**	**+0.2**
	baz=90,SNR=10							
O25A	**Wiggins**	**89.94**	**48**	⇑P		**P**	**12 06 38.1**	**+0.4**
	baz=90,SNR=12							
O25A				⇑P		**P**	**12 06 38.1**	**+0.4**
	baz=90,SNR=12							
C19A	**Slack Wire Ran**	**89.95**	**39**	⇓P		**P**	**12 06 38.2**	**+0.7**
	baz=90,SNR=79							
C19A				⇓P		**P**	**12 06 38.2**	**+0.7**
	baz=90,SNR=79							
E20A	**Meyer Farm, Mu**	**89.96**	**41**	⇑P		**P**	**12 06 38.2**	**+0.6**
	baz=90,SNR=30							
E20A				⇑P		**P**	**12 06 38.2**	**+0.6**
	baz=90,SNR=30							
K23A	**Bowen Ranch, D**	**89.98**	**45**	⇑P		**P**	**12 06 37.9**	**0.0**
	baz=90,SNR=46							
K23A				⇑P		**P**	**12 06 37.9**	**0.0**
	baz=90,SNR=46							
G21A	**Lodge Grass**	**89.98**	**42**	⇓P		**P**	**12 06 38.2**	**+0.4**
	baz=90,SNR=9.9							
G21A				⇓P		**P**	**12 06 38.2**	**+0.4**
	baz=90,SNR=9.9							
M24A	**Cheyenne**	**89.99**	**46**	⇑P		**P**	**12 06 38.5**	**+0.4**
	baz=90,SNR=48							
M24A				⇑P		**P**	**12 06 38.5**	**+0.4**
	baz=90,SNR=48							
A18A	**Metzger Ranch,**	**90.02**	**38**	⇑P		**P**	**12 06 38.1**	**+0.3**
	baz=90							
A18A				⇑P		**P**	**12 06 38.1**	**+0.3**
	baz=90							
L24A	**Wheatland**	**90.15**	**46**	⇑P		**P**	**12 06 39.4**	**+0.7**
	baz=90,SNR=22							
L24A				⇑P		**P**	**12 06 39.4**	**+0.7**
	baz=90,SNR=22							
R27A	**Eads**	**90.17**	**50**	⇑P		**P**	**12 06 39.0**	**+0.1**
	baz=90							
R27A				⇑P		**P**	**12 06 39.0**	**+0.1**
	baz=90							
V29A	**Stinnett**	**90.20**	**52**	⇑P		**P**	**12 06 40.0**	**+1.0**
	baz=90,SNR=7.6							
V29A				⇑P		**P**	**12 06 40.0**	**+1.0**
	baz=90,SNR=7.6							
D20A	**Manuel Ranch,**	**90.22**	**40**	⇓P		**P**	**12 06 39.3**	**+0.5**
	baz=90,SNR=75							
D20A				⇓P		**P**	**12 06 39.3**	**+0.5**
	baz=90,SNR=75							
T28A	**Walsh**	**90.23**	**51**	⇑P		**P**	**12 06 39.6**	**+0.5**
	baz=90,SNR=38							
T28A				⇑P		**P**	**12 06 39.6**	**+0.5**
	baz=90,SNR=38							
N25A	**Grover**	**90.24**	**47**	⇑P		**P**	**12 06 39.4**	**+0.2**
	baz=90							
N25A				⇑P		**P**	**12 06 39.4**	**+0.2**
	baz=90							
H22A	**Clearmont**	**90.27**	**43**	⇑P		**P**	**12 06 39.5**	**+0.4**
	baz=90,SNR=11							
H22A				⇑P		**P**	**12 06 39.5**	**+0.4**
	baz=90,SNR=11							
P26A	**Davis Ranch, A**	**90.27**	**48**	⇑P		**P**	**12 06 39.5**	**+0.2**
	baz=90,SNR=14							
P26A				⇑P		**P**	**12 06 39.5**	**+0.2**
	baz=90,SNR=14							
J23A	**Dilts Ranch, B**	**90.29**	**44**	⇓P		**P**	**12 06 39.6**	**+0.2**
	baz=90,SNR=5.1							
J23A				⇓P		**P**	**12 06 39.6**	**+0.2**
	baz=90,SNR=5.1							
F21A	**Absaloka Mine,**	**90.30**	**42**	⇓P		**P**	**12 06 39.9**	**+0.8**
	baz=90,SNR=15							
F21A				⇓P		**P**	**12 06 39.9**	**+0.8**
	baz=90,SNR=15							
B19A	**Brinkman Farms**	**90.34**	**39**	⇓P		**P**	**12 06 39.7**	**+0.4**
	baz=90,SNR=49							
B19A				⇓P		**P**	**12 06 39.7**	**+0.4**
	baz=90,SNR=49							
K24A	**Anderson Ranch**	**90.51**	**45**	⇓P		**P**	**12 06 40.8**	**+0.5**
	baz=91,SNR=6.6							
K24A				⇓P		**P**	**12 06 40.8**	**+0.5**
	baz=91,SNR=6.6							
M25A	**Palm-Egli Farm**	**90.51**	**46**	⇓P		**P**	**12 06 41.0**	**+0.6**
	baz=91,SNR=48							
M25A				⇓P		**P**	**12 06 41.0**	**+0.6**
	baz=91,SNR=48							
O26A	**Horse Wrangler**	**90.56**	**48**	⇓P		**P**	**12 06 41.0**	**+0.4**
	baz=91,SNR=16							
O26A				⇓P		**P**	**12 06 41.0**	**+0.4**
	baz=91,SNR=16							
G22A	**Birney**	**90.57**	**42**	⇓P		**P**	**12 06 41.0**	**+0.5**
	baz=91,SNR=21							
G22A				⇓P		**P**	**12 06 41.0**	**+0.5**
	baz=91,SNR=21							
KSCO	**Kaye Shedlock'**	**90.57**	**49**	⇑P		**P**	**12 06 41.7**	**+1.0**
	baz=91							
KSCO				⇑P		**P**	**12 06 41.7**	**+1.0**
	baz=91							
C20A	**Veseth Ranch,**	**90.57**	**40**	⇓P		**P**	**12 06 41.1**	**+0.7**
	baz=91,SNR=152							
C20A				⇓P		**P**	**12 06 41.1**	**+0.7**
	baz=91,SNR=152							
E21A	**Keefer Ranch,**	**90.63**	**41**	⇓P		**P**	**12 06 41.6**	**+0.9**
	baz=91,SNR=38							
E21A				⇓P		**P**	**12 06 41.6**	**+0.9**
	baz=91,SNR=38							
SNAA	**Sanae**	**90.67**	**179**	*e*		**P**	**12 06 37.4**	**-3.1**
SNAA	**Sanae**	**90.67**	**179**	*e*P		P	12 06 36.9	-3.6
SNAA					pmax	pmax		
	comp=Z,20nm,0.6s							
SNAA	**Sanae**	**90.67**	**179**	*e*P		P	12 06 36.9	-3.6
	comp=Z,20nm,0.6s							
LZH	**Lanzhou**	**90.77**	**308**	*e*P		**P**	**12 06 42.8**	**+1.1**
LZH				pP		**pP**	**12 08 49.0**	**-1.6**
LZH				sP		**sP**	**12 09 50.3**	**+0.5**
LZH				PP		**PP**	**12 10 27.3**	**-1.4**
LZH				SKS		**SKSac**	**12 16 16.3**	**-1.0**
LZH				*e*S		**S**	**12 16 46.0**	**-2.5**
LZH				sS		**sS**	**12 20 36.3**	**-2.7**
LZH				SS		**SS**	**12 23 11.5**	**+1.4**
LZH					pmax	pmax		
	comp=Z,190nm,1.1s							
LZH					pmax	pmax		
	comp=Z,560nm,4.0s							
VNA3	**Neumayer Olymp**	**90.81**	**176**	*e*		**P**	**12 06 42.3**	**+1.2**
F22A	**Rosebud**	**90.83**	**42**	⇓P		**P**	**12 06 42.1**	**+0.5**
	baz=91,SNR=15							
F22A				⇓P		**P**	**12 06 42.1**	**+0.5**
	baz=91,SNR=15							
N26A	**Koester Ranch,**	**90.85**	**47**	⇑P		**P**	**12 06 42.1**	**+0.2**
	baz=91,SNR=20							
N26A				⇑P		**P**	**12 06 42.1**	**+0.2**
	baz=91,SNR=20							
J24A	**Dixon Ranch, L**	**90.86**	**45**	⇓P		**P**	**12 06 42.2**	**+0.3**
	baz=91,SNR=9.1							
J24A				⇓P		**P**	**12 06 42.2**	**+0.3**
	baz=91,SNR=9.1							
L25A	**Engebretsen Ra**	**90.86**	**46**	⇓P		**P**	**12 06 42.6**	**+0.7**
	baz=91,SNR=28							
L25A				⇓P		**P**	**12 06 42.6**	**+0.7**
	baz=91,SNR=28							
B20A	**Solberg Farm,**	**90.88**	**39**	⇑P		**P**	**12 06 42.1**	**+0.3**
	baz=91,SNR=49							
B20A				⇑P		**P**	**12 06 42.1**	**+0.3**
	baz=91,SNR=49							
D21A	**La Casta Ranch**	**90.91**	**40**	⇑P		**P**	**12 06 42.7**	**+0.7**
	baz=91,SNR=94							
D21A				⇑P		**P**	**12 06 42.7**	**+0.7**
	baz=91,SNR=94							
CIT	**Chita**	**91.05**	**325**	*e*P		**P**	**12 06 43.6**	**+1.1**
I24A	**Kuemmerle Ranc**	**91.09**	**44**	⇓P		**P**	**12 06 42.8**	**-0.2**
	baz=91,SNR=8.9							
I24A				⇓P		**P**	**12 06 42.8**	**-0.2**
	baz=91,SNR=8.9							
K25A	**Mack Ranch, Ha**	**91.10**	**45**	⇑P		**P**	**12 06 43.8**	**+0.8**
	baz=91,SNR=13							
K25A				⇑P		**P**	**12 06 43.8**	**+0.8**
	baz=91,SNR=13							
O27A	**Beecher Island**	**91.13**	**48**	⇓P		**P**	**12 06 43.6**	**+0.4**
	baz=91,SNR=30							
O27A				⇓P		**P**	**12 06 43.6**	**+0.4**
	baz=91,SNR=30							
A20A	**Cobblestone Ra**	**91.13**	**39**	⇑P		**P**	**12 06 43.1**	**+0.1**
	baz=91,SNR=86							
A20A				⇑P		**P**	**12 06 43.1**	**+0.1**
	baz=91,SNR=86							
G23A	**Biddle**	**91.14**	**43**	⇑P		**P**	**12 06 43.2**	**+0.1**
	baz=91,SNR=43							
G23A				⇑P		**P**	**12 06 43.2**	**+0.1**
	baz=91,SNR=43							
M26A	**McRoberts Ranc**	**91.15**	**47**	⇑P		**P**	**12 06 43.6**	**+0.2**
	baz=91,SNR=21							
M26A				⇑P		**P**	**12 06 43.6**	**+0.2**
	baz=91,SNR=21							
C21A	**Desert Coulee**	**91.17**	**40**	⇓P		**P**	**12 06 43.5**	**+0.3**
	baz=91,SNR=45							
C21A				⇓P		**P**	**12 06 43.5**	**+0.3**
	baz=91,SNR=45							
VNA2	**Neumayer--Watz**	**91.25**	**177**	*e*		**P**	**12 06 44.3**	**+1.2**
	baz=193,slow=3.5							
E22A	**Miles City**	**91.30**	**41**	⇓P		**P**	**12 06 44.2**	**+0.5**
	baz=92,SNR=38							
E22A				⇓P		**P**	**12 06 44.2**	**+0.5**
	baz=92,SNR=38							
N27A	**Anderson Farm,**	**91.32**	**47**	⇓P		**P**	**12 06 44.3**	**+0.2**
	baz=92,SNR=13							
N27A				⇓P		**P**	**12 06 44.3**	**+0.2**
	baz=92,SNR=13							
MAIT	**Maitri**	**91.33**	**183**	*e*P		**P**	**12 06 44.4**	**+1.0**
MAIT				*e*			12 07 05.3	
NVL	**N'lazarevskaya**	**91.33**	**183**	*e*P		P	12 06 48.8	+5.4
NVL				*e*S		**S**	**12 16 46.3**	**-5.6**
NVL					pmax	pmax		
	comp=Z,17nm,0.8s							
F23A	**Volborg**	**91.34**	**42**	⇑P		**P**	**12 06 44.4**	**+0.4**
	baz=92,SNR=72							
F23A				⇑P		**P**	**12 06 44.4**	**+0.4**
	baz=92,SNR=72							
L26A	**Underwood Farm**	**91.42**	**46**	⇑P		**P**	**12 06 45.2**	**+0.7**
	baz=92,SNR=24							
L26A				⇑P		**P**	**12 06 45.2**	**+0.7**
	baz=92,SNR=24							
D22A	**Cohagen**	**91.45**	**41**	⇓P		**P**	**12 06 45.1**	**+0.7**
	baz=92,SNR=48							
D22A				⇓P		**P**	**12 06 45.1**	**+0.7**
	baz=92,SNR=48							
PLCA	**Paso Flores**	**91.45**	**134**	P		**P**	**12 06 46.9**	**+2.1**
	comp=Z,2.3nm,0.6s,baz=206,slow=4.9,SNR=12							
PLCA					pP	**pP**	**12 08 55.4**	**+1.7**
	comp=Z,7.4nm,1.1s,baz=0.0,slow=0.0,SNR=4.6							
PLCA					PKKPbc	**PKKPbc**	**12 24 02.7**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=48,slow=6.1,SNR=3.5							
PLCA	**Paso Flores**	**91.45**	**134**	P		**P**	**12 06 46.9**	**+2.1**
PLCA				*PP		**pP**	**12 08 55.4**	**+1.7**
PLCA	**Paso Flores**	**91.45**	**134**	P		**P**	**12 06 46.9**	**+2.1**
PLCA				pP		**pP**	**12 08 55.4**	**+1.7**
PLCA				PKKPbc		**PKKPbc**	**12 24 02.7**	**-0.3**
VNA1	**Neumayer--Stat**	**91.48**	**177**	*e*		**P**	**12 06 46.4**	**+2.3**
B21A	**Ellsworth Farm**	**91.48**	**39**	⇑P		**P**	**12 06 45.0**	**+0.4**
	baz=92,SNR=20							
B21A				⇑P		**P**	**12 06 45.0**	**+0.4**
	baz=92,SNR=20							
H24A	**Dirks Ranch, A**	**91.50**	**43**	⇓P		**P**	**12 06 44.8**	**0.0**
	baz=92,SNR=129							
H24A				⇓P		**P**	**12 06 44.8**	**0.0**
	baz=92,SNR=129							
RSSD	**Black Hills**	**91.59**	**44**	*e*P		**P**	**12 06 45.0**	**-0.4**
RSSD					pmax	pmax		
	comp=Z,68nm,1.0s							
RSSD	**Black Hills**	**91.59**	**44**	*e*P		**P**	**12 06 45.0**	**-0.4**
	comp=Z,68nm,1.0s							
K26A	**Motz Farm, Whi**	**91.61**	**46**	⇓P		**P**	**12 06 45.9**	**+0.5**
	baz=92,SNR=49							
K26A				⇓P		**P**	**12 06 45.9**	**+0.5**
	baz=92,SNR=49							
M27A	**Reverse DX Ran**	**91.70**	**47**	⇑P		**P**	**12 06 46.1**	**+0.3**
	baz=92							
M27A				⇑P		**P**	**12 06 46.1**	**+0.3**
	baz=92							
E23A	**Ismay**	**91.72**	**41**	⇑P		**P**	**12 06 46.4**	**+0.7**
	baz=92,SNR=12							
E23A				⇑P		**P**	**12 06 46.4**	**+0.7**
	baz=92,SNR=12							
A21A	**Bergtoll Ranch**	**91.78**	**39**	⇓P		**P**	**12 06 46.0**	**+0.1**
	baz=92,SNR=57							
A21A				⇓P		**P**	**12 06 46.0**	**+0.1**
	baz=92,SNR=57							
G24A	**Alzada**	**91.82**	**43**	⇑P		**P**	**12 06 46.3**	**0.0**
	baz=92,SNR=23							
G24A				⇑P		**P**	**12 06 46.3**	**0.0**
	baz=92,SNR=23							
INK	**Inuvik**	**91.85**	**15**	*e*P		**P**	**12 06 44.9**	**-0.8**
INK					pmax	pmax		
	comp=Z,97nm,1.0s							
INK	**Inuvik**	**91.85**	**15**	*e*P		**P**	**12 06 44.9**	**-0.8**
	comp=Z,96nm,1.0s							
C22A	**Vida**	**91.88**	**40**	⇓P		**P**	**12 06 46.6**	**+0.2**
	baz=92,SNR=50							
C22A				⇓P		**P**	**12 06 46.6**	**+0.2**
	baz=92,SNR=50							
L27A	**T5 Ranch, Ells**	**91.96**	**46**	⇓P		**P**	**12 06 47.5**	**+0.5**
	baz=92,SNR=45							
L27A				⇓P		**P**	**12 06 47.5**	**+0.5**
	baz=92,SNR=45							
F24A	**Ekalaka**	**92.01**	**42**	⇑P		**P**	**12 06 47.4**	**+0.3**
	baz=92,SNR=58							
F24A				⇑P		**P**	**12 06 47.4**	**+0.3**
	baz=92,SNR=58							
B22A	**Reddig Ranch S**	**92.04**	**40**	⇓P		**P**	**12 06 47.7**	**+0.5**
	baz=92,SNR=95							
B22A				⇓P		**P**	**12 06 47.7**	**+0.5**
	baz=92,SNR=95							
D23A	**Lindsay**	**92.06**	**41**	⇓P		**P**	**12 06 48.0**	**+0.7**
	baz=92,SNR=70							
D23A				⇓P		**P**	**12 06 48.0**	**+0.7**
	baz=92,SNR=70							
K27A	**Flueckinger Fa**	**92.25**	**46**	⇑P		**P**	**12 06 48.7**	**+0.4**
	baz=92,SNR=32							
K27A				⇑P		**P**	**12 06 48.7**	**+0.4**
	baz=92,SNR=32							
C23A	**Lambert**	**92.33**	**40**	⇑P		**P**	**12 06 49.2**	**+0.7**
	baz=92,SNR=112							
C23A				⇑P		**P**	**12 06 49.2**	**+0.7**
	baz=92,SNR=112							
A22A	**Carney Farms,**	**92.38**	**39**	⇑P		**P**	**12 06 48.7**	**+0.1**
	baz=93,SNR=40							
A22A				⇑P		**P**	**12 06 48.7**	**+0.1**
	baz=93,SNR=40							
E24A	**Baker**	**92.38**	**42**	⇑P		**P**	**12 06 49.3**	**+0.6**
	baz=93,SNR=8.9							
E24A				⇑P		**P**	**12 06 49.3**	**+0.6**
	baz=93,SNR=8.9							
D24A	**Glendive**	**92.59**	**41**	⇑P		**P**	**12 06 50.3**	**+0.6**
	baz=93,SNR=108							
D24A				⇑P		**P**	**12 06 50.3**	**+0.6**
	baz=93,SNR=108							
CBKS	**Cedar Bluff**	**92.59**	**50**	*e*P		**P**	**12 06 50.1**	**+0.2**
CBKS					pmax	pmax		
	comp=Z,97nm,1.1s							
CBKS	**Cedar Bluff**	**92.59**	**50**	*e*P		**P**	**12 06 50.1**	**+0.2**
	comp=Z,96nm,1.1s							
CBKS	**Cedar Bluff**	**92.59**	**50**	⇓P		**P**	**12 06 50.2**	**+0.3**
	baz=93,SNR=9.3							
CBKS				⇓P		**P**	**12 06 50.2**	**+0.3**
	baz=93,SNR=9.3							
CBKS				⇓P		**P**	**12 06 50.2**	**+0.3**
	baz=93,SNR=9.3							
CBKS				⇓P		**P**	**12 06 50.2**	**+0.3**
	baz=93,SNR=9.3							
C24A	**Savage**	**92.69**	**41**	⇑P		**P**	**12 06 50.9**	**+0.8**
	baz=93,SNR=45							
C24A				⇑P		**P**	**12 06 50.9**	**+0.8**
	baz=93,SNR=45							
B23A	**Brockton**	**92.72**	**40**	⇑P		**P**	**12 06 50.8**	**+0.6**
	baz=93,SNR=110							
B23A				⇑P		**P**	**12 06 50.8**	**+0.6**
	baz=93,SNR=110							
A23A	**Redstone**	**92.99**	**39**	⇓P		**P**	**12 06 51.7**	**+0.2**
	baz=93,SNR=7.0							
A23A				⇓P		**P**	**12 06 51.7**	**+0.2**
	baz=93,SNR=7.0							
ULN	**Ulaanbaatar**	**93.04**	**319**	*e*P		**P**	**12 06 51.4**	**-0.5**
ULN					pmax	pmax		
	comp=Z,57nm,1.3s							
ULN	**Ulaanbaatar**	**93.04**	**319**	*e*P		**P**	**12 06 51.4**	**-0.5**
	comp=Z,57nm,1.3s							
DGMT	**Dagmar**	**93.21**	**40**	*e*P		**P**	**12 06 52.9**	**+0.4**
	comp=Z,189nm,0.9s							
DGMT	**Dagmar**	**93.21**	**40**	⇑P		**P**	**12 06 52.9**	**+0.4**
	baz=93,SNR=58							
DGMT				⇑P		**P**	**12 06 52.9**	**+0.4**
	baz=93,SNR=58							
SONM	**Songino Array**	**93.43**	**319**	P		**P**	**12 06 53.7**	**+0.1**
	comp=Z,8.3nm,0.9s,baz=131,slow=4.2,SNR=55							
SONM					pP	**pP**	**12 09 02.7**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=126,slow=9.6,SN

BGNE	**Belgrade**	**94.63**	**48**	⇓P		**P**		**12 06 58.9**	**-0.2**
	baz=95,SNR=25									
BGNE				⇓P		**P**		**12 06 58.9**	**-0.2**
	baz=95,SNR=25									
GTA	**Gaotai**	**94.91**	**310**	P		**P**		**12 07 01.0**	**+0.5**
GTA				pP		**pP**		**12 09 12.3**	**+2.5**
GTA				sP		**sP**		**12 10 10.3**	**+1.4**
GTA				PP		**PP**		**12 11 03.5**	**+3.1**
GTA				SKS		**SKSac**		**12 16 39.0**	**-0.6**
GTA				S		**ScS**		**12 17 25.0**	**+0.4**
GTA				sS		**sS**		**12 21 19.3**	**+2.2**
GTA				pmax		pmax				
	comp=Z,31nm,1.1s									
GTA				pmax		pmax				
	comp=Z,150nm,6.7s									
KSU1	**Kansas State U**	**94.99**	**51**	*e*P		**P**		**12 07 01.5**	**+0.8**
	comp=Z,83nm,0.7s									
BRSD	**Miller**	**95.10**	**45**	⇑P		**P**		**12 07 01.3**	**+0.1**
	baz=95,SNR=12									
BRSD				⇑P		**P**		**12 07 01.3**	**+0.1**
	baz=95,SNR=12									
MDND	**Maddock**	**95.84**	**42**	⇓P		**P**		**12 07 03.9**	**-0.4**
	baz=96									
MDND				⇓P		**P**		**12 07 03.9**	**-0.4**
	baz=96									
ZAK	**Zakamensk**	**96.27**	**321**	⇓*i*P		**P**		**12 07 06.4**	**0.0**
ZAK				*e*				12 16 42.0		
ZAK				pmax		pmax				
	comp=Z,9.0nm,1.2s									
ECSD	**EROS Data Cent**	**96.46**	**46**	*e*P		**P**		**12 07 06.5**	**-0.7**
	comp=Z,24nm,0.9s									
TLY	**Talaya**	**96.51**	**322**	*e*P		**P**		**12 07 06.6**	**-0.7**
TLY				pmax		pmax				
	comp=Z,8.0nm,1.1s									
SHL	**Shillong**	**97.16**	**294**	*e*P		**P**		**12 07 12.0**	**+1.0**
SHL				*e*S		**SKSac**		**12 16 51.0**	**-0.8**
ULM	**Lac du Bonnet**	**98.93**	**40**	P		**P**		**12 07 17.5**	**-0.6**
	comp=Z,7.4nm,0.9s,baz=286,slow=4.6,SNR=8.5									
ULM				PKKPbc		**PKKPbc**		**12 23 41.1**	**-2.4**
	comp=Z,1.7nm,0.6s,baz=26,slow=3.3,SNR=3.8									
ULM	**Lac du Bonnet**	**98.93**	**40**	P		**P**		**12 07 17.5**	**-0.6**
ULM	**Lac du Bonnet**	**98.93**	**40**	P		**P**		**12 07 17.5**	**-0.6**
ULM				PKKPbc		**PKKPbc**		**12 23 41.1**	**-2.4**
SPMN	**St. Paul**	**99.50**	**46**	⇓Pdiff		**Pdif**		**12 07 21.0**	**+0.2**
	baz=100									
SPMN				⇓Pdiff		**Pdif**		**12 07 21.0**	**+0.2**
	baz=100									
LPAZ	**La Paz**	**103.52**	**112**	PKKPbc		PKKPbc		12 23 29.6	-0.8	
	comp=Z,2.8nm,0.7s,baz=28,slow=5.3,SNR=7.5									
LPAZ	**La Paz**	**103.52**	**112**	PKKPbc		PKKPbc		12 23 29.6	-0.8	
ZAA0	**Zalesovo Array**	**108.12**	**322**	*e*PKPdf		**PKiKP**		**12 12 00.3**	**-1.3**	
ZALV	**Zalesovo Beam**	**108.12**	**322**	Pdiff		**Pdif**		**12 07 58.8**	**0.0**	
	comp=Z,1.0nm,0.6s,baz=106,slow=4.6,SNR=9.5									
ZALV				PKiKP		**PKiKP**		**12 12 01.1**	**-0.5**	
	comp=Z,7.2nm,0.6s,baz=143,slow=0.8,SNR=26									
ZALV				PKKPbc		**PKKPbc**		**12 23 16.0**	**-0.5**	
	comp=Z,1.0nm,0.5s,baz=250,slow=3.3,SNR=5.1									
ZALV	**Zalesovo Beam**	**108.12**	**322**	P		**Pdif**		**12 07 58.8**	**0.0**	
ZALV	**Zalesovo Beam**	**108.12**	**322**	Pdif		**Pdif**		**12 07 58.8**	**0.0**	
ZALV				PKiKP		**PKiKP**		**12 12 01.1**	**-0.5**	
ZALV				PKKPbc		**PKKPbc**		**12 23 16.0**	**-0.5**	
MK31	**Makanchi Array**	**109.02**	**314**	*e*PKPdf		**PKiKP**		**12 12 02.8**	**-0.8**	
MKAR	**Makanchi Array**	**109.02**	**314**	Pdiff		**Pdif**		**12 08 03.5**	**+0.5**	
	comp=Z,1.7nm,0.8s,baz=94,slow=5.9,SNR=16									
MKAR				PKiKP		**PKiKP**		**12 12 03.1**	**-0.5**	
	comp=Z,9.5nm,0.5s,baz=175,slow=0.7,SNR=98									
MKAR				PKKPbc		**PKKPbc**		**12 23 13.3**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=278,slow=2.7,SNR=8.9									
MKAR	**Makanchi Array**	**109.02**	**314**	P		**Pdif**		**12 08 03.5**	**+0.5**	
MKAR	**Makanchi Array**	**109.02**	**314**	Pdif		**Pdif**		**12 08 03.5**	**+0.5**	
MKAR				PKiKP		**PKiKP**		**12 12 03.1**	**-0.5**	
MKAR				PKKPbc		**PKKPbc**		**12 23 13.3**	**-0.2**	
DDI	**Dehra Dun**	**110.14**	**296**	*ex*		**PKiKP**		**12 12 06.0**	**-0.2**	
KURK	**Kurchatov**	**111.71**	**318**	PKiKP		**PKiKP**		**12 12 08.1**	**-0.4**	
	comp=Z,14nm,0.6s,baz=95,slow=1.8,SNR=98									
KURK				PP		**PP**		**12 12 57.8**	**-5.0**	
	comp=Z,7.8nm,0.9s,baz=95,slow=6.5,SNR=7.1									
KURK				PKKPbc		**PKKPbc**		**12 23 04.9**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=274,slow=4.0,SNR=16									
KURK				SKKPbc		SKKPbc		12 25 52.1	-2.2	
	comp=Z,2.3nm,0.9s,baz=271,slow=3.4,SNR=12									
KURK	**Kurchatov**	**111.71**	**318**	*d*iPKIKP		**PKiKP**		**12 12 07.6**	**-0.9**	
KURK	**Kurchatov**	**111.71**	**318**	*e*PKPdf				12 12 07.3		
KURK				PKiKP		**PKiKP**		**12 12 08.1**	**-0.4**	
KURK				PP		**PP**		**12 12 57.8**	**-5.0**	
KURK				PKKPbc		**PKKPbc**		**12 23 04.9**	**-0.1**	
KURK				SKKPbc		SKKPbc		12 25 52.1	-2.2	
POO	**Poona**	**111.71**	**283**	⇑*i*P		**PKiKP**		**12 12 08.0**	**-1.5**	
	comp=Z,40nm,1.0s									
ULHL	**Ulahol**	**112.95**	**309**	P		**PKiKP**		**12 12 11.3**	**-0.1**	
	SNR=15									
ULHL				P		**PKiKP**		**12 12 11.3**	**-0.1**	
	SNR=15									
TKM2	**Tokmak 2**	**113.46**	**310**	P		**PKiKP**		**12 12 11.9**	**-0.5**	
	SNR=22									
TKM2				P		**PKiKP**		**12 12 11.9**	**-0.5**	
	SNR=22									
TKM2	**Tokmak 2**	**113.46**	**310**	*e*PKIKP		**PKiKP**		**12 12 11.5**	**-0.9**	
TKM2	**Tokmak 2**	**113.46**	**310**	*e*PKPdf		**PKiKP**		**12 12 11.5**	**-0.9**	
QUA2	**Belchertown**	**113.63**	**51**	*e*PKPdf		**PKiKP**		**12 12 12.7**	**+0.2**	
KZA	**Kyzart**	**113.67**	**309**	P		**PKiKP**		**12 12 13.5**	**+0.4**	
	SNR=8.2									
KZA				P		**PKiKP**		**12 12 13.5**	**+0.4**	
	SNR=8.2									
KBK	**Karagaybulak**	**113.93**	**309**	P		**PKiKP**		**12 12 13.5**	**+0.2**	
	SNR=9.3									
KBK				P		**PKiKP**		**12 12 13.5**	**+0.2**	
	SNR=9.3									
CHMS	**Chumysh**	**114.09**	**310**	P		PKPdf		12 12 13.2	-0.2	
	SNR=8.0									
CHMS				P		PKPdf		12 12 13.2	-0.2	
	SNR=8.0									
AAK	**Ala-Archa**	**114.26**	**309**	P		PKPdf		12 12 13.8	-0.1	
	SNR=6.8									
AAK				P		PKPdf		12 12 13.8	-0.1	
	SNR=6.8									
AAK	**Ala-Archa**	**114.26**	**309**	*e*PKIKP		PKPdf		12 12 12.7	-1.2	
AAK	**Ala-Archa**	**114.26**	**309**	*e*PKPdf		PKPdf		12 12 12.7	-1.2	
USP	**Ospenovka**	**114.28**	**310**	P		PKPdf		12 12 13.8	+0.1	
	SNR=18									
USP				P		PKPdf		12 12 13.8	+0.1	
	SNR=18									
EKS2	**Erkin-Say**	**114.79**	**309**	P		PKPdf		12 12 14.5	-0.4	
	SNR=13									
EKS2				P		PKPdf		12 12 14.5	-0.4	
	SNR=13									
EKS2	**Erkin-Say**	**114.79**	**309**	*e*PKIKP		PKPdf		12 12 14.1	-0.8	
EKS2	**Erkin-Say**	**114.79**	**309**	*e*PKPdf		PKPdf		12 12 14.1	-0.8	
AML	**Almayashu**	**114.83**	**309**	P		PKPdf		12 12 15.0	-0.3	
	SNR=16									
AML				P		PKPdf		12 12 15.0	-0.3	
	SNR=16									
BVAR	**Borovoye Array**	**116.73**	**321**	PKP		**PKPdf**		**12 12 17.2**	**-0.9**	
	comp=Z,18nm,0.4s,baz=130,slow=1.7,SNR=126									
BVAR				PP		**PP**		**12 13 38.9**	**+1.4**	
	comp=Z,7.5nm,0.9s,baz=86,slow=7.6,SNR=5.7									
BVAR				PKKPbc		**PKKPab**		**12 22 51.9**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=265,slow=5.4,SNR=4.7									
BVAR	**Borovoye Array**	**116.73**	**321**	PKIKP		**PKPdf**		**12 12 17.2**	**-0.9**	
BVAR								12 13 38.9		
BVAR	**Borovoye Array**	**116.73**	**321**	PKP		**PKPdf**		**12 12 17.2**	**-0.9**	
BVAR				PP		**PP**		**12 13 38.9**	**+1.4**	
BVAR				PKKPbc		**PKKPab**		**12 22 51.9**	**-0.4**	
BRVK	**Borovoye**	**116.79**	**321**	*d*iPKIKP		**PKPdf**		**12 12 17.7**	**-0.5**	
BRVK	**Borovoye**	**116.79**	**321**	*e*PKPdf		**PKPdf**		**12 12 17.3**	**-0.9**	
SCHQ	**Schefferville**	**116.87**	**37**	PKKPbc		PKKPbc		12 22 47.3	-0.6	
	comp=Z,2.9nm,0.6s,baz=189,slow=8.1,SNR=3.5									
SCHQ	**Schefferville**	**116.87**	**37**	PKKPbc		PKKPbc		12 22 47.3	-0.5	
KK31	**Karatay Array**	**117.19**	**310**	*i* PKIKP		**PKPdf**		**12 12 18.7**	**-0.6**	
KK31				pmax		pmax				
	comp=Z,17nm,0.8s									
KKAR	**Karatay Array**	**117.19**	**310**	*e*PKIKP		**PKPdf**		**12 12 18.5**	**-0.8**	
KKAR	**Karatay Array**	**117.19**	**310**	*e*PKPdf		**PKPdf**		**12 12 18.5**	**-0.8**	
SPA0	**Spitsbergen Ar**	**119.19**	**357**	*e*P		**PKPdf**		**12 12 22.4**	**+0.2**	
SPITS	**Spitsbergen Ar**	**119.19**	**357**	PKP		**PKPdf**		**12 12 22.1**	**-0.1**	
	comp=Z,2.4nm,0.5s,baz=64,slow=4.5,SNR=16									
SPITS	**Spitsbergen Ar**	**119.19**	**357**	PKIKP		**PKPdf**		**12 12 22.1**	**-0.1**	
SPITS	**Spitsbergen Ar**	**119.19**	**357**	PKP		**PKPdf**		**12 12 22.1**	**-0.1**	
DAG	**Danmarks Havn**	**120.15**	**5**	*i* PKIKP		**PKPdf**		**12 12 23.0**	**-1.0**	
DAG				pmax		pmax				
	comp=Z,3.0nm,0.8s									
DAG	**Danmarks Havn**	**120.15**	**5**	*i* P		**PKPdf**		**12 12 23.0**	**-1.0**	
	comp=Z,34nm,0.8s									
DAG	**Danmarks Havn**	**120.15**	**5**	*i* P		**PP**		**12 13 55.7**	**-4.2**	
	comp=Z,249nm,1.0s									
SUMG	**Summit**	**120.69**	**13**	*e*PKIKP		**PKPdf**		**12 12 26.3**	**+0.6**	
SUMG				pmax		pmax				
	comp=Z,5.0nm,0.8s									
SUMG	**Summit**	**120.69**	**13**	*i* P		**PKPdf**		**12 12 26.3**	**+0.6**	
	comp=Z,5.2nm,0.8s									
SUMG	**Summit**	**120.69**	**13**	*i* P		**PP**		**12 13 59.1**	**-5.0**	
	comp=Z,13nm,0.9s									
BDFB	**Brasilia**	**120.96**	**121**	PKP		**PKPdf**		**12 12 28.1**	**+0.6**	
	comp=Z,2.4nm,0.5s,baz=148,slow=1.6,SNR=4.4									
BDFB				PKKPbc		**PKKPbc**		**12 22 33.5**	**+0.5**	
	comp=Z,6.3nm,0.6s,baz=109,slow=2.0,SNR=7.1									
BDFB	**Brasilia**	**120.96**	**121**	PKIKP		**PKPdf**		**12 12 28.1**	**+0.6**	
BDFB	**Brasilia**	**120.96**	**121**	PKP		**PKPdf**		**12 12 28.1**	**+0.6**	
BDFB				PKKPbc		**PKKPbc**		**12 22 33.5**	**+0.5**	
SVE	**Sverdlovsk**	**121.52**	**326**	⇓*i*PKIKP		**PKPdf**		**12 12 27.6**	**+0.4**	
SVE				pmax		pmax				
	comp=Z,41nm,0.8s									
ABPO	**Ambohimpanom**	**122.02**	**233**	*e*PKIKP		**PKPdf**		**12 12 29.4**	**-0.1**	
ABPO	**Ambohimpanom**	**122.02**	**233**	*e*PKPdf		**PKPdf**		**12 12 29.4**	**-0.1**	
SOKR	**Solikamsk**	**122.55**	**330**	*d*iPKIKP		**PKPdf**		**12 12 29.0**	**0.0**	
SOKR				pmax		pmax				
	comp=Z,60nm,1.0s									
ARU	**Arti**	**122.74**	**326**	*e*PKIKP		**PKPdf**		**12 12 28.9**	**-0.6**	
ARU	**Arti**	**122.74**	**326**	*e*PKPdf		**PKPdf**		**12 12 28.9**	**-0.6**	
AB31	**Akbulak array**	**123.81**	**318**	*i* PKIKP		**PKPdf**		**12 12 31.3**	**-0.5**	
AB31				pmax		pmax				
	comp=Z,6.0nm,0.6s									
ABKAR	**Akbulak array**	**123.81**	**318**	*e*PKPdf		**PKPdf**		**12 12 31.3**	**-0.5**	
AKTO	**Aktyubinsk**	**124.75**	**320**	PKP		**PKPdf**		**12 12 33.6**	**0.0**	
	comp=Z,18nm,0.7s,baz=85,slow=2.6,SNR=74									
AKTO	**Aktyubinsk**	**124.75**	**320**	PKIKP		**PKPdf**		**12 12 33.6**	**0.0**	
AKTO	**Aktyubinsk**	**124.75**	**320**	PKP		**PKPdf**		**12 12 33.6**	**0.0**	
SCO	**Scoresbysund**	**125.49**	**9**	*e*PKIKP		**PKPdf**		**12 12 34.4**	**0.0**	
SCO				pmax		pmax				
	comp=Z,6.0nm,0.9s									
SCO	**Scoresbysund**	**125.49**	**9**	*i* P		**PKPdf**		**12 12 34.4**	**0.0**	
	comp=Z,6.4nm,0.9s									
SCO	**Scoresbysund**	**125.49**	**9**	*i* P		**PP**		**12 14 32.1**	**-3.2**	
	comp=Z,12nm,1.1s									
KEV	**Kevo**	**125.78**	**349**	*e*PKIKP		**PKPdf**		**12 12 34.9**	**-0.1**	
KEV				pmax		pmax				
	comp=Z,1.0nm,0.4s									
KEV	**Kevo**	**125.78**	**349**	*ep*		**PKPdf**		**12 12 34.9**	**-0.1**	
	comp=Z,1.0nm,0.4s									
KEV	**Kevo**	**125.78**	**349**	*ep*		**PKPdf**		**12 12 34.9**	**-0.1**	
	comp=Z,1.0nm,0.4s									
ARCES	**ARCESS Array B**	**126.23**	**350**	PKhKP		PKPpre		12 12 26.1		
	comp=Z,3.6nm,1.0s,baz=98,slow=2.7,SNR=3.8									
ARCES				PKP		**PKiKP**		**12 12 36.5**	**+0.1**	
	comp=Z,8.7nm,0.6s,baz=2.9,slow=1.8,SNR=34									
ARCES				pPKP		pPKPdf		12 14 54.5	+1.0	
	comp=Z,4.4nm,0.9s,baz=108,slow=2.9,SNR=2.9									
ARCES				PKKPbc		**PKKPbc**		**12 22 11.4**	**-1.9**	
	comp=Z,2.6nm,0.8s,baz=207,slow=2.4,SNR=7.9									
ARCES	**ARCESS Array B**	**126.23**	**350**	PKPpre		PKPpre		12 12 26.1		
ARCES				PKP		**PKiKP**		**12 12 36.5**	**+0.1**	
ARCES				pPKP		pPKPdf		12 14 54.5	+1.0	
ARCES				PKKPbc		**PKKPbc**		**12 22 11.4**	**-1.9**	
ARE0	**ARCESS Array S**	**126.23**	**350**	*e*P		**PKPdf**		**12 12 36.7**	**+0.8**	
ARE0	**ARCESS Array S**	**126.23**	**350**	*e*PKPdf		**PKPdf**		**12 12 35.3**	**-0.6**	
APA	**Apatity**	**126.26**	**345**	⇓*i*PKIKP		**PKPdf**		**12 12 36.0**	**+0.1**	
APA				pmax		pmax				
	comp=Z,36nm,1.2s									
KTK1	**Kautokeino**	**127.07**	**350**	*e*P		**PKPdf**		**12 12 37.7**	**+0.3**	
TRO	**Tromso**	**127.11**	**352**	*e*P		**PKPdf**		**12 12 39.2**	**+1.7**	
BOSA	**Boshof**	**128.41**	**207**	PKP		**PKPdf**		**12 12 42.3**	**+0.8**	
	comp=Z,18nm,0.9s,baz=146,slow=2.3,SNR=18									
BOSA				SKPbc		SKiKP		12 15 09.6	-13	
	comp=Z,18nm,1.0s,baz=141,slow=4.4,SNR=7.3									
BOSA	**Boshof**	**128.41**	**207**	*e*PKIKP		**PKPdf**		**12 12 41.8**	**+0.3**	
BOSA	**Boshof**	**128.41**	**207**	*e*PKPdf		**PKPdf**		**12 12 41.8**	**+0.3**	
BOSA				PKP		**PKPdf**		**12 12 42.3**	**+0.8**	
BOSA				SKPbc		SKiKP		12 15 09.6	-13	
KLMR	**Klimovskoe**	**129.26**	**337**	*e*PKIKP		**PKPdf**		**12 12 39.2**	**-2.6**	
KLMR				*e*				12 15 07.9		
KLMR				pmax		pmax				
	comp=Z,37nm,1.4s									
JOF	**Joensuu**	**130.46**	**343**	*e*PKIKP		**PKPdf**		**12 12 42.5**	**-1.5**	
JOF				pmax		pmax				
	comp=Z,4.0nm,0.4s									
JOF	**Joensuu**	**130.46**	**343**	*ep*		**PKPdf**		**12 12 42.5**	**-1.5**	
	comp=Z,3.5nm,0.4s									
JOF	**Joensuu**	**130.46**	**343**	*ep*		PP		12 15 14.0	+6.5	
	comp=Z,40nm,0.8s									
JOF	**Joensuu**	**130.46**	**343**	*ep*		**PKPdf**		**12 12 42.5**	**-1.5**	
	comp=Z,3.5nm,0.4s									
JOF	**Joensuu**	**130.46**	**343**	*ep*		PP		12 15 14.0	+6.5	
	comp=Z,40nm,0.8s									
BORG	**Borgarnes**	**130.67**	**13**	SKPbc		**SKPab**		**12 15 16.9**	**+2.7**	
	comp=Z,46nm,0.9s,baz=277,slow=2.1,SNR=7.9									
BORG	**Borgarnes**	**130.67**	**13**	SKPbc		**SKPab**		**12 15 16.9**	**+2.7**	
LBTB	**Lobatse**	**131.36**	**210**	SKPbc		**SKPab**		**12 15 20.3**	**+1.7**	
	comp=Z,28nm,1.1s,baz=156,slow=5.0,SNR=14									
LBTB	**Lobatse**	**131.36**	**210**	*e*PKIKP		**PKPdf**		**12 12 47.0**	**-0.1**	
LBTB								12 15 20.3		
LBTB	**Lobatse**	**131.36**	**210**	*e*PKPdf		**PKPdf**		**12 12 47.0**	**-0.1**	
LBTB				SKPbc		**SKPab**		**12 15 20.3**	**+1.7**	
KAF	**Kangasniemi**	**132.47**	**344**	*e*PKIKP		**PKPdf**		**12 12 44.3**	**-3.6**	
KAF				pmax		pmax				
	comp=Z,2.0nm,0.3s									
KAF	**Kangasniemi**	**132.47**	**344**	*ep*		**PKPdf**		**12 12 44.3**	**-3.6**	
	comp=Z,2.1nm,0.3s									
KAF	**Kangasniemi**	**132.47**	**344**	*ep*		**PP**		**12 15 19.9**	**-0.3**	
	comp=Z,19nm,0.8s									
KAF	**Kangasniemi**	**132.47**	**344**	*ep*		**PKPdf**		**12 12 44.3**	**-3.6**	
	comp=Z,2.1nm,0.3s									
KAF	**Kangasniemi**	**132.47**	**344**	*ep*		**PP**		**12 15 19.9**	**-0.3**	
	comp=Z,19nm,0.8s									
FINES	**FINESS Array B**	**133.10**	**344**	PKhKP		PKPpre		12 12 35.7		
	comp=Z,1.8nm,0.7s,baz=64,slow=4.4,SNR=6.2									
FINES				PKP		**PKPdf**		**12 12 48.0**	**-1.1**	
	comp=Z,9.4nm,0.7s,baz=87,slow=4.3,SNR=9.2									
FINES				SKPbc		**SKPab**		**12 15 24.1**	**-0.7**	
	comp=Z,46nm,1.0s,baz=48,slow=5.7,SNR=27									
FINES	**FINESS Array B**	**133.10**	**344**	PKPpre		PKPpre		12 12 35.7		
FINES				PKP		**PKPdf**		**12 12 48.0**	**-1.1**	
FINES				SKPbc		**SKPab**		**12 15 24.1**	**-0.7**	
VRHR	**Novokhopersk**	**134.07**	**326**	*e*PKIKP		**PKPdf**		**12 12 51.4**	**+0.2**	
VRHR				*e*				12 15 26.7		
VRHR				pmax		pmax				
	comp=N,10.0nm,0.8s									
VRHR				pmax		pmax				
	comp=E,6.0nm,0.8s									
VRHR				pmax		pmax				
	comp=Z,30nm,0.8s									
VRHR				pmax		pmax				
	comp=N,90nm,2.0s									
VRHR				pmax		pmax				
	comp=E,140nm,2.0s									
VRHR				pmax		pmax				
	comp=Z,140nm,2.0s									
OBN	**Obninsk**	**134.19**	**333**	⇑*i*PKIKP		**PKPdf**		**12 12 52.3**	**+1.0**	
OBN				*e*				12 15 28.6		
OBN				*e*PS		**PS**		**12 26 03.9**	**+2.8**	
OBN				*e*SS		SS		12 32 38.5	+4.3	
OBN				pmax		pmax				
	comp=Z,24nm,1.0s									
VSR	**Storozhevoye**	**135.30**	**327**	*e*PKIKP		**PKPdf**		**12 12 53.9**	**+0.4**	
VSR				pmax		pmax				
	comp=N,10.0nm,1.0s									
VSR				pmax		pmax				
	comp=E,10.0nm,1.0s									
VSR				pmax		pmax				
	comp=Z,40nm,1.0s									
RCBR	**Riachuelo**	**136.24**	**119**	SKPbc		**SKPbc**		**12 15 35.4**	**+1.8**	
	baz=196,slow=3.0									
RCBR	**Riachuelo**	**136.24**	**119**	SKPbc		**SKPbc**		**12 15 35.4**	**+1.8**	
NB2	**NORSAR Subarra**	**136.30**	**353**	PKP		PKPpre		12 12 45.8		
	comp=Z,3.5nm,0.8s,baz=16,slow=3.2									
NB2	**NORSAR Subarra**	**136.30**	**353**	PKP		PKPpre		12 12 45.8		
	baz=16,slow=3.2									
NOA	**NORSAR Array B**	**136.30**	**353**	PKhKP		PKPpre		12 12 46.3		
	comp=Z,3.7nm,0.7s,baz=15,slow=2.4,SNR=15									
NOA				PKP		**PKPdf**		**12 12 55.2**	**+0.1**	
	comp=Z,2.4nm,0.6s,baz=14,slow=4.0,SNR=8.8									
NOA				SKPbc		**SKiKP**		**12 15 34.6**	**-2.7**	
	comp=Z,14nm,0.9s,baz=6.3,slow=4.0,SNR=24									
NOA	**NORSAR Array B**	**136.30**	**353**	PKHKP		PKPpre		12 12 46.3		
NOA								12 12 55.3		
NOA	**NORSAR Array B**	**136.30**	**353**	PKPpre		PKPpre		12 12 46.3		
NOA				PKP		**PKPdf**		**12 12 55.2**	**+0.1**	
NOA				SKPbc		**SKiKP**		**12 15 34.6**	**-2.7**	
ZEI	**Tsey**	**136.37**	**314**	*e*PKIKP		**PKPdf**		**12 12 55.8**	**-0.3**	
ZEI				pmax		pmax				
	comp=Z,17nm,0.9s									
RDF	**Al-Radifah**	**136.54**	**293**	*e*P		PKPpre		12 12 45.0		
RDF				AMb		AMB		12 12 47.3		
	comp=Z,42nm,1.1s									
MIB	**Mutribah**	**136.65**	**295**	*e*P		PKPpre		12 12 44.8		
MIB				AMb		AMB		12 12 47.2		
	comp=Z,46nm,0.7s									
KIV	**Kislovodsk**	**136.74**	**316**	*e*PKIKP		**PKPdf**		**12 12 54.4**	**-2.1**	
KIV				pmax		pmax				
	comp=Z,22nm,1.1s									
NAY	**Al-Naaiem**	**136.78**	**294**	*e*P		PKPpre		12 12 44.8		
NAY				AMb		AMB		12 12 47.3		
	comp=Z,18nm,1.1s									
HFS	**Hagfors**	**136.85**	**351**	PKhKP		PKPpre		12 12 44.7		
	comp=Z,3.1nm,0.5s,baz=64,slow=3.4,SNR=16									
HFS				SKPbc		**SKiKP**		**12 15 35.6**	**-2.8**	
	comp=Z,33nm,0.8s,baz=5.7,slow=1.5,SNR=23									
HFS	**Hagfors**	**136.85**	**351**	PKHKP		PKPpre		12 12 44.7		
HFS	**Hagfors**	**136.85**	**351**	PKPpre		PKPpre		12 12 44.7		
MICGM	**Minsk**	**138.16**	**337**	*e*P		**SKPdf**		**12 15 39.0**	**+1.2**	
NACGM	**Naroch**	**138.24**	**338**	*e*		PKPpre		12 12 48.0		
NACGM	**Naroch**	**138.24**	**338**	*e*		**SKPdf**		**12 15 38.0**	**0.0**	
BHD	**Baghdad**	**138.66**	**300**	*e*PKP		PKPpre		12 12 50.0		
BHD				*e*PP		PP		12 15 38.0	-22	
ATD	**Arta Tunnel**	**139.56**	**267**	SKPbc		**SKiKP**		**12 15 45.9**	**+0.5**	
	comp=Z,11nm,0.4s,baz=182,slow=22,SNR=6.5									
ATD	**Arta Tunnel**	**139.56**	**267**	SKPbc		**SKiKP**		**12 15 45.9**	**+0.5**	
TSUM	**Tsumeb**	**139.93**	**204**	*e*PKPdf		PKPdf		12 12 57.9	-5.3	
AKASG	**Malin Array Be**	**140.45**	**332**	PKhKP		PKPpre		12 12 56.5		
	comp=Z,5.3nm,0.5s,baz=43,slow=4.2,SNR=30									
AKASG				PKP		**PKiKP**		**12 13 04.7**	**-1.0**	
	comp=Z,8.6nm,0.4s,baz=44,slow=3.2,SNR=17									
AKASG				SKPbc		**SKiKP**		**12 15 45.7**	**-0.4**	
	comp=Z,15nm,0.9s,baz=36,slow=3.0,SNR=14

UPC Upice 145.40 344 *e*PKP **PKPbc** 12 13 12.7 -0.3
UPC *ex* x 12 13 14.2
DPC Dobruska-Polom 145.46 343 *e*PKP **PKPbc** 12 13 12.7 -0.5
DPC *ex* x 12 13 14.5
MANR Mangalia 145.47 324 ⇓*i*P **PKPab** 12 13 14.3 -0.7
RCY Rachaya 145.53 304 *e*P **PKPbc** 12 13 13.8 -0.3
BHL Bhannes 145.54 304 *e*P **PKPab** 12 13 14.4 -1.3
BRG Berggiesshubel 145.58 346 *i* PKP **PKPbc** 12 13 13.0 -0.5
comp=Z,16nm,1.0s
BRG *i* 12 13 15.0
comp=Z,79nm,1.2s
BRG pPKP 12 14 21.2
comp=Z,6.8nm,0.8s
BRG sPKP 12 15 36.6
comp=Z,10nm,1.1s
BRG SKP 12 15 58.2
comp=Z,24nm,0.8s
BRG PP **PP** **12 16 43.4 +3.9**
comp=Z,33nm,1.8s
BRG Berggiesshubel 145.58 346 *e*PKPbc **PKPab** 12 13 15.1 0.0
BRG Berggiesshubel 145.58 346 *i* PKIKP **PKPbc** 12 13 13.0 -0.5
BRG *i* 12 13 15.0
BRG 12 16 43.4
BRG pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 145.62 341 *e*PKIKP **PKPdf** 12 13 12.1 0.0
MORC Moravsky Berou 145.62 341 *e*PKPdf **PKPdf** 12 13 12.1 0.0
MORC Moravsky Berou 145.62 341 ⇓*i*P **PKPab** 12 13 14.7 -0.7
DOPR Dopca 145.65 330 ⇑*i*P **PKPab** 12 13 15.0 -0.6
FBE Freiberg 145.66 347 *e*PKPbc **PKPab** 12 13 15.6 +0.1
ISR Istrita 145.69 328 ⇑PKP2 **PKPab** 12 13 14.5 -1.4
ISR Istrita 145.69 328 ⇑*i*P **PKPab** 12 13 14.5 -1.4
WTSB Winterswijk 145.69 354 *e*PKP **PKPab** 12 13 14.4 -1.1
comp=Z,118nm,1.1s
NEUB Neuenburg 145.72 348 *e*PKPdf **PKPbc** 12 13 13.3 -0.6
MLR Muntele Rosu 145.72 329 PKPbc **PKPbc** 12 13 14.5 +0.2
comp=Z,12nm,0.7s,baz=19,slow=5.2,SNR=27
MLR Muntele Rosu 145.72 329 PKIKP **PKPbc** 12 13 14.5 +0.2
MLR Muntele Rosu 145.72 329 PKPbc **PKPbc** 12 13 14.5 +0.2
MLR Muntele Rosu 145.72 329 ⇑*i*P **PKPab** 12 13 14.6 -1.5
MCH1 Michaelchurch 145.73 5 *e*P **PKPbc** 12 13 13.0 -0.9
MCH1 Michaelchurch 145.73 5 P **PKPbc** 12 13 13.0 -0.9
PVCC Panska Ves 145.75 345 *e*PKP **PKPbc** 12 13 13.5 -0.5
PVCC *ex* x 12 13 15.1
PSN Preselentsi 145.78 325 *i* P **PKPab** 12 13 16.2 0.0
SSW Stow on the Wo 145.85 4 *e*P **PKPbc** 12 13 13.9 -0.3
SSW Stow on the Wo 145.85 4 P **PKPbc** 12 13 13.9 -0.3
MMAI Mount Meron Ar 146.02 303 PKPbc **PKPab** 12 13 15.9 -1.7
comp=Z,170nm,0.7s,baz=69,slow=5.4,SNR=112
MMAI SKPbc **SKiKP** **12 16 00.0 +1.8**
comp=Z,15nm,0.8s,baz=28,slow=6.7,SNR=4.3
MMAI Mount Meron Ar 146.02 303 PKPbc **PKPab** 12 13 15.9 -1.7
MMAI SKPbc **SKiKP** **12 16 00.0 +1.8**
HGH Gray Hill 146.11 5 *e*P **PKPbc** 12 13 14.3 -0.6
HGH Gray Hill 146.11 5 P **PKPbc** 12 13 14.3 -0.6
SULR 146.14 328 ⇑*i*P **PKPbc** 12 13 14.5 -0.7
SKP1 Kophill 146.15 3 *e*P **PKPbc** 12 13 14.3 -0.7
SKP1 Kophill 146.15 3 P **PKPbc** 12 13 14.3 -0.7
VOIR 146.20 330 PKP2 **PKPab** 12 13 17.2 -0.7
VOIR 146.20 330 ⇓*i*P **PKPbc** 12 13 15.9 +0.4
PRA Prague 146.21 345 PKP **PKPab** 12 13 16.0 -1.6
DRGR 146.23 333 ⇑PKIKP **PKPbc** 12 13 14.4 -1.2
DRGR 146.23 333 ⇑*i*P **PKPbc** 12 13 14.4 -1.2
PRU Pruhonice 146.25 345 *e*PKP **PKPbc** 12 13 14.0 -1.4
PRU *ex* x 12 13 16.3
MOX Moxa 146.28 348 *e*PKPdf **PKPbc** 12 13 14.2 -1.3
MOX Moxa 146.28 348 *e*PKIKP **PKPbc** 12 13 14.2 -1.3
VRAC Vranov 146.31 342 PKPbc **PKPab** 12 13 16.8 -1.3
comp=Z,23nm,1.0s,baz=3.3,slow=0.4,SNR=18
VRAC Vranov 146.31 342 PKP2 **PKPab** 12 13 17.3 -0.9
VRAC Vranov 146.31 342 PKPbc **PKPab** 12 13 16.8 -1.3
VRAC Vranov 146.31 342 ⇓*i*P **PKPab** 12 13 16.5 -1.7
VYHS Vyhne 146.32 339 *e*PKIKP **PKPbc** 12 13 14.0 -1.7
VYHS *e* 12 13 16.4
VYHS Vyhne 146.32 339 *e*PKP **PKPbc** 12 13 14.0 -1.7
VYHS *e* 12 13 16.4
VYHS *e* 12 15 34.2
PLN Plauen 146.33 348 *e*PKPdf **PKPbc** 12 13 14.4 -1.2
PLN *e*PKPbc **PKiKP** 12 13 17.0 -0.8
TANN Tannenbergstha 146.33 347 *e*PKPdf **PKPbc** 12 13 14.4 -1.3
WERD Werda 146.33 347 *e*PKPdf **PKPbc** 12 13 14.5 -1.2
WERD *e*PKPbc **PKiKP** 12 13 17.1 -0.8
UBBA Unterbreizbach 146.40 350 *e*PKPbc **PKPab** 12 13 17.4 -0.9
PHNC Paralimni 146.41 307 P **PKPbc** 12 13 17.0 +0.7
comp=Z,3.9nm,1.0s
PSZ Piszkesteto 146.43 337 *e*PKIKP **PKPbc** 12 13 14.4 -1.7
PSZ Piszkesteto 146.43 337 *e*PKPdf **PKPbc** 12 13 14.4 -1.7
PSZ Piszkesteto 146.43 337 ⇓*i*P **PKPbc** 12 13 16.8 +0.7
PSZ Piszkesteto 146.43 337 ⇓*e* **PKPbc** 12 13 16.7 +0.7
WERN Wernitzgruen 146.47 347 *e*PKPbc **PKPab** 12 13 17.8 -1.0
NKC Novy Kostel 146.51 347 *e*PKP **PKPbc** 12 13 14.8 -1.3
NKC *ex* x 12 13 16.9
TREC Trest 146.64 343 *e*PKP **PKPbc** 12 13 17.3 +0.8
LOT Lotru 146.79 331 ⇑*i*P **PKPbc** 12 13 17.1 -0.1
HUMR Humele 146.89 329 ⇑*i*P **PKPbc** 12 13 17.1 -0.2
BEN Eben Emael 146.95 355 PKPbc **PKPab** 12 13 16.6 -1.9
BEBN PKPab **PKiKP** 12 13 21.1 +2.0
CSS Prodhromos 146.96 307 P **PKPbc** 12 13 17.9 +0.1
comp=Z,2.3nm,0.8s
CSS Prodhromos 146.96 307 *e*PKPdf **PKPdf** 12 13 15.3 +0.5
CSS *e*PKPbc **PKPbc** 12 13 17.8 -0.1
HGN Heimansgroeve 146.96 355 *e*PKP **PKPab** 12 13 18.7 -2.0
comp=Z,37nm,0.8s
MAMC Mammari 146.96 308 P **PKPbc** 12 13 18.0 +0.2
BOLV Bolvadin 146.97 315 *i* P **PKPbc** 12 13 18.3 +0.4
ROTZ Rotzenmuhle 147.00 347 *e*PKPbc **PKPab** 12 13 19.0 -1.9
MEM Membach 147.11 355 PKPbc **PKPbc** 12 13 17.8 +0.1
BUD Budapest 147.12 338 ⇓*e* **PKPbc** 12 13 18.4 +0.6
ZST Bratislava 147.15 341 *e*PKP2 **PKPab** 12 13 19.3 -2.2
ZST Bratislava 147.15 341 *e*PKP **PKPab** 12 13 19.3 -2.2
TNS Taunus Mts 147.22 352 *e*PKPab **PKPab** 12 13 22.6 +0.8
TNS Taunus Mts 147.22 352 *e*PKP2 **PKPab** 12 13 22.6 +0.8
GRF Grafenberg Arr 147.27 348 *e*PKPab **PKPab** 12 13 23.5 +1.5
GRF Grafenberg Arr 147.27 348 *e*PKP2 **PKPab** 12 13 23.5 +1.5
GRFO Grafenberg 147.27 348 *e*PKIKP **PKPbc** 12 13 16.3 -1.9
GRFO Grafenberg 147.27 348 *e*PKPdf **PKPbc** 12 13 16.3 -1.9
KHC Kasperske Hory 147.28 345 *e*PKIKP **PKPdf** 12 13 15.4 +0.5
KHC Kasperske Hory 147.28 345 *e*PKPdf **PKPdf** 12 13 15.4 +0.5
KHC *e*PKPbc **PKiKP** 12 13 18.8 -1.1
KHC Kasperske Hory 147.28 345 *e*PKP **PKPdf** 12 13 15.9 +1.0
KHC *ex* x 12 13 19.3
KHC *e*pPKP **pPKPdf** **12 15 35.0 +2.1**
GZR Gura Zlata 147.29 332 ⇓PKHKP PKPpre 12 13 18.1
GZR Gura Zlata 147.29 332 ⇓*i*P **PKPbc** 12 13 18.1 -0.3
EIL Elat 147.30 297 PKP **PKPdf** 12 13 15.6 +0.1
comp=Z,110nm,1.0s,baz=36,slow=1.2,SNR=4.9
EIL PKPbc **PKiKP** **12 13 19.4 -1.1**
comp=Z,113nm,1.0s,baz=11,slow=2.8,SNR=34
EIL Elat 147.30 297 PKP **PKPdf** 12 13 15.6 +0.1
EIL PKPbc **PKiKP** 12 13 19.4 -1.1
SNF Seneffe 147.33 357 PKPbc **PKPbc** 12 13 17.4 -0.9
SNF PKPab **PKPab** 12 13 22.7 +0.6
BCLA Clavier 147.35 355 PKPbc **PKPab** 12 13 20.5 -1.8
SZAC Souni-Zanaja 147.38 307 P **PKPbc** 12 13 18.5 -0.5
PKSG 147.42 338 ⇓*e* **PKPbc** 12 13 19.0 +0.4
ALFC Alevga 147.43 308 P **PKPbc** 12 13 18.7 -0.4
comp=Z,9.1nm,0.8s
WET Wettzell 147.44 346 *e*PKPbc **PKPbc** 12 13 19.7 +1.1
WET Wettzell 147.44 346 *e*PKP2 **PKPbc** 12 13 19.7 +1.1
JMB Yambol 147.47 324 PKP2 **PKPbc** 12 13 19.9 +1.1
JMB Yambol 147.47 324 P **PKPbc** 12 13 19.9 +1.1
JMB Yambol 147.47 324 *i* P **PKPbc** 12 13 20.0 +1.1
GEC2 GERESS Array S 147.52 345 *e*PKPbc **PKPbc** 12 13 19.7 +0.8
GEC2 GERESS Array S 147.52 345 *e*PKP2 **PKPbc** 12 13 19.7 +0.8
GERES GERESS Array B 147.52 345 PKP **PKPdf** 12 13 15.4 0.0
comp=Z,19nm,0.5s,baz=0.0,slow=1.0,SNR=21
GERES PKPbc **PKiKP** **12 13 19.6 -0.9**
comp=Z,19nm,0.5s,baz=28,slow=2.5,SNR=147
GERES GERESS Array B 147.52 345 PKIKP **PKPdf** 12 13 15.4 0.0
GERES GERESS Array B 147.52 345 PKP **PKPdf** 12 13 15.4 0.0
GERES PKPbc **PKiKP** 12 13 19.6 -0.9
BZS Buzias 147.63 333 ⇑PKIKP **PKPdf** 12 13 15.9 +0.4
BZS Buzias 147.63 333 ⇑*i*P **PKPdf** 12 13 15.9 +0.4
PKST T^s 147.66 339 ⇓*e*Pg **PKPbc** 12 13 19.5 +0.3
ABH Alteburg 147.67 353 PKP **PKPbc** 12 13 19.8 +0.6
AKMC Akamas 147.69 308 P **PKPbc** 12 13 19.1 -0.6
GIVF Givet 147.70 356 *e*PKIKP **PKPdf** 12 13 16.7 +1.2
ISP Isparta 147.72 314 ⇓PKIKP **PKPdf** 12 13 19.5 -0.3
ISP Isparta 147.72 314 ⇓*i*P **PKPbc** 12 13 19.5 -0.3
DOU Dourbes 147.72 356 PKPbc **PKPbc** 12 13 19.8 +0.5

PPCY Paphos 147.73 308 P **PKPbc** 12 13 19.0 -0.8
TOD Tromm 147.77 351 PKP2 **PKPbc** 12 13 19.9 +0.4
TOD Tromm 147.77 351 PKP **PKPbc** 12 13 19.9 +0.4
CONA Conrad Observa 147.77 342 ⇑*i*P **PKPdf** 12 13 16.5 +0.7
CONA ⇓*i*P **PKiKP** 12 13 20.8 -0.2
CONA Conrad Observa 147.77 342 ⇑*i*PKPdf **PKPdf** 12 13 16.5 +0.7
comp=Z,6.3nm,0.9s,SNR=25
CONA ⇓*i*PKiKP **PKiKP** 12 13 20.8 -0.2
comp=Z,111nm,1.1s
SOP Sopron 147.77 341 *e* **PKPbc** 12 13 19.9 +0.4
BAIF Baives 147.78 357 *e*PKIKP **PKPdf** 12 13 16.8 +1.2
RUP Ruppelstein 147.90 353 PKIKP **PKPdf** 12 13 17.0 +1.1
RUP Ruppelstein 147.90 353 PKP **PKPdf** 12 13 17.0 +1.1
WLF Walferdange 148.03 354 PKPbc **PKPbc** 12 13 19.8 -0.2
WLF PKPab **PKPab** 12 13 23.0 -2.1
WLF Walferdange 148.03 354 *e*PKPbc **PKPbc** 12 13 21.6 +1.5
WLF *e*pPKPab pPKPab 12 15 45.2 +8.3
WLF Walferdange 148.03 354 *e*PKIKP **PKPdf** 12 13 15.3 -0.7
WLF Walferdange 148.03 354 *e*PKPdf **PKPdf** 12 13 15.3 -0.7
WLF *e*PKPbc **PKiKP** 12 13 20.7 -0.7
PKS9 Tamasi 148.15 338 ⇓*e* **PKPbc** 12 13 20.9 +0.4
KORT Korkueli 148.24 313 *i* P **PKPbc** 12 13 21.3 +0.1
MOA Molln 148.29 344 ⇓*i*P **PKPdf** 12 13 16.6 0.0
MOA ⇑*i*P **PKiKP** 12 13 20.9 -1.1
MOA Molln 148.29 344 ⇓*i*PKPdf **PKPdf** 12 13 16.6 0.0
comp=Z,2.7nm,0.9s,SNR=12
MOA ⇑*i*PKPbc **PKiKP** 12 13 20.9 -1.1
comp=Z,56nm,1.4s
PKSM Moragy 148.33 337 ⇑PKHKP **PKPbc** 12 13 21.2 +0.3
PKSM Moragy 148.33 337 ⇑*i*P **PKPbc** 12 13 21.2 +0.3
ARSA Arzberg 148.48 342 ⇑*i*P **PKPbc** 12 13 18.8 -2.5
ARSA ⇑*i*P **PKiKP** 12 13 22.5 +0.1
ARSA Arzberg 148.48 342 ⇑*i*PKPbc **PKPbc** 12 13 18.8 -2.5
comp=Z,1.9nm,0.7s,SNR=9.1
ARSA ⇑*i*PKiKP **PKiKP** 12 13 22.5 +0.1
comp=Z,22nm,0.9s
STU Stuttgart 148.52 350 *e*PKPbc **PKPbc** 12 13 22.4 +1.1
LANF Langenberg 148.52 352 PKP2 **PKPbc** 12 13 22.0 +0.7
LANF Langenberg 148.52 352 PKP **PKPbc** 12 13 22.0 +0.7
LANF Langenberg 148.52 352 PKP **PKPbc** 12 13 22.0 +0.7
KDZ Kurdzhali 148.66 324 *i* P **PKPbc** 12 13 22.6 +0.7
FUR Furstenfeldbru 148.71 347 *e*PKPbc **PKPbc** 12 13 23.2 +1.3
FUR *e*PKPab **PKPab** 12 13 29.2 +1.2
FUR Furstenfeldbru 148.71 347 *e*PKP2 **PKPab** 12 13 29.2 +1.2
RHK3 Tenkes 148.75 337 ⇓*e* **PKPbc** 12 13 22.4 +0.4
RJOB Jochberg 148.77 345 *e*PKPbc **PKPbc** 12 13 23.0 +0.9
BFO Black Forest 149.08 351 *e*PKPbc **PKPbc** 12 13 24.0 +1.3
BFO *e*pPKPab pPKPab 12 15 50.6 +10
BFO Black Forest 149.08 351 *e*PKHKP **PKPdf** 12 13 18.6 +0.8
BFO Black Forest 149.08 351 *e*PKPdf **PKPdf** 12 13 18.6 +0.8
BFO *e*PKPbc **PKiKP** 12 13 22.8 -0.8
FLN La Foliniere 149.12 3 *e*PKIKP **PKPdf** 12 13 17.9 +0.1
SOKA Soboth 149.14 342 ⇑*i*P **PKPdf** 12 13 18.3 +0.2
SOKA ⇓*i*P **PKiKP** 12 13 23.2 -0.7
SOKA Soboth 149.14 342 ⇑*i*PKPdf **PKPdf** 12 13 18.3 +0.2
comp=Z,12nm,1.6s
SOKA ⇓*i*PKiKP **PKiKP** 12 13 23.2 -0.7
comp=Z,76nm,1.3s
CDF Champ du Feu 149.14 352 *e*PKIKP **PKPdf** 12 13 18.8 +0.8
PAGF Fort de Pagny 149.17 354 *e*PKIKP **PKPdf** 12 13 19.1 +1.2
SPAK Spaichingen-Ko 149.23 350 PKP **PKPbc** 12 13 23.6 +0.4
KBA Koelnbreinsper 149.25 344 ⇑*i*PKIKP **PKPdf** 12 13 18.5 +0.2
KBA Koelnbreinsper 149.25 344 ⇑*i*P **PKPdf** 12 13 18.5 +0.2
KBA ⇑*i*P **PKiKP** 12 13 23.2 -1.0
KBA Koelnbreinsper 149.25 344 ⇑*i*PKPdf **PKPdf** 12 13 18.5 +0.2
comp=Z,9.4nm,1.4s,SNR=16
KBA ⇑*i*PKPbc **PKiKP** 12 13 23.2 -1.0
comp=Z,57nm,1.0s
LDF La Druitiere 149.30 2 *e*PKIKP **PKPdf** 12 13 18.6 +0.5
ECH Echery 149.35 353 *e*PKHKP **PKPdf** 12 13 19.3 +1.0
ECH Echery 149.35 353 *e*PKPdf **PKPdf** 12 13 19.3 +1.0
ECH *e*PKPbc **PKPbc** 12 13 22.6 -0.8
ECH Echery 149.35 353 PKP **PKPbc** 12 13 22.0 -1.4
WATA Walderalm 149.44 346 ⇑*i*PKIKP **PKPdf** 12 13 18.9 +0.3
WATA Walderalm 149.44 346 ⇑*i*P **PKPdf** 12 13 18.9 +0.3
WATA *i* P **PKiKP** 12 13 24.2 -0.3
WATA Walderalm 149.44 346 ⇑*i*PKPdf **PKPdf** 12 13 18.8 +0.3
comp=Z,3.1nm,0.6s
WATA *i* PKiKP **PKiKP** 12 13 24.2 -0.3
comp=Z,23nm,0.4s,SNR=14
THEF They Montfort 149.47 354 PKHKP **PKPdf** 12 13 20.3 +1.9
THEF They Montfort 149.47 354 PKP **PKPdf** 12 13 20.3 +1.9
THEF They Montfort 149.47 354 PKP **PKPdf** 12 13 20.3 +1.9
GRR Gorron 149.47 3 *e*PKIKP **PKPdf** 12 13 19.2 +0.8
comp=Z,58nm,1.2s
WTTA Wattenberg 149.49 346 ⇑*i*PKHKP **PKPdf** 12 13 19.4 +0.7
WTTA *i* 12 13 30.4
WTTA Wattenberg 149.49 346 ⇑*i*P **PKPdf** 12 13 19.4 +0.7
WTTA *i* P **PKiKP** 12 13 24.5 -0.2
WTTA ⇓*i*P **PKPab** 12 13 30.4 -1.1
WTTA Wattenberg 149.49 346 ⇑*i*PKPdf **PKPdf** 12 13 19.4 +0.7
comp=Z,12nm,1.2s
WTTA *i* PKiKP **PKiKP** 12 13 24.5 -0.2
comp=Z,66nm,0.5s,SNR=23
WTTA ⇓*i*PKPab **PKPab** 12 13 30.4 -1.1
comp=Z,36nm,0.8s
MOTA Moosalm 149.53 347 ⇑*i*PKIKP **PKPdf** 12 13 19.2 +0.5
MOTA *i* 12 13 32.6
MOTA Moosalm 149.53 347 ⇑*i*P **PKPdf** 12 13 19.2 +0.5
MOTA ⇓*i*P **PKPbc** 12 13 23.6 -0.4
MOTA ⇑*i*P **PKPab** 12 13 32.6 +1.0
MOTA Moosalm 149.53 347 ⇑*i*PKPdf **PKPdf** 12 13 19.2 +0.5
comp=Z,16nm,1.2s
MOTA ⇓*i*PKPbc **PKPbc** 12 13 23.6 -0.4
comp=Z,49nm,0.9s
MOTA ⇑*i*PKPab **PKPab** 12 13 32.6 +1.0
comp=Z,36nm,1.0s
DIVS Divibare 149.53 333 P **PKPbc** 12 13 23.9 -0.1
FELD Feldberg im Sc 149.57 351 PKP **PKPdf** 12 13 19.5 +0.7
SFTF Sexfontaines 149.58 355 *e*PKIKP **PKPdf** 12 13 19.7 +1.1
MYKA Terra Mystica 149.58 343 ⇑*i*P **PKPdf** 12 13 18.8 0.0
MYKA ⇓*i*P **PKPbc** 12 13 23.8 -0.3
MYKA Terra Mystica 149.58 343 ⇑*i*PKPdf **PKPdf** 12 13 18.8 0.0
comp=Z,3.4nm,0.6s
MYKA ⇓*i*PKPbc **PKPbc** 12 13 23.8 -0.3
comp=Z,44nm,0.7s
KAVA Kavala 149.60 324 P **PKPbc** 12 13 23.7 -0.5
KAVA Kavala 149.60 324 P **PKPbc** 12 13 23.7 -0.5
MMB Musomiste 149.62 326 *i* P **PKPbc** 12 13 24.3 0.0
HAU Haudompre 149.65 354 *e*PKIKP **PKPdf** 12 13 19.6 +0.9
PRK Paraskevi 149.70 320 *e*P **PKPbc** 12 13 24.8 +0.4
MOF Molkenrain 149.71 352 PKHKP **PKPbc** 12 13 24.3 0.0
MOF Molkenrain 149.71 352 PKP **PKPbc** 12 13 24.3 0.0
MOF Molkenrain 149.71 352 PKP **PKPbc** 12 13 24.3 0.0
NVR Nevrokopi 149.72 325 *e*P **PKPbc** 12 13 24.4 -0.1
KKB Krupnik 149.76 327 *i* P **PKPbc** 12 13 24.7 +0.1
ABTA Abfaltersbach 149.77 345 ⇑*i*P **PKPdf** 12 13 18.9 -0.1
ABTA ⇓*i*P **PKiKP** 12 13 24.6 -0.6
ABTA Abfaltersbach 149.77 345 ⇑*i*PKPdf **PKPdf** 12 13 18.9 -0.1
comp=Z,25nm,0.9s,SNR=21
ABTA ⇓*i*PKPbc **PKiKP** 12 13 24.6 -0.6
comp=Z,102nm,1.2s
HINF Hinteralfeld 149.78 353 *e*PKIKP **PKPdf** 12 13 19.5 +0.5
DAVA Damuels 149.83 349 ⇑*i*P **PKPdf** 12 13 19.9 +0.7
DAVA ⇑*i*P **PKiKP** 12 13 26.0 +0.6
DAVA Damuels 149.83 349 ⇑*i*PKPdf **PKPdf** 12 13 19.9 +0.7
comp=Z,6.3nm,0.7s
DAVA ⇑*i*PKiKP **PKiKP** 12 13 26.0 +0.6
comp=Z,84nm,1.1s
LJU Ljubljana 149.86 342 *e*PKPdf **PKPdf** 12 13 19.7 +0.6
LJU *e*PKPbc **PKiKP** 12 13 24.8 -0.5
LJU *i* pPKPdf **pPKPdf** 12 15 35.4 -1.8
LJU *e*pPKPbc **pPKPbc** 12 15 46.1 +4.9
FETA Feichten 149.92 347 *i* P **PKPdf** 12 13 20.2 +0.8
FETA ⇓*i*P **PKiKP** 12 13 25.8 +0.3
FETA Feichten 149.92 347 *i* PKPdf **PKPdf** 12 13 20.2 +0.8
comp=Z,30nm,1.5s,SNR=14
FETA ⇓*i*PKiKP **PKiKP** 12 13 25.8 +0.3
comp=Z,62nm,0.9s
LIA Limnos Island 149.94 322 *e*P **PKPbc** 12 13 24.5 -0.5
VISS Visnje 149.99 341 *e*PKPbc **PKPbc** 12 13 25.1 +0.1
VISS *e*pPKPbc **pPKPbc** 12 15 46.6 +5.1
VOY Vojsko 150.06 343 *e*PKPdf **PKPdf** 12 13 19.5 0.0
VOY *e* 12 13 29.7
VOY *e* 12 13 33.4
VOY *e* 12 14 00.1
BOJS Bojanci 150.12 340 *e*PKPdf **PKPdf** 12 13 19.6 +0.1
BOJS *e*PKPbc **PKiKP** 12 13 25.8 0.0
BOJS *e*pPKPbc **pPKPbc** 12 15 47.0 +5.2
JAVS Javornik 150.13 342 *i* PKPbc **PKPbc** 12 13 25.3 -0.1
JAVS *e* 12 13 35.0
JAVS *e*pPKPbc **pPKPbc** 12 15 46.4 +4.4

LOMF Lomont 150.24 353 PKIKP **PKPdf** 12 13 21.0 +1.3
LOMF Lomont 150.24 353 PKP **PKPdf** 12 13 21.0 +1.3
LOMF Lomont 150.24 353 PKP **PKPdf** 12 13 21.0 +1.3
SMG Samos 150.25 317 *e*P **PKPbc** 12 13 25.8 0.0
DAVOX Davos/Dischmat 150.32 348 PKP **PKPdf** 12 13 20.2 +0.2
comp=Z,9.1nm,0.8s,baz=67,slow=3.3,SNR=12
DAVOX PKPbc **PKiKP** **12 13 26.8 +0.4**
comp=Z,46nm,0.6s,baz=278,slow=2.4,SNR=47
DAVOX Davos/Dischmat 150.32 348 PKIKP **PKPdf** 12 13 20.2 +0.2
DAVOX Davos/Dischmat 150.32 348 PKP **PKPdf** 12 13 20.2 +0.2
DAVOX PKPbc **PKiKP** 12 13 26.8 +0.4
CHOS Chios island 150.35 319 *e*P **PKPbc** 12 13 25.8 -0.3
SOH Sokhos 150.36 325 *e*P **PKPbc** 12 13 24.5 -1.5
PLE Pljevlja 150.41 333 ⇓*i*PKP **PKPbc** 12 13 27.2 +1.0
IVA Berane 150.55 332 ⇓*i*PKP **PKPbc** 12 13 26.0 -0.4
LOR Lormes 150.59 357 *e*PKIKP **PKPdf** 12 13 21.2 +1.0
PLG Polygyros 150.62 324 PKIKP **PKPbc** 12 13 25.8 -0.8
PLG Polygyros 150.62 324 P **PKPbc** 12 13 25.8 -0.8
PLG Polygyros 150.62 324 P **PKPbc** 12 13 25.8 -0.8
PLG Polygyros 150.62 324 *e*P **PKPbc** 12 13 26.2 -0.4
TUE Stuetta 150.72 349 *e*PKPdf **PKPdf** 12 13 21.0 +0.4
TUE *e*PKPbc **PKiKP** 12 13 27.4 +0.1
UPM Unac-Piva 150.72 333 ⇓*i*PKP **PKPbc** 12 13 26.8 -0.2
PVY Plav 150.74 331 ⇓*i*PKP **PKPbc** 12 13 25.9 -1.1
GRG Griva 150.77 326 PKIKP **PKPbc** 12 13 26.5 -0.5
GRG Griva 150.77 326 P **PKPbc** 12 13 26.5 -0.5
GRG Griva 150.77 326 P **PKPbc** 12 13 26.5 -0.5
PAIG Paliouri 150.79 323 PKIKP **PKPbc** 12 13 25.4 -1.6
PAIG Paliouri 150.79 323 P **PKPbc** 12 13 25.4 -1.6
PAIG Paliouri 150.79 323 P **PKPbc** 12 13 25.4 -1.6
SSF Saint Saulge 150.81 357 *e*PKIKP **PKPdf** 12 13 21.7 +1.2
comp=Z,19nm,0.9s
BCI Bajram Curri 150.87 331 *i* PN **PKPbc** 12 13 27.4 +0.3
NKY Niksic 151.00 333 ⇓*i*PKP **PKPbc** 12 13 27.7 +0.2
CABF La Chapelle 151.06 353 *e*PKIKP **PKPdf** 12 13 22.5 +1.5
NVLJ Novalja 151.08 340 P **PKPbc** 12 13 27.0 -0.4
AVF Avril sur Loir 151.09 357 *e*PKIKP **PKPdf** 12 13 21.8 +0.9
BRY Bratogost 151.12 333 ⇓*i*PKP **PKPbc** 12 13 27.0 -0.8
TTG Podgorica 151.19 332 ⇓*i*PKP **PKPbc** 12 13 27.4 -0.4
KARP Karpathos 151.20 313 *e*P **PKPbc** 12 13 27.8 -0.3
PUK Puka 151.21 331 *e*PN **PKPbc** 12 13 27.9 -0.1
PHP Peshkopia 151.22 330 *i* PN **PKPbc** 12 13 27.5 -0.5
PHP Peshkopia 151.22 330 PKIKP **PKPbc** 12 13 27.5 -0.5
PHP Peshkopia 151.22 330 P **PKPbc** 12 13 27.5 -0.5
PHP Peshkopia 151.22 330 P **PKPbc** 12 13 27.5 -0.5
MFF Saint Martin d 151.29 2 *e*PKIKP **PKPdf** 12 13 22.1 +0.9
comp=Z,46nm,1.1s
LIT Litokhoron 151.33 325 PKIKP **PKPbc** 12 13 27.0 -1.2
LIT Litokhoron 151.33 325 P **PKPbc** 12 13 27.0 -1.2
LIT Litokhoron 151.33 325 P **PKPbc** 12 13 27.0 -1.2
LIT Litokhoron 151.33 325 *e*P **PKPbc** 12 13 26.2 -2.0
BUM Brajici-Budva 151.46 332 ⇓*i*PKP **PKPbc** 12 13 28.0 -0.5
APE Apeiranthos 151.46 317 ⇓PKIKP **PKPbc** 12 13 26.6 -2.0
APE Apeiranthos 151.46 317 *e*P **PKPbc** 12 13 27.7 -0.9
APE Apeiranthos 151.46 317 ⇓*i*P **PKPbc** 12 13 26.6 -2.0
STON Ston 151.50 335 P **PKPbc** 12 13 27.8 -0.7
HCY Herceg Novi 151.51 333 ⇓*i*PKP **PKPbc** 12 13 26.8 -1.7
ULC Ulcinj 151.57 331 ⇓*i*PKP **PKPbc** 12 13 28.6 -0.1
TCF Toulx Ste Croi 151.63 359 *e*PKIKP **PKPdf** 12 13 22.5 +0.7
TIR Tirane 151.76 330 *i* PN **PKPbc** 12 13 29.2 +0.6
TIR Tirane 151.76 330 *e*PKIKP **PKPdf** 12 13 20.5 -1.6
TIR Tirane 151.76 330 *e*PKPdf **PKPdf** 12 13 20.5 -1.6
NEST Nestorio 151.87 327 P **PKPbc** 12 13 29.6 +0.1
PLDF La Plantade 151.90 357 PKIKP **PKPbc** 12 13 29.9 +0.5
PLDF La Plantade 151.90 357 PKP **PKPbc** 12 13 29.9 +0.5
PLDF La Plantade 151.90 357 PKP **PKPbc** 12 13 29.9 +0.5
PTL Penteli 151.91 320 *e*P **PKPbc** 12 13 29.0 -0.6
THL Klokotos Trika 151.97 325 *e*P **PKPbc** 12 13 28.5 -1.1
ATAL Atalanti 152.00 322 P **PKPbc** 12 13 28.7 -1.0
ATAL Atalanti 152.00 322 P **PKPbc** 12 13 28.7 -1.0
LKR Lokris 152.04 322 P **PKPbc** 12 13 28.7 -1.1
LKR Lokris 152.04 322 P **PKPbc** 12 13 28.7 -1.1
LKR Lokris 152.04 322 *e*P **PKPbc** 12 13 29.2 -0.6
ZKR Zakros 152.08 313 *e*P **PKPbc** 12 13 30.1 +0.1
VLY Voula,Athens 152.08 320 P **PKPbc** 12 13 28.8 -1.1
VLY Voula,Athens 152.08 320 P **PKPbc** 12 13 28.8 -1.1
VLY Voula,Athens 152.08 320 *e*P **PKPbc** 12 13 27.1 -2.8
PYM Petit Puy Mans 152.14 358 PKIKP **PKPbc** 12 13 25.9 -4.0
PYM Petit Puy Mans 152.14 358 PKP **PKPbc** 12 13 25.9 -4.0
PYM Petit Puy Mans 152.14 358 PKP **PKPbc** 12 13 25.9 -4.0
NAIG Nisos Aigina 152.33 320 *e*P **PKPbc** 12 13 28.8 -1.7
NPS Neapolis 152.42 314 *e*P **PKPbc** 12 13 31.2 +0.4
LTK Loutraki 152.47 321 *e*P **PKPbc** 12 13 29.8 -1.0
BNI Bardonecchia 152.52 352 *e*PKIKP **PKPdf** 12 13 23.9 +0.6
BNI Bardonecchia 152.52 352 *e*PKPdf **PKPdf** 12 13 23.9 +0.6
EVR Evrytania 152.54 324 *e*P **PKPbc** 12 13 31.5 +0.5
LAST Lasithi 152.57 314 *e*P **PKPbc** 12 13 31.5 +0.3
RJF Les Rejaudoux 152.62 360 *e*PKIKP **PKPdf** 12 13 24.1 +0.9
comp=Z,18nm,0.8s
DID Didima 152.64 320 *e*P **PKPbc** 12 13 30.0 -1.2
LBL Lubilhac 152.65 357 PKIKP **PKPbc** 12 13 32.9 +1.9
LBL Lubilhac 152.65 357 PKP **PKPbc** 12 13 32.9 +1.9
LBL Lubilhac 152.65 357 PKP **PKPbc** 12 13 32.9 +1.9
EFP Efpalio 152.82 323 *e*P **PKPbc** 12 13 32.2 +0.7
MBDF Montbardon 152.83 352 *

TORD PKPab **PKPab 12 15 25.7 +1.0**
TORD pPKPab **pPKPab 12 17 36.9 +2.4**

*ISCJB **26** 12:10:17.9±0.3,40.16N±0.02×28.89E±0.02,h5km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=23.6*
*ISK **26** 12:10:17.6,40.14N×28.91E,h6km,ML3.3*
*SOF **26** 12:10:17.3,40.10N×28.64E,h7km,MD3.0*
*DDA **26** 12:10:17.7,40.15N×28.88E,h7km,MD3.5*
*CSEM **26** 12:10:18.1±0.1,40.15N×28.92E,h8km,ML3.3, Error ellipse: s-maj=2.0km s-min=1.9km az=124.0*

ISC 26 12:10:18.1±0.8,40.14N±0.02×28.92E±0.02,h14km±5km, n117,σ0.85/140,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORLT	**Orhaneli**	**0.09**	**191**	PG	**Pg**	**12 10 20.8**	**-0.4**
ORLT	**Orhaneli**	**0.09**	**191**	*i* Pg	**Pg**	**12 10 20.8**	**-0.4**
ULDT	**Uludag**	**0.17**	**88**	*i* P	**Pg**	**12 10 21.9**	**-0.4**
ULDT				*i* S	**Sg**	**12 10 25.6**	**+0.5**
ULDT	**Uludag**	**0.17**	**88**	*i* P	**Pg**	**12 10 21.9**	**-0.4**
ULDT				*i* S	**Sg**	**12 10 25.6**	**+0.5**
MDNY	**Mudanya-Bursa**	**0.23**	**353**	PG	**Pg**	**12 10 23.1**	**-0.1**
MDNY				*e*SG	**Sg**	**12 10 26.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.23**	**353**	*i* Pg	**Pg**	**12 10 23.1**	**-0.1**
MDNY				*e*Sg	**Sg**	**12 10 26.5**	**-0.2**
GEMT	**Gemlik**	**0.36**	**35**	PG	**Pb**	**12 10 25.5**	**-0.8**
GEMT				*e*SG	**Sb**	**12 10 31.1**	**-0.7**
GEMT	**Gemlik**	**0.36**	**35**	*i* Pg	**Pb**	**12 10 25.5**	**-0.8**
GEMT				*e*Sg	**Sb**	**12 10 31.1**	**-0.7**
ARMT	**Armutlu**	**0.43**	**354**	PG	**Pb**	**12 10 26.8**	**-0.7**
ARMT	**Armutlu**	**0.43**	**354**	*i* Pg	**Pb**	**12 10 26.8**	**-0.7**
KCTX	**Karacabey (Bur**	**0.45**	**287**	*e*PG	**Pb**	**12 10 27.0**	**-0.8**
KCTX	**Karacabey (Bur**	**0.45**	**287**	*e*Pg	**Pb**	**12 10 27.0**	**-0.8**
YLV	**Yalova**	**0.55**	**39**	*e*PG	**Pb**	**12 10 28.9**	**-0.6**
YLV	**Yalova**	**0.55**	**39**	*e*Pg	**Pb**	**12 10 28.9**	**-0.6**
DST	**Dursunbey**	**0.58**	**204**	*e*PG	**Pb**	**12 10 29.6**	**-0.4**
DST	**Dursunbey**	**0.58**	**204**	*e*Pg	**Pb**	**12 10 29.6**	**-0.4**
DURS	**Dursunbey**	**0.64**	**213**	*i* P	**Pb**	**12 10 30.0**	**-0.9**
DURS				*i* S	**Sb**	**12 10 39.2**	**-0.5**
DURS	**Dursunbey**	**0.64**	**213**	*i* P	**Pb**	**12 10 30.0**	**-0.9**
DURS				*i* S	**Sb**	**12 10 39.2**	**-0.5**
ADVT	**Abdulvahap**	**0.69**	**64**	*e*PG	**Pb**	**12 10 31.2**	**-0.6**
ADVT	**Abdulvahap**	**0.69**	**64**	*e*Pg	**Pb**	**12 10 31.3**	**-0.6**
CAVI	**Cavuskoy**	**0.71**	**84**	*e*PG	**Pg**	**12 10 31.1**	**-0.7**
CAVI	**Cavuskoy**	**0.71**	**84**	*e*Pg	**Pg**	**12 10 31.2**	**-0.7**
BNT	**Bandirma**	**0.80**	**286**	*e*PG	**Pb**	**12 10 33.5**	**-0.2**
BNT	**Bandirma**	**0.80**	**286**	*e*Pg	**Pb**	**12 10 33.5**	**-0.2**
EDC	**Edincik**	**0.84**	**285**	*e*PG	**Pb**	**12 10 33.8**	**-0.5**
EDC	**Edincik**	**0.84**	**285**	*e*Pg	**Pb**	**12 10 33.8**	**-0.5**
HRT	**Hereke**	**0.89**	**40**	*e*PG	**Pg**	**12 10 34.5**	**-0.8**
HRT	**Hereke**	**0.89**	**40**	*e*Pg	**Pg**	**12 10 34.5**	**-0.8**
ISK	**Istanbul-Kandi**	**0.93**	**6**	*e*PG	**Pb**	**12 10 35.8**	**-0.2**
ISK	**Istanbul-Kandi**	**0.93**	**6**	*e*Pg	**Pb**	**12 10 35.8**	**-0.2**
BALB	**Balikesir**	**0.94**	**239**	*e*PG	**Pb**	**12 10 35.7**	**-0.4**
BALB	**Balikesir**	**0.94**	**239**	*e*Pg	**Pb**	**12 10 35.7**	**-0.4**
GONE	**Gonen-Balikesi**	**0.95**	**265**	*e*PG	**Pb**	**12 10 35.9**	**-0.4**
GONE	**Gonen-Balikesi**	**0.95**	**265**	*e*Pg	**Pb**	**12 10 35.9**	**-0.4**
BGKT	**Bogazkoy**	**1.05**	**354**	*e*PG	**Pb**	**12 10 37.6**	**-0.3**
BGKT	**Bogazkoy**	**1.05**	**354**	*e*Pg	**Pb**	**12 10 37.6**	**-0.3**
ELBA	**Catalca**	**1.07**	**340**	*i* P	**Pn**	**12 10 38.4**	**-0.3**
ELBA				*i* S	**Sb**	**12 10 52.2**	**-0.1**
ELBA	**Catalca**	**1.07**	**340**	*i* P	**Pn**	**12 10 38.4**	**-0.3**
ELBA				*i* S	**Sb**	**12 10 52.2**	**-0.1**
GPA	**Golpazari**	**1.07**	**81**	*e*PN	**Pn**	**12 10 39.1**	**+0.4**
GPA	**Golpazari**	**1.07**	**81**	*e*Pn	**Pn**	**12 10 39.1**	**+0.4**
BALY	**Balya**	**1.08**	**249**	*i* P	**Pb**	**12 10 38.1**	**-0.3**
BALY				*i* S	**Sb**	**12 10 52.9**	**+0.6**
BALY	**Balya**	**1.08**	**249**	*i* P	**Pb**	**12 10 38.1**	**-0.3**
BALY				*i* S	**Sb**	**12 10 52.9**	**+0.6**
DEMI	**Demirci**	**1.10**	**188**	*i* P	**Pn**	**12 10 38.9**	**-0.2**
DEMI				*i* S	**Sn**	**12 10 55.5**	**+1.3**
DEMI	**Demirci**	**1.10**	**188**	*i* P	**Pn**	**12 10 38.9**	**-0.2**
DEMI				*i* S	**Sn**	**12 10 55.5**	**+1.3**
KLYT	**Kilyos**	**1.12**	**5**	*e*PN	**Pn**	**12 10 39.2**	**0.0**
KLYT	**Kilyos**	**1.12**	**5**	*e*Pn	**Pn**	**12 10 39.2**	**0.0**
GDZ	**Gediz**	**1.13**	**157**	*i* P	**Pb**	**12 10 39.4**	**-0.1**
GDZ				*i* S	**Sn**	**12 10 56.0**	**+1.0**
GDZ	**Gediz**	**1.13**	**157**	*i* P	**Pb**	**12 10 39.4**	**-0.1**
GDZ				*i* S	**Sn**	**12 10 56.0**	**+1.0**
CTKS	**Kestanelik-??a**	**1.14**	**344**	*e*PN	**Pn**	**12 10 39.4**	**-0.2**
CTKS	**Kestanelik-??a**	**1.14**	**344**	*e*Pn	**Pn**	**12 10 39.4**	**-0.2**
SILT	**Sile**	**1.15**	**28**	*e*PN	**Pn**	**12 10 39.7**	**0.0**
SILT	**Sile**	**1.15**	**28**	*e*Pn	**Pn**	**12 10 39.7**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.19**	**62**	*e*PN	**Pn**	**12 10 40.7**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.19**	**62**	*e*Pn	**Pn**	**12 10 40.7**	**+0.4**
BORA	**Eskisehir**	**1.21**	**102**	*i* P	**Pg**	**12 10 40.3**	**-1.0**
BORA				*i* S	**Sn**	**12 10 58.5**	**+1.8**
BORA	**Eskisehir**	**1.21**	**102**	*i* P	**Pg**	**12 10 40.3**	**-1.0**
BORA				*i* S	**Sn**	**12 10 58.5**	**+1.8**
SLVT	**Silivri**	**1.22**	**334**	*e*PN	**Pn**	**12 10 41.5**	**+0.9**
SLVT	**Silivri**	**1.22**	**334**	*e*Pn	**Pn**	**12 10 41.5**	**+0.9**
GULT	**Gulveren**	**1.25**	**76**	*e*PN	**Pg**	**12 10 41.6**	**-0.6**
GULT	**Gulveren**	**1.25**	**76**	*e*Pn	**Pg**	**12 10 41.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.27**	**282**	*e*PN	**Pg**	**12 10 41.4**	**-1.1**
KRBG	**Karabiga-Canak**	**1.27**	**282**	*e*Pn	**Pg**	**12 10 41.4**	**-1.1**
TKR	**Tekirdag**	**1.36**	**309**	*e*PN	**Pg**	**12 10 43.2**	**-0.9**
TKR	**Tekirdag**	**1.36**	**309**	*e*Pn	**Pg**	**12 10 43.3**	**-0.9**
MFT	**Murefte**	**1.41**	**298**	*e*PN	**Pg**	**12 10 44.1**	**-1.0**
MFT	**Murefte**	**1.41**	**298**	*e*Pn	**Pg**	**12 10 44.2**	**-1.0**
ALT	**Altintas**	**1.42**	**139**	*e*PN	**Pg**	**12 10 44.6**	**-0.8**
ALT	**Altintas**	**1.42**	**139**	*e*Pn	**Pg**	**12 10 44.6**	**-0.8**
CTYL	**Yal??k??y-??at**	**1.42**	**340**	*e*PN	**Pg**	**12 10 44.0**	**-1.4**
CTYL	**Yal??k??y-??at**	**1.42**	**340**	*e*Pn	**Pg**	**12 10 44.0**	**-1.4**
RKY	**Sarkoy-Tekirda**	**1.44**	**293**	*e*PN	**Pg**	**12 10 45.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**293**	*e*Pn	**Pg**	**12 10 45.6**	**-0.1**
AKHS	**Akhisar**	**1.52**	**215**	*i* P	**Pn**	**12 10 45.1**	**+0.3**
AKHS				*i* S	**Sg**	**12 11 07.3**	**+0.3**
AKHS	**Akhisar**	**1.52**	**215**	*i* P	**Pn**	**12 10 45.1**	**+0.3**
AKHS				*i* S	**Sg**	**12 11 07.3**	**+0.3**
AKS	**Akhisar**	**1.52**	**215**	*e*PN	**Pn**	**12 10 45.2**	**+0.4**
AKS	**Akhisar**	**1.52**	**215**	*e*Pn	**Pn**	**12 10 45.2**	**+0.4**
ESKT	**Eskisehir**	**1.61**	**112**	*e*PN	**Pb**	**12 10 47.3**	**-0.3**
ESKT	**Eskisehir**	**1.61**	**112**	*e*Pn	**Pb**	**12 10 47.3**	**-0.3**
KULA	**Kula-Manisa**	**1.63**	**187**	*e*PN	**Pg**	**12 10 48.3**	**-1.1**
KULA	**Kula-Manisa**	**1.63**	**187**	*e*Pn	**Pg**	**12 10 48.3**	**-1.1**
HENT	**Hendek**	**1.66**	**65**	*i* P	**Pg**	**12 10 48.7**	**-1.2**
HENT	**Hendek**	**1.66**	**65**	*i* P	**Pg**	**12 10 48.7**	**-1.2**
LPK	**Lapseki**	**1.67**	**279**	*e*PN	**Pb**	**12 10 47.7**	**-0.8**
LPK	**Lapseki**	**1.67**	**279**	*e*Pn	**Pb**	**12 10 47.7**	**-0.8**
KHAL	**Karahalli**	**1.82**	**166**	*i* P	**Pb**	**12 10 50.6**	**-0.6**
KHAL				*i* S	**Sg**	**12 11 17.5**	**+0.9**
KHAL	**Karahalli**	**1.82**	**166**	*i* P	**Pb**	**12 10 50.6**	**-0.6**
KHAL				*i* S	**Sg**	**12 11 17.5**	**+0.9**
KHL	**Karahalli**	**1.87**	**165**	*e*PN	**Pb**	**12 10 51.0**	**-1.0**
KHL	**Karahalli**	**1.87**	**165**	*e*Pn	**Pb**	**12 10 51.0**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.89**	**279**	*e*PN	**Pb**	**12 10 51.6**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.89**	**279**	*e*Pn	**Pb**	**12 10 51.6**	**-0.7**
AYVA	**Ayvalik**	**1.91**	**245**	*e*P	**Pb**	**12 10 51.1**	**-1.5**
AYVA				*i* S	**Sg**	**12 11 20.2**	**+0.8**
AYVA	**Ayvalik**	**1.91**	**245**	*e*P	**Pb**	**12 10 51.1**	**-1.5**
ERIK	**Erikli-Kesan**	**1.91**	**287**	*e*PN	**Pb**	**12 10 52.1**	**-0.6**
ERIK	**Erikli-Kesan**	**1.91**	**287**	*e*Pn	**Pb**	**12 10 52.1**	**-0.6**
EZN	**Ezine**	**2.02**	**262**	*e*PN	**Pb**	**12 10 53.1**	**-1.4**
EZN	**Ezine**	**2.02**	**262**	*e*Pn	**Pb**	**12 10 53.1**	**-1.4**
SHUT	**Suhut-Afyon**	**2.02**	**141**	*e*PN	**Pb**	**12 10 53.6**	**-1.1**
SHUT	**Suhut-Afyon**	**2.02**	**141**	*e*Pn	**Pb**	**12 10 53.6**	**-1.1**
SVRH	**Sivrihisar-ESK**	**2.12**	**108**	*e*PN	**Pb**	**12 10 54.7**	**-1.6**
SVRH	**Sivrihisar-ESK**	**2.12**	**108**	*e*Pn	**Pb**	**12 10 54.7**	**-1.6**
IZM	**Izmir**	**2.16**	**217**	*e*PN	**Pb**	**12 10 55.2**	**-1.8**
IZM	**Izmir**	**2.16**	**217**	*e*Pn	**Pb**	**12 10 55.2**	**-1.8**
KDZE	**Karadeniz Ereo**	**2.25**	**58**	*e*PN	**Pn**	**12 10 56.0**	**+1.2**
KDZE	**Karadeniz Ereo**	**2.25**	**58**	*e*Pn	**Pn**	**12 10 56.0**	**+1.2**
BLCB	**Balcova**	**2.28**	**220**	*e*PN	**Pn**	**12 10 55.7**	**+0.5**
BLCB	**Balcova**	**2.28**	**220**	*e*Pn	**Pn**	**12 10 55.7**	**+0.5**
EDRB	**Edirne**	**2.37**	**317**	*e*PN	**Pn**	**12 10 57.1**	**+0.6**
EDRB	**Edirne**	**2.37**	**317**	*e*Pn	**Pn**	**12 10 57.1**	**+0.6**
KDZ	**Kurdzhali**	**3.06**	**301**	P	**Pn**	**12 11 07.5**	**+1.6**
KDZ	**Kurdzhali**	**3.06**	**301**	P	**Pn**	**12 11 07.5**	**+1.6**
DIM	**Dimitrovgrad**	**3.19**	**308**	*i* P	**Pn**	**12 11 06.2**	**-1.6**
DIM	**Dimitrovgrad**	**3.19**	**308**	*i* P	**Pn**	**12 11 06.2**	**-1.6**
RZN	**Rozhen**	**3.54**	**297**	*i* P	**Pb**	**12 11 21.0**	**+0.4**
SZH	**Strazhica**	**3.84**	**325**	*i* P	**Pn**	**12 11 16.4**	**-0.3**
SZH	**Strazhica**	**3.84**	**325**	*i* P	**Pn**	**12 11 16.4**	**-0.3**
PVL	**Pavlikeni**	**4.08**	**320**	*i* P	**Pn**	**12 11 21.8**	**+1.8**
PVL	**Pavlikeni**	**4.08**	**320**	*i* P	**Pn**	**12 11 21.8**	**+1.8**

*DJA **26** 12:16:08, 1.28N×122.09E,h10km,mb4.1/6*

IDC 26 12:16:04.1±1.3,1.49N×122.16E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/19,mbtmp3.4/4,Error ellipse: s-maj=164.1km s-min=22.3km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.42**	**151**	P	P	12 21 24.3	-0.3
	0.5nm,0.6s,baz=329,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**27.49**	**156**	P	P	12 21 52.8	+0.3
	0.3nm,0.6s,baz=344,slow=15,SNR=6.8						
SONM	**Songino Array**	**48.14**	**346**	P	P	12 24 46.0	-0.1
	0.8nm,0.9s,baz=165,slow=9.4,SNR=4.5						
KURK	**Kurchatov**	**61.27**	**330**	P	P	12 26 21.0	-0.2
	0.4nm,0.8s,baz=120,slow=5.9,SNR=6.7						

*IDC **26** 12:46:49.5±2.7,31.98N×105.28E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.5/25,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=85.2km s-min=41.7km az=92.0*
BJI 26 12:46:49.2,31.88N×104.36E,h11km,ML3.2/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**4.22**	**354**	*e*Pn	Pn	12 47 56.8	+3.1
LZH				Pg	Pb	12 48 04.5	+0.8
LZH				Sn	Sn	12 48 43.0	-0.1
LZH				Sg	Sb	12 48 55.5	+0.7
LZH				smax	smax		
	comp=N,29nm,0.7s						
LZH				smax	smax		
	comp=E,56nm,0.9s						
XAN	**Xi'an**	**4.40**	**59**	Pn	Pn	12 47 56.5	+0.5
XAN				Pg	Pb	12 48 09.5	+2.9
XAN				Sn	Sn	12 48 47.3	0.0
XAN				Sg	Sb	12 49 05.0	+5.3
XAN				smax	smax		
	comp=N,52nm,0.7s						
XAN				smax	smax		
	comp=E,28nm,0.7s						
GYA	**Guiyang**	**5.76**	**159**	Pn	Pn	12 48 16.3	+1.4
GYA				Sn	Sn	12 49 18.8	-2.4
GYA				Sg	Sb	12 49 46.3	+7.1
GYA				smax	smax		
	comp=N,30nm,0.7s						
GYA				smax	smax		
	comp=E,40nm,0.9s						
GTA	**Gaotai**	**8.37**	**335**	*e*P	Pg	12 49 31.0	+1.3
GTA				pP	Pb	12 49 35.5	+21
GTA				sP	Sn	12 49 38.0	-47
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
CMAR	**Chiang Mai Arr**	**14.23**	**201**	Pn	P	12 50 18.8	+0.6
	comp=Z,0.2nm,0.3s,baz=6.0,slow=8.7,SNR=9.0						
SONM	**Songino Array**	**16.01**	**5**	Pn	Pn	12 50 35.7	+1.2
	comp=Z,0.0nm,0.3s,baz=186,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**59.00**	**147**	P	P	12 56 48.5	-0.6
	comp=Z,0.8nm,0.7s,baz=338,slow=7.4,SNR=6.1						
ASAR	**Alice Springs**	**62.04**	**149**	P	P	12 57 09.2	-0.7
	comp=Z,0.3nm,0.5s,baz=333,slow=6.4,SNR=5.1						

*DJA **26** 13:11:03, 0.77S×127.39E,h78km,MLv3.1/4*
IDC 26 13:10:46.2±2.1,0.51S×127.18E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.3/16,mbtmp3.3/3,MS3.5/1,Ms1 3.5/1, ms1mx2.5/18,Error ellipse: s-maj=171.4km s-min=25.7km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.55**	**160**	P	P	13 15 27.2	+0.6
	0.1nm,0.3s,baz=339,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.33**	**165**	P	P	13 16 01.9	-0.3
	0.6nm,0.5s,baz=343,slow=9.8,SNR=25						
USRK	**Ussuriysk Arra**	**44.72**	**5**	LR	LR	13 37 13.4	
	comp=Z,48nm,18.9s,baz=178,slow=36						
MKAR	**Makanchi Array**	**61.29**	**326**	P	P	13 21 03.5	0.0
	0.1nm,0.3s,baz=112,slow=8.1,SNR=6.8						

*IDC **26** 13:17:05.4±0.7,5.44N×126.29E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/19,mbtmp3.8/9,Error ellipse: s-maj=61.2km s-min=15.0km az=73.0*
*ISCJB **26** 13:17:12.2±0.6,5.42N±0.09×126.4E±0.2,h66km,mb3.6/9, Error ellipse: s-maj=24.9km s-min=7.3km az=151.8*
*MAN **26** 13:17:24.6,63N×126.22E,h82km,mb4.7,ML3.6,MS3.5*
ISC 26 13:17:13.8±0.7,5.5N±0.1×126.4E±0.2,h66km,n15, σ1.07/18,mb3.7/9,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.49**	**354**	*e*P	**Pn**	**13 17 38.5**	**0.0**
MATI				*e*S	Sn	13 17 47.2	-10
DMPH	**Davao City--Mi**	**1.85**	**331**	*e*P	**Pn**	**13 17 43.0**	**-0.4**
KCP	**Kidapawan**	**2.03**	**319**	*e*P	**Pn**	**13 17 44.3**	**-1.6**
KCP				*i* S	**Sn**	**13 18 10.8**	**+0.4**
BUKP	**Musuan**	**2.76**	**331**	*e*P	**Pn**	**13 17 53.2**	**-2.5**
BUKP				*e*S	Sn	13 18 09.7	-18
CTBH	**Cotabato--PC H**	**2.79**	**309**	*i* P	**Pn**	**13 17 57.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.42**	**182**	P	**P**	**13 22 15.7**	**-1.5**
	2.2nm,0.8s,baz=13,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**13 22 45.3**	**+0.8**
	1.6nm,0.6s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**13 23 14.4**	**-0.7**
	0.2nm,0.6s,baz=346,slow=6.6,SNR=7.2						
ASAR				PcP	**PcP**	**13 26 16.8**	**-0.3**
	0.3nm,0.7s,baz=3.1,slow=2.5,SNR=4.8						
STKA	**Stephens Creek**	**39.84**	**160**	P	**P**	**13 24 41.2**	**+0.2**
	1.0nm,0.5s,baz=344,slow=9.4,SNR=6.5						
SONM	**Songino Array**	**45.57**	**341**	P	**P**	**13 25 28.3**	**+1.0**
	0.5nm,0.7s,baz=149,slow=6.3,SNR=3.5						
SONM				PcP	**PcP**	**13 27 05.6**	**+0.7**
	0.4nm,0.8s,baz=143,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**55.97**	**325**	P	**P**	**13 26 45.5**	**+0.1**
	1.2nm,0.5s,baz=120,slow=7.9,SNR=26						
ZALV	**Zalesovo Beam**	**58.92**	**333**	P	**P**	**13 27 05.0**	**-1.0**
	0.4nm,0.5s,baz=124,slow=6.6,SNR=2.9						
ILAR	**Eielson Array**	**83.68**	**25**	P	**P**	**13 29 35.9**	**+0.8**
	0.2nm,0.7s,baz=275,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**90.17**	**332**	P	**P**	**13 30 06.7**	**0.0**
	1.7nm,0.9s,baz=94,slow=4.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.08**	**289**	PKP	**PKPdf**	**13 36 02.7**	**+0.7**
	0.2nm,0.6s,baz=75,slow=2.3,SNR=2.1						

IDC 26 13:30:25.1±2.1,5.79S×129.77E,h0km,mb3.0/1, mb1 3.5/4,mb1mx3.3/15,mbtmp3.2/4,ML3.4/3,Error ellipse: s-maj=94.9km s-min=27.5km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.88**	**198**	Pn	Pn	13 33 29.2	-0.5
	0.1nm,0.3s,baz=19,slow=13,SNR=2.4						
FITZ				Sn	Sn	13 35 39.1	-15
	0.1nm,0.3s,baz=90,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**14.76**	**163**	Pn	Pn	13 33 55.7	+0.3
	0.2nm,0.3s,baz=346,slow=13,SNR=7.6						
WRA				Sn	Sn	13 36 25.9	-14
	0.3nm,0.3s,baz=341,slow=25,SNR=7.1						
ASAR	**Alice Springs**	**18.22**	**168**	P	Pn	13 34 39.6	-0.1
	0.1nm,0.3s,baz=346,slow=11,SNR=13						
ASAR				S	Sn	13 37 47.3	-16
	0.0nm,0.3s,baz=347,slow=25,SNR=3.1						
MKAR	**Makanchi Array**	**67.09**	**327**	P	P	13 41 20.6	0.0
	0.1nm,0.7s,baz=114,slow=6.5,SNR=2.3						

*DJA **26** 13:51:42, 4.85S×150.22E,h437km,mb4.7/10*
*ISCJB **26** 13:51:44.3±0.8, 4.85S±0.05×150.09E±0.06,h421km±9km, mb4.3/57,Error ellipse: s-maj=9.4km s-min=7.4km az=164.0*
*NEIC **26** 13:51:44.9±0.2,4.81S×150.04E,mb4.6/25,Error ellipse: s-maj=8.6km s-min=5.6km az=80.0*
*BJI **26** 13:51:44.3,4.82S×150.12E,h427km,mB4.6/19,mb4.2/33*
*IDC **26** 13:51:45.2±0.6,4.87S×149.96E,h417km±6km,mb3.8/18, mb1 3.8/21,mb1mx3.8/23,mbtmp3.8/21,Error ellipse: s-maj=12.8km s-min=7.5km az=99.0*
ISC 26 13:51:45.2±0.4,4.87S±0.05×150.02E±0.07,h418km±3km, h418km:pP-P,n124,σ1.36/188,mb4.3/57,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.33**	**212**	P	**P**	**13 53 12.0**	**+0.7**
	4.0nm,0.3s,baz=4.6,slow=7.0,SNR=20						
PMG				S	S	13 54 10.8	-11
	9.4nm,0.3s,baz=341,slow=6.6,SNR=6.1						
PMG	**Port Moresby**	**5.33**	**212**	*e*Pn	**P**	**13 53 12.0**	**+0.7**
	102nm,0.9s						
PMG				S	S	13 54 10.8	-11
PMG	**Port Moresby**	**5.33**	**212**	P	**P**	**13 53 12.4**	**+1.1**
	37nm,1.0s,876nm0.8nm						
JAY	**Jayapura**	**9.59**	**284**	P	**P**	**13 53 58.6**	**+0.5**
	65nm,0.8s						
HNR	**Honiara**	**10.84**	**115**	P	**P**	**13 54 11.8**	**0.0**
	9.7nm,0.3s,baz=281,slow=5.2,SNR=7.7						
HNR				S	S	13 56 29.7	+17
	3.2nm,0.3s,baz=225,slow=13,SNR=2.0						
HNR	**Honiara**	**10.84**	**115**	P	**P**	**13 54 11.8**	**0.0**
HNR				S	S	13 56 29.7	+17
SMPI	**Sarmi**	**11.65**	**284**	P	P	13 54 24.2	+3.5
	85nm,1.4s						
BAKI	**Biak**	**14.37**	**284**	P	**P**	**13 54 51.6**	**+1.2**
	102nm,0.9s						
CTA	**Charters Tower**	**15.57**	**193**	P	**P**	**13 55 03.6**	**+0.3**
	0.2nm,0.3s,baz=42,slow=13,SNR=3.3						
CTA	**Charters Tower**	**15.57**	**193**	P	**P**	**13 55 03.6**	**+0.3**
TLE	**Tual**	**17.23**	**267**	P	**P**	**13 55 23.2**	**+2.1**
	66nm,1.1s						
EIDS	**Eidsvold**	**20.41**	**177**	*e*P	**P**	**13 55 53.4**	**+1.1**
	16nm,0.9s						
WRAB	**Tennant Creek**	**21.38**	**224**	*e*P	**P**	**13 56 01.6**	**+0.3**
	57nm,0.6s						
WRA	**Warramunga Arr**	**21.40**	**224**	P	**P**	**13 56 01.6**	**+0.3**
	43nm,0.5s,baz=46,slow=9.4,SNR=363						
WRA				S	**S**	**13 59 29.7**	**-0.2**
	3.1nm,0.8s,baz=46,slow=16,SNR=7.5						
WRA				PcP	**PcP**	**13 59 48.5**	**+0.4**
	2.8nm,0.8s,baz=46,slow=2.5,SNR=6.2						
WRA	**Warramunga Arr**	**21.40**	**224**	P	**P**	**13 56 01.6**	**+0.3**
WRA				S	**S**	**13 59 29.7**	**-0.2**
WRA				PcP	**PcP**	**13 59 48.5**	**+0.4**
LBMI	**Labuha**	**22.88**	**280**	P	**P**	**13 56 17.5**	**+2.6**
	44nm,1.0s						
DZM	**Mont Dzumac**	**23.35**	**139**	P	**P**	**13 56 20.4**	**+1.3**
	12nm,0.6s,baz=333,slow=14,SNR=13						
DZM	**Mont Dzumac**	**23.35**	**139**	P	**P**	**13 56 20.4**	**+1.3**
ASAR	**Alice Springs**	**24.31**	**218**	P	**P**	**13 56 27.6**	**0.0**
	7.1nm,0.5s,baz=50,slow=8.3,SNR=255						
ASAR				PcP	**PcP**	**13 59 54.5**	**+0.3**
	1.6nm,0.9s,baz=50,slow=2.9,SNR=5.2						
ASAR				S	**S**	**14 00 14.5**	**-1.4**
	1.9nm,0.8s,baz=46,slow=14,SNR=6.9						
ASAR				ScP	**ScP**	**14 02 52.0**	**-0.7**
	1.5nm,0.8s,baz=58,slow=2.5,SNR=7.9						
ASAR	**Alice Springs**	**24.31**	**218**	P	**P**	**13 56 27.6**	**0.0**
ASAR				PcP	**PcP**	**13 59 54.5**	**+0.3**
ASAR				S	**S**	**14 00 14.5**	**-1.4**
ASAR				ScP	**ScP**	**14 02 52.0**	**-0.7**
ARMA	**Armidale**	**25.46**	**177**	*e*P	**P**	**13 56 39.8**	**+1.9**
ARMA	**Armidale**	**25.46**	**177

LZH				sP	**sP**	**14 03 18.0**	**-0.6**
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA	**Gaotai**	**63.85**	**318**	*e*P	**P**	**14 01 36.3**	**+1.0**
GTA				pP	**pP**	**14 03 05.0**	**+0.9**
GTA				sP	**sP**	**14 03 48.3**	**-0.8**
GTA				S	**S**	**14 09 38.5**	**+1.4**
GTA				sS	**sS**	**14 12 13.5**	**-1.8**
GTA				SS	**SS**	**14 13 57.5**	**+2.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,94nm,4.3s						
ULN	**Ulaanbaatar**	**64.62**	**329**	*e*P	**P**	**14 01 40.4**	**+0.3**
	comp=Z,6.3nm,1.2s						
ULN	**Ulaanbaatar**	**64.62**	**329**	P	**P**	**14 01 41.3**	**+1.2**
	comp=Z,4.5nm,1.4s						
SONM	**Songino Array**	**64.93**	**329**	P	**P**	**14 01 42.6**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=146,slow=4.9,SNR=21						
SONM				PcP	**PcP**	**14 02 11.2**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=140,slow=3.7,SNR=9.9						
SONM				pP	**pP**	**14 03 09.1**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=132,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**64.93**	**329**	P	**P**	**14 01 42.6**	**+0.5**
SONM				PcP	**PcP**	**14 02 11.2**	**-0.1**
SONM				pP	**pP**	**14 03 09.1**	**-2.1**
LSA	**Lhasa**	**66.01**	**305**	*e*P	**P**	**14 01 49.3**	**-0.4**
LSA	**Lhasa**	**66.01**	**305**	*e*P	**P**	**14 01 50.3**	**+0.6**
	comp=Z,4.3nm,0.7s						
TAPN	**Taplejung**	**68.08**	**302**	*e*P	**P**	**14 02 03.1**	**+0.7**
TAPN	**Taplejung**	**68.08**	**302**	*e*P	**P**	**14 02 03.1**	**+0.7**
ODAN	**Odare**	**68.20**	**301**	*e*P	**P**	**14 02 03.7**	**+0.6**
ODAN	**Odare**	**68.20**	**301**	*e*P	**P**	**14 02 03.7**	**+0.6**
JIRN	**Jiri**	**69.46**	**302**	*e*P	**P**	**14 02 11.4**	**+0.5**
	comp=Z,9.8nm,0.6s						
JIRN	**Jiri**	**69.46**	**302**	*e*P	**P**	**14 02 11.4**	**+0.5**
	comp=Z,9.8nm,0.6s						
GUN	**Gumba**	**69.80**	**302**	*e*P	**P**	**14 02 13.6**	**+0.7**
	comp=Z,33nm,0.7s						
GUN	**Gumba**	**69.80**	**302**	*e*P	**P**	**14 02 13.6**	**+0.7**
	comp=Z,33nm,0.7s						
PKI	**Pulchoki**	**70.10**	**301**	*e*P	**P**	**14 02 14.9**	**+0.3**
PKI	**Pulchoki**	**70.10**	**301**	*e*P	**P**	**14 02 14.9**	**+0.3**
KKN	**Kakani**	**70.27**	**302**	*e*P	**P**	**14 02 15.7**	**+0.2**
	comp=Z,20nm,0.6s						
KKN	**Kakani**	**70.27**	**302**	*e*P	**P**	**14 02 15.7**	**+0.2**
	comp=Z,20nm,0.6s						
DMN	**Daman**	**70.37**	**301**	*e*P	**P**	**14 02 16.9**	**+0.7**
DMN	**Daman**	**70.37**	**301**	*e*P	**P**	**14 02 16.9**	**+0.7**
GKN	**Gorkha**	**70.88**	**302**	*e*P	**P**	**14 02 19.4**	**+0.3**
	comp=Z,31nm,0.7s						
GKN	**Gorkha**	**70.88**	**302**	*e*P	**P**	**14 02 19.4**	**+0.3**
	comp=Z,31nm,0.7s						
DANN	**Dangsing**	**71.72**	**302**	*e*P	**P**	**14 02 24.3**	**+0.1**
	comp=Z,18nm,0.5s						
DANN	**Dangsing**	**71.72**	**302**	*e*P	**P**	**14 02 24.3**	**+0.1**
	comp=Z,18nm,0.5s						
BILL	**Bilibino**	**73.64**	**6**	*e*P	**P**	**14 02 34.0**	**-0.1**
	comp=Z,7.4nm,1.0s						
HYB	**Hyderabad**	**73.90**	**290**	*i* P	**P**	**14 02 35.0**	**-1.7**
WMQ	**Urumqi**	**73.93**	**318**	P	**P**	**14 02 37.0**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MKAR	**Makanchi Array**	**78.57**	**320**	P	**P**	**14 03 02.0**	**-0.1**
	comp=Z,5.8nm,0.9s,baz=108,slow=6.1,SNR=38						
MKAR				pP	**pP**	**14 04 35.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=103,slow=6.4,SNR=1.9						
MKAR	**Makanchi Array**	**78.57**	**320**	P	**P**	**14 03 02.0**	**-0.1**
MKAR				pP	**pP**	**14 04 35.9**	**+0.6**
ZAA0	**Zalesovo Array**	**79.69**	**327**	*e*P	**P**	**14 03 06.8**	**-1.0**
ZALV	**Zalesovo Beam**	**79.69**	**327**	P	**P**	**14 03 07.0**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=106,slow=5.3,SNR=31						
ZALV				pP	**pP**	**14 04 41.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=118,slow=5.7,SNR=1.8						
ZALV	**Zalesovo Beam**	**79.69**	**327**	P	**P**	**14 03 07.0**	**-0.8**
ZALV				pP	**pP**	**14 04 41.0**	**-0.3**
KSH	**Kashi**	**80.89**	**311**	*e*P	**P**	**14 03 16.5**	**+1.8**
KSH				*e*PcP	**PcP**	**14 03 24.3**	**+4.5**
KSH				*e*pP	**pP**	**14 04 49.8**	**+1.4**
KSH				*e*sP	**sP**	**14 05 32.3**	**+0.2**
KSH				*e*PP	**PP**	**14 06 24.0**	**-2.2**
KSH				*e*S	S	14 12 41.5	-6.5
KSH				*e*SKS	**SKSac**	**14 12 48.0**	**-5.0**
KSH				*e*ScS	**SKKSac**	**14 12 58.0**	**+1.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,28nm,4.0s						
TRF	**Thorofare Moun**	**81.33**	**23**	*e*P	**P**	**14 03 14.7**	**-1.8**
	comp=Z,2.2nm,0.7s						
TKM2	**Tokmak 2**	**81.99**	**314**	P	**P**	**14 03 21.2**	**+0.8**
	SNR=13						
TKM2				P	**P**	**14 03 21.2**	**+0.8**
	SNR=13						
TKM2	**Tokmak 2**	**81.99**	**314**	*e*P	**P**	**14 03 20.8**	**+0.4**
	comp=Z,5.8nm,0.6s						
MCK	**McKinley**	**82.00**	**23**	*e*P	**P**	**14 03 18.7**	**-1.0**
	comp=Z,9.1nm,1.0s						
KZA	**Kyzart**	**82.04**	**314**	P	**P**	**14 03 21.9**	**+1.0**
	SNR=12						
KZA				P	**P**	**14 03 21.9**	**+1.0**
	SNR=12						
KURK	**Kurchatov**	**82.13**	**323**	P	**P**	**14 03 20.7**	**+0.1**
	comp=Z,7.5nm,0.9s,baz=112,slow=4.1,SNR=51						
KURK	**Kurchatov**	**82.13**	**323**	*e*P	**P**	**14 03 20.1**	**-0.5**
	comp=Z,24nm,1.1s						
KBK	**Karagaybulak**	**82.39**	**314**	P	**P**	**14 03 24.5**	**+2.1**
	SNR=5.4						
KBK				P	**P**	**14 03 24.5**	**+2.1**
	SNR=5.4						
CHMS	**Chumysh**	**82.61**	**314**	P	**P**	**14 03 24.1**	**+0.8**
	SNR=6.0						
CHMS				P	**P**	**14 03 24.1**	**+0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**82.71**	**314**	P	**P**	**14 03 25.0**	**+0.9**
	SNR=8.6						
AAK				P	**P**	**14 03 25.0**	**+0.9**
	SNR=8.6						
AAK	**Ala-Archa**	**82.71**	**314**	*e*P	**P**	**14 03 24.7**	**+0.7**
	comp=Z,53nm,0.9s						
USP	**Ospenovka**	**82.85**	**315**	P	**P**	**14 03 25.5**	**+0.9**
	SNR=17						
USP				P	**P**	**14 03 25.5**	**+0.9**
	SNR=17						
AML	**Almayashu**	**83.17**	**313**	P	**P**	**14 03 27.1**	**+0.4**
	SNR=35						
AML				P	**P**	**14 03 27.1**	**+0.4**
	SNR=35						
EKS2	**Erkin-Say**	**83.23**	**314**	P	**P**	**14 03 27.8**	**+1.2**
	SNR=21						
EKS2				P	**P**	**14 03 27.8**	**+1.2**
	SNR=21						
EKS2	**Erkin-Say**	**83.23**	**314**	*e*P	**P**	**14 03 27.3**	**+0.7**
	comp=Z,17nm,0.9s						
ILAR	**Eielson Array**	**83.27**	**23**	P	**P**	**14 03 24.6**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=250,slow=4.9,SNR=46						
ILAR	**Eielson Array**	**83.27**	**23**	P	**P**	**14 03 24.6**	**-1.5**
KKAR	**Karatay Array**	**85.67**	**314**	*e*P	**P**	**14 03 38.6**	**+0.1**
	comp=Z,12nm,0.8s						
BVAR	**Borovoye Array**	**87.64**	**324**	P	**P**	**14 03 46.7**	**-0.9**
	comp=Z,4.7nm,0.7s,baz=104,slow=6.3,SNR=31						
BVAR	**Borovoye Array**	**87.64**	**324**	P	**P**	**14 03 46.7**	**-0.9**
BRVK	**Borovoye**	**87.71**	**324**	*e*P	**P**	**14 03 46.6**	**-1.3**
	comp=Z,27nm,1.9s						
ABKAR	**Akbulak array**	**93.70**	**319**	*e*P	**P**	**14 04 14.1**	**-1.7**
	comp=Z,2.2nm,0.8s						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**14 04 29.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=279,slow=5.0,SNR=5.6						
YKA				pP	**pP**	**14 06 03.8**	**-2.0**
	comp=Z,0.1nm,0.7s,baz=270,slow=3.7,SNR=2.0						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**14 04 29.1**	**-0.2**
YKA				pP	**pP**	**14 06 03.8**	**-2.0**
GERES	**GERESS Array B**	**122.64**	**327**	PKP	**PKPdf**	**14 09 51.5**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=96,slow=1.3,SNR=8.7						
GERES	**GERESS Array B**	**122.64**	**327**	PKP	**PKPdf**	**14 09 51.5**	**-0.8**
TOA0	**Torodi Ar. Sit**	**147.69**	**287**	*e*PKPbc	**PKPbc**	**14 10 41.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**147.69**	**287**	PKPbc	**PKPbc**	**14 10 41.8**	**-0.8**
	comp=Z,7.0nm,0.7s,baz=69,slow=2.8,SNR=44						
TORD				pPKPbc	**pPKPbc**	**14 12 22.5**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=74,slow=2.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**147.69**	**287**	PKPbc	**PKPbc**	**14 10 41.8**	**-0.8**
TORD				pPKPbc	**pPKPbc**	**14 12 22.4**	**-0.6**
DBIC	**Dimbokro**	**154.94**	**275**	PKPab	**PKPab**	**14 11 14.8**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=76,slow=6.4,SNR=4.6						
DBIC	**Dimbokro**	**154.94**	**275**	PKPab	**PKPab**	**14 11 14.8**	**-2.0**

NIED ***26*** *13:57:00,29.70N×130.00E,h68km,Mw4.0 Best double couple: M0 9.97000×10^14 NP1:ϕ=211.00000°,δ=82.00000°, λ=-101.00000°. NP2:ϕ=85.00000°,δ=14.00000°, λ=-36.00000°.*

ISCJB ***26*** *13:57:48.3±0.4,29.68N±0.03×129.97E±0.08, h104km±3km,mb3.7/8, Error ellipse: s-maj=12.7km s-min=4.0km az=18.1*

JMA ***26*** *13:57:49.8±0.1,29.70N×130.02E,h93km±1km,M3.5*

JMA Felt I J1.

IDC ***26*** *13:57:50.2±1.5,29.71N×129.96E,h109km±14km,mb3.4/8, mb1 3.5/13,mb1mx3.4/28,mbtmp3.4/13, Error ellipse: s-maj=21.6km s-min=11.6km az=96.0*

ISC 26 13:57:49.1±0.7, 29.69N±0.05×129.93E±0.09, h99km±6km, n24,σ1s00/39, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.16**	**342**	P	**Pn**	**Sn**	**13 58 03.0**	**-0.1**
JNN				S	**Sn**	**Sn**	**13 58 13.4**	**-0.1**
JKC	**Kuchinoerabu**	**0.81**	**16**	P	**Pn**	**Sn**	**13 58 07.4**	**0.0**
JKC				S	**Sn**	**Sn**	**13 58 20.4**	**-0.7**
JAM	**Amami Oshima**	**1.30**	**193**	P	**Pn**	**Sn**	**13 58 13.3**	**+0.4**
JAM				*e*S	**Sn**	**Sn**	**13 58 30.4**	**-0.5**
JTN	**Tanegashima 3**	**1.32**	**43**	P	**Pn**	**Sn**	**13 58 13.1**	**-0.1**
JTN				*e*S	**Sn**	**Sn**	**13 58 30.4**	**-0.9**
JZK	**Kikaishima**	**1.37**	**179**	P	**Pn**	**Sn**	**13 58 15.1**	**+1.4**
JZK				*e*S	**Sn**	**Sn**	**13 58 34.2**	**+1.9**
JTSR	**Tashiro 2**	**1.70**	**30**	P	**Pn**	**Sn**	**13 58 17.8**	**-0.1**
JTSR				S	**Sn**	**Sn**	**13 58 38.5**	**-1.2**
JSU	**Suzuyama**	**1.87**	**14**	P	**Pn**	**Sn**	**13 58 20.5**	**+0.5**
JSU				*e*S	**Sn**	**Sn**	**13 58 43.0**	**-0.4**
JSJ	**Shimokoshiki**	**1.99**	**355**	P	**Pn**	**Sn**	**13 58 22.5**	**+1.0**
JSJ				*e*S	**Sn**	**Sn**	**13 58 46.6**	**+0.3**
JTK	**Tokunoshima**	**2.08**	**205**	P	**Pn**	**Sn**	**13 58 23.4**	**+0.7**
JTK				S	**Sn**	**Sn**	**13 58 48.2**	**-0.2**
JNAR	**Kushima--Naru**	**2.17**	**32**	P	**Pn**	**Sn**	**13 58 24.2**	**+0.4**
JNAR				*e*S	**Sn**	**Sn**	**13 58 49.9**	**-0.4**
JOW	**Kunigami**	**3.20**	**208**	P	**Pn**	**Sn**	**13 58 37.7**	**+0.2**
	16nm,0.3s,baz=72,slow=12,SNR=99							
JOW				S		**Sn**	**13 59 14.0**	**-0.8**
	30nm,0.3s,baz=332,slow=18,SNR=13							
JNU	**Nakatsue**	**3.52**	**13**	P	**Pn**	**Sn**	**13 58 43.8**	**+2.0**
	14nm,0.3s,baz=194,slow=7.9,SNR=113							
JNU				S		**Sn**	**13 59 23.3**	**+0.8**
	4.8nm,0.3s,baz=204,slow=13,SNR=6.9							
KSRS	**Korea Array**	**7.92**	**348**	P	**Pn**	**Sn**	**13 59 44.2**	**+2.7**
	0.3nm,0.3s,baz=169,slow=13,SNR=6.9							
MJAR	**Matsushiro Arr**	**9.74**	**43**	P	**Pn**	**Sn**	**14 00 08.5**	**+2.3**
	0.5nm,0.3s,baz=244,slow=14,SNR=6.0							
CN2	**Changchun**	**14.53**	**347**	*e*P	**P**	**14 01 13.5**	**-0.1**
ASAJ	**Asahikawa**	**17.57**	**32**	P	**P**	**14 01 46.4**	**-0.8**
	0.5nm,0.3s,baz=208,slow=7.4,SNR=8.4							
MKAR	**Makanchi Array**	**40.46**	**309**	P	**P**	**14 05 18.9**	**+0.9**
	0.2nm,0.4s,baz=91,slow=9.7,SNR=4.1							
MKAR				PcP	**PcP**	**14 07 18.5**	**-0.3**
	0.3nm,0.7s,baz=96,slow=4.3,SNR=3.7							
KURK	**Kurchatov**	**43.44**	**314**	P	**P**	**14 05 42.9**	**+0.9**
	1.2nm,0.4s,baz=97,slow=8.8,SNR=12							
BVAR	**Borovoye Array**	**48.77**	**316**	P	**P**	**14 06 23.5**	**-0.3**
	0.4nm,0.4s,baz=92,slow=10,SNR=4.5							
BVAR				pP	**pP**	**14 06 46.3**	**-1.0**
	0.7nm,0.6s,baz=100,slow=8.3,SNR=3.8							
WRA	**Warramunga Arr**	**49.52**	**175**	P	**P**	**14 06 30.0**	**+0.1**
	1.5nm,0.5s,baz=354,slow=8.3,SNR=19							
ASAR	**Alice Springs**	**53.19**	**175**	P	**P**	**14 06 57.7**	**+0.5**
	0.5nm,0.6s,baz=360,slow=6.5,SNR=16							
ASAR				pP	**pP**	**14 07 21.4**	**+0.3**
	0.4nm,0.8s,baz=16,slow=6.9,SNR=3.1							
ILAR	**Eielson Array**	**60.69**	**29**	P	**P**	**14 07 49.0**	**-0.6**
	0.3nm,0.8s,baz=290,slow=6.1,SNR=4.5							
FINES	**FINESS Array B**	**70.61**	**330**	P	**P**	**14 08 52.0**	**-1.4**
	1.9nm,0.8s,baz=60,slow=6.6,SNR=7.3							
YKA	**Yellowknife Ar**	**74.77**	**26**	P	**P**	**14 09 18.1**	**0.0**
	0.6nm,0.6s,baz=302,slow=5.6,SNR=15							

WEL 26 13:59:48.0±0.4, 37.04S×177.19E, h5km, ML3.5/7, 1C, Error ellipse: s-maj=3.2km s-min=2.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.49**	**180**	PG	Pg	Pg	13 59 57.8	+0.3
WIZ				SG	Sg	Sg	14 00 04.3	+0.4
MYRZ	**Mayor Island**	**0.80**	**252**	P*	Pg	Pg	14 00 02.7	-0.6
OPRZ	**Ohinepanea**	**0.95**	**212**	P*	Pg	Pg	14 00 04.8	-1.5
TGRZ	**Tauranga**	**1.01**	**227**	P*	Pg	Pg	14 00 05.8	-1.7
MARZ	**Manawahe**	**1.03**	**203**	P*	Pg	Pg	14 00 06.4	-1.5
MXZ	**Matakaoa Point**	**1.03**	**121**	P*	Pg	Pg	14 00 06.4	-1.5
MXZ				S*	Sg	Sg	14 00 20.0	-1.3
LIRZ	**Lichensteins R**	**1.16**	**213**	P*	Pg	Pg	14 00 09.3	-1.0
KUZ	**Kuaotunu**	**1.21**	**283**	P*	Pg	Pg	14 00 08.2	-3.1
URZ	**Urewera**	**1.22**	**183**	P*	Pg	Pg	14 00 09.2	-2.3
URZ				S*	Sg	Sg	14 00 23.8	-3.6
KARZ	**Kaharoa**	**1.24**	**217**	P*	Pg	Pg	14 00 10.7	-1.1
OMRZ	**Omania**	**1.25**	**211**	P*	Pg	Pg	14 00 10.9	-1.2
MWZ	**Matawai**	**1.32**	**168**	⇑P*	Pn	Pn	14 00 10.7	-2.6
PUZ	**Puketiti**	**1.34**	**141**	P*	Pn	Pn	14 00 12.5	-0.9
TOZ	**Tahuroa Road**	**1.51**	**242**	P*	Pn	Pn	14 00 13.0	-2.7
MKAZ	**Moumakai**	**1.62**	**267**	*e*PN	Pn	Pn	14 00 14.9	-2.3
MKAZ				SN	Sn	Sn	14 00 37.0	-1.5
CNGZ	**Carnagh Statio**	**1.66**	**151**	PN	Pn	Pn	14 00 18.3	+0.5
OTAZ	**Otara**	**1.82**	**272**	*e*PN	Pn	Pn	14 00 18.4	-1.6
RVAZ	**Riverhead Bore**	**2.11**	**276**	*e*PN	Pn	Pn	14 00 22.7	-1.3
WCZ	**Waipu Caves**	**2.54**	**295**	*e*PN	Pn	Pn	14 00 27.1	-2.8
OUZ	**Omahuta**	**3.43**	**301**	PN	Pn	Pn	14 00 40.6	-1.5

IDC 26 14:09:15.2±2.5, 26.23N×99.97E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/23, mbtmp3.1/3, Error ellipse: s-maj=526.5km s-min=28.1km az=57.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.85**	**330**	P	P	P	14 14 39.4	0.0
	0.2nm,0.5s,baz=126,slow=7.3,SNR=5.2							
WRA	**Warramunga Arr**	**56.74**	**141**	P		P	14 19 00.3	-0.9
	0.2nm,0.4s,baz=330,slow=7.2,SNR=3.1							
ASAR	**Alice Springs**	**59.48**	**144**	P		P	14 19 21.1	+0.8
	0.1nm,0.4s,baz=322,slow=7.0,SNR=5.0							

MEX 26 14:20:14.3±0.6, 16.04N×99.40W, h21km±18km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.27**	**74**	*i* P		Pn	14 20 33.9	-3.0
PNIG				*i* S		Sn	14 20 49.0	-4.4
CAIG	**El Cayaco**	**1.31**	**320**	*i* P		Pn	14 20 33.8	-3.6
CAIG				*i* S		Sn	14 20 50.3	-3.9
PLIG	**Platanillo**	**2.34**	**358**	*e*P		Pn	14 20 49.5	-2.3
PLIG				*i* S		Sn	14 21 16.5	-3.6
YAIG	**Yautepec**	**2.83**	**6**	*i* P		Pn	14 20 56.4	-2.1
YAIG				*i* S		Sn	14 21 28.0	-4.1
PPM	**Popocatepetl**	**3.10**	**14**	*e*P		Pn	14 21 00.5	-2.2
PPM				*i* S		Sn	14 21 36.5	-3.2

IDC 26 14:29:31.1±56.0, 23.22S×175.74W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=1034.0km s-min=168.8km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**248**	P	P	P	14 36 56.0	-0.1
	1.7nm,0.8s,baz=95,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**46.00**	**259**	P		P	14 37 56.5	-0.1
	0.3nm,0.3s,baz=100,slow=7.2,SNR=22							
WRA	**Warramunga Arr**	**46.36**	**264**	P		P	14 37 59.2	-0.2
	1.0nm,0.3s,baz=103,slow=8.2,SNR=16							

IDC ***26*** *14:34:18.4±1.2,22.78S×114.55W,h0km,mb3.8/6, mb1 4.2/6,mb1mx4.1/11,mbtmp3.8/6,MS4.2/10, Ms1 4.2/10,ms1mx4.0/21, Error ellipse: s-maj=40.5km s-min=35.8km az=45.0*

NEIC ***26*** *14:34:19.3±0.6,22.97S×114.47W,h10km,mb4.6/6, Error ellipse: s-maj=21.7km s-min=13.4km az=72.0*

ISC 26 14:34:18.6±0.7, 23.1S±0.2×114.9W±0.2, h10km, n182, σ0s67/176, mb4.2/12, MS4.2/9, 71C-74D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.49**	**130**	LR		LR	14 37 44.6	
	comp=Z,5μm,18.2s,baz=328,slow=32							
RKT	**Rikitea**	**18.45**	**266**	*e*LQ		LQ	14 42 02.0	
	4μm,28.7s							
RKT				*e*LR		LR	14 42 46.8	
	1μm,26.2s							
TBI	**Tubuai**	**31.70**	**263**	*e*S		**S**	**14 45 50.6**	**-1.7**
	76nm,26.2s							
TBI				*e*LQ		LQ	14 47 30.7	
	600nm,35.2s							
TBI				*e*LR		LR	14 48 56.1	
	475nm,25.8s							
PPT2	**Papeete2**	**32.89**	**273**	*e*LQ		LQ	14 48 26.4	
	1μm,24.8s							
PPT2				*e*LR		LR	14 49 11.7	
	738nm,27.2s							
ATAH	**Atahualpa**	**38.51**	**72**	LR		LR	14 52 00.9	
	comp=Z,148nm,20.9s,baz=238,slow=28							
LCO	**Las Campanas**	**40.00**	**108**	*e*P		P	14 41 50.3	-3.8
PLCA	**Paso Flores**	**41.12**	**126**	LR		LR	14 54 33.6	
	comp=Z,616nm,21.4s,baz=274,slow=30							
LPAZ	**La Paz**	**44.43**	**90**	P		**P**	**14 42 29.2**	**-1.5**
	1.4nm,0.7s,baz=281,slow=8.2,SNR=3.6							
LPAZ				LR		LR	14 56 21.1	
	comp=Z,320nm,22.0s,baz=51,slow=30							
LPAZ	**La Paz**	**44.43**	**90**	P		**P**	**14 42 29.2**	**-1.5**
TXAR	**Lajitas Array**	**53.20**	**12**	P		**P**	**14 43 36.6**	**-0.6**
	0.5nm,0.8s,baz=184,slow=9.5,SNR=4.6							
TXAR				LR		LR	15 02 30.0	
	comp=Z,81nm,21.5s,baz=160,slow=32							
TXAR	**Lajitas Array**	**53.20**	**12**	P		**P**	**14 43 36.6**	**-0.6**
626A	**Big Bend Ranch**	**53.33**	**12**	⇓P		**P**	**14 43 38.7**	**+0.6**
	baz=54,SNR=8.1							
627A	**Terlingua Ranc**	**53.37**	**13**	⇓P		**P**	**14 43 38.4**	**-0.1**
	baz=54							
628A	**Black Gap, Mar**	**53.51**	**13**	⇓P		**P**	**14 43 39.8**	**+0.4**
	baz=54,SNR=5.1							
526A	**Mary Lane Ranc**	**53.83**	**12**	⇑P		**P**	**14 43 42.1**	**+0.2**
	baz=54							
425A	**Indio Mountain**	**54.38**	**11**	⇑P		**P**	**14 43 45.6**	**-0.3**
	baz=54,SNR=5.6							
AFI	**Afiamalu**	**54.40**	**269**	LR		LR	15 00 35.5	
	comp=Z,284nm,18.3s,baz=81,slow=29							
426A	**McDonald Obser**	**54.43**	**12**	⇓P		**P**	**14 43 46.6**	**+0.2**
	baz=55							
427A	**Hayter Ranch,**	**54.72**	**12**	⇑P		**P**	**14 43 48.7**	**+0.4**
	baz=55							
214A	**Organ Pipe Nat**	**54.73**	**2**	⇓P		**P**	**14 43 49.9**	**+1.5**
	baz=55							
428A	**Kincaid Ranch,**	**54.75**	**13**	⇓P		**P**	**14 43 49.0**	**+0.4**
	baz=55							
324A	**Moseley Ranch,**	**54.94**	**10**	⇑P		**P**	**14 43 50.1**	**+0.2**
	baz=55							
220A	**Playas Peak, P**	**54.99**	**7**	⇓P		**P**	**14 43 50.7**	**+0.4**
	baz=55							
JCT	**Junction City**	**55.17**	**16**	*e*P		**P**	**14 43 50.8**	**-0.8**
	16nm,1.1s							
JCT	**Junction City**	**55.17**	**16**	⇓P		**P**	**14 43 51.4**	**-0.1**
	baz=55							
MNTX	**Cornudas Mount**	**55.20**	**10**	*e*P		**P**	**14 43 50.9**	**-0.8**
	6.1nm,1.3s							
MNTX	**Cornudas Mount**	**55.20**	**10**	⇓P		**P**	**14 43 51.7**	**0.0**
	baz=55,SNR=8.3							
MNTX				⇓P		**P**	**14 43 51.7**	**0.0**
	baz=55,SNR=8.3							
328A	**Wristen Ranch,**	**55.36**	**13**	⇓P		**P**	**14 43 52.9**	**0.0**
	baz=56							
114A	**Black Gap (USA**	**55.52**	**2**	⇑P		**P**	**14 43 55.4**	**+1.4**
	baz=56							
224A	**Cornudas Mount**	**55.55**	**10**	⇓P		**P**	**14 43 54.5**	**+0.2**
	baz=56,SNR=7.8							
120A	**U Bar Ranch, L**	**55.61**	**6**	⇓P		**P**	**14 43 55.8**	**+1.0**
	baz=56							
121A	**Cookes Peak, D**	**55.69**	**7**	⇓P		**P**	**14 43 56.5**	**+1.1**
	baz=56							
Z13A	**Yuma Proving G**	**55.95**	**1**	⇑P		**P**	**14 43 58.9**	**+1.8**
	baz=56							
Y14A	**Wickenburg**	**56.70**	**2**	⇑P		**P**	**14 44 03.4**	**+0.9**
	baz=57							
Z25A	**Roswell**	**56.86**	**10**	⇑P		**P**	**14 44 03.6**	**0.0**
	baz=57							
Z26A	**Caprock**

	baz=61							
S24A	Houchin Ranch, baz=61	61.06	9	⇓P	P	14 44 32.6	-0.3	
R16A	Teasdale baz=61	61.10	3	⇑P	P	14 44 34.3	+1.2	
NVAR	Mina Array Bea 1.3nm,0.7s,baz=183,slow=8.9,SNR=11	61.24	357	P	P	14 44 34.4	+0.3	
NVAR	Mina Array Bea	61.24	357	P	P	14 44 34.4	+0.3	
R19A	Curley Farm, L baz=62	61.25	5	⇑P	P	14 44 34.8	+0.6	
R17A	Hanksville Air baz=62	61.27	4	⇑P	P	14 44 34.8	+0.6	
S26A	Kim baz=62	61.31	10	⇑P	P	14 44 34.4	0.0	
R21A	Cimarron baz=62	61.49	7	⇓P	P	14 44 36.1	+0.3	
Q19A	Hogan Spring (baz=62	61.91	5	⇑P	P	14 44 39.7	+1.2	
R26A	Arlington baz=62	61.97	10	⇑P	P	14 44 39.5	+0.6	
SRU	San Rafael baz=62	61.98	4	⇓P	P	14 44 39.7	+0.8	
Q18A	Rafter H Ranch baz=62	61.99	4	⇑P	P	14 44 39.6	+0.6	
R27A	Eads baz=62	62.07	11	⇓P	P	14 44 39.8	+0.3	
WCN	Washoe City baz=62	62.19	356	⇓P	P	14 44 42.1	+1.7	
P17A	Butcher Ranch, baz=62	62.32	4	⇓P	P	14 44 42.3	+1.0	
P18A	Preston Nutter baz=63	62.51	4	⇓P	P	14 44 42.8	+0.1	
P19A	Cripple Cowboy baz=63	62.61	5	⇓P	P	14 44 43.6	+0.3	
P23A	Jefferson baz=63	62.68	8	⇓P	P	14 44 44.4	+0.5	
P22A	Eagle baz=63	62.79	7	⇓P	P	14 44 45.1	+0.6	
DUG	Dugway baz=63	62.95	2	⇓P	P	14 44 46.3	+0.8	
BDFB	Brasilia comp=Z,169nm,19.8s,baz=104,slow=33	63.11	96	LR	LR	15 08 41.5		
ISCO	Idaho Springs baz=63	63.13	8	⇑P	P	14 44 47.0	+0.1	
RPZ	Rata Peaks comp=Z,377nm,19.9s,baz=315,slow=29	63.13	231	LR	LR	15 05 09.2		
O22A	Kremmling baz=64	63.37	7	⇓P	P	14 44 48.6	+0.2	
N17A	Moffit Pass baz=64	63.78	3	⇓P	P	14 44 52.0	+0.9	
N22A	Wattenberg Ran baz=64	64.01	7	⇑P	P	14 44 52.6	0.0	
N23A	Red Feather La baz=64	64.17	8	⇑P	P	14 44 53.8	+0.2	
M20A	Sweetwater, Wa baz=65	64.52	6	⇑P	P	14 44 55.8	-0.1	
M24A	Cheyenne baz=65	64.87	8	⇑P	P	14 44 58.3	+0.2	
L20A	Wamsutter baz=65	65.02	5	⇑P	P	14 44 59.2	+0.2	
BW06	Boulder Array baz=66	65.68	4	⇓P	P	14 45 03.2	-0.2	
BW06	baz=66			⇓P	P	14 45 03.2	-0.2	
PDAR	Pinedale Array 1.1nm,0.7s,baz=172,slow=5.8,SNR=8.2	65.68	4	P	P	14 45 02.7	-0.6	
PDAR	Pinedale Array	65.68	4	P	P	14 45 02.7	-0.6	
K21A	Alcova baz=66	65.74	6	⇑P	P	14 45 03.3	-0.4	
K22A	Casper baz=66	65.83	7	⇓P	P	14 45 03.7	-0.6	
K23A	Bowen Ranch, D baz=66	66.04	7	⇓P	P	14 45 05.7	+0.1	
J16A	Bone baz=66	66.07	3	⇑P	P	14 45 06.1	+0.2	
J13A	Cove Ranch, Pi baz=66	66.12	1	⇓P	P	14 45 06.8	+0.6	
MFID	Camas Ranch baz=66	66.14	359	⇑P	P	14 45 07.0	+0.8	
J15A	Blackfoot baz=66	66.16	2	⇑P	P	14 45 06.6	+0.3	
HLID	Hailey baz=66	66.29	0	⇓P	P	14 45 07.9	+0.7	
J20A	Shoshoni baz=67	66.38	5	⇓P	P	14 45 07.8	0.0	
I12A	Atlanta baz=67	66.52	360	⇓P	P	14 45 09.7	+1.0	
J22A	Midwest baz=67	66.59	7	⇑P	P	14 45 08.7	-0.5	
I13A	Wildhorse Cree baz=67	66.64	1	⇑P	P	14 45 10.1	+0.6	
I14A	Mackay baz=67	66.67	1	⇑P	P	14 45 10.4	+0.7	
I21A	Big Trails, Te baz=67	66.90	6	⇓P	P	14 45 11.0	-0.2	
I20A	Worland baz=67	66.96	5	⇑P	P	14 45 11.3	-0.2	
I19A	Meeteetse baz=67	66.98	5	⇓P	P	14 45 11.7	0.0	
I22A	9 Mile Ranch, baz=67	67.06	7	⇓P	P	14 45 11.7	-0.5	
QSPA	South Pole Qui 10nm,1.3s	67.10	180	*e*P	P	14 45 13.8	+1.6	
H16A	Russell Place, baz=68	67.51	3	⇑P	P	14 45 15.7	+0.6	
MCMT	McKenzie Canyo	67.58	2	*e*P	P	14 45 16.6	+1.1	
RLMT	Red Lodge baz=68	68.04	4	⇑P	P	14 45 18.2	-0.2	
RLMT	baz=68			⇑P	P	14 45 18.2	-0.2	
G18A	Lazy EL Ranch, baz=68	68.22	4	⇑P	P	14 45 19.6	+0.2	
G20A	Bridger baz=68	68.22	5	⇑P	P	14 45 19.5	+0.1	
G21A	Lodge Grass baz=68	68.31	6	⇓P	P	14 45 20.0	+0.1	
F13A	Darby baz=69	68.51	0	⇓P	P	14 45 21.7	+0.5	
F17A	Fitzpatrick Pl baz=69	68.74	3	⇑P	P	14 45 22.9	+0.2	
F18A	Big Timber baz=69	68.79	4	⇓P	P	14 45 22.8	-0.2	
F19A	Roth Farm, Mol baz=69	68.79	4	⇓P	P	14 45 22.5	-0.5	
F23A	Volborg baz=69	68.99	7	⇑P	P	14 45 23.7	-0.4	
E14A	Clinton baz=69	69.15	1	⇑P	P	14 45 25.5	+0.3	
E13A	Victor baz=69	69.17	1	⇑P	P	14 45 25.5	+0.3	
E17A	Martinsdale baz=70	69.28	3	⇑P	P	14 45 25.9	-0.2	
E16A	East Helena baz=70	69.32	2	⇓P	P	14 45 26.4	+0.2	
E18A	Harlowton baz=70	69.44	4	⇑P	P	14 45 26.9	-0.1	
MSO	Missoula baz=70	69.56	1	⇑P	P	14 45 28.2	+0.6	
CHMT	Chamberlain Mo 4.4nm,1.4s	69.65	1	*e*P	P	14 45 29.1	+0.7	
D15A	Lincoln baz=70	69.80	2	⇓P	P	14 45 29.6	+0.4	
D13A	Huson baz=70	69.82	0	⇑P	P	14 45 30.2	+1.0	
D16A	Dana Ranch, Ca baz=70	69.82	2	⇓P	P	14 45 29.4	+0.1	
D17A	Six Diamond Ra baz=70	69.98	3	⇓P	P	14 45 30.6	+0.3	
D18A	Linhart Farms, baz=70	70.07	4	⇓P	P	14 45 30.8	0.0	
D19A	Cripps Ranch, baz=70	70.10	4	⇓P	P	14 45 30.8	-0.1	
D21A	La Casta Ranch baz=70	70.16	6	⇓P	P	14 45 31.2	-0.1	
C17A	Wharram Farm, baz=71	70.46	3	⇓P	P	14 45 33.4	+0.2	
C15A	Salmond Ranch, baz=71	70.53	2	⇓P	P	14 45 33.7	0.0	
C11A	Tepee Creek (N baz=71	70.57	359	⇓P	P	14 45 33.9	+0.1	
C16A	Fuhringer Ranc baz=71	70.58	2	⇓P	P	14 45 34.1	+0.1	
C19A	Slack Wire Ran baz=71	70.66	4	⇑P	P	14 45 34.5	+0.1	
EGMT	Eagleton baz=71	70.90	4	⇓P	P	14 45 36.3	+0.5	
C22A	Vida baz=71	70.94	6	⇓P	P	14 45 36.2	+0.2	
C23A	Lambert baz=71	71.07	7	⇓P	P	14 45 37.2	+0.4	
B19A	Brinkman Farms baz=72	71.38	4	⇑P	P	14 45 38.9	+0.2	
DZM	Mont Dzumac 225nm,28.9s	71.70	253	*e*LR	LR	15 07 27.5		
A15A	Johnson Ranch, baz=72	71.73	2	⇑P	P	14 45 41.3	+0.5	
A17A	Triple J Farms baz=72	71.77	3	⇑P	P	14 45 41.8	+0.8	
A18A	Metzger Ranch, baz=72	71.79	4	⇑P	P	14 45 41.8	+0.7	
DGMT	Dagmar baz=72	71.84	7	⇑P	P	14 45 41.9	+0.4	
A20A	Cobblestone Ra baz=72	71.88	5	⇓P	P	14 45 42.2	+0.5	
YKA	Yellowknife Ar 1.3nm,0.9s,baz=176,slow=4.9,SNR=17	85.25	0	P	P	14 46 54.2	-0.7	
YKA	Yellowknife Ar	85.25	0	P	P	14 46 54.2	-0.7	
KDAK	Kodiak Island comp=Z,160nm,18.6s,slow=30	86.45	341	LR	LR	15 17 37.4		
ILAR	Eielson Array 0.4nm,0.9s,baz=180,slow=4.2,SNR=3.2	90.97	347	P	P	14 47 21.5	-0.8	
ILAR				LR	LR	15 21 03.4		
ILAR	comp=Z,90nm,18.2s,baz=253,slow=31 Eielson Array	90.97	347	P	P	14 47 21.5	-0.8	
FINES	FINESS Array B 1.0nm,0.7s,baz=285,slow=2.7,SNR=2.8	133.27	25	PKP	PKPdf	14 53 34.7	+0.4	
FINES	FINESS Array B	133.27	25	PKP	PKPdf	14 53 34.7	+0.4	
ZALV	Zalesovo Beam 1.1nm,0.6s,baz=38,slow=3.6,SNR=7.8	145.74	339	PKPbc	PKPab	14 53 58.4	+0.5	
ZALV	Zalesovo Beam	145.74	339	PKPbc	PKPab	14 53 58.4	+0.5	
CMAR	Chiang Mai Arr 0.9nm,0.7s,baz=354,slow=0.9,SNR=4.7	148.04	268	PKP	PKPbc	14 54 04.2	-1.0	
CMAR				PKPbc	PKiKP	14 54 07.6	+0.6	
CMAR	1.6nm,0.8s,baz=84,slow=1.4,SNR=12 Chiang Mai Arr	148.04	268	PKP	PKPbc	14 54 04.2	-1.0	
CMAR				PKPbc	PKiKP	14 54 07.6	+0.6	
MKAR	Makanchi Array 1.3nm,0.8s,baz=44,slow=2.4,SNR=8.3	152.55	334	PKPbc	PKPbc	14 54 15.3	+0.1	
MKAR	Makanchi Array	152.55	334	PKPbc	PKPbc	14 54 15.3	+0.1	
ABKAR	Akbulak array	153.54	8	*e*PKPbc	PKPbc	14 54 18.0	+0.7	

*ISCJB **26** 14:53:51.8±0.6,29.°25N±0.°04×130.°27E±0.°09,h62km±5km, mb3.7/9,Error ellipse: s-maj=14.1km s-min=4.5km az=20.6*
*JMA **26** 14:53:52.0,29.°28N×130.°24E,h56km±4km,M3.4*
*IDC **26** 14:53:52.7±2.0,29.°23N×130.°23E,h52km±20km,mb3.5/9, mb1 3.5/12,mb1mx3.4/26,mbtmp3.5/12,ML3.2/3,Error ellipse: s-maj=26.4km s-min=13.2km az=111.0*

ISC 26 14:53:52.7±1.1,29.°24N±0.°05×130.°26E±0.°10,h53km±11km, n23,σ1§04/30,mb3.8/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.69	331	P		Pn		14 54 05.3	-1.2
JNN				S		*e*S		14 54 15.8	-0.6
JZK	Kikaishima	0.96	195	P		Pn		14 54 09.8	-0.2
JAM	Amami Oshima	1.00	215	P		Pn		14 54 10.5	-0.1
JAM				S		Sn		14 54 24.5	+0.7
JKC	Kuchinoerabu	1.22	358	P		Pn		14 54 12.6	-0.9
JKC				S		*e*S		14 54 29.2	+0.3
JTN	Tanegashima 3	1.54	24	P		Pn		14 54 17.3	-0.6
JTN				S		*e*S		14 54 37.2	+0.4
JTK	Tokunoshima	1.85	219	P		Pn		14 54 22.8	+0.7
JTK				S		*e*S		14 54 46.4	+2.1
JTSR	Tashiro 2	2.00	17	P		Pn		14 54 23.7	-0.5
JSU	Suzuyama	2.27	4	P		Pn		14 54 27.3	-0.5
JNAR	Kushima--Naru	2.44	21	P		Pn		14 54 30.1	0.0
JSJ	Shimokoshiki	2.47	349	P		Pn		14 54 30.2	-0.4
JOW	Kunigami 5.4nm,0.3s,baz=88,slow=19,SNR=33	2.97	217	P		Pn		14 54 37.4	-0.1
JOW				S		Sn		14 55 11.5	-0.4
JNU	12nm,0.3s,baz=122,slow=26,SNR=6.6 Nakatsue	3.91	8	P		Pn		14 54 51.0	+0.7
JNU	1.9nm,0.3s,baz=214,slow=4.2,SNR=32			S		Sn		14 55 35.9	+1.0
KSRS	0.8nm,0.3s,baz=180,slow=19,SNR=2.2 Korea Array	8.42	347	P		Pn		14 55 55.0	+3.0
MJAR	0.1nm,0.3s,baz=157,slow=11,SNR=3.5 Matsushiro Arr	9.88	40	P		Pn		14 56 12.6	+0.5
SONM	0.2nm,0.3s,baz=244,slow=15,SNR=3.0 Songino Array	26.15	322	P		P		14 59 21.1	-1.0
MKAR	0.4nm,0.9s,baz=131,slow=9.3,SNR=4.1 Makanchi Array	40.96	309	P		P		15 01 30.1	-0.1
ZALV	0.4nm,0.7s,baz=89,slow=12,SNR=6.1 Zalesovo Beam	41.02	320	P		P		15 01 29.1	-1.4
KURK	0.4nm,0.4s,baz=110,slow=8.9,SNR=2.9 Kurchatov	43.95	314	P		P		15 01 55.5	+1.1
WRA	2.3nm,0.4s,baz=98,slow=8.7,SNR=12 Warramunga Arr	49.05	175	P		P		15 02 35.0	+0.3
BVAR	0.4nm,0.7s,baz=354,slow=8.3,SNR=3.3 Borovoye Array	49.28	316	P		P		15 02 36.9	+0.8
AKTO	1.3nm,0.6s,baz=95,slow=9.0,SNR=15 Aktyubinsk	57.04	313	P		P		15 03 34.3	+1.2
FINES	0.4nm,0.5s,baz=72,slow=12,SNR=4.7 FINESS Array B	71.14	331	P		P		15 05 04.2	-1.2
RES	1.7nm,0.9s,baz=42,slow=5.9,SNR=4.7 Resolute Bay	72.26	11	P		P		15 05 11.5	-0.4
	1.0nm,0.6s,baz=268,slow=6.5,SNR=5.0								

*IDC **26** 15:07:53.2±2.4,0.°59S×133.°11E,h0km,mb3.8/2, mb1 4.0/4,mb1mx3.7/16,mbtmp3.8/4,ML3.9/2,Error ellipse: s-maj=95.4km s-min=25.2km az=78.0*
*DJA **26** 15:07:58,0.°49S×133.°28E,h90km,MLv4.4/8*

ISC 26 15:07:58.2±1.2,0.°6S±0.°1×133.°23E±0.°09,h28km,n12, σ1§87/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.99	262	P		Pn		15 08 29.8	-0.2
FAKI	Fak Fak	2.52	203	P		Pn		15 08 37.8	+0.5
BAKI	Biak	2.94	102	P		Pb		15 08 50.7	+0.8
TLE	Tual	5.04	186	P		Pn		15 09 14.0	+1.9
MSAI	Masohi	5.10	237	P		Pn		15 09 16.8	+4.0
BNDI	Bandanaira	5.13	220	P		Pn		15 09 15.1	+1.8
LBMI	Labuha 36nm,1.0s,0.1nm	5.73	269	P		Pn		15 09 24.5	+3.0
AAI	Ambon	5.90	238	P		Pn		15 09 25.6	+1.8
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=26,slow=12,SNR=7.8	18.94	203	P		P		15 12 15.2	-2.0
FITZ				S		Sn		15 15 38.8	-11
WRA	0.3nm,0.3s,baz=348,slow=9.3,SNR=3.8 Warramunga Arr	19.27	177	P		P		15 12 19.8	-1.0
WRA	0.3nm,0.3s,baz=356,slow=11,SNR=33			S		S		15 15 47.2	-10
ASAR	0.1nm,0.3s,baz=355,slow=24,SNR=3.6 Alice Springs	22.96	178	P		P		15 12 59.3	-1.3
MKAR	2.8nm,0.5s,baz=357,slow=10,SNR=76 Makanchi Array	64.81	324	P		P		15 18 33.5	-1.1
	0.3nm,0.5s,baz=112,slow=8.0,SNR=6.1								

IDC 26 15:33:31.6±1.9,9.°66S×159.°79E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/15,mbtmp3.8/6,Error ellipse: s-maj=67.9km s-min=10.0km az=137.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara 3µm,0.3s,baz=184,slow=5.8,SNR=1865	0.28	35	Pn		Pn		15 33 43.3	+0.4
HNR				Sn		Sb		15 33 49.3	+4.7
WRA	6µm,0.3s,baz=225,slow=20,SNR=77 Warramunga Arr	26.61	245	P		P		15 39 12.1	+0.1
ASAR	2.1nm,1.0s,baz=69,slow=8.9,SNR=7.2 Alice Springs	28.37	237	P		P		15 39 27.1	-0.6
CMAR	0.2nm,0.4s,baz=63,slow=9.7,SNR=6.8 Chiang Mai Arr	66.20	295	P		P		15 44 21.8	0.0
SONM	0.4nm,0.4s,baz=120,slow=4.4,SNR=6.0 Songino Array	74.16	326	P		P		15 45 11.2	+1.0
ILAR	0.3nm,0.4s,baz=119,slow=5.1,SNR=5.8 Eielson Array	84.16	20	P		P		15 46 03.6	-0.7
MKAR	0.5nm,0.6s,baz=249,slow=4.8,SNR=12 Makanchi Array	88.54	318	P		P		15 46 25.7	-0.6
	1.0nm,0.8s,baz=101,slow=6.3,SNR=9.0								

IDC 26 15:39:41.6±1.9,23.°31S×171.°15E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/17,mbtmp3.7/5,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/27,Error ellipse: s-maj=88.8km s-min=27.7km az=171.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 2.4nm,0.3s,baz=134,slow=8.6,SNR=45	4.52	285	Pn		Pn		15 40 52.6	+1.1
DZM				Sn		Sn		15 41 44.8	-0.2
DZM	1.2nm,0.3s,baz=127,slow=20,SNR=2.7 Mont Dzumac	4.52	285	*e*P		Pn		15 40 50.8	-0.8
DZM				*e*S		Sn		15 41 42.4	-2.5
HNR	Honiara comp=Z,38nm,19.8s,baz=112,slow=28	17.48	320	LR		LR		15 47 59.4	
ASAR	Alice Springs 0.4nm,0.7s,baz=95,slow=8.5,SNR=5.7	34.10	262	P		P		15 46 27.1	-1.3
WRA	Warramunga Arr 0.4nm,0.7s,baz=99,slow=7.9,SNR=3.8	34.33	268	P		P		15 46 29.3	-1.0
FITZ	Fitzroy Crossi 1.8nm,0.7s,baz=90,slow=14,SNR=4.1	42.76	268	P		P		15 47 42.8	+1.7
NVAR	Mina Array Bea 0.8nm,0.7s,baz=225,slow=8.9,SNR=4.1	90.18	48	P		P		15 52 44.4	+0.1
GERES	GERESS Array B 0.4nm,0.5s,baz=42,slow=4.2,SNR=4.2	148.90	331	PKPbc		PKPbc		15 59 30.5	-0.9

*IDC **26** 15:51:47.3±1.4,42.°92S×72.°45W,h0km,mb3.8/3, mb1 4.2/4,mb1mx3.9/14,mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=48.4km s-min=21.4km az=132.0*

GUC 26 15:51:47.0±0.5,42.°87S×72.°58W,h26km±17km,ML3.2, 1C-1D,Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUNY	Huinay	0.51	14	⇑*i*P		Pb		15 51 57.1	-0.2
HUNY				*i* S		Sb		15 52 04.7	+0.4
HUNY				AML		AML		15 52 05.6	
QLLN	comp=N,2µm,0.3s Quelln	0.80	253	*e*P		Pn		15 52 02.5	-0.1
QLLN				*i* S		Sn		15 52 13.3	-0.4
QLLN				AML		AML		15 52 22.1	
ILCA	comp=E,5µm,0.7s Isla Las Cabra	0.81	2	⇓*i*P		Pb		15 51 01.9	-0.6
ILCA				*i* S		Sn		15 52 13.8	0.0
ILCA				AML		AML		15 52 14.8	
PLCA	comp=E,2µm,0.3s Paso Flores	2.62	36	Pn		Pb		15 52 32.3	-1.0
PLCA	comp=E,5.3nm,0.3s,baz=218,slow=17,SNR=77			Lg		Lg		15 53 09.7	
COYC	comp=E,23nm,0.3s,baz=195,slow=20,SNR=14 Coyhaique	2.73	173	AML		AML		15 53 16.3	
TXAR	comp=E,85nm,0.9s Lajitas Array	77.33	332	P		P		16 03 42.9	+3.7
NVAR	comp=E,0.6nm,0.8s,baz=148,slow=7.3,SNR=6.1 Mina Array Bea	90.95	326	P		P		16 04 55.0	+6.5
PDAR	comp=E,0.1nm,0.3s,baz=144,slow=9.4,SNR=2.6 Pinedale Array	91.50	334	P		P		16 04 56.0	+5.0
AKTO	comp=E,0.5nm,0.7s,baz=167,slow=8.3,SNR=4.4 Aktyubinsk	145.80	60	PKPbc		PKPab		16 11 27.7	+4.2
ZALV	comp=E,1.6nm,0.9s,baz=253,slow=2.9,SNR=6.5 Zalesovo Beam	161.43	46	PKPab		PKPab		16 12 32.1	+3.1
MKAR	comp=E,0.2nm,0.3s,baz=305,slow=5.1,SNR=3.2 Makanchi Array	161.78	69	PKPab		PKPab		16 12 34.0	+3.2
	comp=E,0.6nm,1.0s,baz=266,slow=3.1,SNR=4.7								

*IDC **26** 16:00:26.5±2.5,32.°53N×76.°33E,h0km,mb3.2/4, mb1 3.4/5,mb1mx3.2/26,mbtmp3.3/5,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/20,Error ellipse: s-maj=50.7km s-min=27.0km az=57.0*
*NDI **26** 16:00:30.9±2.6,32.°99N×75.°97E,h10km,ML3.2*

ISC 26 16:00:28.6±0.8,32.°63N±0.°05×76.°53E±0.°05,h14km,n12, σ1§96/16,mb3.2/4,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	0.48	260	*e*P		Pb		16 00 39.0	0.0
DLH				*e*S		Sb		16 00 46.0	-0.1
THN	Thein Dam	0.71	255	*e*P		Pg		16 00 41.4	-1.1
THN				*e*S		Sg		16 00 51.7	-0.2
DDI	Dehra Dun	2.64	150	*ex*		P		16 01 12.0	
AYAN	Aya Nagar	4.16	173	*e*S		Sb		16 02 30.5	-1.2
SONA	Sohna	4.39	174	*e*P		Pb		16 01 44.2	-1.2
SONA				*e*S		Sb		16 02 37.3	-0.8
SONA				AML		AML		16 02 47.6	
SONA	comp=E,11nm,0.1s			AML		AML		16 02 48.9	
KHET	comp=N,9.3nm,0.2s Khetri	4.58	188	*e*P		Pg		16 01 55.3	-1.0
KHET				*e*S		Sb		16 02 48.2	+4.4
KHET				AML		AML		16 02 52.4	
KHET	comp=N,10nm,0.5s			AML		AML		16 02 55.7	
AGRA	comp=E,12nm,0.3s Agra	5.51	167	*ex*		Sn		16 02 52.9	-0.5
AGRA				AML		AML		16 03 34.0	
AGRA	comp=N,847nm,0.2s			AML		AML		16 03 35.6	
MKAR	comp=E,487nm,0.2s Makanchi Array	14.82	16	Pn		Pn		16 03 58.6	+0.9
MKAR	comp=E,0.2nm,0.3s,baz=199,slow=12,SNR=18			Sn		Sn		16 06 37.8	-3.9
ZALV	baz=197,slow=24,SNR=2.8 Zalesovo Beam	22.12	13	P		P		16 05 25.6	+2.2
AKTO	comp=E,0.3nm,0.4s,baz=208,slow=12,SNR=4.2 Aktyubinsk	22.45	328	P		P		16 05 26.6	-0.4
CMAR	comp=E,0.7nm,0.6s,baz=125,slow=16,SNR=3.1 Chiang Mai Arr	24.59	120	P		P		16 05 49.2	+0.9
SONM	comp=E,0.3nm,0.5s,baz=304,slow=9.0,SNR=5.2 Songino Array	27.18	47	P		P		16 06 13.4	+1.7
SONM	comp=E,0.2nm,0.6s,baz=246,slow=11,SNR=3.5			LR		LR		16 19 29.5	
	comp=E,94nm,19.6s,baz=86,slow=42								

IDC 26 16:02:05.0±6.1,4.°31S×126.°00E,h439km±81km,mb2.7/4, mb1 2.9/6,mb1mx2.7/18,mbtmp2.7/6,Error ellipse: s-maj=95.8km s-min=19.3km az=53.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.2nm,0.3s,baz=355,slow=11,SNR=3.9	13.72	181	P		P		16 05 00.6	-2.0
WRA	Warramunga Arr 0.3nm,0.3s,baz=332,slow=11,SNR=12	17.54	153	P		P		16 05 43.6	+0.2
ASAR	Alice Springs 0.7nm,0.4s,baz=336,slow=9.5,SNR=36	20.70	159	P		P		16 06 14.0	+0.5
STKA	Stephens Creek 1.1nm,0.9s,baz=337,slow=8.7,SNR=3.6	31.09	154	P		P		16 07 44.7	-0.9
CMAR	Chiang Mai Arr 0.2nm,0.6s,baz=141,slow=7.2,SNR=7.5	34.97	311	P		P		16 08 19.1	+0.3
MKAR	Makanchi Array 0.1nm,0.4s,baz=124,slow=7.2,SNR=5.3	63.83	328	P		P		16 11 52.3	-0.6

*IDC **26** 16:04:18.4±0.7,0.°45S×134.°05E,h0km,mb4.1/8, mb1 4.2/11,mb1mx4.1/19,mbtmp4.1/11,ML3.6/3,MS3.6/6, Ms1 3.6/6,ms1mx3.3/27,Error ellipse: s-maj=32.2km s-min=14.4km az=71.0*
*ISCJB **26** 16:04:20.9±0.4,0.°56S±0.°06×134.°1E±0.°1,h32km, mb4.3/18,MS3.8/4,Error ellipse: s-maj=17.5km s-min=7.0km az=157.5*
*DJA **26** 16:04:21,0.°53S×133.°98E,h10km,mb4.8/12*
*NEIC **26** 16:04:23.6±0.4,0.°52S×134.°06E,h35km,mb4.5/14,Error ellipse: s-maj=17.4km s-min=6.9km az=65.0*

ISC 26 16:04:23.1±0.6,0.°48S±0.°09×134.°2E±0.°1,h32km,n51, σ1§22/45,mb4.3/18,MS3.6/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	Kappang comp=Z,132nm,20.4s,baz=335,slow=39	15.06	252	LR		LR		16 14 06.1	
PMG	Port Moresby 0.1nm,0.3s,baz=321,slow=6.2,SNR=6.1	15.70	125	Pn		Pn		16 08 03.6	+1.5
PMG	Port Moresby	15.70	125	*e*P		P		16 08 04.0	-1.7
COEN	Coen 38nm,0.8s	16.10	147	*e*P		Pn		16 08 05.0	-2.2
WRAB	Tennant Creek 12nm,0.7s	19.34	179	*e*P		P		16 08 44.5	-1.4
WRA	Warramunga Arr 0.5nm,0.3s,baz=359,slow=11,SNR=19	19.35	179	P		P		16 08 44.2	-1.8
WRA	Warramunga Arr	19.35	179	P		P		16 08 44.2	-1.8
WB2	Warramunga Arr	19.35	179	*e*P		P		16 08 44.0	-2.0
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=27,slow=6.8,SNR=2.3	19.41	205	P		P		16 08 45.8	-0.9
FITZ				S		S		16 12 10.4	-14
	0.2nm,0.3s,baz=317,slow=27,SNR

	comp=Z,95nm,21.9s,baz=30,slow=34						
FITZ	**Fitzroy Crossi**	**19.41**	**205**	*e*P	**Pn**	**16 08 49.6**	**+1.6**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.41**	**205**	P	**Pn**	**16 08 48.5**	**+0.4**
	8.5nm,0.8s						
FITZ				S	S	16 12 10.4	-14
CTA	**Charters Tower**	**22.81**	**149**	P	**P**	**16 09 25.4**	**+2.0**
	18nm,0.7s,baz=330,slow=10.0,SNR=18						
CTA	**Charters Tower**	**22.81**	**149**	*e*P	**P**	**16 09 25.3**	**+1.9**
	14nm,0.7s						
CTA	**Charters Tower**	**22.81**	**149**	P	**P**	**16 09 25.4**	**+2.0**
CTAO	**Charters Tower**	**22.81**	**149**	*e*P	**P**	**16 09 25.3**	**+1.9**
	22nm,0.8s						
AS31	**Alice Springs**	**23.05**	**181**	*e*P	**P**	**16 09 25.5**	**-0.4**
ASAR	**Alice Springs**	**23.05**	**181**	P	**P**	**16 09 24.9**	**-1.0**
	2.5nm,0.6s,baz=0.3,slow=12,SNR=30						
ASAR	**Alice Springs**	**23.05**	**181**	P	**P**	**16 09 24.9**	**-1.0**
JOW	**Kunigami**	**27.73**	**349**	LR	LR	16 19 20.0	
	comp=Z,164nm,18.9s,baz=138,slow=33						
STKA	**Stephens Creek**	**32.02**	**168**	P	**P**	**16 10 46.4**	**-0.3**
	1.5nm,0.7s,baz=327,slow=9.5,SNR=5.3						
STKA	**Stephens Creek**	**32.02**	**168**	*e*P	**P**	**16 10 46.0**	**-0.7**
	4.1nm,0.6s						
STKA	**Stephens Creek**	**32.02**	**168**	*e*P	**P**	**16 10 46.6**	**-0.1**
ARMA	**Armidale**	**34.10**	**152**	*e*P	P	16 11 08.1	+3.0
MJAR	**Matsushiro Arr**	**37.02**	**5**	LR	LR	16 23 28.3	
	comp=Z,88nm,20.2s,baz=185,slow=31						
KSRS	**Korea Array**	**38.18**	**352**	LR	LR	16 26 37.7	
	comp=Z,104nm,18.5s,baz=74,slow=35						
CM31	**Chiang Mai Arr**	**39.38**	**300**	*e*P	**P**	**16 11 49.5**	**-0.6**
	7.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.38**	**300**	P	**P**	**16 11 50.2**	**+0.1**
	1.1nm,0.8s,baz=117,slow=7.8,SNR=12						
CMAR	**Chiang Mai Arr**	**39.38**	**300**	P	**P**	**16 11 50.2**	**+0.1**
CHTO	**Chiang Mai**	**39.53**	**301**	*e*P	**P**	**16 11 51.4**	**+0.1**
	4.0nm,0.9s						
LSA	**Lhasa**	**50.78**	**310**	*e*P	**P**	**16 13 21.7**	**+0.6**
	4.0nm,0.6s						
ULN	**Ulaanbaatar**	**53.61**	**338**	*e*P	**P**	**16 13 41.6**	**+0.2**
	2.8nm,0.9s						
SONM	**Songino Array**	**53.84**	**337**	P	**P**	**16 13 42.9**	**-0.2**
	0.5nm,0.5s,baz=150,slow=7.7,SNR=7.0						
SONM	**Songino Array**	**53.84**	**337**	P	**P**	**16 13 42.9**	**-0.2**
RPZ	**Rata Peaks**	**54.16**	**148**	LR	LR	16 38 09.1	
	comp=Z,170nm,18.5s,baz=82,slow=37						
YAK	**Yakutsk**	**62.44**	**358**	P	**P**	**16 14 42.8**	**0.0**
	14nm,0.8s						
MK31	**Makanchi Array**	**65.27**	**323**	*e*P	**P**	**16 15 02.1**	**+0.2**
MKAR	**Makanchi Array**	**65.27**	**323**	P	**P**	**16 15 02.1**	**+0.3**
	1.9nm,0.6s,baz=108,slow=8.3,SNR=27						
MKAR	**Makanchi Array**	**65.27**	**323**	P	**P**	**16 15 02.1**	**+0.3**
ZALV	**Zalesovo Beam**	**67.76**	**331**	P	**P**	**16 15 16.4**	**-1.1**
	2.0nm,0.8s,baz=113,slow=6.1,SNR=12						
ZALV	**Zalesovo Beam**	**67.76**	**331**	P	P	**16 15 16.4**	**-1.1**
TKM2	**Tokmak 2**	**67.81**	**317**	*e*P	**P**	**16 15 18.5**	**+0.1**
	4.3nm,1.0s						
KURK	**Kurchatov**	**69.30**	**326**	*e*P	**P**	**16 15 27.0**	**-0.2**
	38nm,1.8s						
KKAR	**Karatay Array**	**71.36**	**316**	P	**P**	**16 15 40.0**	**0.0**
	6.2nm,1.0s						
BRVK	**Borovoye**	**74.97**	**326**	*e*P	**P**	**16 16 00.8**	**-0.4**
	3.1nm,0.6s						
ABKAR	**Akbulak array**	**80.09**	**320**	P	**P**	**16 16 29.3**	**-0.5**
	2.6nm,0.9s						
ILAR	**Eielson Array**	**85.72**	**25**	P	**P**	**16 16 58.0**	**-0.8**
	1.5nm,0.9s,baz=254,slow=4.8,SNR=17						
ILAR	**Eielson Array**	**85.72**	**25**	P	**P**	**16 16 58.0**	**-0.8**
YKA	**Yellowknife Ar**	**100.11**	**26**	P	**Pdif**	**16 18 04.6**	**-0.8**
	0.1nm,0.6s,baz=310,slow=3.2,SNR=3.1						
YKA	**Yellowknife Ar**	**100.11**	**26**	P	**Pdif**	**16 18 04.6**	**-0.8**
LPAZ	**La Paz**	**152.42**	**128**	PKPbc	**PKPbc**	**16 24 20.3**	**+2.5**
	0.9nm,0.6s,baz=288,slow=3.2,SNR=4.2						
LPAZ	**La Paz**	**152.42**	**128**	PKPbc	**PKPbc**	**16 24 20.3**	**+2.5**

*ISCJB **26** 16:19:44.1±0.6,43°.25N±0°.06×141°.58E±0°.08, h193km±5km, mb3.3/4, Error ellipse: s-maj=10.8km s-min=7.9km az=140.2*
*JMA **26** 16:19:45.5±0.1,43°.27N×141°.52E, h186km±1km, M3.0*
*IDC **26** 16:19:47.0±3.5,43°.70N×141°.30E, h179km±26km, mb3.1/4, mb1 3.2/4, mb1mx2.8/21, mbtmp3.1/4, Error ellipse: s-maj=112.4km s-min=47.9km az=156.0*

ISC 26 16:19:44.7±0.9,**43°.24N**±0°.07×**141°.57E**±0°.07,**h191**km±7km, **n21,σ0°76/32, mb3.4**/4,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEW	**Eniwo**	**0.40**	**192**	P	**Pn**	**16 20 11.1**	**+0.6**
JEW				*e*S	**Sn**	**16 20 30.3**	**-0.1**
JHR	**Hokuryu**	**0.52**	**13**	P	**Pn**	**16 20 11.5**	**+0.6**
JHR				*e*S	**Sn**	**16 20 31.2**	**-0.1**
JAB	**Ashibetsu**	**0.55**	**60**	P	**Pn**	**16 20 11.6**	**+0.6**
JAB				*e*S	**Sn**	**16 20 31.2**	**-0.1**
JFR	**Furan**	**0.75**	**95**	P	**Pn**	**16 20 12.3**	**+0.3**
JFR				*e*S	**Sn**	**16 20 32.9**	**-0.2**
JSK	**Shakotan**	**0.81**	**279**	P	**Pn**	**16 20 12.2**	**-0.1**
JKK2	**Kamakawa 2**	**1.07**	**53**	P	**Pn**	**16 20 14.6**	**+0.5**
JKK2				*e*S	**Sn**	**16 20 36.1**	**-0.8**
ASAJ	**Asahikawa**	**1.16**	**40**	P	**Pn**	**16 20 14.9**	**+0.2**
	18nm,0.3s,baz=241,slow=6.9,SNR=317						
ASAJ				S	**Sn**	**16 20 36.4**	**-1.6**
	6.7nm,0.3s,baz=276,slow=10,SNR=23						
JNBK	**Urakawa-nobuka**	**1.29**	**137**	P	**Pn**	**16 20 17.2**	**+1.3**
JKB	**Kayabe**	**1.40**	**197**	P	**Pn**	**16 20 17.4**	**+0.6**
JKB				*e*S	**Sn**	**16 20 41.3**	**-0.3**
JCH	**Churui**	**1.46**	**115**	P	**Pn**	**16 20 17.1**	**-0.2**
JCH				*e*S	**Sn**	**16 20 40.6**	**-1.8**
JAR	**Ashorobuto**	**1.61**	**87**	P	**Pn**	**16 20 19.7**	**+1.0**
JAR				*e*S	**Sn**	**16 20 45.5**	**+0.5**
JTKR	**Abashiri--Toko**	**1.85**	**66**	P	**Pn**	**16 20 22.0**	**+1.0**
JTKR				*e*S	**Sn**	**16 20 49.6**	**+0.4**
JSE	**Soyaes**	**1.87**	**23**	P	**Pn**	**16 20 21.2**	**0.0**
JOT	**Ohata**	**1.89**	**192**	P	**Pn**	**16 20 22.0**	**+0.5**
JOSM	**Okushiri--Mats**	**1.93**	**234**	P	**Pn**	**16 20 21.7**	**-0.1**
JWK2	**Keihoku**	**2.09**	**6**	P	**Pn**	**16 20 24.0**	**+0.5**
JAK	**Akkeshi**	**2.30**	**95**	P	**Pn**	**16 20 26.0**	**+0.2**
JAK				*e*S	**Sn**	**16 20 56.6**	**-1.2**
SONM	**Songino Array**	**24.92**	**293**	P	**P**	**16 24 49.3**	**-1.0**
	0.2nm,0.5s,baz=85,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**38.06**	**307**	P	**P**	**16 26 45.0**	**+0.5**
	1.1nm,0.5s,baz=80,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**41.20**	**296**	P	**P**	**16 27 11.0**	**+0.5**
	0.2nm,0.5s,baz=84,slow=7.9,SNR=7.1						
FINES	**FINESS Array B**	**63.42**	**331**	P	**P**	**16 29 53.4**	**-0.1**
	0.8nm,0.4s,baz=43,slow=8.6,SNR=9.4						

IDC 26 16:28:12.3±26.0,**18°.20S×173°.69W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8**/19,**mbtmp4.3**/4,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx2.9**/27,**Error ellipse: s-maj=488.5km s-min=156.4km az=74.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.05**	**255**	LR	LR	16 37 30.0	
	comp=Z,122nm,19.0s,baz=28,slow=29						
CTA	**Charters Tower**	**37.83**	**260**	P	P	16 35 31.6	+0.7
	6.7nm,1.0s,baz=87,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**42.45**	**242**	P	P	16 36 08.9	-0.3
	2.2nm,0.8s,baz=103,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**48.99**	**259**	P	P	16 37 00.9	-0.2
	1.8nm,0.3s,baz=96,slow=7.6,SNR=125						
ASAR	**Alice Springs**	**49.03**	**254**	P	P	16 37 01.0	-0.4
	2.9nm,0.6s,baz=89,slow=8.0,SNR=75						

*FUNV **26** 16:30:52.5, 11°.50N×61°.03W, h20km, MW3.5*
*ISCJB **26** 16:30:53.1±0.7, 11°.53N±0°.03×61°.21W±0°.04, h88km±7km, Error ellipse: s-maj=7.2km s-min=4.3km az=9.6*
*TRN **26** 16:30:55.3, 11°.56N×61°.20W, h66km, MD3.2*

ISC 26 16:30:53.7±1.5,**11°.53N**±0°.03×**61°.19W**±0°.05,**h84**km±12km, **n22,σ1°8/36, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPR	**Prospect**	**0.53**	**130**	*e*P	**Pn**	**16 31 08.4**	**+0.4**
TOSP	**Speyside**	**0.68**	**110**	*e*P	**Pn**	**16 31 09.8**	**+0.3**
TOSP				*e*S	**Sn**	**16 31 21.1**	**-0.1**
GRW	**Mount Saint Ca**	**0.78**	**324**	*e*P	**Pn**	**16 31 10.7**	**0.0**
GRHS	**Sauteurs**	**0.82**	**327**	*e*P	**Pn**	**16 31 10.8**	**-0.2**
GRHS				*e*S	**Sn**	**16 31 22.8**	**-1.0**
GRIC	**Isle de Caille**	**0.85**	**333**	*e*P	**Pn**	**16 31 11.2**	**0.0**
GRIC				*e*S	**Sn**	**16 31 23.3**	**-1.0**
GRSS	**Sisters**	**0.87**	**331**	*e*P	**Pn**	**16 31 11.4**	**-0.1**
GRSS				*e*S	**Sn**	**16 31 23.7**	**-1.0**
TRN	**Trinidad (W)**	**0.90**	**194**	*e*P	**Pn**	**16 31 13.0**	**+1.2**
TRN				*e*S	**Sn**	**16 31 25.1**	**-0.2**
TBH	**Brigand Hill**	**1.05**	**174**	*e*P	**Pn**	**16 31 15.2**	**+1.6**
TBH				*e*S	**Sn**	**16 31 29.4**	**+1.0**
GUIV	**Guiria**	**1.34**	**229**	*e*P	**Pn**	**16 31 16.4**	**-0.7**
GUIV				*e*S	**Sn**	**16 31 34.9**	**+0.1**
SVB	**Belmont**	**1.73**	**358**	*e*P	**Pn**	**16 31 22.6**	**+0.3**
SVB				*e*S	**Sn**	**16 31 44.2**	**+0.3**
MCLT	**Moule a Chique**	**2.18**	**6**	*e*P	**Pn**	**16 31 28.7**	**+0.5**
MCLT				*e*S	**Sn**	**16 31 53.7**	**-0.7**
CRUV	**Carupano**	**2.18**	**247**	*e*P	**Pn**	**16 31 28.3**	**+0.1**
CRUV				*e*S	**Sn**	**16 31 55.2**	**+0.8**
GUNV	**Guanoco**	**2.20**	**232**	*e*P	**Pn**	**16 31 28.9**	**+0.6**
GUNV				*e*S	**Sn**	**16 31 56.4**	**+1.6**
ORIV	**Oritupano**	**3.28**	**222**	*e*P	**Pn**	**16 31 43.7**	**+0.8**
ORIV				*e*S	**Sn**	**16 32 20.0**	**-1.0**
RIOV	**Rio Grande**	**3.49**	**190**	*e*P	**Pn**	**16 31 45.4**	**-0.5**
RIOV				*e*S	**Sn**	**16 32 23.0**	**-3.2**
PCRV	**Puerto La Cruz**	**3.65**	**249**	*e*P	**Pn**	**16 31 47.4**	**-0.5**
GURV	**El Guri**	**4.19**	**207**	*e*P	**Pn**	**16 31 55.1**	**-0.2**
LZG	**Guadaloupe-1**	**4.62**	**353**	*e*P	**Pn**	**16 32 02.7**	**+1.5**
CUPV	**Cœpira**	**4.75**	**252**	*e*P	**Pn**	**16 32 03.4**	**+0.4**
CUPV				*e*S	**Sn**	**16 32 56.8**	**-0.1**
LUEV	**Luepa**	**5.66**	**183**	*e*P	**Pn**	**16 32 13.8**	**-1.7**
SKI	**Saint Kitts**	**5.96**	**346**	*e*P	**Pn**	**16 32 21.9**	**+2.4**
BAUV	**El Baul**	**7.22**	**250**	*e*P	**Pn**	**16 32 36.2**	**-0.4**

MEX 26 16:44:51.1±1.0,**17°.02N×94°.83W, h127km**±8km,**MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.09**	**322**	*e*P	Pn	16 45 07.6	-0.8
CMIG				*i* S	Sn	16 45 19.4	-2.1
TGIG		**1.65**	**98**	*i* P	Pn	16 45 19.7	-1.1
TGIG				*i* S	Sn	16 45 40.7	-2.7
HUIG	**Huatulco**	**1.75**	**225**	*i* P	Pn	16 45 20.0	-1.9
HUIG				*i* S	Sn	16 45 44.2	-1.3
VHO	**Vista Hermosa**	**1.82**	**272**	*e*P	Pn	16 45 22.8	-0.3
VHO				*e*S	Sn	16 45 45.3	-2.2
PCIG		**2.02**	**130**	*e*P	Pn	16 45 24.7	-0.5
PCIG				*i* S	Sn	16 45 49.7	-1.5
CCIG	**Comitan**	**2.68**	**106**	*i* P	Pn	16 45 32.9	-0.8
CCIG				*i* S	Sn	16 46 04.2	-2.3
PNIG	**Pinotepa**	**3.22**	**259**	*e*P	Pn	16 45 39.5	-1.1
PNIG				*i* S	Sn	16 46 16.6	-2.3

IDC 26 16:47:36.5±13.0,**33°.81S×179°.93E, h264**km±127km, **mb3.1/2, mb1 3.4/3, mb1mx3.1/15, mbtmp3.2/3, Error ellipse: s-maj=92.9km s-min=49.3km az=20.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.98**	**199**	PN	Pn	16 48 50.2	+10
MXZ				SN	S	16 49 44.6	+13
PUZ	**Puketiti**	**4.47**	**197**	PN	Pn	16 48 55.5	+9.1
PUZ				SN	S	16 49 54.8	+13
CNGZ	**Carnagh Statio**	**4.87**	**196**	*e*PN	Pn	16 49 00.7	+10
MWZ	**Matawai**	**4.92**	**203**	*e*PN	Pn	16 49 00.6	+8.8
MWZ				SN	S	16 50 04.4	+12
URZ	**Urewera**	**5.00**	**206**	*e*PN	Pn	16 49 00.2	+7.5
URZ				SN	S	16 50 04.6	+11
NMHZ	**Naumai**	**5.85**	**205**	*e*PN	Pn	16 49 08.4	+5.2
BKZ	**Black Stump Fm**	**6.02**	**206**	*e*PN	Pn	16 49 12.6	+7.4
BKZ				SN	S	16 50 25.7	+9.3
MCHZ	**McNeill Hill**	**6.20**	**204**	*e*PN	Pn	16 49 16.6	+9.3
TUVZ	**Tukino**	**6.45**	**211**	*e*PN	Pn	16 49 19.6	+9.0
KAHZ	**Kahuranaki**	**6.46**	**201**	PN	Pn	16 49 18.0	+7.3
BHHZ	**Black Hill Sta**	**6.47**	**208**	*e*PN	Pn	16 49 18.1	+7.4
WNVZ	**Wahianoa**	**6.52**	**211**	PN	Pn	16 49 20.6	+9.1
MOVZ	**Moawhango**	**6.52**	**210**	*e*PN	Pn	16 49 19.1	+7.7
PXZ	**Pawanui**	**6.68**	**201**	*e*PN	Pn	16 49 20.6	+7.3
PNHZ	**Pukenui**	**6.79**	**205**	*e*PN	Pn	16 49 21.9	+7.2
WPHZ	**Waipukurau**	**6.84**	**203**	*e*PN	Pn	16 49 24.0	+8.6
PRHZ	**Porangahau**	**6.97**	**201**	PN	Pn	16 49 23.4	+6.5
DVHZ	**Dannevirke**	**7.14**	**204**	PN	Pn	16 49 27.1	+8.0
BFZ	**Birch Farm**	**7.46**	**202**	PN	Pn	16 49 31.6	+8.5
BFZ				SN	S	16 50 57.1	+8.2
TIWZ	**Tintock**	**7.67**	**204**	PN	Pn	16 49 33.4	+7.7
TIWZ				SN	S	16 51 02.1	+8.5
MRZ	**Mangatainoka R**	**7.67**	**206**	PN	Pn	16 49 30.6	+5.0
MRZ				SN	S	16 50 58.9	+5.2
HOWZ	**Holdsworth Sta**	**7.90**	**205**	*e*PN	Pn	16 49 35.3	+6.7
OGWZ	**Otaki Gorge**	**7.96**	**207**	PN	Pn	16 49 34.3	+5.0
OGWZ				SN	S	16 51 06.6	+6.4
KIW	**Kapiti Island**	**8.10**	**208**	*e*PN	Pn	16 49 35.6	+4.6
MTW	**Mount Morrison**	**8.14**	**204**	*e*PN	Pn	16 49 38.0	+6.5
CAW	**Cannon Point**	**8.25**	**207**	*e*PN	Pn	16 49 37.6	+4.7
CAW				SN	S	16 51 15.0	+8.1
MSWZ	**Moikau Station**	**8.45**	**205**	*e*PN	Pn	16 49 41.0	+5.5
DUWZ	**D'Urville Isla**	**8.46**	**213**	PN	Pn	16 49 41.5	+5.8
SNZO	**South Karori**	**8.56**	**207**	PN	P	16 49 41.5	-2.2
PLWZ	**Palliser**	**8.59**	**204**	PN	P	16 49 43.4	-0.7
TCW	**Tory Channel**	**8.65**	**210**	PN	P	16 49 42.6	-2.1
TUWZ	**Tuamarina**	**8.97**	**210**	*e*PN	P	16 49 47.1	-1.2
NNZ	**Nelson**	**9.04**	**213**	*e*PN	P	16 49 48.5	-0.9
QRZ	**Quartz Range**	**9.15**	**218**	*e*PN	P	16 49 49.9	-0.8
THZ	**Tophouse**	**9.69**	**213**	*e*PN	P	16 49 55.9	-0.8
KHZ	**Kahutara**	**9.96**	**208**	PN	P	16 49 59.9	+0.3
LTZ	**Lake Taylor**	**10.79**	**212**	PN	P	16 50 10.5	+1.6
RPZ	**Rata Peaks**	**12.07**	**212**	P	Pn	16 50 21.4	+0.8
	0.3nm,0.3s,baz=36,slow=19,SNR=1.9						
RPZ				S	S	16 52 32.7	-2.3
	0.5nm,0.3s,baz=14,slow=19,SNR=2.1						
ODZ	**Otahua Downs**	**13.31**	**210**	PN	P	16 50 40.9	+4.1
ASAR	**Alice Springs**	**41.31**	**272**	P	P	16 54 57.3	+0.4
	0.6nm,0.6s,baz=110,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**42.62**	**277**	P	P	16 55 06.8	-0.6
	0.7nm,0.4s,baz=116,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**147.66**	**337**	PKPbc	PKPbc	17 06 48.3	-0.8
	0.8nm,0.5s,baz=42,slow=4.3,SNR=7.1						

*ISCJB **26** 16:52:30.7±1.1,6°.41N±0°.10×126°.7E±0°.2, h132km±10km, mb3.4/6, Error ellipse: s-maj=25.6km s-min=14.9km az=162.9*
*IDC **26** 16:52:34.2±0.9,6°.08N×125°.83E, h136km±20km, mb3.2/6, mb1 3.3/6, mb1mx3.1/21, mbtmp3.2/6, Error ellipse: s-maj=201.9km s-min=14.3km az=66.0*
*MAN **26** 16:52:39,6°.75N×126°.36E, h46km, mb4.4, ML3.3, MS3.2*

ISC 26 16:52:30.8±1.5,**6°.4N**±0°.1×**126°.8E**±0°.2,**h112**km±13km,**n12,** σ1°62/16,**mb3.5/6,3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.77**	**313**	*e*P	**Pn**	**16 52 49.2**	**-0.8**
MATI				*e*S	Sn	16 52 54.9	-10
DAV	**Davao City (W)**	**1.39**	**298**	P	**Pn**	**16 52 56.9**	**+0.5**
	52nm,0.3s,baz=225,slow=1.4,SNR=5.4						
DAV				S	**Sn**	**16 53 16.1**	**+0.1**
	121nm,0.3s,baz=137,slow=19,SNR=19						
DMPH	**Davao City--Mi**	**1.46**	**297**	*i* P	**Pn**	**16 52 58.0**	**+0.8**
DMPH				*i* S	**Sn**	**16 53 20.2**	**+2.8**
GSPH	**General Santos**	**1.89**	**260**	*i* P	**Pn**	**16 53 01.0**	**-1.5**
GSPH				*i* S	**Sn**	**16 53 24.4**	**-2.4**
BUKP	**Musuan**	**2.27**	**310**	*e*P	**Pn**	**16 53 07.6**	**+0.2**
BUKP				*e*S	Sn	16 53 23.8	-12
CTBH	**Cotabato--PC H**	**2.68**	**288**	*i* P	**Pn**	**16 53 14.4**	**+1.9**
WRA	**Warramunga Arr**	**27.22**	**164**	P	**P**	**16 58 05.7**	**+1.4**
	0.4nm,0.4s,baz=337,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**30.69**	**167**	P	**P**	**16 58 35.9**	**+0.9**
	0.1nm,0.3s,baz=340,slow=7.0,SNR=8.1						
ASAR				PcP	**PcP**	**17 01 30.4**	**-0.2**
	0.1nm,0.4s,baz=348,slow=2.3,SNR=6.5						
STKA	**Stephens Creek**	**40.60**	**161**	P	**P**	**17 00 00.3**	**+0.7**
	0.6nm,0.6s,baz=338,slow=20,SNR=3.5						
MKAR	**Makanchi Array**	**55.43**	**324**	P	**P**	**17 01 53.6**	**0.0**
	0.4nm,0.5s,baz=119,slow=8.1,SNR=16						
KURK	**Kurchatov**	**59.55**	**327**	P	**P**	**17 02 20.9**	**-1.5**
	0.4nm,0.3s,baz=116,slow=8.6,SNR=4.4						
BVAR	**Borovoye Array**	**65.14**	**326**	P	**P**	**17 02 57.4**	**-2.3**
	0.3nm,0.7s,baz=126,slow=7.4,SNR=3.8						

MEX 26 16:54:30.7±1.0,**15°.94N×98°.55W, h5**km,**MD4.1, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.61**	**42**	*i* P	Pg	16 54 40.8	-1.7
PNIG				*i* S	Sg	16 54 51.1	+0.7
ACX	**Acapulco**	**1.56**	**307**	*i* P	Pn	16 54 47.8	-11
VHO	**Vista Hermosa**	**2.08**	**57**	*e*P	Pn	16 55 03.1	-3.4
VHO				*i* S	Sn	16 55 29.3	-3.6
HUIG	**Huatulco**	**2.36**	**94**	*i* P	Pn	16 55 07.4	-2.7
HUIG				*i* S	Sn	16 55 35.0	-4.5
PLIG	**Platanillo**	**2.60**	**340**	*i* P	Pn	16 55 11.2	-2.4
PLIG				*i* S	Sn	16 55 40.9	-4.7
TPIG	**Tehuac#an**	**2.71**	**25**	*i* P	Pn	16 55 11.5	-3.7
TPIG				*i* S	Sn	16 55 44.0	-4.7
YAIG	**Yautepec**	**2.94**	**350**	*e*P	Pn	16 55 16.3	-2.1
ZIIG	**Zihuatanejo**	**3.24**	**301**	*e*P	Pn	16 55 20.7	-1.6
ZIIG				*i* S	Sn	16 55 59.4	-2.0
CMIG	**Matias Romero**	**3.70**	**72**	*i* P	Pn	16 55 24.9	-3.7
CMIG				*i* S	Sn	16 56 10.5	-2.1
PCIG		**5.14**	**92**	*i* P	Pn	16 55 45.3	-3.0
PCIG				*i* S	Sn	16 56 45.7	-2.4
MMIG	**Aquila**	**5.14**	**298**	*i* P	Pn	16 55 45.1	-3.3

*NNC **26** 17:04:17.7±5.0,38°.76N×72°.00E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=42.9km s-min=34.4km az=22.0*

ISC 26 17:04:13.8±3.7,**38°.4N**±0°.2×**71°.7E**±0°.1,**h10**km,**n12,** σ0°67/17,**5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.01**	**21**	P	**Pn**	**17 05 15.4**	**-0.1**
	SNR=39						
AML				P	**Pn**	**17 05 15.4**	**-0.1**
	SNR=39						
EKS2	**Erkin-Say**	**4.52**	**20**	P	**Pn**	**17 05 23.8**	**+1.4**
	SNR=8.4						
EKS2				P	**Pn**	**17 05 23.8**	**+1.4**
	SNR=8.4						
KZA	**Kyzart**	**4.54**	**35**	P	Pn	17 05 24.6	+1.6
	SNR=9.8						
KZA				P	Pn	17 05 24.6	+1.6
	SNR=9.8						
KK31	**Karatay Array**	**4.78**	**349**	Pn	**Pn**	**17 05 26.0**	**+0.2**
	5.1nm,0.5s,baz=162,slow=12,SNR=134						
KK31				⇑Sn	**Sn**	**17 06 21.3**	**0.0**
	7.1nm,0.5s,baz=165,slow=21,SNR=4.5						
KK31				⇑Lg	Lg	17 06 40.8	
	13nm,0.6s,baz=156,slow=33,SNR=3.6						
KBK	**Karagaybulak**	**4.90**	**29**	P	**Pb**	**17 05 39.3**	**-0.4**
	SNR=8.1						
KBK				P	**Pb**	**17 05 39.3**	**-0.4**
	SNR=8.1						
CHMS	**Chumysh**	**5.12**	**26**	P	Pn	**17 05 31.2**	**+0.6**
	SNR=6.9						
CHMS				P	**Pn**	**17 05 31.2**	**+0.6**
	SNR=6.9						
USP	**Ospenovka**	**5.28**	**23**	P	**Pn**	**17 05 33.4**	**+0.6**
	SNR=5.1						
USP				P	**Pn**	**17 05 33.4**	**+0.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**5.38**	**32**	P	**Pn**	**17 05 34.6**	**+0.4**
	SNR=7.3						
TKM2				P	**Pn**	**17 05 34.6**	**+0.4**
	SNR=7.3						
TKM2	**Tokmak 2**	**5.38**	**32**	⇑Pn	**Pn**	**17 05 34.5**	**+0.2**
	7.7nm,0.7s						
TKM2				⇓Lg	Lg	17 06 51.6	
	16nm,0.7s						
AB31	**Akbulak array**	**13.76**	**326**	⇑P	Pn	17 07 26.8	-2.0
	0.7nm,0.5s,baz=136,slow=12,SNR=20						
BVA0	**Borovoye Array**	**14.64**	**357**	⇑P	**P**	**17 07 46.7**	**-0.5**
	0.1nm,0.6s,baz=163,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**15.47**	**325**	⇓P

JOD2				S	**S**	**17 48 45.4**	**-2.3**
JEG	**Eigenji**	**5.70**	**335**	P	P	17 47 43.4	+1.8
JHU	**Hanno**	**5.83**	**359**	P	**P**	**17 47 42.7**	**-0.2**
JHU				S	**S**	**17 48 55.5**	**-2.9**
JRY	**Ryogami san**	**6.01**	**356**	P	**P**	**17 47 45.4**	**+0.6**
MJAR	**Matsushiro Arr**	**6.59**	**352**	P	**P**	**17 47 50.7**	**-0.3**
	1.6nm,0.3s,baz=201,slow=7.8,SNR=16						
MJAR				S	**S**	**17 49 11.5**	**-1.3**
	0.1nm,0.3s,baz=152,slow=25,SNR=3.1						
MAT	**Matsushiro**	**6.59**	**352**	P	**P**	**17 47 51.0**	**+0.1**
JMK	**Ichinoseki**	**9.06**	**9**	P	**P**	**17 48 20.2**	**+2.8**
KSRS	**Korea Array**	**12.07**	**311**	P	P	17 48 50.5	+0.1
	baz=128,slow=10,SNR=2.4						
SONM	**Songino Array**	**30.91**	**314**	P	P	17 51 50.1	+0.6
	0.3nm,0.4s,baz=124,slow=9.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**45.67**	**318**	P	P	17 53 50.8	+0.8
	0.3nm,0.3s,baz=101,slow=6.2,SNR=3.9						
ZALV				PcP	**PcP**	**17 55 20.9**	**+1.7**
	0.2nm,0.3s,baz=77,slow=3.1,SNR=2.9						
MKAR	**Makanchi Array**	**46.73**	**308**	P	P	17 53 58.6	+0.4
	0.3nm,0.6s,baz=85,slow=9.9,SNR=5.0						
MKAR				PcP	**PcP**	**17 55 25.0**	**+1.9**
	0.1nm,0.3s,baz=78,slow=3.5,SNR=6.3						
KURK	**Kurchatov**	**49.19**	**313**	P	P	17 54 17.6	+1.0
	0.5nm,0.4s,baz=90,slow=7.6,SNR=6.7						
WRA	**Warramunga Arr**	**49.89**	**186**	P	P	17 54 23.8	+1.5
	0.2nm,0.8s,baz=2.1,slow=7.7,SNR=6.0						
BVAR	**Borovoye Array**	**54.23**	**316**	P	P	17 54 54.5	+1.2
	1.3nm,0.4s,baz=98,slow=7.0,SNR=29						
ARCES	**ARCESS Array B**	**69.98**	**340**	P	P	17 56 38.7	+2.8
	0.9nm,0.6s,baz=66,slow=9.0,SNR=5.8						
FINES	**FINESS Array B**	**74.24**	**333**	P	P	17 57 02.6	+1.7
	0.5nm,0.3s,baz=62,slow=5.2,SNR=7.3						
HFS	**Hagfors**	**79.77**	**336**	P	P	17 57 33.3	+2.0
	1.0nm,0.8s,baz=47,slow=6.3,SNR=5.3						
NOA	**NORSAR Array B**	**79.99**	**337**	P	P	17 57 34.7	+2.2
	0.4nm,0.5s,baz=53,slow=6.5,SNR=3.1						

GUC 26 18:16:53.5±0.7, 32°.56S×72°.07W, h5km±3km, MD3.7, ML3.3, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.58**	**142**	*i* P	Pg	18 17 05.2	+0.4
IHA				*i* S	Sb	18 17 14.5	-0.3
CHNG	**Los Chungos**	**0.83**	**35**	*i* P	Pg	18 17 09.5	0.0
CHNG				*i* S	Sb	18 17 22.0	+0.2
CHNG				AML	AML	18 17 26.5	
	comp=E,295nm,0.7s						
ROCH	**El Roble**	**0.98**	**115**	*i* P	Pg	18 17 11.8	-0.8
ROCH				*i* S	Sg	18 17 26.1	+0.5
ROCH				AML	AML	18 17 28.1	
	comp=N,4μm,0.5s						
JACH	**Jahuel**	**1.25**	**96**	*i* P	Pg	18 17 16.2	-1.4
JACH				*i* S	Sb	18 17 34.2	0.0
PEL	**Peldehue**	**1.30**	**117**	*i* P	Pn	18 17 17.2	-1.2
PEL				*i* S	Sg	18 17 34.9	-0.5
PEL				AML	AML	18 17 37.2	
	comp=N,2μm,0.3s						
RCDM	**Rinconada Maip**	**1.41**	**131**	*e* P	Pn	18 17 18.9	-1.0
RCDM				*i* S	Sb	18 17 37.8	-0.8
RCDM				AML	AML	18 17 43.2	
	comp=E,476nm,0.3s						
TACH	**Talagante**	**1.44**	**139**	*i* P	Pn	18 17 19.2	-1.1
TACH				*i* S	Sb	18 17 38.6	-1.0
SAN	**Santiago**	**1.48**	**127**	*e* P	Pn	18 17 20.1	-0.7
SAN				*e* S	Sn	18 17 39.7	-0.8
CLCH	**Cerro Calan**	**1.53**	**123**	*e* P	Pn	18 17 21.0	-0.6
CLCH				*i* S	Sn	18 17 41.4	-0.6
CLCH				AML	AML	18 17 45.2	
	comp=E,617nm,0.5s						
ANTU	**Antumapu**	**1.57**	**130**	*e* S		18 17 42.1	
ANTU				AML	AML	18 17 48.4	
	comp=E,633nm,0.4s						
CMCH	**Combarbala**	**1.66**	**33**	*e* P	Pn	18 17 22.2	-1.1
CMCH				AML	AML	18 17 50.7	
	comp=E,962nm,0.5s						
FCH	**Farellones**	**1.68**	**118**	*e* P	Pn	18 17 23.9	-0.1
FCH				*i* S	Sn	18 17 45.4	-0.8
FCH				AML	AML	18 17 46.8	
	comp=N,802nm,0.4s						
PCH	**Pirque**	**1.68**	**129**	*i* P	Pn	18 17 23.3	-0.3
PCH				*i* S	Sb	18 17 46.1	-0.4
CHCH	**Chadas Angostu**	**1.81**	**139**	*e* P	Pn	18 17 25.4	0.0
CACH	**El Canelo**	**1.98**	**142**	*i* P	Pn	18 17 28.8	+1.0
CACH				*e* S	Sb	18 17 55.8	+0.5
LMEL	**Las Melosas**	**2.02**	**130**	*e* P	Pn	18 17 28.8	+0.3
LMEL				*e* S	Sb	18 17 55.8	-0.8
LMEL				AML	AML	18 18 00.2	
	comp=N,463nm,0.7s						

*IDC **26** 18:31:12.6±2.9, 4°.49N×126°.04E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=104.0km s-min=24.2km az=53.0*
*ISCJB **26** 18:31:15.3±0.7, 4°.08N±0°.06×125°.8E±0°.2, h10km, mb3.8/5, Error ellipse: s-maj=23.4km s-min=6.4km az=167.6*
*MAN **26** 18:31:16, 4°.17N×125°.81E, h11km, mb4.9, ML3.8, MS3.8*
*DJA **26** 18:31:26, 4°.11N×125°.77E, h62km, mb4.3/9*

ISC 26 18:31:17.4±1.2, 4°.10N±0°.08×125°.7E±0°.2, h10km, n13, σ1§16/12, mb3.8/5, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.10**	**341**	*e* P	**Pn**	**18 31 51.5**	**-1.1**
GSPH				*e* S	Sn	18 32 13.5	-5.4
MATI	**Mati**	**2.89**	**12**	*e* P	Pn	18 32 00.9	-2.6
KCP	**Kidapawan**	**2.94**	**349**	*e* P	**Pn**	**18 32 06.0**	**+1.7**
KCP				*i* S	**Sn**	**18 32 39.0**	**-0.8**
DMPH	**Davao City--Mi**	**2.97**	**357**	*i* P	**Pn**	**18 32 05.6**	**+1.0**
DMPH				*i* S	**Sn**	**18 32 40.1**	**-0.2**
CTBH	**Cotabato--PC H**	**3.40**	**336**	*i* P	**Pn**	**18 32 10.8**	**+0.2**
BUKP	**Musuan**	**3.80**	**351**	*e* P	**Pn**	**18 32 16.2**	**+0.1**
PAGZ	**Pagadian**	**4.35**	**329**	*e* P	**Pn**	**18 32 23.9**	**+0.3**
IPIL	**Ipil**	**4.78**	**320**	*e* P	**Pn**	**18 32 30.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**22.06**	**180**	P	**P**	**18 36 14.0**	**+1.5**
	1.9nm,0.5s,baz=8.7,slow=9.1,SNR=6.2						
WRA	**Warramunga Arr**	**25.37**	**161**	P	**P**	**18 36 43.7**	**-1.3**
	4.4nm,0.7s,baz=340,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**28.75**	**164**	P	**P**	**18 37 14.2**	**-1.1**
	0.7nm,0.4s,baz=341,slow=7.1,SNR=46						
CMAR	**Chiang Mai Arr**	**29.76**	**301**	P	P	18 37 22.4	-1.9
	0.4nm,0.8s,baz=110,slow=8.0,SNR=3.4						
STKA	**Stephens Creek**	**38.86**	**158**	P	P	18 38 41.5	-1.5
	2.1nm,0.6s,baz=347,slow=7.8,SNR=9.9						

*MOS **26** 18:35:56.6±1.3, 55°.20N×113°.48E, h11km, mb4.4/6, Error ellipse: s-maj=12.5km s-min=7.9km az=82.8*
*BYKL **26** 18:35:57.8±0.3, 55°.28N×113°.52E*
*IDC **26** 18:35:58.1±1.2, 55°.32N×113°.26E, h0km, mb3.4/7, mb1 3.5/9, mb1mx3.4/29, mbtmp3.4/9, ML3.1/2, Error ellipse: s-maj=24.2km s-min=21.5km az=139.0*

ISC 26 18:35:57.6±0.6, 55°.19N±0°.02×113°.38E±0°.02, h10km, n63, σ1§80/98, mb3.5/7, 2C-3D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.93**	**6**	*e* PG	**Pg**	**18 36 14.0**	**-1.5**
SVKR				*e*	**Sg**	**18 36 25.7**	**-2.0**
SVKR				pmax	pmax		
	comp=Z,762nm,0.1s						
SVKR				smax	smax		
	comp=E,4μm,0.7s						
SVKR	**Severomuysk**	**0.93**	**6**	*e* Pg	**Pg**	**18 36 14.1**	**-1.5**
SVKR				*e* Pb	**Pn**	**18 36 17.0**	**+0.2**
SVKR				max		18 36 17.6	
	comp=E,766nm,0.2s						
SVKR				*i* Sg	**Sg**	**18 36 26.4**	**-1.3**
SVKR				Smax		18 36 26.7	
	comp=E,3μm,0.6s						
SVKR				*e* Sb	**Sn**	**18 36 30.7**	**+0.4**
YLYR	**Ulyunkhan**	**1.31**	**257**	*e* Pg	**Pg**	**18 36 22.7**	**-0.1**
YLYR				*e* Sg	**Sg**	**18 36 42.1**	**+2.3**
YLYR				Smax		18 36 46.1	
	comp=E,2μm,0.4s						
YOA	**Uoyan**	**1.33**	**316**	*i* PG	**Pg**	**18 36 22.1**	**-1.0**
YOA				*i*	**Sg**	**18 36 40.1**	**-0.3**
YOA				pmax	pmax		
	comp=Z,553nm,0.2s						
YOA				smax	smax		
	comp=N,4μm,0.5s						
YOA	**Uoyan**	**1.33**	**316**	*e* Pg	**Pn**	**18 36 21.8**	**-0.4**
YOA				*e* Sg	**Sg**	**18 36 40.0**	**-0.3**
YOA				Smax		18 36 46.7	
	comp=N,4μm,0.4s						
KMO	**Kumora**	**1.42**	**300**	*e* PG	**Pn**	**18 36 23.3**	**-0.2**
KMO				*e*	**Sn**	**18 36 41.7**	**-0.5**
KMO				pmax	pmax		
	comp=Z,141nm,0.3s						
KMO				smax	smax		
	comp=E,2μm,1.1s						
KMO	**Kumora**	**1.42**	**300**	*i* Pg	**Pn**	**18 36 23.4**	**-0.1**
KMO				*e*		18 36 26.3	
KMO				max		18 36 29.3	
	comp=E,273nm,0.7s						
KMO				*e* Sg	**Sb**	**18 36 42.6**	**+0.3**
KMO				*e* Sb	**Sg**	**18 36 45.3**	**+2.0**
KMO				max		18 36 46.3	
	comp=E,2μm,1.1s						
NLYR	**Nelyaty**	**1.85**	**44**	*e* PN	**Pn**	**18 36 28.5**	**-0.8**
NLYR				*e*	**Sn**	**18 36 51.5**	**-1.3**
NLYR				pmax	pmax		
	comp=Z,136nm,0.6s						
NLYR				smax	smax		
	comp=N,718nm,1.1s						
NLYR	**Nelyaty**	**1.85**	**44**	*i* Pg	**Pn**	**18 36 28.7**	**-0.6**
NLYR				Pmax		18 36 32.7	
	comp=N,136nm,0.5s						
NLYR				*e* Sg	**Sn**	**18 36 51.8**	**-1.0**
NLYR				*e*		18 36 54.1	
NLYR				max		18 36 54.8	
	comp=N,721nm,0.9s						
NIZ	**Nizh Angarsk**	**2.26**	**287**	*e* PN	**Pb**	**18 36 37.1**	**-1.4**
NIZ				*e*		18 36 40.3	
NIZ				*e*		18 37 09.3	
NIZ				pmax	pmax		
	comp=Z,129nm,0.3s						
NIZ				smax	smax		
	comp=N,549nm,0.9s						
NIZ	**Nizh Angarsk**	**2.26**	**287**	*i* Pn	**Pb**	**18 36 37.1**	**-1.4**
NIZ				*e* Pg	**Pg**	**18 36 38.9**	**-2.0**
NIZ				*e* PgPg	Pn	18 36 40.3	+5.3
NIZ				max		18 36 40.7	
	comp=N,130nm,0.4s						
NIZ				*e* Sg	**Sb**	**18 37 08.6**	**+2.1**
NIZ				*e* SgSg	**Sg**	**18 37 10.8**	**+0.6**
NIZ				max		18 37 12.8	
	comp=N,481nm,0.3s						
SYVR	**Suvo**	**2.50**	**234**	*e* PN	**Pb**	**18 36 40.5**	**-2.0**
SYVR				*e*		18 36 43.8	
SYVR				*e*		18 37 18.8	
SYVR				pmax	pmax		
	comp=Z,40nm,0.6s						
SYVR				smax	smax		
	comp=N,233nm,0.7s						
SYVR	**Suvo**	**2.50**	**234**	*e* Pn	**Pb**	**18 36 40.6**	**-2.0**
SYVR				*e* Pg	**Pg**	**18 36 43.8**	**-1.7**
SYVR				Pmax		18 36 48.0	
	comp=N,40nm,0.6s						
SYVR				*e* Sn	**Sb**	**18 37 14.5**	**+1.1**
SYVR				*e* Sg	**Sg**	**18 37 19.1**	**+1.2**
SYVR				Smax		18 37 22.6	
	comp=N,232nm,1.0s						
BOD	**Bodaibo**	**2.66**	**7**	*e* PN	**Pn**	**18 36 38.3**	**-2.1**
BOD				*e*		18 36 42.6	
BOD				*e*		18 37 16.6	
BOD				pmax	pmax		
	comp=Z,63nm,0.5s						
BOD				smax	smax		
	comp=E,1μm,0.6s						
BOD	**Bodaibo**	**2.66**	**7**	*e* Pn	**Pn**	**18 36 39.3**	**-1.1**
BOD				*i* Pg	**Pb**	**18 36 43.0**	**-2.2**
BOD				Pmax		18 36 48.6	
	comp=E,62nm,0.4s						
BOD				*e* Sg	**Sb**	**18 37 16.4**	**-1.4**
BOD				Smax		18 37 17.3	
	comp=E,1μm,0.7s						
CIT	**Chita**	**3.18**	**178**	*e* PN	**Pn**	**18 36 46.4**	**-1.2**
CIT				*e*		18 36 54.2	
CIT				*e* S	**Sn**	**18 37 26.2**	**+0.7**
CIT				*e*		18 37 38.0	
CIT				pmax	pmax		
	comp=Z,76nm,0.4s						
CIT				smax	smax		
	comp=E,283nm,0.3s						
CIT	**Chita**	**3.18**	**178**	*e* Pn	**Pn**	**18 36 49.3**	**+1.7**
CIT				*e* Pg	**Pb**	**18 36 55.1**	**+1.0**
CIT				Pmax		18 36 57.6	
	comp=E,67nm,0.3s						
CIT				*e* Sg	**Sg**	**18 37 38.2**	**-1.3**
CIT				Smax		18 37 41.0	
	comp=E,306nm,0.3s						
CRS	**Chara**	**3.23**	**56**	*e* PN	**Pn**	**18 36 48.5**	**+0.1**
CRS				*e*		18 36 53.9	
CRS				*e*		18 37 34.9	
CRS				pmax	pmax		
	comp=Z,135nm,1.3s						
CRS				smax	smax		
	comp=E,310nm,1.4s						
CRS	**Chara**	**3.23**	**56**	*e* Pn	**Pn**	**18 36 48.3**	**-0.1**
CRS				*e* Pg	**Pb**	**18 36 54.1**	**-0.9**
CRS				Pmax		18 36 58.3	
	comp=E,136nm,1.1s						
CRS				*e* Sg	**Sb**	**18 37 34.9**	**+0.5**
CRS				Smax		18 37 37.6	
	comp=E,313nm,1.5s						
MXMB	**Maximikha**	**3.34**	**237**	*e* Pn	**Pn**	**18 36 51.5**	**+1.7**
MXMB				*e* Pg	**Pg**	**18 36 59.5**	**-1.9**
MXMB				Pmax		18 37 05.6	
	comp=E,51nm,0.9s						
MXMB				*e* Sn	**Sb**	**18 37 34.2**	**-3.2**
MXMB				*e* Sg	**Sg**	**18 37 44.5**	**-0.1**
MXMB				Smax		18 37 53.5	
	comp=E,331nm,0.8s						
OGRR	**Ongureny**	**3.72**	**248**	*e* PN	**Pn**	**18 36 57.4**	**+2.4**
OGRR				*e*		18 37 06.5	
OGRR				*e*		18 37 55.4	
OGRR				pmax	pmax		
	comp=Z,25nm,0.7s						
OGRR				smax	smax		
	comp=N,95nm,1.2s						
TUP	**Tupik**	**3.88**	**99**	*e* PN	**Pn**	**18 36 57.0**	**-0.2**
TUP				*e*		18 37 06.0	
TUP				*e* S	**Sn**	**18 37 40.8**	**-2.1**
TUP				*e*		18 37 54.9	
TUP				pmax	pmax		
	comp=Z,51nm,0.4s						
TUP				smax	smax		
	comp=N,394nm,0.8s						
TUP	**Tupik**	**3.88**	**99**	*e* Pn	**Pn**	**18 36 57.0**	**-0.2**
TUP				*e* Pg	**Pb**	**18 37 05.4**	**-0.7**
TUP				Pmax		18 37 07.0	
	comp=N,51nm,0.6s						
TUP				*e* Sn	**Sn**	**18 37 41.5**	**-1.4**
TUP				*e* Sg	**Sb**	**18 37 55.7**	**+2.6**
TUP				Smax		18 38 04.2	
	comp=N,393nm,1.0s						
KHNR	**Khani**	**4.09**	**62**	*e* Pn	**Pn**	**18 37 01.9**	**+1.8**
KHNR				*e* Pg	**Pb**	**18 37 09.4**	**-0.1**
KHNR				*e* Sn	**Sn**	**18 37 46.4**	**-1.5**
KHNR				*e* Sg	**Sb**	**18 38 02.0**	**+3.0**
ZRHB	**Zarechye**	**4.53**	**237**	*e* Pg	**Pg**	**18 37 21.6**	**-2.7**
ZRHB				Pmax		18 37 27.0	
	comp=N,51nm,0.6s						
ZRHB				*e* Sg	**Sg**	**18 38 23.3**	**+0.3**
ZRHB				Smax		18 39 01.5	
	comp=N,323nm,1.3s						
UUDB	**Ulan-Yde**	**4.76**	**228**	*e* Pg	Pb	18 37 24.9	+3.8
UUDB				Pmax		18 37 40.6	
	comp=N,66nm,1.0s						
UUDB				*e* Sg	**Sg**	**18 38 29.1**	**-1.3**
UUDB				Smax		18 38 35.2	
	comp=N,165nm,1.5s						
TRG	**Tyrgan**	**4.81**	**242**	*e* Pn	**Pn**	**18 37 12.0**	**+2.0**
TRG				*e*		18 37 26.9	
TRG				max		18 37 35.7	
	comp=N,6.0nm,0.5s						
TRG				*e* Sg	**Sg**	**18 38 28.4**	**-3.5**
TRG				Smax		18 38 36.7	
	comp=N,59nm,1.0s						
KAB	**Kabansk**	**5.09**	**235**	*e* Sg	**Sg**	**18 38 41.2**	**+0.3**
KAB				Smax		18 38 53.8	
	comp=N,232nm,1.2s						
HRMR	**Khuramsha**	**5.24**	**230**	*e* Pn	**Pn**	**18 37 18.5**	**+2.5**
HRMR				*e* Pg	Pg	18 37 34.5	-3.4
HRMR				Pmax		18 37 40.9	
	comp=N,25nm,0.6s						
HRMR				*e*		18 38 37.8	
HRMR				*e* Sg	**Sg**	**18 38 44.0**	**-1.8**
HRMR				Smax		18 38 57.8	
	comp=N,371nm,1.0s						
KPC	**Khapcheranga**	**5.53**	**187**	*e* PN	**Pn**	**18 37 21.0**	**+1.1**
KPC				*e*		18 37 38.0	
KPC				*e*		18 38 51.9	
KPC				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KPC				smax	smax		
	comp=E,97nm,1.3s						
KPC	**Khapcheranga**	**5.53**	**187**	*e* Pn	**Pn**	**18 37 21.0**	**+1.1**
KPC				*e* Pg	Pg	18 37 39.8	-3.6
KPC				*e*		18 37 41.9	
KPC				max		18 37 42.4	
	comp=E,173nm,0.5s						
KPC				*e* Sg	**Sg**	**18 38 52.4**	**-2.6**
KPC				Smax		18 38 55.3	
	comp=E,925nm,0.5s						
LSTR	**Listvyanka**	**6.09**	**240**	*e* Sg	**Sg**	**18 39 08.5**	**-4.3**
LSTR				Smax		18 39 22.2	
	comp=E,55nm,1.8s						
IRK	**Irkutsk**	**6.16**	**245**	*e* Sg	**Sg**	**18 39 14.1**	**-1.0**
IRK				Smax		18 39 16.9	
	comp=E,108nm,1.0s						
TNDR	**Tynda**	**6.50**	**86**	*e* Pg	Pb	18 37 53.1	+2.5
TNDR				*e* Sg	Sg	18 39 17.8	-8.2
CLNS	**Chul'man**	**6.66**	**71**	*e* Sg	Sb	18 39 19.5	+6.5
TLY	**Talaya**	**6.79**	**243**	*e* PN	**Pb**	**18 37 58.1**	**+2.4**
TLY				*e*		18 39 29.5	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TLY				smax	smax		
	comp=N,34nm,1.1s						
TLY	**Talaya**	**6.79**	**243**	*e* Sg	**Sg**	**18 39 32.9**	**-2.6**
TLY				Smax		18 39 50.1	
	comp=N,34nm,1.4s						
HIA	**Hailar**	**7.10**	**144**	*e* Sg	Sg	18 39 37.2	-8.1
ARS	**Arshan**	**7.30**	**248**	*e* PG	**Pb**	**18 38 07.4**	**+3.1**
ARS				*e*		18 39 43.5	
ARS				pmax	pmax		
	comp=Z,4.0nm,0.1s						
ARS				smax	smax		
	comp=E,81nm,0.7s						
ARS	**Arshan**	**7.30**	**248**	*e* Pg	Pb	18 38 10.1	+5.8
ARS				Pmax		18 38 17.4	
	comp=E,12nm,0.8s						
ARS				*e* Sg	Sg	18 39 45.0	-6.7
ARS				Smax		18 40 01.0	
	comp=E,86nm,0.9s						
ZAK	**Zakamensk**	**7.79**	**236**	*e* Sg	**Sg**	**18 40 04.1**	**-3.2**
ZAK				Smax		18 40 28.8	
	comp=E,17nm,1.1s						
MOY	**Mondy**	**8.20**	**250**	*e* PN	**Pn**	**18 37 56.9**	**+0.4**
MOY	**Mondy**	**8.20**	**250**	*e* Pn	**Pn**	**18 37 58.9**	**+2.4**
MOY				*e*		18 38 30.8	
MOY				max		18 38 33.3	
	comp=E,4.0nm,0.5s						
MOY				*e*		18 39 47.9	
MOY				*e* Sg	Sg	18 40 14.5	-5.8
MOY				Smax		18 40 27.7	
	comp=E,47nm,1.6s						
ULN	**Ulaanbaatar**	**8.32**	**211**	*e* Sg	**Sg**	**18 40 20.3**	**-4.2**
ORL	**Orlik**	**8.45**	**257**	*e* Pn	**Pn**	**18 38 02.2**	**+2.2**
ORL				*e* Pg	Pb	18 38 30.9	+7.0
ORL				Pmax		18 38 37.9	
	comp=E,4.0nm,0.9s						
ORL				*e* Sn	**Sn**	**18 39 37.7**	**+2.3**
ORL				*e* Sg	Sg	18 40 21.1	-7.4
ORL				Smax		18 40 33.9	
	comp=E,55nm,1.8s						
SONM	**Songino Array**	**8.55**	**213**	Pn	**Pn**	**18 38 04.3**	**+2.8**
	comp=E,0.2nm,0.3s,baz=29,slow=12,SNR=5.6						
SONM				Pg	Pg	18 38 35.6	-5.6
	comp=E,0.3nm,0.3s,baz=18,slow=16,SNR=6.8						
SONM				Sn	**Sn**	**18 39 34.8**	**-3.3**
	comp=E,0.3nm,0.3s,baz=31,slow=25,SNR=4.4						
SONM				Lg	Lg	18 40 31.5	
	comp=E,1.7nm,0.3s,baz=17,slow=31,SNR=9.4						
SONM	**Songino Array**	**8.55**	**213**	PN	**Pn**	**18 38 04.3**	**+2.8**
SONM						18 38 35.6	
SONM						18 39 34.8	
ZALV	**Zalesovo Beam**	**16.56**	**278**	Pn	**P**	**18 39 51.1**	**-1.1**
	comp=E,0.1nm,0.3s,baz=81,slow=14,SNR=3.3						
ZALV	**Zalesovo Beam**	**16.56**	**278**	P	**P**	**18 39 51.1**	**-1.1**
MKAR	**Makanchi Array**	**21.15**	**260**	P	**P**	**18 40 44.1**	**+1.6**
	comp=E,0.5nm,0.7s,baz=56,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**21.15**	**260**	P	**P**	**18 40 44.1**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**21.27**	**272**	P	**P**	**18 40 46.1**	**+2.4**
	comp=Z,2.8nm,0.8s,baz=70,slow=11,SNR=15						
KURK	**Kurchatov**	**21.27**	**272**	P	**P**	**18 40 46.1**	**+2.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**25.01**	**283**	P	**P**	**18 41 22.8**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=72,slow=9.5,SNR=7.8						
BVAR	**Borovoye Array**	**25.01**	**283**	P	**P**	**18 41 22.8**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKTO	**Aktyubinsk**	**33.04**	**285**	P	**P**	**18 42 33.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=79,slow=5.2,SNR=3.4						
AKTO	**Aktyubinsk**	**33.04**	**285**	P	**P**	**18 42 33.1**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**42.99**	**315**	P	**P**	**18 43 57.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=90,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**42.99**	**315**	P	**P**	**18 43 57.2**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**45.68**	**36**	P	**P**	**18 44 19.4**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=268,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**	**45.68**	**36**	P	**P**	**18 44 19.5**	**+1.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**76.94**	**160**	P	P	18 47 52.9	+3.0
	comp=Z,0.3nm,0.7s,baz=352,slow=6.6,SNR=3.2						
WRA	**Warramunga Arr**	**76.94**	**160**	P	P	18 47 52.9	+3.0

*NEIC **26** 18:37:29.8±0.4, 18°.45N×102°.64W, mb4.5/39, MD4.5(MEX), Error ellipse: s-maj=8.6km s-min=5.1km az=38.0*
*MEX **26** 18:37:30.5±0.9, 18°.39N×102°.57W, h9km±9km, MD4.5*
*IDC **26** 18:37:30.1±0.6, 18°.55N×102°.37W, h51km±4km, mb4.0/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, MS3.6/10, Ms1 3.6/10, ms1mx3.4/34, Error ellipse: s-maj=23.4km s-min=11.9km az=59.0*

ISC 26 18:37:29.4±0.4, 18°.38N±0°.03×102°.61W±0°.03, h54km±3km, h53km:pP-P, n384, σ1§21/616, mb4.4/46, MS3.5/6, 204C-196D, Michoacan

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---

CAIG *i* S **Sn** 18 38 39.6 +0.2
MEIG Mezcala 2.88 99 *i* P Pn 18 38 06.1 -6.9
MEIG Mezcala 2.88 99 *i* P Pn 18 38 06.1 -6.9
PLIG Platanillo 2.95 89 *eP* **Pn 18 38 15.6 +1.6**
PLIG *i* S **Sn 18 38 49.0 +0.8**
PLIG Platanillo 2.95 89 *eP* **Pn 18 38 15.6 +1.6**
PLIG *i* S **Sn 18 38 49.0 +0.8**
ACX Acapulco 3.02 119 *eP* **Pn 18 38 15.4 +0.5**
ACX Acapulco 3.02 119 *eP* **Pn 18 38 15.4 +0.5**
SZVM Salazar 3.20 72 *eP* **Pn 18 38 20.4 +2.8**
SZVM Salazar 3.20 72 *eP* **Pn 18 38 20.4 +2.8**
ANIG Ahuacatlan 3.21 326 *eP* **Pn 18 38 18.2 +0.7**
ANIG *i* S **Sn 18 38 57.8 +3.2**
ANIG Ahuacatlan 3.21 326 *eP* **Pn 18 38 18.2 +0.7**
ANIG *i* S **Sn 18 38 57.8 +3.2**
MZVM 3.31 75 *eP* Pn 18 38 22.6 +4.0
AZVM Cuida Lopez Ma 3.37 69 *i* P **Pn 18 38 21.6 +1.8**
UNM Universidad Na 3.39 73 *i* P **Pn 18 38 23.1 +3.0**
UNM *i* S **Sn 18 39 00.2 +1.1**
UNM Universidad Na 3.39 73 *i* P **Pn 18 38 23.1 +3.0**
UNM *i* S **Sn 18 39 00.2 +1.1**
YAIG Yautepec 3.40 81 *eP* **Pn 18 38 22.4 +2.4**
YAIG *i* S **Sn 18 39 02.5 +3.3**
YAIG Yautepec 3.40 81 *eP* **Pn 18 38 22.4 +2.4**
YAIG *i* S **Sn 18 39 02.5 +3.3**
PBIG Penon de los B 3.50 72 *eP* Pn 18 38 25.3 +4.0
PBVM Pinon 3.50 72 *eP* Pn 18 38 26.7 +5.3
PBVM Pinon 3.50 72 *eP* Pn 18 38 26.7 +5.3
PTVM Pico Tres Padr 3.53 69 *eP* Pn 18 38 28.2 +6.3
PTVM Pico Tres Padr 3.53 69 *eP* Pn 18 38 28.2 +6.3
PPM Popocatepetl 3.84 79 *eP* **Pn 18 38 26.7 +0.3**
PPM *i* S **Sn 18 39 10.6 0.0**
PPM Popocatepetl 3.84 79 *eP* **Pn 18 38 26.7 +0.3**
PPM *i* S **Sn 18 39 10.6 0.0**
IIO Organos 3.87 71 *eP* Pn 18 38 31.1 +4.3
IIO Organos 3.87 71 *eP* Pn 18 38 31.1 +4.3
DEIG Demacu 3.88 60 *i* P **Pn 18 38 28.0 +1.2**
DEIG *i* S **Sn 18 39 13.8 +2.5**
DEIG Demacu 3.88 60 *i* P **Pn 18 38 28.0 +1.2**
DEIG *i* S **Sn 18 39 13.8 +2.5**
ZAIG Zacatecas 4.37 1 *i* P **Pn 18 38 34.5 +0.9**
ZAIG *i* S **Sn 18 39 23.3 0.0**
ZAIG Zacatecas 4.37 1 *i* P **Pn 18 38 34.5 +0.9**
ZAIG *i* S **Sn 18 39 23.3 0.0**
PNIG Pinotepa 4.72 114 *eP* **Pn 18 38 39.8 +1.7**
PNIG *i* S Sn 18 39 39.7 +8.2
PNIG Pinotepa 4.72 114 *eP* **Pn 18 38 39.8 +1.7**
PNIG *i* S Sn 18 39 39.7 +8.2
TPIG Tehuac#an 4.99 89 *i* P Pn 18 38 50.4 +8.5
TPIG Tehuac#an 4.99 89 *i* P Pn 18 38 50.4 +8.5
VHO Vista Hermosa 5.75 102 *i* P **Pn 18 38 55.3 +2.9**
VHO *i* S **Sn 18 39 57.7 +0.5**
VHO Vista Hermosa 5.75 102 *i* P **Pn 18 38 55.3 +2.9**
VHO *i* S **Sn 18 39 57.7 +0.5**
MAIG Mazatlaan 5.97 324 *eP* **Pn 18 38 54.0 -1.2**
MAIG Mazatlaan 5.97 324 *eP* **Pn 18 38 54.0 -1.2**
HUIG Huatulco 6.74 112 *i* P **Pn 18 39 08.5 +2.8**
HUIG *i* S **Sn 18 40 24.7 +3.4**
HUIG Huatulco 6.74 112 *i* P **Pn 18 39 08.5 +2.8**
HUIG *i* S **Sn 18 40 24.7 +3.4**
LNIG Linares 7.12 24 *i* P **Pn 18 39 12.8 +1.9**
LNIG Linares 7.12 24 *i* P **Pn 18 39 12.8 +1.9**
CMIG Matias Romero 7.48 99 P **Pn 18 39 18.3 +2.4**
1.5nm,0.3s,baz=272,slow=12,SNR=18
CMIG S **Sn 18 40 37.9 -1.4**
0.7nm,0.3s,baz=319,slow=18,SNR=2.9
CMIG Lg Lg 18 41 15.2
1.7nm,0.3s,baz=165,slow=20,SNR=3.3
CMIG LR LR 18 42 21.4
comp=Z,374nm,19.8s,baz=73,slow=40
CMIG Matias Romero 7.48 99 *eP* **Pn 18 39 18.5 +2.7**
CMIG S **Sn 18 40 37.9 -1.4**
CMIG Lg Lg 18 41 15.2
CMIG Matias Romero 7.48 99 *eP* **Pn 18 39 18.5 +2.7**
PCIG 9.37 105 *eP* **Pn 18 39 44.6 +2.8**
PCIG 9.37 105 *eP* **Pn 18 39 44.6 +2.8**
TXAR Lajitas Array 10.95 355 P **Pn 18 40 06.4 +2.9**
0.2nm,0.3s,baz=174,slow=15,SNR=19
TXAR Lg Lg 18 43 17.9
0.1nm,0.3s,baz=196,slow=25,SNR=3.2
TXAR LR LR 18 44 48.7
comp=Z,329nm,18.5s,baz=20,slow=41
TXAR Lajitas Array 10.95 355 P **Pn 18 40 06.4 +2.9**
TXAR Lg Lg 18 43 17.9
627A Terlingua Ranc 11.05 356 ⇑P Pn 18 40 09.1 +4.2
baz=11,SNR=7.2
627A ⇑P Pn 18 40 09.1 +4.2
baz=11,SNR=7.2
628A Black Gap, Mar 11.06 359 ⇓P Pn 18 40 09.3 +4.3
baz=11,SNR=5.2
628A ⇓P Pn 18 40 09.3 +4.3
baz=11,SNR=5.2
626A Big Bend Ranch 11.21 353 ⇑P Pn 18 40 11.7 +4.7
baz=11,SNR=6.2
626A ⇑P Pn 18 40 11.7 +4.7
baz=11,SNR=6.2
526A Mary Lane Ranc 11.71 354 P Pn 18 40 18.6 +4.7
baz=12,SNR=13
526A P Pn 18 40 18.6 +4.7
baz=12,SNR=13
528A Cox Ranch, San 11.73 359 ⇓P Pn 18 40 18.1 +3.9
baz=12
528A ⇓P Pn 18 40 18.1 +3.9
baz=12
428A Kincaid Ranch, 12.29 360 P Pn 18 40 26.0 +4.2
baz=12,SNR=12
428A P Pn 18 40 26.0 +4.2
baz=12,SNR=12
426A McDonald Obser 12.30 354 ⇑P Pn 18 40 26.2 +4.1
baz=12
426A ⇑P Pn 18 40 26.2 +4.1
baz=12
427A Hayter Ranch, 12.44 357 ⇑P Pn 18 40 28.1 +4.3
baz=12
427A ⇑P Pn 18 40 28.1 +4.3
baz=12
425A Indio Mountain 12.54 351 P Pn 18 40 29.8 +4.6
baz=12,SNR=5.3
425A P Pn 18 40 29.8 +4.6
baz=12,SNR=5.3
326A Caldwell Ranch 12.94 355 ⇓P Pn 18 40 34.7 +4.0
baz=13,SNR=6.4
326A ⇓P Pn 18 40 34.7 +4.0
baz=13,SNR=6.4
328A Wristen Ranch, 12.95 359 ⇓P Pn 18 40 34.3 +3.6
baz=13,SNR=6.4
328A ⇓P Pn 18 40 34.3 +3.6
baz=13,SNR=6.4
HKT Hockley 13.07 27 P **Pn 18 40 33.6 +1.3**
325A Bean Ranch, Si 13.11 351 ⇑P Pn 18 40 37.0 +4.0
baz=13
325A ⇑P Pn 18 40 37.0 +4.0
baz=13
324A Moseley Ranch, 13.27 349 ⇓P Pn 18 40 39.1 +3.9
baz=13
324A ⇓P Pn 18 40 39.1 +3.9
baz=13
MNTX Cornudas Mount 13.50 350 *eP* **Pn 18 40 40.0 +1.8**
29nm,1.3s
MNTX Cornudas Mount 13.50 350 ⇑P Pn 18 40 41.9 +3.7
baz=14
MNTX ⇑P Pn 18 40 41.9 +3.7
baz=14
MNTX ⇑P Pn 18 40 41.9 +3.7
baz=14
MNTX ⇑P Pn 18 40 41.9 +3.7
baz=14
226A Malaga, Loving 13.69 355 ⇑P Pn 18 40 44.4 +3.5
baz=14
226A ⇑P Pn 18 40 44.4 +3.5
baz=14
GDL2 Guadalupe Moun 13.86 354 *eP* P 18 40 46.7 -3.1
84nm,1.5s
CLNB Carlsbad 13.88 356 *eP* **P 18 40 49.0 -1.0**
40nm,1.5s
CLNB *e* 18 41 05.0
224A Cornudas Mount 13.89 350 ⇓P **Pn 18 40 46.8 +3.1**
baz=14
224A ⇓P **Pn 18 40 46.8 +3.1**
baz=14
127A Arkansas Junct 14.26 357 ⇓P **Pn 18 40 50.9 +2.5**
baz=14
127A ⇓P **Pn 18 40 50.9 +2.5**
baz=14

126A Clayton Basin, 14.27 355 ⇓P **P 18 40 52.1 -2.3**
baz=14,SNR=6.1
126A ⇓P **P 18 40 52.1 -2.3**
baz=14,SNR=6.1
220A Playas Peak, P 14.49 339 ⇓P **P 18 40 56.1 -0.8**
baz=14
220A ⇓P **P 18 40 56.1 -0.8**
baz=14
CPRX Cap Rock 14.64 356 *eP* **P 18 40 58.3 -0.2**
35nm,0.9s
CPRX *e* 18 41 12.7
121A Cookes Peak, D 14.84 343 ⇓P **P 18 40 59.2 -1.7**
baz=15
121A ⇓P **P 18 40 59.2 -1.7**
baz=15
Z26A Caprock 14.88 356 P **Pn 18 40 58.6 +1.9**
baz=15,SNR=7.2
Z26A P **Pn 18 40 58.6 +1.9**
baz=15,SNR=7.2
Z25A Roswell 14.96 353 ⇑P **P 18 41 00.1 -2.0**
baz=15,SNR=13
Z25A ⇑P **P 18 41 00.1 -2.0**
baz=15,SNR=13
Z22A Elephant Butte 15.32 346 ⇑P **P 18 41 05.7 -0.5**
baz=15
Z22A ⇑P **P 18 41 05.7 -0.5**
baz=15
Y27A Causey 15.45 358 ⇑P **P 18 41 06.6 -1.0**
baz=15,SNR=5.9
Y27A ⇑P **P 18 41 06.6 -1.0**
baz=15,SNR=5.9
Y26A Elida 15.52 356 ⇓P **P 18 41 07.1 -1.3**
baz=16,SNR=17
Y26A ⇓P **P 18 41 07.1 -1.3**
baz=16,SNR=17
MSTX Muleshoe 15.53 360 ⇓P **Pn 18 41 06.2 +1.2**
baz=16,SNR=6.9
MSTX ⇓P **Pn 18 41 06.2 +1.2**
baz=16,SNR=6.9
Z21A St. Cloud Mine 15.55 344 ⇑P **P 18 41 09.2 +0.4**
baz=16
Z21A ⇑P **P 18 41 09.2 +0.4**
baz=16
Y25A Mesa, Roswell 15.59 354 ⇓P **P 18 41 08.4 -0.8**
baz=16
Y25A ⇓P **P 18 41 08.4 -0.8**
baz=16
Z20A Nine Sixteen R 15.62 341 ⇑P **P 18 41 09.6 0.0**
baz=16,SNR=6.4
Z20A ⇑P **P 18 41 09.6 0.0**
baz=16,SNR=6.4
Y24A Capitan 15.69 351 ⇓P **P 18 41 09.2 -1.1**
baz=16,SNR=5.8
Y24A ⇓P **P 18 41 09.2 -1.1**
baz=16,SNR=5.8
Y23A Lovelace Mesa, 15.79 349 ⇑P **P 18 41 11.4 0.0**
baz=16,SNR=6.1
Y23A ⇑P **P 18 41 11.4 0.0**
baz=16,SNR=6.1
Y22A Socorro 15.98 347 P **P 18 41 14.2 +0.7**
baz=16,SNR=6.4
Y22A P **P 18 41 14.2 +0.7**
baz=16,SNR=6.4
X26A CR and CF Fran 16.14 356 ⇑P **P 18 41 15.0 -0.3**
baz=16,SNR=8.4
X26A ⇑P **P 18 41 15.0 -0.3**
baz=16,SNR=8.4
X25A Clemmons Ranch 16.19 354 ⇑P **P 18 41 16.4 +0.6**
baz=16
X25A ⇑P **P 18 41 16.4 +0.6**
baz=16
X24A Lazy VL Ranch, 16.32 352 ⇓P **P 18 41 18.1 +0.8**
baz=16
X24A ⇓P **P 18 41 18.1 +0.8**
baz=16
AMTX Amarillo 16.46 3 *eP* **Pn 18 41 17.0 +0.1**
98nm,0.6s
AMTX Amarillo 16.46 3 ⇑P **P 18 41 18.9 +0.1**
baz=16
AMTX ⇑P **P 18 41 18.9 +0.1**
baz=16
AMTX ⇑P **P 18 41 18.9 +0.1**
baz=16
AMTX ⇑P **P 18 41 18.9 +0.1**
baz=16
LAZ Ladron 16.46 347 *eP* **Pn 18 41 16.9 0.0**
Y19A Nutrioso 16.61 340 ⇑P **P 18 41 21.9 +1.3**
baz=17
Y19A ⇑P **P 18 41 21.9 +1.3**
baz=17
WMOK Wichita Mounta 16.65 11 *eP* **Pn 18 41 19.7 +0.6**
95nm,1.5s
WMOK *e* 18 41 33.0
X21A Alamocita Cree 16.66 345 ⇑P **P 18 41 22.8 +1.7**
baz=17
X21A ⇑P **P 18 41 22.8 +1.7**
baz=17
W26A Owens Ranch, T 16.68 357 ⇓P **P 18 41 21.7 +0.5**
baz=17
W26A ⇓P **P 18 41 21.7 +0.5**
baz=17
W28A Vega 16.82 1 ⇑P **P 18 41 23.0 +0.3**
baz=17
W28A ⇑P **P 18 41 23.0 +0.3**
baz=17
W25A X Bar L Ranch, 16.85 355 P **P 18 41 24.5 +1.3**
baz=17,SNR=5.5
W25A P **P 18 41 24.5 +1.3**
baz=17,SNR=5.5
ANMO Albuquerque 16.86 349 P **P 18 41 25.2 +2.0**
0.1nm,0.3s,baz=142,slow=7.2,SNR=4.2
ANMO LR LR 18 48 23.6
comp=Z,271nm,18.1s,baz=347,slow=39
ANMO Albuquerque 16.86 349 *eP* **P 18 41 23.8 +0.5**
61nm,1.7s
X20A Quemado 16.93 343 ⇑P **P 18 41 25.7 +1.5**
baz=17
X20A ⇑P **P 18 41 25.7 +1.5**
baz=17
W24A Lazy 6 Ranch, 16.95 352 P **P 18 41 25.8 +1.5**
baz=17,SNR=15
W24A P **P 18 41 25.8 +1.5**
baz=17,SNR=15
114A Black Gap (USA 17.03 329 ⇑P **P 18 41 27.5 +2.5**
baz=17
114A ⇑P **P 18 41 27.5 +2.5**
baz=17
W22A Albuquerque 17.05 348 ⇑P **P 18 41 26.7 +1.3**
baz=17
W22A ⇑P **P 18 41 26.7 +1.3**
baz=17
W21A San Fidel 17.26 346 ⇑P **P 18 41 29.4 +1.6**
baz=17
W21A ⇑P **P 18 41 29.4 +1.6**
baz=17
V28A Channing 17.31 1 ⇓P **P 18 41 28.6 +0.5**
baz=17
V28A ⇓P **P 18 41 28.6 +0.5**
baz=17
X18A Snowflake 17.36 339 ⇓P **P 18 41 30.6 +1.8**
baz=17
X18A ⇓P **P 18 41 30.6 +1.8**
baz=17
V29A Stinnett 17.45 3 ⇑P **P 18 41 29.8 +0.1**
baz=18
V29A ⇑P **P 18 41 29.8 +0.1**
baz=18
V25A Rancho No Teng 17.48 355 ⇓P **P 18 41 31.3 +1.1**
baz=18
V25A ⇓P **P 18 41 31.3 +1.1**
baz=18
W20A Ramah 17.48 344 ⇓P **P 18 41 31.9 +1.7**
baz=18
W20A ⇓P **P 18 41 31.9 +1.7**
baz=18
VBMS Vicksburg 17.57 36 *eP* **Pn 18 41 28.4 -2.1**
V23A Ortiz Mt. (NFS 17.59 350 ⇓P **P 18 41 33.5 +2.2**
baz=18
V23A ⇓P **P 18 41 33.5 +2.2**
baz=18
X16A Lo Mia Camp, P 17.81 335 ⇑P **P 18 41 36.0 +2.3**
baz=18
X16A ⇑P **P 18 41 36.0 +2.3**
baz=18
W18A Petrified Fore 17.84 341 ⇓P **P 18 41 36.2 +2.2**
baz=18
W18A ⇓P **P 18 41 36.2 +2.2**
baz=18

V22A San Miguel Ran 17.88 349 ⇑P **P 18 41 35.8 +1.3**
baz=18
V22A ⇑P **P 18 41 35.8 +1.3**
baz=18
U26A Atchley Ranch, 17.98 357 P **Pn 18 41 36.4 +0.8**
baz=18,SNR=9.3
U26A P **Pn 18 41 36.4 +0.8**
baz=18,SNR=9.3
MIAR Mount Ida 18.01 25 *eP* **P 18 41 34.4 -1.3**
20nm,1.1s
U25A Circle Dot Ran 18.02 355 P **Pn 18 41 37.3 +1.0**
baz=18,SNR=8.9
U25A P **Pn 18 41 37.3 +1.0**
baz=18,SNR=8.9
V20A Brimhall 18.11 345 ⇓P **Pn 18 41 39.0 +1.7**
baz=18
V20A ⇓P **Pn 18 41 39.0 +1.7**
baz=18
U22A Llaves 18.32 349 ⇑P **Pn 18 41 41.0 +1.2**
baz=18
U22A ⇑P **Pn 18 41 41.0 +1.2**
baz=18
V18A Ganado 18.44 341 ⇑P **Pn 18 41 42.7 +1.4**
baz=18
V18A ⇑P **Pn 18 41 42.7 +1.4**
baz=18
TUL1 Tulsa 18.48 18 P **P 18 41 38.9 -2.0**
baz=18,SNR=8.4
TUL1 P **P 18 41 38.9 -2.0**
baz=18,SNR=8.4
U21A Nageezi 18.52 347 ⇑P **Pn 18 41 43.9 +1.5**
baz=18,SNR=14
U21A ⇑P **Pn 18 41 43.9 +1.5**
baz=18,SNR=14
T27A Campo 18.61 360 P **P 18 41 42.6 0.0**
baz=19,SNR=6.0
T27A P **P 18 41 42.6 0.0**
baz=19,SNR=6.0
T28A Walsh 18.68 1 ⇑P **P 18 41 43.3 +0.1**
baz=19,SNR=6.0
T28A ⇑P **P 18 41 43.3 +0.1**
baz=19,SNR=6.0
DVTC Desert V Tower 18.69 322 P **Pn 18 41 45.7 +1.5**
baz=19
DVTC P **Pn 18 41 45.7 +1.5**
baz=19
T26A Comanche Natio 18.75 358 ⇑P **Pn 18 41 44.9 -0.1**
baz=19,SNR=9.8
T26A ⇑P **Pn 18 41 44.9 -0.1**
baz=19,SNR=9.8
T24A Torres, Weston 18.75 354 ⇓P **Pn 18 41 45.8 +0.7**
baz=19,SNR=9.1
T24A ⇓P **Pn 18 41 45.8 +0.7**
baz=19,SNR=9.1
WUAZ Wupatki 18.76 337 *eP* **Pn 18 41 47.5 +2.4**
40nm,1.2s
WUAZ Wupatki 18.76 337 P **Pn 18 41 46.4 +1.4**
baz=19
WUAZ P **Pn 18 41 46.4 +1.4**
baz=19
JTS JuntasAbangare 18.89 113 LR LR 18 49 34.7
comp=Z,62nm,18.4s,baz=209,slow=39
T22A Edith 18.95 349 ⇑P **Pn 18 41 47.7 +0.3**
baz=19
T22A ⇑P **Pn 18 41 47.7 +0.3**
baz=19
BC3 Big Chuckawall 19.07 325 P **Pn 18 41 50.3 +1.5**
baz=19
BC3 P **Pn 18 41 50.3 +1.5**
baz=19
S26A Kim 19.19 358 ⇓P **Pn 18 41 50.4 +0.2**
baz=19,SNR=22
S26A ⇓P **Pn 18 41 50.4 +0.2**
baz=19,SNR=22
T19A Beclabito 19.23 344 ⇓P **Pn 18 41 51.2 +0.5**
baz=19
T19A ⇓P **Pn 18 41 51.2 +0.5**
baz=19
U16A Tuba City 19.23 339 ⇑P **Pn 18 41 51.0 +0.3**
baz=19
U16A ⇑P **Pn 18 41 51.0 +0.3**
baz=19
S25A Robets Cordova 19.28 356 ⇑P **Pn 18 41 51.3 -0.1**
baz=19,SNR=8.1
S25A ⇑P **Pn 18 41 51.3 -0.1**
baz=19,SNR=8.1
IRM Iron Mountain 19.30 327 ⇑P **Pn 18 41 52.5 +1.2**
baz=19
IRM ⇑P **Pn 18 41 52.5 +1.2**
baz=19
S24A Houchin Ranch, 19.33 354 ⇓P **Pn 18 41 52.3 +0.3**
baz=19,SNR=11
S24A ⇓P **Pn 18 41 52.3 +0.3**
baz=19,SNR=11
W13A Hualapai Mount 19.43 331 ⇓P **Pn 18 41 54.4 +1.2**
baz=19
W13A ⇓P **Pn 18 41 54.4 +1.2**
baz=19
MVCO Mesa Verde 19.46 346 *eP* **Pn 18 41 54.6 +1.1**
61nm,1.5s
MVCO Mesa Verde 19.46 346 ⇑P **Pn 18 41 53.8 +0.2**
baz=20
MVCO ⇑P **Pn 18 41 53.8 +0.2**
baz=20
SDCO Great Sand Dun 19.46 353 *eP* **Pn 18 41 54.0 +0.4**
104nm,1.9s
SDCO Great Sand Dun 19.46 353 ⇓P **Pn 18 41 53.0 -0.6**
baz=20
SDCO ⇓P **Pn 18 41 53.0 -0.6**
baz=20
SDCO ⇓P **Pn 18 41 53.0 -0.6**
baz=20
SDCO ⇓P **Pn 18 41 53.0 -0.6**
baz=20
U17A Shonto 19.49 340 ⇑P **Pn 18 41 54.3 +0.4**
baz=20
U17A ⇑P **Pn 18 41 54.3 +0.4**
baz=20
BELC Belle Mtn. Jos 19.62 325 ⇓P **Pn 18 41 56.3 +0.9**
baz=20
BELC ⇓P **Pn 18 41 56.3 +0.9**
baz=20
S22A 4UR Ranch, Cre 19.65 350 ⇑P **Pn 18 41 55.3 -0.5**
baz=20
S22A ⇑P **Pn 18 41 55.3 -0.5**
baz=20
S21A Coal Bank Pass 19.74 348 ⇑P **P 18 41 56.1 +1.1**
baz=20,SNR=8.4
S21A ⇑P **P 18 41 56.1 +1.1**
baz=20,SNR=8.4
T18A Mexican Hat 19.75 343 ⇑P **Pn 18 41 56.6 -0.2**
baz=20
T18A ⇑P **Pn 18 41 56.6 -0.2**
baz=20
R25A Fountain Ranch 19.75 356 ⇑P **P 18 41 55.9 +0.9**
baz=20
R25A ⇑P **P 18 41 55.9 +0.9**
baz=20
R27A Eads 19.84 360 ⇑P **P 18 41 56.4 +0.6**
baz=20,SNR=14
R27A ⇑P **P 18 41 56.4 +0.6**
baz=20,SNR=14
R26A Arlington 19.86 358 P **P 18 41 56.6 +0.4**
baz=20,SNR=11
R26A P **P 18 41 56.6 +0.4**
baz=20,SNR=11
T17A Navajo Res., N 19.90 340 P **Pn 18 41 58.6 0.0**
baz=20,SNR=7.8
T17A P **Pn 18 41 58.6 0.0**
baz=20,SNR=7.8
R24A Sanders Place, 19.90 354 P **P 18 41 57.6 +1.0**
baz=20,SNR=6.6
R24A P **P 18 41 57.6 +1.0**
baz=20,SNR=6.6
OXF Oxford 19.92 34 *eP* **P 18 41 55.3 -1.3**
35nm,1.0s
R23A Moffat 19.94 353 ⇑P **P 18 41 58.1 +0.9**
baz=20
R23A ⇑P **P 18 41 58.1 +0.9**
baz=20
MURC Murrieta 20.01 322 P Pn 18 42 00.8 +1.0
baz=20
MURC P Pn 18 42 00.8 +1.0
baz=20
S20A Disappointment 20.02 347 ⇑P Pn 18 41 59.4 -0.9
baz=20
S20A ⇑P Pn 18 41 59.4 -0.9
baz=20

GMRC	**Granite Mounta**	**20.04**	**327**	P	Pn	18 42 00.3	0.0		
	baz=20								
GMRC				P	Pn	18 42 00.3	0.0		
	baz=20								
R22A	**Saguache, Gunn**	**20.11**	**350**	⇓P	Pn	18 42 00.7	-0.7		
	baz=20								
R22A				⇓P	Pn	18 42 00.7	-0.7		
	baz=20								
LRAL	**Lakeview Retre**	**20.23**	**41**	*e*P	**P**	**18 41 58.8**	**-1.3**		
	22nm,0.8s								
S18A	**Hurst Farm, Bl**	**20.30**	**343**	⇑P	**P**	**18 42 02.3**	**+1.3**		
	baz=20								
S18A				⇑P	**P**	**18 42 02.3**	**+1.3**		
	baz=20								
R21A	**Cimarron**	**20.38**	**349**	⇑P	Pn	18 42 03.5	-1.0		
	baz=20								
R21A				⇑P	Pn	18 42 03.5	-1.0		
	baz=20								
HEC	**Hector,Ludlow**	**20.43**	**326**	⇓P	Pn	18 42 04.6	-0.3		
	baz=20								
HEC				⇓P	Pn	18 42 04.6	-0.3		
	baz=20								
S17A	**Black Ridge (B**	**20.48**	**341**	⇑P	Pn	18 42 04.6	-1.0		
	baz=20								
S17A				⇑P	Pn	18 42 04.6	-1.0		
	baz=20								
Q26A	**Hugo**	**20.49**	**358**	⇑P	**P**	**18 42 04.0**	**+1.1**		
	baz=20								
Q26A				⇑P	**P**	**18 42 04.0**	**+1.1**		
	baz=20								
Q25A	**Bedland, Calha**	**20.51**	**356**	P	**P**	**18 42 03.6**	**+0.3**		
	baz=20,SNR=5.9								
Q25A				P	**P**	**18 42 03.6**	**+0.3**		
	baz=20,SNR=5.9								
CBKS	**Cedar Bluff**	**20.52**	**6**	*e*P	**P**	**18 42 02.7**	**-0.5**		
	42nm,0.9s								
CBKS	**Cedar Bluff**	**20.52**	**6**	⇓P	**P**	**18 42 03.0**	**-0.2**		
	baz=20								
CBKS				⇓P	**P**	**18 42 03.0**	**-0.2**		
	baz=20								
CBKS				⇓P	**P**	**18 42 03.0**	**-0.2**		
	baz=20								
KSCO	**Kaye Shedlock'**	**20.56**	**360**	⇑P	**P**	**18 42 03.9**	**+0.2**		
	baz=21,SNR=12								
KSCO				⇑P	**P**	**18 42 03.9**	**+0.2**		
	baz=21,SNR=12								
CIS	**Catalina Islan**	**20.59**	**320**	P	Pn	18 42 06.9	+0.1		
	baz=21								
CIS				P	Pn	18 42 06.9	+0.1		
	baz=21								
R19A	**Curley Farm, L**	**20.67**	**345**	⇑P	**P**	**18 42 06.2**	**+1.2**		
	baz=21								
R19A				⇑P	**P**	**18 42 06.2**	**+1.2**		
	baz=21								
TUQ	**Turquoise Moun**	**20.69**	**328**	⇓P	Pn	18 42 07.6	-0.4		
	baz=21								
TUQ				⇓P	Pn	18 42 07.6	-0.4		
	baz=21								
S16A	**Weppner Ranch,**	**20.82**	**340**	⇑P	Pn	18 42 08.3	-1.3		
	baz=21								
S16A				⇑P	Pn	18 42 08.3	-1.3		
	baz=21								
R18A	**Canyonlands Na**	**20.92**	**344**	⇓P	**P**	**18 42 09.1**	**+1.4**		
	baz=21								
R18A				⇓P	**P**	**18 42 09.1**	**+1.4**		
	baz=21								
PLAL	**Pickwick Lake**	**20.99**	**35**	*e*P	**P**	**18 42 06.3**	**-1.9**		
	42nm,1.0s								
GSC	**Goldstone**	**21.04**	**326**	*e*P	**P**	**18 42 11.3**	**+2.3**		
	13nm,1.0s								
GSC	**Goldstone**	**21.04**	**326**	P	**P**	**18 42 11.2**	**+2.3**		
	baz=21								
GSC				P	**P**	**18 42 11.2**	**+2.3**		
	baz=21								
SMCO	**Snowmass**	**21.07**	**351**	P	**P**	**18 42 10.0**	**+0.5**		
	16nm,1.1s								
Q20A	**Ridgley Place,**	**21.09**	**348**	⇓P	**P**	**18 42 10.9**	**+1.4**		
	baz=21								
Q20A				⇓P	**P**	**18 42 10.9**	**+1.4**		
	baz=21								
P25A	**Willow Gulch B**	**21.10**	**357**	⇑P	**P**	**18 42 10.0**	**+0.3**		
	baz=21								
P25A				⇑P	**P**	**18 42 10.0**	**+0.3**		
	baz=21								
P26A	**Davis Ranch, A**	**21.12**	**358**	⇑P	**P**	**18 42 10.3**	**+0.6**		
	baz=21								
P26A				⇑P	**P**	**18 42 10.3**	**+0.6**		
	baz=21								
R17A	**Hanksville Air**	**21.18**	**342**	⇑P	**P**	**18 42 12.4**	**+2.0**		
	baz=21								
R17A				⇑P	**P**	**18 42 12.4**	**+2.0**		
	baz=21								
R16A	**Teasdale**	**21.29**	**340**	⇑P	**P**	**18 42 13.4**	**+1.7**		
	baz=21								
R16A				⇑P	**P**	**18 42 13.4**	**+1.7**		
	baz=21								
Q19A	**Hogan Spring (**	**21.30**	**346**	⇓P	**P**	**18 42 13.2**	**+1.5**		
	baz=21								
Q19A				⇓P	**P**	**18 42 13.2**	**+1.5**		
	baz=21								
EDW2	**Edwards Air Fo**	**21.38**	**323**	⇑P	**P**	**18 42 15.6**	**+3.1**		
	baz=21								
EDW2				⇑P	**P**	**18 42 15.6**	**+3.1**		
	baz=21								
P22A	**Eagle**	**21.45**	**351**	⇓P	**P**	**18 42 14.5**	**+1.2**		
	baz=21								
P22A				⇓P	**P**	**18 42 14.5**	**+1.2**		
	baz=21								
BLG	**Laguna Peak**	**21.47**	**320**	⇓P	**P**	**18 42 16.3**	**+2.9**		
	baz=21								
BLG				⇓P	**P**	**18 42 16.3**	**+2.9**		
	baz=21								
ISCO	**Idaho Springs**	**21.50**	**354**	*e*P	**P**	**18 42 16.3**	**+2.2**		
	15nm,1.0s								
ISCO	**Idaho Springs**	**21.50**	**354**	⇓P	**P**	**18 42 15.6**	**+1.5**		
	baz=22								
ISCO				⇓P	**P**	**18 42 15.6**	**+1.5**		
	baz=22								
ARUT	**Antelope Range**	**21.54**	**336**	*e*P	**P**	**18 42 15.8**	**+1.6**		
	28nm,1.1s								
LRMC	**Laurel Mountai**	**21.65**	**325**	P	**P**	**18 42 17.4**	**+2.0**		
	baz=22								
LRMC				P	**P**	**18 42 17.4**	**+2.0**		
	baz=22								
Q18A	**Rafter H Ranch**	**21.66**	**344**	⇓P	**P**	**18 42 16.8**	**+1.3**		
	baz=22								
Q18A				⇓P	**P**	**18 42 16.8**	**+1.3**		
	baz=22								
MSU	**Marysvale**	**21.73**	**339**	*e*P	**P**	**18 42 17.6**	**+1.2**		
	12nm,1.2s								
O27A	**Beecher Island**	**21.74**	**0**	⇓P	**P**	**18 42 17.6**	**+1.3**		
	baz=22								
O27A				⇓P	**P**	**18 42 17.6**	**+1.3**		
	baz=22								
SRU	**San Rafael**	**21.77**	**343**	⇑P	**P**	**18 42 18.1**	**+1.3**		
	baz=22								
SRU				⇑P	**P**	**18 42 18.1**	**+1.3**		
	baz=22								
Q16A	**Castle Valley**	**21.78**	**342**	⇓P	**P**	**18 42 18.5**	**+1.6**		
	baz=22								
Q16A				⇓P	**P**	**18 42 18.5**	**+1.6**		
	baz=22								
O23A	**Lake Granby, G**	**21.95**	**353**	⇑P	**P**	**18 42 19.7**	**+0.9**		
	baz=22								
O23A				⇑P	**P**	**18 42 19.7**	**+0.9**		
	baz=22								
O22A	**Kremmling**	**21.97**	**352**	P	**P**	**18 42 19.7**	**+0.6**		
	baz=22,SNR=5.4								
O22A				P	**P**	**18 42 19.7**	**+0.6**		
	baz=22,SNR=5.4								
MPMC	**Manual Prospec**	**21.98**	**326**	⇓P	**P**	**18 42 20.5**	**+1.4**		
	baz=22								
MPMC				⇓P	**P**	**18 42 20.5**	**+1.4**		
	baz=22								
WVT	**Waverly**	**21.98**	**33**	*e*P	**P**	**18 42 14.3**	**-4.6**		
	5.4nm,0.8s								
R13A	**O'Grain Ranch,**	**22.08**	**336**	⇓P	**P**	**18 42 21.4**	**+1.2**		
	baz=22								
R13A				⇓P	**P**	**18 42 21.4**	**+1.2**		
	baz=22								
ISA	**Isabella**	**22.22**	**324**	P	**P**	**18 42 23.4**	**+1.9**		
	baz=22								
ISA				P	**P**	**18 42 23.4**	**+1.9**		
	baz=22								
FVM	**French Village**	**22.25**	**26**	*e*P	**P**	**18 42 20.3**	**-1.5**		
	11nm,0.8s								

N24A	**Carr**	**22.46**	**355**	⇓P	**P**	**18 42 24.5**	**+0.4**		
	baz=22								
N24A				⇓P	**P**	**18 42 24.5**	**+0.4**		
	baz=22								
OGNE	**Ogallala**	**22.50**	**1**	⇓P	**P**	**18 42 24.7**	**+0.2**		
	baz=22								
OGNE				⇓P	**P**	**18 42 24.7**	**+0.2**		
	baz=22								
N23A	**Red Feather La**	**22.62**	**353**	⇓P	**P**	**18 42 26.5**	**+0.5**		
	baz=23								
N23A				⇓P	**P**	**18 42 26.5**	**+0.5**		
	baz=23								
GRAC	**Grapevine Rang**	**22.64**	**328**	P	**P**	**18 42 27.6**	**+1.6**		
	baz=23								
GRAC				P	**P**	**18 42 27.6**	**+1.6**		
	baz=23								
N21A	**Black Mountain**	**22.70**	**350**	⇓P	**P**	**18 42 27.3**	**+0.5**		
	baz=23								
N21A				⇓P	**P**	**18 42 27.3**	**+0.5**		
	baz=23								
GOGA	**Godfrey**	**22.76**	**45**	*e*P	P	18 42 19.7	-7.6		
	5.0nm,0.7s								
O17A	**Robinson Place**	**22.84**	**344**	⇓P	**P**	**18 42 29.0**	**+0.7**		
	baz=23								
O17A				⇓P	**P**	**18 42 29.0**	**+0.7**		
	baz=23								
N20A	**Spence Gulch,**	**22.90**	**349**	⇓P	**P**	**18 42 29.2**	**+0.4**		
	baz=23								
N20A				⇓P	**P**	**18 42 29.2**	**+0.4**		
	baz=23								
M26A	**McRoberts Ranc**	**23.02**	**359**	⇑P	**P**	**18 42 30.0**	**+0.1**		
	baz=23								
M26A				⇑P	**P**	**18 42 30.0**	**+0.1**		
	baz=23								
M24A	**Cheyenne**	**23.09**	**356**	⇑P	**P**	**18 42 30.9**	**+0.2**		
	baz=23								
M24A				⇑P	**P**	**18 42 30.9**	**+0.2**		
	baz=23								
N19A	**John Jarvie Ra**	**23.14**	**347**	⇓P	**P**	**18 42 31.5**	**+0.3**		
	baz=23								
N19A				⇓P	**P**	**18 42 31.5**	**+0.3**		
	baz=23								
M23A	**Laramie**	**23.17**	**354**	P	**P**	**18 42 30.4**	**-1.1**		
	baz=23,SNR=5.3								
M23A				P	**P**	**18 42 30.4**	**-1.1**		
	baz=23,SNR=5.3								
BGNE	**Belgrade**	**23.27**	**9**	⇓P	**P**	**18 42 31.0**	**-1.3**		
	baz=23								
BGNE				⇓P	**P**	**18 42 31.0**	**-1.3**		
	baz=23								
DUG	**Dugway**	**23.46**	**340**	P	**P**	**18 42 35.5**	**+1.3**		
	baz=23								
DUG				P	**P**	**18 42 35.5**	**+1.3**		
	baz=23								
M21A	**Separation Pea**	**23.51**	**351**	⇑P	**P**	**18 42 34.6**	**-0.1**		
	baz=24								
M21A				⇑P	**P**	**18 42 34.6**	**-0.1**		
	baz=24								
L26A	**Underwood Farm**	**23.59**	**359**	⇑P	**P**	**18 42 35.5**	**+0.2**		
	baz=24								
L26A				⇑P	**P**	**18 42 35.5**	**+0.2**		
	baz=24								
L25A	**Engebretsen Ra**	**23.73**	**358**	⇓P	**P**	**18 42 36.0**	**-0.7**		
	baz=24								
L25A				⇓P	**P**	**18 42 36.0**	**-0.7**		
	baz=24								
L22A	**Ellis Ranch, M**	**23.80**	**353**	⇑P	**P**	**18 42 37.4**	**0.0**		
	baz=24,SNR=7.8								
L22A				⇑P	**P**	**18 42 37.4**	**0.0**		
	baz=24,SNR=7.8								
L23A	**Garrett**	**23.81**	**354**	⇓P	**P**	**18 42 36.5**	**-1.0**		
	baz=24								
L23A				⇓P	**P**	**18 42 36.5**	**-1.0**		
	baz=24								
L21A	**Rawlins**	**23.86**	**351**	⇓P	**P**	**18 42 37.5**	**-0.5**		
	baz=24								
L21A				⇓P	**P**	**18 42 37.5**	**-0.5**		
	baz=24								
TKL	**Tuckaleechee C**	**23.97**	**40**	P	**P**	**18 42 36.5**	**-2.3**		
	2.3nm,0.4s,baz=214,slow=18,SNR=2.3								
TKL				LR	LR	18 54 17.6			
	comp=Z,118nm,19.0s,baz=41,slow=42								
TKL	**Tuckaleechee C**	**23.97**	**40**	P	**P**	**18 42 36.5**	**-2.3**		
NVAR	**Mina Array Bea**	**24.21**	**329**	P	**P**	**18 42 42.8**	**+1.6**		
	7.7nm,0.8s,baz=153,slow=11,SNR=31								
NVAR				sP	**sP**	**18 43 01.9**	**+0.6**		
	4.0nm,0.8s,baz=150,slow=11,SNR=4.8								
NVAR	**Mina Array Bea**	**24.21**	**329**	P	**P**	**18 42 42.8**	**+1.6**		
NVAR				sP	**sP**	**18 43 01.9**	**+0.6**		
WCI	**Wyandotte Cave**	**24.37**	**32**	*e*P	**P**	**18 42 40.4**	**-2.1**		
	14nm,0.8s								
K22A	**Casper**	**24.42**	**353**	⇑P	**P**	**18 42 42.4**	**-0.7**		
	baz=24								
K22A				⇑P	**P**	**18 42 42.4**	**-0.7**		
	baz=24								
K21A	**Alcova**	**24.50**	**352**	⇓P	**P**	**18 42 43.0**	**-0.8**		
	baz=24,SNR=5.7								
K21A				⇓P	**P**	**18 42 43.0**	**-0.8**		
	baz=24,SNR=5.7								
K20A	**Yellowstone Ra**	**24.69**	**350**	⇑P	**P**	**18 42 45.2**	**-0.3**		
	baz=25								
K20A				⇑P	**P**	**18 42 45.2**	**-0.3**		
	baz=25								
SCIA	**State Center**	**24.79**	**17**	*e*P	**P**	**18 42 46.2**	**+0.1**		
	6.6nm,0.4s								
SCIA				*e*		18 42 58.6			
ELK	**Elko**	**24.80**	**337**	P	**P**	**18 42 47.6**	**+1.1**		
	0.9nm,0.6s,baz=160,slow=12,SNR=4.1								
ELK				LR	LR	18 53 26.7			
	comp=Z,136nm,18.2s,baz=178,slow=39								
ELK	**Elko**	**24.80**	**337**	P	**P**	**18 42 47.6**	**+1.1**		
HDIL	**Hopedale**	**24.90**	**25**	*e*P	**P**	**18 42 45.3**	**-1.9**		
	26nm,0.9s								
K19A	**Absolon Red Bu**	**24.94**	**349**	⇑P	**P**	**18 42 47.5**	**-0.3**		
	baz=25								
K19A				⇑P	**P**	**18 42 47.5**	**-0.3**		
	baz=25								
L15A	**Malad City**	**24.98**	**343**	⇑P	**P**	**18 42 48.0**	**-0.2**		
	baz=25								
L15A				⇑P	**P**	**18 42 48.0**	**-0.2**		
	baz=25								
BW06	**Boulder Array**	**25.02**	**348**	⇑P	**P**	**18 42 48.2**	**-0.4**		
	baz=25								
BW06				⇑P	**P**	**18 42 48.2**	**-0.4**		
	baz=25								
BW06				⇑P	**P**	**18 42 48.2**	**-0.4**		
	baz=25								
BW06				⇑P	**P**	**18 42 48.2**	**-0.4**		
	baz=25								
PDAR	**Pinedale Array**	**25.02**	**348**	P	**P**	**18 42 48.5**	**0.0**		
	2.6nm,0.9s,baz=159,slow=9.1,SNR=16								
PDAR				pP	**pP**	**18 43 02.5**	**+0.3**		
	4.6nm,0.9s,baz=155,slow=9.8,SNR=16								
PDAR				PcP	**PcP**	**18 46 23.1**	**+0.7**		
	0.8nm,0.7s,baz=151,slow=3.4,SNR=4.4								
PDAR				pPcP		18 46 37.9			
	1.5nm,0.8s,baz=137,slow=5.2,SNR=7.1								
PDAR				LR	LR	18 53 34.8			
	comp=Z,189nm,19.9s,baz=174,slow=39								
PDAR	**Pinedale Array**	**25.02**	**348**	P	**P**	**18 42 48.5**	**0.0**		
PDAR				pP	**pP**	**18 43 02.5**	**+0.3**		
PDAR				PcP	**PcP**	**18 46 23.1**	**+0.7**		
PDAR				pPcP		18 46 37.9			
PD02	**Pinedale Array**	**25.03**	**348**	*e*P	**P**	**18 42 48.4**	**-0.2**		
PD01	**Pinedale Array**	**25.03**	**348**	*e*P	**P**	**18 42 48.2**	**-0.5**		
J22A	**Midwest**	**25.17**	**353**	⇓P	**P**	**18 42 49.3**	**-0.5**		
	baz=25								
J22A				⇓P	**P**	**18 42 49.3**	**-0.5**		
	baz=25								
J21A	**Lysite**	**25.22**	**352**	⇑P	**P**	**18 42 49.6**	**-0.8**		
	baz=25								
J21A				⇑P	**P**	**18 42 49.6**	**-0.8**		
	baz=25								
J18A	**Kendall Valley**	**25.54**	**347**	⇓P	**P**	**18 42 53.3**	**0.0**		
	baz=26								
J18A				⇓P	**P**	**18 42 53.3**	**0.0**		
	baz=26								
WCN	**Washoe City**	**25.61**	**328**	⇓P	**P**	**18 42 54.6**	**+0.7**		
	baz=26								
WCN				⇓P	**P**	**18 42 54.6**	**+0.7**		
	baz=26								
I22A	**9 Mile Ranch,**	**25.65**	**354**	⇓P	**P**	**18 42 54.0**	**-0.1**		
	baz=26								
I22A				⇓P	**P**	**18 42 54.0**	**-0.1**		
	baz=26								
K15A	**Arbon**	**25.65**	**343**	⇑P	**P**	**18 42 54.1**	**-0.1**		
	baz=26								
K15A				⇑P	**P**	**18 42 54.1**	**-0.1**		

	baz=26								
I21A	**Big Trails, Te**	**25.66**	**352**	⇓P	**P**	**18 42 53.9**	**-0.4**		
	baz=26								
I21A				⇓P	**P**	**18 42 53.9**	**-0.4**		
	baz=26								
SFIN	**Scholer Farm**	**25.68**	**28**	⇓P	**P**	**18 42 50.6**	**-3.7**		
	baz=26								
SFIN				⇓P	**P**	**18 42 50.6**	**-3.7**		
	baz=26								
K14A	**Jones Ranch, D**	**25.71**	**342**	⇓P	**P**	**18 42 55.0**	**+0.3**		
	baz=26								
K14A				⇓P	**P**	**18 42 55.0**	**+0.3**		
	baz=26								
ECSD	**EROS Data Cent**	**25.78**	**10**	*e*P	**P**	**18 42 54.1**	**-1.0**		
	18nm,1.3s								
I20A	**Worland**	**25.91**	**351**	P	**P**	**18 42 56.0**	**-0.5**		
	baz=26,SNR=7.5								
I20A				P	**P**	**18 42 56.0**	**-0.5**		
	baz=26,SNR=7.5								
RRI2	**Red Ridge**	**25.96**	**345**	*e*P	**P**	**18 42 56.5**	**-0.6**		
	18nm,1.4s								
J16A	**Bone**	**25.96**	**345**	⇑P	**P**	**18 42 57.1**	**0.0**		
	baz=26								
J16A				⇑P	**P**	**18 42 57.1**	**0.0**		
	baz=26								
I18A	**Diamond G Ranc**	**25.97**	**348**	⇓P	**P**	**18 42 57.2**	**+0.1**		
	baz=26								
I18A				⇓P	**P**	**18 42 57.2**	**+0.1**		
	baz=26								
TPAW	**Teton Pass**	**26.01**	**346**	*e*P	**P**	**18 42 57.2**	**-0.3**		
	10nm,1.0s								
LOHW	**Long Hollow**	**26.05**	**347**	*e*P	**P**	**18 42 58.2**	**+0.4**		
	6.1nm,0.8s								
I19A	**Meeteetse**	**26.14**	**350**	⇓P	**P**	**18 42 58.2**	**-0.5**		
	baz=26								
I19A				⇓P	**P**	**18 42 58.2**	**-0.5**		
	baz=26								
H22A	**Clearmont**	**26.33**	**354**	⇓P	**P**	**18 43 00.1**	**-0.2**		
	baz=26								
H22A				⇓P	**P**	**18 43 00.1**	**-0.2**		
	baz=26								
I17A	**Pilgrim Ck.**	**26.33**	**347**	⇑P	**P**	**18 43 00.6**	**+0.1**		
	baz=26								
I17A				⇑P	**P**	**18 43 00.6**	**+0.1**		
	baz=26								
H21A	**Big Horn, Sher**	**26.43**	**353**	⇓P	**P**	**18 43 00.9**	**-0.4**		
	baz=26								
H21A				⇓P	**P**	**18 43 00.9**	**-0.4**		
	baz=26								
H19A	**Powell**	**26.75**	**350**	⇑P	**P**	**18 43 03.7**	**-0.5**		
	baz=27								
H19A				⇑P	**P**	**18 43 03.7**	**-0.5**		
	baz=27								
G20A	**Bridger**	**27.17**	**351**	⇓P	**P**	**18 43 07.2**	**-0.7**		
	baz=27								
G20A				⇓P	**P**	**18 43 07.2**	**-0.7**		
	baz=27								
H16A	**Russell Place,**	**27.23**	**346**	⇓P	**P**	**18 43 07.8**	**-0.6**		
	baz=27								
H16A				⇓P	**P**	**18 43 07.8**	**-0.6**		
	baz=27								
I13A	**Wildhorse Cree**	**27.24**	**342**	⇓P	**P**	**18 43 08.8**	**+0.2**		
	baz=27								
I13A				⇓P	**P**	**18 43 08.8**	**+0.2**		
	baz=27								
RLMT	**Red Lodge**	**27.24**	**350**	⇓P	**P**	**18 43 07.8**	**-0.8**		
	baz=27								
RLMT				⇓P	**P**	**18 43 07.8**	**-0.8**		
	baz=27								
RLMT				⇓P	**P**	**18 43 07.8**	**-0.8**		
	baz=27								
RLMT				⇓P	**P**	**18 43 07.8**	**-0.8**		
	baz=27								
G18A	**Lazy EL Ranch,**	**27.48**	**349**	⇑P	**P**	**18 43 10.4**	**-0.2**		
	baz=28								
G18A				⇑P	**P**	**18 43 10.4**	**-0.2**		
	baz=28								
F21A	**Absaloka Mine,**	**27.62**	**353**	⇑P	**P**	**18 43 11.3**	**-0.5**		
	baz=28								
F21A				⇑P	**P**	**18 43 11.3**	**-0.5**		
	baz=28								
G17A	**Pierce Place,**	**27.71**	**348**	⇓P	**P**	**18 43 12.7**	**0.0**		
	baz=28								
G17A				⇓P	**P**	**18 43 12.7**	**0.0**		
	baz=28								
MCMT	**McKenzie Canyo**	**27.73**	**344**	*e*P	**P**	**18 43 12.7**	**-0.3**		
	0.7nm,0.7s								
F20A	**Billings**	**27.73**	**352**	⇓P	**P**	**18 43 12.4**	**-0.4**		
	baz=28								
F20A				⇓P	**P**	**18 43 12.4**	**-0.4**		
	baz=28								
G16A	**Moss Hill, Enn**	**27.85**	**346**	⇓P	**P**	**18 43 14.0**	**0.0**		
	baz=28								
G16A				⇓P	**P**	**18 43 14.0**	**0.0**		
	baz=28								
F18A	**Big Timber**	**28.07**	**349**	P	**P**	**18 43 15.3**	**-0.7**		
	baz=28,SNR=5.9								
F18A				P	**P**	**18 43 15.3**	**-0.7**		
	baz=28,SNR=5.9								
BOZ	**Bozeman (W)**	**28.21**	**347**	*e*P	**P**	**18 43 17.0**	**-0.2**		
	1.5nm,0.9s								
BOZ	**Bozeman (W)**	**28.21**	**347**	⇑P	**P**	**18 43 16.9**	**-0.2**		
	baz=28								
BOZ				⇑P	**P**	**18 43 16.9**	**-0.2**		
	baz=28								
BOZ				⇑P	**P**	**18 43 16.9**	**-0.2**		
	baz=28								
BOZ				⇑P	**P**	**18 43 16.9**	**-0.2**		
	baz=28								
F17A	**Fitzpatrick Pl**	**28.25**	**348**	⇑P	**P**	**18 43 17.3**	**-0.2**		
	baz=28								
F17A				⇑P	**P**	**18 43 17.3**	**-0.2**		
	baz=28								
G14A	**Jackson**	**28.27**	**344**	⇑P	**P**	**18 43 17.6**	**-0.2**		
	baz=28								
G14A				⇑P	**P**	**18 43 17.6**	**-0.2**		
	baz=28								
F16A	**Kennard Place,**	**28.34**	**347**	⇓P	**P**	**18 43 18.3**	**0.0**		
	baz=28								
F16A				⇓P	**P**	**18 43 18.3**	**0.0**		
	baz=28								
G13A	**Cobalt**	**28.35**	**343**	⇑P	**P**	**18 43 18.7**	**+0.3**		
	baz=28								
G13A				⇑P	**P**	**18 43 18.7**	**+0.3**		
	baz=28								
E19A	**Rath Farm, Rou**	**28.47**	**351**	⇓P	**P**	**18 43 18.9**	**-0.4**		
	baz=28								
E19A				⇓P	**P**	**18 43 18.9**	**-0.4**		
	baz=28								
F15A	**Butte**	**28.59**	**345**	⇓P	**P**	**18 43 20.6**	**0.0**		
	baz=29								
F15A				⇓P	**P**	**18 43 20.6**	**0.0**		
	baz=29								
D24A	**Glendive**	**28.70**	**358**	⇑P	**P**	**18 43 20.8**	**-0.6**		
	baz=29								
D24A				⇑P	**P**	**18 43 20.8**	**-0.6**		
	baz=29								
E18A	**Harlowton**	**28.75**	**349**	⇓P	**P**	**18 43 21.7**	**-0.3**		
	baz=29								
E18A				⇓P	**P**	**18 43 21.7**	**-0.3**		
	baz=29								
**

D18A	**Linhart Farms,**	**29.34**	**350**	⇑P		**P**	**18 43 27.0**	**-0.1**
	baz=29							
D18A				⇑P		**P**	**18 43 27.0**	**-0.1**
	baz=29							
E14A	**Clinton**	**29.37**	**345**	⇑P		**P**	**18 43 27.3**	**-0.2**
	baz=29							
E14A				⇑P		**P**	**18 43 27.3**	**-0.2**
	baz=29							
C23A	**Lambert**	**29.42**	**356**	⇓P		**P**	**18 43 27.3**	**-0.5**
	baz=29							
C23A				⇓P		**P**	**18 43 27.3**	**-0.5**
	baz=29							
D17A	**Six Diamond Ra**	**29.45**	**349**	P		**P**	**18 43 27.1**	**-1.1**
	baz=30,SNR=8.0							
D17A				P		**P**	**18 43 27.1**	**-1.1**
	baz=30,SNR=8.0							
D16A	**Dana Ranch, Ca**	**29.51**	**348**	⇑P		**P**	**18 43 28.5**	**-0.2**
	baz=30							
D16A				⇑P		**P**	**18 43 28.5**	**-0.2**
	baz=30							
C20A	**Veseth Ranch,**	**29.59**	**353**	⇓P		**P**	**18 43 28.8**	**-0.5**
	baz=30							
C20A				⇓P		**P**	**18 43 28.8**	**-0.5**
	baz=30							
D15A	**Lincoln**	**29.73**	**346**	⇑P		**P**	**18 43 30.6**	**0.0**
	baz=30							
D15A				⇑P		**P**	**18 43 30.6**	**0.0**
	baz=30							
C19A	**Slack Wire Ran**	**29.75**	**351**	⇑P		**P**	**18 43 30.3**	**-0.4**
	baz=30							
C19A				⇑P		**P**	**18 43 30.3**	**-0.4**
	baz=30							
C17A	**Wharram Farm,**	**29.93**	**349**	⇑P		**P**	**18 43 32.0**	**-0.3**
	baz=30							
C17A				⇑P		**P**	**18 43 32.0**	**-0.3**
	baz=30							
D14A	**Greenough**	**30.00**	**345**	⇓P		**P**	**18 43 32.6**	**-0.3**
	baz=30							
D14A				⇓P		**P**	**18 43 32.6**	**-0.3**
	baz=30							
DGMT	**Dagmar**	**30.04**	**358**	⇓P		**P**	**18 43 32.5**	**-0.7**
	baz=30							
DGMT				⇓P		**P**	**18 43 32.5**	**-0.7**
	baz=30							
B23A	**Brockton**	**30.07**	**357**	⇓P		**P**	**18 43 33.5**	**0.0**
	baz=30							
B23A				⇓P		**P**	**18 43 33.5**	**0.0**
	baz=30							
EGMT	**Eagleton**	**30.14**	**350**	*e*P		**P**	**18 43 31.9**	**-2.2**
	5.8nm,1.0s							
EGMT	**Eagleton**	**30.14**	**350**	⇓P		**P**	**18 43 33.4**	**-0.8**
	baz=30							
EGMT				⇓P		**P**	**18 43 33.4**	**-0.8**
	baz=30							
D13A	**Huson**	**30.25**	**344**	⇓P		**P**	**18 43 35.2**	**0.0**
	baz=30							
D13A				⇓P		**P**	**18 43 35.2**	**0.0**
	baz=30							
C16A	**Fuhringer Ranc**	**30.28**	**348**	⇑P		**P**	**18 43 35.1**	**-0.3**
	baz=30							
C16A				⇑P		**P**	**18 43 35.1**	**-0.3**
	baz=30							
AGMN	**Agassiz Nation**	**30.35**	**9**	*e*P		**P**	**18 43 34.8**	**-1.1**
	14nm,0.6s							
C15A	**Salmond Ranch,**	**30.44**	**347**	⇑P		**P**	**18 43 36.9**	**+0.1**
	baz=30							
C15A				⇑P		**P**	**18 43 36.9**	**+0.1**
	baz=30							
B19A	**Brinkman Farms**	**30.44**	**352**	⇓P		**P**	**18 43 36.2**	**-0.6**
	baz=30							
B19A				⇓P		**P**	**18 43 36.2**	**-0.6**
	baz=30							
B18A	**Beardsley Farm**	**30.50**	**351**	⇓P		**P**	**18 43 36.8**	**-0.6**
	baz=30							
B18A				⇓P		**P**	**18 43 36.8**	**-0.6**
	baz=30							
B17A	**L&G Farms, Che**	**30.57**	**349**	⇑P		**P**	**18 43 37.5**	**-0.5**
	baz=31							
B17A				⇑P		**P**	**18 43 37.5**	**-0.5**
	baz=31							
A20A	**Cobblestone Ra**	**30.73**	**353**	⇓P		**P**	**18 43 38.6**	**-0.7**
	baz=31							
A20A				⇓P		**P**	**18 43 38.6**	**-0.7**
	baz=31							
EYMN	**Ely**	**30.86**	**15**	*e*P		**P**	**18 43 38.1**	**-2.3**
	6.9nm,1.0s							
B16A	**M & M Farms, S**	**30.86**	**348**	⇑P		**P**	**18 43 39.8**	**-0.7**
	baz=31							
B16A				⇑P		**P**	**18 43 39.8**	**-0.7**
	baz=31							
B15A	**Bradely Ranch,**	**30.94**	**347**	⇑P		**P**	**18 43 40.7**	**-0.5**
	baz=31							
B15A				⇑P		**P**	**18 43 40.7**	**-0.5**
	baz=31							
A18A	**Metzger Ranch,**	**31.02**	**351**	⇓P		**P**	**18 43 41.2**	**-0.7**
	baz=31							
A18A				⇓P		**P**	**18 43 41.2**	**-0.7**
	baz=31							
A17A	**Triple J Farms**	**31.19**	**350**	⇑P		**P**	**18 43 42.7**	**-0.7**
	baz=31							
A17A				⇑P		**P**	**18 43 42.7**	**-0.7**
	baz=31							
B13A	**Whitefish**	**31.44**	**345**	⇑P		**P**	**18 43 45.3**	**-0.3**
	baz=31							
B13A				⇑P		**P**	**18 43 45.3**	**-0.3**
	baz=31							
A15A	**Johnson Ranch,**	**31.61**	**347**	⇓P		**P**	**18 43 46.5**	**-0.6**
	baz=32							
A15A				⇓P		**P**	**18 43 46.5**	**-0.6**
	baz=32							
A14A	**Double T Ranch**	**31.75**	**346**	⇑P		**P**	**18 43 47.8**	**-0.6**
	baz=32							
A14A				⇑P		**P**	**18 43 47.8**	**-0.6**
	baz=32							
A13A	**Flathead Natio**	**31.94**	**345**	⇑P		**P**	**18 43 49.8**	**-0.3**
	baz=32							
A13A				⇑P		**P**	**18 43 49.8**	**-0.3**
	baz=32							
ULM	**Lac du Bonnet**	**32.25**	**8**	P		**P**	**18 43 50.8**	**-1.9**
	10nm,0.9s,baz=198,slow=8.4,SNR=15							
ULM					PcP	**PcP**	**18 46 39.9**	**0.0**
	2.6nm,0.6s,baz=127,slow=0.2,SNR=4.8							
ULM					LR	LR	18 56 55.5	
	comp=Z,166nm,21.1s,baz=218,slow=36							
ULM	**Lac du Bonnet**	**32.25**	**8**	*e*P		**P**	**18 43 50.7**	**-1.9**
	18nm,1.5s							
ULM					PcP	**PcP**	**18 46 39.9**	**0.0**
SJG	**San Juan**	**34.59**	**85**		LR	LR	18 58 47.2	
	comp=Z,55nm,19.4s,baz=90,slow=37							
FFC	**Flin Flon**	**36.28**	**1**	*e*P		**P**	**18 44 24.9**	**-2.6**
	3.0nm,0.8s							
DLBC	**Dease Lake**	**44.77**	**340**	P		**P**	**18 45 38.5**	**+0.9**
	18nm,1.1s,baz=171,slow=10.0,SNR=13							
DLBC					pP	**pP**	**18 45 52.0**	**+0.3**
	6.1nm,0.8s,baz=155,slow=10,SNR=3.4							
DLBC	**Dease Lake**	**44.77**	**340**	P		**P**	**18 45 38.5**	**+0.9**
DLBC					pP	**pP**	**18 45 52.0**	**+0.3**
YKA	**Yellowknife Ar**	**44.86**	**352**	P		**P**	**18 45 36.8**	**-1.3**
	3.8nm,0.7s,baz=161,slow=7.6,SNR=80							
YKA					pP	**pP**	**18 45 50.6**	**-1.7**
	2.2nm,0.7s,baz=162,slow=7.5,SNR=10							
YKA					PcP	**PcP**	**18 47 19.5**	**+0.6**
	0.9nm,0.7s,baz=161,slow=3.4,SNR=9.0							
YKA					pPcP		18 47 34.2	
	0.7nm,0.6s,baz=160,slow=3.3,SNR=6.7							
YKA	**Yellowknife Ar**	**44.86**	**352**	P		**P**	**18 45 36.8**	**-1.3**
YKA					pP	**pP**	**18 45 50.6**	**-1.7**
YKA					PcP	**PcP**	**18 47 19.6**	**+0.6**
YKA					pPcP		18 47 34.2	
SCHQ	**Schefferville**	**45.47**	**28**	P		**P**	**18 45 41.4**	**-1.6**
	7.6nm,0.7s,baz=245,slow=6.9,SNR=11							
SCHQ	**Schefferville**	**45.47**	**28**	P		**P**	**18 45 41.4**	**-1.6**
SAML	**Samuel**	**47.45**	**122**	*e*P		**P**	**18 45 58.6**	**-0.4**
	8.3nm,1.2s							
SAML					*e*pP	**pP**	**18 46 11.4**	**-2.0**
LPAZ	**La Paz**	**48.36**	**133**	P		**P**	**18 46 08.1**	**+1.3**
	1.0nm,0.7s,baz=284,slow=10.0,SNR=3.4							
LPAZ					pP	**pP**	**18 46 21.5**	**+0.3**
	1.7nm,0.7s,baz=310,slow=10,SNR=4.3							
LPAZ					LR	LR	19 05 51.2	
	comp=Z,52nm,18.9s,baz=21,slow=35							
LPAZ	**La Paz**	**48.36**	**133**	P		**P**	**18 46 08.1**	**+1.3**
LPAZ					pP	**pP**	**18 46 21.5**	**+0.3**
DAWY	**Dawson**	**51.98**	**340**	*e*P		**P**	**18 46 33.3**	**+0.4**
EGAK	**Eagle**	**53.03**	**340**	*e*P		**P**	**18 46 40.9**	**+0.3**
	6.6nm,0.6s							
SIV	**San Ignacio**	**53.29**	**127**	P		**P**	**18 46 43.7**	**+0.5**
	3.0nm,0.8s,baz=310,slow=8.2,SNR=11							
SIV					pP	**pP**	**18 46 57.0**	**-0.8**
	4.0nm,0.8s,baz=317,slow=8.3,SNR=11							
SIV	**San Ignacio**	**53.29**	**127**	P		**P**	**18 46 43.7**	**+0.5**
SIV					pP	**pP**	**18 46 57.0**	**-0.8**
PAX	**Paxson**	**53.36**	**337**	*e*P		**P**	**18 46 43.6**	**+0.4**
	13nm,1.4s							
INK	**Inuvik**	**53.57**	**346**	*e*P		**P**	**18 46 44.0**	**-0.5**
	12nm,1.1s							
ILAR	**Eielson Array**	**54.93**	**339**	P		**P**	**18 46 54.6**	**+0.1**
	7.1nm,0.8s,baz=146,slow=5.8,SNR=76							
ILAR					PcP	**PcP**	**18 47 56.5**	**+0.7**
	1.3nm,0.6s,baz=159,slow=2.8,SNR=8.8							
ILAR					pPcP		18 48 11.6	
	1.2nm,0.6s,baz=159,slow=3.0,SNR=7.2							
ILAR	**Eielson Array**	**54.93**	**339**	P		**P**	**18 46 54.6**	**+0.1**
ILAR					PcP	**PcP**	**18 47 56.5**	**+0.7**
ILAR					pPcP		18 48 11.6	
MCK	**McKinley**	**55.08**	**337**	*e*P		**P**	**18 46 55.6**	**0.0**
	7.4nm,0.9s							
TRF	**Thorofare Moun**	**55.44**	**336**	*e*P		**P**	**18 46 58.3**	**-0.1**
	21nm,0.7s							
TNA	**Tin City**	**63.26**	**335**	*e*P		**P**	**18 47 53.1**	**+1.1**
	12nm,1.1s							
SUMG	**Summit**	**64.94**	**17**	*i* P		**P**	**18 48 02.8**	**-0.7**
	7.8nm,1.0s							
PLCA	**Paso Flores**	**65.93**	**154**	pP		pP	18 48 25.4	+0.5
	1.6nm,0.7s,baz=6.1,slow=8.7,SNR=3.0							
PLCA	**Paso Flores**	**65.93**	**154**	pP		pP	18 48 25.4	+0.5
DAG	**Danmarks Havn**	**70.85**	**14**	*i* P		**P**	**18 48 38.6**	**-1.4**
	18nm,0.7s							
DAG				*e*			18 49 59.0	
PETK	**Petropavlovsk-**	**81.16**	**323**	P		**P**	**18 49 40.5**	**+1.4**
	6.1nm,0.7s,baz=95,slow=9.8,SNR=14							
PETK					pP	**pP**	**18 49 55.0**	**+0.4**
	3.2nm,0.6s,baz=90,slow=9.8,SNR=3.6							
PETK	**Petropavlovsk-**	**81.16**	**323**	P		**P**	**18 49 40.5**	**+1.4**
PETK					pP	**pP**	**18 49 55.0**	**+0.4**
ESDC	**Sonseca Array**	**84.89**	**50**	P		**P**	**18 49 59.5**	**+0.7**
	0.9nm,0.6s,baz=292,slow=4.3,SNR=5.4							
ESDC	**Sonseca Array**	**84.89**	**50**	P		**P**	**18 49 59.5**	**+0.7**
ARCES	**ARCESS Array B**	**85.00**	**16**	P		**P**	**18 49 59.0**	**+0.4**
	4.5nm,0.7s,baz=316,slow=3.3,SNR=19							
ARCES					pP	**pP**	**18 50 13.6**	**-0.5**
	1.4nm,0.6s,baz=336,slow=2.7,SNR=2.2							
ARCES	**ARCESS Array B**	**85.00**	**16**	P		**P**	**18 49 59.0**	**+0.4**
ARCES					pP	**pP**	**18 50 13.6**	**-0.5**
NB2	**NORSAR Subarra**	**85.01**	**27**	P		**P**	**18 49 59.0**	**+0.1**
	comp=Z,2.9nm,1.2s,baz=299,slow=4.8							
NOA	**NORSAR Array B**	**85.01**	**27**	P		**P**	**18 49 59.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=302,slow=4.9,SNR=3.3							
NOA					pP	**pP**	**18 50 13.5**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=109,slow=18,SNR=1.8							
NOA	**NORSAR Array B**	**85.01**	**27**	P		**P**	**18 49 59.6**	**+0.8**
NOA					pP	**pP**	**18 50 13.5**	**-0.9**
GERES	**GERESS Array B**	**92.45**	**36**	P		**P**	**18 50 34.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=316,slow=2.7,SNR=5.2							
GERES	**GERESS Array B**	**92.45**	**36**	P		**P**	**18 50 34.6**	**-0.1**
MKAR	**Makanchi Array**	**114.98**	**356**	pPKP		pPKiKP	18 56 19.1	-1.6
	comp=Z,0.4nm,0.8s,baz=29,slow=2.8,SNR=3.0							
STKA	**Stephens Creek**	**121.08**	**243**	PKP		**PKPdf**	**18 56 17.3**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=344,slow=7.4,SNR=3.5							
STKA	**Stephens Creek**	**121.08**	**243**	PKP		**PKPdf**	**18 56 17.3**	**+0.8**
WRA	**Warramunga Arr**	**126.40**	**258**	PKP		**PKPdf**	**18 56 27.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=78,slow=2.3,SNR=20							
WRA				pPKP		**pPKPdf**	**18 56 42.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=74,slow=2.3,SNR=6.1							
WRA	**Warramunga Arr**	**126.40**	**258**	PKP		**PKPdf**	**18 56 27.9**	**+0.8**
WRA				pPKP		**pPKPdf**	**18 56 42.4**	**-0.9**
ASAR	**Alice Springs**	**127.26**	**254**	PKP		**PKPdf**	**18 56 29.1**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=58,slow=1.5,SNR=12							
ASAR	**Alice Springs**	**127.26**	**254**	PKP		**PKPdf**	**18 56 29.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**137.71**	**329**	PKP		**PKPdf**	**18 56 47.7**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=339,slow=1.9,SNR=11							
CMAR				pPKP		**pPKPdf**	**18 57 04.5**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=329,slow=2.1,SNR=9.2							
CMAR	**Chiang Mai Arr**	**137.71**	**329**	PKP		**PKPdf**	**18 56 47.7**	**-0.7**
CMAR				pPKP		**pPKPdf**	**18 57 04.5**	**-0.1**

IDC 26 18:45:45.4±2.2,16.27S×175.40W,h181km±67km, mb3.3/3,mb1 3.6/4,mb1mx3.3/18,mbtmp3.4/4,Error ellipse: s-maj=297.2km s-min=22.6km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.22**	**57**	P		Pn	18 46 50.9	+1.5
	6.1nm,0.3s,baz=194,slow=12,SNR=3.7							
AFI				S		Sn	18 47 39.0	-0.5
	17nm,0.3s,baz=167,slow=16,SNR=7.9							
WRA	**Warramunga Arr**	**47.77**	**258**	P		P	18 54 04.5	-0.3
	0.4nm,0.5s,baz=95,slow=7.0,SNR=15							
ASAR	**Alice Springs**	**48.01**	**253**	P		P	18 54 06.4	-0.2
	3.1nm,0.5s,baz=87,slow=8.8,SNR=110							
ILAR	**Eielson Array**	**83.68**	**12**	P		P	18 57 53.4	+0.1
	0.3nm,0.6s,baz=221,slow=5.7,SNR=7.9							

*ISCJB **26** 19:00:21.7±0.6,38.72N±0.03×22.16E±0.05,h27km±6km, Error ellipse: s-maj=6.8km s-min=4.8km az=169.2*
*CSEM **26** 19:00:21.6±0.1,38.72N×22.17E,h20km,ML2.0/3,Error ellipse: s-maj=2.5km s-min=2.1km az=79.0*
*THE **26** 19:00:22.1,38.71N×22.18E,h20km±2km,ML2.0/3,Error ellipse: s-maj=2.8km s-min=0.4km az=293.0*
*ATH **26** 19:00:22.2,38.72N×22.16E,h18km±3km,MD2.5/4*

ISC 26 19:00:21.8±1.0,38.71N±0.02×22.16E±0.03,h25km±9km, n23,σ0°35/44,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKR	**Makrakomi, Fth**	**0.30**	**356**	P		**Pb**	**19 00 28.8**	**0.0**
MAKR				S		**Sb**	**19 00 33.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.30**	**356**	P		**Pb**	**19 00 28.8**	**0.0**
MAKR				S		**Sb**	**19 00 33.9**	**+0.3**
KALE	**Kalithea**	**0.32**	**183**	P		**Pb**	**19 00 28.9**	**-0.3**
KALE				S		**Sb**	**19 00 34.4**	**+0.2**
KALE	**Kalithea**	**0.32**	**183**	P		**Pb**	**19 00 28.9**	**-0.3**
KALE				S		**Sb**	**19 00 34.4**	**+0.2**
EVR	**Evrytania**	**0.34**	**307**	*e*PB		**Pb**	**19 00 29.2**	**-0.3**
EVR				*e*SB		**Sb**	**19 00 34.5**	**-0.2**
EVR	**Evrytania**	**0.34**	**307**	*e*Pb		**Pb**	**19 00 29.2**	**-0.3**
EVR				*e*Sb		**Sb**	**19 00 34.5**	**-0.2**
EFP	**Efpalio**	**0.35**	**215**	P		**Pb**	**19 00 29.4**	**-0.1**
EFP				S		**Sb**	**19 00 35.2**	**+0.4**
EFP	**Efpalio**	**0.35**	**215**	*e*PB		**Pb**	**19 00 29.4**	**-0.1**
EFP				*e*SB		**Sb**	**19 00 35.1**	**+0.3**
EFP	**Efpalio**	**0.35**	**215**	P		**Pb**	**19 00 29.4**	**-0.1**
EFP				S		**Sb**	**19 00 35.2**	**+0.4**
TRIZ	**Trizonia**	**0.35**	**191**	P		**Pb**	**19 00 29.4**	**-0.2**
TRIZ				S		**Sb**	**19 00 35.6**	**+0.7**
TRIZ	**Trizonia**	**0.35**	**191**	P		**Pb**	**19 00 29.4**	**-0.2**
TRIZ				S		**Sb**	**19 00 35.6**	**+0.7**
DSF	**Desfina**	**0.42**	**136**	P		**Pb**	**19 00 30.1**	**-0.5**
DSF				S		**Sb**	**19 00 36.5**	**-0.2**
DSF	**Desfina**	**0.42**	**136**	P		**Pb**	**19 00 30.1**	**-0.5**
DSF				S		**Sb**	**19 00 36.5**	**-0.2**
LAKA	**Lakka**	**0.49**	**197**	P		**Pb**	**19 00 31.8**	**-0.1**
LAKA				S		**Sb**	**19 00 39.1**	**+0.3**
LAKA	**Lakka**	**0.49**	**197**	P		**Pb**	**19 00 31.8**	**-0.1**
LAKA				S		**Sb**	**19 00 39.1**	**+0.3**
LKR	**Lokris**	**0.66**	**95**	*e*PN		**Pb**	**19 00 34.8**	**+0.1**
LKR				*e*SN		**Sn**	**19 00 44.5**	**-0.7**
LKR	**Lokris**	**0.66**	**95**	*e*Pn		**Pb**	**19 00 34.8**	**+0.1**
LKR				*e*Sn		**Sn**	**19 00 44.5**	**-0.7**
ATAL	**Atalanti**	**0.67**	**92**	P		**Pb**	**19 00 35.1**	**+0.2**
ATAL				S		**Sb**	**19 00 44.2**	**+0.3**
ATAL	**Atalanti**	**0.67**	**92**	P		**Pb**	**19 00 35.1**	**+0.2**
ATAL				S		**Sb**	**19 00 44.2**	**+0.3**
GUR	**Goura**	**0.79**	**169**	P		**Pb**	**19 00 36.8**	**-0.1**
GUR				S		**Sn**	**19 00 48.2**	**-0.3**
GUR	**Goura**	**0.79**	**169**	P		**Pb**	**19 00 36.8**	**-0.1**
GUR				S		**Sn**	**19 00 48.2**	**-0.3**
THL	**Klokotos Trika**	**0.86**	**352**	*e*PN		**Pn**	**19 00 38.6**	**+0.3**
THL	**Klokotos Trika**	**0.86**	**352**	*e*Pn		**Pn**	**19 00 38.6**	**+0.3**

*MOS **26** 19:11:46.8±0.9,52.11N×171.38W,h33km,mb5.8/130, MS5.5/58,Error ellipse: s-maj=16.5km s-min=4.6km az=94.1*
*NEIC **26** 19:11:47.0,51.96N×171.16W,h25km,mb5.6/258, MS5.5/90,MW5.8,MW5.7,ML5.5(AEIC),Moment Tensor Solution. s78 Moment tensor: Scale 10^{17}Nm; M_{rr}2.82; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$-1.01; $M_{r\theta}$1.94; $M_{\theta\phi}$-1.15; $M_{\phi r}$2.24; Best double couple: M_o4.00000×10^{17} NP1:ϕ_s45.00000°, δ69.00000°,λ84.00000°. NP2:ϕ_s242.00000°,δ22.00000°, λ106.00000°. Principal axes: T 4.1600, Plg65.0000°, Azm303.0000°; N -0.2700, Plg6.0000°, Azm47.0000°; P -3.8900, Plg23.0000°, Azm139.0000°; After AEIC.*
NEIC Felt at Nikolski.
*BJI **26** 19:11:47.3,52.38N×171.86W,h23km,mB5.7/46, mb5.9/72,Ms5.8/66,Ms7 5.6/63*
*IDC **26** 19:11:48.5±1.3,52.17N×171.35W,h32km±8km,mb5.3/41, mb1 5.3/44,mb1mx5.3/44,mbtmp5.2/44,ML4.6/3,MS5.4/29, Ms1 5.4/29,ms1mx5.3/46,Error ellipse: s-maj=12.9km s-min=7.9km az=163.0*
*ISCJB **26** 19:11:48.7±0.3,52.16N±0.02×171.35W±0.02,h47km±2km, mb5.6/462,MS5.5/185,Error ellipse: s-maj=3.7km s-min=1.6km az=3.4*
*BGS **26** 19:11:49.5±1.7,52.12N×166.79W,h25km±999km,mb5.8*
*IGIL **26** 19:11:49.4,52.19N×171.41W,h35km,MS5.6*
*SZGRF **26** 19:11:50.3,52.60N×171.12W,h33km,mb5.8,MS5.4,Fox Islands, Aleutian Islands, United States*
*DJA **26** 19:11:57,52.03N×171.18W,h119km,Mw5.7/45*
*NEIC **26** 19:12:00.9±0.0,51.84N×171.42W,h31km,Moment Tensor Solution. s157 Moment tensor: Scale 10^{17}Nm; M_{rr}4.87; $M_{\theta\theta}$-2.98; $M_{\phi\phi}$-1.89; $M_{r\theta}$2.75; $M_{\theta\phi}$-2.86; $M_{\phi r}$3.87; Best double couple: M_o7.00000×10^{17} NP1:ϕ_s40.00000°, δ67.00000°,λ81.00000°. NP2:ϕ_s242.00000°,δ25.00000°, λ110.00000°. Principal axes: T 6.8300, Plg67.0000°, Azm293.0000°; N 0.2900, Plg8.0000°, Azm43.0000°; P -7.1300, Plg21.0000°, Azm136.0000°;*

ISC 26 19:11:48.2±0.3,52.09N±0.04×171.33W±0.02,h33km±1km, h33km:pP-P,n1631,σ0s98/3335,mb5.7/462,MS5.5/187, 1072C-960D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.69**	**280**	P		**Pb**	**19 12 18.3**	**-0.5**
KOFP	**Korovin Flat P**	**1.72**	**277**	P		**Pb**	**19 12 18.3**	**-0.9**
NIKO	**Nikolski**	**1.75**	**59**	P		**Pn**	**19 12 14.5**	**-1.7**
NIKO				S		**Sn**	**19 12 36.2**	**-1.2**
ATKA	**Atka Island**	**1.77**	**275**	P		**Pn**	**19 12 17.5**	**+1.0**
ATKA				S		**Sb**	**19 12 40.3**	**-1.5**
KOKL	**Mount Kliuchef**	**1.78**	**279**	P		**Pb**	**19 12 19.5**	**-0.8**
OKWE	**Okmok W'ng Wal**	**2.33**	**52**	P		**Pn**	**19 12 24.1**	**-0.2**
OKCE	**Okmok Cone E**	**2.34**	**54**	P		**Pn**	**19 12 25.2**	**+0.8**
OKCE				S		**Sn**	**19 12 53.6**	**+1.5**
OKFG	**Magazine Ridge**	**2.46**	**56**	P		**Pn**	**19 12 26.5**	**+0.5**
OKFG				S		**Sn**	**19 12 56.2**	**+1.2**
GSMY	**Great Sitkin M**	**2.92**	**271**	P		**Pn**	**19 12 34.4**	**+2.0**
GSTR	**Great Sitkin T**	**2.92**	**272**	*e*P		**Pn**	**19 12 34.6**	**+2.3**
GSTD	**Great Sitkin T**	**2.97**	**271**	P		**Pn**	**19 12 34.7**	**+1.6**
GSCK	**Great Sitkin C**	**2.98**	**270**	P		**Pn**	**19 12 34.5**	**+1.3**
ETKA	**Kagalaska Isla**	**3.15**	**268**	P		**Pn**	**19 12 36.5**	**+1.1**
MSOM	**Makushin Julie**	**3.17**	**55**	P		**Pn**	**19 12 36.4**	**+0.8**
MSOM	**Makushin Julie**	**3.17**	**55**	P		**Pn**	**19 12 36.4**	**+0.8**
MCIR	**Makushin Cirqu**	**3.27**	**53**	P		**Pn**	**19 12 38.6**	**+1.5**
UNV	**Unalaska Valle**	**3.41**	**57**	P		**Pn**	**19 12 39.5**	**+0.5**
UNV				S		**Sn**	**19 13 00.8**	**+1.8**
KIKV	**Kanaga Island**	**3.62**	**269**	P		**Pn**	**19 12 44.5**	**+2.6**
KICM	**Kanaga Island**	**3.63**	**270**	P		**Pn**	**19 12 44.8**	**+2.7**
KIMD	**Kanaga Island**	**3.67**	**267**	P		**Pn**	**19 12 44.3**	**+1.7**
AKLV	**Akutan Long Va**	**3.85**	**55**	P		**Pn**	**19 12 47.8**	**+2.7**
AHB	**Akutan Harbor**	**3.89**	**56**	P		**Pn**	**19 12 47.2**	**+1.5**
AKUT	**Akutan**	**3.93**	**56**	P		**Pn**	**19 12 47.9**	**+1.8**
TAFL	**Tanaga Flats**	**4.08**	**268**	P		**Pn**	**19 12 51.2**	**+2.9**
TASE	**Tanaga Southea**	**4.16**	**269**	P		**Pn**	**19 12 52.3**	**+3.0**
TANO	**Tanaga North**	**4.20**	**270**	P		**Pn**	**19 12 52.9**	**+3.0**
GAEA	**Gareloi East**	**4.60**	**269**	P		**Pn**	**19 12 58.1**	**+2.7**
GANE	**Gareloi Northe**	**4.62**	**270**	P		**Pn**	**19 12 58.2**	**+2.6**
GALAA	**Gareloi Lava P**	**4.62**	**269**	P		Pn	19 12 58.9	+3.2
SPIA	**Saint Paul Isl**	**5.14**	**7**	P		Pn	19 13 06.7	+3.9
BRPK	**Brown Peak**	**5.21**	**58**	P		**Pn**	**19 13 05.9**	**+2.1**
SDPT	**Sand Point**	**7.22**	**59**	*e*P		**Pn**	**19 13 31.9**	**+0.6**
	826nm,0.6s							
CHGN	**Chignik**	**8.66**	**56**	*e*P		**Pn**	**19 13 50.3**	**-0.8**
SMY	**Shemya**	**8.93**	**280**	*e*P		**Pn**	**19 13 57.9**	**+3.1**
SMY				pmax		pmax		
	comp=Z,713nm,1.0s							
SMY	**Shemya**	**8.93**	**280**	*e*P		**Pn**	**19 13 57.9**	**+3.1**
	comp=Z,713nm,1.0s							
FX1	**Attu Island--F**	**

comp=Z,3μm,5.8s
PET pmax pmax
comp=Z,195nm,0.8s
PET pmax pmax
comp=Z,6μm,15.2s
PET Petropavlovsk 18.22 285 eP **P 19 15 58.3 +0.1**
comp=Z,128nm,0.8s
DOT Dot Lake 18.38 40 eP **Pn 19 16 00.1 0.0**
comp=Z,37nm,1.0s
DOT eScP **ScP 19 24 01.9 -0.5**
COLD Coldfoot 18.39 26 eP **Pn 19 16 01.8 +1.6**
comp=Z,131nm,1.2s
PEA0B Petropavlovsk- 18.77 285 eP **Pn 19 16 06.3 +1.3**
PETK Petropavlovsk- 18.77 285 P **Pn 19 16 06.0 +1.0**
comp=Z,7.5nm,0.3s,baz=93,slow=13,SNR=145
PETK PcP **PcP 19 20 30.9 +0.4**
comp=Z,0.1nm,0.3s,baz=108,slow=4.8,SNR=4.6
PETK LR LR 19 22 32.1
comp=Z,6μm,21.4s,baz=292,slow=34
PETK ScP **ScP 19 24 03.6 +0.3**
comp=Z,0.1nm,0.3s,baz=127,slow=5.9,SNR=5.8
PETK Petropavlovsk- 18.77 285 P **Pn 19 16 06.0 +1.0**
PETK Petropavlovsk- 18.77 285 P **Pn 19 16 06.0 +1.0**
PETK PcP **PcP 19 20 30.9 +0.4**
PETK ScP **ScP 19 24 03.6 +0.3**
PNL Peninsula 19.30 54 eP **Pn 19 16 11.9 +0.6**
comp=Z,205nm,0.8s
BILL Bilibino 19.31 334⇑eP **Pn 19 16 12.1 +0.7**
BILL iSS Sn 19 20 02.8 +16
BILL pmax pmax
comp=Z,431nm,1.3s
BILL MLR MLR
comp=Z,11μm,16.0s
BILL Bilibino 19.31 334 eP **Pn 19 16 12.1 +0.7**
comp=Z,606nm,1.1s
EGAK Eagle 20.01 39 eP **P 19 16 17.6 -0.2**
comp=Z,116nm,0.9s
EGAK LR LR
comp=Z,24μm,20.0s
SKR Severo-Kuril's 20.28 279 eP **P 19 16 20.0 -0.7**
SKR e 19 16 56.0
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s
SKR pmax pmax
comp=N,3μm,18.0s
SKR pmax pmax
comp=E,4μm,18.0s
SKR pmax pmax
comp=Z,5μm,18.0s
SKR MLR MLR
comp=N,6μm,18.0s
SKR MLR MLR
comp=E,9μm,18.0s
SKR MLR MLR
comp=Z,15μm,18.0s
DAWY Dawson 20.44 42 eP **P 19 16 20.0 -2.6**
SIT Sitka 21.28 62 eP **P 19 16 34.0 +2.5**
SIT pmax pmax
comp=Z,87nm,0.8s
SIT Sitka 21.28 62 eP **P 19 16 34.0 +2.5**
comp=Z,87nm,0.8s
SKAG Skagway 21.33 56 eP **P 19 16 33.0 +1.0**
comp=Z,349nm,0.9s
SEY Seymchan 21.98 314⇑iP **P 19 16 40.2 +1.2**
CRAG Craig 22.63 66 eP **P 19 16 44.2 -1.8**
comp=Z,191nm,1.1s
DIB Dawson Inlet, 23.41 72 T T 19 40 34.7
SNR=5.4
DLBC Dease Lake 24.06 58 eP **P 19 17 02.0 +1.8**
comp=Z,29nm,0.5s,baz=276,slow=9.4,SNR=30
DLBC ScP **ScP 19 24 15.7 -0.8**
comp=Z,12nm,1.1s,baz=216,slow=7.3,SNR=3.6
DLBC LR LR 19 26 27.9
comp=Z,6μm,21.4s,baz=285,slow=37
DLBC Dease Lake 24.06 58 eP **P 19 17 01.8 +1.6**
DLBC ScP **ScP 19 24 15.7 -0.8**
INK Inuvik 24.25 34 P **P 19 17 00.7 -1.0**
comp=Z,43nm,0.7s,baz=247,slow=10,SNR=82
INK PcP **PcP 19 20 41.9 +1.0**
comp=Z,63nm,0.9s,baz=200,slow=2.6,SNR=8.3
INK S **S 19 21 16.9 -0.9**
comp=Z,20nm,1.0s,baz=217,slow=20,SNR=4.1
INK ScP **ScP 19 24 16.6 -0.1**
comp=Z,13nm,0.9s,baz=252,slow=20,SNR=6.1
INK Inuvik 24.25 34 eP **P 19 16 59.5 -2.2**
INK 19 20 41.9
INK S **S 19 21 16.9 -0.9**
INK pmax pmax
comp=Z,70nm,0.8s
INK Inuvik 24.25 34 eP **P 19 16 59.5 -2.2**
comp=Z,70nm,0.8s
INK PcP **PcP 19 20 41.9 +1.0**
INK S **S 19 21 16.9 -0.9**
INK ScP **ScP 19 24 16.6 -0.1**
BBB Bella Bella 26.24 72 P **P 19 17 22.7 +2.8**
comp=Z,60nm,1.0s,baz=300,slow=12,SNR=5.2
BBB LR LR 19 25 40.6
comp=Z,6μm,21.0s,baz=283,slow=32
BBB Bella Bella 26.24 72 P **P 19 17 22.7 +2.8**
YUK Yuzh-Kuril'sk 29.36 271 d iP P 19 17 41.0 -6.8
YUK iPPP PPP 19 18 46.3
YUK iS S 19 22 32.9 -6.1
YUK iSS **SnSn 19 24 03.2 -3.4**
YUK iSSS SSS 19 24 27.0
YUK pmax pmax
comp=Z,2μm,1.9s
YUK pmax pmax
comp=Z,873nm,1.1s
YUK pmax pmax
comp=N,261nm,1.2s
YUK pmax pmax
comp=E,352nm,0.8s
YSS Yuzh-Sakhalins 29.85 279αeP **P 19 17 53.9 +1.8**
YSS e*PP **pP 19 18 03.2 +1.6**
YSS e*SP **sP 19 18 08.0 +2.4**
YSS e 19 18 45.0
YSS eS **S 19 22 46.0 -0.7**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=Z,1μm,6.0s
YSS MLR MLR
comp=Z,3μm,19.0s
YSS MLR MLR
comp=N,4μm,15.0s
YSS MLR MLR
comp=E,4μm,18.0s
YSS Yuzh-Sakhalins 29.85 279 eP **P 19 17 52.5 +0.4**
comp=E,80nm,1.0s
NLWA Neilton Lookou 30.59 80 eP **P 19 18 00.6 +1.8**
comp=E,45nm,0.9s
ASAJ Asahikawa 31.33 274 eP **P 19 18 05.7 +0.5**
comp=E,141nm,1.0s
YKA Yellowknife Ar 31.33 48 P **P 19 18 05.2 +0.1**
comp=E,7.9nm,0.5s,baz=273,slow=8.6,SNR=122
YKA PcP **PcP 19 20 58.8 +0.6**
comp=E,20nm,0.9s,baz=285,slow=2.4,SNR=11
YKA S **S 19 23 10.1 +0.5**
comp=E,4.8nm,1.0s,baz=275,slow=17,SNR=2.8
YKA ScP **ScP 19 24 38.5 0.0**
comp=E,7.4nm,0.9s,baz=283,slow=3.3,SNR=8.6
YKA PKiKP **PKiKP 19 28 25.9 -1.3**
comp=E,1.0nm,0.8s,baz=246,slow=0.6,SNR=5.6
YKA P3KPbc 19 49 43.2
comp=E,2.4nm,0.8s,baz=98,slow=5.2,SNR=35
YKA Yellowknife Ar 31.33 48 P **P 19 18 05.2 +0.1**
YKA 19 20 58.9
YKA S **S 19 23 10.1 +0.5**
YKA Yellowknife Ar 31.33 48 P **P 19 18 05.2 +0.1**
YKA PcP **PcP 19 20 58.9 +0.6**
YKA S **S 19 23 10.1 +0.5**
YKA ScP **ScP 19 24 38.5 0.0**
YKA PKiKP **PKiKP 19 28 25.9 -1.3**
YKA e 19 49 43.2
JCW Jim Creek 31.40 77 eP **P 19 18 07.6 +1.6**
comp=E,192nm,1.3s
RPW Rockport 31.54 76 eP **P 19 18 07.1 -0.1**
comp=E,16nm,0.7s
HTW Haystack Looko 31.67 78 P **P 19 18 10.5 +2.1**
HEBO Mount Hebo 31.69 83 eP **P 19 18 10.8 +2.3**
TDL Tradedollar La 32.08 80 P **P 19 18 13.5 +1.5**
ERM Erimo 32.12 270 d iP **P 19 18 13.3 +1.1**
ERM pmax pmax
comp=Z,236nm,1.0s
ERM Erimo 32.12 270 eP **P 19 18 12.7 +0.5**
comp=Z,257nm,1.1s
ERM LR LR
comp=Z,7μm,22.0s
LON Longmire 32.13 80 eP **P 19 18 14.9 +2.5**
LON pmax pmax
comp=Z,32nm,0.9s
LON Longmire 32.13 80 eP **P 19 18 14.9 +2.5**
comp=Z,32nm,0.9s
LON eScP **ScP 19 24 40.6 -1.0**
YAK Yakutsk 32.45 311 c iP **P 19 18 13.3 -1.6**
YAK e*PP **pP 19 18 23.4 -1.0**
YAK ePPP PPP 19 19 30.1
YAK e 19 21 00.8
YAK eS **S 19 23 26.0 -1.0**
YAK eSS **SnSn 19 25 25.6 +4.3**
YAK e 19 28 40.2
YAK pmax pmax
comp=Z,114nm,0.9s
YAK pmax pmax
comp=E,69nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK smax smax
comp=E,777nm,8.6s
YAK smax smax
comp=N,137nm,3.5s
YAK MLR MLR
comp=Z,9μm,21.0s
YAK MLR MLR
comp=E,6μm,20.0s
YAK MLR MLR
comp=N,6μm,23.0s
YAK Yakutsk 32.45 311 eP **P 19 18 12.6 -2.3**
comp=Z,154nm,1.0s
ETW Entiat 32.63 77 eP **P 19 18 18.2 +1.3**
comp=N,85nm,0.9s
ETW eScP **ScP 19 24 42.4 -1.0**
TBM Table Mountain 32.67 78 P **P 19 18 19.1 +2.0**
VLL Laurance Lake 32.84 82 P **P 19 18 20.7 +2.1**
HOOD Mount Hood Mea 32.92 82 eP **P 19 18 21.1 +1.7**
comp=N,88nm,1.0s
VFP Flag Point 33.04 82 P **P 19 18 22.0 +1.5**
HUMO Hull Mountain 33.55 87 eP **P 19 18 24.1 -0.7**
comp=N,77nm,1.6s
RSW Rattlesnake Hi 33.65 79 eP **P 19 18 27.2 +1.5**
comp=N,67nm,0.8s
RSW eScP **ScP 19 24 46.6 -0.3**
HAWA Hanford 33.68 79 eP **P 19 18 27.3 +1.4**
comp=N,66nm,0.8s
HAWA eScP **ScP 19 24 46.5 -0.4**
HAWA LR LR
comp=Z,7μm,21.0s
OD2 Odessa Site #2 33.70 77 eP **P 19 18 26.8 +0.7**
comp=Z,57nm,0.7s
WRD Warden 33.72 78 P **P 19 18 27.1 +0.9**
HABR Khabarovsk 33.80 286 iP **P 19 18 25.6 -1.3**
HABR e*PP **pP 19 18 34.5 -1.9**
HABR e*SP **sP 19 18 38.8 -1.6**
HABR e 19 19 37.7
HABR e 19 21 04.4
HABR eS **S 19 23 48.2 -0.1**
HABR e*SS **sS 19 24 04.2 +0.1**
HABR eSS **SnSn 19 25 55.2 +0.7**
HABR e 19 28 48.4
HABR pmax pmax
comp=Z,405nm,2.2s
HABR pmax pmax
comp=Z,140nm,1.0s
HABR MLR MLR
comp=Z,7μm,18.0s
KHMM Horse Mountain 34.05 90 eP **P 19 18 31.8 +2.5**
comp=Z,74nm,1.2s
YBH Yreka Blue Hol 34.19 88 eP **P 19 18 32.3 +1.8**
YBH pmax pmax
comp=Z,48nm,1.1s
YBH Yreka Blue Hol 34.19 88 eP **P 19 18 32.3 +1.8**
comp=Z,48nm,1.1s
NEW Newport 34.25 74 eP **P 19 18 31.4 +0.6**
NEW pmax pmax
comp=Z,95nm,0.8s
NEW Newport 34.25 74 eP **P 19 18 31.4 +0.6**
comp=Z,95nm,0.8s
NEW Newport 34.25 74 ⇑P **P 19 18 32.1 +1.3**
baz=34,SNR=108
NEW ⇑P **P 19 18 32.1 +1.3**
baz=34,SNR=108
NEW ⇑P **P 19 18 32.1 +1.3**
baz=34,SNR=108
NEW ⇑S **S 19 23 56.8 +1.4**
baz=34
NEW ⇑S **S 19 23 56.8 +1.4**
baz=34
NEW ⇑S **S 19 23 56.8 +1.4**
baz=34
NEW ⇓ScP **ScP 19 24 48.2 -0.7**
baz=34,SNR=23
NEW ⇓ScP **ScP 19 24 48.2 -0.7**
baz=34,SNR=23
NEW ⇓ScP **ScP 19 24 48.2 -0.7**
baz=34,SNR=23
LNOR Lincton Mounta 34.70 79 eP **P 19 18 35.9 +1.2**
LNOR pmax pmax
comp=Z,22nm,0.7s
LNOR Lincton Mounta 34.70 79 eP **P 19 18 35.9 +1.2**
comp=Z,22nm,0.7s
A12A Yaak River Ran 34.81 73 ⇓P **P 19 18 37.9 +2.2**
baz=35,SNR=44
A12A ⇓P **P 19 18 37.9 +2.2**
baz=35,SNR=44
A12A ⇓P **P 19 18 37.9 +2.2**
baz=35,SNR=44
A12A ⇓S **S 19 24 04.9 +0.8**
baz=35
A12A ⇓S **S 19 24 04.9 +0.8**
baz=35
A12A ⇓S **S 19 24 04.9 +0.8**
baz=35
A12A ⇑ScP **ScP 19 24 50.7 -0.2**
baz=35,SNR=21
A12A ⇑ScP **ScP 19 24 50.7 -0.2**
baz=35,SNR=21
A12A ⇑ScP **ScP 19 24 50.7 -0.2**
baz=35,SNR=21
KCPM Cahto Peak 34.85 92 eP **P 19 18 38.3 +2.1**
comp=Z,35nm,1.1s
WDC Whiskeytown Da 34.96 90 eP **P 19 18 38.7 +1.7**
WDC pmax pmax
comp=Z,68nm,1.2s
WDC Whiskeytown Da 34.96 90 eP **P 19 18 38.7 +1.7**
comp=Z,68nm,1.2s
B12A Libby 35.06 73 ⇓P **P 19 18 39.5 +1.6**
baz=35,SNR=15
B12A ⇓P **P 19 18 39.5 +1.6**
baz=35,SNR=15
B12A ⇓P **P 19 18 39.5 +1.6**
baz=35,SNR=15
B12A ⇑ScP **ScP 19 24 52.0 +0.1**
baz=35,SNR=8.4
B12A ⇑ScP **ScP 19 24 52.0 +0.1**
baz=35,SNR=8.4
B12A ⇑ScP **ScP 19 24 52.0 +0.1**
baz=35,SNR=8.4
KLR Kul'dur 35.41 289⇓iP P 19 18 36.3 -4.5
KLR e 19 19 54.0
KLR eS S 19 24 21.0 +7.9
KLR pmax pmax
comp=E,88nm,1.6s
KLR pmax pmax
comp=Z,250nm,1.6s
KLR pmax pmax
comp=Z,900nm,9.0s
C12B Naegeli Ranch, 35.48 74 ⇓P **P 19 18 42.9 +1.4**
baz=35,SNR=22
C12B ⇓P **P 19 18 42.9 +1.4**
baz=35,SNR=22
C12B ⇓P **P 19 18 42.9 +1.4**
baz=35,SNR=22
C12B ⇑ScP **ScP 19 24 53.2 -0.2**
baz=35,SNR=19
C12B ⇑ScP **ScP 19 24 53.2 -0.2**
baz=35,SNR=19
C12B ⇑ScP **ScP 19 24 53.2 -0.2**
baz=35,SNR=19
A13A Flathead Natio 35.54 72 ⇓P **P 19 18 43.1 +1.1**
baz=35
A13A ⇓P **P 19 18 43.1 +1.1**
baz=35
A13A ⇓P **P 19 18 43.1 +1.1**
baz=35
A13A ⇓ScP **ScP 19 24 53.5 -0.1**
baz=35
A13A ⇓ScP **ScP 19 24 53.5 -0.1**
baz=35
A13A ⇓ScP **ScP 19 24 53.5 -0.1**
baz=35
MOD Modoc 35.58 86 eP **P 19 18 43.9 +1.4**
comp=Z,70nm,1.0s
HOPS Hopland 35.58 92 eP P 19 18 38.1 -4.2
comp=Z,77nm,1.1s
B13A Whitefish 35.77 73 ⇓P **P 19 18 45.2 +1.3**
baz=36,SNR=47
B13A ⇓P **P 19 18 45.2 +1.3**
baz=36,SNR=47
B13A ⇓P **P 19 18 45.2 +1.3**
baz=36,SNR=47
B13A ⇑ScP **ScP 19 24 54.6 +0.1**
baz=36,SNR=13
B13A ⇑ScP **ScP 19 24 54.6 +0.1**
baz=36,SNR=13
B13A ⇑ScP **ScP 19 24 54.6 +0.1**
baz=36,SNR=13
WALA Waterton Lakes 35.78 71 eP **P 19 18 45.0 +0.9**
comp=Z,3.1nm,1.0s
WALA eScP **ScP 19 24 54.2 -0.3**
BMO Blue Mountains 35.81 80 eP **P 19 18 45.4 +1.1**
comp=Z,66nm,1.4s
BMO LR LR
comp=Z,6μm,21.0s
BSMT Bassoo Peak 35.83 74 eP **P 19 18 45.5 +0.9**
comp=Z,90nm,1.0s
BSMT eScP **ScP 19 24 54.2 -0.6**
BLMT Blacktail Moun 36.00 73 eP **P 19 18 47.0 +0.9**
comp=Z,129nm,0.9s
BLMT eScP **ScP 19 24 54.9 -0.5**
C13A Hot Springs 36.03 74 ⇑P **P 19 18 47.3 +1.1**
baz=36,SNR=77
C13A ⇑P **P 19 18 47.3 +1.1**
baz=36,SNR=77
C13A ⇑P **P 19 18 47.3 +1.1**
baz=36,SNR=77
C13A ⇑ScP **ScP 19 24 54.5 -0.9**
baz=36,SNR=12
C13A ⇑ScP **ScP 19 24 54.5 -0.9**
baz=36,SNR=12
C13A ⇑ScP **ScP 19 24 54.5 -0.9**
baz=36,SNR=12
A14A Double T Ranch 36.10 71 ⇓P **P 19 18 48.2 +1.3**
baz=36,SNR=134
A14A ⇓P **P 19 18 48.2 +1.3**
baz=36,SNR=134
A14A ⇓P **P 19 18 48.2 +1.3**
baz=36,SNR=134
A14A ⇓ScP **ScP 19 24 55.9 +0.2**
baz=36,SNR=16
A14A ⇓ScP **ScP 19 24 55.9 +0.2**
baz=36,SNR=16
A14A ⇓ScP **ScP 19 24 55.9 +0.2**
baz=36,SNR=16
CLNS Chul'man 36.17 303 eP **P 19 18 46.0 -1.2**
CLNS e 19 20 11.2
CLNS e 19 21 11.7
CLNS eS **S 19 24 23.7 -1.0**
CLNS pmax pmax
comp=Z,30nm,1.0s
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS smax smax
comp=E,1μm,13.9s
CLNS smax smax
comp=N,353nm,17.3s
CLNS MLR MLR
comp=E,3μm,16.0s
CLNS MLR MLR
comp=N,5μm,19.0s
CLNS MLR MLR
comp=Z,3μm,17.0s
JTMT Jette 36.17 74 eScP **ScP 19 24 55.1 -1.0**
comp=Z,33nm,1.1s
YBMT Yellow Bay 36.28 73 eP **P 19 18 49.4 +1.0**
comp=Z,91nm,1.1s
YBMT eScP **ScP 19 24 55.9 -0.5**
WVOR Wild Horse Val 36.30 84 eP **P 19 18 49.9 +1.2**
WVOR pmax pmax
comp=Z,73nm,0.9s
WVOR Wild Horse Val 36.30 84 eP **P 19 18 49.9 +1.2**
comp=Z,73nm,0.9s
D13A Huson 36.39 75 ⇓P **P 19 18 50.1 +0.8**
baz=36,SNR=22
D13A ⇓P **P 19 18 50.1 +0.8**
baz=36,SNR=22
D13A ⇓P **P 19 18 50.1 +0.8**
baz=36,SNR=22
D13A ⇓ScP **ScP 19 24 55.4 -1.3**
baz=36
D13A ⇓ScP **ScP 19 24 55.4 -1.3**
baz=36
D13A ⇓ScP **ScP 19 24 55.4 -1.3**
baz=36
SWMT Swartz Lake 36.46 74 eP **P 19 18 50.2 +0.3**
comp=Z,273nm,1.2s
SWMT eScP **ScP 19 24 56.1 -1.0**
B14A Marquette Ranc 36.48 72 ⇑P **P 19 18 51.1 +1.0**
baz=36,SNR=97
B14A ⇑P **P 19 18 51.1 +1.0**
baz=36,SNR=97
B14A ⇑P **P 19 18 51.1 +1.0**
baz=36,SNR=97
B14A ⇑ScP **ScP 19 24 56.7 -0.4**
baz=36,SNR=23
B14A ⇑ScP **ScP 19 24 56.7 -0.4**
baz=36,SNR=23
B14A ⇑ScP **ScP 19 24 56.7 -0.4**
baz=36,SNR=23
A15A Johnson Ranch, 36.50 71 ⇑P **P 19 18 51.3 +1.0**
baz=36,SNR=51
A15A ⇑P **P 19 18 51.3 +1.0**
baz=36,SNR=51
A15A ⇑P **P 19 18 51.3 +1.0**
baz=36,SNR=51
A15A ⇓ScP **ScP 19 24 56.5 -0.6**
baz=36
A15A ⇓ScP **ScP 19 24 56.5 -0.6**
baz=36
A15A ⇓ScP **ScP 19 24 56.5 -0.6**
baz=36
MSO Missoula 36.83 75 eP **P 19 18 53.3 +0.3**
comp=Z,70nm,1.1s
MSO ePcP **PcP 19 21 14.6 +0.2**
MSO eScP **ScP 19 24 57.7 -0.7**
MSO Missoula 36.83 75 ⇑P **P 19 18 54.2 +1.1**
baz=37,SNR=47
MSO ⇑P **P 19 18 54.2 +1.1**
baz=37,SNR=47
MSO ⇑P **P 19 18 54.2 +1.1**
baz=37,SNR=47
MSO ⇑ScP **ScP 19 24 57.4 -1.0**
baz=37,SNR=13
MSO ⇑ScP **ScP 19 24 57.4 -1.0**
baz=37,SNR=13
MSO ⇑ScP **ScP 19 24 57.4 -1.0**
baz=37,SNR=13
SLMT Seeley Lake 36.89 74 eP **P 19 18 53.9 +0.3**
comp=Z,98nm,1.2s
SLMT eScP **ScP 19 24 57.5 -1.2**
B15A Bradely Ranch, 36.92 72 ⇑P **P 19 18 54.9 +1.1**
baz=37,SNR=74
B15A ⇑P **P 19 18 54.9 +1.1**
baz=37,SNR=74
B15A ⇑P **P 19 18 54.9 +1.1**
baz=37,SNR=74
B15A ⇑ScP **ScP 19 24 57.7 -1.0**
baz=37,SNR=11
B15A ⇑ScP **ScP 19 24 57.7 -1.0**
baz=37,SNR=11

B15A ⇑ScP **ScP** **19 24 57.7 -1.0**
baz=37,SNR=11
D14A **Greenough** **36.96** **74** ⇑P **P** **19 18 55.0 +0.8**
baz=37,SNR=84
D14A ⇑P **P** **19 18 55.0 +0.8**
baz=37,SNR=84
D14A ⇑P **P** **19 18 55.0 +0.8**
baz=37,SNR=84
D14A ⇓ScP **ScP** **19 24 57.8 -1.2**
D14A ⇓ScP **ScP** **19 24 57.8 -1.2**
baz=37,SNR=8.2
D14A ⇓ScP **ScP** **19 24 57.8 -1.2**
baz=37,SNR=8.2
F13A **Darby** **37.12** **76** ⇓P **P** **19 18 56.4 +0.8**
baz=37,SNR=84
F13A ⇓P **P** **19 18 56.4 +0.8**
baz=37,SNR=84
F13A ⇓P **P** **19 18 56.4 +0.8**
baz=37,SNR=84
F13A ⇑ScP **ScP** **19 24 57.7 -1.9**
baz=37,SNR=9.4
F13A ⇑ScP **ScP** **19 24 57.7 -1.9**
baz=37,SNR=9.4
F13A ⇑ScP **ScP** **19 24 57.7 -1.9**
baz=37,SNR=9.4
RES **Resolute Bay** **37.14** **25** *e*P **P** **19 18 54.0 -1.3**
RES *e* 19 21 14.7
RES pmax pmax
comp=Z,16nm,0.6s
RES **Resolute Bay** **37.14** **25** *e*P **P** **19 18 54.0 -1.3**
comp=Z,16nm,0.6s
RES *e*PcP **PcP** **19 21 14.7 0.0**
RES *e*ScP **ScP** **19 24 58.3 -0.7**
C15A **Salmond Ranch,** **37.15** **73** ⇓P **P** **19 18 57.2 +1.4**
baz=37,SNR=230
C15A ⇓P **P** **19 18 57.2 +1.4**
baz=37,SNR=230
C15A ⇓P **P** **19 18 57.2 +1.4**
baz=37,SNR=230
C15A ⇓ScP **ScP** **19 24 58.9 -0.7**
baz=37,SNR=5.5
C15A ⇓ScP **ScP** **19 24 58.9 -0.7**
baz=37,SNR=5.5
C15A ⇓ScP **ScP** **19 24 58.9 -0.7**
baz=37,SNR=5.5
CHMT **Chamberlain Mo** **37.19** **74** *e*P **P** **19 18 56.4 +0.1**
comp=Z,44nm,1.0s
CHMT *e*ScP **ScP** **19 24 58.7 -1.2**
CHMT *e*ScP **ScP** **19 24 59.3 -0.6**
E14A **Clinton** **37.30** **75** ⇓P **P** **19 18 58.2 +1.0**
baz=37,SNR=38
E14A ⇓P **P** **19 18 58.2 +1.0**
baz=37,SNR=38
E14A ⇓P **P** **19 18 58.2 +1.0**
baz=37,SNR=38
E14A ⇑ScP **ScP** **19 24 59.2 -1.1**
baz=37,SNR=33
E14A ⇑ScP **ScP** **19 24 59.2 -1.1**
baz=37,SNR=33
E14A ⇑ScP **ScP** **19 24 59.2 -1.1**
baz=37,SNR=33
B16A **M & M Farms, S** **37.37** **71** ⇓P **P** **19 18 58.5 +0.9**
baz=37,SNR=32
B16A ⇓P **P** **19 18 58.5 +0.9**
baz=37,SNR=32
B16A ⇓P **P** **19 18 58.5 +0.9**
baz=37,SNR=32
B16A ⇓ScP **ScP** **19 24 59.2 -1.2**
baz=37,SNR=12
B16A ⇓ScP **ScP** **19 24 59.2 -1.2**
baz=37,SNR=12
B16A ⇓ScP **ScP** **19 24 59.2 -1.2**
baz=37,SNR=12
WCN **Washoe City** **37.44** **89** *e*P **P** **19 18 59.5 +1.0**
WCN pmax pmax
comp=Z,77nm,1.2s
WCN **Washoe City** **37.44** **89** *e*P **P** **19 18 59.5 +1.0**
comp=Z,77nm,1.2s
WCN **Washoe City** **37.44** **89** ⇓P **P** **19 18 59.4 +1.0**
baz=37,SNR=25
WCN ⇓P **P** **19 18 59.4 +1.0**
baz=37,SNR=25
WCN ⇓P **P** **19 18 59.4 +1.0**
baz=37,SNR=25
MFID **Camas Ranch** **37.48** **81** *e*P **P** **19 18 58.5 -0.1**
comp=Z,29nm,0.8s
MFID **Camas Ranch** **37.48** **81** ⇓P **P** **19 18 59.4 +0.8**
baz=37,SNR=25
MFID ⇓P **P** **19 18 59.4 +0.8**
baz=37,SNR=25
MFID ⇓P **P** **19 18 59.4 +0.8**
baz=37,SNR=25
MFID ⇑ScP **ScP** **19 25 00.4 -0.5**
baz=37
MFID ⇑ScP **ScP** **19 25 00.4 -0.5**
baz=37
MFID ⇑ScP **ScP** **19 25 00.4 -0.5**
baz=37
G13A **Cobalt** **37.54** **77** ⇑P **P** **19 18 59.8 +0.6**
baz=37,SNR=38
G13A ⇑P **P** **19 18 59.8 +0.6**
baz=37,SNR=38
G13A ⇑P **P** **19 18 59.8 +0.6**
baz=37,SNR=38
G13A ⇓ScP **ScP** **19 24 59.7 -1.4**
baz=37,SNR=14
G13A ⇓ScP **ScP** **19 24 59.7 -1.4**
baz=37,SNR=14
G13A ⇓ScP **ScP** **19 24 59.7 -1.4**
baz=37,SNR=14
D15A **Lincoln** **37.56** **74** ⇑P **P** **19 19 00.1 +0.8**
baz=37,SNR=72
D15A ⇑P **P** **19 19 00.1 +0.8**
baz=37,SNR=72
D15A ⇑P **P** **19 19 00.1 +0.8**
baz=37,SNR=72
D15A ⇑ScP **ScP** **19 25 00.2 -1.1**
baz=37
D15A ⇑ScP **ScP** **19 25 00.2 -1.1**
baz=37
D15A ⇑ScP **ScP** **19 25 00.2 -1.1**
baz=37
C16A **Fuhringer Ranc** **37.64** **72** ⇓P **P** **19 19 00.8 +0.8**
baz=37,SNR=134
C16A ⇓P **P** **19 19 00.8 +0.8**
baz=37,SNR=134
C16A ⇓P **P** **19 19 00.8 +0.8**
baz=37,SNR=134
C16A ⇓ScP **ScP** **19 25 00.2 -1.2**
baz=37,SNR=17
C16A ⇓ScP **ScP** **19 25 00.2 -1.2**
baz=37,SNR=17
C16A ⇓ScP **ScP** **19 25 00.2 -1.2**
baz=37,SNR=17
F14A **Wisdom** **37.68** **76** ⇑P **P** **19 19 01.5 +1.1**
baz=38,SNR=70
F14A ⇑P **P** **19 19 01.5 +1.1**
baz=38,SNR=70
F14A ⇑P **P** **19 19 01.5 +1.1**
baz=38,SNR=70
F14A ⇑ScP **ScP** **19 25 00.7 -1.0**
baz=38,SNR=7.5
F14A ⇑ScP **ScP** **19 25 00.7 -1.0**
baz=38,SNR=7.5
F14A ⇑ScP **ScP** **19 25 00.7 -1.0**
baz=38,SNR=7.5
A17A **Triple J Farms** **37.70** **70** ⇑P **P** **19 19 01.1 +0.7**
baz=38,SNR=91
A17A ⇑P **P** **19 19 01.1 +0.7**
baz=38,SNR=91
A17A ⇑P **P** **19 19 01.1 +0.7**
baz=38,SNR=91
A17A ⇑ScP **ScP** **19 25 00.5 -1.1**
baz=38,SNR=14
A17A ⇑ScP **ScP** **19 25 00.5 -1.1**
baz=38,SNR=14
A17A ⇑ScP **ScP** **19 25 00.5 -1.1**
baz=38,SNR=14
USRK **Ussuriysk Arra** **37.76** **281** P **P** **19 19 00.2 -0.6**
comp=Z,40nm,0.9s,baz=59,slow=7.6,SNR=41
USRK PcP **PcP** **19 21 18.0 +1.0**
comp=Z,19nm,0.8s,baz=51,slow=1.9,SNR=9.2
USRK ScP **ScP** **19 25 02.5 +0.8**
comp=Z,2.8nm,0.9s,baz=64,slow=4.5,SNR=3.7
USRK LR LR 19 33 45.1
comp=Z,7µm,21.2s,baz=235,slow=35
E15A **Deer Lodge** **37.80** **75** ⇓P **P** **19 19 02.2 +0.9**
baz=38,SNR=29
E15A ⇓P **P** **19 19 02.2 +0.9**
baz=38,SNR=29
E15A ⇓P **P** **19 19 02.2 +0.9**
baz=38,SNR=29
E15A ⇑ScP **ScP** **19 25 01.3 -0.8**
baz=38,SNR=22
E15A ⇑ScP **ScP** **19 25 01.3 -0.8**
baz=38,SNR=22
E15A ⇑ScP **ScP** **19 25 01.3 -0.8**
baz=38,SNR=22
H13A **Challis** **37.81** **78** ⇑P **P** **19 19 02.3 +0.8**
baz=38,SNR=29
H13A ⇑P **P** **19 19 02.3 +0.8**
baz=38,SNR=29
H13A ⇑P **P** **19 19 02.3 +0.8**
baz=38,SNR=29
H13A ⇓ScP **ScP** **19 25 01.7 -0.5**
baz=38,SNR=36
H13A ⇓ScP **ScP** **19 25 01.7 -0.5**
baz=38,SNR=36
H13A ⇓ScP **ScP** **19 25 01.7 -0.5**
baz=38,SNR=36
CMB **Columbia Colle** **37.83** **91** *e*P **P** **19 19 02.6 +1.1**
CMB pmax pmax
comp=Z,21nm,0.7s
CMB **Columbia Colle** **37.83** **91** *e*P **P** **19 19 02.6 +1.1**
comp=Z,21nm,0.7s
G14A **Jackson** **37.93** **77** ⇓P **P** **19 19 03.3 +0.7**
baz=38,SNR=24
G14A ⇓P **P** **19 19 03.3 +0.7**
baz=38,SNR=24
G14A ⇓P **P** **19 19 03.3 +0.7**
baz=38,SNR=24
G14A ⇑ScP **ScP** **19 25 01.6 -1.1**
baz=38,SNR=5.3
G14A ⇑ScP **ScP** **19 25 01.6 -1.1**
baz=38,SNR=5.3
G14A ⇑ScP **ScP** **19 25 01.6 -1.1**
baz=38,SNR=5.3
B17A **L&G Farms, Che** **37.96** **71** ⇓P **P** **19 19 03.2 +0.7**
baz=38,SNR=65
B17A ⇓P **P** **19 19 03.2 +0.7**
baz=38,SNR=65
B17A ⇓P **P** **19 19 03.2 +0.7**
baz=38,SNR=65
B17A ⇑ScP **ScP** **19 25 01.8 -0.8**
baz=38
B17A ⇑ScP **ScP** **19 25 01.8 -0.8**
baz=38
B17A ⇑ScP **ScP** **19 25 01.8 -0.8**
baz=38
SAO **San Andreas Ge** **37.98** **94** *e*P **P** **19 19 03.5 +0.7**
SAO pmax pmax
comp=Z,30nm,0.8s
SAO **San Andreas Ge** **37.98** **94** *e*P **P** **19 19 03.5 +0.7**
comp=Z,30nm,0.8s
D16A **Dana Ranch, Ca** **38.14** **73** ⇑P **P** **19 19 04.9 +0.7**
baz=38,SNR=51
D16A ⇑P **P** **19 19 04.9 +0.7**
baz=38,SNR=51
D16A ⇑P **P** **19 19 04.9 +0.7**
baz=38,SNR=51
D16A ⇓ScP **ScP** **19 25 02.3 -1.1**
baz=38,SNR=21
D16A ⇓ScP **ScP** **19 25 02.3 -1.1**
baz=38,SNR=21
D16A ⇓ScP **ScP** **19 25 02.3 -1.1**
baz=38,SNR=21
F15A **Butte** **38.19** **75** ⇑P **P** **19 19 05.3 +0.5**
baz=38,SNR=11
F15A ⇑P **P** **19 19 05.3 +0.5**
baz=38,SNR=11
F15A ⇑P **P** **19 19 05.3 +0.5**
baz=38,SNR=11
F15A ⇓ScP **ScP** **19 25 03.0 -0.7**
baz=38,SNR=14
F15A ⇓ScP **ScP** **19 25 03.0 -0.7**
baz=38,SNR=14
F15A ⇓ScP **ScP** **19 25 03.0 -0.7**
baz=38,SNR=14
A18A **Metzger Ranch,** **38.21** **70** ⇓P **P** **19 19 05.2 +0.5**
baz=38,SNR=12
A18A ⇓P **P** **19 19 05.2 +0.5**
baz=38,SNR=12
A18A ⇓P **P** **19 19 05.2 +0.5**
baz=38,SNR=12
A18A ⇓ScP **ScP** **19 25 01.5 -2.0**
baz=38,SNR=6.8
A18A ⇓ScP **ScP** **19 25 01.5 -2.0**
baz=38,SNR=6.8
A18A ⇓ScP **ScP** **19 25 01.5 -2.0**
baz=38,SNR=6.8
LRM **Limekiln Ridge** **38.23** **75** *e*P **P** **19 19 05.4 +0.4**
comp=Z,267nm,1.0s
LRM *e*ScP **ScP** **19 25 02.5 -1.4**
I13A **Wildhorse Cree** **38.24** **79** ⇑P **P** **19 19 05.8 +0.6**
baz=38,SNR=45
I13A ⇑P **P** **19 19 05.8 +0.6**
baz=38,SNR=45
I13A ⇑P **P** **19 19 05.8 +0.6**
baz=38,SNR=45
I13A ⇓ScP **ScP** **19 25 03.7 -0.2**
baz=38,SNR=69
I13A ⇓ScP **ScP** **19 25 03.7 -0.2**
baz=38,SNR=69
I13A ⇓ScP **ScP** **19 25 03.7 -0.2**
baz=38,SNR=69
HLID **Hailey** **38.26** **80** *e*P **P** **19 19 05.7 +0.5**
comp=Z,60nm,1.2s
HLID **Hailey** **38.26** **80** ⇓P **P** **19 19 06.0 +0.7**
baz=38,SNR=40
HLID ⇓P **P** **19 19 06.0 +0.7**
baz=38,SNR=40
HLID ⇓P **P** **19 19 06.0 +0.7**
baz=38,SNR=40
HLID ⇑ScP **ScP** **19 25 03.8 -0.1**
baz=38,SNR=63
HLID ⇑ScP **ScP** **19 25 03.8 -0.1**
baz=38,SNR=63
HLID ⇑ScP **ScP** **19 25 03.8 -0.1**
baz=38,SNR=63
C17A **Wharram Farm,** **38.30** **72** ⇑P **P** **19 19 06.3 +0.8**
baz=38,SNR=23
C17A ⇑P **P** **19 19 06.3 +0.8**
baz=38,SNR=23
C17A ⇑P **P** **19 19 06.3 +0.8**
baz=38,SNR=23
C17A ⇑ScP **ScP** **19 25 02.9 -1.1**
baz=38,SNR=10.0
C17A ⇑ScP **ScP** **19 25 02.9 -1.1**
baz=38,SNR=10.0
C17A ⇑ScP **ScP** **19 25 02.9 -1.1**
baz=38,SNR=10.0
H14A **Leadore** **38.32** **78** ⇑P **P** **19 19 06.0 +0.2**
baz=38
H14A ⇑P **P** **19 19 06.0 +0.2**
baz=38
H14A ⇑P **P** **19 19 06.0 +0.2**
baz=38
E16A **East Helena** **38.32** **74** ⇑P **P** **19 19 06.2 +0.5**
baz=38,SNR=38
E16A ⇑P **P** **19 19 06.2 +0.5**
baz=38,SNR=38
E16A ⇑P **P** **19 19 06.2 +0.5**
baz=38,SNR=38
E16A ⇓ScP **ScP** **19 25 03.6 -0.5**
baz=38,SNR=21
E16A ⇓ScP **ScP** **19 25 03.6 -0.5**
baz=38,SNR=21
E16A ⇓ScP **ScP** **19 25 03.6 -0.5**
baz=38,SNR=21
BMN **Battle Mountai** **38.33** **86** *e*P **P** **19 19 05.8 0.0**
BMN pmax pmax
comp=Z,34nm,0.8s
BMN MLR MLR
comp=Z,9µm,22.0s
BMN **Battle Mountai** **38.33** **86** *e*P **P** **19 19 05.8 0.0**
comp=Z,34nm,0.8s
BMN LR LR
comp=Z,9µm,22.0s
DLMT **Dillon** **38.38** **76** *e*P **P** **19 19 07.0 +0.7**
comp=Z,33nm,0.9s
DLMT *e*ScP **ScP** **19 25 04.3 -0.1**
VLA **Vladivostok** **38.42** **280** ⇓ *i*P **P** **19 19 06.1 -0.3**
VLA S **S** **19 24 59.0 0.0**
VLA pmax pmax
comp=Z,160nm,1.1s
MJAR **Matsushiro Arr** **38.48** **267** P **P** **19 19 07.6 +0.6**
comp=Z,61nm,0.9s,baz=50,slow=7.5,SNR=81
MJAR PcP **PcP** **19 21 20.0 +0.5**
comp=Z,34nm,0.9s,baz=116,slow=0.4,SNR=10
MJAR ScP **ScP** **19 25 04.7 +0.1**
comp=Z,2.5nm,0.9s,baz=38,slow=6.3,SNR=4.1
MJAR LR LR 19 34 06.8
comp=Z,6µm,20.2s,baz=65,slow=35
MJAR **Matsushiro Arr** **38.48** **267** P **P** **19 19 07.6 +0.6**
MJAR 19 21 20.0
MJAR 19 25 04.7
MJAR **Matsushiro Arr** **38.48** **267** P **P** **19 19 07.6 +0.6**
MJAR PcP **PcP** **19 21 20.0 +0.5**
MJAR ScP **ScP** **19 25 04.7 +0.1**
MAJO **Matsushiro** **38.48** **267** *e*P **P** **19 19 07.9 +0.9**
MAJO pmax pmax
comp=Z,323nm,1.0s
MAJO **Matsushiro** **38.48** **267** *e*P **P** **19 19 07.9 +0.9**
comp=Z,323nm,1.0s
MAT **Matsushiro** **38.48** **267** P **P** **19 19 07.4 +0.4**
MAT S **S** **19 25 01.0 +0.9**
J13A **Cove Ranch, Pi** **38.49** **80** ⇓P **P** **19 19 07.8 +0.5**
baz=38,SNR=75
J13A ⇓P **P** **19 19 07.8 +0.5**
baz=38,SNR=75
J13A ⇓P **P** **19 19 07.8 +0.5**
baz=38,SNR=75
J13A ⇓ScP **ScP** **19 25 04.9 +0.1**
baz=38,SNR=39
J13A ⇓ScP **ScP** **19 25 04.9 +0.1**
baz=38,SNR=39
J13A ⇓ScP **ScP** **19 25 04.9 +0.1**
baz=38,SNR=39
B18A **Beardsley Farm** **38.50** **70** ⇑P **P** **19 19 08.2 +1.1**
baz=38,SNR=56
B18A ⇑P **P** **19 19 08.2 +1.1**
baz=38,SNR=56
B18A ⇑P **P** **19 19 08.2 +1.1**
baz=38,SNR=56
B18A ⇓ScP **ScP** **19 25 03.5 -1.2**
baz=38,SNR=6.9
B18A ⇓ScP **ScP** **19 25 03.5 -1.2**
baz=38,SNR=6.9
B18A ⇓ScP **ScP** **19 25 03.5 -1.2**
baz=38,SNR=6.9
MCMT **McKenzie Canyo** **38.52** **77** *e*P **P** **19 19 07.8 +0.3**
comp=Z,21nm,0.6s
MCMT *e*ScP **ScP** **19 25 04.1 -0.9**
G15A **Dillon** **38.55** **76** ⇑P **P** **19 19 08.2 +0.4**
baz=38,SNR=43
G15A ⇑P **P** **19 19 08.2 +0.4**
baz=38,SNR=43
G15A ⇑P **P** **19 19 08.2 +0.4**
baz=38,SNR=43
G15A ⇑ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=67
G15A ⇑ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=67
G15A ⇑ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=67
D17A **Six Diamond Ra** **38.59** **72** ⇑P **P** **19 19 08.7 +0.7**
baz=38,SNR=42
D17A ⇑P **P** **19 19 08.7 +0.7**
baz=38,SNR=42
D17A ⇑P **P** **19 19 08.7 +0.7**
baz=38,SNR=42
D17A ⇓ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=18
D17A ⇓ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=18
D17A ⇓ScP **ScP** **19 25 04.6 -0.5**
baz=38,SNR=18
I14A **Mackay** **38.64** **79** ⇑P **P** **19 19 08.9 +0.4**
baz=38,SNR=45
I14A ⇑P **P** **19 19 08.9 +0.4**
baz=38,SNR=45
I14A ⇑P **P** **19 19 08.9 +0.4**
baz=38,SNR=45
I14A ⇑ScP **ScP** **19 25 05.2 -0.2**
baz=38,SNR=17
I14A ⇑ScP **ScP** **19 25 05.2 -0.2**
baz=38,SNR=17
I14A ⇑ScP **ScP** **19 25 05.2 -0.2**
baz=38,SNR=17
EGMT **Eagleton** **38.70** **71** *e*P **P** **19 19 09.5 +0.7**
comp=Z,168nm,0.9s
EGMT LR LR
comp=Z,5µm,22.0s
EGMT **Eagleton** **38.70** **71** ⇑P **P** **19 19 09.7 +0.9**
baz=38,SNR=114
EGMT ⇑P **P** **19 19 09.7 +0.9**
baz=38,SNR=114
EGMT ⇑P **P** **19 19 09.7 +0.9**
baz=38,SNR=114
EGMT ⇓ScP **ScP** **19 25 04.6 -0.9**
baz=38
EGMT ⇓ScP **ScP** **19 25 04.6 -0.9**
baz=38
EGMT ⇓ScP **ScP** **19 25 04.6 -0.9**
baz=38
F16A **Kennard Place,** **38.74** **75** ⇓P **P** **19 19 10.0 +0.8**
baz=38,SNR=26
F16A ⇓P **P** **19 19 10.0 +0.8**
baz=38,SNR=26
F16A ⇓P **P** **19 19 10.0 +0.8**
baz=38,SNR=26
F16A ⇓ScP **ScP** **19 25 05.0 -0.7**
baz=38,SNR=10
F16A ⇓ScP **ScP** **19 25 05.0 -0.7**
baz=38,SNR=10
F16A ⇓ScP **ScP** **19 25 05.0 -0.7**
baz=38,SNR=10
H15A **Lima** **38.75** **77** ⇑P **P** **19 19 10.3 +0.9**
baz=38,SNR=27
H15A ⇑P **P** **19 19 10.3 +0.9**
baz=38,SNR=27
H15A ⇑P **P** **19 19 10.3 +0.9**
baz=38,SNR=27
H15A ⇑ScP **ScP** **19 25 05.5 -0.4**
baz=38,SNR=12
H15A ⇑ScP **ScP** **19 25 05.5 -0.4**
baz=38,SNR=12
H15A ⇑ScP **ScP** **19 25 05.5 -0.4**
baz=38,SNR=12
BOZ **Bozeman (W)** **38.81** **75** *e*P **P** **19 19 10.3 +0.4**
BOZ *e* 19 25 05.2
BOZ pmax pmax
comp=Z,63nm,1.1s
BOZ MLR MLR
comp=Z,3µm,19.0s
BOZ **Bozeman (W)** **38.81** **75** *e*P **P** **19 19 10.3 +0.4**
comp=Z,63nm,1.1s
BOZ *e*ScP **S** **19 25 05.2 0.0**
BOZ LR LR
comp=Z,3µm,19.0s
BOZ **Bozeman (W)** **38.81** **75** ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇓P **P** **19 19 10.9 +1.0**
baz=39,SNR=87
BOZ ⇑ScP **ScP** **19 25 05.7 -0.3**
baz=39,SNR=15
BOZ ⇑ScP **ScP** **19 25 05.7 -0.3**
baz=39,SNR=15
BOZ ⇑ScP **ScP** **19 25 05.7 -0.3**
baz=39,SNR=15
BOZ ⇑ScP **ScP** **19 25 05.7 -0.3**
baz=39,SNR=15
BOZ ⇑ScP **ScP** **19 25 05.7 -0.3**
baz=39,SNR=15
E17A **Martinsdale** **38.84** **74** ⇓P **P** **19 19 11.3 +1.1**
baz=39,SNR=81
E17A ⇓P **P** **19 19 11.3 +1.1**
baz=39,SNR=81
E17A ⇓P **P** **19 19 11.3 +1.1**
baz=39,SNR=81
E17A ⇓ScP **S** **19 25 05.4 -0.3**
baz=39,SNR=12
E17A ⇓ScP **S** **19 25 05.4 -0.3**

	baz=39,SNR=12								
E17A					⇓ScP		S	19 25 05.4	-0.3
	baz=39,SNR=12								
NVAR	**Mina Array Bea**	**38.87**	**89**		P		P	19 19 11.8	+1.3
	comp=Z,59nm,0.8s,baz=294,slow=8.2,SNR=148								
NVAR					PcP		PcP	19 21 21.2	+0.3
	comp=Z,8.4nm,0.9s,baz=242,slow=1.9,SNR=4.6								
NVAR					ScP		ScP	19 25 05.8	-0.6
	comp=Z,26nm,0.9s,baz=277,slow=4.3,SNR=30								
NVAR					LR		LR	19 32 05.7	
	comp=Z,5μm,20.0s,baz=61,slow=31								
NVAR	**Mina Array Bea**	**38.87**	**89**		P		P	19 19 11.8	+1.3
NVAR					PcP		PcP	19 21 21.2	+0.3
NVAR					ScP		ScP	19 25 05.8	-0.6
G16A	**Moss Hill, Enn**	**38.93**	**76**	⇑	P		P	19 19 11.5	+0.6
	baz=39,SNR=44								
G16A				⇑	P		P	19 19 11.5	+0.6
	baz=39,SNR=44								
G16A				⇑	P		P	19 19 11.5	+0.6
	baz=39,SNR=44								
G16A				⇑	ScP		ScP	19 25 05.9	-0.6
	baz=39,SNR=24								
G16A				⇑	ScP		ScP	19 25 05.9	-0.6
	baz=39,SNR=24								
G16A				⇑	ScP		ScP	19 25 05.9	-0.6
	baz=39,SNR=24								
B19A	**Brinkman Farms**	**38.95**	**70**	⇑	P		P	19 19 11.6	+0.7
	baz=39,SNR=93								
B19A				⇑	P		P	19 19 11.6	+0.7
	baz=39,SNR=93								
B19A				⇑	P		P	19 19 11.6	+0.7
	baz=39,SNR=93								
B19A				⇓	ScP		ScP	19 25 05.3	-1.1
	baz=39,SNR=7.5								
B19A				⇓	ScP		ScP	19 25 05.3	-1.1
	baz=39,SNR=7.5								
B19A				⇓	ScP		ScP	19 25 05.3	-1.1
	baz=39,SNR=7.5								
MDJ	**Mudanjiang**	**38.99**	**283**		P		P	19 19 09.8	-1.4
MDJ					pP		pP	19 19 18.3	-2.5
MDJ					sP		sP	19 19 22.3	-2.5
MDJ					S		ScP	19 25 05.0	-1.5
MDJ					PcS		PcS	19 25 10.3	-0.1
MDJ					sS		sS	19 25 19.8	-3.7
MDJ					pmax		pmax		
	comp=Z,28nm,1.4s								
MDJ					pmax		pmax		
	comp=Z,260nm,5.5s								
MDJ					LR		LR		
	comp=N,2μm,28.4s								
MDJ					LR		LR		
	comp=E,6μm,27.2s								
MDJ					LR		LR		
	comp=Z,9μm,23.7s								
MDJ	**Mudanjiang**	**38.99**	**283**	*e*P			P	19 19 09.8	-1.4
	comp=Z,28nm,0.9s								
MLAC	**Mammoth Lakes**	**39.04**	**90**	⇑	P		P	19 19 13.0	+1.1
	baz=39,SNR=13								
MLAC				⇑	P		P	19 19 13.0	+1.1
	baz=39,SNR=13								
MLAC				⇑	P		P	19 19 13.0	+1.1
	baz=39,SNR=13								
D18A	**Linhart Farms,**	**39.09**	**72**	⇑	P		P	19 19 13.5	+1.4
	baz=39,SNR=49								
D18A				⇑	P		P	19 19 13.5	+1.4
	baz=39,SNR=49								
D18A				⇑	P		P	19 19 13.5	+1.4
	baz=39,SNR=49								
D18A				⇓	ScP		ScP	19 25 06.5	-0.4
	baz=39,SNR=7.4								
D18A				⇓	ScP		ScP	19 25 06.5	-0.4
	baz=39,SNR=7.4								
D18A				⇓	ScP		ScP	19 25 06.5	-0.4
	baz=39,SNR=7.4								
I15A	**Monteview**	**39.18**	**78**	⇓	P		P	19 19 13.7	+0.7
	baz=39								
I15A				⇓	P		P	19 19 13.7	+0.7
	baz=39								
I15A				⇓	P		P	19 19 13.7	+0.7
	baz=39								
I15A				⇑	ScP		ScP	19 25 08.0	+0.5
	baz=39								
I15A				⇑	ScP		ScP	19 25 08.0	+0.5
	baz=39								
I15A				⇑	ScP		ScP	19 25 08.0	+0.5
	baz=39								
F17A	**Fitzpatrick Pl**	**39.25**	**74**	⇑	P		P	19 19 14.7	+1.1
	baz=39,SNR=40								
F17A				⇑	P		P	19 19 14.7	+1.1
	baz=39,SNR=40								
F17A				⇑	P		P	19 19 14.7	+1.1
	baz=39,SNR=40								
F17A				⇑	ScP		ScP	19 25 07.2	-0.4
	baz=39,SNR=8.0								
F17A				⇑	ScP		ScP	19 25 07.2	-0.4
	baz=39,SNR=8.0								
F17A				⇑	ScP		ScP	19 25 07.2	-0.4
	baz=39,SNR=8.0								
C19A	**Slack Wire Ran**	**39.26**	**71**	⇓	P		P	19 19 14.6	+1.2
	baz=39,SNR=181								
C19A				⇓	P		P	19 19 14.6	+1.2
	baz=39,SNR=181								
C19A				⇓	P		P	19 19 14.6	+1.2
	baz=39,SNR=181								
C19A				⇓	ScP		ScP	19 25 07.1	-0.5
	baz=39,SNR=14								
C19A				⇓	ScP		ScP	19 25 07.1	-0.5
	baz=39,SNR=14								
C19A				⇓	ScP		ScP	19 25 07.1	-0.5
	baz=39,SNR=14								
A20A	**Cobblestone Ra**	**39.33**	**69**	⇓	P		P	19 19 14.6	+0.6
	baz=39,SNR=91								
A20A				⇓	P		P	19 19 14.6	+0.6
	baz=39,SNR=91								
A20A				⇓	P		P	19 19 14.6	+0.6
	baz=39,SNR=91								
A20A				⇑	ScP		ScP	19 25 07.3	-0.5
	baz=39								
A20A				⇑	ScP		ScP	19 25 07.3	-0.5
	baz=39								
A20A				⇑	ScP		ScP	19 25 07.3	-0.5
	baz=39								
E18A	**Harlowton**	**39.35**	**73**	⇑	P		P	19 19 15.8	+1.5
	baz=39,SNR=62								
E18A				⇑	P		P	19 19 15.8	+1.5
	baz=39,SNR=62								
E18A				⇑	P		P	19 19 15.8	+1.5
	baz=39,SNR=62								
E18A				⇓	ScP		ScP	19 25 07.6	-0.4
	baz=39,SNR=10								
E18A				⇓	ScP		ScP	19 25 07.6	-0.4
	baz=39,SNR=10								
E18A				⇓	ScP		ScP	19 25 07.6	-0.4
	baz=39,SNR=10								
ELK	**Elko**	**39.36**	**84**	*e*P			P	19 19 15.2	+0.6
ELK	**Elko**	**39.36**	**84**	*e*P			P	19 19 15.2	+0.6
QLMT	**Earthquake Lak**	**39.36**	**76**	*e*P			P	19 19 15.3	+0.8
	comp=Z,7.4nm,1.1s								
QLMT					*e*ScP		ScP	19 25 08.5	+0.3
B20A	**Solberg Farm,**	**39.50**	**69**	⇑	P		P	19 19 15.8	+0.3
	baz=39								
B20A				⇑	P		P	19 19 15.8	+0.3
	baz=39								
B20A				⇑	P		P	19 19 15.8	+0.3
	baz=39								
B20A				⇓	ScP		ScP	19 25 07.5	-0.9
	baz=39								
B20A				⇓	ScP		ScP	19 25 07.5	-0.9
	baz=39								
B20A				⇓	ScP		ScP	19 25 07.5	-0.9
	baz=39								
G17A	**Pierce Place,**	**39.51**	**75**	⇑	P		P	19 19 16.6	+0.9
	baz=39,SNR=28								
G17A				⇑	P		P	19 19 16.6	+0.9
	baz=39,SNR=28								
G17A				⇑	P		P	19 19 16.6	+0.9
	baz=39,SNR=28								
G17A				⇑	ScP		ScP	19 25 09.1	+0.4
	baz=39,SNR=8.7								
G17A				⇑	ScP		ScP	19 25 09.1	+0.4
	baz=39,SNR=8.7								
G17A				⇑	ScP		ScP	19 25 09.1	+0.4
	baz=39,SNR=8.7								
H16A	**Russell Place,**	**39.54**	**76**	⇑	P		P	19 19 16.7	+0.6
	baz=39,SNR=41								
H16A				⇑	P		P	19 19 16.7	+0.6
	baz=39,SNR=41								
H16A				⇑	P		P	19 19 16.7	+0.6
	baz=39,SNR=41								
H16A				⇓	ScP		ScP	19 25 08.9	0.0
	baz=39,SNR=22								
H16A				⇓	ScP		ScP	19 25 08.9	0.0
	baz=39,SNR=22								
H16A				⇓	ScP		ScP	19 25 08.9	0.0
	baz=39,SNR=22								
J15A	**Blackfoot**	**39.55**	**79**	⇓	P		P	19 19 17.2	+1.2
	baz=39,SNR=11								
J15A				⇓	P		P	19 19 17.2	+1.2
	baz=39,SNR=11								
J15A				⇓	P		P	19 19 17.2	+1.2
	baz=39,SNR=11								
J15A				⇑	ScP		ScP	19 25 09.2	+0.3
	baz=39,SNR=23								
J15A				⇑	ScP		ScP	19 25 09.2	+0.3
	baz=39,SNR=23								
J15A				⇑	ScP		ScP	19 25 09.2	+0.3
	baz=39,SNR=23								
K14A	**Jones Ranch, D**	**39.58**	**80**	⇑	P		P	19 19 16.4	+0.2
	baz=39								
K14A				⇑	P		P	19 19 16.4	+0.2
	baz=39								
K14A				⇑	P		P	19 19 16.4	+0.2
	baz=39								
K14A				⇑	ScP		ScP	19 25 09.2	+0.2
	baz=39,SNR=20								
K14A				⇑	ScP		ScP	19 25 09.2	+0.2
	baz=39,SNR=20								
K14A				⇑	ScP		ScP	19 25 09.2	+0.2
	baz=39,SNR=20								
D19A	**Cripps Ranch,**	**39.64**	**71**	⇑	P		P	19 19 18.0	+1.3
	baz=39,SNR=41								
D19A				⇑	P		P	19 19 18.0	+1.3
	baz=39,SNR=41								
D19A				⇑	P		P	19 19 18.0	+1.3
	baz=39,SNR=41								
D19A				⇑	ScP		ScP	19 25 08.5	-0.6
	baz=39,SNR=6.8								
D19A				⇑	ScP		ScP	19 25 08.5	-0.6
	baz=39,SNR=6.8								
D19A				⇑	ScP		ScP	19 25 08.5	-0.6
	baz=39,SNR=6.8								
YMR	**Madison River**	**39.73**	**76**	*e*P			P	19 19 18.4	+0.8
	comp=Z,133nm,1.0s								
YMR					*e*ScP		ScP	19 25 10.2	+0.6
TPH	**Tonopah**	**39.76**	**89**		PFAKE			19 19 30.0	+12
TPH					LR		LR		
	comp=Z,7μm,21.0s								
TIN	**Tinemaha**	**39.78**	**91**	⇑	P		P	19 19 19.4	+1.5
	baz=40,SNR=9.3								
TIN				⇑	P		P	19 19 19.4	+1.5
	baz=40,SNR=9.3								
TIN				⇑	P		P	19 19 19.4	+1.5
	baz=40,SNR=9.3								
F18A	**Big Timber**	**39.81**	**74**	⇑	P		P	19 19 19.4	+1.2
	baz=40,SNR=34								
F18A				⇑	P		P	19 19 19.4	+1.2
	baz=40,SNR=34								
F18A				⇑	P		P	19 19 19.4	+1.2
	baz=40,SNR=34								
F18A				⇓	ScP		ScP	19 25 09.2	-0.6
	baz=40,SNR=9.2								
F18A				⇓	ScP		ScP	19 25 09.2	-0.6
	baz=40,SNR=9.2								
F18A				⇓	ScP		ScP	19 25 09.2	-0.6
	baz=40,SNR=9.2								
L14A	**Malta**	**39.83**	**81**	⇓	P		P	19 19 19.4	+1.0
	baz=40,SNR=55								
L14A				⇓	P		P	19 19 19.4	+1.0
	baz=40,SNR=55								
L14A				⇓	P		P	19 19 19.4	+1.0
	baz=40,SNR=55								
L14A				⇑	ScP		ScP	19 25 09.9	-0.1
	baz=40,SNR=13								
L14A				⇑	ScP		ScP	19 25 09.9	-0.1
	baz=40,SNR=13								
L14A				⇑	ScP		ScP	19 25 09.9	-0.1
	baz=40,SNR=13								
A21A	**Bergtoll Ranch**	**39.85**	**68**	⇑	P		P	19 19 19.1	+0.7
	baz=40,SNR=51								
A21A				⇑	P		P	19 19 19.1	+0.7
	baz=40,SNR=51								
A21A				⇑	P		P	19 19 19.1	+0.7
	baz=40,SNR=51								
A21A				⇓	ScP		ScP	19 25 09.1	-0.7
	baz=40								
A21A				⇓	ScP		ScP	19 25 09.1	-0.7
	baz=40								
A21A				⇓	ScP		ScP	19 25 09.1	-0.7
	baz=40								
I16A	**Newdale**	**39.85**	**77**	⇑	P		P	19 19 19.5	+0.9
	baz=40,SNR=26								
I16A				⇑	P		P	19 19 19.5	+0.9
	baz=40,SNR=26								
I16A				⇑	P		P	19 19 19.5	+0.9
	baz=40,SNR=26								
I16A				⇓	ScP		ScP	19 25 10.1	+0.1
	baz=40,SNR=6.3								
I16A				⇓	ScP		ScP	19 25 10.1	+0.1
	baz=40,SNR=6.3								
I16A				⇓	ScP		ScP	19 25 10.1	+0.1
	baz=40,SNR=6.3								
C20A	**Veseth Ranch,**	**39.87**	**70**	⇑	P		P	19 19 19.7	+1.1
	baz=40,SNR=50								
C20A				⇑	P		P	19 19 19.7	+1.1
	baz=40,SNR=50								
C20A				⇑	P		P	19 19 19.7	+1.1
	baz=40,SNR=50								
C20A				⇑	ScP		ScP	19 25 09.6	-0.3
	baz=40								
C20A				⇑	ScP		ScP	19 25 09.6	-0.3
	baz=40								
C20A				⇑	ScP		ScP	19 25 09.6	-0.3
	baz=40								
YNR	**Norris Junctio**	**39.88**	**76**	*e*P			P	19 19 20.4	+1.6
	comp=Z,162nm,1.1s								
YNR					*e*ScP		ScP	19 25 11.4	+1.1
K15A	**Arbon**	**39.89**	**80**	⇑	P		P	19 19 19.9	+1.0
	baz=40,SNR=35								
K15A				⇑	P		P	19 19 19.9	+1.0
	baz=40,SNR=35								
K15A				⇑	P		P	19 19 19.9	+1.0
	baz=40,SNR=35								
K15A				⇑	ScP		ScP	19 25 10.3	+0.1
	baz=40,SNR=12								
K15A				⇑	ScP		ScP	19 25 10.3	+0.1
	baz=40,SNR=12								
K15A				⇑	ScP		ScP	19 25 10.3	+0.1
	baz=40,SNR=12								
FFC	**Flin Flon**	**39.89**	**58**	*i*P			P	19 19 19.1	+0.5
FFC	**Flin Flon**	**39.89**	**58**	*e*P			P	19 19 18.2	-0.4
	comp=Z,54nm,0.9s								
FFC					LR		LR		
	comp=Z,7μm,21.0s								
GCMT	**Greycliff**	**39.90**	**74**	*e*P			P	19 19 19.8	+0.9
	comp=Z,48nm,1.1s								
GCMT					*e*ScP		ScP	19 25 09.6	-0.6
YFT	**Old Faithful**	**39.93**	**76**	*e*P			P	19 19 21.2	+1.9
	comp=Z,100nm,1.2s								
YFT					*e*ScP		ScP	19 25 12.3	+1.8
VES	**Vestal, Richgr**	**40.03**	**93**	⇑	P		P	19 19 20.3	+0.4
	baz=40,SNR=23								
VES				⇑	P		P	19 19 20.3	+0.4
	baz=40,SNR=23								
VES				⇑	P		P	19 19 20.3	+0.4
	baz=40,SNR=23								
VES				⇓	ScP		ScP	19 25 08.9	-1.8
	baz=40								
VES				⇓	ScP		ScP	19 25 08.9	-1.8
	baz=40								
VES				⇓	ScP		ScP	19 25 08.9	-1.8
	baz=40								
E19A	**Rath Farm, Rou**	**40.06**	**72**	⇑	P		P	19 19 21.6	+1.4
	baz=40,SNR=36								
E19A				⇑	P		P	19 19 21.6	+1.4
	baz=40,SNR=36								
E19A				⇑	P		P	19 19 21.6	+1.4
	baz=40,SNR=36								
E19A				⇑	ScP		ScP	19 25 10.0	-0.7
	baz=40								
E19A				⇑	ScP		ScP	19 25 10.0	-0.7
	baz=40								
E19A				⇑	ScP		ScP	19 25 10.0	-0.7
	baz=40								
B21A	**Ellsworth Farm**	**40.08**	**69**	⇑	P		P	19 19 21.4	+1.2
	baz=40,SNR=11								
B21A				⇑	P		P	19 19 21.4	+1.2
	baz=40,SNR=11								
B21A				⇑	P		P	19 19 21.4	+1.2
	baz=40								
B21A				⇓	ScP		ScP	19 25 11.0	+0.3
	baz=40								
B21A				⇓	ScP		ScP	19 25 11.0	+0.3
	baz=40								
B21A				⇓	ScP		ScP	19 25 11.0	+0.3
	baz=40								
J16A	**Bone**	**40.11**	**78**	⇑	P		P	19 19 22.0	+1.2
	baz=40,SNR=44								
J16A				⇑	P		P	19 19 22.0	+1.2
	baz=40,SNR=44								
J16A				⇑	P		P	19 19 22.0	+1.2
	baz=40,SNR=44								
J16A				⇓	ScP		ScP	19 25 11.0	-0.1
	baz=40,SNR=16								
J16A				⇓	ScP		ScP	19 25 11.0	-0.1
	baz=40,SNR=16								
J16A				⇓	ScP		ScP	19 25 11.0	-0.1
	baz=40,SNR=16								
D20A	**Manuel Ranch,**	**40.12**	**71**	⇓	P		P	19 19 22.0	+1.4
	baz=40,SNR=52								
D20A				⇓	P		P	19 19 22.0	+1.4
	baz=40,SNR=52								
D20A				⇓	P		P	19 19 22.0	+1.4
	baz=40,SNR=52								
D20A				⇑	ScP		ScP	19 25 09.9	-1.0
	baz=40,SNR=7.8								
D20A				⇑	ScP		ScP	19 25 09.9	-1.0
	baz=40,SNR=7.8								
D20A				⇑	ScP		ScP	19 25 09.9	-1.0
	baz=40,SNR=7.8								
LKWY	**Lake**	**40.12**	**76**	*e*P			P	19 19 22.9	+2.0
LKWY					pmax		pmax		
	comp=Z,66nm,0.8s								
LKWY	**Lake**	**40.12**	**76**	*e*P			P	19 19 22.9	+2.0
	comp=Z,66nm,0.8s								
LKWY					*e*ScP		ScP	19 25 12.5	+1.2
DCID1	**Drake Creek**	**40.19**	**78**	*e*P			P	19 19 22.8	+1.4
	comp=Z,88nm,1.1s								
PKM	**Peak Mountain**	**40.20**	**95**	⇓	P		P	19 19 22.2	+0.7
	baz=40,SNR=11								
PKM				⇓	P		P	19 19 22.2	+0.7
	baz=40,SNR=11								
PKM				⇓	P		P	19 19 22.2	+0.7
	baz=40,SNR=11								
G18A	**Lazy EL Ranch,**	**40.22**	**74**	⇓	P		P	19 19 22.1	+0.5
	baz=40,SNR=13								
G18A				⇓	P		P	19 19 22.1	+0.5
	baz=40,SNR=13								
G18A				⇓	P		P	19 19 22.1	+0.5
	baz=40,SNR=13								
RRI2	**Red Ridge**	**40.25**	**78**	*e*P			P	19 19 23.1	+1.1
	comp=Z,85nm,0.8s								
RRI2					*e*ScP		ScP	19 25 11.2	-0.5
HVU	**Hansel Valley**	**40.26**	**81**	*e*P			P	19 19 22.7	+0.7
HVU					pmax		pmax		
	comp=Z,50nm,0.8s								
HVU	**Hansel Valley**	**40.26**	**81**	*e*P			P	19 19 22.7	+0.7
	comp=Z,50nm,0.8s								
HVU					*e*ScP		ScP	19 25 11.7	0.0
F19A	**Roth Farm, Mol**	**40.29**	**73**	⇓	P		P	19 19 23.1	+0.9
	baz=40,SNR=35								
F19A				⇓	P		P	19 19 23.1	+0.9
	baz=40,SNR=35								
F19A				⇓	P		P	19 19 23.1	+0.9
	baz=40,SNR=35								
F19A				⇓	ScP		ScP	19 25 10.7	-1.0
	baz=40,SNR=8.0								
F19A				⇓	ScP		ScP	19 25 10.7	-1.0
	baz=40,SNR=8.0								
F19A				⇓	ScP		ScP	19 25 10.7	-1.0
	baz=40,SNR=8.0								
GRAC	**Grapevine Rang**	**40.34**	**90**	⇓	P		P	19 19 22.2	-0.4
	baz=40								
GRAC				⇓	P		P	19 19 22.2	-0.4
	baz=40								
GRAC				⇓	P		P	19 19 22.2	-0.4
	baz=40								
C21A	**Desert Coulee**	**40.34**	**70**	⇑	P		P	19 19 23.4	+0.9
	baz=40,SNR=60								
C21A				⇑	P		P	19 19 23.4	+0.9
	baz=40,SNR=60								
C21A				⇑	P		P	19 19 23.4	+0.9
	baz=40,SNR=60								
C21A				⇑	ScP		ScP	19 25 11.1	-0.6
	baz=40								
C21A				⇑	ScP		ScP	19 25 11.1	-0.6
	baz=40								
C21A				⇑	ScP		ScP	19 25 11.1	-0.6
	baz=40								
L15A	**Malad City**	**40.37**	**80**	⇓	P		P	19 19 23.7	+0.8
	baz=40,SNR=15								
L15A				⇓	P		P	19 19 23.7	+0.8
	baz=40,SNR=15								
L15A				⇓	P		P	19 19 23.7	+0.8
	baz=40,SNR=15								
L15A				⇓	ScP		ScP	19 25 11.9	-0.2
	baz=40,SNR=15								
L15A				⇓	ScP		ScP	19 25 11.9	-0.2
	baz=40,SNR=15								
L15A				⇓	ScP		ScP	19 25 11.9	-0.2
	baz=40,SNR=15								
MOOW	**Moose Ponds**	**40.37**	**77**	*e*P			P	19 19 23.6	+0.7
	comp=Z,33nm,1.1s								
MOOW					*e*ScP		ScP	19 25 11.9	-0.2
I17A	**Pilgrim Ck.**	**40.38**	**77**	⇓	P		P	19 19 24.2	+1.2
	baz=40								
I17A				⇓	P		P	19 19 24.2	+1.2
	baz=40								
I17A				⇓	P		P	19 19 24.2	+1.2
	baz=40								
I17A				⇓	ScP		ScP	19 25 12.2	+0.1
	baz=40,SNR=7.9								
I17A				⇓	ScP		ScP	19 25 12.2	+0.1
	baz=40,SNR=7.9								
I17A				⇓	ScP		ScP	19 25 12.2	+0.1
	baz=40,SNR=7.9								
K16A	**Soda Springs**	**40.38**	**79**	⇑	P		P	19 19 25.2	+2.3
	baz=40,SNR=62								
K16A				⇑	P		P	19 19 25.2	+2.3
	baz=40,SNR=62								
K16A				⇑	P		P	19 19 25.2	+2.3
	baz=40,SNR=62								
K16A				⇓	ScP		ScP	19 25 12.2	0.0
	baz=40,SNR=27								
K16A				⇓	ScP		ScP	19 25 12.2	0.0
	baz=40,SNR=27								
K16A				⇓	ScP		ScP	19 25 12.2	0.0
	baz=40,SNR=27								
TPAW	**Teton Pass**	**40.39**	**78**	*e*P			P	19 19 24.6	+1.4
	comp=Z,119nm,1.4s								
TPAW					*e*ScP		ScP	19 25 11.7	-0.6
A22A	**Carney Farms,**	**40.43**	**67**	⇑	P		P	19 19 24.0	+0.8
	baz=40,SNR=43								
A22A				⇑	P		P	19 19 24.0	+0.8
	baz=40,SNR=43								
A22A				⇑	P		P	19 19 24.0	+0.8
	baz=40,SNR=43								
A22A				⇑	ScP		ScP	19 25 11.7	-0.4
	baz=40								
A22A				⇑	ScP		ScP	19 25 11.7	-0.4
	baz=40								
A22A				⇑	ScP		ScP	19 25 11.7	-0.4
	baz=40								
E20A	**Meyer Farm, Mu**	**40.43**	**72**	⇓	P		P	19 19 24.8	+1.5
	baz=40,SNR=26								
E20A				⇓	P		P	19 19 24.8	+1.5
	baz=40,SNR=26								
E20A				⇓	P		P	19 19 24.8	+1.5
	baz=40,SNR=26								
E20A				⇓	ScP		ScP	19 25 11.4	-0.8
	baz=40								
E20A				⇓	ScP		ScP	19 25 11.4	-0.8
	baz=40

RLMT	baz=40,SNR=64			⇓P	P	19 19 25.0	+1.0
RLMT	baz=40,SNR=64			⇓P	P	19 19 25.0	+1.0
RLMT	baz=40,SNR=64			⇓ScP	ScP	19 25 12.5	-0.1
RLMT	baz=40,SNR=5.8			⇓ScP	ScP	19 25 12.5	-0.1
RLMT	baz=40,SNR=5.8			⇓ScP	ScP	19 25 12.5	-0.1
RLMT	baz=40,SNR=5.8			⇓ScP	ScP	19 25 12.5	-0.1
RLMT	baz=40,SNR=5.8			⇓ScP	ScP	19 25 12.5	-0.1
RLMT	baz=40,SNR=5.8			⇓ScP	ScP	19 25 12.5	-0.1
ISA	**Isabella**	**40.52**	**93**	*e*P	P	19 19 24.2	+0.1
ISA	comp=Z,56nm,0.8s			pmax	pmax		
ISA	**Isabella**	**40.52**	**93**	*e*P	P	19 19 24.2	+0.1
ISA	comp=Z,56nm,0.8s **Isabella**	**40.52**	**93**	⇓P	P	19 19 24.3	+0.2
ISA	baz=40,SNR=34			⇓P	P	19 19 24.3	+0.2
ISA	baz=40,SNR=34			⇓P	P	19 19 24.3	+0.2
ISA	baz=40			⇑ScP	ScP	19 25 11.1	-1.6
ISA	baz=40			⇑ScP	ScP	19 25 11.1	-1.6
ISA	baz=40			⇑ScP	ScP	19 25 11.1	-1.6
REDW	**Red Top Meadow**	**40.52**	**78**	*e*P	P	19 19 25.6	+1.3
REDW	comp=Z,135nm,1.3s			*e*ScP	ScP	19 25 12.8	0.0
SNOW	**Snow King Moun**	**40.52**	**77**	*e*P	P	19 19 26.4	+2.2
SNOW	comp=Z,56nm,1.1s			*e*ScP	ScP	19 25 13.0	+0.2
LOHW	**Long Hollow**	**40.53**	**77**	*e*P	P	19 19 25.3	+1.0
LOHW	comp=Z,30nm,1.0s			*e*ScP	ScP	19 25 11.0	-1.8
J17A	**Brown Place, J**	**40.61**	**78**	⇑P	P	19 19 25.8	+0.9
J17A	baz=40			⇑P	P	19 19 25.8	+0.9
J17A	baz=40			⇑P	P	19 19 25.8	+0.9
J17A	baz=40			⇓ScP	ScP	19 25 12.8	-0.3
J17A	baz=40,SNR=9.7			⇓ScP	ScP	19 25 12.8	-0.3
J17A	baz=40,SNR=9.7			⇓ScP	ScP	19 25 12.8	-0.3
M15A	baz=40,SNR=9.7 **Larsen Ranch,**	**40.64**	**81**	⇑P	P	19 19 26.1	+0.9
M15A	baz=40,SNR=8.5			⇑P	P	19 19 26.1	+0.9
M15A	baz=40,SNR=8.5			⇑P	P	19 19 26.1	+0.9
M15A	baz=40,SNR=8.5			⇑ScP	ScP	19 25 12.4	-0.8
M15A	baz=40,SNR=8.3			⇑ScP	ScP	19 25 12.4	-0.8
M15A	baz=40,SNR=8.3			⇑ScP	ScP	19 25 12.4	-0.8
ARVC	baz=40,SNR=8.3 **Arvin**	**40.65**	**93**	⇑P	P	19 19 25.4	+0.3
ARVC	baz=40			⇑P	P	19 19 25.4	+0.3
ARVC	baz=40			⇑P	P	19 19 25.4	+0.3
DAC	baz=40 **Darwin (Calif)**	**40.67**	**91**	PFAKE		19 19 40.0	+15
DAC	comp=Z,8μm,21.0s			LR	LR		
AHID	**Auburn Hatcher**	**40.71**	**79**	*e*P	P	19 19 26.1	+0.4
AHID	comp=Z,76nm,1.1s			*e*ScP	ScP	19 25 13.2	-0.3
AHID	comp=Z,7μm,21.0s			LR	LR		
B22A	**Reddig Ranch S**	**40.73**	**68**	⇑P	P	19 19 26.6	+0.9
B22A	baz=40,SNR=22			⇑P	P	19 19 26.6	+0.9
B22A	baz=40,SNR=22			⇑P	P	19 19 26.6	+0.9
F20A	baz=40,SNR=22 **Billings**	**40.79**	**73**	⇓P	P	19 19 27.4	+1.1
F20A	baz=41,SNR=36			⇓P	P	19 19 27.4	+1.1
F20A	baz=41,SNR=36			⇓P	P	19 19 27.4	+1.1
F20A	baz=41,SNR=36			⇑ScP	ScP	19 25 12.8	-0.8
F20A	baz=41			⇑ScP	ScP	19 25 12.8	-0.8
F20A	baz=41			⇑ScP	ScP	19 25 12.8	-0.8
D21A	baz=41 **La Casta Ranch**	**40.80**	**71**	⇑P	P	19 19 27.3	+1.0
D21A	baz=41,SNR=23			⇑P	P	19 19 27.3	+1.0
D21A	baz=41,SNR=23			⇑P	P	19 19 27.3	+1.0
K17A	baz=41,SNR=23 **Gardner Place,**	**40.83**	**78**	⇑P	P	19 19 26.9	+0.2
K17A	baz=41			⇑P	P	19 19 26.9	+0.2
K17A	baz=41			⇑P	P	19 19 26.9	+0.2
MPMC	baz=41 **Manual Prospec**	**40.87**	**91**	⇓P	P	19 19 27.7	+0.6
MPMC	baz=41,SNR=32			⇓P	P	19 19 27.7	+0.6
MPMC	baz=41,SNR=32			⇓P	P	19 19 27.7	+0.6
H19A	baz=41,SNR=32 **Powell**	**40.91**	**75**	⇓P	P	19 19 28.4	+1.1
H19A	baz=41,SNR=79			⇓P	P	19 19 28.4	+1.1
H19A	baz=41,SNR=79			⇓P	P	19 19 28.4	+1.1
H19A	baz=41,SNR=79			⇑ScP	ScP	19 25 14.0	-0.1
H19A	baz=41,SNR=7.0			⇑ScP	ScP	19 25 14.0	-0.1
H19A	baz=41,SNR=7.0			⇑ScP	ScP	19 25 14.0	-0.1
N15A	baz=41,SNR=7.0 **Stansbury Isla**	**40.94**	**82**	⇑P	P	19 19 28.1	+0.5
N15A	baz=41,SNR=8.1			⇑P	P	19 19 28.1	+0.5
N15A	baz=41,SNR=8.1			⇑P	P	19 19 28.1	+0.5
N15A	baz=41,SNR=8.1			⇑ScP	ScP	19 25 14.1	-0.3
N15A	baz=41,SNR=7.9			⇑ScP	ScP	19 25 14.1	-0.3
N15A	baz=41,SNR=7.9			⇑ScP	ScP	19 25 14.1	-0.3
L16A	baz=41,SNR=7.9 **Fish Haven**	**40.94**	**80**	⇓P	P	19 19 28.5	+0.8
L16A	baz=41,SNR=9.4			⇓P	P	19 19 28.5	+0.8
L16A	baz=41,SNR=9.4			⇓P	P	19 19 28.5	+0.8
L16A	baz=41,SNR=9.4			⇑ScP	ScP	19 25 14.0	-0.4
L16A	baz=41,SNR=6.8			⇑ScP	ScP	19 25 14.0	-0.4
L16A	baz=41,SNR=6.8			⇑ScP	ScP	19 25 14.0	-0.4
I18A	baz=41,SNR=6.8 **Diamond G Ranc**	**40.95**	**77**	⇑P	P	19 19 29.0	+1.2
I18A	baz=41,SNR=18			⇑P	P	19 19 29.0	+1.2
I18A	baz=41,SNR=18			⇑P	P	19 19 29.0	+1.2
I18A	baz=41,SNR=18			⇑ScP	ScP	19 25 14.3	-0.2
I18A	baz=41,SNR=14			⇑ScP	ScP	19 25 14.3	-0.2
I18A	baz=41,SNR=14			⇑ScP	ScP	19 25 14.3	-0.2
FURC	baz=41,SNR=14 **Furnace Creek,**	**40.99**	**90**	⇓P	P	19 19 28.5	+0.7
FURC	baz=41,SNR=50			⇓P	P	19 19 28.5	+0.7
FURC	baz=41,SNR=50			⇓P	P	19 19 28.5	+0.7
E21A	baz=41,SNR=50 **Keefer Ranch,**	**41.03**	**71**	⇓P	P	19 19 29.6	+1.4
E21A	baz=41,SNR=20			⇓P	P	19 19 29.6	+1.4
E21A	baz=41,SNR=20			⇓P	P	19 19 29.6	+1.4
E21A	baz=41,SNR=20			⇑ScP	ScP	19 25 13.7	-0.8
E21A	baz=41			⇑ScP	ScP	19 25 13.7	-0.8
E21A	baz=41			⇑ScP	ScP	19 25 13.7	-0.8
A23A	baz=41 **Redstone**	**41.03**	**67**	⇓P	P	19 19 28.5	+0.4
A23A	baz=41,SNR=26			⇓P	P	19 19 28.5	+0.4
A23A	baz=41,SNR=26			⇓P	P	19 19 28.5	+0.4
G20A	baz=41,SNR=26 **Bridger**	**41.07**	**74**	⇑P	P	19 19 29.4	+0.9
G20A	baz=41,SNR=75			⇑P	P	19 19 29.4	+0.9
G20A	baz=41,SNR=75			⇑P	P	19 19 29.4	+0.9
G20A	baz=41,SNR=75			⇓ScP	ScP	19 25 10.7	-4.1
G20A	baz=41			⇓ScP	ScP	19 25 10.7	-4.1
G20A	baz=41			⇓ScP	ScP	19 25 10.7	-4.1
ALE	baz=41 **Alert**	**41.08**	**11**	P	P	19 19 28.0	-0.1
C22A	comp=Z,489nm,0.8s,SNR=28 **Vida**	**41.08**	**69**	⇑P	P	19 19 29.8	+1.3
C22A	baz=41,SNR=31			⇑P	P	19 19 29.8	+1.3
C22A	baz=41,SNR=31			⇑P	P	19 19 29.8	+1.3
C22A	baz=41,SNR=31			⇑ScP	ScP	19 25 14.2	-0.5
C22A	baz=41			⇑ScP	ScP	19 25 14.2	-0.5
C22A	baz=41			⇑ScP	ScP	19 25 14.2	-0.5
HWUT	baz=41 **Hardware Ranch**	**41.10**	**80**	*e*P	P	19 19 29.6	+0.6
HWUT	comp=Z,27nm,0.9s			*e*ScP	ScP	19 25 14.2	-0.9
HWUT	comp=Z,5μm,22.0s			LR	LR		
J18A	**Kendall Valley**	**41.11**	**77**	⇑P	P	19 19 29.6	+0.6
J18A	baz=41,SNR=21			⇑P	P	19 19 29.6	+0.6
J18A	baz=41,SNR=21			⇑P	P	19 19 29.6	+0.6
J18A	baz=41,SNR=21			⇓ScP	ScP	19 25 14.7	-0.4
J18A	baz=41,SNR=25			⇓ScP	ScP	19 25 14.7	-0.4
J18A	baz=41,SNR=25			⇓ScP	ScP	19 25 14.7	-0.4
LRMC	baz=41,SNR=25 **Laurel Mountai**	**41.13**	**92**	⇓P	P	19 19 29.3	+0.1
LRMC	baz=41,SNR=17			⇓P	P	19 19 29.3	+0.1
LRMC	baz=41,SNR=17			⇓P	P	19 19 29.3	+0.1
LRMC	baz=41,SNR=17			⇓ScP	ScP	19 25 13.9	-1.2
LRMC	baz=41			⇓ScP	ScP	19 25 13.9	-1.2
LRMC	baz=41			⇓ScP	ScP	19 25 13.9	-1.2
DUG	baz=41 **Dugway**	**41.17**	**83**	*e*P	P	19 19 29.8	+0.3
DUG	comp=Z,161nm,1.4s			pmax	pmax		
DUG	comp=Z,7μm,20.0s			MLR	MLR		
DUG	**Dugway**	**41.17**	**83**	*e*P	P	19 19 29.8	+0.3
DUG	comp=Z,161nm,1.4s			*e*ScP	ScP	19 25 14.4	-0.8
DUG	comp=Z,7μm,20.0s			LR	LR		
DUG	**Dugway**	**41.17**	**83**	⇓P	P	19 19 30.1	+0.6
DUG	baz=41,SNR=44			⇓P	P	19 19 30.1	+0.6
DUG	baz=41,SNR=44			⇓P	P	19 19 30.1	+0.6
DUG	baz=41,SNR=44			⇓ScP	ScP	19 25 14.8	-0.5
DUG	baz=41,SNR=29			⇓ScP	ScP	19 25 14.8	-0.5
DUG	baz=41,SNR=29			⇓ScP	ScP	19 25 14.8	-0.5
BLG	baz=41,SNR=29 **Laguna Peak**	**41.19**	**95**	⇓P	P	19 19 29.8	+0.3
BLG	baz=41,SNR=6.1			⇓P	P	19 19 29.8	+0.3
BLG	baz=41,SNR=6.1			⇓P	P	19 19 29.8	+0.3
B23A	baz=41,SNR=6.1 **Brockton**	**41.22**	**68**	⇓P	P	19 19 30.2	+0.5
B23A	baz=41,SNR=71			⇓P	P	19 19 30.2	+0.5
B23A	baz=41,SNR=71			⇓P	P	19 19 30.2	+0.5
B23A	baz=41,SNR=71			⇑ScP	ScP	19 25 14.8	-0.4
B23A	baz=41			⇑ScP	ScP	19 25 14.8	-0.4
B23A	baz=41			⇑ScP	ScP	19 25 14.8	-0.4
D22A	baz=41 **Cohagen**	**41.23**	**70**	⇑P	P	19 19 30.5	+0.8
D22A	baz=41,SNR=111			⇑P	P	19 19 30.5	+0.8
D22A	baz=41,SNR=111			⇑P	P	19 19 30.5	+0.8
D22A	baz=41,SNR=111			⇑ScP	ScP	19 25 14.7	-0.6
D22A	baz=41			⇑ScP	ScP	19 25 14.7	-0.6
D22A	baz=41			⇑ScP	ScP	19 25 14.7	-0.6
BOD	baz=41 **Bodaibo**	**41.23**	**308**	⇑*i*P	P	19 19 28.3	-1.2
BOD				*e*		19 29 27.5	
BOD	comp=Z,112nm,0.8s			pmax	pmax		
L17A	**Cokeville**	**41.23**	**79**	⇓P	P	19 19 30.9	+0.8
L17A	baz=41,SNR=7.9			⇓P	P	19 19 30.9	+0.8
L17A	baz=41,SNR=7.9			⇓P	P	19 19 30.9	+0.8
L17A	baz=41,SNR=7.9			⇓ScP	ScP	19 25 14.8	-0.8
L17A	baz=41,SNR=10.0			⇓ScP	ScP	19 25 14.8	-0.8
L17A	baz=41,SNR=10.0			⇓ScP	ScP	19 25 14.8	-0.8
I19A	baz=41,SNR=10.0 **Meeteetse**	**41.26**	**76**	⇑P	P	19 19 31.0	+0.8
I19A	baz=41,SNR=17			⇑P	P	19 19 31.0	+0.8
I19A	baz=41,SNR=17			⇑P	P	19 19 31.0	+0.8
I19A	baz=41,SNR=17			⇓ScP	ScP	19 25 15.4	-0.2
I19A	baz=41,SNR=7.0			⇓ScP	ScP	19 25 15.4	-0.2
I19A	baz=41,SNR=7.0			⇓ScP	ScP	19 25 15.4	-0.2
O15A	baz=41,SNR=7.0 **The Old Anders**	**41.33**	**83**	⇓P	P	19 19 31.2	+0.3
O15A	baz=41			⇓P	P	19 19 31.2	+0.3
O15A	baz=41			⇓P	P	19 19 31.2	+0.3
O15A	baz=41			⇑ScP	ScP	19 25 15.6	-0.4
O15A	baz=41,SNR=8.2			⇑ScP	ScP	19 25 15.6	-0.4
O15A	baz=41,SNR=8.2			⇑ScP	ScP	19 25 15.6	-0.4
	baz=41,SNR=8.2						
EDW2	**Edwards Air Fo**	**41.33**	**93**	⇑P	P	19 19 30.9	+0.1
EDW2	baz=41,SNR=10.0			⇑P	P	19 19 30.9	+0.1
EDW2	baz=41,SNR=10.0			⇑P	P	19 19 30.9	+0.1
EDW2	baz=41,SNR=10.0			⇑ScP	ScP	19 25 14.9	-1.0
EDW2	baz=41			⇑ScP	ScP	19 25 14.9	-1.0
EDW2	baz=41			⇑ScP	ScP	19 25 14.9	-1.0
F21A	baz=41 **Absaloka Mine,**	**41.38**	**72**	⇓P	P	19 19 32.0	+0.9
F21A	baz=41,SNR=24			⇓P	P	19 19 32.0	+0.9
F21A	baz=41,SNR=24			⇓P	P	19 19 32.0	+0.9
K18A	baz=41,SNR=24 **Toltan Ranch,**	**41.42**	**78**	⇑P	P	19 19 32.4	+0.7
K18A	baz=41,SNR=28			⇑P	P	19 19 32.4	+0.7
K18A	baz=41,SNR=28			⇑P	P	19 19 32.4	+0.7
K18A	baz=41,SNR=28			⇓ScP	ScP	19 25 16.1	-0.3
K18A	baz=41,SNR=9.5			⇓ScP	ScP	19 25 16.1	-0.3
K18A	baz=41,SNR=9.5			⇓ScP	ScP	19 25 16.1	-0.3
C23A	baz=41,SNR=9.5 **Lambert**	**41.46**	**69**	⇑P	P	19 19 32.5	+0.9
C23A	baz=41,SNR=128			⇑P	P	19 19 32.5	+0.9
C23A	baz=41,SNR=128			⇑P	P	19 19 32.5	+0.9
C23A	baz=41,SNR=128			⇑ScP	ScP	19 25 15.8	-0.4
C23A	baz=41			⇑ScP	ScP	19 25 15.8	-0.4
C23A	baz=41			⇑ScP	ScP	19 25 15.8	-0.4
DECC	baz=41 **Green Verdugo**	**41.54**	**94**	⇓P	P	19 19 32.7	+0.2
DECC	baz=41			⇓P	P	19 19 32.7	+0.2
DECC	baz=41			⇓P	P	19 19 32.7	+0.2
A24A	baz=41 **Westby**	**41.55**	**67**	⇑P	P	19 19 32.9	+0.5
A24A	baz=41,SNR=60			⇑P	P	19 19 32.9	+0.5
A24A	baz=41,SNR=60			⇑P	P	19 19 32.9	+0.5
N16A	baz=41,SNR=60 **Rees Ranch, Co**	**41.60**	**81**	⇓P	P	19 19 33.3	+0.2
N16A	baz=41,SNR=7.9			⇓P	P	19 19 33.3	+0.2
N16A	baz=41,SNR=7.9			⇓P	P	19 19 33.3	+0.2
N16A	baz=41,SNR=7.9			⇓ScP	ScP	19 25 16.4	-0.6
N16A	baz=41,SNR=7.5			⇓ScP	ScP	19 25 16.4	-0.6
N16A	baz=41,SNR=7.5			⇓ScP	ScP	19 25 16.4	-0.6
PD01	baz=41,SNR=7.5 **Pinedale Array**	**41.62**	**78**	*e*P	P	19 19 33.4	+0.1
PD01				*e*ScP	ScP	19 25 16.1	-1.1
PD02	**Pinedale Array**	**41.63**	**78**	*e*P	P	19 19 33.3	0.0
PD02				*e*ScP	ScP	19 25 15.8	-1.4
BW06	**Boulder Array**	**41.64**	**78**	*e*P	P	19 19 33.7	+0.2
BW06	comp=Z,95nm,0.9s			LR	LR		
BW06	comp=Z,6μm,20.0s **Boulder Array**	**41.64**	**78**	⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇓P	P	19 19 34.3	+0.9
BW06	baz=41,SNR=106			⇑ScP	ScP	19 25 16.0	-1.2
BW06	baz=41,SNR=14			⇑ScP	ScP	19 25 16.0	-1.2
BW06	baz=41,SNR=14			⇑ScP	ScP	19 25 16.0	-1.2
BW06	baz=41,SNR=14			⇑ScP	ScP	19 25 16.0	-1.2
BW06	baz=41,SNR=14			⇑ScP	ScP	19 25 16.0	-1.2
BW06	baz=41,SNR=14			⇑ScP	ScP	19 25 16.0	-1.2
PDAR	baz=41,SNR=14 **Pinedale Array**	**41.64**	**78**	P	P	19 19 34.1	+0.7
PDAR	comp=Z,47nm,0.8s,baz=304,slow=4.5,SNR=268			ScP	ScP	19 25 16.4	-0.8
PDAR	comp=Z,22nm,1.0s,baz=264,slow=1.5,SNR=19			LR	LR	19 34 40.4	
PDAR	comp=Z,5μm,20.7s,baz=308,slow=33 **Pinedale Array**	**41.64**	**78**	P	P	19 19 34.1	+0.7
PDAR				ScP	ScP	19 25 16.4	-0.8
J19A	**Crowheart**	**41.66**	**77**	⇓P	P	19 19 34.7	+1.2
J19A	baz=41,SNR=30			⇓P	P	19 19 34.7	+1.2
J19A	baz=41,SNR=30			⇓P	P	19 19 34.7	+1.2
J19A	baz=41,SNR=30			⇓ScP	ScP	19 25 16.8	-0.4
J19A	baz=41,SNR=7.4			⇓ScP	ScP	19 25 16.8	-0.4
J19A	baz=41,SNR=7.4			⇓ScP	ScP	19 25 16.8	-0.4
G21A	baz=41,SNR=7.4 **Lodge Grass**	**41.66**	**73**	⇓P	P	19 19 33.7	+0.3
G21A	baz=41,SNR=43			⇓P	P	19 19 33.7	+0.3
G21A	baz=41,SNR=43			⇓P	P	19 19 33.7	+0.3
DGMT	baz=41,SNR=43 **Dagmar**	**41.67**	**67**	*e*P	P	19 19 33.8	+0.4
DGMT	comp=Z,229nm,1.4s			LR	LR		
DGMT	comp=Z,8μm,22.0s **Dagmar**	**41.67**	**67**	⇓P	P	19 19 34.1	+0.7
DGMT	baz=42,SNR=13			⇓P	P	19 19 34.1	+0.7
DGMT	baz=42,SNR=13			⇓P	P	19 19 34.1	+0.7
DGMT	baz=42,SNR=13			⇓ScP	ScP	19 25 16.6	-0.4
DGMT	baz=42			⇓ScP	ScP	19 25 16.6	-0.4
DGMT	baz=42			⇓ScP	ScP	19 25 16.6	-0.4
PASC	baz=42 **Pasadena Art C**	**41.68**	**94**	*e*P	P	19 19 34.4	+0.8
R13A	comp=Z,39nm,0.9s **O'Grain Ranch,**	**41.70**	**86**	⇓P	P	19 19 34.5	+0.6
R13A	baz=42,SNR=30			⇓P	P	19 19 34.5	+0.6
R13A	baz=42,SNR=30			⇓P	P	19 19 34.5	+0.6
R13A	baz=42,SNR=30			⇓ScP	ScP	19 25 16.6	-0.9
R13A	baz=42,SNR=5.6			⇓ScP	ScP	19 25 16.6	-0.9
R13A	baz=42,SNR=5.6			⇓ScP	ScP	19 25 16.6	-0.9
SHOC	baz=42,SNR=5.6 **Shoshone**	**41.72**	**91**	⇓P	P	19 19 34.6	+0.7
SHOC	baz=42,SNR=33			⇓P	P	19 19 34.6	+0.7
SHOC	baz=42,SNR=33			⇓P	P	19 19 34.6	+0.7
M17A	baz=42,SNR=33 **Scullys Gap (B**	**41.72**	**80**	⇑P	P	19 19 34.3	+0.2
M17A	baz=42,SNR=21			⇑P	P	19 19 34.3	+0.2
M17A	baz=42,SNR=21			⇑P	P	19 19 34.3	+0.2
M17A	baz=42,SNR=21			⇑ScP	ScP	19 25 16.5	-1.0
	baz=42,SNR=30						

M17A					⇑ScP	ScP	19 25 16.5	-1.0
	baz=42,SNR=30								
M17A					⇑ScP	ScP	19 25 16.5	-1.0
	baz=42,SNR=30								
MWC	**Mount Wilson**	**41.73**	**94**	*e*P		P	19 19 34.9	+0.7
MWC				pmax		pmax			
	comp=Z,129nm,1.1s								
MWC	**Mount Wilson**	**41.73**	**94**	*e*P		P	19 19 34.9	+0.7
	comp=Z,129nm,1.1s								
E22A	**Miles City**	**41.74**	**71**	⇓P		P	19 19 34.9	+0.9
	baz=42,SNR=45								
E22A				⇓P		P	19 19 34.9	+0.9
	baz=42,SNR=45								
E22A				⇓P		P	19 19 34.9	+0.9
	baz=42,SNR=45								
E22A				⇑ScP		ScP	19 25 12.1	-5.2
	baz=42								
E22A				⇑ScP		ScP	19 25 12.1	-5.2
	baz=42								
E22A				⇑ScP		ScP	19 25 12.1	-5.2
	baz=42								
JLU	**Jordanelle**	**41.76**	**81**	*e*P		P	19 19 35.2	+0.7
	comp=Z,73nm,1.2s								
JLU				*e*ScP		ScP	19 25 17.4	-0.4
D23A	**Lindsay**	**41.77**	**69**	⇑P		P	19 19 35.4	+1.1
	baz=42,SNR=23								
D23A				⇑P		P	19 19 35.4	+1.1
	baz=42,SNR=23								
D23A				⇑P		P	19 19 35.4	+1.1
	baz=42,SNR=23								
D23A				⇑ScP		ScP	19 25 16.9	-0.6
	baz=42								
D23A				⇑ScP		ScP	19 25 16.9	-0.6
	baz=42								
D23A				⇑ScP		ScP	19 25 16.9	-0.6
	baz=42								
GSC	**Goldstone**	**41.79**	**92**	*e*P		P	19 19 35.1	+0.6
GSC				pmax		pmax			
	comp=Z,151nm,0.8s								
GSC	**Goldstone**	**41.79**	**92**	*e*P		P	19 19 35.1	+0.6
	comp=Z,151nm,0.8s								
GSC	**Goldstone**	**41.79**	**92**	⇓P		P	19 19 34.8	+0.3
	baz=42,SNR=103								
GSC				⇓P		P	19 19 34.8	+0.3
	baz=42,SNR=103								
GSC				⇓P		P	19 19 34.8	+0.3
	baz=42,SNR=103								
GSC				⇑ScP		ScP	19 25 17.0	-0.7
	baz=42								
GSC				⇑ScP		ScP	19 25 17.0	-0.7
	baz=42								
GSC				⇑ScP		ScP	19 25 17.0	-0.7
	baz=42								
I20A	**Worland**	**41.82**	**75**	⇑P		P	19 19 36.0	+1.3
	baz=42,SNR=30								
I20A				⇑P		P	19 19 36.0	+1.3
	baz=42,SNR=30								
I20A				⇑P		P	19 19 36.0	+1.3
	baz=42,SNR=30								
L18A	**Fontenelle, Gr**	**41.84**	**79**	⇓P		P	19 19 35.6	+0.6
	baz=42,SNR=15								
L18A				⇓P		P	19 19 35.6	+0.6
	baz=42,SNR=15								
L18A				⇓P		P	19 19 35.6	+0.6
	baz=42,SNR=15								
L18A				⇑ScP		ScP	19 25 17.4	-0.6
	baz=42,SNR=15								
L18A				⇑ScP		ScP	19 25 17.4	-0.6
	baz=42,SNR=15								
L18A				⇑ScP		ScP	19 25 17.4	-0.6
	baz=42,SNR=15								
P15A	**Leamington**	**41.88**	**83**	⇓P		P	19 19 35.9	+0.6
	baz=42,SNR=27								
P15A				⇓P		P	19 19 35.9	+0.6
	baz=42,SNR=27								
P15A				⇓P		P	19 19 35.9	+0.6
	baz=42,SNR=27								
P15A				⇓ScP		ScP	19 25 17.6	-0.5
	baz=42,SNR=24								
P15A				⇓ScP		ScP	19 25 17.6	-0.5
	baz=42,SNR=24								
P15A				⇓ScP		ScP	19 25 17.6	-0.5
	baz=42,SNR=24								
F22A	**Rosebud**	**41.92**	**72**	⇓P		P	19 19 36.4	+1.0
	baz=42,SNR=26								
F22A				⇓P		P	19 19 36.4	+1.0
	baz=42,SNR=26								
F22A				⇓P		P	19 19 36.4	+1.0
	baz=42,SNR=26								
CN2	**Changchun**	**41.92**	**285**	⇑P		P	19 19 34.8	-0.6
CN2				*e*sP		sP	19 19 48.8	-0.2
CN2				PP		PP	19 21 15.0	+2.5
CN2				PcP		PcP	19 21 29.8	-0.6
CN2				*e*S		S	19 25 49.5	-1.8
CN2				pmax		pmax			
	comp=Z,70nm,1.1s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,4μm,17.0s								
CN2				LR		LR			
	comp=E,3μm,17.0s								
CN2				LR		LR			
	comp=Z,5μm,21.0s								
N17A	**Moffit Pass**	**41.93**	**81**	⇓P		P	19 19 36.4	+0.5
	baz=42,SNR=7.9								
N17A				⇓P		P	19 19 36.4	+0.5
	baz=42,SNR=7.9								
N17A				⇓P		P	19 19 36.4	+0.5
	baz=42,SNR=7.9								
N17A				⇓ScP		ScP	19 25 17.7	-0.7
	baz=42,SNR=7.5								
N17A				⇓ScP		ScP	19 25 17.7	-0.7
	baz=42,SNR=7.5								
N17A				⇓ScP		ScP	19 25 17.7	-0.7
	baz=42,SNR=7.5								
RRX	**Edison Barstow**	**41.94**	**92**	⇑P		P	19 19 36.1	+0.4
	baz=42								
RRX				⇑P		P	19 19 36.1	+0.4
	baz=42								
RRX				⇑P		P	19 19 36.1	+0.4
	baz=42								
BFSC	**Mount Baldy Ra**	**41.96**	**93**	⇓P		P	19 19 36.5	+0.5
	baz=42,SNR=36								
BFSC				⇓P		P	19 19 36.5	+0.5
	baz=42,SNR=36								
BFSC				⇓P		P	19 19 36.5	+0.5
	baz=42,SNR=36								
O16A	**Springville**	**41.97**	**82**	⇑P		P	19 19 37.0	+0.9
	baz=42								
O16A				⇑P		P	19 19 37.0	+0.9
	baz=42								
O16A				⇑P		P	19 19 37.0	+0.9
	baz=42								
O16A				⇓ScP		ScP	19 25 17.7	-0.8
	baz=42								
O16A				⇓ScP		ScP	19 25 17.7	-0.8
	baz=42								
O16A				⇓ScP		ScP	19 25 17.7	-0.8
	baz=42								
MPU	**Maple Canyon**	**42.00**	**82**	*e*P		P	19 19 36.6	+0.2
	comp=Z,38nm,0.8s								
MPU				*e*ScP		ScP	19 25 18.2	-0.5
K19A	**Absolon Red Bu**	**42.03**	**77**	⇓P		P	19 19 36.5	-0.1
	baz=42,SNR=62								
K19A				⇓P		P	19 19 36.5	-0.1
	baz=42,SNR=62								
K19A				⇓P		P	19 19 36.5	-0.1
	baz=42,SNR=62								
K19A				⇑ScP		ScP	19 25 17.4	-1.3
	baz=42,SNR=6.6								
K19A				⇑ScP		ScP	19 25 17.4	-1.3
	baz=42,SNR=6.6								
K19A				⇑ScP		ScP	19 25 17.4	-1.3
	baz=42,SNR=6.6								
C24A	**Savage**	**42.04**	**69**	⇓P		P	19 19 37.3	+1.0
	baz=42,SNR=28								
C24A				⇓P		P	19 19 37.3	+1.0
	baz=42,SNR=28								
C24A				⇓P		P	19 19 37.3	+1.0
	baz=42,SNR=28								
CIS	**Catalina Islan**	**42.06**	**95**	⇑P		P	19 19 36.9	+0.2
	baz=42								
CIS				⇑P		P	19 19 36.9	+0.2
	baz=42								
CIS				⇑P		P	19 19 36.9	+0.2
	baz=42								
E23A	**Ismay**	**42.08**	**70**	⇑P		P	19 19 37.8	+1.0
	baz=42,SNR=16								
E23A				⇑P		P	19 19 37.8	+1.0
	baz=42,SNR=16								
E23A				⇑P		P	19 19 37.8	+1.0
	baz=42,SNR=16								
H21A	**Big Horn, Sher**	**42.09**	**74**	⇓P		P	19 19 37.7	+0.8
	baz=42,SNR=18								
H21A				⇓P		P	19 19 37.7	+0.8
	baz=42,SNR=18								
H21A				⇓P		P	19 19 37.7	+0.8
	baz=42,SNR=18								
M18A	**Lyman**	**42.11**	**80**	⇓P		P	19 19 37.4	+0.2
	baz=42,SNR=20								
M18A				⇓P		P	19 19 37.4	+0.2
	baz=42,SNR=20								
M18A				⇓P		P	19 19 37.4	+0.2
	baz=42,SNR=20								
M18A				⇓ScP		ScP	19 25 18.2	-0.9
	baz=42,SNR=10								
M18A				⇓ScP		ScP	19 25 18.2	-0.9
	baz=42,SNR=10								
M18A				⇓ScP		ScP	19 25 18.2	-0.9
	baz=42,SNR=10								
L19A	**Farson**	**42.15**	**78**	⇓P		P	19 19 38.3	+0.8
	baz=42,SNR=19								
L19A				⇓P		P	19 19 38.3	+0.8
	baz=42,SNR=19								
L19A				⇓P		P	19 19 38.3	+0.8
	baz=42,SNR=19								
L19A				⇓ScP		ScP	19 25 18.8	-0.4
	baz=42,SNR=16								
L19A				⇓ScP		ScP	19 25 18.8	-0.4
	baz=42,SNR=16								
L19A				⇓ScP		ScP	19 25 18.8	-0.4
	baz=42,SNR=16								
J20A	**Shoshoni**	**42.19**	**76**	⇓P		P	19 19 39.1	+1.3
	baz=42,SNR=28								
J20A				⇓P		P	19 19 39.1	+1.3
	baz=42,SNR=28								
J20A				⇓P		P	19 19 39.1	+1.3
	baz=42,SNR=28								
G22A	**Birney**	**42.20**	**73**	⇑P		P	19 19 38.5	+0.7
	baz=42,SNR=31								
G22A				⇑P		P	19 19 38.5	+0.7
	baz=42,SNR=31								
G22A				⇑P		P	19 19 38.5	+0.7
	baz=42,SNR=31								
P16A	**Fountain Green**	**42.23**	**83**	⇓P		P	19 19 39.2	+0.9
	baz=42,SNR=8.3								
P16A				⇓P		P	19 19 39.2	+0.9
	baz=42,SNR=8.3								
P16A				⇓P		P	19 19 39.2	+0.9
	baz=42,SNR=8.3								
TUQ	**Turquoise Moun**	**42.24**	**91**	⇑P		P	19 19 38.7	+0.4
	baz=42,SNR=24								
TUQ				⇑P		P	19 19 38.7	+0.4
	baz=42,SNR=24								
TUQ				⇑P		P	19 19 38.7	+0.4
	baz=42,SNR=24								
TUQ				⇑ScP		ScP	19 25 18.8	-0.8
	baz=42								
TUQ				⇑ScP		ScP	19 25 18.8	-0.8
	baz=42								
TUQ				⇑ScP		ScP	19 25 18.8	-0.8
	baz=42								
ARUT	**Antelope Range**	**42.27**	**86**	*e*P		P	19 19 39.4	+0.9
ARUT				pmax		pmax			
	comp=Z,46nm,0.9s								
ARUT	**Antelope Range**	**42.27**	**86**	*e*P		P	19 19 39.4	+0.9
	comp=Z,46nm,0.9s								
HIA	**Hailar**	**42.28**	**295**	*e*P		P	19 19 37.9	-0.4
HIA				pmax		pmax			
	comp=Z,399nm,0.9s								
HIA				MLR		MLR			
	comp=Z,10μm,20.0s								
HIA	**Hailar**	**42.28**	**295**	*e*P		P	19 19 37.9	-0.4
	comp=Z,399nm,0.9s								
HIA				LR		LR			
	comp=Z,10μm,20.0s								
D24A	**Glendive**	**42.31**	**69**	⇓P		P	19 19 40.0	+1.4
	baz=42,SNR=139								
D24A				⇓P		P	19 19 40.0	+1.4
	baz=42,SNR=139								
D24A				⇓P		P	19 19 40.0	+1.4
	baz=42,SNR=139								
HEC	**Hector,Ludlow**	**42.39**	**92**	⇓P		P	19 19 40.0	+0.5
	baz=42,SNR=24								
HEC				⇓P		P	19 19 40.0	+0.5
	baz=42,SNR=24								
HEC				⇓P		P	19 19 40.0	+0.5
	baz=42,SNR=24								
HEC				⇓ScP		ScP	19 25 19.3	-0.9
	baz=42								
HEC				⇓ScP		ScP	19 25 19.3	-0.9
	baz=42								
HEC				⇓ScP		ScP	19 25 19.3	-0.9
	baz=42								
I21A	**Big Trails, Te**	**42.40**	**75**	⇓P		P	19 19 39.9	+0.4
	baz=42,SNR=42								
I21A				⇓P		P	19 19 39.9	+0.4
	baz=42,SNR=42								
I21A				⇓P		P	19 19 39.9	+0.4
	baz=42,SNR=42								
I21A				⇓ScP		ScP	19 25 19.4	-0.8
	baz=42,SNR=6.8								
I21A				⇓ScP		ScP	19 25 19.4	-0.8
	baz=42,SNR=6.8								
I21A				⇓ScP		ScP	19 25 19.4	-0.8
	baz=42,SNR=6.8								
BBRC	**Big Bear Solar**	**42.40**	**93**	⇓P		P	19 19 40.1	+0.3
	baz=42								
BBRC				⇓P		P	19 19 40.1	+0.3
	baz=42								
BBRC				⇓P		P	19 19 40.1	+0.3
	baz=42								
K20A	**Yellowstone Ra**	**42.44**	**77**	⇑P		P	19 19 40.1	+0.3
	baz=42,SNR=14								
K20A				⇑P		P	19 19 40.1	+0.3
	baz=42,SNR=14								
K20A				⇑P		P	19 19 40.1	+0.3
	baz=42,SNR=14								
K20A				⇓ScP		ScP	19 25 19.3	-1.1
	baz=42,SNR=10								
K20A				⇓ScP		ScP	19 25 19.3	-1.1
	baz=42,SNR=10								
K20A				⇓ScP		ScP	19 25 19.3	-1.1
	baz=42,SNR=10								
O17A	**Robinson Place**	**42.44**	**81**	⇓P		P	19 19 40.7	+0.7
	baz=42,SNR=12								
O17A				⇓P		P	19 19 40.7	+0.7
	baz=42,SNR=12								
O17A				⇓P		P	19 19 40.7	+0.7
	baz=42,SNR=12								
O17A				⇓ScP		ScP	19 25 20.0	-0.4
	baz=42,SNR=25								
O17A				⇓ScP		ScP	19 25 20.0	-0.4
	baz=42,SNR=25								
O17A				⇓ScP		ScP	19 25 20.0	-0.4
	baz=42,SNR=25								
F23A	**Volborg**	**42.45**	**71**	⇑P		P	19 19 40.3	+0.5
	baz=42,SNR=50								
F23A				⇑P		P	19 19 40.3	+0.5
	baz=42,SNR=50								
F23A				⇑P		P	19 19 40.3	+0.5
	baz=42,SNR=50								
CCUT	**Cedar City**	**42.46**	**86**	*e*P		P	19 19 41.0	+0.8
	comp=Z,24nm,0.7s								
H22A	**Clearmont**	**42.52**	**73**	⇓P		P	19 19 40.8	+0.4
	baz=42,SNR=26								
H22A				⇓P		P	19 19 40.8	+0.4
	baz=42,SNR=26								
H22A				⇓P		P	19 19 40.8	+0.4
	baz=42,SNR=26								
J21A	**Lysite**	**42.58**	**76**	⇑P		P	19 19 41.8	+0.8
	baz=42,SNR=17								
J21A				⇑P		P	19 19 41.8	+0.8
	baz=42,SNR=17								
J21A				⇑P		P	19 19 41.8	+0.8
	baz=42,SNR=17								
J21A				⇑ScP		ScP	19 25 20.8	-0.1
	baz=42								
J21A				⇑ScP		ScP	19 25 20.8	-0.1
	baz=42								
J21A				⇑ScP		ScP	19 25 20.8	-0.1
	baz=42								
MSU	**Marysvale**	**42.59**	**84**	*e*P		P	19 19 42.0	+0.8
MSU				pmax		pmax			
	comp=Z,24nm,0.7s								
MSU	**Marysvale**	**42.59**	**84**	*e*P		P	19 19 42.0	+0.8
	comp=Z,24nm,0.7s								
M19A	**Rock Springs**	**42.62**	**79**	⇑P		P	19 19 42.3	+0.9
	baz=42,SNR=5.8								
M19A				⇑P		P	19 19 42.3	+0.9
	baz=42,SNR=5.8								
M19A				⇑P		P	19 19 42.3	+0.9
	baz=42,SNR=5.8								
E24A	**Baker**	**42.62**	**70**	⇓P		P	19 19 42.2	+1.0
	baz=42,SNR=17								
E24A				⇓P		P	19 19 42.2	+1.0
	baz=42,SNR=17								
E24A				⇓P		P	19 19 42.2	+1.0
	baz=42,SNR=17								
CBIJ	**Chichi jima**	**42.67**	**253**	P		P	19 19 42.0	+0.4
	comp=Z,206nm,0.9s,baz=51,slow=7.8,SNR=6.1								
CBIJ				LR		LR	19 34 33.7		
	comp=Z,3μm,21.9s,baz=14,slow=32								
CBIJ	**Chichi jima**	**42.67**	**253**	P		P	19 19 42.0	+0.4
MURC	**Murrieta**	**42.67**	**94**	⇓P		P	19 19 41.9	+0.2
	baz=42,SNR=7.0								
MURC				⇓P		P	19 19 41.9	+0.2
	baz=42,SNR=7.0								
MURC				⇓P		P	19 19 41.9	+0.2
	baz=42,SNR=7.0								
TMUT	**Trail Mountain**	**42.70**	**83**	*e*P		P	19 19 43.0	+0.8
	comp=Z,54nm,0.8s								
R15A	**Junction**	**42.72**	**85**	⇑P		P	19 19 43.0	+0.8
	baz=42								
R15A				⇑P		P	19 19 43.0	+0.8
	baz=42								
R15A				⇑P		P	19 19 43.0	+0.8
	baz=42								
R15A				⇑ScP		ScP	19 25 21.1	-0.5
	baz=42,SNR=5.3								
R15A				⇑ScP		ScP	19 25 21.1	-0.5
	baz=42,SNR=5.3								
R15A				⇑ScP		ScP	19 25 21.1	-0.5
	baz=42,SNR=5.3								
G23A	**Biddle**	**42.74**	**72**	⇓P		P	19 19 42.7	+0.5
	baz=42,SNR=25								
G23A				⇓P		P	19 19 42.7	+0.5
	baz=42,SNR=25								
G23A				⇓P		P	19 19 42.7	+0.5
	baz=42,SNR=25								
L20A	**Wamsutter**	**42.82**	**78**	⇑P		P	19 19 43.6	+0.6
	baz=43,SNR=11								
L20A				⇑P		P	19 19 43.6	+0.6
	baz=43,SNR=11								
L20A				⇑P		P	19 19 43.6	+0.6
	baz=43,SNR=11								
L20A				⇑ScP		ScP	19 25 20.8	-1.1
	baz=43								
L20A				⇑ScP		ScP	19 25 20.8	-1.1
	baz=43								
L20A				⇑ScP		ScP	19 25 20.8	-1.1
	baz=43								
I22A	**9 Mile Ranch,**	**42.84**	**74**	⇑P		P	19 19 43.9	+0.8
	baz=43,SNR=27								
I22A				⇑P		P	19 19 43.9	+0.8
	baz=43,SNR=27								
I22A				⇑P		P	19 19 43.9	+0.8
	baz=43,SNR=27								
GMRC	**Granite Mounta**	**42.84**	**91**	⇑P		P	19 19 43.5	+0.4
	baz=43,SNR=57								
GMRC				⇑P		P	19 19 43.5	+0.4
	baz=43,SNR=57								
GMRC				⇑P		P	19 19 43.5	+0.4
	baz=43,SNR=57								
GMRC				⇑ScP		ScP	19 25 20.6	-1.4
	baz=43								
GMRC				⇑ScP		ScP	19 25 20.6	-1.4
	baz=43								
GMRC				⇑ScP		ScP	19 25 20.6	-1.4
	baz=43								
O18A	**Roosevelt**	**42.84**	**81**	⇓P		P	19 19 44.2	+1.1
	baz=43,SNR=11								
O18A				⇓P		P	19 19 44.2	+1.1
	baz=43,SNR=11								
O18A				⇓P		P	19 19 44.2	+1.1
	baz=43,SNR=11								
O18A				⇑ScP		ScP	19 25 21.6	-0.3
	baz=43,SNR=18								
O18A				⇑ScP		ScP	19 25 21.6	-0.3
	baz=43,SNR=18								
O18A				⇑ScP		ScP	19 25 21.6	-0.3
	baz=43,SNR=18								
P17A	**Butcher Ranch,**	**42.88**	**82**	⇑P		P	19 19 44.2	+0.7
	baz=43,SNR=19								
P17A				⇑P		P	19 19 44.2	+0.7
	baz=43,SNR=19								
P17A				⇑P		P	19 19 44.2	+0.7
	baz=43,SNR=19								
P17A				⇓ScP		ScP	19 25 21.7	-0.5
	baz=43,SNR=20								
P17A				⇓ScP		ScP	19 25 21.7	-0.5
	baz=43,SNR=20								
P17A				⇓ScP		ScP	19 25 21.7	-0.5
	baz=43,SNR=20								
F24A	**Ekalaka**	**42.94**	**71**	⇑P		P	19 19 44.4	+0.6
	baz=43,SNR=31								
F24A				⇑P		P	19 19 44.4	+0.6
	baz=43,SNR=31								
F24A				⇑P		P	19 19 44.4	+0.6
	baz=43,SNR=31								
Q16A	**Castle Valley**	**42.96**	**83**	⇑P		P	19 19 44.8	+0.6
	baz=43,SNR=39								
Q16A				⇑P		P	19 19 44.8	+0.6
	baz=43,SNR=39								
Q16A				⇑P		P	19 19 44.8	+0.6
	baz=43,SNR=39								
Q16A				⇓ScP		ScP	19 25 22.2	-0.3
	baz=43,SNR=12								
Q16A				⇓ScP		ScP	19 25 22.2	-0.3
	baz=43,SNR=12								
Q16A				⇓ScP		ScP	19 25 22.2	-0.3
	baz=43,SNR=12								
N19A	**John Jarvie Ra**	**42.97**	**80**	⇑P		P	19 19 44.5	+0.3
	baz=43,SNR=18								
N19A				⇑P		P	19 19 44.5	+0.3
	baz=43,SNR=18								
N19A				⇑P		P	19 19 44.5	+0.3
	baz=43,SNR=18								
N19A				⇓ScP		ScP	19 25 21.6	-0.9
	baz=43,SNR=8.1								
N19A				⇓ScP		ScP	19 25 21.6	-0.9
	baz=43,SNR=8.1								
N19A				⇓ScP		ScP	19 25 21.6	-0.9
	baz=43,SNR=8.1								
LDFC	**Landfair**	**42.98**	**90**	*e*P		P	19 19 45.0	+0.8
	comp=Z,153nm,0.8s								
K21A	**Alcova**	**43.10**	**76**	⇑P		P	19 19 45.6	+0.3
	baz=43,SNR=38								
K21A				⇑P		P	19 19 45.6	+0.3
	baz=43,SNR=38								
K21A				⇑P		P	19 19 45.6	+0.3
	baz=43,SNR=38								
J22A	**Midwest**	**43.11**	**75**	⇑P		P	19 19 46.2	+0.9
	baz=43,SNR=58								
J22A				⇑P		P	19 19 46.2	+0.9
	baz=43,SNR=58								
J22A				⇑P		P	19 19 46.2	+0.9
	baz=43,SNR=58								
PFO	**Pinyon Flat Ob**	**43.13**	**93**	*e*P		P	19 19 46.0	+0.5
PFO				pmax		pmax			
	comp=Z,31nm,0.8s								
PFO				MLR		MLR			
	comp=Z,6μm,22.0s								
PFO	**Pinyon Flat Ob**	**43.13**	**93**	*e*P		P	19 19 46.0	+0.5
	comp=Z,31nm,0.8s								
PFO				LR		LR			
	comp=Z,6μm,22.0s								
PFO	**Pinyon Flat Ob**	**43.13**	**93**	⇓P		P	19 19 45.5	+0.1
	baz=43,SNR=12								
PFO				⇓P		P	19 19 45.5	+0.1
	baz=43,SNR=12								
PFO				⇓P		P	19 19 45.5	+0.1
	baz=43,SNR=12								
PFO				⇓ScP		ScP	19 25 22.5	-0.7
	baz=43								
PFO				⇓ScP		ScP	19 25 22.5	-0.7
	baz=43								
PFO				⇓ScP		ScP	19 25 22.5	-0.7
	baz=43								
BELC	**Belle Mtn. Jos**	**43.15**	**92**	⇑P		P	19 19 45.4	-0.2
	baz=43,SNR=32								
BELC				⇑P		P	19 19 45.4	-0.2
	baz=43,SNR=32								

BELC				⇑P		**P**	**19 19 45.4**	**-0.2**
	baz=43,SNR=32								
BELC				⇓ScP		**ScP**	**19 25 21.7**	**-1.6**
	baz=43								
BELC				⇓ScP		**ScP**	**19 25 21.7**	**-1.6**
	baz=43								
BELC				⇓ScP		**ScP**	**19 25 21.7**	**-1.6**
	baz=43								
R16A	**Teasdale**	**43.16**	**84**	⇓P		**P**	**19 19 46.7**	**+0.8**
	baz=43,SNR=57								
R16A				⇓P		**P**	**19 19 46.7**	**+0.8**
	baz=43,SNR=57								
R16A				⇓P		**P**	**19 19 46.7**	**+0.8**
	baz=43,SNR=57								
R16A				⇑ScP		**ScP**	**19 25 23.0**	**-0.4**
	baz=43,SNR=31								
R16A				⇑ScP		**ScP**	**19 25 23.0**	**-0.4**
	baz=43,SNR=31								
R16A				⇑ScP		**ScP**	**19 25 23.0**	**-0.4**
	baz=43,SNR=31								
109C	**Camp Elliot, M**	**43.21**	**94**	⇓P		**P**	**19 19 46.6**	**+0.6**
	baz=43								
109C				⇓P		**P**	**19 19 46.6**	**+0.6**
	baz=43								
109C				⇓P		**P**	**19 19 46.6**	**+0.6**
	baz=43								
M20A	**Sweetwater, Wa**	**43.21**	**78**	⇓P		**P**	**19 19 46.6**	**+0.4**
	baz=43,SNR=18								
M20A				⇓P		**P**	**19 19 46.6**	**+0.4**
	baz=43,SNR=18								
M20A				⇓P		**P**	**19 19 46.6**	**+0.4**
	baz=43,SNR=18								
M20A				⇓ScP		**ScP**	**19 25 23.2**	**-0.4**
	baz=43,SNR=6.2								
M20A				⇓ScP		**ScP**	**19 25 23.2**	**-0.4**
	baz=43,SNR=6.2								
M20A				⇓ScP		**ScP**	**19 25 23.2**	**-0.4**
	baz=43,SNR=6.2								
SRU	**San Rafael**	**43.23**	**83**	*e*P		**P**	**19 19 47.2**	**+0.8**
SRU				pmax		pmax			
	comp=Z,86nm,0.9s								
SRU	**San Rafael**	**43.23**	**83**	*e*P		**P**	**19 19 47.2**	**+0.8**
	comp=Z,86nm,0.9s								
SRU	**San Rafael**	**43.23**	**83**	⇓P		**P**	**19 19 46.8**	**+0.4**
	baz=43,SNR=99								
SRU				⇓P		**P**	**19 19 46.8**	**+0.4**
	baz=43,SNR=99								
SRU				⇓P		**P**	**19 19 46.8**	**+0.4**
	baz=43,SNR=99								
SRU				⇑ScP		**ScP**	**19 25 22.7**	**-0.9**
	baz=43,SNR=10								
SRU				⇑ScP		**ScP**	**19 25 22.7**	**-0.9**
	baz=43,SNR=10								
SRU				⇑ScP		**ScP**	**19 25 22.7**	**-0.9**
	baz=43,SNR=10								
G24A	**Alzada**	**43.24**	**71**	⇓P		**P**	**19 19 46.4**	**+0.2**
	baz=43,SNR=29								
G24A				⇓P		**P**	**19 19 46.4**	**+0.2**
	baz=43,SNR=29								
G24A				⇓P		**P**	**19 19 46.4**	**+0.2**
	baz=43,SNR=29								
O19A	**Miners Draw (B**	**43.36**	**80**	⇓P		**P**	**19 19 47.7**	**+0.3**
	baz=43,SNR=82								
O19A				⇓P		**P**	**19 19 47.7**	**+0.3**
	baz=43,SNR=82								
O19A				⇓P		**P**	**19 19 47.7**	**+0.3**
	baz=43,SNR=82								
O19A				⇑ScP		**ScP**	**19 25 22.8**	**-1.3**
	baz=43,SNR=8.1								
O19A				⇑ScP		**ScP**	**19 25 22.8**	**-1.3**
	baz=43,SNR=8.1								
O19A				⇑ScP		**ScP**	**19 25 22.8**	**-1.3**
	baz=43,SNR=8.1								
I23A	**Meade Ranch, G**	**43.40**	**74**	⇓P		**P**	**19 19 48.3**	**+0.7**
	baz=43								
I23A				⇓P		**P**	**19 19 48.3**	**+0.7**
	baz=43								
I23A				⇓P		**P**	**19 19 48.3**	**+0.7**
	baz=43								
L21A	**Rawlins**	**43.43**	**77**	⇑P		**P**	**19 19 48.1**	**+0.2**
	baz=43,SNR=65								
L21A				⇑P		**P**	**19 19 48.1**	**+0.2**
	baz=43,SNR=65								
L21A				⇑P		**P**	**19 19 48.1**	**+0.2**
	baz=43,SNR=65								
L21A				⇑ScP		**ScP**	**19 25 23.6**	**-0.8**
	baz=43,SNR=7.9								
L21A				⇑ScP		**ScP**	**19 25 23.6**	**-0.8**
	baz=43,SNR=7.9								
L21A				⇑ScP		**ScP**	**19 25 23.6**	**-0.8**
	baz=43,SNR=7.9								
S16A	**Weppner Ranch,**	**43.44**	**85**	⇑P		**P**	**19 19 48.8**	**+0.7**
	baz=43,SNR=31								
S16A				⇑P		**P**	**19 19 48.8**	**+0.7**
	baz=43,SNR=31								
S16A				⇑P		**P**	**19 19 48.8**	**+0.7**
	baz=43,SNR=31								
S16A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=6.7								
S16A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=6.7								
S16A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=6.7								
Q18A	**Rafter H Ranch**	**43.48**	**82**	⇓P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=35								
Q18A				⇓P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=35								
Q18A				⇓P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=35								
Q18A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=10								
Q18A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=10								
Q18A				⇓ScP		**ScP**	**19 25 23.4**	**-1.1**
	baz=43,SNR=10								
H24A	**Dirks Ranch, A**	**43.49**	**72**	⇑P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=37								
H24A				⇑P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=37								
H24A				⇑P		**P**	**19 19 48.3**	**+0.1**
	baz=43,SNR=37								
K22A	**Casper**	**43.53**	**76**	⇑P		**P**	**19 19 49.0**	**+0.4**
	baz=43,SNR=20								
K22A				⇑P		**P**	**19 19 49.0**	**+0.4**
	baz=43,SNR=20								
K22A				⇑P		**P**	**19 19 49.0**	**+0.4**
	baz=43,SNR=20								
R17A	**Hanksville Air**	**43.55**	**83**	⇓P		**P**	**19 19 49.4**	**+0.6**
	baz=43,SNR=19								
R17A				⇓P		**P**	**19 19 49.4**	**+0.6**
	baz=43,SNR=19								
R17A				⇓P		**P**	**19 19 49.4**	**+0.6**
	baz=43,SNR=19								
R17A				⇓ScP		**ScP**	**19 25 24.0**	**-0.8**
	baz=43,SNR=19								
R17A				⇓ScP		**ScP**	**19 25 24.0**	**-0.8**
	baz=43,SNR=19								
R17A				⇓ScP		**ScP**	**19 25 24.0**	**-0.8**
	baz=43,SNR=19								
N20A	**Spence Gulch,**	**43.56**	**79**	⇓P		**P**	**19 19 49.8**	**+0.8**
	baz=43,SNR=25								
N20A				⇓P		**P**	**19 19 49.8**	**+0.8**
	baz=43,SNR=25								
N20A				⇓P		**P**	**19 19 49.8**	**+0.8**
	baz=43,SNR=25								
N20A				⇑ScP		**ScP**	**19 25 24.4**	**-0.6**
	baz=43,SNR=9.1								
N20A				⇑ScP		**ScP**	**19 25 24.4**	**-0.6**
	baz=43,SNR=9.1								
N20A				⇑ScP		**ScP**	**19 25 24.4**	**-0.6**
	baz=43,SNR=9.1								
IRM	**Iron Mountain**	**43.56**	**92**	⇑P		**P**	**19 19 49.1**	**+0.2**
	baz=43,SNR=23								
IRM				⇑P		**P**	**19 19 49.1**	**+0.2**
	baz=43,SNR=23								
IRM				⇑P		**P**	**19 19 49.1**	**+0.2**
	baz=43,SNR=23								
IRM				⇑ScP		**ScP**	**19 25 24.2**	**-0.6**
	baz=43								
IRM				⇑ScP		**ScP**	**19 25 24.2**	**-0.6**
	baz=43								
IRM				⇑ScP		**ScP**	**19 25 24.2**	**-0.6**
	baz=43								
BAR	**Barrett**	**43.62**	**94**	*e*P		**P**	**19 19 50.2**	**+0.9**
	comp=Z,48nm,0.8s								
MONP	**Monument Peak**	**43.63**	**94**	⇓P		**P**	**19 19 50.0**	**+0.3**
	baz=43,SNR=9.2								
MONP				⇓P		**P**	**19 19 50.0**	**+0.3**
	baz=43,SNR=9.2								
M21A	**Separation Pea**	**43.64**	**78**	⇑P		**P**	**19 19 49.8**	**+0.1**
	baz=43,SNR=21								
M21A				⇑P		**P**	**19 19 49.8**	**+0.1**
	baz=43,SNR=21								
M21A				⇑P		**P**	**19 19 49.8**	**+0.1**
	baz=43,SNR=21								
M21A				⇓ScP		**ScP**	**19 25 24.3**	**-1.0**
	baz=43,SNR=14								
M21A				⇓ScP		**ScP**	**19 25 24.3**	**-1.0**
	baz=43,SNR=14								
M21A				⇓ScP		**ScP**	**19 25 24.3**	**-1.0**
	baz=43,SNR=14								
J23A	**Dilts Ranch, B**	**43.67**	**74**	⇑P		**P**	**19 19 51.0**	**+1.3**
	baz=43,SNR=13								
J23A				⇑P		**P**	**19 19 51.0**	**+1.3**
	baz=43,SNR=13								
J23A				⇑P		**P**	**19 19 51.0**	**+1.3**
	baz=43,SNR=13								
RWWY	**Rawlins**	**43.69**	**77**	*e*P		**P**	**19 19 50.2**	**+0.1**
	comp=Z,93nm,1.1s								
BC3	**Big Chuckawall**	**43.71**	**92**	⇑P		**P**	**19 19 50.1**	**-0.1**
	baz=44,SNR=20								
BC3				⇑P		**P**	**19 19 50.1**	**-0.1**
	baz=44,SNR=20								
BC3				⇑P		**P**	**19 19 50.1**	**-0.1**
	baz=44,SNR=20								
BC3				⇑ScP		**ScP**	**19 25 25.0**	**-0.5**
	baz=44								
BC3				⇑ScP		**ScP**	**19 25 25.0**	**-0.5**
	baz=44								
BC3				⇑ScP		**ScP**	**19 25 25.0**	**-0.5**
	baz=44								
W13A	**Hualapai Mount**	**43.72**	**90**	⇑P		**P**	**19 19 50.7**	**+0.3**
	baz=44,SNR=56								
W13A				⇑P		**P**	**19 19 50.7**	**+0.3**
	baz=44,SNR=56								
W13A				⇑P		**P**	**19 19 50.7**	**+0.3**
	baz=44,SNR=56								
W13A				⇓ScP		**ScP**	**19 25 24.4**	**-1.3**
	baz=44,SNR=12								
W13A				⇓ScP		**ScP**	**19 25 24.4**	**-1.3**
	baz=44,SNR=12								
W13A				⇓ScP		**ScP**	**19 25 24.4**	**-1.3**
	baz=44,SNR=12								
L22A	**Ellis Ranch, M**	**43.95**	**76**	⇑P		**P**	**19 19 52.8**	**+0.7**
	baz=44,SNR=26								
L22A				⇑P		**P**	**19 19 52.8**	**+0.7**
	baz=44,SNR=26								
L22A				⇑P		**P**	**19 19 52.8**	**+0.7**
	baz=44,SNR=26								
I24A	**Kuemmerle Ranc**	**43.95**	**73**	⇓P		**P**	**19 19 52.3**	**+0.2**
	baz=44,SNR=10								
I24A				⇓P		**P**	**19 19 52.3**	**+0.2**
	baz=44,SNR=10								
I24A				⇓P		**P**	**19 19 52.3**	**+0.2**
	baz=44,SNR=10								
SWSC	**Sam W. Stewart**	**43.98**	**93**	⇑P		**P**	**19 19 52.3**	**+0.1**
	baz=44,SNR=5.7								
SWSC				⇑P		**P**	**19 19 52.3**	**+0.1**
	baz=44,SNR=5.7								
SWSC				⇑P		**P**	**19 19 52.3**	**+0.1**
	baz=44,SNR=5.7								
S17A	**Black Ridge (B**	**43.98**	**84**	⇑P		**P**	**19 19 53.0**	**+0.7**
	baz=44,SNR=59								
S17A				⇑P		**P**	**19 19 53.0**	**+0.7**
	baz=44,SNR=59								
S17A				⇑P		**P**	**19 19 53.0**	**+0.7**
	baz=44,SNR=59								
S17A				⇓ScP		**ScP**	**19 25 25.3**	**-1.3**
	baz=44,SNR=9.0								
S17A				⇓ScP		**ScP**	**19 25 25.3**	**-1.3**
	baz=44,SNR=9.0								
S17A				⇓ScP		**ScP**	**19 25 25.3**	**-1.3**
	baz=44,SNR=9.0								
DVTC	**Desert V Tower**	**43.99**	**94**	⇓P		**P**	**19 19 53.1**	**+0.7**
	baz=44,SNR=13								
DVTC				⇓P		**P**	**19 19 53.1**	**+0.7**
	baz=44,SNR=13								
DVTC				⇓P		**P**	**19 19 53.1**	**+0.7**
	baz=44,SNR=13								
O20A	**White River Ci**	**44.00**	**80**	⇑P		**P**	**19 19 52.8**	**+0.3**
	baz=44,SNR=58								
O20A				⇑P		**P**	**19 19 52.8**	**+0.3**
	baz=44,SNR=58								
O20A				⇑P		**P**	**19 19 52.8**	**+0.3**
	baz=44,SNR=58								
K23A	**Bowen Ranch, D**	**44.01**	**75**	⇓P		**P**	**19 19 53.0**	**+0.5**
	baz=44,SNR=16								
K23A				⇓P		**P**	**19 19 53.0**	**+0.5**
	baz=44,SNR=16								
K23A				⇓P		**P**	**19 19 53.0**	**+0.5**
	baz=44,SNR=16								
N21A	**Black Mountain**	**44.05**	**79**	⇓P		**P**	**19 19 53.5**	**+0.5**
	baz=44,SNR=42								
N21A				⇓P		**P**	**19 19 53.5**	**+0.5**
	baz=44,SNR=42								
N21A				⇓P		**P**	**19 19 53.5**	**+0.5**
	baz=44,SNR=42								
N21A				⇓ScP		**ScP**	**19 25 26.3**	**-0.7**
	baz=44,SNR=11								
N21A				⇓ScP		**ScP**	**19 25 26.3**	**-0.7**
	baz=44,SNR=11								
N21A				⇓ScP		**ScP**	**19 25 26.3**	**-0.7**
	baz=44,SNR=11								
R18A	**Canyonlands Na**	**44.07**	**83**	⇑P		**P**	**19 19 52.9**	**-0.1**
	baz=44,SNR=24								
R18A				⇑P		**P**	**19 19 52.9**	**-0.1**
	baz=44,SNR=24								
R18A				⇑P		**P**	**19 19 52.9**	**-0.1**
	baz=44,SNR=24								
R18A				⇑ScP		**ScP**	**19 25 25.9**	**-1.1**
	baz=44,SNR=12								
R18A				⇑ScP		**ScP**	**19 25 25.9**	**-1.1**
	baz=44,SNR=12								
R18A				⇑ScP		**ScP**	**19 25 25.9**	**-1.1**
	baz=44,SNR=12								
PDMCI	**Parker Dam,Lak**	**44.09**	**91**	⇓P		**P**	**19 19 53.4**	**+0.3**
	baz=44,SNR=29								
PDMCI				⇓P		**P**	**19 19 53.4**	**+0.3**
	baz=44,SNR=29								
PDMCI				⇓P		**P**	**19 19 53.4**	**+0.3**
	baz=44,SNR=29								
PDMCI				⇓ScP		**ScP**	**19 25 25.5**	**-1.4**
	baz=44,SNR=6.1								
PDMCI				⇓ScP		**ScP**	**19 25 25.5**	**-1.4**
	baz=44,SNR=6.1								
PDMCI				⇓ScP		**ScP**	**19 25 25.5**	**-1.4**
	baz=44,SNR=6.1								
Q19A	**Hogan Spring (**	**44.10**	**82**	⇑P		**P**	**19 19 53.0**	**-0.2**
	baz=44,SNR=47								
Q19A				⇑P		**P**	**19 19 53.0**	**-0.2**
	baz=44,SNR=47								
Q19A				⇑P		**P**	**19 19 53.0**	**-0.2**
	baz=44,SNR=47								
Q19A				⇑ScP		**ScP**	**19 25 26.2**	**-0.9**
	baz=44,SNR=7.5								
Q19A				⇑ScP		**ScP**	**19 25 26.2**	**-0.9**
	baz=44,SNR=7.5								
Q19A				⇑ScP		**ScP**	**19 25 26.2**	**-0.9**
	baz=44,SNR=7.5								
RSSD	**Black Hills**	**44.15**	**73**	*e*P		**P**	**19 19 53.2**	**-0.5**
RSSD				pmax		pmax			
	comp=Z,35nm,0.8s								
RSSD	**Black Hills**	**44.15**	**73**	*e*P		**P**	**19 19 53.2**	**-0.5**
	comp=Z,35nm,0.8s								
SNY	**Shenyang**	**44.19**	**283**	⇑P		**P**	**19 19 54.3**	**+0.6**
SNY				S		**S**	**19 26 21.0**	**-3.5**
SNY				pmax		pmax			
	comp=Z,140nm,1.1s								
SNY				pmax		pmax			
	comp=Z,1μm,12.0s								
SNY				LR		LR			
	comp=N,3μm,18.4s								
SNY				LR		LR			
	comp=E,3μm,18.8s								
SNY				LR		LR			
	comp=Z,7μm,23.3s								
CIT	**Chita**	**44.22**	**301**	*e*P		**P**	**19 19 53.5**	**-0.5**
CIT				*e*			19 20 04.2		
CIT				*e*			19 20 11.1		
CIT				*e*			19 21 37.0		
CIT				pmax		pmax			
	comp=Z,169nm,1.1s								
Y12C	**Blythe**	**44.22**	**91**	⇑P		**P**	**19 19 54.3**	**+0.2**
	baz=44,SNR=58								
Y12C				⇑P		**P**	**19 19 54.3**	**+0.2**
	baz=44,SNR=58								
Y12C				⇑P		**P**	**19 19 54.3**	**+0.2**
	baz=44,SNR=58								
Y12C				⇓ScP		**ScP**	**19 25 26.2**	**-1.3**
	baz=44,SNR=7.8								
Y12C				⇓ScP		**ScP**	**19 25 26.2**	**-1.3**
	baz=44,SNR=7.8								
Y12C				⇓ScP		**ScP**	**19 25 26.2**	**-1.3**
	baz=44,SNR=7.8								
KSRS	**Korea Array**	**44.24**	**276**	P		**P**	**19 19 55.1**	**+1.0**
	comp=Z,147nm,0.9s,baz=58,slow=7.6,SNR=208								
KSRS				PcP		**PcP**	**19 21 38.8**	**+0.5**
	comp=Z,18nm,0.9s,baz=58,slow=3.9,SNR=6.3								
KSRS				ScP		**ScP**	**19 25 27.4**	**0.0**
	comp=Z,2.7nm,1.0s,baz=84,slow=5.1,SNR=3.6								
KSRS				LR		LR	19 36 16.2		
	comp=Z,4μm,21.8s,baz=56,slow=33								
KSRS	**Korea Array**	**44.24**	**276**	P		**P**	**19 19 55.2**	**+1.0**
KSRS							19 21 38.8		
KSRS				pmax		pmax			
	comp=Z,147nm,0.9s								
KSRS				pmax		pmax			
	comp=Z,18nm,0.9s								
KSRS				MLR		MLR			
	comp=Z,4μm,21.8s								
J24A	**Dixon Ranch, L**	**44.24**	**74**	⇑P		**P**	**19 19 55.0**	**+0.6**
	baz=44,SNR=19								
J24A				⇑P		**P**	**19 19 55.0**	**+0.6**
	baz=44,SNR=19								
J24A				⇑P		**P**	**19 19 55.0**	**+0.6**
	baz=44,SNR=19								
KSAR	**Wonju Array Be**	**44.27**	**276**	P		**P**	**19 19 55.2**	**+0.8**
KSAR							19 21 38.8		
KSAR	**Wonju Array Be**	**44.27**	**276**	P		**P**	**19 19 55.1**	**+0.8**
KSAR				PcP		**PcP**	**19 21 38.8**	**+0.4**
KSAR				ScP		**ScP**	**19 25 27.4**	**-0.2**
P20A	**De Beque**	**44.30**	**81**	⇓P		**P**	**19 19 55.3**	**+0.4**
	baz=44,SNR=17								
P20A				⇓P		**P**	**19 19 55.3**	**+0.4**
	baz=44,SNR=17								
P20A				⇓P		**P**	**19 19 55.3**	**+0.4**
	baz=44,SNR=17								
P20A				⇓ScP		**ScP**	**19 25 27.0**	**-0.9**
	baz=44,SNR=11								
P20A				⇓ScP		**ScP**	**19 25 27.0**	**-0.9**
	baz=44,SNR=11								
P20A				⇓ScP		**ScP**	**19 25 27.0**	**-0.9**
	baz=44,SNR=11								
L23A	**Garrett**	**44.34**	**76**	⇓P		**P**	**19 19 55.7**	**+0.5**
	baz=44,SNR=69								
L23A				⇓P		**P**	**19 19 55.7**	**+0.5**
	baz=44,SNR=69								
L23A				⇓P		**P**	**19 19 55.7**	**+0.5**
	baz=44,SNR=69								
T17A	**Navajo Res., N**	**44.39**	**85**	⇓P		**P**	**19 19 55.7**	**+0.1**
	baz=44,SNR=46								
T17A				⇓P		**P**	**19 19 55.7**	**+0.1**
	baz=44,SNR=46								
T17A				⇓P		**P**	**19 19 55.7**	**+0.1**
	baz=44,SNR=46								
T17A				⇓ScP		**ScP**	**19 25 27.3**	**-1.1**
	baz=44,SNR=6.4								
T17A				⇓ScP		**ScP**	**19 25 27.3**	**-1.1**
	baz=44,SNR=6.4								
T17A				⇓ScP		**ScP**	**19 25 27.3**	**-1.1**
	baz=44,SNR=6.4								
O21A	**Pagoda**	**44.42**	**79**	⇓P		**P**	**19 19 56.5**	**+0.6**
	baz=44,SNR=26								
O21A				⇓P		**P**	**19 19 56.5**	**+0.6**
	baz=44,SNR=26								
O21A				⇓P		**P**	**19 19 56.5**	**+0.6**
	baz=44,SNR=26								
O21A				⇑ScP		**ScP**	**19 25 27.6**	**-0.9**
	baz=44,SNR=5.6								
O21A				⇑ScP		**ScP**	**19 25 27.6**	**-0.9**
	baz=44,SNR=5.6								
O21A				⇑ScP		**ScP**	**19 25 27.6**	**-0.9**
	baz=44,SNR=5.6								
S18A	**Hurst Farm, Bl**	**44.45**	**84**	⇓P		**P**	**19 19 56.2**	**0.0**
	baz=44,SNR=77								
S18A				⇓P		**P**	**19 19 56.2**	**0.0**
	baz=44,SNR=77								
S18A				⇓P		**P**	**19 19 56.2**	**0.0**
	baz=44,SNR=77								
S18A				⇑ScP		**ScP**	**19 25 27.7**	**-1.0**
	baz=44,SNR=12								
S18A				⇑ScP		**ScP**	**19 25 27.7**	**-1.0**
	baz=44,SNR=12								
S18A				⇑ScP		**ScP**	**19 25 27.7**	**-1.0**
	baz=44,SNR=12								
GLA	**Glamis**	**44.51**	**92**	*e*P		**P**	**19 19 57.0**	**+0.5**
GLA				pmax		pmax			
	comp=Z,54nm,0.8s								
GLA	**Glamis**	**44.51**	**92**	*e*P		**P**	**19 19 57.0**	**+0.5**
	comp=Z,54nm,0.8s								
GLA	**Glamis**	**44.51**	**92**	⇑P		**P**	**19 19 56.5**	**+0.1**
	baz=44,SNR=16								
GLA				⇑P		**P**	**19 19 56.5**	**+0.1**
	baz=44,SNR=16								
GLA				⇑P		**P**	**19 19 56.5**	**+0.1**
	baz=44,SNR=16								
K24A	**Anderson Ranch**	**44.51**	**75**	⇓P		**P**	**19 19 56.6**	**+0.1**
	baz=44,SNR=8.1								
K24A				⇓P		**P**	**19 19 56.6**	**+0.1**
	baz=44,SNR=8.1								
K24A				⇓P		**P**	**19 19 56.6**	**+0.1**
	baz=44,SNR=8.1								
R19A	**Curley Farm, L**	**44.52**	**83**	⇓P		**P**	**19 19 56.8**	**+0.1**
	baz=44,SNR=35								
R19A				⇓P		**P**	**19 19 56.8**	**+0.1**
	baz=44,SNR=35								
R19A				⇓P		**P**	**19 19 56.8**	**+0.1**
	baz=44,SNR=35								
R19A				⇑ScP		**ScP**	**19 25 27.9**	**-1.0**
	baz=44,SNR=15								
R19A				⇑ScP		**ScP**	**19 25 27.9**	**-1.0**
	baz=44,SNR=15								
R19A				⇑ScP		**ScP**	**19 25 27.9**	**-1.0**
	baz=44,SNR=15								
MDND	**Maddock**	**44.60**	**66**	⇑P		**P**	**19 19 57.6**	**+0.5**
	baz=44,SNR=25								
MDND				⇑P		**P**	**19 19 57.6**	**+0.5**
	baz=44,SNR=25								
MDND				⇑P		**P**	**19 19 57.6**	**+0.5**
	baz=44,SNR=25								
PV04	**Paradox Valley**	**44.67**	**82**	*e*P		**P**	**19 19 58.7**	**+0.8**
N22A	**Wattenberg Ran**	**44.67**	**78**	⇑P		**P**	**19 19 58.7**	**+0.7**
	baz=44,SNR=20								
N22A				⇑P		**P**	**19 19 58.7**	**+0.7**
	baz=44,SNR=20								
N22A				⇑P		**P**	**19 19 58.7**	**+0.7**
	baz=44,SNR=20								
Q20A	**Ridgley Place,**	**44.69**	**81**	⇓P		**P**	**19 19 58.2**	**+0.2**
	baz=44,SNR=13								
Q20A				⇓P		**P**	**19 19 58.2**	**+0.2**
	baz=44,SNR=13								
Q20A				⇓P		**P**	**19 19 58.2**	**+0.2**
	baz=44,SNR=13								
Q20A				⇓ScP		**ScP**	**19 25 28.7**	**-0.9**
	baz=44,SNR=19								
Q20A				⇓ScP		**ScP**	**19 25 28.7**	**-0.9**
	baz=44,SNR=19								
Q20A				⇓ScP		**ScP**	**19 25 28.7**	**-0.9**
	baz=44,SNR=19								
M23A	**Laramie**	**44.71**	**77**	⇓P		**P**	**19 19 58.6**	**+0.3**
	baz=44,SNR=19								
M23A				⇓P		**P**	**19 19 58.6**	**+0.

	baz=44,SNR=13								
L24A	**Wheatland**	**44.84**	**75**	⇓	P	**P**	**19 19 59.8**	**+0.6**	
	baz=45								
L24A				⇓	P	**P**	**19 19 59.8**	**+0.6**	
	baz=45								
L24A				⇓	P	**P**	**19 19 59.8**	**+0.6**	
	baz=45								
P21A	**Newcastle**	**44.85**	**80**	⇓	P	**P**	**19 19 59.7**	**+0.3**	
	baz=45,SNR=23								
P21A				⇓	P	**P**	**19 19 59.7**	**+0.3**	
	baz=45,SNR=23								
P21A				⇓	P	**P**	**19 19 59.7**	**+0.3**	
	baz=45,SNR=23								
T18A	**Mexican Hat**	**44.87**	**84**	⇑	P	**P**	**19 19 59.0**	**-0.4**	
	baz=45,SNR=81								
T18A				⇑	P	**P**	**19 19 59.0**	**-0.4**	
	baz=45,SNR=81								
T18A				⇑	P	**P**	**19 19 59.0**	**-0.4**	
	baz=45,SNR=81								
T18A				⇑	ScP	**ScP**	**19 25 29.0**	**-1.3**	
	baz=45,SNR=10								
T18A				⇑	ScP	**ScP**	**19 25 29.0**	**-1.3**	
	baz=45,SNR=10								
T18A				⇑	ScP	**ScP**	**19 25 29.0**	**-1.3**	
	baz=45,SNR=10								
N23A	**Red Feather La**	**44.92**	**77**	⇑	P	**P**	**19 20 00.1**	**+0.1**	
	baz=45,SNR=28								
N23A				⇑	P	**P**	**19 20 00.1**	**+0.1**	
	baz=45,SNR=28								
N23A				⇑	P	**P**	**19 20 00.1**	**+0.1**	
	baz=45,SNR=28								
S19A	**Harvey Farm, M**	**44.94**	**83**	⇓	P	**P**	**19 19 59.9**	**-0.1**	
	baz=45,SNR=72								
S19A				⇓	P	**P**	**19 19 59.9**	**-0.1**	
	baz=45,SNR=72								
S19A				⇓	P	**P**	**19 19 59.9**	**-0.1**	
	baz=45,SNR=72								
S19A				⇑	ScP	**ScP**	**19 25 28.8**	**-1.9**	
	baz=45								
S19A				⇑	ScP	**ScP**	**19 25 28.8**	**-1.9**	
	baz=45								
S19A				⇑	ScP	**ScP**	**19 25 28.8**	**-1.9**	
	baz=45								
PHWY	**Pilot Hill**	**44.97**	**77**	*e*	P	**P**	**19 20 00.2**	**-0.2**	
	comp=Z,21nm,1.0s								
WUAZ	**Wupatki**	**45.00**	**87**	*e*	P	**P**	**19 20 01.5**	**+1.0**	
	comp=Z,56nm,0.7s								
WUAZ	**Wupatki**	**45.00**	**87**	⇓	P	**P**	**19 20 01.0**	**+0.6**	
	baz=45,SNR=20								
WUAZ				⇓	P	**P**	**19 20 01.0**	**+0.6**	
	baz=45,SNR=20								
WUAZ				⇓	P	**P**	**19 20 01.0**	**+0.6**	
	baz=45,SNR=20								
WUAZ				⇑	ScP	**ScP**	**19 25 30.1**	**-0.7**	
	baz=45,SNR=13								
WUAZ				⇑	ScP	**ScP**	**19 25 30.1**	**-0.7**	
	baz=45,SNR=13								
WUAZ				⇑	ScP	**ScP**	**19 25 30.1**	**-0.7**	
	baz=45,SNR=13								
O22A	**Kremmling**	**45.01**	**79**	⇑	P	**P**	**19 20 01.1**	**+0.5**	
	baz=45,SNR=15								
O22A				⇑	P	**P**	**19 20 01.1**	**+0.5**	
	baz=45,SNR=15								
O22A				⇑	P	**P**	**19 20 01.1**	**+0.5**	
	baz=45,SNR=15								
O22A				⇑	ScP	**ScP**	**19 25 30.1**	**-0.9**	
	baz=45,SNR=5.6								
O22A				⇑	ScP	**ScP**	**19 25 30.1**	**-0.9**	
	baz=45,SNR=5.6								
O22A				⇑	ScP	**ScP**	**19 25 30.1**	**-0.9**	
	baz=45,SNR=5.6								
INCN	**Inchon**	**45.01**	**277**	*e*	P	**P**	**19 20 00.8**	**+0.5**	
	comp=Z,332nm,1.0s								
INCN					LR	LR			
	comp=Z,2μm,20.0s								
Y14A	**Wickenburg**	**45.03**	**90**	⇓	P	**P**	**19 20 00.8**	**+0.2**	
	baz=45,SNR=35								
Y14A				⇓	P	**P**	**19 20 00.8**	**+0.2**	
	baz=45,SNR=35								
Y14A				⇓	P	**P**	**19 20 00.8**	**+0.2**	
	baz=45,SNR=35								
Y14A				⇓	ScP	**ScP**	**19 25 29.8**	**-1.1**	
	baz=45,SNR=8.5								
Y14A				⇓	ScP	**ScP**	**19 25 29.8**	**-1.1**	
	baz=45,SNR=8.5								
Y14A				⇓	ScP	**ScP**	**19 25 29.8**	**-1.1**	
	baz=45,SNR=8.5								
PV01	**Paradox Valley**	**45.04**	**82**	*e*	P	**P**	**19 20 00.9**	**0.0**	
	comp=Z,8μm,0.8s								
PV01				*e*	ScP	**ScP**	**19 25 30.4**	**-0.6**	
R20A	**Redvale**	**45.12**	**82**	⇓	P	**P**	**19 20 01.9**	**+0.4**	
	baz=45,SNR=30								
R20A				⇓	P	**P**	**19 20 01.9**	**+0.4**	
	baz=45,SNR=30								
R20A				⇓	P	**P**	**19 20 01.9**	**+0.4**	
	baz=45,SNR=30								
R20A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.8**	
	baz=45,SNR=14								
R20A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.8**	
	baz=45,SNR=14								
R20A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.8**	
	baz=45,SNR=14								
Z13A	**Yuma Proving G**	**45.13**	**91**	⇑	P	**P**	**19 20 01.4**	**0.0**	
	baz=45,SNR=32								
Z13A				⇑	P	**P**	**19 20 01.4**	**0.0**	
	baz=45,SNR=32								
Z13A				⇑	P	**P**	**19 20 01.4**	**0.0**	
	baz=45,SNR=32								
Z13A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.7**	
	baz=45,SNR=10								
Z13A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.7**	
	baz=45,SNR=10								
Z13A				⇑	ScP	**ScP**	**19 25 30.5**	**-0.7**	
	baz=45,SNR=10								
K25A	**Mack Ranch, Ha**	**45.13**	**74**	⇓	P	**P**	**19 20 01.8**	**+0.3**	
	baz=45,SNR=9.2								
K25A				⇓	P	**P**	**19 20 01.8**	**+0.3**	
	baz=45,SNR=9.2								
K25A				⇓	P	**P**	**19 20 01.8**	**+0.3**	
	baz=45,SNR=9.2								
Q21A	**Lamborn Mesa,**	**45.21**	**81**	⇓	P	**P**	**19 20 02.6**	**+0.4**	
	baz=45,SNR=17								
Q21A				⇓	P	**P**	**19 20 02.6**	**+0.4**	
	baz=45,SNR=17								
Q21A				⇓	P	**P**	**19 20 02.6**	**+0.4**	
	baz=45,SNR=17								
Q21A				⇓	ScP	**ScP**	**19 25 31.1**	**-0.6**	
	baz=45,SNR=10								
Q21A				⇓	ScP	**ScP**	**19 25 31.1**	**-0.6**	
	baz=45,SNR=10								
Q21A				⇓	ScP	**ScP**	**19 25 31.1**	**-0.6**	
	baz=45,SNR=10								
P22A	**Eagle**	**45.23**	**79**	⇓	P	**P**	**19 20 02.6**	**+0.2**	
	baz=45								
P22A				⇓	P	**P**	**19 20 02.6**	**+0.2**	
	baz=45								
P22A				⇓	P	**P**	**19 20 02.6**	**+0.2**	
	baz=45								
P22A				⇓	ScP	**ScP**	**19 25 31.0**	**-0.8**	
	baz=45,SNR=9.3								
P22A				⇓	ScP	**ScP**	**19 25 31.0**	**-0.8**	
	baz=45,SNR=9.3								
P22A				⇓	ScP	**ScP**	**19 25 31.0**	**-0.8**	
	baz=45,SNR=9.3								
M24A	**Cheyenne**	**45.25**	**76**	⇑	P	**P**	**19 20 03.3**	**+0.8**	
	baz=45								
M24A				⇑	P	**P**	**19 20 03.3**	**+0.8**	
	baz=45								
M24A				⇑	P	**P**	**19 20 03.3**	**+0.8**	
	baz=45								
JNU	**Nakatsue**	**45.26**	**269**		P	**P**	**19 20 03.2**	**+0.8**	
	comp=Z,83nm,0.9s,baz=34,slow=6.4,SNR=20								
JNU					LR	LR	19 37 59.8		
	comp=Z,7μm,21.8s,baz=109,slow=35								
JNU	**Nakatsue**	**45.26**	**269**	*e*		P	**19 20 02.6**	**+0.2**	
	comp=Z,72nm,1.1s								
V17A	**Tonalea, Kykot**	**45.28**	**87**	⇑	P	**P**	**19 20 02.7**	**-0.1**	
	baz=45								
V17A				⇑	P	**P**	**19 20 02.7**	**-0.1**	
	baz=45								
V17A				⇑	P	**P**	**19 20 02.7**	**-0.1**	
	baz=45								
U18A	**Rough Rock, Ch**	**45.34**	**85**	⇓	P	**P**	**19 20 03.4**	**+0.2**	
	baz=45,SNR=14								
U18A				⇓	P	**P**	**19 20 03.4**	**+0.2**	
	baz=45,SNR=14								
U18A				⇓	P	**P**	**19 20 03.4**	**+0.2**	
	baz=45,SNR=14								
U18A				⇑	ScP	**ScP**	**19 25 31.9**	**-0.4**	
	baz=45,SNR=12								
U18A				⇑	ScP	**ScP**	**19 25 31.9**	**-0.4**	
	baz=45,SNR=12								
U18A				⇑	ScP	**ScP**	**19 25 31.9**	**-0.4**	
	baz=45,SNR=12								
ULM	**Lac du Bonnet**	**45.34**	**61**		P	**P**	**19 20 02.3**	**-0.5**	
	comp=Z,38nm,0.9s,baz=302,slow=8.7,SNR=32								
ULM					LR	LR	19 41 37.9		
	comp=Z,4μm,18.2s,baz=311,slow=40								
ULM	**Lac du Bonnet**	**45.34**	**61**		P	**P**	**19 20 02.3**	**-0.5**	
ULM					pmax	pmax			
	comp=Z,38nm,0.9s								
ULM					MLR	MLR			
	comp=Z,4μm,18.2s								
ULM	**Lac du Bonnet**	**45.34**	**61**	*e*	P	**P**	**19 20 02.2**	**-0.6**	
	comp=Z,43nm,1.0s								
L25A	**Engebretsen Ra**	**45.35**	**75**	⇓	P	**P**	**19 20 03.8**	**+0.7**	
	baz=45,SNR=14								
L25A				⇓	P	**P**	**19 20 03.8**	**+0.7**	
	baz=45,SNR=14								
L25A				⇓	P	**P**	**19 20 03.8**	**+0.7**	
	baz=45,SNR=14								
113A	**Mohawk Valley,**	**45.35**	**92**	⇑	P	**P**	**19 20 03.1**	**0.0**	
	baz=45,SNR=9.5								
113A				⇑	P	**P**	**19 20 03.1**	**0.0**	
	baz=45,SNR=9.5								
113A				⇑	P	**P**	**19 20 03.1**	**0.0**	
	baz=45,SNR=9.5								
O23A	**Lake Granby, G**	**45.36**	**78**	⇑	P	**P**	**19 20 03.9**	**+0.5**	
	baz=45,SNR=19								
O23A				⇑	P	**P**	**19 20 03.9**	**+0.5**	
	baz=45,SNR=19								
O23A				⇑	P	**P**	**19 20 03.9**	**+0.5**	
	baz=45,SNR=19								
O23A				⇓	ScP	**ScP**	**19 25 32.0**	**-0.4**	
	baz=45,SNR=5.1								
O23A				⇓	ScP	**ScP**	**19 25 32.0**	**-0.4**	
	baz=45,SNR=5.1								
O23A				⇓	ScP	**ScP**	**19 25 32.0**	**-0.4**	
	baz=45,SNR=5.1								
SMCO	**Snowmass**	**45.36**	**80**	*e*	P	**P**	**19 20 03.8**	**+0.2**	
	comp=Z,34nm,1.0s								
SMCO				*e*	ScP	**ScP**	**19 25 32.2**	**-0.4**	
S20A	**Disappointment**	**45.36**	**82**	⇓	P	**P**	**19 20 03.4**	**-0.1**	
	baz=45,SNR=91								
S20A				⇓	P	**P**	**19 20 03.4**	**-0.1**	
	baz=45,SNR=91								
S20A				⇓	P	**P**	**19 20 03.4**	**-0.1**	
	baz=45,SNR=91								
S20A				⇑	ScP	**ScP**	**19 25 31.6**	**-0.9**	
	baz=45,SNR=8.5								
S20A				⇑	ScP	**ScP**	**19 25 31.6**	**-0.9**	
	baz=45,SNR=8.5								
S20A				⇑	ScP	**ScP**	**19 25 31.6**	**-0.9**	
	baz=45,SNR=8.5								
Z14A	**Wintersburg**	**45.46**	**91**	⇓	P	**P**	**19 20 04.2**	**+0.2**	
	baz=45,SNR=10								
Z14A				⇓	P	**P**	**19 20 04.2**	**+0.2**	
	baz=45,SNR=10								
Z14A				⇓	P	**P**	**19 20 04.2**	**+0.2**	
	baz=45,SNR=10								
R21A	**Cimarron**	**45.51**	**81**	⇑	P	**P**	**19 20 05.1**	**+0.4**	
	baz=45,SNR=24								
R21A				⇑	P	**P**	**19 20 05.1**	**+0.4**	
	baz=45,SNR=24								
R21A				⇑	P	**P**	**19 20 05.1**	**+0.4**	
	baz=45,SNR=24								
R21A				⇓	ScP	**ScP**	**19 25 32.8**	**-0.3**	
	baz=45,SNR=11								
R21A				⇓	ScP	**ScP**	**19 25 32.8**	**-0.3**	
	baz=45,SNR=11								
R21A				⇓	ScP	**ScP**	**19 25 32.8**	**-0.3**	
	baz=45,SNR=11								
T19A	**Beclabito**	**45.59**	**84**	⇑	P	**P**	**19 20 05.4**	**+0.2**	
	baz=45,SNR=169								
T19A				⇑	P	**P**	**19 20 05.4**	**+0.2**	
	baz=45,SNR=169								
T19A				⇑	P	**P**	**19 20 05.4**	**+0.2**	
	baz=45,SNR=169								
T19A				⇓	ScP	**ScP**	**19 25 32.0**	**-1.3**	
	baz=45,SNR=15								
T19A				⇓	ScP	**ScP**	**19 25 32.0**	**-1.3**	
	baz=45,SNR=15								
T19A				⇓	ScP	**ScP**	**19 25 32.0**	**-1.3**	
	baz=45,SNR=15								
Q22A	**Crested Butte,**	**45.59**	**80**	⇓	P	**P**	**19 20 05.7**	**+0.3**	
	baz=45,SNR=12								
Q22A				⇓	P	**P**	**19 20 05.7**	**+0.3**	
	baz=45,SNR=12								
Q22A				⇓	P	**P**	**19 20 05.7**	**+0.3**	
	baz=45,SNR=12								
Q22A				⇑	ScP	**ScP**	**19 25 33.0**	**-0.4**	
	baz=45,SNR=19								
Q22A				⇑	ScP	**ScP**	**19 25 33.0**	**-0.4**	
	baz=45,SNR=19								
Q22A				⇑	ScP	**ScP**	**19 25 33.0**	**-0.4**	
	baz=45,SNR=19								
N24A	**Carr**	**45.60**	**77**	⇑	P	**P**	**19 20 05.8**	**+0.5**	
	baz=45								
N24A				⇑	P	**P**	**19 20 05.8**	**+0.5**	
	baz=45								
N24A				⇑	P	**P**	**19 20 05.8**	**+0.5**	
	baz=45								
MVCO	**Mesa Verde**	**45.67**	**83**	*e*	P	**P**	**19 20 05.8**	**-0.1**	
	comp=Z,38nm,0.8s								
MVCO				*e*	ScP	**ScP**	**19 25 32.0**	**-1.7**	
MVCO	**Mesa Verde**	**45.67**	**83**	⇓	P	**P**	**19 20 06.0**	**+0.2**	
	baz=45,SNR=16								
MVCO				⇓	P	**P**	**19 20 06.0**	**+0.2**	
	baz=45,SNR=16								
MVCO				⇓	P	**P**	**19 20 06.0**	**+0.2**	
	baz=45,SNR=16								
MVCO				⇓	ScP	**ScP**	**19 25 33.0**	**-0.7**	
	baz=45,SNR=6.9								
MVCO				⇓	ScP	**ScP**	**19 25 33.0**	**-0.7**	
	baz=45,SNR=6.9								
MVCO				⇓	ScP	**ScP**	**19 25 33.0**	**-0.7**	
	baz=45,SNR=6.9								
X16A	**Lo Mia Camp, P**	**45.68**	**88**	⇓	P	**P**	**19 20 06.6**	**+0.7**	
	baz=46,SNR=8.8								
X16A				⇓	P	**P**	**19 20 06.6**	**+0.7**	
	baz=46,SNR=8.8								
X16A				⇓	P	**P**	**19 20 06.6**	**+0.7**	
	baz=46,SNR=8.8								
X16A				⇓	ScP	**ScP**	**19 25 33.1**	**-0.6**	
	baz=46,SNR=8.2								
X16A				⇓	ScP	**ScP**	**19 25 33.1**	**-0.6**	
	baz=46,SNR=8.2								
X16A				⇓	ScP	**ScP**	**19 25 33.1**	**-0.6**	
	baz=46,SNR=8.2								
W17A	**Winslow**	**45.69**	**87**	⇓	P	**P**	**19 20 06.5**	**+0.5**	
	baz=46,SNR=6.5								
W17A				⇓	P	**P**	**19 20 06.5**	**+0.5**	
	baz=46,SNR=6.5								
W17A				⇓	P	**P**	**19 20 06.5**	**+0.5**	
	baz=46,SNR=6.5								
W17A				⇓	ScP	**ScP**	**19 25 33.2**	**-0.5**	
	baz=46								
W17A				⇓	ScP	**ScP**	**19 25 33.2**	**-0.5**	
	baz=46								
W17A				⇓	ScP	**ScP**	**19 25 33.2**	**-0.5**	
	baz=46								
M25A	**Palm-Egli Farm**	**45.73**	**76**	⇓	P	**P**	**19 20 07.6**	**+1.3**	
	baz=46,SNR=9.6								
M25A				⇓	P	**P**	**19 20 07.6**	**+1.3**	
	baz=46,SNR=9.6								
M25A				⇓	P	**P**	**19 20 07.6**	**+1.3**	
	baz=46,SNR=9.6								
V18A	**Ganado**	**45.76**	**86**	⇑	P	**P**	**19 20 07.4**	**+0.8**	
	baz=46,SNR=6.2								
V18A				⇑	P	**P**	**19 20 07.4**	**+0.8**	
	baz=46,SNR=6.2								
V18A				⇑	P	**P**	**19 20 07.4**	**+0.8**	
	baz=46,SNR=6.2								
V18A				⇑	ScP	**ScP**	**19 25 33.1**	**-0.9**	
	baz=46,SNR=5.6								
V18A				⇑	ScP	**ScP**	**19 25 33.1**	**-0.9**	
	baz=46,SNR=5.6								
V18A				⇑	ScP	**ScP**	**19 25 33.1**	**-0.9**	
	baz=46,SNR=5.6								
ISCO	**Idaho Springs**	**45.80**	**78**	*e*	P	**P**	**19 20 07.3**	**+0.3**	
ISCO					pmax	pmax			
	comp=Z,49nm,1.3s								
ISCO					MLR	MLR			
	comp=Z,7μm,20.0s								
ISCO	**Idaho Springs**	**45.80**	**78**	*e*	P	**P**	**19 20 07.3**	**+0.3**	
	comp=Z,49nm,1.3s								
ISCO					LR	LR			
	comp=Z,7μm,20.0s								
ISCO	**Idaho Springs**	**45.80**	**78**	⇑	P	**P**	**19 20 07.6**	**+0.7**	
	baz=46,SNR=19								
ISCO				⇑	P	**P**	**19 20 07.6**	**+0.7**	
	baz=46,SNR=19								
ISCO				⇑	P	**P**	**19 20 07.6**	**+0.7**	
	baz=46,SNR=19								
S21A	**Coal Bank Pass**	**45.81**	**82**	⇓	P	**P**	**19 20 07.7**	**+0.6**	
	baz=46,SNR=85								
S21A				⇓	P	**P**	**19 20 07.7**	**+0.6**	
	baz=46,SNR=85								
S21A				⇓	P	**P**	**19 20 07.7**	**+0.6**	
	baz=46,SNR=85								
S21A				⇑	ScP	**ScP**	**19 25 34.0**	**-0.4**	
	baz=46,SNR=9.5								
S21A				⇑	ScP	**ScP**	**19 25 34.0**	**-0.4**	
	baz=46,SNR=9.5								
S21A				⇑	ScP	**ScP**	**19 25 34.0**	**-0.4**	
	baz=46,SNR=9.5								
U19A	**Dine' College,**	**45.82**	**85**	⇓	P	**P**	**19 20 07.0**	**-0.1**	
	baz=46,SNR=10								
U19A				⇓	P	**P**	**19 20 07.0**	**-0.1**	
	baz=46,SNR=10								
U19A				⇓	P	**P**	**19 20 07.0**	**-0.1**	
	baz=46,SNR=10								
114A	**Black Gap (USA**	**45.91**	**91**	⇓	P	**P**	**19 20 07.9**	**+0.4**	
	baz=46,SNR=22								
114A				⇓	P	**P**	**19 20 07.9**	**+0.4**	
	baz=46,SNR=22								
114A				⇓	P	**P**	**19 20 07.9**	**+0.4**	
	baz=46,SNR=22								
114A				⇓	ScP	**ScP**	**19 25 33.5**	**-1.0**	
	baz=46,SNR=5.1								
114A				⇓	ScP	**ScP**	**19 25 33.5**	**-1.0**	
	baz=46,SNR=5.1								
114A				⇓	ScP	**ScP**	**19 25 33.5**	**-1.0**	
	baz=46,SNR=5.1								
O24A	**Longmont**	**45.92**	**78**	⇓	P	**P**	**19 20 08.0**	**+0.2**	
	baz=46								
O24A				⇓	P	**P**	**19 20 08.0**	**+0.2**	
	baz=46								
O24A				⇓	P	**P**	**19 20 08.0**	**+0.2**	
	baz=46								
P23A	**Jefferson**	**45.92**	**79**	⇓	P	**P**	**19 20 08.8**	**+0.8**	
	baz=46,SNR=19								
P23A				⇓	P	**P**	**19 20 08.8**	**+0.8**	
	baz=46,SNR=19								
P23A				⇓	P	**P**	**19 20 08.8**	**+0.8**	
	baz=46,SNR=19								
L26A	**Underwood Farm**	**45.95**	**74**	⇓	P	**P**	**19 20 08.0**	**+0.1**	
	baz=46								
L26A				⇓	P	**P**	**19 20 08.0**	**+0.1**	
	baz=46								
L26A				⇓	P	**P**	**19 20 08.0**	**+0.1**	
	baz=46								
K27A	**Flueckinger Fa**	**46.05**	**73**	⇑	P	**P**	**19 20 09.0**	**+0.3**	
	baz=46,SNR=14								
K27A				⇑	P	**P**	**19 20 09.0**	**+0.3**	
	baz=46,SNR=14								
K27A				⇑	P	**P**	**19 20 09.0**	**+0.3**	
	baz=46,SNR=14								
R22A	**Saguache, Gunn**	**46.09**	**81**	⇓	P	**P**	**19 20 09.6**	**+0.4**	
	baz=46,SNR=21								
R22A				⇓	P	**P**	**19 20 09.6**	**+0.4**	
	baz=46,SNR=21								
R22A				⇓	P	**P**	**19 20 09.6**	**+0.4**	
	baz=46,SNR=21								
R22A				⇓	ScP	**ScP**	**19 25 35.4**	**-0.1**	
	baz=46								
R22A				⇓	ScP	**ScP**	**19 25 35.4**	**-0.1**	
	baz=46								
R22A				⇓	ScP	**ScP**	**19 25 35.4**	**-0.1**	
	baz=46								
N25A	**Grover**	**46.09**	**76**	⇓	P	**P**	**19 20 08.9**	**-0.2**	
	baz=46								
N25A				⇓	P	**P**	**19 20 08.9**	**-0.2**	
	baz=46								
N25A				⇓	P	**P**	**19 20 08.9**	**-0.2**	
	baz=46								
X17A	**Forest Lakes**	**46.12**	**88**	⇑	P	**P**	**19 20 09.9**	**+0.4**	
	baz=46								
X17A				⇑	P	**P**	**19 20 09.9**	**+0.4**	
	baz=46								
X17A				⇑	P	**P**	**19 20 09.9**	**+0.4**	
	baz=46								
U20A	**Newcomb**	**46.19**	**84**	⇓	P	**P**	**19 20 10.4**	**+0.4**	
	baz=46								
U20A				⇓	P	**P**	**19 20 10.4**	**+0.4**	
	baz=46								
U20A				⇓	P	**P**	**19 20 10.4**	**+0.4**	
	baz=46								
U20A				⇓	ScP	**ScP**	**19 25 34.6**	**-1.2**	
	baz=46,SNR=7.7								
U20A				⇓	ScP	**ScP**	**19 25 34.6**	**-1.2**	
	baz=46,SNR=7.7								
U20A				⇓	ScP	**ScP**	**19 25 34.6**	**-1.2**	
	baz=46,SNR=7.7								
Q23A	**Hartsel**	**46.22**	**80**	⇓	P	**P**	**19 20 10.8**	**+0.5**	
	baz=46,SNR=6.8								
Q23A				⇓	P	**P**	**19 20 10.8**	**+0.5**	
	baz=46,SNR=6.8								
Q23A				⇓	P	**P**	**19 20 10.8**	**+0.5**	
	baz=46,SNR=6.8								
M26A	**McRoberts Ranc**	**46.26**	**75**	⇓	P	**P**	**19 20 11.4**	**+1.1**	
	baz=46								
M26A				⇓	P	**P**	**19 20 11.4**	**+1.1**	
	baz=46								
M26A				⇓	P	**P**	**19 20 11.4**	**+1.1**	
	baz=46								
W18A	**Petrified Fore**	**46.27**	**86**	⇓	P	**P**	**19 20 11.0**	**+0.4**	
	baz=46,SNR=12								
W18A				⇓	P	**P**	**19 20 11.0**	**+0.4**	
	baz=46,SNR=12								
W18A				⇓	P	**P**	**19 20 11.0**	**+0.4**	
	baz=46,SNR=12								
V19A	**Window Rock**	**46.30**	**85**	⇑	P	**P**	**19 20 11.0**	**+0.1**	
	baz=46,SNR=9.9								
V19A				⇑	P	**P**	**19 20 11.0**	**+0.1**	
	baz=46,SNR=9.9								
V19A				⇑	P	**P**	**19 20 11.0**	**+0.1**	
	baz=46,SNR=9.9								
S22A	**4UR Ranch, Cre**	**46.35**	**81**	⇑	P	**P**	**19 20 11.6**	**+0.3**	
	baz=46,SNR=18								
S22A				⇑	P	**P**	**19 20 11.6**	**+0.3**	
	baz=46,SNR=18								
S22A				⇑	P	**P**	**19 20 11.6**	**+0.3**	
	baz=46,SNR=18								
S22A				⇓	ScP	**ScP**	**19 25 36.2**	**-0.4**	
	baz=46,SNR=8.5								
S22A				⇓	ScP	**ScP**	**19 25 36.2**	**-0.4**	
	baz=46,SNR=8.5								
S22A				⇓	ScP	**ScP**	**19 25 36.2**	**-0.4**	
	baz=46,SNR=8.5								
P24A	**Kohler Place,**	**46.40**

X18A	**Snowflake**	**46.52**	**87**	⇑P		**P**	**19 20 13.4**	**+0.8**
	baz=46,SNR=6.5							
X18A				⇑P		**P**	**19 20 13.4**	**+0.8**
	baz=46,SNR=6.5							
X18A				⇑P		**P**	**19 20 13.4**	**+0.8**
	baz=46,SNR=6.5							
Q24A	**Divide**	**46.60**	**79**	⇑P		**P**	**19 20 14.1**	**+0.8**
	baz=46,SNR=11							
Q24A				⇑P		**P**	**19 20 14.1**	**+0.8**
	baz=46,SNR=11							
Q24A				⇑P		**P**	**19 20 14.1**	**+0.8**
	baz=46,SNR=11							
Q24A				⇑ScP		**ScP**	**19 25 36.1**	**-1.6**
	baz=46							
Q24A				⇑ScP		**ScP**	**19 25 36.1**	**-1.6**
	baz=46							
Q24A				⇑ScP		**ScP**	**19 25 36.1**	**-1.6**
	baz=46							
N26A	**Koester Ranch,**	**46.60**	**76**	⇓P		**P**	**19 20 14.0**	**+1.0**
	baz=46,SNR=11							
N26A				⇓P		**P**	**19 20 14.0**	**+1.0**
	baz=46,SNR=11							
N26A				⇓P		**P**	**19 20 14.0**	**+1.0**
	baz=46,SNR=11							
V20A	**Brimhall**	**46.60**	**85**	⇑P		**P**	**19 20 13.3**	**+0.1**
	baz=46,SNR=21							
V20A				⇑P		**P**	**19 20 13.3**	**+0.1**
	baz=46,SNR=21							
V20A				⇑P		**P**	**19 20 13.3**	**+0.1**
	baz=46,SNR=21							
V20A				⇓ScP		**ScP**	**19 25 35.9**	**-1.7**
	baz=46							
V20A				⇓ScP		**ScP**	**19 25 35.9**	**-1.7**
	baz=46							
V20A				⇓ScP		**ScP**	**19 25 35.9**	**-1.7**
	baz=46							
M27A	**Reverse DX Ran**	**46.67**	**74**	⇑P		**P**	**19 20 14.2**	**+0.7**
	baz=46,SNR=14							
M27A				⇑P		**P**	**19 20 14.2**	**+0.7**
	baz=46,SNR=14							
M27A				⇑P		**P**	**19 20 14.2**	**+0.7**
	baz=46,SNR=14							
R23A	**Moffat**	**46.67**	**80**	⇓P		**P**	**19 20 14.4**	**+0.5**
	baz=46,SNR=12							
R23A				⇓P		**P**	**19 20 14.4**	**+0.5**
	baz=46,SNR=12							
R23A				⇓P		**P**	**19 20 14.4**	**+0.5**
	baz=46,SNR=12							
R23A				⇑ScP		**ScP**	**19 25 37.5**	**-0.4**
	baz=46,SNR=6.7							
R23A				⇑ScP		**ScP**	**19 25 37.5**	**-0.4**
	baz=46,SNR=6.7							
R23A				⇑ScP		**ScP**	**19 25 37.5**	**-0.4**
	baz=46,SNR=6.7							
U21A	**Nageezi**	**46.69**	**83**	⇓P		**P**	**19 20 14.2**	**+0.3**
	baz=46,SNR=66							
U21A				⇓P		**P**	**19 20 14.2**	**+0.3**
	baz=46,SNR=66							
U21A				⇓P		**P**	**19 20 14.2**	**+0.3**
	baz=46,SNR=66							
U21A				⇑ScP		**ScP**	**19 25 36.6**	**-1.4**
	baz=46							
U21A				⇑ScP		**ScP**	**19 25 36.6**	**-1.4**
	baz=46							
U21A				⇑ScP		**ScP**	**19 25 36.6**	**-1.4**
	baz=46							
T22A	**Edith**	**46.77**	**82**	⇓P		**P**	**19 20 15.3**	**+0.7**
	baz=46,SNR=53							
T22A				⇓P		**P**	**19 20 15.3**	**+0.7**
	baz=46,SNR=53							
T22A				⇓P		**P**	**19 20 15.3**	**+0.7**
	baz=46,SNR=53							
T22A				⇑ScP		**ScP**	**19 25 37.9**	**-0.4**
	baz=46,SNR=8.6							
T22A				⇑ScP		**ScP**	**19 25 37.9**	**-0.4**
	baz=46,SNR=8.6							
T22A				⇑ScP		**ScP**	**19 25 37.9**	**-0.4**
	baz=46,SNR=8.6							
P25A	**Willow Gulch B**	**46.85**	**78**	⇓P		**P**	**19 20 16.3**	**+1.2**
	baz=47,SNR=42							
P25A				⇓P		**P**	**19 20 16.3**	**+1.2**
	baz=47,SNR=42							
P25A				⇓P		**P**	**19 20 16.3**	**+1.2**
	baz=47,SNR=42							
S23A	**Nye Farm, Mont**	**46.88**	**81**	⇓P		**P**	**19 20 16.4**	**+1.0**
	baz=47							
S23A				⇓P		**P**	**19 20 16.4**	**+1.0**
	baz=47							
S23A				⇓P		**P**	**19 20 16.4**	**+1.0**
	baz=47							
O26A	**Horse Wrangler**	**46.91**	**76**	⇑P		**P**	**19 20 16.4**	**+0.9**
	baz=47							
O26A				⇑P		**P**	**19 20 16.4**	**+0.9**
	baz=47							
O26A				⇑P		**P**	**19 20 16.4**	**+0.9**
	baz=47							
BRSD	**Miller**	**46.92**	**69**	⇓P		**P**	**19 20 15.8**	**+0.4**
	baz=47,SNR=9.0							
BRSD				⇓P		**P**	**19 20 15.8**	**+0.4**
	baz=47,SNR=9.0							
BRSD				⇓P		**P**	**19 20 15.8**	**+0.4**
	baz=47,SNR=9.0							
Y18A	**Canyon Day Jun**	**46.97**	**88**	⇑P		**P**	**19 20 16.9**	**+0.9**
	baz=47,SNR=10							
Y18A				⇑P		**P**	**19 20 16.9**	**+0.9**
	baz=47,SNR=10							
Y18A				⇑P		**P**	**19 20 16.9**	**+0.9**
	baz=47,SNR=10							
Y18A				⇑ScP		**ScP**	**19 25 37.8**	**-1.3**
	baz=47,SNR=5.5							
Y18A				⇑ScP		**ScP**	**19 25 37.8**	**-1.3**
	baz=47,SNR=5.5							
Y18A				⇑ScP		**ScP**	**19 25 37.8**	**-1.3**
	baz=47,SNR=5.5							
X19A	**St. Johns**	**47.00**	**87**	⇑P		**P**	**19 20 16.5**	**+0.2**
	baz=47,SNR=5.8							
X19A				⇑P		**P**	**19 20 16.5**	**+0.2**
	baz=47,SNR=5.8							
X19A				⇑P		**P**	**19 20 16.5**	**+0.2**
	baz=47,SNR=5.8							
X19A				⇑ScP		**ScP**	**19 25 38.7**	**-0.5**
	baz=47,SNR=5.9							
X19A				⇑ScP		**ScP**	**19 25 38.7**	**-0.5**
	baz=47,SNR=5.9							
X19A				⇑ScP		**ScP**	**19 25 38.7**	**-0.5**
	baz=47,SNR=5.9							
N27A	**Anderson Farm,**	**47.02**	**75**	⇑P		**P**	**19 20 17.3**	**+1.0**
	baz=47,SNR=10							
N27A				⇑P		**P**	**19 20 17.3**	**+1.0**
	baz=47,SNR=10							
N27A				⇑P		**P**	**19 20 17.3**	**+1.0**
	baz=47,SNR=10							
W20A	**Ramah**	**47.02**	**85**	⇓P		**P**	**19 20 16.9**	**+0.4**
	baz=47,SNR=14							
W20A				⇓P		**P**	**19 20 16.9**	**+0.4**
	baz=47,SNR=14							
W20A				⇓P		**P**	**19 20 16.9**	**+0.4**
	baz=47,SNR=14							
W20A				⇓ScP		**ScP**	**19 25 38.3**	**-1.1**
	baz=47,SNR=9.2							
W20A				⇓ScP		**ScP**	**19 25 38.3**	**-1.1**
	baz=47,SNR=9.2							
W20A				⇓ScP		**ScP**	**19 25 38.3**	**-1.1**
	baz=47,SNR=9.2							
R24A	**Sanders Place,**	**47.09**	**80**	⇓P		**P**	**19 20 17.7**	**+0.8**
	baz=47,SNR=25							
R24A				⇓P		**P**	**19 20 17.7**	**+0.8**
	baz=47,SNR=25							
R24A				⇓P		**P**	**19 20 17.7**	**+0.8**
	baz=47,SNR=25							
R24A				⇑ScP		**ScP**	**19 25 39.0**	**-0.6**
	baz=47,SNR=10							
R24A				⇑ScP		**ScP**	**19 25 39.0**	**-0.6**
	baz=47,SNR=10							
R24A				⇑ScP		**ScP**	**19 25 39.0**	**-0.6**
	baz=47,SNR=10							
V21A	**Milan**	**47.10**	**84**	⇓P		**P**	**19 20 17.8**	**+0.6**
	baz=47,SNR=7.3							
V21A				⇓P		**P**	**19 20 17.8**	**+0.6**
	baz=47,SNR=7.3							
V21A				⇓P		**P**	**19 20 17.8**	**+0.6**
	baz=47,SNR=7.3							
DL2	**Dalian**	**47.16**	**282**	P		**P**	**19 20 16.8**	**-0.4**
DL2				S		**S**	**19 27 05.3**	**-2.1**
DL2				pmax		pmax		
	comp=Z,120nm,0.9s							
DL2				LR		LR		
	comp=N,2μm,22.5s							
DL2				LR		LR		
	comp=E,2μm,23.7s							
DL2				LR		LR		
	comp=Z,3μm,26.0s							
SDCO	**Great Sand Dun**	**47.16**	**81**	*e*P		**P**	**19 20 18.5**	**+0.8**
	comp=Z,52nm,0.9s							
SDCO	**Great Sand Dun**	**47.16**	**81**	⇑P		**P**	**19 20 18.4**	**+0.8**
	baz=47,SNR=17							
SDCO				⇑P		**P**	**19 20 18.4**	**+0.8**
	baz=47,SNR=17							
SDCO				⇑P		**P**	**19 20 18.4**	**+0.8**
	baz=47,SNR=17							
SDCO				⇑P		**P**	**19 20 18.4**	**+0.8**
	baz=47,SNR=17							
SDCO				⇑P		**P**	**19 20 18.4**	**+0.8**
	baz=47,SNR=17							
Q25A	**Bedland, Calha**	**47.17**	**78**	⇓P		**P**	**19 20 18.5**	**+0.8**
	baz=47,SNR=17							
Q25A				⇓P		**P**	**19 20 18.5**	**+0.8**
	baz=47,SNR=17							
Q25A				⇓P		**P**	**19 20 18.5**	**+0.8**
	baz=47,SNR=17							
U22A	**Llaves**	**47.21**	**83**	⇑P		**P**	**19 20 18.7**	**+0.7**
	baz=47,SNR=19							
U22A				⇑P		**P**	**19 20 18.7**	**+0.7**
	baz=47,SNR=19							
U22A				⇑P		**P**	**19 20 18.7**	**+0.7**
	baz=47,SNR=19							
U22A				⇑ScP		**ScP**	**19 25 39.8**	**-0.3**
	baz=47,SNR=6.4							
U22A				⇑ScP		**ScP**	**19 25 39.8**	**-0.3**
	baz=47,SNR=6.4							
U22A				⇑ScP		**ScP**	**19 25 39.8**	**-0.3**
	baz=47,SNR=6.4							
OGNE	**Ogallala**	**47.24**	**75**	*e*P		**P**	**19 20 18.6**	**+0.7**
	comp=Z,153nm,1.1s							
OGNE	**Ogallala**	**47.24**	**75**	⇓P		**P**	**19 20 18.9**	**+0.9**
	baz=47,SNR=23							
OGNE				⇓P		**P**	**19 20 18.9**	**+0.9**
	baz=47,SNR=23							
OGNE				⇓P		**P**	**19 20 18.9**	**+0.9**
	baz=47,SNR=23							
T23A	**Casias Ranch,**	**47.28**	**82**	⇑P		**P**	**19 20 19.3**	**+0.7**
	baz=47							
T23A				⇑P		**P**	**19 20 19.3**	**+0.7**
	baz=47							
T23A				⇑P		**P**	**19 20 19.3**	**+0.7**
	baz=47							
P26A	**Davis Ranch, A**	**47.31**	**77**	⇑P		**P**	**19 20 19.6**	**+0.9**
	baz=47,SNR=36							
P26A				⇑P		**P**	**19 20 19.6**	**+0.9**
	baz=47,SNR=36							
P26A				⇑P		**P**	**19 20 19.6**	**+0.9**
	baz=47,SNR=36							
Y19A	**Nutrioso**	**47.33**	**87**	⇓P		**P**	**19 20 19.6**	**+0.6**
	baz=47,SNR=5.7							
Y19A				⇓P		**P**	**19 20 19.6**	**+0.6**
	baz=47,SNR=5.7							
Y19A				⇓P		**P**	**19 20 19.6**	**+0.6**
	baz=47,SNR=5.7							
S24A	**Houchin Ranch,**	**47.40**	**80**	⇓P		**P**	**19 20 20.1**	**+0.6**
	baz=47,SNR=25							
S24A				⇓P		**P**	**19 20 20.1**	**+0.6**
	baz=47,SNR=25							
S24A				⇓P		**P**	**19 20 20.1**	**+0.6**
	baz=47,SNR=25							
S24A				⇑ScP		**ScP**	**19 25 40.6**	**-0.4**
	baz=47,SNR=5.8							
S24A				⇑ScP		**ScP**	**19 25 40.6**	**-0.4**
	baz=47,SNR=5.8							
S24A				⇑ScP		**ScP**	**19 25 40.6**	**-0.4**
	baz=47,SNR=5.8							
X20A	**Quemado**	**47.41**	**86**	⇑P		**P**	**19 20 20.1**	**+0.5**
	baz=47,SNR=13							
X20A				⇑P		**P**	**19 20 20.1**	**+0.5**
	baz=47,SNR=13							
X20A				⇑P		**P**	**19 20 20.1**	**+0.5**
	baz=47,SNR=13							
O27A	**Beecher Island**	**47.44**	**76**	⇑P		**P**	**19 20 20.4**	**+0.8**
	baz=47							
O27A				⇑P		**P**	**19 20 20.4**	**+0.8**
	baz=47							
O27A				⇑P		**P**	**19 20 20.4**	**+0.8**
	baz=47							
V22A	**San Miguel Ran**	**47.48**	**83**	⇑P		**P**	**19 20 20.2**	**+0.1**
	baz=47,SNR=22							
V22A				⇑P		**P**	**19 20 20.2**	**+0.1**
	baz=47,SNR=22							
V22A				⇑P		**P**	**19 20 20.2**	**+0.1**
	baz=47,SNR=22							
TUC	**Tucson**	**47.50**	**90**	*e*P		**P**	**19 20 20.5**	**+0.4**
TUC				pmax		pmax		
	comp=Z,27nm,0.8s							
TUC	**Tucson**	**47.50**	**90**	*e*P		**P**	**19 20 20.5**	**+0.4**
	comp=Z,27nm,0.8s							
W21A	**San Fidel**	**47.55**	**85**	⇓P		**P**	**19 20 20.9**	**+0.3**
	baz=47,SNR=7.2							
W21A				⇓P		**P**	**19 20 20.9**	**+0.3**
	baz=47,SNR=7.2							
W21A				⇓P		**P**	**19 20 20.9**	**+0.3**
	baz=47,SNR=7.2							
W21A				⇑ScP		**ScP**	**19 25 40.7**	**-0.9**
	baz=47,SNR=6.2							
W21A				⇑ScP		**ScP**	**19 25 40.7**	**-0.9**
	baz=47,SNR=6.2							
W21A				⇑ScP		**ScP**	**19 25 40.7**	**-0.9**
	baz=47,SNR=6.2							
Q26A	**Hugo**	**47.61**	**78**	⇓P		**P**	**19 20 21.9**	**+1.0**
	baz=47,SNR=13							
Q26A				⇓P		**P**	**19 20 21.9**	**+1.0**
	baz=47,SNR=13							
Q26A				⇓P		**P**	**19 20 21.9**	**+1.0**
	baz=47,SNR=13							
R25A	**Fountain Ranch**	**47.64**	**79**	⇑P		**P**	**19 20 22.1**	**+0.9**
	baz=47,SNR=34							
R25A				⇑P		**P**	**19 20 22.1**	**+0.9**
	baz=47,SNR=34							
R25A				⇑P		**P**	**19 20 22.1**	**+0.9**
	baz=47,SNR=34							
R25A				⇓ScP		**ScP**	**19 25 40.4**	**-1.4**
	baz=47,SNR=5.8							
R25A				⇓ScP		**ScP**	**19 25 40.4**	**-1.4**
	baz=47,SNR=5.8							
R25A				⇓ScP		**ScP**	**19 25 40.4**	**-1.4**
	baz=47,SNR=5.8							
U23A	**El Rito**	**47.65**	**82**	⇑P		**P**	**19 20 22.2**	**+0.8**
	baz=47,SNR=37							
U23A				⇑P		**P**	**19 20 22.2**	**+0.8**
	baz=47,SNR=37							
U23A				⇑P		**P**	**19 20 22.2**	**+0.8**
	baz=47,SNR=37							
U23A				⇑ScP		**ScP**	**19 25 41.7**	**-0.3**
	baz=47,SNR=7.6							
U23A				⇑ScP		**ScP**	**19 25 41.7**	**-0.3**
	baz=47,SNR=7.6							
U23A				⇑ScP		**ScP**	**19 25 41.7**	**-0.3**
	baz=47,SNR=7.6							
S25A	**Robets Cordova**	**47.86**	**80**	⇑P		**P**	**19 20 23.5**	**+0.6**
	baz=48,SNR=47							
S25A				⇑P		**P**	**19 20 23.5**	**+0.6**
	baz=48,SNR=47							
S25A				⇑P		**P**	**19 20 23.5**	**+0.6**
	baz=48,SNR=47							
T24A	**Torres, Weston**	**47.86**	**81**	⇓P		**P**	**19 20 24.0**	**+0.9**
	baz=48,SNR=40							
T24A				⇓P		**P**	**19 20 24.0**	**+0.9**
	baz=48,SNR=40							
T24A				⇓P		**P**	**19 20 24.0**	**+0.9**
	baz=48,SNR=40							
Y20A	**Horse Springs,**	**47.91**	**87**	⇓P		**P**	**19 20 24.3**	**+0.9**
	baz=48,SNR=17							
Y20A				⇓P		**P**	**19 20 24.3**	**+0.9**
	baz=48,SNR=17							
Y20A				⇓P		**P**	**19 20 24.3**	**+0.9**
	baz=48,SNR=17							
X21A	**Alamocita Cree**	**47.91**	**86**	⇑P		**P**	**19 20 24.4**	**+0.9**
	baz=48,SNR=17							
X21A				⇑P		**P**	**19 20 24.4**	**+0.9**
	baz=48,SNR=17							
X21A				⇑P		**P**	**19 20 24.4**	**+0.9**
	baz=48,SNR=17							
X21A				⇓ScP		**ScP**	**19 25 42.2**	**-0.9**
	baz=48,SNR=6.5							
X21A				⇓ScP		**ScP**	**19 25 42.2**	**-0.9**
	baz=48,SNR=6.5							
X21A				⇓ScP		**ScP**	**19 25 42.2**	**-0.9**
	baz=48,SNR=6.5							
V23A	**Ortiz Mt. (NFS**	**48.04**	**83**	⇓P		**P**	**19 20 25.6**	**+1.2**
	baz=48,SNR=15							
V23A				⇓P		**P**	**19 20 25.6**	**+1.2**
	baz=48,SNR=15							
V23A				⇓P		**P**	**19 20 25.6**	**+1.2**
	baz=48,SNR=15							
R26A	**Arlington**	**48.05**	**79**	⇑P		**P**	**19 20 25.0**	**+0.6**
	baz=48,SNR=28							
R26A				⇑P		**P**	**19 20 25.0**	**+0.6**
	baz=48,SNR=28							
R26A				⇑P		**P**	**19 20 25.0**	**+0.6**
	baz=48,SNR=28							
R26A				⇑ScP		**ScP**	**19 25 42.5**	**-1.1**
	baz=48,SNR=5.2							
R26A				⇑ScP		**ScP**	**19 25 42.5**	**-1.1**
	baz=48,SNR=5.2							
R26A				⇑ScP		**ScP**	**19 25 42.5**	**-1.1**
	baz=48,SNR=5.2							
W22A	**Albuquerque**	**48.06**	**84**	⇑P		**P**	**19 20 25.9**	**+1.3**
	baz=48							
W22A				⇑P		**P**	**19 20 25.9**	**+1.3**
	baz=48							
W22A				⇑P		**P**	**19 20 25.9**	**+1.3**
	baz=48							
KSCO	**Kaye Shedlock'**	**48.09**	**77**	⇑P		**P**	**19 20 25.8**	**+1.1**
	baz=48,SNR=8.8							
KSCO				⇑P		**P**	**19 20 25.8**	**+1.1**
	baz=48,SNR=8.8							
KSCO				⇑P		**P**	**19 20 25.8**	**+1.1**
	baz=48,SNR=8.8							
T25A	**Trinidad**	**48.21**	**80**	⇓P		**P**	**19 20 26.4**	**+0.7**
	baz=48,SNR=61							
T25A				⇓P		**P**	**19 20 26.4**	**+0.7**
	baz=48,SNR=61							
T25A				⇓P		**P**	**19 20 26.4**	**+0.7**
	baz=48,SNR=61							
Y21A	**Point of Rocks**	**48.27**	**86**	⇑P		**P**	**19 20 27.3**	**+1.1**
	baz=48							
Y21A				⇑P		**P**	**19 20 27.3**	**+1.1**
	baz=48							
Y21A				⇑P		**P**	**19 20 27.3**	**+1.1**
	baz=48							
Z20A	**Nine Sixteen R**	**48.31**	**87**	⇑P		**P**	**19 20 26.9**	**+0.5**
	baz=48,SNR=42							
Z20A				⇑P		**P**	**19 20 26.9**	**+0.5**
	baz=48,SNR=42							
Z20A				⇑P		**P**	**19 20 26.9**	**+0.5**
	baz=48,SNR=42							
Z20A				⇑ScP		**ScP**	**19 25 43.5**	**-1.2**
	baz=48,SNR=16							
Z20A				⇑ScP		**ScP**	**19 25 43.5**	**-1.2**
	baz=48,SNR=16							
Z20A				⇑ScP		**ScP**	**19 25 43.5**	**-1.2**
	baz=48,SNR=16							
LAZ	**Ladron**	**48.34**	**85**	*e*P		**P**	**19 20 27.9**	**+1.2**
	comp=Z,17nm,0.8s							
ANMO	**Albuquerque**	**48.39**	**84**	*e*P		**P**	**19 20 27.4**	**+0.3**
ANMO				pmax		pmax		
	comp=Z,62nm,1.2s							
ANMO				MLR		MLR		
	comp=Z,5μm,20.0s							
ANMO	**Albuquerque**	**48.39**	**84**	*e*P		**P**	**19 20 27.4**	**+0.3**
	comp=Z,62nm,1.2s							
ANMO				*e*ScP		**ScP**	**19 25 44.8**	**-0.3**
ANMO				LR		LR		
	comp=Z,5μm,20.0s							
W23A	**Werner Place,**	**48.44**	**84**	⇓P		**P**	**19 20 27.9**	**+0.4**
	baz=48,SNR=8.9							
W23A				⇓P		**P**	**19 20 27.9**	**+0.4**
	baz=48,SNR=8.9							
W23A				⇓P		**P**	**19 20 27.9**	**+0.4**
	baz=48,SNR=8.9							
R27A	**Eads**	**48.45**	**78**	⇑P		**P**	**19 20 28.1**	**+0.7**
	baz=48,SNR=36							
R27A				⇑P		**P**	**19 20 28.1**	**+0.7**
	baz=48,SNR=36							
R27A				⇑P		**P**	**19 20 28.1**	**+0.7**
	baz=48,SNR=36							
S26A	**Kim**	**48.47**	**79**	⇑P		**P**	**19 20 28.1**	**+0.5**
	baz=48,SNR=53							
S26A				⇑P		**P**	**19 20 28.1**	**+0.5**
	baz=48,SNR=53							
S26A				⇑P		**P**	**19 20 28.1**	**+0.5**
	baz=48,SNR=53							
LENM	**Lemitar**	**48.60**	**85**	*e*P		**P**	**19 20 29.8**	**+1.1**
	comp=Z,40nm,0.9s							
V24A	**Rampart Ranch,**	**48.61**	**82**	⇑P		**P**	**19 20 29.6**	**+0.8**
	baz=48,SNR=11							
V24A				⇑P		**P**	**19 20 29.6**	**+0.8**
	baz=48,SNR=11							
V24A				⇑P		**P**	**19 20 29.6**	**+0.8**
	baz=48,SNR=11							
V24A				⇓ScP		**ScP**	**19 25 46.2**	**+0.1**
	baz=48,SNR=5.6							
V24A				⇓ScP		**ScP**	**19 25 46.2**	**+0.1**
	baz=48,SNR=5.6							
V24A				⇓ScP		**ScP**	**19 25 46.2**	**+0.1**
	baz=48,SNR=5.6							
120A	**U Bar Ranch, L**	**48.67**	**88**	⇑P		**P**	**19 20 29.9**	**+0.7**
	baz=48,SNR=14							
120A				⇑P		**P**	**19 20 29.9**	**+0.7**
	baz=48,SNR=14							
120A				⇑P		**P**	**19 20 29.9**	**+0.7**
	baz=48,SNR=14							
T26A	**Comanche Natio**	**48.68**	**80**	⇑P		**P**	**19 20 29.9**	**+0.6**
	baz=48,SNR=27							
T26A				⇑P		**P**	**19 20 29.9**	**+0.6**
	baz=48,SNR=27							
T26A				⇑P		**P**	**19 20 29.9**	**+0.6**
	baz=48,SNR=27							
T26A				⇓ScP		**ScP**	**19 25 45.3**	**-1.0**
	baz=48,SNR=5.3							
T26A				⇓ScP		**ScP**	**19 25 45.3**	**-1.0**
	baz=48,SNR=5.3							
T26A				⇓ScP		**ScP**	**19 25 45.3**	**-1.0**
	baz=48,SNR=5.3							
U25A	**Circle Dot Ran**	**48.69**	**81**	⇑P		**P**	**19 20 29.8**	**+0.4**
	baz=48,SNR=66							
U25A				⇑P		**P**	**19 20 29.8**	**+0.4**
	baz=48,SNR=66							
U25A				⇑P		**P**	**19 20 29.8**	**+0.4**
	baz=48,SNR=66							
U25A				⇓ScP		**ScP**	**19 25 45.9**	**-0.4**
	baz=48,SNR=5.4							
U25A				⇓ScP		**ScP**	**19 25 45.9**	**-0.4**
	baz=48,SNR=5.4							
U25A				⇓ScP		**ScP**	**19 25 45.9**	**-0.4**
	baz=48,SNR=5.4							
ECSD	**EROS Data Cent**	**48.70**	**69**	*e*P		**P**	**19 20 27.9**	**-1.2**
	comp=Z,93nm,1.1s							
ECSD				LR		LR		
	comp=Z,6μm,22.0s							
LPM	**Los Pinos Moun**	**48.71**	**85**	*e*P		**P**	**19 20 30.3**	**+0.7**
	comp=Z,23nm,0.8s							
LPM				*e*ScP		**ScP**	**19 25 44.9**	**-1.6**
Z21A	**St. Cloud Mine**	**48.75**	**87**	⇑P		**P**	**19 20 30.5**	**+0.6**
	baz=48,SNR=6.6							
Z21A				⇑P		**P**	**19 20 30.5**	**+0.6**
	baz=48,SNR=6.6							
Z21A				⇑P		**P**	**19 20 30.5**	**+0.6**
	baz=48,SNR=6.6							
Y22A	**Socorro**	**48.76**	**85**	⇓P		**P**	**19 20 30.8**	**+0.9**
	baz=48,SNR=34							
Y22A				⇓P		**P**	**19 20 30.8**	**+0.9**
	baz=48,SNR=34							
Y22A				⇓P		**P**	**19 20 30.8**	**+0.9**
	baz=48,SNR=34							
S27A	**Las Animas**	**48.78**	**79**	⇑P		**P**	**19 20 30.8**	**+0.8**
	baz=48							
S27A				⇑P		**P**	**19 20 30.8**	**+0.8**
	baz=48							
S27A				⇑P		**P**	**19 20 30.8**	**+0.8**
	baz=48							
X23A	**Hourglass Bar**	**48.80**	**84**	⇑P		**P**	**19 20 30.9**	**+0.6**
	baz=49,SNR=12							
X23A				⇑P		**P**	**19 20 30.9**	**+0.6**
	baz=49,SNR=12							

baz=49,SNR=28
W24A ⇑ScP **ScP** **19 25 46.8 -0.4**
baz=49,SNR=8.1
W24A ⇑ScP **ScP** **19 25 46.8 -0.4**
baz=49,SNR=8.1
W24A ⇑ScP **ScP** **19 25 46.8 -0.4**
baz=49,SNR=8.1
IRK **Irkutsk** **48.88 306** *e*P **P** **19 20 30.4 0.0**
IRK *e* 19 21 54.5
IRK pmax pmax
comp=Z,214nm,1.1s
V25A **Rancho No Teng** **48.93 82** ⇓P **P** **19 20 31.9 +0.7**
baz=49,SNR=42
V25A ⇓P **P** **19 20 31.9 +0.7**
baz=49,SNR=42
V25A ⇓P **P** **19 20 31.9 +0.7**
baz=49,SNR=42
V25A ⇑ScP **ScP** **19 25 46.8 -0.6**
baz=49,SNR=5.9
V25A ⇑ScP **ScP** **19 25 46.8 -0.6**
baz=49,SNR=5.9
V25A ⇑ScP **ScP** **19 25 46.8 -0.6**
baz=49,SNR=5.9
EYMN **Ely** **49.02 61** *e*P **P** **19 20 31.1 -0.5**
EYMN LR LR
comp=Z,95nm,1.0s
U26A **Atchley Ranch,** **49.10 81** ⇓P **P** **19 20 33.2 +0.7**
baz=49,SNR=50
U26A ⇓P **P** **19 20 33.2 +0.7**
baz=49,SNR=50
U26A ⇓P **P** **19 20 33.2 +0.7**
baz=49,SNR=50
U26A ⇑ScP **ScP** **19 25 47.2 -1.0**
baz=49,SNR=5.7
U26A ⇑ScP **ScP** **19 25 47.2 -1.0**
baz=49,SNR=5.7
U26A ⇑ScP **ScP** **19 25 47.2 -1.0**
baz=49,SNR=5.7
220A **Playas Peak, P** **49.17 89** ⇓P **P** **19 20 33.4 +0.3**
baz=49,SNR=32
220A ⇓P **P** **19 20 33.4 +0.3**
baz=49,SNR=32
220A ⇓P **P** **19 20 33.4 +0.3**
baz=49,SNR=32
121A **Cookes Peak, D** **49.20 87** ⇑P **P** **19 20 33.8 +0.5**
baz=49,SNR=28
121A ⇑P **P** **19 20 33.8 +0.5**
baz=49,SNR=28
121A ⇑P **P** **19 20 33.8 +0.5**
baz=49,SNR=28
Z22A **Elephant Butte** **49.22 86** ⇓P **P** **19 20 34.1 +0.7**
baz=49,SNR=6.1
Z22A ⇓P **P** **19 20 34.1 +0.7**
baz=49,SNR=6.1
Z22A ⇓P **P** **19 20 34.1 +0.7**
baz=49,SNR=6.1
KBS **Kingsbay** **49.23 359** ⇑*i*P **P** **19 20 33.3 +0.6**
KBS AMS AMS 19 45 10.3
comp=Z,4μm,16.2s
KBS **Kingsbay** **49.23 359** *c i*P **P** **19 20 33.5 +0.7**
KBS pmax pmax
comp=Z,67nm,0.7s
KBS **Kingsbay** **49.23 359** *e*P **P** **19 20 33.4 +0.7**
comp=Z,62nm,0.8s
BGNE **Belgrade** **49.24 72** ⇓P **P** **19 20 33.5 +0.1**
baz=49,SNR=17
BGNE ⇓P **P** **19 20 33.5 +0.1**
baz=49,SNR=17
BGNE ⇓P **P** **19 20 33.5 +0.1**
baz=49,SNR=17
T27A **Campo** **49.29 79** ⇑P **P** **19 20 34.8 +0.9**
baz=49,SNR=12
T27A ⇑P **P** **19 20 34.8 +0.9**
baz=49,SNR=12
T27A ⇑P **P** **19 20 34.8 +0.9**
baz=49,SNR=12
Y23A **Lovelace Mesa,** **49.32 85** ⇑P **P** **19 20 34.7 +0.4**
baz=49,SNR=16
Y23A ⇑P **P** **19 20 34.7 +0.4**
baz=49,SNR=16
Y23A ⇑P **P** **19 20 34.7 +0.4**
baz=49,SNR=16
W25A **X Bar L Ranch,** **49.44 82** ⇑P **P** **19 20 35.5 +0.4**
baz=49,SNR=61
W25A ⇑P **P** **19 20 35.5 +0.4**
baz=49,SNR=61
W25A ⇑P **P** **19 20 35.5 +0.4**
baz=49,SNR=61
W25A ⇑ScP **ScP** **19 25 48.8 -0.7**
baz=49,SNR=5.1
W25A ⇑ScP **ScP** **19 25 48.8 -0.7**
baz=49,SNR=5.1
W25A ⇑ScP **ScP** **19 25 48.8 -0.7**
baz=49,SNR=5.1
TLY **Talaya** **49.52 305** *e*P **P** **19 20 35.2 -0.2**
TLY *e* 19 21 57.4
TLY *e* 19 22 34.1
TLY *e* 19 28 01.5
TLY pmax pmax
comp=Z,114nm,1.0s
TLY MLR MLR
comp=Z,6μm,22.0s
TLY **Talaya** **49.52 305** *e*P **P** **19 20 35.9 +0.6**
comp=Z,136nm,1.0s
TLY *e*PcP **PcP** **19 21 57.0 +0.3**
TLY **Talaya** **49.52 305** P **P** **19 20 36.4 +1.0**
comp=Z,679nm,1.0s,SNR=57
221A **Mesquite Ranch** **49.56 88** ⇓P **P** **19 20 36.6 +0.6**
baz=49
221A ⇓P **P** **19 20 36.6 +0.6**
baz=49
221A ⇓P **P** **19 20 36.6 +0.6**
baz=49
320A **Kipp Ranch, An** **49.56 89** ⇑P **P** **19 20 36.2 +0.2**
baz=49,SNR=29
320A ⇑P **P** **19 20 36.2 +0.2**
baz=49,SNR=29
320A ⇑P **P** **19 20 36.2 +0.2**
baz=49,SNR=29
122A **Conniff Cattle** **49.57 87** ⇑P **P** **19 20 36.7 +0.6**
baz=49,SNR=6.4
122A ⇑P **P** **19 20 36.7 +0.6**
baz=49,SNR=6.4
122A ⇑P **P** **19 20 36.7 +0.6**
baz=49,SNR=6.4
T28A **Walsh** **49.62 79** ⇑P **P** **19 20 36.9 +0.6**
baz=49,SNR=25
T28A ⇑P **P** **19 20 36.9 +0.6**
baz=49,SNR=25
T28A ⇑P **P** **19 20 36.9 +0.6**
baz=49,SNR=25
BJI **Beijing** **49.70 286** P **P** **19 20 37.0 +0.2**
BJI S **S** **19 27 40.0 -3.3**
BJI pmax pmax
comp=Z,170nm,0.9s
BJI LR LR
comp=N,5μm,19.4s
BJI LR LR
comp=E,980nm,18.3s
BJI LR LR
comp=Z,4μm,25.6s
Y24A **Capitan** **49.70 84** ⇑P **P** **19 20 37.7 +0.5**
baz=50,SNR=45
Y24A ⇑P **P** **19 20 37.7 +0.5**
baz=50,SNR=45
Y24A ⇑P **P** **19 20 37.7 +0.5**
baz=50,SNR=45
BJT **Baijiatuau** **49.72 286** *e*P **P** **19 20 37.0 0.0**
BJT pmax pmax
comp=Z,159nm,0.9s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT **Baijiatuau** **49.72 286** *e*P **P** **19 20 37.0 0.0**
comp=Z,159nm,0.9s
BJT LR LR
comp=Z,5μm,20.0s
X25A **Clemmons Ranch** **49.78 83** ⇓P **P** **19 20 38.2 +0.5**
baz=50,SNR=6.9
X25A ⇓P **P** **19 20 38.2 +0.5**
baz=50,SNR=6.9
X25A ⇓P **P** **19 20 38.2 +0.5**
baz=50,SNR=6.9
X25A ⇑ScP **ScP** **19 25 49.9 -1.0**
baz=50,SNR=8.9
X25A ⇑ScP **ScP** **19 25 49.9 -1.0**
baz=50,SNR=8.9
X25A ⇑ScP **ScP** **19 25 49.9 -1.0**
baz=50,SNR=8.9
SPB4 **Spitsbergen Ar** **49.91 358** *e*P **P** **19 20 37.5 -0.4**
SPA0 **Spitsbergen Ar** **49.91 358** ⇑*i*P **P** **19 20 37.6 -0.4**
222A **Williams Famil** **49.92 87** ⇓P **P** **19 20 39.3 +0.6**
baz=50,SNR=8.3
222A ⇓P **P** **19 20 39.3 +0.6**
baz=50,SNR=8.3
222A ⇓P **P** **19 20 39.3 +0.6**
baz=50,SNR=8.3
222A ⇑ScP **ScP** **19 25 50.8 -0.8**
baz=50
222A ⇑ScP **ScP** **19 25 50.8 -0.8**
baz=50
222A ⇑ScP **ScP** **19 25 50.8 -0.8**
baz=50
SPMN **St. Paul** **49.95 65** ⇓P **P** **19 20 38.9 +0.3**
baz=50
SPMN ⇓P **P** **19 20 38.9 +0.3**
baz=50
SPMN ⇓P **P** **19 20 38.9 +0.3**
baz=50
CBKS **Cedar Bluff** **49.95 76** *e*P **P** **19 20 40.2 +1.4**
CBKS pmax pmax
comp=Z,168nm,1.0s
CBKS MLR MLR
comp=Z,2μm,21.0s
CBKS **Cedar Bluff** **49.95 76** *e*P **P** **19 20 40.2 +1.4**
comp=Z,168nm,1.0s
CBKS LR LR
comp=Z,2μm,21.0s
CBKS **Cedar Bluff** **49.95 76** ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
CBKS ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
CBKS ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
CBKS ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
CBKS ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
CBKS ⇓P **P** **19 20 39.4 +0.6**
baz=50,SNR=7.4
W26A **Owens Ranch, T** **49.95 82** ⇑P **P** **19 20 39.7 +0.8**
baz=50
W26A ⇑P **P** **19 20 39.7 +0.8**
baz=50
W26A ⇑P **P** **19 20 39.7 +0.8**
baz=50
ULN **Ulaanbaatar** **50.03 300** *e*P **P** **19 20 39.2 -0.2**
ULN pmax pmax
comp=Z,90nm,1.0s
ULN **Ulaanbaatar** **50.03 300** *e*P **P** **19 20 39.2 -0.2**
comp=Z,90nm,1.0s
123A **Bell Site, Whi** **50.07 86** ⇓P **P** **19 20 40.5 +0.7**
baz=50
123A ⇓P **P** **19 20 40.5 +0.7**
baz=50
123A ⇓P **P** **19 20 40.5 +0.7**
baz=50
Z24A **Sheeppen Canyo** **50.15 85** ⇑P **P** **19 20 40.8 +0.2**
baz=50,SNR=9.1
Z24A ⇑P **P** **19 20 40.8 +0.2**
baz=50,SNR=9.1
Z24A ⇑P **P** **19 20 40.8 +0.2**
baz=50,SNR=9.1
Y25A **Mesa, Roswell** **50.16 84** ⇓P **P** **19 20 40.8 +0.2**
baz=50,SNR=40
Y25A ⇓P **P** **19 20 40.8 +0.2**
baz=50,SNR=40
Y25A ⇓P **P** **19 20 40.8 +0.2**
baz=50,SNR=40
DAG **Danmarks Havn** **50.24 8** ⇑*i*P **P** **19 20 39.8 -0.6**
DAG *i* 19 21 58.9
DAG pmax pmax
comp=Z,47nm,0.9s
DAG **Danmarks Havn** **50.24 8** ⇑*i*P **P** **19 20 39.8 -0.6**
comp=Z,465nm,0.9s
DAG *i* pP **PcP** **19 21 58.9 0.0**
X26A **CR and CF Fran** **50.28 83** ⇑P **P** **19 20 41.6 +0.1**
baz=50,SNR=21
X26A ⇑P **P** **19 20 41.6 +0.1**
baz=50,SNR=21
X26A ⇑P **P** **19 20 41.6 +0.1**
baz=50,SNR=21
X26A ⇓ScP **ScP** **19 25 52.3 -0.9**
baz=50,SNR=8.9
X26A ⇓ScP **ScP** **19 25 52.3 -0.9**
baz=50,SNR=8.9
X26A ⇓ScP **ScP** **19 25 52.3 -0.9**
baz=50,SNR=8.9
SONM **Songino Array** **50.40 300** P **P** **19 20 42.4 +0.2**
comp=Z,63nm,1.1s,baz=52,slow=6.0,SNR=278
SONM PcP **PcP** **19 22 00.7 +0.5**
comp=Z,28nm,0.9s,baz=78,slow=1.0,SNR=7.8
SONM ScP **ScP** **19 25 52.9 -0.5**
comp=Z,9.5nm,1.0s,baz=54,slow=3.5,SNR=8.4
SONM LR LR 19 42 47.4
comp=Z,9μm,19.9s,baz=49,slow=37
SONM **Songino Array** **50.40 300** P **P** **19 20 42.4 +0.2**
SONM 19 22 00.7
SONM **Songino Array** **50.40 300** P **P** **19 20 42.4 +0.2**
SONM PcP **PcP** **19 22 00.7 +0.5**
SONM ScP **ScP** **19 25 52.9 -0.5**
V28A **Channing** **50.45 80** ⇓P **P** **19 20 43.0 +0.3**
baz=50
V28A ⇓P **P** **19 20 43.0 +0.3**
baz=50
V28A ⇓P **P** **19 20 43.0 +0.3**
baz=50
ZAK **Zakamensk** **50.48 304** ⇑*i*P **P** **19 20 42.9 +0.1**
ZAK *e* 19 22 02.6
ZAK pmax pmax
comp=Z,61nm,1.3s
Z25A **Roswell** **50.58 84** ⇓P **P** **19 20 44.2 +0.5**
baz=50,SNR=18
Z25A ⇓P **P** **19 20 44.2 +0.5**
baz=50,SNR=18
Z25A ⇓P **P** **19 20 44.2 +0.5**
baz=50,SNR=18
Z25A ⇓ScP **ScP** **19 25 53.5 -0.9**
baz=50,SNR=9.0
Z25A ⇓ScP **ScP** **19 25 53.5 -0.9**
baz=50,SNR=9.0
Z25A ⇓ScP **ScP** **19 25 53.5 -0.9**
baz=50,SNR=9.0
X27A **F and S Farms,** **50.65 82** ⇑P **P** **19 20 44.7 +0.5**
baz=50
X27A ⇑P **P** **19 20 44.7 +0.5**
baz=50
X27A ⇑P **P** **19 20 44.7 +0.5**
baz=50
Y26A **Elida** **50.69 83** ⇑P **P** **19 20 44.8 +0.2**
baz=50,SNR=11
Y26A ⇑P **P** **19 20 44.8 +0.2**
baz=50,SNR=11
Y26A ⇑P **P** **19 20 44.8 +0.2**
baz=50,SNR=11
W28A **Vega** **50.79 81** ⇑P **P** **19 20 45.7 +0.5**
baz=51,SNR=5.8
W28A ⇑P **P** **19 20 45.7 +0.5**
baz=51,SNR=5.8
W28A ⇑P **P** **19 20 45.7 +0.5**
baz=51,SNR=5.8
V29A **Stinnett** **50.80 80** ⇓P **P** **19 20 46.2 +0.9**
baz=51
V29A ⇓P **P** **19 20 46.2 +0.9**
baz=51
V29A ⇓P **P** **19 20 46.2 +0.9**
baz=51
MOY **Mondy** **50.86 307** *e*P **P** **19 20 45.5 -0.1**
MOY pmax pmax
comp=Z,103nm,2.7s
224A **Cornudas Mount** **50.91 86** ⇑P **P** **19 20 46.7 +0.4**
baz=51,SNR=29
224A ⇑P **P** **19 20 46.7 +0.4**
baz=51,SNR=29
224A ⇑P **P** **19 20 46.7 +0.4**
baz=51,SNR=29
224A ⇓ScP **ScP** **19 25 54.3 -1.5**
baz=51
224A ⇓ScP **ScP** **19 25 54.3 -1.5**
baz=51
224A ⇓ScP **ScP** **19 25 54.3 -1.5**
baz=51
Z26A **Caprock** **51.04 84** ⇓P **P** **19 20 47.3 +0.1**
baz=51,SNR=36
Z26A ⇓P **P** **19 20 47.3 +0.1**
baz=51,SNR=36
Z26A ⇓P **P** **19 20 47.3 +0.1**
baz=51,SNR=36
Y27A **Causey** **51.13 83** ⇑P **P** **19 20 47.9 0.0**
baz=51,SNR=32
Y27A ⇑P **P** **19 20 47.9 0.0**
baz=51,SNR=32
Y27A ⇑P **P** **19 20 47.9 0.0**
baz=51,SNR=32
HOPEN **Hopen** **51.25 355** *e*P **P** **19 20 47.4 -0.6**
HOPEN AMS AMS 19 41 23.4
comp=Z,3μm,22.9s
MNTX **Cornudas Mount** **51.26 86** *e*P **P** **19 20 49.3 +0.5**
comp=Z,19nm,0.8s
MNTX *e*ScP **ScP** **19 25 56.2 -0.9**
MNTX **Cornudas Mount** **51.26 86** ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇓P **P** **19 20 49.2 +0.5**
baz=51,SNR=23
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
MNTX ⇑ScP **ScP** **19 25 55.9 -1.3**
baz=51
JOW **Kunigami** **51.27 265** *e*P **P** **19 20 49.2 +0.4**
comp=Z,64nm,1.0s
CPRX **Cap Rock** **51.27 84** *e*P **P** **19 20 49.6 +0.6**
comp=Z,61nm,0.8s
MSTX **Muleshoe** **51.31 82** ⇑P **P** **19 20 49.7 +0.5**
baz=51,SNR=27
MSTX ⇑P **P** **19 20 49.7 +0.5**
baz=51,SNR=27
MSTX ⇑P **P** **19 20 49.7 +0.5**
baz=51,SNR=27
AMTX **Amarillo** **51.36 81** *e*P **P** **19 20 49.8 +0.3**
comp=Z,77nm,1.0s
AMTX LR LR
comp=Z,2μm,20.0s
AMTX **Amarillo** **51.36 81** ⇓P **P** **19 20 49.9 +0.4**
baz=51,SNR=9.8
AMTX ⇓P **P** **19 20 49.9 +0.4**
baz=51,SNR=9.8
AMTX ⇓P **P** **19 20 49.9 +0.4**
baz=51,SNR=9.8
AMTX ⇓P **P** **19 20 49.9 +0.4**
baz=51,SNR=9.8
AMTX ⇓P **P** **19 20 49.9 +0.4**
baz=51,SNR=9.8
324A **Moseley Ranch,** **51.37 87** ⇑P **P** **19 20 50.0 +0.3**
baz=51,SNR=7.3
324A ⇑P **P** **19 20 50.0 +0.3**
baz=51,SNR=7.3
324A ⇑P **P** **19 20 50.0 +0.3**
baz=51,SNR=7.3
324A ⇑ScP **ScP** **19 25 56.3 -1.5**
baz=51
324A ⇑ScP **ScP** **19 25 56.3 -1.5**
baz=51
324A ⇑ScP **ScP** **19 25 56.3 -1.5**
baz=51
SUMG **Summit** **51.40 16** *i* P **P** **19 20 50.1 +0.4**
SUMG pmax pmax
comp=Z,210nm,1.0s
SUMG **Summit** **51.40 16** *e*P **P** **19 20 49.7 +0.1**
comp=Z,249nm,1.0s
SUMG **Summit** **51.40 16** *i* P **P** **19 20 50.1 +0.4**
comp=Z,210nm,1.0s
COWI **Conover** **51.42 62** *e*P **P** **19 20 49.0 -0.8**
comp=Z,55nm,1.0s
COWI LR LR
comp=Z,3μm,20.0s
126A **Clayton Basin,** **51.44 84** ⇑P **P** **19 20 50.4 +0.2**
baz=51,SNR=6.7
126A ⇑P **P** **19 20 50.4 +0.2**
baz=51,SNR=6.7
126A ⇑P **P** **19 20 50.4 +0.2**
baz=51,SNR=6.7
GDL2 **Guadalupe Moun** **51.54 85** *e*P **P** **19 20 51.7 +0.8**
comp=Z,48nm,1.0s
KSU1 **Kansas State U** **51.62 73** *e*P **P** **19 20 50.9 -0.4**
comp=Z,62nm,0.8s
TIA **Tai'an** **51.62 282** ⇑P **P** **19 20 51.5 +0.1**
TIA S **S** **19 28 08.5 -1.6**
TIA LR LR
comp=N,4μm,14.0s
TIA LR LR
comp=E,2μm,14.0s
TIA LR LR
comp=Z,5μm,13.0s
325A **Bean Ranch, Si** **51.73 86** ⇓P **P** **19 20 52.9 +0.4**
baz=52,SNR=22
325A ⇓P **P** **19 20 52.9 +0.4**
baz=52,SNR=22
325A ⇓P **P** **19 20 52.9 +0.4**
baz=52,SNR=22
325A ⇑ScP **ScP** **19 25 58.3 -1.2**
baz=52,SNR=5.5
325A ⇑ScP **ScP** **19 25 58.3 -1.2**
baz=52,SNR=5.5
325A ⇑ScP **ScP** **19 25 58.3 -1.2**
baz=52,SNR=5.5
SCIA **State Center** **51.79 68** *e*P **P** **19 20 51.7 -0.9**
comp=Z,135nm,1.1s
226A **Malaga, Loving** **51.79 85** ⇓P **P** **19 20 53.2 +0.4**
baz=52,SNR=24
226A ⇓P **P** **19 20 53.2 +0.4**
baz=52,SNR=24
226A ⇓P **P** **19 20 53.2 +0.4**
baz=52,SNR=24
226A ⇓ScP **ScP** **19 25 57.6 -2.0**
baz=52
226A ⇓ScP **ScP** **19 25 57.6 -2.0**
baz=52
226A ⇓ScP **ScP** **19 25 57.6 -2.0**
baz=52
127A **Arkansas Junct** **51.83 84** ⇑P **P** **19 20 53.5 +0.5**
baz=52
127A ⇑P **P** **19 20 53.5 +0.5**
baz=52
127A ⇑P **P** **19 20 53.5 +0.5**
baz=52
HHC **Hu-ho-hao-te** **51.89 290** ⇑P **P** **19 20 54.3 +0.9**
HHC pP **pP** **19 21 04.3 +1.0**
HHC sP **sP** **19 21 09.5 +2.3**
HHC PP **PP** **19 22 51.3 +0.1**
HHC S **S** **19 28 10.5 -3.3**
HHC sS **sS** **19 28 25.5 -4.6**
HHC SS **SS** **19 31 45.3 -5.0**
HHC pmax pmax
comp=Z,120nm,1.0s
HHC pmax pmax
comp=Z,920nm,6.1s
HHC LR LR
comp=N,3μm,16.8s
HHC LR LR
comp=E,4μm,17.8s
HHC LR LR
comp=Z,6μm,18.8s
GUMO **Guam** **51.92 239** P **P** **19 20 51.9 -1.8**
comp=Z,210nm,0.8s,baz=171,slow=7.9,SNR=5.7
GUMO **Guam** **51.92 239** P **P** **19 20 51.9 -1.8**
GUMO MLR MLR
comp=Z,2μm,19.0s
GUMO **Guam** **51.92 239** P **P** **19 20 51.9 -1.8**
GUMO LR LR
comp=Z,2μm,19.0s
425A **Indio Mountain** **52.13 87** ⇑P **P** **19 20 55.6 +0.2**
baz=52,SNR=43
425A ⇑P **P** **19 20 55.6 +0.2**
baz=52,SNR=43
425A ⇑P **P** **19 20 55.6 +0.2**
baz=52,SNR=43

425A ⇓ScP **ScP** **19 25 60.0 -1.2**
baz=52,SNR=5.6
425A ⇓ScP **ScP** **19 25 60.0 -1.2**
baz=52,SNR=5.6
425A ⇓ScP **ScP** **19 25 60.0 -1.2**
baz=52,SNR=5.6
326A **Caldwell Ranch** **52.38 86** ⇓P **P** **19 20 57.9 +0.8**
baz=52
326A ⇓P **P** **19 20 57.9 +0.8**
baz=52
326A ⇓P **P** **19 20 57.9 +0.8**
baz=52
326A ⇓ScP **ScP** **19 26 00.7 -1.5**
baz=52
326A ⇓ScP **ScP** **19 26 00.7 -1.5**
baz=52
326A ⇓ScP **ScP** **19 26 00.7 -1.5**
baz=52
SSE **Sheshan** **52.62 274** P **P** **19 20 59.5 +0.7**
SSE sP **sP** **19 21 16.0 +3.4**
SSE S **S** **19 28 24.0 +0.3**
SSE sS **sS** **19 28 39.5 -0.6**
SSE pmax pmax
comp=Z,310nm,1.1s
SSE pmax pmax
comp=Z,850nm,5.3s
SSE LR LR
comp=N,2μm,26.6s
SSE LR LR
comp=E,2μm,26.8s
SSE LR LR
comp=Z,3μm,25.0s
426A **McDonald Obser** **52.80 86** ⇑P **P** **19 21 00.5 0.0**
baz=53,SNR=17
426A ⇑P **P** **19 21 00.5 0.0**
baz=53,SNR=17
426A ⇑P **P** **19 21 00.5 0.0**
baz=53,SNR=17
BTO **Baotou** **52.94 291** *e*P **P** **19 21 01.0 -0.2**
BTO pmax pmax
comp=Z,110nm,1.0s
328A **Wristen Ranch,** **53.06 85** ⇓P **P** **19 21 02.0 -0.1**
baz=53,SNR=33
328A ⇓P **P** **19 21 02.0 -0.1**
baz=53,SNR=33
328A ⇓P **P** **19 21 02.0 -0.1**
baz=53,SNR=33
328A ⇓ScP **ScP** **19 26 03.8 -1.3**
baz=53
328A ⇓ScP **ScP** **19 26 03.8 -1.3**
baz=53
328A ⇓ScP **ScP** **19 26 03.8 -1.3**
baz=53
427A **Hayter Ranch,** **53.06 86** ⇑P **P** **19 21 02.0 -0.3**
baz=53,SNR=14
427A ⇑P **P** **19 21 02.0 -0.3**
baz=53,SNR=14
427A ⇑P **P** **19 21 02.0 -0.3**
baz=53,SNR=14
427A ⇓ScP **ScP** **19 26 04.5 -0.7**
baz=53
427A ⇓ScP **ScP** **19 26 04.5 -0.7**
baz=53
427A ⇓ScP **ScP** **19 26 04.5 -0.7**
baz=53
SFJD **Kangerlussuaq** **53.15 25** *i* P **P** **19 21 02.4 +0.2**
SFJD pmax pmax
comp=Z,66nm,1.1s
SFJD **Kangerlussuaq** **53.15 25** *e*P **P** **19 21 02.2 0.0**
comp=Z,125nm,1.0s
SFJD **Kangerlussuaq** **53.15 25** *i* P **P** **19 21 02.4 +0.2**
comp=Z,66nm,1.1s
526A **Mary Lane Ranc** **53.19 87** ⇑P **P** **19 21 03.5 +0.2**
baz=53,SNR=25
526A ⇑P **P** **19 21 03.5 +0.2**
baz=53,SNR=25
526A ⇑P **P** **19 21 03.5 +0.2**
baz=53,SNR=25
526A ⇓ScP **ScP** **19 26 04.9 -0.8**
baz=53
526A ⇓ScP **ScP** **19 26 04.9 -0.8**
baz=53
526A ⇓ScP **ScP** **19 26 04.9 -0.8**
baz=53
WMOK **Wichita Mounta** **53.22 79** *e*P **P** **19 21 03.6 +0.4**
WMOK pmax pmax
comp=Z,93nm,0.9s
WMOK **Wichita Mounta** **53.22 79** *e*P **P** **19 21 03.6 +0.4**
comp=Z,93nm,0.9s
NJ2 **Nanjing** **53.39 277** *e*P **P** **19 21 04.8 +0.3**
NJ2 pP **pP** **19 21 13.0 -1.4**
NJ2 sP **sP** **19 21 17.0 -1.3**
NJ2 PP PP 19 23 11.0 +6.2
NJ2 S **S** **19 28 35.0 +0.8**
NJ2 SS **SS** **19 32 14.0 0.0**
NJ2 pmax pmax
comp=Z,300nm,0.9s
NJ2 pmax pmax
comp=Z,810nm,10.2s
NJ2 LR LR
comp=N,5μm,25.0s
NJ2 LR LR
comp=E,4μm,23.9s
NJ2 LR LR
comp=Z,7μm,26.3s
TIY **Taiyuan** **53.43 286** *e*P **P** **19 21 06.0 +1.2**
TIY S **S** **19 28 35.0 +0.1**
TIY pmax pmax
comp=Z,810nm,3.7s
TIY LR LR
comp=N,4μm,18.5s
TIY LR LR
comp=E,1μm,14.8s
TIY LR LR
comp=Z,4μm,17.4s
BJO **Bjornoya** **53.49 356** AMS AMS 19 42 25.0
comp=Z,3μm,18.1s
626A **Big Bend Ranch** **53.52 87** ⇑P **P** **19 21 05.6 0.0**
baz=53,SNR=39
626A ⇑P **P** **19 21 05.6 0.0**
baz=53,SNR=39
626A ⇑P **P** **19 21 05.6 0.0**
baz=53,SNR=39
626A ⇓ScP **ScP** **19 26 06.2 -1.0**
baz=53
626A ⇓ScP **ScP** **19 26 06.2 -1.0**
baz=53
626A ⇓ScP **ScP** **19 26 06.2 -1.0**
baz=53
428A **Kincaid Ranch,** **53.59 85** ⇓P **P** **19 21 06.4 +0.3**
baz=53,SNR=44
428A ⇓P **P** **19 21 06.4 +0.3**
baz=53,SNR=44
428A ⇓P **P** **19 21 06.4 +0.3**
baz=53,SNR=44
428A ⇓ScP **ScP** **19 26 06.7 -0.8**
baz=53
428A ⇓ScP **ScP** **19 26 06.7 -0.8**
baz=53
428A ⇓ScP **ScP** **19 26 06.7 -0.8**
baz=53
528A **Cox Ranch, San** **53.92 86** ⇑P **P** **19 21 08.7 +0.2**
baz=54,SNR=20
528A ⇑P **P** **19 21 08.7 +0.2**
baz=54,SNR=20
528A ⇑P **P** **19 21 08.7 +0.2**
baz=54,SNR=20
528A ⇓ScP **ScP** **19 26 08.1 -0.8**
baz=54,SNR=7.0
528A ⇓ScP **ScP** **19 26 08.1 -0.8**
baz=54,SNR=7.0
528A ⇓ScP **ScP** **19 26 08.1 -0.8**
baz=54,SNR=7.0
TXAR **Lajitas Array** **53.96 87** P **P** **19 21 08.9 +0.1**
comp=Z,29nm,0.7s,baz=296,slow=5.0,SNR=220
TXAR ScP **ScP** **19 26 08.1 -1.0**
comp=Z,12nm,0.9s,baz=292,slow=3.4,SNR=12
TXAR LR LR 19 41 50.1
comp=Z,4μm,20.4s,baz=5.0,slow=33
TXAR PKPPKP P'P'df 19 51 19.1 -8.9
comp=Z,1.2nm,1.0s,baz=115,slow=4.1,SNR=4.4
TXAR **Lajitas Array** **53.96 87** P **P** **19 21 08.9 +0.1**
TXAR **Lajitas Array** **53.96 87** P **P** **19 21 08.9 +0.1**
TXAR ScP **ScP** **19 26 08.1 -1.0**
TXAR P'P' 19 51 19.1
627A **Terlingua Ranc** **54.05 87** ⇓P **P** **19 21 09.1 -0.4**
baz=54,SNR=31
627A ⇓P **P** **19 21 09.1 -0.4**
baz=54,SNR=31
627A ⇓P **P** **19 21 09.1 -0.4**
baz=54,SNR=31
627A ⇑ScP **ScP** **19 26 08.6 -0.9**
baz=54
627A ⇑ScP **ScP** **19 26 08.6 -0.9**
baz=54
627A ⇑ScP **ScP** **19 26 08.6 -0.9**
baz=54
TUL1 **Tulsa** **54.22 76** ⇓P **P** **19 21 10.2 -0.3**
baz=54,SNR=7.7
TUL1 ⇓P **P** **19 21 10.2 -0.3**
baz=54,SNR=7.7
TUL1 ⇓P **P** **19 21 10.2 -0.3**
baz=54,SNR=7.7
628A **Black Gap, Mar** **54.33 86** ⇑P **P** **19 21 11.5 0.0**
baz=54,SNR=58
628A ⇑P **P** **19 21 11.5 0.0**
baz=54,SNR=58
628A ⇑P **P** **19 21 11.5 0.0**
baz=54,SNR=58
GLMI **Grayling** **54.69 61** *e*P **P** **19 21 13.9 +0.1**
comp=Z,200nm,0.9s
GLMI LR LR
comp=Z,3μm,20.0s
HDIL **Hopedale** **54.91 67** *e*P **P** **19 21 14.7 -0.7**
comp=Z,77nm,0.6s
HDIL LR LR
comp=Z,6μm,21.0s
JCT **Junction City** **55.53 83** *e*P **P** **19 21 19.8 -0.3**
JCT pmax pmax
comp=Z,67nm,1.0s
JCT MLR MLR
comp=Z,8μm,20.0s
JCT **Junction City** **55.53 83** *e*P **P** **19 21 19.8 -0.3**
comp=Z,67nm,1.0s
JCT LR LR
comp=Z,8μm,20.0s
JCT **Junction City** **55.53 83** ⇓P **P** **19 21 19.8 -0.3**
baz=55,SNR=8.1
JCT ⇓P **P** **19 21 19.8 -0.3**
baz=55,SNR=8.1
JCT ⇓P **P** **19 21 19.8 -0.3**
baz=55,SNR=8.1
SLM **Saint Louis** **55.66 70** *e*P **P** **19 21 19.7 -1.2**
SLM pmax pmax
comp=Z,53nm,0.8s
SLM **Saint Louis** **55.66 70** *e*P **P** **19 21 19.7 -1.2**
comp=Z,53nm,0.8s
RFTA **Plano** **55.66 79** *e*P **P** **19 21 21.9 +0.9**
SCO **Scoresbysund** **55.76 12** *i* P **P** **19 21 20.4 -0.7**
SCO pmax pmax
comp=Z,52nm,0.9s
SCO **Scoresbysund** **55.76 12** *i* P **P** **19 21 20.4 -0.7**
comp=Z,52nm,0.9s
FVM **French Village** **55.99 70** *e*P **P** **19 21 22.0 -1.2**
FVM pmax pmax
comp=Z,60nm,0.9s
FVM **French Village** **55.99 70** *e*P **P** **19 21 22.0 -1.2**
comp=Z,60nm,0.9s
SFIN **Scholer Farm** **56.27 66** ⇑P **P** **19 21 24.6 -0.6**
baz=56
SFIN ⇑P **P** **19 21 24.6 -0.6**
baz=56
SFIN ⇑P **P** **19 21 24.6 -0.6**
baz=56
SCHQ **Schefferville** **56.46 42** P **P** **19 21 26.1 -0.3**
comp=Z,83nm,0.9s,baz=323,slow=7.7,SNR=55
SCHQ LR LR 19 46 57.9
comp=Z,4μm,19.7s,baz=315,slow=37
SCHQ **Schefferville** **56.46 42** *e*P **P** **19 21 25.8 -0.6**
comp=Z,102nm,1.0s
MIAR **Mount Ida** **56.48 75** *e*P **P** **19 21 26.3 -0.5**
MIAR pmax pmax
comp=Z,161nm,1.2s
MIAR **Mount Ida** **56.48 75** *e*P **P** **19 21 26.3 -0.5**
comp=Z,161nm,1.2s
ZAA0 **Zalesovo Array** **56.81 317** *e*P **P** **19 21 28.3 -0.5**
ZALV **Zalesovo Beam** **56.81 317** P **P** **19 21 28.1 -0.7**
comp=Z,23nm,0.8s,baz=45,slow=6.5,SNR=58
ZALV PcP **PcP** **19 22 25.0 +0.7**
comp=Z,50nm,0.9s,baz=46,slow=4.3,SNR=16
ZALV ScP **ScP** **19 26 21.1 +0.1**
comp=Z,4.0nm,0.9s,baz=46,slow=4.3,SNR=3.8
ZALV ScS **ScS** **19 31 15.4 +0.3**
comp=Z,2.5nm,1.1s,baz=15,slow=6.2,SNR=4.4
ZALV LR LR 19 49 38.5
comp=Z,5μm,18.0s,baz=30,slow=40
ZALV **Zalesovo Beam** **56.81 317** P **P** **19 21 28.1 -0.7**
ZALV 19 22 25.0
ZALV 19 31 15.4
ZALV **Zalesovo Beam** **56.81 317** P **P** **19 21 28.1 -0.7**
ZALV PcP **PcP** **19 22 25.0 +0.7**
ZALV ScP **ScP** **19 26 21.1 +0.1**
ZALV ScS **ScS** **19 31 15.4 +0.3**
OLIL **Olney** **56.82 68** *e*P **P** **19 21 28.3 -0.9**
comp=Z,77nm,0.8s
NVS **Novosibirsk** **56.84 318** ⇑*i*P **P** **19 21 28.8 -0.2**
NVS *i* 19 22 24.0
NVS *i* S **S** **19 29 22.6 +2.8**
NVS *i* 19 31 12.9
NVS pmax pmax
comp=N,24nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,74nm,1.0s
NVS smax smax
comp=N,20nm,2.2s
NVS smax smax
comp=E,28nm,1.9s
SIUC **Southern Illin** **56.87 70** *e*P **P** **19 21 28.4 -1.1**
comp=E,51nm,0.7s
AAM **Ann Arbor** **56.89 62** *e*P **P** **19 21 28.6 -1.0**
AAM MLR MLR
comp=Z,4μm,19.0s
AAM **Ann Arbor** **56.89 62** *e*P **P** **19 21 28.6 -1.0**
AAM LR LR
comp=Z,4μm,19.0s
UALR **University of** **57.05 74** *e*P **P** **19 21 31.1 +0.2**
comp=Z,58nm,1.1s
YHNB **Yeheng** **57.09 269** PFAKE 19 21 40.0 +8.7
YHNB LR LR
comp=Z,6μm,21.0s
WHN **Wuhan** **57.19 279** ⇑*i*P **P** **19 21 32.0 +0.1**
WHN S **S** **19 29 27.0 +1.9**
WHN pmax pmax
comp=Z,700nm,1.1s
WHN LR LR
comp=N,2μm,13.0s
WHN LR LR
comp=E,8μm,19.2s
WHN LR LR
comp=Z,8μm,21.0s
PARMO **Parma** **57.28 71** *e*P **P** **19 21 30.8 -1.6**
NACB **Ninganchiao** **57.32 268** *e*P **P** **19 21 32.6 -0.2**
comp=Z,61nm,0.9s
BLO **Bloomington** **57.42 67** *e*P **P** **19 21 32.6 -0.8**
BLO pmax pmax
comp=Z,47nm,0.8s
BLO **Bloomington** **57.42 67** *e*P **P** **19 21 32.6 -0.8**
comp=Z,47nm,0.8s
HBAR **Harrisburg** **57.51 73** *e*P **P** **19 21 33.9 -0.2**
USIN **University of** **57.59 69** *e*P **P** **19 21 33.9 -0.7**
comp=Z,133nm,0.8s
KEV **Kevo** **57.73 353** *e*P **P** **19 21 34.5 -0.6**
KEV **Kevo** **57.73 353** *e*P **P** **19 21 34.3 -0.8**
comp=Z,55nm,0.8s
KEV **Kevo** **57.73 353** *ep* **P** **19 21 34.5 -0.6**
comp=Z,3.4nm,0.4s
KEV **Kevo** **57.73 353** *ep* **P** **19 21 34.5 -0.6**
comp=Z,3.4nm,0.4s
NATX **Nacogdoches** **57.76 79** *e*P **P** **19 21 36.4 +0.5**
comp=Z,145nm,1.2s
SSLB **Suanglung** **58.00 268** *e*P **P** **19 21 36.9 -0.7**
comp=Z,231nm,1.2s
XAN **Xi'an** **58.02 286** P **P** **19 21 37.8 +0.1**
XAN pP **pP** **19 21 48.3 +0.6**
XAN sP **sP** **19 21 52.5 +0.9**
XAN pmax pmax
comp=Z,73nm,1.1s
XAN pmax pmax
comp=Z,230nm,9.1s
XAN LR LR
comp=N,4μm,21.5s
XAN LR LR
comp=E,2μm,18.7s
XAN LR LR
comp=Z,2μm,20.4s
HALT **Halls** **58.04 71** *e*P **P** **19 21 37.4 -0.3**
ARCES **ARCESS Array B** **58.06 353** P **P** **19 21 36.8 -0.7**
comp=Z,39nm,0.8s,baz=19,slow=7.4,SNR=77
ARCES PcP **PcP** **19 22 28.9 -0.1**
comp=Z,61nm,0.9s,baz=28,slow=4.2,SNR=11
ARCES ScP **ScP** **19 26 26.8 +0.4**
comp=Z,7.1nm,0.9s,baz=19,slow=7.9,SNR=5.3
ARCES LR LR 19 46 38.4
comp=Z,4μm,21.9s,baz=9.1,slow=36
ARCES **ARCESS Array B** **58.06 353** P **P** **19 21 36.8 -0.7**
ARCES 19 22 28.9
ARCES **ARCESS Array B** **58.06 353** P **P** **19 21 36.8 -0.7**
ARCES PcP **PcP** **19 22 28.9 -0.1**
ARCES ScP **ScP** **19 26 26.8 +0.4**
ARE0 **ARCESS Array S** **58.06 353** *e*P **P** **19 21 36.4 -1.1**
ARE0 **ARCESS Array S** **58.06 353** *e*P **P** **19 21 36.7 -0.8**
ARE0 *e*PcP **PcP** **19 22 28.9 0.0**
YULB **Yu-ii** **58.08 268** *e*P **P** **19 21 39.8 +1.6**
comp=Z,108nm,1.2s
HKT **Hockley** **58.33 81** *e*P **P** **19 21 39.5 -0.3**
HKT pmax pmax
comp=Z,164nm,1.6s
HKT **Hockley** **58.33 81** *e*P **P** **19 21 39.5 -0.3**
comp=Z,164nm,1.6s
TRO **Tromso** **58.36 356** *e*P **P** **19 21 40.1 +0.6**
TRO AMS AMS 19 46 19.8
comp=Z,2μm,16.8s
TPUB **Ta-pu** **58.56 268** *e*P **P** **19 21 42.2 +0.6**
comp=Z,111nm,1.1s
QZH **Quanzhou** **58.61 271** ⇑*i*P **P** **19 21 43.3 +1.4**
QZH sP **sP** **19 22 00.0 +4.2**
QZH S **S** **19 29 47.8 +4.1**
QZH pmax pmax
comp=Z,220nm,1.1s
QZH pmax pmax
comp=Z,2μm,5.4s
QZH LR LR
comp=N,16μm,14.3s
QZH LR LR
comp=E,10μm,11.7s
QZH LR LR
comp=Z,24μm,15.8s
TWG **Pinlang** **58.64 267** *e*P **P** **19 21 42.1 0.0**
comp=Z,68nm,1.0s
ACSO **Alum Creek Sta** **58.67 64** *e*P **P** **19 21 41.4 -0.7**
comp=Z,23nm,0.7s
ACSO LR LR
comp=Z,4μm,20.0s
KTK1 **Kautokeino** **58.74 354** *e*P **P** **19 21 41.4 -0.8**
KTK1 AMS AMS 19 47 39.1
comp=Z,4μm,21.6s
LVZ **Lovozero** **58.77 349** *c i*P **P** **19 21 41.5 -0.9**
LVZ pmax pmax
comp=Z,176nm,1.0s
LVZ **Lovozero** **58.77 349** *e*P **P** **19 21 41.3 -1.2**
comp=Z,169nm,0.9s
LVZ **Lovozero** **58.77 349** P **P** **19 21 41.7 -0.7**
comp=Z,1μm,0.9s,SNR=20
WVT **Waverly** **58.77 70** *e*P **P** **19 21 41.8 -1.1**
WVT pmax pmax
comp=Z,70nm,1.1s
WVT **Waverly** **58.77 70** *e*P **P** **19 21 41.8 -1.1**
comp=Z,70nm,1.1s
OXF **Oxford** **58.97 73** *e*P **P** **19 21 43.3 -1.0**
OXF pmax pmax
comp=Z,309nm,1.1s
OXF **Oxford** **58.97 73** *e*P **P** **19 21 43.3 -1.0**
comp=Z,309nm,1.1s
ERPA **Erie** **59.00 60** PFAKE 19 22 00.0 +16
ERPA LR LR
comp=Z,5μm,19.0s
APA **Apatity** **59.23 349** ⇑*i*P **P** **19 21 44.0 -1.6**
APA *i* 19 22 32.0
APA *i* S S 19 29 40.0 -11
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,4μm,19.0s
ALLY **Alegheny Colle** **59.24 61** *e*P **P** **19 21 45.7 -0.4**
comp=Z,202nm,1.0s
PLAL **Pickwick Lake** **59.42 71** *e*P **P** **19 21 45.9 -1.5**
comp=Z,57nm,0.8s
GTA **Gaotai** **59.53 296** ⇑P **P** **19 21 48.0 -0.2**
GTA pP **pP** **19 21 58.0 -0.3**
GTA sP **sP** **19 22 02.0 -0.2**
GTA S **S** **19 29 52.8 -2.8**
GTA sS **sS** **19 30 09.0 -3.2**
GTA SS **SS** **19 33 49.5 -1.0**
GTA pmax pmax
comp=Z,99nm,1.3s
GTA pmax pmax
comp=Z,690nm,8.3s
GTA LR LR
comp=N,7μm,16.6s
GTA LR LR
comp=E,8μm,17.6s
GTA LR LR
comp=Z,12μm,17.1s
LZH **Lanzhou** **59.57 291** ⇑P **P** **19 21 49.5 +0.9**
LZH pP **pP** **19 22 00.5 +1.9**
LZH sP **sP** **19 22 05.3 +2.8**
LZH PcP **PcP** **19 22 36.0 +0.3**
LZH ScP **ScP** **19 26 31.5 -2.3**
LZH PcS **PcS** **19 26 35.8 -2.2**
LZH *e*S **S** **19 29 55.0 -1.3**
LZH sS **sS** **19 30 13.0 +0.2**
LZH ScS **ScS** **19 31 36.0 -0.3**
LZH SS **SS** **19 33 50.3 -1.0**
LZH pmax pmax
comp=Z,250nm,1.0s
LZH pmax pmax
comp=Z,1μm,5.7s
LZH LR LR
comp=N,6μm,15.7s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=Z,7μm,16.7s
MSNY **Massena** **59.65 55** *e*P **P** **19 21 48.1 -0.7**
comp=Z,938nm,0.9s
VBMS **Vicksburg** **59.93 75** *e*P **P** **19 21 50.7 -0.2**
comp=Z,186nm,1.2s
LOF **Lofoten** **60.05 358** *e*P **P** **19 21 51.3 +0.1**
LOF AMB AMB 19 22 02.8
comp=Z,94nm,1.8s
LONY **Lake Ozonia** **60.06 55** *e*P **P** **19 21 50.7 -1.0**
comp=Z,40nm,1.0s
STEI **Steigen** **60.20 357** *e*P **P** **19 21 51.8 -0.4**
ENH **Enshi** **60.34 282** *e*P **P** **19 21 53.3 -0.5**
comp=Z,274nm,1.3s
ENH LR LR
comp=Z,8μm,20.0s
FRNY **Flat Rock** **60.41 54** *e*P **P** **19 21 51.5 -2.6**
comp=Z,37nm,1.2s
SWET **Sewanee** **60.51 70** *e*P **P** **19 21 53.5 -1.5**
comp=Z,87nm,1.3s
FUNA **Funafuti** **60.92 191** PFAKE 19 22 10.0 +12
FUNA LR LR
comp=Z,3μm,21.0s
TZTN **Tazewell** **60.94 67** *e*P **P** **19 21 56.6 -1.2**
comp=Z,45nm,1.0s
BINY **Binghamton** **61.05 58** *e*P **P** **19 21 58.8 +0.2**
comp=Z,43nm,0.7s
BINY LR LR
comp=Z,5μm,20.0s
CPCT **Cooper Cave** **61.16 69** *e*P **P** **19 21 58.1 -1.1**
MDV **Middlebury** **61.21 55** *e*P **P** **19 21 58.8 -0.7**
ACCN **Adirondack Com** **61.40 55** *e*P **P** **19 22 00.3 -0.5**
comp=Z,46nm,1.0s
LRAL **Lakeview Retre** **61.43 72** *e*P **P** **19 21 59.8 -1.4**
comp=Z,23nm,0.8s
TKL **Tuckaleechee C** **61.44 68** *e*P **P** **19 22 00.1 -1.1**
TKL **Tuckaleechee C** **61.44 68** *e*P **P** **19 22 00.1 -1.1**
LBNH **Lisbon** **61.66 54** *e*P **P** **19 22 02.2 -0.4**
LBNH pmax pmax
comp=Z,35nm,1.0s
LBNH **Lisbon** **61.66 54** *e*P **P** **19 22 02.2 -0.4**
comp=Z,35nm,1.0s
KURK **Kurchatov** **61.77 317** LR LR 19 52 51.3
comp=Z,5μm,19.3s,baz=50,slow=40
KURK **Kurchatov** **61.77 317** *e*P **P** **19 22 02.3 -0.9**
KURK pmax pmax
comp=Z,91nm,0.8s

KURK **Kurchatov** 61.77 317 *e*P P 19 22 02.3 -0.9
comp=Z,91nm,0.8s
FLOS **Flostrand** 61.85 358 *e*P P 19 22 03.8 +0.4
STOK **Stokkvaagen** 61.86 358 *e*P P 19 22 03.6 +0.1
HNH **Hanover** 61.87 54 *e*P P 19 22 05.1 +1.2
comp=Z,45nm,1.0s
TRY **Troy** 61.87 56 *e*P P 19 22 03.6 -0.4
comp=Z,38nm,0.8s
MOR8 **Moi Rana** 61.99 357⇑ *i*P P 19 22 02.6 -1.8
MOR8 AMB AMB 19 22 04.6
comp=Z,68nm,1.6s
MOR8 *e*ppP **pP** 19 22 14.0 -0.5
ELN **Prospectdale** 62.02 65 *e*P P 19 22 04.4 -0.7
SOKR **Solikamsk** 62.12 335 *c i*P P 19 22 04.7 -0.6
SOKR PPP x 19 25 58.7
SOKR S **S** 19 30 28.2 +0.6
SOKR SSS SSS 19 37 17.0
SOKR pmax pmax
comp=Z,110nm,0.9s
SOKR MLR MLR
comp=Z,5μm,22.0s
BLA **Blacksburg** 62.22 64 *e*P P 19 22 06.3 -0.2
BLA pmax pmax
comp=Z,100nm,0.8s
BLA MLR MLR
comp=Z,5μm,20.0s
BLA **Blacksburg** 62.22 64 *e*P P 19 22 06.3 -0.2
comp=Z,100nm,0.8s
BLA LR LR
comp=Z,5μm,20.0s
FFD **Franklin Falls** 62.35 54 *e*P P 19 22 07.3 +0.1
comp=Z,109nm,1.1s
WVL **Waterville** 62.54 52 *e*P P 19 22 07.5 -0.9
comp=Z,47nm,0.9s
SDMD **Soldier's Deli** 62.60 60 *e*P P 19 22 08.1 -0.8
comp=Z,90nm,1.0s
WMQ **Urumqi** 62.74 307 P P 19 22 10.3 +0.4
WMQ pP **pP** 19 22 20.3 +0.3
WMQ sP **sP** 19 22 25.3 +1.4
WMQ PcP **PcP** 19 22 48.3 0.0
WMQ S **S** 19 30 34.3 -2.0
WMQ SS **SS** 19 34 40.3 -0.2
WMQ pmax pmax
comp=Z,120nm,1.0s
WMQ pmax pmax
comp=Z,860nm,6.3s
WMQ LR LR
comp=N,4μm,18.7s
WMQ LR LR
comp=E,5μm,21.2s
WMQ LR LR
comp=Z,5μm,17.2s
BRAL **Brewton** 62.85 74 PFAKE 19 22 20.0 +9.3
BRAL LR LR
comp=Z,3μm,20.0s
BRNJ **Basking Ridge** 62.89 58 *e*P P 19 22 10.5 -0.3
comp=Z,14μm,0.8s
PAL **Palisades** 63.00 57 *e*P P 19 22 11.3 -0.2
PAL pmax pmax
comp=Z,88nm,1.0s
PAL **Palisades** 63.00 57 *e*P P 19 22 11.3 -0.2
comp=Z,88nm,1.0s
HRV **Adam Dziewonsk** 63.10 55 *e*P P 19 22 12.0 -0.2
HRV pmax pmax
comp=Z,35nm,0.9s
HRV **Adam Dziewonsk** 63.10 55 *e*P P 19 22 12.0 -0.2
comp=Z,35nm,0.9s
MK31 **Makanchi Array** 63.11 312 *e*P P 19 22 11.4 -0.9
MK31 **Makanchi Array** 63.11 312 *e*P P 19 22 11.4 -0.9
MKAR **Makanchi Array** 63.11 312 P P 19 22 11.7 -0.6
comp=Z,38nm,0.9s,baz=53,slow=5.8,SNR=292
MKAR LR LR 19 52 36.2
comp=Z,3μm,19.3s,baz=242,slow=39
MKAR **Makanchi Array** 63.11 312 P P 19 22 11.7 -0.6
MKAR **Makanchi Array** 63.11 312 P P 19 22 11.7 -0.6
CBN **Corbin** 63.18 62 PFAKE 19 22 20.0 +7.2
CBN LR LR
comp=Z,4μm,21.0s
BVAR **Borovoye Array** 63.22 323 PKPPKP 19 51 13.7
comp=Z,2.9nm,0.9s,baz=204,slow=3.2,SNR=7.3
BVAR LR LR 19 53 24.1
comp=Z,7μm,18.0s,baz=44,slow=40
GOGA **Godfrey** 63.22 69 *e*P P 19 22 11.5 -1.6
GOGA pmax pmax
comp=Z,51nm,0.9s
GOGA MLR MLR
comp=Z,4μm,22.0s
GOGA **Godfrey** 63.22 69 *e*P P 19 22 11.5 -1.6
comp=Z,51nm,0.9s
GOGA LR LR
comp=Z,4μm,22.0s
BRVK **Borovoye** 63.23 324 *c i*P P 19 22 13.1 +0.2
BRVK pmax pmax
comp=Z,70nm,1.0s
BRVK **Borovoye** 63.23 324 *e*P P 19 22 12.5 -0.4
comp=Z,75nm,1.0s
BRVK LR LR
comp=Z,8μm,19.0s
YLE **Yale** 63.27 57 *e*P P 19 22 13.3 0.0
comp=Z,62nm,0.7s
CD2 **Chengdu** 63.30 287 P P 19 22 14.3 +0.5
CD2 pP **pP** 19 22 24.8 +0.9
CD2 sP **sP** 19 22 29.0 +1.3
CD2 PP **PP** 19 24 34.5 +1.6
CD2 S **S** 19 30 40.5 -3.1
CD2 sS **sS** 19 30 58.3 -1.9
CD2 SS **SS** 19 34 48.5 -1.3
CD2 pmax pmax
comp=Z,450nm,1.0s
CD2 pmax pmax
comp=Z,1μm,7.4s
CD2 LR LR
comp=N,20μm,16.6s
CD2 LR LR
comp=Z,30μm,14.3s
WES **Weston** 63.31 55 *e*P P 19 22 13.5 -0.1
WES pmax pmax
comp=Z,105nm,0.8s
WES **Weston** 63.31 55 *e*P P 19 22 13.5 -0.1
comp=Z,105nm,0.8s
SVE **Sverdlovsk** 63.36 331 *de*P P 19 22 13.5 -0.2
SVE *e* 19 22 49.6
SVE *e* 19 24 40.0
SVE *e*PPP PPP 19 26 13.9
SVE *e*S S 19 30 49.9 +6.5
SVE *e* 19 32 08.6
SVE pmax pmax
comp=Z,85nm,0.9s
SVE MLR MLR
comp=Z,3μm,20.0s
BRYW **Bryant College** 63.55 55 *e*P P 19 22 15.0 -0.2
comp=Z,71nm,0.8s
NSS **Namsos** 63.69 358 *e*P P 19 22 15.0 -0.7
JSC **Jenkinsville** 63.86 67 *e*P P 19 22 17.0 -0.3
JSC **Jenkinsville** 63.86 67 *e*P P 19 22 16.9 -0.3
JOF **Joensuu** 63.96 349 *e*P P 19 22 15.8 -1.7
JOF pmax pmax
comp=Z,11nm,0.4s
JOF **Joensuu** 63.96 349 *e*p P 19 22 15.8 -1.7
comp=Z,10nm,0.4s
JOF **Joensuu** 63.96 349 *e*p P 19 22 15.8 -1.7
comp=Z,10nm,0.4s
ARU **Arti** 64.31 332 *e*P P 19 22 19.2 -0.7
ARU pmax pmax
comp=Z,80nm,0.8s
ARU MLR MLR
comp=Z,4μm,19.0s
ARU **Arti** 64.31 332 *e*P P 19 22 19.2 -0.7
comp=Z,80nm,0.8s
ARU LR LR
comp=Z,4μm,19.0s
ARU **Arti** 64.31 332 P P 19 22 19.8 -0.1
comp=Z,706nm,0.8s,SNR=56
KLMR **Klimovskoe** 64.73 344 *c i*P P 19 22 21.1 -1.5
KLMR *e* 19 22 52.9
KLMR *e* 19 24 41.1
KLMR *e*PPP PPP 19 26 23.5
KLMR *e*S **S** 19 31 00.6 +0.4
KLMR *e*SS **SS** 19 35 10.2 -0.2
KLMR pmax pmax
comp=Z,72nm,1.1s
KLMR MLR MLR
comp=Z,4μm,23.0s
GYA **Guiyang** 64.81 281⇑ *i*P P 19 22 23.8 0.0
GYA pP **pP** 19 22 34.8 +0.9
GYA sP **sP** 19 22 40.5 +2.7
GYA PcP **PcP** 19 22 58.5 +1.4
GYA PP **PP** 19 24 49.0 +2.7
GYA ScP 19 26 57.5
GYA S **S** 19 31 00.5 -2.0
GYA sS **sS** 19 31 18.3 -0.9
GYA SKS **SKSac** 19 32 13.0 -3.0
GYA SS **SS** 19 35 13.0 -0.6
GYA pmax pmax
comp=Z,320nm,1.1s
GYA pmax pmax
comp=Z,700nm,8.1s
GYA LR LR
comp=N,4μm,18.5s
GYA LR LR
comp=E,3μm,19.4s
GYA LR LR
comp=Z,6μm,18.9s
COW **Cow Castle Cre** 64.83 68 *e*P P 19 22 24.1 +0.4
CNNC **Cliffs of the** 65.06 64 PFAKE 19 22 40.0 +15
CNNC LR LR
comp=Z,6μm,21.0s
KAF **Kangasniemi** 65.29 351 *e*P P 19 22 24.7 -1.5
KAF **Kangasniemi** 65.29 351 *e*p P 19 22 24.7 -1.5
KAF **Kangasniemi** 65.29 351 *e*p P 19 22 24.7 -1.5
NHSC **New Hope** 65.33 67 *e*P P 19 22 27.2 +0.3
comp=Z,207nm,1.0s
NHSC LR LR
comp=Z,6μm,21.0s
FINES **FINESS Array B** 65.97 351 P P 19 22 29.4 -1.1
comp=Z,69nm,0.9s,baz=10,slow=7.7,SNR=84
FINES PKPPKP P'P'df 19 51 05.6 -7.6
comp=Z,5.9nm,0.8s,baz=207,slow=0.6,SNR=4.9
FINES PKP2bc 19 51 13.4
comp=Z,4.4nm,0.8s,baz=116,slow=4.4,SNR=4.4
FINES LR LR 19 51 31.6
comp=Z,3μm,21.7s,baz=7.4,slow=36
FINES **FINESS Array B** 65.97 351 P P 19 22 29.5 -1.1
FINES **FINESS Array B** 65.97 351 P P 19 22 29.4 -1.1
FINES P'P' 19 51 05.6
FINES ⇑ *e* 19 51 13.4
HNR **Honiara** 66.06 211 PFAKE 19 22 40.0 +8.3
HNR LR LR
comp=Z,1μm,21.0s
DOMB **Dombas** 66.22 360 *e*P P 19 22 32.5 +0.3
NB2 **NORSAR Subarra** 67.20 359 P P 19 22 37.9 -0.6
comp=Z,22nm,0.6s,baz=2.1,slow=6.5
NOA **NORSAR Array B** 67.20 359 P P 19 22 37.9 -0.6
comp=Z,21nm,0.7s,baz=0.8,slow=6.5,SNR=60
NOA PKPPKP P'P'df 19 51 02.9 -8.4
comp=Z,3.7nm,0.9s,baz=166,slow=2.8,SNR=6.4
NOA LR LR 19 53 33.1
comp=Z,1μm,20.2s,baz=5.0,slow=37
NOA **NORSAR Array B** 67.20 359 P P 19 22 37.9 -0.6
NOA **NORSAR Array B** 67.20 359 P P 19 22 37.9 -0.6
NOA P'P' 19 51 02.9
NAO01 **NORSAR Array S** 67.40 359 *e*P P 19 22 39.1 -0.7
comp=Z,4.0nm,0.4s
NC602 **NORSAR Array S** 67.50 358 *e*P P 19 22 39.9 -0.5
NC602 *e*pP **pP** 19 22 49.9 -0.7
ASK **Askov** 67.75 2 *e*P P 19 22 40.7 -1.2
RUND **Rundenannen** 67.82 2 *e*P P 19 22 41.2 -1.2
EGD **Espegrend** 67.96 2 *e*P P 19 22 42.5 -0.7
EGD AMB AMB 19 22 47.9
comp=Z,205nm,1.6s
HFS **Hagfors** 68.06 357 LR LR 19 52 06.9
comp=Z,1μm,20.2s,baz=359,slow=36
DAV **Davao City (W)** 68.08 253 P P 19 22 45.8 +1.1
comp=Z,86nm,0.4s,baz=109,slow=12,SNR=7.6
DAV **Davao City (W)** 68.08 253 *e*P P 19 22 46.2 +1.5
DAV LR LR
comp=Z,7μm,19.0s
KMI **Kunming** 68.16 283 ⇑P P 19 22 46.0 +0.6
KMI pP **pP** 19 22 57.0 +1.4
KMI sP **sP** 19 23 01.0 +1.6
KMI PcP **PcP** 19 23 12.5 +1.3
KMI PP **PP** 19 25 18.3 +2.6
KMI S **S** 19 31 41.0 -2.4
KMI sS **sS** 19 31 58.8 -1.4
KMI SKS **SKiKP** 19 32 37.5 -0.1
KMI SS **SS** 19 36 04.8 -1.1
KMI pmax pmax
comp=Z,280nm,1.0s
KMI pmax pmax
comp=Z,1μm,5.1s
KMI LR LR
comp=N,5μm,19.5s
KMI LR LR
comp=E,7μm,26.4s
KMI LR LR
comp=Z,10μm,16.7s
OSL **Oslo** 68.32 359 *e*P P 19 22 45.9 +0.5
ODD1 **Odda** 68.34 1 *e*P P 19 22 44.7 -1.0
ODD1 AMB AMB 19 22 46.4
comp=Z,128nm,1.2s
CMIG **Matias Romero** 68.40 90 LR LR 19 48 04.2
comp=Z,6μm,21.9s,baz=298,slow=32
QIZ **Qiongzhong** 68.40 273 P P 19 22 46.8 +0.2
QIZ PP **PP** 19 25 15.0 -2.6
QIZ S **S** 19 31 45.8 0.0
QIZ SS **SS** 19 36 10.3 +1.0
QIZ pmax pmax
comp=Z,60nm,1.2s
QIZ pmax pmax
comp=Z,910nm,7.5s
QIZ **Qiongzhong** 68.40 273 *e*P P 19 22 46.6 -0.1
comp=Z,78nm,1.1s
KONO **Kongsberg** 68.61 359 *e*P P 19 22 47.6 +0.2
KONO **Kongsberg** 68.61 359 *e*P P 19 22 47.3 -0.1
KONO pmax pmax
comp=Z,102nm,1.1s
KONO **Kongsberg** 68.61 359 *e*P P 19 22 47.2 -0.1
comp=Z,102nm,1.1s
CTBH **Cotabato--PC H** 68.74 254⇑ *i*P P 19 22 49.4 +0.6
VSU **Vasula** 68.83 350 *c i*P P 19 22 47.9 -0.8
VSU pmax pmax
comp=Z,128nm,0.9s
TKM2 **Tokmak 2** 69.12 314 P P 19 22 50.9 -0.2
SNR=117
TKM2 P P 19 22 50.9 -0.2
SNR=117
TKM2 **Tokmak 2** 69.12 314 *i*P P 19 22 50.9 -0.2
TKM2 **Tokmak 2** 69.12 314 *e*P P 19 22 50.6 -0.5
comp=Z,90nm,1.1s
USP **Ospenovka** 69.33 315 P P 19 22 52.4 +0.1
SNR=175
USP P P 19 22 52.4 +0.1
SNR=175
ULHL **Ulahol** 69.37 313 P P 19 22 53.1 +0.5
SNR=48
ULHL P P 19 22 53.1 +0.5
SNR=48
CHMS **Chumysh** 69.44 314 P P 19 22 53.2 +0.3
SNR=53
CHMS P P 19 22 53.2 +0.3
SNR=53
KBK **Karagaybulak** 69.62 314 P P 19 22 54.3 +0.2
SNR=102
KBK P P 19 22 54.3 +0.2
SNR=102
FRU **Bishkek** 69.63 314⇑ *i*P P 19 22 53.0 -1.0
FRU *e* 19 23 02.0
FRU pmax pmax
comp=Z,240nm,1.0s
AKTO **Aktyubinsk** 69.64 329 LR LR 19 56 09.7
comp=Z,3μm,18.9s,baz=217,slow=38
PMOR **Pomariorio Ree** 69.84 156 *e*P P 19 22 58.3 +2.9
comp=Z,116nm,1.1s
AAK **Ala-Archa** 69.84 314 P P 19 22 55.5 -0.1
SNR=122
AAK P P 19 22 55.5 -0.1
SNR=122
AAK **Ala-Archa** 69.84 314 *i*P P 19 22 55.4 -0.1
AAK pmax pmax
comp=Z,292nm,1.0s
AAK **Ala-Archa** 69.84 314 *e*P P 19 22 55.4 -0.2
comp=Z,524nm,0.9s
AAK LR LR
comp=Z,5μm,20.0s
MVH1 **Achvaich** 69.84 7⇑ *e*P P 19 22 54.4 -0.6
MVH1 **Achvaich** 69.84 7 P P 19 22 54.4 -0.6
MOS **Moscow** 69.90 343 *e*P P 19 22 54.1 -1.3
MOS *e* 19 23 26.1
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,101nm,0.9s
MOS MLR MLR
comp=Z,4μm,21.0s
SNART **Snartemo** 69.92 1 *e*P P 19 22 55.7 +0.3
KZA **Kyzart** 69.95 313 P P 19 22 56.8 +0.3
SNR=45
KZA P P 19 22 56.8 +0.3
SNR=45
ABKAR **Akbulak array** 70.03 327 *e*P P 19 22 55.6 -0.6
comp=Z,29nm,0.6s
EKS2 **Erkin-Say** 70.14 315 P P 19 22 57.5 +0.2
SNR=159
EKS2 P P 19 22 57.5 +0.2
SNR=159
EKS2 **Erkin-Say** 70.14 315 *e*P P 19 22 56.9 -0.4
EKS2 pmax pmax
comp=Z,89nm,0.9s
EKS2 MLR MLR
comp=Z,6μm,20.0s
EKS2 **Erkin-Say** 70.14 315 *e*P P 19 22 56.9 -0.4
comp=Z,89nm,0.9s
EKS2 LR LR
comp=Z,6μm,20.0s
MSVF **Nonsavu** 70.14 191 *e*P P 19 22 57.2 -0.1
MSVF pmax pmax
comp=Z,24nm,0.9s
MSVF MLR MLR
comp=Z,3μm,20.0s
MSVF **Nonsavu** 70.14 191 *e*P P 19 22 57.2 -0.1
comp=Z,24nm,0.9s
MSVF LR LR
comp=Z,3μm,20.0s
UCH **Uchtor** 70.16 314 P P 19 22 58.8 +1.0
SNR=6.5
UCH P P 19 22 58.8 +1.0
SNR=6.5
MCD **Coleburn Disti** 70.25 7⇑ *e*P P 19 22 57.3 -0.3
MCD **Coleburn Disti** 70.25 7 P P 19 22 57.3 -0.3
MDO **Dochfour** 70.31 7⇑ *e*P P 19 22 57.5 -0.4
MDO **Dochfour** 70.31 7 P P 19 22 57.5 -0.4
MME1 **Meikle Cairn** 70.54 7⇑ *e*P P 19 22 58.7 -0.6
MME1 **Meikle Cairn** 70.54 7 P P 19 22 58.7 -0.6
AML **Almayashu** 70.60 314 P P 19 23 00.6 +0.2
SNR=121
AML P P 19 23 00.6 +0.2
SNR=121
OBN **Obninsk** 70.68 343 *d i*P P 19 22 58.6 -1.5
OBN *e* 19 23 21.5
OBN *eS* **S** 19 32 12.3 +0.7
OBN pmax pmax
comp=Z,67nm,0.9s
OBN MLR MLR
comp=Z,4μm,23.0s
OBN **Obninsk** 70.68 343 *e*P P 19 22 58.6 -1.5
comp=Z,76nm,1.0s
OBN LR LR
comp=Z,4μm,22.0s
PMG **Port Moresby** 70.84 224 *d i*P P 19 23 00.8 -0.8
PMG pmax pmax
comp=Z,54nm,1.2s
PMG **Port Moresby** 70.84 224 *e*P P 19 23 00.6 -1.0
comp=Z,40nm,1.0s
PMG **Port Moresby** 70.84 224 P P 19 23 01.5 -0.1
comp=Z,50nm,1.2s,comp=Z,982nm
KKAR **Karatay Array** 71.18 317 *e*P P 19 23 02.8 -0.7
KKAR pmax pmax
comp=Z,62nm,0.9s
KKAR **Karatay Array** 71.18 317 *e*P P 19 23 02.8 -0.7
comp=Z,62nm,0.9s
LSA **Lhasa** 71.48 295 P P 19 23 07.8 +1.8
LSA S S 19 32 09.5 -13
LSA pmax pmax
comp=Z,250nm,1.0s
LSA LR LR
comp=N,3μm,20.0s
LSA LR LR
comp=E,3μm,27.0s
LSA LR LR
comp=Z,7μm,22.0s
LSA **Lhasa** 71.48 295 *e*P P 19 23 07.2 +1.2
LSA pmax pmax
comp=Z,274nm,1.0s
LSA **Lhasa** 71.48 295 *e*P P 19 23 07.2 +1.2
comp=Z,274nm,1.0s
EAB **Aberfoyle** 71.55 8⇑ *e*P P 19 23 04.5 -1.0
EAB **Aberfoyle** 71.55 8 P P 19 23 04.5 -1.0
KSH **Kashi** 71.67 311⇑ *i*P P 19 23 10.0 +3.4
KSH *e*pP pP 19 23 20.3 +3.5
KSH *e*sP sP 19 23 24.3 +3.6
KSH *e*PcP **PcP** 19 23 29.0 +3.4
KSH *e*PP PP 19 25 51.3 +6.0
KSH *e*S **S** 19 32 24.8 +0.9
KSH *e*sS **SKiKP** 19 32 43.8 +1.5
KSH *e*SKS **SKSac** 19 33 06.5 -1.1
KSH ScS **ScS** 19 33 09.3 -0.1
KSH *e*SS **SS** 19 37 05.0 +6.3
KSH pmax pmax
comp=Z,130nm,0.9s
KSH pmax pmax
comp=Z,390nm,6.3s
KSH LR LR
comp=N,840nm,13.3s
KSH LR LR
comp=E,3μm,14.6s
KSH LR LR
comp=Z,2μm,22.2s
MUD **Monsted U'grnd** 71.82 360 *i*P P 19 23 07.1 +0.1
MUD pmax pmax
comp=Z,44nm,0.9s
MUD **Monsted U'grnd** 71.82 360 *i*P P 19 23 07.1 +0.1
comp=Z,44nm,0.9s
PGBU **Glenifferbraes** 71.92 8⇑ *e*P P 19 23 07.3 -0.3
PGBU AMB AMB 19 23 08.5
comp=Z,145nm,1.2s
PGBU **Glenifferbraes** 71.92 8 P P 19 23 07.3 -0.3
PGBU AMB AMB 19 23 08.5
comp=Z,145nm,1.2s
PPT2 **Papeete2** 71.93 158 *e*S S 19 32 28.9 +2.0
comp=Z,7μm,28.0s
PPT2 *e*SS SS 19 37 10.0 +5.6
comp=Z,1μm,28.5s
PPT2 *e*LQ LQ 19 41 26.9
comp=Z,3μm,26.5s
PPT2 *e*LR LR 19 44 57.1
comp=Z,3μm,21.5s
TIAR **Tiarei** 71.95 158 *e*P P 19 23 10.9 +2.7
comp=Z,139nm,0.9s
ESY **Stoneypath** 71.95 7⇑ *e*P P 19 23 07.5 -0.4
ESY **Stoneypath** 71.95 7 P P 19 23 07.5 -0.4
EAU **Auchinoon** 71.97 7⇑ *e*P P 19 23 08.0 0.0
EAU **Auchinoon** 71.97 7 P P 19 23 08.0 0.0
EBL **Broad Law** 72.07 7⇑ *e*P P 19 23 08.3 -0.2
EBL **Broad Law** 72.07 7 P P 19 23 08.3 -0.2
NACGM **Naroch** 72.32 349 *e*P P 19 23 06.0 -4.1
ESK **Eskdalemuir** 72.51 7⇑ *e*P P 19 23 10.4 -0.8
ESK **Eskdalemuir** 72.51 7 P P 19 23 10.4 -0.8
ESK **Eskdalemuir** 72.51 7 *e*P P 19 23 10.9 -0.3
ESK pmax pmax
comp=Z,55nm,0.9s
ESK MLR MLR
comp=Z,2μm,21.0s
ESK **Eskdalemuir** 72.51 7 *e*P P 19 23 10.9 -0.3
comp=Z,55nm,0.9s
ESK LR LR
comp=Z,2μm,21.0s
COP **Copenhagen** 72.55 358⇑ *i*P P 19 23 11.3 -0.1
COP pmax pmax
comp=Z,40nm,1.0s
COP MLR MLR
comp=Z,990nm,20.0s
COP **Copenhagen** 72.55 358⇑ *i*P P 19 23 11.3 -0.1
comp=Z,40nm,1.0s
COP
comp=Z,990nm,20.0s
MICGM **Minsk** 72.58 348 *e*P P 19 23 10.0 -1.6
MNK **Minsk** 72.59 348 *e*P P 19 23 10.0 -1.6
MNK pmax pmax
comp=Z,560nm,1.0s
MNK MLR MLR
comp=Z,8μm,20.0s
GAL1 **Galloway** 72.83 8⇑ *e*P P 19 23 12.3 -0.8
GAL1 AMB AMB 19 23 13.9
comp=Z,86nm,1.0s
GAL1 **Galloway** 72.83 8 P P 19 23 12.3 -0.8
GAL1 AMB AMB 19 23 13.9

	comp=Z,86nm,1.0s								
LLD	**Lille Linde**	**72.91**	**358**	*i*	P	**P**	**19 23 13.3**	**-0.2**
LLD					pmax	pmax			
	comp=Z,41nm,1.1s								
LLD	**Lille Linde**	**72.91**	**358**	*i*	P	**P**	**19 23 13.3**	**-0.2**
	comp=Z,41nm,1.1s								
XAL	**Allendale**	**73.03**	**7**	⇑	*e*P	**P**	**19 23 13.8**	**-0.6**
XAL	**Allendale**	**73.03**	**7**		P	**P**	**19 23 13.8**	**-0.6**
BSD	**Bornholm Skovb**	**73.04**	**356**	⇑	*i*P	**P**	**19 23 13.8**	**-0.5**
BSD					pmax	pmax			
	comp=Z,24nm,1.0s								
BSD					MLR	MLR			
	comp=Z,2µm,20.0s								
BSD	**Bornholm Skovb**	**73.04**	**356**	⇑	*i*P	**P**	**19 23 13.8**	**-0.5**
	comp=Z,24nm,1.0s								
BSD									
	comp=Z,2µm,20.0s								
KESW	**Keswick, Cumbr**	**73.24**	**7**	⇑	*e*P	**P**	**19 23 15.2**	**-0.4**
KESW	**Keswick, Cumbr**	**73.24**	**7**		P	**P**	**19 23 15.2**	**-0.4**
KDM	**Kudat**	**73.44**	**260**		P	**P**	**19 23 17.7**	**+0.5**
VRHR	**Novokhopersk**	**73.48**	**339**		*e*P	**P**	**19 23 15.3**	**-1.7**
VRHR					pmax	pmax			
	comp=N,60nm,0.9s								
VRHR					pmax	pmax			
	comp=E,20nm,0.9s								
VRHR					pmax	pmax			
	comp=Z,100nm,0.9s								
VRHR					MLR	MLR			
	comp=Z,3µm,22.0s								
SUW	**Suwalki**	**73.58**	**351**		*e*P	**P**	**19 23 16.2**	**-1.3**
SUW					LMZ	LR	19 54 52.0		
	comp=Z,3µm,25.6s								
SUW	**Suwalki**	**73.58**	**351**		*e*P	**P**	**19 23 16.2**	**-1.3**
SUW					MLR	MLR			
	comp=Z,3µm,25.6s								
SUW	**Suwalki**	**73.58**	**351**		*e*P	**P**	**19 23 16.2**	**-1.3**
	comp=Z,261nm,1.0s								
RGN	**Rugen**	**73.66**	**357**		*e*P	**P**	**19 23 18.4**	**+0.5**
	comp=Z,199nm,1.1s								
RGN	**Rugen**	**73.66**	**357**		*e*P	**P**	**19 23 18.5**	**+0.5**
	comp=Z,179nm,1.0s								
MYLDM	**Lahad Datu**	**73.80**	**257**		P	**P**	**19 23 20.9**	**+1.5**
MYLDM	**Lahad Datu**	**73.80**	**257**		P	**P**	**19 23 21.0**	**+1.6**
	comp=Z,102nm,1.2s								
VSR	**Storozhevoye**	**73.89**	**341**		*e*P	**P**	**19 23 18.7**	**-0.7**
VSR					pmax	pmax			
	comp=N,20nm,0.8s								
VSR					pmax	pmax			
	comp=Z,70nm,0.8s								
VSR					pmax	pmax			
	comp=E,2.0nm,0.4s								
SDKM	**Sandakan**	**74.22**	**259**		P	**P**	**19 23 22.3**	**+0.4**
SHL	**Shillong**	**74.22**	**291**		*e*P	**P**	**19 23 22.5**	**+0.5**
SHL					*ex*	x	19 32 53.0		
WME	**Myndd Eilian**	**74.33**	**8**	⇑	*e*P	**P**	**19 23 21.4**	**-0.5**
WME	**Myndd Eilian**	**74.33**	**8**		P	**P**	**19 23 21.4**	**-0.5**
BSEG	**Bad Segeberg**	**74.34**	**359**		*e*P	**P**	**19 23 22.1**	**+0.2**
	comp=Z,131nm,1.0s								
BSEG	**Bad Segeberg**	**74.34**	**359**		*e*P	**P**	**19 23 22.1**	**+0.2**
BSEG					pmax	pmax			
	comp=Z,131nm,1.0s								
BBSR	**BB Station**	**74.34**	**57**		PFAKE		19 23 30.0	+7.7	
BBSR					LR	LR			
	comp=Z,2µm,22.0s								
WLF1	**Llynfaes**	**74.42**	**8**	⇑	*e*P	**P**	**19 23 21.3**	**-1.1**
WLF1	**Llynfaes**	**74.42**	**8**		P	**P**	**19 23 21.3**	**-1.1**
YRC	**Rhoscolyn**	**74.45**	**8**		*e*P	**P**	**19 23 21.7**	**-0.9**
YRC	**Rhoscolyn**	**74.45**	**8**		P	**P**	**19 23 21.7**	**-0.9**
KKM	**Kota Kinabalu**	**74.50**	**260**		*e*P	**P**	**19 23 22.7**	**-0.9**
	comp=Z,61nm,1.1s								
KKM	**Kota Kinabalu**	**74.50**	**260**		P	**P**	**19 23 24.1**	**+0.5**
KKM	**Kota Kinabalu**	**74.50**	**260**		P	**P**	**19 23 24.7**	**+1.1**
	comp=Z,61nm,1.3s,comp=Z,1µm								
WPM1	**Penmaenmawr**	**74.50**	**8**	⇑	*e*P	**P**	**19 23 22.1**	**-0.8**
WPM1	**Penmaenmawr**	**74.50**	**8**		P	**P**	**19 23 22.1**	**-0.8**
KBI1	**Birley Grange**	**74.68**	**6**	⇑	*e*P	**P**	**19 23 23.6**	**-0.4**
KBI1	**Birley Grange**	**74.68**	**6**		P	**P**	**19 23 23.6**	**-0.4**
GKP	**Gorka Klasztor**	**74.77**	**355**		*e*P	**P**	**19 23 24.1**	**-0.3**
GKP					LMZ	LR	19 55 53.7		
	comp=Z,3µm,23.3s								
GKP	**Gorka Klasztor**	**74.77**	**355**		*e*P	**P**	**19 23 24.1**	**-0.3**
GKP					MLR	MLR			
	comp=Z,3µm,23.3s								
STNC	**Stoke**	**74.80**	**7**		*e*P	**P**	**19 23 24.7**	**+0.1**
STNC					AMB	AMB	19 23 25.5		
	comp=Z,154nm,0.9s								
STNC	**Stoke**	**74.80**	**7**		P	**P**	**19 23 24.7**	**+0.1**
STNC					AMB	AMB	19 23 25.5		
	comp=Z,154nm,0.9s								
TSM	**Tawau**	**74.88**	**257**		P	**P**	**19 23 26.4**	**+0.7**
FOEL	**Foel Wylfa**	**74.92**	**7**	⇑	*e*P	**P**	**19 23 25.1**	**-0.3**
FOEL					AMB	AMB	19 23 26.1		
	comp=Z,140nm,1.0s								
FOEL	**Foel Wylfa**	**74.92**	**7**		P	**P**	**19 23 25.1**	**-0.3**
FOEL					AMB	AMB	19 23 26.1		
	comp=Z,140nm,1.0s								
TAPN	**Taplejung**	**75.21**	**295**		*e*P	**P**	**19 23 28.0**	**+0.2**
	comp=Z,495nm,1.1s								
TAPN	**Taplejung**	**75.21**	**295**		*e*P	**P**	**19 23 28.0**	**+0.2**
	comp=Z,495nm,1.1s								
CHTO	**Chiang Mai**	**75.22**	**282**		*e*P	**P**	**19 23 27.8**	**+0.1**
CHTO					pmax	pmax			
	comp=Z,139nm,1.0s								
CHTO					MLR	MLR			
	comp=Z,24µm,20.0s								
CHTO	**Chiang Mai**	**75.22**	**282**		*e*P	**P**	**19 23 27.8**	**+0.1**
	comp=Z,139nm,1.0s								
CHTO					LR	LR			
	comp=Z,24µm,20.0s								
CHTO	**Chiang Mai**	**75.22**	**282**		P	**P**	**19 23 27.6**	**-0.1**
	comp=Z,180nm,1.5s,comp=Z,3µm								
CHTO	**Chiang Mai**	**75.22**	**282**		P	**P**	**19 23 27.6**	**-0.1**
	comp=Z,180nm,1.5s,comp=Z,3µm								
HLM1	**Long Mynd**	**75.31**	**7**		*e*P	**P**	**19 23 27.2**	**-0.4**
HLM1	**Long Mynd**	**75.31**	**7**		P	**P**	**19 23 27.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**75.41**	**86**		P	**P**	**19 23 27.8**	**-0.9**
CM31	**Chiang Mai Arr**	**75.50**	**281**		*e*P	**P**	**19 23 29.9**	**+0.7**
	comp=Z,150nm,0.8s								
CM31					LR	LR			
	comp=Z,4µm,21.0s								
CMAR	**Chiang Mai Arr**	**75.50**	**281**		P	**P**	**19 23 29.9**	**+0.7**
	comp=Z,184nm,0.8s,baz=26,slow=6.8,SNR=1018								
CMAR					PKPPKP	**P'P'df**	**19 50 55.4**	**+2.3**	
	comp=Z,0.9nm,0.9s,baz=226,slow=4.1,SNR=4.5								
CMAR					LR	LR	19 58 05.1		
	comp=Z,2µm,19.1s,baz=175,slow=37								
CMAR	**Chiang Mai Arr**	**75.50**	**281**		P	**P**	**19 23 30.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**75.50**	**281**		P	**P**	**19 23 29.9**	**+0.7**
CMAR					P'P'		19 50 55.4		
MRSI	**Marisa**	**75.51**	**252**		P	**P**	**19 23 28.7**	**-0.5**
	comp=Z,169nm,1.0s,comp=Z,2µm								
RUE	**Ruedersdorf**	**75.72**	**357**		*e*P	**P**	**19 23 30.0**	**+0.1**
	comp=Z,123nm,1.1s								
RUE	**Ruedersdorf**	**75.72**	**357**		*e*P	**P**	**19 23 30.1**	**+0.2**
	comp=Z,120nm,1.1s								
ODAN	**Odare**	**75.77**	**295**		*e*P	**P**	**19 23 31.2**	**+0.2**
	comp=Z,201nm,1.1s								
ODAN	**Odare**	**75.77**	**295**		*e*P	**P**	**19 23 31.2**	**+0.2**
	comp=Z,201nm,1.1s								
NRDL	**Niedersach Rie**	**75.78**	**359**		*e*P	**P**	**19 23 30.1**	**-0.1**
	comp=Z,48nm,1.0s								
GUN	**Gumba**	**75.79**	**297**		*e*P	**P**	**19 23 31.4**	**+0.2**
	comp=Z,518nm,1.0s								
GUN	**Gumba**	**75.79**	**297**		*e*P	**P**	**19 23 31.4**	**+0.2**
	comp=Z,518nm,1.0s								
JIRN	**Jiri**	**75.81**	**297**		*e*P	**P**	**19 23 31.9**	**+0.5**
	comp=Z,751nm,1.1s								
JIRN	**Jiri**	**75.81**	**297**		*e*P	**P**	**19 23 31.9**	**+0.5**
	comp=Z,751nm,1.1s								
MCH1	**Michaelchurch**	**75.82**	**7**	⇑	*e*P	**P**	**19 23 30.1**	**-0.5**
MCH1	**Michaelchurch**	**75.82**	**7**		P	**P**	**19 23 30.1**	**-0.5**
AGT	**Agartala**	**75.88**	**291**		*ex*	x	19 23 37.0		
AGT					*ex*	x	19 24 07.0		
SSW	**Stow on the Wo**	**75.94**	**7**		*e*P	**P**	**19 23 30.9**	**-0.4**
SSW	**Stow on the Wo**	**75.94**	**7**		P	**P**	**19 23 30.9**	**-0.4**
BEL	**Belsk**	**75.94**	**352**		*e*P	**P**	**19 23 31.1**	**-0.1**
BEL					LMZ	LR	19 59 31.8		
	comp=Z,3µm,21.5s								
BEL	**Belsk**	**75.94**	**352**		*e*P	**P**	**19 23 31.1**	**-0.1**
BEL					MLR	MLR			
	comp=Z,3µm,21.5s								
IBBN	**Ibbenburen**	**75.97**	**1**		*e*P	**P**	**19 23 31.5**	**+0.1**
	comp=Z,169nm,1.1s								
AKASG	**Malin Array Be**	**76.12**	**347**		P	**P**	**19 23 30.7**	**-1.5**
	comp=Z,27nm,0.6s,baz=13,slow=5.6,SNR=61								
AKASG					LR	LR	19 58 16.3		
	comp=Z,4µm,21.9s,baz=15,slow=37								
AKASG	**Malin Array Be**	**76.12**	**347**		P	**P**	**19 23 30.7**	**-1.5**
AKASG	**Malin Array Be**	**76.12**	**347**		P	**P**	**19 23 30.7**	**-1.5**
AKBB	**Malin Array Si**	**76.12**	**347**		*e*P	**P**	**19 23 30.7**	**-1.5**
AKBB	**Malin Array Si**	**76.12**	**347**		*e*P	**P**	**19 23 30.7**	**-1.5**
KIEV	**Kiev**	**76.12**	**347**		*e*P	**P**	**19 23 30.4**	**-1.9**
KIEV					pmax	pmax			
	comp=Z,53nm,0.9s								
KIEV	**Kiev**	**76.12**	**347**		*e*P	**P**	**19 23 30.4**	**-1.9**
	comp=Z,53nm,0.9s								
RAMN	**Ramite**	**76.14**	**296**		*e*P	**P**	**19 23 33.2**	**+0.1**
	comp=Z,733nm,1.0s								
RAMN	**Ramite**	**76.14**	**296**		*e*P	**P**	**19 23 33.2**	**+0.1**
	comp=Z,733nm,1.0s								
HGH	**Gray Hill**	**76.19**	**7**	⇑	*e*P	**P**	**19 23 32.6**	**-0.1**
HGH	**Gray Hill**	**76.19**	**7**		P	**P**	**19 23 32.6**	**-0.1**
KKN	**Kakani**	**76.21**	**297**		*e*P	**P**	**19 23 33.6**	**+0.1**
	comp=Z,283nm,1.2s								
KKN	**Kakani**	**76.21**	**297**		*e*P	**P**	**19 23 33.6**	**+0.1**
KKN					pmax	pmax			
	comp=Z,283nm,1.2s								
KKN	**Kakani**	**76.21**	**297**		*e*P	**P**	**19 23 33.6**	**+0.1**
	comp=Z,283nm,1.2s								
WTSB	**Winterswijk**	**76.31**	**1**		*e*P	**P**	**19 23 33.2**	**-0.1**
	comp=Z,89nm,1.1s								
PKI	**Pulchoki**	**76.31**	**297**		*e*P	**P**	**19 23 34.1**	**-0.1**
	comp=Z,428nm,1.1s								
PKI	**Pulchoki**	**76.31**	**297**		*e*P	**P**	**19 23 34.1**	**-0.1**
PKI					pmax	pmax			
	comp=Z,428nm,1.1s								
PKI	**Pulchoki**	**76.31**	**297**		*e*P	**P**	**19 23 34.1**	**-0.1**
	comp=Z,428nm,1.1s								
DZM	**Mont Dzumac**	**76.36**	**201**		*e*PP	PP	19 26 26.3	+0.2	
	comp=Z,157nm,23.6s								
DZM					*e*S	**S**	**19 33 11.1**	**-5.5**	
	comp=Z,2µm,29.2s								
DZM					*e*SS	**SS**	**19 38 10.3**	**-1.6**	
	comp=Z,1µm,29.8s								
DZM					*e*LR	LR	19 47 06.0		
	comp=Z,3µm,21.4s								
DZM	**Mont Dzumac**	**76.36**	**201**		P	**P**	**19 23 35.4**	**+1.5**
	comp=Z,12nm,0.9s,baz=75,slow=14,SNR=4.2								
DZM	**Mont Dzumac**	**76.36**	**201**		P	**P**	**19 23 35.4**	**+1.5**
GKN	**Gorkha**	**76.39**	**298**		*e*P	**P**	**19 23 34.4**	**0.0**
	comp=Z,453nm,1.1s								
GKN	**Gorkha**	**76.39**	**298**		*e*P	**P**	**19 23 34.4**	**0.0**
	comp=Z,453nm,1.1s								
CLZ	**Clausthal**	**76.43**	**359**		*e*P	**P**	**19 23 34.4**	**+0.3**
	comp=Z,91nm,1.0s								
CLZ	**Clausthal**	**76.43**	**359**		*e*P	**P**	**19 23 34.4**	**+0.3**
CLZ					pmax	pmax			
	comp=Z,91nm,1.0s								
DMN	**Daman**	**76.45**	**297**		*e*P	**P**	**19 23 35.0**	**+0.2**
	comp=Z,388nm,1.2s								
DMN	**Daman**	**76.45**	**297**		*e*P	**P**	**19 23 35.0**	**+0.2**
	comp=Z,388nm,1.2s								
DANN	**Dangsing**	**76.60**	**299**		*e*P	**P**	**19 23 35.9**	**+0.2**
	comp=Z,543nm,0.9s								
DANN	**Dangsing**	**76.60**	**299**		*e*P	**P**	**19 23 35.9**	**+0.2**
	comp=Z,543nm,0.9s								
COEN	**Coen**	**76.63**	**225**		*e*P	**P**	**19 23 34.9**	**-0.6**
	comp=Z,272nm,1.3s								
BUG	**Bochum--Univer**	**76.84**	**1**		*e*P	**P**	**19 23 36.1**	**-0.2**
	comp=Z,66nm,1.0s								
CLL	**Collm**	**76.91**	**357**		*e*P	**P**	**19 23 36.3**	**-0.4**
	comp=Z,59nm,1.0s								
CLL	**Collm**	**76.91**	**357**	⇑	*i*P	**P**	**19 23 36.5**	**-0.2**
CLL					*e*S	**S**	**19 33 17.0**	**-5.0**	
CLL					pmax	pmax			
	comp=Z,59nm,1.0s								
CLL					MLR	MLR			
	comp=Z,2µm,22.4s								
CLL	**Collm**	**76.91**	**357**	⇑	*i*P	**P**	**19 23 36.5**	**-0.2**
	comp=Z,59nm,1.0s								
CLL					*e*pP	**pP**	**19 23 44.0**	**-3.1**	
CLL					*e*PP	**PP**	**19 26 33.0**	**+3.8**	
CLL					*e*PPP	PPP	19 28 18.0		
CLL					*e*S	**S**	**19 33 17.0**	**-5.0**	
CLL					*e*PPS	PPS	19 34 20.0		
CLL					*e*SS	**SS**	**19 38 23.0**	**+5.6**	
CLL					*e*		19 42 42.0		
CLL					*e*SSSS		19 44 00.0		
CLL					*e*SKKPdf	**SKKPdf**	**19 46 04.0**	**+5.4**	
CLL					Lm	MLR	20 01 00.0		
	comp=N,2µm,20.5s								
CLL					Lm	MLR	20 01 00.0		
	comp=E,1µm,19.1s								
NEUB	**Neuenburg**	**77.05**	**358**		*e*P	**P**	**19 23 37.5**	**0.0**
	comp=Z,133nm,1.0s								
KOLN	**Koldanda**	**77.14**	**299**		*e*P	**P**	**19 23 38.6**	**-0.1**
	comp=Z,205nm,1.0s								
KOLN	**Koldanda**	**77.14**	**299**		*e*P	**P**	**19 23 38.6**	**-0.1**
	comp=Z,205nm,1.0s								
PYUN	**Piuthan**	**77.21**	**299**		*e*P	**P**	**19 23 39.3**	**+0.2**
PYUN	**Piuthan**	**77.21**	**299**		*e*P	**P**	**19 23 39.3**	**+0.2**
KSP	**Ksiaz**	**77.24**	**355**		*e*P	**P**	**19 23 38.4**	**-0.1**
KSP					LMZ	LR	20 01 59.1		
	comp=Z,2µm,19.9s								
KSP	**Ksiaz**	**77.24**	**355**	⇑	*e*P	**P**	**19 23 38.5**	**-0.1**
KSP					*e**PP	**pP**	**19 23 47.3**	**-1.6**	
KSP					*e*S	**S**	**19 33 22.0**	**-3.6**	
KSP					MLR	MLR			
	comp=Z,5µm,19.9s								
DLH	**Dalhousie**	**77.28**	**307**		*e*P	**P**	**19 23 40.5**	**+1.1**
FBE	**Freiberg**	**77.29**	**357**		*e*P	**P**	**19 23 39.1**	**+0.2**
	comp=Z,124nm,1.1s								
BRG	**Berggiesshubel**	**77.32**	**357**	*i*	P	**P**	**19 23 38.9**	**-0.1**
	comp=Z,92nm,1.1s								
BRG				*i*			19 23 49.2		
	comp=Z,35nm,1.0s								
BRG				*i*			19 24 14.6		
	comp=Z,29nm,1.2s								
BRG					PP	**PP**	**19 26 37.0**	**+4.4**	
	comp=Z,17nm,1.6s								
BRG					PKKS		19 45 56.0		
	comp=Z,11nm,1.4s								
BRG					PKPPKP	P'P'df	19 50 36.5	-17	
	comp=Z,23nm,1.9s								
BRG									
	comp=N,2µm,20.4s								
BRG									
	comp=E,2µm,20.1s								
BRG									
	comp=Z,2µm,20.4s								
BRG	**Berggiesshubel**	**77.32**	**357**		*e*P	**P**	**19 23 38.8**	**-0.2**
	comp=Z,92nm,1.1s								
BRG	**Berggiesshubel**	**77.32**	**357**	*i*	P	**P**	**19 23 38.9**	**-0.1**
BRG				*i*			19 23 49.2		
BRG							19 26 37.0		
BRG					pmax	pmax			
	comp=Z,92nm,1.1s								
BRG					MLR	MLR			
	comp=N,2µm,20.4s								
BRG					MLR	MLR			
	comp=Z,2µm,20.4s								
BRG					MLR	MLR			
	comp=E,2µm,20.1s								
BEBN	**Eben Emael**	**77.46**	**2**		P	**P**	**19 23 38.9**	**-0.9**
	comp=Z,23nm,1.1s								
UBBA	**Unterbreizbach**	**77.46**	**359**		*e*P	**P**	**19 23 40.8**	**+1.1**
	comp=Z,697nm,4.1s								
HGN	**Heimansgroeve**	**77.50**	**2**		*e*P	**P**	**19 23 40.0**	**0.0**
	comp=Z,115nm,1.1s								
TBI	**Tubuai**	**77.52**	**159**		*e*PP	PP	19 26 36.9	+1.2	
	comp=Z,161nm,31.2s								
TBI					*e*S	**S**	**19 33 27.8**	**-1.1**	
	comp=Z,4µm,30.8s								
TBI					*e*SS	**SS**	**19 38 28.8**	**-0.4**	
	comp=Z,996nm,28.2s								
TBI					*e*LR	LR	19 47 38.2		
	comp=Z,3µm,25.5s,baz=342								
UPC	**Upice**	**77.59**	**355**		*e*P	**P**	**19 23 40.5**	**-0.1**
MOX	**Moxa**	**77.61**	**358**		*e*P	**P**	**19 23 40.7**	**0.0**
	comp=Z,81nm,1.0s								
MOX					*e*L	L	20 03 34.5		
	comp=Z,2µm,20.8s								
MOX	**Moxa**	**77.61**	**358**		*e*P	**P**	**19 23 40.7**	**0.0**
MOX					pmax	pmax			
	comp=Z,81nm,1.0s								
MOX					MLR	MLR			
	comp=Z,2µm,20.8s								
OJC	**Ojcow**	**77.63**	**353**		*e*P	**P**	**19 23 40.5**	**-0.3**
OJC					*e*PcP	**PcP**	**19 23 50.7**	**-0.2**	
OJC					*e*S	**S**	**19 33 33.2**	**+3.3**	
OJC					*e*SS	SS	19 38 36.1	+7.8	
OJC					L	L	19 58 16.3		
	comp=Z,2.7nm,22.4s								
OJC	**Ojcow**	**77.63**	**353**		*e*P	**P**	**19 23 40.5**	**-0.3**
OJC					*e*		19 23 50.7		
OJC					*e*S	**S**	**19 33 33.2**	**+3.3**	
OJC					*e*SS	SS	19 38 36.1	+7.8	
OJC					MLR	MLR			
	comp=Z,3µm,22.4s								
LVV	**L'vov**	**77.63**	**350**		*e*P	**P**	**19 23 39.8**	**-1.0**
LVV					*e*S	**S**	**19 33 31.8**	**+1.9**	
LVV					MLR	MLR			
	comp=N,2µm,23.0s								
LVV					MLR	MLR			
	comp=E,1µm,23.0s								
LVV					MLR	MLR			
	comp=Z,3µm,23.0s								
PVCC	**Panska Ves**	**77.64**	**356**		*e*P	**P**	**19 23 41.1**	**+0.3**
PVCC					AMS	AMS	20 02 00.0		
	comp=Z,3µm,22.4s								
MEM	**Membach**	**77.65**	**2**		P	**P**	**19 23 40.3**	**-0.6**
	comp=Z,49nm,1.2s								
SNF	**Seneffe**	**77.71**	**3**		P	**P**	**19 23 41.0**	**-0.2**
	comp=Z,31nm,1.2s								
DPC	**Dobruska-Polom**	**77.73**	**355**		*e*P	**P**	**19 23 41.7**	**+0.3**
DPC					*e*S	**S**	**19 33 31.9**	**+0.9**	
DPC					*ex*	x	19 39 00.2		
DPC					AMS	AMS	20 02 00.0		
	comp=Z,2µm,14.8s								
PLN	**Plauen**	**77.76**	**358**		*e*P	**P**	**19 23 41.5**	**0.0**
	comp=Z,169nm,1.0s								
WERD	**Werda**	**77.79**	**358**		*e*P	**P**	**19 23 41.7**	**0.0**
	comp=Z,45nm,1.2s								
TANN	**Tannenbergstha**	**77.82**	**358**		*e*P	**P**	**19 23 42.1**	**+0.2**
	comp=Z,47nm,1.2s								
BCLA	**Clavier**	**77.83**	**2**		P	**P**	**19 23 42.0**	**+0.1**
	comp=Z,40nm,1.1s								
GUNZ	**Gunzen**	**77.88**	**358**		*e*P	**P**	**19 23 42.3**	**+0.1**
	comp=Z,49nm,1.2s								
WERN	**Wernitzgruen**	**77.95**	**358**		*e*P	**P**	**19 23 42.9**	**+0.3**
	comp=Z,79nm,1.1s								
KWP	**Kalwaria Pacla**	**77.96**	**351**		*e*P	**P**	**19 23 42.5**	**-0.1**
KWP					LMZ	LR	19 58 43.5		
	comp=Z,4µm,24.5s								
KWP	**Kalwaria Pacla**	**77.96**	**351**		*e*P	**P**	**19 23 42.5**	**-0.1**
KWP					MLR	MLR			
	comp=Z,4µm,24.5s								
KWP	**Kalwaria Pacla**	**77.96**	**351**		*e*P	**P**	**19 23 42.3**	**-0.4**
	comp=Z,140nm,1.0s								
KWP	**Kalwaria Pacla**	**77.96**	**351**	⇑	*i*P	**P**	**19 23 42.4**	**-0.2**
NKC	**Novy Kostel**	**78.00**	**358**		*e*P	**P**	**19 23 43.3**	**+0.4**
NKC					*ex*	x	19 33 18.8		
NKC					*ex*	x	19 39 15.4		
NKC					AMS	AMS	20 02 10.0		
	comp=Z,2µm,21.0s								
DDI	**Dehra Dun**	**78.03**	**304**		*e*P	**P**	**19 23 42.0**	**-1.4**
TNS	**Taunus Mts**	**78.06**	**0**		*e*P	**P**	**19 23 43.2**	**-0.1**
	comp=Z,50nm,0.9s								
TNS	**Taunus Mts**	**78.06**	**0**		*e*P	**P**	**19 23 43.2**	**-0.1**
TNS					pmax	pmax			
	comp=Z,50nm,0.9s								
PRA	**Prague**	**78.10**	**356**		P	**P**	**19 23 43.0**	**-0.4**
OKC	**Ostrava-Krasne**	**78.13**	**354**		*e*P	**P**	**19 23 43.9**	**+0.3**
OKC					*ex*	x	19 39 23.4		
OKC					AMS	AMS	20 01 20.0		
	comp=Z,2µm,22.2s								
DOU	**Dourbes**	**78.13**	**3**		P	**P**	**19 23 43.6**	**0.0**
	comp=Z,35nm,1.0s								
GIVF	**Givet**	**78.13**	**3**	⇑	*i*P	**P**	**19 23 43.7**	**+0.1**
	comp=Z,190nm,1.1s								
BAIF	**Baives**	**78.16**	**3**	⇑	*i*P	**P**	**19 23 43.9**	**+0.2**
	comp=Z,151nm,1.0s								
PRU	**Pruhonice**	**78.18**	**356**		*e*P	**P**	**19 23 43.8**	**0.0**
PRU					*e*S	S	19 33 42.6	+6.9	
PRU					*ex*	x	19 39 08.4		
PRU					AMS	AMS	20 02 20.0		
	comp=Z,3µm,21.6s								
MORC	**Moravsky Berou**	**78.23**	**354**	⇑	P	**P**	**19 23 44.1**	**-0.1**
MORC	**Moravsky Berou**	**78.23**	**354**		*e*P	**P**	**19 23 43.9**	**-0.4**
	comp=Z,49nm,1.0s								
MORC	**Moravsky Berou**	**78.23**	**354**	⇑	*i*P	**P**	**19 23 44.1**	**-0.1**
GTBY	**Guantanamo Bay**	**78.24**	**73**		PFAKE		19 24 00.0	+15	
GTBY					LR	LR			
	comp=Z,2µm,20.0s								
STHS	**Stebnicka Huta**	**78.31**	**352**		*e*P	**P**	**19 23 44.5**	**-0.1**
STHS					pmax	pmax			
	comp=Z,40nm,1.0s								
STHS	**Stebnicka Huta**	**78.31**	**352**		*e*P	**P**	**19 23 44.5**	**-0.1**
NIE	**Niedzica**	**78.39**	**352**		*e*P	**P**	**19 23 44.9**	**-0.2**
NIE					*e*pP	**pP**	**19 23 55.6**	**+0.2**	
NIE	**Niedzica**	**78.39**	**352**		*e*P	**P**	**19 23 44.9**	**-0.2**
NIE					*e**PP	**pP**	**19 23 55.6**	**+0.2**	
ABH	**Alteburg**

comp=Z,105nm,1.1s
KHC Kasperske Hory 79.07 357 *e*P **P 19 23 48.9 +0.1**
comp=Z,105nm,1.1s
KHC Kasperske Hory 79.07 357 *e*P **P 19 23 49.3 +0.5**
KHC *ep*P **pP 19 23 59.5 +0.3**
KHC *ex* x 19 24 24.5
KHC *e*S **S 19 33 50.4 +5.0**
KHC *ex* x 19 39 26.2
KHC AMS AMS 20 06 00.0
comp=Z,3µm,21.1s
WET Wettzell 79.08 357 *e*P **P 19 23 49.1 +0.2**
comp=Z,56nm,1.2s
WET Wettzell 79.08 357 *e*P **P 19 23 49.1 +0.2**
WET pmax pmax
comp=Z,56nm,1.2s
FLN La Foliniere 79.22 6⇑*i*P **P 19 23 49.3 -0.3**
comp=Z,204nm,1.1s
FLN *e*R
comp=Z,3µm,20.5s
LANF Langenberg 79.31 1 *e*P **P 19 23 49.7 -0.4**
LANF Langenberg 79.31 1 *e*P **P 19 23 49.7 -0.4**
LANF Langenberg 79.31 1 *e*P **P 19 23 49.7 -0.4**
GRTK Grand Turk 79.33 69 PFAKE 19 24 00.0 +9.4
GRTK LR LR
comp=Z,4µm,22.0s
GEC2 GERESS Array S 79.35 357 *e*P **P 19 23 50.4 -0.1**
comp=Z,61nm,1.1s
GEC2 GERESS Array S 79.35 357 *e*P **P 19 23 50.4 -0.1**
GEC2 pmax pmax
comp=Z,61nm,1.1s
GERES GERESS Array B 79.35 357 P **P 19 23 50.4 -0.1**
comp=Z,32nm,0.9s,baz=7.6,slow=4.0,SNR=152
GERES GERESS Array B 79.35 357 P **P 19 23 50.4 -0.1**
GERES GERESS Array B 79.35 357 P **P 19 23 50.4 -0.1**
KOLL Kolacno 79.37 353 *e*P **P 19 23 51.1 +0.7**
KOLL Kolacno 79.37 353 *e*P **P 19 23 51.0 +0.7**
LDF La Druitiere 79.42 6⇑*i*P **P 19 23 50.2 -0.5**
comp=Z,101nm,0.7s
VYHS Vyhne 79.42 353 *e*P **P 19 23 50.7 0.0**
VYHS pmax pmax
comp=Z,30nm,1.1s
VYHS Vyhne 79.42 353 *e*P **P 19 23 50.7 0.0**
VYHS Vyhne 79.42 353 *e*S **SKSac 19 34 04.0 -0.3**
VYHS *e*SS SS 19 39 05.7 +10
ASOR Ausora 79.43 303 *e*P **P 19 23 50.8 -0.3**
ROSF Rostrenen 79.43 8⇑*i*P **P 19 23 50.5 -0.3**
comp=Z,50nm,0.8s
TRPA Tarpa 79.46 351⇑*i*P **P 19 23 50.7 -0.2**
TRPA Tarpa 79.46 351⇑*e*P **P 19 23 50.7 -0.2**
SMOL Smolenice 79.50 354 *e*P **P 19 23 51.8 +0.7**
SMOL Smolenice 79.50 354 *e*P **P 19 23 51.8 +0.7**
STU Stuttgart 79.52 360 *e*P **P 19 23 51.2 0.0**
comp=Z,89nm,1.2s
STU Stuttgart 79.52 360 *e*P **P 19 23 51.2 0.0**
STU pmax pmax
comp=Z,71nm,1.0s
STU Stuttgart 79.52 360 *e*P **P 19 23 51.2 0.0**
comp=Z,71nm,1.0s
MAK Makhachkala 79.54 332 *e*P **P 19 23 49.7 -1.7**
MAK *e* 19 23 58.4
MAK *e* 19 26 54.5
MAK *e*PPP x 19 28 45.2
MAK *e*S **S 19 33 51.4 +1.0**
MAK *e* 19 34 08.7
MAK pmax pmax
comp=Z,236nm,1.6s
GRR Gorron 79.57 6⇑*i*P **P 19 23 51.4 -0.1**
comp=Z,200nm,1.0s
SGMF Saint Gilles 79.58 8⇑*i*P **P 19 23 51.4 -0.1**
comp=Z,102nm,0.9s
BUR08 Bucovina Ar. S 79.64 349 *e*P **P 19 23 51.1 -1.0**
BURAR Bucovina Array 79.67 349⇓*i*P **P 19 23 52.1 -0.1**
PAGF Fort de Pagny 79.70 2⇑*i*P **P 19 23 52.8 +0.6**
comp=Z,74nm,0.9s
MEZF Maizieres J'vi 79.74 2⇑*i*P **P 19 23 52.8 +0.4**
comp=Z,127nm,1.0s
JTS JuntasAbangare 79.74 86 PFAKE 19 24 00.0 +7.0
JTS LR LR
comp=Z,1µm,22.0s
BISR Bishrakh 79.75 304 *e*P **P 19 23 51.9 -0.9**
SBUM Sibu 79.76 261 P **P 19 23 53.4 +0.4**
SBUM Sibu 79.76 261 P **P 19 23 53.6 +0.6**
comp=Z,28nm,1.1s,comp=Z,835nm
NDI New Delhi 79.78 304 *e*P **P 19 23 54.0 +1.0**
IAS Iasi 79.78 347 P **P 19 23 52.4 -0.2**
KIS Kishinev 79.79 346 *e*P **P 19 23 51.0 -1.7**
KIS *e*S **S 19 33 49.0 -4.0**
KIS *e* 19 34 05.0
KIS *e*SS **SS 19 38 57.0 -3.8**
KIS pmax pmax
comp=Z,600nm,8.0s
KIS MLR MLR
comp=Z,4µm,18.0s
KIS MLR MLR
comp=N,3µm,20.0s
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,4µm,20.0s
KIS Kishinev 79.79 346 *e*P **P 19 23 51.0 -1.7**
comp=Z,600nm,8.0s
KIS *e*S **S 19 33 49.0 -4.0**
KIS *e*ScS **SKSac 19 34 05.0 -1.9**
BMR Baia Mare 79.81 350 P **P 19 23 53.3 +0.4**
BMR Baia Mare 79.81 350⇓*i*P **P 19 23 53.2 +0.4**
ZST Bratislava 79.83 354 *e*P **P 19 23 54.0 +1.1**
ZST pmax pmax
comp=Z,85nm,1.1s
ZST Bratislava 79.83 354 *e*P **P 19 23 54.0 +1.1**
ZST *e*S **S 19 33 54.2 +0.8**
CDF Champ du Feu 79.87 1⇑*i*P **P 19 23 53.3 0.0**
comp=Z,88nm,1.0s
PSZ Piszkesteto 79.91 352 P **P 19 23 54.5 +1.0**
PSZ Piszkesteto 79.91 352 *e*P **P 19 23 53.6 +0.1**
comp=Z,66nm,1.2s
PSZ Piszkesteto 79.91 352⇑*i*P **P 19 23 53.7 +0.2**
PSZ Piszkesteto 79.91 352⇑*e*P **P 19 23 53.7 +0.2**
BHGR Bahadurgarh 79.92 304 *e*P **P 19 23 53.4 -0.3**
KIV Kislovodsk 79.92 336*c i*P **P 19 23 53.2 -0.4**
KIV *e* 19 26 53.4
KIV *e*PPP x 19 28 45.2
KIV *e*S **S 19 33 55.5 +0.8**
KIV *e*SS **SS 19 39 06.0 +2.8**
KIV pmax pmax
comp=Z,85nm,1.1s
KIV pmax pmax
comp=Z,327nm,6.1s
KIV Kislovodsk 79.92 336 *e*P **P 19 23 53.6 -0.1**
comp=Z,72nm,1.0s
KIV Kislovodsk 79.92 336 P **P 19 23 54.4 +0.8**
comp=Z,434nm,0.9s,SNR=14
BFO Black Forest 79.96 0 *e*P **P 19 23 53.6 -0.1**
comp=Z,66nm,1.2s
BFO Black Forest 79.96 0 *e*P **P 19 23 53.6 -0.1**
BFO pmax pmax
comp=Z,66nm,1.2s
BFO Black Forest 79.96 0 *e*P **P 19 23 53.3 -0.3**
comp=Z,76nm,1.3s
BFO LR LR
comp=Z,2µm,20.0s
AYAN Aya Nagar 79.99 304 *e*P **P 19 23 54.4 +0.3**
AYAN AMb AMB 19 23 54.8
comp=Z,88nm,1.2s
SFTF Sexfontaines 80.04 2⇑*i*P **P 19 23 54.2 +0.1**
comp=Z,327nm,1.0s
THEF They Montfort 80.04 2 *e*P **P 19 23 53.9 -0.2**
THEF They Montfort 80.04 2 *e*P **P 19 23 53.9 -0.2**
THEF They Montfort 80.04 2 *e*P **P 19 23 53.9 -0.2**
ECH Echery 80.06 1 *e*P **P 19 23 53.5 -0.7**
ECH pmax pmax
comp=Z,82nm,1.0s
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 80.06 1 *e*P **P 19 23 53.5 -0.7**
comp=Z,82nm,1.0s
ECH LR LR
comp=Z,2µm,19.0s
ECH Echery 80.06 1 *e*P **P 19 23 53.9 -0.3**
FUR Furstenfeldbru 80.10 358 *e*P **P 19 23 54.6 +0.2**
comp=Z,128nm,1.3s
FUR Furstenfeldbru 80.10 358 *e*P **P 19 23 54.6 +0.2**
FUR pmax pmax
comp=Z,128nm,1.3s
LIBD Limburg 80.14 1 *e*P **P 19 23 54.9 +0.3**
LIBD Limburg 80.14 1 *e*P **P 19 23 54.9 +0.3**

CONA Conrad Observa 80.17 355 *i*P **P 19 23 55.3 +0.4**
comp=Z,121nm,1.2s
CONA Conrad Observa 80.17 355 *i*P **P 19 23 55.3 +0.4**
comp=Z,121nm,1.2s,SNR=54
SPAK Spaichingen-Ko 80.19 360 *e*P **P 19 23 54.9 -0.1**
HAU Haudompre 80.26 2⇑*i*P **P 19 23 55.4 +0.1**
comp=Z,173nm,1.1s
HAU *e*R
comp=Z,3µm,21.2s
MOA Molln 80.33 356⇑*i*P **P 19 23 55.7 0.0**
comp=Z,40nm,1.1s
MOA Molln 80.33 356⇑*i*P **P 19 23 55.7 0.0**
comp=Z,40nm,1.1s,SNR=9.2
ANN Anapa 80.35 340 *e*P P 19 23 46.2 -10
ANN pmax pmax
comp=Z,92nm,1.1s
ANN MLR MLR
comp=N,3µm,24.0s
ANN MLR MLR
comp=E,658nm,24.0s
ANN MLR MLR
comp=Z,3µm,24.0s
SOP Sopron 80.38 355⇑*e*P **P 19 23 56.4 +0.5**
LEOM Leova 80.39 346⇑*i*P **P 19 23 56.4 +0.5**
LEOM Leova 80.39 346⇑*i*P **P 19 23 56.4 +0.5**
FELD Feldberg im Sc 80.41 0 *e*P **P 19 23 55.6 -0.7**
MOF Molkenrain 80.43 1 *e*P **P 19 23 55.6 -0.7**
MOF Molkenrain 80.43 1 *e*P **P 19 23 55.6 -0.7**
MOF Molkenrain 80.43 1 *e*P **P 19 23 55.6 -0.7**
HINF Hinteralfeld 80.46 1⇑*i*P **P 19 23 56.3 -0.1**
comp=Z,96nm,1.0s
RJOB Jonsberg 80.49 357 *e*P **P 19 23 56.6 0.0**
comp=Z,54nm,1.0s
ABKT Ailbek 80.53 322 P **P 19 23 56.7 -0.3**
comp=Z,239nm,1.1s,SNR=26
PKSG 80.55 353⇓*e*P **P 19 23 57.5 +0.7**
TESR 80.57 348⇓*i*P **P 19 23 56.8 -0.2**
AGRA Agra 80.58 302 *e*P **P 19 23 56.9 -0.4**
AGRA AMb AMB 19 23 58.0
comp=Z,138nm,1.0s
PKST T"s 80.71 354⇓*e*P **P 19 23 58.4 +0.7**
ZEI Tsey 80.72 335 *e*P **P 19 23 57.4 -0.7**
ZEI pmax pmax
comp=Z,75nm,1.1s
DRGR 80.76 350 P **P 19 23 57.7 -0.4**
DRGR 80.76 350⇑*i*P **P 19 23 57.4 -0.7**
RETA Reutte 80.79 359 *i*P **P 19 23 58.4 +0.2**
comp=Z,68nm,1.2s
RETA Reutte 80.79 359 *i*P **P 19 23 58.4 +0.2**
comp=Z,68nm,1.2s,SNR=12
BBS Basel-Blauen 80.82 1 *e*P **P 19 23 57.9 -0.4**
BBS Basel-Blauen 80.82 1 *e*P **P 19 23 57.9 -0.4**
CTA Charters Tower 80.83 220 P **P 19 23 58.1 -0.4**
comp=Z,5nm,0.8s,baz=14,slow=6.3,SNR=12
CTA Charters Tower 80.83 220 *e*P **P 19 23 57.9 -0.6**
comp=Z,19nm,0.9s
CTA Charters Tower 80.83 220 P **P 19 23 58.1 -0.4**
CTA Charters Tower 80.83 220 P **P 19 23 58.1 -0.4**
CTAO Charters Tower 80.83 220 *e*P **P 19 23 57.8 -0.7**
CTAO pmax pmax
comp=Z,52nm,1.2s
CTAO MLR MLR
comp=Z,4µm,22.0s
CTAO Charters Tower 80.83 220 *e*P **P 19 23 57.8 -0.7**
comp=Z,52nm,1.2s
CTAO LR LR
comp=Z,4µm,22.0s
ARSA Arzberg 80.86 355⇑*i*P **P 19 23 59.0 +0.4**
comp=Z,68nm,1.1s
ARSA Arzberg 80.86 355⇑*i*P **P 19 23 59.0 +0.4**
comp=Z,68nm,1.1s,SNR=17
SIM Simferopol' 80.88 342 *e*P P 19 23 52.0 -6.6
SIM *i*S S 19 33 53.0 -12
SIM *e*SS **SS 19 39 17.0 -0.2**
SIM *e*SSS SSS 19 42 41.0
SIM pmax pmax
comp=Z,71nm,0.7s
SIM MLR MLR
comp=Z,5µm,22.0s
HYF Humbligny 80.89 4⇑*i*P **P 19 23 59.1 +0.5**
GHRR 80.91 347⇓*i*P **P 19 23 59.2 +0.4**
MOTA Moosalm 80.92 358 *i*P **P 19 23 59.3 +0.2**
MOTA pmax pmax
comp=Z,110nm,1.0s
MOTA Moosalm 80.92 358 *i*P **P 19 23 59.3 +0.2**
comp=Z,110nm,1.0s
MOTA Moosalm 80.92 358 *i*P **P 19 23 59.3 +0.2**
comp=Z,110nm,1.0s,SNR=41
WATA Walderalm 80.92 358⇑*i*P **P 19 23 59.3 +0.3**
WATA pmax pmax
comp=Z,80nm,1.0s
WATA Walderalm 80.92 358⇑*i*P **P 19 23 59.3 +0.3**
comp=Z,80nm,1.0s
WATA Walderalm 80.92 358⇑*i*P **P 19 23 59.3 +0.3**
comp=Z,80nm,1.0s,SNR=18
LOMF Lomont 80.93 1 *e*P **P 19 23 58.4 -0.5**
LOMF Lomont 80.93 1 *e*P **P 19 23 58.4 -0.5**
LOMF Lomont 80.93 1 *e*P **P 19 23 58.4 -0.5**
LOR Lormes 80.94 3⇑*i*P **P 19 23 59.0 +0.1**
comp=Z,241nm,1.1s
LOR *e*R
comp=Z,4µm,21.0s
KHET Khetri 80.99 304 *e*P **P 19 23 59.2 -0.3**
WTTA Wattenberg 80.99 358⇓*i*P **P 19 23 59.8 +0.4**
WTTA pmax pmax
comp=Z,146nm,1.3s
WTTA Wattenberg 80.99 358⇓*i*P **P 19 23 59.8 +0.4**
comp=Z,146nm,1.3s
WTTA Wattenberg 80.99 358⇓*i*P **P 19 23 59.8 +0.4**
comp=Z,146nm,1.3s,SNR=37
DAVA Damuels 81.00 359⇑*i*P **P 19 23 59.4 0.0**
comp=Z,53nm,1.0s
DAVA Damuels 81.00 359⇑*i*P **P 19 23 59.4 0.0**
comp=Z,53nm,1.0s,SNR=18
SOC Sochi 81.00 338 *e*P **P 19 23 59.1 -0.2**
SOC *e*PPP x 19 28 54.8
SOC *e*S **S 19 34 03.1 -2.7**
SOC pmax pmax
comp=Z,62nm,1.1s
ONI Oni 81.00 335 P **P 19 24 00.1 +0.7**
SSF Saint Saulge 81.13 4⇑*i*P **P 19 24 00.1 +0.2**
comp=Z,140nm,0.8s
KBA Koelnbreinsper 81.13 357 *i*P **P 19 24 00.8 +0.7**
KBA pmax pmax
comp=Z,235nm,1.1s
KBA Koelnbreinsper 81.13 357 *i*P **P 19 24 00.8 +0.7**
comp=Z,235nm,1.1s
KBA Koelnbreinsper 81.13 357 *i*P **P 19 24 00.8 +0.7**
comp=Z,235nm,1.1s,SNR=80
KAPI Kappang 81.21 250 P **P 19 23 59.7 -1.0**
comp=Z,35nm,0.9s,baz=213,slow=5.0,SNR=19
KAPI Kappang 81.21 250 *e*P **P 19 24 00.0 -0.7**
comp=Z,169nm,1.5s
KAPI Kappang 81.21 250 P **P 19 24 00.2 -0.5**
comp=Z,70nm,1.4s,comp=Z,2µm
FETA Feichten 81.25 359⇓*i*P **P 19 24 01.3 +0.5**
comp=Z,146nm,1.0s
FETA Feichten 81.25 359⇓*i*P **P 19 24 01.3 +0.5**
comp=Z,146nm,1.0s,SNR=38
DOPR Dopca 81.27 348⇑*i*P **P 19 24 01.4 +0.7**
PKS9 Tamasi 81.36 353⇓*e*P **P 19 24 01.3 +0.2**
RKT Rikitea 81.36 146 *e*S **S 19 34 11.2 +1.5**
comp=Z,1µm,30.2s
RKT *e*LR LR 19 49 23.4
comp=Z,6µm,22.5s,baz=335
GOR Gori 81.39 334 P **P 19 24 04.2 +2.7**
AVF Avril sur Loir 81.39 4⇑*i*P **P 19 24 01.4 +0.1**
comp=Z,229nm,1.1s
MFF Saint Martin d 81.40 6⇑*i*P **P 19 24 01.5 +0.2**
comp=Z,368nm,1.1s
TBLG Delisi 81.46 334 *e*P **P 19 24 02.8 +1.0**
TBLG Delisi 81.46 334 P **P 19 24 02.9 +1.0**
SOKA Soboth 81.46 356 P **P 19 24 01.9 +0.1**
comp=Z,126nm,1.1s
ABTA Abfaltersbach 81.49 357⇑*i*P **P 19 24 01.8 -0.2**
comp=Z,111nm,1.3s
ABTA Abfaltersbach 81.49 357⇑*i*P **P 19 24 01.8 -0.2**
comp=Z,111nm,1.3s,SNR=29
PERS Pernice 81.50 356 *i*P **P 19 24 02.1 +0.2**
DAVOX Davos/Dischmat 81.50 359 P **P 19 24 02.8 +0.6**
comp=Z,48nm,0.7s,baz=342,slow=3.9,SNR=65
DAVOX Davos/Dischmat 81.50 359 P **P 19 24 02.8 +0.6**
DAVOX Davos/Dischmat 81.50 359 P **P 19 24 02.8 +0.6**
DGRG David-gareji 81.54 333 P **P 19 24 02.9 +0.6**
TLCR 81.56 346⇓*i*P **P 19 24 02.2 0.0**
TLCR 81.56 346⇓*i*P **P 19 24 02.2 0.0**

MYKA Terra Mystica 81.57 357⇑*i*P **P 19 24 02.1 -0.3**
comp=Z,46nm,1.3s
MYKA Terra Mystica 81.57 357⇑*i*P **P 19 24 02.1 -0.3**
comp=Z,46nm,1.3s
BEHE Becsehely 81.57 354⇑*e*P **P 19 24 02.8 +0.5**
BGF Bois d'Agland 81.61 4⇑*i*P **P 19 24 02.5 0.0**
comp=Z,286nm,1.2s
GRER 81.64 347⇓*i*P **P 19 24 03.4 +0.8**
OBKA Obir 81.65 356 *i*P **P 19 24 03.0 +0.1**
comp=Z,44nm,0.9s
OBKA Obir 81.65 356 *i*P **P 19 24 02.9 +0.1**
comp=Z,44nm,0.9s,SNR=12
CABF La Chapelle 81.65 2⇑*i*P **P 19 24 03.4 +0.6**
comp=Z,334nm,1.1s
MLR Muntele Rosu 81.67 348 P **P 19 24 03.3 +0.3**
comp=Z,6.5nm,1.0s,baz=356,slow=2.6,SNR=23
MLR Muntele Rosu 81.67 348 P **P 19 24 03.3 +0.3**
MLR Muntele Rosu 81.67 348 P **P 19 24 03.3 +0.3**
MLR Muntele Rosu 81.67 348⇓*i*P **P 19 24 03.7 +0.7**
CFR Carcaliu 81.67 346⇑*i*P **P 19 24 03.2 +0.4**
CFR Carcaliu 81.67 346⇑*i*P **P 19 24 03.2 +0.4**
KSM Kuching 81.69 262 *e*P **P 19 24 03.4 0.0**
comp=Z,75nm,1.0s
KSM Kuching 81.69 262 P **P 19 24 03.9 +0.6**
KSM Kuching 81.69 262 P **P 19 24 04.1 +0.8**
comp=Z,84nm,1.1s,comp=Z,1µm
PKSM Moragy 81.70 353⇑*i*P **P 19 24 02.2 -0.8**
PKSM Moragy 81.70 353⇑*i*P **P 19 24 02.2 -0.8**
PKSM Moragy 81.70 353⇓*e*P **P 19 24 02.6 -0.4**
TUE Stuetta 81.82 360 *e*P **P 19 24 04.5 +0.6**
comp=Z,85nm,1.0s
VOIR 81.83 348⇓*i*P **P 19 24 04.3 +0.5**
VOIR 81.83 348⇓*i*P **P 19 24 04.3 +0.5**
TCF Toulx Ste Croi 81.84 5⇑*i*P **P 19 24 03.7 -0.1**
comp=Z,132nm,1.0s
KBKI Kotabaru 81.94 254 P **P 19 24 03.3 -1.3**
comp=Z,55nm,1.1s,comp=Z,820nm
ISR Istrita 81.95 347⇑*i*P **P 19 24 04.8 +0.4**
ISR Istrita 81.95 347⇑*i*P **P 19 24 04.8 +0.4**
BZS Buzias 82.04 351 P **P 19 24 04.6 -0.1**
BZS Buzias 82.04 351⇑*i*P **P 19 24 03.9 -0.8**
RHK3 Tenkes 82.06 353⇑*e*P **P 19 24 03.9 -0.9**
AKH Akhalkalaki 82.09 334 P **P 19 24 06.0 +0.7**
LJU Ljubljana 82.12 356 *i*P **P 19 24 05.6 +0.4**
AGO Saint Agoulin 82.12 4 *e*P **P 19 24 05.5 +0.3**
AGO Saint Agoulin 82.12 4 *e*P **P 19 24 05.5 +0.3**
GZR Gura Zlata 82.14 350 P **P 19 24 05.2 -0.2**
GZR Gura Zlata 82.14 350⇑*i*P **P 19 24 04.8 -0.6**
OG35 Corcelles 82.21 2 *e*P **P 19 24 05.8 +0.1**
PLDF La Plantade 82.22 4 *e*P **P 19 24 06.4 +0.6**
PLDF La Plantade 82.22 4 *e*P **P 19 24 06.4 +0.6**
PLDF La Plantade 82.22 4 *e*P **P 19 24 06.4 +0.6**
JAVS Javornik 82.29 356 *i*P **P 19 24 05.2 -0.9**
TIRR Tirgusor 82.33 346⇑*i*P **P 19 24 05.5 -0.8**
TIRR Tirgusor 82.33 346⇑*i*P **P 19 24 05.5 -0.8**
PYM Petit Puy Mans 82.42 4 *e*P **P 19 24 07.1 +0.3**
PYM Petit Puy Mans 82.42 4 *e*P **P 19 24 07.1 +0.3**
PYM Petit Puy Mans 82.42 4 *e*P **P 19 24 07.1 +0.3**
SULR 82.42 347⇓*i*P **P 19 24 06.2 -0.5**
RSL Roselend 82.59 1 *e*P **P 19 24 09.2 +1.4**
RSL Roselend 82.59 1 *e*P **P 19 24 09.2 +1.4**
RSL Roselend 82.59 1 *e*P **P 19 24 09.2 +1.4**
BOJS Bojanci 82.62 355 *i*P **P 19 24 07.6 -0.2**
HUMR Humele 82.74 348⇑*i*P **P 19 24 08.3 -0.1**
LPL La Plagne 82.76 1⇑*i*P **P 19 24 10.0 +1.2**
comp=Z,45nm,0.8s
LPG La Plagne 82.78 1⇑*i*P **P 19 24 10.2 +1.2**
comp=Z,87nm,1.2s
RJF Les Rejaudoux 82.79 5⇑*i*P **P 19 24 08.6 -0.1**
comp=Z,91nm,1.0s
RJF *e*R
comp=Z,5µm,21.5s
BBKI Banjar Baru 82.86 255 P **P 19 24 10.3 +0.9**
comp=Z,48nm,1.6s,comp=Z,3µm
GNI Garni 82.93 333 P **P 19 24 10.4 +0.6**
comp=Z,19nm,1.0s,baz=4.8,slow=12
GNI Garni 82.93 333*c i*P **P 19 24 10.3 +0.6**
GNI pmax pmax
comp=Z,37nm,1.3s
GNI Garni 82.93 333 *e*P **P 19 24 09.6 -0.1**
comp=Z,39nm,1.0s
GNI LR LR
comp=Z,3µm,20.0s
LBL Lubilhac 82.95 4 *e*P **P 19 24 09.9 +0.3**
LBL Lubilhac 82.95 4 *e*P **P 19 24 09.9 +0.3**
LBL Lubilhac 82.95 4 *e*P **P 19 24 09.9 +0.3**
CAF Calviac 83.20 5⇑*i*P **P 19 24 11.2 +0.4**
comp=Z,206nm,1.2s
BNI Bardonecchia 83.22 1 *e*P **P 19 24 12.4 +1.3**
BNI pmax pmax
comp=Z,93nm,1.1s
BNI MLR MLR
comp=Z,2µm,22.0s
BNI Bardonecchia 83.22 1 *e*P **P 19 24 12.4 +1.3**
comp=Z,93nm,1.1s
BNI LR LR
comp=Z,2µm,22.0s
ORIF Oris-en-Rattie 83.34 2⇑*i*P **P 19 24 12.5 +0.8**
comp=Z,116nm,1.1s
ORIF *e*R
comp=Z,3µm,21.0s
VIVF Saint-Julien-l 83.37 3⇑*i*P **P 19 24 12.3 +0.6**
comp=Z,105nm,0.9s
MBDF Montbardon 83.55 1⇑*i*P **P 19 24 13.9 +1.1**
comp=Z,158nm,1.1s
PRD Provadia 83.72 346 *i*P **P 19 24 12.5 -0.9**
BCIP Isla Barro Col 83.76 83 PFAKE 19 24 20.0 +5.9
BCIP LR LR
comp=Z,934nm,21.0s
DIKM Dikmen 83.83 340 *e*P **P 19 24 14.8 +0.7**
EIDS Eidsvold 83.86 214 P **P 19 24 14.0 -0.2**
OG25 Le Caire 83.89 2 *e*P **P 19 24 16.1 +1.6**
OG25 Le Caire 83.89 2 *e*P **P 19 24 15.1 +0.6**
OG25 Le Caire 83.89 2 *e*P **P 19 24 16.1 +1.6**
BAYT Ayd"–ntepe-Bay 83.91 336 *e*P **P 19 24 15.1 +0.3**
AGRS Hanur-Agry 83.94 334 *e*P **P 19 24 15.3 +0.4**
GUMT Gumushane 84.01 337 *e*P **P 19 24 14.2 -1.1**
EZM Erzurum 84.06 335 *e*P **P 19 24 16.9 +1.2**
CLDR Calderan 84.09 333 *e*P **P 19 24 16.0 +0.2**
LASF Ste Croix 84.12 3⇑*i*P **P 19 24 16.3 +0.7**
comp=Z,132nm,1.1s
PBKI Pangkalan Bun 84.16 258 P **P 19 24 16.5 +0.4**
TOUF Mont Tournerai 84.27 1 *e*P **P 19 24 16.9 +0.4**
TOUF Mont Tournerai 84.27 1 *e*P **P 19 24 16.9 +0.4**
TOUF Mont Tournerai 84.27 1 *e*P **P 19 24 16.9 +0.4**
SMRF Simiane la Rot 84.28 2⇑*i*P **P 19 24 17.6 +1.2**
comp=Z,282nm,1.1s
AUTN L'Aution 84.29 1 *e*P **P 19 24 16.9 +0.2**
AUTN L'Aution 84.29 1 *e*P **P 19 24 16.9 +0.2**
AUTN L'Aution 84.29 1 *e*P **P 19 24 16.9 +0.2**
SAOF Saorge 84.30 1 *e*P **P 19 24 17.3 +0.8**
SAOF Saorge 84.30 1 *e*P **P 19 24 17.3 +0.8**
SAOF Saorge 84.30 1 *e*P **P 19 24 17.3 +0.8**
LRS Lares 84.33 68 *e*P **P 19 24 17.3 +0.3**
MVIF Mont Vial 84.39 1 *e*P **P 19 24 17.5 +0.4**
MVIF Mont Vial 84.39 1 *e*P **P 19 24 17.5 +0.4**
MVIF Mont Vial 84.39 1 *e*P **P 19 24 17.5 +0.4**
SBF Sospel 84.42 1⇑*i*P **P 19 24 17.3 +0.1**
comp=Z,388nm,1.1s
REVF Revere 84.54 1 *e*P **P 19 24 18.1 +0.3**
REVF Revere 84.54 1 *e*P **P 19 24 18.1 +0.3**
REVF Revere 84.54 1 *e*P **P 19 24 18.1 +0.3**
RSDY Resadiye-TOKAT 84.58 338 *e*P **P 19 24 18.3 +0.3**
TREF Trevaresse 84.62 2 *e*P **P 19 24 18.9 +0.8**
TREF Trevaresse 84.62 2 *e*P **P 19 24 18.9 +0.8**
TAVF Tavernes 84.65 2 *e*P **P 19 24 18.2 -0.1**
TAVF Tavernes 84.65 2 *e*P **P 19 24 18.2 -0.1**
CELP Cerrillos 84.65 68 *e*P **P 19 24 19.1 +0.5**
EZC Erzincan 84.71 337 *e*P **P 19 24 19.8 +1.0**
MTLF Montolieu 84.78 5⇑*i*P **P 19 24 19.5 +0.6**
comp=Z,194nm,1.0s
SJPF Ste Jean 84.79 7⇑*i*P **P 19 24 19.8 +0.8**
comp=Z,72nm,0.7s
SJG San Juan 84.86 67 P **P 19 24 19.6 0.0**
comp=Z,8.4nm,0.2s,baz=0.3,slow=24,SNR=3.6
SJG San Juan 84.86 67 P **P 19 24 19.6 0.0**
SJG pmax pmax
comp=Z,8.0nm,0.3s
SJG San Juan 84.86 67 P **P 19 24 19.6 0.0**
LARF Larrau 84.88 7 *e*P **P 19 24 20.4 +0.9**
LARF Larrau 84.88 7 *e*P **P 19 24 20.4 +0.9**
LMR La Mourre 84.94 2⇑*i*P **P 19 24 20.2 +0.5**
comp=Z,243nm,1.1s

BERF	**Bertagne**	**84.94**	**2**	*eP*		**P**	**19 24 20.1**	**+0.3**
BERF	**Bertagne**	**84.94**	**2**	*eP*		**P**	**19 24 20.1**	**+0.3**
EPF	**Esparros**	**84.98**	**6**	⇑*iP*		**P**	**19 24 19.7**	**-0.3**
	comp=Z,136nm,1.0s							
IPM	**Ipoh**	**85.05**	**271**	*eP*		**P**	**19 24 20.3**	**-0.3**
	comp=Z,97nm,0.9s							
IPM	**Ipoh**	**85.05**	**271**	P		**P**	**19 24 21.1**	**+0.5**
ETSF	**Étsaut**	**85.05**	**7**	⇑*iP*		**P**	**19 24 21.0**	**+0.6**
	comp=Z,227nm,1.1s							
DIM	**Dimitrovgrad**	**85.10**	**347**	*i* P		P	19 24 11.5	-9.0
MLS	**Moulis**	**85.11**	**6**	*eP*		**P**	**19 24 21.0**	**+0.4**
MLS	**Moulis**	**85.11**	**6**	*eP*		**P**	**19 24 21.0**	**+0.4**
VIEF	**Viey**	**85.11**	**6**	*eP*		**P**	**19 24 21.4**	**+0.7**
VIEF	**Viey**	**85.11**	**6**	*eP*		**P**	**19 24 21.4**	**+0.7**
PLD	**Plovdiv**	**85.16**	**348**	P		**P**	**19 24 20.5**	**-0.3**
PLD	**Plovdiv**	**85.16**	**348**	P		**P**	**19 24 20.5**	**-0.3**
RESF	**Ens**	**85.21**	**6**	*eP*		**P**	**19 24 22.0**	**+0.8**
RESF	**Ens**	**85.21**	**6**	*eP*		**P**	**19 24 22.0**	**+0.8**
MTP	**Monte Pirata**	**85.22**	**67**	*eP*		**P**	**19 24 21.3**	**-0.1**
	comp=Z,42nm,0.8s							
MYKOM	**Kota Tinggi**	**85.41**	**267**	P		**P**	**19 24 22.8**	**+0.4**
MYKOM	**Kota Tinggi**	**85.41**	**267**	P		P	19 24 26.7	+4.3
	comp=Z,44nm,1.6s,comp=Z,1μm							
KDZ	**Kurdzhali**	**85.51**	**347**	*i* P		**P**	**19 24 22.7**	**+0.1**
PTK	**Pertek**	**85.52**	**336**	*eP*		**P**	**19 24 23.9**	**+0.9**
PBRG	**Braganca**	**85.53**	**11**	*eP*		**P**	**19 24 23.1**	**+0.4**
	comp=Z,79nm,1.1s							
KGM	**Kluang**	**85.56**	**268**	P		**P**	**19 24 24.2**	**+1.1**
FRIM	**Kepong**	**85.65**	**270**	P		**P**	**19 24 23.8**	**+0.2**
PGF	**Pioggiola**	**85.74**	**360**	⇑*iP*		**P**	**19 24 24.0**	**+0.2**
	comp=Z,500nm,1.0s							
MMB	**Musomiste**	**85.79**	**349**	*i* P		**P**	**19 24 23.6**	**-0.4**
POLO	**Lamas de Olo**	**85.82**	**12**	*eP*		**P**	**19 24 24.6**	**+0.3**
	comp=Z,49nm,1.8s							
AQU	**L'Aquila**	**85.85**	**356**	*eP*		**P**	**19 24 24.7**	**+0.4**
AQU					pmax	pmax		
	comp=Z,120nm,1.1s							
AQU					MLR	MLR		
	comp=Z,2μm,22.0s							
AQU	**L'Aquila**	**85.85**	**356**	*eP*		**P**	**19 24 24.7**	**+0.4**
	comp=Z,120nm,1.1s							
AQU					LR	LR		
	comp=Z,2μm,22.0s							
AQU	**L'Aquila**	**85.85**	**356**	⇓*iP*		**P**	**19 24 24.9**	**+0.6**
WRAB	**Tennant Creek**	**85.88**	**230**	*eP*		**P**	**19 24 23.5**	**-1.0**
WRAB					pmax	pmax		
	comp=Z,67nm,1.0s							
WRAB	**Tennant Creek**	**85.88**	**230**	*eP*		**P**	**19 24 23.5**	**-1.0**
	comp=Z,67nm,1.0s							
WRAB	**Tennant Creek**	**85.88**	**230**	P		**P**	**19 24 23.0**	**-1.5**
	comp=Z,343nm,1.0s,SNR=22							
WB2	**Warramunga Arr**	**85.89**	**230**	*eP*		**P**	**19 24 23.6**	**-0.9**
WRA	**Warramunga Arr**	**85.89**	**230**	P		**P**	**19 24 23.7**	**-0.9**
	comp=Z,36nm,0.9s,baz=36,slow=5.6,SNR=211							
WRA	**Warramunga Arr**	**85.89**	**230**	P		**P**	**19 24 23.7**	**-0.9**
WRA	**Warramunga Arr**	**85.89**	**230**	P		**P**	**19 24 23.7**	**-0.9**
PVRL	**Vila Real**	**85.93**	**12**	*eP*		**P**	**19 24 25.1**	**+0.4**
	comp=Z,103nm,1.8s							
NVR	**Nevrokopi**	**86.01**	**349**	*eP*		**P**	**19 24 25.3**	**+0.2**
MVO	**Moncorvo**	**86.13**	**12**	*eP*		**P**	**19 24 25.9**	**+0.2**
	comp=Z,98nm,2.1s							
ALN	**Alexandroupoli**	**86.17**	**347**	P		**P**	**19 24 25.7**	**-0.1**
ALN	**Alexandroupoli**	**86.17**	**347**	P		**P**	**19 24 25.7**	**-0.1**
KAVA	**Kavala**	**86.27**	**348**	P		**P**	**19 24 26.4**	**+0.1**
KNT	**Kendrikon**	**86.31**	**349**	P		**P**	**19 24 26.8**	**+0.3**
KNT	**Kendrikon**	**86.31**	**349**	P		**P**	**19 24 26.8**	**+0.3**
BNN	**Bunyan**	**86.39**	**339**	*eP*		**P**	**19 24 26.9**	**-0.2**
TIR	**Tirane**	**86.43**	**352**	*eP*		**P**	**19 24 26.7**	**-0.5**
TIR					pmax	pmax		
	comp=Z,89nm,0.9s							
TIR	**Tirane**	**86.43**	**352**	*eP*		**P**	**19 24 26.7**	**-0.5**
	comp=Z,89nm,0.9s							
PVIS	**Viseu**	**86.46**	**13**	*eP*		**P**	**19 24 27.5**	**+0.2**
	comp=Z,90nm,1.8s							
GRG	**Griva**	**86.57**	**350**	P		**P**	**19 24 27.9**	**+0.1**
GRG	**Griva**	**86.57**	**350**	P		**P**	**19 24 27.9**	**+0.1**
SOH	**Sokhos**	**86.59**	**349**	P		**P**	**19 24 27.6**	**-0.4**
SOH	**Sokhos**	**86.59**	**349**	P		**P**	**19 24 27.6**	**-0.4**
MTE	**Manteigas**	**86.81**	**12**	*eP*		**P**	**19 24 29.2**	**+0.1**
	comp=Z,51nm,1.7s							
LHMI	**Lhok Sumawe**	**86.98**	**275**	P		**P**	**19 24 31.7**	**+1.6**
	comp=Z,282nm,1.3s,comp=Z,3μm							
OUR	**Ouranopolis**	**86.99**	**348**	P		**P**	**19 24 29.5**	**-0.4**
OUR	**Ouranopolis**	**86.99**	**348**	P		**P**	**19 24 29.5**	**-0.4**
PLG	**Polygyros**	**87.02**	**349**	*eP*		**P**	**19 24 29.3**	**-0.8**
KZN	**Kozani**	**87.28**	**350**	*eP*		**P**	**19 24 30.5**	**-0.9**
TSI	**Tuntungan**	**87.33**	**272**	P		**P**	**19 24 31.7**	**-0.2**
	comp=Z,350nm,0.9s,comp=Z,4μm							
PCBR	**Castelo Branco**	**87.37**	**12**	*eP*		**P**	**19 24 31.5**	**-0.2**
	comp=Z,59nm,1.2s							
LIT	**Litokhoron**	**87.40**	**349**	P		**P**	**19 24 31.2**	**-0.7**
LIT	**Litokhoron**	**87.40**	**349**	P		**P**	**19 24 31.2**	**-0.7**
PAIG	**Paliouri**	**87.43**	**349**	P		**P**	**19 24 30.4**	**-1.6**
PAIG	**Paliouri**	**87.43**	**349**	P		**P**	**19 24 30.4**	**-1.6**
PSI	**Prapat**	**87.66**	**272**	P		**P**	**19 24 33.4**	**-0.2**
	comp=Z,324nm,0.9s,comp=Z,3μm							
ANWB	**Willy Bob**	**87.67**	**64**		PFAKE		19 24 40.0	+6.5
ANWB					LR	LR		
	comp=Z,2μm,22.0s							
PRK	**Paraskevi**	**87.75**	**346**	*eP*		**P**	**19 24 32.4**	**-1.2**
BSI	**Banda Aceh**	**87.78**	**276**	P		P	19 24 37.3	+3.2
	comp=Z,38nm,1.2s							
PMRV	**Marv??o**	**87.79**	**12**	*eP*		**P**	**19 24 34.0**	**+0.2**
	comp=Z,57nm,1.1s							
ALMR	**Almeirim**	**87.89**	**13**	*eP*		**P**	**19 24 34.1**	**-0.1**
ALMR	**Almeirim**	**87.89**	**13**	*eP*		**P**	**19 24 34.1**	**-0.1**
ESDC	**Sonseca Array**	**87.95**	**10**	P		**P**	**19 24 34.3**	**-0.3**
	comp=Z,57nm,0.9s,baz=351,slow=4.7,SNR=115							
ESDC					PP	**PP**	**19 27 59.0**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=352,slow=7.9,SNR=4.5							
ESDC					LR	LR	20 07 39.5	
	comp=Z,1μm,18.7s,baz=5.0,slow=38							
ESDC	**Sonseca Array**	**87.95**	**10**	P		**P**	**19 24 34.3**	**-0.3**
ESDC					PP	**PP**	**19 27 59.0**	**-1.1**
ESLA	**Sonseca Array**	**87.95**	**10**	*eP*		**P**	**19 24 34.2**	**-0.4**
	comp=Z,17nm,1.0s							
ESLA					LR	LR		
	comp=Z,12μm,20.0s							
THL	**Klokotos Trika**	**87.98**	**350**	*eP*		**P**	**19 24 34.0**	**-0.6**
PMAFR	**Mafra**	**87.99**	**14**	*eP*		**P**	**19 24 34.9**	**+0.2**
	comp=Z,227nm,1.2s							
RGRI	**Rengat**	**88.01**	**267**	P		**P**	**19 24 37.1**	**+2.0**
JAN	**Janina**	**88.02**	**351**	*eP*		**P**	**19 24 35.2**	**+0.3**
PMTG	**Montargil**	**88.03**	**13**	*eP*		**P**	**19 24 34.3**	**-0.6**
	comp=Z,74nm,1.7s							
FYTO	**Fytoko, Volos**	**88.03**	**349**	P		P	19 24 44.1	+9.2
KEK	**Kerkira**	**88.06**	**351**	*eP*		**P**	**19 24 33.8**	**-1.2**
CUC	**Castrocucco**	**88.08**	**355**		PFAKE		19 24 50.0	+15
CUC					LR	LR		
	comp=Z,2μm,22.0s							
IGT	**Igoumenitsa**	**88.19**	**351**	P		**P**	**19 24 35.1**	**-0.6**
IGT	**Igoumenitsa**	**88.19**	**351**	P		**P**	**19 24 35.1**	**-0.6**
HYB	**Hyderabad**	**88.19**	**296**	⇓*iP*		**P**	**19 24 34.5**	**-1.5**
HYB				*eP*	P	**PP**	**19 28 08.0**	**+5.1**
HYB				*e*SKS	S	S	19 35 00.0	-18
HYB				*e*ScS	S	**ScS**	**19 35 24.0**	**-0.3**
LIS	**Lisbon**	**88.24**	**14**	*eP*		**P**	**19 24 36.2**	**+0.3**
LIS					AMS	AMS	20 06 59.6	
	comp=Z,2μm,21.8s							
LIS	**Lisbon**	**88.24**	**14**	*eP*		**P**	**19 24 36.2**	**+0.3**
BKNI	**Bangkinang**	**88.28**	**268**	P		**P**	**19 24 36.8**	**+0.4**
	comp=Z,377nm,1.0s,comp=Z,3μm							
ARMA	**Armidale**	**88.34**	**211**	*eP*		**P**	**19 24 36.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**88.52**	**350**	P		**P**	**19 24 36.4**	**-0.8**
EVO	**Evora**	**88.59**	**13**	*eP*		**P**	**19 24 37.0**	**-0.5**
EVO	**Evora**	**88.59**	**13**	⇑*iP*		**P**	**19 24 36.8**	**-0.7**
	comp=Z,84nm,1.1s							
EVO				*eR*				
	comp=Z,3μm,18.2s							
EVR	**Evrytania**	**88.65**	**350**	*eP*		**P**	**19 24 38.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**88.68**	**238**	P		**P**	**19 24 38.1**	**+0.1**
	comp=Z,78nm,0.9s,baz=35,slow=5.1,SNR=71							
FITZ	**Fitzroy Crossi**	**88.68**	**238**	⇑*iP*		**P**	**19 24 37.8**	**-0.2**
	comp=Z,143nm,0.9s							
FITZ	**Fitzroy Crossi**	**88.68**	**238**	*eP*		**P**	**19 24 37.5**	**-0.5**
	comp=Z,99nm,1.0s							
VSL	**Villasalto**	**88.79**	**359**		PFAKE		19 24 50.0	+12
VSL					LR	LR		
	comp=Z,1μm,20.0s							
MNSI	**Mandailing Nat**	**88.82**	**270**	P		**P**	**19 24 37.7**	**-1.2**
	comp=Z,69nm,0.8s							
DSF	**Desfina**	**89.07**	**349**	P		**P**	**19 24 38.1**	**-1.8**
PBAR	**Barrancos**	**89.07**	**12**	*eP*		**P**	**19 24 39.5**	**-0.3**
	comp=Z,107nm,1.1s							
PBEJ	**Beja**	**89.10**	**13**	*eP*		**P**	**19 24 39.8**	**-0.2**
	comp=Z,66nm,1.1s							
KALE	**Kalithea**	**89.13**	**349**	P		**P**	**19 24 38.9**	**-1.3**
MESJ	**Messejana**	**89.24**	**13**	*eP*		**P**	**19 24 40.5**	**-0.2**
MESJ					AMS	AMS	20 07 33.2	
	comp=Z,3μm,19.0s							
MESJ	**Messejana**	**89.24**	**13**	*eP*		**P**	**19 24 40.4**	**-0.2**
PPI	**Padang Panjang**	**89.29**	**268**	P		**P**	**19 24 40.2**	**-0.9**
	comp=Z,64nm,1.1s,comp=Z,1μm							
AS31	**Alice Springs**	**89.30**	**229**	*eP*		**P**	**19 24 40.6**	**-0.3**
ASAR	**Alice Springs**	**89.30**	**229**	P		**P**	**19 24 40.8**	**-0.1**
	comp=Z,106nm,0.8s,baz=34,slow=4.6,SNR=601							
ASAR					pP	**pP**	**19 24 50.8**	**-0.6**
	comp=Z,45nm,0.9s,baz=29,slow=4.1,SNR=9.0							
ASAR	**Alice Springs**	**89.30**	**229**	P		**P**	**19 24 40.8**	**-0.1**
ASAR					*PP	**pP**	**19 24 50.8**	**-0.6**
ASAR	**Alice Springs**	**89.30**	**229**	P		**P**	**19 24 40.8**	**-0.1**
ASAR					pP	**pP**	**19 24 50.8**	**-0.6**
BHD	**Baghdad**	**89.43**	**331**	*eP*		P	19 24 38.0	-3.6
BHD				*i* SKS		S	19 35 07.0	-22
BHD				*i* S		**SKKSac**	**19 35 24.0**	**+2.4**
BHD				*i* PS		**PS**	**19 36 40.0**	**+2.4**
PTEO	**Sao Teotonio**	**89.45**	**14**	*eP*		**P**	**19 24 41.8**	**+0.2**
	comp=Z,141nm,1.2s							
PCVE	**Castro Verde**	**89.47**	**13**	*eP*		**P**	**19 24 41.7**	**0.0**
	comp=Z,42nm,2.3s							
RLS	**Riolos of Patr**	**89.53**	**350**	*eP*		**P**	**19 24 40.7**	**-1.3**
SDV	**Santo Domingo**	**89.56**	**76**	*eP*		**P**	**19 24 42.4**	**-0.3**
	comp=Z,43nm,1.0s							
GSI	**Gunungsitoli**	**89.66**	**272**	P		**P**	**19 24 43.5**	**+0.6**
	comp=Z,153nm,0.9s,comp=Z,2μm							
MORF	**Marmelete**	**89.70**	**14**	*eP*		**P**	**19 24 42.8**	**-0.1**
	comp=Z,146nm,1.3s							
MORF	**Marmelete**	**89.70**	**14**	*eP*		**P**	**19 24 42.9**	**+0.1**
PVAQ	**Vaqueiros**	**89.74**	**13**	*eP*		**P**	**19 24 43.0**	**+0.1**
	comp=Z,66nm,1.7s							
CEL	**Celeste**	**89.81**	**354**	*eP*		**P**	**19 24 40.5**	**-2.9**
	comp=Z,60nm,1.0s							
CEL					LR	LR		
	comp=Z,2μm,22.0s							
POO	**Poona**	**89.84**	**301**	⇑*iP*		**P**	**19 24 43.0**	**-0.8**
	comp=Z,40nm,1.0s							
PFVI	**Vila Bisbo**	**89.84**	**14**	*eP*		**P**	**19 24 43.8**	**+0.3**
	comp=Z,143nm,1.5s							
PBDV	**Barranco-do-Ve**	**89.86**	**13**	*eP*		**P**	**19 24 44.1**	**+0.5**
	comp=Z,110nm,1.5s							
FDF	**Fort de France**	**90.40**	**65**		PFAKE		19 25 00.0	+14
FDF					LR	LR		
	comp=Z,2μm,21.0s							
KSI	**Kapahiang**	**90.44**	**265**	P		**P**	**19 24 48.4**	**+1.8**
ROSC	**El Rosal**	**90.50**	**82**	P		**P**	**19 24 47.6**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=279,slow=18,SNR=2.9							
ROSC					LR	LR	20 07 09.0	
	comp=Z,759nm,19.0s,baz=91,slow=37							
ROSC	**El Rosal**	**90.50**	**82**	P		**P**	**19 24 47.6**	**+0.3**
CSS	**Prodhromos**	**90.67**	**340**	*eP*		**P**	**19 24 46.3**	**-1.0**
	comp=Z,42nm,0.9s							
CSS					LR	LR		
	comp=Z,2μm,19.0s							
MDRS	**Chennai**	**90.76**	**292**	*ex*		x	19 24 22.2	
MDRS				*ex*		x	19 25 30.2	
MDRS				*ex*		x	19 27 12.2	
MDRS				*ex*		x	19 30 34.2	
OTAV	**Otavalo**	**91.59**	**88**	*eP*		**P**	**19 24 53.0**	**+0.6**
	comp=Z,14nm,0.8s							
MIB	**Mutribah**	**91.69**	**327**	*eP*		**P**	**19 24 51.3**	**-0.9**
MIB					AMb	AMB	19 24 52.5	
	comp=Z,89nm,1.0s							
UMR	**Umm Al-Rimmam**	**91.80**	**327**	*eP*		**P**	**19 24 51.3**	**-1.4**
UMR					AMb	AMB	19 24 52.8	
	comp=Z,43nm,1.1s							
MMAI	**Mount Meron Ar**	**92.08**	**338**	P		**P**	**19 24 54.0**	**0.0**
	comp=Z,29nm,0.9s,baz=10,slow=7.1,SNR=18							
MMAI	**Mount Meron Ar**	**92.08**	**338**	P		**P**	**19 24 54.0**	**0.0**
GRGR	**Grenville**	**92.22**	**67**		PFAKE		19 25 10.0	+15
GRGR					LR	LR		
	comp=Z,3μm,20.0s							
NAY	**Al-Naaiem**	**92.24**	**327**	*eP*		**P**	**19 24 53.3**	**-1.4**
NAY					AMb	AMB	19 24 55.4	
	comp=Z,28nm,1.4s							
ASF	**Jabal al Asfar**	**92.52**	**336**	P		**P**	**19 24 55.8**	**-0.3**
	comp=Z,16nm,1.0s,baz=28,slow=2.3,SNR=15							
ASF	**Jabal al Asfar**	**92.52**	**336**	P		**P**	**19 24 55.8**	**-0.3**
ASF	**Jabal al Asfar**	**92.52**	**336**	P		**P**	**19 24 55.8**	**-0.3**
KEST	**Kesra**	**92.55**	**359**	P		**P**	**19 24 55.9**	**-0.3**
	comp=Z,7.2nm,1.0s,baz=317,slow=0.5,SNR=7.6							
KEST	**Kesra**	**92.55**	**359**	*eP*		**P**	**19 24 55.8**	**-0.3**
BBGH	**Gun Hill**	**92.59**	**65**		PFAKE		19 25 10.0	+14
BBGH					LR	LR		
	comp=Z,3μm,20.0s							
PMAR	**Madeira**	**92.62**	**21**	*eP*		**P**	**19 24 58.3**	**+1.7**
	comp=Z,262nm,1.4s							
STKA	**Stephens Creek**	**93.22**	**219**	P		**P**	**19 24 58.7**	**-0.1**
	comp=Z,23nm,1.0s,baz=3.5,slow=6.1,SNR=29							
STKA	**Stephens Creek**	**93.22**	**219**	*eP*		**P**	**19 24 58.7**	**-0.1**
	comp=Z,18nm,1.0s							
STKA	**Stephens Creek**	**93.22**	**219**	P		**P**	**19 24 58.7**	**-0.1**
STKA					pmax	pmax		
	comp=Z,23nm,1.0s							
STKA	**Stephens Creek**	**93.22**	**219**	*eP*		**P**	**19 24 58.6**	**-0.2**
	comp=Z,5.8nm,1.0s							
CAN	**Canberra**	**93.70**	**212**		PFAKE		19 25 10.0	+8.9
CAN					LR	LR		
	comp=Z,4μm,20.0s							
EIL	**Elat**	**95.39**	**337**	P		**P**	**19 25 08.4**	**-0.8**
	comp=Z,12nm,0.9s,baz=353,slow=5.2,SNR=13							
EIL	**Elat**	**95.39**	**337**	P		**P**	**19 25 08.4**	**-0.8**
RPN	**Rapa Nui**	**95.67**	**128**		PFAKE		19 25 20.0	+10
RPN					LR	LR		
	comp=Z,2μm,21.0s							
FORT	**Forrest**	**98.06**	**229**	*eP*		**P**	**19 25 20.1**	**-0.8**
	comp=Z,23nm,0.7s							
COCO	**West Island**	**100.63**	**264**		PFAKE		19 25 40.0	+7.2
COCO					LR	LR		
	comp=Z,768nm,19.0s							
TAU	**Tasmania Unive**	**101.16**	**210**		PFAKE		19 25 50.0	+16
TAU					LR	LR		
	comp=Z,3μm,22.0s							
NNA	**Nana**	**102.10**	**94**		PFAKE		19 25 50.0	+11
NNA					LR	LR		
	comp=Z,1μm,21.0s							
SACV	**Santiago Islan**	**107.59**	**33**		PFAKE		19 30 20.0	
SACV					LR	LR		
	comp=Z,2μm,19.0s							
LPAZ	**La Paz**	**110.77**	**90**		PKiKP	**PKiKP**	**19 30 18.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=311,slow=2.7,SNR=4.1							
LPAZ	**La Paz**	**110.77**	**90**		PKiKP		19 30 18.1	
LPAZ	**La Paz**	**110.77**	**90**		PKiKP	**PKiKP**	**19 30 18.1**	**-0.3**
TOA0	**Torodi Ar. Sit**	**114.75**	**7**	*e*	PKPdf	PKPdf	19 30 24.5	-1.0
TORD	**Torodi Ar. Bea**	**114.75**	**7**		Pdiff	**Pdif**	**19 26 35.8**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=335,slow=4.6,SNR=4.0							
TORD					PKP	**PKiKP**	**19 30 24.4**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=349,slow=2.8,SNR=24							
TORD					PP	PP	19 31 16.6	-5.8
	comp=Z,2.4nm,0.9s,baz=6.5,slow=6.6,SNR=3.6							
TORD					SKiKP	**SKiKP**	**19 34 03.0**	**+4.8**
	comp=Z,1.9nm,0.8s,baz=350,slow=1.6,SNR=4.9							
TORD					PKKPbc	**PKKPbc**	**19 41 00.1**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=171,slow=2.3,SNR=26							
TORD	**Torodi Ar. Bea**	**114.75**	**7**		Pdif	**Pdif**	**19 26 35.8**	**+0.1**
TORD					PKP	**PKiKP**	**19 30 24.4**	**-1.0**
TORD					PP	PP	19 31 16.6	-5.8
TORD				*e*			19 34 03.0	
TORD					PKKPbc	**PKKPbc**	**19 41 00.1**	**-0.5**
SIV	**San Ignacio**	**114.89**	**84**		PKP	PKPdf	19 30 24.5	-1.1
	comp=Z,3.4nm,0.8s,baz=168,slow=0.6,SNR=14							
SIV					PP	PP	19 31 31.4	+6.8
	comp=Z,2.2nm,0.9s,baz=335,slow=6.5,SNR=3.5							
SIV	**San Ignacio**	**114.89**	**84**		PKP	PKPdf	19 30 24.5	-1.1
SIV					PP	PP	19 31 31.4	+6.8
DBIC	**Dimbokro**	**120.34**	**16**		PKP	**PKPdf**	**19 30 35.1**	**-1.0**
	comp=Z,14nm,0.9s,baz=334,slow=2.6,SNR=20							
DBIC	**Dimbokro**	**120.34**	**16**	*eP*		**PKPdf**	**19 30 34.6**	**-1.5**
DBIC	**Dimbokro**	**120.34**	**16**		PKIKP	**PKPdf**	**19 30 35.2**	**-1.0**
DBIC					MLR	MLR		
	comp=Z,2μm,20.0s							
DBIC	**Dimbokro**	**120.34**	**16**		PKP	**PKPdf**	**19 30 35.1**	**-1.0**
DBIC				*e*	PKPdf	**PKiKP**	**19 30 35.3**	**-1.0**
DBIC					LR	LR		
	comp=Z,2μm,20.0s							
LIC	**Lamto**	**120.75**	**16**	⇑*i*	PKIKP	**PKPdf**	**19 30 36.4**	**-0.6**
	comp=Z,33nm,0.9s							
LIC				*eR*				
	comp=Z,3μm,21.0s							
BDFB	**Brasilia**	**122.50**	**73**		PKP	**PKPdf**	**19 30 39.8**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=170,slow=0.6,SNR=8.8							
BDFB	**Brasilia**	**122.50**	**73**		PKIKP	**PKPdf**	**19 30 39.8**	**-0.5**
BDFB	**Brasilia**	**122.50**	**73**		PKP	**PKPdf**	**19 30 39.8**	**-0.5**
KMBO	**Kilima Mbogo**	**123.86**	**325**	*eP*		**PKPdf**	**19 30 43.7**	**+0.5**
KMBO	**Kilima Mbogo**	**123.86**	**325**	*e*PKIKP		**PKPdf**	**19 30 44.1**	**+0.8**
KMBO	**Kilima Mbogo**	**123.86**	**325**	*e*PKPdf		**PKPdf**	**19 30 44.0**	**+0.8**
DRV	**Dumont d'Urvil**	**124.02**	**201**	Pdif		**Pdif**	**19 27 21.0**	**+5.5**
DRV	**Dumont d'Urvil**	**124.02**	**201**	PP		PP	19 32 18.0	-8.8
DRV				SP		SP	19 42 18.0	-1.9
DRV				SS		SS	19 48 52.0	-22
PLCA	**Paso Flores**	**126.81**	**111**	PKP		**PKPdf**	**19 30 47.7**	**-0.1**
	comp=Z,23nm,0.9s,baz=288,slow=2.9,SNR=10							
PLCA	**Paso Flores**	**126.81**	**111**	*e*PKIKP		**PKPdf**	**19 30 47.5**	**-0.3**
PLCA	**Paso Flores**	**126.81**	**111**	*e*PKPdf		**PKPdf**	**19 30 47.5**	**-0.3**
PLCA					PKP	**PKPdf**	**19 30 47.7**	**-0.1**
SPB	**Sao Paulo**	**128.97**	**78**		PFAKE		19 31 00.0	+7.7
SPB					LR	LR		
	comp=Z,1μm,20.0s							
TRQA	**Tornquist**	**130.13**	**103**	*e*PKPdf		**PKPdf**	**19 30 53.6**	**-0.5**
CASY	**Casey**	**131.94**	**212**		PFAKE		19 31 10.0	+13
CASY					LR	LR		
	comp=Z,2μm,19.0s							
RER	**Riviere de l'E**	**132.43**	**292**		PFAKE		19 31 10.0	+11
RER					LR	LR		
	comp=Z,1μm,20.0s							
EFI	**East Falkland**	**140.13**	**117**		PFAKE		19 31 20.0	+7.8
EFI					LR	LR		
	comp=Z,2μm,20.0s							
QSPA	**South Pole Qui**	**141.85**	**180**	*e*PKPpre		PKPpre	19 31 07.9	
PAF	**Port-aux-Franc**	**141.97**	**249**		PFAKE		19 31 30.0	+14
PAF					LR	LR		
	comp=Z,1μm,20.0s							
SHEL	**Horse Pasture**	**142.17**	**23**		PFAKE		19 31 30.0	+13
SHEL					LR	LR		
	comp=Z,2μm,21.0s							
MSNA	**Messina**	**146.05**	**323**	*eP*		**PKPbc**	**19 31 24.2**	**-0.3**
MSNA					AMS	AMS	20 59 57.1	
	comp=Z,2μm,27.1s							
TSUM	**Tsumeb**	**146.44**	**345**	*eP*		**PKPdf**	**19 31 25.1**	**+0.5**
TSUM	**Tsumeb**	**146.44**	**345**	*e*PKPdf		**PKPdf**	**19 31 24.6**	**0.0**
SLR	**Silverton**	**149.78**	**323**	*eP*		**PKPdf**	**19 31 30.7**	**+0.8**
SLR					AMS	AMS	20 12 27.6	
	comp=Z,2μm,18.8s							
MAW	**Mawson**	**149.90**	**218**	PKPbc		**PKPbc**	**19 31 33.1**	**-0.3**
	comp=Z,73nm,0.9s,baz=310,slow=1.8,SNR=19							
MAW	**Mawson**	**149.90**	**218**	*eP*		**PKPbc**	**19 31 33.1**	**-0.3**
	comp=Z,65nm,1.0s							
MAW	**Mawson**	**149.90**	**218**	PKP2		**PKPbc**	**19 31 33.1**	**-0.3**
MAW					pmax	pmax		
	comp=Z,73nm,0.9s							
MAW	**Mawson**	**149.90**	**218**	*e*PKPbc		**PKPbc**	**19 31 33.0**	**-0.4**
POGA	**Pongola**	**149.91**	**316**	⇑*iP*		**PKPbc**	**19 31 34.6**	**-0.1**
LBTB	**

KOKV	**Korovin Volcan**	**1.97**	**285**	P	Pn	19 26 27.8 +0.4
KOKV				S	Sn	19 26 53.1 +2.1
KOKL	**Mount Kliuchef**	**1.98**	**284**	P	Pn	19 26 27.1 -0.5
OKCE	**Okmok Cone E**	**2.35**	**48**	P	Pn	19 26 32.2 -0.4
OKFG	**Magazine Ridge**	**2.46**	**50**	P	Pn	19 26 34.9 +0.8
OKFG				S	Sn	19 27 06.4 +3.5
GSMY	**Great Sitkin M**	**3.09**	**275**	P	Pn	19 26 43.6 +0.8
GSTD	**Great Sitkin T**	**3.15**	**275**	P	Pn	19 26 44.5 +0.9
GSTD				S	Sn	19 27 20.7 +0.8
GSCK	**Great Sitkin C**	**3.16**	**274**	P	Pn	19 26 43.3 -0.3
ETKA	**Kagalaska Isla**	**3.31**	**272**	P	Pn	19 26 46.3 +0.6
UNV	**Unalaska Valle**	**3.40**	**53**	*eP*	Pn	19 26 48.0 +1.1
TAFP	**Tanaga Falls P**	**4.29**	**273**	P	Pn	19 26 59.8 +0.6

IDC 26 19:27:45.9±1.7, 1°.15N×126°.16E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=169.4km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.44**	**159**	P	P	19 32 45.9	-0.8
	0.7nm,0.4s,baz=338,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**25.79**	**164**	P	P	19 33 19.5	+0.7
	0.5nm,0.7s,baz=346,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	19 37 50.1	0.0
	0.1nm,0.3s,baz=127,slow=7.1,SNR=5.0						
KURK	**Kurchatov**	**63.62**	**328**	P	P	19 38 18.5	-0.2
	0.3nm,0.6s,baz=130,slow=6.0,SNR=4.6						

*IDC **26** 19:29:03.7±0.7, 3°.33S×126°.76E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.2/22, mbtmp4.1/15, ML4.3/2, MS5.3/1, Ms1 5.3/1, ms1mx3.5/34, Error ellipse: s-maj=30.5km s-min=13.6km az=70.0*

*ISCJB **26** 19:29:06.7±0.3, 3°.36S±0°.04×126°.80E±0°.04, h33km, mb4.2/24, MS5.4/1, Error ellipse: s-maj=6.3km s-min=4.7km az=144.1*

*DJA **26** 19:29:07, 3°.14S×126°.89E, h10km, MLv4.6/16*

*NEIC **26** 19:29:08.7±0.4, 3°.33S×126°.88E, h35km, mb4.3/6, Error ellipse: s-maj=13.6km s-min=6.8km az=59.0*

*BJI **26** 19:29:11.7, 3°.30S×126°.80E, h30km, mb4.4/4*

ISC 26 19:29:08.9±0.5, 3°.30S±0°.06×126°.85E±0°.05, h35km, n66, σ1s28/61, mb4.3/24, 1C, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.39**	**106**	P	**Pn**	**19 29 30.8**	**-1.0**
MSAI	**Masohi**	**2.07**	**91**	P	**Pn**	**19 29 43.2**	**+2.0**
LBMI	**Labuha**	**2.73**	**14**	P	**Pn**	**19 29 51.9**	**+1.7**
BNDI	**Bandanaira**	**3.28**	**112**	P	Pn	19 30 03.6	+5.8
TNTI	**Ternate**	**4.08**	**7**	P	**Pn**	**19 30 09.8**	**+1.0**
KDI	**Kendari**	**4.28**	**261**	P	**Pn**	**19 30 14.5**	**+3.0**
LUWI	**Luwuk**	**4.66**	**299**	P	**Pn**	**19 30 16.8**	**0.0**
BBSI	**Bau Bau**	**4.79**	**243**	P	Pn	19 30 24.7	+6.1
KMSI	**Cibinong**	**4.80**	**323**	P	**Pn**	**19 30 18.1**	**-0.7**
SWI	**Sorong**	**5.03**	**61**	P	**Pn**	**19 30 22.2**	**+0.4**
MNI	**Manado**	**5.13**	**337**	P	**Pn**	**19 30 23.3**	**0.0**
FAKI	**Fak Fak**	**5.40**	**86**	P	**Pn**	**19 30 29.4**	**+2.4**
	91nm,0.9s,1µm						
MRSI	**Marisa**	**6.18**	**307**	P	**Pn**	**19 30 37.7**	**0.0**
	495nm,0.5s,6µm						
BKSI	**Bulukumba**	**7.00**	**253**	P	Pn	19 30 53.5	+4.5
	61nm,0.8s,571nm0.2nm						
SPSI	**Sidrap Palu**	**7.10**	**264**	P	Pn	19 30 54.4	+4.0
	35nm,0.8s,0.1nm						
KAPI	**Kappang**	**7.28**	**256**	Pn	**Pn**	**19 30 54.2**	**+1.3**
	3.2nm,0.3s,baz=74,slow=6.9,SNR=14						
KAPI				Sn	**Sn**	**19 32 15.3**	**+0.9**
	0.7nm,0.3s,baz=270,slow=20,SNR=4.2						
KAPI	**Kappang**	**7.28**	**256**	Pn	**Pn**	**19 30 54.2**	**+1.3**
KAPI				Sn	**Sn**	**19 32 15.3**	**+0.9**
KAPI	**Kappang**	**7.28**	**256**	P	Pn	19 30 57.3	+4.4
CTBH	**Cotabato--PC H**	**10.77**	**346**	*iP*	**Pn**	**19 31 40.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.76**	**185**	Pn	**Pn**	**19 32 32.8**	**-2.4**
	0.2nm,0.3s,baz=8.0,slow=11,SNR=5.1						
FITZ	**Fitzroy Crossi**	**14.76**	**185**	*eP*	Pn	19 32 30.0	-5.1
	20nm,1.1s						
WRAB	**Tennant Creek**	**18.08**	**157**	*eP*	**Pn**	**19 33 15.4**	**-2.0**
	32nm,0.8s						
WRA	**Warramunga Arr**	**18.08**	**157**	P	**Pn**	**19 33 15.3**	**-2.2**
	2.4nm,0.3s,baz=340,slow=11,SNR=37						
WRA	**Warramunga Arr**	**18.08**	**157**	P	**Pn**	**19 33 15.3**	**-2.2**
WB2	**Warramunga Arr**	**18.09**	**157**	*eP*	**Pn**	**19 33 16.4**	**-1.1**
COEN	**Coen**	**19.28**	**124**	*eP*	**P**	**19 33 30.4**	**-0.4**
	137nm,0.6s						
COEN	**Coen**	**19.28**	**124**	*eP*	**P**	**19 33 30.4**	**-0.4**
	195nm,0.8s						
PMG	**Port Moresby**	**21.06**	**108**	P	**P**	**19 33 51.2**	**+1.0**
	13nm,0.8s,baz=288,slow=2.9,SNR=6.9						
PMG	**Port Moresby**	**21.06**	**108**	P	**P**	**19 33 51.2**	**+1.0**
AS31	**Alice Springs**	**21.36**	**162**	*eP*	**P**	**19 33 54.3**	**+0.9**
ASAR	**Alice Springs**	**21.36**	**162**	P	**P**	**19 33 54.5**	**+1.2**
	49nm,0.8s,baz=342,slow=11,SNR=199						
ASAR				S	**S**	**19 37 52.4**	**+3.6**
	0.9nm,0.9s,baz=348,slow=27,SNR=3.6						
ASAR	**Alice Springs**	**21.36**	**162**	P	**P**	**19 33 54.5**	**+1.2**
ASAR				S	**S**	**19 37 52.4**	**+3.6**
FORT	**Forrest**	**27.35**	**178**	*eP*	**P**	**19 34 50.4**	**-0.4**
	17nm,0.5s						
BLDU	**Ballidu**	**28.81**	**198**	*eP*	**P**	**19 35 02.8**	**-1.0**
NWAO	**Narrogin (SRO)**	**30.82**	**196**	P	**P**	**19 35 20.6**	**-0.9**
	3.6nm,0.4s,baz=11,slow=9.4,SNR=7.8						
NWAO	**Narrogin (SRO)**	**30.82**	**196**	P	**P**	**19 35 20.6**	**-0.9**
STKA	**Stephens Creek**	**31.63**	**156**	P	**P**	**19 35 28.5**	**-0.2**
	4.6nm,0.6s,baz=324,slow=7.6,SNR=21						
STKA	**Stephens Creek**	**31.63**	**156**	*eP*	**P**	**19 35 28.4**	**-0.3**
	3.6nm,0.6s						
STKA	**Stephens Creek**	**31.63**	**156**	*eP*	**P**	**19 35 28.0**	**-0.7**
	0.7nm,0.6s						
CMSA	**Cobar Meteorol**	**33.22**	**150**	*eP*	**P**	**19 35 42.9**	**+0.2**
	20nm,0.5s						
CMAR	**Chiang Mai Arr**	**34.98**	**309**	P	**P**	**19 35 58.0**	**-0.1**
	0.6nm,0.8s,baz=144,slow=6.6,SNR=2.5						
CMAR	**Chiang Mai Arr**	**34.98**	**309**	P	**P**	**19 35 58.0**	**-0.1**
CHTO	**Chiang Mai**	**35.18**	**310**	*eP*	**P**	**19 36 00.3**	**+0.5**
	3.0nm,0.9s						
ARPS	**Mount Arapiles**	**36.05**	**159**	*eP*	**P**	**19 36 06.8**	**-0.3**
	22nm,0.7s						
YNG	**Young**	**36.79**	**149**	*eP*	**P**	**19 36 14.1**	**+0.7**
	7.5nm,0.8s						
CAN	**Canberra**	**37.90**	**150**	*eP*	**P**	**19 36 23.8**	**+0.9**
	5.5nm,0.7s						
KSAR	**Wonju Array Be**	**40.55**	**1**	P	**P**	**19 36 44.9**	**0.0**
KSRS	**Korea Array**	**40.56**	**1**	P	**P**	**19 36 44.9**	**-0.1**
	1.3nm,0.7s,baz=175,slow=9.1,SNR=3.6						
BJI	**Beijing**	**44.23**	**348**	P	P	19 37 20.5	+5.7
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LZH	**Lanzhou**	**44.70**	**333**	*eP*	P	19 37 26.0	+7.1
LZH				pP	pP	19 37 31.3	+2.1
LZH				sP	sP	19 37 33.5	+0.1
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Arra**	**47.51**	**5**	P	**P**	**19 37 41.2**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=168,slow=5.6,SNR=4.7						
GTA	**Gaotai**	**49.25**	**332**	*eP*	P	19 38 01.5	+7.2
GTA				pP	pP	19 38 05.5	+0.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	**Ulaanbaatar**	**53.83**	**344**	P	**P**	**19 38 29.2**	**+0.7**
	comp=Z,2.8nm,0.8s						
SONM	**Songino Array**	**53.99**	**343**	P	**P**	**19 38 30.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=163,slow=7.5,SNR=4.9						
SONM	**Songino Array**	**53.99**	**343**	P	**P**	**19 38 30.6**	**+1.0**
MKAR	**Makanchi Array**	**63.44**	**327**	P	**P**	**19 39 35.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=124,slow=7.1,SNR=7.6						
MKAR	**Makanchi Array**	**63.44**	**327**	P	**P**	**19 39 35.6**	**+0.4**
TKM2	**Tokmak 2**	**65.16**	**321**	*eP*	**P**	**19 39 45.2**	**-1.6**
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**66.91**	**335**	P	**P**	**19 39 57.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=126,slow=7.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**66.91**	**335**	P	**P**	**19 39 57.2**	**-0.3**
KURK	**Kurchatov**	**67.75**	**329**	P	**P**	**19 40 03.0**	**0.0**
	comp=Z,2.7nm,1.0s,baz=134,slow=5.8,SNR=7.1						
KURK				LR	LR	20 08 31.1	
	comp=Z,2µm,18.8s,baz=50,slow=35						
KURK	**Kurchatov**	**67.75**	**329**	*eP*	**P**	**19 40 03.1**	**+0.2**
	comp=Z,5.0nm,1.0s						
AKTO	**Aktyubinsk**	**79.25**	**323**	P	**P**	**19 41 10.0**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=61,slow=4.0,SNR=2.7						
AKTO	**Aktyubinsk**	**79.25**	**323**	P	**P**	**19 41 10.0**	**-0.6**
ILAR	**Eielson Array**	**91.36**	**25**	P	**P**	**19 42 10.0**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=236,slow=5.6,SNR=3.4						
ILAR	**Eielson Array**	**91.36**	**25**	P	**P**	**19 42 10.0**	**-0.9**

*BJI **26** 19:33:03.3, 0°.77S×98°.18E, h35km, mB5.8/38, mb5.4/63, Ms5.9/66, Ms7 5.7/61*

*IDC **26** 19:33:03.3±0.4, 0°.31S×98°.21E, h0km, mb4.8/37, mb1 4.8/38, mb1mx4.8/40, mbtmp4.8/38, ML5.5/1, MS5.3/21, Ms1 5.3/21, ms1mx5.1/42, Error ellipse: s-maj=13.9km s-min=9.8km az=37.0*

*NEIC **26** 19:33:04.7±0.2, 0°.35S×98°.18E, h10km, mb5.4/55, Error ellipse: s-maj=6.5km s-min=4.4km az=52.0*

NEIC Felt [II] at Padangpanjang and Payakumbuh.

*MOS **26** 19:33:06.9±1.4, 0°.25S×98°.26E, h33km, mb5.5/52, MS5.4/15, Error ellipse: s-maj=8.6km s-min=4.7km az=108.6*

*ISCJB **26** 19:33:06.8±0.8, 0°.32S±0°.03×98°.11E±0°.02, h33km±5km, mb5.2/152, MS5.5/48, Error ellipse: s-maj=4.7km s-min=3.4km az=34.0*

*TEH **26** 19:33:07.0, 0°.43S×97°.92E, h35km, ML5.9*

*DJA **26** 19:33:07, 0°.30S×98°.07E, h14km, Mw5.4/38*

*SZGRF **26** 19:33:21.0, 0°.29S×97°.83E, h33km, mb5.3, Southwest of Sumatera, Indonesia*

ISC 26 19:33:07.9±0.3, 0°.41S±0°.03×98°.06E±0°.04, h31km±1km, h31km:pP-P, n588, σ1s55/694, mb5.3/152, MS5.5/49, 73C-53D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.77**	**344**	P	**Pn**	**19 33 34.8**	**-1.6**
MNSI	**Mandailing Nat**	**1.94**	**52**	P	**Pn**	**19 33 37.2**	**-1.5**
SBSI	**Sibolga**	**2.12**	**23**	P	**Pn**	**19 33 41.9**	**+0.7**
PPI	**Padang Panjang**	**2.34**	**91**	P	**Pn**	**19 33 43.5**	**-0.7**
PPI				S	**Sn**	**19 34 12.8**	**+0.9**
PDSI	**Padang**	**2.45**	**102**	P	**Pn**	**19 33 45.3**	**-0.5**
BKNI	**Bangkinang**	**3.07**	**76**	P	**Pn**	**19 33 56.1**	**+1.8**
BKNI				S	**Sb**	**19 34 36.7**	**-2.3**
PSI	**Prapat**	**3.31**	**15**	P	Pn	19 33 54.3	-3.4
TPTI		**3.75**	**346**	P	**Pn**	**19 34 02.0**	**-1.7**
KRJI	**Kerinci**	**3.79**	**116**	P	**Pn**	**19 34 06.9**	**+2.6**
TSI	**Tuntungan**	**3.92**	**7**	P	**Pn**	**19 34 05.2**	**-0.8**
RGRI	**Rengat**	**4.28**	**89**	P	**Pn**	**19 34 12.5**	**+1.6**
FRIM	**Kepong**	**5.08**	**44**	P	**Pn**	**19 34 22.8**	**+0.8**
KSI	**Kapahiang**	**5.56**	**125**	P	**Pn**	**19 34 29.4**	**+0.8**
	1µm,0.7s,33µm10nm						
IPM	**Ipoh**	**5.69**	**31**	*eP*	**Pn**	**19 34 30.5**	**+0.1**
	564nm,0.7s						
IPM	**Ipoh**	**5.69**	**31**	P	**Pn**	**19 34 31.4**	**+1.0**
LHMI	**Lhok Sumawe**	**5.71**	**349**	P	**Pn**	**19 34 31.5**	**+0.9**
	294nm,1.6s,26µm46µm21nm						
KGM	**Kluang**	**5.79**	**65**	P	**Pn**	**19 34 31.6**	**0.0**
MYKOM	**Kota Tinggi**	**6.19**	**69**	P	**Pn**	**19 34 37.7**	**+0.5**
MYKOM	**Kota Tinggi**	**6.19**	**69**	P	**Pn**	**19 34 37.9**	**+0.7**
	240nm,0.8s,9µm9.1nm						
MNAI	**Manna**	**6.27**	**129**	P	**Pn**	**19 34 40.0**	**+1.7**
	1µm,0.8s,35µm19µm9.0nm						
BSI	**Banda Aceh**	**6.49**	**335**	P	**Pn**	**19 34 39.8**	**-1.5**
	330nm,0.9s,10µm6.4nm						
LWLI	**Liwa**	**7.54**	**127**	P	**Pn**	**19 34 57.7**	**+1.9**
	1µm,0.7s,10µm4.4nm						
KLI	**Kotabumi**	**8.10**	**123**	P	Pn	19 35 07.5	+4.0
	482nm,0.7s,5µm1.9nm						
PPBI	**Pangkal Pinang**	**8.26**	**102**	P	Pn	19 35 15.0	+9.3
CGJI	**Cibinong**	**9.80**	**129**	P	**Pn**	**19 35 26.2**	**-0.5**
LEM	**Lembang**	**11.47**	**124**	P	Pn	19 35 58.6	+8.8
COCO	**West Island**	**11.76**	**186**	*eP*	**Pn**	**19 35 52.0**	**-1.6**
COCO				pmax	pmax		
	comp=Z,92nm,0.4s						
COCO	**West Island**	**11.76**	**186**	*eP*	**Pn**	**19 35 52.0**	**-1.6**
	comp=Z,92nm,0.4s						
CISI	**Cisompet, Garu**	**12.04**	**126**	P	Pn	19 36 01.0	+3.5
	comp=Z,258nm,0.6s,comp=Z,2µm						
KSM	**Kuching**	**12.39**	**81**	*eP*	**Pn**	**19 36 02.9**	**+0.6**
	comp=Z,51nm,1.0s						
KSM	**Kuching**	**12.39**	**81**	P	**Pn**	**19 36 00.9**	**-1.3**
KSM	**Kuching**	**12.39**	**81**	P	Pn	19 36 05.7	+3.4
	comp=Z,61nm,1.5s,comp=Z,3µm						
TGJI	**Tegal**	**12.76**	**120**	P	**P**	**19 36 16.1**	**-1.9**
STKI	**Sintang**	**13.43**	**88**	P	P	19 36 21.8	-3.6
BJII	**Banjamegara**	**13.50**	**121**	P	**P**	**19 36 26.9**	**+0.6**
PBKI	**Pangkalan Bun**	**13.79**	**100**	P	**P**	**19 36 31.4**	**+1.9**
SBUM	**Sibu**	**14.44**	**79**	P	**Pn**	**19 36 31.1**	**+0.8**
SBUM	**Sibu**	**14.44**	**79**	P	**Pn**	**19 36 30.7**	**+0.4**
	comp=Z,189nm,2.0s,comp=Z,5µm						
BTM	**Bintulu**	**15.44**	**76**	P	**Pn**	**19 36 44.6**	**+1.0**
PWJI	**Pagewojo**	**15.65**	**119**	P	P	19 36 56.2	+6.1
BBKI	**Banjar Baru**	**17.04**	**100**	P	**Pn**	**19 37 04.2**	**+0.1**
	comp=Z,258nm,0.8s,comp=Z,6µm						
KMMI	**Kalianget**	**17.18**	**113**	P	P	19 37 17.0	+10
KBKI	**Kotabaru**	**18.32**	**99**	P	**Pn**	**19 37 23.5**	**+3.6**
	comp=Z,97nm,1.5s,comp=Z,2µm						
CM31	**Chiang Mai Arr**	**18.77**	**3**	*eP*	**P**	**19 37 23.7**	**-1.0**
	comp=Z,55nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.77**	**3**	P	**P**	**19 37 23.6**	**-1.1**
	comp=Z,6.1nm,0.3s,baz=191,slow=11,SNR=297						
CMAR				PcP	**PcP**	**19 41 53.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=240,slow=3.0,SNR=3.4						
CMAR				LR	LR	19 45 28.6	
	comp=Z,22µm,19.5s,baz=190,slow=40						
CMAR	**Chiang Mai Arr**	**18.77**	**3**	P	**P**	**19 37 23.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.77**	**3**	P	**P**	**19 37 23.6**	**-1.1**
CMAR				PcP	**PcP**	**19 41 53.9**	**+2.2**
CHTO	**Chiang Mai**	**19.13**	**3**	*eP*	**P**	**19 37 26.5**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,23nm,0.6s						
CHTO	**Chiang Mai**	**19.13**	**3**	*eP*	**P**	**19 37 26.5**	**-2.1**
	comp=Z,23nm,0.6s						
CHTO	**Chiang Mai**	**19.13**	**3**	P	**P**	**19 37 27.6**	**-0.9**
	comp=Z,116nm,1.3s,comp=Z,3µm						
KHKI	**Kahang-Kahang**	**19.19**	**115**	P	Pn	19 37 38.8	+8.5
KKM	**Kota Kinabalu**	**19.23**	**70**	*eP*	**P**	**19 37 29.1**	**-0.7**
	comp=Z,402nm,0.7s						
KKM	**Kota Kinabalu**	**19.23**	**70**	P	**P**	**19 37 29.4**	**-0.4**
KKM	**Kota Kinabalu**	**19.23**	**70**	P	**P**	**19 37 29.6**	**-0.2**
	comp=Z,546nm,0.7s,comp=Z,6µm						
SDKM	**Sandakan**	**20.03**	**72**	P	**P**	**19 37 37.8**	**-0.8**
KDM	**Kudat**	**20.10**	**68**	P	**P**	**19 37 39.1**	**-0.1**
TSM	**Tawau**	**20.34**	**77**	P	**P**	**19 37 41.7**	**-0.2**
MYLDM	**Lahad Datu**	**21.16**	**75**	P	**P**	**19 37 50.8**	**+0.1**
MYLDM	**Lahad Datu**	**21.16**	**75**	P	**P**	**19 37 52.5**	**+1.8**
	comp=Z,125nm,2.2s,comp=Z,6µm						
TTSI	**Tana Toraja**	**21.91**	**97**	P	P	19 38 06.5	+7.8
SPSI	**Sidrap Palu**	**21.98**	**100**	P	P	19 38 07.5	+8.0
KAPI	**Kappang**	**22.14**	**102**	P	**P**	**19 38 00.7**	**-0.5**
	comp=Z,11nm,0.6s,baz=284,slow=13,SNR=7.9						
KAPI	**Kappang**	**22.14**	**102**	*eP*	**P**	**19 38 00.8**	**-0.5**
	comp=Z,94nm,0.9s						
KAPI	**Kappang**	**22.14**	**102**	P	**P**	**19 38 02.3**	**+1.0**
	comp=Z,40nm,1.1s,comp=Z,2µm						
QIZ	**Qiongzhong**	**22.52**	**30**	P	P	**19 38 05.0**	**-0.3**
QIZ				sP	**sP**	**19 38 17.5**	**-0.2**
QIZ				S	**S**	**19 42 09.8**	**-0.8**
QIZ				sS	Sn	19 42 23.8	-0.9
QIZ				pmax	pmax		
	comp=Z,120nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,2µm,3.3s						
QIZ				LR	LR		
	comp=N,12µm,15.2s						
QIZ				LR	LR		
	comp=Z,14µm,13.9s						
QIZ	**Qiongzhong**	**22.52**	**30**	*eP*	**P**	**19 38 04.9**	**-0.4**
BKSI	**Bulukumba**	**22.56**	**103**	P	**P**	**19 38 07.5**	**+1.7**
	comp=Z,162nm,1.0s,comp=Z,3µm						
TRD	**Trivandrum**	**22.82**	**293**	*eP*	**P**	**19 38 08.6**	**+0.1**
TRD				*ex*	x	19 44 33.3	
VIS	**Vishakhapatnam**	**23.13**	**322**	*ex*	x	19 37 56.8	
VIS				AMb	AMB	19 38 18.8	
	comp=Z,142nm,1.3s						
MRSI	**Marisa**	**23.90**	**88**	P	**P**	**19 38 19.4**	**+0.2**
	comp=Z,152nm,1.8s,comp=Z,3µm						
CAL	**Calcutta**	**24.70**	**338**	*eP*	**P**	**19 38 25.9**	**-0.4**
CAL				*ex*	x	19 42 50.4	
LUWI	**Luwuk**	**24.72**	**92**	P	**P**	**19 38 28.4**	**+1.7**
	comp=Z,230nm,1.2s,comp=Z,5µm						
KDI	**Kendari**	**24.79**	**99**	P	P	19 38 32.5	+5.2
	comp=Z,46nm,1.3s,comp=Z,1µm						
BBSI	**Bau Bau**	**24.99**	**102**	P	P	19 38 36.8	+7.7
AGT	**Agartala**	**25.04**	**345**	*ex*	**P**	**19 38 34.0**	**+4.6**
AGT				*ex*	x	19 39 48.0	
KMI	**Kunming**	**25.79**	**10**	P	**P**	**19 38 37.0**	**+0.5**
KMI				pP	**pP**	**19 38 48.5**	**+3.0**
KMI				sP	**sP**	**19 38 52.5**	**+3.2**
KMI				PP	**PnPn**	**19 39 20.0**	**+5.9**
KMI				PcP	**PcP**	**19 42 08.5**	**+2.6**
KMI				S	**S**	**19 43 02.5**	**-1.6**
KMI				sS	**sS**	**19 43 20.3**	**+1.2**
KMI				SS	**SnSn**	**19 44 09.3**	**+8.2**
KMI				pmax	pmax		
	comp=Z,77nm,1.3s						
KMI				pmax	pmax		
	comp=Z,2µm,3.1s						
KMI				LR	LR		
	comp=N,23µm,12.5s						
KMI				LR	LR		
	comp=E,15µm,12.2s						
KMI				LR	LR		
	comp=Z,26µm,12.6s						
KMSI	**Cibinong**	**25.94**	**88**	P	P	19 38 44.1	+6.3
	comp=Z,195nm,0.9s,comp=Z,5µm						
HYB	**Hyderabad**	**26.13**	**314**	*i P*	**P**	**19 38 42.0**	**+2.5**
SHL	**Shillong**	**26.51**	**347**	*eP*	**P**	**19 38 43.5**	**+0.6**
SHL				*eS*	**S**	**19 43 16.0**	**+0.6**
MNI	**Manado**	**26.84**	**86**	P	P	19 38 50.9	+4.9
TGY	**Tagaytay City**	**26.85**	**57**	P	**P**	**19 38 45.1**	**-0.9**
	comp=Z,47nm,0.3s,baz=225,slow=5.7,SNR=2.7						
TGY	**Tagaytay City**	**26.85**	**57**	P	**P**	**19 38 45.1**	**-0.9**
TGY	**Tagaytay City**	**26.85**	**57**	P	**P**	**19 38 45.1**	**-0.9**
HKC	**Hong Kong Obse**	**27.50**	**34**	*iP*	**P**	**19 38 50.0**	**-1.7**
GYA	**Guiyang**	**27.97**	**17**	*iP*	**P**	**19 38 55.0**	**-1.0**
GYA				sP	**sP**	**19 39 12.0**	**+3.1**
GYA				PP	**PnPn**	**19 39 48.8**	**+5.0**
GYA				PcP	**PcP**	**19 42 13.5**	**+2.6**
GYA				S	**S**	**19 43 37.5**	**-0.9**
GYA				sS	**sS**	**19 43 55.0**	**+1.6**
GYA				SS	**SnSn**	**19 45 01.5**	**+7.2**
GYA				ScP	**ScP**	**19 45 49.8**	**+0.1**
GYA				ScS	**ScS**	**19 49 41.3**	**-1.0**
GYA				pmax	pmax		
	comp=Z,100nm,0.8s						
GYA				pmax	pmax		
	comp=Z,1µm,6.8s						
GYA				LR	LR		
	comp=N,15µm,16.8s						
GYA				LR	LR		
	comp=E,10µm,15.2s						
GYA				LR	LR		
	comp=Z,21µm,15.5s						
NGP	**Nagpur**	**28.36**	**320**	*eP*	**P**	**19 39 00.8**	**+1.3**
NGP				*ex*	x	19 40 14.7	
	comp=Z,100nm,1.4s						
NGP				*eS*	**S**	**19 43 45.4**	**+1.0**
ODAN	**Odare**	**29.00**	**340**	*eP*	**P**	**19 39 05.3**	**0.0**
ODAN	**Odare**	**29.00**	**340**	*eP*	**P**	**19 39 05.3**	**0.0**
TAPN	**Taplejung**	**29.34**	**341**	*eP*	**P**	**19 39 08.9**	**+0.5**
TAPN	**Taplejung**	**29.34**	**341**	*eP*	**P**	**19 39 08.9**	**+0.5**
RAMN	**Ramite**	**29.36**	**339**	*eP*	**P**	**19 39 09.5**	**+1.0**
	comp=Z,49nm,0.6s						
RAMN	**Ramite**	**29.36**	**339**	*eP*	**P**	**19 39 09.5**	**+1.0**
	comp=Z,49nm,0.6s						
LBMI	**Labuha**	**29.44**	**91**	P	P	19 39 16.1	+6.9
MBWA	**Marble Bar**	**29.55**	**136**	*eP*	**P**	**19 39 10.0**	**0.0**
MBWA	**Marble Bar**	**29.55**	**136**	*eP*	**P**	**19 39 11.6**	**+1.7**
JIRN	**Jiri**	**30.15**	**339**	*eP*	**P**	**19 39 16.4**	**+0.8**
	comp=Z,102nm,0.7s						
JIRN	**Jiri**	**30.15**	**339**	*eP*	**P**	**19 39 16.4**	**+0.8**
	comp=Z,102nm,0.7s						
POO	**Poona**	**30.34**	**310**	*eP*	**P**	**19 39 18.3**	**+1.2**
PKI	**Pulchoki**	**30.36**	**337**	*eP*	**P**	**19 39 18.0**	**+0.5**
PKI	**Pulchoki**	**30.36**	**337**	*eP*	**P**	**19 39 18.0**	**+0.5**
PKI	**Pulchoki**	**30.36**	**337**	*eP*	**P**	**19 39 18.0**	**+0.5**
GUN	**Gumba**	**30.49**	**338**	*eP*	**P**	**19 39 19.0**	**+0.4**
	comp=Z,157nm,0.6s						
GUN	**Gumba**	**30.49**	**338**	*eP*	**P**	**19 39 19.0**	**+0.4**
	comp=Z,157nm,0.6s						
DMN	**Daman**	**30.51**	**337**	*eP*	**P**	**19 39 19.2**	**+0.5**
	comp=Z,41nm,0.8s						
DMN	**Daman**	**30.51**	**337**	*eP*	**P**	**19 39 19.2**	**+0.5**
	comp=Z,41nm,0.8s						
KKN	**Kakani**	**30.61**	**337**	*eP

LZH LR LR
comp=N,2µm,13.1s
LZH LR LR
comp=E,8µm,14.0s
LZH LR LR
comp=Z,10µm,15.8s
NWAO Narrogin (SRO) 37.04 153 P **P** **19 40 16.3 +1.2**
comp=Z,11nm,0.8s,baz=9.0,slow=13,SNR=5.3
NWAO Narrogin (SRO) 37.04 153 P **P** **19 40 16.3 +1.2**
NWAO Narrogin (SRO) 37.04 153 P **P** **19 40 16.3 +1.2**
NJ2 Nanjing 37.81 29 *e*P **P** **19 40 21.3 -0.3**
NJ2 pP **pP** **19 40 31.3 +0.5**
NJ2 sP **sP** **19 40 35.0 +0.4**
NJ2 S **S** **19 46 13.5 +2.9**
NJ2 pmax pmax
comp=Z,610nm,1.0s
NJ2 LR LR
comp=N,7µm,15.2s
NJ2 LR LR
comp=E,8µm,15.2s
NJ2 LR LR
comp=Z,10µm,13.6s
KMBL Kambalda 38.17 146 *e*P **P** **19 40 26.2 +1.5**
comp=Z,74nm,0.8s
SSE Sheshan 38.26 33 P **P** **19 40 24.5 -0.9**
SSE pmax pmax
comp=Z,35nm,0.6s
SSE pmax pmax
comp=Z,450nm,5.0s
SSE LR LR
comp=N,9µm,15.3s
SSE LR LR
comp=E,6µm,16.1s
SSE LR LR
comp=Z,13µm,15.3s
GTA Gaotai 39.66 2 *e*P **P** **19 40 36.8 -0.4**
GTA pP **pP** **19 40 46.5 0.0**
GTA sP **sP** **19 40 50.5 +0.2**
GTA S **S** **19 46 38.0 -0.7**
GTA sS **sS** **19 46 54.8 +0.8**
GTA ScS **ScS** **19 50 41.0 -2.1**
GTA pmax pmax
comp=Z,42nm,1.8s
GTA pmax pmax
comp=Z,950nm,5.2s
GTA LR LR
comp=N,6µm,15.9s
GTA LR LR
comp=E,5µm,14.7s
GTA LR LR
comp=Z,6µm,16.4s
JOW Kunigami 39.74 45 P **P** **19 40 36.9 -1.0**
comp=Z,23nm,0.7s,baz=258,slow=12,SNR=5.5
JOW LR LR 19 55 53.6
comp=Z,2µm,21.2s,baz=322,slow=35
JOW Kunigami 39.74 45 P **P** **19 40 36.9 -1.0**
WRA Warramunga Arr 40.47 121 P **P** **19 40 42.0 -2.0**
comp=Z,23nm,0.7s,baz=301,slow=9.0,SNR=36
WRA S **S** **19 46 48.5 -2.5**
comp=Z,1.1nm,0.9s,baz=301,slow=14,SNR=3.7
WRA Warramunga Arr 40.47 121 P **P** **19 40 42.0 -2.0**
WRA S **S** **19 46 48.6 -2.5**
WRA Warramunga Arr 40.47 121 P **P** **19 40 42.0 -2.0**
WRA S **S** **19 46 48.5 -2.5**
WRAB Tennant Creek 40.47 121 *e*P **P** **19 40 42.2 -1.9**
WRAB Tennant Creek 40.47 121 *e*P **P** **19 40 42.1 -1.9**
WRAB Tennant Creek 40.47 121 P **P** **19 40 42.6 -1.5**
comp=Z,245nm,0.6s,SNR=27
WB2 Warramunga Arr 40.48 121 *e*P **P** **19 40 41.7 -2.4**
FORT Forrest 41.50 139 *e*P **P** **19 40 54.4 +2.1**
comp=Z,50nm,0.6s
FORT Forrest 41.50 139 *e*P **P** **19 40 54.5 +2.1**
comp=Z,67nm,0.6s
ASAR Alice Springs 41.75 126 P **P** **19 40 53.8 -0.8**
comp=Z,15nm,0.7s,baz=296,slow=7.8,SNR=103
ASAR PcP **PcP** **19 42 52.5 +1.8**
comp=Z,2.4nm,0.6s,baz=302,slow=3.0,SNR=2.6
ASAR S **S** **19 47 08.8 -1.3**
comp=Z,2.4nm,1.1s,baz=301,slow=15,SNR=6.3
ASAR Alice Springs 41.75 126 P **P** **19 40 53.8 -0.8**
ASAR 19 42 52.5
ASAR S **S** **19 47 08.8 -1.3**
ASAR Alice Springs 41.75 126 P **P** **19 40 53.8 -0.8**
ASAR PcP **PcP** **19 42 52.5 +1.8**
ASAR S **S** **19 47 08.8 -1.3**
AS31 Alice Springs 41.75 126 *e*P **P** **19 40 53.3 -1.3**
HHC Hu-ho-hao-te 42.87 15 *e*P **P** **19 41 04.0 +0.5**
HHC pP **pP** **19 41 13.5 +0.7**
HHC sP **sP** **19 41 18.3 +1.7**
HHC PP **PP** **19 42 46.0 +2.6**
HHC S **S** **19 47 25.0 -1.2**
HHC sS **sS** **19 47 41.5 0.0**
HHC SS SS 19 50 30.5 -7.8
HHC ScS **ScS** **19 51 00.5 -1.8**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,3µm,5.2s
HHC LR LR
comp=N,16µm,15.8s
HHC LR LR
comp=E,6µm,14.7s
HHC LR LR
comp=Z,15µm,16.0s
BJT Baijiatuau 43.51 20 *e*P **P** **19 41 08.6 +0.1**
BJT pmax pmax
comp=Z,241nm,0.9s
BJT Baijiatuau 43.51 20 *e*P **P** **19 41 08.6 +0.1**
comp=Z,241nm,0.9s
BJI Beijing 43.53 20 P **P** **19 41 08.8 +0.1**
BJI S **S** **19 47 38.0 +2.4**
BJI pmax pmax
comp=Z,110nm,1.4s
BJI LR LR
comp=N,7µm,14.3s
BJI LR LR
comp=E,8µm,15.1s
BJI LR LR
comp=Z,3µm,17.2s
KBL Kabul 44.12 325 *e*P **P** **19 41 12.1 -1.8**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 44.12 325 *e*P **P** **19 41 12.1 -1.8**
comp=Z,9.5nm,0.8s
KSH Kashi 44.58 336 *e*P **P** **19 41 16.0 -1.4**
KSH *ep*P **pP** **19 41 26.5 -0.2**
KSH *es*P **sP** **19 41 30.0 -0.5**
KSH *e*PcP **PP** **19 43 01.0 -0.8**
KSH *e*PP **PcP** **19 43 04.0 +4.0**
KSH *e*ScP **ScP** **19 46 49.0 -1.2**
KSH *e*PcS **PcS** **19 46 53.0 -0.6**
KSH *e*S **S** **19 47 45.8 -5.6**
KSH *es*S **sS** **19 48 03.0 -3.8**
KSH *e*ScS **SS** **19 51 09.5 -2.6**
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH pmax pmax
comp=Z,400nm,7.3s
KSH LR LR
comp=N,3µm,14.2s
KSH LR LR
comp=E,1µm,11.6s
KSH LR LR
comp=Z,3µm,17.9s
DL2 Dalian 44.71 26 P **P** **19 41 18.5 +0.3**
DL2 pmax pmax
comp=Z,60nm,0.8s
DL2 LR LR
comp=N,3µm,16.8s
DL2 LR LR
comp=E,1µm,12.3s
DL2 LR LR
comp=Z,3µm,13.2s
WMQ Urumqi 45.00 349 P **P** **19 41 21.0 +0.5**
WMQ pP **pP** **19 41 31.0 +1.1**
WMQ sP **sP** **19 41 34.0 +0.3**
WMQ pmax pmax
comp=Z,85nm,0.9s
WMQ pmax pmax
comp=Z,880nm,5.1s
WMQ LR LR
comp=N,2µm,21.6s
WMQ LR LR
comp=E,3µm,23.0s
WMQ LR LR
comp=Z,3µm,24.4s
JNU Nakatsue 45.47 40 P **P** **19 41 21.9 -2.5**
comp=Z,49nm,0.9s,baz=176,slow=2.9,SNR=20
JNU LR LR 19 59 47.7
comp=Z,5µm,21.2s,baz=236,slow=35
JNU Nakatsue 45.47 40 *e*P **P** **19 41 21.9 -2.4**
comp=Z,30nm,0.8s
COEN Coen 46.62 109 *e*P P 19 41 30.3 -3.4
comp=Z,73nm,1.0s
KSAR Wonju Array Be 46.67 33 P **P** **19 41 32.5 -1.3**
KSAR Wonju Array Be 46.67 33 P **P** **19 41 32.5 -1.3**
KSRS Korea Array 46.70 33 P **P** **19 41 32.5 -1.5**
comp=Z,18nm,0.7s,baz=221,slow=8.3,SNR=75
KSRS LR LR 20 01 58.3
comp=Z,6µm,19.3s,baz=222,slow=37
KSRS Korea Array 46.70 33 P **P** **19 41 32.5 -1.5**
KSRS pmax pmax
comp=Z,18nm,0.7s
KSRS MLR MLR
comp=Z,6µm,19.3s
ULHL Ulahol 46.80 338 P **P** **19 41 35.7 +0.8**
SNR=7.3
ULHL P **P** **19 41 35.7 +0.8**
SNR=7.3
KZA Kyzart 47.04 337 P **P** **19 41 38.4 +1.3**
SNR=5.4
KZA P **P** **19 41 38.4 +1.3**
SNR=5.4
TKM2 Tokmak 2 47.62 338 P **P** **19 41 41.7 +0.4**
SNR=41
TKM2 P **P** **19 41 41.7 +0.4**
SNR=41
TKM2 Tokmak 2 47.62 338 *i*P **P** **19 41 41.7 +0.4**
TKM2 Tokmak 2 47.62 338 *e*P **P** **19 41 41.5 +0.1**
comp=Z,92nm,1.4s
KBK Karagaybulak 47.65 337 P **P** **19 41 43.0 +1.5**
SNR=20
KBK P **P** **19 41 43.0 +1.5**
SNR=20
AML Almayashu 47.72 335 P **P** **19 41 42.7 +0.4**
SNR=37
AML P **P** **19 41 42.7 +0.4**
SNR=37
AAK Ala-Archa 47.81 337 P **P** **19 41 43.5 +0.8**
SNR=7.5
AAK P **P** **19 41 43.5 +0.8**
SNR=7.5
AAK Ala-Archa 47.81 337 *c i*P **P** **19 41 44.1 +1.4**
AAK pmax pmax
comp=Z,55nm,1.7s
AAK MLR MLR
comp=Z,9µm,20.0s
AAK Ala-Archa 47.81 337 *e*P **P** **19 41 43.5 +0.8**
comp=Z,144nm,1.1s
FRU Bishkek 47.93 337 *e*P **P** **19 41 44.0 +0.5**
FRU *e* 19 41 51.0
FRU *e* 19 48 40.0
FRU pmax pmax
comp=Z,80nm,2.0s
SNY Shenyang 47.96 26 ⇑P **P** **19 41 42.0 -1.6**
SNY S **S** **19 48 43.5 +4.1**
SNY pmax pmax
comp=Z,67nm,2.2s
SNY pmax pmax
comp=Z,3µm,12.0s
SNY LR LR
comp=N,1µm,30.1s
SNY LR LR
comp=E,2µm,19.4s
SNY LR LR
comp=Z,1µm,21.6s
CHMS Chumysh 48.02 337 P **P** **19 41 45.1 +1.0**
SNR=12
CHMS P **P** **19 41 45.1 +1.0**
SNR=12
EKS2 Erkin-Say 48.12 336 P **P** **19 41 45.7 +0.6**
SNR=25
EKS2 P **P** **19 41 45.7 +0.6**
SNR=25
EKS2 Erkin-Say 48.12 336 *e*P **P** **19 41 45.3 +0.2**
EKS2 pmax pmax
comp=Z,27nm,0.9s
EKS2 Erkin-Say 48.12 336 *e*P **P** **19 41 45.3 +0.2**
comp=Z,27nm,0.9s
BBOO Buckleboo 48.13 136 *e*P **P** **19 41 46.4 +1.2**
comp=Z,102nm,0.9s
BBOO Buckleboo 48.13 136 *e*P **P** **19 41 45.8 +0.6**
comp=Z,720nm,1.2s
USP Ospenovka 48.34 337 P **P** **19 41 46.7 0.0**
SNR=56
USP P **P** **19 41 46.7 0.0**
SNR=56
GUMO Guam 48.41 71 LR LR 20 00 46.1
comp=Z,1µm,19.5s,baz=61,slow=34
SONM Songino Array 48.60 7 P **P** **19 41 48.7 0.0**
comp=Z,23nm,0.6s,baz=192,slow=8.4,SNR=154
SONM S S 19 48 55.2 +6.6
comp=Z,0.9nm,1.0s,baz=207,slow=11,SNR=2.5
SONM LR LR 20 05 06.0
comp=Z,12µm,18.4s,baz=194,slow=40
SONM Songino Array 48.60 7 P **P** **19 41 48.7 0.0**
SONM S S 19 48 55.2 +6.6
SONM Songino Array 48.60 7 P **P** **19 41 48.7 0.0**
SONM S S 19 48 55.1 +6.6
ULN Ulaanbaatar 48.72 8 *e*P **P** **19 41 49.1 -0.5**
ULN pmax pmax
comp=Z,39nm,0.7s
ULN Ulaanbaatar 48.72 8 *e*P **P** **19 41 49.1 -0.5**
comp=Z,39nm,0.7s
MK31 Makanchi Array 49.00 346 *e*P **P** **19 41 51.4 -0.3**
MK31 Makanchi Array 49.00 346 *e*P **P** **19 41 51.4 -0.3**
MKAR Makanchi Array 49.00 346 P **P** **19 41 51.6 -0.1**
comp=Z,45nm,0.7s,baz=154,slow=7.2,SNR=200
MKAR S **S** **19 48 54.7 +0.6**
comp=Z,1.6nm,1.0s,baz=163,slow=18,SNR=4.2
MKAR PKPPKP P'P'df 20 12 46.9 -5.3
comp=Z,0.7nm,1.1s,baz=273,slow=2.5,SNR=3.8
MKAR Makanchi Array 49.00 346 P **P** **19 41 51.6 -0.1**
MKAR S **S** **19 48 54.7 +0.6**
MKAR Makanchi Array 49.00 346 P **P** **19 41 51.6 -0.1**
MKAR S **S** **19 48 54.7 +0.6**
MKAR P'P' 20 12 46.9
IMON Monand 49.21 317 *e*P **P** **19 41 54.5 +0.7**
PMG Port Moresby 49.67 102 P **P** **19 41 57.3 0.0**
comp=Z,8.6nm,0.6s,baz=204,slow=4.9,SNR=6.8
PMG Port Moresby 49.67 102 *e*P **P** **19 41 55.5 -1.8**
PMG pmax pmax
comp=Z,19nm,0.6s
PMG Port Moresby 49.67 102 *e*P **P** **19 41 55.5 -1.8**
comp=Z,19nm,0.6s
ITEG Tejag 49.68 316 *e*P **P** **19 41 57.0 -0.3**
KKAR Karatay Array 49.87 334 *e*P **P** **19 41 58.2 -0.2**
KKAR pmax pmax
comp=Z,59nm,1.3s
KKAR Karatay Array 49.87 334 *e*P **P** **19 41 58.2 -0.2**
comp=Z,59nm,1.3s
CN2 Changchun 50.36 26 ⇑P **P** **19 42 00.5 -1.5**
CN2 *ep*P **pP** **19 42 10.5 -1.0**
CN2 *es*P **sP** **19 42 14.5 -0.7**
CN2 PcP **PcP** **19 43 19.0 -1.3**
CN2 PP **PP** **19 43 57.5 -0.3**
CN2 *e*S **S** **19 49 10.5 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,3µm,14.0s
CN2 LR LR
comp=E,7µm,14.0s
CN2 LR LR
comp=Z,6µm,15.0s
IMYA Miami 50.77 320 *e*P **P** **19 42 04.5 -1.0**
ZAK Zakamensk 50.80 4 *e*P **P** **19 42 05.1 -0.3**
ZAK pmax pmax
comp=Z,23nm,1.7s
CTA Charters Tower 51.03 116 P **P** **19 42 07.1 -0.4**
comp=Z,9.1nm,1.2s,baz=350,slow=6.1,SNR=3.6
CTA LR LR 20 08 46.8
comp=Z,3µm,18.3s,baz=295,slow=42
CTA Charters Tower 51.03 116 *e*P **P** **19 42 06.5 -1.0**
comp=Z,11nm,0.9s
CTA Charters Tower 51.03 116 P **P** **19 42 07.1 -0.4**
CTA Charters Tower 51.03 116 P **P** **19 42 07.1 -0.4**
ISRO Mashad 51.16 320 *e*P sP 19 42 21.7 +0.1
IBAF Bafgh 51.28 312 *e*P **P** **19 42 09.6 +0.2**
QLP Quilpie 51.45 124 ⇓*i*P **P** **19 42 10.2 -0.3**
STKA Stephens Creek 51.65 132 P **P** **19 42 12.6 +0.6**
comp=Z,5.1nm,0.6s,baz=311,slow=8.1,SNR=3.8
STKA LR LR 20 06 02.0
comp=Z,6µm,21.3s,baz=325,slow=38
STKA Stephens Creek 51.65 132 *e*P **P** **19 42 10.7 -1.2**
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 51.65 132 P **P** **19 42 12.6 +0.6**
STKA pmax pmax
comp=Z,5.0nm,0.6s
STKA MLR MLR
comp=Z,6µm,21.3s
STKA Stephens Creek 51.65 132 *e*P **P** **19 42 10.7 -1.2**
comp=Z,5.6nm,0.8s
IMEH Mehriz 51.89 312 *e*P **P** **19 42 13.7 -0.4**
MOY Mondy 51.95 2 *e*P **P** **19 42 15.1 +1.1**
MOY pmax pmax
comp=Z,123nm,2.7s
IKRD Kardeh 52.06 320 *e*P P 19 42 10.6 -4.6
ISRV Sarvestan 52.10 309 *e*P **P** **19 42 16.2 +0.4**
TLY Talaya 52.12 4 *e*P **P** **19 42 15.4 +0.3**
TLY *e*S S 19 49 30.6 -6.6
TLY pmax pmax
comp=Z,36nm,0.8s
TLY MLR MLR
comp=Z,11µm,17.0s
TLY Talaya 52.12 4 *e*P **P** **19 42 15.3 +0.2**
comp=Z,34nm,0.7s
TLY Talaya 52.12 4 P **P** **19 42 16.0 +0.9**
comp=Z,310nm,0.7s,SNR=13
MAT Matsushiro 52.32 41 P P 19 42 12.2 -4.7
MJAR Matsushiro Arr 52.32 41 P **P** **19 42 15.3 -1.6**
comp=Z,11nm,1.0s,baz=228,slow=8.4,SNR=18
MJAR LR LR 20 08 09.8
comp=Z,3µm,18.9s,baz=235,slow=40
MJAR Matsushiro Arr 52.32 41 P **P** **19 42 15.3 -1.6**
MJAR Matsushiro Arr 52.32 41 P **P** **19 42 15.3 -1.6**
IPAR Pars 52.36 309 *e*P **P** **19 42 18.1 +0.4**
IRK Irkutsk 52.73 5 *e*P **P** **19 42 20.6 +1.0**
IRK *e*S **S** **19 49 47.1 +1.6**
IRK *e* 19 52 07.1
IRK pmax pmax
comp=Z,180nm,1.7s
MDJ Mudanjiang 52.87 28 P **P** **19 42 21.0 +0.3**
MDJ pP **pP** **19 42 29.5 -0.8**
MDJ sP **sP** **19 42 33.5 -0.5**
MDJ ScP **ScP** **19 47 24.5 -0.5**
MDJ PcS **PcS** **19 47 28.8 +0.6**
MDJ S **S** **19 49 47.5 -0.1**
MDJ pmax pmax
comp=Z,21nm,1.3s
MDJ pmax pmax
comp=Z,1µm,5.1s
MDJ LR LR
comp=N,10µm,17.2s
MDJ LR LR
comp=E,7µm,14.4s
MDJ LR LR
comp=Z,15µm,15.8s
MDJ Mudanjiang 52.87 28 *e*P **P** **19 42 19.9 -0.8**
comp=Z,25nm,1.0s
VLA Vladivostok 52.89 31⇑ *e*P **P** **19 42 19.5 -1.4**
VLA *e* 19 43 28.0
VLA *e*S **S** **19 49 46.1 -1.9**
VLA pmax pmax
comp=Z,57nm,1.4s
HIA Hailar 52.90 18 *e*P **P** **19 42 20.2 -0.7**
HIA pmax pmax
comp=Z,80nm,1.4s
HIA Hailar 52.90 18 *e*P **P** **19 42 20.2 -0.7**
comp=Z,80nm,1.4s
OPO Ambohidratompo 53.07 247 P **P** **19 42 23.8 +0.9**
comp=Z,9.3nm,1.1s,baz=81,slow=9.1,SNR=5.5
OPO LR LR 20 00 30.7
comp=Z,2µm,19.0s,baz=117,slow=31
OPO Ambohidratompo 53.07 247 P **P** **19 42 23.8 +0.9**
KURK Kurchatov 53.56 345 P **P** **19 42 24.9 -0.8**
comp=Z,16nm,0.8s,baz=166,slow=6.9,SNR=127
KURK S S 19 50 04.9 +8.1
comp=Z,2.4nm,1.1s,baz=152,slow=12,SNR=6.4
KURK Kurchatov 53.56 345 P **P** **19 42 24.9 -0.8**
KURK S S 19 50 04.9 +8.1
KURK pmax pmax
comp=Z,16nm,0.8s
KURK smax smax
comp=N,2.0nm,1.1s
KURK Kurchatov 53.56 345 *e*P **P** **19 42 25.3 -0.4**
comp=N,42nm,0.9s
KURK S S 19 50 04.9 +8.1
USRK Ussuriysk Arra 53.72 30 P **P** **19 42 26.3 -0.7**
comp=N,90nm,0.7s,baz=235,slow=5.0,SNR=123
USRK LR LR 20 07 55.5
comp=N,4µm,20.6s,baz=32,slow=39
CIT Chita 53.85 12 *e*P **P** **19 42 28.4 +0.5**
CIT *e* 19 42 45.3
CIT *e* 19 43 40.9
CIT *e*S **S** **19 50 05.5 +4.6**
CIT *e* 19 52 14.2
CIT pmax pmax
comp=Z,309nm,2.1s
IZEF Zefreh 54.31 312 *e*P **P** **19 42 28.9 -3.0**
IKIA Kiasar 54.98 316 *e*P **P** **19 42 37.1 +0.4**
IKLH Kolahrood 55.06 312 *e*P **P** **19 42 35.9 -1.5**
ZAA0 Zalesovo Array 55.28 351 *e*P **P** **19 42 37.5 -0.7**
ZALV Zalesovo Beam 55.28 351 P **P** **19 42 37.8 -0.4**
comp=Z,50nm,0.6s,baz=178,slow=6.3,SNR=208
ZALV S **S** **19 50 22.4 +2.6**
comp=Z,0.3nm,0.4s,baz=168,slow=15,SNR=3.5
ZALV Zalesovo Beam 55.28 351 P **P** **19 42 37.8 -0.4**
ZALV S **S** **19 50 22.4 +2.6**
ZALV Zalesovo Beam 55.28 351 P **P** **19 42 37.8 -0.4**
ZALV S **S** **19 50 22.4 +2.6**
IPIR Pirpir 55.29 311 *e*P **P** **19 42 40.0 +1.0**
ATD Arta Tunnel 56.10 284 LR LR 20 03 21.8
comp=Z,1µm,20.1s,baz=95,slow=32
RDF Al-Radifah 56.35 306 *e*P **P** **19 42 47.9 +1.5**
RDF AMb AMB 19 42 51.7
comp=Z,98nm,0.9s
NVS Novosibirsk 56.40 350⇓ *i*P **P** **19 42 45.8 -0.4**
NVS *i*S **S** **19 50 30.1 -4.7**
NVS *i* 19 52 29.5
NVS pmax pmax
comp=Z,72nm,1.4s
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS smax smax
comp=N,63nm,2.9s
NVS smax smax
comp=E,115nm,2.9s
UMR Umm Al-Rimmam 56.46 306 *e*P **P** **19 42 48.0 +0.9**
IR3 Iran Long-Peri 56.49 314 *e*P **P** **19 42 49.9 +2.6**
NAY Al-Naaiem 56.73 306 *e*P **P** **19 42 49.8 +0.7**
NAY AMb AMB 19 42 58.1
comp=Z,38nm,0.7s
MIB Mutribah 56.86 307 *e*P **P** **19 42 50.6 +0.6**
MIB AMb AMB 19 42 54.5
comp=Z,124nm,0.9s
TOO Toolangi 57.19 136 *e*P P 19 42 58.7 +6.5
comp=Z,53nm,0.7s
IRAZ Razeghan 57.24 314 *e*P **P** **19 42 53.0 +0.2**
KLR Kul'dur 57.32 26⇓ *i*P P 19 42 48.8 -4.0
KLR pmax pmax
comp=Z,2µm,7.0s
YNG Young 57.83 131 *e*P **P** **19 42 58.3 +1.5**
comp=Z,22nm,1.0s
BVAR Borovoye Array 58.05 341 P **P** **19 42 56.6 -1.3**
comp=Z,6.9nm,0.5s,baz=145,slow=8.8,SNR=51
BVAR S **S** **19 51 00.4 +3.9**
comp=Z,1.1nm,0.9s,baz=126,slow=7.3,SNR=3.1
BVAR LR LR 20 11 44.3
comp=Z,4µm,19.7s,baz=157,slow=40
BVAR PKP2ab 20 13 01.0
comp=Z,0.5nm,0.8s,baz=358,slow=4.3,SNR=4.2
BVAR Borovoye Array 58.05 341 P **P** **19 42 56.6 -1.3**
BVAR S **S** **19 51 00.4 +3.9**
BVAR Borovoye Array 58.05 341 P **P** **19 42 56.6 -1.3**
BVAR S **S** **19 51 00.4 +3.9**
BVAR P'P'ab **P'P'ab** **20 13 01.0 -4.8**
BRVK Borovoye 58.11 341 *d i*P **P** **19 42 57.9 -0.4**
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK MLR MLR

comp=Z,3µm,16.0s
BRVK Borovoye 58.11 341 *e*P **P** **19 42 56.3 -2.0**
comp=Z,32nm,1.0s
BRVK Borovoye 58.11 341 P **P** **19 42 57.1 -1.2**
comp=Z,96nm,0.9s,SNR=8.0
HABR Khabarovsk 58.25 28*c*eP **P** **19 42 56.9 -2.5**
HABR *e**SP sP 19 43 03.7 -9.0
HABR *e* 19 43 48.7
HABR *e* 19 45 05.8
HABR *e*S **S** **19 50 58.3 -1.0**
HABR *e*S S 19 51 04.1 +4.8
HABR *e* 19 52 45.7
HABR *e*SS **SS** **19 54 50.9 -0.7**
HABR pmax pmax
comp=E,46nm,2.3s
HABR pmax pmax
comp=Z,92nm,2.3s
HABR pmax pmax
comp=N,24nm,2.3s
HABR MLR MLR
comp=N,4µm,19.0s
HABR MLR MLR
comp=Z,5µm,19.0s
HABR MLR MLR
comp=E,6µm,18.0s
IKOM Komasi 58.48 311 *e*P **P** **19 43 01.3 -0.2**
CAN Canberra 58.71 132 *e*P **P** **19 43 02.7 -0.2**
CAN pmax pmax
comp=Z,44nm,1.2s
CAN Canberra 58.71 132 *e*P **P** **19 43 02.7 -0.2**
comp=Z,44nm,1.2s
ARMA Armidale 58.90 126 *e*P **P** **19 43 04.1 -0.3**
ARMA Armidale 58.90 126 *e*P **P** **19 43 04.1 -0.3**
comp=Z,14nm,0.7s
IVIS Veis 59.12 311 *e*P **P** **19 43 05.9 0.0**
IGHG Ghaleghazi 59.25 311 *e*P **P** **19 43 06.5 -0.4**
ABKAR Akbulak array 59.33 332 *e*P **P** **19 43 05.5 -1.3**
comp=Z,36nm,1.0s
BOD Bodaibo 59.44 10 *e*P **P** **19 43 06.9 -0.5**
BOD *e* 19 51 17.4
BOD pmax pmax
comp=Z,62nm,1.3s
ASAJ Asahikawa 59.44 36 P **P** **19 43 07.3 -0.5**
comp=Z,18nm,0.7s,baz=296,slow=9.2,SNR=9.0
ASAJ LR LR 20 06 39.1
comp=Z,1µm,21.2s,baz=191,slow=34
ASAJ Asahikawa 59.44 36 P **P** **19 43 07.3 -0.5**
ASAJ pmax pmax
comp=Z,18nm,0.7s
ASAJ MLR MLR
comp=Z,1µm,21.2s
ASAJ Asahikawa 59.44 36 *e*P **P** **19 43 07.2 -0.5**
comp=Z,52nm,1.4s
IDHR Dehrash 59.54 311 *e*P **P** **19 43 07.4 -1.5**
ISRB Sarab 59.97 315 *e*P **P** **19 43 12.2 +0.4**
BHD Baghdad 60.51 309 *e*P **P** **19 43 15.0 -0.3**
BHD *i*S **S** **19 51 25.0 -4.0**
BHD *i*PS **PnS** **19 51 42.0 -3.1**
BHD *i*ScS SKKSac 19 53 00.0 -4.0
IHRS Heris 60.63 315 *e*P **P** **19 43 15.9 -0.4**
KMBO Kilima Mbogo 60.80 269 *e*P **P** **19 43 19.9 +1.9**
KMBO pmax pmax
comp=Z,21nm,1.4s
KMBO Kilima Mbogo 60.80 269 *e*P **P** **19 43 19.9 +1.9**
comp=Z,21nm,1.4s
CLNS Chul'man 61.02 16 *e*P **P** **19 43 17.7 -0.7**
CLNS *e* 19 44 00.0
CLNS *e* 19 45 32.9
CLNS *e*S **S** **19 51 34.4 -0.5**
CLNS *e* 19 52 59.7
CLNS pmax pmax
comp=Z,21nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.8s
CLNS pmax pmax
comp=N,22nm,1.7s
CLNS pmax pmax
comp=E,13nm,1.4s
CLNS smax smax
comp=N,689nm,15.3s
CLNS smax smax
comp=E,226nm,13.1s
CLNS MLR MLR
comp=E,2µm,14.0s
CLNS MLR MLR
comp=Z,3µm,14.0s
CLNS MLR MLR
comp=N,2µm,13.0s
AKTO Aktyubinsk 61.05 332 P **P** **19 43 17.1 -1.5**
comp=N,6.4nm,1.0s,baz=138,slow=6.6,SNR=16
AKTO Aktyubinsk 61.05 332 P **P** **19 43 17.1 -1.5**
AKTO Aktyubinsk 61.05 332 P **P** **19 43 17.1 -1.5**
YSS Yuzh-Sakhalins 61.20 33⇑ *e*P **P** **19 43 20.0 +0.3**
YSS *e* 19 43 27.9
YSS *e* 19 43 37.2
YSS *e* 19 44 03.0
YSS pmax pmax
comp=Z,100nm,1.0s
YSS Yuzh-Sakhalins 61.20 33 *e*P **P** **19 43 19.1 -0.7**
comp=Z,145nm,1.1s
IMRD Marand 61.75 315 *e*P **P** **19 43 24.8 +1.0**
HNR Honiara 62.22 100 P **P** **19 43 24.9 -2.3**
comp=Z,207nm,0.7s,baz=224,slow=2.8,SNR=11
HNR Honiara 62.22 100 P **P** **19 43 24.9 -2.3**
HNR Honiara 62.22 100 *e*P **P** **19 43 26.4 -0.8**
comp=Z,180nm,0.8s
MAK Makhachkala 62.51 320 *e*P **P** **19 43 27.1 -1.5**
MAK *e* 19 45 46.5
MAK *e*S **S** **19 51 48.8 -5.3**
MAK *e* 19 53 15.8
MAK *e*SS **SS** **19 56 02.6 +3.9**
MAK pmax pmax
comp=Z,246nm,1.6s
GNI Garni 63.05 316 P **P** **19 43 34.2 +1.7**
comp=Z,2.2nm,0.5s,baz=172,slow=15,SNR=3.4
GNI Garni 63.05 316 P **P** **19 43 32.9 +0.5**
GNI pmax pmax
comp=Z,61nm,1.4s
GNI Garni 63.05 316 P **P** **19 43 32.9 +0.5**
comp=Z,62nm,1.4s
DGRG David-gareji 63.19 318 P **P** **19 43 34.4 +1.2**
TBLG Delisi 63.74 318 *e*P **P** **19 43 37.7 +0.8**
TBLG Delisi 63.74 318 P **P** **19 43 37.8 +0.8**
AKH Akhalkalaki 64.44 317 P **P** **19 43 44.3 +2.6**
SVE Sverdlovsk 64.49 338*d*eP **P** **19 43 40.9 -0.5**
SVE pmax pmax
comp=Z,55nm,1.1s
ZEI Tsey 64.77 319 *e*P **P** **19 43 44.2 +0.4**
ZEI pmax pmax
comp=Z,49nm,2.1s
ONI Oni 64.98 318 P **P** **19 43 45.5 +0.4**
ARU Arti 64.99 337 *e*P **P** **19 43 43.4 -1.3**
ARU pmax pmax
comp=Z,50nm,1.3s
ARU Arti 64.99 337 *e*P **P** **19 43 43.4 -1.3**
comp=Z,50nm,1.3s
ARU Arti 64.99 337 P **P** **19 43 44.3 -0.4**
comp=Z,90nm,1.0s,SNR=7.8
KIV Kislovodsk 66.08 319 *e*P **P** **19 43 52.1 0.0**
KIV *e*S **S** **19 52 38.4 -0.1**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 66.08 319 *e*P **P** **19 43 51.9 -0.2**
comp=Z,31nm,0.9s
ASF Jabal al Asfar 66.09 306 P **P** **19 43 53.7 +1.2**
comp=Z,4.7nm,0.8s,baz=353,slow=4.4,SNR=5.4
ASF Jabal al Asfar 66.09 306 P **P** **19 43 53.7 +1.2**
ASF Jabal al Asfar 66.09 306 P **P** **19 43 53.7 +1.2**
CASY Casey 66.33 175 *e*P **P** **19 43 54.9 +1.8**
comp=Z,14nm,1.0s
YAK Yakutsk 66.73 16*c i*P **P** **19 43 54.4 -1.3**
YAK *e**PP **pP** **19 44 02.6 -2.9**
YAK *e* 19 44 24.1
YAK *e* 19 46 18.5
YAK *e*S **S** **19 52 42.5 -2.9**
YAK *e* 19 53 44.0
YAK *e*SS SS 19 56 54.2 -9.4
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=E,26nm,1.2s
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=Z,112nm,2.2s
YAK pmax pmax
comp=N,45nm,2.0s
YAK pmax pmax
comp=E,70nm,1.7s
YAK smax smax
comp=E,401nm,2.8s
YAK smax smax
comp=N,287nm,4.0s
YAK MLR MLR
comp=Z,11µm,16.0s
YAK MLR MLR
comp=E,4µm,15.0s
YAK MLR MLR
comp=N,7µm,17.0s
YAK Yakutsk 66.73 16 *e*P **P** **19 43 54.5 -1.3**
comp=N,78nm,0.8s
EIL Elat 67.04 303 P **P** **19 43 58.5 +0.1**
comp=N,10nm,0.9s,baz=30,slow=3.7,SNR=10
EIL Elat 67.04 303 P **P** **19 43 58.5 +0.1**
MMAI Mount Meron Ar 67.54 306 P **P** **19 44 02.7 +1.1**
comp=N,3.1nm,0.7s,baz=92,slow=10,SNR=3.5
MMAI Mount Meron Ar 67.54 306 P **P** **19 44 02.7 +1.1**
SOC Sochi 67.88 318 *e*P **P** **19 44 02.6 -0.9**
SOC *e**SP sP 19 44 11.5 -5.4
SOC *e*S **S** **19 52 57.5 -2.5**
SOC pmax pmax
comp=Z,28nm,0.6s
SOKR Solikamsk 67.89 339*d i*P **P** **19 44 04.2 +1.1**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,3µm,22.0s
DZM Mont Dzumac 69.86 113 LR LR 20 19 01.4
comp=Z,2µm,18.6s,baz=278,slow=40
ANN Anapa 69.87 319 *e*P **P** **19 44 17.5 +1.7**
ANN *e*S S 19 53 30.8 +7.3
ANN pmax pmax
comp=Z,61nm,1.0s
VRHR Novokhopersk 69.94 326 *e*P **P** **19 44 15.0 -1.1**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
SKR Severo-Kuril's 70.67 35 *e*P **P** **19 44 20.0 -0.5**
SKR pmax pmax
comp=Z,180nm,1.0s
VSR Storozhevoye 71.38 325 *e*P **P** **19 44 23.8 -1.0**
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR MLR MLR
comp=N,430nm,18.0s
VSR MLR MLR
comp=E,1µm,18.0s
VSR MLR MLR
comp=Z,2µm,18.0s
SLR Silverton 71.65 243 *e*P **P** **19 44 29.1 +1.9**
SLR AMB AMB 19 44 45.5
comp=Z,42nm,4.2s
ERPM east rand prop 71.77 242 *e*P **P** **19 44 29.2 +1.2**
SIM Simferopol' 72.13 318 *e*P P 19 44 23.0 -6.5
SIM *e*S S 19 53 41.0 -8.8
SIM pmax pmax
comp=Z,20nm,0.6s
PETK Petropavlovsk- 72.60 33 P **P** **19 44 31.6 -0.6**
comp=Z,4.1nm,0.6s,baz=202,slow=5.9,SNR=4.3
PETK S **S** **19 53 57.4 +2.5**
comp=Z,7.0nm,1.1s,baz=257,slow=12,SNR=4.8
PETK LR LR 20 19 11.5
comp=Z,1µm,18.7s,baz=255,slow=38
PETK Petropavlovsk- 72.60 33 P **P** **19 44 31.6 -0.6**
PETK S **S** **19 53 57.4 +2.5**
PETK Petropavlovsk- 72.60 33 P **P** **19 44 31.6 -0.6**
PETK S **S** **19 53 57.4 +2.5**
SEK Senekal 72.62 241 *e*P **P** **19 44 34.0 +1.0**
SEK AMB AMB 19 44 40.2
comp=Z,24nm,4.7s
PRYS Parys 72.64 242 *e*P **P** **19 44 33.5 +0.4**
PRYS AMB AMB 19 44 36.3
comp=Z,38nm,4.4s
PET Petropavlovsk 73.09 33 *e*P **P** **19 44 34.9 -0.1**
PET *e*S **S** **19 54 02.4 +2.0**
PET pmax pmax
comp=Z,47nm,0.6s
PET MLR MLR
comp=Z,1µm,19.0s
LBTB Lobatse 73.95 244 *e*P **P** **19 44 42.4 +1.5**
LBTB AMB AMB 19 44 42.6
comp=Z,26nm,2.8s
LBTB Lobatse 73.95 244 *e*P **P** **19 44 42.1 +1.2**
LBTB pmax pmax
comp=Z,14nm,0.9s
LBTB Lobatse 73.95 244 *e*P **P** **19 44 42.1 +1.2**
comp=Z,14nm,0.9s
MOS Moscow 74.15 329 *e*P **P** **19 44 39.8 -1.4**
MOS *i* 19 44 56.4
MOS *i*S **SKiKP** **19 54 07.2 +0.3**
MOS *i* 19 54 45.4
MOS pmax pmax
comp=Z,53nm,1.1s
OBN Obninsk 74.43 328⇑ *e*P **P** **19 44 44.2 +1.4**
OBN *e* 19 45 00.4
OBN *e*S **S** **19 54 14.8 -0.6**
OBN *e*SS **SS** **19 59 04.8 +2.6**
OBN pmax pmax
comp=Z,43nm,1.7s
SWZ Schweizer 74.47 242 *e*P **P** **19 44 43.5 -0.4**
SWZ AMB AMB 19 44 55.4
comp=Z,25nm,2.1s
BOSA Boshof 74.73 241 P **P** **19 44 46.5 +1.1**
comp=Z,7.4nm,0.7s,baz=79,slow=5.8,SNR=12
BOSA Boshof 74.73 241 *e*P **P** **19 44 43.0 -2.3**
BOSA AMB AMB 19 44 44.3
comp=Z,30nm,3.1s
BOSA Boshof 74.73 241 *e*P **P** **19 44 46.0 +0.7**
BOSA pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 74.73 241 *e*P **P** **19 44 46.0 +0.7**
comp=Z,12nm,0.9s
SEY Seymchan 74.91 23⇑ *e*P **P** **19 44 44.8 -0.7**
KLMR Klimovskoe 75.57 334 *e*P **P** **19 44 47.4 -1.9**
KLMR *e* 19 44 59.0
KLMR pmax pmax
comp=Z,38nm,1.5s
KLMR MLR MLR
comp=Z,1µm,21.0s
AKASG Malin Array Be 77.05 323 P **P** **19 44 57.5 -0.4**
comp=Z,5.6nm,0.7s,baz=96,slow=4.8,SNR=12
AKASG Malin Array Be 77.05 323 P **P** **19 44 57.6 -0.4**
AKASG Malin Array Be 77.05 323 P **P** **19 44 57.5 -0.4**
AKBB Malin Array Si 77.05 323 *e*P **P** **19 44 57.8 -0.1**
AKBB Malin Array Si 77.05 323 *e*P **P** **19 44 57.8 -0.1**
KIEV Kiev 77.06 323 *e*P **P** **19 44 57.6 -0.4**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 77.06 323 *e*P **P** **19 44 57.6 -0.4**
comp=Z,12nm,0.8s
RPZ Rata Peaks 77.47 135 LR LR 20 18 52.0
comp=Z,4µm,22.0s,baz=290,slow=36
TESR 77.58 318 ⇓ *i*P **P** **19 45 02.5 +1.4**
MLR Muntele Rosu 77.82 317 P **P** **19 45 03.5 +0.9**
comp=Z,2.0nm,0.8s,baz=338,slow=3.2,SNR=12
MLR Muntele Rosu 77.82 317 ⇓P **P** **19 45 02.8 +0.2**
MLR Muntele Rosu 77.82 317 P **P** **19 45 03.5 +0.9**
MLR Muntele Rosu 77.82 317 ⇓ *i*P **P** **19 45 02.8 +0.2**
HUMR Humele 78.28 316⇑ *i*P **P** **19 45 05.9 +1.0**
VOIR 78.42 317 ⇓P **P** **19 45 06.3 +0.4**
VOIR 78.42 317 ⇓ *i*P **P** **19 45 06.3 +0.4**
BURAR Bucovina Array 78.79 319⇑ *i*P **P** **19 45 08.0 +0.1**
BUR08 Bucovina Ar. S 78.81 319 *e*P **P** **19 45 08.0 +0.1**
MICGM Minsk 78.93 326 *e*P **P** **19 45 06.0 -2.3**
MNK Minsk 78.96 326 *e*P **P** **19 45 06.0 -2.5**
SUR Sutherland 79.01 237 *e*P **P** **19 45 09.9 +0.4**
SUR AMB AMB 19 45 14.1
comp=Z,31nm,4.2s
LOT Lotru 79.31 316 ⇓ *i*P P 19 45 14.1 +3.3
NACGM Naroch 79.66 326 *e* P 19 45 19.0 +6.7
BMR Baia Mare 79.94 319 ⇓P P 19 45 17.4 +3.4
BMR Baia Mare 79.94 319 ⇓ *i*P P 19 45 17.4 +3.4
JOF Joensuu 79.96 335 *e*P **P** **19 45 13.9 +0.2**
JOF Joensuu 79.96 335 *ep* **P** **19 45 13.9 +0.2**
comp=Z,1.0nm,0.4s
JOF Joensuu 79.96 335 *ep* **P** **19 45 13.9 +0.2**
comp=Z,1.0nm,0.4s
LVV L'vov 80.05 321 *e*P **P** **19 45 17.6 +3.1**
DRGR 80.29 318 ⇓P **P** **19 45 17.9 +1.9**
DRGR 80.29 318 ⇓ *i*P **P** **19 45 17.9 +1.9**
VSU Vasula 80.66 330 *i*P **P** **19 45 19.1 +1.5**
TRPA Tarpa 80.67 319⇑ *i*P **P** **19 45 17.1 -0.7**
BZS Buzias 80.83 316⇑P **P** **19 45 15.9 -2.9**
BZS Buzias 80.83 316⇑ *i*P **P** **19 45 15.9 -2.9**
TSUM Tsumeb 80.87 251 *e*P **P** **19 45 21.4 +1.7**
comp=Z,9.7nm,0.9s
UZH Uzhgorod 80.92 319 *e*P sP 19 45 32.5 -0.3
APA Apatity 80.93 339⇑ *i*P P 19 45 27.6 +8.8
APA pmax pmax
comp=Z,32nm,1.2s
KOLS Kolonicke sedl 80.99 320 *e*P **P** **19 45 21.1 +1.5**
KOLS Kolonicke sedl 80.99 320 *e*P **P** **19 45 21.1 +1.5**
URZ Urewera 81.15 129 *e*P **P** **19 45 21.4 +0.8**
SUW Suwalki 81.48 325 *e*P **P** **19 45 20.9 -1.1**
SUW pmax pmax
comp=Z,64nm,1.0s
SUW Suwalki 81.48 325 *e*P **P** **19 45 20.9 -1.1**
comp=Z,64nm,1.0s
CRVS Cervenica-Dubn 81.51 320 *e*P P 19 45 26.6 +4.2
CRVS Cervenica-Dubn 81.51 320 *e*P P 19 45 26.6 +4.2
FINES FINESS Array B 81.81 333 P **P** **19 45 23.0 -0.7**
comp=Z,4nm,0.5s,baz=107,slow=5.8,SNR=29
FINES FINESS Array B 81.81 333 P **P** **19 45 23.0 -0.7**
FINES FINESS Array B 81.81 333 P **P** **19 45 23.0 -0.7**
KAF Kangasniemi 81.90 333 *e*P **P** **19 45 23.7 -0.4**
KAF Kangasniemi 81.90 333 *ep* **P** **19 45 23.7 -0.4**
comp=Z,2.2nm,0.4s
KAF Kangasniemi 81.90 333 *ep* **P** **19 45 23.7 -0.4**
comp=Z,2.2nm,0.4s
BILL Bilibino 82.36 21 *e*P **P** **19 45 25.2 -1.2**
BILL pmax pmax
comp=Z,35nm,1.7s
BILL Bilibino 82.36 21 *e*P **P** **19 45 25.2 -1.2**
comp=Z,35nm,1.7s
PSZ Piszkesteto 82.38 318 *e*P **P** **19 45 26.7 -0.3**
PSZ pmax pmax
comp=Z,69nm,1.8s
PSZ Piszkesteto 82.38 318 *e*P **P** **19 45 26.7 -0.3**
comp=Z,69nm,1.8s
OJC Ojcow 82.81 321 *e*P **P** **19 45 30.0 +0.9**
OJC Ojcow 82.81 321 *e*P **P** **19 45 30.0 +0.9**
PKSM Moragy 82.97 317 ⇓P **P** **19 45 27.8 -2.2**
PKSM Moragy 82.97 317 ⇓ *i*P **P** **19 45 27.8 -2.2**
VYHS Vyhne 83.16 319 *e*P **P** **19 45 33.3 +2.3**
VYHS Vyhne 83.16 319 *e*P **P** **19 45 33.3 +2.3**
KOLL Kolacno 83.46 319 *e*P **P** **19 45 35.5 +3.0**
KOLL Kolacno 83.46 319 *e*P **P** **19 45 35.5 +3.0**
KEV Kevo 83.90 341 *e*P P 19 45 27.8 -6.5
KEV Kevo 83.90 341 *ep* P 19 45 27.8 -6.5
comp=Z,0.2nm,0.3s
KEV Kevo 83.90 341 *ep* P 19 45 27.8 -6.5
comp=Z,0.2nm,0.3s
MORC Moravsky Berou 84.18 320 *e*P **P** **19 45 36.0 -0.3**
MORC pmax pmax
comp=Z,26nm,1.4s
MORC Moravsky Berou 84.18 320 *e*P **P** **19 45 36.0 -0.3**
comp=Z,26nm,1.4s
MORC Moravsky Berou 84.18 320⇑ *i*P **P** **19 45 38.5 +2.2**
ZST Bratislava 84.27 318 *e*P **P** **19 45 39.8 +3.1**
ZST Bratislava 84.27 318 *e*P **P** **19 45 39.8 +3.1**
ARCES ARCESS Array B 84.33 340 P **P** **19 45 36.2 -0.3**
comp=Z,2.3nm,0.7s,baz=109,slow=5.3,SNR=14
ARCES ARCESS Array B 84.33 340 P **P** **19 45 36.3 -0.3**
ARCES ARCESS Array B 84.33 340 P **P** **19 45 36.2 -0.3**
DPC Dobruska-Polom 85.03 320 *e*P **P** **19 45 43.0 +2.4**
KSP Ksiaz 85.11 321 *e*P **P** **19 45 43.8 +2.9**
SOKA Soboth 85.50 317⇑ *i*P **P** **19 45 45.1 +2.1**
comp=Z,16nm,1.2s
SOKA Soboth 85.50 317⇑ *i*PcP **P** **19 45 45.1 +2.1**
comp=Z,16nm,1.2s
PRU Pruhonice 86.13 320 *e*P sP 19 45 58.2 -1.4
PVCC Panska Ves 86.17 321 *e*P P 19 45 55.7 +10
AQU L'Aquila 86.32 312 P **P** **19 45 49.4 +2.3**
AQU pmax pmax
comp=Z,40nm,1.0s
AQU L'Aquila 86.32 312 P **P** **19 45 49.4 +2.3**
comp=Z,40nm,1.0s
GERES GERESS Array B 86.58 319 P **P** **19 45 49.3 +0.9**
comp=Z,2.7nm,1.0s,baz=104,slow=2.8,SNR=12
GERES GERESS Array B 86.58 319 P **P** **19 45 49.3 +0.9**
GERES GERESS Array B 86.58 319 P **P** **19 45 49.3 +0.9**
KHC Kasperske Hory 86.69 319 *e*P P 19 45 53.6 +4.8
KHC *ex* x 19 46 02.5
NKC Novy Kostel 87.50 320 *e*P **P** **19 45 55.1 +2.4**
HFS Hagfors 87.54 330 P **P** **19 45 53.3 +0.7**
comp=Z,4.1nm,0.9s,baz=98,slow=11,SNR=6.2
HFS LR LR 20 31 23.0
comp=Z,1µm,19.4s,baz=96,slow=40
HFS Hagfors 87.54 330 P **P** **19 45 53.3 +0.7**
HFS Hagfors 87.54 330 P **P** **19 45 53.3 +0.7**
GRF Grafenberg Arr 88.26 320 *e*P sP 19 46 08.2 -1.8
comp=Z,20nm,1.3s
GRF Grafenberg Arr 88.26 320 *e*P **sP** **19 46 08.2 -1.8**
GRF pmax pmax
comp=Z,20nm,1.3s
NVL N'lazarevskaya 88.36 199 *e*P **sP** **19 46 09.5 -0.5**
NVL *e*PS **SKSac** **19 56 19.7 -2.9**
NVL *e* 19 56 40.6
SPITS Spitsbergen Ar 88.69 348 P **P** **19 45 57.2 -0.6**
comp=Z,5.7nm,0.8s,baz=123,slow=7.2,SNR=5.9
SPITS Spitsbergen Ar 88.69 348 P **P** **19 45 57.2 -0.6**
SPITS Spitsbergen Ar 88.69 348 P **P** **19 45 57.2 -0.6**
NB2 NORSAR Subarra 88.82 331 P **P** **19 45 59.1 +0.4**
comp=Z,27nm,1.4s,baz=97,slow=4.8
NOA NORSAR Array B 88.82 331 P **P** **19 45 59.7 +1.0**
comp=Z,4.4nm,1.2s,baz=95,slow=4.8,SNR=2.9
NOA LR LR 20 32 25.6
comp=Z,1µm,18.8s,baz=90,slow=40
NOA NORSAR Array B 88.82 331 P **P** **19 45 59.7 +1.0**
NOA NORSAR Array B 88.82 331 P **P** **19 45 59.7 +1.0**
KEST Kesra 89.19 306 P P 19 46 04.9 +3.8
comp=Z,1.8nm,0.9s,baz=5.7,slow=10,SNR=3.4
KEST Kesra 89.19 306 P P 19 46 04.9 +3.8
SBF Sospel 90.73 314 *e*P **P** **19 46 08.4 +0.3**
comp=Z,358nm,1.7s
LPG La Plagne 91.21 315 *e*P **P** **19 46 10.9 +0.3**
comp=Z,53nm,1.2s
LPL La Plagne 91.22 315 *e*P **P** **19 46 11.3 +0.8**
comp=Z,30nm,1.0s
HAU Haudompre 91.45 318 *e*P **P** **19 46 14.4 +3.1**
comp=Z,60nm,1.3s
SFTF Sexfontaines 92.32 318 *e*P **P** **19 46 16.2 +0.9**
comp=Z,89nm,1.2s
TAM Tamanrasset 92.50 293 P **P** **19 46 15.7 -1.2**
TAM pmax pmax
comp=Z,7.0nm,1.2s
TAM Tamanrasset 92.50 293 P **P** **19 46 15.7 -1.2**
comp=Z,7.1nm,1.2s
BAIF Baives 92.79 320 *e*P **P** **19 46 20.0 +2.6**
comp=Z,20nm,1.0s
LOR Lormes 93.16 317 *e*P **P** **19 46 20.0 +0.8**
comp=Z,91nm,1.5s
SSF Saint Saulge 93.41 317 *e*P **P** **19 46 20.6 +0.3**
comp=Z,87nm,1.8s
AVF Avril Loir 93.53 317 *e*P **P** **19 46 21.8 +0.9**
TCF Toulx Ste Croi 94.35 316 *e*P P 19 46 28.2 +3.5
comp=Z,173nm,1.9s
JMIC Jan Mayen 95.75 342 LR LR 20 38 24.3
comp=Z,1µm,20.1s,baz=78,slow=41
TORD Torodi Ar. Bea 96.29 283 P **P** **19 46 36.0 +1.8**
comp=Z,1.1nm,1.0s,baz=77,slow=4.1,SNR=4.2
TORD LR LR 20 26 19.8
comp=Z,2µm,20.2s,baz=105,slow=33
TORD Torodi Ar. Bea 96.29 283 P **P** **19 46 36.0 +1.8**
ILAR Eielson Array 100.83 23 P **Pdif** **19 46 54.0 +0.5**
comp=Z,0.4nm,0.7s,baz=317,slow=4.4,SNR=5.0
ILAR PP PP 19 50 50.6 -11
comp=Z,1.6nm,1.0s,baz=280,slow=6.7,SNR=6.1
ILAR Eielson Array 100.83 23 P **Pdif** **19 46 54.0 +0.5**
ILAR Eielson Array 100.83 23 P **Pdif** **19 46 54.0 +0.5**
ILAR PP PP 19 50 50.6 -11
RES Resolute Bay 105.42 4 Pdiff **Pdif** **19 47 14.8 +1.1**

comp=Z,0.9nm,0.6s,baz=2.3,slow=6.8,SNR=5.1
RES PP **PP** **19 51 39.9 +4.9**
comp=Z,0.8nm,0.5s,baz=339,slow=7.0,SNR=4.4
RES Resolute Bay 105.42 4 P **Pdif** **19 47 14.8 +1.1**
RES 19 51 39.9
RES Resolute Bay 105.42 4 Pdif **Pdif** **19 47 14.8 +1.1**
RES PP **PP** **19 51 39.9 +4.9**
YKA Yellowknife Ar 113.40 16 Pdiff **Pdif** **19 47 52.0 +2.6**
comp=Z,0.1nm,0.5s,baz=193,slow=34,SNR=3.0
YKA PKIKP **PKiKP** **19 51 42.9 +0.5**
comp=Z,0.1nm,0.4s,baz=331,slow=1.0,SNR=3.5
YKA PP 19 52 26.8 -6.2
comp=Z,1.4nm,1.0s,baz=325,slow=7.0,SNR=7.0
YKA PKKPab **PKKPab** **20 02 35.5 +0.1**
comp=Z,0.3nm,0.7s,baz=138,slow=3.3,SNR=4.4
YKA Yellowknife Ar 113.40 16 P **Pdif** **19 47 52.0 +2.6**
YKA *i* 19 51 42.9
YKA Yellowknife Ar 113.40 16 Pdif **Pdif** **19 47 52.0 +2.6**
YKA PKiKP **PKiKP** **19 51 42.9 +0.5**
YKA PP PP 19 52 26.8 -6.2
YKA PKKPab **PKKPab** **20 02 35.5 +0.1**
C11A Tepee Creek (N 124.17 27 ⇓P **PKPdf** **19 52 04.7 +1.0**
baz=124
C11A ⇓P **PKPdf** **19 52 04.7 +1.0**
baz=124
HUMO Hull Mountain 124.19 36 *e*PKPdf **PKPdf** **19 52 05.4 +1.6**
SCHQ Schefferville 124.36 349 PKP **PKPdf** **19 52 05.0 +1.3**
comp=Z,2.0nm,0.7s,baz=45,slow=2.9,SNR=3.6
SCHQ Schefferville 124.36 349 PKP **PKPdf** **19 52 05.0 +1.3**
B13A Whitefish 124.58 26 ⇑P **PKPdf** **19 52 05.2 +0.7**
baz=124
B13A ⇑P **PKPdf** **19 52 05.2 +0.7**
baz=124
LNOR Lincton Mounta 124.60 30 *e*PKIKP **PKPdf** **19 52 05.1 +0.5**
LNOR Lincton Mounta 124.60 30 *e*PKPdf **PKPdf** **19 52 05.1 +0.5**
BSMT Bassoo Peak 124.83 26 *e*PKPdf **PKPdf** **19 52 05.3 +0.2**
B14A Marquette Ranc 125.10 25 ⇑P **PKPdf** **19 52 06.1 +0.5**
baz=125
B14A ⇑P **PKPdf** **19 52 06.1 +0.5**
baz=125
D12A Red Ives Fores 125.17 27 ⇑P **PKPdf** **19 52 06.3 +0.6**
baz=125
D12A ⇑P **PKPdf** **19 52 06.3 +0.6**
baz=125
C14A Swan Lake 125.35 26 ⇓P **PKPdf** **19 52 06.1 0.0**
baz=125
C14A ⇓P **PKPdf** **19 52 06.1 0.0**
baz=125
B15A Bradely Ranch, 125.44 25 ⇓P **PKPdf** **19 52 06.7 +0.5**
baz=125
B15A ⇓P **PKPdf** **19 52 06.7 +0.5**
baz=125
D13A Huson 125.55 27 ⇑P **PKPdf** **19 52 06.8 +0.4**
baz=125
D13A ⇑P **PKPdf** **19 52 06.8 +0.4**
baz=125
A17A Triple J Farms 125.69 23 ⇓P **PKPdf** **19 52 06.9 +0.3**
baz=125
A17A ⇓P **PKPdf** **19 52 06.9 +0.3**
baz=125
C15A Salmond Ranch, 125.83 25 ⇑P **PKPdf** **19 52 07.8 +0.8**
baz=126
C15A ⇑P **PKPdf** **19 52 07.8 +0.8**
baz=126
SLMT Seeley Lake 125.86 26 *e*PKPdf **PKPdf** **19 52 07.9 +0.8**
MSO Missoula 125.98 27 *e*PKPdf **PKPdf** **19 52 03.0 -4.2**
E13A Victor 126.16 27 ⇑P **PKPdf** **19 52 08.3 +0.7**
baz=126
E13A ⇑P **PKPdf** **19 52 08.3 +0.7**
baz=126
B17A L&G Farms, Che 126.17 24 ⇓P **PKPdf** **19 52 07.9 +0.3**
baz=126
B17A ⇓P **PKPdf** **19 52 07.9 +0.3**
baz=126
CHMT Chamberlain Mo 126.22 26 *e*PKPdf **PKPdf** **19 52 06.9 -1.0**
D15A Lincoln 126.44 26 ⇑P **PKPdf** **19 52 09.1 +0.9**
baz=126
D15A ⇑P **PKPdf** **19 52 09.1 +0.9**
baz=126
A19A Klindworth Far 126.44 22 ⇑P **PKPdf** **19 52 08.7 +0.7**
baz=126
A19A ⇑P **PKPdf** **19 52 08.7 +0.7**
baz=126
B18A Beardsley Farm 126.49 23 ⇓P **PKPdf** **19 52 09.2 +1.1**
baz=126
B18A ⇓P **PKPdf** **19 52 09.2 +1.1**
baz=126
E14A Clinton 126.49 27 ⇑P **PKPdf** **19 52 08.6 +0.3**
baz=126
E14A ⇑P **PKPdf** **19 52 08.6 +0.3**
baz=126
C17A Wharram Farm, 126.71 24 ⇓P **PKPdf** **19 52 09.4 +0.8**
baz=126
C17A ⇓P **PKPdf** **19 52 09.4 +0.8**
baz=126
EGMT Eagleton 126.80 23 *e*PKPdf **PKPdf** **19 52 10.1 +1.3**
D16A Dana Ranch, Ca 126.87 25 ⇓P **PKPdf** **19 52 09.5 +0.6**
baz=127
D16A ⇓P **PKPdf** **19 52 09.5 +0.6**
baz=127
A21A Bergtoll Ranch 127.04 20 ⇑P **PKPdf** **19 52 09.6 +0.5**
baz=127
A21A ⇑P **PKPdf** **19 52 09.6 +0.5**
baz=127
D17A Six Diamond Ra 127.13 24 ⇑P **PKPdf** **19 52 09.7 +0.2**
baz=127
D17A ⇑P **PKPdf** **19 52 09.7 +0.2**
baz=127
E16A East Helena 127.20 25 ⇑P **PKPdf** **19 52 10.3 +0.7**
baz=127
E16A ⇑P **PKPdf** **19 52 10.3 +0.7**
baz=127
H12A Diamond D Ranc 127.25 29 ⇑P **PKPdf** **19 52 10.5 +0.7**
baz=127
H12A ⇑P **PKPdf** **19 52 10.5 +0.7**
baz=127
C19A Slack Wire Ran 127.31 23 ⇓P **PKPdf** **19 52 10.8 +1.0**
baz=127
C19A ⇓P **PKPdf** **19 52 10.8 +1.0**
baz=127
H13A Challis 127.53 29 ⇑P **PKPdf** **19 52 10.6 +0.2**
baz=127
H13A ⇑P **PKPdf** **19 52 10.6 +0.2**
baz=127
I12A Atlanta 127.66 30 ⇓P **PKPdf** **19 52 10.9 +0.3**
baz=127
I12A ⇓P **PKPdf** **19 52 10.9 +0.3**
baz=127
DLMT Dillon 127.70 27 *e*PKPdf **PKPdf** **19 52 12.7 +2.0**
G15A Dillon 127.90 27 ⇓P **PKPdf** **19 52 11.9 +0.8**
baz=128
G15A ⇓P **PKPdf** **19 52 11.9 +0.8**
baz=128
BOZ Bozeman (W) 127.91 26 *e*PKIKP **PKPdf** **19 52 11.6 +0.5**
BOZ Bozeman (W) 127.91 26 *e*PKPdf **PKPdf** **19 52 11.6 +0.5**
BOZ Bozeman (W) 127.91 26 ⇑P **PKPdf** **19 52 11.4 +0.3**
baz=128
BOZ ⇑P **PKPdf** **19 52 11.4 +0.3**
baz=128
BOZ ⇑P **PKPdf** **19 52 11.4 +0.3**
baz=128
BOZ ⇑P **PKPdf** **19 52 11.4 +0.3**
baz=128
MCMT McKenzie Canyo 127.99 28 *e*PKPdf **PKPdf** **19 52 10.9 -0.4**
F18A Big Timber 128.53 25 ⇑P **PKPdf** **19 52 13.2 +1.0**
baz=128
F18A ⇑P **PKPdf** **19 52 13.2 +1.0**
baz=128
C23A Lambert 128.66 20 ⇓P **PKPdf** **19 52 12.8 +0.5**
baz=128
C23A ⇓P **PKPdf** **19 52 12.8 +0.5**
baz=128
D22A Cohagen 128.87 21 ⇓P **PKPdf** **19 52 14.0 +1.3**
baz=129
D22A ⇓P **PKPdf** **19 52 14.0 +1.3**
baz=129
ULM Lac du Bonnet 128.94 11 PKP **PKPdf** **19 52 12.5 -0.1**
comp=Z,2.0nm,0.4s,baz=330,slow=1.7,SNR=5.2
ULM Lac du Bonnet 128.94 11 PKIKP **PKPdf** **19 52 12.5 -0.1**
ULM Lac du Bonnet 128.94 11 PKP **PKPdf** **19 52 12.5 -0.1**
NVAR Mina Array Bea 129.56 37 PKP **PKPdf** **19 52 15.7 +1.2**
comp=Z,0.6nm,0.5s,baz=329,slow=1.1,SNR=4.7
NVAR Mina Array Bea 129.56 37 PKP **PKPdf** **19 52 15.7 +1.2**
RRI2 Red Ridge 129.83 28 *e*PKPdf **PKPdf** **19 52 16.3 +1.3**
PD01 Pinedale Array 131.08 27 *e*PKPdf **PKPdf** **19 52 17.7 +0.4**
PD02 Pinedale Array 131.08 27 *e*PKPdf **PKPdf** **19 52 14.2 -3.0**
PDAR Pinedale Array 131.10 27 PKP **PKPdf** **19 52 17.6 +0.2**
comp=Z,1.0nm,0.8s,baz=73,slow=2.4,SNR=5.0
PDAR SKPbc **SKPab** **19 55 41.5 +1.5**
comp=Z,1.4nm,1.0s,baz=280,slow=1.6,SNR=3.2
PDAR Pinedale Array 131.10 27 PKP **PKPdf** **19 52 17.6 +0.2**
PDAR SKPbc **SKPab** **19 55 41.5 +1.5**
DUG Dugway 131.46 32 *e*PKIKP **PKPdf** **19 52 18.9 +1.0**
DUG Dugway 131.46 32 *e*PKPdf **PKPdf** **19 52 18.9 +1.0**
RSSD Black Hills 132.24 21 *e*PKIKP **PKPdf** **19 52 20.4 +1.0**
RSSD Black Hills 132.24 21 *e*PKPdf **PKPdf** **19 52 20.4 +1.0**
MSU Marysvale 133.02 33 *e*PKIKP **PKPdf** **19 52 22.5 +1.4**
MSU Marysvale 133.02 33 *e*PKPdf **PKPdf** **19 52 22.5 +1.4**
CCUT Cedar City 133.04 35 PKPdf **PKPdf** **19 52 18.3 -2.8**
Q19A Hogan Spring (134.20 30 ⇓P **PKPdf** **19 52 24.8 +1.7**
baz=134
Q19A ⇓P **PKPdf** **19 52 24.8 +1.7**
baz=134
ECSD EROS Data Cent 134.92 15 *e*PKPpre PKPpre 19 52 14.7
MVCO Mesa Verde 135.93 31 *e*PKPdf **PKPdf** **19 52 27.3 +0.8**
S21A Coal Bank Pass 135.93 30 ⇓P **PKPdf** **19 52 27.7 +1.0**
baz=136
S21A ⇓P **PKPdf** **19 52 27.7 +1.0**
baz=136
P25A Willow Gulch B 136.10 25 ⇑P **PKPdf** **19 52 28.1 +1.4**
baz=136
P25A ⇑P **PKPdf** **19 52 28.1 +1.4**
baz=136
KSU1 Kansas State U 139.22 18 PKPdf **PKPdf** **19 52 33.6 +1.3**
425A Indio Mountain 142.71 34 ⇑P **PKPdf** **19 52 37.1 -1.9**
baz=142
425A ⇑P **PKPdf** **19 52 37.1 -1.9**
baz=142
BDFB Brasilia 142.89 243 PKP **PKPdf** **19 52 39.5 -0.1**
comp=Z,2.4nm,0.6s,baz=37,slow=5.3,SNR=3.8
BDFB Brasilia 142.89 243 PKIKP **PKPdf** **19 52 39.5 -0.1**
BDFB Brasilia 142.89 243 PKP **PKPdf** **19 52 39.5 -0.1**
426A McDonald Obser 143.32 33 ⇓P PKPbc 19 52 37.1 -0.1
baz=143
426A ⇓P PKPbc 19 52 37.1 -0.1
baz=143
328A Wristen Ranch, 143.40 31 ⇑P PKPbc 19 52 37.3 +0.1
baz=143
328A ⇑P PKPbc 19 52 37.3 +0.1
baz=143
526A Mary Lane Ranc 143.76 34 ⇑P PKPbc 19 52 39.3 +0.9
baz=144
526A ⇑P PKPbc 19 52 39.3 +0.9
baz=144
527A Woodward Ranch1 143.95 33 ⇓P PKPbc 19 52 39.7 +0.8
baz=144
527A ⇓P PKPbc 19 52 39.7 +0.8
baz=144
428A Kincaid Ranch, 143.99 31 ⇑P PKPbc 19 52 39.8 +0.8
baz=144
428A ⇑P PKPbc 19 52 39.8 +0.8
baz=144
TZTN Tazewell 144.02 2 *e*PKPdf PKPbc 19 52 39.8 +1.0
WVT Waverly 144.04 8 *e*PKIKP PKPbc 19 52 38.8 0.0
WVT Waverly 144.04 8 *e*PKPdf PKPbc 19 52 38.8 0.0
626A Big Bend Ranch 144.12 34 ⇑P PKPbc 19 52 39.8 +0.3
baz=144
626A ⇑P PKPbc 19 52 39.8 +0.3
baz=144
MIAR Mount Ida 144.34 17 *e*PKIKP **PKPab** **19 52 39.6 +0.1**
MIAR Mount Ida 144.34 17 *e*PKPdf **PKPab** **19 52 39.6 +0.1**
528A Cox Ranch, San 144.38 32 ⇑P PKPbc 19 52 40.7 +0.4
baz=144
528A ⇑P PKPbc 19 52 40.7 +0.4
baz=144
UALR University of 144.46 15 *e*PKPdf PKPbc 19 52 40.8 +0.6
TXAR Lajitas Array 144.55 34 PKP PKPbc 19 52 41.0 +0.2
comp=Z,11nm,0.7s,baz=286,slow=1.1,SNR=54
TXAR Lajitas Array 144.55 34 PKIKP PKPbc 19 52 41.1 +0.3
TXAR Lajitas Array 144.55 34 PKP PKPbc 19 52 41.0 +0.2
627A Terlingua Ranc 144.61 33 ⇑P PKPbc 19 52 41.4 +0.3
baz=144
627A ⇑P PKPbc 19 52 41.4 +0.3
baz=144
628A Black Gap, Mar 144.86 33 ⇑P PKPbc 19 52 42.0 +0.2
baz=145
628A ⇑P PKPbc 19 52 42.0 +0.2
baz=145
TKL Tuckaleechee C 144.89 3 *e*PKIKP **PKPab** **19 52 40.3 -1.2**
TKL Tuckaleechee C 144.89 3 *e*PKPdf **PKPab** **19 52 40.3 -1.2**
CPCT Cooper Cave 145.06 4 *e*PKPdf **PKPab** **19 52 40.8 -1.3**
PLAL Pickwick Lake 145.13 9 *e*PKPdf **PKPbc** **19 52 40.6 -1.8**
SWET Sewanee 145.18 6 *e*PKPdf **PKPbc** **19 52 40.6 -1.9**
OXF Oxford 145.37 11 *e*PKIKP **PKPdf** **19 52 43.4 +0.1**
OXF Oxford 145.37 11 *e*PKPdf **PKPdf** **19 52 43.4 +0.1**
JCT Junction City 145.62 28 *e*PKIKP **PKPdf** **19 52 43.7 -0.2**
JCT Junction City 145.62 28 *e*PKPdf **PKPdf** **19 52 43.7 -0.2**
JCT Junction City 145.62 28 ⇑P **PKPdf** **19 52 43.9 0.0**
baz=145
JCT ⇑P **PKPdf** **19 52 43.9 0.0**
baz=145
JSC Jenkinsville 146.30 359 *e*PKP2 **PKPbc** **19 52 46.1 +0.1**
JSC Jenkinsville 146.30 359 *e*PKPbc **PKPbc** **19 52 46.1 +0.1**
GOGA Godfrey 147.14 2 *e*PKP2 **PKPbc** **19 52 47.9 -0.6**
GOGA Godfrey 147.14 2 *e*PKPbc **PKPbc** **19 52 47.9 -0.6**
LRAL Lakeview Retre 147.20 8 *e*PKPdf **PKPdf** **19 52 44.9 -1.6**
VBMS Vicksburg 147.34 14 *e*PKPbc **PKPbc** **19 52 48.0 -1.1**
HKT Hockley 147.78 23 *e*PKP2 **PKPbc** **19 52 50.6 +0.4**
HKT Hockley 147.78 23 *e*PKPbc **PKPbc** **19 52 50.6 +0.4**
LPAZ La Paz 158.53 219 PKP **PKPdf** **19 53 08.3 +4.2**
comp=Z,0.8nm,0.6s,baz=198,slow=3.2,SNR=4.1
LPAZ La Paz 158.53 219 PKIKP **PKPdf** **19 53 08.3 +4.2**
LPAZ La Paz 158.53 219 PKP **PKPdf** **19 53 08.3 +4.2**

IDC 26 19:42:23.5±2.5, 0.46S×98.10E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=103.9km s-min=19.9km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.82**	**2**	P		19 46 44.6	-0.3
	0.3nm,0.3s,baz=194,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**40.41**	**121**	P	P	19 50 03.3	-0.5
	0.2nm,0.5s,baz=301,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**41.69**	**126**	P	P	19 50 14.5	+0.1
	0.3nm,0.5s,baz=298,slow=7.4,SNR=12						
SONM	**Songino Array**	**48.64**	**7**	P	P	19 51 09.5	+0.1
	1.1nm,0.5s,baz=193,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**49.06**	**346**	P	P	19 51 12.4	-0.1
	1.8nm,0.6s,baz=156,slow=8.3,SNR=15						
KURK	**Kurchatov**	**53.62**	**345**	P	P	19 51 45.9	-0.6
	0.4nm,0.6s,baz=165,slow=6.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**55.33**	**350**	P	P	19 51 58.9	-0.1
	2.7nm,0.8s,baz=184,slow=5.5,SNR=3.8						
TXAR	**Lajitas Array**	**144.57**	**34**	PKP	PKPbc	20 02 02.2	+0.6
	0.4nm,0.4s,baz=247,slow=0.4,SNR=7.8						

IDC 26 19:42:34.0±0.8, 21.11N×121.32E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/48, Error ellipse: s-maj=40.4km s-min=16.1km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**8.54**	**47**	Pn	Pn	19 44 40.3	+1.3
	0.6nm,0.3s,baz=288,slow=19,SNR=4.0						
JOW				LR	LR	19 47 17.6	
	comp=Z,478nm,21.7s,baz=29,slow=33						
SONM	**Songino Array**	**29.26**	**339**	P	P	19 48 37.4	-0.6
	0.4nm,0.5s,baz=157,slow=10.0,SNR=5.7						
MKAR	**Makanchi Array**	**40.67**	**318**	P	P	19 50 16.0	-0.1
	0.8nm,0.8s,baz=113,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**42.74**	**162**	P	P	19 50 32.2	-1.1
	0.8nm,0.6s,baz=344,slow=9.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**42.91**	**329**	P	P	19 50 34.1	-0.2
	4.5nm,0.9s,baz=140,slow=7.6,SNR=7.0						
KURK	**Kurchatov**	**44.55**	**322**	P	P	19 50 47.4	-0.1
	2.1nm,0.8s,baz=120,slow=7.5,SNR=4.2						
ASAR	**Alice Springs**	**46.16**	**164**	P	P	19 51 01.1	+0.5
	0.3nm,0.3s,baz=345,slow=7.5,SNR=8.9						
STKA	**Stephens Creek**	**56.15**	**159**	P	P	19 52 15.8	+0.3
	1.5nm,0.7s,baz=338,slow=9.6,SNR=4.9						
FINES	**FINESS Array B**	**74.16**	**330**	P	P	19 54 13.1	+0.9
	1.6nm,1.0s,baz=38,slow=7.0,SNR=3.4						
YKA	**Yellowknife Ar**	**85.75**	**23**	P	P	19 55 13.9	-0.9
	0.4nm,0.5s,baz=309,slow=5.0,SNR=6.8						

*DJA **26** 19:51:37, 0.81N×126.10E, h60km, MLv3.4/6*

IDC 26 19:51:32.0±2.0, 0.77N×125.84E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=172.9km s-min=26.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.20**	**158**	P	P	19 56 29.2	-1.0
	0.4nm,0.5s,baz=337,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**25.52**	**163**	P	P	19 57 03.3	+0.8
	0.2nm,0.5s,baz=348,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**59.50**	**327**	P	P	20 01 37.0	-0.1
	0.2nm,0.5s,baz=124,slow=7.8,SNR=5.4						

IDC 26 19:56:34.0±4.3, 0.64S×131.48E, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=309.1km s-min=22.5km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.39**	**172**	P	P	20 01 01.3	-0.4
	0.1nm,0.3s,baz=351,slow=11,SNR=10						
WRA				S	Sn	20 04 24.7	-16
	0.1nm,0.3s,baz=357,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**23.01**	**174**	P	P	20 01 41.1	+0.3
	0.6nm,0.7s,baz=356,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**63.84**	**325**	P	P	20 07 08.9	+0.5
	0.6nm,0.5s,baz=114,slow=7.9,SNR=12						
KURK	**Kurchatov**	**67.96**	**327**	P	P	20 07 34.2	-0.6
	0.4nm,0.3s,baz=123,slow=6.0,SNR=7.1						

IDC 26 20:00:31.3±3.6, 30.09S×178.07W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=185.5km s-min=42.8km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.49**	**257**	P	P	20 07 21.6	+0.4
	1.2nm,0.5s,baz=80,slow=6.1,SNR=4.2						
ASAR	**Alice Springs**	**43.07**	**267**	P	P	20 08 32.9	-0.4
	0.4nm,0.7s,baz=104,slow=7.5,SNR=8.1						
WRA	**Warramunga Arr**	**44.03**	**272**	P	P	20 08 40.8	-0.2
	0.5nm,0.3s,baz=110,slow=8.2,SNR=25						
KEV	**Kevo**	**137.80**	**347**	*ep*	PKPdf	20 20 01.7	+5.0
	0.3nm,0.3s						
KEV	**Kevo**	**137.80**	**347**	*ep*	PKPdf	20 20 01.7	+5.0
	0.3nm,0.3s						
JOF	**Joensuu**	**142.10**	**339**	*ep*	PKPdf	20 20 03.2	-1.5
	0.2nm,0.3s						
JOF	**Joensuu**	**142.10**	**339**	*ep*	PKPdf	20 20 03.2	-1.5
	0.2nm,0.3s						
KAF	**Kangasniemi**	**144.23**	**341**	*ep*	PKPbc	20 20 06.6	-0.1
	0.4nm,0.3s						
KAF	**Kangasniemi**	**144.23**	**341**	*ep*	PKPbc	20 20 06.6	-0.1
	0.4nm,0.3s						
FINES	**FINESS Array B**	**144.83**	**340**	PKP	PKPab	20 20 07.0	-1.5
	0.9nm,0.3s,baz=59,slow=3.5,SNR=15						
HFS	**Hagfors**	**148.93**	**349**	PKPbc	PKPbc	20 20 21.1	+0.7
	2.0nm,0.8s,baz=10,slow=3.3,SNR=4.3						

IDC 26 20:09:17.9±5.6, 22.91N×93.66E, h77km±45km, mb2.9/3, mb1 3.1/4, mb1mx2.9/24, mbtmp2.9/4, ML3.2/1, Error ellipse: s-maj=117.4km s-min=25.1km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.10**	**329**	*e*PN	Pn	20 10 03.5	-1.3
SHL				*e*SN	Sn	20 10 40.5	-0.5
CMAR	**Chiang Mai Arr**	**6.64**	**131**	P	Pn	20 10 52.9	0.0
	0.1nm,0.3s,baz=308,slow=14,SNR=6.5						
MKAR	**Makanchi Array**	**25.53**	**342**	P	P	20 14 39.3	0.0
	0.5nm,1.1s,baz=157,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**58.23**	**134**	P	P	20 19 04.0	-0.5
	0.6nm,1.2s,baz=318,slow=7.4,SNR=3.0						
ASAR	**Alice Springs**	**60.61**	**137**	P	P	20 19 21.4	+0.5
	0.2nm,0.5s,baz=316,slow=7.2,SNR=4.6						

*BEO **26** 20:13:28.7±0.6, 43.85N×17.12E, h0km, ML2.6/5*
*ISCJB **26** 20:13:29.7±0.5, 43.89N±0.03×17.34E±0.04, h10km, Error ellipse: s-maj=4.6km s-min=3.4km az=34.9*
*CSEM **26** 20:13:29.3±0.3, 43.86N×17.22E, h2km, ML2.6, Error ellipse: s-maj=7.6km s-min=5.5km az=52.0*

ISC 26 20:13:29.1±0.8, 43.83N±0.03×17.22E±0.03, h10km, n27, σ1§14/45, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.92**	**358**	⇑*i*Pg	**Pg**	**20 13 45.5**	**-1.2**
BLY				*e*Sg	**Sg**	**20 13 58.3**	**-0.4**
BLY	**Banja Luka**	**0.92**	**358**	⇑*i*Pg	**Pg**	**20 13 45.5**	**-1.2**
BLY				*e*Sg	**Sg**	**20 13 58.3**	**-0.4**
STON	**Ston**	**1.02**	**160**	*e*Pg	**Pg**	**20 13 47.5**	**-1.2**
STON				Sg	**Sn**	**20 14 03.6**	**-0.2**
STON	**Ston**	**1.02**	**160**	*e*Pg	**Pg**	**20 13 47.5**	**-1.2**
STON				Sg	**Sn**	**20 14 03.6**	**-0.2**
NVLJ	**Novalja**	**1.84**	**294**	*e*Pn	**Pb**	**20 14 02.3**	**-0.6**
NVLJ				Sn	**Sg**	**20 14 28.2**	**-0.1**
NVLJ	**Novalja**	**1.84**	**294**	*e*Pn	**Pb**	**20 14 02.2**	**-0.6**
NVLJ				Sn	**Sg**	**20 14 28.2**	**-0.1**
DIVS	**Divibare**	**2.02**	**81**	*e*Pn	**Pb**	**20 14 05.6**	**-0.3**
DIVS				*e*Sn	**Sb**	**20 14 32.3**	**+1.3**
DIVS	**Divibare**	**2.02**	**81**	*e*Pn	**Pb**	**20 14 05.6**	**-0.3**
DIVS				*e*Sn	**Sb**	**20 14 32.3**	**+1.3**
PDG	**Podgorica**	**2.04**	**133**	*e*Pn	**Pb**	**20 14 05.2**	**-1.0**
PDG				*e*Sg	**Sg**	**20 14 35.7**	**+1.0**
PDG	**Podgorica**	**2.04**	**133**	*e*Pn	**Pb**	**20 14 05.2**	**-1.0**
PDG				*e*Sg	**Sg**	**20 14 35.7**	**+1.0**
IVAS	**Ivanjica**	**2.14**	**96**	*e*Pn	**Pb**	**20 14 06.8**	**-1.1**
IVAS				*e*Sn	**Sb**	**20 14 34.1**	**-0.4**
IVAS	**Ivanjica**	**2.14**	**96**	*e*Pn	**Pb**	**20 14 06.8**	**-1.1**
IVAS				*e*Sn	**Sb**	**20 14 34.1**	**-0.4**
BOJS	**Bojanci**	**2.19**	**321**	*i* Pn	**Pn**	**20 14 06.5**	**+1.0**
BOJS				*i* Sn	**Sn**	**20 14 33.2**	**+0.6**
FGSL	**Fruska Gora**	**2.28**	**54**	*e*Pg	**Pb**	**20 14 11.1**	**+0.9**
FGSL				*e*Sg	**Sg**	**20 14 42.7**	**+0.5**
FRGS	**Fruska Gora**	**2.28**	**53**	*e*Pg	**Pb**	**20 14 11.1**	**+0.8**
FRGS				*e*Sg	**Sg**	**20 14 42.7**	**+0.5**
TRUS	**Trudelj**	**2.33**	**79**	*e*Pn	**Pb**	**20 14 09.5**	**-1.6**
TRUS	**Trudelj**	**2.33**	**79**	*e*Pn	**Pb**	**20 14 09.5**	**-1.6**
GRUS	**Gruza**	**2.53**	**88**	*e*Pn	**Pn**	**20 14 12.1**	**+2.0**
GRUS				*e*Sg	**Sg**	**20 14 50.4**	**+0.2**
GRUS	**Gruza**	**2.53**	**88**	*e*Pn	**Pn**	**20 14 12.1**	**+2.0**
GRUS				*e*Sg	**Sg**	**20 14 50.4**	**+0.2**
PKSM	**Moragy**	**2.58**	**22**	*e*Pn	**Pn**	**20 14 11.1**	**+0.2**
PKSM	**Moragy**	**2.58**	**22**	*e*Pn	**Pn**	**20 14 11.1**	**+0.2**
VOY	**Vojsko**	**3.23**	**314**	*e*Pn	**Pn**	**20 14 22.7**	**+2.8**
VOY				*e*		20 14 39.3	
VOY				*e*		20 15 10.3	
BZS	**Buzias**	**3.60**	**59**	⇑*i*P	**Pg**	**20 14 37.1**	**-1.0**
BZS	**Buzias**	**3.60**	**59**	S	**Sn**	**20 15 04.7**	**-2.8**
ZAPS	**Zavoj**	**3.97**	**96**	*e*Pn	**Pn**	**20 14 30.6**	**+0.5**
ZAPS				*e*Sn	**Sn**	**20 15 18.4**	**+1.7**
GZR	**Gura Zlata**	**4.26**	**67**	⇑*i*P	**Pb**	**20 14 44.5**	**+0.4**
GZR	**Gura Zlata**	**4.26**	**67**	S	**Sn**	**20 15 23.0**	**-0.8**

IDC 26 20:19:57.7±30.0, 24.68S×174.09W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, MS4.4/1, Ms1 4.3/1, ms1mx3.3/41, Error ellipse: s-maj=549.5km s-min=159.0km az=80.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.86**	**269**	P	P	20 27 09.1	+1.0
	3.2nm,0.5s,baz=117,slow=9.9,SNR=5.1						
STKA	**Stephens Creek**	**39.47**	**249**	P	P	20 27 29.1	-0.8
	0.9nm,0.6s,baz=120,slow=8.1,SNR=3.4						
STKA				LR	LR	20 40 37.2	
	comp=Z,469nm,20.0s,baz=115,slow=31						
ASAR	**Alice Springs**	**47.22**	**260**	P	P	20 28 32.0	-0.7
	0.4nm,0.3s,baz=99,slow=9.0,SNR=15						
WRA	**Warramunga Arr**	**47.72**	**265**	P	P	20 28 36.7	0.0
	1.1nm,0.5s,baz=102,slow=7.7,SNR=20						

*CSEM **26** 20:23:10.5±0.

*ATH **26** 20:23:11.1, 40°.32N × 25°.73E, h34km ± 2km, MD3.1/4*
*THE **26** 20:23:11.1, 40°.36N × 25°.77E, h12km ± 1km, ML2.2/5, Error ellipse: s-maj=1.4km s-min=0.8km az=83.0*
*ISK **26** 20:23:11.2, 40°.38N × 25°.91E, h5km, MD3.0*
*DDA **26** 20:23:14.5, 40°.11N × 26°.32E, h7km, MD2.9*
ISC 26 20:23:10.5 ± 1.0, 40°.37N ± 0°.02 × 25°.79E ± 0°.03, h16km ± 9km, n54, σ 945/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.46**	**37**	*e*PG	**Pg**	**20 23 19.8**	**0.0**
ENEZ				*e*SG	**Sb**	**20 23 27.8**	**+0.9**
ENEZ	**Enez**	**0.46**	**37**	*e*Pg	**Pg**	**20 23 19.8**	**0.0**
ENEZ				*e*Sg	**Sb**	**20 23 27.8**	**+0.9**
GELI	**Tayfur-Gelibol**	**0.53**	**86**	*e*PG	**Pg**	**20 23 21.2**	**+0.3**
GELI				*e*SG	**Sg**	**20 23 28.0**	**0.0**
GELI	**Tayfur-Gelibol**	**0.53**	**86**	*e*Pg	**Pg**	**20 23 21.2**	**+0.3**
GELI				*e*Sg	**Sg**	**20 23 28.0**	**0.0**
BOZC	**Bozcaada**	**0.56**	**159**	*i* P	**Pg**	**20 23 21.6**	**0.0**
BOZC				*i* S	**Sg**	**20 23 29.0**	**-0.1**
ALN	**Alexandroupoli**	**0.57**	**20**	P	**Pb**	**20 23 22.1**	**+0.1**
ALN				S	**Sb**	**20 23 30.0**	**+0.1**
ALN	**Alexandroupoli**	**0.57**	**20**	P	**Pb**	**20 23 22.1**	**+0.1**
ALN				S	**Sb**	**20 23 30.0**	**+0.1**
ERIK	**Erikli-Kesan**	**0.63**	**61**	*e*PG	**Pg**	**20 23 22.2**	**-0.7**
ERIK				*e*SG	**Sg**	**20 23 31.2**	**-0.1**
ERIK	**Erikli-Kesan**	**0.63**	**61**	*e*Pg	**Pg**	**20 23 22.2**	**-0.7**
ERIK				*e*Sg	**Sg**	**20 23 31.2**	**-0.1**
LIA	**Limnos Island**	**0.66**	**225**	P	**Pb**	**20 23 25.0**	**-0.1**
LIA				S	**Sb**	**20 23 32.6**	**+0.2**
LIA	**Limnos Island**	**0.66**	**225**	*e*PN	**Pb**	**20 23 25.0**	**-0.1**
LIA				*e*SN	**Sb**	**20 23 32.8**	**+0.4**
LIA	**Limnos Island**	**0.66**	**225**	P	**Pb**	**20 23 25.0**	**-0.1**
LIA				S	**Sb**	**20 23 32.6**	**+0.2**
LPK	**Lapseki**	**0.74**	**89**	*e*PG	**Pg**	**20 23 24.8**	**-0.2**
LPK	**Lapseki**	**0.74**	**89**	*e*Pg	**Pg**	**20 23 24.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.15**	**88**	*e*PG	**Pn**	**20 23 32.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.15**	**88**	*e*Pg	**Pn**	**20 23 32.1**	**+0.2**
KAVA	**Kavala**	**1.16**	**304**	P	**Pn**	**20 23 32.0**	**0.0**
KAVA				S	**Sg**	**20 23 48.0**	**+0.1**
KAVA	**Kavala**	**1.16**	**304**	P	**Pn**	**20 23 32.0**	**0.0**
KAVA				S	**Sg**	**20 23 48.0**	**+0.1**
PRK	**Paraskevi**	**1.18**	**161**	P	**Pg**	**20 23 33.1**	**-0.1**
PRK				S	**Sg**	**20 23 48.5**	**-0.1**
PRK	**Paraskevi**	**1.18**	**161**	*e*PN	**Pg**	**20 23 33.2**	**0.0**
PRK				*e*SN	**Sn**	**20 23 48.2**	**+0.3**
PRK	**Paraskevi**	**1.18**	**161**	*e*Pn	**Pg**	**20 23 33.2**	**0.0**
PRK				*e*Sn	**Sn**	**20 23 48.2**	**+0.3**
PRK				S	**Sg**	**20 23 48.5**	**-0.1**
MFT	**Murefte**	**1.21**	**69**	*e*PN	**Pg**	**20 23 33.9**	**0.0**
MFT	**Murefte**	**1.21**	**69**	*e*Pn	**Pg**	**20 23 33.9**	**0.0**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**20 23 34.8**	**-0.2**
OUR				S	**Sb**	**20 23 53.8**	**+0.5**
OUR	**Ouranopolis**	**1.38**	**269**	P	**Pn**	**20 23 34.8**	**-0.2**
OUR				S	**Sb**	**20 23 53.8**	**+0.5**
TKR	**Tekirdag**	**1.47**	**64**	*e*PN	**Pg**	**20 23 38.7**	**-0.1**
TKR	**Tekirdag**	**1.47**	**64**	*e*Pn	**Pg**	**20 23 38.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.49**	**102**	*e*PN	**Pb**	**20 23 38.4**	**+0.7**
GONE	**Gonen-Balikesi**	**1.49**	**102**	*e*Pn	**Pb**	**20 23 38.4**	**+0.7**
EDC	**Edincik**	**1.59**	**90**	*e*PN	**Pg**	**20 23 40.6**	**-0.4**
EDC	**Edincik**	**1.59**	**90**	*e*Pn	**Pg**	**20 23 40.6**	**-0.4**
BNT	**Bandirma**	**1.63**	**90**	*e*PN	**Pg**	**20 23 41.2**	**-0.6**
BNT	**Bandirma**	**1.63**	**90**	*e*Pn	**Pg**	**20 23 41.2**	**-0.6**
EDRB	**Edirne**	**1.65**	**26**	*e*PN	**Pb**	**20 23 40.9**	**+0.4**
EDRB	**Edirne**	**1.65**	**26**	*e*Pn	**Pb**	**20 23 40.9**	**+0.4**
CRLT	**Corlu**	**1.67**	**62**	*e*PN	**Pb**	**20 23 41.2**	**+0.4**
CRLT	**Corlu**	**1.67**	**62**	*e*Pn	**Pb**	**20 23 41.2**	**+0.4**
NVR	**Nevrokopi**	**1.76**	**305**	*e*PN	**Pn**	**20 23 41.0**	**+0.6**
NVR	**Nevrokopi**	**1.76**	**305**	*e*Pn	**Pn**	**20 23 41.0**	**+0.6**
BALB	**Balikesir**	**1.76**	**114**	*e*PN	**Pg**	**20 23 43.7**	**-0.6**
BALB	**Balikesir**	**1.76**	**114**	*e*Pn	**Pg**	**20 23 43.7**	**-0.6**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**20 23 40.6**	**-0.2**
PLG	**Polygyros**	**1.79**	**271**	*e*PN	**Pn**	**20 23 40.5**	**-0.2**
PLG				*e*SN	**Sn**	**20 24 02.1**	**-1.0**
PLG	**Polygyros**	**1.79**	**271**	P	**Pn**	**20 23 40.6**	**-0.2**
PLG				*e*Sn	**Sn**	**20 24 02.1**	**-1.0**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*PN	**Pb**	**20 23 45.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*Pn	**Pb**	**20 23 45.9**	**0.0**
SLVT	**Silivri**	**2.03**	**64**	*e*PN	**Pb**	**20 23 46.7**	**-0.3**
SLVT	**Silivri**	**2.03**	**64**	*e*Pn	**Pb**	**20 23 46.7**	**-0.3**
CTYL	**Yal??k??y-??at**	**2.20**	**59**	*e*PN	**Pb**	**20 23 49.0**	**-0.8**
CTYL	**Yal??k??y-??at**	**2.20**	**59**	*e*Pn	**Pb**	**20 23 49.0**	**-0.8**
CTKS	**Kestanelik-??a**	**2.24**	**66**	*e*PN	**Pb**	**20 23 49.7**	**-0.8**
CTKS	**Kestanelik-??a**	**2.24**	**66**	*e*Pn	**Pb**	**20 23 49.7**	**-0.8**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**20 23 48.9**	**+0.7**
KNT	**Kendrikon**	**2.33**	**291**	P	**Pn**	**20 23 48.9**	**+0.7**

*DJA **26** 20:26:44, 0°.40S × 98°.23E, h10km, MLv3.6/5*
IDC 26 20:26:40.2 ± 2.5, 0°.41S × 98°.14E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/22, mbtmp3.5/7, ML3.8/1, Error ellipse: s-maj=105.8km s-min=21.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.76**	**2**	P		20 31 00.9	-0.1
	0.1nm,0.3s,baz=195,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**40.40**	**121**	P	P	20 34 19.9	-0.6
	0.5nm,0.7s,baz=300,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**41.69**	**126**	P	P	20 34 31.4	+0.4
	0.3nm,0.8s,baz=301,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**48.59**	**7**	P	P	20 35 25.6	0.0
	1.1nm,0.9s,baz=188,slow=6.5,SNR=7.3						
MKAR	**Makanchi Array**	**49.02**	**346**	P	P	20 35 28.9	0.0
	1.1nm,0.5s,baz=156,slow=9.1,SNR=25						
KURK	**Kurchatov**	**53.58**	**345**	P	P	20 36 02.3	-0.6
	0.3nm,0.7s,baz=169,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**55.29**	**350**	P	P	20 36 15.1	-0.2
	1.0nm,0.5s,baz=181,slow=7.0,SNR=7.1						
TXAR	**Lajitas Array**	**144.50**	**34**	PKP	PKPbc	20 46 18.8	+0.7
	0.1nm,0.4s,baz=241,slow=1.9,SNR=3.8						

*ISCJB **26** 20:34:56.7 ± 0.7, 38°.12N ± 0°.04 × 22°.04E ± 0°.05, h18km ± 6km, Error ellipse: s-maj=7.1km s-min=5.8km az=139.4*
*CSEM **26** 20:34:56.2 ± 0.2, 38°.12N × 22°.06E, h16km ± 1km, ML1.9/3, Error ellipse: s-maj=4.9km s-min=3.9km az=22.0*
*THE **26** 20:34:57.4, 38°.11N × 22°.02E, h8km ± 2km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=0.4km az=22.0*
*ATH **26** 20:34:57.0, 38°.11N × 22°.03E, h15km ± 5km, MD2.6/4*
ISC 26 20:34:57.1 ± 1.0, 38°.11N ± 0°.03 × 22°.03E ± 0°.03, h12km ± 8km, n22, σ 939/38, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.14**	**341**	P	**Pg**	**20 35 00.4**	**-0.2**
LAKA				S	**Sg**	**20 35 02.5**	**-0.5**
LAKA	**Lakka**	**0.14**	**341**	P	**Pg**	**20 35 00.4**	**-0.2**
LAKA				S	**Sg**	**20 35 02.5**	**-0.5**
TRIZ	**Trizonia**	**0.26**	**7**	P	**Pg**	**20 35 02.3**	**-0.2**
TRIZ				S	**Sg**	**20 35 06.7**	**+0.6**
TRIZ	**Trizonia**	**0.26**	**7**	P	**Pg**	**20 35 02.3**	**-0.2**
TRIZ				S	**Sg**	**20 35 06.7**	**+0.6**
UPR	**University Cam**	**0.26**	**312**	P	**Pg**	**20 35 02.7**	**+0.1**
UPR	**University Cam**	**0.26**	**312**	P	**Pg**	**20 35 02.7**	**+0.1**
KALE	**Kalithea**	**0.29**	**17**	P	**Pg**	**20 35 03.0**	**-0.2**
KALE				S	**Sg**	**20 35 07.8**	**+0.5**
KALE	**Kalithea**	**0.29**	**17**	P	**Pg**	**20 35 03.0**	**-0.2**
KALE				S	**Sg**	**20 35 07.8**	**+0.5**
GUR	**Goura**	**0.30**	**125**	P	**Pg**	**20 35 03.1**	**-0.2**
GUR				S	**Sg**	**20 35 08.0**	**+0.6**
GUR	**Goura**	**0.30**	**125**	*e*PB	**Pg**	**20 35 03.2**	**-0.1**
GUR				*e*SB	**Sg**	**20 35 08.1**	**+0.6**
GUR	**Goura**	**0.30**	**125**	P	**Pg**	**20 35 03.1**	**-0.2**
GUR				S	**Sg**	**20 35 08.0**	**+0.6**
EFP	**Efpalio**	**0.33**	**342**	P	**Pg**	**20 35 03.8**	**-0.1**
EFP				S	**Sg**	**20 35 08.8**	**+0.4**
EFP	**Efpalio**	**0.33**	**342**	*e*PB	**Pg**	**20 35 03.7**	**-0.1**
EFP				*e*SB	**Sg**	**20 35 08.9**	**+0.5**
EFP	**Efpalio**	**0.33**	**342**	P	**Pg**	**20 35 03.8**	**-0.1**
EFP				S	**Sg**	**20 35 08.8**	**+0.4**
RLS	**Riolos of Patr**	**0.45**	**263**	*e*PB	**Pb**	**20 35 06.8**	**-0.2**
RLS				*e*SB	**Sg**	**20 35 12.0**	**0.0**
RLS	**Riolos of Patr**	**0.45**	**263**	*e*Pb	**Pb**	**20 35 06.8**	**-0.2**
RLS				*e*Sb	**Sg**	**20 35 12.0**	**0.0**
LTK	**Loutraki**	**0.74**	**96**	*e*PN	**Pg**	**20 35 11.3**	**-0.2**
LTK	**Loutraki**	**0.74**	**96**	*e*Pn	**Pg**	**20 35 11.3**	**-0.2**
EVR	**Evrytania**	**0.82**	**348**	*e*Pn	**Pg**	**20 35 12.9**	**-0.2**
EVR				*e*Sn	**Sb**	**20 35 24.8**	**+0.2**
EVR	**Evrytania**	**0.82**	**348**	*e*Pn	**Pg**	**20 35 12.9**	**-0.2**
EVR				*e*Sn	**Sb**	**20 35 24.8**	**+0.2**
LKR	**Lokris**	**0.93**	**54**	*e*PB	**Pg**	**20 35 14.4**	**-0.7**
LKR	**Lokris**	**0.93**	**54**	*e*Pb	**Pg**	**20 35 14.4**	**-0.7**

MAN 26 20:43:12, 12°.54N × 123°.44E, h1km, mb4.7, ML3.6, MS3.6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.25**	**134**	*i* P	Pg	20 43 17.0	+0.2
MMPH				*i* S	Sg	20 43 20.8	+0.6
AUQP	**San Andres**	**1.08**	**317**	*e*P	Pn	20 43 35.2	+0.9
AUQP				*e*S	Sn	20 43 52.6	+2.6
RCP	**Roxas**	**1.18**	**215**	*e*P	Pn	20 43 35.7	-0.1
RCP				*e*S	Sn	20 43 53.6	+1.1
OTRP	**Odiongan**	**1.40**	**263**	*e*P	Pb	20 43 39.5	+0.6
GQP	**Guinayangan**	**1.67**	**325**	*e*P	Pb	20 43 43.1	-0.5
GUIM	**Jordan**	**2.07**	**204**	*e*P	Pb	20 43 50.0	-0.4
MSLP	**Maasin**	**2.76**	**150**	*e*P	Pn	20 43 59.5	+2.1
BUSP	**Coron**	**3.21**	**261**	*e*P	Pn	20 44 05.0	+1.4
ENPP	**El Nido**	**4.14**	**252**	*e*P	Pn	20 44 17.5	+1.0

IDC 26 20:45:59.7 ± 55.0, 3°.33S × 96°.91E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=1102.0km s-min=169.0km az=176.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**51.55**	**347**	P	P	20 55 07.5	0.0
	0.7nm,0.5s,baz=158,slow=9.3,SNR=18						
SONM	**Songino Array**	**51.62**	**8**	P	P	20 55 08.1	-0.1
	0.4nm,0.5s,baz=199,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**57.96**	**352**	P	P	20 55 53.5	-0.2
	0.6nm,0.5s,baz=172,slow=7.4,SNR=5.0						

*ISCJB **26** 20:48:48.8 ± 0.7, 36°.81N ± 0°.03 × 28°.27E ± 0°.04, h6km ± 5km, Error ellipse: s-maj=5.2km s-min=4.5km az=2.2*
*DDA **26** 20:48:48.3, 36°.76N × 28°.32E, h7km, MD3.0*
*ISK **26** 20:48:48.5, 36°.82N × 28°.30E, h9km, MD2.9*
*CSEM **26** 20:48:49.1 ± 0.2, 36°.83N × 28°.28E, h5km, MD3.0, Error ellipse: s-maj=4.0km s-min=3.5km az=99.0*
*ATH **26** 20:48:49.3, 36°.83N × 28°.17E, h16km ± 1km, MD3.1/3*
ISC 26 20:48:48.7 ± 1.1, 36°.83N ± 0°.02 × 28°.35E ± 0°.02, h5km ± 9km, n36, σ 906/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.21**	**77**	*i* P	**Pg**	**20 48 50.6**	**-2.2**
TURN				*i* S	**Sg**	**20 48 51.8**	**-3.8**
YER	**Yerkesik**	**0.31**	**350**	*e*PG	**Pg**	**20 48 55.1**	**+0.2**
YER				*e*SG	**Sg**	**20 49 00.3**	**+1.3**
YER	**Yerkesik**	**0.31**	**350**	*e*Pg	**Pg**	**20 48 55.1**	**+0.2**
YER				*e*Sg	**Sg**	**20 49 00.3**	**+1.3**
FETY	**Fethiye**	**0.62**	**108**	*e*PG	**Pg**	**20 49 01.6**	**+0.9**
FETY				*e*SG	**Sb**	**20 49 11.2**	**+0.1**
FETY	**Fethiye**	**0.62**	**108**	*e*Pg	**Pg**	**20 49 01.6**	**+0.9**
FETY				*e*Sg	**Sb**	**20 49 11.2**	**+0.1**
ARG	**Arkhangelos**	**0.63**	**196**	*e*PB	**Pg**	**20 49 00.7**	**-0.2**
ARG				*e*SN	**Sg**	**20 49 10.2**	**+1.1**
ARG	**Arkhangelos**	**0.63**	**196**	*e*Pb	**Pg**	**20 49 00.7**	**-0.2**
ARG				*e*Sn	**Sg**	**20 49 10.2**	**+1.1**
BODT	**Bodrum**	**0.86**	**286**	*e*PG	**Pg**	**20 49 05.0**	**-0.3**
BODT	**Bodrum**	**0.86**	**286**	*e*Pg	**Pg**	**20 49 05.0**	**-0.3**
AYDN	**Tasoluk**	**0.91**	**336**	*i* P	**Pg**	**20 49 06.6**	**+0.3**
AYDN				*i* S	**Sn**	**20 49 20.8**	**-1.1**
AYDN	**Tasoluk**	**0.91**	**336**	*i* P	**Pg**	**20 49 06.6**	**+0.3**
DNZL	**Cakiroluk**	**1.03**	**33**	*i* P	**Pb**	**20 49 09.7**	**+0.6**
DNZL				*i* S	**Sn**	**20 49 24.9**	**+0.1**
DNZL	**Cakiroluk**	**1.03**	**33**	*i* P	**Pb**	**20 49 09.7**	**+0.6**
DNZL				*i* S	**Sn**	**20 49 24.9**	**+0.1**
KSL	**Kastellorizon**	**1.20**	**124**	*e*PN	**Pn**	**20 49 14.2**	**+2.0**
ELL	**Elmali**	**1.25**	**93**	*e*PN	**Pn**	**20 49 12.9**	**-0.2**
ELL	**Elmali**	**1.25**	**93**	*e*Pn	**Pn**	**20 49 12.9**	**-0.2**
SMG	**Samos**	**1.49**	**307**	*e*PN	**Pn**	**20 49 15.5**	**-0.7**
SMG				*e*SN	**Sn**	**20 49 34.2**	**-1.9**
SMG	**Samos**	**1.49**	**307**	*e*Pn	**Pn**	**20 49 15.5**	**-0.7**
SMG				*e*Sn	**Sn**	**20 49 34.2**	**-1.9**
KARP	**Karpathos**	**1.60**	**217**	*e*PN	**Pn**	**20 49 18.0**	**+0.3**
KARP				*e*SN	**Sb**	**20 49 38.9**	**-0.3**
KARP	**Karpathos**	**1.60**	**217**	*e*Pn	**Pn**	**20 49 18.0**	**+0.3**
KARP				*e*Sn	**Sb**	**20 49 38.9**	**-0.3**
KULA	**Kula-Manisa**	**1.70**	**8**	*e*PN	**Pn**	**20 49 19.6**	**+0.4**
KULA	**Kula-Manisa**	**1.70**	**8**	*e*Pn	**Pn**	**20 49 19.6**	**+0.4**
KHL	**Karahalli**	**1.76**	**32**	*e*PN	**Pn**	**20 49 20.6**	**+0.6**
KHL	**Karahalli**	**1.76**	**32**	*e*Pn	**Pn**	**20 49 20.6**	**+0.6**
KHAL	**Karahalli**	**1.79**	**30**	*e*P	**Pb**	**20 49 23.1**	**+1.0**
KHAL				*e*S	**Sn**	**20 49 42.8**	**-0.8**
KHAL	**Karahalli**	**1.79**	**30**	*e*P	**Pb**	**20 49 23.1**	**+1.0**
KHAL				*e*S	**Sn**	**20 49 42.8**	**-0.8**
IZM	**Izmir**	**1.79**	**332**	*e*PN	**Pn**	**20 49 20.4**	**+0.1**
IZM	**Izmir**	**1.79**	**332**	*e*Pn	**Pn**	**20 49 20.4**	**+0.1**
BLCB	**Balcova**	**1.87**	**327**	*e*PN	**Pn**	**20 49 20.6**	**-0.8**
BLCB	**Balcova**	**1.87**	**327**	*e*Pn	**Pn**	**20 49 20.6**	**-0.8**
AKHS	**Akhisar**	**2.09**	**349**	*e*P	**Pn**	**20 49 24.1**	**-0.4**
AKHS				*i* S	**Sn**	**20 49 51.7**	**+0.8**
AKHS	**Akhisar**	**2.09**	**349**	*e*P	**Pn**	**20 49 24.1**	**-0.4**
AKHS				*i* S	**Sn**	**20 49 51.7**	**+0.8**
APE	**Apeiranthos**	**2.27**	**277**	*e*PN	**Pn**	**20 49 27.0**	**+0.1**
APE				*e*SN	**Sn**	**20 49 53.2**	**-2.1**
APE	**Apeiranthos**	**2.27**	**277**	*e*Pn	**Pn**	**20 49 27.0**	**+0.1**
APE				*e*Sn	**Sn**	**20 49 53.2**	**-2.1**
ZKR	**Zakros**	**2.43**	**226**	*e*PN	**Pn**	**20 49 29.2**	**+0.1**
ZKR	**Zakros**	**2.43**	**226**	*e*Pn	**Pn**	**20 49 29.2**	**+0.1**

IDC 26 20:49:34.4 ± 2.0, 0°.50S × 133°.23E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=79.2km s-min=24.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.02**	**203**	P	P	20 53 57.5	-0.4
	0.2nm,0.3s,baz=16,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**19.35**	**177**	P	P	20 54 01.8	+0.1
	0.2nm,0.3s,baz=356,slow=11,SNR=15						
WRA				S	Sn	20 57 27.9	-13
	0.1nm,0.3s,baz=355,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**23.04**	**178**	P	P	20 54 41.6	+0.2
	1.4nm,0.4s,baz=356,slow=10,SNR=26						
STKA	**Stephens Creek**	**32.19**	**167**	P	P	20 56 04.2	0.0
	1.4nm,0.4s,baz=330,slow=6.6,SNR=7.3						
MKAR	**Makanchi Array**	**64.75**	**324**	P	P	21 00 14.6	-0.1
	0.1nm,0.3s,baz=109,slow=7.4,SNR=4.8						

IDC 26 20:57:16.8 ± 10.0, 23°.77S × 67°.16W, h220km ± 80km, mb3.0/1, mb1 3.1/3, mb1mx3.0/15, mbtmp3.0/3, Error ellipse: s-maj=112.0km s-min=44.7km az=28.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.50**	**353**	P	Pn	20 59 04.2	-0.2
	0.3nm,0.3s,baz=169,slow=8.0,SNR=5.0						
LPAZ				S	S	21 00 30.5	+0.2
	0.1nm,0.3s,baz=344,slow=7.4,SNR=2.3						
BDFB	**Brasilia**	**19.73**	**69**	P	P	21 01 30.3	0.0
	0.4nm,0.3s,baz=252,slow=9.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	P	21 08 43.8	+0.1
	0.2nm,0.4s,baz=255,slow=5.9,SNR=4.1						

*IDC **26** 21:07:32.2 ± 1.8, 43°.48N × 105°.31W, h0km, mb4.0/2, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, ML3.6/4, Error ellipse: s-maj=46.2km s-min=7.1km az=151.0*
*ISCJB **26** 21:07:33.5 ± 0.1, 43°.699N ± 0°.010 × 105°.27W ± 0°.02, h0km, mb4.1/2, Error ellipse: s-maj=1.6km s-min=1.4km az=159.2*
*NEIC **26** 21:07:34.1 ± 0.3, 43°.66N × 105°.18W, h0km, ML3.4, Error ellipse: s-maj=4.8km s-min=4.2km az=171.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 26 21:07:33.7 ± 0.6, 43°.66N ± 0°.01 × 105°.23W ± 0°.02, h0km, n187, σ 1§30/276, 68C-83D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.35**	**223**	P	**Pg**	**21 07 40.8**	**+0.4**
	baz=0.3,SNR=1000						
J23A				⇑S	**Sg**	**21 07 44.5**	**-0.4**
	baz=0.3						
I23A	**Meade Ranch, G**	**0.35**	**331**	P	**Pg**	**21 07 41.4**	**+1.0**
	baz=0.3,SNR=104						
I23A				⇓S	**Sg**	**21 07 44.4**	**-0.6**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.48**	**65**	P	**Pb**	**21 07 44.6**	**-0.6**
	baz=0.5,SNR=1000						
J24A	**Dixon Ranch, L**	**0.52**	**128**	P	**Pb**	**21 07 45.0**	**-0.9**
	baz=0.6,SNR=112						
J24A				⇓S	**Sb**	**21 07 54.1**	**0.0**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.91**	**352**	⇓P	**Pg**	**21 07 51.2**	**0.0**
	baz=0.9,SNR=45						
I22A	**9 Mile Ranch,**	**0.94**	**285**	P	**Pg**	**21 07 51.2**	**-0.5**
	baz=0.9,SNR=629						
I22A				⇑S	**Sg**	**21 08 02.6**	**-1.4**
	baz=0.9						
J22A	**Midwest**	**0.94**	**255**	P	**Pg**	**21 07 51.0**	**-0.8**
	baz=0.9,SNR=624						
J22A				⇑S	**Sg**	**21 08 03.6**	**-0.4**
	baz=0.9						
K23A	**Bowen Ranch, D**	**0.95**	**198**	⇓P	**Pg**	**21 07 51.9**	**0.0**
	baz=0.9						
RSSD	**Black Hills**	**0.98**	**61**	*e*P	**Pg**	**21 07 53.1**	**+0.7**
RSSD				*e*S	**Sb**	**21 08 08.0**	**+0.8**
K24A	**Anderson Ranch**	**0.98**	**162**	⇑P	**Pg**	**21 07 52.8**	**+0.3**
	baz=1.0						
K24A				⇑S	**Sb**	**21 08 07.0**	**-0.2**
	baz=1.0						
H24A	**Dirks Ranch, A**	**1.19**	**24**	P	**Pg**	**21 07 56.5**	**-0.1**
	baz=1.2,SNR=331						
H22A	**Clearmont**	**1.24**	**320**	⇑P	**Pg**	**21 07 57.1**	**-0.5**
	baz=1.2,SNR=69						
K22A	**Casper**	**1.38**	**224**	⇓P	**Pg**	**21 07 58.9**	**-1.3**
	baz=1.3						
K25A	**Mack Ranch, Ha**	**1.44**	**136**	⇓Pb	**Pb**	**21 08 02.1**	**+0.6**
	baz=1.5,SNR=60						
I21A	**Big Trails, Te**	**1.51**	**277**	⇓P	**Pn**	**21 08 00.3**	**-1.8**
	baz=1.4						
I21A				⇓S	**Sg**	**21 08 20.5**	**-1.7**
	baz=1.4						
G23A	**Biddle**	**1.55**	**356**	⇓Pb	**Pn**	**21 08 02.7**	**0.0**
	baz=1.5,SNR=103						
L23A	**Garrett**	**1.58**	**193**	⇓P	**Pn**	**21 08 02.6**	**-0.7**
	baz=1.6						
L23A				⇑S	**Sb**	**21 08 24.6**	**0.0**
	baz=1.6						
L24A	**Wheatland**	**1.63**	**172**	P	**Pn**	**21 08 04.0**	**+0.2**
	baz=1.6,SNR=176						
H21A	**Big Horn, Sher**	**1.63**	**307**	⇓Pb	**Pn**	**21 08 03.6**	**-0.3**
	baz=1.6,SNR=48						
J21A	**Lysite**	**1.65**	**260**	P	**Pn**	**21 08 03.1**	**-0.9**
	baz=1.6,SNR=101						
J21A				⇓S	**Sn**	**21 08 24.7**	**-1.3**
	baz=1.6						
G22A	**Birney**	**1.74**	**334**	Pb	**Pn**	**21 08 05.8**	**+0.5**
	baz=1.7,SNR=169						
L25A	**Engebretsen Ra**	**1.76**	**148**	⇓P	**Pb**	**21 08 07.3**	**+0.3**
	baz=1.8,SNR=29						
L25A				⇑Sb	**Sg**	**21 08 32.8**	**+2.4**
	baz=1.8						
G24A	**Alzada**	**1.77**	**19**	⇓Pb	**Pb**	**21 08 06.9**	**-0.2**
	baz=1.8,SNR=45						
K21A	**Alcova**	**1.80**	**236**	P	**Pn**	**21 08 06.2**	**0.0**
	baz=1.8,SNR=911						
K21A				⇓Sb	**Sb**	**21 08 30.9**	**-0.1**
	baz=1.8

E24A	**Baker**	**2.98**	**12**	⇓P		**Pn**	**21 08 23.5**	**+1.2**
	baz=3.0							
M27A	**Reverse DX Ran**	**2.99**	**134**	⇓Pb		**Pb**	**21 08 28.6**	**+0.7**
	baz=3.0							
F20A	**Billings**	**2.99**	**317**	⇓P		**Pn**	**21 08 22.1**	**-0.4**
	baz=2.9,SNR=34							
F20A				⇑Sb		**Sb**	**21 09 05.1**	**+0.1**
	baz=2.9							
N22A	**Wattenberg Ran**	**3.00**	**198**	⇓P		**Pn**	**21 08 25.2**	**+2.5**
	baz=3.0							
M20A	**Sweetwater, Wa**	**3.08**	**226**	⇓Pb		**Pb**	**21 08 28.6**	**-0.9**
	baz=3.0							
E21A	**Keefer Ranch,**	**3.17**	**336**	⇑P		**Pn**	**21 08 24.0**	**-0.9**
	baz=3.1,SNR=5.7							
RLMT	**Red Lodge**	**3.25**	**298**	*e*Pn		**Pn**	**21 08 26.4**	**+0.3**
RLMT				*e*Sn		**Sn**	**21 09 07.0**	**+1.4**
RLMT	**Red Lodge**	**3.25**	**298**	⇑P		**Pn**	**21 08 26.2**	**+0.1**
	baz=3.2,SNR=58							
RLMT				⇑P		**Pn**	**21 08 26.2**	**+0.1**
	baz=3.2,SNR=58							
BW06	**Boulder Array**	**3.29**	**256**	*e*Pn		**Pn**	**21 08 26.7**	**-0.1**
BW06				*e*Sn		**Sn**	**21 09 08.8**	**+2.1**
BW06	**Boulder Array**	**3.29**	**256**	⇓P		**Pn**	**21 08 26.8**	**0.0**
	baz=3.2,SNR=362							
BW06				⇓P		**Pn**	**21 08 26.8**	**0.0**
	baz=3.2,SNR=362							
PDAR	**Pinedale Array**	**3.29**	**256**	Pn		**Pn**	**21 08 26.9**	**+0.1**
	7.8nm,0.3s,baz=78,slow=17,SNR=86							
PDAR				Pg		**Pb**	**21 08 32.2**	**-0.9**
	27nm,0.3s,baz=71,slow=17,SNR=118							
PDAR				Lg		Lg	21 09 11.8	
	33nm,0.3s,baz=73,slow=31,SNR=7.3							
PDAR	**Pinedale Array**	**3.29**	**256**	Pn		**Pn**	**21 08 26.9**	**+0.1**
PDAR				Pg		**Pb**	**21 08 32.2**	**-0.9**
PDAR				Lg		Lg	21 09 11.8	
PD02	**Pinedale Array**	**3.29**	**256**	*e*Pn		**Pn**	**21 08 26.9**	**+0.1**
PD02				*e*Sn		**Sb**	**21 09 11.9**	**-1.9**
PD01	**Pinedale Array**	**3.31**	**256**	*e*Pn		**Pn**	**21 08 27.6**	**+0.7**
PD01				*e*Sn		**Sb**	**21 09 11.2**	**-3.0**
I18A	**Diamond G Ranc**	**3.33**	**272**	⇑P		**Pn**	**21 08 28.1**	**+0.8**
	baz=3.3							
H18A	**Shoshone NF, C**	**3.35**	**289**	⇓P		**Pn**	**21 08 27.2**	**-0.4**
	baz=3.3,SNR=54							
N21A	**Black Mountain**	**3.36**	**211**	⇑P		**Pn**	**21 08 29.2**	**+1.5**
	baz=3.3,SNR=18							
L19A	**Farson**	**3.41**	**244**	⇓P		**Pn**	**21 08 29.4**	**+1.1**
	baz=3.4,SNR=19							
F19A	**Roth Farm, Mol**	**3.44**	**311**	P		**Pn**	**21 08 29.1**	**+0.4**
	baz=3.4,SNR=272							
N27A	**Anderson Farm,**	**3.48**	**144**	⇓P		**Pn**	**21 08 30.6**	**+1.4**
	baz=3.5,SNR=6.5							
E20A	**Meyer Farm, Mu**	**3.51**	**325**	⇓P		**Pn**	**21 08 30.1**	**+0.5**
	baz=3.5							
D24A	**Glendive**	**3.52**	**10**	⇑P		**Pn**	**21 08 31.0**	**+1.3**
	baz=3.5,SNR=26							
D23A	**Lindsay**	**3.52**	**0**	⇑P		**Pn**	**21 08 30.5**	**+0.8**
	baz=3.5,SNR=50							
G18A	**Lazy EL Ranch,**	**3.52**	**300**	⇑P		**Pn**	**21 08 30.1**	**+0.2**
	baz=3.5,SNR=34							
J18A	**Kendall Valley**	**3.52**	**264**	⇑P		**Pn**	**21 08 30.6**	**+0.6**
	baz=3.5,SNR=48							
D22A	**Cohagen**	**3.56**	**349**	⇑P		**Pn**	**21 08 30.4**	**+0.1**
	baz=3.5,SNR=23							
OGNE	**Ogallala**	**3.60**	**138**	*e*Pn		**Pn**	**21 08 32.8**	**+2.0**
OGNE				*e*Pg		**Pg**	**21 08 42.1**	**-0.6**
OGNE				*e*Sg		**Sg**	**21 09 29.9**	**+0.6**
OGNE	**Ogallala**	**3.60**	**138**	⇓P		**Pn**	**21 08 32.7**	**+1.9**
	baz=3.6							
N20A	**Spence Gulch,**	**3.61**	**220**	⇓P		**Pn**	**21 08 31.9**	**+0.8**
	baz=3.6,SNR=8.4							
O25A	**Wiggins**	**3.64**	**167**	⇓P		**Pn**	**21 08 32.7**	**+1.3**
	baz=3.7							
K18A	**Toltan Ranch,**	**3.67**	**256**	⇑P		**Pn**	**21 08 33.0**	**+1.1**
	baz=3.6,SNR=12							
E19A	**Rath Farm, Rou**	**3.77**	**319**	⇓P		**Pn**	**21 08 33.0**	**-0.2**
	baz=3.7							
GCMT	**Greycliff**	**3.82**	**306**	*e*Pn		**Pn**	**21 08 34.2**	**+0.3**
GCMT				*e*Sn		**Sn**	**21 09 20.6**	**+1.1**
LKWY	**Lake**	**3.84**	**285**	*e*Pn		**Pn**	**21 08 36.3**	**+2.0**
LKWY				*e*Sn		**Sn**	**21 09 23.4**	**+3.2**
ISCO	**Idaho Springs**	**3.87**	**184**	*e*Pn		**Pn**	**21 08 35.8**	**+1.2**
ISCO				*e*S		**Sb**	**21 09 31.8**	**+1.4**
ISCO	**Idaho Springs**	**3.87**	**184**	⇓P		**Pn**	**21 08 35.9**	**+1.2**
	baz=3.9,SNR=8.5							
F18A	**Big Timber**	**3.91**	**307**	⇑P		**Pn**	**21 08 35.6**	**+0.5**
	baz=3.9,SNR=40							
C24A	**Savage**	**3.92**	**8**	⇓P		**Pn**	**21 08 36.5**	**+1.3**
	baz=3.9							
D20A	**Manuel Ranch,**	**4.00**	**330**	⇑P		**Pn**	**21 08 35.8**	**-0.6**
	baz=4.0,SNR=46							
O27A	**Beecher Island**	**4.02**	**148**	⇓P		**Pn**	**21 08 37.6**	**+0.9**
	baz=4.1							
SNOW	**Snow King Moun**	**4.02**	**269**	*e*Pn		**Pn**	**21 08 38.4**	**+1.5**
SNOW				*e*Pg		**Pb**	**21 08 48.3**	**+2.7**
SNOW				*e*S		**Sb**	**21 09 38.6**	**+3.6**
N19A	**John Jarvie Ra**	**4.03**	**228**	⇓P		**Pn**	**21 08 36.7**	**-0.1**
	baz=4.0,SNR=21							
YNR	**Norris Junctio**	**4.06**	**287**	*e*Pn		**Pn**	**21 08 40.0**	**+2.6**
YNR				*e*Sg		**Sg**	**21 09 48.1**	**+3.8**
REDW	**Red Top Meadow**	**4.10**	**268**	*e*Pn		**Pn**	**21 08 39.8**	**+1.9**
REDW				*e*Pg		**Pg**	**21 08 52.0**	**-0.4**
REDW				*e*Sn		**Sn**	**21 09 29.3**	**+2.5**
REDW				*e*Sg		**Sg**	**21 09 49.5**	**+3.9**
C22A	**Vida**	**4.12**	**354**	⇑P		**Pn**	**21 08 39.1**	**+1.2**
	baz=4.1							
YFT	**Old Faithful**	**4.12**	**283**	*e*Pn		**Pn**	**21 08 40.5**	**+2.3**
YFT				*e*Sn		**Sn**	**21 09 30.2**	**+3.0**
YFT				*e*Sg		**Sg**	**21 09 46.4**	**+0.2**
C23A	**Lambert**	**4.15**	**0**	⇓P		**Pn**	**21 08 39.5**	**+1.2**
	baz=4.1,SNR=51							
TPAW	**Teton Pass**	**4.16**	**270**	*e*Pn		**Pn**	**21 08 39.8**	**+1.0**
TPAW				*e*Pg		**Pb**	**21 08 50.7**	**+2.7**
TPAW				*e*Sn		**Sn**	**21 09 28.8**	**+0.5**
O20A	**White River Ci**	**4.18**	**214**	⇓P		**Pn**	**21 08 39.9**	**+1.0**
	baz=4.2,SNR=5.1							
M18A	**Lyman**	**4.21**	**240**	⇓P		**Pn**	**21 08 39.8**	**+0.4**
	baz=4.2							
P25A	**Willow Gulch B**	**4.22**	**169**	⇓P		**Pn**	**21 08 40.4**	**+0.9**
	baz=4.2							
YMR	**Madison River**	**4.25**	**286**	*e*Pn		**Pn**	**21 08 41.2**	**+1.2**
YMR				*e*Pg		**Pb**	**21 08 51.3**	**+1.8**
YMR				*e*S		**Sb**	**21 09 45.3**	**+3.8**
G17A	**Pierce Place,**	**4.28**	**295**	⇑P		**Pn**	**21 08 40.6**	**+0.3**
	baz=4.2,SNR=18							
P23A	**Jefferson**	**4.30**	**186**	⇑P		**Pn**	**21 08 41.5**	**+0.7**
	baz=4.3,SNR=5.6							
DCID1	**Drake Creek**	**4.33**	**271**	*e*Pn		**Pn**	**21 08 43.1**	**+2.2**
DCID1				*e*Sn		**Sn**	**21 09 34.0**	**+1.9**
P26A	**Davis Ranch, A**	**4.33**	**160**	⇑P		**Pn**	**21 08 42.1**	**+1.2**
	baz=4.4,SNR=35							
C21A	**Desert Coulee**	**4.37**	**343**	⇑P		**Pn**	**21 08 41.6**	**+0.2**
	baz=4.3							
AHID	**Auburn Hatcher**	**4.39**	**260**	*e*Pn		**Pn**	**21 08 44.7**	**+2.9**
AHID				*e*Sn		**Sn**	**21 09 34.3**	**+0.7**
AHID				*e*Sg		**Sg**	**21 09 55.3**	**+0.7**
E18A	**Harlowton**	**4.41**	**313**	⇓P		**Pn**	**21 08 42.4**	**+0.4**
	baz=4.4,SNR=78							
O19A	**Miners Draw (B**	**4.44**	**222**	⇓P		**Pn**	**21 08 43.0**	**+0.5**
	baz=4.4							
RRI2	**Red Ridge**	**4.45**	**268**	*e*Pn		**Pn**	**21 08 43.7**	**+1.0**
RRI2				*e*Sn		**Sn**	**21 09 35.5**	**+0.3**
F17A	**Fitzpatrick Pl**	**4.47**	**302**	⇑P		**Pn**	**21 08 43.6**	**+0.7**
	baz=4.4,SNR=21							
M17A	**Scullys Gap (B**	**4.57**	**243**	⇑P		**Pn**	**21 08 44.9**	**+0.5**
	baz=4.5,SNR=11							
QLMT	**Earthquake Lak**	**4.61**	**287**	*e*Pn		**Pn**	**21 08 46.4**	**+1.5**
QLMT				*e*Pg		**Pb**	**21 08 56.6**	**+1.0**
QLMT				*e*S		**Sb**	**21 09 55.1**	**+3.4**
SMCO	**Snowmass**	**4.66**	**197**	*e*Pn		**Pn**	**21 08 47.5**	**+1.7**
SMCO				Sg		**Sg**	**21 09 59.4**	**-4.2**
B22A	**Reddig Ranch S**	**4.68**	**354**	⇑P		**Pn**	**21 08 45.7**	**0.0**
	baz=4.7							
Q24A	**Divide**	**4.69**	**179**	⇓Pb		**Pb**	**21 08 56.9**	**-0.1**
	baz=4.7							
Q25A	**Bedland, Calha**	**4.79**	**171**	⇓P		**Pn**	**21 08 48.4**	**+1.0**
	baz=4.8							
B23A	**Brockton**	**4.81**	**2**	⇓P		**Pn**	**21 08 48.6**	**+1.1**
	baz=4.8							
L16A	**Fish Haven**	**4.85**	**252**	⇓P		**Pn**	**21 08 48.3**	**+0.1**
	baz=4.8,SNR=18							
DGMT	**Dagmar**	**4.87**	**8**	*e*Pn		**Pn**	**21 08 49.8**	**+1.6**
DGMT				Pg		**Pg**	**21 09 04.8**	**-2.2**
DGMT				*e*Sn		**Sn**	**21 09 46.9**	**+1.7**
DGMT				*e*Sg		**Sg**	**21 10 11.3**	**+1.3**
DGMT	**Dagmar**	**4.87**	**8**	⇓P		**Pn**	**21 08 49.6**	**+1.4**
	baz=4.9							
E17A	**Martinsdale**	**4.88**	**307**	⇑P		**Pn**	**21 08 48.8**	**+0.3**
	baz=4.8,SNR=28							
C19A	**Slack Wire Ran**	**4.88**	**328**	⇑P		**Pn**	**21 08 49.1**	**+0.6**
	baz=4.8,SNR=21							
Q26A	**Hugo**	**4.90**	**164**	⇓P		**Pn**	**21 08 49.6**	**+0.8**
	baz=4.9,SNR=13							
BOZ	**Bozeman (W)**	**4.98**	**296**	*e*Pn		**Pn**	**21 08 49.1**	**-0.8**
	7.6nm,0.4s							
BOZ				*e*Pg		Pb	21 09 05.5	+3.5
BOZ				*e*S		**Sb**	**21 10 02.2**	**-0.2**
KSCO	**Kaye Shedlock'**	**5.04**	**156**	⇑P		**Pn**	**21 08 51.3**	**+0.6**
	baz=5.1							
HWUT	**Hardware Ranch**	**5.11**	**249**	*e*Pn		**Pn**	**21 08 51.8**	**+0.2**
	9.9nm,0.4s							
HWUT				*e*Pg		Pg	21 09 15.1	+3.5
HWUT				*e*Sn		**Sn**	**21 09 53.2**	**+1.8**
HWUT				Sg		**Sg**	**21 10 22.4**	**+4.7**
B20A	**Solberg Farm,**	**5.16**	**339**	⇓P		**Pn**	**21 08 52.1**	**-0.2**
	baz=5.1,SNR=8.1							
D17A	**Six Diamond Ra**	**5.20**	**314**	⇑P		**Pn**	**21 08 52.8**	**0.0**
	baz=5.1,SNR=52							
A23A	**Redstone**	**5.31**	**2**	⇓P		**Pn**	**21 08 54.8**	**+0.5**
	baz=5.3,SNR=11							
A24A	**Westby**	**5.34**	**9**	⇑P		**Pn**	**21 08 55.3**	**+0.7**
	baz=5.3,SNR=12							
A22A	**Carney Farms,**	**5.36**	**355**	⇑P		**Pn**	**21 08 55.1**	**+0.1**
	baz=5.3							
O17A	**Robinson Place**	**5.37**	**232**	⇓P		**Pn**	**21 08 56.8**	**+1.4**
	baz=5.3,SNR=12							
N16A	**Rees Ranch, Co**	**5.38**	**241**	⇑P		**Pn**	**21 08 54.7**	**-0.7**
	baz=5.3							
EGMT	**Eagleton**	**5.39**	**326**	*e*Pn		**Pn**	**21 08 56.0**	**+0.5**
	17nm,0.4s							
EGMT				*e*Pg		**Pg**	**21 09 15.3**	**-1.7**
EGMT				*e*Sg		**Sg**	**21 10 29.9**	**+3.0**
E16A	**East Helena**	**5.40**	**304**	⇓P		**Pn**	**21 08 55.5**	**-0.1**
	baz=5.3,SNR=11							
A21A	**Bergtoll Ranch**	**5.46**	**348**	⇓P		**Pn**	**21 08 57.0**	**+0.5**
	baz=5.4,SNR=6.4							
R26A	**Arlington**	**5.52**	**165**	⇓P		**Pn**	**21 08 57.9**	**+0.6**
	baz=5.5,SNR=70							
JLU	**Jordanelle**	**5.54**	**239**	*e*Pn		**Pn**	**21 08 57.9**	**+0.1**
	7.8nm,0.5s							
JLU				S		**Sb**	**21 10 22.5**	**+3.8**
R25A	**Fountain Ranch**	**5.55**	**172**	⇑P		**Pn**	**21 08 58.3**	**+0.5**
	baz=5.6,SNR=8.8							
C17A	**Wharram Farm,**	**5.56**	**318**	⇑P		**Pn**	**21 08 57.5**	**-0.3**
	baz=5.5,SNR=20							
HRY	**Holter Researc**	**5.58**	**305**	*e*Pn		**Pn**	**21 08 58.8**	**+0.7**
	16nm,0.4s							
HRY				*e*Sn		**Sn**	**21 10 03.1**	**+0.2**
LRM	**Limekiln Ridge**	**5.58**	**295**	*e*Pn		**Pn**	**21 08 58.0**	**-0.2**
	32nm,0.4s							
LRM				*e*Pg		**Pg**	**21 09 17.6**	**-3.2**
LRM				S		**Sb**	**21 10 22.5**	**+2.7**
D16A	**Dana Ranch, Ca**	**5.59**	**309**	⇓P		**Pn**	**21 08 57.9**	**-0.3**
	baz=5.5,SNR=22							
MCMT	**McKenzie Canyo**	**5.60**	**285**	*e*Pn		**Pn**	**21 08 59.1**	**+0.6**
	2.3nm,0.4s							
MCMT				*e*Sn		**Sn**	**21 10 05.1**	**+1.5**
R27A	**Eads**	**5.67**	**160**	⇓P		**Pn**	**21 08 60.0**	**+0.6**
	baz=5.7,SNR=9.4							
MDND	**Maddock**	**5.75**	**41**	⇑P		**Pn**	**21 09 00.7**	**+0.4**
	baz=5.8							
E15A	**Deer Lodge**	**5.94**	**300**	⇓P		**Pn**	**21 09 02.7**	**-0.4**
	baz=5.9							
D15A	**Lincoln**	**6.16**	**306**	⇑P		**Pn**	**21 09 05.9**	**-0.1**
	baz=6.1,SNR=9.4							
C16A	**Fuhringer Ranc**	**6.16**	**315**	⇑P		**Pn**	**21 09 05.7**	**-0.4**
	baz=6.1,SNR=6.4							
S26A	**Kim**	**6.17**	**167**	⇑P		**Pn**	**21 09 06.9**	**+0.6**
	baz=6.2,SNR=12							
ECSD	**EROS Data Cent**	**6.24**	**86**	*e*Pn		**Pn**	**21 09 07.1**	**-0.1**
	8.4nm,0.4s							
ECSD				S		**Sb**	**21 10 36.7**	**-1.8**
TMUT	**Trail Mountain**	**6.26**	**228**	*e*Pn		**Pn**	**21 09 05.5**	**-2.1**
	9.7nm,0.4s							
TMUT				S		**Sb**	**21 10 42.3**	**+3.1**
R18A	**Canyonlands Na**	**6.34**	**215**	⇑P		**Pn**	**21 09 08.1**	**-0.5**
	baz=6.3,SNR=7.7							
CBKS	**Cedar Bluff**	**6.36**	**138**	Pn		**Pn**	**21 09 08.0**	**-0.8**
	23nm,0.6s							
CBKS				Sg		**Sg**	**21 10 57.7**	**-0.4**
Q16A	**Castle Valley**	**6.52**	**225**	⇑P		**Pn**	**21 09 11.3**	**+0.3**
	baz=6.5,SNR=5.5							
CHMT	**Chamberlain Mo**	**6.53**	**303**	*e*Pn		**Pn**	**21 09 11.7**	**+0.4**
	1.9nm,0.4s							
CHMT				*e*Sn		**Sn**	**21 10 27.0**	**+0.4**
C15A	**Salmond Ranch,**	**6.61**	**311**	⇑P		**Pn**	**21 09 11.4**	**-0.8**
	baz=6.5,SNR=6.9							
DUG	**Dugway**	**6.63**	**241**	*e*Pn		**Pn**	**21 09 12.1**	**-0.4**
	4.1nm,0.4s							
DUG				Sg		**Sg**	**21 11 05.2**	**-1.5**
DUG	**Dugway**	**6.63**	**241**	⇑P		**Pn**	**21 09 12.4**	**-0.2**
	baz=6.6,SNR=10							
D14A	**Greenough**	**6.76**	**303**	⇓P		**Pn**	**21 09 14.0**	**-0.4**
	baz=6.7,SNR=8.8							
T27A	**Campo**	**6.86**	**163**	⇓P		**Pn**	**21 09 16.0**	**+0.3**
	baz=6.9,SNR=12							
B15A	**Bradely Ranch,**	**6.91**	**315**	⇓P		**Pn**	**21 09 15.4**	**-1.0**
	baz=6.9,SNR=6.4							
C14A	**Swan Lake**	**7.24**	**308**	⇓P		**Pn**	**21 09 21.4**	**+0.5**
	baz=7.2,SNR=17							
B14A	**Marquette Ranc**	**7.32**	**313**	⇓P		**Pn**	**21 09 21.5**	**-0.4**
	baz=7.3,SNR=23							
D13A	**Huson**	**7.35**	**301**	⇓P		**Pn**	**21 09 22.5**	**+0.1**
	baz=7.3,SNR=7.0							
YBMT	**Yellow Bay**	**7.45**	**307**	*e*Pn		**Pn**	**21 09 24.5**	**+0.8**
	7.8nm,0.3s							
YBMT				*e*Sn		**Sn**	**21 10 47.7**	**-1.2**
JTMT	**Jette**	**7.54**	**306**	*e*Pn		**Pn**	**21 09 25.6**	**+0.6**
	2.3nm,0.4s							
JTMT				*e*Sn		**Sn**	**21 10 51.6**	**+0.3**
A14A	**Double T Ranch**	**7.77**	**316**	⇑P		**Pn**	**21 09 26.8**	**-1.4**
	baz=7.7,SNR=7.2							
ELK	**Elko**	**7.98**	**252**	Pn		**Pn**	**21 09 32.0**	**+0.9**
	0.2nm,0.3s,baz=78,slow=14,SNR=4.6							
ELK	**Elko**	**7.98**	**252**	Pn		**Pn**	**21 09 32.0**	**+0.9**
AGMN	**Agassiz Nation**	**8.00**	**51**	*e*Pn		**Pn**	**21 09 31.1**	**-0.1**
	13nm,0.5s							
AGMN				*e*Sn		**Sn**	**21 11 01.5**	**-0.9**
AMTX	**Amarillo**	**9.18**	**161**	*e*Pn		**Pn**	**21 09 47.4**	**-0.1**
	9.9nm,0.4s							
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn		**Pn**	**21 09 45.4**	**-1.9**
	2.9nm,0.3s,baz=240,slow=11,SNR=12							
ULM				Pg			21 10 15.5	
	0.8nm,0.3s,baz=234,slow=17,SNR=2.4							
ULM				Sn		**Sn**	**21 11 29.3**	**-2.0**
	0.6nm,0.3s,baz=112,slow=5.8,SNR=4.5							
ULM				Lg		Lg	21 12 13.8	
	0.3nm,0.3s,baz=170,slow=17,SNR=1.6							
ULM	**Lac du Bonnet**	**9.18**	**41**	*e*Pn		**Pn**	**21 09 45.7**	**-1.7**
ULM				*e*Sn		**Sn**	**21 11 30.3**	**-1.0**
ULM				Lg		Lg	21 12 13.8	
FFC	**Flin Flon**	**11.28**	**10**	*e*Pn		**Pn**	**21 10 14.5**	**-1.5**
	3.6nm,0.4s							
FFC				*e*Sn		**Sn**	**21 12 23.7**	**+1.0**
YKA	**Yellowknife Ar**	**19.65**	**347**	P		**Pn**	**21 12 04.9**	**-0.2**
	0.1nm,0.3s,baz=157,slow=12,SNR=6.3							
YKA	**Yellowknife Ar**	**19.65**	**347**	P		**Pn**	**21 12 04.9**	**-0.2**
ARCES	**ARCESS Array B**	**61.48**	**18**	P		**P**	**21 17 50.5**	**-1.1**
	3.0nm,0.9s,baz=326,slow=7.8,SNR=9.8							
ARCES	**ARCESS Array B**	**61.48**	**18**	P		**P**	**21 17 50.5**	**-1.1**
FINES	**FINESS Array B**	**68.09**	**23**	P		**P**	**21 18 34.3**	**-0.5**
	0.2nm,0.3s,baz=337,slow=8.3,SNR=6.1							
FINES	**FINESS Array B**	**68.09**	**23**	P		**P**	**21 18 34.3**	**-0.5**

*ISCJB **26** 21:11:20.5±0.2, 41°.70N±0°.02×110°.62W±0°.02, h0km, Error ellipse: s-maj=2.3km s-min=2.1km az=160.8*
*NEIC **26** 21:11:20.4±0.9, 41°.70N×110°.61W, h0km, ML2.0, Error ellipse: s-maj=16.2km s-min=6.0km az=116.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] NNE of Evanston.
*IDC **26** 21:11:21.2±1.9, 41°.85N×110°.51W, h0km, mb2.6/1, mb1 3.3/2, mb1mx3.1/24, mbtmp2.9/2, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/9, Error ellipse: s-maj=42.9km s-min=12.6km az=138.0*

ISC 26 21:11:20.7±0.7, 41°.71N±0°.02×110°.61W±0°.02, h0km, n50, σ1§04/65, 30C-17D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
M17A	**Scullys Gap (B**	**0.24**	**190**	⇓P		**Pg**	**21 11 24.9**	**-0.4**
L17A	**Cokeville**	**0.44**	**334**	⇓P		**Pg**	**21 11 28.8**	**-0.4**
	baz=0.4							
L17A				⇑S		**Sg**	**21 11 35.8**	**+1.0**
	baz=0.4							
L18A	**Fontenelle, Gr**	**0.48**	**63**	⇑P		**Pg**	**21 11 29.8**	**-0.2**
	baz=0.5							
M18A	**Lyman**	**0.49**	**124**	⇓P		**Pg**	**21 11 29.8**	**-0.3**
	baz=0.5,SNR=15							
L16A	**Fish Haven**	**0.69**	**297**	⇓P		**Pg**	**21 11 32.9**	**-1.1**
	baz=0.7,SNR=19							
N17A	**Moffit Pass**	**0.78**	**192**	⇑P		**Pg**	**21 11 34.8**	**-0.9**
	baz=0.8,SNR=8.5							
L19A	**Farson**	**1.01**	**67**	⇑P		**Pg**	**21 11 40.2**	**0.0**
	baz=1.0,SNR=6.8							
K18A	**Toltan Ranch,**	**1.02**	**24**	⇑S			21 11 55.0	
	baz=1.0							
AHID	**Auburn Hatcher**	**1.12**	**341**	*e*P		**Pg**	**21 11 42.0**	**-0.2**
AHID				*e*S		**Sn**	**21 12 00.3**	**+0.2**
JLU	**Jordanelle**	**1.27**	**210**	*e*P		**Pg**	**21 11 44.8**	**-0.3**
JLU				*e*S		**Sn**	**21 12 05.8**	**+1.9**
BW06	**Boulder Array**	**1.32**	**36**	P		**Pg**	**21 11 44.9**	**-1.1**
	baz=1.3,SNR=8.1							
BW06				P		**Pg**	**21 11 44.9**	**-1.1**
	baz=1.3,SNR=8.1							
BW06				⇑S		**Sg**	**21 12 03.7**	**+0.7**
	baz=1.3							
BW06				⇑S		**Sg**	**21 12 03.7**	**+0.7**
	baz=1.3							
PDAR	**Pinedale Array**	**1.32**	**36**	Pg		**Pg**	**21 11 44.6**	**-1.3**
	2.1nm,0.3s,baz=212,slow=17,SNR=9.0							
PDAR				Lg		Lg	21 12 03.1	
	3.2nm,0.3s,baz=211,slow=24,SNR=5.9							
PDAR	**Pinedale Array**	**1.32**	**36**	Pg		**Pg**	**21 11 44.6**	**-1.3**
PDAR				Lg		Lg	21 12 03.1	
CTU	**Camp Tracy**	**1.33**	**221**	*e*Pn		**Pg**	**21 11 45.9**	**-0.3**
CTU				*e*S		**Sn**	**21 12 06.2**	**+0.9**
K16A	**Soda Springs**	**1.34**	**327**	⇑S			21 12 04.5	
	baz=1.3							
N19A	**John Jarvie Ra**	**1.35**	**126**	⇑P		**Pg**	**21 11 44.9**	**-1.7**
	baz=1.3,SNR=10.0							
N19A				⇓S		**Sg**	**21 12 04.5**	**+0.4**
	baz=1.3							
L15A	**Malad City**	**1.36**	**283**	⇑P		**Pg**	**21 11 44.9**	**-1.9**
	baz=1.4,SNR=12							
L15A				⇑S		**Sg**	**21 12 04.3**	**-0.1**
	baz=1.4							
M15A	**Larsen Ranch,**	**1.40**	**261**	⇑P		**Pn**	**21 11 45.9**	**-1.8**
	baz=1.4,SNR=21							
M15A				⇓S		**Sg**	**21 12 05.3**	**-0.4**
	baz=1.4							
O18A	**Roosevelt**	**1.51**	**162**	⇓Pb		**Pn**	**21 11 48.9**	**-0.3**
	baz=1.5							
O17A	**Robinson Place**	**1.51**	**184**	⇑P		**Pn**	**21 11 48.0**	**-1.3**
	baz=1.5							
O17A				⇑Sb		**Sg**	**21 12 09.8**	**+0.4**
	baz=1.5							
J18A	**Kendall Valley**	**1.57**	**16**	⇓P		**Pn**	**21 11 49.1**	**-1.0**
	baz=1.6,SNR=8.8							
J18A				⇓Sb		**Sg**	**21 12 12.0**	**+1.0**
	baz=1.6							
HVU	**Hansel Valley**	**1.62**	**273**	*e*Pn		**Pn**	**21 11 49.0**	**-1.7**
HVU				*e*Sn		**Sg**	**21 12 14.6**	**+1.7**
N15A	**Stansbury Isla**	**1.65**	**241**	Pb		**Pn**	**21 11 50.8**	**-0.4**
	baz=1.6,SNR=9.4							
N15A		

CRS	**Chara**	**1.45**	**247**	*e*P	**Pn**	**21 31 04.0**	**-0.4**		
CRS				*e*		21 31 21.3			
CRS				pmax	pmax				
	comp=Z,21μm,1.0s								
CRS				smax	smax				
	comp=N,31μm,1.0s								
CRS	**Chara**	**1.45**	**247**	*e*Pg	**Pn**	**21 31 03.5**	**-0.9**		
CRS				*e*		21 31 05.5			
CRS				max		21 31 07.3			
	comp=N,37μm,1.3s								
CRS				*i* Sg	**Sn**	**21 31 21.7**	**-1.5**		
CRS				Smax		21 31 29.0			
	comp=N,37μm,1.4s								
NRGR	**Nerungri**	**2.36**	**109**	*i* P	**Pn**	**21 31 17.3**	**+0.3**		
NRGR				S	**Sn**	**21 31 45.5**	**-0.2**		
NRGR				smax	smax				
	comp=N,12μm,0.7s								
CLNS	**Chul'man**	**2.38**	**104**	*e*P	**Pn**	**21 31 17.4**	**+0.1**		
CLNS				*e*		21 31 48.3			
CLNS				pmax	pmax				
	comp=Z,2μm,0.4s								
CLNS				pmax	pmax				
	comp=E,323nm,0.3s								
CLNS				pmax	pmax				
	comp=N,578nm,0.4s								
CLNS				smax	smax				
	comp=N,10μm,0.8s								
CLNS				smax	smax				
	comp=E,8μm,0.6s								
CLNS				smax	smax				
	comp=Z,7μm,0.5s								
CLNS				smax	smax				
	comp=Z,21μm,11.3s								
CLNS	**Chul'man**	**2.38**	**104**	*i* Pn	**Pn**	**21 31 17.4**	**+0.1**		
CLNS				*e*Pg	**Pb**	**21 31 18.4**	**-2.9**		
CLNS				*i* Sg	**Sb**	**21 31 50.0**	**-0.6**		
ALDR	**Aldan**	**2.75**	**64**	*e*P	**Pn**	**21 31 23.6**	**+1.3**		
ALDR				*e*S	**Sb**	**21 32 02.0**	**+1.0**		
ALDR	**Aldan**	**2.75**	**64**	*e*Pn	**Pn**	**21 31 22.0**	**-0.3**		
ALDR				*e*Pg	**Pb**	**21 31 26.3**	**-1.2**		
ALDR				*e*Sn	**Sn**	**21 31 56.2**	**+1.0**		
ALDR				*e*Sg	**Sb**	**21 32 02.0**	**+1.0**		
NLYR	**Nelyaty**	**2.91**	**252**	*e*P	**Pn**	**21 31 24.6**	**+0.1**		
NLYR				*e*		21 32 05.1			
NLYR				pmax	pmax				
	comp=Z,7μm,1.0s								
NLYR				smax	smax				
	comp=N,8μm,1.0s								
NLYR	**Nelyaty**	**2.91**	**252**	*i* Pn	**Pn**	**21 31 24.6**	**+0.1**		
NLYR				*e*Pg	**Pb**	**21 31 28.1**	**-2.1**		
NLYR				Pmax		21 31 32.6			
	comp=N,7μm,0.9s								
NLYR				*e*Sg	**Sb**	**21 32 05.9**	**+0.3**		
NLYR				Smax		21 32 17.5			
	comp=N,39μm,1.0s								
TUP	**Tupik**	**3.11**	**188**	*e*P	**Pn**	**21 31 26.1**	**-1.1**		
TUP				*e*		21 32 09.5			
TUP				pmax	pmax				
	comp=Z,9μm,0.9s								
TUP				smax	smax				
	comp=N,34μm,1.4s								
TUP	**Tupik**	**3.11**	**188**	*e*Pn	**Pn**	**21 31 25.3**	**-1.9**		
TUP				*e*		21 31 28.3			
TUP				*e*Pg	**Pb**	**21 31 31.7**	**-2.0**		
TUP				Pmax		21 31 33.1			
	comp=N,9μm,0.8s								
TUP				*e*Sn	**Sn**	**21 32 01.8**	**-2.3**		
TUP				*i* Sg	**Sb**	**21 32 09.8**	**-1.6**		
TUP				Smax		21 32 14.6			
	comp=N,57μm,1.0s								
TNDR	**Tynda**	**3.25**	**135**	*e*Pn	**Pn**	**21 31 28.3**	**-0.9**		
TNDR				*e*Pg	**Pb**	**21 31 35.0**	**-1.2**		
TNDR				*e*		21 31 39.7			
TNDR				*i* Sn	**Sn**	**21 32 07.2**	**-0.5**		
TNDR				*e*Sg	**Sb**	**21 32 16.3**	**+0.7**		
TNDR				*e*		21 32 34.0			
BOD	**Bodaibo**	**3.61**	**278**	*e*P	**Pn**	**21 31 34.3**	**+0.3**		
BOD				pmax	pmax				
	comp=Z,2μm,0.9s								
BOD	**Bodaibo**	**3.61**	**278**	*i* Pn	**Pn**	**21 31 34.4**	**+0.4**		
BOD				*e*		21 31 38.4			
BOD				*e*Pg	**Pb**	**21 31 42.4**	**+0.3**		
BOD				*e*PgPg	**PbPb**	**21 31 45.9**	**+0.7**		
BOD				max		21 31 47.0			
	comp=Z,2μm,0.9s								
BOD				*e*Sg	**Sb**	**21 32 28.1**	**+2.4**		
BOD				Smax		21 32 39.7			
	comp=Z,15μm,2.2s								
SVKR	**Severomuysk**	**4.16**	**254**	*e*P	**Pn**	**21 31 41.4**	**-0.2**		
SVKR	**Severomuysk**	**4.16**	**254**	*e*Pn	**Pn**	**21 31 41.5**	**-0.2**		
SVKR				*e*Pg	**Pb**	**21 31 52.6**	**+1.1**		
SVKR				*e*		21 31 56.8			
SVKR				max		21 31 57.5			
	comp=Z,3μm,1.0s								
SVKR				*e*Sn	**Sn**	**21 32 31.9**	**+1.9**		
SVKR				*e*Sg	**Sg**	**21 32 47.2**	**-4.8**		
SVKR				Smax		21 32 55.9			
	comp=Z,31μm,1.2s								
KROS	**Kirovskiy**	**4.68**	**128**	*e*Pn	Pn	21 31 44.0	-4.8		
KROS				*e*Pg	Pb	21 31 56.9	-3.5		
YOA	**Uoyan**	**5.11**	**258**	*e*P	Pb	21 32 11.4	+3.6		
YOA				pmax	pmax				
	comp=Z,9μm,1.2s								
YOA	**Uoyan**	**5.11**	**258**	*e*Pn	**Pn**	**21 31 55.0**	**+0.3**		
YOA				*e*Pg	**Pb**	**21 32 09.3**	**+1.5**		
YOA				Pmax		21 32 21.1			
	comp=Z,8μm,1.5s								
YOA				*e*Sg	Sg	21 33 15.9	-6.7		
YOA				Smax		21 33 27.9			
	comp=Z,49μm,1.7s								
KMO	**Kumora**	**5.47**	**257**	*e*P	**Pb**	**21 32 15.3**	**+1.4**		
KMO	**Kumora**	**5.47**	**257**	*i* Pn	**Pn**	**21 31 59.8**	**+0.1**		
KMO				*e*Pg	**Pb**	**21 32 16.2**	**+2.3**		
KMO				Pmax		21 32 22.4			
	comp=Z,902nm,1.3s								
KMO				*e*Sg	Sg	21 33 27.2	-6.9		
KMO				Smax		21 33 32.5			
	comp=Z,14μm,1.0s								
YLYR	**Ulyunkhan**	**5.93**	**248**	*i* Pn	**Pn**	**21 32 06.2**	**+0.2**		
YLYR				*e*Pg	Pb	21 32 25.1	+3.4		
YLYR				Pmax		21 32 35.2			
	comp=Z,767nm,1.3s								
YLYR				*e*Sn	**Sn**	**21 33 10.7**	**-3.0**		
YLYR				*i* Sg	Sg	21 33 41.3	-7.6		
YLYR				Smax		21 33 53.9			
	comp=Z,7μm,2.0s								
NIZ	**Nizh Angarsk**	**6.39**	**259**	*e*P	**Pn**	**21 32 12.8**	**+0.6**		
NIZ				pmax	pmax				
	comp=Z,410nm,1.4s								
NIZ	**Nizh Angarsk**	**6.39**	**259**⇓	*i*Pn	**Pn**	**21 32 12.5**	**+0.3**		
NIZ				*e*		21 32 16.3			
NIZ				*e*Pg	**Pb**	**21 32 32.5**	**+3.0**		
NIZ				Pmax		21 32 38.9			
	comp=Z,413nm,1.1s								
NIZ				*e*Sg	Sg	21 33 55.2	-8.3		
NIZ				Smax		21 34 00.2			
	comp=Z,4μm,1.1s								
YAK	**Yakutsk**	**6.42**	**41**	*e*P	**Pn**	**21 32 10.1**	**-2.6**		
YAK				*e*		21 33 22.7			
YAK				pmax	pmax				
	comp=Z,74nm,0.6s								
YAK				pmax	pmax				
	comp=N,21nm,0.7s								
YAK				pmax	pmax				
	comp=E,18nm,0.5s								
YAK				smax	smax				
	comp=N,792nm,0.6s								
YAK				smax	smax				
	comp=E,601nm,0.5s								
YAK				MLR	MLR				
	comp=Z,9μm,10.1s								
YAK	**Yakutsk**	**6.42**	**41**	*e*Pn	**Pn**	**21 32 10.6**	**-2.1**		
	comp=Z,597nm,0.6s								
YAK				S	**Sb**	**21 33 48.3**	**+1.7**		
CIT	**Chita**	**6.86**	**220**	*e*P	**Pn**	**21 32 16.9**	**-1.9**		
CIT				pmax	pmax				
	comp=Z,944nm,0.9s								
CIT	**Chita**	**6.86**	**220**	*e*Pn	**Pn**	**21 32 19.7**	**+0.9**		
CIT				*e*Pg	**Pb**	**21 32 40.0**	**+2.4**		
CIT				Pmax		21 32 45.8			
	comp=Z,946nm,1.3s								
CIT				*e*Sg	Sb	21 34 06.4	+7.0		
CIT				Smax		21 34 09.7			
	comp=Z,24μm,1.7s								

SYVR	**Suvo**	**7.17**	**242**	*e*P	**Pn**	**21 32 22.8**	**-0.3**		
SYVR				pmax	pmax				
	comp=Z,739nm,1.0s								
SYVR	**Suvo**	**7.17**	**242**	*e*Pn	**Pn**	**21 32 22.7**	**-0.3**		
SYVR				*e*Pg	Pb	21 32 46.3	+3.4		
SYVR				Pmax		21 32 51.2			
	comp=Z,745nm,1.2s								
SYVR				*e*		21 34 01.0			
SYVR				*e*Sg	Sg	21 34 19.9	-8.8		
SYVR				Smax		21 34 32.4			
	comp=Z,6μm,1.1s								
MXMB	**Maximikha**	**8.01**	**243**	*e*Pn	**Pn**	**21 32 33.9**	**-0.6**		
MXMB				*e*Pg	Pb	21 33 02.6	+5.5		
MXMB				Pmax		21 33 09.3			
	comp=Z,502nm,1.2s								
MXMB				*e*Sg	Sg	21 34 45.8	-10		
MXMB				Smax		21 35 03.9			
	comp=Z,13μm,1.0s								
HIA	**Hailar**	**8.27**	**184**	*e*P	Pn	21 32 33.7	-4.3		
HIA				pmax	pmax				
	comp=Z,2μm,2.0s								
HIA	**Hailar**	**8.27**	**184**	*e*Pn	Pn	21 32 33.7	-4.3		
	comp=Z,2μm,2.0s								
HIA				S	Sb	21 34 50.5	+11		
HIA	**Hailar**	**8.27**	**184**	*e*Pn	Pn	21 32 33.6	-4.4		
HIA				*e*		21 33 06.8			
HIA				*e*Sn	Sn	21 34 02.2	-8.9		
HIA				*e*Sg	Sb	21 34 48.6	+8.9		
HIA				*e*		21 35 30.0			
OGRR	**Ongureny**	**8.36**	**248**	*e*P	**Pn**	**21 32 39.6**	**+0.3**		
OGRR				pmax	pmax				
	comp=Z,362nm,1.4s								
OGRR	**Ongureny**	**8.36**	**248**	*e*Pn	**Pn**	**21 32 39.6**	**+0.3**		
OGRR				*e*Pg	Pb	21 33 08.2	+5.1		
OGRR				Pmax		21 33 23.5			
	comp=Z,368nm,1.3s								
OGRR				*e*Sg	Sg	21 34 56.7	-10		
OGRR				Smax		21 35 14.7			
	comp=Z,4μm,1.3s								
ZRHB	**Zarechye**	**9.21**	**243**	*e*Pn	**Pn**	**21 32 48.8**	**-2.1**		
ZRHB				*e*Pg		21 33 23.6			
ZRHB				Pmax		21 33 34.1			
	comp=Z,478nm,1.4s								
ZRHB				*e*Sg	Sn	21 35 23.8	+49		
ZRHB				Smax		21 35 53.6			
	comp=Z,20μm,1.8s								
KPC	**Khapcheranga**	**9.23**	**216**	*e*P	**Pn**	**21 32 49.0**	**-2.3**		
KPC				pmax	pmax				
	comp=Z,96nm,0.4s								
KPC	**Khapcheranga**	**9.23**	**216**	*e*Pn	**Pn**	**21 32 49.0**	**-2.3**		
KPC				*e*		21 32 53.0			
KPC				max		21 33 38.9			
	comp=Z,102nm,1.4s								
KPC				*e*Sg	Sn	21 35 18.7	+44		
KPC				Smax		21 35 30.0			
	comp=Z,7μm,1.2s								
UUDB	**Ulan-Yde**	**9.41**	**239**	*e*Pn	**Pn**	**21 32 56.4**	**+2.7**		
UUDB				*e*Pg		21 33 26.4			
UUDB				*e*Sg	Sn	21 35 28.0	+49		
UUDB				Smax		21 35 39.5			
	comp=Z,11μm,1.4s								
TRG	**Tyrgan**	**9.48**	**246**	*e*P	**Pn**	**21 32 55.0**	**+0.4**		
TRG				pmax	pmax				
	comp=Z,86nm,1.3s								
TRG	**Tyrgan**	**9.48**	**246**	*e*Pn	**Pn**	**21 32 54.7**	**+0.1**		
TRG				*e*Pg		21 33 28.1			
TRG				Pmax		21 33 37.1			
	comp=Z,79nm,1.3s								
TRG				*e*Sg	Sn	21 35 31.2	+50		
TRG				Smax		21 35 42.4			
	comp=Z,2μm,2.0s								
KAB	**Kabansk**	**9.77**	**242**	*e*Pn	**Pn**	**21 33 00.8**	**+2.3**		
KAB				*e*Pg		21 33 35.1			
KAB				Pmax		21 33 53.6			
	comp=Z,587nm,1.2s								
KAB				*e*Sg	Sn	21 35 41.6	+54		
KAB				Smax		21 36 10.2			
	comp=Z,24μm,1.8s								
HRMR	**Khuramsha**	**9.90**	**239**	*e*Pn	**Pn**	**21 33 00.1**	**-0.3**		
HRMR				*e*		21 33 16.3			
HRMR				*e*Pg		21 33 35.3			
HRMR				Pmax		21 33 39.1			
	comp=Z,549nm,1.0s								
HRMR				*e*		21 35 14.9			
HRMR				*e*Sg	Sn	21 35 43.6	+52		
HRMR				Smax		21 35 55.6			
	comp=Z,20μm,1.1s								
KLR	**Kul'dur**	**10.58**	**137**	*e*P	Pn	21 33 04.8	-4.9		
KLR				pmax	pmax				
	comp=N,230nm,2.0s								
KLR				pmax	pmax				
	comp=E,440nm,2.0s								
KLR				pmax	pmax				
	comp=Z,980nm,2.0s								
KLR				MLR	MLR				
	comp=N,15μm,13.5s								
KLR				MLR	MLR				
	comp=Z,29μm,13.5s								
LSTR	**Listvyanka**	**10.76**	**245**	*e*Pn	**Pn**	**21 33 11.8**	**-0.3**		
LSTR				Pg		21 33 51.2			
LSTR				Pmax		21 33 58.4			
	comp=Z,64nm,1.4s								
LSTR				*e*Sg		21 36 12.6			
LSTR				Smax		21 36 19.7			
	comp=Z,2μm,1.5s								
IRK	**Irkutsk**	**10.81**	**248**	*e*P	**Pn**	**21 33 13.6**	**+0.7**		
IRK				pmax	pmax				
	comp=Z,82nm,1.0s								
IRK	**Irkutsk**	**10.81**	**248**	*e*	Sn	21 35 02.3	-11		
IRK				*e*Sg		21 36 10.9			
IRK				Smax		21 36 43.4			
	comp=Z,4μm,1.3s								
TLY	**Talaya**	**11.46**	**247**	*e*P	Pn	21 33 26.3	+4.6		
TLY				pmax	pmax				
	comp=Z,20nm,0.8s								
TLY	**Talaya**	**11.46**	**247**	*e*Pn	**Pn**	**21 33 21.9**	**+0.2**		
TLY				*e*Sn	**Sn**	**21 35 27.8**	**-1.6**		
TLY	**Talaya**	**11.46**	**247**	*e*Pn	**Pn**	**21 33 21.2**	**-0.5**		
TLY				*e*Pg		21 34 05.4			
TLY				Pmax		21 34 14.9			
	comp=Z,39nm,0.2s								
TLY				*e*Sg		21 36 34.0			
TLY				Smax		21 36 47.7			
	comp=Z,2μm,1.4s								
TLY	**Talaya**	**11.46**	**247**	Pn	**Pn**	**21 33 22.7**	**+1.0**		
	comp=Z,63nm,0.8s,SNR=5.7								
ARS	**Arshan**	**11.93**	**250**	*e*Pn	**Pn**	**21 33 26.8**	**-1.4**		
ARS				max		21 33 39.6			
	comp=Z,63nm,1.5s								
ARS				*e*Sg		21 36 45.9			
ARS				Smax		21 37 16.7			
	comp=Z,5μm,1.1s								
ZAK	**Zakamensk**	**12.46**	**243**⇓	*i*P	**Pn**	**21 33 37.6**	**+2.1**		
ZAK				pmax	pmax				
	comp=Z,28nm,1.0s								
HABR	**Khabarovsk**	**12.49**	**130**	*ce*P	**Pn**	**21 33 36.2**	**+0.5**		
HABR				*e*		21 35 58.2			
HABR				pmax	pmax				
	comp=Z,51nm,1.7s								
HABR				pmax	pmax				
	comp=E,26nm,1.7s								
HABR				pmax	pmax				
	comp=N,21nm,1.7s								
HABR				MLR	MLR				
	comp=Z,6μm,16.0s								
ULN	**Ulaanbaatar**	**12.68**	**226**	*e*P	**Pn**	**21 33 39.9**	**+1.4**		
ULN				*e*		21 35 59.0			
ULN	**Ulaanbaatar**	**12.68**	**226**	*e*Pn	**Pn**	**21 33 39.9**	**+1.4**		
ULN				*e*Sn	**Sn**	**21 35 59.0**	**-0.5**		
ULN	**Ulaanbaatar**	**12.68**	**226**	*e*Pn	**Pn**	**21 33 38.1**	**-0.5**		
ULN				*i* Sg		21 37 10.7			
ULN	**Ulaanbaatar**	**12.68**	**226**	P	**Pn**	**21 33 40.7**	**+2.1**		
	comp=Z,22nm,1.3s,comp=Z,711nm								
MOY	**Mondy**	**12.80**	**251**	*e*P	**Pn**	**21 33 40.5**	**+0.3**		
MOY				pmax	pmax				
	comp=Z,89nm,1.0s								
MOY	**Mondy**	**12.80**	**251**	*e*Pn	**Pn**	**21 33 41.0**	**+0.8**		
MOY				*e*Sg		21 37 12.2			
MOY				Smax		21 37 41.4			
	comp=Z,2μm,1.8s								
ORL	**Orlik**	**12.94**	**256**⇑	*i*Pn	**Pn**	**21 33 41.6**	**-0.5**		
ORL				max		21 34 20.2			
ORL				*e*		21 36 17.0			
ORL				*e*Sg		21 37 19.2			

ORL				Smax		21 37 32.2			
	comp=Z,1μm,1.5s								
SONM	**Songino Array**	**12.97**	**228**	Pn	**Pn**	**21 33 41.1**	**-1.3**		
	comp=Z,2.1nm,0.3s,baz=34,slow=11,SNR=41								
SONM				Sn	Sn	21 36 13.2	+6.8		
	comp=Z,2.6nm,0.3s,baz=42,slow=15,SNR=3.5								
SONM				Lg	Lg	21 37 20.6			
	comp=Z,13nm,0.3s,baz=39,slow=27,SNR=9.7								
SONM				LR	LR	21 38 59.8			
	comp=Z,7μm,21.2s,baz=35,slow=39								
SONM	**Songino Array**	**12.97**	**228**	P	**Pn**	**21 33 41.1**	**-1.3**		
SONM						21 36 13.2			
SONM	**Songino Array**	**12.97**	**228**	Pn	**Pn**	**21 33 41.1**	**-1.3**		
SONM				Sn	Sn	21 36 13.2	+6.8		
SONM				Lg	Lg	21 37 20.6			
OKH	**Okha**	**13.19**	**98**	*e*P	**Pn**	**21 33 47.4**	**+2.2**		
OKH				pmax	pmax				
	comp=Z,3μm,8.0s								
OKH				MLR	MLR				
	comp=Z,20μm,8.0s								
CN2	**Changchun**	**14.04**	**166**	*e*P	**Pn**	**21 33 55.3**	**-1.6**		
CN2				*ep*P	P	21 33 58.5	-6.2		
CN2				*es*P		21 34 02.0			
CN2				*e*S	**Sn**	**21 36 32.5**	**+0.2**		
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=N,20μm,11.0s								
CN2				LR	LR				
	comp=E,23μm,11.0s								
CN2				LR	LR				
	comp=Z,22μm,11.0s								
MDJ	**Mudanjiang**	**14.04**	**153**	P	**Pn**	**21 33 56.8**	**-0.2**		
MDJ				S	**Sn**	**21 36 32.8**	**+0.3**		
MDJ				ScP	**ScP**	**21 42 51.5**	**+2.0**		
MDJ				PcS	**PcS**	**21 42 52.5**	**+1.1**		
MDJ				ScS	**ScS**	**21 46 28.5**	**+1.9**		
MDJ				pmax	pmax				
	comp=Z,20nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,890nm,9.0s								
MDJ				LR	LR				
	comp=N,8μm,8.3s								
MDJ				LR	LR				
	comp=E,24μm,10.4s								
MDJ				LR	LR				
	comp=Z,15μm,5.2s								
MDJ	**Mudanjiang**	**14.04**	**153**	*e*Pn	**Pn**	**21 33 56.5**	**-0.4**		
	comp=Z,70nm,0.9s								
MDJ				Sn	Sn	21 36 39.5	+7.1		
USRK	**Ussuriysk Arra**	**15.08**	**147**	Pn	**Pn**	**21 34 11.0**	**0.0**		
	comp=Z,0.6nm,0.3s,baz=341,slow=13,SNR=57								
USRK				Lg	Lg	21 38 28.6			
	comp=Z,1.0nm,0.3s,baz=316,slow=22,SNR=7.6								
USRK				LR	LR	21 40 33.6			
	comp=Z,5μm,19.3s,baz=150,slow=40								
KRAR	**Krasnoyarsk**	**15.28**	**276***c*	*i*P	**Pn**	**21 34 10.0**	**-3.7**		
SNY	**Shenyang**	**15.79**	**172**	⇓P	**Pn**	**21 34 22.0**	**+1.6**		
SNY				S	**Sn**	**21 37 20.8**	**+5.7**		
SNY				pmax	pmax				
	comp=Z,660nm,5.7s								
SNY				LR	LR				
	comp=N,12μm,6.2s								
SNY				LR	LR				
	comp=E,12μm,7.9s								
SNY				LR	LR				
	comp=Z,8μm,13.9s								
VLA	**Vladivostok**	**16.04**	**149**⇑	*i*P	**P**	**21 34 26.5**	**-0.4**		
VLA				S	**S**	**21 37 28.5**	**-6.2**		
VLA				pmax	pmax				
	comp=Z,210nm,1.3s								
KZLR	**Kyzyl**	**16.21**	**260***d*	*i*P	**Pn**	**21 34 25.1**	**-0.6**		
SEY	**Seymchan**	**16.54**	**58**⇑	*e*P	**Pn**	**21 34 30.0**	**+0.2**		
YSS	**Yuzh-Sakhalins**	**17.07**	**119***α*	*i*P	**P**	**21 34 40.2**	**+1.9**		
YSS				*e*S	**Sn**	**21 37 49.0**	**+3.1**		
YSS				pmax	pmax				
	comp=Z,160nm,1.5s								
YSS				pmax	pmax				
	comp=N,190nm,1.9s								
YSS				pmax	pmax				
	comp=E,270nm,1.8s								
YSS				pmax	pmax				
	comp=Z,1μm,7.0s								
YSS				MLR	MLR				
	comp=N,7μm,13.0s								
YSS				MLR	MLR				
	comp=Z,7μm,13.0s								
YSS				MLR	MLR				
	comp=E,8μm,9.0s								
YSS	**Yuzh-Sakhalins**	**17.07**	**119**	*e*Pn	**P**	**21 34 38.8**	**+0.5**		
	comp=E,263nm,1.6s								
HHC	**Hu-ho-hao-te**	**17.67**	**203**	*e*P	**P**	**21 34 45.8**	**+0.7**		
HHC				pP	**pP**	**21 34 49.0**	**-0.1**		
HHC				sP	**sP**	**21 34 53.0**	**+2.0**		
HHC				PP	**PnPn**	**21 35 00.5**	**+5.9**		
HHC				S	**Sn**	**21 38 02.8**	**+2.0**		
HHC				sS	**S**	**21 38 06.3**	**-1.8**		
HHC				SS	**SnSn**	**21 38 21.8**	**+7.8**		
HHC				pmax	pmax				
	comp=Z,2μm,6.5s								
HHC				LR	LR				
	comp=N,9μm,6.6s								
HHC				LR	LR				
	comp=E,13μm,5.3s								
HHC				LR	LR				
	comp=Z,11μm,8.3s								
BJI	**Beijing**	**17.71**	**191**	P	**P**	**21 34 45.8**	**+0.3**		
BJI				S	**S**	**21 38 11.0**	**+2.2**		
BJI				pmax	pmax				
	comp=Z,50nm,1.2s								
BJI				pmax	pmax				
	comp=Z,2μm,9.4s								
BJI				LR	LR				
	comp=N,15μm,9.0s								
BJI				LR	LR				
	comp=E,7μm,8.2s								
BJI				LR	LR				
	comp=Z,6μm,20.4s								
BJT	**Baijiatuan**	**17.74**	**191**	*e*P	**P**	**21 34 46.0**	**+0.2**		
BJT				*e*S	**S**	**21 38 05.8**	**-3.5**		
BJT				pmax	pmax				
	comp=Z,75nm,0.9s								
BJT	**Baijiatuan**	**17.74**	**191**	*e*Pn	**P**	**21 34 46.0**	**+0.2**		
	comp=Z,75nm,0.9s								
BJT				*e*S	**S**	**21 38 05.8**	**-3.5**		
BTO	**Baotou**	**18.25**	**207**	*e*P	**P**	**21 34 51.5**	**-0.1**		
DL2	**Dalian**	**18.61**	**178**	P	**Pn**	**21 34 56.5**	**+0.8**		
DL2				S	**Sn**	**21 38 23.3**	**-0.1**		
DL2				pmax	pmax				
	comp=Z,30nm,1.0s								
DL2				pmax	pmax				
	comp=Z,1μm,8.2s								
DL2				LR	LR				
	comp=N,7μm,9.0s								
DL2				LR	LR				
	comp=E,4μm,7.0s								
DL2				LR	LR				
	comp=Z,7μm,15.5s								
ASAJ	**Asahikawa**	**19.14**	**125**	P	**Pn**	**21 35 01.9**	**-0.2**		
	comp=Z,2.5nm,0.3s,baz=311,slow=13,SNR=15								
ASAJ				LR	LR	21 41 46.7			
	comp=Z,4μm,18.4s,baz=336,slow=35								
ASAJ	**Asahikawa**	**19.14**	**125**	P	**Pn**	**21 35 01.9**	**-0.2**		
ASAJ				pmax	pmax				
	comp=Z,3.0nm,0.3s	

TIY S Sn 21 39 11.0 +1.1
TIY pmax pmax
comp=Z,800nm,3.6s
TIY LR LR
comp=N,7μm,8.7s
TIY LR LR
comp=E,8μm,5.1s
TIY LR LR
comp=Z,13μm,9.2s
KSRS Korea Array 20.62 163 P **P 21 35 17.6 +0.4**
comp=Z,102nm,1.0s,baz=347,slow=7.7,SNR=48
KSRS Lg Lg 21 41 25.1
comp=Z,5.1nm,0.9s,baz=359,slow=9.7,SNR=5.5
KSRS LR LR 21 42 38.0
comp=Z,3μm,21.6s,baz=348,slow=35
KSRS Korea Array 20.62 163 P **P 21 35 17.7 +0.4**
KSRS pmax pmax
comp=Z,102nm,1.0s
KSRS MLR MLR
comp=Z,3μm,21.6s
KSAR Wonju Array Be 20.62 164 P **P 21 35 17.7 +0.3**
KSAR Wonju Array Be 20.62 164 P **P 21 35 17.6 +0.3**
KSAR Lg Lg 21 41 25.1
YUK Yuzh-Kuril'sk 20.70 120*c i* P **P 21 35 14.5 -3.6**
YUK *i* PPP PnPn 21 35 43.9 +8.0
YUK *i* S **S 21 39 04.7 -3.9**
YUK *i* SS **SnSn 21 39 30.3 +2.3**
YUK *i* SSS SSS 21 39 45.6
YUK pmax pmax
comp=E,632nm,1.5s
YUK pmax pmax
comp=Z,624nm,1.5s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,268nm,1.5s
YUK MLR MLR
comp=N,4μm,18.0s
YUK MLR MLR
comp=Z,4μm,18.0s
YUK MLR MLR
comp=E,3μm,18.0s
NVS Novosibirsk 20.85 279⇓ *i* P **P 21 35 18.3 -1.3**
NVS *i* S **S 21 39 11.5 0.0**
NVS pmax pmax
comp=Z,83nm,0.9s
NVS pmax pmax
comp=N,59nm,1.3s
NVS pmax pmax
comp=E,90nm,1.0s
NVS smax smax
comp=N,17nm,1.0s
NVS smax smax
comp=E,89nm,1.5s
ERM Erimo 21.08 128*c i* P **P 21 35 24.6 +2.4**
ERM pmax pmax
comp=Z,156nm,1.2s
ERM Erimo 21.08 128 *e* P **P 21 35 24.1 +1.9**
comp=Z,132nm,1.1s
PEA0B Petropavlovsk- 21.34 86 *e* P **P 21 35 25.2 +0.3**
PETK Petropavlovsk- 21.34 86 P **P 21 35 25.0 +0.1**
comp=Z,60nm,0.8s,baz=280,slow=4.9,SNR=24
PETK LR LR 21 44 01.2
comp=Z,745nm,18.3s,baz=138,slow=38
PETK Petropavlovsk- 21.34 86 P **P 21 35 25.0 +0.1**
PETK Petropavlovsk- 21.34 86 P **P 21 35 25.0 +0.1**
TIA Tai'an 21.43 188⇑ P **P 21 35 26.0 0.0**
TIA S **S 21 39 20.3 -3.0**
TIA pmax pmax
comp=Z,2μm,14.0s
TIA LR LR
comp=N,5μm,8.9s
TIA LR LR
comp=E,6μm,12.7s
TIA LR LR
comp=Z,4μm,13.0s
SKR Severo-Kuril's 21.67 93 *e* P **P 21 35 26.0 -2.5**
SKR *e* S **S 21 39 30.0 +2.2**
SKR pmax pmax
comp=N,3μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,3μm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=N,960nm,1.5s
SKR smax smax
comp=N,3μm,10.0s
SKR smax smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,4μm,12.0s
SKR MLR MLR
comp=E,5μm,12.0s
SKR MLR MLR
comp=Z,4μm,12.0s
PET Petropavlovsk 21.89 85 *e* P **P 21 35 32.0 +1.2**
PET *e* S **S 21 39 35.1 +3.1**
PET pmax pmax
comp=Z,900nm,5.8s
PET pmax pmax
comp=Z,2μm,6.5s
PET pmax pmax
comp=Z,277nm,1.3s
PET MLR MLR
comp=Z,2μm,12.0s
PET MLR MLR
comp=Z,2μm,14.0s
PET Petropavlovsk 21.89 85 *e* P **P 21 35 32.0 +1.2**
comp=Z,414nm,1.3s
PET LR LR
comp=Z,711nm,21.0s
GTA Gaotai 22.62 226⇓ P **P 21 35 38.8 -0.2**
GTA pP **pP 21 35 43.0 0.0**
GTA sP **sP 21 35 45.8 +1.0**
GTA S **S 21 39 45.0 -1.3**
GTA sS **sS 21 39 52.8 -0.3**
GTA SS SnSn 21 40 31.0 +15
GTA pmax pmax
comp=Z,650nm,7.6s
GTA LR LR
comp=N,17μm,12.6s
GTA LR LR
comp=E,24μm,13.8s
GTA LR LR
comp=Z,16μm,13.3s
BILL Bilibino 22.77 44⇓ *i* P **P 21 35 40.4 +0.2**
BILL *e* SS Sn 21 40 17.4 +14
BILL pmax pmax
comp=Z,65nm,1.7s
BILL MLR MLR
comp=Z,2μm,18.0s
BILL Bilibino 22.77 44⇓ *e* P **P 21 35 40.4 +0.2**
comp=Z,70nm,1.0s
BILL *e* S **S 21 39 50.3 +1.9**
BILL LR LR
comp=Z,4μm,21.0s
MAJO Matsushiro 23.99 143 *e* P **P 21 35 51.5 -1.0**
MAJO pmax pmax
comp=Z,170nm,1.5s
MAJO MLR MLR
comp=Z,4μm,20.0s
MAJO Matsushiro 23.99 143 *e* P **P 21 35 51.5 -1.0**
comp=Z,170nm,1.5s
MAJO LR LR
comp=Z,4μm,20.0s
MAT Matsushiro 23.99 143 P **P 21 35 50.2 -2.4**
MAT S **S 21 40 07.0 -1.8**
MJAR Matsushiro Arr 23.99 143 P **P 21 35 50.6 -2.0**
comp=Z,62nm,1.1s,baz=324,slow=10,SNR=32
MJAR LR LR 21 44 13.9
comp=Z,3μm,20.0s,baz=335,slow=34
MJAR Matsushiro Arr 23.99 143 P **P 21 35 50.6 -2.0**
MJAR Matsushiro Arr 23.99 143 P **P 21 35 50.6 -2.0**
LZH Lanzhou 24.19 215 *e* P **P 21 35 55.5 +0.9**
LZH pP **pP 21 35 59.8 +0.8**
LZH sP **sP 21 36 02.8 +2.1**
LZH PP **PnPn 21 36 28.5 +4.5**
LZH PcP **PcP 21 39 35.3 +0.4**
LZH *e*S **S 21 40 10.0 -2.4**
LZH sS **sS 21 40 17.5 -1.9**
LZH pmax pmax
comp=Z,330nm,1.2s
LZH pmax pmax
comp=Z,2μm,5.3s
LZH LR LR
comp=N,6μm,11.1s
LZH LR LR
comp=E,11μm,9.4s
LZH LR LR
comp=Z,7μm,12.7s
WMQ Urumqi 24.69 251 P **P 21 35 59.8 +0.8**
WMQ pP **pP 21 36 04.3 +1.0**
WMQ sP **sP 21 36 06.8 +1.7**
WMQ PP **PnPn 21 36 34.8 +4.1**
WMQ S **S 21 40 18.3 -1.9**
WMQ PcS **PcS 21 43 15.8 +0.1**
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,1μm,5.2s
WMQ LR LR
comp=N,2μm,15.7s
WMQ LR LR
comp=E,3μm,12.0s
WMQ LR LR
comp=Z,4μm,13.6s
XAN Xi'an 24.78 204 P **P 21 35 58.8 -1.1**
XAN pP **pP 21 36 02.3 -1.9**
XAN sP **sP 21 36 05.3 -0.6**
XAN PP **PnPn 21 36 38.8 +6.8**
XAN S **S 21 40 22.8 +1.1**
XAN sS **sS 21 40 32.0 +3.3**
XAN pmax pmax
comp=Z,180nm,6.1s
XAN LR LR
comp=N,4μm,9.1s
XAN LR LR
comp=E,2μm,9.4s
XAN LR LR
comp=Z,2μm,11.6s
KURK Kurchatov 25.24 273 P **P 21 36 04.3 +0.5**
comp=Z,42nm,0.9s,baz=63,slow=9.4,SNR=65
KURK Lg Lg 21 43 59.5
comp=Z,10nm,1.2s,baz=47,slow=20,SNR=4.3
KURK LR LR 21 47 32.4
comp=Z,698nm,18.4s,baz=65,slow=40
KURK Kurchatov 25.24 273 P **P 21 36 04.3 +0.5**
KURK pmax pmax
comp=Z,42nm,0.9s
KURK MLR MLR
comp=Z,698nm,18.4s
KURK Kurchatov 25.24 273⇓ *e* P **P 21 36 03.3 -0.5**
comp=Z,39nm,0.8s
KURK *e*S S 21 40 18.9 -10
KURK Lg Lg 21 43 59.5
JNU Nakatsue 25.35 160 P **P 21 36 07.5 +2.6**
comp=Z,81nm,1.0s,baz=14,slow=6.9,SNR=22
JNU Lg Lg 21 43 57.5
comp=Z,7.8nm,1.0s,baz=57,slow=23,SNR=2.1
JNU LR LR 21 46 20.6
comp=Z,2μm,20.6s,baz=327,slow=37
JNU Nakatsue 25.35 160 *e* P **P 21 36 07.8 +2.8**
JNU Lg Lg 21 43 57.5
NJ2 Nanjing 25.48 184 *e* P **P 21 36 05.3 -0.8**
NJ2 pP **pP 21 36 08.5 -1.9**
NJ2 sP **sP 21 36 10.5 -1.6**
NJ2 S **S 21 40 30.5 -2.1**
NJ2 sS **sS 21 40 41.5 +1.8**
NJ2 pmax pmax
comp=Z,50nm,1.2s
NJ2 pmax pmax
comp=Z,990nm,8.8s
NJ2 LR LR
comp=N,6μm,12.7s
NJ2 LR LR
comp=E,4μm,17.3s
NJ2 LR LR
comp=Z,7μm,11.8s
MK31 Makanchi Array 25.54 262⇓ *e* P **P 21 36 05.9 -0.7**
MK31 *e*S **S 21 40 30.6 -2.9**
MK31 Makanchi Array 25.54 262⇓ *e* P **P 21 36 05.9 -0.7**
MK31 *e*S **S 21 40 30.6 -2.9**
MKAR Makanchi Array 25.54 262 P **P 21 36 06.1 -0.5**
comp=Z,11nm,0.6s,baz=61,slow=7.4,SNR=92
MKAR Lg Lg 21 43 58.0
comp=Z,1.5nm,0.9s,baz=43,slow=28,SNR=2.2
MKAR Makanchi Array 25.54 262 *i* P **P 21 36 06.0 -0.6**
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 25.54 262 *e* P **P 21 36 06.2 -0.5**
MKAR Lg Lg 21 43 58.0
SSE Sheshan 26.40 179 P **P 21 36 16.5 +2.1**
SSE S **S 21 40 46.5 -0.7**
SSE sS **sS 21 40 52.8 -1.5**
SSE pmax pmax
comp=Z,29nm,1.1s
SSE pmax pmax
comp=Z,480nm,4.2s
SSE LR LR
comp=N,4μm,14.7s
SSE LR LR
comp=E,2μm,14.7s
SSE LR LR
comp=Z,5μm,17.0s
WHN Wuhan 27.30 192 P **P 21 36 22.0 -0.6**
WHN LR LR
comp=N,12μm,10.8s
WHN LR LR
comp=E,7μm,8.9s
WHN LR LR
comp=Z,18μm,16.6s
ENH Enshi 28.31 201 *e* P **P 21 36 30.9 -0.8**
comp=Z,28nm,0.8s
ENH LR LR
comp=Z,6μm,20.0s
BVAR Borovoye Array 28.46 283 P **P 21 36 32.1 -0.7**
comp=Z,5.8nm,0.5s,baz=69,slow=8.9,SNR=43
BVAR LR LR 21 49 03.7
comp=Z,1μm,18.6s,baz=59,slow=39
BVAR Borovoye Array 28.46 283 P **P 21 36 32.1 -0.7**
BVAR Borovoye Array 28.46 283 P **P 21 36 32.1 -0.7**
BRVK Borovoye 28.50 283*d i* P **P 21 36 32.5 -0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 28.50 283 *e* P **P 21 36 32.3 -0.8**
comp=Z,45nm,0.8s
BRVK LR LR
comp=Z,1μm,22.0s
BRVK Borovoye 28.50 283 P **P 21 36 32.2 -0.9**
comp=Z,78nm,0.8s,SNR=7.9
CD2 Chengdu 29.05 211 P **P 21 36 39.0 +0.7**
CD2 pP **pP 21 36 43.3 +0.7**
CD2 sP **sP 21 36 46.0 +1.6**
CD2 PP **PnPn 21 37 33.0 +2.7**
CD2 S **S 21 41 29.0 -0.1**
CD2 sS **sS 21 41 35.8 -0.5**
CD2 SS **SnSn 21 42 57.5 +4.8**
CD2 pmax pmax
comp=Z,30nm,1.7s
CD2 pmax pmax
comp=Z,350nm,4.5s
CD2 LR LR
comp=N,5μm,7.7s
CD2 LR LR
comp=Z,5μm,11.9s
FX1 Attu Island--F 29.68 76 P **P 21 36 42.5 -1.0**
comp=Z,19nm,0.6s,baz=243,slow=11,SNR=4.7
FX1 LR LR 21 49 42.2
comp=Z,611nm,18.5s,baz=143,slow=39
FX1 Attu Island--F 29.68 76 P **P 21 36 42.6 -1.0**
FX1 Attu Island--F 29.68 76 P **P 21 36 42.5 -1.0**
JOW Kunigami 31.12 167 LR LR 21 50 37.6
comp=Z,5μm,18.4s,baz=339,slow=39
SVE Sverdlovsk 31.65 295*c e* P **P 21 37 01.2 +0.3**
SVE *e* 21 38 16.3
SVE *e*S S 21 42 15.9 +6.6
SVE *e* 21 47 32.1
SVE pmax pmax
comp=Z,71nm,1.0s
SVE MLR MLR
comp=Z,3μm,13.0s
TKM2 Tokmak 2 31.66 262 P **P 21 37 02.0 +0.5**
SNR=19
TKM2 P **P 21 37 02.0 +0.5**
SNR=19
TKM2 Tokmak 2 31.66 262 *i* P **P 21 37 02.0 +0.5**
TKM2 Tokmak 2 31.66 262 *e* P **P 21 37 02.0 +0.5**
comp=Z,10nm,0.8s
TKM2 LR LR
comp=Z,647nm,19.0s
ULHL Ulahol 31.79 261 P **P 21 37 03.2 +0.7**
SNR=11
ULHL P **P 21 37 03.2 +0.7**
SNR=11
USP Ospenovka 32.02 264 P **P 21 37 05.0 +0.6**
SNR=15
USP P **P 21 37 05.0 +0.6**
SNR=15
CHMS Chumysh 32.06 263 P **P 21 37 05.5 +0.7**
SNR=13
CHMS P **P 21 37 05.5 +0.7**
SNR=13
KBK Karagaybulak 32.19 263 P **P 21 37 06.9 +0.8**
SNR=14
KBK P **P 21 37 06.9 +0.8**
SNR=14
FRU Bishkek 32.25 263 *e* P **P 21 37 07.0 +0.6**
FRU *e* 21 37 16.0
FRU *e* 21 47 40.0
FRU pmax pmax
comp=Z,60nm,1.4s
GAMB Gambell 32.28 50 *e* P **P 21 37 06.3 -0.1**
comp=Z,19nm,1.4s
SOKR Solikamsk 32.28 301 *e* P **P 21 37 06.7 +0.3**
SOKR S **S 21 42 19.2 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,1μm,11.0s
KZA Kyzart 32.43 262 P **P 21 37 09.7 +1.2**
SNR=17
KZA P **P 21 37 09.7 +1.2**
SNR=17
AAK Ala-Archa 32.45 263 P **P 21 37 09.1 +0.7**
SNR=21
AAK P **P 21 37 09.1 +0.7**
SNR=21
AAK Ala-Archa 32.45 263 *i* P **P 21 37 09.0 +0.7**
AAK pmax pmax
comp=Z,36nm,0.9s
AAK Ala-Archa 32.45 263⇓ *e* P **P 21 37 08.7 +0.3**
comp=Z,78nm,0.8s
AAK *e*S **S 21 42 16.8 -5.7**
AAK LR LR
comp=Z,435nm,20.0s
AAK Ala-Archa 32.45 263 P **P 21 37 08.0 -0.3**
comp=Z,128nm,0.8s,SNR=31
TATO Taipei 32.50 179 PFAKE 21 37 20.0 +11
TATO LR LR
comp=Z,2μm,20.0s
QZH Quanzhou 32.56 184 P **P 21 37 10.0 +0.8**
QZH S **S 21 42 25.0 +1.0**
QZH LR LR
comp=N,6μm,10.2s
QZH LR LR
comp=E,5μm,12.4s
QZH LR LR
comp=Z,9μm,14.0s
GYA Guiyang 32.59 204⇑ *i* P **P 21 37 09.8 +0.3**
GYA PcP **PcP 21 39 59.3 +3.6**
GYA S **S 21 42 23.8 -0.8**
GYA ScP **ScP 21 43 41.5 +2.8**
GYA SS **SnSn 21 44 22.5 +3.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,250nm,4.4s
GYA LR LR
comp=N,5μm,13.3s
GYA LR LR
comp=E,2μm,11.5s
GYA LR LR
comp=Z,4μm,11.8s
YHNB Yeheng 32.80 179 PFAKE 21 37 20.0 +8.6
YHNB LR LR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 32.82 264 P **P 21 37 12.3 +0.8**
SNR=10
EKS2 P **P 21 37 12.3 +0.8**
SNR=10
EKS2 Erkin-Say 32.82 264 *e* P **P 21 37 11.1 -0.4**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 MLR MLR
comp=Z,444nm,19.0s
EKS2 Erkin-Say 32.82 264 *e* P **P 21 37 11.1 -0.4**
comp=Z,12nm,0.9s
EKS2 LR LR
comp=Z,444nm,19.0s
ARU Arti 32.85 295⇑ *i* P **P 21 37 09.9 -1.5**
ARU *e* 21 38 16.0
ARU *e* 21 39 55.1
ARU S **S 21 42 27.5 -0.5**
ARU SS **SnSn 21 44 16.8 -7.5**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU MLR MLR
comp=Z,2μm,14.0s
ARU Arti 32.85 295 *e* P **P 21 37 09.7 -1.7**
comp=Z,22nm,1.1s
ARU LR LR
comp=Z,2μm,20.0s
ARU Arti 32.85 295 P **P 21 37 11.0 -0.4**
comp=Z,104nm,1.1s,SNR=7.9
TNA Tin City 33.16 46 *e* P **P 21 37 15.5 +1.5**
comp=Z,105nm,2.0s
AML Almayashu 33.23 263 P **P 21 37 15.9 +0.5**
SNR=10
AML P **P 21 37 15.9 +0.5**
SNR=10
KSH Kashi 33.88 258 *e* P P 21 37 25.8 +5.0
KSH *e*pP pP 21 37 30.5 +5.4
KSH *e*sP sP 21 37 32.5 +5.6
KSH *e*PP **PP 21 38 40.3 +3.0**
KSH *e*S S 21 42 51.0 +6.4
KSH *e*ScP **ScP 21 43 45.8 +2.7**
KSH *e*PcS **PcS 21 43 47.5 +2.3**
KSH *e*ScS **ScS 21 47 46.8 +1.9**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH pmax pmax
comp=Z,430nm,4.5s
KSH LR LR
comp=N,2μm,8.6s
KSH LR LR
comp=E,3μm,8.4s
KSH LR LR
comp=Z,2μm,7.8s
CBIJ Chichi jima 33.98 144 LR LR 21 51 26.0
comp=Z,1μm,18.1s,baz=332,slow=37
TPUB Te-pu 34.16 180 *e* P **P 21 37 25.9 +2.7**
comp=Z,88nm,1.1s
KKAR Karatay Array 34.27 267 *e* P **P 21 37 24.0 -0.1**
KKAR Karatay Array 34.27 267 *e* P **P 21 37 24.0 -0.1**
LSA Lhasa 34.55 229 P **P 21 37 28.3 +1.3**
LSA pP pP 21 37 38.5 +7.1
LSA S **S 21 42 55.8 +0.1**
LSA LR LR
comp=N,4μm,14.0s
LSA LR LR
comp=E,8μm,14.0s
LSA LR LR
comp=Z,5μm,13.0s
LSA Lhasa 34.55 229⇓ *e* P **P 21 37 27.9 +0.8**
LSA *e* 21 38 46.2
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA MLR MLR
comp=Z,4μm,19.0s
LSA Lhasa 34.55 229⇓ *e* P **P 21 37 27.9 +0.8**
comp=Z,6.4nm,0.8s
LSA *e*PP **PP 21 38 46.2 +1.0**
LSA LR LR
comp=Z,4μm,19.0s
KMI Kunming 34.81 209 ⇓ P **P 21 37 28.3 -0.8**
KMI pP **pP 21 37 32.3 -1.1**
KMI sP **sP 21 37 35.5 +0.3**
KMI PP **PP 21 38 48.5 +0.6**
KMI PcP **PcP 21 40 05.3 +3.2**
KMI S **S 21 42 58.8 -0.6**
KMI SS **SnSn 21 45 14.0 +0.9**
KMI ScS **ScS 21 47 51.5 +1.1**
KMI pmax pmax
comp=Z,39nm,1.1s
KMI pmax pmax

KMI LR LR
comp=N,5μm,7.6s
KMI LR LR
comp=E,6μm,11.1s
KMI LR LR
comp=Z,5μm,8.5s
ABKAR Akbulak array 36.02 284 *e*P **P** **21 37 38.2 -0.8**
HOPEN Hopen 36.33 337 *e*S **S** **21 43 21.7 +0.5**
HOPEN AMS AMS 21 54 42.5
comp=Z,3μm,15.9s
SPA0 Spitsbergen Ar 37.24 341 *e*P **P** **21 37 49.3 +0.2**
SPITS Spitsbergen Ar 37.24 341 LR LR 21 54 27.9
comp=Z,2μm,20.7s,baz=30,slow=38
SPB4 Spitsbergen Ar 37.24 341 *e*P **P** **21 37 49.3 +0.2**
SPB4 PP **PP** **21 39 11.7 -2.0**
LVZ Lovozero 37.51 322 *e*P **P** **21 37 51.2 -0.3**
LVZ pmax pmax
comp=Z,36nm,1.5s
LVZ Lovozero 37.51 322 *e*P **P** **21 37 51.8 +0.3**
comp=Z,58nm,1.4s
KBS Kingsbay 37.60 343 AMS AMS 21 53 52.8
comp=Z,3μm,18.7s
SHL Shillong 37.95 225 *e*P **P** **21 37 57.0 +1.2**
SHL *e*S SS 21 46 44.0 +10
TAPN Taplejung 38.05 232 *e*P **P** **21 37 56.5 -0.2**
comp=Z,58nm,1.0s
TAPN Taplejung 38.05 232 *e*P **P** **21 37 56.5 -0.2**
comp=Z,58nm,1.0s
APA Apatity 38.09 322 *i*P **P** **21 37 59.0 +2.7**
APA *i* 21 39 26.0
APA *i*S **S** **21 43 54.0 +5.9**
APA *i*SS **SnSn** **21 46 30.0 -0.7**
APA pmax pmax
comp=Z,31nm,1.0s
APA MLR MLR
comp=Z,3μm,24.0s
GUN Gumba 38.35 235 *e*P **P** **21 37 59.8 +0.5**
comp=Z,106nm,0.9s
GUN Gumba 38.35 235 *e*P **P** **21 37 59.8 +0.5**
comp=Z,106nm,0.9s
JIRN Jiri 38.43 234 *e*P **P** **21 38 00.2 +0.2**
JIRN Jiri 38.43 234 *e*P **P** **21 38 00.2 +0.2**
BJO Bjornoya 38.57 335 *e*P **P** **21 37 59.4 -0.9**
BJO AMS AMS 21 56 51.6
comp=Z,3μm,17.4s
ODAN Odare 38.61 232 *e*P **P** **21 38 01.5 +0.1**
comp=Z,185nm,0.9s
ODAN Odare 38.61 232 *e*P **P** **21 38 01.5 +0.1**
comp=Z,185nm,0.9s
KKN Kakani 38.72 235 *e*P **P** **21 38 03.0 +0.7**
comp=Z,84nm,0.7s
KKN Kakani 38.72 235 *e*P **P** **21 38 03.0 +0.7**
KKN pmax pmax
comp=Z,84nm,0.7s
KKN Kakani 38.72 235 *e*P **P** **21 38 03.0 +0.7**
comp=Z,84nm,0.7s
GKN Gorkha 38.82 236 *e*P **P** **21 38 03.8 +0.7**
comp=Z,295nm,0.9s
GKN Gorkha 38.82 236 *e*P **P** **21 38 03.8 +0.7**
comp=Z,295nm,0.9s
PKI Pulchoki 38.85 235 *e*P **P** **21 38 03.9 +0.4**
PKI Pulchoki 38.85 235 *e*P **P** **21 38 03.9 +0.4**
PKI Pulchoki 38.85 235 *e*P **P** **21 38 03.9 +0.4**
COLD Coldfoot 38.87 38 *e*P **P** **21 38 04.0 +1.2**
comp=Z,132nm,2.3s
RAMN Ramite 38.87 233 *e*P **P** **21 38 03.3 -0.3**
RAMN Ramite 38.87 233 *e*P **P** **21 38 03.3 -0.3**
DANN Dangsing 38.92 237 *e*P **P** **21 38 05.1 +1.0**
comp=Z,304nm,0.8s
DANN Dangsing 38.92 237 *e*P **P** **21 38 05.1 +1.0**
comp=Z,304nm,0.8s
DMN Daman 38.95 235 *e*P **P** **21 38 05.1 +0.8**
comp=Z,113nm,0.8s
DMN Daman 38.95 235 *e*P **P** **21 38 05.1 +0.8**
comp=Z,113nm,0.8s
KEV Kevo 39.01 327 *e*P **P** **21 38 04.1 +0.1**
KEV pmax pmax
comp=Z,87nm,1.1s
KEV Kevo 39.01 327 *e*P **P** **21 38 04.0 +0.1**
comp=Z,87nm,1.1s
KEV Kevo 39.01 327 *e*p **P** **21 38 03.7 -0.3**
comp=Z,5.6nm,0.4s
KEV Kevo 39.01 327 *e*p **P** **21 38 03.7 -0.3**
comp=Z,5.6nm,0.4s
KLMR Klimovskoe 39.24 310*d i*P **P** **21 38 05.9 -0.1**
KLMR *e* 21 39 34.2
KLMR *e*S **S** **21 44 01.6 -4.0**
KLMR pmax pmax
comp=Z,52nm,0.4s
KLMR MLR MLR
comp=Z,2μm,13.0s
QIZ Qiongzhong 39.24 196 P **P** **21 38 08.0 +1.5**
QIZ PP **PnPn** **21 39 40.0 +0.8**
QIZ S **S** **21 44 09.8 +3.4**
QIZ pmax pmax
comp=Z,370nm,5.9s
QIZ LR LR
comp=E,3μm,13.3s
QIZ LR LR
comp=Z,4μm,10.7s
QIZ Qiongzhong 39.24 196 PFAKE 21 38 20.0 +14
QIZ LR LR
comp=Z,2μm,19.0s
KOLN Koldanda 39.49 237 *e*P **P** **21 38 09.6 +0.9**
comp=Z,77nm,0.6s
KOLN Koldanda 39.49 237 *e*P **P** **21 38 09.6 +0.9**
comp=Z,77nm,0.6s
ARCES ARCESS Array B 39.57 327 P **P** **21 38 08.7 -0.1**
comp=Z,16nm,0.9s,baz=60,slow=9.2,SNR=50
ARCES LR LR 21 58 31.3
comp=Z,2μm,19.6s,baz=69,slow=42
ARCES ARCESS Array B 39.57 327 P **P** **21 38 08.7 -0.1**
ARCES ARCESS Array B 39.57 327 P **P** **21 38 08.7 -0.1**
ARE0 ARCESS Array S 39.58 327 *e*P **P** **21 38 08.8 0.0**
ARE0 ARCESS Array S 39.58 327 *e*P **P** **21 38 08.8 0.0**
DDI Dehra Dun 39.98 246 *ex* x 21 38 10.2
KTK1 Kautokeino 40.54 327 *e*P **P** **21 38 17.2 +0.4**
KTK1 AMS AMS 21 58 46.6
comp=Z,5μm,15.1s
TRF Thorofare Moun 40.88 43 *e*P **P** **21 38 20.3 +0.4**
comp=Z,79nm,1.1s
COLA College 40.95 41 *e*P **P** **21 38 20.8 +0.6**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 40.95 41 *e*P **P** **21 38 20.8 +0.6**
comp=Z,23nm,0.9s
COLA LR LR
comp=Z,2μm,20.0s
MCK McKinley 41.22 42 *e*P **P** **21 38 23.3 +0.8**
MCK pmax pmax
comp=Z,487nm,2.9s
MCK McKinley 41.22 42 *e*P **P** **21 38 23.3 +0.8**
comp=Z,486nm,2.9s
KBL Kabul 41.27 259 *e*P **P** **21 38 22.4 -1.0**
KBL pmax pmax
comp=Z,42nm,0.8s
KBL Kabul 41.27 259 *e*P **P** **21 38 22.4 -1.0**
comp=Z,42nm,0.8s
JOF Joensuu 41.32 316 *e*P **P** **21 38 22.5 -0.7**
JOF pmax pmax
comp=Z,7.0nm,0.3s
JOF Joensuu 41.32 316 *e*p **P** **21 38 22.5 -0.7**
comp=Z,6.5nm,0.3s
JOF Joensuu 41.32 316 *e*p **P** **21 38 22.5 -0.7**
comp=Z,6.5nm,0.3s
ILAR Eielson Array 41.35 40 P **P** **21 38 24.1 +0.6**
comp=Z,12nm,0.5s,baz=293,slow=4.8,SNR=170
ILAR LR LR 21 56 49.4
comp=Z,1μm,18.6s,baz=131,slow=38
ILAR Eielson Array 41.35 40 P **P** **21 38 24.1 +0.6**
ILAR Eielson Array 41.35 40 P **P** **21 38 24.1 +0.6**
TRO Tromso 41.42 329 *e*P **P** **21 38 24.2 +0.3**
TRO *e*PP **PP** **21 39 58.4 -0.9**
TRO *e*S **S** **21 44 37.6 -0.3**
TRO AMS AMS 21 59 42.9
comp=Z,1μm,18.2s
SPU Mount Spurr 41.51 47 *e*P P 21 38 28.9 +3.9
CHTO Chiang Mai 41.85 212 *e*P **P** **21 38 27.5 -0.6**
CHTO pmax pmax
comp=Z,126nm,2.0s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 41.85 212 *e*P **P** **21 38 27.5 -0.6**
comp=Z,126nm,2.0s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 41.85 212 P **P** **21 38 27.8 -0.3**
comp=Z,28nm,1.5s,comp=Z,720nm
CM31 Chiang Mai Arr 42.19 212 *e*P **P** **21 38 31.2 +0.4**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 42.19 212 P **P** **21 38 30.5 -0.3**
comp=Z,8.4nm,0.8s,baz=5.8,slow=7.1,SNR=28
CMAR LR LR 21 57 47.1
comp=Z,2μm,19.8s,baz=27,slow=39
CMAR Chiang Mai Arr 42.19 212 P **P** **21 38 30.5 -0.3**
CMAR Chiang Mai Arr 42.19 212 P **P** **21 38 30.5 -0.3**
PMR Palmer 42.40 45 *e*P **P** **21 38 32.2 +0.1**
PMR pmax pmax
comp=Z,453nm,2.9s
PMR Palmer 42.40 45 *e*P **P** **21 38 32.2 +0.1**
comp=Z,453nm,2.9s
SML Sawmill 42.58 45 *e*P **P** **21 38 34.3 +0.7**
SML pmax pmax
comp=Z,11nm,0.9s
SML Sawmill 42.58 45 *e*P **P** **21 38 34.3 +0.7**
comp=Z,11nm,0.9s
SLKM Skilak Lake 42.63 47 *e*P **P** **21 38 33.5 -0.6**
SLKM Skilak Lake 42.63 47 *e*P **P** **21 38 33.5 -0.6**
PAX Paxson 42.93 42 *e*P **P** **21 38 36.3 -0.2**
PAX pmax pmax
comp=Z,12nm,0.7s
PAX Paxson 42.93 42 *e*P **P** **21 38 36.3 -0.2**
comp=Z,12nm,0.7s
DOT Dot Lake 43.01 41 *e*P **P** **21 38 35.8 -1.3**
comp=Z,24nm,0.8s
MOS Moscow 43.02 305 *e*P **P** **21 38 35.3 -1.9**
MOS *e* 21 40 16.2
MOS *e* 21 40 23.2
MOS *e*S **S** **21 45 01.5 -0.4**
MOS *i*SS **SS** **21 48 14.8 +1.3**
MOS pmax pmax
comp=Z,100nm,1.7s
MOS pmax pmax
comp=Z,71nm,1.3s
MOS MLR MLR
comp=Z,2μm,14.0s
EGAK Eagle 43.30 38 *e*P **P** **21 38 40.3 +1.0**
comp=Z,265nm,2.8s
TGY Tagaytay City 43.31 180 LR LR 21 56 09.9
comp=Z,6.0nm,21.5s,baz=176,slow=36
KDAK Kodiak Island 43.34 51 LR LR 21 57 52.5
comp=Z,2μm,19.6s,baz=135,slow=38
KDAK Kodiak Island 43.34 51 *i*P **P** **21 38 40.5 +0.8**
INK Inuvik 43.38 31 P **P** **21 38 41.2 +1.3**
comp=Z,13nm,0.9s,baz=309,slow=7.9,SNR=19
INK LR LR 21 58 50.6
comp=Z,1μm,21.1s,baz=313,slow=39
INK Inuvik 43.38 31 *e*P **P** **21 38 40.8 +0.9**
INK pmax pmax
comp=Z,28nm,1.2s
INK Inuvik 43.38 31 *e*P **P** **21 38 40.8 +0.9**
comp=Z,28nm,1.2s
STEI Steigen 43.53 328 *e*P **P** **21 38 41.1 -0.1**
DAG Danmarks Havn 43.55 347 *i*P **P** **21 38 40.6 -0.6**
DAG pmax pmax
comp=Z,12nm,0.7s
DAG Danmarks Havn 43.55 347 *i*P **P** **21 38 40.6 -0.6**
comp=Z,117nm,0.7s
KAF Kangasniemi 43.66 317 *e*P **P** **21 38 41.6 -0.6**
KAF pmax pmax
comp=Z,6.0nm,0.3s
KAF Kangasniemi 43.66 317 *e*p **P** **21 38 41.6 -0.6**
comp=Z,5.9nm,0.3s
KAF Kangasniemi 43.66 317 *e*p **P** **21 38 41.6 -0.6**
comp=Z,5.9nm,0.3s
OBN Obninsk 43.89 304 *e*P **P** **21 38 42.5 -1.6**
OBN *e* 21 40 30.6
OBN *e*S **S** **21 45 12.6 -1.9**
OBN *e*SS **ScS** **21 48 42.7 +0.6**
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 43.89 304 *e*P **P** **21 38 43.9 -0.3**
comp=Z,55nm,1.3s
OBN LR LR
comp=Z,2μm,22.0s
VRHR Novokhopersk 44.12 297 *e*P **P** **21 38 44.2 -1.9**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR MLR MLR
comp=Z,1μm,13.0s
VRHR MLR MLR
comp=N,740nm,13.0s
VRHR MLR MLR
comp=E,320nm,13.0s
FINES FINESS Array B 44.16 317 P **P** **21 38 46.1 -0.2**
comp=E,32nm,0.6s,baz=42,slow=9.5,SNR=193
FINES LR LR 21 59 54.2
comp=E,2μm,18.4s,baz=58,slow=40
FINES FINESS Array B 44.16 317 P **P** **21 38 46.1 -0.2**
FINES FINESS Array B 44.16 317 P **P** **21 38 46.1 -0.2**
DAWY Dawson 44.35 38 *e*P **P** **21 38 48.0 +0.1**
DAWY PP **PP** **21 40 30.3 -0.7**
BMRM Bremner River 44.51 44 *e*P **P** **21 38 51.1 +1.9**
comp=E,34nm,1.0s
ABKT Ailbek 44.61 272 P **P** **21 38 51.4 +1.2**
comp=E,255nm,0.8s,SNR=13
IEMG Emamgholi 44.70 271 *e*P **P** **21 38 52.2 +1.0**
IMYA Miami 44.71 269 *e*P **P** **21 38 51.6 +0.4**
MOR8 Moi Rana 44.95 326 *e*P **P** **21 38 51.1 -1.5**
MOR8 AMB AMB 21 38 56.3
comp=Z,52nm,1.3s
ISRO Mashad 45.07 269 *e*P **P** **21 38 51.2 -2.8**
FLOS Flostrand 45.15 327 *e*P **P** **21 38 55.3 +1.2**
VSR Storozhevoye 45.21 299 *e*P **P** **21 38 53.9 -0.9**
VSR *e* 21 40 34.0
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
VSR MLR MLR
comp=N,960nm,14.0s
VSR MLR MLR
comp=E,470nm,14.0s
VSR MLR MLR
comp=Z,2μm,14.0s
IKRD Kardeh 45.24 271 *e*P P 21 38 51.8 -3.7
STOK Stokkvaagen 45.26 327 *e*P **P** **21 38 55.1 +0.2**
VSU Vasula 45.85 313*d i*P **P** **21 38 59.5 -0.2**
VSU pmax pmax
comp=Z,67nm,0.9s
RES Resolute Bay 45.99 12 *e*P **P** **21 39 00.3 -0.3**
RES *e* 21 40 36.9
RES Resolute Bay 45.99 12 *e*P **P** **21 39 00.3 -0.3**
comp=Z,9.7nm,0.9s
RES *e*PcP **PcP** **21 40 36.9 0.0**
MAK Makhachkala 46.67 285 *e*P P 21 39 03.1 -3.3
MAK *e* 21 40 45.2
MAK *e*S **S** **21 45 55.7 +0.7**
MAK *e*SS ScS 21 49 09.1 +8.8
MAK MLR MLR
comp=Z,2μm,12.0s
NSS Namsos 46.84 326 *e*P **P** **21 39 06.3 -1.1**
NSS *e*SS SS 21 49 25.5 +2.7
NSS AMS AMS 22 01 21.9
comp=Z,3μm,18.1s
GUMO Guam 47.51 147 LR LR 21 57 09.1
comp=Z,830nm,19.0s,baz=355,slow=34
IGLO Ghaloghah 47.97 274 *e*P **P** **21 39 16.2 -0.7**
MICGM Minsk 48.07 308 *e*P **P** **21 39 16.0 -1.1**
MNK Minsk 48.09 308 *e*P **P** **21 39 16.0 -1.3**
MNK *e* 21 41 11.0
NACGM Naroch 48.25 309 *e*P **P** **21 39 16.0 -2.5**
KIV Kislovodsk 48.45 289 *e*P **P** **21 39 20.3 -0.1**
KIV *e*S **S** **21 46 21.1 +0.6**
KIV *e*SS **SS** **21 49 47.6 -2.2**
KIV pmax pmax
comp=Z,31nm,0.9s
KIV Kislovodsk 48.45 289 *e*P **P** **21 39 20.2 -0.2**
comp=Z,34nm,0.8s
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 48.45 289 P **P** **21 39 20.5 +0.1**
comp=Z,175nm,1.1s,SNR=7.7
ZEI Tsey 48.67 287 *e*P **P** **21 39 23.3 +1.1**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
IALA Alasht 48.83 275 *e*P P 21 39 19.9 -3.7
DGRG David-gareji 48.85 285 P **P** **21 39 23.5 +0.1**
TBLG Delisi 48.98 286 *e*P **P** **21 39 25.3 +0.9**
TBLG Delisi 48.98 286 P **P** **21 39 25.3 +0.9**
GOR Gori 49.13 286 P P 21 39 28.7 +3.2
SUMG Summit 49.41 352 *i*P **P** **21 39 27.8 +0.1**
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 49.41 352 *e*P **P** **21 39 27.8 +0.1**
comp=Z,198nm,2.6s
SUMG Summit 49.41 352 *i*P **P** **21 39 27.8 +0.1**
comp=Z,22nm,0.9s
SCO Scoresbysund 49.57 344 *i*P **P** **21 39 29.7 +1.3**
SCO pmax pmax
comp=Z,19nm,0.9s
SCO Scoresbysund 49.57 344 *i*P **P** **21 39 29.7 +1.3**
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 49.63 323 P **P** **21 39 28.6 -0.5**
comp=Z,63nm,1.2s,baz=40,slow=7.4
NOA NORSAR Array B 49.63 323 P **P** **21 39 28.6 -0.5**
comp=Z,10nm,0.4s,baz=43,slow=7.8,SNR=79
NOA NORSAR Array B 49.63 323 P **P** **21 39 28.6 -0.5**
NOA NORSAR Array B 49.63 323 P **P** **21 39 28.6 -0.5**
NC602 NORSAR Array S 49.75 323 *e*P **P** **21 39 29.3 -0.6**
AKH Akhalkalaki 49.86 286 P **P** **21 39 31.7 +0.4**
NAO01 NORSAR Array S 49.88 323 *e*P **P** **21 39 30.4 -0.6**
comp=Z,6.9nm,0.4s
GNI Garni 50.13 284 *e*P **P** **21 39 32.9 -0.4**
GNI pmax pmax
comp=Z,14nm,1.2s
AKASG Malin Array Be 50.15 304 P **P** **21 39 32.2 -0.8**
comp=Z,11nm,0.4s,baz=41,slow=8.5,SNR=53
AKASG Malin Array Be 50.15 304 *i*P **P** **21 39 32.2 -0.8**
AKASG pmax pmax
comp=Z,11nm,0.4s
AKASG Malin Array Be 50.15 304 P **P** **21 39 32.2 -0.8**
AKBB Malin Array Si 50.15 304 *e*P **P** **21 39 32.1 -0.9**
AKBB Malin Array Si 50.15 304 *e*P **P** **21 39 32.1 -0.9**
KIEV Kiev 50.16 304 *e*P **P** **21 39 31.9 -1.2**
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 50.16 304 *e*P **P** **21 39 31.9 -1.2**
comp=Z,18nm,0.9s
SOC Sochi 50.22 291 *e*P **P** **21 39 32.4 -1.4**
SOC *e* 21 41 28.0
SOC *e*S **S** **21 46 43.8 -1.4**
SOC *e**SS **sS** **21 46 50.3 -2.2**
SOC *e* 21 49 28.2
SOC *e*SS **SS** **21 50 16.5 -1.5**
SOC pmax pmax
comp=Z,38nm,0.9s
SOC MLR MLR
comp=Z,2μm,13.0s
IHRS Heris 50.26 281 *e*P **P** **21 39 33.3 -1.1**
SUW Suwalki 50.37 311 *e*P **P** **21 39 33.9 -0.7**
SUW LMZ LR 22 02 23.1
comp=Z,2μm,21.6s
SUW Suwalki 50.37 311 *e*P **P** **21 39 34.0 -0.7**
SUW pmax pmax
comp=Z,78nm,1.0s
SUW Suwalki 50.37 311 *e*P **P** **21 39 34.0 -0.7**
comp=Z,78nm,1.0s
DAV Davao City (W) 50.45 174 LR LR 22 03 32.8
comp=Z,1μm,19.3s,baz=275,slow=39
IMRD Marand 50.68 282 *e*P **P** **21 39 39.5 +2.0**
HYB Hyderabad 50.75 236 *i*P **P** **21 39 36.5 -1.6**
HYB *e*PP **PP** **21 41 32.0 -2.1**
HYB *e*S **S** **21 46 52.0 -1.1**
HYB *e* 21 51 16.0
IBST Bostanabad 50.80 281 *e*P **P** **21 39 37.9 -0.6**
IRAZ Razeghan 50.89 276 *e*P **P** **21 39 37.1 -2.1**
FOO Floro 51.13 326 *e*P **P** **21 39 42.0 +1.7**
KONO Kongsberg 51.21 323 *e*P **P** **21 39 41.3 +0.3**
KKM Kota Kinabalu 51.44 186 *e*P **P** **21 39 45.3 +2.0**
comp=Z,39nm,1.2s
KKM LR LR
comp=Z,2μm,19.0s
KKM Kota Kinabalu 51.44 186 P P 21 39 47.2 +3.9
comp=Z,28nm,1.3s
IZEF Zefreh 51.50 272 *e*P **P** **21 39 43.9 0.0**
IKLH Kolahrood 51.58 273 *e*P **P** **21 39 43.9 -0.6**
BER Bergen 52.00 325 AMS AMS 22 04 17.0
comp=Z,3μm,18.2s
SIM Simferopol' 52.01 296 *e*P P 21 39 41.0 -6.1
SIM S **S** **21 47 08.0 -1.8**
SIM pmax pmax
comp=Z,100nm,8.3s
SIM MLR MLR
comp=Z,2μm,20.4s
MYLDM Lahad Datu 52.21 183 P P 21 39 52.9 +4.0
comp=Z,50nm,1.7s
IPIR Pirpir 52.44 273 *e*P **P** **21 39 51.4 +0.5**
BSD Bornholm Skovb 52.80 316 *i*P **P** **21 39 51.9 -0.9**
BSD pmax pmax
comp=Z,20nm,0.9s
BSD MLR MLR
comp=Z,2μm,14.0s
BSD Bornholm Skovb 52.80 316 *i*P **P** **21 39 51.9 -0.9**
comp=Z,20nm,0.9s
BSD
comp=Z,1μm,14.0s
YKA Yellowknife Ar 52.93 29 P **P** **21 39 53.1 -0.6**
comp=Z,4.3nm,0.6s,baz=329,slow=7.0,SNR=52
YKA Yellowknife Ar 52.93 29 P **P** **21 39 53.2 -0.6**
YKA Yellowknife Ar 52.93 29 P **P** **21 39 53.1 -0.6**
BEL Belsk 52.95 310 *e*P **P** **21 39 54.7 +0.7**
BEL LMZ LR 22 03 41.4
comp=Z,2μm,21.9s
BEL Belsk 52.95 310 *e*P **P** **21 39 54.7 +0.7**
BEL MLR MLR
comp=Z,2μm,21.9s
KIS Kishinev 53.02 301 *e*P **P** **21 39 53.0 -1.6**
KIS *e* 21 40 03.0
KIS *e*S **S** **21 47 21.0 -2.5**
KIS MLR MLR
comp=Z,2μm,14.0s
KIS MLR MLR
comp=N,1μm,12.0s
KIS MLR MLR
comp=E,1μm,12.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS Kishinev 53.02 301 *e*P **P** **21 39 53.0 -1.6**
KIS *e*S **S** **21 47 21.0 -2.5**
KIS *e*SS SS 21 51 35.0 +33
KIS *e*SSS SSS 21 53 08.0
KIS *e*LQ LQ 21 58 34.0
KIS *e*L L 21 59 52.0
KIS LRM MLR 22 04 02.0
comp=Z,2μm,16.0s
LVV L'vov 53.08 306 *e*P **P** **21 39 54.8 -0.2**
LVV MLR MLR
comp=N,400nm,13.0s
LVV MLR MLR
comp=E,900nm,13.0s
LVV MLR MLR
comp=Z,900nm,13.0s
IVIS Veis 53.20 278 *e*P **P** **21 39 55.3 -1.0**
COP Copenhagen 53.28 318 *e*P **P** **21 39 56.5 +0.2**
COP pmax pmax
comp=Z,14nm,0.7s
COP Copenhagen 53.28 318 *i*P **P** **21 39 56.5 +0.2**
comp=Z,14nm,0.7s
GKP Gorka Klasztor 53.30 313 *e*P **P** **21 39 56.6 0.0**
GKP LMZ LR 22 04 30.4
comp=Z,3μm,18.2s
GKP Gorka Klasztor 53.30 313 *e*P **P** **21 39 56.6 0.0**
GKP MLR MLR
comp=Z,3μm,18.2s
IDHR Dehrash 53.32 278 *e*P **P** **21 39 56.7 -0.5**
IPAR Pars 53.47 269 *e*P **P** **21 39 58.0 -0.6**
IGHG Ghaleghazi 53.50 278 *e*P **P** **21 39 58.1 -0.5**
LLD Lille Linde 53.63 318 *e*P **P** **21 39 59.0 +0.1**
LLD pmax pmax
comp=Z,30nm,0.9s
LLD Lille Linde 53.63 318 *i*P **P** **21 39 59.0 +0.1**
comp=Z,30nm,0.9s
LEOM Leova 53.67 301 ⇓P **P** **21 39 59.2 -0.2**
LEOM Leova 53.67 301 ⇓*i*P **P** **21 39 59.2 -0.2**

KWP **Kalwaria Pacla** 53.79 307 *e*P **P** 21 40 00.5 +0.3
KWP LMZ LR 22 05 10.9
comp=Z,3µm,16.4s
KWP Kalwaria Pacla 53.79 307 ⇓P **P** 21 40 00.6 +0.3
KWP Kalwaria Pacla 53.79 307 *e*P **P** 21 40 00.5 +0.3
comp=Z,50nm,0.9s
KWP Kalwaria Pacla 53.79 307 ⇓ *i* P **P** 21 40 00.6 +0.3
ISRV Sarvestan 53.80 269 *e*P **P** 21 39 59.7 -1.3
RGN Rugen 53.83 316 *e*P **P** 21 40 00.6 +0.2
comp=Z,55nm,0.7s
RGN Rugen 53.83 316 *e*P **P** 21 40 00.2 -0.1
comp=Z,176nm,1.6s
MUD Monsted U'grnd 53.83 320 *i* P **P** 21 40 00.3 -0.1
MUD pmax pmax
comp=Z,28nm,1.0s
MUD Monsted U'grnd 53.83 320 *i* P **P** 21 40 00.3 -0.1
comp=Z,28nm,1.0s
BUR08 Bucovina Ar. S 54.18 304 *e*P **P** 21 40 03.0 -0.3
BURAR Bucovina Array 54.20 304 ⇓ *i* P **P** 21 40 03.4 0.0
TLCR 54.36 300 ⇓P **P** 21 40 05.0 +0.5
TLCR 54.36 300 ⇓ *i* P **P** 21 40 05.0 +0.5
TESR 54.38 302 ⇓ *i* P **P** 21 40 05.1 +0.5
KOLS Kolonicke sedl 54.50 307 *e*P **P** 21 40 05.5 0.0
KOLS pmax pmax
comp=Z,17nm,0.8s
KOLS Kolonicke sedl 54.50 307 *e*P **P** 21 40 05.5 0.0
OJC Ojcow 54.58 309 *e*P **P** 21 40 05.9 -0.1
OJC *e*pP **pP** 21 40 11.2 +0.7
OJC *e*S S 21 47 37.8 -6.9
OJC *e*SS **SS** 21 51 21.5 -5.1
OJC L L 22 03 34.7
comp=Z,1.5nm,22.2s
OJC Ojcow 54.58 309 *e*P **P** 21 40 05.9 -0.1
OJC *e**PP **pP** 21 40 11.2 +0.7
OJC *e*S S 21 47 37.8 -6.9
OJC *e*SS **SS** 21 51 21.5 -5.1
OJC MLR MLR
comp=Z,2µm,22.2s
OJC Ojcow 54.58 309 *e*P **P** 21 40 05.6 -0.4
comp=Z,17nm,0.7s
CFR Carcaliu 54.69 300 ⇓P **P** 21 40 07.7 +0.9
CFR Carcaliu 54.69 300 ⇓ *i* P **P** 21 40 07.7 +0.9
UZH Uzhgorod 54.72 306 *e*P **P** 21 40 06.7 -0.3
UZH *i* 21 40 11.3
UZH *e* 21 42 11.8
UZH *e*PPP PPP 21 43 26.4
UZH *e*S **S** 21 47 44.3 -2.3
UZH *e*SP **SPn** 21 47 56.0 +1.6
UZH *e*SS **SS** 21 51 34.2 +5.4
UZH MLR MLR
comp=N,3µm,14.0s
UZH MLR MLR
comp=E,2µm,14.0s
UZH MLR MLR
comp=Z,1µm,14.0s
CRVS Cervenica-Dubn 54.88 307 *e*P **P** 21 40 08.2 0.0
CRVS pmax pmax
comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 54.88 307 *e*P **P** 21 40 08.2 0.0
BMR Baia Mare 54.92 305 ⇑P **P** 21 40 09.4 +0.9
BMR Baia Mare 54.92 305 ⇑ *i* P **P** 21 40 09.4 +0.9
NIE Niedzica 54.97 308 *e*P **P** 21 40 09.4 +0.5
NIE Niedzica 54.97 308 *e*P **P** 21 40 09.4 +0.5
TRPA Tarpa 54.99 306 ⇓ *i* P **P** 21 40 09.2 +0.2
TRPA Tarpa 54.99 306 ⇑ *e*P **P** 21 40 09.6 +0.6
GRER 55.08 301 ⇓ *i* P **P** 21 40 11.7 +2.1
IPM Ipoh 55.10 204 *e*P **P** 21 40 09.4 -0.7
comp=Z,84nm,1.8s
RUE Ruedersdorf 55.26 315 *e*P **P** 21 40 10.6 -0.2
comp=Z,34nm,0.7s
BSEG Bad Segeberg 55.41 318 *e*P **P** 21 40 12.1 +0.2
comp=Z,26nm,1.1s
BSEG Bad Segeberg 55.41 318 *e*P **P** 21 40 12.1 +0.2
BSEG pmax pmax
comp=Z,26nm,1.1s
MLR Muntele Rosu 55.47 302 ⇓P **P** 21 40 12.9 +0.3
MLR Muntele Rosu 55.47 302 ⇓ *i* P **P** 21 40 12.9 +0.3
ISR Istrita 55.47 301 ⇓P **P** 21 40 13.4 +0.8
ISR Istrita 55.47 301 ⇓ *i* P **P** 21 40 13.4 +0.8
BHD Baghdad 55.48 279 *e*P P 21 40 06.0 -6.7
BHD *e*S S 21 47 48.0 -9.1
KSP Ksiaz 55.54 312 *e*P **P** 21 40 13.1 +0.1
KSP LMZ LR 22 04 08.7
comp=Z,2µm,22.2s
KSP Ksiaz 55.54 312 ⇓ *e*P **P** 21 40 13.0 +0.1
KSP *e*S S 21 48 04.0 +6.5
KSP MLR MLR
comp=Z,3µm,22.2s
OKC Ostrava-Krasne 55.56 310 *e*P **P** 21 40 13.1 0.0
OKC *ex* x 21 51 56.4
OKC AMS AMS 22 05 10.0
comp=Z,2µm,18.4s
SFJD Kangerlussuaq 55.65 356 *i* P **P** 21 40 13.3 -0.1
SFJD pmax pmax
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 55.65 356 *i* P **P** 21 40 13.3 -0.1
comp=Z,17nm,0.9s
LIKS Likavka 55.77 309 *e*P **P** 21 40 15.1 +0.5
LIKS pmax pmax
comp=Z,21nm,0.6s
LIKS Likavka 55.77 309 *e*P **P** 21 40 15.1 +0.5
MORC Moravsky Berou 55.86 310 *e*P **P** 21 40 15.5 +0.2
MORC pmax pmax
comp=Z,146nm,2.3s
MORC Moravsky Berou 55.86 310 *e*P **P** 21 40 15.5 +0.2
comp=Z,146nm,2.3s
MORC Moravsky Berou 55.86 310 ⇓ *i* P **P** 21 40 15.4 +0.2
DPC Dobruska-Polom 55.91 311 *e*P **P** 21 40 14.7 -1.0
DPC pmax pmax
comp=Z,49nm,0.6s
DPC Dobruska-Polom 55.91 311 *e*P **P** 21 40 14.7 -1.0
comp=Z,49nm,0.6s
DPC Dobruska-Polom 55.91 311 *e*P **P** 21 40 16.2 +0.6
DPC *e*SS SS 21 52 23.8 +36
DPC AMS AMS 22 05 20.0
comp=Z,2µm,12.8s
UPC Upice 55.91 312 *e*P **P** 21 40 15.8 +0.2
VOIR 55.92 302 ⇑P **P** 21 40 16.5 +0.7
VOIR 55.92 302 ⇑ *i* P **P** 21 40 16.5 +0.7
DRGR 55.94 305 P **P** 21 40 16.7 +0.8
DRGR 55.94 305 ⇓ *i* P **P** 21 40 16.1 +0.2
SULR 55.94 301 ⇓ *i* P **P** 21 40 15.1 -0.7
PSZ Piszkesteto 56.30 307 P **P** 21 40 19.4 +0.9
PSZ Piszkesteto 56.30 307 *e*P **P** 21 40 18.9 +0.4
comp=Z,67nm,1.3s
PSZ LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 56.30 307 ⇑ *i* P **P** 21 40 18.9 +0.4
PSZ Piszkesteto 56.30 307 ⇑ *e*P **P** 21 40 19.4 +0.9
VYHS Vyhne 56.31 309 *e*P **P** 21 40 19.0 +0.5
VYHS pmax pmax
comp=Z,11nm,0.8s
VYHS Vyhne 56.31 309 *e*P **P** 21 40 19.0 +0.5
KOLL Kolacno 56.42 309 *e*P **P** 21 40 20.1 +0.8
KOLL Kolacno 56.42 309 *e*P **P** 21 40 20.0 +0.8
BRG Berggiesshubel 56.45 313 *i* P **P** 21 40 19.1 -0.3
comp=Z,20nm,0.8s
BRG Berggiesshubel 56.45 313 *e*P **P** 21 40 19.2 -0.3
comp=Z,20nm,0.8s
BRG Berggiesshubel 56.45 313 *i* P **P** 21 40 19.1 -0.3
BRG pmax pmax
comp=Z,20nm,0.8s
KSM Kuching 56.47 192 *e*P **P** 21 40 22.8 +2.9
comp=Z,18nm,0.8s
KSM LR LR
comp=Z,1µm,19.0s
PVCC Panska Ves 56.47 313 *e*P **P** 21 40 19.9 +0.3
PVCC *ex* x 21 52 23.2
PVCC AMS AMS 22 06 20.0
comp=Z,3µm,13.7s
CLL Collm 56.48 314 *e*P **P** 21 40 19.1 -0.5
comp=Z,32nm,0.6s
CLL Collm 56.48 314 *i* P **P** 21 40 19.1 -0.5
CLL *e*S **S** 21 48 15.0 +5.1
CLL pmax pmax
comp=Z,31nm,0.6s
CLL Collm 56.48 314 *i* P **P** 21 40 19.1 -0.5
comp=Z,31nm,0.6s
CLL *e*PP **PP** 21 42 25.0 +0.2
CLL *e*S **S** 21 48 15.0 +5.1
CLL *e* 21 49 53.0
CLL *e*SS **SS** 21 51 54.0 -2.3
CLL LmH 22 02 00.0
comp=N,3µm,18.1s
CLL LmH 22 02 00.0
comp=E,4µm,18.0s
VRAC Vranov 56.61 311 P **P** 21 40 21.4 +0.8
VRAC Vranov 56.61 311 ⇓ *i* P **P** 21 40 21.0 +0.4
NRDL Niedersach Rie 56.63 317 *e*P **P** 21 40 20.7 +0.1
comp=Z,16nm,1.1s
FBE Freiberg 56.64 314 *e*P **P** 21 40 20.7 -0.1
comp=Z,23nm,0.9s
SMOL Smolenice 56.88 309 *e*P **P** 21 40 23.5 +0.9
SMOL Smolenice 56.88 309 *e*P **P** 21 40 23.5 +0.9
PRU Pruhonice 56.91 312 *e*P **P** 21 40 23.0 +0.3
PRU *e*SS SS 21 52 12.3 +9.1
PRU AMS AMS 22 06 40.0
comp=Z,2µm,16.2s
GZR Gura Zlata 56.98 304 P **P** 21 40 23.9 +0.5
GZR Gura Zlata 56.98 304 ⇓ *i* P **P** 21 40 23.5 +0.1
NEUB Neuenburg 57.03 315 *e*P **P** 21 40 22.9 -0.6
comp=Z,30nm,0.7s
CLZ Clausthal 57.05 316 *e*P **P** 21 40 23.9 +0.1
comp=Z,18nm,0.8s
CLZ Clausthal 57.05 316 *e*P **P** 21 40 23.9 +0.1
CLZ pmax pmax
comp=Z,18nm,0.8s
TREC Trest 57.07 311 *e*P **P** 21 40 24.3 +0.4
TREC *ex* x 21 52 50.6
TREC AMS AMS 22 05 40.0
comp=Z,2µm,21.8s
ZST Bratislava 57.27 309 *e*P **P** 21 40 25.9 +0.6
ZST pmax pmax
comp=Z,23nm,1.3s
ZST Bratislava 57.27 309 *e*P **P** 21 40 25.9 +0.6
BZS Buzias 57.33 305 P **P** 21 40 26.1 +0.4
BZS Buzias 57.33 305 ⇓ *i* P **P** 21 40 25.6 -0.1
PKSG 57.35 308 ⇓ *e*P **P** 21 40 26.7 +0.8
TANN Tannenbergstha 57.39 314 *e*P **P** 21 40 26.1 -0.1
comp=Z,10.0nm,0.7s
WERD Werda 57.43 314 *e*P **P** 21 40 26.4 0.0
comp=Z,19nm,1.0s
PLN Plauen 57.45 314 *e*P **P** 21 40 26.6 0.0
comp=Z,159nm,0.7s
GUNZ Gunzen 57.48 314 *e*P **P** 21 40 26.8 0.0
comp=Z,16nm,0.7s
WERN Wernitzgruen 57.53 314 *e*P **P** 21 40 27.2 +0.1
comp=Z,22nm,0.8s
MOX Moxa 57.54 315 *e*P **P** 21 40 27.2 +0.1
comp=Z,36nm,0.7s
MOX *e*L L 22 07 31.7
comp=Z,1µm,20.2s
MOX Moxa 57.54 315 *e*P **P** 21 40 27.2 +0.1
MOX pmax pmax
comp=Z,36nm,0.7s
MOX MLR MLR
comp=Z,1µm,20.2s
NKC Novy Kostel 57.54 314 *e*P **P** 21 40 27.1 -0.1
NKC *e*SS SS 21 52 26.4 +13
NKC AMS AMS 22 07 20.0
comp=Z,2µm,15.9s
PKST T"'s 57.61 308 ⇑ *e*P **P** 21 40 28.3 +0.6
SOP Sopron 57.90 309 ⇓ *e*P **P** 21 40 30.6 +0.9
KHC Kasperske Hory 57.97 312 *e*P **P** 21 40 30.1 -0.2
KHC pmax pmax
comp=Z,33nm,0.6s
KHC Kasperske Hory 57.97 312 *e*P **P** 21 40 30.1 -0.2
comp=Z,33nm,0.6s
KHC Kasperske Hory 57.97 312 *e*P **P** 21 40 30.7 +0.4
KHC *e*pP **pP** 21 40 33.0 -1.8
KHC *e*SS **SS** 21 52 15.1 -4.9
KHC AMS AMS 22 07 10.0
comp=Z,3µm,14.6s
CONA Conrad Observa 57.99 310 *i* P **P** 21 40 31.1 +0.6
comp=Z,26nm,1.3s
CONA Conrad Observa 57.99 310 *i* pP **P** 21 40 31.1 +0.6
comp=Z,26nm,1.3s,SNR=12
ROTZ Rotzenmuhle 58.01 314 *e*P **P** 21 40 30.7 +0.2
comp=Z,17nm,0.8s
UBBA Unterbreizbach 58.01 316 *e*P **P** 21 40 30.7 +0.4
comp=Z,54nm,2.0s
GEC2 GERESS Array S 58.15 312 *e*P **P** 21 40 31.6 0.0
comp=Z,21nm,0.9s
GEC2 GERESS Array S 58.15 312 *e*P **P** 21 40 31.6 0.0
GEC2 pmax pmax
comp=Z,21nm,0.9s
GERES GERESS Array B 58.15 312 P **P** 21 40 31.6 0.0
comp=Z,10nm,0.6s,baz=40,slow=7.1,SNR=111
GERES LR LR 22 09 00.6
comp=Z,1µm,18.0s,baz=32,slow=40
GERES GERESS Array B 58.15 312 P **P** 21 40 31.6 0.0
GERES GERESS Array B 58.15 312 P **P** 21 40 31.6 0.0
PKSM Moragy 58.17 307 P **P** 21 40 31.9 +0.3
PKSM Moragy 58.17 307 ⇓ *i* P **P** 21 40 31.4 -0.2
PKSM Moragy 58.17 307 ⇓ *e*P **P** 21 40 31.4 -0.2
WET Wettzell 58.24 313 *e*P **P** 21 40 32.6 +0.5
comp=Z,30nm,0.7s
WET Wettzell 58.24 313 *e*P **P** 21 40 32.6 +0.5
WET pmax pmax
comp=Z,30nm,0.7s
GRF Grafenberg Arr 58.45 314 *e*P **P** 21 40 33.7 +0.1
comp=Z,18nm,0.7s
GRF *e*PP **PP** 21 42 41.0 -1.4
GRF *e*L L 22 08 08.2
comp=Z,2µm,18.4s
GRF Grafenberg Arr 58.45 314 *e*P **P** 21 40 33.7 +0.1
GRF *e* 21 42 41.0
GRF pmax pmax
comp=Z,18nm,0.7s
GRF MLR MLR
comp=Z,2µm,18.4s
GRFO Grafenberg 58.45 314 *e*P **P** 21 40 33.6 0.0
GRFO pmax pmax
comp=Z,13nm,0.7s
GRFO Grafenberg 58.45 314 *e*P **P** 21 40 33.6 0.0
comp=Z,13nm,0.7s
BUG Bochum--Univer 58.52 318 *e*P **P** 21 40 34.0 0.0
comp=Z,13nm,0.8s
RHK3 Tenkes 58.59 307 ⇑ *e*P **P** 21 40 34.4 -0.2
ARSA Arzberg 58.67 310 ⇓ *i* P **P** 21 40 35.8 +0.6
comp=Z,13nm,1.0s
ARSA Arzberg 58.67 310 ⇓ *i* pP **P** 21 40 35.8 +0.6
comp=Z,13nm,1.0s
MOA Molln 58.71 311 *i* P **P** 21 40 35.8 +0.3
comp=Z,19nm,1.0s
MOA Molln 58.71 311 *i* P **P** 21 40 35.8 +0.3
comp=Z,19nm,1.0s,SNR=12
TNS Taunus Mts 59.08 316 *e*P **P** 21 40 38.0 0.0
comp=Z,10.0nm,0.9s
TNS Taunus Mts 59.08 316 *e*P **P** 21 40 38.0 0.0
TNS pmax pmax
comp=Z,10.0nm,0.9s
PERS Pernice 59.33 309 *i* P **P** 21 40 40.0 +0.2
SOKA Soboth 59.33 310 ⇓ *i* P **P** 21 40 39.4 -0.4
comp=Z,13nm,0.8s
SOKA Soboth 59.33 310 ⇓ *i* P **P** 21 40 39.4 -0.4
comp=Z,13nm,0.8s
RJOB Jochberg 59.40 312 *e*P **P** 21 40 40.7 +0.5
comp=Z,19nm,0.9s
TOD Tromm 59.45 315 *e*P **P** 21 40 40.4 -0.1
TOD Tromm 59.45 315 *e*P **P** 21 40 40.4 -0.1
FUR Furstenfeldbru 59.66 313 *e*P **P** 21 40 42.3 +0.3
comp=Z,44nm,0.7s
FUR Furstenfeldbru 59.66 313 *e*P **P** 21 40 42.3 +0.3
FUR pmax pmax
comp=Z,44nm,0.7s
MEM Membach 59.66 318 P **P** 21 40 41.6 -0.3
OBKA Obir 59.66 310 ⇓ *i* P **P** 21 40 42.7 +0.5
comp=Z,41nm,1.1s
OBKA Obir 59.66 310 ⇓ *i* pP **P** 21 40 42.7 +0.5
comp=Z,41nm,1.1s,SNR=19
ABH Alteburg 59.69 316 *e*P **P** 21 40 41.9 -0.3
KBA Koelnbreinsper 59.70 311 *i* P **P** 21 40 43.3 +0.8
KBA pmax pmax
comp=Z,54nm,0.9s
KBA Koelnbreinsper 59.70 311 *i* P **P** 21 40 43.3 +0.8
comp=Z,54nm,0.9s
KBA Koelnbreinsper 59.70 311 *i* pP **P** 21 40 43.3 +0.8
comp=Z,54nm,0.9s,SNR=21
MYKA Terra Mystica 59.94 310 ⇑ *i* P **P** 21 40 44.4 +0.3
comp=Z,39nm,1.3s
MYKA Terra Mystica 59.94 310 ⇑ *i* P **P** 21 40 44.4 +0.3
comp=Z,39nm,1.3s
RUP Ruppelstein 60.02 317 *e*P **P** 21 40 44.0 -0.5
RUP Ruppelstein 60.02 317 *e*P **P** 21 40 44.0 -0.5
BCLA Clavier 60.07 318 P **P** 21 40 44.5 -0.2
VISS Visnje 60.11 309 *i* P **P** 21 40 45.1 0.0
BOJS Bojanci 60.17 309 *i* P **P** 21 40 45.4 -0.1
WATA Walderalm 60.21 312 *i* pP **P** 21 40 46.5 +0.5
comp=Z,15nm,0.4s,SNR=15
WTTA Wattenberg 60.24 312 *i* P **P** 21 40 46.8 +0.6
WTTA pmax pmax
comp=Z,28nm,0.6s
WTTA Wattenberg 60.24 312 *i* P **P** 21 40 46.8 +0.6
comp=Z,28nm,0.6s
WTTA Wattenberg 60.24 312 *i* pP **P** 21 40 46.8 +0.6
comp=Z,28nm,0.6s,SNR=22
ABTA Abfaltersbach 60.31 311 ⇓ *i* P **P** 21 40 46.3 -0.3
comp=Z,27nm,1.1s
ABTA Abfaltersbach 60.31 311 ⇓ *i* P **P** 21 40 46.3 -0.3
comp=Z,27nm,1.1s,SNR=12
SNF Seneffe 60.36 319 P **P** 21 40 46.4 -0.3
WLF Walferdange 60.39 317 P **P** 21 40 47.0 +0.1
MOTA Moosalm 60.39 313 *i* P **P** 21 40 47.5 +0.3
MOTA pmax pmax
comp=Z,34nm,1.0s
MOTA Moosalm 60.39 313 *i* P **P** 21 40 47.5 +0.3
comp=Z,34nm,1.0s
MOTA Moosalm 60.39 313 *i* P **P** 21 40 47.5 +0.3
comp=Z,34nm,1.0s,SNR=18
RETA Reutte 60.41 313 ⇑ *i* P **P** 21 40 47.5 +0.2
comp=Z,18nm,1.1s
RETA Reutte 60.41 313 ⇑ *i* P **P** 21 40 47.5 +0.2
comp=Z,18nm,1.1s,SNR=6.3
GIVF Givet 60.51 318 *e*P **P** 21 40 46.8 -0.9
DOU Dourbes 60.59 318 P **P** 21 40 47.7 -0.7
BFO Black Forest 60.67 315 *e*P **P** 21 40 48.9 0.0
comp=Z,16nm,1.1s
BFO Black Forest 60.67 315 *e*P **P** 21 40 48.9 0.0
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 60.67 315 *e*P **P** 21 40 48.6 -0.4
comp=Z,26nm,1.2s
BAIF Baives 60.76 319 *e*P **P** 21 40 48.6 -0.9
comp=Z,18nm,0.7s
FETA Feichten 60.80 313 ⇑ *i* P **P** 21 40 50.2 +0.2
comp=Z,20nm,1.1s
FETA Feichten 60.80 313 ⇑ *i* P **P** 21 40 50.2 +0.2
comp=Z,20nm,1.1s,SNR=11
CDF Champ du Feu 61.00 316 *e*P **P** 21 40 50.7 -0.5
comp=Z,34nm,1.0s
FELD Feldberg im Sc 61.17 315 *e*P **P** 21 40 51.1 -1.3
ECH Echery 61.21 316 *e*P **P** 21 40 51.6 -1.0
ECH *e* 21 41 34.8
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 61.21 316 *e*P **P** 21 40 51.6 -1.0
comp=Z,15nm,1.1s
ECH *e*PcP **PcP** 21 41 34.8 -0.3
ECH Echery 61.21 316 *e*P **P** 21 40 52.2 -0.4
FUORN Ofenpass-Fuorn 61.32 313 *e*P **P** 21 40 54.4 +0.7
comp=Z,41nm,0.6s
PAGF Fort de Pagny 61.47 317 *e*P **P** 21 40 53.8 -0.5
comp=Z,5.4nm,0.7s
MOF Molkenrain 61.52 315 *e*P **P** 21 40 53.8 -1.0
MOF Molkenrain 61.52 315 *e*P **P** 21 40 53.8 -1.0
MOF Molkenrain 61.52 315 *e*P **P** 21 40 53.8 -1.0
THEF They Montfort 61.64 316 *e*P **P** 21 40 54.6 -0.9
THEF They Montfort 61.64 316 *e*P **P** 21 40 54.6 -0.9
THEF They Montfort 61.64 316 *e*P **P** 21 40 54.6 -0.9
HINF Hinteralfeld 61.66 316 *e*P **P** 21 40 54.7 -0.9
comp=Z,13nm,0.7s
HAU Haudompre 61.69 316 *e*P **P** 21 40 54.9 -0.9
HAU *e*R
comp=Z,1µm,19.0s
MEZF Maizieres J'vi 61.76 317 *e*P **P** 21 40 55.8 -0.4
TUE Stuetta 61.80 313 *e*P **P** 21 40 57.1 +0.3
comp=Z,22nm,0.7s
SFTF Sexfontaines 62.01 317 *e*P **P** 21 40 57.4 -0.5
KAPI Kappang 62.31 181 LR LR 22 11 18.1
comp=Z,468nm,18.9s,baz=179,slow=39
KAPI Kappang 62.31 181 *e*P **P** 21 41 02.0 +1.8
comp=Z,24nm,1.2s
RPW Rockport 62.59 42 *e*P **P** 21 41 02.0 +0.1
NLWA Neilton Lookou 62.61 44 *e*P **P** 21 41 03.5 +1.5
comp=Z,55nm,1.6s
JCW Jim Creek 62.65 42 *e*P **P** 21 41 02.9 +0.6
FFC Flin Flon 62.91 26 *i* P **P** 21 41 03.1 -0.8
FFC Flin Flon 62.91 26 *e*P **P** 21 41 01.8 -2.1
comp=Z,9.4nm,1.1s
FFC LR LR
comp=Z,978nm,19.0s
CABF La Chapelle 62.95 315 *e*P **P** 21 41 03.5 -0.8
LOR Lormes 63.23 317 *e*P **P** 21 41 04.9 -1.2
LOR *e*R
comp=Z,2µm,20.5s
FLN La Foliniere 63.50 321 *e*P **P** 21 41 06.4 -1.4
comp=Z,32nm,0.7s
FLN *e*R
comp=Z,2µm,21.0s
AQU L'Aquila 63.51 308 ⇓P **P** 21 41 08.7 +0.6
AQU L'Aquila 63.51 308 *e*P **P** 21 41 08.0 0.0
comp=Z,76nm,0.8s
AQU L'Aquila 63.51 308 ⇓ *i* P **P** 21 41 08.7 +0.6
LDF La Druitiere 63.52 320 *e*P **P** 21 41 06.5 -1.5
comp=Z,15nm,0.5s
SSF Saint Saulge 63.53 317 *e*P **P** 21 41 07.2 -0.9
comp=Z,15nm,0.5s
LPL La Plagne 63.61 314 *e*P **P** 21 41 08.8 -0.1
comp=Z,47nm,0.9s
BMW Boistfort Moun 63.62 44 *e*P **P** 21 41 09.8 +1.0
BMW Boistfort Moun 63.62 44 *e*P **P** 21 41 09.8 +1.0
LPG La Plagne 63.62 314 *e*P **P** 21 41 09.1 0.0
comp=Z,74nm,1.0s
HYF Humbligny 63.67 318 *e*P **P** 21 41 08.1 -0.9
ETW Emtiat 63.72 41 *e*P **P** 21 41 10.0 +0.5
AVF Avril sur Loir 63.82 317 *e*P **P** 21 41 08.8 -1.2
LON Longmire 63.91 43 *e*P **P** 21 41 11.7 +1.0
LON pmax pmax
comp=Z,9.0nm,0.7s
LON Longmire 63.91 43 *e*P **P** 21 41 11.7 +1.0
comp=Z,9.1nm,0.7s
GRR Gorron 63.95 321 *e*P **P** 21 41 09.4 -1.4
BNI Bardonecchia 64.02 314 *e*P **P** 21 41 11.5 0.0
BNI pmax pmax
comp=Z,26nm,0.8s
BNI Bardonecchia 64.02 314 *e*P **P** 21 41 11.5 0.0
comp=Z,26nm,0.8s
A12A Yaak River Ran 64.19 38 ⇓P **P** 21 41 13.0 +0.5
baz=64,SNR=10
A12A ⇓P **P** 21 41 13.0 +0.5
baz=64,SNR=10
A12A ⇓P **P** 21 41 13.0 +0.5
baz=64,SNR=10
BGF Bois d'Agland 64.20 317 *e*P **P** 21 41 11.4 -1.1
MBDF Montbardon 64.26 314 *e*P **P** 21 41 12.4 -0.7
comp=Z,26nm,0.5s
NEW Newport 64.28 39 PFAKE 21 41 30.0 +17
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 64.28 39 ⇑P **P** 21 41 12.9 -0.1
baz=64
NEW ⇑P **P** 21 41 12.9 -0.1
baz=64
NEW ⇑P **P** 21 41 12.9 -0.1
baz=64
ORIF Oris-en-Rattie 64.44 314 *e*P **P** 21 41 13.8 -0.4
comp=Z,31nm,0.9s
ORIF *e*R
comp=Z,890nm,17.8s
OD2 Odessa Site #2 64.48 40 *e*P **P** 21 41 14.8 +0.5
B12A Libby 64.61 38 ⇓P **P** 21 41 15.6 +0.3
baz=64
B12A ⇓P **P** 21 41 15.6 +0.3
baz=64
B12A ⇓P **P** 21 41 15.6 +0.3
baz=64
SGMF Saint Gilles 64.64 322 *e*P **P** 21 41 14.5 -0.8
comp=Z,99nm,1.3s
WALA Waterton Lakes 64.64 36 *e*P **P** 21 41 15.5 0.0
comp=Z,0.4nm,0.8s
TCF Toulx Ste Croi 64.66 318 *e*P **P** 21 41 14.5 -1.1
comp=Z,20nm,0.9s
SBF Sospel 64.72 313 *e*P **P** 21 41 15.1 -0.9
ROSF Rostrenen 64.81 322 *e*P **P** 21 41 15.2 -1.2
A14A Double T Ranch 64.88 36 ⇓P **P** 21 41 17.2 +0.1
baz=65,SNR=13
A14A ⇓P **P** 21 41 17.2 +0.1
baz=65,SNR=13
A14A ⇓P **P** 21 41 17.2 +0.1
baz=65,SNR=13
VIVF Saint-Julien-l 64.96 315 *e*P **P** 21 41 16.9 -0.6
comp=Z,15nm,0.6s
RSW Rattlesnake Hi 65.02 42 *e*P **P** 21 41 18.7 +0.7
comp=Z,23nm,0.9s
HAWA Hanford 65.04 41 *e*P **P** 21 41 19.1 +1.1

comp=Z,22nm,1.4s
B13A Whitefish 65.06 37 ⇓P **P 21 41 18.1 -0.1**
baz=65
B13A ⇓P **P 21 41 18.1 -0.1**
baz=65
B13A ⇓P **P 21 41 18.1 -0.1**
baz=65
A15A Johnson Ranch, 65.09 36 ⇓P **P 21 41 18.1 -0.3**
baz=65,SNR=15
A15A ⇓P **P 21 41 18.1 -0.3**
baz=65,SNR=15
A15A ⇓P **P 21 41 18.1 -0.3**
baz=65,SNR=15
HOOD Mount Hood Mea 65.18 44 *e*P **P 21 41 20.4 +1.2**
comp=Z,40nm,1.1s
PGF Pioggiola 65.19 311 *e*P **P 21 41 18.6 -0.5**
comp=Z,52nm,0.8s
MFF Saint Martin d 65.24 319 *e*P **P 21 41 18.4 -0.8**
C12B Naegeli Ranch, 65.31 38 ⇑P **P 21 41 20.1 +0.3**
baz=65
C12B ⇑P **P 21 41 20.1 +0.3**
baz=65
C12B ⇑P **P 21 41 20.1 +0.3**
baz=65
SMRF Simiane la Rot 65.36 314 *e*P **P 21 41 19.7 -0.4**
comp=Z,32nm,0.8s
BLMT Blacktail Moun 65.41 37 *e*P **P 21 41 21.4 +0.8**
BSMT Bassoo Peak 65.41 38 *e*P **P 21 41 21.3 +0.7**
B14A Marquette Ranc 65.46 36 ⇑P **P 21 41 20.9 +0.1**
baz=65,SNR=12
B14A ⇑P **P 21 41 20.9 +0.1**
baz=65,SNR=12
B14A ⇑P **P 21 41 20.9 +0.1**
baz=65,SNR=12
LMR La Mourre 65.53 313 *e*P **P 21 41 21.1 -0.1**
C13A Hot Springs 65.63 38 ⇓P **P 21 41 21.6 -0.3**
baz=65
C13A ⇓P **P 21 41 21.6 -0.3**
baz=65
C13A ⇓P **P 21 41 21.6 -0.3**
baz=65
YBMT Yellow Bay 65.66 37 *e*P **P 21 41 22.4 +0.3**
comp=Z,5.3nm,0.8s
JTMT Jette 65.67 37 *e*P **P 21 41 23.3 +1.0**
B15A Bradely Ranch, 65.73 36 ⇑P **P 21 41 21.8 -0.8**
baz=65
B15A ⇑P **P 21 41 21.8 -0.8**
baz=65
B15A ⇑P **P 21 41 21.8 -0.8**
baz=65
A17A Triple J Farms 65.75 34 ⇑P **P 21 41 22.5 -0.2**
baz=66,SNR=20
A17A ⇑P **P 21 41 22.5 -0.2**
baz=66,SNR=20
A17A ⇑P **P 21 41 22.5 -0.2**
baz=66,SNR=20
C14A Swan Lake 65.83 37 ⇓P **P 21 41 23.6 +0.5**
baz=66,SNR=11
C14A ⇓P **P 21 41 23.6 +0.5**
baz=66,SNR=11
C14A ⇓P **P 21 41 23.6 +0.5**
baz=66,SNR=11
B16A M & M Farms, S 65.91 35 ⇑P **P 21 41 23.6 -0.1**
baz=66,SNR=13
B16A ⇑P **P 21 41 23.6 -0.1**
baz=66,SNR=13
B16A ⇑P **P 21 41 23.6 -0.1**
baz=66,SNR=13
LASF Ste Croix 65.93 315 *e*P **P 21 41 24.0 +0.2**
LNOR Lincton Mounta 65.94 41 *e*P **P 21 41 25.2 +1.3**
LNOR Lincton Mounta 65.94 41 *e*P **P 21 41 25.2 +1.3**
SWMT Swartz Lake 65.97 37 *e*P **P 21 41 25.0 +0.9**
A18A Metzger Ranch, 66.03 34 ⇑P **P 21 41 23.9 -0.5**
baz=66,SNR=9.8
A18A ⇑P **P 21 41 23.9 -0.5**
baz=66,SNR=9.8
A18A ⇑P **P 21 41 23.9 -0.5**
baz=66,SNR=9.8
D13A Huson 66.18 38 ⇑P **P 21 41 25.7 +0.2**
baz=66,SNR=12
D13A ⇑P **P 21 41 25.7 +0.2**
baz=66,SNR=12
D13A ⇑P **P 21 41 25.7 +0.2**
baz=66,SNR=12
C15A Salmond Ranch, 66.19 36 ⇑P **P 21 41 25.1 -0.4**
baz=66
C15A ⇑P **P 21 41 25.1 -0.4**
baz=66
C15A ⇑P **P 21 41 25.1 -0.4**
baz=66
VIPM Ingram Point 66.26 43 P **P 21 41 27.0 +0.9**
VIPM Ingram Point 66.26 43 P **P 21 41 27.0 +0.9**
B17A L&G Farms, Che 66.30 35 ⇑P **P 21 41 26.1 0.0**
baz=66,SNR=14
B17A ⇑P **P 21 41 26.1 0.0**
baz=66,SNR=14
B17A ⇑P **P 21 41 26.1 0.0**
baz=66,SNR=14
SLMT Seeley Lake 66.37 37 *e*P **P 21 41 27.6 +0.8**
E12A Beaver Dam Sad 66.41 39 ⇑P **P 21 41 27.5 +0.5**
baz=66,SNR=26
E12A ⇑P **P 21 41 27.5 +0.5**
baz=66,SNR=26
E12A ⇑P **P 21 41 27.5 +0.5**
baz=66,SNR=26
C16A Fuhringer Ranc 66.44 36 ⇓P **P 21 41 26.6 -0.5**
baz=66
C16A ⇓P **P 21 41 26.6 -0.5**
baz=66
C16A ⇓P **P 21 41 26.6 -0.5**
baz=66
D14A Greenough 66.51 37 ⇑P **P 21 41 28.2 +0.6**
baz=66,SNR=46
D14A ⇑P **P 21 41 28.2 +0.6**
baz=66,SNR=46
D14A ⇑P **P 21 41 28.2 +0.6**
baz=66,SNR=46
B18A Beardsley Farm 66.52 34 ⇓P **P 21 41 27.6 +0.1**
baz=66,SNR=22
B18A ⇓P **P 21 41 27.6 +0.1**
baz=66,SNR=22
B18A ⇓P **P 21 41 27.6 +0.1**
baz=66,SNR=22
MSO Missoula 66.59 38 *e*P **P 21 41 28.7 +0.6**
comp=Z,9.3nm,0.8s
MSO Missoula 66.59 38 ⇑P **P 21 41 28.4 +0.3**
baz=66,SNR=12
MSO ⇑P **P 21 41 28.4 +0.3**
baz=66,SNR=12
MSO ⇑P **P 21 41 28.4 +0.3**
baz=66,SNR=12
A20A Cobblestone Ra 66.63 33 ⇑P **P 21 41 28.3 0.0**
baz=66,SNR=10
A20A ⇑P **P 21 41 28.3 0.0**
baz=66,SNR=10
A20A ⇑P **P 21 41 28.3 0.0**
baz=66,SNR=10
B19A Brinkman Farms 66.71 34 ⇓P **P 21 41 28.7 -0.1**
baz=66,SNR=8.0
B19A ⇓P **P 21 41 28.7 -0.1**
baz=66,SNR=8.0
B19A ⇓P **P 21 41 28.7 -0.1**
baz=66,SNR=8.0
CHMT Chamberlain Mo 66.74 37 *e*P **P 21 41 29.7 +0.5**
A21A Bergtoll Ranch 66.82 32 ⇓P **P 21 41 29.0 -0.5**
baz=66
A21A ⇓P **P 21 41 29.0 -0.5**
baz=66
A21A ⇓P **P 21 41 29.0 -0.5**
baz=66
EGMT Eagleton 66.86 34 *e*P **P 21 41 29.6 -0.2**
comp=Z,266nm,2.9s
EGMT Eagleton 66.86 34 ⇓P **P 21 41 29.4 -0.4**
baz=67
EGMT ⇓P **P 21 41 29.4 -0.4**
baz=67
EGMT ⇓P **P 21 41 29.4 -0.4**
baz=67
D15A Lincoln 66.86 37 ⇓P **P 21 41 30.1 +0.2**
baz=67
D15A ⇓P **P 21 41 30.1 +0.2**
baz=67
D15A ⇓P **P 21 41 30.1 +0.2**
baz=67
C17A Wharram Farm, 66.89 35 ⇑P **P 21 41 29.4 -0.6**
baz=67,SNR=26
C17A ⇑P **P 21 41 29.4 -0.6**
baz=67,SNR=26
C17A ⇑P **P 21 41 29.4 -0.6**
baz=67,SNR=26
HUMO Hull Mountain 67.00 46 *e*P **P 21 41 32.4 +1.7**
comp=Z,69nm,2.3s
E14A Clinton 67.10 38 ⇓P **P 21 41 31.9 +0.5**
baz=67,SNR=15
E14A ⇓P **P 21 41 31.9 +0.5**
baz=67,SNR=15
E14A ⇓P **P 21 41 31.9 +0.5**
baz=67,SNR=15
A22A Carney Farms, 67.11 31 ⇓P **P 21 41 30.6 -0.7**
baz=67
A22A ⇓P **P 21 41 30.6 -0.7**
baz=67
A22A ⇓P **P 21 41 30.6 -0.7**
baz=67
BMO Blue Mountains 67.16 41 *e*P **P 21 41 32.7 +0.9**
comp=Z,60nm,1.7s
MTLF Montolieu 67.18 316 *e*P **P 21 41 31.7 -0.1**
D16A Dana Ranch, Ca 67.18 36 ⇓P **P 21 41 31.7 -0.2**
baz=67
D16A ⇓P **P 21 41 31.7 -0.2**
baz=67
D16A ⇓P **P 21 41 31.7 -0.2**
baz=67
C19A Slack Wire Ran 67.33 34 ⇑P **P 21 41 32.6 -0.1**
baz=67,SNR=9.6
C19A ⇑P **P 21 41 32.6 -0.1**
baz=67,SNR=9.6
C19A ⇑P **P 21 41 32.6 -0.1**
baz=67,SNR=9.6
D17A Six Diamond Ra 67.34 35 ⇑P **P 21 41 32.6 -0.3**
baz=67
D17A ⇑P **P 21 41 32.6 -0.3**
baz=67
D17A ⇑P **P 21 41 32.6 -0.3**
baz=67
E15A Deer Lodge 67.37 37 ⇓P **P 21 41 33.3 +0.2**
baz=67
E15A ⇓P **P 21 41 33.3 +0.2**
baz=67
E15A ⇓P **P 21 41 33.3 +0.2**
baz=67
F13A Darby 67.37 38 ⇑P **P 21 41 33.0 -0.1**
baz=67
F13A ⇑P **P 21 41 33.0 -0.1**
baz=67
F13A ⇑P **P 21 41 33.0 -0.1**
baz=67
HRY Holter Researc 67.38 36 *e*P **P 21 41 33.5 +0.4**
D18A Linhart Farms, 67.58 35 ⇑P **P 21 41 34.7 +0.3**
baz=67,SNR=7.0
D18A ⇑P **P 21 41 34.7 +0.3**
baz=67,SNR=7.0
D18A ⇑P **P 21 41 34.7 +0.3**
baz=67,SNR=7.0
E16A East Helena 67.58 36 ⇓P **P 21 41 34.9 +0.5**
baz=67,SNR=11
E16A ⇓P **P 21 41 34.9 +0.5**
baz=67,SNR=11
E16A ⇓P **P 21 41 34.9 +0.5**
baz=67,SNR=11
G12A Big Creek, Yel 67.61 39 ⇓P **P 21 41 34.9 +0.2**
baz=67,SNR=11
G12A ⇓P **P 21 41 34.9 +0.2**
baz=67,SNR=11
G12A ⇓P **P 21 41 34.9 +0.2**
baz=67,SNR=11
C20A Veseth Ranch, 67.66 33 ⇑P **P 21 41 34.4 -0.4**
baz=67
C20A ⇑P **P 21 41 34.4 -0.4**
baz=67
C20A ⇑P **P 21 41 34.4 -0.4**
baz=67
F14A Wisdom 67.67 38 ⇓P **P 21 41 34.6 -0.4**
baz=67
F14A ⇓P **P 21 41 34.6 -0.4**
baz=67
F14A ⇓P **P 21 41 34.6 -0.4**
baz=67
A24A Westby 67.70 30 ⇓P **P 21 41 34.4 -0.6**
baz=67
A24A ⇓P **P 21 41 34.4 -0.6**
baz=67
A24A ⇓P **P 21 41 34.4 -0.6**
baz=67
B22A Reddig Ranch S 67.71 32 ⇑P **P 21 41 34.7 -0.4**
baz=67
B22A ⇑P **P 21 41 34.7 -0.4**
baz=67
B22A ⇑P **P 21 41 34.7 -0.4**
baz=67
C21A Desert Coulee 67.82 33 ⇓P **P 21 41 35.6 -0.2**
baz=68
C21A ⇓P **P 21 41 35.6 -0.2**
baz=68
C21A ⇓P **P 21 41 35.6 -0.2**
baz=68
YBH Yreka Blue Hor 67.84 46 *e*P **P 21 41 37.2 +1.1**
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 67.84 46 *e*P **P 21 41 37.2 +1.1**
comp=Z,9.3nm,1.1s
B23A Brockton 67.84 31 ⇓P **P 21 41 35.4 -0.5**
baz=68
B23A ⇓P **P 21 41 35.4 -0.5**
baz=68
B23A ⇓P **P 21 41 35.4 -0.5**
baz=68
SCHQ Schefferville 67.86 5 P **P 21 41 35.6 -0.3**
comp=Z,17nm,0.8s,baz=358,slow=6.2,SNR=19
SCHQ LR LR 22 13 43.8
comp=Z,1μm,18.3s,baz=330,slow=38
SCHQ Schefferville 67.86 5 *e*P **P 21 41 35.5 -0.4**
comp=Z,34nm,0.9s
D19A Cripps Ranch, 67.89 34 ⇑P **P 21 41 36.4 +0.1**
baz=68,SNR=11
D19A ⇑P **P 21 41 36.4 +0.1**
baz=68,SNR=11
D19A ⇑P **P 21 41 36.4 +0.1**
baz=68,SNR=11
E17A Martinsdale 67.91 36 ⇑P **P 21 41 36.8 +0.3**
baz=68,SNR=11
E17A ⇑P **P 21 41 36.8 +0.3**
baz=68,SNR=11
E17A ⇑P **P 21 41 36.8 +0.3**
baz=68,SNR=11
F15A Butte 67.93 37 ⇑P **P 21 41 37.1 +0.4**
baz=68,SNR=13
F15A ⇑P **P 21 41 37.1 +0.4**
baz=68,SNR=13
F15A ⇑P **P 21 41 37.1 +0.4**
baz=68,SNR=13
LRM Limekiln Ridge 67.96 37 *e*P **P 21 41 37.5 +0.5**
G13A Cobalt 68.02 39 ⇓P **P 21 41 37.1 -0.2**
baz=68,SNR=8.7
G13A ⇓P **P 21 41 37.1 -0.2**
baz=68,SNR=8.7
G13A ⇓P **P 21 41 37.1 -0.2**
baz=68,SNR=8.7
DGMT Dagmar 68.06 30 *e*P **P 21 41 37.4 +0.1**
comp=Z,36nm,0.9s
DGMT Dagmar 68.06 30 ⇑P **P 21 41 36.7 -0.6**
baz=68
DGMT ⇑P **P 21 41 36.7 -0.6**
baz=68
DGMT ⇑P **P 21 41 36.7 -0.6**
baz=68
E18A Harlowton 68.11 35 ⇑P **P 21 41 38.0 +0.2**
baz=68,SNR=7.8
E18A ⇑P **P 21 41 38.0 +0.2**
baz=68,SNR=7.8
E18A ⇑P **P 21 41 38.0 +0.2**
baz=68,SNR=7.8
LHEM Herd Peak 68.12 46 P **P 21 41 39.1 +1.1**
G14A Jackson 68.14 38 ⇓P **P 21 41 38.6 +0.5**
baz=68,SNR=21
G14A ⇓P **P 21 41 38.6 +0.5**
baz=68,SNR=21
G14A ⇓P **P 21 41 38.6 +0.5**
baz=68,SNR=21
EPF Esparros 68.14 317 *e*P **P 21 41 37.2 -0.7**
comp=Z,24nm,0.8s
D20A Manuel Ranch, 68.18 34 ⇑P **P 21 41 38.1 0.0**
baz=68
D20A ⇑P **P 21 41 38.1 0.0**
baz=68
D20A ⇑P **P 21 41 38.1 0.0**
baz=68
C22A Vida 68.25 32 ⇑P **P 21 41 38.1 -0.4**
baz=68
C22A ⇑P **P 21 41 38.1 -0.4**
baz=68
C22A ⇑P **P 21 41 38.1 -0.4**
baz=68
F16A Kennard Place, 68.26 37 ⇑P **P 21 41 39.2 +0.4**
baz=68,SNR=18
F16A ⇑P **P 21 41 39.2 +0.4**
baz=68,SNR=18
F16A ⇑P **P 21 41 39.2 +0.4**
baz=68,SNR=18
H12A Diamond D Ranc 68.28 39 ⇑P **P 21 41 38.5 -0.4**
baz=68
H12A ⇑P **P 21 41 38.5 -0.4**
baz=68
H12A ⇑P **P 21 41 38.5 -0.4**
baz=68
DLMT Dillon 68.32 37 *e*P **P 21 41 40.0 +0.9**
comp=Z,23nm,0.8s
BOZ Bozeman (W) 68.38 37 *e*P **P 21 41 40.3 +0.8**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 68.38 37 *e*P **P 21 41 40.3 +0.8**
comp=Z,4.6nm,0.6s
BOZ Bozeman (W) 68.38 37 ⇑P **P 21 41 40.0 +0.4**
baz=68,SNR=16
BOZ ⇑P **P 21 41 40.0 +0.4**
baz=68,SNR=16
BOZ ⇑P **P 21 41 40.0 +0.4**
baz=68,SNR=16
BOZ ⇑P **P 21 41 40.0 +0.4**
baz=68,SNR=16
BOZ ⇑P **P 21 41 40.0 +0.4**
baz=68,SNR=16
C23A Lambert 68.39 31 ⇑P **P 21 41 39.8 +0.4**
baz=68,SNR=10
C23A ⇑P **P 21 41 39.8 +0.4**
baz=68,SNR=10
C23A ⇑P **P 21 41 39.8 +0.4**
baz=68,SNR=10
F17A Fitzpatrick Pl 68.46 36 ⇑P **P 21 41 39.7 -0.3**
baz=68
F17A ⇑P **P 21 41 39.7 -0.3**
baz=68
F17A ⇑P **P 21 41 39.7 -0.3**
baz=68
ULM Lac du Bonnet 68.47 24 P **P 21 41 37.8 -2.0**
comp=Z,2.3nm,0.5s,baz=335,slow=8.7,SNR=5.2
ULM LR LR 22 12 57.5
comp=Z,1μm,20.4s,baz=344,slow=37
ULM Lac du Bonnet 68.47 24 P **P 21 41 37.8 -2.0**
ULM Lac du Bonnet 68.47 24 P **P 21 41 37.8 -2.0**
H13A Challis 68.47 39 ⇑P **P 21 41 40.3 +0.2**
baz=68,SNR=10
H13A ⇑P **P 21 41 40.3 +0.2**
baz=68,SNR=10
H13A ⇑P **P 21 41 40.3 +0.2**
baz=68,SNR=10
G15A Dillon 68.53 37 ⇓P **P 21 41 41.2 +0.7**
baz=68,SNR=34
G15A ⇓P **P 21 41 41.2 +0.7**
baz=68,SNR=34
G15A ⇓P **P 21 41 41.2 +0.7**
baz=68,SNR=34
D21A La Casta Ranch 68.54 33 ⇓P **P 21 41 40.4 0.0**
baz=68
D21A ⇓P **P 21 41 40.4 0.0**
baz=68
D21A ⇓P **P 21 41 40.4 0.0**
baz=68
E19A Rath Farm, Rou 68.55 34 ⇓P **P 21 41 40.5 0.0**
baz=68
E19A ⇓P **P 21 41 40.5 0.0**
baz=68
E19A ⇓P **P 21 41 40.5 0.0**
baz=68
ETSF Etsaut 68.59 318 *e*P **P 21 41 39.6 -1.1**
MOD Modoc 68.62 45 *e*P **P 21 41 42.3 +1.3**
comp=Z,14nm,0.8s
SJPF Ste Jean 68.64 318 *e*P **P 21 41 40.2 -0.8**
G16A Moss Hill, Enn 68.70 37 ⇑P **P 21 41 42.0 +0.5**
baz=68,SNR=23
G16A ⇑P **P 21 41 42.0 +0.5**
baz=68,SNR=23
G16A ⇑P **P 21 41 42.0 +0.5**
baz=68,SNR=23
D22A Cohagen 68.70 32 ⇓P **P 21 41 40.9 -0.5**
baz=68
D22A ⇓P **P 21 41 40.9 -0.5**
baz=68
D22A ⇓P **P 21 41 40.9 -0.5**
baz=68
E20A Meyer Farm, Mu 68.71 34 ⇓P **P 21 41 41.3 -0.1**
baz=68
E20A ⇓P **P 21 41 41.3 -0.1**
baz=68
E20A ⇓P **P 21 41 41.3 -0.1**
baz=68
MCMT McKenzie Canyo 68.71 38 *e*P **P 21 41 42.4 +0.7**
comp=Z,6.5nm,0.6s
H14A Leadore 68.73 38 ⇓P **P 21 41 42.3 +0.6**
baz=68,SNR=18
H14A ⇓P **P 21 41 42.3 +0.6**
baz=68,SNR=18
H14A ⇓P **P 21 41 42.3 +0.6**
baz=68,SNR=18
F18A Big Timber 68.76 35 ⇑P **P 21 41 41.9 +0.1**
baz=68
F18A ⇑P **P 21 41 41.9 +0.1**
baz=68
F18A ⇑P **P 21 41 41.9 +0.1**
baz=68
WVOR Wild Horse Val 68.78 43 *e*P **P 21 41 42.9 +0.9**
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR Wild Horse Val 68.78 43 *e*P **P 21 41 42.9 +0.9**
comp=Z,18nm,1.1s
WDC Whiskeytown Da 68.89 47 *e*P **P 21 41 43.8 +1.3**
WDC pmax pmax
comp=Z,14nm,1.0s
WDC Whiskeytown Da 68.89 47 *e*P **P 21 41 43.8 +1.3**
comp=Z,14nm,1.0s
MFID Camas Ranch 68.94 41 *e*P **P 21 41 44.0 +1.0**
comp=Z,12nm,0.8s
MFID Camas Ranch 68.94 41 ⇑P **P 21 41 43.8 +0.9**
baz=69,SNR=8.9
MFID ⇑P **P 21 41 43.8 +0.9**
baz=69,SNR=8.9
MFID ⇑P **P 21 41 43.8 +0.9**
baz=69,SNR=8.9
D23A Lindsay 68.96 32 ⇓P **P 21 41 42.8 -0.1**
baz=69
D23A ⇓P **P 21 41 42.8 -0.1**
baz=69
D23A ⇓P **P 21 41 42.8 -0.1**
baz=69
G17A Pierce Place, 68.96 36 ⇓P **P 21 41 43.1 0.0**
baz=69
G17A ⇓P **P 21 41 43.1 0.0**
baz=69
G17A ⇓P **P 21 41 43.1 0.0**
baz=69
H15A Lima 68.97 38 ⇑P **P 21 41 43.5 +0.3**
baz=69
H15A ⇑P **P 21 41 43.5 +0.3**
baz=69
H15A ⇑P **P 21 41 43.5 +0.3**
baz=69
F19A Roth Farm, Mol 69.05 35 ⇑P **P 21 41 43.7 +0.1**
baz=69,SNR=16
F19A ⇑P **P 21 41 43.7 +0.1**
baz=69,SNR=16
F19A ⇑P **P 21 41 43.7 +0.1**
baz=69,SNR=16
I13A Wildhorse Cree 69.09 39 ⇓P **P 21 41 44.5 +0.5**
baz=69,SNR=35
I13A ⇓P **P 21 41 44.5 +0.5**
baz=69,SNR=35
I13A ⇓P **P 21 41 44.5 +0.5**
baz=69,SNR=35
QLMT Earthquake Lak 69.17 37 *e*P **P 21 41 45.5 +1.0**
D24A Glendive 69.26 31 ⇓P **P 21 41 45.1 +0.3**
baz=69,SNR=13
D24A ⇓P **P 21 41 45.1 +0.3**

baz=69,SNR=13
D24A ⇓P **P** **21 41 45.1 +0.3**
baz=69,SNR=13
HLID **Hailey** **69.30 40** *e*P **P** **21 41 46.2 +1.0**
comp=Z,12nm,0.7s
HLID **Hailey** **69.30 40** ⇑P **P** **21 41 45.8 +0.5**
baz=69,SNR=25
HLID ⇑P **P** **21 41 45.8 +0.5**
baz=69,SNR=25
HLID ⇑P **P** **21 41 45.8 +0.5**
baz=69,SNR=25
I14A **Mackay** **69.31 39** ⇑P **P** **21 41 45.8 +0.5**
baz=69
I14A ⇑P **P** **21 41 45.8 +0.5**
baz=69
I14A ⇑P **P** **21 41 45.8 +0.5**
baz=69
G18A **Lazy EL Ranch,** **69.33 35** ⇑P **P** **21 41 45.9 +0.4**
baz=69
G18A ⇑P **P** **21 41 45.9 +0.4**
baz=69
G18A ⇑P **P** **21 41 45.9 +0.4**
baz=69
F20A **Billings** **69.34 34** ⇓P **P** **21 41 45.7 +0.4**
baz=69
F20A ⇓P **P** **21 41 45.7 +0.4**
baz=69
F20A ⇓P **P** **21 41 45.7 +0.4**
baz=69
H16A **Russell Place,** **69.35 37** ⇓P **P** **21 41 46.1 +0.5**
baz=69,SNR=25
H16A ⇓P **P** **21 41 46.1 +0.5**
baz=69,SNR=25
H16A ⇓P **P** **21 41 46.1 +0.5**
baz=69,SNR=25
E22A **Miles City** **69.41 32** ⇑P **P** **21 41 46.3 +0.5**
baz=69
E22A ⇑P **P** **21 41 46.3 +0.5**
baz=69
E22A ⇑P **P** **21 41 46.3 +0.5**
baz=69
J13A **Cove Ranch, Pi** **69.53 40** ⇑P **P** **21 41 47.5 +0.8**
baz=69,SNR=12
J13A ⇑P **P** **21 41 47.5 +0.8**
baz=69,SNR=12
J13A ⇑P **P** **21 41 47.5 +0.8**
baz=69,SNR=12
I15A **Monteview** **69.57 38** ⇑P **P** **21 41 47.7 +0.8**
baz=69
I15A ⇑P **P** **21 41 47.7 +0.8**
baz=69
I15A ⇑P **P** **21 41 47.7 +0.8**
baz=69
RLMT **Red Lodge** **69.60 35** *e*P **P** **21 41 47.2 0.0**
comp=Z,14nm,0.7s
RLMT **Red Lodge** **69.60 35** ⇑P **P** **21 41 47.3 +0.1**
baz=69,SNR=20
RLMT ⇑P **P** **21 41 47.3 +0.1**
baz=69,SNR=20
RLMT ⇑P **P** **21 41 47.3 +0.1**
baz=69,SNR=20
RLMT ⇑P **P** **21 41 47.3 +0.1**
baz=69,SNR=20
RLMT ⇑P **P** **21 41 47.3 +0.1**
baz=69,SNR=20
LKWY **Lake** **69.74 36** *e*P **P** **21 41 49.6 +1.5**
LKWY pmax pmax
comp=Z,13nm,0.8s
LKWY **Lake** **69.74 36** *e*P **P** **21 41 49.6 +1.5**
comp=Z,13nm,0.8s
E24A **Baker** **69.77 31** ⇑P **P** **21 41 47.9 -0.1**
baz=70
E24A ⇑P **P** **21 41 47.9 -0.1**
baz=70
E24A ⇑P **P** **21 41 47.9 -0.1**
baz=70
J14A **Carey** **69.82 39** ⇑P **P** **21 41 48.9 +0.4**
baz=70,SNR=14
J14A ⇑P **P** **21 41 48.9 +0.4**
baz=70,SNR=14
J14A ⇑P **P** **21 41 48.9 +0.4**
baz=70,SNR=14
MDND **Maddock** **69.83 28** ⇓P **P** **21 41 48.5 +0.2**
baz=70
MDND ⇓P **P** **21 41 48.5 +0.2**
baz=70
MDND ⇓P **P** **21 41 48.5 +0.2**
baz=70
H17A **Grant Village** **69.84 37** ⇓P **P** **21 41 48.9 +0.2**
baz=70
H17A ⇓P **P** **21 41 48.9 +0.2**
baz=70
H17A ⇓P **P** **21 41 48.9 +0.2**
baz=70
G20A **Bridger** **69.84 35** ⇑P **P** **21 41 48.0 -0.5**
baz=70,SNR=9.3
G20A ⇑P **P** **21 41 48.0 -0.5**
baz=70,SNR=9.3
G20A ⇑P **P** **21 41 48.0 -0.5**
baz=70,SNR=9.3
H18A **Shoshone NF, C** **69.88 36** ⇓P **P** **21 41 48.9 0.0**
baz=70,SNR=14
H18A ⇓P **P** **21 41 48.9 0.0**
baz=70,SNR=14
H18A ⇓P **P** **21 41 48.9 0.0**
baz=70,SNR=14
F22A **Rosebud** **69.92 33** ⇓P **P** **21 41 48.7 -0.2**
baz=70
F22A ⇓P **P** **21 41 48.7 -0.2**
baz=70
F22A ⇓P **P** **21 41 48.7 -0.2**
baz=70
I16A **Newdale** **70.01 37** ⇑P **P** **21 41 50.4 +0.7**
baz=70,SNR=6.7
I16A ⇑P **P** **21 41 50.4 +0.7**
baz=70,SNR=6.7
I16A ⇑P **P** **21 41 50.4 +0.7**
baz=70,SNR=6.7
H19A **Powell** **70.10 35** ⇓P **P** **21 41 50.5 +0.3**
baz=70
H19A ⇓P **P** **21 41 50.5 +0.3**
baz=70
H19A ⇓P **P** **21 41 50.5 +0.3**
baz=70
PMG **Port Moresby** **70.11 152** PFAKE 21 42 00.0 +10
PMG LR LR
comp=Z,493nm,20.0s
J15A **Blackfoot** **70.12 38** ⇓P **P** **21 41 50.9 +0.7**
baz=70
J15A ⇓P **P** **21 41 50.9 +0.7**
baz=70
J15A ⇓P **P** **21 41 50.9 +0.7**
baz=70
G21A **Lodge Grass** **70.14 34** ⇑P **P** **21 41 50.3 0.0**
baz=70
G21A ⇑P **P** **21 41 50.3 0.0**
baz=70
G21A ⇑P **P** **21 41 50.3 0.0**
baz=70
F23A **Volborg** **70.22 32** ⇑P **P** **21 41 50.7 -0.1**
baz=70
F23A ⇑P **P** **21 41 50.7 -0.1**
baz=70
F23A ⇑P **P** **21 41 50.7 -0.1**
baz=70
I17A **Pilgrim Ck.** **70.26 37** ⇑P **P** **21 41 52.2 +0.9**
baz=70,SNR=12
I17A ⇑P **P** **21 41 52.2 +0.9**
baz=70,SNR=12
I17A ⇑P **P** **21 41 52.2 +0.9**
baz=70,SNR=12
AGMN **Agassiz Nation** **70.31 25** *e*P **P** **21 41 49.7 -1.5**
comp=Z,9.6nm,0.9s
DCID1 **Drake Creek** **70.36 37** *e*P P 21 41 57.5 +5.7
comp=Z,22nm,0.8s
MOOW **Moose Ponds** **70.36 37** *e*P **P** **21 41 52.2 +0.3**
comp=Z,5.3nm,0.7s
MOOW *e*PP **PP** **21 44 27.5 +0.5**
F24A **Ekalaka** **70.39 32** ⇓P **P** **21 41 51.5 -0.3**
baz=70
F24A ⇓P **P** **21 41 51.5 -0.3**
baz=70
F24A ⇓P **P** **21 41 51.5 -0.3**
baz=70
G22A **Birney** **70.42 33** ⇓P **P** **21 41 51.8 -0.3**
baz=70
G22A ⇓P **P** **21 41 51.8 -0.3**
baz=70
G22A ⇓P **P** **21 41 51.8 -0.3**
baz=70
J16A **Bone** **70.50 38** ⇑P **P** **21 41 53.4 +0.7**
baz=70,SNR=16
J16A ⇑P **P** **21 41 53.4 +0.7**
baz=70,SNR=16
J16A ⇑P **P** **21 41 53.4 +0.7**
baz=70,SNR=16
TPAW **Teton Pass** **70.53 37** *e*P **P** **21 41 54.2 +1.3**
comp=Z,18nm,0.9s
LOHW **Long Hollow** **70.53 37** *e*P **P** **21 41 53.0 +0.1**
comp=Z,5.6nm,0.8s
RRI2 **Red Ridge** **70.53 38** *e*P **P** **21 41 54.1 +1.2**
comp=Z,8.6nm,0.9s
K14A **Jones Ranch, D** **70.62 39** ⇓P **P** **21 41 54.6 +1.2**
baz=70,SNR=12
K14A ⇓P **P** **21 41 54.6 +1.2**
baz=70,SNR=12
K14A ⇓P **P** **21 41 54.6 +1.2**
baz=70,SNR=12
I19A **Meeteetse** **70.66 36** ⇑P **P** **21 41 53.9 +0.2**
baz=70,SNR=8.2
I19A ⇑P **P** **21 41 53.9 +0.2**
baz=70,SNR=8.2
I19A ⇑P **P** **21 41 53.9 +0.2**
baz=70,SNR=8.2
REDW **Red Top Meadow** **70.67 37** *e*P **P** **21 41 55.2 +1.5**
comp=Z,146nm,2.6s
G23A **Biddle** **70.70 33** ⇓P **P** **21 41 53.5 -0.3**
baz=70
G23A ⇓P **P** **21 41 53.5 -0.3**
baz=70
G23A ⇓P **P** **21 41 53.5 -0.3**
baz=70
I18A **Diamond G Ranc** **70.70 36** ⇑P **P** **21 41 54.1 +0.1**
baz=70
I18A ⇑P **P** **21 41 54.1 +0.1**
baz=70
I18A ⇑P **P** **21 41 54.1 +0.1**
baz=70
K15A **Arbon** **70.72 39** ⇑P **P** **21 41 53.9 -0.1**
baz=70
K15A ⇑P **P** **21 41 53.9 -0.1**
baz=70
K15A ⇑P **P** **21 41 53.9 -0.1**
baz=70
H21A **Big Horn, Sher** **70.73 34** ⇓P **P** **21 41 53.8 -0.2**
baz=70
H21A ⇓P **P** **21 41 53.8 -0.2**
baz=70
H21A ⇓P **P** **21 41 53.8 -0.2**
baz=70
KEST **Kesra** **70.76 307** P **P** **21 41 54.0 -0.2**
comp=Z,1.9nm,0.8s,baz=31,slow=5.7,SNR=11
KEST LR LR 22 16 54.0
comp=Z,687nm,19.0s,baz=173,slow=39
KEST **Kesra** **70.76 307** P **P** **21 41 54.0 -0.2**
G24A **Alzada** **70.87 32** ⇑P **P** **21 41 53.9 -0.9**
baz=71
G24A ⇑P **P** **21 41 53.9 -0.9**
baz=71
G24A ⇑P **P** **21 41 53.9 -0.9**
baz=71
K16A **Soda Springs** **70.90 38** ⇑P **P** **21 41 55.4 +0.2**
baz=71
K16A ⇑P **P** **21 41 55.4 +0.2**
baz=71
K16A ⇑P **P** **21 41 55.4 +0.2**
baz=71
H22A **Clearmont** **70.97 34** ⇑P **P** **21 41 55.5 +0.1**
baz=71
H22A ⇑P **P** **21 41 55.5 +0.1**
baz=71
H22A ⇑P **P** **21 41 55.5 +0.1**
baz=71
I20A **Worland** **71.01 35** ⇑P **P** **21 41 55.7 0.0**
baz=71
I20A ⇑P **P** **21 41 55.7 0.0**
baz=71
I20A ⇑P **P** **21 41 55.7 0.0**
baz=71
L14A **Malta** **71.05 40** ⇓P **P** **21 41 57.2 +1.2**
baz=71,SNR=12
L14A ⇓P **P** **21 41 57.2 +1.2**
baz=71,SNR=12
L14A ⇓P **P** **21 41 57.2 +1.2**
baz=71,SNR=12
WCN **Washoe City** **71.07 46** *e*P **P** **21 41 57.8 +1.6**
WCN pmax pmax
comp=Z,21nm,1.5s
WCN **Washoe City** **71.07 46** *e*P **P** **21 41 57.8 +1.6**
comp=Z,21nm,1.5s
WCN **Washoe City** **71.07 46** ⇓P **P** **21 41 57.4 +1.2**
baz=71
WCN ⇓P **P** **21 41 57.4 +1.2**
baz=71
WCN ⇓P **P** **21 41 57.4 +1.2**
baz=71
J18A **Kendall Valley** **71.08 37** ⇑P **P** **21 41 56.7 +0.4**
baz=71,SNR=14
J18A ⇑P **P** **21 41 56.7 +0.4**
baz=71,SNR=14
J18A ⇑P **P** **21 41 56.7 +0.4**
baz=71,SNR=14
J19A **Crowheart** **71.34 36** ⇑P **P** **21 41 58.2 +0.5**
baz=71,SNR=10
J19A ⇑P **P** **21 41 58.2 +0.5**
baz=71,SNR=10
J19A ⇑P **P** **21 41 58.2 +0.5**
baz=71,SNR=10
H24A **Dirks Ranch, A** **71.36 32** ⇓P **P** **21 41 57.1 -0.6**
baz=71
H24A ⇓P **P** **21 41 57.1 -0.6**
baz=71
H24A ⇓P **P** **21 41 57.1 -0.6**
baz=71
L15A **Malad City** **71.37 39** ⇑P **P** **21 41 58.4 +0.4**
baz=71,SNR=12
L15A ⇑P **P** **21 41 58.4 +0.4**
baz=71,SNR=12
L15A ⇑P **P** **21 41 58.4 +0.4**
baz=71,SNR=12
I21A **Big Trails, Te** **71.39 35** ⇑P **P** **21 41 57.8 -0.3**
baz=71,SNR=9.8
I21A ⇑P **P** **21 41 57.8 -0.3**
baz=71,SNR=9.8
I21A ⇑P **P** **21 41 57.8 -0.3**
baz=71,SNR=9.8
HVU **Hansel Valley** **71.44 39** *e*P **P** **21 41 59.9 +1.5**
HVU pmax pmax
comp=Z,15nm,0.7s
HVU **Hansel Valley** **71.44 39** *e*P **P** **21 41 59.9 +1.5**
comp=Z,15nm,0.7s
ELK **Elko** **71.49 42** *e*P **P** **21 42 00.2 +1.4**
ELK **Elko** **71.49 42** *e*P **P** **21 42 00.2 +1.4**
J20A **Shoshoni** **71.56 35** ⇑P **P** **21 41 59.1 0.0**
baz=71,SNR=13
J20A ⇑P **P** **21 41 59.1 0.0**
baz=71,SNR=13
J20A ⇑P **P** **21 41 59.1 0.0**
baz=71,SNR=13
I22A **9 Mile Ranch,** **71.57 34** ⇑P **P** **21 41 59.0 0.0**
baz=71
I22A ⇑P **P** **21 41 59.0 0.0**
baz=71
I22A ⇑P **P** **21 41 59.0 0.0**
baz=71
EYMN **Ely** **71.58 22** *e*P **P** **21 41 57.8 -1.2**
comp=Z,15nm,1.1s
K18A **Toltan Ranch,** **71.59 37** ⇑P **P** **21 41 59.6 +0.3**
baz=71
K18A ⇑P **P** **21 41 59.6 +0.3**
baz=71
K18A ⇑P **P** **21 41 59.6 +0.3**
baz=71
BW06 **Boulder Array** **71.63 37** *e*P **P** **21 41 59.2 -0.3**
comp=Z,5.8nm,0.8s
BW06 LR LR
comp=Z,1µm,19.0s
BW06 **Boulder Array** **71.63 37** ⇑P **P** **21 41 59.1 -0.5**
baz=71,SNR=10.0
BW06 ⇑P **P** **21 41 59.1 -0.5**
baz=71,SNR=10.0
BW06 ⇑P **P** **21 41 59.1 -0.5**
baz=71,SNR=10.0
BW06 ⇑P **P** **21 41 59.1 -0.5**
baz=71,SNR=10.0
BW06 ⇑P **P** **21 41 59.1 -0.5**
baz=71,SNR=10.0
PDAR **Pinedale Array** **71.63 37** P **P** **21 41 59.2 -0.3**
comp=Z,5.5nm,0.6s,baz=20,slow=2.7,SNR=45
PDAR LR LR 22 15 49.1
comp=Z,810nm,18.4s,baz=348,slow=38
PDAR **Pinedale Array** **71.63 37** P **P** **21 41 59.2 -0.3**
J21A **Lysite** **71.77 35** ⇑P **P** **21 41 59.9 -0.5**
baz=72
J21A ⇑P **P** **21 41 59.9 -0.5**
baz=72
J21A ⇑P **P** **21 41 59.9 -0.5**
baz=72
K19A **Absolon Red Bu** **71.80 36** ⇑P **P** **21 42 00.0 -0.6**
baz=72
K19A ⇑P **P** **21 42 00.0 -0.6**
baz=72
K19A ⇑P **P** **21 42 00.0 -0.6**
baz=72
M15A **Larsen Ranch,** **71.83 39** ⇓P **P** **21 42 00.8 +0.1**
baz=72
M15A ⇓P **P** **21 42 00.8 +0.1**
baz=72
M15A ⇓P **P** **21 42 00.8 +0.1**
baz=72
HWUT **Hardware Ranch** **72.00 39** *e*P **P** **21 42 02.9 +1.1**
comp=Z,27nm,0.8s
HWUT LR LR
comp=Z,764nm,21.0s
J22A **Midwest** **72.00 34** ⇓P **P** **21 42 01.3 -0.4**
baz=72
J22A ⇓P **P** **21 42 01.3 -0.4**
baz=72
J22A ⇓P **P** **21 42 01.3 -0.4**
baz=72
RSSD **Black Hills** **72.08 32** *e*P **P** **21 42 01.7 -0.6**
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD **Black Hills** **72.08 32** *e*P **P** **21 42 01.7 -0.6**
comp=Z,12nm,0.9s
K20A **Yellowstone Ra** **72.11 36** ⇓P **P** **21 42 02.0 -0.4**
baz=72
K20A ⇓P **P** **21 42 02.0 -0.4**
baz=72
K20A ⇓P **P** **21 42 02.0 -0.4**
baz=72
I24A **Kuemmerle Ranc** **72.15 33** ⇓P **P** **21 42 02.4 -0.2**
baz=72
I24A ⇓P **P** **21 42 02.4 -0.2**
baz=72
I24A ⇓P **P** **21 42 02.4 -0.2**
baz=72
L18A **Fontenelle, Gr** **72.23 37** ⇑P **P** **21 42 03.9 +0.7**
baz=72
L18A ⇑P **P** **21 42 03.9 +0.7**
baz=72
L18A ⇑P **P** **21 42 03.9 +0.7**
baz=72
L19A **Farson** **72.29 37** ⇑P **P** **21 42 03.4 -0.2**
baz=72
L19A ⇑P **P** **21 42 03.4 -0.2**
baz=72
L19A ⇑P **P** **21 42 03.4 -0.2**
baz=72
J23A **Dilts Ranch, B** **72.29 34** ⇓P **P** **21 42 03.8 +0.3**
baz=72
J23A ⇓P **P** **21 42 03.8 +0.3**
baz=72
J23A ⇓P **P** **21 42 03.8 +0.3**
baz=72
NVAR **Mina Array Bea** **72.39 45** P **P** **21 42 04.8 +0.6**
comp=Z,6.1nm,0.8s,baz=311,slow=4.4,SNR=19
NVAR LR LR 22 17 06.0
comp=Z,694nm,18.8s,baz=28,slow=38
NVAR **Mina Array Bea** **72.39 45** P **P** **21 42 04.8 +0.6**
M17A **Scullys Gap (B** **72.42 38** ⇓P **P** **21 42 04.1 -0.3**
baz=72,SNR=18
M17A ⇓P **P** **21 42 04.1 -0.3**
baz=72,SNR=18
M17A ⇓P **P** **21 42 04.1 -0.3**
baz=72,SNR=18
POLO **Lamas de Olo** **72.46 322** *e*P **P** **21 42 05.1 +0.7**
comp=Z,42nm,1.8s
K21A **Alcova** **72.48 35** ⇓P **P** **21 42 04.3 -0.3**
baz=72,SNR=16
K21A ⇓P **P** **21 42 04.3 -0.3**
baz=72,SNR=16
K21A ⇓P **P** **21 42 04.3 -0.3**
baz=72,SNR=16
J24A **Dixon Ranch, L** **72.62 33** ⇓P **P** **21 42 05.5 +0.1**
baz=72
J24A ⇓P **P** **21 42 05.5 +0.1**
baz=72
J24A ⇓P **P** **21 42 05.5 +0.1**
baz=72
ESDC **Sonseca Array** **72.64 318** P **P** **21 42 05.6 +0.1**
comp=Z,7.8nm,0.7s,baz=20,slow=6.4,SNR=36
ESDC LR LR 22 15 38.6
comp=Z,1µm,21.1s,baz=40,slow=37
ESDC **Sonseca Array** **72.64 318** P **P** **21 42 05.6 +0.1**
ESLA **Sonseca Array** **72.64 318** *e*P **P** **21 42 05.7 +0.2**
comp=Z,5.5nm,1.0s
ESLA *e*PP **PP** **21 44 47.9 +1.5**
M18A **Lyman** **72.66 38** ⇓P **P** **21 42 06.0 +0.2**
baz=72
M18A ⇓P **P** **21 42 06.0 +0.2**
baz=72
M18A ⇓P **P** **21 42 06.0 +0.2**
baz=72
K22A **Casper** **72.68 35** ⇑P **P** **21 42 05.3 -0.5**
baz=72
K22A ⇑P **P** **21 42 05.3 -0.5**
baz=72
K22A ⇑P **P** **21 42 05.3 -0.5**
baz=72
N16A **Rees Ranch, Co** **72.69 39** ⇑P **P** **21 42 06.3 +0.4**
baz=72,SNR=11
N16A ⇑P **P** **21 42 06.3 +0.4**
baz=72,SNR=11
N16A ⇑P **P** **21 42 06.3 +0.4**
baz=72,SNR=11
DUG **Dugway** **72.83 40** *e*P **P** **21 42 07.9 +1.1**
DUG pmax pmax
comp=Z,24nm,1.3s
DUG MLR MLR
comp=Z,875nm,20.0s
DUG **Dugway** **72.83 40** *e*P **P** **21 42 07.9 +1.1**
comp=Z,24nm,1.3s
DUG LR LR
comp=Z,875nm,20.0s
DUG **Dugway** **72.83 40** ⇑P **P** **21 42 07.2 +0.5**
baz=73,SNR=12
DUG ⇑P **P** **21 42 07.2 +0.5**
baz=73,SNR=12
DUG ⇑P **P** **21 42 07.2 +0.5**
baz=73,SNR=12
N17A **Moffit Pass** **72.84 38** ⇓P **P** **21 42 07.3 +0.4**
baz=73
N17A ⇓P **P** **21 42 07.3 +0.4**
baz=73
N17A ⇓P **P** **21 42 07.3 +0.4**
baz=73
O15A **The Old Anders** **72.88 40** ⇓P **P** **21 42 08.1 +1.1**
baz=73
O15A ⇓P **P** **21 42 08.1 +1.1**
baz=73
O15A ⇓P **P** **21 42 08.1 +1.1**
baz=73
JLU **Jordanelle** **72.94 39** *e*P **P** **21 42 08.9 +1.4**
comp=Z,15nm,1.1s
L21A **Rawlins** **73.05 35** ⇑P **P** **21 42 08.0 -0.1**
baz=73,SNR=10
L21A ⇑P **P** **21 42 08.0 -0.1**
baz=73,SNR=10
L21A ⇑P **P** **21 42 08.0 -0.1**
baz=73,SNR=10
PVIS **Viseu** **73.08 322** *e*P **P** **21 42 08.7 +0.6**
comp=Z,76nm,1.8s
TPH **Tonopah** **73.11 44** PFAKE 21 42 20.0 +12
TPH LR LR
comp=Z,645nm,19.0s
BRSD **Miller** **73.17 29** ⇓P **P** **21 42 08.1 -0.4**
baz=73
BRSD ⇓P **P** **21 42 08.1 -0.4**
baz=73

BRSD				⇓P		P	21 42 08.1	-0.4
	baz=73							
M20A	**Sweetwater, Wa**	**73.22**	**36**	⇑P		P	21 42 09.7	+0.7
	baz=73							
M20A				⇑P		P	21 42 09.7	+0.7
	baz=73							
M20A				⇑P		P	21 42 09.7	+0.7
	baz=73							
L22A	**Ellis Ranch, M**	**73.28**	**35**	⇓P		P	21 42 09.3	-0.1
	baz=73,SNR=11							
L22A				⇓P		P	21 42 09.3	-0.1
	baz=73,SNR=11							
L22A				⇓P		P	21 42 09.3	-0.1
	baz=73,SNR=11							
O16A	**Springville**	**73.28**	**39**	⇓P		P	21 42 10.3	+0.9
	baz=73							
O16A				⇓P		P	21 42 10.3	+0.9
	baz=73							
O16A				⇓P		P	21 42 10.3	+0.9
	baz=73							
M21A	**Separation Pea**	**73.37**	**36**	⇓P		P	21 42 09.9	-0.1
	baz=73							
M21A				⇓P		P	21 42 09.9	-0.1
	baz=73							
M21A				⇓P		P	21 42 09.9	-0.1
	baz=73							
MPU	**Maple Canyon**	**73.40**	**39**	*e*P		P	21 42 11.4	+1.2
	comp=Z,69nm,2.3s							
L23A	**Garrett**	**73.42**	**34**	⇓P		P	21 42 10.2	-0.1
	baz=73							
L23A				⇓P		P	21 42 10.2	-0.1
	baz=73							
L23A				⇓P		P	21 42 10.2	-0.1
	baz=73							
N19A	**John Jarvie Ra**	**73.44**	**37**	⇑P		P	21 42 10.8	+0.5
	baz=73							
N19A				⇑P		P	21 42 10.8	+0.5
	baz=73							
N19A				⇑P		P	21 42 10.8	+0.5
	baz=73							
O17A	**Robinson Place**	**73.55**	**39**	⇑P		P	21 42 12.0	+1.0
	baz=73,SNR=10							
O17A				⇑P		P	21 42 12.0	+1.0
	baz=73,SNR=10							
O17A				⇑P		P	21 42 12.0	+1.0
	baz=73,SNR=10							
P15A	**Leamington**	**73.58**	**40**	⇓P		P	21 42 11.8	+0.6
	baz=73,SNR=8.6							
P15A				⇓P		P	21 42 11.8	+0.6
	baz=73,SNR=8.6							
P15A				⇓P		P	21 42 11.8	+0.6
	baz=73,SNR=8.6							
PCBR	**Castelo Branco**	**73.72**	**321**	*e*P		P	21 42 12.4	+0.6
	comp=Z,42nm,1.5s							
O18A	**Roosevelt**	**73.73**	**38**	⇑P		P	21 42 13.1	+1.0
	baz=73							
O18A				⇑P		P	21 42 13.1	+1.0
	baz=73							
O18A				⇑P		P	21 42 13.1	+1.0
	baz=73							
P16A	**Fountain Green**	**73.76**	**40**	⇑P		P	21 42 13.4	+1.2
	baz=74							
P16A				⇑P		P	21 42 13.4	+1.2
	baz=74							
P16A				⇑P		P	21 42 13.4	+1.2
	baz=74							
N20A	**Spence Gulch,**	**73.79**	**37**	⇓P		P	21 42 12.9	+0.4
	baz=74,SNR=21							
N20A				⇓P		P	21 42 12.9	+0.4
	baz=74,SNR=21							
N20A				⇓P		P	21 42 12.9	+0.4
	baz=74,SNR=21							
ATD	**Arta Tunnel**	**73.82**	**266**	LR		LR	22 19 56.0	
	comp=Z,311nm,18.3s,baz=31,slow=40							
O19A	**Miners Draw (B**	**73.99**	**37**	⇑P		P	21 42 14.0	+0.4
	baz=74,SNR=22							
O19A				⇑P		P	21 42 14.0	+0.4
	baz=74,SNR=22							
O19A				⇑P		P	21 42 14.0	+0.4
	baz=74,SNR=22							
GRAC	**Grapevine Rang**	**74.00**	**45**	⇑P		P	21 42 14.6	+1.1
	baz=74							
GRAC				⇑P		P	21 42 14.6	+1.1
	baz=74							
GRAC				⇑P		P	21 42 14.6	+1.1
	baz=74							
M23A	**Laramie**	**74.01**	**34**	⇑P		P	21 42 14.1	+0.4
	baz=74							
M23A				⇑P		P	21 42 14.1	+0.4
	baz=74							
M23A				⇑P		P	21 42 14.1	+0.4
	baz=74							
HNR	**Honiara**	**74.01**	**139**	LR		LR	22 13 59.2	
	comp=Z,435nm,20.7s,baz=144,slow=35							
PMRV	**Marv??o**	**74.06**	**321**	*e*LR		LR	22 14 25.0	
	comp=Z,1µm,18.0s							
N21A	**Black Mountain**	**74.09**	**36**	⇑P		P	21 42 14.4	+0.2
	baz=74,SNR=11							
N21A				⇑P		P	21 42 14.4	+0.2
	baz=74,SNR=11							
N21A				⇑P		P	21 42 14.4	+0.2
	baz=74,SNR=11							
P17A	**Butcher Ranch,**	**74.19**	**39**	⇓P		P	21 42 15.5	+0.7
	baz=74,SNR=6.9							
P17A				⇓P		P	21 42 15.5	+0.7
	baz=74,SNR=6.9							
P17A				⇓P		P	21 42 15.5	+0.7
	baz=74,SNR=6.9							
R13A	**O'Grain Ranch,**	**74.22**	**42**	⇑P		P	21 42 15.7	+0.7
	baz=74							
R13A				⇑P		P	21 42 15.7	+0.7
	baz=74							
R13A				⇑P		P	21 42 15.7	+0.7
	baz=74							
M24A	**Cheyenne**	**74.28**	**34**	⇑P		P	21 42 15.8	+0.6
	baz=74,SNR=8.3							
M24A				⇑P		P	21 42 15.8	+0.6
	baz=74,SNR=8.3							
M24A				⇑P		P	21 42 15.8	+0.6
	baz=74,SNR=8.3							
VES	**Vestal, Richgr**	**74.34**	**47**	⇑P		P	21 42 15.8	+0.4
	baz=74							
VES				⇑P		P	21 42 15.8	+0.4
	baz=74							
VES				⇑P		P	21 42 15.8	+0.4
	baz=74							
N22A	**Wattenberg Ran**	**74.39**	**35**	⇓P		P	21 42 16.2	+0.2
	baz=74							
N22A				⇓P		P	21 42 16.2	+0.2
	baz=74							
N22A				⇓P		P	21 42 16.2	+0.2
	baz=74							
ECSD	**EROS Data Cent**	**74.42**	**27**	*e*P		P	21 42 15.1	-0.8
	comp=Z,14nm,0.6s							
O20A	**White River Ci**	**74.43**	**37**	⇓P		P	21 42 16.8	+0.6
	baz=74							
O20A				⇓P		P	21 42 16.8	+0.6
	baz=74							
O20A				⇓P		P	21 42 16.8	+0.6
	baz=74							
SMMC	**Simmler**	**74.44**	**48**	⇑P		P	21 42 17.2	+1.1
	baz=74							
SMMC				⇑P		P	21 42 17.2	+1.1
	baz=74							
SMMC				⇑P		P	21 42 17.2	+1.1
	baz=74							
L27A	**T5 Ranch, Ells**	**74.45**	**32**	⇓P		P	21 42 16.5	+0.4
	baz=74							
L27A				⇓P		P	21 42 16.5	+0.4
	baz=74							
L27A				⇓P		P	21 42 16.5	+0.4
	baz=74							
N23A	**Red Feather La**	**74.46**	**35**	⇑P		P	21 42 16.9	+0.5
	baz=74							
N23A				⇑P		P	21 42 16.9	+0.5
	baz=74							
N23A				⇑P		P	21 42 16.9	+0.5
	baz=74							
M25A	**Palm-Egli Farm**	**74.54**	**33**	⇑P		P	21 42 17.2	+0.5
	baz=74							
M25A				⇑P		P	21 42 17.2	+0.5
	baz=74							
M25A				⇑P		P	21 42 17.2	+0.5
	baz=74							
Q16A	**Castle Valley**	**74.54**	**40**	⇑P		P	21 42 17.5	+0.7
	baz=74							
Q16A				⇑P		P	21 42 17.5	+0.7
	baz=74							
Q16A				⇑P		P	21 42 17.5	+0.7
	baz=74							
SRU	**San Rafael**	**74.59**	**39**	*e*P		P	21 42 17.9	+0.8
SRU				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SRU	**San Rafael**	**74.59**	**39**	*e*P		P	21 42 17.9	+0.8
	comp=Z,5.9nm,0.7s							
SRU	**San Rafael**	**74.59**	**39**	⇑P		P	21 42 17.4	+0.3
	baz=74							
SRU				⇑P		P	21 42 17.4	+0.3
	baz=74							
SRU				⇑P		P	21 42 17.4	+0.3
	baz=74							
O21A	**Pagoda**	**74.60**	**36**	⇑P		P	21 42 17.4	+0.2
	baz=74							
O21A				⇑P		P	21 42 17.4	+0.2
	baz=74							
O21A				⇑P		P	21 42 17.4	+0.2
	baz=74							
P19A	**Cripple Cowboy**	**74.64**	**38**	⇓P		P	21 42 17.9	+0.5
	baz=74,SNR=14							
P19A				⇓P		P	21 42 17.9	+0.5
	baz=74,SNR=14							
P19A				⇓P		P	21 42 17.9	+0.5
	baz=74,SNR=14							
FURC	**Furnace Creek,**	**74.66**	**45**	⇑P		P	21 42 18.5	+1.2
	baz=74							
FURC				⇑P		P	21 42 18.5	+1.2
	baz=74							
FURC				⇑P		P	21 42 18.5	+1.2
	baz=74							
Q18A	**Rafter H Ranch**	**74.73**	**39**	⇑P		P	21 42 18.1	+0.3
	baz=74							
Q18A				⇑P		P	21 42 18.1	+0.3
	baz=74							
Q18A				⇑P		P	21 42 18.1	+0.3
	baz=74							
ISA	**Isabella**	**74.74**	**46**	⇑P		P	21 42 17.9	0.0
	baz=74							
ISA				⇑P		P	21 42 17.9	0.0
	baz=74							
ISA				⇑P		P	21 42 17.9	0.0
	baz=74							
MPMC	**Manual Prospec**	**74.78**	**46**	⇓P		P	21 42 19.3	+1.1
	baz=74							
MPMC				⇓P		P	21 42 19.3	+1.1
	baz=74							
MPMC				⇓P		P	21 42 19.3	+1.1
	baz=74							
M26A	**McRoberts Ranc**	**74.78**	**33**	⇑P		P	21 42 18.6	+0.5
	baz=74							
M26A				⇑P		P	21 42 18.6	+0.5
	baz=74							
M26A				⇑P		P	21 42 18.6	+0.5
	baz=74							
R15A	**Junction**	**74.79**	**41**	⇓P		P	21 42 19.4	+1.1
	baz=74							
R15A				⇓P		P	21 42 19.4	+1.1
	baz=74							
R15A				⇓P		P	21 42 19.4	+1.1
	baz=74							
N24A	**Carr**	**74.85**	**34**	⇑P		P	21 42 19.1	+0.6
	baz=75							
N24A				⇑P		P	21 42 19.1	+0.6
	baz=75							
N24A				⇑P		P	21 42 19.1	+0.6
	baz=75							
O22A	**Kremmling**	**74.94**	**36**	⇑P		P	21 42 19.5	+0.2
	baz=75,SNR=10							
O22A				⇑P		P	21 42 19.5	+0.2
	baz=75,SNR=10							
O22A				⇑P		P	21 42 19.5	+0.2
	baz=75,SNR=10							
P20A	**De Beque**	**74.95**	**37**	⇓P		P	21 42 19.7	+0.5
	baz=75							
P20A				⇓P		P	21 42 19.7	+0.5
	baz=75							
P20A				⇓P		P	21 42 19.7	+0.5
	baz=75							
R16A	**Teasdale**	**75.00**	**40**	⇓P		P	21 42 20.8	+1.3
	baz=75,SNR=21							
R16A				⇓P		P	21 42 20.8	+1.3
	baz=75,SNR=21							
R16A				⇓P		P	21 42 20.8	+1.3
	baz=75,SNR=21							
EVO	**Evora**	**75.08**	**321**	*e*P		P	21 42 19.9	+0.2
	comp=Z,53nm,2.2s							
EVO	**Evora**	**75.08**	**321**	*e*P		P	21 42 18.6	-1.1
	comp=Z,16nm,0.8s							
EVO				*e*R				
	comp=Z,2µm,22.8s							
O23A	**Lake Granby, G**	**75.09**	**35**	⇑P		P	21 42 21.0	+0.8
	baz=75,SNR=9.2							
O23A				⇑P		P	21 42 21.0	+0.8
	baz=75,SNR=9.2							
O23A				⇑P		P	21 42 21.0	+0.8
	baz=75,SNR=9.2							
R17A	**Hanksville Air**	**75.15**	**39**	⇑P		P	21 42 20.5	+0.3
	baz=75							
R17A				⇑P		P	21 42 20.5	+0.3
	baz=75							
R17A				⇑P		P	21 42 20.5	+0.3
	baz=75							
Q19A	**Hogan Spring (**	**75.16**	**38**	⇑P		P	21 42 20.7	+0.4
	baz=75,SNR=12							
Q19A				⇑P		P	21 42 20.7	+0.4
	baz=75,SNR=12							
Q19A				⇑P		P	21 42 20.7	+0.4
	baz=75,SNR=12							
LRMC	**Laurel Mountai**	**75.21**	**46**	⇓P		P	21 42 21.3	+0.7
	baz=75							
LRMC				⇓P		P	21 42 21.3	+0.7
	baz=75							
LRMC				⇓P		P	21 42 21.3	+0.7
	baz=75							
P21A	**Newcastle**	**75.23**	**37**	⇓P		P	21 42 21.6	+0.7
	baz=75,SNR=8.6							
P21A				⇓P		P	21 42 21.6	+0.7
	baz=75,SNR=8.6							
P21A				⇓P		P	21 42 21.6	+0.7
	baz=75,SNR=8.6							
P22A	**Eagle**	**75.39**	**36**	⇑P		P	21 42 22.6	+0.8
	baz=75,SNR=9.1							
P22A				⇑P		P	21 42 22.6	+0.8
	baz=75,SNR=9.1							
P22A				⇑P		P	21 42 22.6	+0.8
	baz=75,SNR=9.1							
FITZ	**Fitzroy Crossi**	**75.42**	**175**	LR		LR	22 17 16.0	
	comp=Z,314nm,20.6s,baz=260,slow=37							
FITZ	**Fitzroy Crossi**	**75.42**	**175**	*e*P		P	21 42 20.1	-1.6
	comp=Z,33nm,0.9s							
FITZ	**Fitzroy Crossi**	**75.42**	**175**	*e*P		P	21 42 19.9	-1.8
	comp=Z,21nm,0.9s							
R18A	**Canyonlands Na**	**75.46**	**39**	⇑P		P	21 42 22.3	+0.2
	baz=75							
R18A				⇑P		P	21 42 22.3	+0.2
	baz=75							
R18A				⇑P		P	21 42 22.3	+0.2
	baz=75							
S16A	**Weppner Ranch,**	**75.47**	**40**	⇓P		P	21 42 23.1	+0.9
	baz=75,SNR=13							
S16A				⇓P		P	21 42 23.1	+0.9
	baz=75,SNR=13							
S16A				⇓P		P	21 42 23.1	+0.9
	baz=75,SNR=13							
PBEJ	**Beja**	**75.49**	**320**	*e*P		P	21 42 22.6	+0.6
	comp=Z,42nm,1.4s							
N27A	**Anderson Farm,**	**75.56**	**32**	⇓P		P	21 42 23.0	+0.4
	baz=75							
N27A				⇓P		P	21 42 23.0	+0.4
	baz=75							
N27A				⇓P		P	21 42 23.0	+0.4
	baz=75							
ISCO	**Idaho Springs**	**75.56**	**35**	*e*P		P	21 42 23.6	+0.7
ISCO				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ISCO				MLR		MLR		
	comp=Z,1µm,21.0s							
ISCO	**Idaho Springs**	**75.56**	**35**	*e*P		P	21 42 23.6	+0.7
	comp=Z,8.7nm,0.7s							
ISCO				LR		LR		
	comp=Z,1µm,21.0s							
ISCO	**Idaho Springs**	**75.56**	**35**	⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=18							
ISCO				⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=18							
ISCO				⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=18							
OGNE	**Ogallala**	**75.58**	**32**	⇓P		P	21 42 23.1	+0.4
	baz=75							
OGNE				⇓P		P	21 42 23.1	+0.4
	baz=75							
OGNE				⇓P		P	21 42 23.1	+0.4
	baz=75							
EDW2	**Edwards Air Fo**	**75.62**	**46**	⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=6.7							
EDW2				⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=6.7							
EDW2				⇓P		P	21 42 23.6	+0.7
	baz=75,SNR=6.7							
SMCO	**Snowmass**	**75.70**	**36**	*e*P		P	21 42 24.6	+0.8
	comp=Z,26nm,1.0s							
GSC	**Goldstone**	**75.70**	**45**	⇓P		P	21 42 24.3	+0.8
	baz=76							
GSC				⇓P		P	21 42 24.3	+0.8
	baz=76							
GSC				⇓P		P	21 42 24.3	+0.8
	baz=76							
O25A	**Wiggins**	**75.73**	**34**	⇑P		P	21 42 24.1	+0.5
	baz=75							
O25A				⇑P		P	21 42 24.1	+0.5
	baz=75							
O25A				⇑P		P	21 42 24.1	+0.5
	baz=75							
R19A	**Curley Farm, L**	**75.76**	**38**	⇑P		P	21 42 24.3	+0.4
	baz=76,SNR=12							
R19A				⇑P		P	21 42 24.3	+0.4
	baz=76,SNR=12							
R19A				⇑P		P	21 42 24.3	+0.4
	baz=76,SNR=12							
PV04	**Paradox Valley**	**75.78**	**38**	*e*P		P	21 42 25.0	+1.0
Q21A	**Lamborn Mesa,**	**75.82**	**37**	⇑P		P	21 42 24.7	+0.5
	baz=76							
Q21A				⇑P		P	21 42 24.7	+0.5
	baz=76							
Q21A				⇑P		P	21 42 24.7	+0.5
	baz=76							
S17A	**Black Ridge (B**	**75.82**	**40**	⇑P		P	21 42 24.7	+0.5
	baz=76							
S17A				⇑P		P	21 42 24.7	+0.5
	baz=76							
S17A				⇑P		P	21 42 24.7	+0.5
	baz=76							
P23A	**Jefferson**	**75.88**	**35**	⇓P		P	21 42 25.4	+0.7
	baz=76,SNR=13							
P23A				⇓P		P	21 42 25.4	+0.7
	baz=76,SNR=13							
P23A				⇓P		P	21 42 25.4	+0.7
	baz=76,SNR=13							
PCVE	**Castro Verde**	**75.90**	**320**	*e*P		P	21 42 24.9	+0.5
	comp=Z,67nm,1.7s							
PVAQ	**Vaqueiros**	**75.99**	**320**	*e*P		P	21 42 25.4	+0.5
	comp=Z,74nm,1.6s							
PVAQ				*e*LR		LR	22 12 53.1	
	comp=Z,1µm,20.0s							
Q22A	**Crested Butte,**	**76.01**	**36**	⇑P		P	21 42 25.9	+0.5
	baz=76							
Q22A				⇑P		P	21 42 25.9	+0.5
	baz=76							
Q22A				⇑P		P	21 42 25.9	+0.5
	baz=76							
S18A	**Hurst Farm, Bl**	**76.05**	**39**	⇓P		P	21 42 25.7	+0.1
	baz=76,SNR=14							
S18A				⇓P		P	21 42 25.7	+0.1
	baz=76,SNR=14							
S18A				⇓P		P	21 42 25.7	+0.1
	baz=76,SNR=14							
R20A	**Redvale**	**76.14**	**38**	⇑P		P	21 42 26.6	+0.5
	baz=76,SNR=9.5							
R20A				⇑P		P	21 42 26.6	+0.5
	baz=76,SNR=9.5							
R20A				⇑P		P	21 42 26.6	+0.5
	baz=76,SNR=9.5							
R21A	**Cimarron**	**76.25**	**37**	⇓P		P	21 42 27.3	+0.6
	baz=76,SNR=8.4							
R21A				⇓P		P	21 42 27.3	+0.6
	baz=76,SNR=8.4							
R21A				⇓P		P	21 42 27.3	+0.6
	baz=76,SNR=8.4							
P25A	**Willow Gulch B**	**76.27**	**34**	⇓P		P	21 42 27.2	+0.5
	baz=76							
P25A				⇓P		P	21 42 27.2	+0.5
	baz=76							
P25A				⇓P		P	21 42 27.2	+0.5
	baz=76							
S19A	**Harvey Farm, M**	**76.29**	**39**	⇑P		P	21 42 27.0	0.0
	baz=76							
S19A				⇑P		P	21 42 27.0	0.0
	baz=76							
S19A				⇑P		P	21 42 27.0	0.0
	baz=76							
HEC	**Hector,Ludlow**	**76.30**	**45**	⇓P		P	21 42 27.9	+1.0
	baz=76,SNR=6.6							
HEC				⇓P		P	21 42 27.9	+1.0
	baz=76,SNR=6.6							
HEC				⇓P		P	21 42 27.9	+1.0
	baz=76,SNR=6.6							
BFSC	**Mount Baldy Ra**	**76.31**	**47**	⇑P		P	21 42 27.7	+0.7
	baz=76							
BFSC				⇑P		P	21 42 27.7	+0.7
	baz=76							
BFSC				⇑P		P	21 42 27.7	+0.7
	baz=76							
T17A	**Navajo Res., N**	**76.39**	**40**	⇑P		P	21 42 27.5	0.0
	baz=76							
T17A				⇑P		P	21 42 27.5	0.0
	baz=76							
T17A				⇑P		P	21 42 27.5	0.0
	baz=76							
Q24A	**Divide**	**76.47**	**35**	⇓P		P	21 42 28.4	+0.3
	baz=76							
Q24A				⇓P		P	21 42 28.4	+0.3
	baz=76							
Q24A				⇓P		P	21 42 28.4	+0.3
	baz=76							
P26A	**Davis Ranch, A**	**76.47**	**34**	⇓P		P	21 42 27.9	0.0
	baz=76							
P26A				⇓P		P	21 42 27.9	0.0
	baz=76							
P26A				⇓P		P	21 42 27.9	0.0
	baz=76							
S20A	**Disappointment**	**76.47**	**38**	⇑P		P	21 42 28.6	+0.6
	baz=76,SNR=14							
S20A				⇑P		P	21 42 28.6	+0.6
	baz=76,SNR=14							
S20A				⇑P		P	21 42 28.6	+0.6
	baz=76,SNR=14							
LDFC	**Landfair**	**76.55**	**44**	*e*P		P	21 42 29.6	+1.3
T18A	**Mexican Hat**	**76.59**	**39**	⇑P		P	21 42 28.7	+0.2
	baz=76,SNR=12							
T18A				⇑P		P	21 42 28.7	+0.2
	baz=76,SNR=12							
T18A				⇑P		P	21 42 28.7	+0.2
	baz=76,SNR=12							
GMRC	**Granite Mounta**	**76.60**	**45**	⇓P		P	21 42 29.3	+0.7
	baz=76,SNR=5.9							
GMRC				⇓P		P	21 42 29.3	+0.7
	baz=76,SNR=5.9							
GMRC				⇓P		P	21 42 29.3	+0.7
	baz=76,SNR=5.9							
R22A	**Saguache, Gunn**	**76.64**	**37**	⇓P		P	21 42 29.9	+0.9
	baz=76							
R22A				⇓P		P	21 42 29.9	+0.9
	baz=76							
R22A				⇓P		P	21 42 29.9	+0.9
	baz=76							
Q25A	**Bedland, Calha**	**76.80**	**34**	⇑P		P	21 42 30.1	+0.3
	baz=76							
Q25A				⇑P		P	21 42 30.1	+0.3
	baz=76							
Q25A				⇑P		P	21 42 30.1	+0.3
	baz=76							
U17A	**Shonto**	**76.80**	**40**	⇓P		P	21 42 30.3	+0.5
	baz=76,SNR=11							
U17A				⇓P		P	21 42 30.3	+0.5
	baz=76,SNR=11							
U17A				⇓P		P	21 42 30.3	+0.5
	baz=76,SNR=11							
S21A	**Coal Bank Pass**	**76.81**	**38**	⇑P		P	21 42 30.8	+0.8
	baz=76,SNR=8.3							
S21A				⇑P		P	21 42 30.8	+0.8
	baz=76,SNR=8.3							
S21A				⇑P		P	21 42 30.8	+0.8
	baz=76,SNR=8.3							
R23A	**Moffat**	**76.97**	**36**	⇓P		P	21 42 31.3	+0.5
	baz=77							

R23A				⇓P		P	21 42 31.3	+0.5	
	baz=77								
R23A				⇓P		P	21 42 31.3	+0.5	
	baz=77								
W13A	**Hualapai Mount**	**76.99**	**43**	⇑P		P	21 42 31.3	+0.4	
	baz=77,SNR=6.3								
W13A				⇑P		P	21 42 31.3	+0.4	
	baz=77,SNR=6.3								
W13A				⇑P		P	21 42 31.3	+0.4	
	baz=77,SNR=6.3								
MVCO	**Mesa Verde**	**76.99**	**38**	*e*P		P	21 42 31.9	+1.0	
	comp=Z,22nm,0.8s								
MVCO	**Mesa Verde**	**76.99**	**38**	⇑P		P	21 42 31.6	+0.6	
	baz=77,SNR=9.0								
MVCO				⇑P		P	21 42 31.6	+0.6	
	baz=77,SNR=9.0								
MVCO				⇑P		P	21 42 31.6	+0.6	
	baz=77,SNR=9.0								
U16A	**Tuba City**	**77.05**	**41**	⇓P		P	21 42 31.5	+0.3	
	baz=77,SNR=11								
U16A				⇓P		P	21 42 31.5	+0.3	
	baz=77,SNR=11								
U16A				⇓P		P	21 42 31.5	+0.3	
	baz=77,SNR=11								
S22A	**4UR Ranch, Cre**	**77.05**	**37**	⇓P		P	21 42 31.6	+0.3	
	baz=77								
S22A				⇓P		P	21 42 31.6	+0.3	
	baz=77								
S22A				⇓P		P	21 42 31.6	+0.3	
	baz=77								
R24A	**Sanders Place,**	**77.16**	**35**	⇑P		P	21 42 32.0	+0.2	
	baz=77								
R24A				⇑P		P	21 42 32.0	+0.2	
	baz=77								
R24A				⇑P		P	21 42 32.0	+0.2	
	baz=77								
T19A	**Beclabito**	**77.16**	**39**	⇑P		P	21 42 32.0	+0.2	
	baz=77,SNR=8.7								
T19A				⇑P		P	21 42 32.0	+0.2	
	baz=77,SNR=8.7								
T19A				⇑P		P	21 42 32.0	+0.2	
	baz=77,SNR=8.7								
BELC	**Belle Mtn. Jos**	**77.16**	**45**	⇓P		P	21 42 32.5	+0.7	
	baz=77								
BELC				⇓P		P	21 42 32.5	+0.7	
	baz=77								
BELC				⇓P		P	21 42 32.5	+0.7	
	baz=77								
KSCO	**Kaye Shedlock'**	**77.19**	**33**	⇓P		P	21 42 32.2	+0.3	
	baz=77								
KSCO				⇓P		P	21 42 32.2	+0.3	
	baz=77								
KSCO				⇓P		P	21 42 32.2	+0.3	
	baz=77								
U18A	**Rough Rock, Ch**	**77.24**	**40**	⇓P		P	21 42 33.0	+0.7	
	baz=77								
U18A				⇓P		P	21 42 33.0	+0.7	
	baz=77								
U18A				⇓P		P	21 42 33.0	+0.7	
	baz=77								
PFO	**Pinyon Flat Ob**	**77.33**	**46**	⇑P		P	21 42 33.1	+0.3	
	baz=77								
PFO				⇑P		P	21 42 33.1	+0.3	
	baz=77								
PFO				⇑P		P	21 42 33.1	+0.3	
	baz=77								
IRM	**Iron Mountain**	**77.35**	**45**	⇑P		P	21 42 33.3	+0.6	
	baz=77,SNR=5.5								
IRM				⇑P		P	21 42 33.3	+0.6	
	baz=77,SNR=5.5								
IRM				⇑P		P	21 42 33.3	+0.6	
	baz=77,SNR=5.5								
LONY	**Lake Ozonia**	**77.45**	**11**	*e*P		P	21 42 33.5	+0.4	
	comp=Z,26nm,1.3s								
SDCO	**Great Sand Dun**	**77.48**	**36**	PFAKE			21 42 50.0	+16	
SDCO				LR		LR			
	comp=Z,967nm,20.0s								
SDCO	**Great Sand Dun**	**77.48**	**36**	⇑P		P	21 42 34.1	+0.4	
	baz=77								
SDCO				⇑P		P	21 42 34.1	+0.4	
	baz=77								
SDCO				⇑P		P	21 42 34.1	+0.4	
	baz=77								
SDCO				⇑P		P	21 42 34.1	+0.4	
	baz=77								
SDCO				⇑P		P	21 42 34.1	+0.4	
	baz=77								
R25A	**Fountain Ranch**	**77.49**	**35**	⇓P		P	21 42 33.9	+0.3	
	baz=77								
R25A				⇓P		P	21 42 33.9	+0.3	
	baz=77								
R25A				⇓P		P	21 42 33.9	+0.3	
	baz=77								
T21A	**Navajo Lake**	**77.51**	**38**	⇓P		P	21 42 34.1	+0.3	
	baz=77								
T21A				⇓P		P	21 42 34.1	+0.3	
	baz=77								
T21A				⇓P		P	21 42 34.1	+0.3	
	baz=77								
WUAZ	**Wupatki**	**77.52**	**41**	*e*P		P	21 42 35.0	+1.1	
	comp=Z,14nm,1.2s								
WUAZ	**Wupatki**	**77.52**	**41**	⇓P		P	21 42 34.6	+0.8	
	baz=77								
WUAZ				⇓P		P	21 42 34.6	+0.8	
	baz=77								
WUAZ				⇓P		P	21 42 34.6	+0.8	
	baz=77								
U19A	**Dine' College,**	**77.58**	**39**	⇓P		P	21 42 34.9	+0.7	
	baz=77								
U19A				⇓P		P	21 42 34.9	+0.7	
	baz=77								
U19A				⇓P		P	21 42 34.9	+0.7	
	baz=77								
PDMCI	**Parker Dam,Lak**	**77.60**	**44**	⇓P		P	21 42 34.6	+0.6	
	baz=77								
PDMCI				⇓P		P	21 42 34.6	+0.6	
	baz=77								
PDMCI				⇓P		P	21 42 34.6	+0.6	
	baz=77								
R26A	**Arlington**	**77.60**	**34**	⇑P		P	21 42 34.4	+0.2	
	baz=77,SNR=12								
R26A				⇑P		P	21 42 34.4	+0.2	
	baz=77,SNR=12								
R26A				⇑P		P	21 42 34.4	+0.2	
	baz=77,SNR=12								
V17A	**Tonalea, Kykot**	**77.64**	**41**	⇓P		P	21 42 35.1	+0.7	
	baz=77,SNR=12								
V17A				⇓P		P	21 42 35.1	+0.7	
	baz=77,SNR=12								
V17A				⇓P		P	21 42 35.1	+0.7	
	baz=77,SNR=12								
S24A	**Houchin Ranch,**	**77.67**	**36**	⇑P		P	21 42 35.0	+0.3	
	baz=77,SNR=6.9								
S24A				⇑P		P	21 42 35.0	+0.3	
	baz=77,SNR=6.9								
S24A				⇑P		P	21 42 35.0	+0.3	
	baz=77,SNR=6.9								
BC3	**Big Chuckawall**	**77.68**	**45**	⇑P		P	21 42 35.4	+0.7	
	baz=77								
BC3				⇑P		P	21 42 35.4	+0.7	
	baz=77								
BC3				⇑P		P	21 42 35.4	+0.7	
	baz=77								
T22A	**Edith**	**77.70**	**37**	⇑P		P	21 42 35.4	+0.5	
	baz=77								
T22A				⇑P		P	21 42 35.4	+0.5	
	baz=77								
T22A				⇑P		P	21 42 35.4	+0.5	
	baz=77								
R27A	**Eads**	**77.81**	**34**	⇓P		P	21 42 35.5	+0.2	
	baz=78								
R27A				⇓P		P	21 42 35.5	+0.2	
	baz=78								
R27A				⇓P		P	21 42 35.5	+0.2	
	baz=78								
V18A	**Ganado**	**77.86**	**40**	⇓P		P	21 42 36.2	+0.5	
	baz=78								
V18A				⇓P		P	21 42 36.2	+0.5	
	baz=78								
V18A				⇓P		P	21 42 36.2	+0.5	
	baz=78								
S25A	**Robets Cordova**	**77.89**	**35**	⇑P		P	21 42 35.7	-0.2	
	baz=78,SNR=6.9								
S25A				⇑P		P	21 42 35.7	-0.2	
	baz=78,SNR=6.9								
S25A				⇑P		P	21 42 35.7	-0.2	
	baz=78,SNR=6.9								
Y12C	**Blythe**	**77.95**	**44**	⇑P		P	21 42 36.9	+0.9	
	baz=78								
Y12C				⇑P		P	21 42 36.9	+0.9	
	baz=78								
Y12C				⇑P		P	21 42 36.9	+0.9	
	baz=78								
T23A	**Casias Ranch,**	**77.96**	**37**	⇓P		P	21 42 36.9	+0.6	
	baz=78								
T23A				⇓P		P	21 42 36.9	+0.6	
	baz=78								
T23A				⇓P		P	21 42 36.9	+0.6	
	baz=78								
WRAB	**Tennant Creek**	**77.98**	**167**	*e*P		P	21 42 34.3	-1.8	
WRAB				pmax		pmax			
	comp=Z,19nm,0.9s								
WRAB				MLR		MLR			
	comp=Z,760nm,21.0s								
WRAB	**Tennant Creek**	**77.98**	**167**	*e*P		P	21 42 34.2	-1.8	
	comp=Z,19nm,0.9s								
WRAB				LR		LR			
	comp=Z,760nm,21.0s								
WRAB	**Tennant Creek**	**77.98**	**167**	P		P	21 42 34.0	-2.1	
	comp=Z,123nm,0.7s,SNR=14								
U21A	**Nageezi**	**77.98**	**38**	⇓P		P	21 42 37.1	+0.6	
	baz=78								
U21A				⇓P		P	21 42 37.1	+0.6	
	baz=78								
U21A				⇓P		P	21 42 37.1	+0.6	
	baz=78								
MONP	**Monument Peak**	**77.98**	**46**	⇑P		P	21 42 37.3	+0.9	
	baz=78								
MONP				⇑P		P	21 42 37.3	+0.9	
	baz=78								
MONP				⇑P		P	21 42 37.3	+0.9	
	baz=78								
WRA	**Warramunga Arr**	**77.98**	**167**	P		P	21 42 34.3	-1.8	
	comp=Z,11nm,0.6s,baz=351,slow=6.5,SNR=54								
WRA				LR		LR	22 16 22.9		
	comp=Z,425nm,20.9s,baz=0.0,slow=35								
WRA	**Warramunga Arr**	**77.98**	**167**	P		P	21 42 34.3	-1.8	
WRA	**Warramunga Arr**	**77.98**	**167**	P		P	21 42 34.3	-1.8	
WB2	**Warramunga Arr**	**77.99**	**167**	*e*P		P	21 42 33.7	-2.5	
MDV	**Middlebury**	**78.21**	**10**	*e*P		P	21 42 37.9	+0.7	
CBKS	**Cedar Bluff**	**78.21**	**31**	⇑P		P	21 42 37.3	-0.1	
	baz=78								
CBKS				⇑P		P	21 42 37.3	-0.1	
	baz=78								
CBKS				⇑P		P	21 42 37.3	-0.1	
	baz=78								
CBKS				⇑P		P	21 42 37.3	-0.1	
	baz=78								
CBKS				⇑P		P	21 42 37.3	-0.1	
	baz=78								
S26A	**Kim**	**78.22**	**34**	⇓P		P	21 42 37.8	+0.1	
	baz=78,SNR=7.0								
S26A				⇓P		P	21 42 37.8	+0.1	
	baz=78,SNR=7.0								
S26A				⇓P		P	21 42 37.8	+0.1	
	baz=78,SNR=7.0								
T24A	**Torres, Weston**	**78.24**	**36**	⇑P		P	21 42 38.2	+0.3	
	baz=78								
T24A				⇑P		P	21 42 38.2	+0.3	
	baz=78								
T24A				⇑P		P	21 42 38.2	+0.3	
	baz=78								
V20A	**Brimhall**	**78.28**	**39**	⇑P		P	21 42 38.2	+0.1	
	baz=78								
V20A				⇑P		P	21 42 38.2	+0.1	
	baz=78								
V20A				⇑P		P	21 42 38.2	+0.1	
	baz=78								
DVTC	**Desert V Tower**	**78.31**	**46**	⇓P		P	21 42 39.1	+0.9	
	baz=78								
DVTC				⇓P		P	21 42 39.1	+0.9	
	baz=78								
DVTC				⇓P		P	21 42 39.1	+0.9	
	baz=78								
Y14A	**Wickenburg**	**78.35**	**43**	⇑P		P	21 42 39.2	+0.9	
	baz=78								
Y14A				⇑P		P	21 42 39.2	+0.9	
	baz=78								
Y14A				⇑P		P	21 42 39.2	+0.9	
	baz=78								
MBWA	**Marble Bar**	**78.36**	**181**	PFAKE			21 42 50.0	+12	
MBWA				LR		LR			
	comp=Z,428nm,21.0s								
T25A	**Trinidad**	**78.38**	**35**	⇓P		P	21 42 38.1	-0.5	
	baz=78								
T25A				⇓P		P	21 42 38.1	-0.5	
	baz=78								
T25A				⇓P		P	21 42 38.1	-0.5	
	baz=78								
GLA	**Glamis**	**78.45**	**45**	⇑P		P	21 42 39.7	+0.8	
	baz=78								
GLA				⇑P		P	21 42 39.7	+0.8	
	baz=78								
GLA				⇑P		P	21 42 39.7	+0.8	
	baz=78								
W18A	**Petrified Fore**	**78.46**	**40**	⇓P		P	21 42 39.7	+0.6	
	baz=78								
W18A				⇓P		P	21 42 39.7	+0.6	
	baz=78								
W18A				⇓P		P	21 42 39.7	+0.6	
	baz=78								
X16A	**Lo Mia Camp, P**	**78.49**	**42**	⇑P		P	21 42 39.8	+0.5	
	baz=78								
X16A				⇑P		P	21 42 39.8	+0.5	
	baz=78								
X16A				⇑P		P	21 42 39.8	+0.5	
	baz=78								
U23A	**El Rito**	**78.55**	**37**	⇑P		P	21 42 40.6	+1.0	
	baz=78								
U23A				⇑P		P	21 42 40.6	+1.0	
	baz=78								
U23A				⇑P		P	21 42 40.6	+1.0	
	baz=78								
V21A	**Milan**	**78.55**	**38**	⇓P		P	21 42 40.0	+0.4	
	baz=78								
V21A				⇓P		P	21 42 40.0	+0.4	
	baz=78								
V21A				⇓P		P	21 42 40.0	+0.4	
	baz=78								
W19A	**Sanders**	**78.59**	**40**	⇓P		P	21 42 40.8	+1.0	
	baz=78								
W19A				⇓P		P	21 42 40.8	+1.0	
	baz=78								
W19A				⇓P		P	21 42 40.8	+1.0	
	baz=78								
T26A	**Comanche Natio**	**78.60**	**35**	⇑P		P	21 42 39.7	-0.1	
	baz=78								
T26A				⇑P		P	21 42 39.7	-0.1	
	baz=78								
T26A				⇑P		P	21 42 39.7	-0.1	
	baz=78								
V22A	**San Miguel Ran**	**78.70**	**38**	⇑P		P	21 42 40.9	+0.5	
	baz=78								
V22A				⇑P		P	21 42 40.9	+0.5	
	baz=78								
V22A				⇑P		P	21 42 40.9	+0.5	
	baz=78								
Z13A	**Yuma Proving G**	**78.76**	**44**	⇑P		P	21 42 41.4	+0.9	
	baz=78,SNR=7.5								
Z13A				⇑P		P	21 42 41.4	+0.9	
	baz=78,SNR=7.5								
Z13A				⇑P		P	21 42 41.4	+0.9	
	baz=78,SNR=7.5								
KSU1	**Kansas State U**	**78.78**	**29**	*e*P		P	21 42 39.8	-0.7	
W20A	**Ramah**	**78.88**	**39**	⇑P		P	21 42 41.5	+0.1	
	baz=79								
W20A				⇑P		P	21 42 41.5	+0.1	
	baz=79								
W20A				⇑P		P	21 42 41.5	+0.1	
	baz=79								
Z14A	**Wintersburg**	**78.88**	**43**	⇑P		P	21 42 41.9	+0.7	
	baz=79								
Z14A				⇑P		P	21 42 41.9	+0.7	
	baz=79								
Z14A				⇑P		P	21 42 41.9	+0.7	
	baz=79								
T27A	**Campo**	**78.97**	**34**	⇓P		P	21 42 41.6	-0.2	
	baz=79								
T27A				⇓P		P	21 42 41.6	-0.2	
	baz=79								
T27A				⇓P		P	21 42 41.6	-0.2	
	baz=79								
U25A	**Circle Dot Ran**	**79.06**	**36**	⇓P		P	21 42 42.4	0.0	
	baz=79								
U25A				⇓P		P	21 42 42.4	0.0	
	baz=79								
U25A				⇓P		P	21 42 42.4	0.0	
	baz=79								
T28A	**Walsh**	**79.10**	**34**	⇑P		P	21 42 42.3	-0.2	
	baz=79								
T28A				⇑P		P	21 42 42.3	-0.2	
	baz=79								
T28A				⇑P		P	21 42 42.3	-0.2	
	baz=79								
113A	**Mohawk Valley,**	**79.11**	**44**	⇓P		P	21 42 42.8	+0.4	
	baz=79								
113A				⇓P		P	21 42 42.8	+0.4	
	baz=79								
113A				⇓P		P	21 42 42.8	+0.4	
	baz=79								
X19A	**St. Johns**	**79.24**	**40**	⇑P		P	21 42 44.4	+1.0	
	baz=79								
X19A				⇑P		P	21 42 44.4	+1.0	
	baz=79								
X19A				⇑P		P	21 42 44.4	+1.0	
	baz=79								
U26A	**Atchley Ranch,**	**79.27**	**35**	⇑P		P	21 42 43.8	+0.3	
	baz=79								
U26A				⇑P		P	21 42 43.8	+0.3	
	baz=79								
U26A				⇑P		P	21 42 43.8	+0.3	
	baz=79								
V24A	**Rampart Ranch,**	**79.40**	**37**	⇓P		P	21 42 44.4	+0.1	
	baz=79								
V24A				⇓P		P	21 42 44.4	+0.1	
	baz=79								
V24A				⇓P		P	21 42 44.4	+0.1	
	baz=79								
114A	**Black Gap (USA**	**79.45**	**44**	⇓P		P	21 42 45.6	+1.2	
	baz=79,SNR=7.3								
114A				⇓P		P	21 42 45.6	+1.2	
	baz=79,SNR=7.3								
114A				⇓P		P	21 42 45.6	+1.2	
	baz=79,SNR=7.3								
V25A	**Rancho No Teng**	**79.51**	**36**	⇑P		P	21 42 44.7	-0.1	
	baz=79								
V25A				⇑P		P	21 42 44.7	-0.1	
	baz=79								
V25A				⇑P		P	21 42 44.7	-0.1	
	baz=79								
Y18A	**Canyon Day Jun**	**79.57**	**41**	⇓P		P	21 42 45.0	-0.2	
	baz=79								
Y18A				⇓P		P	21 42 45.0	-0.2	
	baz=79								
Y18A				⇓P		P	21 42 45.0	-0.2	
	baz=79								
W23A	**Werner Place,**	**79.63**	**37**	⇑P		P	21 42 45.5	-0.1	
	baz=79								
W23A				⇑P		P	21 42 45.5	-0.1	
	baz=79								
W23A				⇑P		P	21 42 45.5	-0.1	
	baz=79								
Y19A	**Nutrioso**	**79.68**	**40**	⇑P		P	21 42 46.5	+0.7	
	baz=79								
Y19A				⇑P		P	21 42 46.5	+0.7	
	baz=79								
Y19A				⇑P		P	21 42 46.5	+0.7	
	baz=79								
BINY	**Binghamton**	**79.69**	**13**	*e*P		P	21 42 44.7	-0.7	
	comp=Z,16nm,0.9s								
ANMO	**Albuquerque**	**79.72**	**38**	*e*P		P	21 42 47.3	+1.3	
ANMO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ANMO				MLR		MLR			
	comp=Z,817nm,19.0s								
ANMO	**Albuquerque**	**79.72**	**38**	*e*P		P	21 42 47.3	+1.3	
	comp=Z,6.0nm,1.1s								
ANMO				LR		LR			
	comp=Z,817nm,19.0s								
SFIN	**Scholer Farm**	**79.73**	**21**	⇑P		P	21 42 45.5	-0.2	
	baz=79								
SFIN				⇑P		P	21 42 45.5	-0.2	
	baz=79								
SFIN				⇑P		P	21 42 45.5	-0.2	
	baz=79								
X21A	**Alamocita Cree**	**79.74**	**39**	⇑P		P	21 42 47.0	+0.8	
	baz=80								
X21A				⇑P		P	21 42 47.0	+0.8	
	baz=80								
X21A				⇑P		P	21 42 47.0	+0.8	
	baz=80								
Y20A	**Horse Springs,**	**80.03**	**40**	⇓P		P	21 42 48.3	+0.6	
	baz=80								
Y20A				⇓P		P	21 42 48.3	+0.6	
	baz=80								
Y20A				⇓P		P	21 42 48.3	+0.6	
	baz=80								
W25A	**X Bar L Ranch,**	**80.13**	**36**	⇑P		P	21 42 48.2	+0.1	
	baz=80								
W25A				⇑P		P	21 42 48.2	+0.1	
	baz=80								
W25A				⇑P		P	21 42 48.2	+0.1	
	baz=80								
Y21A	**Point of Rocks**	**80.18**	**39**	⇓P		P	21 42 48.7	+0.2	
	baz=80								
Y21A				⇓P		P	21 42 48.7	+0.2	
	baz=80								
Y21A				⇓P		P	21 42 48.7	+0.2	
	baz=80								
CTA	**Charters Tower**	**80.19**	**156**	LR		LR	22 15 10.3		
	comp=Z,546nm,21.3s,baz=287,slow=33								
CTAO	**Charters Tower**	**80.19**	**156**	*e*P		P	21 42 50.1	+1.9	
CTAO				pmax		pmax			
	comp=Z,15nm,1.0s								
CTAO				MLR		MLR			
	comp=Z,825nm,22.0s								
CTAO	**Charters Tower**	**80.19**	**156**	*e*P		P	21 42 50.1	+1.9	
	comp=Z,15nm,1.0s								
CTAO				LR		LR			
	comp=Z,825nm,22.0s								
LPM	**Los Pinos Moun**	**80.25**	**38**	*e*P		P	21 42 50.0	+1.2	
W26A	**Owens Ranch, T**	**80.47**	**36**	⇑P		P	21 42 50.7	+0.7	
	baz=80								
W26A				⇑P		P	21 42 50.7	+0.7	
	baz=80								
W26A				⇑P		P	21 42 50.7	+0.7	
	baz=80								
Y22A	**Socorro**	**80.48**	**39**	⇑P		P	21 42 51.1	+1.0	
	baz=80								
Y22A				⇑P		P	21 42 51.1	+1.0	
	baz=80								
Y22A				⇑P		P	21 42 51.1	+1.0	
	baz=80								
Z20A	**Nine Sixteen R**	**80.67**	**40**	⇓P		P	21 42 52.1	+1.0	
	baz=80,SNR=8.8								
Z20A				⇓P		P	21 42 52.1	+1.0	
	baz=80,SNR=8.8								
Z20A				⇓P		P	21 42 52.1	+1.0	
	baz=80,SNR=8.8								
X25A	**Clemmons Ranch**	**80.70**	**37**	⇑P		P	21 42 52.1	+0.9	
	baz=80								
X25A				⇑P		P	21 42 52.1	+0.9	
	baz=80								
X25A				⇑P		P	21 42 52.1	+0.9	
	baz=80								
Y23A	**Lovelace Mesa,**	**80.79**	**38**	⇓P		P	21 42 52.9	+1.1	
	baz=80,SNR=6.2								
Y23A				⇓P		P	21 42 52.9	+1.1	
	baz=80,SNR=6.2								
Y23A				⇓P		P	21 42 52.9	+1.1	
	baz=80,SNR=6.2								
W28A	**Vega**	**80.79**	**34**	⇑P		P	21 42 52.5	+0.9	
	baz=80								
W28A				⇑P		P	21 42 52.5	+0.9	
	baz=80								
W28A				⇑P		P	21 42 52.5	+0.9	
	baz=80								
Z21A	**St. Cloud Mine**	**80.81**	**39**	⇑P		P	21 42 53.4	+1.5	
	baz=80								
Z21A				⇑P		P	21 42 53.4	+1.5	
	baz=80								
Z21A				⇑P		P	21 42 53.4	+1.5	
	baz=80								
X26A	**CR and CF Fran**	**80.95**	**36**	⇓P		P	21 42 53.5	+1.0	
	baz=81								
X26A				⇓P		P	21 42 53.5	+1.0	
	baz=81								
X26A				⇓P		P	21 42 53.5	+1.0	
	baz=81								
Y24A	**Capitan**	**81.00**	**37**	⇑P		P	21 42 53.8	+1.0	

	baz=81								
Y24A				⇑P		**P**	**21 42 53.8**	**+1.0**	
	baz=81								
Y24A				⇑P		**P**	**21 42 53.8**	**+1.0**	
	baz=81								
X27A	**F and S Farms,**	**81.08**	**35**	⇓P		**P**	**21 42 54.1**	**+0.9**	
	baz=81								
X27A				⇓P		**P**	**21 42 54.1**	**+0.9**	
	baz=81								
X27A				⇓P		**P**	**21 42 54.1**	**+0.9**	
	baz=81								
PAL	**Palisades**	**81.10**	**11**	*e*P		**P**	**21 42 53.5**	**+0.5**	
PAL				pmax		pmax			
	comp=Z,20nm,0.7s								
PAL	**Palisades**	**81.10**	**11**	*e*P		**P**	**21 42 53.5**	**+0.5**	
	comp=Z,20nm,0.7s								
Z22A	**Elephant Butte**	**81.10**	**39**	⇑P		**P**	**21 42 54.6**	**+1.2**	
	baz=81								
Z22A				⇑P		**P**	**21 42 54.6**	**+1.2**	
	baz=81								
Z22A				⇑P		**P**	**21 42 54.6**	**+1.2**	
	baz=81								
OLIL	**Olney**	**81.12**	**22**	*e*P		**P**	**21 42 55.3**	**+2.1**	
	comp=Z,27nm,0.3s								
120A	**U Bar Ranch, L**	**81.17**	**40**	⇓P		**P**	**21 42 55.0**	**+1.2**	
	baz=81								
120A				⇓P		**P**	**21 42 55.0**	**+1.2**	
	baz=81								
120A				⇓P		**P**	**21 42 55.0**	**+1.2**	
	baz=81								
Y25A	**Mesa, Roswell**	**81.24**	**37**	⇑P		**P**	**21 42 54.4**	**+0.3**	
	baz=81,SNR=7.5								
Y25A				⇑P		**P**	**21 42 54.4**	**+0.3**	
	baz=81,SNR=7.5								
Y25A				⇑P		**P**	**21 42 54.4**	**+0.3**	
	baz=81,SNR=7.5								
AMTX	**Amarillo**	**81.30**	**34**	*e*P		**P**	**21 42 54.6**	**+0.2**	
	comp=Z,27nm,0.9s								
AMTX	**Amarillo**	**81.30**	**34**	⇓P		**P**	**21 42 55.0**	**+0.7**	
	baz=81								
AMTX				⇓P		**P**	**21 42 55.0**	**+0.7**	
	baz=81								
AMTX				⇓P		**P**	**21 42 55.0**	**+0.7**	
	baz=81								
AMTX				⇓P		**P**	**21 42 55.0**	**+0.7**	
	baz=81								
AMTX				⇓P		**P**	**21 42 55.0**	**+0.7**	
	baz=81								
121A	**Cookes Peak, D**	**81.48**	**40**	⇓P		**P**	**21 42 56.2**	**+0.8**	
	baz=81								
121A				⇓P		**P**	**21 42 56.2**	**+0.8**	
	baz=81								
121A				⇓P		**P**	**21 42 56.2**	**+0.8**	
	baz=81								
Y26A	**Elida**	**81.52**	**36**	⇓P		**P**	**21 42 56.3**	**+0.8**	
	baz=81								
Y26A				⇓P		**P**	**21 42 56.3**	**+0.8**	
	baz=81								
Y26A				⇓P		**P**	**21 42 56.3**	**+0.8**	
	baz=81								
Z24A	**Sheeppen Canyo**	**81.57**	**38**	⇓P		**P**	**21 42 56.6**	**+0.7**	
	baz=81								
Z24A				⇓P		**P**	**21 42 56.6**	**+0.7**	
	baz=81								
Z24A				⇓P		**P**	**21 42 56.6**	**+0.7**	
	baz=81								
AS31	**Alice Springs**	**81.61**	**168**	*e*P		**P**	**21 42 54.1**	**-1.7**	
ASAR	**Alice Springs**	**81.61**	**168**	P		**P**	**21 42 54.2**	**-1.6**	
	comp=Z,7.3nm,0.6s,baz=356,slow=5.4,SNR=42								
ASAR				PKKPbc		**PKKPbc**	**22 01 27.5**	**+0.2**	
	comp=Z,0.4nm,0.7s,baz=152,slow=1.8,SNR=5.1								
ASAR	**Alice Springs**	**81.61**	**168**	P		**P**	**21 42 54.2**	**-1.6**	
ASAR	**Alice Springs**	**81.61**	**168**	P		**P**	**21 42 54.2**	**-1.6**	
ASAR				PKKPbc		**PKKPbc**	**22 01 27.5**	**+0.2**	
Y27A	**Causey**	**81.77**	**36**	⇑P		**P**	**21 42 57.3**	**+0.4**	
	baz=82								
Y27A				⇑P		**P**	**21 42 57.3**	**+0.4**	
	baz=82								
Y27A				⇑P		**P**	**21 42 57.3**	**+0.4**	
	baz=82								
220A	**Playas Peak, P**	**81.79**	**41**	⇓P		**P**	**21 42 58.2**	**+1.1**	
	baz=82								
220A				⇓P		**P**	**21 42 58.2**	**+1.1**	
	baz=82								
220A				⇓P		**P**	**21 42 58.2**	**+1.1**	
	baz=82								
MSTX	**Muleshoe**	**81.81**	**35**	⇓P		**P**	**21 42 57.7**	**+0.7**	
	baz=82								
MSTX				⇓P		**P**	**21 42 57.7**	**+0.7**	
	baz=82								
MSTX				⇓P		**P**	**21 42 57.7**	**+0.7**	
	baz=82								
Z25A	**Roswell**	**81.83**	**37**	⇑P		**P**	**21 42 57.9**	**+0.7**	
	baz=82								
Z25A				⇑P		**P**	**21 42 57.9**	**+0.7**	
	baz=82								
Z25A				⇑P		**P**	**21 42 57.9**	**+0.7**	
	baz=82								
TUL1	**Tulsa**	**82.00**	**29**	⇑P		**P**	**21 42 58.0**	**+0.1**	
	baz=82								
TUL1				⇑P		**P**	**21 42 58.0**	**+0.1**	
	baz=82								
TUL1				⇑P		**P**	**21 42 58.0**	**+0.1**	
	baz=82								
Z26A	**Caprock**	**82.07**	**36**	⇓P		**P**	**21 42 58.7**	**+0.2**	
	baz=82								
Z26A				⇓P		**P**	**21 42 58.7**	**+0.2**	
	baz=82								
Z26A				⇓P		**P**	**21 42 58.7**	**+0.2**	
	baz=82								
222A	**Williams Famil**	**82.11**	**39**	⇓P		**P**	**21 42 58.8**	**+0.1**	
	baz=82								
222A				⇓P		**P**	**21 42 58.8**	**+0.1**	
	baz=82								
222A				⇓P		**P**	**21 42 58.8**	**+0.1**	
	baz=82								
WMOK	**Wichita Mounta**	**82.29**	**32**	*e*P		**P**	**21 43 00.1**	**+0.6**	
WMOK				pmax		pmax			
	comp=Z,15nm,0.9s								
WMOK				MLR		MLR			
	comp=Z,817nm,19.0s								
WMOK	**Wichita Mounta**	**82.29**	**32**	*e*P		**P**	**21 43 00.1**	**+0.6**	
	comp=Z,15nm,0.9s								
WMOK				LR		LR			
	comp=Z,817nm,19.0s								
224A	**Cornudas Mount**	**82.67**	**38**	⇓P		**P**	**21 43 02.2**	**+0.6**	
	baz=82,SNR=10								
224A				⇓P		**P**	**21 43 02.2**	**+0.6**	
	baz=82,SNR=10								
224A				⇓P		**P**	**21 43 02.2**	**+0.6**	
	baz=82,SNR=10								
MNTX	**Cornudas Mount**	**83.06**	**38**	⇑P		**P**	**21 43 04.1**	**+0.6**	
	baz=83								
MNTX				⇑P		**P**	**21 43 04.1**	**+0.6**	
	baz=83								
MNTX				⇑P		**P**	**21 43 04.1**	**+0.6**	
	baz=83								
MNTX				⇑P		**P**	**21 43 04.1**	**+0.6**	
	baz=83								
MNTX				⇑P		**P**	**21 43 04.1**	**+0.6**	
	baz=83								
226A	**Malaga, Loving**	**83.15**	**37**	⇑P		**P**	**21 43 04.2**	**+0.1**	
	baz=83								
226A				⇑P		**P**	**21 43 04.2**	**+0.1**	
	baz=83								
226A				⇑P		**P**	**21 43 04.2**	**+0.1**	
	baz=83								
324A	**Moseley Ranch,**	**83.26**	**38**	⇑P		**P**	**21 43 05.0**	**+0.3**	
	baz=83								
324A				⇑P		**P**	**21 43 05.0**	**+0.3**	
	baz=83								
324A				⇑P		**P**	**21 43 05.0**	**+0.3**	
	baz=83								
325A	**Bean Ranch, Si**	**83.50**	**38**	⇓P		**P**	**21 43 07.0**	**+1.0**	
	baz=83								
325A				⇓P		**P**	**21 43 07.0**	**+1.0**	
	baz=83								
325A				⇓P		**P**	**21 43 07.0**	**+1.0**	
	baz=83								
TAM	**Tamanrasset**	**83.55**	**303**	*e*P		**P**	**21 43 06.3**	**0.0**	
TAM				pmax		pmax			
	comp=Z,5.0nm,1.1s								
TAM	**Tamanrasset**	**83.55**	**303**	*e*P		**P**	**21 43 06.3**	**0.0**	
	comp=Z,5.0nm,1.1s								
MIAR	**Mount Ida**	**83.87**	**28**	*e*P		**P**	**21 43 07.8**	**+0.2**	
MIAR	**Mount Ida**	**83.87**	**28**	*e*P		**P**	**21 43 07.8**	**+0.2**	
326A	**Caldwell Ranch**	**83.87**	**37**	⇓P		**P**	**21 43 08.2**	**+0.4**	
	baz=84								
326A				⇓P		**P**	**21 43 08.2**	**+0.4**	
	baz=84								
326A				⇓P		**P**	**21 43 08.2**	**+0.4**	
	baz=84								
425A	**Indio Mountain**	**84.03**	**38**	⇓P		**P**	**21 43 09.5**	**+0.9**	
	baz=84								
425A				⇓P		**P**	**21 43 09.5**	**+0.9**	
	baz=84								
425A				⇓P		**P**	**21 43 09.5**	**+0.9**	
	baz=84								
328A	**Wristen Ranch,**	**84.19**	**36**	⇓P		**P**	**21 43 09.8**	**+0.4**	
	baz=84								
328A				⇓P		**P**	**21 43 09.8**	**+0.4**	
	baz=84								
328A				⇓P		**P**	**21 43 09.8**	**+0.4**	
	baz=84								
426A	**McDonald Obser**	**84.45**	**38**	⇑P		**P**	**21 43 11.0**	**+0.1**	
	baz=84								
426A				⇑P		**P**	**21 43 11.0**	**+0.1**	
	baz=84								
426A				⇑P		**P**	**21 43 11.0**	**+0.1**	
	baz=84								
427A	**Hayter Ranch,**	**84.49**	**37**	⇓P		**P**	**21 43 11.3**	**+0.4**	
	baz=84								
427A				⇓P		**P**	**21 43 11.3**	**+0.4**	
	baz=84								
427A				⇓P		**P**	**21 43 11.3**	**+0.4**	
	baz=84								
428A	**Kincaid Ranch,**	**84.84**	**36**	⇑P		**P**	**21 43 13.5**	**+0.8**	
	baz=85								
428A				⇑P		**P**	**21 43 13.5**	**+0.8**	
	baz=85								
428A				⇑P		**P**	**21 43 13.5**	**+0.8**	
	baz=85								
526A	**Mary Lane Ranc**	**84.99**	**38**	⇑P		**P**	**21 43 14.3**	**+0.7**	
	baz=85								
526A				⇑P		**P**	**21 43 14.3**	**+0.7**	
	baz=85								
526A				⇑P		**P**	**21 43 14.3**	**+0.7**	
	baz=85								
528A	**Cox Ranch, San**	**85.33**	**37**	⇓P		**P**	**21 43 15.7**	**+0.5**	
	baz=85								
528A				⇓P		**P**	**21 43 15.7**	**+0.5**	
	baz=85								
528A				⇓P		**P**	**21 43 15.7**	**+0.5**	
	baz=85								
626A	**Big Bend Ranch**	**85.45**	**38**	⇑P		**P**	**21 43 16.3**	**+0.6**	
	baz=85								
626A				⇑P		**P**	**21 43 16.3**	**+0.6**	
	baz=85								
626A				⇑P		**P**	**21 43 16.3**	**+0.6**	
	baz=85								
627A	**Terlingua Ranc**	**85.79**	**37**	⇑P		**P**	**21 43 17.9**	**+0.4**	
	baz=86								
627A				⇑P		**P**	**21 43 17.9**	**+0.4**	
	baz=86								
627A				⇑P		**P**	**21 43 17.9**	**+0.4**	
	baz=86								
TXAR	**Lajitas Array**	**85.80**	**38**	P		**P**	**21 43 17.2**	**-0.4**	
	comp=Z,1.7nm,0.9s,baz=279,slow=4.0,SNR=14								
TXAR				LR		LR	22 25 00.7		
	comp=Z,641nm,18.9s,baz=140,slow=38								
TXAR	**Lajitas Array**	**85.80**	**38**	P		**P**	**21 43 17.2**	**-0.4**	
TXAR	**Lajitas Array**	**85.80**	**38**	P		**P**	**21 43 17.2**	**-0.4**	
628A	**Black Gap, Mar**	**85.92**	**37**	⇓P		**P**	**21 43 18.0**	**0.0**	
	baz=86								
628A				⇓P		**P**	**21 43 18.0**	**0.0**	
	baz=86								
628A				⇓P		**P**	**21 43 18.0**	**0.0**	
	baz=86								
JCT	**Junction City**	**85.97**	**34**	*e*P		**P**	**21 43 19.0**	**+0.7**	
JCT				pmax		pmax			
	comp=Z,44nm,1.7s								
JCT	**Junction City**	**85.97**	**34**	*e*P		**P**	**21 43 19.0**	**+0.7**	
	comp=Z,44nm,1.7s								
JCT	**Junction City**	**85.97**	**34**	⇑P		**P**	**21 43 18.9**	**+0.7**	
	baz=86								
JCT				⇑P		**P**	**21 43 18.9**	**+0.7**	
	baz=86								
JCT				⇑P		**P**	**21 43 18.9**	**+0.7**	
	baz=86								
QLP	**Quilpie**	**86.07**	**159**	*e*P		**P**	**21 43 18.3**	**-0.1**	
DZM	**Mont Dzumac**	**88.00**	**138**	*e*LR		LR	22 11 27.3		
	comp=Z,496nm,20.9s								
FORT	**Forrest**	**88.15**	**174**	*e*P		**P**	**21 43 26.7**	**-1.7**	
	comp=Z,37nm,0.7s								
FORT	**Forrest**	**88.15**	**174**	*e*P		**P**	**21 43 26.9**	**-1.5**	
	comp=Z,35nm,0.6s								
NWAO	**Narrogin (SRO)**	**90.12**	**183**	LR		LR	22 27 51.9		
	comp=Z,255nm,18.2s,baz=6.6,slow=38								
STKA	**Stephens Creek**	**90.76**	**162**	P		**P**	**21 43 39.5**	**-1.1**	
	comp=Z,4.3nm,0.9s,baz=322,slow=7.4,SNR=6.8								
STKA				LR		LR	22 24 45.3		
	comp=Z,443nm,19.6s,baz=271,slow=36								
STKA	**Stephens Creek**	**90.76**	**162**	*e*P		**P**	**21 43 39.3**	**-1.3**	
	comp=Z,3.7nm,0.9s								
STKA	**Stephens Creek**	**90.76**	**162**	P		**P**	**21 43 39.6**	**-1.1**	
STKA	**Stephens Creek**	**90.76**	**162**	P		**P**	**21 43 39.5**	**-1.1**	
CMSA	**Cobar Meteorol**	**91.17**	**159**	*e*P		**P**	**21 43 43.3**	**+0.8**	
	comp=Z,16nm,0.8s								
TOA0	**Torodi Ar. Sit**	**93.71**	**301**	*e*P		**P**	**21 43 53.6**	**-1.2**	
TOA0				*e*PP		**PP**	**21 47 38.1**	**-1.3**	
TORD	**Torodi Ar. Bea**	**93.71**	**301**	P		**P**	**21 43 53.6**	**-1.3**	
	comp=Z,1.0nm,0.5s,baz=17,slow=4.9,SNR=42								
TORD				PP		**PP**	**21 47 35.2**	**-4.2**	
	comp=Z,1.5nm,1.0s,baz=11,slow=5.7,SNR=3.8								
TORD				PKKP		**PKKPbc**	**22 00 57.7**	**+1.5**	
	comp=Z,1.0nm,1.1s,baz=211,slow=1.4,SNR=5.1								
TORD				LR		LR	22 33 31.0		
	comp=Z,505nm,19.2s,baz=340,slow=40								
TORD	**Torodi Ar. Bea**	**93.71**	**301**	P		**P**	**21 43 53.6**	**-1.3**	
TORD				PP		**PP**	**21 47 35.2**	**-4.2**	
TORD				PKKP		**PKKPbc**	**22 00 57.7**	**+1.5**	
CAN	**Canberra**	**95.50**	**157**	PFAKE			21 44 10.0	+7.5	
CAN				LR		LR			
	comp=Z,577nm,19.0s								
JTS	**JuntasAbangare**	**109.25**	**27**	PFAKE			21 49 20.0		
JTS				LR		LR			
	comp=Z,566nm,21.0s								
TBI	**Tubuai**	**109.30**	**103**	*e*LR		LR	22 21 21.7		
	comp=Z,308nm,23.2s								
DRV	**Dumont d'Urvil**	**124.69**	**171**	SS		SS	22 08 09.0	-8.6	
NNA	**Nana**	**132.65**	**24**	PFAKE			21 50 00.0	+7.1	
NNA				LR		LR			
	comp=Z,398nm,20.0s								
BDFB	**Brasilia**	**137.36**	**344**	PKP		**PKPdf**	**21 50 01.0**	**-0.7**	
	comp=Z,2.6nm,0.8s,baz=153,slow=9.8,SNR=3.3								
BDFB	**Brasilia**	**137.36**	**344**	PKIKP		**PKPdf**	**21 50 01.0**	**-0.7**	
BDFB	**Brasilia**	**137.36**	**344**	PKP		**PKPdf**	**21 50 01.0**	**-0.7**	
LPAZ	**La Paz**	**138.33**	**13**	PKhKP		PKPpre	21 49 58.5		
	comp=Z,1.1nm,0.6s,baz=346,slow=5.2,SNR=4.2								
LPAZ				PKP		**PKPdf**	**21 50 03.0**	**-1.1**	
	comp=Z,1.1nm,0.6s,baz=348,slow=4.6,SNR=5.1								
LPAZ	**La Paz**	**138.33**	**13**	PKIKP		PKPdf	21 49 58.5	-5.6	
LPAZ							21 50 03.0		
LPAZ	**La Paz**	**138.33**	**13**	PKPpre		PKPpre	21 49 58.5		
LPAZ				PKP		**PKPdf**	**21 50 03.0**	**-1.1**	
SPB	**Sao Paulo**	**145.05**	**341**	*e*PKPdf		**PKPbc**	**21 50 14.1**	**-0.5**	
QSPA	**South Pole Qui**	**147.26**	**180**	*e*PKPdf		**PKPdf**	**21 50 17.5**	**-0.1**	
QSPA				LR		LR			
	comp=Z,507nm,22.0s								
NVL	**N'lazarevskaya**	**148.43**	**217**	*i* PKP2		**PKPab**	**21 50 26.4**	**+0.1**	
NVL				pmax		pmax			
	comp=Z,53nm,1.4s								
MAIT	**Maitri**	**148.46**	**217**	*e*P		**PKPbc**	**21 50 23.1**	**+0.1**	
LCO	**Las Campanas**	**150.43**	**21**	*e*PKPdf		**PKPdf**	**21 50 24.7**	**+0.5**	
VNA2	**Neumayer--Watz**	**154.74**	**217**	*e*		**PKPbc**	**21 50 37.0**	**-0.5**	
	baz=70,slow=1.4								
VNA2				*e*			21 50 41.9		
VNA3	**Neumayer Olymp**	**155.44**	**216**	*e*		PKPdf	21 50 38.0	+8.1	

IPEC ***26*** *21:38:16.5±0.2, 49.°84N×18.°58E, h10km±1km, ML0.9/2, Error ellipse: s-maj=1.9km s-min=1.1km az=165.0*
PRU ***26*** *21:38:16.9, 49.°81N×18.°55E, h0km*

CSEM 26 21:38:15.9±0.2, 49.°82N×18.°57E, h1km, ML0.9/2, Error ellipse: s-maj=6.5km s-min=3.9km az=175.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**274**	*e*PG	Pg	21 38 22.1	+0.9
OKC				*e*SG	Sg	21 38 26.3	+1.5
	comp=Z,9.7nm,0.7s						
OKC	**Ostrava-Krasne**	**0.28**	**274**	*e*Pg	Pg	21 38 22.0	+0.8
	baz=90						
OKC				Sg	Sg	21 38 26.3	+1.5
	9.7nm,0.7s						
MORC	**Moravsky Berou**	**0.67**	**267**	*e*Pg	Pb	21 38 29.8	-0.7
	baz=84						
OJC	**Ojcow**	**0.89**	**63**	*e*Pg	Pg	21 38 33.4	+0.4
	baz=245						
VYHS	**Vyhne**	**1.34**	**172**	*e*Pn	Pg	21 38 41.6	0.0
	baz=353						
VRAC	**Vranov**	**1.39**	**249**	*e*Pn	Pn	21 38 41.9	-0.5
	baz=67						
VRAC				*e*Sg	Sb	21 39 00.8	-0.1
	1.3nm,0.2s,baz=67						
DPC	**Dobruska-Polom**	**1.54**	**291**	*e*PG	Pn	21 38 44.4	-0.2
DPC				*e*SG	Sg	21 39 05.6	0.0
DPC	**Dobruska-Polom**	**1.54**	**291**	*e*Pn	Pn	21 38 44.0	-0.6
	baz=108						
DPC	**Dobruska-Polom**	**1.54**	**291**	Pg	Pn	21 38 44.4	-0.2
DPC				Sg	Sg	21 39 05.6	0.0
KRUC	**Moravsky**	**1.61**	**243**	*e*Pn	Pn	21 38 45.4	-0.1
	baz=60						
KRUC				*e*Sg	Sn	21 39 06.9	0.0
	0.9nm,0.3s,baz=60						

IDC ***26*** *21:42:31.7±0.6, 57.°43N×120.°80E, h0km, mb3.9/20, mb1 4.1/21, mb1mx4.1/28, mbtmp4.0/21, ML3.3/1, Error ellipse: s-maj=15.7km s-min=14.0km az=41.0*
MOS ***26*** *21:42:32.0±0.9, 57.°47N×120.°72E, h13km, mb4.7/6, Error ellipse: s-maj=12.6km s-min=9.0km az=90.8*
BYKL ***26*** *21:42:32.2±0.5, 57.°39N×120.°81E*
NEIC ***26*** *21:42:33.0±0.4, 57.°51N×120.°87E, h10km, mb3.9/2, Error ellipse: s-maj=9.7km s-min=8.1km az=139.0*

ISC 26 21:42:31.7±1.3, 57.°43N±0.°04×120.°90E±0.°02, h2km±9km, n118, σ1$44/116, mb4.0/22, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.71**	**225**	*e*Pg	**Pg**	**21 42 44.3**	**-1.0**
KHNR				*i* Sg	**Sg**	**21 42 52.6**	**-1.9**
CRS	**Chara**	**1.53**	**251**	*e*P	**Pn**	**21 42 59.4**	**-0.6**
CRS				*e*		21 43 17.5	
CRS				pmax	pmax		
	comp=Z,2μm,0.7s						
CRS				smax	smax		
	comp=E,2μm,0.7s						
CRS	**Chara**	**1.53**	**251**	*e*Pg	**Pn**	**21 42 59.0**	**-1.0**
CRS				*e*Pb	**Pg**	**21 43 01.5**	**+0.6**
CRS				max		21 43 02.3	
	comp=E,2μm,0.9s						
CRS				*e*Sg	**Sn**	**21 43 17.7**	**-2.8**
CRS				Smax		21 43 22.4	
	comp=E,2μm,1.0s						
NRGR	**Nerungri**	**2.23**	**109**	*e*P	**Pb**	**21 43 12.5**	**-0.2**
NRGR				*e*S	**Sb**	**21 43 41.6**	**+0.9**
CLNS	**Chul'man**	**2.26**	**103**	*e*P	**Pb**	**21 43 12.4**	**-0.8**
CLNS				*e*		21 43 44.1	
CLNS				pmax	pmax		
	comp=Z,82nm,0.3s						
CLNS				pmax	pmax		
	comp=E,49nm,0.3s						
CLNS				pmax	pmax		
	comp=N,45nm,0.2s						
CLNS				smax	smax		
	comp=Z,2μm,0.7s						
CLNS				smax	smax		
	comp=N,6μm,0.9s						
CLNS				smax	smax		
	comp=E,4μm,0.8s						
CLNS	**Chul'man**	**2.26**	**103**	*e*Pn	**Pn**	**21 43 09.4**	**-0.7**
CLNS				*e*Pg	**Pb**	**21 43 12.9**	**-0.3**
CLNS				*e*Sg	**Sg**	**21 43 44.5**	**+0.4**
ALDR	**Aldan**	**2.68**	**62**	*e*Pn	**Pn**	**21 43 16.6**	**+0.7**
ALDR				*e*Pg	**Pb**	**21 43 20.9**	**+0.6**
ALDR				*e*Sg	**Sb**	**21 43 56.0**	**+2.4**
NLYR	**Nelyaty**	**3.00**	**254**	*e*P	**Pn**	**21 43 19.8**	**-0.4**
NLYR	**Nelyaty**	**3.00**	**254**	*e*Pn	**Pn**	**21 43 20.9**	**+0.7**
NLYR				*e*Pg	**Pb**	**21 43 24.7**	**-1.1**
NLYR				Pmax		21 43 27.6	
	comp=E,747nm,0.9s						
NLYR				*e*Sg	**Sb**	**21 44 02.1**	**-0.7**
NLYR				Smax		21 44 06.4	
	comp=E,2μm,0.8s						
TUP	**Tupik**	**3.05**	**190**	*e*P	**Pn**	**21 43 21.8**	**+0.8**
TUP				*e*		21 44 04.6	
TUP				pmax	pmax		
	comp=Z,481nm,0.5s						
TUP				smax	smax		
	comp=E,2μm,0.9s						
TUP	**Tupik**	**3.05**	**190**	P	**Pb**	**21 43 27.3**	**+0.5**
TUP	**Tupik**	**3.05**	**190**	*e*Pn	**Pn**	**21 43 21.5**	**+0.5**
TUP				*e*Pg	**Pb**	**21 43 25.6**	**-1.2**
TUP				Pmax		21 43 31.6	
	comp=E,458nm,0.9s						
TUP				*e*		21 43 32.2	
TUP				*e*Sn	**Sn**	**21 43 55.2**	**-2.9**
TUP				*e*Sg	**Sb**	**21 44 04.6**	**+0.1**
TUP				Smax		21 44 12.9	
	comp=E,2μm,1.2s						
TNDR	**Tynda**	**3.12**	**135**	*e*Pn	**Pn**	**21 43 23.5**	**+1.6**
TNDR				*e*Pg	**Pb**	**21 43 29.1**	**+1.2**
TNDR				*e*Sn	**Sn**	**21 44 01.4**	**+1.6**
TNDR				*e*Sg	**Sg**	**21 44 09.8**	**-2.1**
BOD	**Bodaibo**	**3.73**	**279**	*e*P	**Pn**	**21 43 30.3**	**+0.1**
BOD				pmax	pmax		
	comp=Z,249nm,0.8s						
BOD	**Bodaibo**	**3.73**	**279**	*e*Pn	**Pn**	**21 43 30.3**	**+0.1**
BOD				*e*Pg	**Pb**	**21 43 39.0**	**+0.8**
BOD				Pmax		21 43 42.4	
	comp=Z,154nm,0.6s						
BOD				*e*Sg	**Sb**	**21 44 25.1**	**+1.3**
BOD				Smax		21 44 33.2	
	comp=Z,701nm,1.0s						
SVKR	**Severomuysk**	**4.25**	**255**	*e*P	**Pb**	**21 43 49.1**	**+2.0**
SVKR				pmax	pmax		
	comp=Z,388nm,2.1s						
SVKR	**Severomuysk**	**4.25**	**255**	*e*Pn	**Pn**	**21 43 39.6**	**+2.2**
SVKR				*e*Pg	**Pb**	**21 43 49.1**	**+2.0**
SVKR				Pmax		21 43 53.7	
	comp=Z,188nm,0.5s						
SVKR				*e*Sg	**Sg**	**21 44 43.3**	**-4.7**
SVKR				Smax		21 44 50.6	
	comp=Z,2μm,0.9s						
YOA	**Uoyan**	**5.21**	**259**	*e*Sg	**Sb**	**21 45 11.0**	**+4.6**
YOA				Smax		21 45 27.0	
	comp=Z,3μm,1.5s						
KMO	**Kumora**	**5.57**	**258**	*e*Pg	**Pb**	**21 44 10.1**	**+0.5**
KMO				Pmax		21 44 15.8	
	comp=Z,68nm,0.7s						
KMO				*e*Sg	**Sb**	**21 45 21.2**	**+4.5**
KMO				Smax		21 45 41.4	
	comp=Z,702nm,1.0s						
YLYR	**Ulyunkh

NIZ				Smax			21 46 02.7		
	comp=E,320nm,1.6s								
CIT	**Chita**	**6.88**	**221**	*e*Sg	Sb		21 46 02.1	+7.5	
CIT				Smax			21 46 13.6		
	comp=E,1μm,1.9s								
SYVR	**Suvo**	**7.24**	**243**	*e*Sg	Sg		21 46 15.3	-8.8	
SYVR				Smax			21 46 22.3		
	comp=E,504nm,1.3s								
MXMB	**Maximikha**	**8.08**	**244**	*e*Sg	Sg		21 46 41.6	-9.4	
MXMB				Smax			21 46 49.5		
	comp=E,856nm,1.0s								
HIA	**Hailar**	**8.20**	**185**	*e*Sg	Sg		21 46 44.4	-11	
OGRR	**Ongureny**	**8.44**	**249**	*e*Sg	Sg		21 46 53.7	-8.7	
OGRR				Smax			21 47 03.8		
	comp=E,175nm,1.9s								
KPC	**Khapcheranga**	**9.24**	**217**	*e*Sg	Sn		21 47 15.8	+45	
KPC				Smax			21 47 34.2		
	comp=E,287nm,1.6s								
ZRHB	**Zarechye**	**9.28**	**244**	*e*Sg	Sn		21 47 16.8	+45	
ZRHB				Smax			21 47 39.7		
	comp=E,2μm,1.4s								
UUDB	**Ulan-Yde**	**9.47**	**240**	*e*Sg	Sn		21 47 24.3	+48	
UUDB				Smax			21 47 44.8		
	comp=E,591nm,1.3s								
TRG	**Tyrgan**	**9.55**	**247**	*e*Sg	Sn		21 47 25.1	+47	
TRG				Smax			21 47 39.3		
	comp=E,60nm,0.8s								
KAB	**Kabansk**	**9.83**	**243**	*e*Sg	Sn		21 47 35.1	+50	
KAB				Smax			21 48 07.7		
	comp=E,1μm,1.4s								
HRMR	**Khuramsha**	**9.96**	**240**	*e*Sg	Sn		21 47 39.1	+51	
HRMR				Smax			21 47 50.5		
	comp=E,987nm,1.0s								
LSTR	**Listvyanka**	**10.83**	**246**	*e*Sg	Sn		21 48 05.1	+56	
LSTR				Smax			21 48 23.8		
	comp=E,50nm,0.9s								
IRK	**Irkutsk**	**10.89**	**249**	*e*Sg	Sn		21 48 05.5	+55	
IRK				Smax			21 48 14.3		
	comp=E,265nm,2.2s								
ARS	**Arshan**	**12.01**	**251**	*e*Sg			21 48 43.8		
ARS				Smax			21 49 06.9		
	comp=E,211nm,1.9s								
ULN	**Ulaanbaatar**	**12.71**	**227**	P	**Pn**		**21 45 33.2**	**-0.3**	
ULN	**Ulaanbaatar**	**12.71**	**227**	Pn	**Pn**		**21 45 33.2**	**-0.3**	
MOY	**Mondy**	**12.89**	**252**	*e*Sg			21 49 10.2		
MOY				Smax			21 49 22.3		
	comp=E,124nm,1.6s								
SONM	**Songino Array**	**13.00**	**229**	Pn	**Pn**		**21 45 39.1**	**+1.7**	
	comp=E,0.2nm,0.3s,baz=56,slow=21,SNR=3.9								
SONM				Lg	Lg		21 49 16.0		
	comp=E,3.3nm,0.3s,baz=27,slow=27,SNR=12								
SONM	**Songino Array**	**13.00**	**229**	P	**Pn**		**21 45 39.1**	**+1.7**	
SONM	**Songino Array**	**13.00**	**229**	Pn	**Pn**		**21 45 39.1**	**+1.7**	
SONM				Lg	Lg		21 49 16.0		
USRK	**Ussuriysk Arra**	**14.96**	**148**	Lg	Lg		21 50 24.8		
	comp=E,0.1nm,0.3s,baz=331,slow=29,SNR=3.8								
VLA	**Vladivostok**	**15.92**	**149**	*e*P	P		21 46 28.9	+8.5	
VLA				pmax	pmax				
	comp=Z,8.0nm,0.5s								
ZALV	**Zalesovo Beam**	**20.48**	**276**	P	**P**		**21 47 11.2**	**+0.8**	
	comp=Z,3.6nm,0.8s,baz=69,slow=8.5,SNR=4.4								
ZALV	**Zalesovo Beam**	**20.48**	**276**	P	**P**		**21 47 11.3**	**+0.8**	
ZALV	**Zalesovo Beam**	**20.48**	**276**	P	**P**		**21 47 11.2**	**+0.8**	
KSRS	**Korea Array**	**20.52**	**164**	P	Pn		21 47 12.9	-0.1	
	comp=Z,1.9nm,0.8s,baz=352,slow=9.8,SNR=4.6								
KSRS	**Korea Array**	**20.52**	**164**	P	Pn		21 47 13.0	-0.1	
KSAR	**Wonju Array Be**	**20.52**	**164**	P	Pn		21 47 13.0	-0.2	
KSAR	**Wonju Array Be**	**20.52**	**164**	P	Pn		21 47 12.9	-0.2	
ERM	**Erimo**	**20.94**	**128**	*i* P	Pn		21 47 27.3	+9.2	
ERM				pmax	pmax				
	comp=Z,63nm,2.0s								
PETK	**Petropavlovsk-**	**21.23**	**86**	P	**P**		**21 47 20.5**	**+1.9**	
	comp=Z,5.9nm,0.8s,baz=275,slow=5.2,SNR=5.8								
PETK	**Petropavlovsk-**	**21.23**	**86**	P	**P**		**21 47 20.5**	**+1.9**	
PETK	**Petropavlovsk-**	**21.23**	**86**	P	**P**		**21 47 20.5**	**+1.9**	
MJAR	**Matsushiro Arr**	**23.86**	**144**	P	**P**		**21 47 46.9**	**+0.6**	
	comp=Z,1.2nm,0.7s,baz=318,slow=9.1,SNR=4.3								
MJAR	**Matsushiro Arr**	**23.86**	**144**	P	**P**		**21 47 46.9**	**+0.6**	
MJAR	**Matsushiro Arr**	**23.86**	**144**	P	**P**		**21 47 46.9**	**+0.6**	
KURK	**Kurchatov**	**25.36**	**273**	P	**P**		**21 48 00.9**	**+1.2**	
	comp=Z,2.3nm,0.8s,baz=77,slow=9.9,SNR=2.6								
KURK	**Kurchatov**	**25.36**	**273**	P	**P**		**21 48 01.0**	**+1.2**	
KURK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**25.64**	**262**	P	**P**		**21 48 02.2**	**-0.2**	
	comp=Z,1.7nm,0.6s,baz=52,slow=9.4,SNR=11								
MKAR	**Makanchi Array**	**25.64**	**262**	P	**P**		**21 48 02.3**	**-0.2**	
MKAR	**Makanchi Array**	**25.64**	**262**	P	**P**		**21 48 02.2**	**-0.2**	
BVAR	**Borovoye Array**	**28.59**	**283**	P	**P**		**21 48 28.5**	**-0.3**	
	comp=Z,0.9nm,0.6s,baz=51,slow=12,SNR=4.0								
BVAR	**Borovoye Array**	**28.59**	**283**	P	**P**		**21 48 28.5**	**-0.3**	
BVAR	**Borovoye Array**	**28.59**	**283**	P	**P**		**21 48 28.5**	**-0.3**	
KLMR	**Klimovskoe**	**39.37**	**310**	*e*P	**P**		**21 50 01.0**	**-1.1**	
KLMR				pmax	pmax				
	comp=Z,18nm,1.1s								
ARCES	**ARCESS Array B**	**39.70**	**327**	P	**P**		**21 50 04.9**	**+0.2**	
	comp=Z,2.1nm,0.8s,baz=60,slow=8.9,SNR=3.4								
ARCES	**ARCESS Array B**	**39.70**	**327**	P	**P**		**21 50 04.9**	**+0.2**	
ARCES	**ARCESS Array B**	**39.70**	**327**	P	**P**		**21 50 04.9**	**+0.2**	
ILAR	**Eielson Array**	**41.33**	**40**	P	**P**		**21 50 19.6**	**+1.3**	
	comp=Z,1.3nm,0.8s,baz=283,slow=3.7,SNR=16								
ILAR	**Eielson Array**	**41.33**	**40**	P	**P**		**21 50 19.6**	**+1.3**	
ILAR	**Eielson Array**	**41.33**	**40**	P	**P**		**21 50 19.6**	**+1.3**	
KBL	**Kabul**	**41.37**	**259**	*e*P	**P**		**21 50 18.4**	**-0.8**	
KBL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KBL	**Kabul**	**41.37**	**259**	*e*P	**P**		**21 50 18.4**	**-0.8**	
	comp=Z,2.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**42.19**	**212**	P	**P**		**21 50 26.6**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=16,slow=7.5,SNR=5.8								
CMAR	**Chiang Mai Arr**	**42.19**	**212**	P	**P**		**21 50 26.6**	**+0.8**	
CMAR	**Chiang Mai Arr**	**42.19**	**212**	P	**P**		**21 50 26.6**	**+0.8**	
INK	**Inuvik**	**43.39**	**31**	P	**P**		**21 50 36.3**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=329,slow=5.9,SNR=3.5								
INK	**Inuvik**	**43.39**	**31**	P	**P**		**21 50 36.3**	**+1.4**	
INK	**Inuvik**	**43.39**	**31**	*e*P	**P**		**21 50 35.0**	**+0.1**	
	comp=Z,2.0nm,1.1s								
VRHR	**Novokhopersk**	**44.26**	**297**	*e*P	P		21 50 37.3	-4.8	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
FINES	**FINESS Array B**	**44.30**	**317**	P	**P**		**21 50 41.9**	**-0.5**	
	comp=Z,4.7nm,0.7s,baz=40,slow=10.0,SNR=8.9								
FINES	**FINESS Array B**	**44.30**	**317**	P	**P**		**21 50 41.9**	**-0.5**	
FINES	**FINESS Array B**	**44.30**	**317**	P	**P**		**21 50 41.9**	**-0.5**	
VSR	**Storozhevoye**	**45.35**	**299**	*e*P	**P**		**21 50 51.7**	**+0.8**	
VSR				pmax	pmax				
	comp=N,8.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,9.0nm,0.7s								
VSR				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NB2	**NORSAR Subarra**	**49.76**	**323**	P	**P**		**21 51 24.6**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=41,slow=7.4								
NOA	**NORSAR Array B**	**49.76**	**323**	P	**P**		**21 51 25.0**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=43,slow=7.9,SNR=5.3								
NOA	**NORSAR Array B**	**49.76**	**323**	P	**P**		**21 51 25.0**	**-0.1**	
NOA	**NORSAR Array B**	**49.76**	**323**	P	**P**		**21 51 25.0**	**-0.1**	
AKASG	**Malin Array Be**	**50.28**	**304**	P	**P**		**21 51 28.8**	**-0.3**	
	comp=Z,2.3nm,0.5s,baz=42,slow=8.5,SNR=10								
AKASG	**Malin Array Be**	**50.28**	**304**	P	**P**		**21 51 28.8**	**-0.3**	
AKASG	**Malin Array Be**	**50.28**	**304**	P	**P**		**21 51 28.8**	**-0.3**	
YKA	**Yellowknife Ar**	**52.94**	**29**	P	**P**		**21 51 48.4**	**-0.4**	
	comp=Z,0.7nm,0.8s,baz=330,slow=7.2,SNR=6.7								
YKA	**Yellowknife Ar**	**52.94**	**29**	P	**P**		**21 51 48.4**	**-0.4**	
YKA	**Yellowknife Ar**	**52.94**	**29**	P	**P**		**21 51 48.4**	**-0.4**	
BUR08	**Bucovina Ar. S**	**54.32**	**304**	*e*P	**P**		**21 51 59.1**	**-0.2**	
OKC	**Ostrava-Krasne**	**55.69**	**310**	*e*P	**P**		**21 52 11.0**	**+2.0**	
DPC	**Dobruska-Polom**	**56.04**	**312**	*e*P	**P**		**21 52 11.9**	**+0.3**	
CLL	**Collm**	**56.61**	**314**	*e*P	**P**		**21 52 15.0**	**-0.5**	
CLL	**Collm**	**56.61**	**314**	*e*P	**P**		**21 52 15.0**	**-0.5**	
TREC	**Trest**	**57.21**	**311**	*e*P	**P**		**21 52 20.8**	**+0.9**	
KHC	**Kasperske Hory**	**58.10**	**312**	*e*P	**P**		**21 52 26.4**	**+0.2**	
GERES	**GERESS Array B**	**58.28**	**312**	P	**P**		**21 52 27.4**	**-0.1**	
	comp=Z,1.2nm,0.8s,baz=45,slow=7.7,SNR=11								
GERES	**GERESS Array B**	**58.28**	**312**	P	**P**		**21 52 27.4**	**-0.1**	
GERES	**GERESS Array B**	**58.28**	**312**	P	**P**		**21 52 27.4**	**-0.1**	
ESDC	**Sonseca Array**	**72.77**	**318**	P	**P**		**21 54 01.2**	**-0.1**	
	comp=Z,0.8nm,0.7s,baz=16,slow=7.7,SNR=4.8								
ESDC	**Sonseca Array**	**72.77**	**318**	P	**P**		**21 54 01.2**	**-0.1**	
WRA	**Warramunga Arr**	**77.89**	**167**	P	**P**		**21 54 30.0**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=350,slow=6.5,SNR=9.0								
WRA	**Warramunga Arr**	**77.89**	**167**	P	**P**		**21 54 30.0**	**-0.7**	
WRA	**Warramunga Arr**	**77.89**	**167**	P	**P**		**21 54 30.0**	**-0.7**	
ASAR	**Alice Springs**	**81.51**	**168**	P	**P**		**21 54 50.0**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=358,slow=4.9,SNR=7.5								
ASAR	**Alice Springs**	**81.51**	**168**	P	**P**		**21 54 50.0**	**-0.4**	
ASAR	**Alice Springs**	**81.51**	**168**	P	**P**		**21 54 50.0**	**-0.4**	
TORD	**Torodi Ar. Bea**	**93.84**	**302**	P	**P**		**21 55 49.0**	**-1.6**	
	comp=Z,0.8nm,1.0s,baz=9.5,slow=3.6,SNR=4.4								
TORD	**Torodi Ar. Bea**	**93.84**	**302**	P	**P**		**21 55 49.0**	**-1.6**	

ISCJB ***26*** *21:46:12.8±0.7, 33.94°N±0.09°×137.05°E±0.07, h367km±5km, mb3.0/3, Error ellipse: s-maj=14.9km s-min=8.6km az=163.0*
JMA ***26*** *21:46:12.7±0.3, 33.90°N×136.99°E, h370km±3km, M2.8*
IDC ***26*** *21:46:13.4±1.6, 33.86°N×137.09°E, h362km±15km, mb2.8/3, mb1 2.8/7, mb1mx2.7/26, mbtmp2.7/7, Error ellipse: s-maj=32.9km s-min=21.3km az=76.0*
ISC 26 21:46:13.5±0.9, 33.95°N±0.10°×137.02°E±0.06, h361km±8km, n28, σ0°92/33, mb2.9/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.22**	**178**	P		**Pn**	**21 46 59.3**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.44**	**82**	P		**Pn**	**21 46 59.7**	**+1.2**
JIE	**Ise**	**0.51**	**330**	P		**Pn**	**21 46 59.7**	**+0.8**
TK02	**Tokai 2**	**0.62**	**90**	P		**Pn**	**21 46 59.9**	**+1.0**
HMMJ	**Hamamatsu 2**	**1.07**	**33**	P		**Pn**	**21 47 01.5**	**+0.9**
JWZ	**Kozaga**	**1.16**	**249**	P		**Pn**	**21 47 00.9**	**-0.2**
JWY	**Kouya**	**1.21**	**283**	P		**Pn**	**21 47 01.8**	**+0.4**
JNY	**Yasuok**	**1.57**	**26**	P		**Pn**	**21 47 04.0**	**+0.9**
JGM	**Miyama**	**1.76**	**352**	P		**Pn**	**21 47 05.1**	**+0.9**
JWT	**Wachi**	**1.88**	**315**	P		**Pn**	**21 47 05.3**	**+0.4**
JWT				*e*S		**S**	**21 47 44.7**	**-1.7**
JAI	**Aioi**	**2.14**	**266**	P		**Pn**	**21 47 06.8**	**0.0**
JOD2	**Odawara 2**	**2.15**	**52**	P		**Pn**	**21 47 07.4**	**+0.6**
JKG	**Kaga**	**2.39**	**347**	P		**Pn**	**21 47 09.2**	**+0.7**
JRY	**Ryogami san**	**2.58**	**36**	P		**Pn**	**21 47 11.6**	**+1.6**
JMN	**Monobe**	**2.62**	**266**	P		**Pn**	**21 47 10.7**	**+0.2**
JHU	**Hanno**	**2.66**	**44**	P		**Pn**	**21 47 11.6**	**+0.9**
JHU				*e*S		**S**	**21 47 56.6**	**-0.2**
MJAR	**Matsushiro Arr**	**2.76**	**20**	P		**Pn**	**21 47 11.9**	**+0.3**
	0.5nm,0.3s,baz=204,slow=11,SNR=5.9							
BSO4	**Boso 4**	**2.93**	**68**	P		**Pn**	**21 47 13.7**	**+0.8**
BSO4				*e*S		**S**	**21 48 00.8**	**0.0**
BSO3	**Boso 3**	**3.01**	**73**	P		**Pn**	**21 47 12.9**	**-0.5**
BSO3				*e*S		**S**	**21 48 01.2**	**-0.6**
JAG	**Ashikaga**	**3.17**	**38**	P		**Pn**	**21 47 14.8**	**-0.3**
JAG				*e*S		**S**	**21 48 02.6**	**-2.3**
JYT	**Yasato**	**3.46**	**48**	P		**Pn**	**21 47 17.3**	**-0.4**
JHO	**Hitachi**	**3.94**	**47**	P		**Pn**	**21 47 21.8**	**-0.6**
JNU	**Nakatsue**	**5.19**	**263**	P		**Pn**	**21 47 36.4**	**+0.6**
	0.4nm,0.3s,baz=72,slow=9.6,SNR=4.4							
KSRS	**Korea Array**	**8.18**	**298**	P		**P**	**21 48 11.2**	**-0.8**
	0.2nm,0.3s,baz=110,slow=13,SNR=8.6							
USRK	**Ussuriysk Arra**	**10.95**	**341**	P		**P**	**21 48 43.8**	**+1.1**
	0.1nm,0.3s,baz=162,slow=9.5,SNR=4.6							
MKAR	**Makanchi Array**	**42.80**	**304**	P		**P**	**21 53 37.4**	**+0.4**
	0.3nm,0.5s,baz=85,slow=9.9,SNR=5.8							
WRA	**Warramunga Arr**	**53.65**	**183**	P		**P**	**21 54 58.4**	**-0.8**
	0.2nm,0.3s,baz=0.1,slow=7.6,SNR=5.6							
FINES	**FINESS Array B**	**69.83**	**331**	P		**P**	**21 56 46.0**	**+0.5**
	0.8nm,0.8s,baz=72,slow=6.2,SNR=7.5							

ISCJB ***26*** *21:52:53.6±0.5, 37.14°N±0.02°×36.37°E±0.03, h4km±4km, Error ellipse: s-maj=3.6km s-min=3.6km az=166.8*
DDA ***26*** *21:52:53.6, 37.17°N×36.38°E, h7km, MD3.3*
ISK ***26*** *21:52:53.4, 37.19°N×36.38°E, h7km, MD3.4*
CSEM ***26*** *21:52:54.1±0.1, 37.15°N×36.37°E, h8km, MD3.4, Error ellipse: s-maj=2.2km s-min=2.2km az=19.0*
NSSC ***26*** *21:52:58.8±2.3, 36.91°N×36.70°E, h5km±36km*
ISC 26 21:52:54.0±1.1, 37.16°N±0.03°×36.38°E±0.02, h7km±10km, n63, σ0°61/81, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.52**	**254**	*e*PG		**Pg**	**21 53 04.2**	**+0.1**
CEYT	**Ceyhan**	**0.52**	**254**	*e*Pg		**Pg**	**21 53 04.2**	**+0.1**
KMRS	**Kahramanmaras**	**0.54**	**50**	*e*PG		**Pg**	**21 53 04.2**	**-0.3**
KMRS				*e*SG		**Sg**	**21 53 11.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.54**	**50**	*e*Pg		**Pg**	**21 53 04.2**	**-0.3**
KMRS				*e*Sg		**Sg**	**21 53 11.6**	**-0.1**
KOZT	**Kozan**	**0.55**	**307**	*e*PG		**Pg**	**21 53 04.1**	**-0.5**
KOZT				*e*SG		**Sg**	**21 53 11.8**	**+0.1**
KOZT	**Kozan**	**0.55**	**307**	*e*Pg		**Pg**	**21 53 04.1**	**-0.5**
KOZT				*e*Sg		**Sg**	**21 53 11.8**	**+0.1**
GAZ	**Gaziantep**	**0.67**	**88**	*e*PG		**Pg**	**21 53 07.0**	**+0.1**
GAZ	**Gaziantep**	**0.67**	**88**	*e*Pg		**Pg**	**21 53 07.0**	**+0.1**
KUZU	**Kuzuini**	**0.68**	**124**	*i* P		**Pg**	**21 53 07.7**	**+0.7**
KUZU				*i* S		**Sb**	**21 53 17.6**	**-0.2**
KUZU	**Kuzuini**	**0.68**	**124**	*i* P		**Pg**	**21 53 07.7**	**+0.7**
KUZU				*i* S		**Sb**	**21 53 17.6**	**-0.2**
KRTS	**Karatas**	**0.99**	**234**	*e*PG		**Pb**	**21 53 13.4**	**-0.1**
KRTS	**Karatas**	**0.99**	**234**	*e*Pg		**Pb**	**21 53 13.4**	**-0.1**
HTY	**Hatay**	**1.05**	**191**	*e*PN		**Pb**	**21 53 14.4**	**-0.1**
HTY	**Hatay**	**1.05**	**191**	*e*Pn		**Pb**	**21 53 14.4**	**-0.1**
BTCH	**Batrach**	**1.12**	**177**	‖*e*P		**Pg**	**21 53 15.6**	**+0.1**
BTCH	**Batrach**	**1.12**	**177**	‖*e*P		**Pg**	**21 53 15.6**	**+0.1**
	SNR=67							
GULE	**Gulek**	**1.28**	**276**	*i* P		**Pn**	**21 53 18.0**	**-0.6**
GULE				*i* S		**Sn**	**21 53 36.9**	**+0.8**
GULE	**Gulek**	**1.28**	**276**	*i* P		**Pn**	**21 53 18.0**	**-0.6**
GULE				*i* S		**Sn**	**21 53 36.9**	**+0.8**
ARNB	**Al Arnab**	**1.33**	**194**	*e*P		**Pn**	**21 53 18.9**	**-0.2**
	SNR=57							
ARNB				*e*S		**Sn**	**21 53 37.2**	**0.0**
	249nm,0.2s,SNR=49							
MERS	**Mersin**	**1.51**	**260**	*e*PN		**Pn**	**21 53 21.4**	**-0.2**
MERS	**Mersin**	**1.51**	**260**	*e*Pn		**Pn**	**21 53 21.4**	**-0.2**
PINB	**Pinarbasi**	**1.52**	**1**	*i* P		**Pn**	**21 53 21.4**	**-0.5**
PINB				*i* S		**Sg**	**21 53 43.7**	**+0.8**
PINB	**Pinarbasi**	**1.52**	**1**	*i* P		**Pn**	**21 53 21.4**	**-0.5**
PINB				*i* S		**Sg**	**21 53 43.7**	**+0.8**
ATAB	**Bozova**	**1.56**	**78**	*i* P		**Pg**	**21 53 24.7**	**+0.7**
ATAB				*i* S		**Sg**	**21 53 44.0**	**-0.2**
ATAB	**Bozova**	**1.56**	**78**	*i* P		**Pg**	**21 53 24.7**	**+0.7**
ATAB				*i* S		**Sg**	**21 53 44.0**	**-0.2**
SLMH	**Al Salmeh**	**1.56**	**127**	*e*P		**Pn**	**21 53 21.4**	**-0.9**
SLMH				*e*P		**Pb**	**21 53 23.1**	**-0.2**
AKCD	**Akcadag**	**1.67**	**47**	*i* P		**Pn**	**21 53 23.8**	**-0.1**
AKCD				*i* S		**Sb**	**21 53 47.2**	**+0.6**
AKCD	**Akcadag**	**1.67**	**47**	*i* P		**Pn**	**21 53 23.8**	**-0.1**
AKCD				*i* S		**Sb**	**21 53 47.2**	**+0.6**
NIG	**Nigde**	**1.70**	**305**	*e*PN		**Pn**	**21 53 24.6**	**+0.3**
NIG	**Nigde**	**1.70**	**305**	*e*Pn		**Pn**	**21 53 24.6**	**+0.3**
BNN	**Bunyan**	**1.75**	**346**	*e*PN		**Pn**	**21 53 24.3**	**-0.6**
BNN	**Bunyan**	**1.75**	**346**	*e*Pn		**Pn**	**21 53 24.3**	**-0.6**
KFRA	**Kufra**	**1.97**	**170**	*i* Pg		**Pb**	**21 53 30.8**	**+0.5**
MALT	**Malatya**	**2.00**	**54**	*e*PN		**Pn**	**21 53 29.1**	**+0.8**
MALT	**Malatya**	**2.00**	**54**	*e*Pn		**Pn**	**21 53 29.1**	**+0.8**
MYA	**Malataya**	**2.00**	**54**	*e*PN		**Pn**	**21 53 28.2**	**-0.1**
MYA	**Malataya**	**2.00**	**54**	*e*Pn		**Pn**	**21 53 28.2**	**-0.1**
DARE	**Darende-Malaty**	**2.12**	**32**	*e*PN		Pn	21 53 23.3	-6.7
BIDA	**Albida**	**2.14**	**181**	*e*P		**Pb**	**21 53 32.2**	**-0.9**
BIDA	**Albida**	**2.14**	**181**	*e*P		**Pn**	**21 53 30.7**	**+0.5**
	SNR=45							
BIDA				*e*S		**Sn**	**21 53 55.2**	**-1.9**
	124nm,0.5s,SNR=40							
JHLN	**Al Jahlan**	**2.23**	**131**	*e*P		**Pb**	**21 53 33.3**	**-1.3**
JHLN	**Al Jahlan**	**2.23**	**131**	*e*P		**Pn**	**21 53 31.2**	**-0.2**
	SNR=45							
JHLN				*e*S		**Sn**	**21 53 59.5**	**+0.3**
	176nm,0.7s,SNR=40							
SULT	**Sultanhani-AKS**	**2.50**	**296**	*e*PN		**Pn**	**21 53 35.4**	**+0.2**
SULT	**Sultanhani-AKS**	**2.50**	**296**	*e*Pn		**Pn**	**21 53 35.4**	**+0.2**
YOZ	**Yozgat**	**2.62**	**342**	*e*PN		**Pn**	**21 53 36.8**	**-0.1**
YOZ	**Yozgat**	**2.62**	**342**	*e*Pn		**Pn**	**21 53 36.8**	**-0.1**
MNKR	**ALMNKUR**	**2.63**	**117**	*e*P		**Pn**	**21 53 36.0**	**-0.9**
MNKR	**ALMNKUR**	**2.63**	**117**	*e*P		**Pn**	**21 53 36.0**	**-0.9**
	SNR=45							
HAWK	**Haweek**	**2.63**	**179**	*e*P		**Pn**	**21 53 39.3**	**+2.4**
HAWK	**Haweek**	**2.63**	**179**	*e*P		**Pn**	**21 53 37.3**	**+0.3**
	SNR=45							
HAWK				*e*S		**Sn**	**21 54 08.4**	**-0.8**
	30nm,0.8s,SNR=40							
ILIC	**ilic-Erzincan**	**2.87**	**36**	*e*PN		**Pn**	**21 53 40.5**	**+0.2**
ILIC	**ilic-Erzincan**	**2.87**	**36**	*e*Pn		**Pn**	**21 53 40.5**	**+0.2**
PTK	**Pertek**	**2.94**	**53**	*e*PN		**Pn**	**21 53 41.8**	**+0.3**
PTK	**Pertek**	**2.94**	**53**	*e*Pn		**Pn**	**21 53 41.8**	**+0.3**
SFNV	**Sufian**	**3.09**	**103**	*e*P		**Pn**	**21 53 44.1**	**+0.8**
SFNV	**Sufian**	**3.09**	**103**	*e*P		**Pn**	**21 53 44.1**	**+0.8**
	SNR=45							
CORM	**Corum**	**3.31**	**336**	*e*PN		**Pn**	**21 53 46.6**	**+0.2**
CORM	**Corum**	**3.31**	**336**	*e*Pn		**Pn**	**21 53 46.7**	**+0.2**
RSDY	**Resadiye-TOKAT**	**3.32**	**13**	*e*PN		**Pn**	**21 53 47.0**	**+0.6**
RSDY	**Resadiye-TOKAT**	**3.32**	**13**	*e*Pn		**Pn**	**21 53 47.0**	**+0.6**
AFSR	**Afar-Bala (A**	**3.46**	**312**	*e*PN		**Pn**	**21 53 49.0**	**+0.5**
AFSR	**Afar-Bala (A**	**3.46**	**312**	*e*Pn		**Pn**	**21 53 49.0**	**+0.5**
BNGB	**Bing¶l**	**3.86**	**60**	*e*PN		**Pn**	**21 53 54.6**	**+0.7**

ISCJB ***26*** *21:54:22.3±0.3, 57.28°N±0.03°×120.59°E±0.05, h10km, mb4.0/33, MS4.1/1, Error ellipse: s-maj=5.0km s-min=3.5km az=3.4*
BYKL ***26*** *21:54:22.6±0.5, 57.36°N×120.74E*
IDC ***26*** *21:54:22.4±0.5, 57.32°N×120.59E, h0km, mb3.9/22, mb1 4.1/25, mb1mx4.0/31, mbtmp3.9/25, ML3.8/1, Error ellipse: s-maj=14.9km s-min=12.6km az=22.0*
MOS ***26*** *21:54:23.0±1.1, 57.35°N×120.63E, h16km, mb4.3/12, Error ellipse: s-maj=11.4km s-min=8.2km az=95.1*
NEIC ***26*** *21:54:24.0±0.3, 57.35°N×120.64E, h10km, mb4.2/8, Error ellipse: s-maj=8.0km s-min=6.0km az=171.0*
ISC 26 21:54:24.0±0.4, 57.34°N±0.04°×120.71E±0.02, h10km, n143, σ1°15/145, mb3.9/33, 3C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHNR	**Khani**	**0.58**	**224**	*e*Pg		**Pg**	**21 54 33.5**	**-1.7**
KHNR				*e*Sg		**Sg**	**21 54 41.3**	**-1.5**
CRS	**Chara**	**1.40**	**253**	*e*P		**Pn**	**21 54 48.8**	**-0.9**
CRS	**Chara**	**1.40**	**253**	‖*i*Pg		**Pn**	**21 54 48.6**	**-1.1**
CRS				*e*Pb		**Pb**	**21 54 50.4**	**+0.1**
CRS				max			21 54 51.4	
	2μm

TRG					Smax			21 59 28.3			
	comp=Z,139nm,1.8s										
KAB	**Kabansk**		**9.70**	**243**	*e*Sg		Sn	21 59 24.8	+52		
KAB					Smax			21 59 40.5			
	comp=Z,1μm,2.3s										
HRMR	**Khuramsha**		**9.83**	**240**	*e*Sg		Sn	21 59 29.1	+53		
HRMR					Smax			21 59 38.4			
	comp=Z,766nm,1.5s										
KLR	**Kul'dur**		**10.46**	**136**	*e*P		**Pn**	**21 56 52.2**	**-1.6**		
LSTR	**Listvyanka**		**10.70**	**246**	*e*Sg		Sn	21 59 54.3	+57		
LSTR					Smax			22 00 04.5			
	comp=Z,123nm,2.0s										
IRK	**Irkutsk**		**10.77**	**249**	*e*Sg		Sn	21 59 56.5	+58		
IRK					Smax			22 00 02.9			
	comp=Z,132nm,2.3s										
TLY	**Talaya**		**11.41**	**247**	*e*Sg			22 00 16.0			
TLY					Smax			22 00 29.4			
	comp=Z,78nm,1.4s										
ARS	**Arshan**		**11.89**	**251**	*e*Sg			22 00 31.1			
ARS					Smax			22 00 38.6			
	comp=Z,164nm,2.8s										
ULN	**Ulaanbaatar**		**12.58**	**227**	*e*Sg			22 00 53.8			
MOY	**Mondy**		**12.77**	**252**	*e*Sg			22 00 59.0			
MOY					Smax			22 01 04.9			
	comp=Z,89nm,1.6s										
SONM	**Songino Array**		**12.87**	**228**	Pn		**Pn**	**21 57 26.5**	**-0.4**		
	baz=30,slow=15,SNR=2.1										
SONM					Lg		Lg	22 01 04.1			
	comp=Z,0.6nm,0.3s,baz=39,slow=24,SNR=8.6										
SONM	**Songino Array**		**12.87**	**228**	P		**Pn**	**21 57 26.5**	**-0.4**		
SONM	**Songino Array**		**12.87**	**228**	Pn		**Pn**	**21 57 26.5**	**-0.4**		
SONM					Lg		Lg	22 01 04.1			
ORL	**Orlik**		**12.92**	**257**	*e*Sg			22 00 59.9			
ORL					Smax			22 01 00.7			
	comp=Z,45nm,1.5s										
USRK	**Ussuriysk Arra**		**14.94**	**147**	Pn		**Pn**	**21 57 56.4**	**+1.4**		
	comp=Z,0.1nm,0.3s,baz=343,slow=10,SNR=3.4										
USRK					Lg		Lg	22 02 15.7			
	comp=Z,0.1nm,0.3s,baz=330,slow=27,SNR=8.4										
ASAJ	**Asahikawa**		**19.04**	**125**	P		**Pn**	**21 58 48.2**	**+1.4**		
	comp=Z,0.5nm,0.3s,baz=8,7,slow=13,SNR=3.1										
ASAJ	**Asahikawa**		**19.04**	**125**	P		**Pn**	**21 58 48.2**	**+1.4**		
ASAJ					pmax		pmax				
	comp=Z,1.0nm,0.3s										
ASAJ	**Asahikawa**		**19.04**	**125**	P		**Pn**	**21 58 48.2**	**+1.4**		
ZAA0	**Zalesovo Array**		**20.38**	**276**	*e*P		**P**	**21 59 00.9**	**+0.3**		
ZALV	**Zalesovo Beam**		**20.38**	**276**	P		**P**	**21 59 00.5**	**-0.1**		
	comp=Z,1.8nm,0.7s,baz=64,slow=9.4,SNR=8.3										
ZALV	**Zalesovo Beam**		**20.38**	**276**	P		**P**	**21 59 00.5**	**-0.1**		
ZALV	**Zalesovo Beam**		**20.38**	**276**	P		**P**	**21 59 00.5**	**-0.1**		
KSRS	**Korea Array**		**20.46**	**163**	P		**P**	**21 59 02.1**	**+0.6**		
	comp=Z,4.0nm,1.0s,baz=356,slow=9.7,SNR=9.3										
KSRS	**Korea Array**		**20.46**	**163**	P		**P**	**21 59 02.1**	**+0.6**		
KSRS					pmax		pmax				
	comp=Z,4.0nm,1.0s										
KSAR	**Wonju Array Be**		**20.46**	**163**	P		**P**	**21 59 02.1**	**+0.5**		
KSAR	**Wonju Array Be**		**20.46**	**163**	P		**P**	**21 59 02.1**	**+0.5**		
NVS	**Novosibirsk**		**20.88**	**279**	*e*P		Pn	21 59 09.5	+1.0		
PETK	**Petropavlovsk-**		**21.33**	**86**	P		**P**	**21 59 11.7**	**+0.8**		
	comp=Z,3.5nm,0.7s,baz=258,slow=4.4,SNR=4.4										
PETK	**Petropavlovsk-**		**21.33**	**86**	P		**P**	**21 59 11.7**	**+0.8**		
PETK	**Petropavlovsk-**		**21.33**	**86**	P		**P**	**21 59 11.7**	**+0.8**		
GTA	**Gaotai**		**22.52**	**226**	*e*P		**P**	**21 59 25.8**	**+2.0**		
GTA					pP		pP	21 59 39.3	+13		
GTA					sP		sP	21 59 46.5	+19		
GTA					S		**S**	**22 03 31.3**	**+0.6**		
GTA					sS		Sn	22 03 55.3	+12		
GTA					SS		SnSn	22 04 20.8	+21		
GTA					pmax		pmax				
	comp=Z,3.0nm,1.2s										
GTA					pmax		pmax				
	comp=Z,360nm,6.6s										
GTA					LR		LR				
	comp=N,490nm,17.1s										
GTA					LR		LR				
	comp=E,800nm,17.8s										
GTA					LR		LR				
	comp=Z,530nm,18.5s										
BILL	**Bilibino**		**22.88**	**44**	P		**P**	**21 59 28.2**	**+0.9**		
BILL					pmax		pmax				
	comp=Z,3.0nm,0.7s										
BILL	**Bilibino**		**22.88**	**44**	P		**P**	**21 59 28.2**	**+0.9**		
	comp=Z,2.8nm,0.7s										
KURK	**Kurchatov**		**25.26**	**273**	P		**P**	**21 59 50.5**	**+0.6**		
	comp=Z,1.7nm,0.3s,baz=60,slow=9.4,SNR=5.5										
KURK	**Kurchatov**		**25.26**	**273**	P		**P**	**21 59 50.6**	**+0.6**		
KURK					pmax		pmax				
	comp=Z,2.0nm,0.3s										
KURK	**Kurchatov**		**25.26**	**273**	*e*P		**P**	**21 59 50.2**	**+0.3**		
	comp=Z,1.6nm,0.6s										
MK31	**Makanchi Array**		**25.53**	**262**	*e*P		**P**	**21 59 52.2**	**-0.3**		
MK31	**Makanchi Array**		**25.53**	**262**	*e*P		**P**	**21 59 52.2**	**-0.3**		
MKAR	**Makanchi Array**		**25.53**	**262**	P		**P**	**21 59 52.1**	**-0.4**		
	comp=Z,2.1nm,0.7s,baz=42,slow=6.9,SNR=17										
MKAR	**Makanchi Array**		**25.53**	**262**	P		**P**	**21 59 52.1**	**-0.4**		
MKAR	**Makanchi Array**		**25.53**	**262**	P		**P**	**21 59 52.1**	**-0.4**		
BVAR	**Borovoye Array**		**28.51**	**283**	P		**P**	**22 00 18.4**	**-0.9**		
	comp=Z,0.5nm,0.5s,baz=66,slow=9.7,SNR=4.1										
BVAR	**Borovoye Array**		**28.51**	**283**	P		**P**	**22 00 18.4**	**-0.9**		
BVAR	**Borovoye Array**		**28.51**	**283**	P		**P**	**22 00 18.4**	**-0.9**		
AAK	**Ala-Archa**		**32.45**	**263**	*e*P		**P**	**22 00 54.6**	**+0.3**		
AAK					pmax		pmax				
	comp=Z,8.0nm,0.9s										
AAK	**Ala-Archa**		**32.45**	**263**	*e*P		**P**	**22 00 54.6**	**+0.3**		
	comp=Z,7.6nm,0.9s										
KKAR	**Karatay Array**		**34.28**	**267**	*e*P		**P**	**22 01 10.4**	**+0.3**		
KKAR	**Karatay Array**		**34.28**	**267**	*e*P		**P**	**22 01 10.3**	**+0.3**		
	comp=Z,0.8nm,0.5s										
ABKAR	**Akbulak array**		**36.08**	**284**	*e*P		**P**	**22 01 24.1**	**-1.4**		
	comp=Z,0.7nm,0.5s										
AKTO	**Aktyubinsk**		**36.39**	**287**	P		**P**	**22 01 28.9**	**+0.8**		
	comp=Z,1.0nm,0.6s,baz=76,slow=13,SNR=5.3										
AKTO	**Aktyubinsk**		**36.39**	**287**	P		**P**	**22 01 28.9**	**+0.8**		
AKTO	**Aktyubinsk**		**36.39**	**287**	P		**P**	**22 01 28.9**	**+0.8**		
KEV	**Kevo**		**39.15**	**327**	*e*P		**P**	**22 01 51.3**	**+0.1**		
KEV					pmax		pmax				
	comp=Z,1.0nm,0.4s										
KEV	**Kevo**		**39.15**	**327**	*e*p		**P**	**22 01 51.3**	**+0.1**		
	comp=Z,1.1nm,0.4s										
KEV	**Kevo**		**39.15**	**327**	*e*p		**P**	**22 01 51.3**	**+0.1**		
	comp=Z,1.1nm,0.4s										
KLMR	**Klimovskoe**		**39.35**	**310**	*e*P		**P**	**22 01 52.4**	**-0.6**		
ARCES	**ARCESS Array B**		**39.72**	**327**	P		**P**	**22 01 56.1**	**+0.2**		
	comp=Z,5.2nm,1.0s,baz=64,slow=12,SNR=5.9										
ARCES	**ARCESS Array B**		**39.72**	**327**	P		**P**	**22 01 56.1**	**+0.2**		
ARCES	**ARCESS Array B**		**39.72**	**327**	P		**P**	**22 01 56.1**	**+0.2**		
JOF	**Joensuu**		**41.44**	**316**	*e*P		**P**	**22 02 10.0**	**-0.2**		
JOF					pmax		pmax				
	comp=Z,1.0nm,0.4s										
JOF	**Joensuu**		**41.44**	**316**	*e*p		**P**	**22 02 10.0**	**-0.2**		
	comp=Z,0.7nm,0.4s										
JOF	**Joensuu**		**41.44**	**316**	*e*p		**P**	**22 02 10.0**	**-0.2**		
	comp=Z,0.7nm,0.4s										
ILAR	**Eielson Array**		**41.46**	**40**	P		**P**	**22 02 10.8**	**+0.3**		
	comp=Z,0.9nm,0.7s,baz=294,slow=5.8,SNR=15										
ILAR	**Eielson Array**		**41.46**	**40**	P		**P**	**22 02 10.8**	**+0.3**		
ILAR	**Eielson Array**		**41.46**	**40**	P		**P**	**22 02 10.8**	**+0.3**		
INK	**Inuvik**		**43.52**	**31**	P		**P**	**22 02 28.5**	**+1.5**		
	comp=Z,0.9nm,0.8s,baz=273,slow=4.7,SNR=3.1										
INK	**Inuvik**		**43.52**	**31**	P		**P**	**22 02 28.5**	**+1.5**		
INK					pmax		pmax				
	comp=Z,1.0nm,0.8s										
INK	**Inuvik**		**43.52**	**31**	P		P	22 02 30.5	+3.5		
KAF	**Kangasniemi**		**43.78**	**317**	*e*P		**P**	**22 02 27.2**	**-2.1**		
KAF					pmax		pmax				
	comp=Z,1.0nm,0.4s										
KAF	**Kangasniemi**		**43.78**	**317**	*e*p		**P**	**22 02 27.2**	**-2.1**		
	comp=Z,0.6nm,0.4s										
KAF	**Kangasniemi**		**43.78**	**317**	*e*p		**P**	**22 02 27.2**	**-2.1**		
	comp=Z,0.6nm,0.4s										
OBN	**Obninsk**		**43.99**	**305**	*e*P		P	22 02 40.6	+10		
OBN					pmax		pmax				
	comp=Z,11nm,2.2s										
FINES	**FINESS Array B**		**44.29**	**317**	P		**P**	**22 02 32.5**	**-0.8**		
	comp=Z,5.2nm,0.6s,baz=38,slow=9.5,SNR=27										
FINES	**FINESS Array B**		**44.29**	**317**	P		**P**	**22 02 32.6**	**-0.8**		
FINES	**FINESS Array B**		**44.29**	**317**	P		**P**	**22 02 32.5**	**-0.8**		
NB2	**NORSAR Subarra**		**49.77**	**323**	P		**P**	**22 03 15.3**	**-0.9**		
	comp=Z,1.4nm,0.5s,baz=40,slow=7.4										
NOA	**NORSAR Array B**		**49.77**	**323**	P		**P**	**22 03 15.3**	**-0.9**		
	comp=Z,1.5nm,0.4s,baz=43,slow=7.9,SNR=15										
NOA	**NORSAR Array B**		**49.77**	**323**	P		**P**	**22 03 15.3**	**-0.9**		
NOA	**NORSAR Array B**		**49.77**	**323**	P		**P**	**22 03 15.3**	**-0.9**		
AKASG	**Malin Array Be**		**50.25**	**304**	P		**P**	**22 03 18.1**	**-1.7**		
	comp=Z,1.1nm,0.4s,baz=45,slow=8.9,SNR=5.3										
AKASG	**Malin Array Be**		**50.25**	**304**	P		**P**	**22 03 18.2**	**-1.7**		
AKASG	**Malin Array Be**		**50.25**	**304**	P		**P**	**22 03 18.1**	**-1.7**		
YKA	**Yellowknife Ar**		**53.07**	**29**	P		**P**	**22 03 40.0**	**-0.8**		
	comp=Z,0.5nm,0.8s,baz=330,slow=7.2,SNR=5.8										
YKA	**Yellowknife Ar**		**53.07**	**29**	P		**P**	**22 03 40.0**	**-0.8**		
YKA	**Yellowknife Ar**		**53.07**	**29**	P		**P**	**22 03 40.0**	**-0.8**		
BUR08	**Bucovina Ar. S**		**54.28**	**304**	*e*P		**P**	**22 03 50.2**	**+0.2**		
CLL	**Collm**		**56.60**	**314**	*i* P		**P**	**22 04 07.7**	**+1.2**		
CLL					pmax		pmax				
	comp=Z,4.0nm,0.7s										
CLL	**Collm**		**56.60**	**314**	*i* P		**P**	**22 04 07.7**	**+1.2**		
	comp=Z,4.0nm,0.7s										
KHC	**Kasperske Hory**		**58.09**	**312**	*e*P		**P**	**22 04 17.0**	**-0.1**		
KHC					pmax		pmax				
	comp=Z,4.0nm,0.8s										
KHC	**Kasperske Hory**		**58.09**	**312**	*e*P		**P**	**22 04 17.0**	**-0.1**		
	comp=Z,4.1nm,0.8s										
GERES	**GERESS Array B**		**58.27**	**312**	P		**P**	**22 04 17.6**	**-0.8**		
	comp=Z,1.3nm,0.7s,baz=29,slow=6.9,SNR=14										
GERES	**GERESS Array B**		**58.27**	**312**	P		**P**	**22 04 17.7**	**-0.8**		
GERES	**GERESS Array B**		**58.27**	**312**	P		**P**	**22 04 17.6**	**-0.8**		
TUE	**Stuetta**		**61.92**	**313**	*e*P		**P**	**22 04 43.2**	**-0.5**		
	comp=Z,3.2nm,0.6s										
SCHQ	**Schefferville**		**68.02**	**5**	P		**P**	**22 05 22.7**	**-0.3**		
	comp=Z,4.2nm,0.9s,baz=20,slow=12,SNR=3.0										
PDAR	**Pinedale Array**		**71.75**	**37**	P		**P**	**22 05 46.0**	**-0.4**		
	comp=Z,0.6nm,0.7s,baz=352,slow=3.1,SNR=3.8										
PDAR	**Pinedale Array**		**71.75**	**37**	P		**P**	**22 05 46.0**	**-0.4**		
NVAR	**Mina Array Bea**		**72.49**	**45**	P		**P**	**22 05 52.5**	**+1.6**		
	comp=Z,0.4nm,0.6s,baz=337,slow=4.3,SNR=2.6										
NVAR	**Mina Array Bea**		**72.49**	**45**	P		**P**	**22 05 52.5**	**+1.6**		
ESDC	**Sonseca Array**		**72.77**	**318**	P		**P**	**22 05 52.0**	**-0.3**		
	comp=Z,0.4nm,0.5s,baz=2.9,slow=7.3,SNR=4.3										
ESDC	**Sonseca Array**		**72.77**	**318**	P		**P**	**22 05 52.0**	**-0.3**		
WRAB	**Tennant Creek**		**77.82**	**167**	*e*P		**P**	**22 06 19.1**	**-2.1**		
WRAB					pmax		pmax				
	comp=Z,4.0nm,1.1s										
WRAB	**Tennant Creek**		**77.82**	**167**	*e*P		**P**	**22 06 19.1**	**-2.1**		
	comp=Z,3.9nm,1.1s										
WRA	**Warramunga Arr**		**77.82**	**167**	P		**P**	**22 06 20.5**	**-0.8**		
	comp=Z,0.5nm,0.5s,baz=350,slow=6.4,SNR=5.4										
WRA	**Warramunga Arr**		**77.82**	**167**	P		**P**	**22 06 20.5**	**-0.8**		
WRA	**Warramunga Arr**		**77.82**	**167**	P		**P**	**22 06 20.5**	**-0.8**		
ASAR	**Alice Springs**		**81.45**	**168**	P		**P**	**22 06 40.3**	**-0.7**		
	comp=Z,0.5nm,0.6s,baz=354,slow=4.8,SNR=12										
ASAR	**Alice Springs**		**81.45**	**168**	P		**P**	**22 06 40.3**	**-0.7**		
ASAR	**Alice Springs**		**81.45**	**168**	P		**P**	**22 06 40.3**	**-0.7**		
TORD	**Torodi Ar. Bea**		**93.80**	**301**	P		**P**	**22 07 42.7**	**+1.3**		
	comp=Z,0.8nm,1.1s,baz=12,slow=3.6,SNR=3.0										
TORD	**Torodi Ar. Bea**		**93.80**	**301**	P		**P**	**22 07 42.7**	**+1.3**		
QSPA	**South Pole Qui**		**147.09**	**180**	PKPbc		**PKPdf**	**22 14 03.1**	**-0.3**		
	comp=Z,1.3nm,0.2s,baz=286,slow=3.2,SNR=4.0										
QSPA	**South Pole Qui**		**147.09**	**180**	PKPbc		**PKPdf**	**22 14 03.1**	**-0.3**		

*BJI **26** 21:54:43.3, 57.72N×120.75E, h9km, mB4.8/1, mb4.2/10, Ms4.5/1, Ms7 4.3/2*
*BYKL **26** 21:54:44.8±0.6, 57.35N×120.78E*
*IDC **26** 21:54:44.9±0.5, 57.30N×120.55E, h0km, mb4.2/26, mb1 4.4/26, mb1mx4.3/29, mbtmp4.2/26, Error ellipse: s-maj=13.8km s-min=12.6km az=26.0*
*MOS **26** 21:54:45.5±1.1, 57.34N×120.44E, h15km, mb4.7/26, Error ellipse: s-maj=10.2km s-min=7.1km az=92.8*
*NEIC **26** 21:54:46.7±0.3, 57.37N×120.52E, h10km, mb4.6/16, Error ellipse: s-maj=6.9km s-min=5.3km az=169.0*
ISC 26 21:54:45.4±0.8, 57°26N±0°04×120°47E±0°03, h3km±5km, n223, σ1§17/205, mb4.5/65, 9C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.43**	**218**	*e*Pg	**Pb**	**21 54 55.4**	**-0.3**
KHNR				*e*Sg	**Sb**	**21 55 03.4**	**+0.8**
CRS	**Chara**	**1.25**	**254**	*e*	**Pn**	**21 55 11.6**	**+1.7**
CRS				*e*Sg	**Sn**	**21 55 28.7**	**+1.4**
CRS				Smax		21 55 31.6	
	4μm,1.1s						
NRGR	**Nerungri**	**2.41**	**103**	*e*P	**Pn**	**21 55 26.4**	**+0.6**
NRGR				S	**Sn**	**21 55 55.5**	**-0.3**
NRGR				smax	smax		
	comp=N,3μm,0.8s						
CLNS	**Chul'man**	**2.46**	**98**	*e*Pg	**Pn**	**21 55 25.5**	**-0.9**
CLNS				*e*Sg	**Sn**	**21 55 56.1**	**-0.8**
NLYR	**Nelyaty**	**2.73**	**256**	*e*P	**Pb**	**21 55 34.6**	**-0.2**
NLYR	**Nelyaty**	**2.73**	**256**	*e*	**Pn**	**21 55 29.8**	**-0.3**
NLYR				*e*Pg	**Pb**	**21 55 35.7**	**+0.9**
NLYR				Pmax		21 55 38.6	
	comp=N,1μm,0.7s						
NLYR				*e*Sg	**Sg**	**21 56 14.1**	**+1.2**
NLYR				Smax		21 56 18.5	
	comp=N,4μm,1.3s						
TUP	**Tupik**	**2.85**	**186**	*e*P	**Pb**	**21 55 37.9**	**+0.9**
TUP				*e*		21 56 15.7	
TUP				pmax	pmax		
	comp=Z,799nm,0.8s						
TUP				smax	smax		
	comp=E,4μm,1.1s						
TUP	**Tupik**	**2.85**	**186**	*e*Pg	**Pb**	**21 55 37.1**	**+0.1**
TUP				Pmax		21 55 40.0	
	comp=E,917nm,1.6s						
TUP				*e*Sg	**Sg**	**21 56 15.8**	**-1.2**
TUP				Smax		21 56 19.7	
	comp=E,4μm,1.2s						
ALDR	**Aldan**	**2.96**	**61**	*e*Sg	**Sn**	**21 56 10.7**	**+1.2**
TNDR	**Tynda**	**3.18**	**130**	*e*Pn	**Pn**	**21 55 35.7**	**-0.7**
TNDR				*e*Pg	**Pb**	**21 55 42.5**	**-0.1**
TNDR				*e*Sg	**Sb**	**21 56 22.5**	**+0.8**
TNDR				*e*		21 56 29.9	
BOD	**Bodaibo**	**3.53**	**282**	*i* Pg	**Pg**	**21 55 51.1**	**-1.9**
BOD				Pmax		21 55 53.2	
	comp=E,334nm,1.0s						
BOD				*e*Sg	**Sg**	**21 56 38.4**	**-0.3**
BOD				Smax		21 56 43.7	
	comp=E,1μm,0.8s						
BOD				*e*		21 56 57.9	
SVKR	**Severomuysk**	**3.98**	**256**	*e*Pg	**Pb**	**21 55 59.0**	**+2.9**
SVKR				*e*Sg	**Sg**	**21 56 53.2**	**+0.1**
SVKR				Smax		21 57 07.9	
	comp=E,2μm,1.4s						
YOA	**Uoyan**	**4.95**	**261**	*e*Pg	**Pg**	**21 56 17.7**	**-2.5**
YOA				Pmax		21 56 28.1	
	comp=E,921nm,1.4s						
YOA				*e*Sg	**Sg**	**21 57 24.0**	**-0.2**
YOA				Smax		21 57 50.1	
	comp=E,6μm,1.5s						
KMO	**Kumora**	**5.30**	**259**	*e*Pg	Pb	21 56 22.5	+3.8
KMO				Pmax		21 56 30.2	
	comp=E,161nm,1.3s						
KMO				*i* Sg	**Sg**	**21 57 32.6**	**-3.0**
KMO				Smax		21 57 48.2	
	comp=E,2μm,1.1s						
YLYR	**Ulyunkhan**	**5.73**	**249**	*e*P	Pb	21 56 30.3	+4.3
YLYR				pmax	pmax		
	comp=Z,1.0nm,1.9s						
NIZ	**Nizh Angarsk**	**6.23**	**261**	*e*Pg	Pb	21 56 38.7	+4.3
NIZ				Pmax		21 56 45.7	
	comp=Z,61nm,1.4s						
NIZ				*e*Sg	**Sg**	**21 58 00.9**	**-4.3**
NIZ				Smax		21 58 15.2	
	comp=Z,434nm,1.5s						
CIT	**Chita**	**6.60**	**220**	*e*P	**Pn**	**21 56 24.2**	**+0.8**
CIT				pmax	pmax		
	comp=Z,306nm,1.5s						
CIT	**Chita**	**6.60**	**220**	*e*Pg	Pg	21 56 47.7	-4.1
CIT				Pmax		21 56 49.5	
	comp=Z,306nm,1.5s						
CIT				*e*Sg	**Sg**	**21 58 15.7**	**-1.6**
CIT				Smax		21 58 20.4	
	comp=Z,2μm,2.3s						
YAK	**Yakutsk**	**6.68**	**40**	*e*P	Pn	21 56 20.1	-4.3
YAK				*e*		21 57 42.3	
YAK				pmax	pmax		
	comp=Z,63nm,0.8s						
YAK				pmax	pmax		
	comp=N,23nm,0.7s						
YAK				pmax	pmax		
	comp=E,28nm,0.8s						
YAK				smax	smax		
	comp=N,418nm,0.8s						
YAK				smax	smax		
	comp=E,324nm,0.8s						
YAK				MLR	MLR		
	comp=Z,85nm,5.2s						
YAK				MLR	MLR		
	comp=N,320nm,5.2s						
YAK				MLR	MLR		
	comp=E,285nm,6.6s						
SYVR	**Suvo**	**6.96**	**243**	*e*Pg	Pg	21 56 53.9	-4.7
SYVR				Pmax		21 56 57.3	
	comp=E,128nm,1.4s						
SYVR				*e*Sg	**Sg**	**21 58 26.7**	**-2.0**
SYVR				Smax		21 58 34.6	
	comp=E,1μm,1.7s						
MXMB	**Maximikha**	**7.80**	**244**	*e*Pg	Pg	21 57 09.7	-5.0
MXMB				Pmax		21 57 14.5	
	comp=E,86nm,1.1s						
MXMB				*e*Sg	**Sg**	**21 58 52.3**	**-3.3**
MXMB				Smax		21 59 04.3	
	comp=E,1μm,1.3s						
HIA	**Hailar**	**8.02**	**183**	*e*Sg	Sg	21 58 56.2	-6.4
OGRR	**Ongureny**	**8.16**	**249**	*e*P	**Pn**	**21 56 46.4**	**+1.7**
OGRR				pmax	pmax		
	comp=Z,48nm,1.3s						
OGRR	**Ongureny**	**8.16**	**249**	*e*Pg	Pg	21 57 16.5	-5.1
OGRR				Pmax		21 57 30.0	
	comp=Z,47nm,1.2s						
OGRR				*e*Sg	**Sg**	**21 59 04.5**	**-2.7**
OGRR				Smax		21 59 20.5	
	comp=Z,366nm,2.0s						
KPC	**Khapcheranga**	**8.97**	**216**	*e*Sg	Sg	21 59 25.1	-7.9
KPC				Smax		21 59 53.7	
	comp=Z,548nm,2.4s						
ZRHB	**Zarechye**	**9.00**	**244**	*e*Pg	Pn	21 57 31.2	+35
ZRHB				*e*		21 57 38.2	
ZRHB				max		21 57 39.0	
	comp=Z,60nm,1.1s						
ZRHB				*e*Sg	Sn	21 59 31.0	+53
ZRHB				Smax		21 59 46.7	
	comp=Z,2μm,1.3s						
UUDB	**Ulan-Yde**	**9.18**	**239**	*e*Sg	Sn	21 59 34.8	+52
UUDB				Smax		21 59 45.1	
	comp=Z,980nm,1.9s						
TRG	**Tyrgan**	**9.27**	**247**	*e*Pg	Pn	21 57 35.0	+35
TRG				*i* Sg	Sn	21 59 36.1	+51
TRG				Smax		21 59 49.5	
	comp=Z,260nm,1.6s						
KAB	**Kabansk**	**9.55**	**243**	*e*Sg	Sn	21 59 47.7	+56
KAB				Smax		22 00 14.8	
	comp=Z,3μm,2.0s						
HRMR	**Khuramsha**	**9.67**	**240**	*e*Pg	Pn	21 57 42.8	+37
HRMR				Pmax		21 57 44.8	
	comp=Z,63nm,1.3s						
HRMR				*e*Sg	Sn	21 59 50.7	+56
HRMR				Smax		21 59 57.7	
	comp=Z,2μm,1.5s						
LSTR	**Listvyanka**	**10.55**	**246**	*e*Sg		22 00 16.5	
LSTR				*e*		22 00 19.0	
LSTR				max		22 01 01.1	
	comp=Z,277nm,2.0s						
IRK	**Irkutsk**	**10.61**	**249**	*e*Sg		22 00 18.5	
IRK				Smax		22 00 50.8	
	comp=Z,377nm,1.5s						
TLY	**Talaya**	**11.26**	**247**	*e*Sg		22 00 38.7	
TLY				Smax		22 00 50.6	
	comp=Z,137nm,1.5s						
ARS	**Arshan**	**11.74**	**251**	*e*Sg		22 00 54.7	
ARS				Smax		22 01 11.7	
	comp=Z,308nm,1.1s						
ZAK	**Zakamensk**	**12.25**	**243**	*e*P	**Pn**	**21 57 41.5**	**+0.8**
ZAK				*e*		21 59 51.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
HABR	**Khabarovsk**	**12.43**	**129**	*e*P	Pn	21 57 49.4	+6.4
HABR				pmax	pmax		
	comp=E,56nm,2.0s						
HABR				pmax	pmax		
	comp=Z,33nm,2.0s						
HABR				pmax	pmax		
	comp=N,12nm,0.7s						
HABR				MLR	MLR		
	comp=Z,170nm,13.0s						
ULN	**Ulaanbaatar**	**12.43**	**227**	P	**Pn**	**21 57 45.4**	**+2.1**
ULN	**Ulaanbaatar**	**12.43**	**227**	Pn	**Pn**	**21 57 45.4**	**+2.1**
**

MKAR Makanchi Array 25.38 262 P **P** **22 00 14.3 +0.6**
comp=Z,4.0nm,0.8s,baz=58,slow=8.7,SNR=12
MKAR Makanchi Array 25.38 262 P **P** **22 00 14.3 +0.6**
MKAR Makanchi Array 25.38 262 P **P** **22 00 14.3 +0.6**
BVAR Borovoye Array 28.40 283 P **P** **22 00 40.9 +0.2**
comp=Z,2.5nm,0.6s,baz=70,slow=11,SNR=9.5
BVAR Borovoye Array 28.40 283 P **P** **22 00 40.9 +0.2**
BVAR Borovoye Array 28.40 283 P **P** **22 00 40.9 +0.2**
BRVK Borovoye 28.44 283 *eP* P 22 00 34.8 -6.3
BRVK pmax pmax
comp=Z,3.0nm,0.8s
SVE Sverdlovsk 31.64 295 *eP* **P** **22 01 09.7 +0.4**
SVE pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 32.30 263 *eP* **P** **22 01 16.5 +0.9**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 32.30 263 *eP* **P** **22 01 16.5 +0.9**
comp=Z,12nm,0.9s
KKAR Karatay Array 34.14 267 *eP* **P** **22 01 31.7 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 34.14 267 *eP* **P** **22 01 31.7 +0.3**
comp=Z,1.2nm,0.6s
ABKAR Akbulak array 35.97 284 *eP* **P** **22 01 46.5 -0.5**
comp=Z,1.2nm,0.6s
AKTO Aktyubinsk 36.28 287 P **P** **22 01 49.9 +0.2**
comp=Z,1.8nm,0.6s,baz=86,slow=14,SNR=8.3
AKTO Aktyubinsk 36.28 287 P **P** **22 01 49.9 +0.2**
AKTO Aktyubinsk 36.28 287 P **P** **22 01 49.9 +0.2**
SPITS Spitsbergen Ar 37.43 341 P **P** **22 02 00.1 +0.9**
comp=Z,1.1nm,0.7s,baz=70,slow=6.4,SNR=12
SPITS Spitsbergen Ar 37.43 341 P **P** **22 02 00.1 +0.9**
SPITS Spitsbergen Ar 37.43 341 P **P** **22 02 00.1 +0.9**
KEV Kevo 39.15 327 *eP* **P** **22 02 12.0 -1.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 39.15 327 *ep* **P** **22 02 12.0 -1.7**
comp=Z,2.1nm,0.4s
KEV Kevo 39.15 327 *ep* **P** **22 02 12.0 -1.7**
comp=Z,2.1nm,0.4s
KLMR Klimovskoe 39.30 310 *eP* **P** **22 02 13.7 -1.4**
UNV Unalaska Valle 39.63 63 *eP* **P** **22 02 17.3 -0.6**
comp=Z,6.2nm,0.6s
ARCES ARCESS Array B 39.71 327 P **P** **22 02 19.2 +0.8**
comp=Z,4.7nm,0.7s,baz=64,slow=8.2,SNR=11
ARCES ARCESS Array B 39.71 327 P **P** **22 02 19.3 +0.8**
ARCES ARCESS Array B 39.71 327 P **P** **22 02 19.2 +0.8**
TRF Thorofare Moun 41.14 43 *eP* **P** **22 02 30.2 -0.3**
comp=Z,13nm,0.8s
COLA College 41.21 40 *eP* **P** **22 02 30.3 -0.5**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 41.21 40 *eP* **P** **22 02 30.3 -0.5**
comp=Z,5.1nm,0.8s
JOF Joensuu 41.41 316 *eP* **P** **22 02 31.1 -1.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 41.41 316 *ep* **P** **22 02 31.1 -1.4**
comp=Z,1.2nm,0.4s
JOF Joensuu 41.41 316 *ep* **P** **22 02 31.1 -1.4**
comp=Z,1.2nm,0.4s
ILAR Eielson Array 41.61 40 P **P** **22 02 34.4 +0.2**
comp=Z,2.1nm,0.7s,baz=309,slow=9.3,SNR=4.6
ILAR Eielson Array 41.61 40 P **P** **22 02 34.4 +0.2**
ILAR Eielson Array 41.61 40 P **P** **22 02 34.4 +0.2**
CMAR Chiang Mai Arr 41.92 211 P **P** **22 02 38.6 +1.5**
comp=Z,0.5nm,0.5s,baz=16,slow=9.1,SNR=6.1
CMAR Chiang Mai Arr 41.92 211 P **P** **22 02 38.7 +1.5**
CMAR Chiang Mai Arr 41.92 211 P **P** **22 02 38.6 +1.5**
SML Sawmill 42.83 44 *eP* **P** **22 02 43.5 -0.7**
SML pmax pmax
comp=Z,2.0nm,0.7s
SML Sawmill 42.83 44 *eP* **P** **22 02 43.5 -0.7**
comp=Z,2.1nm,0.7s
INK Inuvik 43.65 31 P **P** **22 02 50.5 -0.1**
comp=Z,1.6nm,0.8s,baz=320,slow=10,SNR=7.0
INK Inuvik 43.65 31 *eP* **P** **22 02 50.0 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 43.65 31 *eP* **P** **22 02 50.0 -0.7**
comp=Z,2.2nm,0.8s
KAF Kangasniemi 43.75 317 *eP* **P** **22 02 50.4 -1.1**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 43.75 317 *ep* **P** **22 02 50.4 -1.1**
comp=Z,1.2nm,0.3s
KAF Kangasniemi 43.75 317 *ep* **P** **22 02 50.4 -1.1**
comp=Z,1.2nm,0.3s
VRHR Novokhopersk 44.12 297 *eP* P 22 02 50.0 -4.7
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,7.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
FINES FINESS Array B 44.26 317 P **P** **22 02 54.5 -1.0**
comp=Z,16nm,0.6s,baz=44,slow=11,SNR=30
FINES FINESS Array B 44.26 317 P **P** **22 02 54.6 -1.0**
FINES FINESS Array B 44.26 317 P **P** **22 02 54.5 -1.0**
VSR Storozhevoye 45.22 299 *eP* P 22 02 59.4 -4.0
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,2.0nm,0.5s
VSR pmax pmax
comp=Z,5.0nm,0.5s
NACGM Naroch 48.31 309 *e* P 22 03 23.0 -4.6
KIV Kislovodsk 48.42 289 *eP* P 22 03 20.5 -8.2
KIV pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 49.75 323 P **P** **22 03 37.5 -1.1**
comp=Z,3.6nm,0.5s,baz=40,slow=7.4
NOA NORSAR Array B 49.75 323 P **P** **22 03 37.8 -0.8**
comp=Z,4.1nm,0.5s,baz=44,slow=8.0,SNR=15
NOA NORSAR Array B 49.75 323 P **P** **22 03 37.8 -0.8**
NOA NORSAR Array B 49.75 323 P **P** **22 03 37.8 -0.8**
AKASG Malin Array Be 50.18 304 P **P** **22 03 41.6 -0.3**
comp=Z,1.6nm,0.5s,baz=41,slow=8.6,SNR=4.9
AKASG Malin Array Be 50.18 304 P **P** **22 03 41.6 -0.3**
AKASG Malin Array Be 50.18 304 P **P** **22 03 41.6 -0.3**
SUW Suwalki 50.43 311 *eP* **P** **22 03 43.2 -0.6**
SUW pmax pmax
comp=Z,14nm,0.9s
SUW Suwalki 50.43 311 *eP* **P** **22 03 43.2 -0.6**
comp=Z,14nm,0.9s
YKA Yellowknife Ar 53.20 28 P **P** **22 04 01.8 -2.4**
comp=Z,1.4nm,0.8s,baz=332,slow=7.2,SNR=13
YKA Yellowknife Ar 53.20 28 P **P** **22 04 01.9 -2.4**
YKA Yellowknife Ar 53.20 28 P **P** **22 04 01.9 -2.4**
KWP Kalwaria Pacla 53.84 307 *eP* **P** **22 04 09.1 -0.1**
KWP pmax pmax
comp=Z,8.0nm,0.8s
KWP Kalwaria Pacla 53.84 307 *eP* **P** **22 04 09.1 -0.1**
comp=Z,8.1nm,0.8s
KWP Kalwaria Pacla 53.84 307 ⇑*iP* **P** **22 04 10.4 +1.2**
BUR08 Bucovina Ar. S 54.22 304 *eP* **P** **22 04 12.6 +0.5**
BURAR Bucovina Array 54.23 304 ⇑*iP* **P** **22 04 11.7 -0.5**
KOLS Kolonicke sedl 54.55 307 *eP* **P** **22 04 14.2 -0.2**
KOLS pmax pmax
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 54.55 307 *eP* **P** **22 04 14.2 -0.2**
CRVS Cervenica-Dubn 54.93 307 *eP* **P** **22 04 19.0 +1.9**
CRVS pmax pmax
comp=Z,5.0nm,1.2s
CRVS Cervenica-Dubn 54.93 307 *eP* **P** **22 04 19.0 +1.9**
TRPA Tarpa 55.04 306 ⇑*iP* **P** **22 04 16.9 -1.0**
MLR Muntele Rosu 55.49 302 ⇑*iP* **P** **22 04 21.9 +0.5**
DRGR 55.98 305 ⇑*iP* **P** **22 04 25.9 +1.1**
DPC Dobruska-Polom 55.98 311 *eP* **P** **22 04 24.7 0.0**
DPC epP **pP** **22 04 27.1 +1.5**
UPC Upice 55.98 312 *eP* **P** **22 04 23.9 -0.8**
UPC epP **pP** **22 04 26.3 +0.7**
PSZ Piszkesteto 56.35 307 ⇑*iP* P 22 04 22.1 -5.4
VYHS Vyhne 56.36 309 *eP* **P** **22 04 27.4 -0.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 56.36 309 *eP* **P** **22 04 27.4 -0.1**
PVCC Panska Ves 56.55 313 *eP* **P** **22 04 28.5 -0.2**
PVCC epP **pP** **22 04 30.7 +1.1**
CLL Collm 56.56 314 *eP* **P** **22 04 27.2 -1.6**
comp=Z,7.0nm,0.6s
CLL Collm 56.56 314 ⇑*iP* **P** **22 04 27.7 -1.1**
CLL *i* 22 04 29.2
CLL Collm 56.56 314 ⇑*iP* **P** **22 04 27.7 -1.1**
comp=Z,6.0nm,0.8s
CLL *i* P(2) 22 04 29.2
comp=Z,8.0nm,0.9s
VRAC Vranov 56.67 310 ⇓*iP* **P** **22 04 27.6 -2.1**
SMOL Smolenice 56.94 309 *eP* **P** **22 04 33.4 +1.8**
SMOL Smolenice 56.94 309 *eP* **P** **22 04 33.4 +1.8**
PRU Pruhonice 56.98 312 *eP* **P** **22 04 33.6 +1.8**
TREC Trest 57.14 311 *eP* **P** **22 04 32.8 -0.2**
TREC epP **pP** **22 04 34.8 +0.9**
WERN Wernitzgruen 57.61 314 *eP* **P** **22 04 35.7 -0.6**
comp=Z,9.0nm,0.8s
MOX Moxa 57.62 314 *eP* **P** **22 04 35.5 -0.8**
comp=Z,8.0nm,0.7s
MOX Moxa 57.62 314 *eP* **P** **22 04 35.5 -0.8**
MOX pmax pmax
comp=Z,8.0nm,0.7s
NKC Novy Kostel 57.62 314 *eP* **P** **22 04 35.2 -1.2**
KHC Kasperske Hory 58.04 312 *eP* **P** **22 04 38.7 -0.6**
KHC pmax pmax
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 58.04 312 *eP* **P** **22 04 38.7 -0.6**
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 58.04 312 *eP* **P** **22 04 39.3 -0.1**
KHC epP **pP** **22 04 41.5 +1.2**
PKSM Moragy 58.22 307 ⇓*iP* **P** **22 04 38.8 -1.7**
GEC2 GERESS Array S 58.22 312 *eP* **P** **22 04 39.9 -0.8**
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 58.22 312 *eP* **P** **22 04 39.9 -0.8**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 58.22 312 P **P** **22 04 40.0 -0.6**
comp=Z,3.9nm,0.7s,baz=31,slow=6.2,SNR=20
GERES GERESS Array B 58.22 312 P **P** **22 04 40.1 -0.6**
GERES GERESS Array B 58.22 312 P **P** **22 04 40.0 -0.6**
WET Wettzell 58.31 313 *eP* **P** **22 04 40.8 -0.4**
comp=Z,9.0nm,1.2s
WET Wettzell 58.31 313 *eP* **P** **22 04 40.8 -0.4**
WET pmax pmax
comp=Z,9.0nm,1.2s
BAIF Baives 60.87 319 *eP* **P** **22 04 59.3 +0.5**
comp=Z,4.2nm,0.7s
CDF Champ du Feu 61.09 316 *eP* **P** **22 05 01.1 +0.7**
comp=Z,5.3nm,0.7s
PAGF Fort de Pagny 61.56 317 *eP* **P** **22 05 04.2 +0.7**
comp=Z,1.3nm,0.6s
TUE Stuetta 61.88 313 *eP* **P** **22 05 04.7 -1.2**
comp=Z,10nm,0.8s
LOR Lormes 63.32 317 *eP* **P** **22 05 15.4 +0.1**
comp=Z,5.5nm,0.6s
SSF Saint Saulge 63.63 317 *eP* **P** **22 05 17.8 +0.5**
comp=Z,4.9nm,0.6s
LPL La Plagne 63.70 314 *eP* **P** **22 05 19.3 +1.2**
comp=Z,3.7nm,0.5s
LPG La Plagne 63.70 314 *eP* **P** **22 05 19.4 +1.2**
comp=Z,10.0nm,0.8s
BGF Bois d'Agland 64.30 317 *eP* **P** **22 05 21.9 +0.2**
MBDF Montbardon 64.34 314 *eP* **P** **22 05 22.9 +0.7**
comp=Z,24nm,0.8s
ORIF Oris-en-Rattie 64.53 314 *eP* **P** **22 05 24.2 +0.8**
comp=Z,22nm,0.9s
TCF Toulx Ste Croi 64.76 318 *eP* **P** **22 05 25.1 +0.3**
VIVF Saint-Julien-l 65.05 315 *eP* **P** **22 05 27.5 +0.8**
comp=Z,5.4nm,0.8s
PGF Pioggiola 65.25 311 *eP* **P** **22 05 29.1 +0.9**
MFF Saint Martin d 65.34 319 *eP* **P** **22 05 28.9 +0.4**
SMRF Simiane la Rot 65.44 314 *eP* **P** **22 05 30.2 +0.9**
SCHQ Schefferville 68.11 5 P **P** **22 05 45.6 -0.5**
comp=Z,6.8nm,0.8s,baz=355,slow=5.9,SNR=6.1
EPF Esparros 68.24 317 *eP* **P** **22 05 47.7 +0.6**
comp=Z,14nm,0.8s
SJPF Ste Jean 68.74 318 *eP* **P** **22 05 50.7 +0.5**
PDAR Pinedale Array 71.89 36 P **P** **22 06 08.6 -1.3**
comp=Z,1.2nm,0.8s,baz=33,slow=2.4,SNR=8.0
PDAR Pinedale Array 71.89 36 P **P** **22 06 08.6 -1.3**
NVAR Mina Array Bea 72.64 45 P **P** **22 06 14.9 +0.6**
comp=Z,1.1nm,0.7s,baz=266,slow=2.9,SNR=5.5
NVAR Mina Array Bea 72.64 45 P **P** **22 06 14.9 +0.6**
ESDC Sonseca Array 72.74 318 P **P** **22 06 14.4 -0.3**
comp=Z,0.6nm,0.3s,baz=20,slow=5.9,SNR=8.0
ESDC Sonseca Array 72.74 318 P **P** **22 06 14.4 -0.3**
WRAB Tennant Creek 77.77 167 *eP* **P** **22 06 42.5 -1.1**
WRAB pmax pmax
comp=Z,5.0nm,1.1s
WRAB Tennant Creek 77.77 167 *eP* **P** **22 06 42.5 -1.1**
comp=Z,5.5nm,1.1s
WRA Warramunga Arr 77.78 167 P **P** **22 06 42.8 -0.8**
comp=Z,2.0nm,0.9s,baz=351,slow=6.6,SNR=9.7
WRA Warramunga Arr 77.78 167 P **P** **22 06 42.8 -0.8**
WRA Warramunga Arr 77.78 167 P **P** **22 06 42.8 -0.8**
ASAR Alice Springs 81.40 168 P **P** **22 07 02.4 -0.9**
comp=Z,1.1nm,0.7s,baz=350,slow=4.8,SNR=9.0
ASAR Alice Springs 81.40 168 P **P** **22 07 02.4 -0.9**
ASAR Alice Springs 81.40 168 P **P** **22 07 02.4 -0.9**
TXAR Lajitas Array 86.07 38 P **P** **22 07 28.3 +0.8**
comp=Z,0.6nm,0.8s,baz=276,slow=4.7,SNR=6.1
TXAR Lajitas Array 86.07 38 P **P** **22 07 28.3 +0.8**
TXAR Lajitas Array 86.07 38 P **P** **22 07 28.3 +0.8**
TORD Torodi Ar. Bea 93.73 301 P **P** **22 08 03.6 0.0**
comp=Z,0.2nm,0.5s,baz=20,slow=4.8,SNR=5.3
TORD Torodi Ar. Bea 93.73 301 P **P** **22 08 03.6 0.0**
QSPA South Pole Qui 147.02 180 PKPbc **PKPbc** **22 14 27.6 -0.5**
comp=Z,2.5nm,0.7s,baz=98,slow=1.8,SNR=4.8
QSPA South Pole Qui 147.02 180 PKPbc **PKPbc** **22 14 27.6 -0.5**

IDC 26 22:00:07.8±6.2, 16.75S×176.99W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/17, mbtmp3.9/2, Error ellipse: s-maj=298.4km s-min=52.6km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.18**	**258**	P	P	22 08 34.8	0.0
	0.4nm,0.3s,baz=94,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**46.41**	**253**	P	P	22 08 36.3	-0.3
	1.8nm,0.6s,baz=87,slow=8.6,SNR=20						
GERES	**GERESS Array B**	**146.82**	**347**	PKPbc	PKPbc	22 19 51.2	-0.9
	0.3nm,0.5s,baz=29,slow=3.0,SNR=4.0						

*IDC **26** 22:00:22.3±0.7, 49.16N×154.94E, h0km, mb4.0/23, mb1 4.2/24, mb1mx4.2/28, mbtmp4.0/24, ML4.0/1, Error ellipse: s-maj=19.2km s-min=11.9km az=163.0*
*SKHL **26** 22:00:28.5±3.3, 48.93N×155.59E, h90km±5km, mb4.7/1*
*ISCJB **26** 22:00:29.7±1.0, 49.15N±0.07×155.0E±0.1, h70km±7km, mb4.0/33, Error ellipse: s-maj=15.8km s-min=6.9km az=41.5*
*MOS **26** 22:00:30.2±1.1, 49.20N×155.00E, h79km, mb4.3/7, Error ellipse: s-maj=15.9km s-min=8.9km az=74.9*
*NEIC **26** 22:00:32.5±0.8, 49.19N×154.98E, h83km±7km, mb4.3/5, Error ellipse: s-maj=11.3km s-min=6.4km az=140.0*

ISC 26 22:00:31.3±1.2, 49.17N±0.10×155.02E±0.10, h70km±10km, n119, σ0s99/118, mb4.2/33, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.67**	**25**	*e*PN	**Pn**	**22 00 56.8**	**-1.6**
SKR				*i* S	**Sn**	**22 01 18.0**	**-1.0**
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=N,200nm,0.3s						
SKR				pmax	pmax		
	comp=E,180nm,0.3s						
SKR				smax	smax		
	comp=N,710nm,0.2s						
SKR				smax	smax		
	comp=E,2μm,0.2s						
SKR	**Severo-Kuril's**	**1.67**	**25**	*e*P	**Pn**	**22 00 56.8**	**-1.6**
SKR				AMB	AMB	22 00 59.0	
	comp=E,230nm,0.5s						
SKR				AMB	AMB	22 00 59.0	
	comp=E,200nm,0.3s						
SKR				AMB	AMB	22 00 59.0	
	comp=E,180nm,0.3s						
SKR				*i* S	**Sn**	**22 01 18.0**	**-1.0**
SKR				A	A	22 01 20.5	
	comp=E,460nm,0.5s						
SKR				A	A	22 01 20.5	
	comp=E,710nm,0.2s						
SKR				A	A	22 01 20.5	
	comp=E,2μm,0.2s						
PEA0B	**Petropavlovsk-**	**4.29**	**22**	*e*Pn	**Pn**	**22 01 35.7**	**+1.7**
PEA0B				*e*Sn	**Sn**	**22 02 25.1**	**+2.4**

PETK Petropavlovsk- 4.29 22 Pn **Pn** **22 01 35.5 +1.6**
comp=E,5.4nm,0.3s,baz=178,slow=14,SNR=53
PETK Petropavlovsk- 4.29 22 PN **Pn** **22 01 35.6 +1.6**
PETK Petropavlovsk- 4.29 22 Pn **Pn** **22 01 35.5 +1.6**
PET Petropavlovsk 4.49 29 *e*PN **Pn** **22 01 36.7 0.0**
PET *e*S **Sn** **22 02 27.5 0.0**
PET pmax pmax
comp=Z,75nm,0.6s
PET smax smax
comp=N,231nm,0.5s
PET smax smax
comp=E,188nm,0.5s
PET Petropavlovsk 4.49 29 *e*Pn **Pn** **22 01 36.6 0.0**
PET *e*Sn **Sn** **22 02 28.1 +0.7**
PET Petropavlovsk 4.49 29 *eP* **Pn** **22 01 36.5 -0.1**
ASAJ Asahikawa 9.92 244 Pn **Pn** **22 02 53.1 +2.2**
comp=E,1.4nm,0.3s,baz=93,slow=12,SNR=3.8
ASAJ Asahikawa 9.92 244 PN **Pn** **22 02 53.1 +2.2**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.92 244 *e*Pn **Pn** **22 02 52.7 +1.7**
ERM Erimo 10.96 234 *e*PN **Pn** **22 03 04.8 -0.2**
ERM Erimo 10.96 234 *eP* **Pn** **22 03 04.8 -0.2**
FX1 Attu Island--F 12.01 65 Pn Pn 22 03 15.5 -3.8
comp=Z,3.5nm,0.3s,baz=316,slow=5.4,SNR=9.2
FX1 Sn Sn 22 05 15.6 -16
comp=Z,8.9nm,0.3s,baz=3.8,slow=21,SNR=9.1
FX1 Attu Island--F 12.01 65 PN Pn 22 03 15.5 -3.8
FX1 Attu Island--F 12.01 65 Pn Pn 22 03 15.5 -3.8
FX1 Sn Sn 22 05 15.6 -16
BILL Bilibino 19.75 13 *eP* **P** **22 04 54.5 -0.5**
KSRS Korea Array 22.80 249 P **P** **22 05 28.0 0.0**
comp=Z,1.8nm,0.8s,baz=49,slow=10.0,SNR=5.0
KSRS Korea Array 22.80 249 *eP* **P** **22 05 28.3 +0.3**
KSAR Wonju Array Be 22.83 249 P **P** **22 05 28.0 -0.4**
KSAR Wonju Array Be 22.83 249 P **P** **22 05 28.0 -0.4**
SONM Songino Array 31.81 286 P **P** **22 06 49.2 +0.1**
comp=Z,2.0nm,1.0s,baz=86,slow=7.2,SNR=3.0
SONM Songino Array 31.81 286 P **P** **22 06 49.2 +0.1**
SONM Songino Array 31.81 286 P **P** **22 06 49.2 +0.1**
INK Inuvik 38.92 34 P **P** **22 07 49.6 0.0**
comp=Z,0.8nm,0.5s,baz=257,slow=6.8,SNR=5.2
INK Inuvik 38.92 34 P **P** **22 07 49.6 0.0**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 38.92 34 *eP* **P** **22 07 49.3 -0.4**
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 42.27 304 P **P** **22 08 16.7 -0.7**
comp=Z,1.6nm,0.4s,baz=58,slow=7.3,SNR=8.9
ZALV Zalesovo Beam 42.27 304 *eP* **P** **22 08 16.7 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 42.27 304 P **P** **22 08 16.7 -0.7**
MKAR Makanchi Array 46.99 296 P **P** **22 08 55.2 +0.1**
comp=Z,0.5nm,0.5s,baz=70,slow=9.3,SNR=12
MKAR Makanchi Array 46.99 296 P **P** **22 08 55.2 +0.1**
MKAR Makanchi Array 46.99 296 P **P** **22 08 55.2 +0.1**
KURK Kurchatov 47.12 303 P **P** **22 08 56.4 +0.5**
comp=Z,2.6nm,0.5s,baz=66,slow=8.4,SNR=7.1
KURK Kurchatov 47.12 303 P **P** **22 08 56.4 +0.5**
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 47.12 303 *eP* **P** **22 08 55.2 -0.8**
comp=Z,2.6nm,0.5s
RES Resolute Bay 48.13 20 P **P** **22 09 03.9 +0.4**
comp=Z,0.4nm,0.4s,baz=298,slow=6.1,SNR=5.6
RES Resolute Bay 48.13 20 P **P** **22 09 03.9 +0.4**
RES Resolute Bay 48.13 20 *eP* **P** **22 09 03.6 +0.1**
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 48.22 39 P **P** **22 09 06.0 +1.6**
comp=Z,0.5nm,0.6s,baz=299,slow=7.2,SNR=5.9
YKA Yellowknife Ar 48.22 39 P **P** **22 09 06.0 +1.6**
YKA Yellowknife Ar 48.22 39 P **P** **22 09 06.0 +1.6**
BVAR Borovoye Array 50.33 309 P **P** **22 09 20.4 -0.1**
comp=Z,2.0nm,0.4s,baz=58,slow=7.7,SNR=20
BVAR Borovoye Array 50.33 309 P **P** **22 09 20.4 -0.1**
BVAR Borovoye Array 50.33 309 P **P** **22 09 20.4 -0.1**
SPITS Spitsbergen Ar 50.45 350 P **P** **22 09 19.8 -1.4**
comp=Z,4.9nm,0.8s,baz=60,slow=12,SNR=10.0
SPITS Spitsbergen Ar 50.45 350 P **P** **22 09 19.8 -1.4**
SPITS Spitsbergen Ar 50.45 350 P **P** **22 09 19.8 -1.4**
ARU Arti 54.10 317 *eP* **P** **22 09 47.9 -0.5**
ARU pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 54.10 317 *eP* **P** **22 09 47.9 -0.5**
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 54.19 256 P **P** **22 09 50.8 +1.2**
comp=Z,1.7nm,0.5s,baz=33,slow=7.1,SNR=14
CMAR Chiang Mai Arr 54.19 256 P **P** **22 09 50.8 +1.2**
CMAR Chiang Mai Arr 54.19 256 P **P** **22 09 50.8 +1.2**
CMAR Chiang Mai Arr 54.19 256 *eP* **P** **22 09 51.2 +1.6**
KEV Kevo 55.48 341 *eP* P 22 10 03.4 +5.2
KEV Kevo 55.48 341 *ep* P 22 10 03.4 +5.2
comp=Z,0.3nm,0.4s
KEV Kevo 55.48 341 *ep* **P** 22 10 03.4 +5.2
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 55.98 341 P **P** **22 10 00.2 -1.6**
comp=Z,0.7nm,0.6s,baz=37,slow=7.6,SNR=11
ARCES ARCESS Array B 55.98 341 P **P** **22 10 00.3 -1.6**
ARCES ARCESS Array B 55.98 341 P **P** **22 10 00.2 -1.6**
ARCES ARCESS Array B 55.98 341 *eP* **P** **22 09 59.0 -2.8**
ABKAR Akbulak array 57.86 310 *eP* **P** **22 10 14.8 -0.6**
comp=Z,2.2nm,0.4s
JOF Joensuu 59.73 334 *eP* **P** **22 10 26.6 -1.5**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 59.73 334 *ep* **P** **22 10 26.6 -1.5**
comp=Z,0.8nm,0.3s
JOF Joensuu 59.73 334 *ep* **P** **22 10 26.6 -1.5**
comp=Z,0.8nm,0.3s
NVAR Mina Array Bea 60.21 65 P **P** **22 10 32.2 +0.2**
comp=Z,0.9nm,0.5s,baz=301,slow=7.1,SNR=3.7
NVAR Mina Array Bea 60.21 65 P **P** **22 10 32.2 +0.2**
PDAR Pinedale Array 62.30 56 P **P** **22 10 46.8 +0.5**
comp=Z,2.5nm,0.9s,baz=309,slow=2.8,SNR=9.3
PDAR Pinedale Array 62.30 56 P **P** **22 10 46.8 +0.5**
KBL Kabul 62.36 292 P **P** **22 10 45.5 -1.2**
KBL Kabul 62.36 292 P **P** **22 10 45.5 -1.2**
FINES FINESS Array B 62.39 335 P **P** **22 10 45.3 -0.8**
comp=Z,1.5nm,0.4s,baz=30,slow=8.0,SNR=27
FINES FINESS Array B 62.39 335 P **P** **22 10 45.3 -0.8**
FINES FINESS Array B 62.39 335 P **P** **22 10 45.3 -0.8**
NOA NORSAR Array B 66.34 342 P **P** **22 11 11.3 -0.7**
comp=Z,0.9nm,0.8s,baz=24,slow=5.3,SNR=4.7
NOA NORSAR Array B 66.34 342 P **P** **22 11 11.3 -0.7**
NOA NORSAR Array B 66.34 342 P **P** **22 11 11.3 -0.7**
AKASG Malin Array Be 70.23 327 P **P** **22 11 36.2 -0.2**
comp=Z,0.6nm,0.3s,baz=32,slow=5.9,SNR=4.4
AKASG Malin Array Be 70.23 327 P **P** **22 11 36.2 -0.2**
AKASG Malin Array Be 70.23 327 P **P** **22 11 36.2 -0.2**
SCHQ Schefferville 70.58 24 P **P** **22 11 39.2 +0.7**
comp=Z,3.3nm,0.9s,baz=29,slow=10,SNR=4.1
WRAB Tennant Creek 71.21 201 *eP* **P** **22 11 41.3 -1.4**
WRAB Tennant Creek 71.21 201 *eP* **P** **22 11 41.2 -1.4**
WRA Warramunga Arr 71.22 201 P **P** **22 11 41.2 -1.5**
comp=Z,0.3nm,0.4s,baz=20,slow=6.7,SNR=6.2
WRA Warramunga Arr 71.22 201 P **P** **22 11 41.2 -1.5**
WRA Warramunga Arr 71.22 201 P **P** **22 11 41.2 -1.5**
WRA Warramunga Arr 71.22 201 *eP* **P** **22 11 41.7 -1.0**
BUR08 Bucovina Ar. S 74.24 327 *eP* **P** **22 12 00.8 +0.2**
ASAR Alice Springs 74.92 200 P **P** **22 12 04.2 -0.3**
comp=Z,0.4nm,0.5s,baz=13,slow=5.9,SNR=4.9
ASAR Alice Springs 74.92 200 *eP* **P** **22 12 04.2 -0.3**
ASAR Alice Springs 74.92 200 P **P** **22 12 04.2 -0.3**
ASAR Alice Springs 74.92 200 *eP* **P** **22 12 04.1 -0.4**
TXAR Lajitas Array 75.21 62 P **P** **22 12 06.5 +0.1**
comp=Z,1.5nm,0.5s,baz=301,slow=5.3,SNR=25
TXAR Lajitas Array 75.21 62 P **P** **22 12 06.5 +0.1**
TXAR Lajitas Array 75.21 62 P **P** **22 12 06.5 +0.1**
GERES GERESS Array B 76.82 335 P **P** **22 12 15.8 +0.6**
comp=Z,0.5nm,0.5s,baz=45,slow=4.5,SNR=8.4
GERES GERESS Array B 76.82 335 P **P** **22 12 15.8 +0.6**
GERES GERESS Array B 76.82 335 P **P** **22 12 15.8 +0.6**
BAIF Baives 78.02 341 *eP* **P** **22 12 21.9 +0.1**
comp=Z,3.3nm,0.5s
CDF Champ du Feu 78.88 339 *eP* **P** **22 12 26.8 +0.1**
PAGF Fort de Pagny 79.11 340 *eP* **P** **22 12 28.4 +0.6**
comp=Z,2.7nm,0.6s
MEZF Maizieres J'vi 79.31 340 *eP* **P** **22 12 29.4 +0.5**
HAU Haudompre 79.48 339 *eP* **P** **22 12 29.9 0.0**
HINF Hinteralfeld 79.54 339 *eP* **P** **22 12 30.1 -0.1**
SFTF Sexfontaines 79.59 340 *eP* **P** **22 12 30.7 +0.3**
comp=Z,13nm,0.5s
FLN La Foliniere 80.18 344 *eP* **P** **22 12 33.6 0.0**

LDF	La Druitiere	80.28	344	*e*P	P	22 12 34.0	-0.1
	comp=Z,7.7nm,0.7s						
GRR	Gorron	80.61	344	*e*P	P	22 12 36.9	+1.0
LOR	Lormes	80.74	341	*e*P	P	22 12 36.7	+0.1
SGMF	Saint Gilles	81.04	345	*e*P	P	22 12 38.7	+0.5
ROSF	Rostrenen	81.08	346	*e*P	P	22 12 38.9	+0.5
AVF	Avril sur Loir	81.30	341	*e*P	P	22 12 39.9	+0.3
LPL	La Plagne	81.72	338	*e*P	P	22 12 43.2	+1.0
	comp=Z,9.3nm,0.6s						
LPG	La Plagne	81.74	338	*e*P	P	22 12 43.3	+1.0
	comp=Z,10.0nm,0.6s						
MBDF	Montbardon	82.45	338	*e*P	P	22 12 47.4	+1.5
ORIF	Oris-en-Rattie	82.49	338	*e*P	P	22 12 47.0	+1.0
ESDC	Sonseca Array	89.60	344	P	P	22 13 21.1	0.0
	comp=Z,0.3nm,0.4s,baz=2.9,slow=8.9,SNR=4.1						
ESDC	Sonseca Array	89.60	344	P	P	22 13 21.1	0.0

DJA ***26*** *22:00:41,5˝.13S×101˝.95E,h28km,MLv4.1/5*

IDC 26 22:00:36.1±4.9,5˝.13S×102˝.11E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=250.5km s-min=21.2km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.64	118	P	P	22 07 27.0	-0.4
	0.6nm,1.0s,baz=308,slow=9.5,SNR=3.2						
ASAR	Alice Springs	35.74	124	P	P	22 07 36.7	-0.3
	0.5nm,0.4s,baz=294,slow=8.1,SNR=5.4						
STKA	Stephens Creek	45.52	131	P	P	22 08 57.5	-0.1
	1.0nm,0.7s,baz=297,slow=6.8,SNR=4.0						
MKAR	Makanchi Array	54.59	343	P	P	22 10 06.2	-0.2
	0.5nm,0.5s,baz=151,slow=9.5,SNR=7.1						
ZALV	Zalesovo Beam	60.62	348	P	P	22 10 48.0	-0.6
	0.5nm,0.4s,baz=155,slow=4.6,SNR=3.8						
TXAR	Lajitas Array	145.74	42	PKPbc	PKPab	22 20 18.4	+0.2
	0.5nm,0.6s,baz=322,slow=1.5,SNR=6.9						

IDC ***26*** *22:02:30.3±0.9,52˚.21N×171˚.44W,h0km,mb3.6/8, mb1 4.0/9,mb1mx3.7/26,mbtmp3.7/9,ML3.6/1,Error ellipse: s-maj=33.6km s-min=18.7km az=171.0*

ISCJB ***26*** *22:02:36.6±0.8,52˚.1N±0˚.1×171˚.23W±0˚.08,h60km±8km, mb3.6/8,Error ellipse: s-maj=25.5km s-min=4.2km az=164.0*

NEIC ***26*** *22:02:36.7,51˚.93N×171˚.10W,h38km,ML3.7(AEIC),After AEIC.*

ISC 26 22:02:37.7±1.5,52˚.1N±0˚.2×171˚.23W±0˚.06,h54km±13km, n38,σ1§11/44,mb3.6/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.69	58	P	Pn	22 03 02.9	-2.0
NIKO				S	Sn	22 03 24.1	-1.4
KOFP	Korovin Flat P	1.78	277	P	Pn	22 03 05.9	-0.2
KOKV	Korovin Volcan	1.83	280	P	Pn	22 03 06.9	+0.1
KOKV				S	Sn	22 03 30.7	+1.9
ATKA	Atka Island	1.83	275	P	Pn	22 03 05.3	-1.5
KOKL	Mount Kliuchef	1.85	278	P	Pn	22 03 07.0	0.0
OKCE	Okmok Cone E	2.29	53	P	Pn	22 03 12.9	-0.1
OKRE	Okmok R'deer P	2.34	51	P	Pn	22 03 14.9	+1.1
OKRE				S	Sn	22 03 45.0	+3.6
OKFG	Magazine Ridge	2.41	56	P	Pn	22 03 14.1	-0.5
GSTR	Great Sitkin T	2.98	272	*e*Pn	Pn	22 03 21.4	-1.1
GSTR				*e*Sn	Sn	22 03 57.3	+0.2
GSMY	Great Sitkin M	2.98	271	P	Pn	22 03 22.6	+0.1
GSTD	Great Sitkin T	3.04	271	P	Pn	22 03 23.0	-0.3
GSTD				S	Sn	22 03 59.4	+1.0
GSCK	Great Sitkin C	3.05	270	P	Pn	22 03 22.9	-0.5
MSOM	Makushin Julie	3.11	55	P	Pn	22 03 24.5	+0.3
ETKA	Kagalaska Isla	3.21	268	P	Pn	22 03 25.5	-0.2
UNV	Unalaska Valle	3.35	57	*e*Pn	Pn	22 03 27.3	-0.3
UNV				*e*Sn	Sn	22 04 06.4	+0.4
KIKV	Kanaga Island	3.68	269	P	Pn	22 03 31.7	-0.4
KIMD	Kanaga Island	3.73	267	P	Pn	22 03 32.8	0.0
TASE	Tanaga Southea	4.22	269	P	Pn	22 03 40.4	+0.9
KDAK	Kodiak Island	12.12	55	Pn	Pn	22 05 26.4	-1.0
	0.3nm,0.3s,baz=122,slow=19,SNR=3.7						
KDAK	Kodiak Island	12.12	55	Pn	Pn	22 05 26.4	-1.0
ILAR	Eielson Array	17.83	35	P	P	22 06 42.2	+0.5
	0.1nm,0.3s,baz=230,slow=10,SNR=5.7						
ILAR	Eielson Array	17.83	35	P	P	22 06 42.2	+0.5
YKA	Yellowknife Ar	31.28	48	P	P	22 08 51.0	-1.0
	0.2nm,0.4s,baz=273,slow=8.1,SNR=7.8						
YKA	Yellowknife Ar	31.28	48	P	P	22 08 51.0	-1.0
NVAR	Mina Array Bea	38.80	89	P	P	22 09 59.2	+1.9
	0.9nm,0.7s,baz=308,slow=7.2,SNR=4.5						
NVAR	Mina Array Bea	38.80	89	P	P	22 09 59.2	+1.9
PDAR	Pinedale Array	41.58	78	P	P	22 10 21.3	+1.1
	1.1nm,0.8s,baz=300,slow=2.4,SNR=6.6						
PDAR	Pinedale Array	41.58	78	P	P	22 10 21.3	+1.1
TXAR	Lajitas Array	53.90	87	P	P	22 11 56.3	+0.8
	0.9nm,0.7s,baz=296,slow=5.1,SNR=9.4						
TXAR	Lajitas Array	53.90	87	P	P	22 11 56.3	+0.8
MKAR	Makanchi Array	63.16	312	P	P	22 12 59.6	-0.1
	0.1nm,0.6s,baz=43,slow=6.2,SNR=2.7						
MKAR	Makanchi Array	63.16	312	P	P	22 12 59.6	-0.1
BVAR	Borovoye Array	63.25	323	P	P	22 12 58.8	-1.3
	0.2nm,0.4s,baz=54,slow=7.4,SNR=4.3						
BVAR	Borovoye Array	63.25	323	P	P	22 12 58.8	-1.3
WRA	Warramunga Arr	85.94	230	P	P	22 15 11.3	-0.5
	0.2nm,0.6s,baz=36,slow=6.6,SNR=3.9						
WRA	Warramunga Arr	85.94	230	P	P	22 15 11.3	-0.5
ASAR	Alice Springs	89.35	229	P	P	22 15 27.6	-0.5
	0.4nm,0.5s,baz=38,slow=5.1,SNR=5.5						
ASAR	Alice Springs	89.35	229	P	P	22 15 27.6	-0.5

IDC 26 22:03:21.3±0.9,5˚.33N×127˚.84E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/20,mbtmp3.7/8,Error ellipse: s-maj=71.1km s-min=16.9km az=69.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.91	166	P	P	22 08 55.7	+0.4
	0.4nm,0.5s,baz=343,slow=10,SNR=4.6						
ASAR	Alice Springs	29.42	169	P	P	22 09 26.4	-0.3
	0.2nm,0.3s,baz=351,slow=7.4,SNR=3.5						
STKA	Stephens Creek	39.25	161	P	P	22 10 51.5	-0.2
	1.3nm,0.6s,baz=337,slow=11,SNR=2.8						
MKAR	Makanchi Array	56.90	324	P	P	22 13 07.7	-0.5
	0.5nm,0.5s,baz=121,slow=7.1,SNR=16						
ZALV	Zalesovo Beam	59.63	322	P	P	22 13 28.0	+0.5
	0.3nm,0.4s,baz=127,slow=6.2,SNR=3.8						
KURK	Kurchatov	61.01	327	P	P	22 13 36.2	-0.4
	0.4nm,0.2s,baz=128,slow=6.0,SNR=3.8						
BVAR	Borovoye Array	66.61	326	P	P	22 14 13.8	+0.3
	0.3nm,0.4s,baz=129,slow=5.6,SNR=3.7						
ILAR	Eielson Array	83.19	25	P	P	22 15 49.1	-0.1
	0.4nm,0.6s,baz=254,slow=5.5,SNR=4.8						

IDC ***26*** *22:13:59.8±1.4,51˚.82N×171˚.03W,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/26,mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=48.3km s-min=28.7km az=138.0*

ISCJB ***26*** *22:14:04.3±0.8,51˚.9N±0˚.1×171˚.11W±0˚.07,h42km, mb3.4/5,Error ellipse: s-maj=18.3km s-min=4.1km az=167.0*

NEIC ***26*** *22:14:06.1,51˚.98N×171˚.13W,h33km,ML3.6(AEIC),After AEIC.*

ISC 26 22:14:05.9±1.0,51˚.9N±0˚.2×171˚.12W±0˚.06,h42km,n27, σ0§80/31,mb3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.73	52	P	Pn	22 14 32.4	-1.0
NIKO				S	Sn	22 14 53.7	-0.5
KOFP	Korovin Flat P	1.87	282	P	Pn	22 14 35.2	-0.2
ATKA	Atka Island	1.92	279	P	Pn	22 14 34.6	-1.4
ATKA				S	Sn	22 14 56.5	-2.3
KOKV	Korovin Volcan	1.93	284	P	Pn	22 14 36.0	-0.1
KOKV				S	Sn	22 14 58.9	-0.2
KOKL	Mount Kliuchef	1.94	283	P	Pn	22 14 36.7	+0.3
OKCE	Okmok Cone E	2.33	49	P	Pn	22 14 41.9	+0.1
OKFG	Magazine Ridge	2.44	52	P	Pn	22 14 43.7	+0.5
GSMY	Great Sitkin M	3.06	274	P	Pn	22 14 51.5	-0.2
GSTR	Great Sitkin T	3.06	275	*e*Pn	Pn	22 14 52.0	+0.3
GSTR				*e*Sn	Sn	22 15 26.8	-0.2
GSTD	Great Sitkin T	3.11	274	P	Pn	22 14 52.4	0.0
GSCK	Great Sitkin C	3.12	273	P	Pn	22 14 52.2	-0.3
ETKA	Kagalaska Isla	3.28	271	P	Pn	22 14 53.8	-0.9
UNV	Unalaska Valle	3.38	54	P	Pn	22 14 55.2	-0.9
KIKV	Kanaga Island	3.75	271	P	Pn	22 15 01.9	+0.7
KIMD	Kanaga Island	3.80	270	P	Pn	22 15 02.0	+0.2
ILAR	Eielson Array	17.92	35	P	P	22 18 12.0	+0.3
	0.1nm,0.3s,baz=236,slow=9.5,SNR=5.1						
ILAR	Eielson Array	17.92	35	P	P	22 18 12.0	+0.3
INK	Inuvik	24.30	33	P	P	22 19 17.9	-1.0
	0.5nm,0.4s,baz=230,slow=4.6,SNR=4.9						
INK	Inuvik	24.30	33	P	P	22 19 17.9	-1.0
YKA	Yellowknife Ar	31.33	48	P	P	22 20 22.0	+0.2
	0.1nm,0.3s,baz=273,slow=7.9,SNR=3.0						
YKA	Yellowknife Ar	31.33	48	P	P	22 20 22.0	+0.2
TXAR	Lajitas Array	53.84	87	P	P	22 23 24.1	-0.4
	0.2nm,0.5s,baz=327,slow=9.0,SNR=4.1						
TXAR	Lajitas Array	53.84	87	P	P	22 23 24.1	-0.4
AKASG	Malin Array Be	76.29	347	P	P	22 25 51.2	+1.4
	0.2nm,0.2s,baz=14,slow=4.6,SNR=4.9						
AKASG	Malin Array Be	76.29	347	P	P	22 25 51.1	+1.4
ASAR	Alice Springs	89.30	229	P	P	22 26 57.5	+0.1
	0.3nm,0.5s,baz=29,slow=2.1,SNR=4.2						
ASAR	Alice Springs	89.30	229	P	P	22 26 57.5	+0.1

ISCJB ***26*** *22:14:45.4±0.8,14˚.09N±0˚.09×145˚.6E±0˚.1,h100km, mb3.8/11,Error ellipse: s-maj=20.1km s-min=10.4km az=28.3*

IDC ***26*** *22:14:46.8±1.1,14˚.06N×145˚.53E,h97km±9km,mb3.6/10, mb1 3.7/10,mb1mx3.6/21,mbtmp3.6/10,Error ellipse: s-maj=27.7km s-min=16.6km az=96.0*

NEIC ***26*** *22:14:47.5±1.4,14˚.04N×145˚.54E,h104km±12km,mb3.7/1, Error ellipse: s-maj=26.9km s-min=15.1km az=89.0*

ISC 26 22:14:47.1±0.9,14˚.1N±0˚.1×145˚.6E±0˚.2,h100km,n23, σ0§92/25,mb3.7/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.81	235	P	Pn	22 15 06.0	+0.5
	701nm,0.3s,baz=102,slow=2.7,SNR=148						
GUMO				S	Sn	22 15 19.2	-0.3
	1µm,0.3s,baz=11,slow=22,SNR=67						
GUMO	Guam	0.81	235	P	Pn	22 15 06.0	+0.5
GUMO				S	Sn	22 15 19.2	-0.3
KSRS	Korea Array	28.10	329	P	P	22 20 29.9	+0.5
	1.0nm,0.8s,baz=151,slow=9.7,SNR=3.2						
KSAR	Wonju Array Be	28.11	329	P	P	22 20 29.9	+0.4
WRA	Warramunga Arr	35.54	198	P	P	22 21 34.6	-0.1
	1.5nm,0.5s,baz=22,slow=9.5,SNR=22						
WRA	Warramunga Arr	35.54	198	P	P	22 21 34.6	-0.1
ASAR	Alice Springs	39.19	197	P	P	22 22 05.8	+0.3
	0.7nm,0.6s,baz=22,slow=13,SNR=7.4						
ASAR	Alice Springs	39.19	197	P	P	22 22 05.8	+0.3
ULN	Ulaanbaatar	46.39	325	*e*P	P	22 23 03.5	0.0
	0.7nm,0.6s						
SONM	Songino Array	46.74	324	P	P	22 23 07.7	+1.4
	0.3nm,0.5s,baz=138,slow=6.9,SNR=4.1						
SONM	Songino Array	46.74	324	P	P	22 23 07.7	+1.4
MKAR	Makanchi Array	61.62	316	P	P	22 24 54.1	-0.2
	0.2nm,0.3s,baz=92,slow=8.7,SNR=13						
MKAR	Makanchi Array	61.62	316	P	P	22 24 54.1	-0.2
ZALV	Zalesovo Beam	61.64	324	P	P	22 24 53.9	-0.3
	0.3nm,0.3s,baz=103,slow=6.6,SNR=4.4						
ZALV	Zalesovo Beam	61.64	324	P	P	22 24 53.9	-0.3
KDAK	Kodiak Island	63.32	32	P	P	22 25 06.6	+1.4
	10.0nm,1.0s,baz=264,slow=9.2,SNR=4.5						
KDAK	Kodiak Island	63.32	32	P	P	22 25 06.6	+1.4
ILAR	Eielson Array	67.86	25	P	P	22 25 33.5	-0.9
	0.9nm,0.5s,baz=251,slow=6.1,SNR=16						
ILAR	Eielson Array	67.86	25	P	P	22 25 33.5	-0.9
YKA	Yellowknife Ar	82.14	28	P	P	22 26 56.6	+0.1
	0.4nm,0.4s,baz=286,slow=5.3,SNR=9.6						
YKA	Yellowknife Ar	82.14	28	P	P	22 26 56.6	+0.1
FINES	FINESS Array B	91.02	335	P	P	22 27 37.9	-2.0
	0.6nm,0.5s,baz=54,slow=7.1,SNR=7.9						
FINES	FINESS Array B	91.02	335	P	P	22 27 37.9	-2.0

IDC 26 22:27:25.6±2.0,7˚.69S×118˚.66E,h0km,mb3.2/2, mb1 3.5/4,mb1mx3.4/18,mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=62.1km s-min=25.1km az=63.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	2.87	22	Pn	Pn	22 28 12.5	-0.2
	1.8nm,0.3s,baz=207,slow=5.4,SNR=8.4						
KAPI				Sn	Sn	22 28 43.5	-4.4
	7.2nm,0.3s,baz=175,slow=20,SNR=9.5						
WRA	Warramunga Arr	19.48	130	P	P	22 31 54.1	-0.1
	0.2nm,0.3s,baz=304,slow=13,SNR=12						
ASAR	Alice Springs	21.59	139	P	P	22 32 17.4	+0.2
	0.8nm,0.4s,baz=311,slow=8.7,SNR=9.3						
MKAR	Makanchi Array	63.14	333	P	P	22 37 55.3	0.0
	0.2nm,0.7s,baz=152,slow=6.5,SNR=4.2						

BYKL ***26*** *22:29:46.9±0.5,57˚.35N×120˚.80E*

MOS ***26*** *22:29:48.3±1.1,57˚.37N×120˚.82E,h15km,mb4.1/1,Error ellipse: s-maj=56.7km s-min=47.3km az=58.5*

ISC 26 22:29:48.2±0.9,57˚.33N±0˚.04×120˚.80E±0˚.03,h10km,n23, σ1§70/33,2C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	Khani	0.61	227	*i* Pg	Pg	22 29 58.1	-1.8
KHNR				*e*Sg	Sg	22 30 05.8	-2.1
CRS	Chara	1.45	254	*e*P	Pn	22 30 13.3	-1.1
CRS				*e*		22 30 31.5	
CRS				pmax	pmax		
	comp=Z,96nm,0.6s						
CRS				smax	smax		
	comp=E,212nm,0.4s						
CRS	Chara	1.45	254	⇑*i* Pg	Pn	22 30 13.0	-1.4
CRS				*e*Sg	Sn	22 30 31.1	-2.3
CRS				Pmax			
	comp=E,96nm,0.6s						
CRS				Smax			
	comp=E,211nm,0.6s						
NRGR	Nerungri	2.25	106	*e*P	Pn	22 30 26.5	+1.0
NRGR				S	Sn	22 30 54.7	+1.3
NRGR				smax	smax		
	comp=E,238nm,0.6s						
CLNS	Chul'man	2.29	101	*e*P	Pb	22 30 28.0	-1.6
CLNS				*e*		22 30 57.8	
CLNS				pmax	pmax		
	comp=N,6.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,17nm,0.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.3s						
CLNS				smax	smax		
	comp=E,197nm,0.4s						
CLNS				smax	smax		
	comp=Z,81nm,0.4s						
CLNS				smax	smax		
	comp=N,134nm,0.4s						
CLNS	Chul'man	2.29	101	*e*	Pb	22 30 27.8	-1.8
CLNS				*e*Sg	Sb	22 30 59.1	+1.1
ALDR	Aldan	2.77	61	*e*Pn	Pn	22 30 32.4	-0.2
ALDR				*e*Pg	Pb	22 30 36.6	-1.2
ALDR				*e*Sg	Sb	22 31 11.1	-0.7
NLYR	Nelyaty	2.92	255	*e*Pn	Pn	22 30 33.6	-1.0
NLYR				⇑*i* Pg	Pb	22 30 39.1	-1.1
NLYR				*e*Sg	Sb	22 31 15.7	-0.2
NLYR				Pmax			
	comp=N,68nm,0.4s						
NLYR				Smax			
	comp=N,251nm,0.8s						
TUP	Tupik	2.95	190	*e*P	Pn	22 30 35.5	+0.4
TUP				*e*S	Sn	22 31 10.3	-0.3
TUP				pmax	pmax		
	comp=Z,85nm,0.6s						
TUP				smax	smax		
	comp=N,138nm,0.8s						
TUP	Tupik	2.95	190	*e*Pn	Pn	22 30 35.2	+0.1
TUP				*e*Pg	Pb	22 30 40.0	-0.9
TUP				*e*Sg	Sb	22 31 17.8	+0.8
TUP				Pmax			
	comp=N,84nm,0.5s						
TUP				Smax			
	comp=N,174nm,0.8s						
TNDR	Tynda	3.10	133	*e*	Pn	22 30 37.9	+0.8
TNDR				*e*		22 30 48.0	
TNDR				*e*		22 31 14.9	
TNDR				*e*Sg	Sb	22 31 23.9	+2.7
BOD	Bodaibo	3.69	280	*e*Pn	Pn	22 30 44.7	-0.5
BOD				*e*Pg	Pb	22 30 52.1	-1.3
BOD				*e*Sg	Sb	22 31 39.5	+1.4
BOD				Pmax			
	comp=N,10.0nm,0.6s						
BOD				Smax			
	comp=N,126nm,0.9s						
SVKR	Severomuysk	4.17	256	*e*Pg	Pb	22 31 02.6	+1.0
SVKR				*e*Sg	Sb	22 31 56.3	+4.3
SVKR				Pmax			
	comp=N,19nm,0.5s						
SVKR				Smax			
	comp=N,128nm,1.0s						
YOA	Uoyan	5.14	260	*e*Sg	Sg	22 32 27.4	-5.6
YOA				Smax			
	comp=N,236nm,2.4s						
KMO	Kumora	5.49	259	*e*Pn	Pn	22 31 10.8	+0.8
KMO				*e*Pg	Pb	22 31 26.8	+2.7
KMO				*e*Sg	Sb	22 32 37.4	+7.4
KMO				Pmax			
	comp=N,5.0nm,0.5s						
KMO				Smax			
	comp=N,83nm,1.0s						
YLYR	Ulyunkhan	5.93	250	*e*P	Pb	22 31 34.8	+3.3
YLYR				pmax	pmax		
	comp=Z,1.0nm,2.5s						
YLYR	Ulyunkhan	5.93	250	*e*Sg	Sb	22 32 49.2	+6.8
YLYR				Smax			
	comp=Z,37nm,1.6s						
NIZ	Nizh Angarsk	6.42	261	*e*	Pg	22 31 53.6	+2.7
NIZ				*e*Sg	Sb	22 33 04.9	+8.4
NIZ				Smax			
	comp=Z,30nm,2.3s						
CIT	Chita	6.78	221	*e*Sg	Sb	22 33 17.2	+10
CIT				Smax			
	comp=Z,94nm,0.9s						
SYVR	Suvo	7.15	244	*e*	Pb	22 31 53.6	+1.3
SYVR				*e*Sg	Sg	22 33 29.0	-8.5
SYVR				Smax			
	comp=Z,45nm,1.2s						
OGRR	Ongureny	8.36	249	*e*	Sn	22 33 07.0	-17
OGRR				*e*Sg	Sg	22 34 05.5	-11
OGRR				Smax			
	comp=Z,17nm,1.9s						
KPC	Khapcheranga	9.13	217	*e*Pn	Pn	22 31 57.5	-2.5
KPC				*e*		22 32 29.0	
KPC				*e*Sg	Sn	22 34 28.1	+45
KPC				Smax			
	comp=Z,31nm,1.0s						
TRG	Tyrgan	9.47	247	*e*Sg	Sn	22 34 40.6	+50
TRG				Smax			
	comp=Z,6.0nm,0.2s						

ISCJB ***26*** *22:30:29.8±0.3,0˚.01S±0˚.02×123˚.96E±0˚.02,h107km±3km, mb4.8/65,Error ellipse: s-maj=4.2km s-min=3.8km az=31.5*

IDC ***26*** *22:30:30.2±1.2,0˚.03N×123˚.82E,h96km±10km,mb4.4/21, mb1 4.5/24,mb1mx4.5/26,mbtmp4.5/24,MS3.7/4, Ms1 3.6/4,ms1mx3.1/28,Error ellipse: s-maj=14.6km s-min=8.8km az=87.0*

BJI ***26*** *22:30:30.0,0˚.00N×124˚.00E,h110km,mB5.1/24,mb4.8/43*

DJA ***26*** *22:30:32,0˚.07N×124˚.03E,h86km,mb5.1/36*

NEIC ***26*** *22:30:34.2±1.2,0˚.01S×123˚.90E,h135km±11km,mb4.7/29, Error ellipse: s-maj=8.7km s-min=5.4km az=66.0*

ISC 26 22:30:31.4±0.4,0˚.01N±0˚.03×123˚.96E±0˚.03,h102km±2km, n176,σ1§09/194,mb4.8/65,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.56	2	P	Pn	22 30 46.0	-1.9
KMSI				S	Sn	22 30 59.5	-0.7
LUWI	Luwuk	1.58	229	P	Pn	22 30 57.9	-0.9
LUWI				S	Sn	22 31 18.3	-1.3
MNI	Manado	1.68	32	P	Pn	22 30 59.8	-0.2
MRSI	Marisa	2.07	283	P	Pn	22 31 02.6	-2.4
TNTI	Ternate	3.49	77	P	Pn	22 31 22.8	-1.0
TNTI				S	Sn	22 32 04.9	+0.6
LBMI	Labuha	3.60	100	P	Pn	22 31 24.8	-0.5
LBMI				S	Sn	22 32 04.7	-2.2
SGSI	Sangihe	3.97	23	P	Pn	22 31 39.4	+9.1
KDI	Kendari	4.16	199	P	Pn	22 31 32.0	-0.9
KDI				S	Sn	22 32 16.4	-4.1
PCI	Palu	4.22	258	P	Pn	22 31 41.9	+8.2
TTSI	Tana Toraja	5.13	234	P	Pn	22 31 45.9	-0.1
	1µm,0.8s,10µm						
TTSI				S	Sn	22 32 41.3	-2.7
	1µm,0.8s,10µm						
AAI	Ambon	5.60	131	P	Pn	22 31 53.2	+0.8
	210nm,1.1s,4µm						
AAI				S	Sn	22 32 55.1	-0.4
	210nm,1.1s,4µm						
SPSI	Sidrap Palu	5.75	227	P	Pn	22 31 54.1	-0.3
	736nm,0.6s,6µm						
SPSI				S	Sn	22 32 58.0	-1.2
	736nm,0.6s,6µm						
MSAI	Masohi	5.98	124	P	Pn	22 31 58.5	+1.0
	84nm,1.0s,2µm						
MSAI				S	Sn	22 33 03.3	-1.4
	84nm,1.0s,2µm						
KAPI	Kappang	6.52	220	P	Pn	22 32 03.5	-1.4
	42nm,0.3s,baz=41,slow=6.0,SNR=63						
KAPI				S	Sn	22 33 15.0	-2.9
	29nm,0.3s,baz=212,slow=22,SNR=26						
KAPI				LR	LR	22 35 01.4	
	comp=Z,399nm,18.6s,baz=338,slow=42						
KAPI	Kappang	6.52	220	*e*Pn	Pn	22 32 04.5	-0.4
KAPI				*e*Sn	Sn	22 33 13.2	-4.7
KAPI	Kappang	6.52	220	P	Pn	22 32 04.6	-0.3
	276nm,0.8s,3µm1.3nm						
BKSI	Bulukumba	6.54	216	P	Pn	22 32 04.9	-0.2
	101nm,0.6s,4µm						
DAV	Davao City (W)	7.20	13	S	Sn	22 33 39.4	+5.1
	49nm,0.3s,baz=90,slow=20,SNR=2.8						
DAV	Davao City (W)	7.20	13	S	Sn	22 33 39.4	+5.1
SWI	Sorong	7.35	97	P	Pn	22 32 17.2	+1.1
	110nm,0.8s,0.4nm						
TSM	Tawau	7.42	305	P	Pn	22 32 16.1	-1.1
MYLDM	Lahad Datu	7.49	313	P	Pn	22 32 20.3	+2.3
MYLDM	Lahad Datu	7.49	313	P	Pn	22 32 20.7	+2.7
	100nm,0.8s,2µm0.8nm						
KBKI	Kotabaru	8.45	247	P	Pn	22 32 34.5	+3.4
	102nm,1.0s,1µm0.3nm						
SDKM	Sandakan	8.77	310	P	Pn	22 32 37.5	+1.9
BBKI	Banjar Baru	9.

WRA				ScP	**ScP**	22 42 41.4	+0.1		
FRIM	**Kepong**	**22.55**	**278**	P	**P**	**22 35 24.4**	**+1.0**		
IPM	**Ipoh**	**23.34**	**281**	*eP*	**P**	**22 35 30.7**	**-0.2**		
	24nm,1.1s								
IPM	**Ipoh**	**23.34**	**281**	P	**P**	**22 35 31.6**	**+0.6**		
TPUB	**Ta-pu**	**23.38**	**352**	*eP*	**P**	**22 35 31.7**	**+0.5**		
	70nm,1.1s								
COEN	**Coen**	**23.55**	**127**	*eP*	**P**	**22 35 34.0**	**+1.2**		
	28nm,0.9s								
PMG	**Port Moresby**	**24.92**	**113**	P	**P**	**22 35 44.4**	**-0.8**		
	4.2nm,0.4s,baz=349,slow=8.4,SNR=3.3								
PMG	**Port Moresby**	**24.92**	**113**	*eP*	**P**	**22 35 47.2**	**+1.9**		
AS31	**Alice Springs**	**25.44**	**158**	*eP*	**P**	**22 35 49.6**	**-0.3**		
ASAR	**Alice Springs**	**25.44**	**158**	P	**P**	**22 35 50.1**	**+0.2**		
	3.1nm,0.5s,baz=347,slow=17,SNR=24								
ASAR				PcP	**PcP**	**22 39 20.3**	**+0.7**		
	1.0nm,0.5s,baz=348,slow=2.1,SNR=6.0								
ASAR				ScP	**ScP**	**22 42 50.5**	**+0.6**		
	2.0nm,0.6s,baz=350,slow=2.5,SNR=13								
ASAR	**Alice Springs**	**25.44**	**158**	P	**P**	**22 35 50.1**	**+0.2**		
ASAR				PcP	**PcP**	**22 39 20.3**	**+0.7**		
ASAR				ScP	**ScP**	**22 42 50.5**	**+0.6**		
CMAR	**Chiang Mai Arr**	**30.66**	**308**	P	**P**	**22 36 36.5**	**0.0**		
	3.3nm,0.7s,baz=139,slow=7.2,SNR=28								
CMAR				PcP	**PcP**	**22 39 32.6**	**+0.1**		
	1.9nm,0.9s,baz=169,slow=2.2,SNR=8.0								
CMAR				ScP	**ScP**	**22 43 06.0**	**-0.1**		
	0.7nm,0.6s,baz=153,slow=2.4,SNR=6.0								
CMAR	**Chiang Mai Arr**	**30.66**	**308**	P	**P**	**22 36 36.5**	**0.0**		
CMAR				PcP	**PcP**	**22 39 32.6**	**+0.1**		
CMAR				ScP	**ScP**	**22 43 06.0**	**-0.1**		
CHTO	**Chiang Mai**	**30.86**	**309**	*eP*	**P**	**22 36 38.8**	**+0.5**		
	9.0nm,0.8s								
FORT	**Forrest**	**30.87**	**173**	*eP*	**P**	**22 36 38.1**	**0.0**		
	33nm,0.5s								
FORT	**Forrest**	**30.87**	**173**	*eP*	**P**	**22 36 38.3**	**+0.1**		
	40nm,0.6s								
GYA	**Guiyang**	**31.13**	**329**	P	**P**	**22 36 43.0**	**+2.3**		
GYA				pP	pP	22 37 06.3	+2.8		
GYA				sP	sP	22 37 17.8	+2.5		
GYA				PP	PP	22 37 49.5	-3.5		
GYA				PcP	**PcP**	**22 39 34.0**	**+0.2**		
GYA				S	**S**	**22 41 40.8**	**+1.6**		
GYA				sS	sS	22 42 21.5	+2.6		
GYA				ScP	**ScP**	**22 43 07.0**	**-0.6**		
GYA				PcS	**PcS**	**22 43 18.0**	**-0.3**		
GYA				ScS	**ScS**	**22 47 03.5**	**-1.7**		
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GYA				pmax	pmax				
	comp=Z,90nm,4.9s								
BLDU	**Ballidu**	**31.23**	**192**	*eP*	**P**	**22 36 40.9**	**-0.4**		
WHN	**Wuhan**	**31.71**	**344**	*eP*	**P**	**22 36 46.5**	**+0.9**		
CBIJ	**Chichi jima**	**32.13**	**32**	P	**P**	**22 36 48.7**	**-0.6**		
	comp=Z,275nm,0.4s,baz=248,slow=3.8,SNR=46								
CBIJ	**Chichi jima**	**32.13**	**32**	P	**P**	**22 36 48.7**	**-0.6**		
NJ2	**Nanjing**	**32.23**	**352**	*eP*	**P**	**22 36 51.0**	**+0.9**		
NJ2				pmax	pmax				
	comp=Z,200nm,1.2s								
KMI	**Kunming**	**32.32**	**322**	P	**P**	**22 36 54.0**	**+2.7**		
KMI				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ENH	**Enshi**	**33.10**	**337**	*eP*	**P**	**22 36 57.5**	**-0.3**		
	comp=Z,29nm,0.9s								
NWAO	**Narrogin (SRO)**	**33.37**	**190**	P	**P**	**22 37 00.1**	**+0.1**		
	comp=Z,15nm,0.9s,baz=54,slow=6.1,SNR=9.4								
NWAO	**Narrogin (SRO)**	**33.37**	**190**	P	**P**	**22 37 00.1**	**+0.1**		
JNU	**Nakatsue**	**33.58**	**11**	P	**P**	**22 37 00.5**	**-1.4**		
	comp=Z,12nm,0.8s,baz=110,slow=3.6,SNR=6.9								
JNU	**Nakatsue**	**33.58**	**11**	P	**P**	**22 37 00.5**	**-1.4**		
RKGY	**Rocky Gully**	**35.05**	**190**	*eP*	**P**	**22 37 15.4**	**+0.8**		
	comp=Z,24nm,0.6s								
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**22 37 21.6**	**+0.2**		
	comp=Z,6.3nm,0.4s,baz=331,slow=7.6,SNR=46								
STKA	**Stephens Creek**	**35.84**	**154**	*eP*	**P**	**22 37 22.0**	**+0.7**		
	comp=Z,5.6nm,0.4s								
STKA	**Stephens Creek**	**35.84**	**154**	*eP*	**P**	**22 37 21.5**	**+0.2**		
	comp=Z,1.6nm,0.6s								
CD2	**Chengdu**	**36.23**	**330**	P	**P**	**22 37 27.0**	**+2.3**		
CD2				pP	pP	22 37 50.5	+2.6		
CD2				sP	sP	22 38 02.5	+2.9		
CD2				PP	PP	22 38 53.5	+4.3		
CD2				S	**S**	**22 43 00.3**	**+2.6**		
CD2				sS	sS	22 43 40.8	+3.0		
CD2				SS	SS	22 45 30.8	-9.1		
CD2				pmax	pmax				
	comp=Z,40nm,0.9s								
CD2				pmax	pmax				
	comp=Z,250nm,4.7s								
CD2				LR	LR				
	comp=N,270nm,4.8s								
CD2				LR	LR				
	comp=Z,250nm,5.1s								
XAN	**Xi'an**	**36.67**	**339**	P	**P**	**22 37 27.8**	**-0.7**		
XAN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
XAN				pmax	pmax				
	comp=Z,19nm,5.3s								
KSAR	**Wonju Array Be**	**37.42**	**5**	P	**P**	**22 37 35.0**	**+0.3**		
KSAR				PcP	**PcP**	**22 39 51.9**	**+0.5**		
KSAR				ScP	**ScP**	**22 43 30.3**	**+0.7**		
KSRS	**Korea Array**	**37.44**	**5**	P	**P**	**22 37 35.0**	**+0.2**		
	comp=Z,3.3nm,0.5s,baz=178,slow=9.2,SNR=19								
KSRS				PcP	**PcP**	**22 39 51.9**	**+0.4**		
	comp=Z,1.4nm,0.7s,baz=196,slow=1.8,SNR=4.5								
KSRS				ScP	**ScP**	**22 43 30.3**	**+0.7**		
	comp=Z,0.9nm,0.7s,baz=197,slow=3.7,SNR=4.5								
KSRS				LR	LR	22 52 46.1			
	comp=Z,77nm,19.6s,baz=240,slow=36								
CMSA	**Cobar Meteorol**	**37.52**	**149**	*eP*	**P**	**22 37 37.1**	**+1.4**		
	comp=Z,43nm,0.6s								
MAJO	**Matsushiro**	**38.68**	**18**	*eP*	**P**	**22 37 44.2**	**-1.1**		
	comp=Z,41nm,0.7s								
MAT	**Matsushiro**	**38.68**	**18**	P	**P**	**22 37 44.1**	**-1.2**		
MJAR	**Matsushiro Arr**	**38.68**	**18**	P	**P**	**22 37 44.4**	**-0.9**		
	comp=Z,35nm,0.7s,baz=196,slow=9.6,SNR=84								
MJAR	**Matsushiro Arr**	**38.68**	**18**	P	**P**	**22 37 44.4**	**-0.9**		
BJT	**Baijiatuau**	**40.45**	**351**	*eP*	P	22 37 58.4	-1.5		
	comp=Z,12nm,0.9s								
LZH	**Lanzhou**	**40.48**	**335**	*eP*	**P**	**22 38 02.0**	**+1.6**		
LZH				pP	pP	22 38 27.8	+3.8		
LZH				sP	sP	22 38 41.0	+5.4		
LZH				pmax	pmax				
	comp=Z,37nm,1.2s								
LZH				pmax	pmax				
	comp=Z,170nm,4.0s								
HHC	**Hu-ho-hao-te**	**42.18**	**346**	*eP*	**P**	**22 38 14.3**	**+0.1**		
HHC				pP	**pP**	**22 38 39.8**	**+1.9**		
HHC				sP	sP	22 38 52.8	+3.3		
HHC				PP	PP	22 39 55.8	+1.8		
HHC				*eS*	**S**	**22 44 26.3**	**-0.5**		
HHC				sS	sS	22 45 11.5	+3.8		
HHC				SS	SS	22 47 31.5	-7.3		
HHC				pmax	pmax				
	comp=Z,10.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,140nm,5.5s								
CAN	**Canberra**	**42.20**	**149**	*eP*	**P**	**22 38 16.7**	**+2.3**		
	comp=Z,4.7nm,0.5s								
LSA	**Lhasa**	**43.00**	**316**	*eP*	**P**	**22 38 22.0**	**+0.5**		
	comp=Z,18nm,0.6s								
LSA				*e*PcP	**PcP**	**22 40 10.1**	**-0.2**		
CN2	**Changchun**	**43.62**	**2**	*eP*	P	22 38 23.5	-2.1		
CN2				epP	pP	22 38 46.5	-3.0		
CN2				PcP	PP	22 40 10.5	+1.3		
CN2				*eS*	**S**	**22 44 46.8**	**-0.8**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
ODAN	**Odare**	**44.15**	**310**	*eP*	**P**	**22 38 30.6**	**+0.1**		
ODAN	**Odare**	**44.15**	**310**	*eP*	**P**	**22 38 30.6**	**+0.1**		
TAPN	**Taplejung**	**44.16**	**311**	*eP*	**P**	**22 38 30.5**	**-0.1**		
	comp=Z,8.9nm,0.6s								
TAPN	**Taplejung**	**44.16**	**311**	*eP*	**P**	**22 38 30.5**	**-0.1**		
	comp=Z,8.9nm,0.6s								
USRK	**Ussuriysk Arra**	**44.58**	**8**	P	**P**	**22 38 33.3**	**0.0**		
	comp=Z,12nm,0.3s,baz=196,slow=6.6,SNR=80								
MDJ	**Mudanjiang**	**44.70**	**6**	P	**P**	**22 38 34.5**	**+0.3**		
MDJ				pP	**pP**	**22 38 57.8**	**-0.3**		
MDJ				sP	**sP**	**22 39 09.3**	**-0.4**		
MDJ				ScP	**ScP**	**22 43 57.5**	**-0.7**		
MDJ				PcS	**PcS**	**22 44 08.5**	**0.0**		
MDJ				S	**S**	**22 45 04.3**	**+1.1**		
MDJ				ScS	**ScS**	**22 48 21.5**	**-0.1**		
MDJ				pmax	pmax				
	comp=Z,16nm,1.7s								
MDJ				pmax	pmax				
	comp=Z,81nm,7.1s								
MDJ	**Mudanjiang**	**44.70**	**6**	*eP*	**P**	**22 38 34.2**	**0.0**		
	comp=Z,9.8nm,0.8s								
RAMN	**Ramite**	**44.80**	**310**	*eP*	**P**	**22 38 36.2**	**+0.5**		
	comp=Z,25nm,0.6s								
RAMN	**Ramite**	**44.80**	**310**	*eP*	**P**	**22 38 36.2**	**+0.5**		
	comp=Z,25nm,0.6s								
GTA	**Gaotai**	**45.01**	**333**	*eP*	**P**	**22 38 37.3**	**+0.3**		
GTA				pP	**pP**	**22 39 00.3**	**-0.6**		
GTA				sP	**sP**	**22 39 12.3**	**-0.1**		
GTA				S	**S**	**22 45 08.5**	**+0.4**		
GTA				SS	**ScS**	**22 48 24.8**	**+0.7**		
GTA				pmax	pmax				
	comp=Z,27nm,1.0s								
GTA				pmax	pmax				
	comp=Z,140nm,4.8s								
GTA				LR	LR				
	comp=N,150nm,16.4s								
GTA				LR	LR				
	comp=E,120nm,15.7s								
GTA				LR	LR				
	comp=Z,150nm,16.2s								
JIRN	**Jiri**	**45.48**	**310**	*eP*	**P**	**22 38 41.2**	**+0.1**		
JIRN	**Jiri**	**45.48**	**310**	*eP*	**P**	**22 38 41.2**	**+0.1**		
GUN	**Gumba**	**45.84**	**310**	*eP*	**P**	**22 38 43.1**	**-0.9**		
GUN	**Gumba**	**45.84**	**310**	*eP*	**P**	**22 38 43.1**	**-0.9**		
PKI	**Pulchoki**	**46.03**	**310**	*eP*	**P**	**22 38 45.0**	**-0.5**		
PKI	**Pulchoki**	**46.03**	**310**	*eP*	**P**	**22 38 45.0**	**-0.5**		
KKN	**Kakani**	**46.24**	**310**	*eP*	**P**	**22 38 46.5**	**-0.4**		
KKN	**Kakani**	**46.24**	**310**	*eP*	**P**	**22 38 46.5**	**-0.4**		
DMN	**Daman**	**46.28**	**310**	*eP*	**P**	**22 38 47.1**	**-0.2**		
DMN	**Daman**	**46.28**	**310**	*eP*	**P**	**22 38 47.1**	**-0.2**		
GKN	**Gorkha**	**46.84**	**310**	*eP*	**P**	**22 38 50.7**	**-0.9**		
GKN	**Gorkha**	**46.84**	**310**	*eP*	**P**	**22 38 50.7**	**-0.9**		
ASAJ	**Asahikawa**	**46.95**	**18**	P	**P**	**22 38 52.7**	**+0.7**		
	comp=Z,71nm,0.7s,baz=228,slow=10,SNR=27								
ASAJ	**Asahikawa**	**46.95**	**18**	*eP*	**P**	**22 38 52.7**	**+0.7**		
	comp=Z,24nm,0.7s								
KOLN	**Koldanda**	**47.52**	**309**	*eP*	**P**	**22 38 56.2**	**-0.8**		
	comp=Z,46nm,0.8s								
KOLN	**Koldanda**	**47.52**	**309**	*eP*	**P**	**22 38 56.2**	**-0.8**		
	comp=Z,46nm,0.8s								
DANN	**Dangsing**	**47.68**	**310**	*eP*	P	22 38 57.1	-1.2		
	comp=Z,43nm,0.6s								
DANN	**Dangsing**	**47.68**	**310**	*eP*	P	22 38 57.1	-1.2		
	comp=Z,43nm,0.6s								
HYB	**Hyderabad**	**47.91**	**294**	*i* P	P	22 38 58.5	-1.4		
HIA	**Hailar**	**49.20**	**356**	*eP*	**P**	**22 39 08.2**	**-1.1**		
	comp=Z,9.1nm,0.6s								
YSS	**Yuzh-Sakhalins**	**49.56**	**17**	*eP*	**P**	**22 39 12.0**	**0.0**		
	comp=Z,26nm,0.5s								
ULN	**Ulaanbaatar**	**49.88**	**345**	*eP*	**P**	**22 39 13.6**	**-1.0**		
	comp=Z,7.2nm,1.0s								
ULN				*e*PcP	**PcP**	**22 40 33.1**	**-0.6**		
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**22 39 14.8**	**-0.8**		
	comp=Z,5.7nm,0.7s,baz=160,slow=8.8,SNR=29								
SONM				PcP	**PcP**	**22 40 33.3**	**-0.8**		
	comp=Z,2.3nm,0.7s,baz=166,slow=2.9,SNR=5.5								
SONM				ScP	**ScP**	**22 44 19.3**	**-1.4**		
	comp=Z,0.5nm,0.8s,baz=167,slow=4.2,SNR=3.8								
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**22 39 14.8**	**-0.8**		
SONM				PcP	**PcP**	**22 40 33.3**	**-0.8**		
SONM				ScP	**ScP**	**22 44 19.3**	**-1.4**		
TLY	**Talaya**	**54.27**	**345**	*eP*	**P**	**22 39 46.2**	**-0.7**		
	comp=Z,5.8nm,0.8s								
WMQ	**Urumqi**	**54.29**	**328**	P	**P**	**22 39 46.5**	**-0.7**		
WMQ				pP	**pP**	**22 40 10.5**	**-1.4**		
WMQ				pmax	pmax				
	comp=Z,15nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,200nm,6.7s								
MK31	**Makanchi Array**	**59.11**	**328**	*eP*	P	22 40 20.1	-1.2		
MK31				*e*PcP	**PcP**	**22 41 07.4**	**-1.6**		
MKAR	**Makanchi Array**	**59.11**	**328**	P	P	22 40 20.0	-1.3		
	comp=Z,13nm,0.5s,baz=121,slow=7.5,SNR=162								
MKAR				PcP	**PcP**	**22 41 07.1**	**-1.8**		
	comp=Z,5.4nm,0.5s,baz=160,slow=2.9,SNR=20								
MKAR				ScP	**ScP**	**22 44 57.5**	**-2.9**		
	comp=Z,0.6nm,0.7s,baz=134,slow=5.2,SNR=4.1								
MKAR	**Makanchi Array**	**59.11**	**328**	P	P	22 40 20.0	-1.3		
MKAR				PcP	**PcP**	**22 41 07.1**	**-1.8**		
MKAR				ScP	**ScP**	**22 44 57.5**	**-2.9**		
PETK	**Petropavlovsk-**	**59.90**	**23**	P	**P**	**22 40 27.6**	**+1.0**		
	comp=Z,31nm,0.7s,baz=195,slow=7.4,SNR=28								
PETK	**Petropavlovsk-**	**59.90**	**23**	P	**P**	**22 40 27.6**	**+1.0**		
PET	**Petropavlovsk**	**60.21**	**23**	*eP*	**P**	**22 40 29.7**	**+1.1**		
TKM2	**Tokmak 2**	**60.78**	**321**	*eP*	**P**	**22 40 32.3**	**-0.7**		
KBL	**Kabul**	**61.67**	**310**	*eP*	P	22 40 36.5	-2.7		
YAK	**Yakutsk**	**62.02**	**3**	*eP*	**P**	**22 40 40.0**	**-0.6**		
	comp=Z,116nm,0.7s								
ZAA0	**Zalesovo Array**	**62.70**	**335**	*eP*	P	22 40 42.9	-2.5		
ZALV	**Zalesovo Beam**	**62.70**	**335**	P	P	22 40 43.0	-2.4		
	comp=Z,2.9nm,0.5s,baz=111,slow=6.5,SNR=17								
ZALV				PcP	**PcP**	**22 41 20.6**	**-2.5**		
	comp=Z,1.6nm,0.5s,baz=107,slow=4.3,SNR=4.7								
ZALV	**Zalesovo Beam**	**62.70**	**335**	P	P	22 40 43.0	-2.4		
ZALV				PcP	**PcP**	**22 41 20.6**	**-2.5**		
KURK	**Kurchatov**	**63.45**	**330**	P	P	22 40 48.7	-1.7		
	comp=Z,22nm,0.7s,baz=136,slow=6.4,SNR=21								
KURK				PcP	**PcP**	**22 41 24.8**	**-1.5**		
	comp=Z,3.6nm,0.5s,baz=121,slow=3.8,SNR=6.0								
KURK				PP	**PP**	**22 43 10.8**	**-0.3**		
	comp=Z,2.0nm,1.1s,baz=129,slow=9.2,SNR=4.7								
KURK	**Kurchatov**	**63.45**	**330**	*eP*	P	22 40 48.9	-1.5		
KURK				PcP	**PcP**	**22 41 24.8**	**-1.5**		
KURK				PP	**PP**	**22 43 10.8**	**-0.3**		
CASY	**Casey**	**66.84**	**186**	*eP*	**P**	**22 41 11.9**	**-0.1**		
	comp=Z,6.6nm,0.9s								
BRVK	**Borovoye**	**69.04**	**329**	*eP*	P	22 41 24.3	-1.8		
	comp=Z,11nm,0.8s								
ABKAR	**Akbulak array**	**73.31**	**322**	*eP*	P	22 41 49.4	-2.5		
	comp=Z,2.4nm,0.6s								
BILL	**Bilibino**	**73.84**	**15**	*eP*	**P**	**22 41 53.6**	**-1.1**		
	comp=Z,5.0nm,0.4s								
ARU	**Arti**	**76.62**	**329**	*eP*	P	22 42 07.7	-3.1		
	comp=Z,9.8nm,0.9s								
TNA	**Tin City**	**81.07**	**23**	*eP*	**P**	**22 42 35.0**	**0.0**		
	comp=Z,7.8nm,1.1s								
ILAR	**Eielson Array**	**89.63**	**25**	P	P	22 43 15.7	-1.8		
	comp=Z,0.5nm,0.5s,baz=256,slow=4.6,SNR=10								
ILAR	**Eielson Array**	**89.63**	**25**	P	P	22 43 15.7	-1.8		
JOF	**Joensuu**	**91.20**	**333**	*ep*	P	22 43 21.0	-3.9		
	comp=Z,3.6nm,0.4s								
JOF	**Joensuu**	**91.20**	**333**	*ep*	P	22 43 21.0	-3.9		
	comp=Z,3.6nm,0.4s								
KEV	**Kevo**	**92.41**	**340**	*ep*	P	22 43 25.6	-4.7		
	comp=Z,0.5nm,0.4s								
KEV	**Kevo**	**92.41**	**340**	*ep*	P	22 43 25.6	-4.7		
	comp=Z,0.5nm,0.4s								
ARCES	**ARCESS Array B**	**92.95**	**340**	P	P	22 43 30.6	-2.3		
	comp=Z,2.7nm,0.6s,baz=93,slow=6.7,SNR=23								
ARCES	**ARCESS Array B**	**92.95**	**340**	P	P	22 43 30.6	-2.3		
AKASG	**Malin Array Be**	**93.00**	**321**	P	P	22 43 30.5	-2.9		
	comp=Z,1.1nm,0.5s,baz=72,slow=5.2,SNR=5.4								
AKASG	**Malin Array Be**	**93.00**	**321**	P	P	22 43 30.5	-2.9		
KAF	**Kangasniemi**	**93.58**	**332**	*ep*	P	22 43 30.2	-5.7		
	comp=Z,0.8nm,0.4s								
KAF	**Kangasniemi**	**93.58**	**332**	*ep*	P	22 43 30.2	-5.7		
	comp=Z,0.8nm,0.4s								
FINES	**FINESS Array B**	**93.77**	**332**	P	P	22 43 33.8	-2.9		
	comp=Z,1.6nm,0.6s,baz=58,slow=5.1,SNR=17								
FINES	**FINESS Array B**	**93.77**	**332**	P	P	22 43 33.8	-2.9		
MLR	**Muntele Rosu**	**95.62**	**316**	P	P	22 43 43.7	-2.1		
	comp=Z,0.7nm,0.8s,baz=164,slow=7.4,SNR=4.8								
MLR	**Muntele Rosu**	**95.62**	**316**	P	P	22 43 43.7	-2.1		
BUR08	**Malinva Ar. S**	**95.90**	**318**	*eP*	P	22 43 45.3	-1.7		
BOSA	**Boshof**	**97.65**	**241**	LR	LR	23 23 27.7			
	comp=Z,107nm,19.4s,baz=345,slow=33								
NOA	**NORSAR Array B**	**100.84**	**333**	P	**Pdif**	**22 44 06.0**	**-2.7**		
	comp=Z,0.7nm,0.8s,baz=73,slow=4.5,SNR=3.4								
NOA	**NORSAR Array B**	**100.84**	**333**	P	**Pdif**	**22 44 06.0**	**-2.7**		
YKA	**Yellowknife Ar**	**104.00**	**24**	Pdiff	**Pdif**	**22 44 22.8**	**+0.2**		
	comp=Z,0.1nm,0.6s,baz=298,slow=4.5,SNR=3.4								
YKA				PP	**PP**	**22 48 42.3**	**+1.5**		
	comp=Z,0.4nm,0.7s,baz=302,slow=6.6,SNR=3.6								
YKA	**Yellowknife Ar**	**104.00**	**24**	Pdif	**Pdif**	**22 44 22.8**	**+0.2**		
YKA				PP	**PP**	**22 48 42.4**	**+1.5**		
TORD	**Torodi Ar. Bea**	**121.33**	**285**	PKP	**PKPdf**	**22 49 13.1**	**-0.7**		
	comp=Z,1.1nm,0.6s,baz=48,slow=1.7,SNR=16								
TORD	**Torodi Ar. Bea**	**121.33**	**285**	PKP	**PKPdf**	**22 49 13.1**	**-0.7**		
SCHQ	**Schefferville**	**124.62**	**8**	PKP	**PKPdf**	**22 49 19.0**	**0.0**		
	comp=Z,4.5nm,0.9s,baz=38,slow=5.7,SNR=6.2								
SCHQ	**Schefferville**	**124.62**	**8**	PKP	**PKPdf**	**22 49 19.0**	**0.0**		
DBIC	**Dimbokro**	**128.51**	**278**	PKP	**PKPdf**	**22 49 26.6**	**-0.9**		
	comp=Z,1.0nm,0.6s,baz=98,slow=4.8,SNR=3.8								
DBIC	**Dimbokro**	**128.51**	**278**	PKP	**PKPdf**	**22 49 26.6**	**-0.9**		

MAN 26 22:32:06, 7.24N×124.13E, h33km, mb4.6, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.12**	**97**	*i* P	Pb	22 32 14.0	+2.1
PAGZ	**Pagadian**	**0.96**	**310**	*eP*	Pn	22 32 23.4	+0.2
PAGZ				*eS*	Sn	22 32 31.8	-3.9
BUKP	**Musuan**	**1.13**	**55**	*eP*	Pn	22 32 25.5	0.0
BUKP				*eS*	Sn	22 32 40.2	+0.3

*ISCJB **26** 23:15:54.3±0.3, 11.30N±0.06×85.69W±0.07, h177km±3km, mb4.0/17, Error ellipse: s-maj=14.7km s-min=4.3km az=137.0*
*IDC **26** 23:15:54.6±0.5, 11.31N×85.64W, h167km±6km, mb3.7/13, mb1 3.8/14, mb1mx3.6/25, mbtmp3.6/14, Error ellipse: s-maj=21.6km s-min=10.4km az=53.0*
*CASC **26** 23:15:55.6±2.4, 11.30N×85.71W, h166km±8km, MD3.6, mb4.4(NEIC)*
*NEIC **26** 23:15:55.1±0.7, 11.29N×85.65W, h175km±6km, mb4.4/8, Error ellipse: s-maj=18.4km s-min=8.3km az=61.0*
ISC 26 23:15:55.0±0.6, 11.33N±0.08×85.66W±0.08, h172km±5km, n70, σ1°04/90, mb4.0/17, **4C-3D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**0.53**	**158**	*i* P	**Pn**	**23 16 19.5**	**+0.4**
GBS2				*i* S	**Sn**	**23 16 38.0**	**+0.4**
GB1A	**Borinquen Arri**	**0.57**	**153**	*i* P	**Pn**	**23 16 19.9**	**+0.6**
GBS3	**Finca Las Im¨¡**	**0.58**	**160**	*i* P	**Pn**	**23 16 19.6**	**+0.3**
GBS3				*i* S	**Sn**	**23 16 38.0**	**-0.1**
BUEV	**Buena Vista**	**0.58**	**155**	*i* P	**Pn**	**23 16 19.8**	**+0.4**
LAPC	**Finca la Perla**	**0.60**	**158**	*i* P	**Pn**	**23 16 19.5**	**+0.1**
LAPC				*i* S	**Sn**	**23 16 37.7**	**-0.6**
GPS1	**Guardaparques**	**0.63**	**151**	*i* P	**Pn**	**23 16 20.1**	**+0.5**
GPS3	**Bodega del ICE**	**0.64**	**153**	*i* P	**Pn**	**23 16 20.0**	**+0.3**
GPS3				*i* S	**Sn**	**23 16 38.7**	**0.0**
GPS2	**Hotel Rinc¨‡n**	**0.65**	**152**	*i* P	**Pn**	**23 16 20.1**	**+0.4**
NY14	**Universidad de**	**0.69**	**170**	*i* P	**Pn**	**23 16 20.3**	**+0.5**
NY14				*i* S	**Sn**	**23 16 39.3**	**+0.2**
MESS	**Mesas**	**0.74**	**142**	*i* P	**Pn**	**23 16 20.8**	**+0.5**
LIM1	**Limonal**	**0.74**	**148**	*i* P	**Pn**	**23 16 20.8**	**+0.6**
GUAB	**Guayabo de Bag**	**0.75**	**146**	*i* P	**Pn**	**23 16 20.9**	**+0.7**
COLC	**Colonia**	**0.80**	**146**	*i* P	**Pn**	**23 16 21.2**	**+0.6**
CUI	**Cuipilapa**	**0.83**	**144**	*i* P	**Pn**	**23 16 21.5**	**+0.7**
AMAS	**Alto Masis**	**0.97**	**138**	*i* P	**Pn**	**23 16 22.6**	**+0.7**
MGAN	**Managua**	**1.00**	**325**	*eP*	**Pn**	**23 16 23.2**	**+1.3**
MGAN				*eS*	**Sn**	**23 16 41.6**	**-1.1**
VCR	**Vista de Mar**	**1.20**	**179**	*i*/P	**Pn**	**23 16 23.9**	**+0.2**
JTS	**JuntasAbangare**	**1.24**	**146**	P	**Pn**	**23 16 24.2**	**+0.3**
	349nm,0.3s,baz=316,slow=17,SNR=977						
JTS				S	**Sn**	**23

IDC 26 23:31:36.3±5.4, 28°.85N×138°.52E, h342km±144km, mb2.6/3, mb1 2.8/4, mb1mx2.6/22, mbtmp2.8/4, Error ellipse: s-maj=281.5km s-min=19.7km az=66.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.68**	**118**	P	Pn	23 32 43.5	+1.7
	12nm,0.3s,baz=283,slow=22,SNR=31						
CBIJ				S	S	23 33 34.0	-0.4
	31nm,0.3s,baz=280,slow=21,SNR=12						
SONM	**Songino Array**	**31.21**	**316**	P	P	23 37 25.2	+0.3
	0.2nm,0.4s,baz=131,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**46.86**	**308**	P	P	23 39 32.5	-0.6
	0.2nm,0.3s,baz=92,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**48.68**	**185**	P	P	23 39 47.0	-0.1
	0.3nm,0.4s,baz=2.5,slow=7.7,SNR=11						

*ISCJB **26** 23:50:12.4±0.3, 37°.20N×0°.02×5°.40W×0°.01, h2km±2km, Error ellipse: s-maj=3.2km s-min=1.8km az=12.8*
*CSEM **26** 23:50:13.6±0.1, 37°.11N×5°.39W, h8km, ML3.3/32, Error ellipse: s-maj=2.3km s-min=1.4km az=8.0*
*MDD **26** 23:50:14.8±0.2, 37°.07N×5°.40W, h6km±3km, mbLg2.7/39, Error ellipse: s-maj=2.8km s-min=1.8km az=178.0, PRXIMO*
*SFS **26** 23:50:14.0, 37°.09N×5°.38W, h0km, ML2.7*
*INMG **26** 23:50:14.6±1.4, 37°.07N×5°.37W, h6km±3km, ML2.8, Error ellipse: s-maj=1.9km s-min=1.6km az=24.0*
*IGIL **26** 23:50:14.4, 37°.09N×5°.38W, h1km, ML2.8*
*LDG **26** 23:50:14.4±0.1, 37°.06N×5°.39W, h2km, Ml3.0/4, Error ellipse: s-maj=2.0km s-min=1.3km az=2.0*

ISC 26 23:50:13.3±1.0, 37°.10N±0°.02×5°.37W±0°.01, h9km±9km, n143,σ1§12/255, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.20**	**189**	⇓Pg	**Pg**	**23 50 16.7**	**-0.8**
LIJA	**Lijar**	**0.20**	**189**	*i* P	**Pg**	**23 50 16.7**	**-0.8**
ESPR	**Espera**	**0.46**	**239**	⇑Pg	**Pg**	**23 50 22.8**	**+0.5**
	41nm,0.4s,SNR=18						
ESPR				Lg	Lg	23 50 28.8	
	187nm,0.3s						
ESPR	**Espera**	**0.46**	**239**	Pg	**Pg**	**23 50 22.8**	**+0.5**
	41nm,0.4s,SNR=18						
ESPR				Lg	Lg	23 50 28.8	
	187nm,0.3s						
EJIF	**Jimena Fronter**	**0.66**	**187**	⇑Pg	**Pg**	**23 50 25.9**	**-0.1**
	34nm,0.3s,SNR=18						
EJIF				Lg	Lg	23 50 35.4	
	84nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.66**	**187**	Pg	**Pg**	**23 50 25.9**	**-0.1**
	34nm,0.3s,SNR=18						
EJIF				Lg	Lg	23 50 35.4	
	84nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.72**	**138**	Pg	**Pg**	**23 50 27.0**	**-0.2**
	6.6nm,0.2s,SNR=92						
EMIJ				Lg	Lg	23 50 36.7	
	159nm,0.3s,SNR=19						
EMIJ	**Mijas**	**0.72**	**138**	Pg	**Pg**	**23 50 27.0**	**-0.2**
	6.6nm,0.2s,SNR=92						
EMIJ				Lg	Lg	23 50 36.7	
	159nm,0.3s,SNR=19						
EMAL	**Malaga-Limoner**	**0.82**	**114**	⇑Pg	**Pb**	**23 50 30.2**	**+0.4**
EMAL				Lg	Lg	23 50 40.1	
EMAL	**Malaga-Limoner**	**0.82**	**114**	*i* P	**Pb**	**23 50 30.2**	**+0.4**
EMAL				*e*S	**Sg**	**23 50 40.1**	**+0.1**
EMAL				Lg	Lg	23 50 40.1	
CNIL	**Conil**	**0.92**	**217**	Pg	**Pn**	**23 50 32.5**	**+0.1**
CNIL				Lg	Lg	23 50 50.5	
CNIL	**Conil**	**0.92**	**217**	*i* P	**Pn**	**23 50 32.5**	**+0.1**
CNIL				Lg	Lg	23 50 50.5	
SFS	**San Fernando**	**0.93**	**227**	Pg	Pn	23 50 36.5	+4.1
SFS				Lg	Lg	23 50 54.6	
ELOJ	**Sierra Loja**	**0.97**	**87**	Pg	**Pn**	**23 50 33.7**	**+0.5**
	13nm,0.1s,SNR=31						
ELOJ				Lg	Lg	23 50 47.8	
	25nm,0.3s,SNR=14						
ELOJ	**Sierra Loja**	**0.97**	**87**	Pg	**Pn**	**23 50 33.7**	**+0.5**
	13nm,0.1s,SNR=31						
ELOJ				Lg	Lg	23 50 47.8	
	25nm,0.3s,SNR=14						
ELUQ	**Luque**	**0.99**	**62**	Pg	**Pn**	**23 50 33.8**	**+0.4**
	15nm,0.1s,SNR=7.9						
ELUQ				Lg	Lg	23 50 48.3	
	44nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.99**	**62**	Pg	**Pn**	**23 50 33.8**	**+0.4**
	15nm,0.1s,SNR=7.9						
ELUQ				Lg	Lg	23 50 48.3	
	44nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.23**	**30**	Pg	**Pg**	**23 50 38.2**	**+1.2**
	8.9nm,0.1s,SNR=217						
EADA				Lg	Lg	23 50 54.3	
	50nm,0.2s,SNR=23						
EADA	**Adamuz**	**1.23**	**30**	Pg	**Pg**	**23 50 38.2**	**+1.2**
	8.9nm,0.1s,SNR=217						
EADA				Lg	Lg	23 50 54.3	
	50nm,0.2s,SNR=23						
EMIN	**Mina Concepcio**	**1.23**	**303**	Pn	**Pb**	**23 50 36.6**	**-0.2**
	4.2nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**23 50 37.7**	**+0.7**
	47nm,0.2s,SNR=331						
EMIN				Lg	Lg	23 50 54.5	
	95nm,0.3s,SNR=26						
EMIN	**Mina Concepcio**	**1.23**	**303**	Pn	**Pb**	**23 50 36.6**	**-0.2**
	4.2nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.45**	**83**	Pn	**Pb**	**23 50 41.0**	**+0.5**
	8.9nm,0.3s,SNR=7.9						
ECOG				Pg	**Pg**	**23 50 42.3**	**+1.2**
	6.6nm,0.2s,SNR=15						
ECOG				Lg	Lg	23 51 01.8	
	19nm,0.1s						
ECOG	**Cogollos-Vega**	**1.45**	**83**	Pn	**Pb**	**23 50 41.0**	**+0.5**
	8.9nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.47**	**100**	Pn	**Pb**	**23 50 41.3**	**+0.5**
	7.2nm,0.2s,SNR=7.9						
EGUA				Pg	**Pg**	**23 50 42.9**	**+1.5**
	31nm,0.5s,SNR=7.9						
EGUA				Lg	Lg	23 51 01.5	
	25nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.47**	**100**	Pn	**Pb**	**23 50 41.3**	**+0.5**
	7.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.54**	**86**	Pn	**Pn**	**23 50 42.1**	**+1.0**
	3.3nm,0.2s,SNR=7.9						
EQUE				Pg	**Pg**	**23 50 43.5**	**+0.6**
	6.8nm,0.3s,SNR=137						
EQUE				Lg	Lg	23 51 05.0	
	3.9nm,0.1s,SNR=5.9						
EQUE	**Quentar**	**1.54**	**86**	Pn	**Pn**	**23 50 42.1**	**+1.0**
	3.3nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**1.71**	**309**	*e*Pn	**Pn**	**23 50 43.5**	**+0.3**
PBAR	**Barrancos**	**1.71**	**309**	*e*Pg	**Pg**	**23 50 46.4**	**+0.4**
PBAR				*e*Sn	**Sn**	**23 51 05.1**	**0.0**
PBAR				*e*Sg	**Sg**	**23 51 09.8**	**+1.6**
PBAR				A	A	23 51 14.5	
	52nm,0.4s						
PBAR	**Barrancos**	**1.71**	**309**	Pn	**Pn**	**23 50 43.5**	**+0.3**
PBAR				Pg	**Pg**	**23 50 46.4**	**+0.4**
PBAR				Sn	**Sn**	**23 51 05.1**	**0.0**
PBAR				Lg	Lg	23 51 09.8	
	52nm,0.4s						
PBAR	**Barrancos**	**1.71**	**309**	Pn	**Pn**	**23 50 43.5**	**+0.3**
PBAR	**Barrancos**	**1.71**	**309**	Pg	**Pg**	**23 50 46.4**	**+0.4**
PBAR				Sn	**Sn**	**23 51 05.1**	**0.0**
PBAR				Lg	Lg	23 51 09.8	
	52nm,0.4s						
EGRO	**El Granado**	**1.74**	**285**	Pn	**Pn**	**23 50 43.5**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EGRO				Pn	**Pb**	**23 50 45.5**	**0.0**
	16nm,0.3s,SNR=34						
EGRO				Lg	Lg	23 51 08.8	
	19nm,0.2s,SNR=11						
EGRO	**El Granado**	**1.74**	**285**	Pn	**Pn**	**23 50 43.5**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	23 51 08.8	
	19nm,0.2s,SNR=11						
PVAQ	**Vaqueiros**	**1.90**	**280**	*e*Pn	**Pn**	**23 50 45.7**	**-0.2**
PVAQ	**Vaqueiros**	**1.90**	**280**	*e*Pg	**Pb**	**23 50 49.2**	**+1.1**
PVAQ				*e*Sg	**Sg**	**23 51 14.2**	**-0.2**
PVAQ				A	A	23 51 17.3	
	59nm,0.4s						
PVAQ	**Vaqueiros**	**1.90**	**280**	Pn	**Pn**	**23 50 45.7**	**-0.2**
PVAQ				Pg	**Pb**	**23 50 49.2**	**+1.1**
PVAQ				Lg	Lg	23 51 14.2	
	59nm,0.4s						
PVAQ	**Vaqueiros**	**1.90**	**280**	Pn	**Pn**	**23 50 45.7**	**-0.2**
PVAQ				Pg	**Pb**	**23 50 49.2**	**+1.1**
PVAQ				Lg	Lg	23 51 14.2	
	59nm,0.4s						
EQES	**Quesada**	**1.96**	**68**	Pn	**Pn**	**23 50 47.6**	**+0.8**
	2.2nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**23 50 51.0**	**+0.2**
	8.0nm,0.1s,SNR=37						
EQES				Sn	**Sn**	**23 51 12.4**	**+1.0**
	8.6nm,0.2s,SNR=7.9						
EQES				Lg	Lg	23 51 18.2	
	23nm,0.2s,SNR=77						
EQES	**Quesada**	**1.96**	**68**	Pn	**Pn**	**23 50 47.6**	**+0.8**
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.96**	**68**	Pg	**Pg**	**23 50 51.0**	**+0.2**
	8.0nm,0.1s,SNR=37						
EQES				Sn	**Sn**	**23 51 12.4**	**+1.0**
	8.6nm,0.2s,SNR=7.9						
EQES				Lg	Lg	23 51 18.2	
	23nm,0.2s,SNR=77						
EBER	**Berja**	**1.99**	**95**	Pg	**Pg**	**23 50 52.5**	**+0.9**
	35nm,0.4s,SNR=14						
EBER				Sn	**Sn**	**23 51 13.6**	**+1.1**
	7.5nm,0.2s,SNR=7.9						
EBER				Lg	Lg	23 51 20.0	
	5.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.99**	**95**	Pg	**Pg**	**23 50 52.5**	**+0.9**
	35nm,0.4s,SNR=14						
EBER				Sn	**Sn**	**23 51 13.6**	**+1.1**
	7.5nm,0.2s,SNR=7.9						
EBER				Lg	Lg	23 51 20.0	
	5.8nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.05**	**275**	*e*Pn	**Pn**	**23 50 47.9**	**-0.1**
PBDV				*e*Sn	**Sn**	**23 51 13.7**	**-0.1**
PBDV				*e*Sg	**Sg**	**23 51 20.0**	**+0.7**
PBDV				A	A	23 51 21.7	
	28nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.05**	**275**	Pn	**Pn**	**23 50 47.9**	**-0.1**
PBDV				Sn	**Sn**	**23 51 13.7**	**-0.1**
PBDV				Lg	Lg	23 51 20.0	
	28nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.05**	**275**	Pn	**Pn**	**23 50 47.9**	**-0.1**
PBDV				Sn	**Sn**	**23 51 13.7**	**-0.1**
PBDV				*e*Sg	**Sg**	**23 51 20.0**	**+0.7**
	28nm,0.2s						
EBAD	**Badajoz**	**2.10**	**322**	Pn	**Pn**	**23 50 49.0**	**+0.3**
	5.3nm,0.1s,SNR=40						
EBAD				Pg	**Pb**	**23 50 52.8**	**+1.2**
	9.5nm,0.1s,SNR=11						
EBAD				Sn	**Sn**	**23 51 15.4**	**+0.5**
	10nm,0.1s,SNR=6.4						
EBAD				Lg	Lg	23 51 21.4	
	73nm,0.2s,SNR=6.6						
EBAD	**Badajoz**	**2.10**	**322**	Pn	**Pn**	**23 50 49.0**	**+0.3**
	5.3nm,0.1s,SNR=40						
PBEJ	**Beja**	**2.19**	**296**	*e*Pn	**Pn**	**23 50 50.1**	**+0.2**
PBEJ				*e*Sg	**Sg**	**23 51 24.3**	**+0.6**
PBEJ	**Beja**	**2.19**	**296**	Pn	**Pn**	**23 50 50.1**	**+0.2**
PBEJ				*e*Sg	**Sg**	**23 51 24.3**	**+0.6**
PCVE	**Castro Verde**	**2.19**	**285**	*e*Pn	**Pn**	**23 50 50.0**	**+0.1**
PCVE				*e*Sg	**Sg**	**23 51 23.5**	**-0.3**
PCVE				A	A	23 51 31.8	
	31nm,0.4s						
PCVE	**Castro Verde**	**2.19**	**285**	Pn	**Pn**	**23 50 50.0**	**+0.1**
PCVE				Lg	Lg	23 51 23.5	
	31nm,0.4s						
PCVE	**Castro Verde**	**2.19**	**285**	Pn	**Pn**	**23 50 50.0**	**+0.1**
PCVE				Lg	Lg	23 51 23.5	
	31nm,0.4s						
EHUE	**Huescar**	**2.32**	**71**	Pn	**Pn**	**23 50 52.3**	**+0.6**
	2.3nm,0.1s,SNR=7.9						
EHUE				Pg	**Pg**	**23 50 58.7**	**+0.9**
	2.4nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**23 51 21.6**	**+1.2**
	2.1nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	23 51 29.2	
	4.8nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.32**	**71**	Pn	**Pn**	**23 50 52.3**	**+0.6**
	2.3nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**2.39**	**289**	*e*P	**Pn**	**23 50 52.5**	**-0.1**
MESJ				*e*S	**Sn**	**23 51 20.3**	**-1.6**
MESJ	**Messejana**	**2.39**	**289**	*e*P	**Pn**	**23 50 52.5**	**-0.1**
MESJ				*e*S	**Sn**	**23 51 20.3**	**-1.6**
MESJ	**Messejana**	**2.39**	**289**	Pn	**Pn**	**23 50 52.5**	**-0.1**
MESJ				Sn	**Sn**	**23 51 20.3**	**-1.6**
MESJ	**Messejana**	**2.39**	**289**	*e*P	**Pn**	**23 50 52.5**	**-0.1**
MESJ				*e*S	**Sn**	**23 51 20.3**	**-1.6**
ENIJ	**Nijar**	**2.53**	**92**	Pn	**Pn**	**23 50 54.0**	**-0.6**
	3.9nm,0.3s,SNR=7.9						
ENIJ				Pg	**Pg**	**23 51 02.2**	**+0.4**
	3.1nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**23 51 27.2**	**+1.7**
	3.9nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.53**	**92**	Pn	**Pn**	**23 50 54.0**	**-0.6**
	3.9nm,0.3s,SNR=7.9						
EVO	**Evora**	**2.54**	**305**	*e*Pn	**Pn**	**23 50 55.6**	**+0.9**
EVO	**Evora**	**2.54**	**305**	*e*Pg	**Pg**	**23 51 02.5**	**+0.6**
EVO				*e*Sg	**Sg**	**23 51 35.5**	**+0.7**
	53nm,0.4s						
EVO	**Evora**	**2.54**	**305**	*e*Pn	**Pn**	**23 50 55.5**	**+0.9**
EVO				*e*Sg	**Sg**	**23 51 35.1**	**+0.3**
EVO				A	A	23 51 43.5	
	31nm,0.7s						
EVO	**Evora**	**2.54**	**305**	Pn	**Pn**	**23 50 55.5**	**+0.9**
EVO				Lg	Lg	23 51 35.1	
	31nm,0.7s						
EVO	**Evora**	**2.54**	**305**	Pn	**Pn**	**23 50 55.5**	**+0.9**
EVO				Lg	Lg	23 51 35.1	
	31nm,0.7s						
EVOP	**Sao Brissos**	**2.61**	**304**	*e*Pn	**Pn**	**23 50 55.6**	**0.0**
EVOP	**Sao Brissos**	**2.61**	**304**	*e*Pg	**Pg**	**23 51 02.5**	**-0.8**
EVOP				*e*Sg	**Sg**	**23 51 35.5**	**-1.5**
	26nm,0.4s						
MORF	**Marmelete**	**2.63**	**275**	*e*Pn	**Pn**	**23 50 56.3**	**+0.3**
MORF	**Marmelete**	**2.63**	**275**	*e*Pg	**Pb**	**23 51 02.3**	**+1.7**
MORF				*e*Sn	**Sn**	**23 51 27.7**	**-0.3**
MORF				*e*Sg	**Sg**	**23 51 36.2**	**-1.6**
MORF				A	A	23 51 40.3	
	37nm,0.2s						
MORF	**Marmelete**	**2.63**	**275**	Pn	**Pn**	**23 50 56.3**	**+0.3**
MORF				Pg	**Pb**	**23 51 02.3**	**+1.7**
MORF				Sn	**Sn**	**23 51 27.7**	**-0.3**
MORF				Lg	Lg	23 51 36.2	
	37nm,0.2s						
MORF	**Marmelete**	**2.63**	**275**	Pn	**Pn**	**23 50 56.3**	**+0.3**
MORF	**Marmelete**	**2.63**	**275**	Pg	**Pb**	**23 51 02.3**	**+1.7**
MORF				Sn	**Sn**	**23 51 27.7**	**-0.3**
MORF				Lg	Lg	23 51 36.2	
	37nm,0.2s						
PTEO	**Sao Teotonio**	**2.71**	**280**	*e*Pn	**Pn**	**23 50 57.1**	**0.0**
PTEO				*e*Sn	**Sn**	**23 51 30.4**	**+0.4**
PTEO				*e*Sg	**Sg**	**23 51 39.9**	**-0.6**
PTEO				A	A	23 51 54.0	
	40nm,0.6s						
PTEO	**Sao Teotonio**	**2.71**	**280**	Pn	**Pn**	**23 50 57.1**	**0.0**
PTEO				Sn	**Sn**	**23 51 30.4**	**+0.4**
PTEO				Lg	Lg	23 51 39.9	
	20nm,0.6s						
PTEO	**Sao Teotonio**	**2.71**	**280**	Pn	**Pn**	**23 50 57.1**	**0.0**
PTEO				Sn	**Sn**	**23 51 30.4**	**+0.4**
PTEO				*e*Sg	**Sg**	**23 51 39.9**	**-0.6**
	40nm,0.6s						
EVIA	**Vianos**	**2.73**	**55**	Pn	**Pn**	**23 50 58.1**	**+0.6**
	2.1nm,0.1s,SNR=13						
EVIA				Pg	**Pg**	**23 51 05.3**	**-0.4**
	3.8nm,0.1s,SNR=14						
EVIA				Sn	**Sn**	**23 51 31.0**	**+0.3**
	4.6nm,0.1s,SNR=7.9						
EVIA				Lg	Lg	23 51 42.3	
	16nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.73**	**55**	Pn	**Pn**	**23 50 58.1**	**+0.6**
	2.1nm,0.1s,SNR=13						
EVIA	**Vianos**	**2.73**	**55**	Pg	**Pg**	**23 51 05.3**	**-0.4**
	3.8nm,0.1s,SNR=14						
EVIA				Sn	**Sn**	**23 51 31.0**	**+0.3**
	4.6nm,0.1s,SNR=7.9						
EVIA				Lg	Lg	23 51 42.3	
	16nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.75**	**302**	*e*Pn	**Pn**	**23 50 58.5**	**+0.8**
MOE				*e*Sn	**Sn**	**23 51 31.7**	**+0.7**
MOE				*e*Sg	**Sg**	**23 51 42.5**	**+0.7**
MOE	**Montemor**	**2.75**	**302**	Pn	**Pn**	**23 50 58.5**	**+0.8**
MOE				Sn	**Sn**	**23 51 31.7**	**+0.7**
MOE				*e*Sg	**Sg**	**23 51 42.5**	**+0.7**
PFVI	**Vila Bisbo**	**2.77**	**272**	*e*Pn	**Pn**	**23 50 57.2**	**-0.6**
PFVI				*e*Sn	**Sn**	**23 51 29.9**	**-1.4**
PFVI				*e*Sg	**Sg**	**23 51 42.4**	**+0.2**
PFVI				A	A	23 51 51.0	
	27nm,0.6s						
PFVI	**Vila Bisbo**	**2.77**	**272**	Pn	**Pn**	**23 50 59.6**	**+1.8**
	5.1nm,0.1s,SNR=6.1						
PFVI				Pg	**Pg**	**23 51 06.0**	**-0.4**
	6.2nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**23 51 29.8**	**-1.5**
	18nm,0.1s,SNR=6.8						
PFVI				Lg	Lg	23 51 42.1	
	24nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.77**	**272**	*e*Pn	**Pn**	**23 50 57.2**	**-0.6**
PFVI	**Vila Bisbo**	**2.77**	**272**	Pg	**Pg**	**23 51 06.0**	**-0.4**
	6.2nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**23 51 29.9**	**-1.4**
PFVI				Lg	Lg	23 51 42.2	
	24nm,0.2s,SNR=7.9						
PFVI				*e*Sg	**Sg**	**23 51 42.4**	**+0.2**
	27nm,0.6s						
ESDC	**Sonseca Array**	**2.79**	**23**	Pn	**Pn**	**23 50 59.5**	**+1.3**
	0.4nm,0.3s,baz=202,slow=12,SNR=10						
ESDC				Pg	**Pb**	**23 51 04.9**	**+1.5**
	0.5nm,0.3s,baz=204,slow=12,SNR=8.7						
ESDC				Sn	**Sn**	**23 51 32.6**	**+0.5**
	2.3nm,0.1s,baz=206,slow=16,SNR=9.4						
ESDC				Lg	Lg	23 51 44.6	
	8.7nm,0.3s,baz=204,slow=28,SNR=25						
ESDC	**Sonseca Array**	**2.79**	**23**	Pn	**Pn**	**23 50 59.5**	**+1.3**
	0.4nm,0.3s,baz=202,slow=12,SNR=10						
ESDC	**Sonseca Array**	**2.79**	**23**	Pg	**Pb**	**23 51 04.9**	**+1.5**
	0.5nm,0.3s,baz=204,SNR=8.7						
ESDC				Sn	**Sn**	**23 51 32.6**	**+0.5**
	2.3nm,0.1s,SNR=9.4						
ESDC				Lg	Lg	23 51 44.6	
	8.7nm,0.3s,baz=204,SNR=25						
PMRV	**Marv??o**	**2.81**	**326**	*e*Pn	**Pn**	**23 50 58.9**	**+0.4**
PMRV				*e*Sn	**Sn**	**23 51 33.2**	**+0.6**
PMRV				*e*Sg	**Sg**	**23 51 42.3**	**-1.5**
PMRV				A	A	23 51 49.2	
	36nm,0.5s						
PMRV	**Marv??o**	**2.81**	**326**	Pn	**Pn**	**23 50 58.9**	**+0.4**
PMRV				Sn	**Sn**	**23 51 33.2**	**+0.6**
PMRV				Lg	Lg	23 51 42.3	
	36nm,0.5s						
PMRV	**Marv??o**	**2.81**	**326**	Pn	**Pn**	**23 50 58.9**	**+0.4**
PMRV				Sn	**Sn**	**23 51 33.2**	**+0.6**
PMRV				Lg	Lg	23 51 42.3	
	36nm,0.5s						
PMTG	**Montargil**	**2.99**	**312**	*e*Pn	**Pn**	**23 51 01.9**	**+1.0**
PMTG				*e*Sg	**Sg**	**23 51 50.6**	**+1.2**
PMTG				A	A	23 51 58.3	
	27nm,0.5s						
PMTG	**Montargil**	**2.99**	**312**	*e*Pn	**Pn**	**23 51 01.9**	**+1.0**
PMTG				*e*Sg	**Sg**	**23 51 50.6**	**+1.2**
	27nm,0.5s						
EPLA	**Plasencia**	**3.01**	**349**	Pn	**Pn**	**23 51 03.1**	**+2.0**
	4.1nm,0.7s,SNR=12						
EPLA				Pg	**Pg**	**23 51 11.1**	**+0.1**
	3.1nm,0.1s,SNR=13						
EPLA				Sn	**Sn**	**23 51 36.8**	**-0.5**
	5.7nm,0.1s,SNR=7.5						
EPLA				Lg	Lg	23 51 49.6	
	22nm,0.1s,SNR=20						
EPLA	**Plasencia**	**3.01**	**349**	Pn	**Pn**	**23 51 03.1**	**+2.0**
	4.1nm,0.7s,SNR=12						
PCBR	**Castelo Branco**	**3.19**	**329**	*e*Pn	**Pn**	**23 51 04.3**	**+0.6**
PCBR				*e*Sn	**Sn**	**23 51 40.7**	**-1.2**
PCBR				A	A	23 52 06.8	
	20nm,0.5s						
PCBR	**Castelo Branco**	**3.19**	**329**	Pn	**Pn**	**23 51 04.3**	**+0.6**
PCBR				Sn	**Sn**	**23 51 40.7**	**-1.2**
	10nm,0.5s						
PCBR	**Castelo Branco**	**3.19**	**329**	Pn	**Pn**	**23 51 04.3**	**+0.6**
PCBR				*e*Sn	**Sn**	**23 51 40.7**	**-1.2**
	20nm,0.5s						
EMUR	**La Murta**	**3.36**	**76**	Pg	**Pg**	**23 51 17.6**	**-0.2**
	0.6nm,0.2s,SNR=4.7						
EMUR				Sn	**Sn**	**23 51 47.1**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	23 52 01.6	
	2.0nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.36**	**76**	Pg	**Pg**	**23 51 17.6**	**-0.2**
	0.6nm,0.2s,SNR=4.7						
EMUR				Sn	**Sn**	**23 51 47.1**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	23 52 01.6	
	2.0nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.60**	**302**	*e*Pn	**Pn**	**23 51 11.1**	**+1.8**
PMAFR				*e*Sn	**Sn**	**23 51 52.6**	**+0.6**
PMAFR	**Mafra**	**3.60**	**302**	Pn	**Pn**	**23 51 08.9**	**-0.4**
	3.8nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**23 51 51.0**	**-1.0**
	11nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	23 52 09.1	
	35nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**3.60**	**302**	Pn	**Pn**	**23 51 08.9**	**-0.4**
	3.8nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**23 51 51.0**	**-1.0**
	11nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	23 52 09.1	
	35nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**3.66**	**15**	Pn	**Pn**	**23 51 12.1**	**+1.9**
	0.6nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**23 51 52.3**	**-1.2**
	2.5nm,0.2s,SNR=7.9						
GUD				Lg	Lg	23 52 06.5	
	15nm,0.2s,SNR=6.6						
GUD	**Guadarrama**	**3.66**	**15**	Pn	**Pn**	**23 51 12.1

PVRL	**Vila Real**	**4.55**	**337**	*e*Sn	**Sn**	**23 52 13.8**	**-1.5**
	17nm,0.3s							
POLO	**Lamas de Olo**	**4.66**	**337**	*e*Pn	**Pn**	**23 51 24.6**	**+0.7**
POLO				*e*Sn	**Sn**	**23 52 16.9**	**-1.3**
POLO				A	A	23 52 50.6	
	4.2nm,0.7s						
PBRG	**Braganca**	**4.81**	**348**	*e*Pn	**Pn**	**23 51 27.1**	**+1.1**
PBRG				*e*Sn	**Sn**	**23 52 21.6**	**-0.3**
PBRG				*e*Sg	**Sg**	**23 52 48.3**	**+0.4**
PBRG				A	A	23 52 55.9	
	11nm,0.7s						
PBRG	**Braganca**	**4.81**	**348**	Pn	**Pn**	**23 51 27.1**	**+1.1**
PBRG				Sn	**Sn**	**23 52 21.6**	**-0.3**
PBRG				Lg	Lg	23 52 48.3	
	5.7nm,0.7s						
PBRG	**Braganca**	**4.81**	**348**	Pn	**Pn**	**23 51 27.1**	**+1.1**
PBRG				Sn	**Sn**	**23 52 21.6**	**-0.3**
PBRG				*e*Sg	**Sg**	**23 52 48.3**	**+0.4**
	11nm,0.7s						
ECAL	**Calabor**	**4.95**	**348**	Sn	**Sn**	**23 52 23.4**	**-1.7**
	1.0nm,0.2s,SNR=7.9						
ECAL				Lg	Lg	23 52 53.1	
	12nm,0.3s,SNR=6.1						
ECAL	**Calabor**	**4.95**	**348**	Sn	**Sn**	**23 52 23.4**	**-1.7**
	1.0nm,0.2s,SNR=7.9						
ECAL				Lg	Lg	23 52 53.1	
	12nm,0.3s,SNR=6.1						
EMOS	**Mosqueruela**	**5.02**	**48**	Pn	**Pn**	**23 51 29.2**	**+0.2**
	0.2nm,0.2s,SNR=7.9						
EMOS				Pg	**Pg**	**23 51 47.9**	**-1.7**
	0.1nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**23 52 24.5**	**-2.7**
	0.4nm,0.2s,SNR=7.9						
EMOS				Lg	Lg	23 52 53.7	
	1.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.02**	**48**	Pn	**Pn**	**23 51 29.2**	**+0.2**
	0.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.19**	**337**	Pn	**Pn**	**23 51 31.2**	**0.0**
	0.2nm,0.2s,SNR=7.9						
ELOB				Pg	Pb	23 51 48.9	+4.6
	0.7nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**23 52 28.9**	**-2.4**
	3.4nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	23 52 58.9	
	4.1nm,0.3s,SNR=6.4						
ELOB	**Lobios**	**5.19**	**337**	Pn	**Pn**	**23 51 31.2**	**0.0**
	0.2nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**23 52 28.9**	**-2.4**
	3.4nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	23 52 58.9	
	4.1nm,0.3s,SNR=6.4						
EPON	**Pontenova**	**6.36**	**348**	Sn	**Sn**	**23 52 55.9**	**-4.0**
	0.5nm,0.2s,SNR=7.9						
EPON				Lg	Lg	23 53 36.5	
	1.3nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**6.48**	**28**	Pn	**Pn**	**23 51 51.3**	**+2.4**
	0.4nm,0.2s,SNR=7.9						
IEPA				Sn	**Sn**	**23 53 00.0**	**-3.0**
	0.4nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	23 53 41.4	
	0.4nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**6.48**	**28**	Pn	**Pn**	**23 51 51.3**	**+2.4**
	0.4nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	23 53 41.4	
	0.4nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.55**	**28**	Pn	**Pn**	**23 51 51.9**	**+2.1**
	0.6nm,0.3s,SNR=7.9						
IELO				Sn	**Sn**	**23 53 03.0**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
IELO				Lg	Lg	23 53 45.2	
	1.7nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**6.55**	**28**	Pn	**Pn**	**23 51 51.9**	**+2.1**
	0.6nm,0.3s,SNR=7.9						
IELO				Sn	**Sn**	**23 53 03.0**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
IELO				Lg	Lg	23 53 45.2	
	1.7nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**6.79**	**27**	*e*Pn	**Pn**	**23 51 53.2**	**+0.1**
SJPF				*e*Sg	**Sg**	**23 53 48.4**	**-2.8**
	0.8nm,0.2s						
SJPF	**Ste Jean**	**6.79**	**27**	Pn	**Pn**	**23 51 53.2**	**+0.1**
SJPF				Lg	Lg	23 53 48.4	
	0.2nm,0.2s						
ETSF	**Etsaut**	**6.86**	**31**	*e*Pn	**Pn**	**23 51 55.2**	**+1.1**
ETSF				*e*Sn	**Sn**	**23 53 08.9**	**-3.5**
ETSF				*e*Sg	**Sg**	**23 53 50.4**	**-3.1**
	0.9nm,0.2s						
ETSF	**Etsaut**	**6.86**	**31**	Pn	**Pn**	**23 51 55.2**	**+1.1**
ETSF				Lg	Lg	23 53 50.4	
	0.2nm,0.2s						
EBIE	**Bielsa**	**7.00**	**36**	Pn	**Pn**	**23 51 56.9**	**+0.7**
	0.2nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**23 53 12.0**	**-3.9**
	0.4nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**7.00**	**36**	Pn	**Pn**	**23 51 56.9**	**+0.7**
	0.2nm,0.2s,SNR=7.9						
EPF	**Esparros**	**7.36**	**35**	*e*Pn	**Pn**	**23 52 01.1**	**+0.2**
EPF				*e*Sn	**Sn**	**23 53 20.9**	**-3.7**
EPF				*e*Sg	**Sg**	**23 54 06.4**	**-3.1**
	0.8nm,0.3s						
EPF	**Esparros**	**7.36**	**35**	Pn	**Pn**	**23 52 01.1**	**+0.2**
EPF				Lg	Lg	23 54 06.4	
	0.2nm,0.3s						

MOS ***27*** *00:01:59.4±1.5,57.°53N×120.°61E,h15km,mb4.2/2, Error ellipse: s-maj=19.4km s-min=14.0km az=75.0*
BYKL ***27*** *00:01:59.0±0.5,57.°39N×120.°78E*
IDC ***27*** *00:01:59.9±2.4,57.°59N×120.°56E,h0km,mb3.4/7, mb1 3.5/8,mb1mx3.4/27,mbtmp3.4/8,ML2.6/1, Error ellipse: s-maj=54.7km s-min=24.1km az=147.0*

ISC 27 00:01:59.6±0.7,57.°42N±0.°04×120.°65E±0.°03,h10km,n47, σ2s00/47,mb3.5/6,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.62**	**216**	*i* Pg	**Pg**	**00 02 10.6**	**-1.0**
KHNR				*i* Sg	**Sg**	**00 02 18.5**	**-1.1**
CRS	**Chara**	**1.40**	**249**	*e*Pg	**Pn**	**00 02 25.2**	**0.0**
CRS				*e*		00 02 28.1	
CRS				*e*Sg	**Sn**	**00 02 43.5**	**-0.1**
CRS				max			
	271nm,0.8s						
CRS				Smax			
	359nm,1.0s						
CLNS	**Chul'man**	**2.39**	**102**	*e*P	**Pb**	**00 02 41.9**	**-0.8**
CLNS				*e*		00 03 12.4	
CLNS				pmax	pmax		
	comp=Z,21nm,0.3s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,13nm,0.3s						
CLNS				smax	smax		
	comp=Z,21nm,0.2s						
CLNS				smax	smax		
	comp=E,199nm,0.3s						
CLNS				smax	smax		
	comp=N,105nm,0.3s						
CLNS	**Chul'man**	**2.39**	**102**	*e*Pg	**Pb**	**00 02 41.3**	**-1.4**
CLNS				*e*		00 02 44.8	
CLNS				*e*Sg	**Sn**	**00 03 10.5**	**+2.4**
CLNS				*e*		00 03 12.8	
ALDR	**Aldan**	**2.80**	**63**	*e*Pg	**Pb**	**00 02 47.9**	**-1.9**
ALDR				*e*Sg	**Sb**	**00 03 24.0**	**-0.1**
NLYR	**Nelyaty**	**2.86**	**253**	*e*P	**Pn**	**00 02 46.5**	**+1.2**
NLYR				*e*		00 03 26.2	
NLYR				pmax	pmax		
	comp=Z,95nm,0.7s						
NLYR				smax	smax		
	comp=N,390nm,1.0s						
NLYR	**Nelyaty**	**2.86**	**253**	*e*Pn	**Pn**	**00 02 46.7**	**+1.4**
NLYR				*e*Pg	**Pb**	**00 02 51.4**	**+0.6**
NLYR				*e*Sg	**Sb**	**00 03 28.2**	**+2.4**
NLYR				Pmax			
	comp=N,95nm,0.8s						
NLYR				Smax			
	comp=N,392nm,1.1s						
TUP	**Tupik**	**3.02**	**188**	*e*P	**Pn**	**00 02 47.3**	**-0.3**
TUP				*e*S	**Sn**	**00 03 22.9**	**-0.9**
TUP				pmax	pmax		
	comp=Z,108nm,0.6s						
TUP				smax	smax		
	comp=E,532nm,0.8s						
TUP	**Tupik**	**3.02**	**188**	*e*Pn	**Pn**	**00 02 47.6**	**0.0**
TUP				*e*Pg	**Pb**	**00 02 52.4**	**-1.1**
TUP				*e*Sg	**Sb**	**00 03 31.4**	**+0.9**
TUP				Pmax			
	comp=E,140nm,0.6s						
TUP				Smax			
	comp=E,528nm,0.7s						
TNDR	**Tynda**	**3.22**	**133**	*e*	**Pg**	**00 03 01.8**	**+0.6**
TNDR				*e*		00 03 28.0	
TNDR				*e*Sg	**Sb**	**00 03 36.8**	**+0.8**
BOD	**Bodaibo**	**3.59**	**279**	*e*P	**Pn**	**00 02 56.3**	**+1.0**
BOD				*e*S	**Sn**	**00 03 38.8**	**+1.0**
BOD				pmax	pmax		
	comp=Z,21nm,0.9s						
BOD				smax	smax		
	comp=N,216nm,1.0s						
BOD	**Bodaibo**	**3.59**	**279**	*e*Pn	**Pn**	**00 02 56.4**	**+1.1**
BOD				*e*Pg	**Pb**	**00 03 03.9**	**+0.7**
BOD				*e*		00 03 34.6	
BOD				*e*Sg	**Sg**	**00 03 50.4**	**-4.6**
BOD				Pmax			
	comp=N,21nm,0.8s						
BOD				Smax			
	comp=N,215nm,1.0s						
SVKR	**Severomuysk**	**4.11**	**254**	*e*Pg	**Pb**	**00 03 14.6**	**+2.5**
SVKR				*e*Sg	**Sg**	**00 04 08.4**	**-3.1**
SVKR				Pmax			
	comp=N,25nm,0.2s						
SVKR				Smax			
	comp=N,294nm,0.7s						
VTMR	**Vitim**	**4.71**	**299**	*e*Sg	**Sg**	**00 04 26.6**	**-4.2**
YOA	**Uoyan**	**5.07**	**259**	*e*	Pg	00 03 40.2	+3.5
YOA				*e*Sg	**Sg**	**00 04 36.7**	**-5.6**
YOA				Smax			
	comp=N,278nm,1.1s						
KMO	**Kumora**	**5.43**	**258**	*e*	Pn	00 03 23.9	+3.3
KMO				*e*Pg	**Pb**	**00 03 36.9**	**+2.4**
KMO				*e*Sg	Sg	00 04 47.5	-6.4
KMO				Pmax			
	comp=N,8.0nm,0.5s						
KMO				Smax			
	comp=N,139nm,1.3s						
YLYR	**Ulyunkhan**	**5.88**	**248**	*e*	**Pg**	**00 03 49.2**	**-2.9**
YLYR				*e*Sg	Sg	00 05 01.9	-6.3
YLYR				Smax			
	comp=N,65nm,1.1s						
NIZ	**Nizh Angarsk**	**6.35**	**260**	*e*Pn	**Pn**	**00 03 34.7**	**+1.5**
NIZ				*e*		00 03 44.8	
NIZ				*e*Pg	Pb	00 03 54.2	+4.0
NIZ				*e*Sg	Sg	00 05 16.5	-6.8
NIZ				Pmax			
	comp=N,3.0nm,1.0s						
NIZ				Smax			
	comp=N,33nm,1.0s						
YAK	**Yakutsk**	**6.50**	**41**	*e*P	**Pn**	**00 03 34.4**	**-0.8**
YAK				*e*		00 04 43.2	
YAK				pmax	pmax		
	comp=E,2.0nm,0.4s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.5s						
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
YAK				smax	smax		
	comp=N,2.0nm,0.3s						
YAK				smax	smax		
	comp=E,2.0nm,0.3s						
CIT	**Chita**	**6.79**	**220**	*e*P	**Pb**	**00 04 00.2**	**+2.6**
CIT				*e*S	**Sn**	**00 04 52.9**	**-3.7**
CIT				pmax	pmax		
	comp=Z,46nm,0.3s						
CIT				smax	smax		
	comp=N,292nm,1.4s						
CIT	**Chita**	**6.79**	**220**	*e*Pg	Pb	00 04 01.7	+4.1
CIT				*e*Sg	Sg	00 05 29.9	-7.4
CIT				Pmax			
	comp=N,50nm,0.1s						
CIT				Smax			
	comp=N,292nm,1.1s						
SYVR	**Suvo**	**7.12**	**243**	*e*P	Pb	00 03 56.4	-6.8
SYVR	**Suvo**	**7.12**	**243**	*e*	Pb	00 03 59.8	-3.4
SYVR				*e*Pg	Pg	00 04 09.7	-6.1
SYVR				*e*Sg	Sg	00 05 42.2	-5.7
SYVR				Pmax			
	comp=N,3.0nm,0.9s						
SYVR				Smax			
	comp=N,76nm,1.3s						
MXMB	**Maximikha**	**7.96**	**244**	*e*Pg	Pb	00 04 24.5	+7.0
MXMB				*e*Sg	Sg	00 06 07.3	-7.4
MXMB				Pmax			
	comp=N,8.0nm,0.1s						
MXMB				Smax			
	comp=N,151nm,1.3s						
OGRR	**Ongureny**	**8.31**	**248**	*e*Pg	Pg	00 04 31.6	-7.0
OGRR				*e*		00 05 50.1	
OGRR				*e*Sg	Sg	00 06 19.8	-6.2
OGRR				Pmax			
	comp=N,3.0nm,0.6s						
OGRR				Smax			
	comp=N,39nm,1.8s						
KPC	**Khapcheranga**	**9.15**	**216**	*e*Pn	**Pn**	**00 04 14.2**	**+2.5**
KPC				*e*		00 04 29.1	
KPC				*e*Sg	Sn	00 06 40.5	+46
KPC				Smax			
	comp=N,61nm,1.1s						
UUDB	**Ulan-Yde**	**9.35**	**239**	*e*Sg	Sn	00 06 49.5	+50
UUDB				Smax			
	comp=N,87nm,1.4s						
TRG	**Tyrgan**	**9.43**	**246**	*e*		00 05 18.7	
TRG				*e*Sg	Sn	00 06 54.5	+53
TRG				Smax			
	comp=N,21nm,1.5s						
HRMR	**Khuramsha**	**9.84**	**240**	*e*Pg	Pn	00 04 57.4	+36
HRMR				*e*Sg	Sn	00 07 04.3	+53
LSTR	**Listvyanka**	**10.71**	**245**	*e*Sg		00 07 33.2	
LSTR				Smax			
	comp=N,24nm,2.2s						
ARS	**Arshan**	**11.88**	**250**	*e*Sg		00 08 08.0	
ARS				Smax			
	comp=N,34nm,1.4s						
SONM	**Songino Array**	**12.89**	**228**	Pn	Pn	00 05 06.9	+4.0
	comp=N,0.0nm,0.3s,baz=46,slow=11,SNR=4.1						
SONM				Lg	Lg	00 08 42.0	
	comp=N,0.6nm,0.3s,baz=33,slow=28,SNR=9.0						
SONM	**Songino Array**	**12.89**	**228**	P	Pn	00 05 06.9	+4.0
ORL	**Orlik**	**12.90**	**257**	*e*		00 07 05.0	
ORL				*e*Sg		00 08 39.5	
ORL				Smax			
	comp=N,20nm,2.5s						
ZALV	**Zalesovo Beam**	**20.34**	**276**	P	Pn	00 06 37.4	-0.3
	comp=N,0.3nm,0.6s,baz=51,slow=7.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**20.34**	**276**	P	Pn	00 06 37.4	-0.4
KURK	**Kurchatov**	**25.22**	**273**	P	**P**	**00 07 27.6**	**+2.4**
	comp=N,0.4nm,0.7s,baz=61,slow=9.0,SNR=3.3						
KURK	**Kurchatov**	**25.22**	**273**	P	**P**	**00 07 27.6**	**+2.4**
MKAR	**Makanchi Array**	**25.50**	**262**	P	**P**	**00 07 28.2**	**+0.3**
	comp=N,0.4nm,0.7s,baz=63,slow=8.3,SNR=5.2						
MKAR	**Makanchi Array**	**25.50**	**262**	P	**P**	**00 07 28.2**	**+0.3**
ILAR	**Eielson Array**	**41.42**	**40**	P	**P**	**00 09 46.6**	**+0.9**
	comp=N,0.3nm,0.5s,baz=298,slow=4.8,SNR=6.4						
ILAR	**Eielson Array**	**41.42**	**40**	P	**P**	**00 09 46.6**	**+0.9**
FINES	**FINESS Array B**	**44.21**	**317**	P	**P**	**00 10 08.8**	**+0.5**
	comp=N,1.8nm,0.8s,baz=45,slow=8.6,SNR=6.2						
FINES	**FINESS Array B**	**44.21**	**317**	P	**P**	**00 10 08.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**49.53**	**321**	P	**P**	**00 10 50.2**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=68,slow=8.2,SNR=7.8						
HFS	**Hagfors**	**49.53**	**321**	P	**P**	**00 10 50.2**	**+0.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**49.68**	**323**	P	**P**	**00 10 51.7**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=40,slow=6.9,SNR=2.6						

WEL 27 00:03:49.1±0.4,37.°04S×177.°83E,h54km±4km,ML3.9/5, Error ellipse: s-maj=2.9km s-min=1.7km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.65**	**144**	P*	Pn	00 04 02.0	-0.4
WIZ	**White Island**	**0.71**	**226**	*e*P*	Pn	00 04 03.2	+0.1
WIZ				S*	Sn	00 04 13.6	+0.3
PUZ	**Puketiti**	**1.09**	**162**	PN	Pn	00 04 08.2	0.0
PUZ				SN	Sn	00 04 22.9	+0.6
OPRZ	**Ohinepanea**	**1.30**	**231**	P*	Pn	00 04 10.8	-0.1
OPRZ				S*	Sn	00 04 26.9	-0.3
MWZ	**Matawai**	**1.32**	**190**	P*	Pn	00 04 11.0	-0.3
MWZ				S*	Sn	00 04 27.1	-0.8
URZ	**Urewera**	**1.35**	**205**	P*	Pn	00 04 11.3	-0.3
URZ				S*	Sn	00 04 27.4	-1.1
CNGZ	**Carnagh Statio**	**1.48**	**168**	PN	Pn	00 04 13.1	-0.3
PRRZ	**Plateau Road**	**1.85**	**217**	P*	Pn	00 04 18.4	-0.1
RAHZ	**Arahi**	**1.97**	**197**	PN	Pn	00 04 20.2	+0.1
KNZ	**Kokohu**	**1.99**	**184**	PN	Pn	00 04 19.1	-1.2
MHGZ	**Mahia Peninsul**	**2.12**	**178**	PN	Pn	00 04 20.9	-1.2
NMHZ	**Naumai**	**2.21**	**201**	PN	Pn	00 04 23.5	0.0
BKZ	**Black Stump Fm**	**2.38**	**206**	P*	Pn	00 04 25.0	-0.7
MCHZ	**McNeill Hill**	**2.57**	**200**	PN	Pn	00 04 27.5	-0.8
WTVZ	**West Tongariro**	**2.73**	**220**	P*	Pn	00 04 29.2	-1.4
NGZ	**Ngauruhoe**	**2.77**	**219**	P*	Pn	00 04 31.5	+0.3
BHHZ	**Black Hill Sta**	**2.82**	**209**	P*	Pn	00 04 30.7	-1.0
WPVZ	**Whakapapa**	**2.82**	**219**	P*	Pn	00 04 31.9	0.0
KAHZ	**Kahuranaki**	**2.86**	**195**	PN	Pn	00 04 30.4	-1.8
MOVZ	**Moawhango**	**2.88**	**214**	P*	Pn	00 04 31.6	-1.0
PNHZ	**Pukenui**	**3.15**	**203**	PN	Pn	00 04 33.7	-2.5
TSZ	**Takapari Road**	**3.36**	**205**	PN	Pn	00 04 36.3	-2.8
MRZ	**Mangatainoka R**	**4.03**	**205**	PN	Pn	00 04 44.2	-4.0
TIWZ	**Tintock**	**4.03**	**201**	PN	Pn	00 04 42.7	-5.6
HOWZ	**Holdsworth Sta**	**4.26**	**204**	PN	Pn	00 04 47.1	-4.3
OGWZ	**Otaki Gorge**	**4.31**	**208**	PN	Pn	00 04 48.9	-3.2
KIW	**Kapiti Island**	**4.45**	**210**	PN	Pn	00 04 50.1	-3.9
MTW	**Mount Morrison**	**4.50**	**203**	PN	Pn	00 04 50.1	-4.6
CAW	**Cannon Point**	**4.60**	**207**	PN	Pn	00 04 51.4	-4.7

IDC 27 00:05:12.4±2.5,0.°29S×132.°29E,h0km,mb3.3/3, mb1 3.4/4,mb1mx3.3/17,mbtmp3.3/4,ML3.4/1,Error ellipse: s-maj=155.1km s-min=23.4km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63**	**174**	P	P	00 09 42.9	+0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=7.2						
WRA				S	Sn	00 13 12.1	-13
	0.0nm,0.3s,baz=358,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**23.29**	**176**	P	P	00 10 21.9	-0.1
	0.7nm,0.8s,baz=355,slow=9.6,SNR=7.4						
MKAR	**Makanchi Array**	**64.02**	**324**	P	P	00 15 48.1	+0.1
	0.3nm,0.6s,baz=120,slow=7.7,SNR=5.1						
KURK	**Kurchatov**	**68.11**	**327**	P	P	00 16 14.1	0.0
	0.2nm,0.6s,baz=127,slow=5.8,SNR=2.9						

NEIC ***27*** *00:51:03.0,14.°98N×96.°16W,h16km,MD4.0(MEX),After MEX.*

MEX 27 00:51:03.2±1.2,15.°01N×96.°07W,h18km±90km,MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**357**	*e*P	Pb	00 51 14.7	-3.2
HUIG				*i* S	Sb	00 51 24.3	-3.6
HUIG	**Huatulco**	**0.76**	**357**	*e*P	Pb	00 51 14.7	-3.2
HUIG				*i* S	Sb	00 51 24.3	-3.6
VHO	**Vista Hermosa**	**2.15**	**343**	*i* P	Pn	00 51 36.6	-1.8
VHO				*i* S	Sn	00 52 01.2	-3.6
VHO	**Vista Hermosa**	**2.15**	**343**	*i* P	Pn	00 51 36.6	-1.8
VHO				*i* S	Sn	00 52 01.2	-3.6
CMIG	**Matias Romero**	**2.37**	**29**	*e*P	Pn	00 51 38.5	-2.6
CMIG				*i* S	Sn	00 52 07.3	-2.4
CMIG	**Matias Romero**	**2.37**	**29**	*e*P	Pn	00 51 38.5	-2.6
CMIG				*i* S	Sn	00 52 07.3	-2.4
PNIG	**Pinotepa**	**2.42**	**305**	*i* P	Pn	00 51 38.7	-3.1
PNIG				*i* S	Sn	00 52 03.8	-7.1
PNIG	**Pinotepa**	**2.42**	**305**	*i* P	Pn	00 51 38.9	-2.9
PNIG				*i* S	Sn	00 52 04.7	-6.2
PCIG		**2.84**	**75**	*i* P	Pn	00 51 44.9	-2.7
PCIG				*i* S	Sn	00 52 17.5	-3.7
PCIG		**2.84**	**75**	*i* P	Pn	00 51 45.1	-2.5
PCIG				*i* S	Sn	00 52 17.5	-3.7
TGIG		**3.34**	**58**	*i* P	Pn	00 51 54.4	-0.2
TGIG				*i* S	Sn	00 52 33.7	-0.2
CCIG	**Comitan**	**4.00**	**71**	*e*P	Pn	00 51 52.4	-11
CCIG				*i* S	Sn	00 52 46.0	-4.3

IDC ***27*** *00:54:52.0±0.8, 17.°55S×176.°33E,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.4/19,mbtmp4.2/10,ML2.8/1,MS4.5/19, Ms1 4.5/19,ms1mx4.4/26,Error ellipse: s-maj=31.7km s-min=23.5km az=132.0*
ISCJB ***27*** *00:54:57.3±0.4, 17.°9S±0.°1×176.°36E±0.°07,h33km, mb4.7/20,MS4.4/18, Error ellipse: s-maj=15.6km s-min=8.9km az=163.8*
NEIC ***27*** *00:54:58.4±0.5, 17.°69S×176.°00E,h35km,mb4.9/13,Error ellipse: s-maj=21.5km s-min=14.4km az=108.0*

ISC 27 00:54:58.0±0.6,17.°6S±0.°1×176.°1E±0.°2,h35km,n95, σ1s48/67,mb4.7/20,MS4.6/18,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.84**	**94**	*e*Pn	Pn	00 55 19.9	-7.3
MSVF				*e*Sn	Sn	00 55 42.2	-7.3
DZM	**Mont Dzumac**	**10.13**	**242**	Pn	Pn	00 57 23.7	+2.6
	0.1nm,0.3s,baz=74,slow=15,SNR=3.7						
DZM	**Mont Dzumac**	**10.13**	**242**	*e*Pn	Pn	00 57 24.0	+2.9
AFI	**Afiamalu**	**12.22**	**74**	LR	LR	01 01 35.2	
	comp=Z,4μm,19.6s,baz=248,slow=34						
AFI	**Afiamalu**	**12.22**	**74**	*e*Pn	Pn	00 57 43.5	-6.2
HNR	**Honiara**	**17.69**	**295**	LR	LR	01 04 50.3	
	comp=Z,876nm,21.1s,baz=131,slow=34						
URZ	**Urewera**	**20.60**	**178**	*e*P	**P**	**00 59 34.2**	**+0.2**
	142nm,1.1s						
RAR	**Rarotonga**	**23.01**	**103**	LR	LR	01 07 05.7	
	comp=Z,1μm,20.1s,baz=278,slow=32						
RPZ	**Rata Peaks**	**26.38**	**188**	LR	LR	01 09 19.9	
	comp=Z,664nm,20.3s,baz=218,slow=33						
CTA	**Charters Tower**	**28.35**	**260**	P	**P**	**01 00 48.9**	**-0.2**
	4.8nm,0.8s,baz=87,slow=12,SNR=3.9						
CTA				LR	LR	01 10 15.2	
	comp=Z,2μm,21.8s,baz=92,slow=32						
CTA	**Charters Tower**	**28.35**	**260**	P	**P**	**01 00 48.9**	**-0.2**
PPT2	**Papeete2**	**32.67**	**95**	*e*S	S	01 06 33.5	-8.0
	446nm,26.0s						
PPT2				*e*LQ	LQ	01 08 39.5	
	4μm,26.8s						
PPT2				*e*LR	LR	01 09 40.2	
	5μm,25.5s						
TBI	**Tubuai**	**32.70**	**106**	*e*S	S	01 06 28.5	-13
	269nm,27.8s						
TBI				*e*LQ	LQ	01 08 21.8	
	5μm,29.5s						
TBI				*e*LR	LR	01 09 36.3	
	2μm,28.5s						
STKA	**Stephens Creek**	**34.26**	**239**	LR	LR	01 14 33.2	
	comp=Z,1μm,19.8s,baz=51,slow=34						
WRA	**Warramunga Arr**	**39.55**	**260**	LR	LR	01 17 15.8	
	comp

USRK Ussuriysk Arra 73.53 329 LR LR 01 33 36.4
comp=Z,233nm,21.6s,baz=313,slow=32
CMB Columbia Colle 81.28 46 *eP* **P 01 07 10.4 -0.5**
NVAR Mina Array Bea 82.90 46 P **P 01 07 18.6 -0.9**
1.5nm,0.7s,baz=225,slow=8.5,SNR=7.8
NVAR LR LR 01 36 26.7
comp=Z,505nm,20.5s,baz=120,slow=30
NVAR Mina Array Bea 82.90 46 P **P 01 07 18.6 -0.9**
LDFC Landfair 83.61 50 *eP* **P 01 07 24.4 +1.3**
62nm,1.8s
TNA Tin City 83.79 7 *eP* **P 01 07 25.6 +2.5**
7.5nm,1.0s
TUC Tucson 85.70 54 *eP* **P 01 07 34.9 +1.2**
CCUT Cedar City 85.97 49 *eP* **P 01 07 36.6 +1.5**
24nm,1.8s
ARUT Antelope Range 86.01 48 *eP* **P 01 07 36.2 +1.0**
4.5nm,0.9s
ELK Elko 86.08 45 *eP* P 01 07 41.6 +6.0
WUAZ Wupatki 86.56 51 *eP* **P 01 07 39.9 +1.9**
9.0nm,1.0s
ILAR Eielson Array 86.86 15 P **P 01 07 36.5 -2.0**
2.3nm,0.7s,baz=238,slow=4.9,SNR=12
ILAR LR LR 01 39 34.5
comp=Z,410nm,21.6s,baz=53,slow=31
ILAR Eielson Array 86.86 15 P **P 01 07 36.5 -2.0**
HLID Hailey 87.90 43 *eP* **P 01 07 46.7 +2.4**
TMUT Trail Mountain 88.24 48 *eP* P 01 07 49.4 +3.2
10nm,1.1s
SRU San Rafael 88.65 48 *eP* **P 01 07 49.1 +1.1**
6.7nm,0.9s
MCMT McKenzie Canyo 89.46 42 *eP* **P 01 07 51.1 -0.6**
2.6nm,1.1s
PV04 Paradox Valley 89.52 49 *eP* **P 01 07 54.0 +2.0**
BSMT Bassoo Peak 89.60 39 *eP* **P 01 07 53.8 +1.6**
RRI2 Red Ridge 89.83 44 *eP* **P 01 07 56.0 +2.5**
DLMT Dillon 89.86 42 *eP* **P 01 07 55.7 +2.3**
SONM Songino Array 89.97 321 LR LR 01 43 15.1
comp=Z,253nm,19.9s,baz=147,slow=32
ANMO Albuquerque 90.05 53 *eP* **P 01 07 55.7 +1.1**
CHMT Chamberlain Mo 90.12 40 *eP* **P 01 07 55.6 +0.9**
2.3nm,0.9s
LRM Limekiln Ridge 90.14 42 *eP* **P 01 07 56.7 +1.8**
REDW Red Top Meadow 90.15 44 *eP* **P 01 07 57.3 +2.4**
TXAR Lajitas Array 90.29 59 P **P 01 07 55.0 -0.8**
1.1nm,0.8s,baz=221,slow=6.6,SNR=11
TXAR Lajitas Array 90.29 59 P **P 01 07 55.0 -0.8**
BOZ Bozeman (W) 90.59 42 *eP* **P 01 07 56.3 -0.6**
8.5nm,1.8s
YMR Madison River 90.61 43 *eP* **P 01 07 59.3 +2.2**
PD01 Pinedale Array 90.77 45 *eP* **P 01 07 58.8 +0.9**
PD02 Pinedale Array 90.78 45 *eP* **P 01 07 59.3 +1.4**
PDAR Pinedale Array 90.78 45 P **P 01 07 55.8 -2.2**
1.4nm,0.9s,baz=226,slow=5.6,SNR=7.4
PDAR LR LR 01 42 07.2
comp=Z,233nm,18.0s,baz=248,slow=31
PDAR Pinedale Array 90.78 45 P **P 01 07 55.8 -2.2**
SMCO Snowmass 91.22 49 *eP* **P 01 08 00.5 +0.3**
TLY Talaya 93.24 324 *eP* **P 01 08 08.3 -0.5**
PLCA Paso Flores 95.26 136 LR LR 01 41 52.7
comp=Z,140nm,22.0s,baz=47,slow=30
YKA Yellowknife Ar 96.29 26 P **P 01 08 21.9 -0.6**
0.6nm,0.8s,baz=249,slow=4.4,SNR=9.7
YKA Yellowknife Ar 96.29 26 P **P 01 08 21.9 -0.6**
MKAR Makanchi Array 105.20 315 PKKPbc PKKPbc 01 24 49.0 +4.4
0.5nm,0.9s,baz=248,slow=5.1,SNR=5.1
MKAR Makanchi Array 105.20 315 PKKPbc PKKPbc 01 24 49.0 +4.4
KURK Kurchatov 108.13 318 PKKPbc PKKPbc 01 24 39.6 +4.0
0.8nm,0.8s,baz=276,slow=3.7,SNR=8.9
KURK PKKP **PKKPdf 01 24 49.9 0.0**
0.6nm,0.9s,baz=275,slow=5.2,SNR=4.4
KURK Kurchatov 108.13 318 PKKPbc PKKPbc 01 24 39.6 +4.1
KURK PKKP **PKKPdf 01 24 49.9 0.0**
ARCES ARCESS Array B 125.01 348 PKP **PKPdf 01 13 53.5 -0.4**
2.0nm,0.8s,baz=39,slow=3.5,SNR=3.3
ARCES ARCESS Array B 125.01 348 PKP **PKPdf 01 13 53.5 -0.4**
AKASG Malin Array Be 137.74 329 PKP **PKPdf 01 14 19.7 +1.2**
0.2nm,0.3s,baz=28,slow=2.4,SNR=3.4
AKASG Malin Array Be 137.74 329 PKP **PKPdf 01 14 19.7 +1.2**
OKC Ostrava-Krasne 143.28 336 *e*PKP **PKPdf 01 14 27.5 -1.0**
DPC Dobruska-Polom 143.54 338 *e*PKP **PKPdf 01 14 29.7 +0.7**
CLL Collm 143.79 342 *e*PKiKP **PKiKP 01 14 33.0 +0.2**
CLL *e*(pPKPdf) 01 14 38.0
comp=Z,8.0nm,1.2s
PVCC Panska Ves 143.99 340 *ep*PKP pPKPdf 01 14 40.4 -0.8
PRU Pruhonice 144.46 339 *e*PKP **PKPdf 01 14 31.6 +1.0**
TANN Tannenbergstha 144.74 342 *e*PKiKP **PKPdf 01 14 32.3 +1.2**
MOX Moxa 144.78 343 *e*PKiKP **PKPdf 01 14 32.4 +1.3**
NKC Novy Kostel 144.91 342 *e*PKiKP **PKPdf 01 14 36.4 +5.0**
ROTZ Rotzenmuhle 145.39 342 *e*PKiKP **PKPab 01 14 33.7 +1.4**
KHC Kasperske Hory 145.52 340 *e*PKPdf **PKPab 01 14 33.6 +0.8**
KHC Kasperske Hory 145.52 340 *e*PKP **PKPab 01 14 34.7 +1.9**
KHC *ex* x 01 14 38.0
CONA Conrad Observa 145.71 336 ⇑*i*PKiKP **PKiKP 01 14 36.3 -0.7**
comp=Z,16nm,1.3s
GEC2 GERESS Array S 145.72 339 *e*PKiKP **PKPab 01 14 34.9 +1.2**
GERES GERESS Array B 145.72 339 PKPbc **PKPbc 01 14 33.3 0.0**
comp=Z,2.6nm,0.8s,baz=30,slow=2.7,SNR=18
GERES GERESS Array B 145.72 339 PKPbc **PKPbc 01 14 33.3 0.0**
GRF Grafenberg Arr 145.75 343 *e*PKiKP **PKPab 01 14 34.3 +0.6**
TUE Stuetta 149.20 342 *e*PKPdf **PKPdf 01 14 39.9 +1.0**
TORD Torodi Ar. Bea 173.03 231 PKP **PKPdf 01 15 05.0 +0.5**
comp=Z,0.7nm,0.8s,baz=5.4,slow=3.0,SNR=2.6
TORD Torodi Ar. Bea 173.03 231 PKP **PKPdf 01 15 05.0 +0.5**

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*BJI **27** 00:57:32.8, 11°.50S×117°.50E, h6km, mB5.2/33, mb5.2/47, Ms4.8/37, Ms7 4.5/41*
*NEIC **27** 00:57:35.9±2.0, 11°.38S×117°.55E, h12km±12km, mb5.5/38, Error ellipse: s-maj=6.6km s-min=4.2km az=53.0*
*TEH **27** 00:57:35.0, 11°.48S×117°.49E, h7km, ML5.3*
*DJA **27** 00:57:36, 11°.62S×117°.47E, h13km, Mw5.4/53*
*ISCJB **27** 00:57:38.6±0.2, 11°.36S±0°.03×117°.52E±0°.03, h47km, mb5.3/97, MS4.4/19, Error ellipse: s-maj=4.7km s-min=3.7km az=23.0*
*MOS **27** 00:57:38.8±1.3, 10°.95S×117°.64E, h33km, mb5.5/36, Error ellipse: s-maj=12.7km s-min=7.0km az=106.5*
*IDC **27** 00:57:40.8±0.4, 11°.23S×117°.61E, h43km±2km, mb4.8/24, mb1 4.8/25, mb1mx4.8/26, mbtmp4.8/25, MS4.1/3, Ms1 4.2/3, ms1mx3.6/24, Error ellipse: s-maj=12.9km s-min=8.9km az=90.0*
ISC 27 00:57:39.3±0.2, 11°.39S±0°.03×117°.54E±0°.03, h34km, h34km:pP-P, n641, σ1s54/745, mb5.3/97, MS4.3/22, 96C-86D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**3.05**	**334**	P		**Pn**	**00 58 25.1**	**-0.1**
WSI	**Waingapu**	**3.20**	**58**	P		**Pn**	**00 58 25.8**	**-1.5**
IGBI	**Denpasar**	**3.47**	**317**	P		**Pn**	**00 58 29.9**	**-1.1**
KHKI	**Kahang-Kahang**	**3.56**	**327**	P		**Pn**	**00 58 32.5**	**+0.4**
NBBI	**Negara**	**4.15**	**316**	P		**Pn**	**00 58 40.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.42**	**311**	P		**Pn**	**00 58 42.3**	**-1.8**
BYJI	**Banyuwangi**	**4.45**	**315**	P		**Pn**	**00 58 44.9**	**+0.5**
GMJI	**Gumukmas**	**5.08**	**307**	P		**Pn**	**00 58 51.5**	**-1.7**
BLJI	**Banyuglugur**	**5.31**	**313**	P		**Pn**	**00 58 55.8**	**-0.5**
MMRI	**Maumere**	**5.37**	**60**	P		**Pn**	**00 58 55.0**	**-2.2**
463nm,0.6s,20μm7.8nm								
KMMI	**Kalianget**	**5.57**	**320**	P		**Pn**	**00 59 00.5**	**+0.7**
KRKI	**Karangkates**	**5.95**	**302**	P		**Pn**	**00 59 03.6**	**-1.5**
BKSI	**Bulukumba**	**6.54**	**23**	P		**Pn**	**00 59 15.1**	**+1.8**
1μm,0.7s,10μm3.6nm								
PWJI	**Pagerwojo**	**6.57**	**300**	P		**Pn**	**00 59 12.6**	**-1.0**
2μm,0.6s,27μm8.1nm								
KAPI	**Kappang**	**6.70**	**19**	P		**Pn**	**00 59 15.9**	**+0.5**
28nm,0.3s,baz=184,slow=5.4,SNR=74								
KAPI				S		Sn	01 00 24.1	-6.4
100nm,0.3s,baz=193,slow=16,SNR=18								
KAPI	**Kappang**	**6.70**	**19**	*e*Pn		**Pn**	**00 59 16.1**	**+0.7**
KAPI				*e*Sn		Sn	01 00 24.4	-6.2
KAPI	**Kappang**	**6.70**	**19**	P		**Pn**	**00 59 16.3**	**+0.9**
SNR=48								
KAPI	**Kappang**	**6.70**	**19**	Pn		**Pn**	**00 59 16.6**	**+1.2**
5μm,0.5s,SNR=34								
KAPI	**Kappang**	**6.70**	**19**	P		**Pn**	**00 59 16.1**	**+0.7**
601nm,0.6s,9μm2.9nm								
SJI	**Sawahan**	**6.75**	**302**	P		**Pn**	**00 59 16.7**	**+0.5**
PCJI	**Pacitan**	**7.03**	**296**	P		**Pn**	**00 59 18.7**	**-1.2**
1μm,0.6s,21μm5.8nm								
BBSI	**Bau Bau**	**7.69**	**41**	P		Pn	00 59 36.1	+7.1
116nm,0.9s,2μm0.6nm								
SPSI	**Sidrap Palu**	**7.70**	**17**	P		**Pn**	**00 59 31.0**	**+1.9**
223nm,0.9s,3μm0.9nm								

UGM Wanagama 7.73 296 *e*Pn **Pn 00 59 28.5 -1.1**
UGM *e*Sn **Sn 01 00 50.6 -5.5**
UGM Wanagama 7.73 296 P **Pn 00 59 30.0 +0.4**
1μm,1.0s,10μm6.6nm
YOGI Yogyakarta 7.97 296 P **Pn 00 59 34.1 +1.2**
1μm,0.9s,14μm6.4nm
KBKI Kotabaru 8.15 350 P **Pn 00 59 37.1 +1.8**
287nm,0.8s,3μm0.8nm
SMRI Semarang 8.23 301 P **Pn 00 59 37.7 +1.3**
461nm,0.6s,2.0nm
BBKI Banjar Baru 8.31 341 P **Pn 00 59 40.1 +2.5**
712nm,1.0s,6μm2.0nm
TTSI Tana Toraja 8.59 15 P Pn 00 59 44.7 +3.4
295nm,0.7s,4μm1.2nm
KDI Kendari 8.93 35 P **Pn 00 59 48.3 +2.2**
72nm,1.1s,1μm
MBWA Marble Bar 9.94 168 *e*P Pn 00 59 53.7 -6.2
MBWA *e*S Sn 01 01 32.2 -18
MBWA Marble Bar 9.94 168 *e*Pn Pn 00 59 53.4 -6.5
MBWA *e*Sn Sn 01 01 32.3 -18
MBWA Marble Bar 9.94 168 P Pn 00 59 54.6 -5.3
SNR=8.7
FITZ Fitzroy Crossi 10.29 131 P Pn 00 59 59.4 -5.3
66nm,0.3s,baz=319,slow=7.9,SNR=429
FITZ S Sn 01 01 45.0 -14
21nm,0.3s,baz=165,slow=18,SNR=6.1
FITZ LR LR 01 04 05.5
comp=Z,2μm,19.6s,baz=306,slow=37
FITZ Fitzroy Crossi 10.29 131 *e*P Pn 00 59 58.5 -6.2
FITZ *e*S Sn 01 01 47.6 -11
FITZ Fitzroy Crossi 10.29 131 *e*Pn Pn 01 00 00.3 -4.4
FITZ S Sn 01 01 45.0 -14
CISI Cisompet, Garu 10.32 291 P **Pn 01 00 02.6 -2.5**
679nm,0.6s,8μm
PBKI Pangkalan Bun 10.40 326 P **Pn 01 00 08.8 +2.5**
562nm,1.0s,5μm
PCI Palu 10.66 13 P **Pn 01 00 11.0 +1.3**
159nm,0.9s,2μm
LEM Lembang 10.79 294 P **Pn 01 00 11.2 -0.5**
255nm,1.0s,2μm
CBJI Cibeko 11.65 294 P Pn 01 00 19.8 -3.6
702nm,0.6s
SKJI Sukabumi 11.68 291 P **Pn 01 00 23.9 +0.1**
408nm,1.2s,4μm
XMIS Christmas Isla 11.71 273 *e*Pn Pn 01 00 19.4 -4.7
NLAI Namlea 12.46 50 P Pn 01 00 38.7 +4.3
124nm,1.0s,1μm
MRSI Marisa 12.57 21 P Pn 01 00 40.8 +4.9
70nm,1.2s,1μm
CGJI Cibinong 12.62 291 P **Pn 01 00 33.9 -2.7**
725nm,0.8s,8μm
STKI Sintang 12.87 332 P **Pn 01 00 41.4 +1.4**
239nm,0.8s,17μm
RBSI Rajabasa 12.90 294 P **Pn 01 00 38.5 -1.8**
193nm,0.7s,2μm
AAI Ambon 13.04 55 P **P 01 00 52.0 -0.2**
92nm,1.6s
MSAI Masohi 13.83 56 P **Pn 01 00 55.2 +2.1**
20nm,0.8s,930nm
BNDI Bandanaira 14.01 62 P **P 01 01 04.3 +1.3**
460nm,1.0s,5μm
KLI Kotabumi 14.12 296 P **Pn 01 00 55.7 -1.4**
158nm,0.7s
LBMI Labuha 14.55 43 P **P 01 01 07.6 -1.5**
250nm,1.1s,3μm
PPBI Pangkal Pinang 14.56 308 P **Pn 01 01 01.9 -1.2**
130nm,1.1s
KSM Kuching 14.66 330 *e*Pn **Pn 01 01 03.7 -0.8**
KSM Kuching 14.66 330 P **Pn 01 01 04.5 +0.1**
KSM Kuching 14.66 330 P **Pn 01 01 06.8 +2.4**
65nm,0.9s,753nm
MNI Manado 14.67 30 P **P 01 01 11.3 +0.9**
316nm,1.0s,3μm
SBUM Sibu 14.73 339 P **P 01 01 10.4 -0.7**
SBUM Sibu 14.73 339 P **P 01 01 10.3 -0.7**
56nm,0.9s,942nm
LWLI Liwa 14.76 294 P **P 01 01 08.9 -2.6**
372nm,0.7s
BTM Bintulu 15.15 343 P **P 01 01 18.6 +2.8**
TNTI Ternate 15.53 40 P **P 01 01 22.6 +2.6**
159nm,1.0s
TSM Tawau 15.58 1 P **P 01 01 23.7 +3.2**
MNAI Manna 16.04 295 P **Pn 01 01 18.6 -3.9**
631nm,1.0s,7μm
TLE Tual 16.07 70 P **Pn 01 01 19.4 -3.5**
202nm,0.8s,2μm
MYLDM Lahad Datu 16.48 3 P P 01 01 35.4 +4.9
MYLDM Lahad Datu 16.48 3 P **P 01 01 35.2 +4.7**
129nm,1.1s,2μm
KSI Kapahiang 16.68 296 P **Pn 01 01 27.4 -3.3**
595nm,0.7s
FAKI Fak Fak 16.83 61 P **Pn 01 01 30.7 -1.9**
138nm,0.9s,1μm
SDKM Sandakan 16.92 359 P **P 01 01 38.4 +3.0**
SWI Sorong 17.17 53 P **Pn 01 01 33.2 -3.6**
341nm,1.2s,3μm
KKM Kota Kinabalu 17.36 356 *e*Pn **Pn 01 01 39.7 +0.4**
263nm,1.6s
KKM Kota Kinabalu 17.36 356 P **P 01 01 42.1 +1.8**
KKM Kota Kinabalu 17.36 356 P **P 01 01 43.6 +3.2**
81nm,0.9s,2μm
WRA Warramunga Arr 18.26 120 P P 01 01 44.8 -5.4
14nm,0.3s,baz=283,slow=14,SNR=328
WRA S Sn 01 04 57.0 -16
2.8nm,0.3s,baz=288,slow=24,SNR=7.0
WRA Warramunga Arr 18.26 120 P P 01 01 44.8 -5.4
WRA Warramunga Arr 18.26 120 P P 01 01 44.8 -5.4
WRA S Sn 01 04 57.0 -16
WRAB Tennant Creek 18.27 120 *e*P P 01 01 44.7 -5.6
WRAB pmax pmax
comp=Z,178nm,0.7s
WRAB Tennant Creek 18.27 120 *e*Pn P 01 01 44.6 -5.6
comp=Z,178nm,0.7s
WRAB Tennant Creek 18.27 120 Pn P 01 01 45.0 -5.3
comp=Z,2μm,0.5s
WB2 Warramunga Arr 18.27 120 *e*Pn P 01 01 44.9 -5.4
WB2 *e*Sn Sn 01 04 57.4 -16
KRJI Kerinci 18.43 299 P **P 01 01 48.9 -3.3**
comp=Z,1μm,1.1s,comp=Z,10μm
RGRI Rengat 18.66 305 P **Pn 01 01 56.0 +0.9**
comp=Z,354nm,1.2s,comp=Z,85μm
MYKOM Kota Tinggi 18.88 313 P **Pn 01 01 58.7 +0.9**
MYKOM Kota Tinggi 18.88 313 P **Pn 01 01 58.0 +0.2**
comp=Z,233nm,1.2s,comp=Z,2μm
KGM Kluang 19.42 312 P **Pn 01 02 04.5 +0.3**
ASAR Alice Springs 19.79 130 P **P 01 02 06.1 -0.8**
comp=Z,14nm,0.3s,baz=308,slow=10,SNR=140
ASAR S S 01 05 33.0 -15
comp=Z,1.3nm,0.3s,baz=313,slow=25,SNR=4.8
ASAR Alice Springs 19.79 130 P **P 01 02 06.1 -0.8**
ASAR Alice Springs 19.79 130 P **P 01 02 06.1 -0.8**
ASAR S S 01 05 33.0 -15
PDSI Padang 19.89 300 P **P 01 02 06.3 -1.8**
comp=Z,268nm,0.8s,comp=Z,17μm
DAV Davao City (W) 20.00 24 LR LR 01 10 35.7
comp=Z,431nm,21.0s,baz=291,slow=39
BKNI Bangkinang 20.10 304 P Pn 01 02 11.7 -0.7
comp=Z,398nm,1.1s,comp=Z,3μm
KLBR Kellerberrin 20.11 179 *eP* **P 01 02 07.8 -2.5**
PPI Padang Panjang 20.19 301 P **P 01 02 10.3 -1.0**
comp=Z,172nm,1.0s,comp=Z,1μm
BAKI Bak 21.03 63 P **P 01 02 20.4 0.0**
comp=Z,148nm,1.1s
NWAO Narrogin (SRO) 21.44 181 P **P 01 02 25.6 +0.9**
comp=Z,119nm,0.4s,baz=4.4,slow=12,SNR=71
NWAO S S 01 06 03.9 -17
comp=Z,220nm,0.6s,baz=280,slow=22,SNR=7.9
NWAO Narrogin (SRO) 21.44 181 *eP* **P 01 02 22.8 -1.9**
NWAO pmax pmax
comp=Z,158nm,0.7s
NWAO Narrogin (SRO) 21.44 181 *eP* **P 01 02 22.8 -1.9**
comp=Z,158nm,0.7s
NWAO S S 01 06 03.9 -17
FRIM Kepong 21.49 312 P **P 01 02 26.0 +0.7**
MNSI Mandailing Nat 21.57 303 P **P 01 02 24.3 -1.9**
comp=Z,91nm,0.9s,comp=Z,11μm
FORT Forrest 21.62 155 ⇑*i*P **P 01 02 25.1 -1.5**
FORT Forrest 21.62 155 *eP* **P 01 02 24.2 -2.4**
comp=Z,538nm,0.8s
IPM Ipoh 22.77 313 *eP* **P 01 02 39.8 +0.7**
comp=Z,181nm,1.0s
IPM Ipoh 22.77 313 P **P 01 02 40.5 +1.4**
SMPI Sarmi 22.98 68 P P 01 02 46.5 +5.2
comp=Z,105nm,1.3s
PSI Prapat 23.27 306 P **P 01 02 42.4 -1.9**
comp=Z,418nm,1.4s,comp=Z,5μm

GSI Gunungsitoli 23.51 301 P **P 01 02 49.5 +3.0**
comp=Z,127nm,0.7s
TSI Tuntungan 23.98 307 P **P 01 02 54.8 +3.8**
comp=Z,860nm,0.9s,comp=Z,9μm
TPTI 24.94 305 P **P 01 03 00.9 +1.2**
comp=Z,141nm,1.2s,comp=Z,8μm
COEN Coen 25.14 99 *eP* **P 01 03 01.2 -0.4**
comp=Z,276nm,0.9s
TGY Tagaytay City 25.55 8 P **P 01 03 06.0 +0.8**
comp=Z,576nm,0.5s,baz=188,slow=2.3,SNR=15
TGY Tagaytay City 25.55 8 P **P 01 03 06.0 +0.8**
TGY Tagaytay City 25.55 8 P **P 01 03 06.0 +0.8**
LHMI Lhok Sumawe 26.31 308 P P 01 03 16.8 +4.6
comp=Z,766nm,0.9s,comp=Z,6μm
BBOO Buckleboo 27.28 144 *eP* **P 01 03 19.5 -1.2**
BSI Banda Aceh 27.77 306 P **P 01 03 28.4 +3.1**
comp=Z,187nm,1.3s,comp=Z,2μm
CTA Charters Tower 28.92 111 P **P 01 03 35.5 -0.1**
comp=Z,15nm,0.7s,baz=278,slow=11,SNR=16
CTA Charters Tower 28.92 111 *eP* **P 01 03 35.1 -0.4**
CTA Charters Tower 28.92 111 P **P 01 03 35.5 -0.1**
CTA Charters Tower 28.92 111 P **P 01 03 35.5 -0.1**
CTAO Charters Tower 28.92 111 *eP* **P 01 03 35.2 -0.4**
CTAO pmax pmax
comp=Z,15nm,0.7s
CTAO Charters Tower 28.92 111 *eP* **P 01 03 35.2 -0.4**
comp=Z,15nm,0.7s
PMG Port Moresby 29.19 89 P **P 01 03 38.9 +0.9**
comp=Z,7.0nm,0.7s,baz=279,slow=6.8,SNR=4.1
PMG Port Moresby 29.19 89 P **P 01 03 38.9 +0.9**
PMG Port Moresby 29.19 89 P **P 01 03 38.9 +0.9**
STKA Stephens Creek 30.13 136 P **P 01 03 45.5 -0.6**
comp=Z,21nm,0.9s,baz=299,slow=8.6,SNR=6.1
STKA Stephens Creek 30.13 136 *eP* **P 01 03 45.3 -0.8**
STKA Stephens Creek 30.13 136 *eP* **P 01 03 45.5 -0.6**
STKA pmax pmax
comp=Z,14nm,0.8s
STKA Stephens Creek 30.13 136 *eP* **P 01 03 45.5 -0.6**
comp=Z,14nm,0.8s
QIZ Qiongzhong 31.16 346 P **P 01 03 57.5 +2.2**
QIZ S S 01 09 05.3 +6.2
QIZ LR LR
comp=Z,490nm,13.2s
CMAR Chiang Mai Arr 34.87 328 P **P 01 04 28.3 +0.6**
comp=Z,11nm,0.8s,baz=155,slow=6.6,SNR=20
CMAR pP **pP 01 04 39.3 +1.7**
comp=Z,21nm,0.9s,baz=154,slow=6.5,SNR=9.2
CMAR PcP **PcP 01 07 01.8 +1.5**
comp=Z,5.5nm,0.7s,baz=182,slow=3.1,SNR=7.1
CMAR pPcP 01 07 15.3
comp=Z,2.2nm,0.6s,baz=179,slow=2.9,SNR=4.4
CMAR LR LR 01 19 60.0
comp=Z,282nm,18.3s,baz=14,slow=38
CMAR Chiang Mai Arr 34.87 328 P **P 01 04 28.3 +0.6**
CMAR *PP **pP 01 04 39.3 +1.7**
CMAR 01 07 01.8
CMAR Chiang Mai Arr 34.87 328 P **P 01 04 28.3 +0.6**
CMAR pP **pP 01 04 39.3 +1.7**
CMAR PcP **PcP 01 07 01.8 +1.5**
CMAR pPcP 01 07 15.3
CHTO Chiang Mai 35.17 328 *eP* **P 01 04 30.4 +0.1**
CHTO *e* 01 07 01.6
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 35.17 328 *eP* **P 01 04 30.4 +0.1**
comp=Z,19nm,1.0s
CHTO *e*PcP **PcP 01 07 01.6 +0.4**
CHTO Chiang Mai 35.17 328 P **P 01 04 31.4 +1.1**
comp=Z,25nm,1.1s
QZH Quanzhou 36.12 2 P P 01 04 43.3 +5.0
QZH S S 01 10 21.8 +6.0
QZH LR LR
comp=Z,3μm,21.1s
TOO Toolangi 36.16 141 ⇑*i*P **P 01 04 39.5 +0.8**
ARMA Armidale 36.84 126 *eP* **P 01 04 45.8 +1.1**
ARMA Armidale 36.84 126 *eP* **P 01 04 44.4 -0.3**
comp=Z,14nm,0.8s
ARMA *e*PP **PP 01 06 07.0 -2.0**
KMI Kunming 39.05 338 P **P 01 05 04.5 +1.1**
KMI pP pP 01 05 07.0 -6.4
KMI sP sP 01 05 08.3 -9.2
KMI PP **PnPn 01 06 38.5 +2.4**
KMI S **S 01 11 06.5 +5.7**
KMI sS sS 01 11 11.3 -5.9
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,140nm,3.1s
KMI LR LR
comp=N,280nm,17.4s
KMI LR LR
comp=E,240nm,13.8s
KMI LR LR
comp=Z,350nm,15.9s
GYA Guiyang 39.08 344 ⇑*i*P **P 01 05 03.3 -0.2**
GYA PcP **PcP 01 07 15.0 +1.9**
GYA ScP **S 01 11 02.5 +1.6**
GYA S ScP 01 11 07.8 +8.7
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,730nm,16.3s
GYA LR LR
comp=E,510nm,17.5s
GYA LR LR
comp=Z,620nm,16.8s
JOW Kunigami 39.39 15 *eP* **P 01 05 05.2 -0.8**
WHN Wuhan 41.80 356 ⇓P **P 01 05 25.5 -0.3**
WHN sP **sP 01 05 38.5 -1.4**
WHN PcP **PcP 01 07 22.8 +1.2**
WHN *eS* **S 01 11 38.0 -3.1**
WHN pmax pmax
comp=Z,41nm,0.6s
WHN LR LR
comp=Z,850nm,14.3s
ENH Enshi 42.13 350 *eP* **P 01 05 27.4 -1.2**
comp=Z,45nm,1.0s
SSE Sheshan 42.38 5 *eP* **P 01 05 33.0 +2.5**
SSE S **S 01 11 55.3 +5.6**
SSE sS sS 01 12 00.5 -5.8
SSE pmax pmax
comp=Z,8.0nm,1.2s
SSE pmax pmax
comp=Z,150nm,9.4s
SSE LR LR
comp=Z,130nm,23.7s
NJ2 Nanjing 43.21 2 *eP* **P 01 05 37.0 -0.2**
NJ2 pP pP 01 05 41.5 -5.8
NJ2 sP sP 01 05 44.0 -7.3
NJ2 PP **PP 01 07 20.5 +2.4**
NJ2 S S 01 12 10.0 +8.1
NJ2 sS **sS 01 12 18.3 -0.1**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,230nm,3.7s
NJ2 LR LR
comp=N,310nm,32.0s
NJ2 LR LR
comp=E,280nm,23.0s
NJ2 LR LR
comp=Z,340nm,24.3s
CD2 Chengdu 44.09 343 P **P 01 05 43.5 -0.9**
CD2 pP pP 01 05 48.0 -6.5
CD2 sP sP 01 05 50.5 -8.0
CD2 PP **PcP 01 07 28.5 -0.8**
CD2 S **S 01 12 18.0 +3.1**
CD2 sS sS 01 12 24.5 -7.0
CD2 SS **SS 01 15 28.3 -5.0**
CD2 pmax pmax
comp=Z,130nm,0.6s
CD2 pmax pmax
comp=Z,90nm,3.5s
CD2 LR LR
comp=E,430nm,5.9s
CD2 LR LR
comp=Z,370nm,16.6s
CBIJ Chichi jima 45.12 32 P **P 01 05 51.7 -0.9**
comp=Z,79nm,0.7s,baz=304,slow=13,SNR=4.1
CBIJ Chichi jima 45.12 32 P **P 01 05 51.7 -0.9**
XAN Xi'an 45.91 350 P **P 01 05 57.0 -1.9**
XAN pP pP 01 06 00.0 -9.0
XAN S **S 01 12 39.3 -1.9**

XAN LR LR
comp=N,250nm,15.7s
XAN LR LR
comp=E,88nm,17.6s
XAN LR LR
comp=Z,120nm,16.3s
JNU Nakatsue 46.05 16 P **P** **01 05 58.3 -1.6**
comp=Z,22nm,1.0s,baz=201,slow=2.0,SNR=7.1
JNU pP **pP** **01 06 11.2 +1.1**
comp=Z,21nm,0.8s,baz=192,slow=5.3,SNR=4.5
JNU Nakatsue 46.05 16 P **P** **01 05 58.3 -1.6**
JNU pP **pP** **01 06 11.2 +1.1**
HYB Hyderabad 47.98 306 *i* P **P** **01 06 13.0 -2.3**
ODAN Odare 47.98 323 *eP* **P** **01 06 15.0 -0.4**
comp=Z,108nm,0.8s
ODAN Odare 47.98 323 *eP* **P** **01 06 15.0 -0.4**
comp=Z,108nm,0.8s
LSA Lhasa 48.12 329 *eP* **P** **01 06 16.7 0.0**
LSA *e* 01 07 43.8
LSA pmax pmax
comp=Z,70nm,1.1s
LSA Lhasa 48.12 329 *eP* **P** **01 06 16.7 0.0**
comp=Z,70nm,1.1s
LSA *ePcP* **PcP** **01 07 43.8 -0.2**
TAPN Taplejung 48.16 324 *eP* **P** **01 06 16.9 0.0**
comp=Z,149nm,0.8s
TAPN Taplejung 48.16 324 *eP* **P** **01 06 16.9 0.0**
comp=Z,149nm,0.8s
RAMN Ramite 48.52 322 *eP* **P** **01 06 19.4 -0.2**
comp=Z,125nm,0.7s
RAMN Ramite 48.52 322 *eP* **P** **01 06 19.4 -0.2**
comp=Z,125nm,0.7s
LZH Lanzhou 48.95 345 *eP* **P** **01 06 23.0 +0.4**
LZH pP pP 01 06 26.8 -6.0
LZH sP sP 01 06 29.5 -7.4
LZH PcP **PcP** **01 07 48.3 +1.8**
LZH PP **PP** **01 08 11.5 -4.9**
LZH *eS* **S** **01 13 22.5 -2.2**
LZH SS **SS** **01 16 53.0 -3.1**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.6s
JIRN Jiri 49.29 322 *eP* **P** **01 06 25.6 0.0**
comp=Z,159nm,0.7s
JIRN Jiri 49.29 322 *eP* **P** **01 06 25.6 0.0**
comp=Z,159nm,0.7s
KSAR Wonju Array Be 49.53 11 P **P** **01 06 26.0 -0.8**
KSAR 01 07 49.6
KSAR Wonju Array Be 49.53 11 P **P** **01 06 26.0 -0.8**
KSAR PcP **PcP** **01 07 49.6 +1.3**
KSRS Korea Array 49.55 11 P **P** **01 06 26.0 -0.9**
comp=Z,17nm,0.8s,baz=185,slow=8.1,SNR=53
KSRS PcP **PcP** **01 07 49.6 +1.2**
comp=Z,3.5nm,0.7s,baz=187,slow=3.0,SNR=4.9
GUN Gumba 49.66 322 *eP* **P** **01 06 28.2 -0.2**
comp=Z,231nm,0.7s
GUN Gumba 49.66 322 *eP* **P** **01 06 28.2 -0.2**
comp=Z,231nm,0.7s
PKI Pulchoki 49.70 322 *eP* **P** **01 06 27.8 -0.9**
comp=Z,56nm,0.7s
PKI Pulchoki 49.70 322 *eP* **P** **01 06 27.8 -0.9**
PKI pmax pmax
comp=Z,57nm,0.7s
PKI Pulchoki 49.70 322 *eP* **P** **01 06 27.8 -0.9**
comp=Z,56nm,0.7s
DMN Daman 49.91 322 *eP* **P** **01 06 30.0 -0.2**
DMN Daman 49.91 322 *eP* **P** **01 06 30.0 -0.2**
KKN Kakani 49.93 322 *eP* **P** **01 06 30.0 -0.3**
KKN Kakani 49.93 322 *eP* **P** **01 06 30.0 -0.3**
KKN Kakani 49.93 322 *eP* **P** **01 06 30.0 -0.3**
GKN Gorkha 50.48 321 *eP* **P** **01 06 33.7 -0.7**
GKN Gorkha 50.48 321 *eP* **P** **01 06 33.7 -0.7**
KOLN Koldanda 50.95 320 *eP* **P** **01 06 37.1 -0.9**
comp=Z,113nm,0.6s
KOLN Koldanda 50.95 320 *eP* **P** **01 06 37.1 -0.9**
comp=Z,113nm,0.6s
BJT Baijiatuau 51.16 359 *eP* **P** **01 06 37.1 -2.0**
BJT *e* 01 07 54.6
BJT pmax pmax
comp=Z,20nm,0.6s
BJT Baijiatuau 51.16 359 *eP* **P** **01 06 37.0 -2.0**
comp=Z,20nm,0.6s
BJT *ePcP* **PcP** **01 07 54.6 +0.3**
BJI Beijing 51.18 359 P **P** **01 06 38.0 -1.2**
BJI S **S** **01 13 50.5 -4.7**
BJI pmax pmax
comp=Z,35nm,0.6s
BJI LR LR
comp=N,470nm,15.7s
BJI LR LR
comp=E,210nm,17.8s
BJI LR LR
comp=Z,300nm,41.3s
DANN Dangsing 51.27 321 *eP* **P** **01 06 39.9 -0.6**
comp=Z,208nm,0.6s
DANN Dangsing 51.27 321 *eP* **P** **01 06 39.9 -0.6**
comp=Z,208nm,0.6s
MAJO Matsushiro 51.49 21 *eP* **P** **01 06 39.0 -2.7**
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 51.49 21 *eP* **P** **01 06 39.0 -2.7**
comp=Z,28nm,0.9s
MAT Matsushiro 51.49 21 P **P** **01 06 39.3 -2.4**
MAT S **S** **01 14 04.0 +4.2**
MJAR Matsushiro Arr 51.49 21 P **P** **01 06 39.3 -2.4**
comp=Z,18nm,0.7s,baz=201,slow=8.6,SNR=33
MJAR pP **pP** **01 06 51.3 -0.7**
comp=Z,27nm,0.9s,baz=201,slow=8.5,SNR=10
MJAR PcP **PcP** **01 07 56.5 +0.9**
comp=Z,7.7nm,0.8s,baz=193,slow=5.0,SNR=4.5
MJAR Matsushiro Arr 51.49 21 P **P** **01 06 39.3 -2.4**
MJAR *PP **pP** **01 06 51.3 -0.7**
MJAR 01 07 56.5
MJAR Matsushiro Arr 51.49 21 P **P** **01 06 39.3 -2.4**
MJAR pP **pP** **01 06 51.2 -0.7**
MJAR PcP **PcP** **01 07 56.5 +0.9**
BTO Baotou 52.19 353 *eP* **P** **01 06 44.5 -2.4**
HHC Hu-ho-hao-te 52.26 354 *eP* **P** **01 06 46.0 -1.5**
HHC sP sP 01 06 52.8 -8.9
HHC PcP **PcP** **01 07 56.3 -2.2**
HHC PP **PP** **01 08 46.3 -0.1**
HHC S **S** **01 14 11.5 +1.1**
HHC ScS **ScS** **01 16 32.0 -3.0**
HHC SS **SS** **01 17 48.0 -0.6**
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,220nm,5.0s
HHC LR LR
comp=N,210nm,13.7s
HHC LR LR
comp=E,190nm,14.2s
HHC LR LR
comp=Z,180nm,14.5s
GTA Gaotai 53.16 343 ||P **P** **01 06 54.3 +0.1**
GTA pP pP 01 06 58.8 -5.6
GTA sP sP 01 07 01.3 -7.1
GTA S **S** **01 14 24.8 +2.1**
GTA sS sS 01 14 32.0 -7.6
GTA SS **SS** **01 18 03.8 +0.9**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,190nm,4.5s
GTA LR LR
comp=N,310nm,18.0s
GTA LR LR
comp=E,220nm,17.6s
GTA LR LR
comp=Z,390nm,18.3s
CN2 Changchun 55.39 7 *eP* **P** **01 07 08.5 -1.6**
CN2 PcP **PcP** **01 08 07.3 -2.9**
CN2 PP **PP** **01 09 14.5 +0.1**
CN2 *eS* **S** **01 14 55.0 +2.6**
CN2 *eSS* **SS** **01 18 40.3 +2.7**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,400nm,22.0s
MDJ Mudanjiang 56.80 10 P **P** **01 07 19.5 -0.7**
MDJ PcP **PcP** **01 08 16.0 +0.3**
MDJ PP **PP** **01 09 25.0 -1.9**
MDJ ScP **ScP** **01 12 16.8 +4.0**
MDJ S **S** **01 15 09.5 -1.5**
MDJ ScS **ScS** **01 17 10.0 +3.1**
MDJ pmax pmax
comp=Z,92nm,0.8s
MDJ pmax pmax
comp=Z,97nm,7.0s
MDJ LR LR
comp=N,240nm,10.2s
MDJ LR LR
comp=Z,350nm,12.8s
MDJ Mudanjiang 56.80 10 *eP* **P** **01 07 19.4 -0.7**
comp=Z,65nm,0.8s
USRK Ussuriysk Arra 56.86 12 P **P** **01 07 19.6 -1.0**
comp=Z,28nm,0.6s,baz=187,slow=6.3,SNR=76
USRK pP **pP** **01 07 32.1 +1.2**
comp=Z,29nm,0.6s,baz=190,slow=6.6,SNR=14
DRV Dumont d'Urvil 57.26 170 S **S** **01 15 17.0 +0.4**
DRV SS SKiKP 01 17 50.0 -24
DRV L L 01 20 00.0
ULN Ulaanbaatar 59.72 352 *eP* **P** **01 07 39.3 -1.5**
ULN pmax pmax
comp=Z,28nm,0.7s
ULN Ulaanbaatar 59.72 352 *eP* **P** **01 07 39.3 -1.5**
comp=Z,28nm,0.7s
ULN Ulaanbaatar 59.72 352 P **P** **01 07 39.9 -0.9**
comp=Z,12nm,1.3s,comp=Z,456nm
SONM Songino Array 59.78 351 P **P** **01 07 40.2 -1.0**
comp=Z,5.3nm,0.5s,baz=171,slow=8.2,SNR=71
SONM pP **pP** **01 07 54.5 +2.9**
comp=Z,36nm,0.7s,baz=169,slow=8.3,SNR=35
SONM Songino Array 59.78 351 P **P** **01 07 40.2 -1.0**
SONM *PP **pP** **01 07 54.5 +2.9**
SONM Songino Array 59.78 351 P **P** **01 07 40.2 -1.0**
SONM pP **pP** **01 07 54.5 +2.9**
HIA Hailar 60.42 2 *eP* **P** **01 07 44.4 -1.0**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 60.42 2 *eP* **P** **01 07 44.4 -1.0**
comp=Z,9.2nm,0.7s
YUK Yuzh-Kuril'sk 60.88 23 P P 01 07 45.1 -3.4
YUK *e* 01 09 57.5
YUK S **S** **01 16 00.9 -3.0**
YUK *eSS* **SS** **01 20 01.4 -2.4**
WMQ Urumqi 61.30 336 *eP* **P** **01 07 52.0 +0.5**
WMQ pP pP 01 07 56.0 -5.9
WMQ sP sP 01 07 59.0 -6.9
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ LR LR
comp=N,170nm,24.5s
WMQ LR LR
comp=E,160nm,29.0s
WMQ LR LR
comp=Z,190nm,26.6s
HABR Khabarovsk 61.58 13 P **P** **01 07 50.2 -3.0**
HABR *e*SP **sP** **01 08 03.2 -4.4**
HABR 01 08 30.3
HABR S **S** **01 16 10.7 -2.1**
HABR *eS* S 01 16 21.9 +9.1
HABR *e* 01 17 37.6
HABR *eSS* **SS** **01 20 12.2 -2.6**
HABR pmax pmax
comp=E,59nm,1.8s
HABR pmax pmax
comp=Z,59nm,1.1s
HABR pmax pmax
comp=N,19nm,1.0s
HABR MLR MLR
comp=Z,540nm,21.0s
YSS Yuzh-Sakhalins 62.30 19 *eP* **P** **01 07 59.7 +1.6**
ZAK Zakamensk 62.76 350 ||*P* **P** **01 07 59.2 -2.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
CIT Chita 63.24 357 *eP* **P** **01 08 01.8 -2.5**
CIT *e* 01 08 17.3
KSH Kashi 63.69 325 *eP* P 01 08 02.5 -5.2
KSH *epP* pP 01 08 07.0 -11
KSH *esP* sP 01 08 09.5 -13
KSH *ePcP* **PcP** **01 08 40.0 -3.7**
KSH *ePP* PP 01 10 22.8 -5.4
KSH *eScP* 01 12 40.0
KSH *ePcS* 01 13 42.0
KSH *eS* S 01 16 29.8 -10
KSH *esS* sS 01 16 38.5 -19
KSH *eScS* SKiKP 01 18 51.3 +28
KSH *eSS* SS 01 20 38.0 -10
KSH pmax pmax
comp=Z,39nm,1.2s
KSH pmax pmax
comp=Z,360nm,5.4s
KSH LR LR
comp=N,120nm,5.8s
KSH LR LR
comp=E,180nm,5.5s
KSH LR LR
comp=Z,150nm,5.4s
TLY Talaya 63.95 350 *eP* **P** **01 08 06.4 -2.6**
TLY pmax pmax
comp=Z,13nm,1.6s
TLY MLR MLR
comp=Z,207nm,18.0s
MOY Mondy 64.41 349 *eP* **P** **01 08 11.5 -0.6**
KBL Kabul 64.81 317 *eP* **P** **01 08 14.4 -0.8**
KBL pmax pmax
comp=Z,54nm,0.8s
KBL Kabul 64.81 317 *eP* **P** **01 08 14.4 -0.8**
comp=Z,54nm,0.8s
MKAR Makanchi Array 65.94 334 P **P** **01 08 21.5 -0.6**
comp=Z,8.2nm,0.7s,baz=144,slow=5.7,SNR=21
MKAR pP **pP** **01 08 34.1 +1.6**
comp=Z,16nm,0.6s,baz=153,slow=6.6,SNR=9.7
MKAR Makanchi Array 65.94 334 *ceP* **P** **01 08 21.5 -0.6**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 65.94 334 P **P** **01 08 21.5 -0.6**
MKAR pP **pP** **01 08 34.1 +1.6**
EKS2 Erkin-Say 67.05 326 *eP* **P** **01 08 29.7 +0.4**
EKS2 pmax pmax
comp=Z,51nm,0.8s
EKS2 Erkin-Say 67.05 326 *eP* **P** **01 08 29.7 +0.4**
comp=Z,51nm,0.8s
OPO Ambohidratompo 67.98 254 P **P** **01 08 36.5 +0.7**
comp=Z,3.1nm,0.9s,baz=80,slow=13,SNR=2.9
OPO pP **pP** **01 08 49.4 +3.0**
comp=Z,4.3nm,0.8s,baz=22,slow=3.1,SNR=4.7
OPO Ambohidratompo 67.98 254 P **P** **01 08 36.5 +0.7**
OPO pP **pP** **01 08 49.4 +3.0**
CLNS Chul'man 68.25 4 *eP* **P** **01 08 36.0 -0.5**
CLNS *e*PP **pP** **01 08 49.2 +2.2**
CLNS *e* 01 08 57.8
CLNS *e* 01 11 03.7
CLNS *e*SS **SKiKP** **01 18 22.0 -6.8**
CLNS pmax pmax
comp=Z,63nm,0.7s
CLNS pmax pmax
comp=E,20nm,0.7s
CLNS pmax pmax
comp=N,41nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.6s
BOD Bodaibo 69.02 358 *eP* **P** **01 08 39.8 -1.4**
BOD pmax pmax
comp=Z,25nm,1.4s
KURK Kurchatov 70.51 335 P **P** **01 08 49.8 -0.8**
comp=Z,11nm,0.6s,baz=145,slow=5.7,SNR=80
KURK pP **pP** **01 09 03.2 +2.1**
comp=Z,25nm,0.6s,baz=143,slow=5.8,SNR=21
KURK PP **PP** **01 11 26.7 -0.5**
comp=Z,0.5nm,0.7s,baz=130,slow=47,SNR=4.1
KURK Kurchatov 70.51 335 *diP* **P** **01 08 50.0 -0.5**
KURK pmax pmax
comp=Z,52nm,2.5s
KURK Kurchatov 70.51 335 P **P** **01 08 49.8 -0.8**
comp=Z,5.1nm,0.8s
KURK pP **pP** **01 09 03.2 +2.1**
KURK PP **PP** **01 11 26.7 -0.5**
KURK Kurchatov 70.51 335 P **P** **01 08 50.7 +0.2**
comp=Z,127nm,1.1s,SNR=11
ZAA0 Zalesovo Array 70.77 340 *eP* **P** **01 08 50.7 -1.3**
ZAA0 *e* 01 09 05.5
ZALV Zalesovo Beam 70.77 340 P **P** **01 08 50.5 -1.5**
comp=Z,25nm,0.7s,baz=147,slow=4.9,SNR=67
ZALV pP **pP** **01 09 03.9 +1.3**
comp=Z,42nm,0.6s,baz=147,slow=4.0,SNR=21
ZALV PP **PP** **01 11 31.6 +2.3**
comp=Z,1.6nm,0.8s,baz=147,slow=6.2,SNR=2.5
ZALV S **S** **01 17 59.4 -4.9**
comp=Z,1.2nm,1.0s,baz=123,slow=5.5,SNR=4.3
ZALV Zalesovo Beam 70.77 340 P **P** **01 08 50.5 -1.5**
ZALV *PP **pP** **01 09 03.9 +1.3**
ZALV 01 11 31.6
ZALV S **S** **01 17 59.4 -4.9**
ZALV Zalesovo Beam 70.77 340 P **P** **01 08 50.5 -1.5**
ZALV pP **pP** **01 09 03.9 +1.3**
ZALV PP **PP** **01 11 31.6 +2.3**
ZALV *S* **S** **01 17 59.4 -4.9**
ITEG Tejag 71.25 311 *eP* **P** **01 08 54.8 -0.9**
IMYA Miami 71.92 314 *eP* **P** **01 08 59.3 -0.3**
NVS Novosibirsk 72.03 340 ||*iP* **P** **01 08 57.6 -2.0**
NVS *eS* **S** **01 18 14.0 -4.8**
NVS pmax pmax
comp=N,26nm,1.3s
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=Z,60nm,1.3s
NVS smax smax
comp=N,3.0nm,0.9s
NVS smax smax
comp=E,7.0nm,0.9s
PEA0B Petropavlovsk- 72.82 24 *eP* **P** **01 09 05.2 +0.8**
PEA0B *e* 01 09 18.1
PETK Petropavlovsk- 72.82 24 P **P** **01 09 05.0 +0.6**
comp=E,49nm,0.7s,baz=213,slow=3.3,SNR=54
PETK pP **PcP** **01 09 17.9 -3.6**
comp=E,45nm,0.8s,baz=208,slow=5.7,SNR=13
PETK Petropavlovsk- 72.82 24 P **P** **01 09 05.0 +0.6**
PETK *PP **PcP** **01 09 17.9 -3.6**
PETK Petropavlovsk- 72.82 24 P **P** **01 09 05.0 +0.6**
PETK pP **PcP** **01 09 17.9 -3.6**
IBAF Bafgh 73.08 308 *eP* **P** **01 09 06.1 -0.6**
PET Petropavlovsk 73.14 25 *eP* **P** **01 09 06.8 +0.5**
PET *eS* **S** **01 18 30.8 -0.8**
PET pmax pmax
comp=Z,78nm,1.5s
PET Petropavlovsk 73.14 25 *eP* **P** **01 09 05.9 -0.4**
comp=Z,88nm,1.2s
IKRD Kardeh 73.25 314 *eP* **P** **01 09 04.5 -3.1**
IEMG Emamgholi 73.45 315 *eP* **P** **01 09 09.5 +0.6**
YAK Yakutsk 73.80 6 *eP* **P** **01 09 07.0 -3.0**
YAK *e* 01 09 22.1
YAK *e*PP **PcP** **01 09 28.0 +2.6**
YAK *e* 01 11 53.2
YAK *eS* **SKiKP** **01 18 35.5 -1.2**
YAK *e* 01 19 10.1
YAK pmax pmax
comp=Z,60nm,1.0s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,13nm,0.6s
YAK pmax pmax
comp=N,2.0nm,0.5s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax smax
comp=N,15nm,1.3s
YAK smax smax
comp=E,18nm,1.9s
YAK MLR MLR
comp=Z,188nm,24.0s
YAK Yakutsk 73.80 6 *eP* **P** **01 09 09.6 -0.3**
comp=Z,59nm,0.9s
ISRV Sarvestan 74.12 305 *eP* **P** **01 09 12.0 -1.0**
ICHK Chekchek 74.25 308 *eP* **P** **01 09 13.3 -0.3**
IPAR Pars 74.35 305 *eP* **P** **01 09 14.1 -0.2**
ISAD Sadrabad 74.68 308 *eP* **P** **01 09 14.9 -1.2**
BVAR Borovoye Array 75.73 333 P **P** **01 09 20.8 -0.6**
comp=Z,6.3nm,0.7s,baz=140,slow=7.2,SNR=26
BVAR pP **PcP** **01 09 34.5 +0.5**
comp=Z,19nm,0.8s,baz=134,slow=8.4,SNR=22
BVAR Borovoye Array 75.73 333 P **P** **01 09 20.8 -0.6**
BVAR *PP **PcP** **01 09 34.5 +0.5**
BVAR Borovoye Array 75.73 333 P **P** **01 09 20.8 -0.6**
BVAR pP **PcP** **01 09 34.5 +0.5**
BRVK Borovoye 75.80 333 *eP* **P** **01 09 21.8 0.0**
BRVK pmax pmax
comp=Z,49nm,1.3s
BRVK Borovoye 75.80 333 *eP* **P** **01 09 21.8 0.0**
comp=Z,49nm,1.3s
IANJ Anjilo 75.98 311 *eP* **P** **01 09 23.1 -0.4**
IKIA Kiasar 76.46 312 *eP* **P** **01 09 25.7 -0.5**
IPIR Pirpir 77.15 307 *eP* **P** **01 09 30.1 -0.2**
ATD Arta Tunnel 77.60 285 P **P** **01 09 34.5 +1.7**
comp=Z,3.2nm,0.4s,baz=106,slow=22,SNR=4.0
ATD Arta Tunnel 77.60 285 P **P** **01 09 34.5 +1.7**
KBD Kabd 78.44 303 *eP* **P** **01 09 37.1 -0.1**
RDF Al-Radifah 78.48 303 *eP* **P** **01 09 37.8 +0.5**
RDF AMb AMB 01 09 39.2
comp=Z,70nm,1.1s
RAYN Ar Rayn 78.48 297 P **P** **01 09 37.0 -0.5**
comp=Z,116nm,1.1s,SNR=15
QSPA South Pole Qui 78.62 180 P **P** **01 09 37.3 -0.4**
comp=Z,17nm,1.0s,baz=323,slow=2.8,SNR=14
QSPA South Pole Qui 78.62 180 *eP* **P** **01 09 37.0 -0.7**
comp=Z,19nm,1.0s
ABKAR Akbulak array 78.69 326 *eP* **P** **01 09 38.0 -0.1**
SEY Seymchan 78.83 15 *diP* **P** **01 09 36.3 -2.2**
NAY Al-Naaiem 78.84 303 *eP* **P** **01 09 39.1 -0.3**
NAY AMb AMB 01 09 40.2
comp=Z,32nm,1.3s
MIB Mutribah 78.95 304 *eP* **P** **01 09 39.6 -0.3**
MIB AMb AMB 01 09 41.0
comp=Z,60nm,1.2s
KMBO Kilima Mbogo 80.26 271 *eP* **P** **01 09 48.5 +0.8**
KMBO pmax pmax
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 80.26 271 *eP* **P** **01 09 48.5 +0.8**
comp=Z,17nm,1.0s
IKOM Komasi 80.33 308 *eP* **P** **01 09 46.6 -0.9**
AKTO Aktyubinsk 80.37 326 P **P** **01 09 47.2 +0.1**
comp=Z,15nm,0.9s,baz=113,slow=6.4,SNR=26
AKTO Aktyubinsk 80.37 326 P **P** **01 09 47.3 +0.1**
AKTO Aktyubinsk 80.37 326 P **P** **01 09 47.2 +0.1**
IVIS Veis 80.96 308 *eP* **P** **01 09 49.8 -1.1**
IDHR Dehrash 81.38 308 *eP* **P** **01 09 52.2 -1.0**
IBST Bostanabad 82.05 311 *eP* **P** **01 09 55.9 -0.8**
IHRS Heris 82.16 312 *eP* **P** **01 09 57.0 -0.3**
BHD Baghdad 82.48 306 *eP* **P** **01 09 56.0 -2.7**
BHD *eS* **S** **01 20 13.0 -0.2**
SVE Sverdlovsk 82.50 332 ||*iP* **P** **01 09 58.3 0.0**
SVE *e* 01 10 14.0
SVE *eS* **S** **01 20 07.3 -5.2**
SVE pmax pmax
comp=Z,32nm,1.2s
ARU Arti 83.24 331 *eP* **P** **01 10 01.4 -0.8**
ARU pmax pmax
comp=Z,22nm,1.1s
ARU Arti 83.24 331 *eP* **P** **01 10 01.4 -0.8**
comp=Z,22nm,1.1s
ARU Arti 83.24 331 P **P** **01 10 01.1 -1.1**
comp=Z,98nm,1.1s,SNR=9.0
IMRD Marand 83.28 312 *eP* **P** **01 10 03.5 +0.5**
MAK Makhachkala 83.53 316 *eP* P 01 10 00.3 -3.7
HAKT HAKKARI 84.38 310 *i* P **P** **01 10 09.3 +0.5**
DGRG David-gareji 84.47 314 P **P** **01 10 10.8 +1.9**
GNI Garni 84.47 313 P **P** **01 10 09.6 +0.5**
comp=Z,11nm,1.1s,baz=139,slow=21,SNR=3.4
GNI Garni 84.47 313 P **P** **01 10 09.6 +0.5**
GNI Garni 84.47 313 P P **01 10 09.6 +0.5**
TVAN Van 84.92 311 *i* P P 01 10 14.9 +3.5
TBLG Delisi 85.01 314 *eP* **P** **01 10 11.1 -0.4**
TBLG Delisi 85.01 314 P **P** **01 10 11.2 -0.4**
GOR Gori 85.54 314 P **P** **01 10 16.2 +2.0**
TUTA Tutak 85.63 311 *i* P **P** **01 10 16.7 +1.7**
SOKR Solikamsk 85.69 334 *eP* **P** **01 10 14.4 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
AKH Akhalkalaki 85.79 314 P **P** **01 10 17.5 +1.9**
ZEI Tsey 85.95 315 *eP* **P** **01 10 17.7 +1.2**
ZEI pmax pmax
comp=Z,10.0nm,0.6s

BILL Bilibino 86.47 16 *d iP P 01 10 17.5 -0.7
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 86.47 16 *e* P P 01 10 17.8 -0.4
comp=Z,4.9nm,0.8s
BOSA Boshof 86.61 242 P P 01 10 20.4 +0.4
comp=Z,14nm,0.8s,baz=108,slow=5.2,SNR=23
BOSA pP pP 01 10 33.5 +2.6
comp=Z,5.2nm,0.8s,baz=152,slow=6.4,SNR=3.5
BOSA Boshof 86.61 242 *e* P P 01 10 20.4 +0.4
BOSA *PP pP 01 10 33.5 +2.6
BOSA pmax pmax
comp=Z,17nm,0.9s
BOSA Boshof 86.61 242 *e* P P 01 10 20.4 +0.4
comp=Z,17nm,0.9s
BOSA pP pP 01 10 33.5 +2.6
MBAR Mbarara 86.75 270 P P 01 10 21.3 +0.3
comp=Z,56nm,0.9s,SNR=5.3
DAGI Agillar 86.81 313 *i P P 01 10 19.8 -0.8
LBTB Lobatse 87.00 245 *e* P P 01 10 22.6 +0.6
LBTB pmax pmax
comp=Z,22nm,0.8s
LBTB Lobatse 87.00 245 *e* P P 01 10 22.6 +0.6
comp=Z,22nm,0.8s
KIV Kislovodsk 87.17 316 *e* P P 01 10 21.7 -0.6
KIV *e*S S 01 20 44.8 -15
KIV *e*SS SS 01 26 43.9 -0.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,18.0s
KOPT Kop Dagi 87.52 311 *i P P 01 10 26.6 +2.3
SNAA Sanae 88.33 196 *e* P P 01 10 24.5 -2.8
SNAA Sanae 88.33 196 P P 01 10 27.9 +0.6
comp=Z,5.0nm,0.8s,baz=131,slow=4.5,SNR=23
SNAA Sanae 88.33 196 P P 01 10 27.9 +0.6
SNAA pmax pmax
comp=Z,12nm,0.7s
SNAA Sanae 88.33 196 P P 01 10 27.9 +0.6
comp=Z,12nm,0.7s
KELT Kelkit 88.47 311 *i P P 01 10 29.2 +0.5
KEMA Kemaliye 88.80 310 *i P P 01 10 31.2 +1.0
AKCD Akcadag 88.97 309 *i P P 01 10 31.8 +0.8
GZT Gaziantep 89.00 308 *i P P 01 10 32.4 +1.3
VNA2 Neumayer--Watz 89.96 196 *e* P P 01 10 36.1 +1.2
VRHR Novokhopersk 90.10 322 *e*P P 01 10 35.1 -0.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.3s
VNA3 Neumayer Olymp 90.36 195 *e* P 01 10 37.6 +0.8
ANN Anapa 91.02 315 *e*P P 01 10 36.9 -3.3
ANN pmax pmax
comp=Z,57nm,1.9s
GULE Gulek 91.13 308 *i P P 01 10 41.5 +0.3
VSR Storozhevoye 91.62 322 *e*P P 01 10 41.7 -1.1
VSR pmax pmax
comp=E,3.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,2.0nm,0.3s
KLMR Klimovskoe 94.09 331 *e*P P 01 10 50.2 -3.8
KLMR *e* 01 11 04.8
KLMR *e* 01 14 43.7
KLMR pmax pmax
comp=Z,23nm,1.3s
OBN Obninsk 94.14 325 *e*P P 01 10 52.2 -2.1
OBN *e* 01 14 38.2
OBN pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 97.65 320 P P 01 11 09.2 -1.2
comp=Z,0.4nm,0.4s,baz=89,slow=4.7,SNR=10
AKASG Malin Array Be 97.65 320 P P 01 11 09.2 -1.2
AKASG Malin Array Be 97.65 320 P P 01 11 09.2 -1.2
JOF Joensuu 98.33 333 *e*P P 01 11 11.9 -1.3
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 98.33 333 *ep P 01 11 11.9 -1.3
comp=Z,6.1nm,0.8s
JOF Joensuu 98.33 333 *ep P 01 11 11.9 -1.3
comp=Z,6.1nm,0.8s
KAF Kangasniemi 100.55 331 *e*P Pdif 01 11 21.1 -2.0
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 100.55 331 *ep Pdif 01 11 21.1 -2.0
comp=Z,6.0nm,0.6s
KAF Kangasniemi 100.55 331 *ep Pdif 01 11 21.1 -2.0
comp=Z,6.0nm,0.6s
FINES FINESS Array B 100.61 331 P Pdif 01 11 22.9 -0.5
comp=Z,4.9nm,0.7s,baz=100,slow=7.9,SNR=15
FINES pP pP 01 11 36.0 +1.7
comp=Z,2.1nm,0.6s,baz=122,slow=9.3,SNR=3.5
FINES FINESS Array B 100.61 331 P Pdif 01 11 22.9 -0.5
FINES FINESS Array B 100.61 331 P Pdif 01 11 22.9 -0.5
FINES pP pP 01 11 36.0 +1.7
KEV Kevo 100.78 339 *e*P Pdif 01 11 20.8 -3.2
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 100.78 339 *ep Pdif 01 11 20.8 -3.2
comp=Z,5.3nm,0.8s
KEV Kevo 100.78 339 *ep Pdif 01 11 20.8 -3.2
comp=Z,5.3nm,0.8s
ARCES ARCESS Array B 101.29 339 P Pdif 01 11 25.6 -0.8
comp=Z,4.1nm,0.7s,baz=120,slow=7.1,SNR=15
ARCES ARCESS Array B 101.29 339 P Pdif 01 11 25.6 -0.8
ARCES ARCESS Array B 101.29 339 P Pdif 01 11 25.6 -0.8
ILAR Eielson Array 102.59 26 P Pdif 01 11 31.0 -1.2
comp=Z,0.4nm,0.7s,baz=232,slow=5.4,SNR=7.2
ILAR Eielson Array 102.59 26 P Pdif 01 11 31.0 -1.2
ILAR Eielson Array 102.59 26 P Pdif 01 11 31.0 -1.2
GERES GERESS Array B 107.59 318 Pdiff Pdif 01 11 56.1 +1.2
comp=Z,0.3nm,0.7s,baz=142,slow=6.8,SNR=3.8
GERES GERESS Array B 107.59 318 P Pdif 01 11 56.1 +1.2
GERES GERESS Array B 107.59 318 Pdif Pdif 01 11 56.1 +1.2
CLL Collm 107.89 320 *e*PP PP 01 16 24.0 -1.2
CLL *e*SS SS 01 31 48.0 +13
CLL Lm MLR 02 14 00.0
comp=N,200nm,18.7s
CLL Lm MLR 02 14 00.0
comp=E,200nm,20.8s
CLL Lm MLR 02 14 00.0
comp=Z,200nm,18.2s
YKA Yellowknife Ar 116.94 24 Pdiff Pdif 01 12 38.8 +2.7
comp=Z,0.3nm,0.7s,baz=295,slow=4.3,SNR=3.8
YKA PKP PKiKP 01 16 19.9 -0.3
comp=Z,2.4nm,0.5s,baz=305,slow=2.0,SNR=50
YKA pPKP pPKPdf 01 16 33.2 +1.9
comp=Z,1.9nm,0.6s,baz=305,slow=1.9,SNR=11
YKA PKKPbc PKKPbc 01 26 41.5 -6.5
comp=Z,0.4nm,0.8s,baz=111,slow=4.2,SNR=3.7
YKA Yellowknife Ar 116.94 24 P Pdif 01 12 38.8 +2.7
YKA 01 16 19.9
YKA 01 16 33.2
YKA Yellowknife Ar 116.94 24 Pdif Pdif 01 12 38.8 +2.7
YKA PKP PKiKP 01 16 19.9 -0.3
YKA pPKP pPKPdf 01 16 33.2 +1.9
YKA PKKPbc PKKPbc 01 26 41.5 -6.5
TOA0 Torodi Ar. Sit 117.44 279 *e*PKPdf PKPdf 01 16 22.1 -0.4
TORD Torodi Ar. Bea 117.44 279 PKP PKPdf 01 16 22.1 -0.4
comp=Z,3.7nm,0.6s,baz=69,slow=1.3,SNR=39
TORD pPKP pPKPdf 01 16 35.5 +1.9
comp=Z,2.4nm,0.7s,baz=80,slow=1.5,SNR=5.2
TORD Torodi Ar. Bea 117.44 279 PKP PKPdf 01 16 22.1 -0.4
TORD pPKP pPKPdf 01 16 35.5 +1.9
HAWA Hanford 120.70 43 *e*PKPdf PKPdf 01 16 28.2 +0.3
ESDC Sonseca Array 121.34 310 PKP PKPdf 01 16 30.0 +0.5
comp=Z,1.1nm,0.6s,baz=52,slow=1.8,SNR=6.1
ESDC pPKP pPKPdf 01 16 43.0 +2.5
comp=Z,0.8nm,0.6s,baz=24,slow=3.7,SNR=4.0
ESDC Sonseca Array 121.34 310 PKP PKPdf 01 16 30.0 +0.5
ESDC pPKP pPKPdf 01 16 43.0 +2.5
NEW Newport 121.66 40 ⇓P PKPdf 01 16 30.8 +1.0
baz=122
C11A Tepee Creek (N 122.35 40 ⇓P PKPdf 01 16 31.6 +0.5
baz=122
WVOR Wild Horse Val 122.41 47 *e*PKIKP PKPdf 01 16 32.1 +0.6
WVOR Wild Horse Val 122.41 47 *e*PKPdf PKPdf 01 16 32.0 +0.6
C12B Naegeli Ranch, 122.89 40 ⇑P PKPdf 01 16 32.3 +0.2
baz=123
DBIC Dimbokro 122.99 271 PKP PKPdf 01 16 33.4 +0.1
comp=Z,16nm,0.8s,baz=99,slow=1.9,SNR=26
DBIC pPKP pPKPdf 01 16 46.5 +2.1
comp=Z,8.7nm,0.8s,baz=94,slow=3.7,SNR=6.6
DBIC Dimbokro 122.99 271 *e*PKIKP PKPdf 01 16 33.4 +0.1
DBIC 01 16 46.5
DBIC Dimbokro 122.99 271 *e*PKPdf PKPdf 01 16 33.4 +0.1
DBIC pPKP pPKPdf 01 16 46.5 +2.1
A13A Flathead Natio 123.09 38 ⇓P PKPdf 01 16 33.3 +0.7
baz=123
D12A Red Ives Fores 123.20 41 ⇓P PKPdf 01 16 32.8 0.0
baz=123
BSMT Bassoo Peak 123.27 40 *e*PKPdf PKPdf 01 16 32.6 -0.5
B13A Whitefish 123.27 39 ⇓P PKPdf 01 16 33.3 +0.4
baz=123
C13A Hot Springs 123.47 40 ⇓P PKPdf 01 16 33.4 +0.1
baz=123
NVAR Mina Array Bea 123.63 51 PKP PKPdf 01 16 35.3 +1.2
comp=Z,4.4nm,0.8s,baz=254,slow=2.5,SNR=25
NVAR pPKP pPKPdf 01 16 48.0 +2.7
comp=Z,3.4nm,0.7s,baz=285,slow=1.8,SNR=9.4
NVAR PP PP 01 18 15.4 -1.0
comp=Z,2.8nm,1.0s,baz=273,slow=8.3,SNR=5.9
NVAR Mina Array Bea 123.63 51 PKP PKPdf 01 16 35.3 +1.2
NVAR pPKP pPKPdf 01 16 48.0 +2.7
NVAR PP PP 01 18 15.4 -1.0
F12A Elk City 123.72 42 ⇑P PKPdf 01 16 33.9 -0.1
baz=124
D13A Huson 123.76 40 ⇑P PKPdf 01 16 34.0 +0.2
baz=124
G12A Big Creek, Yel 123.89 43 ⇓P PKPdf 01 16 34.4 +0.1
baz=124
SWMT Swartz Lake 123.89 40 *e*PKPdf PKPdf 01 16 34.0 -0.2
C14A Swan Lake 123.95 39 ⇑P PKPdf 01 16 34.3 0.0
baz=124
MFID Camas Ranch 124.10 45 *e*PKPdf PKPdf 01 16 36.0 +1.3
MFID Camas Ranch 124.10 45 ⇑P PKPdf 01 16 35.4 +0.7
baz=124
E13A Victor 124.17 41 ⇑P PKPdf 01 16 35.0 +0.2
baz=124
MSO Missoula 124.19 40 *e*PKPdf PKPdf 01 16 34.7 0.0
MSO Missoula 124.19 40 ⇓P PKPdf 01 16 35.2 +0.5
baz=124
SLMT Seeley Lake 124.31 40 *e*PKPdf PKPdf 01 16 35.3 +0.2
F13A Darby 124.32 42 ⇓P PKPdf 01 16 34.4 -0.7
baz=124
D14A Greenough 124.37 40 ⇑P PKPdf 01 16 34.9 -0.2
baz=124
H12A Diamond D Ranc 124.40 43 ⇓P PKPdf 01 16 35.9 +0.6
baz=124
I12A Atlanta 124.46 44 ⇓P PKPdf 01 16 36.4 +0.9
baz=124
B15A Bradely Ranch, 124.47 38 ⇓P PKPdf 01 16 35.2 -0.1
baz=124
CHMT Chamberlain Mo 124.59 40 *e*PKPdf PKPdf 01 16 36.0 +0.3
EDW2 Edwards Air Fo 124.61 55 ⇑P PKPdf 01 16 36.7 +0.9
baz=125
E14A Clinton 124.63 41 ⇓P PKPdf 01 16 36.0 +0.3
baz=125
C15A Salmond Ranch, 124.66 39 ⇑P PKPdf 01 16 35.7 +0.1
baz=125
MPMC Manual Prospec 124.77 54 ⇑P PKPdf 01 16 37.6 +1.2
baz=125
H13A Challis 124.80 43 ⇑P PKPdf 01 16 37.0 +1.0
baz=125
F14A Wisdom 124.93 41 ⇑P PKPdf 01 16 36.7 +0.4
baz=125
B16A M & M Farms, S 124.94 38 ⇓P PKPdf 01 16 35.8 -0.3
baz=125
D15A Lincoln 125.00 40 ⇑P PKPdf 01 16 36.9 +0.5
baz=125
HLID Hailey 125.03 44 *e*PKPdf PKPdf 01 16 38.0 +1.4
HLID Hailey 125.03 44 ⇓P PKPdf 01 16 37.9 +1.4
baz=125
G14A Jackson 125.08 42 ⇑P PKPdf 01 16 37.5 +0.9
baz=125
I13A Wildhorse Cree 125.11 44 ⇓P PKPdf 01 16 38.3 +1.6
baz=125
E15A Deer Lodge 125.17 41 ⇑P PKPdf 01 16 37.2 +0.5
baz=125
C16A Fuhringer Ranc 125.17 39 ⇓P PKPdf 01 16 36.7 +0.1
baz=125
J13A Cove Ranch, Pi 125.25 44 ⇓P PKPdf 01 16 38.7 +1.8
baz=125
A17A Triple J Farms 125.31 37 ⇑P PKPdf 01 16 37.2 +0.4
baz=125
ELK Elko 125.32 48 *e*PKIKP PKPdf 01 16 37.6 +0.3
ELK Elko 125.32 48 *e*PKPdf PKPdf 01 16 37.6 +0.3
H14A Leadore 125.37 43 ⇑P PKPdf 01 16 38.5 +1.2
baz=125
GSC Goldstone 125.47 55 *e*PKIKP PKPdf 01 16 38.6 +1.1
GSC Goldstone 125.47 55 *e*PKPdf PKPdf 01 16 38.6 +1.1
F15A Butte 125.49 41 ⇓P PKPdf 01 16 38.3 +0.9
baz=126
B17A L&G Farms, Che 125.54 38 ⇑P PKPdf 01 16 37.5 +0.3
baz=126
I14A Mackay 125.56 44 ⇓P PKPdf 01 16 38.2 +0.7
baz=126
D16A Dana Ranch, Ca 125.62 39 ⇓P PKPdf 01 16 38.3 +0.8
baz=126
R11A Troy Canyon, C 125.72 51 ⇑P PKPdf 01 16 39.2 +1.2
baz=126
J14A Carey 125.72 44 ⇑P PKPdf 01 16 39.6 +1.8
baz=126
A18A Metzger Ranch, 125.83 37 ⇑P PKPdf 01 16 37.9 +0.2
baz=126
C17A Wharram Farm, 125.85 39 ⇑P PKPdf 01 16 38.3 +0.4
baz=126
H15A Lima 125.85 43 ⇓P PKPdf 01 16 39.7 +1.6
baz=126
HEC Hecla,Ludlow 125.95 55 ⇓P PKPdf 01 16 40.2 +1.7
baz=126
F16A Kennard Place, 126.07 41 ⇑P PKPdf 01 16 39.2 +0.8
baz=126
D17A Six Diamond Ra 126.10 39 ⇓P PKPdf 01 16 38.8 +0.3
baz=126
BOZ Bozeman (W) 126.12 41 ⇑P PKPdf 01 16 39.6 +1.0
baz=126
BOZ ⇑P PKPdf 01 16 39.6 +1.0
baz=126
G16A Moss Hill, Enn 126.17 42 ⇓P PKPdf 01 16 39.7 +1.0
baz=126
K14A Jones Ranch, D 126.22 45 ⇓P PKPdf 01 16 40.3 +1.5
baz=126
E17A Martinsdale 126.28 40 ⇑P PKPdf 01 16 39.7 +0.8
baz=126
EGMT Eagleton 126.29 38 *e*PKPdf PKPdf 01 16 39.1 +0.4
EGMT Eagleton 126.29 38 ⇓P PKPdf 01 16 39.1 +0.4
baz=126
L14A Malta 126.35 46 ⇓P PKPdf 01 16 40.8 +1.7
baz=126
BELC Belle Mtn. Jos 126.39 56 ⇑P PKPdf 01 16 40.4 +1.0
baz=126
J15A Blackfoot 126.44 44 ⇓P PKPdf 01 16 40.8 +1.6
baz=126
A19A Klindworth Far 126.47 36 ⇑P PKPdf 01 16 39.1 +0.1
baz=126
GMRC Granite Mounta 126.50 55 ⇑P PKPdf 01 16 41.3 +1.7
baz=126
B19A Brinkman Farms 126.57 37 ⇓P PKPdf 01 16 39.8 +0.6
baz=126
F17A Fitzpatrick Pl 126.64 40 ⇓P PKPdf 01 16 41.1 +1.6
baz=127
E18A Harlowton 126.83 39 ⇑P PKPdf 01 16 40.7 +0.9
baz=127
C19A Slack Wire Ran 126.84 38 ⇑P PKPdf 01 16 40.4 +0.6
baz=127
I16A Newdale 126.90 43 ⇓P PKPdf 01 16 41.2 +1.1
baz=127
BC3 Big Chuckawall 126.91 56 ⇓P PKPdf 01 16 42.0 +1.6
baz=127
L15A Malad City 126.96 46 ⇓P PKPdf 01 16 41.3 +1.0
baz=127
J16A Bone 127.04 44 ⇓P PKPdf 01 16 41.5 +1.0
baz=127
IRM Iron Mountain 127.05 56 ⇓P PKPdf 01 16 42.1 +1.6
baz=127
D19A Cripps Ranch, 127.20 38 ⇓P PKPdf 01 16 41.2 +0.7
baz=127
RRI2 Red Ridge 127.21 44 *e*PKPdf PKPdf 01 16 41.1 +0.2
F18A Big Timber 127.24 40 ⇑P PKPdf 01 16 42.0 +1.4
baz=127
DUG Dugway 127.25 48 *e*PKIKP PKPdf 01 16 41.9 +1.0
DUG Dugway 127.25 48 *e*PKPdf PKPdf 01 16 41.9 +1.0
DUG Dugway 127.25 48 ⇑P PKPdf 01 16 42.4 +1.5
baz=127
GCMT Greycliff 127.32 40 *e*PKPdf PKPdf 01 16 41.1 +0.3
GCMT ePP PP 01 18 39.9 -0.5
A21A Bergtoll Ranch 127.48 36 ⇓P PKPdf 01 16 41.3 +0.4
baz=127
REDW Red Top Meadow 127.52 43 *e*PKPdf PKPdf 01 16 41.9 +0.4
E19A Rath Farm, Rou 127.58 39 ⇑P PKPdf 01 16 42.2 +1.0
baz=128
G18A Lazy EL Ranch, 127.58 41 ⇓P PKPdf 01 16 42.5 +1.1
baz=128
LOHW Long Hollow 127.59 43 *e*PKPdf PKPdf 01 16 42.2 +0.6
J17A Brown Place, J 127.62 43 ⇑P PKPdf 01 16 43.2 +1.7
baz=128
L16A Fish Haven 127.62 45 ⇓P PKPdf 01 16 42.2 +0.5
baz=128
F19A Roth Farm, Mol 127.75 40 ⇓P PKPdf 01 16 42.3 +0.7
baz=128
W13A Hualapai Mount 127.85 54 ⇓P PKPdf 01 16 43.4 +1.1
baz=128
C21A Desert Coulee 127.96 37 ⇑P PKPdf 01 16 42.3 +0.5
baz=128
E20A Meyer Farm, Mu 127.96 39 ⇑P PKPdf 01 16 43.3 +1.4
baz=128
L17A Cokeville 127.98 45 ⇑P PKPdf 01 16 43.3 +1.1
baz=128
A22A Carney Farms, 128.06 35 ⇓P PKPdf 01 16 43.1 +1.1
baz=128
MSU Marysvale 128.24 50 *e*PKIKP PKPdf 01 16 44.6 +1.7
MSU Marysvale 128.24 50 *e*PKPdf PKPdf 01 16 44.6 +1.7
K18A Toltan Ranch, 128.35 44 ⇓P PKPdf 01 16 44.0 +1.0
baz=128
M17A Scullys Gap (B 128.35 46 ⇓P PKPdf 01 16 44.0 +1.0
baz=128
N17A Moffit Pass 128.42 46 ⇑P PKPdf 01 16 44.5 +1.2
baz=128
Z13A Yuma Proving G 128.47 57 ⇑P PKPdf 01 16 45.2 +2.0
baz=128
G20A Bridger 128.49 40 ⇑P PKPdf 01 16 44.2 +1.2
baz=128
E21A Keefer Ranch, 128.59 38 ⇓P PKPdf 01 16 44.3 +1.2
baz=128
BW06 Boulder Array 128.63 44 ⇓P PKPdf 01 16 44.6 +1.0
baz=129
BW06 ⇓P PKPdf 01 16 44.6 +1.0
baz=129
PDAR Pinedale Array 128.63 44 PKP PKPdf 01 16 44.4 +0.9
comp=Z,2.4nm,1.0s,baz=209,slow=2.7,SNR=12
PDAR PP PP 01 18 47.8 -1.5
comp=Z,0.5nm,0.8s,baz=267,slow=3.4,SNR=2.5
PDAR Pinedale Array 128.63 44 PKP PKPdf 01 16 44.4 +0.9
PDAR PP PP 01 18 47.8 -1.5
C22A Vida 128.71 36 ⇑P PKPdf 01 16 44.5 +1.2
baz=129
J19A Crowheart 128.77 43 ⇓P PKPdf 01 16 45.0 +1.3
baz=129
M18A Lyman 128.79 45 ⇓P PKPdf 01 16 45.2 +1.4
baz=129
D22A Cohagen 128.83 37 ⇑P PKPdf 01 16 45.0 +1.4
baz=129
R16A Teasdale 128.83 50 ⇑P PKPdf 01 16 45.9 +1.8
baz=129
B23A Brockton 128.85 35 ⇑P PKPdf 01 16 44.4 +0.9
baz=129
Q16A Castle Valley 128.86 49 ⇑P PKPdf 01 16 45.8 +1.7
baz=129
S16A Weppner Ranch, 128.92 50 ⇓P PKPdf 01 16 45.6 +1.4
baz=129
H20A Greybull 128.94 41 ⇑P PKPdf 01 16 44.6 +0.7
baz=129
L19A Farson 129.02 44 ⇓P PKPdf 01 16 45.4 +1.1
baz=129
K19A Absolon Red Bu 129.09 43 ⇑P PKPdf 01 16 45.4 +1.1
baz=129
C23A Lambert 129.09 36 ⇑P PKPdf 01 16 45.2 +1.2
baz=129
I20A Worland 129.09 42 ⇑P PKPdf 01 16 45.1 +0.9
baz=129
G21A Lodge Grass 129.12 40 ⇓P PKPdf 01 16 45.4 +1.1
baz=129
A24A Westby 129.16 34 ⇓P PKPdf 01 16 45.2 +1.1
baz=129
114A Black Gap (USA 129.20 57 ⇑P PKPdf 01 16 46.5 +1.9
baz=129
SRU San Rafael 129.28 48 ⇑P PKPdf 01 16 46.0 +1.2
baz=129
P18A Preston Nutter 129.30 48 ⇓P PKPdf 01 16 46.0 +0.9
baz=129
R17A Hanksville Air 129.37 49 ⇑P PKPdf 01 16 45.9 +0.9
baz=129
J20A Shoshoni 129.38 42 ⇓P PKPdf 01 16 45.7 +0.9
baz=129
D23A Lindsay 129.40 37 ⇑P PKPdf 01 16 46.5 +1.8
baz=129
F22A Rosebud 129.45 39 ⇑P PKPdf 01 16 46.0 +1.2
baz=129
K20A Yellowstone Ra 129.49 43 ⇑P PKPdf 01 16 46.1 +1.0
baz=130
H21A Big Horn, Sher 129.50 41 ⇑P PKPdf 01 16 46.0 +1.0
baz=130
Q18A Rafter H Ranch 129.57 48 ⇓P PKPdf 01 16 46.8 +1.5
baz=130
C24A Savage 129.67 36 ⇑P PKPdf 01 16 47.3 +2.2
baz=130
I21A Big Trails, Te 129.70 42 ⇑P PKPdf 01 16 46.2 +0.8
baz=130
T17A Navajo Res., N 129.74 51 ⇑P PKPdf 01 16 47.2 +1.4
baz=130
O19A Miners Draw (B 129.87 46 ⇑P PKPdf 01 16 46.9 +1.0
baz=130
R18A Canyonlands Na 129.98 49 ⇑P PKPdf 01 16 47.5 +1.3
baz=130
F23A Volborg 130.00 39 ⇓P PKPdf 01 16 46.9 +1.1
baz=130
S18A Hurst Farm, Bl 130.14 50 ⇓P PKPdf 01 16 48.2 +1.6
baz=130
V17A Tonalea, Kykot 130.15 53 ⇑P PKPdf 01 16 48.3 +1.8
baz=130
I22A 9 Mile Ranch, 130.19 41 ⇑P PKPdf 01 16 46.8 +0.5
baz=130
K21A Alcova 130.23 43 ⇓P PKPdf 01 16 47.6 +1.1
baz=130
E24A Baker 130.24 37 ⇓P PKPdf 01 16 47.4 +1.2
baz=130
Q19A Hogan Spring (130.25 48 ⇓P PKPdf 01 16 48.3 +1.7
baz=130
N20A Spence Gulch, 130.27 45 ⇑P PKPdf 01 16 48.6 +1.9
baz=130
J22A Midwest 130.40 42 ⇑P PKPdf 01 16 47.0 +0.2
baz=130
T18A Mexican Hat 130.41 51 ⇑P PKPdf 01 16 48.6 +1.7
baz=130
L21A Rawlins 130.44 44 ⇓P PKPdf 01 16 48.4 +1.4
baz=130
O20A White River Ci 130.56 46 ⇑P PKPdf 01 16 48.8 +1.5
baz=130
M21A Separation Pea 130.59 44 ⇓P PKPdf 01 16 47.5 +0.2
baz=131
RWWY Rawlins 130.66 44 *e*PKPdf PKPdf 01 16 48.5 +1.0
K22A Casper 130.71 43 ⇓P PKPdf 01 16 48.1 +0.6
baz=131
N21A Black Mountain 130.82 45 ⇑P PKPdf 01 16 48.9 +1.1
baz=131
Q20A Ridgley Place, 130.96 48 ⇓P PKPdf 01 16 49.4 +1.4
baz=131
H24A Dirks Ranch, A 131.00 39 ⇑P PKPdf 01 16 48.2 +0.4
baz=131
PV01 Paradox Valley 131.05 49 *e*PKPdf PKPdf 01 16 49.5 +1.2
S20A Disappointment 131.31 49 ⇑P PKPdf 01 16 49.8 +1.0
baz=131
I24A Kuemmerle Ranc 131.39 40 ⇑P PKPdf 01 16 49.0 +0.4
baz=131
MVCO Mesa Verde 131.42 50 *e*PKPdf PKPdf 01 16 49.6 +0.6
S21A Coal Bank Pass 131.79 49 ⇓P PKPdf 01 16 50.5 +0.7
baz=132
O23A Lake Granby, G 132.16 45 ⇓P PKPdf 01 16 51.6 +1.2
baz=132
T21A Navajo Lake 132.22 50 ⇑P PKPdf 01 16 51.3 +0.8
baz=132
U21A Nageezi 132.32 51 ⇓P PKPdf 01 16 51.8 +1.1
baz=132
S22A 4UR Ranch, Cre 132.47 49 ⇓P PKPdf 01 16 52.7 +1.7
baz=132
ULM Lac du Bonnet 132.52 29 PKP PKPdf 01 16 50.1 -0.2
comp=Z,4.2nm,0.7s,baz=280,slow=2.9,SNR=9.4
ULM pPKP pPKPdf 01 17 03.6 +2.1
comp=Z,2.3nm,0.7s,baz=273,slow=1.3,SNR=2.8
ULM Lac du Bonnet 132.52 29 PKIKP PKPdf 01 16 50.2 -0.2
ULM 01 17 03.6
ULM Lac du Bonnet 132.52 29 PKP PKPdf 01 16 50.1 -0.2
ULM pPKP pPKPdf 01 17 03.6 +2.1
ISCO Idaho Springs 132.54 46 ⇑P PKPdf 01 16 52.2 +1.1
baz=132
X21A Alamocita Cree 132.86 53 ⇓P PKPdf 01 16 53.0 +1.2

	baz=133							
U22A	**Llaves**	**132.94**	**50**	⇑P		**PKPdf**	**01 16 53.4**	**+1.5**
	baz=133							
SDCO	**Great Sand Dun**	**133.45**	**48**	⇑P		**PKPdf**	**01 16 53.7**	**+0.8**
	baz=133							
SDCO				⇑P		**PKPdf**	**01 16 53.7**	**+0.8**
	baz=133							
P25A	**Willow Gulch B**	**133.68**	**45**	⇓P		**PKPdf**	**01 16 54.4**	**+1.3**
	baz=134							
ANMO	**Albuquerque**	**133.73**	**52**	*e*PKIKP		**PKIKP**	**01 16 54.0**	**+0.6**
ANMO	**Albuquerque**	**133.73**	**52**	*e*PKPdf		**PKPdf**	**01 16 54.0**	**+0.6**
LPM	**Los Pinos Moun**	**133.81**	**53**	*e*PKPdf		**PKPdf**	**01 16 54.9**	**+1.4**
W23A	**Werner Place,**	**133.90**	**52**	⇑P		**PKPdf**	**01 16 54.9**	**+1.1**
	baz=134							
T24A	**Torres, Weston**	**134.04**	**49**	⇑P		**PKPdf**	**01 16 55.1**	**+1.1**
	baz=134							
P26A	**Davis Ranch, A**	**134.23**	**45**	⇓P		**PKPdf**	**01 16 55.2**	**+1.1**
	baz=134							
W24A	**Lazy 6 Ranch,**	**134.45**	**51**	⇑P		**PKPdf**	**01 16 55.8**	**+1.1**
	baz=134							
T25A	**Trinidad**	**134.48**	**48**	⇓P		**PKPdf**	**01 16 56.1**	**+1.3**
	baz=134							
V25A	**Rancho No Teng**	**134.83**	**50**	⇑P		**PKPdf**	**01 16 56.2**	**+0.8**
	baz=135							
Y24A	**Capitan**	**134.87**	**53**	⇑P		**PKPdf**	**01 16 56.1**	**+0.6**
	baz=135							
S26A	**Kim**	**134.97**	**47**	⇑P		**PKPdf**	**01 16 56.2**	**+0.7**
	baz=135							
T26A	**Comanche Natio**	**135.07**	**48**	⇑P		**PKPdf**	**01 16 56.5**	**+0.7**
	baz=135							
124A	**Stringfield Ra**	**135.25**	**55**	⇑P		**PKPdf**	**01 16 56.6**	**+0.3**
	baz=135							
224A	**Cornudas Mount**	**135.39**	**56**	⇑P		**PKPdf**	**01 16 57.2**	**+0.7**
	baz=135							
324A	**Moseley Ranch,**	**135.61**	**56**	⇑P		**PKPdf**	**01 16 57.3**	**+0.3**
	baz=136							
MNTX	**Cornudas Mount**	**135.61**	**56**	*e*PKPdf		**PKPdf**	**01 16 58.3**	**+1.5**
MNTX	**Cornudas Mount**	**135.61**	**56**	⇓P		**PKPdf**	**01 16 58.8**	**+2.0**
	baz=136							
MNTX				⇓P		**PKPdf**	**01 16 58.8**	**+2.0**
	baz=136							
T28A	**Walsh**	**136.16**	**47**	⇑P		**PKPdf**	**01 16 58.7**	**+1.0**
	baz=136							
W27A	**Bowe Ranch, En**	**136.29**	**51**	⇑P		**PKPdf**	**01 16 59.0**	**+0.9**
	baz=136							
SCHQ	**Schefferville**	**136.52**	**4**	PKP		**PKPdf**	**01 16 59.0**	**+1.2**
	comp=Z,9.7nm,1.1s,baz=68,slow=3.6,SNR=6.1							
SCHQ	**Schefferville**	**136.52**	**4**	PKP		**PKPdf**	**01 16 59.0**	**+1.2**
226A	**Malaga, Loving**	**136.54**	**55**	⇑P		**PKPdf**	**01 16 59.5**	**+0.9**
	baz=136							
Y27A	**Causey**	**136.66**	**52**	⇓P		**PKPdf**	**01 16 58.9**	**+0.1**
	baz=137							
MSTX	**Muleshoe**	**136.93**	**52**	⇓P		**PKPdf**	**01 16 59.2**	**-0.1**
	baz=137							
427A	**Hayter Ranch,**	**137.49**	**57**	⇓P		**PKPdf**	**01 16 56.5**	**-3.9**
	baz=138							
TXAR	**Lajitas Array**	**137.71**	**59**	PKhKP		PKPpre	01 16 49.8	
	comp=Z,0.9nm,0.8s,baz=264,slow=3.0,SNR=10							
TXAR				PKP		**PKPdf**	**01 16 59.6**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=255,slow=1.9,SNR=7.1							
TXAR	**Lajitas Array**	**137.71**	**59**	PKHKP		PKPpre	01 16 49.9	
TXAR							01 16 59.7	
TXAR	**Lajitas Array**	**137.71**	**59**	PKPpre		PKPpre	01 16 49.9	
TXAR				PKP		**PKPdf**	**01 16 59.6**	**-1.2**
KSU1	**Kansas State U**	**138.99**	**42**	*e*PKPdf		**PKPdf**	**01 17 03.0**	**+0.3**
JCT	**Junction City**	**140.53**	**55**	*e*PKHKP		PKPpre	01 17 00.0	
JCT				*e*			01 17 06.6	
JCT	**Junction City**	**140.53**	**55**	*e*PKPpre		PKPpre	01 16 56.0	
JCT				*e*PKPdf		**PKiKP**	**01 17 06.6**	**-1.9**
MIAR	**Mount Ida**	**143.49**	**46**	*e*PKIKP		PKPbc	01 17 08.7	+0.5
MIAR	**Mount Ida**	**143.49**	**46**	*e*PKPdf		PKPbc	01 17 08.7	+0.4
SFIN	**Scholer Farm**	**143.85**	**33**	⇑P		PKPbc	01 17 09.1	0.0
	baz=144							
HKT	**Hockley**	**143.91**	**54**	*e*PKIKP		**PKPdf**	**01 17 10.6**	**-1.1**
HKT	**Hockley**	**143.91**	**54**	*e*PKPdf		**PKPdf**	**01 17 10.6**	**-1.1**
NATX	**Nacogdoches**	**144.05**	**51**	*e*PKPdf		**PKPdf**	**01 17 11.2**	**-0.9**
AAM	**Ann Arbor**	**144.07**	**27**	*e*PKIKP		PKPbc	01 17 09.9	+0.2
AAM	**Ann Arbor**	**144.07**	**27**	*e*PKPdf		PKPbc	01 17 09.9	+0.2
UALR	**University of**	**144.22**	**45**	*e*PKPdf		**PKPdf**	**01 17 10.9**	**-1.3**
SIUC	**Southern Illin**	**144.47**	**38**	*e*PKPdf		PKPbc	01 17 10.9	-0.2
PQI	**Presque Isle**	**144.52**	**7**	*e*PKPdf		**PKPdf**	**01 17 11.4**	**-1.0**
MSNY	**Massena**	**144.85**	**15**	*e*PKPdf		**PKPdf**	**01 17 12.3**	**-0.7**
HBAR	**Harrisburg**	**144.91**	**42**	*e*PKPdf		**PKPdf**	**01 17 13.2**	**-0.2**
BLO	**Bloomington**	**145.02**	**34**	*e*PKIKP		**PKPdf**	**01 17 12.7**	**-0.8**
BLO	**Bloomington**	**145.02**	**34**	*e*PKPdf		**PKPdf**	**01 17 12.7**	**-0.8**
GNAR	**Gosnell**	**145.08**	**41**	*e*PKPdf		**PKPdf**	**01 17 13.8**	**+0.2**
USIN	**University of**	**145.22**	**36**	*e*PKPdf		**PKPdf**	**01 17 13.7**	**-0.2**
LONY	**Lake Ozonia**	**145.28**	**15**	*e*PKPdf		**PKPab**	**01 17 13.4**	**-0.3**
FRNY	**Flat Rock**	**145.32**	**14**	*e*PKPdf		**PKPab**	**01 17 13.4**	**-0.3**
GLAT	**Glass**	**145.35**	**40**	*e*PKPdf		**PKPab**	**01 17 14.8**	**+0.7**
HALT	**Halls**	**145.54**	**40**	*e*PKPdf		**PKPab**	**01 17 14.8**	**0.0**
ERPA	**Erie**	**145.76**	**23**	*e*PKPdf		**PKPab**	**01 17 14.9**	**-0.6**
WCI	**Wyandotte Cave**	**145.82**	**35**	*e*PKIKP		**PKPab**	**01 17 15.4**	**-0.5**
WCI	**Wyandotte Cave**	**145.82**	**35**	*e*PKPdf		**PKPab**	**01 17 15.4**	**-0.5**
ACSO	**Alum Creek Sta**	**146.02**	**29**	*e*PKPdf		**PKPbc**	**01 17 15.2**	**-0.7**
WVT	**Waverly**	**146.35**	**39**	*e*PKP2		**PKPdf**	**01 17 15.5**	**-0.4**
WVT	**Waverly**	**146.35**	**39**	*e*PKPdf		**PKPdf**	**01 17 15.5**	**-0.4**
OXF	**Oxford**	**146.35**	**42**	*e*PKP2		**PKPbc**	**01 17 16.3**	**-0.8**
OXF	**Oxford**	**146.35**	**42**	*e*PKPdf		**PKPbc**	**01 17 16.3**	**-0.8**
WVL	**Waterville**	**146.36**	**9**	*e*PKPdf		**PKPbc**	**01 17 15.5**	**-1.3**
WVL				*e*PKPbc		**PKPab**	**01 17 17.5**	**-0.2**
ACCN	**Adirondack Com**	**146.67**	**15**	*e*PKPdf		**PKPdf**	**01 17 16.9**	**-0.3**
ACCN				*e*PKPbc		**PKPab**	**01 17 18.1**	**-0.8**
VBMS	**Vicksburg**	**146.88**	**47**	*e*PKPab		**PKPab**	**01 17 20.1**	**0.0**
PLAL	**Pickwick Lake**	**146.93**	**41**	*e*PKPdf		**PKPdf**	**01 17 16.2**	**-0.6**
PLAL				*e*PKPbc		**PKPbc**	**01 17 18.6**	**-0.2**
FFD	**Franklin Falls**	**147.05**	**12**	*e*PKPab		**PKPab**	**01 17 20.1**	**-0.3**
BINY	**Binghamton**	**147.11**	**19**	*e*PKPbc		**PKPab**	**01 17 19.5**	**-1.2**
SSPA	**Standing Stone**	**147.84**	**22**	*e*PKPbc		**PKPbc**	**01 17 21.4**	**+0.3**
HRV	**Adam Dziewonsk**	**148.00**	**13**	*e*PKIKP		**PKPdf**	**01 17 18.6**	**+0.2**
HRV				*e*			01 17 22.1	
HRV	**Adam Dziewonsk**	**148.00**	**13**	*e*PKPdf		**PKPdf**	**01 17 18.6**	**+0.2**
HRV				*e*PKPbc		**PKiKP**	**01 17 22.1**	**-1.3**
SWET	**Sewanee**	**148.11**	**38**	*e*PKPdf		**PKPdf**	**01 17 18.7**	**-0.2**
SWET				*e*PKPbc		**PKPbc**	**01 17 21.6**	**-0.5**
CPCT	**Cooper Cave**	**148.78**	**36**	*e*PKPdf		**PKPdf**	**01 17 20.5**	**+0.5**
CPCT				*e*PKPbc		**PKiKP**	**01 17 23.8**	**-1.4**
PAL	**Palisades**	**148.82**	**17**	*e*PKP2		**PKPbc**	**01 17 24.3**	**+0.6**
PAL	**Palisades**	**148.82**	**17**	*e*PKPbc		**PKPbc**	**01 17 24.2**	**+0.6**
LRAL	**Lakeview Retre**	**148.84**	**42**	*e*PKPdf		**PKPdf**	**01 17 20.4**	**+0.3**
LRAL				*e*PKPbc		**PKiKP**	**01 17 24.1**	**-1.3**
TKL	**Tuckaleechee C**	**149.06**	**35**	*e*PKP2		**PKPbc**	**01 17 24.8**	**+0.3**
TKL	**Tuckaleechee C**	**149.06**	**35**	*e*PKPbc		**PKPbc**	**01 17 24.8**	**+0.3**
TKL				*e*PKPab		**PKPab**	**01 17 29.4**	**+0.7**
SDMD	**Soldier's Deli**	**149.30**	**22**	*e*PKPbc		**PKPbc**	**01 17 24.8**	**-0.2**
SDMD				*e*PKPab		**PKPab**	**01 17 29.4**	**-0.1**
ELN	**Prospectdale**	**149.46**	**30**	*e*PKPdf		**PKPdf**	**01 17 20.1**	**-1.0**
ELN				*e*PKPbc		**PKPbc**	**01 17 25.2**	**-0.3**
BDFB	**Brasilia**	**149.58**	**208**	PKP		**PKPdf**	**01 17 22.0**	**+0.1**
	comp=Z,14nm,0.9s,baz=259,slow=1.6,SNR=6.7							
BDFB				PKPbc		**PKiKP**	**01 17 27.3**	**-0.2**
	comp=Z,30nm,1.0s,baz=14,slow=6.8,SNR=25							
BDFB	**Brasilia**	**149.58**	**208**	PKIKP		**PKPdf**	**01 17 22.0**	**+0.1**
BDFB							01 17 27.3	
BDFB	**Brasilia**	**149.58**	**208**	PKP		**PKPdf**	**01 17 22.0**	**+0.1**
BDFB				PKPbc		**PKiKP**	**01 17 27.3**	**-0.2**
BLA	**Blacksburg**	**149.63**	**29**	*e*PKPdf		**PKPdf**	**01 17 21.6**	**+0.3**
BLA				*e*PKPbc		**PKiKP**	**01 17 25.9**	**-1.1**
BLA				*e*PKPab		**PKPab**	**01 17 32.1**	**+1.1**
CBN	**Corbin**	**150.15**	**24**	*e*PKPbc		**PKPbc**	**01 17 27.4**	**+0.4**
GOGA	**Godfrey**	**150.83**	**38**	*e*PKIKP		**PKPdf**	**01 17 23.6**	**+0.4**
GOGA				*e*			01 17 29.2	
GOGA	**Godfrey**	**150.83**	**38**	*e*PKPdf		**PKPdf**	**01 17 23.6**	**+0.4**
GOGA				*e*PKPbc		**PKiKP**	**01 17 29.2**	**-0.3**
JSC	**Jenkinsville**	**151.47**	**34**	*e*PKIKP		**PKPdf**	**01 17 24.8**	**+0.6**
JSC				*e*			01 17 30.7	
JSC	**Jenkinsville**	**151.47**	**34**	*e*PKPdf		**PKPdf**	**01 17 24.8**	**+0.6**
JSC				*e*PKPbc		**PKiKP**	**01 17 30.7**	**-0.1**
LPAZ	**La Paz**	**151.94**	**168**	PKP		**PKPdf**	**01 17 27.8**	**+1.7**
	comp=Z,2.2nm,1.0s,baz=259,slow=2.2,SNR=6.2							
LPAZ				PKPbc		**PKiKP**	**01 17 33.7**	**+0.7**
	comp=Z,16nm,0.8s,baz=213,slow=1.2,SNR=50							
LPAZ	**La Paz**	**151.94**	**168**	*e*PKIKP		**PKPdf**	**01 17 27.1**	**+1.0**
LPAZ							01 17 27.8	
LPAZ							01 17 33.7	
LPAZ	**La Paz**	**151.94**	**168**	*e*PKPdf		**PKPdf**	**01 17 27.1**	**+1.0**
LPAZ				PKP		**PKPdf**	**01 17 27.8**	**+1.7**
LPAZ				*e*PKPbc		**PKiKP**	**01 17 33.2**	**+0.2**
LPAZ				PKPbc		**PKiKP**	**01 17 33.7**	**+0.7**
SIV	**San Ignacio**	**152.76**	**183**	PKP		**PKPdf**	**01 17 27.8**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=212,slow=1.5,SNR=12							
SIV				PKPbc		**PKiKP**	**01 17 34.4**	**+0.4**
	comp=Z,11nm,0.9s,baz=185,slow=2.0,SNR=26							
SIV	**San Ignacio**	**152.76**	**183**	PKP		**PKPdf**	**01 17 27.8**	**+1.1**
SIV				PKPbc		**PKiKP**	**01 17 34.4**	**+0.4**
OTAV	**Otavalo**	**160.64**	**124**	*e*PKPdf		**PKPdf**	**01 17 37.5**	**0.0**

*IDC **27** 01:02:52.9±1.2,35°.06N×81°.68E,h0km,mb3.7/6, mb1 3.9/10,mb1mx3.7/28,mbtmp3.7/10,ML3.4/4,MS3.9/3, Ms1 3.9/3,ms1mx3.1/33,Error ellipse: s-maj=33.6km s-min=23.2km az=61.0*
*NEIC **27** 01:02:54.9±0.3,35°.07N×81°.84E,h10km,mb3.8/2,Error ellipse: s-maj=12.1km s-min=4.2km az=66.0*
*ISCJB **27** 01:02:55.3±0.3,35°.01N±0°.03×81°.77E±0°.06,h33km, mb3.7/8,MS4.2/2,Error ellipse: s-maj=7.0km s-min=3.5km az=155.7*
*BJI **27** 01:02:55.6,35°.10N×81°.89E,h15km,mb4.1/5,ML4.1/4, Ms3.8/3,Ms7 3.7/3*

ISC 27 01:02:57.6±0.6,34°.97N±0°.05×81°.79E±0°.06,h35km,n59, σ1°61/67,mb3.8/8,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**5.61**	**215**	*e*P		**Pn**	**01 04 18.0**	**-0.6**
THN	**Thein Dam**	**5.66**	**245**	*e*P		**Pn**	**01 04 19.7**	**+0.5**
KSH	**Kashi**	**6.49**	**316**	*e*Pn		**Pn**	**01 04 32.5**	**+1.8**
KSH				Sn		**Sn**	**01 05 44.8**	**+1.3**
KSH				smax		smax		
	comp=N,280nm,1.5s							
KSH				smax		smax		
	comp=E,88nm,0.9s							
DANN	**Dangsing**	**6.81**	**165**	*e*P		**Pn**	**01 04 35.2**	**-0.2**
	comp=E,27nm,0.6s							
DANN	**Dangsing**	**6.81**	**165**	*e*P		**Pn**	**01 04 35.2**	**-0.2**
	comp=E,27nm,0.6s							
KOLN	**Koldanda**	**7.35**	**167**	*e*P		**Pn**	**01 04 41.9**	**-0.7**
KOLN	**Koldanda**	**7.35**	**167**	*e*P		**Pn**	**01 04 41.9**	**-0.7**
GKN	**Gorkha**	**7.36**	**160**	*e*P		**Pn**	**01 04 44.5**	**+1.7**
GKN	**Gorkha**	**7.36**	**160**	*e*P		**Pn**	**01 04 44.5**	**+1.7**
NDI	**New Delhi**	**7.38**	**213**	*e*P		**Pn**	**01 04 42.0**	**-0.9**
NDI				*e*S		**Sn**	**01 06 02.5**	**-2.9**
KKN	**Kakani**	**7.76**	**156**	*e*P		**Pn**	**01 04 49.9**	**+1.7**
KKN	**Kakani**	**7.76**	**156**	*e*P		**Pn**	**01 04 49.9**	**+1.7**
GUN	**Gumba**	**7.86**	**153**	*e*P		**Pn**	**01 04 51.2**	**+1.5**
	comp=E,12nm,0.4s							
GUN	**Gumba**	**7.86**	**153**	*e*P		**Pn**	**01 04 51.2**	**+1.5**
	comp=E,12nm,0.4s							
PKI	**Pulchoki**	**8.00**	**156**	*e*P		**Pn**	**01 04 53.1**	**+1.4**
PKI	**Pulchoki**	**8.00**	**156**	*e*P		**Pn**	**01 04 53.1**	**+1.4**
JIRN	**Jiri**	**8.20**	**152**	*e*P		**Pn**	**01 04 56.5**	**+2.0**
	comp=E,24nm,0.4s							
JIRN	**Jiri**	**8.20**	**152**	*e*P		**Pn**	**01 04 56.5**	**+2.0**
	comp=E,24nm,0.4s							
AGRA	**Agra**	**8.39**	**204**	*e*P		**Pn**	**01 04 55.5**	**-1.2**
AGRA				*e*S		**Sn**	**01 06 28.3**	**-2.0**
AGRA				AML		AML	01 07 20.7	
	comp=N,34nm,0.3s							
AGRA				AML		AML	01 07 27.4	
	comp=E,34nm,0.7s							
KHET	**Khetri**	**8.57**	**218**	*e*P		**Pn**	**01 04 58.7**	**-0.4**
KHET				*e*S		**Sn**	**01 06 31.1**	**-3.5**
RAMN	**Ramite**	**9.00**	**151**	*e*P		**Pn**	**01 05 05.4**	**+0.1**
RAMN	**Ramite**	**9.00**	**151**	*e*P		**Pn**	**01 05 05.4**	**+0.1**
TAPN	**Taplejung**	**9.13**	**145**	*e*P		**Pn**	**01 05 07.4**	**+0.2**
TAPN	**Taplejung**	**9.13**	**145**	*e*P		**Pn**	**01 05 07.4**	**+0.2**
TKM2	**Tokmak 2**	**9.28**	**331**	*e*Pn		**Pn**	**01 05 08.9**	**-0.2**
	comp=E,9.8nm,1.0s							
TKM2				*e*S		**Sn**	**01 06 52.5**	**+0.1**
ODAN	**Odare**	**9.41**	**148**	*e*P		**Pn**	**01 05 11.0**	**+0.1**
	comp=E,15nm,0.5s							
ODAN	**Odare**	**9.41**	**148**	*e*P		**Pn**	**01 05 11.0**	**+0.1**
	comp=E,15nm,0.5s							
AAK	**Ala-Archa**	**9.53**	**326**	*e*Pn		**Pn**	**01 05 12.8**	**+0.4**
	comp=E,42nm,0.8s							
AAK				Sn		**Sn**	**01 06 59.3**	**+0.9**
EKS2	**Erkin-Say**	**9.90**	**323**	*e*Pn		**Pn**	**01 05 18.1**	**+0.7**
	comp=E,2.7nm,0.8s							
KBL	**Kabul**	**10.50**	**271**	*e*Pn		**Pn**	**01 05 25.3**	**-0.5**
	comp=E,6.2nm,0.6s							
KBL				*e*Sn		**Sn**	**01 07 26.7**	**+4.5**
MK31	**Makanchi Array**	**11.81**	**2**	*e*Pn		**Pn**	**01 05 40.9**	**-2.7**
MKAR	**Makanchi Array**	**11.81**	**2**	Pn		**Pn**	**01 05 40.8**	**-2.7**
	comp=E,0.3nm,0.3s,baz=180,slow=13,SNR=34							
MKAR	**Makanchi Array**	**11.81**	**2**	Pn		**Pn**	**01 05 40.8**	**-2.7**
KKAR	**Karatay Array**	**11.94**	**316**	*e*Pn		**Pn**	**01 05 45.4**	**0.0**
	comp=E,0.7nm,0.5s							
NGP	**Nagpur**	**13.98**	**191**	*e*P		**Pn**	**01 06 15.3**	**+2.0**
AKL	**Akola**	**14.83**	**198**	*e*P		**Pn**	**01 06 26.4**	**+1.6**
AKL				*ex*		x	01 06 40.2	
KURK	**Kurchatov**	**15.90**	**353**	Pn		**Pn**	**01 06 34.2**	**-4.4**
	comp=E,0.0nm,0.3s,baz=174,slow=11,SNR=8.1							
KURK				LR		LR	01 13 23.7	
	comp=E,164nm,19.1s,baz=170,slow=40							
KURK	**Kurchatov**	**15.90**	**353**	*e*Pn		**Pn**	**01 06 38.5**	**-0.1**
ZAA0	**Zalesovo Array**	**19.09**	**5**	*e*P		**P**	**01 07 15.7**	**-1.3**
ZALV	**Zalesovo Beam**	**19.09**	**5**	P		**P**	**01 07 15.6**	**-1.5**
	comp=E,0.2nm,0.3s,baz=190,slow=12,SNR=20							
ZALV	**Zalesovo Beam**	**19.09**	**5**	P		**P**	**01 07 15.6**	**-1.5**
BVAR	**Borovoye Array**	**19.78**	**339**	P		**P**	**01 07 24.5**	**-0.1**
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=12							
BVAR				LR		LR	01 15 21.5	
	comp=E,174nm,19.1s,baz=24,slow=38							
BVAR	**Borovoye Array**	**19.78**	**339**	P		**P**	**01 07 24.5**	**-0.1**
BRVK	**Borovoye**	**19.84**	**339**	*e*P		**P**	**01 07 25.4**	**+0.2**
	comp=E,3.9nm,0.8s							
ABKAR	**Akbulak array**	**21.49**	**318**	*e*P		**P**	**01 07 43.8**	**+0.7**
	comp=E,3.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**22.42**	**133**	P		**P**	**01 07 55.6**	**+2.2**
	comp=E,1.4nm,0.3s,baz=313,slow=11,SNR=4.9							
CMAR	**Chiang Mai Arr**	**22.42**	**133**	P		**P**	**01 07 55.6**	**+2.2**
AKTO	**Aktyubinsk**	**23.18**	**319**	P		**P**	**01 08 00.1**	**-0.9**
	comp=E,0.7nm,0.5s,baz=69,slow=8.6,SNR=2.7							
AKTO	**Aktyubinsk**	**23.18**	**319**	P		**P**	**01 08 00.1**	**-0.9**
HHC	**Hu-ho-hao-te**	**24.14**	**67**	*e*P		**P**	**01 08 09.0**	**-1.4**
HHC				PP		**PnPn**	**01 08 43.5**	**+3.2**
HHC				S		**S**	**01 12 24.3**	**-1.7**
HHC				SS			01 13 17.8	
HHC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,180nm,5.0s							
HHC				LR		LR		
	comp=N,300nm,13.5s							
HHC				LR		LR		
	comp=E,180nm,10.4s							
HHC				LR		LR		
	comp=Z,200nm,13.7s							
FINES	**FINESS Array B**	**43.72**	**325**	P		**P**	**01 10 59.2**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=111,slow=11,SNR=4.9							
FINES	**FINESS Array B**	**43.72**	**325**	P		**P**	**01 10 59.2**	**+0.2**
ILAR	**Eielson Array**	**73.55**	**20**	P		**P**	**01 14 27.4**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=313,slow=5.8,SNR=6.3							
ILAR	**Eielson Array**	**73.55**	**20**	P		**P**	**01 14 27.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**74.54**	**275**	P		**P**	**01 14 32.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.4,SNR=6.6							
TORD	**Torodi Ar. Bea**	**74.54**	**275**	P		**P**	**01 14 32.7**	**-0.4**
YKA	**Yellowknife Ar**	**81.97**	**8**	P		**P**	**01 15 13.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=341,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**81.97**	**8**	P		**P**	**01 15 13.0**	**-0.5**
SCHQ	**Schefferville**	**86.57**	**342**	LR		LR	02 00 14.0	
	comp=Z,222nm,19.0s,baz=297,slow=40							

IDC 27 01:16:29.0±4.1,2°.71S×141°.04E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/14,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=146.1km s-min=31.0km az=89.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.34**	**200**	P		Pn	01 20 43.4	-1.6
	0.3nm,0.3s,baz=23,slow=12,SNR=18							
ASAR	**Alice Springs**	**21.95**	**198**	P		P	01 21 24.6	+0.1
	0.5nm,0.5s,baz=21,slow=9.7,SNR=8.2							
MKAR	**Makanchi Array**	**71.22**	**322**	P		P	01 27 50.5	+0.4
	0.1nm,0.3s,baz=116,slow=6.6,SNR=4.3							

*NOU **27** 01:23:47.6±1.4,20°.71S×169°.77E,h30km,MD3.4,ML3.0*
*IDC **27** 01:23:47.2±1.1,21°.54S×169°.80E,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.4/19,mbtmp4.3/14,ML3.8/1,MS4.3/13, Ms1 4.3/13,ms1mx4.1/23,Error ellipse: s-maj=31.8km s-min=19.6km az=149.0*
*NEIC **27** 01:23:49.0±0.5,21°.64S×169°.70E,h10km,mb4.8/6,Error ellipse: s-maj=18.9km s-min=9.3km az=165.0*
*ISCJB **27** 01:23:50.8±2.5,21°.5S±0°.1×169°.72E±0°.07,h33km±18km, mb4.4/17,MS4.3/13,Error ellipse: s-maj=23.9km s-min=6.9km az=160.1*
*SZGRF **27** 01:23:51.4,22°.36S×169°.53E,h33km,Southeast of Loyalty Islands*

ISC 27 01:23:53.4±0.6,21°.6S±0°.1×169°.68E±0°.08,h38km±2km, n82,σ0°93/79,mb4.4/17,MS4.3/13,2C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.66**	**257**	*e*P		**Pn**	**01 24 32.1**	**-1.7**
BAYA				*e*S		**Sn**	**01 25 06.1**	**+1.3**
BAYA				AMP			01 25 19.7	
	comp=Z,12nm,4.8s							
LASL	**Noumea**	**2.99**	**257**	*e*P		**Pn**	**01 24 38.2**	**-0.1**
LASL				*e*S		**Sn**	**01 25 12.8**	**0.0**
DZM	**Mont Dzumac**	**3.05**	**260**	*e*Pn		**Pn**	**01 24 37.6**	**-1.6**
	comp=Z,43nm,0.3s							
DZM				*e*Sn		**Sn**	**01 25 15.6**	**+1.1**
	comp=E,78nm,0.3s							
DZM	**Mont Dzumac**	**3.05**	**260**	Pn		**Pn**	**01 24 38.9**	**-0.3**
	comp=Z,10nm,0.3s,baz=73,slow=15,SNR=71							
DZM	**Mont Dzumac**	**3.05**	**260**	*e*P		**Pn**	**01 24 36.8**	**-2.4**
DZM				*e*S		**Sn**	**01 25 14.8**	**+0.3**
DZM				AMP			01 25 17.9	
	comp=Z,1μm,1.7s							
DZM	**Mont Dzumac**	**3.05**	**260**	Pn		**Pn**	**01 24 38.9**	**-0.3**
DZM				*e*Sn		**Sn**	**01 25 12.8**	**-1.7**
NOUC	**Port Laguerre**	**3.19**	**260**	*e*P		**Pn**	**01 24 40.1**	**-0.8**
NOUC				*e*S		**Sn**	**01 25 19.0**	**+1.4**
NOUC				AMP			01 25 46.5	
	comp=Z,49nm,8.1s							
MSVF	**Nonsavu**	**8.76**	**66**	*e*Pn		**Pn**	**01 25 58.2**	**+0.6**
	comp=Z,82nm,1.2s							
RMQ	**Roma**	**19.72**	**252**	*e*P		**Pn**	**01 28 22.8**	**+1.3**
CTA	**Charters Tower**	**21.95**	**270**	P		**P**	**01 28 45.0**	**+1.2**
	comp=Z,11nm,0.9s,baz=72,slow=12,SNR=5.9							
CTA				LR		LR	01 36 37.5	
	comp=Z,786nm,19.3s,baz=87,slow=35							
CTA	**Charters Tower**	**21.95**	**270**	*e*P		**P**	**01 28 44.5**	**+0.7**
CTA	**Charters Tower**	**21.95**	**270**	P		**P**	**01 28 45.0**	**+1.2**
CTAO	**Charters Tower**	**21.95**	**270**	*e*P		**P

GRF	**Grafenberg Arr**	**147.16**	**334**	*e*PKPbc	**PKPbc**	**01 43 32.2**	**-0.1**
FETA	**Feichten**	**149.42**	**331**	*i*sPKPdf	**PKPbc**	**01 43 38.4**	**-0.1**
	comp=Z,11nm,1.0s						
DBIC	**Dimbokro**	**164.27**	**200**	PKPab	**PKPab**	**01 44 47.6**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=174,slow=7.5,SNR=3.1						
DBIC	**Dimbokro**	**164.27**	**200**	PKPab	**PKPab**	**01 44 47.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.81**	**236**	PKPab	**PKPab**	**01 44 54.3**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=139,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.81**	**236**	PKPab	**PKPab**	**01 44 54.3**	**-0.1**

*ISCJB **27** 01:39:30.1±0.5, 38°.27N±0°.03×22°.37E±0°.04, h11km±5km, Error ellipse: s-maj=5.3km s-min=4.6km az=155.1*
*THE **27** 01:39:30.5, 38°.27N×22°.37E, h7km±2km, ML1.8/4, Error ellipse: s-maj=2.8km s-min=0.3km az=313.0*
*ATH **27** 01:39:30.3, 38°.30N×22°.38E, h5km, MD2.5/7*
*CSEM **27** 01:39:30.0±0.1, 38°.28N×22°.37E, h10km, ML1.8/4, Error ellipse: s-maj=2.4km s-min=2.0km az=171.0*

ISC 27 01:39:30.4±1.0, 38°.28N±0°.03×22°.37E±0°.02, h11km±8km, n28, σ0s29/45, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.18**	**43**	P		**Pg**		**01 39 34.1**	**-0.2**
DSF				S		**Sg**		**01 39 37.1**	**0.0**
DSF	**Desfina**	**0.18**	**43**	P		**Pg**		**01 39 34.1**	**-0.2**
DSF				S		**Sg**		**01 39 37.1**	**0.0**
KALE	**Kalithea**	**0.21**	**301**	P		**Pg**		**01 39 34.8**	**-0.1**
KALE				S		**Sg**		**01 39 38.3**	**+0.3**
KALE	**Kalithea**	**0.21**	**301**	P		**Pg**		**01 39 34.8**	**-0.1**
KALE				S		**Sg**		**01 39 38.3**	**+0.3**
TRIZ	**Trizonia**	**0.25**	**290**	P		**Pg**		**01 39 35.4**	**-0.2**
TRIZ				S		**Sg**		**01 39 39.5**	**+0.5**
TRIZ	**Trizonia**	**0.25**	**290**	P		**Pg**		**01 39 35.4**	**-0.2**
TRIZ				S		**Sg**		**01 39 39.5**	**+0.5**
LAKA	**Lakka**	**0.31**	**263**	P		**Pg**		**01 39 36.7**	**0.0**
LAKA				S		**Sg**		**01 39 41.0**	**+0.1**
LAKA	**Lakka**	**0.31**	**263**	P		**Pg**		**01 39 36.7**	**0.0**
LAKA				S		**Sg**		**01 39 41.0**	**+0.1**
GUR	**Goura**	**0.34**	**184**	P		**Pg**		**01 39 37.1**	**-0.3**
GUR				S		**Sg**		**01 39 41.8**	**-0.2**
GUR	**Goura**	**0.34**	**184**	*e*PB		**Pg**		**01 39 37.4**	**0.0**
GUR	**Goura**	**0.34**	**184**	P		**Pg**		**01 39 37.1**	**-0.3**
GUR	**Goura**	**0.34**	**184**	*e*Pb		**Pg**		**01 39 37.4**	**0.0**
GUR				S		**Sg**		**01 39 41.8**	**-0.2**
EFP	**Efpalio**	**0.40**	**292**	P		**Pg**		**01 39 38.1**	**-0.2**
EFP				S		**Sg**		**01 39 44.0**	**+0.5**
EFP	**Efpalio**	**0.40**	**292**	*e*PB		**Pg**		**01 39 38.0**	**-0.2**
EFP	**Efpalio**	**0.40**	**292**	P		**Pg**		**01 39 38.1**	**-0.2**
EFP				S		**Sg**		**01 39 44.0**	**+0.5**
LTK	**Loutraki**	**0.54**	**119**	*e*PB		**Pg**		**01 39 40.9**	**+0.1**
LTK	**Loutraki**	**0.54**	**119**	*e*Pb		**Pg**		**01 39 40.9**	**+0.1**
LKR	**Lokris**	**0.61**	**53**	P		**Pg**		**01 39 42.2**	**-0.2**
LKR				S		**Sg**		**01 39 51.1**	**+0.6**
LKR	**Lokris**	**0.61**	**53**	*e*PB		**Pg**		**01 39 42.0**	**-0.4**
LKR				*e*SB		**Sg**		**01 39 51.0**	**+0.6**
LKR	**Lokris**	**0.61**	**53**	P		**Pg**		**01 39 42.2**	**-0.2**
LKR				*e*Sb		**Sg**		**01 39 51.0**	**+0.6**
ATAL	**Atalanti**	**0.65**	**51**	P		**Pg**		**01 39 42.7**	**-0.4**
ATAL				S		**Sb**		**01 39 53.0**	**0.0**
ATAL	**Atalanti**	**0.65**	**51**	P		**Pg**		**01 39 42.7**	**-0.4**
ATAL				S		**Sb**		**01 39 53.0**	**0.0**
RLS	**Riolos of Patr**	**0.75**	**253**	*e*PB		**Pb**		**01 39 45.3**	**-0.2**
RLS	**Riolos of Patr**	**0.75**	**253**	*e*Pb		**Pb**		**01 39 45.3**	**-0.2**
EVR	**Evrytania**	**0.77**	**325**	*e*PB		**Pg**		**01 39 45.1**	**-0.3**
EVR	**Evrytania**	**0.77**	**325**	*e*Pb		**Pg**		**01 39 45.1**	**-0.3**
DID	**Didima**	**1.03**	**138**	*e*PN		**Pb**		**01 39 50.4**	**0.0**
DID	**Didima**	**1.03**	**138**	*e*Pn		**Pb**		**01 39 50.4**	**0.0**

*ISCJB **27** 01:59:29.6±0.3, 24°.23N±0°.02×122°.28E±0°.02, h35km±18km, Error ellipse: s-maj=3.8km s-min=2.5km az=166.3*
*TAP **27** 01:59:29.4, 24°.25N×122°.24E, h49km, ML3.5, C*
*JMA **27** 01:59:29.3±0.1, 24°.46N×122°.30E, h67km±2km, M2.6*

ISC 27 01:59:29.6±1.0, 24°.23N±0°.03×122°.27E±0°.02, h33km±7km, n52, σ0s94/99, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.52**	**292**	*i*P			**Pb**	**01 59 40.8**	**+0.2**
	baz=300								
ENA				S			**Sb**	**01 59 49.1**	**+1.1**
	baz=300								
TWC	**Suao**	**0.54**	**314**	*i*P			**Pb**	**01 59 40.7**	**-0.1**
	baz=316								
TWC				*i* S			**Sb**	**01 59 48.5**	**0.0**
	baz=316								
TWD	**Chiawan**	**0.64**	**256**	*i*P			**Pb**	**01 59 41.8**	**-0.6**
	baz=246								
TWD				*i* S			**Sb**	**01 59 51.1**	**0.0**
	baz=246								
HWA	**Hwalien**	**0.66**	**248**	P			**Pb**	**01 59 42.3**	**-0.5**
	baz=245								
HWA				S			**Sb**	**01 59 52.4**	**+0.6**
	baz=245								
YOJ	**Yonaguni jima**	**0.71**	**71**	P			**Pb**	**01 59 43.4**	**-0.2**
YOJ				S			**Sb**	**01 59 53.9**	**+0.8**
ILA	**Ilan**	**0.71**	**318**	*e*P			**Pb**	**01 59 43.8**	**+0.1**
	baz=319								
ILA				S			**Sb**	**01 59 53.6**	**+0.3**
	baz=319								
TWE	**Neicheng**	**0.74**	**312**	*i*P			**Pb**	**01 59 43.7**	**-0.3**
	baz=306								
TWE				S			**Sb**	**01 59 53.7**	**-0.2**
	baz=306								
ENTT	**Nioudou**	**0.76**	**302**	*i*P			**Pb**	**01 59 44.1**	**-0.4**
	baz=302								
ENTT				*i* S			**Sb**	**01 59 54.7**	**0.0**
	baz=302								
TWB1	**Santiao Chiao**	**0.81**	**341**	P			**Pn**	**01 59 44.3**	**-0.5**
	baz=343								
TWB1				S			**Sb**	**01 59 54.5**	**-1.6**
	baz=343								
NNS	**Nan Shan**	**0.85**	**284**	*i*P			**Pn**	**01 59 45.1**	**-0.3**
	baz=284								
NNS				S			**Sb**	**01 59 56.4**	**-0.7**
	baz=284								
ESL	**Shilin**	**0.87**	**242**	P			**Pn**	**01 59 44.8**	**-0.9**
	baz=240								
ESL				S			**Sb**	**01 59 56.3**	**-1.4**
	baz=240								
WHF	**Hehuan Shan**	**0.93**	**265**	*i*P			**Pn**	**01 59 46.1**	**-0.7**
	baz=254								
WHF				*i* S			**Sb**	**01 59 58.7**	**-1.0**
	baz=254								
NSK	**Sanguang**	**0.94**	**298**	P			**Pn**	**01 59 46.5**	**-0.2**
	baz=298								
NSK				S			**Sn**	**01 59 58.1**	**-1.0**
	baz=298								
NWF	**Wu-fen Shan**	**0.95**	**332**	*e*P			**Pn**	**01 59 46.4**	**-0.4**
	baz=344								
NWF				S			**Sn**	**01 59 58.2**	**-1.0**
	baz=344								
TWA	**Mucha**	**0.97**	**320**	*e*P			**Pn**	**01 59 47.8**	**+0.8**
	baz=332								
TWA				*i* S			**Sn**	**02 00 00.2**	**+0.4**
	baz=332								
TWT	**Tachien**	**1.00**	**271**	P			**Pn**	**01 59 47.8**	**+0.2**
	baz=270								
TWT				S			**Sn**	**02 00 00.5**	**-0.1**
	baz=270								
TAP1	**Taipei**	**1.05**	**320**	*e*P			**Pn**	**01 59 48.5**	**+0.4**
	baz=333								
EHY	**Hungye**	**1.13**	**231**	*e*P			**Pn**	**01 59 48.4**	**-0.8**
	baz=239								
TWS1	**Kuangyinshan**	**1.16**	**318**	*e*P			**Pn**	**01 59 49.9**	**+0.3**
	baz=329								
TWS1				*e*S			**Sn**	**02 00 05.0**	**+0.6**
	baz=329								
TWY	**Chenhua**	**1.21**	**330**	*e*P			**Pn**	**01 59 50.8**	**+0.6**
	baz=342								
NSTT	**Nanjuang**	**1.23**	**289**	*e*P			**Pn**	**01 59 50.7**	**+0.2**
	baz=289								
NSTT				*e*S			**Sn**	**02 00 05.9**	**-0.1**
	baz=289								
NCU	**National Centr**	**1.23**	**307**	*e*P			**Pn**	**01 59 50.5**	**-0.1**
	baz=307								
TWF1	**Yuli**	**1.25**	**226**	*e*P			**Pn**	**01 59 50.0**	**-0.8**
	baz=236								
TWF1				*e*S			**Sn**	**02 00 04.6**	**-2.0**
	baz=236								
SMLT	**Sun Moon Lake**	**1.30**	**255**	P			**Pn**	**01 59 51.8**	**+0.2**
	baz=246								
SMLT				S			**Sn**	**02 00 07.5**	**-0.5**
	baz=246								
IRIF	**Iriomote-Funau**	**1.33**	**85**	P			**Pn**	**01 59 51.7**	**-0.2**
IRIF				*e*S			**Sn**	**02 00 08.6**	**+0.1**
TYC	**Yuchr**	**1.33**	**256**	*e*P			**Pn**	**01 59 52.3**	**+0.3**
	baz=248								
TYC				*e*S			**Sn**	**02 00 08.0**	**-0.6**
	baz=248								
TWQ1	**Liyutan**	**1.37**	**275**	*e*P			**Pn**	**01 59 52.8**	**+0.3**
	baz=274								
TWQ1				*e*S			**Sn**	**02 00 09.8**	**+0.2**
	baz=274								
NSY	**Sanyi**	**1.39**	**278**	*e*P			**Pn**	**01 59 53.1**	**+0.3**
	baz=277								
NSY				*e*S			**Sn**	**02 00 11.0**	**+0.9**
	baz=277								
CHKT	**Chengkung**	**1.40**	**217**	*e*P			**Pn**	**01 59 54.6**	**+1.7**
	baz=207								
CHKT				*e*S			**Sn**	**02 00 07.4**	**-2.9**
	baz=207								
HATJ	**Hateruma jima**	**1.41**	**97**	P			**Pn**	**01 59 53.6**	**+0.6**
HATJ				*e*S			**Sn**	**02 00 11.8**	**+1.4**
YUS	**Yu-Shan**	**1.42**	**239**	*e*P			**Pn**	**01 59 53.3**	**-0.3**
	baz=238								
YUS				*e*S			**Sn**	**02 00 10.3**	**-1.0**
	baz=238								
TCU	**Taichung**	**1.46**	**267**	*e*P			**Pn**	**01 59 54.4**	**+0.6**
	baz=279								
TCU				*e*S			**Sn**	**02 00 12.7**	**+1.0**
	baz=279								
WNT	**Mingjian**	**1.50**	**257**	*e*P			**Pn**	**01 59 54.8**	**+0.7**
	baz=256								
WNT				*e*S			**Sn**	**02 00 13.6**	**+1.0**
	baz=256								
ALS	**Alishan**	**1.52**	**242**	*e*P			**Pn**	**01 59 55.5**	**+0.6**
	baz=234								
ALS				*e*S			**Sn**	**02 00 13.7**	**0.0**
	baz=234								
JKRS	**Kuro-shima**	**1.58**	**89**	P			**Pn**	**01 59 55.8**	**+0.4**
JKRS				*e*S			**Sn**	**02 00 15.2**	**+0.4**
CHN5	**Tsauling**	**1.59**	**247**	*e*P			**Pn**	**01 59 56.4**	**+0.8**
	baz=237								
CHN5				*e*S			**Sn**	**02 00 15.6**	**+0.5**
	baz=237								
JIJ	**Ishigaki jima**	**1.71**	**85**	P			**Pn**	**01 59 56.9**	**-0.2**
JIJ				*e*S			**Sn**	**02 00 17.2**	**-0.7**
STYT	**Tauyuan**	**1.75**	**233**	*e*P			**Pn**	**01 59 58.4**	**+0.6**
	baz=224								
STYT				*e*S			**Sn**	**02 00 18.9**	**-0.1**
	baz=224								
CHN4	**Tsaushan**	**1.77**	**241**	*e*P			**Pn**	**01 59 59.0**	**+1.0**
	baz=231								
CHN4				*e*S			**Sn**	**02 00 20.3**	**+0.9**
	baz=231								
TWG	**Pinlang**	**1.79**	**218**	*e*P			**Pn**	**01 59 59.2**	**+1.0**
	baz=226								
TWG				*e*S			**Sn**	**02 00 17.4**	**-2.3**
	baz=226								
CHN2	**Minshiung**	**1.79**	**247**	*e*P			**Pn**	**01 59 59.1**	**+0.9**
	baz=247								
CHN2				*e*S			**Sn**	**02 00 21.2**	**+1.4**
	baz=247								
WTP	**Ta-pu**	**1.81**	**238**	*e*P			**Pn**	**01 59 58.9**	**+0.3**
	baz=237								
WTP				*e*S			**Sn**	**02 00 21.2**	**+0.8**
	baz=237								
CHY	**Chiayi**	**1.84**	**247**	*e*P			**Pn**	**01 59 59.5**	**+0.5**
	baz=247								
CHY				*e*S			**Sn**	**02 00 23.9**	**+2.7**
	baz=247								
TWK	**Hsinying**	**1.90**	**240**	*e*P			**Pn**	**02 00 00.5**	**+0.7**
	baz=239								
TWK				*e*S			**Sn**	**02 00 22.6**	**+0.1**
	baz=239								
CHN1	**Nanshi**	**1.91**	**237**	*e*P			**Pn**	**02 00 00.7**	**+0.8**
	baz=237								
CHN1				*e*S			**Sn**	**02 00 23.9**	**+1.0**
	baz=237								
SGST	**Jiashian**	**1.93**	**234**	*e*P			**Pn**	**02 00 01.1**	**+0.9**
	baz=234								
SGST				*e*S			**Sn**	**02 00 24.4**	**+1.1**
	baz=234								
ECL	**Taimali**	**2.03**	**217**	*e*P			**Pn**	**02 00 01.4**	**-0.1**
	baz=217								
ECL				*e*S			**Sn**	**02 00 23.5**	**-2.3**
	baz=217								
CHN8	**Yiju**	**2.08**	**245**	*e*P			**Pn**	**02 00 02.7**	**+0.5**
	baz=234								
CHN8				*e*S			**Sn**	**02 00 27.3**	**+0.2**
	baz=234								
SSD	**Sandimen**	**2.11**	**226**	*e*P			**Pn**	**02 00 03.8**	**+1.1**
	baz=226								
SSD				*e*S			**Sn**	**02 00 28.6**	**+0.8**
	baz=226								
TWM1	**Shoushan**	**2.20**	**231**	*e*P			**Pn**	**02 00 06.0**	**+2.1**
	baz=241								
TWM1				*e*S			**Sn**	**02 00 32.6**	**+2.6**
	baz=241								
JTJ	**Tarama**	**2.25**	**79**	P			**Pn**	**02 00 04.7**	**+0.1**
JTJ				*e*S			**Sn**	**02 00 30.5**	**-0.7**
EAST	**Anshuo**	**2.26**	**216**	*e*P			**Pn**	**02 00 05.6**	**+0.9**
	baz=215								

*CSEM **27** 02:13:04.7±0.2, 35°.24N×27°.33E, h30km, MD3.4, Error ellipse: s-maj=5.2km s-min=4.0km az=63.0*
*THE **27** 02:13:04.6, 35°.21N×27°.29E, h10km±3km, ML3.3/1, Error ellipse: s-maj=8.1km s-min=1.1km az=116.0*
*ATH **27** 02:13:05.9, 35°.43N×27°.14E, h40km, MD3.4/11*
*DDA **27** 02:13:28.9, 36°.94N×28°.07E, h7km, MD3.0*

ISC 27 02:13:04.7±1.1, 35°.28N±0°.04×27°.32E±0°.03, h33km±3km, n71, σ1s43/95, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**334**	P			**Pb**	**02 13 12.5**	**0.0**
KARP				S			**Sn**	**02 13 18.3**	**+1.0**
KARP	**Karpathos**	**0.29**	**334**	*e*P			**Pb**	**02 13 12.5**	**0.0**
KARP				*e*S			**Sb**	**02 13 18.4**	**+0.7**
KARP	**Karpathos**	**0.29**	**334**	*e*P			**Pb**	**02 13 12.5**	**0.0**
KARP				S			**Sn**	**02 13 18.3**	**+1.0**
ZKR	**Zakros**	**0.92**	**260**	P			**Pn**	**02 13 21.6**	**+0.3**
ZKR				S			**Sb**	**02 13 35.9**	**+1.9**
ZKR	**Zakros**	**0.92**	**260**	*e*P			**Pn**	**02 13 21.5**	**+0.3**
ZKR				*e*S			**Sn**	**02 13 33.8**	**+0.6**
ZKR	**Zakros**	**0.92**	**260**	*e*P			**Pn**	**02 13 21.5**	**+0.3**
ZKR				*e*S			**Sn**	**02 13 33.8**	**+0.6**
ARG	**Arkhangelos**	**1.14**	**35**	*e*P			**Pb**	**02 13 27.0**	**+1.1**
ARG				*e*S			**Sb**	**02 13 41.6**	**+1.1**
ARG	**Arkhangelos**	**1.14**	**35**	*e*P			**Pb**	**02 13 27.0**	**+1.1**
ARG				*e*S			**Sb**	**02 13 41.6**	**+1.1**
NPS	**Neapolis**	**1.40**	**270**	P			**Pb**	**02 13 29.9**	**-0.3**
NPS				S			**Sb**	**02 13 49.6**	**+1.9**
NPS	**Neapolis**	**1.40**	**270**	*e*P			**Pn**	**02 13 28.2**	**+0.4**
NPS				*e*S			**Sn**	**02 13 44.9**	**-0.2**
NPS	**Neapolis**	**1.40**	**270**	*e*P			**Pn**	**02 13 28.2**	**+0.4**
NPS				*e*S			**Sn**	**02 13 44.9**	**-0.2**
LAST	**Lasithi**	**1.51**	**266**	P			**Pb**	**02 13 31.3**	**-0.9**
LAST	**Lasithi**	**1.51**	**266**	*e*P			**Pb**	**02 13 31.2**	**-0.9**
LAST				*e*S			**Sn**	**02 13 47.9**	**-0.1**
LAST	**Lasithi**	**1.51**	**266**	*e*P			**Pb**	**02 13 31.2**	**-0.9**
LAST				*e*S			**Sn**	**02 13 47.9**	**-0.1**
TURN	**Turunc**	**1.90**	**33**	*i*P			**Pn**	**02 13 33.6**	**-1.1**
TURN				*i* S			**Sn**	**02 13 54.1**	**-3.4**
TURN	**Turunc**	**1.90**	**33**	*i*P			**Pn**	**02 13 33.6**	**-1.1**
TURN				*i* S			**Sn**	**02 13 54.1**	**-3.4**
SIVA	**Sivas**	**2.07**	**263**	*e*P			**Pn**	**02 13 39.1**	**+2.0**
SIVA				*e*S			**Sn**	**02 14 01.9**	**+0.2**
SIVA	**Sivas**	**2.07**	**263**	*e*P			**Pn**	**02 13 39.1**	**+2.0**
SIVA				*e*S			**Sn**	**02 14 01.9**	**+0.2**
APE	**Apeiranthos**	**2.30**	**322**	*e*P			**Pn**	**02 13 40.3**	**+0.1**
APE				*e*S			**Sn**	**02 14 05.4**	**-2.0**
APE	**Apeiranthos**	**2.30**	**322**	*e*P			**Pn**	**02 13 40.3**	**+0.1**
AYDN	**Tasoluk**	**2.42**	**11**	*i*P			**Pn**	**02 13 43.1**	**+1.2**
AYDN				*i* S			**Sn**	**02 14 07.0**	**-3.4**
AYDN	**Tasoluk**	**2.42**	**11**	*i*P			**Pn**	**02 13 43.1**	**+1.2**
AYDN				*i* S			**Sn**	**02 14 07.0**	**-3.4**
SMG	**Samos**	**2.45**	**351**	*e*P			**Pn**	**02 13 43.3**	**+0.9**
SMG	**Samos**	**2.45**	**351**	*e*P			**Pn**	**02 13 43.3**	**+0.9**
VAM	**Vamos**	**2.55**	**274**	*e*P			**Pn**	**02 13 44.9**	**+1.2**
VAM	**Vamos**	**2.55**	**274**	*e*P			**Pn**	**02 13 44.9**	**+1.2**
GOLH	**Golhisar**	**2.66**	**42**	*i*P			**Pn**	**02 13 48.2**	**+2.8**
GOLH				*i* S			**Sn**	**02 14 16.7**	**+0.1**
GOLH	**Golhisar**	**2.66**	**42**	*i*P			**Pn**	**02 13 48.2**	**+2.8**
GOLH				*i* S			**Sn**	**02 14 16.7**	**+0.1**
DNZL	**Cakiroluk**	**2.78**	**30**	*i*P			**Pn**	**02 13 46.7**	**-0.3**
DNZL				*i* S			**Sn**	**02 14 23.6**	**+4.1**
DNZL	**Cakiroluk**	**2.78**	**30**	*i*P			**Pn**	**02 13 46.7**	**-0.3**
DNZL				*i* S			**Sn**	**02 14 23.6**	**+4.1**
KARN	**Karanos**	**2.78**	**273**	*e*P			**Pn**	**02 13 48.4**	**+1.5**
KARN	**Karanos**	**2.78**	**273**	*e*P			**Pn**	**02 13 48.4**	**+1.5**
CHOS	**Chios island**	**3.26**	**342**	*e*P			**Pn**	**02 13 53.8**	**+0.3**
CHOS	**Chios island**	**3.26**	**342**	*e*P			**Pn**	**02 13 53.8**	**+0.3**
KHAL	**Karahalli**	**3.54**	**29**	*i*P			**Pn**	**02 13 58.4**	**+0.9**
KHAL	**Karahalli**	**3.54**	**29**	*i*P			**Pn**	**02 13 58.4**	**+0.9**
AKHS	**Akhisar**	**3.61**	**6**	*i*P			Pn	02 13 54.5	-3.8
AKHS	**Akhisar**	**3.61**	**6**	*i*P			Pn	02 13 54.5	-3.8
KYTH	**Kithira**	**3.62**	**287**	*e*P			**Pn**	**02 13 59.4**	**+1.0**
KYTH	**Kithira**	**3.62**	**287**	*e*P			**Pn**	**02 13 59.4**	**+1.0**
VLY	**Voula,Athens**	**3.82**	**313**	*e*P			**Pn**	**02 14 01.9**	**+0.7**
VLY	**Voula,Athens**	**3.82**	**313**	*e*P			**Pn**	**02 14 01.9**	**+0.7**
VLI	**Veliai**	**3.83**	**293**	*e*P			**Pn**	**02 14 01.8**	**+0.5**
VLI				*e*S			**Sn**	**02 14 42.8**	**-2.3**
VLI	**Veliai**	**3.83**	**293**	*e*P			**Pn**	**02 14 01.8**	**+0.5**
PTL	**Penteli**	**3.92**	**316**	*e*P			**Pn**	**02 14 02.3**	**-0.2**
PTL	**Penteli**	**3.92**	**316**	*e*P			**Pn**	**02 14 02.3**	**-0.2**
ATH	**Athens Observa**	**3.95**	**314**	*e*P			**Pn**	**02 14 03.0**	**+0.1**
ATH	**Athens Observa**	**3.95**	**314**	*e*P			**Pn**	**02 14 03.0**	**+0.1**
NAIG	**Nisos Aigina**	**3.95**	**310**	*e*P			**Pn**	**02 14 03.3**	**+0.3**
NAIG	**Nisos Aigina**	**3.95**	**310**	*e*P			**Pn**	**02 14 03.3**	**+0.3**
DID	**Didima**	**3.97**	**305**	*e*P			**Pn**	**02 14 04.3**	**+1.1**
DID				*e*S			**Sn**	**02 14 46.5**	**-2.2**
DID	**Didima**	**3.97**	**305**	*e*P			**Pn**	**02 14 04.3**	**+1.1**
PRK	**Paraskevi**	**4.04**	**348**	*e*P			**Pn**	**02 14 05.1**	**+0.9**
PRK	**Paraskevi**	**4.04**	**348**	*e*P			**Pn**	**02 14 05.1**	**+0.9**
SLUM		**4.17**	**206**	P			**Pn**	**02 14 05.5**	**-0.4**
HMAT	**Matruh**	**4.18**	**183**	S				02 14 50.4	
LTK	**Loutraki**	**4.44**	**309**	*e*P			**Pn**	**02 14 10.6**	**+0.9**
LTK	**Loutraki**	**4.44**	**309**	*e*P			**Pn**	**02 14 10.6**	**+0.9**
GUR	**Goura**	**4.80**	**305**	*e*P			**Pn**	**02 14 15.4**	**+0.7**
GUR				*e*S			**Sn**	**02 15 06.0**	**-3.2**
GUR	**Goura**	**4.80**	**305**	*e*P			**Pn**	**02 14 15.4**	**+0.7**
LKR	**Lokris**	**4.82**	**315**	*e*P			**Pn**	**02 14 15.5**	**+0.6**
LKR	**Lokris**	**4.82**	**315**	*e*P			**Pn**	**02 14 15.5**	**+0.6**
NEO	**Neokhori**	**5.18**	**322**	*e*P			**Pn**	**02 14 21.6**	**+1.8**
NEO	**Neokhori**	**5.18**	**322**	*e*P			**Pn**	**02 14 21.6**	**+1.8**
EFP	**Efpalio**	**5.36**	**307**	*e*P			**Pn**	**02 14 22.7**	**+0.5**
EFP	**Efpalio**	**5.36**	**307**	*e*P			**Pn**	**02 14 22.7**	**+0.5**
SWA2		**6.22**	**195**	P			**Pn**	**02 14 35.2**	**+1.0**
AMAG	**Maghara**	**6.77**	**131**	P			**Pn**	**02 14 41.4**	**-0.4**
RSH		**6.89**	**127**	P			**Pn**	**02 14 43.1**	**-0.2**
AWBH		**7.07**	**169**	P			**Pn**	**02 14 45.0**	**-0.8**
HFRF	**Wahat Farafira**	**8.15**	**174**	P			**Pn**	**02 14 59.7**	**-1.0**

NNC 27 02:18:56.0±7.6, 38°.85N×70°.88E, h0km, mb3.5, mpv3.1, 3C-1D, Error ellipse: s-maj=88.1km s-min=55.5km az=62.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.26**	**356**	Pn			Pn	02 20 04.4	+2.2
	1.5nm,0.5s,baz=152,slow=10,SNR=17								
KK31				⇑Sn			Sb	02 20 59.2	-4.8
	1.0nm,0.3s,baz=160,slow=22,SNR=2.6								
TKM2	**Tokmak 2**	**5.42**	**40**	⇑Pn			Pn	02 20 19.9	+1.6
	3.5nm,1.2s								
AB31	**Akbulak array**	**13.03**	**327**	⇓Pn			Pn	02 22 00.8	-1.5
	0.9nm,0.8s,baz=127,slow=6.7,SNR=5.5								
AB31				⇑Sn			Sn	02 24 33.9	+6.0
	0.5nm,0.7s								

*TRN **27** 02:30:46.9, 19°.17N×64°.65W, h32km, MD3.1(RSPR)*
*NEIC **27** 02:30:48.4, 19°.24N×64°.61W, h54km, MD3.1(RSPR), After RSPR.*

RSPR 27 02:30:48.4, 19°.24N×64°.61W, h54km±4km, MD3.1/7, 15C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.57**	**152**	⇓*e*P			Pn	02 31 00.3	-0.4
ABV				*e*S			Sn	02 31 08.8	-0.8
ABV	**Anegada**	**0.57**	**152**	⇓*e*P			Pn	02 31 00.3	-0.4
ABV				*e*S			Sn	02 31 08.8	-0.8
ABVI	**Anegada

HUMP				*e*S	Sn	03 14 50.0	-0.9
HUMP	**Col San Antoni**	**1.60**	**232**⇑	*e*P	Pn	03 14 30.4	-0.8
HUMP				*e*S	Sn	03 14 50.4	-0.5

BYKL ***27*** *03:46:21.0±0.4,57.°38N×120.°78E*
IDC ***27*** *03:46:21.9±1.9,57.°49N×120.°56E,h0km,mb3.5/10, mb1 3.6/11,mb1mx3.5/27,mbtmp3.5/11,ML3.0/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/33,Error ellipse: s-maj=46.2km s-min=18.4km az=147.0*
MOS ***27*** *03:46:22.3±1.4,57.°43N×120.°71E,h23km,mb4.4/5,Error ellipse: s-maj=18.0km s-min=11.8km az=73.1*

ISC 27 03:46:22.4±0.6,57.°38N±0.°04×120.°77E±0.°03,h10km,n52, σ1§43/53,mb3.5/9,2C-1D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.63**	**224**	*i*Pg	**Pg**	**03 46 32.5**	**-2.1**
KHNR				*e*Sg	**Sg**	**03 46 40.2**	**-2.6**
CRS	**Chara**	**1.45**	**252**⇑	*i*P*g*	**Pn**	**03 46 47.2**	**-1.4**
CRS				*e*		03 46 49.0	
CRS				max		03 46 49.7	
	498nm,1.0s						
CRS				*e*Sg	**Sn**	**03 47 05.3**	**-2.4**
CRS				Smax		03 47 06.6	
	964nm,0.4s						
CLNS	**Chul'man**	**2.31**	**102**	*e*P	**Pn**	**03 47 02.1**	**+1.5**
CLNS				*e*		03 47 30.9	
CLNS				pmax	pmax		
	comp=Z,26nm,0.3s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,13nm,0.2s						
CLNS				smax	smax		
	comp=E,186nm,0.3s						
CLNS				smax	smax		
	comp=N,172nm,0.3s						
CLNS				smax	smax		
	comp=Z,124nm,0.4s						
CLNS	**Chul'man**	**2.31**	**102**	*e*Pg	**Pn**	**03 47 02.6**	**+2.0**
CLNS				*e*Sg	**Sb**	**03 47 32.4**	**-0.4**
ALDR	**Aldan**	**2.76**	**61**	*e*Pg	**Pb**	**03 47 09.9**	**-2.0**
ALDR				*e*Sg	**Sb**	**03 47 45.9**	**+0.1**
NLYR	**Nelyaty**	**2.92**	**254**	*e*P	**Pn**	**03 47 09.0**	**+0.2**
NLYR				*e*		03 47 47.1	
NLYR				pmax	pmax		
	comp=Z,219nm,1.2s						
NLYR				smax	smax		
	comp=N,686nm,1.2s						
NLYR	**Nelyaty**	**2.92**	**254**	*e*Pn	**Pn**	**03 47 09.1**	**+0.2**
NLYR				*e*Pg	**Pb**	**03 47 13.8**	**-0.7**
NLYR				Pmax		03 47 15.2	
	comp=N,221nm,0.8s						
NLYR				*e*Sg	**Sb**	**03 47 50.3**	**+0.2**
NLYR				Smax		03 47 53.0	
	comp=N,693nm,1.0s						
TUP	**Tupik**	**2.99**	**189**	*e*P	**Pn**	**03 47 09.7**	**-0.2**
TUP				*e*S	**Sn**	**03 47 44.7**	**-1.1**
TUP				pmax	pmax		
	comp=Z,129nm,0.4s						
TUP				smax	smax		
	comp=E,589nm,0.9s						
TUP	**Tupik**	**2.99**	**189**⇑	*i*Pn	**Pn**	**03 47 09.6**	**-0.3**
TUP				*e*Pg	**Pb**	**03 47 15.3**	**-0.5**
TUP				Pmax		03 47 16.1	
	comp=E,172nm,0.6s						
TUP				*e*Sg	**Sb**	**03 47 52.9**	**+0.5**
TUP				Smax		03 47 55.6	
	comp=E,588nm,0.8s						
TNDR	**Tynda**	**3.14**	**134**	*e*	**Pn**	**03 47 12.6**	**+0.7**
TNDR				*e*		03 47 49.9	
TNDR				*e*Sg	**Sb**	**03 47 59.0**	**+2.5**
BOD	**Bodaibo**	**3.67**	**280**	*e*P	**Pn**	**03 47 18.6**	**-0.5**
BOD				*e*S	**Sn**	**03 48 00.4**	**-2.0**
BOD				pmax	pmax		
	comp=Z,54nm,0.7s						
BOD				smax	smax		
	comp=N,243nm,1.1s						
BOD	**Bodaibo**	**3.67**	**280**⇓	*i*Pn	**Pn**	**03 47 19.0**	**-0.1**
BOD				*e*Pg	**Pb**	**03 47 27.2**	**-0.1**
BOD				Pmax		03 47 30.0	
	comp=N,54nm,0.6s						
BOD				*e*		03 48 02.0	
BOD				*e*Sg	**Sb**	**03 48 12.7**	**+0.9**
BOD				Smax		03 48 17.6	
	comp=N,243nm,0.7s						
SVKR	**Severomuysk**	**4.17**	**255**	*e*Pg	**Pb**	**03 47 36.4**	**+0.6**
SVKR				Pmax		03 47 41.9	
	comp=N,70nm,0.3s						
SVKR				*e*Sg	**Sb**	**03 48 29.3**	**+3.2**
SVKR				Smax		03 48 36.5	
	comp=N,423nm,0.9s						
YOA	**Uoyan**	**5.13**	**260**	*e*Pg	**Pb**	**03 47 53.8**	**+1.6**
YOA				Pmax		03 47 54.6	
	comp=N,99nm,0.3s						
YOA				*e*Sg	**Sb**	**03 48 58.6**	**+4.7**
YOA				Smax		03 49 06.1	
	comp=N,585nm,0.7s						
KMO	**Kumora**	**5.49**	**258**	*e*Pn	**Pn**	**03 47 44.0**	**-0.2**
KMO				*e*Pg	**Pb**	**03 48 00.3**	**+2.0**
KMO				Pmax		03 48 06.4	
	comp=N,20nm,1.6s						
KMO				*e*Sg	Sb	03 49 09.6	+5.5
KMO				Smax		03 49 14.7	
	comp=N,207nm,0.9s						
YLYR	**Ulyunkhan**	**5.93**	**249**	*e*P	Pb	03 48 09.0	+3.2
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
YLYR	**Ulyunkhan**	**5.93**	**249**	*e*	Pb	03 48 08.7	+2.9
YLYR				*e*Sg	Sb	03 49 23.3	+6.5
YLYR				Smax		03 49 27.4	
	comp=Z,118nm,1.7s						
NIZ	**Nizh Angarsk**	**6.41**	**260**	*e*	Pn	03 48 00.8	+4.0
NIZ				*e*Pg	**Pb**	**03 48 15.8**	**+1.8**
NIZ				Pmax		03 48 21.2	
	comp=Z,9.0nm,1.8s						
NIZ				*e*Sg	Sb	03 49 37.4	+6.8
NIZ				Smax		03 49 41.6	
	comp=Z,54nm,0.8s						
YAK	**Yakutsk**	**6.49**	**40**	*e*P	**Pn**	**03 47 55.8**	**-2.0**
YAK				*e*		03 49 07.4	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
YAK				smax	smax		
	comp=N,14nm,0.6s						
YAK				smax	smax		
	comp=E,29nm,0.5s						
CIT	**Chita**	**6.80**	**221**	*e*		03 49 34.9	
CIT				*e*Sg	Sb	03 49 51.2	+9.3
CIT				Smax		03 50 00.8	
	comp=E,245nm,1.6s						
SYVR	**Suvo**	**7.16**	**243**	*e*	Pb	03 48 16.5	-10
SYVR				*e*Pg	Pg	03 48 31.0	-8.4
SYVR				Pmax		03 48 33.6	
	comp=E,16nm,1.0s						
SYVR				*e*Sg	Sg	03 50 02.1	-10
SYVR				Smax		03 50 10.7	
	comp=E,87nm,1.3s						
HIA	**Hailar**	**8.15**	**185**	*e*Sg	Sb	03 50 33.1	+12
OGRR	**Ongureny**	**8.36**	**249**	*e*Pg	Pb	03 48 52.6	+5.5
OGRR				Pmax		03 48 58.4	
	comp=E,6.0nm,0.9s						
OGRR				*e*Sg	Sg	03 50 39.5	-11
OGRR				Smax		03 50 56.9	
	comp=E,57nm,2.0s						
KPC	**Khapcheranga**	**9.16**	**217**	*e*P	**Pn**	**03 48 34.4**	**-0.2**
KPC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KPC	**Khapcheranga**	**9.16**	**217**	*e*	Pn	03 49 11.1	+36
KPC				*e*Sg	Sn	03 51 03.8	+46
KPC				Smax		03 51 12.9	
	comp=Z,91nm,0.9s						
UUDB	**Ulan-Yde**	**9.39**	**240**	*e*Sg	Sn	03 51 12.3	+49
UUDB				Smax		03 51 36.1	
	comp=Z,107nm,1.4s						
TRG	**Tyrgan**	**9.47**	**247**	*e*Sg	Sn	03 51 16.4	+51
TRG				Smax		03 51 25.9	
	comp=Z,37nm,1.7s						
HRMR	**Khuramsha**	**9.88**	**240**	*e*	Pn	03 49 18.5	+34
HRMR				*e*Sg	Sn	03 51 28.1	+53
HRMR				Smax		03 51 39.6	
	comp=Z,157nm,1.0s						
TLY	**Talaya**	**11.45**	**247**	*e*Sg		03 52 17.2	
TLY				Smax		03 52 22.5	
	comp=Z,18nm,1.7s						
ARS	**Arshan**	**11.93**	**251**	*e*		03 51 45.3	
ARS				*e*Sg		03 52 30.5	
ARS				Smax		03 52 50.4	
	comp=Z,41nm,1.2s						
SONM	**Songino Array**	**12.92**	**228**	Pn	**Pn**	**03 49 27.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=3.4						
SONM				Lg		03 53 07.8	
	comp=Z,0.7nm,0.3s,baz=34,slow=26,SNR=14						
SONM				LR	LR	03 54 29.7	
	comp=Z,60nm,18.5s,baz=7.0,slow=38						
SONM	**Songino Array**	**12.92**	**228**	P	**Pn**	**03 49 27.5**	**+1.5**
ORL	**Orliik**	**12.96**	**257**	*e*Sg		03 53 02.0	
ORL				Smax		03 53 37.8	
	comp=Z,23nm,2.0s						
ZALV	**Zalesovo Beam**	**20.41**	**276**	P	Pn	03 51 00.6	-0.8
	comp=Z,1.2nm,0.7s,baz=62,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**20.41**	**276**	P	Pn	03 51 00.6	-0.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**25.29**	**273**	P	**P**	**03 51 49.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=63,slow=9.3,SNR=4.7						
KURK	**Kurchatov**	**25.29**	**273**	P	**P**	**03 51 49.5**	**+0.8**
MKAR	**Makanchi Array**	**25.56**	**262**	P	**P**	**03 51 51.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=55,slow=7.7,SNR=9.6						
MKAR	**Makanchi Array**	**25.56**	**262**	P	**P**	**03 51 51.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**28.53**	**283**	P	**P**	**03 52 17.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=64,slow=6.6,SNR=3.1						
BVAR	**Borovoye Array**	**28.53**	**283**	P	**P**	**03 52 17.5**	**-0.4**
ARCES	**ARCESS Array B**	**39.70**	**327**	P	**P**	**03 53 53.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=43,slow=7.3,SNR=3.8						
ARCES	**ARCESS Array B**	**39.70**	**327**	P	**P**	**03 53 53.8**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**41.41**	**40**	P	**P**	**03 54 09.5**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=290,slow=4.4,SNR=5.8						
ILAR	**Eielson Array**	**41.41**	**40**	P	**P**	**03 54 09.5**	**+1.1**
FINES	**FINESS Array B**	**44.28**	**317**	P	**P**	**03 54 31.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=50,slow=8.4,SNR=8.9						
FINES	**FINESS Array B**	**44.28**	**317**	P	**P**	**03 54 31.1**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**49.76**	**323**	P	**P**	**03 55 13.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=43,slow=7.9,SNR=3.1						
NOA	**NORSAR Array B**	**49.76**	**323**	P	**P**	**03 55 13.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**53.02**	**29**	P	**P**	**03 55 39.3**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=332,slow=7.4,SNR=2.9						
YKA	**Yellowknife Ar**	**53.02**	**29**	P	**P**	**03 55 39.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**93.81**	**301**	P	**P**	**03 59 39.8**	**0.0**
	comp=Z,0.3nm,0.9s,baz=26,slow=4.7,SNR=2.5						

IDC ***27*** *03:57:29.5±2.0,22.°56S×169.°62E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.8/14,mbtmp3.8/4,Error ellipse: s-maj=75.5km s-min=37.1km az=153.0*

ISC 27 03:57:32.9±1.2,22.°6S±0.°4×169.°68E±0.°09,h23km,n20, σ1§47/22,mb4.1/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.03**	**278**	*e*P	**Pn**	**03 58 19.6**	**0.0**
DZM				*e*S	**Sb**	**03 59 04.5**	**+1.5**
NOUC	**Port Laguerre**	**3.16**	**278**	*e*P	**Pn**	**03 58 22.6**	**+1.4**
NOUC				*e*S	**Sb**	**03 59 04.5**	**-2.0**
ASAR	**Alice Springs**	**32.87**	**261**	P	**P**	**04 04 05.3**	**0.0**
	0.6nm,0.8s,baz=86,slow=9.0,SNR=6.1						
WRA	**Warramunga Arr**	**32.99**	**268**	P	**P**	**04 04 05.5**	**-0.9**
	0.3nm,0.6s,baz=92,slow=8.4,SNR=3.0						
KSRS	**Korea Array**	**71.46**	**326**	P	**P**	**04 08 52.6**	**+1.0**
	1.3nm,0.8s,baz=134,slow=5.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**80.24**	**295**	P	P	04 09 46.2	+4.0
	0.8nm,0.3s,baz=124,slow=2.7,SNR=6.0						
SONM	**Songino Array**	**90.10**	**323**	P	**P**	**04 10 29.9**	**-1.2**
	1.5nm,1.0s,baz=158,slow=4.6,SNR=9.4						
ARCES	**ARCESS Array B**	**128.36**	**345**	PKP	**PKPdf**	**04 16 36.6**	**-0.3**
	2.3nm,1.0s,baz=331,slow=4.7,SNR=4.7						
VYHS	**Vyhne**	**145.26**	**325**	*e*	**PKPdf**	**04 17 10.1**	**+1.4**
DPC	**Dobruska-Polom**	**145.30**	**330**	*e*P	**PKPbc**	**04 17 03.9**	**-4.6**
DPC				*ex*	x	04 17 09.5	
DPC				*ex*	x	04 17 15.2	
UPC	**Upice**	**145.33**	**330**	*e*PKP	**PKPdf**	**04 17 09.4**	**+0.7**
UPC				*ex*	x	04 17 14.0	
KOLL	**Kolacno**	**145.43**	**326**	*e*	**PKPab**	**04 17 10.5**	**+1.4**
PVCC	**Panska Ves**	**145.97**	**331**	*e*P	**PKPab**	**04 17 11.7**	**+0.7**
BRG	**Berggiesshubel**	**146.00**	**332**	*e*P	**PKPab**	**04 17 11.6**	**+0.4**
	5.1nm,0.8s						
BRG				*e*		04 17 16.8	
	4.6nm,0.8s						
CLL	**Collm**	**146.07**	**334**	*i* PKP	**PKPab**	**04 17 12.3**	**+0.9**
	comp=Z,6.0nm,0.8s						
CLL				*e*		04 17 16.0	
PRU	**Pruhonice**	**146.37**	**331**	*e*P	**PKPab**	**04 17 12.5**	**-0.1**
KHC	**Kasperske Hory**	**147.42**	**330**	*e*P	**PKPbc**	**04 17 15.7**	**+0.9**
GERES	**GERESS Array B**	**147.57**	**330**	PKPbc	**PKPbc**	**04 17 16.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=34,slow=2.9,SNR=13						
DAVOX	**Davos/Dischmat**	**150.84**	**331**	PKPbc	**PKPbc**	**04 17 24.3**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=70,slow=2.3,SNR=8.5						
DAVOX				PKPab	**PKPab**	**04 17 30.0**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=36,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.23**	**233**	PKP	**PKPdf**	**04 17 35.7**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=35,slow=3.5,SNR=3.0						

IDC 27 04:03:28.7±3.8,22.°18S×169.°61E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.8/15,mbtmp3.7/4,MS3.2/2,Ms1 3.2/2, ms1mx2.9/19,5C,Error ellipse: s-maj=175.8km s-min=33.9km az=154.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.94**	**271**	LR	LR	04 04 50.6	
	comp=Z,209nm,18.3s,baz=206,slow=28						
HNR	**Honiara**	**15.70**	**322**	LR	LR	04 12 33.2	
	comp=Z,136nm,18.3s,baz=59,slow=35						
ASAR	**Alice Springs**	**32.87**	**260**	P	P	04 10 04.4	-0.3
	0.3nm,0.3s,baz=76,slow=9.1,SNR=4.9						
WRA	**Warramunga Arr**	**32.94**	**267**	P	P	04 10 04.8	-0.5
	0.6nm,0.9s,baz=99,slow=8.4,SNR=3.2						
SONM	**Songino Array**	**89.76**	**323**	P	P	04 16 29.5	+0.4
	1.1nm,1.0s,baz=147,slow=4.5,SNR=3.5						
ILAR	**Eielson Array**	**92.92**	**17**	P	P	04 16 41.7	-1.5
	0.1nm,0.3s,baz=249,slow=7.6,SNR=7.7						
ARCES	**ARCESS Array B**	**127.98**	**345**	PKP	PKPdf	04 22 35.1	-0.8
	1.5nm,0.8s,baz=62,slow=8.4,SNR=3.6						
DRGR		**143.72**	**321**⇑	*i*P	PKPdf	04 23 04.7	-1.2
PSZ	**Piszkesteto**	**144.69**	**324**⇑	*i*P	PKPbc	04 23 06.7	+0.4
MORC	**Moravsky Berou**	**144.75**	**328**⇑	*i*P	PKPbc	04 23 06.8	+0.4
VYHS	**Vyhne**	**144.91**	**326**	*e*	PKPbc	04 23 08.6	+1.6
DPC	**Dobruska-Polom**	**144.94**	**330**	*e*P	PKPab	04 23 01.9	-5.1
DPC				*ex*	x	04 23 07.5	
UPC	**Upice**	**144.98**	**330**	*e*P	PKPdf	04 23 08.0	+0.2
BZS	**Buzias**	**144.98**	**320**⇑	*i*P	PKPdf	04 23 07.8	-0.2
KOLL	**Kolacno**	**145.09**	**326**	*e*	PKPbc	04 23 09.2	+1.7
PVCC	**Panska Ves**	**145.61**	**332**	*e*P	PKPdf	04 23 07.7	-1.2
SMOL	**Smolenice**	**145.63**	**327**	*e*	PKPab	04 23 10.7	+1.2
BRG	**Berggiesshubel**	**145.63**	**332**	*e*P	PKPab	04 23 09.9	+0.5
	7.8nm,0.9s						
CLL	**Collm**	**145.70**	**334**	*i* (P)	PKPab	04 23 09.7	0.0
	comp=Z,5.0nm,0.8s						
PRU	**Pruhonice**	**146.01**	**331**	*e*P	PKPab	04 23 10.9	0.0
PRU				*ex*	x	04 23 17.2	
PKSM	**Moragy**	**146.39**	**322**⇑	*i*P	PKPab	04 23 12.2	-0.2
KHC	**Kasperske Hory**	**147.07**	**331**	*e*P	PKPbc	04 23 13.8	+0.3
KHC				*ex*	x	04 23 20.7	
GERES	**GERESS Array B**	**147.22**	**330**	PKPbc	PKPbc	04 23 14.4	+0.3
	comp=Z,1.4nm,0.7s,baz=31,slow=3.1,SNR=16						
DAVOX	**Davos/Dischmat**	**150.48**	**331**	PKPbc	PKPbc	04 23 22.8	+0.2
	baz=67,slow=7.8						

IDC 27 04:35:15.1±2.3,7.°35S×127.°63E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.3/14,mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=294.1km s-min=32.4km az=64.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.11**	**153**	Pn	Pn	04 38 35.4	-1.1
	0.1nm,0.3s,baz=330,slow=13,SNR=10						
WRA				Sn	Sn	04 40 57.4	-16
	0.4nm,0.3s,baz=331,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**17.31**	**160**	Pn	P	04 39 19.3	-0.6
	0.1nm,0.3s,baz=339,slow=10.0,SNR=7.2						
ASAR				Sn	Sn	04 42 18.6	-13
	0.2nm,0.3s,baz=320,slow=15,SNR=4.6						
MKAR	**Makanchi Array**	**67.25**	**328**	P	P	04 46 11.5	0.0
	0.3nm,0.6s,baz=120,slow=8.3,SNR=6.4						

IDC 27 04:48:30.9±1.5,12.°61S×167.°65E,h539km±15km,mb3.4/9, mb1 3.6/10,mb1mx3.5/17,mbtmp3.4/10,Error ellipse: s-maj=22.5km s-min=12.1km az=129.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.48**	**187**	P	P	04 50 45.1	+1.7
	0.5nm,0.3s,baz=44,slow=18,SNR=3.9						
STKA	**Stephens Creek**	**30.67**	**227**	P	P	04 54 02.0	+0.3
	2.0nm,0.4s,baz=44,slow=10.0,SNR=16						
STKA				ScP	ScP	04 59 36.0	+1.1
	1.3nm,0.8s,baz=45,slow=4.3,SNR=4.7						
STKA	**Stephens Creek**	**30.67**	**227**	*e*P	P	04 54 01.9	+0.2
WRA	**Warramunga Arr**	**32.75**	**253**	P	P	04 54 19.3	-0.3
	3.0nm,0.5s,baz=83,slow=8.1,SNR=88						
WRA				PcP	PcP	04 56 48.2	-0.9
	0.6nm,0.6s,baz=82,slow=3.6,SNR=4.9						
WRA				S	S	04 58 56.8	-1.9
	0.7nm,0.9s,baz=85,slow=14,SNR=4.2						
WRA				ScP	ScP	04 59 43.7	+1.5
	1.1nm,0.9s,baz=80,slow=3.9,SNR=5.7						
ASAR	**Alice Springs**	**33.81**	**246**	P	P	04 54 28.4	-0.3
	6.9nm,0.3s,baz=71,slow=10.0,SNR=74						
ASAR				S	S	04 59 14.1	-0.6
	1.9nm,0.8s,baz=80,slow=15,SNR=14						
ASAR				ScP	ScP	04 59 48.0	+2.0
	0.5nm,0.5s,baz=128,slow=2.6,SNR=5.7						
BBOO	**Buckleboo**	**35.19**	**230**	*e*P	P	04 54 39.7	-0.3
FITZ	**Fitzroy Crossi**	**40.81**	**257**	*e*P	P	04 55 26.6	+0.7
CBIJ	**Chichi jima**	**46.57**	**328**	P	P	04 56 09.8	-0.6
	80nm,0.9s,baz=278,slow=22,SNR=4.8						
MJAR	**Matsushiro Arr**	**56.22**	**332**	P	P	04 57 19.6	-0.5
	0.6nm,0.3s,baz=166,slow=8.4,SNR=7.4						
KSRS	**Korea Array**	**62.22**	**325**	P	P	04 58 01.0	+0.9
	0.6nm,0.7s,baz=133,slow=6.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	**74.44**	**293**	P	P	04 59 16.4	+1.7
	1.9nm,0.4s,baz=127,slow=4.2,SNR=18						
SONM	**Songino Array**	**81.02**	**323**	P	P	04 59 49.3	-0.4
	1.8nm,0.7s,baz=137,slow=4.2,SNR=12						
ILAR	**Eielson Array**	**84.41**	**18**	P	P	05 00 03.4	-2.8
	0.6nm,0.6s,baz=235,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**94.94**	**61**	P	P	05 00 54.0	-2.2
	0.1nm,0.7s,baz=207,slow=5.7,SNR=2.3						
MKAR	**Makanchi Array**	**95.93**	**316**	P	P	05 00 59.9	-0.3
	1.7nm,0.8s,baz=96,slow=6.4,SNR=22						
ARCES	**ARCESS Array B**	**118.30**	**346**	PKP	PKPdf	05 06 14.3	-2.2
	4.0nm,1.1s,baz=48,slow=2.4,SNR=6.9						
KEST	**Kesra**	**149.78**	**323**	PKPbc	PKPbc	05 07 20.0	-0.7
	0.7nm,0.6s,baz=292,slow=5.4,SNR=3.1						

TRN ***27*** *04:58:12.0,18.°98N×64.°47W,h34km,MD3.1(RSPR)*
NEIC ***27*** *04:58:13.7,19.°04N×64.°40W,h31km,MD3.1(RSPR), After RSPR.*

RSPR 27 04:58:13.7,19.°04N×64.°40W,h31km±27km,8C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.86**	**217**⇑	*e*P	Pn	04 58 27.9	-1.9
STVI	**Saint Thomas**	**0.86**	**217**	*e*S	Sn	04 58 39.1	-2.2
STVI	**Saint Thomas**	**0.86**	**217**⇑	*e*P	Pn	04 58 27.9	-1.9
STVI				*e*S	Sn	04 58 39.1	-2.2
STVI	**Saint Thomas**	**0.86**	**217**⇑	*e*P	Pn	04 58 27.9	-1.9
STVI				*e*S	Sn	04 58 39.6	-1.7
MTP	**Monte Pirata**	**1.44**	**230**⇑	*e*P	Pn	04 58 35.7	-2.0
MTP	**Monte Pirata**	**1.44**	**230**	*e*Pn	Pn	04 58 37.7	0.0
MTP				*e*S	Sn	04 58 52.4	-3.1
MTP	**Monte Pirata**	**1.44**	**230**⇑	*e*P	Pn	04 58 35.7	-2.0
MTP				*e*S	Sn	04 58 53.7	-1.8
CBYP	**Canovanas**	**1.58**	**241**	*e*S	Sn	04 58 56.4	-2.7
CBYP	**Canovanas**	**1.58**	**241**	*e*Pn	Pb	04 58 41.1	-1.2
CBYP				*e*S	Sn	04 58 56.9	-2.2
CBYP	**Canovanas**	**1.58**	**241**	*e*S	Sn	04 58 56.4	-2.7
HUMP	**Col San Antoni**	**1.64**	**237**⇑	*e*P	Pn	04 58 39.3	-1.1
HUMP	**Col San Antoni**	**1.64**	**237**	*e*S	Sn	04 58 59.0	-1.5
HUMP	**Col San Antoni**	**1.64**	**237**⇑	*e*P	Pn	04 58 39.3	-1.1
HUMP				*e*S	Sn	04 58 59.0	-1.5
HUMP	**Col San Antoni**	**1.64**	**237**⇑	*e*P	Pn	04 58 39.3	-1.1
HUMP				*e*S	Sn	04 58 59.0	-1.5

IDC ***27*** *05:02:25.1±0.6,7.°75N×122.°02E,h0km,mb4.0/13, mb1 4.2/13,mb1mx4.1/21,mbtmp4.0/13,MS3.4/6, Ms1 3.4/6,ms1mx3.0/33,Error ellipse: s-maj=32.3km s-min=14.8km az=69.0*
ISCJB ***27*** *05:02:26.7±0.8,7.°81N±0.°03×121.°86E±0.°03,h18km±7km, mb4.2/26,MS3.2/4,Error ellipse: s-maj=5.5km s-min=4.7km az=177.4*
MAN ***27*** *05:02:27,7.°84N×121.°92E,h22km,mb4.4,ML3.3,MS3.1*
NEIC ***27*** *05:02:32.0±1.0,7.°68N×121.°93E,h51km±10km,mb4.5/13, Error ellipse: s-maj=10.2km s-min=7.5km az=46.0*

**ISC 27 05:02:26.5±1.5,7.°79N±0.°04×121.°91E±0.°03,h9km±9km, n72,σ1§31/78,mb4.3/25,MS3.2/4,3

0.8nm,0.6s,baz=337,slow=9.6,SNR=7.0
WRA Warramunga Arr 30.15 156 P **P** 05 08 36.1 -1.1
ASAR Alice Springs 33.39 160 P **P** 05 09 04.8 -0.8
1.0nm,0.7s,baz=341,slow=7.3,SNR=7.9
ASAR Alice Springs 33.39 160 P **P** 05 09 04.8 -0.8
MDJ Mudanjiang 37.29 9 *e*P **P** 05 09 39.2 +0.3
4.9nm,0.8s
USRK Ussuriysk Arra 37.32 12 P **P** 05 09 40.1 +0.9
4.7nm,0.8s,baz=200,slow=6.3,SNR=9.8
USRK LR LR 05 26 06.7
comp=Z,53nm,20.0s,baz=71,slow=38
ULN Ulaanbaatar 41.89 345 *e*P **P** 05 10 18.8 +1.4
1.7nm,0.8s
SONM Songino Array 42.03 344 P **P** 05 10 19.8 +1.2
2.0nm,0.8s,baz=161,slow=10.0,SNR=15
SONM Songino Array 42.03 344 P **P** 05 10 19.8 +1.2
STKA Stephens Creek 43.70 155 P **P** 05 10 32.3 +0.2
2.0nm,0.7s,baz=317,slow=5.6,SNR=7.2
STKA Stephens Creek 43.70 155 *e*P **P** 05 10 32.3 +0.2
0.4nm,0.7s
TLY Talaya 46.27 344 *e*P **P** 05 10 53.2 +0.8
2.9nm,0.6s
MK31 Makanchi Array 51.52 326 *e*P **P** 05 11 34.2 +1.4
MKAR Makanchi Array 51.52 326 P **P** 05 11 34.4 +1.5
1.1nm,0.7s,baz=123,slow=8.1,SNR=16
MKAR Makanchi Array 51.52 326 P **P** 05 11 34.4 +1.5
ZAA0 Zalesovo Array 54.84 334 *e*P **P** 05 11 57.4 +0.3
ZALV Zalesovo Beam 54.84 334 P **P** 05 11 57.5 +0.4
2.2nm,0.7s,baz=124,slow=7.0,SNR=12
ZALV Zalesovo Beam 54.84 334 P **P** 05 11 57.5 +0.4
KURK Kurchatov 55.77 328 *e*P **P** 05 12 05.1 +1.2
15nm,1.2s
KKAR Karatay Array 57.01 317 *e*P **P** 05 12 14.2 +1.3
2.1nm,0.8s
BRVK Borovoye 61.40 327 *e*P **P** 05 12 44.4 +1.2
3.9nm,0.9s
ABKAR Akbulak array 65.99 321 *e*P **P** 05 13 14.4 +1.0
1.3nm,0.9s
ARU Arti 68.97 328 *e*P **P** 05 13 32.6 +0.5
5.5nm,0.4s
GAMB Gambell 72.72 25 *e*P **P** 05 13 55.7 +0.9
6.0nm,0.9s
MCK McKinley 82.70 27 *e*P **P** 05 14 49.3 -1.3
6.5nm,0.8s
ILAR Eielson Array 83.53 26 P **P** 05 14 53.9 -0.9
0.4nm,0.7s,baz=236,slow=4.4,SNR=7.8
ILAR Eielson Array 83.53 26 P **P** 05 14 53.9 -0.9
BRTR Keskin Array B 83.75 309 P **P** 05 14 55.5 -1.2
1.0nm,0.9s,baz=64,slow=3.4,SNR=4.3
BRTR Keskin Array B 83.75 309 P **P** 05 14 55.5 -1.2
AKASG Malin Array Be 85.73 320 P **P** 05 15 05.6 -0.6
1.1nm,0.5s,baz=74,slow=4.5,SNR=6.5
AKASG Malin Array Be 85.73 320 P **P** 05 15 05.6 -0.6
INK Inuvik 88.15 21 *e*P **P** 05 15 17.2 -0.4
1.7nm,0.9s
RES Resolute Bay 94.65 9 *e*P **P** 05 15 47.5 -0.2
1.8nm,0.8s
YKA Yellowknife Ar 97.73 23 P Pdif 05 16 01.9 0.0
0.5nm,0.7s,baz=298,slow=4.4,SNR=11
YKA Yellowknife Ar 97.73 23 P Pdif 05 16 01.9 0.0
TORD Torodi Ar. Bea 117.09 289 PKP **PKPdf** **05 21 11.9 -1.3**
0.5nm,0.9s,baz=44,slow=2.8,SNR=3.2
TORD Torodi Ar. Bea 117.09 289 PKP **PKPdf** **05 21 11.9 -1.3**
TXAR Lajitas Array 122.68 48 PKP **PKPdf** **05 21 23.4 -0.4**
0.5nm,0.7s,baz=176,slow=1.0,SNR=8.1
TXAR Lajitas Array 122.68 48 PKP **PKPdf** **05 21 23.4 -0.4**
PLCA Paso Flores 145.37 163 PKPbc **PKPbc** **05 22 04.3 -1.0**
1.8nm,0.9s,baz=190,slow=4.3,SNR=4.1
PLCA Paso Flores 145.37 163 PKPbc **PKPbc** **05 22 04.3 -1.0**
PLCA *e*PKPdf **PKPbc** **05 22 04.4 -1.0**

*BYKL **27** 05:08:00.1±0.6,57.37N×120.89E*
MOS 27 05:08:00.9±1.5,57.53N×120.80E,h25km,mb4.2/1,Error ellipse: s-maj=38.3km s-min=22.3km az=58.6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.76**	**216**	*i* Pg		Pb	05 08 11.7	-3.9
KHNR				*e*Sg		Sb	05 08 20.0	-5.6
CRS	**Chara**	**1.52**	**246**	*e*P		Pn	05 08 26.8	+0.3
CRS				*e*			05 08 45.6	
CRS				pmax	pmax			
	comp=Z,154nm,0.7s							
CRS				smax	smax			
	comp=E,250nm,0.4s							
CRS	**Chara**	**1.52**	**246**	*e*Pg		Pn	05 08 27.3	+0.8
CRS				*e*Sg		Sn	05 08 45.4	-0.1
CRS				Pmax				
	comp=E,156nm,1.0s							
CRS				Smax				
	comp=E,284nm,0.7s							
CLNS	**Chul'man**	**2.33**	**106**	*e*P		Pb	05 08 40.2	-2.1
CLNS				*e*			05 09 10.3	
CLNS				pmax	pmax			
	comp=E,2.0nm,0.2s							
CLNS				pmax	pmax			
	comp=Z,9.0nm,0.3s							
CLNS				pmax	pmax			
	comp=N,5.0nm,0.3s							
CLNS				smax	smax			
	comp=E,174nm,0.5s							
CLNS				smax	smax			
	comp=N,202nm,0.6s							
CLNS				smax	smax			
	comp=Z,95nm,0.5s							
CLNS	**Chul'man**	**2.33**	**106**	*e*		Pb	05 08 40.6	-1.7
CLNS				*e*Sg		Sb	05 09 11.4	+0.7
ALDR	**Aldan**	**2.67**	**64**	*e*Pg		Pb	05 08 48.2	+0.1
ALDR				*e*Sg		Sb	05 09 22.9	+2.4
NLYR	**Nelyaty**	**2.98**	**252**	*e*P		Pn	05 08 48.7	+2.1
NLYR				*e*			05 09 28.5	
NLYR				pmax	pmax			
	comp=Z,67nm,0.4s							
NLYR				smax	smax			
	comp=E,227nm,1.0s							
NLYR	**Nelyaty**	**2.98**	**252**	*e*Pn		Pn	05 08 48.4	+1.8
NLYR				*e*Pg		Pb	05 08 52.7	-0.6
NLYR				*e*Sg		Sb	05 09 30.9	+1.7
NLYR				Pmax				
	comp=E,68nm,0.3s							
NLYR				Smax				
	comp=E,227nm,0.9s							
TUP	**Tupik**	**3.15**	**189**	*e*P		Pn	05 08 48.8	-0.2
TUP				*e*			05 09 31.6	
TUP				pmax	pmax			
	comp=Z,54nm,0.6s							
TUP				smax	smax			
	comp=E,339nm,0.8s							
TUP	**Tupik**	**3.15**	**189**	*e*Pn		Pn	05 08 48.3	-0.7
TUP				*e*Pg		Pb	05 08 54.3	-2.0
TUP				*i* Sg		Sb	05 09 32.0	-2.3
TUP				Pmax				
	comp=E,76nm,0.8s							
TUP				Smax				
	comp=E,336nm,0.7s							
TNDR	**Tynda**	**3.24**	**136**	*e*		Pn	05 08 50.7	+0.6
TNDR				*e*			05 09 28.4	
TNDR				*e*Sg		Sb	05 09 36.9	+0.2
BOD	**Bodaibo**	**3.66**	**277**	*e*Pn		Pn	05 08 58.3	+2.4
BOD				*e*Pg		Pb	05 09 06.6	+1.7
BOD				*e*Sg		Sb	05 09 53.6	+4.8
BOD				Pmax				
	comp=E,10.0nm,0.4s							
BOD				Smax				
	comp=E,96nm,1.1s							
SVKR	**Severomuysk**	**4.23**	**253**	*e*Pg		Pb	05 09 17.2	+2.6
SVKR				*e*Sg		Sb	05 10 11.1	+5.9
SVKR				Pmax				
	comp=E,37nm,0.5s							
SVKR				Smax				
	comp=E,165nm,0.7s							
YOA	**Uoyan**	**5.18**	**258**	*e*Sg		Sb	05 10 42.4	+10
YOA				Smax				
	comp=E,284nm,0.4s							
KMO	**Kumora**	**5.54**	**257**	*e*Pg		Pb	05 09 38.7	+1.8
KMO				*e*Sg		Sb	05 10 50.3	+7.5
KMO				Pmax				
	comp=E,7.0nm,0.4s							
KMO				Smax				
	comp=E,80nm,1.3s							
YLYR	**Ulyunkhan**	**6.00**	**248**	*e*Pg		Pb	05 09 47.5	+2.7
YLYR				*e*Sg		Sb	05 11 04.1	+8.0
YLYR				Smax				
	comp=E,55nm,1.5s							
YAK	**Yakutsk**	**6.36**	**41**	*e*P		Pn	05 09 34.3	+1.5
YAK				*e*			05 10 46.6	
YAK				pmax	pmax			
	comp=Z,12nm,0.4s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.3s							
YAK				smax	smax			
	comp=N,7.0nm,0.9s							
YAK				smax	smax			
	comp=E,13nm,0.8s							
NIZ	**Nizh Angarsk**	**6.46**	**259**	*e*P		Pn	05 09 37.0	+2.7
NIZ				pmax	pmax			
	comp=Z,26nm,0.4s							
NIZ	**Nizh Angarsk**	**6.46**	**259**	*e*Pn		Pn	05 09 37.0	+2.7
NIZ				*e*Pg		Pb	05 09 56.4	+4.0
NIZ				*e*Sg		Sb	05 11 18.3	+9.2
NIZ				Pmax				
	comp=Z,3.0nm,0.7s							
NIZ				Smax				
	comp=Z,31nm,0.9s							
CIT	**Chita**	**6.93**	**220**	*e*Sg		Sb	05 11 30.8	+7.9
CIT				Smax				
	comp=Z,154nm,0.8s							
SYVR	**Suvo**	**7.25**	**242**	*e*Pg		Pb	05 10 11.1	+5.2
SYVR				*e*			05 11 17.2	
SYVR				*e*Sg		Sb	05 11 44.7	+13
SYVR				Pmax				
	comp=Z,3.0nm,0.6s							
SYVR				Smax				
	comp=Z,69nm,1.7s							
OGRR	**Ongureny**	**8.43**	**248**	*e*Sg		Sb	05 12 22.8	+17
OGRR				Smax				
	comp=Z,90nm,0.9s							
KPC	**Khapcheranga**	**9.30**	**216**	*e*		Pn	05 10 42.5	+29
KPC				*e*Sg		Sn	05 12 42.8	+46
KPC				Smax				
	comp=Z,50nm,1.5s							
UUDB	**Ulan-Yde**	**9.48**	**239**	*e*Sg		Sn	05 12 51.8	+50
UUDB				Smax				
	comp=Z,59nm,1.8s							
TRG	**Tyrgan**	**9.55**	**246**	*e*			05 12 30.7	
TRG				*e*Sg		Sn	05 12 55.5	+52
TRG				Smax				
	comp=Z,22nm,1.1s							
HRMR	**Khuramsha**	**9.97**	**240**	*e*		Pn	05 10 45.8	+23
HRMR				*e*Pg			05 10 59.9	
HRMR				*e*Sg		Sn	05 13 07.9	+54
HRMR				Pmax				
	comp=Z,5.0nm,1.0s							
HRMR				Smax				
	comp=Z,74nm,0.8s							
ARS	**Arshan**	**12.00**	**250**	*e*Sg			05 14 12.7	
ARS				Smax				
	comp=Z,15nm,1.0s							

*BJI **27** 05:15:24.8,57.56N×121.19E,h8km,mB4.3/1,mb4.2/4, ML4.9/2*
*IDC **27** 05:15:26.8±0.7,57.36N×120.70E,h0km,mb3.8/17, mb1 4.0/18,mb1mx3.9/27,mbtmp3.8/18,ML3.2/1,MS3.3/2, Ms1 3.4/2,ms1mx2.8/31,Error ellipse: s-maj=16.8km s-min=16.2km az=142.0*
*BYKL **27** 05:15:27.2±0.4,57.38N×120.79E*
*MOS **27** 05:15:28.2±1.1,57.39N×120.62E,h18km,mb4.5/17,Error ellipse: s-maj=11.0km s-min=9.1km az=75.4*
*NEIC **27** 05:15:29.9±2.5,57.30N×120.64E,h20km±19km,mb4.2/4, Error ellipse: s-maj=8.7km s-min=6.8km az=143.0*
ISC 27 05:15:27.0±1.0,57.38N±0.03×120.62E±0.03,h2km±6km, n130,σ1§60/123,mb3.9/25,6C-6D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.57**	**217**	*i* Pg		**Pg**	**05 15 38.7**	**+0.7**
KHNR				*i* Sg		**Sg**	**05 15 46.5**	**+1.0**
KHNR				*e*			05 15 50.2	
CRS	**Chara**	**1.37**	**250**	*e*P		**Pb**	**05 15 53.5**	**+0.1**
CRS				*e*			05 16 11.6	
CRS				pmax	pmax			
	comp=Z,2μm,1.0s							
CRS				smax	smax			
	comp=E,3μm,0.4s							
CRS	**Chara**	**1.37**	**250**	⇑*i*Pg		**Pb**	**05 15 53.4**	**+0.1**
CRS				*e*			05 15 55.2	
CRS				max			05 15 56.1	
	comp=E,2μm,1.0s							
CRS				*i* Sg		**Sn**	**05 16 11.9**	**+0.1**
CRS				Smax			05 16 12.7	
	comp=E,3μm,1.0s							
CLNS	**Chul'man**	**2.40**	**101**	*e*P		**Pn**	**05 16 08.9**	**+1.6**
CLNS				*e*			05 16 37.3	
CLNS				pmax	pmax			
	comp=Z,57nm,0.3s							
CLNS				pmax	pmax			
	comp=N,11nm,0.1s							
CLNS				pmax	pmax			
	comp=E,9.0nm,0.2s							
CLNS				smax	smax			
	comp=E,915nm,0.4s							
CLNS				smax	smax			
	comp=Z,216nm,0.3s							
CLNS				smax	smax			
	comp=N,2μm,0.5s							
CLNS	**Chul'man**	**2.40**	**101**	⇓*i*Pg		**Pn**	**05 16 08.9**	**+1.6**
CLNS				⇓*i*			05 16 23.8	
CLNS				*e*			05 16 32.7	
CLNS				*e*Sg		**Sn**	**05 16 38.5**	**+1.3**
ALDR	**Aldan**	**2.83**	**62**	*e*Pn		**Pn**	**05 16 11.5**	**-1.8**
ALDR				*e*Pg		**Pb**	**05 16 16.2**	**-2.1**
ALDR				*e*			05 16 22.8	
ALDR				*e*			05 16 47.0	
ALDR				*e*Sg		**Sb**	**05 16 52.4**	**-1.1**
NLYR	**Nelyaty**	**2.84**	**254**	*e*P		**Pn**	**05 16 15.1**	**+1.8**
NLYR				*e*			05 16 53.9	
NLYR				pmax	pmax			
	comp=Z,769nm,1.1s							
NLYR				smax	smax			
	comp=N,3μm,1.3s							
NLYR	**Nelyaty**	**2.84**	**254**	⇓*i*Pn		**Pn**	**05 16 15.1**	**+1.8**
NLYR				⇓*i*Pg		**Pb**	**05 16 19.7**	**+1.4**
NLYR				Pmax			05 16 21.7	
	comp=N,771nm,0.9s							
NLYR				*e*			05 16 40.7	
NLYR				*e*Sn		**Sn**	**05 16 48.0**	**0.0**
NLYR				*i* Sg		**Sg**	**05 16 56.5**	**-1.5**
NLYR				Smax			05 16 59.4	
	comp=N,3μm,1.0s							
NLYR				*e*			05 17 02.9	
TUP	**Tupik**	**2.98**	**187**	*e*P		**Pb**	**05 16 21.5**	**+0.6**
TUP				*e*			05 16 59.2	
TUP				pmax	pmax			
	comp=Z,372nm,0.5s							
TUP				smax	smax			
	comp=E,2μm,0.9s							
TUP	**Tupik**	**2.98**	**187**	⇓*i*Pn		**Pn**	**05 16 15.6**	**+0.2**
TUP				*e*			05 16 17.6	
TUP				⇑*i*Pg		**Pb**	**05 16 20.3**	**-0.6**
TUP				Pmax			05 16 22.5	
	comp=E,565nm,0.8s							
TUP				*e*Sn		**Sn**	**05 16 52.7**	**+1.0**
TUP				*i* Sg		**Sb**	**05 16 59.5**	**+1.8**
TUP				Smax			05 17 02.4	
	comp=E,2μm,0.9s							
TNDR	**Tynda**	**3.20**	**133**	⇑*i*		**Pn**	**05 16 18.8**	**+0.5**
TNDR				*e*Pg		**Pb**	**05 16 23.7**	**-0.8**
TNDR				*e*			05 16 45.6	
TNDR				*e*Sg		**Sb**	**05 17 05.1**	**+1.1**
BOD	**Bodaibo**	**3.59**	**280**	*e*P		**Pn**	**05 16 24.6**	**+1.0**
BOD				pmax	pmax			
	comp=Z,157nm,1.1s							
BOD	**Bodaibo**	**3.59**	**280**	⇓*i*Pn		**Pn**	**05 16 25.1**	**+1.5**
BOD				*e*Pg		**Pb**	**05 16 32.5**	**+1.4**
BOD				Pmax			05 16 36.0	
	comp=Z,164nm,1.1s							
BOD				*e*Sn		**Sn**	**05 17 07.8**	**+1.3**
BOD				*i* Sg		**Sg**	**05 17 19.2**	**-2.9**
BOD				Smax			05 17 24.0	
	comp=Z,815nm,0.8s							
SVKR	**Severomuysk**	**4.09**	**255**	*e*P		**Pg**	**05 16 43.3**	**-2.0**
SVKR				pmax	pmax			
	comp=Z,234nm,1.2s							
SVKR	**Severomuysk**	**4.09**	**255**	*e*		**Pn**	**05 16 33.3**	**+2.8**
SVKR				*e*Pg		**Pg**	**05 16 42.7**	**-2.6**
SVKR				Pmax			05 16 43.9	
	comp=Z,195nm,1.2s							
SVKR				*e*			05 16 53.5	
SVKR				*e*			05 17 13.0	
SVKR				*e*Sg		**Sg**	**05 17 36.1**	**-2.1**
SVKR				Smax			05 17 43.0	
	comp=Z,2μm,1.3s							
YOA	**Uoyan**	**5.05**	**259**	*e*P		**Pg**	**05 17 01.2**	**-2.5**
YOA				pmax	pmax			
	comp=Z,253nm,0.2s							
YOA	**Uoyan**	**5.05**	**259**	*e*Pg		**Pg**	**05 17 00.9**	**-2.8**
YOA				Pmax			05 17 03.4	
	comp=Z,341nm,0.2s							
YOA				*e*			05 17 07.2	
YOA				*e*Sg		**Sg**	**05 18 07.5**	**-1.6**
YOA				Smax			05 18 21.9	
	comp=Z,3μm,1.4s							
KMO	**Kumora**	**5.41**	**258**	*e*Pg		Pb	05 17 06.0	+3.8
KMO				*e*			05 17 12.4	
KMO				max			05 17 12.7	
	comp=Z,64nm,1.6s							
KMO				*e*			05 17 23.2	
KMO				*e*			05 17 57.6	
KMO				*i* Sg		**Sg**	**05 18 16.2**	**-4.4**
KMO				Smax			05 18 21.1	
	comp=Z,902nm,0.9s							
YLYR	**Ulyunkhan**	**5.85**	**249**	*e*P		Pg	05 17 15.0	-4.0
YLYR				pmax	pmax			
	comp=Z,2.0nm,0.1s							
YLYR	**Ulyunkhan**	**5.85**	**249**	*e*Pn		**Pn**	**05 16 56.5**	**+1.8**
YLYR				max			05 17 10.9	
	comp=Z,1.0nm,0.1s							
YLYR				*e*Pg		Pb	05 17 13.9	+4.2
YLYR				*e*Sg		**Sg**	**05 18 30.3**	**-4.5**
YLYR				Smax			05 18 35.0	
	comp=Z,524nm,1.9s							
NIZ	**Nizh Angarsk**	**6.33**	**260**	*e*P		Pn	05 17 05.3	+4.0
NIZ				pmax	pmax			
	comp=Z,30nm,1.2s							
NIZ	**Nizh Angarsk**	**6.33**	**260**	*e*		Pn	05 17 05.3	+4.0
NIZ				*e*Pg		Pb	05 17 22.3	+4.5
NIZ				*e*			05 17 24.4	
NIZ				max			05 17 29.5	
	comp=Z,30nm,1.0s							
NIZ				*e*Sg		Sg	05 18 43.9	-6.2
NIZ				Smax			05 18 48.0	
	comp=Z,233nm,0.9s							
NIZ				*e*			05 18 51.2	
YAK	**Yakutsk**	**6.54**	**41**	*e*P		Pn	05 17 00.8	-3.3
YAK				*e*			05 18 13.7	
YAK				pmax	pmax			
	comp=Z,11nm,0.5s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.3s							
YAK				smax	smax			
	comp=N,40nm,0.5s							
YAK				smax	smax			
	comp=E,54nm,0.5s							
YAK	**Yakutsk**	**6.54**	**41**	*e*Pn		**Pn**	**05 17 05.8**	**+1.7**
	comp=E,66nm,0.7s							
CIT	**Chita**	**6.75**	**220**	*e*Pg		Pb	05 17 29.7	+4.7
CIT				Pmax			05 17 32.1	
	comp=E,172nm,1.2s							
CIT				*e*			05 18 37.2	
CIT				*i* Sg		**Sg**	**05 18 57.8**	**-5.8**
CIT				Smax			05 19 07.1	
	comp=E,1μm,1.8s							
CIT				*e*			05 19 11.8	
SYVR	**Suvo**	**7.09**	**243**	*e*Pg		Pg	05 17 37.0	-5.6
SYVR				Pmax			05 17 40.0	
	comp=E,78nm,1.3s							
SYVR				*e*			05 17 48.4	
SYVR				*e*			05 18 49.8	
SYVR				*i* Sg		**Sg**	**05 19 09.3**	**-5.1**
SYVR				Smax			05 19 19.0	
	comp=E,322nm,1.3s							
HIA	**Hailar**	**8.14**	**184**	*e*P		**Pn**	**05 17 23.7**	**-2.5**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HIA	**Hailar**	**8.14**	**184**	*e*Pn		**Pn**	**05 17 23.7**	**-2.5**
	comp=Z,7.4nm,0.5s							
HIA	**Hailar**	**8.14**	**184**	*e*		Sn	05 18 46.6	-12
HIA				*e*			05 19 21.5	
HIA				*e*Sg		Sg	05 19 39.3	-9.0
HIA				*e*			05 19 52.5	
OGRR	**Ongureny**	**8.28**	**249**	*e*P		**Pn**	**05 17 30.8**	**+2.8**
OGRR				pmax	pmax			
	comp=Z,20nm,1.3s							
OGRR	**Ongureny**	**8.28**	**249**	*e*		Pn	05 17 34.0	+6.0
OGRR				*e*Pg		Pg	05 17 58.6	-6.9
OGRR				Pmax			05 18 06.1	
	comp=Z,22nm,1.1s							
OGRR				*e*Sn		**Sn**	**05 18 57.4**	**-4.7**
OGRR				*e*Sg		Sg	05 19 46.4	-6.3
OGRR				Smax			05 20 03.4	
	comp=Z,234nm,2.2s							
KPC	**Khapcheranga**	**9.11**	**216**	*e*P		**Pn**	**05 17 40.5**	**+1.0**
KPC				pmax	pmax			
	comp=Z,12nm,1.2s							
KPC	**Khapcheranga**	**9.11**	**216**	*e*Pn		**Pn**	**05 17 40.2**	**+0.7**
KPC				max			05 17 43.6	
	comp=Z,5.0nm,1.0s							
KPC				*e*			05 17 49.5	
KPC				*e*			05 18 15.2	
KPC				*e*Sn		**Sn**	**05 19 20.8**	**-1.8**
KPC				*e*Sg			05 20 09.8	
KPC				Smax			05 20 19.2	
	comp=Z,373nm,1.0s							
ZRHB	**Zarechye**	**9.12**	**244**	*e*		Pn	05 18 09.2	+30
ZRHB				max			05 18 15.8	
	comp=Z,15nm,0.4s							
ZRHB				*e*			05 18 21.4	
ZRHB				*e*			05 19 16.4	
ZRHB				*e*Sg		Sn	05 20 13.3	+51
ZRHB				Smax			05 20 28.1	
	comp=Z,1μm,1.2s							
UUDB	**Ulan-Yde**	**9.32**	**239**	Pg		Pn	05 18 17.4	+35
UUDB				*e*			05 18 22.0	
UUDB				max			05 18 23.3	
	comp=Z,34nm,1.1s							
UUDB				*e*Sg		Sn	05 20 18.9	+51
UUDB				*e*			05 20 21.3	
UUDB				max			05 20 42.7	
	comp=Z,497nm,1.1s							
TRG	**Tyrgan**	**9.40**	**247**	*e*Pn		Pn	05 17 49.8	+6.5
TRG				*e*			05 17 54.9	
TRG				*e*Pg			05 18 19.8	
TRG				Pmax			05 18 21.9	
	comp=Z,4.0nm,0.8s							
TRG				*e*Sg		Sn	05 20 20.9	+51
TRG				*e*			05 20 30.2	
TRG				max			05 20 32.4	
	comp=Z,190nm,1.6s							
KAB	**Kabansk**	**9.68**	**242**	*e*Sg		Sn	05 20 29.9	+54
KAB				*e*			05 20 52.3	
KAB				max			05 20 56.4	
	comp=Z,1μm,1.5s							
HRMR	**Khuramsha**	**9.80**	**240**	*e*		Pn	05 18 24.9	+36
HRMR				*e*			05 20 10.0	
HRMR				*e*Sg		Sn	05 20 33.9	+54
HRMR				Smax			05 20 40.6	
	comp=Z,872nm,1.1s							
KLR	**Kul'dur**	**10.52**	**136**	*e*P		**Pn**	**05 17 55.8**	**-2.9**
LSTR	**Listvyanka**	**10.68**	**246**	*e*			05 20 07.6	
LSTR				*e*Sg			05 21 01.2	
LSTR				Smax			05 21 07.2	
	comp=Z,108nm,2.2s							
IRK	**Irkutsk**	**10.73**	**248**	*e*Sg		Sn	05 21 02.2	+60
IRK				*e*			05 21 12.9	
IRK				max			05 21 26.4	
	comp=Z,211nm,1.2s							
TLY	**Talaya**	**11.38**	**247**	*e*Sg			05 21 23.5	
TLY				Smax			05 21 30.6	
	comp=Z,68nm,1.5s							
TLY				*e*			05 21 39.9	
ARS	**Arshan**	**11.85**	**250**	*e*			05 21 01.6	
ARS				*i* Sg			05 21 36.9	
ARS				Smax			05 22 05.0	
	comp=Z,157nm,1.0s							
ZAK	**Zakamensk**	**12.37**	**243**	*e*P		Pn	05 18 28.4	+4.3
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ZAK	**Zakamensk**	**12.37**	**243**	*i* Sg			05 21 52.1	
ZAK				Smax			05 22 15.9	

comp=Z,60nm,1.8s
HABR Khabarovsk 12.44 130 *e*P Pn 05 18 28.5 +3.6
HABR *e* 05 20 49.1
HABR pmax pmax
comp=Z,66nm,2.7s
HABR pmax pmax
comp=N,28nm,2.7s
HABR pmax pmax
comp=E,33nm,2.0s
HABR MLR MLR
comp=Z,170nm,20.0s
ULN Ulaanbaatar 12.57 227 *e* 05 21 23.4
ULN *e*Sg 05 21 59.5
ULN *e* 05 22 05.1
MOY Mondy 12.73 252 *e* 05 21 53.8
MOY *e*Sg 05 22 02.4
MOY Smax 05 22 26.6
comp=E,74nm,1.4s
SONM Songino Array 12.86 228 Pn **Pn** **05 18 30.9 +0.1**
comp=Z,0.1nm,0.3s,baz=51,slow=11,SNR=3.0
SONM Sn **Sn** **05 20 54.0 -0.4**
comp=Z,0.1nm,0.3s,baz=42,slow=16,SNR=2.5
SONM Lg Lg 05 22 13.8
comp=Z,1.8nm,0.3s,baz=44,slow=27,SNR=7.0
SONM LR LR 05 23 46.0
comp=Z,166nm,20.1s,baz=28,slow=39
SONM Songino Array 12.86 228 P **Pn** **05 18 30.9 +0.1**
SONM 05 20 54.0
SONM MLR MLR
comp=Z,166nm,20.1s
SONM Songino Array 12.86 228 Pn **Pn** **05 18 30.9 +0.1**
SONM Sn **Sn** **05 20 54.0 -0.4**
SONM Lg Lg 05 22 13.8
ORL Orlik 12.88 257 *e* 05 21 21.6
ORL *e*Sg 05 22 09.3
ORL Smax 05 22 21.7
comp=E,70nm,1.7s
USRK Ussuriysk Arra 15.00 147 Lg Lg 05 23 19.3
comp=Z,0.2nm,0.3s,baz=330,slow=7.3,SNR=5.1
SEY Seymchan 16.63 57*ce*P **P** **05 19 22.6 -0.9**
ZAA0 Zalesovo Array 20.33 276 *e*P Pn 05 20 05.2 -0.9
ZALV Zalesovo Beam 20.33 276 P Pn 05 20 05.7 -0.4
comp=E,8.3nm,1.0s,baz=63,slow=8.3,SNR=16
ZALV Lg Lg 05 26 15.1
comp=Z,0.3nm,0.3s,baz=70,slow=29,SNR=2.4
ZALV Zalesovo Beam 20.33 276 P Pn 05 20 05.7 -0.4
ZALV pmax pmax
comp=Z,8.0nm,1.0s
ZALV Zalesovo Beam 20.33 276 P Pn 05 20 05.7 -0.4
ZALV Lg Lg 05 26 15.1
KSRS Korea Array 20.52 163 P Pn 05 20 07.7 -0.7
comp=Z,2.1nm,0.9s,baz=350,slow=10.0,SNR=6.3
KSRS Lg Lg 05 26 23.6
comp=Z,1.0nm,0.8s,baz=337,slow=29,SNR=2.9
KSRS Korea Array 20.52 163 P Pn 05 20 07.7 -0.7
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSAR Wonju Array Be 20.52 163 P Pn 05 20 07.7 -0.8
KSAR Wonju Array Be 20.52 163 P Pn 05 20 07.7 -0.7
KSAR Lg Lg 05 26 23.6
NVS Novosibirsk 20.83 279 *e*P Pn 05 20 12.5 +0.6
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
GTA Gaotai 22.51 226 *e*P **P** **05 20 29.3 +1.4**
GTA pP **pP** **05 20 33.0 +4.5**
GTA sP sP 05 20 35.5 +6.8
GTA S Sn 05 24 42.8 -5.4
GTA sS sS 05 24 49.8 +13
GTA pmax pmax
comp=Z,4.0nm,2.2s
GTA pmax pmax
comp=Z,76nm,6.4s
BILL Bilibino 22.89 44⇑ *e*P **P** **05 20 33.2 +1.7**
BILL pmax pmax
comp=Z,5.0nm,1.6s
BILL Bilibino 22.89 44 *e*P **P** **05 20 33.1 +1.6**
comp=Z,3.1nm,0.6s
KURK Kurchatov 25.21 273 P **P** **05 20 55.5 +1.8**
comp=Z,2.0nm,0.8s,baz=61,slow=9.1,SNR=16
KURK Lg Lg 05 28 43.0
comp=Z,0.1nm,0.4s,baz=108,slow=33,SNR=1.3
KURK Kurchatov 25.21 273 P **P** **05 20 55.5 +1.8**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 25.21 273 *e*P **P** **05 20 53.7 0.0**
comp=Z,11nm,1.3s
KURK Lg Lg 05 28 43.0
MK31 Makanchi Array 25.48 262 *e*P **P** **05 20 57.1 +0.8**
MK31 Makanchi Array 25.48 262 *e*P **P** **05 20 57.1 +0.8**
MKAR Makanchi Array 25.48 262 P **P** **05 20 57.1 +0.8**
comp=Z,1.7nm,0.6s,baz=60,slow=8.0,SNR=27
MKAR Makanchi Array 25.48 262 *i* P **P** **05 20 57.2 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 25.48 262 P **P** **05 20 57.1 +0.8**
BVAR Borovoye Array 28.45 283 P **P** **05 21 23.1 +0.2**
comp=Z,0.7nm,0.5s,baz=62,slow=9.5,SNR=5.4
BVAR Borovoye Array 28.45 283 P **P** **05 21 23.2 +0.2**
BVAR Borovoye Array 28.45 283 P **P** **05 21 23.1 +0.2**
BRVK Borovoye 28.49 283 *e*P **P** **05 21 24.6 +1.3**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 32.40 263 *e*P **P** **05 21 59.6 +1.5**
AAK pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 34.23 267 *e*P **P** **05 22 14.3 +0.4**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 34.23 267 *e*P **P** **05 22 14.3 +0.4**
comp=Z,7.9nm,1.1s
ABKAR Akbulak array 36.02 284 *e*P **P** **05 22 29.3 +0.2**
comp=Z,0.7nm,0.6s
KEV Kevo 39.09 327 *e*P **P** **05 22 54.4 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 39.09 327 *ep* **P** **05 22 54.4 -0.5**
comp=Z,0.6nm,0.4s
KEV Kevo 39.09 327 *ep* **P** **05 22 54.4 -0.5**
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 39.65 327 P **P** **05 22 59.7 0.0**
comp=Z,1.4nm,0.6s,baz=66,slow=9.4,SNR=7.0
ARCES ARCESS Array B 39.65 327 P **P** **05 22 59.7 0.0**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 39.65 327 P **P** **05 22 59.7 0.0**
JOF Joensuu 41.38 316 *e*P **P** **05 23 13.7 -0.2**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 41.38 316 *ep* **P** **05 23 13.7 -0.2**
comp=Z,2.7nm,0.7s
JOF Joensuu 41.38 316 *ep* **P** **05 23 13.7 -0.2**
comp=Z,2.7nm,0.7s
ILAR Eielson Array 41.46 40 P **P** **05 23 15.4 +0.7**
comp=Z,0.4nm,0.5s,baz=292,slow=4.3,SNR=4.2
ILAR Eielson Array 41.46 40 P **P** **05 23 15.4 +0.7**
ILAR Eielson Array 41.46 40 P **P** **05 23 15.4 +0.7**
CMAR Chiang Mai Arr 42.07 212 LR LR 05 42 33.9
comp=Z,26nm,19.0s,baz=220,slow=39
KAF Kangasniemi 43.72 317 *e*P **P** **05 23 32.5 -0.5**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 43.72 317 *ep* **P** **05 23 32.5 -0.5**
comp=Z,2.0nm,0.6s
KAF Kangasniemi 43.72 317 *ep* **P** **05 23 32.5 -0.5**
comp=Z,2.0nm,0.6s
FINES FINESS Array B 44.23 317 P **P** **05 23 37.3 +0.2**
comp=Z,5.5nm,0.7s,baz=43,slow=8.6,SNR=14
FINES FINESS Array B 44.23 317 P **P** **05 23 37.3 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 44.23 317 P **P** **05 23 37.3 +0.2**
NB2 NORSAR Subarra 49.70 323 P **P** **05 24 19.7 -0.2**
comp=Z,0.9nm,0.5s,baz=41,slow=7.4
NOA NORSAR Array B 49.70 323 P **P** **05 24 19.8 -0.1**
comp=Z,1.1nm,0.6s,baz=43,slow=7.8,SNR=5.4
NOA NORSAR Array B 49.70 323 P **P** **05 24 19.8 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 49.70 323 P **P** **05 24 19.8 -0.1**
AKASG Malin Array Be 50.18 304 P **P** **05 24 24.6 +1.0**
comp=Z,0.8nm,0.5s,baz=40,slow=8.4,SNR=4.2
AKASG Malin Array Be 50.18 304*ce*P **P** **05 24 25.0 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 50.18 304 P **P** **05 24 24.6 +1.0**
YKA Yellowknife Ar 53.05 29 P **P** **05 24 44.4 -0.6**
comp=Z,0.4nm,0.7s,baz=332,slow=7.1,SNR=6.4
YKA Yellowknife Ar 53.05 29 P **P** **05 24 44.4 -0.6**
YKA Yellowknife Ar 53.05 29 P **P** **05 24 44.4 -0.6**
BUR08 Bucovina Ar. S 54.22 304 *e*P **P** **05 24 55.0 +1.1**
CLL Coll m 56.53 314 *e*P **P** **05 25 10.0 -0.3**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Coll m 56.53 314 *e*P **P** **05 25 10.0 -0.3**
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 58.02 312 *e*P **P** **05 25 21.5 +0.6**
GERES GERESS Array B 58.20 312 P **P** **05 25 22.4 +0.1**
comp=Z,1.2nm,0.7s,baz=46,slow=7.6,SNR=9.5
GERES GERESS Array B 58.20 312 P **P** **05 25 22.4 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 58.20 312 P **P** **05 25 22.4 +0.1**
PDAR Pinedale Array 71.75 37 P **P** **05 26 50.8 +0.2**
comp=Z,0.4nm,0.6s,baz=18,slow=3.1,SNR=3.5
PDAR Pinedale Array 71.75 37 P **P** **05 26 50.8 +0.2**
ESDC Sonseca Array 72.71 318 P **P** **05 26 56.7 +0.4**
comp=Z,0.2nm,0.4s,baz=27,slow=7.0,SNR=4.6
ESDC Sonseca Array 72.71 318 P **P** **05 26 56.7 +0.4**
WRA Warramunga Arr 77.88 167 P **P** **05 27 25.3 -0.6**
comp=Z,1.1nm,0.9s,baz=353,slow=6.6,SNR=10
WRA Warramunga Arr 77.88 167 P **P** **05 27 25.3 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 77.88 167 P **P** **05 27 25.3 -0.6**
ASAR Alice Springs 81.50 168 P **P** **05 27 45.2 -0.4**
comp=Z,0.5nm,0.5s,baz=5.0,slow=5.8,SNR=6.7
ASAR Alice Springs 81.50 168 P **P** **05 27 45.2 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 81.50 168 P **P** **05 27 45.2 -0.4**
TORD Torodi Ar. Bea 93.74 301 P **P** **05 28 45.1 -0.3**
comp=Z,0.3nm,0.7s,baz=20,slow=4.2,SNR=4.6
TORD Torodi Ar. Bea 93.74 301 P **P** **05 28 45.1 -0.3**

*ISCJB **27** 05:28:29.8±0.8, 6.°93N±0.°08×72.°97W±0.°08, h172km±8km, mb3.1/2, Error ellipse: s-maj=14.2km s-min=11.5km az=141.4*
*IDC **27** 05:28:31.5±4.1, 6.°63N×73.°32W, h172km±31km, mb2.9/2, mb1 3.3/3, mb1mx3.0/20, mbtmp3.0/3, Error ellipse: s-maj=82.4km s-min=37.2km az=86.0*
*FUNV **27** 05:28:31.3, 6.°95N×73.°09W, h173km, MW3.1*
ISC 27 05:28:29.5±1.0, 6.°91N±0.°06×73.°08W±0.°07, h159km±10km, n15, σ2s01/23, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**39**	⇓*i*P		**Pn**	**05 28 59.1**	**+1.8**
CAPV				*e*S		**Sn**	**05 29 20.0**	**+1.3**
ROSC	**El Rosal**	**2.39**	**211**	P		**Pn**	**05 29 10.8**	**+0.7**
	13nm,0.3s,baz=84,slow=23,SNR=47							
ROSC				S		**Sn**	**05 29 37.8**	**-3.7**
	16nm,0.3s,baz=107,slow=17,SNR=17							
VIGV	**El Vigia**	**2.57**	**41**	*e*P		**Pn**	**05 29 13.6**	**+1.6**
VIGV				*e*S		**Sn**	**05 29 44.0**	**-0.8**
SOCV	**Socops**	**2.60**	**58**	*e*P		**Pn**	**05 29 13.7**	**+1.4**
SOCV				*e*S		**Sn**	**05 29 45.7**	**+0.3**
ELOV	**Elorza**	**3.58**	**88**	*e*P		**Pn**	**05 29 25.0**	**+0.4**
ELOV				*e*S		**Sn**	**05 30 05.6**	**-1.7**
VIRV	**Villa del Rosa**	**3.63**	**11**	*e*P		**Pn**	**05 29 25.6**	**+0.3**
VIRV				*e*S		**Sn**	**05 30 05.6**	**-3.2**
QARV	**Quebrada Arrib**	**4.14**	**37**	*e*P		**Pn**	**05 29 31.9**	**-0.1**
QARV				*e*S		**Sn**	**05 30 17.4**	**-3.2**
SANV	**Sanarito**	**4.36**	**53**	*e*P		**Pn**	**05 29 35.6**	**+0.8**
DABV	**Dabajuro**	**4.66**	**31**	*e*P		**Pn**	**05 29 39.7**	**+1.0**
DABV				*e*S		**Sn**	**05 30 28.0**	**-4.8**
BAUV	**El Baul**	**5.39**	**68**	*e*P		**Pn**	**05 29 47.4**	**-0.8**
MAPV	**Macapo**	**5.42**	**57**	*e*P		**Pn**	**05 29 49.2**	**+0.4**
MONV	**Montecano**	**5.88**	**31**	*e*P		**Pn**	**05 29 54.9**	**+0.1**
TXAR	**Lajitas Array**	**36.43**	**312**	P		**P**	**05 35 20.8**	**+1.6**
	0.2nm,0.7s,baz=124,slow=11,SNR=3.9							
YKA	**Yellowknife Ar**	**63.20**	**340**	P		**P**	**05 38 41.3**	**+0.8**
	0.3nm,0.6s,baz=133,slow=6.5,SNR=10							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**05 48 02.6**	**-0.5**
	0.2nm,0.4s,baz=106,slow=3.2,SNR=5.4							

*NNC **27** 05:50:29.7±2.3, 37.°03N×70.°04E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=19.3km s-min=17.5km az=103.0*
ISC 27 05:50:29.2±4.8, 36.°6N±0.°3×70.°3E±0.°2, h213km, n11, σ0s65/19, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**6.12**	**24**	P		**Pn**	**05 51 58.3**	**-0.2**
	SNR=26							
AML				P		**Pn**	**05 51 58.3**	**-0.2**
	SNR=26							
KK31	**Karatay Array**	**6.51**	**1**	Pn		**Pn**	**05 52 03.8**	**+0.6**
	2.2nm,0.3s,baz=184,slow=12,SNR=63							
KK31				⇑Sn		**S**	**05 53 17.8**	**+0.1**
	2.4nm,0.5s,baz=193,slow=20,SNR=5.1							
EKS2	**Erkin-Say**	**6.63**	**23**	P		**Pn**	**05 52 05.8**	**+1.1**
	SNR=7.0							
EKS2				P		**Pn**	**05 52 05.8**	**+1.1**
	SNR=7.0							
KZA	**Kyzart**	**6.68**	**33**	P		**Pn**	**05 52 05.0**	**-0.7**
	SNR=7.5							
KZA				P		**Pn**	**05 52 05.0**	**-0.7**
	SNR=7.5							
AAK	**Ala-Archa**	**6.84**	**27**	P		**Pn**	**05 52 08.0**	**+0.4**
	SNR=7.0							
AAK				P		**Pn**	**05 52 08.0**	**+0.4**
	SNR=7.0							
CHMS	**Chumysh**	**7.25**	**27**	P		**Pn**	**05 52 13.2**	**+0.4**
	SNR=5.7							
CHMS				P		**Pn**	**05 52 13.2**	**+0.4**
	SNR=5.7							
USP	**Ospenovka**	**7.40**	**24**	P		**Pn**	**05 52 15.3**	**+0.6**
	SNR=5.6							
USP				P		**Pn**	**05 52 15.3**	**+0.6**
	SNR=5.6							
TKM2	**Tokmak 2**	**7.52**	**31**	P		**Pn**	**05 52 16.7**	**+0.4**
	SNR=6.7							
TKM2				P		**Pn**	**05 52 16.7**	**+0.4**
	SNR=6.7							
TKM2	**Tokmak 2**	**7.52**	**31**	⇑Pn		**Pn**	**05 52 16.3**	**0.0**
	2.5nm,0.5s							
TKM2				⇓Sn		**S**	**05 53 41.8**	**+0.1**
	2.1nm,0.7s							
AB31	**Akbulak array**	**14.74**	**332**	⇑Pn		P	05 53 52.9	+4.7
	2.6nm,0.5s,baz=157,slow=12,SNR=100							
AB31				⇓Sn		**S**	**05 56 29.5**	**-1.1**
	0.3nm,0.3s,baz=150,slow=24,SNR=5.5							
AKTO	**Aktyubinsk**	**16.43**	**331**	⇓Pn		Pn	05 54 16.4	+8.5
	0.4nm,0.8s							
AKTO				⇑Sn		S	05 57 13.7	+5.7
	0.5nm,1.4s							

*ISK **27** 06:00:36.3, 36.°97N×28.°23E, h2km, MD2.8*
*DDA **27** 06:00:37.1, 36.°95N×28.°12E, h7km, MD2.8*
*CSEM **27** 06:00:37.1±0.6, 36.°96N×28.°17E, h5km, MD2.8, Error ellipse: s-maj=11.4km s-min=5.1km az=51.0*
ISC 27 06:00:37.0±1.6, 36.°97N±0.°06×28.°25E±0.°07, h1km±11km, n17, σ1s14/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.17**	**8**	*e*PG		**Pg**	**06 00 40.8**	**+0.5**
YER				*e*SG		**Sg**	**06 00 43.7**	**+1.1**
YER	**Yerkesik**	**0.17**	**8**	*e*Pg		**Sg**	**06 00 40.8**	**+0.5**
YER				*e*Sg		**Sg**	**06 00 43.7**	**+1.1**
TURN	**Turunc**	**0.29**	**108**	*i* Pg		**Pg**	**06 00 41.4**	**-1.2**
TURN				*i* Sg		**Sg**	**06 00 44.8**	**-1.6**
FETY	**Fethiye**	**0.74**	**116**	*e*PG		**Pb**	**06 00 52.0**	**-0.7**
FETY				*e*SG		**Sb**	**06 01 02.9**	**-0.4**
FETY	**Fethiye**	**0.74**	**116**	*e*Pg		**Pb**	**06 00 52.0**	**-0.7**
FETY				*e*Sg		**Sb**	**06 01 02.9**	**-0.4**
AYDN	**Tasoluk**	**0.76**	**337**	*e*P		**Pb**	**06 00 51.9**	**-1.0**
AYDN				*e*S		**Sg**	**06 01 01.3**	**0.0**
AYDN	**Tasoluk**	**0.76**	**337**	*e*P		**Pb**	**06 00 51.9**	**-1.0**
AYDN				*e*S		**Sg**	**06 01 01.3**	**0.0**
DNZL	**Cakiroluk**	**0.96**	**41**	*e*P		**Pb**	**06 00 55.5**	**-1.0**
DNZL				*e*S		**Sn**	**06 01 10.5**	**-1.6**
DNZL	**Cakiroluk**	**0.96**	**41**	*e*P		**Pb**	**06 00 55.5**	**-1.0**
DNZL				*e*S		**Sn**	**06 01 10.5**	**-1.6**
GOLH	**Golhisar**	**1.08**	**75**	*e*P		**Pn**	**06 01 00.5**	**+1.2**
GOLH	**Golhisar**	**1.08**	**75**	*e*P		**Pn**	**06 01 00.5**	**+1.2**
ELL	**Elmali**	**1.34**	**99**	*e*PN		**Pb**	**06 01 03.7**	**+0.7**
ELL				*e*SN		**Sn**	**06 01 23.1**	**+1.6**
ELL	**Elmali**	**1.34**	**99**	*e*Pn		**Pb**	**06 01 03.7**	**+0.7**
ELL				*e*Sn		**Sn**	**06 01 23.1**	**+1.6**
KULA	**Kula-Manisa**	**1.58**	**12**	*e*PN		**Pb**	**06 01 06.0**	**-1.0**
KULA	**Kula-Manisa**	**1.58**	**12**	*e*Pn		**Pb**	**06 01 06.0**	**-1.0**
KHL	**Karahalli**	**1.69**	**36**	*e*PN		**Pb**	**06 01 07.9**	**-1.0**
KHL	**Karahalli**	**1.69**	**36**	*e*Pn		**Pb**	**06 01 07.9**	**-1.0**

*ISK **27** 06:01:21.7, 36.°96N×28.°22E, h5km, MD2.5*
*DDA **27** 06:01:22.0, 36.°97N×28.°14E, h7km, MD2.7*
*CSEM **27** 06:01:22.5±0.2, 36.°98N×28.°23E, h8km, MD2.5, Error ellipse: s-maj=5.3km s-min=3.8km az=18.0*
ISC 27 06:01:21.3±1.4, 36.°93N±0.°04×28.°23E±0.°03, h0km±12km, n13, σ1s28/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.21**	**13**	*e*PG		**Pg**	**06 01 25.8**	**+0.5**
YER				*e*SG		**Sg**	**06 01 28.9**	**+0.9**
YER	**Yerkesik**	**0.21**	**13**	*e*Pg		**Pg**	**06 01 25.8**	**+0.5**
YER				*e*Sg		**Sg**	**06 01 28.9**	**+0.9**
TURN	**Turunc**	**0.31**	**101**	*i* Pg		**Pg**	**06 01 26.1**	**-1.1**
TURN				*i* Sg		**Sg**	**06 01 29.5**	**-1.7**
BODT	**Bodrum**	**0.74**	**280**	*e*PG		**Pb**	**06 01 37.2**	**0.0**
BODT				*e*SG		**Sb**	**06 01 46.9**	**-1.0**
BODT	**Bodrum**	**0.74**	**280**	*e*Pg		**Pb**	**06 01 37.2**	**0.0**
BODT				*e*Sg		**Sb**	**06 01 46.9**	**-1.0**
FETY	**Fethiye**	**0.75**	**113**	*e*PG		**Pb**	**06 01 37.1**	**-0.1**
FETY				*e*SG		**Sb**	**06 01 47.8**	**-0.2**
FETY	**Fethiye**	**0.75**	**113**	*e*Pg		**Pb**	**06 01 37.1**	**-0.1**
FETY				*e*Sg		**Sb**	**06 01 47.8**	**-0.2**
AYDN	**Tasoluk**	**0.78**	**339**	*e*P		**Pb**	**06 01 36.5**	**-1.3**
AYDN				*e*S		**Sg**	**06 01 46.1**	**-0.2**
AYDN	**Tasoluk**	**0.78**	**339**	*e*P		**Pb**	**06 01 36.5**	**-1.3**
AYDN				*e*S		**Sg**	**06 01 46.1**	**-0.2**
DNZL	**Cakiroluk**	**1.00**	**41**	*e*P		**Pb**	**06 01 40.8**	**-0.8**
DNZL				*e*S		**Sn**	**06 01 55.6**	**-2.1**
DNZL	**Cakiroluk**	**1.00**	**41**	*e*P		**Pb**	**06 01 40.8**	**-0.8**
DNZL				*e*S		**Sn**	**06 01 55.6**	**-2.1**
GOLH	**Golhisar**	**1.11**	**74**	*e*P		**Pn**	**06 01 46.0**	**+1.8**
GOLH				*e*S		**Sn**	**06 02 02.8**	**+2.6**
GOLH	**Golhisar**	**1.11**	**74**	*e*P		**Pn**	**06 01 46.0**	**+1.8**

*CSEM **27** 06:03:47.3±1.8, 37.°03N×28.°13E, h2km, MD2.6, Error ellipse: s-maj=37.7km s-min=13.0km az=27.0*
DDA 27 06:03:45.3, 36.°94N×28.°05E, h6km, MD2.6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**44**	*e*PG		Pg	06 03 49.4	-1.2
YER				*e*SG		Sg	06 03 52.5	-1.9
YER	**Yerkesik**	**0.27**	**44**	*e*Pg		Pg	06 03 49.4	-1.3
YER				*e*Sg		Sg	06 03 52.5	-1.8
TURN	**Turunc**	**0.45**	**99**	*i* Pg		Pg	06 03 50.0	-3.9
TURN				*i* Sg		Sg	06 03 53.2	-6.6
AYDN	**Tasoluk**	**0.73**	**349**	*e*P		Pb	06 04 00.2	-0.3
AYDN				*e*S		Sb	06 04 10.2	-0.6
AYDN	**Tasoluk**	**0.73**	**349**	*e*P		Pb	06 04 00.2	-0.3
AYDN				*e*S		Sb	06 04 10.2	-0.6
GOLH	**Golhisar**	**1.24**	**76**	*e*P		Pn	06 04 10.1	+0.8
GOLH				*e*S		Sn	06 04 26.8	+0.3
GOLH	**Golhisar**	**1.24**	**76**	*e*P		Pn	06 04 10.1	+0.8
GOLH				*e*S		Sn	06 04 26.8	+0.3
KHL	**Karahalli**	**1.81**	**40**	*e*PN		Pn	06 04 09.5	-7.5

*ISCJB **27** 06:05:55.8±0.3, 36.°16N±0.°03×76.°35E±0.°07, h10km, mb3.9/12, Error ellipse: s-maj=8.1km s-min=3.6km az=159.7*
*IDC **27** 06:05:56.7±1.1, 36.°24N×76.°08E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, ML4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/42, Error ellipse: s-maj=26.3km s-min=20.8km az=28.0*
*NEIC **27** 06:06:01.4±0.6, 36.°18N×76.°39E, h37km±9km, mb4.0/4, Error ellipse: s-maj=11.2km s-min=5.4km az=61.0*
*NNC **27** 06:06:06.1±4.2, 36.°83N×76.°52E, h33km, mb4.1, mpv4.0, Error ellipse: s-maj=35.7km s-min=20.5km az=1.0*
*BJI **27** 06:06:07.7, 36.°96N×77.°15E, h10km, mB4.4/4, mb3.8/8, ML4.1/5, Ms3.8/3, Ms7 3.5/1*
ISC 27 06:06:00.0±0.5, 36.°16N±0.°03×76.°42E±0.°06, h10km, n85, σ2s03/73, mb4.0/12, 8C-5D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSH	**Kashi**	**3.37**	**354**	⇓*i*Pn		Pn	06 06 48.5	-4.2
KSH						Sn	06 07 25.5	-7.3
KSH				smax		smax		
	comp=N,1μm,0.7s							
KSH				smax		smax		
	comp=E,860nm,0.6s							
CHCP	**Chirah Chowk**	**3.60**	**227**	P		Pn	06 07 00.1	+4.2
DLH	**Dalhousie**	**3.63**	**186**	*e*P		Pg	06 07 05.0	-4.6
DLH				*ex*		Sg	06 08 06.0	+9.3
THN	**Thein Dam**	**3.77**	**189**	*ex*		**Pg**	**06 07 11.6**	**-0.6**
THN				*ex*		**Sg**	**06 08 03.1**	**+2.1**
CEP	**Cherat**	**4.37**	**239**	P		**Pn**	**06 07 07.7**	**+1.1**
CEP				S		**Sn**	**06 08 02.0**	**+4.3**
THW	**Thamme Wali**	**5.12**	**230**	P		**Pn**	**06 07 18.5**	**+1.7**
KZA	**Kyzart**	**5.97**	**352**	P		**Pn**	**06 07 30.8**	**+2.0**
	SNR=14							
KZA				P		**Pn**	**06 07 30.8**	**+2.0**
	SNR=14							
DDI	**Dehra Dun**	**5.99**	**166**	*e*P		Pn	06 07 35.0	+6.3
DDI				*ex*		x	06 09 17.5	
KBL	**Kabul**	**6.24**	**257**	*e*Pn		**Pn**	**06 07 32.0**	**-0.3**
	comp=E,186nm,1.6s							
AML	**Almayashu**	**6.32**	**341**	P		**Pn**	**06 07 34.3**	**+0.7**
	SNR=6.6							
AML				P		**Pn**	**06 07 34.3**	**+0.7**
	SNR=6.6							
KBK	**Karagaybulak**	**6.58**	**351**	P		Pn	06 07 40.7	+3.7
	SNR=8.2							
KBK				P		Pn	06 07 40.7	+3.7
	SNR=8.2							
AAK	**Ala-Archa**	**6.63**	**348**	P		**Pn**	**06 07 40.3**	**+2.7**
	SNR=10.0							
AAK				P		**Pn**	**06 07 40.3**	**+2.7**
	SNR=10.0							
AAK	**Ala-Archa**	**6.63**	**348**	*e*Pn		**Pn**	**06 07 37.7**	**+0.1**
	comp=E,91nm,0.6s							
TKM2	**Tokmak 2**	**6.78**	**355**	P		**Pn**	**06 07 38.8**	**-0.9**
	SNR=10.0							
TKM2				P		**Pn**	**06 07 38.8**	**-0.9**
	SNR=10.0							
TKM2	**Tokmak 2**	**6.78**	**355**	⇑Pn		**Pn**	**06 07 37.7**	**-2.0**
	comp=E,9.5nm,0.8s							
TKM2				⇑Pg		**Pb**	**06 08 00.4**	**+2.4**
	comp=E,37nm,1.1s							
TKM2				⇓Lg		Lg	06 09 22.1	
	comp=E,28nm,0.6s							
TKM2	**Tokmak 2**	**6.78**	**355**	*e*Pn		**Pn**	**06 07 38.5**	**-1.2**
	comp=E,252nm,0.6s							
TKM2				*e*S		**Sb**	**06 09 24.3**	**+5.2**
EKS2	**Erkin-Say**	**6.80**	**343**	P		**Pn**	**06 07 41.6**	**+1.6**
	SNR=17							
EKS2				P		**Pn**	**06 07 41.6**	**+1.6**
	SNR=17							
EKS2	**Erkin-Say**	**6.80**	**343**	*e*Pn		**Pn**	**06 07 40.5**	**+0.5**
	comp=E,15nm,0.8s							
NDI	**New Delhi**	**7.49**	**175**	*e*P		Pn	06 07 55.1	+5.7
NDI				*e*S		**Sn**	**06 09 11.2**	**-3.1**
AYAN	**Aya Nagar**	**7.68**	**175**	*ex*		**Pn**	**06 07 54.5**	**+2.5**
AYAN				*e*S		**Sn**	**06 09 16.7

	comp=E,7.4nm,0.4s								
KKAR					*e*Sn		**Sn**	06 09 29.8	**-4.2**
AGRA	**Agra**		**9.00**	**171**	*ex*		**Pn**	06 08 11.4	**+1.4**
AGRA					*e*S		**Sn**	06 09 48.5	**-3.0**
AGRA					AML		AML	06 10 06.8	
	comp=E,86nm,0.4s								
AGRA					AML		AML	06 10 10.1	
	comp=N,77nm,0.4s								
DANN	**Dangsing**		**9.96**	**139**	*e*P		**Pn**	**06 08 23.7**	**+0.2**
	comp=N,19nm,0.3s								
DANN	**Dangsing**		**9.96**	**139**	*e*P		**Pn**	**06 08 23.7**	**+0.2**
	comp=N,19nm,0.3s								
KOLN	**Koldanda**		**10.35**	**142**	*e*P		**Pn**	**06 08 29.0**	**+0.2**
	comp=N,26nm,0.4s								
KOLN	**Koldanda**		**10.35**	**142**	*e*P		**Pn**	**06 08 29.0**	**+0.2**
	comp=N,26nm,0.4s								
GKN	**Gorkha**		**10.71**	**137**	*e*P		**Pn**	**06 08 33.4**	**-0.2**
	comp=N,26nm,0.5s								
GKN	**Gorkha**		**10.71**	**137**	*e*P		**Pn**	**06 08 33.4**	**-0.2**
	comp=N,26nm,0.5s								
KKN	**Kakani**		**11.23**	**136**	*e*P		**Pn**	**06 08 40.4**	**-0.5**
KKN	**Kakani**		**11.23**	**136**	*e*P		**Pn**	**06 08 40.4**	**-0.5**
GUN	**Gumba**		**11.49**	**133**	*e*P		**Pn**	**06 08 43.5**	**-1.0**
GUN	**Gumba**		**11.49**	**133**	*e*P		**Pn**	**06 08 43.5**	**-1.0**
MK31	**Makanchi Array**		**11.49**	**21**	⇑Pn		Pn	06 08 41.6	-2.6
	comp=N,1.4nm,0.6s,baz=193,slow=12,SNR=33								
MK31					⇓S		Sn	06 10 42.8	-10
	comp=N,5.8nm,0.9s,baz=189,slow=26,SNR=5.0								
MK31	**Makanchi Array**		**11.49**	**21**	*e*Pn		Pn	06 08 41.1	-3.1
MK31					*e*Sn		Sn	06 10 46.9	-5.7
MKAR	**Makanchi Array**		**11.49**	**21**	Pn		Pn	06 08 41.3	-2.8
	comp=N,0.3nm,0.3s,baz=198,slow=12,SNR=19								
MKAR					Sn		Sn	06 10 46.3	-6.3
	comp=N,0.3nm,0.3s,baz=191,slow=18,SNR=3.8								
MKAR	**Makanchi Array**		**11.49**	**21**	Pn		Pn	06 08 41.3	-2.8
MKAR					Sn		Sn	06 10 46.3	-6.3
JIRN	**Jiri**		**11.86**	**133**	*e*P		**Pn**	**06 08 48.5**	**-1.1**
JIRN	**Jiri**		**11.86**	**133**	*e*P		**Pn**	**06 08 48.5**	**-1.1**
RAMN	**Ramite**		**12.63**	**134**	*e*P		**Pn**	**06 08 58.2**	**-1.8**
RAMN	**Ramite**		**12.63**	**134**	*e*P		**Pn**	**06 08 58.2**	**-1.8**
TAPN	**Taplejung**		**13.01**	**129**	*e*P		Pn	06 09 02.6	-2.6
TAPN	**Taplejung**		**13.01**	**129**	*e*P		Pn	06 09 02.6	-2.6
ODAN	**Odare**		**13.17**	**132**	*e*P		**Pn**	**06 09 05.5**	**-1.8**
ODAN	**Odare**		**13.17**	**132**	*e*P		**Pn**	**06 09 05.5**	**-1.8**
KURK	**Kurchatov**		**14.63**	**6**	Pn		Pn	06 09 22.4	-4.5
	comp=N,0.0nm,0.3s,baz=195,slow=12,SNR=13								
KURK	**Kurchatov**		**14.63**	**6**	⇑Pn		Pn	06 09 23.8	-3.2
	comp=N,8.1nm,0.9s								
KURK					⇓Lg		Lg	06 13 32.7	
	comp=N,18nm,1.7s								
KURK	**Kurchatov**		**14.63**	**6**	*e*Pn		Pn	06 09 23.6	-3.4
	comp=N,8.6nm,0.8s								
VOSK	**Vostochnaya**		**17.00**	**349**	⇑P		**Pn**	**06 09 57.6**	**-0.1**
	comp=N,3.5nm,0.9s								
BVA0	**Borovoye Array**		**17.38**	**348**	P		**Pn**	**06 10 02.0**	**-0.5**
	comp=N,1.1nm,1.0s,baz=171,slow=12,SNR=34								
BVAR	**Borovoye Array**		**17.38**	**348**	P		**Pn**	**06 10 01.4**	**-1.2**
	comp=N,0.6nm,0.3s,baz=153,slow=10.0,SNR=12								
BVAR	**Borovoye Array**		**17.38**	**348**	P		**Pn**	**06 10 01.4**	**-1.2**
BRVK	**Borovoye**		**17.43**	**348**	⇑P		**Pn**	**06 10 03.3**	**+0.1**
	comp=N,18nm,1.0s								
BRVK	**Borovoye**		**17.43**	**348**	*e*P		**Pn**	**06 10 02.2**	**-1.0**
	comp=N,8.5nm,0.8s								
ZRNK	**Zerenda**		**17.58**	**345**	⇑P		**Pn**	**06 10 02.7**	**-2.2**
	comp=N,3.5nm,0.7s								
AB31	**Akbulak array**		**17.77**	**323**	⇑P		Pn	06 10 01.1	-6.3
	comp=N,1.5nm,0.6s,baz=150,slow=7.6,SNR=33								
AB31					⇓S		Sn	06 13 12.5	-13
	comp=N,1.1nm,0.6s,baz=145,slow=22,SNR=6.6								
ABKAR	**Akbulak array**		**17.77**	**323**	*e*P		Pn	06 10 02.0	-5.4
	comp=N,1.9nm,0.6s								
ABKAR					*e*S		Sn	06 13 09.7	-16
ZAA0	**Zalesovo Array**		**18.72**	**16**	*e*P		**P**	**06 10 17.0**	**-1.6**
ZALV	**Zalesovo Beam**		**18.72**	**16**	P		**P**	**06 10 16.8**	**-1.8**
	comp=N,0.5nm,0.3s,baz=210,slow=9.8,SNR=12								
ZALV	**Zalesovo Beam**		**18.72**	**16**	P		**P**	**06 10 16.8**	**-1.8**
GTA	**Gaotai**		**18.77**	**73**	*e*P		**Pn**	**06 10 22.5**	**+2.7**
GTA					pP		**pP**	**06 10 26.8**	**+4.6**
GTA					sP		sP	06 10 29.5	+6.0
GTA					pmax		pmax		
	comp=Z,3.0nm,1.1s								
GTA					pmax		pmax		
	comp=Z,80nm,5.9s								
GTA					LR		LR		
	comp=N,160nm,14.5s								
GTA					LR		LR		
	comp=E,110nm,14.0s								
GTA					LR		LR		
	comp=Z,130nm,13.3s								
AKTO	**Aktyubinsk**		**19.49**	**323**	P		**P**	**06 10 24.0**	**-3.0**
	comp=Z,1.5nm,0.3s,baz=112,slow=10,SNR=37								
AKTO					LR		LR	06 18 34.8	
	comp=Z,117nm,18.4s,baz=60,slow=39								
AKTO	**Aktyubinsk**		**19.49**	**323**	P		**P**	**06 10 24.0**	**-3.0**
LZH	**Lanzhou**		**22.13**	**82**	*e*P		P	06 10 49.0	-6.9
LZH					pP		pP	06 10 52.0	-6.8
LZH					sP		sP	06 10 54.0	-6.1
LZH					PP		**PnPn**	**06 11 18.5**	**+0.6**
LZH					pmax		pmax		
	comp=Z,15nm,1.3s								
ARU	**Arti**		**23.59**	**335**	*e*P		**P**	**06 11 07.3**	**-3.4**
	comp=Z,6.3nm,0.6s								
SONM	**Songino Array**		**24.99**	**53**	P		**P**	**06 11 23.9**	**0.0**
	comp=Z,4.9nm,1.0s,baz=250,slow=10,SNR=23								
SONM	**Songino Array**		**24.99**	**53**	P		**P**	**06 11 23.9**	**0.0**
ULN	**Ulaanbaatar**		**25.42**	**53**	*e*P		**P**	**06 11 27.8**	**0.0**
	comp=Z,3.9nm,0.8s								
CMAR	**Chiang Mai Arr**		**26.57**	**126**	P		**P**	**06 11 40.0**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=311,slow=11,SNR=7.9								
CMAR	**Chiang Mai Arr**		**26.57**	**126**	P		**P**	**06 11 40.0**	**+1.7**
HHC	**Hu-ho-hao-te**		**27.78**	**70**	*e*P		**P**	**06 11 51.0**	**+1.8**
HHC					pmax		pmax		
	comp=Z,4.0nm,0.9s								
HHC					pmax		pmax		
	comp=Z,79nm,5.4s								
FINES	**FINESS Array B**		**40.23**	**325**	P		P	06 13 33.4	-3.1
	comp=Z,1.1nm,0.5s,baz=112,slow=10.0,SNR=8.9								
FINES	**FINESS Array B**		**40.23**	**325**	P		P	06 13 33.4	-3.1
ARCES	**ARCESS Array B**		**43.16**	**336**	P		P	06 13 57.6	-2.8
	comp=Z,2.4nm,0.8s,baz=109,slow=9.4,SNR=17								
ARCES	**ARCESS Array B**		**43.16**	**336**	P		P	06 13 57.6	-2.8
NOA	**NORSAR Array B**		**47.28**	**323**	P		P	06 14 30.5	-2.8
	comp=Z,1.0nm,0.8s,baz=208,slow=22,SNR=3.1								
NOA	**NORSAR Array B**		**47.28**	**323**	P		P	06 14 30.5	-2.8
TORD	**Torodi Ar. Bea**		**70.09**	**272**	P		P	06 17 08.8	-3.9
	comp=Z,0.8nm,0.5s,baz=50,slow=5.7,SNR=13								
TORD	**Torodi Ar. Bea**		**70.09**	**272**	P		P	06 17 08.8	-3.9
ILAR	**Eielson Array**		**73.83**	**18**	P		P	06 17 31.4	-3.0
	comp=Z,0.5nm,0.8s,baz=333,slow=5.4,SNR=4.9								
ILAR	**Eielson Array**		**73.83**	**18**	P		P	06 17 31.4	-3.0
YKA	**Yellowknife Ar**		**81.28**	**5**	P		P	06 18 13.0	-3.0
	comp=Z,0.4nm,0.5s,baz=346,slow=5.6,SNR=12								
YKA	**Yellowknife Ar**		**81.28**	**5**	P		P	06 18 13.1	-3.0

*ISCJB **27** 06:15:47.9±0.4, 13°.89N±0°.04×120°.48E±0°.08, h145km±3km, mb3.8/16, Error ellipse: s-maj=13.2km s-min=6.2km az=167.5*

*MAN **27** 06:15:48, 13°.92N×120°.48E, h132km, mb4.5, ML3.4, MS3.2*

*IDC **27** 06:15:49.2±0.5, 13°.88N×120°.75E, h144km±4km, mb3.6/16, mb1 3.7/17, mb1mx3.7/24, mbtmp3.6/17, Error ellipse: s-maj=23.6km s-min=9.8km az=66.0*

ISC 27 06:15:49.1±0.7, 13°.88N±0°.05×120°.54E±0°.08, h143km±6km, n28, σ1°10/33, mb4.0/16, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**243**	*e*P	**Pn**	**06 16 09.0**	**+0.2**
LUBP				*e*S	**Sn**	**06 16 23.4**	**-0.3**
TGY	**Tagaytay City**	**0.45**	**60**	P	**Pn**	**06 16 10.0**	**+0.5**
	1µm,0.3s,baz=220,slow=1.7,SNR=48						
TGY				S	**Sn**	**06 16 25.2**	**+0.4**
	611nm,0.3s,baz=137,slow=18,SNR=7.6						
TGY	**Tagaytay City**	**0.45**	**60**	⇑*i*P	**Pn**	**06 16 09.9**	**+0.5**
BOAC	**Boac**	**1.34**	**108**	*e*P	**Pn**	**06 16 16.8**	**+0.3**
PCPH	**Palayan**	**1.76**	**18**	*e*P	**Pn**	**06 16 20.1**	**-0.8**
BUSP	**Coron**	**1.90**	**190**	*e*P	**Pn**	**06 16 22.7**	**+0.1**
BUSP				*e*S	**Sn**	**06 16 47.6**	**-0.7**
SCZP	**Santa Cruz**	**1.98**	**342**	*e*P	**Pn**	**06 16 22.5**	**-1.1**
SCZP				*e*S	**Sn**	**06 16 48.0**	**-2.1**
OTRP	**Odiongan**	**2.09**	**136**	*e*P	**Pn**	**06 16 25.1**	**+0.2**
BOLP	**Bolinao**	**2.56**	**346**	*e*P	**Pn**	**06 16 31.1**	**+0.5**
BOLP				*e*S	**Sn**	**06 17 00.6**	**-2.0**
CUYO	**Cuyo Island**	**3.05**	**171**	*e*P	**Pn**	**06 16 37.3**	**+0.4**
PVCP	**Virac**	**3.53**	**94**	*e*P	**Pn**	**06 16 44.2**	**+1.2**
KAPI	**Kappang**	**18.79**	**182**	P	**Pn**	**06 19 59.0**	**-0.8**
	1.0nm,0.3s,baz=355,slow=5.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**21.23**	**285**	P	**P**	**06 20 27.1**	**+3.1**
	4.1nm,0.7s,baz=95,slow=7.8,SNR=20						
KSRS	**Korea Array**	**24.38**	**14**	P	**P**	**06 20 55.2**	**+1.1**
	1.5nm,1.1s,baz=259,slow=27,SNR=4.1						
SONM	**Songino Array**	**35.84**	**344**	P	**P**	**06 22 35.8**	**+0.7**
	1.9nm,0.6s,baz=162,slow=11,SNR=12						
WRA	**Warramunga Arr**	**36.25**	**158**	P	**P**	**06 22 37.0**	**-1.8**
	2.5nm,0.5s,baz=336,slow=9.5,SNR=30						
ASAR	**Alice Springs**	**39.54**	**161**	P	**P**	**06 23 05.3**	**-1.1**
	1.1nm,0.4s,baz=337,slow=6.9,SNR=11						
CTA	**Charters Tower**	**42.18**	**143**	P	**P**	**06 23 28.4**	**+0.3**
	1.8nm,0.4s,baz=309,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**45.79**	**324**	P	**P**	**06 23 58.0**	**+1.4**
	1.4nm,0.7s,baz=124,slow=9.0,SNR=16						
ZALV	**Zalesovo Beam**	**48.83**	**333**	P	**P**	**06 24 20.1**	**+0.3**
	1.8nm,0.3s,baz=127,slow=6.7,SNR=12						
STKA	**Stephens Creek**	**49.78**	**156**	P	**P**	**06 24 26.2**	**-1.1**
	0.6nm,0.4s,baz=31,slow=10,SNR=6.0						
BVAR	**Borovoye Array**	**55.53**	**326**	P	**P**	**06 25 10.3**	**+0.9**
	1.5nm,0.6s,baz=117,slow=9.2,SNR=13						
AKTO	**Aktyubinsk**	**61.98**	**320**	P	**P**	**06 25 54.2**	**+0.2**
	1.7nm,0.5s,baz=88,slow=7.8,SNR=10						
ILAR	**Eielson Array**	**78.66**	**26**	P	**P**	**06 27 34.5**	**-0.6**
	0.2nm,0.6s,baz=310,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**78.86**	**339**	P	**P**	**06 27 36.1**	**0.0**
	1.4nm,0.5s,baz=83,slow=7.3,SNR=19						
FINES	**FINESS Array B**	**80.05**	**331**	P	**P**	**06 27 42.4**	**-0.3**
	0.7nm,0.5s,baz=44,slow=5.8,SNR=4.0						
NOA	**NORSAR Array B**	**87.03**	**333**	P	**P**	**06 28 17.7**	**-0.7**
	0.5nm,0.6s,baz=68,slow=4.7,SNR=3.0						
YKA	**Yellowknife Ar**	**92.67**	**22**	P	**P**	**06 28 43.9**	**-0.7**
	0.2nm,0.5s,baz=306,slow=4.3,SNR=4.5						

*BJI **27** 06:29:10.1, 17°.80S×177°.91W, h606km, mB5.0/35, mb5.0/58*

*ISCJB **27** 06:29:11.3±0.1, 17°.93S±0°.03×178°.67W±0°.02, h594km, mb5.2/231, Error ellipse: s-maj=3.7km s-min=2.1km az=150.5*

*IDC **27** 06:29:11.6±0.5, 17°.88S×178°.64W, h582km±4km, mb4.7/36, mb1 4.8/38, mb1mx4.8/38, mbtmp4.7/38, Error ellipse: s-maj=6.7km s-min=5.1km az=161.0*

*DJA **27** 06:29:11, 17°.99S×178°.72W, h571km, mb5.7/32*

*MOS **27** 06:29:12.7±1.2, 17°.74S×178°.71W, h604km, mb5.1/54, Error ellipse: s-maj=8.5km s-min=7.0km az=56.1*

*NEIC **27** 06:29:13.0±0.1, 17°.84S×178°.68W, h601km, mb5.1/144, MW5.8, Error ellipse: s-maj=5.1km s-min=3.1km az=144.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.76; $M_{θθ}$6.57; $M_{rθ}$-3.81; $M_{rφ}$2.25; $M_{θφ}$2.92; $M_{φφ}$-2.61; Best double couple: $M_0$6.70000×10^{17} NP1: ϕ±34.00000°, δ59.00000°, λ-163.00000°. NP2: ϕ±294.00000°, δ75.00000°, λ-32.00000°. Principal axes: T 6.6800, Plg10.0000°, Azm347.0000°; N 0.0100, Plg54.0000°, Azm92.0000°; P -6.6900, Plg33.0000°, Azm249.0000°;*

*BGS **27** 06:29:13.0±3.7, 17°.84S×178°.68W, h601km, mb5.1(NEIC)*

*SZGRF **27** 06:29:14.2, 17°.63S×178°.48W, h600km, Fiji Islands region*

ISC 27 06:29:12.1±0.2, 17°.89S±0°.03×178°.55W±0°.03, h593km, h593km:pP-P, n1240, σ1°21/1998, mb5.2/231, 508C-411D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.24**	**272**	*e*P	**P**	**06 30 33.4**	**+1.3**
MSVF	**Nonsavu**	**3.24**	**272**	*e*Pn	**P**	**06 30 33.4**	**+1.3**
MSVF	**Nonsavu**	**3.24**	**272**	P	**P**	**06 30 33.4**	**+1.3**
	16µm,0.6s						
AFI	**Afiamalu**	**7.62**	**60**	P	**P**	**06 31 05.0**	**-2.8**
	308nm,0.3s,baz=27,slow=3.3,SNR=204						
AFI				S	**S**	**06 32 36.7**	**-5.7**
	23nm,0.3s,baz=27,slow=22,SNR=2.8						
AFI	**Afiamalu**	**7.62**	**60**	*e*P	P	06 31 04.6	-3.1
AFI				*e*		06 32 39.2	
AFI	**Afiamalu**	**7.62**	**60**	*e*Pn	P	06 31 04.6	-3.1
AFI				*e*Sn	**S**	**06 32 39.2**	**-3.2**
FUNA	**Funafuti**	**9.56**	**346**	*e*Pn	**P**	**06 31 24.4**	**-2.0**
RAO	**Raoul Island**	**11.33**	**177**	*e*P	**P**	**06 31 42.0**	**-1.9**
RAO				*e*		06 33 49.3	
RAO	**Raoul Island**	**11.33**	**177**	*e*Pn	**P**	**06 31 42.0**	**-1.9**
RAO				*e*Sn	**S**	**06 33 49.3**	**+0.6**
BAYA	**Yate Dam**	**14.33**	**250**	*e*S	S	06 34 32.0	-11
DZM	**Mont Dzumac**	**14.70**	**251**	*e*P	**P**	**06 32 16.4**	**-1.5**
	1µm,0.9s						
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**06 32 18.1**	**+0.3**
	34nm,0.3s,baz=81,slow=17,SNR=83						
DZM				S	**S**	**06 34 44.3**	**-5.4**
	30nm,0.3s,baz=360,slow=19,SNR=7.8						
DZM	**Mont Dzumac**	**14.70**	**251**	*e*P	**P**	**06 32 15.1**	**-2.7**
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**06 32 18.1**	**+0.3**
DZM				S	**S**	**06 34 44.3**	**-5.4**
NOUC	**Port Laguerre**	**14.84**	**251**	*e*P	**P**	**06 32 17.3**	**-1.6**
NOUC				*e*S	S	06 34 44.5	-7.2
RAR	**Rarotonga**	**18.01**	**104**	P	**P**	**06 32 48.9**	**+0.8**
	2.0nm,0.3s,baz=252,slow=6.8,SNR=15						
RAR				S	**S**	**06 35 46.3**	**+2.7**
	baz=111,slow=6.9,SNR=2.3						
RAR	**Rarotonga**	**18.01**	**104**	*e*P	**P**	**06 32 48.6**	**+0.5**
RAR				pmax	pmax		
	comp=Z,56nm,0.8s						
RAR	**Rarotonga**	**18.01**	**104**	*e*P	**P**	**06 32 48.6**	**+0.5**
	comp=Z,56nm,0.8s						
OUZ	**Onta**	**18.63**	**200**	*e*P	**P**	**06 32 56.4**	**+2.9**
	comp=Z,307nm,0.7s						
WCZ	**Waipu Caves**	**19.05**	**198**	PN	**P**	**06 33 00.2**	**+2.8**
KUZ	**Kuaotunu**	**19.46**	**194**	PN	**P**	**06 33 02.6**	**+1.6**
MXZ	**Matakaoa Point**	**19.80**	**187**	PN	**P**	**06 33 01.6**	**-2.5**
OTAZ	**Otara**	**19.84**	**196**	*e*PN	**P**	**06 33 06.6**	**+2.1**
MKAZ	**Moumakai**	**19.94**	**195**	PN	**P**	**06 33 06.8**	**+1.4**
PUZ	**Puketiti**	**20.31**	**187**	PN	**P**	**06 33 07.8**	**-1.0**
URZ	**Urewera**	**20.65**	**190**	*e*P	**P**	**06 33 09.9**	**-1.9**
	comp=Z,284nm,0.6s						
URZ	**Urewera**	**20.65**	**190**	PN	**P**	**06 33 10.3**	**-1.5**
MWZ	**Matawai**	**20.66**	**189**	*e*PN	**P**	**06 33 10.1**	**-1.8**
CNGZ	**Carnagh Statio**	**20.72**	**187**	PN	**P**	**06 33 12.2**	**-0.2**
BHHZ	**Black Hill Sta**	**22.03**	**191**	PN	**P**	**06 33 21.2**	**-3.0**
HNR	**Honiara**	**22.50**	**289**	P	**P**	**06 33 29.5**	**+0.8**
	comp=Z,328nm,0.7s,baz=88,slow=3.5,SNR=4.5						
HNR	**Honiara**	**22.50**	**289**	P	**P**	**06 33 29.5**	**+0.8**
HNR	**Honiara**	**22.50**	**289**	P	**P**	**06 33 29.5**	**+0.8**
MRZ	**Mangatainoka R**	**23.26**	**191**	PN	**P**	**06 33 32.7**	**-2.4**
TCW	**Tory Channel**	**24.05**	**193**	*e*PN	**P**	**06 33 40.9**	**-1.2**
SNZO	**South Karori**	**24.05**	**193**	*e*P	**P**	**06 33 41.0**	**-1.1**
	comp=Z,139nm,0.6s						
SNZO	**South Karori**	**24.05**	**193**	PN	**P**	**06 33 40.8**	**-1.2**
QRZ	**Quartz Range**	**24.12**	**197**	PN	**P**	**06 33 43.1**	**+0.5**
NNZ	**Nelson**	**24.27**	**195**	PN	**P**	**06 33 42.8**	**-1.1**
THZ	**Tophouse**	**24.90**	**195**	PN	**P**	**06 33 48.6**	**-1.0**
DSZ	**Denniston Nort**	**25.18**	**197**	PN	**P**	**06 33 51.5**	**-0.5**
KHZ	**Kahutara**	**25.37**	**194**	*e*P	**P**	**06 33 52.0**	**-1.6**
	comp=Z,143nm,0.6s						
KHZ	**Kahutara**	**25.37**	**194**	PN	**P**	**06 33 52.1**	**-1.5**
LTZ	**Lake Taylor**	**26.02**	**196**	PN	**P**	**06 33 57.6**	**-1.8**
WVZ	**Waitaha Valley**	**26.71**	**198**	PN	**P**	**06 34 03.8**	**-1.5**
RPZ	**Rata Peaks**	**27.21**	**197**	P	**P**	**06 34 08.3**	**-1.5**
	comp=Z,64nm,0.6s,baz=261,slow=2.4,SNR=31						
RPZ				S	**S**	**06 38 08.7**	**+0.6**
	comp=Z,25nm,0.9s,baz=127,slow=13,SNR=2.6						
RPZ	**Rata Peaks**	**27.21**	**197**	*e*P	**P**	**06 34 09.0**	**-0.8**
	comp=Z,80nm,0.8s						
PAE	**Paea**	**27.58**	**94**	*e*P	**P**	**06 34 13.6**	**+0.2**
	comp=Z,5.3nm,0.6s						
PAE				*e*pP	**pP**	**06 35 43.3**	**-3.7**
	comp=Z,17nm,1.2s						
PPT2	**Papeete2**	**27.59**	**94**	*e*P	**P**	**06 34 14.0**	**+0.4**
	comp=Z,43nm,1.1s						
PPT2				*e*pP	**pP**	**06 35 43.9**	**-3.3**
	comp=Z,72nm,1.2s						
TBI	**Tubuai**	**27.74**	**106**	*e*P	**P**	**06 34 15.5**	**+0.8**
	comp=Z,217nm,0.7s						
TBI				*e*pP	**pP**	**06 35 43.3**	**-5.1**
	comp=Z,452nm,1.4s						
TIAR	**Tiarei**	**27.81**	**94**	*e*P	**P**	**06 34 15.8**	**+0.3**
	comp=Z,51nm,0.8s						
TIAR				*e*pP	**pP**	**06 35 44.9**	**-4.3**
	comp=Z,103nm,1.2s						
LBZ	**Lake Benmore**	**28.07**	**197**	PN	**P**	**06 34 15.7**	**-1.6**
ODZ	**Otahua Downs**	**28.55**	**196**	*e*P	**P**	**06 34 20.3**	**-1.1**
	comp=Z,236nm,0.7s						
WKZ	**Wanaka**	**28.81**	**199**	PN	**P**	**06 34 22.3**	**-1.4**
EIDS	**Eidsvold**	**29.14**	**250**	*e*P	**P**	**06 34 26.5**	**-0.4**
	comp=Z,355nm,0.8s						
PMOR	**Pomariorio Ree**	**29.53**	**89**	*e*P	**P**	**06 34 30.6**	**+0.3**
	comp=Z,54nm,1.0s						
PMOR				*e*pP	**pP**	**06 36 02.7**	**-2.2**
	comp=Z,133nm,1.4s						
MLZ	**Mavora Lakes**	**29.54**	**199**	PN	**P**	**06 34 30.3**	**+0.2**
TUZ	**Tuapeka**	**29.66**	**197**	PN	**P**	**06 34 31.0**	**0.0**
ARMA	**Armidale**	**29.83**	**240**	*e*P	**P**	**06 34 33.5**	**+0.6**
ARMA				*e*S	**S**	**06 38 49.0**	**-0.3**
ARMA				*e*SCP	**ScP**	**06 40 07.0**	**+3.5**
ARMA	**Armidale**	**29.83**	**240**	*e*P	**P**	**06 34 33.7**	**+0.8**
	comp=Z,438nm,0.7s						
WHZ	**Wether Hill Ro**	**30.10**	**199**	*e*P	**P**	**06 34 35.3**	**+0.5**
WHZ				*e*pP	**PP**	**06 36 17.8**	**+3.1**
WHZ	**Wether Hill Ro**	**30.10**	**199**	PN	**P**	**06 34 35.1**	**+0.3**
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**06 35 02.4**	**-0.1**
	comp=Z,388nm,0.8s,baz=88,slow=10,SNR=232						
CTA				S	**S**	**06 39 39.5**	**-3.0**
	comp=Z,10nm,0.8s,baz=67,slow=5.5,SNR=2.4						
CTA				ScP	**ScP**	**06 40 18.1**	**+2.6**
	comp=Z,24nm,1.0s,baz=70,slow=1.5,SNR=6.7						
CTA	**Charters Tower**	**33.31**	**260**	*e*P	**P**	**06 35 02.1**	**-0.3**
CTA				*e*SCP	**ScP**	**06 40 17.9**	**+2.4**
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**06 35 02.4**	**-0.1**
CTA				S	**S**	**06 39 39.5**	**-3.0**
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**06 35 02.4**	**-0.1**
CTA				S	**S**	**06 39 39.5**	**-3.0**
CTA				ScP	**ScP**	**06 40 18.1**	**+2.6**
CTAO	**Charters Tower**	**33.31**	**260**	*e*P	**P**	**06 35 02.2**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,306nm,0.7s						
CTAO	**Charters Tower**	**33.31**	**260**	*e*P	**P**	**06 35 02.2**	**-0.3**
	comp=Z,306nm,0.7s						
CTAO				*e*ScP	**ScP**	**06 40 17.9**	**+2.4**
CNB	**Canberra Magne**	**33.33**	**232**	*e*P	**P**	**06 35 03.0**	**+0.5**
CNB				*e*S	**S**	**06 39 42.8**	**+0.3**
CAN	**Canberra**	**33.61**	**232**	*e*P	**P**	**06 35 05.3**	**+0.5**
CAN				pmax	pmax		
	comp=Z,339nm,0.8s						
CAN	**Canberra**	**33.61**	**232**	*e*P	**P**	**06 35 05.3**	**+0.5**
	comp=Z,339nm,0.8s						
PMG	**Port Moresby**	**34.32**	**280**	P	**P**	**06 35 11.7**	**+0.7**
	comp=Z,1µm,0.9s,baz=79,slow=6.0,SNR=191						
PMG				S	**S**	**06 39 59.5**	**+1.8**
	comp=Z,2.7nm,0.2s,baz=179,slow=23,SNR=9.0						
PMG	**Port Moresby**	**34.32**	**280**	*d*P	**P**	**06 35 11.6**	**+0.7**
PMG				pmax	pmax		
	comp=Z,1µm,1.0s						
PMG	**Port Moresby**	**34.32**	**280**	*e*P	**P**	**06 35 11.7**	**+0.7**
	comp=Z,1µm,0.9s						
PMG				S	**S**	**06 39 59.5**	**+1.8**
PMG	**Port Moresby**	**34.32**	**280**	P	**P**	**06 35 11.9**	**+1.0**
	comp=Z,1µm,0.9s,comp=Z,11µm						
COEN	**Coen**	**36.97**	**270**	*e*P	**P**	**06 35 33.2**	**+0.4**
	comp=Z,4µm,0.8s						
TOO	**Toolangi**	**37.08**	**231**	*e*P	**P**	**06 35 33.9**	**+0.5**
TOO				*e*S	**S**

DRV L L 06 51 00.0
DRV R 06 55 00.0
LBMI Labuha 55.68 282 P **P** **06 37 55.0 +1.1**
comp=Z,324nm,0.9s,comp=Z,4µm
TNTI Ternate 56.32 283 P **P** **06 37 59.0 +0.7**
comp=Z,631nm,0.9s,comp=Z,7µmcomp=Z,2.5nm
MBWA Marble Bar 57.95 256 *eP* **P** **06 38 08.4 -0.8**
MBWA Marble Bar 57.95 256 *eP* **P** **06 38 08.6 -0.6**
comp=Z,150nm,0.6s
MBWA *epP* **pP** **06 40 06.4 +3.5**
MMRI Maumere 58.16 271 P **P** **06 38 10.3 -0.5**
comp=Z,426nm,0.8s,comp=Z,5µm
KLBR Kellerberrin 58.72 244 *eP* **P** **06 38 13.6 -0.7**
CBIJ Chichi jima 58.73 319 P **P** **06 38 14.0 -0.4**
comp=Z,79nm,0.8s,baz=291,slow=22,SNR=5.8
CBIJ Chichi jima 58.73 319 P **P** **06 38 14.0 -0.4**
NWAO Narrogin (SRO) 59.10 242 S **S** **06 45 39.4 -0.2**
comp=Z,3.3nm,0.7s,baz=125,slow=17,SNR=2.4
NWAO Narrogin (SRO) 59.10 242 *eP* **P** **06 38 16.3 -0.5**
NWAO *e**PP **pP** **06 40 11.9 +0.8**
NWAO S **S** **06 45 39.4 -0.2**
NWAO pmax pmax
comp=Z,87nm,0.7s
NWAO Narrogin (SRO) 59.10 242 *eP* **P** **06 38 16.3 -0.5**
comp=Z,87nm,0.7s
NWAO *ep*P **pP** **06 40 11.9 +0.8**
NWAO S **S** **06 45 39.4 -0.2**
KMSI Cibinong 59.40 282 P **P** **06 38 19.2 +0.1**
comp=Z,693nm,0.8s,comp=Z,14µm
LUWI Luwuk 59.97 279 P **P** **06 38 23.4 +0.6**
comp=Z,362nm,1.6s,comp=Z,5µm
SBA Scott Base 60.43 184 *eP* **P** **06 38 27.4 +2.6**
SBA *e**PP pP 06 40 26.1 +6.3
SBA pmax pmax
comp=Z,202nm,1.5s
SBA Scott Base 60.43 184 *eP* **P** **06 38 27.4 +2.6**
comp=Z,202nm,1.5s
SBA *ep*P pP 06 40 26.1 +6.3
VNDA Vanda 60.46 185 *eP* **P** **06 38 26.6 +1.7**
VNDA pmax pmax
comp=Z,81nm,1.4s
VNDA Vanda 60.46 185 *eP* **P** **06 38 26.6 +1.7**
comp=Z,81nm,1.4s
DAV Davao City (W) 60.46 289 P **P** **06 38 27.7 +1.7**
comp=Z,238nm,0.4s,baz=93,slow=19,SNR=5.1
DAV S **S** **06 45 57.1 0.0**
comp=Z,304nm,0.4s,baz=160,slow=20,SNR=2.9
DAV Davao City (W) 60.46 289 P **P** **06 38 27.8 +1.7**
DAV S **S** **06 45 57.1 0.0**
BKSI Bulukumba 61.11 274 P **P** **06 38 29.6 -0.7**
comp=Z,102nm,0.7s,comp=Z,2µm
KAPI Kappang 61.55 274 P **P** **06 38 32.2 -1.1**
comp=Z,58nm,0.7s,baz=136,slow=3.8,SNR=42
KAPI PP **PP** **06 40 54.0 -5.1**
comp=Z,26nm,1.0s,baz=132,slow=12,SNR=5.4
KAPI S **S** **06 46 06.0 -4.5**
comp=Z,2.3nm,0.3s,baz=84,slow=12,SNR=2.0
KAPI Kappang 61.55 274 *eP* **P** **06 38 31.8 -1.5**
comp=Z,163nm,1.2s
KAPI PP **PP** **06 40 54.0 -5.1**
KAPI Kappang 61.55 274 P **P** **06 38 32.8 -0.4**
comp=Z,563nm,0.5s,SNR=15
CTBH Cotabato--PC H 61.73 289⇑ *eP* **P** **06 38 34.5 +0.2**
RPN Rapa Nui 63.92 112 P **P** **06 38 49.8 +1.5**
comp=Z,26nm,0.7s,baz=262,slow=4.5,SNR=3.6
RPN Rapa Nui 63.92 112 P **P** **06 38 49.8 +1.5**
RPN Rapa Nui 63.92 112 P **P** **06 38 49.8 +1.5**
MTNI Mataram 63.94 269 P **P** **06 38 48.1 -0.5**
comp=Z,302nm,0.8s
KHKI Kahang-Kahang 64.55 269 P **P** **06 38 51.6 -0.8**
comp=Z,164nm,0.9s,comp=Z,2µm
IGBI Denpasar 64.86 268 P P 06 38 48.6 -5.8
comp=Z,772nm,0.9s,comp=Z,5µm
IGBI Denpasar 64.86 268 P **P** **06 38 54.1 -0.3**
comp=Z,772nm,0.9s,comp=Z,75µm
NBBI Negara 65.48 269 P **P** **06 38 58.1 -0.2**
comp=Z,291nm,0.7s,comp=Z,4µm
BYJI Banyuwangi 65.78 269 P **P** **06 39 00.4 +0.3**
comp=Z,458nm,0.8s,comp=Z,12µm
JAGI Jajag, Banyuwa 65.90 269 P **P** **06 38 59.2 -1.7**
comp=Z,542nm,0.8s,comp=Z,5µm
CASY Casey 66.10 205 *eP* **P** **06 39 01.1 -0.1**
comp=Z,57nm,0.6s
CASY *ep*P **pP** **06 41 03.2 +4.0**
MYLDM Lahad Datu 66.17 284 P **P** **06 39 04.5 +2.0**
TSM Tawau 66.43 283 P **P** **06 39 05.1 +1.0**
GMJI Gumukmas 66.63 269 P **P** **06 39 04.4 -1.0**
comp=Z,321nm,0.6s,comp=Z,4µm
BLJI Banyuglugur 66.63 269 P **P** **06 39 04.9 -0.5**
comp=Z,542nm,0.7s,comp=Z,5µm
SDKM Sandakan 67.55 284 P **P** **06 39 11.2 +0.2**
TGY Tagaytay City 67.61 294 P **P** **06 39 12.2 +0.9**
comp=Z,211nm,0.3s,baz=48,slow=20,SNR=3.3
TGY Tagaytay City 67.61 294 P **P** **06 39 12.2 +0.9**
TGY Tagaytay City 67.61 294 P **P** **06 39 12.2 +0.9**
MJAR Matsushiro Arr 67.81 323 P **P** **06 39 11.4 -0.6**
comp=Z,344nm,0.6s,baz=166,slow=6.7,SNR=84
MJAR S **S** **06 47 25.0 +0.7**
comp=Z,0.7nm,0.3s,baz=75,slow=23,SNR=2.7
MJAR Matsushiro Arr 67.81 323 P **P** **06 39 11.5 -0.6**
MJAR S **S** **06 47 25.0 +0.7**
MJAR Matsushiro Arr 67.81 323 P **P** **06 39 11.4 -0.6**
MJAR S **S** **06 47 25.0 +0.7**
MAJO Matsushiro 67.81 323 *eP* **P** **06 39 11.7 -0.4**
MAJO pmax pmax
comp=Z,58nm,0.8s
MAJO Matsushiro 67.81 323 *eP* **P** **06 39 11.7 -0.4**
comp=Z,58nm,0.8s
MAT Matsushiro 67.81 323 P **P** **06 39 11.5 -0.6**
MAT S **S** **06 47 23.0 -1.4**
JOW Kunigami 68.10 310 P **P** **06 39 14.7 +0.7**
comp=Z,14nm,0.3s,baz=141,slow=7.1,SNR=6.8
JOW S **S** **06 47 32.5 +4.5**
comp=Z,8.8nm,0.7s,baz=285,slow=22,SNR=2.0
JOW Kunigami 68.10 310 *eP* **P** **06 39 13.9 -0.1**
comp=Z,30nm,1.0s
JOW S **S** **06 47 32.5 +4.5**
PWJI Pagerwojo 68.26 268 P **P** **06 39 15.0 -0.3**
comp=Z,217nm,0.6s,comp=Z,3µm
KDM Kudat 68.36 285 P **P** **06 39 17.2 +1.4**
SJI Sawahan 68.37 269 P **P** **06 39 16.0 -0.1**
comp=Z,298nm,1.2s,comp=Z,5µm
KKM Kota Kinabalu 68.60 284 *eP* **P** **06 39 17.8 +0.3**
comp=Z,766nm,2.1s
KKM Kota Kinabalu 68.60 284 P **P** **06 39 17.9 +0.5**
PCJI Pacitan 68.81 268 P **P** **06 39 18.6 0.0**
comp=Z,1µm,0.7s,comp=Z,12µm
ERM Erimo 69.30 330 *eP* **P** **06 39 21.4 +0.5**
ERM pmax pmax
comp=Z,66nm,1.3s
UGM Wanagama 69.51 268 *eP* **P** **06 39 22.4 -0.4**
comp=Z,516nm,0.5s
UGM Wanagama 69.51 268 P **P** **06 39 23.1 +0.2**
YUK Yuzh-Kuril'sk 69.69 333 *i* P **P** **06 39 20.6 -2.5**
YUK *e* 06 39 37.2
YUK *i* *PP **pP** **06 41 22.3 -0.9**
YUK *i* 06 42 06.2
YUK *e*PPP PPP 06 43 53.0
YUK *i* S **S** **06 47 42.0 -3.5**
YUK *e* 06 48 24.1
YUK *i* SS **SS** **06 52 25.6 -5.1**
YUK pmax pmax
comp=Z,2µm,2.5s
PBKI Pangkalan Bun 69.93 274 P **P** **06 39 26.9 +1.6**
JNU Nakatsue 70.03 316 P **P** **06 39 25.2 -0.3**
comp=Z,28nm,0.9s,baz=68,slow=1.4,SNR=8.6
JNU S **S** **06 47 54.1 +4.1**
comp=Z,3.5nm,0.8s,baz=87,slow=22,SNR=3.5
JNU Nakatsue 70.03 316 *eP* **P** **06 39 25.1 -0.3**
comp=Z,42nm,1.5s
JNU S **S** **06 47 54.1 +4.1**
BTM Bintulu 70.51 280 P **P** **06 39 29.7 +1.0**
FX1 Attu Island--F 70.83 355 P **P** **06 39 28.6 -1.1**
comp=Z,57nm,0.6s,baz=149,slow=2.2,SNR=28
FX1 S **S** **06 47 56.9 -1.3**
comp=Z,8.8nm,0.8s,baz=230,slow=23,SNR=2.5
FX1 Attu Island--F 70.83 355 *eP* **P** **06 39 28.8 -1.0**
FX1 S **S** **06 47 56.9 -1.3**
FX1 Attu Island--F 70.83 355 *eP* **P** **06 39 28.8 -1.0**
FX1 S **S** **06 47 56.9 -1.3**
STKI Sintang 70.98 276 P **P** **06 39 32.4 +0.9**
SBUM Sibu 71.07 279 P **P** **06 39 32.9 +1.0**
TGJI Tegal 71.14 269 P **P** **06 39 31.9 -0.5**
ASAJ Asahikawa 71.19 331 P **P** **06 39 33.1 +1.1**
comp=Z,29nm,0.6s,baz=199,slow=5.6,SNR=21

ASAJ S **S** **06 48 04.0 +1.5**
comp=Z,7.9nm,1.0s,baz=328,slow=30,SNR=2.0
ASAJ Asahikawa 71.19 331 *eP* **P** **06 39 33.1 +1.1**
comp=Z,144nm,1.8s
ASAJ S **S** **06 48 04.0 +1.5**
YULB Yu-li 71.64 303 *eP* **P** **06 39 33.6 -1.5**
comp=Z,23nm,0.8s
NACB Ninganchiao 71.79 304 *eP* **P** **06 39 35.6 -0.3**
comp=Z,189nm,1.2s
SSLB Suanglung 72.11 303 *eP* **P** **06 39 37.1 -0.7**
comp=Z,67nm,0.4s
TPUB Ta-pu 72.13 303 *eP* **P** **06 39 37.0 -1.0**
comp=Z,110nm,0.8s
UNV Unalaska Valle 72.19 7 *eP* **P** **06 39 34.6 -3.0**
comp=Z,161nm,1.3s
KSM Kuching 72.55 277 *eP* **P** **06 39 40.6 0.0**
comp=Z,294nm,0.9s
KSM Kuching 72.55 277 P **P** **06 39 41.6 +1.1**
KSM Kuching 72.55 277 P **P** **06 39 41.0 +0.4**
LEM Lembang 72.58 268 P **P** **06 39 41.1 +0.1**
MIR Mirnyy 73.13 205⇓ *iP* **P** **06 39 42.8 -0.1**
MIR *e* 06 41 49.0
MIR pmax pmax
comp=Z,222nm,1.6s
PET Petropavlovsk 73.32 346 *eP* **P** **06 39 42.9 -1.1**
PET *e**SP **sP** **06 42 46.5 -0.2**
PET *eS* **S** **06 48 23.9 -1.8**
PET *eSP* **ScS** **06 48 56.4 -0.8**
PET *eSS* **SS** **06 53 26.9 +1.7**
PET *eSSS* SSS 06 56 41.2
PET pmax pmax
comp=Z,52nm,0.7s
PET pmax pmax
comp=Z,200nm,14.2s
PET Petropavlovsk 73.32 346 *eP* **P** **06 39 43.0 -1.0**
comp=Z,24nm,0.4s
YSS Yuzh-Sakhalins 73.33 333α *iP* **P** **06 39 46.0 +1.7**
YSS *e* 06 39 51.5
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 73.33 333 *eP* **P** **06 39 44.8 +0.5**
comp=Z,181nm,1.3s
SKJI Sukabumi 73.54 268 P **P** **06 39 45.6 -0.6**
PEA0B Petropavlovsk- 73.62 345 *eP* **P** **06 39 45.0 -0.8**
PETK Petropavlovsk- 73.62 345 P **P** **06 39 45.2 -0.6**
comp=Z,62nm,0.8s,baz=133,slow=8.2,SNR=50
PETK S **S** **06 48 30.5 +1.4**
comp=Z,3.5nm,0.9s,baz=243,slow=38,SNR=2.9
PETK Petropavlovsk- 73.62 345 P **P** **06 39 45.2 -0.6**
PETK S **S** **06 48 30.5 +1.4**
PETK Petropavlovsk- 73.62 345 P **P** **06 39 45.2 -0.6**
PETK S **S** **06 48 30.5 +1.4**
CGJI Cibinong 74.47 268 P **P** **06 39 50.2 -1.3**
comp=Z,742nm,0.6s,comp=Z,7µmcomp=Z,2.8nm
SDPT Sand Point 74.54 11 *eP* **P** **06 39 49.6 -1.3**
comp=Z,189nm,1.2s
QZH Quanzhou 74.55 303⇓ *iP* **P** **06 39 53.0 +1.4**
QZH *p*P **pP** **06 41 58.0 +4.1**
QZH S **S** **06 48 42.0 +1.7**
QZH pmax pmax
comp=Z,150nm,1.0s
QZH pmax pmax
comp=Z,1µm,3.3s
KSRS Korea Array 74.59 318 P **P** **06 39 52.2 +0.7**
comp=Z,6.0nm,0.6s,baz=130,slow=6.3,SNR=34
KSRS *p*P **pP** **06 41 54.6 +0.7**
comp=Z,2.9nm,0.9s,baz=132,slow=6.6,SNR=5.0
KSRS S **S** **06 48 43.2 +3.0**
comp=Z,1.3nm,0.9s,baz=211,slow=29,SNR=3.1
KSAR Wonju Array Be 74.61 318 P **P** **06 39 52.3 +0.6**
KSAR *PP **pP** **06 41 54.7 +0.6**
KSAR S **S** **06 48 43.2 +2.7**
KSAR Wonju Array Be 74.61 318 P **P** **06 39 52.2 +0.6**
KSAR *p*P **pP** **06 41 54.6 +0.6**
KSAR S **S** **06 48 43.2 +2.7**
RBSI Rajabasa 74.64 269 P **P** **06 39 53.3 +0.8**
SSE Sheshan 75.62 310 P **P** **06 39 57.3 -0.2**
SSE PcP **PcP** **06 40 07.0 0.0**
SSE *s*P **sP** **06 43 01.5 +0.6**
SSE S **S** **06 48 50.8 -0.8**
SSE ScS **SKKSac** **06 49 14.5 +2.0**
SSE sS **sS** **06 52 33.5 +3.1**
SSE pmax pmax
comp=Z,20nm,1.2s
SSE pmax pmax
comp=Z,180nm,5.0s
CHGN Chignik 75.82 11 *eP* **P** **06 39 57.1 -0.9**
VLA Vladivostok 75.85 325 *eP* **P** **06 39 58.9 +0.4**
VLA pmax pmax
comp=Z,46nm,1.2s
BSC Santa Cruz Isl 76.20 47⇑ *P* **P** **06 40 01.8 +1.1**
baz=76
BSC ⇑*P* **P** **06 40 01.8 +1.1**
baz=76
SCI San Clemente I 76.42 48⇓ *P* **P** **06 40 03.2 +1.3**
baz=77
SCI ⇓*P* **P** **06 40 03.2 +1.3**
baz=77
LWLI Liwa 76.49 269 P **P** **06 40 02.0 -0.8**
comp=Z,396nm,0.7s,comp=Z,5µmcomp=Z,1.3nm
SAO San Andreas Ge 76.50 44 *eP* **P** **06 40 03.7 +1.4**
SAO pmax pmax
comp=Z,70nm,0.9s
SAO San Andreas Ge 76.50 44 *eP* **P** **06 40 03.7 +1.4**
comp=Z,70nm,0.9s
USRK Ussuriysk Arra 76.51 326 P **P** **06 40 03.2 +1.1**
comp=Z,9.1nm,0.5s,baz=132,slow=2.8,SNR=39
USRK *s*P **sP** **06 43 02.9 -2.8**
comp=Z,2.7nm,0.9s,baz=123,slow=7.0,SNR=2.3
USRK S **S** **06 49 03.0 +2.5**
comp=Z,2.2nm,0.7s,baz=142,slow=40,SNR=2.7
PKM Peak Mountain 76.56 46⇑ *P* **P** **06 40 04.0 +1.2**
baz=77
PKM ⇑*P* **P** **06 40 04.0 +1.2**
baz=77
SMMC Simmler 76.66 46⇓ *P* **P** **06 40 04.6 +1.4**
baz=77,SNR=6.0
SMMC ⇓*P* **P** **06 40 04.6 +1.4**
baz=77,SNR=6.0
PTRM Twissleman Ran 76.71 45 *eP* **P** **06 40 04.9 +1.5**
PTRM *ep*P **pP** **06 42 04.9 -1.8**
CIS Catalina Islan 76.75 48⇓ *P* **P** **06 40 03.9 +0.2**
baz=77
CIS ⇓*P* **P** **06 40 03.9 +0.2**
baz=77
FMP Fort Macarthur 76.99 48⇑ *P* **P** **06 40 05.8 +0.9**
baz=77
FMP ⇑*P* **P** **06 40 05.8 +0.9**
baz=77
DECC Green Verdugo 77.25 47⇓ *P* **P** **06 40 06.9 +0.5**
baz=78
DECC ⇓*P* **P** **06 40 06.9 +0.5**
baz=78
PASC Pasadena Art C 77.31 48 *eP* **P** **06 40 07.4 +0.7**
comp=Z,33nm,0.8s
ARVC Arvin 77.37 47⇑ *P* **P** **06 40 07.8 +0.8**
baz=78,SNR=11
ARVC ⇑*P* **P** **06 40 07.8 +0.8**
baz=78,SNR=11
109C Camp Elliot, M 77.41 49⇑ *P* **P** **06 40 08.1 +0.8**
baz=78
109C ⇑*P* **P** **06 40 08.1 +0.8**
baz=78
MWC Mount Wilson 77.42 48 *eP* **P** **06 40 08.0 +0.5**
MWC pmax pmax
comp=Z,63nm,1.0s
MWC Mount Wilson 77.42 48 *eP* **P** **06 40 08.0 +0.5**
comp=Z,63nm,1.0s
KHMM Horse Mountain 77.47 39 *eP* **P** **06 40 09.2 +1.6**
comp=Z,58nm,1.1s
VES Vestal, Richgr 77.58 46⇓ *P* **P** **06 40 08.6 +0.5**
baz=78,SNR=18
VES ⇓*P* **P** **06 40 08.6 +0.5**
baz=78,SNR=18
BAR Barrett 77.62 50 *eP* **P** **06 40 09.2 +0.8**
comp=Z,16nm,0.9s
MURC Murrieta 77.71 49⇑ *P* **P** **06 40 09.7 +0.8**
baz=78,SNR=12
MURC ⇑*P* **P** **06 40 09.7 +0.8**
baz=78,SNR=12
BFSC Mount Baldy Ra 77.72 48⇑ *P* **P** **06 40 09.4 +0.4**
baz=78,SNR=11
BFSC ⇑*P* **P** **06 40 09.4 +0.4**
baz=78,SNR=11
RCTC Rector, Farmer 77.73 45⇑ *P* **P** **06 40 09.0 +0.2**
baz=78,SNR=8.2

RCTC ⇑*P* **P** **06 40 09.0 +0.2**
baz=78,SNR=8.2
MNAI Manna 77.73 269 P **P** **06 40 09.6 +0.2**
comp=Z,431nm,0.8s,comp=Z,5µmcomp=Z,1.7nm
KRMB Red Mountain 77.75 39 *eP* **P** **06 40 10.1 +1.0**
comp=Z,127nm,1.4s
NJ2 Nanjing 77.82 310 *eP* **P** **06 40 10.5 +1.1**
NJ2 p*P* **pP** **06 42 12.5 -0.6**
NJ2 s*P* **sP** **06 43 12.8 -0.7**
NJ2 PP **PP** **06 43 16.0 -0.5**
NJ2 S **S** **06 49 14.0 -0.8**
NJ2 sS **sS** **06 52 56.0 +0.7**
NJ2 pmax pmax
comp=Z,70nm,1.0s
NJ2 pmax pmax
comp=Z,190nm,4.4s
EDW2 Edwards Air Fo 77.82 47⇓ *P* **P** **06 40 10.4 +0.9**
baz=78,SNR=41
EDW2 ⇓*P* **P** **06 40 10.4 +0.9**
baz=78,SNR=41
ISA Isabella 77.90 46 *eP* **P** **06 40 10.9 +1.0**
ISA *e**PP **pP** **06 42 14.3 +0.6**
ISA pmax pmax
comp=Z,63nm,0.9s
ISA Isabella 77.90 46 *eP* **P** **06 40 10.9 +1.0**
comp=Z,63nm,0.9s
ISA *ep*P **pP** **06 42 14.3 +0.6**
ISA Isabella 77.90 46⇑ *P* **P** **06 40 10.8 +0.8**
baz=78,SNR=47
ISA ⇑*P* **P** **06 40 10.8 +0.8**
baz=78,SNR=47
MONP Monument Peak 77.91 50⇑ *P* **P** **06 40 11.2 +1.0**
baz=78,SNR=33
MONP ⇑*P* **P** **06 40 11.2 +1.0**
baz=78,SNR=33
CMB Columbia Colle 77.92 43 *eP* **P** **06 40 10.6 +0.7**
CMB *e**PP **pP** **06 42 14.9 +1.2**
CMB pmax pmax
comp=Z,53nm,0.9s
CMB Columbia Colle 77.92 43 *eP* **P** **06 40 10.6 +0.7**
comp=Z,53nm,0.9s
CMB *ep*P **pP** **06 42 14.9 +1.2**
HABR Khabarovsk 77.92 330 *eP* **P** **06 40 09.1 -0.5**
HABR *e* 06 40 14.4
HABR *e**PP **pP** **06 42 12.7 -0.7**
HABR S **S** **06 49 15.1 -0.1**
HABR *e* 06 49 32.4
HABR MLR MLR
comp=Z,79nm,17.0s
WDC Whiskeytown Da 78.02 40 *eP* **P** **06 40 10.9 +0.6**
WDC *e**PP **pP** **06 42 15.1 +1.0**
WDC pmax pmax
comp=Z,46nm,1.2s
WDC Whiskeytown Da 78.02 40 *eP* **P** **06 40 10.9 +0.6**
comp=Z,46nm,1.2s
WDC *ep*P **pP** **06 42 15.1 +1.0**
DVTC Desert V Tower 78.02 50⇑ *P* **P** **06 40 11.7 +1.1**
baz=78,SNR=12
DVTC ⇑*P* **P** **06 40 11.7 +1.1**
baz=78,SNR=12
MDJ Mudanjiang 78.09 325 P **P** **06 40 11.5 +0.9**
MDJ p*P* **pP** **06 42 12.5 -2.0**
MDJ s*P* **sP** **06 43 15.0 +0.2**
MDJ PP **PP** **06 43 18.8 +0.3**
MDJ S **S** **06 49 19.0 +1.9**
MDJ ScS **ScS** **06 49 36.5 +0.1**
MDJ pmax pmax
comp=Z,93nm,1.1s
MDJ pmax pmax
comp=Z,160nm,4.3s
MDJ Mudanjiang 78.09 325 *eP* **P** **06 40 11.2 +0.6**
comp=Z,105nm,1.1s
PFO Pinyon Flat Ob 78.25 49 *eP* **P** **06 40 12.7 +0.8**
PFO *e**PP **pP** **06 42 16.8 +1.0**
PFO pmax pmax
comp=Z,16nm,1.0s
PFO Pinyon Flat Ob 78.25 49 *eP* **P** **06 40 12.7 +0.8**
comp=Z,16nm,1.0s
PFO *ep*P **pP** **06 42 16.8 +1.0**
PFO Pinyon Flat Ob 78.25 49⇑ *P* **P** **06 40 12.4 +0.5**
baz=78,SNR=9.6
PFO ⇑*P* **P** **06 40 12.4 +0.5**
baz=78,SNR=9.6
BBRC Big Bear Solar 78.25 48⇓ *P* **P** **06 40 12.5 +0.5**
baz=78
BBRC ⇓*P* **P** **06 40 12.5 +0.5**
baz=78
KSI Kapahiang 78.28 270 P **P** **06 40 12.4 -0.1**
comp=Z,207nm,0.7s,comp=Z,3.6nm
LRMC Laurel Mountai 78.34 47⇑ *P* **P** **06 40 13.2 +0.9**
baz=79
LRMC ⇑*P* **P** **06 40 13.2 +0.9**
baz=79
SWSC Sam W. Stewart 78.38 50⇑ *P* **P** **06 40 13.4 +1.0**
baz=79,SNR=10
SWSC ⇑*P* **P** **06 40 13.4 +1.0**
baz=79,SNR=10
KDAK Kodiak Island 78.41 14 P **P** **06 40 12.2 +0.2**
comp=Z,100nm,1.1s,baz=186,slow=5.0,SNR=28
KDAK S **S** **06 49 19.5 -0.3**
comp=Z,7.3nm,1.0s,baz=251,slow=4.0,SNR=1.8
KDAK Kodiak Island 78.41 14 *iP* **P** **06 40 12.8 +0.8**
KDAK Kodiak Island 78.41 14 *eP* **P** **06 40 13.2 +1.3**
comp=Z,147nm,1.2s
KDAK Kodiak Island 78.41 14 P **P** **06 40 12.0 0.0**
comp=Z,582nm,1.1s,SNR=13
RRX Edison Barstow 78.51 48⇓ *P* **P** **06 40 13.9 +0.8**
baz=79
RRX ⇓*P* **P** **06 40 13.9 +0.8**
baz=79
CWC Cottonwood Cre 78.58 46⇓ *P* **P** **06 40 14.5 +0.9**
baz=79
CWC ⇓*P* **P** **06 40 14.5 +0.9**
baz=79
YBH Yreka Blue Hor 78.59 39 P **P** **06 40 14.6 +1.1**
comp=Z,41nm,0.8s,baz=198,slow=0.9,SNR=65
YBH p*P* **pP** **06 42 15.0 -2.6**
comp=Z,2.2nm,0.8s,baz=171,slow=8.4,SNR=1.9
YBH S **S** **06 49 25.9 +3.2**
comp=Z,0.5nm,0.5s,baz=114,slow=22,SNR=2.2
YBH Yreka Blue Hor 78.59 39 *eP* **P** **06 40 14.5 +1.0**
YBH *e**PP **pP** **06 42 21.2 +3.6**
YBH pmax pmax
comp=Z,48nm,0.9s
YBH Yreka Blue Hor 78.59 39 *eP* **P** **06 40 14.5 +1.0**
comp=Z,48nm,0.9s
YBH *ep*P **pP** **06 42 21.1 +3.6**
MLAC Mammoth Lakes 78.72 44⇓ *P* **P** **06 40 15.3 +0.9**
baz=79,SNR=14
MLAC ⇓*P* **P** **06 40 15.3 +0.9**
baz=79,SNR=14
MTUM Tungsten Hills 78.75 45 *eP* **P** **06 40 15.6 +1.0**
MTUM *ep*P **pP** **06 42 19.8 +1.1**
MYKOM Kota Tinggi 78.76 276 P **P** **06 40 15.4 +0.6**
BELC Belle Mtn. Jos 78.77 49⇑ *P* **P** **06 40 15.5 +0.8**
baz=79,SNR=12
BELC ⇑*P* **P** **06 40 15.5 +0.8**
baz=79,SNR=12
MPMC Manual Prospec 78.79 46⇓ *P* **P** **06 40 15.6 +0.8**
baz=79,SNR=23
MPMC ⇓*P* **P** **06 40 15.6 +0.8**
baz=79,SNR=23
TIN Tinemaha 78.81 45⇓ *P* **P** **06 40 15.9 +1.1**
baz=79
TIN ⇓*P* **P** **06 40 15.9 +1.1**
baz=79
GSC Goldstone 78.87 47 *eP* **P** **06 40 15.9 +0.8**
GSC *e**PP **pP** **06 42 17.7 -1.6**
GSC pmax pmax
comp=Z,25nm,1.1s
GSC Goldstone 78.87 47 *eP* **P** **06 40 15.9 +0.8**
comp=Z,25nm,1.1s
GSC *ep*P **pP** **06 42 17.7 -1.6**
GSC Goldstone 78.87 47⇓ *P* **P** **06 40 15.6 +0.5**
baz=79,SNR=12
GSC ⇓*P* **P** **06 40 15.6 +0.5**
baz=79,SNR=12
HEC Hector,Ludlow 78.96 48⇑ *P* **P** **06 40 16.1 +0.6**
baz=79,SNR=12
HEC ⇑*P* **P** **06 40 16.1 +0.6**
baz=79,SNR=12
HUMO Hull Mountain 78.97 38 *eP* **P** **06 40 16.6 +1.3**
comp=Z,55nm,1.0s
HUMO *ep*P **pP** **06 42 24.6 +4.9**
BC3 Big Chuckawall 78.99 49⇓ *P* **P** **06 40 16.7 +0.9**
baz=79,SNR=11

BC3 ⇓P P 06 40 16.7 +0.9
baz=79,SNR=11
WCN Washoe City 79.03 43 *e*P P 06 40 17.0 +1.0
WCN *e**PP pP 06 42 21.3 +1.1
WCN pmax pmax
comp=Z,53nm,1.0s
WCN Washoe City 79.03 43 *e*P P 06 40 17.0 +1.0
comp=Z,53nm,1.0s
WCN epP pP 06 42 21.3 +1.1
WCN Washoe City 79.03 43 ⇑P P 06 40 17.0 +1.0
baz=79,SNR=39
WCN ⇑P P 06 40 17.0 +1.0
baz=79,SNR=39
GLA Glamis 79.14 50 *e*P P 06 40 18.0 +1.5
GLA *e**PP pP 06 42 22.3 +1.5
GLA pmax pmax
comp=Z,46nm,0.9s
GLA Glamis 79.14 50 *e*P P 06 40 18.0 +1.5
comp=Z,46nm,0.9s
GLA epP pP 06 42 22.3 +1.5
GLA Glamis 79.14 50 ⇓P P 06 40 17.9 +1.3
baz=79,SNR=14
GLA ⇓P P 06 40 17.9 +1.3
baz=79,SNR=14
QIZ Qiongzhong 79.32 294 P P 06 40 16.8 -0.9
QIZ PP PP 06 43 28.0 -1.0
QIZ S S 06 49 32.3 +1.4
QIZ pmax pmax
comp=Z,42nm,1.9s
QIZ pmax pmax
comp=Z,280nm,4.2s
KGM Kluang 79.33 276 P P 06 40 18.8 +0.9
GRAC Grapevine Rang 79.36 46 ⇓P P 06 40 18.7 +1.1
baz=80,SNR=8.7
GRAC ⇓P P 06 40 18.7 +1.1
baz=80,SNR=8.7
GMRC Granite Mounta 79.41 48 ⇓P P 06 40 18.7 +0.7
baz=80,SNR=14
GMRC ⇓P P 06 40 18.7 +0.7
baz=80,SNR=14
FURC Furnace Creek, 79.44 46 ⇑P P 06 40 18.7 +0.8
baz=80,SNR=25
FURC ⇑P P 06 40 18.7 +0.8
baz=80,SNR=25
IRM Iron Mountain 79.46 49 ⇓P P 06 40 19.2 +1.1
baz=80,SNR=21
IRM ⇓P P 06 40 19.2 +1.1
baz=80,SNR=21
DL2 Dalian 79.48 317 P P 06 40 18.5 +0.4
DL2 S S 06 49 33.5 +1.8
DL2 esS sS 06 53 16.0 +2.5
DL2 SS SS 06 55 02.0 +4.4
DL2 pmax pmax
comp=Z,40nm,1.3s
DL2 pmax pmax
comp=Z,230nm,4.1s
NVAR Mina Array Bea 79.50 44 P P 06 40 19.2 +0.7
comp=Z,40nm,0.9s,baz=227,slow=9.3,SNR=173
NVAR pP pP 06 42 23.5 +0.5
comp=Z,9.4nm,0.9s,baz=232,slow=10,SNR=6.6
NVAR S S 06 49 35.7 +3.1
comp=Z,0.2nm,0.4s,baz=239,slow=10,SNR=3.2
NVAR Mina Array Bea 79.50 44 P P 06 40 19.2 +0.7
NVAR pP pP 06 42 23.5 +0.5
NVAR S S 06 49 35.7 +3.1
RGRI Rengat 79.53 273 P P 06 40 21.2 +2.2
SHOC Shoshone 79.54 47 ⇓P P 06 40 19.4 +0.8
baz=80,SNR=6.4
SHOC ⇓P P 06 40 19.4 +0.8
baz=80,SNR=6.4
TUQ Turquoise Moun 79.55 48 ⇓P P 06 40 19.4 +0.6
baz=80,SNR=11
TUQ ⇓P P 06 40 19.4 +0.6
baz=80,SNR=11
Y12C Blythe 79.71 50 ⇓P P 06 40 20.6 +1.1
baz=80,SNR=17
Y12C ⇓P P 06 40 20.6 +1.1
baz=80,SNR=17
113A Mohawk Valley, 79.78 51 ⇑P P 06 40 20.9 +1.1
baz=80,SNR=11
113A ⇑P P 06 40 20.9 +1.1
baz=80,SNR=11
SNY Shenyang 79.88 320 ⇑P P 06 40 20.3 +0.2
SNY pP pP 06 42 29.8 +5.1
SNY sP sP 06 43 25.8 +1.0
SNY S SKSac 06 49 39.5 -1.7
SNY ScS ScS 06 49 54.0 +2.9
SNY pmax pmax
comp=Z,31nm,2.2s
SNY pmax pmax
comp=Z,360nm,5.6s
CN2 Changchun 79.92 322 *e*P P 06 40 20.5 +0.2
CN2 epP pP 06 42 27.8 +2.9
CN2 esP sP 06 43 27.5 +2.5
CN2 *e*S S 06 49 36.0 0.0
CN2 eSS SS 06 55 07.8 +3.9
CN2 pmax pmax
comp=Z,110nm,1.3s
CN2 pmax pmax
comp=Z,300nm,6.0s
LDFC Landfair 79.95 48 *e*P P 06 40 22.6 +1.8
comp=Z,104nm,0.9s
KLR Kul'dur 80.02 329 *e*P P 06 40 17.2 -3.5
KLR *e*S S 06 49 36.0 -0.9
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s
KLR smax smax
comp=N,2μm,8.0s
KLR smax smax
comp=E,900nm,8.0s
Z13A Yuma Proving G 80.07 50 ⇓P P 06 40 22.6 +1.2
baz=80,SNR=40
Z13A ⇓P P 06 40 22.6 +1.2
baz=80,SNR=40
HEBO Mount Hebo 80.09 36 *e*P P 06 40 22.6 +1.3
comp=E,77nm,1.0s
214A Organ Pipe Nat 80.11 52 ⇑P P 06 40 22.9 +1.3
baz=80,SNR=20
214A ⇑P P 06 40 22.9 +1.3
baz=80,SNR=20
MOD Modoc 80.16 40 *e*P P 06 40 22.7 +0.9
comp=E,66nm,0.9s
PDMCI Parker Dam,Lak 80.26 49 ⇑P P 06 40 23.4 +1.1
baz=80,SNR=12
PDMCI ⇑P P 06 40 23.4 +1.1
baz=80,SNR=12
114A Black Gap (USA 80.43 51 ⇓P P 06 40 24.5 +1.3
baz=81,SNR=17
114A ⇓P P 06 40 24.5 +1.3
baz=81,SNR=17
WHN Wuhan 80.48 306 ⇓/P P 06 40 24.5 +1.0
WHN sP sP 06 43 30.8 +2.4
WHN S SKSac 06 49 44.5 -1.2
WHN SS SS 06 55 21.0 +8.3
WHN pmax pmax
comp=Z,230nm,1.6s
KTGM Kuala Trenggan 80.56 279 P P 06 40 25.4 +1.0
Z14A Wintersburg 80.67 51 ⇑P P 06 40 25.8 +1.4
baz=81,SNR=11
Z14A ⇑P P 06 40 25.8 +1.4
baz=81,SNR=11
RSO Redoubt South 80.81 13 *e*P P 06 40 23.9 -0.9
W13A Hualapai Mount 80.83 49 ⇓P P 06 40 26.5 +1.0
baz=81,SNR=18
W13A ⇓P P 06 40 26.5 +1.0
baz=81,SNR=18
SVW2 Sparrevohn 80.84 11 *e*P P 06 40 24.2 -0.5
comp=Z,19nm,1.0s
Y14A Wickenburg 80.91 50 ⇑P P 06 40 26.6 +0.9
baz=81,SNR=27
Y14A ⇑P P 06 40 26.6 +0.9
baz=81,SNR=27
BMW Boistfort Moun 81.15 35 *e*P P 06 40 27.6 +0.9
SEW Seward 81.22 14 *e*P P 06 40 25.5 -1.1
comp=Z,244nm,1.9s
BMN Battle Mountai 81.28 43 *e*P P 06 40 28.6 +0.9
BMN *e**PP pP 06 42 33.9 +1.0
BMN pmax pmax
comp=Z,63nm,0.9s
BMN Battle Mountai 81.28 43 *e*P P 06 40 28.6 +0.9
comp=Z,63nm,0.9s
BMN epP pP 06 42 33.9 +1.0
FRIM Kepong 81.32 276 P P 06 40 29.2 +1.0
HOOD Mount Hood Mea 81.34 37 *e*P P 06 40 28.1 +0.3
comp=Z,67nm,1.0s
HOOD epP pP 06 42 36.6 +3.6
LVP Lakeview Peak 81.36 36 P P 06 40 28.4 +0.6
NLWA Neilton Lookou 81.37 34 *e*P P 06 40 28.7 +0.9
comp=Z,46nm,0.9s
SLKM Skilak Lake 81.40 14 *e*P P 06 40 26.9 -0.7
SLKM Skilak Lake 81.40 14 *e*P P 06 40 26.9 -0.7
OOW Octopus West 81.41 34 P P 06 40 29.2 +1.2
VIPM Ingram Point 81.46 38 P P 06 40 29.1 +0.6
VIPM Ingram Point 81.46 38 P P 06 40 29.1 +0.6
WVOR Wild Horse Val 81.48 40 *e*P P 06 40 29.2 +0.7
WVOR *e**PP pP 06 42 35.2 +1.4
WVOR pmax pmax
comp=Z,83nm,0.9s
WVOR Wild Horse Val 81.48 40 *e*P P 06 40 29.2 +0.7
comp=Z,83nm,0.9s
WVOR epP pP 06 42 35.2 +1.4
STD Studebaker Rid 81.56 36 P P 06 40 29.6 +0.7
GAMB Gambell 81.57 3 *e*P P 06 40 28.1 -0.2
comp=Z,95nm,1.3s
SPU Mount Spurr 81.61 13 *e*P P 06 40 27.0 -1.7
TUC Tucson 81.80 52 *e*P P 06 40 31.8 +1.4
TUC *e**PP pP 06 42 36.9 +1.2
TUC pmax pmax
comp=Z,44nm,1.1s
TUC Tucson 81.80 52 *e*P P 06 40 31.8 +1.4
comp=Z,44nm,1.1s
TUC epP pP 06 42 36.9 +1.2
HDW Hoodsport 81.96 34 P P 06 40 31.7 +0.9
GNW Green Mountain 82.03 34 *e*P P 06 40 32.0 +1.0
comp=Z,28nm,1.0s
LON Longmire 82.10 35 *e*P P 06 40 31.6 +0.1
LON *e**PP pP 06 42 39.0 +2.0
LON pmax pmax
comp=Z,16nm,1.0s
LON Longmire 82.10 35 *e*P P 06 40 31.6 +0.1
comp=Z,16nm,1.0s
LON epP pP 06 42 39.0 +2.0
X16A Lo Mia Camp, P 82.27 50 ⇑P P 06 40 34.2 +1.4
baz=82,SNR=105
X16A ⇑P P 06 40 34.2 +1.4
baz=82,SNR=105
IPM Ipoh 82.28 277 *e*P P 06 40 32.7 -0.4
comp=Z,99nm,0.8s
IPM Ipoh 82.28 277 P P 06 40 34.1 +0.9
R13A O'Grain Ranch, 82.29 46 ⇓P P 06 40 34.0 +1.1
baz=82
R13A ⇓P P 06 40 34.0 +1.1
baz=82
CCUT Cedar City 82.40 47 *e*P P 06 40 34.7 +1.2
comp=Z,39nm,1.0s
CCUT epP pP 06 42 41.1 +2.0
ARUT Antelope Range 82.46 46 *e*P P 06 40 34.6 +0.9
ARUT pmax pmax
comp=Z,35nm,1.1s
ARUT Antelope Range 82.46 46 *e*P P 06 40 34.6 +0.9
comp=Z,35nm,1.1s
RMW Rattlesnake Mo 82.53 35 P P 06 40 34.2 +0.5
RMW Rattlesnake Mo 82.53 35 P P 06 40 34.1 +0.5
PMR Palmer 82.61 14 *e*P P 06 40 31.9 -1.7
PMR pmax pmax
comp=Z,70nm,1.0s
PMR Palmer 82.61 14 *e*P P 06 40 31.9 -1.7
comp=Z,70nm,1.0s
X17A Forest Lakes 82.70 51 ⇑P P 06 40 36.6 +1.5
baz=83,SNR=32
X17A ⇑P P 06 40 36.6 +1.5
baz=83,SNR=32
ELK Elko 82.73 43 *e*P P 06 40 35.7 +0.6
ELK *e**PP pP 06 42 42.4 +1.5
ELK Elko 82.73 43 *e*P P 06 40 35.7 +0.6
ELK epP pP 06 42 42.4 +1.5
WUAZ Wupatki 82.83 49 *e*P P 06 40 36.7 +1.2
comp=Z,50nm,1.0s
WUAZ epP pP 06 42 42.4 +1.0
WUAZ Wupatki 82.83 49 ⇓P P 06 40 36.8 +1.2
baz=83,SNR=42
WUAZ ⇓P P 06 40 36.8 +1.2
baz=83,SNR=42
JCW Jim Creek 82.89 34 *e*P P 06 40 35.8 +0.3
JCW epP pP 06 42 42.3 +1.0
SML Sawmill 82.98 14 *e*P P 06 40 34.5 -1.1
SML pmax pmax
comp=Z,15nm,1.3s
SML Sawmill 82.98 14 *e*P P 06 40 34.5 -1.1
comp=Z,15nm,1.3s
DIV Divide 83.01 15 *e*P P 06 40 35.1 -0.7
comp=Z,121nm,1.2s
Y18A Canyon Day Jun 83.02 51 ⇑P P 06 40 38.2 +1.6
baz=83,SNR=37
Y18A ⇑P P 06 40 38.2 +1.6
baz=83,SNR=37
320A Kipp Ranch, An 83.09 54 ⇑P P 06 40 39.0 +2.1
baz=83,SNR=23
320A ⇑P P 06 40 39.0 +2.1
baz=83,SNR=23
W17A Winslow 83.11 50 ⇑P P 06 40 38.4 +1.4
baz=83
W17A ⇑P P 06 40 38.4 +1.4
baz=83
RSW Rattlesnake Hi 83.14 37 *e*P P 06 40 37.5 +0.7
RSW epP pP 06 42 46.6 +3.9
HAWA Hanford 83.17 37 *e*P P 06 40 37.5 +0.7
comp=Z,69nm,0.9s
HAWA epP pP 06 42 44.2 +1.4
BMRM Bremner River 83.17 16 *e*P P 06 40 36.0 -0.6
comp=Z,124nm,1.2s
RPW Rockport 83.27 34 *e*P P 06 40 37.4 +0.1
U16A Tuba City 83.30 49 ⇓P P 06 40 39.2 +1.3
baz=84,SNR=71
U16A ⇓P P 06 40 39.2 +1.3
baz=84,SNR=71
V17A Tonalea, Kykot 83.30 49 ⇓P P 06 40 39.0 +1.1
baz=84
V17A ⇓P P 06 40 39.0 +1.1
baz=84
220A Playas Peak, P 83.33 54 ⇓P P 06 40 39.7 +1.6
baz=84,SNR=20
220A ⇓P P 06 40 39.7 +1.6
baz=84,SNR=20
ETW Entiat 83.42 35 *e*P P 06 40 38.6 +0.4
ETW epP pP 06 42 45.4 +1.1
X18A Snowflake 83.42 51 ⇑P P 06 40 39.7 +1.1
baz=84,SNR=18
X18A ⇑P P 06 40 39.7 +1.1
baz=84,SNR=18
R15A Junction 83.47 47 ⇓P P 06 40 40.1 +1.4
baz=84,SNR=16
R15A ⇓P P 06 40 40.1 +1.4
baz=84,SNR=16
120A U Bar Ranch, L 83.53 53 ⇑P P 06 40 40.5 +1.4
baz=84,SNR=6.4
120A ⇑P P 06 40 40.5 +1.4
baz=84,SNR=6.4
WRAK Wrangell Islan 83.54 24 *e*P P 06 40 38.5 +0.2
comp=Z,30nm,1.0s
TNA Tin City 83.58 4 *e*P P 06 40 39.0 +0.6
comp=Z,80nm,1.2s
TNA epP pP 06 42 46.8 +2.3
TNA ePP PP 06 44 01.8 -0.7
LNOR Lincton Mounta 83.59 38 *e*P P 06 40 39.5 +0.5
LNOR Lincton Mounta 83.59 38 *e*P P 06 40 39.5 +0.5
BMO Blue Mountains 83.61 39 *e*P P 06 40 39.4 +0.2
BMO *e**PP pP 06 42 46.6 +1.3
BMO pmax pmax
comp=Z,170nm,2.5s
BMO Blue Mountains 83.61 39 *e*P P 06 40 39.4 +0.2
comp=Z,170nm,2.5s
BMO epP pP 06 42 46.6 +1.3
BJT Baijiatuau 83.67 315 *e*P P 06 40 39.7 +0.3
BJT pmax pmax
comp=Z,82nm,1.1s
BJT Baijiatuau 83.67 315 *e*P P 06 40 39.6 +0.3
comp=Z,82nm,1.1s
BJI Beijing 83.67 315 P P 06 40 39.8 +0.4
BJI pP pP 06 42 45.0 -0.6
BJI sP sP 06 43 43.8 -1.5
BJI SKS SKSac 06 50 05.5 -0.6
BJI S S 06 50 16.0 +2.4
BJI sS sS 06 53 56.8 -1.7
BJI pmax pmax
comp=Z,56nm,1.1s
MSU Marysvale 83.68 46 *e*P P 06 40 41.2 +1.4
MSU *e**PP pP 06 42 48.8 +2.8
MSU Marysvale 83.68 46 *e*P P 06 40 41.1 +1.4
MSU epP pP 06 42 48.8 +2.8
WTV Waterville 83.68 35 P P 06 40 39.6 +0.3
Y19A Nutrioso 83.68 51 ⇓P P 06 40 41.5 +1.5
baz=84,SNR=22
Y19A ⇓P P 06 40 41.5 +1.5
baz=84,SNR=22
S16A Weppner Ranch, 83.71 47 ⇑P P 06 40 40.5 +0.6
baz=84,SNR=14
S16A ⇑P P 06 40 40.5 +0.6
baz=84,SNR=14
SEY Seymchan 83.72 347 ⇑/P P 06 40 38.5 -0.6
MFID Camas Ranch 83.75 41 *e*P P 06 40 40.5 +0.6
comp=Z,56nm,1.1s
MFID epP pP 06 42 49.3 +3.2
MFID Camas Ranch 83.75 41 ⇓P P 06 40 40.6 +0.7
baz=84,SNR=51
MFID ⇓P P 06 40 40.6 +0.7
baz=84,SNR=51
Z20A Nine Sixteen R 83.81 52 ⇓P P 06 40 42.0 +1.5
baz=84,SNR=12
Z20A ⇓P P 06 40 42.0 +1.5
baz=84,SNR=12
MAW Mawson 83.83 200 P P 06 40 40.8 +1.1
comp=Z,53nm,0.6s,baz=138,slow=5.6,SNR=29
MAW S S 06 50 10.7 -3.6
comp=Z,10nm,1.0s,baz=257,slow=15,SNR=2.7
MAW Mawson 83.83 200 *e*P P 06 40 40.6 +0.8
MAW Mawson 83.83 200 *e*P P 06 40 40.4 +0.7
MAW pmax pmax
comp=Z,21nm,1.0s
MAW Mawson 83.83 200 *e*P P 06 40 40.4 +0.7
comp=Z,21nm,1.0s
W18A Petrified Fore 83.84 50 ⇑P P 06 40 41.6 +1.0
baz=84
W18A ⇑P P 06 40 41.6 +1.0
baz=84
U17A Shonto 83.84 49 ⇓P P 06 40 41.9 +1.2
baz=84,SNR=18
U17A ⇓P P 06 40 41.9 +1.2
baz=84,SNR=18
T17A Navajo Res., N 83.93 48 ⇑P P 06 40 42.3 +1.3
baz=84,SNR=38
T17A ⇑P P 06 40 42.3 +1.3
baz=84,SNR=38
221A Mesquite Ranch 83.95 54 ⇓P P 06 40 42.8 +1.6
baz=84
221A ⇓P P 06 40 42.8 +1.6
baz=84
V18A Ganado 83.97 50 ⇑P P 06 40 42.4 +1.1
baz=84,SNR=22
V18A ⇑P P 06 40 42.4 +1.1
baz=84,SNR=22
TRF Thorofare Moun 84.02 12 *e*P P 06 40 38.9 -1.9
comp=Z,127nm,1.0s
R16A Teasdale 84.05 47 ⇑P P 06 40 43.0 +1.3
baz=84,SNR=7.3
R16A ⇑P P 06 40 43.0 +1.3
baz=84,SNR=7.3
DUG Dugway 84.06 45 *e*P P 06 40 41.6 +0.1
DUG *e**PP pP 06 42 47.6 -0.3
DUG *e* 06 44 05.7
DUG pmax pmax
comp=Z,52nm,2.0s
DUG Dugway 84.06 45 *e*P P 06 40 41.6 +0.1
comp=Z,52nm,2.0s
DUG epP pP 06 42 47.6 -0.3
DUG ePP PP 06 44 05.7 -1.5
DUG Dugway 84.06 45 ⇑P P 06 40 42.0 +0.4
baz=84,SNR=6.0
DUG ⇑P P 06 40 42.0 +0.4
baz=84,SNR=6.0
W19A Sanders 84.09 50 ⇓P P 06 40 42.8 +0.9
baz=84,SNR=14
W19A ⇓P P 06 40 42.8 +0.9
baz=84,SNR=14
P15A Leamington 84.12 45 ⇓P P 06 40 42.6 +0.7
baz=84,SNR=6.3
P15A ⇓P P 06 40 42.6 +0.7
baz=84,SNR=6.3
ENH Enshi 84.14 304 *e*P P 06 40 42.7 +0.6
comp=Z,147nm,1.1s
121A Cookes Peak, D 84.17 53 ⇑P P 06 40 43.7 +1.4
baz=84,SNR=17
121A ⇑P P 06 40 43.7 +1.4
baz=84,SNR=17
OD2 Odessa Site #2 84.20 36 *e*P P 06 40 42.2 +0.3
OD2 epP pP 06 42 49.2 +1.0
S17A Black Ridge (B 84.22 48 ⇓P P 06 40 42.7 +0.3
baz=84,SNR=8.8
S17A ⇓P P 06 40 42.7 +0.3
baz=84,SNR=8.8
Y20A Horse Springs, 84.31 52 ⇓P P 06 40 44.4 +1.4
baz=84,SNR=15
Y20A ⇓P P 06 40 44.4 +1.4
baz=84,SNR=15
U18A Rough Rock, Ch 84.33 49 ⇑P P 06 40 43.9 +0.8
baz=84,SNR=19
U18A ⇑P P 06 40 43.9 +0.8
baz=84,SNR=19
O15A The Old Anders 84.33 45 ⇑P P 06 40 43.7 +0.8
baz=85
O15A ⇑P P 06 40 43.7 +0.8
baz=85
X20A Quemado 84.50 51 ⇑P P 06 40 45.1 +1.2
baz=85,SNR=8.1
X20A ⇑P P 06 40 45.1 +1.2
baz=85,SNR=8.1
222A Williams Famil 84.51 54 ⇓P P 06 40 45.1 +1.2
baz=85,SNR=10
222A ⇓P P 06 40 45.1 +1.2
baz=85,SNR=10
MCK McKinley 84.55 13 *e*P P 06 40 42.1 -1.1
MCK pmax pmax
comp=Z,98nm,1.0s
MCK McKinley 84.55 13 *e*P P 06 40 42.1 -1.1
comp=Z,98nm,1.0s
P16A Fountain Green 84.56 46 ⇓P P 06 40 45.2 +1.1
baz=85
P16A ⇓P P 06 40 45.2 +1.1
baz=85
Q16A Castle Valley 84.56 46 ⇓P P 06 40 45.2 +1.1
baz=85,SNR=9.6
Q16A ⇓P P 06 40 45.2 +1.1
baz=85,SNR=9.6
Z21A St. Cloud Mine 84.59 53 ⇓P P 06 40 45.7 +1.4
baz=85,SNR=13
Z21A ⇓P P 06 40 45.7 +1.4
baz=85,SNR=13
N15A Stansbury Isla 84.59 44 ⇑P P 06 40 44.8 +0.7
baz=85
N15A ⇑P P 06 40 44.8 +0.7
baz=85
V19A Window Rock 84.61 50 ⇑P P 06 40 45.2 +0.8
baz=85
V19A ⇑P P 06 40 45.2 +0.8
baz=85
R17A Hanksville Air 84.65 47 ⇑P P 06 40 45.1 +0.6
baz=85,SNR=16
R17A ⇑P P 06 40 45.1 +0.6
baz=85,SNR=16
T18A Mexican Hat 84.65 48 ⇓P P 06 40 45.4 +0.9
baz=85,SNR=89
T18A ⇓P P 06 40 45.4 +0.9
baz=85,SNR=89
PAX Paxson 84.66 15 *e*P P 06 40 42.7 -1.2
PAX pmax pmax
comp=Z,34nm,1.0s
PAX Paxson 84.66 15 *e*P P 06 40 42.7 -1.2
comp=Z,34nm,1.0s
L14A Malta 84.68 43 ⇑P P 06 40 45.2 +0.7
baz=85,SNR=9.3
L14A ⇑P P 06 40 45.2 +0.7
baz=85,SNR=9.3
HLID Hailey 84.70 41 *e*P P 06 40 45.5 +0.9
comp=Z,32nm,0.9s
HLID epP pP 06 42 53.1 +1.8
HLID Hailey 84.70 41 ⇓P P 06 40 45.6 +0.9
baz=85,SNR=56
HLID ⇓P P 06 40 45.6 +0.9
baz=85,SNR=56
TMUT Trail Mountain 84.72 46 *e*P P 06 40 46.3 +1.3
comp=Z,28nm,0.9s
TMUT epP pP 06 42 55.6 +4.1
SKAG Skagway 84.73 21 *e*P P 06 40 44.9 +0.8
comp=Z,101nm,1.4s
U19A Dine' College, 84.75 49 ⇑P P 06 40 45.9 +0.7
baz=85,SNR=26

U19A ⇑P P 06 40 45.9 +0.7
baz=85,SNR=26
W20A Ramah 84.75 51 ⇑P P 06 40 46.3 +1.1
baz=85,SNR=19
W20A ⇑P P 06 40 46.3 +1.1
baz=85,SNR=19
MPU Maple Canyon 84.77 45 *e*P P 06 40 45.7 +0.6
comp=Z,13nm,0.9s
MPU *ep*P *pP* 06 42 52.6 +0.9
MPU *eP*P *PP* 06 44 11.6 -1.3
J13A Cove Ranch, Pi 84.77 41 ⇑P P 06 40 45.9 +0.9
baz=85,SNR=67
J13A ⇑P P 06 40 45.9 +0.9
baz=85,SNR=67
S18A Hurst Farm, Bl 84.82 48 ⇑P P 06 40 46.0 +0.5
baz=85,SNR=12
S18A ⇑P P 06 40 46.0 +0.5
baz=85,SNR=12
122A Conniff Cattle 84.84 53 ⇑P P 06 40 47.0 +1.4
baz=85
122A ⇑P P 06 40 47.0 +1.4
baz=85
HVU Hansel Valley 84.86 43 *e*P P 06 40 46.0 +0.6
HVU *e**PP *pP* 06 42 54.6 +2.5
HVU pmax pmax
comp=Z,17nm,1.0s
HVU Hansel Valley 84.86 43 *e*P P 06 40 46.0 +0.6
comp=Z,17nm,1.0s
HVU *ep*P *pP* 06 42 54.6 +2.5
Y21A Point of Rocks 84.88 52 ⇓P P 06 40 47.4 +1.5
baz=85,SNR=13
Y21A ⇓P P 06 40 47.4 +1.5
baz=85,SNR=13
GYA Guiyang 84.91 300 ⇑*i*P P 06 40 46.5 +0.5
GYA pP *pP* 06 42 55.3 +2.7
GYA sP *sP* 06 43 53.5 +1.3
GYA PP *PP* 06 44 16.0 +1.9
GYA SKS *SKSac* 06 50 12.3 -2.5
GYA S *S* 06 50 24.8 -1.6
GYA sS *sS* 06 54 11.3 -0.8
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.2s
M15A Larsen Ranch, 84.92 44 ⇑P P 06 40 46.1 +0.4
baz=85
M15A ⇑P P 06 40 46.1 +0.4
baz=85
H12A Diamond D Ranc 84.94 40 ⇓P P 06 40 46.2 +0.5
baz=85,SNR=57
H12A ⇓P P 06 40 46.2 +0.5
baz=85,SNR=57
O16A Springville 84.95 45 ⇓P P 06 40 46.5 +0.6
baz=85,SNR=6.0
O16A ⇓P P 06 40 46.5 +0.6
baz=85,SNR=6.0
G12A Big Creek, Yel 84.95 39 ⇑P P 06 40 46.3 +0.5
baz=85
G12A ⇑P P 06 40 46.3 +0.5
baz=85
K14A Jones Ranch, D 84.98 42 ⇓P P 06 40 46.7 +0.8
baz=85,SNR=23
K14A ⇓P P 06 40 46.7 +0.8
baz=85,SNR=23
X21A Alamocita Cree 84.99 52 ⇓P P 06 40 47.3 +1.0
baz=85,SNR=12
X21A ⇓P P 06 40 47.3 +1.0
baz=85,SNR=12
223A Chaparral, Ant 84.99 54 ⇑P P 06 40 47.8 +1.5
baz=85,SNR=7.0
223A ⇑P P 06 40 47.8 +1.5
baz=85,SNR=7.0
MENT Mentasta 85.06 15 *e*P P 06 40 45.2 -0.5
MENT *ep*P pP 06 43 00.3 +7.7
I13A Wildhorse Cree 85.07 41 ⇓P P 06 40 47.3 +0.9
baz=85,SNR=25
I13A ⇓P P 06 40 47.3 +0.9
baz=85,SNR=25
V20A Brimhall 85.07 50 ⇑P P 06 40 47.0 +0.4
baz=85,SNR=5.2
V20A ⇑P P 06 40 47.0 +0.4
baz=85,SNR=5.2
SRU San Rafael 85.10 46 *e*P P 06 40 47.5 +0.8
SRU *e**PP *pP* 06 42 55.8 +2.4
SRU pmax pmax
comp=Z,23nm,0.8s
SRU San Rafael 85.10 46 *e*P P 06 40 47.5 +0.8
comp=Z,23nm,0.8s
SRU *ep*P *pP* 06 42 55.8 +2.4
SRU San Rafael 85.10 46 ⇑P P 06 40 47.4 +0.7
baz=85,SNR=18
SRU ⇑P P 06 40 47.4 +0.7
baz=85,SNR=18
Z22A Elephant Butte 85.10 53 ⇑P P 06 40 47.9 +1.1
baz=85,SNR=10
Z22A ⇑P P 06 40 47.9 +1.1
baz=85,SNR=10
P17A Butcher Ranch, 85.12 46 ⇑P P 06 40 47.5 +0.8
baz=85
P17A ⇑P P 06 40 47.5 +0.8
baz=85
T19A Beclabito 85.12 49 ⇓P P 06 40 47.8 +0.9
baz=85,SNR=15
T19A ⇓P P 06 40 47.8 +0.9
baz=85,SNR=15
J14A Carey 85.15 42 ⇑P P 06 40 48.1 +1.3
baz=85
J14A ⇑P P 06 40 48.1 +1.3
baz=85
JLU Jordanelle 85.17 45 *e*P P 06 40 47.6 +0.6
comp=Z,11nm,0.9s
JLU *ep*P *pP* 06 42 54.5 +0.6
R18A Canyonlands Na 85.21 47 ⇓P P 06 40 47.7 +0.5
baz=85,SNR=14
R18A ⇓P P 06 40 47.7 +0.5
baz=85,SNR=14
L15A Malad City 85.22 43 ⇑P P 06 40 47.5 +0.4
baz=85,SNR=15
L15A ⇑P P 06 40 47.5 +0.4
baz=85,SNR=15
U20A Newcomb 85.29 50 ⇓P P 06 40 48.3 +0.6
baz=86,SNR=9.2
U20A ⇓P P 06 40 48.3 +0.6
baz=86,SNR=9.2
H13A Challis 85.31 40 ⇑P P 06 40 48.4 +0.8
baz=86,SNR=26
H13A ⇑P P 06 40 48.4 +0.8
baz=86,SNR=26
N16A Rees Ranch, Co 85.31 44 ⇑P P 06 40 48.6 +0.9
baz=86,SNR=8.0
N16A ⇑P P 06 40 48.6 +0.9
baz=86,SNR=8.0
F12A Elk City 85.32 39 ⇑P P 06 40 47.8 +0.3
baz=86,SNR=112
F12A ⇑P P 06 40 47.8 +0.3
baz=86,SNR=112
Q18A Rafter H Ranch 85.37 47 ⇓P P 06 40 48.3 +0.5
baz=86,SNR=12
Q18A ⇓P P 06 40 48.3 +0.5
baz=86,SNR=12
123A Bell Site, Whi 85.38 54 ⇑P P 06 40 49.1 +1.0
baz=86
123A ⇑P P 06 40 49.1 +1.0
baz=86
W21A San Fidel 85.38 51 ⇑P P 06 40 48.9 +0.7
baz=86
W21A ⇑P P 06 40 48.9 +0.7
baz=86
Y22A Socorro 85.39 52 ⇓P P 06 40 49.0 +0.9
baz=86,SNR=14
Y22A ⇓P P 06 40 49.0 +0.9
baz=86,SNR=14
S19A Harvey Farm, M 85.45 48 ⇓P P 06 40 49.0 +0.5
baz=86,SNR=22
S19A ⇓P P 06 40 49.0 +0.5
baz=86,SNR=22
LAZ Ladron 85.45 52 *e*P P 06 40 49.4 +0.9
comp=Z,3.1nm,0.9s
LAZ *ep*P *pP* 06 42 57.0 +1.6
O17A Robinson Place 85.46 45 ⇑P P 06 40 49.4 +1.0
baz=86,SNR=22
O17A ⇑P P 06 40 49.4 +1.0
baz=86,SNR=22
K15A Arbon 85.46 43 ⇑P P 06 40 49.0 +0.7
baz=86,SNR=18
K15A ⇑P P 06 40 49.0 +0.7
baz=86,SNR=18

E12A Beaver Dam Sad 85.48 38 ⇑P P 06 40 47.9 -0.4
baz=86,SNR=31
E12A ⇑P P 06 40 47.9 -0.4
baz=86,SNR=31
LENM Lemitar 85.48 52 *e*P P 06 40 49.5 +0.9
comp=Z,9.9nm,1.0s
LENM *ep*P *pP* 06 42 58.1 +2.6
I14A Mackay 85.49 41 ⇓P P 06 40 49.3 +0.9
baz=86,SNR=65
I14A ⇓P P 06 40 49.3 +0.9
baz=86,SNR=65
324A Moseley Ranch, 85.49 55 ⇑P P 06 40 49.4 +0.7
baz=86,SNR=28
324A ⇑P P 06 40 49.4 +0.7
baz=86,SNR=28
P18A Preston Nutter 85.53 46 ⇑P P 06 40 49.4 +0.5
baz=86
P18A ⇑P P 06 40 49.4 +0.5
baz=86
HWUT Hardware Ranch 85.57 44 *e*P P 06 40 49.2 +0.3
comp=Z,11nm,0.9s
HWUT *ep*P *pP* 06 42 56.8 +0.9
HWUT *eP*P *PP* 06 44 17.6 -1.6
NEW Newport 85.57 36 *e*P P 06 40 48.5 -0.1
NEW pmax pmax
comp=Z,24nm,0.9s
NEW Newport 85.57 36 *e*P P 06 40 48.5 -0.1
comp=Z,24nm,0.9s
NEW Newport 85.57 36 ⇓P P 06 40 48.5 -0.1
baz=86,SNR=21
NEW ⇓P P 06 40 48.5 -0.1
baz=86,SNR=21
DOT Dot Lake 85.58 15 *e*P P 06 40 47.2 -1.0
comp=Z,54nm,1.0s
DOT *ep*P *pP* 06 42 56.0 +0.9
G13A Cobalt 85.59 40 ⇓P P 06 40 49.3 +0.5
baz=86,SNR=27
G13A ⇓P P 06 40 49.3 +0.5
baz=86,SNR=27
R19A Curley Farm, L 85.61 48 ⇓P P 06 40 49.6 +0.4
baz=86,SNR=29
R19A ⇓P P 06 40 49.6 +0.4
baz=86,SNR=29
425A Indio Mountain 85.62 56 ⇑P P 06 40 50.6 +1.3
baz=86,SNR=26
425A ⇑P P 06 40 50.6 +1.3
baz=86,SNR=26
Z23A Rita Site, Whi 85.66 53 ⇓P P 06 40 50.5 +1.0
baz=86,SNR=5.8
Z23A ⇓P P 06 40 50.5 +1.0
baz=86,SNR=5.8
MVCO Mesa Verde 85.67 49 *e*P P 06 40 50.2 +0.7
comp=Z,61nm,2.4s
MVCO Mesa Verde 85.67 49 ⇑P P 06 40 49.6 +0.1
baz=86
MVCO ⇑P P 06 40 49.6 +0.1
baz=86
MNTX Cornudas Mount 85.68 55 *e*P P 06 40 50.5 +1.1
comp=Z,14nm,1.0s
MNTX *ep*P *pP* 06 42 58.7 +2.3
MNTX Cornudas Mount 85.68 55 ⇑P P 06 40 50.5 +1.1
baz=86,SNR=24
MNTX ⇑P P 06 40 50.5 +1.1
baz=86,SNR=24
MNTX ⇑P P 06 40 50.5 +1.1
baz=86,SNR=24
MNTX ⇑P P 06 40 50.5 +1.1
baz=86,SNR=24
V21A Milan 85.68 50 ⇓P P 06 40 50.0 +0.4
baz=86
V21A ⇓P P 06 40 50.0 +0.4
baz=86
BNM Barren Site 85.73 52 *e*P P 06 40 50.5 +0.7
comp=Z,9.8nm,1.0s
BNM *ep*P *pP* 06 42 57.5 +0.6
N17A Moffit Pass 85.74 45 ⇓P P 06 40 50.3 +0.5
baz=86,SNR=6.5
N17A ⇓P P 06 40 50.3 +0.5
baz=86,SNR=6.5
COLA College 85.78 13 *e*P P 06 40 47.6 -1.4
COLA pmax pmax
comp=Z,90nm,1.1s
COLA College 85.78 13 *e*P P 06 40 47.6 -1.4
comp=Z,90nm,1.1s
LPM Los Pinos Moun 85.80 52 *e*P P 06 40 50.9 +0.8
LPM *ep*P *pP* 06 42 58.4 +1.3
PV10 Paradox Valley 85.80 48 *e*P P 06 40 50.3 +0.1
comp=Z,325nm,0.9s
PV10 *ep*P *pP* 06 42 57.4 +0.2
626A Big Bend Ranch 85.81 57 ⇑P P 06 40 51.8 +1.7
baz=86,SNR=51
626A ⇑P P 06 40 51.8 +1.7
baz=86,SNR=51
C11A Tepee Creek (N 85.83 37 ⇓P P 06 40 50.3 +0.5
baz=86
C11A ⇓P P 06 40 50.3 +0.5
baz=86
L16A Fish Haven 85.85 44 ⇓P P 06 40 50.5 +0.3
baz=86,SNR=6.2
L16A ⇓P P 06 40 50.5 +0.3
baz=86,SNR=6.2
DLBC Dease Lake 85.86 23 P P 06 40 49.7 -0.1
comp=Z,18nm,0.9s,baz=228,slow=6.3,SNR=16
DLBC S S 06 50 26.7 -7.4
comp=Z,1.7nm,0.9s,baz=265,slow=23,SNR=2.0
DLBC Dease Lake 85.86 23 *e*P P 06 40 49.8 +0.1
325A Bean Ranch, Si 85.87 55 ⇓P P 06 40 51.3 +0.8
baz=86,SNR=17
325A ⇓P P 06 40 51.3 +0.8
baz=86,SNR=17
J15A Blackfoot 85.87 42 ⇑P P 06 40 51.7 +1.5
baz=86,SNR=76
J15A ⇑P P 06 40 51.7 +1.5
baz=86,SNR=76
H14A Leadore 85.89 41 ⇑P P 06 40 51.2 +0.9
baz=86,SNR=47
H14A ⇑P P 06 40 51.2 +0.9
baz=86,SNR=47
F13A Darby 85.89 39 ⇑P P 06 40 50.3 +0.1
baz=86,SNR=40
F13A ⇑P P 06 40 50.3 +0.1
baz=86,SNR=40
ILAR Eielson Array 85.90 13 P P 06 40 48.2 -1.4
comp=Z,12nm,0.4s,baz=220,slow=5.1,SNR=312
ILAR pP *pP* 06 42 56.7 -0.1
comp=Z,8.1nm,1.2s,baz=233,slow=5.4,SNR=3.3
ILAR S S 06 50 16.4 -18
comp=Z,0.5nm,1.0s,baz=157,slow=7.8,SNR=4.6
ILAR PKKP *PKKPbc* 06 58 46.0 -3.2
comp=Z,0.4nm,0.5s,baz=333,slow=1.9,SNR=9.3
ILAR Eielson Array 85.90 13 P P 06 40 48.2 -1.4
ILAR *PP *pP* 06 42 56.7 -0.1
ILAR S S 06 50 16.5 -17
ILAR Eielson Array 85.90 13 P P 06 40 48.2 -1.4
ILAR pP *pP* 06 42 56.7 -0.1
ILAR S S 06 50 16.4 -18
ILAR PKKP *PKKPbc* 06 58 46.0 -3.2
PV04 Paradox Valley 85.90 48 *e*P P 06 40 51.2 +0.6
PV04 *ep*P *pP* 06 42 59.0 +1.4
Q19A Hogan Spring (85.90 47 ⇑P P 06 40 51.0 +0.6
baz=86,SNR=18
Q19A ⇑P P 06 40 51.0 +0.6
baz=86,SNR=18
U21A Nageezi 85.94 50 ⇑P P 06 40 51.5 +0.7
baz=86,SNR=72
U21A ⇑P P 06 40 51.5 +0.7
baz=86,SNR=72
D12A Red Ives Fores 85.94 38 ⇓P P 06 40 50.2 -0.2
baz=86
D12A ⇓P P 06 40 50.2 -0.2
baz=86
W22A Albuquerque 85.94 51 ⇑P P 06 40 52.0 +1.2
baz=86,SNR=7.5
W22A ⇑P P 06 40 52.0 +1.2
baz=86,SNR=7.5
O18A Roosevelt 85.99 46 ⇑P P 06 40 51.2 +0.4
baz=86
O18A ⇑P P 06 40 51.2 +0.4
baz=86
PV01 Paradox Valley 86.02 48 *e*P P 06 40 51.6 +0.5
comp=Z,1μm,0.9s
PV01 *ep*P *pP* 06 42 59.0 +0.7
S20A Disappointment 86.04 48 ⇓P P 06 40 51.9 +0.6
baz=86,SNR=18
S20A ⇓P P 06 40 51.9 +0.6
baz=86,SNR=18
526A Mary Lane Ranc 86.04 57 ⇓P P 06 40 52.8 +1.4
baz=86,SNR=25
526A ⇓P P 06 40 52.8 +1.4
baz=86,SNR=25
Y23A Lovelace Mesa, 86.07 53 ⇓P P 06 40 52.0 +0.5
baz=86,SNR=16
Y23A ⇓P P 06 40 52.0 +0.5
baz=86,SNR=16
TXAR Lajitas Array 86.10 58 P P 06 40 53.2 +1.6
comp=Z,32nm,0.9s,baz=226,slow=5.1,SNR=248
TXAR pP *pP* 06 42 57.9 -0.8
comp=Z,1.2nm,1.1s,baz=303,slow=30,SNR=4.0
TXAR S S 06 50 24.2 -13
comp=Z,0.1nm,0.4s,baz=48,slow=1.9,SNR=3.0
TXAR PKKPbc *PKKPbc* 06 58 47.0 -0.2
comp=Z,0.2nm,0.4s,baz=139,slow=2.9,SNR=9.1
TXAR Lajitas Array 86.10 58 P P 06 40 53.2 +1.6
TXAR *PP *pP* 06 42 57.9 -0.8
TXAR S S 06 50 24.2 -13
TXAR Lajitas Array 86.10 58 P P 06 40 53.2 +1.6
TXAR pP *pP* 06 42 57.9 -0.8
TXAR S S 06 50 24.2 -13
TXAR PKKPbc *PKKPbc* 06 58 47.0 -0.2
M17A Scullys Gap (B 86.10 44 ⇑P P 06 40 51.5 +0.1
baz=86,SNR=11
M17A ⇑P P 06 40 51.5 +0.1
baz=86,SNR=11
I15A Monteview 86.13 41 ⇓P P 06 40 52.7 +1.2
baz=86,SNR=21
I15A ⇓P P 06 40 52.7 +1.2
baz=86,SNR=21
XAN Xi'an 86.14 307 P P 06 40 52.5 +0.9
XAN pP *pP* 06 43 01.5 +2.7
XAN sP *sP* 06 44 01.3 +3.1
XAN SKS *SKSac* 06 50 25.0 +3.2
XAN S *ScS* 06 50 41.5 -1.8
XAN pmax pmax
comp=Z,28nm,1.1s
XAN pmax pmax
comp=Z,66nm,6.4s
K16A Soda Springs 86.14 43 ⇑P P 06 40 52.6 +1.1
baz=86,SNR=28
K16A ⇑P P 06 40 52.6 +1.1
baz=86,SNR=28
G14A Jackson 86.14 40 ⇓P P 06 40 52.2 +0.7
baz=86,SNR=32
G14A ⇓P P 06 40 52.2 +0.7
baz=86,SNR=32
R20A Redvale 86.18 48 ⇓P P 06 40 52.2 +0.3
baz=86,SNR=6.2
R20A ⇓P P 06 40 52.2 +0.3
baz=86,SNR=6.2
ANMO Albuquerque 86.19 52 *e*P P 06 40 52.6 +0.6
ANMO *e**PP *pP* 06 43 01.9 +2.7
ANMO pmax pmax
comp=Z,19nm,1.1s
ANMO Albuquerque 86.19 52 *e*P P 06 40 52.5 +0.6
comp=Z,19nm,1.1s
ANMO *ep*P *pP* 06 43 01.9 +2.7
C12B Naegeli Ranch, 86.21 37 ⇓P P 06 40 51.9 +0.3
baz=86,SNR=19
C12B ⇓P P 06 40 51.9 +0.3
baz=86,SNR=19
X23A Hourglass Bar 86.24 52 ⇑P P 06 40 52.8 +0.6
baz=86
X23A ⇑P P 06 40 52.8 +0.6
baz=86
L17A Cokeville 86.26 44 ⇑P P 06 40 52.0 -0.2
baz=86,SNR=6.6
L17A ⇑P P 06 40 52.0 -0.2
baz=86,SNR=6.6
V22A San Miguel Ran 86.26 51 ⇓P P 06 40 52.6 +0.2
baz=86
V22A ⇓P P 06 40 52.6 +0.2
baz=86
T21A Navajo Lake 86.27 49 ⇓P P 06 40 52.9 +0.6
baz=86,SNR=9.7
T21A ⇓P P 06 40 52.9 +0.6
baz=86,SNR=9.7
HIA Hailar 86.27 325 *e*P P 06 40 51.4 -0.4
HIA pmax pmax
comp=Z,52nm,1.4s
HIA Hailar 86.27 325 *e*P P 06 40 51.4 -0.4
comp=Z,52nm,1.4s
E13A Victor 86.31 39 ⇑P P 06 40 51.9 -0.2
baz=86
E13A ⇑P P 06 40 51.9 -0.2
baz=86
MCMT McKenzie Canyo 86.31 41 *e*P P 06 40 53.3 +0.9
comp=Z,22nm,1.0s
MCMT *ep*P *pP* 06 43 00.8 +1.1
426A McDonald Obser 86.33 56 ⇓P P 06 40 54.1 +1.3
baz=86,SNR=15
426A ⇓P P 06 40 54.1 +1.3
baz=86,SNR=15
H15A Lima 86.33 41 ⇓P P 06 40 53.4 +1.0
baz=87,SNR=61
H15A ⇓P P 06 40 53.4 +1.0
baz=87,SNR=61
J16A Bone 86.33 42 ⇑P P 06 40 53.6 +1.1
baz=87,SNR=94
J16A ⇑P P 06 40 53.6 +1.1
baz=87,SNR=94
Z24A Sheeppen Canyo 86.35 53 ⇑P P 06 40 53.5 +0.7
baz=87,SNR=13
Z24A ⇑P P 06 40 53.5 +0.7
baz=87,SNR=13
627A Terlingua Ranc 86.37 58 ⇑P P 06 40 54.6 +1.7
baz=87,SNR=57
627A ⇑P P 06 40 54.6 +1.7
baz=87,SNR=57
S21A Coal Bank Pass 86.37 49 ⇓P P 06 40 53.6 +0.7
baz=87,SNR=29
S21A ⇓P P 06 40 53.6 +0.7
baz=87,SNR=29
BILL Bilibino 86.39 354*c i*P P 06 40 51.1 -0.8
BILL *e* 06 50 19.9
BILL pmax pmax
comp=Z,43nm,1.2s
BILL Bilibino 86.39 354 *e*P P 06 40 51.0 -0.8
comp=Z,76nm,1.3s
AHID Auburn Hatcher 86.42 43 *e*P P 06 40 53.4 +0.5
comp=Z,36nm,1.3s
AHID *ep*P *pP* 06 42 59.0 -1.2
AHID *eP*P *PP* 06 44 23.2 -2.8
527A Woodward Ranch 86.46 57 ⇓P P 06 40 54.4 +1.1
baz=87,SNR=21
527A ⇓P P 06 40 54.4 +1.1
baz=87,SNR=21
M18A Lyman 86.48 45 ⇓P P 06 40 53.7 +0.4
baz=87,SNR=30
M18A ⇓P P 06 40 53.7 +0.4
baz=87,SNR=30
F14A Wisdom 86.48 39 ⇑P P 06 40 53.4 +0.3
baz=87,SNR=11
F14A ⇑P P 06 40 53.4 +0.3
baz=87,SNR=11
D13A Huson 86.48 38 ⇓P P 06 40 52.5 -0.4
baz=87,SNR=9.6
D13A ⇓P P 06 40 52.5 -0.4
baz=87,SNR=9.6
U22A Llaves 86.50 50 ⇓P P 06 40 53.9 +0.5
baz=87,SNR=5.9
U22A ⇓P P 06 40 53.9 +0.5
baz=87,SNR=5.9
W23A Werner Place, 86.51 51 ⇑P P 06 40 54.0 +0.4
baz=87,SNR=9.3
W23A ⇑P P 06 40 54.0 +0.4
baz=87,SNR=9.3
K17A Gardner Place, 86.53 43 ⇑P P 06 40 54.2 +0.8
baz=87,SNR=30
K17A ⇑P P 06 40 54.2 +0.8
baz=87,SNR=30
Y24A Capitan 86.54 53 ⇑P P 06 40 54.2 +0.5
baz=87,SNR=45
Y24A ⇑P P 06 40 54.2 +0.5
baz=87,SNR=45
B12A Libby 86.55 36 ⇓P P 06 40 53.6 +0.4
baz=87,SNR=7.8
B12A ⇓P P 06 40 53.6 +0.4
baz=87,SNR=7.8
RRI2 Red Ridge 86.56 42 *e*P P 06 40 54.5 +0.9
comp=Z,78nm,0.9s
RRI2 *ep*P *pP* 06 43 01.4 +0.4
Q20A Ridgley Place, 86.58 47 ⇑P P 06 40 54.3 +0.6
baz=87,SNR=14
Q20A ⇑P P 06 40 54.3 +0.6
baz=87,SNR=14

USHA	**Ushuaia**	**86.59**	**147**		P		**P**	06 40 54.9	+1.6
	comp=Z,22nm,0.9s,baz=236,slow=8.1,SNR=5.7								
USHA	**Ushuaia**	**86.59**	**147**		P		**P**	06 40 54.9	+1.6
O19A	**Miners Draw (B**	**86.60**	**46**	⇑	P		**P**	06 40 54.2	+0.4
	baz=87,SNR=10								
O19A				⇑	P		**P**	06 40 54.2	+0.4
	baz=87,SNR=10								
326A	**Caldwell Ranch**	**86.62**	**56**	⇓	P		**P**	06 40 54.7	+0.7
	baz=87,SNR=6.3								
326A				⇓	P		**P**	06 40 54.7	+0.7
	baz=87,SNR=6.3								
MSO	**Missoula**	**86.65**	**38**	*e*P			**P**	06 40 53.4	-0.4
	comp=Z,17nm,1.3s								
MSO				*e*pP			**pP**	06 43 01.5	+0.3
MSO	**Missoula**	**86.65**	**38**	⇑	P		**P**	06 40 53.4	-0.4
	baz=87,SNR=14								
MSO				⇑	P		**P**	06 40 53.4	-0.4
	baz=87,SNR=14								
GDL2	**Guadalupe Moun**	**86.67**	**55**	*e*P			**P**	06 40 55.5	+1.3
GDL2				*e*pP			**pP**	06 43 02.5	+0.8
BSMT	**Bassoo Peak**	**86.68**	**37**	*e*P			**P**	06 40 53.8	-0.2
BSMT				*e*pP			**pP**	06 43 01.5	+0.1
G15A	**Dillon**	**86.70**	**40**	⇑	P		**P**	06 40 54.8	+0.7
	baz=87,SNR=54								
G15A				⇑	P		**P**	06 40 54.8	+0.7
	baz=87,SNR=54								
I16A	**Newdale**	**86.70**	**42**	⇓	P		**P**	06 40 55.3	+1.2
	baz=87,SNR=78								
I16A				⇓	P		**P**	06 40 55.3	+1.2
	baz=87,SNR=78								
E14A	**Clinton**	**86.71**	**39**	⇑	P		**P**	06 40 54.4	+0.2
	baz=87,SNR=37								
E14A				⇑	P		**P**	06 40 54.4	+0.2
	baz=87,SNR=37								
C13A	**Hot Springs**	**86.72**	**37**	⇑	P		**P**	06 40 53.6	-0.4
	baz=87,SNR=8.1								
C13A				⇑	P		**P**	06 40 53.6	-0.4
	baz=87,SNR=8.1								
V23A	**Ortiz Mt. (NFS**	**86.73**	**51**	⇑	P		**P**	06 40 55.8	+1.3
	baz=87,SNR=13								
V23A				⇑	P		**P**	06 40 55.8	+1.3
	baz=87,SNR=13								
L18A	**Fontenelle, Gr**	**86.73**	**44**	⇑	P		**P**	06 40 54.7	+0.3
	baz=87,SNR=7.0								
L18A				⇑	P		**P**	06 40 54.7	+0.3
	baz=87,SNR=7.0								
DLMT	**Dillon**	**86.73**	**40**	*e*P			**P**	06 40 54.9	+0.7
	comp=Z,37nm,1.0s								
DLMT				*e*pP			**pP**	06 43 03.5	+1.8
T22A	**Edith**	**86.73**	**50**	⇓	P		**P**	06 40 54.9	+0.4
	baz=87,SNR=8.1								
T22A				⇓	P		**P**	06 40 54.9	+0.4
	baz=87,SNR=8.1								
P20A	**De Beque**	**86.75**	**47**	⇓	P		**P**	06 40 55.2	+0.6
	baz=87,SNR=6.4								
P20A				⇓	P		**P**	06 40 55.2	+0.6
	baz=87,SNR=6.4								
A12A	**Yaak River Ran**	**86.76**	**36**	⇓	P		**P**	06 40 54.7	+0.5
	baz=87,SNR=12								
A12A				⇓	P		**P**	06 40 54.7	+0.5
	baz=87,SNR=12								
DCID1	**Drake Creek**	**86.76**	**42**	*e*P			**P**	06 40 55.5	+1.0
	comp=Z,29nm,0.9s								
DCID1				*e*pP			**pP**	06 43 04.1	+2.2
DCID1				*e*PP			**PP**	06 44 26.8	-1.8
628A	**Black Gap, Mar**	**86.78**	**58**	⇓	P		**P**	06 40 56.1	+1.4
	baz=87,SNR=50								
628A				⇓	P		**P**	06 40 56.1	+1.4
	baz=87,SNR=50								
X24A	**Lazy VL Ranch,**	**86.80**	**52**	⇓	P		**P**	06 40 55.2	+0.3
	baz=87								
X24A				⇓	P		**P**	06 40 55.2	+0.3
	baz=87								
226A	**Malaga, Loving**	**86.82**	**55**	⇑	P		**P**	06 40 55.7	+0.8
	baz=87,SNR=21								
226A				⇑	P		**P**	06 40 55.7	+0.8
	baz=87,SNR=21								
Z25A	**Roswell**	**86.83**	**54**	⇑	P		**P**	06 40 55.8	+0.9
	baz=87,SNR=12								
Z25A				⇑	P		**P**	06 40 55.8	+0.9
	baz=87,SNR=12								
N19A	**John Jarvie Ra**	**86.83**	**45**	⇑	P		**P**	06 40 55.0	+0.1
	baz=87,SNR=12								
N19A				⇑	P		**P**	06 40 55.0	+0.1
	baz=87,SNR=12								
R21A	**Cimarron**	**86.85**	**48**	⇓	P		**P**	06 40 55.8	+0.7
	baz=87,SNR=29								
R21A				⇓	P		**P**	06 40 55.8	+0.7
	baz=87,SNR=29								
TPAW	**Teton Pass**	**86.86**	**42**	*e*P			**P**	06 40 56.0	+1.0
	comp=Z,36nm,1.0s								
TPAW				*e*pP			**pP**	06 43 03.7	+1.2
TPAW				*e*PP			**PP**	06 44 27.2	-2.3
REDW	**Red Top Meadow**	**86.86**	**43**	*e*P			**P**	06 40 55.7	+0.7
	comp=Z,60nm,1.0s								
REDW				*e*pP			**pP**	06 43 03.3	+0.7
427A	**Hayter Ranch,**	**86.90**	**56**	⇑	P		**P**	06 40 56.6	+1.3
	baz=87,SNR=38								
427A				⇑	P		**P**	06 40 56.6	+1.3
	baz=87,SNR=38								
JTMT	**Jette**	**86.92**	**38**	*e*P			**P**	06 40 54.7	-0.3
J17A	**Brown Place, J**	**86.96**	**43**	⇓	P		**P**	06 40 56.2	+0.8
	baz=87,SNR=46								
J17A				⇓	P		**P**	06 40 56.2	+0.8
	baz=87,SNR=46								
SWMT	**Swartz Lake**	**86.96**	**38**	*e*P			**P**	06 40 54.9	-0.3
U23A	**El Rito**	**86.96**	**50**	⇓	P		**P**	06 40 56.4	+0.7
	baz=87,SNR=13								
U23A				⇓	P		**P**	06 40 56.4	+0.7
	baz=87,SNR=13								
SNOW	**Snow King Moun**	**86.97**	**42**	*e*P			**P**	06 40 56.6	+1.1
	comp=Z,53nm,0.9s								
SNOW				*e*pP			**pP**	06 43 04.2	+1.1
F15A	**Butte**	**87.03**	**40**	⇑	P		**P**	06 40 56.0	+0.3
	baz=87,SNR=26								
F15A				⇑	P		**P**	06 40 56.0	+0.3
	baz=87,SNR=26								
Q21A	**Lamborn Mesa,**	**87.03**	**48**	⇓	P		**P**	06 40 56.5	+0.6
	baz=87,SNR=12								
Q21A				⇓	P		**P**	06 40 56.5	+0.6
	baz=87,SNR=12								
D14A	**Greenough**	**87.04**	**38**	⇑	P		**P**	06 40 55.1	-0.5
	baz=87,SNR=21								
D14A				⇑	P		**P**	06 40 55.1	-0.5
	baz=87,SNR=21								
LRM	**Limekiln Ridge**	**87.04**	**40**	*e*P			**P**	06 40 56.2	+0.4
LRM				*e*pP			**pP**	06 43 04.4	+1.0
LRM				*e*PP			**PP**	06 44 28.3	-2.6
K18A	**Toltan Ranch,**	**87.05**	**43**	⇓	P		**P**	06 40 56.7	+0.8
	baz=87,SNR=61								
K18A				⇓	P		**P**	06 40 56.7	+0.8
	baz=87,SNR=61								
CLNB	**Carlsbad**	**87.07**	**55**	*e*P			**P**	06 40 56.9	+0.8
	comp=Z,2.2nm,0.6s								
CLNB				*e*pP			**pP**	06 43 05.1	+1.5
W24A	**Lazy 6 Ranch,**	**87.08**	**52**	⇓	P		**P**	06 40 56.4	+0.2
	baz=87,SNR=12								
W24A				⇓	P		**P**	06 40 56.4	+0.2
	baz=87,SNR=12								
S22A	**4UR Ranch, Cre**	**87.10**	**49**	⇑	P		**P**	06 40 57.0	+0.7
	baz=87,SNR=24								
S22A				⇑	P		**P**	06 40 57.0	+0.7
	baz=87,SNR=24								
CHMT	**Chamberlain Mo**	**87.10**	**39**	*e*P			**P**	06 40 56.0	0.0
CHMT				*e*pP			**pP**	06 43 04.9	+1.3
Y25A	**Mesa, Roswell**	**87.10**	**53**	⇑	P		**P**	06 40 56.4	+0.2
	baz=87,SNR=15								
Y25A				⇑	P		**P**	06 40 56.4	+0.2
	baz=87,SNR=15								
DAWY	**Dawson**	**87.10**	**16**	*e*P			**P**	06 40 54.6	-0.8
126A	**Clayton Basin,**	**87.11**	**55**	⇓	P		**P**	06 40 56.9	+0.6
	baz=87,SNR=6.5								
126A				⇓	P		**P**	06 40 56.9	+0.6
	baz=87,SNR=6.5								
528A	**Cox Ranch, San**	**87.12**	**57**	⇑	P		**P**	06 40 57.8	+1.4
	baz=87,SNR=23								
528A				⇑	P		**P**	06 40 57.8	+1.4
	baz=87,SNR=23								
M19A	**Rock Springs**	**87.12**	**45**	⇑	P		**P**	06 40 56.6	+0.3
	baz=87,SNR=15								
M19A				⇑	P		**P**	06 40 56.6	+0.3
	baz=87,SNR=15								
SLMT	**Seeley Lake**	**87.12**	**38**	*e*P			**P**	06 40 55.4	-0.6
B13A	**Whitefish**	**87.14**	**37**	⇑	P		**P**	06 40 55.7	-0.3
	baz=87,SNR=12								
B13A				⇑	P		**P**	06 40 55.7	-0.3
	baz=87,SNR=12								
O20A	**White River Ci**	**87.14**	**46**	⇑	P		**P**	06 40 56.9	+0.6
	baz=87,SNR=14								
O20A				⇑	P		**P**	06 40 56.9	+0.6
	baz=87,SNR=14								
G16A	**Moss Hill, Enn**	**87.15**	**41**	⇓	P		**P**	06 40 56.8	+0.6
	baz=87,SNR=21								
G16A				⇓	P		**P**	06 40 56.8	+0.6
	baz=87,SNR=21								
HHC	**Hu-ho-hao-te**	**87.16**	**315**	*e*P			**P**	06 40 57.0	+0.7
HHC				pP			**pP**	06 43 07.0	+3.1
HHC				sP			**sP**	06 44 06.5	+3.2
HHC				PP			**PP**	06 44 35.0	+3.3
HHC				SKS			**SKSac**	06 50 27.0	-0.8
HHC				S			**S**	06 50 46.5	-0.6
HHC				pmax			pmax		
	comp=Z,31nm,1.1s								
HHC				pmax			pmax		
	comp=Z,92nm,6.2s								
QLMT	**Earthquake Lak**	**87.19**	**41**	*e*P			**P**	06 40 57.9	+1.4
QLMT				*e*pP			**pP**	06 43 06.5	+2.3
E15A	**Deer Lodge**	**87.22**	**39**	⇓	P		**P**	06 40 56.6	+0.1
	baz=87,SNR=12								
E15A				⇓	P		**P**	06 40 56.6	+0.1
	baz=87,SNR=12								
EGAK	**Eagle**	**87.23**	**15**	*e*P			**P**	06 40 55.3	-0.6
	comp=Z,64nm,1.3s								
EGAK				*e*pP			**pP**	06 43 04.7	+1.2
C14A	**Swan Lake**	**87.24**	**38**	⇓	P		**P**	06 40 56.1	-0.4
	baz=88								
C14A				⇓	P		**P**	06 40 56.1	-0.4
	baz=88								
H16A	**Russell Place,**	**87.25**	**41**	⇑	P		**P**	06 40 58.2	+1.4
	baz=88,SNR=82								
H16A				⇑	P		**P**	06 40 58.2	+1.4
	baz=88,SNR=82								
L19A	**Farson**	**87.26**	**44**	⇑	P		**P**	06 40 57.5	+0.7
	baz=88,SNR=38								
L19A				⇑	P		**P**	06 40 57.5	+0.7
	baz=88,SNR=38								
I17A	**Pilgrim Ck.**	**87.30**	**42**	⇑	P		**P**	06 40 58.4	+1.3
	baz=88,SNR=27								
I17A				⇑	P		**P**	06 40 58.4	+1.3
	baz=88,SNR=27								
J18A	**Kendall Valley**	**87.33**	**43**	⇓	P		**P**	06 40 57.9	+0.7
	baz=88,SNR=114								
J18A				⇓	P		**P**	06 40 57.9	+0.7
	baz=88,SNR=114								
R22A	**Saguache, Gunn**	**87.35**	**48**	⇓	P		**P**	06 40 58.4	+0.9
	baz=88,SNR=20								
R22A				⇓	P		**P**	06 40 58.4	+0.9
	baz=88,SNR=20								
X25A	**Clemmons Ranch**	**87.37**	**53**	⇓	P		**P**	06 40 58.1	+0.6
	baz=88								
X25A				⇓	P		**P**	06 40 58.1	+0.6
	baz=88								
T23A	**Casias Ranch,**	**87.37**	**50**	⇑	P		**P**	06 40 58.3	+0.7
	baz=88								
T23A				⇑	P		**P**	06 40 58.3	+0.7
	baz=88								
CPRX	**Cap Rock**	**87.38**	**54**	*e*P			**P**	06 40 58.3	+0.7
	comp=Z,26nm,1.0s								
YFT	**Old Faithful**	**87.39**	**42**	*e*P			**P**	06 40 59.4	+1.9
	comp=Z,46nm,1.0s								
YFT				*e*pP			**pP**	06 43 07.5	+2.3
Z26A	**Caprock**	**87.39**	**54**	⇑	P		**P**	06 40 58.1	+0.5
	baz=88,SNR=29								
Z26A				⇑	P		**P**	06 40 58.1	+0.5
	baz=88,SNR=29								
V24A	**Rampart Ranch,**	**87.39**	**51**	⇑	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=12								
V24A				⇑	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=12								
YMR	**Madison River**	**87.41**	**41**	*e*P			**P**	06 40 58.8	+1.3
	comp=Z,47nm,1.0s								
YMR				*e*pP			**pP**	06 43 07.2	+2.0
COLD	**Coldfoot**	**87.42**	**11**	*e*P			**P**	06 40 56.6	-0.2
	comp=Z,51nm,1.0s								
COLD				*e*pP			**pP**	06 43 06.0	+1.5
P21A	**Newcastle**	**87.42**	**47**	⇓	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=8.5								
P21A				⇓	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=8.5								
PD01	**Pinedale Array**	**87.42**	**43**	*e*P			**P**	06 40 57.5	-0.1
PD01				*e*pP			**pP**	06 43 04.8	-0.5
PD01				*e*PP			**PP**	06 44 31.2	-2.6
428A	**Kincaid Ranch,**	**87.42**	**57**	⇓	P		**P**	06 40 59.0	+1.3
	baz=88,SNR=9.6								
428A				⇓	P		**P**	06 40 59.0	+1.3
	baz=88,SNR=9.6								
BW06	**Boulder Array**	**87.43**	**43**	*e*P			**P**	06 40 57.6	0.0
	comp=Z,30nm,1.0s								
BW06				*e*pP			**pP**	06 43 05.5	+0.1
BW06	**Boulder Array**	**87.43**	**43**	⇓	P		**P**	06 40 57.9	+0.2
	baz=88,SNR=37								
BW06				⇓	P		**P**	06 40 57.9	+0.2
	baz=88,SNR=37								
BW06				⇓	P		**P**	06 40 57.9	+0.2
	baz=88,SNR=37								
BW06				⇓	P		**P**	06 40 57.9	+0.2
	baz=88,SNR=37								
PD02	**Pinedale Array**	**87.43**	**43**	*e*P			**P**	06 40 57.7	0.0
PD02				*e*pP			**pP**	06 43 05.8	+0.5
PD02				*e*PP			**PP**	06 44 31.0	-3.0
PDAR	**Pinedale Array**	**87.43**	**43**	P			**P**	06 40 57.8	+0.1
	comp=Z,23nm,0.9s,baz=216,slow=3.0,SNR=126								
PDAR				pP			**pP**	06 43 04.5	-0.8
	comp=Z,5.6nm,1.0s,baz=204,slow=3.3,SNR=5.8								
PDAR				PP			**PP**	06 44 30.9	-3.0
	comp=Z,5.1nm,1.0s,baz=237,slow=6.9,SNR=6.9								
PDAR				PKKP			**PKKPbc**	06 58 43.5	-1.3
	comp=Z,0.4nm,0.6s,baz=88,slow=5.0,SNR=4.3								
PDAR	**Pinedale Array**	**87.43**	**43**	P			**P**	06 40 57.8	+0.1
PDAR				pP			**pP**	06 43 04.5	-0.8
PDAR				PP			**PP**	06 44 30.9	-3.0
PDAR				PKKP			**PKKPbc**	06 58 43.5	-1.3
A13A	**Flathead Natio**	**87.45**	**36**	⇑	P		**P**	06 40 57.9	+0.4
	baz=88								
A13A				⇑	P		**P**	06 40 57.9	+0.4
	baz=88								
BOZ	**Bozeman (W)**	**87.46**	**40**	*e*P			**P**	06 40 58.3	+0.7
BOZ				*e**PP			**pP**	06 43 06.2	+0.8
BOZ				pmax			pmax		
	comp=Z,26nm,1.1s								
BOZ	**Bozeman (W)**	**87.46**	**40**	*e*P			**P**	06 40 58.3	+0.7
	comp=Z,26nm,1.1s								
BOZ				*e*pP			**pP**	06 43 06.2	+0.8
BOZ	**Bozeman (W)**	**87.46**	**40**	⇑	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=21								
BOZ				⇑	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=21								
BOZ				⇑	P		**P**	06 40 58.4	+0.7
	baz=88,SNR=21								
Q22A	**Crested Butte,**	**87.51**	**48**	⇑	P		**P**	06 40 58.9	+0.6
	baz=88,SNR=17								
Q22A				⇑	P		**P**	06 40 58.9	+0.6
	baz=88,SNR=17								
H17A	**Grant Village**	**87.53**	**42**	⇓	P		**P**	06 40 59.9	+1.8
	baz=88,SNR=36								
H17A				⇓	P		**P**	06 40 59.9	+1.8
	baz=88,SNR=36								
F16A	**Kennard Place,**	**87.53**	**40**	⇓	P		**P**	06 40 58.6	+0.7
	baz=88,SNR=22								
F16A				⇓	P		**P**	06 40 58.6	+0.7
	baz=88,SNR=22								
328A	**Wristen Ranch,**	**87.57**	**56**	⇓	P		**P**	06 40 58.9	+0.5
	baz=88,SNR=12								
328A				⇓	P		**P**	06 40 58.9	+0.5
	baz=88,SNR=12								
D15A	**Lincoln**	**87.60**	**39**	⇓	P		**P**	06 40 58.6	+0.3
	baz=88,SNR=32								
D15A				⇓	P		**P**	06 40 58.6	+0.3
	baz=88,SNR=32								
SMCO	**Snowmass**	**87.60**	**48**	*e*P			**P**	06 40 59.5	+0.7
	comp=Z,21nm,1.2s								
SMCO				*e*pP			**pP**	06 43 07.2	+0.6
YNR	**Norris Junctio**	**87.61**	**41**	*e*P			**P**	06 41 00.3	+1.8
	comp=Z,18nm,1.0s								
YNR				*e*pP			**pP**	06 43 10.6	+4.3
127A	**Arkansas Junct**	**87.64**	**55**	⇓	P		**P**	06 40 59.2	+0.4
	baz=88,SNR=18								
127A				⇓	P		**P**	06 40 59.2	+0.4
	baz=88,SNR=18								
U24A	**Moreno Valley**	**87.67**	**51**	⇑	P		**P**	06 41 00.1	+1.1
	baz=88								
U24A				⇑	P		**P**	06 41 00.1	+1.1
	baz=88								
S23A	**Nye Farm, Mont**	**87.67**	**49**	⇑	P		**P**	06 40 59.6	+0.6
	baz=88								
S23A				⇑	P		**P**	06 40 59.6	+0.6
	baz=88								
I18A	**Diamond G Ranc**	**87.69**	**43**	⇓	P		**P**	06 40 59.4	+0.6
	baz=88,SNR=18								
I18A				⇓	P		**P**	06 40 59.4	+0.6
	baz=88,SNR=18								
KMI	**Kunming**	**87.70**	**297**		P		**P**	06 41 00.8	+1.5
KMI				pP			**pP**	06 43 06.0	-1.1
KMI				sP			**sP**	06 44 04.5	-1.9
KMI				PP			**PP**	06 44 38.3	+1.9
KMI				SKS			**SKSac**	06 50 30.3	-1.6
KMI				S			**S**	06 50 51.8	-1.2
KMI				SS			**SS**	06 56 59.5	+1.2
KMI				pmax			pmax		
	comp=Z,30nm,1.2s								
KMI				pmax			pmax		
	comp=Z,220nm,3.8s								
O21A	**Pagoda**	**87.70**	**46**	⇑	P		**P**	06 40 59.3	+0.2
	baz=88,SNR=7.8								
O21A				⇑	P		**P**	06 40 59.3	+0.2
	baz=88,SNR=7.8								
LKWY	**Lake**	**87.72**	**42**	*e*P			**P**	06 41 01.1	+2.1
LKWY				*e**PP			**pP**	06 43 08.6	+1.8
LKWY				pmax			pmax		
	comp=Z,38nm,1.0s								
LKWY	**Lake**	**87.72**	**42**	*e*P			**P**	06 41 01.1	+2.1
	comp=Z,38nm,1.0s								
LKWY				*e*pP			**pP**	06 43 08.6	+1.8
Y26A	**Elida**	**87.77**	**53**	⇑	P		**P**	06 40 59.6	+0.3
	baz=88								
Y26A				⇑	P		**P**	06 40 59.6	+0.3
	baz=88								
M20A	**Sweetwater, Wa**	**87.77**	**45**	⇑	P		**P**	06 40 59.8	+0.5
	baz=88,SNR=9.2								
M20A				⇑	P		**P**	06 40 59.8	+0.5
	baz=88,SNR=9.2								
W25A	**X Bar L Ranch,**	**87.80**	**52**	⇓	P		**P**	06 40 59.6	+0.2
	baz=88,SNR=11								
W25A				⇓	P		**P**	06 40 59.6	+0.2
	baz=88,SNR=11								
WALA	**Waterton Lakes**	**87.80**	**37**	*e*P			**P**	06 40 59.2	+0.1
	comp=Z,0.7nm,1.0s								
WALA				*e*pP			**pP**	06 43 08.4	+1.4
B14A	**Marquette Ranc**	**87.81**	**37**	⇑	P		**P**	06 40 59.1	-0.1
	baz=88,SNR=30								
B14A				⇑	P		**P**	06 40 59.1	-0.1
	baz=88,SNR=30								
HRY	**Holter Researc**	**87.85**	**39**	*e*P			**P**	06 41 00.0	+0.6
HRY				*e*pP			**pP**	06 43 08.4	+1.1
G17A	**Pierce Place,**	**87.86**	**41**	⇓	P		**P**	06 41 00.5	+0.9
	baz=88,SNR=15								
G17A				⇓	P		**P**	06 41 00.5	+0.9
	baz=88,SNR=15								
E16A	**East Helena**	**87.86**	**39**	⇑	P		**P**	06 40 59.8	+0.3
	baz=88,SNR=18								
E16A				⇑	P		**P**	06 40 59.8	+0.3
	baz=88,SNR=18								
L20A	**Wamsutter**	**87.89**	**45**	⇑	P		**P**	06 41 00.7	+0.9
	baz=88,SNR=27								
L20A				⇑	P		**P**	06 41 00.7	+0.9
	baz=88,SNR=27								
N21A	**Black Mountain**	**87.90**	**46**	⇑	P		**P**	06 41 00.7	+0.7
	baz=88,SNR=36								
N21A				⇑	P		**P**	06 41 00.7	+0.7
	baz=88,SNR=36								
C15A	**Salmond Ranch,**	**87.91**	**38**	⇓	P		**P**	06 40 59.7	0.0
	baz=88,SNR=19								
C15A				⇓	P		**P**	06 40 59.7	0.0
	baz=88,SNR=19								
K19A	**Absolon Red Bu**	**87.92**	**44**	⇑	P		**P**	06 40 59.9	-0.1
	baz=88,SNR=30								
K19A				⇑	P		**P**	06 40 59.9	-0.1
	baz=88,SNR=30								
V25A	**Rancho No Teng**	**87.93**	**51**	⇑	P		**P**	06 41 00.4	+0.3
	baz=88,SNR=14								
V25A				⇑	P		**P**	06 41 00.4	+0.3
	baz=88,SNR=14								
P22A	**Eagle**	**87.93**	**47**	⇑	P		**P**	06 41 00.5	+0.4
	baz=88,SNR=12								
P22A				⇑	P		**P**	06 41 00.5	+0.4
	baz=88,SNR=12								
J19A	**Crowheart**	**87.99**	**43**	⇑	P		**P**	06 41 00.5	+0.3
	baz=88,SNR=41								
J19A				⇑	P		**P**	06 41 00.5	+0.3
	baz=88,SNR=41								
R23A	**Moffat**	**88.00**	**49**	⇑	P		**P**	06 41 01.1	+0.5
	baz=88,SNR=11								
R23A				⇑	P		**P**	06 41 01.1	+0.5
	baz=88,SNR=11								
X26A	**CR and CF Fran**	**88.02**	**53**	⇓	P		**P**	06 41 01.1	+0.5
	baz=88								
X26A				⇓	P		**P**	06 41 01.1	+0.5
	baz=88								
A14A	**Double T Ranch**	**88.04**	**37**	⇓	P		**P**	06 41 00.3	+0.1
	baz=88,SNR=21								
A14A				⇓	P		**P**	06 41 00.3	+0.1
	baz=88,SNR=21								
SDCO	**Great Sand Dun**	**88.05**	**49**	*e*P			**P**	06 41 01.2	+0.4
	comp=Z,9.8nm,1.1s								
SDCO				*e*pP			**pP**	06 43 09.4	+0.8
SDCO	**Great Sand Dun**

baz=88,SNR=6.7
E17A ⇑P P 06 41 02.1 +0.4
baz=88,SNR=6.7
I19A Meeteetse 88.37 43 ⇓P P 06 41 02.8 +0.8
baz=89,SNR=25
I19A ⇓P P 06 41 02.8 +0.8
baz=89,SNR=25
M21A Separation Pea 88.38 45 ⇑P P 06 41 02.4 +0.3
baz=89,SNR=38
M21A ⇑P P 06 41 02.4 +0.3
baz=89,SNR=38
A15A Johnson Ranch, 88.43 37 ⇓P P 06 41 01.8 -0.2
baz=89,SNR=22
A15A ⇓P P 06 41 01.8 -0.2
baz=89,SNR=22
P23A Jefferson 88.48 48 ⇑P P 06 41 03.6 +0.7
baz=89,SNR=6.6
P23A ⇑P P 06 41 03.6 +0.7
baz=89,SNR=6.6
RWWY Rawlins 88.52 45 *e*P P 06 41 03.2 +0.4
comp=N,41nm,1.1s
L21A Rawlins 88.53 45 ⇓P P 06 41 02.8 0.0
baz=89,SNR=14
L21A ⇓P P 06 41 02.8 0.0
baz=89,SNR=14
V26A Tequesquite Ra 88.53 52 ⇓P P 06 41 02.7 -0.2
baz=89
V26A ⇓P P 06 41 02.7 -0.2
baz=89
R24A Sanders Place, 88.53 49 ⇑P P 06 41 03.5 +0.6
baz=89,SNR=12
R24A ⇑P P 06 41 03.5 +0.6
baz=89,SNR=12
MSTX Muleshoe 88.59 54 ⇓P P 06 41 03.4 +0.2
baz=89,SNR=20
MSTX ⇓P P 06 41 03.4 +0.2
baz=89,SNR=20
G18A Lazy EL Ranch, 88.59 41 ⇑P P 06 41 03.8 +0.9
baz=89,SNR=23
G18A ⇑P P 06 41 03.8 +0.9
baz=89,SNR=23
T25A Trinidad 88.60 50 ⇑P P 06 41 03.4 +0.1
baz=89,SNR=6.5
T25A ⇑P P 06 41 03.4 +0.1
baz=89,SNR=6.5
X27A F and S Farms, 88.60 53 ⇑P P 06 41 03.6 +0.4
baz=89,SNR=6.2
X27A ⇑P P 06 41 03.6 +0.4
baz=89,SNR=6.2
N22A Wattenberg Ran 88.65 46 ⇓P P 06 41 04.4 +0.9
baz=89,SNR=57
N22A ⇓P P 06 41 04.4 +0.9
baz=89,SNR=57
J20A Shoshoni 88.66 43 ⇑P P 06 41 04.1 +0.8
baz=89,SNR=52
J20A ⇑P P 06 41 04.1 +0.8
baz=89,SNR=52
H19A Powell 88.66 42 ⇓P P 06 41 04.3 +1.1
baz=89,SNR=26
H19A ⇓P P 06 41 04.3 +1.1
baz=89,SNR=26
RLMT Red Lodge 88.69 41 *e*P P 06 41 04.5 +1.0
comp=N,39nm,1.1s
RLMT *e*pP pP 06 43 13.3 +1.7
RLMT Red Lodge 88.69 41 ⇑P P 06 41 04.3 +0.8
baz=89,SNR=24
RLMT ⇑P P 06 41 04.3 +0.8
baz=89,SNR=24
RLMT ⇑P P 06 41 04.3 +0.8
baz=89,SNR=24
RLMT ⇑P P 06 41 04.3 +0.8
baz=89,SNR=24
CM31 Chiang Mai Arr 88.75 290 *e*P P 06 41 05.8 +1.7
comp=N,14nm,0.8s
CMAR Chiang Mai Arr 88.75 290 P P 06 41 05.0 +1.0
comp=N,20nm,0.8s,baz=110,slow=2.7,SNR=86
CMAR Chiang Mai Arr 88.75 290 P P 06 41 05.1 +1.0
CMAR Chiang Mai Arr 88.75 290 P P 06 41 05.0 +1.0
B16A M & M Farms, S 88.75 38 ⇓P P 06 41 03.2 -0.3
baz=89,SNR=22
B16A ⇓P P 06 41 03.2 -0.3
baz=89,SNR=22
D17A Six Diamond Ra 88.75 39 ⇑P P 06 41 04.1 +0.5
baz=89,SNR=25
D17A ⇑P P 06 41 04.1 +0.5
baz=89,SNR=25
F18A Big Timber 88.77 41 ⇑P P 06 41 04.6 +0.9
baz=89,SNR=13
F18A ⇑P P 06 41 04.6 +0.9
baz=89,SNR=13
O23A Lake Granby, G 88.78 47 ⇑P P 06 41 04.8 +0.7
baz=89,SNR=15
O23A ⇑P P 06 41 04.8 +0.7
baz=89,SNR=15
W27A Bowe Ranch, En 88.79 53 ⇓P P 06 41 04.2 +0.1
baz=89
W27A ⇓P P 06 41 04.2 +0.1
baz=89
S25A Robets Cordova 88.79 50 ⇑P P 06 41 04.2 +0.1
baz=89,SNR=12
S25A ⇑P P 06 41 04.2 +0.1
baz=89,SNR=12
U26A Atchley Ranch, 88.80 51 ⇓P P 06 41 04.2 0.0
baz=89,SNR=9.9
U26A ⇓P P 06 41 04.2 0.0
baz=89,SNR=9.9
Q24A Divide 88.80 48 ⇓P P 06 41 04.9 +0.6
baz=89,SNR=6.3
Q24A ⇓P P 06 41 04.9 +0.6
baz=89,SNR=6.3
M22A Cedar Creek Ra 88.81 46 ⇓P P 06 41 04.5 +0.3
baz=89,SNR=25
M22A ⇓P P 06 41 04.5 +0.3
baz=89,SNR=25
ISCO Idaho Springs 88.82 47 *e*P P 06 41 05.0 +0.7
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 88.82 47 *e*P P 06 41 05.0 +0.7
comp=Z,9.7nm,1.2s
ISCO Idaho Springs 88.82 47 ⇑P P 06 41 05.0 +0.7
baz=89,SNR=9.6
ISCO ⇑P P 06 41 05.0 +0.7
baz=89,SNR=9.6
CHTO Chiang Mai 88.86 290 *e*P P 06 41 05.4 +0.8
CHTO pmax pmax
comp=Z,30nm,0.9s
CHTO Chiang Mai 88.86 290 *e*P P 06 41 05.4 +0.8
comp=Z,30nm,0.9s
I20A Worland 88.89 43 ⇑P P 06 41 04.8 +0.5
baz=89,SNR=27
I20A ⇑P P 06 41 04.8 +0.5
baz=89,SNR=27
K21A Alcova 88.89 44 ⇓P P 06 41 04.7 +0.2
baz=89,SNR=25
K21A ⇓P P 06 41 04.7 +0.2
baz=89,SNR=25
C17A Wharram Farm, 88.93 39 ⇑P P 06 41 04.5 +0.2
baz=89,SNR=36
C17A ⇑P P 06 41 04.5 +0.2
baz=89,SNR=36
CD2 Chengdu 88.94 303 P P 06 41 05.5 +0.7
CD2 pP pP 06 43 15.3 +2.4
CD2 sP sP 06 44 14.0 +1.9
CD2 PP PP 06 44 48.5 +2.7
CD2 S S 06 51 02.0 -1.8
CD2 sS sS 06 54 51.5 -0.8
CD2 SS SS 06 57 17.5 +1.9
CD2 pmax pmax
comp=Z,30nm,1.3s
CD2 pmax pmax
comp=Z,180nm,4.3s
E18A Harlowton 88.95 40 ⇑P P 06 41 05.5 +1.0
baz=89,SNR=10
E18A ⇑P P 06 41 05.5 +1.0
baz=89,SNR=10
N23A Red Feather La 89.04 46 ⇓P P 06 41 06.1 +0.8
baz=89,SNR=32
N23A ⇓P P 06 41 06.1 +0.8
baz=89,SNR=32
A16A West Butte Ran 89.07 37 ⇓P P 06 41 05.3 +0.3
baz=89
A16A ⇓P P 06 41 05.3 +0.3
baz=89
J21A Lysite 89.07 44 ⇑P P 06 41 05.9 +0.6
baz=89,SNR=62
J21A ⇑P P 06 41 05.9 +0.6
baz=89,SNR=62
R25A Fountain Ranch 89.10 49 ⇑P P 06 41 05.5 +0.1
baz=89
R25A ⇑P P 06 41 05.5 +0.1
baz=89
SYO Syowa Base 89.15 193 ⇑*i*P P 06 41 03.2 -1.7
SYO Syowa Base 89.15 193 ⇑*i*PcP P 06 41 05.3 +0.4
L22A Ellis Ranch, M 89.19 45 ⇑P P 06 41 06.9 +1.1
baz=89,SNR=31
L22A ⇑P P 06 41 06.9 +1.1
baz=89,SNR=31
H20A Greybull 89.21 42 ⇓P P 06 41 05.8 0.0
baz=89
H20A ⇓P P 06 41 05.8 0.0
baz=89
T26A Comanche Natio 89.21 50 ⇑P P 06 41 06.7 +0.6
baz=89
T26A ⇑P P 06 41 06.7 +0.6
baz=89
B17A L&G Farms, Che 89.22 38 ⇑P P 06 41 05.8 +0.2
baz=89,SNR=12
B17A ⇑P P 06 41 05.8 +0.2
baz=89,SNR=12
F19A Roth Farm, Mol 89.22 41 ⇑P P 06 41 06.1 +0.3
baz=89,SNR=17
F19A ⇑P P 06 41 06.1 +0.3
baz=89,SNR=17
D18A Linhart Farms, 89.31 39 ⇑P P 06 41 06.8 +0.7
baz=90
D18A ⇑P P 06 41 06.8 +0.7
baz=90
O24A Longmont 89.33 47 ⇑P P 06 41 07.4 +0.9
baz=90,SNR=8.3
O24A ⇑P P 06 41 07.4 +0.9
baz=90,SNR=8.3
CMIG Matias Romero 89.36 72 P P 06 41 08.9 +2.0
comp=Z,6.1nm,0.7s,baz=261,slow=4.1,SNR=8.0
CMIG Matias Romero 89.36 72 P P 06 41 08.9 +2.0
I21A Big Trails, Te 89.38 43 ⇑P P 06 41 06.7 0.0
baz=90,SNR=41
I21A ⇑P P 06 41 06.7 0.0
baz=90,SNR=41
K22A Casper 89.39 45 ⇓P P 06 41 06.9 +0.2
baz=90,SNR=10.0
K22A ⇓P P 06 41 06.9 +0.2
baz=90,SNR=10.0
G20A Bridger 89.40 42 ⇑P P 06 41 06.8 +0.1
baz=90,SNR=6.6
G20A ⇑P P 06 41 06.8 +0.1
baz=90,SNR=6.6
Q25A Bedland, Calha 89.43 49 ⇓P P 06 41 07.4 +0.3
baz=90,SNR=6.2
Q25A ⇓P P 06 41 07.4 +0.3
baz=90,SNR=6.2
M23A Laramie 89.43 46 ⇑P P 06 41 07.5 +0.5
baz=90,SNR=34
M23A ⇑P P 06 41 07.5 +0.5
baz=90,SNR=34
S26A Kim 89.48 50 ⇓P P 06 41 07.3 0.0
baz=90
S26A ⇓P P 06 41 07.3 0.0
baz=90
YAK Yakutsk 89.50 338 *e*P P 06 41 04.2 -2.3
YAK *e*S SKSac 06 50 34.4 -5.8
YAK *e* 06 50 58.2
YAK *e*SS SS 06 57 26.4 +4.2
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax smax
comp=E,94nm,2.5s
YAK smax smax
comp=N,269nm,3.2s
YAK Yakutsk 89.50 338 *e*P P 06 41 05.0 -1.5
comp=N,20nm,0.5s
YAK *e*PP PP 06 44 46.2 -3.2
W28A Vega 89.51 53 ⇑P P 06 41 07.3 -0.1
baz=90
W28A ⇑P P 06 41 07.3 -0.1
baz=90
PHWY Pilot Hill 89.55 46 *e*P P 06 41 08.1 +0.5
comp=N,17nm,0.9s
A17A Triple J Farms 89.59 38 ⇓P P 06 41 07.8 +0.4
baz=90,SNR=29
A17A ⇓P P 06 41 07.8 +0.4
baz=90,SNR=29
E19A Rath Farm, Rou 89.59 40 ⇑P P 06 41 08.1 +0.7
baz=90,SNR=14
E19A ⇑P P 06 41 08.1 +0.7
baz=90,SNR=14
JCT Junction City 89.64 58 *e*P P 06 41 08.5 +0.5
JCT *e**PP pP 06 43 20.1 +3.8
JCT pmax pmax
comp=Z,15nm,0.8s
JCT Junction City 89.64 58 *e*P P 06 41 08.5 +0.5
comp=Z,16nm,0.8s
JCT *e*pP pP 06 43 20.1 +3.8
JCT Junction City 89.64 58 ⇑P P 06 41 08.4 +0.4
baz=90,SNR=13
JCT ⇑P P 06 41 08.4 +0.4
baz=90,SNR=13
V28A Channing 89.68 52 ⇓P P 06 41 08.3 +0.2
baz=90,SNR=5.8
V28A ⇓P P 06 41 08.3 +0.2
baz=90,SNR=5.8
F20A Billings 89.70 41 ⇓P P 06 41 08.5 +0.5
baz=90,SNR=5.7
F20A ⇓P P 06 41 08.5 +0.5
baz=90,SNR=5.7
L23A Garrett 89.72 45 ⇓P P 06 41 08.6 +0.3
baz=90,SNR=48
L23A ⇓P P 06 41 08.6 +0.3
baz=90,SNR=48
EGMT Eagleton 89.72 39 *e*P P 06 41 08.7 +0.7
comp=Z,20nm,1.1s
EGMT Eagleton 89.72 39 ⇑P P 06 41 08.2 +0.2
baz=90,SNR=11
EGMT ⇑P P 06 41 08.2 +0.2
baz=90,SNR=11
P25A Willow Gulch B 89.72 48 ⇑P P 06 41 09.0 +0.6
baz=90,SNR=22
P25A ⇑P P 06 41 09.0 +0.6
baz=90,SNR=22
J22A Midwest 89.74 44 ⇑P P 06 41 08.6 +0.3
baz=90,SNR=28
J22A ⇑P P 06 41 08.6 +0.3
baz=90,SNR=28
N24A Carr 89.75 47 ⇑P P 06 41 09.3 +0.9
baz=90,SNR=28
N24A ⇑P P 06 41 09.3 +0.9
baz=90,SNR=28
R26A Arlington 89.76 49 ⇓P P 06 41 08.5 0.0
baz=90,SNR=8.1
R26A ⇓P P 06 41 08.5 0.0
baz=90,SNR=8.1
AMTX Amarillo 89.77 53 *e*P P 06 41 08.9 +0.3
comp=Z,29nm,1.1s
AMTX Amarillo 89.77 53 ⇓P P 06 41 08.8 +0.2
baz=90,SNR=5.7
AMTX ⇓P P 06 41 08.8 +0.2
baz=90,SNR=5.7
AMTX ⇓P P 06 41 08.8 +0.2
baz=90,SNR=5.7
AMTX ⇓P P 06 41 08.8 +0.2
baz=90,SNR=5.7
T27A Campo 89.81 51 ⇓P P 06 41 08.9 +0.2
baz=90,SNR=7.9
T27A ⇓P P 06 41 08.9 +0.2
baz=90,SNR=7.9
D19A Cripps Ranch, 89.85 40 ⇑P P 06 41 09.4 +0.8
baz=90,SNR=26
D19A ⇑P P 06 41 09.4 +0.8
baz=90,SNR=26
B18A Beardsley Farm 89.87 38 ⇑P P 06 41 09.0 +0.3
baz=90,SNR=20
B18A ⇑P P 06 41 09.0 +0.3
baz=90,SNR=20
H21A Big Horn, Sher 89.89 43 ⇑P P 06 41 09.1 +0.2
baz=90,SNR=9.2
H21A ⇑P P 06 41 09.1 +0.2
baz=90,SNR=9.2
I22A 9 Mile Ranch, 89.94 43 ⇑P P 06 41 09.5 +0.3
baz=90,SNR=18
I22A ⇑P P 06 41 09.5 +0.3
baz=90,SNR=18
O25A Wiggins 90.00 48 ⇑P P 06 41 10.1 +0.5
baz=90
O25A ⇑P P 06 41 10.1 +0.5
baz=90
C19A Slack Wire Ran 90.01 39 ⇓P P 06 41 09.9 +0.6
baz=90,SNR=37
C19A ⇓P P 06 41 09.9 +0.6
baz=90,SNR=37
E20A Meyer Farm, Mu 90.02 41 ⇑P P 06 41 10.1 +0.7
baz=90,SNR=11
E20A ⇑P P 06 41 10.1 +0.7
baz=90,SNR=11
K23A Bowen Ranch, D 90.03 45 ⇓P P 06 41 10.0 +0.3
baz=90,SNR=14
K23A ⇓P P 06 41 10.0 +0.3
baz=90,SNR=14
G21A Lodge Grass 90.04 42 ⇑P P 06 41 10.1 +0.5
baz=90
G21A ⇑P P 06 41 10.1 +0.5
baz=90
M24A Cheyenne 90.05 46 ⇓P P 06 41 10.6 +0.7
baz=90,SNR=20
M24A ⇓P P 06 41 10.6 +0.7
baz=90,SNR=20
A18A Metzger Ranch, 90.08 38 ⇑P P 06 41 09.8 +0.2
baz=90,SNR=7.0
A18A ⇑P P 06 41 09.8 +0.2
baz=90,SNR=7.0
L24A Wheatland 90.21 46 ⇑P P 06 41 11.3 +0.8
baz=90,SNR=12
L24A ⇑P P 06 41 11.3 +0.8
baz=90,SNR=12
R27A Eads 90.23 50 ⇓P P 06 41 11.3 +0.6
baz=90
R27A ⇓P P 06 41 11.3 +0.6
baz=90
V29A Stinnett 90.26 52 ⇓P P 06 41 11.0 +0.2
baz=90
V29A ⇓P P 06 41 11.0 +0.2
baz=90
D20A Manuel Ranch, 90.27 40 ⇑P P 06 41 11.4 +0.8
baz=90,SNR=28
D20A ⇑P P 06 41 11.4 +0.8
baz=90,SNR=28
T28A Walsh 90.28 51 ⇑P P 06 41 10.8 -0.1
baz=90,SNR=9.9
T28A ⇑P P 06 41 10.8 -0.1
baz=90,SNR=9.9
N25A Grover 90.30 47 ⇓P P 06 41 11.8 +0.8
baz=90,SNR=19
N25A ⇓P P 06 41 11.8 +0.8
baz=90,SNR=19
H22A Clearmont 90.32 43 ⇑P P 06 41 11.2 +0.3
baz=90,SNR=11
H22A ⇑P P 06 41 11.2 +0.3
baz=90,SNR=11
P26A Davis Ranch, A 90.33 48 ⇓P P 06 41 11.6 +0.4
baz=90
P26A ⇓P P 06 41 11.6 +0.4
baz=90
J23A Dilts Ranch, B 90.35 44 ⇓P P 06 41 11.4 +0.3
baz=91
J23A ⇓P P 06 41 11.4 +0.3
baz=91
F21A Absaloka Mine, 90.35 42 ⇑P P 06 41 11.9 +0.9
baz=91
F21A ⇑P P 06 41 11.9 +0.9
baz=91
B19A Brinkman Farms 90.40 39 ⇓P P 06 41 11.4 +0.3
baz=91,SNR=26
B19A ⇓P P 06 41 11.4 +0.3
baz=91,SNR=26
K24A Anderson Ranch 90.56 45 ⇓P P 06 41 12.5 +0.3
baz=91
K24A ⇓P P 06 41 12.5 +0.3
baz=91
M25A Palm-Egli Farm 90.56 46 ⇑P P 06 41 12.8 +0.6
baz=91
M25A ⇑P P 06 41 12.8 +0.6
baz=91
O26A Horse Wrangler 90.61 48 ⇑P P 06 41 12.8 +0.3
baz=91,SNR=7.6
O26A ⇑P P 06 41 12.8 +0.3
baz=91,SNR=7.6
G22A Birney 90.62 42 ⇓P P 06 41 12.6 +0.3
baz=91,SNR=7.6
G22A ⇓P P 06 41 12.6 +0.3
baz=91,SNR=7.6
SNAA Sanae 90.62 179 *e* P 06 41 08.0 -3.8
SNAA *e* 06 43 20.5
SNAA Sanae 90.62 179 *e*P P 06 41 08.1 -3.8
SNAA pmax pmax
comp=Z,22nm,0.5s
SNAA Sanae 90.62 179 *e*P P 06 41 08.1 -3.7
comp=Z,22nm,0.5s
KSCO Kaye Shedlock' 90.63 49 ⇓P P 06 41 13.1 +0.6
baz=91,SNR=5.5
KSCO ⇓P P 06 41 13.1 +0.6
baz=91,SNR=5.5
C20A Veseth Ranch, 90.63 40 ⇑P P 06 41 12.9 +0.7
baz=91,SNR=50
C20A ⇑P P 06 41 12.9 +0.7
baz=91,SNR=50
E21A Keefer Ranch, 90.69 41 ⇓P P 06 41 13.3 +0.8
baz=91,SNR=14
E21A ⇓P P 06 41 13.3 +0.8
baz=91,SNR=14
A19A Klindworth Far 90.73 38 ⇓P P 06 41 12.8 +0.2
baz=91,SNR=18
A19A ⇓P P 06 41 12.8 +0.2
baz=91,SNR=18
LZH Lanzhou 90.77 308 *e*P P 06 41 14.8 +1.6
LZH pP pP 06 43 22.3 +0.5
LZH sP sP 06 44 22.0 +1.2
LZH *e*S ScS 06 51 21.3 -0.7
LZH sS sS 06 55 10.5 +0.5
LZH SS SS 06 57 43.5 +1.8
LZH pmax pmax
comp=Z,63nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.1s
VNA3 Neumayer Olymp 90.77 176 *e* P 06 41 12.8 +0.4
VNA3 *e* 06 43 25.8
F22A Rosebud 90.88 42 ⇓P P 06 41 13.8 +0.4
baz=91
F22A ⇓P P 06 41 13.8 +0.4
baz=91
N26A Koester Ranch, 90.91 47 ⇓P P 06 41 13.9 +0.2
baz=91,SNR=5.9
N26A ⇓P P 06 41 13.9 +0.2
baz=91,SNR=5.9
J24A Dixon Ranch, L 90.91 45 ⇓P P 06 41 14.2 +0.5
baz=91
J24A ⇓P P 06 41 14.2 +0.5
baz=91
L25A Engebretsen Ra 90.91 46 ⇓P P 06 41 14.6 +0.8
baz=91,SNR=9.1
L25A ⇓P P 06 41 14.6 +0.8
baz=91,SNR=9.1
H23A Clabaugh Cattl 90.93 43 ⇑P P 06 41 13.8 +0.1
baz=91
H23A ⇑P P 06 41 13.8 +0.1
baz=91
B20A Solberg Farm, 90.94 39 ⇑P P 06 41 14.0 +0.4
baz=91,SNR=12
B20A ⇑P P 06 41 14.0 +0.4
baz=91,SNR=12
D21A La Casta Ranch 90.97 40 ⇑P P 06 41 14.4 +0.6
baz=91,SNR=19
D21A ⇑P P 06 41 14.4 +0.6
baz=91,SNR=19
I24A Kuemmerle Ranc 91.15 44 ⇑P P 06 41 14.7 -0.1
baz=91
I24A ⇑P P 06 41 14.7 -0.1
baz=91
K25A Mack Ranch, Ha 91.16 45 ⇑P P 06 41 15.8 +0.9
baz=91
K25A ⇑P P 06 41 15.8 +0.9
baz=91
O27A Beecher Island 91.18 48 ⇓P P 06 41 15.5 +0.5
baz=91,SNR=5.3
O27A ⇓P P 06 41 15.5 +0.5
baz=91,SNR=5.3
A20A Cobblestone Ra 91.19 39 ⇑P P 06 41 15.0 +0.3
baz=91,SNR=32
A20A ⇑P P 06 41 15.0 +0.3
baz=91,SNR=32
G23A Biddle 91.19 43 ⇑P P 06 41 15.4 +0.5
baz=91
G23A ⇑P P 06 41 15.4 +0.5

	baz=91									
VNA2	**Neumayer--Watz**	**91.21**	**177**	*e*		**P**		**06 41 14.9**	**+0.5**
	baz=192,slow=4.7									
VNA2				*e*				06 43 27.6		
M26A	**McRoberts Ranc**	**91.21**	**47**	⇓P		**P**		**06 41 15.6**	**+0.5**
	baz=91,SNR=8.7									
M26A				⇓P		**P**		**06 41 15.6**	**+0.5**
	baz=91,SNR=8.7									
C21A	**Desert Coulee**	**91.23**	**40**	⇓P		**P**		**06 41 15.3**	**+0.4**
	baz=91,SNR=18									
C21A				⇓P		**P**		**06 41 15.3**	**+0.4**
	baz=91,SNR=18									
NVL	**N'lazarevskaya**	**91.28**	**183**	⇑*i*P		**P**		**06 41 14.2**	**-0.6**
NVL				pmax	pmax					
	comp=Z,17nm,0.6s									
E22A	**Miles City**	**91.35**	**41**	⇑P		**P**		**06 41 16.2**	**+0.7**
	baz=92									
E22A				⇑P		**P**		**06 41 16.2**	**+0.7**
	baz=92									
N27A	**Anderson Farm,**	**91.38**	**47**	⇓P		**P**		**06 41 16.3**	**+0.5**
	baz=92									
N27A				⇓P		**P**		**06 41 16.3**	**+0.5**
	baz=92									
F23A	**Volborg**	**91.40**	**42**	⇓P		**P**		**06 41 16.2**	**+0.4**
	baz=92,SNR=20									
F23A				⇓P		**P**		**06 41 16.2**	**+0.4**
	baz=92,SNR=20									
VNA1	**Neumayer--Stat**	**91.44**	**177**	*e*		**P**		**06 41 16.7**	**+1.2**
PLCA	**Paso Flores**	**91.45**	**134**	P		**P**		**06 41 17.7**	**+1.4**
	comp=Z,5.2nm,0.8s,baz=241,slow=5.8,SNR=11									
PLCA	**Paso Flores**	**91.45**	**134**	*e*P		**P**		**06 41 17.5**	**+1.2**
PLCA				pmax	pmax					
	comp=Z,10.0nm,1.1s									
PLCA	**Paso Flores**	**91.45**	**134**	*e*P		**P**		**06 41 17.5**	**+1.2**
	comp=Z,10nm,1.1s									
L26A	**Underwood Farm**	**91.47**	**46**	⇓P		**P**		**06 41 17.3**	**+1.0**
	baz=92									
L26A				⇓P		**P**		**06 41 17.3**	**+1.0**
	baz=92									
D22A	**Cohagen**	**91.51**	**41**	⇑P		**P**		**06 41 17.1**	**+0.8**
	baz=92,SNR=22									
D22A				⇑P		**P**		**06 41 17.1**	**+0.8**
	baz=92,SNR=22									
B21A	**Ellsworth Farm**	**91.54**	**39**	⇑P		**P**		**06 41 16.9**	**+0.6**
	baz=92									
B21A				⇑P		**P**		**06 41 16.9**	**+0.6**
	baz=92									
H24A	**Dirks Ranch, A**	**91.56**	**43**	⇑P		**P**		**06 41 16.6**	**0.0**
	baz=92,SNR=50									
H24A				⇑P		**P**		**06 41 16.6**	**0.0**
	baz=92,SNR=50									
RSSD	**Black Hills**	**91.64**	**44**	*e*P		**P**		**06 41 17.3**	**+0.1**
RSSD				*e**PP		**pP**		**06 43 25.7**	**-0.1**
RSSD				pmax	pmax					
	comp=Z,22nm,1.0s									
RSSD	**Black Hills**	**91.64**	**44**	*e*P		**P**		**06 41 17.3**	**+0.1**
	comp=Z,22nm,1.0s									
RSSD				*e*pP		**pP**		**06 43 25.7**	**-0.1**
K26A	**Motz Farm, Whi**	**91.66**	**46**	⇓P		**P**		**06 41 17.6**	**+0.5**
	baz=92,SNR=28									
K26A				⇓P		**P**		**06 41 17.6**	**+0.5**
	baz=92,SNR=28									
M27A	**Reverse DX Ran**	**91.76**	**47**	⇑P		**P**		**06 41 18.0**	**+0.4**
	baz=92									
M27A				⇑P		**P**		**06 41 18.0**	**+0.4**
	baz=92									
E23A	**Ismay**	**91.78**	**41**	⇑P		**P**		**06 41 18.0**	**+0.5**
	baz=92									
E23A				⇑P		**P**		**06 41 18.0**	**+0.5**
	baz=92									
A21A	**Bergtoll Ranch**	**91.83**	**39**	⇑P		**P**		**06 41 18.0**	**+0.3**
	baz=92,SNR=24									
A21A				⇑P		**P**		**06 41 18.0**	**+0.3**
	baz=92,SNR=24									
G24A	**Alzada**	**91.88**	**43**	⇓P		**P**		**06 41 18.3**	**+0.3**
	baz=92									
G24A				⇓P		**P**		**06 41 18.3**	**+0.3**
	baz=92									
INK	**Inuvik**	**91.90**	**15**	P		**P**		**06 41 16.6**	**-0.9**
	comp=Z,37nm,1.0s,baz=214,slow=5.5,SNR=80									
INK	**Inuvik**	**91.90**	**15**	*e*P		**P**		**06 41 16.1**	**-1.3**
INK				pmax	pmax					
	comp=Z,63nm,1.1s									
INK	**Inuvik**	**91.90**	**15**	*e*P		**P**		**06 41 16.1**	**-1.3**
	comp=Z,63nm,1.1s									
C22A	**Vida**	**91.94**	**40**	⇓P		**P**		**06 41 18.7**	**+0.5**
	baz=92,SNR=11									
C22A				⇓P		**P**		**06 41 18.7**	**+0.5**
	baz=92,SNR=11									
L27A	**T5 Ranch, Ells**	**92.02**	**46**	⇑P		**P**		**06 41 19.5**	**+0.7**
	baz=92,SNR=18									
L27A				⇑P		**P**		**06 41 19.5**	**+0.7**
	baz=92,SNR=18									
F24A	**Ekalaka**	**92.06**	**42**	⇑P		**P**		**06 41 19.3**	**+0.4**
	baz=92,SNR=6.1									
F24A				⇑P		**P**		**06 41 19.3**	**+0.4**
	baz=92,SNR=6.1									
B22A	**Reddig Ranch S**	**92.10**	**40**	⇑P		**P**		**06 41 19.4**	**+0.5**
	baz=92,SNR=9.9									
B22A				⇑P		**P**		**06 41 19.4**	**+0.5**
	baz=92,SNR=9.9									
D23A	**Lindsay**	**92.12**	**41**	⇑P		**P**		**06 41 19.9**	**+0.9**
	baz=92,SNR=9.5									
D23A				⇑P		**P**		**06 41 19.9**	**+0.9**
	baz=92,SNR=9.5									
K27A	**Fluecknger Fa**	**92.31**	**46**	⇑P		**P**		**06 41 20.6**	**+0.5**
	baz=92,SNR=10.0									
K27A				⇑P		**P**		**06 41 20.6**	**+0.5**
	baz=92,SNR=10.0									
C23A	**Lambert**	**92.39**	**40**	⇓P		**P**		**06 41 21.3**	**+1.0**
	baz=93,SNR=29									
C23A				⇓P		**P**		**06 41 21.3**	**+1.0**
	baz=93,SNR=29									
A22A	**Carney Farms,**	**92.44**	**39**	⇓P		**P**		**06 41 20.8**	**+0.3**
	baz=93,SNR=12									
A22A				⇓P		**P**		**06 41 20.8**	**+0.3**
	baz=93,SNR=12									
E24A	**Baker**	**92.44**	**42**	⇑P		**P**		**06 41 20.9**	**+0.4**
	baz=93									
E24A				⇑P		**P**		**06 41 20.9**	**+0.4**
	baz=93									
D24A	**Glendive**	**92.65**	**41**	⇓P		**P**		**06 41 22.4**	**+0.9**
	baz=93,SNR=27									
D24A				⇓P		**P**		**06 41 22.4**	**+0.9**
	baz=93,SNR=27									
CBKS	**Cedar Bluff**	**92.65**	**50**	⇑P		**P**		**06 41 22.2**	**+0.5**
	baz=93									
CBKS				⇑P		**P**		**06 41 22.2**	**+0.5**
	baz=93									
CBKS				⇑P		**P**		**06 41 22.2**	**+0.5**
	baz=93									
CBKS				⇑P		**P**		**06 41 22.2**	**+0.5**
	baz=93									
C24A	**Savage**	**92.75**	**41**	⇑P		**P**		**06 41 22.8**	**+0.9**
	baz=93,SNR=8.4									
C24A				⇑P		**P**		**06 41 22.8**	**+0.9**
	baz=93,SNR=8.4									
B23A	**Brockton**	**92.78**	**40**	⇓P		**P**		**06 41 23.0**	**+0.9**
	baz=93,SNR=21									
B23A				⇓P		**P**		**06 41 23.0**	**+0.9**
	baz=93,SNR=21									
A23A	**Redstone**	**93.05**	**39**	⇑P		**P**		**06 41 23.7**	**+0.5**
	baz=93									
A23A				⇑P		**P**		**06 41 23.7**	**+0.5**
	baz=93									
ULN	**Ulaanbaatar**	**93.05**	**320**	*e*P		**P**		**06 41 22.7**	**-0.7**
ULN				*e**PP		**pP**		**06 43 34.9**	**+2.7**
ULN				*e*				06 45 14.9		
ULN				pmax	pmax					
	comp=Z,17nm,1.1s									
ULN	**Ulaanbaatar**	**93.05**	**320**	*e*P		**P**		**06 41 22.7**	**-0.7**
	comp=Z,17nm,1.1s									
ULN				*e*pP		**pP**		**06 43 34.9**	**+2.7**
ULN				*e*PP		**PP**		**06 45 14.9**	**-2.5**
DGMT	**Dagmar**	**93.27**	**40**	*e*P		**P**		**06 41 24.9**	**+0.6**
	comp=Z,70nm,1.0s									
DGMT				*e*pP		**pP**		**06 43 33.3**	**+0.3**
DGMT				*e*PP		**PP**		**06 45 16.2**	**-2.8**
DGMT	**Dagmar**	**93.27**	**40**	⇓P		**P**		**06 41 24.9**	**+0.6**
	baz=94,SNR=22									
DGMT				⇓P		**P**		**06 41 24.9**	**+0.6**
	baz=94,SNR=22									
SONM	**Songino Array**	**93.44**	**319**	P		**P**		**06 41 25.1**	**-0.1**
	comp=Z,4.2nm,1.0s,baz=115,slow=3.4,SNR=21									
SONM				PKKP		**PKKPbc**		**06 58 29.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=262,slow=2.7,SNR=3.6									
SONM	**Songino Array**	**93.44**	**319**	P		**P**		**06 41 25.1**	**-0.1**
SONM								06 58 29.7		
SONM	**Songino Array**	**93.44**	**319**	P		**P**		**06 41 25.1**	**-0.1**
SONM								06 58 29.7		
A24A	**Westby**	**93.56**	**40**	⇓P		**P**		**06 41 26.1**	**+0.5**
	baz=94,SNR=6.3									
A24A				⇓P		**P**		**06 41 26.1**	**+0.5**
	baz=94,SNR=6.3									
BOD	**Bodaibo**	**93.58**	**330**	*e*P		**P**		**06 41 24.1**	**-1.3**
BOD				pmax	pmax					
	comp=Z,9.0nm,1.4s									
YKA	**Yellowknife Ar**	**94.37**	**25**	P		**P**		**06 41 28.5**	**-0.3**
	comp=Z,19nm,1.1s,baz=243,slow=4.3,SNR=88									
YKA				pP		**pP**		**06 43 36.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=253,slow=4.7,SNR=1.9									
YKA				PKKPbc		**PKKPdf**		**06 58 24.9**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=40,slow=2.2,SNR=19									
YKA	**Yellowknife Ar**	**94.37**	**25**	P		**P**		**06 41 28.6**	**-0.3**
YKA				*PP		**pP**		**06 43 36.8**	**-0.9**
YKA	**Yellowknife Ar**	**94.37**	**25**	P		**P**		**06 41 28.6**	**-0.3**
YKA				pP		**pP**		**06 43 36.8**	**-0.9**
YKA				PKKPbc		**PKKPdf**		**06 58 24.9**	**-1.9**
BGNE	**Belgrade**	**94.69**	**48**	⇑P		**P**		**06 41 31.5**	**+0.6**
	baz=95									
BGNE				⇑P		**P**		**06 41 31.5**	**+0.6**
	baz=95									
GTA	**Gaotai**	**94.91**	**310**	⇓P		**P**		**06 41 32.8**	**+0.7**
GTA				pP		**pP**		**06 43 44.3**	**+3.3**
GTA				sP		**sP**		**06 44 42.8**	**+2.9**
GTA				SKS		**SKSac**		**06 51 11.5**	**+0.2**
GTA				S		**S**		**06 51 54.0**	**-2.0**
GTA				sS		**sS**		**06 55 48.0**	**-0.1**
GTA				SS		**SS**		**06 58 42.3**	**+2.3**
GTA				pmax	pmax					
	comp=Z,11nm,1.1s									
GTA				pmax	pmax					
	comp=Z,99nm,6.4s									
KSU1	**Kansas State U**	**95.04**	**51**	*e*P		**P**		**06 41 33.5**	**+1.0**
	comp=Z,31nm,0.9s									
BRSD	**Miller**	**95.15**	**45**	⇓P		**P**		**06 41 33.3**	**+0.4**
	baz=95									
BRSD				⇓P		**P**		**06 41 33.3**	**+0.4**
	baz=95									
MDND	**Maddock**	**95.89**	**42**	⇓P		**P**		**06 41 36.1**	**0.0**
	baz=96									
MDND				⇓P		**P**		**06 41 36.1**	**0.0**
	baz=96									
ZAK	**Zakamensk**	**96.28**	**321**	*e*P		**P**		**06 41 35.9**	**-2.0**
ZAK				pmax	pmax					
	comp=Z,4.0nm,1.3s									
ECSD	**EROS Data Center**	**96.52**	**46**	*e*P		**P**		**06 41 38.8**	**-0.3**
	comp=Z,8.0nm,0.9s									
ECSD				*e*pP		**pP**		**06 43 47.9**	**-0.2**
TLY	**Talaya**	**96.52**	**322**	*e*P		**P**		**06 41 36.4**	**-2.5**
TLY				pmax	pmax					
	comp=Z,4.0nm,0.9s									
SHL	**Shillong**	**97.15**	**294**	*ex*		**P**		**06 41 42.0**	**-0.5**
SHL				*ex*		sP		06 44 42.0	-8.5	
ULM	**Lac du Bonnet**	**98.98**	**40**	PKKPbc		PKKPbc		06 58 14.1	-0.8	
	comp=Z,0.9nm,0.6s,baz=353,slow=2.5,SNR=3.1									
ULM	**Lac du Bonnet**	**98.98**	**40**	PKKPbc		PKKPbc		06 58 14.1	-0.8	
SPMN	**St. Paul**	**99.56**	**46**	⇓Pdiff		**Pdif**		**06 41 52.5**	**-0.1**
	baz=100									
SPMN				⇓Pdiff		**Pdif**		**06 41 52.5**	**-0.1**
	baz=100									
WMQ	**Urumqi**	**104.82**	**312**	P		**PP**		**06 46 40.5**	**-4.9**
WMQ				pP		PKiKP		06 46 50.5	+23	
WMQ				sP				06 46 55.5		
WMQ				S		SKKSac		06 53 23.3	+36	
WMQ				pmax	pmax					
	comp=Z,13nm,1.4s									
WMQ				LR	LR					
	comp=N,520nm,28.3s									
WMQ				LR	LR					
	comp=E,150nm,20.0s									
WMQ				LR	LR					
	comp=Z,180nm,34.0s									
ZALV	**Zalesovo Beam**	**108.13**	**322**	PKiKP		**PKiKP**		**06 46 32.2**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=89,slow=0.7,SNR=12									
ZALV				PP		**PP**		**06 47 05.9**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=95,slow=6.0,SNR=4.9									
ZALV	**Zalesovo Beam**	**108.13**	**322**	PKiKP		**PKiKP**		**06 46 32.2**	**-0.9**
ZALV				PP		**PP**		**06 47 05.9**	**-3.0**
MK31	**Makanchi Array**	**109.02**	**314**	*e*PKPdf				06 46 34.0		
MKAR	**Makanchi Array**	**109.02**	**314**	PKiKP		**PKiKP**		**06 46 34.0**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=190,slow=0.5,SNR=49									
MKAR				PP		**PP**		**06 47 13.6**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=98,slow=6.2,SNR=5.1									
MKAR				PKKP		**PKKPab**		**06 57 58.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=259,slow=4.2,SNR=3.9									
MKAR	**Makanchi Array**	**109.02**	**314**	PKiKP		**PKiKP**		**06 46 34.0**	**-1.1**
MKAR				PP		**PP**		**06 47 13.6**	**-1.9**
MKAR				PKKP		**PKKPab**		**06 57 58.4**	**+0.2**
KURK	**Kurchatov**	**111.72**	**318**	PKiKP		**PKiKP**		**06 46 39.5**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=101,slow=1.7,SNR=25									
KURK				PKKPbc		**PKKPbc**		**06 57 35.9**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=270,slow=4.0,SNR=10									
KURK	**Kurchatov**	**111.72**	**318**	*e*PKiKP		**PKiKP**		**06 46 38.7**	**-1.4**
KURK	**Kurchatov**	**111.72**	**318**	*e*PKPdf		**PKiKP**		**06 46 38.6**	**-1.4**
KURK				PKKPbc		**PKKPbc**		**06 57 35.9**	**-0.6**
TKM2	**Tokmak 2**	**113.46**	**310**	*e*PKiKP		**PKiKP**		**06 46 42.7**	**-1.2**
TKM2	**Tokmak 2**	**113.46**	**310**	*e*PKPdf		**PKiKP**		**06 46 42.7**	**-1.2**
AAK	**Ala-Archa**	**114.26**	**309**	*i* PKiKP		PKPdf		06 46 43.4	-2.0	
AAK				pmax	pmax					
	comp=Z,7.0nm,1.2s									
BVAR	**Borovoye Array**	**116.74**	**321**	PKP		**PKPdf**		**06 46 49.0**	**-0.7**
	comp=Z,4.5nm,0.3s,baz=112,slow=3.0,SNR=40									
BVAR				PP		**PP**		**06 48 09.0**	**-0.1**
	comp=Z,5.0nm,1.0s,baz=90,slow=7.4,SNR=5.8									
BVAR				PKKPab		**PKKPab**		**06 57 24.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=266,slow=5.9,SNR=4.4									
BVAR	**Borovoye Array**	**116.74**	**321**	PKiKP		**PKPdf**		**06 46 49.0**	**-0.7**
BVAR								06 48 09.0		
BVAR	**Borovoye Array**	**116.74**	**321**	PKP		**PKPdf**		**06 46 49.0**	**-0.7**
BVAR				PP		**PP**		**06 48 09.0**	**-0.1**
BVAR				PKKPab		**PKKPab**		**06 57 24.2**	**+0.4**
BRVK	**Borovoye**	**116.80**	**321**	⇑*i*PKiKP		**PKPdf**		**06 46 49.1**	**-0.7**
SCHQ	**Schefferville**	**116.93**	**37**	PKKPbc		PKKPbc		06 57 17.1	-2.1	
	comp=Z,2.0nm,0.8s,baz=325,slow=11,SNR=3.9									
SCHQ				PKKPab		**PKKPab**		**06 57 23.3**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=120,slow=0.4,SNR=6.4									
SCHQ	**Schefferville**	**116.93**	**37**	PKKPbc		PKKPbc		06 57 17.1	-2.1	
SCHQ				PKKPab		**PKKPab**		**06 57 23.3**	**+0.3**
KKAR	**Karatay Array**	**117.20**	**310**	*e*PKiKP		**PKPdf**		**06 46 50.3**	**-0.6**
KKAR	**Karatay Array**	**117.20**	**310**	*e*PKPdf		**PKPdf**		**06 46 50.3**	**-0.6**
KBL	**Kabul**	**118.16**	**300**	*e*PKiKP		**PKPdf**		**06 46 52.8**	**-0.5**
KBL	**Kabul**	**118.16**	**300**	*e*PKPdf		**PKPdf**		**06 46 52.8**	**-0.5**
SUMG	**Summit**	**120.74**	**13**	*i* P		**PP**		**06 48 38.4**	**+2.4**
	comp=Z,6.0nm,1.0s									
BDFB	**Brasilia**	**120.97**	**121**	PKP		**PKPdf**		**06 46 58.3**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=262,slow=6.8,SNR=3.1									
BDFB	**Brasilia**	**120.97**	**121**	PKiKP		**PKPdf**		**06 46 58.3**	**-0.7**
BDFB	**Brasilia**	**120.97**	**121**	PKP		**PKPdf**		**06 46 58.3**	**-0.7**
ARU	**Arti**	**122.75**	**326**	*e*PKiKP		**PKPdf**		**06 47 00.6**	**-0.5**
ARU	**Arti**	**122.75**	**326**	*e*PKPdf		**PKPdf**		**06 47 00.6**	**-0.5**
ABKAR	**Akbulak array**	**123.82**	**318**	*e*PKPdf		**PKPdf**		**06 47 03.0**	**-0.4**
KEV	**Kevo**	**125.82**	**349**	*e*PKiKP		**PKPdf**		**06 47 05.2**	**-1.4**
KEV	**Kevo**	**125.82**	**349**	*e*pkp		**PKPdf**		**06 47 05.2**	**-1.4**
KEV	**Kevo**	**125.82**	**349**	*e*pkp		**PKPdf**		**06 47 05.2**	**-1.4**
ARCES	**ARCESS Array B**	**126.27**	**350**	PKP		**PKPdf**		**06 47 07.5**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=354,slow=0.7,SNR=29									
ARCES	**ARCESS Array B**	**126.27**	**350**	PKiKP		**PKPdf**		**06 47 07.6**	**+0.1**
ARCES	**ARCESS Array B**	**126.27**	**350**	PKP		**PKPdf**		**06 47 07.5**	**+0.1**
APA	**Apatity**	**126.29**	**345**	⇑*e*PKiKP		**PKPdf**		**06 47 07.0**	**-0.6**
APA				*i*				06 53 10.0		
APA				*i* PS		**PS**		**06 59 30.0**	**+4.7**
APA				pmax	pmax					
	comp=Z,18nm,1.0s									
BOSA	**Boshof**	**128.36**	**207**	PKP		**PKPdf**		**06 47 13.7**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=84,slow=1.3,SNR=5.7									
BOSA				PP		**PP**		**06 49 25.5**	**-0.1**
	comp=Z,7.0nm,1.0s,baz=146,slow=6.5,SNR=5.8									
BOSA	**Boshof**	**128.36**	**207**	PKiKP		**PKPdf**		**06 47 13.7**	**+0.8**
BOSA								06 49 25.5		
BOSA	**Boshof**	**128.36**	**207**	PKP		**PKPdf**		**06 47 13.7**	**+0.8**
BOSA				PP		**PP**		**06 49 25.5**	**-0.1**
KLMR	**Klimovskoe**	**129.28**	**337**	*e*PKiKP		**PKPdf**		**06 47 11.4**	**-2.0**
KLMR				*e*				06 49 24.8		
KLMR				*e*				06 49 40.6		
KLMR				pmax	pmax					
	comp=Z,17nm,1.4s									
JOF	**Joensuu**	**130.49**	**343**	*e*PKiKP		**PKPdf**		**06 47 13.7**	**-2.0**
JOF	**Joensuu**	**130.49**	**343**	*e*pkp		**PKPdf**		**06 47 13.7**	**-2.0**
JOF	**Joensuu**	**130.49**	**343**	*e*pkp		PP		06 49 44.7	+5.5	
JOF	**Joensuu**	**130.49**	**343**	*e*pkp		**PKPdf**		**06 47 13.7**	**-2.0**
JOF	**Joensuu**	**130.49**	**343**	*e*pkp		PP		06 49 44.7	+5.5	
KAF	**Kangasniemi**	**132.50**	**344**	*e*PKiKP		PKiKP		06 47 12.1	-8.6	
KAF	**Kangasniemi**	**132.50**	**344**	*e*pkp		PKiKP		06 47 12.1	-8.6	
KAF	**Kangasniemi**	**132.50**	**344**	*e*pkp		**SKPbc**		**06 49 51.5**	**-0.3**	
KAF	**Kangasniemi**	**132.50**	**344**	*e*pkp		PKiKP		06 47 12.1	-8.6	
KAF	**Kangasniemi**	**132.50**	**344**	*e*pkp		**SKPbc**		**06 49 51.5**	**-0.3**	
FINES	**FINESS Array B**	**133.13**	**344**	PKhKP		PKPpre		06 47 15.2		
	comp=Z,2.9nm,0.4s,baz=64,slow=4.0,SNR=10									
FINES				PKP		**PKPdf**		**06 47 20.1**	**-0.6**	
	comp=Z,2.8nm,0.3s,baz=107,slow=3.3,SNR=14									
FINES				SKPbc		**SKPbc**		**06 49 54.9**	**+1.0**	
	comp=Z,12nm,0.7s,baz=46,slow=5.5,SNR=22									
FINES	**FINESS Array B**	**133.13**	**344**	PKPpre		PKPpre		06 47 15.2		
FINES				PKP		**PKPdf**		**06 47 20.1**	**-0.6**	
FINES				SKPbc		**SKPbc**		**06 49 54.9**	**+1.0**	
OBN	**Obninsk**	**134.21**	**333**	⇓*i*PKiKP		**PKPdf**		**06 47 23.8**	**+0.9**	
OBN				*e*				06 49 59.0		
OBN				*e*SS		SS		07 07 02.1	-4.1	
OBN				pmax	pmax					
	comp=Z,12nm,0.6s									
RCBR	**Riachuelo**	**136.25**	**119**	PKhKP		PKPpre		06 47 18.6		
	comp=Z,10nm,1.1s,baz=234,slow=21,SNR=3.7									
RCBR				SKPbc		**SKPbc**		**06 50 05.8**	**+0.5**	
	comp=Z,2.7nm,0.5s,baz=172,slow=13,SNR=4.2									
RCBR	**Riachuelo**	**136.25**	**119**	PKPpre		PKPpre		06 47 18.6		
RCBR				SKPbc		**SKPbc**		**06 50 05.8**	**+0.5**	
NB2	**NORSAR Subarra**	**136.34**	**353**	PKP		PKPpre		06 47 14.9		
	comp=Z,1.9nm,0.9s,baz=17,slow=2.6									
NOA	**NORSAR Array B**	**136.34**	**353**	PKhKP		PKPpre		06 47 16.6		
	comp=Z,0.7nm,0.5s,baz=1.5,slow=2.2,SNR=4.1									
NOA				PKP		**PKPdf**		**06 47 27.0**	**+0.3**	
	comp=Z,2.8nm,0.8s,baz=13,slow=4.1,SNR=6.3									
NOA				SKPbc		**SKPbc**		**06 50 05.0**	**+1.0**	
	comp=Z,19nm,1.1s,baz=17,slow=4.5,SNR=10									
NOA	**NORSAR Array B**	**136.34**	**353**	PKHKP		PKPpre		06 47 16.6		
NOA								06 47 27.0		
NOA	**NORSAR Array B**	**136.34**	**353**	PKPpre		PKPpre		06 47 16.6		
NOA				PKP		**PKPdf**		**06 47 27.0**	**+0.3**	
NOA				SKPbc		**SKPbc**		**06 50 05.0**	**+1.0**	
NACGM	**Naroch**	**138.27**	**338**	*e*		**SKPbc**		**06 50 08.0**	**-1.7**	
ANN	**Anapa**	**139.72**	**320**	*i* PKiKP		**PKPdf**		**06 47 36.9**	**+3.5**	
ANN				*e*				06 49 49.7		
ANN				pmax	pmax					
	comp=Z,64nm,1.7s									
TSUM	**Tsumeb**	**139.88**	**204**	*e*PKPpre		PKPpre		06 47 28.1		
KMBO	**Kilima Mbogo**	**140.01**	**246**	*e*PKHKP		PKPpre		06 47 29.1		
KMBO	**Kilima Mbogo**	**140.01**	**246**	*e*PKPpre		PKPpre		06 47 29.1		
AKASG	**Malin Array Be**	**140.48**	**332**	PKHKP		PKPpre		06 47 27.4		
	comp=Z,2.2nm,0.3s,baz=41,slow=4.0,SNR=14									
AKASG				PKP		**PKiKP**		**06 47 36.5**	**-0.8**	
	comp=Z,2.1nm,0.3s,baz=38,slow=3.3,SNR=12									
AKASG				SKPbc		**SKPbc**		**06 50 16.2**	**+0.5**	
	comp=Z,1.5nm,0.5s,baz=36,slow=2.8,SNR=10									
AKASG				SKPab		**SKPab**		**06 50 30.1**	**+0.7**	
	comp=Z,10nm,0.9s,baz=39,slow=4.6,SNR=11									
AKASG	**Malin Array Be**	**140.48**	**332**	PKHKP		PKPpre		06 47 27.4		
AKASG								06 47 36.5		
AKASG	**

CLL eSKKSdf **SKKSdf** **07 03 02.0 -4.7**
CLL ePPS PPS 07 04 08.0
CLL e 07 08 09.0
CLL eSS SS 07 09 29.0 +14
CLL ePSS PSS 07 10 03.0
CLL eSS 07 12 53.0
CLL eSSSS 07 18 30.0
UPC Upice 145.43 344 ePKP **PKPbc** **06 47 45.0 +0.3**
DPC Dobruska-Polom 145.49 343 ePKP **PKPbc** **06 47 45.0 +0.1**
MANR Mangalia 145.49 324 ⇓iP **PKPbc** **06 47 45.7 +0.7**
BRG Berggiesshubel 145.61 346 iPKP **PKPdf** **06 47 44.2 +0.7**
comp=Z,6.8nm,0.9s
BRG i 06 47 46.1
comp=Z,80nm,1.0s
BRG ePPKP pPKPdf 06 50 13.1 +12
comp=Z,28nm,1.9s
BRG i 06 50 29.5
comp=Z,21nm,1.3s
BRG PP **PP** **06 51 14.5 +3.2**
comp=Z,5.1nm,1.0s
BRG i 06 52 49.8
comp=Z,14nm,0.9s
BRG Berggiesshubel 145.61 346 ePKPbc **PKPbc** **06 47 45.0 -0.1**
BRG Berggiesshubel 145.61 346 iPKIKP **PKPdf** **06 47 44.2 +0.7**
BRG i 06 47 46.1
BRG 06 51 14.5
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,80nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 145.65 341 ePKIKP **PKPdf** **06 47 44.5 +0.8**
MORC Moravsky Berou 145.65 341 ePKPdf **PKPdf** **06 47 44.5 +0.8**
MORC Moravsky Berou 145.65 341 ⇑iP **PKPbc** **06 47 44.8 -0.6**
DOPR Dopca 145.67 330 ⇑iP **PKPab** **06 47 46.5 -0.8**
FBE Freiberg 145.70 347 ePKPbc **PKPbc** **06 47 45.7 +0.3**
ISR Istrita 145.70 328 ⇓PKP2 **PKPab** **06 47 47.0 -0.5**
ISR Istrita 145.70 328 ⇓iP **PKPab** **06 47 47.0 -0.5**
WTSB Winterswijk 145.73 354 ePKP **PKPbc** **06 47 45.0 -0.4**
comp=Z,102nm,1.0s
MLR Muntele Rosu 145.74 329 PKP2 **PKPab** **06 47 47.0 -0.7**
MLR Muntele Rosu 145.74 329 ⇑iP **PKPbc** **06 47 46.4 +0.5**
NEUB Neuenburg 145.75 348 ePKPbc **PKPbc** **06 47 45.6 +0.1**
MCH1 Michaelchurch 145.78 5 eP **PKPbc** **06 47 44.8 -0.8**
MCH1 Michaelchurch 145.78 5 P **PKPbc** **06 47 44.8 -0.8**
PVCC Panska Ves 145.78 345 ePKP **PKPbc** **06 47 45.9 +0.3**
PSN Preselentsi 145.80 325 iP **PKPbc** **06 47 46.5 +0.6**
SSW Stow on the Wo 145.89 4 eP **PKPbc** **06 47 45.8 -0.1**
SSW Stow on the Wo 145.89 4 P **PKPbc** **06 47 45.8 -0.1**
SECR 146.00 328 ⇑iP **PKPbc** **06 47 47.3 +0.8**
HGH Gray Hill 146.15 5 eP **PKPbc** **06 47 46.1 -0.5**
HGH Gray Hill 146.15 5 P **PKPbc** **06 47 46.1 -0.5**
SKP1 Kophill 146.19 3 eP **PKPbc** **06 47 46.2 -0.5**
SKP1 Kophill 146.19 3 P **PKPbc** **06 47 46.2 -0.5**
BUG Bochum--Univer 146.20 353 ePKPbc **PKPbc** **06 47 46.6 -0.1**
VOIR 146.22 330 PKP2 **PKPab** **06 47 48.5 -1.0**
VOIR 146.22 330 ⇑iP **PKPbc** **06 47 48.0 +0.9**
PRA Prague 146.24 345 PKP **PKPbc** **06 47 47.0 +0.1**
DRGR 146.26 333 PKP2 **PKPbc** **06 47 47.5 +0.3**
DRGR 146.26 333 ⇑iP **PKPbc** **06 47 47.3 +0.1**
PRU Pruhonice 146.29 345 ePKP **PKPbc** **06 47 47.2 +0.1**
MOX Moxa 146.32 348 ePKPbc **PKPbc** **06 47 46.9 -0.2**
MOX Moxa 146.32 348 ePKP2 **PKPbc** **06 47 46.9 -0.2**
VRAC Vranov 146.35 342 PKP2 **PKPbc** **06 47 47.9 +0.6**
VRAC Vranov 146.35 342 ⇑iP **PKPbc** **06 47 47.5 +0.2**
VYHS Vyhne 146.35 339 ePKP2 **PKPbc** **06 47 47.8 +0.5**
VYHS Vyhne 146.35 339 ePKP **PKPbc** **06 47 47.8 +0.5**
VYHS e 06 52 48.7
PLN Plauen 146.36 348 ePKPbc **PKPbc** **06 47 47.3 0.0**
TANN Tannenbergstha 146.37 347 ePKPbc **PKPbc** **06 47 47.3 0.0**
WERD Werda 146.37 347 ePKPbc **PKPbc** **06 47 47.1 -0.2**
KOLL Kolacno 146.42 340 ePKP2 **PKPbc** **06 47 48.6 +1.1**
KOLL Kolacno 146.42 340 ePKP **PKPbc** **06 47 48.6 +1.1**
KOLL e 06 52 49.4
UBBA Unterbreizbach 146.44 350 ePKPbc **PKPbc** **06 47 48.1 +0.8**
GUNZ Gunzen 146.44 347 ePKPbc **PKPbc** **06 47 47.6 +0.1**
GUNZ ePKPab **PKPab** **06 47 50.4 +0.2**
PSZ Piszkesteto 146.46 337 ⇑PKP2 **PKPbc** **06 47 48.5 +0.8**
PSZ Piszkesteto 146.46 337 ePKPbc **PKPbc** **06 47 47.7 0.0**
PSZ Piszkesteto 146.46 337 ⇑iP **PKPbc** **06 47 48.5 +0.8**
PSZ Piszkesteto 146.46 337 ⇓e **PKPbc** **06 47 48.3 +0.6**
WERN Wernitzgruen 146.51 347 ePKPbc **PKPbc** **06 47 47.7 0.0**
WERN ePKPab **PKPab** **06 47 50.7 +0.2**
NKC Novy Kostel 146.54 347 ePKP **PKPbc** **06 47 48.4 +0.6**
PRD Provadia 146.55 325 iP **PKPbc** **06 47 48.6 +0.7**
HEX Exmoor 146.63 6 eP **PKPbc** **06 47 47.6 -0.3**
HEX Exmoor 146.63 6 P **PKPbc** **06 47 47.6 -0.3**
TREC Trest 146.67 343 ePKP **PKPbc** **06 47 48.5 +0.3**
SMOL Smolenice 146.79 340 ePKP2 **PKPbc** **06 47 50.0 +1.5**
SMOL Smolenice 146.79 340 ePKP **PKPbc** **06 47 49.9 +1.5**
SMOL e 06 52 52.1
ELSH Elham, Standar 146.81 0 eP **PKPbc** **06 47 47.3 -1.1**
ELSH Elham, Standar 146.81 0 P **PKPbc** **06 47 47.3 -1.1**
CSS Prodhromos 146.96 307 ePKPbc **PKPbc** **06 47 49.1 -0.2**
BEBN Eben Emael 146.99 355 PKPbc **PKPbc** **06 47 49.3 +0.4**
HGN Heimansgroeve 147.00 355 ePKP **PKPbc** **06 47 48.5 -0.4**
comp=Z,28nm,1.0s
ROTZ Rotzenmuhle 147.03 347 ePKPbc **PKPbc** **06 47 49.3 +0.2**
MEM Membach 147.15 355 PKPbc **PKPbc** **06 47 49.7 +0.4**
ZST Bratislava 147.18 341 ePKP2 **PKPbc** **06 47 49.8 +0.3**
ZST Bratislava 147.18 341 ePKP **PKPbc** **06 47 49.8 +0.3**
TNS Taunus Mts 147.25 352 ePKPbc **PKPbc** **06 47 49.4 -0.3**
TNS ePKPab **PKPab** **06 47 53.5 0.0**
TNS Taunus Mts 147.25 352 ePKP2 **PKPab** **06 47 53.5 0.0**
SZH Strazhica 147.30 326 iP **PKPbc** **06 47 50.1 +0.1**
GRF Grafenberg Arr 147.31 348 ePKPbc **PKPbc** **06 47 50.1 +0.3**
GRF ePKPab **PKPab** **06 47 53.9 +0.2**
GRF Grafenberg Arr 147.31 348 ePKP2 **PKPab** **06 47 53.9 +0.2**
GRFO Grafenberg 147.31 348 ePKIKP **PKPdf** **06 47 47.5 +1.1**
GRFO e 06 47 50.2
GRFO Grafenberg 147.31 348 ePKPdf **PKPdf** **06 47 47.5 +1.1**
GRFO ePKPbc **PKPbc** **06 47 50.2 +0.4**
GZR Gura Zlata 147.31 332 ⇑PKHKP **PKPbc** **06 47 49.5 -0.5**
GZR Gura Zlata 147.31 332 ⇑iP **PKPbc** **06 47 49.5 -0.5**
KHC Kasperske Hory 147.32 345 ePKIKP **PKPdf** **06 47 47.1 +0.6**
KHC e 06 47 53.8
KHC Kasperske Hory 147.32 345 ePKPdf **PKPdf** **06 47 47.0 +0.6**
KHC ePKPbc **PKPbc** **06 47 50.6 +0.7**
KHC ePKPab **PKPab** **06 47 53.8 0.0**
KHC Kasperske Hory 147.32 345 ePKP **PKPbc** **06 47 50.2 +0.3**
SNF Seneffe 147.37 357 PKPbc **PKPbc** **06 47 50.3 +0.4**
BCLA Clavier 147.40 355 PKPbc **PKPbc** **06 47 50.2 +0.2**
WET Wettzell 147.47 346 ePKPbc **PKPbc** **06 47 50.6 +0.3**
WET ePKPab **PKPab** **06 47 54.8 +0.4**
WET Wettzell 147.47 346 ePKP2 **PKPab** **06 47 54.8 +0.4**
JMB Yambol 147.48 324 iP **PKPbc** **06 47 51.0 +0.5**
GEC2 GERESS Array S 147.55 345 ePKPbc **PKPbc** **06 47 50.9 +0.3**
GEC2 ePKPab **PKPab** **06 47 55.3 +0.5**
GEC2 GERESS Array S 147.55 345 ePKP2 **PKPab** **06 47 55.3 +0.5**
GERES GERESS Array B 147.55 345 PKPbc **PKPbc** **06 47 50.5 -0.1**
comp=Z,16nm,0.6s,baz=30,slow=2.7,SNR=76
GERES GERESS Array B 147.55 345 PKP2 **PKPbc** **06 47 50.5 -0.1**
GERES GERESS Array B 147.55 345 PKPbc **PKPbc** **06 47 50.5 -0.1**
BZS Buzias 147.65 333 PKP2 **PKPbc** **06 47 51.5 +0.7**
BZS Buzias 147.65 333 ⇑iP **PKPbc** **06 47 51.0 +0.2**
PVL Pavlikeni 147.65 326 iP **PKPbc** **06 47 49.8 -1.0**
PKST T``s 147.69 339 ⇓e **PKPbc** **06 47 50.8 -0.1**
ABH Alteburg 147.71 353 PKP **PKPbc** **06 47 50.7 -0.1**
DOU Dourbes 147.77 356 PKPbc **PKPbc** **06 47 50.9 0.0**
CONA Conrad Observa 147.80 342 ⇑iP **PKPdf** **06 47 47.9 +0.5**
CONA Conrad Observa 147.80 342 ⇑iPKPdf **PKPdf** **06 47 47.9 +0.5**
comp=Z,2.7nm,1.0s,SNR=20
CONA ⇑iPKiKP **PKPbc** **06 47 51.5 +0.3**
comp=Z,60nm,1.1s
SOP Sopron 147.80 341 ⇓e **PKPbc** **06 47 51.9 +0.8**
TOD Tromm 147.80 351 PKIKP **PKPbc** **06 47 50.4 -0.7**
TOD Tromm 147.80 351 PKP **PKPbc** **06 47 50.4 -0.7**
RUP Ruppelstein 147.94 353 PKP2 **PKPbc** **06 47 51.8 +0.3**
RUP Ruppelstein 147.94 353 PKP **PKPbc** **06 47 51.8 +0.3**
WLF Walferdange 148.07 354 PKPbc **PKPbc** **06 47 52.4 +0.7**
WLF Walferdange 148.07 354 ePKPbc **PKPbc** **06 47 52.6 +0.9**
WLF ePKPab **PKPab** **06 47 57.3 +0.5**
WLF Walferdange 148.07 354 ePKP2 **PKPbc** **06 47 52.2 +0.5**
WLF Walferdange 148.07 354 ePKPbc **PKPbc** **06 47 52.1 +0.5**
KTD Kalmit 148.19 352 PKP2 **PKPbc** **06 47 52.5 +0.4**
KTD Kalmit 148.19 352 PKP **PKPbc** **06 47 52.5 +0.4**
MOA Molln 148.32 343 ⇑iP **PKPbc** **06 47 52.8 +0.3**
MOA Molln 148.32 343 ⇑iPKPdf **PKPdf** **06 47 49.9 +1.8**
comp=Z,0.7nm,0.6s,SNR=13
MOA ⇑iPKiKP **PKPbc** **06 47 52.8 +0.3**
comp=Z,28nm,1.1s
MOA ⇑iPKPab **PKPab** **06 47 58.8 +0.9**
comp=Z,63nm,1.3s
DIM Dimitrovgrad 148.34 325 iP **PKPbc** **06 47 52.9 +0.3**
PKSM Moragy 148.36 337 ⇑PKP2 **PKPbc** **06 47 53.1 +0.6**
PKSM Moragy 148.36 337 ⇑iP **PKPbc** **06 47 53.1 +0.6**
PKSM Moragy 148.36 337 ⇓e **PKPbc** **06 47 52.6 +0.1**
STU Stuttgart 148.55 350 ePKPbc **PKPbc** **06 47 53.4 +0.4**
STU ePKPab **PKPab** **06 47 58.6 -0.2**
LANF Langenberg 148.56 352 PKP2 **PKPbc** **06 47 53.0 0.0**
LANF Langenberg 148.56 352 PKP **PKPbc** **06 47 53.0 0.0**
LANF Langenberg 148.56 352 PKP **PKPbc** **06 47 53.0 0.0**
KDZ Kurdzhali 148.67 324 iP **PKPbc** **06 47 53.6 +0.1**
PGB Panagyurishte 148.73 327 iP **PKPbc** **06 47 53.9 +0.2**
FUR Furstenfeldbru 148.75 347 ePKPbc **PKPbc** **06 47 54.0 +0.5**
FUR ePKPab **PKPab** **06 47 59.5 -0.2**
FUR Furstenfeldbru 148.75 347 ePKP2 **PKPab** **06 47 59.5 -0.2**
PLD Plovdiv 148.76 325 iP **PKPbc** **06 47 53.2 -0.4**
RHK3 Tenkes 148.78 337 ⇓e **PKPbc** **06 47 53.8 +0.2**
RZN Rozhen 149.03 325 iP **PKPbc** **06 47 54.3 -0.3**
BFO Black Forest 149.12 351 ePKPbc **PKPbc** **06 47 54.4 0.0**
BFO ePKPab **PKPab** **06 48 00.7 -0.5**
BFO Black Forest 149.12 351 ePKP2 **PKPab** **06 48 00.7 -0.5**
BFO Black Forest 149.12 351 ePKPbc **PKPbc** **06 47 54.2 -0.1**
BFO ePKPab **PKPab** **06 48 00.5 -0.7**
SOKA Soboth 149.17 342 ⇑iP **PKPdf** **06 47 49.5 -0.1**
SOKA Soboth 149.17 342 ⇑iPKPdf **PKPdf** **06 47 49.5 -0.1**
comp=Z,5.2nm,1.1s
SOKA ⇑iPKPbc **PKPbc** **06 47 53.9 -0.7**
comp=Z,39nm,1.1s
SOKA ⇑iPKPab **PKPab** **06 48 01.7 +0.2**
comp=Z,35nm,1.2s
PERS Pernice 149.18 341 iPKPbc **PKPbc** **06 47 54.2 -0.4**
PERS iPKPab **PKPab** **06 48 01.3 -0.2**
PERS ⇓iPKPab **pPKPab** **06 50 17.4 +4.7**
VTS Vitosha 149.20 328 iP **PKPbc** **06 47 53.5 -1.4**
KBA Koelnbreinsper 149.28 344 ⇑iPKHKP **PKPdf** **06 47 50.5 +0.6**
KBA Koelnbreinsper 149.28 344 ⇑iP **PKPdf** **06 47 50.5 +0.6**
KBA Koelnbreinsper 149.28 344 ⇑iPKPdf **PKPdf** **06 47 50.5 +0.6**
comp=Z,6.3nm,1.1s,SNR=5.9
KBA ⇑iPKPbc **PKPbc** **06 47 54.6 -0.4**
comp=Z,46nm,1.1s
KBA ⇓iPKPab **PKPab** **06 48 03.3 +1.2**
comp=Z,49nm,1.4s
ECH Echery 149.39 352 ePKPbc **PKPbc** **06 47 55.0 0.0**
ECH ePKPab **PKPab** **06 48 01.4 -0.9**
ECH Echery 149.39 352 PKP **PKPbc** **06 47 55.3 +0.3**
LIBD Limburg 149.40 352 PKP **PKPbc** **06 47 54.2 -0.8**
THEF They Montfort 149.51 354 PKP **PKPbc** **06 47 55.4 +0.1**
WTTA Wattenberg 149.53 346 ⇑iP **PKPdf** **06 47 50.8 +0.4**
WTTA Wattenberg 149.53 346 ⇑iPKPdf **PKPdf** **06 47 50.8 +0.4**
comp=Z,5.5nm,0.7s,SNR=20
WTTA ⇑iPKiKP **PKPbc** **06 47 55.5 -0.1**
comp=Z,48nm,0.6s
WTTA ⇓iPKPab **PKPab** **06 48 01.9 -1.2**
comp=Z,68nm,1.0s
MOTA Moosalm 149.56 347 ⇑iP **PKPdf** **06 47 50.6 +0.2**
MOTA Moosalm 149.56 347 ⇑iPKPdf **PKPdf** **06 47 50.6 +0.2**
comp=Z,10nm,1.2s
MOTA ⇑iPKPbc **PKPbc** **06 47 55.0 -0.6**
comp=Z,56nm,1.0s
MOTA ⇓iPKPab **PKPab** **06 48 02.6 -0.6**
comp=Z,22nm,0.9s
MYKA Terra Mystica 149.61 343 ⇓iP **PKPdf** **06 47 50.5 +0.2**
MYKA Terra Mystica 149.61 343 ⇓iPKPdf **PKPdf** **06 47 50.5 +0.2**
comp=Z,14nm,1.8s
MYKA ⇑iPKPbc **PKPbc** **06 47 54.7 -1.0**
comp=Z,18nm,0.5s
MMB Musomiste 149.64 326 iP **PKPbc** **06 47 55.7 -0.1**
MOF Molkenrain 149.75 352 PKP **PKPbc** **06 47 55.6 -0.4**
MOF Molkenrain 149.75 352 PKP **PKPbc** **06 47 55.6 -0.4**
KKB Krupnik 149.78 327 iP **PKPbc** **06 47 56.3 +0.1**
ABTA Abfaltersbach 149.80 345 ⇑iP **PKPdf** **06 47 50.7 +0.1**
ABTA Abfaltersbach 149.80 345 ⇑iPKPdf **PKPdf** **06 47 50.7 +0.1**
comp=Z,13nm,1.1s,SNR=19
ABTA ⇑iPKPbc **PKPbc** **06 47 55.5 -0.7**
comp=Z,82nm,1.0s
ABTA ⇑iPKPab **PKPab** **06 48 03.9 -0.2**
comp=Z,41nm,0.8s
DAVA Damuels 149.87 349 ⇓iPKPbc **PKPdf** **06 47 53.3 +2.5**
comp=Z,1.1nm,0.4s,SNR=12
DAVA ⇑iPKiKP **PKPbc** **06 47 56.4 0.0**
comp=Z,70nm,1.1s
DAVA ⇓iPKPab **PKPab** **06 48 02.1 -2.4**
comp=Z,32nm,1.1s
LJU Ljubljana 149.89 342 iPKPbc **PKPbc** **06 47 56.5 +0.2**
LJU iPKPab **PKPab** **06 48 03.4 -1.1**
FETA Feichten 149.95 347 ⇑iP **PKPdf** **06 47 51.6 +0.6**
FETA Feichten 149.95 347 ⇑iPKPdf **PKPdf** **06 47 51.6 +0.6**
comp=Z,18nm,1.3s,SNR=9.2
FETA ⇓iPKiKP **PKiKP** **06 47 56.9 -0.2**
comp=Z,50nm,0.9s
FETA ⇑iPKPab **PKPab** **06 48 05.2 +0.4**
comp=Z,45nm,0.9s
BBS Basel-Blauen 150.08 352 PKHKP PKPpre 06 47 55.8
BBS Basel-Blauen 150.08 352 PKP **PKPbc** **06 47 55.8 -0.9**
VOY Vojsko 150.09 342 ePKPbc **PKPdf** **06 47 53.1 +2.0**
VOY e 06 47 56.3
BOJS Bojanci 150.15 340 iPKPbc **PKPbc** **06 47 57.3 +0.4**
BOJS iPKPab **PKPab** **06 48 05.9 +0.4**
BOJS ⇓iPKPab **pPKPab** **06 50 17.9 +1.4**
JAVS Javornik 150.17 342 iPKPbc **PKPbc** **06 47 56.9 -0.2**
JAVS iPKPab **PKPab** **06 48 04.8 -1.0**
JAVS ⇓iPKPbc **pPKPbc** **06 50 14.3 +1.0**
LOMF Lomont 150.28 353 PKIKP **PKPbc** **06 47 55.3 -1.9**
LOMF Lomont 150.28 353 PKP **PKPbc** **06 47 55.3 -1.9**
LOMF Lomont 150.28 353 PKP **PKPbc** **06 47 55.3 -1.9**
TUE Stuetta 150.75 349 ePKPbc **PKPbc** **06 47 58.7 +0.2**
NVLJ Novalja 151.11 340 P **PKPbc** **06 47 58.3 -0.8**
STON Ston 151.52 334 P **PKPbc** **06 47 58.1 -1.9**
AGO Saint Agoulin 151.88 358 PKP **PKPbc** **06 48 00.7 -0.1**
PLDF La Plantade 151.94 357 PKP **PKPbc** **06 47 59.9 -1.1**
PYM Petit Puy Mans 152.18 358 PKIKP **PKPbc** **06 47 58.1 -3.5**
PYM Petit Puy Mans 152.18 358 PKP **PKPbc** **06 47 58.1 -3.5**
PYM Petit Puy Mans 152.18 358 PKP **PKPbc** **06 47 58.1 -3.5**
LBL Lubilhac 152.69 357 PKP **PKPbc** **06 48 01.2 -1.5**
PBRG Braganca 155.15 15 ePKPab **PKPab** **06 48 28.1 +1.1**
POLO Lamas de Olo 155.28 17 ePKPab **PKPab** **06 48 28.0 +0.4**
PVRL Vila Real 155.40 17 ePKPab **PKPab** **06 48 27.9 -0.1**
MVO Moncorvo 155.68 16 ePKPab **PKPab** **06 48 29.5 +0.2**
PVIS Viseu 155.87 18 ePKPab **PKPab** **06 48 30.1 0.0**
MTE Manteigas 156.26 17 ePKPab **PKPab** **06 48 32.2 +0.4**
PTOM Tomar 156.72 20 ePKPab **PKPab** **06 48 33.8 +0.1**
PCBR Castelo Branco 156.79 18 ePKPab **PKPab** **06 48 33.9 -0.2**
PMRV Marv??o 157.20 18 ePKPab **PKPab** **06 48 35.8 -0.1**
PMTG Montargil 157.28 20 ePKPab **PKPab** **06 48 35.5 -0.7**
ESDC Sonseca Array 157.79 11 PKPab **PKPab** **06 48 37.9 -0.5**
comp=Z,1.6nm,0.4s,baz=344,slow=4.3,SNR=19
ESDC Sonseca Array 157.79 11 PKPab **PKPab** **06 48 37.9 -0.5**
PBEJ Beja 158.34 20 ePKPab **PKPab** **06 48 39.5 -1.3**
PBAR Barrancos 158.46 18 ePKPab **PKPab** **06 48 41.4 0.0**
PCVE Castro Verde 158.64 21 ePKPab **PKPab** **06 48 42.5 +0.4**
PVAQ Vaqueiros 158.95 21 ePKPab **PKPab** **06 48 43.7 +0.2**
KEST Kesra 160.89 340 PKPab **PKPab** **06 48 52.4 +0.3**
comp=Z,1.0nm,0.4s,baz=170,slow=21,SNR=4.0
KEST Kesra 160.89 340 PKPab **PKPab** **06 48 52.5 +0.3**
DBIC Dimbokro 167.27 150 PKPab **PKPab** **06 49 20.8 +0.1**
comp=Z,3.1nm,0.6s,baz=165,slow=4.9,SNR=5.0
DBIC Dimbokro 167.27 150 PKP2 **PKPab** **06 49 20.8 +0.1**
DBIC Dimbokro 167.27 150 PKPab **PKPab** **06 49 20.8 +0.1**
TOA0 Torodi Ar. Sit 175.28 183 ePKPdf **PKPdf** **06 48 14.7 -0.9**
TOA0 ePKPab **PKPab** **06 49 56.3 +0.3**
TORD Torodi Ar. Bea 175.28 183 PKP **PKPdf** **06 48 14.4 -1.2**
comp=Z,5.1nm,1.2s,baz=332,slow=1.1,SNR=13
TORD PKPab **PKPab** **06 49 56.1 0.0**
comp=Z,3.6nm,0.6s,baz=186,slow=3.4,SNR=22
TORD PP **PP** **06 53 49.6 +2.0**
comp=Z,12nm,1.4s,baz=144,slow=3.8,SNR=5.5
TORD Torodi Ar. Bea 175.28 183 PKP **PKPdf** **06 48 14.4 -1.2**
TORD PKPab **PKPab** **06 49 56.1 0.0**
TORD PP **PP** **06 53 49.6 +2.0**

IDC 27 06:36:31.8±1.6,8°54'S×74°76'W,h119km±16km,mb3.7/10,
mb1 3.9/14,mb1mx3.8/24,mbtmp3.7/14,MS3.7/1,
Ms1 3.7/1,ms1mx2.7/30,Error ellipse: s-maj=19.4km
s-min=10.9km az=49.0,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.86**	**291**	P	Pn	06 37 31.7	+1.8
	25nm,0.3s,baz=116,slow=9.6,SNR=127						
ATAH				S	Sn	06 38 13.2	-1.8

GUC 27 06:50:56.9±0.6,29°54'S×70°54'W,h100km±4km,MD3.5,
ML3.4,3C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.54**	**344**	⇓iP	Pn	06 51 14.1	+0.7
LCO				iS	Sn	06 51 26.5	+0.8
LCO				AML	AML	06 51 27.6	
	comp=E,1μm,0.2s						
TLL	**Tololo Astrono**	**0.67**	**200**	⇑iP	Pn	06 51 10.1	-4.3
TLL				iS	Sn	06 51 23.6	-3.9
TLL				AML	AML	06 51 25.7	
	comp=N,486nm,0.7s						
VACH	**Vallenar**	**0.98**	**348**	eP	Pn	06 51 17.5	+0.4
VACH				iS	Sn	06 51 32.9	+0.6
VACH				AML	AML	06 51 34.0	
	comp=E,6μm,0.1s						
OVCH	**Ovalle**	**1.21**	**208**	⇑iP	Pn	06 51 19.9	+0.1
OVCH				iS	Sn	06 51 37.3	+0.3
OVCH				AML	AML	06 51 38.4	
	comp=N,450nm,0.4s						
CMCH	**Combarbala**	**1.68**	**194**	⇓iP	Pn	06 51 25.9	+0.4
CMCH				iS	Sn	06 51 47.9	+0.6
CMCH				AML	AML	06 51 49.2	
	comp=N,601nm,0.6s						
CPCH	**Copiapo**	**2.18**	**4**	eP	Pn	06 51 32.8	+1.0
CPCH				iS	Sn	06 51 59.5	+0.9
CPCH				AML	AML	06 52 00.9	
	comp=N,2μm,0.1s						
CDCH	**Caldera**	**2.47**	**354**	⇑iP	Pn	06 51 35.7	0.0
CDCH				iS	Sn	06 52 05.6	+0.2
CDCH				AML	AML	06 52 26.9	
	comp=N,46nm,0.7s						

*ISCJB **27** 07:10:11.2±0.2,47.16N±0.01×7.48E±0.02,h7km±2km,*
Error ellipse: s-maj=2.4km s-min=1.8km az=141.4
*CSEM **27** 07:10:12.8±0.1,47.20N×7.52E,h15km,ML2.6/19,Error*
ellipse: s-maj=2.0km s-min=1.4km az=138.0
*ZUR **27** 07:10:13.6,47.23N×7.56E,h9km±1km,ML2.1/7*
*LEDBW **27** 07:10:13.9±0.9,47.21N±0.05×7.57E±0.03,h5km,ML2.3,*
Error ellipse: s-maj=18.0km s-min=8.0km az=166.0
*LDG **27** 07:10:13.7±0.0,47.21N×7.55E,h10km,Md2.7/3,Ml2.7/19,*
Error ellipse: s-maj=0.9km s-min=0.8km az=122.0
*BGR **27** 07:10:14.3±0.6,47.24N×7.55E,h10km,ML2.2/8,Error*
ellipse: s-maj=5.6km s-min=3.3km az=15.0

ISC 27 07:10:13.0±0.8,47°20N±0°02×7°52E±0°01,h17km±5km,
n129,σ0°80/204,16C-13D,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALST	**Balsthal**	**0.18**	**41**	ePg	**Pg**	**07 10 17.1**	**-0.5**
BALST				eSg	**Sg**	**07 10 19.6**	**-1.2**
BALST	**Balsthal**	**0.18**	**41**	⇑iPg	**Pg**	**07 10 17.1**	**-0.5**
	3μm,0.2s						
BALST				eSg	**Sg**	**07 10 19.6**	**-1.2**
	3μm,0.2s						
BALST	**Balsthal**	**0.18**	**41**	⇑iPg	**Pg**	**07 10 17.1**	**-0.5**
	3μm,0.2s						
BALST				eSg	**Sg**	**07 10 19.6**	**-1.2**
	3μm,0.2s						
BBS	**Basel-Blauen**	**0.26**	**358**	⇓iP*	**Pg**	**07 10 19.0**	**+0.1**
BBS	**Basel-Blauen**	**0.26**	**358**	⇓iPg	**Pg**	**07 10 19.0**	**+0.1**
BBS	**Basel-Blauen**	**0.26**	**358**	Pb	**Pg**	**07 10 19.0**	**+0.1**
BBS				Sg	**Sg**	**07 10 22.3**	**-0.7**
BOURR	**Bourrignon**	**0.28**	**314**	ePg	**Pg**	**07 10 19.6**	**+0.5**
BOURR				eSg	**Sg**	**07 10 23.7**	**+0.4**
BOURR	**Bourrignon**	**0.28**	**314**	⇓iPg	**Pg**	**07 10 19.6**	**+0.5**
	259nm,0.3s						
BOURR				iSg	**Sg**	**07 10 23.7**	**+0.4**
	259nm,0.3s						
BOURR	**Bourrignon**	**0.28**	**314**	⇓iPg	**Pg**	**07 10 19.6**	**+0.5**
	259nm,0.3s						
BOURR				iSg	**Sg**	**07 10 23.7**	**+0.4**
	259nm,0.3s						
LOMF	**Lomont**	**0.49**	**288**	⇑eP*	**Pb**	**07 10 23.9**	**+0.7**
LOMF				S*	**Sg**	**07 10 30.4**	**+0.7**
LOMF				SmS		07 10 35.4	
LOMF	**Lomont**	**0.49**	**288**	⇑ePg	**Pb**	**07 10 23.9**	**+0.7**
LOMF				Sx		07 10 30.4	
LOMF				SmS		07 10 35.4	
LOMF	**Lomont**	**0.49**	**288**	Pg	**Pb**	**07 10 23.8**	**+0.5**
LOMF				Sb	**Sg**	**07 10 30.4**	**+0.7**
SULZ	**Cheisacher**	**0.52**	**51**	ePg	**Pg**	**07 10 23.4**	**0.0**
SULZ				eSg	**Sg**	**07 10 30.2**	**-0.1**
SULZ	**Cheisacher**	**0.52**	**51**	⇑iPg	**Pg**	**07 10 23.4**	**0.0**
	201nm,0.5s						
SULZ				eSg	**Sg**	**07 10 30.2**	**-0.1**
	201nm,0.5s						
SULZ	**Cheisacher**	**0.52**	**51**	⇑iPg	**Pg**	**07 10 23.4**	**0.0**
	201nm,0.5s						
SULZ				eSg	**Sg**	**07 10 30.2**	**-0.1**
	201nm,0.5s						
TORNY	**Torny/Romont**	**0.58**	**222**	⇑iPg	**Pb**	**07 10 26.0**	**+1.4**
	134nm,0.3s						
TORNY	**Torny/Romont**	**0.58**	**222**	⇑iPg	**Pb**	**07 10 26.0**	**+1.4**
	134nm,0.3s						
HASLI	**Hasliberg/Brie**	**0.62**	**136**	ePg	**Pg**	**07 10 25.7**	**+0.4**
	103nm,0.8s						
HASLI	**Hasliberg/Brie**	**0.62**	**136**	ePg	**Pg**	**07 10 25.7**	**+0.4**
	103nm,0.8s						
MOF	**Molkenrain**	**0.70**	**338**	⇓iP*	**Pb**	**07 10 27.3**	**+0.5**
MOF	**Molkenrain**	**0.70**	**338**	⇓iPg	**Pg**	**07 10 27.3**	**+0.5**
FELD	**Feldberg im Sc**	**0.75**	**26**	⇑iP*	**Pb**	**07 10 27.6**	**-0.1**
FELD	**Feldberg im Sc**	**0.75**	**26**	⇑iPg	**Pg**	**07 10 27.6**	**-0.1**
FELD	**Feldberg im Sc**	**0.75**	**26**	Pb	**Pb**	**07 10 27.6**	**-0.1**
FELD				Sg	**Sb**	**07 10 37.1**	**-0.5**
HINF	**Hinteralfeld**	**0.76**	**324**	ePg	**Pb**	**07 10 28.1**	**+0.3**
HINF	**Hinteralfeld**	**0.76**	**324**	ePn	**Pn**	**07 10 29.1**	**+0.1**
	SNR=1.0						
HINF				eSg	**Sb**	**07 10 38.5**	**+0.6**
HINF				eSn	**Sn**	**07 10 40.2**	**+0.1**
	83nm,0.2s,SNR=1.0						
KIZ	**Kirchzarten**	**0.80**	**19**	P*	**Pb**	**07 10 28.4**	**-0.1**
KIZ				PmP		07 10 29.1	
KIZ				S*	**Sb

KIZ					Sb	**Sb**	**07 10 38.6**	**-0.4**		
FLACH	**Flaach**	**0.80**	**62**	*e*Pg	**Pb**	**07 10 28.7**	**+0.3**			
	93nm,0.2s									
FLACH	**Flaach**	**0.80**	**62**	*e*Pg	**Pb**	**07 10 28.7**	**+0.3**			
	93nm,0.2s									
SLE	**Schleitheim**	**0.87**	**49**	*e*Pg	**Pb**	**07 10 29.6**	**0.0**			
SLE				*e*Sg	**Sb**	**07 10 40.4**	**-0.5**			
SLE	**Schleitheim**	**0.87**	**49**	⇑*i*Pg	**Pb**	**07 10 29.6**	**0.0**			
	232nm,0.3s									
SLE	**Schleitheim**	**0.87**	**49**	⇑*i*Pg	**Pb**	**07 10 29.6**	**0.0**			
	232nm,0.3s									
SLE				Sg	**Sb**	**07 10 40.4**	**-0.5**			
LIBD	**Limburg**	**0.95**	**3**	⇑*i*P*	**Pn**	**07 10 32.3**	**+0.8**			
LIBD				S*	**Sn**	**07 10 45.2**	**+0.6**			
LIBD				SmS		07 10 48.2				
LIBD	**Limburg**	**0.95**	**3**	⇑*i*Pg	**Pn**	**07 10 32.3**	**+0.8**			
LIBD				Sx	Sx	07 10 45.2				
LIBD				Sx	Sx	07 10 48.2				
LIBD	**Limburg**	**0.95**	**3**	Pg	**Pn**	**07 10 32.0**	**+0.5**			
LIBD	**Limburg**	**0.95**	**3**	Pb	**Pn**	**07 10 32.3**	**+0.8**			
LIBD				Sg	**Sg**	**07 10 44.4**	**+0.4**			
LIBD				Sb	**Sn**	**07 10 45.2**	**+0.6**			
WILA	**Wila**	**0.97**	**77**	*e*Pg	**Pg**	**07 10 32.1**	**+0.3**			
WILA				*e*Sg	**Sb**	**07 10 44.6**	**+0.8**			
WILA	**Wila**	**0.97**	**77**	Pg	**Pg**	**07 10 32.1**	**+0.3**			
WILA				Sg	**Sb**	**07 10 44.6**	**+0.8**			
ECH	**Echery**	**1.04**	**347**	Pg	**Pg**	**07 10 33.7**	**+0.5**			
ECH				*i* Sg	**Sn**	**07 10 47.6**	**+0.6**			
ECH	**Echery**	**1.04**	**347**	P	**Pg**	**07 10 33.7**	**+0.5**			
ECH				*i* S	**Sn**	**07 10 47.6**	**+0.6**			
ECH	**Echery**	**1.04**	**347**	Pg	**Pb**	**07 10 32.8**	**+0.2**			
ECH				Sg	**Sg**	**07 10 47.2**	**+0.3**			
OG01	**Vacheresse**	**1.04**	**214**	Pg	**Pg**	**07 10 34.2**	**+0.9**			
OG01				Sg	**Sn**	**07 10 49.1**	**+2.0**			
SISB	**Singen-Schiene**	**1.09**	**63**	Pn	**Pn**	**07 10 34.1**	**+0.6**			
SISB				Pg	**Pg**	**07 10 34.7**	**+0.6**			
SISB	**Singen-Schiene**	**1.09**	**63**	Pn	**Pn**	**07 10 34.1**	**+0.6**			
SISB	**Singen-Schiene**	**1.09**	**63**	P	**Pg**	**07 10 34.7**	**+0.6**			
SISB	**Singen-Schiene**	**1.09**	**63**	Pn	**Pn**	**07 10 34.1**	**+0.6**			
SISB	**Singen-Schiene**	**1.09**	**63**	Pg	**Pg**	**07 10 34.7**	**+0.6**			
HAU	**Haudompre**	**1.13**	**316**	*e*Pn	**Pn**	**07 10 34.1**	**+0.1**			
	SNR=1.0									
HAU	**Haudompre**	**1.13**	**316**	*e*Pg	**Pg**	**07 10 35.1**	**+0.2**			
HAU				*e*Sg	**Sg**	**07 10 49.9**	**+0.2**			
	51nm,0.2s,SNR=1.0									
CABF	**La Chapelle**	**1.15**	**240**	*e*Pg	**Pg**	**07 10 35.6**	**+0.4**			
	SNR=1.0									
CABF	**La Chapelle**	**1.15**	**240**	*e*P	**Pg**	**07 10 36.4**	**+1.2**			
	SNR=1.0									
CABF				*e*Sg	**Sg**	**07 10 50.8**	**+0.6**			
	15nm,0.2s,SNR=1.0									
CABF	**La Chapelle**	**1.15**	**240**	*e*P	**Pg**	**07 10 36.4**	**+1.2**			
	SNR=1.0									
CABF				*e*Sg	**Sg**	**07 10 50.8**	**+0.6**			
	7.6nm,0.2s,SNR=1.0									
CDF	**Champ du Feu**	**1.22**	**352**	*e*Pn	**Pn**	**07 10 35.5**	**+0.2**			
	SNR=1.0									
CDF	**Champ du Feu**	**1.22**	**352**	*e*Pg	**Pg**	**07 10 36.7**	**+0.1**			
	SNR=1.0									
CDF				*e*Sn	**Sb**	**07 10 50.9**	**-0.3**			
CDF				*e*Sg	**Sn**	**07 10 52.4**	**+0.9**			
	26nm,0.3s,SNR=1.0									
CDF	**Champ du Feu**	**1.22**	**352**	*e*Pn	**Pn**	**07 10 35.5**	**+0.2**			
	SNR=1.0									
CDF	**Champ du Feu**	**1.22**	**352**	*e*Pg	**Pg**	**07 10 36.7**	**+0.1**			
	SNR=1.0									
CDF				*e*Sn	**Sb**	**07 10 50.9**	**-0.3**			
CDF				*e*Sg	**Sn**	**07 10 52.4**	**+0.9**			
	13nm,0.3s,SNR=1.0									
SPAK	**Spaichingen-Ko**	**1.24**	**43**	⇓*i*Pg	**Pb**	**07 10 37.0**	**+1.0**			
SPAK	**Spaichingen-Ko**	**1.24**	**43**	⇓*i*P	**Pb**	**07 10 37.0**	**+1.0**			
SPAK	**Spaichingen-Ko**	**1.24**	**43**	Pg	**Pb**	**07 10 36.6**	**+0.6**			
SPAK				Sg	**Sb**	**07 10 52.3**	**+0.6**			
BFO	**Black Forest**	**1.25**	**25**	Pn	**Pn**	**07 10 35.5**	**-0.2**			
BFO				Pg	**Pb**	**07 10 36.8**	**+0.6**			
BFO				Sg	**Sn**	**07 10 52.9**	**+0.7**			
BFO	**Black Forest**	**1.25**	**25**	P	**Pb**	**07 10 36.8**	**+0.6**			
BFO				S	**Sn**	**07 10 52.9**	**+0.7**			
BFO	**Black Forest**	**1.25**	**25**	Pn	**Pn**	**07 10 35.5**	**-0.2**			
BFO	**Black Forest**	**1.25**	**25**	Pn	**Pn**	**07 10 35.5**	**-0.2**			
LIENZ	**Kamor/St.Gall**	**1.35**	**85**	*e*Sg	Sg	07 10 57.3	+0.3			
LIENZ	**Kamor/St.Gall**	**1.35**	**85**	Sg	Sg	07 10 57.3	+0.3			
GUT	**Gutenstein**	**1.39**	**51**	Pg	**Pb**	**07 10 39.4**	**+1.0**			
GUT				Sg	**Sb**	**07 10 57.1**	**+1.3**			
GUT	**Gutenstein**	**1.39**	**51**	P	**Pb**	**07 10 39.4**	**+1.0**			
GUT				S	**Sb**	**07 10 57.1**	**+1.3**			
GUT	**Gutenstein**	**1.39**	**51**	Pg	**Pb**	**07 10 39.4**	**+1.0**			
GUT				Sg	**Sb**	**07 10 57.1**	**+1.3**			
THEF	**They Montfort**	**1.46**	**315**	⇑*i*Pg	**Pg**	**07 10 41.6**	**+0.5**			
THEF	**They Montfort**	**1.46**	**315**	⇑*i*P	**Pg**	**07 10 41.6**	**+0.5**			
THEF	**They Montfort**	**1.46**	**315**	Pg	**Pg**	**07 10 41.4**	**+0.3**			
THEF				Sg	**Sg**	**07 10 59.9**	**-0.2**			
DAVA	**Damuels**	**1.61**	**86**	*e*Pg	**Pg**	**07 10 44.1**	**+0.1**			
DAVA				*e*Sg	**Sg**	**07 11 05.2**	**+0.3**			
DAVA	**Damuels**	**1.61**	**86**	⇑*i*Pg	**Pg**	**07 10 44.1**	**+0.1**			
	5.3nm,0.2s									
DAVA				⇑*i*Sg	**Sg**	**07 11 05.2**	**+0.3**			
	12nm,0.2s									
DAVA	**Damuels**	**1.61**	**86**	Pg	**Pg**	**07 10 44.1**	**+0.1**			
DAVA				Sg	**Sg**	**07 11 05.2**	**+0.3**			
BUCH	**Bad Urach**	**1.76**	**44**	⇓*i*Pg	**Pg**	**07 10 46.4**	**-0.3**			
BUCH				Sg	**Sb**	**07 11 08.4**	**+1.9**			
BUCH	**Bad Urach**	**1.76**	**44**	⇓*i*P	**Pg**	**07 10 46.4**	**-0.3**			
BUCH				S	**Sb**	**07 11 08.4**	**+1.9**			
BUCH	**Bad Urach**	**1.76**	**44**	Pg	**Pg**	**07 10 46.4**	**-0.3**			
BUCH				Sg	**Sb**	**07 11 08.4**	**+1.9**			
LPL	**La Plagne**	**1.77**	**198**	*e*Pg	**Pg**	**07 10 47.3**	**+0.2**			
	SNR=1.0									
LPL				*e*Sg	**Sg**	**07 11 09.9**	**-0.2**			
	2.6nm,0.2s									
LPL	**La Plagne**	**1.77**	**198**	*e*Pg	**Pg**	**07 10 47.3**	**+0.2**			
	SNR=1.0									
LPL				*e*Sg	**Sg**	**07 11 09.9**	**-0.2**			
	1.3nm,0.2s									
LPG	**La Plagne**	**1.79**	**198**	*e*Pg	**Pg**	**07 10 47.4**	**+0.1**			
	SNR=1.0									
LPG				*e*Sg	**Sb**	**07 11 09.9**	**+2.3**			
	5.0nm,0.2s,SNR=1.0									
LPG	**La Plagne**	**1.79**	**198**	*e*Pg	**Pg**	**07 10 47.4**	**+0.1**			
	SNR=1.0									
LPG				*e*Sg	**Sb**	**07 11 09.9**	**+2.3**			
	2.5nm,0.2s,SNR=1.0									
PAGF	**Fort de Pagny**	**1.81**	**319**	*e*Pn	**Pn**	**07 10 43.5**	**+0.1**			
PAGF	**Fort de Pagny**	**1.81**	**319**	*e*Pn	**Pg**	**07 10 47.7**	**-0.2**			
	baz=149									
PAGF				*e*Sg	**Sg**	**07 11 11.1**	**-0.3**			
	1.1nm,0.2s									
PAGF	**Fort de Pagny**	**1.81**	**319**	*e*Pg	**Pg**	**07 10 47.7**	**-0.2**			
	baz=149									
PAGF				*e*Sg	**Sg**	**07 11 11.1**	**-0.3**			
	0.6nm,0.2s									
UBR	**Ueberruh**	**1.82**	**74**	⇓*i*Pg	**Pg**	**07 10 47.8**	**-0.2**			
UBR	**Ueberruh**	**1.82**	**74**	⇓*i*P	**Pg**	**07 10 47.8**	**-0.2**			
UBR	**Ueberruh**	**1.82**	**74**	Pg	**Pg**	**07 10 47.8**	**-0.2**			
SFTF	**Sexfontaines**	**1.95**	**302**	*e*Pg	**Pg**	**07 10 50.2**	**-0.3**			
	baz=126									
SFTF				*e*Sg	**Sg**	**07 11 15.8**	**-0.1**			
	15nm,0.2s									
SFTF	**Sexfontaines**	**1.95**	**302**	*e*Pg	**Pg**	**07 10 50.2**	**-0.3**			
	baz=126									
SFTF				*e*Sg	**Sg**	**07 11 15.8**	**-0.1**			
	7.3nm,0.2s									
MEZF	**Maizieres J'vi**	**2.11**	**309**	*e*Pg	**Pg**	**07 10 53.4**	**-0.1**			
	SNR=1.0									
MEZF				*e*Sg	**Sg**	**07 11 20.5**	**-0.4**			
	6.2nm,0.2s									
MEZF	**Maizieres J'vi**	**2.11**	**309**	*e*Pg	**Pg**	**07 10 53.4**	**-0.1**			
	SNR=1.0									
MEZF				*e*Sg	**Sg**	**07 11 20.5**	**-0.4**			
	3.1nm,0.2s									
FETA	**Feichten**	**2.20**	**94**	⇓*i*Sg	Sg	07 11 22.7	-1.4			
	0.9nm,0.2s									
FETA	**Feichten**	**2.20**	**94**	Sg	Sg	07 11 22.7	-1.4			
	0.9nm,0.2s									
MOTA	**Moosalm**	**2.44**	**85**	⇑*i*Pg	**Pg**	**07 10 59.1**	**-0.7**			
MOTA				⇑*i*Sg	**Sg**	**07 11 30.1**	**-1.5**			
	2.5nm,0.2s									
MOTA	**Moosalm**	**2.44**	**85**	Pg	**Pg**	**07 10 59.1**	**-0.7**			
MOTA				Sg	**Sg**	**07 11 30.1**	**-1.5**			
	2.5nm,0.2s									
LOR	**Lormes**	**2.50**	**273**	*e*Pn	**Pn**	**07 10 53.0**	**+0.2**			
	baz=84									
LOR	**Lormes**	**2.50**	**273**	*e*Pg	**Pg**	**07 11 00.0**	**-0.8**			
	baz=98									
LOR				*e*Sn	**Sn**	**07 11 21.5**	**-1.3**			
	SNR=1.0									
LOR				*e*Sg	**Sg**	**07 11 31.5**	**-1.7**			
	11nm,0.2s,SNR=1.0									
LOR	**Lormes**	**2.50**	**273**	*e*Pg	**Pg**	**07 11 00.0**	**-0.8**			
	baz=98									
LOR				*e*Sn	**Sn**	**07 11 21.5**	**-1.3**			
	SNR=1.0									
LOR				*e*Sg	**Sg**	**07 11 31.5**	**-1.7**			
	5.3nm,0.2s,SNR=1.0									
MBDF	**Montbardon**	**2.53**	**192**	*e*Pg	**Pg**	**07 11 00.4**	**-1.1**			
	SNR=1.0									
MBDF				*e*Sg	**Sg**	**07 11 33.9**	**-0.4**			
	6.2nm,0.6s,SNR=1.0									
MBDF	**Montbardon**	**2.53**	**192**	*e*Pg	**Pg**	**07 11 00.4**	**-1.1**			
	SNR=1.0									
MBDF				*e*Sg	**Sg**	**07 11 33.9**	**-0.4**			
	3.1nm,0.6s,SNR=1.0									
ORIF	**Oris-en-Rattie**	**2.55**	**207**	*e*Pg	**Pg**	**07 11 01.4**	**-0.6**			
	SNR=1.0									
ORIF				*e*Sg	**Sg**	**07 11 34.5**	**-0.6**			
	4.8nm,0.3s,SNR=1.0									
ORIF	**Oris-en-Rattie**	**2.55**	**207**	*e*Pg	**Pg**	**07 11 01.4**	**-0.6**			
	SNR=1.0									
ORIF				*e*Sg	**Sg**	**07 11 34.5**	**-0.6**			
	2.4nm,0.3s,SNR=1.0									
SIND	**Sindeldorf**	**2.56**	**32**	Sg	Sg	07 11 32.8	-2.5			
SIND	**Sindeldorf**	**2.56**	**32**	S		07 11 32.8				
SIND	**Sindeldorf**	**2.56**	**32**	Sg	Sg	07 11 32.8	-2.5			
SMF	**Signal de Mont**	**2.58**	**259**	*e*Pn	**Pn**	**07 10 54.2**	**+0.2**			
	SNR=1.0									
SMF	**Signal de Mont**	**2.58**	**259**	*e*Pg	**Pg**	**07 11 02.3**	**-0.2**			
SMF				*e*Sg	**Sg**	**07 11 34.7**	**-1.3**			
	5.3nm,0.2s,SNR=1.0									
SMF	**Signal de Mont**	**2.58**	**259**	*e*Pg	**Pg**	**07 11 02.3**	**-0.2**			
SMF				*e*Sg	**Sg**	**07 11 34.7**	**-1.3**			
	2.7nm,0.2s,SNR=1.0									
SSF	**Saint Saulge**	**2.75**	**269**	*e*Pn	**Pn**	**07 10 56.2**	**0.0**			
SSF	**Saint Saulge**	**2.75**	**269**	*e*Pg	**Pg**	**07 11 05.3**	**-0.3**			
SSF				*e*Sn	**Sn**	**07 11 27.3**	**-1.6**			
SSF				*e*Sg	**Sg**	**07 11 39.6**	**-1.6**			
	4.8nm,0.4s,SNR=1.0									
SSF	**Saint Saulge**	**2.75**	**269**	*e*Pg	**Pg**	**07 11 05.3**	**-0.3**			
SSF				*e*Sn	**Sn**	**07 11 27.3**	**-1.6**			
SSF				*e*Sg	**Sg**	**07 11 39.6**	**-1.6**			
	2.4nm,0.4s,SNR=1.0									
AVF	**Avril sur Loir**	**2.88**	**263**	*e*Pn	**Pn**	**07 10 58.7**	**+0.7**			
AVF	**Avril sur Loir**	**2.88**	**263**	*e*Pg	**Pg**	**07 11 07.7**	**-0.5**			
AVF				*e*Sg	**Sg**	**07 11 44.6**	**-1.0**			
	2.0nm,0.2s,SNR=1.0									
AVF	**Avril sur Loir**	**2.88**	**263**	*e*Pg	**Pg**	**07 11 07.7**	**-0.5**			
AVF				*e*Sg	**Sg**	**07 11 44.6**	**-1.0**			
	1.0nm,0.2s,SNR=1.0									
VIVF	**Saint-Julien-l**	**3.07**	**221**	*e*Pg	**Pg**	**07 11 10.9**	**-1.0**			
VIVF				*e*Sn	**Sn**	**07 11 35.5**	**-1.5**			
	SNR=1.0									
VIVF				*e*Sg	**Sg**	**07 11 50.1**	**-1.6**			
	4.2nm,0.3s,SNR=1.0									
VIVF	**Saint-Julien-l**	**3.07**	**221**	*e*Pg	**Pg**	**07 11 10.9**	**-1.0**			
VIVF				*e*Sn	**Sn**	**07 11 35.5**	**-1.5**			
	SNR=1.0									
VIVF				*e*Sg	**Sg**	**07 11 50.1**	**-1.6**			
	2.1nm,0.3s,SNR=1.0									
TNS	**Taunus Mts**	**3.08**	**11**	*e*Sg	Sg	07 11 51.7	-0.5			
TNS	**Taunus Mts**	**3.08**	**11**	Sg	Sg	07 11 51.7	-0.6			
BGF	**Bois d'Agland**	**3.27**	**260**	*e*Pn	**Pn**	**07 11 03.8**	**+0.4**			
	SNR=1.0									
BGF	**Bois d'Agland**	**3.27**	**260**	*e*Pg	**Pg**	**07 11 14.6**	**-1.0**			
BGF				*e*Sg	**Sg**	**07 11 57.0**	**-1.0**			
	6.5nm,0.4s,SNR=1.0									
BGF	**Bois d'Agland**	**3.27**	**260**	*e*Pg	**Pg**	**07 11 14.6**	**-1.0**			
BGF				*e*Sg	**Sg**	**07 11 57.0**	**-1.0**			
	3.2nm,0.4s,SNR=1.0									
SBF	**Sospel**	**3.34**	**181**	*e*Sg	Sg	07 11 58.6	-1.9			
	14nm,0.6s,SNR=1.0									
SBF	**Sospel**	**3.34**	**181**	*e*Sg	Sg	07 11 58.6	-1.9			
	6.9nm,0.6s,SNR=1.0									
GRA1	**Grafenberg Arr**	**3.50**	**43**	Pg	**Pg**	**07 11 19.0**	**-1.1**			
GRF	**Grafenberg Arr**	**3.50**	**43**	*e*Pg	**Pg**	**07 11 18.9**	**-1.1**			
GRF				*e*Sg	**Sg**	**07 12 04.0**	**-1.4**			
CAF	**Calviac**	**4.43**	**241**	*e*Pn	**Pn**	**07 11 19.0**	**-0.3**			
	SNR=1.0									
CAF	**Calviac**	**4.43**	**241**	*e*Pn	**Pn**	**07 11 19.0**	**-0.3**			
	SNR=1.0									

*IDC **27** 07:13:02.6±0.7, 1.°96N×122.°89E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/23, mbtmp4.2/12, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/23, Error ellipse: s-maj=48.4km s-min=13.5km az=69.0*
*DJA **27** 07:13:03, 2.°02N×122.°82E, h11km, MLv4.6/5*
*ISCJB **27** 07:13:05.6±0.5, 1.°83N±0.°08×122.°7E±0.°2, h33km, mb4.2/14, Error ellipse: s-maj=24.6km s-min=8.4km az=160.0*
*NEIC **27** 07:13:07.7±0.3, 1.°85N×122.°85E, h35km, mb4.4/7, Error ellipse: s-maj=18.2km s-min=6.2km az=70.0*

ISC 27 07:13:07.8±0.7, 1.°86N±0.°09×122.°9E±0.°2, h35km, n32, σ0.°79/32, mb4.2/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KAPI	**Kappang**	**7.50**	**204**	Pn	**Pn**	**Pn**	**07 14 54.7**	**0.0**
	1.9nm,0.3s,baz=32,slow=5.4,SNR=4.7							
KAPI				LR		LR	07 18 28.0	
	comp=Z,114nm,18.8s,baz=24,slow=43							
KAPI	**Kappang**	**7.50**	**204**	*e*Pn	**Pn**		**07 14 54.2**	**-0.5**
	12nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.03**	**172**	P	**P**		**07 17 37.5**	**-0.3**
	12nm,0.6s,baz=5.7,slow=8.6,SNR=27							
FITZ	**Fitzroy Crossi**	**20.03**	**172**	*e*P	**P**		**07 17 36.6**	**-1.2**
	14nm,0.9s							
WRAB	**Tennant Creek**	**24.42**	**153**	*e*P	**P**		**07 18 23.3**	**0.0**
	12nm,0.7s							
WRA	**Warramunga Arr**	**24.43**	**153**	P	**P**		**07 18 23.3**	**-0.1**
	13nm,0.7s,baz=334,slow=9.8,SNR=68							
WRA	**Warramunga Arr**	**24.43**	**153**	P	**P**		**07 18 23.3**	**-0.1**
WB2	**Warramunga Arr**	**24.43**	**153**	*e*P	**P**		**07 18 23.3**	**-0.1**
ASAR	**Alice Springs**	**27.56**	**158**	P	**P**		**07 18 51.9**	**+0.2**
	1.3nm,0.7s,baz=316,slow=6.5,SNR=11							
ASAR	**Alice Springs**	**27.56**	**158**	P	**P**		**07 18 51.9**	**+0.2**
STKA	**Stephens Creek**	**37.98**	**154**	P	**P**		**07 20 24.1**	**+1.7**
	2.1nm,0.5s,baz=333,slow=8.3,SNR=20							
STKA	**Stephens Creek**	**37.98**	**154**	*e*P	**P**		**07 20 22.3**	**-0.1**
	0.5nm,0.6s							
SONM	**Songino Array**	**47.96**	**345**	P	**P**		**07 21 43.7**	**+0.6**
	1.0nm,0.8s,baz=157,slow=9.9,SNR=7.2							
SONM	**Songino Array**	**47.96**	**345**	P	**P**		**07 21 43.7**	**+0.6**
MK31	**Makanchi Array**	**56.96**	**328**	*e*P	**P**		**07 22 50.2**	**+0.4**
MKAR	**Makanchi Array**	**56.96**	**328**	P	**P**		**07 22 50.2**	**+0.5**
	3.0nm,0.7s,baz=124,slow=8.5,SNR=29							
MKAR	**Makanchi Array**	**56.96**	**328**	P	**P**		**07 22 50.2**	**+0.5**
AAK	**Ala-Archa**	**59.21**	**320**	*e*P	**P**		**07 23 06.3**	**+0.5**
	12nm,0.9s							
ZALV	**Zalesovo Beam**	**60.57**	**335**	P	**P**		**07 23 14.7**	**+0.1**
	0.4nm,0.3s,baz=132,slow=6.6,SNR=4.2							
ZALV	**Zalesovo Beam**	**60.57**	**335**	P	**P**		**07 23 14.7**	**+0.1**
KURK	**Kurchatov**	**61.30**	**330**	P	**P**		**07 23 19.4**	**-0.3**
	5.6nm,1.0s,baz=126,slow=6.4,SNR=16							
KURK	**Kurchatov**	**61.30**	**330**	*e*P	**P**		**07 23 19.5**	**-0.2**
	8.6nm,1.0s							
KKAR	**Karatay Array**	**62.02**	**319**	*e*P	**P**		**07 23 25.1**	**+0.4**
	3.1nm,0.8s							
BVAR	**Borovoye Array**	**66.82**	**329**	P	**P**		**07 23 54.8**	**-1.2**
	1.8nm,0.9s,baz=126,slow=9.8,SNR=6.2							
BVAR	**Borovoye Array**	**66.82**	**329**	P	**P**		**07 23 54.8**	**-1.2**
ABKAR	**Akbulak array**	**71.18**	**322**	*e*P	**P**		**07 24 22.6**	**-0.4**
	0.2nm,0.4s							
AKTO	**Aktyubinsk**	**72.75**	**323**	P	**P**		**07 24 31.4**	**-1.0**
	2.1nm,0.8s,baz=98,slow=5.6,SNR=9.3							
AKTO	**Aktyubinsk**	**72.75**	**323**	P	**P**		**07 24 31.4**	**-1.0**
ILAR	**Eielson Array**	**88.44**	**25**	P	**P**		**07 25 54.9**	**-1.3**
	0.2nm,0.6s,baz=249,slow=6.2,SNR=5.2							
ILAR	**Eielson Array**	**88.44**	**25**	P	**P**		**07 25 54.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**119.76**	**286**	PKP		**PKPdf**	**07 31 56.6**	**+1.3**
	1.4nm,0.9s,baz=191,slow=3.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**119.76**	**286**	PKP		**PKPdf**	**07 31 56.6**	**+1.3**

*NEIC **27** 07:23:33.1, 18.°11N×93.°45W, h79km, MD4.2(MEX), After MEX.*

MEX 27 07:23:33.1±1.0, 18.°11N×93.°45W, h79km±31km, MD4.2, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
TGIG		**1.36**	**167**	*e*P		Pn	07 23 55.1	-1.6
TGIG				*i* S		Sn	07 24 12.9	-1.4
TGIG		**1.36**	**167**	*e*P		Pn	07 23 55.1	-1.6
TGIG				*i* S		Sn	07 24 12.9	-1.4
CMIG	**Matias Romero**	**1.70**	**234**	*i* P		Pn	07 23 59.0	-2.0
CMIG				*i* S		Sn	07 24 20.5	-1.6
CMIG	**Matias Romero**	**1.70**	**234**	*i* P		Pn	07 23 59.0	-2.0
CMIG				*i* S		Sn	07 24 20.5	-1.6
CCIG	**Comitan**	**2.21**	**145**	*i* P		Pn	07 24 06.9	-1.1
CCIG				*i* S		Sn	07 24 33.0	-1.6
CCIG	**Comitan**	**2.21**	**145**	*i* P		Pn	07 24 06.9	-1.1
CCIG				*i* S		Sn	07 24 33.0	-1.6
PCIG		**2.40**	**175**	*e*P		Pn	07 24 08.4	-1.9
PCIG				*i* S		Sn	07 24 37.7	-1.1
PCIG		**2.40**	**175**	*e*P		Pn	07 24 08.4	-1.9
PCIG				*i* S		Sn	07 24 37.7	-1.1
VHO	**Vista Hermosa**	**3.29**	**252**	*i* P		Pn	07 24 22.5	-0.2
VHO				*i* S		Sn	07 24 59.5	-1.4
VHO	**Vista Hermosa**	**3.29**	**252**	*i* P		Pn	07 24 22.5	-0.2
VHO				*i* S		Sn	07 24 59.5	-1.4
THIG		**3.38**	**160**	*e*P		Pn	07 24 23.7	+0.1
THIG				*i* S		Sn	07 25 00.3	-2.3
THIG		**3.38**	**160**	*e*P		Pn	07 24 23.7	+0.1
THIG				*i* S		Sn	07 25 00.3	-2.3
HUIG	**Huatulco**	**3.44**	**228**	*i* P		Pn	07 24 23.6	-0.9
HUIG				*i* S		Sn	07 25 02.7	-1.5
HUIG	**Huatulco**	**3.44**	**228**	*i* P		Pn	07 24 23.6	-0.9
HUIG				*i* S		Sn	07 25 02.7	-1.5
PNIG	**Pinotepa**	**4.78**	**250**	*e*P		Pn	07 24 39.7	-3.0
PNIG				*i* S		Sn	07 25 32.6	-4.3
PNIG	**Pinotepa**	**4.78**	**250**	*e*P		Pn	07 24 39.7	-3.0
PNIG				*i* S		Sn	07 25 32.6	-4.3

IDC 27 07:32:04.3±61.0, 22.°63S×179.°76E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=1097.0km s-min=150.3km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.00**	**246**	P	P		07 38 58.6	-0.1
	1.7nm,0.7s,baz=96,slow=12,SNR=6.6							
ASAR	**Alice Springs**	**42.03**	**259**	P	P		07 39 57.8	-0.2
	0.7nm,0.7s,baz=90,slow=9.3,SNR=9.3							
WRA	**Warramunga Arr**	**42.28**	**265**	P	P		07 39 59.9	-0.1
	0.4nm,0.3s,baz=102,slow=8.3,SNR=26							

**IDC 27 07:52:41.6±1.7, 10.°95S×165.°68E, h0km, mb3.9/5,

0.1nm,0.5s,baz=113,slow=9.2,SNR=2.0

CSEM ***27*** *09:05:05.8±0.3,36.95N×28.25E,h2km, MD2.4, Error ellipse: s-maj=7.4km s-min=5.0km az=18.0*
ISK ***27*** *09:05:05.1, 37.02N×28.25E,h19km, MD2.4*
DDA ***27*** *09:05:06.1, 36.97N×28.20E,h7km, MD2.8*

ISC 27 09:05:04.7±1.2, 36.91N±0.04×28.25E±0.03, h8km±9km, n14, σ0.46/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.23**	**7**	*e*PG	**Pg**	**09 05 09.4**	**+0.1**
YER				*e*SG	**Sg**	**09 05 12.3**	**-0.1**
YER	**Yerkesik**	**0.23**	**7**	*e*Pg	**Pg**	**09 05 09.4**	**+0.1**
YER				*e*Sg	**Sg**	**09 05 12.3**	**-0.1**
TURN	**Turunc**	**0.29**	**97**	*i* P	**Pg**	**09 05 10.0**	**-0.4**
TURN				*i* S	**Sg**	**09 05 13.9**	**-0.3**
TURN	**Turunc**	**0.29**	**97**	*i* P	**Pg**	**09 05 10.0**	**-0.4**
TURN				*i* S	**Sg**	**09 05 13.9**	**-0.3**
BDRM	**Kayabasi**	**0.66**	**284**	*e*P	**Pb**	**09 05 18.7**	**+0.2**
BDRM	**Kayabasi**	**0.66**	**284**	*e*P	**Pb**	**09 05 18.7**	**+0.2**
FETY	**Fethiye**	**0.72**	**112**	*e*PG	**Pb**	**09 05 20.7**	**+1.1**
FETY				*e*SG	**Sn**	**09 05 31.9**	**-0.7**
FETY	**Fethiye**	**0.72**	**112**	*e*Pg	**Pb**	**09 05 20.7**	**+1.1**
FETY				*e*Sg	**Sn**	**09 05 31.9**	**-0.7**
BODT	**Bodrum**	**0.77**	**282**	*e*PG	**Pb**	**09 05 20.3**	**0.0**
BODT				*e*SG	**Sb**	**09 05 31.3**	**+0.4**
BODT	**Bodrum**	**0.77**	**282**	*e*Pg	**Pb**	**09 05 20.3**	**0.0**
BODT				*e*Sg	**Sb**	**09 05 31.3**	**+0.4**
AYDN	**Tasoluk**	**0.81**	**339**	*i* P	**Pg**	**09 05 20.4**	**+0.2**
AYDN				*i* S	**Sg**	**09 05 30.5**	**-0.2**
AYDN	**Tasoluk**	**0.81**	**339**	*i* P	**Pg**	**09 05 20.4**	**+0.2**
AYDN				*i* S	**Sg**	**09 05 30.5**	**-0.2**
DNZL	**Cakiroluk**	**1.01**	**39**	*e*P	**Pb**	**09 05 24.7**	**+0.2**
DNZL				*i* S	**Sn**	**09 05 39.5**	**-0.4**
DNZL	**Cakiroluk**	**1.01**	**39**	*e*P	**Pb**	**09 05 24.7**	**+0.2**
DNZL				*i* S	**Sn**	**09 05 39.5**	**-0.4**

IDC 27 09:09:24.4±1.8, 8.62S×147.11E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.2/14, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=50.3km s-min=13.3km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**0.79**	**176**	Pg	Pg	09 09 39.7	+0.2
	76nm,0.3s,baz=346,slow=7.7,SNR=163						
PMG				Lg	Lg	09 09 50.5	
	187nm,0.3s,baz=329,slow=22,SNR=74						
WRA	**Warramunga Arr**	**16.72**	**226**	Pn	Pn	09 13 19.1	-1.2
	0.1nm,0.3s,baz=37,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**19.59**	**219**	P	Pn	09 13 55.0	-0.6
	0.1nm,0.3s,baz=51,slow=9.6,SNR=9.0						
ILAR	**Eielson Array**	**87.83**	**23**	P	P	09 22 15.2	-0.2
	0.5nm,0.7s,baz=246,slow=5.3,SNR=5.7						

IDC 27 09:14:03.3±3.6, 47.20N×152.91E, h101km±33km, mb3.1/6, mb1 3.4/8, mb1mx3.2/23, mbtmp3.1/8, Error ellipse: s-maj=37.8km s-min=17.5km az=136.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.67**	**26**	P	Pn	09 15 37.6	-0.9
	0.2nm,0.3s,baz=185,slow=12,SNR=5.1						
MJAR	**Matsushiro Arr**	**15.25**	**231**	P	P	09 17 34.5	-1.1
	0.2nm,0.3s,baz=46,slow=8.8,SNR=4.3						
KSRS	**Korea Array**	**20.80**	**251**	P	P	09 18 36.7	+0.4
	0.7nm,0.7s,baz=58,slow=10.0,SNR=3.6						
ILAR	**Eielson Array**	**36.28**	**39**	P	P	09 20 56.8	+0.3
	0.4nm,0.8s,baz=251,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	**46.61**	**297**	PcP	PcP	09 23 52.7	-0.6
	0.2nm,0.5s,baz=70,slow=3.7,SNR=5.2						
YKA	**Yellowknife Ar**	**50.65**	**37**	P	P	09 22 52.2	+0.6
	0.2nm,0.6s,baz=298,slow=7.0,SNR=7.5						
YKA				pP	pP	09 23 08.8	-6.9
	0.3nm,0.5s,baz=296,slow=7.1,SNR=7.7						
FINES	**FINESS Array B**	**63.57**	**335**	P	P	09 24 22.3	-0.3
	0.7nm,0.5s,baz=33,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**72.59**	**198**	P	P	09 25 19.1	-0.3
	0.2nm,0.8s,baz=24,slow=5.6,SNR=4.7						
TXAR	**Lajitas Array**	**77.39**	**60**	P	P	09 25 47.0	-0.3
	0.8nm,0.7s,baz=305,slow=4.8,SNR=14						
TXAR				pP	PcP	09 26 05.0	+7.6
	0.3nm,0.7s,baz=293,slow=4.1,SNR=3.4						

IDC 27 09:38:29.6±1.4, 5.89S×149.45E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, ML3.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/20, Error ellipse: s-maj=58.3km s-min=18.2km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.17**	**213**	Pn	Pn	09 39 36.6	+2.0
	16nm,0.3s,baz=1.2,slow=5.7,SNR=56						
PMG				Sn	Sn	09 40 21.6	-2.4
	23nm,0.3s,baz=26,slow=15,SNR=11						
CTA	**Charters Tower**	**14.45**	**192**	LR	LR	09 46 34.2	
	comp=Z,83nm,20.2s,baz=344,slow=34						
WRA	**Warramunga Arr**	**20.27**	**225**	P	P	09 43 06.5	-0.6
	1.8nm,0.6s,baz=49,slow=10,SNR=11						
DZM	**Mont Dzumac**	**22.99**	**136**	LR	LR	09 51 23.8	
	comp=Z,123nm,18.5s,baz=185,slow=34						
ASAR	**Alice Springs**	**23.16**	**219**	P	P	09 43 37.9	-0.1
	0.8nm,0.5s,baz=50,slow=9.6,SNR=20						
FITZ	**Fitzroy Crossi**	**26.22**	**240**	P	P	09 44 06.5	-0.1
	2.9nm,0.7s,baz=94,slow=8.6,SNR=3.7						
FITZ				LR	LR	09 55 50.9	
	comp=Z,46nm,21.0s,baz=342,slow=40						
STKA	**Stephens Creek**	**26.88**	**195**	P	P	09 44 12.1	-0.2
	1.7nm,0.8s,baz=328,slow=10,SNR=5.0						
PETK	**Petropavlovsk-**	**59.19**	**6**	P	P	09 48 32.6	+0.2
	1.3nm,0.5s,baz=152,slow=6.2,SNR=5.4						
SONM	**Songino Array**	**65.52**	**330**	P	P	09 49 15.2	+0.2
	0.3nm,0.6s,baz=146,slow=3.1,SNR=2.7						
ILAR	**Eielson Array**	**84.43**	**23**	P	P	09 51 03.9	0.0
	0.3nm,0.8s,baz=259,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.42**	**285**	PKPbc	PKPdf	09 58 15.3	+1.1
	0.3nm,0.3s,baz=85,slow=3.2,SNR=12						

IDC ***27*** *09:40:59.1±2.6, 54.26N×87.29E, h0km, mb1 3.2/3, mb1mx3.0/29, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=25.2km s-min=10.0km az=74.0*
NNC ***27*** *09:41:03.2±2.1, 53.53N×87.77E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=16.8km s-min=11.3km az=12.0*

ISC 27 09:40:56.8±3.5, 54.3N±0.2×87.8E±0.2, h10km, n7, σ2.2/11/8, 5C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.80**	**261**	Pg	Pn	09 41 24.8	-3.1
	1.9nm,0.3s,baz=75,slow=16,SNR=20						
ZALV				Lg	Lg	09 41 47.4	
	1.4nm,0.3s,baz=80,slow=30,SNR=14						
KURK	**Kurchatov**	**6.65**	**241**	Pn	**Pn**	**09 42 36.2**	**+1.6**
	0.2nm,0.3s,baz=56,slow=13,SNR=4.5						
KURK				Lg	Lg	09 44 17.7	
	0.0nm,0.3s,baz=45,slow=26,SNR=4.3						
KURK	**Kurchatov**	**6.65**	**241**	⇑Sn	**Sn**	**09 43 51.1**	**+0.7**
	1.4nm,0.8s						
KURK				⇑Lg	Lg	09 44 24.7	
	4.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.75**	**241**	⇑Sn	**Sn**	**09 43 52.8**	**-0.1**
	0.6nm,0.7s						
KURBB				⇑Lg	Lg	09 44 29.6	
	2.2nm,0.8s						
MK31	**Makanchi Array**	**8.28**	**207**	⇓Pn	**Pn**	**09 42 57.9**	**+1.0**
	0.4nm,0.7s,baz=28,slow=15,SNR=13						
MK31				⇓Sn	**Sn**	**09 44 28.3**	**-2.1**
	1.4nm,0.8s,baz=26,slow=27,SNR=5.2						
MK31				⇑Lg	Lg	09 45 04.4	
	2.8nm,0.8s,baz=69,slow=24,SNR=7.8						
MKAR	**Makanchi Array**	**8.28**	**207**	Pn	**Pn**	**09 42 59.9**	**+3.0**
	0.3nm,0.3s,baz=26,slow=14,SNR=18						
MKAR				Sn	**Sn**	**09 44 28.8**	**-1.6**
	0.1nm,0.3s,baz=24,slow=28,SNR=7.8						
MKAR				Lg	Lg	09 45 14.9	
	0.1nm,0.3s,baz=64,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**10.43**	**270**	Pn	**Pn**	**09 43 24.8**	**-1.5**
	0.1nm,0.3s,baz=99,slow=18,SNR=2.2						
BVAR				Sn	Sn	09 45 11.5	-11
	0.1nm,0.3s,baz=70,slow=21,SNR=4.1						

IDC 27 09:45:50.6±7.5, 6.08S×146.36E, h159km±115km, mb2.6/2, mb1 2.8/4, mb1mx2.7/16, mbtmp2.7/4, Error ellipse: s-maj=148.5km s-min=36.9km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.40**	**167**	P	Pn	09 46 43.2	-0.2
	1.0nm,0.3s,baz=269,slow=15,SNR=12						
PMG				S	Sn	09 47 25.1	+0.5
	0.5nm,0.3s,baz=135,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**18.07**	**219**	P	P	09 49 50.6	+0.5
	0.3nm,0.3s,baz=38,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**21.20**	**213**	P	P	09 50 23.4	-0.5
	0.4nm,0.5s,baz=49,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**77.15**	**321**	P	P	09 57 26.9	+0.1
	0.1nm,0.5s,baz=100,slow=7.5,SNR=2.3						

MAN 27 10:04:34, 6.55N×125.96E, h3km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.49**	**37**	*e*P	Pb	10 04 45.1	-0.3
MATI				*e*S	Sb	10 04 54.8	+1.8
KCP	**Kidapawan**	**0.98**	**298**	⇑*e*P	Pb	10 04 53.4	-0.3
KCP				*i* S	Sn	10 05 09.5	+0.3
BUKP	**Musuan**	**1.59**	**326**	*e*P	Pb	10 05 03.9	-0.3

MAN 27 10:09:43, 8.63N×126.16E, h16km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.63**	**302**	*e*P	Pb	10 09 55.9	+0.3
BUTP				*e*S	Sn	10 10 08.2	+1.2
BUKP	**Musuan**	**1.32**	**235**	*e*P	Pn	10 10 06.6	-0.2
BUKP				*e*S	Sg	10 10 28.5	+2.7
CGP	**Cagayan de Oro**	**1.46**	**263**	*e*P	Pn	10 10 08.1	-0.6
CGP				*e*S	Sb	10 10 28.6	+0.5
MSLP	**Maasin**	**1.97**	**319**	*e*P	Pn	10 10 16.0	+0.3

IDC 27 10:14:13.7±1.9, 6.65S×144.68E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=49.9km s-min=30.9km az=75.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.68**	**138**	Pn	Pn	10 15 11.8	-0.1
	1.8nm,0.3s,baz=154,slow=5.3,SNR=5.7						
PMG				Sn	Sn	10 15 50.3	-5.7
	4.4nm,0.3s,baz=312,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**16.60**	**216**	Pn	Pn	10 18 06.4	-1.6
	0.1nm,0.3s,baz=37,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**19.84**	**210**	P	P	10 18 47.1	+0.7
	0.2nm,0.3s,baz=38,slow=10,SNR=31						
MKAR	**Makanchi Array**	**76.54**	**321**	P	P	10 26 05.9	0.0
	0.3nm,0.8s,baz=115,slow=5.4,SNR=2.8						

ISCJB ***27*** *10:19:47.1±0.7, 59.32N±0.03×27.09E±0.08, h0km, Error ellipse: s-maj=6.1km s-min=4.0km az=10.0*
HEL ***27*** *10:19:47.8±0.6, 59.28N×27.28E, h0km, ML1.8, Explosion*
NAO ***27*** *10:19:48.2±1.0, 59.31N×26.84E, ML2.2*
CSEM ***27*** *10:19:48.5±0.4, 59.31N×27.11E, h1km, ML2.3, Error ellipse: s-maj=10.6km s-min=6.4km az=103.0, Mining explosion.*
IDC ***27*** *10:19:50.6±2.6, 59.43N×26.93E, h0km, mb1 3.3/2, mb1mx2.9/24, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=21.1km s-min=13.0km az=127.0*

ISC 27 10:19:47.5±1.1, 59.32N±0.03×27.25E±0.06, h0km, n29, σ1.23/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.90**	**197**	Pg	**Pg**	**10 20 04.7**	**0.0**
VSU				Lg	Lg	10 20 15.7	
VSU	**Vasula**	**0.90**	**197**	*e*P	**Pg**	**10 20 04.4**	**-0.3**
	SNR=68						
VSU				*e*S	**Sg**	**10 20 15.3**	**-1.1**
	434nm,0.8s,SNR=90						
VJF	**Virojoki**	**1.23**	**7**	PG	**Pg**	**10 20 10.9**	**-0.2**
VJF				SG	**Sb**	**10 20 27.9**	**-0.1**
VJF				MSG		10 20 27.9	
	comp=Z,8.4nm,0.1s						
VJF				RG	Rg	10 20 32.6	
VJF	**Virojoki**	**1.23**	**7**	Pg	**Pg**	**10 20 10.8**	**-0.2**
VJF				Sg	**Sb**	**10 20 27.9**	**-0.1**
PVF	**Pernaja**	**1.41**	**331**	PG	**Pn**	**10 20 13.7**	**-0.7**
PVF				SG	**Sg**	**10 20 31.5**	**-1.2**
PVF				MSG		10 20 31.5	
	comp=Z,2.0nm,0.2s						
PVF	**Pernaja**	**1.41**	**331**	Pg	**Pn**	**10 20 13.6**	**-0.7**
PVF				Sg	**Sg**	**10 20 31.5**	**-1.2**
MEF	**Metsahovi**	**1.70**	**303**	PG	**Pn**	**10 20 18.5**	**+0.2**
MEF				SG	**Sg**	**10 20 42.3**	**+0.3**
MEF				MSG		10 20 42.3	
	comp=Z,8.0nm,0.4s						
MEF	**Metsahovi**	**1.70**	**303**	*e*P	**Pn**	**10 20 18.5**	**+0.2**
	SNR=68						
MEF				*e*S	**Sn**	**10 20 39.7**	**-1.0**
	comp=Z,21nm,0.3s,SNR=50						
MEF				Sg	**Sg**	**10 20 42.3**	**+0.3**
MTSE	**Matsula**	**1.88**	**253**	PN	**Pn**	**10 20 20.8**	**0.0**
MTSE				SG	**Sn**	**10 20 44.9**	**-0.2**
MTSE	**Matsula**	**1.88**	**253**	Pn	**Pn**	**10 20 20.7**	**0.0**
MTSE				Sg	**Sn**	**10 20 44.9**	**-0.2**
FIA0	**FINESS Array S**	**2.21**	**345**	Pn	**Pn**	**10 20 25.8**	**+0.6**
	baz=172,slow=16						
FIA0				Pg	**Pb**	**10 20 27.4**	**-0.7**
	baz=170,slow=16						
FIA0				Lg	Lg	10 20 56.2	
	baz=162,slow=28						
FIA0				Rg	Rg	10 21 07.7	
	baz=171,slow=37						
FIA0	**FINESS Array S**	**2.21**	**345**	PN	**Pn**	**10 20 25.9**	**+0.6**
	baz=165						
FIA0				SG	**Sb**	**10 20 55.9**	**-0.1**
FIA0				MSG		10 20 55.9	
	comp=Z,5.5nm,0.4s						
FIA0				RG	Rg	10 21 07.8	
FIA0	**FINESS Array S**	**2.21**	**345**	Pn	**Pn**	**10 20 25.9**	**+0.6**
FIA0				Sg	**Sb**	**10 20 55.9**	**-0.1**
FINES	**FINESS Array B**	**2.21**	**345**	Pg	**Pn**	**10 20 25.9**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=163,slow=16,SNR=47						
FINES				Lg	Lg	10 20 56.5	
	comp=Z,3.8nm,0.3s,baz=170,slow=27,SNR=21						
KAF	**Kangasniemi**	**2.84**	**351**	PN	**Pn**	**10 20 35.7**	**+1.7**
KAF				SG	**Sg**	**10 21 17.9**	**-0.7**
KAF				MSG		10 21 17.9	
	comp=Z,1.7nm,0.2s						
KAF	**Kangasniemi**	**2.84**	**351**	Pn	**Pn**	**10 20 35.7**	**+1.7**
KEF	**Keuruu**	**3.08**	**339**	PN	**Pn**	**10 20 39.5**	**+2.1**
KEF				SG	**Sb**	**10 21 22.6**	**+1.3**
KEF				MSG		10 21 22.6	
	comp=Z,3.6nm,0.4s						
KEF	**Keuruu**	**3.08**	**339**	Pn	**Pn**	**10 20 39.5**	**+2.1**
RAF	**Rauma**	**3.23**	**304**	PN	**Pn**	**10 20 41.0**	**+1.7**
	baz=111						
RAF				SG	**Sb**	**10 21 26.4**	**+1.1**
RAF				MSG		10 21 26.4	
	comp=Z,3.1nm,0.4s						
RAF	**Rauma**	**3.23**	**304**	*e*P	**Pn**	**10 20 41.0**	**+1.7**
	SNR=50						
RAF				*e*S	**Sn**	**10 21 19.1**	**+0.7**
	comp=Z,7.3nm,0.6s,SNR=50						
SUF	**Sumiainen**	**3.45**	**352**	PN	**Pn**	**10 20 44.4**	**+2.0**
SUF	**Sumiainen**	**3.45**	**352**	Pn	**Pn**	**10 20 44.4**	**+2.0**
JOF	**Joensuu**	**4.11**	**27**	PN	**Pn**	**10 20 53.8**	**+2.3**
JOF	**Joensuu**	**4.11**	**27**	Pn	**Pn**	**10 20 53.7**	**+2.3**
HFS	**Hagfors**	**6.90**	**283**	Sn	Sn	10 22 40.7	-8.2
	baz=106,slow=37						
HFS				Lg	Lg	10 23 16.8	
	baz=96,slow=28						
NB2	**NORSAR Subarra**	**8.17**	**289**	Pn	**Pn**	**10 21 45.6**	**-1.6**
	baz=91,slow=14						
NB2				Lg	Lg	10 23 56.4	
	baz=84,slow=37						
NOA	**NORSAR Array B**	**8.17**	**289**	Pn	**Pn**	**10 21 44.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=54,slow=16,SNR=5.7						
NOA				Sn	Sn	10 23 11.8	-8.4
	comp=Z,0.1nm,0.3s,baz=104,slow=13,SNR=2.8						
NOA				Lg	Lg	10 23 59.5	
	comp=Z,0.3nm,0.3s,baz=51,slow=16,SNR=4.7						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**10 22 15.0**	**-1.1**
	baz=174,slow=14						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**10 22 14.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=6.3						
ARCES				Lg	Lg	10 25 04.8	
	comp=Z,0.2nm,0.3s,baz=182,slow=26,SNR=5.9						

IDC ***27*** *10:30:04.2±0.8, 15.56S×173.02W, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/25, mbtmp4.3/14, ML2.6/1, MS3.9/9, Ms1 3.9/9, ms1mx3.5/24, Error ellipse: s-maj=45.1km s-min=13.1km az=140.0*
NEIC ***27*** *10:30:04.7±0.5, 15.86S×172.77W, h10km, mb4.5/9, Error ellipse: s-maj=28.1km s-min=10.3km az=137.0*

ISC 27 10:30:06.4±0.7, 15.8S±0.1×172.8W±0.2, h24km, n57, σ1.11/49, mb4.4/17, MS4.0/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.09**	**27**	Pn	**Pn**	**10 30 39.9**	**-0.2**
	135nm,0.3s,baz=52,slow=1.1,SNR=129						
AFI				Sn	**Sn**	**10 31 03.9**	**-1.5**
	2μm,0.3s,baz=19,slow=22,SNR=24						
AFI	**Afiamalu**	**2.09**	**27**	Pn	**Pn**	**10 30 39.9**	**-0.2**
AFI				Sn	**Sn**	**10 31 03.9**	**-1.5**
DZM	**Mont Dzumac**	**20.64**	**249**	*e*LR	LR	10 40 04.1	
	828nm,25.4s						
DZM	**Mont Dzumac**	**20.64**	**249**	P	**P**	**10 34 44.1**	**-0.4**
	3.1nm,0.5s,baz=110,slow=18,SNR=4.5						
DZM	**Mont Dzumac**	**20.64**	**249**	*e*P	**P**	**10 34 43.6**	**-1.0**
	5.8nm,0.6s						
PPT2	**Papeete2**	**22.26**	**98**	*e*LR	LR	10 39 52.7	
	267nm,26.0s						
TBI	**Tubuai**	**23.17**	**113**	*e*LR	LR	10 40 24.4	
	176nm,26.2s						
RPZ	**Rata Peaks**	**31.06**	**203**	P	P	10 36 25.3	+2.7
	15nm,0.6s,baz=13,slow=6.5,SNR=13						
RPZ	**Rata Peaks**	**31.06**	**203**	*e*P	**P**	**10 36 24.3**	**+1.7**
	42nm,1.0s						
ARMA	**Armidale**	**35.69**	**240**	*e*P	**P**	**10 37 02.7**	**-0.5**
CNB	**Canberra Magne**	**39.02**	**233**	*e*P	**P**	**10 37 30.4**	**-0.9**
CMSA	**Cobar Meteorol**	**40.90**	**240**	*e*P	**P**	**10 37 45.9**	**-1.0**
QLP	**Quilpie**	**41.35**	**248**	*e*P	**P**	**10 37 49.5**	**-1.2**
TOO	**Toolangi**	**42.71**	**231**	*e*P	**P**	**10 38 00.7**	**-1.0**
STKA	**Stephens Creek**	**44.39**	**240**	P	**P**	**10 38 15.3**	**0.0**
	16nm,0.6s,baz=88,slow=9.3,SNR=56						
STKA				LR	LR	10 55 47.9	
	comp=Z,132nm,18.1s,baz=24,slow=35						
STKA	**Stephens Creek**	**44.39**	**240**	*e*P	**P**	**10 38 14.8**	**-0.5**
STKA	**Stephens Creek**	**44.39**	**240**	*e*P	**P**	**10 38 14.8**	**-0.5**
	4.8nm,0.8s						
BBOO	**Buckleboo**	**49.16**	**240**	*e*P	**P**	**10 38 51.8**	**-0.9**
WB2	**Warramunga Arr**	**50.36**	**257**	*e*P	**P**	**10 39 02.0**	**+0.1**
WRAB	**Tennant Creek**	**50.36**	**257**	*e*P	**P**	**10 39 02.7**	**+0.7**
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**10 39 02.1**	**0.0**
	1.5nm,0.4s,baz=95,slow=7.0,SNR=50						
WRA				LR	LR	10 59 22.4	
	comp=Z,169nm,19.4s,baz=95,slow=35						
WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**10 39 02.1**	**0.0**
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**10 39 03.5**	**-0.2**
	24nm,0.5s,baz=88,slow=8.4,SNR=510						
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**10 39 03.5**	**-0.2**
FORT	**Forrest**	**55.80**	**243**	*e*P	**P**	**10 39 41.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**58.75**	**258**	P	**P**	**10 40 03.1**	**+0.2**
	1.5nm,0.5s,baz=164,slow=7.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**58.75**	**258**	*e*P	**P**	**10 40 04.8**	**+1.9**
	1.1nm,0.4s						
KLBR	**Kellerberrin**	**64.61**	**242**	*e*P	**P**	**10 40 42.3**	**0.0**
NWAO	**Narrogin (SRO)**	**64.98**	**241**	P	**P**	**10 40 45.2**	**+0.5**
	9.7nm,0.9s,baz=169,slow=3.9,SNR=6.8						
NWAO	**Narrogin (SRO)**	**64.98**	**241**	*e*P	**P**	**10 40 45.1**	**+0.5**
	18nm,1.0s						
MJAR	**Matsushiro Arr**	**69.64**	**320**	LR	LR	11 06 55.1	
	comp=Z,41nm,19.4s,baz=115,slow=32						
PETK	**Petropavlovsk-**	**73.19**	**342**	LR	LR	11 12 56.4	
	comp=Z,26nm,18.8s,baz=129,slow=35						
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**10 41 38.3**	**+0.9**
	2.5nm,0.8s,baz=205,slow=6.2,SNR=5.7						
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**10 41 38.3**	**+0.9**
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**10 41 42.5**	**+0.9**
	1.3nm,0.8s,baz=226,slow=8.7,SNR=7.5						
NVAR				LR	LR	11 07 28.7	
	comp=Z,126nm,19.6s,baz=334,slow=30						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**10 41 42.5**	**+0.9**
QSPA	**South Pole Qui**	**74.26**	**180**	*e*P	**P**	**10 41 38.8**	**-2.7**
	13nm,1.2s						
MSU	**Marysvale**	**78.26**	**44**	*e*P	**P**	**10 42 06.5**	**+1.7**
TXAR	**Lajitas Array**	**80.31**	**56**	P	P	10 42 19.1	+3.1
	0.6nm,0.8s,baz=201,slow=6.7,SNR=6.9						
TXAR				LR	LR	11 09 32.2	
	comp=Z,67nm,18.9s,baz=5.0,slow=30						
TXAR	**Lajitas Array**	**80.31**	**56**	P	P	10 42 19.1	+3.1
MCK	**McKinley**	**81.39**	**10**	*e*P	**P**	**10 42 21.5**	**+0.7**
	5.6nm,0.9s						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P

ERPM				*e*S	Sn	10 44 50.7	+2.3	
ERPM				AML	AML	10 45 18.9		
	comp=Z,41nm,0.7s							
SOE	**Somerset East**	**4.04**	**231**	*e*P	Pn	10 44 01.8	-0.3	
SOE				*e*S	Sn	10 44 46.3	-3.5	
SOE				AML	AML	10 45 11.4		
	comp=Z,99nm,0.7s							
KLOF	**Kloof**	**4.13**	**339**	*e*S	Sn	10 44 50.1	-2.3	
KLOF				AML	AML	10 45 07.6		
	comp=Z,137nm,0.1s							
SLR	**Silverton**	**4.55**	**349**	*e*P	Pn	10 44 10.2	+0.9	
SLR				*e*S	Sn	10 45 00.2	-2.6	
SLR				AML	AML	10 45 31.0		
	comp=Z,74nm,0.7s							
SWZ	**Schweizer**	**4.61**	**310**	*e*P	Pn	10 44 10.5	+0.5	
SWZ				*e*S	Sn	10 45 01.5	-2.6	
SWZ				AML	AML	10 45 36.9		
	comp=Z,40nm,0.6s							
LBTB	**Lobatse**	**6.13**	**327**	*e*P	Pn	10 44 33.7	+2.8	
LBTB				*e*S	Sn	10 45 38.0	-3.5	
LBTB				AML	AML	10 46 25.7		
	comp=Z,24nm,0.6s							
MOPA	**Mopani**	**6.94**	**16**	*e*P	Pn	10 44 42.1	+0.2	
MOPA				*e*S	Sn	10 45 55.3	-5.9	
MOPA				AML	AML	10 46 09.1		
	comp=Z,13nm,0.3s							
SUR	**Sutherland**	**7.56**	**251**	*e*P	Pn	10 44 54.4	+3.7	
SUR				*e*S	Sn	10 46 10.7	-6.3	
SUR				AML	AML	10 47 18.3		
	comp=Z,15nm,0.6s							
MSNA	**Messina**	**7.87**	**5**	*e*P	Pn	10 44 54.7	0.0	
MSNA				*e*S	Sn	10 46 17.0	-7.3	
MSNA				AML	AML	10 47 10.2		
	comp=Z,14nm,0.6s							
CVNA	**Calvinia**	**8.28**	**259**	*e*P	Pn	10 45 03.0	+2.5	
CVNA				*e*S	Sn	10 46 29.2	-5.3	
CVNA				AML	AML	10 47 31.3		
	comp=Z,15nm,0.5s							
CER	**Ceres**	**9.06**	**247**	*e*S	Sn	10 46 46.8	-6.7	
CER				AML	AML	10 47 55.6		
	comp=Z,13nm,0.4s							
KOMG	**Komaggas**	**10.24**	**269**	*e*S	Sn	10 47 14.6	-7.8	
KOMG				AML	AML	10 48 38.3		
	comp=Z,7.8nm,0.6s							

MEX 27 11:00:57.5±0.5, 16°65N×99°55W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.79**	**300**	*i* P	Pg	11 01 11.3	-1.5
CAIG				*i* S	Sg	11 01 22.2	-0.9
PNIG	**Pinotepa**	**1.39**	**101**	*e*P	Pn	11 01 19.9	-3.6
PNIG				*i* S	Sb	11 01 37.0	-5.0
PLIG	**Platanillo**	**1.73**	**1**	*i* P	Pn	11 01 24.4	-4.1
PLIG				*i* S	Sn	11 01 45.8	-5.2
YAIG	**Yautepec**	**2.25**	**12**	*i* P	Pn	11 01 32.6	-3.0
YAIG				*i* S	Sn	11 01 59.9	-4.0
PPM	**Popocatepetl**	**2.56**	**20**	*e*P	Pn	11 01 39.1	-1.2
PPM				*i* S	Sn	11 02 01.8	-10

*IDC **27** 11:11:10.9±2.7, 54°38N×86°76E, h0km, mb1 3.0/2, mb1mx2.9/27, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=22.7km s-min=9.1km az=67.0*
*NNC **27** 11:11:10.2±10.0, 54°10N×87°17E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=80.8km s-min=65.8km az=42.0*
ISC 27 11:11:16.5±3.4, 54°3N×0°2×86°5E±0°2, h10km, n7, σ2s41/10, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.03**	**250**	Pg	Pn	11 11 33.2	-3.8
	1.3nm,0.3s,baz=68,slow=17,SNR=16						
ZALV				Lg	Lg	11 11 51.0	
	0.9nm,0.3s,baz=61,slow=26,SNR=6.8						
KURK	**Kurchatov**	**5.99**	**236**	Pn	**Pn**	**11 12 45.6**	**+0.4**
	0.1nm,0.3s,baz=54,slow=14,SNR=21						
KURK				Sn	**Sn**	**11 13 56.0**	**+2.2**
	0.1nm,0.3s,baz=109,slow=26,SNR=5.1						
KURK				Lg	Lg	11 14 31.8	
	0.0nm,0.3s,baz=56,slow=34,SNR=3.5						
KURK	**Kurchatov**	**5.99**	**236**	⇑Pn	**Pn**	**11 12 42.8**	**-2.4**
	1.4nm,0.7s						
KURK				⇓Sn	**Sn**	**11 13 52.6**	**-1.2**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	11 14 30.5	
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.10**	**236**	Pn	**Pn**	**11 12 45.2**	**-1.4**
	0.7nm,0.8s,baz=56,slow=14						
KURBB				⇑Sn	**Sn**	**11 13 55.6**	**-0.7**
	0.7nm,0.6s						
KURBB				Lg	Lg	11 14 35.6	
	0.5nm,0.7s,baz=62,slow=39						
MK31	**Makanchi Array**	**7.99**	**201**	⇑Pn	Pn	11 13 08.8	-3.7
	0.2nm,0.5s,baz=25,slow=13,SNR=5.4						
MK31				Sn	**Sn**	**11 14 47.4**	**+4.5**
	2.6nm,1.2s,baz=41,slow=25,SNR=2.5						
MK31				⇓Lg	Lg	11 15 20.8	
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**	**11 13 10.8**	**-1.8**
	0.1nm,0.3s,baz=23,slow=13,SNR=6.9						
MKAR				Sn	**Sn**	**11 14 41.6**	**-1.2**
	0.1nm,0.3s,baz=20,slow=25,SNR=4.6						
MKAR				Lg	Lg	11 15 26.8	
	0.1nm,0.3s,baz=16,slow=29,SNR=3.9						
BVAR	**Borovoye Array**	**9.63**	**269**	Pn	**Pn**	**11 13 36.0**	**+1.0**
	0.1nm,0.3s,baz=76,slow=15,SNR=2.5						

*IDC **27** 11:22:48.8±8.1, 17°88N×97°13W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=153.7km s-min=52.2km az=7.0*
*ISCJB **27** 11:22:58.2±0.4, 17°99N±0°03×97°63W±0°03, h68km±5km, mb3.5/3, Error ellipse: s-maj=6.0km s-min=3.3km az=44.8*
*MEX **27** 11:23:00.7±0.8, 18°05N×97°60W, h56km±5km, MD4.3*
ISC 27 11:22:59.4±1.0, 18°00N±0°03×97°63W±0°04, h55km±9km, n27, σ1s02/46, mb3.6/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.23**	**225**	*i* P	**Pn**	**11 23 08.9**	**+0.1**
UTMO				*e*S	**Sn**	**11 23 16.6**	**+1.0**
TPIG	**Tehuac#an**	**0.49**	**31**	*i* P	**Pn**	**11 23 09.9**	**-1.2**
TPIG				*i* S	**Sn**	**11 23 18.2**	**-1.4**
OXX	**Oaxaca**	**1.25**	**136**	*i* P	**Pn**	**11 23 21.4**	**+0.5**
OXX				*i* S	**Sn**	**11 23 34.5**	**-2.4**
VHO	**Vista Hermosa**	**1.25**	**137**	*i* P	**Pn**	**11 23 20.9**	**0.0**
VHO				*e*S	**Sn**	**11 23 37.3**	**+0.4**
PPM	**Popocatepetl**	**1.42**	**318**	*e*P	**Pn**	**11 23 23.6**	**+0.1**
PPM				*i* P		11 23 24.3	
PPM				*i* S	**Sn**	**11 23 40.6**	**-0.8**
YAIG	**Yautepec**	**1.61**	**302**	*i* P	**Pn**	**11 23 25.6**	**-0.1**
YAIG				*i* S	**Sn**	**11 23 45.1**	**-0.4**
PNIG	**Pinotepa**	**1.67**	**197**	*i* P	**Pn**	**11 23 25.6**	**-0.8**
PNIG				*i* S	**Sn**	**11 23 47.5**	**+1.0**
PLIG	**Platanillo**	**1.82**	**283**	*e*P	**Pn**	**11 23 28.5**	**0.0**
PLIG				*i* S	**Sn**	**11 23 49.8**	**-0.8**
IIO	**Organos**	**1.89**	**327**	*e*P	**Pn**	**11 23 29.9**	**+0.2**
IIO				*i* S	**Sn**	**11 23 52.3**	**-0.4**
MZVM		**1.93**	**308**	*e*P	**Pn**	**11 23 30.8**	**+1.0**
MZVM				*i* S	**Sn**	**11 23 51.4**	**-1.5**
UNM	**Universidad Na**	**1.98**	**312**	*e*P	**Pn**	**11 23 31.6**	**+0.8**
UNM				*i* S	**Sn**	**11 23 52.9**	**-1.7**
PBIG	**Penon de los B**	**1.99**	**316**	*i* P	**Pn**	**11 23 31.3**	**+0.6**
PBIG				*i* S	**Sn**	**11 23 55.1**	**+0.6**
PBVM	**Pinon**	**1.99**	**316**	*e*P	**Pn**	**11 23 31.2**	**+0.5**
PBVM				*i* S	Sn	11 23 48.3	-6.2
PTVM	**Pico Tres Padr**	**2.12**	**319**	*i* P	**Pn**	**11 23 32.8**	**+0.1**
PTVM				*i* S	**Sn**	**11 23 57.6**	**-0.4**
SZVM	**Salazar**	**2.12**	**309**	*e*P	**Pn**	**11 23 33.7**	**+0.8**
SZVM				*i* S	**Sn**	**11 23 56.6**	**-1.7**
AZVM	**Cuida Lopez Ma**	**2.23**	**315**	*i* P	**Pn**	**11 23 34.6**	**+0.5**
AZVM				*i* S	**Sn**	**11 23 58.6**	**-2.1**
ACX	**Acapulco**	**2.41**	**243**	*i* P	**Pn**	**11 23 34.7**	**-1.7**
DEIG	**Demacu**	**2.65**	**330**	*e*P	**Pn**	**11 23 39.5**	**-0.4**
DEIG				*i* S	**Sn**	**11 24 10.8**	**-0.2**
HUIG	**Huatulco**	**2.65**	**146**	*i* P	**Pn**	**11 23 40.3**	**+0.6**
HUIG				*e*S	**Sn**	**11 24 09.4**	**-1.3**
CAIG	**El Cayaco**	**2.69**	**250**	*i* P	**Pn**	**11 23 38.7**	**-1.5**
CAIG				*e*S	**Sn**	**11 24 10.3**	**-1.3**
CMIG	**Matias Romero**	**2.77**	**109**	*i* P	**Pn**	**11 23 40.7**	**-0.7**
CMIG				*e*S	**Sn**	**11 24 13.9**	**+0.3**
ZIIG	**Zihuatanejo**	**3.67**	**265**	*i* P	**Pn**	**11 23 54.4**	**+0.6**
ZIIG				*i* S	**Sn**	**11 24 35.6**	**-0.3**
MOIG	**Morelia**	**3.76**	**297**	*i* P	**Pn**	**11 23 55.7**	**+0.5**
MOIG				*i* S	**Sn**	**11 24 37.0**	**-1.4**
TXAR	**Lajitas Array**	**12.56**	**335**	Pn	**Pn**	**11 25 56.6**	**+1.1**
	0.0nm,0.3s,baz=150,slow=13,SNR=6.5						
NVAR	**Mina Array Bea**	**27.20**	**323**	P	**P**	**11 28 38.6**	**+0.3**
	0.4nm,0.6s,baz=125,slow=11,SNR=3.7						
SCHQ	**Schefferville**	**43.66**	**25**	P	P	11 30 55.2	-3.4
	2.2nm,0.6s,baz=209,slow=10,SNR=5.7						
YKA	**Yellowknife Ar**	**46.01**	**349**	P	P	11 31 13.7	-3.3
	0.5nm,0.6s,baz=155,slow=7.6,SNR=12						

*ISCJB **27** 11:24:50.8±1.4, 38°41N±0°05×39°14E±0°08, h4km±8km, Error ellipse: s-maj=10.8km s-min=7.2km az=22.8*
*CSEM **27** 11:24:51.1±0.4, 38°44N×39°11E, h8km, MD2.8, Error ellipse: s-maj=9.4km s-min=5.2km az=124.0*
*DDA **27** 11:24:51.2, 38°40N×39°09E, h7km, MD2.8*
ISC 27 11:24:51.3±1.4, 38°41N±0°05×39°12E±0°06, h11km±8km, n12, σ0s68/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.14**	**310**	*i* P	**Pg**	**11 24 54.7**	**0.0**
ELZG				*i* S	**Sg**	**11 24 57.0**	**-0.1**
ELZG	**Elazig**	**0.14**	**310**	*i* P	**Pg**	**11 24 54.7**	**0.0**
ELZG				*i* S	**Sg**	**11 24 57.0**	**-0.1**
PTK	**Pertek**	**0.53**	**24**	*e*PG	**Pg**	**11 25 00.8**	**-0.9**
PTK	**Pertek**	**0.53**	**24**	*e*Pg	**Pg**	**11 25 00.8**	**-0.9**
MYA	**Malataya**	**0.55**	**262**	*e*PG	**Pg**	**11 25 01.2**	**-0.8**
MYA				*e*SG	**Sg**	**11 25 08.8**	**-0.5**
MYA	**Malataya**	**0.55**	**262**	*e*Pg	**Pg**	**11 25 01.2**	**-0.8**
MYA				*e*Sg	**Sg**	**11 25 08.8**	**-0.5**
AKCD	**Akcadag**	**0.95**	**264**	*i* P	**Pg**	**11 25 08.7**	**-0.8**
AKCD				*i* S	**Sb**	**11 25 22.6**	**+0.1**
AKCD	**Akcadag**	**0.95**	**264**	*i* P	**Pg**	**11 25 08.7**	**-0.8**
AKCD				*i* S	**Sb**	**11 25 22.6**	**+0.1**
KEMA	**Kemaliye**	**0.99**	**331**	*i* P	**Pg**	**11 25 09.7**	**-0.6**
KEMA				*i* S	**Sb**	**11 25 23.9**	**+0.3**
KEMA	**Kemaliye**	**0.99**	**331**	*i* P	**Pg**	**11 25 09.7**	**-0.6**
KEMA				*i* S	**Sb**	**11 25 23.9**	**+0.3**
ATAB	**Bozova**	**1.14**	**215**	*i* P	**Pn**	**11 25 14.4**	**+1.1**
ATAB				*i* S	**Sb**	**11 25 28.1**	**+0.2**
ATAB	**Bozova**	**1.14**	**215**	*i* P	**Pn**	**11 25 14.4**	**+1.1**
ATAB				*i* S	**Sb**	**11 25 28.1**	**+0.2**

*ISCJB **27** 11:27:06.9±0.5, 3°45N±0°06×125°5E±0°2, h150km, mb3.9/12, Error ellipse: s-maj=32.3km s-min=7.4km az=170.6*
*IDC **27** 11:27:10.6±6.1, 3°44N×125°46E, h171km±60km, mb3.7/12, mb1 3.9/12, mb1mx3.7/19, mbtmp3.7/12, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=41.6km s-min=13.8km az=75.0*
*DJA **27** 11:27:11, 3°45N×126°11E, h111km, MLv4.6/7*
ISC 27 11:27:08.4±0.7, 3°47N±0°09×125°5E±0°3, h150km, n17, σ0s71/17, mb4.0/12, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.66**	**348**	⇓*e*P	**Pn**	**11 27 50.9**	**-0.7**
MATI	**Mati**	**3.53**	**12**	*e*P	Pn	11 28 01.0	-1.5
CTBH	**Cotabato--PC H**	**3.93**	**341**	⇑*i*P	**Pn**	**11 28 08.5**	**+0.7**
BUKP	**Musuan**	**4.40**	**354**	*e*P	**Pn**	**11 28 13.7**	**-0.3**
BUKP				*e*S	**Sn**	**11 29 05.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**21.44**	**180**	P	**P**	**11 31 44.3**	**-0.5**
	4.0nm,0.6s,baz=19,slow=5.9,SNR=8.4						
JOW	**Kunigami**	**23.38**	**6**	LR	LR	11 39 33.2	
	comp=Z,41nm,20.2s,baz=154,slow=32						
WRA	**Warramunga Arr**	**24.83**	**160**	P	**P**	**11 32 17.1**	**+0.2**
	6.4nm,0.4s,baz=342,slow=10.0,SNR=55						
ASAR	**Alice Springs**	**28.18**	**164**	P	**P**	**11 32 47.5**	**+0.4**
	0.9nm,0.4s,baz=342,slow=7.1,SNR=53						
KSRS	**Korea Array**	**33.89**	**3**	P	**P**	**11 33 37.9**	**+1.0**
	2.0nm,0.4s,baz=183,slow=9.5,SNR=20						
STKA	**Stephens Creek**	**38.34**	**158**	P	**P**	**11 34 15.6**	**+0.8**
	3.8nm,0.8s,baz=335,slow=8.4,SNR=9.8						
SONM	**Songino Array**	**47.17**	**342**	P	**P**	**11 35 25.6**	**-0.2**
	0.8nm,0.8s,baz=156,slow=8.2,SNR=6.3						
MKAR	**Makanchi Array**	**57.08**	**326**	P	**P**	**11 36 39.2**	**+0.2**
	0.9nm,0.6s,baz=120,slow=7.4,SNR=31						
MKAR				PcP	**PcP**	**11 37 32.5**	**+0.3**
	1.3nm,0.5s,baz=114,slow=4.4,SNR=15						
AKTO	**Aktyubinsk**	**73.11**	**322**	P	**P**	**11 38 22.3**	**-0.1**
	1.3nm,0.4s,baz=100,slow=12,SNR=5.9						
ILAR	**Eielson Array**	**85.86**	**25**	P	**P**	**11 39 29.7**	**-1.2**
	0.2nm,0.8s,baz=232,slow=4.9,SNR=5.1						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**11 39 51.8**	**0.0**
	1.2nm,0.7s,baz=73,slow=5.8,SNR=5.4						
FINES	**FINESS Array B**	**91.48**	**332**	P	**P**	**11 39 56.6**	**-0.9**
	2.1nm,0.8s,baz=72,slow=6.2,SNR=4.6						
NOA	**NORSAR Array B**	**98.48**	**333**	P	**P**	**11 40 28.7**	**-0.8**
	1.2nm,0.8s,baz=65,slow=4.5,SNR=3.0						

IDC 27 11:31:57.8±1.9, 19°18N×145°49E, h210km±19km, mb3.4/14, mb1 3.6/16, mb1mx3.5/26, mbtmp3.4/16, Error ellipse: s-maj=16.8km s-min=10.8km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.59**	**186**	P	Pn	11 33 20.7	+0.7
	7.4nm,0.3s,baz=151,slow=19,SNR=2.2						
GUMO				S	S	11 34 24.1	-0.9
	7.2nm,0.3s,baz=351,slow=23,SNR=2.8						
MJAR	**Matsushiro Arr**	**18.44**	**341**	P	P	11 35 58.0	+0.3
	0.5nm,0.3s,baz=174,slow=11,SNR=7.3						
KSRS	**Korea Array**	**23.82**	**323**	P	P	11 36 51.9	+0.3
	3.2nm,0.7s,baz=148,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**40.39**	**196**	P	P	11 39 15.2	-0.3
	0.6nm,0.5s,baz=18,slow=9.1,SNR=14						
WRA				PcP	PcP	11 41 13.1	-1.3
	0.2nm,0.5s,baz=9.6,slow=3.2,SNR=30						
FITZ	**Fitzroy Crossi**	**41.87**	**209**	P	P	11 39 28.7	+1.1
	2.0nm,0.8s,baz=26,slow=23,SNR=7.9						
SONM	**Songino Array**	**42.65**	**321**	P	P	11 39 34.0	+0.3
	0.4nm,0.3s,baz=131,slow=7.8,SNR=7.8						
CMAR	**Chiang Mai Arr**	**43.97**	**277**	P	P	11 39 44.6	+0.2
	0.9nm,0.5s,baz=67,slow=5.4,SNR=7.2						
ASAR	**Alice Springs**	**44.06**	**195**	P	P	11 39 45.0	-0.1
	0.2nm,0.4s,baz=9.3,slow=6.4,SNR=6.9						
MKAR	**Makanchi Array**	**57.99**	**314**	P	P	11 41 28.4	-0.1
	0.3nm,0.5s,baz=86,slow=10,SNR=6.9						
KURK	**Kurchatov**	**60.78**	**318**	P	P	11 41 47.1	-0.3
	0.8nm,0.5s,baz=94,slow=7.4,SNR=13						
ILAR	**Eielson Array**	**63.30**	**26**	P	P	11 42 03.4	-0.6
	1.0nm,0.5s,baz=257,slow=5.8,SNR=22						
BVAR	**Borovoye Array**	**65.98**	**320**	P	P	11 42 21.8	+0.3
	1.3nm,0.4s,baz=102,slow=7.6,SNR=18						
YKA	**Yellowknife Ar**	**77.66**	**28**	P	P	11 43 30.9	+0.2
	1.2nm,0.5s,baz=289,slow=5.4,SNR=9.6						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	P	11 44 01.2	+1.3
	2.4nm,0.7s,baz=267,slow=6.1,SNR=16						
FINES	**FINESS Array B**	**86.37**	**335**	P	P	11 44 14.1	-1.9
	0.9nm,0.5s,baz=73,slow=3.7,SNR=7.1						
PDAR	**Pinedale Array**	**87.63**	**45**	P	P	11 44 22.3	-0.5
	0.3nm,0.5s,baz=70,slow=1.5,SNR=4.6						

*ISCJB **27** 11:38:35.5±0.4, 34°52N±0°07×36°58W±0°06, h10km, mb4.3/26, MS3.9/20, Error ellipse: s-maj=10.7km s-min=7.2km az=4.2*
*BJI **27** 11:38:35.5, 34°60N×36°50W, h10km, mb4.8/2*
*IDC **27** 11:38:35.4±0.6, 34°66N×36°59W, h0km, mb4.2/17, mb1 4.4/17, mb1mx4.2/28, mbtmp4.2/17, MS3.9/20, Ms1 3.9/20, ms1mx3.7/31, Error ellipse: s-maj=16.9km s-min=15.5km az=22.0*
*NEIC **27** 11:38:37.1±0.4, 34°62N×36°51W, h10km, mb4.6/6, Error ellipse: s-maj=13.0km s-min=11.7km az=18.0*
*CSEM **27** 11:38:37.1±0.2, 34°63N×36°58W, h10km, mb4.5/7, Error ellipse: s-maj=12.7km s-min=12.1km az=175.0*
ISC 27 11:38:37.2±0.5, 34°59N±0°09×36°54W±0°09, h10km, n237, σ0s85/234, mb4.3/26, MS3.9/20, 69C-91D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**26.82**	**133**	LR	LR	11 52 04.7	
	comp=Z,289nm,19.2s,baz=96,slow=30						

SCHQ	**Schefferville**	**29.18**	**323**	LR	LR	11 54 53.3		
	comp=Z,324nm,18.8s,baz=95,slow=34							
FRB	**Frobisher Bay**	**35.18**	**336**	P	**P**	**11 45 28.4**	**-2.6**	
	5.6nm,0.8s,baz=112,slow=6.4,SNR=6.4							
FRB	**Frobisher Bay**	**35.18**	**336**	P	**P**	**11 45 28.4**	**-2.6**	
FRB	**Frobisher Bay**	**35.18**	**336**	P	**P**	**11 45 28.4**	**-2.6**	
DAVOX	**Davos/Dischmat**	**36.74**	**56**	LR	LR	11 57 49.7		
	comp=Z,130nm,21.1s,baz=257,slow=31							
KEST	**Kesra**	**37.27**	**75**	LR	LR	11 57 42.7		
	comp=Z,39nm,21.1s,baz=239,slow=31							
SUMG	**Summit**	**38.07**	**359**	*i* P	**P**	**11 45 57.0**	**+1.1**	
	6.3nm,1.2s							
SUMG	**Summit**	**38.07**	**359**	*i* P	**P**	**11 45 57.0**	**+1.1**	
	6.3nm,1.2s							
CLL	**Collm**	**39.11**	**49**	*e*P	**P**	**11 46 05.0**	**+0.5**	
CLL				*e*PP	PP	11 47 30.0	-4.0	
CLL				*e*SSS	SSS	11 55 18.0		
CLL				LmH		11 58 00.0		
	comp=Z,200nm,21.1s							
NOA	**NORSAR Array B**	**40.21**	**34**	LR	LR	11 59 31.6		
	comp=Z,33nm,18.3s,baz=180,slow=31							
DBIC	**Dimbokro**	**40.31**	**126**	P	**P**	**11 46 14.7**	**-0.1**	
	comp=Z,2.8nm,0.6s,baz=274,slow=12,SNR=5.2							
DBIC				LR	LR	12 00 41.3		
	comp=Z,195nm,20.2s,baz=296,slow=33							
DBIC	**Dimbokro**	**40.31**	**126**	P	**P**	**11 46 14.7**	**-0.1**	
DBIC	**Dimbokro**	**40.31**	**126**	P	**P**	**11 46 14.7**	**-0.1**	
TORD	**Torodi Ar. Bea**	**40.63**	**112**	P	**P**	**11 46 17.7**	**+0.2**	
	comp=Z,4.6nm,1.1s,baz=307,slow=7.7,SNR=9.8							
TORD				LR	LR	12 01 41.4		
	comp=Z,307nm,19.3s,baz=305,slow=34							
TORD	**Torodi Ar. Bea**	**40.63**	**112**	P	**P**	**11 46 17.7**	**+0.2**	
TORD	**Torodi Ar. Bea**	**40.63**	**112**	P	**P**	**11 46 17.7**	**+0.2**	
BSD	**Bornholm Skovb**	**40.72**	**44**	*i* P	**P**	**11 46 19.6**	**+1.8**	
	comp=Z,5.7nm,0.9s							
BSD	**Bornholm Skovb**	**40.72**	**44**	*e*P	**P**	**11 46 19.6**	**+1.8**	
	comp=Z,5.7nm,0.9s							
ULM	**Lac du Bonnet**	**45.30**	**309**	P	**P**	**11 46 54.5**	**-0.4**	
	comp=Z,3.1nm,0.8s,baz=61,slow=9.3,SNR=6.9							
ULM				LR	LR	12 04 15.9		
	comp=Z,188nm,19.8s,baz=117,slow=34							
ULM	**Lac du Bonnet**	**45.30**	**309**	P	**P**	**11 46 54.5**	**-0.4**	
ULM	**Lac du Bonnet**	**45.30**	**309**	P	**P**	**11 46 54.5**	**-0.4**	
FINES	**FINESS Array B**	**47.32**	**35**	LR	LR	12 02 21.8		
	comp=Z,127nm,21.9s,baz=318,slow=30							
TUL1	**Tulsa**	**47.74**	**290**	⇑P	**P**	**11 47 14.3**	**-0.1**	
	baz=48							
MDND	**Maddock**	**47.97**	**306**	⇓P	**P**	**11 47 17.0**	**+1.0**	
	baz=48							
BGNE	**Belgrade**	**48.13**	**297**	⇓P	**P**	**11 47 18.0**	**+0.7**	
	baz=48							
ARCES	**ARCESS Array B**	**48.31**	**25**	LR	LR	12 06 22.7		
	comp=Z,99nm,18.1s,baz=314,slow=34							
AKASG	**Malin Array Be**	**49.34**	**50**	P	**P**	**11 47 25.1**	**-1.4**	
	comp=Z,5.6nm,1.0s,baz=272,slow=7.7,SNR=7.8							
AKASG	**Malin Array Be**	**49.34**	**50**	P	**P**	**11 47 25.1**	**-1.4**	
AKASG	**Malin Array Be**	**49.34**	**50**	P	**P**	**11 47 25.1**	**-1.4**	
CBKS	**Cedar Bluff**	**49.95**	**294**	⇓P	**P**	**11 47 31.9**	**+0.6**	
	baz=50							
CBKS				⇓P	**P**	**11 47 31.9**	**+0.6**	
	baz=50							
SAML	**Samuel**	**50.12**	**215**	*e*P	**P**	**11 47 32.7**	**0.0**	
	comp=Z,16nm,1.6s							
SAML	**Samuel**	**50.12**	**215**	*e*P	**P**	**11 47 32.7**	**0.0**	
	comp=Z,16nm,1.6s							
DGMT	**Dagmar**	**50.91**	**308**	⇓P	**P**	**11 47 39.6**	**+1.2**	
	baz=51							
BDFB	**Brasilia**	**51.13**	**194**	P	**P**	**11 47 40.1**	**-0.3**	
	comp=Z,4.5nm,0.6s,baz=359,slow=5.0,SNR=6.1							
BDFB				LR	LR	12 06 01.0		
	comp=Z,81nm,20.7s,baz=202,slow=32							
BDFB	**Brasilia**	**51.13**	**194**	P	**P**	**11 47 40.1**	**-0.3**	
BDFB	**Brasilia**	**51.13**	**194**	P	**P**	**11 47 40.1**	**-0.3**	
D24A	**Glendive**	**51.26**	**306**	⇓P	**P**	**11 47 41.7**	**+0.6**	
	baz=51							
B23A	**Brockton**	**51.43**	**308**	⇓P	**P**	**11 47 43.0**	**+0.6**	
	baz=51							
C23A	**Lambert**	**51.69**	**307**	⇑P	**P**	**11 47 45.1**	**+0.9**	
	baz=52							
D23A	**Lindsay**	**51.83**	**306**	⇓P	**P**	**11 47 47.4**	**+2.0**	
	baz=52							
A22A	**Carney Farms,**	**51.93**	**308**	⇓P	**P**	**11 47 47.8**	**+1.7**	
	baz=52							
KSCO	**Kaye Shedlock'**	**52.06**	**295**	⇓P	**P**	**11 47 47.5**	**+0.1**	
	baz=52							
C22A	**Vida**	**52.16**	**307**	⇑P	**P**	**11 47 49.2**	**+1.4**	
	baz=52							
L25A	**Engebretsen Ra**	**52.16**	**300**	⇑

baz=54
X26A **CR and CF Fran** 54.40 291 ⇓P P 11 48 04.4 -0.2
baz=54
A18A **Metzger Ranch,** 54.47 309 ⇑P P 11 48 06.0 +1.1
baz=54
B18A **Beardsley Farm** 54.55 308 ⇓P P 11 48 06.2 +0.7
baz=54
YKA **Yellowknife Ar** 54.56 326 P P 11 48 04.6 -0.5
comp=Z,2.3nm,1.0s,baz=83,slow=7.6,SNR=21
YKA PcP PcP 11 49 09.1 +0.9
comp=Z,0.4nm,0.8s,baz=79,slow=4.3,SNR=5.4
YKA **Yellowknife Ar** 54.56 326 P P 11 48 04.7 -0.5
YKA PcP PcP 11 49 09.2 +0.9
YKA **Yellowknife Ar** 54.56 326 P P 11 48 04.7 -0.5
V25A **Rancho No Teng** 54.57 292 ⇑P P 11 48 05.3 -0.6
baz=54
SDCO **Great Sand Dun** 54.60 295 ⇑P P 11 48 06.9 +0.7
baz=54
SDCO ⇑P P 11 48 06.9 +0.7
baz=54
O22A **Kremmling** 54.60 298 ⇑P P 11 48 06.4 +0.1
baz=54
I20A **Worland** 54.61 303 ⇓P P 11 48 06.0 0.0
baz=54
EGMT **Eagleton** 54.63 308 ⇓P P 11 48 07.0 +1.0
baz=54
L21A **Rawlins** 54.65 300 ⇓P P 11 48 06.5 +0.1
baz=54
F19A **Roth Farm, Mol** 54.65 305 ⇑P P 11 48 06.6 +0.3
baz=54
W25A **X Bar L Ranch,** 54.66 292 ⇓P P 11 48 06.2 -0.4
baz=54
R23A **Moffat** 54.70 295 ⇑P P 11 48 07.1 +0.2
baz=55
J20A **Shoshoni** 54.75 302 ⇓P P 11 48 07.2 +0.1
baz=55
M21A **Separation Pea** 54.75 300 ⇓P P 11 48 06.3 -0.9
baz=55
328A **Wristen Ranch,** 54.77 287 ⇓P P 11 48 06.9 -0.4
baz=55
D18A **Linhart Farms,** 54.87 307 ⇑P P 11 48 08.8 +0.9
baz=55
428A **Kincaid Ranch,** 54.92 286 ⇓P P 11 48 08.5 0.0
baz=55
P22A **Eagle** 54.93 297 ⇓P P 11 48 09.2 +0.7
baz=55
S23A **Nye Farm, Mont** 54.99 295 ⇑P P 11 48 10.1 +1.2
baz=55
Z26A **Caprock** 54.99 289 ⇑P P 11 48 09.1 +0.2
baz=55
H19A **Powell** 55.00 304 ⇓P P 11 48 09.6 +0.8
baz=55
V24A **Rampart Ranch,** 55.11 292 ⇓P P 11 48 10.0 +0.1
baz=55
N21A **Black Mountain** 55.12 299 ⇓P P 11 48 09.9 0.0
baz=55
I19A **Meeteetse** 55.19 303 ⇓P P 11 48 10.3 0.0
baz=55
528A **Cox Ranch, San** 55.23 285 ⇓P P 11 48 09.9 -0.8
baz=55,SNR=6.2
Q22A **Crested Butte,** 55.28 297 ⇓P P 11 48 11.1 -0.1
baz=55
M20A **Sweetwater, Wa** 55.38 300 ⇓P P 11 48 11.5 -0.2
baz=55
W24A **Lazy 6 Ranch,** 55.39 292 ⇓P P 11 48 10.8 -1.0
baz=55
K19A **Absolon Red Bu** 55.44 302 ⇓P P 11 48 11.4 -0.7
baz=55
427A **Hayter Ranch,** 55.45 286 ⇓P P 11 48 11.8 -0.4
baz=55
J19A **Crowheart** 55.45 302 ⇑P P 11 48 11.7 -0.5
baz=55
P21A **Newcastle** 55.46 297 ⇓P P 11 48 12.9 +0.6
baz=55
Z25A **Roswell** 55.56 289 ⇓P P 11 48 13.6 +0.6
baz=55
628A **Black Gap, Mar** 55.57 284 ⇑P P 11 48 12.3 -0.7
baz=56
U23A **El Rito** 55.60 293 ⇑P P 11 48 14.7 +1.4
baz=56
GDL2 **Guadalupe Moun** 55.69 288 *eP* P 11 48 14.4 +0.5
comp=Z,1.4nm,0.4s
GDL2 **Guadalupe Moun** 55.69 288 *eP* P 11 48 14.4 +0.5
comp=Z,1.4nm,0.4s
E17A **Martinsdale** 55.77 306 ⇓P P 11 48 14.7 +0.3
baz=56
Q21A **Lamborn Mesa,** 55.78 297 ⇓P P 11 48 16.3 +1.7
baz=56
F17A **Fitzpatrick Pl** 55.79 306 ⇓P P 11 48 15.2 +0.7
baz=56
V23A **Ortiz Mt. (NFS** 55.79 293 ⇓P P 11 48 15.7 +0.9
baz=56
O20A **White River Ci** 55.84 298 ⇓P P 11 48 15.5 +0.5
baz=56
Y24A **Capitan** 55.88 290 ⇓P P 11 48 15.8 +0.5
baz=56
527A **Woodward Ranch** 55.89 286 ⇑P P 11 48 14.9 -0.5
baz=56,SNR=9.2
T22A **Edith** 55.90 294 ⇑P P 11 48 16.9 +1.4
baz=56
R21A **Cimarron** 55.92 296 ⇓P P 11 48 17.0 +1.4
baz=56,SNR=7.2
BW06 **Boulder Array** 55.96 302 ⇓P P 11 48 15.7 -0.2
baz=56
BW06 ⇓P P 11 48 15.7 -0.2
baz=56
PDAR **Pinedale Array** 55.96 302 P P 11 48 14.2 -1.7
comp=Z,1.8nm,0.9s,baz=90,slow=6.4,SNR=5.8
PDAR **Pinedale Array** 55.96 302 P P 11 48 14.2 -1.7
PDAR **Pinedale Array** 55.96 302 P P 11 48 14.2 -1.7
627A **Terlingua Ranc** 55.99 285 ⇓P P 11 48 17.4 +1.3
baz=56
426A **McDonald Obser** 56.01 286 ⇑P P 11 48 15.8 -0.6
baz=56
U22A **Llaves** 56.08 294 ⇓P P 11 48 18.1 +1.3
baz=56
J18A **Kendall Valley** 56.14 302 ⇑P P 11 48 17.5 +0.2
baz=56
X23A **Hourglass Bar** 56.22 291 ⇓P P 11 48 18.8 +1.0
baz=56
TXAR **Lajitas Array** 56.26 285 P P 11 48 17.9 -0.1
comp=Z,2.7nm,0.8s,baz=84,slow=6.5,SNR=25
TXAR LR LR 12 09 42.5
comp=Z,161nm,18.9s,baz=175,slow=33
TXAR **Lajitas Array** 56.26 285 P P 11 48 17.9 -0.1
TXAR **Lajitas Array** 56.26 285 P P 11 48 18.0 -0.1
Q20A **Ridgley Place,** 56.27 297 ⇑P P 11 48 18.9 +0.8
baz=56
526A **Mary Lane Ranc** 56.30 286 ⇓P P 11 48 18.1 -0.3
baz=56
S21A **Coal Bank Pass** 56.34 295 ⇓P P 11 48 18.9 +0.1
baz=56
Y23A **Lovelace Mesa,** 56.35 291 ⇓P P 11 48 19.0 +0.2
baz=56
YMR **Madison River** 56.36 304 *eP* P 11 48 19.5 +0.8
comp=Z,7.4nm,1.0s
YMR **Madison River** 56.36 304 *eP* P 11 48 19.5 +0.8
comp=Z,7.3nm,1.0s
O19A **Miners Draw (B** 56.43 299 ⇑P P 11 48 18.9 -0.3
baz=56
F16A **Kennard Place,** 56.47 306 ⇑P P 11 48 19.6 +0.3
baz=56
325A **Bean Ranch, Si** 56.48 287 ⇑P P 11 48 19.6 -0.1
baz=56
H16A **Russell Place,** 56.54 304 ⇓P P 11 48 20.8 +0.8
baz=56
626A **Big Bend Ranch** 56.54 285 ⇑P P 11 48 20.2 +0.2
baz=56
L18A **Fontenelle, Gr** 56.56 301 ⇑P P 11 48 20.6 +0.5
baz=56
R20A **Redvale** 56.59 296 ⇓P P 11 48 22.0 +1.5
baz=56
MNTX **Cornudas Mount** 56.68 288 ⇑P P 11 48 20.9 +0.1
baz=57
MNTX ⇑P P 11 48 20.9 +0.1
baz=57
425A **Indio Mountain** 56.72 287 ⇓P P 11 48 22.1 +0.7
baz=57
Z23A **Rita Site, Whi** 56.74 290 ⇑P P 11 48 22.0 +0.6
baz=57
G16A **Moss Hill, Enn** 56.76 305 ⇑P P 11 48 22.2 +0.7
baz=57
324A **Moseley Ranch,** 56.86 288 ⇓P P 11 48 22.3 0.0
baz=57
MVCO **Mesa Verde** 57.02 295 *eP* P 11 48 26.4 +2.9
comp=Z,3.3nm,0.9s
MVCO **Mesa Verde** 57.02 295 ⇑P P 11 48 24.6 +1.0
baz=57
F15A **Butte** 57.03 306 ⇑P P 11 48 24.6 +1.1
baz=57
J16A **Bone** 57.23 303 ⇑P P 11 48 25.8 +0.9
baz=57
G15A **Dillon** 57.24 305 ⇓P P 11 48 25.5 +0.7
baz=57
S19A **Harvey Farm, M** 57.31 296 ⇓P P 11 48 26.5 +0.9
baz=57
Z22A **Elephant Butte** 57.31 290 ⇓P P 11 48 25.6 +0.1
baz=57
P18A **Preston Nutter** 57.47 298 ⇓P P 11 48 26.6 -0.1
baz=57
X21A **Alamocita Cree** 57.49 292 ⇓P P 11 48 27.0 +0.1
baz=57
E14A **Clinton** 57.52 307 ⇓P P 11 48 27.1 +0.2
baz=57
SRU **San Rafael** 57.85 298 ⇑P P 11 48 29.3 0.0
baz=58
U19A **Dine' College,** 57.88 294 ⇑P P 11 48 29.7 +0.1
baz=58,SNR=5.4
X20A **Quemado** 58.00 292 ⇓P P 11 48 31.0 +0.6
baz=58
L15A **Malad City** 58.19 302 ⇑P P 11 48 32.6 +1.0
baz=58
121A **Cookes Peak, D** 58.23 290 ⇑P P 11 48 32.2 +0.2
baz=58
R17A **Hanksville Air** 58.23 297 ⇓P P 11 48 32.6 +0.7
baz=58
F13A **Darby** 58.27 306 ⇑P P 11 48 32.8 +0.7
baz=58
I14A **Mackay** 58.28 304 ⇓P P 11 48 32.8 +0.5
baz=58
U18A **Rough Rock, Ch** 58.33 295 ⇑P P 11 48 32.8 +0.1
baz=58
K14A **Jones Ranch, D** 58.55 303 ⇑P P 11 48 35.1 +1.0
baz=58
Z20A **Nine Sixteen R** 58.62 291 ⇓P P 11 48 35.2 +0.5
baz=58
V18A **Ganado** 58.65 294 ⇓P P 11 48 36.0 +1.1
baz=58
I13A **Wildhorse Cree** 58.74 304 ⇓P P 11 48 36.4 +0.9
baz=59
Y19A **Nutrioso** 58.80 292 ⇓P P 11 48 37.3 +1.2
baz=59
T17A **Navajo Res., N** 58.82 296 ⇓P P 11 48 37.1 +1.0
baz=59
LPAZ **La Paz** 58.84 216 P P 11 48 37.4 +0.6
comp=Z,5.5nm,1.0s,baz=27,slow=8.1,SNR=14
LPAZ LR LR 12 09 57.2
comp=Z,66nm,20.8s,baz=65,slow=32
LPAZ **La Paz** 58.84 216 P P 11 48 37.4 +0.6
LPAZ **La Paz** 58.84 216 P P 11 48 37.4 +0.6
U17A **Shonto** 58.86 295 ⇓P P 11 48 36.9 +0.5
baz=59
120A **U Bar Ranch, L** 58.88 290 ⇑P P 11 48 37.1 +0.5
baz=59
X18A **Snowflake** 59.11 293 ⇓P P 11 48 38.2 0.0
baz=59
DUG **Dugway** 59.12 300 ⇓P P 11 48 38.7 +0.7
baz=59
NEW **Newport** 59.29 310 ⇑P P 11 48 40.4 +1.3
baz=59
V17A **Tonalea, Kykot** 59.33 294 ⇑P P 11 48 40.4 +0.8
comp=Z,59.3nm,6.9
U16A **Tuba City** 59.38 295 ⇓P P 11 48 40.8 +0.8
baz=59
Y18A **Canyon Day Jun** 59.47 292 ⇑P P 11 48 41.1 +0.5
baz=59
MFID **Camas Ranch** 60.08 304 ⇓P P 11 48 45.3 +0.7
baz=60
X16A **Lo Mia Camp, P** 60.29 293 ⇑P P 11 48 47.0 +0.7
baz=60
R13A **O'Grain Ranch,** 60.70 298 ⇑P P 11 48 49.9 +0.8
baz=61
INK **Inuvik** 60.83 335 *eP* P 11 48 51.1 +2.0
comp=Z,3.4nm,0.6s
INK **Inuvik** 60.83 335 *eP* P 11 48 51.1 +2.0
comp=Z,3.4nm,0.6s
Y14A **Wickenburg** 61.67 293 ⇑P P 11 48 56.6 +1.2
baz=62
Z13A **Yuma Proving G** 62.47 293 ⇑P P 11 49 01.5 +0.7
baz=62
113A **Hohokam Valley,** 62.73 292 ⇑P P 11 49 04.2 +1.6
baz=63
NVAR **Mina Array Bea** 63.73 300 P P 11 49 07.7 -1.6
comp=Z,2.1nm,0.9s,baz=70,slow=5.3,SNR=9.5
NVAR LR LR 12 14 16.5
comp=Z,166nm,21.7s,baz=282,slow=34
NVAR **Mina Array Bea** 63.73 300 P P 11 49 07.7 -1.6
NVAR **Mina Array Bea** 63.73 300 P P 11 49 07.7 -1.6
MPMC **Manual Prospec** 64.13 297 ⇓P P 11 49 12.8 +0.8
baz=64
AKTO **Aktyubinsk** 66.89 44 P P 11 49 28.9 -0.5
comp=Z,3.4nm,1.1s,baz=317,slow=9.1,SNR=7.4
AKTO **Aktyubinsk** 66.89 44 P P 11 49 28.9 -0.5
AKTO **Aktyubinsk** 66.89 44 P P 11 49 28.9 -0.5
ILAR **Eielson Array** 67.19 334 P P 11 49 31.6 +0.6
comp=Z,0.8nm,0.9s,baz=40,slow=5.6,SNR=7.5
ILAR LR LR 12 17 01.2
comp=Z,73nm,19.0s,baz=113,slow=34
ILAR **Eielson Array** 67.19 334 P P 11 49 31.6 +0.6
ILAR **Eielson Array** 67.19 334 P P 11 49 31.6 +0.6
BVAR **Borovoye Array** 72.22 37 P P 11 50 02.7 +0.4
comp=Z,1.7nm,0.8s,baz=270,slow=5.9,SNR=9.7
BVAR **Borovoye Array** 72.22 37 P P 11 50 02.7 +0.4
BVAR **Borovoye Array** 72.22 37 P P 11 50 02.7 +0.4
KURK **Kurchatov** 77.69 36 P P 11 50 33.3 -0.5
comp=Z,3.0nm,0.9s,baz=312,slow=6.0,SNR=20
KURK **Kurchatov** 77.69 36 P P 11 50 33.3 -0.5
KURK **Kurchatov** 77.69 36 P P 11 50 33.3 -0.5
ZALV **Zalesovo Beam** 78.34 31 P P 11 50 38.7 +1.3
comp=Z,0.3nm,0.4s,baz=324,slow=7.3,SNR=4.2
ZALV LR LR 12 25 06.4
comp=Z,65nm,19.4s,baz=27,slow=36
ZALV **Zalesovo Beam** 78.34 31 P P 11 50 38.7 +1.3
ZALV **Zalesovo Beam** 78.34 31 P P 11 50 38.7 +1.3
PLCA **Paso Flores** 81.24 205 P P 11 50 53.1 0.0
comp=Z,2.6nm,0.8s,baz=35,slow=3.5,SNR=3.7
PLCA **Paso Flores** 81.24 205 P P 11 50 53.1 0.0
PLCA **Paso Flores** 81.24 205 P P 11 50 53.2 0.0
MK31 **Makanchi Array** 82.11 37 *eP* P 11 50 57.4 -0.6
MK31 **Makanchi Array** 82.11 37 *eP* P 11 50 57.4 -0.6
MKAR **Makanchi Array** 82.11 37 LR LR 12 26 57.9
comp=Z,95nm,18.0s,baz=117,slow=35
BOSA **Boshof** 85.78 129 LR LR 12 26 17.4
comp=Z,82nm,21.2s,baz=346,slow=33
SONM **Songino Array** 91.48 24 P P 11 51 43.8 -0.2
comp=Z,0.6nm,0.9s,baz=333,slow=4.8,SNR=4.6
SONM LR LR 12 38 15.1
comp=Z,53nm,18.2s,baz=146,slow=39
SONM **Songino Array** 91.48 24 P P 11 51 43.8 -0.2
SONM **Songino Array** 91.48 24 P P 11 51 43.8 -0.2
PETK **Petropavlovsk-** 91.79 351 LR LR 12 29 11.7
comp=Z,38nm,18.8s,baz=263,slow=33

*CSEM **27** 11:58:47.6,60.24N×22.09E,h0km,ML1.4,Mining explosion. After HEL*

HEL 27 11:58:47.6±0.1,60.24N×22.09E,h0km,ML1.3, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAF	**Rauma**	**0.80**	**349**	*eP*		Pg	11 59 02.0	-1.0
RAF				*eS*		Sg	11 59 12.4	-1.0
RAF				*e*RG		Rg	11 59 17.4	
RAF	**Rauma**	**0.80**	**349**	P		Pg	11 59 02.0	-1.0
RAF				S		Sg	11 59 12.3	-1.1
PVF	**Pernaja**	**1.90**	**79**	*eP*		Pn	11 59 21.1	-0.1
PVF				*eS*		Sn	11 59 45.3	-0.5
PVF	**Pernaja**	**1.90**	**79**	P		Pn	11 59 21.1	-0.1
PVF				S		Sn	11 59 45.3	-0.5
FIA0	**FINESS Array S**	**2.30**	**57**	*eP*		Pn	11 59 26.6	-0.1
FIA0				MSG		Sg	11 59 57.6	-3.8
	comp=Z,0.9nm,0.1s							
FIA0				*e*SG		Sg	11 59 57.6	-3.8
FIA0	**FINESS Array S**	**2.30**	**57**	P		Pn	11 59 26.6	-0.1
FIA0				Sg		Sb	11 59 57.6	-1.2
KEF	**Keuruu**	**2.36**	**34**	*e*SB		Sn	11 59 58.6	+1.4
KEF				MSG			11 59 58.6	
	comp=Z,0.7nm,0.1s							
KEF	**Keuruu**	**2.36**	**34**	Sb		Sn	11 59 58.6	+1.4

*CSEM **27** 11:59:33.4,64.14N×28.08E,h0km,ML1.2,Mining explosion. After HEL*

HEL 27 11:59:33.4±0.1,64.14N×28.08E,h0km,ML1.2, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUF	**Sumiainen**	**1.67**	**212**	PG		Pn	12 00 03.1	-0.7
SUF				SG		Sn	12 00 25.0	-0.9
SUF				MSG			12 00 25.0	
	comp=Z,1.2nm,0.1s							
SUF	**Sumiainen**	**1.67**	**212**	Pg		Pn	12 00 03.1	-0.7
SUF				Sg		Sn	12 00 25.0	-0.9
MSF	**Maaselka**	**1.82**	**12**	PN		Pn	12 00 06.3	+0.3
MSF				SG		Sn	12 00 29.7	-0.1
MSF	**Maaselka**	**1.82**	**12**	Pn		Pn	12 00 06.3	+0.3
MSF				Sg		Sn	12 00 29.7	-0.1
JOF	**Joensuu**	**1.90**	**129**	PN		Pn	12 00 07.4	+0.4
	baz=317							
JOF				SG		Sn	12 00 31.4	-0.2
JOF				MSG			12 00 31.4	
	comp=Z,1.3nm,0.2s							
JOF	**Joensuu**	**1.90**	**129**	Pn		Pn	12 00 07.4	+0.4
JOF				Sg		Sn	12 00 31.3	-0.3
KU6	**Riekki**	**2.04**	**21**	SG		Sn	12 00 35.8	+0.6
KU6				MSG			12 00 35.8	
	comp=Z,0.7nm,0.4s							
KU6	**Riekki**	**2.04**	**21**	Sg		Sn	12 00 35.8	+0.6
KAF	**Kangasniemi**	**2.19**	**202**	SG		Sb	12 00 40.4	-1.1
KAF				MSG			12 00 40.4	
	comp=Z,1.0nm,0.1s							
KAF	**Kangasniemi**	**2.19**	**202**	Sg		Sb	12 00 40.4	-1.1
KEF	**Keuruu**	**2.46**	**218**	SG		Sb	12 00 47.9	-1.3
KEF				MSG			12 00 47.9	
	comp=Z,0.7nm,0.1s							
KEF	**Keuruu**	**2.46**	**218**	Sg		Sb	12 00 47.9	-1.3
VAF	**Ylistaro**	**2.66**	**248**	SG		Sb	12 00 53.6	-1.3
VAF				MSG			12 00 53.6	
	comp=Z,0.5nm,0.1s							
VAF	**Ylistaro**	**2.66**	**248**	Sg		Sb	12 00 53.6	-1.3

IDC 27 12:32:49.6±2.0,9.12S×123.65E,h0km,mb3.7/1, mb1 3.8/3,mb1mx3.4/15,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=284.7km s-min=30.5km az=56.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.92**	**137**	Pn		Pn	12 36 20.7	-1.3
	0.3nm,0.3s,baz=306,slow=12,SNR=13							
WRA				Sn		Sn	12 38 52.1	-16
	0.6nm,0.3s,baz=146,slow=10,SNR=7.9							
ASAR	**Alice Springs**	**17.48**	**147**	P		P	12 36 55.8	-0.5
	0.2nm,0.3s,baz=318,slow=11,SNR=20							
ASAR				S		Sn	12 39 57.4	-13
	0.2nm,0.3s,baz=309,slow=20,SNR=7.7							
MKAR	**Makanchi Array**	**66.74**	**330**	P		P	12 43 42.7	0.0
	0.4nm,0.5s,baz=129,slow=7.9,SNR=15							

*DJA **27** 12:42:15,3.85N×95.93E,h10km,MLv3.5/3*

IDC 27 12:42:23.6±13.0,3.78N×95.92E,h133km±117km,mb3.4/6, mb1 3.5/7,mb1mx3.3/22,mbtmp3.3/7,ML4.0/1,Error ellipse: s-maj=110.2km s-min=16.4km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.89**	**11**	P		Pn	12 45 48.2	+0.7
	0.2nm,0.3s,baz=200,slow=10,SNR=4.1							
MKAR	**Makanchi Array**	**44.45**	**347**	P		P	12 50 20.9	-0.5
	0.4nm,0.4s,baz=156,slow=8.3,SNR=11							
WRA	**Warramunga Arr**	**44.50**	**123**	P		P	12 50 21.9	-0.3
	0.6nm,0.6s,baz=302,slow=9.2,SNR=7.8							
SONM	**Songino Array**	**44.81**	**10**	P		P	12 50 24.2	-0.2
	1.0nm,0.7s,baz=189,slow=8.6,SNR=12							
ASAR	**Alice Springs**	**45.98**	**128**	P		P	12 50 33.8	0.0
	0.3nm,0.6s,baz=300,slow=7.4,SNR=8.8							
ZALV	**Zalesovo Beam**	**50.83**	**352**	P		P	12 51 10.3	-0.1
	1.1nm,0.5s,baz=186,slow=8.6,SNR=12							
ARCES	**ARCESS Array B**	**79.69**	**340**	P		P	12 54 16.6	+0.3
	2.5nm,1.0s,baz=90,slow=6.3,SNR=2.6							

IDC 27 12:51:01.5±1.9,3.66N×127.46E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/18,mbtmp3.3/4,Error ellipse: s-maj=154.6km s-min=24.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.41**	**164**	P		P	12 56 22.4	+0.5
	0.4nm,0.4s,baz=343,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**27.88**	**167**	P		P	12 56 53.8	+0.6
	0.2nm,0.9s,baz=350,slow=7.4,SNR=5.3							
STKA	**Stephens Creek**	**37.81**	**160**	P		P	12 58 18.6	-1.3
	2.1nm,0.9s,baz=0.0,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**58.03**	**325**	P		P	13 00 56.3	0.0
	0.1nm,0.5s,baz=105,slow=3.3,SNR=2.7							

IDC 27 12:52:43.7±2.0,5.06S×151.78E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.3/15,mbtmp3.4/3,Error ellipse: s-maj=133.3km s-min=27.5km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.52**	**227**	P		P	12 57 45.5	+0.3
	0.7nm,0.5s,baz=52,slow=9.9,SNR=11							
ASAR	**Alice Springs**	**25.28**	**221**	P		P	12 58 11.8	-0.3
	1.6nm,0.7s,baz=56,slow=9.5,SNR=9.7							
ILAR	**Eielson Array**	**82.78**	**22**	P		P	13 05 09.5	+0.1
	0.2nm,0.8s,baz=226,slow=4.8,SNR=3.2							
TORD	**Torodi Ar. Bea**	**149.42**	**287**	PKPbc		PKPbc	13 12 35.4	-0.5
	0.2nm,0.4s,baz=70,slow=2.1,SNR=4.5							

*IDC **27** 13:02:03.2±0.8,1.22N×127.32E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/18,mbtmp4.0/8,ML4.4/1,MS3.3/3, Ms1 3.3/3,ms1mx2.7/28,Error ellipse: s-maj=37.0km s-min=13.2km az=77.0*

*ISCJB **27** 13:02:10.2±0.6,1.08N±0.07×126.97E±0.06,h72km, mb3.9/7,Error ellipse: s-maj=10.5km s-min=8.6km az=21.6*

*DJA **27** 13:02:11,1.04N×126.86E,h24km,MLv4.2/11*

ISC 27 13:02:11.6±0.8,1.03N±0.08×126.96E±0.07,h72km,n21, σ1.57/20,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**0.48**	**122**	P		**Pn**	**13 02 23.5**	**-1.0**
LBMI	**Labuha**	**1.74**	**162**	P		**Pn**	**13 02 40.2**	**+0.2**
MNI	**Manado**	**2.16**	**281**	P		**Pn**	**13 02 44.5**	**-1.0**
KMSI	**Cibinong**	**3.01**	**261**	P		**Pn**	**13 02 56.9**	**-0.1**
NLAI	**Namlea**	**4.24**	**178**	P		**Pn**	**13 03 14.2**	**+0.3**
LUWI	**Luwuk**	**4.66**	**244**	P		**Pn**	**13 03 22.8**	**+3.2**
MRSI	**Marisa**	**5.05**	**264**	P		**Pn**	**13 03 26.9**	**+2.1**
KDI	**Kendari**	**6.58**	**221**	P		**Pn**	**13 03 45.4**	**-0.5**
	62nm,1.4s,943nm0.3nm							
TTSI	**Tana Toraja**	**8.20**	**240**	P		**Pn**	**13 04 08.3**	**+0.3**
	19nm,0.9s,0.1nm							
SPSI	**Sidrap Palu**	**8.73**	**235**	P		**Pn**	**13 04 16.3**	**+1.1**
	36nm,0.4s,0.2nm							
TLE	**Tual**	**8.79**	**139**	P		Pn	13 04 21.7	+5.7
KAPI	**Kappang**	**9.37**	**230**	Pn		**Pn**	**13 04 23.9**	**-0.1**
	3.3nm,0.3s,baz=6.0,slow=11,SNR=14							
KAPI				Sn		**Sn**	**13 06 04.1**	**-3.8**
	1.7nm,0.3s,baz=281,slow=20,SNR=5.6							
GUMO	**Guam**	**21.68**	**54**	LR		LR	13 14 20.0	
	comp=Z,69nm,21.4s,baz=114,slow=35							
WRA	**Warramunga Arr**	**22.06**	**161**	P		**P**	**13 07 00.9**	**+0.2**
	2.0nm,0.4s,baz=338,slow=11,SNR=32							
WRA				S		**S**	**13 11 00.5**	**+0.5**
	1.5nm,1.0s,baz=332,slow=19,SNR=4.3							
ASAR	**Alice Springs**	**25.46**	**165**	P		**P**	**13 07 34.5**	**+1.4**
	3.9nm,0.5s,baz=347,slow=12,SNR=44							
ASAR				S		S	13 12 03.5	+8.3
	3.6nm,1.2s,baz=337,slow=17,SNR=13							
NWAO	**Narrogin (SRO)**	**35.00**	**194**	LR		LR	13 23 37.0	
	comp=Z,48nm,20.2s,baz=74,slow=37							
STKA	**Stephens Creek**	**35.55**	**158**	P		**P**	**13 09 02.8**	**+0.8**
	1.0nm,0.8s,baz=326,slow=9.5,SNR=4.8							
PETK	**Petropavlovsk-**	**57.84**	**21**	P		**P**	**13 11 54.6**	**-1.0**
	5.0nm,1.0s,baz=221,slow=11,SNR=3.5							
MKAR	**Makanchi Array**	**59.90**	**326**	P		**P**	**13 12 11.7**	**+1.5**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=12							

MKAR					LR	LR	13 39 59.9		
	comp=Z,27nm,20.6s,baz=249,slow=38								
KURK	**Kurchatov**	**64.13**	**328**	P	**P**		**13 12 39.6**	**+1.3**	
	0.8nm,0.5s,baz=128,slow=6.0,SNR=8.8								
ILAR	**Eielson Array**	**87.43**	**25**	P	**P**		**13 14 49.5**	**-1.4**	
	0.6nm,1.1s,baz=238,slow=2.9,SNR=4.8								

IDC 27 13:06:18.8±2.7, 54˚25N×87˚56E, h0km, mb1 2.9/2, mb1mx2.8/27, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=23.3km s-min=12.1km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.64**	**260**	Pg	Pn	13 06 46.7	-2.2
	3.3nm,0.3s,baz=78,slow=16,SNR=38						
ZALV				Lg	Lg	13 07 11.7	
	2.2nm,0.3s,baz=78,slow=26,SNR=6.9						
KURK	**Kurchatov**	**6.50**	**241**	Pn	Pn	13 07 57.1	+1.4
	0.1nm,0.3s,baz=65,slow=13,SNR=2.5						
KURK				Lg	Lg	13 09 51.5	
	baz=63,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	13 08 20.5	+1.7
	0.1nm,0.3s,baz=28,slow=15,SNR=10						
MKAR				Lg	Lg	13 10 39.3	
	0.0nm,0.3s,baz=33,slow=31,SNR=7.2						

DDA ***27*** *13:07:18.9, 37˚17N×35˚92E, h7km, MD2.8*
ISCJB ***27*** *13:07:19.7±0.6, 37˚17N±0˚03×35˚96E±0˚04, h13km±5km, Error ellipse: s-maj=5.8km s-min=5.6km az=21.7*
CSEM ***27*** *13:07:19.6±0.2, 37˚14N×35˚91E, h20km, MD2.5, Error ellipse: s-maj=5.7km s-min=5.1km az=57.0*
ISK ***27*** *13:07:19.4, 37˚15N×35˚97E, h13km, MD2.5*
ISC 27 13:07:19.7±1.0, 37˚15N±0˚03×35˚91E±0˚03, h17km±8km, n16, σ0§68/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.19**	**223**	*e*PG	**Pg**	**13 07 24.4**	**+0.1**
CEYT				*e*SG	**Sb**	**13 07 28.6**	**+0.6**
CEYT	**Ceyhan**	**0.19**	**223**	*e*Pg	**Pg**	**13 07 24.4**	**+0.1**
CEYT				*e*Sg	**Sb**	**13 07 28.6**	**+0.6**
KOZT	**Kozan**	**0.34**	**349**	*e*PG	**Pg**	**13 07 27.0**	**+0.2**
KOZT				*e*SG	**Sb**	**13 07 32.5**	**0.0**
KOZT	**Kozan**	**0.34**	**349**	*e*Pg	**Pg**	**13 07 27.0**	**+0.2**
KOZT				*e*Sg	**Sb**	**13 07 32.5**	**0.0**
COBT	**Iskenderun**	**0.69**	**156**	*i* P	**Pg**	**13 07 33.5**	**+0.3**
COBT				*i* S	**Sg**	**13 07 42.7**	**+0.4**
COBT	**Iskenderun**	**0.69**	**156**	*i* P	**Pg**	**13 07 33.5**	**+0.3**
COBT				*i* S	**Sg**	**13 07 42.7**	**+0.4**
KMRS	**Kahramanmaras**	**0.87**	**65**	*e*PG	**Pb**	**13 07 36.0**	**-0.4**
KMRS				*e*SG	**Sb**	**13 07 47.8**	**0.0**
KMRS	**Kahramanmaras**	**0.87**	**65**	*e*Pg	**Pb**	**13 07 36.0**	**-0.4**
KMRS				*e*Sg	**Sb**	**13 07 47.8**	**0.0**
GULE	**Gulek**	**0.91**	**279**	*i* P	**Pb**	**13 07 35.9**	**-1.3**
GULE				*i* S	**Sb**	**13 07 49.6**	**+0.5**
GULE	**Gulek**	**0.91**	**279**	*i* P	**Pb**	**13 07 35.9**	**-1.3**
GULE				*i* S	**Sb**	**13 07 49.7**	**+0.5**
GAZ	**Gaziantep**	**1.04**	**88**	*e*PG	**Pb**	**13 07 38.5**	**-0.9**
GAZ	**Gaziantep**	**1.04**	**88**	*e*Pg	**Pb**	**13 07 38.5**	**-0.9**
YAYL	**Yayladag**	**1.12**	**172**	*i* P	**Pb**	**13 07 39.4**	**-1.4**
YAYL				*i* S	**Sn**	**13 07 56.4**	**+0.5**
YAYL	**Yayladag**	**1.12**	**172**	*i* P	**Pb**	**13 07 39.4**	**-1.4**
YAYL				*i* S	**Sn**	**13 07 56.4**	**+0.5**
NIG	**Nigde**	**1.41**	**313**	*e*PN	**Pb**	**13 07 45.9**	**+0.2**
NIG	**Nigde**	**1.41**	**313**	*e*Pn	**Pb**	**13 07 45.9**	**+0.2**

DDA ***27*** *13:12:38.7, 39˚86N×41˚80E, h9km, MD3.1*
ISCJB ***27*** *13:12:39.9±0.5, 39˚85N±0˚03×41˚82E±0˚04, h13km±4km, Error ellipse: s-maj=4.8km s-min=4.2km az=22.2*
CSEM ***27*** *13:12:39.4±0.3, 39˚88N×41˚77E, h10km, MD3.1, Error ellipse: s-maj=6.1km s-min=5.1km az=26.0*
ISK ***27*** *13:12:39.5, 39˚86N×41˚80E, h16km, MD2.9*
ISC 27 13:12:39.7±1.0, 39˚87N±0˚03×41˚83E±0˚03, h13km±8km, n22, σ0§89/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.18**	**18**	*i* P	**Pg**	**13 12 43.5**	**-0.6**
HOMI				*i* S	**Sb**	**13 12 49.4**	**+0.7**
ERZM	**Erzurum**	**0.36**	**276**	*i* P	**Pg**	**13 12 46.6**	**-0.4**
ERZM				*i* S	**Sg**	**13 12 53.3**	**+1.3**
ERZM	**Erzurum**	**0.36**	**276**	*i* P	**Pg**	**13 12 46.6**	**-0.4**
ERZM				*i* S	**Sg**	**13 12 53.3**	**+1.3**
EZM	**Erzurum**	**0.36**	**276**	*e*PG	**Pg**	**13 12 46.9**	**-0.2**
EZM				*e*SG	**Sg**	**13 12 52.5**	**+0.4**
VRTB	**Varto-Mus**	**0.77**	**202**	*e*PG	**Pb**	**13 12 55.3**	**+0.4**
VRTB				*e*SG	**Sb**	**13 13 05.4**	**+0.1**
VRTB	**Varto-Mus**	**0.77**	**202**	*e*Pg	**Pb**	**13 12 55.3**	**+0.4**
VRTB				*e*Sg	**Sb**	**13 13 05.4**	**+0.1**
TUTA	**Tutak**	**0.89**	**121**	*i* P	**Pb**	**13 12 56.4**	**-0.8**
TUTA				*i* S	**Sn**	**13 13 12.1**	**+1.1**
TUTA	**Tutak**	**0.89**	**121**	*i* P	**Pb**	**13 12 56.3**	**-0.8**
TUTA				*i* S	**Sn**	**13 13 12.1**	**+1.1**
AGRB	**Hanur-Agry**	**0.94**	**108**	*e*PG	**Pn**	**13 12 58.4**	**-0.4**
AGRB				*e*SG	**Sn**	**13 13 12.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**108**	*e*Pg	**Pn**	**13 12 58.4**	**-0.4**
AGRB				*e*Sg	**Sn**	**13 13 12.3**	**+0.1**
DDEM	**Demirkent**	**1.02**	**357**	*i* P	**Pb**	**13 12 58.6**	**-0.8**
DDEM				*i* S	**Sb**	**13 13 13.1**	**+0.3**
DDEM	**Demirkent**	**1.02**	**357**	*i* P	**Pb**	**13 12 58.6**	**-0.8**
DDEM				*i* S	**Sb**	**13 13 13.1**	**+0.3**
KOPT	**Kop Dagi**	**1.04**	**279**	*i* P	**Pb**	**13 12 57.9**	**-1.8**
KOPT				*i* S	**Sn**	**13 13 15.9**	**+1.2**
KOPT	**Kop Dagi**	**1.04**	**279**	*i* P	**Pb**	**13 12 57.9**	**-1.8**
BNGL	**BINGOL**	**1.06**	**210**	*e*P	**Pb**	**13 12 57.6**	**-2.4**
BNGL				*e*S	**Sn**	**13 13 14.5**	**-0.6**
DAGI	**Agillar**	**1.21**	**3**	*i* P	**Pn**	**13 13 01.6**	**-0.8**
DAGI				*i* S	**Sb**	**13 13 17.9**	**-0.2**
ARTV	**Artvin**	**1.32**	**3**	*i* P	**Pn**	**13 13 04.2**	**+0.2**
ARTV				*i* S	**Sg**	**13 13 23.4**	**+1.2**
ARTV	**Artvin**	**1.32**	**3**	*i* P	**Pn**	**13 13 04.2**	**+0.2**
ARTV				*i* S	**Sg**	**13 13 23.4**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.40**	**293**	*e*PN	**Pn**	**13 13 04.9**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.40**	**293**	*e*Pn	**Pn**	**13 13 04.9**	**-0.2**
BCA	**Borcka**	**1.58**	**354**	*e*PN	**Pn**	**13 13 07.6**	**+0.1**
BCA	**Borcka**	**1.58**	**354**	*e*Pn	**Pn**	**13 13 07.6**	**+0.1**

IDC 27 13:37:48.0±1.9, 1˚26N×125˚22E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=181.7km s-min=25.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.89**	**157**	P	P	13 42 54.4	+0.9
	0.4nm,0.4s,baz=336,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.18**	**162**	P	P	13 43 23.4	-1.0
	0.1nm,0.8s,baz=338,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**58.74**	**327**	P	P	13 47 48.0	+0.2
	0.2nm,0.5s,baz=124,slow=8.9,SNR=6.0						

ISCJB ***27*** *13:39:10.8±0.4, 50˚30N±0˚03×18˚83E±0˚03, h0km, Error ellipse: s-maj=4.2km s-min=2.2km az=13.4*
WAR ***27*** *13:39:12.9, 50˚23N×18˚92E*
CSEM ***27*** *13:39:12.4±0.1, 50˚26N×18˚84E, h2km, ML2.6/3, Error ellipse: s-maj=4.3km s-min=2.0km az=9.0*
IPEC ***27*** *13:39:12.8±0.1, 50˚25N×18˚88E, h3km±1km, ML2.6/3, Error ellipse: s-maj=2.3km s-min=0.8km az=167.0*
IDC ***27*** *13:39:13.8±2.2, 50˚20N×18˚79E, h0km, mb1 3.5/3, mb1mx3.1/22, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=40.2km s-min=8.6km az=132.0*
BGR ***27*** *13:39:13.2±2.1, 49˚87N×18˚70E, h1km, ML3.4/6, Error ellipse: s-maj=21.1km s-min=11.1km az=53.0*
VIE ***27*** *13:39:17.9±0.8, 49˚76N×18˚71E, h0km, mb2.1/2, ML3.0/4, Error ellipse: s-maj=5.4km s-min=5.0km az=160.0 34 km ESE of Ostrava Suspected Mining induced.*
ISC 27 13:39:11.7±0.7, 50˚24N±0˚03×18˚88E±0˚02, h0km, n80, σ1§40/122, 11C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.47**	**251**	*e*Pg	**Pb**	**13 39 23.1**	**+0.2**
RAC				*e*Sg	**Sb**	**13 39 30.3**	**-0.1**
OJC	**Ojcow**	**0.59**	**92**	*e*Pg	**Pb**	**13 39 24.0**	**-0.9**
OJC				*e*Sg	**Sb**	**13 39 32.0**	**-1.8**
OJC	**Ojcow**	**0.59**	**92**	*e*Pg	**Pb**	**13 39 24.0**	**-0.9**
	baz=274						
OJC				*e*Sg	**Sg**	**13 39 31.7**	**+1.1**
	baz=274						
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*PG	**Pg**	**13 39 24.9**	**+1.3**
OKC				*e*SG	**Sg**	**13 39 31.6**	**-0.1**
	comp=Z,78nm,0.3s						
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*Pg	**Pg**	**13 39 25.0**	**+1.3**
	baz=48						
OKC				*e*Sg	**Sg**	**13 39 32.8**	**+1.1**
	baz=48						
MORC	**Moravsky Berou**	**0.98**	**242**	⇓*i*P	**Pb**	**13 39 31.7**	**+0.1**
MORC				S	**Sg**	**13 39 44.5**	**+1.2**
MORC	**Moravsky Berou**	**0.98**	**242**	*e*Pg	**Pg**	**13 39 31.2**	**+0.7**
	baz=60						
MORC	**Moravsky Berou**	**0.98**	**242**	⇓*i*P	**Pb**	**13 39 31.7**	**+0.1**
MORC				*e*Sg	**Sg**	**13 39 43.7**	**+0.4**
	169nm,0.5s,baz=60						
MORC				S	**Sg**	**13 39 44.5**	**+1.2**
LIKS	**Likavka**	**1.20**	**173**	*e*PG	**Pg**	**13 39 34.8**	**+0.1**
LIKS				*e*SG	**Sn**	**13 39 52.6**	**-0.2**
LIKS	**Likavka**	**1.20**	**173**	*e*Pg	**Pg**	**13 39 34.8**	**+0.1**
LIKS				*e*Sg	**Sn**	**13 39 52.6**	**-0.2**
NIE	**Niedzica**	**1.24**	**131**	*e*Pg	**Pn**	**13 39 36.6**	**+0.3**
NIE				*e*Sg	**Sn**	**13 39 53.3**	**-0.5**
KRLC	**Kraliky**	**1.36**	**264**	*e*PG	**Pn**	**13 39 37.3**	**-0.7**
KRLC				*e*SG	**Sn**	**13 39 54.6**	**-2.2**
KRLC	**Kraliky**	**1.36**	**264**	Pg	**Pn**	**13 39 37.3**	**-0.7**
KRLC				Sg	**Sn**	**13 39 54.6**	**-2.2**
DPC	**Dobruska-Polom**	**1.65**	**275**	*e*PG	**Pn**	**13 39 42.2**	**+0.2**
DPC				*e*SG	**Sn**	**13 40 04.4**	**+0.6**
	comp=Z,59nm,0.3s						
DPC	**Dobruska-Polom**	**1.65**	**275**	Pg	**Pn**	**13 39 42.2**	**+0.2**
DPC				*e*Sg	**Sn**	**13 40 04.4**	**+0.6**
	baz=92						
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	**Pn**	**13 39 43.5**	**+0.2**
VYHS				*e*SN	**Sn**	**13 40 05.9**	**-0.4**
VYHS	**Vyhne**	**1.75**	**181**	*e*Pn	**Pn**	**13 39 43.5**	**+0.2**
VYHS				*e*Sn	**Sn**	**13 40 05.9**	**-0.4**
VRAC	**Vranov**	**1.75**	**239**	Pg	**Pb**	**13 39 44.9**	**+0.1**
	4.1nm,0.3s,baz=56,slow=14,SNR=21						
VRAC				Lg	Lg	13 40 07.1	
	15nm,0.3s,baz=144,slow=20,SNR=20						
VRAC	**Vranov**	**1.75**	**239**	⇓*i*P	**Pb**	**13 39 44.8**	**0.0**
VRAC	**Vranov**	**1.75**	**239**	*e*Pn	**Pn**	**13 39 44.4**	**+1.0**
	baz=56						
VRAC	**Vranov**	**1.75**	**239**	⇓*i*P	**Pb**	**13 39 44.8**	**0.0**
VRAC				S	**Sn**	**13 40 07.3**	**+0.9**
KSP	**Ksiaz**	**1.76**	**291**	*e*Pn	**Pn**	**13 39 43.9**	**+0.4**
KSP				*e*Pg	**Pg**	**13 39 45.9**	**+0.5**
KSP				*e*Sg	**Sg**	**13 40 09.4**	**+1.3**
KSP	**Ksiaz**	**1.76**	**291**	*e*Pn	**Pn**	**13 39 43.9**	**+0.4**
KSP				*i* Pg	**Pg**	**13 39 46.0**	**+0.5**
KSP				*e*Sg	**Sg**	**13 40 09.5**	**+1.3**
KSP	**Ksiaz**	**1.76**	**291**	*e*Pn	**Pn**	**13 39 43.9**	**+0.4**
UPC	**Upice**	**1.86**	**279**	*e*PG	**Pb**	**13 39 46.5**	**0.0**
UPC				*e*SG	**Sb**	**13 40 11.3**	**+1.0**
UPC	**Upice**	**1.86**	**279**	Pg	**Pb**	**13 39 46.5**	**0.0**
UPC				Sg	**Sb**	**13 40 11.3**	**+1.0**
SMOL	**Smolenice**	**1.97**	**209**	*e*SN	**Sn**	**13 40 10.9**	**-0.9**
SMOL	**Smolenice**	**1.97**	**209**	*e*Sn	**Sn**	**13 40 10.9**	**-0.9**
KRUC	**Moravsky**	**2.00**	**235**	*e*Pn	**Pn**	**13 39 47.6**	**+0.8**
	baz=53						
KRUC				*e*Sn	**Sb**	**13 40 14.1**	**-0.4**
	30nm,0.4s,baz=53						
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*PN	**Pn**	**13 39 49.5**	**+0.7**
CRVS				*e*		13 39 52.1	
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*Pn	**Pn**	**13 39 49.5**	**+0.7**
ZST	**Bratislava**	**2.36**	**210**	*e*SN	**Sn**	**13 40 21.4**	**+0.1**
ZST	**Bratislava**	**2.36**	**210**	*e*Sn	**Sn**	**13 40 21.4**	**+0.1**
PSZ	**Piszkesteto**	**2.42**	**164**	⇓*i*P	**Pn**	**13 39 53.3**	**+0.7**
PSZ	**Piszkesteto**	**2.42**	**164**	⇓*i*P	**Pn**	**13 39 53.3**	**+0.7**
KWP	**Kalwaria Pacla**	**2.54**	**102**	*e*Pb	**Pb**	**13 39 58.9**	**+0.6**
KWP				*e*Pg	**Pg**	**13 40 03.4**	**+2.9**
KWP	**Kalwaria Pacla**	**2.54**	**102**	⇓*i*P	**Pn**	**13 39 55.9**	**+1.6**
KWP	**Kalwaria Pacla**	**2.54**	**102**	⇓*i*P	**Pn**	**13 39 55.9**	**+1.6**
KWP	**Kalwaria Pacla**	**2.54**	**102**	*e*Pb	**Pb**	**13 39 58.9**	**+0.6**
KOLS	**Kolonicke sedl**	**2.56**	**119**	*e*PN	**Pn**	**13 39 55.0**	**+0.5**
KOLS				*e*		13 40 00.8	
KOLS	**Kolonicke sedl**	**2.56**	**119**	*e*Pn	**Pn**	**13 39 55.0**	**+0.5**
KOLS				*e*Sn	**Sn**	**13 40 26.8**	**+0.4**
PRU	**Pruhonice**	**2.81**	**266**	*e*PN	**Pn**	**13 39 57.3**	**-0.5**
PRU				*e*PG	**Pb**	**13 40 02.6**	**-0.1**
PRU				*e*SG	**Sb**	**13 40 39.0**	**+1.4**
	comp=Z,23nm,0.3s						
PRU	**Pruhonice**	**2.81**	**266**	Pn	**Pn**	**13 39 57.3**	**-0.5**
PRU	**Pruhonice**	**2.81**	**266**	Pg	**Pb**	**13 40 02.6**	**-0.1**
PRU				Sg	**Sb**	**13 40 39.0**	**+1.4**
	23nm,0.3s						
CONA	**Conrad Observa**	**3.05**	**222**	⇑*i*Pn	**Pn**	**13 40 01.7**	**+0.4**
CONA				⇑*i*Sn	**Sn**	**13 40 35.0**	**-3.5**
CONA	**Conrad Observa**	**3.05**	**222**	Pn	**Pn**	**13 40 01.7**	**+0.4**
CONA				Sn	**Sn**	**13 40 35.0**	**-3.5**
TRPA	**Tarpa**	**3.20**	**130**	⇑*i*P	**Pn**	**13 40 04.9**	**+1.7**
TRPA	**Tarpa**	**3.20**	**130**	⇑*i*P	**Pn**	**13 40 04.9**	**+1.7**
BRG	**Berggiesshubel**	**3.21**	**283**	PG	**Pb**	**13 40 11.8**	**+2.2**
BRG				SG	**Sg**	**13 40 53.5**	**-1.4**
	17nm,0.4s						
BRG	**Berggiesshubel**	**3.21**	**283**	*e*Sg	**Sg**	**13 40 55.1**	**+0.2**
BRG	**Berggiesshubel**	**3.21**	**283**	Sg	**Sg**	**13 40 55.1**	**+0.2**
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	**Pn**	**13 40 09.2**	**+0.1**
KHC				*e*PG	**Pb**	**13 40 16.3**	**-0.3**
KHC				*e*SG	**Sb**	**13 41 05.3**	**+4.3**
	comp=Z,41nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	Pn	**Pn**	**13 40 09.2**	**+0.1**
KHC				Sg	**Sb**	**13 41 05.3**	**+4.3**
	41nm,0.6s						
GEC2	**GERESS Array S**	**3.65**	**249**	*e*Pg	**Pb**	**13 40 18.3**	**+1.1**
GEC2	**GERESS Array S**	**3.65**	**249**	Pg	**Pb**	**13 40 18.3**	**+1.1**
GERES	**GERESS Array B**	**3.65**	**249**	Pn	**Pn**	**13 40 12.3**	**+2.8**
	0.2nm,0.3s,baz=66,slow=13,SNR=6.2						
GERES				Pg	**Pb**	**13 40 18.5**	**+1.3**
	1.0nm,0.3s,baz=66,slow=15,SNR=12						
GERES				Sn	**Sn**	**13 40 50.5**	**-2.9**
	1.5nm,0.3s,baz=66,slow=21,SNR=6.5						
GERES				Lg	Lg	13 41 06.7	
	3.3nm,0.3s,baz=70,slow=23,SNR=5.3						
MOA	**Molln**	**3.87**	**234**	⇑*i*Pn	**Pn**	**13 40 14.1**	**+1.6**
MOA				⇓*i*Sg	**Sg**	**13 41 13.1**	**-2.8**
	39nm,0.7s						
MOA	**Molln**	**3.87**	**234**	Pn	**Pn**	**13 40 14.1**	**+1.6**
MOA				Sg	**Sg**	**13 41 13.1**	**-2.8**
	39nm,0.7s						
CLL	**Collm**	**3.88**	**288**	*e*Sg	**Sg**	**13 41 16.5**	**+0.1**
CLL	**Collm**	**3.88**	**288**	*e*Pg	**Pg**	**13 40 27.0**	**+0.9**
CLL				*e*Sg	**Sg**	**13 41 17.0**	**+0.6**
	comp=Z,25nm,0.5s						
CLL	**Collm**	**3.88**	**288**	Sg	**Sg**	**13 41 16.5**	**+0.1**
WET	**Wettzell**	**4.05**	**257**	*e*Pg	**Pb**	**13 40 25.4**	**+1.5**
WET				*e*Sg	**Sb**	**13 41 15.2**	**+1.8**
WET	**Wettzell**	**4.05**	**257**	Pg	**Pb**	**13 40 25.4**	**+1.5**
WERN	**Wernitzgruen**	**4.17**	**273**	*e*Sg	**Sg**	**13 41 22.9**	**-2.9**
WERN	**Wernitzgruen**	**4.17**	**273**	Sg	**Sg**	**13 41 22.9**	**-2.9**
GUNZ	**Gunzen**	**4.20**	**274**	*e*Sg	**Sg**	**13 41 25.2**	**-1.4**
GUNZ	**Gunzen**	**4.20**	**274**	Sg	**Sg**	**13 41 25.2**	**-1.4**
DRGR		**4.29**	**142**	⇑*i*P	**Pn**	**13 40 18.9**	**+0.6**
DRGR		**4.29**	**142**	⇑*i*P	**Pn**	**13 40 18.9**	**+0.6**
TRIB	**Obertriebel**	**4.33**	**274**	*e*Sg	**Sg**	**13 41 28.4**	**-2.2**
TRIB	**Obertriebel**	**4.33**	**274**	Sg	**Sg**	**13 41 28.4**	**-2.2**
BURAR	**Bucovina Array**	**4.93**	**120**	⇑*i*P	**Pn**	**13 40 28.5**	**+1.3**
BURAR	**Bucovina Array**	**4.93**	**120**	⇑*i*P	**Pn**	**13 40 28.5**	**+1.3**
BZS	**Buzias**	**4.98**	**157**	⇑*i*P	**Pn**	**13 40 27.6**	**-0.1**
BZS	**Buzias**	**4.98**	**157**	⇑*i*P	**Pn**	**13 40 27.6**	**-0.1**
GZR	**Gura Zlata**	**5.51**	**150**	⇓*i*P	**Pn**	**13 40 36.2**	**+1.1**
GZR	**Gura Zlata**	**5.51**	**150**	⇓*i*P	**Pn**	**13 40 36.2**	**+1.1**
AKASG	**Malin Array Be**	**6.62**	**82**	Pg	**Pg**	**13 41 16.2**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=271,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**11.92**	**17**	Pn	**Pn**	**13 42 00.3**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=196,slow=12,SNR=6.6						
FINES				Sn	Sn	13 44 06.3	-10
	comp=Z,0.2nm,0.3s,baz=202,slow=21,SNR=4.6						
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn	**P**	**13 43 40.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=3.7						

IDC 27 13:51:10.4±61.0, 20˚61S×176˚49W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=1129.0km s-min=173.4km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.02**	**245**	P	P	13 58 38.2	-0.7
	0.7nm,0.5s,baz=95,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**45.87**	**257**	P	P	13 59 34.6	-0.3
	0.8nm,0.7s,baz=99,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**45.98**	**262**	P	P	13 59 36.2	+0.4
	0.3nm,0.3s,baz=95,slow=8.3,SNR=13						

IDC 27 14:09:01.2±5.2, 19˚46S×169˚41E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/22, Error ellipse: s-maj=132.6km s-min=35.1km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.80**	**226**	Pn	Pn	14 10 01.6	+0.5
	5.7nm,0.3s,baz=55,slow=19,SNR=125						
DZM				LR	LR	14 10 42.7	
	comp=Z,119nm,19.7s,baz=41,slow=27						
DZM				Sn	Sn	14 10 47.5	+0.8
	8.3nm,0.3s,baz=14,slow=14,SNR=4.6						
NOUC	**Port Laguerre**	**3.92**	**227**	*e*P	Pn	14 10 02.4	-0.2
NOUC				*e*S	Sn	14 10 50.5	+1.2
STKA	**Stephens Creek**	**27.86**	**238**	P	P	14 14 52.2	-0.5
	0.9nm,0.7s,baz=89,slow=10,SNR=3.7						
STKA				LR	LR	14 25 47.0	
	comp=Z,85nm,19.9s,baz=204,slow=36						
WRA	**Warramunga Arr**	**32.98**	**263**	P	P	14 15 38.1	0.0
	0.4nm,0.7s,baz=92,slow=8.0,SNR=4.4						
ASAR	**Alice Springs**	**33.23**	**256**	P	P	14 15 40.1	-0.1
	5.9nm,0.6s,baz=86,slow=9.1,SNR=109						
SONM	**Songino Array**	**87.49**	**323**	P	P	14 21 51.0	+0.2
	0.6nm,1.1s,baz=130,slow=6.2,SNR=3.9						

IDC ***27*** *14:13:29.9±8.2, 36˚11N×69˚96E, h170km±68km, mb3.1/5, mb1 3.2/9, mb1mx3.0/28, mbtmp3.1/9, Error ellipse: s-maj=50.6km s-min=28.7km az=45.0*
ISCJB ***27*** *14:13:35.2±0.6, 36˚47N±0˚04×70˚2E±0˚1, h213km, mb3.2/4, Error ellipse: s-maj=12.2km s-min=4.0km az=164.4*
NNC ***27*** *14:13:41.3±6.1, 36˚85N×70˚47E, h210km±52km, mb2.6, mpv3.7, Error ellipse: s-maj=53.5km s-min=32.9km az=9.0*
ISC 27 14:13:35.7±0.9, 36˚44N±0˚06×70˚0E±0˚1, h213km, n42, σ1§21/54, mb3.3/4, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.03**	**149**	⇓P	**Pn**	**14 14 28.4**	**+1.9**
CEP				S	**S**	**14 15 07.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.83**	**135**	⇓P	**Pn**	**14 14 37.5**	**+1.5**
THW	**Thamme Wali**	**3.90**	**158**	⇓P	**Pn**	**14 14 38.4**	**+1.6**
THW				S	**S**	**14 15 23.0**	**-1.5**
SARP	**Sargodha**	**5.01**	**153**	P	**Pn**	**14 14 51.3**	**+0.8**
THN	**Thein Dam**	**6.16**	**129**	*e*P	**Pn**	**14 15 04.4**	**-0.8**
THN				*e*S	S	14 16 04.0	-12
AML	**Almayashu**	**6.35**	**25**	P	**Pn**	**14 15 07.8**	**-0.1**
	SNR=102						
AML				P	**Pn**	**14 15 07.8**	**-0.1**
	SNR=102						
KK31	**Karatay Array**	**6.67**	**3**	P	**Pn**	**14 15 12.0**	**+0.4**
	2.0nm,0.5s,baz=173,slow=12,SNR=62						
KK31				⇑S	**S**	**14 16 24.1**	**-3.7**
	16nm,0.9s,baz=187,slow=24,SNR=5.4						
UCH	**Uchtor**	**6.74**	**30**	P		14 16 25.8	
	SNR=6.3						
UCH				P		14 16 25.8	
	SNR=6.3						
EKS2	**Erkin-Say**	**6.85**	**24**	P	**Pn**	**14 15 14.3**	**+0.2**
	SNR=22						
EKS2				P	**Pn**	**14 15 14.3**	**+0.

σ2^{9}01/39, **mb3.4**/14, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.50**	**102**	P	**Pn**	**14 16 49.2**	**-1.6**
	79nm,0.3s,baz=278,slow=19,SNR=114						
CBIJ				S	**S**	**14 17 21.4**	**-3.8**
	175nm,0.3s,baz=294,slow=20,SNR=24						
CBIJ	**Chichi jima**	**1.50**	**102**	P	**Pn**	**14 16 49.3**	**-1.6**
CBIJ				S	**S**	**14 17 21.5**	**-3.7**
JHHJ	**Haha-jima-NKT**	**1.66**	**118**	P	**Pn**	**14 16 50.9**	**-1.0**
JHHJ				S	**S**	**14 17 24.5**	**-2.6**
JHJ	**Mitsune**	**5.72**	**354**	P	**Pn**	**14 17 35.1**	**+1.6**
BSO1	**Boso 1**	**7.23**	**3**	P	**Pn**	**14 17 52.0**	**+0.8**
BSO1				eS	**S**	**14 19 13.3**	**-1.8**
BSO2	**Boso 2**	**7.32**	**1**	eS	**S**	**14 19 14.9**	**-2.6**
BSO3	**Boso 3**	**7.37**	**360**	P	**Pn**	**14 17 54.0**	**+0.8**
BSO3				eS	**S**	**14 19 16.4**	**-2.2**
BSO4	**Boso 4**	**7.56**	**359**	eS	**S**	**14 19 21.7**	**-1.4**
JOD2	**Odawara 2**	**7.92**	**351**	P	**Pn**	**14 18 01.6**	**+1.3**
JOD2				eS	**S**	**14 19 31.4**	**-0.2**
JHU	**Hanno**	**8.48**	**353**	eS	**S**	**14 19 40.7**	**-3.4**
JRY	**Ryogami san**	**8.69**	**351**	P	**Pn**	**14 18 11.2**	**+1.5**
JRY				eS	**S**	**14 19 46.0**	**-2.9**
JYT	**Yasato**	**8.79**	**358**	eS	**S**	**14 19 46.9**	**-4.2**
JAG	**Ashikaga**	**9.03**	**354**	P	**Pn**	**14 18 13.2**	**-0.7**
JAG				eS	**S**	**14 19 52.2**	**-4.3**
JHO	**Hitachi**	**9.17**	**0**	eS	S	14 19 54.1	-5.6
MJAR	**Matsushiro Arr**	**9.32**	**348**	P	**Pn**	**14 18 17.6**	**+0.2**
	0.1nm,0.3s,baz=182,slow=12,SNR=2.9						
JNU	**Nakatsue**	**10.11**	**307**	P	**Pn**	**14 18 27.2**	**+0.1**
	0.2nm,0.3s,baz=111,slow=8.6,SNR=3.3						
KSRS	**Korea Array**	**14.61**	**316**	P	**Pn**	**14 19 22.7**	**+1.3**
	0.4nm,0.3s,baz=133,slow=12,SNR=18						
ASAJ	**Asahikawa**	**16.75**	**5**	P	**Pn**	**14 19 47.2**	**+0.8**
	0.1nm,0.3s,baz=124,slow=11,SNR=3.0						
SONM	**Songino Array**	**33.48**	**317**	P	**P**	**14 22 19.8**	**+0.4**
	0.3nm,0.4s,baz=125,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**47.46**	**188**	P	**P**	**14 24 11.6**	**-1.5**
	0.3nm,0.4s,baz=11,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**49.15**	**309**	P	**P**	**14 24 25.3**	**-0.4**
	0.3nm,0.5s,baz=88,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**51.18**	**188**	P	**P**	**14 24 39.0**	**-2.1**
	0.3nm,0.9s,baz=8.8,slow=5.7,SNR=2.9						
KURK	**Kurchatov**	**51.72**	**314**	P	**P**	**14 24 44.8**	**+0.1**
	0.9nm,0.6s,baz=91,slow=7.9,SNR=6.4						
BVAR	**Borovoye Array**	**56.82**	**317**	P	**P**	**14 25 21.2**	**0.0**
	1.5nm,0.4s,baz=92,slow=6.6,SNR=18						
ILAR	**Eielson Array**	**58.14**	**29**	P	**P**	**14 25 31.7**	**+1.5**
	0.6nm,0.8s,baz=247,slow=6.7,SNR=7.3						
YKA	**Yellowknife Ar**	**72.56**	**28**	P	**P**	**14 27 03.8**	**+1.7**
	0.5nm,0.5s,baz=294,slow=5.8,SNR=11						
ARCES	**ARCESS Array B**	**72.76**	**341**	P	**P**	**14 27 04.1**	**+0.9**
	1.6nm,0.5s,baz=60,slow=9.5,SNR=17						
FINES	**FINESS Array B**	**77.01**	**333**	P	**P**	**14 27 27.8**	**+0.3**
	1.9nm,0.3s,baz=72,slow=5.0,SNR=8.3						
NVAR	**Mina Array Bea**	**81.47**	**51**	P	**P**	**14 27 54.8**	**+2.6**
	0.2nm,0.5s,baz=299,slow=6.0,SNR=3.0						
HFS	**Hagfors**	**82.55**	**336**	P	**P**	**14 27 56.9**	**-0.1**
	0.9nm,0.3s,baz=64,slow=6.6,SNR=3.5						
NOA	**NORSAR Array B**	**82.77**	**338**	P	**P**	**14 27 58.3**	**+0.1**
	2.1nm,0.8s,baz=46,slow=4.9,SNR=2.8						
GERES	**GERESS Array B**	**90.48**	**328**	P	**P**	**14 28 36.2**	**+0.4**
	0.4nm,0.4s,baz=48,slow=4.5,SNR=4.4						

IDC ***27*** *14:21:48.2±2.8, 15°.17N×93°.55W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=108.6km s-min=49.8km az=62.0*
ISCJB ***27*** *14:21:54.3±0.8, 15°.20N±0°.07×94°.30W±0°.03, h28km, mb3.6/3, Error ellipse: s-maj=10.0km s-min=4.1km az=4.7*
MEX ***27*** *14:21:57.5±1.2, 15°.18N×94°.30W, h16km±15km, MD4.0*

ISC 27 14:21:55.1±1.0, 15°.19N±0°.08×94°.28W±0°.04, h28km, n14,
σ1^{9}23/23, mb3.7/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.14**	**63**	*e*P	**Pn**	**14 22 14.6**	**-0.6**
PCIG				*i* S	**Sn**	**14 22 28.6**	**-1.4**
HUIG	**Huatulco**	**1.86**	**288**	*i* P	**Pn**	**14 22 25.3**	**+0.2**
HUIG				*i* S	**Sn**	**14 22 45.5**	**-2.2**
TGIG		**1.93**	**35**	*i* P	**Pn**	**14 22 26.5**	**+0.2**
TGIG				*i* S	**Sn**	**14 22 50.2**	**+0.6**
THIG		**1.96**	**98**	*i* P	**Pn**	**14 22 26.9**	**+0.3**
THIG				*i* S	**Sn**	**14 22 50.1**	**-0.1**
CMIG	**Matias Romero**	**1.98**	**343**	Pn	**Pn**	**14 22 27.3**	**+0.5**
	20nm,0.3s,baz=160,slow=14,SNR=99						
CMIG				Sn	**Sn**	**14 22 50.0**	**-0.8**
	78nm,0.3s,baz=75,slow=20,SNR=24						
CMIG	**Matias Romero**	**1.98**	**343**	*e*P	**Pn**	**14 22 27.2**	**+0.3**
CMIG				*i* S	**Sn**	**14 22 49.5**	**-1.3**
CCIG	**Comitan**	**2.33**	**62**	*e*P	**Pn**	**14 22 33.6**	**+1.8**
CCIG				*i* S	**Sn**	**14 22 59.8**	**+0.2**
VHO	**Vista Hermosa**	**3.02**	**309**	*e*P	**Pn**	**14 22 42.6**	**+1.4**
VHO				*i* S	**Sn**	**14 23 15.1**	**-1.5**
PNIG	**Pinotepa**	**3.90**	**288**	*i* P	**Pn**	**14 22 54.5**	**+1.3**
PNIG				*i* S	**Sn**	**14 23 38.9**	**+0.8**
TXAR	**Lajitas Array**	**16.53**	**330**	Pn	**Pn**	**14 25 47.1**	**+1.9**
	0.0nm,0.3s,baz=147,slow=18,SNR=2.6						
NVAR	**Mina Array Bea**	**31.38**	**322**	P	**P**	**14 28 15.4**	**+1.5**
	1.1nm,1.0s,baz=130,slow=9.5,SNR=4.1						
YKA	**Yellowknife Ar**	**49.39**	**348**	P	**P**	**14 30 40.8**	**-1.2**
	0.7nm,0.8s,baz=153,slow=7.4,SNR=10						
ILAR	**Eielson Array**	**60.89**	**337**	P	**P**	**14 32 04.1**	**-1.0**
	0.4nm,1.0s,baz=129,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**133.53**	**257**	PKP	**PKPdf**	**14 41 08.4**	**-1.4**
	0.3nm,0.6s,baz=95,slow=2.3,SNR=3.3						

ISCJB ***27*** *14:24:04.6±0.5, 59°.55N±0°.03×22°.11E±0°.06, h0km, Error ellipse: s-maj=4.3km s-min=3.9km az=153.0*
CSEM ***27*** *14:24:05.8±0.2, 59°.54N×22°.17E, h2km, ML2.0, Error ellipse: s-maj=5.3km s-min=5.2km az=48.0, Mining explosion.*
NAO ***27*** *14:24:05.9±1.2, 59°.57N×22°.30E, ML2.2*
HEL ***27*** *14:24:06.4±0.3, 59°.51N×22°.14E, h0km, ML2.0, ML2.2(NAO), Explosion*
BER ***27*** *14:24:06.6±4.5, 59°.56N×22°.26E, h0km, ML2.2(NAO), Suspected explosion*
IDC ***27*** *14:24:07.4±1.9, 59°.60N×22°.14E, h0km, mb1 3.0/4, mb1mx2.9/26, mbtmp2.9/4, ML2.7/4, Error ellipse: s-maj=24.5km s-min=7.7km az=165.0*

ISC 27 14:24:04.9±0.8, 59°.57N±0°.03×22°.19E±0°.03, h0km, n34,
σ1^{9}51/55, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.20**	**135**	*e*P	**Pg**	**14 24 27.3**	**-0.6**
MTSE				*e*S	**Sg**	**14 24 43.5**	**0.0**
MTSE	**Matsula**	**1.20**	**135**	P	**Pg**	**14 24 27.3**	**-0.6**
MTSE				S	**Sg**	**14 24 43.4**	**0.0**
MEF	**Metsahovi**	**1.29**	**59**	*e*P	**Pg**	**14 24 29.1**	**-0.5**
MEF				MSG		14 24 46.9	
	comp=Z,10nm,0.4s						
MEF				*e*S		14 24 46.9	
MEF				*e*RG	Rg	14 24 47.8	
MEF	**Metsahovi**	**1.29**	**59**	*e*P	**Pg**	**14 24 30.0**	**+0.5**
	SNR=70						
MEF				S	**Sg**	**14 24 46.9**	**+0.7**
RAF	**Rauma**	**1.47**	**352**	*e*P	**Pg**	**14 24 33.3**	**+0.2**
RAF				*e*S	**Sn**	**14 24 53.1**	**+0.5**
RAF	**Rauma**	**1.47**	**352**	P	**Pg**	**14 24 33.3**	**+0.2**
RAF				S	**Sn**	**14 24 53.0**	**+0.5**
SLIT	**Slitere, Latvi**	**1.95**	**178**	*e*P	**Pn**	**14 24 39.9**	**+0.7**
	SNR=50						
SLIT				*e*S	**Sb**	**14 25 06.7**	**+0.6**
	comp=Z,110nm,0.2s,SNR=50						
PVF	**Pernaja**	**2.08**	**60**	*e*P	**Pn**	**14 24 42.6**	**+1.6**
PVF				*e*SG	**Sb**	**14 25 11.5**	**+1.6**
PVF				MSG		14 25 11.5	
	comp=Z,7.4nm,0.4s						
PVF	**Pernaja**	**2.08**	**60**	P	**Pn**	**14 24 42.6**	**+1.6**
PVF				Sg	**Sb**	**14 25 11.5**	**+1.6**
VSU	**Vasula**	**2.60**	**113**	Pn	**Pn**	**14 24 48.6**	**+0.5**
VSU				Lg	Lg	14 25 23.7	
VSU	**Vasula**	**2.60**	**113**	*e*P	**Pn**	**14 24 48.6**	**+0.5**
VSU				*e*SB	**Sb**	**14 25 23.7**	**-1.0**
VSU	**Vasula**	**2.60**	**113**	Pn	**Pn**	**14 24 48.6**	**+0.5**
	SNR=50						
VSU				Lg	Lg	14 25 23.7	
	SNR=90						
FIA0	**FINESS Array S**	**2.69**	**44**	Pn	**Pn**	**14 24 51.8**	**+2.4**
	baz=220,slow=14						
FIA0				Sn	**Sn**	**14 25 23.6**	**+1.0**
	baz=217,slow=22						
FIA0				Lg	Lg	14 25 26.6	
	baz=226,slow=22						
FIA0	**FINESS Array S**	**2.69**	**44**	*e*P	**Pn**	**14 24 51.9**	**+2.5**
FIA0				*e*S	**Sb**	**14 25 27.0**	**-0.3**
FIA0				MSG		14 25 31.0	
	comp=Z,8.2nm,0.3s						
FIA0	**FINESS Array S**	**2.69**	**44**	Pn	**Pn**	**14 24 51.8**	**+2.4**
	baz=220,slow=13,SNR=50						
FIA0				Sn	**Sn**	**14 25 23.5**	**+1.0**
	baz=217,slow=21,SNR=50						
FIA0				Lg	Lg	14 25 26.6	
	baz=226,slow=20,SNR=90						
FINES	**FINESS Array B**	**2.69**	**44**	Pn	**Pn**	**14 24 51.7**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=224,slow=13,SNR=36						
FINES				Sn	**Sb**	**14 25 26.7**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=231,slow=21,SNR=26						
FINES				Rg	Rg	14 25 45.8	
	comp=Z,4.5nm,0.3s,baz=197,slow=21,SNR=7.5						
VJF	**Virojoki**	**2.86**	**68**	*e*P	**Pb**	**14 24 55.5**	**-1.2**
VJF				*e*S	**Sn**	**14 25 29.2**	**+2.4**
VJF				MSG		14 25 29.2	
	comp=Z,6.5nm,0.4s						
KEF	**Keuruu**	**2.92**	**26**	*e*P	**Pb**	**14 24 56.0**	**-1.7**
KEF				*e*SB	**Sb**	**14 25 33.4**	**-0.5**
KEF				MSG		14 25 35.5	
	comp=Z,6.0nm,0.3s						
KEF	**Keuruu**	**2.92**	**26**	P	**Pb**	**14 24 56.0**	**-1.7**
KAF	**Kangasniemi**	**3.25**	**37**	*e*P	**Pb**	**14 25 01.2**	**-2.2**
KAF				*e*S	**Sn**	**14 25 38.3**	**+1.9**
KAF				MSG		14 25 45.7	
	comp=Z,2.6nm,0.3s						
VAF	**Ylistaro**	**3.49**	**4**	*e*SB		14 25 51.3	
VAF				MSG		14 25 51.3	
	comp=Z,2.0nm,0.4s						
SUF	**Sumiainen**	**3.69**	**30**	*e*P	Pn	14 25 07.1	+3.9
HFS	**Hagfors**	**4.32**	**281**	Pn	**Pn**	**14 25 13.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=7.2						
HFS				Sn	**Sn**	**14 26 03.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=92,slow=28,SNR=3.6						
HFS				Lg	Lg	14 26 18.4	
	comp=Z,0.9nm,0.3s,baz=105,slow=29,SNR=6.7						
HFS	**Hagfors**	**4.32**	**281**	Pn	**Pn**	**14 25 12.9**	**+1.1**
	baz=111,slow=12						
HFS				Sn	**Sn**	**14 26 03.1**	**+0.2**
	baz=92,slow=22						
HFS				Lg	Lg	14 26 18.6	
	baz=94,slow=37						
HFS	**Hagfors**	**4.32**	**281**	*e*P	**Pn**	**14 25 12.9**	**+1.1**
HFS				*e*S	**Sn**	**14 26 03.1**	**+0.2**
HFS				*e*SG	**Sb**	**14 26 18.6**	**+4.3**
HFS	**Hagfors**	**4.32**	**281**	P	**Pn**	**14 25 12.9**	**+1.1**
HFS				S	**Sn**	**14 26 03.1**	**+0.2**
HFS				Lg	Lg	14 26 18.6	
	baz=94,slow=29,SNR=70						
NB2	**NORSAR Subarra**	**5.65**	**290**	Pn	**Pn**	**14 25 29.9**	**-0.3**
	baz=89,slow=11						
NB2	**NORSAR Subarra**	**5.65**	**290**	*e*P	**Pn**	**14 25 29.9**	**-0.3**
NB2	**NORSAR Subarra**	**5.65**	**290**	Pn	**Pn**	**14 25 29.9**	**-0.3**
	baz=89,slow=11,SNR=50						
NOA	**NORSAR Array B**	**5.65**	**290**	Pn	**Pn**	**14 25 30.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=95,slow=15,SNR=7.7						
NOA				Sn	**Sn**	**14 26 34.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=110,slow=20,SNR=2.8						
NOA				Lg	Lg	14 27 02.2	
	comp=Z,0.8nm,0.3s,baz=68,slow=20,SNR=4.3						
ARA0	**ARCESS Array S**	**10.10**	**7**	Pn	**Pn**	**14 26 30.7**	**-0.4**
	baz=185,slow=14						
ARA0				Sn	Sn	14 28 16.9	-8.0
	baz=197,slow=22						
ARA0	**ARCESS Array S**	**10.10**	**7**	*e*P	**Pn**	**14 26 30.7**	**-0.4**
ARA0				*e*		14 28 16.9	
ARA0	**ARCESS Array S**	**10.10**	**7**	Pn	**Pn**	**14 26 30.7**	**-0.4**
	baz=185,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**10.10**	**7**	Pn	**Pn**	**14 26 30.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=9.8						
ARCES				Sn	**Sn**	**14 28 19.4**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=186,slow=24,SNR=3.4						

ISCJB ***27*** *14:27:20.8±0.3, 59°.57N±0°.03×22°.23E±0°.04, h0km, Error ellipse: s-maj=3.9km s-min=3.0km az=161.0*
NAO ***27*** *14:27:20.9±1.0, 59°.47N×22°.40E, ML2.4*
CSEM ***27*** *14:27:21.7±0.2, 59°.59N×22°.26E, h2km, ML2.0, Error ellipse: s-maj=6.8km s-min=4.2km az=164.0, Mining explosion.*
BER ***27*** *14:27:22.6±3.8, 59°.53N×22°.24E, h0km, ML2.4(NAO), Suspected explosion*
IDC ***27*** *14:27:23.1±1.9, 59°.68N×22°.21E, h0km, mb1 3.2/4, mb1mx3.0/26, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=23.3km s-min=6.4km az=162.0*
HEL ***27*** *14:27:23.2, 59°.54N×22°.33E, h0km, ML1.9, Explosion*
UPP ***27*** *14:27:25.7, 59°.63N×21°.66E, h0km, ML2.4, Suspected Mining explosion.*

ISC 27 14:27:20.9±0.8, 59°.56N±0°.03×22°.21E±0°.02, h0km, n60,
σ1^{9}29/82, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.18**	**135**	*e*P	**Pg**	**14 27 42.8**	**-0.7**
MTSE				*e*S	**Sg**	**14 27 58.5**	**-0.3**
MEF	**Metsahovi**	**1.29**	**58**	*e*P	**Pb**	**14 27 45.9**	**0.0**
MEF				*e*SB	**Sb**	**14 28 03.3**	**+0.3**
MEF				MSG		14 28 03.3	
	comp=Z,10nm,0.1s						
MEF	**Metsahovi**	**1.29**	**58**	*e*P	**Pb**	**14 27 46.1**	**+0.2**
	SNR=70						
MEF				*e*S	**Sg**	**14 28 02.9**	**+0.7**
	comp=Z,36nm,0.2s,SNR=70						
MEF				Sb	**Sb**	**14 28 03.3**	**+0.3**
	comp=Z,10nm,0.1s						
RAF	**Rauma**	**1.49**	**352**	*e*P	**Pb**	**14 27 49.1**	**-0.4**
	baz=161						
RAF				*e*S	**Sn**	**14 28 08.9**	**-0.1**
RAF				MSG		14 28 08.9	
	comp=Z,5.7nm,0.1s						
RAF	**Rauma**	**1.49**	**352**	P	**Pb**	**14 27 49.0**	**-0.4**
RAF				*e*S	**Sb**	**14 28 08.8**	**0.0**
	comp=Z,24nm,0.2s,SNR=50						
NRTU	**Norrtaelje**	**1.82**	**275**	*e*P	**Pb**	**14 27 54.1**	**-1.0**
NRTU	**Norrtaelje**	**1.82**	**275**	P	**Pb**	**14 27 54.1**	**-1.0**
SLIT	**Slitere, Latvi**	**1.93**	**179**	*e*P	**Pb**	**14 27 56.2**	**-0.7**
	SNR=50						
SLIT				*e*S	**Sb**	**14 28 21.9**	**+0.4**
	comp=Z,122nm,0.2s,SNR=50						
GRAU	**Graesoe**	**2.01**	**295**	*e*P	**Pn**	**14 27 56.7**	**+0.8**
GRAU	**Graesoe**	**2.01**	**295**	P	**Pn**	**14 27 56.7**	**+0.8**
PVF	**Pernaja**	**2.08**	**60**	*e*PG	**Pb**	**14 27 59.6**	**+0.1**
PVF				*e*SG	**Sg**	**14 28 27.6**	**-0.2**
PVF				MSG		14 28 27.6	
	comp=Z,3.4nm,0.1s						
PVF	**Pernaja**	**2.08**	**60**	Pg	**Pb**	**14 27 59.6**	**+0.1**
FORU	**Forsmark**	**2.19**	**294**	*e*P	**Pb**	**14 28 00.2**	**-1.1**
FORU	**Forsmark**	**2.19**	**294**	P	**Pb**	**14 28 00.2**	**-1.1**
NYNU	**Nynaeshamn**	**2.23**	**257**	*e*P	**Pb**	**14 28 00.6**	**-1.4**
NYNU	**Nynaeshamn**	**2.23**	**257**	P	**Pb**	**14 28 00.5**	**-1.4**
FLYU	**Flymyra**	**2.26**	**287**	*e*P	**Pn**	**14 28 00.2**	**+0.8**
FLYU	**Flymyra**	**2.26**	**287**	P	**Pn**	**14 28 00.2**	**+0.8**
UPP	**Uppsala**	**2.34**	**279**	*e*P	**Pn**	**14 28 01.6**	**+1.0**
UPP	**Uppsala**	**2.34**	**279**	P	**Pn**	**14 28 01.6**	**+1.0**
VSU	**Vasula**	**2.58**	**113**	Pn	**Pn**	**14 28 03.5**	**-0.4**
VSU				Lg	Lg	14 28 40.4	
VSU	**Vasula**	**2.58**	**113**	*e*P	**Pn**	**14 28 03.5**	**-0.4**
VSU				*e*SB	**Sb**	**14 28 40.4**	**+0.1**
VSU	**Vasula**	**2.58**	**113**	P	**Pn**	**14 28 03.5**	**-0.4**
VSU				Lg	Lg	14 28 40.4	
	SNR=90						
BACU	**Backbrunna**	**2.60**	**279**	*e*P	**Pn**	**14 28 05.2**	**+1.0**
BACU	**Backbrunna**	**2.60**	**279**	P	**Pn**	**14 28 05.1**	**+1.0**
OSTU	**Oestervaala**	**2.65**	**287**	*e*P	**Pn**	**14 28 05.8**	**+1.0**
OSTU	**Oestervaala**	**2.65**	**287**	P	**Pn**	**14 28 05.7**	**+1.0**
FIA0	**FINESS Array S**	**2.69**	**44**	Pn	**Pb**	**14 28 07.8**	**-2.1**
	baz=222,slow=14						
FIA0				Sn	**Sn**	**14 28 39.1**	**+0.5**
	baz=221,slow=16						
FIA0				Lg	Lg	14 28 42.8	
	baz=229,slow=28						
FIA0	**FINESS Array S**	**2.69**	**44**	*e*P	**Pb**	**14 28 07.8**	**-2.1**
FIA0				*e*S	**Sn**	**14 28 39.1**	**+0.5**
FIA0				*e*SB	**Sb**	**14 28 42.8**	**-0.6**
FIA0	**FINESS Array S**	**2.69**	**44**	P	**Pb**	**14 28 07.8**	**-2.1**
FIA0				S	**Sn**	**14 28 39.1**	**+0.5**
FIA0				Lg	Lg	14 28 42.8	
	baz=229,slow=25,SNR=90						
FINES	**FINESS Array B**	**2.69**	**44**	Pn	**Pn**	**14 28 07.6**	**+2.2**
	comp=Z,2.7nm,0.3s,baz=229,slow=14,SNR=43						
FINES				Sn	**Sn**	**14 28 39.6**	**+0.9**
	comp=Z,7.0nm,0.3s,baz=226,slow=14,SNR=14						
FINES				Lg	Lg	14 28 44.0	
	comp=Z,7.0nm,0.3s,baz=228,slow=19,SNR=19						
FINES				Rg	Rg	14 29 01.0	
	comp=Z,3.0nm,0.3s,baz=199,slow=22,SNR=4.9						
VJF	**Virojoki**	**2.86**	**67**	*e*P	**Pn**	**14 28 09.1**	**+1.5**
VJF				*e*S	**Sn**	**14 28 45.6**	**+2.9**
VJF				MSG		14 28 45.6	
	comp=Z,7.0nm,0.2s						
VJF	**Virojoki**	**2.86**	**67**	P	**Pn**	**14 28 09.1**	**+1.5**
KEF	**Keuruu**	**2.93**	**25**	*e*PB	**Pb**	**14 28 12.3**	**-1.6**
KEF				*e*SB	**Sb**	**14 28 50.2**	**0.0**
KEF				MSG		14 28 50.2	
	comp=Z,17nm,0.2s						
KEF	**Keuruu**	**2.93**	**25**	Pb	**Pb**	**14 28 12.3**	**-1.6**
ESKU	**Eskilstuna**	**2.99**	**266**	*e*P	**Pn**	**14 28 11.2**	**+1.6**
ESKU	**Eskilstuna**	**2.99**	**266**	P	**Pn**	**14 28 11.1**	**+1.6**
KAF	**Kangasniemi**	**3.26**	**36**	*e*PB	**Pb**	**14 28 17.0**	**-2.5**
KAF				*e*SB	**Sb**	**14 28 59.4**	**-0.2**
KAF				MSG		14 28 59.4	
	comp=Z,3.4nm,0.4s						
KAF	**Kangasniemi**	**3.26**	**36**	Pb	**Pb**	**14 28 17.0**	**-2.5**
FALU	**Falun**	**3.34**	**289**	*e*P	**Pn**	**14 28 14.9**	**+0.7**
FALU	**Falun**	**3.34**	**289**	P	**Pn**	**14 28 14.9**	**+0.7**
VAF	**Ylistaro**	**3.51**	**3**	*e*SG		14 29 11.1	
VAF				MSG		14 29 11.1	
	comp=Z,2.0nm,0.4s						
ROTU	**Roteberg**	**3.68**	**303**	*e*P	**Pn**	**14 28 20.4**	**+1.5**
ROTU	**Roteberg**	**3.68**	**303**	P	**Pn**	**14 28 20.4**	**+1.5**
SUF	**Sumiainen**	**3.71**	**29**	*e*P	**Pn**	**14 28 22.1**	**+2.8**
HFS	**Hagfors**	**4.33**	**281**	Pn	**Pn**	**14 28 28.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=13,SNR=6.0						
HFS				Sn	**Sn**	**14 29 18.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=4.1						
HFS				Lg	Lg	14 29 37.8	
	comp=Z,3.3nm,0.3s,baz=83,slow=28,SNR=13						
HFS	**Hagfors**	**4.33**	**281**	Pn	**Pn**	**14 28 28.7**	**+0.7**
	baz=90,slow=16						
HFS				Sn	**Sn**	**14 29 19.0**	**-0.2**
	baz=104,slow=28						
HFS				Lg	Lg	14 29 34.0	
	baz=94,slow=28						
HFS	**Hagfors**	**4.33**	**281**	*e*P	**Pn**	**14 28 28.7**	**+0.7**
HFS				*e*S	**Sn**	**14 29 19.0**	**-0.2**
HFS				*e*SG	**Sb**	**14 29 34.0**	**+3.4**
HFS	**Hagfors**	**4.33**	**281**	Pn	**Pn**	**14 28 28.7**	**+0.7**
	baz=90,slow=14,SNR=50						
HFS				S	**Sn**	**14 29 18.9**	**-0.2**
HFS				Lg	Lg	14 29 34.0	
	baz=94,slow=25,SNR=70						
NB2	**NORSAR Subarra**	**5.67**	**290**	Pn	**Pn**	**14 28 45.8**	**-0.5**
	baz=98,slow=12						
NB2	**NORSAR Subarra**	**5.67**	**290**	*e*P	**Pn**	**14 28 45.8**	**-0.5**
NB2	**NORSAR Subarra**	**5.67**	**290**	Pn	**Pn**	**14 28 45.8**	**-0.5**
	baz=98,slow=12,SNR=50						
NOA	**NORSAR Array B**	**5.67**	**290**	Pn	**Pn**	**14 28 46.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=91,slow=12,SNR=4.9						
NOA				Sn	**Sn**	**14 29 50.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=124,slow=21,SNR=2.4						
NOA				Lg	Lg	14 30 16.9	
	comp=Z,0.9nm,0.3s,baz=86,slow=13,SNR=3.3						
APA0	**Apatity Array**	**9.38**	**26**	Pn	**Pn**	**14 29 39.6**	**+2.5**
	baz=215,slow=16						
APA0	**Apatity Array**	**9.38**	**26**	*e*P	**Pn**	**14 29 39.6**	**+2.5**
APA0	**Apatity Array**	**9.38**	**26**	P	**Pn**	**14 29 39.6**	**+2.5**
ARA0	**ARCESS Array S**	**10.12**	**7**	Pn	**Pn**	**14 29 46.2**	**-1.0**
	baz=194,slow=12						
ARA0	**ARCESS Array S**	**10.12**	**7**	*e*P	**Pn**	**14 29 46.2**	**-1.0**
ARA0	**ARCESS Array S**	**10.12**	**7**	P	**Pn**	**14 29 46.2**	**-1.0**
ARCES	**ARCESS Array B**	**10.12**	**7**	Pn	**Pn**	**14 29 44.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=16						
ARCES				Sn	Sn	14 31 33.7	-7.6
	comp=Z,0.2n

	comp=Z,7.2nm,0.2s								
MEF	**Metsahovi**	**1.30**	**59**	P		**Pg**	**15 17 29.4**	**-0.7**	
MEF				*e*S		**Sg**	**15 17 47.1**	**+0.1**	
	comp=Z,12nm,0.2s,SNR=70								
RAF	**Rauma**	**1.47**	**353**	*e*P		**Pn**	**15 17 32.9**	**-0.1**	
	baz=160								
RAF				*e*S		**Sg**	**15 17 53.7**	**+1.4**	
RAF				MSG			15 17 53.7		
	comp=Z,3.9nm,0.1s								
RAF	**Rauma**	**1.47**	**353**	P		**Pn**	**15 17 32.8**	**-0.1**	
RAF				*e*S		**Sg**	**15 17 52.4**	**+0.1**	
	comp=Z,16nm,0.2s,SNR=50								
NRTU	**Norrtaelje**	**1.79**	**275**	*e*P		**Pn**	**15 17 37.8**	**+0.4**	
NRTU	**Norrtaelje**	**1.79**	**275**	P		**Pn**	**15 17 37.8**	**+0.4**	
SLIT	**Slitere, Latvi**	**1.95**	**178**	*e*P		**Pn**	**15 17 40.0**	**+0.4**	
	SNR=50								
SLIT				*e*S		**Sn**	**15 18 06.1**	**+1.3**	
	comp=Z,78nm,0.2s,SNR=50								
GRAU	**Graesoe**	**1.97**	**294**	*e*P		**Pn**	**15 17 40.3**	**+0.4**	
GRAU	**Graesoe**	**1.97**	**294**	P		**Pn**	**15 17 40.3**	**+0.4**	
PVF	**Pernaja**	**2.10**	**61**	*e*P		**Pn**	**15 17 43.0**	**+1.3**	
PVF				*e*SG		**Sb**	**15 18 11.4**	**+0.7**	
PVF				MSG			15 18 11.4		
	comp=Z,3.5nm,0.1s								
PVF	**Pernaja**	**2.10**	**61**	P		**Pn**	**15 17 42.9**	**+1.3**	
PVF				Sg		**Sb**	**15 18 11.4**	**+0.7**	
	comp=Z,3.5nm,0.1s								
NYNU	**Nynaeshamn**	**2.21**	**257**	*e*P		**Pn**	**15 17 44.4**	**+1.3**	
NYNU	**Nynaeshamn**	**2.21**	**257**	P		**Pn**	**15 17 44.3**	**+1.3**	
FLYU	**Flymyra**	**2.23**	**286**	*e*P		**Pn**	**15 17 43.9**	**+0.5**	
FLYU	**Flymyra**	**2.23**	**286**	P		**Pn**	**15 17 43.9**	**+0.5**	
BACU	**Backbrunna**	**2.57**	**278**	*e*P		**Pn**	**15 17 48.7**	**+0.6**	
BACU	**Backbrunna**	**2.57**	**278**	P		**Pn**	**15 17 48.7**	**+0.6**	
OSTU	**Oestervaala**	**2.61**	**287**	*e*P		**Pn**	**15 17 49.6**	**+0.9**	
OSTU	**Oestervaala**	**2.61**	**287**	P		**Pn**	**15 17 49.6**	**+0.9**	
VSU	**Vasula**	**2.62**	**113**	Lg		Lg	15 18 24.5		
VSU	**Vasula**	**2.62**	**113**	Lg		Lg	15 18 24.5		
VSU	**Vasula**	**2.62**	**113**	*e*SG		**Sb**	**15 18 24.5**	**-1.1**	
VSU	**Vasula**	**2.62**	**113**	*e*S		**Sb**	**15 18 24.5**	**-1.1**	
	comp=Z,22nm,0.2s,SNR=50								
VSU				Lg		Lg	15 18 24.5		
	SNR=50								
FIA0	**FINESS Array S**	**2.70**	**44**	Pn		**Pn**	**15 17 52.4**	**+2.5**	
	baz=229,slow=14								
FIA0				Lg		Lg	15 18 28.2		
	baz=224,slow=28								
FIA0	**FINESS Array S**	**2.70**	**44**	*e*P		**Pn**	**15 17 52.2**	**+2.3**	
	baz=234								
FIA0				*e*SB		**Sb**	**15 18 27.9**	**-0.1**	
FIA0				MSG			15 18 27.9		
	comp=Z,6.2nm,0.2s								
FIA0	**FINESS Array S**	**2.70**	**44**	P		**Pn**	**15 17 52.2**	**+2.3**	
FIA0				Lg		Lg	15 18 28.2		
	baz=224,slow=24								
FINES	**FINESS Array B**	**2.70**	**44**	Pn		**Pn**	**15 17 51.7**	**+1.9**	
	comp=Z,1.4nm,0.3s,baz=229,slow=15,SNR=37								
FINES				Sn		**Sb**	**15 18 26.8**	**-1.1**	
	comp=Z,2.1nm,0.3s,baz=227,slow=24,SNR=18								
VJF	**Virojoki**	**2.88**	**68**	*e*P		**Pn**	**15 17 54.0**	**+1.7**	
VJF				*e*S		**Sn**	**15 18 29.4**	**+1.9**	
VJF				MSG			15 18 29.4		
	comp=Z,3.3nm,0.4s								
VJF	**Virojoki**	**2.88**	**68**	P		**Pn**	**15 17 54.0**	**+1.7**	
VJF				S		**Sn**	**15 18 29.4**	**+1.9**	
	comp=Z,3.3nm,0.4s								
KEF	**Keuruu**	**2.92**	**26**	*e*P		**Pn**	**15 17 55.9**	**+3.0**	
KEF				*e*SB		**Sb**	**15 18 34.4**	**0.0**	
KEF				MSG			15 18 34.4		
	comp=Z,3.2nm,0.2s								
ESKU	**Eskilstuna**	**2.97**	**266**	*e*P		**Pn**	**15 17 55.0**	**+1.5**	
ESKU	**Eskilstuna**	**2.97**	**266**	P		**Pn**	**15 17 55.0**	**+1.5**	
ARNU	**Arnoeviken**	**3.17**	**314**	*e*P		**Pn**	**15 17 57.4**	**+1.1**	
ARNU	**Arnoeviken**	**3.17**	**314**	P		**Pn**	**15 17 57.4**	**+1.1**	
KAF	**Kangasniemi**	**3.26**	**37**	*e*P		Pn	15 18 00.8	+3.3	
KAF				*e*SB		**Sb**	**15 18 42.7**	**-1.3**	
KAF				MSG			15 18 42.7		
	comp=Z,2.8nm,0.4s								
VAF	**Ylistaro**	**3.49**	**4**	*e*SG		**Sg**	**15 18 56.6**	**-0.6**	
VAF				MSG			15 18 56.6		
	comp=Z,1.8nm,0.2s								
VAF	**Ylistaro**	**3.49**	**4**	Sg		**Sg**	**15 18 56.6**	**-0.6**	
	comp=Z,1.8nm,0.2s								
SUF	**Sumiainen**	**3.70**	**30**	*e*P		**Pn**	**15 18 05.8**	**+2.2**	
SUF				*e*SB		**Sb**	**15 18 57.3**	**+0.5**	
SUF				MSG			15 18 57.3		
	comp=Z,1.6nm,0.4s								
SUF	**Sumiainen**	**3.70**	**30**	P		**Pn**	**15 18 05.8**	**+2.2**	
HFS	**Hagfors**	**4.30**	**281**	Pn		**Pn**	**15 18 12.6**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=100,slow=15,SNR=8.0								
HFS				Sn		**Sn**	**15 19 03.7**	**+1.0**	
	comp=Z,0.3nm,0.3s,baz=98,slow=29,SNR=4.7								
HFS				Lg		Lg	15 19 22.5		
	comp=Z,1.0nm,0.3s,baz=95,slow=33,SNR=10.0								
HFS	**Hagfors**	**4.30**	**281**	Pn		**Pn**	**15 18 13.6**	**+1.7**	
	baz=98,slow=12								
HFS				Sn		**Sn**	**15 19 03.5**	**+0.8**	
	baz=102,slow=37								
HFS				Lg		Lg	15 19 19.5		
	baz=95,slow=37								
HFS	**Hagfors**	**4.30**	**281**	*e*P		**Pn**	**15 18 13.6**	**+1.7**	
HFS				*e*S		**Sn**	**15 19 03.5**	**+0.8**	
HFS				*e*SG		**Sb**	**15 19 19.5**	**+5.4**	
HFS	**Hagfors**	**4.30**	**281**	P		**Pn**	**15 18 13.6**	**+1.7**	
HFS				S		**Sn**	**15 19 03.5**	**+0.8**	
HFS				Lg		Lg	15 19 19.5		
	baz=95,slow=28,SNR=90								
NB2	**NORSAR Subarra**	**5.63**	**290**	Pn		**Pn**	**15 18 30.4**	**+0.2**	
	baz=93,slow=14								
NB2	**NORSAR Subarra**	**5.63**	**290**	*e*P		**Pn**	**15 18 30.4**	**+0.2**	
NB2	**NORSAR Subarra**	**5.63**	**290**	Pn		**Pn**	**15 18 30.5**	**+0.2**	
	baz=93,slow=13,SNR=50								
NOA	**NORSAR Array B**	**5.63**	**290**	Pn		**Pn**	**15 18 30.0**	**-0.3**	
	comp=Z,0.2nm,0.3s,baz=121,slow=11,SNR=4.5								
APA0	**Apatity Array**	**9.38**	**26**	Pn		**Pn**	**15 19 21.6**	**+0.2**	
	baz=218,slow=10								
APA0	**Apatity Array**	**9.38**	**26**	*e*P		**Pn**	**15 19 21.6**	**+0.2**	
APA0	**Apatity Array**	**9.38**	**26**	P		**Pn**	**15 19 21.6**	**+0.2**	
AKASG	**Malin Array Be**	**9.76**	**153**	Pn		Pn	15 19 18.8	-8.0	
	comp=Z,0.2nm,0.3s,baz=339,slow=14,SNR=3.2								
ARA0	**ARCESS Array S**	**10.10**	**7**	Pn		**Pn**	**15 19 30.2**	**-1.2**	
	baz=188,slow=14								
ARA0				Sn		Sn	15 21 18.9	-6.4	
	baz=186,slow=28								
ARA0	**ARCESS Array S**	**10.10**	**7**	*e*P		**Pn**	**15 19 30.2**	**-1.2**	
ARA0				*e*S		Sn	15 21 18.9	-6.4	
ARA0	**ARCESS Array S**	**10.10**	**7**	P		**Pn**	**15 19 30.2**	**-1.2**	
ARCES	**ARCESS Array B**	**10.10**	**7**	Pn		**Pn**	**15 19 29.9**	**-1.5**	
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=19								
ARCES				Sn		Sn	15 21 19.4	-5.9	
	comp=Z,0.1nm,0.3s,baz=188,slow=24,SNR=3.5								

ISCJB ***27*** *15:19:49.6±0.4, 59°.56N±0°.03×22°.19E±0°.05, h0km, Error ellipse: s-maj=4.1km s-min=3.5km az=4.9*
HEL ***27*** *15:19:50.7±0.1, 59°.52N×22°.17E, h0km, ML1.9, ML2.3(UPP), ML2.1(NAO), Explosion*
NAO ***27*** *15:19:51.2±1.3, 59°.60N×22°.38E, ML2.1*
CSEM ***27*** *15:19:51.0±0.2, 59°.57N×22°.11E, h1km, ML1.9, Error ellipse: s-maj=6.4km s-min=4.2km az=163.0, Mining explosion.*
IDC ***27*** *15:19:51.2±2.1, 59°.54N×22°.23E, h0km, mb1 3.0/4, mb1mx2.9/26, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=25.9km s-min=8.3km az=164.0*
BER ***27*** *15:19:52.0±3.1, 59°.61N×22°.36E, h0km, ML2.1(NAO), Suspected explosion*
UPP ***27*** *15:19:54.6, 59°.66N×21°.58E, h0km, ML2.3, Mining explosion.*

ISC 27 15:19:49.4±0.7, 59°.52N±0°.03×22°.13E±0°.03, h0km, n56, σ1s61/74, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MTSE	**Matsula**	**1.19**	**132**	*e*P		**Pg**	**15 20 11.2**	**-0.9**
MTSE				*e*S		**Sg**	**15 20 26.4**	**-1.1**
MEF	**Metsahovi**	**1.34**	**58**	*e*P		**Pg**	**15 20 14.0**	**-1.0**
MEF				*e*S		**Sg**	**15 20 27.8**	**-4.6**
MEF				MSG			15 20 27.8	
	comp=Z,9.9nm,0.4s							
MEF	**Metsahovi**	**1.34**	**58**	*e*P		**Pg**	**15 20 14.1**	**-1.0**
	SNR=50							
RAF	**Rauma**	**1.52**	**353**	*e*P		**Pn**	**15 20 17.4**	**-0.4**
	baz=165							
RAF				*e*S		**Sg**	**15 20 37.3**	**-0.8**
RAF				MSG			15 20 37.3	
	comp=Z,8.9nm,0.2s							
RAF	**Rauma**	**1.52**	**353**	*e*P		**Pn**	**15 20 17.5**	**-0.3**
	SNR=50							
RAF				S		**Sg**	**15 20 37.3**	**-0.8**
	comp=Z,8.9nm,0.2s							
NRTU	**Norrtaelje**	**1.79**	**277**	*e*P		**Pn**	**15 20 22.5**	**+1.1**
NRTU	**Norrtaelje**	**1.79**	**277**	P		**Pn**	**15 20 22.5**	**+1.1**
SLIT	**Slitere, Latvi**	**1.90**	**177**	*e*P		**Pb**	**15 20 24.9**	**0.0**
	SNR=50							
SLIT				*e*S		**Sg**	**15 20 50.4**	**+0.1**
	comp=Z,134nm,0.2s,SNR=50							
GRAU	**Graesoe**	**1.98**	**296**	*e*P		**Pn**	**15 20 25.1**	**+0.9**
GRAU	**Graesoe**	**1.98**	**296**	P		**Pn**	**15 20 25.1**	**+0.9**
PVF	**Pernaja**	**2.14**	**60**	*e*PB		**Pn**	**15 20 27.7**	**+1.4**
PVF				*e*SG		**Sb**	**15 20 55.7**	**-0.3**
PVF				MSG			15 20 55.7	
	comp=Z,2.1nm,0.1s							
FORU	**Forsmark**	**2.17**	**295**	*e*P		**Pn**	**15 20 28.4**	**+1.7**
FORU	**Forsmark**	**2.17**	**295**	P		**Pn**	**15 20 28.4**	**+1.7**
NYNU	**Nynaeshamn**	**2.18**	**258**	*e*P		**Pn**	**15 20 28.9**	**+2.0**
NYNU	**Nynaeshamn**	**2.18**	**258**	P		**Pn**	**15 20 28.8**	**+2.0**
FLYU	**Flymyra**	**2.23**	**288**	*e*P		**Pn**	**15 20 28.6**	**+1.1**
FLYU	**Flymyra**	**2.23**	**288**	P		**Pn**	**15 20 28.6**	**+1.1**
BACU	**Backbrunna**	**2.57**	**280**	*e*P		**Pn**	**15 20 33.6**	**+1.4**
BACU	**Backbrunna**	**2.57**	**280**	P		**Pn**	**15 20 33.6**	**+1.4**
VSU	**Vasula**	**2.61**	**112**	Pn		**Pn**	**15 20 34.2**	**+1.5**
VSU				Lg		Lg	15 21 08.6	
VSU	**Vasula**	**2.61**	**112**	*e*P		**Pn**	**15 20 34.2**	**+1.5**
VSU				*e*SB		**Sb**	**15 21 08.6**	**-1.0**
VSU	**Vasula**	**2.61**	**112**	P		**Pn**	**15 20 34.2**	**+1.5**
VSU				Lg		Lg	15 21 08.6	
	SNR=50							
VSU				*e*S		Lg	15 21 08.6	
	comp=Z,20nm,0.2s,SNR=50							
FIA0	**FINESS Array S**	**2.75**	**44**	Pn		**Pn**	**15 20 36.3**	**+1.6**
	baz=224,slow=16							
FIA0				Lg		Lg	15 21 11.2	
	baz=228,slow=28							
FIA0	**FINESS Array S**	**2.75**	**44**	*e*P		**Pn**	**15 20 36.0**	**+1.3**
	baz=225							
FIA0				*e*S		**Sn**	**15 21 10.5**	**+2.0**
FIA0				MSG			15 21 10.5	
	comp=Z,4.2nm,0.4s							
FIA0				*e*RG		Rg	15 21 25.1	
FIA0	**FINESS Array S**	**2.75**	**44**	P		**Pn**	**15 20 36.0**	**+1.3**
FIA0	**FINESS Array S**	**2.75**	**44**	Pn		**Pn**	**15 20 36.3**	**+1.6**
	baz=224,slow=14,SNR=50							
FIA0				S		**Sn**	**15 21 10.5**	**+2.0**
	comp=Z,4.2nm,0.4s							
FIA0				Lg		Lg	15 21 11.2	
	baz=228,slow=23,SNR=50							
FINES	**FINESS Array B**	**2.75**	**44**	Pn		**Pn**	**15 20 36.2**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=230,slow=14,SNR=16							
FINES				Sn		**Sn**	**15 21 11.1**	**+2.5**
	comp=Z,2.8nm,0.3s,baz=230,slow=25,SNR=16							
VJF	**Virojoki**	**2.91**	**67**	*e*P		**Pn**	**15 20 37.8**	**+0.9**
VJF				*e*S		**Sn**	**15 21 13.0**	**+0.5**
VJF				MSG			15 21 13.0	
	comp=Z,3.4nm,0.4s							
VJF	**Virojoki**	**2.91**	**67**	P		**Pn**	**15 20 37.7**	**+0.9**
VJF				S		**Sn**	**15 21 13.0**	**+0.5**
	comp=Z,3.4nm,0.4s							
ESKU	**Eskilstuna**	**2.95**	**267**	*e*P		**Pn**	**15 20 39.4**	**+2.0**
ESKU	**Eskilstuna**	**2.95**	**267**	P		**Pn**	**15 20 39.4**	**+2.0**
KEF	**Keuruu**	**2.98**	**26**	*e*P		**Pn**	**15 20 40.4**	**+2.6**
KEF				*e*SB		**Sb**	**15 21 18.2**	**-1.9**
KEF				MSG			15 21 18.2	
	comp=Z,7.9nm,0.2s							
KEF	**Keuruu**	**2.98**	**26**	P		**Pn**	**15 20 40.4**	**+2.6**
KAF	**Kangasniemi**	**3.31**	**36**	*e*P		**Pn**	**15 20 45.2**	**+2.8**
KAF	**Kangasniemi**	**3.31**	**36**	P		**Pn**	**15 20 45.2**	**+2.8**
VAF	**Ylistaro**	**3.54**	**4**	*e*SG		**Sb**	**15 21 39.7**	**+3.3**
VAF				MSG			15 21 39.7	
	comp=Z,2.3nm,0.4s							
SUF	**Sumiainen**	**3.76**	**30**	*e*P		**Pn**	**15 20 50.5**	**+2.0**
SUF	**Sumiainen**	**3.76**	**30**	P		**Pn**	**15 20 50.5**	**+2.0**
HFS	**Hagfors**	**4.30**	**282**	Pn		**Pn**	**15 20 57.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=95,slow=15,SNR=3.8							
HFS				Sn		**Sn**	**15 21 48.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=93,slow=25,SNR=4.7							
HFS				Lg		Lg	15 22 06.1	
	comp=Z,1.4nm,0.3s,baz=102,slow=29,SNR=7.2							
HFS	**Hagfors**	**4.30**	**282**	Pn		**Pn**	**15 20 57.9**	**+1.9**
	baz=104,slow=11							
HFS				Sn		**Sn**	**15 21 47.7**	**+0.9**
	baz=87,slow=28							
HFS	**Hagfors**	**4.30**	**282**	*e*P		**Pn**	**15 20 57.9**	**+1.9**
HFS				*e*S		**Sn**	**15 21 47.7**	**+0.9**
HFS	**Hagfors**	**4.30**	**282**	P		**Pn**	**15 20 57.8**	**+1.9**
HFS				Sn		**Sn**	**15 21 47.7**	**+0.9**
	baz=87,slow=24,SNR=50							
NB2	**NORSAR Subarra**	**5.64**	**290**	Pn		**Pn**	**15 21 14.6**	**+0.2**
	baz=100,slow=12							
NB2	**NORSAR Subarra**	**5.64**	**290**	*e*P		**Pn**	**15 21 14.6**	**+0.2**
NB2	**NORSAR Subarra**	**5.64**	**290**	P		**Pn**	**15 21 14.6**	**+0.2**
NOA	**NORSAR Array B**	**5.64**	**290**	Pn		**Pn**	**15 21 15.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=2.6							
NOA				Sn		**Sn**	**15 22 19.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=115,slow=20,SNR=2.8							
APA0	**Apatity Array**	**9.43**	**26**	Pn		**Pn**	**15 22 07.7**	**+1.3**
	baz=211,slow=14							
APA0	**Apatity Array**	**9.43**	**26**	*e*P		**Pn**	**15 22 07.7**	**+1.3**
APA0	**Apatity Array**	**9.43**	**26**	P		**Pn**	**15 22 07.6**	**+1.3**
ARA0	**ARCESS Array S**	**10.16**	**7**	Pn		**Pn**	**15 22 14.9**	**-1.4**
	baz=188,slow=14							
ARA0				Sn		Sn	15 24 01.8	-9.0
	baz=188,slow=28							
ARA0	**ARCESS Array S**	**10.16**	**7**	*e*P		**Pn**	**15 22 14.9**	**-1.4**
ARA0				*e*S		Sn	15 24 01.8	-9.0
ARA0	**ARCESS Array S**	**10.16**	**7**	P		**Pn**	**15 22 14.9**	**-1.4**
ARCES	**ARCESS Array B**	**10.16**	**7**	Pn		**Pn**	**15 22 14.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=12							
ARCES				Sn		Sn	15 24 04.2	-6.6
	comp=Z,0.1nm,0.3s,baz=189,slow=24,SNR=2.8							
SPA0	**Spitsbergen Ar**	**18.84**	**356**	P		**Pn**	**15 24 11.9**	**+1.0**
	baz=180,slow=16							
SPA0	**Spitsbergen Ar**	**18.84**	**356**	*e*P		**Pn**	**15 24 11.9**	**+1.0**
SPA0	**Spitsbergen Ar**	**18.84**	**356**	P		**Pn**	**15 24 11.9**	**+1.0**

IDC 27 15:20:02.1±2.9, 59°.28N×22°.10E, h0km, mb1 3.1/4, mb1mx3.0/26, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=41.6km s-min=10.0km az=162.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**2.94**	**41**	Pn		Pn	15 20 50.9	+0.9
	2.6nm,0.3s,baz=228,slow=14,SNR=14							
FINES				Sn		Sn	15 21 25.7	-0.2
	3.4nm,0.3s,baz=228,slow=26,SNR=8.0							
HFS	**Hagfors**	**4.34**	**285**	Pn		Pn	15 21 07.0	-2.3
	0.4nm,0.3s,baz=99,slow=17,SNR=5.4							
HFS				Sn		Sn	15 21 57.9	-2.7
	0.5nm,0.3s,baz=120,slow=29,SNR=3.8							
NOA	**NORSAR Array B**	**5.71**	**293**	Pn		Pn	15 21 26.5	-1.7
	0.1nm,0.3s,baz=152,slow=13,SNR=3.0							
ARCES	**ARCESS Array B**	**10.40**	**7**	Pn		Pn	15 22 29.3	-3.0
	0.2nm,0.3s,baz=193,slow=13,SNR=9.8							

IDC ***27*** *15:23:02.7±1.0, 56°.94S×24°.79W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=43.5km s-min=31.7km az=72.0*
ISCJB ***27*** *15:23:03.4±1.0, 57°.0S±0°.1×25°.2W±0°.4, h10km, mb4.2/4, Error ellipse: s-maj=28.5km s-min=15.3km az=166.0*
NEIC ***27*** *15:23:08.2±0.7, 56°.98S×25°.22W, h35km, mb4.6/2, Error ellipse: s-maj=25.7km s-min=24.3km az=86.0*

ISC 27 15:23:05.1±0.8, 57°.0S±0°.1×25°.3W±0°.2, h10km, n15, σ1s71/15, mb4.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**15.77**	**161**	*e*P		**Pn**	**15 26 47.1**	**+0.2**
VNA2	**Neumayer--Watz**	**15.94**	**158**	*e*P		**Pn**	**15 26 48.4**	**-0.6**
	baz=327,slow=16							
QSPA	**South Pole Qui**	**33.27**	**180**	P		**P**	**15 29 41.8**	**-0.5**
	1.2nm,0.6s,baz=267,slow=5.0,SNR=5.6							
QSPA	**South Pole Qui**	**33.27**	**180**	P		**P**	**15 29 41.8**	**-0.5**
BOSA	**Boshof**	**45.20**	**73**	*e*P		**P**	**15 31 22.8**	**+0.7**
	3.9nm,0.5s							
LPAZ	**La Paz**	**51.78**	**304**	P		**P**	**15 32 14.4**	**+0.9**
	4.0nm,0.5s,baz=142,slow=5.5,SNR=26							
LPAZ	**La Paz**	**51.78**	**304**	*e*P		**P**	**15 32 14.2**	**+0.6**
	3.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.36**	**27**	P		**P**	**15 34 35.1**	**-1.7**
	0.8nm,0.7s,baz=188,slow=4.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**73.36**	**27**	P		**P**	**15 34 35.1**	**-1.7**
YKA	**Yellowknife Ar**	**137.57**	**317**	PKP		**PKPdf**	**15 42 26.6**	**-0.9**
	0.4nm,0.7s,baz=124,slow=2.4,SNR=7.7							
YKA	**Yellowknife Ar**	**137.57**	**317**	PKP		**PKPdf**	**15 42 26.6**	**-0.9**
SONM	**Songino Array**	**149.72**	**87**	PKPbc		**PKPdf**	**15 42 52.8**	**+3.4**
	1.2nm,0.6s,baz=229,slow=2.8,SNR=15							
SONM	**Songino Array**	**149.72**	**87**	PKPbc		**PKPdf**	**15 42 52.8**	**+3.4**
ILAR	**Eielson Array**	**151.53**	**310**	PKPbc		**PKPbc**	**15 42 56.8**	**-1.0**
	1.2nm,0.9s,baz=129,slow=1.8,SNR=11							
ILAR	**Eielson Array**	**151.53**	**310**	PKPbc		**PKPbc**	**15 42 56.8**	**-1.0**

ISCJB ***27*** *15:23:05.5±0.6, 36°.79N±0°.04×70°.9E±0°.1, h88km, Error ellipse: s-maj=13.5km s-min=4.8km az=166.9*
NNC ***27*** *15:23:10.9±6.7, 37°.40N×70°.93E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=51.2km s-min=47.4km az=6.0*

ISC 27 15:23:07.1±0.9, 36°.77N±0°.06×70°.8E±0°.1, h88km, n8, σ2s12/13, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.07**	**163**	P		**Pn**	**15 23 53.7**	**0.0**
CEP				S		**Sn**	**15 24 29.0**	**-0.5**
CHCP	**Chirah Chowk**	**3.69**	**147**	P		**Pn**	**15 24 01.9**	**-0.1**
THW	**Thamme Wali**	**4.04**	**169**	P		**Pn**	**15 24 06.5**	**-0.2**
SARP	**Sargodha**	**5.07**	**162**	P		**Pn**	**15 24 19.4**	**-1.3**
KK31	**Karatay Array**	**6.33**	**358**	Pn		**Pn**	**15 24 39.6**	**+1.8**
	2.2nm,0.5s,baz=174,slow=12,SNR=75							
KK31				⇑Sn		**Sn**	**15 25 49.8**	**+1.1**
	3.9nm,0.4s,baz=169,slow=27,SNR=6.6							
TKM2	**Tokmak 2**	**7.16**	**29**	⇓Pn		**Pn**	**15 24 49.9**	**+0.6**
	1.4nm,0.7s							
TKM2				⇑Sn		**Sn**	**15 26 07.6**	**-1.5**
	3.0nm,1.0s							
AB31	**Akbulak array**	**14.78**	**331**	Pn		**Pn**	**15 26 31.4**	**-0.1**
	0.3nm,0.3s,baz=48,slow=39,SNR=24							
AB31				⇑Sn		**Sn**	**15 29 10.8**	**-3.4**
	0.5nm,0.5s,baz=153,slow=23,SNR=6.3							
AKTO	**Aktyubinsk**	**16.48**	**330**	⇓Pn		**P**	**15 26 57.2**	**+3.2**
	0.5nm,1.0s							
AKTO				⇑Sn		**Sn**	**15 29 51.4**	**-3.8**
	0.3nm,1.0s							

ISCJB ***27*** *15:47:28.6±0.5, 38°.31N±0°.03×21°.73E±0°.04, h13km±3km, Error ellipse: s-maj=5.4km s-min=4.7km az=147.5*
CSEM ***27*** *15:47:28.1±0.1, 38°.30N×21°.75E, h15km, ML1.8/3, Error ellipse: s-maj=3.5km s-min=3.1km az=122.0*
ATH ***27*** *15:47:28.8, 38°.29N×21°.71E, h14km±4km, MD3.1/5*
THE ***27*** *15:47:28.9, 38°.31N×21°.76E, h14km±1km, ML1.8/3, Error ellipse: s-maj=1.6km s-min=0.7km az=158.0*

ISC 27 15:47:28.5±0.9, 38°.30N±0°.03×21°.76E±0°.03, h15km±5km, n26, σ0s49/45, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UPR	**University Cam**	**0.03**	**130**	P		**Pg**	**15 47 30.9**	**-0.3**
UPR				S		**Sg**	**15 47 32.9**	**-0.2**
UPR	**University Cam**	**0.03**	**130**	*e*PG		**Pg**	**15 47 31.4**	**+0.1**
UPR				*e*SG		**Sg**	**15 47 33.2**	**+0.1**
UPR	**University Cam**	**0.03**	**130**	P		**Pg**	**15 47 30.9**	**-0.3**
UPR	**University Cam**	**0.03**	**130**	*e*Pg		**Pg**	**15 47 31.4**	**+0.1**
UPR				S		**Sg**	**15 47 32.9**	**-0.2**
UPR				*e*Sg		Sg	15 47 33.2	+0.1
LAKA	**Lakka**	**0.19**	**110**	P		**Pg**	**15 47 33.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVA	**Berane**	**0.36**	**260**	⇓*i*Pg	**Pg**	**16 12 57.8**	**-1.0**
IVA				*e*Sg	**Sg**	**16 13 03.0**	**-0.5**
BEY	**Berane**	**0.36**	**260**	⇓*i*Pg	**Pg**	**16 12 57.8**	**-1.0**
BEY				*e*Sg	**Sg**	**16 13 03.0**	**-0.6**
SJES	**Sjenica**	**0.44**	**318**	⇑*i*Pg	**Pg**	**16 12 57.6**	**-2.7**
SJES				*e*Sg	**Sg**	**16 13 03.8**	**-2.3**
PVY	**Plav**	**0.46**	**222**	⇓*i*Pg	**Pg**	**16 12 59.4**	**-1.3**
PVY				*e*Sg	**Sg**	**16 13 06.4**	**-0.3**
PVY	**Plav**	**0.46**	**222**	⇓*i*Pg	**Pg**	**16 12 59.4**	**-1.3**
PVY				*e*Sg	**Sg**	**16 13 06.4**	**-0.3**
SELS	**Selova**	**0.61**	**62**	⇑*i*Pg	**Pg**	**16 13 02.3**	**-1.3**
SELS				*e*Sg	**Sg**	**16 13 11.1**	**-0.6**
SELS	**Selova**	**0.61**	**62**	⇑*i*Pg	**Pg**	**16 13 02.3**	**-1.3**
SELS				*e*Sg	**Sg**	**16 13 11.1**	**-0.6**
IVAS	**Ivanjica**	**0.66**	**346**	*e*Pg	**Pg**	**16 13 03.9**	**-0.6**
IVAS				*e*Sg	**Sg**	**16 13 12.9**	**-0.2**
IVAS	**Ivanjica**	**0.66**	**346**	*e*Pg	**Pg**	**16 13 03.9**	**-0.6**
IVAS				*e*Sg	**Sg**	**16 13 12.9**	**-0.2**
PLE	**Pljevlja**	**0.82**	**299**	⇓*i*Pg	**Pg**	**16 13 05.9**	**-1.6**
PLE				*e*Sg	**Sg**	**16 13 18.3**	**0.0**
PLE	**Pljevlja**	**0.82**	**299**	⇓*i*Pg	**Pg**	**16 13 05.9**	**-1.6**
PLE				*e*Sg	**Sg**	**16 13 18.3**	**0.0**
TTG	**Podgorica**	**0.96**	**239**	⇓*i*Pg	**Pg**	**16 13 08.8**	**-1.4**
TTG				*e*Sg	**Sb**	**16 13 23.6**	**+0.3**
PDG	**Podgorica**	**0.97**	**239**	*e*Pg	**Pg**	**16 13 08.8**	**-1.5**
PDG				*e*Sg	**Sg**	**16 13 22.6**	**-0.3**
PDG	**Podgorica**	**0.97**	**239**	⇓*i*Pg	**Pg**	**16 13 08.8**	**-1.5**
PDG				*e*Sg	**Sg**	**16 13 22.6**	**-0.3**
GRUS	**Gruza**	**0.98**	**15**	*e*Pg	**Pg**	**16 13 10.1**	**-0.5**
GRUS	**Gruza**	**0.98**	**15**	*e*Pg	**Pg**	**16 13 10.1**	**-0.5**
NKY	**Niksic**	**1.02**	**263**	⇑*i*Pg	**Pg**	**16 13 10.0**	**-1.3**
NKY				*e*Sg	**Sg**	**16 13 24.4**	**-0.3**
NKY	**Niksic**	**1.02**	**263**	⇑*i*Pg	**Pg**	**16 13 10.0**	**-1.3**
NKY				*e*Sg	**Sg**	**16 13 24.4**	**-0.3**
BARS	**Barje**	**1.07**	**96**	*e*Pg	**Pg**	**16 13 11.2**	**-1.0**
BARS				*e*Sg	**Sn**	**16 13 26.8**	**-0.8**
BARS	**Barje**	**1.07**	**96**	*e*Pg	**Pg**	**16 13 11.2**	**-1.0**
BARS				*e*Sg	**Sn**	**16 13 26.8**	**-0.8**
UPM	**Unac-Piva**	**1.11**	**284**	⇑*i*Pg	**Pb**	**16 13 11.6**	**-1.5**
UPM				*e*Sg	**Sn**	**16 13 28.4**	**-0.5**
UPM	**Unac-Piva**	**1.11**	**284**	⇑*i*Pg	**Pb**	**16 13 11.6**	**-1.5**
UPM				*e*Sg	**Sn**	**16 13 28.4**	**-0.5**
DIVS	**Divibare**	**1.19**	**347**	*i* Pg	**Pb**	**16 13 13.1**	**-1.3**
DIVS				*e*Sg	**Sb**	**16 13 30.0**	**0.0**
DIVS	**Divibare**	**1.19**	**347**	*i* Pg	**Pb**	**16 13 13.1**	**-1.3**
DIVS				*e*Sg	**Sb**	**16 13 30.0**	**0.0**
SKO	**Skopje**	**1.25**	**140**	*e*Pn	**Pg**	**16 13 16.2**	**+0.6**
BUM	**Brajici-Budva**	**1.27**	**240**	⇑*i*Pg	**Pn**	**16 13 14.6**	**-0.9**
BUM				*e*Sg	**Sn**	**16 13 33.6**	**+1.1**
BUM	**Brajici-Budva**	**1.27**	**240**	⇑*i*Pg	**Pn**	**16 13 14.6**	**-0.9**
ULC	**Ulcinj**	**1.28**	**221**	⇑*i*Pg	**Pn**	**16 13 14.9**	**-0.8**
ULC				*e*Sg	**Sg**	**16 13 34.8**	**+1.9**
ULC	**Ulcinj**	**1.28**	**221**	⇑*i*Pg	**Pn**	**16 13 14.9**	**-0.8**
TRUS	**Trudelj**	**1.29**	**1**	⇓*i*Pg	**Pn**	**16 13 15.1**	**-0.6**
TRUS				*e*Sg	**Sg**	**16 13 33.0**	**-0.1**
TRUS	**Trudelj**	**1.29**	**1**	⇓*i*Pg	**Pn**	**16 13 15.1**	**-0.6**
TRUS				*e*Sg	**Sg**	**16 13 33.0**	**-0.1**
BRY	**Bratogost**	**1.35**	**269**	⇓*i*Pg	**Pn**	**16 13 15.9**	**-0.8**
BRY				*e*Sg	**Sg**	**16 13 35.7**	**+0.6**
BRY	**Bratogost**	**1.35**	**269**	⇓*i*Pg	**Pn**	**16 13 15.9**	**-0.8**
BRY				*e*Sg	**Sg**	**16 13 35.7**	**+0.6**
BOLS	**Boljevac**	**1.46**	**52**	*e*Pg	**Pn**	**16 13 17.6**	**-0.4**
BOLS				*e*Sg	**Sb**	**16 13 37.7**	**+0.3**
BOLS	**Boljevac**	**1.46**	**52**	*e*Pg	**Pn**	**16 13 17.6**	**-0.4**
BOLS				*e*Sg	**Sb**	**16 13 37.7**	**+0.3**
SVIS	**Svilajnac**	**1.46**	**24**	*e*Pn	**Pg**	**16 13 19.1**	**+0.6**
SVIS				*e*Sg	**Sg**	**16 13 38.2**	**-0.5**
HCY	**Herceg Novi**	**1.47**	**251**	⇓*i*Pg	**Pn**	**16 13 18.0**	**-0.2**
HCY				*e*Sg	**Sg**	**16 13 40.5**	**+1.6**
HCY	**Herceg Novi**	**1.47**	**251**	⇓*i*Pg	**Pn**	**16 13 18.0**	**-0.2**
ZAPS	**Zavoj**	**1.69**	**78**	⇑*i*Pg	**Pb**	**16 13 22.2**	**-0.6**
ZAPS				*e*Sn	**Sg**	**16 13 45.8**	**-0.1**
KRUS	**Krusevo**	**1.70**	**157**	*e*Pn	**Pn**	**16 13 21.7**	**+0.3**
TEKS	**Tekeris**	**1.72**	**339**	*e*Pn	**Pb**	**16 13 22.9**	**-0.5**
TEKS				*e*Sn	**Sb**	**16 13 45.8**	**+0.6**
TEKS	**Tekeris**	**1.72**	**339**	*e*Pn	**Pb**	**16 13 22.9**	**-0.5**
TEKS				*e*Sn	**Sb**	**16 13 45.8**	**+0.6**
STON	**Ston**	**1.97**	**269**	*e*Pn	**Pb**	**16 13 27.9**	**+0.3**
STON				Sn	**Sg**	**16 13 55.1**	**+0.2**
STON	**Ston**	**1.97**	**269**	*e*Pn	**Pb**	**16 13 27.8**	**+0.3**
BZS	**Buzias**	**2.82**	**18**	⇑*i*P	**Pn**	**16 13 37.4**	**+0.6**
BZS	**Buzias**	**2.82**	**18**	*e*Pn	**Pn**	**16 13 37.7**	**+0.9**
BZS	**Buzias**	**2.82**	**18**	*e*Pn	**Pn**	**16 13 37.7**	**+0.9**
BZS	**Buzias**	**2.82**	**18**	*e*Pn	**Pn**	**16 13 37.7**	**+0.9**
GZR	**Gura Zlata**	**3.00**	**34**	⇓*i*P	**Pn**	**16 13 41.0**	**+1.6**
GZR	**Gura Zlata**	**3.00**	**34**	⇓*i*P	**Pn**	**16 13 41.0**	**+1.6**
PKSM	**Moragy**	**3.50**	**340**	⇓*i*P	**Pn**	**16 13 46.3**	**+0.2**
PKSM	**Moragy**	**3.50**	**340**	⇓*i*P	**Pn**	**16 13 46.3**	**+0.2**
LOT	**Lotru**	**3.50**	**43**	⇓*i*P	**Pn**	**16 13 47.0**	**+0.7**
LOT	**Lotru**	**3.50**	**43**	⇓*i*P	**Pn**	**16 13 47.0**	**+0.7**
VOIR		**4.19**	**52**	⇑*i*P	Pb	16 14 00.8	-4.7
VOIR		**4.19**	**52**	⇑*i*P	Pb	16 14 00.8	-4.7
DRGR		**4.20**	**23**	⇓*i*P	**Pn**	**16 13 57.4**	**+1.6**
DRGR		**4.20**	**23**	⇓*i*P	**Pn**	**16 13 57.4**	**+1.6**
NVLJ	**Novalja**	**4.31**	**294**	*e*Pn	**Pn**	**16 13 59.0**	**+1.8**
NVLJ				Sn	**Sn**	**16 14 52.0**	**+4.6**
NVLJ	**Novalja**	**4.31**	**294**	*e*Pn	**Pn**	**16 13 58.9**	**+1.8**
NVLJ				Sn	**Sn**	**16 14 52.0**	**+4.6**
MLR	**Muntele Rosu**	**4.75**	**56**	⇑*i*P	Pb	16 14 09.6	-5.4
ARSA	**Arzberg**	**5.51**	**323**	⇑*i*Pn	**Pn**	**16 14 15.0**	**+1.2**
ARSA	**Arzberg**	**5.51**	**323**	Pn	**Pn**	**16 14 15.0**	**+1.2**

IDC 27 16:14:24.5±2.0, 2°.69N×125°.76E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=193.2km s-min=24.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**160**	P	P	16 19 40.3	-1.1
	0.5nm,0.6s,baz=338,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**27.38**	**164**	P	P	16 20 13.0	+1.2
	0.1nm,0.3s,baz=341,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**57.85**	**326**	P	P	16 24 17.9	-0.3
	0.1nm,0.6s,baz=115,slow=6.3,SNR=3.9						

IDC 27 16:16:56.7±1.3, 3°.29S×146°.84E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/19, mbtmp3.9/10, ML2.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/28, Error ellipse: s-maj=42.8km s-min=18.8km az=101.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**177**	Pn	Pn	16 18 29.6	+1.7
	2.1nm,0.3s,baz=349,slow=5.9,SNR=22						
PMG				Sn	Sn	16 19 32.4	-5.9
	baz=68,slow=4.5,SNR=1.9						
GUMO	**Guam**	**16.89**	**353**	LR	LR	16 25 34.8	
	comp=Z,191nm,20.7s,baz=85,slow=31						
WRA	**Warramunga Arr**	**20.56**	**215**	P	P	16 21 36.6	-0.6
	3.1nm,0.8s,baz=40,slow=11,SNR=21						
ASAR	**Alice Springs**	**23.80**	**211**	P	P	16 22 11.0	-0.5
	2.2nm,0.8s,baz=45,slow=7.0,SNR=22						
FITZ	**Fitzroy Crossi**	**25.46**	**233**	P	P	16 22 27.1	+0.5
	6.3nm,0.9s,baz=45,slow=11,SNR=5.8						
FITZ				LR	LR	16 34 07.4	
	comp=Z,27nm,19.7s,baz=63,slow=40						
STKA	**Stephens Creek**	**28.86**	**189**	LR	LR	16 35 54.4	
	comp=Z,108nm,18.8s,baz=205,slow=39						
NWAO	**Narrogin (SRO)**	**40.46**	**220**	LR	LR	16 42 46.8	
	comp=Z,88nm,18.7s,baz=19,slow=38						
KSRS	**Korea Array**	**44.19**	**338**	LR	LR	16 40 27.1	
	comp=Z,51nm,18.8s,baz=46,slow=32						
CMAR	**Chiang Mai Arr**	**51.88**	**296**	P	P	16 26 07.6	+0.2
	2.2nm,0.9s,baz=128,slow=6.0,SNR=7.7						
SONM	**Songino Array**	**61.98**	**330**	P	P	16 27 19.7	+0.9
	0.4nm,0.9s,baz=140,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**75.33**	**320**	P	P	16 28 41.7	-0.3
	1.2nm,0.9s,baz=99,slow=7.5,SNR=9.2						
ZALV	**Zalesovo Beam**	**76.66**	**328**	LR	LR	17 01 01.9	
	comp=Z,54nm,20.2s,baz=73,slow=34						
KURK	**Kurchatov**	**78.97**	**323**	P	P	16 29 02.6	+0.3
	0.3nm,0.3s,baz=112,slow=4.7,SNR=3.0						
ILAR	**Eielson Array**	**83.07**	**23**	P	P	16 29 24.1	+0.1
	0.8nm,0.9s,baz=260,slow=5.6,SNR=8.7						
BVAR	**Borovoye Array**	**84.50**	**324**	P	P	16 29 30.8	-0.7
	1.5nm,0.8s,baz=93,slow=6.2,SNR=8.3						
TORD	**Torodi Ar. Bea**	**144.19**	**288**	PKP	PKPab	16 36 33.4	0.0
	0.7nm,0.8s,baz=2.2,slow=3.4,SNR=2.9						

MAN 27 16:52:08, 8°.68N×125°.83E, h13km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.36**	**325**	*e*P	Pb	16 52 17.0	+0.8
BUTP				*e*S	Sn	16 52 27.5	+1.7
BUKP	**Musuan**	**1.09**	**224**	*e*P	Pb	16 52 28.1	-0.8
BUKP				*e*S	Sn	16 52 45.2	+1.0
CGP	**Cagayan de Oro**	**1.14**	**259**	*e*P	Pg	16 52 37.4	+7.3
CTBH	**Cotabato--PC H**	**2.13**	**227**	⇑*i*P	Pb	16 52 45.7	-0.8

*BGR **27** 16:53:09.1±1.2, 49°.82N×18°.70E, h1km, ML3.1/9, Error ellipse: s-maj=10.0km s-min=8.9km az=7.0*
*ISCJB **27** 16:53:11.1±0.3, 49°.89N±0°.02×18°.37E±0°.02, h0km, Error ellipse: s-maj=3.5km s-min=2.1km az=17.8*
*CSEM **27** 16:53:12.5±0.2, 49°.86N×18°.43E, h2km, ML2.9/8, Error ellipse: s-maj=4.7km s-min=3.0km az=21.0*
*IPEC **27** 16:53:12.8±0.2, 49°.81N×18°.54E, h3km×1km, ML2.2/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*VIE **27** 16:53:12.5±0.7, 49°.66N×18°.52E, h0km, mb2.1/3, ML2.6/4, Error ellipse: s-maj=5.0km s-min=3.7km az=104.0 27 km SE of Ostrava Suspected Mining induced.*
*PRU **27** 16:53:14.1, 49°.87N×18°.41E, h0km*
ISC 27 16:53:12.6±0.7, 49°.85N±0°.02×18°.48E±0°.02, h0km, n72, σ0s84/121, 6C-12D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**266**	*e*PG	**Pg**	**16 53 18.2**	**+1.5**
OKC				*e*SG	**Sg**	**16 53 20.1**	**+0.6**
	comp=Z,407nm,0.4s						
OKC	**Ostrava-Krasne**	**0.22**	**266**	*e*Pg	**Pg**	**16 53 17.7**	**+1.0**
	baz=95						
OKC				Sg	**Sg**	**16 53 20.1**	**+0.6**
	407nm,0.4s						
RAC	**Raciborz**	**0.30**	**322**	*e*Pg	**Pb**	**16 53 20.3**	**-0.5**
RAC				*e*Sg	**Sb**	**16 53 26.1**	**-0.2**
RAC	**Raciborz**	**0.30**	**322**	*e*Pg	**Pb**	**16 53 20.3**	**-0.5**
RAC				*e*Sg	**Sb**	**16 53 26.1**	**-0.2**
MORC	**Moravsky Berou**	**0.61**	**263**	⇓*i*P	**Pg**	**16 53 24.9**	**+0.6**
MORC	**Moravsky Berou**	**0.61**	**263**	*e*Pg	**Pg**	**16 53 24.8**	**+0.5**
	baz=86						
MORC				*e*Sg	**Sg**	**16 53 33.4**	**+1.2**
	65nm,0.4s,baz=86						
LIKS	**Likavka**	**0.90**	**153**	*e*PG	**Pn**	**16 53 32.7**	**+0.2**
LIKS				*e*SG	**Sn**	**16 53 46.2**	**0.0**
LIKS	**Likavka**	**0.90**	**153**	*e*Pg	**Pn**	**16 53 32.7**	**+0.2**
LIKS				*e*Sg	**Sn**	**16 53 46.2**	**0.0**
OJC	**Ojcow**	**0.93**	**66**	*e*Pg	**Pg**	**16 53 30.2**	**-0.1**
OJC				*e*Sg	**Sg**	**16 53 43.0**	**+0.7**
OJC	**Ojcow**	**0.93**	**66**	*e*Pg	**Pg**	**16 53 30.3**	**-0.1**
	baz=244						
OJC				*e*Sg	**Sg**	**16 53 43.0**	**+0.7**
KRLC	**Kraliky**	**1.12**	**282**	*e*PG	**Pg**	**16 53 33.4**	**-0.6**
KRLC				*e*SG	**Sg**	**16 53 49.2**	**+0.7**
KRLC	**Kraliky**	**1.12**	**282**	*e*Pg	**Pg**	**16 53 33.4**	**-0.6**
KRLC				*e*Sg	**Sg**	**16 53 49.2**	**+0.7**
NIE	**Niedzica**	**1.27**	**109**	*e*Pg	**Pb**	**16 53 37.2**	**-0.2**
NIE				*e*Sg	**Sb**	**16 53 54.7**	**+0.5**
KOLL	**Kolacno**	**1.27**	**182**	*e*PN	**Pn**	**16 53 37.4**	**-0.2**
KOLL				*e*SN	**Sn**	**16 53 55.1**	**-0.3**
KOLL	**Kolacno**	**1.27**	**182**	*e*Pn	**Pn**	**16 53 37.4**	**-0.2**
KOLL				*e*Sn	**Sn**	**16 53 55.1**	**-0.3**
VRAC	**Vranov**	**1.34**	**247**	⇓*i*P	**Pg**	**16 53 38.1**	**-0.2**
VRAC	**Vranov**	**1.34**	**247**	⇓*i*P	**Pg**	**16 53 38.1**	**-0.2**
VRAC				*e*Sg	**Sg**	**16 53 55.6**	**-0.1**
	30nm,0.4s,baz=68						
VYHS	**Vyhne**	**1.38**	**170**	*e*PN	**Pg**	**16 53 38.6**	**-0.4**
VYHS				*e*SN	**Sn**	**16 53 57.6**	**-0.4**
VYHS	**Vyhne**	**1.38**	**170**	*e*Pn	**Pg**	**16 53 38.6**	**-0.4**
VYHS				*e*Sn	**Sn**	**16 53 57.6**	**-0.4**
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*PG	**Sg**	**16 53 40.3**	**-0.2**
DPC				*e*SG	**Sg**	**16 54 00.0**	**0.0**
	comp=Z,27nm,0.4s						
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*Pg	**Pn**	**16 53 40.6**	**+0.1**
	baz=110						
DPC				Sg	**Sg**	**16 54 00.0**	**0.0**
	27nm,0.4s						
SMOL	**Smolenice**	**1.51**	**208**	*e*PN	**Pn**	**16 53 40.8**	**0.0**
SMOL				*e*SN	**Sn**	**16 54 01.1**	**-0.1**
SMOL	**Smolenice**	**1.51**	**208**	*e*Pn	**Pn**	**16 53 40.8**	**0.0**
SMOL				*e*Sn	**Sn**	**16 54 01.1**	**-0.1**
KRUC	**Moravsky**	**1.57**	**241**	*e*Pg	**Pn**	**16 53 41.8**	**0.0**
	baz=61						
KRUC				*e*Sg	**Sg**	**16 54 03.0**	**-0.1**
	15nm,0.2s,baz=61						
KSP	**Ksiaz**	**1.72**	**306**	*e*Pn	**Pn**	**16 53 43.7**	**-0.1**
KSP				*e*Sn	**Sg**	**16 54 08.8**	**+1.1**
KSP	**Ksiaz**	**1.72**	**306**	*e*Pn	**Pn**	**16 53 43.5**	**-0.2**
KSP				*e*Pg	**Pg**	**16 53 46.1**	**+0.6**
KSP				*e*Sg	**Sg**	**16 54 08.0**	**+0.3**
KSP	**Ksiaz**	**1.72**	**306**	*e*Pn	**Pn**	**16 53 43.5**	**-0.2**
UPC	**Upice**	**1.72**	**293**	*e*PG	**Pn**	**16 53 43.8**	**+0.1**
UPC				*e*SG	**Sn**	**16 54 06.6**	**+0.2**
UPC	**Upice**	**1.72**	**293**	Pg	**Pn**	**16 53 43.8**	**+0.1**
UPC				Sg	**Sn**	**16 54 06.6**	**+0.2**
ZST	**Bratislava**	**1.89**	**209**	*e*PN	**Pn**	**16 53 46.4**	**+0.3**
ZST				*e*SN	**Sn**	**16 54 10.4**	**-0.2**
ZST	**Bratislava**	**1.89**	**209**	*e*Pn	**Pn**	**16 53 46.4**	**+0.3**
ZST				*e*Sn	**Sn**	**16 54 10.4**	**-0.2**
PSZ	**Piszkesteto**	**2.15**	**154**	⇓*i*P	**Pn**	**16 53 49.3**	**-0.4**
PSZ	**Piszkesteto**	**2.15**	**154**	⇓*i*P	**Pn**	**16 53 49.3**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.17**	**115**	*e*PN	**Pg**	**16 53 53.9**	**-0.2**
CRVS				*e*SN	**Sg**	**16 54 21.9**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.17**	**115**	*e*Pn	**Pg**	**16 53 53.9**	**-0.2**
CRVS				*e*Sn	**Sg**	**16 54 21.9**	**-0.3**
PRU	**Pruhonice**	**2.55**	**275**	*e*PG	**Pb**	**16 53 58.4**	**-0.8**
PRU				*e*SG	**Sb**	**16 54 32.1**	**+1.0**
	comp=Z,18nm,0.8s						
PRU	**Pruhonice**	**2.55**	**275**	Sg	**Sb**	**16 54 32.1**	**+1.0**
	18nm,0.8s						
CONA	**Conrad Observa**	**2.59**	**223**	⇑*i*Pn	**Pn**	**16 53 54.1**	**-1.6**
CONA				⇓*i*Sg	**Sg**	**16 54 35.0**	**-0.6**
CONA	**Conrad Observa**	**2.59**	**223**	Pn	**Pn**	**16 53 54.1**	**-1.6**
CONA				Sg	**Sg**	**16 54 35.0**	**-0.6**
KOLS	**Kolonicke sedl**	**2.64**	**109**	*e*	**Pg**	**16 54 03.7**	**+0.5**
KWP	**Kalwaria Pacla**	**2.75**	**93**	⇓*i*P	**Pn**	**16 53 56.9**	**-1.1**
KWP	**Kalwaria Pacla**	**2.75**	**93**	⇓*i*P	**Pn**	**16 53 56.9**	**-1.1**
BRG	**Berggiesshubel**	**3.08**	**291**	PG	**Pb**	**16 54 09.3**	**+1.0**
BRG				SG	**Sg**	**16 54 50.8**	**-0.7**
	12nm,0.8s						
BRG	**Berggiesshubel**	**3.08**	**291**	*e*Pg	**Pb**	**16 54 09.2**	**+1.0**
BRG				*e*Sg	**Sg**	**16 54 52.2**	**+0.7**
BRG	**Berggiesshubel**	**3.08**	**291**	Pg	**Pb**	**16 54 09.2**	**+1.0**
BRG				Sg	**Sg**	**16 54 52.2**	**+0.7**
TRPA	**Tarpa**	**3.18**	**121**	⇓*i*Pn	**Pn**	**16 54 04.7**	**+0.9**
TRPA	**Tarpa**	**3.18**	**121**	⇓*i*P	**Pn**	**16 54 04.7**	**+0.9**
KHC	**Kasperske Hory**	**3.28**	**259**	*e*PN	**Pn**	**16 54 05.0**	**-0.2**
KHC				*e*PG	**Pb**	**16 54 12.3**	**+0.7**
KHC				*e*SN	**Sn**	**16 54 45.0**	**+0.1**
KHC				*e*SG	**Sg**	**16 54 56.9**	**-0.9**
	comp=Z,13nm,0.6s						
KHC	**Kasperske Hory**	**3.28**	**259**	Pn	**Pn**	**16 54 05.0**	**-0.2**
KHC				Sn	**Sn**	**16 54 45.0**	**+0.1**
KHC				Sg	**Sg**	**16 54 56.9**	**-0.9**
	13nm,0.6s						
GEC2	**GERESS Array S**	**3.28**	**254**	*e*Pg	**Pb**	**16 54 13.5**	**+1.8**
GEC2				*e*Sg	**Sg**	**16 54 57.5**	**-0.5**
GEC2	**GERESS Array S**	**3.28**	**254**	Pg	**Pb**	**16 54 13.5**	**+1.8**
GEC2				Sg	**Sg**	**16 54 57.5**	**-0.5**
MOA	**Molln**	**3.43**	**236**	⇑*i*Pn	**Pn**	**16 54 06.4**	**-0.9**
MOA				⇑*i*Pg	**Pb**	**16 54 16.1**	**+1.9**
MOA				⇑*i*Sg	**Sg**	**16 55 01.8**	**-0.8**
	11nm,0.6s						
MOA	**Molln**	**3.43**	**236**	Pn	**Pn**	**16 54 06.4**	**-0.9**
FBE	**Freiberg**	**3.45**	**290**	*e*Sg	**Sg**	**16 55 02.5**	**-0.9**
FBE	**Freiberg**	**3.45**	**290**	Sg	**Sg**	**16 55 02.5**	**-0.9**
WET	**Wettzell**	**3.72**	**261**	*e*Sg	**Sg**	**16 55 10.9**	**-1.1**
WET	**Wettzell**	**3.72**	**261**	Sg	**Sg**	**16 55 10.9**	**-1.1**
CLL	**Collm**	**3.78**	**295**	*e*Pg	**Pg**	**16 54 25.0**	**0.0**
CLL				*e*Sg	**Sg**	**16 55 13.0**	**-1.1**
	comp=Z,20nm,1.3s						
TANN	**Tannenbergstha**	**3.91**	**281**	*e*Pg	**Pg**	**16 54 25.4**	**-2.1**
TANN				*e*Sg	**Sg**	**16 55 18.0**	**-0.2**
TANN	**Tannenbergstha**	**3.91**	**281**	Pg	**Pg**	**16 54 25.4**	**-2.1**
TANN				Sg	**Sg**	**16 55 18.0**	**-0.2**
MULD	**Muldenberg**	**3.95**	**280**	*e*Pg	**Pg**	**16 54 26.3**	**-1.9**
MULD	**Muldenberg**	**3.95**	**280**	Pg	**Pg**	**16 54 26.3**	**-1.9**
WERN	**Wernitzgruen**	**3.96**	**279**	*e*Sg	**Sg**	**16 55 19.5**	**-0.1**
WERN	**Wernitzgruen**	**3.96**	**279**	Sg	**Sg**	**16 55 19.5**	**-0.1**
GUNZ	**Gunzen**	**3.99**	**280**	*e*Pg	**Pg**	**16 54 27.2**	**-1.8**
GUNZ	**Gunzen**	**3.99**	**280**	Pg	**Pg**	**16 54 27.2**	**-1.8**
WERD	**Werda**	**4.01**	**281**	*e*Pg	**Pg**	**16 54 27.5**	**-2.0**
WERD	**Werda**	**4.01**	**281**	Pg	**Pg**	**16 54 27.5**	**-2.0**
DRGR		**4.16**	**136**	⇓*i*P	**Pn**	**16 54 17.6**	**+0.2**
DRGR		**4.16**	**136**	⇓*i*P	**Pn**	**16 54 17.6**	**+0.2**
BZS	**Buzias**	**4.74**	**152**	⇑*i*P	**Pn**	**16 54 25.3**	**+0.1**
BZS	**Buzias**	**4.74**	**152**	⇑*i*P	**Pn**	**16 54 25.3**	**+0.1**

IDC 27 16:57:23.7±1.3, 46°.48N×154°.17E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.4/24, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=52.0km s-min=24.6km az=125.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.02**	**18**	Pn	Pn	16 59 08.0	+0.3
	0.3nm,0.3s,baz=184,slow=13,SNR=12						
PETK				Sn	Sn	17 00 30.0	+1.8
	0.1nm,0.3s,baz=234,slow=50,SNR=2.4						
ASAJ	**Asahikawa**	**8.50**	**258**	Pn	Pn	16 59 27.6	-0.4
	0.4nm,0.3s,baz=270,slow=31,SNR=4.8						
ASAR	**Alice Springs**	**72.19**	**199**	P	P	17 08 50.5	+0.2
	0.3nm,0.6s,baz=9.4,slow=5.8,SNR=8.7						
TXAR	**Lajitas Array**	**76.99**	**61**	P	P	17 09 18.2	-0.2
	0.4nm,0.5s,baz=294,slow=5.0,SNR=7.2						

*IDC **27** 17:00:27.1±0.8, 47°.02N×155°.63E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.7/27, mbtmp3.7/14, ML3.5/3, Error ellipse: s-maj=25.2km s-min=14.5km az=135.0*
*ISCJB **27** 17:00:28.1±0.6, 47°.16N±0°.07×155°.4E±0°.1, h18km, mb3.8/13, Error ellipse: s-maj=14.9km s-min=5.7km az=34.7*
*MOS **27** 17:00:33.4±2.9, 47°.22N×155°.21E, h63km, mb4.0/8, Error ellipse: s-maj=18.8km s-min=8.7km az=60.5*
ISC 27 17:00:30.2±0.8, 47°.13N±0°.09×155°.5E±0°.1, h18km, n34, σ1s12/36, mb3.7/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.57**	**6**	*e*PN	**Pb**	**17 01 32.0**	**-0.8**
SKR				*e*S	**Sn**	**17 02 04.0**	**-2.4**
SKR				smax	smax		
	comp=N,90nm,0.4s						
SKR				smax	smax		
	comp=E,90nm

KK31				⇑Sn		Sn	17 21 24.1	+6.4
	1.0nm,0.3s,baz=188,slow=26,SNR=4.8							
THN	**Thein Dam**	**6.88**	**135**	*eP*		Pn	17 20 12.9	-15
THN				*e*S		Sn	17 21 12.8	-34
TKM2	**Tokmak 2**	**6.99**	**37**	⇑Pn		Pn	17 20 28.0	-1.9
	3.0nm,0.5s							
TKM2				⇓Sn		Sn	17 21 51.4	+1.1
	3.7nm,0.8s							
AB31	**Akbulak array**	**13.86**	**332**	Pn		Pn	17 22 02.1	-1.4
	0.4nm,0.3s,baz=144,slow=13,SNR=37							

WEL 27 17:35:54.5±0.9, 35.78S×179.82E, h33km, ML4.0/7, Error ellipse: s-maj=10.2km s-min=7.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.16**	**214**	PN	Pn	17 36 27.8	-0.3
MXZ				*e*SN	Sn	17 36 53.8	0.0
PUZ	**Puketiti**	**2.61**	**208**	PN	Pn	17 36 34.2	-0.2
PUZ				*e*SN	Sn	17 37 04.1	-0.9
CNGZ	**Carnagh Statio**	**2.99**	**205**	PN	Pn	17 36 39.6	0.0
MWZ	**Matawai**	**3.14**	**215**	PN	Pn	17 36 40.9	-0.8
MWZ				*e*SN	Sn	17 37 16.8	-1.4
URZ	**Urewera**	**3.29**	**220**	PN	Pn	17 36 42.9	-0.8
URZ				*e*SN	Sn	17 37 19.9	-1.8
MHGZ	**Mahia Peninsul**	**3.69**	**204**	PN	Pn	17 36 48.0	-1.3
MKAZ	**Moumakai**	**3.98**	**249**	PN	Pn	17 36 53.5	+0.3
NMHZ	**Naumai**	**4.09**	**215**	PN	Pn	17 36 53.9	-1.0
BKZ	**Black Stump Fm**	**4.29**	**217**	*e*PN	Pn	17 36 56.5	-1.2
MCHZ	**McNeill Hill**	**4.42**	**213**	*e*PN	Pn	17 36 57.9	-1.4
WNVZ	**Wahianoa**	**4.88**	**222**	PN	Pn	17 37 04.1	-1.7
PNHZ	**Pukenui**	**5.02**	**214**	PN	Pn	17 37 05.0	-2.6
BFZ	**Birch Farm**	**5.64**	**209**	PN	Pn	17 37 12.0	-4.1
MRZ	**Mangatainoka R**	**5.91**	**213**	*e*PN	Pn	17 37 15.4	-4.3

*DJA **27** 17:39:01, 1.66N×127.52E, h25km, MLv3.5/3*
IDC 27 17:38:57.7±2.0, 1.37N×126.65E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=172.3km s-min=24.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.49**	**161**	P	P	17 43 58.1	-0.8
	0.7nm,0.5s,baz=339,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.87**	**165**	P	P	17 44 31.9	+0.5
	0.2nm,0.3s,baz=344,slow=11,SNR=14						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	17 49 02.4	0.0
	0.3nm,0.8s,baz=125,slow=8.0,SNR=4.1						

*VIE **27** 17:40:52.9±0.8, 47.32N×9.36E, h8km, ML1.8/3*
*CSEM **27** 17:40:52.2±0.3, 47.02N×9.42E, h2km, ML2.0/4, Error ellipse: s-maj=6.6km s-min=5.7km az=157.0*
ZUR 27 17:40:51.7, 47.03N×9.47E, h-0km±2km, ML1.1/4, 3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLONS	**Plons/SG**	**0.06**	**288**	⇓*i*Pg	Pg	17 40 53.4	+0.3
	999nm,0.2s						
PLONS				*i* Sg	Sg	17 40 54.4	+0.3
	999nm,0.2s						
PLONS	**Plons/SG**	**0.06**	**288**	⇓*i*Pg	Pg	17 40 53.4	+0.3
	999nm,0.2s						
PLONS				*i* Sg	Sg	17 40 54.4	+0.3
	999nm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.27**	**3**	*e*Pg	Pg	17 40 57.4	+0.3
	56nm,0.4s						
LIENZ				*e*Sg	Sg	17 41 01.9	+1.1
	56nm,0.4s						
LIENZ	**Kamor/St.Gall**	**0.27**	**3**	*e*Pg	Pg	17 40 57.4	+0.3
	56nm,0.4s						
LIENZ				*e*Sg	Sg	17 41 01.9	+1.1
	56nm,0.4s						
LLS	**Linth-Limmern**	**0.36**	**240**	*e*Pg	Pg	17 40 59.1	+0.1
	36nm,0.1s						
LLS	**Linth-Limmern**	**0.36**	**240**	*e*Pg	Pg	17 40 59.1	+0.1
	36nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.38**	**131**	⇓*i*Pg	Pg	17 40 59.3	+0.1
	28nm,0.3s						
DAVOX				*e*Sg	Sg	17 41 05.2	+1.0
	28nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.38**	**131**	⇓*i*Pg	Pg	17 40 59.3	+0.1
	28nm,0.3s						
DAVOX				*e*Sg	Sg	17 41 05.2	+1.0
	28nm,0.3s						
DAVA	**Damuels**	**0.38**	**47**	⇓*i*Pg	Pg	17 40 59.6	+0.3
DAVA				⇑*i*Sg	Sg	17 41 05.2	+0.8
	11nm,0.2s						
DAVA	**Damuels**	**0.38**	**47**	Pg	Pg	17 40 59.6	+0.3
DAVA				Sg	Sg	17 41 05.2	+0.8
	11nm,0.2s						
MOTA	**Moosalm**	**1.16**	**74**	⇑*i*Pg	Pn	17 41 15.8	+0.4
MOTA				⇓*i*Sg	Sn	17 41 32.3	+0.2
	2.4nm,0.2s						
MOTA	**Moosalm**	**1.16**	**74**	Pg	Pn	17 41 15.8	+0.4
SQTA	**Sankt Quirin**	**1.20**	**80**	⇑*i*Pg	Pn	17 41 17.5	+1.5
SQTA	**Sankt Quirin**	**1.20**	**80**	Pg	Pn	17 41 17.5	+1.5

*NOU **27** 17:49:57.5±1.4, 21.45S×170.61E, h30km, MD3.4, MS2.7*
*IDC **27** 17:50:00.9±2.4, 21.88S×169.98E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML3.7/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/26, Error ellipse: s-maj=67.9km s-min=27.4km az=143.0*
ISC 27 17:50:02.9±1.7, 21.7S±0.3×169.8E±0.1, h10km, n35, σ1°47/15, mb3.8/6, MS3.5/5, 2C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLUM	**Mont Dore**	**2.98**	**258**	*e*P	**Pb**	**17 50 52.4**	**+2.2**
PLUM				*e*S	**Sb**	**17 51 32.1**	**-0.3**
LASL	**Noumea**	**3.06**	**260**	*e*P	Pb	17 50 54.0	-3.4
LASL				*e*S	**Sb**	**17 51 36.2**	**+1.3**
NORM	**Noumea**	**3.11**	**260**	*e*P	Pn	17 50 54.6	+2.5
NORM				*e*S	**Sb**	**17 51 36.0**	**-0.4**
DZM	**Mont Dzumac**	**3.13**	**263**	Pn	**Pb**	**17 50 55.7**	**-3.0**
	8.6nm,0.3s,baz=92,slow=18,SNR=193						
DZM				Sn	**Sb**	**17 51 36.6**	**-0.3**
	6.9nm,0.3s,baz=66,slow=23,SNR=3.5						
DZM	**Mont Dzumac**	**3.13**	**263**	*e*P	**Pn**	**17 50 54.8**	**+2.4**
DZM				*e*S	**Sb**	**17 51 37.4**	**+0.5**
DZM				AMP		17 51 45.9	
	comp=Z,444nm,17.1s						
NOUC	**Port Laguerre**	**3.26**	**262**	*e*P	Pn	17 50 56.8	+2.7
NOUC				*e*S	**Sb**	**17 51 42.1**	**+1.4**
NOUC				AMP		17 51 47.5	
	comp=Z,20nm,9.3s						
RPZ	**Rata Peaks**	**21.98**	**178**	LR	LR	18 01 48.8	
	comp=Z,130nm,21.5s,baz=247,slow=32						
STKA	**Stephens Creek**	**27.06**	**242**	P	**P**	**17 55 44.5**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=90,slow=14,SNR=5.2						
STKA				LR	LR	18 06 54.7	
	comp=Z,72nm,19.4s,baz=216,slow=37						
ASAR	**Alice Springs**	**33.11**	**260**	P	**P**	**17 56 40.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=64,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**33.14**	**266**	P	**P**	**17 56 40.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=91,slow=8.5,SNR=6.3						
FITZ	**Fitzroy Crossi**	**41.56**	**267**	LR	LR	18 16 01.4	
	comp=Z,63nm,20.4s,baz=103,slow=37						
KAPI	**Kappang**	**51.17**	**281**	LR	LR	18 17 14.7	
	comp=Z,51nm,20.7s,baz=98,slow=32						
MJAR	**Matsushiro Arr**	**65.16**	**332**	P	**P**	**18 00 43.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=120,slow=7.2,SNR=3.3						
PETK	**Petropavlovsk-**	**75.23**	**352**	LR	LR	18 35 29.4	
	comp=Z,31nm,18.9s,baz=346,slow=36						
CMAR	**Chiang Mai Arr**	**79.98**	**294**	P	**P**	18 02 14.7	+1.8
	comp=Z,1.1nm,1.0s,baz=126,slow=4.4,SNR=7.6						
SONM	**Songino Array**	**89.49**	**323**	P	**P**	**18 03 00.6**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=133,slow=4.6,SNR=4.4						
DRGR		**143.47**	**321**	⇓*i*P	PKPdf	18 09 40.9	+3.0
OKC	**Ostrava-Krasne**	**144.10**	**328**	*e*P	PKPdf	18 09 42.5	+3.7
GZR	**Gura Zlata**	**144.15**	**319**	‖*i*P	PKPdf	18 09 43.3	+4.2
PSZ	**Piszkesteto**	**144.41**	**325**	‖*i*P	PKPdf	18 09 44.2	+4.7
MORC	**Moravsky Berou**	**144.44**	**329**	⇑*i*P	PKPdf	18 09 43.2	+3.7
KRLC	**Kraliky**	**144.60**	**330**	*e*P	PKPdf	18 09 43.9	+4.2
VYHS	**Vyhne**	**144.62**	**326**	*e*	PKPdf	18 09 44.7	+4.9
DPC	**Dobruska-Polom**	**144.62**	**330**	*e*P	PKPdf	18 09 44.3	+4.5
UPC	**Upice**	**144.65**	**331**	*e*P	PKPdf	18 09 44.5	+4.7
KOLL	**Kolacno**	**144.79**	**327**	*e*	PKPdf	18 09 45.3	+5.3
PVCC	**Panska Ves**	**145.28**	**332**	*e*P	PKPab	18 09 46.5	+5.8
BRG	**Berggiesshubel**	**145.29**	**333**	*e*PKP	PKPab	18 09 46.1	+5.4
	comp=Z,7.8nm,0.9s						
CLL	**Collm**	**145.36**	**334**	*i* (P)	PKPab	18 09 45.7	+4.8
PRU	**Pruhonice**	**145.68**	**331**	*e*P	PKPab	18 09 47.7	+5.5
TREC	**Trest**	**145.75**	**330**	*e*P	PKPab	18 09 47.7	+5.2
PKSM	**Moragy**	**146.12**	**323**	‖*i*P	PKPab	18 09 48.4	+4.5
NKC	**Novy Kostel**	**146.41**	**333**	*e*P	PKPab	18 09 51.5	+6.6
KHC	**Kasperske Hory**	**146.74**	**331**	*e*P	PKPab	18 09 50.2	+3.9
GERES	**GERESS Array B**	**146.89**	**331**	PKPbc	**PKPab**	**18 09 47.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=29,slow=3.0,SNR=17						

*DDA **27** 18:13:59.8, 36.48N×35.63E, h12km, MD3.5*
*ISK **27** 18:13:59.7, 36.41N×35.66E, h25km, MD3.6*
*ISCJB **27** 18:14:00.7±0.3, 36.44N±0.02×35.62E±0.03, h26km±3km, Error ellipse: s-maj=4.2km s-min=3.5km az=151.2*
*CSEM **27** 18:14:00.2±0.1, 36.45N×35.62E, h15km, MD3.6, Error ellipse: s-maj=3.3km s-min=2.9km az=79.0*
*NSSC **27** 18:14:07.0±2.7, 36.23N×36.06E, h52km±19km, ML2.8*
ISC 27 18:14:00.8±0.9, 36.43N±0.02×35.63E±0.03, h25km±8km, n71, σ1°11/86, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRTS	**Karatas**	**0.25**	**305**	*e*Pg	**Pb**	**18 14 06.9**	**-0.2**
KRTS				*e*SG	**Sb**	**18 14 12.6**	**+1.2**
KRTS	**Karatas**	**0.25**	**305**	*e*Pg	**Pb**	**18 14 06.9**	**-0.2**
COBT	**Iskenderun**	**0.52**	**80**	*i* P	**Pb**	**18 14 10.5**	**-1.0**
COBT				*i* S	**Sb**	**18 14 18.7**	**0.0**
COBT	**Iskenderun**	**0.52**	**80**	*i* P	**Pb**	**18 14 10.5**	**-1.0**
COBT				*i* S	**Sb**	**18 14 18.7**	**0.0**
HTY	**Hatay**	**0.52**	**127**	*e*PG	**Pb**	**18 14 10.2**	**-1.2**
HTY	**Hatay**	**0.52**	**127**	*e*Pg	**Pb**	**18 14 10.2**	**-1.2**
YAYL	**Yayladag**	**0.56**	**135**	*i* P	**Pb**	**18 14 10.9**	**-1.2**
YAYL				*i* S	**Sb**	**18 14 18.7**	**-1.1**
YAYL	**Yayladag**	**0.56**	**135**	*i* P	**Pb**	**18 14 10.9**	**-1.2**
YAYL				*i* S	**Sb**	**18 14 18.7**	**-1.1**
CEYT	**Ceyhan**	**0.59**	**10**	*e*PG	**Pb**	**18 14 12.2**	**-0.3**
CEYT				*e*SG	**Sb**	**18 14 21.1**	**+0.6**
CEYT	**Ceyhan**	**0.59**	**10**	*e*Pg	**Pb**	**18 14 12.2**	**-0.3**
CEYT				*e*Sg	**Sb**	**18 14 21.1**	**+0.6**
ARNB	**Al Arnab**	**0.64**	**154**	⇓*e*P	**Pb**	**18 14 12.2**	**-1.2**
	SNR=72						
ARNB				*e*S	**Sb**	**18 14 22.0**	**+0.1**
	SNR=94						
BTCH	**Batrach**	**0.78**	**120**	⇑*e*P	**Pb**	**18 14 15.5**	**-0.3**
BTCH				*e*S	**Sb**	**18 14 26.1**	**0.0**
BTCH				AML	AML	18 14 28.9	
	comp=Z,2μm,0.3s						
BTCH				AML	AML	18 14 30.3	
	comp=E,3μm,0.2s						
BTCH				AML	AML	18 14 32.7	
	comp=N,2μm,0.4s						
BTCH	**Batrach**	**0.78**	**120**	⇑*e*P	**Pb**	**18 14 14.9**	**-0.9**
	SNR=72						
BTCH				*e*S	**Sb**	**18 14 26.1**	**0.0**
	comp=N,2μm,0.4s,SNR=93						
MERS	**Mersin**	**0.99**	**296**	*e*PG	**Pn**	**18 14 18.0**	**-1.2**
MERS				*e*SG	**Sn**	**18 14 33.0**	**+0.7**
MERS	**Mersin**	**0.99**	**296**	*e*Pg	**Pn**	**18 14 18.0**	**-1.2**
MERS				*e*Sg	**Sn**	**18 14 33.0**	**+0.7**
KOZT	**Kozan**	**1.06**	**9**	*e*PG	**Pn**	**18 14 19.4**	**-0.7**
KOZT	**Kozan**	**1.06**	**9**	*e*Pg	**Pn**	**18 14 19.4**	**-0.7**
WRDH	**Warideh**	**1.12**	**145**	*e*P	**Pb**	**18 14 21.3**	**-0.3**
WRDH	**Warideh**	**1.12**	**145**	⇑*e*P	**Pn**	**18 14 21.1**	**+0.1**
	SNR=61						
WRDH				*e*S	**Sb**	**18 14 36.0**	**+0.2**
	comp=N,2μm,0.3s,SNR=62						
KUZU	**Kuzuini**	**1.22**	**73**	*i* P	**Pb**	**18 14 22.9**	**-0.3**
KUZU				*i* S	**Sb**	**18 14 38.7**	**+0.2**
KUZU	**Kuzuini**	**1.22**	**73**	*i* P	**Pb**	**18 14 22.9**	**-0.3**
KUZU				*i* S	**Sb**	**18 14 38.7**	**+0.2**
ANDN	**Andirin**	**1.28**	**26**	*i* P	Pn	18 14 17.7	-5.6
ANDN				*i* S	**Sn**	**18 14 35.8**	**-3.9**
GAZ	**Gaziantep**	**1.47**	**59**	*e*PN	**Pn**	**18 14 25.8**	**0.0**
GAZ	**Gaziantep**	**1.47**	**59**	*e*Pn	**Pn**	**18 14 25.8**	**0.0**
KMRS	**Kahramanmaras**	**1.48**	**43**	*e*PN	**Pn**	**18 14 25.9**	**0.0**
KMRS	**Kahramanmaras**	**1.48**	**43**	*e*Pn	**Pn**	**18 14 25.9**	**0.0**
EREN	**Erenkoy**	**1.48**	**233**	*e*PN	**Pn**	**18 14 26.2**	**+0.3**
EREN	**Erenkoy**	**1.48**	**233**	*e*Pn	**Pn**	**18 14 26.2**	**+0.3**
BIDA	**Albida**	**1.52**	**158**	*e*P	**Pb**	**18 14 28.0**	**-0.5**
BIDA				AML	AML	18 14 50.7	
	comp=Z,2μm,0.3s						
BIDA				AML	AML	18 14 51.1	
	comp=E,2μm,0.4s						
BIDA				AML	AML	18 14 52.7	
	comp=N,540nm,0.4s						
BIDA	**Albida**	**1.52**	**158**	⇑*e*P	**Pb**	**18 14 28.0**	**-0.5**
	SNR=61						
BIDA				*e*S	**Sb**	**18 14 47.3**	**-0.1**
	comp=N,540nm,0.4s,SNR=62						
NIG	**Nigde**	**1.86**	**335**	*e*PN	**Pn**	**18 14 31.1**	**-0.2**
NIG	**Nigde**	**1.86**	**335**	*e*Pn	**Pn**	**18 14 31.1**	**-0.2**
SLMH	**Al Salmeh**	**1.87**	**96**	*e*P	**Pn**	**18 14 32.2**	**+0.9**
HAWK	**Haweek**	**2.01**	**161**	‖*e*P	**Pn**	**18 14 34.4**	**+1.1**
LFK	**Lefkose**	**2.05**	**237**	*e*PN	**Pn**	**18 14 33.1**	**-0.7**
LFK	**Lefkose**	**2.05**	**237**	*e*Pn	**Pn**	**18 14 33.1**	**-0.7**
HWQ	**Hawqa**	**2.17**	**173**	*e*P	**Pn**	**18 14 36.2**	**+0.8**
HWQ	**Hawqa**	**2.17**	**173**	*e*P	**Pn**	**18 14 36.2**	**+0.8**
FKH	**Fakeheh**	**2.27**	**163**	*e*P	**Pn**	**18 14 38.3**	**+1.4**
CSS	**Prodhromos**	**2.37**	**233**	*e*PN	**Pn**	**18 14 38.2**	**0.0**
CSS	**Prodhromos**	**2.37**	**233**	*e*Pn	**Pn**	**18 14 38.2**	**0.0**
ATAB	**Bozova**	**2.38**	**63**	*i* P	**Pb**	**18 14 45.6**	**+2.6**
JHLN	**Al Jahlan**	**2.40**	**108**	*e*P	**Pn**	**18 14 39.2**	**+0.6**
BNN	**Bunyan**	**2.42**	**4**	*e*PN	**Pn**	**18 14 38.7**	**-0.3**
BNN	**Bunyan**	**2.42**	**4**	*e*Pn	**Pn**	**18 14 38.7**	**-0.3**
SULT	**Sultanhani-AKS**	**2.44**	**317**	*e*PN	**Pn**	**18 14 39.5**	**+0.4**
SULT	**Sultanhani-AKS**	**2.44**	**317**	*e*Pn	**Pn**	**18 14 39.5**	**+0.4**
BHL	**Bhannes**	**2.52**	**179**	*e*P	**Pn**	**18 14 42.4**	**+2.1**
BHL	**Bhannes**	**2.52**	**179**	*e*P	**Pn**	**18 14 42.4**	**+2.1**
LEF	**Lefka**	**2.58**	**240**	*e*PN	**Pn**	**18 14 41.0**	**+0.1**
LEF	**Lefka**	**2.58**	**240**	*e*Pn	**Pn**	**18 14 41.1**	**+0.1**
AKCD	**Akcadag**	**2.61**	**44**	*i* P	**Pn**	**18 14 43.3**	**+1.8**
AKCD	**Akcadag**	**2.61**	**44**	*i* P	**Pn**	**18 14 43.3**	**+1.8**
ROOS	**tl_alroos**	**2.64**	**148**	*e*P	**Pn**	**18 14 43.2**	**+1.4**
ROOS				AML	AML	18 15 32.9	
	comp=N,1.7nm,0.4s						
ROOS				AML	AML	18 15 34.4	
	comp=Z,1.7nm,0.5s						
MALT	**Malatya**	**2.92**	**49**	*e*PN	**Pn**	**18 14 46.4**	**+0.7**
MALT	**Malatya**	**2.92**	**49**	*e*Pn	**Pn**	**18 14 46.4**	**+0.7**
MYA	**Malatya**	**2.92**	**49**	*e*PN	**Pn**	**18 14 45.3**	**-0.5**
MYA	**Malatya**	**2.92**	**49**	*e*Pn	**Pn**	**18 14 45.3**	**-0.5**
BRBR	**Barbar**	**3.02**	**175**	*e*P	**Pn**	**18 14 50.1**	**+2.8**
BRBR				AML	AML	18 15 41.2	
	comp=Z,55nm,0.6s						
BRBR				AML	AML	18 15 41.4	
	comp=N,34nm,0.4s						
BRBR				AML	AML	18 15 43.9	
	comp=E,48nm,0.8s						
TOTH	**TOTAH**	**3.13**	**168**	*e*P	**Pn**	**18 14 50.8**	**+2.1**
TOTH				AML	AML	18 15 43.2	
	comp=E,102nm,0.6s						
TOTH				AML	AML	18 15 46.8	
	comp=Z,64nm,0.4s						
SFNV	**Sufian**	**3.62**	**89**	*e*P	**Pn**	**18 14 56.4**	**+1.1**
ZALF	**Zalf**	**3.77**	**158**	*e*P	Pn	18 15 01.9	+4.4
ZALF				*e*S	**Sn**	**18 15 38.8**	**-2.2**
ZALF				AML	AML	18 16 01.9	
	comp=E,53nm,0.4s						
ZALF				AML	AML	18 16 05.7	
	comp=N,38nm,0.6s						
ZALF				AML	AML	18 16 05.8	
	comp=Z,32nm,0.6s						
SALA	**Sala**	**3.82**	**166**	*e*P	**Pn**	**18 15 00.9**	**+2.6**
PTK	**Pertek**	**3.87**	**49**	*e*PN	**Pn**	**18 14 59.6**	**+0.7**
PTK	**Pertek**	**3.87**	**49**	*e*Pn	**Pn**	**18 14 59.6**	**+0.7**
KBSD	**Kabsdagh**	**3.99**	**80**	AML	AML	18 16 03.6	
	comp=N,98nm,0.4s						
KBSD				AML	AML	18 16 06.7	
	comp=E,177nm,0.4s						
KBSD				AML	AML	18 16 06.9	
	comp=Z,68nm,0.3s						
MZRK	**Al-Mazaregh**	**4.11**	**97**	*e*P	**Pn**	**18 15 01.8**	**-0.3**
RSH		**5.68**	**197**	P	**Pn**	**18 15 24.4**	**+0.7**
AMAG	**Maghara**	**6.12**	**200**	P	**Pn**	**18 15 31.2**	**+1.6**
HNKL	**Nakhl**	**6.63**	**192**	P	**Pn**	**18 15 37.4**	**+0.7**
SUZ		**6.98**	**200**	P	**Pn**	**18 15 42.7**	**+1.3**

*ISCJB **27** 18:22:03.2±0.9, 34.56N±0.06×102.26E±0.09, h10km, mb2.9/2, MS3.0/2, Error ellipse: s-maj=10.7km s-min=7.8km az=167.0*
*IDC **27** 18:22:03.0±1.4, 34.46N×102.51E, h0km, mb3.0/2, mb1 3.3/5, mb1mx3.1/27, mbtmp3.1/5, ML3.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/11, Error ellipse: s-maj=59.5km s-min=23.9km az=63.0*
*BJI **27** 18:22:06.9, 34.48N×102.52E, h12km, mb4.0/2, ML3.6/12, Ms3.5/2, Ms7 3.3/3*
ISC 27 18:22:06.7±1.2, 34.53N±0.08×102.08E±0.08, h10km, n10, σ2°08/9, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**5.20**	**340**	Pg	**Pg**	**18 23 45.5**	**-0.8**
GTA				Sg	**Sg**	**18 24 56.3**	**+2.7**
GTA				smax	smax		
	comp=N,14nm,1.7s						
GTA				smax	smax		
	comp=E,22nm,1.7s						
GTA				LR	LR		
	comp=N,190nm,8.3s						
GTA				LR	LR		
	comp=E,220nm,10.0s						
GTA				LR	LR		
	comp=Z,110nm,9.3s						
XAN	**Xi'an**	**5.68**	**93**	Pg	Pb	18 23 43.0	-2.9
XAN				Sn	**Sn**	**18 24 39.5**	**+3.0**
XAN				Sg	**Sb**	**18 24 54.0**	**-0.1**
XAN				smax	smax		
	comp=N,48nm,0.7s						
XAN				smax	smax		
	comp=E,16nm,0.9s						
HHC	**Hu-ho-hao-te**	**9.81**	**47**	*e*P	Pn	18 24 24.8	-3.0
HHC				sP		18 24 31.0	
HHC				S	**Sn**	**18 26 16.0**	**-2.1**
HHC				sS		18 26 21.5	
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC				LR	LR		
	comp=N,250nm,6.0s						
HHC				LR	LR		
	comp=E,120nm,9.1s						
HHC				LR	LR		
	comp=Z,150nm,8.3s						
SONM	**Songino Array**	**13.68**	**12**	Pn	**Pn**	**18 25 19.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=191,slow=15,SNR=6.0						
CMAR	**Chiang Mai Arr**	**16.25**	**191**	Pn	**Pn**	**18 25 54.3**	**-0.8**
	baz=2.5,slow=9.8,SNR=7.4						
MKAR	**Makanchi Array**	**19.32**	**315**	P	**Pn**	**18 26 34.6**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=124,slow=9.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**22.91**	**333**	LR	LR	18 36 39.8	
	comp=Z,42nm,20.8s,baz=249,slow=38						
KURK	**Kurchatov**	**23.51**	**321**	P	**P**	**18 27 15.7**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=127,slow=9.0,SNR=5.7						
MJAR	**Matsushiro Arr**	**29.36**	**76**	LR	LR	18 40 44.5	
	comp=Z,43nm,19.9s,baz=10.0,slow=39						
ASAR	**Alice Springs**	**65.29**	**148**	P	P	18 32 45.1	-3.8
	comp=Z,0.2nm,1.0s,baz=329,slow=6.1,SNR=3.3						

IDC 27 18:40:56.4±3.0, 4.91S×134.99E, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=116.7km s-min=15.0km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.96**	**182**	Pn	Pn	18 44 30.7	+1.4
	0.2nm,0.3s,baz=11,slow=13,SNR=7.1						
WRA				Sn	Sn	18 47 14.9	-0.9
	0.3nm,0.3s,baz=5.5,slow=23,SNR=6.9						
FITZ	**Fitzroy Crossi**	**15.98**	**214**	Pn	Pn	18 44 41.9	-0.9
	0.8nm,0.3s,baz=35,slow=10,SNR=13						
FITZ				Sn	Sn	18 47 34.2	-6.6
	0.8nm,0.3s,baz=183,slow=14,SNR=6.0						
ASAR	**Alice Springs**	**18.68**	**183**	P	Pn	18 45 17.5	+1.0
	0.5nm,0.3s,baz=5.6,slow=11,SNR=43						
ASAR				S	Sn	18 48 47.0	+0.8
	0.1nm,0.3s,baz=5.7,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**69.32**	**324**	P	P	18 52 05.7	-0.2
	0.2nm,0.6s,baz=133,slow=7.8,SNR=3.4						

*ISCJB **27** 19:04:55.7±1.4, 6.29N±0.09×124.2E±0.1, h548km±20km, mb3.9/27, Error ellipse: s-maj=23.9km s-min=8.3km az=152.1*
*NEIC **27** 19:04:56.2±1.0, 6.31N×124.18E, h535km±13km, mb4.0/18, Error ellipse: s-maj=15.5km s-min=5.2km az=61.0*
*IDC **27** 19:04:58.1±1.8, 6.27N×124.10E, h555km±21km, mb3.1/11, mb1 3.2/11, mb1mx3.1/22, mbtmp3.1/11, Error ellipse: s-maj=48.8km s-min=9.7km az=64.0*
**ISC 27 19:04:57.1±1.4, 6.3N±0.1×124.1E±0.2, h548km±15km, n52, σ0°75/59, mb3.9/27, Mind

MKAR	**Makanchi Array**	**53.98**	**325**	P	**P**	**19 13 30.7**	**+0.7**
MKAR				PcP	**PcP**	**19 14 26.3**	**-0.2**
TKM2	**Tokmak 2**	**56.12**	**318**	*e*P	**P**	**19 13 45.9**	**+0.8**
	1.8nm,0.6s						
AAK	**Ala-Archa**	**56.73**	**318**	P	**P**	**19 13 49.5**	**+0.2**
	4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**57.14**	**334**	P	**P**	**19 13 51.4**	**-0.3**
	0.9nm,0.5s,baz=116,slow=6.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**57.14**	**334**	P	**P**	**19 13 51.4**	**-0.3**
EKS2	**Erkin-Say**	**57.22**	**317**	*e*P	**P**	**19 13 53.3**	**+0.7**
	2.5nm,0.7s						
KBL	**Kabul**	**57.92**	**307**	*e*P	**P**	**19 13 57.2**	**-0.4**
	2.2nm,0.8s						
KURK	**Kurchatov**	**58.20**	**328**	*e*P	**P**	**19 13 59.1**	**+0.2**
	6.1nm,0.4s						
BVAR	**Borovoye Array**	**63.77**	**327**	P	**P**	**19 14 35.6**	**+0.2**
	0.9nm,0.6s,baz=100,slow=4.4,SNR=6.3						
BVAR	**Borovoye Array**	**63.77**	**327**	P	**P**	**19 14 35.6**	**+0.2**
BRVK	**Borovoye**	**63.84**	**327**	*e*P	**P**	**19 14 35.5**	**-0.3**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**70.05**	**322**	P	**P**	**19 15 14.4**	**+0.2**
	2.1nm,0.7s,baz=106,slow=9.7,SNR=11						
AKTO	**Aktyubinsk**	**70.05**	**322**	P	**P**	**19 15 14.4**	**+0.2**
ARU	**Arti**	**71.39**	**328**	*e*P	**P**	**19 15 21.1**	**-0.8**
	2.2nm,0.5s						
FINES	**FINESS Array B**	**88.36**	**332**	P	**P**	**19 16 49.9**	**-0.6**
	1.1nm,0.8s,baz=48,slow=5.7,SNR=4.3						
FINES	**FINESS Array B**	**88.36**	**332**	P	**P**	**19 16 49.9**	**-0.6**

ISC 27 19:18:25.6±1.7, 36°56N±0°08×70°3E±0°2, h204km, n16, σ1§21/18, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.04**	**153**	⇓P	**Pn**	**19 19 16.7**	**+0.6**
CEP				S	**S**	**19 19 54.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.79**	**139**	P	**Pn**	**19 19 26.0**	**+0.9**
THW	**Thamme Wali**	**3.95**	**162**	⇓P	**Pn**	**19 19 27.2**	**+0.2**
SARP	**Sargodha**	**5.04**	**156**	P	**Pn**	**19 19 40.2**	**-0.4**
KK31	**Karatay Array**	**6.54**	**2**	⇑Pn	**Pn**	**19 20 01.3**	**+1.6**
	0.3nm,0.2s,baz=180,slow=12,SNR=10.0						
KK31				⇑Sn	**S**	**19 21 11.9**	**-2.4**
	2.4nm,0.6s,baz=193,slow=22,SNR=6.9						
TKM2	**Tokmak 2**	**7.56**	**31**	⇑Pn	**Pn**	**19 20 13.7**	**+0.5**
	0.5nm,0.3s						
TKM2				⇑Sn	S	19 21 31.3	-7.4
	1.1nm,0.7s						
DANN	**Dangsing**	**14.01**	**122**	*e*P	**P**	**19 21 36.3**	**-1.3**
KOLN	**Koldanda**	**14.28**	**124**	*e*P	**Pn**	**19 21 38.0**	**-1.0**
	3.2nm,0.3s						
GKN	**Gorkha**	**14.83**	**121**	*e*P	**P**	**19 21 46.7**	**+0.1**
	8.5nm,0.3s						
DMN	**Daman**	**15.40**	**121**	*e*P	**P**	**19 21 53.7**	**+0.7**
KKN	**Kakani**	**15.41**	**120**	*e*P	**P**	**19 21 53.6**	**+0.6**
	5.6nm,0.3s						
PKI	**Pulchoki**	**15.64**	**121**	*e*P	**Pn**	**19 21 56.0**	**+0.3**
GUN	**Gumba**	**15.76**	**119**	*e*P	**Pn**	**19 21 59.3**	**+2.1**
JIRN	**Jiri**	**16.13**	**119**	*e*P	**Pn**	**19 22 03.1**	**+1.4**
RAMN	**Ramite**	**16.85**	**120**	*e*P	**Pn**	**19 22 09.5**	**-0.7**
ODAN	**Odare**	**17.46**	**119**	*e*P	**Pn**	**19 22 17.5**	**+0.2**
	7.4nm,0.6s						

*IDC **27** 19:23:23.0±1.3, 44°.63N×108°.54W, h0km, mb1 3.4/4, mb1mx3.2/26, mbtmp3.2/4, ML2.3/3, Error ellipse: s-maj=32.3km s-min=8.8km az=116.0*
*NEIC **27** 19:23:23.0, 44°.69N×110°.26W, h2km, ML2.8(BUT), ML2.8(SLC), After SLC.*
*ISCJB **27** 19:23:25.1±0.2, 44°.69N±0°.02×110°.22W±0°.03, h10km, Error ellipse: s-maj=3.0km s-min=2.4km az=141.3*

ISC 27 19:23:25.0±0.8, 44°.69N±0°.02×110°.23W±0°.02, h10km, n69, σ1§15/83, 22C-23D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKWY	**Lake**	**0.17**	**224**	*e*Pg	**Pg**	**19 23 27.2**	**-1.7**
YNR	**Norris Junctio**	**0.32**	**275**	*e*Pg	**Pg**	**19 23 29.9**	**-1.6**
H17A	**Grant Village**	**0.39**	**220**	⇓P	**Pg**	**19 23 31.8**	**-0.9**
	baz=0.4						
YFT	**Old Faithful**	**0.49**	**241**	*e*Pg	**Pg**	**19 23 33.9**	**-0.8**
YMR	**Madison River**	**0.52**	**268**	*e*Pg	**Pg**	**19 23 33.9**	**-1.3**
H16A	**Russell Place,**	**0.72**	**271**	⇓P	**Pg**	**19 23 37.9**	**-1.1**
	baz=0.7						
H16A				⇓S	**Sg**	**19 23 49.0**	**+0.5**
	baz=0.7						
G17A	**Pierce Place,**	**0.73**	**330**	⇓P	**Pg**	**19 23 39.1**	**0.0**
	baz=0.7,SNR=28						
G18A	**Lazy EL Ranch,**	**0.79**	**37**	P	**Pg**	**19 23 39.2**	**-0.9**
	baz=0.8,SNR=254						
G18A				⇑S	**Sg**	**19 23 50.3**	**-0.1**
	baz=0.8						
RLMT	**Red Lodge**	**0.81**	**57**	*e*Pg	**Pg**	**19 23 39.0**	**-1.6**
RLMT				*e*Sg	**Sg**	**19 23 49.4**	**-1.8**
RLMT	**Red Lodge**	**0.81**	**57**	⇓P	**Pg**	**19 23 39.5**	**-1.1**
	baz=0.8,SNR=162						
RLMT				⇓P	**Pg**	**19 23 39.5**	**-1.1**
	baz=0.8,SNR=162						
RLMT				⇑S	**Sg**	**19 23 50.8**	**-0.4**
	baz=0.8						
RLMT				⇑S	**Sg**	**19 23 50.8**	**-0.4**
	baz=0.8						
I17A	**Pilgrim Ck.**	**0.81**	**198**	⇓P	**Pg**	**19 23 40.0**	**-0.6**
	baz=0.8						
QLMT	**Earthquake Lak**	**0.87**	**280**	*e*Pg	**Pg**	**19 23 40.2**	**-1.5**
H19A	**Powell**	**0.89**	**91**	⇓P	**Pg**	**19 23 41.6**	**-0.5**
	baz=0.9						
I18A	**Diamond G Ranc**	**1.03**	**163**	⇓P	**Pg**	**19 23 44.5**	**-0.4**
	baz=1.0						
I19A	**Meeteetse**	**1.10**	**126**	⇓P	**Pb**	**19 23 45.1**	**-1.2**
	baz=1.1,SNR=38						
GCMT	**Greycliff**	**1.17**	**20**	*e*Pg	**Pb**	**19 23 46.3**	**-1.1**
I16A	**Newdale**	**1.22**	**228**	⇑P	**Pn**	**19 23 47.5**	**-0.7**
	baz=1.2						
G16A	**Moss Hill, Enn**	**1.24**	**296**	⇑P	**Pn**	**19 23 47.9**	**-0.7**
	baz=1.2						
F17A	**Fitzpatrick Pl**	**1.25**	**346**	⇓P	**Pg**	**19 23 49.0**	**0.0**
	baz=1.2,SNR=230						
F18A	**Big Timber**	**1.27**	**16**	⇓P	**Pb**	**19 23 48.7**	**-0.4**
	baz=1.3,SNR=81						
SNOW	**Snow King Moun**	**1.28**	**197**	*e*Pn	**Pg**	**19 23 49.5**	**-0.2**
DCID1	**Drake Creek**	**1.29**	**212**	*e*Pn	**Pb**	**19 23 48.9**	**-0.6**
TPAW	**Teton Pass**	**1.31**	**204**	*e*Pn	**Pb**	**19 23 49.3**	**-0.5**
BOZ	**Bozeman (W)**	**1.38**	**315**	*e*Pn	**Pn**	**19 23 49.5**	**-0.9**
BOZ	**Bozeman (W)**	**1.38**	**315**	⇓P	**Pn**	**19 23 50.1**	**-0.3**
	baz=1.4						
BOZ				⇓P	**Pn**	**19 23 50.1**	**-0.3**
	baz=1.4						
BOZ				⇑S	**Sg**	**19 24 10.8**	**+1.5**
	baz=1.4						
BOZ				⇑S	**Sg**	**19 24 10.8**	**+1.5**
	baz=1.4						
REDW	**Red Top Meadow**	**1.40**	**199**	*e*Pn	**Pb**	**19 23 50.8**	**-0.6**
F16A	**Kennard Place,**	**1.47**	**318**	⇓P	**Pb**	**19 23 52.4**	**-0.1**
	baz=1.5,SNR=100						
F19A	**Roth Farm, Mol**	**1.48**	**38**	⇑P	**Pn**	**19 23 51.4**	**-0.3**
	baz=1.5,SNR=33						
F19A				⇑S	**Sb**	**19 24 11.7**	**+0.2**
	baz=1.5						
G20A	**Bridger**	**1.53**	**69**	⇓P	**Pn**	**19 23 51.9**	**-0.6**
	baz=1.5,SNR=26						
G20A				⇑S	**Sb**	**19 24 13.0**	**+0.1**
	baz=1.5						
RRI2	**Red Ridge**	**1.56**	**211**	*e*Pn	**Pb**	**19 23 53.1**	**-0.9**
J19A	**Crowheart**	**1.66**	**149**	⇑P	**Pb**	**19 23 55.0**	**-0.8**
	baz=1.7,SNR=26						
G15A	**Dillon**	**1.67**	**287**	⇓P	**Pb**	**19 23 55.2**	**-0.8**
	baz=1.6,SNR=105						
G15A				⇑S	**Sg**	**19 24 18.7**	**0.0**
	baz=1.6						
H15A	**Lima**	**1.72**	**268**	⇑P	**Pb**	**19 23 56.2**	**-0.6**
	baz=1.7,SNR=18						
H15A				⇓S	**Sg**	**19 24 20.0**	**-0.4**
	baz=1.7						
J16A	**Bone**	**1.73**	**216**	⇑Pb	**Pb**	**19 23 56.7**	**-0.3**
	baz=1.7						
I15A	**Monteview**	**1.76**	**248**	⇑P	**Pb**	**19 23 56.5**	**-0.9**
	baz=1.7						
DLMT	**Dillon**	**1.81**	**293**	*e*Pn	**Pb**	**19 23 58.0**	**-0.2**
E17A	**Martinsdale**	**1.82**	**346**	⇓Pb	**Pg**	**19 23 59.0**	**-1.0**
	baz=1.8,SNR=168						
F20A	**Billings**	**1.84**	**52**	⇑Pb	**Pb**	**19 23 58.7**	**-0.1**
	baz=1.9						
MCMT	**McKenzie Canyo**	**1.87**	**275**	*e*Pn	**Pb**	**19 23 58.8**	**-0.6**
E18A	**Harlowton**	**1.89**	**7**	⇓Pb	**Pb**	**19 23 60.0**	**+0.4**
	baz=1.9,SNR=19						

LRM	**Limekiln Ridge**	**1.93**	**307**	*e*Pn	**Pn**	**19 23 55.4**	**-2.8**
LRM				*e*Pg	**Pb**	**19 24 00.5**	**0.0**
F15A	**Butte**	**1.97**	**307**	⇓Pb	**Pb**	**19 24 01.4**	**+0.4**
	baz=1.9,SNR=29						
PD01	**Pinedale Array**	**1.97**	**166**	*e*Pn	**Pb**	**19 24 00.9**	**-0.2**
PD02	**Pinedale Array**	**1.97**	**166**	*e*Pn	**Pb**	**19 23 59.7**	**-1.4**
BW06	**Boulder Array**	**1.98**	**166**	⇑Pb	**Pb**	**19 24 01.1**	**-0.2**
	baz=2.0,SNR=59						
BW06				⇑Pb	**Pb**	**19 24 01.1**	**-0.2**
	baz=2.0,SNR=59						
PDAR	**Pinedale Array**	**1.98**	**166**	Pn	**Pb**	**19 24 01.2**	**-0.1**
	4.9nm,0.3s,baz=1.7,slow=18,SNR=134						
PDAR				Lg	Lg	19 24 25.6	
	4.9nm,0.3s,baz=79,slow=19,SNR=14						
PDAR	**Pinedale Array**	**1.98**	**166**	Pn	**Pb**	**19 24 01.2**	**-0.1**
PDAR				Lg	Lg	19 24 25.6	
AHID	**Auburn Hatcher**	**2.02**	**198**	*e*Pn	**Pb**	**19 24 00.8**	**-1.2**
E19A	**Rath Farm, Rou**	**2.04**	**29**	⇓Pb	**Pb**	**19 24 02.1**	**-0.1**
	baz=2.1						
K16A	**Soda Springs**	**2.10**	**208**	⇓Pb	**Pb**	**19 24 03.3**	**0.0**
	baz=2.1						
E16A	**East Helena**	**2.10**	**332**	⇑P	**Pb**	**19 24 01.5**	**-1.8**
	baz=2.1						
K19A	**Absolon Red Bu**	**2.12**	**151**	⇑Pb	**Pb**	**19 24 03.3**	**-0.3**
	baz=2.1						
G21A	**Lodge Grass**	**2.21**	**75**	⇑Pb	**Pb**	**19 24 05.0**	**-0.1**
	baz=2.2						
H14A	**Leadore**	**2.24**	**269**	⇑P	**Pb**	**19 24 04.0**	**-1.7**
	baz=2.2,SNR=11						
HRY	**Holter Researc**	**2.31**	**332**	*e*Pn	**Pn**	**19 24 03.5**	**+0.3**
D17A	**Six Diamond Ra**	**2.48**	**353**	P	**Pb**	**19 24 07.4**	**-2.4**
	baz=2.5,SNR=18						
CHMT	**Chamberlain Mo**	**3.07**	**318**	*e*Pn	**Pn**	**19 24 14.6**	**+0.9**
HLID	**Hailey**	**3.22**	**251**	*e*Pn	**Pn**	**19 24 16.3**	**+0.6**
HWUT	**Hardware Ranch**	**3.23**	**198**	*e*Pn	**Pn**	**19 24 18.1**	**+2.1**
EGMT	**Eagleton**	**3.35**	**5**	*e*Pn	Pn	19 24 20.3	+2.8
MSO	**Missoula**	**3.36**	**311**	Pn	**Pn**	**19 24 17.2**	**-0.5**
MSO				*e*Pg	**Pg**	**19 24 27.8**	**-1.6**
SLMT	**Seeley Lake**	**3.42**	**319**	*e*Pn	**Pn**	**19 24 19.3**	**+0.8**
SLMT				*e*Pg	**Pg**	**19 24 28.7**	**-1.7**
YBMT	**Yellow Bay**	**4.12**	**322**	Pn	**Pn**	**19 24 28.6**	**+0.6**
MFID	**Camas Ranch**	**4.23**	**254**	Pn	Pn	19 24 26.1	-3.5
ELK	**Elko**	**5.40**	**225**	Pn	**Pb**	**19 24 58.6**	**-0.9**
	0.1nm,0.3s,baz=45,slow=19,SNR=4.5						
DGMT	**Dagmar**	**5.62**	**46**	*e*Pn	Pn	19 24 52.1	+3.5
	63nm,0.6s						
SDCO	**Great Sand Dun**	**7.80**	**151**	*e*Pn	**Pn**	**19 25 16.1**	**-2.6**
	2.0nm,0.6s						
YKA	**Yellowknife Ar**	**18.02**	**353**	P	**P**	**19 27 39.1**	**+3.4**
	0.0nm,0.3s,baz=166,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**18.02**	**353**	P	**P**	**19 27 39.1**	**+3.4**

*ISCJB **27** 19:23:34.3±0.4, 6°.42S±0°.09×108°.21E±0°.09, h300km, mb3.9/13, Error ellipse: s-maj=15.7km s-min=5.7km az=44.7*
*DJA **27** 19:23:35, 6°.59S×108°.22E, h287km, MLv4.2/19*
*IDC **27** 19:23:36.5±1.7, 6°.30S×108°.20E, h300km±16km, mb3.6/13, mb1 3.8/13, mb1mx3.6/22, mbtmp3.6/13, Error ellipse: s-maj=25.8km s-min=7.7km az=53.0*

ISC 27 19:23:36.1±0.6, 6°.4S±0°.1×108°21E±0°.10, h300km, n37, σ1§48/42, mb3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**0.71**	**236**	P	**Pn**	**19 24 13.2**	**-2.3**
TGJI	**Tegal**	**1.01**	**116**	P	**Pn**	**19 24 14.6**	**-1.9**
CISI	**Cisompet, Garu**	**1.19**	**199**	P	Pn	19 24 13.7	-3.8
CBJI	**Citeko**	**1.35**	**270**	P	**Pn**	**19 24 16.0**	**-2.3**
BJII	**Banjamegara**	**1.74**	**121**	P	**Pn**	**19 24 18.6**	**-2.4**
SMRI	**Semarang**	**2.30**	**106**	P	**Pn**	**19 24 23.9**	**-1.5**
PCJI	**Pacitan**	**3.43**	**121**	P	**Pn**	**19 24 33.1**	**-3.1**
SJI	**Sawahan**	**3.76**	**110**	P	**Pn**	**19 24 37.4**	**-2.5**
PWJI	**Pagerwojo**	**3.91**	**114**	P	**Pn**	**19 24 39.0**	**-2.3**
PPBI	**Pangkal Pinang**	**4.71**	**334**	P	**Pn**	**19 24 50.0**	**-0.3**
KSI	**Kapahiang**	**6.23**	**296**	P	**Pn**	**19 25 08.1**	**-0.3**
	78m9s,2µm1.1nm						
FITZ	**Fitzroy Crossi**	**20.59**	**126**	P	**P**	**19 27 53.9**	**+0.8**
	7.0nm,0.5s,baz=304,slow=2.4,SNR=21						
CMAR	**Chiang Mai Arr**	**26.36**	**340**	P	**P**	**19 28 46.0**	**+0.5**
	2.7nm,0.7s,baz=174,slow=8.6,SNR=26						
CMAR				S	**S**	**19 32 54.1**	**-2.1**
	0.5nm,0.4s,baz=355,slow=31,SNR=7.1						
CHTO	**Chiang Mai**	**26.69**	**340**	P	**P**	**19 28 49.8**	**+1.3**
	4.8nm,1.3s						
WRA	**Warramunga Arr**	**28.71**	**120**	P	**P**	**19 29 07.2**	**+0.7**
	1.9nm,0.3s,baz=312,slow=9.3,SNR=60						
WRA				S	**S**	**19 33 34.4**	**+1.2**
	0.7nm,1.0s,baz=292,slow=15,SNR=3.0						
WRA				ScP	**ScP**	**19 35 23.3**	**+2.1**
	0.5nm,0.5s,baz=316,slow=2.7,SNR=13						
ASAR	**Alice Springs**	**30.07**	**127**	P	**P**	**19 29 19.4**	**+1.0**
	3.0nm,0.3s,baz=303,slow=8.3,SNR=112						
ASAR				S	**S**	**19 33 53.5**	**-1.0**
	1.1nm,0.7s,baz=295,slow=15,SNR=8.6						
ASAR				ScP	**ScP**	**19 35 28.2**	**+2.7**
	0.6nm,0.5s,baz=307,slow=2.7,SNR=11						
ODAN	**Odare**	**38.75**	**330**	*e*P	**P**	**19 30 31.9**	**-0.7**
	12nm,0.4s						
TAPN	**Taplejung**	**38.99**	**330**	*e*P	**P**	**19 30 34.3**	**-0.3**
	3.9nm,0.4s						
RAMN	**Ramite**	**39.23**	**329**	*e*P	**P**	**19 30 35.9**	**-0.6**
	4.6nm,0.3s						
JIRN	**Jiri**	**40.01**	**329**	*e*P	**P**	**19 30 42.5**	**-0.6**
	9.4nm,0.4s						
STKA	**Stephens Creek**	**40.15**	**133**	P	**P**	**19 30 45.4**	**+1.6**
	4.6nm,0.4s,baz=307,slow=8.6,SNR=26						
PKI	**Pulchoki**	**40.35**	**328**	*e*P	**P**	**19 30 44.5**	**-1.3**
GUN	**Gumba**	**40.38**	**329**	*e*P	**P**	**19 30 45.1**	**-0.9**
	13nm,0.4s						
KKN	**Kakani**	**40.59**	**328**	*e*P	**P**	**19 30 46.7**	**-0.9**
GKN	**Gorkha**	**41.10**	**327**	*e*P	**P**	**19 30 50.7**	**-1.0**
	11nm,0.3s						
KOLN	**Koldanda**	**41.48**	**326**	*e*P	**P**	**19 30 53.8**	**-1.0**
	12nm,0.5s						
DANN	**Dangsing**	**41.85**	**327**	*e*P	**P**	**19 30 56.6**	**-1.3**
	10nm,0.3s						
KSRS	**Korea Array**	**47.37**	**21**	P	**P**	**19 31 41.4**	**+0.7**
	0.6nm,0.5s,baz=213,slow=6.9,SNR=6.5						
SONM	**Songino Array**	**54.05**	**358**	P	**P**	**19 32 30.8**	**+0.6**
	3.1nm,0.6s,baz=176,slow=9.1,SNR=40						
SONM				PcP	**PcP**	**19 33 30.1**	**-0.9**
	0.6nm,0.5s,baz=177,slow=4.1,SNR=7.6						
USRK	**Ussuriysk Arra**	**54.77**	**21**	P	**P**	**19 32 35.0**	**-0.2**
	1.5nm,0.5s,baz=198,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**57.76**	**339**	P	**P**	**19 32 55.6**	**-0.7**
	2.2nm,0.6s,baz=144,slow=7.5,SNR=34						
KURK	**Kurchatov**	**62.38**	**339**	P	**P**	**19 33 26.3**	**-1.0**
	1.5nm,0.5s,baz=153,slow=6.1,SNR=23						
ZALV	**Zalesovo Beam**	**63.28**	**345**	P	**P**	**19 33 32.0**	**-1.2**
	1.3nm,0.4s,baz=147,slow=3.0,SNR=13						
BVAR	**Borovoye Array**	**67.31**	**336**	P	**P**	**19 33 58.1**	**-0.9**
	2.1nm,0.5s,baz=146,slow=9.4,SNR=26						
LBTB	**Lobatse**	**80.64**	**246**	P	**P**	**19 35 18.0**	**+1.5**
	1.3nm,0.6s,baz=132,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**115.91**	**21**	PKP	**PKPdf**	**19 41 42.7**	**-0.2**
	0.1nm,0.4s,baz=344,slow=0.1,SNR=4.7						
TKL	**Tuckaleechee C**	**148.89**	**19**	PKPbc	**PKPbc**	**19 42 49.0**	**-0.1**
	1.6nm,0.3s,baz=175,slow=2.6,SNR=4.1						

IDC 27 19:35:13.5±3.7, 19°.03S×169°.40E, h259km±46km, mb3.1/4, mb1 3.3/5, mb1mx3.1/16, mbtmp3.1/5, Error ellipse: s-maj=103.2km s-min=29.9km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.11**	**222**	P	Pn	**19 36 17.5**	**-1.6**
	1.6nm,0.3s,baz=76,slow=17,SNR=14						
DZM				S	S	19 37 12.5	+1.2
	1.5nm,0.3s,baz=59,slow=23,SNR=2.2						
DZM	**Mont Dzumac**	**4.11**	**222**	*e*P	Pn	19 36 11.9	-7.2
WRA	**Warramunga Arr**	**33.03**	**262**	P	P	19 41 24.4	-0.7
	0.1nm,0.3s,baz=83,slow=6.7,SNR=5.1						
ASAR	**Alice Springs**	**33.33**	**256**	P	P	19 41 27.4	-0.2
	0.9nm,0.4s,baz=81,slow=8.7,SNR=28						
SONM	**Songino Array**	**87.14**	**323**	P	P	19 47 31.7	+1.3
	0.4nm,0.7s,baz=147,slow=7.2,SNR=5.1						
ILAR	**Eielson Array**	**89.98**	**17**	P	P	19 47 42.6	-0.6
	0.4nm,0.7s,baz=242,slow=5.3,SNR=5.2						
ARCES	**ARCESS Array B**	**124.90**	**345**	PKP	PKPdf	19 53 41.8	-0.2
	5.0nm,1.1s,baz=60,slow=3.0,SNR=9.2						
GERES	**GERESS Array B**	**144.38**	**332**	PKP	PKPdf	19 54 18.6	-0.3
	0.1nm,0.3s,baz=22,slow=4.6,SNR=4.0						

*CSEM **27** 19:47:25.0, 37°.06N×5°.37W, h4km, ML1.8, After MDD*

MDD 27 19:47:25.0±0.4, 37°.06N×5°.37W, h4km±6km, mbLg1.8/8, Error ellipse: s-maj=4.3km s-min=3.2km az=160.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIJA	**Lijar**	**0.16**	**191**	P	Pg	19 47 26.8	-1.6
LIJA				S	Sg	19 47 29.5	-1.1
LIJA	**Lijar**	**0.16**	**191**	P	Pg	19 47 26.8	-1.6
LIJA				S	Sg	19 47 29.5	-1.1
ESPR	**Espera**	**0.44**	**244**	Pg	Pg	19 47 33.6	+0.1
	4.8nm,0.2s,SNR=14						
ESPR				Lg	Lg	19 47 40.1	
	17nm,0.2s,SNR=10						
ESPR	**Espera**	**0.44**	**244**	Pg	Pg	19 47 33.6	+0.1
	4.8nm,0.2s,SNR=14						
ESPR				Lg	Lg	19 47 40.1	
	17nm,0.2s,SNR=10						
EJIF	**Jimena Fronter**	**0.62**	**188**	Pg	Pg	19 47 37.0	+0.1
	0.9nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	19 47 46.8	
	10nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.62**	**188**	Pg	Pg	19 47 37.0	+0.1
	0.9nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	19 47 46.8	
	10nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.69**	**136**	Pg	Pg	19 47 37.9	-0.4
	1.4nm,0.1s,SNR=8.9						
EMIJ				Lg	Lg	19 47 47.7	
	16nm,0.3s,SNR=9.2						
EMIJ	**Mijas**	**0.69**	**136**	Pg	Pg	19 47 37.9	-0.4
	1.4nm,0.1s,SNR=8.9						
EMIJ				Lg	Lg	19 47 47.7	
	16nm,0.3s,SNR=9.2						
ELUQ	**Luque**	**1.01**	**60**	Lg	Lg	19 47 58.7	
	19nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.01**	**60**	Lg	Lg	19 47 58.7	
	19nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.26**	**304**	Pn	Pg	19 47 46.9	-2.2
	0.2nm,0.1s,SNR=19						
EMIN				Pg	Pb	19 47 48.3	-1.0
	1.3nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	19 48 04.7	
	0.7nm,0.2s,SNR=14						
EMIN	**Mina Concepcio**	**1.26**	**304**	Pn	Pg	19 47 46.9	-2.3
	0.2nm,0.1s,SNR=19						
EADA	**Adamuz**	**1.27**	**29**	Pg	Pg	19 47 47.6	-1.8
	1.0nm,0.1s,SNR=7.9						
EADA				Sn	Sg	19 48 03.6	-2.4
	2.5nm,0.1s,SNR=7.9						
EADA				Lg	Lg	19 48 06.3	
	15nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**29**	Pg	Pg	19 47 47.6	-1.8
	1.0nm,0.1s,SNR=7.9						
EADA				Sn	Sg	19 48 03.6	-2.3
	2.5nm,0.1s,SNR=7.9						
EADA				Lg	Lg	19 48 06.3	
	15nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.54**	**84**	Pg	Pn	19 47 53.4	0.0
	1.1nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	19 48 15.5	
	2.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.54**	**84**	Pg	Pn	19 47 53.4	-0.1
	1.1nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	19 48 15.5	
	2.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.75**	**286**	Pn	Pn	19 47 56.1	-0.1
	0.5nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	19 48 18.6	
	2.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.75**	**286**	Pn	Pn	19 47 56.1	-0.1
	0.5nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	19 48 18.6	
	2.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.97**	**67**	Pn	Pn	19 47 58.5	-0.9
	0.0nm,0.2s,SNR=4.0						
EQES				Pg	Pb	19 48 01.1	-0.5
	0.3nm,

EQUE	**Quentar**	**1.57**	**83**	Pg	Pn	19 48 26.8	-0.4
	1.7nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	19 48 48.7	
	SNR=4.0						
PBAR	**Barrancos**	**1.73**	**312**	*e*Sg	Sn	19 48 51.9	-0.1
PBAR	**Barrancos**	**1.73**	**312**	Lg	Lg	19 48 51.9	
PBAR	**Barrancos**	**1.73**	**312**	Lg	Lg	19 48 51.9	
PBAR				*e*Sg	Lg	19 48 51.9	
EGRO	**El Granado**	**1.74**	**287**	Pg	Pn	19 48 27.9	-1.3
	SNR=4.0						
EGRO				Lg	Lg	19 48 52.7	
	1.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.74**	**287**	Pg	Pn	19 48 27.9	-1.4
	SNR=4.0						
EGRO				Lg	Lg	19 48 52.7	
	1.9nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.89**	**282**	*e*Sn	Sn	19 48 49.4	-6.5
PVAQ	**Vaqueiros**	**1.89**	**282**	Sn	Sn	19 48 49.4	-6.5
PVAQ	**Vaqueiros**	**1.89**	**282**	*e*Sn	Sn	19 48 49.4	-6.5
EQES	**Quesada**	**2.00**	**67**	Lg	Lg	19 48 59.6	
	0.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.00**	**67**	Lg	Lg	19 48 59.6	
	0.7nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.04**	**277**	*e*Pn	Pn	19 48 30.7	-2.8
PBDV	**Barranco-do-Ve**	**2.04**	**277**	*e*Pn	Pn	19 48 30.7	-2.8
PFVI	**Vila Bisbo**	**2.75**	**273**	Pn	Pn	19 48 41.0	-2.2
	SNR=4.0						
PFVI				Sn	Sn	19 49 12.1	-5.0
	1.9nm,0.1s,SNR=4.0						
PFVI				Lg	Lg	19 49 25.4	
	4.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.75**	**273**	Pn	Pn	19 48 41.0	-2.2
	SNR=4.0						
PFVI				Sn	Sn	19 49 12.1	-4.9
	1.9nm,0.1s,SNR=4.0						
PFVI				Lg	Lg	19 49 25.4	
	4.5nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.07**	**350**	Lg	Lg	19 49 33.5	
	2.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.07**	**350**	Lg	Lg	19 49 33.5	
	2.2nm,0.2s,SNR=7.9						

BJI **27** *20:31:23.8,0.09S×97.32E,h15km,mB5.0/33,mb4.7/50, Ms4.8/43,Ms7 4.6/40*
IDC **27** *20:31:26.2±0.6,0.33N×97.26E,h0km,mb4.6/24, mb1 4.6/25,mb1mx4.6/30,mbtmp4.5/25,ML4.4/1,MS4.0/15, Ms1 4.0/15,ms1mx3.8/39,Error ellipse: s-maj=20.9km s-min=12.3km az=45.0*
ISCJB **27** *20:31:28.9±1.1,0.39N±0.04×97.32E±0.04,h24km±7km, mb4.8/118,MS4.3/30,Error ellipse: s-maj=7.3km s-min=5.4km az=137.4*
MOS **27** *20:31:29.7±1.1,0.42N×97.42E,h33km,mb5.0/42,Error ellipse: s-maj=12.1km s-min=5.5km az=111.5*
DJA **27** *20:31:30,0.37N×97.26E,h33km,MLv4.9/14*
NEIC **27** *20:31:30.7±3.4,0.37N×97.37E,h28km±23km,mb4.9/32, Error ellipse: s-maj=11.3km s-min=5.5km az=48.0*
ISC 27 20:31:29.9±0.4,0.40N±0.05×97.35E±0.05,h20km±2km, h20km:pP-P,n332,σ1s27/369,mb4.9/118,MS4.2/32, 31C-11D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	**Gunungsitoli**	**0.92**	**14**	P		**Pn**	**20 31 47.6**	**-0.1**
MNSI	**Mandailing Nat**	**2.26**	**80**	P		**Pn**	**20 32 07.1**	**+1.0**
TPTI		**2.84**	**357**	P		**Pn**	**20 32 14.2**	**+0.1**
PSI	**Prapat**	**2.85**	**33**	P		**Pn**	**20 32 14.8**	**+0.4**
PPI	**Padang Panjang**	**3.16**	**106**	P		**Pn**	**20 32 19.3**	**+0.8**
TSI	**Tuntungan**	**3.31**	**21**	P		**Pn**	**20 32 21.6**	**+1.1**
PDSI	**Padang**	**3.37**	**113**	P		**Pn**	**20 32 23.4**	**+1.9**
BKNI	**Bangkinang**	**3.69**	**91**	P		**Pb**	**20 32 33.8**	**-0.6**
KRJI	**Kerinci**	**4.80**	**121**	P		**Pn**	**20 32 42.5**	**+1.3**
LHMI	**Lhok Sumawe**	**4.81**	**355**	P		**Pb**	**20 32 54.7**	**+1.2**
BSI	**Banda Aceh**	**5.46**	**338**	P		**Pn**	**20 32 49.8**	**-0.4**
	130nm,0.9s,2μm0.5nm							
IPM	**Ipoh**	**5.46**	**42**	*e*Pn		**Pn**	**20 32 51.2**	**+1.0**
	79nm,0.9s							
KSI	**Kapahiang**	**6.61**	**128**	P		**Pn**	**20 33 06.1**	**+0.1**
	356nm,0.8s,3μm1.1nm							
LWLI	**Liwa**	**8.60**	**129**	P		Pn	20 33 38.3	+4.9
	226nm,0.8s,2μm0.8nm							
KLI	**Kotabumi**	**9.14**	**125**	P		Pn	20 33 48.2	+7.5
KSM	**Kuching**	**13.00**	**85**	Pn		**P**	**20 34 41.2**	**-2.7**
SBUM	**Sibu**	**15.00**	**82**	P		**P**	**20 35 08.3**	**+2.1**
CM31	**Chiang Mai Arr**	**18.01**	**5**	*e*Pn		**Pn**	**20 35 38.0**	**-1.2**
	26nm,0.9s							
CMAR	**Chiang Mai Arr**	**18.01**	**5**	P		**Pn**	**20 35 38.4**	**-0.8**
	0.4nm,0.3s,baz=195,slow=10,SNR=40							
CMAR				PcP		**PcP**	**20 40 14.2**	**+0.2**
	0.1nm,0.3s,baz=221,slow=2.9,SNR=5.0							
CMAR				LR		LR	20 43 35.8	
	comp=Z,394nm,20.3s,baz=186,slow=40							
CMAR	**Chiang Mai Arr**	**18.01**	**5**	P		**Pn**	**20 35 38.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**18.01**	**5**	P		**Pn**	**20 35 38.4**	**-0.8**
CMAR				PcP		**PcP**	**20 40 14.2**	**+0.2**
CHTO	**Chiang Mai**	**18.36**	**5**	*e*P		**P**	**20 35 42.2**	**-1.2**
CHTO				pmax	pmax			
	comp=Z,27nm,1.0s							
CHTO	**Chiang Mai**	**18.36**	**5**	*e*Pn		**P**	**20 35 42.2**	**-1.2**
	comp=Z,27nm,1.0s							
CHTO	**Chiang Mai**	**18.36**	**5**	P		**P**	**20 35 43.1**	**-0.3**
	comp=Z,32nm,1.1s,comp=Z,335nm							
KKM	**Kota Kinabalu**	**19.64**	**73**	*e*P		**Pn**	**20 35 58.8**	**-0.3**
	comp=Z,55nm,1.0s							
KKM	**Kota Kinabalu**	**19.64**	**73**	P		Pn	20 36 06.5	+7.4
VIS	**Vishakhapatnam**	**22.05**	**322**	*i* x		x	20 36 12.8	
VIS				*ex*		x	20 36 28.5	
	comp=Z,93nm,1.3s							
VIS				*i* S		**S**	**20 40 25.7**	**-0.4**
VIS				*i* S		Sn	20 40 27.4	-10
QIZ	**Qiongzhong**	**22.20**	**33**	P		**P**	**20 36 25.3**	**+0.2**
QIZ				sP		**sP**	**20 36 30.5**	**-3.1**
QIZ				S		**S**	**20 40 30.5**	**+1.7**
QIZ				LR	LR			
	comp=N,600nm,10.2s							
QIZ				LR	LR			
	comp=Z,930nm,9.3s							
KAPI	**Kappang**	**23.01**	**104**	P		**P**	**20 36 34.5**	**+0.7**
	comp=Z,15nm,0.9s,baz=275,slow=17,SNR=3.6							
KAPI	**Kappang**	**23.01**	**104**	P		**P**	**20 36 34.5**	**+0.7**
MRSI	**Marisa**	**24.59**	**90**	P		**P**	**20 36 50.2**	**+1.3**
	comp=Z,26nm,0.9s,comp=Z,390nm							
HYB	**Hyderabad**	**25.06**	**313**	*i* P		**P**	**20 36 53.0**	**-0.2**
HYB				*e*S		sS	20 41 40.0	+13
KMI	**Kunming**	**25.12**	**12**	⇓P		**P**	**20 36 55.8**	**+1.9**
KMI				pP		**pP**	**20 36 59.0**	**-1.0**
KMI				sP		**sP**	**20 37 00.3**	**-2.3**
KMI				PP		**PnPn**	**20 37 34.0**	**+6.0**
KMI				S		**S**	**20 41 19.3**	**+1.4**
KMI				SS			20 42 20.3	
KMI				pmax	pmax			
	comp=Z,15nm,1.1s							
KMI				pmax	pmax			
	comp=Z,230nm,3.1s							
KMI				LR	LR			
	comp=N,820nm,10.0s							
KMI				LR	LR			
	comp=E,890nm,11.4s							
KMI				LR	LR			
	comp=Z,1μm,11.4s							
SHL	**Shillong**	**25.57**	**348**	*e*P		**P**	**20 36 57.2**	**-0.7**
SHL				AMb		AMB	20 37 10.6	
	comp=Z,58nm,1.5s							
SHL				*ex*		x	20 42 10.0	
NGP	**Nagpur**	**27.29**	**320**	*e*P		**P**	**20 37 12.9**	**-0.4**
NGP				AMb		AMB	20 37 16.9	
	comp=Z,15nm,1.4s							
GYA	**Guiyang**	**27.41**	**18**	P		**P**	**20 37 17.0**	**+2.5**
GYA				PP		PP	20 38 05.5	-11
GYA				S		**S**	**20 41 57.5**	**+3.6**
GYA				ScP		**ScP**	**20 44 14.0**	**+1.2**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.6s							
GYA				LR	LR			
	comp=N,530nm,16.8s							
GYA				LR	LR			
	comp=E,410nm,17.4s							
GYA				LR	LR			
	comp=Z,480nm,16.9s							
ODAN	**Odare**	**28.00**	**341**	*e*P		**P**	**20 37 20.9**	**+1.1**
ODAN	**Odare**	**28.00**	**341**	*e*P		**P**	**20 37 20.9**	**+1.1**
AKL	**Akola**	**28.32**	**317**	*e*P		**P**	**20 37 23.1**	**+0.5**
AKL				AMb		AMB	20 37 35.9	
	comp=Z,15nm,1.6s							
RAMN	**Ramite**	**28.35**	**339**	*e*P		**P**	**20 37 24.4**	**+1.4**
RAMN	**Ramite**	**28.35**	**339**	*e*P		**P**	**20 37 24.4**	**+1.4**
TAPN	**Taplejung**	**28.35**	**342**	*e*P		**P**	**20 37 24.4**	**+1.4**
	comp=Z,202nm,1.2s							
TAPN	**Taplejung**	**28.35**	**342**	*e*P		**P**	**20 37 24.4**	**+1.4**
	comp=Z,202nm,1.2s							
DAV	**Davao City (W)**	**28.92**	**76**	LR		LR	20 49 50.9	
	comp=Z,454nm,18.6s,baz=242,slow=38							
JIRN	**Jiri**	**29.14**	**339**	*e*P		**P**	**20 37 31.3**	**+1.2**
	comp=Z,61nm,0.9s							
JIRN	**Jiri**	**29.14**	**339**	*e*P		**P**	**20 37 31.3**	**+1.2**
	comp=Z,61nm,0.9s							
PKI	**Pulchoki**	**29.34**	**338**	*e*P		**P**	**20 37 33.0**	**+1.1**
PKI	**Pulchoki**	**29.34**	**338**	*e*P		**P**	**20 37 33.0**	**+1.1**
PKI	**Pulchoki**	**29.34**	**338**	*e*P		**P**	**20 37 33.0**	**+1.1**
GUN	**Gumba**	**29.48**	**339**	*e*P		**P**	**20 37 34.3**	**+1.2**
	comp=Z,99nm,1.0s							
GUN	**Gumba**	**29.48**	**339**	*e*P		**P**	**20 37 34.3**	**+1.2**
	comp=Z,99nm,1.0s							
DMN	**Daman**	**29.49**	**338**	*e*P		**P**	**20 37 34.0**	**+0.9**
	comp=Z,38nm,0.9s							
DMN	**Daman**	**29.49**	**338**	*e*P		**P**	**20 37 34.0**	**+0.9**
	comp=Z,38nm,0.9s							
KKN	**Kakani**	**29.59**	**338**	*e*P		**P**	**20 37 34.9**	**+0.9**
	comp=Z,38nm,1.0s							
KKN	**Kakani**	**29.59**	**338**	*e*P		**P**	**20 37 34.9**	**+0.9**
KKN				pmax	pmax			
	comp=Z,38nm,1.0s							
KKN	**Kakani**	**29.59**	**338**	*e*P		**P**	**20 37 34.9**	**+0.9**
	comp=Z,38nm,1.0s							
LSA	**Lhasa**	**29.73**	**349**	*e*P		**P**	**20 37 36.0**	**+0.6**
LSA				pmax	pmax			
	comp=Z,20nm,0.8s							
LSA	**Lhasa**	**29.73**	**349**	*e*P		**P**	**20 37 36.0**	**+0.6**
	comp=Z,20nm,0.8s							
GKN	**Gorkha**	**30.03**	**337**	*e*P		**P**	**20 37 38.9**	**+1.1**
GKN	**Gorkha**	**30.03**	**337**	*e*P		**P**	**20 37 38.9**	**+1.1**
KOLN	**Koldanda**	**30.24**	**335**	*e*P		**P**	**20 37 40.6**	**+0.9**
	comp=Z,37nm,0.8s							
KOLN	**Koldanda**	**30.24**	**335**	*e*P		**P**	**20 37 40.6**	**+0.9**
	comp=Z,37nm,0.8s							
DANN	**Dangsing**	**30.68**	**336**	*e*P		**P**	**20 37 44.8**	**+1.1**
DANN	**Dangsing**	**30.68**	**336**	*e*P		**P**	**20 37 44.8**	**+1.1**
CD2	**Chengdu**	**30.94**	**11**	P		**P**	**20 37 48.0**	**+2.3**
CD2				pP		**pP**	**20 37 52.5**	**+0.6**
CD2				sP		**sP**	**20 37 55.0**	**+0.6**
CD2				PP		PP	20 38 50.5	-5.3
CD2				S		**S**	**20 42 52.5**	**+3.3**
CD2				sS		**sS**	**20 42 59.5**	**+0.1**
CD2				SS		ScP	20 44 37.3	+13
CD2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CD2				pmax	pmax			
	comp=Z,60nm,4.5s							
CD2				LR	LR			
	comp=N,940nm,10.7s							
CD2				LR	LR			
	comp=Z,1μm,11.9s							
ENH	**Enshi**	**31.87**	**20**	*e*P		**P**	**20 37 52.9**	**-1.0**
	comp=Z,45nm,1.0s							
AGRA	**Agra**	**32.54**	**327**	*e*P		**P**	**20 38 00.1**	**+0.4**
AGRA				AMb		AMB	20 38 03.9	
	comp=Z,75nm,0.5s							
SONA	**Sohna**	**33.81**	**327**	*e*P		**P**	**20 38 10.8**	**-0.1**
SONA				AMb		AMB	20 38 12.2	
	comp=Z,14nm,0.9s							
ASOR	**Ausora**	**33.84**	**328**	*e*P		**P**	**20 38 11.0**	**0.0**
AYAN	**Aya Nagar**	**33.97**	**327**	*e*P		**P**	**20 38 11.6**	**-0.6**
AYAN				AMb		AMB	20 38 13.6	
	comp=Z,14nm,0.5s							
WHN	**Wuhan**	**34.05**	**27**	⇑P		**P**	**20 38 13.8**	**+1.0**
WHN				pP		pP	20 38 24.3	+5.2
WHN				S		**S**	**20 43 33.0**	**-4.5**
WHN				LR	LR			
	comp=Z,2μm,11.5s							
NDI	**New Delhi**	**34.08**	**327**	*e*P		**P**	**20 38 14.0**	**+0.8**
NDI				AMb		AMB	20 38 36.9	
	comp=Z,19nm,1.9s							
KHET	**Khetri**	**34.40**	**325**	*e*P		**P**	**20 38 16.5**	**+0.5**
KHET				AMb		AMB	20 38 32.3	
	comp=Z,21nm,1.4s							
XAN	**Xi'an**	**35.17**	**17**	P		**P**	**20 38 22.5**	**-0.1**
XAN				pP		**pP**	**20 38 26.3**	**-2.6**
XAN				S		**S**	**20 43 53.0**	**-1.9**
XAN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,16nm,5.0s							
XAN				LR	LR			
	comp=N,310nm,13.1s							
XAN				LR	LR			
	comp=E,180nm,11.6s							
XAN				LR	LR			
	comp=Z,180nm,12.3s							
KKR	**Kurukshetra**	**35.30**	**328**	*ex*		x	20 38 16.5	
LZH	**Lanzhou**	**36.01**	**9**	*e*P		**P**	**20 38 30.8**	**+0.9**
LZH				pP		**pP**	**20 38 35.5**	**-0.7**
LZH				sP		**sP**	**20 38 39.3**	**+0.6**
LZH				pmax	pmax			
	comp=Z,15nm,1.1s							
LZH				pmax	pmax			
	comp=Z,48nm,4.3s							
LZH				LR	LR			
	comp=N,220nm,12.3s							
LZH				LR	LR			
	comp=E,690nm,14.5s							
LZH				LR	LR			
	comp=Z,410nm,17.9s							
NJ2	**Nanjing**	**37.46**	**31**	*e*P		**P**	**20 38 43.3**	**+1.2**
NJ2				pP		**pP**	**20 38 45.8**	**-2.6**
NJ2				sP		**sP**	**20 38 47.0**	**-3.9**
NJ2				PP		PP	20 40 08.5	+0.7
NJ2				S		**S**	**20 44 33.0**	**+3.2**
NJ2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,300nm,4.1s							
NJ2				LR	LR			
	comp=N,1μm,25.7s							
NJ2				LR	LR			
	comp=E,600nm,16.8s							
NJ2				LR	LR			
	comp=Z,760nm,16.4s							
GTA	**Gaotai**	**38.89**	**3**	⇓P		**P**	**20 38 55.3**	**+1.1**
GTA				pP		**pP**	**20 39 05.0**	**+4.5**
GTA				sP		sP	20 39 09.0	+6.0
GTA				S		**ScP**	**20 44 55.3**	**+3.0**
GTA				sS		sS	20 45 11.5	+10
GTA				SS		SS	20 47 44.5	+1.1
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,54nm,5.0s							
GTA				LR	LR			
	comp=N,420nm,11.6s							
GTA				LR	LR			
	comp=E,290nm,13.1s							
GTA				LR	LR			
	comp=Z,350nm,11.9s							
JOW	**Kunigami**	**39.68**	**46**	LR		LR	20 54 01.2	
	comp=Z,168nm,20.4s,baz=173,slow=34							
WRA	**Warramunga Arr**	**41.49**	**121**	P		**P**	**20 39 15.0**	**-1.0**
	comp=Z,4.6nm,0.7s,baz=301,slow=8.9,SNR=23							
WRA				PcP		**PcP**	**20 41 13.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=315,slow=2.7,SNR=4.5							
WRA	**Warramunga Arr**	**41.49**	**121**	P		**P**	**20 39 15.0**	**-1.0**
WRA							20 41 13.6	
WRA	**Warramunga Arr**	**41.49**	**121**	P		**P**	**20 39 15.0**	**-1.0**
WRA				PcP		**PcP**	**20 41 13.6**	**0.0**
WRAB	**Tennant Creek**	**41.50**	**121**	*e*P		**P**	**20 39 14.2**	**-1.8**
WRAB				pmax	pmax			
	comp=Z,11nm,1.0s							
WRAB	**Tennant Creek**	**41.50**	**121**	*e*P		**P**	**20 39 14.2**	**-1.8**
	comp=Z,11nm,1.0s							
HHC	**Hu-ho-hao-te**	**42.27**	**16**	*e*P		**P**	**20 39 23.8**	**+1.6**
HHC				pP		**pP**	**20 39 29.0**	**+0.5**
HHC				sP		**sP**	**20 39 31.0**	**0.0**
HHC				PP		PP	20 41 04.8	+4.5
HHC				S		**S**	**20 45 45.3**	**+3.4**
HHC				SS		SS	20 48 49.0	-1.8
HHC				ScS		**ScS**	**20 49 22.3**	**-1.2**
HHC				pmax	pmax			
	comp=Z,15nm,0.9s							
HHC				pmax	pmax			
	comp=Z,180nm,5.8s							
HHC				LR	LR			
	comp=N,290nm,13.6s							
HHC				LR	LR			
	comp=E,510nm,13.1s							
HHC				LR	LR			
	comp=Z,340nm,13.4s							
AS31	**Alice Springs**	**42.80**	**127**	*e*P		**P**	**20 39 25.8**	**-0.8**
ASAR	**Alice Springs**	**42.80**	**127**	P		**P**	**20 39 25.6**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=301,slow=8.2,SNR=37							
ASAR				PcP		**PcP**	**20 41 18.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=308,slow=2.4,SNR=4.4							
ASAR	**Alice Springs**	**42.80**	**127**	P		**P**	**20 39 25.6**	**-1.0**
ASAR							20 41 18.1	
ASAR	**Alice Springs**	**42.80**	**127**	P		**P**	**20 39 25.6**	**-1.0**
ASAR				PcP		**PcP**	**20 41 18.1**	**+0.2**
BJT	**Baijiatuau**	**43.00**	**21**	*e*P		**P**	**20 39 28.8**	**+0.9**
BJT				pmax	pmax			
	comp=Z,42nm,0.8s							
BJT	**Baijiatuau**	**43.00**	**21**	*e*P		**P**	**20 39 28.8**	**+0.9**
	comp=Z,42nm,0.8s							
BJI	**Beijing**	**43.02**	**21**	P		**P**	**20 39 29.3**	**+1.2**
BJI				S		S	20 46 02.0	+9.4
BJI				SS		SS	20 49 02.8	-2.4
BJI				pmax	pmax			
	comp=Z,21nm,1.0s							
BJI				LR	LR			
	comp=N,410nm,13.7s							
BJI				LR	LR			
	comp=E,240nm,14.1s							
BJI				LR	LR			
	comp=Z,150nm,18.4s							
KSH	**Kashi**	**43.55**	**336**	*e*P		**P**	**20 39 31.8**	**-0.8**
KSH				*ep*P		**pP**	**20 39 36.0**	**-2.9**
KSH				*e*sP		**sP**	**20 39 38.8**	**-2.6**
KSH				*e*PP		PP	20 41 14.8	+0.7
KSH				*e*PcP		**PcP**	**20 41 20.0**	**-0.2**
KSH				*e*ScP		**ScP**	**20 45 10.3**	**-0.5**
KSH				*e*S		**S**	**20 45 59.3**	**-1.5**
KSH				*e*SS		SS	20 49 05.8	-10
KSH				*e*ScS		**ScS**	**20 49 28.8**	**-2.7**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KSH				pmax	pmax			
	comp=Z,71nm,3.4s							
KSH				LR	LR			
	comp=N,110nm,6.8s							
KSH				LR	LR			
	comp=E,170nm,5.4s							
KSH				LR	LR			
	comp=Z,190nm,6.6s							
WMQ	**Urumqi**	**44.08**	**350**	P		**P**	**20 39 38.5**	**+1.8**
WMQ				pP		**pP**	**20 39 43.0**	**0.0**
WMQ				sP		**sP**	**20 39 45.5**	**0.0**
WMQ				PP		**PcP**	**20 41 21.5**	**-0.3**
WMQ				pmax	pmax			
	comp=Z,21nm,1.5s							
WMQ				LR	LR			
	comp=N,78nm,23.7s							
WMQ				LR	LR			
	comp=E,130nm,23.7s							
JNU	**Nakatsue**	**45.30**	**41**	LR		LR	20 59 42.1	
	comp=E,237nm,19.0s,baz=59,slow=37							
ULHL	**Ulahol**	**45.78**	**338**	P		**P**	**20 39 51.3**	**+0.8**
	SNR=6.0							
ULHL				P		**P**	**20 39 51.3**	**+0.8**
	SNR=6.0							
KZA	**Kyzart**	**46.02**	**337**	P		**P**	**20 39 53.7**	**+1.2**
	SNR=5.3							
KZA				P		**P**	**20 39 53.7**	**+1.2**
	SNR=5.3							
KSAR	**Wonju Array Be**	**46.39**	**34**	P		**P**	**20 39 55.3**	**+0.3**
KSAR	**Wonju Array Be**	**46.39**	**34**	P		**P**	**20 39 55.3**	**+0.3**
KSRS	**Korea Array**	**46.42**	**34**	P		**P**	**20 39 55.3**	**+0.1**
	comp=E,5.8nm,1.0s,baz=225,slow=8.4,SNR=16							
KSRS				LR		LR	21 00 26.8	
	comp=E,203nm,18.7s,baz=215,slow=37							
TKM2	**Tokmak 2**	**46.61**	**338**	P		**P**	**20 39 58.0**	**+1.0**
	SNR=17							
TKM2				P		**P**	**20 39 58.0**	**+1.0**
	SNR=17							
TKM2	**Tokmak 2**	**46.61**	**338**	*i* P		**P**	**20 39 57.9**	**+1.0**
TKM2	**Tokmak 2**	**46.61**	**338**	*e*P		**P**	**20 39 57.5**	**+0.6**
	comp=E,16nm,1.2s							
KBK	**Karagaybulak**	**46.63**	**337**	P		**P**	**20 39 58.9**	**+1.9**
	SNR=12							
KBK				P		**P**	**20 39 58.9**	**+1.9**
	SNR=12							
AML	**Almayashu**	**46.69**	**336**	P		**P**	**20 39 59.2**	**+1.4**
	SNR=14							
AML				P		**P**	**20 39 59.2**	**+1.4**
	SNR=14							
FRU	**Bishkek**	**46.91**	**337**	*e*P		**P**	**20 40 00.0**	**+0.9**
FRU				pmax	pmax			
	comp=Z,70nm,2.5s							
EKS2	**Erkin-Say**	**47.09**	**336**	P		**P**	**20 40 01.6**	**+1.0**
	SNR=11							
EKS2				P		**P**	**20 40 01.6**	**+1.0**
	SNR=11							
EKS2	**Erkin-Say**	**47.09**	**336**	*e*P		**P**	**20 40 01.5**	**+0.9**
EKS2				*e*			20 41 33.9	
EKS2				pmax	pmax			
	comp=Z,8.0nm,0.9s							
EKS2	**Erkin-Say**	**47.09**	**336**	*e*P		**P**	**20 40 01.5**	**+0.9**
	comp=Z,7.9nm,0.9s							
EKS2				*e*PcP		**PcP**	**20 41 33.9**	**+1.5**
USP	**Ospenovka**	**47.32**	**337**	P		**P**	**20 40 03.0**	**+0.7**
	SNR=28							
USP				P		**P**	**20 40 03.0**	**+0.7**
	SNR=28							
SNY	**Shenyang**	**47.54**	**27**	⇑P		**P**	**20 40 04.3**	**+0.4**
SNY				pmax	pmax			
	comp=Z,9.0nm,1.2s							
SNY				pmax	pmax			
	comp=Z,220nm,3.5s							
SNY				LR	LR			
	comp=N,130nm,12.7s							
SNY				LR	LR			
	comp=E,260nm,13.3s							
SNY				LR	LR			
	comp=Z,200nm,23.5s							
SONM	**Songino Array**	**47.89**	**8**	P		**P**	**20 40 07.8**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=186,slow=9.2,SNR=29							
SONM				LR		LR	21 02 37.9	
	comp=Z,236nm,18.1s,baz=288,slow=39							
SONM	**Songino Array**	**47.89**	**8**	P		**P**	**20 40 07.8**	**+1.0**
SONM	**Songino Array**	**47.89**	**8**	P		**P**	**20 40 07.8**	**+1.0**
ULN	**Ulaanbaatar**	**48.02**	**9**	*e*P		**P**	**20 40 08.1**	**+0.3**
ULN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar**	**48.02**	**9**	*e*P		**P**	**20 40 08.1**	**+0.3**
	comp=Z,6.6nm,0.8s							
MK31	**Makanchi Array**	**48.05**	**346**	*e*P		**P**	**20 40

TLY				*e*				20 40 47.8	
TLY					pmax		pmax		
	comp=Z,5.0nm,0.9s								
TLY					MLR		MLR		
	comp=Z,182nm,15.0s								
TLY	**Talaya**	**51.37**	**5**	*e*P		**P**		**20 40 34.0 +1.0**	
	comp=Z,3.8nm,0.8s								
MJAR	**Matsushiro Arr**	**52.18**	**42**	P		**P**		**20 40 39.1 -0.2**	
	comp=Z,3.7nm,1.1s,baz=234,slow=6.7,SNR=6.8								
MJAR					LR		LR	21 03 22.4	
	comp=Z,147nm,18.9s,baz=240,slow=37								
MJAR	**Matsushiro Arr**	**52.18**	**42**	P		**P**		**20 40 39.2 -0.2**	
MJAR	**Matsushiro Arr**	**52.18**	**42**	P		**P**		**20 40 39.1 -0.2**	
HIA	**Hailar**	**52.34**	**18**	*e*P		**P**		**20 40 40.3 -0.1**	
HIA					pmax		pmax		
	comp=Z,25nm,1.4s								
HIA	**Hailar**	**52.34**	**18**	*e*P		**P**		**20 40 40.3 -0.1**	
	comp=Z,25nm,1.4s								
KURK	**Kurchatov**	**52.60**	**345**	P		**P**		**20 40 41.5 -0.6**	
	comp=Z,6.4nm,0.8s,baz=168,slow=7.1,SNR=70								
KURK	**Kurchatov**	**52.60**	**345**	*ce*P		**P**		**20 40 42.8 +0.7**	
KURK					pmax		pmax		
	comp=Z,27nm,1.2s								
KURK	**Kurchatov**	**52.60**	**345**	P		**P**		**20 40 41.5 -0.6**	
STKA	**Stephens Creek**	**52.72**	**132**	P		**P**		**20 40 43.2 -0.2**	
	comp=Z,6.3nm,0.6s,baz=316,slow=8.1,SNR=24								
STKA	**Stephens Creek**	**52.72**	**132**	*e*P		**P**		**20 40 43.0 -0.4**	
STKA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
STKA	**Stephens Creek**	**52.72**	**132**	*e*P		**P**		**20 40 43.0 -0.4**	
	comp=Z,2.7nm,0.9s								
CIT	**Chita**	**53.21**	**12**	*e*P		**P**		**20 40 45.5 -1.2**	
CIT				*e*				20 40 56.4	
USRK	**Ussuriysk Arra**	**53.38**	**31**	P		**P**		**20 40 48.5 +0.5**	
	comp=Z,8.3nm,0.8s,baz=230,slow=5.4,SNR=14								
USRK					LR		LR	21 04 11.0	
	comp=Z,250nm,21.0s,baz=26,slow=37								
ZAA0	**Zalesovo Array**	**54.36**	**351**	*e*P		**P**		**20 40 55.4 +0.3**	
ZALV	**Zalesovo Beam**	**54.36**	**351**	P		**P**		**20 40 55.4 +0.3**	
	comp=Z,16nm,0.9s,baz=175,slow=6.4,SNR=41								
ZALV					LR		LR	21 05 14.5	
	comp=Z,66nm,18.3s,baz=215,slow=37								
ZALV	**Zalesovo Beam**	**54.36**	**351**	P		**P**		**20 40 55.4 +0.3**	
ZALV	**Zalesovo Beam**	**54.36**	**351**	P		**P**		**20 40 55.4 +0.3**	
NVS	**Novosibirsk**	**55.48**	**350**	*e*P		**P**		**20 41 01.6 -1.5**	
NVS					pmax		pmax		
	comp=Z,34nm,1.8s								
NVS					pmax		pmax		
	comp=N,13nm,1.4s								
NVS					pmax		pmax		
	comp=E,6.0nm,1.2s								
KLR	**Kul'dur**	**56.90**	**26**	*e*P		P		20 41 08.5 -4.9	
KLR					MLR		MLR		
	comp=N,700nm,13.0s								
KLR					MLR		MLR		
	comp=Z,2μm,13.0s								
BVAR	**Borovoye Array**	**57.05**	**341**	P		**P**		**20 41 13.8 -0.6**	
	comp=Z,6.8nm,0.9s,baz=142,slow=7.5,SNR=44								
BVAR	**Borovoye Array**	**57.05**	**341**	P		**P**		**20 41 13.8 -0.6**	
BVAR	**Borovoye Array**	**57.05**	**341**	P		**P**		**20 41 13.8 -0.6**	
BRVK	**Borovoye**	**57.11**	**341**	*ce*P		**P**		**20 41 14.4 -0.4**	
BRVK					pmax		pmax		
	comp=Z,14nm,1.2s								
BRVK	**Borovoye**	**57.11**	**341**	*e*P		**P**		**20 41 14.2 -0.7**	
	comp=Z,11nm,1.0s								
HABR	**Khabarovsk**	**57.88**	**29**	*e*P		**sP**		**20 41 33.5 +4.2**	
HABR				*e*S		**S**		**20 49 16.7 -2.3**	
HABR				*e*S		S		20 49 29.0 +10	
HABR				*e**SS		sS		20 49 33.9 +4.2	
HABR				*e*				20 51 06.1	
HABR				SS		**SS**		**20 53 08.6 -1.5**	
HABR					MLR		MLR		
	comp=Z,184nm,16.0s								
ABKAR	**Akbulak array**	**58.28**	**332**	*e*P		**P**		**20 41 21.8 -1.4**	
	comp=Z,12nm,0.9s								
BOD	**Bodaibo**	**58.76**	**10**	*e*P		**P**		**20 41 26.3 0.0**	
BOD				*e*				20 41 36.4	
BOD					pmax		pmax		
	comp=Z,10.0nm,1.5s								
ASAJ	**Asahikawa**	**59.20**	**37**	LR		LR		21 07 16.9	
	comp=Z,170nm,18.1s,baz=356,slow=36								
AKTO	**Aktyubinsk**	**60.00**	**332**	P		**P**		**20 41 33.3 -1.7**	
	comp=Z,3.6nm,0.9s,baz=139,slow=6.0,SNR=11								
AKTO	**Aktyubinsk**	**60.00**	**332**	P		**P**		**20 41 33.3 -1.7**	
AKTO	**Aktyubinsk**	**60.00**	**332**	P		**P**		**20 41 33.3 -1.7**	
KMBO	**Kilima Mbogo**	**60.12**	**268**	*e*P		**P**		**20 41 37.0 +0.2**	
KMBO					pmax		pmax		
	comp=Z,7.0nm,1.4s								
KMBO	**Kilima Mbogo**	**60.12**	**268**	*e*P		**P**		**20 41 37.0 +0.2**	
	comp=Z,7.4nm,1.4s								
YSS	**Yuzh-Sakhalins**	**60.92**	**34**⇑	*e*P		**sP**		**20 41 53.0 +2.7**	
YSS				*e*				20 42 07.3	
YSS					pmax		pmax		
	comp=Z,40nm,1.0s								
YSS	**Yuzh-Sakhalins**	**60.92**	**34**	P		**P**		**20 41 40.1 -1.2**	
GNI	**Garni**	**61.97**	**316**	*ce*P		**P**		**20 41 49.9 +1.1**	
GNI					pmax		pmax		
	comp=Z,11nm,1.7s								
GNI	**Garni**	**61.97**	**316**	P		**P**		**20 41 46.5 -2.3**	
DGRG	**David-gareji**	**62.12**	**318**	P		**P**		**20 41 50.9 +1.2**	
TBLG	**Delisi**	**62.67**	**318**	*e*P		**P**		**20 41 53.6 +0.3**	
TBLG	**Delisi**	**62.67**	**318**	P		**P**		**20 41 53.6 +0.3**	
AKH	**Akhalkalaki**	**63.37**	**317**	P		P		20 41 50.3 -7.9	
SVE	**Sverdlovsk**	**63.48**	**338**⇑	*i*P		**P**		**20 41 58.6 +0.3**	
SVE					pmax		pmax		
	comp=Z,27nm,1.4s								
ZEI	**Tsey**	**63.69**	**319**	*e*P		**P**		**20 41 59.7 -0.6**	
ZEI					pmax		pmax		
	comp=Z,4.0nm,1.0s								
ARU	**Arti**	**63.97**	**337**	*e*P		**P**		**20 41 59.2 -2.4**	
ARU					pmax		pmax		
	comp=Z,23nm,1.4s								
ARU	**Arti**	**63.97**	**337**	*e*P		**P**		**20 41 59.2 -2.4**	
	comp=Z,23nm,1.4s								
ASF	**Jabal al Asfar**	**65.05**	**306**	P		**P**		**20 42 09.3 +0.1**	
	comp=Z,0.8nm,0.4s,baz=8.7,slow=4.6,SNR=4.8								
ASF	**Jabal al Asfar**	**65.05**	**306**	P		**P**		**20 42 09.3 +0.1**	
ASF	**Jabal al Asfar**	**65.05**	**306**	P		**P**		**20 42 09.3 +0.1**	
EIL	**Elat**	**66.01**	**302**	P		**P**		**20 42 15.4 0.0**	
	comp=Z,5.1nm,0.8s,baz=162,slow=5.3,SNR=4.7								
EIL	**Elat**	**66.01**	**302**	P		**P**		**20 42 15.4 0.0**	
YAK	**Yakutsk**	**66.14**	**16**	*e*P		**P**		**20 42 14.3 -1.2**	
YAK				*e**PP		**pP**		**20 42 25.3 +3.2**	
YAK				*e*				20 42 42.6	
YAK				*e*S		**S**		**20 51 01.7 -1.2**	
YAK				*e*				20 52 12.7	
YAK					pmax		pmax		
	comp=Z,36nm,1.3s								
YAK					pmax		pmax		
	comp=E,11nm,1.7s								
YAK					pmax		pmax		
	comp=N,8.0nm,1.1s								
YAK					smax		smax		
	comp=E,165nm,3.2s								
YAK					MLR		MLR		
	comp=N,147nm,18.0s								
YAK					MLR		MLR		
	comp=E,184nm,14.0s								
YAK					MLR		MLR		
	comp=Z,210nm,19.0s								
YAK	**Yakutsk**	**66.14**	**16**	*e*P		**P**		**20 42 15.2 -0.4**	
	comp=Z,19nm,0.8s								
SOKR	**Solikamsk**	**66.88**	**339**	*e*P		**P**		**20 42 18.7 -1.6**	
SOKR					pmax		pmax		
	comp=Z,20nm,1.3s								
CASY	**Casey**	**67.20**	**174**	*e*P		**P**		**20 42 23.1 +0.8**	
	comp=Z,27nm,0.9s								
CASY				*e*				20 42 36.8	
ANN	**Anapa**	**68.79**	**319**	*e*P		**P**		**20 42 32.2 -0.5**	
ANN					pmax		pmax		
	comp=Z,66nm,1.5s								
VRHR	**Novokhopersk**	**68.87**	**326**	*e*P		**P**		**20 42 32.2 -0.8**	
VRHR					pmax		pmax		
	comp=Z,10.0nm,0.9s								
VRHR					pmax		pmax		
	comp=N,8.0nm,0.5s								
VRHR					pmax		pmax		
	comp=E,10.0nm,0.5s								
VSR	**Storozhevoye**	**70.31**	**325**	*e*P		**P**		**20 42 40.9 -1.0**	
VSR					pmax		pmax		
	comp=N,10.0nm,0.9s								
VSR					pmax		pmax		
	comp=E,7.0nm,0.9s								
VSR					pmax		pmax		
	comp=Z,9.0nm,0.9s								
MAW	**Mawson**	**71.98**	**193**	LR		LR		21 07 41.3	
	comp=Z,171nm,19.6s,baz=214,slow=30								
PETK	**Petropavlovsk-**	**72.31**	**33**	LR		LR		21 16 06.0	
	comp=Z,92nm,19.2s,baz=163,slow=37								
MOS	**Moscow**	**73.09**	**329**	*e*P		P		20 42 53.5 -5.1	
OBN	**Obninsk**	**73.37**	**328**⇓	*e*P		**P**		**20 43 00.3 +0.1**	
OBN					pmax		pmax		
	comp=Z,19nm,1.2s								
OBN	**Obninsk**	**73.37**	**328**	*e*P		**P**		**20 42 59.6 -0.6**	
SEY	**Seymchan**	**74.43**	**23**	*ce*P		**P**		**20 43 07.4 +1.1**	
BOSA	**Boshof**	**74.52**	**240**	P		**P**		**20 43 06.9 -0.8**	
	comp=Z,3.9nm,0.9s,baz=47,slow=13,SNR=3.7								
BOSA					LR		LR	21 11 41.3	
	comp=Z,138nm,18.4s,baz=263,slow=32								
BOSA	**Boshof**	**74.52**	**240**	P		**P**		**20 43 06.9 -0.8**	
BOSA	**Boshof**	**74.52**	**240**	P		**P**		**20 43 06.9 -0.8**	
KLMR	**Klimovskoe**	**74.53**	**335**	*e*P		**P**		**20 43 05.5 -1.4**	
KLMR				*e*				20 43 17.0	
KLMR					pmax		pmax		
	comp=Z,17nm,1.4s								
TIRR	**Tirgusor**	**74.80**	**316**⇑	P		**P**		**20 43 08.3 -0.5**	
TIRR	**Tirgusor**	**74.80**	**316**⇑	*i*P		**P**		**20 43 08.3 -0.5**	
AKASG	**Malin Array Be**	**75.98**	**323**	P		**P**		**20 43 14.6 -0.9**	
	comp=Z,7.5nm,0.7s,baz=87,slow=5.1,SNR=16								
AKASG	**Malin Array Be**	**75.98**	**323**	P		**P**		**20 43 14.6 -0.9**	
AKASG	**Malin Array Be**	**75.98**	**323**	P		**P**		**20 43 14.6 -0.9**	
KIEV	**Kiev**	**75.98**	**323**	*e*P		**P**		**20 43 13.9 -1.6**	
KIEV					pmax		pmax		
	comp=Z,12nm,1.1s								
KIEV	**Kiev**	**75.98**	**323**	*e*P		**P**		**20 43 13.9 -1.6**	
	comp=Z,12nm,1.1s								
VRI	**Vrincioaia**	**76.30**	**317**⇑	P		**P**		**20 43 17.4 -0.1**	
VRI	**Vrincioaia**	**76.30**	**317**⇑	*i*P		**P**		**20 43 17.4 -0.1**	
PLOR	**Plostina**	**76.35**	**317**⇓	P		**P**		**20 43 18.7 +0.9**	
PLOR	**Plostina**	**76.35**	**317**⇓	*i*P		**P**		**20 43 18.7 +0.9**	
TESR		**76.51**	**318**⇓	*i*P		**P**		**20 43 19.4 +0.8**	
MLR	**Muntele Rosu**	**76.75**	**317**	P		**P**		**20 43 20.0 -0.1**	
	comp=Z,2.6nm,1.0s,baz=119,slow=5.1,SNR=15								
MLR	**Muntele Rosu**	**76.75**	**317**⇑	P		**P**		**20 43 20.1 -0.1**	
MLR	**Muntele Rosu**	**76.75**	**317**	P		**P**		**20 43 20.0 -0.1**	
MLR	**Muntele Rosu**	**76.75**	**317**⇑	*i*P		**P**		**20 43 20.1 -0.1**	
BURAR	**Bucovina Array**	**77.72**	**319**⇑	*i*P		**P**		**20 43 26.3 +0.8**	
BUR08	**Bucovina Ar. S**	**77.74**	**319**	*e*P		**P**		**20 43 25.3 -0.3**	
NACGM	**Naroch**	**78.59**	**326**	*e*		P		20 43 26.0 -4.0	
GZR	**Gura Zlata**	**78.91**	**316**⇑	P		**P**		**20 43 32.3 +0.2**	
GZR	**Gura Zlata**	**78.91**	**316**⇑	*i*P		**P**		**20 43 32.3 +0.2**	
JOF	**Joensuu**	**78.92**	**335**	*e*P		**P**		**20 43 30.1 -1.6**	
JOF					pmax		pmax		
	comp=Z,4.0nm,0.8s								
JOF	**Joensuu**	**78.92**	**335**	*ep*		**P**		**20 43 30.1 -1.6**	
	comp=Z,3.5nm,0.8s								
JOF	**Joensuu**	**78.92**	**335**	*ep*		**P**		**20 43 30.1 -1.6**	
	comp=Z,3.5nm,0.8s								
LVV	**L'vov**	**78.97**	**321**	*e*P		**P**		**20 43 29.9 -2.4**	
DRGR		**79.22**	**318**⇓	P		**P**		**20 43 33.8 0.0**	
DRGR		**79.22**	**318**⇓	*i*P		**P**		**20 43 33.8 0.0**	
TRPA	**Tarpa**	**79.59**	**319**⇑	*i*P		**P**		**20 43 35.1 -0.6**	
BZS	**Buzias**	**79.75**	**316**⇑	P		**P**		**20 43 33.8 -2.8**	
BZS	**Buzias**	**79.75**	**316**⇑	*i*P		**P**		**20 43 33.8 -2.8**	
KOLS	**Kolonicke sedl**	**79.92**	**320**	*e*P		**P**		**20 43 38.4 +0.9**	
KOLS					pmax		pmax		
	comp=Z,20nm,1.1s								
KOLS	**Kolonicke sedl**	**79.92**	**320**	*e*P		**P**		**20 43 38.4 +0.9**	
SUW	**Suwalki**	**80.41**	**325**	*e*P		**P**		**20 43 39.4 -0.6**	
SUW	**Suwalki**	**80.41**	**325**	*e*P		**P**		**20 43 39.4 -0.6**	
SUW	**Suwalki**	**80.41**	**325**	*e*P		**P**		**20 43 39.1 -0.9**	
	comp=Z,42nm,1.0s								
CRVS	**Cervenica-Dubn**	**80.44**	**320**	*e*P		**P**		**20 43 40.0 -0.3**	
CRVS					pmax		pmax		
	comp=Z,61nm,2.6s								
CRVS	**Cervenica-Dubn**	**80.44**	**320**	*e*P		**P**		**20 43 40.0 -0.3**	
CRVS				*e*				21 07 44.0	
FINES	**FINESS Array B**	**80.77**	**333**	P		**P**		**20 43 41.0 -0.7**	
	comp=Z,7.1nm,0.8s,baz=105,slow=5.4,SNR=28								
FINES	**FINESS Array B**	**80.77**	**333**	P		**P**		**20 43 41.0 -0.7**	
FINES	**FINESS Array B**	**80.77**	**333**	P		**P**		**20 43 41.0 -0.7**	
KAF	**Kangasniemi**	**80.86**	**333**	*e*P		**P**		**20 43 40.8 -1.4**	
KAF					pmax		pmax		
	comp=Z,5.0nm,0.6s								
KAF	**Kangasniemi**	**80.86**	**333**	*ep*		**P**		**20 43 40.8 -1.4**	
	comp=Z,5.1nm,0.6s								
KAF	**Kangasniemi**	**80.86**	**333**	*ep*		**P**		**20 43 40.8 -1.4**	
	comp=Z,5.1nm,0.6s								
FX1	**Ahu Island--F**	**81.14**	**36**	LR		LR		21 23 12.2	
	comp=Z,50nm,18.2s,baz=264,slow=38								
NIE	**Niedzica**	**81.27**	**320**	*e*P		**P**		**20 43 45.3 +0.6**	
NIE	**Niedzica**	**81.27**	**320**	*e*P		**P**		**20 43 45.3 +0.6**	
OJC	**Ojcow**	**81.73**	**321**	*e*P		**P**		**20 43 47.1 0.0**	
OJC	**Ojcow**	**81.73**	**321**	*e*P		**P**		**20 43 47.1 0.0**	
BILL	**Bilibino**	**81.85**	**21**	*e*P		**P**		**20 43 49.8 +2.4**	
BILL					pmax		pmax		
	comp=Z,2.0nm,1.0s								
VYHS	**Vyhne**	**82.09**	**319**	*e*P		**P**		**20 43 49.2 +0.1**	
VYHS					pmax		pmax		
	comp=Z,4.0nm,1.3s								
VYHS	**Vyhne**	**82.09**	**319**	*e*P		**P**		**20 43 49.2 +0.1**	
VYHS				*e*				21 07 35.9	
OKC	**Ostrava-Krasne**	**82.73**	**320**	*e*P		**P**		**20 43 52.7 +0.4**	
OKC				*ep*P		**pP**		**20 44 03.9 +4.8**	
ZST	**Bratislava**	**83.19**	**318**	*e*P		**P**		**20 43 55.4 +0.6**	
ZST					pmax		pmax		
	comp=Z,10.0nm,1.0s								
ZST	**Bratislava**	**83.19**	**318**	*e*P		**P**		**20 43 55.4 +0.6**	
ARCES	**ARCESS Array B**	**83.33**	**340**	P		**P**		**20 43 55.1 +0.1**	
	comp=Z,5.6nm,0.8s,baz=109,slow=4.9,SNR=16								
ARCES	**ARCESS Array B**	**83.33**	**340**	P		**P**		**20 43 55.1 +0.1**	
ARCES	**ARCESS Array B**	**83.33**	**340**	P		**P**		**20 43 55.1 +0.1**	
KRLC	**Kraliky**	**83.63**	**320**	*e*P		**P**		**20 43 57.5 +0.4**	
KRLC				*ep*P		pP		20 44 08.9 +5.1	
DPC	**Dobruska-Polom**	**83.96**	**320**	*e*P		**P**		**20 43 59.5 +0.8**	
DPC				*ep*P		pP		20 44 10.8 +5.3	
KSP	**Ksiaz**	**84.03**	**321**	*e*P		**P**		**20 44 00.0 +1.0**	
ARSA	**Arzberg**	**84.15**	**317**⇑	*i*P		**P**		**20 44 00.0 +0.3**	
	comp=Z,11nm,1.7s								
ARSA	**Arzberg**	**84.15**	**317**⇑	*i*P		**P**		**20 44 00.0 +0.3**	
	comp=Z,11nm,1.7s								
UPC	**Upice**	**84.17**	**321**	*e*P		**P**		**20 44 00.2 +0.4**	
TREC	**Trest**	**84.38**	**319**	*e*P		**P**		**20 44 01.2 +0.3**	
SOKA	**Soboth**	**84.43**	**317**⇑	*i*P		**P**		**20 44 01.3 0.0**	
	comp=Z,11nm,1.3s								
SOKA	**Soboth**	**84.43**	**317**⇑	*i*P		**P**		**20 44 01.3 0.0**	
	comp=Z,11nm,1.3s								
VNDA	**Vanda**	**85.02**	**169**	*e*P		**P**		**20 44 03.1 -0.4**	
VNDA	**Vanda**	**85.02**	**169**	*e*P		**P**		**20 44 03.1 -0.4**	
PRU	**Pruhonice**	**85.06**	**320**	*e*P		**P**		**20 44 04.6 +0.3**	
PRU				*ep*P		**pP**		**20 44 15.7 +4.7**	
PVCC	**Panska Ves**	**85.09**	**321**	*e*P		**P**		**20 44 04.9 +0.5**	
GEC2	**GERESS Array S**	**85.51**	**319**	*e*P		**P**		**20 44 06.9 +0.2**	
	comp=Z,12nm,1.2s								
GEC2	**GERESS Array S**	**85.51**	**319**	*e*P		**P**		**20 44 06.9 +0.2**	
GEC2					pmax		pmax		
	comp=Z,12nm,1.2s								
GERES	**GERESS Array B**	**85.51**	**319**	P		**P**		**20 44 06.5 -0.2**	
	comp=Z,4.0nm,0.9s,baz=98,slow=4.7,SNR=22								
GERES	**GERESS Array B**	**85.51**	**319**	P		**P**		**20 44 06.5 -0.2**	
GERES	**GERESS Array B**	**85.51**	**319**	P		**P**		**20 44 06.5 -0.2**	
BRG	**Berggiesshubel**	**85.52**	**321**	*e*P		**P**		**20 44 07.0 +0.4**	
	comp=Z,7.0nm,1.0s								
BRG	**Berggiesshubel**	**85.52**	**321**	*e*P		**P**		**20 44 07.0 +0.4**	
	comp=Z,7.0nm,1.0s								
BRG	**Berggiesshubel**	**85.52**	**321**	*e*P		**P**		**20 44 06.9 +0.4**	
BRG					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KHC	**Kasperske Hory**	**85.61**	**319**	*e*P		**P**		**20 44 07.2 +0.1**	
KHC				*ex*		x		20 44 24.0	
RUE	**Ruedersdorf**	**85.75**	**322**	*e*P		**P**		**20 44 08.5 +0.9**	
	comp=Z,28nm,1.3s								
FBE	**Freiberg**	**85.89**	**321**	*e*P		**P**		**20 44 09.2 +0.8**	
	comp=Z,11nm,1.1s								
WET	**Wettzell**	**86.07**	**319**	*e*P		**P**		**20 44 09.6 +0.2**	
	comp=Z,9.0nm,1.2s								
WET	**Wettzell**	**86.07**	**319**	*e*P		**P**		**20 44 09.6 +0.2**	
WET					pmax		pmax		
	comp=Z,9.0nm,1.2s								
CLL	**Collm**	**86.14**	**321**	*e*P		**P**		**20 44 09.9 +0.3**	
	comp=Z,12nm,1.3s								
CLL	**Collm**	**86.14**	**321**	*i*P		**P**		**20 44 09.7 +0.1**	
CLL					pmax		pmax		
	comp=Z,12nm,1.3s								
CLL	**Collm**	**86.14**	**321**	*i*P		**P**		**20 44 09.7 +0.1**	
	comp=Z,12nm,1.3s								
TANN	**Tannenbergstha**	**86.42**	**320**	*e*P		**P**		**20 44 11.7 +0.6**	
	comp=Z,9.0nm,1.3s								
HFS	**Hagfors**	**86.48**	**330**	P		**P**		**20 44 11.2 +0.1**	
	comp=Z,5.9nm,0.9s,baz=120,slow=5.7,SNR=10								
HFS	**Hagfors**	**86.48**	**330**	P		**P**		**20 44 11.2 +0.1**	
HFS	**Hagfors**	**86.48**	**330**	P		**P**		**20 44 11.2 +0.1**	
ROTZ	**Rotzenmuhle**	**86.55**	**320**	*e*P		**P**		**20 44 12.7 +1.0**	
	comp=Z,7.0nm,1.1s								
NEUB	**Neuenburg**	**86.91**	**321**	*e*P		**P**		**20 44 13.9 +0.5**	
	comp=Z,10.0nm,1.1s								
GRF	**Grafenberg Arr**	**87.18**	**320**	*e*P		**P**		**20 44 15.4 +0.6**	
	comp=Z,7.0nm,1.3s								
GRF	**Grafenberg Arr**	**87.18**	**320**	*e*P		**P**		**20 44 15.4 +0.6**	
GRF					pmax		pmax		
	comp=Z,7.0nm,1.3s								
NB2	**NORSAR Subarra**	**87.77**	**331**	P		**P**		**20 44 16.8 -0.6**	
	comp=Z,12nm,1.2s,baz=98,slow=4.6								
NOA	**NORSAR Array B**	**87.77**	**331**	P		**P**		**20 44 17.2 -0.2**	
	comp=Z,3.8nm,1.0s,baz=96,slow=4.7,SNR=5.1								
NOA	**NORSAR Array B**	**87.77**	**331**	P		**P**		**20 44 17.2 -0.2**	
NOA	**NORSAR Array B**	**87.77**	**331**	P		**P**		**20 44 17.2 -0.2**	
CLZ	**Clausthal**	**87.81**	**322**	*e*P		**P**		**20 44 18.5 +0.7**	
	comp=Z,20nm,1.5s								
CLZ	**Clausthal**	**87.81**	**322**	*e*P		**P**		**20 44 18.4 +0.7**	
CLZ					pmax		pmax		
	comp=Z,20nm,1.5s								
BSEG	**Bad Segeberg**	**87.92**	**324**	*e*P		**P**		**20 44 18.9 +0.7**	
	comp=Z,31nm,1.2s								
BSEG	**Bad Segeberg**	**87.92**	**324**	*e*P		**P**		**20 44 18.9 +0.7**	
BSEG					pmax		pmax		
	comp=Z,31nm,1.2s								
DAVOX	**Davos/Dischmat**	**87.97**	**317**	P		**P**		**20 44 17.5 -1.4**	
	comp=Z,5.0nm,0.9s,baz=114,slow=7.5,SNR=4.7								
DAVOX	**Davos/Dischmat**	**87.97**	**317**	P		**P**		**20 44 17.5 -1.4**	
NRDL	**Niedersach Rie**	**88.00**	**322**	*e*P		**P**		**20 44 19.8 +1.3**	
	comp=Z,9.0nm,1.0s								
PGF	**Pioggiola**	**88.51**	**312**	*e*P		**P**		**20 44 22.6 +1.2**	
	comp=Z,134nm,1.3s								
TNS	**Taunus Mts**	**88.99**	**320**	*e*P		**P**		**20 44 24.6 +1.2**	
	comp=Z,24nm,1.7s								
TNS	**Taunus Mts**	**88.99**	**320**	*e*P		**P**		**20 44 24.6 +1.2**	
TNS					pmax		pmax		
	comp=Z,24nm,1.7s								
SBF	**Sospel**	**89.66**	**314**⇑	*i*P		**P**		**20 44 26.7 0.0**	
LPG	**La Plagne**	**90.14**	**315**⇑	*i*P		**P**		**20 44 29.3 +0.1**	
	comp=Z,30nm,1.1s								
LPL	**La Plagne**	**90.15**	**315**⇑	*i*P		**P**		**20 44 29.3 +0.1**	
	comp=Z,20nm,1.0s								
HAU	**Haudompre**	**90.38**	**318**⇑	*i*P		**P**		**20 44 29.8 -0.1**	
	comp=Z,23nm,1.1s								
CABF	**La Chapelle**	**90.58**	**316**	*e*P		**P**		**20 44 30.4 -0.6**	
	comp=Z,25nm,1.1s								
ORIF	**Oris-en-Rattie**	**90.76**	**315**	*e*P		**P**		**20 44 32.2 +0.3**	
MEZF	**Maizieres J'vi**	**91.23**	**318**	*e*P		**P**		**20 44 34.1 +0.3**	
	comp=Z,15nm,0.9s								
SFTF	**Sexfontaines**	**91.25**	**318**⇑	*i*P		**P**		**20 44 34.1 +0.2**	
	comp=Z,31nm,1.0s								
GIVF	**Givet**	**91.32**	**320**	*e*P		**P**		**20 44 34.6 +0.4**	
TAM	**Tamanrasset**	**91.53**	**293**	P		**P**		**20 44 36.0 0.0**	
TAM					pmax		pmax		
	comp=Z,3.0nm,1.0s								
TAM	**Tamanrasset**	**91.53**	**293**	P		**P**		**20 44 36.0 0.0**	
	comp=Z,3.3nm,1.0s								
BAIF	**Baives**	**91.72**	**320**⇑	*i*P		**P**		**20 44 35.8 -0.2**	
	comp=Z,17nm,0.9s								
LOR	**Lormes**	**92.08**	**317**⇑	*i*P		**P**		**20 44 38.0 +

	baz=243							
TWB1	**Santiao Chiao**	**0.25**	**13**	P		**Pn**	**21 15 41.6**	**-0.4**
	baz=27							
TWB1				*e*S		**Sn**	**21 15 51.3**	**-0.5**
	baz=27							
NWF	**Wu-fen Shan**	**0.34**	**337**	*e*P		**Pn**	**21 15 42.4**	**-0.1**
	baz=340							
NWF				*e*S		**Sn**	**21 15 52.1**	**-0.6**
	baz=340							
ENTT	**Nioudou**	**0.35**	**250**	⇓*i*P		**Pn**	**21 15 42.6**	**+0.1**
	baz=238							
ENTT				*e*S		**Sn**	**21 15 53.2**	**+0.5**
	baz=238							
ENA	**Nanau**	**0.37**	**207**	P		**Pn**	**21 15 42.7**	**+0.1**
	baz=197							
ENA				*e*S		**Sn**	**21 15 54.1**	**+1.3**
	baz=197							
TWA	**Mucha**	**0.38**	**305**	*i* P		**Pn**	**21 15 42.4**	**-0.3**
	baz=302							
TWA				S		**Sn**	**21 15 52.8**	**-0.2**
	baz=302							
TAP1	**Taipei**	**0.46**	**307**	*e*P		**Pn**	**21 15 42.8**	**-0.4**
	baz=304							
TAP1				*e*S		**Sn**	**21 15 54.0**	**+0.1**
	baz=304							
NSK	**Sanguang**	**0.52**	**261**	*e*P		**Pn**	**21 15 43.1**	**-0.6**
	baz=254							
NSK				S		**Sn**	**21 15 53.8**	**-1.1**
	baz=254							
TWS1	**Kuangyinshan**	**0.57**	**306**	*e*P		**Pn**	**21 15 43.8**	**-0.3**
	baz=304							
TWS1				*e*S		**Sn**	**21 15 55.8**	**+0.3**
	baz=304							
TWY	**Chenhua**	**0.59**	**330**	*e*P		**Pn**	**21 15 44.6**	**+0.4**
	baz=331							
TWY				*e*S		**Sn**	**21 15 56.6**	**+0.7**
	baz=331							
NNS	**Nan Shan**	**0.59**	**238**	*e*P		**Pn**	**21 15 44.4**	**-0.1**
	baz=231							
NNS				*e*S		**Sn**	**21 15 56.0**	**-0.2**
	baz=231							
NCU	**National Centr**	**0.70**	**287**	*e*P		**Pn**	**21 15 44.9**	**-0.4**
	baz=284							
NCU				*e*S		**Sn**	**21 15 57.5**	**-0.1**
	baz=284							
TWD	**Chiawan**	**0.74**	**204**	*e*P		**Pn**	**21 15 44.9**	**-0.8**
	baz=199							
TWD				*e*S		**Sn**	**21 15 57.7**	**-0.6**
	baz=199							
TWT	**Tachien**	**0.85**	**234**	*e*P		**Pn**	**21 15 47.3**	**+0.3**
	baz=229							
TWT				*e*S		**Sn**	**21 16 01.1**	**+0.5**
	baz=229							
NSTT	**Nanjuang**	**0.85**	**262**	*e*P		**Pn**	**21 15 45.8**	**-1.0**
	baz=257							
NSTT				S		**Sn**	**21 15 59.2**	**-1.1**
	baz=257							
WHF	**Hehuan Shan**	**0.86**	**225**	P		**Pn**	**21 15 47.1**	**-0.2**
	baz=220							
WHF				*e*S		**Sn**	**21 16 01.5**	**+0.3**
	baz=220							
HSN	**Hsinchu**	**0.87**	**273**	*e*S			21 15 59.0	
	baz=271							
YOJ	**Yonaguni jima**	**1.03**	**106**	P		**Pn**	**21 15 48.5**	**-0.3**
YOJ				*e*S		**Sn**	**21 16 03.9**	**0.0**
ESL	**Shilin**	**1.04**	**206**	*e*P		**Pn**	**21 15 49.0**	**+0.1**
	baz=202							
NSY	**Sanyi**	**1.11**	**252**	*e*P		**Pn**	**21 15 49.7**	**-0.1**
	baz=248							
NSY				*e*S		**Sn**	**21 16 05.4**	**-0.2**
	baz=248							
TWQ1	**Liyutan**	**1.13**	**249**	*e*P		**Pn**	**21 15 49.6**	**-0.3**
	baz=245							
TWQ1				*e*S		**Sn**	**21 16 05.2**	**-0.7**
	baz=245							
SMLT	**Sun Moon Lake**	**1.28**	**227**	*e*P		**Pn**	**21 15 52.5**	**+0.6**
	baz=223							
SMLT				*e*S		**Sn**	**21 16 10.2**	**+0.9**
	baz=223							
TCU	**Taichung**	**1.29**	**242**	*e*S			21 16 09.4	
	baz=238							
TYC	**Yuchr**	**1.29**	**229**	*e*P		**Pn**	**21 15 51.9**	**-0.1**
	baz=225							
TYC				*e*S		**Sn**	**21 16 09.4**	**0.0**
	baz=225							
EHY	**Hungye**	**1.36**	**204**	*e*P		**Pn**	**21 15 52.7**	**-0.1**
	baz=201							
EHY				*e*S		**Sn**	**21 16 10.4**	**-0.6**
	baz=201							
WNT	**Mingjian**	**1.43**	**232**	*e*S			21 16 12.8	
	baz=229							
TWF1	**Yuli**	**1.51**	**202**	*e*P		**Pn**	**21 15 53.9**	**-0.9**
	baz=200							
YUS	**Yu-Shan**	**1.55**	**215**	*e*P		**Pn**	**21 15 56.4**	**+0.8**
	baz=212							
ALS	**Alishan**	**1.61**	**220**	*e*P		**Pn**	**21 15 56.7**	**+0.5**
	baz=217							
ALS				*e*S		**Sn**	**21 16 17.5**	**+0.5**
	baz=217							
CHN5	**Tsauling**	**1.62**	**225**	*e*P		**Pn**	**21 15 56.2**	**+0.1**
	baz=222							
CHN5				*e*S		**Sn**	**21 16 17.3**	**+0.3**
	baz=222							
WGK	**Gukeng**	**1.64**	**230**	*e*P		**Pn**	**21 15 56.5**	**+0.2**
	baz=226							
WGK				*e*S		**Sn**	**21 16 17.9**	**+0.7**
	baz=226							
IRIF	**Iriomote-Funau**	**1.70**	**104**	P		**Pn**	**21 15 56.6**	**-0.4**
IRIF				S		**Sn**	**21 16 18.3**	**-0.2**
CHKT	**Chengkung**	**1.73**	**197**	*e*P		**Pn**	**21 15 55.6**	**-1.9**
	baz=195							
CHKT				*e*S		**Sn**	**21 16 17.8**	**-1.5**
	baz=195							
ELDTW	**Lidau**	**1.77**	**208**	*e*P		**Pn**	**21 15 58.1**	**0.0**
	baz=205							
ELDTW				*e*S		**Sn**	**21 16 20.2**	**-0.2**
	baz=205							
CHN2	**Minshiung**	**1.80**	**228**	*e*S			21 16 22.1	
	baz=225							
HATJ	**Hateruma jima**	**1.85**	**112**	P		**Pn**	**21 15 59.4**	**+0.4**
CHN4	**Tsaushan**	**1.86**	**221**	*e*P		**Pn**	**21 16 00.1**	**+0.9**
	baz=219							
CHN4				*e*S		**Sn**	**21 16 23.8**	**+1.6**
	baz=219							
WSF	**Szhu**	**1.91**	**235**	*e*S			21 16 24.2	
	baz=232							
STYT	**Tauyuan**	**1.92**	**214**	*e*P		**Pn**	**21 16 01.3**	**+1.4**
	baz=211							
STYT				*e*S		**Sn**	**21 16 25.4**	**+1.7**
	baz=211							
WTP	**Ta-pu**	**1.93**	**219**	*e*P		**Pn**	**21 16 00.8**	**+0.8**
	baz=216							
WTP				*e*S		**Sn**	**21 16 23.9**	**0.0**
	baz=216							
JKRS	**Kuro-shima**	**1.97**	**105**	P		**Pn**	**21 16 00.5**	**0.0**
JKRS				*e*S		**Sn**	**21 16 24.8**	**0.0**
TWK	**Hsinying**	**1.98**	**222**	*e*S			21 16 25.8	
	baz=219							
CHN1	**Nanshi**	**2.02**	**219**	*e*P		**Pn**	**21 16 01.4**	**+0.1**
	baz=217							
CHN1				*e*S		**Sn**	**21 16 25.8**	**-0.3**
	baz=217							
JIJ	**Ishigaki jima**	**2.06**	**101**	P		**Pn**	**21 16 01.4**	**-0.3**
JIJ				*e*S		**Sn**	**21 16 26.3**	**-0.6**
SGST	**Jiashian**	**2.07**	**217**	*e*S			21 16 28.1	
	baz=214							
TWG	**Pinlang**	**2.08**	**202**	*e*P		**Pn**	**21 16 01.5**	**-0.6**
	baz=200							
TWG				*e*S		**Sn**	**21 16 25.9**	**-1.6**
	baz=200							
SSD	**Sandimen**	**2.33**	**211**	*e*P		**Pn**	**21 16 07.0**	**+1.7**
	baz=208							
SSD				*e*S		**Sn**	**21 16 35.7**	**+2.4**
	baz=208							
JTJ	**Tarama**	**2.53**	**92**	P		**Pn**	**21 16 08.4**	**+0.5**
JTJ				*e*S		**Sn**	**21 16 38.8**	**+0.8**
SCZT	**Fangliau**	**2.66**	**207**	*e*P		**Pn**	**21 16 08.6**	**-1.1**
	baz=205							
SCZT				*e*S		**Sn**	**21 16 39.9**	**-1.4**
	baz=205							

IDC 27 21:16:15.2±5.0, 17.42S×175.01W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.2/4, Error ellipse: s-maj=157.5km s-min=100.1km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.70**	**241**	P	P	21 24 06.6	+0.7
	1.8nm,0.7s,baz=66,slow=8.3,SNR=4.8						
WRA	**Warramunga Arr**	**47.90**	**259**	P	P	21 24 55.4	-0.2
	1.3nm,0.4s,baz=98,slow=7.0,SNR=45						
ASAR	**Alice Springs**	**48.04**	**254**	P	P	21 24 56.5	-0.2
	2.2nm,0.4s,baz=92,slow=7.7,SNR=38						
ASAR				PcP	PcP	21 26 24.6	-0.1
	0.4nm,0.5s,baz=107,slow=4.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**56.30**	**260**	P	P	21 25 57.5	-0.7
	1.7nm,0.8s,baz=106,slow=7.4,SNR=3.0						

DDA 27 21:21:44.9, 38.90N×38.97E, h7km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.33**	**91**	*e*PG	Pg	21 21 51.9	+0.3
PTK				*e*SG	Sb	21 21 57.9	-1.1
ELZG	**Elazig**	**0.40**	**179**	*i* P	Pg	21 21 53.3	+0.3
ELZG				*i* S	Sg	21 21 58.7	+0.2
ILIC	**ilic-Erzincan**	**0.64**	**330**	*e*PG	Pg	21 21 57.3	-0.1
MALT	**Malatya**	**0.73**	**216**	*e*PG	Pg	21 21 58.5	-0.6
AKCD	**Akcadag**	**1.02**	**234**	*i* P	Pg	21 22 04.4	-0.3
AKCD				*i* S	Sb	21 22 19.0	+0.1
KELT	**Kelkit**	**1.27**	**10**	*i* P	Pg	21 22 11.7	+2.2
KELT				*i* S	Sn	21 22 26.8	0.0

IDC 27 21:23:19.8±2.9, 3.01S×136.49E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, ML3.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/11, Error ellipse: s-maj=117.0km s-min=29.4km az=81.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.96**	**187**	Pn	Pn	21 27 19.0	+0.3
	0.2nm,0.3s,baz=8.7,slow=12,SNR=14						
ASAR	**Alice Springs**	**20.68**	**187**	P	P	21 28 01.5	-0.2
	0.8nm,0.4s,baz=11,slow=10,SNR=14						
STKA	**Stephens Creek**	**29.11**	**171**	LR	LR	21 41 56.9	
	comp=Z,87nm,20.1s,baz=28,slow=38						
KSRS	**Korea Array**	**41.04**	**350**	LR	LR	21 45 04.6	
	comp=Z,15nm,19.9s,baz=185,slow=32						
MKAR	**Makanchi Array**	**68.69**	**323**	P	P	21 34 25.3	0.0
	0.2nm,0.6s,baz=123,slow=5.3,SNR=3.3						

*SOF **27** 21:23:38.1, 41.56N×27.99E, h2km, MD3.1*
*ISCJB **27** 21:23:39.3±0.4, 41.54N±0.02×28.01E±0.03, h4km±3km, Error ellipse: s-maj=3.8km s-min=2.9km az=142.2*
*ISK **27** 21:23:39.4, 41.54N×28.03E, h11km, ML3.5*
*CSEM **27** 21:23:40.8±0.1, 41.47N×28.03E, h10km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.1km az=52.0*
*DDA **27** 21:23:41.6, 41.40N×28.00E, h7km, MD3.3*

ISC 27 21:23:40.9±0.9, 41.50N±0.02×28.03E±0.02, h9km±8km, n137, σ0s74/151, 21C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTYL	**Yal??k??y-??at**	**0.20**	**96**	PG	**Pg**	**21 23 44.6**	**-0.4**
CTYL				*e*SG	**Sg**	**21 23 47.4**	**-0.3**
CTYL	**Yal??k??y-??at**	**0.20**	**96**	*i* Pg	**Pg**	**21 23 44.6**	**-0.4**
CTYL				*e*Sg	**Sg**	**21 23 47.4**	**-0.3**
SLVT	**Silivri**	**0.30**	**153**	PG	**Pg**	**21 23 47.0**	**+0.1**
SLVT				*e*SG	**Sg**	**21 23 52.1**	**+1.3**
SLVT	**Silivri**	**0.30**	**153**	*i* Pg	**Pg**	**21 23 47.0**	**+0.1**
SLVT				*e*Sg	**Sg**	**21 23 52.1**	**+1.3**
CRLT	**Corlu**	**0.43**	**211**	PG	**Pg**	**21 23 49.8**	**+0.5**
CRLT	**Corlu**	**0.43**	**211**	*i* Pg	**Pg**	**21 23 49.8**	**+0.5**
CTKS	**Kestanelik-??a**	**0.44**	**126**	PG	**Pg**	**21 23 49.1**	**-0.4**
CTKS	**Kestanelik-??a**	**0.44**	**126**	*i* Pg	**Pg**	**21 23 49.1**	**-0.4**
ELBA	**Catalca**	**0.46**	**139**	*i* P	**Pg**	**21 23 49.7**	**-0.2**
ELBA				*i* S	**Sg**	**21 23 56.1**	**+0.2**
ELBA	**Catalca**	**0.46**	**139**	*i* P	**Pg**	**21 23 49.7**	**-0.2**
ELBA				*i* S	**Sg**	**21 23 56.1**	**+0.2**
TKR	**Tekirdag**	**0.63**	**217**	*e*PG	**Pg**	**21 23 53.0**	**0.0**
TKR	**Tekirdag**	**0.63**	**217**	*e*Pg	**Pg**	**21 23 53.0**	**0.0**
BGKT	**Bogazkoy**	**0.64**	**119**	*e*PG	**Pg**	**21 23 52.7**	**-0.6**
BGKT	**Bogazkoy**	**0.64**	**119**	*e*Pg	**Pg**	**21 23 52.7**	**-0.6**
KLYT	**Kilyos**	**0.80**	**107**	*e*PG	**Pg**	**21 23 55.6**	**-0.6**
KLYT	**Kilyos**	**0.80**	**107**	*e*Pg	**Pg**	**21 23 55.6**	**-0.6**
ISK	**Istanbul-Kandi**	**0.89**	**119**	*e*PG	**Pg**	**21 23 57.4**	**-0.6**
ISK	**Istanbul-Kandi**	**0.89**	**119**	*e*Pg	**Pg**	**21 23 57.4**	**-0.6**
MFT	**Murefte**	**0.91**	**219**	*e*PG	**Pg**	**21 23 57.8**	**-0.5**
MFT	**Murefte**	**0.91**	**219**	*e*Pg	**Pg**	**21 23 57.8**	**-0.5**
EDRB	**Edirne**	**1.03**	**290**	*e*PG	**Pg**	**21 23 59.0**	**-1.6**
EDRB	**Edirne**	**1.03**	**290**	*e*Pg	**Pg**	**21 23 59.0**	**-1.6**
SART	**Tekirdag**	**1.03**	**219**	*i* P	**Pg**	**21 23 59.9**	**-0.8**
SART				*i* S	**Sg**	**21 24 14.2**	**+0.1**
SART	**Tekirdag**	**1.03**	**219**	*i* P	**Pg**	**21 23 59.9**	**-0.8**
SART				*i* S	**Sg**	**21 24 14.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.03**	**219**	*e*PG	**Pg**	**21 24 00.3**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.03**	**219**	*e*Pg	**Pg**	**21 24 00.3**	**-0.4**
ARMT	**Armutlu**	**1.12**	**146**	*e*PN	**Pb**	**21 24 02.1**	**-0.4**
ARMT	**Armutlu**	**1.12**	**146**	*e*Pn	**Pb**	**21 24 02.1**	**-0.4**
BNT	**Bandirma**	**1.14**	**184**	*e*PN	**Pb**	**21 24 02.4**	**-0.4**
BNT	**Bandirma**	**1.14**	**184**	*e*Pn	**Pb**	**21 24 02.4**	**-0.4**
EDC	**Edincik**	**1.16**	**186**	*e*PN	**Pb**	**21 24 02.6**	**-0.4**
EDC	**Edincik**	**1.16**	**186**	*e*Pn	**Pb**	**21 24 02.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.23**	**207**	*e*PN	**Pn**	**21 24 03.1**	**-1.2**
KRBG	**Karabiga-Canak**	**1.23**	**207**	*e*Pn	**Pn**	**21 24 03.1**	**-1.2**
KCTX	**Karacabey (Bur**	**1.25**	**169**	*e*PN	**Pn**	**21 24 04.0**	**-0.6**
KCTX	**Karacabey (Bur**	**1.25**	**169**	*e*Pn	**Pn**	**21 24 04.0**	**-0.6**
SILT	**Sile**	**1.26**	**105**	*e*PN	**Pn**	**21 24 03.8**	**-0.8**
SILT	**Sile**	**1.26**	**105**	*e*Pn	**Pn**	**21 24 03.8**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.30**	**150**	*e*PN	**Pn**	**21 24 04.0**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.30**	**150**	*e*Pn	**Pn**	**21 24 04.0**	**-1.1**
YLV	**Yalova**	**1.38**	**132**	*e*PN	**Pn**	**21 24 05.6**	**-0.7**
YLV	**Yalova**	**1.38**	**132**	*e*Pn	**Pn**	**21 24 05.6**	**-0.7**
HRT	**Hereke**	**1.41**	**118**	*e*PN	**Pn**	**21 24 06.2**	**-0.5**
HRT	**Hereke**	**1.41**	**118**	*e*Pn	**Pn**	**21 24 06.2**	**-0.5**
ERIK	**Erikli-Kesan**	**1.41**	**235**	*e*PN	**Pn**	**21 24 05.7**	**-1.0**
ERIK	**Erikli-Kesan**	**1.41**	**235**	*e*Pn	**Pn**	**21 24 05.7**	**-1.0**
JMB	**Yambol**	**1.45**	**312**	*e*Pg	**Pn**	**21 24 06.8**	**-0.5**
GONE	**Gonen-Balikesi**	**1.47**	**190**	*e*PN	**Pn**	**21 24 07.0**	**-0.5**
GONE	**Gonen-Balikesi**	**1.47**	**190**	*e*Pn	**Pn**	**21 24 07.0**	**-0.5**
LPK	**Lapseki**	**1.48**	**221**	*e*PN	**Pn**	**21 24 06.5**	**-1.1**
LPK	**Lapseki**	**1.48**	**221**	*e*Pn	**Pn**	**21 24 06.6**	**-1.1**
ORLT	**Orhaneli**	**1.59**	**155**	*e*PN	**Pn**	**21 24 09.1**	**-0.1**
ORLT	**Orhaneli**	**1.59**	**155**	*e*Pn	**Pn**	**21 24 09.1**	**-0.1**
ENEZ	**Enez**	**1.61**	**242**	*e*PN	**Pn**	**21 24 09.5**	**+0.1**
ENEZ	**Enez**	**1.61**	**242**	*e*Pn	**Pn**	**21 24 09.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.61**	**228**	*e*PN	**Pn**	**21 24 08.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.61**	**228**	*e*Pn	**Pn**	**21 24 08.9**	**-0.5**
ADVT	**Abdulvahap**	**1.67**	**129**	*e*PN	**Pn**	**21 24 09.7**	**-0.6**
ADVT	**Abdulvahap**	**1.67**	**129**	*e*Pn	**Pn**	**21 24 09.7**	**-0.6**
PRD	**Provadia**	**1.77**	**345**	*i* Pg	**Pn**	**21 24 11.1**	**-0.5**
PRD	**Provadia**	**1.77**	**345**	*i* Pg	**Pn**	**21 24 11.1**	**-0.5**
BALY	**Balya**	**1.78**	**190**	*i* P	**Pn**	**21 24 11.1**	**-0.8**
BALY				*i* S	**Sn**	**21 24 34.3**	**-0.3**
BALY	**Balya**	**1.78**	**190**	*i* P	**Pn**	**21 24 11.1**	**-0.8**
BALY				*i* S	**Sn**	**21 24 34.3**	**-0.3**
BALB	**Balikesir**	**1.86**	**184**	*e*PN	**Pn**	**21 24 13.3**	**+0.5**
BALB	**Balikesir**	**1.86**	**184**	*e*Pn	**Pn**	**21 24 13.3**	**+0.5**
CAVI	**Cavuskoy**	**1.89**	**133**	*e*PN	**Pn**	**21 24 13.3**	**0.0**
CAVI	**Cavuskoy**	**1.89**	**133**	*e*Pn	**Pn**	**21 24 13.3**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.90**	**114**	*e*PN	**Pn**	**21 24 13.5**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.90**	**114**	*e*Pn	**Pn**	**21 24 13.5**	**+0.1**
DURS	**Dursunbey**	**1.92**	**170**	*i* P	**Pb**	**21 24 15.9**	**-0.2**
DURS				*i* S	**Sb**	**21 24 40.4**	**+0.1**
DURS	**Dursunbey**	**1.92**	**170**	*i* P	**Pb**	**21 24 15.9**	**-0.2**
DURS				*i* S	**Sb**	**21 24 40.4**	**+0.1**
DST	**Dursunbey**	**1.94**	**166**	*e*PN	**Pn**	**21 24 13.8**	**-0.3**
DST	**Dursunbey**	**1.94**	**166**	*e*Pn	**Pn**	**21 24 13.8**	**-0.3**
DIM	**Dimitrovgrad**	**1.95**	**287**	*i* Pg	**Pn**	**21 24 15.0**	**+0.9**
KDZ	**Kurdzhali**	**1.97**	**275**	*i* P	**Pb**	**21 24 17.6**	**+0.7**
GPA	**Golpazari**	**2.11**	**124**	*e*PN	**Pn**	**21 24 16.5**	**+0.2**
GPA	**Golpazari**	**2.11**	**124**	*e*Pn	**Pn**	**21 24 16.5**	**+0.2**
GULT	**Gulveren**	**2.16**	**119**	*e*PN	**Pn**	**21 24 17.2**	**+0.1**
GULT	**Gulveren**	**2.16**	**119**	*e*Pn	**Pn**	**21 24 17.2**	**+0.1**
PSN	**Preselentsi**	**2.19**	**3**	*i* P	**Pn**	**21 24 16.3**	**-1.1**
PSN	**Preselentsi**	**2.19**	**3**	*i* P	**Pn**	**21 24 16.3**	**-1.1**
HENT	**Hendek**	**2.27**	**106**	*i* P	**Pn**	**21 24 18.1**	**-0.4**
HENT				*i* S	**Sn**	**21 24 47.6**	**+1.0**
HENT	**Hendek**	**2.27**	**106**	*i* P	**Pn**	**21 24 18.1**	**-0.4**
HENT				*i* S	**Sn**	**21 24 47.6**	**+1.0**
SZH	**Strazhica**	**2.35**	**319**	*e*P	**Pn**	**21 24 21.2**	**+1.5**
SZH	**Strazhica**	**2.35**	**319**	*e*P	**Pn**	**21 24 21.2**	**+1.5**
RZN	**Rozhen**	**2.49**	**275**	*e*P	**Pn**	**21 24 20.4**	**-1.4**
RZN	**Rozhen**	**2.49**	**275**	*e*P	**Pn**	**21 24 20.4**	**-1.4**
PLD	**Plovdiv**	**2.56**	**285**	*i* Pg	**Pb**	**21 24 27.8**	**+0.8**
KDZE	**Karadeniz Ereo**	**2.57**	**93**	*e*PN	**Pn**	**21 24 22.4**	**-0.3**
KDZE	**Karadeniz Ereo**	**2.57**	**93**	*e*Pn	**Pn**	**21 24 22.4**	**-0.3**
MDUB	**Mudurnu**	**2.61**	**112**	*e*PN	**Pn**	**21 24 23.3**	**0.0**
MDUB	**Mudurnu**	**2.61**	**112**	*e*Pn	**Pn**	**21 24 23.3**	**0.0**
AKS	**Akhisar**	**2.62**	**184**	*e*PN	**Pn**	**21 24 23.3**	**-0.1**
AKS	**Akhisar**	**2.62**	**184**	*e*Pn	**Pn**	**21 24 23.3**	**-0.1**
PVL	**Pavlikeni**	**2.64**	**312**	*e*P	**Pn**	**21 24 22.8**	**-0.7**
ESKT	**Eskisehir**	**2.92**	**132**	*e*PN	**Pn**	**21 24 27.2**	**-0.3**
ESKT	**Eskisehir**	**2.92**	**132**	*e*Pn	**Pn**	**21 24 27.2**	**-0.3**
TIRR	**Tirgusor**	**2.97**	**5**	⇑*i*P	**Pn**	**21 24 27.6**	**-0.6**
TIRR	**Tirgusor**	**2.97**	**5**	⇑*i*P	**Pn**	**21 24 27.6**	**-0.6**
KULA	**Kula-Manisa**	**3.02**	**171**	*e*PN	**Pn**	**21 24 29.2**	**+0.3**
KULA	**Kula-Manisa**	**3.02**	**171**	*e*Pn	**Pn**	**21 24 29.2**	**+0.3**
IZM	**Izmir**	**3.15**	**191**	*e*PN	**Pn**	**21 24 31.2**	**+0.5**
IZM	**Izmir**	**3.15**	**191**	*e*Pn	**Pn**	**21 24 31.2**	**+0.5**
MMB	**Musomiste**	**3.23**	**273**	*e*P	**Pb**	**21 24 37.0**	**-1.4**
SVRH	**Sivrihisar-ESK**	**3.36**	**126**	*e*PN	**Pn**	**21 24 33.5**	**-0.1**
SVRH	**Sivrihisar-ESK**	**3.36**	**126**	*e*Pn	**Pn**	**21 24 33.5**	**-0.1**
SAFT	**Safranbolu**	**3.51**	**93**	*e*PN	**Pn**	**21 24 34.9**	**-0.8**
SAFT	**Safranbolu**	**3.51**	**93**	*e*Pn	**Pn**	**21 24 34.9**	**-0.8**
CFR	**Carcaliu**	**3.68**	**1**	⇑*i*P	**Pn**	**21 24 37.0**	**-0.9**
CFR	**Carcaliu**	**3.68**	**1**	⇑*i*P	**Pn**	**21 24 37.0**	**-0.9**
KKB	**Krupnik**	**3.72**	**277**	*e*P	**Pn**	**21 24 37.9**	**-0.6**
KKB	**Krupnik**	**3.72**	**277**	*e*P	**Pn**	**21 24 37.9**	**-0.6**
TLCR		**3.73**	**9**	⇑*i*P	**Pn**	**21 24 38.3**	**-0.3**
TLCR		**3.73**	**9**	⇑*i*P	**Pn**	**21 24 38.3**	**-0.3**
HUMR	**Humele**	**3.77**	**325**	⇑*i*P	**Pn**	**21 24 41.2**	**+2.1**
HUMR	**Humele**	**3.77**	**325**	⇑*i*P	**Pn**	**21 24 41.2**	**+2.1**
MLR	**Muntele Rosu**	**4.27**	**340**	⇑*i*P	**Pn**	**21 24 47.3**	**+1.1**
MLR	**Muntele Rosu**	**4.27**	**340**	⇑*i*P	**Pn**	**21 24 47.3**	**+1.1**
PLOR	**Plostina**	**4.47**	**348**	⇓*i*P	**Pn**	**21 24 49.5**	**+0.7**
PLOR	**Plostina**	**4.47**	**348**	⇓*i*P	**Pn**	**21 24 49.5**	**+0.7**
VRI	**Vrincioaia**	**4.47**	**348**	⇑*i*P	**Pn**	**21 24 49.1**	**+0.3**
VRI	**Vrincioaia**	**4.47**	**348**	⇑*i*P	**Pn**	**21 24 49.1**	**+0.3**
BZK	**Bozkurt**	**4.49**	**82**	*e*PN	**Pn**	**21 24 49.6**	**+0.5**
BZK	**Bozkurt**	**4.49**	**82**	*e*Pn	**Pn**	**21 24 49.6**	**+0.5**
VOIR		**4.50**	**332**	⇑*i*P	**Pn**	**21 24 50.7**	**+1.5**
VOIR		**4.50**	**332**	⇑*i*P	**Pn**	**21 24 50.7**	**+1.5**
GHRR		**4.58**	**355**	⇑*i*P	**Pn**	**21 24 51.0**	**+0.7**
GHRR		**4.58**	**355**	⇑*i*P	**Pn**	**21 24 51.0**	**+0.7**
DOPR	**Dopca**	**4.86**	**338**	⇑*i*P	**Pn**	**21 24 54.4**	**+0.2**
DOPR	**Dopca**	**4.86**	**338**	⇑*i*P	**Pn**	**21 24 54.4**	**+0.2**
TESR		**5.11**	**349**	⇓*i*P	**Pn**	**21 24 58.2**	**+0.6**
TESR		**5.11**	**349**	⇓*i*P	**Pn**	**21 24 58.2**	**+0.6**
GZR	**Gura Zlata**	**5.46**	**317**	⇑*i*P	**Pn**	**21 25 03.7**	**+1.3**
BURAR	**Bucovina Array**	**6.44**	**343**	⇓*i*P	**Pn**	**21 25 16.2**	**+0.3**
BURAR	**Bucovina Array**	**6.44**	**343**	⇓*i*P	**Pn**	**21 25 16.2**	**+0.3**
DRGR		**6.53**	**326**	⇑*i*P	**Pn**	**21 25 18.1**	**+1.0**
DRGR		**6.53**	**326**	⇑*i*P	**Pn**	**21 25 18.1**	**+1.0**

*ISCJB **27** 21:35:51.1±0.7, 37.80N±0.03×25.92E±0.03, h11km±5km, Error ellipse: s-maj=5.0km s-min=3.5km az=162.7*
*CSEM **27** 21:35:51.7±0.2, 37.76N×25.93E, h12km, MD3.1, Error ellipse: s-maj=4.6km s-min=3.2km az=164.0*
*ATH **27** 21:35:51.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.68**	**17**	*e*P	Pn	22 18 45.2	+0.8
KMBO				*e*S	Sn	22 19 37.2	-1.8
KIG	**Kigali**	**6.84**	**302**	*e*P	Pn	22 19 13.7	-0.4
KIG				*e*S	Sn	22 20 30.6	-1.7
KIG				AML	AML	22 21 13.7	
	comp=Z,29nm,0.6s						
MBAR	**Mbarara**	**7.15**	**314**	*e*P	Pn	22 19 19.9	+1.5
MBAR				*e*S	Sn	22 20 35.3	-4.6

IDC ***27*** *22:22:07.9±0.9, 2°.37N×126°.91E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/16, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=56.0km s-min=15.7km az=69.0*

NEIC ***27*** *22:22:12.9±0.5, 2°.36N×126°.90E, h35km, mb3.9/4, Error ellipse: s-maj=36.1km s-min=8.1km az=69.0*

ISCJB ***27*** *22:22:13.1±0.6, 2°.4N±0°.1×126°.8E±0°.2, h53km, mb3.8/11, MS3.1/1, Error ellipse: s-maj=37.6km s-min=9.7km az=160.8*

ISC 27 22:22:14.6±0.8, 2°.3N±0°.1×127°.0E±0°.3, h53km, n21, σ0§75/20, mb3.8/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.30**	**162**	*e*P	**P**	**22 27 18.8**	**+0.8**
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**22 27 18.6**	**+0.5**
	1.6nm,0.6s,baz=343,slow=10,SNR=11						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**22 27 18.6**	**+0.5**
WB2	**Warramunga Arr**	**23.31**	**162**	*e*P	**P**	**22 27 18.1**	**0.0**
ASAR	**Alice Springs**	**26.72**	**166**	P	**P**	**22 27 50.5**	**+1.2**
	0.4nm,0.6s,baz=350,slow=7.2,SNR=5.0						
ASAR	**Alice Springs**	**26.72**	**166**	P	**P**	**22 27 50.5**	**+1.2**
CTA	**Charters Tower**	**29.25**	**141**	LR	LR	22 41 42.2	
	comp=Z,41nm,18.9s,baz=53,slow=40						
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**22 28 34.6**	**+0.4**
	0.4nm,0.3s,baz=127,slow=7.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**22 28 34.6**	**+0.4**
KSAR	**Wonju Array Be**	**34.94**	**1**	P	**P**	**22 29 02.1**	**+0.6**
KSRS	**Korea Array**	**34.95**	**1**	P	**P**	**22 29 02.1**	**+0.5**
	0.8nm,0.7s,baz=182,slow=9.3,SNR=3.6						
STKA	**Stephens Creek**	**36.76**	**159**	P	**P**	**22 29 16.5**	**-0.7**
	1.4nm,0.7s,baz=319,slow=9.3,SNR=2.6						
STKA	**Stephens Creek**	**36.76**	**159**	*e*P	**P**	**22 29 16.4**	**-0.8**
	0.4nm,0.8s						
ULN	**Ulaanbaatar**	**48.50**	**342**	*e*P	**P**	**22 30 52.1**	**-0.2**
	1.1nm,0.6s						
SONM	**Songino Array**	**48.68**	**342**	P	**P**	**22 30 54.3**	**+0.7**
	1.1nm,0.8s,baz=149,slow=8.8,SNR=11						
SONM	**Songino Array**	**48.68**	**342**	P	**P**	**22 30 54.3**	**+0.7**
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**22 32 07.7**	**0.0**
	0.7nm,0.6s,baz=122,slow=8.1,SNR=24						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**22 32 07.7**	**0.0**
ZALV	**Zalesovo Beam**	**61.92**	**333**	P	**P**	**22 32 27.7**	**-1.0**
	0.3nm,0.4s,baz=117,slow=5.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**61.92**	**333**	P	**P**	**22 32 27.7**	**-1.0**
ABKAR	**Akbulak array**	**73.36**	**321**	*e*P	**P**	**22 33 40.0**	**-0.9**
	0.9nm,0.7s						

TAP 27 22:25:02.5, 24°.11N×121°.71E, h9km, ML3.8, 7C-11D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**254**	⇑*i*P	Pg	22 25 05.2	+0.3
	baz=263						
TWD				*i* S	Sg	22 25 07.1	+0.4
	baz=263						
HWA	**Hwalien**	**0.16**	**215**	*e*P	Pg	22 25 06.6	+0.8
	baz=223						
EHP	**Heping Village**	**0.20**	**9**	*e*P	Pg	22 25 06.8	+0.1
	baz=8.0						
EHP				*e*S	Sg	22 25 10.5	+0.9
	baz=8.0						
ESF	**Shoufeng Towns**	**0.30**	**218**	*e*P	Pg	22 25 08.6	+0.2
	baz=221						
ENA	**Nanau**	**0.32**	**6**	⇑*i*P	Pg	22 25 09.2	+0.3
	baz=5.0						
ENA				S	Sg	22 25 13.5	+0.3
	baz=5.0						
ESL	**Shilin**	**0.38**	**220**	⇓*i*P	Pg	22 25 10.2	+0.2
	baz=229						
ESL				*e*S	Sg	22 25 15.8	+0.6
	baz=229						
WHF	**Hehuan Shan**	**0.40**	**275**	⇓*i*P	Pg	22 25 10.7	-0.2
	baz=276						
WHF				S	Sg	22 25 16.5	-0.1
	baz=276						
NNS	**Nan Shan**	**0.45**	**318**	⇑*i*P	Pg	22 25 11.7	+0.3
	baz=316						
NNS				*i* S	Sg	22 25 17.9	+0.5
	baz=316						
TWT	**Tachien**	**0.51**	**287**	P	Pg	22 25 13.1	+0.6
	baz=286						
TWT				*i* S	Sb	22 25 20.4	-1.0
	baz=286						
TWC	**Suao**	**0.52**	**15**	*i* P	Pg	22 25 12.8	+0.3
	baz=7.0						
TWC				*e*S	Sg	22 25 18.4	-0.9
	baz=7.0						
ENTT	**Nioudou**	**0.55**	**347**	⇑*i*P	Pg	22 25 13.6	+0.5
	baz=344						
ENTT				*e*S	Sg	22 25 21.2	+1.0
	baz=344						
TWE	**Neicheng**	**0.61**	**357**	⇑*i*P	Pb	22 25 14.8	-0.5
	baz=356						
TWE				S	Sb	22 25 23.7	-0.3
	baz=356						
NSK	**Sanguang**	**0.65**	**331**	⇑*i*P	Pg	22 25 15.6	+0.5
	baz=329						
NSK				S	Sg	22 25 24.3	+0.6
	baz=329						
ILA	**Ilan**	**0.66**	**3**	*e*P	Pg	22 25 15.6	+0.5
	baz=355						
ILA				*e*S	Sg	22 25 24.5	+0.8
	baz=355						
EHY	**Hungye**	**0.69**	**210**	*e*P	Pg	22 25 15.7	-0.2
	baz=213						
SMLT	**Sun Moon Lake**	**0.77**	**253**	⇓*i*P	Pg	22 25 17.8	+0.3
	baz=254						
SMLT				S	Sb	22 25 28.4	-0.5
	baz=254						
TYC	**Yuchr**	**0.80**	**255**	⇓*i*P	Pg	22 25 18.1	+0.2
	baz=257						
TYC				*e*S	Sg	22 25 28.2	-0.2
	baz=257						
NSTT	**Nanjuang**	**0.83**	**309**	*e*P	Pb	22 25 19.2	+0.2
	baz=308						
NSTT				*e*S	Sb	22 25 30.2	0.0
	baz=308						
TWF1	**Yuli**	**0.84**	**207**	*e*P	Pg	22 25 18.0	-0.7
	baz=221						
TWA	**Mucha**	**0.88**	**353**	⇑P	Pb	22 25 19.8	-0.1
	baz=350						
TWA				S	Sg	22 25 31.2	+0.4
	baz=350						
TWQ1	**Liyutan**	**0.88**	**286**	⇓P	Pn	22 25 20.6	-0.5
	baz=297						
TWQ1				*e*S	Sn	22 25 33.4	-0.6
	baz=297						
NSY	**Sanyi**	**0.92**	**290**	P	Pn	22 25 21.7	+0.2
	baz=289						
NSY				*e*S	Sn	22 25 34.2	-0.6
	baz=289						
YUS	**Yu-Shan**	**0.93**	**228**	P	Pg	22 25 20.9	0.0
	baz=231						
YUS				S	Sb	22 25 34.3	+0.2
	baz=231						
TWB1	**Santiao Chiao**	**0.93**	**16**	*e*P	Pg	22 25 20.6	+0.1
	baz=5.0						
TWB1				*e*S	Sb	22 25 33.4	+0.1
	baz=5.0						
TCU	**Taichung**	**0.94**	**273**	⇓P	Pn	22 25 22.4	+0.6
	baz=265						
TCU				*e*S	Sn	22 25 36.3	+0.8
	baz=265						
TAP1	**Taipei**	**0.94**	**350**	*e*P	Pb	22 25 20.9	-0.1
	baz=335						
NWF	**Wu-fen Shan**	**0.96**	**4**	P	Pb	22 25 21.6	+0.2
	baz=351						
NWF				*e*S	Sg	22 25 33.9	+0.2
	baz=351						
WNT	**Mingjian**	**0.96**	**256**	⇓*i*P	Pn	22 25 22.4	+0.3
	baz=253						
WNT				*e*S	Sn	22 25 35.2	-0.7
	baz=253						
HSN	**Hsinchu**	**0.96**	**316**	*e*P	Pn	22 25 22.3	+0.1
	baz=317						
HSN				*e*S	Sn	22 25 35.9	-0.1
	baz=317						
NCU	**National Centr**	**0.98**	**331**	*e*P	Pn	22 25 22.6	+0.1
	baz=329						
NCU				*e*S	Sn	22 25 36.7	+0.3
	baz=329						
ALS	**Alishan**	**1.02**	**234**	⇓*i*P	Pg	22 25 22.5	0.0
	baz=237						
ALS				*e*S	Sn	22 25 37.6	-0.4
	baz=237						
TWS1	**Kuangyinshan**	**1.02**	**345**	P	Pn	22 25 23.7	+0.7
	baz=342						
TWS1				*e*S	Sn	22 25 37.5	0.0
	baz=342						
CHKT	**Chengkung**	**1.05**	**197**	*e*P	Pg	22 25 21.9	-0.8
	baz=187						
CHN5	**Tsauling**	**1.07**	**242**	⇓P	Pn	22 25 24.1	+0.3
	baz=244						
CHN5				*e*S	Sn	22 25 40.3	+1.5
	baz=244						
ELDTW	**Lidau**	**1.11**	**215**	*e*P	Pg	22 25 22.8	-1.2
	baz=206						
ELDTW				*e*S	Sb	22 25 38.7	0.0
	baz=206						
WGK	**Gukeng**	**1.13**	**248**	*e*P	Pn	22 25 25.1	+0.7
	baz=252						
TWY	**Chenhua**	**1.17**	**355**	*e*P	Pn	22 25 25.3	+0.3
	baz=336						
YOJ	**Yonaguni jima**	**1.24**	**73**	*e*P	Pn	22 25 24.3	-1.7
	baz=68						
CHN2	**Minshiung**	**1.26**	**243**	*e*P	Pg	22 25 27.4	+0.7
	baz=246						
CHN2				*e*S	Sn	22 25 46.1	+2.7
	baz=246						
CHN4	**Tsaushan**	**1.27**	**234**	P	Pg	22 25 27.3	+0.5
	baz=224						
CHN4				S	Sn	22 25 46.1	+2.6
	baz=224						
STYT	**Tauyuan**	**1.28**	**223**	P	Pn	22 25 26.7	0.0
	baz=227						
STYT				S	Sn	22 25 44.2	+0.2
	baz=227						
WTP	**Ta-pu**	**1.32**	**230**	⇓P	Pg	22 25 27.9	+0.1
	baz=233						
WTP				*e*S	Sg	22 25 46.5	+1.4
	baz=233						
CHY	**Chiayi**	**1.32**	**243**	*e*P	Pg	22 25 28.2	+0.4
	baz=246						
CHY				*e*S	Sg	22 25 46.1	+1.1
	baz=246						
WTCT	**Ta-ch'eng**	**1.32**	**260**	*e*P	Pb	22 25 27.6	+0.2
	baz=261						
WTCT				*e*S	Sg	22 25 48.1	+3.0
	baz=261						
TWK	**Hsinying**	**1.40**	**233**	*e*P	Pb	22 25 28.9	+0.1
	baz=237						
TWK				*e*S	Sg	22 25 49.1	+1.6
	baz=237						
TWG	**Pinlang**	**1.41**	**205**	*e*P	Pn	22 25 26.0	-2.3
	baz=210						
CHN1	**Nanshi**	**1.42**	**230**	P	Pg	22 25 29.8	0.0
	baz=233						
CHN1				*e*S	Sg	22 25 49.3	+1.1
	baz=233						
WSF	**Szhu**	**1.44**	**251**	*e*P	Pb	22 25 29.5	+0.1
	baz=253						
WSF				*e*S	Sg	22 25 50.1	+1.5
	baz=253						
SGST	**Jiashian**	**1.45**	**225**	⇓P	Pg	22 25 30.2	-0.1
	baz=229						
SGST				*e*S	Sg	22 25 50.8	+1.6
	baz=229						
CHN8	**Yiju**	**1.56**	**241**	*e*P	Pb	22 25 31.2	-0.4
	baz=245						
CHN8				*e*S	Sg	22 25 53.7	+0.9
	baz=245						
CHN3	**Shinhua**	**1.60**	**230**	*e*P	Pg	22 25 33.4	+0.2
	baz=235						
ECL	**Taimali**	**1.66**	**205**	*e*P	Pn	22 25 30.4	-1.3
	baz=195						
SCLT	**Jiali**	**1.67**	**236**	*e*P	Pn	22 25 32.1	+0.3
	baz=240						
SCLT				*e*S	Sg	22 25 56.0	-0.1
	baz=240						
SSD	**Sandimen**	**1.68**	**216**	*e*P	Pn	22 25 32.4	+0.4
	baz=234						
TWM1	**Shoushan**	**1.74**	**223**	*e*P	Pg	22 25 35.5	-0.4
	baz=226						
SGLT	**Jiouru**	**1.77**	**219**	*e*P	Pg	22 25 36.9	+0.5
	baz=213						
EAST	**Anshuo**	**1.89**	**205**	*e*P	Pn	22 25 35.5	+0.5
	baz=196						
SCZT	**Fangliau**	**2.00**	**210**	*e*P	Pn	22 25 37.6	+1.2
	baz=198						
PNG	**Penghu**	**2.04**	**255**	*e*P	Pn	22 25 37.2	+0.2
	baz=259						
TWK1	**Hengchun**	**2.31**	**201**	*e*P	Pb	22 25 43.7	-0.6
	baz=193						
KNM	**Kinmen**	**3.00**	**277**	*e*P	Pn	22 25 51.5	+1.3
	baz=278						

IDC 27 22:39:10.3±8.4, 28°.28S×74°.49E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.4/19, mbtmp3.7/2, MS3.7/2, Ms1 3.6/2, ms1mx3.1/20, Error ellipse: s-maj=399.2km s-min=54.4km az=32.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**43.04**	**257**	LR	LR	23 02 19.5	
	comp=Z,91nm,18.8s,baz=340,slow=32						
ASAR	**Alice Springs**	**53.16**	**100**	P	P	22 48 30.3	-0.1
	0.4nm,0.5s,baz=247,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**54.80**	**95**	P	P	22 48 42.3	-0.1
	0.9nm,0.7s,baz=251,slow=7.2,SNR=6.1						
STKA	**Stephens Creek**	**57.35**	**111**	LR	LR	23 11 40.0	
	comp=Z,57nm,18.4s,baz=205,slow=34						
YKA	**Yellowknife Ar**	**145.26**	**7**	PKPbc	PKPbc	22 58 48.2	-0.8
	0.1nm,0.3s,baz=340,slow=3.8,SNR=6.4						

IDC ***27*** *22:44:34.8±22.0, 30°.88N×95°.35E, h0km, mb3.4/2, mb1 3.3/4, mb1mx3.2/25, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=337.3km s-min=63.3km az=174.0*

BJI 27 22:44:28.2, 29°.78N×95°.65E, h12km, ML3.4/4, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.91**	**270**	Pn	Pn	22 45 29.5	+0.7
LSA				Sn	Sn	22 46 17.0	+1.9
LSA				Sg	Sb	22 46 25.8	+0.2
LSA				smax	smax		
	comp=N,20nm,0.6s						
LSA				smax	smax		
	comp=E,20nm,0.6s						
SHL	**Shillong**	**5.36**	**219**	*e*PN	Pb	22 45 56.0	-6.1
SHL				*e*SN	Sn	22 46 50.0	-0.2
SONM	**Songino Array**	**19.84**	**22**	P	P	22 48 57.5	-1.5
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=10						
MKAR	**Makanchi Array**	**19.91**	**332**	P	P	22 48 56.7	-3.0
	comp=E,0.1nm,0.3s,baz=139,slow=12,SNR=8.6						
KURK	**Kurchatov**	**24.51**	**333**	P	P	22 49 44.8	-2.5
	comp=E,0.9nm,0.6s,baz=144,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**25.40**	**345**	P	P	22 49 53.5	-1.8
	comp=E,0.3nm,0.4s,baz=152,slow=9.6,SNR=2.8						

KRSC 27 22:48:33.8±1.1, 53°.25N×162°.09E, h73km±87km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.33**	**351**	P	Pn	22 48 57.8	+1.3
MKZ				*e*S	Sn	22 49 15.2	+1.6
KII	**Karymskiy**	**1.76**	**298**	*e*P	Pn	22 49 04.0	+1.6
SDLR	**Sedlovina**	**1.93**	**272**	*e*P	Pn	22 49 06.6	+1.9
SDLR				*e*S	Sn	22 49 30.7	+2.6
UGLR	**Uglovaya**	**1.96**	**270**	*e*P	Pn	22 49 07.7	+2.6
SMAR	**Somma**	**1.98**	**272**	*e*P	Pn	22 49 07.9	+2.5
AVH	**Avacha**	**2.01**	**272**	P	Pn	22 49 08.3	+2.5
AVH				*e*S	Sn	22 49 33.2	+3.1
KOK	**Koryaka**	**2.08**	**273**	P	Pn	22 49 08.8	+2.2
RUS	**Russkaya**	**2.32**	**251**	P	Pn	22 49 14.0	+4.3
TUMR	**Tumrok**	**2.33**	**332**	*e*P	Pn	22 49 13.1	+3.0
KMNR	**Kamenistaya**	**2.73**	**337**	P	Pn	22 49 19.2	+3.7
KMNR				*e*S	Sn	22 49 52.5	+4.9
KBTR	**Krutoberegovo**	**3.00**	**8**	P	Pn	22 49 22.6	+3.7
BKI	**Bering**	**3.00**	**48**	*e*S		22 49 57.3	

MOS ***27*** *23:12:15.8±1.3, 43°.06N×45°.36E, h19km, mb4.2/1, Error ellipse: s-maj=12.6km s-min=8.3km az=8.2*

ISCJB ***27*** *23:12:16.4±0.4, 43°.12N±0°.05×45°.42E±0°.03, h19km±6km, Error ellipse: s-maj=8.1km s-min=3.7km az=172.7*

ISC 27 23:12:15.5±1.0, 43°.06N±0°.03×45°.42E±0°.03, h17km±7km, n22, σ1§03/42, 8C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.36**	**43**	⇑*i*PG	**Pg**	**23 12 23.0**	**+0.1**
GRO				*i* S	**Sg**	**23 12 28.1**	**+0.1**
SNJR	**Sundja**	**0.44**	**271**	⇓*i*PG	**Pg**	**23 12 23.5**	**-1.0**
SNJR				*e*S	**Sb**	**23 12 31.0**	**-0.2**
VLKR	**Vladikavkaz**	**0.54**	**269**	*e*PG	**Pg**	**23 12 25.6**	**-0.7**
VLKR				*e*S	**Sb**	**23 12 34.2**	**+0.2**
BTKR	**Batakoyurt**	**0.71**	**296**	⇑*i*PG	**Pg**	**23 12 29.5**	**+0.1**
BTKR				*e*S	**Sn**	**23 12 40.8**	**-0.5**
TRKR	**Terskaya**	**0.83**	**323**	⇓*i*PG	**Pg**	**23 12 31.8**	**+0.2**
TRKR				*i* S	**Sn**	**23 12 45.0**	**+0.8**
ARNR	**Ardon**	**0.84**	**279**	*e*PG	**Pb**	**23 12 31.4**	**-0.2**
ARNR				*i* S	**Sn**	**23 12 44.2**	**-0.3**
LACR	**Lac**	**0.85**	**254**	⇑*i*PG	**Pb**	**23 12 31.2**	**-0.7**
LACR				*i* S	**Sg**	**23 12 43.7**	**+0.2**
KMSR	**Komsomolskaya**	**0.88**	**291**	⇑*i*PG	**Pn**	**23 12 34.6**	**+1.6**
KMSR				*e*S	**Sn**	**23 12 48.1**	**+2.7**
KORR	**Kora**	**0.99**	**272**	⇑*i*PG	**Pb**	**23 12 33.9**	**-0.2**
KORR				*e*S	**Sn**	**23 12 48.5**	**+0.3**
DBC	**Dubki**	**1.04**	**92**	*i* PG	**Pb**	**23 12 35.2**	**+0.2**
DBC				*i* S	**Sn**	**23 12 49.8**	**+0.4**
PRTR	**Priterechnaya**	**1.08**	**310**	⇓*i*PG	**Pg**	**23 12 36.0**	**-0.3**
PRTR				*i* S	**Sg**	**23 12 52.2**	**+1.8**
ZEI	**Tsey**	**1.15**	**256**	⇓*i*PG	**Pn**	**23 12 35.7**	**-1.3**
ZEI				*i* S	**Sb**	**23 12 51.8**	**0.0**
LSNR	**Lesken**	**1.19**	**281**	⇑*i*PG	**Pb**	**23 12 37.6**	**0.0**
LSNR				*i* S	**Sg**	**23 12 54.7**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.36**	**264**	⇑*i*PG	**Pn**	**23 12 39.0**	**-0.8**
DIGR				*i* S	**Sb**	**23 12 58.0**	**+0.4**
TBLG	**Delisi**	**1.42**	**201**	*i* PG	**Pb**	**23 12 41.5**	**0.0**
TBLG				*i* S	**Sg**	**23 13 02.4**	**+1.1**
TBLG	**Delisi**	**1.42**	**201**	P	**Pg**	**23 12 41.6**	**0.0**
TBLG				S	**Sg**	**23 13 02.4**	**+1.1**
GOR	**Gori**	**1.45**	**222**	P	**Pb**	**23 12 41.9**	**-0.1**
GOR				S	**Sg**	**23 13 02.3**	**+0.1**
MAK	**Makhachkala**	**1.54**	**93**	*e*PG	**Pg**	**23 12 44.7**	**-0.3**
MAK				*e*		23 13 05.8	
MAK				pmax	pmax		
	comp=Z,87nm,0.4s						
MAK				smax	smax		
	comp=N,553nm,0.5s						
MAK				smax	smax		
	comp=E,400nm,0.6s						
DGRG	**David-gareji**	**1.61**	**181**	P	**Pg**	**23 12 46.3**	**-0.1**
DGRG				S	**Sg**	**23 13 10.6**	**+3.2**
AKH	**Akhalkalaki**	**2.18**	**222**	P	**Pb**	**23 12 53.4**	**-1.1**
AKH				S	**Sb**	**23 13 22.7**	**+1.4**
AKTO	**Aktyubinsk**	**11.35**	**45**	⇓Pn	**Pn**	**23 14 56.4**	**-0.3**
	comp=E,0.1nm,0.8s						
AKTO				⇑Sn	Sn	23 16 56.1	-7.0
	comp=E,0.4nm,1.2s						
AB31	**Akbulak array**	**11.82**	**53**	⇓Pn	**Pn**	**23 15 00.8**	**-2.3**
	comp=E,0.1nm,0.4s,baz=237,slow=8.5,SNR=8.4						
AB31				⇓Sn	**Sn**	**23 17 14.2**	**-0.2**
	comp=E,0.4nm,0.6s,baz=242,slow=23,SNR=4.3						

ISCJB ***27*** *23:19:48.5±0.4, 44°.74S±0°.06×35°.6E±0°.1, h10km, mb4.5/16, MS4.5/12, Error ellipse: s-maj=14.1km s-min=7.3km az=159.2*

IDC ***27*** *23:19:48.4±0.6, 44°.84S×35°.91E, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.4/18, mbtmp4.4/10, MS4.5/14, Ms1 4.4/14, ms1mx4.3/32, Error ellipse: s-maj=27.0km s-min=16.8km az=56.0*

NEIC ***27*** *23:19:49.9±0.3, 44°.85S×35°.69E, h10km, mb4.6/11, Error ellipse: s-maj=13.0km s-min=8.1km az=66.0*

ISC 27 23:19:50.2±0.4, 44°.74S±0°.07×35°.6E±0°.1, h10km, n143, σ1§03/135, mb4.6/16, MS4.5/12, 30C-37D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVD	**Gariep Dam**	**16.21**	**327**	*e*P	**P**	**23 23 39.1**	**-2.1**
HVD				AMB	AMB	23 23 48.8	
	comp=Z,106nm,1.6s						
SUR	**Sutherland**	**16.89**	**312**	P	**Pn**	**23 23 45.3**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=115,slow=16,SNR=12						
SUR				S	Sn	23 26 39.0	-16
	comp=Z,0.7nm,0.3s,baz=105,slow=12,SNR=4.6						
SUR				LR	LR	23 29 31.6	
	comp=Z,710nm,20.9s,baz=123,slow=34						
SUR	**Sutherland**	**16.89**	**312**	*e*Pn	**P**	**23 23 46.0**	**-2.8**
	comp=Z,20nm,0.9s						
SUR				S	Sn	23 26 39.0	-16
CER	**Ceres**	**16.99**	**306**	*e*P	**Pn**	**23 23 45.9**	**-1.9**
CER				AMB	AMB	23 23 54.5	
	comp=Z,44nm,2.0s						
SEK	**Senekal**	**17.58**	**336**	*e*P	**Pn**	**23 23 54.1**	**-1.3**
SEK				AMB	AMB	23 23 55.8	
	comp=Z,73nm,2.5s						
BOSA	**Boshof**	**18.09**	**329**	P	**P**	**23 24 00.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=161,slow=14,SNR=9.4						
BOSA				S	Sn	23 27 08.5	-15
	comp=Z,0.3nm,0.3s,baz=220,slow=17,SNR=3.9						
BOSA				LR	LR	23 29 37.5	
	comp=Z,2μm,20.7s,baz=157,slow=32						
BOSA	**Boshof**	**18.09**	**329**	*e*P	**P**	**23 24 01.6**	**-0.4**
BOSA				AMB	AMB	23 24 02.4	
	comp=Z,52nm,2.8s						
BOSA	**Boshof**	**18.09**	**329**	*e*Pn	**P**	**23 24 02.1**	**+0.1**
	comp=Z,96nm,1.6s						
BOSA				S	Sn	23 27 08.5	-15
PRYS	**Parys**	**18.98**	**337**	*e*P	**Pn**	**23 24 11.5**	**-1.0**
PRYS				AMB	AMB	23 24 17.0	
	comp=Z,44nm,2.1s						
ERPM	**east rand prop**	**19.30**	**340**	*e*P	**Pn**	**23 24 17.1**	**+0.7**
ERPM				AMB	AMB	23 24 17.7	
	comp=Z,50nm,2.7s						
SWZ	**Schweizer**	**19.37**	**331**	*e*P	**Pn**	**23 24 15.4**	**-1.8**
SWZ				AMB	AMB	23 24 19.0	
	comp=Z,64nm,1.4s						
SLR	**Silverton**	**19.87**	**340**	*e*P	**P**	**23 24 20.2**	**-1.4**
SLR				AMB	AMB	23 24 30.1	
	comp=Z,65nm,2.1s						
LBTB	**Lobatse**	**21.30**	**334**	P	**P**	**23 24 37.0**	**-0.1**
	comp=Z,40nm,0.7s,baz=170,slow=9.8,SNR=88						
LBTB				S	S	23 28 24.0	-10
	comp=Z,4.7nm,1.0s,baz=116,slow=4.8,SNR=4.8						
LBTB				LR	LR	23 31 34.0	
	comp=Z,2μm,19.6s,baz=174,slow=33						
LBTB	**Lobatse**	**21.30**	**334**	⇓*i*P	**P**	**23 24 37.1**	**+0.1**
LBTB				AMB	AMB	23 24

comp=Z,15nm,1.0s
QSPA *e*PcP **PcP** 23 29 47.4 -0.6
VNDA Vanda 53.62 167 *e*P **P** 23 29 10.1 -0.8
comp=Z,15nm,1.5s
DBIC Dimbokro 62.77 314 P **P** 23 30 16.1 +0.4
comp=Z,3.6nm,0.9s,baz=123,slow=11,SNR=4.7
DBIC LR LR 23 52 23.5
comp=Z,132nm,20.6s,baz=120,slow=31
DBIC Dimbokro 62.77 314 *e*P **P** 23 30 16.3 +0.6
TOA0 Torodi Ar. Sit 65.33 323 *e*P **P** 23 30 33.4 +1.0
TORD Torodi Ar. Bea 65.33 323 P **P** 23 30 33.6 +1.1
comp=Z,5.5nm,0.9s,baz=160,slow=6.8,SNR=20
TORD LR LR 23 57 50.5
comp=Z,265nm,20.6s,baz=150,slow=35
TORD Torodi Ar. Bea 65.33 323 P **P** 23 30 33.6 +1.1
TRQA Tornquist 69.13 237 *e*P **P** 23 30 57.2 +0.6
comp=Z,35nm,1.6s
TAM Tamanrasset 72.61 331 *e*P **P** 23 31 19.1 +1.2
comp=Z,6.8nm,1.1s
ASF Jabal al Asfar 76.56 1 LR LR 00 05 26.3
comp=Z,255nm,18.7s,baz=156,slow=36
MMAI Mount Meron Ar 77.39 360 LR LR 00 06 16.3
comp=Z,228nm,18.2s,baz=160,slow=36
STKA Stephens Creek 78.36 123 P P 23 31 48.7 -2.1
comp=Z,4.0nm,0.7s,baz=223,slow=4.7,SNR=12
STKA Stephens Creek 78.36 123 *e*P **P** **23 31 49.2 -1.5**
comp=Z,1.6nm,1.0s
ASAR Alice Springs 79.29 113 P P 23 31 54.3 -1.7
comp=Z,1.7nm,0.6s,baz=226,slow=5.6,SNR=26
ASAR Alice Springs 79.29 113 P P 23 31 54.3 -1.7
WRA Warramunga Arr 82.17 110 P **P** **23 32 09.9 -1.6**
comp=Z,3.4nm,1.0s,baz=222,slow=4.4,SNR=10
WRA Warramunga Arr 82.17 110 P **P** **23 32 09.9 -1.6**
KEST Kesra 83.57 339 LR LR 00 11 51.2
comp=Z,270nm,18.9s,baz=7.6,slow=37
KBL Kabul 84.55 27 *e*P **P** **23 32 24.3 +0.9**
comp=Z,2.4nm,0.9s
CMAR Chiang Mai Ar 85.25 58 P **P** **23 32 27.4 +0.4**
comp=Z,0.5nm,0.3s,baz=243,slow=6.0,SNR=3.1
CMAR Chiang Mai Arr 85.25 58 P **P** **23 32 27.4 +0.4**
CFR Carcaliu 89.78 355⇑*i*P **P** **23 32 48.8 +0.6**
MLR Muntele Rosu 90.26 353 LR LR 00 16 34.5
comp=Z,96nm,18.5s,baz=212,slow=38
MLR Muntele Rosu 90.26 353⇓*i*P **P** **23 32 50.7 +0.1**
VOIR 90.28 353⇓*i*P **P** **23 32 50.9 +0.2**
PLOR Plostina 90.56 354⇑*i*P **P** **23 32 53.3 +1.4**
VRI Vrincioaia 90.57 354⇑*i*P **P** **23 32 51.3 -0.6**
ESDC Sonseca Array 91.27 331 P **P** **23 32 57.5 +2.1**
comp=Z,0.9nm,0.8s,baz=160,slow=4.7,SNR=4.0
ESDC LR LR 00 14 47.6
comp=Z,420nm,18.3s,baz=90,slow=36
ESDC Sonseca Array 91.27 331 P **P** **23 32 57.5 +2.1**
DRGR 91.86 351⇑*i*P **P** **23 32 59.8 +1.8**
BUR08 Bucovina Ar. S 92.46 353 *e*P **P** **23 33 01.2 +0.5**
DAVOX Davos/Dischmat 93.93 343 LR LR 00 13 52.1
comp=Z,248nm,20.1s,baz=170,slow=34
VRAC Vranov 95.13 348 LR LR 00 16 16.2
comp=Z,158nm,20.6s,baz=191,slow=36
DZM Mont Dzumac 99.79 135 *e*LR LR 00 05 54.3
comp=Z,366nm,29.1s
SONM Songino Array 111.12 43 PKiKP **PKiKP** **23 38 24.8 +1.4**
comp=Z,0.2nm,0.6s,baz=215,slow=2.4,SNR=3.3
SONM Songino Array 111.12 43 PKiKP **PKiKP** **23 38 24.8 +1.4**
TBI Tubuai 112.08 175 *e*LR LR 00 11 38.4
comp=Z,431nm,24.5s
PPT2 Papeete2 117.79 174 *e*LR LR 00 14 17.5
comp=Z,451nm,23.0s
628A Black Gap, Mar 143.99 259⇓P PKPbc 23 39 23.5 -0.2
baz=144
528A Cox Ranch, San 144.32 260⇓P PKPbc 23 39 24.5 -0.3
baz=144
627A Terlingua Ranc 144.32 259⇓P **PKPdf** **23 39 25.8 -0.7**
baz=144
TXAR Lajitas Array 144.45 258 PKP PKPbc 23 39 25.8 +0.6
comp=Z,5.3nm,0.9s,baz=133,slow=5.0,SNR=15
TXAR Lajitas Array 144.45 258 PKP PKPbc 23 39 25.8 +0.5
428A Kincaid Ranch, 144.57 261⇓P PKPbc 23 39 25.8 +0.2
baz=145,SNR=14
527A Woodward Ranch144.89 260⇓P **PKPdf** **23 39 27.4 -0.1**
baz=145,SNR=31
626A Big Bend Ranch 144.90 258⇓P **PKPdf** **23 39 27.0 -0.5**
baz=145,SNR=29
328A Wristen Ranch, 145.03 262⇓P **PKPdf** **23 39 27.2 -0.4**
baz=145,SNR=7.0
427A Hayter Ranch, 145.15 261⇓P **PKPdf** **23 39 27.9 0.0**
baz=145,SNR=7.3
526A Mary Lane Ranc 145.17 259⇑P **PKPdf** **23 39 27.9 -0.1**
baz=145,SNR=6.5
426A McDonald Obser 145.49 260⇓P **PKPdf** **23 39 28.8 +0.2**
baz=146,SNR=7.1
BILL Bilibino 145.55 30 *e*PKPdf **PKPdf** **23 39 26.4 -0.8**
326A Caldwell Ranch 145.82 261⇓P **PKPab** **23 39 30.4 +0.4**
baz=146
127A Arkansas Junct 146.14 263⇑P **PKPbc** **23 39 30.0 -0.5**
baz=146
ECSD EROS Data Cent 146.15 286 *e*PKPdf **PKPdf** **23 39 29.1 0.0**
425A Indio Mountain 146.22 259⇓P **PKPab** **23 39 31.8 +0.2**
baz=146
226A Malaga, Loving 146.33 262⇑P **PKPab** **23 39 31.1 -0.7**
baz=146
MSTX Muleshoe 146.41 266⇓P **PKPdf** **23 39 30.4 +0.4**
baz=146
CBKS Cedar Bluff 146.51 276 *e*PKPdf **PKPdf** **23 39 29.9 0.0**
325A Bean Ranch, Si 146.55 260⇑P **PKPab** **23 39 32.7 -0.2**
baz=147
126A Clayton Basin, 146.59 263⇑P **PKPbc** **23 39 32.0 +0.1**
baz=147
Y27A Causey 146.64 265⇓P **PKPdf** **23 39 30.9 +0.5**
baz=147
Z26A Caprock 146.90 264⇑P **PKPbc** **23 39 32.1 -0.6**
baz=147,SNR=13
324A Moseley Ranch, 146.95 260⇓P **PKPab** **23 39 33.6 -0.8**
baz=147
MNTX Cornudas Mount 147.03 260 *e*PKPdf **PKPdf** **23 39 31.1 +0.2**
MNTX Cornudas Mount 147.03 260⇓P **PKPbc** **23 39 33.2 +0.2**
baz=147,SNR=5.4
MNTX ⇓P **PKPbc** **23 39 33.2 +0.2**
baz=147,SNR=5.4
Y26A Elida 147.13 265⇑P **PKPbc** **23 39 33.2 -0.2**
baz=147,SNR=6.7
W27A Bowe Ranch, En 147.17 267⇓P **PKPbc** **23 39 33.2 -0.2**
baz=147,SNR=6.1
ULM Lac du Bonnet 147.24 297 PKPbc **PKPbc** **23 39 33.0 0.0**
comp=Z,4.5nm,0.8s,baz=96,slow=3.9,SNR=7.9
ULM Lac du Bonnet 147.24 297 PKPbc **PKPbc** **23 39 33.0 0.0**
Z25A Roswell 147.42 263⇓P **PKPbc** **23 39 33.9 -0.3**
baz=148
X26A CR and CF Fran 147.44 266⇑P **PKPbc** **23 39 33.7 -0.5**
baz=148,SNR=9.6
W26A Owens Ranch, T 147.68 267⇑P **PKPbc** **23 39 34.4 -0.5**
baz=148
Y25A Mesa, Roswell 147.75 264⇓P **PKPbc** **23 39 34.6 -0.5**
baz=148,SNR=5.4
T27A Campo 147.87 271⇑P **PKPdf** **23 39 33.3 +1.0**
baz=148
Z24A Sheeppen Canyo 147.91 263⇑P **PKPbc** **23 39 36.3 +0.6**
baz=148
W25A X Bar L Ranch, 148.24 267⇓P **PKPdf** **23 39 33.4 +0.4**
baz=148,SNR=17
Y24A Capitan 148.27 264⇓P **PKPbc** **23 39 36.8 +0.2**
baz=148,SNR=7.4
S27A Las Animas 148.28 272⇓P **PKPdf** **23 39 34.2 +1.2**
baz=148
U26A Atchley Ranch, 148.29 269⇑P **PKPdf** **23 39 34.6 +1.5**
baz=148
R27A Eads 148.47 273⇑P **PKPdf** **23 39 34.1 +0.9**
baz=149
Z23A Rita Site, Whi 148.49 262⇓P **PKPab** **23 39 38.8 -1.7**
baz=149
T26A Comanche Natio 148.55 270⇑P **PKPdf** **23 39 34.8 +1.3**
baz=149,SNR=7.5
V25A Rancho No Teng 148.65 267⇓P **PKPbc** **23 39 37.3 -0.2**
baz=149
S26A Kim 148.66 271⇓P **PKPdf** **23 39 35.3 +1.7**
baz=149
Y23A Lovelace Mesa, 148.72 263⇑P **PKPbc** **23 39 38.8 +1.1**
baz=149,SNR=5.8
U25A Circle Dot Ran 148.77 269⇑P **PKPbc** **23 39 38.1 +0.3**
baz=149,SNR=6.3
W24A Lazy 6 Ranch, 148.91 266⇑P **PKPbc** **23 39 39.0 +0.9**
baz=149
R26A Arlington 148.94 273⇓P **PKPdf** **23 39 35.7 +1.7**
baz=149
T25A Trinidad 149.11 270⇑P **PKPbc** **23 39 38.1 -0.5**
baz=149,SNR=6.6
Q26A Hugo 149.25 274⇓P **PKPbc** **23 39 37.4 -1.4**
baz=149
S25A Robets Cordova 149.36 271⇓P **PKPbc** **23 39 39.6 +0.4**
baz=150,SNR=26
R25A Fountain Ranch 149.47 272⇓P **PKPbc** **23 39 39.8 +0.4**
baz=150,SNR=5.6
ANMO Albuquerque 149.53 265 *e*PKPdf **PKPdf** **23 39 35.8 +0.7**
ANMO *e*PKPbc **PKiKP** **23 39 40.1 -0.7**
ANMO *e*PKPab **PKPab** **23 39 46.1 +1.4**
T24A Torres, Weston 149.54 269⇑P **PKPbc** **23 39 40.9 +1.2**
baz=150,SNR=9.9
Q25A Bedland, Calha 149.76 273⇑P **PKPbc** **23 39 40.3 +0.1**
baz=150,SNR=5.5
S24A Houchin Ranch, 149.91 270⇑P **PKPbc** **23 39 41.5 +0.8**
baz=150,SNR=13
P25A Willow Gulch B 149.94 274⇑P **PKPbc** **23 39 41.5 +0.9**
baz=150,SNR=7.8
U23A El Rito 150.01 267⇑P **PKPbc** **23 39 42.3 +1.4**
baz=150
R24A Sanders Place, 150.09 271⇑P **PKPbc** **23 39 41.6 +0.7**
baz=150,SNR=6.3
O25A Wiggins 150.14 275⇓P **PKPbc** **23 39 41.1 +0.1**
baz=150
SDCO Great Sand Dun 150.16 270 *e*PKPbc **PKPbc** **23 39 41.8 +0.5**
SDCO Great Sand Dun 150.16 270⇓P **PKPbc** **23 39 41.9 +0.7**
baz=150,SNR=7.7
SDCO ⇓P **PKPbc** **23 39 41.9 +0.7**
baz=150,SNR=7.7
Q24A Divide 150.42 273⇓P **PKPbc** **23 39 41.8 -0.1**
baz=151
M25A Palm-Egli Farm 150.57 278⇓P **PKPbc** **23 39 42.3 +0.3**
baz=151
R23A Moffat 150.58 271⇑P **PKPbc** **23 39 42.8 +0.6**
baz=151,SNR=7.4
TUC Tucson 151.14 256 *e*PKPdf **PKPdf** **23 39 37.7 +0.1**
TUC *e*PKPbc **PKiKP** **23 39 44.0 0.0**
FFC Flin Flon 151.25 306 PKPdf **PKPdf** **23 39 37.5 +0.6**
FFC *e*PKPbc **PKiKP** **23 39 43.5 +0.1**
RSSD Black Hills 151.39 283 *e*PKPdf **PKPdf** **23 39 37.4 -0.4**
RSSD *e*PKPbc **PKPbc** **23 39 43.9 0.0**
S21A Coal Bank Pass 151.75 268⇓P **PKPbc** **23 39 46.4 +1.4**
baz=152
PDAR Pinedale Array 154.88 278 PKP **PKPdf** **23 39 42.1 -0.8**
comp=Z,1.3nm,0.9s,baz=131,slow=4.9,SNR=7.8
PDAR PKPbc **PKPbc** **23 39 50.0 -1.6**
comp=Z,1.6nm,1.0s,baz=90,slow=3.0,SNR=5.5
PDAR Pinedale Array 154.88 278 PKP **PKPdf** **23 39 42.1 -0.8**
PDAR PKPbc **PKPbc** **23 39 50.0 -1.6**
PD02 Pinedale Array 154.89 278 *e*PKPdf **PKPdf** **23 39 42.2 -0.7**
YKA Yellowknife Ar 155.30 327 PKP **PKPdf** **23 39 42.2 -0.3**
comp=Z,0.5nm,0.9s,baz=60,slow=2.4,SNR=4.5
YKA PKPab **PKPab** **23 40 09.0 +1.2**
comp=Z,4.8nm,1.0s,baz=49,slow=4.6,SNR=25
YKA Yellowknife Ar 155.30 327 PKP **PKPdf** **23 39 42.2 -0.3**
YKA PKPab **PKPab** **23 40 09.1 +1.2**
NVAR Mina Array Bea 159.55 261 PKPab **PKPab** **23 40 27.8 +0.5**
comp=Z,1.7nm,0.9s,baz=149,slow=4.8,SNR=5.2
NVAR Mina Array Bea 159.55 261 PKPab **PKPab** **23 40 27.8 +0.5**
ILAR Eielson Array 159.88 3 PKPab **PKPab** **23 40 27.6 +0.1**
comp=Z,0.8nm,0.9s,baz=334,slow=4.4,SNR=6.4
ILAR Eielson Array 159.88 3 PKPab **PKPab** **23 40 27.6 +0.1**

*CSEM **27** 23:40:39.7±0.9, 38.01N×20.22E, h2km, MD3.3, Error ellipse: s-maj=16.6km s-min=10.0km az=52.0*
*ATH **27** 23:40:43.2, 38.05N×20.42E, h5km±4km, MD3.3/9*
ISC 27 23:40:37.2±2.0, **38.02N**±0.07×**20.07E**±0.07, **h5**km±14km, **n21,σ1°36/30, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.44**	**69**		*e*PG	**Pg**	**23 40 46.2**	**+0.5**
VLS					*e*SG	**Sg**	**23 40 49.8**	**-1.7**
VLS	**Valsamata**	**0.44**	**69**		*e*Pg	**Pg**	**23 40 46.2**	**+0.5**
VLS					*e*Sg	**Sg**	**23 40 49.8**	**-1.7**
LKD2	**Lefkada island**	**0.90**	**31**		*e*PB	**Pn**	**23 40 58.7**	**+2.1**
LKD2					*e*SB	**Sn**	**23 41 09.6**	**-0.4**
LKD2	**Lefkada island**	**0.90**	**31**		*e*Pb	**Pn**	**23 40 58.7**	**+2.1**
LKD2					*e*Sb	**Sn**	**23 41 09.6**	**-0.4**
RLS	**Riolos of Patr**	**1.10**	**88**		*e*PB	**Pn**	**23 40 59.3**	**-0.1**
RLS					*e*SB	**Sg**	**23 41 12.2**	**-0.5**
RLS	**Riolos of Patr**	**1.10**	**88**		*e*Pb	**Pn**	**23 40 59.3**	**-0.1**
RLS					*e*Sb	**Sg**	**23 41 12.2**	**-0.5**
EFP	**Efpalio**	**1.50**	**74**		*e*PB	**Pg**	**23 41 07.3**	**+1.3**
EFP	**Efpalio**	**1.50**	**74**		*e*Pb	**Pg**	**23 41 07.3**	**+1.3**
EVR	**Evrytania**	**1.63**	**56**		*e*PB	**Pg**	**23 41 09.9**	**+1.4**
EVR	**Evrytania**	**1.63**	**56**		*e*Pb	**Pg**	**23 41 09.9**	**+1.4**
ITM	**Ithomi**	**1.70**	**119**		*e*PB	**Pg**	**23 41 11.1**	**+1.4**
ITM	**Ithomi**	**1.70**	**119**		*e*Pb	**Pg**	**23 41 11.1**	**+1.4**
GUR	**Goura**	**1.80**	**92**		*e*PG	**Pb**	**23 41 10.8**	**+0.1**
GUR	**Goura**	**1.80**	**92**		*e*Pg	**Pb**	**23 41 10.8**	**+0.1**
THL	**Klokotos Trika**	**2.17**	**44**		*e*PG	**Pg**	**23 41 18.7**	**0.0**
THL	**Klokotos Trika**	**2.17**	**44**		*e*Pg	**Pg**	**23 41 18.7**	**0.0**
DID	**Didima**	**2.56**	**101**		*e*PG	**Pg**	**23 41 25.9**	**-0.4**
DID	**Didima**	**2.56**	**101**		*e*Pg	**Pg**	**23 41 25.9**	**-0.4**
STON	**Ston**	**5.17**	**340**		*e*Pn	**Pn**	**23 41 57.5**	**+2.2**
STON					Sn	**Sn**	**23 42 53.2**	**-2.1**
STON	**Ston**	**5.17**	**340**		*e*Pn	**Pn**	**23 41 57.5**	**+2.2**
STON					Sn	**Sn**	**23 42 53.2**	**-2.1**
NVLJ	**Novalja**	**7.62**	**331**		*e*Pn	**Pn**	**23 42 27.5**	**-1.4**
NVLJ					Sn	**Sn**	**23 43 55.4**	**-0.1**

MAN 27 23:51:00, 6.92N×126.02E, h48km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.23**	**84**		*e*P	Pn	23 51 09.8	+1.4
MATI					*e*S	Sn	23 51 17.7	+3.4
MATI	**Mati**	**0.23**	**84**		*e*P	Pn	23 51 09.8	+1.4
MATI					*e*S	Sn	23 51 17.7	+3.4
DMPH	**Davao City--Mi**	**0.54**	**287**	⇓	*i*P	Pn	23 51 13.5	+1.8
BUKP	**Musuan**	**1.35**	**315**		*e*P	Pn	23 51 23.8	+1.3
BUKP					*e*S	Sn	23 51 40.5	+1.1
BUKP	**Musuan**	**1.35**	**315**		*e*P	Pn	23 51 23.8	+1.3
BUKP					*e*S	Sn	23 51 40.5	+1.1

*CSEM **27** 23:54:43.7, 37.31N×39.34E, h7km, MD3.3, After DDA*
*DDA **27** 23:54:43.7, 37.31N×39.34E, h7km, MD3.3*
*ISCJB **27** 23:54:44.3±0.6, 37.23N×0.04×39.32E±0.04, h15km±18km, Error ellipse: s-maj=6.3km s-min=4.6km az=25.0*
*NSSC **27** 23:54:44.4±1.5, 37.27N×39.31E, h36km±999km, ML1.5*
ISC 27 23:54:43.4±1.5, **37.24N**±0.05×**39.32E**±0.04, **h15**km±13km, **n12,σ0°45/24, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.85**	**286**	*i*	P	**Pg**	**23 55 00.0**	**+0.1**
ATAB				*i*	S	**Sn**	**23 55 13.0**	**-0.1**
ATAB	**Bozova**	**0.85**	**286**	*i*	P	**Pg**	**23 55 00.0**	**+0.1**
ATAB				*i*	S	**Sn**	**23 55 13.0**	**-0.1**
DIYA	**Diyarbakir**	**0.93**	**43**	*i*	P	**Pb**	**23 55 00.8**	**-0.5**
DIYA				*i*	S	**Sb**	**23 55 13.5**	**0.0**
DIYA	**Diyarbakir**	**0.93**	**43**	*i*	P	**Pb**	**23 55 00.8**	**-0.5**
DIYA				*i*	S	**Sb**	**23 55 13.5**	**0.0**
KBSD	**Kabsdagh**	**1.00**	**103**	*e*	P	**Pb**	**23 55 02.5**	**0.0**
KBSD				*e*	S	**Sb**	**23 55 15.2**	**-0.3**
KBSD					AML	AML	23 55 20.5	
comp=Z,23nm,0.2s								
SFNV	**Sufian**	**1.03**	**142**	*e*	P	**Pn**	**23 55 04.2**	**+0.8**
SFNV				*e*	S	**Sn**	**23 55 18.0**	**+0.4**
SFNV					AML	AML	23 55 22.3	
comp=Z,12nm,0.2s								
MARD	**Mardin**	**1.16**	**86**	*i*	P	**Pb**	**23 55 04.9**	**-0.3**
MARD				*i*	S	**Sn**	**23 55 21.5**	**+0.6**
ELZG	**Elazig**	**1.29**	**348**	*i*	P	**Pb**	**23 55 07.7**	**+0.3**
ELZG				*i*	S	**Sb**	**23 55 23.5**	**-0.3**
ELZG	**Elazig**	**1.29**	**348**	*i*	P	**Pb**	**23 55 07.7**	**+0.3**
ELZG				*i*	S	**Sb**	**23 55 23.5**	**-0.3**
SLMH	**Al Salmeh**	**1.52**	**228**	*e*	P	**Pn**	**23 55 09.5**	**-0.4**
SLMH				*e*	S	**Sn**	**23 55 28.5**	**-1.0**
SLMH					AML	AML	23 55 40.2	
comp=Z,9.3nm,0.6s								
AKCD	**Akcadag**	**1.53**	**314**	*i*	P	**Pg**	**23 55 12.8**	**-0.1**
AKCD				*i*	S	**Sb**	**23 55 31.4**	**+0.6**
AKCD	**Akcadag**	**1.53**	**314**	*i*	P	**Pg**	**23 55 12.8**	**-0.1**
AKCD				*i*	S	**Sb**	**23 55 31.4**	**+0.6**

*BJI **27** 23:57:07.0, 55.60N×164.30E, h10km, mB5.1/32, mb5.1/56, Ms5.6/46, Ms7 5.2/40*
*IDC **27** 23:57:09.6±0.3, 55.53N×164.31E, h0km, mb5.0/47, mb1 5.1/50, mb1mx5.1/52, mbtmp5.0/50, ML4.9/3, MS4.9/27, Ms1 4.9/27, ms1mx4.8/45, Error ellipse: s-maj=9.9km s-min=7.2km az=158.0*
*ISCJB **27** 23:57:10.1±0.1, 55.51N±0.02×164.32E±0.02, h15km, mb5.2/279, MS5.2/213, Error ellipse: s-maj=3.1km s-min=1.4km az=166.3*
*MOS **27** 23:57:12.7±1.0, 55.46N×164.37E, h42km, mb5.3/53, MS5.0/25, Error ellipse: s-maj=7.9km s-min=6.4km az=93.8*
*NEIC **27** 23:57:13.3±1.3, 55.54N×164.30E, h24km±9km, mb5.4/155, MS5.2/154, Error ellipse: s-maj=4.5km s-min=2.2km az=167.0*
*KRSC **27** 23:57:14.5±0.2, 55.36N×164.31E, h52km±48km, ML5.4*
*SZGRF **27** 23:57:24.0, 56.85N×164.78E, h33km, mb5.2, Komandorsky Islands, Russia, region*
ISC 27 23:57:11.4±0.3, **55.48N**±0.03×**164.26E**±0.02, **h14**km±1km, **n1118,σ0°96/1879, mb5.2/278, MS5.2/213, 648C-564D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.02**	**105**		PN	**Pb**	**23 57 30.0**	**-0.7**
BKI					S	**Sb**	**23 57 42.6**	**-1.3**
BKI	**Bering**	**1.02**	**105**	*e*	P	**Pb**	**23 57 30.0**	**-0.7**
BKI				*i*	S	**Sb**	**23 57 42.6**	**-1.3**
KBTR	**Krutoberegovo**	**1.09**	**313**		PN	**Pg**	**23 57 32.7**	**+0.3**
KBTR	**Krutoberegovo**	**1.09**	**313**	*e*	P	**Pg**	**23 57 32.7**	**+0.3**
MKZ	**Mys Kozlova**	**1.72**	**239**		PN	**Pb**	**23 57 41.9**	**-0.9**
MKZ					S	**Sn**	**23 58 01.1**	**-1.5**
MKZ	**Mys Kozlova**	**1.72**	**239**	*e*	P	**Pb**	**23 57 41.9**	**-0.9**
MKZ				*i*	S	**Sn**	**23 58 01.1**	**-1.5**
SMKR	**Semkarok**	**1.92**	**306**	*e*	P	**Pb**	**23 57 45.9**	**-0.2**
ZLN	**Zelenaya**	**2.03**	**287**	*e*	P	**Pb**	**23 57 47.9**	**-0.1**
BDR	**Baidarnaya**	**2.03**	**304**	*e*	P	**Pb**	**23 57 48.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.07**	**284**		P	**Pb**	**23 57 48.5**	**-0.2**
CIRR	**Tsirk**	**2.08**	**289**	*e*	P	**Pb**	**23 57 48.6**	**-0.4**
SRKR	**Sorokina**	**2.10**	**306**	*e*	P	**Pb**	**23 57 48.7**	**-0.4**
BZMR	**Bezymyannaya**	**2.18**	**284**	*e*	P	**Pb**	**23 57 50.2**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.18**	**284**		P	**Pb**	**23 57 50.4**	**-0.3**
KLY	**Klyuchi**	**2.20**	**294**		PN	**Pn**	**23 57 48.6**	**+1.2**
KLY	**Klyuchi**	**2.20**	**294**	*e*	P	**Pn**	**23 57 48.6**	**+1.2**
KRSR	**Krestovskiy**	**2.21**	**291**	*e*	P	**Pb**	**23 57 49.9**	**-1.2**
KIRR	**Kirishev**	**2.27**	**284**		P	**Pb**	**23 57 51.6**	**-0.5**
KMNR	**Kamenistaya**	**2.30**	**279**		P	**Pb**	**23 57 52.3**	**-0.3**
KPT	**Kopyto**	**2.33**	**284**		P	**Pb**	**23 57 52.7**	**-0.5**
TUMR	**Tumrok**	**2.35**	**267**		P	**Pb**	**23 57 53.0**	**-0.6**
KOZR	**Kozyr**	**2.53**	**285**		PN	**Pb**	**23 57 55.9**	**-0.7**
KOZR					S	**Sb**	**23 57 56.9**	**-0.7**
KOZ	**Kozyrevsk**	**2.54**	**285**		P	**Pb**	**23 57 55.9**	**-0.9**
KOZ				*i*	S	**Sb**	**23 58 26.9**	**-1.0**
SRDR	**Sredinnyy**	**2.69**	**290**	*e*	P	**Pb**	**23 57 57.5**	**-1.8**
ESO	**Esso**	**3.18**	**280**		PN	**Pn**	**23 58 03.7**	**+2.8**
ESO	**Esso**	**3.18**	**280**	*e*	P	**Pn**	**23 58 03.7**	**+2.8**
SPN	**Mys Shipunski**	**3.44**	**228**		PN	**Pn**	**23 58 04.6**	**+0.1**
SPN	**Mys Shipunski**	**3.44**	**228**	*e*	P	**Pn**	**23 58 04.6**	**+0.1**
SPN				*i*	S	**Sn**	**23 58 41.1**	**-3.9**
SDLR	**Sedlovina**	**3.84**	**237**		P	**Pn**	**23 58 12.4**	**+2.3**
SDLR				*i*	S	**Sn**	**23 58 55.2**	**+0.2**
SMAR	**Somma**	**3.89**	**237**	*e*	P	**Pn**	**23 58 13.2**	**+2.4**
SMAR				*i*	S	**Sn**	**23 58 56.1**	**-0.2**
UGLR	**Uglovaya**	**3.91**	**237**	*e*	P	**Pn**	**23 58 13.7**	**+2.7**
AVH	**Avacha**	**3.92**	**238**		P	**Pn**	**23 58 13.9**	**+2.8**
AVH				*i*	S	**Sn**	**23 58 58.0**	**+1.2**
KOK	**Koryaka**	**3.95**	**239**		P	**Pn**	**23 58 14.2**	**+2.6**
INSR	**Institute**	**4.10**	**236**	*e*	P	**Pn**	**23 58 16.3**	**+2.8**
PET	**Petropavlovsk**	**4.11**	**236**	*i*	PN	**Pn**	**23 58 15.6**	**+2.0**
PET					pmax	pmax		
comp=Z,3μm,0.6s								
PET					MLR	MLR		
comp=Z,21μm,16.0s								
PET					MLR	MLR		
comp=Z,18μm,10.0s								
PET	**Petropavlovsk**	**4.11**	**236**	*e*	Pn	**Pn**	**23 58 15.6**	**+2.0**
PET				*e*	Sn	**Sn**	**23 58 59.3**	**-2.0**
PET	**Petropavlovsk**	**4.11**	**236**		P	**Pn**	**23 58 15.9**	**+2.3**
PET				*i*	S	**Sn**	**23 59 00.0**	**-1.3**
PEA0B	**Petropavlovsk-**	**4.52**	**241**	*e*	Pn	**Pn**	**23 58 21.8**	**+2.5**
PEA0B				*e*	Sn	**Sn**	**23 59 12.9**	**+1.3**
PETK	**Petropavlovsk-**	**4.52**	**241**		Pn	**Pn**	**23 58 21.8**	**+2.5**
comp=Z,88nm,0.3s,baz=71,slow=17,SNR=440								
PETK					Sn	**Sn**	**23 59 12.8**	**+1.3**
comp=Z,68nm,0.3s,baz=53,slow=29,SNR=7.1								
PETK					LR	LR	23 59 25.4	
comp=Z,2μm,21.3s,baz=204,slow=30								
PETK	**Petropavlovsk-**	**4.52**	**241**		PN	**Pn**	**23 58 21.8**	**+2.5**
PETK							23 59 12.8	
PETK					pmax	pmax		
comp=Z,88nm,0.3s								
PETK					smax	smax		
comp=N,68nm,0.3s								
PETK					MLR	MLR		
comp=Z,2μm,21.3s								
PETK	**Petropavlovsk-**	**4.52**	**241**		Pn	**Pn**	**23 58 21.8**	**+2.5**
PETK					Sn	**Sn**	**23 59 12.8**	**+1.3**
RUS	**Russkaya**	**4.56**	**230**		PN	**Pn**	**23 58 21.1**	**+1.2**
RUS	**Russkaya**	**4.56**	**230**		P	**Pn**	**23 58 21.1**	**+1.2**
RUS				*i*	S	**Sn**	**23 59 10.3**	**-2.3**
MTVR	**Mutnovka**	**4.67**	**233**		P	**Pn**	**23 58 23.5**	**+1.9**
MTVR				*i*	S	**Sn**	**23 59 14.2**	**-1.4**
ASAK	**Asacha**	**4.87**	**233**		P	**Pn**	**23 58 26.4**	**+2.2**
ASAK				*i*	S	**Sn**	**23 59 20.9**	**+0.6**
TILK	**Tilichiki**	**5.08**	**11**		P	**Pn**	**23 58 29.8**	**+2.8**
TILK				*i*	S	**Sn**	**23 59 26.0**	**+0.6**
MIPR	**Malaya Ipel'ka**	**5.47**	**237**		P	**Pn**	23 58 36.1	+3.7
FX1	**Attu Island--F**	**5.84**	**113**		Pn	**Pn**	**23 58 36.5**	**-0.9**
comp=Z,110nm,0.3s,baz=341,slow=6.0,SNR=220								
FX1					Sn	Sn	23 59 37.8	-6.3
comp=Z,187nm,0.3s,baz=234,slow=20,SNR=7.4								
FX1					LR	LR	00 00 19.1	
comp=Z,2μm,18.9s,baz=310,slow=32								
FX1	**Attu Island--F**	**5.84**	**113**	*e*	Pn	**Pn**	**23 58 36.7**	**-0.8**
FX1	**Attu Island--F**	**5.84**	**113**	*e*	Pn	**Pn**	**23 58 36.6**	**-0.8**
FX1				*e*	Sn	Sn	23 59 36.4	-7.8
SMY	**Shemya**	**6.41**	**111**	*e*	Pn	**Pn**	**23 58 46.4**	**+1.2**
SMY	**Shemya**	**6.41**	**111**	*e*	Pn	**Pn**	**23 58 46.4**	**+1.2**
SKR	**Severo-Kuril's**	**6.86**	**229**	*e*	Pn	**Pn**	**23 58 52.5**	**+1.1**
SKR					pmax	pmax		
comp=E,620nm,0.5s								
SKR					pmax	pmax		
comp=

YSS MLR MLR
comp=E,4μm,16.0s
YUK Yuzh-Kuril'sk 16.44 234 *i* P Pn 00 00 52.5 -8.9
YUK *i* S **S** **00 04 10.7 -4.9**
YUK pmax pmax
comp=N,62nm,0.5s
YUK pmax pmax
comp=E,132nm,0.5s
YUK pmax pmax
comp=Z,384nm,0.5s
YUK pmax pmax
comp=Z,1μm,1.9s
YUK smax smax
comp=N,1μm,2.6s
YUK smax smax
comp=E,2μm,2.6s
YUK MLR MLR
comp=E,1μm,19.0s
YUK MLR MLR
comp=Z,3μm,19.0s
YUK MLR MLR
comp=N,1μm,19.0s
UNV Unalaska Valle 16.94 83 *e*Pn **Pn** **00 01 07.2 -0.5**
comp=N,230nm,0.7s
AKUT Akutan 17.27 82 *e*Pn **P** **00 01 14.0 +0.8**
comp=N,297nm,0.8s
ASAJ Asahikawa 17.93 240 P **P** **00 01 20.6 0.0**
comp=N,5.6nm,0.3s,baz=43,slow=13,SNR=60
ASAJ S **Sn** **00 04 40.5 +0.8**
comp=N,0.4nm,0.3s,baz=108,slow=20,SNR=3.7
ASAJ LR LR 00 08 24.6
comp=N,3μm,18.4s,baz=49,slow=38
ASAJ Asahikawa 17.93 240 P **P** **00 01 20.6 0.0**
ASAJ S **Sn** **00 04 40.5 +0.8**
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ MLR MLR
comp=Z,3μm,18.5s
ASAJ Asahikawa 17.93 240 *e*Pn **Pn** **00 01 20.0 -0.1**
comp=Z,136nm,1.0s
ASAJ S **Sn** **00 04 40.5 +0.8**
YAK Yakutsk 18.91 304 *c i*P **P** **00 01 31.0 -0.2**
YAK *e*S **Sn** **00 04 58.2 -4.8**
YAK pmax pmax
comp=Z,331nm,0.9s
YAK pmax pmax
comp=E,268nm,1.3s
YAK pmax pmax
comp=N,106nm,1.4s
YAK smax smax
comp=N,459nm,1.9s
YAK smax smax
comp=E,507nm,1.9s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=E,1μm,12.0s
YAK MLR MLR
comp=N,866nm,12.0s
HABR Khabarovsk 19.20 261 *de*P **Pn** **00 01 36.0 +0.5**
HABR *e*S **S** **00 05 11.8 +0.2**
HABR pmax pmax
comp=E,213nm,1.0s
HABR pmax pmax
comp=Z,262nm,1.0s
HABR pmax pmax
comp=N,73nm,1.0s
ERM Erimo 19.26 234 *e*P **P** **00 01 34.6 -0.6**
ERM Erimo 19.26 234 *e*Pn **P** **00 01 32.9 -2.3**
comp=N,103nm,0.6s
ERM Erimo 19.26 234 P **P** **00 01 33.6 -1.6**
comp=N,1μm,0.5s,SNR=9.3
SDPT Sand Point 19.89 76 *e*P **P** **00 01 40.6 -1.4**
comp=N,391nm,1.1s
KLR Kul'dur 20.68 266 *e*P **P** **00 01 47.0 -3.6**
KLR *e*S **S** **00 05 36.2 -4.8**
KLR smax smax
comp=N,130nm,1.6s
KLR smax smax
comp=E,140nm,1.6s
CHGN Chignik 20.79 72 *e*P **P** **00 01 50.7 -1.0**
SVW2 Sparrevohn 21.57 58 *e*P **P** **00 02 01.3 +1.1**
comp=E,48nm,1.0s
CLNS Chul'man 21.76 290 *e*P **P** **00 02 01.6 -0.7**
CLNS *e* 00 02 17.3
CLNS *e*S **S** **00 05 56.7 -5.7**
CLNS *e* 00 06 01.5
CLNS pmax pmax
comp=Z,49nm,1.2s
CLNS pmax pmax
comp=E,45nm,1.2s
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS smax smax
comp=E,52nm,1.1s
CLNS smax smax
comp=N,77nm,1.4s
CLNS MLR MLR
comp=N,1μm,14.0s
CLNS MLR MLR
comp=E,2μm,16.0s
CLNS MLR MLR
comp=Z,3μm,16.0s
RSO Redoubt South 23.01 60 *e*P **P** **00 02 16.3 +0.6**
SPU Mount Spurr 23.27 58 *e*P **P** **00 02 18.6 +0.4**
USRK Ussuriysk Arra 23.44 255 P **P** **00 02 17.1 -2.9**
comp=Z,2.7nm,0.4s,baz=48,slow=9.9,SNR=8.9
USRK S **S** **00 06 37.4 +4.7**
comp=Z,3.3nm,0.9s,baz=42,slow=16,SNR=3.3
USRK ScP **ScP** **00 09 42.2 -0.7**
comp=Z,2.5nm,0.8s,baz=99,slow=6.0,SNR=6.3
USRK LR LR 00 11 55.0
comp=Z,2μm,18.1s,baz=228,slow=38
KDAK Kodiak Island 23.55 66 P **P** **00 02 19.1 -1.8**
comp=Z,41nm,0.6s,baz=301,slow=4.5,SNR=47
KDAK S **S** **00 06 27.7 -6.6**
comp=Z,8.1nm,0.9s,baz=356,slow=14,SNR=2.9
KDAK LR LR 00 11 07.1
comp=Z,3μm,21.4s,baz=271,slow=36
KDAK Kodiak Island 23.55 66 *i* P **P** **00 02 19.4 -1.5**
KDAK Kodiak Island 23.55 66 *e*P **P** **00 02 19.4 -1.5**
KDAK S **S** **00 06 27.7 -6.6**
KDAK Kodiak Island 23.55 66 P **P** **00 02 19.6 -1.3**
comp=Z,412nm,1.4s,SNR=20
TRF Thorofare Moun 23.95 52 *e*P **P** **00 02 24.4 -0.5**
comp=Z,797nm,1.6s
COLD Coldfoot 24.15 43 *e*P **P** **00 02 26.1 -0.4**
comp=Z,96nm,0.8s
SLKM Skilak Lake 24.25 59 *e*P **P** **00 02 25.9 -1.6**
MDJ Mudanjiang 24.51 258 P **P** **00 02 30.0 0.0**
MDJ sP **sP** **00 02 33.8 -2.4**
MDJ S S 00 06 41.8 -8.0
MDJ pmax pmax
comp=Z,20nm,0.8s
MDJ pmax pmax
comp=Z,170nm,6.6s
MDJ LR LR
comp=N,4μm,23.6s
MDJ LR LR
comp=Z,3μm,23.6s
MDJ Mudanjiang 24.51 258 PFAKE 00 02 40.0 +10
MDJ LR LR
comp=Z,3μm,21.0s
MCK McKinley 24.54 51 *e*P **P** **00 02 29.3 -0.9**
comp=Z,242nm,1.2s
PMR Palmer 24.63 57 *e*P **P** **00 02 30.9 0.0**
comp=Z,44nm,0.9s
SEW Seward 24.69 60 *e*P **P** **00 02 30.4 -1.0**
comp=Z,73nm,0.8s
SML Sawmill 24.98 56 *e*P **P** **00 02 33.9 -0.3**
comp=Z,42nm,1.1s
COLA College 24.99 49 PFAKE 00 02 50.0 +16
COLA LR LR
comp=Z,3μm,21.0s
ILAR Eielson Array 25.40 49 P **P** **00 02 37.1 -0.8**
comp=Z,46nm,0.8s,baz=264,slow=8.6,SNR=370
ILAR LR LR 00 12 55.8
comp=Z,3μm,19.1s,baz=22,slow=37
ILAR Eielson Array 25.40 49 P **P** **00 02 37.1 -0.8**
ILAR pmax pmax
comp=Z,46nm,0.8s
ILAR MLR MLR
comp=Z,3μm,19.1s
ILAR Eielson Array 25.40 49 P **P** **00 02 37.1 -0.8**
MJA0 Matsu Arr-Jizo 25.92 234 *e*P **P** **00 02 44.7 +1.8**
MJA0 pmax pmax
comp=Z,143nm,0.9s

MAJO Matsushiro 25.94 234 *e*P **P** **00 02 44.7 +1.7**
comp=Z,313nm,0.9s
MAJO LR LR
comp=Z,3μm,22.0s
MAT Matsushiro 25.94 234 P **P** **00 02 44.4 +1.4**
MAT S **S** **00 07 14.0 +1.3**
MJAR Matsushiro Arr 25.94 234 P **P** **00 02 44.5 +1.5**
comp=Z,143nm,0.9s,baz=22,slow=7.6,SNR=179
MJAR LR LR 00 13 09.3
comp=Z,3μm,21.6s,baz=55,slow=37
MJAR Matsushiro Arr 25.94 234 P **P** **00 02 44.5 +1.5**
MJAR pmax pmax
comp=Z,143nm,0.9s
MJAR MLR MLR
comp=Z,3μm,21.6s
MJAR Matsushiro Arr 25.94 234 P **P** **00 02 44.5 +1.5**
PAX Paxson 26.16 53 *e*P **P** **00 02 44.5 -0.4**
comp=Z,90nm,1.2s
DIV Divide 26.30 57 *e*P **P** **00 02 45.8 -0.4**
comp=Z,48nm,0.9s
DOT Dot Lake 26.71 51 *e*P **P** **00 02 48.4 -1.4**
comp=Z,55nm,1.1s
BMRM Bremner River 26.88 57 *e*P **P** **00 02 51.4 0.0**
comp=Z,79nm,1.0s
BOD Bodaibo 27.21 296 *e*P **P** **00 02 53.1 -1.2**
BOD pmax pmax
comp=Z,97nm,1.4s
CN2 Changchun 27.34 261 *e*P **P** **00 02 54.0 -1.6**
CN2 *es*P **sP** **00 03 01.0 -0.8**
CN2 *e*S **S** **00 07 30.8 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,6μm,16.0s
CN2 LR LR
comp=E,3μm,16.0s
CN2 LR LR
comp=Z,2μm,15.0s
HIA Hailar 27.49 276 PFAKE 00 03 10.0 +13
HIA LR LR
comp=Z,2μm,19.0s
EGAK Eagle 27.85 48 *e*P **P** **00 02 58.5 -1.4**
comp=Z,52nm,0.7s
EGAK LR LR
comp=Z,2μm,20.0s
SNY Shenyang 29.67 260 ⇓P **P** **00 03 16.3 0.0**
SNY S **S** **00 08 13.0 +1.7**
SNY pmax pmax
comp=Z,12nm,0.9s
SNY pmax pmax
comp=Z,340nm,4.4s
SNY LR LR
comp=N,5μm,15.5s
SNY LR LR
comp=E,4μm,17.8s
SNY LR LR
comp=Z,3μm,16.3s
KSRS Korea Array 30.37 249 P **P** **00 03 23.0 +0.5**
comp=Z,18nm,0.7s,baz=39,slow=9.5,SNR=45
KSRS PcP **PcP** **00 06 22.6 +0.5**
comp=Z,5.6nm,1.0s,baz=34,slow=0.4,SNR=7.0
KSRS LR LR 00 15 50.0
comp=Z,2μm,20.1s,baz=277,slow=37
KSRS Korea Array 30.37 249 *e*P **P** **00 03 23.5 +1.0**
KSRS pmax pmax
comp=Z,18nm,0.7s
KSAR Wonju Array Be 30.40 249 P **P** **00 03 23.0 +0.2**
KSAR PcP **PcP** **00 06 22.6 +0.4**
INK Inuvik 30.48 40 P **P** **00 03 23.2 0.0**
comp=Z,12nm,0.6s,baz=292,slow=7.4,SNR=59
INK Inuvik 30.48 40 P **P** **00 03 23.2 0.0**
INK pmax pmax
comp=Z,12nm,0.6s
INK Inuvik 30.48 40 *e*P **P** **00 03 23.0 -0.1**
comp=Z,188nm,1.5s
INCN Inchon 31.03 250 PFAKE 00 03 40.0 +12
INCN LR LR
comp=Z,2μm,19.0s
SKAG Skagway 31.75 58 *e*P **P** **00 03 35.7 +1.3**
comp=Z,38nm,1.2s
JNU Nakatsue 32.22 240 P **P** **00 03 40.2 +1.4**
comp=Z,137nm,1.0s,baz=44,slow=7.2,SNR=35
JNU Nakatsue 32.22 240 *e*P **P** **00 03 41.0 +2.1**
WRAK Wrangell Islan 34.39 62 *e*P **P** **00 03 58.9 +1.3**
comp=Z,53nm,1.0s
DLBC Dease Lake 34.68 57 P **P** **00 04 01.1 +1.0**
comp=Z,21nm,0.6s,baz=293,slow=8.1,SNR=21
DLBC LR LR 00 18 49.6
comp=Z,4μm,19.1s,baz=295,slow=38
DLBC Dease Lake 34.68 57 P **P** **00 04 01.1 +1.0**
BJI Beijing 35.03 264 P **P** **00 04 02.3 -1.0**
BJI S **S** **00 09 33.3 -1.5**
BJI pmax pmax
comp=Z,10.0nm,1.5s
BJI pmax pmax
comp=Z,150nm,5.3s
BJI LR LR
comp=N,6μm,18.2s
BJI LR LR
comp=E,4μm,14.9s
BJI LR LR
comp=Z,1μm,26.9s
BJT Baijiatuan 35.05 264 PFAKE 00 04 20.0 +17
BJT LR LR
comp=Z,2μm,20.0s
TLY Talaya 35.19 290 *e*P **P** **00 04 03.6 -1.0**
TLY *e* 00 04 18.9
TLY pmax pmax
comp=Z,12nm,1.1s
TLY MLR MLR
comp=Z,3μm,20.0s
TLY Talaya 35.19 290 *e*P **P** **00 04 04.6 +0.1**
comp=Z,12nm,0.9s
TLY LR LR
comp=Z,3μm,20.0s
TLY Talaya 35.19 290 P **P** **00 04 04.3 -0.3**
comp=Z,71nm,1.2s,SNR=5.9
ULN Ulaanbaatar 35.37 282 *e*P **P** **00 04 06.5 +0.2**
comp=Z,28nm,1.2s
ULN LR LR
comp=Z,2μm,21.0s
SONM Songino Array 35.75 282 P **P** **00 04 09.7 +0.1**
comp=Z,14nm,0.7s,baz=61,slow=7.7,SNR=167
SONM PcP **PcP** **00 06 37.9 +0.8**
comp=Z,8.3nm,0.8s,baz=54,slow=2.5,SNR=6.4
SONM LR LR 00 19 27.0
comp=Z,986nm,18.5s,baz=202,slow=37
SONM Songino Array 35.75 282 P **P** **00 04 09.7 +0.1**
SONM 00 06 37.9
SONM pmax pmax
comp=Z,14nm,0.7s
SONM MLR MLR
comp=Z,986nm,18.5s
SONM Songino Array 35.75 282 P **P** **00 04 09.7 +0.1**
SONM PcP **PcP** **00 06 37.9 +0.8**
ZAK Zakamensk 36.06 288 *e*P **P** **00 04 12.2 0.0**
ZAK *e* 00 06 37.4
ZAK pmax pmax
comp=Z,16nm,1.2s
MOY Mondy 36.61 291 *e*P **P** **00 04 17.4 +0.5**
MOY *e* 00 05 42.2
MOY *e* 00 10 00.2
MOY pmax pmax
comp=Z,61nm,1.7s
HHC Hu-ho-hao-te 37.12 269 *e*P **P** **00 04 21.0 -0.3**
HHC sP **sP** **00 04 28.0 +0.5**
HHC PP **PnPn** **00 05 46.8 +0.7**
HHC S **S** **00 10 06.0 -0.9**
HHC sS **sS** **00 10 12.8 -1.4**
HHC SS **SnSn** **00 12 35.0 -6.0**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.9s
HHC LR LR
comp=N,3μm,17.7s
HHC LR LR
comp=E,4μm,16.9s
HHC LR LR
comp=Z,1μm,18.4s
BTO Baotou 38.16 270 *e*P **P** **00 04 28.5 -1.6**
BBB Bella Bella 38.63 66 P **P** **00 04 35.0 +1.3**
comp=Z,26nm,0.7s,baz=323,slow=7.6,SNR=7.4
BBB LR LR 00 19 25.3
comp=Z,2μm,18.8s,baz=308,slow=35
BBB Bella Bella 38.63 66 P **P** **00 04 35.0 +1.3**
JOW Kunigami 38.67 237 P **P** **00 04 35.5 +1.2**
comp=Z,288nm,1.0s,baz=17,slow=9.0,SNR=26
JOW Kunigami 38.67 237 *e*P **P** **00 04 35.6 +1.2**
comp=Z,204nm,1.1s
SSE Sheshan 38.81 249 P **P** **00 04 37.0 +1.5**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,130nm,3.5s
SSE LR LR
comp=N,7μm,20.7s
SSE LR LR
comp=E,4μm,20.7s
SSE LR LR
comp=Z,6μm,21.0s
NJ2 Nanjing 39.32 253 *e*P **P** **00 04 39.5 -0.3**
NJ2 pP **pP** **00 04 42.8 -1.4**
NJ2 sP **sP** **00 04 44.0 -1.9**
NJ2 PP **PP** **00 06 09.8 -0.1**
NJ2 S **S** **00 10 41.0 +0.9**
NJ2 sS **sS** **00 10 48.0 +0.6**
NJ2 pmax pmax
comp=Z,70nm,1.2s
NJ2 pmax pmax
comp=Z,150nm,4.0s
NJ2 LR LR
comp=N,7μm,20.4s
NJ2 LR LR
comp=E,4μm,19.6s
NJ2 LR LR
comp=Z,4μm,18.8s
YKA Yellowknife Ar 39.75 46 P **P** **00 04 42.8 -0.2**
comp=Z,19nm,0.7s,baz=298,slow=8.1,SNR=210
YKA Yellowknife Ar 39.75 46 P **P** **00 04 42.8 -0.2**
YKA pmax pmax
comp=Z,19nm,0.7s
YKA Yellowknife Ar 39.75 46 P **P** **00 04 42.8 -0.2**
RES Resolute Bay 40.17 24 P **P** **00 04 46.4 0.0**
comp=Z,7.0nm,0.8s,baz=312,slow=8.8,SNR=36
RES Resolute Bay 40.17 24 P **P** **00 04 46.4 0.0**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 40.17 24 *e*P **P** **00 04 46.3 0.0**
comp=Z,16nm,0.9s
RES *e*PP **PP** **00 06 17.2 -1.3**
ALE Alert 40.21 8 P **P** **00 04 47.6 +0.9**
comp=Z,166nm,1.2s,SNR=8.8
HVS Khovu-Aksy 40.73 294 *c i*P **P** **00 04 51.4 0.0**
WHN Wuhan 42.94 256 ⇓*i*P **P** **00 05 10.3 +0.7**
WHN S **S** **00 11 33.5 -0.5**
WHN pmax pmax
comp=Z,140nm,1.4s
XAN Xi'an 43.37 264 P **P** **00 05 12.0 -1.1**
XAN pmax pmax
comp=Z,13nm,3.3s
ZAA0 Zalesovo Array 43.55 302 *e*P **P** **00 05 14.3 +0.1**
ZALV Zalesovo Beam 43.55 302 P **P** **00 05 13.3 -0.9**
comp=Z,2.1nm,0.7s,baz=49,slow=6.7,SNR=10
ZALV PP **PcP** **00 07 01.2 -0.5**
comp=Z,5.5nm,0.7s,baz=46,slow=1.1,SNR=5.2
ZALV Zalesovo Beam 43.55 302 P **P** **00 05 13.3 -0.9**
ZALV 00 07 01.2
ZALV Zalesovo Beam 43.55 302 P **P** **00 05 13.3 -0.9**
ZALV PP **PcP** **00 07 01.2 -0.5**
JOHN Johnston Islan 43.56 142 PFAKE 00 05 30.0 +15
JOHN LR LR
comp=Z,17nm,19.0s
TATO Taipei 43.57 243 PFAKE 00 05 30.0 +15
TATO LR LR
comp=Z,6μm,21.0s
VDB Vedder Mountai 43.58 66 P **P** **00 05 15.7 +1.2**
NLWA Neilton Lookou 43.65 69 *e*P **P** **00 05 16.6 +1.4**
comp=Z,72nm,1.0s
NLWA LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 43.78 304 ⇑*i*P **P** **00 05 13.9 -2.1**
NVS pmax pmax
comp=E,60nm,1.5s
NVS pmax pmax
comp=Z,100nm,1.5s
NVS pmax pmax
comp=N,33nm,1.8s
YHNB Yeheng 43.88 243 PFAKE 00 05 30.0 +13
YHNB LR LR
comp=Z,6μm,20.0s
JCW Jim Creek 44.18 67 *e*P **P** **00 05 19.9 +0.5**
RPW Rockport 44.24 67 *e*P **P** **00 05 20.5 +0.6**
GUMO Guam 44.43 207 PFAKE 00 05 30.0 +8.4
GUMO LR LR
comp=Z,3μm,19.0s
BMW Boistfort Moun 44.57 70 P **P** **00 05 23.5 +0.9**
RMW Rattlesnake Mo 44.70 68 P **P** **00 05 24.6 +0.9**
GTA Gaotai 44.76 277 P **P** **00 05 24.8 +0.6**
GTA pP **pP** **00 05 29.3 +0.6**
GTA sP **sP** **00 05 31.8 +1.3**
GTA PcP **PP** **00 07 07.8 -0.7**
GTA S **S** **00 12 00.8 +0.2**
GTA sS **sS** **00 12 08.5 +0.6**
GTA SS SS 00 15 13.3 -7.6
GTA pmax pmax
comp=Z,18nm,1.3s
GTA pmax pmax
comp=Z,140nm,4.0s
GTA LR LR
comp=N,8μm,15.7s
GTA LR LR
comp=E,6μm,15.7s
GTA LR LR
comp=Z,6μm,13.8s
LZH Lanzhou 44.78 270 *e*P **P** **00 05 25.0 +0.5**
LZH pP **pP** **00 05 30.5 +1.5**
LZH sP **sP** **00 05 33.8 +3.1**
LZH PcP **PP** **00 07 08.0 -0.9**
LZH PP PcP 00 07 13.0 +6.6
LZH *e*S **S** **00 11 58.0 -3.1**
LZH sS **sS** **00 12 05.5 -3.0**
LZH SS ScS 00 15 10.0 -12
LZH pmax pmax
comp=Z,35nm,1.3s
LZH pmax pmax
comp=Z,210nm,5.9s
LZH LR LR
comp=N,5μm,13.5s
LZH LR LR
comp=E,15μm,17.7s
LZH LR LR
comp=Z,11μm,18.3s
SSLB Suanglung 44.83 243 *e*P **P** **00 05 26.1 +1.3**
comp=Z,102nm,1.3s
KBS Kingsbay 44.83 353 PFAKE 00 05 40.0 +16
KBS LR LR
comp=Z,835nm,21.0s
LON Longmire 45.15 69 *e*P **P** **00 05 27.7 +0.5**
comp=Z,200nm,2.8s
SPA0 Spitsbergen Ar 45.17 351 *e*P **P** **00 05 28.2 +1.3**
SPB4 Spitsbergen Ar 45.17 351 *e*P **P** **00 05 27.0 0.0**
LVP Lakeview Peak 45.27 70 P **P** **00 05 28.9 +0.7**
WPW White Pass 45.32 69 P **P** **00 05 29.3 +0.7**
ETW Entiat 45.39 67 *e*P **P** **00 05 29.2 +0.1**
TPUB Ta-pu 45.39 243 *e*P **P** **00 05 30.6 +1.3**
comp=Z,244nm,1.1s
TWG Pinlang 45.57 242 *e*P **P** **00 05 31.9 +1.2**
comp=Z,135nm,1.1s
NAC Naches 45.68 68 P **P** **00 05 32.1 +0.8**
ENH Enshi 45.86 260 PFAKE 00 05 50.0 +17
ENH LR LR
comp=Z,9μm,21.0s
HOOD Mount Hood Mea 46.15 70 *e*P **P** **00 05 36.0 +0.7**
comp=Z,70nm,0.8s
OD2 Odessa Site #2 46.37 66 *e*P **P** **00 05 36.5 -0.2**
RSW Rattlesnake Hi 46.55 68 *e*P **P** **00 05 38.6 +0.3**
HAWA Hanford 46.58 68 *e*P **P** **00 05 38.3 -0.1**
comp=Z,46nm,1.1s
HAWA LR LR
comp=Z,2μm,20.0s
NEW Newport 46.63 64 *e*P **P** **00 05 38.8 -0.1**
comp=Z,34nm,1.0s
NEW LR LR
comp=Z,2μm,19.0s
NEW Newport 46.63 64 ⇓P **P** **00 05 38.6 -0.2**
baz=46,SNR=13
NEW ⇓P **P** **00 05 38.6 -0.2**
baz=46,SNR=13

NEW					⇓P		P	00 05 38.6	-0.2	
	baz=46,SNR=13									
CROR	Criterion Ridg	46.73	70		P		P	00 05 40.0	+0.3	
A12A	Yaak River Ran	46.95	63		⇓P		P	00 05 41.2	-0.2	
	baz=47									
A12A					⇓P		P	00 05 41.2	-0.2	
	baz=47									
A12A					⇓P		P	00 05 41.2	-0.2	
	baz=47									
HUMO	Hull Mountain	47.24	74		*e*P		P	00 05 44.8	+1.1	
	comp=Z,21nm,1.0s									
B12A	Libby	47.28	63		⇓P		P	00 05 43.7	-0.2	
	baz=47									
B12A					⇓P		P	00 05 43.7	-0.2	
	baz=47									
B12A					⇓P		P	00 05 43.7	-0.2	
	baz=47									
C11A	Tepee Creek (N	47.35	64		⇑P		P	00 05 44.3	-0.2	
	baz=47									
C11A					⇑P		P	00 05 44.3	-0.2	
	baz=47									
C11A					⇑P		P	00 05 44.3	-0.2	
	baz=47									
KRMB	Red Mountain	47.45	76		*e*P		P	00 05 46.3	+0.8	
	comp=Z,119nm,2.0s									
KRMB					*e*PP		PP	00 07 34.7	-1.8	
A13A	Flathead Natio	47.57	62		⇓P		P	00 05 46.2	0.0	
	baz=47									
A13A					⇓P		P	00 05 46.2	0.0	
	baz=47									
A13A					⇓P		P	00 05 46.2	0.0	
	baz=47									
LNOR	Lincton Mounta	47.58	67		*e*P		P	00 05 46.5	+0.2	
WALA	Waterton Lakes	47.74	62		*e*P		P	00 05 47.5	-0.1	
	comp=Z,3.8nm,1.1s									
WALA					*e*PP		PP	00 07 37.9	-1.1	
C12B	Naegeli Ranch,	47.83	64		⇑P		P	00 05 48.2	0.0	
	baz=48									
C12B					⇑P		P	00 05 48.2	0.0	
	baz=48									
C12B					⇑P		P	00 05 48.2	0.0	
	baz=48									
B13A	Whitefish	47.91	63		⇑P		P	00 05 49.0	+0.1	
	baz=48,SNR=22									
B13A					⇑P		P	00 05 49.0	+0.1	
	baz=48,SNR=22									
B13A					⇑P		P	00 05 49.0	+0.1	
	baz=48,SNR=22									
YBH	Yreka Blue Hor	47.97	75		P		P	00 05 50.2	+0.8	
	comp=Z,24nm,0.7s,baz=342,slow=3.6,SNR=68									
YBH					LR		LR	00 23 24.9		
	comp=Z,1μm,20.6s,baz=312,slow=33									
YBH	Yreka Blue Hor	47.97	75		P		P	00 05 50.2	+0.8	
YBH					pmax		pmax			
	comp=Z,24nm,0.7s									
YBH	Yreka Blue Hor	47.97	75		*e*P		P	00 05 50.1	+0.8	
	comp=Z,30nm,1.0s									
KHMM	Horse Mountain	47.99	76		*e*P		P	00 05 51.1	+1.5	
	comp=Z,99nm,1.5s									
DAG	Danmarks Havn	48.00	1		*i* P		P	00 05 48.9	-0.2	
	comp=Z,174nm,0.9s									
A14A	Double T Ranch	48.05	61		⇑P		P	00 05 49.5	-0.5	
	baz=48									
A14A					⇑P		P	00 05 49.5	-0.5	
	baz=48									
A14A					⇑P		P	00 05 49.5	-0.5	
	baz=48									
BSMT	Bassoo Peak	48.09	63		*e*P		P	00 05 50.6	+0.2	
BLMT	Blacktail Moun	48.20	63		*e*P		P	00 05 51.5	+0.2	
C13A	Hot Springs	48.31	63		⇑P		P	00 05 52.3	+0.3	
	baz=48,SNR=35									
C13A					⇑P		P	00 05 52.3	+0.3	
	baz=48,SNR=35									
C13A					⇑P		P	00 05 52.3	+0.3	
	baz=48,SNR=35									
D12A	Red Ives Fores	48.33	64		⇑P		P	00 05 51.5	-0.6	
	baz=48									
D12A					⇑P		P	00 05 51.5	-0.6	
	baz=48									
D12A					⇑P		P	00 05 51.5	-0.6	
	baz=48									
A15A	Johnson Ranch,	48.39	61		⇑P		P	00 05 52.0	-0.6	
	baz=48									
A15A					⇑P		P	00 05 52.0	-0.6	
	baz=48									
A15A					⇑P		P	00 05 52.0	-0.6	
	baz=48									
JTMT	Jette	48.42	63		*e*P		P	00 05 53.0	+0.2	
WMQ	Urumqi	48.47	290		P		P	00 05 54.0	+0.8	
WMQ					pP		pP	00 05 59.0	+1.3	
WMQ					sP		sP	00 06 01.0	+1.5	
WMQ					PcP		PcP	00 07 19.0	-0.1	
WMQ					S		S	00 12 53.0	-0.5	
WMQ					SS		SS	00 16 17.0	-5.8	
WMQ					pmax		pmax			
	comp=Z,110nm,1.3s									
WMQ					pmax		pmax			
	comp=Z,350nm,4.5s									
WMQ					LR		LR			
	comp=N,3μm,20.5s									
WMQ					LR		LR			
	comp=E,4μm,22.3s									
WMQ					LR		LR			
	comp=Z,3μm,24.2s									
YBMT	Yellow Bay	48.48	63		*e*P		P	00 05 53.5	+0.2	
	comp=Z,60nm,1.1s									
YBMT					*e*PcP		PcP	00 07 22.2	+3.0	
B14A	Marquette Ranc	48.52	62		⇑P		P	00 05 53.1	-0.5	
	baz=48,SNR=11									
B14A					⇑P		P	00 05 53.1	-0.5	
	baz=48,SNR=11									
B14A					⇑P		P	00 05 53.1	-0.5	
	baz=48,SNR=11									
KURK	Kurchatov	48.54	302		P		P	00 05 53.9	+0.4	
	comp=Z,25nm,0.8s,baz=55,slow=7.9,SNR=89									
KURK	Kurchatov	48.54	302	*c*	*i*P		P	00 05 52.8	-0.7	
KURK					pmax		pmax			
	comp=Z,60nm,1.2s									
KURK	Kurchatov	48.54	302		*e*P		P	00 05 53.1	-0.4	
	comp=Z,46nm,1.0s									
KURK					LR		LR			
	comp=Z,3μm,19.0s									
CD2	Chengdu	48.61	266		P		P	00 05 53.5	-0.9	
CD2					pP		pP	00 05 58.0	-0.9	
CD2					sP		sP	00 06 00.5	-0.2	
CD2					PP		PP	00 07 46.3	-0.9	
CD2					S		S	00 12 54.0	-1.7	
CD2					sS		sS	00 13 01.0	-2.1	
CD2					SS		SS	00 16 19.0	-6.5	
CD2					pmax		pmax			
	comp=Z,80nm,0.8s									
CD2					pmax		pmax			
	comp=Z,240nm,4.7s									
CD2					LR		LR			
	comp=N,12μm,15.5s									
CD2					LR		LR			
	comp=Z,16μm,16.7s									
C14A	Swan Lake	48.67	63		⇓P		P	00 05 54.9	+0.1	
	baz=48									
C14A					⇓P		P	00 05 54.9	+0.1	
	baz=48									
C14A					⇓P		P	00 05 54.9	+0.1	
	baz=48									
SWMT	Swartz Lake	48.72	63		*e*P		P	00 05 55.0	-0.1	
D13A	Huson	48.76	64		⇓P		P	00 05 55.0	-0.4	
	baz=48,SNR=11									
D13A					⇓P		P	00 05 55.0	-0.4	
	baz=48,SNR=11									
D13A					⇓P		P	00 05 55.0	-0.4	
	baz=48,SNR=11									
BMO	Blue Mountains	48.77	68		*e*P		P	00 05 55.6	0.0	
	comp=Z,45nm,1.4s									
BMO					LR		LR			
	comp=Z,2μm,22.0s									
WDC	Whiskeytown Da	48.85	76		*e*P		P	00 05 56.4	+0.3	
	comp=Z,27nm,0.9s									
B15A	Bradely Ranch,	48.91	62		⇑P		P	00 05 55.9	-0.7	
	baz=49,SNR=17									
B15A					⇑P		P	00 05 55.9	-0.7	
	baz=49,SNR=17									
B15A					⇑P		P	00 05 55.9	-0.7	
	baz=49,SNR=17									
A16A	West Butte Ran	48.97	60		⇓P		P	00 05 56.3	-0.7	
	baz=49									
A16A					⇓P		P	00 05 56.3	-0.7	
	baz=49									
A16A					⇓P		P	00 05 56.3	-0.7	
	baz=49									
SLMT	Seeley Lake	49.15	63		*e*P		P	00 05 58.3	-0.2	
MOD	Modoc	49.17	73		*e*P		P	00 05 58.3	-0.4	
	comp=Z,49nm,0.8s									
MSO	Missoula	49.20	64		*e*P		P	00 05 58.7	-0.1	
	comp=Z,39nm,1.3s									
MSO						LR	LR			
	comp=Z,966nm,22.0s									
MSO	Missoula	49.20	64		⇓P		P	00 05 58.4	-0.4	
	baz=49,SNR=9.2									
MSO					⇓P		P	00 05 58.4	-0.4	
	baz=49,SNR=9.2									
MSO					⇓P		P	00 05 58.4	-0.4	
	baz=49,SNR=9.2									
C15A	Salmond Ranch,	49.24	62		⇑P		P	00 05 59.1	-0.1	
	baz=49,SNR=11									
C15A					⇑P		P	00 05 59.1	-0.1	
	baz=49,SNR=11									
C15A					⇑P		P	00 05 59.1	-0.1	
	baz=49,SNR=11									
D14A	Greenough	49.25	63		⇓P		P	00 05 59.0	-0.2	
	baz=49,SNR=25									
D14A					⇓P		P	00 05 59.0	-0.2	
	baz=49,SNR=25									
D14A					⇓P		P	00 05 59.0	-0.2	
	baz=49,SNR=25									
B16A	M & M Farms, S	49.27	61		⇓P		P	00 05 58.5	-0.9	
	baz=49									
B16A					⇓P		P	00 05 58.5	-0.9	
	baz=49									
B16A					⇓P		P	00 05 58.5	-0.9	
	baz=49									
MK31	Makanchi Array	49.31	296		*e*P		P	00 05 58.7	-0.9	
MKAR	Makanchi Array	49.31	296		P		P	00 05 58.8	-0.8	
	comp=Z,5.6nm,0.6s,baz=45,slow=6.3,SNR=80									
MKAR	Makanchi Array	49.31	296		*i* P		P	00 05 59.4	-0.1	
MKAR					pmax		pmax			
	comp=Z,6.0nm,0.6s									
MKAR	Makanchi Array	49.31	296		*e*P		P	00 05 58.8	-0.8	
E13A	Victor	49.33	64		⇓P		P	00 05 59.4	-0.5	
	baz=49,SNR=6.1									
E13A					⇓P		P	00 05 59.4	-0.5	
	baz=49,SNR=6.1									
E13A					⇓P		P	00 05 59.4	-0.5	
	baz=49,SNR=6.1									
A17A	Triple J Farms	49.41	60		⇑P		P	00 05 59.7	-0.7	
	baz=49,SNR=6.8									
A17A					⇑P		P	00 05 59.7	-0.7	
	baz=49,SNR=6.8									
A17A					⇑P		P	00 05 59.7	-0.7	
	baz=49,SNR=6.8									
CHMT	Chamberlain Mo	49.49	63		*e*P		P	00 06 00.8	-0.5	
FFC	Flin Flon	49.61	49		*i* P		P	00 06 01.6	-0.1	
FFC	Flin Flon	49.61	49		*e*P		P	00 06 01.8	+0.1	
	comp=Z,22nm,1.0s									
FFC						LR	LR			
	comp=Z,2μm,21.0s									
HOPS	Hopland	49.66	77		*e*P		P	00 06 03.1	+0.8	
	comp=Z,58nm,1.4s									
C16A	Fuhringer Ranc	49.66	62		⇑P		P	00 06 01.7	-0.6	
	baz=49,SNR=16									
C16A					⇑P		P	00 06 01.7	-0.6	
	baz=49,SNR=16									
C16A					⇑P		P	00 06 01.7	-0.6	
	baz=49,SNR=16									
F13A	Darby	49.70	65		⇓P		P	00 06 02.0	-0.7	
	baz=49,SNR=15									
F13A					⇓P		P	00 06 02.0	-0.7	
	baz=49,SNR=15									
F13A					⇓P		P	00 06 02.0	-0.7	
	baz=49,SNR=15									
E14A	Clinton	49.70	64		⇑P		P	00 06 02.5	-0.3	
	baz=50,SNR=17									
E14A					⇑P		P	00 06 02.5	-0.3	
	baz=50,SNR=17									
E14A					⇑P		P	00 06 02.5	-0.3	
	baz=50,SNR=17									
D15A	Lincoln	49.78	63		⇑P		P	00 06 03.0	-0.3	
	baz=50,SNR=10									
D15A					⇑P		P	00 06 03.0	-0.3	
	baz=50,SNR=10									
D15A					⇑P		P	00 06 03.0	-0.3	
	baz=50,SNR=10									
B17A	L&G Farms, Che	49.80	61		⇑P		P	00 06 02.7	-0.6	
	baz=50									
B17A					⇑P		P	00 06 02.7	-0.6	
	baz=50									
B17A					⇑P		P	00 06 02.7	-0.6	
	baz=50									
A18A	Metzger Ranch,	49.85	59		⇓P		P	00 06 02.8	-0.9	
	baz=50,SNR=11									
A18A					⇓P		P	00 06 02.8	-0.9	
	baz=50,SNR=11									
A18A					⇓P		P	00 06 02.8	-0.9	
	baz=50,SNR=11									
E15A	Deer Lodge	50.13	63		⇑P		P	00 06 05.9	-0.1	
	baz=50,SNR=29									
E15A					⇑P		P	00 06 05.9	-0.1	
	baz=50,SNR=29									
E15A					⇑P		P	00 06 05.9	-0.1	
	baz=50,SNR=29									
F14A	Wisdom	50.18	65		⇑P		P	00 06 06.0	-0.4	
	baz=50									
F14A					⇑P		P	00 06 06.0	-0.4	
	baz=50									
F14A					⇑P		P	00 06 06.0	-0.4	
	baz=50									
G13A	Cobalt	50.22	66		⇑P		P	00 06 06.1	-0.5	
	baz=50,SNR=19									
G13A					⇑P		P	00 06 06.1	-0.5	
	baz=50,SNR=19									
G13A					⇑P		P	00 06 06.1	-0.5	
	baz=50,SNR=19									
B18A	Beardsley Farm	50.24	60		⇑P		P	00 06 06.4	-0.3	
	baz=50,SNR=11									
B18A					⇑P		P	00 06 06.4	-0.3	
	baz=50,SNR=11									
B18A					⇑P		P	00 06 06.4	-0.3	
	baz=50,SNR=11									
C17A	Wharram Farm,	50.26	61		⇑P		P	00 06 06.2	-0.7	
	baz=50,SNR=12									
C17A					⇑P		P	00 06 06.2	-0.7	
	baz=50,SNR=12									
C17A					⇑P		P	00 06 06.2	-0.7	
	baz=50,SNR=12									
H12A	Diamond D Ranc	50.27	67		⇑P		P	00 06 06.4	-0.7	
	baz=50,SNR=5.4									
H12A					⇑P		P	00 06 06.4	-0.7	
	baz=50,SNR=5.4									
H12A					⇑P		P	00 06 06.4	-0.7	
	baz=50,SNR=5.4									
D16A	Dana Ranch, Ca	50.28	62		⇑P		P	00 06 07.0	-0.1	
	baz=50,SNR=8.4									
D16A					⇑P		P	00 06 07.0	-0.1	
	baz=50,SNR=8.4									
D16A					⇑P		P	00 06 07.0	-0.1	
	baz=50,SNR=8.4									
GYA	Guiyang	50.37	259		⇑*i*P		P	00 06 08.5	+0.5	
GYA					PcP		PcP	00 07 28.0	+1.6	
GYA					PP		PP	00 08 05.8	+2.5	
GYA					ScP		ScP	00 11 23.5	+2.0	
GYA					S		S	00 13 21.0	+0.4	
GYA					SS		SS	00 16 51.3	-2.7	
GYA					pmax		pmax			
	comp=Z,30nm,1.0s									
GYA					pmax		pmax			
	comp=Z,140nm,5.0s									
GYA					LR		LR			
	comp=N,630nm,18.8s									
GYA					LR		LR			
	comp=E,560nm,19.4s									
GYA					LR		LR			
	comp=Z,780nm,18.9s									
GYA	Guiyang	50.37	259		⇑*i*P		P	00 06 08.5	+0.5	
GYA					PcP		PcP	00 07 28.0	+1.6	
GYA					PP		PP	00 08 05.8	+2.5	
GYA					ScP		ScP	00 11 23.5	+2.0	
GYA					S		S	00 13 21.0	+0.4	
GYA					SS		SS	00 16 51.3	-2.7	
GYA					pmax		pmax			
	comp=Z,30nm,1.0s									
GYA					pmax		pmax			
	comp=Z,140nm,5.0s									
A19A	Klindworth Far	50.38	59		⇑P		P	00 06 07.2	-0.5	
	baz=50,SNR=12									
A19A					⇑P		P	00 06 07.2	-0.5	
	baz=50,SNR=12									
A19A					⇑P		P	00 06 07.2	-0.5	
	baz=50,SNR=12									
EGMT	Eagleton	50.50	60		PFAKE			00 06 20.0	+11	
EGMT					LR		LR			
	comp=Z,2μm,19.0s									
EGMT	Eagleton	50.50	60		⇓P		P	00 06 08.1	-0.6	
	baz=50									
EGMT					⇓P		P	00 06 08.1	-0.6	
	baz=50									
EGMT					⇓P		P	00 06 08.1	-0.6	
	baz=50									
G14A	Jackson	50.52	65		⇑P		P	00 06 08.3	-0.7	
	baz=50									
G14A					⇑P		P	00 06 08.3	-0.7	
	baz=50									
G14A					⇑P		P	00 06 08.3	-0.7	
	baz=50									
MFID	Camas Ranch	50.53	68		*e*P		P	00 06 09.0	0.0	
	comp=Z,53nm,1.4s									
MFID	Camas Ranch	50.53	68		⇑P		P	00 06 08.7	-0.3	
	baz=50,SNR=17									
MFID					⇑P		P	00 06 08.7	-0.3	
	baz=50,SNR=17									
MFID					⇑P		P	00 06 08.7	-0.3	
	baz=50,SNR=17									
E16A	East Helena	50.55	63		⇓P		P	00 06 09.3	+0.2	
	baz=50,SNR=25									
E16A					⇓P		P	00 06 09.3	+0.2	
	baz=50,SNR=25									
E16A					⇓P		P	00 06 09.3	+0.2	
	baz=50,SNR=25									
H13A	Challis	50.57	66		⇑P		P	00 06 09.1	-0.2	
	baz=50,SNR=24									
H13A					⇑P		P	00 06 09.1	-0.2	
	baz=50,SNR=24									
H13A					⇑P		P	00 06 09.1	-0.2	
	baz=50,SNR=24									
B19A	Brinkman Farms	50.61	59		⇓P		P	00 06 09.1	-0.3	
	baz=50,SNR=6.2									
B19A					⇓P		P	00 06 09.1	-0.3	
	baz=50,SNR=6.2									
B19A					⇓P		P	00 06 09.1	-0.3	
	baz=50,SNR=6.2									
F15A	Butte	50.61	64		⇓P		P	00 06 09.3	-0.4	
	baz=50,SNR=9.6									
F15A					⇓P		P	00 06 09.3	-0.4	
	baz=50,SNR=9.6									
F15A					⇓P		P	00 06 09.3	-0.4	
	baz=50,SNR=9.6									
D17A	Six Diamond Ra	50.63	62		⇑P		P	00 06 09.3	-0.4	
	baz=50,SNR=10									
D17A					⇑P		P	00 06 09.3	-0.4	
	baz=50,SNR=10									
D17A					⇑P		P	00 06 09.3	-0.4	
	baz=50,SNR=10									
LRM	Limekiln Ridge	50.64	64		*e*P		P	00 06 10.1	+0.1	
BVAR	Borovoye Array	50.80	309		P		P	00 06 10.7	-0.1	
	comp=Z,7.8nm,0.6s,baz=56,slow=8.1,SNR=31									
BVAR	Borovoye Array	50.80	309		P		P	00 06 10.7	-0.1	
BVAR					pmax		pmax			
	comp=Z,8.0nm,0.6s									
BVAR	Borovoye Array	50.80	309		P		P	00 06 10.7	-0.1	
A20A	Cobblestone Ra	50.81	58		⇑P		P	00 06 10.7	-0.3	
	baz=50,SNR=14									
A20A					⇑P		P	00 06 10.7	-0.3	
	baz=50,SNR=14									
A20A					⇑P		P	00 06 10.7	-0.3	
	baz=50,SNR=14									
BRVK	Borovoye	50.83	309	*c*	*i*P		P	00 06 10.9	0.0	
BRVK					pmax		pmax			
	comp=Z,50nm,1.7s									
BRVK	Borovoye	50.83	309		*e*P		P	00 06 10.6	-0.4	
	comp=Z,23nm,0.9s									
BRVK					LR		LR			
	comp=Z,1μm,20.0s									
BRVK	Borovoye	50.83	309		P		P	00 06 11.8	+0.9	
	comp=Z,179nm,1.1s,SNR=14									
H14A	Leadore	50.99	66		⇑P		P	00 06 12.1	-0.5	
	baz=51,SNR=6.5									
H14A					⇑P		P	00 06 12.1	-0.5	
	baz=51,SNR=6.5									
H14A					⇑P		P	00 06 12.1	-0.5	
	baz=51,SNR=6.5									
E17A	Martinsdale	51.01	62		⇑P		P	00 06 13.1	+0.4	
	baz=51,SNR=26									
E17A					⇑P		P	00 06 13.1	+0.4	
	baz=51,SNR=26									
E17A					⇑P		P	00 06 13.1	+0.4	
	baz=51,SNR=26									
D18A	Linhart Farms,	51.04	61		⇓P		P	00 06 12.6	-0.1	
	baz=51,SNR=5.0									
D18A					⇓P		P	00 06 12.6	-0.1	
	baz=51,SNR=5.0									
D18A					⇓P		P	00 06 12.6	-0.1	
	baz=51,SNR=5.0									
C19A	Slack Wire Ran	51.05	60		⇑P		P	00 06 12.9	+0.1	
	baz=51,SNR=20									
C19A					⇑P		P	00 06 12.9	+0.1	
	baz=51,SNR=20									
C19A					⇑P		P	00 06 12.9	+0.1	
	baz=51,SNR=20									
B20A	Solberg Farm,	51.07	59		⇓P		P	00 06 12.4	-0.5	
	baz=51,SNR=13									
B20A					⇓P		P	00 06 12.4	-0.5	
	baz=51,SNR=13									
B20A					⇓P		P	00 06 12.4	-0.5	
	baz=51,SNR=13									
G15A	Dillon	51.07	65		⇑P		P	00 06 12.8	-0.3	
	baz=51,SNR=15									
G15A					⇑P		P	00 06 12.8	-0.3	
	baz=51,SNR=15									
G15A					⇑P		P	00 06 12.8	-0.3	
	baz=51,SNR=15									
F16A	Kennard Place,	51.09	63		⇑P		P	00 06 12.8	-0.4	
	baz=51									
F16A					⇑P		P	00 06 12.8	-0.4	
	baz=51									
F16A					⇑P		P	00 06 12.8	-0.4	
	baz=51									
I13A	Wildhorse Cree	51.09	67		⇑P		P	00 06 13.3	-0.1	
	baz=51,SNR=26									
I13A					⇑P		P	00 06 13.3	-0.1	
	baz=51,SNR=26									
I13A					⇑P		P	00 06 13.3	-0.1	
	baz=51,SNR=26									
MCMT	McKenzie Canyo	51.12	65		*e*P		P	00 06 12.8	-0.8	
	comp=Z,5.7nm,0.8s									
MCMT					*e*PcP		PcP	00 07 29.1	0.0	
HLID	Hailey	51.17	67		*e*P		P	00 06 13.9	0.0	
	comp=Z,30nm,1.3s									
HLID					LR		LR			
	comp=Z,2μm,19.0s									
HLID	Hailey	51.17	67		⇓P		P	00 06 13.7	-0.2	
	baz=51,SNR=36									
HLID					⇓P		P	00 06 13.7	-0.2	
	baz=51,SNR=36									
HLID					⇓P		P	00 06 13.7	-0.2	
	baz=51,SNR=36									
BOZ	Bozeman (W)	51.18	64		PFAKE			00 06 30.0	+16	
BOZ					LR		LR			
	comp=Z,1μm,20.0s									
BOZ	Bozeman (W)	51.18	64		⇓P		P	00 06 13.9	0.0	
	baz=51									
BOZ					⇓P		P	00 06 13.9	0.0	
	baz=51									
BOZ					⇓P		P	00 06 13.9	0.0	
	baz=51									
BOZ					⇓P		P	00 06 13.9	0.0	
	baz=51									
BOZ					⇓P		P	00 06 13.9	0.0	
	baz=51									
A21A	Bergtoll Ranch	51.22	58		⇑P		P	00 06 13.9	-0.2	
	baz=51,SNR=18					

WCN ⇓P P 00 06 15.2 +0.5
baz=51,SNR=23
KEV **Kevo** 51.30 342 *e*P P 00 06 13.1 -1.2
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 51.30 342 PFAKE 00 06 30.0 +16
KEV LR LR
comp=Z,1µm,19.0s
KEV Kevo 51.30 342 *e*p P 00 06 13.1 -1.2
comp=Z,6.5nm,0.7s
KEV Kevo 51.30 342 *e*p P 00 06 13.1 -1.2
comp=Z,6.5nm,0.7s
H15A Lima 51.37 65 ⇑P P 00 06 15.0 -0.4
baz=51
H15A ⇑P P 00 06 15.0 -0.4
baz=51
H15A ⇑P P 00 06 15.0 -0.4
baz=51
G16A Moss Hill, Enn 51.38 64 ⇑P P 00 06 15.4 0.0
baz=51,SNR=7.0
G16A ⇑P P 00 06 15.4 0.0
baz=51,SNR=7.0
G16A ⇑P P 00 06 15.4 0.0
baz=51,SNR=7.0
J13A Cove Ranch, Pi 51.41 67 ⇑P P 00 06 15.7 0.0
baz=51,SNR=15
J13A ⇑P P 00 06 15.7 0.0
baz=51,SNR=15
J13A ⇑P P 00 06 15.7 0.0
baz=51,SNR=15
E18A Harlowton 51.41 62 ⇑P P 00 06 15.9 +0.2
baz=51,SNR=11
E18A ⇑P P 00 06 15.9 +0.2
baz=51,SNR=11
E18A ⇑P P 00 06 15.9 +0.2
baz=51,SNR=11
LVZ Lovozero 51.42 338 *e*P P 00 06 15.7 +0.5
LVZ pmax pmax
comp=Z,17nm,1.0s
LVZ Lovozero 51.42 338 PFAKE 00 06 30.0 +15
LVZ LR LR
comp=Z,1µm,21.0s
I14A Mackay 51.42 66 ⇓P P 00 06 15.9 +0.1
baz=51
I14A ⇓P P 00 06 15.9 +0.1
baz=51
I14A ⇓P P 00 06 15.9 +0.1
baz=51
F17A Fitzpatrick Pl 51.49 63 ⇓P P 00 06 16.3 0.0
baz=51,SNR=8.5
F17A ⇓P P 00 06 16.3 0.0
baz=51,SNR=8.5
F17A ⇓P P 00 06 16.3 0.0
baz=51,SNR=8.5
D19A Cripps Ranch, 51.52 60 ⇑P P 00 06 16.1 -0.2
baz=51,SNR=12
D19A ⇑P P 00 06 16.1 -0.2
baz=51,SNR=12
D19A ⇑P P 00 06 16.1 -0.2
baz=51,SNR=12
B21A Ellsworth Farm 51.56 58 ⇓P P 00 06 16.3 -0.3
baz=51
B21A ⇓P P 00 06 16.3 -0.3
baz=51
B21A ⇓P P 00 06 16.3 -0.3
baz=51
C20A Veseth Ranch, 51.57 59 ⇓P P 00 06 16.5 -0.2
baz=51,SNR=6.5
C20A ⇓P P 00 06 16.5 -0.2
baz=51,SNR=6.5
C20A ⇓P P 00 06 16.5 -0.2
baz=51,SNR=6.5
SOKR Solikamsk 51.63 322 *c i*P P 00 06 17.9 +1.1
SOKR S S 00 13 35.6 -1.4
SOKR SS SS 00 17 11.0 -1.5
SOKR pmax pmax
comp=Z,100nm,1.0s
SOKR MLR MLR
comp=Z,2µm,20.0s
A22A Carney Farms, 51.70 57 ⇑P P 00 06 17.4 -0.2
baz=51,SNR=9.1
A22A ⇑P P 00 06 17.4 -0.2
baz=51,SNR=9.1
A22A ⇑P P 00 06 17.4 -0.2
baz=51,SNR=9.1
ARCES ARCESS Array B 51.75 343 P P 00 06 17.9 +0.2
comp=Z,15nm,0.8s,baz=51,slow=9.6,SNR=23
ARCES LR LR 00 32 33.6
comp=Z,1µm,19.2s,baz=186,slow=41
ARCES ARCESS Array B 51.75 343 P P 00 06 17.9 +0.2
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES MLR MLR
comp=Z,1µm,19.3s
ARCES ARCESS Array B 51.75 343 P P 00 06 17.9 +0.2
ARE0 ARCESS Array S 51.75 343 *e*P P 00 06 18.2 +0.5
ARE0 ARCESS Array S 51.75 343 *e*P P 00 06 17.8 +0.1
CMB Columbia Colle 51.82 76 *e*P P 00 06 19.3 +0.6
comp=Z,34nm,1.3s
QLMT Earthquake Lak 51.84 64 *e*P P 00 06 19.2 +0.3
G17A Pierce Place, 51.86 63 ⇓P P 00 06 19.0 0.0
baz=52
G17A ⇓P P 00 06 19.0 0.0
baz=52
G17A ⇓P P 00 06 19.0 0.0
baz=52
BMN Battle Mountai 51.86 72 *e*P P 00 06 20.1 +1.0
comp=Z,25nm,0.9s
BMN LR LR
comp=Z,1µm,20.0s
D20A Manuel Ranch, 51.94 60 ⇓P P 00 06 19.5 +0.1
baz=52,SNR=9.8
D20A ⇓P P 00 06 19.5 +0.1
baz=52,SNR=9.8
D20A ⇓P P 00 06 19.5 +0.1
baz=52,SNR=9.8
C21A Desert Coulee 51.94 59 ⇓P P 00 06 19.3 -0.1
baz=52,SNR=7.8
C21A ⇓P P 00 06 19.3 -0.1
baz=52,SNR=7.8
C21A ⇓P P 00 06 19.3 -0.1
baz=52,SNR=7.8
APA Apatity 51.96 338 ⇑ *i*P P 00 06 17.0 -2.2
APA *e*S S 00 13 36.0 -5.3
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,2µm,21.0s
F18A Big Timber 51.97 62 ⇑P P 00 06 19.9 +0.1
baz=52,SNR=7.7
F18A ⇑P P 00 06 19.9 +0.1
baz=52,SNR=7.7
F18A ⇑P P 00 06 19.9 +0.1
baz=52,SNR=7.7
H16A Russell Place, 52.03 64 ⇓P P 00 06 20.4 0.0
baz=52,SNR=14
H16A ⇓P P 00 06 20.4 0.0
baz=52,SNR=14
H16A ⇓P P 00 06 20.4 0.0
baz=52,SNR=14
E19A Rath Farm, Rou 52.05 61 ⇓P P 00 06 20.3 -0.1
baz=52
E19A ⇓P P 00 06 20.3 -0.1
baz=52
E19A ⇓P P 00 06 20.3 -0.1
baz=52
B22A Reddig Ranch S 52.14 58 ⇓P P 00 06 20.6 -0.3
baz=52
B22A ⇓P P 00 06 20.6 -0.3
baz=52
B22A ⇓P P 00 06 20.6 -0.3
baz=52
SAO San Andreas Ge 52.14 78 *e*P P 00 06 21.3 +0.3
comp=Z,15nm,0.9s
SVE Sverdlovsk 52.19 317 ⇓ *e*P P 00 06 22.4 +1.3
SVE *e*S S 00 13 49.0 +4.2
SVE *e* 00 17 20.6
SVE pmax pmax
comp=Z,87nm,1.5s
SVE MLR MLR
comp=Z,2µm,16.0s
YMR Madison River 52.20 64 *e*P P 00 06 22.0 +0.4
comp=Z,30nm,0.9s
A23A Redstone 52.22 56 ⇓P P 00 06 21.1 -0.3
baz=52
A23A ⇓P P 00 06 21.1 -0.3
baz=52
A23A ⇓P P 00 06 21.1 -0.3
baz=52
YNR Norris Junctio 52.31 64 *e*P P 00 06 23.1 +0.6
comp=Z,52nm,1.2s
YNR *e*PcP PcP 00 07 37.4 +3.9
J15A Blackfoot 52.32 66 ⇑P P 00 06 22.2 -0.3
baz=52
J15A ⇑P P 00 06 22.2 -0.3
baz=52
J15A ⇑P P 00 06 22.2 -0.3
baz=52
E20A Meyer Farm, Mu 52.35 61 ⇓P P 00 06 22.7 +0.2
baz=52,SNR=8.8
E20A ⇓P P 00 06 22.7 +0.2
baz=52,SNR=8.8
E20A ⇓P P 00 06 22.7 +0.2
baz=52,SNR=8.8
F19A Roth Farm, Mol 52.39 62 ⇑P P 00 06 23.0 +0.1
baz=52,SNR=5.9
F19A ⇑P P 00 06 23.0 +0.1
baz=52,SNR=5.9
F19A ⇑P P 00 06 23.0 +0.1
baz=52,SNR=5.9
YFT Old Faithful 52.41 64 *e*P P 00 06 23.8 +0.5
comp=Z,43nm,0.9s
G18A Lazy EL Ranch, 52.46 63 ⇑P P 00 06 23.1 -0.3
baz=52
G18A ⇑P P 00 06 23.1 -0.3
baz=52
G18A ⇑P P 00 06 23.1 -0.3
baz=52
I16A Newdale 52.48 65 ⇑P P 00 06 23.8 +0.2
baz=52,SNR=8.0
I16A ⇑P P 00 06 23.8 +0.2
baz=52,SNR=8.0
I16A ⇑P P 00 06 23.8 +0.2
baz=52,SNR=8.0
B23A Brockton 52.51 57 ⇓P P 00 06 23.4 -0.2
baz=52,SNR=10.0
B23A ⇓P P 00 06 23.4 -0.2
baz=52,SNR=10.0
B23A ⇓P P 00 06 23.4 -0.2
baz=52,SNR=10.0
D21A La Casta Ranch 52.52 59 ⇑P P 00 06 23.7 0.0
baz=52
D21A ⇑P P 00 06 23.7 0.0
baz=52
D21A ⇑P P 00 06 23.7 0.0
baz=52
K14A Jones Ranch, D 52.53 67 ⇓P P 00 06 24.8 +0.7
baz=52,SNR=22
K14A ⇓P P 00 06 24.8 +0.7
baz=52,SNR=22
K14A ⇓P P 00 06 24.8 +0.7
baz=52,SNR=22
LKWY Lake 52.56 64 *e*P P 00 06 26.2 +1.9
comp=Z,50nm,1.0s
LKWY LR LR
comp=Z,2µm,20.0s
C22A Vida 52.58 58 ⇓P P 00 06 23.8 -0.4
baz=52,SNR=7.9
C22A ⇓P P 00 06 23.8 -0.4
baz=52,SNR=7.9
C22A ⇓P P 00 06 23.8 -0.4
baz=52,SNR=7.9
H17A Grant Village 52.59 64 ⇓P P 00 06 25.8 +1.3
baz=52,SNR=13
H17A ⇓P P 00 06 25.8 +1.3
baz=52,SNR=13
H17A ⇓P P 00 06 25.8 +1.3
baz=52,SNR=13
KTK1 Kautokeino 52.59 343 *e*P P 00 06 24.6 +0.6
KTK1 *e*S S 00 13 47.9 -2.1
A24A Westby 52.66 56 ⇑P P 00 06 24.7 0.0
baz=52
A24A ⇑P P 00 06 24.7 0.0
baz=52
A24A ⇑P P 00 06 24.7 0.0
baz=52
TRO Tromso 52.69 345 *e*P P 00 06 26.0 +1.4
TRO *e*S S 00 13 54.0 +2.8
NVAR Mina Array Bea 52.69 75 P P 00 06 25.8 +0.5
comp=Z,33nm,0.8s,baz=296,slow=7.7,SNR=179
NVAR LR LR 00 26 58.2
comp=Z,2µm,19.8s,baz=298,slow=34
NVAR Mina Array Bea 52.69 75 P P 00 06 25.8 +0.5
ELK Elko 52.71 70 *e*P P 00 06 26.1 +0.6
RLMT Red Lodge 52.74 63 *e*P P 00 06 26.2 +0.5
comp=Z,84nm,1.0s
RLMT LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 52.74 63 ⇓P P 00 06 26.1 +0.4
baz=52,SNR=26
RLMT ⇓P P 00 06 26.1 +0.4
baz=52,SNR=26
RLMT ⇓P P 00 06 26.1 +0.4
baz=52,SNR=26
RLMT ⇓P P 00 06 26.1 +0.4
baz=52,SNR=26
RLMT ⇓P P 00 06 26.1 +0.4
baz=52,SNR=26
K15A Arbon 52.77 67 ⇑P P 00 06 26.7 +0.9
baz=52,SNR=11
K15A ⇑P P 00 06 26.7 +0.9
baz=52,SNR=11
K15A ⇑P P 00 06 26.7 +0.9
baz=52,SNR=11
F20A Billings 52.83 61 ⇓P P 00 06 26.3 +0.2
baz=53,SNR=7.2
F20A ⇓P P 00 06 26.3 +0.2
baz=53,SNR=7.2
F20A ⇓P P 00 06 26.3 +0.2
baz=53,SNR=7.2
DCID1 Drake Creek 52.83 65 *e*P P 00 06 27.4 +1.1
comp=Z,55nm,1.0s
J16A Bone 52.84 66 ⇓P P 00 06 26.7 +0.4
baz=53
J16A ⇓P P 00 06 26.7 +0.4
baz=53
J16A ⇓P P 00 06 26.7 +0.4
baz=53
E21A Keefer Ranch, 52.84 60 ⇑P P 00 06 26.5 +0.3
baz=53,SNR=5.2
E21A ⇑P P 00 06 26.5 +0.3
baz=53,SNR=5.2
E21A ⇑P P 00 06 26.5 +0.3
baz=53,SNR=5.2
H18A Shoshone NF, C 52.85 63 ⇑P P 00 06 26.7 +0.2
baz=53
H18A ⇑P P 00 06 26.7 +0.2
baz=53
H18A ⇑P P 00 06 26.7 +0.2
baz=53
D22A Cohagen 52.86 59 ⇑P P 00 06 26.5 +0.3
baz=53,SNR=16
D22A ⇑P P 00 06 26.5 +0.3
baz=53,SNR=16
D22A ⇑P P 00 06 26.5 +0.3
baz=53,SNR=16
L14A Malta 52.86 68 ⇓P P 00 06 27.1 +0.7
baz=53,SNR=23
L14A ⇓P P 00 06 27.1 +0.7
baz=53,SNR=23
L14A ⇓P P 00 06 27.1 +0.7
baz=53,SNR=23
C23A Lambert 52.88 58 ⇑P P 00 06 26.5 +0.1
baz=53,SNR=7.6
C23A ⇑P P 00 06 26.5 +0.1
baz=53,SNR=7.6
C23A ⇑P P 00 06 26.5 +0.1
baz=53,SNR=7.6
DGMT Dagmar 52.89 57 *e*P P 00 06 26.3 -0.1
comp=Z,72nm,1.3s
DGMT LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 52.89 57 ⇓P P 00 06 26.3 -0.1
baz=53
DGMT ⇓P P 00 06 26.3 -0.1
baz=53
DGMT ⇓P P 00 06 26.3 -0.1
baz=53
I17A Pilgrim Ck. 52.92 64 ⇑P P 00 06 27.8 +0.9
baz=53,SNR=5.1
I17A ⇑P P 00 06 27.8 +0.9
baz=53,SNR=5.1
I17A ⇑P P 00 06 27.8 +0.9
baz=53,SNR=5.1
RRI2 Red Ridge 52.94 65 *e*P P 00 06 28.7 +1.5
comp=Z,14nm,0.8s
MOOW Moose Ponds 52.95 65 *e*P P 00 06 27.6 +0.4
comp=Z,31nm,1.1s
MLAC Mammoth Lakes 52.97 76 ⇓P P 00 06 28.5 +1.0
baz=53
MLAC ⇓P P 00 06 28.5 +1.0
baz=53
MLAC ⇓P P 00 06 28.5 +1.0
baz=53
TPAW Teton Pass 53.03 65 *e*P P 00 06 28.6 +0.8
comp=Z,49nm,1.1s
TGY Tagaytay City 53.06 236 P P 00 06 29.6 +1.5
comp=Z,240nm,0.4s,baz=126,slow=5.8,SNR=13
TGY Tagaytay City 53.06 236 P P 00 06 29.6 +1.5
TGY Tagaytay City 53.06 236 P P 00 06 29.6 +1.5
LOHW Long Hollow 53.12 65 *e*P P 00 06 29.1 +0.6
comp=Z,47nm,1.1s
SNOW Snow King Moun 53.15 65 *e*P P 00 06 30.0 +1.3
comp=Z,43nm,1.2s
K16A Soda Springs 53.16 66 ⇓P P 00 06 29.2 +0.4
baz=53,SNR=9.9
K16A ⇓P P 00 06 29.2 +0.4
baz=53,SNR=9.9
K16A ⇓P P 00 06 29.2 +0.4
baz=53,SNR=9.9
REDW Red Top Meadow 53.17 65 *e*P P 00 06 29.8 +1.0
comp=Z,33nm,1.1s
H19A Powell 53.20 63 ⇓P P 00 06 29.4 +0.4
baz=53,SNR=5.3
H19A ⇓P P 00 06 29.4 +0.4
baz=53,SNR=5.3
H19A ⇓P P 00 06 29.4 +0.4
baz=53,SNR=5.3
G20A Bridger 53.20 62 ⇑P P 00 06 28.8 -0.1
baz=53,SNR=9.5
G20A ⇑P P 00 06 28.8 -0.1
baz=53,SNR=9.5
G20A ⇑P P 00 06 28.8 -0.1
baz=53,SNR=9.5
J17A Brown Place, J 53.24 65 ⇑P P 00 06 29.9 +0.6
baz=53,SNR=5.6
J17A ⇑P P 00 06 29.9 +0.6
baz=53,SNR=5.6
J17A ⇑P P 00 06 29.9 +0.6
baz=53,SNR=5.6
ARU Arti 53.27 318 *e*P P 00 06 29.9 +0.9
comp=Z,151nm,1.3s
ARU LR LR
comp=Z,2µm,20.0s
ARU Arti 53.27 318 P P 00 06 29.8 +0.7
comp=Z,416nm,0.8s,SNR=35
HVU Hansel Valley 53.28 68 *e*P P 00 06 30.5 +0.9
comp=Z,26nm,1.0s
D23A Lindsay 53.31 58 ⇑P P 00 06 29.9 +0.3
baz=53
D23A ⇑P P 00 06 29.9 +0.3
baz=53
D23A ⇑P P 00 06 29.9 +0.3
baz=53
MTUM Tungsten Hills 53.32 76 *e*P P 00 06 30.7 +0.8
F21A Absaloka Mine, 53.32 61 ⇑P P 00 06 29.9 +0.2
baz=53
F21A ⇑P P 00 06 29.9 +0.2
baz=53
F21A ⇑P P 00 06 29.9 +0.2
baz=53
L15A Malad City 53.33 67 ⇑P P 00 06 30.4 +0.5
baz=53,SNR=18
L15A ⇑P P 00 06 30.4 +0.5
baz=53,SNR=18
L15A ⇑P P 00 06 30.4 +0.5
baz=53,SNR=18
AHID Auburn Hatcher 53.46 66 *e*P P 00 06 31.6 +0.7
comp=Z,26nm,1.1s
AHID LR LR
comp=Z,860nm,20.0s
I18A Diamond G Ranc 53.46 64 ⇓P P 00 06 31.6 +0.6
baz=53
I18A ⇓P P 00 06 31.6 +0.6
baz=53
I18A ⇓P P 00 06 31.6 +0.6
baz=53
E22A Miles City 53.47 59 ⇑P P 00 06 31.0 +0.3
baz=53
E22A ⇑P P 00 06 31.0 +0.3
baz=53
E22A ⇑P P 00 06 31.0 +0.3
baz=53
TPH Tonopah 53.54 74 PFAKE 00 06 40.0 +8.4
TPH LR LR
comp=Z,1µm,20.0s
K17A Gardner Place, 53.57 66 ⇑P P 00 06 31.7 0.0
baz=53
K17A ⇑P P 00 06 31.7 0.0
baz=53
K17A ⇑P P 00 06 31.7 0.0
baz=53
KMI Kunming 53.61 262 P P 00 06 33.3 +1.0
KMI S S 00 14 06.8 +1.4
KMI pmax pmax
comp=Z,78nm,1.4s
KMI pmax pmax
comp=Z,340nm,3.3s
KMI LR LR
comp=N,5µm,13.8s
KMI LR LR
comp=E,5µm,16.2s
KMI LR LR
comp=Z,4µm,13.1s
KMI Kunming 53.61 262 P P 00 06 33.3 +1.0
KMI S S 00 14 06.8 +1.4
KMI pmax pmax
comp=Z,78nm,1.4s
KMI pmax pmax
comp=Z,340nm,3.3s
KMI LR LR
comp=N,5µm,13.8s
KMI LR LR
comp=E,5µm,16.2s
KMI LR LR
comp=Z,4µm,13.1s
I19A Meeteetse 53.65 63 ⇑P P 00 06 32.3 0.0
baz=53
I19A ⇑P P 00 06 32.3 0.0
baz=53
I19A ⇑P P 00 06 32.3 0.0
baz=53
M15A Larsen Ranch, 53.68 68 ⇑P P 00 06 32.7 +0.2
baz=53,SNR=8.5
M15A ⇑P P 00 06 32.7 +0.2
baz=53,SNR=8.5
M15A ⇑P P 00 06 32.7 +0.2
baz=53,SNR=8.5
RCTC Rector, Farmer 53.70 77 ⇑P P 00 06 33.0 +0.6
baz=54
RCTC ⇑P P 00 06 33.0 +0.6
baz=54
RCTC ⇑P P 00 06 33.0 +0.6
baz=54
G21A Lodge Grass 53.70 61 ⇓P P 00 06 32.4 -0.2
baz=53
G21A ⇓P P 00 06 32.4 -0.2
baz=53
G21A ⇓P P 00 06 32.4 -0.2
baz=53
TIN Tinemaha 53.72 76 ⇑P P 00 06 33.8 +1.0
baz=54,SNR=14
TIN ⇑P P 00 06 33.8 +1.0
baz=54,SNR=14
TIN ⇑P P 00 06 33.8 +1.0
baz=54,SNR=14
JMIC Jan Mayen 53.73 357 LR LR 00 26 44.1
comp=Z,491nm,20.8s,baz=38,slow=33
D24A Glendive 53.78 58 ⇓P P 00 06 33.5 +0.4
baz=54,SNR=7.4
D24A ⇓P P 00 06 33.5 +0.4
baz=54,SNR=7.4
D24A ⇓P P 00 06 33.5 +0.4
baz=54,SNR=7.4
L16A Fish Haven 53.82 67 ⇑P P 00 06 34.0 +0.4
baz=54,SNR=6.9
L16A ⇑P P 00 06 34.0 +0.4
baz=54,SNR=6.9
L16A ⇑P P 00 06 34.0 +0.4
baz=54,SNR=6.9
H20A Greybull 53.83 62 ⇑P P 00 06 33.0 -0.6

	baz=54,SNR=5.9									
H20A				⇑P		P	00 06 33.0	-0.6		
	baz=54,SNR=5.9									
H20A				⇑P		P	00 06 33.0	-0.6		
	baz=54,SNR=5.9									
SMMC	**Simmler**	**54.00**	**78**	⇓P		P	00 06 35.5	+0.7		
	baz=54									
SMMC				⇓P		P	00 06 35.5	+0.7		
	baz=54									
SMMC				⇓P		P	00 06 35.5	+0.7		
	baz=54									
HWUT	**Hardware Ranch**	**54.04**	**67**	*e*P		P	00 06 35.8	+0.6		
	comp=Z,58nm,1.3s									
HWUT				LR		LR				
	comp=Z,2μm,20.0s									
N15A	**Stansbury Isla**	**54.05**	**68**	⇑P		P	00 06 35.5	+0.3		
	baz=54,SNR=8.1									
N15A				⇑P		P	00 06 35.5	+0.3		
	baz=54,SNR=8.1									
N15A				⇑P		P	00 06 35.5	+0.3		
	baz=54,SNR=8.1									
L17A	**Cokeville**	**54.05**	**66**	⇓P		P	00 06 35.7	+0.4		
	baz=54									
L17A				⇓P		P	00 06 35.7	+0.4		
	baz=54									
L17A				⇓P		P	00 06 35.7	+0.4		
	baz=54									
K18A	**Toltan Ranch,**	**54.10**	**65**	⇓P		P	00 06 36.4	+0.7		
	baz=54,SNR=18									
K18A				⇓P		P	00 06 36.4	+0.7		
	baz=54,SNR=18									
K18A				⇓P		P	00 06 36.4	+0.7		
	baz=54,SNR=18									
VES	**Vestal, Richgr**	**54.13**	**77**	⇓P		P	00 06 35.6	0.0		
	baz=54,SNR=12									
VES				⇓P		P	00 06 35.6	0.0		
	baz=54,SNR=12									
VES				⇓P		P	00 06 35.6	0.0		
	baz=54,SNR=12									
I20A	**Worland**	**54.15**	**63**	⇓P		P	00 06 36.0	+0.2		
	baz=54,SNR=6.8									
I20A				⇓P		P	00 06 36.0	+0.2		
	baz=54,SNR=6.8									
I20A				⇓P		P	00 06 36.0	+0.2		
	baz=54,SNR=6.8									
G22A	**Birney**	**54.16**	**61**	⇑P		P	00 06 35.8	-0.2		
	baz=54,SNR=8.6									
G22A				⇑P		P	00 06 35.8	-0.2		
	baz=54,SNR=8.6									
G22A				⇑P		P	00 06 35.8	-0.2		
	baz=54,SNR=8.6									
J19A	**Crowheart**	**54.16**	**64**	⇑P		P	00 06 36.6	+0.5		
	baz=54									
J19A				⇑P		P	00 06 36.6	+0.5		
	baz=54									
J19A				⇑P		P	00 06 36.6	+0.5		
	baz=54									
E24A	**Baker**	**54.18**	**58**	⇑P		P	00 06 35.8	-0.2		
	baz=54									
E24A				⇑P		P	00 06 35.8	-0.2		
	baz=54									
E24A				⇑P		P	00 06 35.8	-0.2		
	baz=54									
H21A	**Big Horn, Sher**	**54.21**	**62**	⇑P		P	00 06 36.2	-0.1		
	baz=54,SNR=6.2									
H21A				⇑P		P	00 06 36.2	-0.1		
	baz=54,SNR=6.2									
H21A				⇑P		P	00 06 36.2	-0.1		
	baz=54,SNR=6.2									
GRAC	**Grapevine Rang**	**54.23**	**75**	⇑P		P	00 06 37.5	+1.0		
	baz=54,SNR=18									
GRAC				⇑P		P	00 06 37.5	+1.0		
	baz=54,SNR=18									
GRAC				⇑P		P	00 06 37.5	+1.0		
	baz=54,SNR=18									
R11A	**Troy Canyon, C**	**54.23**	**73**	⇓P		P	00 06 37.0	+0.4		
	baz=54,SNR=36									
R11A				⇓P		P	00 06 37.0	+0.4		
	baz=54,SNR=36									
R11A				⇓P		P	00 06 37.0	+0.4		
	baz=54,SNR=36									
F23A	**Volborg**	**54.24**	**60**	⇑P		P	00 06 36.4	-0.1		
	baz=54,SNR=12									
F23A				⇑P		P	00 06 36.4	-0.1		
	baz=54,SNR=12									
F23A				⇑P		P	00 06 36.4	-0.1		
	baz=54,SNR=12									
CWC	**Cottonwood Cre**	**54.25**	**76**	⇓P		P	00 06 37.2	+0.5		
	baz=54,SNR=7.4									
CWC				⇓P		P	00 06 37.2	+0.5		
	baz=54,SNR=7.4									
CWC				⇓P		P	00 06 37.2	+0.5		
	baz=54,SNR=7.4									
BW06	**Boulder Array**	**54.26**	**65**	*e*P		P	00 06 37.0	+0.2		
	comp=Z,48nm,1.1s									
BW06				LR		LR				
	comp=Z,2μm,21.0s									
BW06	**Boulder Array**	**54.26**	**65**	⇓P		P	00 06 36.8	0.0		
	baz=54,SNR=55									
BW06				⇓P		P	00 06 36.8	0.0		
	baz=54,SNR=55									
BW06				⇓P		P	00 06 36.8	0.0		
	baz=54,SNR=55									
BW06				⇓P		P	00 06 36.8	0.0		
	baz=54,SNR=55									
BW06				⇓P		P	00 06 36.8	0.0		
	baz=54,SNR=55									
PDAR	**Pinedale Array**	**54.26**	**65**	P		P	00 06 37.0	+0.1		
	comp=Z,8.7nm,0.8s,baz=324,slow=3.0,SNR=66									
PDAR				LR		LR	00 29 05.0			
	comp=Z,1μm,21.7s,baz=162,slow=35									
PDAR	**Pinedale Array**	**54.26**	**65**	P		P	00 06 37.0	+0.1		
FRB	**Frobisher Bay**	**54.32**	**26**	P		P	00 06 35.7	-0.9		
	comp=Z,16nm,0.6s,baz=331,slow=8.5,SNR=60									
FRB	**Frobisher Bay**	**54.32**	**26**	P		P	00 06 35.7	-0.9		
FRB				pmax		pmax				
	comp=Z,16nm,0.6s									
FRB	**Frobisher Bay**	**54.32**	**26**	P		P	00 06 35.7	-0.9		
DUG	**Dugway**	**54.40**	**69**	*e*P		P	00 06 38.4	+0.7		
	comp=Z,24nm,0.9s									
DUG				LR		LR				
	comp=Z,1μm,19.0s									
DUG	**Dugway**	**54.40**	**69**	⇑P		P	00 06 38.3	+0.6		
	baz=54,SNR=29									
DUG				⇑P		P	00 06 38.3	+0.6		
	baz=54,SNR=29									
DUG				⇑P		P	00 06 38.3	+0.6		
	baz=54,SNR=29									
PKM	**Peak Mountain**	**54.41**	**79**	⇓P		P	00 06 38.8	+0.9		
	baz=54,SNR=10									
PKM				⇓P		P	00 06 38.8	+0.9		
	baz=54,SNR=10									
PKM				⇓P		P	00 06 38.8	+0.9		
	baz=54,SNR=10									
TARA	**Tarawa**	**54.41**	**169**	PFAKE			00 06 50.0	+12		
TARA				LR		LR				
	comp=Z,920nm,19.0s									
O15A	**The Old Anders**	**54.52**	**69**	⇑P		P	00 06 39.2	+0.5		
	baz=54									
O15A				⇑P		P	00 06 39.2	+0.5		
	baz=54									
O15A				⇑P		P	00 06 39.2	+0.5		
	baz=54									
QIZ	**Qiongzhong**	**54.56**	**251**	PFAKE			00 06 50.0	+11		
QIZ				LR		LR				
	comp=Z,2μm,19.0s									
H22A	**Clearmont**	**54.58**	**61**	⇓P		P	00 06 38.8	-0.2		
	baz=54,SNR=5.6									
H22A				⇓P		P	00 06 38.8	-0.2		
	baz=54,SNR=5.6									
H22A				⇓P		P	00 06 38.8	-0.2		
	baz=54,SNR=5.6									
K19A	**Absolon Red Bu**	**54.58**	**64**	⇓P		P	00 06 38.8	-0.4		
	baz=54,SNR=5.8									
K19A				⇓P		P	00 06 38.8	-0.4		
	baz=54,SNR=5.8									
K19A				⇓P		P	00 06 38.8	-0.4		
	baz=54,SNR=5.8									
ISA	**Isabella**	**54.59**	**77**	*e*P		P	00 06 38.7	-0.5		
	comp=Z,21nm,0.8s									
ISA	**Isabella**	**54.59**	**77**	⇑P		P	00 06 38.8	-0.4		
	baz=54,SNR=21									
ISA				⇑P		P	00 06 38.8	-0.4		
	baz=54,SNR=21									
ISA				⇑P		P	00 06 38.8	-0.4		
	baz=54,SNR=21									
J20A	**Shoshoni**	**54.60**	**63**	⇓P		P	00 06 39.6	+0.5		
	baz=54,SNR=16									
J20A				⇓P		P	00 06 39.6	+0.5		
	baz=54,SNR=16									
J20A				⇓P		P	00 06 39.6	+0.5		
	baz=54,SNR=16									
M17A	**Scullys Gap (B**	**54.61**	**67**	⇑P		P	00 06 39.4	0.0		
	baz=54,SNR=9.6									
M17A				⇑P		P	00 06 39.4	0.0		
	baz=54,SNR=9.6									
M17A				⇑P		P	00 06 39.4	0.0		
	baz=54,SNR=9.6									
L18A	**Fontenelle, Gr**	**54.62**	**66**	⇑P		P	00 06 39.6	+0.2		
	baz=54									
L18A				⇑P		P	00 06 39.6	+0.2		
	baz=54									
L18A				⇑P		P	00 06 39.6	+0.2		
	baz=54									
G23A	**Biddle**	**54.62**	**60**	⇑P		P	00 06 39.1	-0.1		
	baz=54,SNR=6.8									
G23A				⇑P		P	00 06 39.1	-0.1		
	baz=54,SNR=6.8									
G23A				⇑P		P	00 06 39.1	-0.1		
	baz=54,SNR=6.8									
F24A	**Ekalaka**	**54.63**	**59**	⇑P		P	00 06 39.1	-0.2		
	baz=54									
F24A				⇑P		P	00 06 39.1	-0.2		
	baz=54									
F24A				⇑P		P	00 06 39.1	-0.2		
	baz=54									
N16A	**Rees Ranch, Co**	**54.63**	**68**	⇑P		P	00 06 39.9	+0.4		
	baz=54									
N16A				⇑P		P	00 06 39.9	+0.4		
	baz=54									
N16A				⇑P		P	00 06 39.9	+0.4		
	baz=54									
DAC	**Darwin (Calif)**	**54.63**	**76**	PFAKE			00 06 50.0	+10		
DAC				LR		LR				
	comp=Z,781nm,20.0s									
I21A	**Big Trails, Te**	**54.67**	**63**	⇓P		P	00 06 39.5	-0.2		
	baz=54,SNR=6.4									
I21A				⇓P		P	00 06 39.5	-0.2		
	baz=54,SNR=6.4									
I21A				⇓P		P	00 06 39.5	-0.2		
	baz=54,SNR=6.4									
ARVC	**Arvin**	**54.79**	**78**	⇑P		P	00 06 40.3	-0.2		
	baz=55									
ARVC				⇑P		P	00 06 40.3	-0.2		
	baz=55									
ARVC				⇑P		P	00 06 40.3	-0.2		
	baz=55									
JLU	**Jordanelle**	**54.83**	**68**	*e*P		P	00 06 42.0	+1.0		
	comp=Z,35nm,1.3s									
L19A	**Farson**	**54.84**	**65**	⇑P		P	00 06 40.7	-0.3		
	baz=55									
L19A				⇑P		P	00 06 40.7	-0.3		
	baz=55									
L19A				⇑P		P	00 06 40.7	-0.3		
	baz=55									
MPMC	**Manual Prospec**	**54.85**	**76**	⇑P		P	00 06 41.6	+0.5		
	baz=55,SNR=26									
MPMC				⇑P		P	00 06 41.6	+0.5		
	baz=55,SNR=26									
MPMC				⇑P		P	00 06 41.6	+0.5		
	baz=55,SNR=26									
FURC	**Furnace Creek,**	**54.90**	**75**	⇑P		P	00 06 42.0	+0.8		
	baz=55,SNR=48									
FURC				⇑P		P	00 06 42.0	+0.8		
	baz=55,SNR=48									
FURC				⇑P		P	00 06 42.0	+0.8		
	baz=55,SNR=48									
N17A	**Moffit Pass**	**54.90**	**67**	⇑P		P	00 06 41.7	+0.1		
	baz=55									
N17A				⇑P		P	00 06 41.7	+0.1		
	baz=55									
N17A				⇑P		P	00 06 41.7	+0.1		
	baz=55									
J21A	**Lysite**	**54.92**	**63**	⇑P		P	00 06 41.8	+0.2		
	baz=55,SNR=6.0									
J21A				⇑P		P	00 06 41.8	+0.2		
	baz=55,SNR=6.0									
J21A				⇑P		P	00 06 41.8	+0.2		
	baz=55,SNR=6.0									
M18A	**Lyman**	**54.96**	**66**	⇓P		P	00 06 41.9	0.0		
	baz=55									
M18A				⇓P		P	00 06 41.9	0.0		
	baz=55									
M18A				⇓P		P	00 06 41.9	0.0		
	baz=55									
K20A	**Yellowstone Ra**	**54.96**	**64**	⇑P		P	00 06 41.2	-0.6		
	baz=55									
K20A				⇑P		P	00 06 41.2	-0.6		
	baz=55									
K20A				⇑P		P	00 06 41.2	-0.6		
	baz=55									
G24A	**Alzada**	**55.01**	**59**	⇓P		P	00 06 41.5	-0.5		
	baz=55									
G24A				⇓P		P	00 06 41.5	-0.5		
	baz=55									
G24A				⇓P		P	00 06 41.5	-0.5		
	baz=55									
I22A	**9 Mile Ranch,**	**55.02**	**62**	⇑P		P	00 06 42.1	-0.1		
	baz=55,SNR=9.1									
I22A				⇑P		P	00 06 42.1	-0.1		
	baz=55,SNR=9.1									
I22A				⇑P		P	00 06 42.1	-0.1		
	baz=55,SNR=9.1									
SFJD	**Kangerlussuaq**	**55.08**	**16**	P		P	00 06 41.6	-0.5		
	comp=Z,10nm,0.8s,baz=314,slow=7.1,SNR=8.6									
SFJD				LR		LR	00 32 20.1			
	comp=Z,1μm,18.3s,baz=333,slow=38									
SFJD	**Kangerlussuaq**	**55.08**	**16**	P		P	00 06 41.6	-0.5		
SFJD				pmax		pmax				
	comp=Z,10.0nm,0.8s									
SFJD				MLR		MLR				
	comp=Z,1μm,18.3s									
SFJD	**Kangerlussuaq**	**55.08**	**16**	P		P	00 06 41.6	-0.5		
O16A	**Springville**	**55.08**	**68**	⇑P		P	00 06 43.3	+0.6		
	baz=55,SNR=15									
O16A				⇑P		P	00 06 43.3	+0.6		
	baz=55,SNR=15									
O16A				⇑P		P	00 06 43.3	+0.6		
	baz=55,SNR=15									
P15A	**Leamington**	**55.13**	**69**	⇑P		P	00 06 43.6	+0.5		
	baz=55,SNR=24									
P15A				⇑P		P	00 06 43.6	+0.5		
	baz=55,SNR=24									
P15A				⇑P		P	00 06 43.6	+0.5		
	baz=55,SNR=24									
MPU	**Maple Canyon**	**55.15**	**69**	*e*P		P	00 06 44.0	+0.8		
	comp=Z,53nm,1.2s									
LRMC	**Laurel Mountai**	**55.17**	**77**	⇓P		P	00 06 43.6	+0.3		
	baz=55,SNR=21									
LRMC				⇓P		P	00 06 43.6	+0.3		
	baz=55,SNR=21									
LRMC				⇓P		P	00 06 43.6	+0.3		
	baz=55,SNR=21									
BSC	**Santa Cruz Isl**	**55.17**	**79**	⇓P		P	00 06 43.5	+0.2		
	baz=55									
BSC				⇓P		P	00 06 43.5	+0.2		
	baz=55									
BSC				⇓P		P	00 06 43.5	+0.2		
	baz=55									
OSI	**Osito Adit**	**55.23**	**78**	*e*P		P	00 06 44.8	+1.1		
	comp=Z,41nm,0.9s									
OSI	**Osito Adit**	**55.23**	**78**	⇓P		P	00 06 44.4	+0.7		
	baz=55									
OSI				⇓P		P	00 06 44.4	+0.7		
	baz=55									
OSI				⇓P		P	00 06 44.4	+0.7		
	baz=55									
R13A	**O'Grain Ranch,**	**55.23**	**72**	⇓P		P	00 06 44.4	+0.5		
	baz=55,SNR=19									
R13A				⇓P		P	00 06 44.4	+0.5		
	baz=55,SNR=19									
R13A				⇓P		P	00 06 44.4	+0.5		
	baz=55,SNR=19									
H24A	**Dirks Ranch, A**	**55.36**	**60**	⇓P		P	00 06 44.2	-0.4		
	baz=55,SNR=5.4									
H24A				⇓P		P	00 06 44.2	-0.4		
	baz=55,SNR=5.4									
H24A				⇓P		P	00 06 44.2	-0.4		
	baz=55,SNR=5.4									
J22A	**Midwest**	**55.37**	**62**	⇓P		P	00 06 44.7	-0.1		
	baz=55									
J22A				⇓P		P	00 06 44.7	-0.1		
	baz=55									
J22A				⇓P		P	00 06 44.7	-0.1		
	baz=55									
M19A	**Rock Springs**	**55.37**	**66**	⇓P		P	00 06 44.9	0.0		
	baz=55									
M19A				⇓P		P	00 06 44.9	0.0		
	baz=55									
M19A				⇓P		P	00 06 44.9	0.0		
	baz=55									
BLG	**Laguna Peak**	**55.41**	**79**	⇑P		P	00 06 45.1	+0.2		
	baz=55									
BLG				⇑P		P	00 06 45.1	+0.2		
	baz=55									
BLG				⇑P		P	00 06 45.1	+0.2		
	baz=55									
ULM	**Lac du Bonnet**	**55.41**	**50**	P		P	00 06 44.4	-0.3		
	comp=Z,9.9nm,0.6s,baz=317,slow=7.6,SNR=28									
ULM				LR		LR	00 32 54.6			
	comp=Z,2μm,19.5s,baz=152,slow=39									
ULM	**Lac du Bonnet**	**55.41**	**50**	*e*P		P	00 06 44.6	-0.2		
ULM				pmax		pmax				
	comp=Z,10.0nm,0.6s									
ULM	**Lac du Bonnet**	**55.41**	**50**	*e*P		P	00 06 44.5	-0.2		
TKM2	**Tokmak 2**	**55.42**	**297**	P		P	00 06 45.4	+0.2		
	SNR=14									
TKM2				P		P	00 06 45.4	+0.2		
	SNR=14									
TKM2	**Tokmak 2**	**55.42**	**297**	*i* P		P	00 06 45.4	+0.2		
TKM2	**Tokmak 2**	**55.42**	**297**	*e*P		P	00 06 45.3	+0.2		
	comp=Z,11nm,0.9s									
TKM2				LR		LR				
	comp=Z,5μm,21.0s									
P16A	**Fountain Green**	**55.43**	**69**	⇓P		P	00 06 46.3	+1.0		
	baz=55									
P16A				⇓P		P	00 06 46.3	+1.0		
	baz=55									
P16A				⇓P		P	00 06 46.3	+1.0		
	baz=55									
L20A	**Wamsutter**	**55.43**	**65**	⇓P		P	00 06 45.4	+0.1		
	baz=55									
L20A				⇓P		P	00 06 45.4	+0.1		
	baz=55									
L20A				⇓P		P	00 06 45.4	+0.1		
	baz=55									
EDW2	**Edwards Air Fo**	**55.44**	**77**	⇓P		P	00 06 45.5	+0.3		
	baz=55,SNR=23									
EDW2				⇓P		P	00 06 45.5	+0.3		
	baz=55,SNR=23									
EDW2				⇓P		P	00 06 45.5	+0.3		
	baz=55,SNR=23									
I23A	**Meade Ranch, G**	**55.48**	**61**	⇑P		P	00 06 45.4	-0.1		
	baz=55									
I23A				⇑P		P	00 06 45.4	-0.1		
	baz=55									
I23A				⇑P		P	00 06 45.4	-0.1		
	baz=55									
MDND	**Maddock**	**55.48**	**54**	⇓P		P	00 06 45.7	+0.4		
	baz=55									
MDND				⇓P		P	00 06 45.7	+0.4		
	baz=55									
MDND				⇓P		P	00 06 45.7	+0.4		
	baz=55									
O17A	**Robinson Place**	**55.49**	**68**	⇑P		P	00 06 46.9	+1.1		
	baz=55									
O17A				⇑P		P	00 06 46.9	+1.1		
	baz=55									
O17A				⇑P		P	00 06 46.9	+1.1		
	baz=55									
K21A	**Alcova**	**55.54**	**63**	⇑P		P	00 06 45.7	-0.3		
	baz=55,SNR=5.4									
K21A				⇑P		P	00 06 45.7	-0.3		
	baz=55,SNR=5.4									
K21A				⇑P		P	00 06 45.7	-0.3		
	baz=55,SNR=5.4									
ULHL	**Ulahol**	**55.58**	**296**	P		P	00 06 46.8	+0.5		
	SNR=5.7									
ULHL				P		P	00 06 46.8	+0.5		
	SNR=5.7									
SHOC	**Shoshone**	**55.63**	**75**	⇑P		P	00 06 47.2	+0.6		
	baz=55									
SHOC				⇑P		P	00 06 47.2	+0.6		
	baz=55									
SHOC				⇑P		P	00 06 47.2	+0.6		
	baz=55									
DECC	**Green Verdugo**	**55.71**	**78**	⇓P		P	00 06 47.6	+0.4		
	baz=56									
DECC				⇓P		P	00 06 47.6	+0.4		
	baz=56									
DECC				⇓P		P	00 06 47.6	+0.4		
	baz=56									
USP	**Ospenovka**	**55.72**	**298**	P		P	00 06 47.4	+0.3		
	SNR=32									
USP				P		P	00 06 47.4	+0.3		
	SNR=32									
GSC	**Goldstone**	**55.78**	**76**	*e*P		P	00 06 48.3	+0.6		
	comp=Z,64nm,1.0s									
GSC	**Goldstone**	**55.78**	**76**	⇓P		P	00 06 48.3	+0.6		
	baz=56,SNR=29									
GSC				⇓P		P	00 06 48.3	+0.6		
	baz=56,SNR=29									
GSC				⇓P		P	00 06 48.3	+0.6		
	baz=56,SNR=29									
CHMS	**Chumysh**	**55.79**	**297**	P		P	00 06 47.9	+0.3		
	SNR=8.6									
CHMS				P		P	00 06 47.9	+0.3		
	SNR=8.6									
ARUT	**Antelope Range**	**55.80**	**72**	*e*P		P	00 06 48.2	+0.2		
	comp=Z,35nm,1.1s									
N19A	**John Jarvie Ra**	**55.81**	**66**	⇓P		P	00 06 47.8	-0.1		
	baz=56,SNR=7.0									
N19A				⇓P		P	00 06 47.8	-0.1		
	baz=56,SNR=7.0									
N19A				⇓P		P	00 06 47.8	-0.1		
	baz=56,SNR=7.0									
O18A	**Roosevelt**	**55.83**	**67**	⇓P		P	00 06 48.9	+0.8		
	baz=56,SNR=9.2									
O18A				⇓P		P	00 06 48.9	+0.8		
	baz=56,SNR=9.2									
O18A				⇓P		P	00 06 48.9	+0.8		
	baz=56,SNR=9.2									
PASC	**Pasadena Art C**	**55.85**	**78**	*e*P		P	00 06 48.9	+0.7		
	comp=Z,54nm,1.1s									
MWC	**Mount Wilson**	**55.88**	**78**	*e*P		P	00 06 49.4	+0.8		
	comp=Z,82nm,1.1s									
M20A	**Sweetwater, Wa**	**55.89**	**65**	⇑P		P	00 06 49.1	+0.5		
	baz=56,SNR=6.9									
M20A				⇑P		P	00 06 49.1	+0.5		
	baz=56,SNR=6.9									
M20A				⇑P		P	00 06 49.1	+0.5		
	baz=56,SNR=6.9									
K22A	**Casper**	**55.90**	**63**	⇑P		P	00 06 48.4	-0.1		
	baz=56,SNR=5.3									
K22A				⇑P		P	00 06 48.4	-0.1		
	baz=56,SNR=5.3									
K22A				⇑P		P	00 06 48.4	-0.1		
	baz=56,SNR=5.3									
TMUT	**Trail Mountain**	**55.90**	**69**	*e*P		P	00 06 49.6	+0.8		
	comp=Z,53nm,1.1s									
KBK	**Karagaybulak**	**55.94**	**297**	P		P	00 06 49.8	+0.9		
	SNR=14									
KBK				P		P	00 06 49.8	+0.9		
	SNR=14									
MVU	**Marysvale**	**55.94**	**70**	PFAKE			00 07 00.0	+11		
MVU				LR		LR				
	comp=Z,875nm,20.0s									
MSU	**Marysvale**	**55.95**	**70**	*e*P		P	00 06 50.1	+1.0		
L21A	**Rawlins**	**55.96**	**64**	⇓P		P	00 06 49.2	+0.1		
	baz=56									
L21A				⇓P		P	00 06 49.2	+0.1		
	baz=56									
L21A				⇓P

	baz=56,SNR=5.4								
P17A					⇓P		P	00 06 50.0	+0.5
	baz=56,SNR=5.4								
P17A					⇓P		P	00 06 50.0	+0.5
	baz=56,SNR=5.4								
RSSD	**Black Hills**	**56.07**	**60**		*e*P		P	00 06 49.8	-0.1
	comp=Z,38nm,1.1s								
KLMR	**Klimovskoe**	**56.08**	**331**	*c*	*i*P		P	00 06 50.2	+0.9
KLMR					*e*S		S	00 14 30.7	-6.4
KLMR						pmax	pmax		
	comp=Z,33nm,1.0s								
BFSC	**Mount Baldy Ra**	**56.09**	**78**		⇑P		P	00 06 50.3	+0.2
	baz=56,SNR=9.8								
BFSC					⇑P		P	00 06 50.3	+0.2
	baz=56,SNR=9.8								
BFSC					⇑P		P	00 06 50.3	+0.2
	baz=56,SNR=9.8								
R15A	**Junction**	**56.12**	**71**		⇓P		P	00 06 51.0	+0.8
	baz=56								
R15A					⇓P		P	00 06 51.0	+0.8
	baz=56								
R15A					⇓P		P	00 06 51.0	+0.8
	baz=56								
FMP	**Fort Macarthur**	**56.13**	**78**		⇑P		P	00 06 50.3	+0.2
	baz=56								
FMP					⇑P		P	00 06 50.3	+0.2
	baz=56								
FMP					⇑P		P	00 06 50.3	+0.2
	baz=56								
P18A	**Preston Nutter**	**56.17**	**68**		⇓P		P	00 06 51.2	+0.5
	baz=56,SNR=10								
P18A					⇓P		P	00 06 51.2	+0.5
	baz=56,SNR=10								
P18A					⇓P		P	00 06 51.2	+0.5
	baz=56,SNR=10								
TUQ	**Turquoise Moun**	**56.17**	**75**		⇓P		P	00 06 51.1	+0.5
	baz=56,SNR=17								
TUQ					⇓P		P	00 06 51.1	+0.5
	baz=56,SNR=17								
TUQ					⇓P		P	00 06 51.1	+0.5
	baz=56,SNR=17								
AAK	**Ala-Archa**	**56.18**	**297**		P		P	00 06 51.5	+0.9
	SNR=14								
AAK					P		P	00 06 51.5	+0.9
	SNR=14								
AAK	**Ala-Archa**	**56.18**	**297**	*i*	P		P	00 06 51.5	+0.9
AAK	**Ala-Archa**	**56.18**	**297**		PFAKE			00 07 00.0	+9.4
AAK					LR		LR		
	comp=Z,5µm,21.0s								
AAK	**Ala-Archa**	**56.18**	**297**		P		P	00 06 51.9	+1.3
	comp=Z,136nm,1.0s,SNR=18								
Q16A	**Castle Valley**	**56.19**	**69**		⇑P		P	00 06 51.4	+0.6
	baz=56,SNR=8.4								
Q16A					⇑P		P	00 06 51.4	+0.6
	baz=56,SNR=8.4								
Q16A					⇑P		P	00 06 51.4	+0.6
	baz=56,SNR=8.4								
KZA	**Kyzart**	**56.20**	**296**		P		P	00 06 51.8	+0.7
	SNR=8.2								
KZA					P		P	00 06 51.8	+0.7
	SNR=8.2								
M21A	**Separation Pea**	**56.23**	**64**		⇑P		P	00 06 50.8	-0.2
	baz=56,SNR=5.4								
M21A					⇑P		P	00 06 50.8	-0.2
	baz=56,SNR=5.4								
M21A					⇑P		P	00 06 50.8	-0.2
	baz=56,SNR=5.4								
CIS	**Catalina Islan**	**56.30**	**79**		⇓P		P	00 06 51.8	+0.5
	baz=56								
CIS					⇓P		P	00 06 51.8	+0.5
	baz=56								
CIS					⇓P		P	00 06 51.8	+0.5
	baz=56								
N20A	**Spence Gulch,**	**56.33**	**66**		⇑P		P	00 06 52.4	+0.7
	baz=56,SNR=19								
N20A					⇑P		P	00 06 52.4	+0.7
	baz=56,SNR=19								
N20A					⇑P		P	00 06 52.4	+0.7
	baz=56,SNR=19								
L22A	**Ellis Ranch, M**	**56.39**	**63**		⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=5.0								
L22A					⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=5.0								
L22A					⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=5.0								
HEC	**Hector,Ludlow**	**56.39**	**76**		⇑P		P	00 06 52.7	+0.6
	baz=56,SNR=9.0								
HEC					⇑P		P	00 06 52.7	+0.6
	baz=56,SNR=9.0								
HEC					⇑P		P	00 06 52.7	+0.6
	baz=56,SNR=9.0								
JOF	**Joensuu**	**56.40**	**336**	*e*	P		P	00 06 50.6	-1.0
JOF						pmax	pmax		
	comp=Z,10.0nm,0.6s								
JOF	**Joensuu**	**56.40**	**336**	*e*	*p*		P	00 06 50.6	-1.0
	comp=Z,10nm,0.6s								
JOF	**Joensuu**	**56.40**	**336**	*e*	*p*		P	00 06 50.6	-1.0
	comp=Z,10nm,0.6s								
SRU	**San Rafael**	**56.40**	**69**	*e*	P		P	00 06 52.9	+0.7
	comp=Z,62nm,0.9s								
SRU	**San Rafael**	**56.40**	**69**		⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=49								
SRU					⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=49								
SRU					⇓P		P	00 06 52.8	+0.6
	baz=56,SNR=49								
BBRC	**Big Bear Solar**	**56.49**	**77**		⇑P		P	00 06 53.3	+0.4
	baz=56								
BBRC					⇑P		P	00 06 53.3	+0.4
	baz=56								
BBRC					⇑P		P	00 06 53.3	+0.4
	baz=56								
R16A	**Teasdale**	**56.49**	**70**		⇑P		P	00 06 53.9	+0.9
	baz=56								
R16A					⇑P		P	00 06 53.9	+0.9
	baz=56								
R16A					⇑P		P	00 06 53.9	+0.9
	baz=56								
EKS2	**Erkin-Say**	**56.52**	**298**		P		P	00 06 53.6	+0.6
	SNR=19								
EKS2					P		P	00 06 53.6	+0.6
	SNR=19								
EKS2	**Erkin-Say**	**56.52**	**298**		*e*P		P	00 06 53.5	+0.6
	comp=Z,27nm,1.0s								
EKS2					LR		LR		
	comp=Z,3µm,21.0s								
SCI	**San Clemente I**	**56.53**	**79**		⇑P		P	00 06 53.7	+0.7
	baz=56								
SCI					⇑P		P	00 06 53.7	+0.7
	baz=56								
SCI					⇑P		P	00 06 53.7	+0.7
	baz=56								
MOR8	**Moi Rana**	**56.55**	**346**		*e*P		P	00 06 51.8	-0.9
Q18A	**Rafter H Ranch**	**56.61**	**68**		⇓P		P	00 06 54.1	+0.5
	baz=56,SNR=9.3								
Q18A					⇓P		P	00 06 54.1	+0.5
	baz=56,SNR=9.3								
Q18A					⇓P		P	00 06 54.1	+0.5
	baz=56,SNR=9.3								
LSA	**Lhasa**	**56.69**	**275**		PFAKE			00 07 10.0	+15
LSA					LR		LR		
	comp=Z,6µm,21.0s								
L23A	**Garrett**	**56.70**	**63**		⇑P		P	00 06 54.0	-0.4
	baz=56,SNR=6.7								
L23A					⇑P		P	00 06 54.0	-0.4
	baz=56,SNR=6.7								
L23A					⇑P		P	00 06 54.0	-0.4
	baz=56,SNR=6.7								
N21A	**Black Mountain**	**56.76**	**65**		⇑P		P	00 06 55.1	+0.2
	baz=56								
N21A					⇑P		P	00 06 55.1	+0.2
	baz=56								
N21A					⇑P		P	00 06 55.1	+0.2
	baz=56								
M22A	**Cedar Creek Ra**	**56.77**	**64**		⇓P		P	00 06 54.8	-0.1
	baz=56								
M22A					⇓P		P	00 06 54.8	-0.1
	baz=56								
M22A					⇓P		P	00 06 54.8	-0.1
	baz=56								
GMRC	**Granite Mounta**	**56.80**	**76**		⇓P		P	00 06 55.3	+0.2
	baz=57,SNR=23								
GMRC					⇓P		P	00 06 55.3	+0.2
	baz=57,SNR=23								
GMRC					⇓P		P	00 06 55.3	+0.2
	baz=57,SNR=23								
R17A	**Hanksville Air**	**56.80**	**69**		⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=9.9								
R17A					⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=9.9								
R17A					⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=9.9								
MURC	**Murrieta**	**56.82**	**78**		⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=7.7								
MURC					⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=7.7								
MURC					⇑P		P	00 06 55.2	+0.1
	baz=57,SNR=7.7								
P19A	**Cripple Cowboy**	**56.83**	**67**		⇓P		P	00 06 55.4	+0.1
	baz=57,SNR=18								
P19A					⇓P		P	00 06 55.4	+0.1
	baz=57,SNR=18								
P19A					⇓P		P	00 06 55.4	+0.1
	baz=57,SNR=18								
S16A	**Weppner Ranch,**	**56.84**	**70**		⇓P		P	00 06 56.4	+1.0
	baz=57,SNR=17								
S16A					⇓P		P	00 06 56.4	+1.0
	baz=57,SNR=17								
S16A					⇓P		P	00 06 56.4	+1.0
	baz=57,SNR=17								
O20A	**White River Ci**	**56.85**	**66**		⇓P		P	00 06 55.6	+0.2
	baz=57,SNR=15								
O20A					⇓P		P	00 06 55.6	+0.2
	baz=57,SNR=15								
O20A					⇓P		P	00 06 55.6	+0.2
	baz=57,SNR=15								
AGMN	**Agassiz Nation**	**56.86**	**52**		*e*P		P	00 06 54.9	-0.2
	comp=Z,43nm,1.1s								
AGMN						LR	LR		
	comp=Z,2µm,19.0s								
LDFC	**Landfair**	**56.88**	**75**		*e*P		P	00 06 56.3	+0.7
	comp=Z,109nm,1.4s								
AML	**Almayashu**	**56.95**	**297**		P		P	00 06 57.3	+0.9
	SNR=18								
AML					P		P	00 06 57.3	+0.9
	SNR=18								
M23A	**Laramie**	**57.17**	**63**		⇑P		P	00 06 57.7	0.0
	baz=57,SNR=6.6								
M23A					⇑P		P	00 06 57.7	0.0
	baz=57,SNR=6.6								
M23A					⇑P		P	00 06 57.7	0.0
	baz=57,SNR=6.6								
Q19A	**Hogan Spring (**	**57.18**	**68**		⇑P		P	00 06 57.6	0.0
	baz=57,SNR=41								
Q19A					⇑P		P	00 06 57.6	0.0
	baz=57,SNR=41								
Q19A					⇑P		P	00 06 57.6	0.0
	baz=57,SNR=41								
O21A	**Pagoda**	**57.19**	**66**		⇑P		P	00 06 58.2	+0.3
	baz=57,SNR=9.0								
O21A					⇑P		P	00 06 58.2	+0.3
	baz=57,SNR=9.0								
O21A					⇑P		P	00 06 58.2	+0.3
	baz=57,SNR=9.0								
BELC	**Belle Mtn. Jos**	**57.19**	**77**		⇑P		P	00 06 58.0	+0.1
	baz=57								
BELC					⇑P		P	00 06 58.0	+0.1
	baz=57								
BELC					⇑P		P	00 06 58.0	+0.1
	baz=57								
DAV	**Davao City (W)**	**57.21**	**228**		P		P	00 06 59.6	+1.7
	comp=Z,160nm,0.4s,baz=290,slow=5.7,SNR=10								
DAV	**Davao City (W)**	**57.21**	**228**		P		P	00 06 59.6	+1.7
DAV					LR		LR		
	comp=Z,3µm,21.0s								
PFO	**Pinyon Flat Ob**	**57.23**	**77**		*e*P		P	00 06 58.4	+0.3
	comp=Z,12nm,1.0s								
PFO						LR	LR		
	comp=Z,936nm,19.0s								
PFO	**Pinyon Flat Ob**	**57.23**	**77**		⇑P		P	00 06 58.0	-0.1
	baz=57,SNR=5.7								
PFO					⇑P		P	00 06 58.0	-0.1
	baz=57,SNR=5.7								
PFO					⇑P		P	00 06 58.0	-0.1
	baz=57,SNR=5.7								
P20A	**De Beque**	**57.23**	**67**		⇓P		P	00 06 58.0	-0.2
	baz=57,SNR=6.4								
P20A					⇓P		P	00 06 58.0	-0.2
	baz=57,SNR=6.4								
P20A					⇓P		P	00 06 58.0	-0.2
	baz=57,SNR=6.4								
K25A	**Mack Ranch, Ha**	**57.26**	**61**		⇓P		P	00 06 58.1	-0.2
	baz=57								
K25A					⇓P		P	00 06 58.1	-0.2
	baz=57								
K25A					⇓P		P	00 06 58.1	-0.2
	baz=57								
R18A	**Canyonlands Na**	**57.26**	**69**		⇑P		P	00 06 58.0	-0.4
	baz=57,SNR=19								
R18A					⇑P		P	00 06 58.0	-0.4
	baz=57,SNR=19								
R18A					⇑P		P	00 06 58.0	-0.4
	baz=57,SNR=19								
N22A	**Wattenberg Ran**	**57.28**	**64**		⇓P		P	00 06 59.2	+0.6
	baz=57,SNR=9.3								
N22A					⇓P		P	00 06 59.2	+0.6
	baz=57,SNR=9.3								
N22A					⇓P		P	00 06 59.2	+0.6
	baz=57,SNR=9.3								
S17A	**Black Ridge (B**	**57.33**	**70**		⇓P		P	00 06 59.1	+0.3
	baz=57,SNR=13								
S17A					⇓P		P	00 06 59.1	+0.3
	baz=57,SNR=13								
S17A					⇓P		P	00 06 59.1	+0.3
	baz=57,SNR=13								
109C	**Camp Elliot, M**	**57.41**	**78**		⇓P		P	00 06 59.6	+0.4
	baz=57								
109C					⇓P		P	00 06 59.6	+0.4
	baz=57								
109C					⇓P		P	00 06 59.6	+0.4
	baz=57								
N23A	**Red Feather La**	**57.48**	**64**		⇑P		P	00 07 00.3	+0.3
	baz=57,SNR=6.0								
N23A					⇑P		P	00 07 00.3	+0.3
	baz=57,SNR=6.0								
N23A					⇑P		P	00 07 00.3	+0.3
	baz=57,SNR=6.0								
K26A	**Motz Farm, Whi**	**57.54**	**61**		⇑P		P	00 06 59.9	-0.2
	baz=57								
K26A					⇑P		P	00 06 59.9	-0.2
	baz=57								
K26A					⇑P		P	00 06 59.9	-0.2
	baz=57								
W13A	**Hualapai Mount**	**57.54**	**74**		⇑P		P	00 07 00.8	+0.4
	baz=57,SNR=12								
W13A					⇑P		P	00 07 00.8	+0.4
	baz=57,SNR=12								
W13A					⇑P		P	00 07 00.8	+0.4
	baz=57,SNR=12								
IRM	**Iron Mountain**	**57.54**	**76**		⇑P		P	00 07 00.9	+0.7
	baz=57,SNR=15								
IRM					⇑P		P	00 07 00.9	+0.7
	baz=57,SNR=15								
IRM					⇑P		P	00 07 00.9	+0.7
	baz=57,SNR=15								
L25A	**Engebretsen Ra**	**57.55**	**62**		⇓P		P	00 07 00.3	0.0
	baz=57								
L25A					⇓P		P	00 07 00.3	0.0
	baz=57								
L25A					⇓P		P	00 07 00.3	0.0
	baz=57								
M24A	**Cheyenne**	**57.62**	**63**		⇓P		P	00 07 01.4	+0.5
	baz=57,SNR=7.5								
M24A					⇓P		P	00 07 01.4	+0.5
	baz=57,SNR=7.5								
M24A					⇓P		P	00 07 01.4	+0.5
	baz=57,SNR=7.5								
R19A	**Curley Farm, L**	**57.67**	**68**		⇑P		P	00 07 01.3	+0.1
	baz=57,SNR=7.4								
R19A					⇑P		P	00 07 01.3	+0.1
	baz=57,SNR=7.4								
R19A					⇑P		P	00 07 01.3	+0.1
	baz=57,SNR=7.4								
Q20A	**Ridgley Place,**	**57.69**	**67**		⇓P		P	00 07 01.2	-0.2
	baz=57,SNR=5.2								
Q20A					⇓P		P	00 07 01.2	-0.2
	baz=57,SNR=5.2								
Q20A					⇓P		P	00 07 01.2	-0.2
	baz=57,SNR=5.2								
O22A	**Kremmling**	**57.70**	**65**		⇑P		P	00 07 02.0	+0.4
	baz=57,SNR=6.5								
O22A					⇑P		P	00 07 02.0	+0.4
	baz=57,SNR=6.5								
O22A					⇑P		P	00 07 02.0	+0.4
	baz=57,SNR=6.5								
KSH	**Kashi**	**57.71**	**294**		P		P	00 07 05.8	+4.4
KSH					*e*pP		pP	00 07 10.0	+4.0
KSH					*e*sP		sP	00 07 12.5	+4.8
KSH					*e*PP		PP	00 09 15.5	+6.5
KSH					*e*ScP		**ScP**	**00 11 55.3**	**+1.8**
KSH					*e*PcS		**PcS**	**00 11 57.5**	**+1.9**
KSH					*e*S		**S**	**00 15 03.8**	**+4.3**
KSH					*e*sS		sS	00 15 11.3	+4.3
KSH					*e*ScS		**ScS**	**00 16 51.0**	**+0.7**
KSH					*e*SS		**SS**	**00 18 56.0**	**+6.7**
KSH						pmax	pmax		
	comp=Z,36nm,1.5s								
KSH						LR	LR		
	comp=N,3µm,17.9s								
KSH						LR	LR		
	comp=E,4µm,14.9s								
KSH						LR	LR		
	comp=Z,3µm,17.9s								
P21A	**Newcastle**	**57.71**	**66**		⇑P		P	00 07 01.7	+0.1
	baz=58								
P21A					⇑P		P	00 07 01.7	+0.1
	baz=58								
P21A					⇑P		P	00 07 01.7	+0.1
	baz=58								
S18A	**Hurst Farm, Bl**	**57.72**	**69**		⇓P		P	00 07 01.6	-0.1
	baz=58,SNR=13								
S18A					⇓P		P	00 07 01.6	-0.1
	baz=58,SNR=13								
S18A					⇓P		P	00 07 01.6	-0.1
	baz=58,SNR=13								
BC3	**Big Chuckawall**	**57.75**	**76**		⇑P		P	00 07 01.5	-0.2
	baz=58,SNR=9.0								
BC3					⇑P		P	00 07 01.5	-0.2
	baz=58,SNR=9.0								
BC3					⇑P		P	00 07 01.5	-0.2
	baz=58,SNR=9.0								
PV04	**Paradox Valley**	**57.78**	**68**		*e*P		P	00 07 02.6	+0.6
MONP	**Monument Peak**	**57.79**	**78**		⇑P		P	00 07 02.1	0.0
	baz=58,SNR=5.2								
MONP					⇑P		P	00 07 02.1	0.0
	baz=58,SNR=5.2								
MONP					⇑P		P	00 07 02.1	0.0
	baz=58,SNR=5.2								
BAR	**Barrett**	**57.80**	**78**		*e*P		P	00 07 02.5	+0.5
	comp=Z,25nm,1.2s								
T17A	**Navajo Res., N**	**57.80**	**70**		⇑P		P	00 07 02.3	+0.1
	baz=58								
T17A					⇑P		P	00 07 02.3	+0.1
	baz=58								
T17A					⇑P		P	00 07 02.3	+0.1
	baz=58								
KKAR	**Karatay Array**	**57.82**	**300**		*e*P		P	00 07 02.5	+0.5
AKTO	**Aktyubinsk**	**57.98**	**314**		P		P	00 07 03.2	+0.3
	comp=Z,23nm,0.8s,baz=53,slow=8.1,SNR=76								
AKTO	**Aktyubinsk**	**57.98**	**314**		P		P	00 07 03.3	+0.3
AKTO						pmax	pmax		
	comp=Z,23nm,0.9s								
AKTO	**Aktyubinsk**	**57.98**	**314**		P		P	00 07 03.2	+0.3
O23A	**Lake Granby, G**	**57.99**	**65**		⇑P		P	00 07 04.7	+1.1
	baz=58,SNR=8.4								
O23A					⇑P		P	00 07 04.7	+1.1
	baz=58,SNR=8.4								
O23A					⇑P		P	00 07 04.7	+1.1
	baz=58,SNR=8.4								
PDMCI	**Parker Dam,Lak**	**57.99**	**75**		⇓P		P	00 07 04.0	+0.7
	baz=58								
PDMCI					⇓P		P	00 07 04.0	+0.7
	baz=58								
PDMCI					⇓P		P	00 07 04.0	+0.7
	baz=58								
K27A	**Flueckinger Fa**	**58.00**	**60**		⇑P		P	00 07 03.2	-0.2
	baz=58								
K27A					⇑P		P	00 07 03.2	-0.2
	baz=58								
K27A					⇑P		P	00 07 03.2	-0.2
	baz=58								
P22A	**Eagle**	**58.02**	**66**		⇑P		P	00 07 04.3	+0.6
	baz=58,SNR=5.8								
P22A					⇑P		P	00 07 04.3	+0.6
	baz=58,SNR=5.8								
P22A					⇑P		P	00 07 04.3	+0.6
	baz=58,SNR=5.8								
M25A	**Palm-Egli Farm**	**58.04**	**62**		⇑P		P	00 07 04.1	+0.4
	baz=58,SNR=5.4								
M25A					⇑P		P	00 07 04.1	+0.4
	baz=58,SNR=5.4								
M25A					⇑P		P	00 07 04.1	+0.4
	baz=58,SNR=5.4								
N24A	**Carr**	**58.07**	**63**		⇑P		P	00 07 04.5	+0.6
	baz=58,SNR=5.5								
N24A					⇑P		P	00 07 04.5	+0.6
	baz=58,SNR=5.5								
N24A					⇑P		P	00 07 04.5	+0.6
	baz=58,SNR=5.5								
ABKAR	**Akbulak array**	**58.07**	**312**		*e*P		P	00 07 04.3	+0.7
SWSC	**Sam W. Stewart**	**58.10**	**77**		⇑P		P	00 07 04.2	+0.1
	baz=58								
SWSC					⇑P		P	00 07 04.2	+0.1
	baz=58								
SWSC					⇑P		P	00 07 04.2	+0.1
	baz=58								
DVTC	**Desert V Tower**	**58.14**	**78**		⇓P		P	00 07 04.6	+0.2
	baz=58								
DVTC					⇓P		P	00 07 04.6	+0.2
	baz=58								
DVTC					⇓P		P	00 07 04.6	+0.2
	baz=58								
S19A	**Harvey Farm, M**	**58.14**	**69**		⇓P		P	00 07 04.5	-0.1
	baz=58,SNR=13								
S19A					⇓P		P	00 07 04.5	-0.1
	baz=58,SNR=13								
S19A					⇓P		P	00 07 04.5	-0.1
	baz=58,SNR=13								
PV01	**Paradox Valley**	**58.15**	**68**		*e*P		P	00 07 05.2	+0.5
	comp=Z,2µm,1.1s								
Q21A	**Lamborn Mesa,**	**58.15**	**67**		⇓P		P	00 07 05.0	+0.4
	baz=58,SNR=5.9								
Q21A					⇓P		P	00 07 05.0	+0.4
	baz=58,SNR=5.9								
Q21A					⇓P		P	00 07 05.0	+0.4
	baz=58,SNR=5.9								
Y12C	**Blythe**	**58.19**	**76**		⇑P		P	00 07 05.2	+0.5
	baz=58,SNR=6.5								
Y12C					⇑P		P	00 07 05.2	+0.5
	baz=58,SNR=6.5								
Y12C					⇑P		P	00 07 05.2	+0.5
	baz=58,SNR=6.5								
T18A	**Mexican Hat**	**58.20**	**70**		⇑P		P	00 07 04.6	-0.2
	baz=58,SNR=11								
T18A					⇑P		P	00 07 04.6	-0.2
	baz=58,SNR=11								
T18A					⇑P		P	00 07 04.6	-0.2
	baz=58,SNR=11								
KAF	**Kangasniemi**	**58.21**	**338**		*e*P		P	00 07 03.0	-1.4
KAF						pmax	pmax		
	comp=Z,6.0nm,0.7s								
KAF	**Kangasniemi**	**58.21**	**338**		*ep*		P	00 07 03.0	-1.4
	comp=Z,6.4nm,0.7s								
KAF	**Kangasniemi**	**58.21**	**338**		*ep*		P	00 07 03.0	-1.4
	comp=Z,6.4nm,0.7s								
R20A	**Redvale**	**58.21**	**68**		⇑P		P	00 07 05.1	+0.1
	baz=58,SNR=6.3								
R20A					⇑P		P	00 07 05.1	+0.1
	baz=58,SNR=6.3								
R20A					⇑P		P	00 07 05.1	+0.1
	baz=58,SNR=6.3								
SMCO	**Snowmass**	**58.21**	**66**		*e*P		P	00 07 05.5	+0.3
	comp=Z,34nm,1.1s								
U16A	**Tuba City**	**58.26**	**71**		⇑P		P	00 07 05.8	+0.4
	baz=58,SNR=7.6								
U16A					⇑P		P	00 07 05.8	+0.4
	baz=58,SNR=7.6								
U16A					⇑P		P	00 07 05.8	+0.4
	baz=58,SNR=7.6			

	baz=58,SNR=5.9							
Q22A	**Crested Butte,**	**58.48**	**66**	⇑P		**P**	**00 07 07.2**	**+0.1**
	baz=58,SNR=8.4							
Q22A				⇑P		**P**	**00 07 07.2**	**+0.1**
	baz=58,SNR=8.4							
Q22A				⇑P		**P**	**00 07 07.2**	**+0.1**
	baz=58,SNR=8.4							
S20A	**Disappointment**	**58.49**	**68**	⇑P		**P**	**00 07 07.4**	**+0.4**
	baz=58,SNR=6.3							
S20A				⇑P		**P**	**00 07 07.4**	**+0.4**
	baz=58,SNR=6.3							
S20A				⇑P		**P**	**00 07 07.4**	**+0.4**
	baz=58,SNR=6.3							
O24A	**Longmont**	**58.49**	**64**	⇓P		**P**	**00 07 08.0**	**+1.1**
	baz=58							
O24A				⇓P		**P**	**00 07 08.0**	**+1.1**
	baz=58							
O24A				⇓P		**P**	**00 07 08.0**	**+1.1**
	baz=58							
R21A	**Cimarron**	**58.51**	**67**	⇑P		**P**	**00 07 07.7**	**+0.5**
	baz=58,SNR=13							
R21A				⇑P		**P**	**00 07 07.7**	**+0.5**
	baz=58,SNR=13							
R21A				⇑P		**P**	**00 07 07.7**	**+0.5**
	baz=58,SNR=13							
GLA	**Glamis**	**58.55**	**76**	*e*P		**P**	**00 07 08.3**	**+1.0**
	comp=Z,31nm,0.9s							
GLA	**Glamis**	**58.55**	**76**	⇑P		**P**	**00 07 07.8**	**+0.5**
	baz=58,SNR=6.0							
GLA				⇑P		**P**	**00 07 07.8**	**+0.5**
	baz=58,SNR=6.0							
GLA				⇑P		**P**	**00 07 07.8**	**+0.5**
	baz=58,SNR=6.0							
WUAZ	**Wupatki**	**58.60**	**72**	*e*P		**P**	**00 07 09.0**	**+1.2**
	comp=Z,21nm,0.9s							
WUAZ	**Wupatki**	**58.60**	**72**	⇑P		**P**	**00 07 08.5**	**+0.8**
	baz=58,SNR=18							
WUAZ				⇑P		**P**	**00 07 08.5**	**+0.8**
	baz=58,SNR=18							
WUAZ				⇑P		**P**	**00 07 08.5**	**+0.8**
	baz=58,SNR=18							
U18A	**Rough Rock, Ch**	**58.73**	**70**	⇑P		**P**	**00 07 09.1**	**+0.4**
	baz=58							
U18A				⇑P		**P**	**00 07 09.1**	**+0.4**
	baz=58							
U18A				⇑P		**P**	**00 07 09.1**	**+0.4**
	baz=58							
M27A	**Reverse DX Ran**	**58.80**	**61**	⇑P		**P**	**00 07 09.4**	**+0.4**
	baz=58							
M27A				⇑P		**P**	**00 07 09.4**	**+0.4**
	baz=58							
M27A				⇑P		**P**	**00 07 09.4**	**+0.4**
	baz=58							
V17A	**Tonalea, Kykot**	**58.83**	**72**	⇓P		**P**	**00 07 10.2**	**+0.8**
	baz=59,SNR=33							
V17A				⇓P		**P**	**00 07 10.2**	**+0.8**
	baz=59,SNR=33							
V17A				⇓P		**P**	**00 07 10.2**	**+0.8**
	baz=59,SNR=33							
FINES	**FINESS Array B**	**58.86**	**338**	P		**P**	**00 07 09.3**	**+0.4**
	comp=Z,12nm,0.8s,baz=24,slow=9.1,SNR=32							
FINES				LR		LR	00 35 16.4	
	comp=Z,2µm,20.6s,baz=153,slow=39							
FINES	**FINESS Array B**	**58.86**	**338**	P		**P**	**00 07 09.3**	**+0.4**
FINES				pmax		pmax		
	comp=Z,12nm,0.8s							
FINES				MLR		MLR		
	comp=Z,2µm,20.6s							
FINES	**FINESS Array B**	**58.86**	**338**	P		**P**	**00 07 09.3**	**+0.4**
MVCO	**Mesa Verde**	**58.88**	**69**	*e*P		**P**	**00 07 10.5**	**+0.8**
	comp=Z,30nm,1.3s							
MVCO				LR		LR		
	comp=Z,911nm,20.0s							
MVCO	**Mesa Verde**	**58.88**	**69**	⇑P		**P**	**00 07 10.1**	**+0.4**
	baz=59							
MVCO				⇑P		**P**	**00 07 10.1**	**+0.4**
	baz=59							
MVCO				⇑P		**P**	**00 07 10.1**	**+0.4**
	baz=59							
T19A	**Beclabito**	**58.88**	**69**	⇓P		**P**	**00 07 10.1**	**+0.4**
	baz=59,SNR=12							
T19A				⇓P		**P**	**00 07 10.1**	**+0.4**
	baz=59,SNR=12							
T19A				⇓P		**P**	**00 07 10.1**	**+0.4**
	baz=59,SNR=12							
Y14A	**Wickenburg**	**58.89**	**74**	⇓P		**P**	**00 07 10.3**	**+0.6**
	baz=59,SNR=5.7							
Y14A				⇓P		**P**	**00 07 10.3**	**+0.6**
	baz=59,SNR=5.7							
Y14A				⇓P		**P**	**00 07 10.3**	**+0.6**
	baz=59,SNR=5.7							
N26A	**Koester Ranch,**	**58.91**	**62**	⇓P		**P**	**00 07 10.4**	**+0.6**
	baz=59							
N26A				⇓P		**P**	**00 07 10.4**	**+0.6**
	baz=59							
N26A				⇓P		**P**	**00 07 10.4**	**+0.6**
	baz=59							
S21A	**Coal Bank Pass**	**58.91**	**68**	⇑P		**P**	**00 07 10.8**	**+0.7**
	baz=59,SNR=11							
S21A				⇑P		**P**	**00 07 10.8**	**+0.7**
	baz=59,SNR=11							
S21A				⇑P		**P**	**00 07 10.8**	**+0.7**
	baz=59,SNR=11							
O25A	**Wiggins**	**58.99**	**63**	⇑P		**P**	**00 07 11.0**	**+0.6**
	baz=59							
O25A				⇑P		**P**	**00 07 11.0**	**+0.6**
	baz=59							
O25A				⇑P		**P**	**00 07 11.0**	**+0.6**
	baz=59							
R22A	**Saguache, Gunn**	**59.03**	**67**	⇓P		**P**	**00 07 11.1**	**+0.2**
	baz=59							
R22A				⇓P		**P**	**00 07 11.1**	**+0.2**
	baz=59							
R22A				⇓P		**P**	**00 07 11.1**	**+0.2**
	baz=59							
EYMN	**Ely**	**59.04**	**49**	*e*P		**P**	**00 07 10.2**	**-0.3**
	comp=Z,34nm,1.0s							
EYMN				LR		LR		
	comp=Z,1µm,19.0s							
Z13A	**Yuma Proving G**	**59.09**	**75**	⇑P		**P**	**00 07 11.5**	**+0.6**
	baz=59,SNR=8.1							
Z13A				⇑P		**P**	**00 07 11.5**	**+0.6**
	baz=59,SNR=8.1							
Z13A				⇑P		**P**	**00 07 11.5**	**+0.6**
	baz=59,SNR=8.1							
U19A	**Dine' College,**	**59.18**	**70**	⇑P		**P**	**00 07 12.2**	**+0.3**
	baz=59							
U19A				⇑P		**P**	**00 07 12.2**	**+0.3**
	baz=59							
U19A				⇑P		**P**	**00 07 12.2**	**+0.3**
	baz=59							
V18A	**Ganado**	**59.23**	**71**	⇓P		**P**	**00 07 12.6**	**+0.4**
	baz=59							
V18A				⇓P		**P**	**00 07 12.6**	**+0.4**
	baz=59							
V18A				⇓P		**P**	**00 07 12.6**	**+0.4**
	baz=59							
N27A	**Anderson Farm,**	**59.27**	**62**	⇓P		**P**	**00 07 12.8**	**+0.6**
	baz=59,SNR=5.4							
N27A				⇓P		**P**	**00 07 12.8**	**+0.6**
	baz=59,SNR=5.4							
N27A				⇓P		**P**	**00 07 12.8**	**+0.6**
	baz=59,SNR=5.4							
W17A	**Winslow**	**59.28**	**72**	⇓P		**P**	**00 07 13.4**	**+0.9**
	baz=59							
W17A				⇓P		**P**	**00 07 13.4**	**+0.9**
	baz=59							
W17A				⇓P		**P**	**00 07 13.4**	**+0.9**
	baz=59							
O26A	**Horse Wrangler**	**59.30**	**63**	⇑P		**P**	**00 07 13.1**	**+0.6**
	baz=59							
O26A				⇑P		**P**	**00 07 13.1**	**+0.6**
	baz=59							
O26A				⇑P		**P**	**00 07 13.1**	**+0.6**
	baz=59							
Q24A	**Divide**	**59.32**	**65**	⇓P		**P**	**00 07 13.4**	**+0.5**
	baz=59,SNR=5.5							
Q24A				⇓P		**P**	**00 07 13.4**	**+0.5**
	baz=59,SNR=5.5							
Q24A				⇓P		**P**	**00 07 13.4**	**+0.5**
	baz=59,SNR=5.5							
113A	**Mohawk Valley,**	**59.35**	**76**	⇓P		**P**	**00 07 13.0**	**+0.3**
	baz=59,SNR=6.2							
113A				⇓P		**P**	**00 07 13.0**	**+0.3**
	baz=59,SNR=6.2							
113A				⇓P		**P**	**00 07 13.0**	**+0.3**
	baz=59,SNR=6.2							
Z14A	**Wintersburg**	**59.35**	**75**	⇑P		**P**	**00 07 13.4**	**+0.6**
	baz=59							
Z14A				⇑P		**P**	**00 07 13.4**	**+0.6**
	baz=59							
Z14A				⇑P		**P**	**00 07 13.4**	**+0.6**
	baz=59							
S22A	**4UR Ranch, Cre**	**59.35**	**67**	⇑P		**P**	**00 07 13.9**	**+0.8**
	baz=59,SNR=6.5							
S22A				⇑P		**P**	**00 07 13.9**	**+0.8**
	baz=59,SNR=6.5							
S22A				⇑P		**P**	**00 07 13.9**	**+0.8**
	baz=59,SNR=6.5							
X16A	**Lo Mia Camp, P**	**59.38**	**73**	⇓P		**P**	**00 07 14.1**	**+0.9**
	baz=59,SNR=14							
X16A				⇓P		**P**	**00 07 14.1**	**+0.9**
	baz=59,SNR=14							
X16A				⇓P		**P**	**00 07 14.1**	**+0.9**
	baz=59,SNR=14							
P25A	**Willow Gulch B**	**59.41**	**64**	⇑P		**P**	**00 07 14.1**	**+0.8**
	baz=59,SNR=5.7							
P25A				⇑P		**P**	**00 07 14.1**	**+0.8**
	baz=59,SNR=5.7							
P25A				⇑P		**P**	**00 07 14.1**	**+0.8**
	baz=59,SNR=5.7							
OGNE	**Ogallala**	**59.42**	**61**	PFAKE			00 07 30.0	+17
OGNE				LR		LR		
	comp=Z,1µm,20.0s							
U20A	**Newcomb**	**59.49**	**69**	⇑P		**P**	**00 07 14.4**	**+0.5**
	baz=59							
U20A				⇑P		**P**	**00 07 14.4**	**+0.5**
	baz=59							
U20A				⇑P		**P**	**00 07 14.4**	**+0.5**
	baz=59							
R23A	**Moffat**	**59.55**	**66**	⇓P		**P**	**00 07 15.0**	**+0.6**
	baz=59							
R23A				⇓P		**P**	**00 07 15.0**	**+0.6**
	baz=59							
R23A				⇓P		**P**	**00 07 15.0**	**+0.6**
	baz=59							
T21A	**Navajo Lake**	**59.55**	**68**	⇓P		**P**	**00 07 14.9**	**+0.6**
	baz=59							
T21A				⇓P		**P**	**00 07 14.9**	**+0.6**
	baz=59							
T21A				⇓P		**P**	**00 07 14.9**	**+0.6**
	baz=59							
V19A	**Window Rock**	**59.70**	**70**	⇑P		**P**	**00 07 16.1**	**+0.6**
	baz=60							
V19A				⇑P		**P**	**00 07 16.1**	**+0.6**
	baz=60							
V19A				⇑P		**P**	**00 07 16.1**	**+0.6**
	baz=60							
O27A	**Beecher Island**	**59.76**	**62**	⇑P		**P**	**00 07 16.2**	**+0.6**
	baz=60							
O27A				⇑P		**P**	**00 07 16.2**	**+0.6**
	baz=60							
O27A				⇑P		**P**	**00 07 16.2**	**+0.6**
	baz=60							
W18A	**Petrified Fore**	**59.78**	**71**	⇓P		**P**	**00 07 16.6**	**+0.7**
	baz=60							
W18A				⇓P		**P**	**00 07 16.6**	**+0.7**
	baz=60							
W18A				⇓P		**P**	**00 07 16.6**	**+0.7**
	baz=60							
X17A	**Forest Lakes**	**59.79**	**73**	⇑P		**P**	**00 07 16.9**	**+0.8**
	baz=60							
X17A				⇑P		**P**	**00 07 16.9**	**+0.8**
	baz=60							
X17A				⇑P		**P**	**00 07 16.9**	**+0.8**
	baz=60							
P26A	**Davis Ranch, A**	**59.79**	**63**	⇑P		**P**	**00 07 16.4**	**+0.5**
	baz=60							
P26A				⇑P		**P**	**00 07 16.4**	**+0.5**
	baz=60							
P26A				⇑P		**P**	**00 07 16.4**	**+0.5**
	baz=60							
Q25A	**Bedland, Calha**	**59.82**	**64**	⇑P		**P**	**00 07 16.7**	**+0.5**
	baz=60							
Q25A				⇑P		**P**	**00 07 16.7**	**+0.5**
	baz=60							
Q25A				⇑P		**P**	**00 07 16.7**	**+0.5**
	baz=60							
114A	**Black Gap (USA**	**59.85**	**75**	⇑P		**P**	**00 07 16.9**	**+0.7**
	baz=60,SNR=6.3							
114A				⇑P		**P**	**00 07 16.9**	**+0.7**
	baz=60,SNR=6.3							
114A				⇑P		**P**	**00 07 16.9**	**+0.7**
	baz=60,SNR=6.3							
T22A	**Edith**	**59.87**	**68**	⇓P		**P**	**00 07 17.4**	**+0.8**
	baz=60,SNR=5.9							
T22A				⇓P		**P**	**00 07 17.4**	**+0.8**
	baz=60,SNR=5.9							
T22A				⇓P		**P**	**00 07 17.4**	**+0.8**
	baz=60,SNR=5.9							
R24A	**Sanders Place,**	**59.89**	**66**	⇑P		**P**	**00 07 17.2**	**+0.5**
	baz=60							
R24A				⇑P		**P**	**00 07 17.2**	**+0.5**
	baz=60							
R24A				⇑P		**P**	**00 07 17.2**	**+0.5**
	baz=60							
U21A	**Nageezi**	**59.91**	**69**	⇓P		**P**	**00 07 17.3**	**+0.4**
	baz=60,SNR=5.7							
U21A				⇓P		**P**	**00 07 17.3**	**+0.4**
	baz=60,SNR=5.7							
U21A				⇓P		**P**	**00 07 17.3**	**+0.4**
	baz=60,SNR=5.7							
ECSD	**EROS Data Cent**	**59.94**	**56**	*e*P		**P**	**00 07 16.1**	**-0.6**
	comp=Z,35nm,1.2s							
ECSD				LR		LR		
	comp=Z,1µm,19.0s							
V20A	**Brimhall**	**59.95**	**70**	⇑P		**P**	**00 07 17.6**	**+0.5**
	baz=60							
V20A				⇑P		**P**	**00 07 17.6**	**+0.5**
	baz=60							
V20A				⇑P		**P**	**00 07 17.6**	**+0.5**
	baz=60							
W19A	**Sanders**	**59.97**	**71**	⇑P		**P**	**00 07 18.2**	**+0.9**
	baz=60							
W19A				⇑P		**P**	**00 07 18.2**	**+0.9**
	baz=60							
W19A				⇑P		**P**	**00 07 18.2**	**+0.9**
	baz=60							
BORG	**Borgarnes**	**60.03**	**3**	LR		LR	00 34 53.6	
	comp=Z,649nm,19.2s,baz=9.1,slow=38							
SDCO	**Great Sand Dun**	**60.05**	**66**	*e*P		**P**	**00 07 18.4**	**+0.5**
	comp=Z,19nm,1.1s							
SDCO				LR		LR		
	comp=Z,1µm,19.0s							
SDCO	**Great Sand Dun**	**60.05**	**66**	⇓P		**P**	**00 07 18.4**	**+0.5**
	baz=60,SNR=5.8							
SDCO				⇓P		**P**	**00 07 18.4**	**+0.5**
	baz=60,SNR=5.8							
SDCO				⇓P		**P**	**00 07 18.4**	**+0.5**
	baz=60,SNR=5.8							
SDCO				⇓P		**P**	**00 07 18.4**	**+0.5**
	baz=60,SNR=5.8							
SDCO				⇓P		**P**	**00 07 18.4**	**+0.5**
	baz=60,SNR=5.8							
X18A	**Snowflake**	**60.11**	**72**	⇓P		**P**	**00 07 19.1**	**+0.8**
	baz=60,SNR=7.0							
X18A				⇓P		**P**	**00 07 19.1**	**+0.8**
	baz=60,SNR=7.0							
X18A				⇓P		**P**	**00 07 19.1**	**+0.8**
	baz=60,SNR=7.0							
Q26A	**Hugo**	**60.19**	**64**	⇑P		**P**	**00 07 19.3**	**+0.7**
	baz=60							
Q26A				⇑P		**P**	**00 07 19.3**	**+0.7**
	baz=60							
Q26A				⇑P		**P**	**00 07 19.3**	**+0.7**
	baz=60							
S24A	**Houchin Ranch,**	**60.28**	**66**	⇓P		**P**	**00 07 20.1**	**+0.6**
	baz=60							
S24A				⇓P		**P**	**00 07 20.1**	**+0.6**
	baz=60							
S24A				⇓P		**P**	**00 07 20.1**	**+0.6**
	baz=60							
R25A	**Fountain Ranch**	**60.38**	**65**	⇑P		**P**	**00 07 20.3**	**+0.3**
	baz=60,SNR=5.9							
R25A				⇑P		**P**	**00 07 20.3**	**+0.3**
	baz=60,SNR=5.9							
R25A				⇑P		**P**	**00 07 20.3**	**+0.3**
	baz=60,SNR=5.9							
V21A	**Milan**	**60.39**	**69**	⇓P		**P**	**00 07 20.0**	**-0.1**
	baz=60							
V21A				⇓P		**P**	**00 07 20.0**	**-0.1**
	baz=60							
V21A				⇓P		**P**	**00 07 20.0**	**-0.1**
	baz=60							
W20A	**Ramah**	**60.44**	**70**	⇑P		**P**	**00 07 20.8**	**+0.3**
	baz=60,SNR=9.1							
W20A				⇑P		**P**	**00 07 20.8**	**+0.3**
	baz=60,SNR=9.1							
W20A				⇑P		**P**	**00 07 20.8**	**+0.3**
	baz=60,SNR=9.1							
214A	**Organ Pipe Nat**	**60.49**	**76**	⇑P		**P**	**00 07 21.2**	**+0.6**
	baz=60,SNR=5.6							
214A				⇑P		**P**	**00 07 21.2**	**+0.6**
	baz=60,SNR=5.6							
214A				⇑P		**P**	**00 07 21.2**	**+0.6**
	baz=60,SNR=5.6							
X19A	**St. Johns**	**60.54**	**71**	⇓P		**P**	**00 07 21.8**	**+0.6**
	baz=60,SNR=8.9							
X19A				⇓P		**P**	**00 07 21.8**	**+0.6**
	baz=60,SNR=8.9							
X19A				⇓P		**P**	**00 07 21.8**	**+0.6**
	baz=60,SNR=8.9							
SPMN	**St. Paul**	**60.56**	**52**	⇓P		**P**	**00 07 20.5**	**-0.4**
	baz=60,SNR=8.4							
SPMN				⇓P		**P**	**00 07 20.5**	**-0.4**
	baz=60,SNR=8.4							
SPMN				⇓P		**P**	**00 07 20.5**	**-0.4**
	baz=60,SNR=8.4							
KSCO	**Kaye Shedlock'**	**60.57**	**63**	⇑P		**P**	**00 07 21.7**	**+0.5**
	baz=60							
KSCO				⇑P		**P**	**00 07 21.7**	**+0.5**
	baz=60							
KSCO				⇑P		**P**	**00 07 21.7**	**+0.5**
	baz=60							
Y18A	**Canyon Day Jun**	**60.63**	**72**	⇑P		**P**	**00 07 22.3**	**+0.6**
	baz=60							
Y18A				⇑P		**P**	**00 07 22.3**	**+0.6**
	baz=60							
Y18A				⇑P		**P**	**00 07 22.3**	**+0.6**
	baz=60							
S25A	**Robets Cordova**	**60.67**	**66**	⇑P		**P**	**00 07 22.1**	**+0.1**
	baz=60							
S25A				⇑P		**P**	**00 07 22.1**	**+0.1**
	baz=60							
S25A				⇑P		**P**	**00 07 22.1**	**+0.1**
	baz=60							
V22A	**San Miguel Ran**	**60.69**	**69**	⇓P		**P**	**00 07 22.5**	**+0.2**
	baz=60							
V22A				⇓P		**P**	**00 07 22.5**	**+0.2**
	baz=60							
V22A				⇓P		**P**	**00 07 22.5**	**+0.2**
	baz=60							
R26A	**Arlington**	**60.69**	**64**	⇑P		**P**	**00 07 22.3**	**+0.2**
	baz=60,SNR=20							
R26A				⇑P		**P**	**00 07 22.3**	**+0.2**
	baz=60,SNR=20							
R26A				⇑P		**P**	**00 07 22.3**	**+0.2**
	baz=60,SNR=20							
CHTO	**Chiang Mai**	**60.74**	**261**	PFAKE			00 07 40.0	+18
CHTO				LR		LR		
	comp=Z,2µm,19.0s							
U23A	**El Rito**	**60.76**	**68**	⇓P		**P**	**00 07 23.4**	**+0.7**
	baz=60,SNR=5.6							
U23A				⇓P		**P**	**00 07 23.4**	**+0.7**
	baz=60,SNR=5.6							
U23A				⇓P		**P**	**00 07 23.4**	**+0.7**
	baz=60,SNR=5.6							
T24A	**Torres, Weston**	**60.79**	**66**	⇑P		**P**	**00 07 23.6**	**+0.7**
	baz=60							
T24A				⇑P		**P**	**00 07 23.6**	**+0.7**
	baz=60							
T24A				⇑P		**P**	**00 07 23.6**	**+0.7**
	baz=60							
X20A	**Quemado**	**60.88**	**71**	⇑P		**P**	**00 07 24.4**	**+0.9**
	baz=61,SNR=6.2							
X20A				⇑P		**P**	**00 07 24.4**	**+0.9**
	baz=61,SNR=6.2							
X20A				⇑P		**P**	**00 07 24.4**	**+0.9**
	baz=61,SNR=6.2							
Y19A	**Nutrioso**	**60.92**	**72**	⇑P		**P**	**00 07 25.0**	**+1.1**
	baz=61,SNR=7.0							
Y19A				⇑P		**P**	**00 07 25.0**	**+1.1**
	baz=61,SNR=7.0							
Y19A				⇑P		**P**	**00 07 25.0**	**+1.1**
	baz=61,SNR=7.0							
MOS	**Moscow**	**60.93**	**329**	*e*P		**P**	**00 07 23.0**	**-0.2**
MOS				*e*S		**S**	**00 15 39.9**	**-0.5**
MOS				pmax		pmax		
	comp=Z,58nm,1.3s							
BGNE	**Belgrade**	**60.98**	**59**	⇓P		**P**	**00 07 24.1**	**+0.3**
	baz=61							
BGNE				⇓P		**P**	**00 07 24.1**	**+0.3**
	baz=61							
BGNE				⇓P		**P**	**00 07 24.1**	**+0.3**
	baz=61							
CM31	**Chiang Mai Arr**	**61.03**	**260**	PFAKE			00 07 40.0	+16
CM31				LR		LR		
	comp=Z,2µm,19.0s							
CMAR	**Chiang Mai Arr**	**61.03**	**260**	P		**P**	**00 07 25.5**	**+1.1**
	comp=Z,27nm,0.6s,baz=24,slow=6.5,SNR=15							
CMAR				LR		LR	00 37 10.8	
	comp=Z,2µm,18.4s,baz=45,slow=39							
CMAR	**Chiang Mai Arr**	**61.03**	**260**	P		**P**	**00 07 25.5**	**+1.1**
CMAR				pmax		pmax		
	comp=Z,27nm,0.6s							
CMAR				MLR		MLR		
	comp=Z,2µm,18.4s							
CMAR	**Chiang Mai Arr**	**61.03**	**260**	P		**P**	**00 07 25.5**	**+1.1**
R27A	**Eads**	**61.04**	**64**	⇑P		**P**	**00 07 24.7**	**+0.3**
	baz=61							
R27A				⇑P		**P**	**00 07 24.7**	**+0.3**
	baz=61							
R27A				⇑P		**P**	**00 07 24.7**	**+0.3**
	baz=61							
T25A	**Trinidad**	**61.08**	**66**	⇑P		**P**	**00 07 25.1**	**+0.3**
	baz=61,SNR=6.9							
T25A				⇑P		**P**	**00 07 25.1**	**+0.3**
	baz=61,SNR=6.9							
T25A				⇑P		**P**	**00 07 25.1**	**+0.3**
	baz=61,SNR=6.9							
S26A	**Kim**	**61.20**	**65**	⇓P		**P**	**00 07 25.9**	**+0.3**
	baz=61							
S26A				⇓P		**P**	**00 07 25.9**	**+0.3**
	baz=61							
S26A				⇓P		**P**	**00 07 25.9**	**+0.3**
	baz=61							
V23A	**Ortiz Mt. (NFS**	**61.20**	**68**	⇓P		**P**	**00 07 26.8**	**+1.1**
	baz=61,SNR=6.9							
V23A				⇓P		**P**	**00 07 26.8**	**+1.1**
	baz=61,SNR=6.9							
V23A				⇓P		**P**	**00 07 26.8**	**+1.1**
	baz=61,SNR=6.9							
TUC	**Tucson**	**61.34**	**74**	*e*P		**P**	**00 07 26.9**	**+0.4**
	comp=Z,12nm,1.2s							
VSU	**Vasula**	**61.40**	**336**	*e*P		**P**	**00 07 27.5**	**+1.1**
VSU				pmax		pmax		
	comp=Z,24nm,1.2s							
Y20A	**Horse Springs,**	**61.43**	**71**	⇓P		**P**	**00 07 28.3**	**+1.0**
	baz=61,SNR=8.8							
Y20A				⇓P		**P**	**00 07 28.3**	**+1.0**
	baz=61,SNR=8.8							
Y20A				⇓P		**P**	**00 07 28.3**	**+1.0**
	baz=61,SNR=8.8							
S27A	**Las Animas**	**61.44**	**64**	⇑P		**P**	**00 07 27.1**	**-0.1**
	baz=61							
S27A				⇑P		**P**	**00 07 27.1**	**-0.1**
	baz=61							
S27A				⇑P		**P**	**00 07 27.1**	**-0.1**
	baz=61							
T26A	**Comanche Natio**	**61.47**	**65**	⇑P		**P**	**00 07 27.1**	**-0.4**
	baz=61,SNR=8.6							
T26A				⇑P		**P**	**00 07 27.1**	**-0.4**
	baz=61,SNR=8.6							
T26A				⇑P		**P**	**00 07 27.1**	**-0.4**
	baz=61,SNR=8.6							
U25A	**Circle Dot Ran**	**61.64**	**66**	⇓P		**P**	**00 07 28.8**	**+0.2**
	baz=61,SNR=7.8							
U25A				⇓P		**P**	**00 07 28.8**	**+0.2**
	baz=61,SNR=7.8							
U25A				⇓P		**P**	**00 07 28.8**	**+0.2**
	baz=61,SNR=7.8							
ANMO	**Albuquerque**	**61.66**	**69**	P		**P**	**00 07 29.2**	**+0.5**
	comp=Z,4.7nm,0.6s,baz=314,slow=8.2,SNR=16							
ANMO				LR		LR	00 36 01.1	
	comp=Z,869nm,18.4s,baz=324,slow=38							
ANMO	**Albuquerque**	**61.66**	**69**	P		**P**	**00 07 29.2**	**+0.5**
ANMO				pmax		pmax		
	comp=Z,5.0nm,0.6s							
ANMO			

W23A	**Werner Place,**	**61.66**	**69**	⇓P		**P**	**00 07 29.1**	**+0.2**
	baz=61									
W23A				⇓P		**P**	**00 07 29.1**	**+0.2**
	baz=61									
W23A				⇓P		**P**	**00 07 29.1**	**+0.2**
	baz=61									
V24A	**Rampart Ranch,**	**61.70**	**68**	⇑P		**P**	**00 07 29.8**	**+0.7**
	baz=61,SNR=5.9									
V24A				⇑P		**P**	**00 07 29.8**	**+0.7**
	baz=61,SNR=5.9									
V24A				⇑P		**P**	**00 07 29.8**	**+0.7**
	baz=61,SNR=5.9									
Y21A	**Point of Rocks**	**61.73**	**71**	⇓P		**P**	**00 07 29.9**	**+0.6**
	baz=62									
Y21A				⇓P		**P**	**00 07 29.9**	**+0.6**
	baz=62									
Y21A				⇓P		**P**	**00 07 29.9**	**+0.6**
	baz=62									
OBN	**Obninsk**	**61.77**	**329**	*e*P		P	00 07 33.5	+4.5
	comp=Z,75nm,1.3s									
OBN				LR		LR				
	comp=Z,1μm,20.0s									
DANN	**Dangsing**	**61.89**	**280**	*e*P		**P**	**00 07 31.4**	**+0.9**
	comp=Z,516nm,1.0s									
DANN	**Dangsing**	**61.89**	**280**	*e*P		**P**	**00 07 31.4**	**+0.9**
	comp=Z,516nm,1.0s									
NB2	**NORSAR Subarra**	**61.89**	**346**	P		**P**	**00 07 29.4**	**-0.3**
	comp=Z,9.7nm,0.6s,baz=18,slow=6.9									
NOA	**NORSAR Array B**	**61.89**	**346**	P		**P**	**00 07 29.8**	**+0.1**
	comp=Z,13nm,0.8s,baz=17,slow=6.8,SNR=30									
NOA	**NORSAR Array B**	**61.89**	**346**	P		**P**	**00 07 29.8**	**+0.1**
NOA				pmax		pmax				
	comp=Z,13nm,0.8s									
NOA	**NORSAR Array B**	**61.89**	**346**	P		**P**	**00 07 29.8**	**+0.1**
V25A	**Rancho No Teng**	**61.96**	**67**	⇑P		**P**	**00 07 31.0**	**+0.3**
	baz=62,SNR=5.4									
V25A				⇑P		**P**	**00 07 31.0**	**+0.3**
	baz=62,SNR=5.4									
V25A				⇑P		**P**	**00 07 31.0**	**+0.3**
	baz=62,SNR=5.4									
LENM	**Lemitar**	**61.98**	**70**	*e*P		**P**	**00 07 32.0**	**+1.0**
U26A	**Atchley Ranch,**	**61.99**	**66**	⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62,SNR=5.4									
U26A				⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62,SNR=5.4									
U26A				⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62,SNR=5.4									
T27A	**Campo**	**62.01**	**65**	⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62									
T27A				⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62									
T27A				⇑P		**P**	**00 07 31.0**	**0.0**
	baz=62									
W24A	**Lazy 6 Ranch,**	**62.02**	**68**	⇑P		**P**	**00 07 31.5**	**+0.3**
	baz=62									
W24A				⇑P		**P**	**00 07 31.5**	**+0.3**
	baz=62									
W24A				⇑P		**P**	**00 07 31.5**	**+0.3**
	baz=62									
LPM	**Los Pinos Moun**	**62.05**	**70**	*e*P		P	00 07 41.0	+10
X23A	**Hourglass Bar**	**62.09**	**69**	⇓P		**P**	**00 07 31.9**	**+0.3**
	baz=62									
X23A				⇓P		**P**	**00 07 31.9**	**+0.3**
	baz=62									
X23A				⇓P		**P**	**00 07 31.9**	**+0.3**
	baz=62									
NAO01	**NORSAR Array S**	**62.12**	**346**	*e*P		**P**	**00 07 31.3**	**+0.1**
NAO01				LR		LR				
	comp=Z,8μm,19.0s									
NC602	**NORSAR Array S**	**62.13**	**345**	*e*P		**P**	**00 07 31.0**	**-0.3**
Y22A	**Socorro**	**62.16**	**70**	⇓P		**P**	**00 07 32.7**	**+0.6**
	baz=62,SNR=8.3									
Y22A				⇓P		**P**	**00 07 32.7**	**+0.6**
	baz=62,SNR=8.3									
Y22A				⇓P		**P**	**00 07 32.7**	**+0.6**
	baz=62,SNR=8.3									
BNM	**Barren Site**	**62.18**	**70**	*e*P		**P**	**00 07 32.5**	**+0.2**
	comp=Z,27nm,1.5s									
CBKS	**Cedar Bluff**	**62.18**	**61**	*e*P		**P**	**00 07 31.6**	**-0.4**
	comp=Z,43nm,1.0s									
CBKS				LR		LR				
	comp=Z,1μm,19.0s									
CBKS	**Cedar Bluff**	**62.18**	**61**	⇓P		**P**	**00 07 31.3**	**-0.7**
	baz=62,SNR=6.6									
CBKS				⇓P		**P**	**00 07 31.3**	**-0.7**
	baz=62,SNR=6.6									
CBKS				⇓P		**P**	**00 07 31.3**	**-0.7**
	baz=62,SNR=6.6									
CBKS				⇓P		**P**	**00 07 31.3**	**-0.7**
	baz=62,SNR=6.6									
CBKS				⇓P		**P**	**00 07 31.3**	**-0.7**
	baz=62,SNR=6.6									
Z21A	**St. Cloud Mine**	**62.26**	**71**	⇓P		**P**	**00 07 33.7**	**+0.8**
	baz=62,SNR=5.2									
Z21A				⇓P		**P**	**00 07 33.7**	**+0.8**
	baz=62,SNR=5.2									
Z21A				⇓P		**P**	**00 07 33.7**	**+0.8**
	baz=62,SNR=5.2									
T28A	**Walsh**	**62.27**	**64**	⇑P		**P**	**00 07 32.1**	**-0.6**
	baz=62,SNR=6.9									
T28A				⇑P		**P**	**00 07 32.1**	**-0.6**
	baz=62,SNR=6.9									
T28A				⇑P		**P**	**00 07 32.1**	**-0.6**
	baz=62,SNR=6.9									
KKM	**Kota Kinabalu**	**62.32**	**237**	PFAKE			00 07 50.0	+17
KKM				LR		LR				
	comp=Z,3μm,20.0s									
120A	**U Bar Ranch, L**	**62.33**	**72**	⇓P		**P**	**00 07 33.6**	**+0.4**
	baz=62									
120A				⇓P		**P**	**00 07 33.6**	**+0.4**
	baz=62									
120A				⇓P		**P**	**00 07 33.6**	**+0.4**
	baz=62									
SCHQ	**Schefferville**	**62.38**	**31**	P		**P**	**00 07 32.3**	**-0.7**
	comp=Z,5.4nm,0.6s,baz=340,slow=7.4,SNR=16									
SCHQ				LR		LR	00 39 15.1			
	comp=Z,1μm,18.3s,baz=91,slow=40									
SCHQ	**Schefferville**	**62.38**	**31**	*e*P		**P**	**00 07 32.6**	**-0.4**
V26A	**Tequesquite Ra**	**62.42**	**66**	⇓P		**P**	**00 07 33.5**	**-0.3**
	baz=62									
V26A				⇓P		**P**	**00 07 33.5**	**-0.3**
	baz=62									
V26A				⇓P		**P**	**00 07 33.5**	**-0.3**
	baz=62									
X24A	**Lazy VL Ranch,**	**62.50**	**68**	⇑P		**P**	**00 07 35.3**	**+0.8**
	baz=62,SNR=6.0									
X24A				⇑P		**P**	**00 07 35.3**	**+0.8**
	baz=62,SNR=6.0									
X24A				⇑P		**P**	**00 07 35.3**	**+0.8**
	baz=62,SNR=6.0									
W25A	**X Bar L Ranch,**	**62.51**	**67**	⇑P		**P**	**00 07 34.5**	**+0.1**
	baz=62									
W25A				⇑P		**P**	**00 07 34.5**	**+0.1**
	baz=62									
W25A				⇑P		**P**	**00 07 34.5**	**+0.1**
	baz=62									
Y23A	**Lovelace Mesa,**	**62.65**	**69**	⇑P		**P**	**00 07 36.2**	**+0.7**
	baz=62,SNR=14									
Y23A				⇑P		**P**	**00 07 36.2**	**+0.7**
	baz=62,SNR=14									
Y23A				⇑P		**P**	**00 07 36.2**	**+0.7**
	baz=62,SNR=14									
Z22A	**Elephant Butte**	**62.69**	**71**	⇓P		**P**	**00 07 36.4**	**+0.8**
	baz=62									
Z22A				⇓P		**P**	**00 07 36.4**	**+0.8**
	baz=62									
Z22A				⇓P		**P**	**00 07 36.4**	**+0.8**
	baz=62									
121A	**Cookes Peak, D**	**62.80**	**72**	⇑P		**P**	**00 07 37.1**	**+0.7**
	baz=63,SNR=5.4									
121A				⇑P		**P**	**00 07 37.1**	**+0.7**
	baz=63,SNR=5.4									
121A				⇑P		**P**	**00 07 37.1**	**+0.7**
	baz=63,SNR=5.4									
220A	**Playas Peak, P**	**62.88**	**73**	⇑P		**P**	**00 07 37.5**	**+0.6**
	baz=63									
220A				⇑P		**P**	**00 07 37.5**	**+0.6**
	baz=63									
220A				⇑P		**P**	**00 07 37.5**	**+0.6**
	baz=63									
SCIA	**State Center**	**62.94**	**55**	*e*P		**P**	**00 07 36.8**	**-0.2**
	comp=Z,78nm,1.0s									
SCIA				LR		LR				
	comp=Z,1μm,20.0s									
Y24A	**Capitan**	**62.99**	**69**	⇓P		**P**	**00 07 38.2**	**+0.5**
	baz=63,SNR=28									
Y24A				⇓P		**P**	**00 07 38.2**	**+0.5**
	baz=63,SNR=28									
Z23A	**Rita Site, Whi**	**63.07**	**70**	⇑P		**P**	**00 07 38.8**	**+0.6**
	baz=63									
Z23A				⇑P		**P**	**00 07 38.8**	**+0.6**
	baz=63									
Z23A				⇑P		**P**	**00 07 38.8**	**+0.6**
	baz=63									
V28A	**Channing**	**63.27**	**65**	⇑P		**P**	**00 07 39.5**	**+0.1**
	baz=63									
V28A				⇑P		**P**	**00 07 39.5**	**+0.1**
	baz=63									
V28A				⇑P		**P**	**00 07 39.5**	**+0.1**
	baz=63									
320A	**Kipp Ranch, An**	**63.31**	**73**	⇑P		**P**	**00 07 40.2**	**+0.4**
	baz=63									
320A				⇑P		**P**	**00 07 40.2**	**+0.4**
	baz=63									
320A				⇑P		**P**	**00 07 40.2**	**+0.4**
	baz=63									
W27A	**Bowe Ranch, En**	**63.36**	**66**	⇓P		**P**	**00 07 40.5**	**+0.4**
	baz=63									
W27A				⇓P		**P**	**00 07 40.5**	**+0.4**
	baz=63									
W27A				⇓P		**P**	**00 07 40.5**	**+0.4**
	baz=63									
X26A	**CR and CF Fran**	**63.37**	**67**	⇑P		**P**	**00 07 40.4**	**+0.3**
	baz=63									
X26A				⇑P		**P**	**00 07 40.4**	**+0.3**
	baz=63									
X26A				⇑P		**P**	**00 07 40.4**	**+0.3**
	baz=63									
Y25A	**Mesa, Roswell**	**63.38**	**68**	⇑P		**P**	**00 07 40.5**	**+0.2**
	baz=63,SNR=23									
Y25A				⇑P		**P**	**00 07 40.5**	**+0.2**
	baz=63,SNR=23									
Y25A				⇑P		**P**	**00 07 40.5**	**+0.2**
	baz=63,SNR=23									
Z24A	**Sheeppen Canyo**	**63.48**	**69**	⇓P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
Z24A				⇓P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
Z24A				⇓P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
222A	**Williams Famil**	**63.49**	**71**	⇑P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
222A				⇑P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
222A				⇑P		**P**	**00 07 41.4**	**+0.4**
	baz=63									
KSU1	**Kansas State U**	**63.51**	**59**	*e*P		**P**	**00 07 39.9**	**-0.9**
	comp=Z,49nm,1.0s									
KSU1				LR		LR				
	comp=Z,2μm,19.0s									
NIL	**Nilore**	**63.57**	**291**	PFAKE			00 07 50.0	+8.7
NIL				LR		LR				
	comp=Z,39nm,21.0s									
VRHR	**Novokhopersk**	**63.61**	**324**	*e*P		**P**	**00 07 40.2**	**-1.0**
VRHR				pmax		pmax				
	comp=N,10.0nm,0.6s									
VRHR				pmax		pmax				
	comp=E,8.0nm,0.6s									
VRHR				pmax		pmax				
	comp=Z,20nm,0.6s									
VRHR				MLR		MLR				
	comp=N,430nm,18.0s									
VRHR				MLR		MLR				
	comp=E,1μm,18.0s									
VRHR				MLR		MLR				
	comp=Z,2μm,18.0s									
W28A	**Vega**	**63.66**	**66**	⇑P		**P**	**00 07 42.0**	**0.0**
	baz=63									
W28A				⇑P		**P**	**00 07 42.0**	**0.0**
	baz=63									
W28A				⇑P		**P**	**00 07 42.0**	**0.0**
	baz=63									
X27A	**F and S Farms,**	**63.67**	**67**	⇓P		**P**	**00 07 42.0**	**0.0**
	baz=63									
X27A				⇓P		**P**	**00 07 42.0**	**0.0**
	baz=63									
X27A				⇓P		**P**	**00 07 42.0**	**0.0**
	baz=63									
Y26A	**Elida**	**63.84**	**68**	⇓P		**P**	**00 07 43.2**	**0.0**
	baz=64									
Y26A				⇓P		**P**	**00 07 43.2**	**0.0**
	baz=64									
Y26A				⇓P		**P**	**00 07 43.2**	**0.0**
	baz=64									
Z25A	**Roswell**	**63.87**	**69**	⇓P		**P**	**00 07 43.9**	**+0.5**
	baz=64,SNR=5.3									
Z25A				⇓P		**P**	**00 07 43.9**	**+0.5**
	baz=64,SNR=5.3									
Z25A				⇓P		**P**	**00 07 43.9**	**+0.5**
	baz=64,SNR=5.3									
124A	**Stringfield Ra**	**63.92**	**70**	⇓P		**P**	**00 07 43.8**	**-0.1**
	baz=64									
124A				⇓P		**P**	**00 07 43.8**	**-0.1**
	baz=64									
124A				⇓P		**P**	**00 07 43.8**	**-0.1**
	baz=64									
Y27A	**Causey**	**64.22**	**67**	⇑P		**P**	**00 07 45.9**	**+0.1**
	baz=64,SNR=11									
Y27A				⇑P		**P**	**00 07 45.9**	**+0.1**
	baz=64,SNR=11									
Y27A				⇑P		**P**	**00 07 45.9**	**+0.1**
	baz=64,SNR=11									
AMTX	**Amarillo**	**64.22**	**66**	*e*P		**P**	**00 07 45.8**	**+0.2**
	comp=Z,26nm,1.3s									
AMTX				LR		LR				
	comp=Z,1μm,20.0s									
AMTX	**Amarillo**	**64.22**	**66**	⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
AMTX				⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
AMTX				⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
AMTX				⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
AMTX				⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
AMTX				⇓P		**P**	**00 07 45.6**	**-0.1**
	baz=64									
Z26A	**Caprock**	**64.26**	**68**	⇓P		**P**	**00 07 46.3**	**+0.3**
	baz=64,SNR=15									
Z26A				⇓P		**P**	**00 07 46.3**	**+0.3**
	baz=64,SNR=15									
Z26A				⇓P		**P**	**00 07 46.3**	**+0.3**
	baz=64,SNR=15									
VSR	**Storozhevoye**	**64.32**	**325**	*e*P		**P**	**00 07 46.1**	**+0.2**
VSR				*e*S		S	00 16 17.1	-6.0
VSR				*e*SS		**SS**	**00 20 36.0**	**+4.2**
VSR				pmax		pmax				
	comp=N,20nm,1.0s									
VSR				pmax		pmax				
	comp=E,10.0nm,1.0s									
VSR				pmax		pmax				
	comp=Z,20nm,1.0s									
VSR				smax		smax				
	comp=N,130nm,2.5s									
VSR				smax		smax				
	comp=E,210nm,2.5s									
VSR				smax		smax				
	comp=Z,40nm,2.5s									
VSR				MLR		MLR				
	comp=N,590nm,16.0s									
VSR				MLR		MLR				
	comp=E,1μm,16.0s									
VSR				MLR		MLR				
	comp=Z,1μm,16.0s									
MSTX	**Muleshoe**	**64.36**	**67**	⇓P		**P**	**00 07 46.4**	**-0.3**
	baz=64,SNR=6.5									
MSTX				⇓P		**P**	**00 07 46.4**	**-0.3**
	baz=64,SNR=6.5									
MSTX				⇓P		**P**	**00 07 46.4**	**-0.3**
	baz=64,SNR=6.5									
224A	**Cornudas Mount**	**64.37**	**70**	⇓P		**P**	**00 07 46.7**	**0.0**
	baz=64									
224A				⇓P		**P**	**00 07 46.7**	**0.0**
	baz=64									
224A				⇓P		**P**	**00 07 46.7**	**0.0**
	baz=64									
GLMI	**Grayling**	**64.43**	**47**	PFAKE			00 08 00.0	+13
GLMI				LR		LR				
	comp=Z,2μm,20.0s									
CPRX	**Cap Rock**	**64.51**	**68**	*e*P		**P**	**00 07 47.9**	**+0.3**
	comp=Z,25nm,0.7s									
NACGM	**Naroch**	**64.61**	**334**	*e*		**P**	**00 07 45.0**	**-2.8**
Z27A	**Tatum**	**64.63**	**68**	⇑P		**P**	**00 07 48.3**	**-0.1**
	baz=64,SNR=12									
Z27A				⇑P		**P**	**00 07 48.3**	**-0.1**
	baz=64,SNR=12									
Z27A				⇑P		**P**	**00 07 48.3**	**-0.1**
	baz=64,SNR=12									
MICGM	**Minsk**	**64.70**	**334**	⇓*e*P		**P**	**00 07 48.0**	**-0.3**
MNK	**Minsk**	**64.71**	**334**	⇓*e*P		**P**	**00 07 48.0**	**-0.4**
MNK				pmax		pmax				
	comp=Z,80nm,1.0s									
MNK				MLR		MLR				
	comp=Z,4μm,14.0s									
MNK				MLR		MLR				
	comp=N,5μm,14.0s									
126A	**Clayton Basin,**	**64.73**	**69**	⇑P		**P**	**00 07 48.9**	**-0.1**
	baz=64									
126A				⇑P		**P**	**00 07 48.9**	**-0.1**
	baz=64									
126A				⇑P		**P**	**00 07 48.9**	**-0.1**
	baz=64									
MNTX	**Cornudas Mount**	**64.73**	**70**	*e*P		**P**	**00 07 49.0**	**+0.1**
	comp=N,33nm,1.2s									
MNTX				LR		LR				
	comp=Z,844nm,22.0s									
MNTX	**Cornudas Mount**	**64.73**	**70**	⇓P		**P**	**00 07 49.5**	**+0.5**
	baz=64,SNR=30									
MNTX				⇓P		**P**	**00 07 49.5**	**+0.5**
	baz=64,SNR=30									
MNTX				⇓P		**P**	**00 07 49.5**	**+0.5**
	baz=64,SNR=30									
MNTX				⇓P		**P**	**00 07 49.5**	**+0.5**
	baz=64,SNR=30									
MNTX				⇓P		**P**	**00 07 49.5**	**+0.5**
	baz=64,SNR=30									
HNR	**Honiara**	**64.77**	**185**	PFAKE			00 08 00.0	+11
HNR				LR		LR				
	comp=Z,2μm,20.0s									
324A	**Moseley Ranch,**	**64.88**	**71**	⇑P		**P**	**00 07 50.1**	**0.0**
	baz=65,SNR=5.5									
324A				⇑P		**P**	**00 07 50.1**	**0.0**
	baz=65,SNR=5.5									
324A				⇑P		**P**	**00 07 50.1**	**0.0**
	baz=65,SNR=5.5									
GDL2	**Guadalupe Moun**	**64.89**	**69**	*e*P		**P**	**00 07 50.7**	**+0.6**
127A	**Arkansas Junct**	**65.05**	**68**	⇓P		**P**	**00 07 51.4**	**+0.3**
	baz=65									
127A				⇓P		**P**	**00 07 51.4**	**+0.3**
	baz=65									
127A				⇓P		**P**	**00 07 51.4**	**+0.3**
	baz=65									
KBL	**Kabul**	**65.08**	**295**	*e*P		**P**	**00 07 50.7**	**-0.7**
	comp=Z,59nm,1.4s									
CLNB	**Carlsbad**	**65.10**	**69**	*e*P		**P**	**00 07 51.5**	**0.0**
	comp=Z,32nm,0.7s									
226A	**Malaga, Loving**	**65.14**	**69**	⇑P		**P**	**00 07 51.6**	**0.0**
	baz=65,SNR=8.9									
226A				⇑P		**P**	**00 07 51.6**	**0.0**
	baz=65,SNR=8.9									
226A				⇑P		**P**	**00 07 51.6**	**0.0**
	baz=65,SNR=8.9									
325A	**Bean Ranch, Si**	**65.21**	**70**	⇓P		**P**	**00 07 52.3**	**0.0**
	baz=65,SNR=6.9									
325A				⇓P		**P**	**00 07 52.3**	**0.0**
	baz=65,SNR=6.9									
325A				⇓P		**P**	**00 07 52.3**	**0.0**
	baz=65,SNR=6.9									
227A	**Bennet, Jal**	**65.61**	**69**	⇓P		**P**	**00 07 54.5**	**-0.2**
	baz=65									
227A				⇓P		**P**	**00 07 54.5**	**-0.2**
	baz=65									
227A				⇓P		**P**	**00 07 54.5**	**-0.2**
	baz=65									
425A	**Indio Mountain**	**65.66**	**71**	⇓P		**P**	**00 07 55.4**	**+0.3**
	baz=65,SNR=9.3									
425A				⇓P		**P**	**00 07 55.4**	**+0.3**
	baz=65,SNR=9.3									
425A				⇓P		**P**	**00 07 55.4**	**+0.3**
	baz=65,SNR=9.3									
326A	**Caldwell Ranch**	**65.78**	**70**	⇑P		**P**	**00 07 56.1**	**+0.3**
	baz=66									
326A				⇑P		**P**	**00 07 56.1**	**+0.3**
	baz=66									
326A				⇑P		**P**	**00 07 56.1**	**+0.3**
	baz=66									
WMOK	**Wichita Mounta**	**65.83**	**64**	*e*P		**P**	**00 07 55.8**	**-0.2**
	comp=Z,39nm,0.9s									
WMOK				LR		LR				
	comp=Z,1μm,21.0s									
PMG	**Port Moresby**	**66.21**	**198**	P		**P**	**00 07 59.1**	**+0.6**
	comp=Z,46nm,0.8s,baz=357,slow=6.3,SNR=20									
PMG				LR		LR	00 33 53.2			
	comp=Z,1μm,19.6s,baz=238,slow=33									
PMG	**Port Moresby**	**66.21**	**198**	P		**P**	**00 07 59.1**	**+0.6**
PMG				pmax		pmax				
	comp=Z,46nm,0.8s									
PMG	**Port Moresby**	**66.21**	**198**	*e*P		**P**	**00 07 59.0**	**+0.6**
	comp=Z,83nm,1.0s									
426A	**McDonald Obser**	**66.26**	**70**	⇓P		**P**	**00 07 59.0**	**-0.1**
	baz=66									
426A				⇓P		**P**	**00 07 59.0**	**-0.1**
	baz=66									
426A				⇓P		**P**	**00 07 59.0**	**-0.1**
	baz=66									
SUW	**Suwalki**	**66.28**	**336**	*e*P		**P**	**00 07 59.5**	**+1.0**
SUW	**Suwalki**	**66.28**	**336**	*e*P		**P**	**00 07 59.5**	**+1.0**
SUW	**Suwalki**	**66.28**	**336**	*e*P		**P**	**00 07 59.3**	**+0.8**
	comp=Z,42nm,1.0s									
328A	**Wristen Ranch,**	**66.35**	**69**	⇓P		**P**	**00 07 59.5**	**0.0**
	baz=66,SNR=12									
328A				⇓P		**P**	**00 07 59.5**	**0.0**
	baz=66,SNR=12									
328A				⇓P		**P**	**00 07 59.5**	**0.0**
	baz=66,SNR=12									
TUL1	**Tulsa**	**66.41**	**61**	⇑P		**P**	**00 07 58.8**	**-0.9**
	baz=66									
TUL1				⇑P		**P**	**00 07 58.8**	**-0.9**
	baz=66									
TUL1				⇑P		**P**	**00 07 58.8**	**-0.9**
	baz=66									
427A	**Hayter Ranch,**	**66.45**	**70**	⇓P		**P**	**00 08 00.3**	**+0.1**
	baz=66,SNR=5.3									
427A				⇓P		**P**	**00 08 00.3**	**+0.1**
	baz=66,SNR=5.3									
427A				⇓P		**P**	**00 08 00.3**	**+0.1**
	baz=66,SNR=5.3									
526A	**Mary Lane Ranc**	**66.70**	**71**	⇓P		**P**	**00 08 02.1**	**+0.2**
	baz=66,SNR=14									
526A				⇓P		**P**	**00 08 02.1**	**+0.2**
	baz=66,SNR=14									
526A				⇓P		**P**	**00 08 02.1**	**+0.2**
	baz=66,SNR=14									
SADO	**Sadowa**	**66.71**	**44**	P		**P**	**00 08 00.3**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=321,slow=6.8,SNR=5.6									
SADO	**Sadowa**	**66.71**	**44**	P		**P**	**00 08 00.3**	**-1.2**
AAM	**Ann Arbor**	**66.89**	**48**	*e*P		**P**	**00 08 02.5**	**-0.1**
	comp=Z,47nm,1.1s									
AAM				LR		LR				
	comp=Z,991nm,22.0s									
527A	**Woodward Ranch**	**66.89**	**70**	⇓P		**P**	**00 08 03.0**	**-0.1**
	baz=67,SNR=13									
527A				⇓P		**P**	**00 08 03.0**	**-0.1**
	baz=67,SNR=13									
527A				⇓P		**P**	**00 08 03.0**	**-0.1**
	baz=67,SNR=13									
SLM	**Saint Louis**	**66.92**	**55**	*e*P		**P**	**00 08 02.4**	**-0.5**
	comp=Z,52nm,1.0s									
428A	**Kincaid Ranch,**	**66.93**	**69**	⇓P		**P**	**00 08 03.7**	**

baz=67,SNR=16
528A Cox Ranch, San 67.32 70 ⇓P P 00 08 06.0 +0.2
baz=67,SNR=15
528A ⇓P P 00 08 06.0 +0.2
baz=67,SNR=15
528A ⇓P P 00 08 06.0 +0.2
baz=67,SNR=15
TXAR Lajitas Array 67.50 71 P P 00 08 07.0 +0.1
comp=Z,13nm,0.6s,baz=299,slow=4.8,SNR=75
TXAR Lajitas Array 67.50 71 P P 00 08 07.0 +0.1
TXAR pmax pmax
comp=Z,13nm,0.6s
TXAR Lajitas Array 67.50 71 P P 00 08 07.0 +0.1
627A Terlingua Ranc 67.56 71 ⇓P P 00 08 07.4 +0.2
baz=67,SNR=22
627A ⇓P P 00 08 07.4 +0.2
baz=67,SNR=22
627A ⇓P P 00 08 07.4 +0.2
baz=67,SNR=22
AKASG Malin Array Be 67.77 331 P P 00 08 08.4 +0.3
comp=Z,1.5nm,0.4s,baz=27,slow=6.3,SNR=13
AKASG LR LR 00 41 36.9
comp=Z,2μm,18.9s,baz=50,slow=39
AKASG Malin Array Be 67.77 331 P P 00 08 08.4 +0.3
AKASG MLR MLR
comp=Z,2μm,18.9s
AKASG Malin Array Be 67.77 331 P P 00 08 08.4 +0.3
AKBB Malin Array Si 67.77 331 *eP* P 00 08 08.2 +0.1
KIEV Kiev 67.78 331 *eP* P 00 08 08.2 +0.1
comp=Z,42nm,1.2s
KIEV LR LR
comp=Z,2μm,19.0s
ABKT Ailbek 67.78 305 P P 00 08 09.8 +1.3
comp=Z,318nm,1.0s,SNR=29
628A Black Gap, Mar 67.80 70 ⇓P P 00 08 08.7 0.0
baz=68,SNR=11
628A ⇓P P 00 08 08.7 0.0
baz=68,SNR=11
628A ⇓P P 00 08 08.7 0.0
baz=68,SNR=11
OLIL Olney 67.83 54 *eP* P 00 08 08.2 -0.5
comp=Z,42nm,1.1s
IEMG Emamgholi 67.95 304 *eP* P 00 08 11.3 +1.5
SIUC Southern Illin 68.14 55 *eP* P 00 08 10.3 -0.3
comp=Z,74nm,1.2s
BLO Bloomington 68.19 52 *eP* P 00 08 09.9 -1.0
comp=Z,13nm,0.7s
ISFR Sfrayin 68.55 304 *eP* P 00 08 15.0 +1.4
ERPA Erie 68.58 46 *eP* P 00 08 12.4 -1.0
comp=Z,52nm,1.1s
ERPA LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 68.58 41 *eP* P 00 08 11.5 -1.9
comp=Z,15nm,1.1s
LONY LR LR
comp=Z,1μm,22.0s
MIAR Mount Ida 68.59 60 PFAKE 00 08 30.0 +16
MIAR LR LR
comp=Z,2μm,19.0s
JCT Junction City 68.65 67 *eP* P 00 08 13.7 -0.3
comp=Z,48nm,1.0s
JCT LR LR
comp=Z,1μm,21.0s
JCT Junction City 68.65 67 ⇓P P 00 08 13.6 -0.5
baz=68,SNR=17
JCT ⇓P P 00 08 13.6 -0.5
baz=68,SNR=17
JCT ⇓P P 00 08 13.6 -0.5
baz=68,SNR=17
BEL Belsk 68.84 337 *eP* P 00 08 16.3 +1.5
BEL Belsk 68.84 337 *eP* P 00 08 16.3 +1.5
ACSO Alum Creek Sta 68.88 49 *eP* P 00 08 14.7 -0.6
comp=Z,43nm,1.2s
ACSO LR LR
comp=Z,2μm,19.0s
UALR University of 69.01 59 *eP* P 00 08 19.0 +2.8
comp=Z,14nm,1.0s
ESK Eskdalemuir 69.09 352 *eP* P 00 08 17.2 +0.9
comp=Z,100nm,1.6s
KSM Kuching 69.15 240 PFAKE 00 08 30.0 +13
KSM LR LR
comp=Z,2μm,21.0s
KIV Kislovodsk 69.31 319 *eP* P 00 08 18.3 +0.4
KIV *eS* S 00 17 25.3 +1.5
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 69.31 319 PFAKE 00 08 30.0 +12
KIV LR LR
comp=Z,941nm,19.0s
UTMT University of 69.41 56 *eP* P 00 08 18.9 +0.4
comp=Z,122nm,0.9s
ZEI Tsey 69.86 317 *eP* P 00 08 22.0 +0.5
ZEI pmax pmax
comp=Z,9.0nm,1.0s
LBNH Lisbon 69.89 39 PFAKE 00 08 30.0 +8.6
LBNH LR LR
comp=Z,1μm,20.0s
MET Memphis--Engin 69.90 57 *eP* P 00 08 21.7 +0.1
LVV L'vov 69.94 334 *eP* P 00 08 31.3 +10
ACCN Adirondack Com 69.98 41 *eP* P 00 08 20.6 -1.4
comp=Z,21nm,1.1s
WVT Waverly 70.07 55 *eP* P 00 08 22.0 -0.7
comp=Z,51nm,1.1s
WVT PP PP 00 10 56.8 -0.4
BINY Binghamton 70.11 43 *eP* P 00 08 21.7 -1.1
BINY LR LR
comp=Z,901nm,20.0s
NATX Nacogdoches 70.28 63 PFAKE 00 08 40.0 +16
NATX LR LR
comp=Z,895nm,20.0s
TBLG Delisi 70.41 316 *eP* P 00 08 25.9 +1.2
KWP Kalwaria Pacla 70.45 335 *eP* P 00 08 26.9 +2.2
KWP Kalwaria Pacla 70.45 335 *eP* P 00 08 27.0 +2.2
KWP Kalwaria Pacla 70.45 335 *eP* P 00 08 26.0 +1.3
comp=Z,93nm,1.1s
KWP LR LR
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 70.45 335 ⇓*iP* P 00 08 26.5 +1.7
ANN Anapa 70.46 323 *eP* P 00 08 30.9 +6.0
ANN pmax pmax
comp=Z,55nm,1.2s
ANN MLR MLR
comp=N,2μm,18.0s
ANN MLR MLR
comp=E,1μm,18.0s
ANN MLR MLR
comp=Z,1μm,18.0s
KAPI Kappang 70.54 228 PFAKE 00 08 40.0 +14
KAPI LR LR
comp=Z,2μm,20.0s
OJC Ojcow 70.58 337 *eP* P 00 08 26.8 +1.2
OJC Ojcow 70.58 337 *eP* P 00 08 26.8 +1.2
OJC Ojcow 70.58 337 *eP* P 00 08 26.8 +1.2
comp=Z,47nm,1.1s
OXF Oxford 70.64 57 *eP* P 00 08 25.6 -0.6
comp=Z,145nm,1.1s
OXF LR LR
comp=Z,1μm,22.0s
SSPA Standing Stone 70.68 45 *eP* P 00 08 25.0 -1.3
comp=Z,25nm,1.2s
SOC Sochi 70.72 321 *eP* P 00 08 23.7 -2.8
SOC *eS* S 00 17 38.8 -1.3
SOC *e*SSS SSS 00 25 26.0
SOC pmax pmax
comp=Z,30nm,1.3s
KSP Ksiaz 70.74 339 *eP* P 00 08 28.2 +1.6
KSP *e* 00 08 41.3
KSP Ksiaz 70.74 339 *eP* P 00 08 27.6 +1.1
KSP *e**PP PcP 00 08 40.0 -7.3
KSP MLR MLR
comp=Z,2μm,21.6s
PLAL Pickwick Lake 70.89 56 *eP* P 00 08 26.7 -1.0
comp=Z,71nm,1.0s
PLAL LR LR
comp=Z,2μm,20.0s
CLL Collm 70.93 341 *i* P P 00 08 27.9 +0.2
CLL *i* 00 08 39.8
CLL *eS* S 00 17 43.0 +0.6
CLL pmax pmax
comp=Z,24nm,1.6s
CLL MLR MLR
comp=Z,1μm,20.7s
CLL Collm 70.93 341 *i* P P 00 08 27.9 +0.2
comp=Z,24nm,1.6s
CLL *i* sP sP 00 08 39.8 +5.8
CLL *i* pPcP 00 08 55.4
CLL *e*PP 00 11 15.0
CLL *eS* S 00 17 43.0 +0.6
CLL *e*PPS PPS 00 18 20.0
CLL *e*SS SS 00 22 23.0 +9.2
CLL *e*SSS SSS 00 25 36.0
CLL Lm MLR 00 41 00.0
comp=Z,1μm,20.7s
STHS Stebnicka Huta 71.00 335 *eP* PcP 00 08 44.4 -4.0
UPC Upice 71.12 339 *eP* P 00 08 30.0 +1.2
UPC *ex* x 00 08 43.4
HKT Hockley 71.14 65 *eP* P 00 08 28.4 -0.8
comp=Z,23nm,1.3s
BRG Berggiesshubel 71.17 341 *eP* P 00 08 29.7 +0.6
comp=Z,4.9nm,1.1s
BRG *e* 00 08 42.0
comp=Z,14nm,1.1s
BRG PP PP 00 10 56.8 -9.4
comp=Z,15nm,1.7s
BRG Berggiesshubel 71.17 341 *eP* P 00 08 29.7 +0.6
BRG *e* 00 08 42.0
BRG pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 71.20 335 *eP* P 00 08 29.0 -0.4
DPC Dobruska-Polom 71.20 339 *eP* P 00 08 29.8 +0.4
comp=Z,45nm,1.0s
DPC Dobruska-Polom 71.20 339 *eP* P 00 08 30.5 +1.1
DPC *ex* x 00 08 43.0
DPC AMS AMS 00 49 50.0
comp=Z,1μm,21.4s
NIE Niedzica 71.21 336 *eP* P 00 08 31.8 +2.3
NIE Niedzica 71.21 336 *eP* P 00 08 31.8 +2.3
OKC Ostrava-Krasne 71.31 338 *eP* P 00 08 31.0 +1.1
OKC *ex* x 00 08 44.3
OKC AMS AMS 00 43 30.0
comp=Z,1μm,16.1s
DSB Dublin 71.36 354 *eP* P 00 08 29.5 -0.7
PVCC Panska Ves 71.38 340 *eP* P 00 08 34.2 +3.8
PVCC AMS AMS 00 46 10.0
comp=Z,1μm,20.9s
COEN Coen 71.42 202 *eP* P 00 08 30.9 0.0
COEN Coen 71.42 202 *eP* P 00 08 31.1 +0.2
comp=Z,672nm,1.2s
CRVS Cervenica-Dubn 71.42 335 *eP* P 00 08 32.0 +1.3
CRVS *e* 00 08 45.7
CRVS pmax pmax
comp=Z,42nm,2.1s
SIM Simferopol' 71.44 325 *eP* P 00 08 25.2 -5.7
SIM *eS* S 00 17 45.4 -3.1
SIM pmax pmax
comp=Z,17nm,1.1s
UZH Uzhgorod 71.48 334 *eP* P 00 08 29.0 -2.0
UZH *e* 00 08 45.8
UZH MLR MLR
comp=N,2μm,16.0s
UZH MLR MLR
comp=E,800nm,16.0s
UZH MLR MLR
comp=Z,1μm,16.0s
MORC Moravsky Berou 71.49 338 *eP* P 00 08 32.8 +1.6
comp=Z,25nm,1.1s
MORC Moravsky Berou 71.49 338 ⇓*iP* P 00 08 32.8 +1.6
BUR08 Bucovina Ar. S 71.65 332 *eP* P 00 08 33.0 +0.8
BURAR Bucovina Array 71.67 332 ⇓*iP* P 00 08 33.3 +1.0
TZTN Tazewell 71.69 52 *eP* P 00 08 33.0 +0.5
comp=Z,36nm,1.2s
SWET Sewanee 71.70 54 *eP* P 00 08 31.7 -0.9
comp=Z,42nm,1.0s
WES Weston 71.72 40 *eP* P 00 08 31.7 -0.8
GNI Garni 71.76 315 P P 00 08 34.1 +1.0
comp=Z,5.0nm,0.7s,baz=307,slow=1.9,SNR=9.0
GNI Garni 71.76 315 *eP* P 00 08 35.0 +1.9
GNI pmax pmax
comp=Z,10.0nm,1.2s
GNI Garni 71.76 315 P P 00 08 34.1 +1.0
GNI LR LR
comp=Z,3μm,20.0s
PRA Prague 71.85 340 *ex* x 00 08 43.0
PRA *ex* x 00 09 01.0
TRPA Tarpa 71.88 334 ⇓*iP* P 00 08 35.2 +1.8
PRU Pruhonice 71.90 340 *eP* P 00 08 33.3 -0.3
PRU *ex* x 00 08 45.7
PRU AMS AMS 00 43 10.0
comp=Z,1μm,19.0s
PAL Palisades 71.94 43 *eP* P 00 08 32.7 -1.1
comp=Z,25nm,1.0s
KVTX Kingsville 71.99 68 PFAKE 00 08 50.0 +16
KVTX LR LR
comp=Z,952nm,19.0s
NKC Novy Kostel 72.06 341 *eP* P 00 08 35.3 +0.7
NKC *ex* x 00 08 46.9
NKC AMS AMS 00 42 30.0
comp=Z,2μm,22.9s
IFIR Firoozkooh 72.12 307 *eP* P 00 08 37.6 +2.1
VRAC Vranov 72.14 338 P P 00 08 35.7 +0.7
comp=Z,5.4nm,1.0s,baz=14,slow=7.1,SNR=6.6
VRAC Vranov 72.14 338 P P 00 08 35.7 +0.7
VRAC pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 72.14 338 P P 00 08 35.7 +0.7
VRAC Vranov 72.14 338 ⇑*iP* P 00 08 36.4 +1.4
SDMD Soldier's Deli 72.14 45 *eP* P 00 08 33.8 -1.3
comp=Z,20nm,1.0s
CPCT Cooper Cave 72.15 53 *eP* P 00 08 34.6 -0.7
TESR 72.29 331 ⇑*iP* P 00 08 37.1 +1.2
TKL Tuckaleechee C 72.32 52 P P 00 08 35.6 -0.7
comp=Z,4.3nm,0.6s,baz=331,slow=1.2,SNR=6.7
TKL Tuckaleechee C 72.32 52 P P 00 08 35.6 -0.7
TKL pmax pmax
comp=Z,4.0nm,0.6s
TKL Tuckaleechee C 72.32 52 *eP* P 00 08 35.9 -0.4
TREC Trest 72.38 339 *eP* P 00 08 37.5 +1.1
TREC *ex* x 00 08 51.2
TREC AMS AMS 00 41 20.0
comp=Z,2μm,22.2s
VYHS Vyhne 72.42 337 *eP* P 00 08 37.7 +1.0
VYHS pmax pmax
comp=Z,17nm,1.8s
KOLL Kolacno 72.44 337 *eP* P 00 08 38.0 +1.2
KOLL *e* 00 08 51.0
BLA Blacksburg 72.50 49 PFAKE 00 08 50.0 +13
BLA LR LR
comp=Z,1μm,20.0s
HGN Heimansgroeve 72.60 346 *eP* PcP 00 08 51.8 -3.3
comp=Z,46nm,1.5s
PSZ Piszkesteto 72.72 336 *eP* P 00 08 42.0 +3.4
PSZ LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 72.72 336 ⇓*iP* PcP 00 08 51.4 -4.5
MEM Membach 72.74 346 P P 00 08 39.5 +1.0
comp=Z,22nm,1.2s
GRF Grafenberg Arr 72.80 342 *eP* P 00 08 40.3 +1.3
comp=Z,25nm,1.1s
GRF Grafenberg Arr 72.80 342 *eP* P 00 08 40.3 +1.3
GRF pmax pmax
comp=Z,25nm,1.1s
GRFO Grafenberg 72.81 342 *eP* P 00 08 38.0 -0.9
comp=Z,24nm,1.0s
VRI Vrincioaia 72.86 330 ⇑*iP* P 00 08 40.4 +1.0
TLCR 72.88 329 ⇑*iP* P 00 08 39.9 +0.5
PLOR Plostina 72.90 330 ⇑*iP* P 00 08 44.3 +4.7
KHC Kasperske Hory 72.91 340 *eP* P 00 08 41.3 +1.7
KHC Kasperske Hory 72.91 340 *eP* P 00 08 40.6 +1.0
KHC *ex* x 00 08 50.7
KHC *ex* x 00 09 32.0
KHC AMS AMS 00 44 00.0
comp=Z,2μm,22.3s
CBN Corbin 72.95 46 PFAKE 00 08 50.0 +10
CBN LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 73.00 56 *eP* P 00 08 39.1 -1.2
LRAL LR LR
comp=Z,1μm,21.0s
IR3 Iran Long-Peri 73.04 308 *eP* P 00 08 42.1 +1.4
DRGR 73.08 333 ⇓*iP* P 00 08 40.6 -0.1
ZST Bratislava 73.08 338 *eP* P 00 08 40.1 -0.5
ZST *e* 00 08 55.7
ZST pmax pmax
comp=Z,8.0nm,1.2s
CFR Carcaliu 73.08 329 ⇑*iP* P 00 08 42.1 +1.5
GERES GERESS Array B 73.16 340 P P 00 08 42.2 +1.0
comp=Z,1.9nm,0.7s,baz=27,slow=4.5,SNR=18
GERES GERESS Array B 73.16 340 P P 00 08 42.2 +1.0
GERES GERESS Array B 73.16 340 P P 00 08 42.2 +1.0
GIVF Givet 73.40 346 *eP* P 00 08 38.0 -4.4
comp=Z,32nm,1.1s
MLR Muntele Rosu 73.42 331 P P 00 08 43.1 +0.2
comp=Z,1.3nm,0.8s,baz=105,slow=8.2
MLR Muntele Rosu 73.42 331 P P 00 08 43.1 +0.2
MLR Muntele Rosu 73.42 331 P P 00 08 43.1 +0.2
MLR Muntele Rosu 73.42 331 ⇓*iP* P 00 08 43.4 +0.6
BAIF Baives 73.52 347 *eP* P 00 08 39.1 -4.0
comp=Z,48nm,1.4s
IRAZ Razeghan 73.59 309 *eP* P 00 08 44.4 +0.3
CONA Conrad Observa 73.60 338 ⇑*iP* P 00 08 44.9 +1.1
comp=Z,22nm,1.1s
CONA Conrad Observa 73.60 338 ⇑*iP* P 00 08 44.9 +1.1
comp=Z,22nm,1.1s
WLF Walferdange 73.64 345 PFAKE 00 09 00.0 +16
WLF LR LR
comp=Z,1μm,20.0s
TIRR Tirgusor 73.66 329 *eP* P 00 08 45.4 +1.3
TIRR Tirgusor 73.66 329 ⇑*iP* P 00 08 44.6 +0.6
VOIR 73.72 331 ⇓*iP* P 00 08 45.5 +1.0
MSVF Nonsavu 73.86 166 *eP* P 00 08 46.8 +1.4
comp=Z,59nm,1.4s
MSVF LR LR
comp=Z,2μm,19.0s
LANF Langenberg 74.06 344 *eP* PcP 00 09 01.1 -0.4
IBAF Bafgh 74.16 303 *eP* P 00 08 48.1 +0.7
ICHK Chekchek 74.17 304 *eP* P 00 08 48.5 +0.9
GOGA Godfrey 74.33 54 PFAKE 00 09 00.0 +12
GOGA LR LR
comp=Z,2μm,20.0s
GZR Gura Zlata 74.36 333 ⇓*iP* P 00 08 49.4 +1.1
BZS Buzias 74.45 334 ⇓*iP* P 00 08 48.4 -0.3
JSC Jenkinsville 74.60 51 *eP* P 00 08 48.9 -0.8
IZEF Zefreh 74.60 306 *eP* P 00 08 51.1 +1.0
BFO Black Forest 74.61 344 *eP* P 00 08 49.4 -0.2
comp=Z,27nm,1.4s
BFO *e*PcP PcP 00 09 03.7 -0.2
BFO LR LR
comp=Z,835nm,19.0s
PKSM Moragy 74.61 336 ⇓*iP* P 00 08 50.5 +0.9
LHS Liberty Hill 74.64 51 *eP* P 00 08 52.9 +2.9
BRAL Brewton 74.64 58 PFAKE 00 09 00.0 +10
BRAL LR LR
comp=Z,2μm,22.0s
CDF Champ du Feu 74.69 344 *eP* P 00 08 46.0 -4.2
comp=Z,25nm,1.0s
IMEH Mehriz 74.78 303 *eP* P 00 08 50.6 -0.6
PAGF Fort de Pagny 74.78 345 *eP* P 00 08 46.7 -3.9
comp=Z,9.4nm,0.9s
ISAD Sadrabad 74.79 304 *eP*n P 00 08 52.6 +1.4
ECH Echery 74.90 344 *eP* P 00 08 51.2 -0.1
comp=Z,18nm,1.4s
ECH *e*PcP PcP 00 09 06.1 +0.9
ECH LR LR
comp=Z,705nm,22.0s
ECH Echery 74.90 344 *eP* PcP 00 09 05.7 +0.5
KBA Koelnbreinsper 74.92 340 ⇑*iP* P 00 08 53.5 +1.8
comp=Z,55nm,1.0s
KBA Koelnbreinsper 74.92 340 ⇑*iP* P 00 08 53.4 +1.8
comp=Z,55nm,1.1s
MEZF Maizieres J'vi 74.93 346 *eP* P 00 08 47.4 -4.0
SOKA Soboth 74.96 339 ⇑*iP* P 00 08 55.8 +4.0
comp=Z,19nm,1.4s
SOKA Soboth 74.96 339 ⇑*ip*P P 00 08 55.8 +4.0
comp=Z,19nm,1.4s
PERS Pernice 74.99 339 *i* P PcP 00 09 07.6 +2.0
THEF They Montfort 75.07 345 *eP* PcP 00 09 06.7 +0.8
MOTA Mooslm 75.09 341 ⇓*iP* P 00 08 53.0 +0.4
comp=Z,19nm,0.9s
MOTA Mooslm 75.09 341 ⇓*iP* P 00 08 53.0 +0.4
comp=Z,19nm,0.9s
SFTF Sexfontaines 75.22 346 *eP* P 00 08 48.9 -4.2
comp=Z,56nm,1.2s
HAU Haudompre 75.23 345 *eP* P 00 08 48.8 -4.4
comp=Z,40nm,1.3s
HAU *e*R
comp=Z,932nm,22.0s
CNNC Cliffs of the 75.25 48 *eP* P 00 08 52.3 -1.1
comp=Z,90nm,1.0s
CNNC LR LR
comp=Z,971nm,19.0s
MOF Molkenrain 75.26 344 *eP* PcP 00 09 07.6 +0.8
HINF Hinteralfeld 75.34 344 *eP* P 00 08 49.2 -4.6
comp=Z,50nm,1.4s
FLN La Foliniere 75.34 350 *eP* P 00 08 49.2 -4.6
FLN *e*R
comp=Z,1μm,20.0s
IPIR Pirpir 75.44 307 *eP* P 00 08 56.1 +1.1
FETA Feichten 75.47 342 ⇓*iP* P 00 08 55.6 +0.9
comp=Z,18nm,1.1s
FETA Feichten 75.47 342 ⇓*iP* P 00 08 55.6 +0.9
comp=Z,18nm,1.1s
LDF La Druitiere 75.47 349 *eP* P 00 08 49.9 -4.6
comp=Z,7.1nm,0.7s
IVIS Veis 75.67 311 *eP* P 00 08 56.1 +0.1
LJU Ljubljana 75.67 339 *i* P PcP 00 09 09.3 +0.8
IKOM Komasi 75.69 310 *eP* P 00 08 56.5 +0.3
IDHR Dehrash 75.72 311 *eP* P 00 08 56.4 -0.1
GRR Gorron 75.75 350 *eP* P 00 08 51.8 -4.3
comp=Z,92nm,1.3s
MALT Malatya 75.79 319 PFAKE 00 09 10.0 +13
MALT LR LR
comp=Z,28nm,21.0s
DAVOX Davos/Dischmat 75.85 342 P P 00 08 58.1 +1.1
comp=Z,5.8nm,0.9s,baz=26,slow=7.6
DAVOX Davos/Dischmat 75.85 342 P P 00 08 58.1 +1.1
JAVS Javornik 75.91 339 *i* P PcP 00 09 11.5 +1.8
FUORN Ofenpass-Fuorn 75.94 342 *eP* P 00 09 03.3 +5.7
ROSF Rostrenen 76.03 351 *eP* P 00 08 53.4 -4.3
comp=Z,165nm,1.5s
BOJS Bojanci 76.04 338 *i* P P 00 09 06.7 +8.9
SGMF Saint Gilles 76.05 351 *eP* P 00 08 53.6 -4.2
comp=Z,168nm,1.7s
NHSC New Hope 76.07 51 *eP* P 00 09 06.6 +8.5
NHSC LR LR
comp=Z,2μm,19.0s
TUE Stuetta 76.24 342 *eP* P 00 08 60.0 +0.7
comp=Z,33nm,1.3s
TUE LR LR
comp=Z,1μm,19.0s
LOR Lormes 76.30 346 *eP* P 00 08 54.9 -4.4
comp=Z,58nm,1.4s
LOR *e*R
comp=Z,949nm,22.5s
QUIF Quistinic 76.44 351 *eP* P 00 08 55.6 -4.4
comp=Z,220nm,1.6s
HYF Humbligny 76.46 347 *eP* P 00 08 56.1 -4.1
SSF Saint Saulge 76.55 347 *eP* P 00 08 56.4 -4.3
comp=Z,19nm,0.9s
CABF La Chapelle 76.63 345 *eP* P 00 08 57.4 -3.9
comp=Z,21nm,0.8s
CTA Charters Tower 76.81 197 P P 00 09 02.2 -0.1
comp=Z,59nm,1.0s,baz=9.3,slow=6.8,SNR=26
CTA Charters Tower 76.81 197 *eP* P 00 09 01.6 -0.7
CTA Charters Tower 76.81 197 P P 00 09 02.2 -0.1
CTA pmax pmax
comp=Z,59nm,1.0s
CTA Charters Tower 76.81 197 P P 00 09 02.2 -0.1
CTAO Charters Tower 76.81 197 *eP* P 00 09 02.1 -0.2
CTAO LR LR
comp=Z,4μm,22.0s
AVF Avril sur Loir 76.84 347 *eP* P 00 08 58.2 -4.1
BGF Bois d'Agland 77.13 347 *eP* P 00 08 59.7 -4.3
comp=Z,78nm,1.6s
ISRV Sarvestan 77.17 303 *eP* P 00 09 04.8 -0.1
DZM Mont Dzumac 77.26 178 *e*LR LR 00 33 03.6
comp=Z,5μm,22.8s
MFF Saint Martin d 77.44 349 *eP* P 00 09 01.7 -4.0
comp=Z,213nm,1.7s
TCF Toulx Ste Croi 77.48 347 *eP* P 00 09 01.6 -4.4
comp=Z,147nm,1.7s
LPL La Plagne 77.60 344 *eP* P 00 09 03.6 -3.3
comp=Z,47nm,1.1s
LPG La Plagne 77.61 344 *eP* P 00 09 03.9 -3.2
comp=Z,94nm,1.2s
BHD Baghdad 77.80 312 *i* P P 00 09 05.0 -2.9
BHD *i* PcP PcP 00 09 20.0 +2.1
BHD *i* PPP 00 13 54.0
BHD *i* S S 00 18 54.0 -5.9
BNI Bardonecchia 78.06 344 PFAKE 00 09 20.0 +11
BNI LR LR
comp=Z,2μm,19.0s
ORIF Oris-en-Rattie 78.31 344 *eP* P 00 09 07.4 -3.3
comp=Z,49nm,1.2s
ORIF *e*R
comp=Z,2μm,21.2s

MBDF	**Montbardon**	**78.36**	**344**	*e*P		P		00 09 07.5	-3.6
	comp=Z,30nm,0.9s								
VIVF	**Saint-Julien-l**	**78.56**	**345**	*e*P		P		00 09 08.4	-3.6
	comp=Z,74nm,1.6s								
CAF	**Calviac**	**78.84**	**347**	*e*P		P		00 09 10.0	-3.5
	comp=Z,88nm,1.6s								
TIR	**Tirane**	**78.90**	**333**		PFAKE			00 09 30.0	+16
TIR					LR	LR			
	comp=Z,2μm,19.0s								
ISP	**Isparta**	**79.03**	**324**		PFAKE			00 09 30.0	+15
ISP					LR	LR			
	comp=Z,1μm,22.0s								
SBF	**Sospel**	**79.10**	**343**	*e*P		P		00 09 11.2	-3.8
	comp=Z,121nm,1.4s								
WRAB	**Tennant Creek**	**79.30**	**209**		PFAKE			00 09 30.0	+14
WRAB					LR	LR			
	comp=Z,2μm,19.0s								
AQU	**L'Aquila**	**79.44**	**338**		PFAKE			00 09 30.0	+13
AQU					LR	LR			
	comp=Z,1μm,19.0s								
FITZ	**Fitzroy Crossi**	**80.26**	**217**	P		**P**		**00 09 22.3**	**+0.9**
	comp=Z,36nm,1.0s,baz=24,slow=6.7,SNR=6.1								
FITZ	**Fitzroy Crossi**	**80.26**	**217**	*e*P		**P**		**00 09 21.4**	**0.0**
FITZ	**Fitzroy Crossi**	**80.26**	**217**	P		**P**		**00 09 22.3**	**+0.9**
MTLF	**Montolieu**	**80.38**	**347**	*e*P		P		00 09 18.4	-3.5
	comp=Z,82nm,1.4s								
CSS	**Prodhromos**	**80.64**	**321**	*e*P		**P**		**00 09 23.0**	**-0.4**
	comp=Z,27nm,1.0s								
CSS					LR	LR			
	comp=Z,2μm,19.0s								
ETSF	**Etsaut**	**81.15**	**349**	*e*P		P		00 09 22.9	-3.2
	comp=Z,30nm,0.9s								
CUC	**Castrocucco**	**81.16**	**336**		PFAKE			00 09 40.0	+14
CUC					LR	LR			
	comp=Z,1μm,19.0s								
EIDS	**Eidsvold**	**81.31**	**192**	*e*P		**P**		**00 09 27.4**	**+0.6**
EIDS	**Eidsvold**	**81.31**	**192**	*e*P		**P**		**00 09 27.8**	**+1.0**
MMAI	**Mount Meron Ar**	**81.62**	**319**	P		**P**		**00 09 29.8**	**+1.1**
	comp=Z,8.1nm,0.9s,baz=19,slow=7.9,SNR=7.4								
MMAI	**Mount Meron Ar**	**81.62**	**319**	P		**P**		**00 09 29.8**	**+1.1**
TIP	**Timpagrande**	**81.72**	**335**		PFAKE			00 09 40.0	+11
TIP					LR	LR			
	comp=Z,1μm,20.0s								
ASF	**Jabal al Asfar**	**81.80**	**317**	P		**P**		**00 09 30.6**	**+0.9**
	comp=Z,6.5nm,0.9s,baz=322,slow=3.6,SNR=11								
ASF	**Jabal al Asfar**	**81.80**	**317**	P		**P**		**00 09 30.6**	**+0.9**
ASF					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ASF	**Jabal al Asfar**	**81.80**	**317**	P		**P**		**00 09 30.6**	**+0.9**
CMIG	**Matias Romero**	**82.09**	**71**	P		**P**		**00 09 32.9**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=4.6,slow=7.6,SNR=4.8								
CMIG	**Matias Romero**	**82.09**	**71**	P		**P**		**00 09 32.9**	**+1.5**
RAR	**Rarotonga**	**82.29**	**146**	LR		LR		00 38 28.6	
	comp=Z,442nm,21.0s,baz=90,slow=30								
ASAR	**Alice Springs**	**82.98**	**208**	P		**P**		**00 09 36.7**	**+1.0**
	comp=Z,59nm,0.9s,baz=19,slow=5.0,SNR=18								
ASAR	**Alice Springs**	**82.98**	**208**	*e*P		**P**		**00 09 33.0**	**-2.7**
ASAR					pmax	pmax			
	comp=Z,59nm,0.9s								
ASAR	**Alice Springs**	**82.98**	**208**	P		**P**		**00 09 36.7**	**+1.0**
TEIG	**Tepich**	**82.99**	**64**		PFAKE			00 09 50.0	+14
TEIG					LR	LR			
	comp=Z,809nm,20.0s								
BBSR	**BB Station**	**83.01**	**40**		PFAKE			00 09 50.0	+14
BBSR					LR	LR			
	comp=Z,562nm,21.0s								
ESDC	**Sonseca Array**	**84.68**	**351**	P		**P**		**00 09 45.2**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=358,slow=4.7,SNR=11								
ESDC	**Sonseca Array**	**84.68**	**351**	P		**P**		**00 09 45.2**	**+0.7**
ESLA	**Sonseca Array**	**84.68**	**351**	*e*P		**P**		**00 09 44.6**	**+0.1**
ESLA					LR	LR			
	comp=Z,4μm,19.0s								
EIL	**Elat**	**84.78**	**317**	P		**P**		**00 09 47.4**	**+2.3**
	comp=Z,5.1nm,1.0s,baz=51,slow=2.0,SNR=4.2								
EIL	**Elat**	**84.78**	**317**	P		**P**		**00 09 47.4**	**+2.3**
PAB	**San Pablo**	**84.85**	**351**		PFAKE			00 10 00.0	+15
PAB					LR	LR			
	comp=Z,428nm,19.0s								
MBWA	**Marble Bar**	**85.19**	**221**	*e*P		**P**		**00 09 46.2**	**-0.8**
MBWA	**Marble Bar**	**85.19**	**221**	*e*P		**P**		**00 09 46.6**	**-0.3**
	comp=Z,344nm,2.1s								
MBWA					LR	LR			
	comp=Z,1μm,19.0s								
WDD	**Wield Dalam**	**85.40**	**336**		PFAKE			00 10 00.0	+12
WDD					LR	LR			
	comp=Z,2μm,19.0s								
RAO	**Raoul Island**	**85.76**	**164**		PFAKE			00 10 00.0	+10
RAO					LR	LR			
	comp=Z,2μm,19.0s								
EVO	**Evora**	**86.12**	**354**	*e*P		P		00 09 47.5	-4.1
	comp=Z,76nm,1.5s								
ARMA	**Armidale**	**86.23**	**191**	*e*P		**P**		**00 09 52.4**	**+0.4**
ARMA	**Armidale**	**86.23**	**191**	*e*P		**P**		**00 09 52.2**	**+0.2**
	comp=Z,16nm,0.9s								
KEST	**Kesra**	**86.65**	**340**	LR		LR		00 59 51.0	
	comp=Z,527nm,18.4s,baz=185,slow=43								
TBI	**Tubuai**	**87.84**	**138**	*e*LR		LR		00 37 58.5	
	comp=Z,696nm,24.0s								
TGUH	**Tegucigalpa,Un**	**88.66**	**67**		PFAKE			00 10 20.0	+16
TGUH					LR	LR			
	comp=Z,508nm,22.0s								
STKA	**Stephens Creek**	**89.15**	**199**	P		**P**		**00 10 06.0**	**+0.2**
	comp=Z,27nm,1.0s,baz=351,slow=6.2,SNR=27								
STKA	**Stephens Creek**	**89.15**	**199**	*e*P		**P**		**00 10 05.9**	**0.0**
STKA	**Stephens Creek**	**89.15**	**199**	P		**P**		**00 10 06.0**	**+0.2**
STKA					pmax	pmax			
	comp=Z,27nm,1.0s								
STKA	**Stephens Creek**	**89.15**	**199**	P		**P**		**00 10 06.0**	**+0.2**
GTBY	**Guantanamo Bay**	**89.68**	**54**		PFAKE			00 10 20.0	+11
GTBY					LR	LR			
	comp=Z,2μm,20.0s								
MTDJ	**Mount Denham**	**90.01**	**57**		PFAKE			00 10 20.0	+9.4
MTDJ					LR	LR			
	comp=Z,1μm,22.0s								
GRTK	**Grand Turk**	**90.08**	**50**		PFAKE			00 10 20.0	+9.3
GRTK					LR	LR			
	comp=Z,1μm,22.0s								
RTC	**Rabat Centre**	**90.57**	**353**		PFAKE			00 10 20.0	+7.2
RTC					LR	LR			
	comp=Z,959nm,19.0s								
CAN	**Canberra**	**91.38**	**192**		PFAKE			00 10 30.0	+14
CAN					LR	LR			
	comp=Z,5μm,20.0s								
SDDR	**Presa de Saban**	**92.23**	**51**		PFAKE			00 10 30.0	+9.2
SDDR					LR	LR			
	comp=Z,1μm,21.0s								
JTS	**JuntasAbangare**	**93.03**	**67**		PFAKE			00 10 40.0	+15
JTS					LR	LR			
	comp=Z,659nm,21.0s								
SJG	**San Juan**	**95.22**	**47**		PFAKE			00 10 50.0	+16
SJG					LR	LR			
	comp=Z,562nm,20.0s								
BCIP	**Isla Barro Col**	**96.63**	**63**		PFAKE			00 10 50.0	+9.0
BCIP					LR	LR			
	comp=Z,682nm,20.0s								
NWAO	**Narrogin (SRO)**	**96.80**	**218**	P		**P**		**00 10 40.0**	**-1.1**
	comp=Z,11nm,1.0s,baz=279,slow=9.8,SNR=2.7								
NWAO	**Narrogin (SRO)**	**96.80**	**218**	P		**P**		**00 10 40.0**	**-1.1**
NWAO					pmax	pmax			
	comp=Z,11nm,1.0s								
NWAO	**Narrogin (SRO)**	**96.80**	**218**	P		**P**		**00 10 40.0**	**-1.1**
NWAO					LR	LR			
	comp=Z,702nm,19.0s								
SNZO	**South Karori**	**96.83**	**172**		PFAKE			00 10 50.0	+9.0
SNZO					LR	LR			
	comp=Z,5μm,22.0s								
ANWB	**Willy Bob**	**97.40**	**44**		PFAKE			00 11 00.0	+16
ANWB					LR	LR			
	comp=Z,823nm,20.0s								
TAU	**Tasmania Unive**	**99.07**	**193**		PFAKE			00 11 00.0	+8.9
TAU					LR	LR			
	comp=Z,2μm,19.0s								
PAYG	**Puerto Ayora**	**99.28**	**78**		PFAKE			00 11 00.0	+7.1
PAYG					LR	LR			
	comp=Z,626nm,19.0s								
TAM	**Tamanrasset**	**99.96**	**340**		PFAKE			00 11 10.0	+14
TAM					LR	LR			
	comp=Z,941nm,20.0s								
FDF	**Fort de France**	**100.31**	**44**		PFAKE			00 11 10.0	+13
FDF					LR	LR			
	comp=Z,861nm,22.0s								
SDV	**Santo Domingo**	**101.38**	**56**		PFAKE			00 11 10.0	+7.5
SDV					LR	LR			
	comp=Z,270nm,20.0s								
GRGR	**Grenville**	**102.46**	**46**		PFAKE			00 11 20.0	+13
GRGR					LR	LR			
	comp=Z,487nm,22.0s								
MSEY	**Mahe Island**	**104.43**	**283**		PFAKE			00 11 30.0	+14
MSEY					LR	LR			
	comp=Z,658nm,22.0s								
OTAV	**Otavalo**	**104.93**	**67**		PFAKE			00 11 30.0	+11
OTAV					LR	LR			
	comp=Z,629nm,22.0s								
SACV	**Santiago Islan**	**109.51**	**8**		PFAKE			00 15 50.0	
SACV					LR	LR			
	comp=Z,782nm,20.0s								
TORD	**Torodi Ar. Bea**	**110.08**	**342**		PP	PP		00 16 21.2	+6.3
	comp=Z,2.0nm,1.0s,baz=30,slow=4.8,SNR=4.0								
TORD					PKKPbc	**PKKPbc**		**00 26 40.7**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=184,slow=3.0,SNR=6.6								
TORD	**Torodi Ar. Bea**	**110.08**	**342**		PP	PP		00 16 21.2	+6.3
TORD					PKKPbc	**PKKPbc**		**00 26 40.7**	**-1.2**
KMBO	**Kilima Mbogo**	**111.02**	**301**		PFAKE			00 16 00.0	
KMBO					LR	LR			
	comp=Z,749nm,21.0s								
NNA	**Nana**	**116.03**	**72**		PFAKE			00 16 10.0	+16
NNA					LR	LR			
	comp=Z,542nm,22.0s								
DBIC	**Dimbokro**	**117.42**	**348**		PKP	**PKPdf**		**00 15 55.5**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=290,slow=12,SNR=4.7								
DBIC	**Dimbokro**	**117.42**	**348**		PKIKP	**PKPdf**		**00 15 55.6**	**-1.0**
DBIC					pmax	pmax			
	comp=Z,2.0nm,0.5s								
DBIC	**Dimbokro**	**117.42**	**348**		PKP	**PKPdf**		**00 15 55.5**	**-1.0**
DBIC					LR	LR			
	comp=Z,1μm,20.0s								
SAML	**Samuel**	**120.50**	**58**		PFAKE			00 16 10.0	+7.6
SAML					LR	LR			
	comp=Z,2μm,20.0s								
ABPO	**Ambohimpanom**	**120.73**	**281**		PFAKE			00 16 10.0	+7.1
ABPO					LR	LR			
	comp=Z,572nm,19.0s								
MSKU	**Masuku**	**121.31**	**325**		PFAKE			00 16 20.0	+16
MSKU					LR	LR			
	comp=Z,3.0nm,22.0s								
LPAZ	**La Paz**	**124.25**	**67**		PFAKE			00 16 20.0	+10
LPAZ					LR	LR			
	comp=Z,2μm,19.0s								
SIV	**San Ignacio**	**127.59**	**60**		PKP	**PKPdf**		**00 16 15.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=7.0,slow=2.4,SNR=4.5								
SIV	**San Ignacio**	**127.59**	**60**		PKP	**PKPdf**		**00 16 15.4**	**-0.5**
RCBR	**Riachuelo**	**127.92**	**26**		PFAKE			00 16 30.0	+13
RCBR					LR	LR			
	comp=Z,1μm,20.0s								
CASY	**Casey**	**127.99**	**204**		PFAKE			00 16 30.0	+15
CASY					LR	LR			
	comp=Z,454nm,19.0s								
LCO	**Las Campanas**	**133.08**	**79**		PFAKE			00 16 40.0	+14
LCO					LR	LR			
	comp=Z,1μm,19.0s								
SBA	**Scott Base**	**133.08**	**179**		PFAKE			00 16 40.0	+16
SBA					LR	LR			
	comp=Z,622nm,19.0s								
LBTB	**Lobatse**	**137.18**	**298**		PFAKE			00 16 50.0	+16
LBTB					LR	LR			
	comp=Z,667nm,20.0s								
SHEL	**Horse Pasture**	**139.81**	**345**		PFAKE			00 16 50.0	+11
SHEL					LR	LR			
	comp=Z,2μm,20.0s								
BOSA	**Boshof**	**140.31**	**295**		PKP	**PKPdf**		**00 16 39.4**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=45,slow=2.9,SNR=3.4								
BOSA	**Boshof**	**140.31**	**295**		PKIKP	**PKPdf**		**00 16 39.4**	**-0.1**
BOSA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BOSA	**Boshof**	**140.31**	**295**		PKP	**PKPdf**		**00 16 39.4**	**-0.1**
BOSA					LR	LR			
	comp=Z,511nm,21.0s								
SPB	**Sao Paulo**	**140.50**	**49**		PFAKE			00 16 50.0	+10
SPB					LR	LR			
	comp=Z,1μm,20.0s								
PLCA	**Paso Flores**	**141.60**	**91**		PFAKE			00 16 50.0	+8.6
PLCA					LR	LR			
	comp=Z,1μm,20.0s								
MAW	**Mawson**	**143.36**	**219**		PKhKP	PKPpre		00 16 40.9	
	comp=Z,12nm,0.9s,baz=74,slow=7.7,SNR=4.0								
MAW	**Mawson**	**143.36**	**219**		PKPpre	PKPpre		00 16 40.9	
TRQA	**Tornquist**	**144.64**	**80**	*e*	PKPdf	PKPbc		00 16 45.6	-0.1
QSPA	**South Pole Qui**	**145.23**	**180**		PKPbc	**PKPbc**		**00 16 44.7**	**-2.0**
	comp=Z,100nm,1.0s,baz=357,slow=1.5,SNR=32								
QSPA	**South Pole Qui**	**145.23**	**180**		PKPbc	**PKPbc**		**00 16 44.7**	**-2.0**
QSPA					LR	LR			
	comp=Z,696nm,21.0s								
SUR	**Sutherland**	**145.60**	**297**		PKPbc	**PKPab**		**00 16 49.5**	**+0.1**
	comp=Z,35nm,0.9s,baz=108,slow=0.9,SNR=6.6								
SUR	**Sutherland**	**145.60**	**297**		PKPbc	**PKPab**		**00 16 49.5**	**+0.1**
PMSA	**Palmer Station**	**154.84**	**131**		PFAKE			00 17 10.0	-0.6
PMSA					LR	LR			
	comp=Z,572nm,19.0s								
EFI	**East Falkland**	**154.88**	**99**		PFAKE			00 17 10.0	-1.1
EFI					LR	LR			
	comp=Z,1μm,21.0s								

*DJA **28** 00:00:26,0.°97S×97.°58E,h0km,MLv6.3/11*
*IDC **28** 00:00:33.6±1.4,0.°44S×98.°18E,h0km,mb4.3/11,*
mb1 4.3/12,mb1mx4.1/23,mbtmp4.3/12,ML4.5/1,MS5.5/1,
Ms1 5.5/1,ms1mx4.8/13,Error ellipse: s-maj=46.5km
s-min=18.3km az=55.0
*NEIC **28** 00:00:35.1±0.8,0.°45S×98.°18E,h10km,mb4.4/3,Error*
ellipse: s-maj=27.5km s-min=9.1km az=52.0
*ISCJB **28** 00:00:36.3±1.0,0.°4S±0.°1×98.°3E±0.°2,h27km,mb4.3/13,*
MS5.3/1,Error ellipse: s-maj=30.6km s-min=11.4km
az=144.0

ISC 28 00:00:37.9±1.4,0.°4S±0.°2×98.°2E±0.°2,h27km,n30,
σ0°69/29,mb4.3/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.77**	**2**	P		**P**	**00 04 54.9**	**-0.3**
	0.6nm,0.3s,baz=192,slow=11,SNR=14							
CMAR	**Chiang Mai Arr**	**18.77**	**2**	P		**P**	**00 04 54.9**	**-0.3**
KAPI	**Kappang**	**21.96**	**102**	LR		LR	00 15 37.0	
	comp=Z,11μm,19.2s,baz=181,slow=41							
KAPI	**Kappang**	**21.96**	**102**	P		**P**	**00 05 29.3**	**-0.5**
WRA	**Warramunga Arr**	**40.30**	**121**	P		**P**	**00 08 13.2**	**-0.1**
	1.7nm,0.6s,baz=300,slow=9.1,SNR=13							
WRA	**Warramunga Arr**	**40.30**	**121**	P		**P**	**00 08 13.2**	**-0.1**
WRAB	**Tennant Creek**	**40.31**	**121**	*e*P		**P**	**00 08 13.9**	**+0.6**
	7.3nm,1.1s							
ASAR	**Alice Springs**	**41.60**	**126**	P		**P**	**00 08 23.9**	**0.0**
	0.7nm,0.5s,baz=295,slow=7.8,SNR=7.9							
ASAR	**Alice Springs**	**41.60**	**126**	P		**P**	**00 08 23.9**	**0.0**
KSAR	**Wonju Array Be**	**46.58**	**33**	P		**P**	**00 09 03.1**	**-0.5**
KSRS	**Korea Array**	**46.61**	**33**	P		**P**	**00 09 03.1**	**-0.7**
	0.9nm,0.5s,baz=236,slow=7.9,SNR=3.6							
SONM	**Songino Array**	**48.58**	**7**	P		**P**	**00 09 20.0**	**+0.9**
	3.4nm,0.5s,baz=190,slow=9.1,SNR=32							
SONM	**Songino Array**	**48.58**	**7**	P		**P**	**00 09 20.0**	**+0.9**
ULN	**Ulaanbaatar**	**48.70**	**8**	*e*P		**P**	**00 09 21.6**	**+1.5**
	3.5nm,0.7s							
MK31	**Makanchi Array**	**49.06**	**346**	*e*P		**P**	**00 09 23.0**	**+0.3**
MKAR	**Makanchi Array**	**49.06**	**346**	P		**P**	**00 09 23.2**	**+0.5**
	6.3nm,0.5s,baz=156,slow=9.0,SNR=22							
MKAR	**Makanchi Array**	**49.06**	**346**	P		**P**	**00 09 23.2**	**+0.5**
KURK	**Kurchatov**	**53.62**	**345**	P		**P**	**00 09 55.9**	**-0.8**
	1.0nm,0.4s,baz=162,slow=7.3,SNR=4.3							
KURK	**Kurchatov**	**53.62**	**345**	*e*P		**P**	**00 09 55.1**	**-1.6**
	4.6nm,1.0s							
USRK	**Ussuriysk Arra**	**53.63**	**30**	P		**P**	**00 09 57.0**	**+0.1**
	5.4nm,0.7s,baz=234,slow=7.4,SNR=10.0							
ZALV	**Zalesovo Beam**	**55.31**	**350**	P		**P**	**00 10 08.7**	**-0.3**
	5.3nm,0.5s,baz=166,slow=6.7,SNR=15							
ZALV	**Zalesovo Beam**	**55.31**	**350**	P		**P**	**00 10 08.7**	**-0.3**
BVAR	**Borovoye Array**	**58.11**	**341**	P		**P**	**00 10 27.8**	**-1.1**
	1.2nm,0.5s,baz=139,slow=12,SNR=5.7							
BVAR	**Borovoye Array**	**58.11**	**341**	P		**P**	**00 10 27.8**	**-1.1**
FINES	**FINESS Array B**	**81.91**	**332**	P		**P**	**00 12 54.8**	**+0.1**
	0.8nm,0.5s,baz=107,slow=6.1,SNR=4.9							
FINES	**FINESS Array B**	**81.91**	**332**	P		**P**	**00 12 54.8**	**+0.1**
ARCES	**ARCESS Array B**	**84.40**	**340**	P		**P**	**00 13 07.7**	**+0.1**
	5.6nm,1.0s,baz=93,slow=6.4,SNR=4.1							
ARCES	**ARCESS Array B**	**84.40**	**340**	P		**P**	**00 13 07.7**	**+0.1**
TXAR	**Lajitas Array**	**144.45**	**34**	PKP		**PKPdf**	**00 20 13.1**	**+0.4**
	1.1nm,0.4s,baz=181,slow=0.2,SNR=25							
TXAR	**Lajitas Array**	**144.45**	**34**	PKP		**PKPdf**	**00 20 13.1**	**+0.4**

*BJI **28** 00:01:10.3,0.°82S×98.°26E,h33km,mB6.1/45,mb5.7/70,*
Ms6.0/72,Ms7 5.9/64
*ISCJB **28** 00:01:13.3±0.1,0.°28S±0.°02×98.°25E±0.°02,h24km,*
mb5.7/267,MS5.5/206,Error ellipse: s-maj=3.4km
s-min=2.6km az=31.8
*TEH **28** 00:01:14.0,0.°38S×98.°01E,h29km,ML5.8*
*MOS **28** 00:01:14.3±1.4,0.°28S×98.°35E,h33km,mb6.0/95,*
MS5.4/46,Error ellipse: s-maj=10.5km s-min=5.1km
az=121.0
*NEIC **28** 00:01:14.6±0.1,0.°26S×98.°28E,h20km,mb5.7/101,ME5.8,*
MS5.6/155,MW5.7,MW5.6,Error ellipse: s-maj=4.5km
s-min=3.3km az=224.0 Broadband fault plane solution: P
waves. NP1:φs130.00000°,δ80.00000°,λ85.00000°.
NP2:φs337.00000°,δ11.00000°,λ116.00000°. Principal
axes: T Plg55.0000°, Azm34.0000°; N Plg0.0000°,
Azm0.0000°; P Plg35.0000°, Azm224.0000°; Moment
Tensor Solution. s54 Moment tensor: Scale 10^17 Nm;
Mrr1.44; Mθθ-0.56; Mφφ-0.88; Mrθ2.30; Mrφ1.22; Mθφ-1.38;
Best double couple: Mo3.20000×10^17 NP1:φs341.00000°,
δ19.00000°,λ127.00000°. NP2:φs122.00000°,δ75.00000°,
λ78.00000°. Principal axes: T 3.0200, Plg58.0000°,
Azm16.0000°; N 0.3400, Plg11.0000°, Azm125.0000°; P
-3.3600, Plg28.0000°, Azm222.0000°; Depth from
synthetics of broadband displacement seismograms.
Energy computed from BB mechanism.
NEIC Felt [III] at Padang and Pasaman.
*IDC **28** 00:01:14.4±1.4,0.°36S×98.°38E,h20km,mB7km,mb5.2/42,*
mb1 5.3/43,mb1mx5.2/44,mbtmp5.2/43,ML5.5/1,MS5.5/3,
Ms1 5.5/3,ms1mx5.1/11 Error ellipse: s-maj=10.0km
s-min=7.1km az=51.0
*NEIC **28** 00:01:15.0±0.0,1.°43S×97.°11E,h29km,Moment Tensor*
Solution. s156 Moment tensor: Scale 10^17Nm; Mrr0.96;
Mθθ-0.55; Mφφ-0.40; Mrφ2.59; Mθφ0.85; Mθr-3.64; Best
double couple: Mo4.60000×10^17 NP1:φs144.00000°,
δ83.00000°,λ94.00000°. NP2:φs293.00000°,δ8.00000°,
λ59.00000°. Principal axes: T 4.4600, Plg51.0000°,
Azm59.0000°; N 0.3000, Plg4.0000°, Azm323.0000°; P
-4.7700, Plg37.0000°, Azm230.0000°;
*DJA **28** 00:01:17,0.°30S×98.°21E,h31km,Mw5.6/41*
*SZGRF **28** 00:01:17.6,0.°83S×96.°95E,h33km,mb5.6,MS5.4,*
Southwest of Sumatera, Indonesia

ISC 28 00:01:15.4±0.2,0.°32S±0.°03×98.°20E±0.°03,h28km,
h28km:pP-P,n1284,σ1908/2139,mb5.7/265,MS5.5/206,
632C-655D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPTI		**3.70**	**344**	P		**Pn**	**00 02 09.8**	**-0.9**
FRIM	**Kepong**	**4.92**	**44**	P		Pn	00 02 30.0	+2.5
KSI	**Kapahiang**	**5.50**	**127**	P		**Pn**	**00 02 36.8**	**+1.2**
	2μm,0.8s,66μm19nm							
IPM	**Ipoh**	**5.54**	**31**	P		Pn	00 02 38.6	+2.5
KGM	**Kluang**	**5.62**	**66**	P		**Pn**	**00 02 38.9**	**+1.8**
KGM	**Kluang**	**5.62**	**66**	P		**Pn**	**00 02 38.9**	**+1.8**
LHMI	**Lhok Sumawe**	**5.65**	**347**	P		**Pn**	**00 02 37.7**	**+0.1**
	671nm,0.8s,27μm53μm18nm							
MYKOM	**Kota Tinggi**	**6.02**	**70**	P		**Pn**	**00 02 43.3**	**+0.6**
MYKOM	**Kota Tinggi**	**6.02**	**70**	P		**Pn**	**00 02 43.9**	**+1.2**
	327nm,0.8s,7μm75μm8.4nm							
MNAI	**Manna**	**6.22**	**130**	P		**Pn**	**00 02 47.9**	**+2.4**
	2μm,1.4s,60μm30μm19nm							
BSI	**Banda Aceh**	**6.46**	**333**	P		**Pn**	**00 02 47.8**	**-1.0**
	557nm,1.1s,31μm14nm							
PMBI	**Palembang**	**7.06**	**112**	P		Pb	00 03 08.3	-9.1
CGJI	**Cibinong**	**9.74**	**130**	P		**Pn**	**00 03 32.5**	**-1.4**
	289nm,1.1s,4μm							
SKJI	**Sukabumi**	**10.66**	**129**	P		Pn	00 03 53.4	+7.0
LEM	**Lembang**	**11.40**	**125**	P		**Pn**	**00 03 56.9**	**+0.2**
	146nm,1.7s,6μm							
CISI	**Cisompet, Garu**	**11.98**	**127**	P		**Pn**	**00 04 02.5**	**-2.1**
	285nm,0.5s,4μm7μm							
KSM	**Kuching**	**12.23**	**82**	*e*Pn		Pn	00 04 11.1	+3.1
KSM	**Kuching**	**12.23**	**82**	P		**Pn**	**00 04 10.1**	**+2.1**
KSM	**Kuching**	**12.23**	**82**	P		Pn	00 04 11.2	+3.2
	172nm,1.0s,4μm							
BJII	**Banjamegara**	**13.43**	**122**	P		**Pn**	**00 04 23.8**	**-0.5**
	195nm,1.5s,4μm							
SMRI	**Semarang**	**13.92**	**119**	P		**P**	**00 04 39.7**	**+0.9**
SBUM	**Sibu**	**14.28**	**79**	P		**Pn**	**00 04 38.1**	**+2.2**
SBUM	**Sibu**	**14.28**	**79**	P		**Pn**	**00 04 37.8**	**+1.9**
	472nm,1.3s,7μm							
UGM	**Wanagama**	**14.41**	**122**	*e*Pn		**Pn**	**00 04 37.6**	**-0.2**
UGM	**Wanagama**	**14.41**	**122**	P		**P**	**00 04 44.1**	**-0.2**
PCJI	**Pacitan**	**15.11**	**122**	P		**P**	**00 04 54.2**	**+2.1**
PWJI	**Pagerwojo**	**15.57**	**120**	P		**P**	**00 04 58.3**	**+1.2**
KBKI	**Kotabaru**	**18.20**	**100**	P		**P**	**00 05 25.8**	**-0.5**
	255nm,1.6s							
CM31

comp=Z,375nm,1.4s,comp=Z,4µm
AGT Agartala 24.98 345 *ex* **P 00 06 39.0 +2.1**
AGT *ex* x 00 07 33.0
KAAM Kaadhehdhoo 25.22 272 P **P 00 06 41.3 +2.1**
comp=Z,456nm,1.1s
MMRI Maumere 25.33 110 P **P 00 06 38.8 -1.3**
comp=Z,75nm,1.8s,comp=Z,2µm
KMI Kunming 25.67 10 P **P 00 06 44.8 +1.4**
KMI pP **pP 00 06 53.3 +1.8**
KMI sP **sP 00 06 58.3 +3.3**
KMI PP PnPn 00 07 27.8 +7.5
KMI S **S 00 11 10.0 -0.4**
KMI sS **sS 00 11 27.3 +3.3**
KMI SS SnSn 00 12 15.8 +9.4
KMI pmax pmax
comp=Z,130nm,1.3s
KMI pmax pmax
comp=Z,3µm,3.9s
KMI LR LR
comp=N,26µm,13.9s
KMI LR LR
comp=E,16µm,12.5s
KMI LR LR
comp=Z,29µm,13.0s
KMI Kunming 25.67 10 P **P 00 06 44.8 +1.4**
KMI pP **pP 00 06 53.3 +1.8**
KMI sP **sP 00 06 58.3 +3.3**
KMI S **S 00 11 10.0 -0.4**
KMI pmax pmax
comp=Z,130nm,1.3s
KMI pmax pmax
comp=Z,3µm,3.9s
KMI LR LR
comp=N,26µm,13.9s
KMI LR LR
comp=E,16µm,12.5s
KMI LR LR
comp=Z,29µm,13.0s
HMDM Hanimaadhoo 25.94 286 P pP 00 06 56.5 +2.6
HYB Hyderabad 26.17 313 *i* P **P 00 06 47.0 -0.8**
comp=Z,70nm,1.0s
HYB eS **S 00 11 18.0 -0.2**
SHL Shillong 26.45 347 *eP* **P 00 06 51.0 +0.6**
SHL *ex* x 00 11 22.0
DGAR Diego Garcia 26.62 254 PFAKE 00 07 00.0 +8.1
DGAR LR LR
comp=Z,8µm,19.0s
HKC Hong Kong Obse 27.34 34⇑ *i*P **P 00 06 56.0 -2.3**
GZH Guangzhou 27.53 31 P P 00 07 05.5 +5.6
GZH S S 00 11 50.0 +11
GZH LR LR
comp=N,23µm,15.9s
GZH LR LR
comp=E,11µm,14.9s
GZH LR LR
comp=Z,32µm,13.9s
GYA Guiyang 27.84 16⇑ *i*P **P 00 07 02.3 -0.5**
GYA pP **pP 00 07 15.3 +4.3**
GYA sP sP 00 07 20.0 +5.5
GYA PP **PnPn 00 07 55.5 +5.7**
GYA PcP **PcP 00 10 21.8 +3.2**
GYA S **S 00 11 41.0 -3.5**
GYA sS **sS 00 12 02.0 +3.9**
GYA SS **SnSn 00 13 05.5 +6.4**
GYA ScP **ScP 00 13 56.8 -0.9**
GYA ScS **ScS 00 17 47.8 -2.3**
GYA pmax pmax
comp=Z,120nm,0.8s
GYA pmax pmax
comp=Z,4µm,5.2s
GYA LR LR
comp=N,19µm,15.4s
GYA LR LR
comp=E,11µm,16.0s
GYA LR LR
comp=Z,22µm,15.6s
GYA Guiyang 27.84 16⇑ *i*P **P 00 07 02.3 -0.5**
GYA pP **pP 00 07 15.3 +4.3**
GYA sP sP 00 07 20.0 +5.5
GYA PP **PnPn 00 07 55.5 +5.7**
GYA S **S 00 11 41.0 -3.5**
GYA sS **sS 00 12 02.0 +3.9**
GYA ScP **ScP 00 13 56.8 -0.9**
GYA ScS **ScS 00 17 47.8 -2.3**
GYA pmax pmax
comp=Z,120nm,0.8s
GYA pmax pmax
comp=Z,4µm,5.2s
GYA LR LR
comp=N,19µm,15.4s
GYA LR LR
comp=E,11µm,16.0s
GYA LR LR
comp=Z,22µm,15.6s
DAV Davao City (W) 28.28 74 *eP* P 00 07 00.5 -6.3
DAV LR LR
comp=Z,9µm,19.0s
NGP Nagpur 28.38 320 *eP* **P 00 07 08.2 +0.7**
NGP *ex* x 00 07 53.2
comp=Z,126nm,1.7s
NGP eS **S 00 11 53.8 +0.8**
ODAN Odare 28.96 340 *eP* **P 00 07 13.4 +0.5**
ODAN Odare 28.96 340 *eP* **P 00 07 13.4 +0.5**
NLAI Namlea 29.02 96 P **P 00 07 15.1 +1.7**
comp=Z,91nm,1.2s,comp=Z,1µm
LBMI Labuha 29.30 91 P **P 00 07 16.9 +1.1**
comp=Z,205nm,1.6s,comp=Z,3µm
TAPN Taplejung 29.30 341 *eP* **P 00 07 16.8 +0.8**
TAPN Taplejung 29.30 341 *eP* **P 00 07 16.8 +0.8**
RAMN Ramite 29.32 338 *eP* **P 00 07 17.1 +1.0**
comp=Z,223nm,0.9s
RAMN Ramite 29.32 338 *eP* **P 00 07 17.1 +1.0**
comp=Z,223nm,0.9s
AKL Akola 29.43 316 *eP* **P 00 07 17.1 +0.2**
AKL AMP 00 07 20.5
comp=Z,58nm,1.6s
AKL *i* x x 00 12 08.7
MBWA Marble Bar 29.51 136 *eP* **P 00 07 18.1 +0.5**
comp=Z,54nm,1.1s
MBWA LR LR
comp=Z,8µm,20.0s
JIRN Jiri 30.11 338 *eP* **P 00 07 23.8 +0.5**
comp=Z,597nm,1.1s
JIRN Jiri 30.11 338 *eP* **P 00 07 23.8 +0.5**
comp=Z,597nm,1.1s
AAI Ambon 30.16 97 P **P 00 07 23.9 +0.5**
comp=Z,73nm,1.0s,comp=Z,3µm
PKI Pulchoki 30.33 337 *eP* **P 00 07 25.5 +0.3**
PKI Pulchoki 30.33 337 *eP* **P 00 07 25.5 +0.3**
POO Poona 30.39 309 *eP* **P 00 07 27.0 +1.5**
POO AMb AMB 00 07 30.2
comp=Z,96nm,1.2s
POO *i* S **S 00 12 28.0 +3.4**
GUN Gumba 30.46 338 *eP* **P 00 07 25.9 -0.4**
comp=Z,319nm,0.6s
GUN Gumba 30.46 338 *eP* **P 00 07 25.9 -0.4**
comp=Z,319nm,0.6s
DMN Daman 30.48 337 *eP* **P 00 07 26.9 +0.5**
comp=Z,231nm,0.9s
DMN Daman 30.48 337 *eP* **P 00 07 26.9 +0.5**
comp=Z,231nm,0.9s
KKN Kakani 30.58 337 *eP* **P 00 07 27.6 +0.4**
comp=Z,479nm,1.2s
KKN Kakani 30.58 337 *eP* **P 00 07 27.6 +0.4**
comp=Z,479nm,1.2s
LSA Lhasa 30.60 348 PFAKE 00 07 40.0 +12
LSA LR LR
comp=Z,6µm,21.0s
MSAI Masohi 30.85 96 P **P 00 07 31.3 +1.7**
comp=Z,21nm,1.4s,comp=Z,692nm
GKN Gorkha 31.02 336 *eP* **P 00 07 29.5 -1.6**
comp=Z,548nm,1.1s
GKN Gorkha 31.02 336 *eP* **P 00 07 29.5 -1.6**
comp=Z,548nm,1.1s
KOLN Koldanda 31.25 334 *eP* **P 00 07 34.0 +0.9**
comp=Z,244nm,0.7s
KOLN Koldanda 31.25 334 *eP* **P 00 07 34.0 +0.9**
comp=Z,244nm,0.7s
CD2 Chengdu 31.50 9 P **P 00 07 34.5 -0.6**
CD2 pP **pP 00 07 44.5 +1.1**
CD2 sP **sP 00 07 48.8 +2.0**
CD2 PP **PnPn 00 08 39.5 +0.7**
CD2 S **S 00 12 39.8 -2.0**
CD2 sS **sS 00 12 56.5 +1.1**
CD2 pmax pmax
comp=Z,200nm,1.8s
CD2 pmax pmax
comp=Z,2µm,5.1s
CD2 LR LR
comp=N,19µm,14.9s
CD2 LR LR
comp=Z,32µm,14.3s
QZH Quanzhou 31.94 37⇑ *i*P **P 00 07 39.0 0.0**
QZH S **S 00 12 52.0 +3.4**
QZH LR LR
comp=N,23µm,16.0s
QZH LR LR
comp=E,17µm,14.9s
QZH LR LR
comp=Z,29µm,14.8s
TWG Pinlang 32.01 43 *eP* **P 00 07 39.9 +0.3**
comp=Z,381nm,1.7s
TPUB Ta-pu 32.04 41 *eP* **P 00 07 39.5 -0.4**
comp=Z,314nm,1.1s
FITZ Fitzroy Crossi 32.24 125 P **P 00 07 40.3 -1.4**
comp=Z,39nm,1.1s,baz=318,slow=6.6,SNR=14
FITZ LR LR 00 22 37.8
comp=Z,7µm,20.4s,baz=306,slow=40
FITZ Fitzroy Crossi 32.24 125 *eP* **P 00 07 39.4 -2.3**
FITZ Fitzroy Crossi 32.24 125‖ *eP* **P 00 07 40.0 -1.7**
comp=Z,43nm,0.9s
ENH Enshi 32.26 18 PFAKE 00 07 50.0 +8.2
ENH LR LR
comp=Z,9µm,21.0s
YULB Yu-li 32.55 42 *eP* **P 00 07 43.5 -0.9**
YULB *eS* **S 00 12 57.6 -0.6**
SSLB Suanglung 32.59 41 *eP* **P 00 07 44.7 -0.1**
comp=Z,261nm,1.0s
NACB Ninganchiao 33.28 41 *eP* **P 00 07 51.0 +0.2**
comp=Z,267nm,1.2s
YHNB Yeheng 33.48 40 PFAKE 00 08 00.0 +7.4
YHNB LR LR
comp=Z,6µm,20.0s
WHN Wuhan 34.32 25⇑ *i*P **P 00 08 00.0 +0.3**
WHN pP **pP 00 08 08.0 0.0**
WHN pmax pmax
comp=Z,1µm,1.6s
WHN pmax pmax
comp=Z,3µm,9.0s
WHN LR LR
comp=N,10µm,10.7s
WHN LR LR
comp=E,16µm,14.2s
WHN LR LR
comp=Z,21µm,14.1s
TLE Tual 34.88 99 P P 00 08 01.2 -3.6
NDI New Delhi 35.14 327 *eP* **P 00 08 06.6 -0.2**
NDI AMb AMB 00 08 08.8
comp=Z,157nm,0.9s
XAN Xi'an 35.63 15 P **P 00 08 10.5 -0.5**
XAN PP **PnPn 00 09 29.5 -1.4**
XAN S **S 00 13 43.0 -2.7**
XAN pmax pmax
comp=Z,150nm,1.4s
XAN pmax pmax
comp=Z,410nm,6.2s
XAN LR LR
comp=N,11µm,15.2s
XAN LR LR
comp=E,5µm,16.1s
XAN LR LR
comp=Z,6µm,15.8s
KLBR Kellerberrin 36.20 151 *eP* **P 00 08 16.3 +0.4**
BHJ Bhuj 36.32 312 *ex* x 00 08 39.1
LZH Lanzhou 36.60 8⇑ P **P 00 08 19.8 +0.4**
LZH pP **pP 00 08 27.8 +0.1**
LZH sP **sP 00 08 32.3 +1.2**
LZH PcP **PcP 00 10 40.0 -2.4**
LZH *e*S **S 00 13 59.0 -1.7**
LZH sS **sS 00 14 17.0 +2.6**
LZH pmax pmax
comp=Z,360nm,1.4s
LZH pmax pmax
comp=Z,1µm,4.7s
LZH LR LR
comp=N,9µm,13.3s
LZH LR LR
comp=E,5µm,11.2s
LZH LR LR
comp=Z,11µm,15.3s
NWAO Narrogin (SRO) 37.06 153 P **P 00 08 23.6 +0.4**
comp=Z,33nm,1.0s,baz=329,slow=8.5,SNR=6.4
NWAO Narrogin (SRO) 37.06 153 P **P 00 08 23.6 +0.4**
NWAO pmax pmax
comp=Z,33nm,1.0s
NWAO Narrogin (SRO) 37.06 153 *eP* **P 00 08 23.9 +0.7**
comp=Z,119nm,1.5s
NWAO LR LR
comp=Z,5µm,21.0s
NJ2 Nanjing 37.66 29 *eP* **P 00 08 28.5 +0.2**
NJ2 pP **pP 00 08 37.5 +0.9**
NJ2 sP **sP 00 08 41.5 +1.5**
NJ2 PP **PnPn 00 09 55.5 -0.2**
NJ2 S **S 00 14 20.0 +3.4**
NJ2 sS **ScP 00 14 33.0 +1.8**
NJ2 pmax pmax
comp=Z,280nm,1.0s
NJ2 pmax pmax
comp=Z,1µm,5.6s
NJ2 LR LR
comp=N,11µm,13.0s
NJ2 LR LR
comp=E,7µm,15.6s
NJ2 LR LR
comp=Z,11µm,14.4s
SSE Sheshan 38.10 33⇑ P **P 00 08 32.3 +0.3**
SSE S **S 00 14 24.3 +0.9**
SSE sS **sS 00 14 36.5 -0.6**
SSE pmax pmax
comp=Z,95nm,1.4s
SSE pmax pmax
comp=Z,700nm,6.5s
SSE LR LR
comp=N,11µm,14.7s
SSE LR LR
comp=E,4µm,14.7s
SSE LR LR
comp=Z,17µm,15.2s
GTA Gaotai 39.56 2⇑ P **P 00 08 44.3 -0.1**
GTA pP **pP 00 08 54.3 +1.6**
GTA sP **sP 00 08 58.0 +1.9**
GTA PP **PnPn 00 10 19.8 +1.2**
GTA PcP **PcP 00 10 52.0 +0.5**
GTA S **S 00 14 44.3 -1.2**
GTA sS **sS 00 15 01.0 +1.7**
GTA ScS **ScS 00 18 48.3 -2.6**
GTA pmax pmax
comp=Z,100nm,1.4s
GTA pmax pmax
comp=Z,1µm,5.5s
GTA LR LR
comp=N,8µm,15.0s
GTA LR LR
comp=E,6µm,16.6s
GTA LR LR
comp=Z,6µm,16.1s
JOW Kunigami 39.57 45 P **P 00 08 43.9 -0.6**
comp=Z,112nm,1.2s,baz=242,slow=8.3,SNR=8.7
JOW Kunigami 39.57 45 *eP* **P 00 08 44.7 +0.3**
comp=Z,162nm,1.5s
TIY Taiyuan 40.06 18 *eP* **P 00 08 48.8 +0.4**
TIY S **S 00 14 55.5 +2.7**
TIY LR LR
comp=N,11µm,13.2s
TIY LR LR
comp=E,6µm,14.8s
TIY LR LR
comp=Z,8µm,17.3s
WRA Warramunga Arr 40.39 121 P **P 00 08 49.6 -1.8**
comp=Z,45nm,1.1s,baz=299,slow=9.5,SNR=51
WRA PcP **PcP 00 10 55.2 +0.8**
comp=Z,4.2nm,0.9s,baz=300,slow=4.9,SNR=3.5
WRA ScP **ScP 00 14 40.6 -1.5**
comp=Z,4.0nm,1.0s,baz=290,slow=5.3,SNR=6.7
WRA S **S 00 14 53.1 -5.1**
comp=Z,8.4nm,1.2s,baz=294,slow=15,SNR=6.2
WRA LR LR 00 28 57.6
comp=Z,3µm,20.1s,baz=295,slow=41
WRA Warramunga Arr 40.39 121 P **P 00 08 49.6 -1.8**
WRA 00 10 55.2
WRA S **S 00 14 53.1 -5.1**
WRA pmax pmax
comp=Z,45nm,1.1s
WRA smax smax
comp=N,8.0nm,1.2s
WRA MLR MLR
comp=Z,3µm,20.1s
WRA Warramunga Arr 40.39 121 P **P 00 08 49.6 -1.8**
WRA PcP **PcP 00 10 55.2 +0.8**
WRA ScP **ScP 00 14 40.5 -1.5**
WRA S **S 00 14 53.1 -5.1**
WRAB Tennant Creek 40.40 121 *eP* **P 00 08 49.9 -1.6**
WRAB pmax pmax
comp=Z,169nm,1.3s
WRAB MLR MLR
comp=Z,3µm,20.0s
WRAB Tennant Creek 40.40 121 *eP* **P 00 08 49.9 -1.6**
comp=Z,169nm,1.3s
WRAB LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 40.40 121 P **P 00 08 49.1 -2.4**
comp=Z,312nm,1.3s,SNR=11
WB2 Warramunga Arr 40.40 121 *eP* **P 00 08 49.5 -2.0**
NIL Nilore 41.13 328 PFAKE 00 09 10.0 +13
NIL LR LR
comp=Z,39nm,21.0s
FORT Forrest 41.48 140 *eP* **P 00 09 01.3 +1.1**
FORT Forrest 41.48 140 *eP* **P 00 09 01.7 +1.6**
comp=Z,116nm,0.9s
AS31 Alice Springs 41.69 126 *eP* **P 00 09 01.3 -0.8**
ASAR Alice Springs 41.69 126 P **P 00 09 01.4 -0.7**
comp=Z,18nm,0.5s,baz=298,slow=7.3,SNR=106
ASAR PcP **PcP 00 10 58.9 +0.3**
comp=Z,4.9nm,0.8s,baz=297,slow=5.1,SNR=2.2
ASAR ScP **ScP 00 14 46.4 -0.7**
comp=Z,1.4nm,0.8s,baz=329,slow=3.4,SNR=4.3
ASAR S **S 00 15 14.4 -3.1**
comp=Z,9.4nm,1.2s,baz=300,slow=15,SNR=8.5
ASAR Alice Springs 41.69 126 P **P 00 09 01.4 -0.7**
ASAR 00 10 58.9
ASAR S **S 00 15 14.4 -3.1**
ASAR pmax pmax
comp=Z,18nm,0.5s
ASAR smax smax
comp=N,9.0nm,1.2s
ASAR Alice Springs 41.69 126 P **P 00 09 01.4 -0.7**
ASAR PcP **PcP 00 10 58.9 +0.3**
ASAR ScP **ScP 00 14 46.4 -0.7**
ASAR S **S 00 15 14.4 -3.1**
BTO Baotou 42.13 13 *eP* **P 00 09 05.5 +0.1**
BTO pmax pmax
comp=Z,67nm,1.7s
HHC Hu-ho-hao-te 42.74 15⇑ P **P 00 09 11.8 +1.4**
HHC PP PP 00 10 54.5 +4.6
HHC PcP **PcP 00 11 03.3 +1.5**
HHC PcS **PcS 00 14 54.0 +0.1**
HHC S **S 00 15 34.8 +2.3**
HHC ScS **ScS 00 19 10.0 +0.1**
HHC pmax pmax
comp=Z,200nm,1.5s
HHC pmax pmax
comp=Z,3µm,5.7s
HHC LR LR
comp=N,19µm,15.2s
HHC LR LR
comp=E,10µm,15.7s
HHC LR LR
comp=Z,17µm,15.9s
MSEY Mahe Island 42.89 264 PFAKE 00 09 20.0 +8.0
MSEY LR LR
comp=Z,5µm,19.0s
BJT Baijiatuan 43.37 20 PFAKE 00 09 20.0 +4.6
BJT LR LR
comp=Z,5µm,19.0s
BJI Beijing 43.39 20 P **P 00 09 16.5 +1.0**
BJI PP **PP 00 10 57.8 +1.0**
BJI S **S 00 15 42.8 +1.0**
BJI pmax pmax
comp=Z,420nm,1.2s
BJI pmax pmax
comp=Z,3µm,3.5s
BJI LR LR
comp=N,7µm,13.2s
BJI LR LR
comp=E,8µm,17.4s
BJI LR LR
comp=Z,3µm,22.3s
MRIV Mauritius Mete 44.48 241 *eP* **P 00 09 25.9 +1.2**
KSH Kashi 44.56 335 P **P 00 09 23.8 -1.3**
KSH *ep*P **pP 00 09 33.5 -0.1**
KSH *es*P **sP 00 09 37.5 +0.5**
KSH *ePcP* **PP 00 11 08.8 -0.7**
KSH *eScP* **ScP 00 14 56.8 -1.7**
KSH *ePcS* **PcS 00 15 00.5 -1.0**
KSH *eS* **S 00 15 53.8 -5.5**
KSH *eScS* **SS 00 19 17.5 -2.2**
KSH pmax pmax
comp=Z,640nm,3.9s
KSH LR LR
comp=N,3µm,17.9s
KSH LR LR
comp=E,4µm,16.3s
KSH LR LR
comp=Z,3µm,17.9s
DL2 Dalian 44.56 26⇑ *i*P **P 00 09 25.5 +0.5**
DL2 *e*S **S 00 16 00.0 +1.0**
DL2 pmax pmax
comp=Z,190nm,1.4s
DL2 pmax pmax
comp=Z,880nm,5.1s
DL2 LR LR
comp=N,3µm,16.4s
DL2 LR LR
comp=E,2µm,16.9s
DL2 LR LR
comp=Z,3µm,13.0s
WMQ Urumqi 44.94 349 P **P 00 09 28.8 +0.8**
WMQ pP **pP 00 09 38.8 +2.3**
WMQ sP **sP 00 09 42.8 +3.0**
WMQ PcP **PcP 00 11 09.8 +0.7**
WMQ S **S 00 16 03.8 -0.7**
WMQ SS **ScS 00 19 17.8 -5.8**
WMQ pmax pmax
comp=Z,330nm,1.3s
WMQ pmax pmax
comp=Z,2µm,4.9s
WMQ LR LR
comp=N,3µm,20.5s
WMQ LR LR
comp=E,4µm,19.7s
WMQ LR LR
comp=Z,3µm,20.4s
JNU Nakatsue 45.30 40 P **P 00 09 30.5 -0.5**
comp=Z,241nm,1.1s,baz=230,slow=5.2,SNR=39
JNU Nakatsue 45.30 40 *eP* **P 00 09 30.3 -0.8**
comp=Z,162nm,1.2s
INCN Inchon 45.88 32 *eP* **P 00 09 34.3 -1.2**
comp=Z,319nm,1.6s
INCN LR LR
comp=Z,7µm,20.0s
RER Riviere de l'E 46.32 241 *eP* **P 00 09 40.4 +1.1**
comp=Z,258nm,1.0s
RER LR LR
comp=Z,2µm,21.0s
KSAR Wonju Array Be 46.51 33 P **P 00 09 40.0 -0.5**
KSAR Wonju Array Be 46.51 33 P **P 00 09 40.0 -0.5**
COEN Coen 46.52 109 *eP* **P 00 09 39.4 -1.4**
comp=Z,257nm,1.3s
KSRS Korea Array 46.54 33 P **P 00 09 40.0 -0.7**
comp=Z,112nm,1.1s,baz=224,slow=7.8,SNR=110
KSRS Korea Array 46.54 33 P **P 00 09 40.0 -0.7**
KSRS pmax pmax
comp=Z,112nm,1.1s
ULHL Ulahol 46.77 338 P **P 00 09 43.9 +1.2**
SNR=23
ULHL P **P 00 09 43.9 +1.2**
SNR=23
KZA Kyzart 47.01 337 P **P 00 09 46.3 +1.5**
SNR=12
KZA P **P 00 09 46.3 +1.5**
SNR=12
UCH Uchtor 47.43 336 P **P 00 09 49.5 +1.4**
SNR=12
UCH P **P 00 09 49.5 +1.4**
SNR=12
TKM2 Tokmak 2 47.59 338 P **P 00 09 49.7 +0.6**
SNR=54

TKM2 P **P** **00 09 49.7 +0.6**
SNR=54
TKM2 Tokmak 2 **47.59 338** *i* P **P** **00 09 49.7 +0.6**
TKM2 Tokmak 2 **47.59 338** PFAKE 00 10 00.0 +11
TKM2 LR LR
comp=Z,5μm,21.0s
KBK Karagaybulak **47.62 337** P **P** **00 09 50.5 +1.2**
SNR=45
KBK P **P** **00 09 50.5 +1.2**
SNR=45
AML Almayashu **47.69 335** P **P** **00 09 50.9 +0.8**
SNR=32
AML P **P** **00 09 50.9 +0.8**
SNR=32
AAK Ala-Archa **47.78 336** P **P** **00 09 51.7 +1.2**
SNR=14
AAK P **P** **00 09 51.7 +1.2**
SNR=14
AAK Ala-Archa **47.78 336** *i* P **P** **00 09 51.5 +1.0**
AAK Ala-Archa **47.78 336** PFAKE 00 10 00.0 +9.5
AAK LR LR
comp=Z,4μm,21.0s
SNY Shenyang **47.81 26** ⇑P **P** **00 09 49.5 -1.0**
SNY pmax pmax
comp=Z,170nm,1.5s
SNY LR LR
comp=N,3μm,15.5s
SNY LR LR
comp=E,8μm,16.3s
SNY LR LR
comp=Z,7μm,16.4s
FRU Bishkek **47.90 337** ⇑*i*P **P** **00 09 52.0 +0.7**
FRU *e* 00 11 47.0
FRU *i* S **S** **00 16 48.0 +1.0**
FRU *i* 00 19 45.0
FRU pmax pmax
comp=Z,430nm,2.2s
FRU smax smax
comp=E,1μm,4.2s
FRU MLR MLR
comp=Z,5μm,21.0s
CHMS Chumysh **47.99 337** P **P** **00 09 52.4 +0.4**
SNR=24
CHMS P **P** **00 09 52.4 +0.4**
SNR=24
EKS2 Erkin-Say **48.09 336** P **P** **00 09 53.9 +1.0**
SNR=29
EKS2 P **P** **00 09 53.9 +1.0**
SNR=29
EKS2 Erkin-Say **48.09 336** PFAKE 00 10 00.0 +7.1
EKS2 LR LR
comp=Z,3μm,21.0s
BBOO Buckleboo **48.10 136** *e*P **P** **00 09 53.5 +0.6**
comp=Z,884nm,0.9s
GUMO Guam **48.24 71** PFAKE 00 10 00.0 +5.7
GUMO LR LR
comp=Z,3μm,19.0s
USP Ospenovka **48.31 337** P **P** **00 09 55.2 +0.8**
SNR=55
USP P **P** **00 09 55.2 +0.8**
SNR=55
SONM Songino Array **48.48 7** P **P** **00 09 56.5 +0.7**
comp=Z,145nm,1.0s,baz=191,slow=8.6,SNR=48
SONM PcP **PcP** **00 11 20.9 -0.8**
comp=Z,22nm,0.9s,baz=183,slow=5.4,SNR=2.4
SONM ScP **ScP** **00 15 15.5 +0.9**
comp=Z,3.0nm,1.0s,baz=174,slow=4.3,SNR=2.9
SONM LR LR 00 33 13.5
comp=Z,15μm,18.4s,baz=97,slow=40
SONM Songino Array **48.48 7** P **P** **00 09 56.5 +0.7**
SONM 00 11 20.9
SONM pmax pmax
comp=Z,145nm,1.0s
SONM MLR MLR
comp=Z,15μm,18.4s
SONM Songino Array **48.48 7** P **P** **00 09 56.5 +0.7**
SONM PcP **PcP** **00 11 20.9 -0.8**
SONM ScP **ScP** **00 15 15.5 +0.9**
ULN Ulaanbaatar **48.60 8** *e*P **P** **00 09 57.1 +0.4**
ULN pmax pmax
comp=Z,208nm,1.0s
ULN Ulaanbaatar **48.60 8** *e*P **P** **00 09 57.1 +0.4**
comp=Z,208nm,1.0s
MK31 Makanchi Array **48.95 346** *i* P **P** **00 09 59.5 +0.2**
MK31 pmax pmax
comp=Z,185nm,0.7s
MKAR Makanchi Array **48.95 346** P **P** **00 09 59.5 +0.3**
comp=Z,150nm,0.7s,baz=154,slow=7.7,SNR=136
MKAR S **S** **00 17 04.3 +2.6**
comp=Z,2.6nm,1.0s,baz=165,slow=12,SNR=4.5
MKAR Makanchi Array **48.95 346***c**e*P **P** **00 09 59.5 +0.3**
MKAR pmax pmax
comp=Z,150nm,0.7s
MKAR Makanchi Array **48.95 346** P **P** **00 09 59.5 +0.3**
MKAR S **S** **00 17 04.3 +2.6**
PMG Port Moresby **49.55 102** P **P** **00 10 03.2 -1.1**
comp=Z,29nm,1.0s,baz=294,slow=17,SNR=5.5
PMG Port Moresby **49.55 102***c**e*P **P** **00 10 02.9 -1.5**
PMG pmax pmax
comp=Z,53nm,1.2s
PMG Port Moresby **49.55 102** *e*P **P** **00 10 03.7 -0.7**
comp=Z,51nm,0.9s
PMG LR LR
comp=Z,3μm,19.0s
PMG Port Moresby **49.55 102** P **P** **00 10 04.5 +0.1**
comp=Z,68nm,1.1s,comp=Z,1μm
KK31 Karatay Array **49.85 334** *i* P **P** **00 10 05.4 -0.8**
KK31 pmax pmax
comp=Z,183nm,1.4s
KKAR Karatay Array **49.85 334** *e*P **P** **00 10 06.6 +0.4**
KKAR Karatay Array **49.85 334** *e*P **P** **00 10 06.6 +0.4**
CN2 Changchun **50.21 26** *e*P **P** **00 10 08.3 -0.6**
CN2 *e*pP **pP** **00 10 18.3 +0.8**
CN2 *e*S **S** **00 17 16.8 -2.5**
CN2 pmax pmax
comp=Z,300nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,16.0s
CN2 LR LR
comp=E,4μm,16.0s
CN2 LR LR
comp=Z,8μm,16.0s
CBIJ Chichi jima **50.28 54** P **P** **00 10 12.1 +2.4**
comp=Z,42nm,0.5s,baz=218,slow=19,SNR=4.6
CBIJ Chichi jima **50.28 54** P **P** **00 10 12.1 +2.4**
ZAK Zakamensk **50.69 4** *e*P **P** **00 10 12.8 +0.2**
ZAK pmax pmax
comp=Z,51nm,1.5s
CTA Charters Tower **50.94 116** P **P** **00 10 14.3 -0.5**
comp=Z,49nm,1.1s,baz=292,slow=10,SNR=6.2
CTA Charters Tower **50.94 116** *e*P **P** **00 10 13.2 -1.6**
CTA Charters Tower **50.94 116** P **P** **00 10 14.3 -0.5**
CTA pmax pmax
comp=Z,49nm,1.1s
CTA Charters Tower **50.94 116** P **P** **00 10 14.3 -0.5**
CTAO Charters Tower **50.94 116** *e*P **P** **00 10 14.3 -0.5**
CTAO pmax pmax
comp=Z,94nm,1.2s
CTAO MLR MLR
comp=Z,4μm,22.0s
CTAO Charters Tower **50.94 116** *e*P **P** **00 10 14.3 -0.5**
comp=Z,94nm,1.2s
CTAO LR LR
comp=Z,4μm,22.0s
STKA Stephens Creek **51.60 132** P **P** **00 10 20.0 +0.4**
comp=Z,56nm,1.0s,baz=300,slow=7.6,SNR=25
STKA Stephens Creek **51.60 132** *e*P **P** **00 10 20.0 +0.4**
STKA Stephens Creek **51.60 132** P **P** **00 10 20.0 +0.4**
STKA pmax pmax
comp=Z,56nm,1.0s
STKA Stephens Creek **51.60 132** *e*P **P** **00 10 19.8 +0.1**
comp=Z,29nm,1.2s
STKA *e*PcP **PcP** **00 11 33.6 +0.4**
TLY Talaya **52.01 4** *e*P **P** **00 10 23.2 +0.9**
TLY pmax pmax
comp=Z,161nm,1.7s
TLY Talaya **52.01 4** *e*P **P** **00 10 22.6 +0.3**
comp=Z,388nm,1.7s
TLY LR LR
comp=Z,9μm,22.0s
TLY Talaya **52.01 4** P **P** **00 10 23.0 +0.7**
comp=Z,502nm,1.7s,SNR=16
MAT Matsushiro **52.15 41** P **P** **00 10 21.8 -1.8**
MAJO Matsushiro **52.15 41** *e*P **P** **00 10 21.5 -2.1**

MAJO pmax pmax
comp=Z,173nm,1.6s
MAJO MLR MLR
comp=Z,4μm,19.0s
MAJO Matsushiro **52.15 41** *e*P **P** **00 10 21.5 -2.1**
comp=Z,173nm,1.6s
MAJO LR LR
comp=Z,4μm,19.0s
MJAR Matsushiro Arr **52.15 41** P **P** **00 10 22.4 -1.3**
comp=Z,39nm,1.1s,baz=224,slow=8.0,SNR=34
MJAR PcP **PcP** **00 11 35.2 -0.1**
comp=Z,8.5nm,0.9s,baz=240,slow=4.5,SNR=4.3
MJAR Matsushiro Arr **52.15 41** P **P** **00 10 22.4 -1.3**
MJAR 00 11 35.2
MJAR pmax pmax
comp=Z,39nm,1.1s
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr **52.15 41** P **P** **00 10 22.4 -1.3**
MJAR PcP **PcP** **00 11 35.2 -0.1**
IRK Irkutsk **52.62 5**⇑*i*P **P** **00 10 26.9 +0.1**
IRK *e* 00 12 23.6
IRK *e* 00 18 10.4
IRK pmax pmax
comp=Z,495nm,1.9s
MDJ Mudanjiang **52.71 28** P **P** **00 10 27.8 +0.2**
MDJ PcP **PcP** **00 11 37.3 +0.2**
MDJ PP **PP** **00 12 28.5 +1.4**
MDJ S **S** **00 17 57.5 +3.7**
MDJ pmax pmax
comp=Z,59nm,1.5s
MDJ LR LR
comp=N,12μm,16.0s
MDJ LR LR
comp=E,8μm,14.4s
MDJ LR LR
comp=Z,18μm,15.2s
MDJ Mudanjiang **52.71 28** PFAKE 00 10 40.0 +12
MDJ LR LR
comp=Z,10μm,19.0s
VLA Vladivostok **52.74 31**⇓*i*P **P** **00 10 27.6 -0.2**
VLA *e* 00 11 35.3
VLA *i* S **S** **00 17 50.6 -3.5**
VLA pmax pmax
comp=Z,224nm,1.4s
HIA Hailar **52.76 18** PFAKE 00 10 40.0 +12
HIA LR LR
comp=Z,4μm,19.0s
ABKT Ailbek **53.01 320** P **P** **00 10 29.9 -0.1**
comp=Z,202nm,1.1s,SNR=6.9
OPO Ambohidratompo **53.24 247** P **P** **00 10 33.1 +1.0**
comp=Z,76nm,1.1s,baz=69,slow=7.9,SNR=56
OPO Ambohidratompo **53.24 247** P **P** **00 10 33.1 +1.0**
ABPO Ambohimpanom **53.31 246** *e*P **P** **00 10 33.2 +0.5**
ABPO *e* 00 11 41.2
ABPO pmax pmax
comp=Z,181nm,1.6s
ABPO MLR MLR
comp=Z,3μm,19.0s
ABPO Ambohimpanom **53.31 246** *e*P **P** **00 10 33.2 +0.5**
comp=Z,182nm,1.6s
ABPO *e*PcP **PcP** **00 11 41.2 +1.1**
ABPO LR LR
comp=Z,3μm,19.0s
KURK Kurchatov **53.51 345** P **P** **00 10 33.0 -0.3**
comp=Z,82nm,1.0s,baz=162,slow=6.6,SNR=78
KURK ScP **ScP** **00 15 35.7 -0.4**
comp=Z,6.0nm,1.1s,baz=161,slow=3.9,SNR=4.5
KURK S S 00 18 09.9 +5.5
comp=Z,6.6nm,1.1s,baz=157,slow=13,SNR=8.6
KURK Kurchatov **53.51 345***c**i*P **P** **00 10 33.0 -0.3**
KURK pmax pmax
comp=Z,258nm,1.2s
KURK pmax pmax
comp=Z,368nm,1.7s
KURK Kurchatov **53.51 345** *e*P **P** **00 10 33.5 +0.2**
comp=Z,216nm,1.1s
KURK ScP **ScP** **00 15 35.7 -0.4**
KURK S S 00 18 09.9 +5.5
KURK LR LR
comp=Z,3μm,20.0s
USRK Ussuriysk Arra **53.57 30** P **P** **00 10 33.9 0.0**
comp=Z,269nm,1.0s,baz=226,slow=7.7,SNR=96
CIT Chita **53.73 12** *e*P **P** **00 10 36.2 +1.2**
CIT *e* 00 10 51.7
CIT *e*S S 00 18 12.8 +5.3
CIT *e* 00 20 17.3
CIT pmax pmax
comp=Z,823nm,2.0s
PAF Port-aux-Franc **54.44 202** *e*P **P** **00 10 41.7 +1.6**
PAF pmax pmax
comp=Z,402nm,1.3s
PAF MLR MLR
comp=Z,2μm,19.0s
PAF Port-aux-Franc **54.44 202** *e*P **P** **00 10 41.7 +1.6**
comp=Z,402nm,1.3s
PAF LR LR
comp=Z,2μm,19.0s
ZAA0 Zalesovo Array **55.21 350**⇑*i*P **P** **00 10 45.6 0.0**
ZAA0 *e*PcP **PcP** **00 11 45.9 -0.5**
ZALV Zalesovo Beam **55.21 350** P **P** **00 10 45.6 0.0**
comp=Z,190nm,0.8s,baz=177,slow=6.0,SNR=145
ZALV S **S** **00 18 30.5 +3.3**
comp=Z,1.4nm,0.8s,baz=173,slow=16,SNR=5.7
ZALV PKP2bc 00 40 50.6
comp=Z,0.5nm,0.5s,baz=354,slow=1.4,SNR=4.3
ZALV Zalesovo Beam **55.21 350** P **P** **00 10 45.6 0.0**
ZALV S **S** **00 18 30.5 +3.3**
ZALV pmax pmax
comp=Z,190nm,0.8s
ZALV smax smax
comp=N,1.0nm,0.8s
ZALV Zalesovo Beam **55.21 350** P **P** **00 10 45.6 0.0**
ZALV S **S** **00 18 30.5 +3.3**
ZALV ⇑*e* 00 40 50.6
ATD Arta Tunnel **56.22 284** P **P** **00 10 53.4 -0.3**
comp=N,47nm,1.2s,baz=96,slow=5.5,SNR=7.9
ATD Arta Tunnel **56.22 284** P **P** **00 10 53.4 -0.3**
NVS Novosibirsk **56.34 350**⇑*i*P **P** **00 10 51.7 -2.0**
NVS *e*S S 00 18 31.7 -10
NVS *e* 00 20 32.0
NVS pmax pmax
comp=Z,265nm,1.4s
NVS pmax pmax
comp=N,160nm,1.5s
NVS pmax pmax
comp=E,89nm,1.4s
NVS smax smax
comp=E,212nm,2.6s
EIDS Eidsvold **56.75 120** *e*P **P** **00 10 57.5 +0.2**
comp=E,86nm,1.4s
TOO Toolangi **57.16 136** *e*P **P** **00 11 00.8 +0.8**
KLR Kul'dur **57.17 26**⇓*i*P P 00 10 56.2 -3.5
KLR *e* 00 13 06.2
KLR *e*S **S** **00 18 55.0 +1.6**
KLR *e* 00 20 40.0
KLR pmax pmax
comp=N,150nm,1.4s
KLR pmax pmax
comp=E,330nm,1.4s
KLR pmax pmax
comp=Z,1μm,1.4s
KLR MLR MLR
comp=Z,24μm,14.0s
BVA0 Borovoye Array **58.00 341** *i* P **P** **00 11 03.3 -2.3**
BVA0 pmax pmax
comp=Z,21nm,1.2s
BVAR Borovoye Array **58.00 341** P **P** **00 11 04.6 -1.0**
comp=Z,28nm,0.7s,baz=146,slow=8.4,SNR=41
BVAR Borovoye Array **58.00 341** P **P** **00 11 04.6 -1.0**
BVAR pmax pmax
comp=Z,28nm,0.7s
BVAR Borovoye Array **58.00 341** P **P** **00 11 04.6 -1.0**
BRVK Borovoye **58.07 341***c**e*P **P** **00 11 05.2 -0.8**
BRVK pmax pmax
comp=Z,122nm,1.7s
BRVK Borovoye **58.07 341** PFAKE 00 11 20.0 +14
BRVK LR LR
comp=Z,5μm,19.0s
BRVK Borovoye **58.07 341** P **P** **00 11 05.5 -0.5**
comp=Z,341nm,0.8s,SNR=14
HABR Khabarovsk **58.10 28***c**e*P **P** **00 11 05.4 -0.9**
HABR *e**PP **pP** **00 11 13.9 -1.1**
HABR *e**SP **sP** **00 11 18.0 -0.3**
HABR *e*S **S** **00 19 03.7 -1.9**

HABR *e*S S 00 19 14.4 +8.8
HABR *e* 00 20 50.8
HABR pmax pmax
comp=Z,591nm,1.8s
HABR pmax pmax
comp=Z,377nm,1.9s
HABR pmax pmax
comp=N,62nm,1.4s
HABR pmax pmax
comp=E,140nm,1.4s
HABR MLR MLR
comp=E,8μm,18.0s
HABR MLR MLR
comp=N,9μm,15.0s
HABR MLR MLR
comp=Z,14μm,19.0s
ERM Erimo **58.42 38** *e*P **P** **00 11 07.3 -1.4**
ERM Erimo **58.42 38** *e*P **P** **00 11 09.1 +0.4**
comp=Z,64nm,1.1s
ERM LR LR
comp=Z,3μm,19.0s
CAN Canberra **58.66 132** *e*P **P** **00 11 11.3 +0.7**
CAN *e* 00 12 01.2
CAN pmax pmax
comp=Z,66nm,1.3s
CAN MLR MLR
comp=Z,5μm,20.0s
CAN Canberra **58.66 132** *e*P **P** **00 11 11.3 +0.7**
comp=Z,66nm,1.3s
CAN *e*PcP **PcP** **00 12 01.2 +0.7**
CAN LR LR
comp=Z,5μm,20.0s
ARMA Armidale **58.84 126** *e*P **P** **00 11 13.3 +1.3**
ARMA Armidale **58.84 126** *e*P **P** **00 11 13.9 +1.9**
comp=Z,91nm,1.3s
CNB Canberra Magne **58.93 132** *e*P **P** **00 11 12.9 +0.4**
ASAJ Asahikawa **59.28 36** P **P** **00 11 14.0 -0.6**
comp=Z,48nm,0.9s,baz=246,slow=13,SNR=12
ASAJ Asahikawa **59.28 36** P **P** **00 11 14.0 -0.6**
ASAJ pmax pmax
comp=Z,48nm,0.9s
ASAJ Asahikawa **59.28 36** *e*P **P** **00 11 13.2 -1.4**
comp=Z,112nm,1.4s
AB31 Akbulak array **59.31 332** *i* P **P** **00 11 12.9 -1.9**
AB31 pmax pmax
comp=Z,144nm,1.1s
BOD Bodaibo **59.32 10** *e*P **P** **00 11 14.7 +0.1**
BOD *e* 00 19 19.4
BOD pmax pmax
comp=Z,182nm,1.4s
FURI Furi **59.98 280** *e*P **P** **00 11 22.9 +2.5**
comp=Z,102nm,1.4s
BHD Baghdad **60.56 309** *i* P P 00 11 18.0 -5.6
BHD *i* S S 00 19 30.0 -8.0
BHD *i* ScS SKKSac 00 21 09.0 -3.8
BHD *i* SS SS 00 23 46.0 +9.3
CLNS Chul'man **60.89 16** *e*P **P** **00 11 26.0 +0.5**
CLNS *e**PP **pP** **00 11 33.6 -0.6**
CLNS *e* 00 12 08.7
CLNS *e* 00 13 41.0
CLNS *e*S **S** **00 19 45.5 +4.0**
CLNS *e* 00 21 10.8
CLNS *e*SS **SS** **00 23 43.6 +2.5**
CLNS pmax pmax
comp=Z,155nm,1.2s
CLNS pmax pmax
comp=E,90nm,1.3s
CLNS pmax pmax
comp=N,108nm,1.2s
CLNS pmax pmax
comp=Z,41nm,1.2s
CLNS pmax pmax
comp=N,32nm,1.1s
CLNS pmax pmax
comp=E,47nm,1.3s
CLNS smax smax
comp=E,17nm,1.7s
CLNS smax smax
comp=N,11nm,1.4s
CLNS MLR MLR
comp=Z,4μm,13.0s
CLNS MLR MLR
comp=E,2μm,13.0s
CLNS MLR MLR
comp=N,3μm,13.0s
KMBO Kilima Mbogo **60.95 269** *e*P **P** **00 11 28.5 +1.5**
KMBO Kilima Mbogo **60.95 269** *e*P **P** **00 11 27.9 +0.9**
KMBO pmax pmax
comp=Z,71nm,1.2s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo **60.95 269** *e*P **P** **00 11 27.9 +0.9**
comp=Z,71nm,1.2s
KMBO LR LR
comp=Z,2μm,20.0s
TAU Tasmania Unive **61.02 141** *e*P **P** **00 11 26.4 -0.1**
TAU MLR MLR
comp=Z,5μm,22.0s
TAU Tasmania Unive **61.02 141** *e*P **P** **00 11 26.4 -0.1**
TAU LR LR
comp=Z,5μm,22.0s
AKTO Aktyubinsk **61.03 332** P **P** **00 11 25.3 -1.2**
comp=Z,35nm,1.0s,baz=132,slow=7.0,SNR=22
AKTO Aktyubinsk **61.03 332** *i* P **P** **00 11 23.4 -3.1**
AKTO pmax pmax
comp=Z,17nm,1.3s
AKTO Aktyubinsk **61.03 332** P **P** **00 11 25.3 -1.2**
YSS Yuzh-Sakhalins **61.04 33**⇑*i*P **P** **00 11 27.4 +0.8**
YSS *i* 00 11 34.8
YSS *e* 00 13 43.0
YSS pmax pmax
comp=N,150nm,1.1s
YSS pmax pmax
comp=E,130nm,1.1s
YSS pmax pmax
comp=Z,450nm,1.1s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=E,2μm,13.0s
YSS Yuzh-Sakhalins **61.04 33** *e*P **P** **00 11 26.5 -0.2**
comp=E,636nm,1.2s
YSS *e*PP **PP** **00 13 40.7 -0.6**
YUK Yuzh-Kuril'sk **61.18 37**⇑*i*P **P** **00 11 27.6 0.0**
YUK *e*S S 00 19 56.1 +11
YUK pmax pmax
comp=Z,537nm,1.7s
YUK pmax pmax
comp=N,202nm,1.7s
YUK pmax pmax
comp=E,25nm,0.6s
YUK pmax pmax
comp=Z,1μm,2.2s
YUK MLR MLR
comp=N,667nm,19.0s
YUK MLR MLR
comp=E,338nm,19.0s
YUK MLR MLR
comp=Z,2μm,19.0s
HNR Honiara **62.10 100** P **P** **00 11 33.9 -0.5**
comp=Z,448nm,1.0s,baz=182,slow=6.4,SNR=23
HNR Honiara **62.10 100** *e*P **P** **00 11 33.3 -1.1**
HNR MLR MLR
comp=Z,2μm,20.0s
HNR Honiara **62.10 100** *e*P **P** **00 11 33.3 -1.1**
comp=Z,584nm,1.0s
HNR LR LR
comp=Z,2μm,20.0s
MAK Makhachkala **62.53 320** *e*P **P** **00 11 36.5 -0.2**
MAK *e* 00 13 55.0
MAK *e*S **S** **00 20 00.1 -2.6**
MAK *e* 00 21 26.4
MAK pmax pmax
comp=Z,208nm,1.6s
MAK MLR MLR
comp=Z,3μm,20.0s
CUKT Cukurca **62.68 313** *e*P **P** **00 11 36.9 -1.2**
GNI Garni **63.08 316** P **P** **00 11 41.3 +0.6**
comp=Z,38nm,1.1s,baz=179,slow=5.6,SNR=9.8
GNI Garni **63.08 316** *e*P **P** **00 11 41.0 +0.3**
GNI Garni **63.08 316***c**e*P **P** **00 11 40.9 +0.3**
GNI pmax pmax
comp=Z,123nm,1.2s
GNI Garni **63.08 316** P **P** **00 11 41.3 +0.6**
GNI LR LR
comp=Z,3μm,20.0s

CLDR **Caldiran** 63.23 315 *e*P **P** 00 11 41.5 -0.3
AGRB **Hanur-Agry** 64.06 315 *e*P **P** 00 11 47.1 -0.1
KARS **Kars** 64.43 316 *e*P **P** 00 11 50.1 +0.5
SVE **Sverdlovsk** 64.46 338⇓*e*P **P** 00 11 48.9 -0.3
SVE *e* 00 14 12.3
SVE *e*S **S** **00 20 22.3 -3.9**
SVE *e* 00 21 34.7
SVE pmax pmax
comp=Z,220nm,1.4s
SVE MLR MLR
comp=Z,2µm,18.0s
ZEI **Tsey** 64.79 319 *e*P **P** 00 11 51.1 -0.9
ZEI pmax pmax
comp=Z,63nm,1.4s
ARU **Arti** 64.96 337 *e*P **P** 00 11 51.5 -1.0
ARU pmax pmax
comp=Z,138nm,1.2s
ARU MLR MLR
comp=Z,3µm,22.0s
ARU **Arti** 64.96 337 *e*P **P** 00 11 51.5 -1.0
comp=Z,138nm,1.2s
ARU LR LR
comp=Z,3µm,22.0s
ARU **Arti** 64.96 337 P **P** 00 11 51.9 -0.6
comp=Z,470nm,1.1s,SNR=17
VRTB **Varto-Mus** 64.98 314 *e*P **P** 00 11 53.9 +0.6
EZM **Erzurum** 65.34 315 *e*P **P** 00 11 56.7 +1.1
BNGB **Bing¶ll** 65.48 314 *e*P **P** 00 11 56.5 +0.1
BCA **Borcka** 65.77 317 *e*P **P** 00 11 57.6 -0.5
KIV **Kislovodsk** 66.10 319*c* *i*P **P** 00 11 59.6 -0.7
KIV *e* 00 12 31.7
KIV *e*S **S** **00 20 45.5 -1.6**
KIV pmax pmax
comp=Z,121nm,1.0s
KIV pmax pmax
comp=Z,175nm,4.6s
KIV MLR MLR
comp=Z,889nm,18.0s
KIV **Kislovodsk** 66.10 319 *e*P **P** 00 11 59.9 -0.4
comp=Z,210nm,1.4s
KIV LR LR
comp=Z,941nm,19.0s
KIV **Kislovodsk** 66.10 319 P **P** 00 12 00.6 +0.3
comp=Z,568nm,1.2s,SNR=14
ASF **Jabal al Asfar** 66.16 306 P **P** 00 12 02.3 +1.4
comp=Z,15nm,1.0s,baz=0.0,slow=7.1,SNR=8.7
ASF **Jabal al Asfar** 66.16 306 P **P** 00 12 02.3 +1.4
ASF pmax pmax
comp=Z,15nm,1.0s
ASF **Jabal al Asfar** 66.16 306 P **P** 00 12 02.3 +1.4
PZAR **Pazar-Rize** 66.16 316 *e*P **P** 00 12 00.8 +0.2
MIR **Mirnyy** 66.20 182⇑*i*P **P** 00 12 00.0 -0.3
MIR pmax pmax
comp=Z,89nm,1.2s
URFA **Urfa** 66.29 312 *e*P **P** 00 12 02.2 +0.5
PTK **Pertek** 66.38 313 *e*P **P** 00 12 01.9 -0.4
BAYT **Ayd¨¬ntepe-Bay** 66.39 315 *e*P **P** 00 12 02.8 +0.4
CASY **Casey** 66.41 175 *e*P **P** 00 12 02.4 +0.8
CASY **Casey** 66.41 175 *e*P **P** 00 12 02.7 +1.1
comp=Z,73nm,1.2s
CASY LR LR
comp=Z,4µm,20.0s
YAK **Yakutsk** 66.59 16*c* *i*P **P** 00 12 02.4 -0.5
YAK *e**PP **pP** **00 12 08.8 -2.9**
YAK *e* 00 12 29.1
YAK *e* 00 14 25.7
YAK *e*S **S** **00 20 51.5 -0.6**
YAK *e* 00 21 54.5
YAK *e*SS **SS** **00 25 04.7 -5.1**
YAK pmax pmax
comp=Z,649nm,1.1s
YAK pmax pmax
comp=N,276nm,1.2s
YAK pmax pmax
comp=E,305nm,1.4s
YAK pmax pmax
comp=Z,53nm,0.9s
YAK smax smax
comp=N,1µm,18.0s
YAK smax smax
comp=E,379nm,12.3s
YAK MLR MLR
comp=E,5µm,15.0s
YAK MLR MLR
comp=N,7µm,14.0s
YAK MLR MLR
comp=Z,11µm,15.0s
KTUT **Trabzon** 66.88 315 *e*P **P** 00 12 05.3 +0.2
MALT **Malatya** 66.88 312 *e*P **P** 00 12 07.9 +2.5
MALT **Malatya** 66.88 312 PFAKE 00 12 20.0 +15
MALT LR LR
comp=Z,28nm,21.0s
GUMT **Gumushane** 66.89 315 *e*P **P** 00 12 06.3 +0.9
MYA **Malataya** 66.89 312 *e*P **P** 00 12 07.4 +2.0
EIL **Elat** 67.11 302 P **P** 00 12 07.5 +0.7
comp=Z,36nm,1.1s,baz=112,slow=8.6,SNR=12
EIL **Elat** 67.11 302 P **P** 00 12 07.5 +0.7
ILIC **ilic-Erzincan** 67.18 314 *e*P **P** 00 12 07.9 +0.7
GAZ **Gaziantep** 67.42 311 *e*P **P** 00 12 09.2 +0.4
MBAR **Mbarara** 67.46 269⇑*i*P **P** 00 12 10.2 +0.5
MBAR **Mbarara** 67.46 269 PFAKE 00 12 20.0 +10
MBAR LR LR
comp=Z,822nm,21.0s
ESPY **Espiye-Giresun** 67.58 315 *e*P **P** 00 12 09.7 0.0
MMAI **Mount Meron Ar** 67.60 306 P **P** 00 12 11.4 +1.4
comp=Z,19nm,1.0s,baz=102,slow=7.8,SNR=9.3
MMAI **Mount Meron Ar** 67.60 306 P **P** 00 12 11.4 +1.4
KMRS **Kahramanmaras** 67.76 311 *e*P **P** 00 12 10.9 0.0
SOKR **Solikamsk** 67.85 339*c* *i*P **P** 00 12 10.5 -0.4
SOKR pmax pmax
comp=Z,150nm,1.1s
SOKR MLR MLR
comp=Z,4µm,25.0s
SOC **Sochi** 67.91 318*c* *i*P **P** 00 12 10.7 -0.9
SOC *e**SP **sP** **00 12 24.3 +0.5**
SOC *e* 00 14 40.8
SOC *e*PPP PPP 00 16 17.5
SOC *i*S **S** **00 21 05.6 -3.1**
SOC *e**SS **sS** **00 21 25.5 +2.3**
SOC *e*SS **SS** **00 25 24.5 -6.5**
SOC pmax pmax
comp=Z,383nm,1.8s
SOC pmax pmax
comp=Z,155nm,1.1s
SOC MLR MLR
comp=Z,2µm,17.0s
KIG **Kigali** 68.14 268 *e*P **P** 00 12 14.0 +0.1
KIG AMB AMB 00 12 16.7
comp=Z,48nm,1.3s
RSDY **Resadiye-TOKAT** 68.40 314 *e*P **P** 00 12 15.2 +0.4
CEYT **Ceyhan** 68.48 310 *e*P **P** 00 12 16.0 +0.7
KOZT **Kozan** 68.56 311 *e*P **P** 00 12 17.0 +1.1
BNN **Bunyan** 68.97 312 *e*P **P** 00 12 18.2 -0.4
POGA **Pongola** 69.16 241⇓*i*P **P** 00 12 19.8 0.0
POGA AMB AMB 00 12 19.9
comp=Z,128nm,2.0s
MERS **Mersin** 69.37 310 *e*P **P** 00 12 20.6 -0.5
KVT **Kavak** 69.54 314 *e*P **P** 00 12 22.1 +0.1
NIG **Nigde** 69.67 311 *e*P **P** 00 12 23.3 +0.3
LFK **Lefkose** 69.70 308 *e*P **P** 00 12 22.8 -0.2
MSNA **Messina** 69.75 246 *e*P **P** 00 12 24.4 +0.8
MSNA AMB AMB 00 12 25.1
comp=Z,84nm,1.4s
DZM **Mont Dzumac** 69.76 113 *e*P **P** 00 12 23.9 +0.2
comp=Z,183nm,1.3s
DZM *e*S **S** **00 21 31.6 0.0**
comp=Z,3µm,26.6s
DZM *e*LR LR 00 33 46.9
comp=Z,5µm,22.8s
DZM **Mont Dzumac** 69.76 113 *e*P **P** 00 12 24.2 +0.5
comp=Z,92nm,1.3s
CSS **Prodhromos** 69.78 308 *e*P **P** 00 12 23.4 -0.1
CSS **Prodhromos** 69.78 308 *e*P **P** 00 12 24.1 +0.6
comp=Z,71nm,1.1s
CSS LR LR
comp=Z,2µm,19.0s
ANN **Anapa** 69.89 319 *e*P P 00 12 19.6 -4.3
ANN *e*S **S** **00 21 27.1 -5.0**
ANN pmax pmax
comp=Z,329nm,6.9s
ANN pmax pmax
comp=Z,82nm,1.6s
ANN MLR MLR
comp=N,451nm,16.0s
ANN MLR MLR
comp=Z,945nm,16.0s
VRHR **Novokhopersk** 69.94 326 *e*P **P** 00 12 22.6 -1.5
VRHR *e*S **S** **00 21 26.8 -5.6**
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,60nm,1.1s
VRHR pmax pmax
comp=Z,140nm,1.1s
VRHR smax smax
comp=N,400nm,2.0s
VRHR smax smax
comp=E,340nm,2.0s
VRHR smax smax
comp=Z,30nm,2.0s
VRHR MLR MLR
comp=N,560nm,22.0s
VRHR MLR MLR
comp=E,1µm,22.0s
VRHR MLR MLR
comp=Z,2µm,22.0s
LEF **Lefka** 70.17 308 *e*P **P** 00 12 25.5 -0.3
CORM **Corum** 70.28 313 *e*P **P** 00 12 26.1 -0.5
SKR **Severo-Kuril's** 70.51 35 *e*P P 00 12 24.0 -3.6
SULT **Sultanhani-AKS** 70.52 311 *e*P **P** 00 12 27.9 -0.2
AFSR **Af˙ar-Bala (A** 71.21 312 *e*P **P** 00 12 31.2 -1.0
BZK **Bozkurt** 71.28 315 *e*P **P** 00 12 32.5 0.0
KONT **Konya--Tatoy** 71.33 310 *e*P **P** 00 12 32.7 -0.2
VSR **Storozhevoye** 71.38 325 *e*P **P** 00 12 30.6 -2.3
VSR *e*S S 00 21 42.2 -7.0
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,70nm,1.0s
VSR pmax pmax
comp=Z,110nm,1.0s
VSR smax smax
comp=N,140nm,2.2s
VSR smax smax
comp=E,140nm,2.2s
VSR smax smax
comp=Z,30nm,2.2s
VSR MLR MLR
comp=N,800nm,20.0s
VSR MLR MLR
comp=E,2µm,20.0s
VSR MLR MLR
comp=Z,3µm,20.0s
MAW **Mawson** 71.48 194 P **P** 00 12 33.9 +0.8
comp=Z,50nm,1.1s,baz=36,slow=10.0,SNR=8.2
MAW **Mawson** 71.48 194 *e*P **P** 00 12 30.6 -2.5
MAW **Mawson** 71.48 194 P **P** 00 12 33.9 +0.8
MAW pmax pmax
comp=Z,50nm,1.1s
MAW **Mawson** 71.48 194 *e*P **P** 00 12 34.8 +1.6
comp=Z,22nm,1.3s
MAW LR LR
comp=Z,6µm,22.0s
VOR **Voronezh** 71.58 326 P **P** 00 12 34.0 -0.1
VOR pmax pmax
comp=Z,400nm,1.6s
SLR **Silverton** 71.82 243 *e*P **P** 00 12 37.0 +0.7
SLR AMB AMB 00 12 38.2
comp=Z,177nm,1.5s
ERPM **east rand prop** 71.95 242⇓*i*P **P** 00 12 37.8 +0.7
ERPM AMB AMB 00 12 38.3
comp=Z,78nm,1.3s
SAFT **Safranbolu** 72.00 314 *e*P **P** 00 12 36.8 -0.1
SIM **Simferopol'** 72.15 318 *i*P P 00 12 29.6 -8.1
SIM *i*S S 00 21 48.0 -10
SIM *e*PS PnS 00 22 41.0 +10
SIM pmax pmax
comp=Z,96nm,0.9s
SVRH **Sivrihisar-ESK** 72.36 312 *e*P **P** 00 12 38.6 -0.6
DRV **Dumont d'Urvil** 72.42 164 P P 00 12 33.0 -5.8
DRV **Dumont d'Urvil** 72.42 164 PP PP 00 15 27.0 +6.9
DRV S S 00 21 29.0 -32
DRV SS SS 00 26 52.0 +13
DRV L L 00 31 00.0
DRV R 00 34 00.0
PEA0B **Petropavlovsk-** 72.44 33 *e*P **P** 00 12 38.8 -0.5
PETK **Petropavlovsk-** 72.44 33 P **P** 00 12 39.0 -0.2
comp=Z,31nm,1.0s,baz=193,slow=5.8,SNR=10
PETK **Petropavlovsk-** 72.44 33 P **P** 00 12 39.1 -0.2
PETK pmax pmax
comp=Z,31nm,1.0s
PETK **Petropavlovsk-** 72.44 33 P **P** 00 12 39.0 -0.2
ISP **Isparta** 72.70 310 *e*P **P** 00 12 41.0 -0.3
ISP **Isparta** 72.70 310 *e*P **P** 00 12 41.7 +0.5
ISP *e* 00 15 23.5
ISP pmax pmax
comp=Z,59nm,1.3s
ISP MLR MLR
comp=Z,1µm,22.0s
ISP **Isparta** 72.70 310 *e*P **P** 00 12 41.7 +0.5
comp=Z,59nm,1.3s
ISP *e*PP **PP** **00 15 23.5 +0.2**
ISP LR LR
comp=Z,1µm,22.0s
SEK **Senekal** 72.80 241 *e*P **P** 00 12 42.1 0.0
SEK AMB AMB 00 12 44.1
comp=Z,140nm,1.4s
PRYS **Parys** 72.82 242 *e*P **P** 00 12 42.2 0.0
PRYS AMB AMB 00 12 43.3
comp=Z,149nm,1.1s
MDUB **Mudurnu** 72.88 313 *e*P **P** 00 12 41.6 -0.7
ESKT **Eskisehir** 72.88 312 *e*P **P** 00 12 42.6 +0.3
KDZE **Karadeniz Ereo** 72.92 314 *e*P **P** 00 12 42.0 -0.3
PET **Petropavlovsk** 72.93 33 *e*P **P** 00 12 41.9 -0.2
PET *e*S **SKiKP** **00 22 13.3 -0.2**
PET pmax pmax
comp=Z,228nm,1.2s
PET MLR MLR
comp=Z,2µm,22.0s
PET **Petropavlovsk** 72.93 33 *e*P **P** 00 12 42.3 +0.2
comp=Z,281nm,1.2s
PET LR LR
comp=Z,2µm,19.0s
ALT **Altintas** 73.32 311 *e*P **P** 00 12 44.2 -0.7
GULT **Gulveren** 73.37 313 *e*P **P** 00 12 43.8 -1.3
HRT **Hereke** 74.09 313 *e*P **P** 00 12 48.1 -1.2
LBTB **Lobatse** 74.13 244 P **P** 00 12 50.6 +0.7
comp=Z,112nm,1.0s,baz=103,slow=5.9,SNR=60
LBTB **Lobatse** 74.13 244⇓*i*P **P** 00 12 49.5 -0.4
LBTB AMB AMB 00 12 51.5
comp=Z,121nm,1.1s
LBTB **Lobatse** 74.13 244 *e*P **P** 00 12 50.4 +0.5
LBTB pmax pmax
comp=Z,142nm,1.0s
LBTB MLR MLR
comp=Z,3µm,19.0s
LBTB **Lobatse** 74.13 244 *e*P **P** 00 12 50.4 +0.5
comp=Z,142nm,1.0s
LBTB LR LR
comp=Z,3µm,19.0s
MOS **Moscow** 74.14 329 *e*P P 00 12 45.2 -4.0
MOS *e* 00 12 58.0
MOS *e* 00 15 32.9
MOS *e*S **SKiKP** **00 22 13.1 -2.2**
MOS *e* 00 22 51.6
MOS *i*SSS SSS 00 30 18.7
MOS pmax pmax
comp=Z,500nm,1.8s
MOS pmax pmax
comp=Z,302nm,1.6s
OBN **Obninsk** 74.43 328 *e*P **P** 00 12 50.1 -0.7
OBN *i* 00 12 56.2
OBN *i* 00 13 06.5
OBN pmax pmax
comp=Z,255nm,1.6s
OBN **Obninsk** 74.43 328 *e*P **P** 00 12 50.2 -0.6
comp=Z,485nm,1.8s
OBN LR LR
comp=Z,2µm,19.0s
OBN **Obninsk** 74.43 328 P **P** 00 12 50.9 +0.1
comp=Z,617nm,1.9s,SNR=12
ISK **Istanbul-Kandi** 74.60 313 *e*P **P** 00 12 51.4 -0.8
SWZ **Schweizer** 74.64 242⇑*i*P **P** 00 12 53.5 +0.6
SWZ AMB AMB 00 12 54.3
comp=Z,163nm,1.2s
KLYT **Kilyos** 74.66 313 *e*P **P** 00 12 52.0 -0.4
TARA **Tarawa** 74.73 89 PFAKE 00 13 00.0 +6.5
TARA LR LR
comp=Z,5µm,21.0s
SEY **Seymchan** 74.76 23*ce*P **P** 00 12 52.9 +0.3
BOSA **Boshof** 74.90 241 P **P** 00 12 55.2 +0.8
comp=Z,92nm,1.1s,baz=87,slow=6.5,SNR=52
BOSA **Boshof** 74.90 241 *e*P **P** 00 12 53.9 -0.5
BOSA AMB AMB 00 12 55.5
comp=Z,122nm,1.2s
BOSA **Boshof** 74.90 241 *e*P **P** 00 12 54.8 +0.4
BOSA pmax pmax
comp=Z,119nm,1.0s
BOSA MLR MLR
comp=Z,2µm,20.0s
BOSA **Boshof** 74.90 241 *e*P **P** 00 12 54.8 +0.4
comp=Z,119nm,1.0s
BOSA LR LR
comp=Z,2µm,20.0s
HVD **Gariep Dam** 74.98 238 *e*P **P** 00 12 55.7 +0.9
HVD AMB AMB 00 12 59.8
comp=Z,57nm,1.3s
AKS **Akhisar** 75.02 310 *e*P **P** 00 12 54.8 +0.1
CTKS **Kestanelik-??a** 75.04 313 *e*P **P** 00 12 53.3 -1.4
SOE **Somerset East** 75.26 236 *e*P **P** 00 12 55.6 -0.7
SOE AMB AMB 00 12 59.0
comp=Z,95nm,1.3s
CTYL **Yal??k??y-??at** 75.26 313 *e*P **P** 00 12 55.1 -0.8
EDC **Edincik** 75.31 312 *e*P **P** 00 12 55.9 -0.4
IZM **Izmir** 75.33 310 *e*P **P** 00 12 57.3 +0.7
KLMR **Klimovskoe** 75.54 334*c* *i*P **P** 00 12 55.8 -1.4
KLMR *e*PPP PPP 00 17 27.6
KLMR *e*S **S** **00 22 31.3 -4.6**
KLMR pmax pmax
comp=Z,182nm,1.3s
KLMR MLR MLR
comp=Z,1µm,17.0s
TIRR **Tirgusor** 75.90 316 *e*P **P** 00 12 59.4 -0.2
TIRR pmax pmax
comp=Z,46nm,1.0s
TIRR **Tirgusor** 75.90 316 *e*P **P** 00 12 59.4 -0.2
comp=Z,46nm,1.0s
TIRR **Tirgusor** 75.90 316⇓*i*P **P** 00 12 59.5 -0.2
CFR **Carcaliu** 76.28 317⇑*i*P **P** 00 13 00.1 -1.6
CFR **Carcaliu** 76.28 317⇑*i*P **P** 00 13 00.1 -1.6
KIS **Kishinev** 76.29 319 *e*P **P** 00 13 00.0 -1.8
KIS *i* 00 13 06.0
KIS *i* 00 13 12.0
KIS *e*S **S** **00 22 40.0 -4.7**
KIS *e*PS PnS 00 23 06.0 -19
KIS smax smax
comp=N,390nm,3.0s
KIS smax smax
comp=E,140nm,2.2s
KIS **Kishinev** 76.29 319 *e*P **P** 00 13 00.0 -1.8
LEOM **Leova** 76.53 318⇑*i*P **P** 00 13 03.1 0.0
LEOM **Leova** 76.53 318⇑*i*P **P** 00 13 03.1 0.0
GHRR 76.99 318⇓*i*P P 00 13 13.0 +7.3
PGOR **Pogoanele** 77.00 316⇑*i*P **P** 00 13 07.0 +1.2
AKASG **Malin Array Be** 77.06 322 P **P** 00 13 05.5 -0.5
comp=E,19nm,0.9s,baz=91,slow=4.7,SNR=53
AKASG **Malin Array Be** 77.06 322*ce*P **P** 00 13 04.9 -1.1
AKASG pmax pmax
comp=Z,19nm,0.9s
AKASG **Malin Array Be** 77.06 322 P **P** 00 13 05.5 -0.5
AKBB **Malin Array Si** 77.06 322 *e*P **P** 00 13 04.5 -1.5
AKBB **Malin Array Si** 77.06 322 *e*P **P** 00 13 04.5 -1.5
KIEV **Kiev** 77.07 322 *e*P **P** 00 13 05.1 -1.0
KIEV pmax pmax
comp=Z,35nm,0.9s
KIEV MLR MLR
comp=Z,2µm,19.0s
KIEV **Kiev** 77.07 322 *e*P **P** 00 13 05.1 -1.0
comp=Z,36nm,0.9s
KIEV LR LR
comp=Z,2µm,19.0s
IAS **Iasi** 77.17 319 P **P** 00 13 07.0 +0.3
VRI **Vrincioaia** 77.40 317⇑*i*P **P** 00 13 08.2 +0.1
VRI **Vrincioaia** 77.40 317⇑*i*P **P** 00 13 08.2 +0.1
RPZ **Rata Peaks** 77.43 135 *e*P **P** 00 13 09.6 +1.2
comp=Z,173nm,1.6s
PLOR **Plostina** 77.45 317⇓*i*P **P** 00 13 09.1 +0.7
PLOR **Plostina** 77.45 317⇓*i*P **P** 00 13 09.1 +0.7
TESR 77.61 318⇓*i*P **P** 00 13 10.4 +1.2
MLR **Muntele Rosu** 77.85 317 P **P** 00 13 11.1 +0.4
comp=Z,14nm,1.0s
MLR **Muntele Rosu** 77.85 317 P **P** 00 13 11.1 +0.4
MLR pmax pmax
comp=Z,14nm,1.0s
MLR **Muntele Rosu** 77.85 317 P **P** 00 13 11.1 +0.4
MLR **Muntele Rosu** 77.85 317⇓*i*P **P** 00 13 11.3 +0.5
HUMR **Humele** 78.31 316⇓*i*P **P** 00 13 13.1 0.0
DOPR **Dopca** 78.34 317⇑*i*P **P** 00 13 12.4 -0.9
VOIR 78.45 317⇑*i*P **P** 00 13 13.9 -0.1
VOIR 78.45 317⇑*i*P **P** 00 13 13.9 -0.1
BURAR **Bucovina Array** 78.82 319⇑*i*P **P** 00 13 16.8 +0.8
BUR08 **Bucovina Ar. S** 78.83 319 *e*P **P** 00 13 16.6 +0.5
MICGM **Minsk** 78.93 326⇓*i*P **P** 00 13 14.0 -2.3
MNK **Minsk** 78.96 326⇓*i*P **P** 00 13 14.0 -2.5
MNK *e* 00 13 21.0
MNK *e*S **S** **00 23 08.0 -5.3**
MNK *e* 00 23 20.0
MNK pmax pmax
comp=Z,280nm,1.0s
MNK pmax pmax
comp=E,360nm,1.0s
MNK pmax pmax
comp=N,180nm,1.0s
KHZ **Kahutara** 78.98 133 *e*P **P** 00 13 17.1 +0.2
comp=N,84nm,1.2s
SUR **Sutherland** 79.19 237 P **P** 00 13 20.1 +1.6
comp=N,164nm,1.1s,baz=95,slow=4.4,SNR=17
SUR **Sutherland** 79.19 237⇑*i*P **P** 00 13 20.4 +2.0
SUR AMB AMB 00 13 20.9
comp=Z,125nm,1.4s
SUR **Sutherland** 79.19 237 *e*P **P** 00 13 20.6 +2.1
comp=Z,253nm,1.2s
SUR LR LR
comp=Z,2µm,19.0s
SUR **Sutherland** 79.19 237 P **P** 00 13 20.3 +1.8
comp=Z,864nm,1.2s,SNR=11
PUL **Pulkovo** 79.29 332*ce*P **P** 00 13 19.2 +1.0
PUL pmax pmax
comp=Z,47nm,0.3s
LOT **Lotru** 79.34 316⇑*i*P **P** 00 13 18.9 0.0
NACGM **Naroch** 79.66 326 *e*P P 00 13 17.0 -3.3
SNZO **South Karori** 79.66 132 PFAKE 00 13 30.0 +9.4
SNZO LR LR
comp=Z,5µm,22.0s
JOF **Joensuu** 79.94 335 *e*P **P** 00 13 20.0 -1.6
JOF pmax pmax
comp=Z,18nm,0.8s
JOF **Joensuu** 79.94 335 *e*p **P** 00 13 20.0 -1.6
comp=Z,18nm,0.8s
JOF **Joensuu** 79.94 335 *e*p **P** 00 13 20.0 -1.6
comp=Z,18nm,0.8s
BMR **Baia Mare** 79.97 319⇓*i*P **P** 00 13 22.5 +0.3
BMR **Baia Mare** 79.97 319⇓*i*P **P** 00 13 22.5 +0.3
CVNA **Calvinia** 79.98 238 *e*P **P** 00 13 22.3 -0.4
CVNA AMB AMB 00 13 24.8
comp=Z,165nm,1.7s
GZR **Gura Zlata** 80.01 316⇑*i*P **P** 00 13 23.2 +0.7
GZR **Gura Zlata** 80.01 316⇑*i*P **P** 00 13 23.2 +0.7
DEV **Deva** 80.02 317⇓*i*P **P** 00 13 23.2 +0.7
DEV **Deva** 80.02 317⇓*i*P **P** 00 13 23.2 +0.7
LVV **L'vov** 80.07 321 *i*P **P** 00 13 22.1 -0.5
LVV *e* 00 16 20.5
LVV *e* 00 18 11.3
LVV *e*S **S** **00 23 21.9 -3.4**
LVV *e* 00 28 44.3
LVV *e* 00 31 51.7
MSVF **Nonsavu** 80.23 108 *e*P **P** 00 13 25.2 +0.9
MSVF pmax pmax
comp=Z,120nm,1.8s
MSVF MLR MLR
comp=Z,2µm,19.0s
MSVF **Nonsavu** 80.23 108 *e*P **P** 00 13 25.2 +0.9
comp=Z,120nm,1.8s
MSVF LR LR
comp=Z,2µm,19.0s
DRGR 80.32 318 P **P** 00 13 24.7 +0.5
DRGR 80.32 318⇑*i*P **P** 00 13 24.3 +0.1
CER **Ceres** 80.56 236 *e*P **P** 00 13 24.6 -1.1
CER AMB AMB 00 13 30.4
comp=Z,23nm,3.7s
LVZ **Lovozero** 80.59 340*ce*P **P** 00 13 24.5 -0.6
LVZ pmax pmax
comp=Z,88nm,1.2s
LVZ **Lovozero** 80.59 340 *e*P **P** 00 13 24.7 -0.4

LVZ LR LR
comp=Z,3µm,20.0s
VSU Vasula 80.65 330 *c iP* **P** **00 13 25.1 -0.5**
VSU pmax pmax
comp=Z,59nm,1.2s
TRPA Tarpa 80.69 319⇑ *iP* **P** **00 13 26.2 +0.2**
TRPA Tarpa 80.69 319⇑ *e* **P** **00 13 26.1 +0.1**
BZS Buzias 80.86 316 ⇓ *iP* **P** **00 13 26.9 -0.1**
BZS Buzias 80.86 316 ⇓ *iP* **P** **00 13 26.9 -0.1**
KWP Kalwaria Pacla 80.87 320 *eP* **P** **00 13 27.1 +0.2**
KWP Kalwaria Pacla 80.87 320 *eP* **P** **00 13 26.7 -0.3**
KWP MLR MLR
comp=Z,2µm,21.0s
KWP Kalwaria Pacla 80.87 320 *eP* **P** **00 13 26.7 -0.3**
KWP LR LR
comp=Z,2µm,21.0s
KWP Kalwaria Pacla 80.87 320⇑ *iP* **P** **00 13 26.9 -0.1**
APA Apatity 80.89 339⇑ *iP* **P** **00 13 27.6 +0.9**
APA *i* S **S** **00 23 32.0 -1.2**
APA pmax pmax
comp=Z,72nm,1.2s
APA MLR MLR
comp=Z,2µm,17.0s
UZH Uzhgorod 80.94 319 *eP* **P** **00 13 27.0 -0.4**
UZH *e*S **S** **00 23 30.0 -4.5**
KOLS Kolonicke sedl 81.01 320 *eP* **P** **00 13 28.3 +0.5**
KOLS pmax pmax
comp=Z,81nm,1.2s
KOLS Kolonicke sedl 81.01 320 *eP* **P** **00 13 28.3 +0.5**
KOLS Kolonicke sedl 81.01 320 *eS* **S** **00 23 35.3 0.0**
KOLS *ep*S pS 00 23 47.1 +0.5
TSUM Tsumeb 81.03 251⇑ *iP* **P** **00 13 29.7 +1.1**
TSUM Tsumeb 81.03 251 *eP* **P** **00 13 30.1 +1.5**
comp=Z,75nm,1.0s
URZ Urewera 81.09 129 *eP* **P** **00 13 29.3 +0.9**
comp=Z,42nm,0.9s
TIR Tirane 81.45 312 PFAKE 00 13 40.0 +10
TIR LR LR
comp=Z,2µm,19.0s
SUW Suwalki 81.48 325 *eP* **P** **00 13 29.4 -0.7**
SUW Suwalki 81.48 325 *eP* **P** **00 13 29.2 -0.9**
SUW pmax pmax
comp=Z,186nm,1.1s
SUW Suwalki 81.48 325 *eP* **P** **00 13 29.2 -0.9**
comp=Z,186nm,1.1s
CRVS Cervenica-Dubn 81.53 320 *eP* **P** **00 13 31.1 +0.6**
CRVS pmax pmax
comp=Z,58nm,1.5s
CRVS Cervenica-Dubn 81.53 320 *eP* **P** **00 13 31.1 +0.6**
CRVS Cervenica-Dubn 81.53 320 *eS* **S** **00 23 40.3 -0.4**
IVAS Ivanjica 81.56 314 *eP* **P** **00 13 30.5 -0.4**
STHS Stebnicka Huta 81.77 320 *eP* **P** **00 13 33.0 +1.2**
STHS pmax pmax
comp=Z,24nm,1.0s
STHS Stebnicka Huta 81.77 320 *eP* **P** **00 13 33.0 +1.2**
KOMG Komaggas 81.78 240 *eP* **P** **00 13 31.9 -0.3**
KOMG AMB AMB 00 13 35.2
comp=Z,89nm,1.4s
FINES FINESS Array B 81.80 332 P **P** **00 13 31.6 +0.1**
comp=Z,26nm,0.9s,baz=98,slow=7.9,SNR=32
FINES FINESS Array B 81.80 332 P **P** **00 13 31.7 +0.1**
FINES pmax pmax
comp=Z,26nm,0.9s
FINES FINESS Array B 81.80 332 P **P** **00 13 31.6 +0.1**
KAF Kangasniemi 81.88 333 *eP* **P** **00 13 30.4 -1.6**
KAF pmax pmax
comp=Z,17nm,0.7s
KAF Kangasniemi 81.88 333 *ep* **P** **00 13 30.4 -1.6**
comp=Z,17nm,0.7s
KAF Kangasniemi 81.88 333 *ep* **P** **00 13 30.4 -1.6**
comp=Z,17nm,0.7s
BILL Bilibino 82.22 21 *eP* **P** **00 13 33.0 -0.7**
BILL *i* 00 13 43.1
BILL pmax pmax
comp=Z,104nm,2.5s
BILL Bilibino 82.22 21 *eP* **P** **00 13 33.0 -0.7**
comp=Z,73nm,1.4s
BILL LR LR
comp=Z,4µm,20.0s
NIE Niedzica 82.37 320 *eP* **P** **00 13 35.4 +0.5**
NIE *ep*PcP **PcP** **00 13 40.2 +0.1**
NIE Niedzica 82.37 320 *eP* **P** **00 13 35.4 +0.5**
PSZ Piszkesteto 82.40 318 *eP* **P** **00 13 34.9 -0.3**
PSZ pmax pmax
comp=Z,88nm,1.4s
PSZ MLR MLR
comp=Z,2µm,19.0s
PSZ Piszkesteto 82.40 318 *eP* **P** **00 13 34.9 -0.3**
comp=Z,88nm,1.4s
PSZ LR LR
comp=Z,2µm,19.0s
PSZ Piszkesteto 82.40 318⇓ *iP* **P** **00 13 35.5 +0.3**
PSZ Piszkesteto 82.40 318⇑ *e* **P** **00 13 34.9 -0.3**
BEL Belsk 82.48 322 *eP* **P** **00 13 36.0 +0.7**
BEL Belsk 82.48 322 *eP* **P** **00 13 36.0 +0.7**
OJC Ojcow 82.82 321 *eP* **P** **00 13 37.0 -0.3**
OJC *ep*P **pP** **00 13 47.3 +1.1**
OJC *e*PP **PP** **00 16 46.8 -0.8**
OJC *e*S **S** **00 23 50.7 -3.1**
OJC *e*SS **SS** **00 29 13.9 -3.0**
OJC L L 00 41 14.5
comp=Z,1.8nm,21.4s
OJC Ojcow 82.82 321 *eP* **P** **00 13 37.0 -0.3**
OJC *e**PP **pP** **00 13 47.3 +1.1**
OJC *e* 00 16 46.8
OJC *e*S **S** **00 23 50.7 -3.1**
OJC *e*SS **SS** **00 29 13.9 -3.0**
OJC Ojcow 82.82 321 *eP* **P** **00 13 37.0 -0.3**
comp=Z,74nm,1.3s
BUD Budapest 82.92 318⇑ *eP* **P** **00 13 37.8 0.0**
PKSM Moragy 83.00 317 P **P** **00 13 37.9 -0.3**
PKSM Moragy 83.00 317⇓ *iP* **P** **00 13 38.1 -0.1**
PKSM Moragy 83.00 317⇑ *e* **P** **00 13 37.5 -0.7**
VYHS Vyhne 83.19 319 *eP* **P** **00 13 39.0 -0.2**
VYHS pmax pmax
comp=Z,34nm,1.5s
VYHS Vyhne 83.19 319 *eP* **P** **00 13 39.0 -0.2**
VYHS Vyhne 83.19 319 *eS* **S** **00 23 54.2 -3.4**
KOLL Kolacno 83.48 319 *eP* **P** **00 13 41.4 +0.7**
KOLL Kolacno 83.48 319 *eP* **P** **00 13 41.4 +0.7**
TIP Timpagrande 83.56 309 PFAKE 00 13 50.0 +8.6
TIP LR LR
comp=Z,2µm,20.0s
OKC Ostrava-Krasne 83.82 320 *eP* **P** **00 13 41.7 -0.7**
OKC *ep*P **pP** **00 13 48.9 -2.5**
OKC *e*SKS **S** **00 24 03.3 -0.6**
OKC AMS AMS 01 00 10.0
comp=Z,1µm,22.4s
KEV Kevo 83.85 341 *eP* **P** **00 13 41.7 -0.4**
KEV pmax pmax
comp=Z,8.0nm,0.9s
KEV Kevo 83.85 341 PFAKE 00 13 50.0 +7.9
KEV LR LR
comp=Z,2µm,22.0s
KEV Kevo 83.85 341 *ep* **P** **00 13 41.7 -0.4**
comp=Z,8.0nm,0.9s
KEV Kevo 83.85 341 *ep* **P** **00 13 41.7 -0.4**
comp=Z,8.0nm,0.9s
VNDA Vanda 84.15 169 *eP* **P** **00 13 44.4 +0.9**
VNDA pmax pmax
comp=Z,53nm,1.5s
VNDA Vanda 84.15 169 *eP* **P** **00 13 44.4 +0.9**
comp=Z,53nm,1.5s
MORC Moravsky Berou 84.20 320 ⇓ P **P** **00 13 45.0 +0.6**
MORC Moravsky Berou 84.20 320 *eP* **P** **00 13 45.0 +0.6**
comp=Z,63nm,1.4s
MORC Moravsky Berou 84.20 320 ⇓ *iP* **P** **00 13 45.0 +0.6**
ARCES ARCESS Array B 84.29 340 P **P** **00 13 45.0 +0.6**
comp=Z,24nm,1.0s,baz=114,slow=3.0,SNR=20
ARCES ARCESS Array B 84.29 340 P **P** **00 13 45.0 +0.6**
ARCES pmax pmax
comp=Z,24nm,1.0s
ARCES ARCESS Array B 84.29 340 P **P** **00 13 45.0 +0.6**
ARE0 ARCESS Array S 84.29 340 *eP* **P** **00 13 44.7 +0.3**
ZST Bratislava 84.29 318 *eP* **P** **00 13 45.4 +0.6**
ZST pmax pmax
comp=Z,74nm,1.5s
ZST Bratislava 84.29 318 *eP* **P** **00 13 45.4 +0.6**
ZST Bratislava 84.29 318 *eS* **S** **00 24 08.9 +0.2**
BEHE Becsehely 84.31 317⇑ *eP* **P** **00 13 45.1 +0.1**
CUC Castrocucco 84.36 310 PFAKE 00 14 00.0 +15
CUC LR LR
comp=Z,2µm,19.0s

RAO Raoul Island 84.50 119 PFAKE 00 14 00.0 +14
RAO LR LR
comp=Z,2µm,19.0s
MSKU Masuku 84.58 268 PFAKE 00 14 00.0 +13
MSKU LR LR
comp=Z,3.0nm,22.0s
SOP Sopron 84.60 318⇑ *e* **P** **00 13 46.1 -0.3**
VRAC Vranov 84.76 319 P **P** **00 13 47.2 0.0**
comp=Z,4.8nm,1.1s,baz=97,slow=4.5,SNR=8.0
VRAC Vranov 84.76 319 P **P** **00 13 47.2 0.0**
VRAC Vranov 84.76 319 P **P** **00 13 47.2 0.0**
GKP Gorka Klasztor 84.84 323 *eP* **P** **00 13 47.8 +0.4**
GKP Gorka Klasztor 84.84 323 *eP* **P** **00 13 47.8 +0.4**
DPC Dobruska-Polom 85.05 320 *eP* **P** **00 13 49.2 +0.5**
DPC pmax pmax
comp=Z,85nm,1.4s
DPC Dobruska-Polom 85.05 320 *eP* **P** **00 13 49.2 +0.5**
comp=Z,85nm,1.4s
DPC Dobruska-Polom 85.05 320 *eP* **P** **00 13 49.0 +0.3**
DPC *ep*P **pP** **00 13 55.6 -2.1**
DPC *e*SKS **S** **00 24 14.7 -1.6**
DPC AMS AMS 01 00 30.0
comp=Z,2µm,22.3s
WDD Wield Dalam 85.05 306 PFAKE 00 14 00.0 +11
WDD LR LR
comp=Z,2µm,19.0s
CONA Conrad Observa 85.09 318⇑ *iP* **P** **00 13 48.4 -0.5**
comp=Z,23nm,1.7s
CONA Conrad Observa 85.09 318⇑ *iP* **P** **00 13 48.4 -0.5**
comp=Z,23nm,1.7s
KSP Ksiaz 85.12 321 *eP* **P** **00 13 49.7 +0.7**
KSP Ksiaz 85.12 321⇑ *eP* **P** **00 13 49.4 +0.4**
KSP *e* 00 24 14.0
MIDW Midway 85.23 62 PFAKE 00 14 00.0 +10
MIDW LR LR
comp=Z,2µm,20.0s
SBA Scott Base 85.25 169 PFAKE 00 14 00.0 +11
SBA LR LR
comp=Z,1µm,20.0s
ARSA Arzberg 85.25 317 *i* P **P** **00 13 50.2 +0.5**
comp=Z,52nm,1.5s
ARSA Arzberg 85.25 317 *i* P **P** **00 13 50.3 +0.5**
comp=Z,52nm,1.5s,SNR=11
UPC Upice 85.27 321 *eP* **P** **00 13 50.4 +0.7**
UPC *ep*P **pP** **00 13 56.6 -2.1**
BOJS Bojanci 85.27 316 *i* P **P** **00 13 50.0 +0.1**
BOJS *i* 00 13 56.6
PERS Pernice 85.47 317 *i* P **P** **00 13 50.9 +0.1**
PERS *i* 00 13 57.6
TREC Trest 85.48 319 *eP* **P** **00 13 50.7 -0.1**
TREC *ep*P **pP** **00 13 57.2 -2.6**
TREC AMS AMS 01 01 10.0
comp=Z,1µm,18.5s
SOKA Soboth 85.53 317⇑ *iP* **P** **00 13 51.3 +0.1**
comp=Z,58nm,1.3s
SOKA Soboth 85.53 317⇑ *iP* **P** **00 13 51.3 +0.1**
comp=Z,58nm,1.3s
VISS Visnje 85.59 316 *i* P **P** **00 13 52.1 +0.6**
VISS *i* 00 13 58.1
LJU Ljubljana 85.83 316 *i* P **P** **00 13 53.5 +0.9**
LJU *i* 00 13 59.7
PRU Pruhonice 86.15 320 *eP* **P** **00 13 54.1 0.0**
PRU *e*S S 00 24 33.2 +6.1
PRU AMS AMS 00 58 50.0
comp=Z,2µm,22.8s
PVCC Panska Ves 86.18 321 *eP* **P** **00 13 54.2 0.0**
PVCC *ep*P **pP** **00 14 01.1 -2.2**
PVCC AMS AMS 00 58 50.0
comp=Z,1µm,13.0s
PRA Prague 86.23 320 P **P** **00 13 55.0 +0.5**
PRA pP **pP** **00 14 01.0 -2.5**
PRA *ex* x 00 24 27.0
VOY Vojsko 86.27 316 *eP* **P** **00 13 54.9 0.0**
VOY *e* 00 14 00.9
VOY *e* 00 14 17.3
AQU L'Aquila 86.36 312 ⇑ P **P** **00 13 56.5 +1.1**
AQU L'Aquila 86.36 312 *eP* **P** **00 13 56.5 +1.1**
comp=Z,138nm,1.1s
AQU LR LR
comp=Z,2µm,19.0s
AQU L'Aquila 86.36 312⇑ *iP* **P** **00 13 56.5 +1.1**
AQU L'Aquila 86.36 312⇑ *iP* **P** **00 13 56.5 +1.1**
BSD Bornholm Skovb 86.41 325 *i* P **P** **00 13 53.9 -1.3**
comp=Z,28nm,1.0s
MYKA Terra Mystica 86.48 317⇑ *iP* **P** **00 13 56.1 +0.2**
comp=Z,37nm,1.6s
MYKA Terra Mystica 86.48 317⇑ *iP* **P** **00 13 56.1 +0.2**
comp=Z,37nm,1.6s
GEC2 GERESS Array S 86.61 319 *eP* **P** **00 13 55.8 -0.7**
comp=Z,88nm,1.5s
GEC2 GERESS Array S 86.61 319 *eP* **P** **00 13 55.8 -0.7**
GEC2 pmax pmax
comp=Z,88nm,1.5s
GERES GERESS Array B 86.61 319 P **P** **00 13 56.9 +0.4**
comp=Z,15nm,1.1s,baz=101,slow=5.6,SNR=32
GERES GERESS Array B 86.61 319 P **P** **00 13 56.9 +0.4**
GERES pmax pmax
comp=Z,15nm,1.1s
GERES GERESS Array B 86.61 319 P **P** **00 13 56.9 +0.4**
BRG Berggiesshubel 86.61 321 *eP* **P** **00 13 56.3 0.0**
comp=Z,73nm,1.7s
BRG S **S** **00 24 32.0 +0.5**
BRG
comp=N,2µm,22.3s
BRG
comp=E,2µm,26.1s
BRG
comp=Z,1µm,21.3s
BRG Berggiesshubel 86.61 321 *eP* **P** **00 13 55.7 -0.6**
comp=Z,73nm,1.7s
BRG Berggiesshubel 86.61 321 *eP* **P** **00 13 56.3 0.0**
BRG S **S** **00 24 32.0 +0.5**
BRG pmax pmax
comp=Z,73nm,1.6s
BRG MLR MLR
comp=N,2µm,22.3s
BRG MLR MLR
comp=E,2µm,26.1s
BRG MLR MLR
comp=Z,1µm,21.3s
KHC Kasperske Hory 86.71 319 *eP* **P** **00 13 57.3 +0.4**
KHC pmax pmax
comp=Z,17nm,1.2s
KHC Kasperske Hory 86.71 319 *eP* **P** **00 13 57.3 +0.4**
comp=Z,17nm,1.2s
KHC Kasperske Hory 86.71 319 *eP* **P** **00 13 56.9 0.0**
KHC *ep*P **pP** **00 14 03.2 -2.8**
KHC *ex* x 00 14 29.5
KHC *e*S **S** **00 24 33.6 +1.0**
KHC AMS AMS 01 02 20.0
comp=Z,1µm,17.9s
KBA Koelnbreinsper 86.72 317⇑ *iP* **P** **00 13 57.5 +0.3**
KBA pmax pmax
comp=Z,22nm,1.3s
KBA Koelnbreinsper 86.72 317⇑ *iP* **P** **00 13 57.5 +0.3**
comp=Z,22nm,1.3s
KBA Koelnbreinsper 86.72 317⇑ *iP* **P** **00 13 57.5 +0.3**
comp=Z,22nm,1.2s
RUE Ruedersdorf 86.84 322 *eP* **P** **00 13 57.5 +0.1**
comp=Z,70nm,1.0s
RJOB Jochberg 87.13 318 *eP* **P** **00 13 57.5 -1.5**
comp=Z,20nm,1.2s
WET Wettzell 87.17 319 *eP* **P** **00 13 58.4 -0.7**
comp=Z,57nm,1.5s
WET Wettzell 87.17 319 *eP* **P** **00 13 58.4 -0.7**
WET pmax pmax
comp=Z,57nm,1.5s
ADK Adak 87.22 38 PFAKE 00 14 10.0 +11
ADK LR LR
comp=Z,975nm,19.0s
CLL Collm 87.23 321 *eP* **P** **00 13 58.3 -1.0**
comp=Z,42nm,1.5s
CLL Collm 87.23 321⇑ *iP* **P** **00 13 59.0 -0.3**
CLL *i* 00 14 05.7
CLL *e*S **S** **00 24 36.0 -1.5**
CLL pmax pmax
comp=Z,43nm,1.5s
CLL MLR MLR
comp=Z,1µm,19.4s
CLL Collm 87.23 321⇑ *iP* **P** **00 13 59.0 -0.3**
comp=Z,43nm,1.5s
CLL *i* pP **pP** **00 14 05.7 -2.7**
CLL *i* sP **sP** **00 14 08.0 -3.6**
CLL *e*S **S** **00 24 36.0 -1.5**
CLL Lm MLR 00 58 00.0

comp=Z,1µm,19.4s
RGN Rugen 87.28 324 *eP* **P** **00 13 59.6 +0.2**
comp=Z,65nm,1.1s
NKC Novy Kostel 87.52 320 *eP* **P** **00 14 00.8 0.0**
NKC *ep*P **pP** **00 14 07.5 -2.3**
NKC AMS AMS 00 59 40.0
comp=Z,2µm,16.3s
TANN Tannenbergstha 87.52 320 *eP* **P** **00 14 00.1 -0.7**
comp=Z,34nm,1.6s
ROTZ Rotzenmuhle 87.64 320 *eP* **P** **00 14 01.1 -0.3**
comp=Z,66nm,1.8s
COP Copenhagen 87.86 326 *i* P **P** **00 14 03.2 +1.0**
comp=Z,16nm,1.0s
WTTA Wattenberg 87.89 317⇑ *iP* **P** **00 14 01.8 -1.1**
WTTA pmax pmax
comp=Z,36nm,1.3s
WTTA Wattenberg 87.89 317⇑ *iP* **P** **00 14 01.8 -1.1**
comp=Z,36nm,1.3s
WTTA Wattenberg 87.89 317⇑ *iP* **P** **00 14 01.8 -1.1**
comp=Z,36nm,1.3s
MOX Moxa 88.07 321 *eP* **P** **00 14 02.8 -0.6**
comp=Z,46nm,1.4s
MOX Moxa 88.07 321 *eP* **P** **00 14 02.8 -0.6**
MOX pmax pmax
comp=Z,46nm,1.4s
FUR Furstenfeldbru 88.18 318 *eP* **P** **00 14 02.8 -1.2**
comp=Z,104nm,1.7s
FUR Furstenfeldbru 88.18 318 *eP* **P** **00 14 02.8 -1.2**
FUR pmax pmax
comp=Z,104nm,1.7s
MOTA Moosalm 88.26 317⇑ *iP* **P** **00 14 03.6 -0.9**
MOTA pmax pmax
comp=Z,13nm,1.1s
MOTA Moosalm 88.26 317⇑ *iP* **P** **00 14 03.6 -0.9**
comp=Z,13nm,1.1s
MOTA Moosalm 88.26 317⇑ *iP* **P** **00 14 03.6 -0.9**
comp=Z,13nm,1.1s
GRF Grafenberg Arr 88.28 320 *eP* **P** **00 14 04.1 -0.3**
comp=Z,86nm,1.6s
GRF *e*L L 01 01 32.5
comp=Z,2µm,19.6s
GRF Grafenberg Arr 88.28 320 *eP* **P** **00 14 04.1 -0.3**
GRF pmax pmax
comp=Z,86nm,1.6s
GRFO Grafenberg 88.28 320 *eP* **P** **00 14 05.5 +1.1**
GRFO pmax pmax
comp=Z,45nm,1.3s
GRFO Grafenberg 88.28 320 *eP* **P** **00 14 05.5 +1.1**
comp=Z,45nm,1.3s
RETA Reutte 88.50 317⇑ *iP* **P** **00 14 05.2 -0.4**
comp=Z,35nm,1.8s
RETA Reutte 88.50 317⇑ *iP* **P** **00 14 05.2 -0.4**
comp=Z,35nm,1.8s,SNR=7.1
FETA Feichten 88.50 317⇑ *iP* **P** **00 14 05.2 -0.5**
comp=Z,28nm,1.3s
FETA Feichten 88.50 317⇑ *iP* **P** **00 14 05.2 -0.5**
comp=Z,28nm,1.3s,SNR=5.3
NVL N'lazarevskaya 88.50 199⇑ *iP* **P** **00 14 05.8 +0.8**
NVL *e**SP **sP** **00 14 17.6 +0.3**
NVL *e* 00 24 50.5
NVL pmax pmax
comp=Z,69nm,1.1s
MAIT Maitri 88.53 199 *eP* P 00 14 08.6 +3.5
MAIT *e* 00 14 15.2
SPB4 Spitsbergen Ar 88.63 348 *eP* **P** **00 14 05.2 -0.4**
FUORN Ofenpass-Fuorn 88.81 316 *eP* **P** **00 14 08.1 +0.8**
comp=Z,92nm,1.4s
NB2 NORSAR Subarra 88.81 331 P **P** **00 14 06.0 -0.7**
comp=Z,8nm,1.4s,baz=91,slow=5.1
NOA NORSAR Array B 88.81 331 P **P** **00 14 06.6 -0.1**
comp=Z,12nm,1.1s,baz=94,slow=4.8,SNR=10.0
NOA PP **PP** **00 17 36.5 +0.6**
comp=Z,2.6nm,0.8s,baz=90,slow=7.6,SNR=4.6
NOA NORSAR Array B 88.81 331 P **P** **00 14 06.6 -0.1**
NOA 00 17 36.5
NOA pmax pmax
comp=Z,12nm,1.1s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 88.81 331 P **P** **00 14 06.6 -0.1**
NOA PP **PP** **00 17 36.5 +0.6**
CLZ Clausthal 88.90 322 *eP* **P** **00 14 06.9 -0.4**
comp=Z,86nm,1.4s
CLZ Clausthal 88.90 322 *eP* **P** **00 14 06.9 -0.4**
CLZ pmax pmax
comp=Z,86nm,1.4s
BSEG Bad Segeberg 89.00 324 *eP* **P** **00 14 07.4 -0.3**
comp=Z,179nm,1.4s
BSEG Bad Segeberg 89.00 324 *eP* **P** **00 14 07.4 -0.3**
BSEG pmax pmax
comp=Z,179nm,1.4s
DAVOX Davos/Dischmat 89.08 317 P **P** **00 14 09.3 +0.8**
comp=Z,24nm,1.1s,baz=100,slow=11,SNR=16
DAVOX Davos/Dischmat 89.08 317 P **P** **00 14 09.3 +0.8**
DAVOX Davos/Dischmat 89.08 317 P **P** **00 14 09.3 +0.8**
NRDL Niedersach Rie 89.08 322 *eP* **P** **00 14 07.9 -0.1**
comp=Z,111nm,1.4s
DAVA Damuels 89.09 317⇑ *iP* **P** **00 14 08.5 +0.1**
comp=Z,66nm,1.3s
DAVA Damuels 89.09 317⇑ *iP* **P** **00 14 08.5 +0.1**
comp=Z,66nm,1.3s,SNR=8.7
UBBA Unterbreizbach 89.10 321 *eP* **P** **00 14 08.5 +0.4**
comp=Z,36nm,1.5s
KEST Kesra 89.25 306 P **P** **00 14 11.3 +1.9**
comp=Z,7.5nm,0.9s,baz=98,slow=3.0,SNR=6.5
KEST Kesra 89.25 306 *eP* **P** **00 14 11.7 +2.3**
TUE Stuetta 89.44 316 *eP* **P** **00 14 10.3 +0.2**
comp=Z,46nm,1.2s
TUE LR LR
comp=Z,1µm,21.0s
KONO Kongsberg 89.56 329 PFAKE 00 14 20.0 +10
KONO LR LR
comp=Z,2µm,19.0s
STU Stuttgart 89.58 319 *eP* **P** **00 14 09.8 -0.7**
comp=Z,78nm,1.7s
STU Stuttgart 89.58 319 *eP* **P** **00 14 10.5 0.0**
STU pmax pmax
comp=Z,71nm,1.6s
STU Stuttgart 89.58 319 *eP* **P** **00 14 10.5 0.0**
comp=Z,71nm,1.6s
KBS Kingsbay 89.59 349 *ceP* **P** **00 14 10.5 +0.5**
KBS pmax pmax
comp=Z,50nm,1.7s
KBS Kingsbay 89.59 349 PFAKE 00 14 20.0 +10
KBS LR LR
comp=Z,2µm,19.0s
PGF Pioggiola 89.62 312 *eP* **P** **00 14 11.1 +0.1**
comp=Z,233nm,1.4s
QSPA South Pole Qui 89.64 180 P **P** **00 14 11.1 +0.5**
comp=Z,18nm,1.1s,baz=329,slow=1.7,SNR=15
QSPA South Pole Qui 89.64 180 *eP* **P** **00 14 11.5 +0.9**
comp=Z,54nm,1.4s
QSPA LR LR
comp=Z,2µm,20.0s
MUD Monsted U'grnd 89.72 326 *i* P **P** **00 14 11.1 +0.1**
comp=Z,12nm,1.0s
TNS Taunus Mts 90.08 320 *eP* **P** **00 14 12.5 -0.4**
comp=Z,73nm,1.4s
TNS Taunus Mts 90.08 320 *eP* **P** **00 14 12.5 -0.4**
TNS pmax pmax
comp=Z,73nm,1.4s
BFO Black Forest 90.15 318 *eP* **P** **00 14 12.1 -1.1**
comp=Z,45nm,1.6s
BFO Black Forest 90.15 318 *eP* **P** **00 14 12.1 -1.1**
BFO pmax pmax
comp=Z,45nm,1.6s
BFO Black Forest 90.15 318 *eP* **P** **00 14 13.5 +0.2**
BFO LR LR
comp=Z,1µm,20.0s
GAMB Gambell 90.32 26 *eP* **P** **00 14 13.5 -0.1**
comp=Z,62nm,1.3s
LANF Langenberg 90.50 319 *eP* **P** **00 14 15.1 +0.3**
IBBN Ibbenburen 90.52 322 *eP* **P** **00 14 14.5 -0.3**
comp=Z,139nm,1.7s
SBF Sospel 90.77 314 *eP* **P** **00 14 16.2 -0.1**
comp=Z,170nm,1.3s
BUG Bochum--Univer 90.83 321 *eP* **P** **00 14 15.8 -0.5**
comp=Z,46nm,1.2s
CDF Champ du Feu 90.85 318 *eP* **P** **00 14 16.4 -0.2**
comp=Z,88nm,1.5s
SENIN Lac Senin/Sane 90.85 316 *eP* **P** **00 14 18.0 +1.2**
comp=Z,59nm,1.4s
ECH Echery 90.93 318 *eP* **P** **00 14 16.9 0.0**
ECH pmax pmax
comp=Z,30nm,1.1s
ECH MLR MLR
comp=Z,1µm,20.0s

ECH Echery 90.93 318 *e*P P 00 14 16.9 0.0
comp=Z,30nm,1.1s
ECH LR LR
comp=Z,1μm,20.0s
ECH Echery 90.93 318 *e*P P 00 14 16.8 -0.1
MOF Molkenrain 90.95 318 *e*P P 00 14 16.8 -0.3
HINF Hinteralfeld 91.14 318 *e*P P 00 14 17.6 -0.3
LOMF Lomont 91.17 317 *e*P P 00 14 18.2 +0.1
MBDF Montbardon 91.24 315 *e*P P 00 14 19.4 +0.8
comp=Z,141nm,1.8s
LPG La Plagne 91.24 315 *e*P P 00 14 18.8 +0.1
comp=Z,112nm,1.3s
LPL La Plagne 91.26 315 *e*P P 00 14 18.8 +0.1
comp=Z,148nm,1.2s
BNI Bardonecchia 91.30 315 *e*P P 00 14 22.1 +3.2
BNI pmax pmax
comp=Z,24nm,1.1s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI Bardonecchia 91.30 315 *e*P P 00 14 22.1 +3.2
comp=Z,24nm,1.1s
BNI LR LR
comp=Z,2μm,19.0s
LMR La Mourre 91.45 313 *e*P P 00 14 19.5 +0.1
comp=Z,236nm,1.9s
HAU Haudompre 91.48 318 *e*P P 00 14 19.3 -0.1
comp=Z,133nm,1.4s
WLF Walferdange 91.57 319 P P 00 14 20.7 +0.9
comp=Z,34nm,1.6s
WLF Walferdange 91.57 319 *e*P P 00 14 19.6 -0.2
comp=Z,51nm,1.4s
WLF Walferdange 91.57 319 *e*P P 00 14 21.0 +1.2
WLF pmax pmax
comp=Z,51nm,1.3s
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 91.57 319 *e*P P 00 14 21.0 +1.2
comp=Z,51nm,1.3s
WLF LR LR
comp=Z,1μm,20.0s
MEM Membach 91.64 320 P P 00 14 20.7 +0.7
comp=Z,14nm,1.6s
HGN Heimansgroeve 91.69 321 *e*P P 00 14 21.2 +0.9
comp=Z,34nm,1.4s
CABF La Chapelle 91.69 316 *e*P P 00 14 20.9 +0.4
comp=Z,139nm,1.3s
THEF They Montfort 91.72 318 *e*P P 00 14 20.1 -0.4
ORIF Oris-en-Rattie 91.87 315 *e*P P 00 14 21.8 +0.4
comp=Z,193nm,1.6s
PAGF Fort de Pagny 91.88 318 *e*P P 00 14 21.4 +0.1
comp=Z,17nm,1.3s
TNA Tin City 91.90 25 *e*P P 00 14 21.4 +0.5
comp=Z,29nm,1.1s
BCLA Clavier 92.10 320 P P 00 14 22.8 +0.6
SMRF Simiane la Rot 92.11 314 *e*P P 00 14 23.4 +0.9
comp=Z,305nm,1.9s
JOHN Johnston Islan 92.26 73 PFAKE 00 14 30.0 +6.4
JOHN LR LR
comp=Z,9.0nm,19.0s
MEZF Maizieres J'vi 92.33 318 *e*P P 00 14 23.6 +0.3
comp=Z,144nm,1.6s
SFTF Sexfontaines 92.35 318 *e*P P 00 14 23.5 +0.1
comp=Z,172nm,1.2s
GIVF Givet 92.42 320 *e*P P 00 14 24.0 +0.3
comp=Z,71nm,1.3s
DOU Dourbes 92.56 320 P P 00 14 25.2 +0.9
comp=Z,12nm,1.7s
TAM Tamanrasset 92.59 293 *e*P P 00 14 26.4 +1.1
TAM *e* 00 18 06.3
TAM pmax pmax
comp=Z,29nm,1.3s
TAM MLR MLR
comp=Z,941nm,20.0s
TAM Tamanrasset 92.59 293 *e*P P 00 14 26.4 +1.1
comp=Z,29nm,1.3s
TAM *e*PP PP 00 18 06.3 -0.8
TAM LR LR
comp=Z,941nm,20.0s
VIVF Saint-Julien-l 92.73 315 *e*P P 00 14 25.4 +0.1
comp=Z,54nm,1.3s
SNF Seneffe 92.74 320 P P 00 14 25.9 +0.8
comp=Z,25nm,1.9s
BAIF Baives 92.81 320 *e*P P 00 14 26.0 +0.5
comp=Z,98nm,1.4s
SNAA Sanae 93.17 198 P P 00 14 27.8 +1.0
comp=Z,2.8nm,1.1s,baz=106,slow=2.5,SNR=4.4
SNAA Sanae 93.17 198 *e*P P 00 14 25.7 -1.1
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 93.17 198 *e*P P 00 14 25.7 -1.1
comp=Z,7.6nm,1.1s
LOR Lormes 93.19 317 *e*P P 00 14 27.5 +0.2
comp=Z,146nm,1.6s
LASF Ste Croix 93.35 314 *e*P P 00 14 28.7 +0.5
comp=Z,100nm,1.4s
SSF Saint Saulge 93.44 317 *e*P P 00 14 28.8 +0.3
comp=Z,129nm,1.6s
AVF Avril sur Loir 93.56 317 *e*P P 00 14 29.0 0.0
comp=Z,127nm,1.7s
BGF Bois d'Agland 93.92 316 *e*P P 00 14 31.1 +0.4
comp=Z,106nm,1.4s
HYF Humbligny 94.02 317 *e*P P 00 14 31.7 +0.6
TCF Toulx Ste Croi 94.38 316 *e*P P 00 14 33.4 +0.5
comp=Z,89nm,1.6s
CAF Calviac 94.58 315 *e*P P 00 14 34.3 +0.5
comp=Z,67nm,1.5s
MTLF Montolieu 94.58 313 *e*P P 00 14 34.0 +0.2
comp=Z,178nm,1.9s
RJF Les Rejaudoux 94.94 315 *e*P P 00 14 36.0 +0.6
comp=Z,106nm,1.7s
LDF La Druitiere 95.75 319 *e*P P 00 14 38.8 -0.2
MFF Saint Martin d 95.97 317 *e*P P 00 14 40.2 +0.1
GRR Gorron 96.26 319 *e*P P 00 14 41.5 +0.2
comp=Z,268nm,1.9s
DAG Danmarks Havn 96.28 348 *i* P P 00 14 39.4 -1.4
comp=Z,93nm,1.0s
TOA0 Torodi Ar. Sit 96.41 283 *e*P P 00 14 43.0 +0.3
TORD Torodi Ar. Bea 96.41 283 P P 00 14 43.3 +0.5
comp=Z,2.5nm,0.9s,baz=84,slow=1.9,SNR=13
TORD PP PP 00 18 40.2 +3.4
comp=Z,3.7nm,1.2s,baz=90,slow=6.4,SNR=3.7
TORD Torodi Ar. Bea 96.41 283 P P 00 14 43.3 +0.5
TORD PP PP 00 18 40.2 +3.4
ALE Alert 97.43 357 P Pdif 00 14 46.0 0.0
comp=Z,87nm,1.1s,SNR=6.3
SVW2 Sparrevohn 98.07 28 *e*P Pdif 00 14 50.3 +0.9
comp=Z,26nm,1.4s
COLD Coldfoot 98.53 21 *e*P Pdif 00 14 52.1 +0.9
ESLA Sonseca Array 99.56 310 PFAKE 00 15 10.0 +13
ESLA LR LR
comp=Z,6μm,20.0s
SPU Mount Spurr 99.70 28 *e*Pdif **Pdif** 00 14 56.4 -0.2
PAB San Pablo 99.88 310 PFAKE 00 15 10.0 +12
PAB LR LR
comp=Z,1μm,19.0s
MCK McKinley 100.24 25 *e*P **Pdif** 00 14 58.8 -0.1
MCK McKinley 100.24 25 *e*Pdif **Pdif** 00 14 58.8 -0.1
COLA College 100.27 23 PFAKE 00 15 10.0 +11
COLA LR LR
comp=Z,2μm,20.0s
KDAK Kodiak Island 100.42 31 PFAKE 00 15 10.0 +10
KDAK LR LR
comp=Z,2μm,20.0s
ILAR Eielson Array 100.69 23 P **Pdif** 00 14 59.6 -1.3
comp=Z,1.4nm,1.0s,baz=299,slow=3.7,SNR=6.7
ILAR PP PP 00 19 03.4 -4.6
comp=Z,7.1nm,1.0s,baz=293,slow=7.7,SNR=7.6
ILAR PKKPbc PKKPbc 00 31 15.4 -2.0
comp=Z,1.0nm,1.0s,baz=135,slow=1.3,SNR=5.5
ILAR Eielson Array 100.69 23 P **Pdif** 00 14 59.6 -1.3
ILAR 00 19 03.4
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR pmax pmax
comp=Z,7.0nm,1.0s
ILAR Eielson Array 100.69 23 P **Pdif** 00 14 59.6 -1.3
ILAR PP PP 00 19 03.4 -4.6
ILAR PKKPbc PKKPbc 00 31 15.4 -2.0
PAX Paxson 101.98 25 *e*P **Pdif** 00 15 06.1 -0.7
PAX pmax pmax
comp=Z,9.0nm,1.3s
PAX Paxson 101.98 25 *e*Pdif **Pdif** 00 15 06.1 -0.7
comp=Z,9.4nm,1.3s
MTE Manteigas 102.17 311 PFAKE 00 15 20.0 +12
MTE LR LR
comp=Z,1μm,19.0s
RTC Rabat Centre 102.65 305 PFAKE 00 15 20.0 +10
RTC LR LR
comp=Z,959nm,19.0s
MENT Mentasta 102.72 24 *e*PP PP 00 19 22.6 -0.7
EGAK Eagle 102.90 22 PFAKE 00 15 20.0 +9.3
EGAK LR LR
comp=Z,3μm,19.0s
DBIC Dimbokro 103.01 277 PFAKE 00 15 20.0 +7.7
DBIC LR LR
comp=Z,1μm,20.0s
SHEL Horse Pasture 103.32 254 PFAKE 00 15 20.0 +6.3
SHEL LR LR
comp=Z,3μm,21.0s
INK Inuvik 103.61 17 Pdiff **Pdif** 00 15 13.1 -0.7
comp=Z,8.1nm,1.1s,baz=311,slow=5.2,SNR=11
INK PKiKP **PKiKP** 00 19 30.3 -1.7
comp=Z,24nm,1.2s,baz=306,slow=2.4,SNR=7.7
INK Inuvik 103.61 17 P **Pdif** 00 15 13.1 -0.7
INK *i* 00 19 30.3
INK pmax pmax
comp=Z,8.0nm,1.1s
INK pmax pmax
comp=Z,25nm,1.2s
INK Inuvik 103.61 17 *e*Pdif **Pdif** 00 15 13.3 -0.5
comp=Z,19nm,1.3s
INK PKiKP **PKiKP** 00 19 30.3 -1.7
RES Resolute Bay 105.31 4 Pdiff **Pdif** 00 15 22.6 +1.5
comp=Z,4.0nm,0.9s,baz=335,slow=6.4,SNR=12
RES PKiKP **PKiKP** 00 19 35.2 +0.2
comp=Z,2.9nm,1.1s,baz=11,slow=3.8,SNR=4.4
RES Resolute Bay 105.31 4 P **Pdif** 00 15 22.7 +1.5
RES pmax pmax
comp=Z,4.0nm,0.9s
RES pmax pmax
comp=Z,3.0nm,1.1s
RES Resolute Bay 105.31 4 Pdif **Pdif** 00 15 22.6 +1.5
RES PKiKP **PKiKP** 00 19 35.2 +0.2
TBI Tubuai 110.31 115 *e*SS SS 00 35 49.1 +2.5
comp=Z,1μm,27.0s
TBI *e*LR LR 00 52 32.8
comp=Z,2μm,23.8s
PPT2 Papeete2 111.04 109 *e*LR LR 00 53 00.5
comp=Z,2μm,24.0s
YKA Yellowknife Ar 113.27 16 Pdiff **Pdif** 00 15 57.9 +1.0
comp=Z,0.4nm,0.9s,baz=324,slow=3.8,SNR=4.3
YKA PKiKP **PKiKP** 00 19 50.1 -0.1
comp=Z,1.4nm,1.0s,baz=310,slow=2.8,SNR=10
YKA PP **PP** 00 20 39.8 -0.2
comp=Z,18nm,1.2s,baz=321,slow=6.8,SNR=8.9
YKA PKKPbc **PKKPbc** 00 30 35.8 -2.2
comp=Z,0.8nm,0.9s,baz=145,slow=4.0,SNR=7.9
YKA SKKPbc SKKPbc 00 34 11.4 -10
comp=Z,0.1nm,0.4s,baz=111,slow=3.8,SNR=3.8
YKA Yellowknife Ar 113.27 16 P **Pdif** 00 15 57.9 +1.0
YKA *i* 00 19 50.1
YKA 00 20 39.8
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,18nm,1.2s
YKA Yellowknife Ar 113.27 16 Pdif **Pdif** 00 15 57.9 +1.0
YKA PKiKP **PKiKP** 00 19 50.1 -0.1
YKA PP **PP** 00 20 39.9 -0.2
YKA PKKPbc **PKKPbc** 00 30 35.8 -2.2
YKA SKKPbc SKKPbc 00 34 11.4 -10
PMSA Palmer Station 113.78 188 PFAKE 00 20 00.0
PMSA LR LR
comp=Z,3μm,19.0s
FRB Frobisher Bay 115.96 353 PKP **PKPdf** 00 19 54.7 -0.6
comp=Z,3.1nm,0.9s,baz=6.5,slow=5.6,SNR=5.1
FRB Frobisher Bay 115.96 353 PKiKP **PKPdf** 00 19 54.7 -0.6
FRB pmax pmax
comp=Z,3.0nm,0.9s
FRB Frobisher Bay 115.96 353 PKP **PKPdf** 00 19 54.7 -0.6
NLWA Neilton Lookou 120.56 32 PFAKE 00 20 10.0 +5.2
NLWA LR LR
comp=Z,1μm,20.0s
SACV Santiago Islan 120.72 287 PFAKE 00 20 20.0 +14
SACV LR LR
comp=Z,782nm,20.0s
JCW Jim Creek 121.04 30 *e*PKPdf **PKPdf** 00 20 06.3 +0.6
JCW *e*PP **PP** 00 21 36.4 +1.8
OD2 Odessa Site #2 123.18 29 *e*PKPdf **PKPdf** 00 20 10.0 +0.2
OD2 *e*PP **PP** 00 21 49.5 +0.4
FFC Flin Flon 123.29 14 *c i*PKiKP **PKPdf** 00 20 10.1 +0.3
FFC Flin Flon 123.29 14 *e*PKPdf **PKPdf** 00 20 09.3 -0.5
FFC *e*PP **PP** 00 21 45.7 -3.8
FFC LR LR
comp=Z,2μm,19.0s
NEW Newport 123.31 28 *e*PKiKP **PKPdf** 00 20 10.4 +0.3
NEW *e* 00 21 49.6
NEW MLR MLR
comp=Z,2μm,20.0s
NEW Newport 123.31 28 *e*PKPdf **PKPdf** 00 20 10.4 +0.3
NEW *e*PP **PP** 00 21 49.6 -0.5
NEW LR LR
comp=Z,2μm,20.0s
NEW Newport 123.31 28 ⇑PKiKP **PKiKP** 00 20 09.9 -0.4
baz=123
NEW ⇑PKiKP **PKiKP** 00 20 09.9 -0.4
baz=123
NEW ⇑PKiKP **PKiKP** 00 20 09.9 -0.4
baz=123
RKT Rikitea 123.34 118 *e*LR LR 00 58 36.6
comp=Z,1μm,26.8s
HAWA Hanford 123.46 31 PFAKE 00 20 20.0 +10
HAWA LR LR
comp=Z,1μm,20.0s
A12A Yaak River Ran 123.49 26 ⇓PKiKP **PKPdf** 00 20 09.8 -0.6
baz=123
A12A ⇓PKiKP **PKPdf** 00 20 09.8 -0.6
baz=123
A12A ⇓PKiKP **PKPdf** 00 20 09.8 -0.6
baz=123
B12A Libby 123.86 26 ⇑PKiKP **PKiKP** 00 20 10.8 -0.6
baz=124
B12A ⇑PKiKP **PKiKP** 00 20 10.8 -0.6
baz=124
B12A ⇑PKiKP **PKiKP** 00 20 10.8 -0.6
baz=124
A13A Flathead Natio 124.03 25 ⇑PKiKP **PKiKP** 00 20 11.6 -0.2
baz=124
A13A ⇑PKiKP **PKiKP** 00 20 11.6 -0.2
baz=124
A13A ⇑PKiKP **PKiKP** 00 20 11.6 -0.2
baz=124
SCHQ Schefferville 124.29 350 PKP **PKPdf** 00 20 11.7 0.0
comp=Z,8.9nm,1.0s,baz=84,slow=4.1,SNR=5.6
SCHQ Schefferville 124.29 350 PKP **PKPdf** 00 20 11.7 0.0
SCHQ LR LR
comp=Z,2μm,19.0s
B13A Whitefish 124.43 26 ⇑PKiKP **PKiKP** 00 20 12.0 -0.6
baz=124
B13A ⇑PKiKP **PKiKP** 00 20 12.0 -0.6
baz=124
B13A ⇑PKiKP **PKiKP** 00 20 12.0 -0.6
baz=124
EFI East Falkland 124.45 198 PFAKE 00 20 20.0 +8.0
EFI LR LR
comp=Z,1μm,21.0s
KHMM Horse Mountain 124.59 38 *e*PKPdf **PKPdf** 00 20 14.8 +1.9
BSMT Bassoo Peak 124.68 26 *e*PKPdf **PKPdf** 00 20 12.4 -0.5
BSMT *e*PP **PP** 00 21 57.9 -1.5
A15A Johnson Ranch, 124.70 24 ⇓PKiKP **PKiKP** 00 20 12.5 -0.6
baz=124
A15A ⇓PKiKP **PKiKP** 00 20 12.5 -0.6
baz=124
A15A ⇓PKiKP **PKiKP** 00 20 12.5 -0.6
baz=124
YBH Yreka Blue Hor 124.70 37 PKP **PKPdf** 00 20 13.5 +0.5
comp=Z,3.7nm,1.0s,baz=207,slow=4.5,SNR=4.0
YBH Yreka Blue Hor 124.70 37 PKiKP **PKPdf** 00 20 13.5 +0.5
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 124.70 37 PKP **PKPdf** 00 20 13.5 +0.5
C13A Hot Springs 124.90 26 ⇑PKiKP **PKiKP** 00 20 13.2 -0.3
baz=125
C13A ⇑PKiKP **PKiKP** 00 20 13.2 -0.3
baz=125
C13A ⇑PKiKP **PKiKP** 00 20 13.2 -0.3
baz=125
B14A Marquette Ranc 124.95 25 ⇑PKiKP **PKPdf** 00 20 12.6 -0.7
baz=125
B14A ⇑PKiKP **PKPdf** 00 20 12.6 -0.7
baz=125
B14A ⇑PKiKP **PKPdf** 00 20 12.6 -0.7
baz=125
D12A Red Ives Fores 125.02 27 ⇓PKiKP **PKPdf** 00 20 12.7 -0.7
baz=125
D12A ⇓PKiKP **PKPdf** 00 20 12.7 -0.7
baz=125
D12A ⇓PKiKP **PKPdf** 00 20 12.7 -0.7
baz=125
A16A West Butte Ran 125.18 24 ⇓PKiKP **PKPdf** 00 20 13.4 -0.4
baz=125
A16A ⇓PKiKP **PKPdf** 00 20 13.4 -0.4
baz=125
A16A ⇓PKiKP **PKPdf** 00 20 13.4 -0.4
baz=125
C14A Swan Lake 125.20 26 ⇓PKiKP **PKPdf** 00 20 13.3 -0.5
baz=125
C14A ⇓PKiKP **PKPdf** 00 20 13.3 -0.5
baz=125
C14A ⇓PKiKP **PKPdf** 00 20 13.3 -0.5
baz=125
SWMT Swartz Lake 125.29 26 *e*PKPdf **PKPdf** 00 20 13.7 -0.3
SWMT *e*PP **PP** 00 22 02.8 -0.5
B15A Bradely Ranch, 125.29 25 ⇓PKiKP **PKPdf** 00 20 13.2 -0.7
baz=125
B15A ⇓PKiKP **PKPdf** 00 20 13.2 -0.7
baz=125
B15A ⇓PKiKP **PKPdf** 00 20 13.2 -0.7
baz=125
E12A Beaver Dam Sad 125.38 28 ⇑PKiKP **PKPdf** 00 20 13.5 -0.7
baz=125
E12A ⇑PKiKP **PKPdf** 00 20 13.5 -0.7
baz=125
E12A ⇑PKiKP **PKPdf** 00 20 13.5 -0.7
baz=125
D13A Huson 125.39 27 ⇑PKiKP **PKPdf** 00 20 13.3 -0.8
baz=125
D13A ⇑PKiKP **PKPdf** 00 20 13.3 -0.8
baz=125
D13A ⇑PKiKP **PKPdf** 00 20 13.3 -0.8
baz=125
A17A Triple J Farms 125.54 23 ⇑PKiKP **PKiKP** 00 20 14.2 -0.5
baz=125
A17A ⇑PKiKP **PKiKP** 00 20 14.2 -0.5
baz=125
A17A ⇑PKiKP **PKiKP** 00 20 14.2 -0.5
baz=125
B16A M & M Farms, S 125.56 24 ⇑PKiKP **PKPdf** 00 20 13.9 -0.5
baz=125
B16A ⇑PKiKP **PKPdf** 00 20 13.9 -0.5
baz=125
B16A ⇑PKiKP **PKPdf** 00 20 13.9 -0.5
baz=125
BMO Blue Mountains 125.65 31 PFAKE 00 20 20.0 +5.3
BMO LR LR
comp=Z,975nm,20.0s
C15A Salmond Ranch, 125.69 25 ⇑PKiKP **PKPdf** 00 20 13.6 -1.1
baz=126
C15A ⇑PKiKP **PKPdf** 00 20 13.6 -1.1
baz=126
C15A ⇑PKiKP **PKPdf** 00 20 13.6 -1.1
baz=126
SLMT Seeley Lake 125.71 26 *e*PKPdf **PKPdf** 00 20 14.2 -0.7
SLMT *e*PP **PP** 00 22 02.8 -3.4
MSO Missoula 125.83 27 *e*PKPdf **PKPdf** 00 20 14.8 -0.2
MSO *e*PP **PP** 00 22 05.0 -2.0
MSO LR LR
comp=Z,878nm,19.0s
MSO Missoula 125.83 27 ⇓PKiKP **PKPdf** 00 20 14.6 -0.4
baz=126
MSO ⇓PKiKP **PKPdf** 00 20 14.6 -0.4
baz=126
MSO ⇓PKiKP **PKPdf** 00 20 14.6 -0.4
baz=126
D14A Greenough 125.83 26 ⇓PKiKP **PKPdf** 00 20 14.3 -0.8
baz=126
D14A ⇓PKiKP **PKPdf** 00 20 14.3 -0.8
baz=126
D14A ⇓PKiKP **PKPdf** 00 20 14.3 -0.8
baz=126
A18A Metzger Ranch, 125.89 23 ⇓PKiKP **PKPdf** 00 20 13.7 -1.3
baz=126
A18A ⇓PKiKP **PKPdf** 00 20 13.7 -1.3
baz=126
A18A ⇓PKiKP **PKPdf** 00 20 13.7 -1.3
baz=126
E13A Victor 126.01 27 ⇓PKiKP **PKPdf** 00 20 14.2 -1.1
baz=126
E13A ⇓PKiKP **PKPdf** 00 20 14.2 -1.1
baz=126
E13A ⇓PKiKP **PKPdf** 00 20 14.2 -1.1
baz=126
B17A L&G Farms, Che 126.03 24 ⇓PKiKP **PKPdf** 00 20 14.8 -0.5
baz=126
B17A ⇓PKiKP **PKPdf** 00 20 14.8 -0.5
baz=126
B17A ⇓PKiKP **PKPdf** 00 20 14.8 -0.5
baz=126
C16A Fuhringer Ranc 126.03 25 ⇓PKiKP **PKPdf** 00 20 14.6 -0.7
baz=126
C16A ⇓PKiKP **PKPdf** 00 20 14.6 -0.7
baz=126
C16A ⇓PKiKP **PKPdf** 00 20 14.6 -0.7
baz=126
D15A Lincoln 126.29 26 ⇓PKiKP **PKPdf** 00 20 15.5 -0.4
baz=126
D15A ⇓PKiKP **PKPdf** 00 20 15.5 -0.4
baz=126
D15A ⇓PKiKP **PKPdf** 00 20 15.5 -0.4
baz=126
A19A Klindworth Far 126.30 22 ⇓PKiKP **PKiKP** 00 20 16.6 +0.4
baz=126
A19A ⇓PKiKP **PKiKP** 00 20 16.6 +0.4
baz=126
A19A ⇓PKiKP **PKiKP** 00 20 16.6 +0.4
baz=126
E14A Clinton 126.34 27 ⇓PKiKP **PKPdf** 00 20 15.6 -0.5
baz=126
E14A ⇓PKiKP **PKPdf** 00 20 15.6 -0.5
baz=126
E14A ⇓PKiKP **PKPdf** 00 20 15.6 -0.5
baz=126
B18A Beardsley Farm 126.35 23 ⇑PKiKP **PKPdf** 00 20 15.6 -0.3
baz=126
B18A ⇑PKiKP **PKPdf** 00 20 15.6 -0.3
baz=126
B18A ⇑PKiKP **PKPdf** 00 20 15.6 -0.3
baz=126
F13A Darby 126.43 28 ⇑PKiKP **PKPdf** 00 20 15.5 -0.7
baz=126
F13A ⇑PKiKP **PKPdf** 00 20 15.5 -0.7
baz=126
F13A ⇑PKiKP **PKPdf** 00 20 15.5 -0.7
baz=126
C17A Wharram Farm, 126.57 24 ⇓PKiKP **PKPdf** 00 20 16.0 -0.3
baz=126
C17A ⇓PKiKP **PKPdf** 00 20 16.0 -0.3
baz=126
C17A ⇓PKiKP **PKPdf** 00 20 16.0 -0.3
baz=126
B19A Brinkman Farms 126.62 22 ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
B19A ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
B19A ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
A20A Cobblestone Ra 126.64 21 ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
A20A ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
A20A ⇓PKiKP **PKiKP** 00 20 16.5 -0.4
baz=126
EGMT Eagleton 126.66 23 PFAKE 00 20 30.0 +13
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 126.66 23 ⇑PKiKP **PKiKP** 00 20 16.6 -0.4
baz=126
EGMT ⇑PKiKP **PKiKP** 00 20 16.6 -0.4
baz=126
EGMT ⇑PKiKP **PKiKP** 00 20 16.6 -0.4
baz=126
E15A Deer Lodge 126.72 26 ⇑PKiKP **PKiKP** 00 20 16.7 -0.6
baz=126
E15A ⇑PKiKP **PKiKP** 00 20 16.7 -0.6
baz=126
E15A ⇑PKiKP **PKiKP** 00 20 16.7 -0.6
baz=126
D16A Dana Ranch, Ca 126.72 25 ⇑PKiKP **PKiKP** 00 20 16.7 -0.5
baz=126
D16A ⇑PKiKP **PKiKP** 00 20 16.7 -0.5

D16A	baz=126				⇑PKiKP	**PKiKP**	**00 20 16.7**	**-0.5**
F14A	baz=126 **Wisdom**	**126.86**	**27**	⇓PKiKP	**PKPdf**	**00 20 16.6**	**-0.5**
F14A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.6**	**-0.5**
F14A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.6**	**-0.5**
A21A	baz=127 **Bergtoll Ranch**	**126.90**	**20**	⇓PKiKP	**PKPdf**	**00 20 15.9**	**-1.0**
A21A	baz=127			⇓PKiKP	**PKPdf**	**00 20 15.9**	**-1.0**
A21A	baz=127			⇓PKiKP	**PKPdf**	**00 20 15.9**	**-1.0**
B20A	baz=127 **Solberg Farm,**	**126.97**	**22**	⇑PKiKP	**PKPdf**	**00 20 16.4**	**-0.7**
B20A	baz=127			⇑PKiKP	**PKPdf**	**00 20 16.4**	**-0.7**
B20A	baz=127			⇑PKiKP	**PKPdf**	**00 20 16.4**	**-0.7**
D17A	baz=127 **Six Diamond Ra**	**126.98**	**24**	⇓PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
D17A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
D17A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
G13A	baz=127 **Cobalt**	**126.99**	**28**	⇑PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
G13A	baz=127			⇑PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
G13A	baz=127			⇑PKiKP	**PKPdf**	**00 20 16.1**	**-1.2**
E16A	baz=127 **East Helena**	**127.05**	**26**	⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.3**
E16A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.3**
E16A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.3**
H12A	baz=127 **Diamond D Ranc**	**127.09**	**29**	⇓PKiKP	**PKiKP**	**00 20 17.4**	**-0.7**
H12A	baz=127			⇓PKiKP	**PKiKP**	**00 20 17.4**	**-0.7**
H12A	baz=127			⇓PKiKP	**PKiKP**	**00 20 17.4**	**-0.7**
C19A	baz=127 **Slack Wire Ran**	**127.17**	**23**	⇑PKiKP	**PKPdf**	**00 20 17.2**	**-0.3**
C19A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.2**	**-0.3**
C19A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.2**	**-0.3**
F15A	baz=127 **Butte**	**127.23**	**27**	⇓PKiKP	**PKiKP**	**00 20 18.0**	**-0.3**
F15A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.0**	**-0.3**
F15A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.0**	**-0.3**
G14A	baz=127 **Jackson**	**127.24**	**28**	⇓PKiKP	**PKPdf**	**00 20 17.3**	**-0.6**
G14A	baz=127			⇓PKiKP	**PKPdf**	**00 20 17.3**	**-0.6**
G14A	baz=127			⇓PKiKP	**PKPdf**	**00 20 17.3**	**-0.6**
A22A	baz=127 **Carney Farms,**	**127.25**	**20**	⇓PKiKP	**PKPdf**	**00 20 16.9**	**-0.7**
A22A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.9**	**-0.7**
A22A	baz=127			⇓PKiKP	**PKPdf**	**00 20 16.9**	**-0.7**
D18A	baz=127 **Linhart Farms,**	**127.31**	**24**	⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.8**
D18A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.8**
D18A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.1**	**-0.8**
B21A	baz=127 **Ellsworth Farm**	**127.35**	**21**	⇓PKiKP	**PKPdf**	**00 20 17.5**	**-0.3**
B21A	baz=127			⇓PKiKP	**PKPdf**	**00 20 17.5**	**-0.3**
B21A	baz=127			⇓PKiKP	**PKPdf**	**00 20 17.5**	**-0.3**
H13A	baz=127 **Challis**	**127.37**	**29**	⇑PKiKP	**PKPdf**	**00 20 17.6**	**-0.5**
H13A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.6**	**-0.5**
H13A	baz=127			⇑PKiKP	**PKPdf**	**00 20 17.6**	**-0.5**
MFID	baz=127 **Camas Ranch**	**127.42**	**31**	*e*PKPdf	**PKPdf**	**00 20 18.2**	**+0.1**
MFID				*e*PP	**PP**	**00 22 17.7**	**0.0**
MFID	**Camas Ranch**	**127.42**	**31**	⇓PKiKP	**PKiKP**	**00 20 18.8**	**+0.1**
MFID	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.8**	**+0.1**
MFID	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.8**	**+0.1**
E17A	baz=127 **Martinsdale**	**127.46**	**25**	⇑PKiKP	**PKiKP**	**00 20 18.8**	**0.0**
E17A	baz=127			⇑PKiKP	**PKiKP**	**00 20 18.8**	**0.0**
E17A	baz=127			⇑PKiKP	**PKiKP**	**00 20 18.8**	**0.0**
C20A	baz=127 **Veseth Ranch,**	**127.58**	**22**	⇓PKiKP	**PKiKP**	**00 20 18.3**	**-0.5**
C20A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.3**	**-0.5**
C20A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.3**	**-0.5**
A23A	baz=127 **Redstone**	**127.62**	**19**	⇓PKiKP	**PKiKP**	**00 20 18.5**	**-0.3**
A23A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.5**	**-0.3**
A23A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.5**	**-0.3**
F16A	baz=127 **Kennard Place,**	**127.66**	**26**	⇓PKiKP	**PKiKP**	**00 20 18.4**	**-0.8**
F16A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.4**	**-0.8**
F16A	baz=127			⇓PKiKP	**PKiKP**	**00 20 18.4**	**-0.8**
D19A	baz=128 **Cripps Ranch,**	**127.70**	**23**	⇓PKiKP	**PKPdf**	**00 20 18.3**	**-0.3**
D19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 18.3**	**-0.3**
D19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 18.3**	**-0.3**
G15A	baz=128 **Dillon**	**127.75**	**27**	⇑PKiKP	**PKiKP**	**00 20 18.9**	**-0.5**
G15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 18.9**	**-0.5**
G15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 18.9**	**-0.5**
H14A	baz=128 **Leadore**	**127.76**	**28**	⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.4**
H14A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.4**
H14A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.4**
BOZ	baz=128 **Bozeman (W)**	**127.76**	**26**	PFAKE		00 20 30.0	+11
BOZ	comp=Z,2μm,19.0s			LR	LR		
BOZ	**Bozeman (W)**	**127.76**	**26**	⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
BOZ	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
BOZ	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
BOZ	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
BOZ	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
BOZ	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.7**	**-0.7**
E18A	baz=128 **Harlowton**	**127.77**	**24**	⇓PKiKP	**PKiKP**	**00 20 18.9**	**-0.4**
E18A	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.9**	**-0.4**
E18A	baz=128			⇓PKiKP	**PKiKP**	**00 20 18.9**	**-0.4**
B22A	baz=128 **Reddig Ranch S**	**127.81**	**20**	⇑PKiKP	**PKiKP**	**00 20 18.8**	**-0.5**
B22A	baz=128			⇑PKiKP	**PKiKP**	**00 20 18.8**	**-0.5**
B22A	baz=128			⇑PKiKP	**PKiKP**	**00 20 18.8**	**-0.5**
C21A	baz=128 **Desert Coulee**	**127.83**	**21**	⇓PKiKP	**PKPdf**	**00 20 18.4**	**-0.3**
C21A	baz=128			⇓PKiKP	**PKPdf**	**00 20 18.4**	**-0.3**
C21A	baz=128			⇓PKiKP	**PKPdf**	**00 20 18.4**	**-0.3**
I13A	baz=128 **Wildhorse Cree**	**127.92**	**29**	⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.5**
I13A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.5**
I13A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.5**
A24A	baz=128 **Westby**	**127.94**	**18**	⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.5**
A24A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.5**
A24A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.0**	**-0.5**
WCN	baz=128 **Washoe City**	**127.97**	**37**	⇓PKiKP	**PKiKP**	**00 20 19.5**	**-0.5**
WCN	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.5**	**-0.5**
WCN	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.5**	**-0.5**
F17A	baz=128 **Fitzpatrick Pl**	**127.98**	**25**	⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
F17A	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
F17A	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
G16A	baz=128 **Moss Hill, Enn**	**128.01**	**27**	⇑PKiKP	**PKiKP**	**00 20 19.4**	**-0.5**
G16A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.4**	**-0.5**
G16A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.4**	**-0.5**
B23A	baz=128 **Brockton**	**128.01**	**19**	⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.4**
B23A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.4**
B23A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.3**	**-0.4**
HLID	baz=128 **Hailey**	**128.03**	**30**	*e*PKPdf	**PKPdf**	**00 20 19.6**	**+0.3**
HLID				*e*PP	**PP**	**00 22 21.5**	**-0.1**
HLID	comp=Z,1μm,20.0s			LR	LR		
HLID	**Hailey**	**128.03**	**30**	⇑PKiKP	**PKPdf**	**00 20 19.7**	**+0.3**
HLID	baz=128			⇑PKiKP	**PKPdf**	**00 20 19.7**	**+0.3**
HLID	baz=128			⇑PKiKP	**PKPdf**	**00 20 19.7**	**+0.3**
D20A	baz=128 **Manuel Ranch,**	**128.05**	**23**	⇑PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
D20A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
D20A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.6**	**-0.2**
H15A	baz=128 **Lima**	**128.09**	**28**	⇑PKiKP	**PKiKP**	**00 20 19.7**	**-0.5**
H15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.7**	**-0.5**
H15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.7**	**-0.5**
I14A	baz=128 **Mackay**	**128.23**	**29**	⇑PKiKP	**PKiKP**	**00 20 19.8**	**-0.6**
I14A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.8**	**-0.6**
I14A	baz=128			⇑PKiKP	**PKiKP**	**00 20 19.8**	**-0.6**
J13A	baz=128 **Cove Ranch, Pi**	**128.27**	**30**	⇑PKiKP	**PKiKP**	**00 20 20.0**	**-0.5**
J13A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.0**	**-0.5**
J13A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.0**	**-0.5**
DGMT	baz=128 **Dagmar**	**128.27**	**19**	PFAKE		00 20 30.0	+10
DGMT	comp=Z,2μm,19.0s			LR	LR		
DGMT	**Dagmar**	**128.27**	**19**	⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.5**
DGMT	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.5**
DGMT	baz=128			⇓PKiKP	**PKiKP**	**00 20 19.6**	**-0.5**
E19A	baz=128 **Rath Farm, Rou**	**128.31**	**24**	⇓PKiKP	**PKPdf**	**00 20 19.3**	**-0.4**
E19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 19.3**	**-0.4**
E19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 19.3**	**-0.4**
C22A	baz=128 **Vida**	**128.33**	**21**	⇑PKiKP	**PKPdf**	**00 20 19.4**	**-0.3**
C22A	baz=128			⇑PKiKP	**PKPdf**	**00 20 19.4**	**-0.3**
C22A	baz=128			⇑PKiKP	**PKPdf**	**00 20 19.4**	**-0.3**
F18A	baz=128 **Big Timber**	**128.38**	**25**	⇓PKiKP	**PKiKP**	**00 20 20.2**	**-0.4**
F18A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.2**	**-0.4**
F18A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.2**	**-0.4**
G17A	baz=128 **Pierce Place,**	**128.41**	**26**	⇑PKiKP	**PKiKP**	**00 20 20.3**	**-0.4**
G17A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.3**	**-0.4**
G17A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.3**	**-0.4**
D21A	baz=128 **La Casta Ranch**	**128.50**	**22**	⇑PKiKP	**PKiKP**	**00 20 20.1**	**-0.6**
D21A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.1**	**-0.6**
D21A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.1**	**-0.6**
C23A	baz=128 **Lambert**	**128.52**	**20**	⇓PKiKP	**PKiKP**	**00 20 20.5**	**-0.2**
C23A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.5**	**-0.2**
C23A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.5**	**-0.2**
E20A	baz=128 **Meyer Farm, Mu**	**128.54**	**23**	⇓PKiKP	**PKiKP**	**00 20 20.4**	**-0.4**
E20A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.4**	**-0.4**
E20A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.4**	**-0.4**
I15A	baz=128 **Monteview**	**128.64**	**28**	⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.5**
I15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.5**
I15A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.5**
J14A	baz=128 **Carey**	**128.65**	**29**	⇓PKiKP	**PKPdf**	**00 20 20.3**	**-0.2**
J14A	baz=128			⇓PKiKP	**PKPdf**	**00 20 20.3**	**-0.2**
J14A	baz=128			⇓PKiKP	**PKPdf**	**00 20 20.3**	**-0.2**
H16A	baz=128 **Russell Place,**	**128.67**	**27**	⇓PKiKP	**PKiKP**	**00 20 20.9**	**-0.4**
H16A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.9**	**-0.4**
H16A	baz=128			⇓PKiKP	**PKiKP**	**00 20 20.9**	**-0.4**
BMN	baz=128 **Battle Mountai**	**128.72**	**35**	PFAKE		00 20 30.0	+9.2
BMN	comp=Z,1μm,21.0s			LR	LR		
D22A	**Cohagen**	**128.73**	**21**	⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.4**
D22A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.4**
D22A	baz=128			⇑PKiKP	**PKiKP**	**00 20 20.7**	**-0.4**
F19A	baz=128 **Roth Farm, Mol**	**128.74**	**24**	⇓PKiKP	**PKPdf**	**00 20 20.4**	**-0.2**
F19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 20.4**	**-0.2**
F19A	baz=128			⇓PKiKP	**PKPdf**	**00 20 20.4**	**-0.2**
ULM	baz=128 **Lac du Bonnet**	**128.82**	**12**	PKP	**PKPdf**	**00 20 20.3**	**-0.2**
ULM	comp=Z,14nm,1.0s,baz=337,slow=3.8,SNR=16 **Lac du Bonnet**	**128.82**	**12**	PKIKP	**PKPdf**	**00 20 20.3**	**-0.2**
ULM	comp=Z,14nm,1.0s **Lac du Bonnet**	**128.82**	**12**	pmax *e*PKPdf	pmax **PKPdf**	**00 20 19.6**	**-0.8**
ULM				PKP	**PKPdf**	**00 20 20.3**	**-0.2**
ULM				*e*PP	**PP**	**00 22 25.1**	**-1.0**
YNR	**Norris Junctio**	**128.91**	**26**	*e*PKPdf	**PKPdf**	**00 20 23.1**	**+2.0**
E21A	**Keefer Ranch,**	**128.91**	**22**	⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.3**
E21A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.3**
E21A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.3**
G18A	baz=129 **Lazy EL Ranch,**	**128.92**	**25**	⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.5**
G18A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.5**
G18A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.2**	**-0.5**
C24A	baz=129 **Savage**	**129.01**	**20**	⇑PKiKP	**PKiKP**	**00 20 21.4**	**-0.3**
C24A	baz=129			⇑PKiKP	**PKiKP**	**00 20 21.4**	**-0.3**
C24A	baz=129			⇑PKiKP	**PKiKP**	**00 20 21.4**	**-0.3**
D23A	baz=129 **Lindsay**	**129.06**	**20**	⇓PKiKP	**PKiKP**	**00 20 21.1**	**-0.7**
D23A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.1**	**-0.7**
D23A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.1**	**-0.7**
F20A	baz=129 **Billings**	**129.11**	**24**	⇑PKiKP	**PKiKP**	**00 20 21.2**	**-0.8**
F20A	baz=129			⇑PKiKP	**PKiKP**	**00 20 21.2**	**-0.8**
F20A	baz=129			⇑PKiKP	**PKiKP**	**00 20 21.2**	**-0.8**
J15A	baz=129 **Blackfoot**	**129.12**	**29**	⇓PKiKP	**PKPdf**	**00 20 21.1**	**-0.4**
J15A	baz=129			⇓PKiKP	**PKPdf**	**00 20 21.1**	**-0.4**
J15A	baz=129			⇓PKiKP	**PKPdf**	**00 20 21.1**	**-0.4**
LKWY	baz=129 **Lake**	**129.15**	**26**	PFAKE		00 20 30.0	+8.4
LKWY	comp=Z,3μm,20.0s			LR	LR		
I16A	**Newdale**	**129.20**	**28**	⇓PKiKP	**PKiKP**	**00 20 21.8**	**-0.6**
I16A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.8**	**-0.6**
I16A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.8**	**-0.6**
RLMT	baz=129 **Red Lodge**	**129.20**	**25**	PFAKE		00 20 30.0	+8.3
RLMT	comp=Z,2μm,19.0s			LR	LR		
RLMT	**Red Lodge**	**129.20**	**25**	⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
RLMT	baz=129			⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
RLMT	baz=129			⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
RLMT	baz=129			⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
RLMT	baz=129			⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
RLMT	baz=129			⇑PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
H17A	baz=129 **Grant Village**	**129.21**	**26**	⇓PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
H17A	baz=129			⇓PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
H17A	baz=129			⇓PKiKP	**PKPdf**	**00 20 21.4**	**-0.3**
H18A	baz=129 **Shoshone NF, C**	**129.39**	**26**	⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.8**
H18A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.8**
H18A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.8**
K14A	baz=129 **Jones Ranch, D**	**129.39**	**30**	⇓PKiKP	**PKiKP**	**00 20 22.0**	**-0.7**
K14A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.0**	**-0.7**
K14A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.0**	**-0.7**
NVAR	baz=129 **Mina Array Bea**	**129.40**	**37**	PKhKP	PKPpre	00 20 14.7	
NVAR	comp=Z,0.4nm,0.8s,baz=294,slow=0.9,SNR=3.5			PKP	**PKiKP**	**00 20 23.6**	**+0.7**
NVAR	comp=Z,4.6nm,0.9s,baz=272,slow=1.8,SNR=22			SKPbc	SKPbc	00 23 43.2	+1.0
NVAR	comp=Z,3.0nm,1.1s,baz=310,slow=1.8,SNR=4.2 **Mina Array Bea**	**129.40**	**37**	PKPpre	PKPpre	00 20 14.7	
NVAR				PKP	**PKiKP**	**00 20 23.6**	**+0.7**
NVAR				SKPbc	SKPbc	00 23 43.2	+1.0
D24A	baz=129 **Glendive**	**129.41**	**20**	⇓PKiKP	**PKiKP**	**00 20 21.9**	**-0.6**
D24A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.9**	**-0.6**
D24A	baz=129			⇓PKiKP	**PKiKP**	**00 20 21.9**	**-0.6**
E22A	baz=129 **Miles City**	**129.42**	**21**	⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.5**
E22A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.5**
E22A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.0**	**-0.5**
F21A	baz=129 **Absaloka Mine,**	**129.49**	**23**	⇓PKiKP	**PKiKP**	**00 20 22.6**	**-0.2**
F21A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.6**	**-0.2**
F21A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.6**	**-0.2**
G20A	baz=129 **Bridger**	**129.56**	**24**	⇑PKiKP	**PKiKP**	**00 20 22.2**	**-0.8**
G20A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.2**	**-0.8**
G20A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.2**	**-0.8**
MLAC	baz=129 **Mammoth Lakes**	**129.57**	**38**	⇓PKiKP	**PKiKP**	**00 20 22.5**	**-0.9**
MLAC	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.5**	**-0.9**
MLAC	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.5**	**-0.9**
I17A	baz=129 **Pilgrim Ck.**	**129.58**	**27**	⇓PKiKP	**PKiKP**	**00 20 22.4**	**-0.8**
I17A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.4**	**-0.8**
I17A	baz=129			⇓PKiKP	**PKiKP**	**00 20 22.4**	**-0.8**
E23A	baz=129 **Ismay**	**129.60**	**21**	⇑PKiKP	**PKiKP**	**00 20 22.6**	**-0.3**
E23A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.6**	**-0.3**
E23A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.6**	**-0.3**
J16A	baz=129 **Bone**	**129.60**	**28**	⇑PKiKP	**PKiKP**	**00 20 22.5**	**-0.7**
J16A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.5**	**-0.7**
J16A	baz=129			⇑PKiKP	**PKiKP**	**00 20 22.5**	**-0.7**
K15A	baz=129 **Arbon**	**129.60**	**29**	⇓PKiKP	**PKiKP**	**00 20 23.3**	**+0.1**
K15A	baz=129			⇓PKiKP	**PKiKP**	**00 20 23.3**	**+0.1**
K15A	baz=129			⇓PKiKP	**PKiKP**	**00 20 23.3**	**+0.1**
ELK	**Elko**	**129.61**	**33**	*e*PKIKP	**PKPdf**	**00 20 23.3**	**+0.7**
ELK	**Elko**	**129.61**	**33**	*e*PKPdf	**PKPdf**	**00 20 23.3**	**+0.7**
MOOW	**Moose Ponds**	**129.64**	**27**	*e*PKPdf	**PKPdf**	**00 20 23.1**	**+0.5**
MOOW				*e*PP	**PP**	**00 22 31.7**	**-0.5**
H19A	**Powell**	**129.68**	**25**	⇓PKiKP	**PKiKP**	**00 20 23.0**	**-0.2**
H19A	baz=130			⇓PKiKP	**PKiKP**	**00 20 23.0**	**-0.2**
H19A	baz=130			⇓PKiKP	**PKiKP**	**00 20 23.0**	**-0.2**
L14A	baz=130 **Malta**	**129.74**	**30**	⇓PKiKP	**PKiKP**	**00 20 23.1**	**-0.3**
L14A	baz=130			⇓PKiKP	**PKiKP**	**00 20 23.1**	**-0.3**
L14A	baz=130			⇓PKiKP	**PKiKP**	**00 20 23.1**	**-0.3**
LOHW	baz=130 **Long Hollow**	**129.81**	**27**	*e*PKPdf	**PKPdf**	**00 20 23.1**	**+0.2**
LOHW				*e*PP	**PP**	**00 22 33.6**	**+0.3**
F22A	**Rosebud**	**129.86**	**22**	⇑PKiKP	**PKPdf**	**00 20 22.3**	**-0.4**
F22A	baz=130			⇑PKiKP	**PKPdf**	**00 20 22.3**	**-0.4**
F22A	baz=130			⇑PKiKP	**PKPdf**	**00 20 22.3**	**-0.4**
REDW	baz=130 **Red Top Meadow**	**129.89**	**27**	*e*PKPdf	**PKPdf**	**00 20 23.7**	**+0.7**
E24A	**Baker**	**129.90**	**20**	⇑PKiKP	**PKiKP**	**00 20 23.0**	**-0.5**
E24A	baz=130			⇑PKiKP	**PKiKP**	**00 20 23.0**	**-0.5**
E24A	baz=130			⇑PKiKP	**PKiKP**	**00 20 23.0**	**-0.5**

	baz=130							
K16A	**Soda Springs**	**129.95**	**28**	⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.6**
	baz=130							
K16A				⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.6**
	baz=130							
K16A				⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.6**
	baz=130							
J17A	**Brown Place, J**	**129.95**	**27**	⇓PKiKP	**PKiKP**	**00 20 23.6**	**-0.4**
	baz=130							
J17A				⇓PKiKP	**PKiKP**	**00 20 23.6**	**-0.4**
	baz=130							
J17A				⇓PKiKP	**PKiKP**	**00 20 23.6**	**-0.4**
	baz=130							
G21A	**Lodge Grass**	**129.96**	**23**	⇓PKiKP	**PKPdf**	**00 20 22.8**	**-0.1**
	baz=130							
G21A				⇓PKiKP	**PKPdf**	**00 20 22.8**	**-0.1**
	baz=130							
G21A				⇓PKiKP	**PKPdf**	**00 20 22.8**	**-0.1**
	baz=130							
I18A	**Diamond G Ranc**	**130.09**	**26**	⇓PKiKP	**PKiKP**	**00 20 23.4**	**-0.8**
	baz=130							
I18A				⇓PKiKP	**PKiKP**	**00 20 23.4**	**-0.8**
	baz=130							
I18A				⇓PKiKP	**PKiKP**	**00 20 23.4**	**-0.8**
	baz=130							
L15A	**Malad City**	**130.19**	**30**	⇑PKiKP	**PKPdf**	**00 20 23.4**	**-0.2**
	baz=130							
L15A				⇑PKiKP	**PKPdf**	**00 20 23.4**	**-0.2**
	baz=130							
L15A				⇑PKiKP	**PKPdf**	**00 20 23.4**	**-0.2**
	baz=130							
I19A	**Meeteetse**	**130.19**	**26**	⇓PKiKP	**PKiKP**	**00 20 23.5**	**-0.9**
	baz=130							
I19A				⇓PKiKP	**PKiKP**	**00 20 23.5**	**-0.9**
	baz=130							
I19A				⇓PKiKP	**PKiKP**	**00 20 23.5**	**-0.9**
	baz=130							
MDND	**Maddock**	**130.19**	**16**	⇑PKiKP	**PKPdf**	**00 20 22.9**	**-0.3**
	baz=130							
MDND				⇑PKiKP	**PKPdf**	**00 20 22.9**	**-0.3**
	baz=130							
MDND				⇑PKiKP	**PKPdf**	**00 20 22.9**	**-0.3**
	baz=130							
F23A	**Volborg**	**130.23**	**22**	⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.9**
	baz=130							
F23A				⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.9**
	baz=130							
F23A				⇓PKiKP	**PKiKP**	**00 20 23.3**	**-0.9**
	baz=130							
AHID	**Auburn Hatcher**	**130.23**	**28**	PFAKE		00 20 30.0	+6.3
AHID				LR	LR		
	comp=Z,1μm,20.0s							
H20A	**Greybull**	**130.24**	**24**	⇓PKiKP	**PKPdf**	**00 20 23.1**	**-0.4**
	baz=130							
H20A				⇓PKiKP	**PKPdf**	**00 20 23.1**	**-0.4**
	baz=130							
H20A				⇓PKiKP	**PKPdf**	**00 20 23.1**	**-0.4**
	baz=130							
TPH	**Tonopah**	**130.28**	**37**	PFAKE		00 20 30.0	+6.1
TPH				LR	LR		
	comp=Z,905nm,20.0s							
G22A	**Birney**	**130.32**	**23**	⇓PKiKP	**PKiKP**	**00 20 23.7**	**-0.7**
	baz=130							
G22A				⇓PKiKP	**PKiKP**	**00 20 23.7**	**-0.7**
	baz=130							
G22A				⇓PKiKP	**PKiKP**	**00 20 23.7**	**-0.7**
	baz=130							
F24A	**Ekalaka**	**130.47**	**21**	⇓PKiKP	**PKPdf**	**00 20 23.4**	**-0.5**
	baz=130							
F24A				⇓PKiKP	**PKPdf**	**00 20 23.4**	**-0.5**
	baz=130							
F24A				⇓PKiKP	**PKPdf**	**00 20 23.4**	**-0.5**
	baz=130							
VES	**Vestal, Richgr**	**130.51**	**40**	⇑PKiKP	**PKPdf**	**00 20 23.5**	**-0.6**
	baz=130							
VES				⇑PKiKP	**PKPdf**	**00 20 23.5**	**-0.6**
	baz=130							
VES				⇑PKiKP	**PKPdf**	**00 20 23.5**	**-0.6**
	baz=130							
M15A	**Larsen Ranch,**	**130.56**	**30**	⇓PKiKP	**PKPdf**	**00 20 24.0**	**-0.3**
	baz=130							
M15A				⇓PKiKP	**PKPdf**	**00 20 24.0**	**-0.3**
	baz=130							
M15A				⇓PKiKP	**PKPdf**	**00 20 24.0**	**-0.3**
	baz=130							
PKM	**Peak Mountain**	**130.59**	**42**	⇑PKiKP	**PKPdf**	**00 20 23.4**	**-1.2**
	baz=130							
PKM				⇑PKiKP	**PKPdf**	**00 20 23.4**	**-1.2**
	baz=130							
PKM				⇑PKiKP	**PKPdf**	**00 20 23.4**	**-1.2**
	baz=130							
I20A	**Worland**	**130.63**	**25**	⇓PKiKP	**PKiKP**	**00 20 24.4**	**-0.7**
	baz=130							
I20A				⇓PKiKP	**PKiKP**	**00 20 24.4**	**-0.7**
	baz=130							
I20A				⇓PKiKP	**PKiKP**	**00 20 24.4**	**-0.7**
	baz=130							
L16A	**Fish Haven**	**130.65**	**29**	⇑PKiKP	**PKiKP**	**00 20 24.5**	**-0.9**
	baz=130							
L16A				⇑PKiKP	**PKiKP**	**00 20 24.5**	**-0.9**
	baz=130							
L16A				⇑PKiKP	**PKiKP**	**00 20 24.5**	**-0.9**
	baz=130							
G23A	**Biddle**	**130.68**	**22**	⇓PKiKP	**PKiKP**	**00 20 24.5**	**-0.6**
	baz=130							
G23A				⇓PKiKP	**PKiKP**	**00 20 24.5**	**-0.6**
	baz=130							
G23A				⇓PKiKP	**PKiKP**	**00 20 24.5**	**-0.6**
	baz=130							
AGMN	**Agassiz Nation**	**130.68**	**12**	PFAKE		00 20 30.0	+5.9
AGMN				LR	LR		
	comp=Z,2μm,20.0s							
J19A	**Crowheart**	**130.78**	**26**	⇓PKiKP	**PKPdf**	**00 20 24.4**	**-0.3**
	baz=130							
J19A				⇓PKiKP	**PKPdf**	**00 20 24.4**	**-0.3**
	baz=130							
J19A				⇓PKiKP	**PKPdf**	**00 20 24.4**	**-0.3**
	baz=130							
CWC	**Cottonwood Cre**	**130.79**	**39**	⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.4**
	baz=131							
CWC				⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.4**
	baz=131							
CWC				⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.4**
	baz=131							
H22A	**Clearmont**	**130.82**	**23**	⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.7**
	baz=131							
H22A				⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.7**
	baz=131							
H22A				⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.7**
	baz=131							
K18A	**Toltan Ranch,**	**130.82**	**27**	⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.9**
	baz=131							
K18A				⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.9**
	baz=131							
K18A				⇑PKiKP	**PKiKP**	**00 20 24.8**	**-0.9**
	baz=131							
L17A	**Cokeville**	**130.85**	**29**	⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.5**
	baz=131							
L17A				⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.5**
	baz=131							
L17A				⇑PKiKP	**PKPdf**	**00 20 24.4**	**-0.5**
	baz=131							
HWUT	**Hardware Ranch**	**130.89**	**30**	PFAKE		00 20 40.0	+15
HWUT				LR	LR		
	comp=Z,1μm,19.0s							
G24A	**Alzada**	**130.92**	**21**	⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.1**
	baz=131							
G24A				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.1**
	baz=131							
G24A				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.1**
	baz=131							
N15A	**Stansbury Isla**	**130.94**	**31**	⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.8**
	baz=131							
N15A				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.8**
	baz=131							
N15A				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.8**
	baz=131							
BW06	**Boulder Array**	**130.94**	**27**	PFAKE		00 20 40.0	+15
BW06				LR	LR		
	comp=Z,2μm,20.0s							
BW06	**Boulder Array**	**130.94**	**27**	⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.9**
	baz=131							
BW06				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.9**
	baz=131							
BW06				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.9**
	baz=131							
BW06				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.9**
	baz=131							
BW06				⇑PKiKP	**PKiKP**	**00 20 25.0**	**-0.9**
	baz=131							
PDAR	**Pinedale Array**	**130.94**	**27**	PKhKP	PKPpre	00 20 17.2	
	comp=Z,1.3nm,1.0s,baz=104,slow=3.1,SNR=5.9							
PDAR				PKP	**PKiKP**	**00 20 25.5**	**-0.5**
	comp=Z,6.0nm,1.1s,baz=354,slow=1.5,SNR=20							
PDAR				SKPbc	**SKPab**	**00 23 48.0**	**+0.3**
	comp=Z,13nm,1.2s,baz=288,slow=1.4,SNR=7.3							
PDAR	**Pinedale Array**	**130.94**	**27**	PKPpre	PKPpre	00 20 17.2	
PDAR				PKP	**PKiKP**	**00 20 25.5**	**-0.5**
PDAR				SKPbc	**SKPab**	**00 23 48.0**	**+0.3**
ISA	**Isabella**	**131.01**	**40**	⇑PKiKP	**PKPdf**	**00 20 24.9**	**-0.3**
	baz=131							
ISA				⇑PKiKP	**PKPdf**	**00 20 24.9**	**-0.3**
	baz=131							
ISA				⇑PKiKP	**PKPdf**	**00 20 24.9**	**-0.3**
	baz=131							
R11A	**Troy Canyon, C**	**131.06**	**35**	⇑PKiKP	**PKPdf**	**00 20 25.3**	**-0.1**
	baz=131							
R11A				⇑PKiKP	**PKPdf**	**00 20 25.3**	**-0.1**
	baz=131							
R11A				⇑PKiKP	**PKPdf**	**00 20 25.3**	**-0.1**
	baz=131							
I21A	**Big Trails, Te**	**131.09**	**24**	⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.6**
	baz=131							
I21A				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.6**
	baz=131							
I21A				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-0.6**
	baz=131							
ARVC	**Arvin**	**131.11**	**41**	⇓PKiKP	**PKPdf**	**00 20 25.0**	**-0.2**
	baz=131							
ARVC				⇓PKiKP	**PKPdf**	**00 20 25.0**	**-0.2**
	baz=131							
ARVC				⇓PKiKP	**PKPdf**	**00 20 25.0**	**-0.2**
	baz=131							
J20A	**Shoshoni**	**131.13**	**25**	⇓PKiKP	**PKiKP**	**00 20 25.4**	**-0.8**
	baz=131							
J20A				⇓PKiKP	**PKiKP**	**00 20 25.4**	**-0.8**
	baz=131							
J20A				⇓PKiKP	**PKiKP**	**00 20 25.4**	**-0.8**
	baz=131							
DAC	**Darwin (Calif)**	**131.20**	**39**	PFAKE		00 20 40.0	+14
DAC				LR	LR		
	comp=Z,1μm,22.0s							
H23A	**Clabaugh Cattl**	**131.21**	**22**	⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.8**
	baz=131							
H23A				⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.8**
	baz=131							
H23A				⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.8**
	baz=131							
K19A	**Absolon Red Bu**	**131.22**	**26**	⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.9**
	baz=131							
K19A				⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.9**
	baz=131							
K19A				⇑PKiKP	**PKiKP**	**00 20 25.5**	**-0.9**
	baz=131							
DUG	**Dugway**	**131.30**	**32**	PFAKE		00 20 40.0	+14
DUG				LR	LR		
	comp=Z,693nm,20.0s							
DUG	**Dugway**	**131.30**	**32**	⇓PKiKP	**PKPdf**	**00 20 24.6**	**-1.1**
	baz=131							
DUG				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-1.1**
	baz=131							
DUG				⇓PKiKP	**PKPdf**	**00 20 24.6**	**-1.1**
	baz=131							
I22A	**9 Mile Ranch,**	**131.35**	**24**	⇑PKiKP	**PKiKP**	**00 20 25.8**	**-0.8**
	baz=131							
I22A				⇑PKiKP	**PKiKP**	**00 20 25.8**	**-0.8**
	baz=131							
I22A				⇑PKiKP	**PKiKP**	**00 20 25.8**	**-0.8**
	baz=131							
H24A	**Dirks Ranch, A**	**131.37**	**22**	⇓PKiKP	**PKiKP**	**00 20 26.2**	**-0.4**
	baz=131							
H24A				⇓PKiKP	**PKiKP**	**00 20 26.2**	**-0.4**
	baz=131							
H24A				⇓PKiKP	**PKiKP**	**00 20 26.2**	**-0.4**
	baz=131							
L18A	**Fontenelle, Gr**	**131.38**	**28**	⇓PKiKP	**PKPdf**	**00 20 24.8**	**-1.1**
	baz=131							
L18A				⇓PKiKP	**PKPdf**	**00 20 24.8**	**-1.1**
	baz=131							
L18A				⇓PKiKP	**PKPdf**	**00 20 24.8**	**-1.1**
	baz=131							
MPMC	**Manual Prospec**	**131.40**	**39**	⇑PKiKP	**PKPdf**	**00 20 25.6**	**-0.5**
	baz=131							
MPMC				⇑PKiKP	**PKPdf**	**00 20 25.6**	**-0.5**
	baz=131							
MPMC				⇑PKiKP	**PKPdf**	**00 20 25.6**	**-0.5**
	baz=131							
J21A	**Lysite**	**131.41**	**25**	⇑PKiKP	**PKPdf**	**00 20 25.5**	**-0.3**
	baz=131							
J21A				⇑PKiKP	**PKPdf**	**00 20 25.5**	**-0.3**
	baz=131							
J21A				⇑PKiKP	**PKPdf**	**00 20 25.5**	**-0.3**
	baz=131							
O15A	**The Old Anders**	**131.41**	**31**	⇑PKiKP	**PKiKP**	**00 20 26.3**	**-0.6**
	baz=131							
O15A				⇑PKiKP	**PKiKP**	**00 20 26.3**	**-0.6**
	baz=131							
O15A				⇑PKiKP	**PKiKP**	**00 20 26.3**	**-0.6**
	baz=131							
M17A	**Scullys Gap (B**	**131.43**	**29**	⇓PKiKP	**PKPdf**	**00 20 25.6**	**-0.4**
	baz=131							
M17A				⇓PKiKP	**PKPdf**	**00 20 25.6**	**-0.4**
	baz=131							
M17A				⇓PKiKP	**PKPdf**	**00 20 25.6**	**-0.4**
	baz=131							
OSI	**Osito Adit**	**131.48**	**41**	⇓PKiKP	**PKiKP**	**00 20 26.5**	**-0.6**
	baz=131							
OSI				⇓PKiKP	**PKiKP**	**00 20 26.5**	**-0.6**
	baz=131							
OSI				⇓PKiKP	**PKiKP**	**00 20 26.5**	**-0.6**
	baz=131							
N16A	**Rees Ranch, Co**	**131.49**	**30**	⇑PKiKP	**PKiKP**	**00 20 26.8**	**-0.3**
	baz=131							
N16A				⇑PKiKP	**PKiKP**	**00 20 26.8**	**-0.3**
	baz=131							
N16A				⇑PKiKP	**PKiKP**	**00 20 26.8**	**-0.3**
	baz=131							
FURC	**Furnace Creek,**	**131.53**	**38**	⇑PKiKP	**PKiKP**	**00 20 26.5**	**-0.4**
	baz=131							
FURC				⇑PKiKP	**PKiKP**	**00 20 26.5**	**-0.4**
	baz=131							
FURC				⇑PKiKP	**PKiKP**	**00 20 26.5**	**-0.4**
	baz=131							
BLG	**Laguna Peak**	**131.56**	**42**	⇑PKiKP	**PKiKP**	**00 20 26.6**	**-0.5**
	baz=131							
BLG				⇑PKiKP	**PKiKP**	**00 20 26.6**	**-0.5**
	baz=131							
BLG				⇑PKiKP	**PKiKP**	**00 20 26.6**	**-0.5**
	baz=131							
L19A	**Farson**	**131.56**	**27**	⇓PKiKP	**PKPdf**	**00 20 26.2**	**0.0**
	baz=131							
L19A				⇓PKiKP	**PKPdf**	**00 20 26.2**	**0.0**
	baz=131							
L19A				⇓PKiKP	**PKPdf**	**00 20 26.2**	**0.0**
	baz=131							
K20A	**Yellowstone Ra**	**131.57**	**26**	⇑PKiKP	**PKiKP**	**00 20 26.9**	**-0.2**
	baz=131							
K20A				⇑PKiKP	**PKiKP**	**00 20 26.9**	**-0.2**
	baz=131							
K20A				⇑PKiKP	**PKiKP**	**00 20 26.9**	**-0.2**
	baz=131							
LRMC	**Laurel Mountai**	**131.63**	**40**	⇓PKiKP	**PKiKP**	**00 20 26.8**	**-0.6**
	baz=131							
LRMC				⇓PKiKP	**PKiKP**	**00 20 26.8**	**-0.6**
	baz=131							
LRMC				⇓PKiKP	**PKiKP**	**00 20 26.8**	**-0.6**
	baz=131							
J22A	**Midwest**	**131.75**	**24**	⇓PKiKP	**PKPdf**	**00 20 25.8**	**-0.7**
	baz=132							
J22A				⇓PKiKP	**PKPdf**	**00 20 25.8**	**-0.7**
	baz=132							
J22A				⇓PKiKP	**PKPdf**	**00 20 25.8**	**-0.7**
	baz=132							
N17A	**Moffit Pass**	**131.75**	**30**	⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.1**
	baz=132							
N17A				⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.1**
	baz=132							
N17A				⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.1**
	baz=132							
M18A	**Lyman**	**131.75**	**29**	⇓PKiKP	**PKPdf**	**00 20 26.2**	**-0.4**
	baz=132							
M18A				⇓PKiKP	**PKPdf**	**00 20 26.2**	**-0.4**
	baz=132							
M18A				⇓PKiKP	**PKPdf**	**00 20 26.2**	**-0.4**
	baz=132							
EDW2	**Edwards Air Fo**	**131.81**	**41**	⇓PKiKP	**PKiKP**	**00 20 27.1**	**-0.6**
	baz=132							
EDW2				⇓PKiKP	**PKiKP**	**00 20 27.1**	**-0.6**
	baz=132							
EDW2				⇓PKiKP	**PKiKP**	**00 20 27.1**	**-0.6**
	baz=132							
EYMN	**Ely**	**131.82**	**9**	PFAKE		00 20 40.0	+14
EYMN				LR	LR		
	comp=Z,2μm,21.0s							
DECC	**Green Verdugo**	**131.96**	**42**	⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.3**
	baz=132							
DECC				⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.3**
	baz=132							
DECC				⇓PKiKP	**PKPdf**	**00 20 26.6**	**-0.3**
	baz=132							
O16A	**Springville**	**131.97**	**31**	⇑PKiKP	**PKiKP**	**00 20 27.3**	**-0.7**
	baz=132							
O16A				⇑PKiKP	**PKiKP**	**00 20 27.3**	**-0.7**
	baz=132							
O16A				⇑PKiKP	**PKiKP**	**00 20 27.3**	**-0.7**
	baz=132							
P15A	**Leamington**	**132.03**	**32**	⇓PKiKP	**PKPdf**	**00 20 26.7**	**-0.4**
	baz=132							
P15A				⇓PKiKP	**PKPdf**	**00 20 26.7**	**-0.4**
	baz=132							
P15A				⇓PKiKP	**PKPdf**	**00 20 26.7**	**-0.4**
	baz=132							
K21A	**Alcova**	**132.07**	**25**	⇓PKiKP	**PKPdf**	**00 20 26.4**	**-0.7**
	baz=132							
K21A				⇓PKiKP	**PKPdf**	**00 20 26.4**	**-0.7**
	baz=132							
K21A				⇓PKiKP	**PKPdf**	**00 20 26.4**	**-0.7**
	baz=132							
L20A	**Wamsutter**	**132.10**	**27**	⇑PKiKP	**PKPdf**	**00 20 26.5**	**-0.8**
	baz=132							
L20A				⇑PKiKP	**PKPdf**	**00 20 26.5**	**-0.8**
	baz=132							
L20A				⇑PKiKP	**PKPdf**	**00 20 26.5**	**-0.8**
	baz=132							
R13A	**O'Grain Ranch,**	**132.10**	**34**	⇓PKiKP	**PKPdf**	**00 20 27.2**	**-0.1**
	baz=132							
R13A				⇓PKiKP	**PKPdf**	**00 20 27.2**	**-0.1**
	baz=132							
R13A				⇓PKiKP	**PKPdf**	**00 20 27.2**	**-0.1**
	baz=132							
I24A	**Kuemmerle Ranc**	**132.10**	**22**	⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.6**
	baz=132							
I24A				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.6**
	baz=132							
I24A				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.6**
	baz=132							
M19A	**Rock Springs**	**132.12**	**28**	⇓PKiKP	**PKPdf**	**00 20 27.0**	**-0.3**
	baz=132							
M19A				⇓PKiKP	**PKPdf**	**00 20 27.0**	**-0.3**
	baz=132							
M19A				⇓PKiKP	**PKPdf**	**00 20 27.0**	**-0.3**
	baz=132							
J23A	**Dilts Ranch, B**	**132.13**	**23**	⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.7**
	baz=132							
J23A				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.7**
	baz=132							
J23A				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-0.7**
	baz=132							
SHOC	**Shoshone**	**132.26**	**38**	⇑PKiKP	**PKPdf**	**00 20 27.2**	**-0.3**
	baz=132							
SHOC				⇑PKiKP	**PKPdf**	**00 20 27.2**	**-0.3**
	baz=132							
SHOC				⇑PKiKP	**PKPdf**	**00 20 27.2**	**-0.3**
	baz=132							
GSC	**Goldstone**	**132.31**	**39**	⇓PKiKP	**PKPdf**	**00 20 26.5**	**-1.1**
	baz=132							
GSC				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-1.1**
	baz=132							
GSC				⇓PKiKP	**PKPdf**	**00 20 26.5**	**-1.1**
	baz=132							
FMP	**Fort Macarthur**	**132.31**	**42**	⇑PKiKP	**PKPdf**	**00 20 27.4**	**-0.1**
	baz=132							
FMP				⇑PKiKP	**PKPdf**	**00 20 27.4**	**-0.1**
	baz=132							
FMP				⇑PKiKP	**PKPdf**	**00 20 27.4**	**-0.1**
	baz=132							
P16A	**Fountain Green**	**132.33**	**31**	⇓PKiKP	**PKPdf**	**00 20 27.7**	**-0.1**
	baz=132							
P16A				⇓PKiKP	**PKPdf**	**00 20 27.7**	**-0.1**
	baz=132							
P16A				⇓PKiKP	**PKPdf**	**00 20 27.7**	**-0.1**
	baz=132							
K22A	**Casper**	**132.36**	**25**	⇑PKiKP	**PKPdf**	**00 20 27.1**	**-0.6**
	baz=132							
K22A				⇑PKiKP	**PKPdf**	**00 20 27.1**	**-0.6**
	baz=132							
K22A				⇑PKiKP	**PKPdf**	**00 20 27.1**	**-0.6**
	baz=132							
O17A	**Robinson Place**	**132.36**	**30**	⇓PKiKP	**PKPdf**	**00 20 27.3**	**-0.5**
	baz=132							
O17A				⇓PKiKP	**PKPdf**	**00 20 27.3**	**-0.5**
	baz=132							
O17A				⇓PKiKP	**PKPdf**	**00 20 27.3**	**-0.5**
	baz=132							
BFSC	**Mount Baldy Ra**	**132.41**	**41**	⇓PKiKP	**PKiKP**	**00 20 28.2**	**-0.8**
	baz=132							
BFSC				⇓PKiKP	**PKiKP**	**00 20 28.2**	**-0.8**
	baz=132							
BFSC				⇓PKiKP	**PKiKP**	**00 20 28.2**	**-0.8**
	baz=132							
CIS	**Catalina Islan**	**132.41**	**43**	⇓PKiKP	**PKiKP**	**00 20 27.9**	**-1.1**
	baz=132							
CIS				⇓PKiKP	**PKiKP**	**00 20 27.9**	**-1.1**
	baz=132							
CIS				⇓PKiKP	**PKiKP**	**00 20 27.9**	**-1.1**
	baz=132							
RRX	**Edison Barstow**	**132.45**	**40**	⇑PKiKP	**PKiKP**	**00 20 28.1**	**-0.9**
	baz=132							
RRX				⇑PKiKP	**PKiKP**	**00 20 28.1**	**-0.9**
	baz=132							
RRX				⇑PKiKP	**PKiKP**	**00 20 28.1**	**-0.9**
	baz=132							
J24A	**Dixon Ranch, L**	**132.54**	**23**	⇓PKiKP	**PKPdf**	**00 20 27.6**	**-0.3**
	baz=132							
J24A				⇓PKiKP	**PKPdf**	**00 20 27.6**	**-0.3**
	baz=132							
J24A				⇓PKiKP	**PKPdf**	**00 20 27.6**	**-0.3**
	baz=132							
L21A	**Rawlins**	**132.56**	**26**	⇑PKiKP	**PKPdf**	**00 20 27.7**	**-0.4**
	baz=132							
L21A				⇑PKiKP	**PKPdf**	**00 20 27.7**	**-0.4**
	baz=132							
L21A				⇑PKiKP	**PKPdf**	**00 20 27.7**	**-0.4**
	baz=132							
SCI	**San Clemente I**	**132.56**	**43**	⇑PKiKP	**PKiKP**	**00 20 28.5**	**-0.7**
	baz=132							
SCI				⇑PKiKP	**PKiKP**	**00 20 28.5**	**-0.7**
	baz=132							
SCI				⇑PKiKP	**PKiKP**	**00 20 28.5**	**-0.7**
	baz=132							
M20A	**Sweetwater, Wa**	**132.58**	**27**	⇑PKiKP	**PKPdf**	**00 20 28.1**	**-0.1**
	baz=132							
M20A				⇑PKiKP	**PKPdf**	**00 20 28.1**	**-0.1**
	baz=132							
M20A				⇑PKiKP	**PKPdf**	**00 20 28.1**	**-0.1**
	baz=132							
N19A	**John Jarvie Ra**	**132.59**	**28**	⇑PKiKP	**PKPdf**	**00 20 28.1**	**0.0**
	baz=132							
N19A				⇑PKiKP	**PKPdf**	**00 20 28.1**	**0.0**
	ba

MVU	**Marysvale**	**132.84**	**33**	PFAKE		00 20 40.0	+11	
MVU				LR	LR			
	comp=Z,884nm,22.0s							
M21A	**Separation Pea**	**132.85**	**26**	⇑PKiKP	**PKPdf**	**00 20 28.2**	**-0.5**	
	baz=133							
M21A				⇑PKiKP	**PKPdf**	**00 20 28.2**	**-0.5**	
	baz=133							
M21A				⇑PKiKP	**PKPdf**	**00 20 28.2**	**-0.5**	
	baz=133							
HEC	**Hector,Ludlow**	**132.91**	**40**	⇓PKiKP	**PKPdf**	**00 20 28.4**	**-0.4**	
	baz=133							
HEC				⇓PKiKP	**PKPdf**	**00 20 28.4**	**-0.4**	
	baz=133							
HEC				⇓PKiKP	**PKPdf**	**00 20 28.4**	**-0.4**	
	baz=133							
P17A	**Butcher Ranch,**	**132.91**	**31**	⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
P17A				⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
P17A				⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
L22A	**Ellis Ranch, M**	**132.91**	**25**	⇑PKiKP	**PKiKP**	**00 20 29.1**	**-0.8**	
	baz=133							
L22A				⇑PKiKP	**PKiKP**	**00 20 29.1**	**-0.8**	
	baz=133							
L22A				⇑PKiKP	**PKiKP**	**00 20 29.1**	**-0.8**	
	baz=133							
K24A	**Anderson Ranch**	**133.00**	**23**	⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
K24A				⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
K24A				⇑PKiKP	**PKiKP**	**00 20 29.0**	**-1.0**	
	baz=133							
P18A	**Preston Nutter**	**133.04**	**30**	⇓PKiKP	**PKPdf**	**00 20 29.1**	**-0.1**	
	baz=133							
P18A				⇓PKiKP	**PKPdf**	**00 20 29.1**	**-0.1**	
	baz=133							
P18A				⇓PKiKP	**PKPdf**	**00 20 29.1**	**-0.1**	
	baz=133							
N20A	**Spence Gulch,**	**133.06**	**28**	⇓PKiKP	**PKPdf**	**00 20 29.0**	**-0.1**	
	baz=133							
N20A				⇓PKiKP	**PKPdf**	**00 20 29.0**	**-0.1**	
	baz=133							
N20A				⇓PKiKP	**PKPdf**	**00 20 29.0**	**-0.1**	
	baz=133							
O19A	**Miners Draw (B**	**133.08**	**29**	⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.3**	
	baz=133							
O19A				⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.3**	
	baz=133							
O19A				⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.3**	
	baz=133							
Q16A	**Castle Valley**	**133.10**	**32**	⇑PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
Q16A				⇑PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
Q16A				⇑PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
MURC	**Murrieta**	**133.10**	**41**	⇓PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
MURC				⇓PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
MURC				⇓PKiKP	**PKiKP**	**00 20 29.4**	**-0.9**	
	baz=133							
L23A	**Garrett**	**133.15**	**24**	⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.5**	
	baz=133							
L23A				⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.5**	
	baz=133							
L23A				⇓PKiKP	**PKPdf**	**00 20 28.8**	**-0.5**	
	baz=133							
SRU	**San Rafael**	**133.29**	**31**	⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.1**	
	baz=133							
SRU				⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.1**	
	baz=133							
SRU				⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.1**	
	baz=133							
M22A	**Cedar Creek Ra**	**133.35**	**26**	⇑PKiKP	**PKiKP**	**00 20 30.3**	**-0.6**	
	baz=133							
M22A				⇑PKiKP	**PKiKP**	**00 20 30.3**	**-0.6**	
	baz=133							
M22A				⇑PKiKP	**PKiKP**	**00 20 30.3**	**-0.6**	
	baz=133							
GMRC	**Granite Mounta**	**133.36**	**39**	⇑PKiKP	**PKiKP**	**00 20 30.1**	**-0.8**	
	baz=133							
GMRC				⇑PKiKP	**PKiKP**	**00 20 30.1**	**-0.8**	
	baz=133							
GMRC				⇑PKiKP	**PKiKP**	**00 20 30.1**	**-0.8**	
	baz=133							
R16A	**Teasdale**	**133.40**	**32**	⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
R16A				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
R16A				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
K25A	**Mack Ranch, Ha**	**133.46**	**22**	⇓PKiKP	**PKPdf**	**00 20 29.7**	**+0.1**	
	baz=133							
K25A				⇓PKiKP	**PKPdf**	**00 20 29.7**	**+0.1**	
	baz=133							
K25A				⇓PKiKP	**PKPdf**	**00 20 29.7**	**+0.1**	
	baz=133							
N21A	**Black Mountain**	**133.46**	**27**	⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
N21A				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
N21A				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.1**	
	baz=133							
Q18A	**Rafter H Ranch**	**133.50**	**31**	⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.4**	
	baz=133							
Q18A				⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.4**	
	baz=133							
Q18A				⇑PKiKP	**PKPdf**	**00 20 29.5**	**-0.4**	
	baz=133							
PFO	**Pinyon Flat Ob**	**133.59**	**41**	PFAKE		00 20 40.0	+10	
PFO				LR	LR			
	comp=Z,498nm,20.0s							
PFO	**Pinyon Flat Ob**	**133.59**	**41**	⇑PKiKP	**PKiKP**	**00 20 30.5**	**-0.9**	
	baz=133							
PFO				⇑PKiKP	**PKiKP**	**00 20 30.5**	**-0.9**	
	baz=133							
PFO				⇑PKiKP	**PKiKP**	**00 20 30.5**	**-0.9**	
	baz=133							
109C	**Camp Elliot, M**	**133.60**	**42**	⇓PKiKP	**PKiKP**	**00 20 30.5**	**-0.8**	
	baz=133							
109C				⇓PKiKP	**PKiKP**	**00 20 30.5**	**-0.8**	
	baz=133							
109C				⇓PKiKP	**PKiKP**	**00 20 30.5**	**-0.8**	
	baz=133							
O20A	**White River Ci**	**133.63**	**28**	⇓PKiKP	**PKPdf**	**00 20 30.1**	**-0.1**	
	baz=133							
O20A				⇓PKiKP	**PKPdf**	**00 20 30.1**	**-0.1**	
	baz=133							
O20A				⇓PKiKP	**PKPdf**	**00 20 30.1**	**-0.1**	
	baz=133							
K26A	**Motz Farm, Whi**	**133.64**	**22**	⇓PKiKP	**PKiKP**	**00 20 30.4**	**-0.8**	
	baz=133							
K26A				⇓PKiKP	**PKiKP**	**00 20 30.4**	**-0.8**	
	baz=133							
K26A				⇓PKiKP	**PKiKP**	**00 20 30.4**	**-0.8**	
	baz=133							
BELC	**Belle Mtn. Jos**	**133.64**	**40**	⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
BELC				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
BELC				⇓PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
P19A	**Cripple Cowboy**	**133.66**	**29**	⇑PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
P19A				⇑PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
P19A				⇑PKiKP	**PKPdf**	**00 20 29.8**	**-0.5**	
	baz=133							
M23A	**Laramie**	**133.67**	**25**	⇓PKiKP	**PKPdf**	**00 20 30.0**	**-0.2**	
	baz=133							
M23A				⇓PKiKP	**PKPdf**	**00 20 30.0**	**-0.2**	
	baz=133							
M23A				⇓PKiKP	**PKPdf**	**00 20 30.0**	**-0.2**	
	baz=133							
R17A	**Hanksville Air**	**133.71**	**32**	⇑PKiKP	**PKPdf**	**00 20 29.9**	**-0.4**	
	baz=134							
R17A				⇑PKiKP	**PKPdf**	**00 20 29.9**	**-0.4**	
	baz=134							
R17A				⇑PKiKP	**PKPdf**	**00 20 29.9**	**-0.4**	
	baz=134							
S16A	**Weppner Ranch,**	**133.75**	**33**	⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
S16A				⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
S16A				⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
RCBR	**Riachuelo**	**133.78**	**262**	PFAKE		00 20 40.0	+9.1	
RCBR				LR	LR			
	comp=Z,1μm,20.0s							
L25A	**Engebretsen Ra**	**133.81**	**23**	⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
L25A				⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
L25A				⇓PKiKP	**PKPdf**	**00 20 30.3**	**-0.1**	
	baz=134							
N22A	**Wattenberg Ran**	**133.91**	**26**	⇑PKiKP	**PKPdf**	**00 20 30.2**	**-0.6**	
	baz=134							
N22A				⇑PKiKP	**PKPdf**	**00 20 30.2**	**-0.6**	
	baz=134							
N22A				⇑PKiKP	**PKPdf**	**00 20 30.2**	**-0.6**	
	baz=134							
O21A	**Pagoda**	**133.92**	**27**	⇓PKiKP	**PKPdf**	**00 20 30.6**	**-0.2**	
	baz=134							
O21A				⇓PKiKP	**PKPdf**	**00 20 30.6**	**-0.2**	
	baz=134							
O21A				⇓PKiKP	**PKPdf**	**00 20 30.6**	**-0.2**	
	baz=134							
K27A	**Flueckinger Fa**	**133.98**	**21**	⇑PKiKP	**PKPdf**	**00 20 30.7**	**+0.1**	
	baz=134							
K27A				⇑PKiKP	**PKPdf**	**00 20 30.7**	**+0.1**	
	baz=134							
K27A				⇑PKiKP	**PKPdf**	**00 20 30.7**	**+0.1**	
	baz=134							
Q19A	**Hogan Spring (**	**134.05**	**30**	⇑PKiKP	**PKPdf**	**00 20 30.8**	**0.0**	
	baz=134							
Q19A				⇑PKiKP	**PKPdf**	**00 20 30.8**	**0.0**	
	baz=134							
Q19A				⇑PKiKP	**PKPdf**	**00 20 30.8**	**0.0**	
	baz=134							
M24A	**Cheyenne**	**134.05**	**24**	⇓PKiKP	**PKPdf**	**00 20 30.8**	**-0.1**	
	baz=134							
M24A				⇓PKiKP	**PKPdf**	**00 20 30.8**	**-0.1**	
	baz=134							
M24A				⇓PKiKP	**PKPdf**	**00 20 30.8**	**-0.1**	
	baz=134							
N23A	**Red Feather La**	**134.05**	**26**	⇑PKiKP	**PKiKP**	**00 20 31.2**	**-1.1**	
	baz=134							
N23A				⇑PKiKP	**PKiKP**	**00 20 31.2**	**-1.1**	
	baz=134							
N23A				⇑PKiKP	**PKiKP**	**00 20 31.2**	**-1.1**	
	baz=134							
MONP	**Monument Peak**	**134.05**	**42**	⇓PKiKP	**PKiKP**	**00 20 31.8**	**-0.7**	
	baz=134							
MONP				⇓PKiKP	**PKiKP**	**00 20 31.8**	**-0.7**	
	baz=134							
MONP				⇓PKiKP	**PKiKP**	**00 20 31.8**	**-0.7**	
	baz=134							
P20A	**De Beque**	**134.05**	**29**	⇑PKiKP	**PKiKP**	**00 20 31.6**	**-0.7**	
	baz=134							
P20A				⇑PKiKP	**PKiKP**	**00 20 31.6**	**-0.7**	
	baz=134							
P20A				⇑PKiKP	**PKiKP**	**00 20 31.6**	**-0.7**	
	baz=134							
IRM	**Iron Mountain**	**134.08**	**39**	⇑PKiKP	**PKiKP**	**00 20 31.3**	**-1.0**	
	baz=134							
IRM				⇑PKiKP	**PKiKP**	**00 20 31.3**	**-1.0**	
	baz=134							
IRM				⇑PKiKP	**PKiKP**	**00 20 31.3**	**-1.0**	
	baz=134							
R18A	**Canyonlands Na**	**134.16**	**31**	⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.1**	
	baz=134							
R18A				⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.1**	
	baz=134							
R18A				⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.1**	
	baz=134							
SPMN	**St. Paul**	**134.23**	**11**	⇓PKiKP	**PKiKP**	**00 20 31.2**	**-1.0**	
	baz=134							
SPMN				⇓PKiKP	**PKiKP**	**00 20 31.2**	**-1.0**	
	baz=134							
SPMN				⇓PKiKP	**PKiKP**	**00 20 31.2**	**-1.0**	
	baz=134							
S17A	**Black Ridge (B**	**134.24**	**32**	⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.2**	
	baz=134							
S17A				⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.2**	
	baz=134							
S17A				⇑PKiKP	**PKPdf**	**00 20 31.1**	**-0.2**	
	baz=134							
L26A	**Underwood Farm**	**134.25**	**22**	⇓PKiKP	**PKPdf**	**00 20 31.2**	**+0.1**	
	baz=134							
L26A				⇓PKiKP	**PKPdf**	**00 20 31.2**	**+0.1**	
	baz=134							
L26A				⇓PKiKP	**PKPdf**	**00 20 31.2**	**+0.1**	
	baz=134							
W13A	**Hualapai Mount**	**134.25**	**37**	⇑PKiKP	**PKPdf**	**00 20 31.3**	**-0.2**	
	baz=134							
W13A				⇑PKiKP	**PKPdf**	**00 20 31.3**	**-0.2**	
	baz=134							
W13A				⇑PKiKP	**PKPdf**	**00 20 31.3**	**-0.2**	
	baz=134							
O22A	**Kremmling**	**134.38**	**27**	⇓PKiKP	**PKPdf**	**00 20 31.1**	**-0.6**	
	baz=134							
O22A				⇓PKiKP	**PKPdf**	**00 20 31.1**	**-0.6**	
	baz=134							
O22A				⇓PKiKP	**PKPdf**	**00 20 31.1**	**-0.6**	
	baz=134							
M25A	**Palm-Egli Farm**	**134.39**	**23**	⇑PKiKP	**PKiKP**	**00 20 31.7**	**-1.2**	
	baz=134							
M25A				⇑PKiKP	**PKiKP**	**00 20 31.7**	**-1.2**	
	baz=134							
M25A				⇑PKiKP	**PKiKP**	**00 20 31.7**	**-1.2**	
	baz=134							
DVTC	**Desert V Tower**	**134.41**	**42**	⇑PKiKP	**PKPdf**	**00 20 31.2**	**-0.5**	
	baz=134							
DVTC				⇑PKiKP	**PKPdf**	**00 20 31.2**	**-0.5**	
	baz=134							
DVTC				⇑PKiKP	**PKPdf**	**00 20 31.2**	**-0.5**	
	baz=134							
SWSC	**Sam W. Stewart**	**134.44**	**41**	⇑PKiKP	**PKiKP**	**00 20 31.9**	**-1.1**	
	baz=134							
SWSC				⇑PKiKP	**PKiKP**	**00 20 31.9**	**-1.1**	
	baz=134							
SWSC				⇑PKiKP	**PKiKP**	**00 20 31.9**	**-1.1**	
	baz=134							
Q20A	**Ridgley Place,**	**134.53**	**29**	⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.1**	
	baz=134							
Q20A				⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.1**	
	baz=134							
Q20A				⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.1**	
	baz=134							
R19A	**Curley Farm, L**	**134.55**	**31**	⇑PKiKP	**PKPdf**	**00 20 31.6**	**-0.4**	
	baz=134							
R19A				⇑PKiKP	**PKPdf**	**00 20 31.6**	**-0.4**	
	baz=134							
R19A				⇑PKiKP	**PKPdf**	**00 20 31.6**	**-0.4**	
	baz=134							
N24A	**Carr**	**134.56**	**25**	⇓PKiKP	**PKPdf**	**00 20 31.5**	**-0.3**	
	baz=134							
N24A				⇓PKiKP	**PKPdf**	**00 20 31.5**	**-0.3**	
	baz=134							
N24A				⇓PKiKP	**PKPdf**	**00 20 31.5**	**-0.3**	
	baz=134							
O23A	**Lake Granby, G**	**134.62**	**26**	⇓PKiKP	**PKPdf**	**00 20 31.8**	**-0.4**	
	baz=134							
O23A				⇓PKiKP	**PKPdf**	**00 20 31.8**	**-0.4**	
	baz=134							
O23A				⇓PKiKP	**PKPdf**	**00 20 31.8**	**-0.4**	
	baz=134							
S18A	**Hurst Farm, Bl**	**134.63**	**32**	⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.1**	
	baz=134							
S18A				⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.1**	
	baz=134							
S18A				⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.1**	
	baz=134							
T17A	**Navajo Res., N**	**134.70**	**33**	⇑PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
T17A				⇑PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
T17A				⇑PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
M26A	**McRoberts Ranc**	**134.72**	**23**	⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.4**	
	baz=134							
M26A				⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.4**	
	baz=134							
M26A				⇓PKiKP	**PKPdf**	**00 20 31.7**	**-0.4**	
	baz=134							
P22A	**Eagle**	**134.75**	**27**	⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
P22A				⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
P22A				⇓PKiKP	**PKPdf**	**00 20 32.1**	**-0.2**	
	baz=134							
ECSD	**EROS Data Cent**	**134.79**	**15**	*e*PKPdf	**PKPdf**	**00 20 32.3**	**+0.3**	
ECSD				LR	LR			
	comp=Z,2μm,19.0s							
Q21A	**Lamborn Mesa,**	**134.97**	**29**	⇑PKiKP	**PKPdf**	**00 20 32.7**	**0.0**	
	baz=135							
Q21A				⇑PKiKP	**PKPdf**	**00 20 32.7**	**0.0**	
	baz=135							
Q21A				⇑PKiKP	**PKPdf**	**00 20 32.7**	**0.0**	
	baz=135							
SMCO	**Snowmass**	**134.98**	**28**	*e*PKPdf	**PKPdf**	**00 20 32.9**	**-0.1**	
SMCO				*e*PP	PP	00 23 01.4	-5.3	
S19A	**Harvey Farm, M**	**135.03**	**31**	⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.1**	
	baz=135							
S19A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.1**	
	baz=135							
S19A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.1**	
	baz=135							
O24A	**Longmont**	**135.06**	**25**	⇑PKiKP	**PKPdf**	**00 20 32.4**	**-0.4**	
	baz=135							
O24A				⇑PKiKP	**PKPdf**	**00 20 32.4**	**-0.4**	
	baz=135							
O24A				⇑PKiKP	**PKPdf**	**00 20 32.4**	**-0.4**	
	baz=135							
R20A	**Redvale**	**135.08**	**30**	⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.2**	
	baz=135							
R20A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.2**	
	baz=135							
R20A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.2**	
	baz=135							
ISCO	**Idaho Springs**	**135.09**	**26**	PFAKE		00 20 40.0	+6.9	
ISCO				LR	LR			
	comp=Z,1μm,20.0s							
ISCO	**Idaho Springs**	**135.09**	**26**	⇑PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
ISCO				⇑PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
ISCO				⇑PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
T18A	**Mexican Hat**	**135.10**	**32**	⇓PKiKP	**PKPdf**	**00 20 31.4**	**-1.6**	
	baz=135							
T18A				⇓PKiKP	**PKPdf**	**00 20 31.4**	**-1.6**	
	baz=135							
T18A				⇓PKiKP	**PKPdf**	**00 20 31.4**	**-1.6**	
	baz=135							
U16A	**Tuba City**	**135.14**	**34**	⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.3**	
	baz=135							
U16A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.3**	
	baz=135							
U16A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.3**	
	baz=135							
N26A	**Koester Ranch,**	**135.23**	**23**	⇓PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
N26A				⇓PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
N26A				⇓PKiKP	**PKPdf**	**00 20 32.5**	**-0.5**	
	baz=135							
Q22A	**Crested Butte,**	**135.26**	**28**	⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.6**	
	baz=135							
Q22A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.6**	
	baz=135							
Q22A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.6**	
	baz=135							
P23A	**Jefferson**	**135.34**	**27**	⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.3**	
	baz=135							
P23A				⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.3**	
	baz=135							
P23A				⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.3**	
	baz=135							
R21A	**Cimarron**	**135.35**	**29**	⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.2**	
	baz=135							
R21A				⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.2**	
	baz=135							
R21A				⇑PKiKP	**PKPdf**	**00 20 33.3**	**-0.2**	
	baz=135							
S20A	**Disappointment**	**135.36**	**30**	⇓PKiKP	**PKPdf**	**00 20 33.8**	**+0.2**	
	baz=135							
S20A				⇓PKiKP	**PKPdf**	**00 20 33.8**	**+0.2**	
	baz=135							
S20A				⇓PKiKP	**PKPdf**	**00 20 33.8**	**+0.2**	
	baz=135							
LBNH	**Lisbon**	**135.39**	**350**	PFAKE		00 20 40.0	+6.9	
LBNH				LR	LR			
	comp=Z,2μm,20.0s							
LONY	**Lake Ozonia**	**135.42**	**353**	PFAKE		00 20 40.0	+6.9	
LONY				LR	LR			
	comp=Z,1μm,20.0s							
WUAZ	**Wupatki**	**135.45**	**35**	⇓PKiKP	**PKPdf**	**00 20 32.6**	**-1.1**	
	baz=135							
WUAZ				⇓PKiKP	**PKPdf**	**00 20 32.6**	**-1.1**	
	baz=135							
WUAZ				⇓PKiKP	**PKPdf**	**00 20 32.6**	**-1.1**	
	baz=135							
O25A	**Wiggins**	**135.47**	**25**	⇑PKiKP	**PKPdf**	**00 20 33.2**	**-0.3**	
	baz=135							
O25A				⇑PKiKP	**PKPdf**	**00 20 33.2**	**-0.3**	
	baz=135							
O25A				⇑PKiKP	**PKPdf**	**00 20 33.2**	**-0.3**	
	baz=135							
N27A	**Anderson Farm,**	**135.52**	**23**	⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.7**	
	baz=135							
N27A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.7**	
	baz=135							
N27A				⇑PKiKP	**PKPdf**	**00 20 32.8**	**-0.7**	
	baz=135							
Y14A	**Wickenburg**	**135.57**	**38**	⇑PKiKP	**PKPdf**	**00 20 33.0**	**-0.8**	
	baz=135							
Y14A				⇑PKiKP	**PKPdf**	**00 20 33.0**	**-0.8**	
	baz=135							
Y14A				⇑PKiKP	**PKPdf**	**00 20 33.0**	**-0.8**	
	baz=135							
OGNE	**Ogallala**	**135.59**	**22**	PFAKE		00 20 40.0	+6.3	
OGNE				LR	LR			
	comp=Z,1μm,19.0s							
GLMI	**Grayling**	**135.61**	**3**	PFAKE		00 20 40.0	+6.5	
GLMI				LR	LR			
	comp=Z,2μm,19.0s							
U18A	**Rough Rock, Ch**	**135.64**	**33**	⇑PKiKP	**PKiKP**	**00 20 34.3**	**-1.3**	
	baz=135							
U18A				⇑PKiKP	**PKiKP**	**00 20 34.3**	**-1.3**	
	baz=135							
U18A				⇑PKiKP	**PKiKP**	**00 20 34.3**	**-1.3**	
	baz=135							
Z13A	**Yuma Proving G**	**135.65**	**39**	⇓PKiKP	**PKiKP**	**00 20 34.4**	**-1.1**	
	baz=136							
Z13A				⇓PKiKP	**PKiKP**	**00 20 34.4**	**-1.1**	
	baz=136							
Z13A				⇓PKiKP	**PKiKP**	**00 20 34.4**	**-1.1**	
	baz=136							
V17A	**Tonalea, Kykot**	**135.71**	**34**	⇑PKiKP	**PKiKP**	**00 20 34.7**	**-1.0**	
	baz=136							
V17A				⇑PKiKP	**PKiKP**	**00 20 34.7**	**-1.0**	
	baz=136							
V17A				⇑PKiKP	**PKiKP**	**00 20 34.7**	**-1.0**	
	baz=136							
MVCO	**Mesa Verde**	**135.77**	**31**	PFAKE		00 20 40.0	+5.7	
MVCO				LR	LR			
	comp=Z,956nm,19.0s							
MVCO	**Mesa Verde**	**135.77**	**31**	⇓PKiKP	**PKiKP**	**00

P25A				⇓PKiKP	**PKPdf**	**00 20 34.1**	**-0.4**
	baz=136							
Q24A	**Divide**	**135.99**	**26**	⇓PKiKP	**PKPdf**	**00 20 34.7**	**-0.1**
Q24A	baz=136			⇓PKiKP	**PKPdf**	**00 20 34.7**	**-0.1**
Q24A	baz=136			⇓PKiKP	**PKPdf**	**00 20 34.7**	**-0.1**
	baz=136							
Z14A	**Wintersburg**	**135.99**	**39**	⇑PKiKP	**PKiKP**	**00 20 35.0**	**-1.2**
Z14A	baz=136			⇑PKiKP	**PKiKP**	**00 20 35.0**	**-1.2**
Z14A	baz=136			⇑PKiKP	**PKiKP**	**00 20 35.0**	**-1.2**
	baz=136							
O27A	**Beecher Island**	**136.07**	**23**	⇓PKiKP	**PKiKP**	**00 20 35.5**	**-0.8**
O27A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.5**	**-0.8**
O27A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.5**	**-0.8**
	baz=136							
U19A	**Dine' College,**	**136.09**	**32**	⇑PKiKP	**PKiKP**	**00 20 35.3**	**-1.3**
U19A	baz=136			⇑PKiKP	**PKiKP**	**00 20 35.3**	**-1.3**
U19A	baz=136			⇑PKiKP	**PKiKP**	**00 20 35.3**	**-1.3**
	baz=136							
V18A	**Ganado**	**136.12**	**34**	⇓PKiKP	**PKiKP**	**00 20 35.6**	**-1.1**
V18A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.6**	**-1.1**
V18A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.6**	**-1.1**
	baz=136							
W17A	**Winslow**	**136.14**	**35**	⇓PKiKP	**PKiKP**	**00 20 35.9**	**-0.8**
W17A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.9**	**-0.8**
W17A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.9**	**-0.8**
	baz=136							
X16A	**Lo Mia Camp, P**	**136.18**	**36**	⇓PKiKP	**PKiKP**	**00 20 35.8**	**-0.9**
X16A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.8**	**-0.9**
X16A	baz=136			⇓PKiKP	**PKiKP**	**00 20 35.8**	**-0.9**
	baz=136							
S22A	**4UR Ranch, Cre**	**136.19**	**29**	⇑PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
S22A	baz=136			⇑PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
S22A	baz=136			⇑PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
	baz=136							
P26A	**Davis Ranch, A**	**136.26**	**24**	⇓PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
P26A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
P26A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.3**	**+0.2**
	baz=136							
R23A	**Moffat**	**136.31**	**28**	⇓PKiKP	**PKiKP**	**00 20 36.0**	**-1.0**
R23A	baz=136			⇓PKiKP	**PKiKP**	**00 20 36.0**	**-1.0**
R23A	baz=136			⇓PKiKP	**PKiKP**	**00 20 36.0**	**-1.0**
	baz=136							
U20A	**Newcomb**	**136.39**	**32**	⇑PKiKP	**PKiKP**	**00 20 36.1**	**-1.1**
U20A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.1**	**-1.1**
U20A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.1**	**-1.1**
	baz=136							
Q25A	**Bedland, Calha**	**136.42**	**26**	⇓PKiKP	**PKPdf**	**00 20 35.2**	**-0.2**
Q25A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.2**	**-0.2**
Q25A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.2**	**-0.2**
	baz=136							
T21A	**Navajo Lake**	**136.43**	**30**	⇓PKiKP	**PKPdf**	**00 20 35.3**	**-0.3**
T21A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.3**	**-0.3**
T21A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.3**	**-0.3**
	baz=136							
114A	**Black Gap (USA**	**136.44**	**39**	⇓PKiKP	**PKPdf**	**00 20 35.6**	**+0.2**
114A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.6**	**+0.2**
114A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.6**	**+0.2**
	baz=136							
BGNE	**Belgrade**	**136.50**	**18**	⇑PKiKP	**PKPdf**	**00 20 35.1**	**-0.2**
BGNE	baz=136			⇑PKiKP	**PKPdf**	**00 20 35.1**	**-0.2**
BGNE	baz=136			⇑PKiKP	**PKPdf**	**00 20 35.1**	**-0.2**
	baz=136							
R24A	**Sanders Place,**	**136.60**	**27**	⇓PKiKP	**PKPdf**	**00 20 36.0**	**+0.2**
R24A	baz=136			⇓PKiKP	**PKPdf**	**00 20 36.0**	**+0.2**
R24A	baz=136			⇓PKiKP	**PKPdf**	**00 20 36.0**	**+0.2**
	baz=136							
V19A	**Window Rock**	**136.61**	**33**	⇑PKiKP	**PKiKP**	**00 20 36.6**	**-1.1**
V19A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.6**	**-1.1**
V19A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.6**	**-1.1**
	baz=136							
S23A	**Nye Farm, Mont**	**136.61**	**28**	⇑PKiKP	**PKiKP**	**00 20 36.4**	**-1.2**
S23A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.4**	**-1.2**
S23A	baz=136			⇑PKiKP	**PKiKP**	**00 20 36.4**	**-1.2**
	baz=136							
X17A	**Forest Lakes**	**136.61**	**36**	⇓PKiKP	**PKPdf**	**00 20 36.1**	**+0.1**
X17A	baz=136			⇓PKiKP	**PKPdf**	**00 20 36.1**	**+0.1**
X17A	baz=136			⇓PKiKP	**PKPdf**	**00 20 36.1**	**+0.1**
	baz=136							
W18A	**Petrified Fore**	**136.67**	**34**	⇓PKiKP	**PKPdf**	**00 20 35.7**	**-0.2**
W18A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.7**	**-0.2**
W18A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.7**	**-0.2**
	baz=136							
Q26A	**Hugo**	**136.72**	**25**	⇓PKiKP	**PKPdf**	**00 20 35.9**	**0.0**
Q26A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.9**	**0.0**
Q26A	baz=136			⇓PKiKP	**PKPdf**	**00 20 35.9**	**0.0**
	baz=136							
T22A	**Edith**	**136.73**	**30**	⇑PKiKP	**PKPdf**	**00 20 36.3**	**+0.2**
T22A	baz=136			⇑PKiKP	**PKPdf**	**00 20 36.3**	**+0.2**
T22A	baz=136			⇑PKiKP	**PKPdf**	**00 20 36.3**	**+0.2**
	baz=136							
U21A	**Nageezi**	**136.80**	**31**	⇓PKiKP	**PKPdf**	**00 20 36.2**	**0.0**
U21A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.2**	**0.0**
U21A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.2**	**0.0**
	baz=137							
SDCO	**Great Sand Dun**	**136.82**	**28**	PFAKE		00 20 50.0	+14
SDCO				LR	LR			
	comp=Z,1μm,21.0s							
SDCO	**Great Sand Dun**	**136.82**	**28**	⇓PKiKP	**PKiKP**	**00 20 36.7**	**-1.4**
SDCO	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.7**	**-1.4**
SDCO	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.7**	**-1.4**
	baz=137							
SDCO	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.7**	**-1.4**
SDCO	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.7**	**-1.4**
	baz=137							
V20A	**Brimhall**	**136.85**	**32**	⇓PKiKP	**PKiKP**	**00 20 36.8**	**-1.3**
V20A	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.8**	**-1.3**
V20A	baz=137			⇓PKiKP	**PKiKP**	**00 20 36.8**	**-1.3**
	baz=137							
W19A	**Sanders**	**136.86**	**34**	⇑PKiKP	**PKiKP**	**00 20 36.9**	**-1.2**
W19A	baz=137			⇑PKiKP	**PKiKP**	**00 20 36.9**	**-1.2**
W19A	baz=137			⇑PKiKP	**PKiKP**	**00 20 36.9**	**-1.2**
	baz=137							
X18A	**Snowflake**	**136.97**	**35**	⇓PKiKP	**PKiKP**	**00 20 37.3**	**-1.1**
X18A	baz=137			⇓PKiKP	**PKiKP**	**00 20 37.3**	**-1.1**
X18A	baz=137			⇓PKiKP	**PKiKP**	**00 20 37.3**	**-1.1**
	baz=137							
KSCO	**Kaye Shedlock'**	**137.02**	**24**	⇓PKiKP	**PKPdf**	**00 20 36.0**	**-0.5**
KSCO	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.0**	**-0.5**
KSCO	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.0**	**-0.5**
	baz=137							
R25A	**Fountain Ranch**	**137.04**	**26**	⇓PKiKP	**PKPdf**	**00 20 36.4**	**-0.2**
R25A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.4**	**-0.2**
R25A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.4**	**-0.2**
	baz=137							
T23A	**Casias Ranch,**	**137.13**	**29**	⇓PKiKP	**PKPdf**	**00 20 36.7**	**-0.2**
T23A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.7**	**-0.2**
T23A	baz=137			⇓PKiKP	**PKPdf**	**00 20 36.7**	**-0.2**
	baz=137							
U22A	**Llaves**	**137.25**	**30**	⇑PKiKP	**PKPdf**	**00 20 37.1**	**+0.1**
U22A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.1**	**+0.1**
U22A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.1**	**+0.1**
	baz=137							
R26A	**Arlington**	**137.28**	**25**	⇑PKiKP	**PKPdf**	**00 20 36.9**	**0.0**
R26A	baz=137			⇑PKiKP	**PKPdf**	**00 20 36.9**	**0.0**
R26A	baz=137			⇑PKiKP	**PKPdf**	**00 20 36.9**	**0.0**
	baz=137							
V21A	**Milan**	**137.29**	**31**	⇑PKiKP	**PKiKP**	**00 20 37.9**	**-1.1**
V21A	baz=137			⇑PKiKP	**PKiKP**	**00 20 37.9**	**-1.1**
V21A	baz=137			⇑PKiKP	**PKiKP**	**00 20 37.9**	**-1.1**
	baz=137							
SCIA	**State Center**	**137.33**	**13**	PFAKE		00 20 50.0	+13
SCIA				LR	LR			
	comp=Z,3μm,21.0s							
W20A	**Ramah**	**137.34**	**33**	⇑PKiKP	**PKPdf**	**00 20 37.1**	**-0.2**
W20A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.1**	**-0.2**
W20A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.1**	**-0.2**
	baz=137							
S25A	**Robets Cordova**	**137.38**	**27**	⇓PKiKP	**PKPdf**	**00 20 37.2**	**0.0**
S25A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.2**	**0.0**
S25A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.2**	**0.0**
	baz=137							
X19A	**St. Johns**	**137.42**	**34**	⇓PKiKP	**PKPdf**	**00 20 37.7**	**+0.3**
X19A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.7**	**+0.3**
X19A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.7**	**+0.3**
	baz=137							
Y18A	**Canyon Day Jun**	**137.46**	**36**	⇑PKiKP	**PKPdf**	**00 20 37.6**	**+0.1**
Y18A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.6**	**+0.1**
Y18A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.6**	**+0.1**
	baz=137							
R27A	**Eads**	**137.56**	**25**	⇑PKiKP	**PKPdf**	**00 20 37.5**	**0.0**
R27A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.5**	**0.0**
R27A	baz=137			⇑PKiKP	**PKPdf**	**00 20 37.5**	**0.0**
	baz=137							
T24A	**Torres, Weston**	**137.57**	**28**	⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.1**
T24A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.1**
T24A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.1**
	baz=137							
V22A	**San Miguel Ran**	**137.58**	**31**	⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.2**
V22A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.2**
V22A	baz=137			⇓PKiKP	**PKPdf**	**00 20 37.9**	**+0.2**
	baz=137							
U23A	**El Rito**	**137.62**	**30**	⇓PKiKP	**PKPdf**	**00 20 38.2**	**+0.4**
U23A	baz=137			⇓PKiKP	**PKPdf**	**00 20 38.2**	**+0.4**
U23A	baz=137			⇓PKiKP	**PKPdf**	**00 20 38.2**	**+0.4**
	baz=137							
X20A	**Quemado**	**137.78**	**34**	⇓PKiKP	**PKiKP**	**00 20 38.6**	**-1.4**
X20A	baz=138			⇓PKiKP	**PKiKP**	**00 20 38.6**	**-1.4**
X20A	baz=138			⇓PKiKP	**PKiKP**	**00 20 38.6**	**-1.4**
	baz=138							
Y19A	**Nutrioso**	**137.78**	**35**	⇓PKiKP	**PKPdf**	**00 20 38.6**	**+0.5**
Y19A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.6**	**+0.5**
Y19A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.6**	**+0.5**
	baz=138							
W21A	**San Fidel**	**137.81**	**32**	⇓PKiKP	**PKPdf**	**00 20 38.1**	**-0.1**
W21A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.1**	**-0.1**
W21A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.1**	**-0.1**
	baz=138							
T25A	**Trinidad**	**137.81**	**27**	⇓PKiKP	**PKPdf**	**00 20 38.0**	**0.0**
T25A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.0**	**0.0**
T25A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.0**	**0.0**
	baz=138							
S26A	**Kim**	**137.84**	**26**	⇓PKiKP	**PKPdf**	**00 20 37.8**	**-0.2**
S26A	baz=138			⇓PKiKP	**PKPdf**	**00 20 37.8**	**-0.2**
S26A	baz=138			⇓PKiKP	**PKPdf**	**00 20 37.8**	**-0.2**
	baz=138							
PLCA	**Paso Flores**	**137.88**	**193**	PKP	**PKPdf**	**00 20 38.6**	**+0.7**
	comp=Z,13nm,1.2s,baz=223,slow=6.3,SNR=5.6							
PLCA	**Paso Flores**	**137.88**	**193**	PKIKP	**PKPdf**	**00 20 38.6**	**+0.7**
PLCA				pmax	pmax			
	comp=Z,13nm,1.2s							
PLCA	**Paso Flores**	**137.88**	**193**	PKP	**PKPdf**	**00 20 38.6**	**+0.7**
PLCA				LR	LR			
	comp=Z,1μm,20.0s							
BINY	**Binghamton**	**137.98**	**354**	PFAKE		00 20 50.0	+12
BINY				LR	LR			
	comp=Z,2μm,20.0s							
U24A	**Moreno Valley**	**138.00**	**29**	⇑PKiKP	**PKPdf**	**00 20 38.3**	**-0.3**
U24A	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.3**	**-0.3**
U24A	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.3**	**-0.3**
	baz=138							
S27A	**Las Animas**	**138.03**	**25**	⇓PKiKP	**PKPdf**	**00 20 38.0**	**-0.3**
S27A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.0**	**-0.3**
S27A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.0**	**-0.3**
	baz=138							
V23A	**Ortiz Mt. (NFS**	**138.08**	**30**	⇓PKiKP	**PKPdf**	**00 20 38.9**	**+0.3**
V23A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.9**	**+0.3**
V23A	baz=138			⇓PKiKP	**PKPdf**	**00 20 38.9**	**+0.3**
	baz=138							
T26A	**Comanche Natio**	**138.15**	**26**	⇑PKiKP	**PKPdf**	**00 20 38.8**	**+0.1**
T26A	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.8**	**+0.1**
T26A	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.8**	**+0.1**
	baz=138							
AAM	**Ann Arbor**	**138.17**	**2**	PFAKE		00 20 50.0	+12
AAM				LR	LR			
	comp=Z,2μm,19.0s							
W22A	**Albuquerque**	**138.25**	**31**	⇓PKiKP	**PKPdf**	**00 20 39.0**	**+0.1**
W22A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.0**	**+0.1**
W22A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.0**	**+0.1**
	baz=138							
CBKS	**Cedar Bluff**	**138.30**	**21**	PFAKE		00 20 50.0	+11
CBKS				LR	LR			
	comp=Z,1μm,20.0s							
CBKS	**Cedar Bluff**	**138.30**	**21**	⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
CBKS	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
CBKS	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
	baz=138							
CBKS	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
CBKS	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
CBKS	baz=138			⇑PKiKP	**PKPdf**	**00 20 38.5**	**-0.2**
	baz=138							
Y20A	**Horse Springs,**	**138.31**	**34**	⇑PKiKP	**PKiKP**	**00 20 39.8**	**-1.4**
Y20A	baz=138			⇑PKiKP	**PKiKP**	**00 20 39.8**	**-1.4**
Y20A	baz=138			⇑PKiKP	**PKiKP**	**00 20 39.8**	**-1.4**
	baz=138							
ERPA	**Erie**	**138.36**	**358**	PFAKE		00 20 50.0	+11
ERPA				LR	LR			
	comp=Z,1μm,19.0s							
U25A	**Circle Dot Ran**	**138.42**	**28**	⇑PKiKP	**PKPdf**	**00 20 39.5**	**+0.3**
U25A	baz=138			⇑PKiKP	**PKPdf**	**00 20 39.5**	**+0.3**
U25A	baz=138			⇑PKiKP	**PKPdf**	**00 20 39.5**	**+0.3**
	baz=138							
V24A	**Rampart Ranch,**	**138.55**	**29**	⇓PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
V24A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
V24A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
	baz=138							
W23A	**Werner Place,**	**138.55**	**31**	PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
W23A	baz=138			PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
W23A	baz=138			PKiKP	**PKPdf**	**00 20 39.9**	**+0.4**
	baz=138							
ANMO	**Albuquerque**	**138.56**	**31**	PKhKP	PKPpre	00 20 29.4		
	comp=Z,4.8nm,0.9s,baz=270,slow=5.1,SNR=8.6							
ANMO				PKP	**PKPdf**	**00 20 37.9**	**-1.6**
	comp=Z,4.3nm,1.0s,baz=303,slow=3.2,SNR=6.4							
ANMO				SKPbc	**SKiKP**	**00 24 13.7**	**-2.3**
	comp=Z,5.5nm,1.1s,baz=276,slow=2.5,SNR=7.0							
ANMO	**Albuquerque**	**138.56**	**31**	*i* PKHKP	PKPpre	00 20 29.4		
ANMO						00 20 37.9		
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ANMO	**Albuquerque**	**138.56**	**31**	PKPpre	PKPpre	00 20 29.4		
ANMO				PKP	**PKPdf**	**00 20 37.9**	**-1.6**
ANMO				SKPbc	**SKiKP**	**00 24 13.7**	**-2.3**
ANMO				LR	LR			
	comp=Z,857nm,20.0s							
Y21A	**Point of Rocks**	**138.63**	**33**	⇓PKiKP	**PKPdf**	**00 20 40.2**	**+0.5**
Y21A	baz=138			⇓PKiKP	**PKPdf**	**00 20 40.2**	**+0.5**
Y21A	baz=138			⇓PKiKP	**PKPdf**	**00 20 40.2**	**+0.5**
	baz=138							
T27A	**Campo**	**138.63**	**26**	⇓PKiKP	**PKPdf**	**00 20 39.5**	**0.0**
T27A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.5**	**0.0**
T27A	baz=138			⇓PKiKP	**PKPdf**	**00 20 39.5**	**0.0**
	baz=138							
U26A	**Atchley Ranch,**	**138.73**	**27**	⇑PKiKP	**PKPdf**	**00 20 39.7**	**-0.1**
U26A	baz=138			⇑PKiKP	**PKPdf**	**00 20 39.7**	**-0.1**
U26A	baz=138			⇑PKiKP	**PKPdf**	**00 20 39.7**	**-0.1**
	baz=138							
V25A	**Rancho No Teng**	**138.77**	**29**	⇑PKiKP	**PKPdf**	**00 20 39.9**	**0.0**
V25A	baz=139			⇑PKiKP	**PKPdf**	**00 20 39.9**	**0.0**
V25A	baz=139			⇑PKiKP	**PKPdf**	**00 20 39.9**	**0.0**
	baz=139							
T28A	**Walsh**	**138.84**	**25**	⇑PKiKP	**PKiKP**	**00 20 40.5**	**-1.5**
T28A	baz=139			⇑PKiKP	**PKiKP**	**00 20 40.5**	**-1.5**
T28A	baz=139			⇑PKiKP	**PKiKP**	**00 20 40.5**	**-1.5**
	baz=139							
W24A	**Lazy 6 Ranch,**	**138.89**	**30**	⇑PKiKP	**PKiKP**	**00 20 40.9**	**-1.4**
W24A	baz=139			⇑PKiKP	**PKiKP**	**00 20 40.9**	**-1.4**
W24A	baz=139			⇑PKiKP	**PKiKP**	**00 20 40.9**	**-1.4**
	baz=139							
X23A	**Hourglass Bar**	**138.99**	**31**	⇓PKiKP	**PKiKP**	**00 20 40.9**	**-1.6**
X23A	baz=139			⇓PKiKP	**PKiKP**	**00 20 40.9**	**-1.6**
X23A	baz=139			⇓PKiKP	**PKiKP**	**00 20 40.9**	**-1.6**
	baz=139							
Y22D	**IRIS PASSCAL I**	**138.99**	**32**	PKiKP	**PKPdf**	**00 20 40.3**	**+0.1**
Y22D	baz=139			PKiKP	**PKPdf**	**00 20 40.3**	**+0.1**
Y22D	baz=139			PKiKP	**PKPdf**	**00 20 40.3**	**+0.1**
	baz=139							
SPB	**Sao Paulo**	**139.03**	**232**	PFAKE		00 20 50.0	+10
SPB				LR	LR			
	comp=Z,1μm,20.0s							
Y22A	**Socorro**	**139.07**	**33**	⇓PKiKP	**PKPdf**	**00 20 40.9**	**+0.5**
Y22A	baz=139			⇓PKiKP	**PKPdf**	**00 20 40.9**	**+0.5**
Y22A	baz=139			⇓PKiKP	**PKPdf**	**00 20 40.9**	**+0.5**
	baz=139							
KSU1	**Kansas State U**	**139.09**	**18**	PFAKE		00 20 50.0	+10
KSU1				LR	LR			
	comp=Z,1μm,21.0s							
Z21A	**St. Cloud Mine**	**139.15**	**34**	⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
Z21A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
Z21A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
	baz=139							
120A	**U Bar Ranch, L**	**139.16**	**36**	⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
120A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
120A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.5**	**-1.4**
	baz=139							
V26A	**Tequesquite Ra**	**139.20**	**28**	⇑PKiKP	**PKiKP**	**00 20 41.3**	**-1.5**
V26A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.3**	**-1.5**
V26A	baz=139			⇑PKiKP	**PKiKP**	**00 20 41.3**	**-1.5**
	baz=139							
W25A	**X Bar L Ranch,**	**139.35**	**29**	⇑PKiKP	**PKPdf**	**00 20 41.4**	**+0.6**
W25A	baz=139			⇑PKiKP	**PKPdf**	**00 20 41.4**	**+0.6**
W25A	baz=139			⇑PKiKP	**PKPdf**	**00 20 41.4**	**+0.6**
	baz=139							
X24A	**Lazy VL Ranch,**	**139.38**	**31**	⇑PKiKP	**PKPdf**	**00 20 41.5**	**+0.5**
X24A	baz=139			⇑PKiKP	**PKPdf**	**00 20 41.5**	**+0.5**
X24A	baz=139			⇑PKiKP	**PKPdf**	**00 20 41.5**	**+0.5**
	baz=139							
Y23A	**Lovelace Mesa,**	**139.56**	**32**	⇓PKiKP	**PKPdf**	**00 20 42.0**	**+0.6**
Y23A	baz=139			⇓PKiKP	**PKPdf**	**00 20 42.0**	**+0.6**
Y23A	baz=139			⇓PKiKP	**PKPdf**	**00 20 42.0**	**+0.6**
	baz=139							
Z22A	**Elephant Butte**	**139.58**	**33**	⇓PKiKP	**PKiKP**	**00 20 42.0**	**-1.7**
Z22A	baz=139			⇓PKiKP	**PKiKP**	**00 20 42.0**	**-1.7**
Z22A	baz=139			⇓PKiKP	**PKiKP**	**00 20 42.0**	**-1.7**
	baz=139							
121A	**Cookes Peak, D**	**139.66**	**35**	⇑PKiKP	**PKPdf**	**00 20 42.2**	**+0.6**
121A	baz=140			⇑PKiKP	**PKPdf**	**00 20 42.2**	**+0.6**
121A	baz=140			⇑PKiKP	**PKPdf**	**00 20 42.2**	**+0.6**
	baz=140							
220A	**Playas Peak, P**	**139.69**	**36**	⇓PKiKP	**PKPdf**	**00 20 42.1**	**+0.5**
220A	baz=140			⇓PKiKP	**PKPdf**	**00 20 42.1**	**+0.5**

baz=140
220A ⇓PKiKP **PKPdf 00 20 42.1 +0.5**
baz=140
W26A Owens Ranch, T 139.79 28 ⇓PKiKP **PKPdf 00 20 41.9 +0.2**
baz=140
W26A ⇓PKiKP **PKPdf 00 20 41.9 +0.2**
baz=140
W26A ⇓PKiKP **PKPdf 00 20 41.9 +0.2**
baz=140
X25A Clemmons Ranch139.80 30 ⇓PKiKP **PKPdf 00 20 42.0 +0.3**
baz=140
X25A ⇓PKiKP **PKPdf 00 20 42.0 +0.3**
baz=140
X25A ⇓PKiKP **PKPdf 00 20 42.0 +0.3**
baz=140
SFIN Scholer Farm 139.83 6 ⇓PKiKP **PKPdf 00 20 41.2 -0.2**
baz=140
SFIN ⇓PKiKP **PKPdf 00 20 41.2 -0.2**
baz=140
SFIN ⇓PKiKP **PKPdf 00 20 41.2 -0.2**
baz=140
Y24A Capitan 139.88 31 ⇓PKiKP **PKPdf 00 20 41.2 -0.8**
baz=140
Y24A ⇓PKiKP **PKPdf 00 20 41.2 -0.8**
baz=140
Y24A ⇓PKiKP **PKPdf 00 20 41.2 -0.8**
baz=140
V28A Channing 139.95 26 ⇓PKiKP **PKPdf 00 20 41.5 -0.4**
baz=140
V28A ⇓PKiKP **PKPdf 00 20 41.5 -0.4**
baz=140
V28A ⇓PKiKP **PKPdf 00 20 41.5 -0.4**
baz=140
Z23A Rita Site, Whi 139.98 33 ⇑PKiKP **PKPdf 00 20 41.7 -0.3**
baz=140
Z23A ⇑PKiKP **PKPdf 00 20 41.7 -0.3**
baz=140
Z23A ⇑PKiKP **PKPdf 00 20 41.7 -0.3**
baz=140
122A Conniff Cattle 139.98 34 ⇓PKiKP **PKPdf 00 20 42.1 0.0**
baz=140
122A ⇓PKiKP **PKPdf 00 20 42.1 0.0**
baz=140
122A ⇓PKiKP **PKPdf 00 20 42.1 0.0**
baz=140
221A Mesquite Ranch 140.05 35 ⇑PKiKP **PKPdf 00 20 42.9 +0.7**
baz=140
221A ⇑PKiKP **PKPdf 00 20 42.9 +0.7**
baz=140
221A ⇑PKiKP **PKPdf 00 20 42.9 +0.7**
baz=140
W27A Bowe Ranch, En 140.14 28 ⇓PKiKP **PKPdf 00 20 42.5 +0.2**
baz=140
W27A ⇓PKiKP **PKPdf 00 20 42.5 +0.2**
baz=140
W27A ⇓PKiKP **PKPdf 00 20 42.5 +0.2**
baz=140
V29A Stinnett 140.15 25 ⇓PKiKP **PKPdf 00 20 42.4 +0.2**
baz=140
V29A ⇓PKiKP **PKPdf 00 20 42.4 +0.2**
baz=140
V29A ⇓PKiKP **PKPdf 00 20 42.4 +0.2**
baz=140
X26A CR and CF Fran 140.20 29 ⇓PKiKP **PKPdf 00 20 42.5 +0.1**
baz=140
X26A ⇓PKiKP **PKPdf 00 20 42.5 +0.1**
baz=140
X26A ⇓PKiKP **PKPdf 00 20 42.5 +0.1**
baz=140
ACSO Alum Creek Sta 140.26 1 PFAKE 00 20 50.0 +7.8
ACSO LR LR
comp=Z,2μm,19.0s
Y25A Mesa, Roswell 140.27 30 ⇑PKiKP **PKPdf 00 20 42.5 -0.1**
baz=140
Y25A ⇑PKiKP **PKPdf 00 20 42.5 -0.1**
baz=140
Y25A ⇑PKiKP **PKPdf 00 20 42.5 -0.1**
baz=140
222A Williams Famil 140.37 35 ⇑PKiKP **PKiKP 00 20 43.5 -1.8**
baz=140
222A ⇑PKiKP **PKiKP 00 20 43.5 -1.8**
baz=140
222A ⇑PKiKP **PKiKP 00 20 43.5 -1.8**
baz=140
W28A Vega 140.37 27 ⇓PKiKP **PKPdf 00 20 42.6 0.0**
baz=140
W28A ⇓PKiKP **PKPdf 00 20 42.6 0.0**
baz=140
W28A ⇓PKiKP **PKPdf 00 20 42.6 0.0**
baz=140
Z24A Sheeppen Canyo 140.39 32 ⇓PKiKP **PKPdf 00 20 43.3 +0.5**
baz=140
Z24A ⇓PKiKP **PKPdf 00 20 43.3 +0.5**
baz=140
Z24A ⇓PKiKP **PKPdf 00 20 43.3 +0.5**
baz=140
123A Bell Site, Whi 140.44 33 ⇑PKiKP **PKPdf 00 20 43.3 +0.4**
baz=140
123A ⇑PKiKP **PKPdf 00 20 43.3 +0.4**
baz=140
123A ⇑PKiKP **PKPdf 00 20 43.3 +0.4**
baz=140
X27A F and S Farms, 140.46 28 ⇓PKiKP **PKPdf 00 20 43.0 +0.1**
baz=140
X27A ⇓PKiKP **PKPdf 00 20 43.0 +0.1**
baz=140
X27A ⇓PKiKP **PKPdf 00 20 43.0 +0.1**
baz=140
Y26A Elida 140.70 29 ⇓PKiKP **PKPdf 00 20 43.8 +0.4**
baz=140
Y26A ⇓PKiKP **PKPdf 00 20 43.8 +0.4**
baz=140
Y26A ⇓PKiKP **PKPdf 00 20 43.8 +0.4**
baz=140
Z25A Roswell 140.76 31 ⇑PKiKP **PKPdf 00 20 43.7 +0.3**
baz=140
Z25A ⇑PKiKP **PKPdf 00 20 43.7 +0.3**
baz=140
Z25A ⇑PKiKP **PKPdf 00 20 43.7 +0.3**
baz=140
223A Chaparral, Ant 140.82 34 ⇓PKiKP **PKPdf 00 20 43.1 -0.5**
baz=141
223A ⇓PKiKP **PKPdf 00 20 43.1 -0.5**
baz=141
223A ⇓PKiKP **PKPdf 00 20 43.1 -0.5**
baz=141
AMTX Amarillo 140.91 26 PFAKE 00 20 50.0 +6.4
AMTX LR LR
comp=Z,2μm,20.0s
AMTX Amarillo 140.91 26 ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
AMTX ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
AMTX ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
AMTX ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
AMTX ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
AMTX ⇑PKiKP **PKPdf 00 20 43.4 -0.2**
baz=141
Y27A Causey 141.06 29 ⇓PKiKP **PKPdf 00 20 43.9 -0.1**
baz=141
Y27A ⇓PKiKP **PKPdf 00 20 43.9 -0.1**
baz=141
Y27A ⇓PKiKP **PKPdf 00 20 43.9 -0.1**
baz=141
Z26A Caprock 141.15 30 ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
Z26A ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
Z26A ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
MSTX Muleshoe 141.17 28 ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
MSTX ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
MSTX ⇑PKiKP **PKPdf 00 20 44.1 -0.1**
baz=141
Z27A Tatum 141.49 29 ⇑PKiKP **PKPdf 00 20 44.4 -0.3**
baz=141
Z27A ⇑PKiKP **PKPdf 00 20 44.4 -0.3**
baz=141
Z27A ⇑PKiKP **PKPdf 00 20 44.4 -0.3**
baz=141
126A Clayton Basin, 141.62 31 ⇑PKiKP **PKPdf 00 20 44.8 -0.2**
baz=141
126A ⇑PKiKP **PKPdf 00 20 44.8 -0.2**
baz=141
126A ⇑PKiKP **PKPdf 00 20 44.8 -0.2**
baz=141
MNTX Cornudas Mount 141.63 33 PFAKE 00 21 00.0 +15
MNTX LR LR
comp=Z,945nm,20.0s
MNTX Cornudas Mount 141.63 33 ⇓PKiKP **PKPdf 00 20 45.1 +0.1**
baz=141
MNTX ⇓PKiKP **PKPdf 00 20 45.1 +0.1**
baz=141
MNTX ⇓PKiKP **PKPdf 00 20 45.1 +0.1**
baz=141
MNTX ⇓PKiKP **PKPdf 00 20 45.1 +0.1**
baz=141
MNTX ⇓PKiKP **PKPdf 00 20 45.1 +0.1**
baz=141
324A Moseley Ranch, 141.77 34 ⇓PKiKP **PKPdf 00 20 45.6 +0.2**
baz=142
324A ⇓PKiKP **PKPdf 00 20 45.6 +0.2**
baz=142
324A ⇓PKiKP **PKPdf 00 20 45.6 +0.2**
baz=142
127A Arkansas Junct 141.93 30 ⇑PKiKP **PKPdf 00 20 45.3 -0.2**
baz=142
127A ⇑PKiKP **PKPdf 00 20 45.3 -0.2**
baz=142
127A ⇑PKiKP **PKPdf 00 20 45.3 -0.2**
baz=142
RPN Rapa Nui 141.98 138 PFAKE 00 21 00.0 +14
RPN LR LR
comp=Z,822nm,19.0s
226A Malaga, Loving 142.04 32 ⇓PKiKP **PKPdf 00 20 45.5 -0.2**
baz=142
226A ⇓PKiKP **PKPdf 00 20 45.5 -0.2**
baz=142
226A ⇓PKiKP **PKPdf 00 20 45.5 -0.2**
baz=142
CBN Corbin 142.08 354 PFAKE 00 21 00.0 +15
CBN LR LR
comp=Z,1μm,21.0s
325A Bean Ranch, Si 142.11 33 ⇑PKiKP **PKPdf 00 20 45.5 -0.4**
baz=142
325A ⇑PKiKP **PKPdf 00 20 45.5 -0.4**
baz=142
325A ⇑PKiKP **PKPdf 00 20 45.5 -0.4**
baz=142
TUL1 Tulsa 142.27 19 ⇓PKPdf **PKPdf 00 20 42.2 -3.7**
baz=142
TUL1 ⇓PKPdf **PKPdf 00 20 42.2 -3.7**
baz=142
TUL1 ⇓PKPdf **PKPdf 00 20 42.2 -3.7**
baz=142
227A Bennet, Jal 142.50 31 ⇑PKPdf **PKPdf 00 20 43.2 -3.3**
baz=142
227A ⇑PKPdf **PKPdf 00 20 43.2 -3.3**
baz=142
227A ⇑PKPdf **PKPdf 00 20 43.2 -3.3**
baz=142
425A Indio Mountain 142.55 34 ⇑PKPdf **PKPdf 00 20 43.9 -2.9**
baz=142
425A ⇑PKPdf **PKPdf 00 20 43.9 -2.9**
baz=142
425A ⇑PKPdf **PKPdf 00 20 43.9 -2.9**
baz=142
326A Caldwell Ranch 142.69 32 ⇓PKPdf **PKPdf 00 20 43.7 -3.2**
baz=142
326A ⇓PKPdf **PKPdf 00 20 43.7 -3.2**
baz=142
326A ⇓PKPdf **PKPdf 00 20 43.7 -3.2**
baz=142
BDFB Brasilia 143.06 243 PKhKP PKPpre 00 20 44.0
comp=Z,16nm,1.1s,baz=87,slow=3.1,SNR=12
BDFB PKP **PKPdf 00 20 48.7 +0.8**
comp=Z,12nm,0.9s,baz=136,slow=3.1,SNR=7.7
BDFB Brasilia 143.06 243 *i* PKIKP PKPbc 00 20 44.0 -0.8
BDFB 00 20 48.7
BDFB pmax pmax
comp=Z,16nm,1.1s
BDFB Brasilia 143.06 243 PKPpre PKPpre 00 20 44.0
BDFB PKP **PKPdf 00 20 48.7 +0.8**
426A McDonald Obser 143.16 33 ⇑PKPdf PKPbc 00 20 44.6 -0.2
baz=143
426A ⇑PKPdf PKPbc 00 20 44.6 -0.2
baz=143
426A ⇑PKPdf PKPbc 00 20 44.6 -0.2
baz=143
328A Wristen Ranch, 143.25 31 ⇓PKPdf PKPbc 00 20 44.8 0.0
baz=143
328A ⇓PKPdf PKPbc 00 20 44.8 0.0
baz=143
328A ⇓PKPdf PKPbc 00 20 44.8 0.0
baz=143
BLA Blacksburg 143.27 358 PFAKE 00 21 00.0 +12
BLA LR LR
comp=Z,2μm,19.0s
427A Hayter Ranch, 143.36 32 ⇓PKPdf PKPbc 00 20 45.2 0.0
baz=143
427A ⇓PKPdf PKPbc 00 20 45.2 0.0
baz=143
427A ⇓PKPdf PKPbc 00 20 45.2 0.0
baz=143
526A Mary Lane Ranc 143.60 34 ⇓PKPdf PKPbc 00 20 46.3 +0.4
baz=143
526A ⇓PKPdf PKPbc 00 20 46.3 +0.4
baz=143
526A ⇓PKPdf PKPbc 00 20 46.3 +0.4
baz=143
527A Woodward Ranch143.79 33 ⇓PKPdf PKPbc 00 20 46.9 +0.3
baz=144
527A ⇓PKPdf PKPbc 00 20 46.9 +0.3
baz=144
527A ⇓PKPdf PKPbc 00 20 46.9 +0.3
baz=144
428A Kincaid Ranch, 143.83 31 ⇑PKPdf **PKPdf 00 20 47.2 -1.7**
baz=144
428A ⇑PKPdf **PKPdf 00 20 47.2 -1.7**
baz=144
428A ⇑PKPdf **PKPdf 00 20 47.2 -1.7**
baz=144
626A Big Bend Ranch 143.96 34 ⇑PKPdf PKPbc 00 20 47.4 +0.4
baz=144
626A ⇑PKPdf PKPbc 00 20 47.4 +0.4
baz=144
626A ⇑PKPdf PKPbc 00 20 47.4 +0.4
baz=144
MIAR Mount Ida 144.21 17 PFAKE 00 21 00.0 +11
MIAR LR LR
comp=Z,1μm,20.0s
528A Cox Ranch, San 144.23 32 ⇓PKPdf **PKPdf 00 20 48.3 -1.4**
baz=144
528A ⇓PKPdf **PKPdf 00 20 48.3 -1.4**
baz=144
528A ⇓PKPdf **PKPdf 00 20 48.3 -1.4**
baz=144
BBSR BB Station 144.26 335 PFAKE 00 21 00.0 +11
BBSR LR LR
comp=Z,824nm,21.0s
TXAR Lajitas Array 144.39 34 PKP **PKPdf 00 20 48.8 -1.2**
comp=Z,44nm,0.9s,baz=280,slow=2.2,SNR=120
TXAR Lajitas Array 144.39 34 PKIKP **PKPdf 00 20 48.8 -1.2**
TXAR pmax pmax
comp=Z,44nm,1.0s
TXAR Lajitas Array 144.39 34 PKP **PKPdf 00 20 48.8 -1.2**
627A Terlingua Ranc 144.45 34 ⇑PKPdf **PKPdf 00 20 49.0 -1.1**
baz=144
627A ⇑PKPdf **PKPdf 00 20 49.0 -1.1**
baz=144
627A ⇑PKPdf **PKPdf 00 20 49.0 -1.1**
baz=144
628A Black Gap, Mar 144.70 33 ⇓PKPdf **PKPdf 00 20 49.6 -0.9**
baz=144
628A ⇓PKPdf **PKPdf 00 20 49.6 -0.9**
baz=144
628A ⇓PKPdf **PKPdf 00 20 49.6 -0.9**
baz=144
FCH Farellones 144.82 197 *eP* **PKPab 00 20 48.0 -1.8**
PLAL Pickwick Lake 145.02 9 PFAKE 00 21 00.0 +9.3
PLAL LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 145.06 354 PFAKE 00 21 00.0 +9.2
CNNC LR LR
comp=Z,2μm,21.0s
OXF Oxford 145.24 11 PFAKE 00 21 00.0 +8.9
OXF LR LR
comp=Z,1μm,20.0s
JCT Junction City 145.46 28 PFAKE 00 21 00.0 +8.1
JCT LR LR
comp=Z,935nm,21.0s
JCT Junction City 145.46 28 ⇓PKPdf **PKPab 00 20 52.0 +0.2**
baz=145
JCT ⇓PKPdf **PKPab 00 20 52.0 +0.2**
baz=145
JCT ⇓PKPdf **PKPab 00 20 52.0 +0.2**
baz=145
NATX Nacogdoches 146.44 20 PFAKE 00 21 00.0 +4.6
NATX LR LR
comp=Z,2μm,20.0s
MAIG Mazatlaan 146.99 45 P **PKPab 00 20 57.1 -0.7**
GOGA Godfrey 147.04 3 PFAKE 00 21 00.0 +2.3
GOGA LR LR
comp=Z,2μm,19.0s
LRAL Lakeview Retre 147.09 8 PFAKE 00 21 00.0 +2.1
LRAL LR LR
comp=Z,1μm,19.0s
NHSC New Hope 147.35 357 PFAKE 00 21 10.0 +11
NHSC LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 148.83 28 PFAKE 00 21 10.0 +5.1
KVTX LR LR
comp=Z,1μm,19.0s
LCO Las Campanas 148.97 199 PFAKE 00 21 10.0 +4.2
LCO LR LR
comp=Z,1μm,19.0s
BRAL Brewton 149.07 9 PFAKE 00 21 10.0 +4.2
BRAL LR LR
comp=Z,2μm,19.0s
ANIG Ahuacatlan 149.71 46 P **PKPbc 00 21 04.3 +0.6**
ZAIG Zacatecas 149.90 41 P **PKPbc 00 21 05.1 +0.7**
CJM Chamela 150.29 49 P **PKPbc 00 21 05.1 +0.1**
ANWB Willy Bob 153.83 312 PFAKE 00 21 20.0 -6.0
ANWB LR LR
comp=Z,765nm,20.0s
SIV San Ignacio 153.90 231 PKP **PKPdf 00 21 06.0 +0.7**
comp=Z,4.6nm,1.2s,baz=153,slow=6.8,SNR=5.8
SIV PKPbc **PKPbc 00 21 11.9 -1.4**
comp=Z,6.2nm,1.0s,baz=141,slow=3.7,SNR=9.0
SIV PKPab **PKPab 00 21 27.2 +0.8**
comp=Z,17nm,1.0s,baz=130,slow=4.1,SNR=13
SIV San Ignacio 153.90 231 PKP **PKPdf 00 21 06.0 +0.7**
SIV PKPbc **PKPbc 00 21 11.9 -1.4**
SIV PKPab **PKPab 00 21 27.2 +0.8**
FDF Fort de France 155.06 306 PFAKE 00 21 20.0 -11
FDF LR LR
comp=Z,838nm,21.0s
GRTK Grand Turk 156.50 334 PFAKE 00 21 20.0 +11
GRTK LR LR
comp=Z,1μm,19.0s
SJG San Juan 156.56 320 PFAKE 00 21 20.0 +11
SJG LR LR
comp=Z,789nm,20.0s
GRGR Grenville 156.82 301 PFAKE 00 21 20.0 +11
GRGR LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 158.69 219 PKP **PKPdf 00 21 13.8 +1.5**
comp=Z,18nm,1.3s,baz=191,slow=2.2,SNR=8.1
LPAZ PKPab **PKPab 00 21 48.7 +1.1**
comp=Z,12nm,1.1s,baz=158,slow=5.4,SNR=6.6
LPAZ La Paz 158.69 219 PKIKP **PKPdf 00 21 13.8 +1.5**
LPAZ pmax pmax
comp=Z,18nm,1.3s
LPAZ La Paz 158.69 219 PKP **PKPdf 00 21 13.8 +1.5**
LPAZ PKPab **PKPab 00 21 48.7 +1.1**
LPAZ LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 158.78 332 PFAKE 00 21 20.0 +8.3
SDDR LR LR
comp=Z,1μm,20.0s
CMIG Matias Romero 158.93 37 PKP **PKPdf 00 21 11.8 0.0**
comp=Z,0.9nm,0.6s,baz=169,slow=4.9,SNR=5.7
CMIG PKPab **PKPab 00 21 49.1 +1.3**
comp=Z,18nm,1.1s,baz=300,slow=3.8,SNR=11
CMIG Matias Romero 158.93 37 PKP **PKPdf 00 21 11.8 0.0**
CMIG PKPab **PKPab 00 21 49.1 +1.3**
SAML Samuel 159.30 243 PFAKE 00 21 20.0 +7.6
SAML LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 159.44 342 PFAKE 00 21 20.0 +7.6
GTBY LR LR
comp=Z,1μm,20.0s
MTDJ Mount Denham 161.72 347 PFAKE 00 21 30.0 +15
MTDJ LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 166.00 308 PFAKE 00 21 30.0 +11
SDV LR LR
comp=Z,431nm,19.0s
NNA Nana 166.82 202 PFAKE 00 21 30.0 +10
NNA LR LR
comp=Z,1μm,20.0s
JTS JuntasAbangare 169.61 17 PFAKE 00 21 30.0 +8.5
JTS LR LR
comp=Z,1μm,21.0s
BCIP Isla Barro Col 170.99 348 PFAKE 00 21 30.0 +7.8
BCIP LR LR
comp=Z,1μm,20.0s
ROSC El Rosal 171.28 301 PKP **PKPdf 00 21 23.2 +0.3**
comp=Z,6.7nm,0.6s,baz=297,slow=6.8,SNR=8.6
ROSC El Rosal 171.28 301 PKP **PKPdf 00 21 23.2 +0.3**
PAYG Puerto Ayora 171.45 97 PFAKE 00 21 30.0 +7.4
PAYG LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 176.65 269 PFAKE 00 21 40.0 +15
OTAV LR LR
comp=Z,1μm,22.0s

ISCJB ***28*** *00:03:27.2±0.4, 0.˚20S±0.˚06×98.˚38E±0.˚07, h10km, mb4.8/24, MS5.4/1, Error ellipse: s-maj=10.6km s-min=7.0km az=144.1*

IDC ***28*** *00:03:27.7±0.6, 0.˚22S×98.˚34E, h0km, mb4.7/20, mb1 4.8/21, mb1mx4.7/29, mbtmp4.7/21, ML5.0/1, MS5.3/1, Ms1 5.3/1, ms1mx4.3/23, Error ellipse: s-maj=17.4km s-min=14.8km az=49.0*

NEIC ***28*** *00:03:29.0±0.3, 0.˚20S×98.˚42E, h10km, mb5.0/6, Error ellipse: s-maj=7.8km s-min=5.2km az=49.0*

ISC 28 00:03:29.0±0.5, 0.˚22S±0.˚08×98.˚39E±0.˚08, h10km, n76,
σ1s01/75, mb4.8/24, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KSM	**Kuching**	**12.04**	**82**	*e*Pn		**Pn**	**00 06 18.2**	**-2.7**
CM31	**Chiang Mai Arr**	**18.56**	**2**	*e*P		**Pn**	**00 07 45.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.56**	**2**	P		**Pn**	**00 07 45.9**	**-0.6**
	1.9nm,0.3s,baz=190,slow=11,SNR=4.6							
CMAR	**Chiang Mai Arr**	**18.56**	**2**	P		**Pn**	**00 07 45.9**	**-0.6**
KKM	**Kota Kinabalu**	**18.85**	**70**	*e*P		**Pn**	**00 07 53.2**	**+3.1**
KAPI	**Kappang**	**21.86**	**103**	P		**P**	**00 08 22.9**	**+0.7**
	16nm,0.6s,baz=276,slow=10,SNR=3.5							
KAPI	**Kappang**	**21.86**	**103**	*e*P		**P**	**00 08 21.1**	**-1.1**
	50nm,0.8s							
QIZ	**Qiongzhong**	**22.19**	**30**	*e*P		**P**	**00 08 25.4**	**-0.3**
DAV	**Davao City (W)**	**28.07**	**75**	*e*P		**P**	**00 09 20.8**	**-0.4**
LSA	**Lhasa**	**30.54**	**348**	*e*P		**P**	**00 09 42.8**	**-0.6**
	16nm,0.7s							
ENH	**Enshi**	**32.11**	**18**	*e*P		**P**	**00 09 56.7**	**+0.1**
	43nm,0.6s							
FITZ	**Fitzroy Crossi**	**32.15**	**125**	*e*P		**P**	**00 09 56.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.07**	**153**	*e*P		**P**	**00 10 39.2**	**-0.4**
WRA	**Warramunga Arr**	**40.29**	**121**	P		**P**	**00 11 06.8**	**-0.1**
	15nm,0.6s,baz=300,slow=9.1,SNR=4.7							
WRA	**Warramunga Arr**	**40.29**	**121**	P		**P**	**00 11 06.8**	**-0.1**
WRAB	**Tennant Creek**	**40.29**	**121**	*e*P		**P**	**00 11 06.8**	**-0.1**
WB2	**Warramunga Arr**	**40.30**	**121**	*e*P		**P**	**00 11 06.3**	**-0.5**
ASAR	**Alice Springs**	**41.60**	**127**	P		**P**	**00 11 18.2**	**+0.5**
	2.7nm,0.4s,baz=308,slow=2.9,SNR=4.4							
ASAR	**Alice Springs**	**41.60**	**127**	P		**P**	**00 11 18.2**	**+0.5**
BJT	**Baijiatuau**	**43.21**	**20**	*e*P		**P**	**00 11 30.4**	**0.0**
KBL	**Kabul**	**44.15**	**324**	P		**P**	**00 11 38.4**	**+0.1**
JNU	**Nakatsue**	**45.11**	**40**	P		**P**	**00 11 44.5**	**-1.2**
	27nm,0.9s,baz=208,slow=2.5,SNR=3.5							
JNU	**Nakatsue**	**45.11**	**40**	*e*P		**P**	**00 11 44.3**	**-1.5**
KSAR	**Wonju Array Be**	**46.33**	**33**	P		**P**	**00 11 55.5**	**+0.1**
KSRS	**Korea Array**	**46.36**	**33**	P		**P**	**00 11 55.5**	**-0.1**
	5.8nm,0.7s,baz=224,slow=8.3,SNR=5.7							
TKM2	**Tokmak 2**	**47.57**	**337**	*e*P		**P**	**00 12 05.9**	**+0.7**
AAK	**Ala-Archa**	**47.76**	**336**	*e*P		**P**	**00 12 06.8**	**+0.2**
EKS2	**Erkin-Say**	**48.08**	**336**	*e*P		**P**	**00 12 08.9**	**-0.2**
SONM	**Songino Array**	**48.36**	**7**	P		**P**	**00 12 12.2**	**+1.1**
	11nm,0.8s,baz=178,slow=8.5,SNR=3.1							
SONM	**Songino Array**	**48.36**	**7**	P		**P**	**00 12 12.2**	**+1.1**
MK31	**Makanchi Array**	**48.90**	**345**	*e*P		**P**	**00 12 15.3**	**+0.2**

MKAR	**Makanchi Array**	**48.90**	**345**	P		**P**	**00 12 16.2**	**+1.1**
	28nm,0.6s,baz=157,slow=8.7,SNR=9.3							
MKAR	**Makanchi Array**	**48.90**	**345**	P		**P**	**00 12 16.2**	**+1.1**
MAJO	**Matsushiro**	**51.95**	**41**	*eP*		**P**	**00 12 38.1**	**-0.4**
MJAR	**Matsushiro Arr**	**51.95**	**41**	P		**P**	**00 12 38.5**	**+0.1**
	3.9nm,0.8s,baz=235,slow=6.6,SNR=3.6							
MJAR	**Matsushiro Arr**	**51.95**	**41**	P		**P**	**00 12 38.5**	**+0.1**
USRK	**Ussuriysk Arra**	**53.39**	**30**	P		**P**	**00 12 49.8**	**+0.9**
	37nm,0.8s,baz=228,slow=5.3,SNR=7.6							
KURK	**Kurchatov**	**53.46**	**344**	P		**P**	**00 12 49.9**	**+0.6**
	11nm,0.7s,baz=163,slow=6.8,SNR=5.6							
KURK	**Kurchatov**	**53.46**	**344**	*eP*		**P**	**00 12 49.5**	**+0.2**
	20nm,0.9s							
ZALV	**Zalesovo Beam**	**55.14**	**350**	P		**P**	**00 13 02.1**	**+0.7**
	25nm,0.6s,baz=165,slow=6.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**55.14**	**350**	P		**P**	**00 13 02.1**	**+0.7**
BVAR	**Borovoye Array**	**57.97**	**340**	P		**P**	**00 13 21.6**	**-0.1**
	6.2nm,0.6s,baz=146,slow=8.4,SNR=5.4							
BVAR	**Borovoye Array**	**57.97**	**340**	P		**P**	**00 13 21.6**	**-0.1**
BRVK	**Borovoye**	**58.03**	**340**	*eP*		**P**	**00 13 20.9**	**-1.2**
	9.4nm,0.5s							
CAN	**Canberra**	**58.60**	**132**	*eP*		**P**	**00 13 26.3**	**-0.2**
ARMA	**Armidale**	**58.75**	**126**	*eP*		**P**	**00 13 28.5**	**+0.8**
KMBO	**Kilima Mbogo**	**61.13**	**269**	*eP*		**P**	**00 13 42.9**	**-1.7**
HNR	**Honiara**	**61.94**	**101**	P		**P**	**00 13 50.4**	**+0.7**
	51nm,0.4s,baz=186,slow=6.0,SNR=3.9							
HNR	**Honiara**	**61.94**	**101**	P		**P**	**00 13 50.4**	**+0.7**
GNI	**Garni**	**63.13**	**316**	*eP*		**P**	**00 13 57.0**	**-0.3**
MMAI	**Mount Meron Ar**	**67.69**	**306**	P		**P**	**00 14 27.5**	**+0.5**
	0.3nm,0.3s,baz=111,slow=7.9,SNR=2.6							
MMAI	**Mount Meron Ar**	**67.69**	**306**	P		**P**	**00 14 27.5**	**+0.5**
LBTB	**Lobatse**	**74.33**	**344**	P		**P**	**00 15 07.5**	**-0.1**
	6.7nm,0.8s,baz=126,slow=5.1,SNR=3.6							
LBTB	**Lobatse**	**74.33**	**244**	*eP*		**P**	**00 15 07.2**	**-0.4**
	6.2nm,0.6s							
OBN	**Obninsk**	**74.44**	**328**	*eP*		**P**	**00 15 06.6**	**-0.7**
BOSA	**Boshof**	**75.11**	**241**	P		**P**	**00 15 11.8**	**-0.2**
	12nm,1.1s,baz=115,slow=7.6,SNR=3.5							
BOSA	**Boshof**	**75.11**	**241**	*eP*		**P**	**00 15 11.5**	**-0.5**
	18nm,1.1s							
AKASG	**Malin Array Be**	**77.09**	**322**	P		**P**	**00 15 21.4**	**-1.2**
	4.4nm,0.8s,baz=85,slow=5.3,SNR=3.2							
AKASG	**Malin Array Be**	**77.09**	**322**	P		**P**	**00 15 21.4**	**-1.2**
MLR	**Muntele Rosu**	**77.90**	**317**	P		**P**	**00 15 27.5**	**0.0**
	2.4nm,1.1s,baz=115,slow=7.9,SNR=3.3							
MLR	**Muntele Rosu**	**77.90**	**317**	P		**P**	**00 15 27.5**	**0.0**
FINES	**FINESS Array B**	**81.79**	**332**	P		**P**	**00 15 47.8**	**-0.2**
	2.6nm,0.5s,baz=101,slow=6.1,SNR=3.8							
FINES	**FINESS Array B**	**81.79**	**332**	P		**P**	**00 15 47.8**	**-0.2**
ARCES	**ARCESS Array B**	**84.26**	**340**	P		**P**	**00 16 00.7**	**0.0**
	2.3nm,0.7s,baz=107,slow=6.1,SNR=3.2							
ARCES	**ARCESS Array B**	**84.26**	**340**	P		**P**	**00 16 00.7**	**0.0**
QSPA	**South Pole Qui**	**89.74**	**180**	P		**P**	**00 16 28.6**	**+1.1**
	4.0nm,1.0s,baz=318,slow=2.7,SNR=2.5							
QSPA	**South Pole Qui**	**89.74**	**180**	*eP*		**P**	**00 16 28.8**	**+1.3**
TORD	**Torodi Ar. Bea**	**96.56**	**283**	LR		LR	00 59 32.9	
	comp=Z,1μm,18.9s,bar=40,slow=35							
YKA	**Yellowknife Ar**	**113.12**	**16**	Pdiff		**Pdif**	**00 18 15.7**	**+3.0**
	0.2nm,0.3s,baz=331,slow=5.0,SNR=5.2							
YKA	**Yellowknife Ar**	**113.12**	**16**	Pdif		**Pdif**	**00 18 15.7**	**+3.0**
NVAR	**Mina Array Bea**	**129.21**	**37**	PKP		**PKPdf**	**00 22 40.3**	**+1.9**
	4.4nm,1.1s,baz=306,slow=3.1,SNR=3.6							
NVAR	**Mina Array Bea**	**129.21**	**37**	PKP		**PKPdf**	**00 22 40.3**	**+1.9**
PDAR	**Pinedale Array**	**130.77**	**27**	PKP		**PKPdf**	**00 22 40.5**	**-0.8**
	6.0nm,1.1s,baz=297,slow=0.3,SNR=6.0							
PDAR	**Pinedale Array**	**130.77**	**27**	PKP		**PKPdf**	**00 22 40.5**	**-0.8**
TXAR	**Lajitas Array**	**144.20**	**34**	PKP		**PKPdf**	**00 23 06.0**	**-0.1**
	6.1nm,0.7s,baz=344,slow=0.5,SNR=9.0							
TXAR	**Lajitas Array**	**144.20**	**34**	PKP		**PKPdf**	**00 23 06.0**	**-0.1**

*ATH **28** 00:12:08.9, 38°.23N×21°.56E, h22km±1km, MD2.7/6*
*CSEM **28** 00:12:08.9±0.2, 38°.24N×21°.53E, h12km, ML2.1/4, Error ellipse: s-maj=5.4km s-min=3.5km az=179.0*
*ISCJB **28** 00:12:09.1±0.4, 38°.24N±0°.04×21°.54E±0°.03, h22km±4km, Error ellipse: s-maj=6.7km s-min=4.2km az=162.9*
*THE **28** 00:12:09.2, 38°.23N×21°.56E, h21km±1km, ML2.1/4, Error ellipse: s-maj=1.5km s-min=0.5km az=163.0*

ISC 28 00:12:09.3±0.9, 38°.23N±0°.03×21°.56E±0°.02, h19km±2km, n39, σ0°.53/63, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.18**	**204**	P	**Pg**	**00 12 14.0**	**-0.1**
RLS				S	**Sg**	**00 12 18.1**	**+0.8**
RLS	**Riolos of Patr**	**0.18**	**204**	*e*PB	**Pg**	**00 12 14.1**	**-0.1**
RLS				*e*SB	**Sg**	**00 12 18.2**	**+0.9**
RLS	**Riolos of Patr**	**0.18**	**204**	P	**Pg**	**00 12 14.0**	**-0.1**
RLS				S	**Sg**	**00 12 18.1**	**+0.8**
UPR	**University Cam**	**0.19**	**72**	P	**Pb**	**00 12 14.0**	**+0.7**
UPR				S	**Sg**	**00 12 18.1**	**+0.6**
UPR	**University Cam**	**0.19**	**72**	*e*PB	**Pb**	**00 12 13.8**	**+0.5**
UPR				*e*SB	**Sg**	**00 12 18.2**	**+0.7**
UPR	**University Cam**	**0.19**	**72**	*e*Pb	**Pb**	**00 12 13.8**	**+0.5**
UPR				S	**Sg**	**00 12 18.1**	**+0.6**
LAKA	**Lakka**	**0.33**	**87**	P	**Pg**	**00 12 16.1**	**-0.3**
LAKA				S	**Sg**	**00 12 21.5**	**+0.2**
LAKA	**Lakka**	**0.33**	**87**	P	**Pg**	**00 12 16.1**	**-0.3**
LAKA				S	**Sg**	**00 12 21.5**	**+0.2**
EFP	**Efpalio**	**0.34**	**54**	P	**Pg**	**00 12 16.0**	**-0.6**
EFP				S	**Sg**	**00 12 22.0**	**+0.5**
EFP	**Efpalio**	**0.34**	**54**	*e*PB	**Pg**	**00 12 16.0**	**-0.6**
EFP				*e*SB	**Sg**	**00 12 21.9**	**+0.5**
EFP	**Efpalio**	**0.34**	**54**	P	**Pg**	**00 12 16.0**	**-0.6**
EFP				S	**Sg**	**00 12 22.0**	**+0.5**
TRIZ	**Trizonia**	**0.43**	**71**	P	**Pg**	**00 12 17.5**	**-0.6**
TRIZ				S	**Sg**	**00 12 24.5**	**+0.5**
TRIZ	**Trizonia**	**0.43**	**71**	P	**Pg**	**00 12 17.5**	**-0.6**
TRIZ				S	**Sg**	**00 12 24.5**	**+0.5**
KALE	**Kalithea**	**0.48**	**70**	P	**Pb**	**00 12 18.3**	**-1.0**
KALE				S	**Sg**	**00 12 26.1**	**+0.3**
KALE	**Kalithea**	**0.48**	**70**	P	**Pb**	**00 12 18.3**	**-1.0**
KALE				S	**Sg**	**00 12 26.1**	**+0.3**
KFL	**Anninata**	**0.62**	**259**	P	**Pb**	**00 12 21.1**	**-0.3**
KFL	**Anninata**	**0.62**	**259**	P	**Pb**	**00 12 21.1**	**-0.3**
GUR	**Goura**	**0.68**	**115**	P	**Pb**	**00 12 21.9**	**-0.7**
GUR				S	**Sg**	**00 12 32.4**	**+0.5**
GUR	**Goura**	**0.68**	**115**	*e*PB	**Pb**	**00 12 21.9**	**-0.7**
GUR				*e*SN	**Sg**	**00 12 32.5**	**+0.5**
GUR	**Goura**	**0.68**	**115**	P	**Pb**	**00 12 21.9**	**-0.7**
GUR				S	**Sg**	**00 12 32.4**	**+0.5**
EVR	**Evrytania**	**0.72**	**16**	P	**Pb**	**00 12 22.9**	**-0.3**
EVR	**Evrytania**	**0.72**	**16**	*e*PN	**Pb**	**00 12 23.3**	**+0.1**
EVR				*e*SN	**Sb**	**00 12 33.0**	**+0.3**
EVR	**Evrytania**	**0.72**	**16**	P	**Pb**	**00 12 22.9**	**-0.3**
EVR	**Evrytania**	**0.72**	**16**	*e*Pn	**Pb**	**00 12 23.3**	**+0.1**
EVR				*e*Sn	**Sb**	**00 12 33.0**	**+0.3**
VLS	**Valsamata**	**0.77**	**267**	P	**Pb**	**00 12 23.2**	**-0.8**
VLS	**Valsamata**	**0.77**	**267**	*e*PN	**Pb**	**00 12 23.3**	**-0.8**
VLS				*e*SN	**Sn**	**00 12 36.0**	**-0.2**
VLS	**Valsamata**	**0.77**	**267**	P	**Pb**	**00 12 23.2**	**-0.8**
VLS				*e*Sn	**Sn**	**00 12 36.0**	**-0.2**
DSF	**Desfina**	**0.78**	**76**	P	**Pb**	**00 12 23.7**	**-0.7**
DSF				S	**Sg**	**00 12 35.8**	**+0.7**
DSF	**Desfina**	**0.78**	**76**	P	**Pb**	**00 12 23.7**	**-0.7**
DSF				S	**Sg**	**00 12 35.8**	**+0.7**
LKD2	**Lefkada island**	**0.90**	**309**	*e*PN	**Pb**	**00 12 26.3**	**-0.1**
LKD2	**Lefkada island**	**0.90**	**309**	*e*Pn	**Pb**	**00 12 26.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.91**	**30**	P	**Pb**	**00 12 26.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.91**	**30**	P	**Pb**	**00 12 26.3**	**-0.1**
LKR	**Lokris**	**1.21**	**69**	*e*PN	**Pn**	**00 12 31.3**	**+0.1**
LKR	**Lokris**	**1.21**	**69**	*e*Pn	**Pn**	**00 12 31.3**	**+0.1**
THL	**Klokotos Trika**	**1.38**	**15**	*e*PN	**Pb**	**00 12 34.9**	**+0.3**
THL	**Klokotos Trika**	**1.38**	**15**	*e*Pn	**Pb**	**00 12 34.9**	**+0.3**
DID	**Didima**	**1.51**	**118**	*e*PN	**Pb**	**00 12 37.2**	**+0.5**
DID	**Didima**	**1.51**	**118**	*e*Pn	**Pb**	**00 12 37.2**	**+0.5**

*ISK **28** 00:23:00.7, 37°.60N×35°.60E, h2km, MD3.5*
*ISCJB **28** 00:23:01.8±0.5, 37°.58N±0°.03×35°.61E±0°.03, h7km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=30.4*
*CSEM **28** 00:23:01.7±0.1, 37°.58N×35°.63E, h2km, MD3.5, Error ellipse: s-maj=4.0km s-min=3.3km az=23.0*
*DDA **28** 00:23:01.4, 37°.53N×35°.63E, h20km, MD3.6*

ISC 28 00:23:02.2±0.8, 37°.58N±0°.03×35°.64E±0°.02, h15km±5km, n60, σ1°.29/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.18**	**124**	*e*PG	**Pg**	**00 23 06.1**	**-0.5**
KOZT				*e*SG	**Sb**	**00 23 10.4**	**-0.3**
KOZT	**Kozan**	**0.18**	**124**	*e*Pg	**Pg**	**00 23 06.1**	**-0.5**
KOZT				*e*Sg	**Sb**	**00 23 10.4**	**-0.3**
ANDN	**Andirin**	**0.56**	**90**	*i* P	Pg	00 23 06.5	-6.8
ANDN				*i* S	**Sg**	**00 23 15.2**	**-5.6**
CEYT	**Ceyhan**	**0.58**	**171**	*e*PG	**Pg**	**00 23 13.1**	**-0.5**
CEYT				*e*SG	**Sb**	**00 23 22.1**	**0.0**
CEYT	**Ceyhan**	**0.58**	**171**	*e*Pg	**Pg**	**00 23 13.1**	**-0.5**
CEYT				*e*Sg	**Sb**	**00 23 22.1**	**0.0**
GULE	**Gulek**	**0.75**	**247**	*i* P	**Pg**	**00 23 16.0**	**-0.8**
GULE				*i* S	**Sg**	**00 23 26.8**	**+0.1**
GULE	**Gulek**	**0.75**	**247**	*i* P	**Pg**	**00 23 16.0**	**-0.8**
GULE				*i* S	**Sg**	**00 23 26.8**	**+0.1**
NIG	**Nigde**	**0.97**	**303**	*e*PG	**Pb**	**00 23 20.2**	**-0.7**
NIG				*e*SG	**Sb**	**00 23 33.0**	**-0.6**
NIG	**Nigde**	**0.97**	**303**	*e*Pg	**Pb**	**00 23 20.2**	**-0.7**
NIG				*e*Sg	**Sb**	**00 23 33.0**	**-0.6**
KMRS	**Kahramanmaras**	**1.01**	**94**	*e*PG	**Pb**	**00 23 21.1**	**-0.3**
KMRS	**Kahramanmaras**	**1.01**	**94**	*e*Pg	**Pb**	**00 23 21.1**	**-0.3**
KRTS	**Karatas**	**1.03**	**192**	*e*PG	**Pb**	**00 23 20.6**	**-1.1**
KRTS	**Karatas**	**1.03**	**192**	*e*Pg	**Pb**	**00 23 20.7**	**-1.1**
MERS	**Mersin**	**1.14**	**232**	*e*PN	**Pb**	**00 23 23.4**	**-0.3**
MERS	**Mersin**	**1.14**	**232**	*e*Pn	**Pb**	**00 23 23.4**	**-0.3**
COBT	**Iskenderun**	**1.17**	**155**	*i* P	**Pn**	**00 23 23.8**	**-0.4**
COBT				*i* S	**Sb**	**00 23 38.8**	**-0.5**
COBT	**Iskenderun**	**1.17**	**155**	*i* P	**Pn**	**00 23 23.8**	**-0.4**
COBT				*i* S	**Sb**	**00 23 38.8**	**-0.5**
BNN	**Bunyan**	**1.28**	**7**	*e*PN	**Pn**	**00 23 25.0**	**-0.7**
BNN	**Bunyan**	**1.28**	**7**	*e*Pn	**Pn**	**00 23 25.0**	**-0.7**
GAZ	**Gaziantep**	**1.32**	**108**	*e*PN	**Pn**	**00 23 26.4**	**+0.2**
GAZ	**Gaziantep**	**1.32**	**108**	*e*Pn	**Pn**	**00 23 26.4**	**+0.2**
KUZU	**Kuzuini**	**1.41**	**125**	*i* P	**Pn**	**00 23 27.2**	**-0.2**
KUZU				*i* S	**Sn**	**00 23 45.8**	**+0.1**
KUZU	**Kuzuini**	**1.41**	**125**	*i* P	**Pn**	**00 23 27.2**	**-0.2**
KUZU				*i* S	**Sn**	**00 23 45.8**	**+0.1**
GZT	**Gaziantep**	**1.55**	**98**	*i* P	**Pn**	**00 23 29.6**	**+0.2**
GZT				*i* S	**Sg**	**00 23 55.6**	**+3.4**
YAYL	**Yayladag**	**1.59**	**166**	*i* P	**Pn**	**00 23 29.8**	**-0.2**
YAYL				*i* S	**Sn**	**00 23 49.5**	**-0.9**
YAYL	**Yayladag**	**1.59**	**166**	*i* P	**Pn**	**00 23 29.8**	**-0.2**
YAYL				*i* S	**Sn**	**00 23 49.5**	**-0.9**
SULT	**Sultanhani-AKS**	**1.79**	**291**	*e*PN	**Pn**	**00 23 33.4**	**+0.7**
SULT	**Sultanhani-AKS**	**1.79**	**291**	*e*Pn	**Pn**	**00 23 33.4**	**+0.7**
AKCD	**Akcadag**	**1.94**	**68**	*i* P	**Pn**	**00 23 35.5**	**+0.7**
AKCD				*i* S	**Sg**	**00 24 05.1**	**+0.3**
AKCD	**Akcadag**	**1.94**	**68**	*i* P	**Pn**	**00 23 35.5**	**+0.7**
AKCD				*i* S	**Sg**	**00 24 05.1**	**+0.3**
ATAB	**Bozova**	**2.12**	**92**	*i* P	**Pb**	**00 23 41.7**	**+1.4**
ATAB				*i* S	**Sb**	**00 24 06.9**	**+0.5**
ATAB	**Bozova**	**2.12**	**92**	*i* P	**Pb**	**00 23 41.7**	**+1.4**
ATAB				*i* S	**Sb**	**00 24 06.9**	**+0.5**
MALT	**Malatya**	**2.32**	**71**	*e*PN	**Pb**	**00 23 42.4**	**-1.5**
MALT	**Malatya**	**2.32**	**71**	*e*Pn	**Pb**	**00 23 42.4**	**-1.5**
MYA	**Malataya**	**2.33**	**71**	*e*PN	**Pn**	**00 23 41.7**	**+1.6**
MYA	**Malataya**	**2.33**	**71**	*e*Pn	**Pn**	**00 23 41.7**	**+1.6**
KAMT	**Kaman**	**2.34**	**320**	*e*PN	**Pn**	**00 23 41.1**	**+0.9**
KAMT	**Kaman**	**2.34**	**320**	*e*Pn	**Pn**	**00 23 41.1**	**+0.9**
EREN	**Erenkoy**	**2.36**	**210**	*e*PN	**Pn**	**00 23 41.7**	**+1.2**
EREN	**Erenkoy**	**2.36**	**210**	*e*Pn	**Pn**	**00 23 41.7**	**+1.2**
KONT	**Konya--Tatoy**	**2.62**	**279**	*e*PN	**Pn**	**00 23 45.0**	**+1.0**
KONT	**Konya--Tatoy**	**2.62**	**279**	*e*Pn	**Pn**	**00 23 45.0**	**+1.0**
LADK	**Ladik-KONYA**	**2.66**	**284**	*e*PN	**Pn**	**00 23 45.6**	**+0.9**
LADK	**Ladik-KONYA**	**2.66**	**284**	*e*Pn	**Pn**	**00 23 45.6**	**+0.9**
CORM	**Corum**	**2.71**	**343**	*e*PN	**Pn**	**00 23 46.5**	**+1.2**
CORM	**Corum**	**2.71**	**343**	*e*Pn	**Pn**	**00 23 46.5**	**+1.2**
AFSR	**Af˙ar-Bala (A**	**2.74**	**314**	*e*PN	**Pn**	**00 23 46.8**	**+1.0**
AFSR	**Af˙ar-Bala (A**	**2.74**	**314**	*e*Pn	**Pn**	**00 23 46.8**	**+1.0**
LFK	**Lefkose**	**2.86**	**217**	*e*PN	**Pn**	**00 23 48.6**	**+1.3**
LFK	**Lefkose**	**2.86**	**217**	*e*Pn	**Pn**	**00 23 48.6**	**+1.3**
RSDY	**Resadiye-TOKAT**	**3.10**	**25**	*e*PN	**Pn**	**00 23 52.5**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.10**	**25**	*e*Pn	**Pn**	**00 23 52.5**	**+1.8**
CSS	**Prodhromos**	**3.21**	**216**	*e*PN	**Pn**	**00 23 54.3**	**+2.1**
CSS	**Prodhromos**	**3.21**	**216**	*e*Pn	**Pn**	**00 23 54.3**	**+2.1**
PTK	**Pertek**	**3.23**	**65**	*e*PN	**Pn**	**00 23 54.6**	**+2.0**
PTK	**Pertek**	**3.23**	**65**	*e*Pn	**Pn**	**00 23 54.6**	**+2.0**
LEF	**Lefka**	**3.31**	**223**	*e*PN	**Pn**	**00 23 55.5**	**+2.1**
LEF	**Lefka**	**3.31**	**223**	*e*Pn	**Pn**	**00 23 55.6**	**+2.1**
SUTC	**Sutluce-Ispart**	**3.69**	**270**	*e*PN	**Pn**	**00 24 00.5**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.69**	**270**	*e*Pn	**Pn**	**00 24 00.5**	**+1.7**

*IDC **28** 00:33:48.6±7.2, 38°.56N×89°.81E, h0km, mb1 3.4/3, mb1mx3.2/27, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=72.2km s-min=36.0km az=12.0*
*BJI **28** 00:33:48.1, 38°.34N×89°.90E, h19km, ML3.7/9*

ISC 28 00:33:46.9±2.1, 38°.5N±0°.2×89°.66E±0°.09, h10km, n8, σ1°62/10, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**5.57**	**345**	Pn	**Pn**	**00 35 12.3**	**+2.4**
WMQ				Sg	Sg	00 36 43.8	-1.9
WMQ				smax	smax		
	comp=N,130nm,0.7s						
WMQ				smax	smax		
	comp=E,79nm,0.7s						
GTA	**Gaotai**	**7.98**	**80**	*e*P	**Pn**	**00 35 42.8**	**-0.2**
GTA				pP	Pb	00 35 45.8	-20
GTA				sP		00 35 48.8	
GTA				S	**Sn**	**00 37 11.8**	**-1.6**
MK31	**Makanchi Array**	**9.95**	**329**	⇑Pn	**Pn**	**00 36 10.6**	**+0.7**
	comp=E,0.6nm,0.4s,baz=146,slow=14,SNR=39						
MK31				⇑Sn	**Sn**	**00 37 59.9**	**-1.6**
	comp=E,0.8nm,0.4s,baz=150,slow=21						
MK31				⇓Lg	Lg	00 38 44.6	
	comp=E,8.9nm,1.2s,baz=141,slow=27						
MKAR	**Makanchi Array**	**9.95**	**329**	Pn	**Pn**	**00 36 10.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=147,slow=14,SNR=23						
MKAR				Sn	**Sn**	**00 37 59.2**	**-2.4**
	comp=E,0.2nm,0.3s,baz=148,slow=21,SNR=3.6						
MKAR				Lg	Lg	00 39 01.7	
	comp=E,0.2nm,0.3s,baz=145,slow=30,SNR=2.8						
LZH	**Lanzhou**	**11.55**	**97**	*e*P	Pn	00 36 41.0	+9.0
LZH				pP		00 36 47.0	
LZH				sP		00 36 50.0	
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
TKM2	**Tokmak 2**	**11.57**	**297**	⇑Pn	**Pn**	**00 36 32.8**	**+0.5**
	comp=Z,1.0nm,0.5s						
TKM2				⇑Sn	Sn	00 38 36.5	-5.1
	comp=Z,2.1nm,0.5s						
TKM2				⇓Lg	Lg	00 39 43.0	
	comp=Z,3.7nm,1.2s						
SONM	**Songino Array**	**15.38**	**47**	Pn	**Pn**	**00 37 24.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=4.2						
SONM				Lg	Lg	00 41 52.2	
	comp=Z,0.1nm,0.3s,baz=237,slow=31,SNR=5.4						
ZALV	**Zalesovo Beam**	**15.86**	**349**	Pn	**Pn**	**00 37 30.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=3.6						

KRSC 28 00:34:36.2±1.4, 51°.75N×158°.85E, h34km±34km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.71**	**343**	P	Pb	00 34 50.6	+0.3
RUS				*e*S	Sb	00 35 01.1	+1.2
MTVR	**Mutnovka**	**0.84**	**331**	*e*P	Pb	00 34 52.6	-0.1
MTVR				*e*S	Sb	00 35 04.6	+0.8
ASAK	**Asacha**	**0.86**	**318**	P	Pb	00 34 53.1	+0.2
PET	**Petropavlovsk**	**1.28**	**355**	*e*P	Pb	00 34 58.8	-1.0
PET				*e*S	Sb	00 35 15.8	-0.1
MIPR	**Malaya Ipel'ka**	**1.40**	**293**	*e*P	Pb	00 35 00.7	-1.0
UGLR	**Uglovaya**	**1.46**	**359**	P	Pn	00 35 01.6	+1.3
SMAR	**Somma**	**1.52**	**359**	P	Pb	00 35 03.2	-0.8
AVH	**Avacha**	**1.52**	**357**	P	Pb	00 35 02.7	-1.2
SPN	**Mys Shipunski**	**1.53**	**28**	*e*S	Sb	00 35 23.8	+0.8
SDLR	**Sedlovina**	**1.53**	**1**	*e*P	Pn	00 35 02.0	+0.7
SDLR				*e*S	Sn	00 35 20.9	+0.8
KOK	**Koryaka**	**1.55**	**355**	*e*P	Pb	00 35 03.3	-1.2
MKZ	**Mys Kozlova**	**3.30**	**31**	*e*P	Pn	00 35 27.3	+1.9
KBTR	**Krutoberegovo**	**5.04**	**26**	*e*P	Pn	00 35 52.3	+3.0

*ISCJB **28** 00:34:53.8±0.6, 37°.25N±0°.03×35°.94E±0°.04, h3km±6km, Error ellipse: s-maj=5.4km s-min=4.7km az=166.6*
*CSEM **28** 00:34:53.9±0.2, 37°.26N×35°.95E, h12km, MD2.9, Error ellipse: s-maj=5.2km s-min=5.1km az=138.0*
*DDA **28** 00:34:53.5, 37°.26N×35°.95E, h19km, MD3.4*
*ISK **28** 00:34:53.6, 37°.31N×35°.98E, h18km, MD2.9*

ISC 28 00:34:53.6±0.9, 37°.27N±0°.03×35°.97E±0°.03, h12km±8km, n33, σ0°87/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.24**	**332**	*e*PG	**Pg**	**00 34 59.0**	**+0.3**
KOZT				*e*SG	**Sg**	**00 35 02.9**	**+0.6**
KOZT	**Kozan**	**0.24**	**332**	*e*Pg	**Pg**	**00 34 59.1**	**+0.3**
KOZT				*e*Sg	**Sg**	**00 35 02.9**	**+0.6**
CEYT	**Ceyhan**	**0.31**	**215**	*e*PG	**Pg**	**00 35 00.3**	**+0.4**
CEYT				*e*SG	**Sb**	**00 35 07.5**	**+1.4**
CEYT	**Ceyhan**	**0.31**	**215**	*e*Pg	**Pg**	**00 35 00.3**	**+0.4**
ANDN	**Andirin**	**0.43**	**44**	*i* P	Pg	00 34 55.4	-6.9
ANDN				*i* S	**Sg**	**00 35 03.6**	**-4.5**
COBT	**Iskenderun**	**0.78**	**163**	*i* P	**Pg**	**00 35 08.2**	**-0.6**
COBT	**Iskenderun**	**0.78**	**163**	*i* P	**Pg**	**00 35 08.2**	**-0.6**
KMRS	**Kahramanmaras**	**0.78**	**72**	*e*PG	**Pg**	**00 35 09.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.78**	**72**	*e*Pg	**Pg**	**00 35 09.1**	**+0.3**
KRTS	**Karatas**	**0.84**	**215**	*e*PG	**Pn**	**00 35 11.1**	**-0.2**
KRTS	**Karatas**	**0.84**	**215**	*e*Pg	**Pn**	**00 35 11.1**	**-0.2**
GULE	**Gulek**	**0.95**	**271**	*i* P	**Pb**	**00 35 11.8**	**-0.4**
GULE				*i* S	**Sn**	**00 35 26.2**	**-0.3**
GULE	**Gulek**	**0.95**	**271**	*i* P	**Pb**	**00 35 11.8**	**-0.4**
GULE				*i* S	**Sn**	**00 35 26.2**	**-0.3**
GAZ	**Gaziantep**	**1.00**	**95**	*e*PG	**Pg**	**00 35 13.2**	**+0.3**
GAZ	**Gaziantep**	**1.00**	**95**	*e*Pg	**Pg**	**00 35 13.2**	**+0.3**
KUZU	**Kuzuini**	**1.01**	**119**	*i* P	**Pg**	**00 35 13.8**	**+0.6**
KUZU				*i* S	**Sn**	**00 35 28.4**	**+0.5**
KUZU	**Kuzuini**	**1.01**	**119**	*i* P	**Pg**	**00 35 13.8**	**+0.6**
KUZU				*i* S	**Sn**	**00 35 28.4**	**+0.5**
MERS	**Mersin**	**1.22**	**251**	*e*PN	**Pb**	**00 35 16.6**	**-0.1**
MERS	**Mersin**	**1.22**	**251**	*e*Pn	**Pb**	**00 35 16.6**	**-0.1**
YAYL	**Yayladag**	**1.23**	**175**	*i* P	Pn	00 35 16.0	-0.8
YAYL				*i* S	**Sg**	**00 35 33.6**	**+0.1**
YAYL	**Yayladag**	**1.23**	**175**	*i* P	**Pn**	**00 35 16.0**	**-0.8**
YAYL				*i* S	**Sg**	**00 35 33.6**	**+0.1**
NIG	**Nigde**	**1.37**	**308**	*e*PN	**Pn**	**00 35 17.9**	**-0.9**
NIG	**Nigde**	**1.37**	**308**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.54**	**52**	P	Pn	01 14 28.8	-3.7
GSI	**Gunungsitoli**	**1.64**	**331**	P	Pn	01 14 32.7	-1.3
SBSI	**Sibolga**	**1.77**	**17**	P	Pg	01 14 39.2	+0.2
PPI	**Padang Panjang**	**2.06**	**99**	P	Pn	01 14 31.7	-8.0

*DJA **28** 01:18:37.0 ± 3.0, 0.57°S × 98.02°E, h0 km, **mb3.7**/6, **mb1 3.7**/6, **mb1mx3.6**/21, **mbtmp3.7**/6, Error ellipse: s-maj=131.8km s-min=22.6km az=57.0, Southern Sumatera*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.42**	**121**	P	P	01 26 11.1	-0.3
	0.4nm,0.7s,baz=299,slow=8.9,SNR=2.8						
ASAR	**Alice Springs**	**41.69**	**126**	P	P	01 26 22.1	+0.2
	0.3nm,0.5s,baz=292,slow=7.8,SNR=4.0						
SONM	**Songino Array**	**48.76**	**7**	P	P	01 27 17.6	-0.1
	0.9nm,0.5s,baz=196,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**49.14**	**346**	P	P	01 27 21.0	+0.4
	1.1nm,0.5s,baz=155,slow=9.1,SNR=19						
KURK	**Kurchatov**	**53.70**	**345**	P	P	01 27 53.9	-0.8
	0.3nm,0.5s,baz=160,slow=7.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**55.42**	**351**	P	P	01 28 06.7	-0.4
	0.4nm,0.4s,baz=170,slow=4.4,SNR=4.6						
TXAR	**Lajitas Array**	**144.70**	**34**	PKP	PKPbc	01 38 09.7	+0.2
	0.2nm,0.4s,baz=262,slow=0.8,SNR=5.2						

*DDA **28** 01:21:11.7, 37.30N × 35.98E, h6 km, MD3.2*
*ISK **28** 01:21:11.2, 37.30N × 36.00E, h18 km, MD2.6*
*CSEM **28** 01:21:12.1 ± 0.2, 37.29N × 35.97E, h2 km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.4km az=164.0*
ISC 28 01:21:12.0 ± 1.0, 37.29N ± 0.03 × 35.98E ± 0.02, h18 km ± 2km, n22, σ 0.56/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.23**	**327**	*e*PG	**Pb**	**01 21 16.7**	**-0.6**
KOZT				*e*SG	**Sg**	**01 21 21.3**	**+0.1**
KOZT	**Kozan**	**0.23**	**327**	*e*Pg	**Pb**	**01 21 16.7**	**-0.6**
KOZT				*e*Sg	**Sg**	**01 21 21.3**	**+0.1**
CEYT	**Ceyhan**	**0.34**	**214**	*e*PG	**Pg**	**01 21 18.7**	**-0.5**
CEYT				*e*SG	**Sb**	**01 21 24.9**	**+0.4**
CEYT	**Ceyhan**	**0.34**	**214**	*e*Pg	**Pg**	**01 21 18.7**	**-0.5**
CEYT				*e*Sg	**Sb**	**01 21 24.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.76**	**73**	*e*PG	**Pg**	**01 21 27.1**	**+0.2**
KMRS				*e*SG	**Sb**	**01 21 37.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.76**	**73**	*e*Pg	**Pg**	**01 21 27.2**	**+0.2**
KMRS				*e*Sg	**Sb**	**01 21 37.0**	**+0.2**
COBT	**Iskenderun**	**0.80**	**164**	*i* P	**Pb**	**01 21 27.0**	**-0.5**
COBT	**Iskenderun**	**0.80**	**164**	*i* P	**Pb**	**01 21 27.0**	**-0.5**
KRTS	**Karatas**	**0.87**	**214**	*e*PG	**Pb**	**01 21 28.2**	**-0.3**
KRTS	**Karatas**	**0.87**	**214**	*e*Pg	**Pb**	**01 21 28.2**	**-0.3**
GULE	**Gulek**	**0.96**	**270**	*i* P	**Pb**	**01 21 30.2**	**-0.1**
GULE				*i* S	**Sg**	**01 21 43.6**	**+0.1**
GULE	**Gulek**	**0.96**	**270**	*i* P	**Pb**	**01 21 30.2**	**-0.1**
GULE				*i* S	**Sg**	**01 21 43.6**	**+0.1**
GAZ	**Gaziantep**	**0.99**	**96**	*e*PG	**Pn**	**01 21 31.2**	**+0.2**
GAZ	**Gaziantep**	**0.99**	**96**	*e*Pg	**Pn**	**01 21 31.2**	**+0.2**
KUZU	**Kuzuini**	**1.01**	**120**	*i* P	**Pg**	**01 21 32.1**	**+0.3**
KUZU				*i* S	**Sn**	**01 21 45.6**	**+0.4**
KUZU	**Kuzuini**	**1.01**	**120**	*i* P	**Pg**	**01 21 32.1**	**+0.3**
KUZU				*i* S	**Sn**	**01 21 45.6**	**+0.4**
PINB	**Pinarbasi**	**1.42**	**13**	*i* P	**Pn**	**01 21 37.5**	**+0.3**
PINB				*i* S	**Sg**	**01 21 58.1**	**-0.1**
PINB	**Pinarbasi**	**1.42**	**13**	*i* P	**Pn**	**01 21 37.5**	**+0.3**
PINB				*i* S	**Sg**	**01 21 58.1**	**-0.1**
AKCD	**Akcadag**	**1.83**	**56**	*i* P	**Pb**	**01 21 44.5**	**-0.6**
AKCD				*i* S	**Sg**	**01 22 12.3**	**+1.1**
AKCD	**Akcadag**	**1.83**	**56**	*i* P	**Pb**	**01 21 44.5**	**-0.6**
AKCD				*i* S	**Sg**	**01 22 12.3**	**+1.1**
ATAB	**Bozova**	**1.85**	**84**	*i* P	**Pg**	**01 21 46.9**	**-0.7**
ATAB				*i* S	**Sg**	**01 22 10.4**	**-1.3**
ATAB	**Bozova**	**1.85**	**84**	*i* P	**Pg**	**01 21 46.9**	**-0.7**
ATAB				*i* S	**Sg**	**01 22 10.4**	**-1.3**

*DJA **28** 01:24:35.0 ± 2.1, 2°N ± 14°× 12°9E ± 1°9, h10 km, M4.9/3, mB5.3/3, mb5.0/3, MLv4.9/2, Mw(mB)4.7/3*
*IDC **28** 01:25:05.5 ± 0.8, 2.11N × 126.54E, h0 km, mb3.7/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=76.0km s-min=16.1km az=75.0*
ISC 28 01:25:02.7 ± 19.0, 2.0N ± 0.4 × 12.7E ± °, h10 km, n13, σ 3.9 10/4, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.26**	**176**	P	Pg	01 25 37.5	+11
SGSI	**Sangihe**	**2.40**	**313**	P	**Pn**	**01 25 42.0**	**-0.1**
MNI	**Manado**	**2.51**	**257**	P	**Pn**	**01 25 41.8**	**-1.9**
KMSI	**Cibinong**	**3.61**	**246**	P	**Pn**	**01 25 58.1**	**-0.6**
	229nm,0.8s,6µm						
LUWI	**Luwuk**	**5.45**	**236**	P	Pn	01 26 28.9	+4.8
MRSI	**Marisa**	**5.56**	**254**	P	**Pn**	**01 26 28.0**	**+2.4**
FITZ	**Fitzroy Crossi**	**20.07**	**185**	P	Pn	01 29 42.5	+4.2
	1.5nm,0.4s,baz=359,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**22.91**	**163**	P	P	01 30 14.3	+7.3
	3.0nm,0.5s,baz=340,slow=11,SNR=11						
WRA				PcP	PcP	01 34 02.8	+5.1
	0.4nm,0.5s,baz=328,slow=2.3,SNR=5.7						
ASAR	**Alice Springs**	**26.35**	**166**	P	P	01 30 45.1	+6.0
	0.5nm,0.5s,baz=342,slow=6.9,SNR=7.4						
ASAR				PcP	PcP	01 34 10.3	+5.1
	0.8nm,0.5s,baz=347,slow=2.2,SNR=8.3						
KSRS	**Korea Array**	**35.25**	**1**	P	P	01 32 01.7	+4.1
	0.9nm,0.7s,baz=166,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**36.36**	**159**	P	P	01 32 13.8	+6.6
	1.1nm,0.4s,baz=350,slow=10,SNR=3.8						
SONM	**Songino Array**	**49.07**	**341**	P	P	01 33 51.9	+1.6
	0.3nm,0.6s,baz=168,slow=6.8,SNR=3.6						
MKAR	**Makanchi Array**	**59.26**	**326**	P	P	01 35 05.0	+0.4
	0.6nm,0.4s,baz=119,slow=7.6,SNR=35						

*NOU **28** 01:33:43.9 ± 0.6, 20.78S × 170.36E, h30 km, MD3.2, ML3.4*
*IDC **28** 01:33:46.7 ± 1.0, 22.74S × 170.48E, h20 km ± 4km, mb4.1/3, mb1 4.3/4, mb1mx4.0/16, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=39.2km s-min=36.0km az=7.0*
*NEIC **28** 01:33:49.1 ± 0.8, 22.74S × 170.26E, h35 km, mb4.5/2, Error ellipse: s-maj=29.0km s-min=14.9km az=163.0*
ISC 28 01:33:44.2 ± 1.9, 21.8S ± 0.5 × 170.6E ± 0.1, h49 km ± 13km, n30, σ 1.9 31/17, mb4.2/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.43**	**264**	*e*S	**Sn**	**01 35 13.4**	**-1.2**
NORM	**Noumea**	**3.81**	**263**	*e*P	**Pn**	**01 34 40.5**	**+0.2**
NORM				*e*S	**Sn**	**01 35 22.2**	**-1.7**
DZM	**Mont Dzumac**	**3.83**	**266**	Pn	**Pn**	**01 34 42.7**	**+1.9**
	21nm,0.3s,baz=124,slow=17,SNR=339						
DZM				Sn	**Sn**	**01 35 26.1**	**+1.4**
	22nm,0.3s,baz=303,slow=22,SNR=12						
DZM	**Mont Dzumac**	**3.83**	**266**	*e*P	**Pn**	**01 34 40.8**	**0.0**
DZM				*e*S	**Sn**	**01 35 22.2**	**-2.5**
DZM				AMP		01 35 30.5	
	comp=Z,840nm,1.1s						
DZM	**Mont Dzumac**	**3.83**	**266**	Pn	**Pn**	**01 34 42.7**	**+1.9**
DZM				Sn	**Sn**	**01 35 26.1**	**+1.4**
NOUC	**Port Laguerre**	**3.96**	**265**	*e*P	**Pn**	**01 34 42.9**	**+0.4**
NOUC				*e*S	**Sn**	**01 35 27.4**	**-0.4**
NOUC				AMP		01 35 28.4	
	comp=Z,34nm,1.7s						
MSVF	**Nonsavu**	**8.14**	**61**	*e*Pn	Pn	01 35 54.9	+15
STKA	**Stephens Creek**	**27.64**	**243**	P	**P**	**01 39 27.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=75,slow=7.4,SNR=2.6						
STKA	**Stephens Creek**	**27.64**	**243**	P	**P**	**01 39 27.6**	**+0.1**
QSPA	**South Pole Qui**	**68.24**	**180**	P	P	01 44 41.0	+1.2
	comp=Z,2.6nm,1.1s,baz=3.5,slow=4.6,SNR=3.9						
QSPA	**South Pole Qui**	**68.24**	**180**	P	P	01 44 41.0	+1.2
IPM	**Ipoh**	**72.83**	**282**	*e*P	P	01 45 12.9	+4.4
	comp=Z,2.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P	P	01 46 01.9	+9.3
	comp=Z,0.8nm,0.4s,baz=107,slow=3.1,SNR=3.4						
CMAR				pP	pP	01 46 08.8	+2.0
	comp=Z,2.3nm,0.8s,baz=137,slow=4.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P	P	01 46 01.9	+9.3
CMAR				pP	pP	01 46 08.8	+2.0
ULN	**Ulaanbaatar**	**89.67**	**323**	*e*P	P	01 46 46.4	+9.3
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**90.03**	**323**	pP	pP	01 46 53.9	+0.8
	comp=Z,2.1nm,1.0s,baz=139,slow=5.6,SNR=4.3						
SONM	**Songino Array**	**90.03**	**323**	pP	pP	01 46 53.9	+0.8
ARCES	**ARCESS Array B**	**127.88**	**345**	PKP	PKPdf	01 52 50.6	+6.7
	comp=Z,6.3nm,1.2s,baz=93,slow=4.5,SNR=3.2						
ARCES				pPKP	pPKPdf	01 52 56.5	-2.2
	comp=Z,3.3nm,0.9s,baz=66,slow=3.1,SNR=2.1						
ARCES	**ARCESS Array B**	**127.88**	**345**	PKP	PKPdf	01 52 50.6	+6.7
ARCES				pPKP	pPKPdf	01 52 56.5	-2.2
VYHS	**Vyhne**	**145.12**	**327**	*e*PKP	PKPdf	01 53 23.3	+7.1
VYHS				*e*		01 53 30.6	
KOLL	**Kolacno**	**145.29**	**327**	*e*PKP	PKPab	01 53 26.0	+10
KOLL				*e*		01 53 31.2	
VRAC	**Vranov**	**145.69**	**329**	PKPbc	PKPab	01 53 25.8	+7.9
	comp=Z,1.7nm,0.3s,baz=185,slow=22,SNR=3.1						
VRAC				pPKPbc	PKiKP	01 53 32.1	+11
	comp=Z,8.8nm,0.9s,baz=65,slow=3.4,SNR=3.1						
VRAC	**Vranov**	**145.69**	**329**	PKPbc	PKPab	01 53 25.8	+7.9
VRAC				pPKPbc	PKiKP	01 53 32.1	+11
BRG	**Berggiesshubel**	**145.73**	**333**	*e*PKP	PKPab	01 53 25.3	+7.3
	comp=Z,12nm,1.4s						
BRG				*e*		01 53 31.7	
	comp=Z,12nm,1.1s						
CLL	**Collm**	**145.78**	**335**	*e*PKPbc	PKPab	01 53 27.0	+8.8
CLL				*i* PKiKP	PKiKP	01 53 30.7	+9.4
	comp=Z,22nm,1.7s						
GERES	**GERESS Array B**	**147.35**	**331**	PKPbc	PKPab	01 53 31.8	+7.3
	comp=Z,0.4nm,0.6s,baz=74,slow=3.5,SNR=3.5						
GERES				pPKPbc	pPKPbc	01 53 37.0	-0.4
	comp=Z,1.8nm,0.9s,baz=41,slow=2.6,SNR=6.4						
GERES	**GERESS Array B**	**147.35**	**331**	PKPbc	PKPab	01 53 31.8	+7.3
GERES				pPKPbc	pPKPbc	01 53 37.0	-0.4
FETA	**Feichten**	**150.04**	**332**	P	PKPab	01 53 43.4	+7.9
	comp=Z,7.7nm,1.0s						
DAVOX	**Davos/Dischmat**	**150.59**	**332**	PKPbc	**PKPab**	**01 53 37.4**	**-0.4**
	comp=Z,4.9nm,1.0s,baz=56,slow=3.6,SNR=3.7						
DAVOX				pPKPbc	**pPKPbc**	**01 53 45.4**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=45,slow=2.9,SNR=5.2						
DAVOX	**Davos/Dischmat**	**150.59**	**332**	PKPbc	**PKPab**	**01 53 37.4**	**-0.4**
DAVOX				pPKPbc	**pPKPbc**	**01 53 45.4**	**-0.4**

*MOS **28** 01:34:28.6 ± 1.0, 2.96S × 136.43E, h33 km, mb5.3/33, MS4.9/5, Error ellipse: s-maj=12.0km s-min=5.8km az=109.6*
*BJI **28** 01:34:28.9, 2.91S × 136.78E, h44 km, mB5.4/33, mb5.2/61, Ms4.9/51, Ms7 4.8/51*
*DJA **28** 01:34:29, 2.83S × 136.50E, h10 km, mb5.4/12*
*ISCJB **28** 01:34:29.5 ± 0.6, 2.94S ± 0.03 × 136.55E ± 0.03, h39 km ± 5km, mb5.1/97, MS4.7/42, Error ellipse: s-maj=5.9km s-min=4.3km az=147.1*
*IDC **28** 01:34:30.8 ± 2.5, 2.87S × 136.54E, h33 km ± 19km, mb4.7/18, mb1 4.7/22, mb1mx4.7/22, mbtmp4.7/22, ML4.5/4, MS4.7/22, Ms1 4.7/22, ms1mx4.5/32, Error ellipse: s-maj=17.7km s-min=9.9km az=78.0*
*NEIC **28** 01:34:33.0 ± 1.0, 2.93S × 136.59E, h56 km ± 9km, mb5.2/52, Error ellipse: s-maj=6.9km s-min=4.6km az=59.0*
ISC 28 01:34:31.5 ± 0.3, 2.96S ± 0.03 × 136.51E ± 0.04, h45 km ± 2km, h45 km:pP-P, n302, σ 1.5 59/383, mb5.1/98, MS4.7/43, 11C-10D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.80**	**347**	P	**Pn**	**01 34 57.9**	**-2.3**
SMPI	**Sarmi**	**2.40**	**66**	P	**Pn**	**01 35 08.0**	**-0.4**
JAY	**Jayapura**	**4.22**	**84**	P	**Pn**	**01 35 34.5**	**+1.1**
FAKI	**Fak Fak**	**4.25**	**270**	P	**Pn**	**01 35 33.8**	**0.0**
TLE	**Tual**	**4.60**	**235**	P	Pn	01 35 42.1	+3.4
SWI	**Sorong**	**5.64**	**292**	P	**Pn**	**01 35 52.6**	**-0.3**
	510nm,0.7s,12µm						
MSAI	**Masohi**	**7.58**	**267**	P	**Pn**	**01 36 20.6**	**+1.1**
	73nm,0.8s						
AAI	**Ambon**	**8.33**	**265**	P	**Pn**	**01 36 29.8**	**0.0**
	172nm,0.8s,3µm43µm						
NLAI	**Namlea**	**9.40**	**268**	P	**Pn**	**01 36 46.1**	**+1.6**
PMG	**Port Moresby**	**12.37**	**122**	Pn	**Pn**	**01 37 26.9**	**+1.8**
	2.2nm,0.3s,baz=309,slow=10.0,SNR=16						
PMG				Sn	**Sn**	**01 39 42.1**	**+0.4**
	baz=297,slow=18,SNR=2.6						
PMG	**Port Moresby**	**12.37**	**122**	*de*P	**Pn**	**01 37 27.5**	**+2.4**
PMG				pmax	pmax		
	comp=Z,316nm,2.5s						
PMG	**Port Moresby**	**12.37**	**122**	*e*Pn	**Pn**	**01 37 27.0**	**+1.8**
PMG				Sn	**Sn**	**01 39 42.1**	**+0.4**
COEN	**Coen**	**12.76**	**149**	*e*Pn	**Pn**	**01 37 30.0**	**-0.4**
COEN				*e*Sn	Sn	01 39 37.3	-14
DAV	**Davao City (W)**	**14.77**	**312**	LR	LR	01 44 33.9	
	comp=Z,2µm,18.3s,baz=133,slow=41						
KAPI	**Kappang**	**16.84**	**263**	Pn	**P**	**01 38 26.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=90,slow=16,SNR=5.4						
KAPI	**Kappang**	**16.84**	**263**	*e*Pn	**P**	**01 38 29.0**	**+3.1**
WRAB	**Tennant Creek**	**17.00**	**187**	*e*P	**Pn**	**01 38 23.7**	**-2.5**
WRAB				*e*		01 41 23.6	
WRAB				pmax	pmax		
	comp=Z,311nm,1.1s						
WRAB	**Tennant Creek**	**17.00**	**187**	*e*Pn	**Pn**	**01 38 23.7**	**-2.5**
	comp=Z,311nm,1.1s						
WRAB				*e*Sn	Sn	01 41 23.6	-11
WRAB	**Tennant Creek**	**17.00**	**187**	Pn	**Pn**	**01 38 23.0**	**-3.2**
	comp=Z,2µm,0.5s,SNR=23						
WB2	**Warramunga Arr**	**17.01**	**187**	*e*Pn	**Pn**	**01 38 23.6**	**-2.7**
WB2				*e*Sn	Sn	01 41 23.1	-11
WRA	**Warramunga Arr**	**17.01**	**187**	Pn	**Pn**	**01 38 23.8**	**-2.6**
	comp=Z,3.0nm,0.3s,baz=2.6,slow=13,SNR=41						
WRA				Sn	Sn	01 41 24.9	-10
	comp=Z,2.9nm,0.3s,baz=8.4,slow=22,SNR=9.8						
WRA				Lg	Lg	01 43 32.6	
	baz=14,slow=28,SNR=5.0						
WRA				LR	LR	01 46 03.1	
	comp=Z,3µm,19.2s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**17.01**	**187**	P	**Pn**	**01 38 23.8**	**-2.6**
WRA						01 41 24.9	
WRA	**Warramunga Arr**	**17.01**	**187**	Pn	**Pn**	**01 38 23.8**	**-2.6**
WRA				Sn	Sn	01 41 24.9	-10
WRA				Lg	Lg	01 43 32.6	
GUMO	**Guam**	**18.42**	**27**	LR	LR	01 45 36.7	
	comp=Z,1µm,19.1s,baz=206,slow=36						
FITZ	**Fitzroy Crossi**	**18.44**	**215**	P	**Pn**	**01 38 45.6**	**+1.7**
	comp=Z,9.4nm,0.3s,baz=37,slow=10,SNR=89						
FITZ				S	Sn	01 41 59.3	-10
	comp=Z,6.1nm,0.3s,baz=79,slow=10,SNR=7.8						
FITZ				LR	LR	01 46 31.6	
	comp=Z,2µm,20.1s,baz=39,slow=39						
FITZ	**Fitzroy Crossi**	**18.44**	**215**	*e*P	**P**	**01 38 39.0**	**-4.4**
FITZ				*e*S	Sn	01 41 56.5	-13
FITZ	**Fitzroy Crossi**	**18.44**	**215**	*e*P	**P**	**01 38 42.8**	**-0.7**
FITZ				*e*Sn	**Sn**	**01 42 02.6**	**-6.5**
CTA	**Charters Tower**	**19.50**	**152**	P	**Pn**	**01 38 56.4**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=332,slow=15,SNR=6.7						
CTA				Lg	Lg	01 44 47.1	
	comp=Z,0.2nm,0.3s,baz=51,slow=17,SNR=3.4						
CTA	**Charters Tower**	**19.50**	**152**	*e*P	**P**	**01 38 53.1**	**-2.0**
CTA				*e*S	**S**	**01 42 31.0**	**-2.2**
CTA	**Charters Tower**	**19.50**	**152**	P	**Pn**	**01 38 56.4**	**-0.3**
CTA	**Charters Tower**	**19.50**	**152**	P	**Pn**	**01 38 56.4**	**-0.3**
CTA				Lg	Lg	01 44 47.1	
CTAO	**Charters Tower**	**19.50**	**152**	*e*P	**P**	**01 38 54.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,184nm,1.3s						
CTAO	**Charters Tower**	**19.50**	**152**	*e*P	**P**	**01 38 54.6**	**-0.5**
	comp=Z,184nm,1.3s						
TSM	**Tawau**	**19.97**	**291**	P	**Pn**	**01 39 04.0**	**+1.8**
AS31	**Alice Springs**	**20.73**	**187**	*e*P	Pn	01 39 09.9	-1.5
ASAR	**Alice Springs**	**20.74**	**187**	P	Pn	01 39 10.9	-0.4
	comp=Z,195nm,0.7s,baz=10,slow=9.8,SNR=326						
ASAR				S	**S**	**01 42 54.6**	**-3.2**
	comp=Z,57nm,1.2s,baz=7.9,slow=26,SNR=5.2						
ASAR	**Alice Springs**	**20.74**	**187**	P	Pn	01 39 11.0	-0.3
ASAR				S	**S**	**01 42 54.6**	**-3.2**
ASAR	**Alice Springs**	**20.74**	**187**	P	Pn	01 39 10.9	-0.4
ASAR				S	**S**	**01 42 54.6**	**-3.2**
SDKM	**Sandakan**	**21.10**	**294**	P	**P**	**01 39 13.9**	**+1.3**
KDM	**Kudat**	**21.95**	**297**	P	P	01 39 26.5	+4.8
KKM	**Kota Kinabalu**	**22.15**	**294**	*e*P	**P**	**01 39 24.6**	**+0.7**
	comp=Z,93nm,1.0s						
KKM	**Kota Kinabalu**	**22.15**	**294**	P	**P**	**01 39 25.2**	**+1.3**
TGY	**Tagaytay City**	**22.93**	**318**	P	**P**	**01 39 33.7**	**+1.6**
	comp=Z,118nm,0.3s,baz=150,slow=14,SNR=4.3						
TGY	**Tagaytay City**	**22.93**	**318**	P	**P**	**01 39 33.7**	**+1.6**
TGY	**Tagaytay City**	**22.93**	**318**	P	**P**	**01 39 33.7**	**+1.6**
HNR	**Honiara**	**24.16**	**106**	P	**P**	**01 39 43.9**	**+0.1**
	comp=Z,123nm,0.9s,baz=229,slow=8.6,SNR=5.3						
HNR	**Honiara**	**24.16**	**106**	*e*P	**P**	**01 39 42.7**	**-1.1**
HNR				pmax	pmax		
	comp=Z,167nm,0.9s						
HNR	**Honiara**	**24.16**	**106**	*e*P	**P**	**01 39 42.7**	**-1.1**
	comp=Z,167nm,0.9s						
BTM	**Bintulu**	**24.20**	**284**	P	**P**	**01 39 47.1**	**+2.9**
MBWA	**Marble Bar**	**24.37**	**221**	*e*P	**P**	**01 39 46.4**	**+0.8**
	comp=Z,211nm,0.7s						
SBUM	**Sibu**	**24.87**	**282**	P	**P**	**01 39 53.4**	**+3.1**
EIDS	**Eidsvold**	**26.33**	**149**	*e*P	**P**	**01 40 05.4**	**+2.0**
	comp=Z,74nm,1.3s						
KSM	**Kuching**	**26.56**	**279**	*e*P	P	**01 40 08.5**	**+2.9**
	comp=Z,35nm,0.8s						
KSM	**Kuching**	**26.56**	**279**	P	P	**01 40 09.2**	**+3.6**
FORT	**Forrest**	**28.80**	**195**	*e*P	**P**	**01 40 24.4**	**-1.0**
FORT	**Forrest**	**28.80**	**195**	*e*P	**P**	**01 40 25.0**	**-0.4**
	comp=Z,157nm,0.7s						
STKA	**Stephens Creek**	**29.16**	**171**	P	**P**	**01 40 28.1**	**-0.6**
	comp=Z,8.8nm,0.4s,baz=352,slow=8.1,SNR=33						
STKA				LR	LR	01 53 39.4	
	comp=Z,1µm,18.4s,baz=345,slow=39						
STKA	**Stephens Creek**	**29.16**	**171**	*e*P	**P**	**01 40 27.8**	**-0.8**
STKA	**Stephens Creek**	**29.16**	**171**	*e*P	**P**	**01 40 28.6**	**0.0**
STKA	**Stephens Creek**	**29.16**	**171**	*e*P	**P**	**01 40 28.6**	**0.0**
	comp=Z,4.6nm,0.8s						
BBOO	**Buckleboo**	**29.70**	**181**	*e*P	**P**	**01 40 32.8**	**-0.6**
	comp=Z,802nm,1.0s						
CBIJ	**Chichi jima**	**30.38**	**10**	LR	LR	01 50 58.6	
	comp=Z,816nm,19.4s,baz=176,slow=33						
NACB	**Ninganchiao**	**30.63**	**333**	*e*P	**P**	**01 40 41.9**	**+0.2**
	comp=Z,48nm,1.0s						
ARMA	**Armidale**	**30.83**	**154**	*e*P	P	**01 40 44.1**	**+0.5**
ARMA	**Armidale**	**30.83**	**154**	*e*P	P	**01 40 44.6**	**+1.1**
	comp=Z,17nm,0.6s						
QZH	**Quanzhou**	**32.74**	**329**	⇑*i*P	P	**01 41 01.0**	**+0.7**
QZH				S	**S**	**01 46 13.0**	**-1.0**
QZH				pmax	pmax		
	comp=Z,100nm,1.2s						
QZH				LR	LR		
	comp=Z,3µm,21.3s						
MYKOM	**Kota Tinggi**	**32.99**	**278**	P	P	**01 41 04.7**	**+2.1**
KLBR	**Kellerberrin**	**33.51**	**210**	*e*P	P	**01 41 07.3**	**+0.3**
QIZ	**Qiongzhong**	**34.14**	**311**	P	P	**01 41 12.0**	**-0.6**
QIZ				sP	**sP**	**01 41 28.8**	**-1.1**
QIZ				S	**S**	**01 46 37.8**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,23nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,170nm,3.9s						
QIZ				LR	LR		
	comp=N,460nm,19.8s						
QIZ				LR	LR		
	comp=Z,1µm,22.2s						
DZM	**Mont Dzumac**	**34.72**	**126**	*e*LR	LR	01 50 38.3	
	comp=Z,1µm,26.4s						
DZM	**Mont Dzumac**	**34.72**	**126**	LR	LR	01 55 37.0	
	comp=Z,942nm,18.4s,baz=197,slow=36						
NWAO	**Narrogin (SRO)**	**34.85**	**209**	P	**P**	**01 41 18.8**	**+0.2**
	comp=Z,30nm,0.7s,baz=41,slow=9.2,SNR=18						
NWAO				LR	LR	01 56 41.0	
	comp=Z,3µm,18.9s,baz=35,slow=38						
NWAO	**Narrogin (SRO)**	**34.85**	**209**	*e*P	**P**	**01 41 18.7**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,270nm,2.1s						
NWAO	**Narrogin (SRO)**	**34.85**	**209**	*e*P	**P**	**01 41 18.7**	**+0.2**
	comp=Z,270nm,2.1s						
FRIM	**Kepong**	**35.41**	**280**	P	P	**01 41 26.7**	**+3.1**
IPM	**Ipoh**	**36.22**	**282**	*e*P	P	**01 41 31.9**	**+1.3**
	comp=Z,31nm,1.3s						
IPM	**Ipoh**	**36.22**	**282**	P	P	**01 41 31.5**	**+0.9**
JNU	**Nakatsue**	**36.28**	**352**	P	P	**01 41 30.0**	**-0.8**
	comp=Z,37nm,0.8s,baz=143,slow=2.6,SNR=17						
JNU	**Nakatsue**	**36.28**	**352**	*e*P	**P**	**01 41 30.3**	**-0.5**
	comp=Z,24nm,1.0s						
SSE	**Sheshan**	**36.88

KMI LR LR
comp=N,550nm,18.2s
KMI LR LR
comp=E,640nm,18.2s
KMI LR LR
comp=Z,890nm,19.5s
XAN Xi'an 45.06 327 P **P** **01 42 42.8 -0.4**
XAN pP **pP** **01 42 54.5 -1.1**
XAN sP **sP** **01 43 00.3 -0.5**
XAN PP **PP** **01 44 27.0 -2.3**
XAN S S 01 49 13.3 -5.9
XAN SS **ScS** **01 52 32.5 -4.4**
XAN pmax pmax
comp=Z,11nm,1.3s
XAN LR LR
comp=N,420nm,17.5s
XAN LR LR
comp=E,200nm,18.7s
XAN LR LR
comp=Z,230nm,21.6s
CD2 Chengdu 45.92 320 P **P** **01 42 50.0 -0.1**
CD2 pP **pP** **01 43 01.8 -0.7**
CD2 sP **sP** **01 43 06.5 -1.2**
CD2 PP **PP** **01 44 38.5 0.0**
CD2 S **S** **01 49 31.8 0.0**
CD2 sS **sS** **01 49 51.3 -1.1**
CD2 SS **ScS** **01 52 49.0 +6.4**
CD2 pmax pmax
comp=Z,40nm,1.4s
CD2 pmax pmax
comp=Z,270nm,4.9s
CD2 LR LR
comp=N,740nm,16.1s
CD2 LR LR
comp=Z,710nm,21.4s
SNY Shenyang 46.10 347 ⇑P **P** **01 42 52.0 +0.7**
SNY pP **pP** **01 43 06.3 +2.6**
SNY S **S** **01 49 33.8 -0.1**
SNY pmax pmax
comp=Z,22nm,2.5s
SNY LR LR
comp=N,510nm,22.5s
SNY LR LR
comp=E,310nm,23.7s
SNY LR LR
comp=Z,680nm,23.5s
BJT Baijiatuau 46.67 338 *e*P **P** **01 42 55.2 -0.6**
BJT pmax pmax
comp=Z,12nm,0.3s
BJT Baijiatuau 46.67 338 *e*P **P** **01 42 55.2 -0.6**
comp=Z,12nm,0.3s
BJI Beijing 46.68 338 P **P** **01 42 55.5 -0.4**
BJI S S 01 49 32.0 -10
BJI pmax pmax
comp=Z,40nm,1.5s
BJI LR LR
comp=N,820nm,21.4s
BJI LR LR
comp=E,460nm,22.1s
BJI LR LR
comp=Z,980nm,26.0s
USRK Ussuriysk Arra 47.12 356 P **P** **01 42 59.5 +0.3**
comp=Z,7.8nm,0.6s,baz=183,slow=5.7,SNR=16
USRK LR LR 02 01 13.0
comp=Z,1μm,20.3s,baz=335,slow=34
ASAJ Asahikawa 47.18 6 P **P** **01 42 59.9 +0.2**
comp=Z,19nm,0.7s,baz=226,slow=11,SNR=8.9
ASAJ Asahikawa 47.18 6 P **P** **01 42 59.9 +0.2**
YUK Yuzh-Kuril'sk 47.53 9 *i* P P 01 42 58.5 -3.9
YUK *e*S S 01 50 02.3 +8.0
CN2 Changchun 47.60 349 *e*P **P** **01 43 02.8 -0.2**
CN2 *e*S **S** **01 49 52.5 -2.8**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=Z,600nm,20.0s
MDJ Mudanjiang 47.77 353 P **P** **01 43 04.0 -0.3**
MDJ pP **pP** **01 43 15.3 -1.4**
MDJ sP **sP** **01 43 20.5 -1.4**
MDJ PP **PP** **01 44 55.3 -1.2**
MDJ ScP **ScP** **01 48 21.5 -2.2**
MDJ S **S** **01 50 01.5 +3.9**
MDJ SS **SS** **01 53 23.3 -3.4**
MDJ pmax pmax
comp=Z,31nm,1.0s
MDJ pmax pmax
comp=Z,140nm,5.8s
MDJ LR LR
comp=N,410nm,33.4s
MDJ LR LR
comp=E,170nm,37.0s
MDJ LR LR
comp=Z,600nm,21.1s
MDJ Mudanjiang 47.77 353 *e*P **P** **01 43 03.4 -0.9**
comp=Z,24nm,0.8s
HHC Hu-ho-hao-te 49.20 335 ⇓P **P** **01 43 15.5 0.0**
HHC sP **sP** **01 43 32.5 -0.6**
HHC PcP **PcP** **01 44 37.8 -0.4**
HHC PP **PP** **01 45 10.3 +0.6**
HHC ScP **ScP** **01 48 27.5 -2.5**
HHC PcS **PcS** **01 48 33.0 -1.7**
HHC S **S** **01 50 18.5 +0.4**
HHC sS **sS** **01 50 39.5 +0.6**
HHC ScS **ScS** **01 52 59.8 -4.2**
HHC SS **SS** **01 53 45.8 -4.3**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,160nm,6.3s
HHC LR LR
comp=N,730nm,16.4s
HHC LR LR
comp=E,550nm,17.9s
HHC LR LR
comp=Z,920nm,16.8s
LZH Lanzhou 49.39 325 *e*P **P** **01 43 18.3 +1.2**
LZH pP **pP** **01 43 30.3 +0.7**
LZH sP **sP** **01 43 35.5 +0.7**
LZH PcP **PcP** **01 44 39.0 -0.1**
LZH PP **PP** **01 45 08.0 -3.6**
LZH ScP **ScP** **01 48 29.3 -1.7**
LZH *e*S **S** **01 50 21.0 -0.2**
LZH sS **sS** **01 50 41.3 -0.6**
LZH SS **SS** **01 53 50.0 -3.5**
LZH pmax pmax
comp=Z,79nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.8s
LZH LR LR
comp=N,520nm,15.7s
LZH LR LR
comp=E,230nm,12.8s
LZH LR LR
comp=Z,860nm,18.2s
YSS Yuzh-Sakhalins 50.01 6 *e*P **P** **01 43 21.8 +0.4**
YSS *e* 01 43 34.0
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=Z,300nm,17.0s
RPZ Rata Peaks 50.82 148 P **P** **01 43 28.8 +1.2**
comp=Z,11nm,0.6s,baz=345,slow=8.3,SNR=4.1
RPZ Rata Peaks 50.82 148 P **P** **01 43 28.8 +1.2**
HABR Khabarovsk 51.24 359 *e*P **P** **01 43 29.8 -0.8**
HABR *e**PP **pP** **01 43 39.7 -3.5**
HABR *e**SP **sP** **01 43 43.9 -4.4**
HABR *e* 01 44 44.1
HABR *e*S **S** **01 50 47.5 +1.4**
HABR *e**SS **sS** **01 51 04.1 -2.8**
HABR *e* 01 53 17.5
HABR *e*SS **SS** **01 54 24.5 +2.3**
HABR *e*SSS SSS 01 56 00.9
HABR pmax pmax
comp=E,56nm,1.8s
HABR pmax pmax
comp=Z,139nm,2.6s
HABR pmax pmax
comp=N,84nm,2.6s
HABR MLR MLR
comp=Z,265nm,21.0s
KLR Kul'dur 52.15 356 *e*P P 01 43 31.9 -5.5
KLR pmax pmax
comp=Z,92nm,1.8s
GTA Gaotai 53.99 325 ⇓P **P** **01 43 52.3 +0.9**
GTA S **S** **01 51 24.0 -0.3**
GTA SS **SS** **01 55 07.0 +0.7**
GTA pmax pmax
comp=Z,26nm,1.5s
GTA pmax pmax
comp=Z,290nm,4.8s
GTA LR LR
comp=N,270nm,17.6s
GTA LR LR
comp=E,500nm,19.0s
GTA LR LR
comp=Z,600nm,19.5s
HIA Hailar 54.01 346 *e*P **P** **01 43 51.2 0.0**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 54.01 346 *e*P **P** **01 43 51.2 0.0**
comp=Z,7.8nm,0.8s
LSA Lhasa 54.18 310 *e*P **P** **01 43 54.8 +1.4**
LSA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 54.18 310 *e*P **P** **01 43 54.8 +1.4**
comp=Z,24nm,0.8s
TAPN Taplejung 55.83 306 *e*P **P** **01 44 06.0 +0.9**
comp=Z,88nm,0.7s
TAPN Taplejung 55.83 306 *e*P **P** **01 44 06.0 +0.9**
comp=Z,88nm,0.7s
ODAN Odare 55.88 305 *e*P **P** **01 44 06.4 +1.0**
comp=Z,139nm,0.7s
ODAN Odare 55.88 305 *e*P **P** **01 44 06.4 +1.0**
comp=Z,139nm,0.7s
RAMN Ramite 56.57 305 *e*P **P** **01 44 11.4 +1.1**
comp=Z,125nm,0.7s
RAMN Ramite 56.57 305 *e*P **P** **01 44 11.4 +1.1**
comp=Z,125nm,0.7s
ULN Ulaanbaatar 56.80 337 *e*P **P** **01 44 11.6 +0.1**
ULN pmax pmax
comp=Z,25nm,1.3s
ULN Ulaanbaatar 56.80 337 *e*P **P** **01 44 11.6 +0.1**
comp=Z,25nm,1.3s
SONM Songino Array 57.03 336 P **P** **01 44 13.5 +0.4**
comp=Z,2.5nm,0.5s,baz=154,slow=7.4,SNR=23
SONM LR LR 02 08 15.8
comp=Z,1μm,20.5s,baz=134,slow=36
SONM Songino Array 57.03 336 P **P** **01 44 13.5 +0.4**
SONM Songino Array 57.03 336 P **P** **01 44 13.5 +0.4**
JIRN Jiri 57.19 306 *e*P **P** **01 44 15.8 +1.0**
comp=Z,103nm,0.9s
JIRN Jiri 57.19 306 *e*P **P** **01 44 15.8 +1.0**
comp=Z,103nm,0.9s
GUN Gumba 57.54 306 *e*P **P** **01 44 18.3 +1.0**
comp=Z,88nm,0.7s
GUN Gumba 57.54 306 *e*P **P** **01 44 18.3 +1.0**
comp=Z,88nm,0.7s
PKI Pulchoki 57.78 305 *e*P **P** **01 44 19.5 +0.5**
comp=Z,119nm,1.1s
PKI Pulchoki 57.78 305 *e*P **P** **01 44 19.5 +0.5**
PKI pmax pmax
comp=Z,119nm,1.1s
PKI Pulchoki 57.78 305 *e*P **P** **01 44 19.5 +0.5**
comp=Z,119nm,1.1s
KKN Kakani 57.98 305 *e*P **P** **01 44 21.0 +0.8**
comp=Z,88nm,0.8s
KKN Kakani 57.98 305 *e*P **P** **01 44 21.0 +0.8**
KKN pmax pmax
comp=Z,88nm,0.8s
KKN Kakani 57.98 305 *e*P **P** **01 44 21.0 +0.8**
comp=Z,88nm,0.8s
DMN Daman 58.05 305 *e*P **P** **01 44 21.7 +0.9**
comp=Z,104nm,0.9s
DMN Daman 58.05 305 *e*P **P** **01 44 21.7 +0.9**
comp=Z,104nm,0.9s
CIT Chita 58.14 344 *e*P **P** **01 44 21.6 +0.9**
CIT *e* 01 44 33.1
CIT *e* 01 45 09.2
CIT *e* 01 47 47.4
CIT pmax pmax
comp=Z,104nm,2.1s
GKN Gorkha 58.58 305 *e*P **P** **01 44 25.4 +1.0**
comp=Z,153nm,1.0s
GKN Gorkha 58.58 305 *e*P **P** **01 44 25.4 +1.0**
comp=Z,153nm,1.0s
PETK Petropavlovsk- 58.64 15 P **P** **01 44 24.8 +0.7**
comp=Z,5.7nm,0.8s,baz=173,slow=5.8,SNR=6.2
PETK LR LR 02 05 37.2
comp=Z,256nm,19.6s,baz=208,slow=32
PETK Petropavlovsk- 58.64 15 P **P** **01 44 24.8 +0.7**
PETK Petropavlovsk- 58.64 15 P **P** **01 44 24.8 +0.7**
KOLN Koldanda 59.34 305 *e*P **P** **01 44 30.8 +1.1**
comp=Z,118nm,0.8s
KOLN Koldanda 59.34 305 *e*P **P** **01 44 30.8 +1.1**
comp=Z,118nm,0.8s
DANN Dangsing 59.43 305 *e*P **P** **01 44 31.3 +0.9**
DANN Dangsing 59.43 305 *e*P **P** **01 44 31.3 +0.9**
ZAK Zakamensk 60.30 336 *e*P **P** **01 44 35.7 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.4s
HYB Hyderabad 60.62 292 *i* P **P** **01 44 39.0 +0.6**
TLY Talaya 61.18 337 *e*P **P** **01 44 41.5 -0.1**
TLY pmax pmax
comp=Z,7.0nm,1.2s
TLY MLR MLR
comp=Z,794nm,19.0s
MOY Mondy 62.22 336 *e*P **P** **01 44 49.5 +0.8**
MOY pmax pmax
comp=Z,45nm,3.0s
BOD Bodaibo 63.23 347 *e*P **P** **01 44 55.0 -0.1**
BOD pmax pmax
comp=Z,24nm,1.7s
WMQ Urumqi 63.86 323 P **P** **01 45 00.5 +0.8**
WMQ pP **pP** **01 45 13.0 +0.5**
WMQ sP **sP** **01 45 18.5 +0.8**
WMQ PcP **PcP** **01 45 34.5 -0.7**
WMQ S **S** **01 53 31.0 -1.0**
WMQ SS **SS** **01 57 42.5 +1.5**
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,330nm,3.6s
WMQ LR LR
comp=N,370nm,21.0s
WMQ LR LR
comp=E,240nm,18.5s
WMQ LR LR
comp=Z,260nm,21.8s
YAK Yakutsk 65.03 356 *e*P **P** **01 45 06.2 -0.6**
YAK pmax pmax
comp=Z,28nm,0.8s
YAK Yakutsk 65.03 356 *e*P **P** **01 45 06.9 +0.1**
comp=Z,50nm,0.6s
SEY Seymchan 66.81 8 *ce*P **P** **01 45 19.3 +1.0**
MK31 Makanchi Array 68.66 323 *ce*P **P** **01 45 30.5 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MK31 Makanchi Array 68.66 323 *e*P **P** **01 45 30.9 +0.6**
MKAR Makanchi Array 68.66 323 P **P** **01 45 30.6 +0.3**
comp=Z,6.0nm,0.6s,baz=104,slow=8.5,SNR=120
MKAR LR LR 02 15 17.0
comp=Z,375nm,21.9s,baz=111,slow=36
MKAR Makanchi Array 68.66 323 *ce*P **P** **01 45 30.6 +0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 68.66 323 P **P** **01 45 30.6 +0.3**
KSH Kashi 69.67 314 P **P** **01 45 38.8 +1.9**
KSH *e*pP **pP** **01 45 51.8 +1.9**
KSH *e*sP **sP** **01 45 57.3 +2.3**
KSH *e*PcP **PcP** **01 46 01.0 +1.4**
KSH *e*PP **PP** **01 48 15.5 +4.1**
KSH *e*ScP 01 50 00.3
KSH *e*PcS 01 50 05.3
KSH *e*S **S** **01 54 41.8 -0.7**
KSH sS **sS** **01 55 05.3 +1.1**
KSH *e*ScS **SKSac** **01 55 33.3 -1.0**
KSH *e*SS **SS** **01 59 14.3 +2.8**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,210nm,3.5s
KSH LR LR
comp=N,120nm,5.1s
KSH LR LR
comp=E,150nm,5.8s
KSH LR LR
comp=Z,170nm,5.5s
ZAA0 Zalesovo Array 71.06 331 *e*P **P** **01 45 43.6 -1.3**
ZALV Zalesovo Beam 71.06 331 P **P** **01 45 44.0 -0.9**
comp=Z,8.4nm,0.7s,baz=111,slow=6.6,SNR=41
ZALV LR LR 02 15 52.8
comp=Z,406nm,21.9s,baz=305,slow=35
ZALV Zalesovo Beam 71.06 331 P **P** **01 45 44.0 -0.9**
ZALV Zalesovo Beam 71.06 331 P **P** **01 45 44.0 -0.9**
KZA Kyzart 71.14 316 P **P** **01 45 47.8 +1.6**
SNR=39
KZA P **P** **01 45 47.8 +1.6**
SNR=39
TKM2 Tokmak 2 71.23 317 P **P** **01 45 47.1 +0.7**
SNR=26
TKM2 P **P** **01 45 47.1 +0.7**
SNR=26
TKM2 Tokmak 2 71.23 317 *i* P **P** **01 45 47.1 +0.7**
TKM2 Tokmak 2 71.23 317 *e*P **P** **01 45 46.9 +0.5**
comp=Z,13nm,0.6s
KBK Karagaybulak 71.57 317 P **P** **01 45 49.5 +1.0**
SNR=12
KBK P **P** **01 45 49.5 +1.0**
SNR=12
CHMS Chumysh 71.83 317 P **P** **01 45 50.5 +0.6**
SNR=6.3
CHMS P **P** **01 45 50.5 +0.6**
SNR=6.3
FRU Bishkek 71.86 317 ⇓*e*P **P** **01 45 50.0 0.0**
AAK Ala-Archa 71.87 317 P **P** **01 45 51.2 +1.0**
SNR=6.8
AAK P **P** **01 45 51.2 +1.0**
SNR=6.8
AAK Ala-Archa 71.87 317 *d i* P **P** **01 45 51.0 +0.7**
AAK pmax pmax
comp=Z,34nm,1.3s
AAK Ala-Archa 71.87 317 P **P** **01 45 51.3 +1.0**
comp=Z,55nm,0.7s,SNR=7.0
USP Ospenovka 72.10 317 P **P** **01 45 52.1 +0.6**
SNR=48
USP P **P** **01 45 52.1 +0.6**
SNR=48
AML Almayashu 72.23 316 P **P** **01 45 54.0 +1.3**
SNR=66
AML P **P** **01 45 54.0 +1.3**
SNR=66
NVS Novosibirsk 72.33 331 ⇓ *i* P **P** **01 45 50.9 -1.6**
NVS pmax pmax
comp=Z,72nm,2.3s
NVS pmax pmax
comp=N,33nm,2.5s
EKS2 Erkin-Say 72.37 317 P **P** **01 45 54.5 +1.2**
SNR=22
EKS2 P **P** **01 45 54.5 +1.2**
SNR=22
EKS2 Erkin-Say 72.37 317 *e*P **P** **01 45 54.2 +1.0**
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 Erkin-Say 72.37 317 *e*P **P** **01 45 54.2 +1.0**
comp=Z,21nm,0.8s
KURK Kurchatov 72.67 326 *ce*P **P** **01 45 54.9 +0.3**
KURK pmax pmax
comp=Z,40nm,2.5s
KURK Kurchatov 72.67 326 *e*P **P** **01 45 52.9 -1.7**
comp=Z,14nm,1.0s
KURK Kurchatov 72.67 326 P **P** **01 45 54.5 -0.1**
comp=Z,65nm,0.6s,SNR=6.3
KBL Kabul 73.32 307 *e*P **P** **01 45 59.2 +0.1**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 73.32 307 *e*P **P** **01 45 59.2 +0.1**
comp=Z,14nm,1.0s
PPT2 Papeete2 73.78 107 *e*LR LR 02 08 54.3
comp=Z,842nm,31.2s
BILL Bilibino 73.83 11 *e*P **P** **01 46 03.6 +2.5**
BILL *i* 01 46 16.9
BILL pmax pmax
comp=Z,2.0nm,0.7s
BILL MLR MLR
comp=Z,100nm,18.0s
BILL Bilibino 73.83 11 *e*P **P** **01 46 00.9 -0.2**
comp=Z,2.3nm,0.6s
TBI Tubuai 74.17 113 *e*LR LR 02 09 00.0
comp=Z,492nm,25.8s
KK31 Karatay Array 74.78 316 *ce*P **P** **01 46 07.4 +0.2**
KK31 pmax pmax
comp=Z,10.0nm,0.5s
KKAR Karatay Array 74.78 316 *e*P **P** **01 46 07.5 +0.3**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 74.78 316 *e*P **P** **01 46 07.5 +0.3**
comp=Z,12nm,0.6s
VNDA Vanda 75.73 174 *e*P **P** **01 46 12.4 +0.4**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 75.73 174 *e*P **P** **01 46 12.4 +0.4**
comp=Z,9.0nm,1.0s
BVA0 Borovoye Array 78.27 326 *i* P **P** **01 46 26.3 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 78.34 326 *de*P **P** **01 46 27.1 0.0**
BRVK pmax pmax
comp=Z,40nm,2.5s
BRVK Borovoye 78.34 326 *e*P **P** **01 46 26.9 -0.2**
comp=Z,20nm,1.0s
BRVK Borovoye 78.34 326 P **P** **01 46 27.4 +0.3**
comp=Z,94nm,0.6s,SNR=10
TNA Tin City 79.15 20 *e*P **P** **01 46 32.0 +0.8**
comp=Z,6.0nm,1.1s
MAW Mawson 81.07 202 P **P** **01 46 42.4 +0.8**
comp=Z,3.6nm,0.5s,baz=70,slow=4.0,SNR=7.6
MAW LR LR 02 19 43.3
comp=Z,672nm,21.2s,baz=92,slow=33
MAW Mawson 81.07 202 P **P** **01 46 42.4 +0.8**
MAW Mawson 81.07 202 P **P** **01 46 42.4 +0.8**
KDAK Kodiak Island 82.44 31 *ce*P **P** **01 46 50.4 +1.5**
ABKT Ailbek 82.57 309 P **P** **01 46 52.8 +2.0**
comp=Z,85nm,0.8s,SNR=5.9
AB31 Akbulak array 83.50 320 *ce*P **P** **01 46 54.3 -0.4**
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 83.50 320 *e*P **P** **01 46 54.3 -0.4**
comp=Z,8.4nm,0.9s
SVE Sverdlovsk 84.77 328 ⇑*e*P **P** **01 47 01.0 0.0**
SVE *e*S **S** **01 57 22.3 -3.2**
SVE pmax pmax
comp=Z,43nm,1.5s
SVE MLR MLR
comp=Z,509nm,22.0s
AKTO Aktyubinsk 84.95 321 LR LR 02 29 05.6
comp=Z,154nm,18.6s,baz=105,slow=39
ARU Arti 85.80 327 *e*P **P** **01 47 04.8 -1.3**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 85.80 327 *e*P **P** **01 47 04.8 -1.3**
comp=Z,4.2nm,0.8s
MCK McKinley 85.85 25 *e*P **P** **01 47 05.9 -0.4**
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 85.85 25 *e*P **P** **01 47 05.9 -0.4**
comp=Z,6.2nm,0.7s
COLD Coldfoot 86.30 22 *e*P **P** **01 47 09.4 +1.0**
comp=Z,27nm,1.3s
COLA College 86.60 24 *e*P **P** **01 47 11.1 +1.2**
COLA pmax pmax
comp=Z,16nm,1.3s
COLA College 86.60 24 *e*P **P** **01 47 11.1 +1.2**
comp=Z,16nm,1.3s
DIV Divide 86.66 28 *e*P **P** **01 47 10.5 +0.1**
comp=Z,31nm,0.7s
ILAR Eielson Array 86.97 25 P **P** **01 47 10.9 -0.8**
comp=Z,4.4nm,0.8s,baz=264,slow=4.1,SNR=38
ILAR LR LR 02 19 42.2
comp=Z,600nm,21.7s,baz=281,slow=31
ILAR Eielson Array 86.97 25 P **P** **01 47 11.0 -0.8**
ILAR Eielson Array 86.97 25 P **P** **01 47 10.9 -0.8**
QSPA South Pole Qui 86.99 180 P **P** **01 47 12.6 +0.6**
comp=Z,9.7nm,0.7s,baz=327,slow=0.7,SNR=20
QSPA South Pole Qui 86.99 180 *e*P **P** **01 47 11.9 -0.1**
comp=Z,13nm,0.9s
PAX Paxson 87.19 27 *e*P **P** **01 47 14.5 +1.6**
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 87.19 27 *e*P **P** **01 47 14.5 +1.6**
comp=Z,5.4nm,0.7s
SOKR Solikamsk 87.33 330 *e*P **P** **01 47 12.5 -1.0**

SOKR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
SOKR					MLR	MLR		
	comp=Z,760nm,21.0s							
DOT	**Dot Lake**	**87.95**	**26**	*e*P	**P**		**01 47 17.1**	**+0.7**
	comp=Z,7.1nm,1.2s							
SYO	**Syowa Base**	**89.74**	**201**⇑	*e*P	**P**		**01 47 24.6**	**-0.1**
SYO	**Syowa Base**	**89.74**	**201**⇓	*e*PcP	**PcP**		**01 47 27.0**	**+1.0**
INK	**Inuvik**	**92.72**	**22**	*e*P	**P**		**01 47 38.1**	**-0.4**
INK					pmax	pmax		
	comp=Z,8.0nm,1.2s							
INK	**Inuvik**	**92.72**	**22**	*e*P	**P**		**01 47 38.1**	**-0.4**
	comp=Z,7.9nm,1.2s							
BHD	**Baghdad**	**93.39**	**303**	*e*P	P		01 47 38.0	-4.4
BHD				*i* SKS	**SKSac**		**01 58 08.0**	**-5.5**
BHD				*i* S	**S**		**01 58 45.0**	**-2.2**
KLMR	**Klimovskoe**	**95.98**	**331**	*e*P	**P**		**01 47 52.3**	**-1.4**
KLMR				*e*			01 51 44.0	
KLMR					pmax	pmax		
	comp=Z,14nm,1.4s							
OBN	**Obninsk**	**98.11**	**325**	*e*P	**P**		**01 48 02.8**	**-0.6**
OBN				*e*			01 52 05.5	
OBN					pmax	pmax		
	comp=Z,8.0nm,1.2s							
OBN					MLR	MLR		
	comp=Z,400nm,18.0s							
SPITS	**Spitsbergen Ar**	**98.84**	**350**		LR	LR	02 33 07.0	
	comp=Z,352nm,18.2s,baz=35,slow=36							
YBH	**Yreka Blue Hor**	**100.01**	**48**		LR	LR	02 24 47.0	
	comp=Z,554nm,21.2s,baz=244,slow=30							
ARCES	**ARCESS Array B**	**100.02**	**341**		P	**Pdif**	**01 48 11.4**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=80,slow=7.6,SNR=8.7							
ARCES					LR	LR	02 36 24.6	
	comp=Z,513nm,19.6s,baz=41,slow=37							
ARCES	**ARCESS Array B**	**100.02**	**341**		P	**Pdif**	**01 48 11.4**	**-0.3**
ARCES	**ARCESS Array B**	**100.02**	**341**		P	**Pdif**	**01 48 11.4**	**-0.3**
YKA	**Yellowknife Ar**	**101.28**	**27**		P	**Pdif**	**01 48 17.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=290,slow=4.7,SNR=9.5							
YKA					PKiKP	**PKiKP**	**01 52 40.1**	**-1.6**
	comp=Z,0.4nm,1.0s,baz=290,slow=6.3,SNR=3.9							
YKA	**Yellowknife Ar**	**101.28**	**27**		P	**Pdif**	**01 48 17.8**	**+0.4**
YKA	**Yellowknife Ar**	**101.28**	**27**		P	**Pdif**	**01 48 17.8**	**+0.4**
YKA					PKiKP	**PKiKP**	**01 52 40.1**	**-1.6**
FINES	**FINESS Array B**	**102.27**	**333**		P	**Pdif**	**01 48 20.9**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=34,slow=5.2,SNR=2.8							
FINES	**FINESS Array B**	**102.27**	**333**		P	**Pdif**	**01 48 20.9**	**-0.9**
FINES	**FINESS Array B**	**102.27**	**333**		P	**Pdif**	**01 48 20.9**	**-0.9**
RES	**Resolute Bay**	**102.42**	**12**	*e*P	**Pdif**		**01 48 21.9**	**-0.3**
RES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
RES	**Resolute Bay**	**102.42**	**12**	*e*P	**Pdif**		**01 48 21.9**	**-0.3**
	comp=Z,2.4nm,0.8s							
NVAR	**Mina Array Bea**	**103.73**	**51**	Pdiff	**Pdif**		**01 48 30.7**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.4,SNR=6.6							
NVAR	**Mina Array Bea**	**103.73**	**51**	Pdif	**Pdif**		**01 48 30.7**	**+1.5**
CLL	**Collm**	**112.70**	**325**	*e*PKiKP	**PKiKP**		**01 53 08.0**	**+4.7**
CLL					pmax	pmax		
	comp=Z,31nm,2.5s							
CLL					MLR	MLR		
	comp=Z,500nm,21.7s							
CLL	**Collm**	**112.70**	**325**	*e*(PKiKP)	**PKiKP**		**01 53 08.0**	**+4.7**
	comp=Z,31nm,2.5s							
CLL				*e*PP	**PP**		**01 53 49.0**	**-1.7**
CLL				*e*SS	SS		02 10 06.0	+37
CLL					Lm	MLR	02 44 00.0	
	comp=Z,500nm,21.7s							
GERES	**GERESS Array B**	**113.33**	**323**		PKiKP	**PKiKP**	**01 53 05.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=74,slow=2.1,SNR=8.1							
GERES	**GERESS Array B**	**113.33**	**323**		PKiKP		01 53 05.0	
GERES	**GERESS Array B**	**113.33**	**323**		PKiKP	**PKiKP**	**01 53 05.0**	**+0.3**
TXAR	**Lajitas Array**	**117.31**	**58**		PKP	**PKPdf**	**01 53 13.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=248,slow=4.7,SNR=3.7							
TXAR	**Lajitas Array**	**117.31**	**58**		PKiKP	**PKPdf**	**01 53 13.1**	**+0.2**
TXAR	**Lajitas Array**	**117.31**	**58**		PKP	**PKPdf**	**01 53 13.1**	**+0.2**
CDF	**Champ du Feu**	**117.33**	**324**	*e*PKiKP	**PKPdf**		**01 53 12.2**	**-0.2**
HINF	**Hinteralfeld**	**117.87**	**324**	*e*PKiKP	**PKPdf**		**01 53 13.3**	**-0.1**
	comp=Z,3.5nm,0.6s							
HAU	**Haudompre**	**118.07**	**324**	*e*PKiKP	**PKPdf**		**01 53 13.8**	**0.0**
	comp=Z,1.5nm,0.4s							
SFTF	**Sexfontaines**	**118.72**	**325**	*e*PKiKP	**PKPdf**		**01 53 15.3**	**+0.3**
	comp=Z,7.2nm,0.7s							
LPG	**La Plagne**	**119.06**	**322**	*e*PKiKP	**PKPdf**		**01 53 16.4**	**+0.3**
	comp=Z,6.4nm,0.7s							
LPL	**La Plagne**	**119.06**	**322**	*e*PKiKP	**PKPdf**		**01 53 16.4**	**+0.4**
	comp=Z,4.9nm,0.7s							
SBF	**Sospel**	**119.39**	**320**	*e*PKiKP	**PKPdf**		**01 53 16.8**	**+0.3**
	comp=Z,12nm,0.7s							
MBDF	**Montbardon**	**119.41**	**321**	*e*PKiKP	**PKPdf**		**01 53 17.1**	**+0.5**
	comp=Z,8.6nm,0.8s							
ORIF	**Oris-en-Rattie**	**119.88**	**322**	*e*PKiKP	**PKPdf**		**01 53 17.7**	**+0.3**
JCT	**Junction City**	**120.28**	**56**	*e*PKiKP	**PKPdf**		**01 53 18.8**	**+0.2**
JCT	**Junction City**	**120.28**	**56**	*e*PKPdf	**PKPdf**		**01 53 18.8**	**+0.2**
BGF	**Bois d'Agland**	**120.86**	**324**	*e*PKiKP	**PKPdf**		**01 53 19.1**	**-0.1**
	comp=Z,11nm,0.8s							
TCF	**Toulx Ste Croi**	**121.38**	**324**	*e*PKiKP	**PKPdf**		**01 53 20.6**	**+0.4**
	comp=Z,4.0nm,0.7s							
ESDC	**Sonseca Array**	**128.84**	**321**	PKP	**PKPdf**		**01 53 34.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=357,slow=2.1,SNR=3.1							
ESDC	**Sonseca Array**	**128.84**	**321**	PKP	**PKPdf**		**01 53 34.7**	**0.0**
PLCA	**Paso Flores**	**129.98**	**153**	PKP	**PKPdf**		**01 53 39.0**	**+2.0**
	comp=Z,1.5nm,0.6s,baz=212,slow=2.1,SNR=5.9							
PLCA	**Paso Flores**	**129.98**	**153**	*e*PKiKP	**PKPdf**		**01 53 38.5**	**+1.6**
PLCA	**Paso Flores**	**129.98**	**153**	*e*PKPdf	**PKPdf**		**01 53 38.5**	**+1.6**
PLCA				PKP	**PKPdf**		**01 53 39.0**	**+2.0**
TOA0	**Torodi Ar. Sit**	**134.21**	**285**	*e*PKPdf	**PKPdf**		**01 53 46.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**134.21**	**285**	PKhKP	PKPpre		01 53 40.6	
	comp=Z,1.0nm,0.8s,baz=93,slow=3.6,SNR=4.9							
TORD				PKP	**PKPdf**		**01 53 45.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=60,slow=1.6,SNR=9.8							
TORD				SKPbc	**SKPbc**		**01 57 12.8**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=60,slow=3.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**134.21**	**285**	PKPpre	PKPpre		01 53 40.6	
TORD				PKP	**PKPdf**		**01 53 45.8**	**+0.3**
TORD				SKPbc	**SKPbc**		**01 57 12.8**	**+1.3**
LCO	**Las Campanas**	**138.87**	**142**	*e*PKPdf	**PKPdf**		**01 53 53.8**	**-0.3**
DBIC	**Dimbokro**	**141.33**	**277**	PKhKP	PKPpre		01 53 52.2	
	comp=Z,1.2nm,0.5s,baz=90,slow=3.0,SNR=5.4							
DBIC	**Dimbokro**	**141.33**	**277**	PKHKP	PKPpre		01 53 52.3	
DBIC	**Dimbokro**	**141.33**	**277**	PKPpre	PKPpre		01 53 52.2	
OTAV	**Otavalo**	**144.95**	**94**	*e*PKPbc	**PKPdf**		**01 53 06.1**	**+0.5**
LPAZ	**La Paz**	**149.03**	**129**	PKPbc	**PKPab**		**01 54 19.1**	**-1.7**
	comp=Z,2.7nm,0.6s,baz=322,slow=3.6,SNR=11							
LPAZ	**La Paz**	**149.03**	**129**	*e*PKiKP	**PKPdf**		**01 54 14.4**	**+1.9**
LPAZ				*e*			01 54 19.1	
LPAZ	**La Paz**	**149.03**	**129**	*e*PKPbc	**PKPdf**		**01 54 14.4**	**+1.9**
LPAZ				*e*PKPab	**PKPab**		**01 54 19.1**	**-1.7**
ROSC	**El Rosal**	**149.18**	**86**	PKPbc	**PKPbc**		**01 54 17.0**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=106,slow=20,SNR=2.9							
ROSC	**El Rosal**	**149.18**	**86**	PKPbc	**PKPbc**		**01 54 17.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**152.44**	**55**	*e*PKPbc	**PKPbc**		**01 54 23.9**	**+0.1**
BDFB	**Brasilia**	**160.98**	**167**	PKPab	**PKPab**		**01 55 11.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=93,slow=5.5,SNR=3.1							
BDFB	**Brasilia**	**160.98**	**167**	PKP2	**PKPab**		**01 55 11.3**	**+0.5**
BDFB	**Brasilia**	**160.98**	**167**	PKPab	**PKPab**		**01 55 11.3**	**+0.5**

*ISCJB **28** 01:36:31.6±0.3,23.30N±0.02×121.59E±0.02,h26km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=36.5*
*JMA **28** 01:36:32.8±0.4,23.29N×121.60E,h68km,M3.3*
*TAP **28** 01:36:32.4,23.33N×121.48E,h31km,ML3.8,B*
ISC 28 01:36:32.0±0.9,23.30N±0.02×121.55E±0.03,h29km±7km, n70,σ091/119,24C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TWF1	**Yuli**	**0.23**	**282**	⇑*i*P		**Pb**	**01 36 38.7**	**+0.1**
	baz=291							
TWF1				*i* S		**Sb**	**01 36 43.2**	**+0.3**
	baz=291							
CHKT	**Chengkung**	**0.26**	**220**	⇑*i*P		**Pb**	**01 36 39.5**	**+0.7**
	baz=199							
CHKT				*i* S		**Sn**	**01 36 44.7**	**-0.4**
	baz=199							
EHY	**Hungye**	**0.29**	**315**	⇑*i*P		**Pb**	**01 36 39.2**	**-0.1**
	baz=307							
EHY				*i* S		**Sb**	**01 36 43.9**	**-0.2**
	baz=307							
TEGC	**Jichi Village**	**0.41**	**359**	*e*P		**Pb**	**01 36 41.2**	**+0.3**
	baz=15							
TEGC				S		**Sn**	**01 36 48.8**	**+0.2**
	baz=15							
ELDTW	**Lidau**	**0.50**	**257**	⇑*i*P		**Pb**	**01 36 41.8**	**-0.7**
	baz=246							
ELDTW				S		**Sb**	**01 36 48.2**	**-1.5**
	baz=246							
ESL	**Shilin**	**0.52**	**348**⇑	*i*P		**Pb**	**01 36 42.0**	**-0.8**
	baz=344							
ESF	**Shoufeng Towns**	**0.57**	**356**	*e*P		**Pb**	**01 36 44.1**	**+0.5**
	baz=350							
YUS	**Yu-Shan**	**0.58**	**289**⇑	*i*P		**Pb**	**01 36 43.7**	**-0.3**
	baz=287							
YUS				S		**Sb**	**01 36 51.4**	**-0.8**
	baz=287							
TWG	**Pinlang**	**0.65**	**222**⇑	*i*P		**Pb**	**01 36 43.8**	**-1.1**
	baz=224							
TWG				*e*S		**Sb**	**01 36 52.2**	**-1.5**
	baz=224							
TTN	**Taitung**	**0.66**	**214**	*e*P		**Pb**	**01 36 44.8**	**-0.3**
	baz=222							
TTN				*e*S		**Sn**	**01 36 54.9**	**+0.1**
	baz=222							
HWA	**Hwalien**	**0.67**	**5**	*e*P		**Pb**	**01 36 45.1**	**-0.2**
	baz=22							
ALS	**Alishan**	**0.71**	**287**⇑	*i*P		**Pb**	**01 36 46.0**	**-0.1**
	baz=286							
ALS				*e*S		**Sb**	**01 36 55.2**	**-0.5**
	baz=286							
STYT	**Tauyuan**	**0.74**	**259**⇑	*i*P		**Pb**	**01 36 45.9**	**-0.5**
	baz=254							
STYT				*e*S		**Sb**	**01 36 55.5**	**-0.7**
	baz=254							
TWD	**Chiawan**	**0.78**	**3**⇑	*i*P		**Pb**	**01 36 46.0**	**-1.0**
	baz=353							
TWD				*e*S		**Sn**	**01 36 58.4**	**+0.6**
	baz=353							
SMLT	**Sun Moon Lake**	**0.83**	**314**⇑	*i*P		**Pn**	**01 36 47.4**	**-0.5**
	baz=319							
SMLT				S		**Sb**	**01 36 58.0**	**-0.8**
	baz=319							
CHN5	**Tsauling**	**0.85**	**290**⇑	*i*P		**Pn**	**01 36 48.3**	**+0.1**
	baz=289							
CHN5				S		**Sn**	**01 37 00.2**	**+0.5**
	baz=289							
WTP	**Ta-pu**	**0.86**	**266**⇑	*i*P		**Pn**	**01 36 48.3**	**0.0**
	baz=264							
WTP				*e*S		**Sb**	**01 36 59.8**	**+0.1**
	baz=264							
TYC	**Yuchr**	**0.87**	**314**⇑	*i*P		**Pn**	**01 36 48.1**	**-0.3**
	baz=320							
TYC				S		**Sb**	**01 36 59.6**	**-0.3**
	baz=320							
CHN4	**Tsaushan**	**0.88**	**273**⇑	*i*P		**Pn**	**01 36 48.8**	**+0.3**
	baz=271							
CHN4				S		**Sn**	**01 37 00.9**	**+0.6**
	baz=271							
WHF	**Hehuan Shan**	**0.88**	**343**⇑	*i*P		**Pn**	**01 36 47.7**	**-1.2**
	baz=345							
WHF				*e*S		**Sb**	**01 36 58.5**	**-2.1**
	baz=345							
ECL	**Taimali**	**0.89**	**218**	⇑P		**Pn**	**01 36 46.9**	**-1.7**
	baz=215							
ECL				*e*S		**Sb**	**01 36 57.7**	**-2.8**
	baz=215							
CHN1	**Nanshi**	**0.94**	**263**⇑	*i*P		**Pb**	**01 36 49.9**	**+0.1**
	baz=261							
CHN1				*e*S		**Sb**	**01 37 03.3**	**+1.3**
	baz=261							
TWK	**Hsinying**	**0.97**	**268**⇑	*i*P		**Pn**	**01 36 50.2**	**+0.3**
	baz=266							
TWK				*e*S		**Sb**	**01 37 03.4**	**+0.5**
	baz=266							
WNT	**Mingjian**	**0.98**	**306**⇑	*i*P		**Pb**	**01 36 50.5**	**+0.1**
	baz=305							
WNT				*e*S		**Sb**	**01 37 03.4**	**+0.4**
	baz=305							
WGK	**Gukeng**	**0.98**	**293**	*e*P		**Pn**	**01 36 50.4**	**+0.5**
	baz=292							
WGK				*e*S		**Sb**	**01 37 03.9**	**+0.8**
	baz=292							
TWT	**Tachien**	**1.01**	**340**⇑	*i*P		**Pn**	**01 36 50.1**	**-0.3**
	baz=340							
TWT				S		**Sn**	**01 37 01.9**	**-1.8**
	baz=340							
SSD	**Sandimen**	**1.01**	**237**	*e*P		**Pn**	**01 36 49.6**	**-0.7**
	baz=234							
SSD				*e*S		**Sb**	**01 37 04.2**	**+0.4**
	baz=234							
CHN2	**Minshiung**	**1.01**	**283**	*e*P		**Pb**	**01 36 51.2**	**+0.2**
	baz=293							
CHN2				*e*S		**Sn**	**01 37 04.0**	**+0.4**
	baz=293							
CHY	**Chiayi**	**1.05**	**281**	*e*P		**Pb**	**01 36 51.5**	**-0.1**
	baz=279							
CHN3	**Shinhua**	**1.11**	**259**	*e*P		**Pb**	**01 36 53.3**	**+0.7**
	baz=269							
CHN3				*e*S		**Sb**	**01 37 09.7**	**+2.9**
	baz=269							
TAW	**Tawu**	**1.11**	**213**	*e*P		**Pn**	**01 36 50.2**	**-1.5**
	baz=211							
EAST	**Anshuo**	**1.12**	**215**	⇓P		**Pn**	**01 36 50.7**	**-1.1**
	baz=214							
SGLT	**Jiouru**	**1.13**	**240**	*e*P		**Pb**	**01 36 53.8**	**+0.8**
	baz=228							
SGLT				*e*S		**Sb**	**01 37 09.5**	**+2.2**
	baz=228							
ENA	**Nanau**	**1.14**	**9**	*e*P		**Pn**	**01 36 50.8**	**-1.3**
	baz=357							
TWM1	**Shoushan**	**1.14**	**246**	*e*P		**Pb**	**01 36 54.0**	**+0.9**
	baz=243							
TWM1				*e*S		**Sb**	**01 37 11.1**	**+3.5**
	baz=243							
NNS	**Nan Shan**	**1.14**	**352**	*e*P		**Pn**	**01 36 51.8**	**-0.5**
	baz=3.0							
TCU	**Taichung**	**1.16**	**317**	⇑P		**Pb**	**01 36 53.4**	**-0.1**
	baz=304							
TCU				*e*S		**Sb**	**01 37 08.1**	**0.0**
	baz=304							
CHN8	**Yiju**	**1.23**	**272**	*e*P		**Pn**	**01 36 53.4**	**+0.1**
	baz=270							
CHN8				*e*S		**Sb**	**01 37 10.3**	**+0.2**
	baz=270							
SCLT	**Jiali**	**1.25**	**264**	*e*P		**Pb**	**01 36 54.6**	**-0.5**
	baz=262							
SCLT				*e*S		**Sb**	**01 37 11.6**	**+0.8**
	baz=262							
LAY	**Lan-yu**	**1.26**	**180**	*e*P		**Pn**	**01 36 52.6**	**-1.2**
	baz=172							
LAY				*e*S		**Sn**	**01 37 09.8**	**+0.1**
	baz=172							
TWQ1	**Liyutan**	**1.26**	**326**⇑	*i*P		**Pb**	**01 36 55.1**	**-0.1**
	baz=326							
TWQ1				*e*S		**Sb**	**01 37 11.2**	**+0.2**
	baz=326							
WSF	**Szhu**	**1.26**	**286**	*e*P		**Pn**	**01 36 53.1**	**-0.6**
	baz=284							
WTCT	**Ta-ch'eng**	**1.29**	**296**	*e*P		**Pn**	**01 36 54.3**	**+0.1**
	baz=294							
WTCT				*e*S		**Sn**	**01 37 11.3**	**+0.9**
	baz=294							
NSY	**Sanyi**	**1.32**	**327**	P		**Pb**	**01 36 56.1**	**-0.1**
	baz=326							
NSY				*e*S		**Sb**	**01 37 13.7**	**+0.8**
	baz=326							
TWC	**Suao**	**1.33**	**12**	*e*P		**Pn**	**01 36 54.5**	**-0.2**
	baz=360							
ENTT	**Nioudou**	**1.33**	**1**	*e*P		**Pn**	**01 36 54.1**	**-0.6**
KAU	**Kaohsiung**	**1.36**	**238**	*e*P		**Pn**	**01 36 57.5**	**+0.7**
	baz=238							
NSK	**Sanguang**	**1.38**	**353**⇓	*i*P		**Pn**	**01 36 55.6**	**+0.2**
	baz=4.0							
NSK				*e*S		**Sn**	**01 37 12.2**	**-0.6**
	baz=4.0							
NSTT	**Nanjuang**	**1.41**	**339**	*e*P		**Pn**	**01 36 56.8**	**+0.9**
	baz=339							
NSTT				*e*S		**Sn**	**01 37 14.4**	**+0.8**
	baz=339							
TWE	**Neicheng**	**1.42**	**4**	*e*P		**Pn**	**01 36 55.3**	**-0.6**
	baz=5.0							
TWP	**Hsiaoliuchiu**	**1.45**	**229**	*e*P		**Pb**	**01 36 58.5**	**+0.1**
	baz=231							
HEN	**Hengchun**	**1.49**	**210**	*e*P		**Pn**	**01 36 57.7**	**+0.8**
	baz=201							
TWK1	**Hengchun**	**1.52**	**207**	*e*P		**Pn**	**01 36 57.8**	**+0.5**
	baz=209							
TWK1				*e*S		**Sn**	**01 37 16.0**	**-0.1**
	baz=209							
TSEB	**Hengchuen, Pin**	**1.52**	**203**	*e*P		**Pn**	**01 36 58.0**	**+0.7**
	baz=208							
TSEB				*e*S		**Sn**	**01 37 16.9**	**+0.8**
	baz=208							
HSN	**Hsinchu**	**1.58**	**341**	*e*P		**Pb**	**01 36 59.8**	**-0.9**
	baz=326							
TWA	**Mucha**	**1.67**	**1**	*e*P		**Pn**	**01 36 59.8**	**+0.3**
	baz=1.0							
TWA				*e*S		**Sn**	**01 37 20.6**	**+0.7**
	baz=1.0							
NCU	**National Centr**	**1.69**	**349**	*e*P		**Pn**	**01 37 01.2**	**+1.5**
	baz=346							
TWB1	**Santiao Chiao**	**1.75**	**13**	*e*P		**Pn**	**01 37 01.3**	**+0.9**
	baz=358							
YOJ	**Yonaguni jima**	**1.77**	**49**	*e*P		**Pn**	**01 37 01.3**	**+0.6**
	baz=49							
YOJ				*e*S		**Sn**	**01 37 22.1**	**-0.2**
	baz=49							
YOJ	**Yonaguni jima**	**1.77**	**49**	P		**Pn**	**01 37 01.4**	**+0.6**
YOJ				*e*S		**Sn**	**01 37 22.6**	**+0.3**
NWF	**Wu-fen Shan**	**1.77**	**7**	*e*P		**Pn**	**01 37 01.4**	**+0.5**
	baz=4.0							
TWS1	**Kuangyinshan**	**1.79**	**356**	*e*P		**Pn**	**01 37 01.7**	**+0.6**
	baz=8.0							
PNG	**Penghu**	**1.85**	**279**	⇑P		**Pn**	**01 37 01.9**	**0.0**
	baz=276							
PNG				*e*S		**Sn**	**01 37 23.5**	**-0.7**
	baz=276							
HATJ	**Hateruma jima**	**2.20**	**70**	P		**Pn**	**01 37 07.1**	**+0.4**
HATJ				*e*S		**Sn**	**01 37 32.8**	**-0.2**
IRIF	**Iriomote-Funau**	**2.25**	**62**	P		**Pn**	**01 37 08.0**	**+0.7**
IRIF				*e*S		**Sn**	**01 37 35.0**	**+0.9**
JKRS	**Kuro-shima**	**2.44**	**67**	P		**Pn**	**01 37 11.1**	**+1.1**
JKRS				*e*S		**Sn**	**01 37 39.6**	**+0.7**
JJJ	**Ishigaki jima**	**2.60**	**66**	P		**Pn**	**01 37 12.3**	**+0.1**
JJJ				*e*S		**Sn**	**01 37 42.3**	**-0.6**
KNM	**Kinmen**	**3.06**	**292**	*e*P		**Pn**	**01 37 19.6**	**+1.1**
	baz=290							
QZH	**Quanzhou**	**3.16**	**302**⇓	*i*Pn		**Pn**	**01 37 19.8**	**0.0**
QZH				Sn		**Sn**	**01 37 54.3**	**-2.2**
QZH				smax	smax			
	comp=N,120nm,0.8s							
QZH				smax	smax			
	comp=E,70nm,0.8s							
JTJ	**Tarama**	**3.18**	**65**	P		**Pn**	**01 37 20.6**	**+0.5**
JTJ				*e*S		**Sn**	**01 37 56.9**	**-0.2**

*IDC **28** 02:14:23.9±2.2,22.64S×170.28E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.9/16,mbtmp3.9/6,ML4.0/1,MS3.6/2, Ms1 3.6/2,ms1mx3.1/34,Error ellipse: s-maj=69.5km s-min=36.0km az=161.0*
*NOU **28** 02:14:26.8±0.8,20.31S×169.98E,h30km,MD3.2,ML3.2*
ISC 28 02:14:29.7±1.2,22.38S±0.4×169.85E±0.09,h21km,n16, σ1§57/16,mb3.6/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
BAYA	**Yate Dam**	**2.75**	**273**	*e*S		**Sb**	**02 15 53.7**	**+2.1**
PLUM	**Mont Dore**	**2.98**	**270**	*e*P		**Pb**	**02 15 20.4**	**-1.6**
PLUM				*e*S		**Sb**	**02 16 00.3**	**+2.4**
DZM	**Mont Dzumac**	**3.17**	**274**	P		**Pb**	**02 15 22.7**	**-2.6**
	12nm,0.3s,baz=93,slow=18,SNR=98							
DZM				Sn		**Sb**	**02 16 05.0**	**+1.4**
	12nm,0.3s,baz=137,slow=18,SNR=8.5							
DZM	**Mont Dzumac**	**3.17**	**274**	*e*P		Pb	02 15 22.0	-3.4
DZM				AMP			02 16 14.5	
	comp=Z,640nm,1.9s							
NOUC	**Port Laguerre**	**3.30**	**273**	*e*P		Pn	02 15 23.6	+3.5
NOUC				*e*S		**Sb**	**02 16 06.7**	**-0.4**
NOUC				AMP			02 16 10.5	
	comp=Z,24nm,0.8s							
HNR	**Honiara**	**15.95**	**322**	LR		LR	02 23 38.1	
	comp=Z,144nm,20.9s,baz=285,slow=34							
RPZ	**Rata Peaks**	**21.38**	**178**	LR		LR	02 25 59.6	
	comp=Z,252nm,19.6s,baz=330,slow=33							
STKA	**Stephens Creek**	**26.84**	**243**	P		**P**	**02 20 09.2**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=85,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**33.07**	**261**	P		**P**	**02 21 03.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=88,slow=9.7,SNR=4.7							
WRA	**Warramunga Arr**	**33.17**	**267**	P		**P**	**02 21 05.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=97,slow=8.4,SNR=3.8							
CMAR	**Chiang Mai Arr**	**80.29**	**294**	P		**P**	**02 26 40.0**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=126,slow=4.6,SNR=4.1							
SONM	**Songino Array**	**90.00**	**323**	P		**P**	**02 27 27.5**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=132,slow=4.3,SNR=2.8							
VYHS	**Vyhne**	**145.15**	**326**	*e*		**PKPbc**	**02 34 03.9**	**-1.2**
VYHS				*e*			02 34 10.1	
VYHS				*e*			02 36 58.7	
KOLL	**Kolacno**	**145.32**	**326**	*e*		**PKPbc**	**02 34 05.7**	**+0.1**
KOLL				*e*			02 34 11.5	
KOLL				*e*			02 36 59.0	
BRG	**Berggiesshubel**	**145.85**	**333**	*e*PKP		**PKPdf**	**02 34 05.5**	**-1.1**

*ISCJB **28** 02:17:51.2±0.4,84°.90N±0°.08×97°.6E±0°.7,h10km, mb3.8/15,Error ellipse: s-maj=12.0km s-min=8.4km az=157.1*

*MOS **28** 02:17:51.0±1.3,84°.91N×97°.29E,h10km,mb4.2/10,Error ellipse: s-maj=99.9km s-min=11.9km az=88.2*

*IDC **28** 02:17:51.2±0.8,84°.91N×98°.39E,h0km, mb3.7/10, mb1 3.9/12,mb1mx3.7/27,mbtmp3.8/12,ML3.5/2,Error ellipse: s-maj=23.5km s-min=15.0km az=142.0*

*NEIC **28** 02:17:52.7±0.5,84°.92N×97°.84E,h10km,mb4.1/5,Error ellipse: s-maj=13.1km s-min=9.6km az=137.0*

ISC 28 02:17:52.7±0.6,**84°.94N**±0°.10×**97.72E**±0°.08,**h10**km,**n51,** σ1§**15**/51,**mb3.9**/15,**North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**12.20**	**285**	Pn	**Pn**		**Pn**	**02 20 44.7**	**-1.5**
	baz=27,slow=14,SNR=5.2								
SPITS	**Spitsbergen Ar**	**12.20**	**285**	P	**Pn**		**Pn**	**02 20 44.7**	**-1.5**
SPITS	**Spitsbergen Ar**	**12.20**	**285**	Pn	**Pn**		**Pn**	**02 20 44.7**	**-1.5**
ARCES	**ARCESS Array B**	**19.62**	**266**	P	**P**		**P**	**02 22 21.2**	**+0.5**
	0.2nm,0.3s,baz=24,slow=11,SNR=7.6								
ARCES	**ARCESS Array B**	**19.62**	**266**	P	**P**		**P**	**02 22 21.2**	**+0.5**
ARCES	**ARCESS Array B**	**19.62**	**266**	P	**P**		**P**	**02 22 21.2**	**+0.5**
BILL	**Bilibino**	**20.75**	**99**	*eP*	**P**		**P**	**02 22 34.1**	**+1.0**
BILL				pmax	pmax				
	comp=Z,1.0nm,1.2s								
YAK	**Yakutsk**	**23.95**	**142**	*eP*	**P**		**P**	**02 23 05.7**	**-0.7**
SEY	**Seymchan**	**24.61**	**116**	*eP*	**P**		**P**	**02 23 11.4**	**-1.1**
INK	**Inuvik**	**25.31**	**43**	P	**P**		**P**	**02 23 19.2**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=14,slow=15,SNR=6.3								
INK	**Inuvik**	**25.31**	**43**	*eP*	**P**		**P**	**02 23 19.6**	**+0.8**
INK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
INK	**Inuvik**	**25.31**	**43**	*eP*	**P**		**P**	**02 23 19.6**	**+0.8**
	comp=Z,4.3nm,1.2s								
FINES	**FINESS Array B**	**27.50**	**261**	P	**P**		**P**	**02 23 39.7**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=16,slow=8.7,SNR=7.0								
FINES	**FINESS Array B**	**27.50**	**261**	P	**P**		**P**	**02 23 39.7**	**+1.0**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**27.50**	**261**	P	**P**		**P**	**02 23 39.7**	**+1.0**
COLA	**College**	**27.75**	**57**	*eP*	**P**		**P**	**02 23 43.7**	**+2.9**
ILAR	**Eielson Array**	**27.92**	**56**	P	**P**		**P**	**02 23 43.6**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=346,slow=7.2,SNR=7.0								
ILAR	**Eielson Array**	**27.92**	**56**	P	**P**		**P**	**02 23 43.6**	**+1.3**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**27.92**	**56**	P	**P**		**P**	**02 23 43.6**	**+1.3**
ARU	**Arti**	**29.95**	**225**	*eP*	**P**		**P**	**02 24 00.4**	**0.0**
VSU	**Vasula**	**30.39**	**259**	*eP*	**P**		**P**	**02 24 05.7**	**+1.4**
VSU				pmax	pmax				
	comp=Z,9.0nm,1.2s								
YKA	**Yellowknife Ar**	**32.07**	**28**	P	**P**		**P**	**02 24 17.7**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=352,slow=8.3,SNR=6.1								
YKA	**Yellowknife Ar**	**32.07**	**28**	P	**P**		**P**	**02 24 17.7**	**-1.4**
YKA	**Yellowknife Ar**	**32.07**	**28**	P	**P**		**P**	**02 24 17.7**	**-1.4**
BRVK	**Borovoye**	**32.68**	**211**	*eP*	**P**		**P**	**02 24 24.8**	**+0.3**
BRVK				pmax	pmax				
	comp=Z,14nm,5.0s								
BRVK	**Borovoye**	**32.68**	**211**	*eP*	**P**		**P**	**02 24 24.8**	**+0.3**
	comp=Z,1.5nm,0.7s								
KURK	**Kurchatov**	**34.70**	**201**	*eP*	**P**		**P**	**02 24 43.6**	**+1.6**
KURK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
KURK	**Kurchatov**	**34.70**	**201**	*eP*	**P**		**P**	**02 24 42.0**	**0.0**
	comp=Z,1.1nm,0.7s								
SONM	**Songino Array**	**37.33**	**170**	P	**P**		**P**	**02 25 04.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=350,slow=8.2,SNR=12								
SONM	**Songino Array**	**37.33**	**170**	P	**P**		**P**	**02 25 04.5**	**-0.3**
SONM				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SONM	**Songino Array**	**37.33**	**170**	P	**P**		**P**	**02 25 04.5**	**-0.3**
AKASG	**Malin Array Be**	**37.87**	**255**	P	**P**		**P**	**02 25 09.9**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=7,9,slow=9.2,SNR=5.8								
AKASG	**Malin Array Be**	**37.87**	**255**	*eP*	**P**		**P**	**02 25 09.8**	**+0.7**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**37.87**	**255**	P	**P**		**P**	**02 25 09.9**	**+0.7**
MK31	**Makanchi Array**	**38.51**	**197**	*eP*	**P**		**P**	**02 25 13.5**	**-1.1**
MK31	**Makanchi Array**	**38.51**	**197**	*eP*	**P**		**P**	**02 25 13.5**	**-1.1**
MKAR	**Makanchi Array**	**38.51**	**197**	P	**P**		**P**	**02 25 13.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=5.6,slow=7.8,SNR=18								
MKAR	**Makanchi Array**	**38.51**	**197**	*eP*	**P**		**P**	**02 25 13.5**	**-1.1**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**38.51**	**197**	P	**P**		**P**	**02 25 13.6**	**-1.1**
GERES	**GERESS Array B**	**41.07**	**270**	P	**P**		**P**	**02 25 37.9**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=19,slow=9.9,SNR=7.3								
GERES	**GERESS Array B**	**41.07**	**270**	P	**P**		**P**	**02 25 37.9**	**+2.0**
GERES	**GERESS Array B**	**41.07**	**270**	P	**P**		**P**	**02 25 37.9**	**+2.0**
AAK	**Ala-Archa**	**42.91**	**205**	*eP*	**P**		**P**	**02 25 51.1**	**-0.1**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
AAK	**Ala-Archa**	**42.91**	**205**	*eP*	**P**		**P**	**02 25 50.9**	**-0.2**
	comp=Z,4.6nm,0.7s								
KIV	**Kislovodsk**	**43.47**	**239**	*eP*	**P**		**P**	**02 25 53.6**	**-2.0**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIV	**Kislovodsk**	**43.47**	**239**	*eP*	**P**		**P**	**02 25 56.2**	**+0.6**
	comp=Z,2.7nm,0.6s								
TXAR	**Lajitas Array**	**65.59**	**20**	P	**P**		**P**	**02 28 36.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=0.7,slow=3.9,SNR=9.4								
TXAR	**Lajitas Array**	**65.59**	**20**	P	**P**		**P**	**02 28 36.0**	**-0.3**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**65.59**	**20**	P	**P**		**P**	**02 28 36.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.52**	**277**	P	**P**		**P**	**02 29 48.2**	**0.0**
	comp=Z,0.3nm,0.8s,baz=3.1,slow=5.9,SNR=4.1								
TORD	**Torodi Ar. Bea**	**77.52**	**277**	P	**P**		**P**	**02 29 48.2**	**0.0**

*IDC **28** 02:39:06.4±0.7,0°.56S×98°.08E,h0km,mb4.3/19, mb1 4.3/20,mb1mx4.2/26,mbtmp4.3/20,ML4.6/1,MS4.0/16, Ms1 4.1/16,ms1mx3.9/30,Error ellipse: s-maj=20.0km s-min=12.6km az=77.0*

*BJI **28** 02:39:08.6,0°.97S×98°.32E,h49km,mB5.0/27,mb4.7/44, Ms4.8/28,Ms7 4.4/28*

*NEIC **28** 02:39:10.9±0.3,0°.46S×98°.16E,mb4.9/20,Error ellipse: s-maj=8.2km s-min=5.1km az=51.0*

*ISCJB **28** 02:39:11.0±0.8,0°.43S±0°.05×98°.12E±0°.05,h42km±6km, mb4.5/51,MS4.2/25,Error ellipse: s-maj=10.0km s-min=6.0km az=141.1*

*DJA **28** 02:39:13,0°.31S×98°.21E,h27km,MLv4.9/12*

ISC 28 02:39:12.3±0.5,**0°.50S**±0°.05×**98°.06E**±0°.06,**h40**km±2km, **h40**km:**pP-P,n121,**σ1§**39**/150,**mb4.6**/51,**MS4.2**/25,**1C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.85**	**345**	P	**Pn**		**Pn**	**02 39 40.1**	**-1.4**
MNSI	**Mandailing Nat**	**1.99**	**50**	P	**Pn**		**Pn**	**02 39 41.9**	**-1.6**
SBSI	**Sibolga**	**2.20**	**22**	P	**Pn**		**Pn**	**02 39 47.0**	**+0.7**
PPI	**Padang Panjang**	**2.34**	**89**	P	**Pn**		**Pn**	**02 39 47.1**	**-1.2**
PDSI	**Padang**	**2.44**	**100**	P	**Pn**		**Pn**	**02 39 48.4**	**-1.3**
BKNI	**Bangkinang**	**3.09**	**75**	P	**Pn**		**Pn**	**02 40 00.6**	**+2.0**
PSI	**Prapat**	**3.39**	**15**	P	**Pn**		**Pn**	**02 39 59.7**	**-3.1**
KRJI	**Kerinci**	**3.76**	**115**	P	**Pn**		**Pn**	**02 40 08.0**	**+0.2**
TPTI		**3.83**	**347**	P	**Pn**		**Pn**	**02 40 06.5**	**-2.3**
TSI	**Tuntungan**	**4.00**	**7**	P	**Pn**		**Pn**	**02 40 13.1**	**+2.0**
IPM	**Ipoh**	**5.76**	**31**	ePn	**Pn**		**Pn**	**02 40 35.2**	**-0.1**
MNAI	**Manna**	**6.22**	**128**	P	**Pn**		**Pn**	**02 40 41.5**	**-0.2**
	367nm,1.2s,2.1nm								
MYKOM	**Kota Tinggi**	**6.22**	**69**	P	**Pn**		**Pn**	**02 40 41.9**	**+0.3**
	50nm,1.0s,1μm0.9nm								
BSI	**Banda Aceh**	**6.56**	**335**	P	**Pn**		**Pn**	**02 40 44.4**	**-1.9**
BJII	**Banjamegara**	**13.46**	**121**	P	Pn		Pn	02 42 24.5	+3.6
SBUM	**Sibu**	**14.46**	**78**	P	**Pn**		**Pn**	**02 42 34.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.85**	**3**	P	**P**		**P**	**02 43 27.7**	**-1.4**
	0.8nm,0.3s,baz=192,slow=10,SNR=13								
CMAR				S			**S**	**02 47 05.5**	**+4.0**
	0.2nm,0.3s,baz=191,slow=28,SNR=2.4								
CMAR				LR			LR	02 51 31.5	
	comp=Z,922nm,18.7s,baz=190,slow=39								
CMAR	**Chiang Mai Arr**	**18.85**	**3**	P	**P**		**P**	**02 43 27.7**	**-1.4**
CMAR				S			**S**	**02 47 05.5**	**+4.0**
CHTO	**Chiang Mai**	**19.21**	**3**	*eP*	**P**		**P**	**02 43 33.3**	**+0.3**
	9.9nm,0.9s								
KKM	**Kota Kinabalu**	**19.26**	**70**	*eP*	**P**		**P**	**02 43 32.6**	**-1.0**
	30nm,0.9s								
KAPI	**Kappang**	**22.13**	**102**	LR	LR		LR	02 53 32.3	
	comp=Z,319nm,19.3s,baz=178,slow=39								
KAPI	**Kappang**	**22.13**	**102**	*eP*	**P**		**P**	**02 44 03.8**	**-0.8**
	49nm,1.2s								
QIZ	**Qiongzhong**	**22.59**	**30**	P	**P**		**P**	**02 44 09.0**	**-0.5**
QIZ				sP	**sP**		**sP**	**02 44 23.3**	**-1.5**
QIZ				S	**S**		**S**	**02 48 15.5**	**+0.9**
QIZ				sS	**sS**		**sS**	**02 48 32.0**	**-0.1**
QIZ				pmax	pmax				
	comp=Z,19nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,170nm,4.0s								
QIZ				LR	LR				
	comp=N,480nm,14.3s								
QIZ				LR	LR				
	comp=Z,580nm,12.7s								
KMI	**Kunming**	**25.87**	**10**	P	P			02 44 45.8	+5.2
KMI				pP	pP			02 44 54.0	+2.4
KMI				sP	sP			02 44 58.0	+1.5
KMI				PP	pwP			02 45 24.8	+33
KMI				S	**S**			**02 49 08.3**	**+0.3**
KMI				sS	sS			02 49 28.5	+2.1
KMI				pmax	pmax				
	comp=Z,10.0nm,1.2s								
KMI				LR	LR				
	comp=N,810nm,16.4s								
KMI				LR	LR				
	comp=E,520nm,13.7s								
KMI				LR	LR				
	comp=Z,870nm,16.4s								
SHL	**Shillong**	**26.59**	**347**	*eP*	**P**		**P**	**02 44 47.0**	**0.0**
GYA	**Guiyang**	**28.05**	**17**	P	**P**		**P**	**02 44 59.0**	**-1.1**
GYA				pP	**pP**		**pP**	**02 45 10.8**	**-0.4**
GYA				PP	PP			02 45 48.3	-16
GYA				PcP	**PcP**		**PcP**	**02 48 15.0**	**+0.7**
GYA				S	**S**		**S**	**02 49 43.8**	**+1.5**
GYA				SS	SS			02 51 05.3	-37
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,50nm,4.2s								
GYA				LR	LR				
	comp=N,500nm,15.8s								
GYA				LR	LR				
	comp=E,330nm,13.6s								
GYA				LR	LR				
	comp=Z,800nm,15.5s								
DAV	**Davao City (W)**	**28.47**	**74**	LR	LR			02 58 00.1	
	comp=Z,220nm,18.7s,baz=135,slow=40								
TAPN	**Taplejung**	**29.42**	**341**	*eP*	**P**			**02 45 13.7**	**+1.2**
TAPN	**Taplejung**	**29.42**	**341**	*eP*	**P**			**02 45 13.7**	**+1.2**
RAMN	**Ramite**	**29.43**	**339**	*eP*	**P**			**02 45 13.9**	**+1.4**
RAMN	**Ramite**	**29.43**	**339**	*eP*	**P**			**02 45 13.9**	**+1.4**
JIRN	**Jiri**	**30.23**	**339**	*eP*	**P**			**02 45 20.5**	**+0.8**
	comp=Z,18nm,0.7s								
JIRN	**Jiri**	**30.23**	**339**	*eP*	**P**			**02 45 20.5**	**+0.8**
	comp=Z,18nm,0.7s								
GUN	**Gumba**	**30.57**	**338**	*eP*	**P**			**02 45 23.7**	**+1.0**
GUN	**Gumba**	**30.57**	**338**	*eP*	**P**			**02 45 23.7**	**+1.0**
LSA	**Lhasa**	**30.74**	**348**	*eP*	**P**			**02 45 24.2**	**-0.1**
	comp=Z,10nm,0.8s								
KOLN	**Koldanda**	**31.34**	**335**	*eP*	**P**			**02 45 30.6**	**+1.2**
	comp=Z,36nm,0.7s								
KOLN	**Koldanda**	**31.34**	**335**	*eP*	**P**			**02 45 30.6**	**+1.2**
	comp=Z,36nm,0.7s								
CD2	**Chengdu**	**31.70**	**9**	P	**P**			**02 45 32.0**	**-0.3**
CD2				pP	**pP**			**02 45 43.0**	**-0.4**
CD2				sP	**sP**			**02 45 48.0**	**-0.2**
CD2				PP	PP			02 46 37.8	-6.7
CD2				S	**S**			**02 50 37.5**	**-1.8**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CD2				pmax	pmax				
	comp=Z,160nm,3.9s								
CD2				LR	LR				
	comp=N,850nm,13.7s								
CD2				LR	LR				
	comp=Z,1μm,14.3s								
DANN	**Dangsing**	**31.79**	**336**	*eP*	**P**			**02 45 34.1**	**+0.7**
	comp=Z,21nm,0.8s								
DANN	**Dangsing**	**31.79**	**336**	*eP*	**P**			**02 45 34.1**	**+0.7**
	comp=Z,21nm,0.8s								
ENH	**Enshi**	**32.48**	**19**	*eP*	**P**			**02 45 38.2**	**-0.9**
	comp=Z,31nm,0.7s								
XAN	**Xi'an**	**35.84**	**16**	P	**P**			**02 46 07.0**	**-1.2**
XAN				pP	**pP**			**02 46 18.3**	**-1.1**
XAN				sP	**sP**			**02 46 23.5**	**-0.7**
XAN				PP	PP			02 47 27.3	-2.9
XAN				S	**S**			**02 51 40.8**	**-2.4**
XAN				pmax	pmax				
	comp=Z,10.0nm,1.2s								
XAN				pmax	pmax				
	comp=Z,21nm,3.6s								
XAN				LR	LR				
	comp=N,330nm,15.0s								
XAN				LR	LR				
	comp=E,120nm,15.9s								
XAN				LR	LR				
	comp=Z,210nm,16.1s								
LZH	**Lanzhou**	**36.79**	**8**	*eP*	**P**			**02 46 17.0**	**+0.5**
LZH				pP	**pP**			**02 46 29.0**	**+1.3**
LZH				sP	**sP**			**02 46 33.5**	**+1.0**
LZH				pmax	pmax				
	comp=Z,16nm,1.2s								
LZH				pmax	pmax				
	comp=Z,180nm,5.0s								
LZH				LR	LR				
	comp=N,440nm,8.2s								
LZH				LR	LR				
	comp=E,270nm,10.9s								
LZH				LR	LR				
	comp=Z,440nm,14.1s								
NWAO	**Narrogin (SRO)**	**36.97**	**153**	LR	LR			03 01 40.1	
	comp=Z,243nm,19.8s,baz=7.2,slow=37								
NJ2	**Nanjing**	**37.88**	**29**	*eP*	**P**			**02 46 26.3**	**+0.8**
NJ2				pP	**pP**			**02 46 36.8**	**0.0**
NJ2				sP	**sP**			**02 46 41.8**	**+0.2**
NJ2				PP	PP			02 47 52.3	-0.4
NJ2				S	**S**			**02 52 17.0**	**+2.7**
NJ2				sS	**sS**			**02 52 35.0**	**+1.9**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,170nm,3.8s								
NJ2				LR	LR				
	comp=N,380nm,16.3s								
NJ2				LR	LR				
	comp=E,280nm,15.3s								
NJ2				LR	LR				
	comp=Z,590nm,19.8s								
GTA	**Gaotai**	**39.75**	**2**	P	**P**			**02 46 41.3**	**+0.1**
GTA				pmax	pmax				
	comp=Z,4.0nm,1.4s								
WRA	**Warramunga Arr**	**40.43**	**121**	P	**P**			**02 46 46.3**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=300,slow=9.0,SNR=7.3								
WRA				LR	LR			03 03 26.8	
	comp=Z,133nm,19.6s,baz=340,slow=36								
WRA	**Warramunga Arr**	**40.43**	**121**	P	**P**			**02 46 46.3**	**-0.7**
WRAB	**Tennant Creek**	**40.43**	**121**	*eP*	**P**			**02 46 47.2**	**+0.1**
	comp=Z,14nm,1.2s								
WB2	**Warramunga Arr**	**40.44**	**121**	*eP*	**P**			**02 46 46.9**	**-0.3**
ASAR	**Alice Springs**	**41.70**	**126**	P	**P**			**02 46 57.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=296,slow=7.8,SNR=14								
ASAR	**Alice Springs**	**41.70**	**126**	P	**P**			**02 46 57.9**	**+0.3**
AS31	**Alice Springs**	**41.70**	**126**	*eP*	**P**			**02 46 57.5**	**0.0**
HHC	**Hu-ho-hao-te**	**42.95**	**15**	⇑P	**P**			**02 47 08.8**	**+1.3**
HHC				sP	**sP**			**02 47 26.0**	**+2.4**
HHC				PcP	**PcP**			**02 48 58.8**	**+1.2**
HHC				ScP	**ScP**			**02 52 45.5**	**-0.2**
HHC				PcS	**PcS**			**02 52 50.0**	**+0.1**
HHC				S	**S**			**02 53 30.3**	**+0.4**
HHC				sS	**sS**			**02 53 50.0**	**+1.1**
HHC				SS	SS			02 56 35.8	-7.1
HHC				ScS	**ScS**			**02 57 03.5**	**-1.6**
HHC				pmax	pmax				
	comp=Z,10.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,180nm,5.9s								
HHC				LR	LR				
	comp=N,630nm,15.8s								
HHC				LR	LR				
	comp=E,350nm,16.6s								
HHC				LR	LR				
	comp=Z,560nm,15.6s								
BJT	**Baijiatuan**	**43.58**	**20**	*eP*	**P**			**02 47 13.1**	**+0.6**
	comp=Z,27nm,0.7s								
BJI	**Beijing**	**43.60**	**20**	P	**P**			**02 47 13.0**	**+0.4**
BJI				pmax	pmax				
	comp=Z,29nm,1.2s								
BJI				pmax	pmax				
	comp=Z,130nm,4.9s								
KSH	**Kashi**	**44.66**	**336**	*eP*	**P**			**02 47 20.5**	**-0.8**
KSH				*ep*P	**pP**			**02 47 32.8**	**+0.1**
KSH				*es*P	**sP**			**02 47 38.5**	**+1.0**
KSH				*e*PcP	**PcP**			**02 49 04.3**	**+0.8**
KSH				*e*PP	PP			02 49 05.5	-0.6
KSH				*e*ScP	**ScP**			**02 52 51.3**	**-1.4**
KSH				*e*S	**S**			**02 53 49.8**	**-5.2**
KSH				*e*ScS	**ScS**			**02 57 12.3**	**-3.7**
KSH				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KSH				pmax	pmax				
	comp=Z,86nm,7.6s								
KSH				LR	LR				
	comp=N,170nm,7.7s								
KSH				LR	LR				
	comp=E,160nm,5.7s								
KSH				LR	LR				
	comp=Z,210nm,5.7s								
WMQ	**Urumqi**	**45.08**	**349**	P	**P**			**02 47 25.8**	**+1.3**
WMQ				pP	**pP**			**02 47 37.8**	**+1.8**
WMQ				sP	**sP**			**02 47 43.3**	**+2.6**
WMQ				pmax	pmax				
	comp=Z,15nm,0.9s								
JNU	**Nakatsue**	**45.53**	**40**	P	**P**			**02 47 27.1**	**-1.1**
	comp=Z,28nm,1.3s,baz=202,slow=4.6,SNR=3.6								
JNU	**Nakatsue**	**45.53**	**40**	*eP*	**P**			**02 47 26.8**	**-1.4**
	comp=Z,15nm,0.8s								
KSAR	**Wonju Array Be**	**46.74**	**33**	P	**P**			**02 47 36.9**	**-0.7**
KSRS	**Korea Array**	**46.77**	**33**	P	**P**			**02 47 36.9**	**-0.9**
	comp=Z,7.0nm,1.1s,baz=220,slow=8.4,SNR=13								
KSRS				LR	LR			03 08 10.5	
	comp=Z,216nm,19.6s,baz=49,slow=37								
TKM2	**Tokmak 2**	**47.70**	**338**	*eP*	**P**			**02 47 45.9**	**+0.7**
	comp=Z,7.0nm,0.8s								
TKM2				*e*				02 47 57.8	
AAK	**Ala-Archa**	**47.88**	**337**	*eP*	**P**			**02 47 48.5**	**+1.8**
	comp=Z,16nm,0.8s								
AAK				*e*				02 48 00.2	
EKS2	**Erkin-Say**	**48.20**	**336**	*eP*	**P**			**02 47 50.1**	**+1.1**
	comp=Z,5.7nm,0.8s								
EKS2				*ep*P	**pP**			**02 47 58.4**	**-2.1**
SONM	**Songino Array**	**48.68**	**7**	P	**P**			**02 47 53.3**	**+0.7**
	comp=Z,6.6nm,0.5s,baz=190,slow=9.5,SNR=41								
SONM	**Songino Array**	**48.68**	**7**	P	**P**			**02 47 53.3**	**+0.7**
ULN	**Ulaanbaatar**	**48.80**	**8**	*eP*	**P**			**02 47 53.6**	**+0.1**
	comp=Z,37nm,1.4s								
MK31	**Makanchi Array**	**49.08**	**346**	*eP*	**P**			**02 47 55.9**	**+0.3**
MK31				*e*				02 48 06.8	
MKAR	**Makanchi Array**	**49.08**	**346**	P	**P**			**02 47 56.2**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=154,slow=8.3,SNR=78								
MKAR				LR	LR			03 14 36.0	
	comp=Z,105nm,18.9s,baz=271,slow=43								
MKAR	**Makanchi Array**	**49.08**	**346**	*eP*	**P**			**02 47 56.2**	**+0.6**
KKAR	**Karatay Array**	**49.94**	**334**	*eP*	**P**			**02 48 02.3**	**+0.1**
	comp=Z,1.5nm,0.6s								
KKAR				*ep*P	**pP**			**02 48 10.3**	**-3.5**
CN2	**Changchun**	**50.44**	**26**	*eP*	**P**			**02 48 05.0**	**-0.9**
CN2				*es*P	**sP**			**02 48 22.8**	**+0.6**
CN2				*e*S	**S**			**02 55 13.8**	**-2.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
CN2				LR	LR				
	comp=N,2μm,23.0s								
CN2				LR	LR				
	comp=E,800nm,23.0s								
CN2				LR	LR				
	comp=Z,400nm,20.0s								
STKA	**Stephens Creek**	**51.60**	**132**	P	**P**			**02 48 14.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=318,slow=6.3,SNR=6.5								
STKA				LR	LR			03 12 15.4	
	comp=Z,258nm,20.8s,baz=111,slow=39								
STKA	**Stephens Creek**	**51.60**	**132**	*eP*	**P**			**02 48 16.0**	**+1.2**
	comp=Z,1.0nm,0.8s								
TLY	**Talaya**	**52.20**	**4**	*eP*	**P**			**02 48 17.9**	**-1.1**
	comp=Z,9.4nm,0.6s								
TLY				*ep*P	pP			02 48 25.4	-5.3
MAT	**Matsushiro**	**52.38**	**41**	P	**P**			**02 48 19.0**	**-1.6**
MJAR	**Matsushiro Arr**	**52.38**	**41**	P	**P**			**02 48 20.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=2.6								
MJAR				LR	LR			03 14 04.1	
	comp=Z,130nm,18.4s,baz=240,slow=40								
MJAR	**Matsushiro Arr**	**52.38**	**41**	P	**P**			**02 48 20.7**	**+0.1**
MDJ	**Mudanjiang**	**52.94**	**28**	P	**P**			**02 48 25.0**	**+0.4**
MDJ				pmax	pmax				
	comp=Z,5.0nm,2.2s								
MDJ				pmax	pmax				
	comp=Z,87nm,3.9s								
MDJ				LR	LR				
	comp=N,170nm,20.2s								
MDJ				LR	LR				
	comp=E,110nm,19.2s								
MDJ				LR	LR				
	comp

TKL	**Tuckaleechee C**	**144.97**	**3**	PKPbc	PKPbc	02 58 45.1	+0.1
PLAL	**Pickwick Lake**	**145.22**	**9**	*e*PKPdf	**PKPbc**	**02 58 45.4**	**-0.4**
JCT	**Junction City**	**145.69**	**28**	*e*PKPbc	**PKPab**	**02 58 48.2**	**+0.3**
LRAL	**Lakeview Retre**	**147.28**	**8**	*e*PKPbc	**PKPab**	**02 58 53.6**	**-0.2**

IDC 28 02:41:08.4±0.9, 11°.67N×85°.56W, h0km, mb3.5/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=66.1km s-min=11.8km az=64.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.49**	**156**	Pg	Pb	02 41 36.8	-0.3
	26nm,0.3s,baz=319,slow=19,SNR=82						
JTS				Lg	Lg	02 41 55.2	
	32nm,0.3s,baz=294,slow=20,SNR=7.7						
CMIG	**Matias Romero**	**10.52**	**302**	Pn	Pn	02 43 38.8	-1.7
	0.3nm,0.3s,baz=116,slow=8.8,SNR=5.0						
TXAR	**Lajitas Array**	**24.36**	**319**	P	P	02 46 28.0	-0.4
	0.9nm,0.6s,baz=133,slow=8.6,SNR=14						
PDAR	**Pinedale Array**	**37.35**	**330**	P	P	02 48 24.1	+1.1
	0.4nm,0.6s,baz=117,slow=8.5,SNR=5.1						
ULM	**Lac du Bonnet**	**39.39**	**350**	P	P	02 48 40.0	+0.1
	1.0nm,0.5s,baz=156,slow=6.8,SNR=3.3						
NVAR	**Mina Array Bea**	**39.51**	**318**	P	P	02 48 42.7	+1.5
	0.7nm,0.7s,baz=127,slow=7.7,SNR=5.9						
NVAR				PcP	PcP	02 50 48.0	-1.1
	0.2nm,0.4s,baz=145,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**54.86**	**344**	P	P	02 50 39.7	-0.6
	0.3nm,0.9s,baz=137,slow=7.1,SNR=6.1						
ILAR	**Eielson Array**	**67.48**	**336**	P	P	02 52 04.8	-1.1
	0.3nm,0.7s,baz=121,slow=3.7,SNR=4.4						

IDC 28 03:14:10.8±15.0, 18°.06S×177°.98W, h463km±153km, mb3.2/4, mb1 3.5/4, mb1mx3.1/17, mbtmp3.2/4, Error ellipse: s-maj=158.6km s-min=58.4km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.91**	**241**	P	P	03 20 55.3	-0.2
	1.3nm,0.5s,baz=106,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**45.00**	**260**	P	P	03 21 43.3	-0.7
	1.0nm,0.7s,baz=91,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**45.14**	**254**	P	P	03 21 45.3	+0.2
	8.2nm,0.6s,baz=89,slow=8.1,SNR=91						
ILAR	**Eielson Array**	**85.94**	**13**	P	P	03 26 00.2	-0.2
	0.2nm,0.4s,baz=222,slow=5.3,SNR=8.0						
MKAR	**Makanchi Array**	**109.53**	**314**	PKiKP	PKiKP	03 31 46.5	-1.5
	0.1nm,0.5s,baz=143,slow=2.9,SNR=3.9						
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc	PKPbc	03 33 03.0	-0.1
	0.8nm,0.6s,baz=22,slow=3.1,SNR=9.0						

*ISCJB **28** 03:32:49.5±0.8, 23°.89N±0°.02×122°.65E±0°.02, h2km±6km, Error ellipse: s-maj=4.2km s-min=2.9km az=166.6*
*TAP **28** 03:32:50.8, 23°.93N×122°.78E, h36km±2km, ML3.3, D*
*JMA **28** 03:32:52.0±0.3, 24°.02N×122°.64E, h26km, M2.4*
ISC 28 03:32:50.4±1.2, 23°.89N±0°.03×122°.67E±0°.02, h19km±3km, n38, σ0°.57/70, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.65**	**29**	P	**Pb**	**03 33 02.9**	**-0.1**
YOJ				S	**Sb**	**03 33 10.7**	**-0.9**
HWA	**Hwalien**	**0.98**	**275**	*e*P	**Pn**	**03 33 09.2**	**+0.1**
	baz=262						
TWD	**Chiawan**	**1.00**	**281**	*e*P	**Pn**	**03 33 09.6**	**+0.2**
	baz=279						
TWD				*e*S	**Sb**	**03 33 22.0**	**+0.2**
	baz=279						
ENA	**Nanau**	**1.00**	**302**	*e*P	**Pn**	**03 33 09.6**	**+0.2**
	baz=299						
ENA				*e*S	**Sg**	**03 33 23.8**	**+0.7**
	baz=299						
TWC	**Suao**	**1.03**	**314**	P	**Pn**	**03 33 09.8**	**0.0**
	baz=309						
TWC				*e*S	**Sb**	**03 33 22.6**	**-0.2**
	baz=309						
HATJ	**Hateruma jima**	**1.05**	**81**	P	**Pg**	**03 33 10.9**	**0.0**
HATJ				*e*S	**Sg**	**03 33 25.4**	**+0.7**
IRIF	**Iriomote-Funau**	**1.06**	**65**	P	**Pn**	**03 33 10.6**	**+0.3**
IRIF				S	**Sn**	**03 33 24.7**	**+0.2**
ESL	**Shilin**	**1.14**	**266**	*e*P	**Pn**	**03 33 11.2**	**-0.1**
	baz=257						
ESL				*e*S	**Sn**	**03 33 26.3**	**0.0**
	baz=257						
ILA	**Ilan**	**1.21**	**316**	*e*P	**Pn**	**03 33 11.7**	**-0.5**
	baz=312						
ILA				*e*S	**Sg**	**03 33 29.1**	**-0.6**
	baz=312						
TWE	**Neicheng**	**1.23**	**312**	P	**Pb**	**03 33 13.3**	**+0.3**
	baz=309						
TWE				S	**Sg**	**03 33 30.0**	**-0.4**
	baz=309						
ENTT	**Nioudou**	**1.25**	**307**	P	**Pb**	**03 33 13.7**	**+0.3**
	baz=304						
ENTT				S	**Sg**	**03 33 30.8**	**-0.3**
	baz=304						
JKRS	**Kuro-shima**	**1.27**	**74**	P	**Pg**	**03 33 15.0**	**0.0**
JKRS				*e*S	**Sg**	**03 33 31.1**	**-0.6**
TWB1	**Santiao Chiao**	**1.27**	**331**	P	**Pn**	**03 33 13.1**	**0.0**
	baz=327						
TWB1				*e*S	**Sb**	**03 33 28.4**	**-1.3**
	baz=327						
EHY	**Hungye**	**1.29**	**253**	*e*P	**Pn**	**03 33 13.5**	**+0.1**
	baz=254						
EHY				*e*S	**Sn**	**03 33 30.3**	**+0.1**
	baz=254						
NNS	**Nan Shan**	**1.30**	**295**	*e*P	**Pn**	**03 33 14.0**	**+0.3**
	baz=292						
WHF	**Hehuan Shan**	**1.31**	**281**	*e*P	**Pn**	**03 33 14.1**	**+0.1**
	baz=280						
WHF				*e*S	**Sn**	**03 33 30.6**	**-0.5**
	baz=280						
TWF1	**Yuli**	**1.37**	**247**	*e*P	**Pb**	**03 33 15.2**	**-0.2**
	baz=239						
TWF1				*e*S	**Sb**	**03 33 32.6**	**+0.1**
	baz=239						
TWT	**Tachien**	**1.41**	**285**	*e*P	**Pb**	**03 33 16.1**	**-0.1**
	baz=274						
TWT				*e*S	**Sn**	**03 33 33.5**	**+0.2**
	baz=274						
NWF	**Wu-fen Shan**	**1.42**	**326**	*e*P	**Pb**	**03 33 16.4**	**0.0**
	baz=322						
NWF				*e*S	**Sn**	**03 33 33.8**	**+0.2**
	baz=322						
JIJ	**Ishigaki jima**	**1.43**	**71**	P	**Pn**	**03 33 15.9**	**+0.7**
JIJ				S	**Sn**	**03 33 33.1**	**-0.3**
CHKT	**Chengkung**	**1.44**	**237**	*e*P	**Pn**	**03 33 15.3**	**0.0**
	baz=229						
CHKT				*e*S	**Sn**	**03 33 32.4**	**-1.2**
	baz=229						
TWA	**Mucha**	**1.47**	**318**	*e*P	**Pb**	**03 33 17.0**	**-0.1**
	baz=316						
TWA				*e*S	**Sb**	**03 33 36.0**	**+0.7**
	baz=316						
SMLT	**Sun Moon Lake**	**1.62**	**270**	*e*P	**Pn**	**03 33 19.0**	**+1.0**
	baz=261						
SMLT				*e*S	**Sn**	**03 33 38.5**	**0.0**
	baz=261						
YUS	**Yu-Shan**	**1.62**	**256**	*e*P	**Pn**	**03 33 19.6**	**+1.1**
	baz=257						
YUS				*e*S	**Sn**	**03 33 38.2**	**-0.9**
	baz=257						
TWS1	**Kuangyinshan**	**1.66**	**317**	*e*P	**Pb**	**03 33 20.3**	**0.0**
	baz=314						
TYC	**Yuchr**	**1.66**	**271**	*e*P	**Pn**	**03 33 19.4**	**+1.0**
	baz=263						
TYC				*e*S	**Sb**	**03 33 40.9**	**+0.1**
	baz=263						
NSTT	**Nanjuang**	**1.69**	**296**	*e*P	**Pb**	**03 33 20.7**	**-0.2**
	baz=295						
NSTT				*e*S	**Sb**	**03 33 42.6**	**+0.8**
	baz=295						
TWQ1	**Liyutan**	**1.79**	**285**	*e*P	**Pb**	**03 33 22.0**	**-0.6**
	baz=285						
TWQ1				*e*S	**Sb**	**03 33 45.0**	**+0.3**
	baz=285						
TWG	**Pinlang**	**1.82**	**234**	*e*P	**Pn**	**03 33 21.2**	**+0.6**
	baz=227						
CHN5	**Tsauling**	**1.85**	**261**	*e*P	**Pb**	**03 33 23.2**	**-0.5**
	baz=262						
CHN5				*e*S	**Sb**	**03 33 47.1**	**+0.7**
	baz=262						
STYT	**Tauyuan**	**1.90**	**248**	*e*P	**Pn**	**03 33 22.4**	**+0.5**
	baz=242						
STYT				*e*S	**Sn**	**03 33 46.4**	**+1.1**
	baz=242						
CHN4	**Tsaushan**	**1.98**	**255**	*e*P	**Pb**	**03 33 24.9**	**-1.0**
	baz=247						
CHN4				*e*S	**Sb**	**03 33 49.6**	**-0.5**
	baz=247						
WTP	**Ta-pu**	**1.99**	**252**	*e*P	**Pb**	**03 33 25.9**	**-0.2**
	baz=245						
WTP				*e*S	**Sb**	**03 33 50.8**	**+0.3**
	baz=245						
ECL	**Taimali**	**2.04**	**231**	*e*P	**Pn**	**03 33 22.9**	**-0.8**
	baz=243						
SGST	**Jiashian**	**2.08**	**248**	*e*P	**Pb**	**03 33 27.6**	**+0.1**
	baz=239						
SGST				*e*S	**Sb**	**03 33 53.0**	**0.0**
	baz=239						
CHN1	**Nanshi**	**2.09**	**251**	*e*P	**Pb**	**03 33 26.8**	**-0.9**
	baz=251						
CHN1				*e*S	**Sb**	**03 33 53.8**	**+0.6**
	baz=251						
TWK	**Hsinying**	**2.10**	**253**	*e*P	**Pb**	**03 33 26.4**	**-1.4**
	baz=253						
TWK				*e*S	**Sb**	**03 33 53.8**	**+0.3**
	baz=253						
SSD	**Sandimen**	**2.19**	**239**	*e*P	**Pn**	**03 33 26.5**	**+0.7**
	baz=234						

WEL 28 03:34:00.7±0.5, 36°.98S×177°.16E, h5km, ML4.1/9, 1C-1D, Error ellipse: s-maj=3.4km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.55**	**178**	⇑PG	Pg	03 34 11.3	+0.1
WIZ				SG	Sg	03 34 18.1	-0.2
WIZ				SG	Sb	03 34 18.5	-2.4
MYRZ	**Mayor Island**	**0.79**	**248**	⇓P*	Pg	03 34 16.1	+0.1
OPRZ	**Ohinepanea**	**0.99**	**209**	P*	Pg	03 34 18.3	-1.4
OPRZ				S*	Sg	03 34 31.6	-0.9
TGRZ	**Tauranga**	**1.04**	**223**	P*	Pg	03 34 19.3	-1.2
MARZ	**Manawahe**	**1.07**	**201**	P*	Pg	03 34 20.3	-1.1
MXZ	**Matakaoa Point**	**1.08**	**123**	P*	Pg	03 34 20.1	-1.4
KUZ	**Kuaotunu**	**1.18**	**281**	P*	Pg	03 34 21.4	-1.8
URZ	**Urewera**	**1.28**	**182**	P*	Pn	03 34 22.6	-2.5
MKRZ	**Makatiti**	**1.28**	**205**	P*	Pn	03 34 24.6	-0.7
OMRZ	**Omania**	**1.29**	**209**	*e*P*	Pn	03 34 24.6	-0.8
TARZ	**Mount Tarawera**	**1.35**	**202**	*e*P*	Pn	03 34 26.0	-0.4
MWZ	**Matawai**	**1.38**	**168**	P*	Pn	03 34 24.2	-2.5
PUZ	**Puketiti**	**1.40**	**142**	PN	Pn	03 34 26.5	-0.3
TOZ	**Tahuroa Road**	**1.52**	**240**	P*	Pn	03 34 26.5	-1.9
MKAZ	**Moumakai**	**1.60**	**265**	PN	Pn	03 34 28.2	-1.4
CNGZ	**Carnagh Statio**	**1.72**	**151**	PN	Pn	03 34 31.7	+0.5
RAHZ	**Arahi**	**1.93**	**182**	*e*PN	Pn	03 34 35.0	+0.8
HIZ	**Hauiti**	**2.38**	**229**	PN	Pn	03 34 39.2	-1.2
WCZ	**Waipu Caves**	**2.50**	**294**	PN	Pn	03 34 41.0	-0.9

IDC 28 03:41:11.4±6.5, 6°.50S×146°.43E, h91km±52km, mb3.1/2, mb1 3.3/4, mb1mx3.1/16, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=57.0km s-min=52.2km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.97**	**166**	P	Pn	03 41 57.9	+1.3
	10.0nm,0.3s,baz=13,slow=14,SNR=14						
PMG				S	Sn	03 42 31.6	+0.1
	6.8nm,0.3s,baz=324,slow=19,SNR=12						
WRA	**Warramunga Arr**	**17.79**	**220**	P	P	03 45 12.2	-0.6
	0.2nm,0.3s,baz=42,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**20.89**	**214**	P	P	03 45 47.0	+0.5
	0.4nm,0.3s,baz=52,slow=9.5,SNR=8.5						
STKA	**Stephens Creek**	**25.65**	**190**	P	P	03 46 33.2	+0.5
	0.5nm,0.5s,baz=24,slow=9.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**144.66**	**284**	PKP	PKPab	04 00 37.0	-0.5
	0.6nm,0.7s,baz=64,slow=3.1,SNR=9.2						

*ISCJB **28** 03:44:25.3±0.6, 27°.61N±0°.06×140°.5E±0°.1, h300km, mb3.4/11, Error ellipse: s-maj=13.7km s-min=6.6km az=158.5*
*IDC **28** 03:44:25.1±0.9, 27°.60N×140°.26E, h282km±12km, mb3.4/9, mb1 3.5/9, mb1mx3.2/22, mbtmp3.4/9, Error ellipse: s-maj=26.2km s-min=20.2km az=86.0*
*JMA **28** 03:44:26.8±0.2, 27°.72N×140°.81E, h305km, M3.9*
ISC 28 03:44:26.6±0.7, 27°.68N±0°.08×140°.5E±0°.1, h300km, n26, σ1°.45/31, mb3.5/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.57**	**111**	P	**Pn**	**03 45 10.0**	**-0.2**
	33nm,0.3s,baz=300,slow=20,SNR=44						
CBIJ				S	**S**	**03 45 43.0**	**-2.0**
	65nm,0.3s,baz=294,slow=23,SNR=20						
CBIJ	**Chichi jima**	**1.57**	**111**	P	**Pn**	**03 45 09.9**	**-0.4**
CBIJ				*e*S	**S**	**03 45 42.8**	**-2.2**
JHHJ	**Haha-jima-NKT**	**1.79**	**125**	P	**Pn**	**03 45 11.3**	**-0.5**
JHHJ				*e*S	**S**	**03 45 46.6**	**-1.3**
JHJ2	**Mitsune**	**5.45**	**354**	P	**Pn**	**03 45 50.4**	**+1.1**
BSO1	**Boso 1**	**6.96**	**3**	P	**Pn**	**03 46 07.7**	**+0.8**
BSO3	**Boso 3**	**7.10**	**360**	*e*S	**S**	**03 47 27.7**	**-3.9**
BSO4	**Boso 4**	**7.29**	**359**	P	**Pn**	**03 46 12.4**	**+1.1**
BSO4				*e*S	**S**	**03 47 35.6**	**-0.5**
JOD2	**Odawara 2**	**7.66**	**351**	P	**Pn**	**03 46 17.4**	**+1.4**
JOD2				*e*S	**S**	**03 47 41.0**	**-3.6**
JRY	**Ryogami san**	**8.43**	**351**	P	**Pn**	**03 46 26.9**	**+1.5**
JAG	**Ashikaga**	**8.77**	**354**	P	**Pn**	**03 46 29.5**	**0.0**
JAG				*e*S	S	03 48 01.5	-8.0
JHO	**Hitachi**	**8.91**	**0**	P	**Pn**	**03 46 31.5**	**+0.3**
JHO				*e*S	S	03 48 04.7	-7.8
KSRS	**Korea Array**	**14.42**	**316**	P	**Pn**	**03 47 38.9**	**+0.9**
	0.1nm,0.3s,baz=134,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**47.72**	**188**	P	**P**	**03 52 33.5**	**-0.5**
	0.9nm,0.4s,baz=5.0,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**48.98**	**309**	P	**P**	**03 52 42.0**	**-1.4**
	0.1nm,0.6s,baz=91,slow=9.5,SNR=3.8						
KURK	**Kurchatov**	**51.53**	**314**	P	**P**	**03 53 01.7**	**-0.5**
	0.5nm,0.5s,baz=90,slow=8.1,SNR=5.8						
BVAR	**Borovoye Array**	**56.62**	**317**	P	**P**	**03 53 38.6**	**-0.2**
	0.5nm,0.4s,baz=82,slow=6.2,SNR=5.6						
ILAR	**Eielson Array**	**57.91**	**29**	P	**P**	**03 53 48.9**	**+1.4**
	0.3nm,0.7s,baz=262,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**72.32**	**28**	P	**P**	**03 55 21.4**	**+1.8**
	0.3nm,0.4s,baz=291,slow=5.8,SNR=9.4						
ARCES	**ARCESS Array B**	**72.51**	**340**	P	**P**	**03 55 21.9**	**+1.3**
	3.1nm,0.9s,baz=68,slow=8.9,SNR=6.5						
JOF	**Joensuu**	**73.91**	**333**	*ep*	**P**	**03 55 28.3**	**-0.5**
	1.3nm,0.5s						
JOF	**Joensuu**	**73.91**	**333**	*ep*	**P**	**03 55 28.3**	**-0.5**
	1.3nm,0.5s						
FINES	**FINESS Array B**	**76.78**	**333**	P	**P**	**03 55 45.4**	**+0.3**
	1.2nm,0.4s,baz=74,slow=5.0,SNR=18						
HFS	**Hagfors**	**82.31**	**336**	P	**P**	**03 56 14.1**	**-0.6**
	0.9nm,0.5s,baz=151,slow=3.3,SNR=11						
NB2	**NORSAR Subarra**	**82.52**	**338**	P	**P**	**03 56 15.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=4.8						
NOA	**NORSAR Array B**	**82.52**	**338**	P	**P**	**03 56 15.8**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=38,slow=5.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.10**	**310**	PKP	**PKPdf**	**04 02 47.5**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=9.9,slow=2.7,SNR=4.3						

IDC 28 03:57:42.0±1.3, 1°.69N×126°.12E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/26, Error ellipse: s-maj=139.1km s-min=21.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.38**	**354**	LR	LR	04 01 28.9	
	comp=Z,89nm,20.1s,baz=186,slow=42						
WRA	**Warramunga Arr**	**22.96**	**160**	P	P	04 02 47.8	-0.4
	1.4nm,0.5s,baz=338,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**26.31**	**164**	P	P	04 03 20.0	+0.3
	0.3nm,0.5s,baz=343,slow=8.5,SNR=6.4						
SONM	**Songino Array**	**49.04**	**342**	P	P	04 06 30.7	-0.2
	0.2nm,0.5s,baz=156,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**58.89**	**326**	P	P	04 07 42.8	0.0
	0.3nm,0.4s,baz=120,slow=7.7,SNR=11						

*IDC **28** 04:02:08.3±1.3, 20°.48S×69°.84W, h56km±5km, mb3.7/6, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, MS3.1/2, Ms1 3.0/2, ms1mx2.7/18, Error ellipse: s-maj=46.4km s-min=21.5km az=11.0*
*ISCJB **28** 04:02:09.0±0.4, 20°.05S±0°.03×69°.88W±0°.08, h71km±3km, mb3.9/15, Error ellipse: s-maj=12.2km s-min=5.0km az=170.2*
*NEIC **28** 04:02:09.5, 20°.07S×69°.97W, h57km, mb4.0/12, After GUC.*
NEIC Felt [III] at Alto Hospicio and [II] at Huara, Pica, Pisagua and Pozo Almonte.
*GUC **28** 04:02:09.5±1.0, 20°.07S×69°.97W, h57km±5km, ML4.3*
ISC 28 04:02:09.3±0.6, 20°.04S±0°.04×69°.91W±0°.09, h57km±4km, h56km:pP-P, n47, σ1°.08/58, mb4.1/15, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.23**	**174**	⇑*i*P	**Pn**	**04 02 19.3**	**+0.5**
HMBC				*i* S	**Sn**	**04 02 26.5**	**+0.9**
HMBC				AML	AML	04 02 28.5	
	comp=E,31μm,0.8s						
PSGC	**Pisagua**	**0.49**	**336**	⇑*i*P	**Pn**	**04 02 21.6**	**+0.6**
PSGC				*i* S	**Sn**	**04 02 30.2**	**+0.7**
PSGC				AML	AML	04 02 30.8	
	comp=E,20μm,0.3s						
MNMC	**Minimini**	**0.96**	**18**	⇑*i*P	**Pn**	**04 02 28.4**	**+1.5**
MNMC				*i* S	**Sn**	**04 02 42.4**	**+2.5**
MNMC				AML	AML	04 02 46.4	
	comp=E,16μm,0.5s						
PB01	**Plate Boundary**	**1.07**	**158**	⇓*i*P	**Pn**	**04 02 28.7**	**+0.5**
PB01				*i* S	**Sn**	**04 02 43.5**	**+1.2**
PB01				AML	AML	04 02 45.1	
	comp=E,9μm,0.4s						
ARCH	**Arica**	**1.59**	**347**	*e*P	**Pn**	**04 02 36.4**	**+1.3**
ARCH				*i* S	**Sn**	**04 02 56.6**	**+2.1**
PB09	**Plate Boundary**	**1.85**	**160**	*e*P	**Pn**	**04 02 40.8**	**+1.9**
PB09				*e*S	**Sn**	**04 03 04.6**	**+3.3**
PB09				AML	AML	04 03 09.3	
	comp=E,12μm,0.4s						
MACH	**Maria Elena**	**2.15**	**176**	*e*P	**Pn**	**04 02 43.7**	**+0.7**
MACH				S	**Sn**	**04 03 09.5**	**+0.9**
MACH	**Maria Elena**	**2.15**	**176**	*e*P	**Pn**	**04 02 43.7**	**+0.7**
MACH				*e*S	**Sn**	**04 03 09.5**	**+0.9**
PB04	**Plate Boundary**	**2.25**	**170**	AML	AML	04 03 23.9	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	**4.10**	**25**	P	Pn	04 03 15.7	+5.6
	comp=E,12nm,0.3s,baz=199,slow=7.5,SNR=161						
LPAZ	**La Paz**	**4.10**	**25**	*e*Pn	Pn	04 03 15.5	+5.5
SIV	**San Ignacio**	**9.32**	**66**	P	**Pn**	**04 04 21.6**	**+0.5**
	comp=E,3.4nm,0.3s,baz=260,slow=13,SNR=50						
SIV				LR	LR	04 08 32.0	
	comp=E,108nm,20.8s,slow=41						
SIV	**San Ignacio**	**9.32**	**66**	P	**Pn**	**04 04 21.6**	**+0.5**
SAML	**Samuel**	**12.81**	**31**	*e*Pn	**Pn**	**04 05 08.9**	**+0.2**
	comp=E,3.0nm,0.7s						
TRQA	**Tornquist**	**19.23**	**161**	*e*P	**P**	**04 06 28.3**	**-0.5**
	comp=E,2.4nm,0.8s						
PLCA	**Paso Flores**	**20.63**	**181**	*e*P	**P**	**04 06 44.2**	**+0.1**
	comp=E,3.2nm,0.8s						
BDFB	**Brasilia**	**21.29**	**82**	P	**P**	**04 06 50.9**	**-0.6**
	comp=E,2.4nm,0.5s,baz=245,slow=9.9,SNR=7.5						
BDFB				LR	LR	04 14 45.8	
	comp=E,51nm,19.3s,baz=314,slow=36						
BDFB	**Brasilia**	**21.29**	**82**	P	**P**	**04 06 50.9**	**-0.6**
OTAV	**Otavalo**	**21.82**	**336**	*e*P	**P**	**04 06 56.6**	**-0.9**
	comp=E,2.4nm,0.8s						
WVT	**Waverly**	**58.38**	**343**	*e*P	**P**	**04 11 57.9**	**-0.9**
	comp=E,2.0nm,0.7s						
WMOK	**Wichita Mounta**	**61.00**	**333**	*e*P	**P**	**04 12 15.6**	**-1.4**
	comp=E,1.4nm,0.8s						
MNTX	**Cornudas Mount**	**61.67**	**326**	*e*P	**P**	**04 12 20.8**	**-0.7**
	comp=E,0.6nm,0.7s						
AMTX	**Amarillo**	**62.41**	**331**	*e*P	**P**	**04 12 27.4**	**+0.9**
SDCO	**Great Sand Dun**	**66.52**	**330**	*e*P	**P**	**04 12 54.5**	**+0.9**
	comp=E,1.4nm,0.9s						
DBIC	**Dimbokro**	**69.23**	**74**	P	**P**	**04 13 09.8**	**-1.0**
	comp=E,3.5nm,1.0s,baz=199,slow=7.3,SNR=4.0						
DBIC	**Dimbokro**	**69.23**	**74**	*e*P	**P**	**04 13 09.9**	**-0.8**
	comp=E,9.4nm,1.3s						
RSSD	**Black Hills**	**71.08**	**335**	*e*P	**P**	**04 13 21.3**	**-0.4**
	comp=E,1.9nm,0.8s						
DUG	**Dugway**	**72.03**	**327**	*e*P	**P**	**04 13 28.3**	**+0.9**
	comp=E,2.5nm,1.1s						
PDAR	**Pinedale Array**	**72.39**	**330**	P	**P**	**04 13 29.9**	**+0.3**
	comp=E,0.4nm,0.6s,baz=131,slow=6.8,SNR=4.0						
PDAR	**Pinedale Array**	**72.39**	**330**	P	**P**	**04 13 29.9**	**+0.3**
HWUT	**Hardware Ranch**	**72.46**	**328**	*e*P	**P**	**04 13 30.7**	**+0.7**
	comp=E,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**73.77**	**322**	P	**P**	**04 13 39.6**	**+1.8**
	comp=E,0.4nm,0.6s,baz=159,slow=7.7,SNR=3.5						
NVAR	**Mina Array Bea**	**73.77**	**322**	P	**P**	**04 13 39.6**	**+1.8**
HLID	**Hailey**	**75.32**	**328**	*e*P	**P**	**04 13 47.9**	**+1.3**
	comp=E,2.5nm,1.0s						
TOA0	**Torodi Ar. Sit**	**77.76**	**71**	*e*P	**P**	**04 13 59.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.76**	**71**	P	**P**	**04 13 59.9**	**-1.0**
	comp=E,0.6nm,0.4s,baz=252,slow=5.6,SNR=35						
TORD				pP	**pP**	**04 14 15.5**	**-1.3**
	comp=E,1.6nm,0.7s,baz=250,slow=5.2,SNR=6.6						
TORD				sP	**sP**	**04 14 22.8**	**-0.3**
	comp=E,1.6nm,0.6s,baz=250,slow=5.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**77.76**	**71**	P	**P**	**04 13 59.9**	**-1.0**
TORD				pP	**pP**	**04 14 15.5**	**-1.3**
TORD				sP	**sP**	**04 14 22.8**	**-0.3**
YKA	**Yellowknife Ar**	**89.51**	**341**	P	**P**	**04 15 00.0**	**+0.2**
	comp=E,1.3nm,0.7s,baz=135,slow=4.7,SNR=39						

JHU	Hanno	2.02	351	P	Pn	04 16 00.9	0.0
JHU				*e*S	Sn	04 16 24.9	-2.0
MJAR	Matsushiro Arr	2.94	336	P	Pn	04 16 12.4	-0.1
	15nm,0.3s,baz=171,slow=6.1,SNR=61						
MAT	Matsushiro	2.94	336	P	Pn	04 16 12.8	+0.2
MAT				S	Sn	04 16 46.9	-1.0
CBIJ	Chichi jima	7.07	162	P	Pn	04 17 06.2	-1.7
	5.6nm,0.3s,baz=270,slow=20,SNR=5.9						
CBIJ				S	Sn	04 18 22.5	-4.3
	16nm,0.3s,baz=254,slow=20,SNR=5.5						
JNU	Nakatsue	7.38	267	P	Pn	04 17 12.7	+0.6
	1.1nm,0.3s,baz=45,slow=4.3,SNR=5.4						
KSRS	Korea Array	10.21	294	P	Pn	04 17 50.3	+0.2
	0.3nm,0.3s,baz=108,slow=14,SNR=5.7						
ASAJ	Asahikawa	10.50	12	P	Pn	04 17 51.1	-2.8
	0.9nm,0.3s,baz=332,slow=20,SNR=4.0						
SONM	Songino Array	28.54	309	P	P	04 21 10.1	-0.7
	0.3nm,0.5s,baz=108,slow=9.8,SNR=4.0						
ZALV	Zalesovo Beam	43.08	315	P	P	04 23 14.1	-0.1
	0.9nm,0.5s,baz=99,slow=7.4,SNR=3.3						
MKAR	Makanchi Array	44.68	305	P	P	04 23 26.3	-0.8
	0.4nm,0.5s,baz=84,slow=10,SNR=10						
KURK	Kurchatov	46.84	310	P	P	04 23 43.4	-0.5
	0.7nm,0.3s,baz=83,slow=8.2,SNR=5.1						
KDAK	Kodiak Island	50.43	40	P	P	04 24 11.7	+0.4
	2.9nm,0.6s,baz=216,slow=22,SNR=6.0						
ILAR	Eielson Array	52.94	31	P	P	04 24 30.6	+0.8
	0.6nm,0.7s,baz=272,slow=6.5,SNR=10.0						
WRA	Warramunga Arr	53.73	186	P	P	04 24 35.6	-0.5
	0.4nm,0.5s,baz=1.6,slow=7.9,SNR=4.9						
INK	Inuvik	57.86	26	P	P	04 25 06.5	+1.5
	1.1nm,0.4s,baz=293,slow=3.9,SNR=8.1						
AKTO	Aktyubinsk	59.77	313	P	P	04 25 18.9	+0.4
	1.1nm,0.8s,baz=76,slow=15,SNR=3.9						
RES	Resolute Bay	66.03	14	P	P	04 26 00.2	+0.7
	1.6nm,0.5s,baz=306,slow=6.9,SNR=11						
YKA	Yellowknife Ar	67.27	29	P	P	04 26 08.0	+0.5
	0.2nm,0.5s,baz=298,slow=6.3,SNR=7.0						
FINES	FINESS Array B	70.96	332	P	P	04 26 30.1	-0.2
	0.8nm,0.6s,baz=63,slow=4.7,SNR=7.4						
AKASG	Malin Array Be	75.94	322	P	P	04 26 59.2	-0.5
	0.4nm,0.3s,baz=43,slow=6.4,SNR=4.1						
NVAR	Mina Array Bea	78.05	52	P	P	04 27 13.8	+1.7
	0.3nm,0.5s,baz=279,slow=6.9,SNR=3.7						
TXAR	Lajitas Array	93.20	51	P	P	04 28 28.8	+1.4
	0.6nm,0.8s,baz=281,slow=3.6,SNR=6.8						
TORD	Torodi Ar. Bea	118.49	312	PKP	PKPdf	04 33 59.8	-0.6
	0.3nm,0.7s,baz=8.5,slow=1.6,SNR=3.8						

IDC 28 04:19:31.5±5.2, 3°18S×100°93E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=210.0km s-min=30.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	36.60	120	P	P	04 26 39.6	-0.2
	0.3nm,0.3s,baz=308,slow=9.1,SNR=2.5						
SONM	Songino Array	51.03	5	P	P	04 28 35.7	+0.2
	0.3nm,0.6s,baz=187,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	52.41	344	P	P	04 28 45.2	-0.5
	0.3nm,0.7s,baz=137,slow=8.2,SNR=4.6						
TXAR	Lajitas Array	145.04	39	PKPbc	PKPbc	04 39 10.5	-0.6
	0.5nm,0.7s,baz=213,slow=1.6,SNR=6.6						

PRE 28 04:27:15.4±1.4, 28°58S×18°59E, h10km, ML4.2, 1C, Namibia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOMG	Komaggas	1.55	218	⇑*i*P	Pn	04 27 43.4	+0.3
KOMG				*e*S	Sn	04 28 03.0	-0.3
KOMG				AML	AML	04 28 07.2	
	comp=Z,798nm,0.2s						
CVNA	Calvinia	3.06	161	*e*P	Pn	04 28 04.9	+0.8
CVNA				*e*S	Sn	04 28 39.7	-1.2
CVNA				AML	AML	04 28 54.5	
	comp=Z,315nm,0.3s						
SUR	Sutherland	4.24	154	*e*P	Pn	04 28 21.7	+1.3
SUR				*e*S	Sn	04 29 08.0	-2.2
SUR				AML	AML	04 29 31.5	
	comp=Z,58nm,0.3s						
CER	Ceres	4.80	173	*e*P	Pn	04 28 29.0	+1.1
CER				*e*S	Sn	04 29 22.3	-1.3
CER				AML	AML	04 29 53.4	
	comp=Z,44nm,0.8s						
BOSA	Boshof	5.86	92	*e*P	Pn	04 28 43.7	+1.1
BOSA				*e*S	Sn	04 29 47.9	-2.0
BOSA				AML	AML	04 30 23.9	
	comp=Z,89nm,0.4s						
ELIM	Elim	6.08	171	*e*P	Pn	04 28 46.7	+1.4
ELIM				*e*S	Sn	04 29 53.0	-2.0
ELIM				AML	AML	04 30 29.3	
	comp=Z,346nm,0.5s						
SWZ	Schweizer	6.13	78	*e*P	Pn	04 28 47.2	+1.0
SWZ				*e*S	Sn	04 29 54.5	-2.0
SWZ				AML	AML	04 30 37.9	
	comp=Z,42nm,0.5s						
HVD	Gariep Dam	6.34	110	*e*P	Pn	04 28 49.5	+0.3
HVD				*e*S	Sn	04 29 58.1	-3.8
HVD				AML	AML	04 30 44.1	
	comp=Z,112nm,0.5s						
LBTB	Lobatse	7.20	62	*e*P	Pn	04 29 02.0	+1.1
LBTB				*e*S	Sn	04 30 18.8	-4.0
LBTB				AML	AML	04 31 08.8	
	comp=Z,22nm,0.6s						
SOE	Somerset East	7.28	126	*e*P	Pn	04 29 02.3	+0.3
SOE				*e*S	Sn	04 30 20.5	-4.2
SOE				AML	AML	04 31 03.5	
	comp=Z,79nm,0.6s						
PRYS	Parys	7.94	80	*e*P	Pn	04 29 11.8	+0.6
PRYS				*e*S	Sn	04 30 36.7	-4.6
PRYS				AML	AML	04 31 28.3	
	comp=Z,34nm,0.7s						
SEK	Senekal	7.96	90	*e*P	Pn	04 29 13.0	+1.6
SEK				*e*S	Sn	04 30 37.0	-4.6
SEK				AML	AML	04 31 24.1	
	comp=Z,59nm,0.8s						
GRM	Grahamstown	8.27	127	*e*P	Pn	04 29 16.4	+0.9
GRM				*e*S	Sn	04 30 47.2	-2.0
GRM				AML	AML	04 31 41.5	
	comp=Z,27nm,0.5s						
ERPM	east rand prop	8.86	78	*e*P	Pn	04 29 25.3	+1.5
ERPM				*e*S	Sn	04 30 59.8	-4.1
SLR	Silverton	9.09	74	*e*P	Pn	04 29 27.6	+0.7
SLR				*e*S	Sn	04 31 05.0	-4.4
SLR				AML	AML	04 32 01.6	
	comp=Z,58nm,0.6s						
TSUM	Tsumeb	9.38	354	*e*P	Pn	04 29 32.6	+1.7
TSUM				*e*S	Sn	04 31 11.0	-5.7

IDC 28 04:29:43.1±14.0, 24°72S×179°34E, h596km±172km, mb3.0/4, mb1 3.3/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=206.6km s-min=64.8km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	30.89	272	P	P	04 35 12.8	0.0
	5.7nm,0.3s,baz=88,slow=10,SNR=16						
ASAR	Alice Springs	41.31	262	P	P	04 36 39.0	+0.6
	0.2nm,0.3s,baz=96,slow=8.4,SNR=4.1						
WRA	Warramunga Arr	41.76	267	P	P	04 36 41.3	-0.7
	0.4nm,0.4s,baz=105,slow=8.4,SNR=4.9						
TXAR	Lajitas Array	91.37	58	P	P	04 41 46.7	-0.1
	0.4nm,0.7s,baz=220,slow=6.4,SNR=5.2						
ARCES	ARCESS Array B	132.56	348	PKP	PKPdf	04 47 49.4	-0.6
	5.1nm,1.0s,baz=44,slow=2.9,SNR=5.5						

*IDC **28** 04:37:57.6±10.0, 6°27S×130°25E, h110km±100km, mb3.8/3, mb1 4.1/6, mb1mx3.8/13, mbtmp3.9/6, ML4.3/3, Error ellipse: s-maj=93.7km s-min=24.7km az=56.0*
*NEIC **28** 04:37:57.8±2.5, 6°31S×130°09E, h110km±26km, mb4.3/3, Error ellipse: s-maj=21.2km s-min=13.9km az=56.0*

ISC 28 04:38:00.4±0.8, 6°58S±0°07×130°3E±0°1, h146km, n21, σ2s57/28, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.32	201	P	Pn	04 40 52.6	+1.6
	1.8nm,0.3s,baz=41,slow=14,SNR=25						
FITZ				S	Sn	04 43 04.5	-2.6
	2.2nm,0.3s,baz=257,slow=19,SNR=10						
FITZ	Fitzroy Crossi	12.32	201	P	Pn	04 40 52.6	+1.6
FITZ				S	Sn	04 43 04.5	-2.6
WRAB	Tennant Creek	13.84	164	*e*Pn	Pn	04 41 12.3	+1.8
	16nm,0.9s						
WRAB				*e*Sn	Sn	04 43 41.1	-2.8
WRA	Warramunga Arr	13.85	164	P	P	04 41 12.8	-1.4
	0.9nm,0.3s,baz=343,slow=13,SNR=19						
WRA				S	Sn	04 43 39.8	-4.3
	2.1nm,0.3s,baz=342,slow=23,SNR=12						
WRA	Warramunga Arr	13.85	164	P	P	04 41 12.8	-1.4
WRA				S	Sn	04 43 39.8	-4.3
WB2	Warramunga Arr	13.85	164	*e*Pn	Pn	04 41 12.2	+1.5
WB2				*e*Sn	Sn	04 43 40.3	-3.8
COEN	Coen	14.63	121	*e*Pn	P	04 41 24.6	+1.7
	37nm,0.5s						
COEN				*e*Sn	Sn	04 43 55.0	-7.9
AS31	Alice Springs	17.33	169	*e*Pn	Pn	04 41 57.5	+3.9
ASAR	Alice Springs	17.34	169	P	Pn	04 41 57.5	+3.8
	2.5nm,0.3s,baz=343,slow=9.7,SNR=106						
ASAR				S	S	04 45 04.9	-1.1
	0.5nm,0.3s,baz=350,slow=26,SNR=7.9						
ASAR	Alice Springs	17.34	169	P	Pn	04 41 57.5	+3.8
ASAR				S	S	04 45 04.9	-1.1
STKA	Stephens Creek	27.29	159	P	P	04 43 34.4	+3.1
	1.5nm,0.5s,baz=334,slow=12,SNR=6.4						
STKA	Stephens Creek	27.29	159	P	P	04 43 34.4	+3.1
CMAR	Chiang Mai Arr	39.70	309	P	P	04 45 17.4	-1.2
	0.9nm,0.3s,baz=136,slow=9.0,SNR=4.9						
CMAR	Chiang Mai Arr	39.70	309	P	P	04 45 17.4	-1.2
SONM	Songino Array	58.14	341	P	P	04 47 37.8	-1.1
	0.2nm,0.5s,baz=157,slow=6.0,SNR=3.1						
SONM	Songino Array	58.14	341	P	P	04 47 37.8	-1.1
MK31	Makanchi Array	68.04	327	*e*P	P	04 48 43.1	-1.1
MKAR	Makanchi Array	68.04	327	P	P	04 48 43.3	-0.9
	0.9nm,0.6s,baz=119,slow=8.2,SNR=11						
MKAR	Makanchi Array	68.04	327	P	P	04 48 43.3	-0.9
KURK	Kurchatov	72.32	328	*e*P	P	04 49 08.8	-1.2
	2.5nm,1.0s						
VNDA	Vanda	72.82	173	*e*P	P	04 49 16.0	+3.3

IDC 28 04:43:34.5±3.4, 5°37S×151°91E, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.8/18, mbtmp4.2/4, ML3.7/1, Error ellipse: s-maj=133.3km s-min=42.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.18	229	Pn	Pn	04 45 08.4	+1.2
	10.0nm,0.3s,baz=42,slow=7.4,SNR=17						
PMG				Sn	Sn	04 46 11.9	-6.8
	8.3nm,0.3s,baz=151,slow=20,SNR=10.0						
WRA	Warramunga Arr	22.40	228	P	P	04 48 35.2	+0.3
	2.3nm,0.6s,baz=50,slow=9.7,SNR=5.6						
ASAR	Alice Springs	25.13	222	P	P	04 49 00.6	-1.0
	2.1nm,0.7s,baz=58,slow=9.0,SNR=6.5						
FITZ	Fitzroy Crossi	28.61	242	P	P	04 49 32.8	0.0
	3.2nm,0.3s,baz=62,slow=13,SNR=14						
TORD	Torodi Ar. Bea	149.63	287	PKPbc	PKPbc	05 03 27.0	-0.2
	0.5nm,1.0s,baz=92,slow=2.7,SNR=4.4						

*IDC **28** 05:05:50.1±1.0, 14°37S×76°06W, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/17, mbtmp4.0/9, ML3.2/3, MS3.4/6, Ms1 3.4/6, ms1mx3.1/26, Error ellipse: s-maj=38.5km s-min=15.2km az=56.0*
*ISCJB **28** 05:05:52.6±0.6, 14°46S±0°06×76°02W±0°07, h29km, mb4.0/8, MS3.3/3, Error ellipse: s-maj=10.3km s-min=6.9km az=148.6*
*NEIC **28** 05:05:56.4±1.2, 14°43S×76°03W, h45km±11km, mb4.5/1, Error ellipse: s-maj=16.8km s-min=8.8km az=58.0*

ISC 28 05:05:54.2±0.6, 14°45S±0°08×76°07W±0°09, h29km, n40, σ0s76/36, mb3.9/8, MS3.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	2.57	343	Pn	Pn	05 06 33.3	-0.6
	12nm,0.3s,baz=139,slow=11,SNR=22						
NNA				Lg	Lg	05 07 09.1	
	108nm,0.3s,baz=158,slow=23,SNR=12						
NNA	Nana	2.57	343	*e*Pn	Pn	05 06 34.4	+0.5
NNA				*e*Sn	Sn	05 07 04.9	+0.7
NNA				Lg	Lg	05 07 09.1	
ATAH	Atahualpa	7.62	342	Pn	Pn	05 07 48.5	+4.7
	1.3nm,0.3s,baz=184,slow=3.0,SNR=6.3						
ATAH				LR	LR	05 10 05.5	
	comp=Z,67nm,21.8s,baz=178,slow=34						
ATAH	Atahualpa	7.62	342	Pn	Pn	05 07 48.5	+4.7
LPAZ	La Paz	7.87	104	Pn	Pn	05 07 52.3	+5.0
	3.4nm,0.3s,baz=290,slow=7.7,SNR=119						
LPAZ				LR	LR	05 11 33.4	
	comp=Z,195nm,18.4s,baz=272,slow=44						
LPAZ	La Paz	7.87	104	*e*Pn	Pn	05 07 51.9	+4.5
	16nm,0.5s						
SAML	Samuel	13.75	68	*e*Pn	Pn	05 09 06.8	-0.5
	4.2nm,0.8s						
SAML				*e*Sn	Sn	05 11 40.0	+0.8
SIV	San Ignacio	14.55	98	Pn	Pn	05 09 17.1	-1.2
	0.2nm,0.3s,baz=286,slow=15,SNR=7.2						
SIV				LR	LR	05 15 25.4	
	comp=Z,495nm,18.6s,slow=40						
SIV	San Ignacio	14.55	98	Pn	Pn	05 09 17.1	-1.2
LCO	Las Campanas	15.31	162	*e*Pn	Pn	05 09 29.9	+1.2
CFAA	Coronel Fontan	18.52	159	P	Pn	05 10 08.7	0.0
	0.0nm,0.3s,baz=318,slow=8.2,SNR=5.9						
CFAA	Coronel Fontan	18.52	159	P	Pn	05 10 08.7	0.0
SDV	Santo Domingo	23.81	13	*e*P	P	05 11 05.4	+0.4
	12nm,0.7s						
JTS	JuntasAbangare	26.12	340	LR	LR	05 21 12.4	
	comp=Z,54nm,18.8s,baz=152,slow=35						
JTS	JuntasAbangare	26.12	340	*e*P	P	05 11 25.4	-0.5
PLCA	Paso Flores	26.62	171	LR	LR	05 21 50.5	
	comp=Z,45nm,19.4s,baz=16,slow=36						
PLCA	Paso Flores	26.62	171	*e*P	P	05 11 30.3	0.0
BDFB	Brasilia	27.11	96	P	P	05 11 34.4	-0.6
	2.2nm,0.7s,baz=260,slow=13,SNR=4.0						
BDFB				LR	LR	05 23 25.2	
	comp=Z,226nm,18.1s,baz=231,slow=39						
BDFB	Brasilia	27.11	96	P	P	05 11 34.4	-0.6
TXAR	Lajitas Array	51.04	329	P	P	05 14 53.5	-0.5
	0.4nm,0.6s,baz=151,slow=8.3,SNR=6.2						
TXAR	Lajitas Array	51.04	329	P	P	05 14 53.5	-0.5
PDAR	Pinedale Array	64.72	333	P	P	05 16 30.2	+0.2
	0.6nm,1.0s,baz=146,slow=6.6,SNR=3.3						
PDAR	Pinedale Array	64.72	333	P	P	05 16 30.2	+0.2
ULM	Lac du Bonnet	66.74	346	P	P	05 16 41.6	-0.9
	2.3nm,0.6s,baz=122,slow=5.9,SNR=6.6						
ULM	Lac du Bonnet	66.74	346	P	P	05 16 41.6	-0.9
TOA0	Torodi Ar. Sit	81.72	74	*e*P	P	05 18 11.2	+0.4
TORD	Torodi Ar. Bea	81.72	74	P	P	05 18 11.8	+1.1
	7.2nm,0.8s,baz=271,slow=4.1,SNR=45						
TORD	Torodi Ar. Bea	81.72	74	P	P	05 18 11.8	+1.1
YKA	Yellowknife Ar	82.41	343	P	P	05 18 12.6	-0.6
	0.7nm,0.6s,baz=142,slow=6.0,SNR=17						
YKA	Yellowknife Ar	82.41	343	P	P	05 18 12.7	-0.6
ESDC	Sonseca Array	85.87	47	P	P	05 18 31.9	+0.4
	0.6nm,0.6s,baz=249,slow=7.3,SNR=4.3						
ESDC	Sonseca Array	85.87	47	P	P	05 18 31.9	+0.4
WRA	Warramunga Arr	134.58	222	PKP	PKPdf	05 25 11.3	+0.5
	0.5nm,0.6s,baz=123,slow=2.4,SNR=3.4						
WRA	Warramunga Arr	134.58	222	PKP	PKPdf	05 25 11.3	+0.5
ZALV	Zalesovo Beam	137.83	17	PKP	PKPdf	05 25 16.2	+0.5
	0.5nm,0.4s,baz=336,slow=3.3,SNR=4.3						
ZALV	Zalesovo Beam	137.83	17	PKP	PKPdf	05 25 16.2	+0.5
MKAR	Makanchi Array	143.03	25	PKP	PKPdf	05 25 26.9	+1.5
	0.4nm,0.8s,baz=327,slow=2.4,SNR=3.0						
MKAR	Makanchi Array	143.03	25	PKP	PKPdf	05 25 26.9	+1.5
SONM	Songino Array	146.66	357	PKPbc	PKPab	05 25 34.1	-0.4
	1.6nm,0.6s,baz=333,slow=1.9,SNR=18						
SONM	Songino Array	146.66	357	PKPbc	PKPab	05 25 34.1	-0.4

IDC 28 05:08:42.5±1.5, 13°50N×92°81E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=51.2km s-min=21.7km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.69	49	Pn	Pn	05 10 36.4	+0.5
	0.6nm,0.3s,baz=240,slow=15,SNR=13						
CMAR				Sn	Sn	05 11 57.3	-6.5
	0.6nm,0.3s,baz=241,slow=28,SNR=4.9						
MKAR	Makanchi Array	34.35	347	P	P	05 15 31.9	+0.8
	0.8nm,0.8s,baz=168,slow=8.6,SNR=8.3						
SONM	Songino Array	36.06	16	P	P	05 15 45.1	-0.8
	0.9nm,1.0s,baz=183,slow=7.2,SNR=5.6						
WRA	Warramunga Arr	52.67	128	P	P	05 17 58.8	-0.3
	0.3nm,0.3s,baz=304,slow=9.9,SNR=3.2						
ASAR	Alice Springs	54.58	132	P	P	05 18 13.2	+0.2
	0.3nm,0.3s,baz=308,slow=7.7,SNR=4.6						
ARCES	ARCESS Array B	69.57	340	P	P	05 19 52.7	-0.3
	2.4nm,0.8s,baz=90,slow=8.1,SNR=3.4						

IDC 28 05:09:52.3±28.0, 20°43S×173°27W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=527.2km s-min=150.6km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.90	263	P	P	05 17 12.2	+0.6
	3.7nm,0.6s,baz=86,slow=12,SNR=5.5						
STKA	Stephens Creek	41.82	245	P	P	05 17 43.3	-0.7
	1.8nm,0.5s,baz=92,slow=11,SNR=9.9						
ASAR	Alice Springs	48.84	256	P	P	05 18 39.8	-0.2
	1.2nm,0.6s,baz=94,slow=7.1,SNR=6.5						
WRA	Warramunga Arr	48.99	261	P	P	05 18 41.0	-0.1
	0.5nm,0.4s,baz=96,slow=8.3,SNR=4.4						

IDC 28 05:25:49.4±4.4, 20°50N×121°74E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=366.1km s-min=27.4km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	41.39	319	P	P	05 33 37.2	-0.1
	0.3nm,0.8s,baz=117,slow=9.7,SNR=4.2						
WRA	Warramunga Arr	42.04	162	P	P	05 33 43.0	+0.1
	1.3nm,0.5s,baz=344,slow=9.1,SNR=5.9						
ASAR	Alice Springs	45.47	164	P	P	05 34 10.2	-0.3
	0.7nm,0.7s,baz=335,slow=6.9,SNR=6.8						
STKA	Stephens Creek	55.44	159	P	P	05 35 25.7	-0.1
	2.2nm,1.1s,baz=348,slow=9.3,SNR=3.0						

*ISCJB **28** 05:29:34.9±0.8, 47°95N±0°03×124°30W±0°06, h1km±5km, Error ellipse: s-maj=6.9km s-min=3.8km az=152.3*
*PGC **28** 05:29:34.9, 47°85N×124°28W, h0km, ML2.3/5, 93km Wsw of Victoria, Bc Near Coast Of Washington*
*NEIC **28** 05:29:36.2, 47°92N×124°25W, h0km, MD2.5(SEA), After SEA.*
NEIC Felt [II] at Forks, Port Angeles and Port Townsend. Also felt at Quilcene and Sequim. Felt at Victoria, British Columbia.
*PNSN **28** 05:29:36.2, 47°92N×124°25W, h0km, MD2.5, Fault plane solution: NP1:ϕs25.00000°, δ40.00000°, NP2: ϕs242.00000°, δ56.00000°, Principal axes: T Plg69.0000°, Azm203.0000°; P Plg9.0000°, Azm316.0000°;*

ISC 28 05:29:35.6±1.3, 47°95N±0°03×124°28W±0°04, h7km±11km, n21, σ0s80/40, 6D, Near coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLWA	Neilton Lookou	0.63	154	*e*Pg	Pg	05 29 47.5	-0.1
NLWA				*e*Sg	Sg	05 29 56.2	+0.4
PFB	Port Renfrew	0.63	350	P	Pg	05 29 48.1	+0.5
PFB				S	Sb	05 29 57.6	-0.3
PFB	Port Renfrew	0.63	350	P	Pg	05 29 48.1	+0.5
PFB				⇓S	Sb	05 29 57.6	-0.3
LZB	Mount Lazard	0.72	24	P	Pg	05 29 49.3	-0.2
LZB				S	Sg	05 30 00.1	+1.1
LZB	Mount Lazard	0.72	24	P	Pg	05 29 49.3	-0.2
LZB				⇑S	Sg	05 30 00.0	+1.1
VGZ	Gonzales	0.79	54	⇑P	Pg	05 29 50.0	-0.6
PGC	Sidney	0.89	38	*e*Pg	Pg	05 29 51.9	-0.7
PGC				*e*Sg	Sg	05 30 04.6	+0.5
PGC	Sidney	0.89	38	⇑P	Pg	05 29 52.0	-0.6
PGC				⇑S	Sg	05 30 04.6	+0.5
BPCB	Bare Point	1.04	21	⇓P	Pg	05 29 54.9	-0.7
BPCB				⇓S	Sg	05 30 09.4	+0.3
BMSB	Bamfield Mari	1.05	327	⇑P	Pg	05 29 55.0	-0.8
BMSB				⇑S	Sg	05 30 09.5	+0.1
GNW	Green Mountain	1.05	111	*e*Pg	Pg	05 29 55.0	-0.7
GNW				*e*Sg	Sb	05 30 10.7	+0.6
MGB	Mount Grey	1.08	345	⇓P	Pg	05 29 55.7	-0.6
MGB				S	Sg	05 30 10.7	+0.3
MGB	Mount Grey	1.08	345	⇓P	Pg	05 29 55.7	-0.6
MGB				⇑S	Sg	05 30 10.7	+0.3
SNB	Saturna Island	1.10	41	P	Pg	05 29 56.0	-0.7
SNB	Saturna Island	1.10	41	⇑P	Pg	05 29 56.0	-0.7
SNB				⇓S	Sg	05 30 11.1	0.0
GOBB	Galiano Island	1.12	27	P	Pg	05 29 56.2	-0.8
GOBB				S	Sg	05 30 11.5	-0.1
GOBB	Galiano Island	1.12	27	⇑P	Pg	05 29 56.2	-0.8
GOBB				⇑S	Sg	05 30 11.5	-0.1
JCW	Jim Creek	1.59	80	*e*Pn	Pn	05 30 04.7	+0.5
JCW				*e*Sn	Sb	05 30 26.5	+0.9
RPW	Rockport	1.91	74	*e*Pn	Pn	05 30 09.3	+0.7
RPW				*e*Sn	Sb	05 30 35.9	+1.0
LON	Longmire	2.06	125	*e*Pn	Pn	05 30 11.9	+1.2
LON				*e*Sn	Sn	05 30 34.7	-2.0
ETW	Entiat	2.68	96	*e*Pn	Pb	05 30 22.6	-1.3
ETW				*e*Sn	Sn	05 30 53.8	+1.7

IDC 28 05:31:27.1±1.2, 0°84N×126°33E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=133.6km s-min=19.1km az=67.0, Northern Molucca Sea

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.84**	**3**	*e*PN	Pn	05 55 33.5	-6.6
KUR	**Kuril'sk**	**5.74**	**257**	*i*PN	**Pn**	**05 56 04.3**	**-1.9**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,1.0s						
PEA0B	**Petropavlovsk-**	**6.39**	**10**	*e*Pn	**Pn**	**05 56 13.6**	**-1.4**
PETK	**Petropavlovsk-**	**6.39**	**10**	Pn	**Pn**	**05 56 13.5**	**-1.5**
	comp=E,1.5nm,0.3s,baz=286,slow=14,SNR=22						
PETK	**Petropavlovsk-**	**6.39**	**10**	PN	**Pn**	**05 56 13.5**	**-1.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.39**	**10**	Pn	**Pn**	**05 56 13.5**	**-1.5**
ASAJ	**Asahikawa**	**9.66**	**258**	Pn	**Pn**	**05 56 59.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=58,slow=9.5,SNR=5.3						
ASAJ	**Asahikawa**	**9.66**	**258**	PN	**Pn**	**05 56 59.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.66**	**258**	*e*Pn	**Pn**	**05 56 59.7**	**-0.2**
FX1	**Attu Island--F**	**12.72**	**55**	Pn	**Pn**	**05 57 39.8**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=288,slow=13,SNR=6.7						
FX1				LR	LR	06 02 05.3	
	comp=Z,30nm,18.9s,baz=97,slow=35						
FX1	**Attu Island--F**	**12.72**	**55**	PN	**Pn**	**05 57 39.8**	**-1.9**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**12.72**	**55**	Pn	**Pn**	**05 57 39.8**	**-1.9**
SMY	**Shemya**	**13.20**	**57**	PN	**Pn**	**05 57 48.8**	**+0.6**
SMY	**Shemya**	**13.20**	**57**	Pn	**Pn**	**05 57 48.8**	**+0.6**
MJAR	**Matsushiro Arr**	**16.65**	**238**	Pn	**Pn**	**05 58 31.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=5.3						
MJAR	**Matsushiro Arr**	**16.65**	**238**	P	**Pn**	**05 58 31.7**	**-2.6**
MJAR	**Matsushiro Arr**	**16.65**	**238**	Pn	**Pn**	**05 58 31.7**	**-2.6**
USRK	**Ussuriysk Arra**	**16.86**	**270**	Pn	**Pn**	**05 58 35.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=4.8						
BILL	**Bilibino**	**21.92**	**11**	*e*P	**P**	**05 59 35.1**	**+1.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**21.92**	**11**	*e*P	**P**	**05 59 35.1**	**+1.1**
	comp=Z,5.3nm,0.9s						
KSRS	**Korea Array**	**22.59**	**256**	P	**P**	**05 59 42.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=62,slow=9.2,SNR=4.7						
KSRS	**Korea Array**	**22.59**	**256**	P	**P**	**05 59 42.1**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSAR	**Wonju Array Be**	**22.62**	**256**	P	**P**	**05 59 42.1**	**+0.3**
KSAR	**Wonju Array Be**	**22.62**	**256**	P	**P**	**05 59 42.0**	**+0.3**
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**06 01 16.0**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=75,slow=8.3,SNR=5.0						
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**06 01 16.0**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**06 01 16.0**	**-0.3**
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**06 01 35.8**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=252,slow=7.0,SNR=3.4						
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**06 01 35.8**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**35.33**	**39**	P	**P**	**06 01 35.8**	**-0.1**
MKAR	**Makanchi Array**	**48.52**	**298**	P	**P**	**06 03 24.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=64,slow=5.5,SNR=5.7						
MKAR	**Makanchi Array**	**48.52**	**298**	P	**P**	**06 03 24.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.52**	**298**	P	**P**	**06 03 24.2**	**+0.4**
KURK	**Kurchatov**	**48.83**	**305**	P	**P**	**06 03 26.7**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=67,slow=8.3,SNR=12						
KURK	**Kurchatov**	**48.83**	**305**	*e*P	**P**	**06 03 25.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**48.83**	**305**	*e*P	**P**	**06 03 25.8**	**-0.3**
	comp=Z,3.6nm,0.6s						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**06 03 33.7**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=295,slow=7.4,SNR=5.9						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**06 03 33.7**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**06 03 33.8**	**+0.8**
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**06 03 52.0**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=62,slow=8.2,SNR=7.5						
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**06 03 52.0**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**06 03 52.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**54.18**	**259**	P	**P**	**06 04 08.1**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=36,slow=6.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**54.18**	**259**	P	**P**	**06 04 08.1**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**54.18**	**259**	P	**P**	**06 04 08.1**	**+1.5**
ABKAR	**Akbulak array**	**59.76**	**311**	*e*P	**P**	**06 04 44.7**	**-1.1**
	comp=Z,0.7nm,0.4s						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**06 04 53.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=295,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**06 04 53.0**	**+0.1**
PDAR	**Pinedale Array**	**63.19**	**55**	P	**P**	**06 05 09.1**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=298,slow=3.2,SNR=4.0						
PDAR	**Pinedale Array**	**63.19**	**55**	P	**P**	**06 05 09.1**	**-0.3**
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**06 05 20.1**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=29,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**06 05 20.1**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**06 05 20.1**	**+1.4**
WRA	**Warramunga Arr**	**69.24**	**202**	P	**P**	**06 05 47.0**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=19,slow=6.6,SNR=5.5						
WRA	**Warramunga Arr**	**69.24**	**202**	P	**P**	**06 05 47.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**69.24**	**202**	P	**P**	**06 05 47.0**	**-1.0**
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**06 06 10.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=18,slow=5.7,SNR=8.8						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**06 06 10.9**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**06 06 10.8**	**+0.6**
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**06 06 27.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=302,slow=4.8,SNR=21						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**06 06 27.8**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**06 06 27.8**	**+0.3**

*ISCJB **28** 06:02:02.9±0.5,27.01N±0.03×102.45E±0.07,h10km, mb3.7/10,MS2.9/1,Error ellipse: s-maj=8.8km s-min=4.9km az=177.3*
*IDC **28** 06:02:03.5±1.0,27.08N×102.62E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/24,mbtmp3.7/10,MS3.1/1, Ms1 3.1/1,ms1mx2.2/32,Error ellipse: s-maj=36.1km s-min=17.9km az=56.0*
*BJI **28** 06:02:05.8,27.07N×102.76E,h14km,mB4.6/4,mb4.2/9, ML3.5/14,Ms3.9/3,Ms7 3.5/3*

ISC 28 06:02:05.8±0.7,27.06N±0.05×102.46E±0.07,h10km,n18, σ1s55/25,mb3.8/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.94**	**172**	Pg	**Pn**	**06 02 40.5**	**+1.5**
KMI				Sg	**Sn**	**06 03 05.0**	**+1.4**
KMI				smax	smax		
	comp=N,310nm,0.9s						
KMI				smax	smax		
	comp=E,330nm,0.9s						
GYA	**Guiyang**	**3.81**	**98**	Pn	**Pn**	**06 03 04.0**	**-0.6**
GYA				Sn	**Sn**	**06 03 49.0**	**-0.6**
GYA				Sg	**Sb**	**06 04 01.5**	**+2.1**
GYA				smax	smax		
	comp=N,100nm,1.0s						
GYA				smax	smax		
	comp=E,80nm,1.0s						
CD2	**Chengdu**	**4.00**	**16**	Pn	**Pn**	**06 03 08.5**	**+1.2**
CD2				Pg	**Pb**	**06 03 18.3**	**+1.8**
CD2				Sg	**Sg**	**06 04 14.0**	**-0.5**
CD2				smax	smax		
	comp=N,460nm,0.9s						
CD2				smax	smax		
	comp=E,400nm,0.8s						
XAN	**Xi'an**	**8.91**	**37**	P	**Pn**	**06 04 12.0**	**-2.7**
XAN				pP	pP	06 04 15.8	
XAN				S	Sn	06 05 46.0	-9.2
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,20nm,3.5s						
XAN				LR	LR		
	comp=N,210nm,5.8s						
XAN				LR	LR		
	comp=E,130nm,6.3s						
XAN				LR	LR		
	comp=Z,62nm,6.1s						
LZH	**Lanzhou**	**9.08**	**7**	*e*P	**Pn**	**06 04 17.3**	**+0.2**
LZH				pP		06 04 20.5	
LZH				sP		06 04 23.0	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**9.15**	**201**	Pn	Pn	06 04 22.1	+4.1
	comp=Z,0.3nm,0.3s,baz=19,slow=12,SNR=7.0						
HHC	**Hu-ho-hao-te**	**15.68**	**26**	*e*P	**Pn**	**06 05 46.0**	**-0.9**
HHC				PP	**PnPn**	**06 05 58.5**	**+3.1**
HHC				S	**Sn**	**06 08 40.8**	**0.0**
HHC				SS	**S**	**06 08 58.8**	**+2.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,94nm,5.1s						
HHC				LR	LR		
	comp=N,210nm,8.8s						
HHC				LR	LR		
	comp=E,140nm,9.2s						
HHC				LR	LR		
	comp=Z,130nm,9.9s						
BJI	**Beijing**	**17.25**	**38**	P	**Pn**	**06 06 07.8**	**+1.1**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**20.97**	**7**	P	**P**	**06 06 48.2**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=189,slow=12,SNR=20						
KSRS	**Korea Array**	**23.83**	**58**	P	**P**	**06 07 16.6**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=235,slow=10,SNR=4.0						
KSRS				LR	LR	06 17 36.4	
	comp=Z,39nm,18.7s,baz=335,slow=39						
MKAR	**Makanchi Array**	**25.32**	**326**	P	**P**	**06 07 32.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=129,slow=9.6,SNR=11						
KURK	**Kurchatov**	**29.79**	**329**	P	**P**	**06 08 12.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=135,slow=9.8,SNR=39						
ZALV	**Zalesovo Beam**	**29.85**	**339**	P	**P**	**06 08 13.0**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=150,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**56.01**	**143**	P	**P**	**06 11 43.4**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=332,slow=8.0,SNR=4.8						
ASAR	**Alice Springs**	**58.87**	**146**	P	**P**	**06 12 04.5**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=322,slow=6.8,SNR=4.7						
ARCES	**ARCESS Array B**	**60.37**	**337**	P	**P**	**06 12 14.1**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=81,slow=6.8,SNR=7.8						
GERES	**GERESS Array B**	**69.36**	**315**	P	**P**	**06 13 13.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=71,slow=5.8,SNR=4.6						
YKA	**Yellowknife Ar**	**85.97**	**16**	P	**P**	**06 14 44.6**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=325,slow=4.7,SNR=5.2						

*NEIC **28** 06:09:01.5,15.22N×93.99W,h16km,MD4.2(MEX),After MEX.*

MEX 28 06:09:01.5±0.9,15.22N×93.99W,h16km±8km,MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.89**	**57**	*i*P	Pb	06 09 15.3	-3.3
PCIG				*i*S	Sb	06 09 26.7	-3.4
PCIG		**0.89**	**57**	*i*P	Pb	06 09 15.3	-3.3
PCIG				*i*S	Sb	06 09 26.7	-3.4
THIG		**1.70**	**100**	*i*P	Pn	06 09 27.1	-3.4
THIG				*i*S	Sn	06 09 46.7	-5.2
THIG		**1.70**	**100**	*i*P	Pn	06 09 27.1	-3.4
THIG				*i*S	Sn	06 09 46.7	-5.2
TGIG		**1.76**	**28**	*e*P	Pn	06 09 27.4	-4.0
TGIG				*i*S	Sn	06 09 48.0	-5.6
TGIG		**1.76**	**28**	*e*P	Pn	06 09 27.4	-4.0
TGIG				*i*S	Sn	06 09 48.0	-5.6
CMIG	**Matias Romero**	**2.05**	**335**	*e*P	Pn	06 09 32.5	-2.8
CMIG				*i*S	Sn	06 09 56.3	-4.2
CMIG	**Matias Romero**	**2.05**	**335**	*e*P	Pn	06 09 32.5	-2.8
CMIG				*i*S	Sn	06 09 56.3	-4.2
CCIG	**Comitan**	**2.08**	**59**	*e*P	Pn	06 09 32.6	-3.3
CCIG				*i*S	Sn	06 09 57.3	-4.3
CCIG	**Comitan**	**2.08**	**59**	*e*P	Pn	06 09 32.6	-3.3
CCIG				*i*S	Sn	06 09 57.3	-4.3
HUIG	**Huatulco**	**2.11**	**285**	*e*P	Pn	06 09 33.4	-2.7
HUIG				*i*S	Sn	06 09 56.4	-5.7
HUIG	**Huatulco**	**2.11**	**285**	*e*P	Pn	06 09 33.4	-2.7
HUIG				*i*S	Sn	06 09 56.4	-5.7
VHO	**Vista Hermosa**	**3.21**	**305**	*i*P	Pn	06 09 47.9	-3.7
VHO				*i*S	Sn	06 10 26.1	-3.7
VHO	**Vista Hermosa**	**3.21**	**305**	*i*P	Pn	06 09 47.9	-3.7
VHO				*i*S	Sn	06 10 26.1	-3.7
PNIG	**Pinotepa**	**4.15**	**287**	*e*P	Pn	06 10 02.3	-1.9
PNIG				*i*S	Sn	06 10 49.3	-3.1
PNIG	**Pinotepa**	**4.15**	**287**	*e*P	Pn	06 10 02.3	-1.9
PNIG				*i*S	Sn	06 10 49.3	-3.1
TPIG	**Tehuac#an**	**4.53**	**315**	*i*P	Pn	06 10 08.0	-1.7
TPIG				*i*S	Sn	06 10 58.0	-4.2
TPIG	**Tehuac#an**	**4.53**	**315**	*i*P	Pn	06 10 08.0	-1.7
TPIG				*i*S	Sn	06 10 58.0	-4.2
SCIG	**Sabancuy**	**4.59**	**35**	*i*P	Pn	06 10 14.6	+4.4
SCIG	**Sabancuy**	**4.59**	**35**	*i*P	Pn	06 10 14.6	+4.4
TEIG	**Tepich**	**7.38**	**47**	*i*P	Pn	06 10 42.6	-6.0
TEIG				*i*S	Sn	06 11 57.2	-15
TEIG	**Tepich**	**7.38**	**47**	*i*P	Pn	06 10 42.6	-6.0
TEIG				*i*S	Sn	06 11 57.2	-15

*ISCJB **28** 06:10:48.6±0.4,38.38N±0.03×22.41E±0.03,h13km±3km, Error ellipse: s-maj=4.6km s-min=3.6km az=12.8*
*CSEM **28** 06:10:48.8±0.2,38.39N×22.39E,h10km,ML2.1/7,Error ellipse: s-maj=3.7km s-min=3.5km az=6.0*
*ATH **28** 06:10:48.9,38.39N×22.38E,h22km±8km,MD3.0/6*
*THE **28** 06:10:49.4,38.38N×22.40E,h2km±23km,ML2.1/7,Error ellipse: s-maj=23.1km s-min=0.3km az=158.0*

ISC 28 06:10:49.3±1.0,38.39N±0.02×22.40E±0.02,h7km±8km, n29,σ0s54/57,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.10**	**80**	P	**Pg**	**06 10 51.5**	**-0.1**
DSF				S	**Sg**	**06 10 53.2**	**0.0**
DSF	**Desfina**	**0.10**	**80**	P	**Pg**	**06 10 51.5**	**-0.1**
DSF				S	**Sg**	**06 10 53.2**	**0.0**
KALE	**Kalithea**	**0.21**	**269**	P	**Pg**	**06 10 53.3**	**-0.2**
KALE				S	**Sg**	**06 10 56.4**	**+0.1**
KALE	**Kalithea**	**0.21**	**269**	P	**Pg**	**06 10 53.3**	**-0.2**
KALE				S	**Sg**	**06 10 56.4**	**+0.1**
TRIZ	**Trizonia**	**0.26**	**264**	P	**Pg**	**06 10 54.2**	**-0.3**
TRIZ				S	**Sg**	**06 10 58.6**	**+0.7**
TRIZ	**Trizonia**	**0.26**	**264**	P	**Pg**	**06 10 54.2**	**-0.3**
TRIZ				S	**Sg**	**06 10 58.6**	**+0.7**
LAKA	**Lakka**	**0.37**	**245**	P	**Pg**	**06 10 56.3**	**-0.2**
LAKA				S	**Sg**	**06 11 01.8**	**+0.5**
LAKA	**Lakka**	**0.37**	**245**	P	**Pg**	**06 10 56.3**	**-0.2**
LAKA				S	**Sg**	**06 11 01.8**	**+0.5**
EFP	**Efpalio**	**0.39**	**275**	P	**Pg**	**06 10 56.5**	**-0.5**
EFP				S	**Sg**	**06 11 02.6**	**+0.5**
EFP	**Efpalio**	**0.39**	**275**	*e*PB	**Pg**	**06 10 56.4**	**-0.5**
EFP				*e*SB	**Sg**	**06 11 02.7**	**+0.6**
EFP	**Efpalio**	**0.39**	**275**	P	**Pg**	**06 10 56.5**	**-0.5**
EFP				S	**Sg**	**06 11 02.6**	**+0.5**
GUR	**Goura**	**0.46**	**186**	P	**Pg**	**06 10 57.9**	**-0.4**
GUR				S	**Sg**	**06 11 04.3**	**0.0**
GUR	**Goura**	**0.46**	**186**	*e*PB	**Pg**	**06 10 57.8**	**-0.5**
GUR	**Goura**	**0.46**	**186**	*e*Pb	**Pg**	**06 10 57.8**	**-0.5**
GUR				S	**Sg**	**06 11 04.3**	**0.0**
LKR	**Lokris**	**0.53**	**61**	P	**Pg**	**06 10 59.2**	**-0.5**
LKR				S	**Sg**	**06 11 07.6**	**+1.0**
LKR	**Lokris**	**0.53**	**61**	*e*PN	**Pg**	**06 10 59.1**	**-0.6**
LKR				*e*SN	**Sg**	**06 11 07.6**	**+1.0**
LKR	**Lokris**	**0.53**	**61**	P	**Pg**	**06 10 59.2**	**-0.5**
LKR				S	**Sg**	**06 11 07.6**	**+1.0**
ATAL	**Atalanti**	**0.57**	**58**	P	**Pg**	**06 10 59.9**	**-0.4**
ATAL				S	**Sb**	**06 11 09.1**	**-0.9**
ATAL	**Atalanti**	**0.57**	**58**	P	**Pg**	**06 10 59.9**	**-0.4**
ATAL				S	**Sb**	**06 11 09.1**	**-0.9**
LTK	**Loutraki**	**0.58**	**130**	*e*PN	**Pg**	**06 11 00.8**	**+0.3**
LTK				*e*SN	**Sb**	**06 11 10.4**	**+0.1**
LTK	**Loutraki**	**0.58**	**130**	*e*Pn	**Pg**	**06 11 00.8**	**+0.3**
LTK				*e*Sn	**Sb**	**06 11 10.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.65**	**341**	P	**Pg**	**06 11 02.3**	**+0.3**
MAKR				S	**Sb**	**06 11 12.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.65**	**341**	P	**Pg**	**06 11 02.3**	**+0.3**
MAKR				S	**Sb**	**06 11 12.1**	**-0.4**
EVR	**Evrytania**	**0.70**	**319**	*e*PN	**Pg**	**06 11 03.2**	**+0.4**
EVR				*e*SN	**Sb**	**06 11 13.4**	**-0.5**
EVR	**Evrytania**	**0.70**	**319**	*e*Pn	**Pg**	**06 11 03.2**	**+0.4**
EVR				*e*Sn	**Sb**	**06 11 13.4**	**-0.5**
DID	**Didima**	**1.10**	**143**	*e*PN	**Pb**	**06 11 10.9**	**+0.1**
DID				*e*SN	**Sb**	**06 11 25.5**	**0.0**
DID	**Didima**	**1.10**	**143**	*e*Pn	**Pb**	**06 11 10.9**	**+0.1**
DID				*e*Sn	**Sb**	**06 11 25.5**	**0.0**
THL	**Klokotos Trika**	**1.21**	**346**	*e*PN	**Pg**	**06 11 11.1**	**-1.4**
THL				*e*SN	**Sb**	**06 11 28.9**	**+0.5**
THL	**Klokotos Trika**	**1.21**	**346**	*e*Pn	**Pg**	**06 11 11.1**	**-1.4**
THL				*e*Sn	**Sb**	**06 11 28.9**	**+0.5**

*BEO **28** 06:11:13.1±0.7,43.86N×17.08E,h0km,ML2.5/3*

CSEM 28 06:11:14.0±0.4,43.88N×17.16E,h2km,ML2.5,Error ellipse: s-maj=9.3km s-min=6.3km az=44.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.87**	**1**	*e*Pg	Pg	06 11 29.7	-1.1
BLY				*e*Sg	Sg	06 11 42.0	-0.1
BLY	**Banja Luka**	**0.87**	**1**	*e*Pg	Pg	06 11 29.7	-1.1
BLY				*e*Sg	Sg	06 11 42.0	-0.1
STON	**Ston**	**1.08**	**158**	*e*Pg	Pg	06 11 31.5	-3.1
STON				Sg	Sg	06 11 47.1	-1.5
STON	**Ston**	**1.08**	**158**	*e*Pg	Pg	06 11 31.5	-3.2
STON				Sg	Sg	06 11 47.1	-1.5
NVLJ	**Novalja**	**1.78**	**293**	*i*Pn	Pn	06 11 46.3	+0.5
NVLJ				Sn	Sg	06 12 12.5	+1.3
NVLJ	**Novalja**	**1.78**	**293**	*i*Pn	Pn	06 11 46.2	+0.4
NVLJ				Sn	Sg	06 12 12.5	+1.2
DIVS	**Divibare**	**2.06**	**83**	*e*Pn	Pn	06 11 50.4	+0.7
DIVS				*e*Sg	Sb	06 12 19.0	+0.7
DIVS	**Divibare**	**2.06**	**83**	*e*Pn	Pn	06 11 50.4	+0.7
DIVS				*e*Sg	Sb	06 12 19.0	+0.7
PDG	**Podgorica**	**2.11**	**133**	*e*Pn	Pn	06 11 50.5	+0.2
PDG				*e*Sg	Sb	06 12 20.3	+0.8
PDG	**Podgorica**	**2.11**	**133**	*e*Pn	Pn	06 11 50.5	+0.2
PDG				*e*Sg	Sb	06 12 20.3	+0.8
TRUS	**Trudelj**	**2.37**	**80**	*e*Pn	Pn	06 11 53.1	-0.8
TRUS				*e*Sg	Sg	06 12 31.4	+1.3
TRUS	**Trudelj**	**2.37**	**80**	*e*Pn	Pn	06 11 53.1	-0.8
TRUS				*e*Sg	Sg	06 12 31.4	+1.3
GRUS	**Gruza**	**2.57**	**88**	*e*Pn	Pn	06 11 57.7	+1.0
GRUS				*e*Sg	Sg	06 12 36.9	+0.2
GRUS	**Gruza**	**2.57**	**88**	*e*Pn	Pn	06 11 57.7	+1.0
GRUS				*e*Sg	Sg	06 12 36.9	+0.2

*ISCJB **28** 06:15:58.6±0.6,22.21S±0.05×68.74W±0.06,h124km±5km, mb3.5/2,Error ellipse: s-maj=9.9km s-min=7.7km az=169.5*
*GUC **28** 06:15:59.5±1.1,22.25S×68.77W,h113km±7km,MD3.6, ML3.7*
*IDC **28** 06:16:04.9±11.0,21.61S×68.47W,h142km±82km,mb3.3/3, mb1 3.4/4,mb1mx3.2/15,mbtmp3.3/4,Error ellipse: s-maj=105.7km s-min=50.6km az=20.0*

ISC 28 06:15:58.7±0.8,22.19S±0.05×68.66W±0.06,h117km±8km, n14,σ1s57/21,7C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.67**	**306**	*i*P	**Pn**	**06 16 18.7**	**+1.0**
PB09				*i*S	**Sn**	**06 16 32.6**	**+0.7**
PB09				AML	AML	06 16 34.3	
	comp=E,6μm,0.8s						
SPCH	**San Pedro de A**	**0.83**	**149**	*i*P	**Pn**	**06 16 20.3**	**+1.1**
SPCH				*i*S	**Sn**	**06 16 36.0**	**+1.3**
SPCH				AML	AML	06 16 36.5	
	comp=E,1μm,0.4s						
MACH	**Maria Elena**	**1.02**	**269**	*i*P	**Pn**	**06 16 20.9**	**0.0**
MACH				*i*S	**Sn**	**06 16 37.3**	**-0.3**
PB07	**Plate Boundary**	**1.23**	**292**	*i*P	**Pn**	**06 16 23.6**	**+0.6**
PB07				*i*S	**Sn**	**06 16 41.3**	**-0.1**
PB07				AML	AML	06 16 42.2	
	comp=N,3μm,0.3s						
PB01	**Plate Boundary**	**1.38**	**326**	*i*P	**Pn**	**06 16 25.6**	**+1.0**
PB01				*i*S	**Sn**	**06 16 45.1**	**+0.8**
PB01				AML	AML	06 16 46.8	
	comp=E,728nm,0.2s						
MECH	**Mejillones**	**1.89**	**241**	*i*P	**Pn**	**06 16 30.5**	**-0.1**
MECH				*i*S	**Sn**	**06 16 54.2**	**-0.7**
MECH				AML	AML	06 16 58.4	
	comp=E,479nm,0.2s						
ANCH	**Antofagasta**	**2.19**	**227**	*i*P	**Pn**	**06 16 34.0**	**-0.4**
ANCH				*i*S	**Sn**	**06 17 00.4**	**-1.4**
ANCH				AML	AML	06 17 00.9	
	comp=E,538nm,0.1s			

BAR					*e*Sg	**Sg**	06 37 11.1	+0.3
YMD	**Yuma Desert**	**1.06**	**67**	⇑	*i*P	**Pg**	06 36 60.0	+0.6
SPX	**San Pedro Mart**	**1.11**	**170**		*e*P	**Pg**	06 37 00.3	0.0
SPX					*e*S	**Sg**	06 37 15.5	+0.7
GLA	**Glamis**	**1.17**	**39**		*e*Pg	**Pg**	06 37 00.6	-0.9
GLA					*e*Sg	**Sg**	06 37 15.4	-1.2
GLA	**Glamis** baz=1.2	**1.17**	**39**	⇑	P	**Pg**	06 37 00.4	-1.0
GLA	baz=1.2			⇑	S	**Sg**	06 37 14.6	-2.0
109C	**Camp Elliot, M** baz=1.4	**1.41**	**302**	⇓	P	**Pn**	06 37 04.8	-1.2
109C	baz=1.4			⇑	S	**Sg**	06 37 23.0	-1.3
PFO	**Pinyon Flat Ob** baz=1.6	**1.60**	**337**	⇑	P	**Pn**	06 37 06.8	-1.9
113A	**Mohawk Valley,** baz=1.8	**1.75**	**69**	⇓	P	**Pn**	06 37 08.9	-1.7
Y12C	**Blythe** baz=1.9	**1.88**	**31**	⇑	P	**Pn**	06 37 10.8	-1.8
MURC	**Murrieta** baz=1.9	**1.93**	**319**	⇑	Sb	Sb	06 37 39.1	-0.8
Z13A	**Yuma Proving G** baz=2.0	**2.02**	**58**	⇑	P	**Pn**	06 37 12.9	-1.5
114A	**Black Gap (USA** baz=2.5	**2.45**	**75**	⇓	P	**Pn**	06 37 18.8	-1.6
MWC	**Mount Wilson**	**2.87**	**317**		*e*Pn	**Pb**	06 37 29.9	-1.4
MWC					*e*Sn	**Sb**	06 38 05.7	-1.4
PASC	**Pasadena Art C**	**2.91**	**315**		*e*Pn	**Pb**	06 37 30.2	-1.7
PASC					*e*Sn	**Sb**	06 38 07.2	-0.8
LDFC	**Landfair**	**2.97**	**9**		*e*Pn	**Pn**	06 37 27.8	+0.3
OSI	**Osito Adit**	**3.54**	**315**		*e*Pn	**Pb**	06 37 40.0	-2.6
OSI					*e*Sn	**Sb**	06 38 26.8	+0.7
TUC	**Tucson**	**4.17**	**86**		*e*Pn	**Pn**	06 37 45.8	+1.8
ISA	**Isabella**	**4.20**	**327**		*e*Pn	Pb	06 37 50.1	-3.9
ISA					*e*Sn	**Sn**	06 38 35.9	+1.5
WUAZ	**Wupatki**	**4.92**	**46**		*e*Pn	**Pn**	06 37 55.4	+0.8
CCUT	**Cedar City** comp=E,5.4nm,0.8s	**5.73**	**19**		*e*Pn	**Pn**	06 38 06.6	+1.1
MSU	**Marysvale** comp=E,7.3nm,0.7s	**6.97**	**23**		*e*Pn	Pn	06 38 26.2	+3.4
MVCO	**Mesa Verde** comp=E,5.5nm,0.7s	**7.79**	**48**		*e*Pn	**Pn**	06 38 35.7	+1.8
PV04	**Paradox Valley**	**8.35**	**40**		*e*Pn	**Pn**	06 38 43.9	+2.4
GCMT	**Greycliff** comp=E,8.0nm,0.4s	**14.41**	**17**		*e*Pn	**Pn**	06 40 07.2	+2.8

*ISCJB **28** 06:42:17.9±0.8, 31°.94N±0°.03×50°.59E±0°.03, h3^{km}±5^{km}, mb3.7/10, Error ellipse: s-maj=5.6km s-min=4.3km az=0.6*
*IDC **28** 06:42:17.5±1.0, 31°.90N×50°.48E, h0^{km}, mb3.7/10, mb1 3.9/13, mb1mx3.7/30, mbtmp3.7/13, ML3.4/2, Error ellipse: s-maj=24.3km s-min=18.3km az=144.0*
*CSEM **28** 06:42:19.4±0.2, 31°.97N×50°.58E, h2^{km}, ML3.8, Error ellipse: s-maj=5.1km s-min=4.1km az=172.0*
*TEH **28** 06:42:19.8, 31°.95N×50°.52E, h4^{km}, ML3.8*
*THR **28** 06:42:20.3±1.1, 31°.96N×50°.62E, h14^{km}±11^{km}, ML3.6*

ISC 28 06:42:19.3±1.2, 32°.01N±0°.04×50°.54E±0°.03, h10^{km}±8^{km}, n108, σ1§48/106, mb3.7/10, 9C-13D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**0.74**	**24**	⇓*e*Pg	**Pg**	**06 42 33.4**	**-0.3**
IPIR				*e*Sg	**Sb**	**06 42 45.2**	**+0.3**
IPIR	comp=Z,44μm,0.2s			*e*		06 42 49.8	
IPIR	**Pirpir**	**0.74**	**24**	⇓*e*Pg	**Pg**	**06 42 33.4**	**-0.3**
IPIR				*e*Sg	**Sb**	**06 42 45.2**	**+0.3**
IGAR	**Gharneh**	**1.34**	**72**	*e*Pg	**Pn**	**06 42 43.3**	**-1.0**
IGAR	comp=Z,15μm,0.1s			*e*		06 42 49.7	
IGAR				*e*Sg	**Sg**	**06 43 02.8**	**+0.4**
SHGR	**Shooshtar-Gavs**	**1.48**	**274**	*e*Pg	**Pg**	**06 42 48.8**	**+1.1**
SHGR	**Shooshtar-Gavs**	**1.48**	**274**	*e*Pg	**Pg**	**06 42 48.8**	**+1.1**
IKLH	**Kolahrood**	**1.58**	**34**	*e*Pn	**Pb**	**06 42 49.2**	**+0.4**
IKLH	comp=N,18μm,0.3s			*e*		06 43 18.7	
IKLH	**Kolahrood**	**1.58**	**34**	*e*Pn	**Pb**	**06 42 49.2**	**+0.4**
IZEF	**Zefreh**	**1.76**	**59**	*e*Pn	**Pb**	**06 42 51.0**	**-0.9**
IZEF	comp=Z,4μm,0.3s			*e*		06 42 55.6	
IZEF				*e*Sg	**Sg**	**06 43 16.0**	**+0.1**
IZEF	**Zefreh**	**1.76**	**59**	*e*Pn	**Pb**	**06 42 51.0**	**-0.9**
IZEF				*e*Sg	**Sg**	**06 43 16.0**	**+0.1**
KHMZ	**Khomeyn**	**1.80**	**344**	*e*Pg	**Pg**	**06 42 54.1**	**+0.3**
KHMZ	**Khomeyn**	**1.80**	**344**	*e*Pg	**Pg**	**06 42 54.1**	**+0.3**
NASN	**Na'in**	**2.08**	**67**	*e*Pg	**Pb**	**06 42 57.3**	**-0.1**
NASN	**Na'in**	**2.08**	**67**	*e*Pg	**Pb**	**06 42 57.3**	**-0.1**
ISAD	**Sadrabad**	**2.68**	**91**	*e*Sg	Sg	06 43 44.5	-1.6
ISAD	**Sadrabad**	**2.68**	**91**	*e*Sg	Sg	06 43 44.5	-1.6
IPAR	**Pars**	**3.05**	**134**	*e*Pn	**Pn**	**06 43 08.2**	**+0.2**
IPAR	comp=Z,3μm,0.4s			*e*		06 44 21.2	
IPAR	**Pars**	**3.05**	**134**	*e*Pn	**Pn**	**06 43 08.2**	**+0.2**
IVRN	**Varamin**	**3.14**	**18**	*e*Pn	**Pn**	**06 43 10.6**	**+1.5**
IVRN	comp=Z,2μm,0.3s			*e*		06 43 24.0	
IVRN	**Varamin**	**3.14**	**18**	*e*Pn	**Pn**	**06 43 10.6**	**+1.5**
ICHK	**Chekchek**	**3.29**	**85**	*e*Pn	**Pn**	**06 43 12.1**	**+0.8**
ICHK	comp=Z,2μm,0.3s			*e*		06 43 26.6	
ICHK	**Chekchek**	**3.29**	**85**	*e*Pn	**Pn**	**06 43 12.1**	**+0.8**
IKOM	**Komasi**	**3.34**	**311**	*e*Pn	**Pn**	**06 43 12.8**	**+1.0**
IKOM	comp=Z,6μm,0.7s			*e*		06 44 25.7	
IKOM	**Komasi**	**3.34**	**311**	*e*Pn	**Pn**	**06 43 12.8**	**+1.0**
IRAZ	**Razeghan**	**3.43**	**352**	*e*Pn	**Pn**	**06 43 14.7**	**+1.6**
IRAZ	comp=Z,2μm,0.3s			*e*		06 44 33.2	
IRAZ	**Razeghan**	**3.43**	**352**	*e*Pn	**Pn**	**06 43 14.7**	**+1.6**
ISRV	**Sarvestan**	**3.43**	**139**	*e*Pn	**Pn**	**06 43 13.2**	**0.0**
ISRV	comp=Z,3μm,0.4s			*e*		06 44 38.8	
ISRV	**Sarvestan**	**3.43**	**139**	*e*Pn	**Pn**	**06 43 13.2**	**0.0**
IR3	**Iran Long-Peri**	**3.49**	**7**	*e*Pn	Pn	06 43 17.3	+3.5
IR3				*e*Sg	**Sg**	**06 44 10.4**	**-0.9**
IR3	**Iran Long-Peri**	**3.49**	**7**	*e*Pn	Pn	06 43 17.3	+3.5
IR3				*e*Sg	**Sg**	**06 44 10.4**	**-0.9**
MIB	**Mutribah**	**3.52**	**232**	*e*P	**Pn**	**06 43 15.0**	**+0.9**
MIB	comp=Z,80nm,0.5s			AML	AML	06 44 00.7	
MIB	**Mutribah**	**3.52**	**232**	*e*P	**Pn**	**06 43 15.0**	**+0.9**
IMEH	**Mehriz**	**3.53**	**99**	*e*Pn	**Pn**	**06 43 15.5**	**+1.0**
IMEH	comp=Z,1μm,0.4s			*e*		06 44 27.3	
IMEH	**Mehriz**	**3.53**	**99**	*e*Pn	**Pn**	**06 43 15.5**	**+1.0**
KBD	**Kabd**	**3.74**	**222**	*e*P	**Pn**	**06 43 18.1**	**+1.0**
KBD	comp=Z,49nm,0.4s			AML	AML	06 44 10.2	
KBD	**Kabd**	**3.74**	**222**	*e*P	**Pn**	**06 43 18.1**	**+1.0**
IDMV	**Damavand**	**3.77**	**19**	*e*Pn	**Pn**	**06 43 19.5**	**+1.6**
IDMV	comp=Z,1μm,0.5s			*e*		06 44 42.0	
IDMV	**Damavand**	**3.77**	**19**	*e*Pn	**Pn**	**06 43 19.5**	**+1.6**
TEH	**Tehran**	**3.79**	**10**	*e*Pn	**Pn**	**06 43 18.8**	**+0.8**
TEH				*e*Sg	**Sg**	**06 44 19.7**	**-1.3**
TEH	**Tehran**	**3.79**	**10**	*e*Pn	**Pn**	**06 43 18.8**	**+0.8**
TEH				*e*Sg	**Sg**	**06 44 19.7**	**-1.3**
DAMV	**Damavand**	**3.81**	**18**	*e*Pn	Pn	06 43 21.8	+3.4
DAMV	comp=E,74nm,0.5s			AML	AML	06 44 32.2	
DAMV	comp=N,89nm,0.5s			AML	AML	06 44 34.0	
DAMV	**Damavand**	**3.81**	**18**	*e*Pn	Pn	06 43 21.8	+3.4
NAY	**Al-Naaiem**	**3.95**	**227**	*e*P	**Pn**	**06 43 21.2**	**+1.1**
NAY	**Al-Naaiem**	**3.95**	**227**	*e*P	**Pn**	**06 43 21.2**	**+1.1**
IVIS	**Veis**	**3.98**	**310**	*e*Pn	**Pn**	**06 43 21.5**	**+0.9**
IVIS	comp=Z,1μm,0.6s			*e*		06 44 49.8	
IVIS	**Veis**	**3.98**	**310**	*e*Pn	**Pn**	**06 43 21.5**	**+0.9**
RDF	**Al-Radifah**	**4.01**	**221**	*e*P	**Pn**	**06 43 21.4**	**+0.5**
RDF	comp=Z,69nm,0.6s			AML	AML	06 44 17.4	
RDF	**Al-Radifah**	**4.01**	**221**	*e*P	**Pn**	**06 43 21.4**	**+0.5**
IGHG	**Ghaleghazi**	**4.06**	**306**	*e*Pn	**Pn**	**06 43 23.2**	**+1.4**
IGHG	comp=Z,2μm,0.4s			*e*		06 44 47.2	
IGHG	**Ghaleghazi**	**4.06**	**306**	*e*Pn	**Pn**	**06 43 23.2**	**+1.4**
IFIR	**Firoozkooh**	**4.07**	**26**	*e*Pn	Pn	06 43 25.0	+3.0
IFIR	comp=Z,512nm,0.2s			*e*		06 43 41.5	
IFIR	**Firoozkooh**	**4.07**	**26**	*e*Pn	Pn	06 43 25.0	+3.0
SNGE	**Sanandaj**	**4.07**	**320**	*e*Pn	Pn	06 43 24.9	+3.0
SNGE	comp=E,68nm,0.6s			AML	AML	06 44 47.3	
SNGE	comp=N,95nm,0.7s			AML	AML	06 44 48.9	
SNGE	**Sanandaj**	**4.07**	**320**	*e*Pn	Pn	06 43 24.9	+3.0
ILIN	**Lien**	**4.17**	**315**	*e*Pn	**Pn**	**06 43 24.3**	**+1.0**
ILIN	comp=Z,749nm,0.2s			*e*		06 44 51.1	
ILIN	**Lien**	**4.17**	**315**	*e*Pn	**Pn**	**06 43 24.3**	**+1.0**
IBAF	**Bafgh**	**4.30**	**94**	*e*Pn	**Pn**	**06 43 25.9**	**+0.8**
IBAF	comp=Z,786nm,0.4s			*e*		06 44 48.8	
IBAF	**Bafgh**	**4.30**	**94**	*e*Pn	**Pn**	**06 43 25.9**	**+0.8**
IDHR	**Dehrash**	**4.39**	**309**	*e*Pn	**Pn**	**06 43 27.5**	**+1.2**
IDHR	comp=Z,2μm,0.4s			*e*		06 43 45.5	
IDHR	**Dehrash**	**4.39**	**309**	*e*Pn	**Pn**	**06 43 27.5**	**+1.2**
IPRN	**Peran**	**4.48**	**19**	*e*Pn	**Pn**	**06 43 28.4**	**+0.9**
IPRN	comp=Z,1μm,0.2s			*e*		06 43 53.9	
IALA	**Alasht**	**4.48**	**24**	*e*Pn	**Pn**	**06 43 27.9**	**+0.2**
IALA	comp=Z,695nm,0.2s			*e*		06 43 53.7	
IALA	**Alasht**	**4.48**	**24**	*e*Pn	**Pn**	**06 43 27.9**	**+0.2**
ZNJK	**Zanjan**	**4.90**	**342**	*e*Pn	Pn	06 43 36.8	+3.4
ZNJK	**Zanjan**	**4.90**	**342**	*e*Pn	Pn	06 43 36.8	+3.4
IGLO	**Ghaloghah**	**5.25**	**30**	*e*Pn	**Pn**	**06 43 39.5**	**+1.4**
IGLO	comp=Z,788nm,0.6s			*e*		06 45 39.2	
BHD	**Baghdad**	**5.34**	**285**	*e*Pn	Pn	06 43 36.0	-3.2
BHD				*e*Sn	**Sn**	**06 44 36.0**	**-4.9**
BHD				*e*Lg	Lg	06 45 03.0	
BHD				*i* Sg	**Sg**	**06 45 10.0**	**-1.0**
BHD	**Baghdad**	**5.34**	**285**	*e*Pn	Pn	06 43 36.0	-3.2
BHD				*i* Sg	**Sg**	**06 45 10.0**	**-1.0**
ITEG	**Tejag**	**7.00**	**81**	*e*Pn	**Pn**	**06 44 02.4**	**+0.3**
ITEG	comp=Z,280nm,0.5s			*e*		06 46 38.5	
ITEG	**Tejag**	**7.00**	**81**	*e*Pn	**Pn**	**06 44 02.4**	**+0.3**
IKOO	**Kooshah**	**7.19**	**84**	*e*Pn	**Pn**	**06 44 05.1**	**+0.3**
IKOO	**Kooshah**	**7.19**	**84**	*e*Pn	**Pn**	**06 44 05.1**	**+0.3**
ISFR	**Sfrayin**	**7.95**	**49**	*e*Pn	**Pn**	**06 44 15.8**	**+0.5**
ISFR	comp=Z,152nm,0.3s			*e*		06 44 46.6	
ISFR	**Sfrayin**	**7.95**	**49**	*e*Pn	**Pn**	**06 44 15.8**	**+0.5**
ASF	**Jabal al Asfar** comp=Z,0.4nm,0.3s,baz=298,slow=10,SNR=2.9	**11.57**	**274**	Pn	**Pn**	**06 45 02.2**	**-2.5**
BRTR	**Keskin Array B**	**15.70**	**304**	Pn	**Pn**	**06 46 02.0**	**+1.2**
AKTO	**Aktyubinsk** comp=Z,0.1nm,0.3s,baz=186,slow=17,SNR=3.6	**19.23**	**15**	P	**Pn**	**06 46 44.6**	**-0.1**
TIRR	**Tirgusor**	**21.29**	**312**	⇑*i*P	**P**	**06 47 09.0**	**+3.0**
TIRR	**Tirgusor**	**21.29**	**312**	⇑*i*P	**P**	**06 47 09.0**	**+3.0**
CFR	**Carcaliu**	**21.81**	**313**	⇓*i*P	**P**	**06 47 12.4**	**+0.8**
CFR	**Carcaliu**	**21.81**	**313**	⇓*i*P	**P**	**06 47 12.4**	**+0.8**
VRI	**Vrincioaia**	**23.01**	**314**	⇓*i*P	**P**	**06 47 28.5**	**+4.1**
PLOR	**Plostina**	**23.05**	**314**	⇑*i*P	**P**	**06 47 28.2**	**+3.3**
PLOR	**Plostina**	**23.05**	**314**	⇑*i*P	**P**	**06 47 28.2**	**+3.3**
MLR	**Muntele Rosu** comp=Z,0.8nm,0.6s,baz=140,slow=16,SNR=6.3	**23.32**	**312**	P	**P**	**06 47 28.9**	**+1.2**
MLR	**Muntele Rosu**	**23.32**	**312**	⇓*i*P	**P**	**06 47 30.0**	**+2.3**
MLR	**Muntele Rosu**	**23.32**	**312**	⇓*i*P	**P**	**06 47 30.0**	**+2.3**
TESR		**23.37**	**315**	⇓*i*P	**P**	**06 47 31.1**	**+3.0**
TESR		**23.37**	**315**	⇓*i*P	**P**	**06 47 31.1**	**+3.0**
VOIR		**23.86**	**312**	⇑*i*P	**P**	**06 47 34.7**	**+1.7**
VOIR		**23.86**	**312**	⇑*i*P	**P**	**06 47 34.7**	**+1.7**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.3s,baz=118,slow=7.2,SNR=6.0	**24.44**	**326**	P	**P**	**06 47 38.2**	**0.0**
BURAR	**Bucovina Array**	**24.77**	**316**	⇑*i*P	**P**	**06 47 41.2**	**-0.2**
BURAR	**Bucovina Array**	**24.77**	**316**	⇑*i*P	**P**	**06 47 41.2**	**-0.2**
GZR	**Gura Zlata**	**25.31**	**310**	⇓*i*P	**P**	**06 47 48.0**	**+1.8**
GZR	**Gura Zlata**	**25.31**	**310**	⇓*i*P	**P**	**06 47 48.0**	**+1.8**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.4s,baz=224,slow=4.1,SNR=5.0	**25.44**	**29**	P	**P**	**06 47 47.9**	**+0.6**
DRGR		**25.91**	**313**	⇓*i*P	**P**	**06 47 54.4**	**+2.7**
DRGR		**25.91**	**313**	⇓*i*P	**P**	**06 47 54.4**	**+2.7**
TRPA	**Tarpa**	**26.60**	**315**	⇑*i*P	**P**	**06 48 01.8**	**+4.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=237,slow=8.8,SNR=3.6	**28.41**	**49**	P	**P**	**06 48 14.8**	**+0.7**
FINES	**FINESS Array B** comp=Z,1.5nm,0.5s,baz=138,slow=11,SNR=7.8	**33.47**	**339**	P	**P**	**06 48 58.8**	**+0.4**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.6s,baz=122,slow=8.6	**38.68**	**330**	P	**P**	**06 49 42.7**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.6s,baz=122,slow=8.3,SNR=7.0	**38.68**	**330**	P	**P**	**06 49 42.7**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.7nm,0.7s,baz=121,slow=8.3,SNR=6.6	**38.68**	**330**	P	**P**	**06 49 42.9**	**-0.2**
SONM	**Songino Array** comp=Z,0.3nm,0.8s,baz=317,slow=5.9,SNR=3.0	**44.68**	**52**	P	**P**	**06 50 33.5**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.7s,baz=55,slow=7.9,SNR=9.7	**48.40**	**259**	P	**P**	**06 51 01.2**	**-0.8**
BOSA	**Boshof** comp=Z,2.2nm,0.5s,baz=12,slow=9.3,SNR=8.6	**64.90**	**204**	P	**P**	**06 52 58.1**	**-1.0**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=16,slow=5.5,SNR=4.0	**85.08**	**353**	P	**P**	**06 54 53.7**	**-1.4**

IDC 28 07:10:10.8±1.2, 15°.59N×145°.56E, h200^{km}±15^{km}, mb3.5/10, mb1 3.6/11, mb1mx3.4/24, mbtmp3.5/11, MS3.1/1, Ms1 3.1/1, ms1mx2.2/22, Error ellipse: s-maj=21.0km s-min=20.2km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 35nm,0.3s,baz=134,slow=5.1,SNR=40	**2.10**	**199**	P	Pn	07 10 50.6	+0.3
GUMO	42nm,0.3s,baz=22,slow=21,SNR=6.6			S	Sn	07 11 21.4	+0.2
CBIJ	**Chichi jima** comp=Z,102nm,21.3s,baz=115,slow=33	**11.88**	**345**	LR	LR	07 16 37.5	
KSRS	**Korea Array** 0.6nm,0.5s,baz=138,slow=9.3,SNR=3.5	**26.80**	**328**	P	P	07 15 33.0	+0.5
FITZ	**Fitzroy Crossi** 2.9nm,0.8s,baz=9.5,slow=12,SNR=2.8	**38.80**	**211**	P	P	07 17 16.7	+0.2
SONM	**Songino Array** 0.8nm,0.6s,baz=133,slow=8.3,SNR=8.3	**45.51**	**323**	P	P	07 18 11.2	+0.7
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=87,slow=7.3,SNR=4.2	**60.41**	**324**	P	P	07 19 58.8	-0.3
MKAR	**Makanchi Array** 0.9nm,0.3s,baz=91,slow=8.6,SNR=25	**60.54**	**315**	P	P	07 20 00.1	0.0
KURK	**Kurchatov** 2.4nm,0.4s,baz=99,slow=6.9,SNR=36	**63.51**	**319**	P	P	07 20 19.7	0.0
ILAR	**Eielson Array** 0.9nm,0.4s,baz=250,slow=5.8,SNR=28	**66.49**	**26**	P	P	07 20 38.6	-0.1
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=287,slow=5.1,SNR=12	**80.79**	**28**	P	P	07 22 02.1	+0.2
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=270,slow=6.3,SNR=3.3	**85.16**	**52**	P	P	07 22 25.5	+0.4
FINES	**FINESS Array B** 0.9nm,0.7s,baz=12,slow=7.1,SNR=3.0	**89.64**	**335**	P	P	07 22 44.2	-1.6

*ISCJB **28** 07:50:24.3±0.8, 14°.97N±0°.07×92°.99W±0°.04, h92^{km}±6^{km}, mb3.3/3, Error ellipse: s-maj=12.4km s-min=7.1km az=6.6*
*MEX **28** 07:50:26.2±1.4, 14°.93N×93°.01W, h86^{km}±15^{km}, MD4.3*
*NEIC **28** 07:50:26.2, 14°.93N×93°.01W, h86^{km}, MD4.3(MEX), After MEX.*
*IDC **28** 07:50:36.1±6.5, 16°.15N×93°.11W, h103^{km}±42^{km}, mb3.0/3, mb1 3.3/4, mb1mx3.1/21, mbtmp2.8/4, Error ellipse: s-maj=84.5km s-min=58.6km az=30.0*

ISC 28 07:50:25.3±1.0, 14°.97N±0°.07×92°.97W±0°.04, h84^{km}±8^{km}, n28, σ2§02/40, mb3.3/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**95**	*e*P	**Pn**	**07 50 40.9**	**-0.1**
THIG				*i* S	**Sn**	**07 50 52.9**	**+0.1**
THIG		**0.68**	**95**	*e*P	**Pn**	**07 50 40.9**	**-0.1**
THIG				*i* S	**Sn**	**07 50 52.9**	**+0.1**
PCIG		**0.77**	**341**	*e*P	**Pn**	**07 50 42.7**	**+0.7**
PCIG				*i* S	**Sn**	**07 50 54.9**	**+0.4**
PCIG		**0.77**	**341**	*e*P	**Pn**	**07 50 42.7**	**+0.7**
PCIG				*i* S	**Sn**	**07 50 54.9**	**+0.4**
CCIG	**Comitan**	**1.53**	**31**	*i* P	**Pn**	**07 50 51.9**	**+0.6**
CCIG				*i* S	**Sn**	**07 51 11.1**	**+0.2**
CCIG	**Comitan**	**1.53**	**31**	*i* P	**Pn**	**07 50 51.9**	**+0.6**
CCIG				*i* S	**Sn**	**07 51 11.1**	**+0.2**
TGIG		**1.80**	**355**	*i* P	**Pn**	**07 50 54.5**	**-0.3**
TGIG				*i* S	**Sn**	**07 51 16.5**	**-0.7**
TGIG		**1.80**	**355**	*i* P	**Pn**	**07 50 54.5**	**-0.3**
TGIG				*i* S	**Sn**	**07 51 16.5**	**-0.7**
CMIG	**Matias Romero**	**2.80**	**319**	P	**Pn**	**07 51 09.2**	**+1.2**
	8.2nm,0.3s,baz=132,slow=12,SNR=171						
CMIG				S	Sn	07 51 32.6	-8.3
CMIG	**Matias Romero** 18nm,0.3s,baz=135,slow=11,SNR=9.5	**2.80**	**319**	*e*P	**Pn**	**07 51 09.2**	**+1.2**
CMIG				*i* S	**Sn**	**07 51 40.0**	**-0.8**
CMIG	**Matias Romero**	**2.80**	**319**	*e*P	**Pn**	**07 51 09.2**	**+1.2**
CMIG				*i* S	**Sn**	**07 51 40.0**	**-0.8**
HUIG	**Huatulco**	**3.13**	**285**	*e*P	**Pn**	**07 51 13.3**	**+0.8**
HUIG				*i* S	**Sn**	**07 51 46.2**	**-2.7**
HUIG	**Huatulco**	**3.13**	**285**	*e*P	**Pn**	**07 51 13.3**	**+0.8**
HUIG				*i* S	**Sn**	**07 51 46.2**	**-2.7**
VHO	**Vista Hermosa**	**4.18**	**300**	*i* P	Pn	07 51 30.2	+3.3
VHO				*i* S	**Sn**	**07 52 14.6**	**-0.2**
VHO	**Vista Hermosa**	**4.18**	**300**	*i* P	Pn	07 51 30.2	+3.3
VHO				*i* S	**Sn**	**07 52 14.6**	**-0.2**
SCIG	**Sabancuy**	**4.32**	**23**	*e*P	Pn	07 51 37.8	+9.1
SCIG	**Sabancuy**	**4.32**	**23**	*e*P	Pn	07 51 37.8	+9.1
PNIG	**Pinotepa**	**5.17**	**287**	*i* P	Pn	**07 51 41.7**	**+1.5**
PNIG				*i* S	**Sn**	**07 52 38.0**	**-0.5**
PNIG	**Pinotepa**	**5.17**	**287**	*i* P	Pn	**07 51 41.7**	**+1.5**
PNIG				*i* S	**Sn**	**07 52 38.0**	**-0.5**
TEIG	**Tepich**	**6.88**	**40**	*e*P	**Pn**	**07 52 02.4**	**-1.1**
TEIG	**Tepich**	**6.88**	**40**	*e*P	**Pn**	**07 52 02.4**	**-1.1**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=157,slow=12,SNR=2.6	**17.38**	**327**	P	**Pn**	**07 54 19.1**	**-3.3**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=137,slow=8.6,SNR=2.9	**32.33**	**321**	P	**P**	**07 56 49.0**	**+2.3**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=151,slow=7.0,SNR=7.0	**49.87**	**347**	P	**P**	**07 59 08.5**	**-1.2**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=132,slow=4.7,SNR=7.9	**61.58**	**337**	P	**P**	**08 00 34.2**	**+0.7**
VNA3	**Neumayer Olymp**	**101.91**	**161**	*e*	**Pdif**	**08 04 08.8**	**-0.2**
VNA2	**Neumayer--Watz** baz=330,slow=16	**102.59**	**160**	*e*	**Pdif**	**08 04 10.8**	**-1.2**
SNAA	**Sanae**	**104.14**	**161**	*e*	**Pdif**	**08 04 28.6**	**+10**

*BJI **28** 07:53:25.0, 9°.89S×124°.63E, h35^{km}, mB5.7/51, mb5.6/71, Ms5.1/64, Ms7 4.9/57*
*ISCJB **28** 07:53:34.4±0.1, 9°.02S±0°.02×124°.16E±0°.02, h50^{km}, mb5.7/164, MS4.7/40, Error ellipse: s-maj=3.4km s-min=3.0km az=32.3*
*BGS **28** 07:53:37.7±2.8, 8°.94S×124°.16E, h66^{km}, mb5.6(NEIC)*
*MOS **28** 07:53:37.3±1.4, 8°.84S×124°.10E, h69^{km}, mb5.8/72, MS4.6/12, Error ellipse: s-maj=8.9km s-min=5.4km az=110.7*
*NEIC **28** 07:53:38.2±0.9, 8°.94S×124°.16E, h66^{km}±7^{km}, mb5.6/77, MW5.7, Error ellipse: s-maj=5.8km s-min=3.9km az=58.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}0.38; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-0.45; $M_{r\theta}$1.90; $M_{\theta\phi}$1.63; $M_{r\phi}$3.22; Best double couple: $M_0$4.10000×10^{17} NP1: ϕ_s200.00000°, δ90.00000°, λ-111.00000°. NP2: ϕ_s110.00000°, δ21.00000°, λ-1.00000°. Principal axes: T 4.6000, Plg41.0000°, Azm310.0000°; N -1.3200, Plg20.0000°, Azm200.0000°; P -3.2800, Plg41.0000°, Azm90.0000°;*
NEIC Felt [III] on Pulau Alor and at Ende, Flores and at Kupang, Timor. Also felt [III] at Dili, Timor-Leste and [II] at Darwin, Australia.
*DJA **28** 07:53:39, 9°.30S×124°.15E, h73^{km}, Mw5.9/90*
*IDC **28** 07:53:40.5±1.0, 8°.85S×124°.10E, h82^{km}±7^{km}, mb5.2/30, mb1 5.2/31, mb1mx5.2/31, mbtmp5.2/31, MS4.8/16, Ms1 4.8/16, ms1mx4.6/25, Error ellipse: s-maj=10.7km s-min=7.3km az=57.0*

ISC 28 07:53:37.0±0.3, 8°.98S±0°.03×124°.09E±0°.04, h59^{km}±2^{km}, h59^{km}:pP-P, n1008, σ1§62/1422, mb5.7/165, MS4.7/41, 331C-304D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.86**	**280**	P	Pn	07 54 11.1	+4.6
BBSI	**Bau Bau**	**3.78**	**336**	P	Pn	07 54 39.4

2µm,0.7s,23µm
MBWA Marble Bar 12.82 199 *e*P **Pn** **07 56 34.2 -2.3**
MBWA Marble Bar 12.82 199 *e*Pn **Pn** **07 56 34.1 -2.3**
MBWA *e*Sn Sn 07 58 46.5 -11
UGM Wanagama 13.46 273 P **P** **07 56 52.0 -0.7**
1µm,1.0s,14µm
SMRI Semarang 13.65 277 P **P** **07 56 51.8 -3.0**
1µm,1.4s,11µm
YOGI Yogyakarta 13.70 274 P **P** **07 56 54.7 -0.6**
2µm,0.9s,20µm
PBKI Pangkalan Bun 13.83 296 P **P** **07 56 58.8 +2.0**
1µm,1.2s,14µm
BAKI Biak 14.25 58 P **Pn** **07 56 56.5 +0.7**
1µm,0.8s,9µm
BJII Banjamegara 14.33 276 P **Pn** **07 56 57.8 +0.9**
313nm,0.9s,7µm
TSM Tawau 14.57 335 P **P** **07 57 06.7 +1.6**
WRA Warramunga Arr 14.73 139 P Pn 07 56 56.0 -6.1
48nm,0.3s,baz=309,slow=14,SNR=235
WRA S Sn 07 59 24.4 -20
127nm,0.3s,baz=310,slow=24,SNR=19
WRA LR LR 08 03 40.2
comp=Z,12µm,18.9s,baz=320,slow=40
WRA Warramunga Arr 14.73 139 P Pn 07 56 56.0 -6.1
WRA pmax pmax
comp=Z,48nm,0.3s
WRA MLR MLR
comp=Z,12µm,18.9s
WRA Warramunga Arr 14.73 139 P Pn 07 56 56.0 -6.1
WRA S Sn 07 59 24.4 -20
WRAB Tennant Creek 14.73 139 *e*P Pn 07 56 56.3 -5.8
WRAB Tennant Creek 14.73 139 *e*Pn Pn 07 56 56.3 -5.8
WRAB *e*Sn Sn 07 59 27.7 -17
WRAB Tennant Creek 14.73 139 Pn Pn 07 56 56.0 -6.1
comp=Z,3µm,0.6s
WB2 Warramunga Arr 14.74 139 *e*Pn Pn 07 56 56.4 -5.8
WB2 *e*Sn Sn 07 59 26.0 -18
TGJI Tegal 14.97 277 P **Pn** **07 57 05.3 0.0**
comp=Z,471nm,1.3s,comp=Z,9µm
WAMI Wamena 15.38 72 P **P** **07 57 13.5 -0.6**
comp=Z,2µm,0.8s,comp=Z,20µm
STKI Sintang 15.44 305 P **P** **07 57 18.4 +3.6**
comp=Z,508nm,2.1s,comp=Z,12µm
MATI Mati 15.97 8 *e*P **P** **07 57 21.6 +1.1**
DAV Davao City (W) 16.01 5 P **P** **07 57 23.0 +2.0**
baz=224,slow=21,SNR=7.2
DAV LR LR 08 03 18.1
comp=Z,5µm,21.3s,baz=21,slow=36
DAV Davao City (W) 16.01 5 P **P** **07 57 23.0 +2.0**
SDKM Sandakan 16.07 334 P **P** **07 57 25.9 +4.2**
CTBH Cotabato--PC H 16.09 1⇓ *i*P **P** **07 57 25.8 +3.8**
SMPI Sarmi 16.12 65 P **Pn** **07 57 19.3 -0.6**
comp=Z,306nm,1.2s,comp=Z,30µm
CISI Cisompet, Garu 16.17 274 P **Pn** **07 57 19.6 -1.0**
comp=Z,2µm,0.7s,comp=Z,21µmcomp=Z,20µm
BTM Bintulu 16.33 317 P P 07 57 30.0 +5.4
SBUM Sibu 16.40 313 P **P** **07 57 29.1 +3.8**
SBUM Sibu 16.40 313 P **P** **07 57 29.1 +3.8**
comp=Z,385nm,2.0s,comp=Z,12µmcomp=Z,24µm
LEM Lembang 16.45 276 P **Pn** **07 57 25.0 +0.7**
comp=Z,1µm,0.9s,comp=Z,18µm
IPIL Ipil 16.73 355 *e*P **P** **07 57 33.4 +4.4**
PAGZ Pagadian 16.73 358 *e*P P 07 57 34.0 +4.9
BUKP Musuan 16.77 3 *e*P **P** **07 57 32.6 +3.0**
KKM Kota Kinabalu 16.86 332⇑ *i*P **P** **07 57 34.6 +4.0**
comp=Z,12µm,3.0s
KKM Kota Kinabalu 16.86 332 P P 07 57 35.5 +4.9
KKM Kota Kinabalu 16.86 332 P P 07 57 35.4 +4.8
comp=Z,829nm,2.5s,comp=Z,24µmcomp=Z,27µm
KSM Kuching 17.22 306⇑ *e*P **P** **07 57 36.8 +2.4**
comp=Z,8µm,2.6s
KSM *e*ScP **ScP** **08 05 44.0 -0.8**
KSM Kuching 17.22 306 P **P** **07 57 38.6 +4.2**
KSM Kuching 17.22 306 P **P** **07 57 38.9 +4.5**
comp=Z,786nm,1.9s,comp=Z,12µm
CBJI Citeko 17.27 277 P **Pn** **07 57 33.9 -0.4**
comp=Z,8µm,0.8s,comp=Z,67µm
CGP Cagayan de Oro 17.33 2 *e*P **P** **07 57 39.8 +4.1**
AS31 Alice Springs 17.36 148 *e*Pn **Pn** **07 57 31.2 -4.2**
AS31 *e*Sn Sn 08 00 31.9 -16
ASAR Alice Springs 17.36 148 P **Pn** **07 57 30.9 -4.5**
comp=Z,35nm,0.3s,baz=318,slow=10,SNR=258
ASAR S Sn 08 00 30.1 -18
comp=Z,15nm,0.3s,baz=325,slow=17,SNR=4.1
ASAR Alice Springs 17.36 148 P **Pn** **07 57 31.0 -4.5**
ASAR pmax pmax
comp=Z,35nm,0.3s
ASAR Alice Springs 17.36 148 P **Pn** **07 57 30.9 -4.5**
ASAR S Sn 08 00 30.1 -18
KDM Kudat 17.37 335 P P 07 57 41.7 +5.7
TPI Tanjungpandan 17.47 290 P P 07 57 45.5 +8.3
comp=Z,219nm,1.6s,comp=Z,3µm
SKJI Sukabumi 17.47 275 P **P** **07 57 37.9 +0.6**
comp=Z,3µm,1.1s,comp=Z,26µm
JAY Jayapura 17.73 70 P **P** **07 57 41.0 +0.9**
comp=Z,510nm,1.7s,comp=Z,10µm
BUTP Butuan 17.89 5 *e*P **Pn** **07 57 46.5 +4.6**
SBJI Serang 18.03 278 P **Pn** **07 57 45.5 +1.9**
comp=Z,710nm,1.7s,comp=Z,19µm
CGJI Cibinong 18.38 276 P **P** **07 57 47.3 +0.1**
comp=Z,1µm,0.7s,comp=Z,21µm
RBSI Rajabasa 18.46 278 P **Pn** **07 57 50.4 +1.6**
comp=Z,309nm,0.8s,comp=Z,3µm
MSLP Maasin 19.00 2 *e*P **Pn** **07 57 59.1 +3.8**
PPBI Pangkal Pinang 19.10 290 P **Pn** **07 57 56.5 0.0**
comp=Z,322nm,1.3s
COEN Coen 19.34 107 *e*Pn **P** **07 57 57.3 -0.5**
comp=Z,3µm,0.9s
KLI Kotabumi 19.52 281 P **Pn** **07 58 01.4 -0.1**
comp=Z,507nm,1.4s,comp=Z,8µm
GUIM Jordan 19.53 356 *e*P **Pn** **07 58 03.6 +2.0**
OCLP Ormoc 19.91 2 *e*P **Pn** **07 58 08.8 +2.8**
CUYO Cuyo Island 19.93 351 *e*P **Pn** **07 58 09.6 +3.3**
PLP Palo 20.03 3⇓ *e*P Pn 07 58 06.9 -0.6
LWLI Liwa 20.26 280 P **P** **07 58 06.9 -1.1**
comp=Z,751nm,0.8s,comp=Z,14µm
BUSP Coron 21.20 349 *e*P **P** **07 58 22.0 +4.1**
OTRP Odiongan 21.30 354 *e*P **P** **07 58 22.3 +3.4**
MNAI Manna 21.48 281 P P 07 58 31.1 +10
FORT Forrest 22.00 171 *e*P **P** **07 58 25.1 -1.3**
FORT *e*S S 08 02 17.9 -8.0
FORT Forrest 22.00 171 *e*P **P** **07 58 25.6 -0.8**
comp=Z,614nm,0.8s
KSI Kapahiang 22.00 283 P **P** **07 58 27.4 +0.8**
comp=Z,301nm,0.9s,comp=Z,11µm
AUQP San Andres 22.20 356 *e*P P 07 58 33.6 +5.0
BLDU Ballidu 22.60 197 *e*P **P** **07 58 31.8 -1.0**
PMG Port Moresby 22.78 93 P **P** **07 58 34.9 +0.1**
comp=Z,121nm,0.8s,baz=262,slow=7.4,SNR=18
PMG S **S** **08 02 40.6 +0.9**
comp=Z,72nm,0.9s,baz=163,slow=20,SNR=6.1
PMG Port Moresby 22.78 93*c**e*P **P** **07 58 32.0 -2.8**
PMG pmax pmax
comp=Z,304nm,2.5s
PMG Port Moresby 22.78 93 *e*P **P** **07 58 34.6 -0.2**
comp=Z,877nm,0.9s
PMG S **S** **08 02 40.6 +0.9**
PMG Port Moresby 22.78 93 P **P** **07 58 35.0 +0.1**
comp=Z,852nm,0.9s,comp=Z,8µm
MYKOM Kota Tinggi 22.83 297 P **P** **07 58 37.8 +2.5**
MYKOM Kota Tinggi 22.83 297 P **P** **07 58 37.6 +2.2**
comp=Z,517nm,1.3s,comp=Z,8µm
LUBP Lubang 22.89 350 *e*P **P** **07 58 38.0 +2.1**
TGY Tagaytay City 23.14 352 P **P** **07 58 39.7 +1.2**
comp=Z,365nm,0.4s,baz=163,slow=11,SNR=11
TGY Tagaytay City 23.14 352 P **P** **07 58 39.7 +1.2**
TGY pmax pmax
comp=Z,365nm,0.4s
TGY Tagaytay City 23.14 352 P **P** **07 58 39.7 +1.2**
KLBR Kellerberin 23.26 194 *e*P **P** **07 58 38.0 -1.5**
KLBR *e*S **S** **08 02 42.1 -5.2**
KGM Kluang 23.40 297 P **P** **07 58 43.2 +2.2**
KRJI Kerinci 23.52 286 P **P** **07 58 41.7 -0.5**
comp=Z,661nm,1.0s,comp=Z,9µm
CTA Charters Tower 24.10 120 P **P** **07 58 48.0 +0.7**
comp=Z,134nm,0.8s,baz=291,slow=12,SNR=74
CTA S **S** **08 03 01.8 +0.7**
comp=Z,13nm,0.6s,baz=255,slow=20,SNR=1.6
CTA LR LR 08 09 00.4
comp=Z,4µm,19.0s,baz=303,slow=38
CTA Charters Tower 24.10 120 *e*P **P** **07 58 47.1 -0.3**
CTA *e*S **S** **08 02 59.8 -1.3**
CTA Charters Tower 24.10 120 P **P** **07 58 48.0 +0.7**
CTA S **S** **08 03 01.8 +0.7**
CTA pmax pmax
comp=Z,134nm,0.8s
CTA smax smax
comp=N,13nm,0.6s
CTA MLR MLR
comp=Z,4µm,19.0s
CTA Charters Tower 24.10 120 P **P** **07 58 48.0 +0.7**
CTA S **S** **08 03 01.8 +0.7**
CTAO Charters Tower 24.10 120 *e*P **P** **07 58 47.0 -0.3**
CTAO pmax pmax
comp=Z,824nm,1.7s
CTAO Charters Tower 24.10 120 *e*P **P** **07 58 47.0 -0.3**
comp=Z,824nm,1.7s
NWAO Narrogin (SRO) 24.66 194 P **P** **07 58 52.0 -0.3**
comp=Z,102nm,0.8s,baz=20,slow=9.9,SNR=88
NWAO S **S** **08 03 12.0 +2.2**
comp=Z,22nm,0.6s,baz=31,slow=18,SNR=2.0
NWAO LR LR 08 10 30.3
comp=Z,3µm,18.4s,baz=15,slow=41
NWAO Narrogin (SRO) 24.66 194 P **P** **07 58 52.0 -0.3**
NWAO S **S** **08 03 12.0 +2.2**
NWAO pmax pmax
comp=Z,102nm,0.8s
NWAO smax smax
comp=N,22nm,0.6s
NWAO MLR MLR
comp=Z,3µm,18.5s
NWAO Narrogin (SRO) 24.66 194 *e*P **P** **07 58 51.7 -0.5**
comp=Z,116nm,0.9s
NWAO S **S** **08 03 12.0 +2.2**
NWAO *e*S S 08 03 13.9 +4.1
BALP Baler 24.69 354 *e*P **P** **07 58 54.2 +1.6**
BKNI Bangkinang 24.75 291 P **P** **07 58 56.5 +3.2**
comp=Z,773nm,1.3s,comp=Z,8µm
PDSI Padang 24.85 288 P **P** **07 58 50.8 -3.4**
SCZP Santa Cruz 24.94 350 *e*P **P** **07 58 54.4 -0.5**
FRIM Kepong 25.47 297 P **P** **07 59 02.0 +2.2**
BOLP Bolinao 25.53 351 *e*P **PnPn** **07 59 41.6 +2.8**
CAUP Cauayan 25.85 355 *e*P P 07 59 08.7 +5.5
BBOO Buckleboo 26.17 157 *e*P **P** **07 59 05.6 -0.4**
comp=Z,4µm,0.7s
MNSI Mandailing Nat 26.28 290 P **P** **07 59 06.4 -0.7**
comp=Z,191nm,0.7s,comp=Z,9µm
IPM Ipoh 26.60 299 *e*P **P** **07 59 11.2 +1.1**
comp=Z,88nm,1.0s
IPM *e*PcP **PcP** **08 02 34.8 +1.5**
IPM Ipoh 26.60 299 P **P** **07 59 11.6 +1.6**
ABRA Dolores 26.67 353 *e*P P 07 59 16.4 +5.8
COCO West Island 26.97 261 *i* P **P** **07 59 16.4 +3.0**
COCO West Island 26.97 261 *e*P **P** **07 59 15.8 +2.4**
comp=Z,984nm,1.4s
COCO West Island 26.97 261 P **P** **07 59 16.5 +3.0**
comp=Z,2µm,1.6s,SNR=5.6
COCO West Island 26.97 261 P **P** **07 59 16.0 +2.6**
comp=Z,405nm,1.4s,comp=Z,6µm
PSI Prapat 27.68 294 P **P** **07 59 19.7 -0.2**
comp=Z,95nm,1.1s,comp=Z,2µm
STKA Stephens Creek 27.99 147 P **P** **07 59 22.7 +0.3**
comp=Z,53nm,0.6s,baz=316,slow=8.6,SNR=130
STKA LR LR 08 11 36.5
comp=Z,7µm,20.3s,baz=318,slow=38
STKA Stephens Creek 27.99 147 *e*P **P** **07 59 22.0 -0.3**
STKA *e*S **S** **08 03 58.8 -3.7**
STKA Stephens Creek 27.99 147 P **P** **07 59 22.7 +0.3**
STKA pmax pmax
comp=Z,53nm,0.6s
STKA MLR MLR
comp=Z,7µm,20.3s
STKA Stephens Creek 27.99 147 *e*P **P** **07 59 22.0 -0.3**
comp=Z,21nm,0.8s
TSI Tuntungan 28.30 295 P **P** **07 59 27.0 +1.7**
comp=Z,312nm,1.5s,comp=Z,7µm
GSI Gunungsitoli 28.32 280 P **P** **07 59 24.2 -1.3**
comp=Z,131nm,0.7s,comp=Z,3µm
TPTI 29.45 293 P **P** **07 59 38.1 +2.6**
comp=Z,72nm,0.8s
LHMI Lhok Sumawe 30.12 297 P **P** **07 59 46.4 +1.5**
comp=Z,199nm,1.2s,comp=Z,3µm
QIZ Qiongzhong 31.18 333 P **P** **07 59 51.8 +1.2**
QIZ sP **pP** **08 00 04.0 -1.2**
QIZ S **S** **08 04 55.3 +2.6**
QIZ sS **sS** **08 05 14.5 -3.0**
QIZ pmax pmax
comp=Z,50nm,1.2s
QIZ pmax pmax
comp=Z,460nm,7.5s
QIZ LR LR
comp=N,1µm,17.7s
QIZ LR LR
comp=Z,3µm,31.8s
QIZ Qiongzhong 31.18 333 *e*P **P** **07 59 50.2 -0.4**
comp=Z,80nm,1.3s
TWG Pinlang 31.74 355 *e*P **P** **07 59 55.6 0.0**
comp=Z,50nm,0.7s
BSI Banda Aceh 32.10 296 P **P** **07 59 58.7 -0.2**
comp=Z,71nm,1.4s,comp=Z,945nm
TPUB Ta-pu 32.26 354 *e*P **P** **08 00 00.5 +0.4**
comp=Z,102nm,0.8s
YULB Yu-li 32.29 355 *e*P **P** **07 59 59.7 -0.7**
comp=Z,34nm,0.8s
SSLB Suanglung 32.71 355 *e*P **P** **08 00 03.6 -0.5**
comp=Z,57nm,0.8s
NACB Ninganchiao 33.04 356 *e*P **P** **08 00 06.5 -0.4**
comp=Z,47nm,0.9s
ARMA Armidale 33.41 133 *e*P **P** **08 00 11.4 +1.2**
ARMA Armidale 33.41 133 *e*P **P** **08 00 11.5 +1.2**
comp=Z,47nm,0.6s
YHNB Yeheng 33.55 356 *e*P **P** **08 00 11.2 -0.3**
comp=Z,79nm,0.9s
QZH Quanzhou 34.14 351⇑ *i*P **P** **08 00 18.0 +1.5**
QZH LR LR
comp=N,1µm,10.4s
QZH LR LR
comp=E,680nm,12.4s
QZH LR LR
comp=Z,2µm,14.0s
TOO Toolangi 34.41 149 *e*P **P** **08 00 20.3 +1.5**
TOO *e*S **S** **08 05 39.9 -2.9**
CAN Canberra 34.72 143 *e*P **P** **08 00 22.2 +0.7**
CAN pmax pmax
comp=Z,70nm,0.9s
CAN Canberra 34.72 143 *e*P **P** **08 00 22.2 +0.7**
comp=Z,70nm,0.9s
CNB Canberra Magne 34.93 142 *e*P **P** **08 00 24.4 +1.0**
RIV Riverview 35.10 139 *e*P **P** **08 00 26.6 +1.9**
HNR Honiara 35.39 94 P **P** **08 00 27.7 +0.3**
comp=Z,113nm,0.6s,baz=271,slow=6.0,SNR=3.9
HNR Honiara 35.39 94 P **P** **08 00 27.8 +0.3**
HNR Honiara 35.39 94 P **P** **08 00 27.8 +0.3**
JOW Kunigami 35.83 6 P **P** **08 00 31.4 +0.4**
comp=Z,31nm,0.8s,baz=243,slow=6.2,SNR=7.7
JOW Kunigami 35.83 6 P **P** **08 00 31.4 +0.4**
CM31 Chiang Mai Arr 36.87 318 *e*P **P** **08 00 41.4 +1.3**
comp=Z,76nm,0.8s
CMAR Chiang Mai Arr 36.87 318 P **P** **08 00 41.3 +1.3**
comp=Z,80nm,0.9s,baz=143,slow=6.5,SNR=228
CMAR PcP **PcP** **08 03 02.9 +2.0**
comp=Z,5.5nm,0.8s,baz=169,slow=3.0,SNR=4.1
CMAR S **S** **08 06 25.9 +5.3**
comp=Z,0.7nm,0.3s,baz=157,slow=12,SNR=4.3
CMAR ScP **ScP** **08 06 42.5 -0.5**
comp=Z,28nm,0.8s,baz=163,slow=3.2,SNR=30
CMAR LR LR 08 18 45.9
comp=Z,2µm,18.0s,baz=153,slow=41
CMAR Chiang Mai Arr 36.87 318 P **P** **08 00 41.3 +1.3**
CMAR 08 03 02.9
CMAR S **S** **08 06 26.0 +5.3**
CMAR pmax pmax
comp=Z,80nm,0.9s
CMAR smax smax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,2µm,18.0s
CMAR Chiang Mai Arr 36.87 318 P **P** **08 00 41.3 +1.3**
CMAR PcP **PcP** **08 03 02.9 +2.0**
CMAR S **S** **08 06 25.9 +5.3**
CMAR ScP **ScP** **08 06 42.5 -0.5**
CHTO Chiang Mai 37.12 318 *e*P **P** **08 00 43.4 +1.3**
CHTO *e**SP **sP** **08 01 05.3 +1.5**
CHTO pmax pmax
comp=Z,467nm,1.7s
CHTO Chiang Mai 37.12 318 *e*P **P** **08 00 43.4 +1.3**
comp=Z,467nm,1.7s
CHTO *e*sP **sP** **08 01 05.3 +1.5**
CHTO *e*ScP **ScP** **08 06 42.4 -1.5**
CHTO Chiang Mai 37.12 318 P **P** **08 00 43.9 +1.7**
comp=Z,168nm,1.4s,comp=Z,2µm
MOO Moorlands 39.02 153 *e*P **P** **08 00 59.9 +2.0**
GYA Guiyang 39.08 335 P **P** **08 00 59.5 +0.8**
GYA pP **pP** **08 01 09.3 -4.3**
GYA PP **PnPn** **08 02 33.5 +1.2**
GYA ScP **ScP** **08 06 50.0 -1.3**
GYA S **S** **08 06 58.8 +4.6**
GYA sS **sS** **08 07 15.5 -4.0**
GYA ScS **ScS** **08 11 00.3 -2.7**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,500nm,8.0s
GYA LR LR
comp=N,1µm,19.8s
GYA LR LR
comp=E,800nm,22.2s
GYA LR LR
comp=Z,2µm,23.5s
TAU Tasmania Unive 39.45 153 *e*P **P** **08 01 03.1 +1.6**
TAU pmax pmax
comp=Z,294nm,1.8s
TAU Tasmania Unive 39.45 153 *e*P **P** **08 01 03.0 +1.6**
comp=Z,294nm,1.8s
KMI Kunming 39.77 329 P **P** **08 01 07.0 +2.4**
KMI pP **pP** **08 01 18.5 -1.0**
KMI sP **sP** **08 01 23.8 -2.6**
KMI PP **PnPn** **08 02 43.8 +3.2**
KMI ScP **ScP** **08 06 54.3 +0.2**
KMI PcS **PcS** **08 07 00.3 -0.3**
KMI S S 08 07 12.0 +7.2
KMI sS **sS** **08 07 32.0 +1.9**
KMI SS **SnSn** **08 10 07.0 -1.1**
KMI pmax pmax
comp=Z,76nm,1.3s
KMI pmax pmax
comp=Z,740nm,4.5s
KMI LR LR
comp=N,640nm,15.7s
KMI LR LR
comp=E,1µm,16.7s
KMI LR LR
comp=Z,2µm,39.0s
CBIJ Chichi jima 39.92 26 P **P** **08 01 06.1 +0.6**
comp=Z,242nm,0.6s,baz=223,slow=2.3,SNR=14
CBIJ LR LR 08 16 11.6
comp=Z,539nm,21.0s,baz=186,slow=34
CBIJ Chichi jima 39.92 26 P **P** **08 01 06.1 +0.6**
SSE Sheshan 39.94 356⇑ P **P** **08 01 06.5 +0.9**
SSE pP **pP** **08 01 17.0 -3.6**
SSE sP **sP** **08 01 23.0 -4.4**
SSE pmax pmax
comp=Z,63nm,0.8s
SSE pmax pmax
comp=Z,270nm,5.3s
SSE LR LR
comp=N,620nm,28.1s
SSE LR LR
comp=E,370nm,28.1s
SSE LR LR
comp=Z,800nm,27.4s
WHN Wuhan 40.39 347⇑ P **P** **08 01 10.5 +1.1**
WHN PP **PnPn** **08 02 48.3 +0.7**
WHN LR LR
comp=N,840nm,10.3s
WHN LR LR
comp=E,2µm,13.0s
WHN LR LR
comp=Z,2µm,16.7s
NJ2 Nanjing 41.10 353 *e*P **P** **08 01 16.3 +1.1**
NJ2 pP **pP** **08 01 26.8 -3.4**
NJ2 sP sP 08 01 30.5 -6.5
NJ2 PP **PP** **08 02 53.5 +2.4**
NJ2 S S 08 07 32.0 +8.0
NJ2 sS **sS** **08 07 46.0 -3.4**
NJ2 pmax pmax
comp=Z,130nm,0.6s
NJ2 pmax pmax
comp=Z,510nm,4.1s
NJ2 LR LR
comp=N,2µm,20.9s
NJ2 LR LR
comp=E,2µm,22.7s
NJ2 LR LR
comp=Z,2µm,24.9s
ENH Enshi 41.47 341 *e*P **P** **08 01 18.3 0.0**
comp=Z,54nm,0.8s
JNU Nakatsue 42.36 8 P **P** **08 01 25.8 +0.3**
comp=Z,38nm,0.8s,baz=182,slow=5.3,SNR=18
JNU Nakatsue 42.36 8 *e*P **P** **08 01 25.2 -0.4**
comp=Z,13nm,0.8s
NOUC Port Laguerre 42.56 113 *e*P **P** **08 01 25.8 -1.6**
DZM Mont Dzumac 42.68 113 *e*P **P** **08 01 29.1 +0.6**
comp=Z,219nm,1.3s
DZM *e*S **S** **08 07 51.1 +3.1**
comp=Z,1µm,31.6s
DZM *e*LR LR 08 13 27.8
comp=Z,7µm,35.0s
DZM Mont Dzumac 42.68 113 P **P** **08 01 29.0 +0.6**
comp=Z,52nm,0.7s,baz=285,slow=6.1,SNR=25
DZM Mont Dzumac 42.68 113 *e*P **P** **08 01 27.3 -1.2**
DZM Mont Dzumac 42.68 113 *e*P **P** **08 01 28.3 -0.1**
comp=Z,62nm,0.8s
CD2 Chengdu 44.20 335 P **P** **08 01 40.8 +0.4**
CD2 pP **pP** **08 01 51.0 -4.5**
CD2 sP sP 08 01 55.3 -7.0
CD2 PP **PP** **08 03 25.8 +1.3**
CD2 S **S** **08 08 13.0 +3.3**
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 pmax pmax
comp=Z,730nm,6.1s
CD2 LR LR
comp=N,1µm,17.8s
CD2 LR LR
comp=Z,2µm,22.6s
XAN Xi'an 45.14 342 P **P** **08 01 47.3 -0.6**
XAN pP pP 08 01 57.3 -5.7
XAN sP sP 08 02 01.5 -8.3
XAN PP **PP** **08 03 32.3 -2.2**
XAN pmax pmax
comp=Z,17nm,0.7s
XAN pmax pmax
comp=Z,140nm,8.9s
XAN LR LR
comp=N,450nm,18.5s
XAN LR LR
comp=E,270nm,20.3s
XAN LR LR
comp=Z,210nm,18.5s
AGT Agartala 45.78 316 *e*P **P** **08 01 55.0 +2.0**
AGT *e*x x 08 02 06.0
INCN Inchon 46.28 3 *e*P **P** **08 01 57.5 +0.7**
comp=Z,32nm,0.7s
KSAR Wonju Array Be 46.31 4 P **P** **08 01 58.0 +1.0**
KSAR 08 03 31.0
KSAR Wonju Array Be 46.31 4 P **P** **08 01 58.0 +1.0**
KSAR PcP **PcP** **08 03 30.9 -0.5**
KSAR ScP **ScP** **08 07 18.7 -1.3**
KSRS Korea Array 46.33 4 P **P** **08 01 58.0 +0.9**
comp=Z,16nm,0.7s,baz=182,slow=9.6,SNR=55
KSRS PcP **PcP** **08 03 30.9 -0.5**
comp=Z,9.2nm,0.8s,baz=182,slow=4.0,SNR=7.0
KSRS ScP **ScP** **08 07 18.7 -1.3**
comp=Z,4.2nm,0.9s,baz=188,slow=3.7,SNR=6.1
KSRS LR LR 08 20 50.0
comp=Z,305nm,20.0s,baz=183,slow=35
KSRS Korea Array 46.33 4 P **P** **08 01 58.0 +0.9**
KSRS 08 03 31.0
KSRS pmax pmax
comp=Z,16nm,0.7s
KSRS MLR MLR
comp=Z,305nm,20.0s
SHL Shillong 46.49 318⇑ *i*P **P** **08 01 59.5 +0.7**
SHL *e*x x 08 04 31.0
MAJO Matsushiro 47.19 16 *e*P **P** **08 02 04.0 +0.1**
MAJO pmax pmax
comp=Z,52nm,0.7s
MAJO Matsushiro 47.19 16 *e*P **P** **08 02 04.0 +0.1**
comp=Z,52nm,0.7s
MAT Matsushiro 47.19 16 P **P** **08 02 03.4 -0.5**
MAT S S 08 08 44.0 -8.5
MJAR Matsushiro Arr 47.19 16 P **P** **08 02 03.1 -0.7**
comp=Z,54nm,0.7s,baz=195,slow=9.2,SNR=144
MJAR ScP **ScP** **08 07 20.4 -3.3**
comp=Z,4.6nm,0.7s,baz=198,slow=5.3,SNR=5.6

MJAR S **S** **08 08 53.9 +1.4**
comp=Z,2.0nm,0.9s,baz=199,slow=11,SNR=4.8
MJAR Matsushiro Arr 47.19 16 P **P** **08 02 03.1 -0.7**
MJAR S **S** **08 08 53.9 +1.4**
MJAR pmax pmax
comp=Z,54nm,0.7s
MJAR smax smax
comp=N,2.0nm,0.9s
MJAR Matsushiro Arr 47.19 16 P **P** **08 02 03.1 -0.7**
MJAR ScP **ScP** **08 07 20.4 -3.3**
MJAR S **S** **08 08 53.9 +1.4**
DL2 Dalian 47.69 357 P **P** **08 02 05.5 -2.2**
DL2 pmax pmax
comp=Z,50nm,0.7s
DL2 LR LR
comp=E,510nm,21.6s
DL2 LR LR
comp=Z,320nm,21.6s
VIS Vishakhapatnam 48.22 303 *i* x x 08 01 58.5
VIS *i* x x 08 03 55.8
LZH Lanzhou 48.71 338 *e*P **P** **08 02 16.8 +0.9**
LZH pP pP 08 02 24.8 -6.4
LZH sP sP 08 02 29.3 -8.6
LZH *e*S **S** **08 09 11.5 -2.9**
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,750nm,4.0s
LZH LR LR
comp=N,1μm,13.5s
LZH LR LR
comp=E,2μm,13.6s
LZH LR LR
comp=Z,3μm,15.8s
BJT Baijiatuau 49.30 352 *e*P **P** **08 02 19.6 -0.4**
BJT pmax pmax
comp=Z,82nm,0.6s
BJT Baijiatuau 49.30 352 *e*P **P** **08 02 19.6 -0.4**
comp=Z,82nm,0.6s
BJI Beijing 49.32 352 P **P** **08 02 19.3 -0.9**
BJI PP **PP** **08 04 15.0 +0.2**
BJI pmax pmax
comp=Z,120nm,0.7s
BJI pmax pmax
comp=Z,400nm,4.3s
BJI LR LR
comp=N,580nm,15.7s
BJI LR LR
comp=E,570nm,15.2s
BJI LR LR
comp=Z,650nm,31.4s
LSA Lhasa 49.84 322 P **P** **08 02 26.8 +1.9**
LSA PP **PP** **08 04 22.0 +1.7**
LSA pmax pmax
comp=Z,300nm,0.8s
LSA pmax pmax
comp=Z,470nm,11.0s
LSA LR LR
comp=N,440nm,30.0s
LSA LR LR
comp=E,820nm,24.0s
LSA LR LR
comp=Z,1μm,33.0s
LSA Lhasa 49.84 322 *e*P **P** **08 02 26.3 +1.3**
LSA pmax pmax
comp=Z,242nm,0.6s
LSA Lhasa 49.84 322 *e*P **P** **08 02 26.3 +1.3**
comp=Z,242nm,0.6s
SNY Shenyang 50.56 360 ⇑P **P** **08 02 29.3 -0.2**
SNY pmax pmax
comp=Z,47nm,0.7s
SNY pmax pmax
comp=Z,380nm,8.2s
SNY LR LR
comp=N,450nm,18.8s
SNY LR LR
comp=E,430nm,15.3s
SNY LR LR
comp=Z,720nm,21.8s
HHC Hu-ho-hao-te 50.91 348 ⇑P **P** **08 02 32.8 +0.4**
HHC sP sP 08 02 46.5 -8.0
HHC PcP **PcP** **08 03 48.3 +0.1**
HHC PP **PP** **08 04 30.5 +1.1**
HHC ScP **ScP** **08 07 39.5 -0.1**
HHC PcS **PcS** **08 07 44.5 -1.2**
HHC S **S** **08 09 46.3 +1.5**
HHC sS sS 08 10 04.3 -6.5
HHC ScS **ScS** **08 12 17.0 -0.9**
HHC SS **SS** **08 13 21.0 +0.5**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,470nm,6.7s
HHC LR LR
comp=N,460nm,15.3s
HHC LR LR
comp=E,890nm,17.4s
HHC LR LR
comp=Z,700nm,15.7s
DGAR Diego Garcia 51.10 268 *e*P **P** **08 02 34.2 0.0**
DGAR pmax pmax
comp=Z,734nm,1.4s
DGAR Diego Garcia 51.10 268 *e*P **P** **08 02 34.2 0.0**
comp=Z,734nm,1.4s
DGAR Diego Garcia 51.10 268 P **P** **08 02 34.6 +0.4**
comp=Z,2μm,1.1s,SNR=6.3
KAAM Kaadhehdhoo 51.75 278 P P 08 02 42.7 +3.6
comp=Z,212nm,1.8s
HYB Hyderabad 52.08 300 *i* P P 08 02 34.0 -7.5
comp=Z,57nm,0.5s
HYB *e*pP pP 08 03 01.0 +4.1
HYB *e*PcP **PcP** **08 03 54.5 +1.5**
HYB *e*PP **PP** **08 04 40.0 -0.3**
HYB *e*ScP **ScP** **08 07 40.0 -5.1**
HYB *e*S S 08 09 52.0 -10
HYB *e*ScS **ScS** **08 12 24.0 -2.9**
OUZ Omahuta 52.10 128 *e*P **P** **08 02 43.0 +1.7**
comp=Z,34nm,0.8s
VLA Vladivostok 52.33 7⇑ *i*P **P** **08 02 43.3 +0.5**
VLA *e* 08 03 52.3
VLA pmax pmax
comp=Z,143nm,0.9s
CN2 Changchun 52.54 1 *e*P **P** **08 02 44.0 -0.4**
CN2 *e*sP **pP** **08 02 57.3 -2.5**
CN2 PcP **PcP** **08 03 53.3 -0.7**
CN2 *e*S **S** **08 10 08.5 +1.6**
CN2 ScS **ScS** **08 12 27.8 -1.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,400nm,22.0s
CN2 LR LR
comp=E,400nm,22.0s
CN2 LR LR
comp=Z,500nm,25.0s
MSVF Nonsavu 53.07 105 *e*P **P** **08 02 49.8 +0.9**
MSVF pmax pmax
comp=Z,84nm,0.8s
MSVF Nonsavu 53.07 105 *e*P **P** **08 02 49.8 +0.9**
comp=Z,84nm,0.8s
MSVF Nonsavu 53.07 105 P **P** **08 02 50.6 +1.7**
comp=Z,646nm,0.8s,SNR=14
HMDM Hanimaadhoo 53.09 285 P **P** **08 02 50.7 +1.7**
comp=Z,139nm,1.3s
GTA Gaotai 53.16 337 ⇑P **P** **08 02 49.8 +0.6**
GTA pP pP 08 02 59.8 -4.9
GTA sP sP 08 03 03.5 -7.8
GTA ScP **ScP** **08 07 48.8 -0.6**
GTA S **S** **08 10 17.3 +1.6**
GTA ScS **ScS** **08 12 33.3 -0.4**
GTA pmax pmax
comp=Z,67nm,1.6s
GTA pmax pmax
comp=Z,530nm,6.2s
GTA LR LR
comp=N,500nm,18.1s
GTA LR LR
comp=E,450nm,20.0s
GTA LR LR
comp=Z,620nm,23.3s
USRK Ussuriysk Arra 53.41 7 P **P** **08 02 51.2 +0.5**
comp=Z,75nm,0.6s,baz=191,slow=6.8,SNR=108
USRK ScP **ScP** **08 07 48.3 -1.9**
comp=Z,5.2nm,0.9s,baz=183,slow=3.8,SNR=4.3
USRK LR LR 08 26 25.3
comp=Z,393nm,20.7s,baz=356,slow=37
NGP Nagpur 53.42 305 *ex* P 08 02 47.8 -3.5
NGP AMb AMB 08 02 51.6
comp=Z,130nm,0.4s
RPZ Rata Peaks 53.44 139 P **P** **08 02 50.9 -0.3**
comp=Z,92nm,0.9s,baz=286,slow=0.8,SNR=33
RPZ LR LR 08 24 46.3
comp=Z,2μm,21.9s,baz=244,slow=35
RPZ Rata Peaks 53.44 139 *e*P **P** **08 02 51.4 +0.2**
comp=Z,165nm,0.9s
MDJ Mudanjiang 53.58 5 P **P** **08 02 52.8 +0.9**
MDJ pP pP 08 03 01.0 -6.5
MDJ PP **PP** **08 04 50.8 -2.5**
MDJ pmax pmax
comp=Z,440nm,0.9s
MDJ pmax pmax
comp=Z,290nm,3.6s
MDJ LR LR
comp=N,670nm,32.1s
MDJ LR LR
comp=E,710nm,47.5s
MDJ LR LR
comp=Z,710nm,32.8s
MDJ Mudanjiang 53.58 5 *e*P **P** **08 02 52.6 +0.6**
comp=Z,380nm,0.8s
ERM Erimo 53.67 18 *d i*P **P** **08 02 53.7 +1.0**
ERM Erimo 53.67 18 *e*P **P** **08 02 53.7 +1.0**
comp=Z,106nm,0.8s
ERM Erimo 53.67 18 P **P** **08 02 54.0 +1.3**
comp=Z,793nm,0.8s,SNR=13
KHZ Kahutara 54.56 136 *e*P **P** **08 02 59.1 -0.1**
comp=Z,104nm,1.0s
SNZO South Karori 54.96 135 *e*P **P** **08 03 00.8 -1.3**
comp=Z,142nm,1.1s
ASAJ Asahikawa 55.45 16 P **P** **08 03 06.8 +1.2**
comp=Z,102nm,0.8s,baz=228,slow=10,SNR=47
ASAJ Asahikawa 55.45 16 P **P** **08 03 06.8 +1.2**
ASAJ pmax pmax
comp=Z,102nm,0.8s
ASAJ Asahikawa 55.45 16 *e*P **P** **08 03 06.1 +0.6**
comp=Z,44nm,0.8s
URZ Urewera 55.71 130 *e*P **P** **08 03 07.4 -0.2**
comp=Z,120nm,1.2s
YUK Yuzh-Kuril'sk 56.34 19 *c i*P P 08 03 05.6 -6.3
YUK *i* 08 05 15.4
YUK *i* S S 08 10 49.5 -8.4
YUK pmax pmax
comp=Z,543nm,1.9s
YUK pmax pmax
comp=N,52nm,1.0s
YUK pmax pmax
comp=Z,245nm,1.0s
YUK pmax pmax
comp=E,80nm,1.0s
YUK MLR MLR
comp=Z,406nm,24.0s
AGRA Agra 57.39 310 *e*P **P** **08 03 19.8 +0.1**
CASY Casey 57.97 186 *e*P **P** **08 03 23.1 0.0**
comp=Z,25nm,0.6s
HABR Khabarovsk 58.02 9 *e*P **P** **08 03 22.5 -1.1**
HABR 08 04 13.3
HABR *e*S **S** **08 11 22.0 +2.2**
HABR *e*S S 08 11 33.3 +13
HABR *e**SS sS 08 11 38.4 -7.9
HABR *e* 08 13 08.5
HABR *e*SS **SS** **08 15 13.9 +1.8**
HABR pmax pmax
comp=Z,72nm,1.0s
HABR pmax pmax
comp=E,41nm,1.6s
HABR pmax pmax
comp=N,32nm,1.6s
HABR MLR MLR
comp=Z,220nm,17.0s
YSS Yuzh-Sakhalins 58.12 15⇓ *i*P **P** **08 03 25.8 +1.4**
YSS *e* 08 03 41.2
YSS *e*S **S** **08 11 18.0 -3.2**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 58.12 15 *e*P **P** **08 03 24.8 +0.4**
comp=Z,58nm,0.8s
HIA Hailar 58.12 357 *e*P **P** **08 03 24.4 0.0**
HIA pmax pmax
comp=Z,50nm,0.7s
HIA Hailar 58.12 357 *e*P **P** **08 03 24.4 0.0**
comp=Z,50nm,0.7s
ASOR Ausora 58.34 312 *e*P **P** **08 03 26.3 0.0**
KLR Kul'dur 58.35 6 *e*P P 08 03 22.2 -3.8
KLR *e*S S 08 11 16.0 -8.2
KLR pmax pmax
comp=Z,40nm,1.0s
BISR Bishrakh 58.49 311 *e*P **P** **08 03 27.4 0.0**
ULN Ulaanbaatar 58.58 347 *e*P **P** **08 03 27.8 0.0**
ULN pmax pmax
comp=Z,74nm,0.8s
ULN Ulaanbaatar 58.58 347 *e*P **P** **08 03 27.8 0.0**
comp=Z,74nm,0.8s
ULN Ulaanbaatar 58.58 347 P **P** **08 03 27.9 +0.1**
comp=Z,97nm,0.8s,comp=Z,1μm
SONA Sohna 58.58 311 *e*P **P** **08 03 26.7 -1.2**
DRV Dumont d'Urvil 58.62 173 P pP 08 03 48.0 +4.6
DRV Dumont d'Urvil 58.62 173 PP PP 08 05 50.0 +12
DRV S S 08 11 09.0 -18
DRV SS SS 08 15 11.0 -10
DRV L L 08 17 00.0
DRV R 08 19 00.0
AYAN Aya Nagar 58.67 311 *e*P **P** **08 03 28.1 -0.6**
AYAN AMb AMB 08 03 29.0
comp=Z,134nm,1.2s
SONM Songino Array 58.70 346 P **P** **08 03 28.9 +0.3**
comp=Z,19nm,0.6s,baz=20,slow=26,SNR=3.5
SONM S **S** **08 11 25.1 -4.0**
comp=Z,2.3nm,1.2s,baz=157,slow=7.8,SNR=1.6
SONM PKPPKP **P'P'df** **08 33 04.8 +2.0**
comp=Z,0.6nm,0.9s,baz=306,slow=3.0,SNR=3.5
SONM Songino Array 58.70 346 P **P** **08 03 28.9 +0.3**
SONM S **S** **08 11 25.1 -4.0**
SONM P'P' 08 33 04.8
NDI New Delhi 58.71 311 *ex* P 08 03 25.0 -3.9
NDI *ex* x 08 11 19.0
DDI Dehra Dun 58.99 313 *e*P **P** **08 03 30.0 -0.9**
DDI *ex* x 08 08 13.5
KHET Khetri 59.45 310 *e*P **P** **08 03 33.2 -0.9**
KHET AMb AMB 08 03 34.9
comp=Z,85nm,0.8s
KKR Kurukshetra 59.69 312 *e*P **P** **08 03 36.4 +0.8**
MIR Mirnyy 61.27 194 *e*P **P** **08 03 46.0 +0.2**
MIR pmax pmax
comp=Z,48nm,1.4s
MIR MLR MLR
comp=N,500nm,16.0s
MIR MLR MLR
comp=E,300nm,16.0s
MIR MLR MLR
comp=Z,700nm,16.0s
CIT Chita 61.43 353 *e*P **P** **08 03 47.5 +0.4**
CIT *e* 08 04 27.1
CIT pmax pmax
comp=Z,106nm,1.8s
DLH Dalhousie 61.70 314 *e*P **P** **08 03 50.0 +0.4**
ZAK Zakamensk 61.83 345 *e*P **P** **08 03 50.0 +0.1**
ZAK pmax pmax
comp=Z,26nm,0.9s
WMQ Urumqi 62.05 331 P **P** **08 03 52.3 +0.7**
WMQ pP pP 08 04 02.3 -5.1
WMQ sP sP 08 04 06.3 -7.7
WMQ S **S** **08 12 14.0 +1.9**
WMQ pmax pmax
comp=Z,86nm,0.9s
WMQ pmax pmax
comp=Z,540nm,5.6s
WMQ LR LR
comp=N,730nm,19.5s
WMQ LR LR
comp=E,800nm,24.1s
WMQ LR LR
comp=Z,770nm,24.7s
AFI Afiamalu 62.90 101 *e*P **P** **08 03 58.5 +0.7**
AFI pmax pmax
comp=Z,162nm,1.3s
AFI Afiamalu 62.90 101 *e*P **P** **08 03 58.5 +0.7**
comp=Z,162nm,1.3s
TLY Talaya 62.94 346 *e*P **P** **08 03 57.6 +0.4**
TLY *e*PPP Px 08 07 48.0
TLY *e*SS SS 08 16 30.8 +1.5
TLY *e* 08 19 11.8
TLY pmax pmax
comp=Z,41nm,0.8s
TLY MLR MLR
comp=Z,255nm,19.0s
TLY Talaya 62.94 346 *e*P **P** **08 03 57.8 +0.6**
comp=Z,37nm,0.8s
TLY Talaya 62.94 346 P **P** **08 03 57.0 -0.2**
comp=Z,338nm,0.7s,SNR=21
IRK Irkutsk 63.31 347 *e*P **P** **08 04 00.4 +0.8**
IRK pmax pmax
comp=Z,111nm,1.9s
MOY Mondy 63.60 344 *e*P **P** **08 04 02.4 +0.7**
MOY pmax pmax
comp=Z,96nm,1.9s
MRIV Mauritius Mete 65.05 252 *e*P **P** **08 04 12.6 +0.8**
CLNS Chul'man 65.58 0 *e*P **P** **08 04 14.6 +0.2**
CLNS *e* 08 04 49.8
CLNS *e* 08 06 36.8
CLNS *e*S **S** **08 12 52.0 -3.3**
CLNS *e* 08 13 57.0
CLNS pmax pmax
comp=Z,40nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax smax
comp=E,509nm,12.1s
CLNS smax smax
comp=N,213nm,13.8s
CLNS MLR MLR
comp=E,414nm,18.0s
CLNS MLR MLR
comp=N,121nm,14.0s
CLNS MLR MLR
comp=Z,196nm,14.0s
KSH Kashi 65.67 321⇑ *i*P **P** **08 04 15.8 +0.3**
KSH *e*pP pP 08 04 26.0 -5.5
KSH *e*sP sP 08 04 30.0 -8.1
KSH *e*PcP **PcP** **08 04 48.0 +1.5**
KSH *e*PP **PP** **08 06 41.5 +0.7**
KSH *e*ScP 08 08 47.0
KSH *e*PcS 08 08 50.8
KSH *e*S **S** **08 12 54.3 -3.0**
KSH *e*ScS **SKSac** **08 14 04.5 -1.8**
KSH pmax pmax
comp=Z,80nm,0.7s
KSH LR LR
comp=N,290nm,9.0s
KSH LR LR
comp=E,190nm,9.1s
KSH LR LR
comp=Z,2μm,28.4s
RER Riviere de l'E 66.67 251 *e*P **P** **08 04 23.9 +1.6**
comp=Z,193nm,0.8s
MK31 Makanchi Array 66.84 330 *ce*P **P** **08 04 22.5 -0.2**
MK31 pmax pmax
comp=Z,125nm,0.8s
MK31 Makanchi Array 66.84 330 *e*P **P** **08 04 22.7 0.0**
MKAR Makanchi Array 66.84 330 P **P** **08 04 22.6 0.0**
comp=Z,103nm,0.7s,baz=134,slow=7.0,SNR=666
MKAR S **S** **08 13 07.6 -3.3**
comp=Z,2.7nm,1.1s,baz=147,slow=14,SNR=6.3
MKAR PKPPKP **P'P'df** **08 32 51.7 +1.3**
comp=Z,0.9nm,0.9s,baz=291,slow=3.8,SNR=7.0
MKAR Makanchi Array 66.84 330 *ce*P **P** **08 04 22.7 0.0**
MKAR pmax pmax
comp=Z,103nm,0.7s
MKAR Makanchi Array 66.84 330 P **P** **08 04 22.6 0.0**
MKAR S **S** **08 13 07.6 -3.3**
MKAR P'P' 08 32 51.7
BOD Bodaibo 67.07 354 *e*P **P** **08 04 24.1 +0.2**
BOD pmax pmax
comp=Z,100nm,0.9s
ULHL Ulahol 67.14 323 P P 08 04 20.8 -4.1
SNR=13
ULHL P P 08 04 20.8 -4.1
SNR=13
KZA Kyzart 67.63 323 P **P** **08 04 29.1 +0.8**
SNR=7.2
KZA P **P** **08 04 29.1 +0.8**
SNR=7.2
KBL Kabul 67.68 313 *e*P **P** **08 04 28.4 -0.2**
KBL pmax pmax
comp=Z,278nm,0.7s
KBL Kabul 67.68 313 *e*P **P** **08 04 28.4 -0.2**
comp=Z,278nm,0.7s
TKM2 Tokmak 2 67.93 324 P **P** **08 04 30.1 +0.2**
SNR=94
TKM2 P **P** **08 04 30.1 +0.2**
SNR=94
TKM2 Tokmak 2 67.93 324 *i* P **P** **08 04 30.1 +0.2**
TKM2 Tokmak 2 67.93 324 *e*P **P** **08 04 29.8 -0.1**
comp=Z,39nm,0.7s
PEA0B Petropavlovsk- 68.14 21 *e*P **P** **08 04 31.6 +0.8**
PETK Petropavlovsk- 68.14 21 P **P** **08 04 31.8 +1.0**
comp=Z,32nm,0.7s,baz=192,slow=6.8,SNR=35
PETK LR LR 08 33 31.4
comp=Z,185nm,18.3s,baz=20,slow=35
PETK Petropavlovsk- 68.14 21 P **P** **08 04 31.8 +1.0**
PETK pmax pmax
comp=Z,32nm,0.7s
PETK Petropavlovsk- 68.14 21 P **P** **08 04 31.8 +1.0**
KBK Karagaybulak 68.16 323 P **P** **08 04 32.8 +1.5**
SNR=32
KBK P **P** **08 04 32.8 +1.5**
SNR=32
UCH Uchtor 68.16 322 P **P** **08 04 33.1 +1.4**
SNR=10.0
UCH P **P** **08 04 33.1 +1.4**
SNR=10.0
AAK Ala-Archa 68.41 323 P **P** **08 04 33.6 +0.7**
SNR=6.2
AAK P **P** **08 04 33.6 +0.7**
SNR=6.2
AAK Ala-Archa 68.41 323 *i* P **P** **08 04 33.6 +0.7**
AAK Ala-Archa 68.41 323 *e*P **P** **08 04 33.4 +0.5**
comp=Z,384nm,0.6s
AAK Ala-Archa 68.41 323 P **P** **08 04 33.0 +0.1**
comp=Z,867nm,0.5s
PET Petropavlovsk 68.42 22 *e*P P 08 04 37.0 +4.6
PET *e*S **S** **08 13 29.3 -0.1**
FRU Bishkek 68.46 323⇑ *i*P **P** **08 04 33.0 0.0**
FRU *i* 08 04 56.0
FRU *e* 08 07 12.0
FRU *i* S **S** **08 13 29.0 -1.5**
FRU pmax pmax
comp=Z,136nm,2.0s
CHMS Chumysh 68.47 323 P **P** **08 04 33.0 -0.1**
SNR=24
CHMS P **P** **08 04 33.0 -0.1**
SNR=24
AML Almayashu 68.60 322 P **P** **08 04 36.0 +1.6**
SNR=235
AML P **P** **08 04 36.0 +1.6**
SNR=235
USP Ospenovka 68.78 323 P **P** **08 04 34.9 -0.2**
SNR=86
USP P **P** **08 04 34.9 -0.2**
SNR=86
EKS2 Erkin-Say 68.86 323 P **P** **08 04 37.1 +1.5**
SNR=7.3
EKS2 P **P** **08 04 37.1 +1.5**
SNR=7.3
EKS2 Erkin-Say 68.86 323 *e*P **P** **08 04 35.8 +0.2**
EKS2 pmax pmax
comp=Z,71nm,0.8s
EKS2 Erkin-Say 68.86 323 *e*P **P** **08 04 35.8 +0.2**
comp=Z,71nm,0.8s
ZAA0 Zalesovo Array 70.91 337 *e*P **P** **08 04 46.2 -1.6**

ZALV **Zalesovo Beam** 70.91 337 P **P** 08 04 46.6 -1.2
comp=Z,50nm,0.6s,baz=133,slow=4.3,SNR=210
ZALV S S 08 13 51.9 -6.8
comp=Z,4.6nm,0.9s,baz=125,slow=13,SNR=9.8
ZALV Zalesovo Beam 70.91 337 P **P** **08 04 46.6 -1.2**
ZALV S S 08 13 51.9 -6.8
ZALV pmax pmax
comp=Z,51nm,0.6s
ZALV smax smax
comp=N,5.0nm,0.9s
ZALV Zalesovo Beam 70.91 337 P **P** **08 04 46.6 -1.2**
ZALV S S 08 13 51.9 -6.8
YAK Yakutsk 70.93 3 *e*P **P** **08 04 47.4 -0.3**
YAK *e* 08 05 07.2
YAK *e**PP **PcP** **08 05 10.2 +2.4**
YAK *e*S **S** **08 13 53.9 -4.6**
YAK *e**SS sS 08 14 34.1 +8.3
YAK *e* 08 14 42.3
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,27nm,1.1s
YAK smax smax
comp=N,949nm,3.7s
YAK smax smax
comp=E,373nm,2.1s
YAK Yakutsk 70.93 3 *e*P **P** **08 04 46.8 -0.8**
comp=E,92nm,0.5s
MAW Mawson 71.00 201 P **P** **08 04 49.3 +1.1**
comp=E,12nm,0.5s,baz=88,slow=5.2,SNR=26
MAW LR LR 08 33 46.0
comp=E,807nm,19.2s,baz=60,slow=34
MAW Mawson 71.00 201 P **P** **08 04 49.3 +1.1**
MAW pmax pmax
comp=Z,12nm,0.5s
MAW Mawson 71.00 201 *e*P **P** **08 04 49.1 +0.9**
comp=Z,10nm,1.2s
KK31 Karatay Array 71.09 321 *c e*P **P** **08 04 49.4 +0.2**
KK31 pmax pmax
comp=Z,43nm,0.9s
KKAR Karatay Array 71.09 321 *e*P **P** **08 04 49.4 +0.2**
KKAR pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 71.09 321 *e*P **P** **08 04 49.4 +0.2**
comp=Z,19nm,0.7s
VNDA Vanda 71.26 172 *e*P **P** **08 04 49.8 +0.2**
VNDA pmax pmax
comp=Z,55nm,1.4s
VNDA Vanda 71.26 172 *e*P **P** **08 04 49.8 +0.2**
comp=Z,55nm,1.4s
KURK Kurchatov 71.29 331 P **P** **08 04 49.6 -0.5**
comp=Z,69nm,0.7s,baz=144,slow=5.3,SNR=398
KURK S S 08 13 53.0 -10
comp=Z,0.6nm,1.0s,baz=135,slow=9.5,SNR=5.0
KURK Kurchatov 71.29 331 P **P** **08 04 49.6 -0.5**
KURK S S 08 13 53.0 -10
KURK pmax pmax
comp=Z,69nm,0.7s
KURK smax smax
comp=N,1.0nm,1.0s
KURK Kurchatov 71.29 331 *e*P **P** **08 04 49.6 -0.5**
comp=N,125nm,0.8s
KURK S S 08 13 53.0 -10
KURK Kurchatov 71.29 331 P **P** **08 04 49.3 -0.8**
comp=N,988nm,0.8s,SNR=96
NVS Novosibirsk 72.20 337⇑ *i*P **P** **08 04 53.5 -2.0**
NVS *e* 08 05 18.8
NVS *e*S S 08 14 05.5 -8.0
NVS pmax pmax
comp=Z,90nm,1.4s
NVS pmax pmax
comp=N,44nm,1.5s
NVS pmax pmax
comp=E,49nm,1.5s
NVS smax smax
comp=N,55nm,1.7s
NVS smax smax
comp=E,136nm,1.7s
SBA Scott Base 72.22 171 *e*P **P** **08 04 56.4 +1.1**
SBA pmax pmax
comp=Z,30nm,0.9s
SBA Scott Base 72.22 171 *e*P **P** **08 04 56.4 +1.1**
comp=Z,30nm,0.9s
RAR Rarotonga 73.94 109 *e*P **P** **08 05 07.1 +0.5**
RAR pmax pmax
comp=Z,157nm,1.4s
RAR Rarotonga 73.94 109 *e*P **P** **08 05 07.1 +0.5**
comp=Z,158nm,1.4s
ABPO Ambohimpanom 74.77 253 *e*P **P** **08 05 12.2 +0.5**
ABPO pmax pmax
comp=Z,115nm,1.2s
ABPO Ambohimpanom 74.77 253 *e*P **P** **08 05 12.2 +0.5**
comp=Z,115nm,1.2s
OPO Ambohidratompo 74.84 253 P **P** **08 05 13.5 +1.4**
comp=Z,38nm,0.7s,baz=83,slow=4.6,SNR=44
OPO Ambohidratompo 74.84 253 P **P** **08 05 13.5 +1.4**
SEY Seymchan 74.93 13 *c e*P **P** **08 05 11.9 +0.6**
BVA0 Borovoye Array 76.72 330 *i*P **P** **08 05 20.7 -1.1**
BVA0 pmax pmax
comp=Z,39nm,1.9s
BVAR Borovoye Array 76.72 330 P **P** **08 05 21.8 0.0**
comp=Z,11nm,0.7s,baz=136,slow=7.4,SNR=85
BVAR S **S** **08 14 59.5 -4.7**
comp=Z,1.6nm,0.9s,baz=74,slow=22,SNR=3.8
BVAR Borovoye Array 76.72 330 P **P** **08 05 21.8 0.0**
BVAR S **S** **08 14 59.5 -4.7**
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR smax smax
comp=N,2.0nm,1.0s
BVAR Borovoye Array 76.72 330 P **P** **08 05 21.8 0.0**
BVAR S **S** **08 14 59.5 -4.7**
BRVK Borovoye 76.79 330 *e*P **P** **08 05 22.1 -0.1**
BRVK pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 76.79 330 *e*P **P** **08 05 22.1 -0.1**
comp=Z,47nm,1.2s
BRVK Borovoye 76.79 330 P **P** **08 05 22.8 +0.6**
comp=Z,218nm,1.5s,SNR=9.4
ABKT Ailbek 77.10 312 P **P** **08 05 24.5 +0.1**
comp=Z,285nm,0.9s,SNR=10
ZRNK Zerenda 77.37 329 *i*P **P** **08 05 24.4 -1.1**
ZRNK pmax pmax
comp=Z,179nm,1.3s
XMAS Kiritimati 78.94 86 *e*P **P** **08 05 33.5 -1.4**
AB31 Akbulak array 80.50 323 *c e*P **P** **08 05 42.0 -0.7**
AB31 pmax pmax
comp=Z,14nm,0.5s
ABKAR Akbulak array 80.50 323 *e*P **P** **08 05 41.9 -0.7**
comp=Z,19nm,0.6s
QSPA South Pole Qui 81.01 180 P **P** **08 05 46.2 +0.9**
comp=Z,38nm,1.0s,baz=315,slow=1.8,SNR=51
QSPA S **S** **08 15 46.1 -3.7**
comp=Z,0.6nm,0.2s,baz=271,slow=22,SNR=13
QSPA PKKPbc **PKKPbc** **08 24 21.7 -3.9**
comp=Z,2.3nm,0.8s,baz=178,slow=2.2,SNR=5.1
QSPA South Pole Qui 81.01 180 *e*P **P** **08 05 45.8 +0.5**
comp=Z,24nm,0.7s
QSPA S **S** **08 15 46.1 -3.7**
QSPA PKKPbc **PKKPbc** **08 24 21.7 -3.9**
LBOS 81.44 286 *e*P **P** **08 05 49.8 +1.0**
AKTO Aktyubinsk 82.12 324 P **P** **08 05 50.8 -0.5**
comp=Z,50nm,0.6s,baz=110,slow=7.0,SNR=148
AKTO S **S** **08 15 56.8 -4.8**
comp=Z,0.8nm,0.5s,baz=273,slow=18,SNR=3.9
AKTO Aktyubinsk 82.12 324 P **P** **08 05 50.8 -0.5**
AKTO S **S** **08 15 56.8 -4.8**
AKTO pmax pmax
comp=Z,50nm,0.6s
AKTO smax smax
comp=N,1.0nm,0.5s
AKTO Aktyubinsk 82.12 324 P **P** **08 05 50.8 -0.5**
AKTO S **S** **08 15 56.8 -4.8**
QRN Al-Qurain 82.35 301 *e*P **P** **08 05 52.3 -0.6**
QRN AMb AMB 08 05 55.7
comp=Z,492nm,0.9s
DHBB Dhamar BB 82.40 286 *e*P **P** **08 05 55.9 +2.1**
BILL Bilibino 82.43 15⇑ *i*P **P** **08 05 52.1 -0.4**
BILL *e* 08 09 04.1
BILL pmax pmax
comp=Z,14nm,0.8s
BILL Bilibino 82.43 15 *e*P **P** **08 05 52.2 -0.4**
comp=Z,12nm,0.6s
KBD Kabd 82.64 301 *e*P **P** **08 05 54.1 -0.4**
KBD AMb AMB 08 05 57.1
comp=Z,134nm,1.1s

NAY Al-Naaiem 83.05 301 *e*P **P** **08 05 56.2 -0.4**
NAY AMb AMB 08 05 59.0
comp=Z,197nm,1.0s
MIB Mutribah 83.10 302 *e*P **P** **08 05 56.4 -0.4**
MIB AMb AMB 08 05 59.4
comp=Z,275nm,1.0s
RAYN Ar Rayn 83.23 295 P **P** **08 05 57.0 -0.7**
comp=Z,1μm,0.7s,SNR=57
TBI Tubuai 83.26 113 *e*P **P** **08 06 00.1 +2.3**
comp=Z,120nm,1.0s
TBI *e*S **S** **08 16 15.5 +1.2**
comp=Z,393nm,33.2s
TBI *e*LQ LQ 08 28 39.1
comp=Z,748nm,40.2s
TBI *e*LR LR 08 32 14.5
comp=Z,2μm,35.2s
ATD Arta Tunnel 83.30 283 P **P** **08 05 59.3 +1.0**
comp=Z,12nm,0.4s,baz=263,slow=20,SNR=11
ATD Arta Tunnel 83.30 283 P **P** **08 05 59.3 +1.0**
SVE Sverdlovsk 83.50 330⇓ *i*P **P** **08 05 57.7 -0.5**
SVE *e* 08 09 06.2
SVE *e*S **S** **08 16 09.3 -5.9**
SVE pmax pmax
comp=Z,91nm,1.0s
PAE Paea 83.86 107 *e*P **P** **08 06 02.7 +1.8**
comp=Z,18nm,1.0s
PPT2 Papeete2 83.87 107 *e*P **P** **08 06 03.0 +1.9**
comp=Z,119nm,1.1s
PPT2 *e*S **S** **08 16 21.4 +0.7**
comp=Z,858nm,26.2s
PPT2 *e*LQ LQ 08 28 53.9
comp=Z,1μm,28.5s
PPT2 *e*LR LR 08 32 30.4
comp=Z,5μm,37.8s
TIAR Tiarei 84.09 107 *e*P **P** **08 06 03.9 +1.7**
comp=Z,70nm,0.9s
ARU Arti 84.35 329 *e*P **P** **08 06 01.8 -0.8**
ARU pmax pmax
comp=Z,17nm,0.5s
ARU Arti 84.35 329 *e*P **P** **08 06 01.8 -0.8**
comp=Z,17nm,0.5s
ARU Arti 84.35 329 P **P** **08 06 02.8 +0.2**
comp=Z,220nm,0.5s,SNR=7.3
MEH Mehetia 85.26 107 *e*P **P** **08 06 09.5 +1.4**
comp=Z,143nm,1.1s
PMOR Pomariorio Ree 85.82 104 *e*P **P** **08 06 12.5 +1.7**
comp=Z,112nm,1.1s
BHD Baghdad 86.38 304 *i*P **P** **08 06 12.0 -1.2**
BHD *i* PcP pP 08 06 23.0 -6.8
BHD *e*PP PP 08 08 47.0 -48
BHD *i* S S 08 16 32.0 -13
BHD *e*PS **PnS** **08 17 47.0 -2.8**
MAK Makhachkala 86.39 314 *e*P **P** **08 06 12.7 -0.4**
MAK *e* 08 09 38.0
MAK *e*PPP PPP 08 11 27.7
MAK *e*S S 08 16 34.6 -10
MAK pmax pmax
comp=Z,115nm,0.8s
SOKR Solikamsk 86.52 332 *c i*P **P** **08 06 13.0 -0.3**
SOKR S **S** **08 16 39.7 -5.3**
SOKR pmax pmax
comp=Z,50nm,1.5s
KMBO Kilima Mbogo 86.70 269 *e*P **P** **08 06 16.5 +0.9**
KMBO pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 86.70 269 *e*P **P** **08 06 16.5 +0.9**
comp=Z,22nm,1.0s
GAMB Gambell 87.02 24 *e*P **P** **08 06 15.0 -0.7**
comp=Z,13nm,0.6s
DGRG David-gareji 87.53 312 P **P** **08 06 19.6 +0.9**
GNI Garni 87.69 311 *e*P **P** **08 06 20.3 +0.6**
GNI Garni 87.69 311 *c i*P **P** **08 06 20.5 +0.8**
GNI pmax pmax
comp=Z,69nm,1.7s
GNI Garni 87.69 311 *e*P **P** **08 06 20.7 +1.0**
comp=Z,46nm,1.0s
CUKT Cukurca 87.88 308 *e*P **P** **08 06 20.6 0.0**
TBLG Delisi 88.06 313 *e*P **P** **08 06 21.5 +0.3**
TBLG Delisi 88.06 313 P **P** **08 06 21.5 +0.3**
VANB Van 88.35 309 *e*P **P** **08 06 23.3 +0.5**
GOR Gori 88.58 313 P **P** **08 06 25.9 +2.2**
NVL N'lazarevskaya 88.72 198⇓ *i*P P 08 06 27.5 +3.7
NVL pmax pmax
comp=Z,17nm,0.8s
AGRB Hanur-Agry 88.87 310 *e*P **P** **08 06 25.8 +0.4**
AKH Akhalkalaki 88.90 312 P **P** **08 06 25.7 +0.3**
ZEI Tsey 88.91 313 *e*P **P** **08 06 24.2 -1.3**
ZEI pmax pmax
comp=Z,21nm,0.7s
ONI Oni 89.19 313 P **P** **08 06 27.0 +0.4**
TNA Tin City 89.25 23 *e*P **P** **08 06 26.3 +0.1**
comp=Z,8.5nm,1.0s
KIV Kislovodsk 90.03 314 *e*P **P** **08 06 30.8 +0.3**
KIV *e* 08 10 04.8
KIV *e* 08 16 59.1
KIV *e*SSS SSS 08 26 58.4
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,246nm,21.0s
KIV Kislovodsk 90.03 314 *e*P **P** **08 06 30.3 -0.3**
comp=Z,9.7nm,0.6s
EZM Erzurum 90.16 310 *e*P **P** **08 06 31.5 0.0**
BAYT Ayd¯–ntepe-Bay 91.18 311 *e*P **P** **08 06 35.2 -0.8**
PTK Pertek 91.47 309 *e*P **P** **08 06 36.3 -1.2**
URFA Urfa 91.66 307 *e*P P 08 06 33.5 -4.7
VRHR Novokhopersk 92.22 321 *e*P **P** **08 06 39.3 -1.0**
VRHR *e* 08 10 19.6
VRHR *e* 08 17 03.6
VRHR *e*S S 08 17 32.1 -6.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.3s
VRHR pmax pmax
comp=N,100nm,2.2s
VRHR pmax pmax
comp=E,100nm,2.2s
VRHR pmax pmax
comp=Z,130nm,2.2s
VRHR smax smax
comp=N,290nm,2.5s
VRHR smax smax
comp=Z,70nm,2.5s
VRHR smax smax
comp=E,150nm,1.3s
SNAA Sanae 92.33 195 *e* **P** **08 06 39.0 -1.7**
SNAA Sanae 92.33 195 P **P** **08 06 41.9 +1.2**
comp=E,8.1nm,0.8s,baz=144,slow=4.7,SNR=18
SNAA Sanae 92.33 195 P **P** **08 06 41.9 +1.2**
SNAA pmax pmax
comp=Z,8.0nm,0.8s
SNAA Sanae 92.33 195 *e*P **P** **08 06 38.6 -2.0**
comp=Z,40nm,1.0s
BOSA Boshof 93.41 240 P **P** **08 06 46.9 +0.3**
comp=Z,12nm,0.8s,baz=114,slow=4.6,SNR=20
BOSA LR LR 08 44 46.9
comp=Z,372nm,18.2s,baz=102,slow=33
BOSA Boshof 93.41 240 *e*P **P** **08 06 47.0 +0.3**
BOSA pmax pmax
comp=Z,65nm,1.5s
BOSA Boshof 93.41 240 *e*P **P** **08 06 47.0 +0.4**
comp=Z,65nm,1.5s
VSR Storozhevoye 93.76 321 *e*P **P** **08 06 46.4 -1.1**
VSR *e* 08 10 28.5
VSR *e*S S 08 17 42.1 -10
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR pmax pmax
comp=Z,110nm,2.3s
VSR pmax pmax
comp=N,150nm,2.3s
VSR pmax pmax
comp=E,80nm,2.3s
VSR smax smax
comp=N,90nm,1.7s
VSR smax smax
comp=E,70nm,1.7s
VSR smax smax
comp=Z,20nm,1.7s

LBTB Lobatse 93.85 244 *e*P **P** **08 06 49.3 +0.6**
LBTB pmax pmax
comp=Z,31nm,0.9s
LBTB Lobatse 93.85 244 *e*P **P** **08 06 49.3 +0.6**
comp=Z,30nm,0.9s
ANN Anapa 93.89 315 *e*P P 08 06 52.8 +4.6
ANN pmax pmax
comp=Z,70nm,1.1s
VNA2 Neumayer–Watz 93.94 194 *e* P 08 06 51.7 +3.7
baz=128,slow=3.6
KDAK Kodiak Island 93.98 32 *i*P **P** **08 06 49.7 +1.4**
VNA3 Neumayer Olymp 94.26 194 *e* **P** **08 06 52.4 +2.9**
KLMR Klimovskoe 95.13 331 *e*P **P** **08 06 50.8 -2.7**
KLMR *e* 08 10 47.6
KLMR pmax pmax
comp=Z,30nm,1.4s
MOS Moscow 95.36 325 *e*P **P** **08 06 52.8 -1.9**
MOS *e* 08 07 22.2
MOS *e* 08 10 47.2
MOS *e* 08 17 56.0
SLKM Skilak Lake 95.62 30 *e*P **P** **08 06 54.1 -1.8**
SLKM Skilak Lake 95.62 30 *e*P **P** **08 06 54.1 -1.8**
OBN Obninsk 95.87 325 *d i*P **P** **08 06 56.8 -0.2**
OBN *i* 08 10 46.7
OBN *e*S **SKSac** **08 17 22.7 -5.5**
OBN *i* PS **PS** **08 19 36.3 -0.4**
OBN pmax pmax
comp=Z,73nm,1.6s
OBN Obninsk 95.87 325 *e*P **P** **08 06 56.1 -0.9**
BRTR Keskin Array B 96.01 309 P **P** **08 06 56.9 -1.4**
comp=Z,4.6nm,0.7s,baz=116,slow=5.4,SNR=21
BRTR Keskin Array B 96.01 309 P **P** **08 06 56.9 -1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 96.01 309 P **P** **08 06 56.9 -1.4**
SUR Sutherland 96.28 236 *e*P **P** **08 07 01.4 +1.6**
comp=Z,47nm,0.9s
SUR Sutherland 96.28 236 P **P** **08 07 02.7 +2.9**
comp=Z,254nm,1.0s,SNR=6.0
COLD Coldfoot 96.55 23 *e*P **P** **08 06 59.5 -0.4**
comp=Z,6.8nm,0.7s
MCK McKinley 96.64 27 *e*P **P** **08 06 58.7 -1.7**
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 96.64 27 *e*P **P** **08 06 58.7 -1.7**
comp=Z,3.9nm,0.7s
SML Sawmill 96.70 29 *e*P **P** **08 06 59.0 -1.7**
SML pmax pmax
comp=Z,6.0nm,0.7s
SML Sawmill 96.70 29 *e*P **P** **08 06 59.0 -1.7**
comp=Z,5.8nm,0.7s
ILAR Eielson Array 97.64 26 P **P** **08 07 02.4 -2.5**
comp=Z,2.2nm,0.7s,baz=236,slow=5.2,SNR=34
ILAR PP **PP** **08 11 00.7 -2.4**
comp=Z,3.1nm,1.1s,baz=249,slow=7.0,SNR=6.1
ILAR PKKPbc **PKKPbc** **08 23 41.9 -1.8**
comp=Z,1.1nm,0.8s,baz=81,slow=1.8,SNR=7.9
ILAR Eielson Array 97.64 26 P **P** **08 07 02.4 -2.5**
ILAR 08 11 00.7
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 97.64 26 P **P** **08 07 02.4 -2.5**
ILAR PP **PP** **08 11 00.7 -2.4**
ILAR PKKPbc **PKKPbc** **08 23 41.9 -1.8**
APA Apatity 98.49 337⇑ *i*P Pdif 08 07 10.9 +2.3
APA *i* 08 11 12.0
APA *i* 08 17 40.0
APA *i* S **S** **08 18 30.0 -2.3**
APA *i* PS **PS** **08 20 00.0 -4.8**
APA *i* PPS PPS 08 20 46.0
APA MLR MLR
comp=Z,2μm,24.0s
DOT Dot Lake 98.80 27 *e*P **P** **08 07 08.8 -1.3**
comp=Z,2.6nm,0.6s
AKASG Malin Array Be 99.96 320 P **Pdif** **08 07 14.9 -0.6**
comp=Z,4.7nm,0.6s,baz=80,slow=4.5,SNR=16
AKASG PP PP 08 11 13.0 -8.2
comp=Z,1.8nm,0.6s,baz=83,slow=7.3,SNR=5.6
AKASG PKiKP **PKiKP** **08 11 44.3 +0.9**
comp=Z,3.8nm,0.9s,baz=80,slow=6.7,SNR=4.6
AKASG LR LR 09 02 51.9
comp=Z,194nm,20.9s,baz=75,slow=42
AKASG Malin Array Be 99.96 320 P **Pdif** **08 07 14.9 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 99.96 320 P **Pdif** **08 07 14.9 -0.6**
AKASG PP PP 08 11 13.0 -8.2
AKASG PKiKP **PKiKP** **08 11 44.3 +0.9**
KIEV Kiev 99.97 320 *e*P **Pdif** **08 07 14.4 -1.2**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 99.97 320 *e*P **Pdif** **08 07 14.4 -1.2**
comp=Z,4.9nm,0.6s
ARCES ARCESS Array B 101.36 339 P **Pdif** **08 07 21.2 -0.2**
comp=Z,5.8nm,0.9s,baz=88,slow=5.9,SNR=10
ARCES PKiKP **PKiKP** **08 11 46.3 +0.9**
comp=Z,1.2nm,0.6s,baz=77,slow=0.9,SNR=14
ARCES PKKPbc **PKKPbc** **08 23 30.2 -3.0**
comp=Z,4.2nm,0.9s,baz=294,slow=3.6,SNR=7.0
ARCES ARCESS Array B 101.36 339 P **Pdif** **08 07 21.2 -0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 101.36 339 P **Pdif** **08 07 21.2 -0.2**
ARCES PKiKP **PKiKP** **08 11 46.3 +0.9**
ARCES PKKPbc **PKKPbc** **08 23 30.2 -3.0**
NACGM Naroch 101.49 324 *e* 08 11 21.0
FINES FINESS Array B 101.66 331 P **Pdif** **08 07 22.0 -0.9**
comp=Z,1.0nm,0.6s,baz=95,slow=7.0,SNR=3.3
FINES PKiKP **PKiKP** **08 11 48.8 +2.7**
comp=Z,2.4nm,0.7s,baz=112,slow=2.1,SNR=3.6
FINES FINESS Array B 101.66 331 P **Pdif** **08 07 22.0 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 101.66 331 P **Pdif** **08 07 22.0 -0.9**
FINES PKiKP **PKiKP** **08 11 48.8 +2.7**
BUR08 Bucovina Ar. S 102.56 317 *e*Pdif **Pdif** **08 07 27.7 +0.4**
NB2 NORSAR Subarra108.81 332 PKPdf **PKiKP** **08 11 58.4 -1.0**
comp=Z,1.8nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 108.81 332 PKiKP **PKiKP** **08 11 58.6 -0.8**
comp=Z,1.3nm,0.7s,baz=262,slow=3.1,SNR=4.6
NOA NORSAR Array B 108.81 332 PKiKP **PKiKP** **08 11 58.6 -0.8**
GERES GERESS Array B 110.11 319 PKiKP **PKiKP** **08 12 02.9 +0.6**
comp=Z,1.3nm,0.7s,baz=180,slow=0.4,SNR=7.9
GERES PP **PP** **08 12 35.9 -0.6**
comp=Z,2.2nm,0.6s,baz=84,slow=5.9,SNR=6.9
GERES SKP 08 15 30.3
comp=Z,0.6nm,0.6s,baz=48,slow=2.0,SNR=3.8
GERES PKKP **PKKPab** **08 23 16.9 +1.8**
comp=Z,1.1nm,0.7s,baz=253,slow=4.1,SNR=7.9
GERES GERESS Array B 110.11 319 PKiKP **PKiKP** **08 12 02.9 +0.6**
GERES PP **PP** **08 12 35.9 -0.6**
GERES SKP 08 15 30.3
GERES PKKP **PKKPab** **08 23 16.9 +1.8**
CLL Collm 110.11 321 *e*P **Pdif** **08 08 01.0 +0.3**
CLL *e* 08 12 02.0
CLL *e* 08 12 36.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,700nm,18.8s
CLL Collm 110.11 321 *e*Pdif **Pdif** **08 08 01.0 +0.3**
CLL *e*PKiKP **PKiKP** **08 12 02.0 0.0**
comp=Z,5.0nm,1.0s
CLL *e*PP **PP** **08 12 36.0 -0.3**
comp=Z,9.0nm,1.1s
CLL *e*SKSac **SKSac** **08 18 40.0 +4.9**
CLL *e*PS **PS** **08 22 01.0 -5.4**
CLL *e*PPS PPS 08 23 10.0
CLL *e*SS SS 08 28 12.0 +14
CLL *e*SSS SSS 08 32 30.0
CLL LmV 09 00 00.0
comp=Z,700nm,18.8s
GRF Grafenberg Arr 111.54 320 *e*PP PP 08 12 30.1 -17
GRF *e*pPP 08 12 43.5
WTTA Wattenberg 111.75 317⇑ *i*PKiKP **PKiKP** **08 12 05.1 -0.4**
WTTA Wattenberg 111.75 317⇑ *i*P **PKiKP** **08 12 05.1 -0.4**
WTTA Wattenberg 111.75 317⇑ *i*PKiKP **PKiKP** **08 12 05.1 -0.4**
comp=Z,14nm,0.7s
WATA Walderalm 111.77 317⇑ *i*PKiKP **PKiKP** **08 12 06.0 +0.5**
WATA Walderalm 111.77 317⇑ *i*P **PKiKP** **08 12 06.0 +0.5**
WATA Walderalm 111.77 317⇑ *i*PKiKP **PKiKP** **08 12 06.0 +0.5**

comp=Z,5.1nm,0.6s
YKA Yellowknife Ar 112.06 25 Pdiff **Pdif 08 08 08.8 -0.2**
comp=Z,0.3nm,0.6s,baz=292,slow=4.6,SNR=6.6
YKA PKiKP **PKiKP 08 12 04.7 -0.7**
comp=Z,2.4nm,0.6s,baz=296,slow=2.0,SNR=43
YKA SKP 08 15 33.9
comp=Z,0.9nm,0.6s,baz=286,slow=2.1,SNR=6.6
YKA PKKPbc **PKKPbc 08 22 57.4 -2.2**
comp=Z,1.8nm,0.7s,baz=111,slow=3.3,SNR=17
YKA Yellowknife Ar 112.06 25 P **Pdif 08 08 08.9 -0.2**
YKA *i* 08 12 04.7
YKA Yellowknife Ar 112.06 25 Pdif **Pdif 08 08 08.8 -0.2**
YKA PKiKP **PKiKP 08 12 04.7 -0.7**
YKA SKP 08 15 34.0
YKA PKKPbc **PKKPbc 08 22 57.4 -2.2**
MOTA Moosalm 112.09 317 ⇓ *i* PKiKP **PKiKP 08 12 06.2 0.0**
MOTA Moosalm 112.09 317 ⇓ *i* P **PKiKP 08 12 06.2 0.0**
MOTA Moosalm 112.09 317 ⇓ *i* PKiKP **PKiKP 08 12 06.2 0.0**
comp=Z,4.7nm,0.6s
FETA Feichten 112.40 317 ⇓ *i* P **PKiKP 08 12 07.1 +0.4**
FETA Feichten 112.40 317 ⇓ *i* PKiKP **PKiKP 08 12 07.1 +0.4**
comp=Z,4.2nm,0.7s
DAVA Damuels 112.92 318 ⇑ *i* P **PKiKP 08 12 08.0 +0.3**
DAVA Damuels 112.92 318 ⇑ *i* PKiKP **PKiKP 08 12 08.0 +0.3**
comp=Z,13nm,0.9s
CDF Champ du Feu 114.36 319 *e*PKIKP PKPdf 08 12 10.1 -0.3
comp=Z,3.4nm,0.6s
MEM Membach 114.57 322 PKP PKPdf 08 12 11.3 +0.8
HINF Hinteralfeld 114.79 319 *e*PKIKP PKPdf 08 12 10.9 -0.2
comp=Z,12nm,0.7s
MOD Modoc 114.96 48 *e*PKPdf PKPdf 08 12 12.3 +0.5
BCLA Clavier 115.06 322 PKP **PKPdf 08 12 12.0 +0.5**
HAU Haudompre 115.07 319 *e*PKIKP **PKPdf 08 12 11.8 +0.2**
comp=Z,19nm,0.9s
HAU *e*R
comp=Z,1μm,21.0s
LPG La Plagne 115.42 316 *e*PKIKP **PKPdf 08 12 13.1 +0.3**
comp=Z,12nm,0.9s
LPL La Plagne 115.43 316 *e*PKIKP **PKPdf 08 12 12.9 +0.2**
comp=Z,7.9nm,0.6s
GIVF Givet 115.44 322 *e*PKIKP **PKPdf 08 12 12.8 +0.6**
comp=Z,19nm,0.8s
DOU Dourbes 115.58 322 PKP **PKPdf 08 12 12.9 +0.4**
MBDF Montbardon 115.59 315 *e*PKIKP **PKPdf 08 12 13.4 +0.5**
comp=Z,15nm,0.8s
CABF La Chapelle 115.60 318 *e*PKIKP **PKPdf 08 12 13.3 +0.5**
comp=Z,25nm,0.7s
SNF Seneffe 115.65 322 PKP **PKPdf 08 12 13.6 +1.0**
NEW Newport 115.67 41 ⇓P **PKPdf 08 12 14.5 +1.7**
baz=116
NEW ⇓P **PKPdf 08 12 14.5 +1.7**
baz=116
BAIF Baives 115.83 322 *e*PKIKP **PKPdf 08 12 13.7 +0.7**
comp=Z,17nm,0.7s
WVOR Wild Horse Val 116.06 47 *e*PKIKP **PKPdf 08 12 14.3 +0.4**
WVOR Wild Horse Val 116.06 47 *e*PKPdf **PKPdf 08 12 14.3 +0.4**
LMR La Mourre 116.09 314 *e*PKIKP **PKPdf 08 12 13.3 -0.4**
ORIF Oris-en-Rattie 116.16 316 *e*PKIKP **PKPdf 08 12 14.1 +0.2**
ORIF *e*R
comp=Z,611nm,22.0s
SMMC Simmler 116.25 55 ⇑P **PKPdf 08 12 15.8 +1.4**
baz=116
SMMC ⇑P **PKPdf 08 12 15.8 +1.4**
baz=116
C11A Tepee Creek (N 116.35 41 ⇑P **PKPdf 08 12 14.9 +0.8**
baz=116
C11A ⇑P **PKPdf 08 12 14.9 +0.8**
baz=116
PKM Peak Mountain 116.45 56 ⇑P **PKPdf 08 12 16.4 +1.5**
baz=116
PKM ⇑P **PKPdf 08 12 16.4 +1.5**
baz=116
B12A Libby 116.59 40 ⇑P **PKPdf 08 12 15.9 +1.3**
baz=116
B12A ⇑P **PKPdf 08 12 15.9 +1.3**
baz=116
SMRF Simiane la Rot 116.60 315 *e*PKIKP **PKPdf 08 12 14.7 0.0**
LOR Lormes 116.89 319 *e*PKIKP **PKPdf 08 12 15.5 +0.3**
comp=Z,9.7nm,0.7s
LOR *e*R
comp=Z,635nm,21.2s
C12B Naegeli Ranch, 116.89 41 ⇓P **PKPdf 08 12 15.2 0.0**
baz=117
C12B ⇓P **PKPdf 08 12 15.2 0.0**
baz=117
VES Vestal, Richgr 116.91 54 ⇑P **PKPdf 08 12 16.5 +0.9**
baz=117
VES ⇑P **PKPdf 08 12 16.5 +0.9**
baz=117
VIVF Saint-Julien-l 117.01 316 *e*PKIKP **PKPdf 08 12 15.6 +0.1**
NVAR Mina Array Bea 117.10 51 PKP **PKPdf 08 12 17.0 +0.9**
comp=Z,2.6nm,0.7s,baz=229,slow=1.7,SNR=16
NVAR PKKPbc **PKKPbc 08 22 40.2 -1.6**
comp=Z,0.8nm,0.6s,baz=105,slow=3.4,SNR=7.3
NVAR Mina Array Bea 117.10 51 PKP **PKPdf 08 12 17.0 +0.9**
NVAR PKKPbc **PKKPbc 08 22 40.2 -1.6**
D12A Red Ives Fores 117.17 41 ⇑P **PKPdf 08 12 15.7 -0.1**
baz=117
D12A ⇑P **PKPdf 08 12 15.7 -0.1**
baz=117
SSF Saint Saulge 117.18 319 *e*PKIKP **PKPdf 08 12 16.2 +0.5**
comp=Z,24nm,0.7s
A13A Flathead Natio 117.19 39 ⇑P **PKPdf 08 12 16.8 +1.0**
baz=117
A13A ⇑P **PKPdf 08 12 16.8 +1.0**
baz=117
BSMT Bassoo Peak 117.29 40 *e*PKPdf **PKPdf 08 12 15.9 -0.3**
B13A Whitefish 117.33 40 ⇓P **PKPdf 08 12 16.5 +0.4**
baz=117
B13A ⇓P **PKPdf 08 12 16.5 +0.4**
baz=117
AVF Avril sur Loir 117.36 318 *e*PKIKP **PKPdf 08 12 16.0 0.0**
comp=Z,15nm,0.8s
ISA Isabella 117.43 55 *e*PKIKP **PKPdf 08 12 17.9 +1.2**
ISA Isabella 117.43 55 *e*PKPdf **PKPdf 08 12 17.9 +1.2**
ISA Isabella 117.43 55 ⇑P **PKPdf 08 12 17.6 +0.9**
baz=117
ISA ⇑P **PKPdf 08 12 17.6 +0.9**
baz=117
C13A Hot Springs 117.48 41 ⇓P **PKPdf 08 12 16.4 0.0**
baz=117
C13A ⇓P **PKPdf 08 12 16.4 0.0**
baz=117
JTMT Jette 117.65 40 *e*PKPdf **PKPdf 08 12 16.7 -0.1**
D13A Huson 117.74 41 ⇑P **PKPdf 08 12 17.1 +0.2**
baz=118
D13A ⇑P **PKPdf 08 12 17.1 +0.2**
baz=118
BGF Bois d'Agland 117.76 318 *e*PKIKP **PKPdf 08 12 17.4 +0.6**
comp=Z,47nm,0.7s
MFID Camas Ranch 117.84 45 *e*PKPdf **PKPdf 08 12 18.5 +1.3**
MFID Camas Ranch 117.84 45 ⇓P **PKPdf 08 12 18.5 +1.3**
baz=118
MFID ⇓P **PKPdf 08 12 18.5 +1.3**
baz=118
SWMT Swartz Lake 117.91 41 *e*PKPdf **PKPdf 08 12 17.4 +0.2**
EDW2 Edwards Air Fo 117.94 55 ⇑P **PKPdf 08 12 19.6 +1.9**
baz=118
EDW2 ⇑P **PKPdf 08 12 19.6 +1.9**
baz=118
C14A Swan Lake 117.98 40 ⇓P **PKPdf 08 12 17.7 +0.3**
baz=118
C14A ⇓P **PKPdf 08 12 17.7 +0.3**
baz=118
GRAC Grapevine Rang 118.09 53 ⇑P **PKPdf 08 12 19.3 +1.5**
baz=118
GRAC ⇑P **PKPdf 08 12 19.3 +1.5**
baz=118
B14A Marquette Ranc 118.09 40 ⇑P **PKPdf 08 12 18.0 +0.4**
baz=118
B14A ⇑P **PKPdf 08 12 18.0 +0.4**
baz=118
LRMC Laurel Mountai 118.09 55 ⇑P **PKPdf 08 12 19.8 +1.8**
baz=118
LRMC ⇑P **PKPdf 08 12 19.8 +1.8**
baz=118
E13A Victor 118.11 42 ⇓P **PKPdf 08 12 17.9 +0.3**
baz=118
E13A ⇓P **PKPdf 08 12 17.9 +0.3**
baz=118
MPMC Manual Prospec 118.16 54 ⇓P **PKPdf 08 12 20.0 +1.8**
baz=118
MPMC ⇓P **PKPdf 08 12 20.0 +1.8**
baz=118
MSO Missoula 118.16 41 *e*PKPdf **PKPdf 08 12 17.8 +0.1**
MSO Missoula 118.16 41 ⇓P **PKPdf 08 12 17.8 +0.1**
baz=118
MSO ⇓P **PKPdf 08 12 17.8 +0.1**
baz=118
F13A Darby 118.21 43 ⇓P **PKPdf 08 12 18.2 +0.3**
baz=118
F13A ⇓P **PKPdf 08 12 18.2 +0.3**
baz=118
TCF Toulx Ste Croi 118.26 318 *e*PKIKP **PKPdf 08 12 18.3 +0.4**
comp=Z,24nm,1.0s
KESW Keswick, Cumbr 118.27 328 *e*P **PKPdf 08 12 17.6 +0.1**
KESW AMB AMB 08 12 17.9
comp=Z,101nm,3.5s
KESW Keswick, Cumbr 118.27 328 P **PKPdf 08 12 17.6 +0.1**
KESW AMB AMB 08 12 17.9
comp=Z,101nm,3.5s
BFSC Mount Baldy Ra 118.31 56 ⇑P **PKPdf 08 12 18.8 +0.4**
baz=118
BFSC ⇑P **PKPdf 08 12 18.8 +0.4**
baz=118
SLMT Seeley Lake 118.32 41 *e*PKPdf **PKPdf 08 12 17.9 -0.2**
D14A Greenough 118.36 41 ⇓P **PKPdf 08 12 18.3 +0.1**
baz=118
D14A ⇓P **PKPdf 08 12 18.3 +0.1**
baz=118
G13A Cobalt 118.48 43 ⇑P **PKPdf 08 12 19.0 +0.5**
baz=118
G13A ⇑P **PKPdf 08 12 19.0 +0.5**
baz=118
B15A Bradely Ranch, 118.55 39 ⇓P **PKPdf 08 12 18.2 -0.2**
baz=118
B15A ⇓P **PKPdf 08 12 18.2 -0.2**
baz=118
E14A Clinton 118.58 42 ⇓P **PKPdf 08 12 18.5 -0.2**
baz=118
E14A ⇓P **PKPdf 08 12 18.5 -0.2**
baz=118
FURC Furnace Creek, 118.58 53 ⇓P **PKPdf 08 12 20.8 +2.1**
baz=118
FURC ⇓P **PKPdf 08 12 20.8 +2.1**
baz=118
H13A Challis 118.62 44 ⇑P **PKPdf 08 12 19.8 +1.1**
baz=118,SNR=15
H13A ⇑P **PKPdf 08 12 19.8 +1.1**
baz=118,SNR=15
C15A Salmond Ranch, 118.71 40 ⇓P **PKPdf 08 12 19.0 +0.2**
baz=119
C15A ⇓P **PKPdf 08 12 19.0 +0.2**
baz=119
CAF Calviac 118.77 317 *e*PKIKP **PKPdf 08 12 19.0 +0.1**
comp=Z,18nm,0.9s
MURC Murrieta 118.78 57 ⇑P **PKPdf 08 12 19.3 +0.1**
baz=119
MURC ⇑P **PKPdf 08 12 19.3 +0.1**
baz=119
HLID Hailey 118.80 45 *e*PKPdf **PKPdf 08 12 19.7 +0.5**
HLID Hailey 118.80 45 ⇑P **PKPdf 08 12 20.5 +1.3**
baz=119,SNR=15
HLID ⇑P **PKPdf 08 12 20.5 +1.3**
baz=119,SNR=15
GSC Goldstone 118.83 55 *e*PKIKP **PKPdf 08 12 20.5 +1.1**
GSC Goldstone 118.83 55 *e*PKPdf **PKPdf 08 12 20.5 +1.1**
GSC Goldstone 118.83 55 ⇓P **PKPdf 08 12 20.9 +1.6**
baz=119
GSC ⇓P **PKPdf 08 12 20.9 +1.6**
baz=119
I13A Wildhorse Cree 118.90 45 ⇑P **PKPdf 08 12 20.6 +1.2**
baz=119,SNR=20
I13A ⇑P **PKPdf 08 12 20.6 +1.2**
baz=119,SNR=20
ELK Elko 118.93 48 PKP **PKPdf 08 12 19.8 +0.2**
comp=Z,4.0nm,0.8s,baz=278,slow=2.3,SNR=7.9
ELK Elko 118.93 48 PKIKP **PKPdf 08 12 19.8 +0.2**
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 118.93 48 PKP **PKPdf 08 12 19.8 +0.2**
ELK *e*PKPdf **PKiKP 08 12 20.5 +0.9**
A16A West Butte Ran 118.93 38 ⇓P **PKPdf 08 12 19.9 +0.7**
baz=119
A16A ⇓P **PKPdf 08 12 19.9 +0.7**
baz=119
GAL1 Galloway 118.97 329 *e*P **PKPdf 08 12 18.5 -0.4**
GAL1 AMB AMB 08 12 21.9
comp=Z,77nm,2.1s
GAL1 Galloway 118.97 329 P **PKPdf 08 12 18.5 -0.4**
GAL1 AMB AMB 08 12 21.9
comp=Z,77nm,2.1s
LDF La Druitiere 118.99 321 *e*PKIKP **PKPdf 08 12 19.2 +0.1**
comp=Z,7.6nm,0.8s
J13A Cove Ranch, Pi 119.01 45 ⇑P **PKPdf 08 12 21.1 +1.6**
baz=119,SNR=16
J13A ⇑P **PKPdf 08 12 21.1 +1.6**
baz=119,SNR=16
D15A Lincoln 119.01 41 ⇓P **PKPdf 08 12 20.5 +1.0**
baz=119
D15A ⇓P **PKPdf 08 12 20.5 +1.0**
baz=119
RJF Les Rejaudoux 119.03 317 *e*PKIKP **PKPdf 08 12 19.3 0.0**
RJF *e*R
comp=Z,540nm,20.5s
FOEL Foel Wylfa 119.08 327 *e*P **PKPdf 08 12 19.4 +0.3**
FOEL AMB AMB 08 12 23.1
comp=Z,81nm,3.7s
FOEL Foel Wylfa 119.08 327 P **PKPdf 08 12 19.4 +0.3**
FOEL AMB AMB 08 12 23.1
comp=Z,81nm,3.7s
MTLF Montolieu 119.12 315 *e*PKIKP **PKPdf 08 12 19.8 +0.2**
comp=Z,12nm,0.8s
E15A Deer Lodge 119.13 41 ⇓P **PKPdf 08 12 20.2 +0.6**
baz=119
E15A ⇓P **PKPdf 08 12 20.2 +0.6**
baz=119
SHOC Shoshone 119.15 54 ⇓P **PKPdf 08 12 21.7 +1.8**
baz=119
SHOC ⇓P **PKPdf 08 12 21.7 +1.8**
baz=119
FLN La Foliniere 119.16 321 *e*PKIKP **PKPdf 08 12 19.7 +0.3**
comp=Z,44nm,1.0s
FLN *e*R
comp=Z,462nm,18.0s
R11A Troy Canyon, C 119.21 51 ⇓P **PKPdf 08 12 21.4 +1.3**
baz=119
R11A ⇓P **PKPdf 08 12 21.4 +1.3**
baz=119
H14A Leadore 119.21 44 ⇑P **PKPdf 08 12 20.9 +1.0**
baz=119
H14A ⇑P **PKPdf 08 12 20.9 +1.0**
baz=119
C16A Fuhringer Ranc 119.25 40 ⇑P **PKPdf 08 12 20.8 +1.0**
baz=119
C16A ⇑P **PKPdf 08 12 20.8 +1.0**
baz=119
HEC Hector,Ludlow 119.30 55 ⇑P **PKPdf 08 12 21.8 +1.5**
baz=119
HEC ⇑P **PKPdf 08 12 21.8 +1.5**
baz=119
MCH1 Michaelchurch 119.35 326 *e*P **PKPdf 08 12 18.9 -0.8**
MCH1 AMB AMB 08 12 23.3
comp=Z,96nm,5.5s
MCH1 Michaelchurch 119.35 326 P **PKPdf 08 12 18.9 -0.8**
MCH1 AMB AMB 08 12 23.3
comp=Z,96nm,5.5s
I14A Mackay 119.36 44 ⇑P **PKPdf 08 12 21.3 +1.1**
baz=119,SNR=6.9
I14A ⇑P **PKPdf 08 12 21.3 +1.1**
baz=119,SNR=6.9
PFO Pinyon Flat Ob 119.40 57 ⇑P **PKPdf 08 12 22.0 +1.4**
baz=119
PFO ⇑P **PKPdf 08 12 22.0 +1.4**
baz=119
F15A Butte 119.42 42 ⇓P **PKPdf 08 12 21.1 +0.8**
baz=119
F15A ⇓P **PKPdf 08 12 21.1 +0.8**
baz=119
A17A Triple J Farms 119.48 38 ⇓P **PKPdf 08 12 21.0 +0.9**
baz=119
A17A ⇓P **PKPdf 08 12 21.0 +0.9**
baz=119
J14A Carey 119.49 45 ⇑P **PKPdf 08 12 21.7 +1.2**
baz=119
J14A ⇑P **PKPdf 08 12 21.7 +1.2**
baz=119
MCMT McKenzie Canyo 119.50 43 *e*PKPdf **PKPdf 08 12 21.9 +1.3**
TUQ Turquoise Moun 119.52 54 ⇑P **PKPdf 08 12 22.0 +1.3**
baz=119
TUQ ⇑P **PKPdf 08 12 22.0 +1.3**
baz=119
GRR Gorron 119.52 321 *e*PKIKP **PKPdf 08 12 20.3 +0.2**
MONP Monument Peak 119.54 57 ⇑P **PKPdf 08 12 22.1 +1.2**
baz=120
MONP ⇑P **PKPdf 08 12 22.1 +1.2**
baz=120
WLF1 Llynfaes 119.54 327 *e*P **PKPdf 08 12 18.9 -1.1**
WLF1 Llynfaes 119.54 327 P **PKPdf 08 12 18.9 -1.1**
D16A Dana Ranch, Ca 119.64 41 ⇑P **PKPdf 08 12 20.5 -0.1**
baz=120
D16A ⇑P **PKPdf 08 12 20.5 -0.1**
baz=120
G15A Dillon 119.64 43 ⇓P **PKPdf 08 12 22.1 +1.4**
baz=120
G15A ⇓P **PKPdf 08 12 22.1 +1.4**
baz=120
B17A L&G Farms, Che 119.66 39 ⇓P **PKPdf 08 12 21.0 +0.5**
baz=120
B17A ⇓P **PKPdf 08 12 21.0 +0.5**
baz=120
MFF Saint Martin d 119.70 319 *e*PKIKP **PKPdf 08 12 20.8 +0.2**
comp=Z,26nm,0.8s
H15A Lima 119.71 43 ⇑P **PKPdf 08 12 22.3 +1.4**
baz=120,SNR=8.1
H15A ⇑P **PKPdf 08 12 22.3 +1.4**
baz=120,SNR=8.1
BELC Belle Mtn. Jos 119.71 56 ⇓P **PKPdf 08 12 22.6 +1.4**
baz=120
BELC ⇓P **PKPdf 08 12 22.6 +1.4**
baz=120
TAM Tamanrasset 119.71 291 *e*PKIKP **PKPdf 08 12 22.5 +1.0**
TAM Tamanrasset 119.71 291 *e*PKPdf **PKPdf 08 12 22.5 +1.0**
E16A East Helena 119.73 41 ⇑P **PKPdf 08 12 21.8 +1.0**
baz=120
E16A ⇑P **PKPdf 08 12 21.8 +1.0**
baz=120
DVTC Desert V Tower 119.84 58 ⇓P **PKPdf 08 12 23.3 +1.9**
baz=120
DVTC ⇓P **PKPdf 08 12 23.3 +1.9**
baz=120
GMRC Granite Mounta 119.85 55 ⇑P **PKPdf 08 12 23.4 +2.0**
baz=120
GMRC ⇑P **PKPdf 08 12 23.4 +2.0**
baz=120
C17A Wharram Farm, 119.92 40 ⇓P **PKPdf 08 12 21.3 +0.2**
baz=120
C17A ⇓P **PKPdf 08 12 21.3 +0.2**
baz=120
K14A Jones Ranch, D 119.95 46 ⇓P **PKPdf 08 12 23.3 +1.9**
baz=120
K14A ⇓P **PKPdf 08 12 23.3 +1.9**
baz=120
I15A Monteview 120.00 44 ⇓P **PKPdf 08 12 22.2 +0.8**
baz=120
I15A ⇓P **PKPdf 08 12 22.2 +0.8**
baz=120
A18A Metzger Ranch, 120.01 38 ⇓P **PKPdf 08 12 21.6 +0.4**
baz=120
A18A ⇓P **PKPdf 08 12 21.6 +0.4**
baz=120
F16A Kennard Place, 120.01 42 ⇑P **PKPdf 08 12 21.9 +0.5**
baz=120
F16A ⇑P **PKPdf 08 12 21.9 +0.5**
baz=120
D17A Six Diamond Ra 120.15 40 ⇑P **PKPdf 08 12 22.5 +0.9**
baz=120
D17A ⇑P **PKPdf 08 12 22.5 +0.9**
baz=120
BC3 Big Chuckawall 120.21 56 ⇓P **PKPdf 08 12 23.4 +1.3**
baz=120
BC3 ⇓P **PKPdf 08 12 23.4 +1.3**
baz=120
J15A Blackfoot 120.22 45 ⇑P **PKPdf 08 12 23.3 +1.4**
baz=120,SNR=8.7
J15A ⇑P **PKPdf 08 12 23.3 +1.4**
baz=120,SNR=8.7
B18A Beardsley Farm 120.25 39 ⇑P **PKPdf 08 12 22.6 +1.0**
baz=120
B18A ⇑P **PKPdf 08 12 22.6 +1.0**
baz=120
E17A Martinsdale 120.28 41 ⇓P **PKPdf 08 12 23.6 +1.6**
baz=120
E17A ⇓P **PKPdf 08 12 23.6 +1.6**
baz=120
K15A Arbon 120.37 46 ⇓P **PKPdf 08 12 23.7 +1.5**
baz=120
K15A ⇓P **PKPdf 08 12 23.7 +1.5**
baz=120
IRM Iron Mountain 120.37 56 ⇓P **PKPdf 08 12 24.0 +1.7**
baz=120
IRM ⇓P **PKPdf 08 12 24.0 +1.7**
baz=120
EGMT Eagleton 120.41 39 ⇓P **PKPdf 08 12 23.5 +1.5**
baz=120
EGMT ⇓P **PKPdf 08 12 23.5 +1.5**
baz=120
HVU Hansel Valley 120.45 47 *e*PKIKP **PKPdf 08 12 22.4 0.0**
HVU Hansel Valley 120.45 47 *e*PKPdf **PKPdf 08 12 22.4 0.0**
R13A O'Grain Ranch, 120.49 51 ⇓P **PKPdf 08 12 25.8 +3.2**
baz=120
R13A ⇓P **PKPdf 08 12 25.8 +3.2**
baz=120
EPF Esparros 120.52 315 *e*PKIKP **PKPdf 08 12 22.8 +0.5**
F17A Fitzpatrick Pl 120.61 41 ⇓P **PKPdf 08 12 24.0 +1.4**
baz=120
F17A ⇓P **PKPdf 08 12 24.0 +1.4**
baz=120
SGMF Saint Gilles 120.62 321 *e*PKIKP **PKPdf 08 12 22.3 0.0**
comp=Z,26nm,0.8s
L15A Malad City 120.67 46 ⇓P **PKPdf 08 12 23.8 +1.0**
baz=121
L15A ⇓P **PKPdf 08 12 23.8 +1.0**
baz=121
A19A Klindworth Far 120.68 38 ⇑P **PKPdf 08 12 22.9 +0.4**
baz=121
A19A ⇑P **PKPdf 08 12 22.9 +0.4**
baz=121
G17A Pierce Place, 120.75 42 ⇑P **PKPdf 08 12 24.4 +1.5**
baz=121
G17A ⇑P **PKPdf 08 12 24.4 +1.5**
baz=121
J16A Bone 120.83 45 ⇓P **PKPdf 08 12 24.5 +1.3**
baz=121
J16A ⇓P **PKPdf 08 12 24.5 +1.3**
baz=121
GLA Glamis 120.83 57 ⇑P **PKPdf 08 12 24.6 +1.4**
baz=121
GLA ⇑P **PKPdf 08 12 24.6 +1.4**
baz=121
E18A Harlowton 120.85 41 ⇓P **PKPdf 08 12 24.4 +1.5**
baz=121
E18A ⇓P **PKPdf 08 12 24.4 +1.5**
baz=121
DUG Dugway 120.86 48 *e*PKIKP **PKPdf 08 12 23.9 +0.7**
DUG Dugway 120.86 48 *e*PKPdf **PKPdf 08 12 23.9 +0.7**
DUG Dugway 120.86 48 ⇓P **PKPdf 08 12 24.6 +1.4**
baz=121
DUG ⇓P **PKPdf 08 12 24.6 +1.4**
baz=121
N15A Stansbury Isla 120.88 48 ⇓P **PKPdf 08 12 24.4 +1.2**
baz=121
N15A ⇓P **PKPdf 08 12 24.4 +1.2**
baz=121
Y12C Blythe 120.96 56 ⇓P **PKPdf 08 12 24.6 +1.3**
baz=121
Y12C ⇓P **PKPdf 08 12 24.6 +1.3**
baz=121
K16A Soda Springs 120.98 45 ⇓P **PKPdf 08 12 24.5 +1.1**
baz=121,SNR=7.2
K16A ⇓P **PKPdf 08 12 24.5 +1.1**
baz=121,SNR=7.2
ROSF Rostrenen 121.03 322 *e*PKIKP **PKPdf 08 12 23.1 0.0**
O15A The Old Anders 121.09 48 ⇑P **PKPdf 08 12 25.2 +1.5**
baz=121
O15A ⇑P **PKPdf 08 12 25.2 +1.5**
baz=121
QUIF Quistinic 121.13 321 *e*PKIKP **PKPdf 08 12 23.4 +0.2**
A20A Cobblestone Ra 121.19 37 ⇓P **PKPdf 08 12 24.1 +0.6**
baz=121
A20A ⇓P **PKPdf 08 12 24.1 +0.6**
baz=121
ETSF Etsaut 121.19 315 *e*PKIKP **PKPdf 08 12 24.1 +0.4**
comp=Z,14nm,0.9s
TPAW Teton Pass 121.22 44 *e*PKPdf **PKPdf 08 12 25.1 +1.1**
W13A Hualapai Mount 121.22 54 ⇑P **PKPdf 08 12 26.1 +1.9**
baz=121
W13A ⇑P **PKPdf 08 12 26.1 +1.9**
baz=121
F18A Big Timber 121.22 41 ⇓P **PKPdf 08 12 24.8 +1.1**
baz=121
F18A ⇓P **PKPdf 08 12 24.8 +1.1**

baz=121
MOOW **Moose Ponds** 121.28 44 *e*PKPdf **PKPdf** 08 12 25.5 +1.5
B20A **Solberg Farm,** 121.31 38 ⇓P **PKPdf** 08 12 24.2 +0.5
baz=121,SNR=7.2
B20A ⇓P **PKPdf** 08 12 24.2 +0.5
baz=121,SNR=7.2
REDW **Red Top Meadow** 121.33 44 *e*PKPdf **PKPdf** 08 12 24.6 +0.5
I17A **Pilgrim Ck.** 121.34 44 ⇑P **PKPdf** 08 12 25.3 +1.2
baz=121
I17A ⇑P **PKPdf** 08 12 25.3 +1.2
baz=121
L16A **Fish Haven** 121.34 46 ⇑P **PKPdf** 08 12 24.9 +0.7
baz=121
L16A ⇑P **PKPdf** 08 12 24.9 +0.7
baz=121
SNOW **Snow King Moun** 121.36 44 *e*PKPdf **PKPdf** 08 12 25.3 +1.1
HWUT **Hardware Ranch** 121.37 46 *e*PKPdf **PKPdf** 08 12 24.8 +0.6
LOHW **Long Hollow** 121.42 44 *e*PKPdf **PKPdf** 08 12 25.2 +1.0
P15A **Leamington** 121.42 49 ⇓P **PKPdf** 08 12 25.5 +1.1
baz=121
P15A ⇓P **PKPdf** 08 12 25.5 +1.1
baz=121
J17A **Brown Place, J** 121.43 44 ⇓P **PKPdf** 08 12 25.7 +1.5
baz=121,SNR=10.0
J17A ⇓P **PKPdf** 08 12 25.7 +1.5
baz=121,SNR=10.0
SJPF **Ste Jean** 121.59 315 *e*PKIKP **PKPdf** 08 12 25.4 +1.1
comp=Z,18nm,0.9s
FFC **Flin Flon** 121.59 29 *i* PKIKP **PKPdf** 08 12 24.6 +0.7
FFC **Flin Flon** 121.59 29 *e*PKPdf **PKPdf** 08 12 24.1 +0.2
C20A **Veseth Ranch,** 121.62 39 ⇑P **PKPdf** 08 12 25.0 +0.7
baz=122
C20A ⇑P **PKPdf** 08 12 25.0 +0.7
baz=122
A21A **Bergtoll Ranch** 121.74 37 ⇓P **PKPdf** 08 12 25.0 +0.5
baz=122
A21A ⇓P **PKPdf** 08 12 25.0 +0.5
baz=122
MSU **Marysvale** 121.77 50 *e*PKIKP **PKPdf** 08 12 26.5 +1.4
MSU **Marysvale** 121.77 50 *e*PKPdf **PKPdf** 08 12 26.4 +1.4
Z13A **Yuma Proving G** 121.77 57 ⇓P **PKPdf** 08 12 26.9 +1.9
baz=122
Z13A ⇓P **PKPdf** 08 12 26.9 +1.9
baz=122
R15A **Junction** 121.77 50 ⇑P **PKPdf** 08 12 26.7 +1.6
baz=122
R15A ⇑P **PKPdf** 08 12 26.7 +1.6
baz=122
MPU **Maple Canyon** 121.78 48 *e*PKPdf **PKPdf** 08 12 26.0 +1.0
D20A **Manuel Ranch,** 121.78 39 ⇓P **PKPdf** 08 12 25.3 +0.7
baz=122
D20A ⇓P **PKPdf** 08 12 25.3 +0.7
baz=122
O16A **Springville** 121.82 48 ⇑P **PKPdf** 08 12 26.3 +1.2
baz=122
O16A ⇑P **PKPdf** 08 12 26.3 +1.2
baz=122
M17A **Scullys Gap (B** 122.05 46 ⇑P **PKPdf** 08 12 22.5 -3.0
baz=122,SNR=6.8
M17A ⇑P **PKPdf** 08 12 22.5 -3.0
baz=122,SNR=6.8
N17A **Moffit Pass** 122.09 47 ⇑P **PKPdf** 08 12 27.0 +1.3
baz=122
N17A ⇑P **PKPdf** 08 12 27.0 +1.3
baz=122
K18A **Toltan Ranch,** 122.13 45 ⇓P **PKPdf** 08 12 26.3 +0.6
baz=122,SNR=14
K18A ⇓P **PKPdf** 08 12 26.3 +0.6
baz=122,SNR=14
C21A **Desert Coulee** 122.13 38 ⇑P **PKPdf** 08 12 25.9 +0.6
baz=122,SNR=8.7
C21A ⇑P **PKPdf** 08 12 25.9 +0.6
baz=122,SNR=8.7
Y14A **Wickenburg** 122.17 56 ⇓P **PKPdf** 08 12 25.5 -0.2
baz=122
Y14A ⇓P **PKPdf** 08 12 25.5 -0.2
baz=122
TMUT **Trail Mountain** 122.29 49 *e*PKPdf **PKPdf** 08 12 27.3 +1.1
A22A **Carney Farms,** 122.34 37 ⇑P **PKPdf** 08 12 27.0 +1.3
baz=122
A22A ⇑P **PKPdf** 08 12 27.0 +1.3
baz=122
R16A **Teasdale** 122.36 50 ⇑P **PKPdf** 08 12 27.2 +1.0
baz=122
R16A ⇑P **PKPdf** 08 12 27.2 +1.0
baz=122
L18A **Fontenelle, Gr** 122.36 46 ⇑P **PKPdf** 08 12 27.2 +1.0
baz=122,SNR=8.7
L18A ⇑P **PKPdf** 08 12 27.2 +1.0
baz=122,SNR=8.7
O17A **Robinson Place** 122.38 48 ⇓P **PKPdf** 08 12 27.6 +1.4
baz=122,SNR=11
O17A ⇓P **PKPdf** 08 12 27.6 +1.4
baz=122,SNR=11
PD01 **Pinedale Array** 122.40 45 *e*PKPdf **PKPdf** 08 12 26.3 +0.1
PD02 **Pinedale Array** 122.41 45 *e*PKPdf **PKPdf** 08 12 26.6 +0.4
S16A **Weppner Ranch,** 122.42 51 ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122,SNR=13
S16A ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122,SNR=13
BW06 **Boulder Array** 122.42 45 ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122
BW06 ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122
BW06 ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122
BW06 ⇑P **PKPdf** 08 12 27.3 +1.0
baz=122
PDAR **Pinedale Array** 122.42 45 PKP **PKPdf** 08 12 26.7 +0.5
comp=Z,3.9nm,0.7s,baz=207,slow=1.7,SNR=12
PDAR PKKPbc **PKKPbc** 08 22 22.8 +0.4
comp=Z,2.4nm,0.7s,baz=106,slow=5.7,SNR=17
PDAR SKKPbc SKKPbc 08 26 06.4 -1.1
comp=Z,1.0nm,1.0s,baz=87,slow=5.2,SNR=3.8
PDAR **Pinedale Array** 122.42 45 PKP **PKPdf** 08 12 26.7 +0.5
PDAR PKKPbc **PKKPbc** 08 22 22.8 +0.4
PDAR SKKPbc SKKPbc 08 26 06.4 -1.1
Q16A **Castle Valley** 122.42 49 ⇑P **PKPdf** 08 12 27.8 +1.5
baz=122
Q16A ⇑P **PKPdf** 08 12 27.8 +1.5
baz=122
G20A **Bridger** 122.45 42 ⇓P **PKPdf** 08 12 27.5 +1.4
baz=122
G20A ⇓P **PKPdf** 08 12 27.5 +1.4
baz=122
114A **Black Gap (USA** 122.50 57 ⇓P **PKPdf** 08 12 27.8 +1.4
baz=122
114A ⇓P **PKPdf** 08 12 27.8 +1.4
baz=122
D21A **La Casta Ranch** 122.51 39 ⇑P **PKPdf** 08 12 26.9 +0.9
baz=122
D21A ⇑P **PKPdf** 08 12 26.9 +0.9
baz=122
P17A **Butcher Ranch,** 122.59 49 ⇑P **PKPdf** 08 12 27.7 +1.1
baz=122
P17A ⇑P **PKPdf** 08 12 27.7 +1.1
baz=122
B22A **Reddig Ranch S** 122.59 37 ⇓P **PKPdf** 08 12 27.1 +1.0
baz=122
B22A ⇓P **PKPdf** 08 12 27.1 +1.0
baz=122
J19A **Crowheart** 122.60 44 ⇓P **PKPdf** 08 12 27.5 +1.0
baz=122
J19A ⇓P **PKPdf** 08 12 27.5 +1.0
baz=122
L19A **Farson** 122.78 45 ⇓P **PKPdf** 08 12 28.0 +1.0
baz=123,SNR=7.1
L19A ⇓P **PKPdf** 08 12 28.0 +1.0
baz=123,SNR=7.1
SRU **San Rafael** 122.85 49 ⇓P **PKPdf** 08 12 28.4 +1.3
baz=123
SRU ⇓P **PKPdf** 08 12 28.4 +1.3
baz=123
K19A **Absolon Red Bu** 122.89 44 ⇑P **PKPdf** 08 12 27.7 +0.6
baz=123,SNR=13
K19A ⇑P **PKPdf** 08 12 27.7 +0.6
baz=123,SNR=13
O18A **Roosevelt** 122.90 48 ⇑P **PKPdf** 08 12 28.5 +1.4
baz=123,SNR=13
O18A ⇑P **PKPdf** 08 12 28.5 +1.4
baz=123,SNR=13
C22A **Vida** 122.90 38 ⇓P **PKPdf** 08 12 27.8 +1.0
baz=123,SNR=7.2
C22A ⇓P **PKPdf** 08 12 27.8 +1.0
baz=123,SNR=7.2
R17A **Hanksville Air** 122.91 50 ⇓P **PKPdf** 08 12 28.2 +1.0
baz=123,SNR=14
R17A ⇓P **PKPdf** 08 12 28.2 +1.0
baz=123,SNR=14
D22A **Cohagen** 122.98 39 ⇑P **PKPdf** 08 12 27.9 +1.0
baz=123,SNR=24
D22A ⇑P **PKPdf** 08 12 27.9 +1.0
baz=123,SNR=24
I20A **Worland** 122.98 43 ⇑P **PKPdf** 08 12 27.8 +0.7
baz=123
I20A ⇑P **PKPdf** 08 12 27.8 +0.7
baz=123
S17A **Black Ridge (B** 123.05 51 ⇑P **PKPdf** 08 12 28.7 +1.2
baz=123,SNR=8.0
S17A ⇑P **PKPdf** 08 12 28.7 +1.2
baz=123,SNR=8.0
G21A **Lodge Grass** 123.11 41 ⇓P **PKPdf** 08 12 29.0 +1.6
baz=123
G21A ⇓P **PKPdf** 08 12 29.0 +1.6
baz=123
M19A **Rock Springs** 123.12 46 ⇓P **PKPdf** 08 12 28.8 +1.2
baz=123
M19A ⇓P **PKPdf** 08 12 28.8 +1.2
baz=123
B23A **Brockton** 123.12 37 ⇑P **PKPdf** 08 12 28.1 +1.0
baz=123
B23A ⇑P **PKPdf** 08 12 28.1 +1.0
baz=123
WUAZ **Wupatki** 123.13 53 *e*PKPdf **PKPdf** 08 12 29.1 +1.4
WUAZ **Wupatki** 123.13 53 ⇓P **PKPdf** 08 12 29.2 +1.5
baz=123
WUAZ ⇓P **PKPdf** 08 12 29.2 +1.5
baz=123
Q18A **Rafter H Ranch** 123.15 49 ⇓P **PKPdf** 08 12 28.9 +1.3
baz=123
Q18A ⇓P **PKPdf** 08 12 28.9 +1.3
baz=123
U16A **Tuba City** 123.17 53 ⇓P **PKPdf** 08 12 29.8 +2.0
baz=123,SNR=13
U16A ⇓P **PKPdf** 08 12 29.8 +2.0
baz=123,SNR=13
T17A **Navajo Res., N** 123.21 52 ⇑P **PKPdf** 08 12 29.8 +1.9
baz=123,SNR=19
T17A ⇑P **PKPdf** 08 12 29.8 +1.9
baz=123,SNR=19
J20A **Shoshoni** 123.23 44 ⇑P **PKPdf** 08 12 28.9 +1.3
baz=123
J20A ⇑P **PKPdf** 08 12 28.9 +1.3
baz=123
C23A **Lambert** 123.30 38 ⇑P **PKPdf** 08 12 29.0 +1.5
baz=123,SNR=13
C23A ⇑P **PKPdf** 08 12 29.0 +1.5
baz=123,SNR=13
N19A **John Jarvie Ra** 123.30 47 ⇓P **PKPdf** 08 12 29.2 +1.3
baz=123
N19A ⇓P **PKPdf** 08 12 29.2 +1.3
baz=123
X16A **Lo Mia Camp, P** 123.33 55 ⇑P **PKPdf** 08 12 29.8 +1.7
baz=123,SNR=5.0
X16A ⇑P **PKPdf** 08 12 29.8 +1.7
baz=123,SNR=5.0
TOA0 **Torodi Ar. Sit** 123.41 280 *e*PKPdf **PKPdf** 08 12 28.4 -0.1
TORD **Torodi Ar. Bea** 123.41 280 PKP **PKPdf** 08 12 28.7 +0.1
comp=Z,15nm,0.7s,baz=74,slow=1.9,SNR=78
TORD SKP 08 15 57.9
comp=Z,7.2nm,1.1s,baz=51,slow=2.2,SNR=6.9
TORD PKKPbc **PKKPab** 08 22 18.4 +0.8
comp=Z,1.8nm,0.7s,baz=292,slow=5.4,SNR=8.8
TORD **Torodi Ar. Bea** 123.41 280 PKP **PKPdf** 08 12 28.7 +0.1
TORD SKP 08 15 57.9
TORD PKKPbc **PKKPab** 08 22 18.4 +0.8
E22A **Miles City** 123.42 39 ⇓P **PKPdf** 08 12 28.8 +1.0
baz=123,SNR=5.7
E22A ⇓P **PKPdf** 08 12 28.8 +1.0
baz=123,SNR=5.7
U17A **Shonto** 123.43 52 ⇓P **PKPdf** 08 12 29.8 +1.5
baz=123
U17A ⇓P **PKPdf** 08 12 29.8 +1.5
baz=123
A24A **Westby** 123.49 36 ⇑P **PKPdf** 08 12 28.7 +0.9
baz=123
A24A ⇑P **PKPdf** 08 12 28.7 +0.9
baz=123
F22A **Rosebud** 123.50 40 ⇓P **PKPdf** 08 12 29.4 +1.4
baz=123
F22A ⇓P **PKPdf** 08 12 29.4 +1.4
baz=123
L20A **Wamsutter** 123.53 45 ⇓P **PKPdf** 08 12 29.3 +0.9
baz=123
L20A ⇓P **PKPdf** 08 12 29.3 +0.9
baz=123
O19A **Miners Draw (B** 123.53 47 ⇑P **PKPdf** 08 12 29.3 +0.9
baz=123
O19A ⇑P **PKPdf** 08 12 29.3 +0.9
baz=123
R18A **Canyonlands Na** 123.53 50 ⇑P **PKPdf** 08 12 29.2 +0.8
baz=123,SNR=14
R18A ⇑P **PKPdf** 08 12 29.2 +0.8
baz=123,SNR=14
D23A **Lindsay** 123.57 38 ⇓P **PKPdf** 08 12 29.4 +1.3
baz=124
D23A ⇓P **PKPdf** 08 12 29.4 +1.3
baz=124
V17A **Tonalea, Kykot** 123.57 53 ⇑P **PKPdf** 08 12 29.3 +0.7
baz=124
V17A ⇑P **PKPdf** 08 12 29.3 +0.7
baz=124
DGMT **Dagmar** 123.59 37 ⇓P **PKPdf** 08 12 29.1 +1.1
baz=124
DGMT ⇓P **PKPdf** 08 12 29.1 +1.1
baz=124
I21A **Big Trails, Te** 123.60 43 ⇓P **PKPdf** 08 12 28.7 +0.4
baz=124,SNR=5.5
I21A ⇓P **PKPdf** 08 12 28.7 +0.4
baz=124,SNR=5.5
S18A **Hurst Farm, Bl** 123.65 51 ⇑P **PKPdf** 08 12 29.8 +1.0
baz=124,SNR=11
S18A ⇑P **PKPdf** 08 12 29.8 +1.0
baz=124,SNR=11
J21A **Lysite** 123.67 43 ⇑P **PKPdf** 08 12 29.3 +0.7
baz=124
J21A ⇑P **PKPdf** 08 12 29.3 +0.7
baz=124
G22A **Birney** 123.71 41 ⇑P **PKPdf** 08 12 29.5 +1.1
baz=124
G22A ⇑P **PKPdf** 08 12 29.5 +1.1
baz=124
W17A **Winslow** 123.76 54 ⇓P **PKPdf** 08 12 29.9 +0.9
baz=124
W17A ⇓P **PKPdf** 08 12 29.9 +0.9
baz=124
E23A **Ismay** 123.80 39 ⇓P **PKPdf** 08 12 29.8 +1.3
baz=124
E23A ⇓P **PKPdf** 08 12 29.8 +1.3
baz=124
M20A **Sweetwater, Wa** 123.81 46 ⇓P **PKPdf** 08 12 30.0 +1.1
baz=124
M20A ⇓P **PKPdf** 08 12 30.0 +1.1
baz=124
Q19A **Hogan Spring (** 123.84 49 ⇑P **PKPdf** 08 12 30.1 +1.1
baz=124,SNR=5.9
Q19A ⇑P **PKPdf** 08 12 30.1 +1.1
baz=124,SNR=5.9
P19A **Cripple Cowboy** 123.84 48 ⇑P **PKPdf** 08 12 30.4 +1.4
baz=124
P19A ⇑P **PKPdf** 08 12 30.4 +1.4
baz=124
X17A **Forest Lakes** 123.86 55 ⇓P **PKPdf** 08 12 30.3 +1.0
baz=124
X17A ⇓P **PKPdf** 08 12 30.3 +1.0
baz=124
C24A **Savage** 123.88 38 ⇑P **PKPdf** 08 12 30.2 +1.6
baz=124
C24A ⇑P **PKPdf** 08 12 30.2 +1.6
baz=124
T18A **Mexican Hat** 123.89 51 ⇑P **PKPdf** 08 12 30.4 +1.3
baz=124,SNR=18
T18A ⇑P **PKPdf** 08 12 30.4 +1.3
baz=124,SNR=18
H22A **Clearmont** 123.92 42 ⇑P **PKPdf** 08 12 30.1 +1.3
baz=124
H22A ⇑P **PKPdf** 08 12 30.1 +1.3
baz=124
N20A **Spence Gulch,** 123.98 46 ⇓P **PKPdf** 08 12 30.6 +1.3
baz=124
N20A ⇓P **PKPdf** 08 12 30.6 +1.3
baz=124
R19A **Curley Farm, L** 124.04 50 ⇑P **PKPdf** 08 12 30.7 +1.2
baz=124
R19A ⇑P **PKPdf** 08 12 30.7 +1.2
baz=124
K21A **Alcova** 124.06 44 ⇓P **PKPdf** 08 12 29.8 +0.5
baz=124,SNR=7.6
K21A ⇓P **PKPdf** 08 12 29.8 +0.5
baz=124,SNR=7.6
F23A **Volborg** 124.07 40 ⇑P **PKPdf** 08 12 29.9 +0.8
baz=124,SNR=5.7
F23A ⇑P **PKPdf** 08 12 29.9 +0.8
baz=124,SNR=5.7
U18A **Rough Rock, Ch** 124.09 52 ⇓P **PKPdf** 08 12 31.3 +1.7
baz=124,SNR=12
U18A ⇓P **PKPdf** 08 12 31.3 +1.7
baz=124,SNR=12
I22A **9 Mile Ranch,** 124.11 42 ⇑P **PKPdf** 08 12 30.2 +0.8
baz=124
I22A ⇑P **PKPdf** 08 12 30.2 +0.8
baz=124
D24A **Glendive** 124.13 38 ⇓P **PKPdf** 08 12 30.4 +1.2
baz=124
D24A ⇓P **PKPdf** 08 12 30.4 +1.2
baz=124
L21A **Rawlins** 124.22 45 ⇑P **PKPdf** 08 12 30.9 +1.2
baz=124
L21A ⇑P **PKPdf** 08 12 30.9 +1.2
baz=124
O20A **White River Ci** 124.22 47 ⇓P **PKPdf** 08 12 31.0 +1.3
baz=124,SNR=12
O20A ⇓P **PKPdf** 08 12 31.0 +1.3
baz=124,SNR=12
V18A **Ganado** 124.22 53 ⇓P **PKPdf** 08 12 31.6 +1.7
baz=124
V18A ⇓P **PKPdf** 08 12 31.6 +1.7
baz=124
PV04 **Paradox Valley** 124.27 49 *e*PKPdf **PKPdf** 08 12 30.5 +0.6
S19A **Harvey Farm, M** 124.29 50 ⇓P **PKPdf** 08 12 31.6 +1.6
baz=124
S19A ⇓P **PKPdf** 08 12 31.6 +1.6
baz=124
G23A **Biddle** 124.30 41 ⇑P **PKPdf** 08 12 30.3 +0.7
baz=124
G23A ⇑P **PKPdf** 08 12 30.3 +0.7
baz=124
J22A **Midwest** 124.30 43 ⇓P **PKPdf** 08 12 30.3 +0.6
baz=124
J22A ⇓P **PKPdf** 08 12 30.3 +0.6
baz=124
P20A **De Beque** 124.32 48 ⇑P **PKPdf** 08 12 31.2 +1.3
baz=124
P20A ⇑P **PKPdf** 08 12 31.2 +1.3
baz=124
TUC **Tucson** 124.32 57 *e*PKIKP **PKPdf** 08 12 31.5 +1.5
TUC **Tucson** 124.32 57 *e*PKPdf **PKPdf** 08 12 31.5 +1.5
M21A **Separation Pea** 124.35 45 ⇓P **PKPdf** 08 12 30.8 +0.8
baz=124
M21A ⇓P **PKPdf** 08 12 30.8 +0.8
baz=124
E24A **Baker** 124.39 39 ⇑P **PKPdf** 08 12 30.8 +1.2
baz=124
E24A ⇑P **PKPdf** 08 12 30.8 +1.2
baz=124
X18A **Snowflake** 124.50 54 ⇑P **PKPdf** 08 12 31.5 +1.1
baz=124
X18A ⇑P **PKPdf** 08 12 31.5 +1.1
baz=124
W18A **Petrified Fore** 124.53 53 ⇑P **PKPdf** 08 12 31.4 +1.0
baz=124
W18A ⇑P **PKPdf** 08 12 31.4 +1.0
baz=124
N21A **Black Mountain** 124.53 46 ⇑P **PKPdf** 08 12 31.6 +1.3
baz=124,SNR=8.9
N21A ⇑P **PKPdf** 08 12 31.6 +1.3
baz=124,SNR=8.9
K22A **Casper** 124.55 44 ⇓P **PKPdf** 08 12 31.1 +0.9
baz=124
K22A ⇓P **PKPdf** 08 12 31.1 +0.9
baz=124
Q20A **Ridgley Place,** 124.56 49 ⇓P **PKPdf** 08 12 31.8 +1.4
baz=124,SNR=12
Q20A ⇓P **PKPdf** 08 12 31.8 +1.4
baz=124,SNR=12
PV01 **Paradox Valley** 124.60 50 *e*PKPdf **PKPdf** 08 12 31.7 +1.1
Y18A **Canyon Day Jun** 124.61 55 ⇑P **PKPdf** 08 12 32.0 +1.4
baz=124
Y18A ⇑P **PKPdf** 08 12 32.0 +1.4
baz=124
T19A **Beclabito** 124.63 51 ⇑P **PKPdf** 08 12 31.9 +1.3
baz=124
T19A ⇑P **PKPdf** 08 12 31.9 +1.3
baz=124
U19A **Dine' College,** 124.64 52 ⇓P **PKPdf** 08 12 32.2 +1.5
baz=124
U19A ⇓P **PKPdf** 08 12 32.2 +1.5
baz=124
ESDC **Sonseca Array** 124.65 312 PKP **PKPdf** 08 12 30.9 +0.5
comp=Z,3.9nm,0.7s,baz=12,slow=2.7,SNR=9.9
ESDC PP **PP** 08 14 14.9 -2.9
comp=Z,1.9nm,0.6s,baz=67,slow=6.2,SNR=5.6
ESDC **Sonseca Array** 124.65 312 PKP **PKPdf** 08 12 30.9 +0.5
ESDC PP **PP** 08 14 14.9 -2.9
R20A **Redvale** 124.73 49 ⇓P **PKPdf** 08 12 32.2 +1.4
baz=125,SNR=12
R20A ⇓P **PKPdf** 08 12 32.2 +1.4
baz=125,SNR=12
O21A **Pagoda** 124.75 47 ⇓P **PKPdf** 08 12 32.2 +1.3
baz=125
O21A ⇓P **PKPdf** 08 12 32.2 +1.3
baz=125
S20A **Disappointment** 124.85 50 ⇓P **PKPdf** 08 12 32.3 +1.2
baz=125,SNR=7.4
S20A ⇓P **PKPdf** 08 12 32.3 +1.2
baz=125,SNR=7.4
MVCO **Mesa Verde** 124.93 51 *e*PKPdf **PKPdf** 08 12 32.7 +1.5
MVCO **Mesa Verde** 124.93 51 ⇑P **PKPdf** 08 12 32.2 +1.0
baz=125,SNR=11
MVCO ⇑P **PKPdf** 08 12 32.2 +1.0
baz=125,SNR=11
M22A **Cedar Creek Ra** 124.96 45 ⇓P **PKPdf** 08 12 32.6 +1.4
baz=125
M22A ⇓P **PKPdf** 08 12 32.6 +1.4
baz=125
PAB **San Pablo** 124.97 312 *e*PKIKP **PKPdf** 08 12 31.4 +0.4
PAB **San Pablo** 124.97 312 *e*PKPdf **PKPdf** 08 12 31.4 +0.4
P21A **Newcastle** 125.00 48 ⇓P **PKPdf** 08 12 33.1 +1.8
baz=125
P21A ⇓P **PKPdf** 08 12 33.1 +1.8
baz=125
H24A **Dirks Ranch, A** 125.03 41 ⇓P **PKPdf** 08 12 31.5 +0.5
baz=125
H24A ⇓P **PKPdf** 08 12 31.5 +0.5
baz=125
X19A **St. Johns** 125.06 54 ⇓P **PKPdf** 08 12 33.0 +1.5
baz=125
X19A ⇓P **PKPdf** 08 12 33.0 +1.5
baz=125
Q21A **Lamborn Mesa,** 125.13 49 ⇑P **PKPdf** 08 12 33.2 +1.7
baz=125,SNR=11
Q21A ⇑P **PKPdf** 08 12 33.2 +1.7
baz=125,SNR=11
U20A **Newcomb** 125.15 52 ⇑P **PKPdf** 08 12 33.3 +1.7
baz=125
U20A ⇑P **PKPdf** 08 12 33.3 +1.7
baz=125
Y19A **Nutrioso** 125.20 55 ⇑P **PKPdf** 08 12 33.4 +1.5
baz=125
Y19A ⇑P **PKPdf** 08 12 33.4 +1.5
baz=125
R21A **Cimarron** 125.30 49 ⇓P **PKPdf** 08 12 33.4 +1.5
baz=125
R21A ⇓P **PKPdf** 08 12 33.4 +1.5
baz=125
S21A **Coal Bank Pass** 125.33 50 ⇑P **PKPdf** 08 12 34.0 +2.0
baz=125,SNR=29
S21A ⇑P **PKPdf** 08 12 34.0 +2.0
baz=125,SNR=29
V20A **Brimhall** 125.35 52 ⇑P **PKPdf** 08 12 33.8 +1.8
baz=125
V20A ⇑P **PKPdf** 08 12 33.8 +1.8
baz=125
SMCO **Snowmass** 125.46 48 *e*PKPdf **PKPdf** 08 12 34.0 +1.6
P22A **Eagle** 125.48 47 ⇑P **PKPdf** 08 12 34.0 +1.8
baz=125
P22A ⇑P **PKPdf** 08 12 34.0 +1.8
baz=125
W20A **Ramah** 125.51 53 ⇑P **PKPdf** 08 12 34.1 +1.7
baz=125
W20A ⇑P **PKPdf** 08 12 34.1 +1.7
baz=125
J24A **Dixon Ranch, L** 125.54 42 ⇓P **PKPdf** 08 12 33.5 +1.4
baz=125

J24A ⇓P **PKPdf 08 12 33.5 +1.4**
baz=125
N23A Red Feather La 125.60 46 ⇑P **PKPdf 08 12 33.9 +1.4**
baz=126
N23A ⇑P **PKPdf 08 12 33.9 +1.4**
baz=126
Q22A Crested Butte, 125.61 48 ⇓P **PKPdf 08 12 34.3 +1.8**
baz=126,SNR=13
Q22A ⇓P **PKPdf 08 12 34.3 +1.8**
baz=126,SNR=13
RSSD Black Hills 125.63 41 *e*PKIKP **PKPdf 08 12 31.9 -0.5**
RSSD Black Hills 125.63 41 *e*PKPdf **PKPdf 08 12 31.9 -0.5**
T21A Navajo Lake 125.73 51 ⇑P **PKPdf 08 12 34.4 +1.7**
baz=126
T21A ⇑P **PKPdf 08 12 34.4 +1.7**
baz=126
U21A Nageezi 125.80 51 ⇓P **PKPdf 08 12 34.6 +1.6**
baz=126,SNR=14
U21A ⇓P **PKPdf 08 12 34.6 +1.6**
baz=126,SNR=14
PBRG Braganca 125.86 316 *e*PKPdf **PKPdf 08 12 33.6 +1.0**
O23A Lake Granby, G 125.87 46 ⇓P **PKPdf 08 12 34.5 +1.5**
baz=126
O23A ⇓P **PKPdf 08 12 34.5 +1.5**
baz=126
Y20A Horse Springs, 125.92 55 ⇓P **PKPdf 08 12 34.4 +1.2**
baz=126
Y20A ⇓P **PKPdf 08 12 34.4 +1.2**
baz=126
R22A Saguache, Gunn 125.93 49 ⇓P **PKPdf 08 12 35.1 +1.8**
baz=126,SNR=8.0
R22A ⇓P **PKPdf 08 12 35.1 +1.8**
baz=126,SNR=8.0
V21A Milan 126.00 52 ⇑P **PKPdf 08 12 34.9 +1.6**
baz=126,SNR=7.1
V21A ⇑P **PKPdf 08 12 34.9 +1.6**
baz=126,SNR=7.1
S22A 4UR Ranch, Cre 126.03 50 ⇑P **PKPdf 08 12 35.5 +2.1**
baz=126,SNR=13
S22A ⇑P **PKPdf 08 12 35.5 +2.1**
baz=126,SNR=13
120A U Bar Ranch, L 126.04 56 ⇑P **PKPdf 08 12 35.2 +1.8**
baz=126
120A ⇑P **PKPdf 08 12 35.2 +1.8**
baz=126
T22A Edith 126.20 50 ⇓P **PKPdf 08 12 35.3 +1.7**
baz=126
T22A ⇓P **PKPdf 08 12 35.3 +1.7**
baz=126
ISCO Idaho Springs 126.23 47 *e*PKIKP **PKPdf 08 12 35.4 +1.7**
ISCO Idaho Springs 126.23 47 *e*PKPdf **PKPdf 08 12 35.4 +1.7**
ISCO Idaho Springs 126.23 47 ⇓P **PKPdf 08 12 35.4 +1.7**
baz=126
ISCO ⇓P **PKPdf 08 12 35.4 +1.7**
baz=126
220A Playas Peak, P 126.28 57 ⇑P **PKPdf 08 12 35.4 +1.6**
baz=126
220A ⇑P **PKPdf 08 12 35.4 +1.6**
baz=126
320A Kipp Ranch, An 126.40 58 ⇓P **PKPdf 08 12 36.1 +2.0**
baz=126
320A ⇓P **PKPdf 08 12 36.1 +2.0**
baz=126
U22A Llaves 126.44 51 ⇑P **PKPdf 08 12 36.3 +2.2**
baz=126,SNR=13
U22A ⇑P **PKPdf 08 12 36.3 +2.2**
baz=126,SNR=13
Y21A Point of Rocks 126.46 54 ⇑P **PKPdf 08 12 36.4 +2.1**
baz=126
Y21A ⇑P **PKPdf 08 12 36.4 +2.1**
baz=126
R23A Moffat 126.64 49 ⇑P **PKPdf 08 12 36.5 +2.0**
baz=126
R23A ⇑P **PKPdf 08 12 36.5 +2.0**
baz=126
Z21A St. Cloud Mine 126.64 55 ⇑P **PKPdf 08 12 36.6 +2.0**
baz=126
Z21A ⇑P **PKPdf 08 12 36.6 +2.0**
baz=126
121A Cookes Peak, D 126.74 56 ⇓P **PKPdf 08 12 36.8 +2.0**
baz=127
121A ⇓P **PKPdf 08 12 36.8 +2.0**
baz=127
POLO Lamas de Olo 126.76 316 *e*PKPdf **PKPdf 08 12 36.4 +2.0**
LAZ Ladron 126.78 54 *e*PKPdf **PKPdf 08 12 35.6 +0.8**
T23A Casias Ranch, 126.86 50 ⇑P **PKPdf 08 12 36.8 +1.8**
baz=127,SNR=9.7
T23A ⇑P **PKPdf 08 12 36.8 +1.8**
baz=127,SNR=9.7
Q24A Divide 126.87 48 ⇑P **PKPdf 08 12 37.2 +2.2**
baz=127
Q24A ⇑P **PKPdf 08 12 37.2 +2.2**
baz=127
U23A El Rito 126.96 51 ⇓P **PKPdf 08 12 37.2 +2.1**
baz=127
U23A ⇓P **PKPdf 08 12 37.2 +2.1**
baz=127
SDCO Great Sand Dun 127.03 49 *e*PKPdf **PKPdf 08 12 35.9 +0.6**
SDCO Great Sand Dun 127.03 49 ⇑P **PKPdf 08 12 36.9 +1.6**
baz=127,SNR=8.1
SDCO ⇑P **PKPdf 08 12 36.9 +1.6**
baz=127,SNR=8.1
SDCO ⇑P **PKPdf 08 12 36.9 +1.6**
baz=127,SNR=8.1
SDCO ⇑P **PKPdf 08 12 36.9 +1.6**
baz=127,SNR=8.1
Y22A Socorro 127.05 54 ⇑P **PKPdf 08 12 37.4 +2.1**
baz=127,SNR=10
Y22A ⇑P **PKPdf 08 12 37.4 +2.1**
baz=127,SNR=10
PCBR Castelo Branco 127.13 314 *e*PKPdf **PKPdf 08 12 36.8 +1.8**
V23A Ortiz Mt. (NFS 127.14 52 ⇓P **PKPdf 08 12 37.8 +2.3**
baz=127
V23A ⇓P **PKPdf 08 12 37.8 +2.3**
baz=127
ANMO Albuquerque 127.16 53 PKP **PKPdf 08 12 37.0 +1.5**
comp=Z,10nm,1.0s,baz=195,slow=3.7,SNR=15
ANMO SKPbc SKPdf 08 15 48.2 -18
comp=Z,3.5nm,0.8s,baz=217,slow=1.2,SNR=6.7
ANMO Albuquerque 127.16 53 PKIKP **PKPdf 08 12 37.0 +1.5**
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 127.16 53 *e*PKPdf **PKPdf 08 12 37.0 +1.5**
ANMO SKPbc SKPdf 08 15 48.2 -18
O25A Wiggins 127.19 46 ⇓P **PKPdf 08 12 36.9 +1.6**
baz=127
O25A ⇓P **PKPdf 08 12 36.9 +1.6**
baz=127
LPM Los Pinos Moun 127.21 54 *e*PKPdf **PKPdf 08 12 36.2 +0.6**
PMRV Marv??o 127.22 313 *e*PKPdf **PKPdf 08 12 36.6 +1.4**
ULM Lac du Bonnet 127.23 31 PKP **PKPdf 08 12 35.2 +0.3**
comp=Z,7.1nm,0.6s,baz=299,slow=2.3,SNR=21
ULM SKPbc SKPdf 08 15 45.2 -20
comp=Z,2.7nm,0.7s,baz=301,slow=5.4,SNR=4.9
ULM Lac du Bonnet 127.23 31 PKIKP **PKPdf 08 12 35.2 +0.3**
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM pmax pmax
comp=N,3.0nm,0.7s
ULM Lac du Bonnet 127.23 31 *e*PKPdf **PKPdf 08 12 34.6 -0.3**
ULM PKP **PKPdf 08 12 35.2 +0.3**
ULM SKPbc SKPdf 08 15 45.2 -20
Z22A Elephant Butte 127.23 55 ⇑P **PKPdf 08 12 37.4 +1.7**
baz=127,SNR=11
Z22A ⇑P **PKPdf 08 12 37.4 +1.7**
baz=127,SNR=11
BNM Barren Site 127.26 54 *e*PKPdf **PKPdf 08 12 37.6 +1.9**
122A Conniff Cattle 127.34 56 ⇓P **PKPdf 08 12 38.3 +2.4**
baz=127
122A ⇓P **PKPdf 08 12 38.3 +2.4**
baz=127
W23A Werner Place, 127.34 52 ⇓P **PKPdf 08 12 38.2 +2.3**
baz=127
W23A ⇓P **PKPdf 08 12 38.2 +2.3**
baz=127
P25A Willow Gulch B 127.38 47 ⇓P **PKPdf 08 12 37.4 +1.6**
baz=127
P25A ⇓P **PKPdf 08 12 37.4 +1.6**
baz=127
PBAR Barrancos 127.41 312 *e*PKPdf **PKPdf 08 12 37.1 +1.5**
X23A Hourglass Bar 127.48 53 ⇑P **PKPdf 08 12 37.6 +1.5**
baz=127,SNR=9.3
X23A ⇑P **PKPdf 08 12 37.6 +1.5**
baz=127,SNR=9.3
Q25A Bedland, Calha 127.54 47 ⇑P **PKPdf 08 12 37.7 +1.5**
baz=127
Q25A ⇑P **PKPdf 08 12 37.7 +1.5**
baz=127
O26A Horse Wrangler 127.71 45 ⇑P **PKPdf 08 12 37.8 +1.4**
baz=128
O26A ⇑P **PKPdf 08 12 37.8 +1.4**
baz=128
Y23A Lovelace Mesa, 127.77 54 ⇑P **PKPdf 08 12 38.5 +1.8**
baz=128,SNR=8.8
Y23A ⇑P **PKPdf 08 12 38.5 +1.8**
baz=128,SNR=8.8
R25A Fountain Ranch 127.79 48 ⇑P **PKPdf 08 12 38.0 +1.5**
baz=128
R25A ⇑P **PKPdf 08 12 38.0 +1.5**
baz=128
Z23A Rita Site, Whi 127.82 55 ⇓P **PKPdf 08 12 38.1 +1.4**
baz=128
Z23A ⇓P **PKPdf 08 12 38.1 +1.4**
baz=128
V24A Rampart Ranch, 127.86 51 ⇑P **PKPdf 08 12 39.0 +2.2**
baz=128,SNR=15
V24A ⇑P **PKPdf 08 12 39.0 +2.2**
baz=128,SNR=15
W24A Lazy 6 Ranch, 127.91 52 ⇑P **PKPdf 08 12 39.1 +2.2**
baz=128
W24A ⇑P **PKPdf 08 12 39.1 +2.2**
baz=128
P26A Davis Ranch, A 127.95 46 ⇑P **PKPdf 08 12 38.4 +1.6**
baz=128
P26A ⇑P **PKPdf 08 12 38.4 +1.6**
baz=128
EVO Evora 128.00 312 *e*PKPdf **PKPdf 08 12 40.0 +3.3**
N27A Anderson Farm, 128.02 44 ⇑P **PKPdf 08 12 38.1 +1.3**
baz=128
N27A ⇑P **PKPdf 08 12 38.1 +1.3**
baz=128
T25A Trinidad 128.05 49 ⇓P **PKPdf 08 12 38.7 +1.5**
baz=128
T25A ⇓P **PKPdf 08 12 38.7 +1.5**
baz=128
Q26A Hugo 128.06 47 ⇓P **PKPdf 08 12 39.1 +2.0**
baz=128
Q26A ⇓P **PKPdf 08 12 39.1 +2.0**
baz=128
X24A Lazy VL Ranch, 128.08 53 ⇑P **PKPdf 08 12 39.1 +1.8**
baz=128
X24A ⇑P **PKPdf 08 12 39.1 +1.8**
baz=128
Y24A Capitan 128.27 54 ⇓P **PKPdf 08 12 39.9 +2.2**
baz=128,SNR=20
Y24A ⇓P **PKPdf 08 12 39.9 +2.2**
baz=128,SNR=20
U25A Circle Dot Ran 128.30 50 ⇑P **PKPdf 08 12 39.8 +2.1**
baz=128
U25A ⇑P **PKPdf 08 12 39.8 +2.1**
baz=128
O27A Beecher Island 128.31 45 ⇓P **PKPdf 08 12 39.0 +1.6**
baz=128
O27A ⇓P **PKPdf 08 12 39.0 +1.6**
baz=128
V25A Rancho No Teng 128.32 51 ⇓P **PKPdf 08 12 39.9 +2.2**
baz=128,SNR=11
V25A ⇓P **PKPdf 08 12 39.9 +2.2**
baz=128,SNR=11
PCVE Castro Verde 128.34 311 *e*PKPdf **PKPdf 08 12 39.9 +2.5**
R26A Arlington 128.35 48 ⇑P **PKPdf 08 12 39.8 +2.2**
baz=128
R26A ⇑P **PKPdf 08 12 39.8 +2.2**
baz=128
Z24A Sheeppen Canyo 128.50 54 ⇓P **PKPdf 08 12 40.2 +2.1**
baz=128,SNR=16
Z24A ⇓P **PKPdf 08 12 40.2 +2.1**
baz=128,SNR=16
S26A Kim 128.58 49 ⇓P **PKPdf 08 12 40.1 +2.0**
baz=128
S26A ⇓P **PKPdf 08 12 40.1 +2.0**
baz=128
124A Stringfield Ra 128.60 55 ⇑P **PKPdf 08 12 40.1 +1.7**
baz=128
124A ⇑P **PKPdf 08 12 40.1 +1.7**
baz=128
W25A X Bar L Ranch, 128.64 52 ⇑P **PKPdf 08 12 40.3 +2.0**
baz=128
W25A ⇑P **PKPdf 08 12 40.3 +2.0**
baz=128
T26A Comanche Natio 128.65 49 ⇑P **PKPdf 08 12 40.2 +1.9**
baz=128
T26A ⇑P **PKPdf 08 12 40.2 +1.9**
baz=128
KSCO Kaye Shedlock' 128.68 47 ⇓P **PKPdf 08 12 40.2 +2.0**
baz=129
KSCO ⇓P **PKPdf 08 12 40.2 +2.0**
baz=129
224A Cornudas Mount 128.71 56 ⇑P **PKPdf 08 12 40.1 +1.6**
baz=129,SNR=7.1
224A ⇑P **PKPdf 08 12 40.1 +1.6**
baz=129,SNR=7.1
PLCA Paso Flores 128.72 166 PKP **PKPdf 08 12 39.9 +1.6**
comp=N,8.4nm,0.9s,baz=160,slow=5.1,SNR=12
PLCA SKPbc SKPdf 08 15 52.1 -17
comp=N,8.0nm,1.0s,baz=182,slow=4.5,SNR=5.9
PLCA Paso Flores 128.72 166 PKIKP **PKPdf 08 12 39.9 +1.6**
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA pmax pmax
comp=N,8.0nm,1.0s
PLCA Paso Flores 128.72 166 *e*PKPdf **PKPdf 08 12 39.6 +1.4**
PLCA PKP **PKPdf 08 12 39.9 +1.6**
PLCA SKPbc SKPdf 08 15 52.1 -17
U26A Atchley Ranch, 128.81 50 ⇑P **PKPdf 08 12 40.8 +2.2**
baz=129
U26A ⇑P **PKPdf 08 12 40.8 +2.2**
baz=129
R27A Eads 128.83 48 ⇑P **PKPdf 08 12 40.7 +2.2**
baz=129
R27A ⇑P **PKPdf 08 12 40.7 +2.2**
baz=129
Y25A Mesa, Roswell 128.86 53 ⇓P **PKPdf 08 12 40.4 +1.7**
baz=129,SNR=11
Y25A ⇓P **PKPdf 08 12 40.4 +1.7**
baz=129,SNR=11
324A Moseley Ranch, 128.91 57 ⇓P **PKPdf 08 12 40.9 +2.0**
baz=129,SNR=13
324A ⇓P **PKPdf 08 12 40.9 +2.0**
baz=129,SNR=13
MORF Marmelete 128.92 311 *e*PKPdf **PKPdf 08 12 40.6 +2.0**
MNTX Cornudas Mount 128.92 56 *e*PKPdf **PKPdf 08 12 40.2 +1.5**
MNTX Cornudas Mount 128.92 56 ⇑P **PKPdf 08 12 40.7 +1.9**
baz=129,SNR=22
MNTX ⇑P **PKPdf 08 12 40.7 +1.9**
baz=129,SNR=22
MNTX ⇑P **PKPdf 08 12 40.7 +1.9**
baz=129,SNR=22
MNTX ⇑P **PKPdf 08 12 40.7 +1.9**
baz=129,SNR=22
V26A Tequesquite Ra 128.98 51 ⇑P **PKPdf 08 12 40.6 +1.7**
baz=129
V26A ⇑P **PKPdf 08 12 40.6 +1.7**
baz=129
Z25A Roswell 129.03 54 ⇑P **PKPdf 08 12 41.3 +2.3**
baz=129
Z25A ⇑P **PKPdf 08 12 41.3 +2.3**
baz=129
W26A Owens Ranch, T 129.22 52 ⇑P **PKPdf 08 12 41.5 +2.1**
baz=129
W26A ⇑P **PKPdf 08 12 41.5 +2.1**
baz=129
T27A Campo 129.34 49 ⇓P **PKPdf 08 12 41.7 +2.2**
baz=129
T27A ⇓P **PKPdf 08 12 41.7 +2.2**
baz=129
325A Bean Ranch, Si 129.35 57 ⇑P **PKPdf 08 12 41.3 +1.6**
baz=129,SNR=5.3
325A ⇑P **PKPdf 08 12 41.3 +1.6**
baz=129,SNR=5.3
X26A CR and CF Fran 129.36 52 ⇓P **PKPdf 08 12 41.4 +1.8**
baz=129
X26A ⇓P **PKPdf 08 12 41.4 +1.8**
baz=129
DBIC Dimbokro 129.40 271 PKP **PKPdf 08 12 41.4 +1.3**
comp=N,7.3nm,0.4s,baz=98,slow=2.7,SNR=25
DBIC SKPbc SKPab 08 15 54.1 -2.1
comp=N,16nm,0.8s,baz=84,slow=4.1,SNR=10
DBIC Dimbokro 129.40 271 PKIKP **PKPdf 08 12 41.4 +1.3**
DBIC pmax pmax
comp=Z,7.0nm,0.4s
DBIC pmax pmax
comp=N,16nm,0.8s
DBIC Dimbokro 129.40 271 *e*PKPdf **PKPdf 08 12 40.8 +0.7**
DBIC PKP **PKPdf 08 12 41.4 +1.3**
DBIC SKPbc SKPab 08 15 54.1 -2.1
425A Indio Mountain 129.49 57 ⇓P **PKPdf 08 12 41.9 +2.0**
baz=129,SNR=7.4
425A ⇓P **PKPdf 08 12 41.9 +2.0**
baz=129,SNR=7.4
LIC Lamto 129.52 271 *e*PKIKP **PKPdf 08 12 39.4 -0.9**
comp=N,20nm,0.4s
LIC *e*R
comp=N,456nm,22.2s
GDL2 Guadalupe Moun 129.62 55 *e*PKPdf **PKPdf 08 12 41.7 +1.5**
Z26A Caprock 129.62 54 ⇑P **PKPdf 08 12 41.8 +1.6**
baz=130
Z26A ⇑P **PKPdf 08 12 41.8 +1.6**
baz=130
T28A Walsh 129.77 49 ⇑P **PKPdf 08 12 42.0 +1.7**
baz=130
T28A ⇑P **PKPdf 08 12 42.0 +1.7**
baz=130
126A Clayton Basin, 129.77 55 ⇓P **PKPdf 08 12 42.0 +1.6**
baz=130
126A ⇓P **PKPdf 08 12 42.0 +1.6**
baz=130
226A Malaga, Loving 129.88 56 ⇑P **PKPdf 08 12 42.5 +1.8**
baz=130,SNR=9.0
226A ⇑P **PKPdf 08 12 42.5 +1.8**
baz=130,SNR=9.0
Y27A Causey 130.08 53 ⇓P **PKPdf 08 12 43.0 +2.0**
baz=130
Y27A ⇓P **PKPdf 08 12 43.0 +2.0**
baz=130
326A Caldwell Ranch 130.18 56 ⇑P **PKPdf 08 12 42.9 +1.7**
baz=130
326A ⇑P **PKPdf 08 12 42.9 +1.7**
baz=130
Z27A Tatum 130.22 54 ⇓P **PKPdf 08 12 43.1 +1.8**
baz=130
Z27A ⇓P **PKPdf 08 12 43.1 +1.8**
baz=130
127A Arkansas Junct 130.30 55 ⇓P **PKPdf 08 12 43.4 +1.9**
baz=130
127A ⇓P **PKPdf 08 12 43.4 +1.9**
baz=130
MSTX Muleshoe 130.36 53 ⇑P **PKPdf 08 12 43.1 +1.5**
baz=130
MSTX ⇑P **PKPdf 08 12 43.1 +1.5**
baz=130
W28A Vega 130.37 51 ⇑P **PKPdf 08 12 43.3 +1.8**
baz=130
W28A ⇑P **PKPdf 08 12 43.3 +1.8**
baz=130
526A Mary Lane Ranc 130.42 58 ⇓P **PKPdf 08 12 43.9 +2.1**
baz=130,SNR=9.7
526A ⇓P **PKPdf 08 12 43.9 +2.1**
baz=130,SNR=9.7
626A Big Bend Ranch 130.51 59 ⇓P **PKPdf 08 12 43.9 +2.0**
baz=130
626A ⇓P **PKPdf 08 12 43.9 +2.0**
baz=130
ECSD EROS Data Cent 130.52 38 *e*PKPdf **PKPdf 08 12 41.7 +0.3**
BGNE Belgrade 130.72 42 ⇓P **PKPdf 08 12 43.1 +1.2**
baz=131
BGNE ⇓P **PKPdf 08 12 43.1 +1.2**
baz=131
427A Hayter Ranch, 130.78 57 ⇓P **PKPdf 08 12 44.6 +2.2**
baz=131,SNR=9.9
427A ⇓P **PKPdf 08 12 44.6 +2.2**
baz=131,SNR=9.9
527A Woodward Ranch 130.80 58 ⇓P **PKPdf 08 12 44.5 +2.0**
baz=131,SNR=11
527A ⇓P **PKPdf 08 12 44.5 +2.0**
baz=131,SNR=11
CBKS Cedar Bluff 130.81 46 *e*PKIKP **PKPdf 08 12 40.2 -1.9**
CBKS Cedar Bluff 130.81 46 *e*PKPdf **PKPdf 08 12 40.2 -1.9**
AMTX Amarillo 130.90 51 *e*PKPdf **PKPdf 08 12 44.0 +1.5**
AMTX Amarillo 130.90 51 ⇓P **PKPdf 08 12 44.4 +1.9**
baz=131
AMTX ⇓P **PKPdf 08 12 44.4 +1.9**
baz=131
AMTX ⇓P **PKPdf 08 12 44.4 +1.9**
baz=131
AMTX ⇓P **PKPdf 08 12 44.4 +1.9**
baz=131
EYMN Ely 130.91 31 *e*PKPdf **PKPdf 08 12 42.3 +0.3**
TXAR Lajitas Array 130.96 59 PKhKP PKPpre 08 12 27.2
comp=N,0.3nm,0.6s,baz=279,slow=1.0,SNR=5.3
TXAR PKP **PKiKP 08 12 44.1 +0.5**
comp=N,3.7nm,0.7s,baz=215,slow=2.7,SNR=25
TXAR SKPbc **SKPbc 08 16 00.1 -2.2**
comp=N,18nm,0.7s,baz=264,slow=2.4,SNR=44
TXAR SKKPbc **SKKPbc 08 25 35.2 -2.0**
comp=N,0.7nm,0.8s,baz=114,slow=5.8,SNR=5.0
TXAR Lajitas Array 130.96 59 *i* PKHKP PKPpre 08 12 27.2
TXAR 08 12 44.1
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR pmax pmax
comp=N,18nm,0.7s
TXAR Lajitas Array 130.96 59 PKPpre PKPpre 08 12 27.2
TXAR PKP **PKiKP 08 12 44.1 +0.5**
TXAR SKPbc **SKPbc 08 16 00.1 -2.2**
TXAR SKKPbc **SKKPbc 08 25 35.2 -2.0**
328A Wristen Ranch, 131.12 56 ⇑P **PKPdf 08 12 44.9 +1.9**
baz=131
328A ⇑P **PKPdf 08 12 44.9 +1.9**
baz=131
627A Terlingua Ranc 131.16 59 ⇓P **PKPdf 08 12 45.0 +1.8**
baz=131,SNR=7.7
627A ⇓P **PKPdf 08 12 45.0 +1.8**
baz=131,SNR=7.7
428A Kincaid Ranch, 131.41 57 ⇑P **PKPdf 08 12 45.8 +2.2**
baz=131
428A ⇑P **PKPdf 08 12 45.8 +2.2**
baz=131
528A Cox Ranch, San 131.48 58 ⇓P **PKPdf 08 12 45.8 +2.0**
baz=131
528A ⇓P **PKPdf 08 12 45.8 +2.0**
baz=131
628A Black Gap, Mar 131.58 58 ⇑P **PKPdf 08 12 46.1 +2.2**
baz=132
628A ⇑P **PKPdf 08 12 46.1 +2.2**
baz=132
KSU1 Kansas State U 132.86 44 *e*PKPdf **PKPdf 08 12 45.2 -0.8**
TRQA Tornquist 132.87 173 *e*PKPdf **PKPdf 08 12 46.8 +0.7**
WMOK Wichita Mounta 133.18 50 *e*PKIKP **PKPdf 08 12 47.7 +1.0**
WMOK Wichita Mounta 133.18 50 *e*PKPdf **PKPdf 08 12 47.7 +1.0**
SCHQ Schefferville 133.45 9 PKP **PKPdf 08 12 47.7 +1.1**
comp=N,3.9nm,0.4s,baz=48,slow=2.9,SNR=19
SCHQ SKPbc **SKPbc 08 16 06.9 -3.2**
comp=N,31nm,1.0s,baz=0.1,slow=2.9,SNR=13
SCHQ Schefferville 133.45 9 *e*PKPdf **PKPdf 08 12 47.0 +0.4**
SCHQ PKP **PKPdf 08 12 47.7 +1.1**
SCHQ SKPbc **SKPbc 08 16 06.9 -3.2**
JCT Junction City 133.86 56 *e*PKIKP **PKPdf 08 12 48.9 +0.8**
JCT Junction City 133.86 56 *e*PKPdf **PKPdf 08 12 48.9 +0.8**
JCT Junction City 133.86 56 ⇓P **PKPdf 08 12 50.2 +2.1**
baz=134
JCT ⇓P **PKPdf 08 12 50.2 +2.1**
baz=134
TUL1 Tulsa 134.91 47 ⇓P **PKPdf 08 12 52.4 +2.5**
baz=135
TUL1 ⇓P **PKPdf 08 12 52.4 +2.5**
baz=135
MIAR Mount Ida 137.14 48 *e*PKIKP **PKPdf 08 12 54.0 -0.1**
MIAR Mount Ida 137.14 48 *e*PKPdf **PKPdf 08 12 54.0 -0.1**
CFAA Coronel Fontan 137.96 164 PKhKP PKPpre 08 12 46.3
comp=N,0.7nm,0.6s,baz=208,slow=2.6,SNR=9.6
CFAA SKPbc **SKPbc 08 16 22.9 -2.1**
comp=N,0.6nm,0.6s,baz=202,slow=4.4,SNR=7.3
CFAA Coronel Fontan 137.96 164 PKPpre PKPpre 08 12 46.3
OLIL Olney 138.63 39 *e*PKPdf **PKPdf 08 12 57.3 +0.6**
LCO Las Campanas 139.63 160 *e*PKPdf **PKPdf 08 12 58.1 -1.1**
OXF Oxford 140.15 45 *e*PKHKP PKPpre 08 12 51.6
OXF Oxford 140.15 45 *e*PKPdf PKPpre 08 12 51.6
WVT Waverly 140.34 42 *e*PKHKP PKPpre 08 12 51.2
WVT Waverly 140.34 42 *e*PKPpre PKPpre 08 12 51.2
ACSO Alum Creek Sta 140.64 33 *e*PKPdf **PKPdf 08 13 00.4 +0.1**
CMIG Matias Romero 141.25 74 PKhKP PKPpre 08 12 59.0
comp=N,5.6nm,0.7s,baz=280,slow=4.0,SNR=11
CMIG SKPbc **SKPbc 08 16 31.9 -2.2**
comp=N,6.6nm,0.7s,baz=335,slow=1.9,SNR=6.3
CMIG Matias Romero 141.25 74 PKPpre PKPpre 08 12 59.0
CMIG SKPbc **SKPbc 08 16 31.9 -2.2**
MDV Middlebury 142.01 20 *e*PKPdf **PKPdf 08 12 58.4 -4.2**
SWET Sewanee 142.13 42 *e*PKPdf PKPdf 08 12 57.4 -5.8
LBNH Lisbon 142.22 19 *e*PKIKP **PKPdf 08 13 02.6 -0.4**
LBNH Lisbon 142.22 19 *e*PKPdf **PKPdf 08 13 02.6 -0.4**

BINY	**Binghamton**	**142.49**	**25**	*e*PKPdf	**PKPdf**	**08 13 02.9**	**-0.7**
HNH	**Hanover**	**142.57**	**20**	*e*PKPdf	**PKPdf**	**08 13 05.7**	**+2.1**
LRAL	**Lakeview Retre**	**142.64**	**46**	*e*PKPdf	**PKPdf**	**08 13 00.1**	**-4.0**
TZTN	**Tazewell**	**142.82**	**38**	*e*PKPdf	**PKPdf**	**08 13 02.5**	**-1.9**
CPCT	**Cooper Cave**	**142.90**	**40**	*e*PKPdf	**PKPdf**	**08 12 59.5**	**-5.0**
SSPA	**Standing Stone**	**142.92**	**28**	*e*PKPdf	**PKPdf**	**08 13 00.2**	**-4.2**
TRY	**Troy**	**142.94**	**22**	*e*PKPdf	**PKPdf**	**08 13 04.4**	**+0.1**
TKL	**Tuckaleechee C**	**143.25**	**39**	PKhKP	PKPpre	08 13 01.1	
	comp=N,17nm,0.7s,baz=180,slow=3.4,SNR=13						
TKL				SKPbc	**SKPbc**	**08 16 35.7**	**-3.0**
	comp=N,16nm,0.8s,baz=86,slow=1.0,SNR=7.5						
TKL	**Tuckaleechee C**	**143.25**	**39**	PKPpre	PKPpre	08 13 01.1	
TKL				*e*PKPdf	PKPab	08 13 01.3	+0.3
TKL				SKPbc	**SKPbc**	**08 16 35.7**	**-3.0**
BRAL	**Brewton**	**143.65**	**49**	*e*PKPdf	PKPbc	08 13 04.3	+0.8
WES	**Weston**	**144.07**	**20**	*e*PKIKP	**PKPdf**	**08 13 05.7**	**-0.6**
WES	**Weston**	**144.07**	**20**	*e*PKPdf	**PKPdf**	**08 13 05.7**	**-0.6**
BLA	**Blacksburg**	**144.19**	**34**	*e*PKIKP	**PKPab**	**08 13 04.2**	**-0.4**
BLA	**Blacksburg**	**144.19**	**34**	*e*PKPdf	**PKPab**	**08 13 04.2**	**-0.4**
PAL	**Palisades**	**144.34**	**24**	*e*PKIKP	PKPbc	08 13 05.3	+0.1
PAL	**Palisades**	**144.34**	**24**	*e*PKPdf	PKPbc	08 13 05.3	+0.1
SDMD	**Soldier's Deli**	**144.38**	**28**	*e*PKPdf	**PKPab**	**08 13 04.4**	**-0.7**
PAYG	**Puerto Ayora**	**144.44**	**104**	*e*PKPdf	**PKPdf**	**08 13 08.7**	**+0.9**
GOGA	**Godfrey**	**144.84**	**42**	*e*PKIKP	**PKPab**	**08 13 06.7**	**-0.3**
GOGA	**Godfrey**	**144.84**	**42**	*e*PKPdf	**PKPab**	**08 13 06.7**	**-0.3**
CBN	**Corbin**	**145.07**	**30**	*e*PKPdf	**PKPbc**	**08 13 07.0**	**-0.7**
JSC	**Jenkinsville**	**145.71**	**39**	*e*PKP2	**PKPbc**	**08 13 09.7**	**-0.1**
JSC	**Jenkinsville**	**145.71**	**39**	*e*PKPdf	**PKPbc**	**08 13 09.7**	**-0.1**
CAM4	**Nova Friburgo**	**146.22**	**203** ▯	*e*PKPdf	**PKPdf**	**08 13 10.0**	**-1.0**
CAM4				*i*		08 13 13.7	
CAM4				*i*		08 13 15.9	
CAM4				*i*		08 13 18.9	
CAM4				*i*		08 13 22.2	
CAM4				*i*		08 13 27.7	
CAM4				*i*		08 13 30.3	
CAM4				*i*		08 13 36.8	
CAM4				*i*		08 13 42.9	
CAM4				*i*		08 13 50.0	
CAM4				*i*		08 14 01.0	
SPB	**Sao Paulo**	**146.58**	**194**	*e*PKPdf	**PKPbc**	**08 13 12.3**	**-0.4**
COW	**Cow Castle Cre**	**146.65**	**40**	*e*PKPdf	**PKPbc**	**08 13 12.9**	**+0.2**
TEIG	**Tepich**	**146.81**	**67**	*e*PKPdf	**PKPbc**	**08 13 12.9**	**-0.6**
CNNC	**Cliffs of the**	**147.03**	**34**	*e*PKPdf	**PKPbc**	**08 13 12.8**	**-0.9**
NHSC	**New Hope**	**147.16**	**40**	*e*PKPdf	**PKPdf**	**08 13 12.7**	**+0.9**
TGUH	**Tegucigalpa,Un**	**148.88**	**78**	*e*PKPbc	**PKPbc**	**08 13 20.0**	**+0.8**
NNA	**Nana**	**150.56**	**135**	PKP	**PKPbc**	**08 13 25.2**	**+1.8**
	comp=N,82nm,0.8s,baz=263,slow=2.7,SNR=37						
NNA	**Nana**	**150.56**	**135**	*e*PKIKP	**PKPbc**	**08 13 23.8**	**+0.4**
NNA	**Nana**	**150.56**	**135**	*e*PKPbc	**PKPbc**	**08 13 23.8**	**+0.4**
JTS	**JuntasAbangare**	**151.34**	**85**	PKP	**PKPdf**	**08 13 20.0**	**+0.8**
	comp=N,23nm,1.0s,baz=222,slow=4.2,SNR=7.4						
JTS				PKPbc	**PKiKP**	**08 13 26.9**	**+1.2**
	comp=N,56nm,0.9s,baz=280,slow=3.6,SNR=19						
JTS	**JuntasAbangare**	**151.34**	**85**	PKIKP	**PKPdf**	**08 13 20.0**	**+0.8**
JTS				pmax	pmax		
	comp=Z,23nm,1.0s						
JTS	**JuntasAbangare**	**151.34**	**85**	*e*PKPdf	**PKPdf**	**08 13 19.9**	**+0.8**
JTS				*e*PKPbc	**PKiKP**	**08 13 26.3**	**+0.6**
JTS				PKPbc	**PKiKP**	**08 13 26.9**	**+1.2**
LPAZ	**La Paz**	**152.13**	**154**	PKP	**PKPdf**	**08 13 22.6**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=150,slow=1.7,SNR=7.3						
LPAZ				PKPbc	**PKiKP**	**08 13 28.8**	**+0.8**
	comp=Z,31nm,0.8s,baz=146,slow=2.2,SNR=52						
LPAZ	**La Paz**	**152.13**	**154**	PKIKP	**PKPdf**	**08 13 22.6**	**+1.6**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ	**La Paz**	**152.13**	**154**	PKP	**PKPdf**	**08 13 22.6**	**+1.6**
LPAZ				*e*PKPbc	**PKiKP**	**08 13 22.9**	**-4.8**
LPAZ				*e*PKPbc	**PKiKP**	**08 13 28.6**	**+0.6**
LPAZ				PKPbc	**PKiKP**	**08 13 28.8**	**+0.8**
ATAH	**Atahualpa**	**152.46**	**125**	PKP	**PKPdf**	**08 13 22.8**	**+1.5**
	comp=Z,7.8nm,0.8s,baz=161,slow=4.3,SNR=6.1						
ATAH				PKPbc	**PKiKP**	**08 13 30.1**	**+1.6**
	comp=Z,34nm,0.7s,baz=204,slow=2.2,SNR=24						
ATAH	**Atahualpa**	**152.46**	**125**	PKP	**PKPdf**	**08 13 22.8**	**+1.5**
ATAH				PKPbc	**PKiKP**	**08 13 30.1**	**+1.6**
BDFB	**Brasilia**	**154.32**	**198**	PKP	**PKPdf**	**08 13 25.1**	**+1.5**
	comp=Z,4.5nm,0.6s,baz=337,slow=1.1,SNR=6.2						
BDFB				PKPbc	**PKiKP**	**08 13 33.1**	**+1.3**
	comp=Z,5.1nm,0.6s,baz=168,slow=5.9,SNR=7.1						
BDFB				PKPab	**PKPab**	**08 13 48.5**	**+2.7**
	comp=Z,14nm,0.8s,baz=220,slow=3.1,SNR=7.2						
BDFB	**Brasilia**	**154.32**	**198**	PKIKP	**PKPdf**	**08 13 25.1**	**+1.5**
BDFB						08 13 48.5	
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BDFB	**Brasilia**	**154.32**	**198**	PKP	**PKPdf**	**08 13 25.1**	**+1.5**
BDFB				PKPbc	**PKiKP**	**08 13 33.1**	**+1.3**
BDFB				PKPab	**PKPab**	**08 13 48.5**	**+2.7**
SIV	**San Ignacio**	**154.67**	**168**	PKP	**PKPdf**	**08 13 25.8**	**+1.9**
	comp=Z,3.2nm,0.9s,baz=312,slow=0.7,SNR=9.0						
SIV				PKPbc	**PKiKP**	**08 13 33.2**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=217,slow=2.5,SNR=18						
SIV				PKPab	**PKPab**	**08 13 48.7**	**+1.5**
	comp=Z,20nm,0.8s,baz=203,slow=5.5,SNR=12						
SIV	**San Ignacio**	**154.67**	**168**	PKP	**PKPdf**	**08 13 25.8**	**+1.9**
SIV				PKPbc	**PKiKP**	**08 13 33.2**	**+0.7**
SIV				PKPab	**PKPab**	**08 13 48.7**	**+1.5**
OTAV	**Otavalo**	**155.93**	**110**	*e*PKPdf	**PKPdf**	**08 13 27.8**	**+1.5**
SAML	**Samuel**	**160.77**	**158**	*e*PKPdf	**PKPdf**	**08 13 32.3**	**+0.8**
ROSC	**El Rosal**	**161.26**	**101**	PKP	**PKPdf**	**08 13 33.8**	**+1.3**
	comp=Z,7.6nm,0.8s,baz=70,slow=2.1,SNR=8.5						
ROSC				PKPab	**PKPab**	**08 14 18.8**	**+2.2**
	comp=Z,18nm,0.8s,baz=104,slow=4.2,SNR=8.8						
ROSC	**El Rosal**	**161.26**	**101**	PKP	**PKPdf**	**08 13 33.8**	**+1.3**
ROSC				*e*PKPdf	**PKPdf**	**08 13 35.2**	**+2.6**
ROSC				PKPab	**PKPab**	**08 14 18.8**	**+2.2**
SDV	**Santo Domingo**	**165.46**	**89**	*e*PKPdf	**PKPdf**	**08 13 37.4**	**+1.2**

IDC 28 07:56:10.1±1.2, 21°98'S×63°64'W, h520km±11km, mb3.3/8, mb1 3.5/13, mb1mx3.4/20, mbtmp3.4/13, Error ellipse: s-maj=17.5km s-min=14.3km az=15.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**6.44**	**23**	P	P	07 57 53.4	+1.7
	2.6nm,0.3s,baz=221,slow=9.5,SNR=59						
SIV				S	S	07 59 14.4	-0.2
	baz=52,slow=21,SNR=6.3						
LPAZ	**La Paz**	**7.08**	**322**	P	P	07 57 59.2	+0.5
	9.4nm,0.3s,baz=134,slow=6.3,SNR=247						
LPAZ				S	S	07 59 25.5	-1.8
	0.8nm,0.3s,baz=52,slow=23,SNR=4.5						
CFAA	**Coronel Fontan**	**10.42**	**202**	P	P	07 58 32.4	+0.3
	0.3nm,0.3s,baz=21,slow=10,SNR=43						
CFAA				S	S	08 00 26.7	-2.1
	0.3nm,0.3s,baz=185,slow=10,SNR=9.9						
NNA	**Nana**	**16.06**	**306**	P	P	07 59 31.9	+0.7
	1.3nm,0.3s,baz=181,slow=6.3,SNR=6.8						
BDFB	**Brasilia**	**16.08**	**70**	P	P	07 59 31.5	+0.1
	1.9nm,0.3s,baz=244,slow=12,SNR=45						
CMIG	**Matias Romero**	**49.44**	**319**	P	P	08 04 11.9	-0.7
	baz=80,slow=7.6						
TXAR	**Lajitas Array**	**63.95**	**321**	P	P	08 05 52.1	-0.1
	0.3nm,0.4s,baz=148,slow=8.0,SNR=16						
DBIC	**Dimbokro**	**64.22**	**71**	P	P	08 05 54.4	+0.2
	1.9nm,0.5s,baz=240,slow=7.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**72.95**	**68**	P	P	08 06 46.8	-0.2
	3.4nm,0.4s,baz=256,slow=6.0,SNR=80						
SCHQ	**Schefferville**	**76.55**	**358**	P	P	08 07 05.3	-1.1
	1.8nm,0.7s,baz=205,slow=9.8,SNR=4.8						
PDAR	**Pinedale Array**	**77.07**	**327**	P	P	08 07 10.1	+0.2
	0.8nm,0.5s,baz=127,slow=8.0,SNR=15						
ELK	**Elko**	**78.69**	**323**	P	P	08 07 18.9	+0.3
	1.5nm,0.7s,baz=80,slow=5.7,SNR=4.9						
NVAR	**Mina Array Bea**	**78.97**	**319**	P	P	08 07 21.2	+1.1
	0.5nm,0.6s,baz=146,slow=5.9,SNR=5.6						
YKA	**Yellowknife Ar**	**93.34**	**339**	P	P	08 08 29.0	+0.2
	0.7nm,0.8s,baz=129,slow=4.6,SNR=17						
ASAR	**Alice Springs**	**131.52**	**202**	PKP	PKPdf	08 14 24.1	-0.1
	0.9nm,0.6s,baz=126,slow=2.4,SNR=3.6						
ASAR				SKPbc	SKPbc	08 17 00.1	-1.0
	0.4nm,0.7s,baz=140,slow=3.2,SNR=4.2						
BVAR	**Borovoye Array**	**133.34**	**37**	SKPbc	SKPbc	08 17 05.7	-0.6
	0.3nm,0.4s,baz=266,slow=1.5,SNR=2.8						
WRA	**Warramunga Arr**	**134.78**	**204**	PKP	PKPdf	08 14 30.5	+0.1
	1.5nm,0.7s,baz=171,slow=1.5,SNR=4.8						
WRA				SKPbc	SKPbc	08 17 11.1	-0.9
	0.7nm,0.6s,baz=157,slow=2.8,SNR=4.2						
MKAR	**Makanchi Array**	**143.00**	**40**	PKP	PKPbc	08 14 42.5	0.0
	0.6nm,0.3s,baz=337,slow=3.2,SNR=9.1						
SONM	**Songino Array**	**152.99**	**15**	PKPbc	PKPbc	08 15 08.4	-0.2
	0.7nm,0.6s,baz=306,slow=1.3,SNR=4.0						

IDC 28 08:06:58.3±4.3, 19°54'N×109°05'W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.8/22, mbtmp3.5/7, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/19, Error ellipse: s-maj=77.9km s-min=40.5km az=29.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**10.91**	**26**	Pn	Pn	08 09 36.3	+0.4
	0.0nm,0.3s,baz=198,slow=13,SNR=5.5						
CMIG	**Matias Romero**	**13.68**	**98**	Pn	Pn	08 10 15.6	+1.9
	0.2nm,0.3s,baz=274,slow=11,SNR=6.2						
CMIG				LR	LR	08 14 23.3	
	comp=Z,64nm,21.2s,baz=357,slow=32						
ANMO	**Albuquerque**	**15.52**	**8**	LR	LR	08 16 20.2	
	comp=Z,171nm,19.1s,baz=108,slow=36						
NVAR	**Mina Array Bea**	**20.46**	**339**	P	Pn	08 11 39.8	-0.2
	2.7nm,0.9s,baz=162,slow=12,SNR=9.6						
ELK	**Elko**	**21.79**	**347**	P	P	08 11 53.3	+1.1
	1.9nm,0.9s,baz=172,slow=6.2,SNR=4.9						
PDAR	**Pinedale Array**	**23.16**	**359**	P	P	08 12 06.6	-0.1
	0.7nm,0.7s,baz=174,slow=8.7,SNR=6.0						
YKA	**Yellowknife Ar**	**43.09**	**356**	P	P	08 14 58.7	-1.2
	0.4nm,0.8s,baz=184,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**51.71**	**340**	P	P	08 16 06.1	-0.9
	0.8nm,1.0s,baz=153,slow=5.8,SNR=4.1						

IDC 28 08:15:47.1±1.5, 7°39S×127°47E, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, ML3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=84.7km s-min=22.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.03**	**287**	LR	LR	08 21 41.0	
	comp=Z,245nm,18.4s,baz=235,slow=44						
FITZ	**Fitzroy Crossi**	**10.80**	**189**	Pn	Pn	08 18 22.8	-0.3
	0.4nm,0.3s,baz=265,slow=22,SNR=8.8						
FITZ				Sn	Sn	08 20 26.2	+1.4
	0.6nm,0.3s,baz=46,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**14.15**	**153**	Pn	Pn	08 19 07.8	-1.2
	0.4nm,0.3s,baz=330,slow=14,SNR=6.8						
WRA				Sn	Sn	08 21 32.6	-14
	1.0nm,0.3s,baz=336,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**17.33**	**160**	P	P	08 19 51.6	-0.5
	0.4nm,0.3s,baz=336,slow=10,SNR=37						
ASAR				S	Sn	08 22 53.0	-11
	0.3nm,0.3s,baz=343,slow=25,SNR=5.7						
SONM	**Songino Array**	**58.05**	**343**	P	P	08 25 41.8	-0.3
	0.5nm,0.7s,baz=159,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**67.20**	**328**	P	P	08 26 43.3	+0.2
	0.1nm,0.3s,baz=118,slow=8.2,SNR=3.8						

MEX 28 08:46:11.0±0.4, 17°09N×99°84W, h47km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.22**	**184**	*i* P	Pn	08 46 17.7	-1.5
ACX				*i* S	Sn	08 46 23.2	-1.7
CAIG	**El Cayaco**	**0.41**	**264**	*e*P	Pn	08 46 19.4	-1.6
CAIG				*e*S	Sn	08 46 26.4	-1.6
PLIG	**Platanillo**	**1.33**	**14**	*i* P	Pn	08 46 32.6	-0.7
PLIG				*i* S	Sn	08 46 47.5	-2.6
PNIG	**Pinotepa**	**1.78**	**113**	*i* P	Pn	08 46 38.4	-1.0
PNIG				*i* S	Sn	08 46 59.0	-1.9
YAIG	**Yautepec**	**1.91**	**23**	*i* P	Pn	08 46 40.6	-0.7
YAIG				*i* S	Sn	08 47 01.5	-2.8

IDC 28 09:05:20.2±3.2, 0°58S×132°50E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=209.0km s-min=27.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.33**	**175**	P	P	09 09 47.4	+0.1
	0.3nm,0.3s,baz=352,slow=11,SNR=6.3						
WRA				S	Sn	09 13 17.1	-8.7
	0.2nm,0.3s,baz=353,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**23.00**	**177**	P	P	09 10 27.3	+0.5
	2.1nm,0.8s,baz=348,slow=9.6,SNR=18						
STKA	**Stephens Creek**	**32.30**	**165**	P	P	09 11 50.1	-0.9
	1.2nm,0.7s,baz=347,slow=9.8,SNR=3.1						
MKAR	**Makanchi Array**	**64.38**	**324**	P	P	09 15 58.2	+0.1
	0.1nm,0.6s,baz=101,slow=12,SNR=2.3						

ATH ***28*** *09:17:51.7, 37°.73N×27°.68E, h24km±3km, MD3.6/4*
DDA ***28*** *09:17:53.7, 37°.82N×27°.56E, h7km, MD3.7*
ISK ***28*** *09:17:53.3, 37°.83N×27°.53E, h5km, ML3.9*
NEIC ***28*** *09:17:53.0, 37°.83N×27°.47E, h5km, ML4.4(THE), ML3.9(ISK), After ISK.*
ISCJB ***28*** *09:17:53.8±0.4, 37°.81N±0°.02×27°.56E±0°.02, h10km±3km, mb3.8/16, MS3.1/1, Error ellipse: s-maj=3.3km s-min=2.7km az=144.3*
CSEM ***28*** *09:17:54.2±0.1, 37°.81N×27°.56E, h5km, MD3.7, Error ellipse: s-maj=3.3km s-min=2.6km az=61.0*
THE ***28*** *09:17:56.1, 37°.85N×27°.42E, h10km±1km, ML4.4/4, Error ellipse: s-maj=3.4km s-min=1.4km az=74.0*
IDC ***28*** *09:17:58.0±2.9, 37°.74N×27°.56E, h35km±22km, mb3.7/16, mb1 3.8/20, mb1mx3.7/32, mbtmp3.7/20, ML3.0/3, MS2.9/2, Ms1 3.0/2, ms1mx2.4/44, Error ellipse: s-maj=16.5km s-min=14.7km az=170.0*

ISC 28 09:17:54.4±0.9, 37°.83N±0°.02×27°.55E±0°.02, h9km±6km, n200, σ1§10/227, mb3.9/16, 6C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.31**	**123**	*i* P	**Pg**	**09 18 00.1**	**-0.5**
AYDN				*i* S	**Sg**	**09 18 04.3**	**-0.4**
AYDN	**Tasoluk**	**0.31**	**123**	*i* P	**Pg**	**09 18 00.1**	**-0.5**
AYDN				*i* S	**Sg**	**09 18 04.3**	**-0.4**
SMG	**Samos**	**0.58**	**258**	P	**Pg**	**09 18 05.5**	**-0.2**
SMG				S	**Sg**	**09 18 13.5**	**+0.2**
SMG	**Samos**	**0.58**	**258**	*e*PN	**Pg**	**09 18 05.5**	**-0.2**
SMG				*e*SN	**Sb**	**09 18 14.5**	**-0.6**
SMG	**Samos**	**0.58**	**258**	P	**Pg**	**09 18 05.5**	**-0.2**
SMG				S	**Sg**	**09 18 13.5**	**+0.2**
SMG				*e*Sn	**Sb**	**09 18 14.5**	**-0.6**
IZM	**Izmir**	**0.61**	**338**	PG	**Pg**	**09 18 05.6**	**-0.7**
IZM	**Izmir**	**0.61**	**338**	Pg	**Pg**	**09 18 05.6**	**-0.7**
BLCB	**Balcova**	**0.69**	**324**	PG	**Pg**	**09 18 06.8**	**-0.9**
BLCB				*e*SG	**Sg**	**09 18 16.6**	**-0.1**
BLCB	**Balcova**	**0.69**	**324**	*i* Pg	**Pg**	**09 18 06.8**	**-0.9**
BLCB				*e*Sg	**Sg**	**09 18 16.6**	**-0.1**
BDRM	**Kayabasi**	**0.77**	**187**	*i* P	**Pg**	**09 18 08.2**	**-1.0**
BDRM				*i* S	**Sb**	**09 18 21.6**	**+1.1**
BDRM	**Kayabasi**	**0.77**	**187**	*i* P	**Pg**	**09 18 08.2**	**-1.0**
BODT	**Bodrum**	**0.79**	**194**	*e*PG	**Pg**	**09 18 08.8**	**-0.8**
BODT				*e*SG	**Sg**	**09 18 20.3**	**+0.4**
BODT	**Bodrum**	**0.79**	**194**	*e*Pg	**Pg**	**09 18 08.8**	**-0.8**
BODT				*e*Sg	**Sg**	**09 18 20.3**	**+0.4**
YER	**Yerkesik**	**0.90**	**140**	*e*PG	**Pg**	**09 18 11.5**	**-0.3**
YER				*e*SG	**Sg**	**09 18 23.7**	**+0.1**
YER	**Yerkesik**	**0.90**	**140**	*e*Pg	**Pg**	**09 18 11.5**	**-0.3**
YER				*e*Sg	**Sg**	**09 18 23.7**	**+0.1**
URLA	**Izmir**	**0.92**	**305**	*i* P	**Pg**	**09 18 11.8**	**-0.4**
URLA				*i* S	**Sb**	**09 18 25.2**	**+0.2**
URLA	**Izmir**	**0.92**	**305**	*i* P	**Pg**	**09 18 11.8**	**-0.4**
URLA				*i* S	**Sb**	**09 18 25.2**	**+0.2**
AKHS	**Akhisar**	**1.07**	**11**	*i* P	**Pg**	**09 18 14.0**	**-1.0**
AKHS				*i* S	**Sg**	**09 18 29.1**	**+0.2**
AKHS	**Akhisar**	**1.07**	**11**	*i* P	**Pg**	**09 18 14.0**	**-1.0**
AKHS				*i* S	**Sg**	**09 18 29.1**	**+0.2**
AKS	**Akhisar**	**1.07**	**11**	*e*PG	**Pg**	**09 18 14.4**	**-0.6**
AKS	**Akhisar**	**1.07**	**11**	*e*Pg	**Pg**	**09 18 14.4**	**-0.6**
KULA	**Kula-Manisa**	**1.11**	**52**	*e*PN	**Pg**	**09 18 14.8**	**-1.0**
KULA	**Kula-Manisa**	**1.11**	**52**	*e*Pn	**Pg**	**09 18 14.8**	**-1.0**
NIS1	**Nisyros Isl.**	**1.26**	**194**	P	**Pg**	**09 18 18.7**	**+0.1**
NIS1				S	**Sn**	**09 18 39.5**	**+4.2**
NIS1	**Nisyros Isl.**	**1.26**	**194**	P	**Pg**	**09 18 18.7**	**+0.1**
NISR	**Nisiros**	**1.26**	**196**	P	**Pg**	**09 18 19.1**	**+0.5**
NISR				S	**Sn**	**09 18 37.5**	**+2.3**
NISR	**Nisiros**	**1.26**	**196**	P	**Pg**	**09 18 19.1**	**+0.5**
NISR				S	**Sn**	**09 18 37.5**	**+2.3**
CHOS	**Chios island**	**1.31**	**296**	P	**Pn**	**09 18 18.6**	**-0.3**
CHOS				S	**Sg**	**09 18 36.7**	**+0.2**
CHOS	**Chios island**	**1.31**	**296**	*e*PN	**Pn**	**09 18 18.1**	**-0.8**
CHOS				*e*SN	**Sg**	**09 18 38.0**	**+1.5**
CHOS	**Chios island**	**1.31**	**296**	*e*Pn	**Pn**	**09 18 18.1**	**-0.8**
CHOS	**Chios island**	**1.31**	**296**	P	**Pn**	**09 18 18.6**	**-0.3**
CHOS				S	**Sg**	**09 18 36.7**	**+0.2**
CHOS				*e*Sn	**Sg**	**09 18 38.0**	**+1.5**
AYVA	**Ayvalik**	**1.62**	**336**	*i* P	**Pb**	**09 18 24.7**	**+0.2**
AYVA				*i* S	**Sg**	**09 18 46.2**	**-0.5**
AYVA	**Ayvalik**	**1.62**	**336**	*i* P	**Pb**	**09 18 24.7**	**+0.2**
AYVA				*i* S	**Sg**	**09 18 46.2**	**-0.5**
KHL	**Karahalli**	**1.63**	**72**	*e*PN	**Pb**	**09 18 24.4**	**-0.3**
KHL	**Karahalli**	**1.63**	**72**	*e*Pn	**Pb**	**09 18 24.4**	**-0.3**
ARG	**Arkhangelos**	**1.67**	**164**	P	**Pn**	**09 18 23.9**	**0.0**
ARG	**Arkhangelos**	**1.67**	**164**	P	**Pn**	**09 18 23.9**	**0.0**
PRK	**Paraskevi**	**1.74**	**325**	P	**Pn**	**09 18 24.9**	**+0.2**
PRK				S	**Sb**	**09 18 48.6**	**+0.3**
PRK	**Paraskevi**	**1.74**	**325**	*e*PN	**Pn**	**09 18 24.6**	**-0.1**
PRK				*e*SN	**Sb**	**09 18 48.7**	**+0.4**
BALB	**Balikesir**	**1.83**	**8**	*e*PN	**Pn**	**09 18 26.4**	**+0.4**
BALB	**Balikesir**	**1.83**	**8**	*e*Pn	**Pn**	**09 18 26.4**	**+0.4**
DST	**Dursunbey**	**1.96**	**25**	*e*PN	**Pn**	**09 18 28.7**	**+0.9**
DST	**Dursunbey**	**1.96**	**25**	*e*Pn	**Pn**	**09 18 28.7**	**+0.9**
ELL	**Elmali**	**2.17**	**119**	*e*PN	**Pn**	**09 18 31.8**	**+1.0**
ELL	**Elmali**	**2.17**	**119**	*e*Pn	**Pn**	**09 18 31.8**	**+1.0**
EZN	**Ezine**	**2.21**	**335**	*e*PN	**Pn**	**09 18 31.9**	**+0.6**
EZN	**Ezine**	**2.21**	**335**	*e*Pn	**Pn**	**09 18 31.9**	**+0.6**
GONE	**Gonen-Balikesi**	**2.22**	**3**	*e*PN	**Pn**	**09 18 32.0**	**+0.7**
KARP	**Karpathos**	**2.30**	**188**	P	**Pn**	**09 18 31.8**	**-0.7**
KARP	**Karpathos**	**2.30**	**188**	P	**Pn**	**09 18 31.8**	**-0.7**
ISP	**Isparta**	**2.35**	**89**	*e*PN	**Pn**	**09 18 34.2**	**+1.0**
ISP	**Isparta**	**2.35**	**89**	*e*Pn	**Pn**	**09 18 33.4**	**+0.1**
ISP	**Isparta**	**2.35**	**89**	*e*Pn	**Pn**	**09 18 33.4**	**+0.1**
ALT	**Altintas**	**2.35**	**58**	*e*PN	**Pn**	**09 18 34.3**	**+1.0**
ALT	**Altintas**	**2.35**	**58**	*e*Pn	**Pn**	**09 18 34.3**	**+1.0**
BCK	**Bucak**	**2.44**	**98**	*e*PN	**Pn**	**09 18 35.1**	**+0.7**
BCK	**Bucak**	**2.44**	**98**	*e*Pn	**Pn**	**09 18 35.1**	**+0.7**
ORLT	**Orhaneli**	**2.45**	**25**	*e*PN	**Pn**	**09 18 35.1**	**+0.5**
ORLT	**Orhaneli**	**2.45**	**25**	*e*Pn	**Pn**	**09 18 35.1**	**+0.5**
SHUT	**Suhut-Afyon**	**2.47**	**72**	*e*PN	**Pn**	**09 18 35.8**	**+0.8**
SHUT	**Suhut-Afyon**	**2.47**	**72**	*e*Pn	**Pn**	**09 18 35.8**	**+0.8**
KCTX	**Karacabey (Bur**	**2.51**	**14**	*e*PN	**Pn**	**09 18 35.5**	**+0.1**
KCTX	**Karacabey (Bur**	**2.51**	**14**	*e*Pn	**Pn**	**09 18 35.5**	**+0.1**
EDC	**Edincik**	**2.53**	**5**	*e*PN	**Pn**	**09 18 35.2**	**-0.4**
BNT	**Bandirma**	**2.54**	**6**	*e*PN	**Pn**	**09 18 36.1**	**+0.3**
KRBG	**Karabiga-Canak**	**2.57**	**356**	*e*PN	**Pn**	**09 18 36.2**	**0.0**

	52nm,1.5s								
LPG	La Plagne	17.30	303	*e*P	P	09 21 57.9	+0.1		
LPG	La Plagne	17.30	303	*e*P	P	09 21 57.9	+0.1		
CABF	La Chapelle	18.12	306	*e*P	P	09 22 06.9	+0.3		
	99nm,1.6s								
CABF	La Chapelle	18.12	306	*e*P	P	09 22 06.9	+0.3		
	98nm,1.6s								
LOR	Lormes	19.78	306	*e*P	Pn	09 22 25.9	-0.4		
	9.5nm,0.9s								
LOR	Lormes	19.78	306	*e*P	Pn	09 22 25.9	-0.4		
	9.0nm,0.9s								
SSF	Saint Saulge	19.94	305	*e*P	Pn	09 22 27.7	-0.4		
SSF	Saint Saulge	19.94	305	*e*P	Pn	09 22 27.7	-0.4		
AVF	Avril sur Loir	19.95	304	*e*P	Pn	09 22 27.8	-0.5		
	18nm,0.9s								
AVF	Avril sur Loir	19.95	304	*e*P	Pn	09 22 27.8	-0.5		
	18nm,0.9s								
BGF	Bois d'Agland	20.21	303	*e*P	Pn	09 22 31.0	-0.4		
BGF	Bois d'Agland	20.21	303	*e*P	Pn	09 22 31.0	-0.4		
FINES	FINESS Array B	23.66	358	P	P	09 23 07.4	+1.6		
	2.6nm,1.0s,baz=186,slow=11,SNR=4.2								
FINES	FINESS Array B	23.66	358	P	P	09 23 07.4	+1.6		
FINES	FINESS Array B	23.66	358	P	P	09 23 07.4	+1.6		
HFS	Hagfors	24.00	343	P	P	09 23 10.9	+1.7		
	1.3nm,0.8s,baz=163,slow=40,SNR=2.4								
HFS	Hagfors	24.00	343	P	P	09 23 10.9	+1.7		
HFS	Hagfors	24.00	343	P	P	09 23 10.9	+1.7		
AKTO	Aktyubinsk	25.04	50	P	P	09 23 19.4	+0.6		
	2.5nm,0.8s,baz=252,slow=15,SNR=6.8								
AKTO	Aktyubinsk	25.04	50	P	P	09 23 19.4	+0.6		
AKTO	Aktyubinsk	25.04	50	P	P	09 23 19.4	+0.6		
NOA	NORSAR Array B	25.40	341	P	P	09 23 22.3	+0.4		
	0.8nm,0.8s,baz=140,slow=10,SNR=3.0								
NOA				LR	LR	09 34 02.0			
	comp=Z,66nm,20.7s,baz=340,slow=38								
NOA	NORSAR Array B	25.40	341	P	P	09 23 22.3	+0.4		
NOA	NORSAR Array B	25.40	341	P	P	09 23 22.3	+0.4		
TOA0	Torodi Ar. Sit	33.68	230	*e*P	P	09 24 35.0	-0.8		
TOA0	Torodi Ar. Sit	33.68	230	*e*P	P	09 24 35.0	-0.8		
TORD	Torodi Ar. Bea	33.68	230	P	P	09 24 35.6	-0.1		
	3.4nm,0.6s,baz=36,slow=8.9,SNR=23								
TORD	Torodi Ar. Bea	33.68	230	P	P	09 24 35.6	-0.1		
TORD	Torodi Ar. Bea	33.68	230	P	P	09 24 35.7	-0.1		
KURK	Kurchatov	38.02	53	P	P	09 25 12.4	-0.3		
	0.5nm,0.5s,baz=274,slow=8.7,SNR=4.6								
KURK	Kurchatov	38.02	53	P	P	09 25 12.4	-0.3		
KURK	Kurchatov	38.02	53	P	P	09 25 12.4	-0.3		
MKAR	Makanchi Array	40.73	59	P	P	09 25 35.5	+0.1		
	0.9nm,0.7s,baz=282,slow=6.5,SNR=8.8								
MKAR	Makanchi Array	40.73	59	P	P	09 25 35.5	+0.1		
MKAR	Makanchi Array	40.73	59	P	P	09 25 35.5	+0.1		
DBIC	Dimbokro	42.73	232	P	P	09 25 51.2	-0.8		
	1.9nm,0.7s,baz=18,slow=4.8,SNR=3.2								
DBIC	Dimbokro	42.73	232	P	P	09 25 51.2	-0.8		
DBIC	Dimbokro	42.73	232	P	P	09 25 51.2	-0.8		
SONM	Songino Array	56.32	53	P	P	09 27 35.5	-0.1		
	0.6nm,0.8s,baz=287,slow=7.7,SNR=6.0								
SONM	Songino Array	56.32	53	P	P	09 27 35.5	-0.1		
SONM	Songino Array	56.32	53	P	P	09 27 35.5	-0.1		
FRB	Frobisher Bay	59.36	329	P	P	09 27 55.9	-0.6		
	2.4nm,0.8s,baz=76,slow=11,SNR=3.6								
FRB	Frobisher Bay	59.36	329	P	P	09 27 55.9	-0.6		
FRB	Frobisher Bay	59.36	329	P	P	09 27 55.9	-0.6		
CMAR	Chiang Mai Arr	64.40	86	P	P	09 28 30.8	-0.3		
	2.3nm,0.7s,baz=301,slow=7.9,SNR=16								
CMAR	Chiang Mai Arr	64.40	86	P	P	09 28 30.8	-0.3		
CMAR	Chiang Mai Arr	64.40	86	P	P	09 28 30.8	-0.3		
KSAR	Wonju Array Be	75.13	54	P	P	09 29 37.0	+0.1		
KSAR	Wonju Array Be	75.13	54	P	P	09 29 37.0	+0.1		
KSRS	Korea Array	75.14	54	P	P	09 29 37.0	0.0		
	1.2nm,0.7s,baz=305,slow=4.5,SNR=5.8								
YKA	Yellowknife Ar	75.49	343	P	P	09 29 37.8	-0.8		
	0.4nm,0.9s,baz=28,slow=5.8,SNR=6.0								
YKA	Yellowknife Ar	75.49	343	P	P	09 29 37.8	-0.8		
YKA	Yellowknife Ar	75.49	343	P	P	09 29 37.8	-0.8		
ILAR	Eielson Array	77.64	358	P	P	09 29 49.8	-0.9		
	0.2nm,0.7s,baz=338,slow=5.9,SNR=3.5								
ILAR	Eielson Array	77.64	358	P	P	09 29 49.8	-0.9		
ILAR	Eielson Array	77.64	358	P	P	09 29 49.8	-0.9		
MJAR	Matsushiro Arr	82.12	50	P	P	09 30 15.9	+0.4		
	2.3nm,1.0s,baz=288,slow=5.6,SNR=4.2								
MJAR	Matsushiro Arr	82.12	50	P	P	09 30 15.9	+0.4		
MJAR	Matsushiro Arr	82.12	50	P	P	09 30 15.9	+0.4		
BDFB	Brasilia	88.48	249	P	P	09 30 48.6	+1.0		
	1.6nm,0.6s,baz=69,slow=8.6,SNR=3.0								
BDFB	Brasilia	88.48	249	P	P	09 30 48.6	+1.0		
BDFB	Brasilia	88.48	249	P	P	09 30 48.6	+1.0		
ASAR	Alice Springs	116.63	100	PKP	PKPdf	09 36 38.1	-1.1		
	0.2nm,0.8s,baz=291,slow=2.1,SNR=4.1								
ASAR	Alice Springs	116.63	100	PKP	PKPdf	09 36 38.1	-1.1		
ASAR	Alice Springs	116.63	100	PKIKP	PKPdf	09 36 38.1	-1.1		

HLW ***28*** *09:45:03.8, 38°.35N×27°.55E, h15km±11km, Md0.0, Ml3.5*
ISK ***28*** *09:45:07.8, 37°.82N×27°.44E, h9km, ML3.8*
ATH ***28*** *09:45:07.0, 37°.70N×27°.64E, h29km±3km, MD3.6/5*
NEIC ***28*** *09:45:07.0, 37°.80N×27°.43E, h5km, mb3.4/1, ML4.1(THE), ML3.9(ISK), After ISK.*
CSEM ***28*** *09:45:08.7±0.1, 37°.78N×27°.53E, h8km, MD3.9, Error ellipse: s-maj=3.8km s-min=2.8km az=62.0*
DDA ***28*** *09:45:08.3, 37°.81N×27°.56E, h7km, MD3.9*
ISCJB ***28*** *09:45:08.3±0.4, 37°.79N±0°.02×27°.55E±0°.02, h11km±3km, mb3.6/10, MS2.5/1, Error ellipse: s-maj=3.5km s-min=2.9km az=25.8*
THE ***28*** *09:45:08.9, 37°.83N×27°.57E, h30km±1km, ML4.1/4, Error ellipse: s-maj=2.2km s-min=1.0km az=77.0*
IDC ***28*** *09:45:12.5±3.8, 37°.69N×27°.66E, h33km±31km, mb3.5/9, mb1 3.7/13,mb1mx3.6/29, mbtmp3.6/13, ML3.6/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/35, Error ellipse: s-maj=18.6km s-min=15.9km az=14.0*

ISC 28 09:45:08.6±1.0, 37°.83N±0°.02×27°.56E±0°.02, h7km±7km, n188, σ1§24/215, mb3.5/10, 7C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res	ISC
GCAM	G?zelcaml?	0.29	244	*i* P		Pg		09 45 14.4	+0.1	
GCAM				*i* S		Sg		09 45 18.2	+0.1	
GCAM	G?zelcaml?	0.29	244	*i* P		Pg		09 45 14.4	+0.1	
GCAM				*i* S		Sg		09 45 18.2	+0.1	
AYDN	Tasoluk	0.30	123	*i* P		Pg		09 45 14.8	+0.3	
AYDN				*i* S		Sg		09 45 18.9	+0.4	
AYDN	Tasoluk	0.30	123	*i* P		Pg		09 45 14.8	+0.3	
AYDN				*i* S		Sg		09 45 18.9	+0.4	
SMG	Samos	0.59	259	P		Pg		09 45 20.4	+0.5	
SMG				S		Sb		09 45 30.1	+0.3	
SMG	Samos	0.59	259	*e*PN		Pg		09 45 20.3	+0.4	
SMG				*e*SN		Sb		09 45 29.2	-0.6	
SMG	Samos	0.59	259	*e*Pn		Pg		09 45 20.3	+0.4	
SMG				*e*Sn		Sb		09 45 29.2	-0.6	
SMG				S		Sb		09 45 30.1	+0.3	
IZM	Izmir	0.62	338	PG		Pg		09 45 19.2	-1.3	
IZM	Izmir	0.62	338	*i* Pg		Pg		09 45 19.2	-1.3	
BLCB	Balcova	0.69	324	PG		Pg		09 45 21.5	-0.4	
BLCB				*e*SG		Sg		09 45 30.5	-0.4	
BLCB	Balcova	0.69	324	*i* Pg		Pg		09 45 21.5	-0.4	
BLCB				*e*Sg		Sg		09 45 30.5	-0.4	
BODT	Bodrum	0.79	195	*e*PG		Pg		09 45 23.5	-0.2	
BODT				*e*SG		Sg		09 45 34.2	+0.3	
BODT	Bodrum	0.79	195	*e*Pg		Pg		09 45 23.5	-0.2	
BODT				*e*Sg		Sg		09 45 34.3	+0.3	
YER	Yerkesik	0.90	140	*e*PG		Pg		09 45 25.9	+0.1	
YER	Yerkesik	0.90	140	*e*Pg		Pg		09 45 25.9	+0.1	
URLA	Izmir	0.93	305	*i* P		Pg		09 45 26.6	+0.2	
URLA				*i* S		Sb		09 45 40.2	+0.5	
URLA	Izmir	0.93	305	*i* P		Pg		09 45 26.6	+0.2	
URLA				*i* S		Sb		09 45 40.2	+0.5	
MANT	Manisa	1.03	50	*i* P		Pg		09 45 27.8	-0.5	
MANT				*i* S		Sg		09 45 40.6	-1.1	
MANT	Manisa	1.03	50	*i* P		Pg		09 45 27.8	-0.5	
MANT				*i* S		Sg		09 45 40.6	-1.1	
AKHS	Akhisar	1.07	11	*i* P		Pg		09 45 28.7	-0.4	
AKHS				*i* S		Sn		09 45 44.9	-0.3	
AKHS	Akhisar	1.07	11	*i* P		Pg		09 45 28.7	-0.4	
AKHS				*i* S		Sn		09 45 44.9	-0.3	
NIS1	Nisyros Isl.	1.26	194	P		Pn		09 45 32.4	-0.3	
NIS1				S		Sn		09 45 51.4	+1.5	
NIS1	Nisyros Isl.	1.26	194	P		Pn		09 45 32.4	-0.3	
NIS1				S		Sn		09 45 51.4	+1.5	
CHOS	Chios island	1.31	296	P		Pn		09 45 33.0	-0.4	
CHOS				S		Sn		09 45 52.6	+1.3	
CHOS	Chios island	1.31	296	*e*PN		Pn		09 45 33.1	-0.4	
CHOS				*e*SN		Sn		09 45 51.5	+0.2	
CHOS	Chios island	1.31	296	*e*Pn		Pn		09 45 33.1	-0.4	
CHOS				*e*Sn		Sn		09 45 51.5	+0.2	
CHOS				S		Sn		09 45 52.6	+1.3	
KHL	Karahalli	1.62	72	*e*PN		Pn		09 45 37.9	+0.2	
KHL	Karahalli	1.62	72	*e*Pn		Pn		09 45 37.9	+0.2	
ARG	Arkhangelos	1.67	164	P		Pn		09 45 38.0	-0.3	
ARG	Arkhangelos	1.67	164	P		Pn		09 45 38.0	-0.3	
FETY	Fethiye	1.70	134	*e*PN		Pn		09 45 38.8	+0.1	
FETY	Fethiye	1.70	134	*e*Pn		Pn		09 45 38.8	+0.1	
PRK	Paraskevi	1.74	325	P		Pn		09 45 38.9	-0.3	
PRK				S		Sb		09 46 03.4	+0.5	
PRK	Paraskevi	1.74	325	*e*PN		Pn		09 45 38.9	-0.3	
PRK				*e*SN		Sb		09 46 03.3	+0.4	
PRK	Paraskevi	1.74	325	P		Pn		09 45 38.9	-0.3	
PRK				*e*Sn		Sb		09 46 03.3	+0.4	
BALB	Balikesir	1.83	8	*e*PN		Pn		09 45 39.6	-0.8	
BALB	Balikesir	1.83	8	*e*Pn		Pn		09 45 39.6	-0.8	
DST	Dursunbey	1.96	25	*e*PN		Pn		09 45 42.5	+0.2	
DST	Dursunbey	1.96	25	*e*Pn		Pn		09 45 42.5	+0.2	
ELL	Elmali	2.16	119	*e*PN		Pn		09 45 46.2	+1.1	
ELL	Elmali	2.16	119	*e*Pn		Pn		09 45 46.3	+1.1	
EZN	Ezine	2.22	335	*e*PN		Pn		09 45 45.3	-0.5	
EZN	Ezine	2.22	335	*e*Pn		Pn		09 45 45.3	-0.5	
GONE	Gonen-Balikesi	2.22	2	*e*PN		Pn		09 45 45.6	-0.2	
GONE	Gonen-Balikesi	2.22	2	*e*Pn		Pn		09 45 45.6	-0.2	
ISP	Isparta	2.34	89	*e*PN		Pb		09 45 49.4	-1.9	
ISP	Isparta	2.34	89	*e*Pn		Pn		09 45 48.8	+1.1	
ISP	Isparta	2.34	89	*e*Pn		Pn		09 45 48.8	+1.1	
ALT	Altintas	2.35	58	*e*PN		Pn		09 45 48.1	+0.4	
ALT	Altintas	2.35	58	*e*Pn		Pn		09 45 48.1	+0.4	
BCK	Bucak	2.43	98	*e*PN		Pb		09 45 51.1	-1.6	
BCK	Bucak	2.43	98	*e*Pn		Pb		09 45 51.1	-1.6	
ORLT	Orhaneli	2.45	25	*e*PN		Pn		09 45 50.4	+1.4	
ORLT	Orhaneli	2.45	25	*e*Pn		Pn		09 45 50.4	+1.4	
SHUT	Suhut-Afyon	2.46	72	*e*PN		Pn		09 45 50.9	+1.6	
SHUT	Suhut-Afyon	2.46	72	*e*Pn		Pn		09 45 50.9	+1.6	
KCTX	Karacabey (Bur	2.51	14	*e*PN		Pn		09 45 51.2	+1.3	
KCTX	Karacabey (Bur	2.51	14	*e*Pn		Pn		09 45 51.2	+1.3	
EDC	Edincik	2.53	5	*e*PN		Pn		09 45 49.5	-0.5	
EDC	Edincik	2.53	5	*e*Pn		Pn		09 45 49.5	-0.5	
KRBG	Karabiga-Canak	2.57	355	*e*PN		Pn		09 45 50.1	-0.6	
KRBG	Karabiga-Canak	2.57	355	*e*Pn		Pn		09 45 50.1	-0.6	
LPK	Lapseki	2.62	346	*e*PN		Pn		09 45 50.8	-0.5	
LPK	Lapseki	2.62	346	*e*Pn		Pn		09 45 50.8	-0.5	
ANTB	Antalya	2.63	110	*e*PN		Pn		09 45 53.0	+1.5	
ANTB	Antalya	2.63	110	*e*Pn		Pn		09 45 53.0	+1.5	
GELI	Tayfur-Gelibol	2.70	342	*e*PN		Pn		09 45 52.2	-0.3	
GELI	Tayfur-Gelibol	2.70	342	*e*Pn		Pn		09 45 52.2	-0.3	
MDNY	Mudanya-Bursa	2.74	22	*e*PN		Pn		09 45 53.1	+0.1	
MDNY	Mudanya-Bursa	2.74	22	*e*Pn		Pn		09 45 53.1	+0.1	
SUTC	Sutluce-Ispart	2.75	96	*e*PN		Pn		09 45 54.9	+1.7	
SUTC	Sutluce-Ispart	2.75	96	*e*Pn		Pn		09 45 54.9	+1.7	
LIA	Limnos Island	2.78	319	*e*PN		Pn		09 45 53.6	+0.1	
LIA	Limnos Island	2.78	319	*e*Pn		Pn		09 45 53.6	+0.1	
RKY	Sarkoy-Tekirda	2.87	354	*e*PN		Pn		09 45 54.1	-0.7	
RKY	Sarkoy-Tekirda	2.87	354	*e*Pn		Pn		09 45 54.1	-0.7	
ARMT	Armutlu	2.91	20	*e*PN		Pn		09 45 57.1	+1.7	
ARMT	Armutlu	2.91	20	*e*Pn		Pn		09 45 57.1	+1.7	
ERIK	Erikli-Kesan	2.95	344	*e*PN		Pn		09 45 56.2	+0.3	
ERIK	Erikli-Kesan	2.95	344	*e*Pn		Pn		09 45 56.2	+0.3	
CAVI	Cavuskoy	2.96	36	*e*PN		Pn		09 45 57.7	+1.6	
CAVI	Cavuskoy	2.96	36	*e*Pn		Pn		09 45 57.7	+1.6	
MFT	Murefte	2.96	356	*e*PN		Pn		09 45 56.8	+0.6	
MFT	Murefte	2.96	356	*e*Pn		Pn		09 45 56.8	+0.6	
YLV	Yalova	3.08	27	*e*PN		Pn		09 45 59.5	+1.8	
YLV	Yalova	3.08	27	*e*Pn		Pn		09 45 59.5	+1.8	
ESKT	Eskisehir	3.08	56	*e*PN		Pn		09 45 59.5	+1.7	
ESKT	Eskisehir	3.08	56	*e*Pn		Pn		09 45 59.5	+1.7	
ADVT	Abdulvahap	3.10	32	*e*PN		Pn		09 45 59.1	+1.1	
ADVT	Abdulvahap	3.10	32	*e*Pn		Pn		09 45 59.1	+1.1	
ENEZ	Enez	3.10	340	*e*PN		Pn		09 45 58.1	+0.2	
ENEZ	Enez	3.10	340	*e*Pn		Pn		09 45 58.2	+0.2	
GPA	Golpazari	3.26	40	*e*PN		Pn		09 46 01.4	+1.2	
GPA	Golpazari	3.26	40	*e*Pn		Pn		09 46 01.4	+1.2	
ALN	Alexandroupoli	3.28	339	*e*PN		Pn		09 46 00.2	-0.2	
ALN	Alexandroupoli	3.28	339	*e*Pn		Pn		09 46 00.3	-0.2	
IDI	Anoyia	3.33	221	*e*Pn		Pn		09 46 01.0	-0.1	
IDI	Anoyia	3.33	221	*e*Pn		Pn		09 46 01.0	-0.1	
HRT	Hereke	3.41	28	*e*PN		Pn		09 46 03.7	+1.5	
HRT	Hereke	3.41	28	*e*Pn		Pn		09 46 03.7	+1.5	
SLVT	Silivri	3.43	8	*e*PN		Pn		09 46 03.0	+0.5	
SLVT	Silivri	3.43	8	*e*Pn		Pn		09 46 03.0	+0.5	
ISK	Istanbul-Kandi	3.44	19	*e*PN		Pn		09 46 04.2	+1.7	
ISK	Istanbul-Kandi	3.44	19	*e*Pn		Pn		09 46 04.2	+1.7	
BGKT	Bogazkoy	3.48	15	*e*PN		Pn		09 46 04.6	+1.5	
BGKT	Bogazkoy	3.48	15	*e*Pn		Pn		09 46 04.6	+1.5	
SVRH	Sivrihisar-ESK	3.50	61	*e*PN		Pn		09 46 05.7	+2.2	
SVRH	Sivrihisar-ESK	3.50	61	*e*Pn		Pn		09 46 05.7	+2.2	
SPNC	Sapanca-Adapaz	3.56	36	*e*PN		Pn		09 46 06.3	+2.0	
SPNC	Sapanca-Adapaz	3.56	36	*e*Pn		Pn		09 46 06.3	+2.0	
KLYT	Kilyos	3.61	18	*e*PN		Pn		09 46 06.9	+2.0	
KLYT	Kilyos	3.61	18	*e*Pn		Pn		09 46 06.9	+2.0	
LADK	Ladik-KONYA	3.81	83	*e*PN		Pn		09 46 10.2	+2.3	
LADK	Ladik-KONYA	3.81	83	*e*Pn		Pn		09 46 10.2	+2.3	
EDRB	Edirne	4.06	351	*e*PN		Pn		09 46 11.9	+0.8	
EDRB	Edirne	4.06	351	*e*Pn		Pn		09 46 12.0	+0.8	
NVR	Nevrokopi	4.53	322	*e*PN		Pn		09 46 17.7	0.0	
NVR	Nevrokopi	4.53	322	*e*Pn		Pn		09 46 17.7	0.0	
BRTR	Keskin Array B	5.11	66	Pn		Pn		09 46 27.1	+1.4	
	1.8nm,0.3s,baz=220,slow=37,SNR=31									
BRTR				Pg		Pg		09 46 48.4	+1.9	
	0.7nm,0.3s,baz=255,slow=15,SNR=8.1									
BRTR				Sn		Sn		09 47 23.1	-2.0	
	0.8nm,0.3s,baz=248,slow=24,SNR=3.6									
BRTR	Keskin Array B	5.11	66	Pn		Pn		09 46 27.1	+1.4	
BRTR				Pg		Pg		09 46 48.4	+1.9	
BRTR				Sn		Sn		09 47 23.1	-2.0	
BRTR	Keskin Array B	5.11	66	Pn		Pn		09 46 27.1	+1.4	
TIRR	Tirgusor	6.66	5	‖*i*P		Pn		09 46 47.4	+0.6	
TIRR	Tirgusor	6.66	5	‖*i*P		Pn		09 46 47.4	+0.6	
CFR	Carcaliu	7.36	3	‖*i*P		Pn		09 46 55.3	-1.1	
CFR	Carcaliu	7.36	3	‖*i*P		Pn		09 46 55.3	-1.1	
MLR	Muntele Rosu	7.75	352	Pn		Pn		09 47 06.0	+4.1	
	0.1nm,0.3s,baz=223,slow=8.6,SNR=7.4									
MLR						LR		09 50 35.0		
	comp=Z,34nm,19.5s,baz=312,slow=41									
MLR	Muntele Rosu	7.75	352	Pn		Pn		09 47 06.0	+4.1	
MLR	Muntele Rosu	7.75	352	‖*i*P		Pn		09 47 04.1	+2.1	
MLR	Muntele Rosu	7.75	352	‖*i*P		Pn		09 47 04.1	+2.1	
VOIR		7.83	347	‖*i*P		Pn		09 47 05.7	+2.7	
VOIR		7.83	347	‖*i*P		Pn		09 47 05.7	+2.7	
MMAI	Mount Meron Ar	8.00	125	Pn		Pn		09 47 04.2	-1.2	
	7.4nm,0.3s,baz=303,slow=12,SNR=9.3									
MMAI				Sn		Sn		09 48 32.3	-3.8	
	4.2nm,0.3s,baz=345,slow=34,SNR=4.5									
MMAI	Mount Meron Ar	8.00	125	Pn		Pn		09 47 04.2	-1.2	
MMAI				Sn		Sn		09 48 32.3	-3.8	
MMAI	Mount Meron Ar	8.00	125	Pn		Pn		09 47 04.2	-1.2	
PLOR	Plostina	8.05	355	‖*i*P		Pn		09 47 10.3	+4.4	
GZR	Gura Zlata	8.36	336	‖*i*P		Pn		09 47 11.2	+0.9	
GZR	Gura Zlata	8.36	336	‖*i*P		Pn		09 47 11.2	+0.9	
RSH		8.53	142	P		Pn		09 47 10.6	-2.0	
AMAG	Maghara	8.55	145	P		Pn		09 47 11.2	-1.7	
KOT	Kottamia	8.64	155	P		Pn		09 47 12.8	-1.3	
GLL	Jalalah	8.92	156	P		Pn		09 47 16.8	-1.2	
BZS	Buzias	8.96	332	‖*i*P		Pn		09 47 20.8	+2.4	
BZS	Buzias	8.96	332	‖*i*P		Pn		09 47 20.8	+2.4	
SUZ		9.09	150	P		Pn		09 47 19.1	-1.1	
ASF	Jabal al Asfar	9.51	124	Sn		Sn		09 49 11.0	-2.3	
	0.2nm,0.3s,baz=178,slow=12,SNR=1.5									
ASF	Jabal al Asfar	9.51	124	Sn		Sn		09 49 11.0	-2.3	
DRGR		9.65	340	‖*i*P		Pn		09 47 36.1	+8.2	
BURAR	Bucovina Array	9.93	351	‖*i*P		Pn		09 47 36.6	+4.8	
BUR08	Bucovina Ar. S	9.96	351	*e*Pn		Pn		09 47 33.4	+1.2	
BUR08	Bucovina Ar. S	9.96	351	*e*Pn		Pn		09 47 33.4	+1.2	
EIL	Elat	10.20	141	Pn		Pn		09 47 35.3	-0.1	
	0.8nm,0.3s,baz=114,slow=18,SNR=2.3									
EIL				Sn		Sn		09 49 26.4	-3.6	
	1.2nm,0.3s,baz=104,slow=17,SNR=3.7									
EIL	Elat	10.20	141	Pn		Pn		09 47 35.3	-0.1	
EIL				Sn		Sn		09 49 26.4	-3.6	
EIL	Elat	10.20	141	Pn		Pn		09 47 35.3	-0.1	
HBST	Basata	10.46	143	P		Pn		09 47 37.4	-1.7	
HKAT	Jabal Katrina	10.73	148	P		Pn		09 47 41.1	-1.7	
TR1		11.16	149	P		Pn		09 47 47.0	-1.7	
GERES	GERESS Array B	14.90	322	Pn		P		09 48 47.6	+2.0	
	0.1nm,0.3s,baz=134,slow=11,SNR=24									
GERES	GERESS Array B	14.90	322	Pn		P		09 48 47.6	+2.0	
FINES	FINESS Array B	23.66	358	P		P		09 50 22.9	+2.6	
	0.9nm,0.8s,baz=163,slow=7.3,SNR=2.5									
FINES	FINESS Array B	23.66	358	P		P		09 50 22.9	+2.6	
FINES	FINESS Array B	23.66	358	P		P		09 50 22.9	+2.6	
ESDC	Sonseca Array	24.59	284	P		P		09 50 30.1	+0.7	
	0.6nm,0.5s,baz=109,slow=11,SNR=3.6									
ESDC	Sonseca Array	24.59	284	P		P		09 50 30.1	+0.7	
ESDC	Sonseca Array	24.59	284	P		P		09 50 30.1	+0.7	
AKTO	Aktyubinsk	25.04	50	P		P		09 50 33.1	-0.1	
	1.9nm,1.0s,baz=256,slow=13,SNR=4.7									
AKTO	Aktyubinsk	25.04	50	P		P		09 50 33.1	-0.1	
AKTO	Aktyubinsk	25.04	50	P		P		09 50 33.1	-0.1	
ABKAR	Akbulak array	25.91	53	*e*P		P		09 50 40.1	-1.0	
	0.5nm,0.6s									
ABKAR	Akbulak array	25.91	53	*e*P		P		09 50 40.1	-1.0	
	0.5nm,0.6s									
TORD	Torodi Ar. Bea	33.69	230	P		P		09 51 50.3	-0.1	
	1.4nm,0.7s,baz=36,slow=8.8,SNR=10									
TORD	Torodi Ar. Bea	33.69	230	P		P		09 51 50.3	-0.1	
TORD	Torodi Ar. Bea	33.69	230	P		P		09 51 50.3	-0.1	
JMIC	Jan Mayen	38.12	342	LR		LR		10 07 27.3		
	comp=Z,7.5nm,21.0s,baz=243,slow=

KEF	**Keuruu**	**3.07 340**	*e*P		Pn	10 11 33.5	+2.2	
KEF			*e*SG		**Sb**	**10 12 16.8**	**+1.9**	
KEF			MSG			10 12 16.8		
	comp=Z,2.6nm,0.4s							
KEF	**Keuruu**	**3.07 340**	P		Pn	10 11 33.4	+2.2	
KEF			Sg		**Sb**	**10 12 16.8**	**+1.9**	
RAF	**Rauma**	**3.17 305**	*e*P		Pn	10 11 35.1	+2.6	
RAF			*e*SB		**Sb**	**10 12 18.2**	**+0.5**	
RAF			MSG			10 12 18.2		
	comp=Z,4.3nm,0.4s							
RAF	**Rauma**	**3.17 305**	P		Pn	10 11 35.1	+2.6	
RAF			*e*S		**Sn**	**10 12 06.6**	**-4.3**	
	comp=Z,9.5nm,0.6s,SNR=50							
RAF			Sb		**Sb**	**10 12 18.2**	**+0.5**	
SUF	**Sumiainen**	**3.46 353**	*e*P		**Pn**	**10 11 38.4**	**+1.9**	
SUF			MSG		**Sg**	**10 12 27.9**	**-4.5**	
	comp=Z,3.9nm,0.4s							
SUF			*e*SG		**Sg**	**10 12 27.9**	**-4.5**	
SUF	**Sumiainen**	**3.46 353**	P		**Pn**	**10 11 38.4**	**+1.9**	
JOF	**Joensuu**	**4.17 28**	*e*P		**Pn**	**10 11 47.8**	**+1.5**	
JOF			*e*SG		**Sg**	**10 12 51.7**	**-3.5**	
JOF			MSG			10 12 51.7		
	comp=Z,4.6nm,0.4s							
JOF	**Joensuu**	**4.17 28**	P		**Pn**	**10 11 47.8**	**+1.5**	
HFS	**Hagfors**	**6.82 283**	Pn		**Pn**	**10 12 23.6**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=93,slow=16,SNR=3.8							
HFS			Lg		Lg	10 14 15.6		
	comp=Z,0.7nm,0.3s,baz=93,slow=32,SNR=6.7							
HFS	**Hagfors**	**6.82 283**	Pn		**Pn**	**10 12 22.5**	**-0.2**	
	baz=112,slow=14							
HFS			Sn		**Sn**	**10 13 38.3**	**-2.7**	
	baz=108,slow=28							
HFS			Lg		Lg	10 14 12.8		
	baz=90,slow=28							
HFS	**Hagfors**	**6.82 283**	PN		**Pn**	**10 12 22.5**	**-0.2**	
HFS			SN		**Sn**	**10 13 38.3**	**-2.7**	
HFS			SG		Sg	10 14 12.8	-7.6	
HFS	**Hagfors**	**6.82 283**	Pn		**Pn**	**10 12 22.5**	**-0.2**	
	baz=112,slow=14,SNR=50							
HFS			Sn		**Sn**	**10 13 38.3**	**-2.7**	
	baz=108,slow=25,SNR=50							
HFS			Lg		Lg	10 14 12.8		
	baz=90,slow=23,SNR=50							
NB2	**NORSAR Subarra**	**8.10 289**	Pn		**Pn**	**10 12 39.8**	**-0.5**	
	baz=81,slow=14							
NB2	**NORSAR Subarra**	**8.10 289**	PN		**Pn**	**10 12 39.8**	**-0.5**	
NB2	**NORSAR Subarra**	**8.10 289**	Pn		**Pn**	**10 12 39.8**	**-0.5**	
	baz=81,slow=13,SNR=50							
NOA	**NORSAR Array B**	**8.10 289**	Pn		**Pn**	**10 12 40.0**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=117,slow=11,SNR=3.2							
NOA			Sn		**Sn**	**10 14 07.3**	**-5.2**	
	comp=Z,0.2nm,0.3s,baz=104,slow=5.2,SNR=3.1							
NOA			Lg		Lg	10 14 52.5		
	comp=Z,0.4nm,0.3s,baz=43,slow=22,SNR=3.6							
ARA0	**ARCESS Array S**	**10.29 357**	Pn		**Pn**	**10 13 08.8**	**-1.5**	
	baz=172,slow=14							
ARA0			Sn		Sn	10 14 57.2	-9.0	
	baz=172,slow=28							
ARA0	**ARCESS Array S**	**10.29 357**	P		**Pn**	**10 13 08.8**	**-1.5**	
ARA0			S		Sn	10 14 57.2	-9.0	
ARCES	**ARCESS Array B**	**10.29 357**	Pn		**Pn**	**10 13 09.2**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=10							
ARCES			Lg		Lg	10 15 56.4		
	comp=Z,0.2nm,0.3s,baz=153,slow=32,SNR=5.7							

*MAN **28** 10:18:17.7±0.3,3N×127.3±0.7E,h24km,mb5.3,ML4.3,MS4.5*
*IDC **28** 10:18:21.7±2.3,7.6±8N×126.7±4E,h31km±16km,mb4.4/30, mb1 4.5/31,mb1mx4.5/33,mbtmp4.4/31,ML4.6/1,MS3.7/4, Ms1 3.7/4,ms1mx3.2/26,Error ellipse: s-maj=19.1km s-min=9.3km az=77.0*
*DJA **28** 10:18:21,7.7±4N×127.2±4E,h10km,mb5.2/11*
*ISCJB **28** 10:18:24.7±0.5,7.6±4N±0.0±3×126.9±3E±0.0±5,h75km±5km, mb4.5/59,Error ellipse: s-maj=7.9km s-min=3.8km az=159.2*
*BJI **28** 10:18:24.3,7.5±1N×126.8±5E,h81km,mB4.9/20,mb4.7/34, Ms4.5/15,Ms7 4.2/18*
*NEIC **28** 10:18:26.1±1.0,7.6±6N×126.7±7E,h72km±9km,mb4.7/20, Error ellipse: s-maj=9.0km s-min=4.6km az=77.0*

ISC 28 10:18:26.9±0.4,7.6±1N±0.0±4×126.8±5E±0.0±6,h76km±3km, n151,σ1s59/201,mb4.6/58,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**0.89**	**222**	*e*P		Pn	10 18 39.2	-5.1
MATI				*e*S		**Sn**	**10 18 52.5**	**-4.8**
DAV	**Davao City (W)**	**1.37**	**247**	Pg		**Pn**	**10 18 50.3**	**-0.1**
	300nm,0.3s,baz=101,slow=1.6,SNR=25							
DAV				Lg		Lg	10 19 13.2	
	488nm,0.3s,baz=127,slow=22,SNR=9.2							
DAV	**Davao City (W)**	**1.37**	**247**	*e*Pn		**Pn**	**10 18 49.7**	**-0.7**
DAV				*e*Sn		**Sn**	**10 19 11.1**	**+3.0**
DAV				Lg		Lg	10 19 13.2	
DAV	**Davao City (W)**	**1.37**	**247**	P		**Pn**	**10 18 50.7**	**+0.3**
BUKP	**Musuan**	**1.80**	**279**	*e*P		**Pn**	**10 18 54.7**	**-1.2**
BUKP				*e*S		**Sn**	**10 19 22.0**	**+3.9**
BUTP	**Butuan**	**1.82**	**318**	*e*P		**Pn**	**10 18 53.8**	**-2.5**
BUTP				*e*S		**Sn**	**10 19 20.0**	**+1.5**
KCP	**Kidapawan**	**1.85**	**251**⇑	*e*P		**Pn**	**10 18 57.6**	**+0.9**
KCP				*i* S		**Sn**	**10 19 23.4**	**+4.0**
CGP	**Cagayan de Oro**	**2.30**	**292**	*e*P		**Pn**	**10 19 01.3**	**-1.3**
CGP				*i* S		**Sn**	**10 19 32.9**	**+2.8**
GSPH	**General Santos**	**2.42**	**231**	*e*P		**Pn**	**10 19 02.5**	**-2.0**
MSLP	**Maasin**	**3.19**	**322**	*e*P		**Pn**	**10 19 11.8**	**-3.0**
MSLP				*e*S		Sn	10 20 01.6	+10
PAGZ	**Pagadian**	**3.45**	**274**	*e*P		**Pn**	**10 19 17.6**	**-0.6**
TBP	**Tagbilaran**	**3.61**	**305**	*e*P		**Pn**	**10 19 20.2**	**-0.2**
PLP	**Palo**	**3.99**	**332**⇓	*e*P		Pn	10 19 20.7	-4.9
PLP				*e*S		**Sn**	**10 20 11.8**	**+0.6**
OCLP	**Ormoc**	**4.07**	**327**	*e*P		**Pn**	**10 19 27.5**	**+0.7**
OCLP				*e*S		Sn	10 20 20.7	+7.4
SGSI	**Sangihe**	**4.12**	**199**	P		Pn	10 19 31.3	+3.9
BESP	**Borongan**	**4.20**	**341**	*e*P		**Pn**	**10 19 29.9**	**+1.3**
BESP				*e*S		Sn	10 20 27.9	+11
GUIM	**Jordan**	**5.17**	**306**	*e*P		**Pn**	**10 19 39.7**	**-2.1**
GUIM				*e*S		**Sn**	**10 20 40.4**	**+0.3**
CNP	**Catarman**	**5.33**	**336**	*e*P		Pn	10 19 39.6	-4.2
TNTI	**Ternate**	**6.81**	**176**	P		**Pn**	**10 20 03.4**	**-0.8**
	655nm,1.1s,8μm2.8nm							
KMSI	**Cibinong**	**7.55**	**202**	P		Pn	10 20 22.9	+8.6
LBMI	**Labuha**	**8.22**	**175**	P		**Pn**	**10 20 22.0**	**-1.4**
	234nm,0.9s,2μm0.8nm							
MRSI	**Marisa**	**8.61**	**215**	P		**Pn**	**10 20 29.8**	**+1.0**
	148nm,0.8s,1μm							
SWI	**Sorong**	**9.49**	**152**	P		Pn	10 20 37.8	-3.1
	85nm,0.9s							
LUWI	**Luwuk**	**9.51**	**206**	P		Pn	10 20 45.0	+3.9
	174nm,1.1s,3μm							
MSAI	**Masohi**	**11.08**	**169**	P		**Pn**	**10 21 05.0**	**+2.5**
	16nm,0.9s,1μm							
FAKI	**Fak Fak**	**11.76**	**153**	P		**Pn**	**10 21 11.7**	**-0.1**
	145nm,1.1s,1μm							
KDI	**Kendari**	**12.24**	**200**	P		**Pn**	**10 21 17.7**	**-0.7**
	24nm,0.7s							
TTSI	**Tana Toraja**	**12.70**	**214**	P		**Pn**	**10 21 27.2**	**+2.6**
KAPI	**Kappang**	**14.40**	**210**	Pn		**Pn**	**10 21 45.4**	**-1.7**
	2.7nm,0.3s,baz=153,slow=20,SNR=8.3							
KAPI	**Kappang**	**14.40**	**210**	*e*Pn		**Pn**	**10 21 46.4**	**-0.7**
JOW	**Kunigami**	**19.16**	**4**	P		**Pn**	**10 22 45.5**	**-0.5**
	8.7nm,0.3s,baz=193,slow=9.9,SNR=20							
JOW	**Kunigami**	**19.16**	**4**	*e*Pn		**Pn**	**10 22 45.3**	**-0.7**
	36nm,0.7s							
QIZ	**Qiongzhong**	**20.05**	**306**	P		**P**	**10 22 52.5**	**-1.6**
QIZ				sP		**sP**	**10 23 16.0**	**-2.9**
QIZ				S		**S**	**10 26 34.3**	**-1.1**
QIZ				pmax		pmax		
	comp=Z,120nm,4.3s							
QIZ				LR		LR		
	comp=Z,380nm,17.4s							
NJ2	**Nanjing**	**25.43**	**344**	*e*P		**P**	**10 23 48.8**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**25.58**	**183**	P		**P**	**10 23 49.0**	**0.0**
	comp=Z,13nm,0.5s,baz=15,slow=9.1,SNR=27							
FITZ	**Fitzroy Crossi**	**25.58**	**183**	*e*P		**P**	**10 23 48.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**25.58**	**183**	*e*P		**P**	**10 23 48.8**	**-0.2**
	comp=Z,18nm,0.8s							
JNU	**Nakatsue**	**25.66**	**8**	P		**P**	**10 23 48.5**	**-1.3**
	comp=Z,29nm,0.7s,baz=207,slow=11,SNR=19							
JNU	**Nakatsue**	**25.66**	**8**	P		**P**	**10 23 48.5**	**-1.3**
	comp=Z,3.6nm,1.1s							
PMG	**Port Moresby**	**26.36**	**130**	P		**P**	**10 23 55.8**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=312,slow=8.9,SNR=3.8							

PMG	**Port Moresby**	**26.36**	**130**	P		**P**	**10 23 55.8**	**-0.4**
GYA	**Guiyang**	**26.83**	**317**	*e*P		**P**	**10 24 02.0**	**+1.5**
GYA				pP		**pP**	**10 24 18.0**	**-0.1**
GYA				sP		**sP**	**10 24 27.3**	**+0.3**
GYA				PP		PP	10 24 48.3	-14
GYA				S		**S**	**10 28 29.0**	**-2.6**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
COEN	**Coen**	**26.86**	**143**	*e*P		**P**	**10 24 00.2**	**-0.5**
COEN	**Coen**	**26.86**	**143**	*e*P		**P**	**10 24 00.3**	**-0.5**
	comp=Z,119nm,1.0s							
WRAB	**Tennant Creek**	**28.35**	**165**	*e*P		**P**	**10 24 14.3**	**+0.4**
	comp=Z,37nm,1.5s							
WRA	**Warramunga Arr**	**28.35**	**165**	P		**P**	**10 24 13.2**	**-0.7**
	comp=Z,5.5nm,0.5s,baz=346,slow=10,SNR=18							
WRA	**Warramunga Arr**	**28.35**	**165**	P		**P**	**10 24 13.2**	**-0.7**
WB2	**Warramunga Arr**	**28.36**	**165**	*e*P		**P**	**10 24 12.8**	**-1.1**
KMI	**Kunming**	**28.87**	**310**	P		**P**	**10 24 20.3**	**+1.5**
KMI				pP		**pP**	**10 24 37.8**	**+1.3**
KMI				sP		**sP**	**10 24 47.8**	**+2.4**
KMI				S		**S**	**10 29 03.5**	**-0.4**
KMI				sS		**sS**	**10 29 34.3**	**-0.2**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
KMI				pmax		pmax		
	comp=Z,120nm,5.5s							
KMI				LR		LR		
	comp=N,120nm,14.2s							
KMI				LR		LR		
	comp=E,190nm,16.4s							
KMI				LR		LR		
	comp=Z,270nm,17.9s							
CMAR	**Chiang Mai Arr**	**29.20**	**294**	P		**P**	**10 24 21.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=120,slow=7.4,SNR=5.4							
CMAR				PcP		**PcP**	**10 27 28.3**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=170,slow=1.3,SNR=5.3							
CMAR	**Chiang Mai Arr**	**29.20**	**294**	P		**P**	**10 24 21.3**	**-0.3**
CMAR				PcP		**PcP**	**10 27 28.4**	**+0.9**
MBWA	**Marble Bar**	**29.43**	**194**	*e*P		**P**	**10 24 24.0**	**+0.5**
	comp=Z,7.3nm,0.9s							
KSAR	**Wonju Array Be**	**29.71**	**2**	P		**P**	**10 24 25.1**	**-0.8**
KSRS	**Korea Array**	**29.72**	**2**	P		**P**	**10 24 25.1**	**-0.9**
	comp=Z,6.6nm,0.6s,baz=178,slow=9.9,SNR=38							
KSRS				LR		LR	10 34 32.1	
	comp=Z,103nm,20.3s,baz=134,slow=33							
MAJO	**Matsushiro**	**30.61**	**18**	*e*P		**P**	**10 24 31.7**	**-2.1**
	comp=Z,7.7nm,0.6s							
MAT	**Matsushiro**	**30.61**	**18**	P		**P**	**10 24 31.3**	**-2.5**
MJAR	**Matsushiro Arr**	**30.61**	**18**	P		**P**	**10 24 31.6**	**-2.2**
	comp=Z,4.4nm,0.6s,baz=190,slow=9.6,SNR=19							
MJAR	**Matsushiro Arr**	**30.61**	**18**	P		**P**	**10 24 31.6**	**-2.2**
XAN	**Xi'an**	**31.08**	**330**	P		**P**	**10 24 39.5**	**+1.5**
XAN				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CD2	**Chengdu**	**31.68**	**320**	P		**P**	**10 24 43.8**	**+0.4**
CD2				pP		**pP**	**10 25 02.3**	**+1.1**
CD2				sP		**sP**	**10 25 11.8**	**+1.7**
CD2				PP		PP	10 25 51.3	-5.0
CD2				S		**S**	**10 29 46.0**	**-1.6**
CD2				sS		**sS**	**10 30 18.0**	**-0.2**
CD2				SS		SS	10 31 40.3	-26
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,100nm,4.9s							
CD2				LR		LR		
	comp=N,370nm,10.7s							
CD2				LR		LR		
	comp=Z,410nm,16.6s							
AS31	**Alice Springs**	**31.84**	**168**	*e*P		**P**	**10 24 43.9**	**-0.9**
AS31				*e*PcP		**PcP**	**10 27 35.2**	**+1.0**
ASAR	**Alice Springs**	**31.84**	**168**	P		**P**	**10 24 44.0**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=340,slow=7.6,SNR=35							
ASAR				PcP		**PcP**	**10 27 34.9**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=343,slow=2.3,SNR=9.9							
ASAR				ScP		**ScP**	**10 31 15.4**	**+4.2**
	comp=Z,0.5nm,0.7s,baz=341,slow=3.0,SNR=4.2							
ASAR	**Alice Springs**	**31.84**	**168**	P		**P**	**10 24 44.0**	**-0.8**
ASAR				PcP		**PcP**	**10 27 34.9**	**+0.6**
ASAR				ScP		**ScP**	**10 31 15.4**	**+4.2**
CTA	**Charters Tower**	**33.50**	**146**	P		**P**	**10 24 59.7**	**+0.4**
	comp=Z,8.5nm,0.8s,baz=323,slow=10.0,SNR=4.2							
CTA	**Charters Tower**	**33.50**	**146**	*e*P		**P**	**10 24 59.1**	**-0.2**
CTA	**Charters Tower**	**33.50**	**146**	P		**P**	**10 24 59.7**	**+0.4**
BJI	**Beijing**	**33.68**	**345**	P		**P**	**10 25 01.0**	**+0.4**
BJI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SNY	**Shenyang**	**34.20**	**356**	⇑P		**P**	**10 25 04.8**	**-0.3**
SNY				S		**S**	**10 30 31.0**	**+4.8**
SNY				ScS		**ScS**	**10 35 18.0**	**-3.2**
SNY				pmax		pmax		
	comp=Z,14nm,0.6s							
SNY				pmax		pmax		
	comp=Z,130nm,3.5s							
SNY				LR		LR		
	comp=N,150nm,7.4s							
SNY				LR		LR		
	comp=E,150nm,4.0s							
SNY				LR		LR		
	comp=Z,170nm,15.6s							
MEEK	**Meekatharra**	**34.97**	**193**	*e*P		**P**	**10 25 12.4**	**+0.4**
LZH	**Lanzhou**	**35.29**	**327**	*e*P		**P**	**10 25 17.0**	**+2.2**
LZH				pP		**pP**	**10 25 34.3**	**+1.5**
LZH				sP		**sP**	**10 25 43.0**	**+1.4**
LZH				pmax		pmax		
	comp=Z,13nm,1.2s							
HHC	**Hu-ho-hao-te**	**35.80**	**340**	*e*P		**P**	**10 25 19.0**	**0.0**
HHC				pP		**pP**	**10 25 37.0**	**-0.1**
HHC				sP		**sP**	**10 25 46.3**	**+0.5**
HHC				PP		PP	10 26 42.0	+0.3
HHC				PcP		**PcP**	**10 27 45.3**	**0.0**
HHC				S		**S**	**10 30 50.0**	**-1.0**
HHC				sS		**sS**	**10 31 22.0**	**0.0**
HHC				ScP		**ScP**	**10 31 23.3**	**-1.6**
HHC				PcS		**PcS**	**10 31 31.5**	**-1.2**
HHC				SS		SS	10 33 15.0	-15
HHC				ScS		**ScS**	**10 35 28.0**	**-2.2**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,81nm,5.6s							
HHC				LR		LR		
	comp=N,130nm,13.9s							
HHC				LR		LR		
	comp=E,140nm,14.5s							
HHC				LR		LR		
	comp=Z,130nm,15.0s							
CN2	**Changchun**	**36.07**	**358**	*e*P		P	10 25 24.3	+3.1
CN2				*e*pP		pP	10 25 42.5	+3.3
CN2				*e*S		**S**	**10 30 58.0**	**+3.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				LR		LR		
	comp=N,200nm,19.0s							
CN2				LR		LR		
	comp=E,100nm,19.0s							
CN2				LR		LR		
	comp=Z,200nm,16.0s							
USRK	**Ussuriysk Arra**	**36.72**	**6**	P		**P**	**10 25 26.6**	**-0.1**
	comp=Z,35nm,0.7s,baz=189,slow=7.8,SNR=75							
MDJ	**Mudanjiang**	**36.94**	**3**	P		**P**	**10 25 29.0**	**+0.4**
MDJ				pmax		pmax		
	comp=Z,32nm,0.9s							
MDJ				LR		LR		
	comp=Z,100nm,26.5s							
MDJ	**Mudanjiang**	**36.94**	**3**	*e*P		**P**	**10 25 28.3**	**-0.3**
	comp=Z,39nm,1.0s							
SHL	**Shillong**	**37.80**	**302**	*e*P		**P**	**10 25 36.0**	**-0.3**
FORT	**Forrest**	**38.19**	**178**	*e*P		**P**	**10 25 39.9**	**+0.7**
FORT	**Forrest**	**38.19**	**178**	*e*P		**P**	**10 25 40.0**	**+0.8**
	comp=Z,59nm,0.6s							
ASAJ	**Asahikawa**	**38.88**	**18**	*e*P		**P**	**10 25 45.9**	**+1.0**
	comp=Z,11nm,0.6s							
GTA	**Gaotai**	**39.90**	**327**	*e*P		**P**	**10 25 54.3**	**+0.7**
GTA				pP		**pP**	**10 26 12.5**	**+0.6**
GTA				sP		**sP**	**10 26 22.0**	**+1.4**
GTA				S		**S**	**10 31 53.0**	**-0.2**
GTA				sS		**sS**	**10 32 24.5**	**0.0**
GTA				SS		SS	10 34 45.3	-7.2
GTA				pmax		pmax		
	comp=Z,3.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,160nm,5.5s							
GTA				LR		LR		
	comp=N,200nm,18.1s							

GTA				LR		LR		
	comp=E,150nm,18.8s							
GTA				LR		LR		
	comp=Z,290nm,17.1s							
KLBR	**Kellerberrin**	**39.94**	**192**	*e*P		**P**	**10 25 54.6**	**+0.7**
LSA	**Lhasa**	**40.07**	**308**	*e*P		**P**	**10 25 55.6**	**0.0**
	comp=Z,4.8nm,0.5s							
BBOO	**Buckleboo**	**41.14**	**168**	*e*P		**P**	**10 26 03.6**	**-0.1**
BBOO	**Buckleboo**	**41.14**	**168**	*e*P		**P**	**10 26 03.7**	**-0.1**
	comp=Z,246nm,0.4s							
NWAO	**Narrogin (SRO)**	**41.34**	**192**	P		**P**	**10 26 06.8**	**+1.4**
	comp=Z,9.1nm,0.6s,baz=8.9,slow=11,SNR=7.6							
NWAO	**Narrogin (SRO)**	**41.34**	**192**	P		**P**	**10 26 06.8**	**+1.4**
STKA	**Stephens Creek**	**41.71**	**161**	P		**P**	**10 26 08.1**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=328,slow=6.6,SNR=29							
STKA	**Stephens Creek**	**41.71**	**161**	*e*P		**P**	**10 26 08.3**	**-0.2**
STKA	**Stephens Creek**	**41.71**	**161**	*e*P		**P**	**10 26 08.3**	**-0.2**
ULN	**Ulaanbaatar**	**43.51**	**341**	*e*P		**P**	**10 26 21.2**	**-1.8**
	comp=Z,2.2nm,0.6s							
SONM	**Songino Array**	**43.70**	**340**	P		**P**	**10 26 22.5**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=154,slow=9.3,SNR=8.9							
SONM				PcP		**PcP**	**10 28 10.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=155,slow=1.7,SNR=3.9							
SONM				ScP		**ScP**	**10 32 00.4**	**+4.9**
	comp=Z,0.4nm,0.9s,baz=114,slow=3.5,SNR=2.8							
SONM				LR		LR	10 47 12.6	
	comp=Z,146nm,19.5s,baz=324,slow=40							
SONM	**Songino Array**	**43.70**	**340**	P		**P**	**10 26 22.6**	**-2.0**
SONM				PcP		**PcP**	**10 28 10.2**	**-0.2**
SONM				ScP		**ScP**	**10 32 00.4**	**+4.9**
ARMA	**Armidale**	**44.66**	**149**	*e*P		**P**	**10 26 33.6**	**+1.2**
ARPS	**Mount Arapiles**	**46.33**	**163**	*e*P		**P**	**10 26 45.7**	**+0.4**
TLY	**Talaya**	**47.92**	**341**	*e*P		**P**	**10 26 56.4**	**-1.1**
	comp=Z,3.9nm,0.7s							
TOO	**Toolangi**	**48.20**	**160**	*e*P		**P**	**10 27 01.3**	**+1.4**
PEA0B	**Petropavlovsk-**	**51.82**	**23**	*e*P		**P**	**10 27 28.4**	**+1.3**
PETK	**Petropavlovsk-**	**51.82**	**23**	P		**P**	**10 27 28.2**	**+1.1**
	comp=Z,14nm,0.7s,baz=186,slow=4.2,SNR=27							
PETK				LR		LR	10 46 28.5	
	comp=Z,45nm,19.6s,baz=278,slow=33							
PETK	**Petropavlovsk-**	**51.82**	**23**	P		**P**	**10 27 28.2**	**+1.1**
MK31	**Makanchi Array**	**54.49**	**324**	*e*P		**P**	**10 27 45.7**	**-1.2**
MK31				*e*PcP		**PcP**	**10 28 48.8**	**-0.7**
MKAR	**Makanchi Array**	**54.49**	**324**	P		**P**	**10 27 45.6**	**-1.2**
	comp=Z,6.3nm,0.5s,baz=122,slow=8.0,SNR=156							
MKAR				PcP		**PcP**	**10 28 48.6**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=109,slow=4.3,SNR=5.6							
MKAR				ScP		**ScP**	**10 32 45.2**	**+3.9**
	comp=Z,0.3nm,0.8s,baz=106,slow=4.7,SNR=3.3							
MKAR				LR		LR	10 52 50.3	
	comp=Z,79nm,18.9s,baz=253,slow=38							
MKAR	**Makanchi Array**	**54.49**	**324**	*e*P		**P**	**10 27 45.7**	**-1.2**
MKAR				PcP		**PcP**	**10 28 48.6**	**-0.8**
MKAR				ScP		**ScP**	**10 32 45.2**	**+3.9**
ZAA0	**Zalesovo Array**	**57.23**	**332**	*e*P		**P**	**10 28 04.2**	**-2.0**
ZALV	**Zalesovo Beam**	**57.23**	**332**	P		**P**	**10 28 04.2**	**-2.1**
	comp=Z,2.6nm,0.6s,baz=122,slow=7.0,SNR=12							
ZALV	**Zalesovo Beam**	**57.23**	**332**	P		**P**	**10 28 04.2**	**-2.1**
EKS2	**Erkin-Say**	**58.12**	**316**	*e*P		**P**	**10 28 12.4**	**-0.5**
	comp=Z,69nm,2.9s							
KURK	**Kurchatov**	**58.58**	**326**	*e*P		**P**	**10 28 13.9**	**-1.9**
	comp=Z,9.0nm,1.2s							
KKAR	**Karatay Array**	**60.53**	**316**	*e*P		**P**	**10 28 28.0**	**-1.4**
	comp=Z,2.5nm,0.5s							
BVAR	**Borovoye Array**	**64.17**	**326**	P		**P**	**10 28 52.5**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=128,slow=7.0,SNR=19							
BVAR	**Borovoye Array**	**64.17**	**326**	P		**P**	**10 28 52.5**	**-1.0**
BRVK	**Borovoye**	**64.25**	**326**	*e*P		**P**	**10 28 52.7**	**-1.2**
	comp=Z,3.4nm,0.7s							
RPZ	**Rata Peaks**	**64.87**	**146**	P		**P**	**10 28 58.5**	**+0.4**
	comp=Z,6.3nm,0.8s,baz=47,slow=22,SNR=2.7							
RPZ	**Rata Peaks**	**64.87**	**146**	P		**P**	**10 28 58.5**	**+0.4**
BILL	**Bilibino**	**65.80**	**15**	*e*P		**P**	**10 29 02.7**	**-1.0**
	comp=Z,5.3nm,1.0s							
AKTO	**Aktyubinsk**	**70.73**	**321**	P		**P**	**10 29 33.4**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=89,slow=6.8,SNR=7.6							
AKTO	**Aktyubinsk**	**70.73**	**321**	P		**P**	**10 29 33.4**	**-1.6**
GAMB	**Gambell**	**70.83**	**24**	*e*P		**P**	**10 29 36.1**	**+0.9**
	comp=Z,6.3nm,0.8s							
KDAK	**Kodiak Island**	**78.57**	**33**	*e*P		**P**	**10 30 20.9**	**+0.9**
GNI	**Garni**	**79.12**	**309**	P		**

CORM	**Corum**	**0.97**	**28**	*e*PG	**Pg**	**10 34 33.8**	**+0.2**
CORM	**Corum**	**0.97**	**28**	*e*Pg	**Pg**	**10 34 33.8**	**+0.2**
YOZ	**Yozgat**	**1.05**	**72**	*e*PG	**Pb**	**10 34 34.9**	**+0.1**
YOZ	**Yozgat**	**1.05**	**72**	*e*Pg	**Pb**	**10 34 34.9**	**+0.1**
SULT	**Sultanhani-AKS**	**1.19**	**200**	*e*PN	**Pg**	**10 34 37.9**	**+0.2**
SULT	**Sultanhani-AKS**	**1.19**	**200**	*e*Pn	**Pg**	**10 34 37.9**	**+0.2**
ELDT	**Eldivan**	**1.26**	**339**	*e*P	**Pn**	**10 34 37.4**	**-0.7**
ELDT	**Eldivan**	**1.26**	**339**	*e*P	**Pn**	**10 34 37.4**	**-0.7**
NIG	**Nigde**	**1.29**	**159**	*e*PN	**Pb**	**10 34 39.4**	**+0.4**
NIG	**Nigde**	**1.29**	**159**	*e*Pn	**Pb**	**10 34 39.4**	**+0.4**
CTKT	**Corum**	**1.43**	**24**	*e*P	**Pb**	**10 34 41.8**	**+0.5**
CTKT	**Corum**	**1.43**	**24**	*e*P	**Pb**	**10 34 41.8**	**+0.5**
BNN	**Bunyan**	**1.49**	**108**	*e*PN	**Pb**	**10 34 42.2**	**-0.1**
BNN	**Bunyan**	**1.49**	**108**	*e*Pn	**Pb**	**10 34 42.3**	**-0.1**
KDHN	**Kadinhani**	**1.69**	**242**	*i* P	**Pg**	**10 34 47.0**	**-0.3**
KDHN	**Kadinhani**	**1.69**	**242**	*i* P	**Pg**	**10 34 47.0**	**-0.3**

*ISCJB **28** 10:47:01.9±0.6, 36°.26N±0°.03×25°.39E±0°.05, h18km±6km, Error ellipse: s-maj=6.8km s-min=5.8km az=5.8*
*CSEM **28** 10:47:01.6±0.1, 36°.23N×25°.39E, h12km, ML3.4/1, Error ellipse: s-maj=4.1km s-min=3.3km az=87.0*
*ATH **28** 10:47:02.3, 36°.23N×25°.39E, h4 1km± 12km, MD3.3/4*
*THE **28** 10:47:02.1, 36°.20N×25°.38E, h7km± 1km, ML3.4/1, Error ellipse: s-maj=1.2km s-min=0.4km az=311.0*

ISC 28 10:47:01.8±1.1, 36°.19N±0°.03×25°.38E±0°.04, h10km±10km, n23, σ0s52/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.16**	**5**	P	**Pg**	**10 47 05.5**	**+0.1**
THR6	**Thira Island,**	**0.16**	**5**	P	**Pg**	**10 47 05.5**	**+0.1**
THR1	**Thera Island**	**0.19**	**20**	P	**Pg**	**10 47 05.9**	**+0.1**
THR1	**Thera Island**	**0.19**	**20**	P	**Pg**	**10 47 05.9**	**+0.1**
THR2	**Thira island,**	**0.26**	**10**	P	**Pg**	**10 47 07.3**	**+0.3**
THR2	**Thira island,**	**0.26**	**10**	P	**Pg**	**10 47 07.3**	**+0.3**
NPS	**Neapolis**	**0.95**	**168**	P	**Pg**	**10 47 20.0**	**-0.1**
NPS				S	**Sb**	**10 47 34.1**	**+1.1**
NPS	**Neapolis**	**0.95**	**168**	P	**Pg**	**10 47 20.0**	**-0.1**
NPS				S	**Sb**	**10 47 34.1**	**+1.1**
IDI	**Anoyia**	**0.99**	**204**	P	**Pg**	**10 47 20.3**	**-0.5**
IDI				S	**Sb**	**10 47 34.8**	**+0.7**
IDI	**Anoyia**	**0.99**	**204**	P	**Pg**	**10 47 20.3**	**-0.5**
IDI				S	**Sb**	**10 47 34.8**	**+0.7**
LAST	**Lasithi**	**1.03**	**175**	*e*P	**Pg**	**10 47 21.8**	**+0.1**
LAST				*e*S	**Sb**	**10 47 36.3**	**+0.8**
VAM	**Vamos**	**1.24**	**231**	*e*P	**Pg**	**10 47 25.9**	**+0.3**
VAM				*e*S	**Sg**	**10 47 41.1**	**-0.6**
VAM	**Vamos**	**1.24**	**231**	*e*P	**Pg**	**10 47 25.9**	**+0.3**
VAM				*e*S	**Sg**	**10 47 41.1**	**-0.6**
SIVA	**Sivas**	**1.26**	**202**	*e*P	**Pg**	**10 47 26.3**	**+0.3**
SIVA				*e*S	**Sg**	**10 47 42.7**	**+0.3**
SIVA	**Sivas**	**1.26**	**202**	*e*P	**Pg**	**10 47 26.3**	**+0.3**
SIVA				*e*S	**Sg**	**10 47 42.7**	**+0.3**
ZKR	**Zakros**	**1.27**	**147**	*e*P	**Pn**	**10 47 25.0**	**-0.7**
ZKR				*e*S	**Sb**	**10 47 42.2**	**-0.1**
KARP	**Karpathos**	**1.58**	**114**	P	**Pn**	**10 47 29.4**	**-0.6**
KARP				S	**Sn**	**10 47 50.6**	**+0.1**
KARP	**Karpathos**	**1.58**	**114**	P	**Pn**	**10 47 29.4**	**-0.6**
KARP				S	**Sn**	**10 47 50.6**	**+0.1**
KYTH	**Kithira**	**1.90**	**273**	P	**Pn**	**10 47 33.8**	**-0.4**
KYTH	**Kithira**	**1.90**	**273**	*e*P	**Pn**	**10 47 33.8**	**-0.4**
KYTH	**Kithira**	**1.90**	**273**	P	**Pn**	**10 47 33.8**	**-0.4**
VLI	**Veliai**	**2.04**	**286**	*e*P	**Pn**	**10 47 35.6**	**-0.6**
VLI	**Veliai**	**2.04**	**286**	*e*P	**Pn**	**10 47 35.6**	**-0.6**

*DJA **28** 11:03:16, 0°.13S×122°.90E, h145km, MLv4.1/6*

IDC 28 11:03:16.7±9.9, 0°.02S×123°.08E, h157km±94km, mb3.2/4, mb1 3.4/5, mb1mx3.1/19, mbtmp3.3/5, Error ellipse: s-maj=127.7km s-min=24.9km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.14**	**172**	P	P	11 07 17.3	+0.2
	0.5nm,0.3s,baz=16,slow=7.8,SNR=6.7						
WRA	**Warramunga Arr**	**22.66**	**152**	P	P	11 08 04.8	-0.2
	1.2nm,0.6s,baz=326,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.75**	**157**	P	P	11 08 33.0	0.0
	0.4nm,0.5s,baz=346,slow=15,SNR=10						
ASAR				PcP	PcP	11 11 58.5	-0.5
	0.3nm,0.6s,baz=342,slow=2.2,SNR=5.8						
STKA	**Stephens Creek**	**36.20**	**153**	P	P	11 10 04.7	+0.2
	1.3nm,0.7s,baz=342,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**58.67**	**328**	P	P	11 12 57.7	-0.1
	0.2nm,0.3s,baz=129,slow=8.8,SNR=5.3						

IDC 28 11:08:42.7±8.3, 20°.52S×67°.64W, h204km±52km, mb3.5/3, mb1 3.5/5, mb1mx3.3/17, mbtmp3.4/5, Error ellipse: s-maj=99.8km s-min=28.0km az=27.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.24**	**354**	P	Pn	11 09 48.6	+0.1
	0.8nm,0.3s,baz=184,slow=7.1,SNR=17						
LPAZ				S	S	11 10 40.4	+0.7
	0.1nm,0.3s,baz=122,slow=3.3,SNR=3.7						
SIV	**San Ignacio**	**7.70**	**55**	P	Pn	11 10 31.5	-0.7
	3.5nm,0.3s,baz=245,slow=11,SNR=55						
DBIC	**Dimbokro**	**67.32**	**73**	P	P	11 19 16.6	+0.5
	1.9nm,0.5s,baz=224,slow=7.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.91**	**70**	P	P	11 20 07.4	0.0
	0.4nm,0.4s,baz=255,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**90.67**	**340**	P	P	11 21 21.2	-0.3
	0.2nm,0.5s,baz=134,slow=4.6,SNR=11						

IDC 28 11:15:44.8±6.4, 19°.00N×145°.28E, h290km±64km, mb3.1/9, mb1 3.3/10, mb1mx3.1/25, mbtmp3.0/10, Error ellipse: s-maj=34.5km s-min=17.8km az=101.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.55**	**342**	P	P	11 19 40.7	-0.2
	0.3nm,0.3s,baz=192,slow=3.5,SNR=4.3						
WRA	**Warramunga Arr**	**40.16**	**196**	P	P	11 22 52.9	-0.6
	0.3nm,0.6s,baz=1.7,slow=8.6,SNR=2.6						
ASAR	**Alice Springs**	**43.83**	**195**	P	P	11 23 23.1	+0.1
	0.4nm,0.9s,baz=23,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**57.97**	**314**	P	P	11 25 08.2	+0.7
	0.3nm,0.6s,baz=88,slow=7.8,SNR=4.9						
ILAR	**Eielson Array**	**63.55**	**26**	P	P	11 25 43.9	-0.8
	0.5nm,0.6s,baz=260,slow=5.1,SNR=9.2						
INK	**Inuvik**	**69.26**	**23**	P	P	11 26 20.7	+0.2
	0.3nm,0.3s,baz=278,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**77.91**	**28**	P	P	11 27 11.1	+0.5
	0.5nm,0.5s,baz=289,slow=5.4,SNR=14						
RES	**Resolute Bay**	**79.23**	**14**	P	P	11 27 17.3	-0.3
	0.6nm,0.6s,baz=335,slow=6.7,SNR=2.3						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	P	11 27 40.5	+0.7
	1.0nm,0.8s,baz=260,slow=7.0,SNR=9.2						
FINES	**FINESS Array B**	**86.45**	**335**	P	P	11 27 53.7	-1.0
	0.8nm,0.4s,baz=60,slow=4.6,SNR=8.9						

KRSC 28 11:22:50.9±0.8, 53°.32N×160°.45E, h45km±35km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.34**	**229**	*e*P	Pn	11 22 59.7	-0.3
SPN				*i* S	Sn	11 23 06.9	+0.5
NLC	**Nalytchevo**	**0.68**	**258**	*e*P	Pn	11 23 04.7	+0.5
NLC				*i* S	Sn	11 23 14.8	+1.1
KII	**Karymskiy**	**0.93**	**321**	*e*P	Pn	11 23 07.6	-0.1
KII				*i* S	Sn	11 23 20.1	+0.1
SDLR	**Sedlovina**	**0.94**	**268**	P	Pn	11 23 08.6	+0.7
SDLR				*i* S	Sn	11 23 21.6	+1.3
UGLR	**Uglovaya**	**0.98**	**264**	*e*P	Pn	11 23 09.4	+1.0
UGLR				*i* S	Sn	11 23 23.1	+1.8
AVH	**Avacha**	**1.03**	**268**	P	Pn	11 23 10.0	+1.0
KOK	**Koryaka**	**1.09**	**269**	*e*P	Pn	11 23 10.5	+0.7
PET	**Petropavlovsk**	**1.12**	**255**	*e*P	Pn	11 23 10.8	+0.7
PET				*i* S	Sn	11 23 25.3	+0.9
MKZ	**Mys Kozlova**	**1.45**	**31**	*e*P	Pn	11 23 13.4	-1.2
MKZ				*i* S	Sn	11 23 30.4	-2.0
RUS	**Russkaya**	**1.47**	**234**	P	Pn	11 23 15.4	+0.5
RUS				*i* S	Sn	11 23 33.2	+0.2
MTVR	**Mutnovka**	**1.61**	**239**	*e*P	Pn	11 23 18.1	+1.1
MTVR				*i* S	Sn	11 23 37.6	+0.9
ASAK	**Asacha**	**1.81**	**240**	*e*P	Pn	11 23 21.6	+1.9
ASAK				*i* S	Sn	11 23 44.2	+2.7
TUMR	**Tumrok**	**1.98**	**355**	*e*P	Pn	11 23 23.3	+1.3
TUMR				*i* S	Sn	11 23 47.2	+1.5
KBTR	**Krutoberegovo**	**3.20**	**24**	P	Pn	11 23 42.8	+4.1

*ISCJB **28** 11:30:34.4±1.2, 40°.37N±0°.04×25°.68E±0°.06, h4km±9km, Error ellipse: s-maj=8.2km s-min=6.9km az=161.8*
*ATH **28** 11:30:35.6, 40°.41N×25°.75E, h30km± 1km, MD3.2/5*
*ISK **28** 11:30:35.7, 40°.38N×25°.80E, h5km, MD2.8*
*CSEM **28** 11:30:36.0±0.2, 40°.38N×25°.75E, h10km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.6km az=129.0*

ISC 28 11:30:35.4±1.7, 40°.40N±0°.03×25°.78E±0°.03, h10km±14km, n32, σ0s60/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.44**	**40**	*e*PG	**Pb**	**11 30 44.8**	**-0.5**
ENEZ				*e*SG	**Sb**	**11 30 52.2**	**+0.2**
ENEZ	**Enez**	**0.44**	**40**	*e*Pg	**Pb**	**11 30 44.8**	**-0.5**
ENEZ				*e*Sg	**Sb**	**11 30 52.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.53**	**90**	*e*PG	**Pb**	**11 30 46.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.53**	**90**	*e*Pg	**Pb**	**11 30 46.6**	**-0.2**
ALN	**Alexandroupoli**	**0.54**	**22**	*e*PN	**Pb**	**11 30 47.0**	**+0.1**
ALN				*e*SN	**Sb**	**11 30 54.6**	**-0.1**
ALN	**Alexandroupoli**	**0.54**	**22**	*e*Pn	**Pb**	**11 30 47.0**	**+0.1**
ALN				*e*Sn	**Sb**	**11 30 54.6**	**-0.1**
ERIK	**Erikli-Kesan**	**0.62**	**64**	*e*PG	**Pb**	**11 30 48.0**	**-0.3**
ERIK				*e*SG	**Sb**	**11 30 57.1**	**0.0**
ERIK	**Erikli-Kesan**	**0.62**	**64**	*e*Pg	**Pb**	**11 30 48.0**	**-0.3**
ERIK				*e*Sg	**Sb**	**11 30 57.1**	**0.0**
LIA	**Limnos Island**	**0.68**	**223**	*e*PN	**Pb**	**11 30 49.3**	**0.0**
LIA				*e*SN	**Sb**	**11 30 58.9**	**+0.2**
LIA	**Limnos Island**	**0.68**	**223**	*e*Pn	**Pb**	**11 30 49.3**	**0.0**
LIA				*e*Sn	**Sb**	**11 30 58.9**	**+0.2**
LPK	**Lapseki**	**0.75**	**92**	*e*PG	**Pb**	**11 30 50.4**	**-0.1**
LPK	**Lapseki**	**0.75**	**92**	*e*Pg	**Pb**	**11 30 50.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.10**	**74**	*e*PN	**Pn**	**11 30 57.8**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.10**	**74**	*e*Pn	**Pn**	**11 30 57.8**	**+0.9**
KRBG	**Karabiga-Canak**	**1.16**	**90**	*e*PN	**Pb**	**11 30 57.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.16**	**90**	*e*Pn	**Pb**	**11 30 57.3**	**-0.2**
MFT	**Murefte**	**1.21**	**71**	*e*PN	**Pn**	**11 30 59.9**	**+1.5**
MFT	**Murefte**	**1.21**	**71**	*e*Pn	**Pn**	**11 30 59.9**	**+1.5**
PRK	**Paraskevi**	**1.21**	**162**	*e*PN	**Pn**	**11 30 58.8**	**+0.4**
PRK				*e*SN	**Sn**	**11 31 14.7**	**-0.1**
PRK	**Paraskevi**	**1.21**	**162**	*e*Pn	**Pn**	**11 30 58.8**	**+0.4**
PRK				*e*Sn	**Sn**	**11 31 14.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.50**	**103**	*e*PN	**Pg**	**11 31 04.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.50**	**103**	*e*Pn	**Pg**	**11 31 04.0**	**-0.2**
EDRB	**Edirne**	**1.62**	**26**	*e*PN	**Pb**	**11 31 05.7**	**+0.3**
EDRB	**Edirne**	**1.62**	**26**	*e*Pn	**Pb**	**11 31 05.7**	**+0.3**
NVR	**Nevrokopi**	**1.74**	**304**	*e*PN	**Pn**	**11 31 06.3**	**+0.6**
NVR				*e*SN	**Sn**	**11 31 26.8**	**-1.1**
NVR	**Nevrokopi**	**1.74**	**304**	*e*Pn	**Pn**	**11 31 06.3**	**+0.6**
NVR				*e*Sn	**Sn**	**11 31 26.8**	**-1.1**
BALB	**Balikesir**	**1.78**	**114**	*e*PN	**Pb**	**11 31 07.8**	**-0.3**
BALB	**Balikesir**	**1.78**	**114**	*e*Pn	**Pb**	**11 31 07.8**	**-0.3**
CHOS	**Chios island**	**2.02**	**174**	*e*PN	**Pn**	**11 31 09.9**	**+0.3**
CHOS	**Chios island**	**2.02**	**174**	*e*Pn	**Pn**	**11 31 09.9**	**+0.3**
CTKS	**Kestanelik-??a**	**2.23**	**67**	*e*PN	**Pb**	**11 31 14.5**	**-1.3**
CTKS	**Kestanelik-??a**	**2.23**	**67**	*e*Pn	**Pb**	**11 31 14.5**	**-1.3**

*IGQ **28** 11:53:50.4, 2°.21S×79°.78W, h33km±91km, Mb4.4, Ms4.2, Error ellipse: s-maj=6.2km s-min=1.2km az=5.1*
*ISCJB **28** 11:53:51.5±0.5, 2°.17S±0°.04×79°.76W±0°.05, h100km, mb3.6/9, Error ellipse: s-maj=7.0km s-min=4.8km az=21.8*
*IDC **28** 11:53:51.6±4.4, 1°.99S×79°.44W, h83km±48km, mb3.5/9, mb1 3.7/12, mb1mx3.6/22, mbtmp3.5/12, ML4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/34, Error ellipse: s-maj=48.3km s-min=18.8km az=43.0*
*NEIC **28** 11:53:54.0±0.9, 2°.08S×79°.41W, h108km±9km, mb4.2/1, MD4.1(IGQ), Error ellipse: s-maj=17.1km s-min=8.4km az=72.0*
NEIC Felt at Guayaquil.

ISC 28 11:53:52.8±0.6, 2°.16S±0°.04×79°.56W±0°.08, h100km, n58, σ1s24/65, mb3.6/9, 8C-12D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	**Trigal station**	**1.26**	**59**	P	**Pn**	**11 54 17.0**	**+0.3**
BMAS	**Trigal station**	**1.26**	**59**	S	**Sn**	**11 54 35.1**	**+0.6**
BBIL	**Ulba Tungurahu**	**1.28**	**57**	↓S	**Sn**	**11 54 36.5**	**+1.5**
BBIL	**Ulba Tungurahu**	**1.28**	**57**	↓P	**Sn**	**11 54 17.5**	**+0.7**
RETU	**Refugio**	**1.32**	**58**	↑S	**Sn**	**11 54 37.8**	**+1.9**
RETU	**Refugio**	**1.32**	**58**	↑P	**Pn**	**11 54 17.8**	**+0.3**
RUN5	**Runtun**	**1.36**	**57**	↓P	**Pn**	**11 54 18.3**	**+0.6**
RUN5	**Runtun**	**1.36**	**57**	↓S	**Sn**	**11 54 37.5**	**+1.1**
BRUN	**Tungurahua Vol**	**1.36**	**57**	S	**Sn**	**11 54 38.2**	**+1.5**
BRUN	**Tungurahua Vol**	**1.36**	**57**	P	**Pn**	**11 54 18.6**	**+0.8**
CHIS	**Cerro-Chispas-**	**1.60**	**313**	↑P	Pn	11 54 16.8	-3.6
BMOR	**Cotopaxi Volca**	**1.80**	**38**	↓S	**Sn**	**11 54 49.0**	**+2.4**
BMOR	**Cotopaxi Volca**	**1.80**	**38**	↓P	**Pn**	**11 54 24.1**	**+0.7**
CAMI	**Rancho Maria**	**1.81**	**36**	P	**Pn**	**11 54 24.6**	**+1.1**
MOV1	**Cotopaxi Vol s**	**1.82**	**38**	↓P	**Pn**	**11 54 24.1**	**+0.4**
BNAS	**Cotopaxi Volca**	**1.83**	**36**	↓P	**Pn**	**11 54 24.9**	**+1.2**
BREF	**Cotopaxi Volca**	**1.86**	**37**	P	**Pn**	**11 54 24.5**	**+0.3**
BTAM	**Cotopaxi Volca**	**1.88**	**38**	↓P	**Pn**	**11 54 25.4**	**+1.0**
BVC2	**Cotopaxi Volca**	**1.88**	**38**	↓P	**Pn**	**11 54 25.5**	**+1.0**
VC1	**Cotopaxi 1**	**1.90**	**39**	↑P	**Pn**	**11 54 25.4**	**+0.7**
COV1	**Cotopaxi Volc**	**1.92**	**39**	↑P	**Pn**	**11 54 25.2**	**+0.1**
JAMA	**Jama**	**1.99**	**341**	P	Pn	11 54 22.4	-3.0
TERV	**Terraza Guagua**	**2.19**	**26**	↓S	**Sn**	**11 54 56.4**	**+0.8**
TERV	**Terraza Guagua**	**2.19**	**26**	↓P	**Pn**	**11 54 29.1**	**+0.6**
GGP	**Refugio Guagua**	**2.20**	**26**	↑P	**Pn**	**11 54 29.0**	**+0.5**
OTAV	**Otavalo**	**2.63**	**25**	*e*Pn	**Pn**	**11 54 34.2**	**+0.1**
OTAV				*e*Sn	**Sn**	**11 55 08.3**	**+2.6**
CAYR	**Refugio Cayamb**	**2.66**	**36**	↑P	**Pn**	**11 54 36.2**	**+1.5**
CAYA	**Cayambe**	**2.72**	**35**	↑P	**Pn**	**11 54 36.2**	**+0.9**
CHAR	**Charly**	**2.80**	**43**	P	**Pn**	**11 54 38.4**	**+2.2**
ATAH	**Atahualpa**	**5.08**	**167**	P	**Pn**	**11 55 08.1**	**+1.1**
	2.8nm,0.3s,baz=4.9,slow=8.8,SNR=15						
ATAH				S	**Sn**	**11 56 07.0**	**+2.4**
	5.7nm,0.3s,baz=7.5,slow=18,SNR=5.6						
ATAH				LR	LR	11 57 21.2	
	comp=Z,72nm,19.7s,baz=202,slow=40						
ATAH	**Atahualpa**	**5.08**	**167**	P	**Pn**	**11 55 08.1**	**+1.1**
ATAH				S	**Sn**	**11 56 07.0**	**+2.4**
NNA	**Nana**	**10.13**	**165**	P	**Pn**	**11 56 15.8**	**+0.4**
	2.1nm,0.3s,baz=275,slow=11,SNR=2.3						
NNA				S	**Sn**	**11 58 03.9**	**-3.3**
	18nm,0.3s,baz=220,slow=14,SNR=14						
NNA	**Nana**	**10.13**	**165**	P	**Pn**	**11 56 15.8**	**+0.4**
NNA				S	**Sn**	**11 58 03.9**	**-3.3**
SAML	**Samuel**	**17.63**	**113**	*e*P	**P**	**11 57 49.7**	**-2.1**
	11nm,0.7s						
LPAZ	**La Paz**	**17.99**	**142**	P	**P**	**11 57 57.4**	**+1.0**
	0.2nm,0.3s,baz=334,slow=10,SNR=3.9						
LPAZ	**La Paz**	**17.99**	**142**	P	**P**	**11 57 57.4**	**+1.0**
SIV	**San Ignacio**	**22.82**	**128**	P	**P**	**11 58 48.0**	**+0.5**
	0.9nm,0.7s,baz=297,slow=16,SNR=3.5						
SIV	**San Ignacio**	**22.82**	**128**	P	**P**	**11 58 48.0**	**+0.5**
TXAR	**Lajitas Array**	**38.90**	**325**	PcP	**PcP**	**12 03 18.7**	**+0.7**
	0.3nm,0.7s,baz=148,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**38.90**	**325**	PcP	**PcP**	**12 03 18.7**	**+0.7**
PDAR	**Pinedale Array**	**52.27**	**332**	P	**P**	**12 02 54.5**	**+0.3**
	0.3nm,0.6s,baz=139,slow=9.2,SNR=3.1						
PDAR				PcP	**PcP**	**12 04 04.1**	**-0.3**
	0.3nm,0.7s,baz=134,slow=5.1,SNR=2.2						
PDAR	**Pinedale Array**	**52.27**	**332**	P	**P**	**12 02 54.5**	**+0.3**
PDAR				PcP	**PcP**	**12 04 04.1**	**-0.3**
NVAR	**Mina Array Bea**	**53.92**	**323**	P	**P**	**12 03 07.3**	**+0.9**
	0.5nm,0.7s,baz=128,slow=7.7,SNR=5.9						
NVAR	**Mina Array Bea**	**53.92**	**323**	P	**P**	**12 03 07.3**	**+0.9**
SCHQ	**Schefferville**	**57.76**	**9**	P	**P**	**12 03 32.1**	**-1.2**
	1.7nm,0.8s,baz=225,slow=14,SNR=2.8						
SCHQ	**Schefferville**	**57.76**	**9**	P	**P**	**12 03 32.1**	**-1.2**
YKA	**Yellowknife Ar**	**69.72**	**343**	P	**P**	**12 04 50.9**	**-0.7**
	0.8nm,0.6s,baz=141,slow=5.9,SNR=25						
YKA				pP	**PcP**	**12 05 12.2**	**-1.5**
	0.1nm,0.6s,baz=143,slow=5.8,SNR=2.1						
YKA	**Yellowknife Ar**	**69.72**	**343**	P	**P**	**12 04 51.0**	**-0.7**
YKA				pP	**PcP**	**12 05 12.2**	**-1.5**
DBIC	**Dimbokro**	**75.08**	**83**	P	**P**	**12 05 24.3**	**-0.2**
	0.8nm,0.4s,baz=284,slow=4.2,SNR=2.2						
DBIC	**Dimbokro**	**75.08**	**83**	P	**P**	**12 05 24.3**	**-0.2**
INK	**Inuvik**	**79.41**	**342**	P	**P**	**12 05 47.9**	**+0.4**
	1.5nm,0.7s,baz=116,slow=7.6,SNR=7.8						
INK	**Inuvik**	**79.41**	**342**	P	**P**	**12 05 47.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**81.98**	**76**	P	**P**	**12 06 03.2**	**+0.8**
	0.4nm,0.8s,baz=292,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**81.98**	**76**	P	**P**	**12 06 03.2**	**+0.8**
ILAR	**Eielson Array**	**82.46**	**336**	P	**P**	**12 06 03.9**	**0.0**
	0.8nm,1.0s,baz=140,slow=3.9,SNR=5.6						
ILAR	**Eielson Array**	**82.46**	**336**	P	**P**	**12 06 03.9**	**0.0**
MKAR	**Makanchi Array**	**132.82**	**17**	PKP	**PKPdf**	**12 12 56.4**	**-0.1**
	0.2nm,0.5s,baz=298,slow=2.2,SNR=4.3						
MKAR	**Makanchi Array**	**132.82**	**17**	PKP	**PKPdf**	**12 12 56.4**	**-0.1**

IDC 28 12:08:44.3±3.8, 30°.27N×107°.18E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=570.5km s-min=28.7km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**3.02**	**283**	Pn	Pg	12 09 44.3	+2.0
CD2				Pg	Pb	12 09 53.8	+15
CD2				Sg	Sg	12 10 39.5	+18
CD2				smax	smax		
	comp=N,80nm,0.7s						
CD2				smax	smax		
	comp=E,100nm,0.8s						
MKAR	**Makanchi Array**	**25.36**	**318**	P	P	12 14 13.0	0.0
	comp=E,0.2nm,0.4s,baz=126,slow=10,SNR=5.0						
ASAJ	**Asahikawa**	**31.15**	**54**	LR	LR	12 28 32.9	
	comp=E,49nm,18.4s,baz=170,slow=38						
WRA	**Warramunga Arr**	**56.35**	**149**	P	P	12 18 27.1	-0.2
	comp=E,0.3nm,0.6s,baz=333,slow=8.2,SNR=1.4						
ASAR	**Alice Springs**	**59.45**	**151**	P	P	12 18 49.2	+0.1
	comp=E,0.3nm,0.9s,baz=331,slow=6.6,SNR=5.2						

*DDA **28** 12:21:41.4, 41°.26N×36°.35E, h11km, MD3.1*
*ISK **28** 12:21:41.1, 41°.25N×36°.41E, h5km, MD2.8*
*CSEM **28** 12:21:42.1±0.4, 41°.24N×36°.40E, h5km, MD2.8, Error ellipse: s-maj=9.6km s-min=4.8km az=15.0*

ISC 28 12:21:41.8±1.3, 41°.24N±0°.05×36°.40E±0°.03, h5km±12km, n22, σ0s68/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.31**	**239**	*e*PG	**Pg**	**12 21 47.9**	**0.0**
KVT				*e*SG	**Sg**	**12 21 53.1**	**+1.0**
KVT	**Kavak**	**0.31**	**239**	*e*Pg	**Pg**	**12 21 47.9**	**0.0**
KVT				*e*Sg	**Sg**	**12 21 53.1**	**+1.0**
HAVZ	**Havza**	**0.54**	**252**	*e*P	**Pg**	**12 21 52.4**	**+0.1**
HAVZ				*e*S	**Sg**	**12 21 57.9**	**-1.4**
HAVZ	**Havza**	**0.54**	**252**	*e*P	**Pg**	**12 21 52.4**	**+0.1**
HAVZ				*e*S	**Sg**	**12 21 57.9**	**-1.4**
ERBA	**Erbaa**	**0.62**	**154**	*i* P	**Pb**	**12 21 54.6**	**-0.6**
ERBA				*e*S	**Sb**	**12 22 04.0**	**-0.2**
ERBA	**Erbaa**	**0.62**	**154**	*i* P	**Pb**	**12 21 54.6**	**-0.6**
ERBA				*e*S	**Sb**	**12 22 04.0**	**-0.2**
DIKM	**Dikmen**	**0.95**	**296**	*e*PG	**Pg**	**12 21 59.9**	**-0.2**
DIKM			

DZM eLQ LQ 12 48 36.6
comp=Z,8µm,25.4s
DZM eLR LR 12 49 29.9
comp=Z,13µm,23.4s
DZM Mont Dzumac 20.96 253 P **P 12 44 25.8 -0.3**
comp=Z,169nm,1.0s,baz=78,slow=19,SNR=36
DZM Mont Dzumac 20.96 253 *e*P **P 12 44 23.4 -2.7**
DZM Mont Dzumac 20.96 253 P **P 12 44 25.8 -0.3**
comp=Z,13nm,1.1s
NOUC Port Laguerre 21.09 253 *e*P **P 12 44 25.8 -1.6**
PAE Paea 21.39 95 *e*P **P 12 44 30.9 +0.2**
comp=Z,70nm,1.4s
PPT2 Papeete2 21.40 95 *e*P **P 12 44 31.5 +0.6**
comp=Z,281nm,1.5s
PPT2 eLQ LQ 12 48 36.7
comp=Z,14µm,27.0s
PPT2 eLR LR 12 49 20.7
comp=Z,10µm,24.8s
TIAR Tiarei 21.62 95 *e*P **P 12 44 33.4 +0.2**
comp=Z,545nm,1.4s
TBI Tubuai 22.06 110 *e*P **P 12 44 37.2 -0.6**
comp=Z,752nm,1.4s
TBI eLQ LQ 12 48 44.4
comp=Z,15µm,28.5s
TBI eLR LR 12 49 44.2
comp=Z,12µm,25.8s,baz=290
MXZ Matakaoa Point 22.24 201 *e*P* **P 12 44 42.3 +2.7**
OUZ Omahuta 22.28 213 *e*P **P 12 44 41.6 +1.5**
comp=Z,187nm,1.3s
OUZ Omahuta 22.28 213 P* **P 12 44 41.4 +1.3**
WCZ Waipu Caves 22.48 210 P* **P 12 44 43.9 +1.7**
KUZ Kuaotunu 22.51 207 P* **P 12 44 43.8 +1.2**
OTAZ Otara 23.03 208 *e*P* **P 12 44 49.7 +1.7**
MKAZ Moumakai 23.06 207 P* **P 12 44 49.9 +1.6**
MWZ Matawai 23.20 201 *e*P* **P 12 44 49.4 -0.4**
PMOR Pomariorio Ree 23.23 89 *e*P **P 12 44 48.8 -1.4**
comp=Z,486nm,1.5s
URZ Urewera 23.28 202 *e*P **P 12 44 50.7 +0.2**
comp=Z,405nm,1.0s
URZ Urewera 23.28 202 *e*P* **P 12 44 50.3 -0.2**
TOZ Tahuroa Road 23.44 206 *e*P* **P 12 44 52.4 +0.3**
XMAS Kiritimati 23.71 39 *e*P **P 12 44 55.8 +0.8**
comp=Z,129nm,1.0s
XMAS LR LR
comp=Z,6µm,20.0s
RAHZ Arahi 23.87 201 *e*P* **P 12 44 57.6 +1.3**
BKZ Black Stump Fm 24.30 202 P* **P 12 45 00.3 -0.2**
PXZ Pawanui 24.95 201 *e*P* P 12 45 13.0 +6.9
TSZ Takapari Road 25.29 202 P* P 12 45 14.6 +5.4
BFZ Birch Farm 25.74 201 P* **P 12 45 13.9 +0.5**
MRZ Mangatainoka R 25.95 202 P* **P 12 45 14.6 -0.7**
MTW Mount Morrison 26.42 202 S* S 12 50 06.5 +14
CAW Cannon Point 26.53 202 S* S 12 50 08.4 +14
SNZO South Karori 26.84 203 *e*P **P 12 45 20.3 -2.9**
comp=Z,268nm,1.2s
SNZO LR LR
comp=Z,3µm,19.0s
TCW Tory Channel 26.91 203 S* S 12 50 16.0 +16
TUWZ Tuamarina 27.23 204 *e*P* P 12 45 32.3 +5.5
NNZ Nelson 27.27 205 S* S 12 50 20.5 +15
QRZ Quartz Range 27.29 206 P* P 12 45 32.6 +5.2
THZ Tophouse 27.92 205 P* **P 12 45 36.6 +3.6**
KHZ Kahutara 28.23 203 P **P 12 45 37.7 +1.9**
comp=Z,123nm,0.9s
KHZ Kahutara 28.23 203 P* P 12 45 41.5 +5.8
HNR Honiara 28.31 282 P **P 12 45 38.7 +1.9**
comp=Z,81nm,0.9s,baz=217,slow=4.7,SNR=4.8
HNR LR LR 12 55 11.7
comp=Z,13µm,21.7s,baz=118,slow=33
HNR Honiara 28.31 282 P **P 12 45 38.7 +1.9**
HNR pmax pmax
comp=Z,81nm,1.0s
HNR MLR MLR
comp=Z,13µm,21.7s
HNR Honiara 28.31 282 P **P 12 45 38.7 +1.9**
DSZ Dennison Nort 28.36 206 P* **P 12 45 39.9 +3.0**
LTZ Lake Taylor 29.03 204 *e*P* P 12 45 49.7 +6.8
WVZ Waitaha Valley 29.90 206 P* P 12 45 55.2 +4.7
RPZ Rata Peaks 30.30 205 P P 12 45 59.7 +5.6
comp=Z,332nm,1.1s,baz=6.5,slow=3.4,SNR=14
RPZ Rata Peaks 30.30 205 *e*P **P 12 45 54.6 +0.5**
comp=Z,265nm,0.9s
RPZ Rata Peaks 30.30 205 *e*P* P 12 45 59.7 +5.6
LBZ Lake Benmore 31.20 205 P* P 12 46 06.7 +4.6
JCZ Jackson Bay 31.55 207 P* P 12 46 10.0 +4.7
ODZ Otahua Downs 31.57 204 P **P 12 46 05.0 -0.3**
comp=Z,476nm,1.1s
RKT Rikitea 35.23 106 *e*P **P 12 46 37.1 -0.4**
comp=Z,104nm,1.2s
RKT *e*S **S 12 52 07.5 -3.3**
comp=Z,727nm,30.8s
RKT eLR LR 12 55 45.9
comp=Z,6µm,25.8s,baz=278
EIDS Eidsvold 35.36 250 *e*P **P 12 46 37.9 -0.7**
comp=Z,88nm,1.4s
ARMA Armidale 35.75 241 *e*P **P 12 46 41.3 -0.7**
ARMA *e*S **S 12 52 15.3 -3.6**
ARMA Armidale 35.75 241 *e*P **P 12 46 41.5 -0.5**
comp=Z,62nm,0.9s
CNB Canberra Magne 38.92 234 *e*P **P 12 47 07.8 -1.0**
CNB *e*S S 12 52 50.8 -16
CAN Canberra 39.20 235 *e*P **P 12 47 10.8 -0.4**
CAN pmax pmax
comp=Z,80nm,1.1s
CAN MLR MLR
comp=Z,2µm,20.0s
CAN Canberra 39.20 235 *e*P **P 12 47 10.8 -0.4**
comp=Z,80nm,1.1s
CAN LR LR
comp=Z,2µm,20.0s
CTA Charters Tower 39.65 259 P **P 12 47 13.2 -1.9**
comp=Z,42nm,1.0s,baz=85,slow=12,SNR=12
CTA LR LR 13 01 28.5
comp=Z,3µm,21.7s,baz=78,slow=33
CTA Charters Tower 39.65 259 *e*P **P 12 47 12.9 -2.2**
CTA *e*S **S 12 53 20.9 +2.7**
CTA Charters Tower 39.65 259 P **P 12 47 13.2 -1.9**
CTA pmax pmax
comp=Z,43nm,1.0s
CTA Charters Tower 39.65 259 P **P 12 47 13.2 -1.9**
CTAO Charters Tower 39.65 259 *e*P **P 12 47 13.2 -1.9**
CTAO pmax pmax
comp=Z,68nm,1.1s
CTAO MLR MLR
comp=Z,3µm,22.0s
CTAO Charters Tower 39.65 259 *e*P **P 12 47 13.2 -1.9**
comp=Z,68nm,1.1s
CTAO LR LR
comp=Z,3µm,22.0s
PMG Port Moresby 40.42 275 P **P 12 47 21.0 -0.5**
comp=Z,17nm,1.0s,baz=108,slow=6.3,SNR=7.7
PMG Port Moresby 40.42 275 *c i*P **P 12 47 20.6 -0.9**
PMG pmax pmax
comp=Z,63nm,1.6s
PMG Port Moresby 40.42 275 P **P 12 47 21.0 -0.5**
comp=Z,2.0nm,0.9s
PMG LR LR
comp=Z,2µm,20.0s
PMG Port Moresby 40.42 275 P **P 12 47 22.1 +0.6**
comp=Z,33nm,1.5s,comp=Z,844nm
TOO Toolangi 42.57 233 *e*P **P 12 47 38.4 -0.5**
TOO *e*S **S 12 53 59.9 -1.3**
TAU Tasmania Unive 43.13 224 *e*P **P 12 47 43.6 +0.3**
TAU pmax pmax
comp=Z,51nm,1.2s
TAU MLR MLR
comp=Z,3µm,19.0s
TAU Tasmania Unive 43.13 224 *e*P **P 12 47 43.6 +0.3**
comp=Z,51nm,1.2s
TAU LR LR
comp=Z,3µm,19.0s
COEN Coen 43.26 268 *e*P **P 12 47 43.6 -1.2**
comp=Z,460nm,1.3s
STKA Stephens Creek 44.47 242 P **P 12 47 53.8 -0.5**
comp=Z,88nm,1.0s,baz=82,slow=8.2,SNR=92
STKA Stephens Creek 44.47 242 *e*P **P 12 47 53.5 -0.8**
STKA Stephens Creek 44.47 242 P **P 12 47 53.8 -0.5**
STKA pmax pmax
comp=Z,88nm,1.0s
STKA Stephens Creek 44.47 242 P **P 12 47 53.8 -0.5**
comp=Z,644nm,1.8s
MIDW Midway 45.22 353 *e*P **P 12 48 01.3 +1.3**
comp=Z,125nm,1.2s
MIDW LR LR
comp=Z,3µm,21.0s
BBOO Buckleboo 49.23 241 *e*P **P 12 48 30.9 -0.6**
comp=Z,4µm,1.1s
WB2 Warramunga Arr 50.83 258 *e*P **P 12 48 42.4 -1.4**
WRAB Tennant Creek 50.83 258 *e*P **P 12 48 41.7 -2.1**
WRAB pmax pmax
comp=Z,96nm,1.1s
WRAB MLR MLR
comp=Z,4µm,20.0s
WRAB Tennant Creek 50.83 258 *e*P **P 12 48 41.7 -2.1**
comp=Z,96nm,1.1s
WRAB LR LR
comp=Z,4µm,20.0s
WRAB Tennant Creek 50.83 258 P **P 12 48 42.9 -0.9**
comp=Z,419nm,1.2s,SNR=20
WRA Warramunga Arr 50.84 258 P **P 12 48 42.0 -1.9**
comp=Z,59nm,1.0s,baz=92,slow=7.1,SNR=100
WRA LR LR 13 09 32.8
comp=Z,4µm,19.7s,baz=90,slow=35
WRA Warramunga Arr 50.84 258 P **P 12 48 42.0 -1.9**
WRA pmax pmax
comp=Z,59nm,1.0s
WRA Warramunga Arr 50.84 258 P **P 12 48 42.0 -1.9**
AS31 Alice Springs 50.95 253 *e*P **P 12 48 43.5 -1.2**
AS31 *e*S S 12 55 54.1 -7.3
ASAR Alice Springs 50.95 253 P **P 12 48 43.5 -1.2**
comp=Z,126nm,0.9s,baz=88,slow=8.5,SNR=496
ASAR S S 12 55 54.6 -6.8
comp=Z,6.8nm,1.3s,baz=80,slow=15,SNR=8.2
ASAR Alice Springs 50.95 253 P **P 12 48 43.5 -1.2**
ASAR S S 12 55 54.6 -6.8
ASAR pmax pmax
comp=Z,126nm,0.9s
ASAR smax smax
comp=N,7.0nm,1.3s
ASAR Alice Springs 50.95 253 P **P 12 48 43.5 -1.2**
ASAR S S 12 55 54.6 -6.8
GUMO Guam 52.33 303 LR LR 13 05 43.6
comp=N,531nm,20.3s,baz=106,slow=30
FORT Forrest 55.95 244 *e*P **P 12 49 20.9 -0.4**
FORT Forrest 55.95 244 *e*P **P 12 49 20.9 -0.4**
comp=N,69nm,0.9s
SWI Sorong 58.07 280 P **P 12 49 37.8 +1.2**
comp=N,199nm,1.1s,comp=N,2µmcomp=N,0.6nm
RPN Rapa Nui 58.44 112 PFAKE 12 49 50.0 +11
RPN LR LR
comp=Z,1µm,20.0s
DRV Dumont d'Urvil 58.60 200 S S 12 57 36.0 -6.8
DRV SS **SS 13 01 40.0 +4.7**
DRV L L 13 05 00.0
DRV R 13 09 00.0
FITZ Fitzroy Crossi 59.24 259 P **P 12 49 45.2 +0.6**
comp=Z,8.7nm,0.8s,baz=107,slow=10,SNR=9.2
FITZ LR LR 13 13 14.6
comp=Z,2µm,21.3s,baz=98,slow=34
FITZ Fitzroy Crossi 59.24 259 *e*P **P 12 49 45.1 +0.5**
FITZ *e*S S 12 57 42.8 -10
FITZ Fitzroy Crossi 59.24 259 *e*P **P 12 49 44.7 +0.1**
comp=Z,174nm,1.9s
AAI Ambon 60.10 276 P **P 12 49 52.7 +2.1**
SBA Scott Base 61.81 185 *e*P **P 12 50 02.8 +1.5**
SBA pmax pmax
comp=Z,179nm,1.7s
SBA MLR MLR
comp=Z,960nm,19.0s
SBA Scott Base 61.81 185 *e*P **P 12 50 02.8 +1.5**
comp=Z,179nm,1.7s
SBA LR LR
comp=Z,960nm,19.0s
VNDA Vanda 61.97 186 *e*P **P 12 50 03.4 +1.0**
VNDA *e* 12 50 44.0
VNDA pmax pmax
comp=Z,44nm,1.2s
VNDA MLR MLR
comp=Z,457nm,20.0s
VNDA Vanda 61.97 186 *e*P **P 12 50 03.4 +1.0**
comp=Z,44nm,1.2s
VNDA *e*PcP **PcP 12 50 44.0 +1.1**
VNDA LR LR
comp=Z,457nm,20.0s
MBWA Marble Bar 64.25 254 *e*P **P 12 50 18.3 -0.1**
MBWA Marble Bar 64.25 254 *e*P **P 12 50 17.9 -0.5**
comp=Z,158nm,1.4s
MBWA LR LR
comp=Z,2µm,22.0s
KLBR Kellerberrin 64.73 243 *e*P **P 12 50 21.1 -0.3**
NWAO Narrogin (SRO) 65.06 241 LR LR 13 16 51.7
comp=Z,969nm,18.9s,baz=88,slow=34
NWAO Narrogin (SRO) 65.06 241 *e*P **P 12 50 23.3 -0.2**
NWAO pmax pmax
comp=Z,78nm,1.2s
NWAO Narrogin (SRO) 65.06 241 *e*P **P 12 50 23.3 -0.2**
comp=Z,78nm,1.2s
DAV Davao City (W) 66.17 286 LR LR 13 18 26.9
comp=Z,640nm,18.9s,baz=105,slow=35
KAPI Kappang 67.78 271 P **P 12 50 41.0 -0.2**
comp=Z,14nm,0.8s,baz=168,slow=4.0,SNR=5.7
KAPI Kappang 67.78 271 P **P 12 50 41.0 -0.2**
KAPI LR LR
comp=Z,570nm,20.0s
CASY Casey 69.57 205 *e*P **P 12 50 51.2 -0.2**
comp=Z,24nm,1.0s
CASY LR LR
comp=Z,565nm,22.0s
JYT Yasato 69.58 320 P P 12 50 59.5 +7.6
JOD2 Odawara 2 69.65 319 P P 12 50 58.9 +6.5
JRY Ryogami san 70.24 319 P **P 12 50 56.9 +0.8**
JMM Marumori 70.30 322 P P 12 51 03.1 +6.8
JWZ Kozaga 70.77 316 P P 12 51 05.7 +6.4
KHKI Kahang-Kahang 70.85 267 P **P 12 51 02.1 +1.8**
comp=Z,74nm,1.3s
MJAR Matsushiro Arr 71.01 319 P **P 12 51 01.1 +0.3**
comp=Z,12nm,1.1s,baz=164,slow=6.1,SNR=17
MJAR LR LR 13 16 24.3
comp=Z,1µm,21.8s,baz=135,slow=31
MJAR Matsushiro Arr 71.01 319 P **P 12 51 01.1 +0.3**
MJAR pmax pmax
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 71.01 319 P **P 12 51 01.1 +0.3**
MAJO Matsushiro 71.01 319 *e*P **P 12 51 00.8 +0.1**
MAJO pmax pmax
comp=Z,113nm,1.3s
MAJO MLR MLR
comp=Z,1µm,22.0s
MAJO Matsushiro 71.01 319 *e*P **P 12 51 00.8 +0.1**
comp=Z,113nm,1.3s
MAJO LR LR
comp=Z,1µm,22.0s
MAT Matsushiro 71.01 319 P **P 12 51 00.6 -0.2**
MAT S **S 13 00 17.0 +0.5**
MAT Matsushiro 71.01 319 P **P 12 51 00.8 0.0**
BSC Santa Cruz Isl 71.07 44 ⇓P **P 12 51 02.6 +1.4**
baz=71,SNR=6.4
BSC ⇓P **P 12 51 02.6 +1.4**
baz=71,SNR=6.4
BSC ⇓P **P 12 51 02.6 +1.4**
baz=71,SNR=6.4
JOM Ohasama 71.09 323 P sP 12 51 08.2 +0.7
SCI San Clemente I 71.21 45 ⇓P **P 12 51 03.3 +1.3**
baz=72,SNR=5.7
SCI ⇓P **P 12 51 03.3 +1.3**
baz=72,SNR=5.7
SCI ⇓P **P 12 51 03.3 +1.3**
baz=72,SNR=5.7
JYA Atsumi 71.42 322 P **P 12 51 04.1 +1.0**
PKM Peak Mountain 71.49 43 ⇑P **P 12 51 05.4 +1.5**
baz=72,SNR=6.7
PKM ⇑P **P 12 51 05.4 +1.5**
baz=72,SNR=6.7
PKM ⇑P **P 12 51 05.4 +1.5**
baz=72,SNR=6.7
BLG Laguna Peak 71.52 44 ⇓P **P 12 51 04.9 +1.0**
baz=72
BLG ⇓P **P 12 51 04.9 +1.0**
baz=72
BLG ⇓P **P 12 51 04.9 +1.0**
baz=72
CIS Catalina Islan 71.55 45 ⇓P **P 12 51 04.9 +0.8**
baz=72,SNR=6.5
CIS ⇓P **P 12 51 04.9 +0.8**
baz=72,SNR=6.5
CIS ⇓P **P 12 51 04.9 +0.8**
baz=72,SNR=6.5
SAO San Andreas Ge 71.60 41 *e*P **P 12 51 05.6 +1.3**
SAO pmax pmax
comp=Z,77nm,1.1s
SAO San Andreas Ge 71.60 41 *e*P **P 12 51 05.6 +1.3**
comp=Z,77nm,1.1s
SMMC Simmler 71.62 43 ⇑P **P 12 51 06.2 +1.7**
baz=72,SNR=9.5
SMMC ⇑P **P 12 51 06.2 +1.7**
baz=72,SNR=9.5
SMMC ⇑P **P 12 51 06.2 +1.7**
baz=72,SNR=9.5
FMP Fort Macarthur 71.81 45 ⇓P **P 12 51 06.6 +1.1**
baz=72
FMP ⇓P **P 12 51 06.6 +1.1**
baz=72
FMP ⇓P **P 12 51 06.6 +1.1**
baz=72
ERM Erimo 71.81 326 PFAKE 12 51 20.0 +15
ERM LR LR
comp=Z,1µm,20.0s
JEM Erimo 71.81 326 P P 12 51 14.1 +8.7
YUK Yuzh-Kuril'sk 71.89 329 *d i*P **P 12 51 03.7 -2.1**
YUK *i* 12 53 51.1
YUK *i* S **S 13 00 21.8 -4.5**
YUK *i* SS **SS 13 05 04.3 +1.0**
YUK pmax pmax
comp=Z,191nm,10.5s
JSD Sado 71.93 321 P **P 12 51 06.7 +0.5**
JWT Wachi 72.03 317 P **P 12 51 05.9 -1.0**
HOPS Hopland 72.03 38 *e*P **P 12 51 08.1 +1.2**
comp=Z,59nm,1.3s
OSI Osito Adit 72.05 44 *e*P **P 12 51 08.3 +1.2**
comp=Z,14nm,0.3s
OSI Osito Adit 72.05 44 ⇓P **P 12 51 08.4 +1.2**
baz=72
OSI ⇓P **P 12 51 08.4 +1.2**
baz=72
OSI ⇓P **P 12 51 08.4 +1.2**
baz=72
DECC Green Verdugo 72.09 45 ⇓P **P 12 51 08.1 +0.7**
baz=72
DECC ⇓P **P 12 51 08.1 +0.7**
baz=72
DECC ⇓P **P 12 51 08.1 +0.7**
baz=72
JTM Tenmabayashi 72.10 324 P sP 12 51 14.6 +1.0
JMN Monobe 72.13 315 P P 12 51 15.6 +8.0
109C Camp Elliot, M 72.14 46 ⇑P **P 12 51 08.5 +0.8**
baz=72
109C ⇑P **P 12 51 08.5 +0.8**
baz=72
109C ⇑P **P 12 51 08.5 +0.8**
baz=72
PASC Pasadena Art C 72.15 45 *e*P **P 12 51 08.5 +0.8**
comp=Z,40nm,1.0s
JAGI Jajag, Banyuwa 72.22 266 P **P 12 51 09.6 +1.1**
MWC Mount Wilson 72.26 45 *e*P **P 12 51 09.4 +0.8**
MWC pmax pmax
comp=Z,44nm,1.0s
MWC Mount Wilson 72.26 45 *e*P **P 12 51 09.4 +0.8**
comp=Z,44nm,1.0s
ARVC Arvin 72.28 44 ⇑P **P 12 51 09.4 +0.9**
baz=72,SNR=8.8
ARVC ⇑P **P 12 51 09.4 +0.9**
baz=72,SNR=8.8
ARVC ⇑P **P 12 51 09.4 +0.9**
baz=72,SNR=8.8
KIPM Iron Peak 72.33 37 *e*P **P 12 51 10.8 +2.1**
comp=Z,14nm,0.8s
BAR Barrett 72.33 47 *e*P **P 12 51 09.5 +0.7**
comp=Z,104nm,1.7s
TSM Tawau 72.39 280 P **P 12 51 10.2 +0.6**
MURC Murrieta 72.48 46 ⇓P **P 12 51 10.6 +0.9**
baz=73,SNR=15
MURC ⇓P **P 12 51 10.6 +0.9**
baz=73,SNR=15
MURC ⇓P **P 12 51 10.6 +0.9**
baz=73,SNR=15
JOT Ohata 72.52 325 P sP 12 51 17.1 +1.0
VES Vestal, Richgr 72.54 43 ⇑P **P 12 51 10.8 +0.8**
baz=73,SNR=31
VES ⇑P **P 12 51 10.8 +0.8**
baz=73,SNR=31
VES ⇑P **P 12 51 10.8 +0.8**
baz=73,SNR=31
BFSC Mount Baldy Ra 72.54 45 ⇓P **P 12 51 10.8 +0.6**
baz=73,SNR=12
BFSC ⇓P **P 12 51 10.8 +0.6**
baz=73,SNR=12
BFSC ⇓P **P 12 51 10.8 +0.6**
baz=73,SNR=12
MONP Monument Peak 72.62 47 ⇓P **P 12 51 11.9 +1.1**
baz=73,SNR=26
MONP ⇓P **P 12 51 11.9 +1.1**
baz=73,SNR=26
MONP ⇓P **P 12 51 11.9 +1.1**
baz=73,SNR=26
JAD Aida 72.64 316 P P **P 12 51 11.5 +1.0**
SDPT Sand Point 72.69 7 *e*P **P 12 51 09.8 -0.5**
comp=Z,452nm,1.5s
EDW2 Edwards Air Fo 72.69 44 ⇑P **P 12 51 12.0 +1.1**
baz=73,SNR=39
EDW2 ⇑P **P 12 51 12.0 +1.1**
baz=73,SNR=39
EDW2 ⇑P **P 12 51 12.0 +1.1**
baz=73,SNR=39
DVTC Desert V Tower 72.72 47 ⇓P **P 12 51 12.3 +1.1**
baz=73,SNR=15
DVTC ⇓P **P 12 51 12.3 +1.1**
baz=73,SNR=15
DVTC ⇓P **P 12 51 12.3 +1.1**
baz=73,SNR=15
RCTC Rector, Farmer 72.72 42 ⇑P **P 12 51 11.6 +0.6**
baz=73
RCTC ⇑P **P 12 51 11.6 +0.6**
baz=73
RCTC ⇑P **P 12 51 11.6 +0.6**
baz=73
ISA Isabella 72.83 43 *e*P **P 12 51 12.6 +0.8**
ISA pmax pmax
comp=Z,149nm,1.5s
ISA Isabella 72.83 43 *e*P **P 12 51 12.6 +0.8**
comp=Z,149nm,1.5s
ISA Isabella 72.83 43 ⇑P **P 12 51 12.9 +1.1**
baz=73,SNR=62
ISA ⇑P **P 12 51 12.9 +1.1**
baz=73,SNR=62
ISA ⇑P **P 12 51 12.9 +1.1**
baz=73,SNR=62
KHMM Horse Mountain 72.89 36 *e*P **P 12 51 14.0 +1.9**
comp=Z,93nm,1.1s
BLJI Banyuglugur 72.94 267 P **P 12 51 14.5 +1.7**
comp=Z,100nm,1.2s,comp=Z,2µm
PFO Pinyon Flat Ob 73.00 46 *e*P **P 12 51 13.8 +0.9**
PFO pmax pmax
comp=Z,67nm,1.3s
PFO MLR MLR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 73.00 46 *e*P **P 12 51 13.8 +0.9**
comp=Z,67nm,1.3s
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 73.00 46 P **P 12 51 13.8 +0.9**
comp=Z,247nm,1.3s,SNR=12
PFO Pinyon Flat Ob 73.00 46 ⇓P **P 12 51 13.8 +0.9**
baz=73,SNR=21
PFO ⇓P **P 12 51 13.8 +0.9**
baz=73,SNR=21
PFO ⇓P **P 12 51 13.8 +0.9**
baz=73,SNR=21
CMB Columbia Colle 73.05 40 *e*P **P 12 51 14.0 +1.0**
CMB Columbia Colle 73.05 40 *e*P **P 12 51 14.0 +1.0**
BBRC Big Bear Solar 73.05 45 ⇓P **P 12 51 14.3 +0.9**
baz=73
BBRC ⇓P **P 12 51 14.3 +0.9**
baz=73
BBRC ⇓P **P 12 51 14.3 +0.9**
baz=73
SWSC Sam W. Stewart 73.08 47 ⇓P **P 12 51 14.1 +0.8**
baz=73,SNR=11
SWSC ⇓P **P 12 51 14.1 +0.8**
baz=73,SNR=11
SWSC ⇓P **P 12 51 14.1 +0.8**
baz=73,SNR=11
QSPA South Pole Qui 73.09 180 *e*P **P 12 51 13.2 +0.3**
comp=Z,130nm,1.2s
QSPA LR LR
comp=Z,1µm,19.0s
KRMB Red Mountain 73.22 36 *e*P **P 12 51 15.0 +1.0**
comp=Z,74nm,1.1s
LRMC Laurel Mountai 73.24 44 ⇑P **P 12 51 15.3 +1.0**

	baz=74,SNR=26									
LRMC				⇑P		P		12 51 15.3	+1.0	
	baz=74,SNR=26									
LRMC				⇑P		P		12 51 15.3	+1.0	
	baz=74,SNR=26									
RRX	**Edison Barstow**	**73.35**	**45**	⇓P		P		12 51 15.7	+0.8	
	baz=74									
RRX				⇓P		P		12 51 15.7	+0.8	
	baz=74									
RRX				⇓P		P		12 51 15.7	+0.8	
	baz=74									
JHS	**Saijyo**	**73.37**	**315**	P		P		12 51 15.8	+0.8	
WDC	**Whiskeytown Da**	**73.38**	**37**	*e*P		P		12 51 15.8	+1.0	
WDC				pmax		pmax				
	comp=Z,105nm,1.4s									
WDC	**Whiskeytown Da**	**73.38**	**37**	*e*P		P		12 51 15.8	+1.0	
	comp=Z,105nm,1.4s									
SDKM	**Sandakan**	**73.47**	**281**	P		P		12 51 14.9	-1.1	
BELC	**Belle Mtn. Jos**	**73.53**	**46**	⇑P		P		12 51 17.0	+0.9	
	baz=74,SNR=13									
BELC				⇑P		P		12 51 17.0	+0.9	
	baz=74,SNR=13									
BELC				⇑P		P		12 51 17.0	+0.9	
	baz=74,SNR=13									
ASAJ	**Asahikawa**	**73.58**	**328**	P		P		12 51 16.9	+1.0	
	comp=Z,24nm,1.4s									
MPMC	**Manual Prospec**	**73.71**	**43**	⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=95									
MPMC				⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=95									
MPMC				⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=95									
BC3	**Big Chuckawall**	**73.72**	**46**	⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=29									
BC3				⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=29									
BC3				⇑P		P		12 51 18.3	+1.2	
	baz=74,SNR=29									
GSC	**Goldstone**	**73.72**	**44**	*e*P		P		12 51 17.7	+0.6	
GSC				pmax		pmax				
	comp=Z,81nm,1.4s									
GSC	**Goldstone**	**73.72**	**44**	*e*P		P		12 51 17.7	+0.6	
	comp=Z,80nm,1.4s									
GSC	**Goldstone**	**73.72**	**44**	⇓P		P		12 51 17.9	+0.8	
	baz=74,SNR=34									
GSC				⇓P		P		12 51 17.9	+0.8	
	baz=74,SNR=34									
GSC				⇓P		P		12 51 17.9	+0.8	
	baz=74,SNR=34									
DAC	**Darwin (Calif)**	**73.77**	**43**	PFAKE				12 51 30.0	+13	
DAC				LR		LR				
	comp=Z,2µm,19.0s									
MLAC	**Mammoth Lakes**	**73.77**	**41**	⇑P		P		12 51 18.8	+1.3	
	baz=74									
MLAC				⇑P		P		12 51 18.8	+1.3	
	baz=74									
MLAC				⇑P		P		12 51 18.8	+1.3	
	baz=74									
HEC	**Hector,Ludlow**	**73.78**	**45**	⇑P		P		12 51 18.1	+0.7	
	baz=74,SNR=40									
HEC				⇑P		P		12 51 18.1	+0.7	
	baz=74,SNR=40									
HEC				⇑P		P		12 51 18.1	+0.7	
	baz=74,SNR=40									
TIN	**Tinemaha**	**73.81**	**42**	⇑P		P		12 51 18.8	+1.2	
	baz=74									
TIN				⇑P		P		12 51 18.8	+1.2	
	baz=74									
TIN				⇑P		P		12 51 18.8	+1.2	
	baz=74									
GLA	**Glamis**	**73.83**	**47**	*e*P		P		12 51 18.9	+1.2	
GLA				pmax		pmax				
	comp=Z,158nm,1.4s									
GLA	**Glamis**	**73.83**	**47**	*e*P		P		12 51 18.9	+1.2	
	comp=Z,158nm,1.4s									
GLA	**Glamis**	**73.83**	**47**	⇓P		P		12 51 19.1	+1.4	
	baz=74,SNR=18									
GLA				⇓P		P		12 51 19.1	+1.4	
	baz=74,SNR=18									
GLA				⇓P		P		12 51 19.1	+1.4	
	baz=74,SNR=18									
JNU	**Nakatsue**	**73.86**	**313**	P		P		12 51 17.7	-0.2	
YBH	**Yreka Blue Hor**	**74.03**	**36**	*e*P		P		12 51 20.1	+1.3	
YBH				pmax		pmax				
	comp=Z,85nm,1.0s									
YBH	**Yreka Blue Hor**	**74.03**	**36**	*e*P		P		12 51 20.1	+1.3	
	comp=Z,85nm,1.0s									
PET	**Petropavlovsk**	**74.17**	**342**	*e*P		P		12 51 21.5	+2.4	
PET				*e*S		S		13 00 53.0	+1.1	
GMRC	**Granite Mounta**	**74.20**	**45**	⇓P		P		12 51 20.9	+0.9	
	baz=74,SNR=39									
GMRC				⇓P		P		12 51 20.9	+0.9	
	baz=74,SNR=39									
GMRC				⇓P		P		12 51 20.9	+0.9	
	baz=74,SNR=39									
IRM	**Iron Mountain**	**74.21**	**46**	⇓P		P		12 51 21.1	+1.2	
	baz=74,SNR=47									
IRM				⇓P		P		12 51 21.1	+1.2	
	baz=74,SNR=47									
IRM				⇓P		P		12 51 21.1	+1.2	
	baz=74,SNR=47									
WCN	**Washoe City**	**74.22**	**40**	*e*P		P		12 51 21.0	+1.0	
WCN				pmax		pmax				
	comp=Z,64nm,1.1s									
WCN	**Washoe City**	**74.22**	**40**	*e*P		P		12 51 21.0	+1.0	
	comp=Z,64nm,1.1s									
WCN	**Washoe City**	**74.22**	**40**	⇓P		P		12 51 21.2	+1.2	
	baz=74,SNR=28									
WCN				⇓P		P		12 51 21.2	+1.2	
	baz=74,SNR=28									
WCN				⇓P		P		12 51 21.2	+1.2	
	baz=74,SNR=28									
LBCM	**Butte Creek Ri**	**74.23**	**38**	P		P		12 51 20.9	+0.9	
GRAC	**Grapevine Rang**	**74.34**	**43**	⇑P		P		12 51 22.0	+1.5	
	baz=75,SNR=7.6									
GRAC				⇑P		P		12 51 22.0	+1.5	
	baz=75,SNR=7.6									
GRAC				⇑P		P		12 51 22.0	+1.5	
	baz=75,SNR=7.6									
FURC	**Furnace Creek,**	**74.36**	**43**	⇑P		P		12 51 21.7	+1.0	
	baz=75,SNR=28									
FURC				⇑P		P		12 51 21.7	+1.0	
	baz=75,SNR=28									
FURC				⇑P		P		12 51 21.7	+1.0	
	baz=75,SNR=28									
TUQ	**Turquoise Moun**	**74.39**	**45**	⇓P		P		12 51 22.1	+1.0	
	baz=75									
TUQ				⇓P		P		12 51 22.1	+1.0	
	baz=75									
TUQ				⇓P		P		12 51 22.1	+1.0	
	baz=75									
SHOC	**Shoshone**	**74.42**	**44**	⇑P		P		12 51 21.9	+0.9	
	baz=75,SNR=7.7									
SHOC				⇑P		P		12 51 21.9	+0.9	
	baz=75,SNR=7.7									
SHOC				⇑P		P		12 51 21.9	+0.9	
	baz=75,SNR=7.7									
Y12C	**Blythe**	**74.42**	**47**	⇑P		P		12 51 22.3	+1.3	
	baz=75,SNR=25									
Y12C				⇑P		P		12 51 22.3	+1.3	
	baz=75,SNR=25									
Y12C				⇑P		P		12 51 22.3	+1.3	
	baz=75,SNR=25									
HUMO	**Hull Mountain**	**74.47**	**35**	*e*P		P		12 51 22.0	+0.8	
	comp=Z,242nm,1.9s									
KKM	**Kota Kinabalu**	**74.53**	**281**	*e*P		P		12 51 22.0	-0.2	
	comp=Z,82nm,1.3s									
KKM				LR		LR				
	comp=Z,383nm,21.0s									
KKM	**Kota Kinabalu**	**74.53**	**281**	P		P		12 51 24.5	+2.3	
KKM	**Kota Kinabalu**	**74.53**	**281**	P		P		12 51 30.5	+8.3	
PETK	**Petropavlovsk-**	**74.53**	**342**	P		P		12 51 21.6	+0.3	
	comp=Z,30nm,1.0s,baz=125,slow=7.4,SNR=9.1									
PETK				LR		LR		13 20 41.3		
	comp=Z,274nm,19.2s,baz=65,slow=33									
PETK	**Petropavlovsk-**	**74.53**	**342**	P		P		12 51 21.6	+0.3	
PETK				pmax		pmax				
	comp=Z,30nm,1.0s									
PETK	**Petropavlovsk-**	**74.53**	**342**	P		P		12 51 21.6	+0.3	
PWJI	**Pagerwojo**	**74.58**	**266**	P		P		12 51 29.5	+7.1	
	comp=Z,75nm,1.2s									
NVAR	**Mina Array Bea**	**74.59**	**41**	P		P		12 51 23.3	+1.0	
	comp=Z,12nm,0.7s,baz=227,slow=9.0,SNR=108									
NVAR				LR		LR		13 19 42.5		
	comp=Z,2µm,18.4s,baz=118,slow=32									
NVAR	**Mina Array Bea**	**74.59**	**41**	P		P		12 51 23.3	+1.0	
214A	**Organ Pipe Nat**	**74.68**	**49**	⇑P		P		12 51 23.9	+1.3	
	baz=75,SNR=15									
214A				⇑P		P		12 51 23.9	+1.3	
	baz=75,SNR=15									
SJI	**Sawahan**	**74.69**	**266**	P		sP		12 51 30.0	+0.4	
	comp=Z,114nm,1.3s									
Z13A	**Yuma Proving G**	**74.73**	**48**	⇓P		P		12 51 24.0	+1.1	
	baz=75,SNR=29									
Z13A				⇓P		P		12 51 24.0	+1.1	
	baz=75,SNR=29									
Z13A				⇓P		P		12 51 24.0	+1.1	
	baz=75,SNR=29									
PDMCI	**Parker Dam,Lak**	**74.98**	**47**	⇓P		P		12 51 25.5	+1.2	
	baz=75,SNR=19									
PDMCI				⇓P		P		12 51 25.5	+1.2	
	baz=75,SNR=19									
PDMCI				⇓P		P		12 51 25.5	+1.2	
	baz=75,SNR=19									
114A	**Black Gap (USA**	**75.04**	**48**	⇑P		P		12 51 25.9	+1.2	
	baz=75,SNR=6.7									
114A				⇑P		P		12 51 25.9	+1.2	
	baz=75,SNR=6.7									
114A				⇑P		P		12 51 25.9	+1.2	
	baz=75,SNR=6.7									
TPH	**Tonopah**	**75.06**	**42**	PFAKE				12 51 40.0	+15	
TPH				LR		LR				
	comp=Z,2µm,19.0s									
Z14A	**Wintersburg**	**75.32**	**48**	⇓P		P		12 51 27.7	+1.4	
	baz=76,SNR=22									
Z14A				⇓P		P		12 51 27.7	+1.4	
	baz=76,SNR=22									
Z14A				⇓P		P		12 51 27.7	+1.4	
	baz=76,SNR=22									
YSS	**Yuzh-Sakhalins**	**75.51**	**330**	*e*P		P		12 51 26.7	-0.3	
YSS				*e*				12 51 35.5		
YSS				pmax		pmax				
	comp=Z,50nm,1.1s									
YSS	**Yuzh-Sakhalins**	**75.51**	**330**	*e*P		P		12 51 27.6	+0.6	
	comp=Z,160nm,1.3s									
MOD	**Modoc**	**75.52**	**37**	*e*P		P		12 51 28.3	+0.8	
	comp=Z,96nm,1.1s									
MOD				*e*PP		PP		12 54 16.2	-0.8	
Y14A	**Wickenburg**	**75.58**	**47**	⇑P		P		12 51 29.0	+1.2	
	baz=76,SNR=35									
Y14A				⇑P		P		12 51 29.0	+1.2	
	baz=76,SNR=35									
Y14A				⇑P		P		12 51 29.0	+1.2	
	baz=76,SNR=35									
W13A	**Hualapai Mount**	**75.59**	**46**	⇓P		P		12 51 29.3	+1.2	
	baz=76,SNR=31									
W13A				⇓P		P		12 51 29.3	+1.2	
	baz=76,SNR=31									
W13A				⇓P		P		12 51 29.3	+1.2	
	baz=76,SNR=31									
BROR	**Big Rock Looko**	**75.84**	**34**	P		P		12 51 30.1	+1.1	
KDAK	**Kodiak Island**	**76.19**	**11**	*i* P		P		12 51 32.6	+2.0	
KDAK	**Kodiak Island**	**76.19**	**11**	*e*P		P		12 51 30.6	-0.1	
	comp=Z,155nm,1.3s									
KDAK				LR		LR				
	comp=Z,1µm,22.0s									
R11A	**Troy Canyon, C**	**76.27**	**42**	⇑P		P		12 51 32.8	+0.9	
	baz=76,SNR=34									
R11A				⇑P		P		12 51 32.8	+0.9	
	baz=76,SNR=34									
R11A				⇑P		P		12 51 32.8	+0.9	
	baz=76,SNR=34									
BEND	**Bend**	**76.32**	**35**	P		P		12 51 33.5	+1.5	
TUC	**Tucson**	**76.33**	**50**	*e*P		P		12 51 32.8	+0.6	
TUC				pmax		pmax				
	comp=Z,94nm,1.3s									
TUC				MLR		MLR				
	comp=Z,2µm,19.0s									
TUC	**Tucson**	**76.33**	**50**	*e*P		P		12 51 32.8	+0.6	
	comp=Z,94nm,1.3s									
TUC				LR		LR				
	comp=Z,2µm,19.0s									
BMN	**Battle Mountai**	**76.45**	**40**	*e*P		P		12 51 33.6	+0.8	
BMN				pmax		pmax				
	comp=Z,76nm,1.3s									
BMN				MLR		MLR				
	comp=Z,1µm,19.0s									
BMN	**Battle Mountai**	**76.45**	**40**	*e*P		P		12 51 33.6	+0.8	
	comp=Z,76nm,1.3s									
BMN				LR		LR				
	comp=Z,1µm,19.0s									
MIR	**Mirnyy**	**76.57**	**204**	*e*P		P		12 51 32.0	-0.8	
MIR				pmax		pmax				
	comp=Z,86nm,1.6s									
NACB	**Ninganchiao**	**76.62**	**301**	*e*P		P		12 51 33.8	-0.1	
	comp=Z,212nm,1.3s									
BJII	**Banjamegara**	**76.76**	**266**	P		P		12 51 44.0	+9.0	
	comp=Z,72nm,1.5s,comp=Z,2µm									
WVOR	**Wild Horse Val**	**76.82**	**38**	*e*P		P		12 51 35.5	+0.7	
WVOR				*e*				12 54 26.5		
WVOR				pmax		pmax				
	comp=Z,98nm,1.3s									
WVOR				MLR		MLR				
	comp=Z,3µm,19.0s									
WVOR	**Wild Horse Val**	**76.82**	**38**	*e*P		P		12 51 35.5	+0.7	
	comp=Z,98nm,1.3s									
WVOR				*e*PP		PP		12 54 26.5	-1.5	
WVOR				LR		LR				
	comp=Z,3µm,19.0s									
X16A	**Lo Mia Camp, P**	**76.94**	**48**	⇑P		P		12 51 37.3	+1.6	
	baz=77,SNR=49									
X16A				⇑P		P		12 51 37.3	+1.6	
	baz=77,SNR=49									
X16A				⇑P		P		12 51 37.3	+1.6	
	baz=77,SNR=49									
SSLB	**Suanglung**	**76.98**	**300**	*e*P		P		12 51 35.9	-0.1	
	comp=Z,69nm,1.3s									
VIPM	**Ingram Point**	**77.00**	**35**	P		P		12 51 36.5	+0.7	
VIPM	**Ingram Point**	**77.00**	**35**	P		P		12 51 36.5	+0.7	
YHNB	**Yeheng**	**77.01**	**301**	*e*P		P		12 51 35.9	-0.3	
	comp=Z,197nm,1.3s									
YHNB				LR		LR				
	comp=Z,865nm,20.0s									
TPUB	**Ta-pu**	**77.05**	**299**	*e*P		P		12 51 35.2	-1.1	
	comp=Z,180nm,1.1s									
TATO	**Taipei**	**77.05**	**301**	PFAKE				12 51 50.0	+14	
TATO				LR		LR				
	comp=Z,804nm,19.0s									
LVP	**Lakeview Peak**	**77.06**	**33**	P		P		12 51 37.0	+1.0	
VFP	**Flag Point**	**77.06**	**34**	P		P		12 51 36.8	+0.6	
SBUM	**Sibu**	**77.16**	**277**	P		P		12 51 40.0	+2.8	
SBUM	**Sibu**	**77.16**	**277**	P		P		12 51 45.3	+8.1	
NLWA	**Neilton Lookou**	**77.21**	**31**	PFAKE				12 51 50.0	+13	
NLWA				LR		LR				
	comp=Z,2µm,19.0s									
R13A	**O'Grain Ranch,**	**77.23**	**43**	⇑P		P		12 51 38.8	+1.5	
	baz=78,SNR=13									
R13A				⇑P		P		12 51 38.8	+1.5	
	baz=78,SNR=13									
R13A				⇑P		P		12 51 38.8	+1.5	
	baz=78,SNR=13									
CCUT	**Cedar City**	**77.28**	**44**	*e*P		P		12 51 39.0	+1.3	
	comp=Z,57nm,1.3s									
TDL	**Tradedollar La**	**77.35**	**33**	P		P		12 51 39.2	+1.5	
X17A	**Forest Lakes**	**77.35**	**48**	⇑P		P		12 51 39.9	+1.8	
	baz=78,SNR=54									
X17A				⇑P		P		12 51 39.9	+1.8	
	baz=78,SNR=54									
X17A				⇑P		P		12 51 39.9	+1.8	
	baz=78,SNR=54									
ARUT	**Antelope Range**	**77.36**	**44**	*e*P		P		12 51 39.2	+1.2	
ARUT				pmax		pmax				
	comp=Z,99nm,1.3s									
ARUT	**Antelope Range**	**77.36**	**44**	*e*P		P		12 51 39.2	+1.2	
	comp=Z,99nm,1.3s									
TGJI	**Tegal**	**77.45**	**267**	P		P		12 51 45.5	+6.7	
320A	**Kipp Ranch, An**	**77.53**	**52**	⇑P		P		12 51 40.8	+1.8	
	baz=78,SNR=16									
320A				⇑P		P		12 51 40.8	+1.8	
	baz=78,SNR=16									
320A				⇑P		P		12 51 40.8	+1.8	
	baz=78,SNR=16									
WUAZ	**Wupatki**	**77.56**	**47**	*e*P		P		12 51 40.5	+1.3	
	comp=Z,68nm,1.3s									
WUAZ				LR		LR				
	comp=Z,1µm,19.0s									
WUAZ	**Wupatki**	**77.56**	**47**	⇑P		P		12 51 40.6	+1.5	
	baz=78,SNR=22									
WUAZ				⇑P		P		12 51 40.6	+1.5	
	baz=78,SNR=22									
WUAZ				⇑P		P		12 51 40.6	+1.5	
	baz=78,SNR=22									
Y18A	**Canyon Day Jun**	**77.62**	**49**	⇑P		P		12 51 41.3	+1.8	
	baz=78,SNR=56									
Y18A				⇑P		P		12 51 41.3	+1.8	
	baz=78,SNR=56									
Y18A				⇑P		P		12 51 41.3	+1.8	
	baz=78,SNR=56									
W17A	**Winslow**	**77.79**	**47**	⇑P		P		12 51 42.1	+1.6	
	baz=78,SNR=14									
W17A				⇑P		P		12 51 42.1	+1.6	
	baz=78,SNR=14									
W17A				⇑P		P		12 51 42.1	+1.6	
	baz=78,SNR=14									
220A	**Playas Peak, P**	**77.80**	**51**	⇑P		P		12 51 42.3	+1.8	
	baz=78,SNR=67									
220A				⇑P		P		12 51 42.3	+1.8	
	baz=78,SNR=67									
220A				⇑P		P		12 51 42.3	+1.8	
	baz=78,SNR=67									
ELK	**Elko**	**77.86**	**41**	*e*P		P		12 51 41.4	+0.5	
ELK	**Elko**	**77.86**	**41**	*e*P		P		12 51 41.4	+0.5	
V17A	**Tonalea, Kykot**	**78.01**	**47**	⇑P		P		12 51 43.0	+1.3	
	baz=78,SNR=48									
V17A				⇑P		P		12 51 43.0	+1.3	
	baz=78,SNR=48									
V17A				⇑P		P		12 51 43.0	+1.3	
	baz=78,SNR=48									
120A	**U Bar Ranch, L**	**78.03**	**50**	⇑P		P		12 51 43.5	+1.6	
	baz=78,SNR=39									
120A				⇑P		P		12 51 43.5	+1.6	
	baz=78,SNR=39									
120A				⇑P		P		12 51 43.5	+1.6	
	baz=78,SNR=39									
U16A	**Tuba City**	**78.05**	**46**	⇓P		P		12 51 43.4	+1.5	
	baz=78,SNR=22									
U16A				⇓P		P		12 51 43.4	+1.5	
	baz=78,SNR=22									
U16A				⇓P		P		12 51 43.4	+1.5	
	baz=78,SNR=22									
X18A	**Snowflake**	**78.05**	**48**	⇓P		P		12 51 43.3	+1.4	
	baz=78,SNR=23									
X18A				⇓P		P		12 51 43.3	+1.4	
	baz=78,SNR=23									
X18A				⇓P		P		12 51 43.3	+1.4	
	baz=78,SNR=23									
KSRS	**Korea Array**	**78.22**	**315**	P		P		12 51 44.2	+1.7	
	comp=Z,18nm,1.1s,baz=127,slow=6.1,SNR=34									
KSRS				LR		LR		13 20 21.4		
	comp=Z,450nm,21.9s,baz=133,slow=31									
KSRS	**Korea Array**	**78.22**	**315**	P		P		12 51 44.3	+1.7	
KSRS				pmax		pmax				
	comp=Z,18nm,1.1s									
KSAR	**Wonju Array Be**	**78.25**	**315**	P		P		12 51 44.3	+1.6	
KSAR	**Wonju Array Be**	**78.25**	**315**	P		P		12 51 44.2	+1.6	
Y19A	**Nutrioso**	**78.27**	**49**	⇓P		P		12 51 45.2	+1.9	
	baz=78,SNR=55									
Y19A				⇓P		P		12 51 45.2	+1.9	
	baz=78,SNR=55									
Y19A				⇓P		P		12 51 45.2	+1.9	
	baz=78,SNR=55									
R15A	**Junction**	**78.36**	**44**	⇑P		P		12 51 45.4	+1.8	
	baz=79,SNR=18									
R15A				⇑P		P		12 51 45.4	+1.8	
	baz=79,SNR=18									
R15A				⇑P		P		12 51 45.4	+1.8	
	baz=79,SNR=18									
X19A	**St. Johns**	**78.47**	**49**	⇓P		P		12 51 45.9	+1.6	
	baz=79,SNR=30									
X19A				⇓P		P		12 51 45.9	+1.6	
	baz=79,SNR=30									
X19A				⇓P		P		12 51 45.9	+1.6	
	baz=79,SNR=30									
W18A	**Petrified Fore**	**78.50**	**48**	⇓P		P		12 51 45.7	+1.2	
	baz=79,SNR=8.4									
W18A				⇓P		P		12 51 45.7	+1.2	
	baz=79,SNR=8.4									
W18A				⇓P		P		12 51 45.7	+1.2	
	baz=79,SNR=8.4									
S16A	**Weppner Ranch,**	**78.56**	**45**	⇑P		P		12 51 45.9	+1.2	
	baz=79,SNR=25									
S16A				⇑P		P		12 51 45.9	+1.2	
	baz=79,SNR=25									
S16A				⇑P		P		12 51 45.9	+1.2	
	baz=79,SNR=25									
MVU	**Marysvale**	**78.56**	**44**	PFAKE				12 52 00.0	+15	
MVU				LR		LR				
	comp=Z,2µm,19.0s									
MSU	**Marysvale**	**78.59**	**44**	*e*P		P		12 51 46.6	+1.7	
MSU				*e*				12 51 54.6		
MSU				pmax		pmax				
	comp=Z,93nm,1.2s									
MSU	**Marysvale**	**78.59**	**44**	*e*P		P		12 51 46.6	+1.7	
	comp=Z,93nm,1.2s									
MSU				*e*PcP		PcP		12 51 54.6	+0.7	
U17A	**Shonto**	**78.61**	**46**	⇓P		P		12 51 46.7	+1.7	
	baz=79,SNR=23									
U17A				⇓P		P		12 51 46.7	+1.7	
	baz=79,SNR=23									
U17A				⇓P		P		12 51 46.7	+1.7	
	baz=79,SNR=23									
121A	**Cookes Peak, D**	**78.65**	**51**	⇑P		P		12 51 47.0	+1.6	
	baz=79,SNR=30									
121A				⇑P		P		12 51 47.0	+1.6	
	baz=79,SNR=30									
121A				⇑P		P		12 51 47.0	+1.6	
	baz=79,SNR=30									
V18A	**Ganado**	**78.66**	**47**	⇑P		P		12 51 46.8	+1.5	
	baz=79,SNR=40									
V18A				⇑P		P		12 51 46.8	+1.5	
	baz=79,SNR=40									
V18A				⇑P		P		12 51 46.8	+1.5	
	baz=79,SNR=40									
KSM	**Kuching**	**78.69**	**275**	*e*P		P		12 51 46.1	+0.4	
	comp=Z,320nm,1.2s									
KSM				*e*PcP		PcP		12 51 53.6	-1.0	
KSM				LR		LR				
	comp=Z,345nm,21.0s									
KSM	**Kuching**	**78.69**	**275**	P		P		12 51 52.0	+6.3	
KSM	**Kuching**	**78.69**	**275**	P		P		12 51 53.2	+7.5	
RSO	**Redoubt South**	**78.70**	**10**	*e*P		P		12 51 44.8	-0.1	
	comp=Z,51nm,1.1s									
RSO				*e*PcP		PcP		12 51 52.3	-1.5	
JCW	**Jim Creek**	**78.71**	**32**	*e*P		P		12 51 45.1	0.0	
	comp=Z,52nm,1.1s									
JCW				*e

MFID ePcP PcP 12 51 55.3 -0.4
MFID Camas Ranch 79.06 38 ⇓P P 12 51 47.8 +0.6
baz=79,SNR=18
MFID ⇓P P 12 51 47.8 +0.6
baz=79,SNR=18
MFID ⇓P P 12 51 47.8 +0.6
baz=79,SNR=18
BMO Blue Mountains 79.06 36 eP P 12 51 47.4 +0.2
BMO e 12 51 55.0
BMO pmax pmax
comp=Z,54nm,1.4s
BMO MLR MLR
comp=Z,2μm,19.0s
BMO Blue Mountains 79.06 36 eP P 12 51 47.4 +0.2
comp=Z,54nm,1.4s
BMO ePcP PcP 12 51 55.0 -0.6
BMO LR LR
comp=Z,2μm,19.0s
U18A Rough Rock, Ch 79.06 47 ⇓P P 12 51 48.7 +1.2
baz=79,SNR=10.0
U18A ⇓P P 12 51 48.7 +1.2
baz=79,SNR=10.0
U18A ⇓P P 12 51 48.7 +1.2
baz=79,SNR=10.0
DUG Dugway 79.09 42 eP P 12 51 48.1 +0.7
DUG e 12 51 56.0
DUG pmax pmax
comp=Z,62nm,1.3s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG Dugway 79.09 42 eP P 12 51 48.1 +0.7
comp=Z,62nm,1.3s
DUG ePcP PcP 12 51 56.0 +0.1
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway 79.09 42 ⇓P P 12 51 48.2 +0.7
baz=79,SNR=32
DUG ⇓P P 12 51 48.2 +0.7
baz=79,SNR=32
DUG ⇓P P 12 51 48.2 +0.7
baz=79,SNR=32
RPW Rockport 79.09 32 eP P 12 51 47.0 -0.2
P15A Leamington 79.09 43 ⇑P P 12 51 48.6 +1.1
baz=79,SNR=6.7
P15A ⇑P P 12 51 48.6 +1.1
baz=79,SNR=6.7
P15A ⇑P P 12 51 48.6 +1.1
baz=79,SNR=6.7
X20A Quemado 79.10 49 ⇑P P 12 51 49.5 +1.7
baz=79,SNR=49
X20A ⇑P P 12 51 49.5 +1.7
baz=79,SNR=49
X20A ⇑P P 12 51 49.5 +1.7
baz=79,SNR=49
Z21A St. Cloud Mine 79.11 50 ⇑P P 12 51 49.8 +1.9
baz=79,SNR=69
Z21A ⇑P P 12 51 49.8 +1.9
baz=79,SNR=69
Z21A ⇑P P 12 51 49.8 +1.9
baz=79,SNR=69
INCN Inchon 79.11 315 eP P 12 51 49.0 +1.5
comp=Z,60nm,1.4s
INCN ePcP PcP 12 51 56.5 +0.6
INCN LR LR
comp=Z,442nm,21.0s
ETW Entiat 79.14 33 eP P 12 51 48.0 +0.3
comp=Z,96nm,1.3s
ETW ePcP PcP 12 51 55.9 -0.1
SLKM Skilak Lake 79.17 11 eP P 12 51 47.4 +0.1
SLKM e 12 51 55.1
SLKM Skilak Lake 79.17 11 eP P 12 51 47.4 +0.1
SLKM ePcP PcP 12 51 55.1 -0.5
V19A Window Rock 79.29 48 ⇓P P 12 51 50.2 +1.4
baz=80,SNR=9.7
V19A ⇓P P 12 51 50.2 +1.4
baz=80,SNR=9.7
V19A ⇓P P 12 51 50.2 +1.4
baz=80,SNR=9.7
122A Conniff Cattle 79.31 51 ⇑P P 12 51 50.7 +1.8
baz=80,SNR=18
122A ⇑P P 12 51 50.7 +1.8
baz=80,SNR=18
122A ⇑P P 12 51 50.7 +1.8
baz=80,SNR=18
O15A The Old Anders 79.35 42 ⇓P P 12 51 49.8 +0.9
baz=80,SNR=5.4
O15A ⇓P P 12 51 49.8 +0.9
baz=80,SNR=5.4
O15A ⇓P P 12 51 49.8 +0.9
baz=80,SNR=5.4
W20A Ramah 79.39 48 ⇑P P 12 51 51.1 +1.7
baz=80,SNR=78
W20A ⇑P P 12 51 51.1 +1.7
baz=80,SNR=78
W20A ⇑P P 12 51 51.1 +1.7
baz=80,SNR=78
QZH Quanzhou 79.42 300 P P 12 51 50.5 +1.1
QZH S S 13 01 51.0 +0.6
QZH pmax pmax
comp=Z,150nm,1.2s
QZH pmax pmax
comp=Z,1μm,4.7s
QZH LR LR
comp=Z,1μm,21.9s
223A Chaparral, Ant 79.42 52 ⇓P P 12 51 50.9 +1.4
baz=80
223A ⇓P P 12 51 50.9 +1.4
baz=80
223A ⇓P P 12 51 50.9 +1.4
baz=80
T18A Mexican Hat 79.42 46 ⇓P P 12 51 51.0 +1.6
baz=80,SNR=88
T18A ⇓P P 12 51 51.0 +1.6
baz=80,SNR=88
T18A ⇓P P 12 51 51.0 +1.6
baz=80,SNR=88
Y21A Point of Rocks 79.44 50 ⇑P P 12 51 51.5 +1.8
baz=80,SNR=44
Y21A ⇑P P 12 51 51.5 +1.8
baz=80,SNR=44
Y21A ⇑P P 12 51 51.5 +1.8
baz=80,SNR=44
USRK Ussuriysk Arra 79.44 323 P P 12 51 50.1 +1.0
comp=Z,1.5nm,0.7s,baz=107,slow=4.6,SNR=5.6
USRK LR LR 13 20 15.2
comp=Z,917nm,21.9s,baz=119,slow=31
U19A Dine' College, 79.46 47 ⇓P P 12 51 51.1 +1.3
baz=80,SNR=24
U19A ⇓P P 12 51 51.1 +1.3
baz=80,SNR=24
U19A ⇓P P 12 51 51.1 +1.3
baz=80,SNR=24
Q16A Castle Valley 79.47 44 ⇑P P 12 51 51.3 +1.6
baz=80,SNR=6.1
Q16A ⇑P P 12 51 51.3 +1.6
baz=80,SNR=6.1
Q16A ⇑P P 12 51 51.3 +1.6
baz=80,SNR=6.1
P16A Fountain Green 79.52 43 ⇓P P 12 51 51.4 +1.5
baz=80,SNR=9.7
P16A ⇓P P 12 51 51.4 +1.5
baz=80,SNR=9.7
P16A ⇓P P 12 51 51.4 +1.5
baz=80,SNR=9.7
R17A Hanksville Air 79.52 44 ⇑P P 12 51 50.9 +1.0
baz=80,SNR=34
R17A ⇑P P 12 51 50.9 +1.0
baz=80,SNR=34
R17A ⇑P P 12 51 50.9 +1.0
baz=80,SNR=34
Z22A Elephant Butte 79.60 51 ⇑P P 12 51 52.1 +1.6
baz=80,SNR=46
Z22A ⇑P P 12 51 52.1 +1.6
baz=80,SNR=46
Z22A ⇑P P 12 51 52.1 +1.6
baz=80,SNR=46
S18A Hurst Farm, Bl 79.62 45 ⇑P P 12 51 51.6 +1.0
baz=80,SNR=8.0
S18A ⇑P P 12 51 51.6 +1.0
baz=80,SNR=8.0
S18A ⇑P P 12 51 51.6 +1.0
baz=80,SNR=8.0
TMUT Trail Mountain 79.65 44 eP P 12 51 52.6 +1.8
comp=Z,109nm,1.2s
N15A Stansbury Isla 79.65 42 ⇓P P 12 51 51.3 +0.8
baz=80
N15A ⇓P P 12 51 51.3 +0.8
baz=80
N15A ⇓P P 12 51 51.3 +0.8
baz=80
V20A Brimhall 79.74 48 ⇑P P 12 51 52.4 +1.1
baz=80,SNR=10
V20A ⇑P P 12 51 52.4 +1.1
baz=80,SNR=10
V20A ⇑P P 12 51 52.4 +1.1
baz=80,SNR=10
MPU Maple Canyon 79.75 43 eP P 12 51 52.1 +0.9
comp=Z,42nm,1.2s
MPU ePcP PcP 12 51 59.7 +0.8
RC01 Rabbit Creek A 79.80 11 eP P 12 51 50.4 -0.3
comp=Z,201nm,1.5s
RC01 ePcP PcP 12 51 58.0 -0.3
L14A Malta 79.83 40 ⇓P P 12 51 52.3 +0.8
baz=80,SNR=9.6
L14A ⇓P P 12 51 52.3 +0.8
baz=80,SNR=9.6
L14A ⇓P P 12 51 52.3 +0.8
baz=80,SNR=9.6
123A Bell Site, Whi 79.84 51 ⇑P P 12 51 53.2 +1.5
baz=80,SNR=5.6
123A ⇑P P 12 51 53.2 +1.5
baz=80,SNR=5.6
123A ⇑P P 12 51 53.2 +1.5
baz=80,SNR=5.6
OD2 Odessa Site #2 79.85 34 eP P 12 51 51.7 +0.3
comp=Z,184nm,1.7s
OD2 ePcP PcP 12 51 59.4 +0.5
T19A Beclabito 79.86 47 ⇓P P 12 51 53.2 +1.4
baz=80,SNR=42
T19A ⇓P P 12 51 53.2 +1.4
baz=80,SNR=42
T19A ⇓P P 12 51 53.2 +1.4
baz=80,SNR=42
324A Moseley Ranch, 79.88 53 ⇑P P 12 51 53.1 +1.1
baz=80,SNR=62
324A ⇑P P 12 51 53.1 +1.1
baz=80,SNR=62
324A ⇑P P 12 51 53.1 +1.1
baz=80,SNR=62
Y22A Socorro 79.92 50 ⇓P P 12 51 53.7 +1.5
baz=80,SNR=32
Y22A ⇓P P 12 51 53.7 +1.5
baz=80,SNR=32
Y22A ⇓P P 12 51 53.7 +1.5
baz=80,SNR=32
O16A Springville 79.94 43 ⇑P P 12 51 53.2 +1.0
baz=80
O16A ⇑P P 12 51 53.2 +1.0
baz=80
O16A ⇑P P 12 51 53.2 +1.0
baz=80
425A Indio Mountain 79.97 54 ⇑P P 12 51 53.9 +1.4
baz=80,SNR=58
425A ⇑P P 12 51 53.9 +1.4
baz=80,SNR=58
425A ⇑P P 12 51 53.9 +1.4
baz=80,SNR=58
HLID Hailey 79.98 39 eP P 12 51 53.1 +0.8
comp=Z,80nm,1.3s
HLID ePcP PcP 12 52 00.8 +1.1
HLID LR LR
comp=Z,855nm,19.0s
HLID Hailey 79.98 39 ⇓P P 12 51 53.3 +1.0
baz=80,SNR=71
HLID ⇓P P 12 51 53.3 +1.0
baz=80,SNR=71
HLID ⇓P P 12 51 53.3 +1.0
baz=80,SNR=71
HVU Hansel Valley 79.98 41 eP P 12 51 53.1 +0.7
HVU e 12 52 00.4
HVU pmax pmax
comp=Z,66nm,1.3s
HVU Hansel Valley 79.98 41 eP P 12 51 53.0 +0.7
comp=Z,66nm,1.3s
HVU ePcP PcP 12 52 00.4 +0.6
SSE Sheshan 79.98 307 eP P 12 51 53.5 +1.1
SSE sP sP 12 51 58.5 -0.3
SSE S S 13 01 58.0 +1.9
SSE sS sS 13 02 04.0 +0.1
SSE pmax pmax
comp=Z,13nm,1.3s
SSE pmax pmax
comp=Z,45nm,3.5s
SSE LR LR
comp=N,190nm,25.3s
SSE LR LR
comp=E,360nm,25.3s
SSE LR LR
comp=Z,480nm,25.0s
U20A Newcomb 79.98 47 ⇓P P 12 51 53.9 +1.4
baz=80,SNR=10
U20A ⇓P P 12 51 53.9 +1.4
baz=80,SNR=10
U20A ⇓P P 12 51 53.9 +1.4
baz=80,SNR=10
W21A San Fidel 79.99 49 ⇓P P 12 51 54.1 +1.5
baz=80
W21A ⇓P P 12 51 54.1 +1.5
baz=80
W21A ⇓P P 12 51 54.1 +1.5
baz=80
SRU San Rafael 80.00 44 eP P 12 51 53.3 +0.7
SRU e 12 52 00.8
SRU pmax pmax
comp=Z,77nm,1.3s
SRU San Rafael 80.00 44 eP P 12 51 53.3 +0.7
comp=Z,78nm,1.3s
SRU ePcP PcP 12 52 00.8 +0.9
SRU San Rafael 80.00 44 ⇓P P 12 51 53.7 +1.1
baz=80,SNR=19
SRU ⇓P P 12 51 53.7 +1.1
baz=80,SNR=19
SRU ⇓P P 12 51 53.7 +1.1
baz=80,SNR=19
M15A Larsen Ranch, 80.01 41 ⇓P P 12 51 53.0 +0.5
baz=80,SNR=6.5
M15A ⇓P P 12 51 53.0 +0.5
baz=80,SNR=6.5
M15A ⇓P P 12 51 53.0 +0.5
baz=80,SNR=6.5
Y22D IRIS PASSCAL I 80.02 50 ⇓P P 12 51 54.2 +1.5
baz=80
Y22D ⇓P P 12 51 54.2 +1.5
baz=80
Y22D ⇓P P 12 51 54.2 +1.5
baz=80
LENM Lemitar 80.03 50 eP P 12 51 54.3 +1.6
comp=Z,49nm,1.3s
LENM ePcP PcP 12 52 01.9 +1.8
J13A Cove Ranch, Pi 80.03 39 ⇑P P 12 51 53.7 +1.1
baz=80,SNR=24
J13A ⇑P P 12 51 53.7 +1.1
baz=80,SNR=24
J13A ⇑P P 12 51 53.7 +1.1
baz=80,SNR=24
P17A Butcher Ranch, 80.05 44 ⇓P P 12 51 54.2 +1.4
baz=80,SNR=8.7
P17A ⇓P P 12 51 54.2 +1.4
baz=80,SNR=8.7
P17A ⇓P P 12 51 54.2 +1.4
baz=80,SNR=8.7
R18A Canyonlands Na 80.05 45 ⇓P P 12 51 54.0 +1.1
baz=80,SNR=29
R18A ⇓P P 12 51 54.0 +1.1
baz=80,SNR=29
R18A ⇓P P 12 51 54.0 +1.1
baz=80,SNR=29
MNTX Cornudas Mount 80.07 53 eP P 12 51 54.1 +1.2
comp=Z,9.1nm,1.2s
MNTX ePcP PcP 12 52 01.7 +1.5
MNTX LR LR
comp=Z,844nm,20.0s
MNTX Cornudas Mount 80.07 53 ⇓P P 12 51 54.1 +1.2
baz=80,SNR=72
MNTX ⇓P P 12 51 54.1 +1.2
baz=80,SNR=72
MNTX ⇓P P 12 51 54.1 +1.2
baz=80,SNR=72
MNTX ⇓P P 12 51 54.1 +1.2
baz=80,SNR=72
MNTX ⇓P P 12 51 54.1 +1.2
baz=80,SNR=72
626A Big Bend Ranch 80.09 55 ⇑P P 12 51 54.5 +1.4
baz=80,SNR=29
626A ⇑P P 12 51 54.5 +1.4
baz=80,SNR=29
224A Cornudas Mount 80.14 52 ⇑P P 12 51 54.8 +1.4
baz=80,SNR=44
224A ⇑P P 12 51 54.8 +1.4
baz=80,SNR=44
224A ⇑P P 12 51 54.8 +1.4
baz=80,SNR=44
Z23A Rita Site, Whi 80.15 51 ⇑P P 12 51 54.9 +1.5
baz=80,SNR=18
Z23A ⇑P P 12 51 54.9 +1.5
baz=80,SNR=18
Z23A ⇑P P 12 51 54.9 +1.5
baz=80,SNR=18
K14A Jones Ranch, D 80.15 40 ⇑P P 12 51 54.1 +0.9
baz=80,SNR=18
K14A ⇑P P 12 51 54.1 +0.9
baz=80,SNR=18
K14A ⇑P P 12 51 54.1 +0.9
baz=80,SNR=18
JLU Jordanelle 80.18 42 eP P 12 51 54.2 +0.6
comp=Z,69nm,1.4s
JLU ePcP PcP 12 52 01.5 +0.7
325A Bean Ranch, Si 80.24 53 ⇑P P 12 51 55.0 +1.0
baz=80,SNR=72
325A ⇑P P 12 51 55.0 +1.0
baz=80,SNR=72
325A ⇑P P 12 51 55.0 +1.0
baz=80,SNR=72
S19A Harvey Farm, M 80.24 46 ⇓P P 12 51 55.1 +1.2
baz=80,SNR=13
S19A ⇓P P 12 51 55.1 +1.2
baz=80,SNR=13
S19A ⇓P P 12 51 55.1 +1.2
baz=80,SNR=13
Q18A Rafter H Ranch 80.26 44 ⇓P P 12 51 54.8 +1.0
baz=80,SNR=23
Q18A ⇓P P 12 51 54.8 +1.0
baz=80,SNR=23
Q18A ⇓P P 12 51 54.8 +1.0
baz=80,SNR=23
BNM Barren Site 80.27 50 eP P 12 51 55.6 +1.4
comp=Z,35nm,1.1s
BNM ePcP PcP 12 52 03.2 +1.8
WRAK Wrangell Islan 80.30 21 PFAKE 12 52 10.0 +17
WRAK LR LR
comp=Z,1μm,19.0s
V21A Milan 80.33 48 ⇑P P 12 51 55.8 +1.4
baz=81,SNR=9.2
V21A ⇑P P 12 51 55.8 +1.4
baz=81,SNR=9.2
V21A ⇑P P 12 51 55.8 +1.4
baz=81,SNR=9.2
526A Mary Lane Ranc 80.34 55 ⇑P P 12 51 55.9 +1.4
baz=81,SNR=48
526A ⇑P P 12 51 55.9 +1.4
baz=81,SNR=48
526A ⇑P P 12 51 55.9 +1.4
baz=81,SNR=48
N16A Rees Ranch, Co 80.34 42 ⇓P P 12 51 55.3 +1.0
baz=81,SNR=6.6
N16A ⇓P P 12 51 55.3 +1.0
baz=81,SNR=6.6
N16A ⇓P P 12 51 55.3 +1.0
baz=81,SNR=6.6
LPM Los Pinos Moun 80.34 50 eP P 12 51 55.9 +1.3
comp=Z,71nm,1.4s
LPM ePcP PcP 12 52 03.6 +2.0
L15A Malad City 80.34 41 ⇓P P 12 51 54.9 +0.6
baz=81,SNR=11
L15A ⇓P P 12 51 54.9 +0.6
baz=81,SNR=11
L15A ⇓P P 12 51 54.9 +0.6
baz=81,SNR=11
I13A Wildhorse Cree 80.36 38 ⇓P P 12 51 55.2 +0.8
baz=81,SNR=11
I13A ⇓P P 12 51 55.2 +0.8
baz=81,SNR=11
I13A ⇓P P 12 51 55.2 +0.8
baz=81,SNR=11
TXAR Lajitas Array 80.36 55 P P 12 51 56.0 +1.5
comp=Z,47nm,1.1s,baz=218,slow=5.9,SNR=121
TXAR LR LR 13 21 37.0
comp=Z,968nm,18.6s,baz=340,slow=31
TXAR Lajitas Array 80.36 55 P P 12 51 56.1 +1.5
TXAR pmax pmax
comp=Z,47nm,1.2s
TXAR Lajitas Array 80.36 55 P P 12 51 56.0 +1.5
J14A Carey 80.38 39 ⇓P P 12 51 55.9 +1.4
baz=81,SNR=33
J14A ⇓P P 12 51 55.9 +1.4
baz=81,SNR=33
J14A ⇓P P 12 51 55.9 +1.4
baz=81,SNR=33
PMR Palmer 80.38 11 eP P 12 51 53.5 -0.3
PMR e 12 52 01.0
PMR pmax pmax
comp=Z,120nm,1.4s
PMR Palmer 80.38 11 eP P 12 51 53.5 -0.3
comp=Z,120nm,1.4s
PMR ePcP PcP 12 52 01.0 +0.2
HABR Khabarovsk 80.38 327 *ceP* P 12 51 53.2 -0.9
HABR *e**PP PcP 12 52 03.5 +2.4
HABR *e**SP sP 12 52 07.7 +7.2
HABR e 12 54 56.6
HABR S S 13 01 57.9 -1.7
HABR eS SKSac 13 02 10.8 -0.6
HABR eSS SS 13 07 10.4 -1.4
HABR pmax pmax
comp=E,52nm,2.1s
HABR pmax pmax
comp=N,33nm,3.1s
HABR pmax pmax
comp=Z,141nm,2.1s
HABR MLR MLR
comp=Z,214nm,18.0s
MVCO Mesa Verde 80.41 46 eP P 12 51 55.9 +1.0
comp=Z,34nm,1.3s
MVCO LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 80.41 46 ⇑P P 12 51 55.9 +1.0
baz=81
MVCO ⇑P P 12 51 55.9 +1.0
baz=81
MVCO ⇑P P 12 51 55.9 +1.0
baz=81
O17A Robinson Place 80.43 43 ⇑P P 12 51 56.3 +1.4
baz=81,SNR=17
O17A ⇑P P 12 51 56.3 +1.4
baz=81,SNR=17
O17A ⇑P P 12 51 56.3 +1.4
baz=81,SNR=17
R19A Curley Farm, L 80.43 45 ⇓P P 12 51 55.9 +1.0
baz=81,SNR=20
R19A ⇓P P 12 51 55.9 +1.0
baz=81,SNR=20
R19A ⇓P P 12 51 55.9 +1.0
baz=81,SNR=20
P18A Preston Nutter 80.45 44 ⇑P P 12 51 56.2 +1.0
baz=81,SNR=8.7
P18A ⇑P P 12 51 56.2 +1.0
baz=81,SNR=8.7
P18A ⇑P P 12 51 56.2 +1.0
baz=81,SNR=8.7
124A Stringfield Ra 80.47 52 ⇑P P 12 51 56.7 +1.4
baz=81,SNR=26
124A ⇑P P 12 51 56.7 +1.4
baz=81,SNR=26
124A ⇑P P 12 51 56.7 +1.4
baz=81,SNR=26
GAMB Gambell 80.48 0 eP P 12 51 54.7 +0.5
comp=Z,83nm,1.1s
GAMB ePcP PcP 12 52 02.5 +1.3
W22A Albuquerque 80.53 49 ⇑P P 12 51 57.4 +1.9
baz=81,SNR=9.4
W22A ⇑P P 12 51 57.4 +1.9
baz=81,SNR=9.4
W22A ⇑P P 12 51 57.4 +1.9
baz=81,SNR=9.4
DIV Divide 80.61 13 eP P 12 51 55.2 +0.1
comp=Z,150nm,1.3s
DIV ePcP PcP 12 52 02.6 +0.6
U21A Nageezi 80.62 47 ⇓P P 12 51 57.5 +1.5
baz=81,SNR=49
U21A ⇓P P 12 51 57.5 +1.5

	baz=81,SNR=49							
U21A				⇓P		P	12 51 57.5	+1.5
	baz=81,SNR=49							
627A	**Terlingua Ranc**	**80.63**	**55**	⇑P		P	12 51 57.7	+1.6
	baz=81,SNR=68							
627A				⇑P		P	12 51 57.7	+1.6
	baz=81,SNR=68							
627A				⇑P		P	12 51 57.7	+1.6
	baz=81,SNR=68							
K15A	**Arbon**	**80.63**	**40**	⇓P		P	12 51 56.5	+0.6
	baz=81,SNR=9.6							
K15A				⇓P		P	12 51 56.5	+0.6
	baz=81,SNR=9.6							
K15A				⇓P		P	12 51 56.5	+0.6
	baz=81,SNR=9.6							
HWUT	**Hardware Ranch**	**80.64**	**41**	*e*P		P	12 51 56.3	+0.3
	comp=Z,32nm,1.4s							
HWUT				*e*PcP		PcP	12 52 04.1	+1.3
HWUT				LR		LR		
	comp=Z,2μm,19.0s							
H13A	**Challis**	**80.65**	**38**	⇓P		P	12 51 56.4	+0.6
	baz=81,SNR=19							
H13A				⇓P		P	12 51 56.4	+0.6
	baz=81,SNR=19							
H13A				⇓P		P	12 51 56.4	+0.6
	baz=81,SNR=19							
426A	**McDonald Obser**	**80.65**	**54**	⇓P		P	12 51 57.7	+1.4
	baz=81,SNR=70							
426A				⇓P		P	12 51 57.7	+1.4
	baz=81,SNR=70							
426A				⇓P		P	12 51 57.7	+1.4
	baz=81,SNR=70							
BMRM	**Bremner River**	**80.71**	**13**	*e*P		P	12 51 55.8	+0.1
	comp=Z,247nm,1.4s							
BMRM				*e*PcP		PcP	12 52 03.1	+0.8
PV04	**Paradox Valley**	**80.72**	**45**	*e*P		P	12 51 57.3	+0.8
PV04				*e*PcP		PcP	12 52 04.3	+1.1
SML	**Sawmill**	**80.73**	**11**	*e*P		P	12 51 55.7	0.0
SML				*e*			12 52 03.0	
SML				*e*			12 54 56.4	
SML	**Sawmill**	**80.73**	**11**	*e*P		P	12 51 55.7	0.0
	comp=Z,5.6nm,1.2s							
SML				*e*PcP		PcP	12 52 03.0	+0.6
SML				*e*PP		PP	12 54 56.4	-3.7
527A	**Woodward Ranch**	**80.75**	**55**	⇓P		P	12 51 57.8	+1.0
	baz=81,SNR=36							
527A				⇓P		P	12 51 57.8	+1.0
	baz=81,SNR=36							
527A				⇓P		P	12 51 57.8	+1.0
	baz=81,SNR=36							
N17A	**Moffit Pass**	**80.76**	**42**	⇓P		P	12 51 57.5	+0.8
	baz=81,SNR=8.3							
N17A				⇓P		P	12 51 57.5	+0.8
	baz=81,SNR=8.3							
N17A				⇓P		P	12 51 57.5	+0.8
	baz=81,SNR=8.3							
Q19A	**Hogan Spring (**	**80.76**	**45**	⇓P		P	12 51 57.6	+1.0
	baz=81,SNR=28							
Q19A				⇓P		P	12 51 57.6	+1.0
	baz=81,SNR=28							
Q19A				⇓P		P	12 51 57.6	+1.0
	baz=81,SNR=28							
ANMO	**Albuquerque**	**80.77**	**49**	*e*P		P	12 51 57.9	+1.1
ANMO				*e*			12 52 05.0	
ANMO				pmax		pmax		
	comp=Z,46nm,1.2s							
ANMO				MLR		MLR		
	comp=Z,1μm,19.0s							
ANMO	**Albuquerque**	**80.77**	**49**	*e*P		P	12 51 57.9	+1.1
	comp=Z,46nm,1.2s							
ANMO				*e*PcP		PcP	12 52 05.0	+1.5
ANMO				LR		LR		
	comp=Z,1μm,19.0s							
X23A	**Hourglass Bar**	**80.79**	**50**	⇓P		P	12 51 58.1	+1.1
	baz=81,SNR=14							
X23A				⇓P		P	12 51 58.1	+1.1
	baz=81,SNR=14							
X23A				⇓P		P	12 51 58.1	+1.1
	baz=81,SNR=14							
S20A	**Disappointment**	**80.81**	**46**	⇓P		P	12 51 58.2	+1.2
	baz=81,SNR=30							
S20A				⇓P		P	12 51 58.2	+1.2
	baz=81,SNR=30							
S20A				⇓P		P	12 51 58.2	+1.2
	baz=81,SNR=30							
PV01	**Paradox Valley**	**80.82**	**46**	*e*P		P	12 51 57.9	+0.8
	comp=Z,8μm,1.5s							
PV01				*e*PcP		PcP	12 52 05.2	+1.6
Z24A	**Sheppen Canyo**	**80.82**	**51**	⇑P		P	12 51 58.3	+1.2
	baz=81,SNR=21							
Z24A				⇑P		P	12 51 58.3	+1.2
	baz=81,SNR=21							
Z24A				⇑P		P	12 51 58.3	+1.2
	baz=81,SNR=21							
O18A	**Roosevelt**	**80.94**	**43**	⇓P		P	12 51 58.5	+1.0
	baz=81							
O18A				⇓P		P	12 51 58.5	+1.0
	baz=81							
O18A				⇓P		P	12 51 58.5	+1.0
	baz=81							
L16A	**Fish Haven**	**80.95**	**41**	⇓P		P	12 51 58.0	+0.4
	baz=81,SNR=8.4							
L16A				⇓P		P	12 51 58.0	+0.4
	baz=81,SNR=8.4							
L16A				⇓P		P	12 51 58.0	+0.4
	baz=81,SNR=8.4							
G13A	**Cobalt**	**80.96**	**37**	⇑P		P	12 51 57.9	+0.4
	baz=81,SNR=19							
G13A				⇑P		P	12 51 57.9	+0.4
	baz=81,SNR=19							
G13A				⇑P		P	12 51 57.9	+0.4
	baz=81,SNR=19							
326A	**Caldwell Ranch**	**80.97**	**53**	⇑P		P	12 51 58.7	+0.9
	baz=81,SNR=19							
326A				⇑P		P	12 51 58.7	+0.9
	baz=81,SNR=19							
326A				⇑P		P	12 51 58.7	+0.9
	baz=81,SNR=19							
T21A	**Navajo Lake**	**80.98**	**47**	⇓P		P	12 51 59.0	+1.1
	baz=81,SNR=15							
T21A				⇓P		P	12 51 59.0	+1.1
	baz=81,SNR=15							
T21A				⇓P		P	12 51 59.0	+1.1
	baz=81,SNR=15							
R20A	**Redvale**	**80.98**	**46**	⇓P		P	12 51 58.8	+0.9
	baz=81,SNR=21							
R20A				⇓P		P	12 51 58.8	+0.9
	baz=81,SNR=21							
R20A				⇓P		P	12 51 58.8	+0.9
	baz=81,SNR=21							
628A	**Black Gap, Mar**	**81.04**	**56**	⇓P		P	12 51 59.5	+1.4
	baz=81,SNR=38							
628A				⇓P		P	12 51 59.5	+1.4
	baz=81,SNR=38							
628A				⇓P		P	12 51 59.5	+1.4
	baz=81,SNR=38							
Y24A	**Capitan**	**81.04**	**51**	⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=51							
Y24A				⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=51							
Y24A				⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=51							
GDL2	**Guadalupe Moun**	**81.07**	**53**	*e*P		P	12 51 59.7	+1.3
	comp=Z,252nm,1.4s							
GDL2				*e*PcP		PcP	12 52 07.4	+2.7
J15A	**Blackfoot**	**81.08**	**39**	⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=23							
J15A				⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=23							
J15A				⇑P		P	12 51 59.5	+1.3
	baz=81,SNR=23							
W23A	**Werner Place,**	**81.09**	**49**	⇑P		P	12 51 59.7	+1.2
	baz=81,SNR=21							
W23A				⇑P		P	12 51 59.7	+1.2
	baz=81,SNR=21							
W23A				⇑P		P	12 51 59.7	+1.2
	baz=81,SNR=21							
MDJ	**Mudanjiang**	**81.09**	**322**	P		P	12 51 58.8	+0.8
MDJ				pP		pP	12 52 02.3	-0.5
MDJ				S		S	13 02 10.8	+3.6
MDJ				pmax		pmax		
	comp=Z,45nm,2.2s							
MDJ				pmax		pmax		
	comp=Z,360nm,6.9s							
MDJ				LR		LR		
	comp=N,340nm,34.8s							
MDJ				LR		LR		
	comp=E,430nm,32.0s							
MDJ				LR		LR		
	comp=Z,830nm,23.7s							
MDJ	**Mudanjiang**	**81.09**	**322**	*e*P		P	12 51 59.4	+1.4
	comp=Z,97nm,1.5s							
MDJ				*e*PcP		PcP	12 52 05.3	+1.0
MDJ				LR		LR		
	comp=Z,1μm,22.0s							
S21A	**Coal Bank Pass**	**81.12**	**46**	⇓P		P	12 52 00.1	+1.3
	baz=81,SNR=40							
S21A				⇓P		P	12 52 00.1	+1.3
	baz=81,SNR=40							
S21A				⇓P		P	12 52 00.1	+1.3
	baz=81,SNR=40							
M17A	**Scullys Gap (B**	**81.14**	**42**	⇓P		P	12 51 59.0	+0.3
	baz=81							
M17A				⇓P		P	12 51 59.0	+0.3
	baz=81							
M17A				⇓P		P	12 51 59.0	+0.3
	baz=81							
U22A	**Llaves**	**81.16**	**48**	⇑P		P	12 51 59.9	+1.1
	baz=81,SNR=9.4							
U22A				⇑P		P	12 51 59.9	+1.1
	baz=81,SNR=9.4							
U22A				⇑P		P	12 51 59.9	+1.1
	baz=81,SNR=9.4							
H14A	**Leadore**	**81.20**	**38**	⇑P		P	12 51 59.6	+0.8
	baz=82,SNR=12							
H14A				⇑P		P	12 51 59.6	+0.8
	baz=82,SNR=12							
H14A				⇑P		P	12 51 59.6	+0.8
	baz=82,SNR=12							
226A	**Malaga, Loving**	**81.21**	**53**	⇓P		P	12 52 00.3	+1.2
	baz=81,SNR=45							
226A				⇓P		P	12 52 00.3	+1.2
	baz=81,SNR=45							
226A				⇓P		P	12 52 00.3	+1.2
	baz=81,SNR=45							
427A	**Hayter Ranch,**	**81.22**	**54**	⇑P		P	12 52 00.5	+1.4
	baz=81,SNR=47							
427A				⇑P		P	12 52 00.5	+1.4
	baz=81,SNR=47							
427A				⇑P		P	12 52 00.5	+1.4
	baz=81,SNR=47							
NEW	**Newport**	**81.24**	**34**	PFAKE			12 52 10.0	+11
NEW				LR		LR		
	comp=Z,2μm,19.0s							
NEW	**Newport**	**81.24**	**34**	⇓P		P	12 51 58.7	-0.1
	baz=82,SNR=5.4							
NEW				⇓P		P	12 51 58.7	-0.1
	baz=82,SNR=5.4							
NEW				⇓P		P	12 51 58.7	-0.1
	baz=82,SNR=5.4							
Z25A	**Roswell**	**81.28**	**51**	⇓P		P	12 52 00.9	+1.4
	baz=82,SNR=35							
Z25A				⇓P		P	12 52 00.9	+1.4
	baz=82,SNR=35							
Z25A				⇓P		P	12 52 00.9	+1.4
	baz=82,SNR=35							
K16A	**Soda Springs**	**81.29**	**40**	⇑P		P	12 52 00.2	+0.8
	baz=82,SNR=10.0							
K16A				⇑P		P	12 52 00.2	+0.8
	baz=82,SNR=10.0							
K16A				⇑P		P	12 52 00.2	+0.8
	baz=82,SNR=10.0							
P19A	**Cripple Cowboy**	**81.30**	**44**	⇑P		P	12 52 00.3	+0.8
	baz=82,SNR=13							
P19A				⇑P		P	12 52 00.3	+0.8
	baz=82,SNR=13							
P19A				⇑P		P	12 52 00.3	+0.8
	baz=82,SNR=13							
F13A	**Darby**	**81.30**	**37**	⇑P		P	12 51 59.3	0.0
	baz=82,SNR=14							
F13A				⇑P		P	12 51 59.3	0.0
	baz=82,SNR=14							
F13A				⇑P		P	12 51 59.3	0.0
	baz=82,SNR=14							
X24A	**Lazy VL Ranch,**	**81.34**	**50**	⇑P		P	12 52 00.6	+0.7
	baz=82							
X24A				⇑P		P	12 52 00.6	+0.7
	baz=82							
X24A				⇑P		P	12 52 00.6	+0.7
	baz=82							
V23A	**Ortiz Mt. (NFS**	**81.34**	**49**	⇓P		P	12 52 01.6	+1.8
	baz=82,SNR=23							
V23A				⇓P		P	12 52 01.6	+1.8
	baz=82,SNR=23							
V23A				⇓P		P	12 52 01.6	+1.8
	baz=82,SNR=23							
L17A	**Cokeville**	**81.35**	**41**	⇓P		P	12 51 59.6	-0.1
	baz=82,SNR=6.2							
L17A				⇓P		P	12 51 59.6	-0.1
	baz=82,SNR=6.2							
L17A				⇓P		P	12 51 59.6	-0.1
	baz=82,SNR=6.2							
I15A	**Monteview**	**81.38**	**39**	⇑P		P	12 52 00.9	+1.1
	baz=82,SNR=7.9							
I15A				⇑P		P	12 52 00.9	+1.1
	baz=82,SNR=7.9							
I15A				⇑P		P	12 52 00.9	+1.1
	baz=82,SNR=7.9							
528A	**Cox Ranch, San**	**81.40**	**55**	⇑P		P	12 52 01.6	+1.4
	baz=82,SNR=32							
528A				⇑P		P	12 52 01.6	+1.4
	baz=82,SNR=32							
528A				⇑P		P	12 52 01.6	+1.4
	baz=82,SNR=32							
Q20A	**Ridgley Place,**	**81.42**	**45**	⇑P		P	12 52 01.2	+1.0
	baz=82,SNR=39							
Q20A				⇑P		P	12 52 01.2	+1.0
	baz=82,SNR=39							
Q20A				⇑P		P	12 52 01.2	+1.0
	baz=82,SNR=39							
T22A	**Edith**	**81.43**	**47**	⇑P		P	12 52 01.4	+1.1
	baz=82,SNR=23							
T22A				⇑P		P	12 52 01.4	+1.1
	baz=82,SNR=23							
T22A				⇑P		P	12 52 01.4	+1.1
	baz=82,SNR=23							
C11A	**Tepee Creek (N**	**81.44**	**34**	⇓P		P	12 52 00.4	+0.5
	baz=82							
C11A				⇓P		P	12 52 00.4	+0.5
	baz=82							
C11A				⇓P		P	12 52 00.4	+0.5
	baz=82							
D12A	**Red Ives Fores**	**81.47**	**35**	⇓P		P	12 51 60.0	-0.1
	baz=82,SNR=10							
D12A				⇓P		P	12 51 60.0	-0.1
	baz=82,SNR=10							
D12A				⇓P		P	12 51 60.0	-0.1
	baz=82,SNR=10							
CLNB	**Carlsbad**	**81.47**	**53**	*e*P		P	12 52 01.4	+1.0
	comp=Z,38nm,1.5s							
CLNB				*e*PcP		PcP	12 52 08.6	+2.1
G14A	**Jackson**	**81.50**	**38**	⇓P		P	12 52 01.2	+0.7
	baz=82							
G14A				⇓P		P	12 52 01.2	+0.7
	baz=82							
G14A				⇓P		P	12 52 01.2	+0.7
	baz=82							
M18A	**Lyman**	**81.50**	**42**	⇓P		P	12 52 01.1	+0.5
	baz=82,SNR=8.1							
M18A				⇓P		P	12 52 01.1	+0.5
	baz=82,SNR=8.1							
M18A				⇓P		P	12 52 01.1	+0.5
	baz=82,SNR=8.1							
J16A	**Bone**	**81.52**	**40**	⇓P		P	12 52 01.6	+1.0
	baz=82,SNR=15							
J16A				⇓P		P	12 52 01.6	+1.0
	baz=82,SNR=15							
J16A				⇓P		P	12 52 01.6	+1.0
	baz=82,SNR=15							
126A	**Clayton Basin,**	**81.53**	**52**	⇓P		P	12 52 01.8	+1.0
	baz=82,SNR=26							
126A				⇓P		P	12 52 01.8	+1.0
	baz=82,SNR=26							
126A				⇓P		P	12 52 01.8	+1.0
	baz=82,SNR=26							
O19A	**Miners Draw (B**	**81.54**	**43**	⇓P		P	12 52 01.4	+0.7
	baz=82							
O19A				⇓P		P	12 52 01.4	+0.7
	baz=82							
O19A				⇓P		P	12 52 01.4	+0.7
	baz=82							
AHID	**Auburn Hatcher**	**81.56**	**41**	*e*P		P	12 52 01.1	+0.3
	comp=Z,79nm,1.5s							
AHID				*e*PcP		PcP	12 52 08.8	+2.1
AHID				LR		LR		
	comp=Z,2μm,19.0s							
Y25A	**Mesa, Roswell**	**81.59**	**51**	⇓P		P	12 52 02.0	+0.9
	baz=82,SNR=13							
Y25A				⇓P		P	12 52 02.0	+0.9
	baz=82,SNR=13							
Y25A				⇓P		P	12 52 02.0	+0.9
	baz=82,SNR=13							
U23A	**El Rito**	**81.61**	**48**	⇓P		P	12 52 02.6	+1.3
	baz=82,SNR=30							
U23A				⇓P		P	12 52 02.6	+1.3
	baz=82,SNR=30							
U23A				⇓P		P	12 52 02.6	+1.3
	baz=82,SNR=30							
MCMT	**McKenzie Canyo**	**81.62**	**38**	*e*P		P	12 52 02.4	+1.2
	comp=Z,17nm,1.2s							
MCMT				*e*PcP		PcP	12 52 09.7	+2.7
P20A	**De Beque**	**81.62**	**44**	⇑P		P	12 52 02.1	+0.8
	baz=82,SNR=9.2							
P20A				⇑P		P	12 52 02.1	+0.8
	baz=82,SNR=9.2							
P20A				⇑P		P	12 52 02.1	+0.8
	baz=82,SNR=9.2							
H15A	**Lima**	**81.63**	**38**	⇓P		P	12 52 02.1	+0.9
	baz=82,SNR=30							
H15A				⇓P		P	12 52 02.1	+0.9
	baz=82,SNR=30							
H15A				⇓P		P	12 52 02.1	+0.9
	baz=82,SNR=30							
R21A	**Cimarron**	**81.64**	**46**	⇑P		P	12 52 02.8	+1.4
	baz=82,SNR=35							
R21A				⇑P		P	12 52 02.8	+1.4
	baz=82,SNR=35							
R21A				⇑P		P	12 52 02.8	+1.4
	baz=82,SNR=35							
W24A	**Lazy 6 Ranch,**	**81.65**	**49**	⇓P		P	12 52 02.2	+0.7
	baz=82,SNR=11							
W24A				⇓P		P	12 52 02.2	+0.7
	baz=82,SNR=11							
W24A				⇓P		P	12 52 02.2	+0.7
	baz=82,SNR=11							
K17A	**Gardner Place,**	**81.66**	**41**	⇓P		P	12 52 02.1	+0.8
	baz=82							
K17A				⇓P		P	12 52 02.1	+0.8
	baz=82							
K17A				⇓P		P	12 52 02.1	+0.8
	baz=82							
428A	**Kincaid Ranch,**	**81.72**	**54**	⇑P		P	12 52 03.5	+1.7
	baz=82,SNR=27							
428A				⇑P		P	12 52 03.5	+1.7
	baz=82,SNR=27							
428A				⇑P		P	12 52 03.5	+1.7
	baz=82,SNR=27							
RRI2	**Red Ridge**	**81.73**	**40**	*e*P		P	12 52 02.5	+0.7
	comp=Z,128nm,1.5s							
RRI2				*e*PcP		PcP	12 52 09.9	+2.4
E13A	**Victor**	**81.76**	**36**	⇑P		P	12 52 01.4	-0.3
	baz=82,SNR=20							
E13A				⇑P		P	12 52 01.4	-0.3
	baz=82,SNR=20							
E13A				⇑P		P	12 52 01.4	-0.3
	baz=82,SNR=20							
L18A	**Fontenelle, Gr**	**81.78**	**42**	⇑P		P	12 52 02.5	+0.4
	baz=82							
L18A				⇑P		P	12 52 02.5	+0.4
	baz=82							
L18A				⇑P		P	12 52 02.5	+0.4
	baz=82							
C12B	**Naegeli Ranch,**	**81.79**	**35**	⇓P		P	12 52 01.8	+0.1
	baz=82,SNR=11							
C12B				⇓P		P	12 52 01.8	+0.1
	baz=82,SNR=11							
C12B				⇓P		P	12 52 01.8	+0.1
	baz=82,SNR=11							
SKAG	**Skagway**	**81.79**	**18**	*e*P		P	12 52 02.4	+1.0
	comp=Z,27nm,1.2s							
N19A	**John Jarvie Ra**	**81.81**	**43**	⇑P		P	12 52 02.4	+0.2
	baz=82,SNR=10							
N19A				⇑P		P	12 52 02.4	+0.2
	baz=82,SNR=10							
N19A				⇑P		P	12 52 02.4	+0.2
	baz=82,SNR=10							
CPRX	**Cap Rock**	**81.81**	**52**	*e*P		P	12 52 03.3	+1.0
	comp=Z,87nm,1.1s							
S22A	**4UR Ranch, Cre**	**81.83**	**47**	⇓P		P	12 52 03.9	+1.4
	baz=82,SNR=40							
S22A				⇓P		P	12 52 03.9	+1.4
	baz=82,SNR=40							
S22A				⇓P		P	12 52 03.9	+1.4
	baz=82,SNR=40							
Z26A	**Caprock**	**81.83**	**52**	⇓P		P	12 52 03.3	+0.9
	baz=82,SNR=69							
Z26A				⇓P		P	12 52 03.3	+0.9
	baz=82,SNR=69							
Z26A				⇓P		P	12 52 03.3	+0.9
	baz=82,SNR=69							
Q21A	**Lamborn Mesa,**	**81.85**	**45**	⇑P		P	12 52 03.7	+1.2
	baz=82,SNR=19							
Q21A				⇑P		P	12 52 03.7	+1.2
	baz=82,SNR=19							
Q21A				⇑P		P	12 52 03.7	+1.2
	baz=82,SNR=19							
PAYG	**Puerto Ayora**	**81.86**	**88**	PFAKE			12 52 10.0	+7.2
PAYG				LR		LR		
	comp=Z,875nm,19.0s							
F14A	**Wisdom**	**81.87**	**37**	⇓P		P	12 52 02.5	+0.2
	baz=82,SNR=6.5							
F14A				⇓P		P	12 52 02.5	+0.2
	baz=82,SNR=6.5							
F14A				⇓P		P	12 52 02.5	+0.2
	baz=82,SNR=6.5							
X25A	**Clemmons Ranch**	**81.89**	**50**	⇓P		P	12 52 03.4	+0.8
	baz=82							
X25A				⇓P		P	12 52 03.4	+0.8
	baz=82							
X25A				⇓P		P	12 52 03.4	+0.8
	baz=82							
328A	**Wristen Ranch,**	**81.90**	**54**	⇓P		P	12 52 03.3	+0.6
	baz=82,SNR=24							
328A				⇓P		P	12 52 03.3	+0.6
	baz=82,SNR=24							
328A				⇓P		P	12 52 03.3	+0.6
	baz=82,SNR=24							
I16A	**Newdale**	**81.92**	**39**	⇑P		P	12 52 03.9	+1.2
	baz=82,SNR=21							
I16A				⇑P		P	12 52 03.9	+1.2
	baz=82,SNR=21							
I16A				⇑P		P	12 52 03.9	+1.2
	baz=82,SNR=21							
TRF	**Thorofare Moun**	**81.92**	**10**	*e*P		P	12 52 00.7	-1.5
	comp=Z,98nm,1.3s							
TRF				*e*PcP		PcP	12 52 08.3	+0.5
DCID1	**Drake Creek**	**81.95**	**40**	*e*P		P	12 52 03.9	+1.0
	comp=Z,172nm,1.7s							
D13A	**Huson**	**81.99**	**36**	⇓P		P	12 52 02.3	-0.5
	baz=82,SNR=18							
D13A				⇓P		P	12 52 02.3	-0.5
	baz=82,SNR=18							
D13A				⇓P		P	12 52 02.3	-0.5
	baz=82,SNR=18							
V24A	**Rampart Ranch,**	**81.99**	**49**	⇓P		P	12 52 04.5	+1.2
	baz=82,SNR=18							
V24A				⇓P		P	12 52 04.5	+1.2
	baz=82,SNR=18							
V24A				⇓P		P	12 52 04.5	+1.2
	baz=82,SNR=18							
G15A	**Dillon**	**82.02**	**38**	⇑P		P	12 52 03.8	+0.6
	baz=82,SNR=25							
G15A				⇑P		P	12 52 03.8	+0.6
	baz=82,SNR=25							
G15A				⇑P		P	12 52 03.8	+0.6
	baz=82,SNR=25							
REDW	**Red Top Meadow**	**82.03**	**40**	*e*P		P	12 52 03.8	+0.5
	comp=Z,114nm,1.5s							
TPAW	**Teton Pass**	**82.04**	**40**	*e*P		P	12 52 04.1	+0.7
	comp=Z,98nm,1.5s							
O20A	**White River Ci**	**82.04**	**44**	⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=5.1							
O20A				⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=5.1							
O20A				⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=5.1							
127A	**Arkansas Junct**	**82.04**	**52**	⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=23							
127A				⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=23							
127A				⇓P		P	12 52 04.2	+0.8
	baz=82,SNR=23							
T23A	**Casias Ranch,**	**82.05**	**48**	⇑P		P	12 52 04.9	+1.2
	baz=82,SNR=19							

T23A ⇑P P 12 52 04.9 +1.2
baz=82,SNR=19
T23A ⇑P P 12 52 04.9 +1.2
baz=82,SNR=19
DLMT Dillon 82.07 38 *e*P P 12 52 04.0 +0.6
comp=Z,49nm,1.4s
R22A Saguache, Gunn 82.11 46 ⇑P P 12 52 05.5 +1.5
baz=82,SNR=24
R22A ⇑P P 12 52 05.5 +1.5
baz=82,SNR=24
R22A ⇑P P 12 52 05.5 +1.5
baz=82,SNR=24
J17A Brown Place, J 82.12 40 ⇓P P 12 52 04.3 +0.5
baz=82,SNR=13
J17A ⇓P P 12 52 04.3 +0.5
baz=82,SNR=13
J17A ⇓P P 12 52 04.3 +0.5
baz=82,SNR=13
MSO Missoula 82.12 36 *e*P P 12 52 03.1 -0.4
comp=Z,57nm,1.5s
MSO LR LR
comp=Z,1μm,21.0s
MSO Missoula 82.12 36 ⇑P P 12 52 03.3 -0.3
baz=82,SNR=12
MSO ⇑P P 12 52 03.3 -0.3
baz=82,SNR=12
MSO ⇑P P 12 52 03.3 -0.3
baz=82,SNR=12
M19A Rock Springs 82.13 42 ⇓P P 12 52 04.3 +0.4
baz=82,SNR=11
M19A ⇓P P 12 52 04.3 +0.4
baz=82,SNR=11
M19A ⇓P P 12 52 04.3 +0.4
baz=82,SNR=11
E14A Clinton 82.14 37 ⇑P P 12 52 03.8 +0.1
baz=82,SNR=16
E14A ⇑P P 12 52 03.8 +0.1
baz=82,SNR=16
E14A ⇑P P 12 52 03.8 +0.1
baz=82,SNR=16
SNOW Snow King Moun 82.14 40 *e*P P 12 52 04.7 +0.8
comp=Z,141nm,1.6s
K18A Toltan Ranch, 82.15 41 ⇑P P 12 52 04.7 +0.8
baz=82,SNR=24
K18A ⇑P P 12 52 04.7 +0.8
baz=82,SNR=24
K18A ⇑P P 12 52 04.7 +0.8
baz=82,SNR=24
B12A Libby 82.18 34 ⇑P P 12 52 04.3 +0.6
baz=82
B12A ⇑P P 12 52 04.3 +0.6
baz=82
B12A ⇑P P 12 52 04.3 +0.6
baz=82
NJ2 Nanjing 82.19 307 *e*P P 12 52 12.5 +8.4
NJ2 pP PcP 12 52 17.5 +8.0
NJ2 sP sP 12 52 18.5 +7.9
NJ2 PP **PP 12 55 12.8 +0.1**
NJ2 S **SKSac 13 02 22.0 -2.6**
NJ2 sS **SKKSac 13 02 28.0 +0.1**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,270nm,11.1s
NJ2 LR LR
comp=N,950nm,24.3s
NJ2 LR LR
comp=E,570nm,24.8s
NJ2 LR LR
comp=Z,2μm,21.4s
PMSA Palmer Station 82.20 156 PFAKE 12 52 20.0 +16
PMSA LR LR
comp=Z,1μm,19.0s
Y26A Elida 82.24 51 ⇑P P 12 52 05.1 +0.6
baz=82,SNR=5.7
Y26A ⇑P P 12 52 05.1 +0.6
baz=82,SNR=5.7
Y26A ⇑P P 12 52 05.1 +0.6
baz=82,SNR=5.7
BSMT Bassoo Peak 82.25 35 *e*P P 12 52 04.3 0.0
comp=Z,40nm,1.1s
C13A Hot Springs 82.26 35 ⇑P P 12 52 04.0 -0.2
baz=82,SNR=13
C13A ⇑P P 12 52 04.0 -0.2
baz=82,SNR=13
C13A ⇑P P 12 52 04.0 -0.2
baz=82,SNR=13
P21A Newcastle 82.27 45 ⇑P P 12 52 05.6 +1.0
baz=82,SNR=12
P21A ⇑P P 12 52 05.6 +1.0
baz=82,SNR=12
P21A ⇑P P 12 52 05.6 +1.0
baz=82,SNR=12
U24A Moreno Valley 82.30 48 ⇓P P 12 52 06.2 +1.2
baz=82,SNR=7.7
U24A ⇓P P 12 52 06.2 +1.2
baz=82,SNR=7.7
U24A ⇓P P 12 52 06.2 +1.2
baz=82,SNR=7.7
MOOW Moose Ponds 82.30 40 *e*P P 12 52 05.2 +0.5
comp=Z,79nm,1.7s
L19A Farson 82.31 42 ⇓P P 12 52 05.4 +0.6
baz=83,SNR=12
L19A ⇓P P 12 52 05.4 +0.6
baz=83,SNR=12
L19A ⇓P P 12 52 05.4 +0.6
baz=83,SNR=12
Q22A Crested Butte, 82.31 46 ⇑P P 12 52 06.2 +1.2
baz=82,SNR=40
Q22A ⇑P P 12 52 06.2 +1.2
baz=82,SNR=40
Q22A ⇑P P 12 52 06.2 +1.2
baz=82,SNR=40
LOHW Long Hollow 82.32 40 *e*P P 12 52 05.5 +0.6
comp=Z,92nm,1.6s
TNA Tin City 82.33 2 *e*P P 12 52 05.6 +1.6
comp=Z,102nm,1.1s
PAX Paxson 82.34 12 *e*P P 12 52 03.7 -0.6
PAX *e* 12 52 11.2
PAX pmax pmax
comp=Z,55nm,1.4s
PAX Paxson 82.34 12 *e*P P 12 52 03.7 -0.6
comp=Z,55nm,1.4s
PAX *e*PcP **PcP** 12 52 11.2 +1.7
W25A X Bar L Ranch, 82.35 50 ⇑P P 12 52 05.7 +0.7
baz=83,SNR=12
W25A ⇑P P 12 52 05.7 +0.7
baz=83,SNR=12
W25A ⇑P P 12 52 05.7 +0.7
baz=83,SNR=12
S23A Nye Farm, Mont 82.39 47 ⇑P P 12 52 06.7 +1.3
baz=83
S23A ⇑P P 12 52 06.7 +1.3
baz=83
S23A ⇑P P 12 52 06.7 +1.3
baz=83
F15A Butte 82.39 37 ⇑P P 12 52 05.5 +0.4
baz=83,SNR=13
F15A ⇑P P 12 52 05.5 +0.4
baz=83,SNR=13
F15A ⇑P P 12 52 05.5 +0.4
baz=83,SNR=13
MCK McKinley 82.41 10 *e*P P 12 52 04.1 -0.5
MCK pmax pmax
comp=Z,119nm,1.0s
MCK McKinley 82.41 10 *e*P P 12 52 04.1 -0.5
comp=Z,119nm,1.0s
LRM Limekiln Ridge 82.41 37 *e*P P 12 52 06.0 +0.7
comp=Z,260nm,1.4s
LRM *e*PcP **PcP** 12 52 13.1 +2.6
A12A Yaak River Ran 82.42 34 ⇑P P 12 52 05.2 +0.2
baz=83,SNR=5.9
A12A ⇑P P 12 52 05.2 +0.2
baz=83,SNR=5.9
A12A ⇑P P 12 52 05.2 +0.2
baz=83,SNR=5.9
SMCO Snowmass 82.42 45 *e*P P 12 52 06.5 +0.9
comp=Z,137nm,1.4s
Z27A Tatum 82.43 52 ⇑P P 12 52 06.0 +0.5
baz=83
Z27A ⇑P P 12 52 06.0 +0.5
baz=83
Z27A ⇑P P 12 52 06.0 +0.5
baz=83
G16A Moss Hill, Enn 82.46 38 ⇑P P 12 52 06.0 +0.6
baz=83,SNR=16
G16A ⇑P P 12 52 06.0 +0.6
baz=83,SNR=16
G16A ⇑P P 12 52 06.0 +0.6
baz=83,SNR=16
JTMT Jette 82.46 35 *e*P P 12 52 04.6 -0.7
comp=Z,17nm,1.3s
QLMT Earthquake Lak 82.47 39 *e*P P 12 52 06.7 +1.2
comp=Z,9.6nm,1.3s
SWMT Swartz Lake 82.48 35 *e*P P 12 52 04.9 -0.6
comp=Z,25nm,1.5s
I17A Pilgrim Ck. 82.50 40 ⇓P P 12 52 06.9 +1.2
baz=83,SNR=12
I17A ⇓P P 12 52 06.9 +1.2
baz=83,SNR=12
I17A ⇓P P 12 52 06.9 +1.2
baz=83,SNR=12
H16A Russell Place, 82.51 39 ⇓P P 12 52 07.0 +1.2
baz=83,SNR=50
H16A ⇓P P 12 52 07.0 +1.2
baz=83,SNR=50
H16A ⇓P P 12 52 07.0 +1.2
baz=83,SNR=50
D14A Greenough 82.51 36 ⇑P P 12 52 05.2 -0.5
baz=83,SNR=19
D14A ⇑P P 12 52 05.2 -0.5
baz=83,SNR=19
D14A ⇑P P 12 52 05.2 -0.5
baz=83,SNR=19
PD01 Pinedale Array 82.51 41 *e*P P 12 52 06.0 +0.1
V25A Rancho No Teng 82.51 49 ⇑P P 12 52 06.9 +0.9
baz=83,SNR=47
V25A ⇑P P 12 52 06.9 +0.9
baz=83,SNR=47
V25A ⇑P P 12 52 06.9 +0.9
baz=83,SNR=47
BW06 Boulder Array 82.52 41 PFAKE 12 52 20.0 +14
BW06 LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 82.52 41 ⇓P P 12 52 06.1 +0.2
baz=83,SNR=21
BW06 ⇓P P 12 52 06.1 +0.2
baz=83,SNR=21
BW06 ⇓P P 12 52 06.1 +0.2
baz=83,SNR=21
BW06 ⇓P P 12 52 06.1 +0.2
baz=83,SNR=21
BW06 ⇓P P 12 52 06.1 +0.2
baz=83,SNR=21
PDAR Pinedale Array 82.52 41 P P 12 52 06.0 +0.1
comp=Z,14nm,1.1s,baz=209,slow=2.7,SNR=49
PDAR LR LR 13 24 36.0
comp=Z,1μm,18.5s,baz=253,slow=33
PDAR Pinedale Array 82.52 41 P P 12 52 06.0 +0.1
PD02 Pinedale Array 82.53 41 *e*P P 12 52 06.1 +0.2
X26A CR and CF Fran 82.53 51 ⇓P P 12 52 06.8 +0.8
baz=83,SNR=16
X26A ⇓P P 12 52 06.8 +0.8
baz=83,SNR=16
X26A ⇓P P 12 52 06.8 +0.8
baz=83,SNR=16
CHMT Chamberlain Mo 82.56 36 *e*P P 12 52 05.9 -0.1
comp=Z,20nm,1.1s
KLR Kul'dur 82.57 327 *e*P P 12 52 09.0 +3.3
KLR pmax pmax
comp=Z,130nm,1.8s
BLMT Blacktail Moun 82.57 35 *e*P P 12 52 06.0 0.0
O21A Pagoda 82.59 44 ⇓P P 12 52 07.0 +0.6
baz=83
O21A ⇓P P 12 52 07.0 +0.6
baz=83
O21A ⇓P P 12 52 07.0 +0.6
baz=83
SLMT Seeley Lake 82.61 36 *e*P P 12 52 05.6 -0.6
comp=Z,90nm,2.0s
YFT Old Faithful 82.62 39 *e*P P 12 52 08.3 +1.9
comp=Z,76nm,1.4s
E15A Deer Lodge 82.63 37 ⇑P P 12 52 06.4 +0.1
baz=83,SNR=16
E15A ⇑P P 12 52 06.4 +0.1
baz=83,SNR=16
E15A ⇑P P 12 52 06.4 +0.1
baz=83,SNR=16
YMR Madison River 82.66 39 *e*P P 12 52 07.8 +1.2
comp=Z,175nm,1.5s
DLBC Dease Lake 82.66 21 *e*P P 12 52 06.3 +0.2
MENT Mentasta 82.66 13 *e*P P 12 52 06.3 +0.4
YBMT Yellow Bay 82.68 35 *e*P P 12 52 05.7 -0.8
comp=Z,4.9nm,1.0s
Y27A Causey 82.72 51 ⇓P P 12 52 07.7 +0.7
baz=83,SNR=29
Y27A ⇓P P 12 52 07.7 +0.7
baz=83,SNR=29
Y27A ⇓P P 12 52 07.7 +0.7
baz=83,SNR=29
B13A Whitefish 82.72 35 ⇓P P 12 52 06.2 -0.4
baz=83,SNR=11
B13A ⇓P P 12 52 06.2 -0.4
baz=83,SNR=11
B13A ⇓P P 12 52 06.2 -0.4
baz=83,SNR=11
R23A Moffat 82.74 47 ⇑P P 12 52 08.3 +1.1
baz=83,SNR=16
R23A ⇑P P 12 52 08.3 +1.1
baz=83,SNR=16
R23A ⇑P P 12 52 08.3 +1.1
baz=83,SNR=16
H17A Grant Village 82.75 39 ⇓P P 12 52 08.9 +1.8
baz=83,SNR=10
H17A ⇓P P 12 52 08.9 +1.8
baz=83,SNR=10
H17A ⇓P P 12 52 08.9 +1.8
baz=83,SNR=10
M20A Sweetwater, Wa 82.75 43 ⇓P P 12 52 07.9 +0.8
baz=83,SNR=14
M20A ⇓P P 12 52 07.9 +0.8
baz=83,SNR=14
M20A ⇓P P 12 52 07.9 +0.8
baz=83,SNR=14
SDCO Great Sand Dun 82.76 47 *e*P P 12 52 08.0 +0.6
comp=Z,45nm,1.4s
SDCO LR LR
comp=Z,1μm,19.0s
SDCO Great Sand Dun 82.76 47 ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
SDCO ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
SDCO ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
SDCO ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
SDCO ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
SDCO ⇓P P 12 52 08.2 +0.8
baz=83,SNR=20
T24A Torres, Weston 82.77 48 ⇓P P 12 52 08.7 +1.3
baz=83,SNR=6.8
T24A ⇓P P 12 52 08.7 +1.3
baz=83,SNR=6.8
T24A ⇓P P 12 52 08.7 +1.3
baz=83,SNR=6.8
P22A Eagle 82.77 45 ⇓P P 12 52 08.2 +0.9
baz=83,SNR=13
P22A ⇓P P 12 52 08.2 +0.9
baz=83,SNR=13
P22A ⇓P P 12 52 08.2 +0.9
baz=83,SNR=13
BOZ Bozeman (W) 82.79 38 *e*P P 12 52 07.5 +0.3
BOZ pmax pmax
comp=Z,81nm,1.5s
BOZ MLR MLR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 82.79 38 *e*P P 12 52 07.5 +0.3
comp=Z,81nm,1.5s
BOZ LR LR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 82.79 38 ⇓P P 12 52 07.7 +0.5
baz=83,SNR=44
BOZ ⇓P P 12 52 07.7 +0.5
baz=83,SNR=44
BOZ ⇓P P 12 52 07.7 +0.5
baz=83,SNR=44
BOZ ⇓P P 12 52 07.7 +0.5
baz=83,SNR=44
BOZ ⇓P P 12 52 07.7 +0.5
baz=83,SNR=44
W26A Owens Ranch, T 82.80 50 ⇓P P 12 52 08.0 +0.6
baz=83,SNR=5.5
W26A ⇓P P 12 52 08.0 +0.6
baz=83,SNR=5.5
W26A ⇓P P 12 52 08.0 +0.6
baz=83,SNR=5.5
N21A Black Mountain 82.83 44 ⇓P P 12 52 08.6 +1.0
baz=83,SNR=44
N21A ⇓P P 12 52 08.6 +1.0
baz=83,SNR=44
N21A ⇓P P 12 52 08.6 +1.0
baz=83,SNR=44
I18A Diamond G Ranc 82.85 40 ⇓P P 12 52 08.1 +0.5
baz=83,SNR=8.9
I18A ⇓P P 12 52 08.1 +0.5
baz=83,SNR=8.9
I18A ⇓P P 12 52 08.1 +0.5
baz=83,SNR=8.9
YNR Norris Junctio 82.86 39 *e*P P 12 52 09.2 +1.5
comp=Z,57nm,1.4s
F16A Kennard Place, 82.87 38 ⇓P P 12 52 08.3 +0.7
baz=83,SNR=13
F16A ⇓P P 12 52 08.3 +0.7
baz=83,SNR=13
F16A ⇓P P 12 52 08.3 +0.7
baz=83,SNR=13
L20A Wamsutter 82.91 42 ⇓P P 12 52 08.9 +0.9
baz=83,SNR=28
L20A ⇓P P 12 52 08.9 +0.9
baz=83,SNR=28
L20A ⇓P P 12 52 08.9 +0.9
baz=83,SNR=28
S24A Houchin Ranch, 82.91 47 ⇑P P 12 52 09.4 +1.2
baz=83,SNR=17
S24A ⇑P P 12 52 09.4 +1.2
baz=83,SNR=17
S24A ⇑P P 12 52 09.4 +1.2
baz=83,SNR=17
U25A Circle Dot Ran 82.92 49 ⇑P P 12 52 08.9 +0.8
baz=83,SNR=29
U25A ⇑P P 12 52 08.9 +0.8
baz=83,SNR=29
U25A ⇑P P 12 52 08.9 +0.8
baz=83,SNR=29
LKWY Lake 82.94 39 *e*P P 12 52 09.8 +1.7
LKWY pmax pmax
comp=Z,81nm,1.3s
LKWY MLR MLR
comp=Z,2μm,19.0s
LKWY Lake 82.94 39 *e*P P 12 52 09.8 +1.7
comp=Z,81nm,1.3s
LKWY LR LR
comp=Z,2μm,19.0s
K19A Absolon Red Bu 83.00 41 ⇑P P 12 52 08.3 -0.1
baz=83,SNR=18
K19A ⇑P P 12 52 08.3 -0.1
baz=83,SNR=18
K19A ⇑P P 12 52 08.3 -0.1
baz=83,SNR=18
MSTX Muleshoe 83.05 52 ⇓P P 12 52 09.6 +0.9
baz=83,SNR=35
MSTX ⇓P P 12 52 09.6 +0.9
baz=83,SNR=35
MSTX ⇓P P 12 52 09.6 +0.9
baz=83,SNR=35
D15A Lincoln 83.05 36 ⇑P P 12 52 08.8 +0.3
baz=83,SNR=21
D15A ⇑P P 12 52 08.8 +0.3
baz=83,SNR=21
D15A ⇑P P 12 52 08.8 +0.3
baz=83,SNR=21
Q23A Hartsel 83.07 46 ⇓P P 12 52 10.0 +1.0
baz=83
Q23A ⇓P P 12 52 10.0 +1.0
baz=83
Q23A ⇓P P 12 52 10.0 +1.0
baz=83
X27A F and S Farms, 83.10 51 ⇓P P 12 52 09.8 +0.8
baz=83,SNR=12
X27A ⇓P P 12 52 09.8 +0.8
baz=83,SNR=12
X27A ⇓P P 12 52 09.8 +0.8
baz=83,SNR=12
J19A Crowheart 83.10 41 ⇑P P 12 52 09.2 +0.4
baz=83,SNR=20
J19A ⇑P P 12 52 09.2 +0.4
baz=83,SNR=20
J19A ⇑P P 12 52 09.2 +0.4
baz=83,SNR=20
G17A Pierce Place, 83.14 39 ⇓P P 12 52 10.2 +1.2
baz=83,SNR=6.3
G17A ⇓P P 12 52 10.2 +1.2
baz=83,SNR=6.3
G17A ⇓P P 12 52 10.2 +1.2
baz=83,SNR=6.3
CN2 Changchun 83.16 320 *e*P P 12 52 09.0 +0.1
CN2 *es*P **sP** 12 52 16.0 +0.7
CN2 *e*S **S** 13 02 28.3 -0.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,24.0s
CN2 LR LR
comp=E,400nm,24.0s
CN2 LR LR
comp=Z,500nm,24.0s
O22A Kremmling 83.19 45 ⇑P P 12 52 10.3 +0.8
baz=83,SNR=36
O22A ⇑P P 12 52 10.3 +0.8
baz=83,SNR=36
O22A ⇑P P 12 52 10.3 +0.8
baz=83,SNR=36
DOT Dot Lake 83.23 12 *e*P P 12 52 07.7 -1.1
comp=Z,7.7nm,1.1s
K20A Yellowstone Ra 83.24 42 ⇓P P 12 52 09.6 0.0
baz=84,SNR=18
K20A ⇓P P 12 52 09.6 0.0
baz=84,SNR=18
K20A ⇓P P 12 52 09.6 0.0
baz=84,SNR=18
DL2 Dalian 83.25 314 P P 12 52 10.5 +1.1
DL2 S **S** 13 02 33.5 +4.0
DL2 pmax pmax
comp=Z,30nm,1.4s
DL2 LR LR
comp=E,220nm,23.5s
DL2 LR LR
comp=Z,310nm,24.5s
E16A East Helena 83.25 37 ⇑P P 12 52 09.8 +0.4
baz=84,SNR=37
E16A ⇑P P 12 52 09.8 +0.4
baz=84,SNR=37
E16A ⇑P P 12 52 09.8 +0.4
baz=84,SNR=37
T25A Trinidad 83.25 48 ⇑P P 12 52 10.6 +0.7
baz=84,SNR=16
T25A ⇑P P 12 52 10.6 +0.7
baz=84,SNR=16
T25A ⇑P P 12 52 10.6 +0.7
baz=84,SNR=16
HRY Holter Researc 83.26 37 *e*P P 12 52 09.8 +0.3
comp=Z,74nm,1.1s
R24A Sanders Place, 83.26 47 ⇑P P 12 52 11.1 +1.2
baz=84,SNR=22
R24A ⇑P P 12 52 11.1 +1.2
baz=84,SNR=22
R24A ⇑P P 12 52 11.1 +1.2
baz=84,SNR=22
P23A Jefferson 83.29 46 ⇓P P 12 52 11.6 +1.4
baz=84,SNR=6.3
P23A ⇓P P 12 52 11.6 +1.4
baz=84,SNR=6.3
P23A ⇓P P 12 52 11.6 +1.4
baz=84,SNR=6.3
SNY Shenyang 83.34 317 ⇑P P 12 52 10.3 +0.4
SNY S **S** 13 02 34.0 +3.6
SNY pmax pmax
comp=Z,24nm,1.6s
SNY pmax pmax
comp=Z,540nm,7.1s
SNY LR LR
comp=N,110nm,5.9s
SNY LR LR
comp=E,160nm,4.3s
SNY LR LR
comp=Z,170nm,14.5s
M21A Separation Pea 83.35 43 ⇓P P 12 52 10.6 +0.4

baz=84,SNR=21
M21A ⇓P P 12 52 10.6 +0.4
baz=84,SNR=21
M21A ⇓P P 12 52 10.6 +0.4
baz=84,SNR=21
B14A Marquette Ranc 83.37 35 ⇑P P 12 52 09.7 -0.4
baz=84,SNR=11
B14A ⇑P P 12 52 09.7 -0.4
baz=84,SNR=11
B14A ⇑P P 12 52 09.7 -0.4
baz=84,SNR=11
U26A Atchley Ranch, 83.39 49 ⇑P P 12 52 11.2 +0.7
baz=84,SNR=39
U26A ⇑P P 12 52 11.2 +0.7
baz=84,SNR=39
U26A ⇑P P 12 52 11.2 +0.7
baz=84,SNR=39
C15A Salmond Ranch, 83.41 36 ⇓P P 12 52 10.3 0.0
baz=84,SNR=6.5
C15A ⇓P P 12 52 10.3 0.0
baz=84,SNR=6.5
C15A ⇓P P 12 52 10.3 0.0
baz=84,SNR=6.5
WALA Waterton Lakes 83.42 34 *e*P P 12 52 10.1 -0.2
comp=Z,2.8nm,1.5s
H18A Shoshone NF, C 83.45 39 ⇓P P 12 52 11.3 +0.6
baz=84,SNR=6.6
H18A ⇓P P 12 52 11.3 +0.6
baz=84,SNR=6.6
H18A ⇓P P 12 52 11.3 +0.6
baz=84,SNR=6.6
S25A Robets Cordova 83.47 48 ⇑P P 12 52 11.8 +0.9
baz=84,SNR=12
S25A ⇑P P 12 52 11.8 +0.9
baz=84,SNR=12
S25A ⇑P P 12 52 11.8 +0.9
baz=84,SNR=12
F17A Fitzpatrick Pl 83.50 38 ⇓P P 12 52 11.8 +1.0
baz=84,SNR=27
F17A ⇓P P 12 52 11.8 +1.0
baz=84,SNR=27
F17A ⇓P P 12 52 11.8 +1.0
baz=84,SNR=27
L21A Rawlins 83.52 43 ⇓P P 12 52 11.3 +0.2
baz=84,SNR=14
L21A ⇓P P 12 52 11.3 +0.2
baz=84,SNR=14
L21A ⇓P P 12 52 11.3 +0.2
baz=84,SNR=14
I19A Meeteetse 83.53 40 ⇓P P 12 52 11.7 +0.6
baz=84,SNR=13
I19A ⇓P P 12 52 11.7 +0.6
baz=84,SNR=13
I19A ⇓P P 12 52 11.7 +0.6
baz=84,SNR=13
N22A Wattenberg Ran 83.56 44 ⇑P P 12 52 12.2 +0.8
baz=84,SNR=14
N22A ⇑P P 12 52 12.2 +0.8
baz=84,SNR=14
N22A ⇑P P 12 52 12.2 +0.8
baz=84,SNR=14
Q24A Divide 83.57 46 ⇑P P 12 52 12.4 +0.9
baz=84,SNR=24
Q24A ⇑P P 12 52 12.4 +0.9
baz=84,SNR=24
Q24A ⇑P P 12 52 12.4 +0.9
baz=84,SNR=24
D16A Dana Ranch, Ca 83.59 37 ⇓P P 12 52 11.7 +0.5
baz=84,SNR=30
D16A ⇓P P 12 52 11.7 +0.5
baz=84,SNR=30
D16A ⇓P P 12 52 11.7 +0.5
baz=84,SNR=30
O23A Lake Granby, G 83.63 45 ⇑P P 12 52 12.8 +1.0
baz=84,SNR=14
O23A ⇑P P 12 52 12.8 +1.0
baz=84,SNR=14
O23A ⇑P P 12 52 12.8 +1.0
baz=84,SNR=14
A14A Double T Ranch 83.64 34 ⇑P P 12 52 11.4 0.0
baz=84,SNR=15
A14A ⇑P P 12 52 11.4 0.0
baz=84,SNR=15
A14A ⇑P P 12 52 11.4 0.0
baz=84,SNR=15
ISCO Idaho Springs 83.64 45 *e*P P 12 52 12.7 +0.8
ISCO pmax pmax
comp=Z,76nm,1.7s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 83.64 45 *e*P P 12 52 12.7 +0.8
comp=Z,76nm,1.7s
ISCO LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 83.64 45 ⇑P P 12 52 12.7 +0.8
baz=84
ISCO ⇑P P 12 52 12.7 +0.8
baz=84
ISCO ⇑P P 12 52 12.7 +0.8
baz=84
COLA College 83.64 10 *e*P P 12 52 10.6 -0.3
COLA pmax pmax
comp=Z,149nm,1.1s
COLA MLR MLR
comp=Z,1μm,22.0s
COLA College 83.64 10 *e*P P 12 52 10.6 -0.3
comp=Z,149nm,1.1s
COLA LR LR
comp=Z,1μm,22.0s
E17A Martinsdale 83.69 38 ⇓P P 12 52 12.2 +0.4
baz=84,SNR=9.5
E17A ⇓P P 12 52 12.2 +0.4
baz=84,SNR=9.5
E17A ⇓P P 12 52 12.2 +0.4
baz=84,SNR=9.5
ILAR Eielson Array 83.72 11 P P 12 52 10.7 -0.6
comp=Z,8.6nm,1.1s,baz=224,slow=6.2,SNR=60
ILAR LR LR 13 23 47.4
comp=Z,644nm,20.4s,baz=6.8,slow=32
ILAR Eielson Array 83.72 11 P P 12 52 10.7 -0.6
ILAR pmax pmax
comp=Z,9.0nm,1.1s
ILAR Eielson Array 83.72 11 P P 12 52 10.7 -0.6
B15A Bradely Ranch, 83.73 35 ⇑P P 12 52 11.2 -0.7
baz=84,SNR=17
B15A ⇑P P 12 52 11.2 -0.7
baz=84,SNR=17
B15A ⇑P P 12 52 11.2 -0.7
baz=84,SNR=17
M22A Cedar Creek Ra 83.75 43 ⇓P P 12 52 12.7 +0.3
baz=84,SNR=8.9
M22A ⇓P P 12 52 12.7 +0.3
baz=84,SNR=8.9
M22A ⇓P P 12 52 12.7 +0.3
baz=84,SNR=8.9
J20A Shoshoni 83.75 41 ⇑P P 12 52 12.8 +0.6
baz=84,SNR=30
J20A ⇑P P 12 52 12.8 +0.6
baz=84,SNR=30
J20A ⇑P P 12 52 12.8 +0.6
baz=84,SNR=30
R25A Fountain Ranch 83.80 47 ⇓P P 12 52 12.9 +0.4
baz=84,SNR=5.7
R25A ⇓P P 12 52 12.9 +0.4
baz=84,SNR=5.7
R25A ⇓P P 12 52 12.9 +0.4
baz=84,SNR=5.7
G18A Lazy EL Ranch, 83.85 39 ⇑P P 12 52 13.2 +0.6
baz=84,SNR=11
G18A ⇑P P 12 52 13.2 +0.6
baz=84,SNR=11
G18A ⇑P P 12 52 13.2 +0.6
baz=84,SNR=11
T26A Comanche Natio 83.85 48 ⇑P P 12 52 13.1 +0.2
baz=84,SNR=9.7
T26A ⇑P P 12 52 13.1 +0.2
baz=84,SNR=9.7
T26A ⇑P P 12 52 13.1 +0.2
baz=84,SNR=9.7
H19A Powell 83.86 40 ⇓P P 12 52 13.5 +0.8
baz=84,SNR=16
H19A ⇓P P 12 52 13.5 +0.8
baz=84,SNR=16
H19A ⇓P P 12 52 13.5 +0.8
baz=84,SNR=16
JCT Junction City 83.88 56 *e*P P 12 52 13.1 +0.1
JCT pmax pmax
comp=Z,28nm,1.1s
JCT MLR MLR
comp=Z,990nm,19.0s
JCT Junction City 83.88 56 *e*P P 12 52 13.1 +0.1
comp=Z,28nm,1.1s
JCT LR LR
comp=Z,990nm,19.0s
JCT Junction City 83.88 56 ⇓P P 12 52 13.2 +0.2
baz=84,SNR=9.9
JCT ⇓P P 12 52 13.2 +0.2
baz=84,SNR=9.9
JCT ⇓P P 12 52 13.2 +0.2
baz=84,SNR=9.9
C16A Fuhringer Ranc 83.91 36 ⇓P P 12 52 12.6 -0.2
baz=84
C16A ⇓P P 12 52 12.6 -0.2
baz=84
C16A ⇓P P 12 52 12.6 -0.2
baz=84
RLMT Red Lodge 83.92 39 *e*P P 12 52 13.7 +0.6
comp=Z,60nm,1.2s
RLMT LR LR
comp=Z,1μm,22.0s
RLMT Red Lodge 83.92 39 ⇑P P 12 52 13.8 +0.7
baz=84,SNR=33
RLMT ⇑P P 12 52 13.8 +0.7
baz=84,SNR=33
RLMT ⇑P P 12 52 13.8 +0.7
baz=84,SNR=33
RLMT ⇑P P 12 52 13.8 +0.7
baz=84,SNR=33
RLMT ⇑P P 12 52 13.8 +0.7
baz=84,SNR=33
K21A Alcova 83.92 42 ⇑P P 12 52 13.3 +0.2
baz=84,SNR=16
K21A ⇑P P 12 52 13.3 +0.2
baz=84,SNR=16
K21A ⇑P P 12 52 13.3 +0.2
baz=84,SNR=16
N23A Red Feather La 83.94 44 ⇑P P 12 52 14.1 +0.8
baz=84
N23A ⇑P P 12 52 14.1 +0.8
baz=84
N23A ⇑P P 12 52 14.1 +0.8
baz=84
P24A Kohler Place, 83.99 46 ⇓P P 12 52 14.1 +0.6
baz=84
P24A ⇓P P 12 52 14.1 +0.6
baz=84
P24A ⇓P P 12 52 14.1 +0.6
baz=84
A15A Johnson Ranch, 84.01 35 ⇓P P 12 52 13.0 -0.4
baz=84,SNR=44
A15A ⇓P P 12 52 13.0 -0.4
baz=84,SNR=44
A15A ⇓P P 12 52 13.0 -0.4
baz=84,SNR=44
W28A Vega 84.02 51 ⇑P P 12 52 14.0 +0.4
baz=84
W28A ⇑P P 12 52 14.0 +0.4
baz=84
W28A ⇑P P 12 52 14.0 +0.4
baz=84
I20A Worland 84.03 41 ⇑P P 12 52 13.8 +0.3
baz=84,SNR=36
I20A ⇑P P 12 52 13.8 +0.3
baz=84,SNR=36
I20A ⇑P P 12 52 13.8 +0.3
baz=84,SNR=36
GCMT Greycliff 84.03 39 *e*P P 12 52 14.6 +1.0
comp=Z,51nm,1.3s
F18A Big Timber 84.06 38 ⇑P P 12 52 14.2 +0.5
baz=84,SNR=19
F18A ⇑P P 12 52 14.2 +0.5
baz=84,SNR=19
F18A ⇑P P 12 52 14.2 +0.5
baz=84,SNR=19
S26A Kim 84.14 48 ⇑P P 12 52 14.4 +0.2
baz=84,SNR=19
S26A ⇑P P 12 52 14.4 +0.2
baz=84,SNR=19
S26A ⇑P P 12 52 14.4 +0.2
baz=84,SNR=19
J21A Lysite 84.15 41 ⇓P P 12 52 14.7 +0.5
baz=84,SNR=40
J21A ⇓P P 12 52 14.7 +0.5
baz=84,SNR=40
J21A ⇓P P 12 52 14.7 +0.5
baz=84,SNR=40
D17A Six Diamond Ra 84.16 37 ⇑P P 12 52 14.6 +0.5
baz=84,SNR=43
D17A ⇑P P 12 52 14.6 +0.5
baz=84,SNR=43
D17A ⇑P P 12 52 14.6 +0.5
baz=84,SNR=43
L22A Ellis Ranch, M 84.16 43 ⇑P P 12 52 15.0 +0.7
baz=84,SNR=10.0
L22A ⇑P P 12 52 15.0 +0.7
baz=84,SNR=10.0
L22A ⇑P P 12 52 15.0 +0.7
baz=84,SNR=10.0
O24A Longmont 84.16 45 ⇑P P 12 52 15.2 +0.8
baz=84,SNR=6.4
O24A ⇑P P 12 52 15.2 +0.8
baz=84,SNR=6.4
O24A ⇑P P 12 52 15.2 +0.8
baz=84,SNR=6.4
Q25A Bedland, Calha 84.17 47 ⇑P P 12 52 14.6 +0.1
baz=84,SNR=8.1
Q25A ⇑P P 12 52 14.6 +0.1
baz=84,SNR=8.1
Q25A ⇑P P 12 52 14.6 +0.1
baz=84,SNR=8.1
V28A Channing 84.22 50 ⇓P P 12 52 15.3 +0.6
baz=84,SNR=6.4
V28A ⇓P P 12 52 15.3 +0.6
baz=84,SNR=6.4
V28A ⇓P P 12 52 15.3 +0.6
baz=84,SNR=6.4
AMTX Amarillo 84.25 51 *e*P P 12 52 15.4 +0.5
comp=Z,132nm,1.3s
AMTX LR LR
comp=Z,3μm,19.0s
AMTX Amarillo 84.25 51 ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
AMTX ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
AMTX ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
AMTX ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
AMTX ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
AMTX ⇓P P 12 52 15.5 +0.6
baz=84,SNR=28
B16A M & M Farms, S 84.26 36 ⇓P P 12 52 14.0 -0.6
baz=84
B16A ⇓P P 12 52 14.0 -0.6
baz=84
B16A ⇓P P 12 52 14.0 -0.6
baz=84
E18A Harlowton 84.29 38 ⇑P P 12 52 15.7 +0.9
baz=84,SNR=24
E18A ⇑P P 12 52 15.7 +0.9
baz=84,SNR=24
E18A ⇑P P 12 52 15.7 +0.9
baz=84,SNR=24
M23A Laramie 84.36 44 ⇑P P 12 52 15.7 +0.3
baz=85,SNR=12
M23A ⇑P P 12 52 15.7 +0.3
baz=85,SNR=12
M23A ⇑P P 12 52 15.7 +0.3
baz=85,SNR=12
C17A Wharram Farm, 84.37 37 ⇑P P 12 52 15.3 +0.2
baz=85,SNR=65
C17A ⇑P P 12 52 15.3 +0.2
baz=85,SNR=65
C17A ⇑P P 12 52 15.3 +0.2
baz=85,SNR=65
H20A Greybull 84.38 40 ⇑P P 12 52 15.2 -0.1
baz=85,SNR=20
H20A ⇑P P 12 52 15.2 -0.1
baz=85,SNR=20
H20A ⇑P P 12 52 15.2 -0.1
baz=85,SNR=20
SEY Seymchan 84.38 344 *ce*P P 12 52 13.3 -1.4
K22A Casper 84.40 42 ⇓P P 12 52 15.8 +0.3
baz=85,SNR=9.2
K22A ⇓P P 12 52 15.8 +0.3
baz=85,SNR=9.2
K22A ⇓P P 12 52 15.8 +0.3
baz=85,SNR=9.2
T27A Campo 84.42 49 ⇓P P 12 52 16.0 +0.2
baz=85,SNR=16
T27A ⇓P P 12 52 16.0 +0.2
baz=85,SNR=16
T27A ⇓P P 12 52 16.0 +0.2
baz=85,SNR=16
PHWY Pilot Hill 84.45 44 *e*P P 12 52 16.1 +0.2
comp=Z,79nm,2.0s
R26A Arlington 84.46 47 ⇑P P 12 52 16.1 +0.2
baz=85,SNR=24
R26A ⇑P P 12 52 16.1 +0.2
baz=85,SNR=24
R26A ⇑P P 12 52 16.1 +0.2
baz=85,SNR=24
I21A Big Trails, Te 84.48 41 ⇓P P 12 52 15.8 -0.1
baz=85,SNR=36
I21A ⇓P P 12 52 15.8 -0.1
baz=85,SNR=36
I21A ⇓P P 12 52 15.8 -0.1
baz=85,SNR=36
F19A Roth Farm, Mol 84.50 39 ⇓P P 12 52 15.9 +0.1
baz=85,SNR=6.4
F19A ⇓P P 12 52 15.9 +0.1
baz=85,SNR=6.4
F19A ⇓P P 12 52 15.9 +0.1
baz=85,SNR=6.4
P25A Willow Gulch B 84.50 46 ⇓P P 12 52 16.6 +0.5
baz=85,SNR=12
P25A ⇓P P 12 52 16.6 +0.5
baz=85,SNR=12
P25A ⇓P P 12 52 16.6 +0.5
baz=85,SNR=12
S27A Las Animas 84.57 48 ⇑P P 12 52 16.6 +0.2
baz=85
S27A ⇑P P 12 52 16.6 +0.2
baz=85
S27A ⇑P P 12 52 16.6 +0.2
baz=85
KSI Kapahiang 84.58 268 P sP 12 52 23.7 +0.3
comp=Z,100nm,1.0s
DAWY Dawson 84.60 14 *e*P P 12 52 16.2 +0.4
G20A Bridger 84.61 40 ⇑P P 12 52 16.6 +0.1
baz=85
G20A ⇑P P 12 52 16.6 +0.1
baz=85
G20A ⇑P P 12 52 16.6 +0.1
baz=85
N24A Carr 84.62 45 ⇓P P 12 52 17.3 +0.6
baz=85
N24A ⇓P P 12 52 17.3 +0.6
baz=85
N24A ⇓P P 12 52 17.3 +0.6
baz=85
A16A West Butte Ran 84.62 35 ⇓P P 12 52 16.4 0.0
baz=85
A16A ⇓P P 12 52 16.4 0.0
baz=85
A16A ⇓P P 12 52 16.4 0.0
baz=85
L23A Garrett 84.68 43 ⇑P P 12 52 17.1 +0.1
baz=85,SNR=12
L23A ⇑P P 12 52 17.1 +0.1
baz=85,SNR=12
L23A ⇑P P 12 52 17.1 +0.1
baz=85,SNR=12
Q26A Hugo 84.68 47 ⇑P P 12 52 17.4 +0.4
baz=85,SNR=7.2
Q26A ⇑P P 12 52 17.4 +0.4
baz=85,SNR=7.2
Q26A ⇑P P 12 52 17.4 +0.4
baz=85,SNR=7.2
D18A Linhart Farms, 84.69 37 ⇑P P 12 52 17.5 +0.7
baz=85,SNR=14
D18A ⇑P P 12 52 17.5 +0.7
baz=85,SNR=14
D18A ⇑P P 12 52 17.5 +0.7
baz=85,SNR=14
B17A L&G Farms, Che 84.71 36 ⇓P P 12 52 16.7 -0.1
baz=85,SNR=15
B17A ⇓P P 12 52 16.7 -0.1
baz=85,SNR=15
B17A ⇓P P 12 52 16.7 -0.1
baz=85,SNR=15
QIZ Qiongzhong 84.75 292 P P 12 52 17.5 -0.1
QIZ pP PcP 12 52 21.0 0.0
QIZ S S 13 02 45.5 0.0
QIZ sS sS 13 02 53.0 -0.4
QIZ pmax pmax
comp=Z,10.0nm,2.2s
QIZ pmax pmax
comp=Z,120nm,4.5s
QIZ LR LR
comp=Z,790nm,25.6s
QIZ Qiongzhong 84.75 292 PFAKE 12 52 30.0 +12
QIZ LR LR
comp=Z,806nm,20.0s
V29A Stinnett 84.79 50 ⇓P P 12 52 17.9 +0.3
baz=85,SNR=5.9
V29A ⇓P P 12 52 17.9 +0.3
baz=85,SNR=5.9
V29A ⇓P P 12 52 17.9 +0.3
baz=85,SNR=5.9
J22A Midwest 84.80 42 ⇑P P 12 52 17.4 -0.1
baz=85,SNR=18
J22A ⇑P P 12 52 17.4 -0.1
baz=85,SNR=18
J22A ⇑P P 12 52 17.4 -0.1
baz=85,SNR=18
O25A Wiggins 84.81 46 ⇑P P 12 52 17.8 +0.3
baz=85
O25A ⇑P P 12 52 17.8 +0.3
baz=85
O25A ⇑P P 12 52 17.8 +0.3
baz=85
EGAK Eagle 84.83 13 *e*P P 12 52 17.0 +0.1
comp=Z,87nm,1.3s
EGAK LR LR
comp=Z,1μm,20.0s
T28A Walsh 84.89 49 ⇓P P 12 52 18.1 +0.1
baz=85,SNR=13
T28A ⇓P P 12 52 18.1 +0.1
baz=85,SNR=13
T28A ⇓P P 12 52 18.1 +0.1
baz=85,SNR=13
E19A Rath Farm, Rou 84.90 38 ⇓P P 12 52 18.3 +0.5
baz=85,SNR=15
E19A ⇓P P 12 52 18.3 +0.5
baz=85,SNR=15
E19A ⇓P P 12 52 18.3 +0.5
baz=85,SNR=15
R27A Eads 84.91 48 ⇓P P 12 52 18.2 +0.1
baz=85,SNR=8.9
R27A ⇓P P 12 52 18.2 +0.1
baz=85,SNR=8.9
R27A ⇓P P 12 52 18.2 +0.1
baz=85,SNR=8.9
MYKOM Kota Tinggi 84.94 273 P P 12 52 26.0 +7.3
F20A Billings 84.95 39 ⇑P P 12 52 18.5 +0.4
baz=85
F20A ⇑P P 12 52 18.5 +0.4
baz=85
F20A ⇑P P 12 52 18.5 +0.4
baz=85
M24A Cheyenne 84.95 44 ⇓P P 12 52 18.8 +0.4
baz=85
M24A ⇓P P 12 52 18.8 +0.4
baz=85
M24A ⇓P P 12 52 18.8 +0.4
baz=85
I22A 9 Mile Ranch, 85.03 41 ⇓P P 12 52 18.9 +0.3
baz=85,SNR=8.7
I22A ⇓P P 12 52 18.9 +0.3
baz=85,SNR=8.7
I22A ⇓P P 12 52 18.9 +0.3
baz=85,SNR=8.7
K23A Bowen Ranch, D 85.03 43 ⇑P P 12 52 19.1 +0.4
baz=85
K23A ⇑P P 12 52 19.1 +0.4
baz=85
K23A ⇑P P 12 52 19.1 +0.4
baz=85
H21A Big Horn, Sher 85.04 40 ⇓P P 12 52 18.9 +0.3
baz=85

H21A				⇓P		P	12 52 18.9	+0.3	
	baz=85								
H21A				⇓P		P	12 52 18.9	+0.3	
	baz=85								
P26A	**Davis Ranch, A**	**85.09**	**46**	⇑P		P	12 52 19.6	+0.5	
	baz=85								
P26A				⇑P		P	12 52 19.6	+0.5	
	baz=85								
P26A				⇑P		P	12 52 19.6	+0.5	
	baz=85								
A17A	**Triple J Farms**	**85.11**	**35**	⇓P		P	12 52 19.0	+0.2	
	baz=85,SNR=12								
A17A				⇓P		P	12 52 19.0	+0.2	
	baz=85,SNR=12								
A17A				⇓P		P	12 52 19.0	+0.2	
	baz=85,SNR=12								
N25A	**Grover**	**85.15**	**45**	⇓P		P	12 52 19.5	+0.2	
	baz=85								
N25A				⇓P		P	12 52 19.5	+0.2	
	baz=85								
N25A				⇓P		P	12 52 19.5	+0.2	
	baz=85								
L24A	**Wheatland**	**85.15**	**44**	⇑P		P	12 52 20.0	+0.7	
	baz=85								
L24A				⇑P		P	12 52 20.0	+0.7	
	baz=85								
L24A				⇑P		P	12 52 20.0	+0.7	
	baz=85								
EGMT	**Eagleton**	**85.15**	**37**	*e*P		P	12 52 19.2	+0.2	
	comp=Z,57nm,1.4s								
EGMT				LR		LR			
	comp=Z,3μm,19.0s								
EGMT	**Eagleton**	**85.15**	**37**	⇑P		P	12 52 19.2	+0.2	
	baz=85,SNR=12								
EGMT				⇑P		P	12 52 19.2	+0.2	
	baz=85,SNR=12								
EGMT				⇑P		P	12 52 19.2	+0.2	
	baz=85,SNR=12								
D19A	**Cripps Ranch,**	**85.21**	**38**	⇑P		P	12 52 19.9	+0.5	
	baz=86,SNR=9.3								
D19A				⇑P		P	12 52 19.9	+0.5	
	baz=86,SNR=9.3								
D19A				⇑P		P	12 52 19.9	+0.5	
	baz=86,SNR=9.3								
G21A	**Lodge Grass**	**85.23**	**40**	⇓P		P	12 52 19.8	+0.2	
	baz=86								
G21A				⇓P		P	12 52 19.8	+0.2	
	baz=86								
G21A				⇓P		P	12 52 19.8	+0.2	
	baz=86								
E20A	**Meyer Farm, Mu**	**85.31**	**38**	⇑P		P	12 52 20.4	+0.5	
	baz=86,SNR=13								
E20A				⇑P		P	12 52 20.4	+0.5	
	baz=86,SNR=13								
E20A				⇑P		P	12 52 20.4	+0.5	
	baz=86,SNR=13								
B18A	**Beardsley Farm**	**85.34**	**36**	⇑P		P	12 52 20.0	0.0	
	baz=86,SNR=15								
B18A				⇑P		P	12 52 20.0	0.0	
	baz=86,SNR=15								
B18A				⇑P		P	12 52 20.0	0.0	
	baz=86,SNR=15								
KSCO	**Kaye Shedlock'**	**85.34**	**47**	⇑P		P	12 52 20.6	+0.3	
	baz=86,SNR=7.5								
KSCO				⇑P		P	12 52 20.6	+0.3	
	baz=86,SNR=7.5								
KSCO				⇑P		P	12 52 20.6	+0.3	
	baz=86,SNR=7.5								
J23A	**Dilts Ranch, B**	**85.39**	**42**	⇓P		P	12 52 20.6	+0.1	
	baz=86								
J23A				⇓P		P	12 52 20.6	+0.1	
	baz=86								
J23A				⇓P		P	12 52 20.6	+0.1	
	baz=86								
C19A	**Slack Wire Ran**	**85.41**	**37**	⇑P		P	12 52 20.9	+0.5	
	baz=86,SNR=30								
C19A				⇑P		P	12 52 20.9	+0.5	
	baz=86,SNR=30								
C19A				⇑P		P	12 52 20.9	+0.5	
	baz=86,SNR=30								
O26A	**Horse Wrangler**	**85.42**	**46**	⇓P		P	12 52 21.1	+0.4	
	baz=86								
O26A				⇓P		P	12 52 21.1	+0.4	
	baz=86								
O26A				⇓P		P	12 52 21.1	+0.4	
	baz=86								
H22A	**Clearmont**	**85.45**	**41**	⇑P		P	12 52 21.1	+0.4	
	baz=86								
H22A				⇑P		P	12 52 21.1	+0.4	
	baz=86								
H22A				⇑P		P	12 52 21.1	+0.4	
	baz=86								
M25A	**Palm-Egli Farm**	**85.45**	**44**	⇓P		P	12 52 21.1	+0.3	
	baz=86								
M25A				⇓P		P	12 52 21.1	+0.3	
	baz=86								
M25A				⇓P		P	12 52 21.1	+0.3	
	baz=86								
COLD	**Coldfoot**	**85.48**	**8**	*e*P		P	12 52 20.6	+0.5	
	comp=Z,78nm,1.2s								
KGM	**Kluang**	**85.52**	**273**	P		P	12 52 28.8	+7.2	
K24A	**Anderson Ranch**	**85.54**	**43**	⇑P		P	12 52 21.5	+0.3	
	baz=86								
K24A				⇑P		P	12 52 21.5	+0.3	
	baz=86								
K24A				⇑P		P	12 52 21.5	+0.3	
	baz=86								
A18A	**Metzger Ranch,**	**85.58**	**36**	⇑P		P	12 52 21.0	-0.1	
	baz=86,SNR=29								
A18A				⇑P		P	12 52 21.0	-0.1	
	baz=86,SNR=29								
A18A				⇑P		P	12 52 21.0	-0.1	
	baz=86,SNR=29								
F21A	**Absaloka Mine,**	**85.58**	**39**	⇓P		P	12 52 21.6	+0.4	
	baz=86								
F21A				⇓P		P	12 52 21.6	+0.4	
	baz=86								
F21A				⇓P		P	12 52 21.6	+0.4	
	baz=86								
D20A	**Manuel Ranch,**	**85.61**	**38**	⇑P		P	12 52 21.8	+0.5	
	baz=86,SNR=23								
D20A				⇑P		P	12 52 21.8	+0.5	
	baz=86,SNR=23								
D20A				⇑P		P	12 52 21.8	+0.5	
	baz=86,SNR=23								
I23A	**Meade Ranch, G**	**85.71**	**42**	⇑P		P	12 52 21.8	-0.2	
	baz=86								
I23A				⇑P		P	12 52 21.8	-0.2	
	baz=86								
I23A				⇑P		P	12 52 21.8	-0.2	
	baz=86								
N26A	**Koester Ranch,**	**85.74**	**45**	⇓P		P	12 52 21.9	-0.3	
	baz=86								
N26A				⇓P		P	12 52 21.9	-0.3	
	baz=86								
N26A				⇓P		P	12 52 21.9	-0.3	
	baz=86								
G22A	**Birney**	**85.79**	**40**	⇓P		P	12 52 22.6	+0.2	
	baz=86								
G22A				⇓P		P	12 52 22.6	+0.2	
	baz=86								
G22A				⇓P		P	12 52 22.6	+0.2	
	baz=86								
L25A	**Engebretsen Ra**	**85.84**	**44**	⇑P		P	12 52 23.1	+0.4	
	baz=86								
L25A				⇑P		P	12 52 23.1	+0.4	
	baz=86								
L25A				⇑P		P	12 52 23.1	+0.4	
	baz=86								
B19A	**Brinkman Farms**	**85.84**	**37**	⇓P		P	12 52 22.8	+0.4	
	baz=86,SNR=15								
B19A				⇓P		P	12 52 22.8	+0.4	
	baz=86,SNR=15								
B19A				⇓P		P	12 52 22.8	+0.4	
	baz=86,SNR=15								
J24A	**Dixon Ranch, L**	**85.93**	**42**	⇓P		P	12 52 23.1	0.0	
	baz=86								
J24A				⇓P		P	12 52 23.1	0.0	
	baz=86								
J24A				⇓P		P	12 52 23.1	0.0	
	baz=86								
E21A	**Keefer Ranch,**	**85.96**	**39**	⇑P		P	12 52 23.9	+0.8	
	baz=86								
E21A				⇑P		P	12 52 23.9	+0.8	
	baz=86								
E21A				⇑P		P	12 52 23.9	+0.8	
	baz=86								
O27A	**Beecher Island**	**85.97**	**46**	⇓P		P	12 52 23.4	+0.1	
	baz=86								
O27A				⇓P		P	12 52 23.4	+0.1	
	baz=86								
O27A				⇓P		P	12 52 23.4	+0.1	
	baz=86								
C20A	**Veseth Ranch,**	**86.00**	**37**	⇑P		P	12 52 23.7	+0.5	
	baz=86,SNR=15								
C20A				⇑P		P	12 52 23.7	+0.5	
	baz=86,SNR=15								
C20A				⇑P		P	12 52 23.7	+0.5	
	baz=86,SNR=15								
H23A	**Clabaugh Cattl**	**86.03**	**41**	⇓P		P	12 52 23.3	-0.3	
	baz=86								
H23A				⇓P		P	12 52 23.3	-0.3	
	baz=86								
H23A				⇓P		P	12 52 23.3	-0.3	
	baz=86								
M26A	**McRoberts Ranc**	**86.08**	**45**	⇑P		P	12 52 24.1	+0.3	
	baz=86								
M26A				⇑P		P	12 52 24.1	+0.3	
	baz=86								
M26A				⇑P		P	12 52 24.1	+0.3	
	baz=86								
F22A	**Rosebud**	**86.09**	**40**	⇑P		P	12 52 23.9	+0.1	
	baz=86								
F22A				⇑P		P	12 52 23.9	+0.1	
	baz=86								
F22A				⇑P		P	12 52 23.9	+0.1	
	baz=86								
K25A	**Mack Ranch, Ha**	**86.11**	**43**	⇑P		P	12 52 24.4	+0.4	
	baz=86								
K25A				⇑P		P	12 52 24.4	+0.4	
	baz=86								
K25A				⇑P		P	12 52 24.4	+0.4	
	baz=86								
I24A	**Kuemmerle Ranc**	**86.19**	**42**	⇓P		P	12 52 24.0	-0.4	
	baz=86								
I24A				⇓P		P	12 52 24.0	-0.4	
	baz=86								
I24A				⇓P		P	12 52 24.0	-0.4	
	baz=86								
N27A	**Anderson Farm,**	**86.20**	**45**	⇑P		P	12 52 24.2	-0.2	
	baz=86								
N27A				⇑P		P	12 52 24.2	-0.2	
	baz=86								
N27A				⇑P		P	12 52 24.2	-0.2	
	baz=86								
A19A	**Klindworth Far**	**86.20**	**36**	⇓P		P	12 52 24.3	0.0	
	baz=86,SNR=11								
A19A				⇓P		P	12 52 24.3	0.0	
	baz=86,SNR=11								
A19A				⇓P		P	12 52 24.3	0.0	
	baz=86,SNR=11								
BILL	**Bilibino**	**86.23**	**352**	*c i* P		P	12 52 23.7	-0.1	
BILL				*i*			12 52 30.4		
BILL				*i*			12 55 44.3		
BILL				*i* S		SKSac	13 02 38.3	-11	
BILL				pmax		pmax			
	comp=Z,82nm,1.5s								
BILL				MLR		MLR			
	comp=Z,300nm,19.0s								
BILL	**Bilibino**	**86.23**	**352**	*e*P		P	12 52 23.7	-0.1	
	comp=Z,135nm,1.4s								
BILL				LR		LR			
	comp=Z,2μm,22.0s								
D21A	**La Casta Ranch**	**86.27**	**38**	⇑P		P	12 52 24.9	+0.3	
	baz=86,SNR=6.5								
D21A				⇑P		P	12 52 24.9	+0.3	
	baz=86,SNR=6.5								
D21A				⇑P		P	12 52 24.9	+0.3	
	baz=86,SNR=6.5								
G23A	**Biddle**	**86.34**	**41**	⇑P		P	12 52 25.1	+0.1	
	baz=87								
G23A				⇑P		P	12 52 25.1	+0.1	
	baz=87								
G23A				⇑P		P	12 52 25.1	+0.1	
	baz=87								
B20A	**Solberg Farm,**	**86.36**	**37**	⇑P		P	12 52 25.4	+0.4	
	baz=87								
B20A				⇑P		P	12 52 25.4	+0.4	
	baz=87								
B20A				⇑P		P	12 52 25.4	+0.4	
	baz=87								
WMOK	**Wichita Mounta**	**86.37**	**52**	*e*P		P	12 52 25.3	-0.1	
WMOK				pmax		pmax			
	comp=Z,40nm,1.4s								
WMOK				MLR		MLR			
	comp=Z,1μm,19.0s								
WMOK	**Wichita Mounta**	**86.37**	**52**	*e*P		P	12 52 25.2	-0.1	
	comp=Z,40nm,1.4s								
WMOK				LR		LR			
	comp=Z,1μm,19.0s								
L26A	**Underwood Farm**	**86.38**	**44**	⇑P		P	12 52 25.7	+0.4	
	baz=87								
L26A				⇑P		P	12 52 25.7	+0.4	
	baz=87								
L26A				⇑P		P	12 52 25.7	+0.4	
	baz=87								
F23A	**Volborg**	**86.58**	**40**	⇓P		P	12 52 26.4	+0.2	
	baz=87								
F23A				⇓P		P	12 52 26.4	+0.2	
	baz=87								
F23A				⇓P		P	12 52 26.4	+0.2	
	baz=87								
C21A	**Desert Coulee**	**86.59**	**38**	⇑P		P	12 52 26.1	0.0	
	baz=87								
C21A				⇑P		P	12 52 26.1	0.0	
	baz=87								
C21A				⇑P		P	12 52 26.1	0.0	
	baz=87								
E22A	**Miles City**	**86.59**	**39**	⇓P		P	12 52 26.5	+0.3	
	baz=87								
E22A				⇓P		P	12 52 26.5	+0.3	
	baz=87								
E22A				⇓P		P	12 52 26.5	+0.3	
	baz=87								
OGNE	**Ogallala**	**86.60**	**45**	PFAKE			12 52 40.0	+14	
OGNE				LR		LR			
	comp=Z,2μm,19.0s								
OGNE	**Ogallala**	**86.60**	**45**	⇓P		P	12 52 26.1	-0.3	
	baz=87								
OGNE				⇓P		P	12 52 26.1	-0.3	
	baz=87								
OGNE				⇓P		P	12 52 26.1	-0.3	
	baz=87								
K26A	**Motz Farm, Whi**	**86.61**	**44**	⇑P		P	12 52 26.5	+0.1	
	baz=87,SNR=5.3								
K26A				⇑P		P	12 52 26.5	+0.1	
	baz=87,SNR=5.3								
K26A				⇑P		P	12 52 26.5	+0.1	
	baz=87,SNR=5.3								
M27A	**Reverse DX Ran**	**86.61**	**45**	⇑P		P	12 52 26.3	-0.2	
	baz=87								
M27A				⇑P		P	12 52 26.3	-0.2	
	baz=87								
M27A				⇑P		P	12 52 26.3	-0.2	
	baz=87								
A20A	**Cobblestone Ra**	**86.64**	**36**	⇑P		P	12 52 26.4	0.0	
	baz=87,SNR=13								
A20A				⇑P		P	12 52 26.4	0.0	
	baz=87,SNR=13								
A20A				⇑P		P	12 52 26.4	0.0	
	baz=87,SNR=13								
H24A	**Dirks Ranch, A**	**86.66**	**41**	⇓P		P	12 52 26.1	-0.6	
	baz=87,SNR=7.9								
H24A				⇓P		P	12 52 26.1	-0.6	
	baz=87,SNR=7.9								
H24A				⇓P		P	12 52 26.1	-0.6	
	baz=87,SNR=7.9								
RSSD	**Black Hills**	**86.69**	**42**	*e*P		P	12 52 26.5	-0.5	
RSSD				pmax		pmax			
	comp=Z,8.0nm,0.9s								
RSSD	**Black Hills**	**86.69**	**42**	*e*P		P	12 52 26.5	-0.5	
	comp=Z,8.3nm,0.9s								
MAW	**Mawson**	**86.75**	**198**	P		P	12 52 27.1	+0.5	
	comp=Z,36nm,1.1s,baz=109,slow=6.4,SNR=5.3								
MAW				LR		LR	13 31 25.1		
	comp=Z,1μm,18.3s,baz=123,slow=36								
MAW	**Mawson**	**86.75**	**198**	P		P	12 52 27.1	+0.5	
MAW				pmax		pmax			
	comp=Z,36nm,1.1s								
MAW				MLR		MLR			
	comp=Z,1μm,18.3s								
MAW	**Mawson**	**86.75**	**198**	P		P	12 52 27.1	+0.5	
D22A	**Cohagen**	**86.80**	**39**	⇓P		P	12 52 27.8	+0.6	
	baz=87,SNR=6.9								
D22A				⇓P		P	12 52 27.8	+0.6	
	baz=87,SNR=6.9								
D22A				⇓P		P	12 52 27.8	+0.6	
	baz=87,SNR=6.9								
HKT	**Hockley**	**86.85**	**58**	*e*P		P	12 52 29.0	+1.3	
HKT				pmax		pmax			
	comp=Z,52nm,1.6s								
HKT	**Hockley**	**86.85**	**58**	*e*P		P	12 52 29.0	+1.3	
	comp=Z,52nm,1.6s								
L27A	**T5 Ranch, Ells**	**86.91**	**44**	⇓P		P	12 52 28.2	+0.3	
	baz=87								
L27A				⇓P		P	12 52 28.2	+0.3	
	baz=87								
L27A				⇓P		P	12 52 28.2	+0.3	
	baz=87								
B21A	**Ellsworth Farm**	**86.93**	**37**	⇓P		P	12 52 28.1	+0.3	
	baz=87,SNR=10								
B21A				⇓P		P	12 52 28.1	+0.3	
	baz=87,SNR=10								
B21A				⇓P		P	12 52 28.1	+0.3	
	baz=87,SNR=10								
G24A	**Alzada**	**87.01**	**41**	⇓P		P	12 52 28.3	-0.1	
	baz=87								
G24A				⇓P		P	12 52 28.3	-0.1	
	baz=87								
G24A				⇓P		P	12 52 28.3	-0.1	
	baz=87								
E23A	**Ismay**	**87.01**	**39**	⇓P		P	12 52 28.6	+0.4	
	baz=87								
E23A				⇓P		P	12 52 28.6	+0.4	
	baz=87								
E23A				⇓P		P	12 52 28.6	+0.4	
	baz=87								
K27A	**Flueckinger Fa**	**87.23**	**44**	⇑P		P	12 52 29.5	+0.1	
	baz=88								
K27A				⇑P		P	12 52 29.5	+0.1	
	baz=88								
K27A				⇑P		P	12 52 29.5	+0.1	
	baz=88								
F24A	**Ekalaka**	**87.23**	**40**	⇓P		P	12 52 29.6	+0.2	
	baz=88								
F24A				⇓P		P	12 52 29.6	+0.2	
	baz=88								
F24A				⇓P		P	12 52 29.6	+0.2	
	baz=88								
C22A	**Vida**	**87.26**	**38**	⇑P		P	12 52 29.5	+0.1	
	baz=88								
C22A				⇑P		P	12 52 29.5	+0.1	
	baz=88								
C22A				⇑P		P	12 52 29.5	+0.1	
	baz=88								
A21A	**Bergtoll Ranch**	**87.27**	**37**	⇓P		P	12 52 29.6	+0.2	
	baz=88,SNR=14								
A21A				⇓P		P	12 52 29.6	+0.2	
	baz=88,SNR=14								
A21A				⇓P		P	12 52 29.6	+0.2	
	baz=88,SNR=14								
CBKS	**Cedar Bluff**	**87.30**	**48**	*e*P		P	12 52 29.8	0.0	
CBKS				pmax		pmax			
	comp=Z,36nm,1.3s								
CBKS				MLR		MLR			
	comp=Z,1μm,19.0s								
CBKS	**Cedar Bluff**	**87.30**	**48**	*e*P		P	12 52 29.8	0.0	
	comp=Z,36nm,1.3s								
CBKS				LR		LR			
	comp=Z,1μm,19.0s								
CBKS	**Cedar Bluff**	**87.30**	**48**	⇓P		P	12 52 29.8	0.0	
	baz=88								
CBKS				⇓P		P	12 52 29.8	0.0	
	baz=88								
CBKS				⇓P		P	12 52 29.8	0.0	
	baz=88								
CBKS				⇓P		P	12 52 29.8	0.0	
	baz=88								
CBKS				⇓P		P	12 52 29.8	0.0	
	baz=88								
CBKS				⇓P		P	12 52 29.8	0.0	
	baz=88								
RFTA	**Plano**	**87.31**	**54**	*e*P		P	12 52 31.1	+1.2	
D23A	**Lindsay**	**87.39**	**39**	⇑P		P	12 52 30.7	+0.6	
	baz=88,SNR=5.5								
D23A				⇑P		P	12 52 30.7	+0.6	
	baz=88,SNR=5.5								
D23A				⇑P		P	12 52 30.7	+0.6	
	baz=88,SNR=5.5								
PDSI	**Padang**	**87.40**	**270**	P		sP	12 52 38.0	+0.6	
	comp=Z,51nm,1.0s								
PLCA	**Paso Flores**	**87.45**	**132**	P		P	12 52 32.0	+1.3	
	comp=Z,24nm,0.9s,baz=240,slow=4.9,SNR=48								
PLCA				LR		LR	13 24 29.5		
	comp=Z,2μm,18.5s,baz=255,slow=31								
PLCA	**Paso Flores**	**87.45**	**132**	*e*P		P	12 52 31.7	+1.0	
PLCA				pmax		pmax			
	comp=Z,55nm,1.2s								
PLCA	**Paso Flores**	**87.45**	**132**	*e*P		P	12 52 31.7	+1.0	
	comp=Z,54nm,1.2s								
B22A	**Reddig Ranch S**	**87.47**	**38**	⇑P		P	12 52 30.7	+0.3	
	baz=88								
B22A				⇑P		P	12 52 30.7	+0.3	
	baz=88								
B22A				⇑P		P	12 52 30.7	+0.3	
	baz=88								
FRIM	**Kepong**	**87.49**	**274**	P		P	12 52 36.4	+5.2	
BJT	**Baijiatuau**	**87.53**	**313**	*e*P		P	12 52 31.8	+1.0	
BJT				pmax		pmax			
	comp=Z,13nm,0.8s								
BJT				MLR		MLR			
	comp=Z,473nm,21.0s								
BJT	**Baijiatuau**	**87.53**	**313**	*e*P		P	12 52 31.8	+1.0	
	comp=Z,13nm,0.8s								
BJT				LR		LR			
	comp=Z,473nm,21.0s								
BJI	**Beijing**	**87.53**	**313**	P		P	12 52 31.5	+0.7	
BJI				SKS		**SKSac**	**13 02 57.0**	**-1.3**	
BJI				S		**ScS**	**13 03 15.0**	**-3.7**	
BJI				pmax		pmax			
	comp=Z,31nm,1.4s								
BJI				pmax		pmax			
	comp=Z,310nm,4.4s								
BJI				LR		LR			
	comp=N,300nm,19.2s								
BJI				LR		LR			
	comp=E,310nm,23.1s								
BJI				LR		LR			
	comp=Z,470nm,24.7s								
COCO	**West Island**	**87.62**	**258**	PFAKE			12 52 40.0	+8.1	
COCO				LR		LR			
	comp=Z,1μm,21.0s								
C23A	**Lambert**	**87.70**	**38**	⇓P		P	12 52 32.1	+0.5	
	baz=88								
C23A				⇓P		P	12 52 32.1	+0.5	
	baz=88								
C23A				⇓P		P	12 52 32.1	+0.5	
	baz=88								
A22A	**Carney Farms,**	**87.85**	**37**	⇑P		P	12 52 32.3	+0.1	
	baz=88								
A22A				⇑P		P	12 52 32.3	+0.1	
	baz=88								
A22A				⇑P		P	12 52 32.3	+0.1	
	baz=88								
D24A	**Glendive**	**87.89**	**39**	⇑P		P	12 52 32.7	+0.2	
	baz=88								
D24A				⇑P		P	12 52 32.7	+0.2	
	baz=88								
D24A				⇑P		P	12 52 32.7	+0.2	
	baz=88								
C24A	**Savage**	**88.03**	**39**	⇑P		P	12 52 33.6	+0.5	
	baz=88								
C24A				⇑P		P	12 52 33.6	+0.5	
	baz=88								
C24A				⇑P		P	12 52 33.6	+0.5	
	baz=88								
B23A	**Brockton**	**88.13**	**38**	⇓P		P	12 52 34.1	+0.5	
	baz=88								
B23A				⇓P		P	12 52 34.1	+0.5	
	baz=88								
B23A				⇓P		P	12 52 34.1	+0.5	
	baz=88								
IPM	**Ipoh**	**88.42**	**275**	*e*P		P	12 52 37.2	+1.5	
	comp=Z,73nm,1.4s								
IPM	**Ipoh**	**88.42**	**275**	P		pP	12 52 37.9	-2.6	
A23A	**Redstone**	**88.43**	**37**	⇑P		P	12 52 35.3	+0.3	
	baz=89								
A23A				⇑P		P	12 52 35.3	+0.3	
	baz=89								
A23A				⇑P		P	12 52 35.3	+0.3	
	baz=89								
NATX	**Nacogdoches**	**88.45**	**56**	PFAKE			12 52 50.0	+15	
NATX				LR		LR			
	comp=Z,1μm,19.0s								

DGMT Dagmar 88.60 38 *e*P **P 12 52 35.8 0.0**
comp=Z,34nm,1.1s
DGMT LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 88.60 38 ⇑P **P 12 52 36.0 +0.2**
baz=89,SNR=6.3
DGMT ⇑P **P 12 52 36.0 +0.2**
baz=89,SNR=6.3
DGMT ⇑P **P 12 52 36.0 +0.2**
baz=89,SNR=6.3
MNSI Mandailing Nat 88.74 271 P sP 12 52 43.8 +0.1
ENH Enshi 88.91 302 *e*P **P 12 52 38.7 +1.1**
comp=Z,87nm,1.5s
ENH LR LR
comp=Z,498nm,20.0s
A24A Westby 88.93 38 ⇓P **P 12 52 37.6 +0.3**
baz=89
A24A ⇓P **P 12 52 37.6 +0.3**
baz=89
A24A ⇓P **P 12 52 37.6 +0.3**
baz=89
TUL1 Tulsa 89.07 52 ⇓P **P 12 52 38.3 +0.1**
baz=89
TUL1 ⇓P **P 12 52 38.3 +0.1**
baz=89
TUL1 ⇓P **P 12 52 38.3 +0.1**
baz=89
TGUH Tegucigalpa,Un 89.10 75 *e*P **P 12 52 40.2 +1.5**
comp=Z,11nm,0.4s
TGUH LR LR
comp=Z,698nm,20.0s
HIA Hailar 89.26 323 *e*P **P 12 52 39.6 +0.7**
HIA pmax pmax
comp=Z,82nm,1.5s
HIA MLR MLR
comp=Z,930nm,22.0s
HIA Hailar 89.26 323 *e*P **P 12 52 39.5 +0.7**
comp=Z,82nm,1.5s
HIA LR LR
comp=Z,930nm,22.0s
BGNE Belgrade 89.46 46 ⇓P **P 12 52 40.2 +0.2**
baz=90
BGNE ⇓P **P 12 52 40.2 +0.2**
baz=90
BGNE ⇓P **P 12 52 40.2 +0.2**
baz=90
INK Inuvik 89.46 13 P **P 12 52 39.1 -0.2**
comp=Z,14nm,1.1s,baz=209,slow=5.0,SNR=23
INK Inuvik 89.46 13 P **P 12 52 39.1 -0.2**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 89.46 13 P **P 12 52 39.1 -0.2**
comp=Z,17nm,1.4s
KSU1 Kansas State U 89.66 49 PFAKE 12 52 50.0 +9.1
KSU1 LR LR
comp=Z,2μm,19.0s
PSI Prapat 89.94 273 P **P 12 52 43.6 +0.6**
comp=Z,38nm,1.6s,comp=Z,902nm
PSI Prapat 89.94 273 P P 12 52 50.2 +7.2
comp=Z,38nm,1.6s,comp=Z,902nm
GYA Guiyang 89.98 298 ⇑*i*P **P 12 52 44.3 +1.4**
GYA PP **PP 12 56 19.8 +3.7**
GYA SKS **SKSac 13 03 16.3 +2.5**
GYA S **S 13 03 37.0 +1.2**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA pmax pmax
comp=Z,150nm,4.5s
GYA LR LR
comp=N,340nm,18.9s
GYA LR LR
comp=E,420nm,20.7s
GYA LR LR
comp=Z,500nm,20.8s
TEIG Tepich 90.06 69 PFAKE 12 52 50.0 +6.8
TEIG LR LR
comp=Z,954nm,19.0s
JTS JuntasAbangare 90.15 79 *e*P **P 12 52 45.5 +1.7**
JTS MLR MLR
comp=Z,1μm,19.0s
JTS JuntasAbangare 90.15 79*c i*P **P 12 52 45.8 +2.0**
JTS JuntasAbangare 90.15 79 *e*P **P 12 52 45.5 +1.7**
comp=Z,380nm,1.4s
JTS LR LR
comp=Z,1μm,19.0s
JTS JuntasAbangare 90.15 79 P **P 12 52 45.7 +2.0**
comp=Z,942nm,1.4s,SNR=21
CLNS Chul'man 90.26 331 *e*P **P 12 52 42.4 -0.9**
CLNS pmax pmax
comp=N,10.0nm,1.4s
CLNS pmax pmax
comp=Z,25nm,1.5s
CLNS pmax pmax
comp=E,9.0nm,1.4s
MIAR Mount Ida 90.28 54 *e*P **P 12 52 44.4 +0.5**
MIAR pmax pmax
comp=Z,83nm,2.0s
MIAR MLR MLR
comp=Z,932nm,19.0s
MIAR Mount Ida 90.28 54 *e*P **P 12 52 44.4 +0.5**
comp=Z,84nm,2.0s
MIAR LR LR
comp=Z,932nm,19.0s
XAN Xi'an 90.65 305 P **P 12 52 45.5 -0.2**
XAN pP **pP 12 52 50.3 -0.2**
XAN sP **sP 12 52 52.0 -0.2**
XAN pmax pmax
comp=Z,2.0nm,1.5s
XAN pmax pmax
comp=Z,49nm,9.5s
XAN LR LR
comp=N,200nm,18.9s
XAN LR LR
comp=E,150nm,19.5s
XAN LR LR
comp=Z,160nm,18.4s
GSI Gunungsitoli 90.80 271 P **P 12 52 49.2 +2.3**
comp=Z,175nm,1.3s,comp=Z,2μm
EFI East Falkland 90.84 145 PFAKE 12 53 00.0 +14
EFI LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 90.99 23 P **P 12 52 46.3 -0.2**
comp=Z,6.6nm,1.1s,baz=233,slow=4.3,SNR=60
YKA PKKP **PKKPdf 13 10 10.1 -0.4**
comp=Z,0.2nm,0.5s,baz=37,slow=2.2,SNR=5.7
YKA Yellowknife Ar 90.99 23 P **P 12 52 46.3 -0.2**
YKA pmax pmax
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 90.99 23 P **P 12 52 46.4 -0.2**
YKA PKKP **PKKPdf 13 10 10.1 -0.4**
YAK Yakutsk 91.08 336 *e*P **P 12 52 44.4 -2.6**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK Yakutsk 91.08 336 PFAKE 12 53 00.0 +13
YAK LR LR
comp=Z,622nm,22.0s
HHC Hu-ho-hao-te 91.09 312 *e*P **P 12 52 48.5 +0.8**
HHC sP **sP 12 52 54.8 +0.6**
HHC PP **PP 12 56 28.3 +3.7**
HHC SKS **SKSac 13 03 18.0 -1.6**
HHC S **S 13 03 44.8 -0.5**
HHC sS **sS 13 03 52.3 -1.0**
HHC SS **SS 13 09 52.8 +3.0**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,280nm,7.1s
HHC LR LR
comp=N,230nm,15.3s
HHC LR LR
comp=E,280nm,15.7s
HHC LR LR
comp=Z,380nm,16.7s
MDND Maddock 91.10 40 ⇑P **P 12 52 47.2 -0.3**
baz=91
MDND ⇑P **P 12 52 47.2 -0.3**
baz=91
MDND ⇑P **P 12 52 47.2 -0.3**
baz=91
VNA3 Neumayer Olymp 91.18 174 *e* **P 12 52 47.8 +0.3**
SNAA Sanae 91.28 177 *e* P 12 52 44.7 -3.3
SNAA Sanae 91.28 177 *e*P P 12 52 44.1 -4.0
SNAA pmax pmax
comp=Z,185nm,2.1s
SNAA Sanae 91.28 177 *e*P P 12 52 44.1 -4.0
comp=Z,185nm,2.1s
UALR University of 91.31 54 *e*P **P 12 52 49.8 +1.1**
comp=Z,27nm,1.2s
SYO Syowa Base 91.34 191⇓*e*P **P 12 52 45.6 -2.6**
SYO Syowa Base 91.34 191⇓*i*PcP **P 12 52 48.0 -0.2**
NNA Nana 91.37 103 *i* P **P 12 52 52.0 +2.4**
NNA Nana 91.37 103 PFAKE 12 53 00.0 +10
NNA LR LR
comp=Z,446nm,19.0s
LCO Las Campanas 91.38 121 PFAKE 12 53 00.0 +10
LCO LR LR
comp=Z,962nm,19.0s
ECSD EROS Data Cent 91.40 45 *e*P **P 12 52 48.0 -0.9**
comp=Z,32nm,1.4s
ECSD LR LR
comp=Z,788nm,19.0s
VNA2 Neumayer--Watz 91.69 175 *e* **P 12 52 50.6 +0.7**
baz=172,slow=4.1
NVL N'lazarevskaya 92.46 181⇑*i*P **P 12 52 52.2 -1.2**
NVL pmax pmax
comp=Z,63nm,1.7s
NVL MLR MLR
comp=Z,1μm,18.0s
FFC Flin Flon 92.66 33 *i* P **P 12 52 54.2 -0.3**
FFC Flin Flon 92.66 33 *e*P **P 12 52 53.9 -0.5**
comp=Z,75nm,1.7s
FFC LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 92.66 33 P **P 12 52 53.1 -1.4**
comp=Z,97nm,1.4s,SNR=7.8
KMI Kunming 92.93 295 P **P 12 52 57.3 +0.6**
KMI pP **pP 12 53 03.3 +1.8**
KMI sP **sP 12 53 06.0 +2.8**
KMI SKS **SKSac 13 03 29.8 -1.1**
KMI S **S 13 04 00.5 -2.3**
KMI sS **sS 13 04 11.0 +0.2**
KMI SS **SS 13 10 20.8 +3.6**
KMI pmax pmax
comp=Z,14nm,1.2s
KMI pmax pmax
comp=Z,140nm,3.8s
KMI LR LR
comp=N,220nm,18.4s
KMI LR LR
comp=E,360nm,21.0s
KMI LR LR
comp=Z,530nm,19.2s
SCIA State Center 93.08 47 PFAKE 12 53 10.0 +13
SCIA LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 93.44 91 *e*P **P 12 53 01.3 +1.6**
comp=Z,20nm,1.4s
OTAV LR LR
comp=Z,661nm,21.0s
OXF Oxford 93.52 55 PFAKE 12 53 10.0 +11
OXF LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 93.58 41 *e*P **P 12 52 58.0 -0.9**
comp=Z,22nm,1.4s
AGMN LR LR
comp=Z,1μm,19.0s
SLM Saint Louis 94.17 51 *e*P **P 12 53 01.3 -0.5**
SLM Saint Louis 94.17 51 *e*P **P 12 53 01.3 -0.5**
ULM Lac du Bonnet 94.29 39 P **P 12 53 01.4 -0.7**
comp=Z,8.4nm,1.1s,baz=247,slow=6.1,SNR=11
ULM LR LR 13 32 29.9
comp=Z,2μm,18.3s,baz=285,slow=34
ULM Lac du Bonnet 94.29 39 P **P 12 53 01.4 -0.7**
ULM pmax pmax
comp=Z,8.0nm,1.1s
ULM Lac du Bonnet 94.29 39 P **P 12 53 01.4 -0.7**
comp=Z,7.4nm,1.4s
BRAL Brewton 94.35 59 PFAKE 12 53 10.0 +7.2
BRAL LR LR
comp=Z,860nm,20.0s
CM31 Chiang Mai Arr 94.40 288 *e*P **P 12 53 05.5 +2.2**
comp=Z,34nm,1.3s
CM31 LR LR
comp=Z,431nm,20.0s
CMAR Chiang Mai Arr 94.40 288 P **P 12 53 05.3 +2.0**
comp=Z,5.8nm,1.0s,baz=95,slow=2.8,SNR=34
CMAR PKKP **PKKPbc 13 10 05.0 +2.2**
comp=Z,0.1nm,0.3s,baz=299,slow=5.7,SNR=4.2
CMAR LR LR 13 30 25.7
comp=Z,465nm,21.8s,baz=274,slow=32
CMAR Chiang Mai Arr 94.40 288 P **P 12 53 05.3 +2.0**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 94.40 288 P **P 12 53 05.3 +2.0**
CMAR PKKP **PKKPbc 13 10 05.0 +2.2**
SPMN St. Paul 94.48 44 ⇓P **P 12 53 03.3 +0.2**
baz=95
SPMN ⇓P **P 12 53 03.3 +0.2**
baz=95
SPMN ⇓P **P 12 53 03.3 +0.2**
baz=95
CHTO Chiang Mai 94.50 288 *e*P **P 12 53 05.0 +1.2**
CHTO pmax pmax
comp=Z,48nm,1.5s
CHTO MLR MLR
comp=Z,425nm,22.0s
CHTO Chiang Mai 94.50 288 *e*P **P 12 53 05.0 +1.2**
comp=Z,48nm,1.5s
CHTO LR LR
comp=Z,425nm,22.0s
CHTO Chiang Mai 94.50 288 P **P 12 53 05.5 +1.7**
comp=Z,25nm,1.3s,comp=Z,339nm
UTMT University of 94.50 54 *e*P **P 12 53 05.2 +1.8**
TRQA Tornquist 94.61 132 PFAKE 12 53 20.0 +16
TRQA LR LR
comp=Z,1μm,19.0s
SIUC Southern Illin 94.65 52 *e*P **P 12 53 04.8 +0.8**
comp=Z,4.7nm,0.4s
BCIP Isla Barro Col 94.66 82 PFAKE 12 53 20.0 +15
BCIP LR LR
comp=Z,637nm,19.0s
PLAL Pickwick Lake 94.70 55 PFAKE 12 53 20.0 +16
PLAL LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 94.99 57 PFAKE 12 53 20.0 +14
LRAL LR LR
comp=Z,760nm,20.0s
WVT Waverly 95.23 54 *e*P **P 12 53 06.9 +0.1**
WVT pmax pmax
comp=Z,27nm,1.8s
WVT Waverly 95.23 54 *e*P **P 12 53 06.9 +0.1**
comp=Z,27nm,1.8s
LZH Lanzhou 95.25 306 *e*P **P 12 53 09.3 +2.2**
LZH pP **pP 12 53 14.3 +2.4**
LZH sP **sP 12 53 17.3 +3.8**
LZH *e*S **S 13 04 22.0 -0.6**
LZH sS **sS 13 04 31.5 +1.0**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,76nm,4.0s
BOD Bodaibo 95.97 329 *e*P **P 12 53 07.2 -2.4**
BOD pmax pmax
comp=Z,8.0nm,1.9s
EYMN Ely 96.22 42 *e*P **P 12 53 09.2 -1.8**
comp=Z,9.1nm,1.3s
EYMN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 96.50 318 *e*P **P 12 53 12.9 +0.4**
ULN pmax pmax
comp=Z,11nm,1.5s
ULN MLR MLR
comp=Z,544nm,22.0s
ULN Ulaanbaatar 96.50 318 *e*P **P 12 53 12.9 +0.4**
comp=Z,11nm,1.5s
ULN LR LR
comp=Z,544nm,22.0s
ULN Ulaanbaatar 96.50 318 P **P 12 53 13.7 +1.2**
SONM Songino Array 96.92 318 P **P 12 53 13.1 -1.2**
comp=Z,0.7nm,0.9s,baz=73,slow=2.0,SNR=5.4
SONM PP PP 12 56 51.8 -18
comp=Z,1.0nm,1.0s,baz=114,slow=6.6,SNR=4.0
SONM LR LR 13 32 03.1
comp=Z,469nm,21.5s,baz=194,slow=32
SONM Songino Array 96.92 318 P **P 12 53 13.1 -1.2**
SONM Songino Array 96.92 318 P **P 12 53 13.1 -1.2**
SONM PP PP 12 56 51.8 -18
SFIN Scholer Farm 97.00 50 ⇑P **P 12 53 14.2 -0.5**
baz=97
SFIN ⇑P **P 12 53 14.2 -0.5**
baz=97
SFIN ⇑P **P 12 53 14.2 -0.5**
baz=97
GOGA Godfrey 97.94 58 PFAKE 12 53 30.0 +11
GOGA LR LR
comp=Z,623nm,19.0s
LPAZ La Paz 98.00 110 P Pdif 12 53 22.1 +1.4
comp=Z,4.2nm,1.0s,baz=268,slow=2.6,SNR=10.0
LPAZ PP **PP 12 57 18.9 -0.4**
comp=Z,0.9nm,0.6s,baz=224,slow=5.4,SNR=5.1
LPAZ LR LR 13 27 37.0
comp=Z,825nm,21.8s,baz=238,slow=29
LPAZ La Paz 98.00 110 P Pdif 12 53 22.1 +1.5
LPAZ 12 57 18.9
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 98.00 110 *e*P Pdif 12 53 22.0 +1.4
comp=Z,23nm,1.7s
LPAZ PP **PP 12 57 18.9 -0.4**
LPAZ *e*PP **PP 12 57 21.6 +2.3**
ROSC El Rosal 98.70 88 LR LR 13 28 23.5
comp=Z,388nm,21.4s,baz=23,slow=30
GTA Gaotai 99.22 308 *e*P **Pdif 12 53 25.3 +0.4**
GTA pP **pP 12 53 29.8 +0.1**
GTA sP **sP 12 53 32.3 +0.9**
GTA PP **PP 12 57 32.3 +4.4**
GTA SKS **SKSac 13 04 01.5 -1.6**
GTA S **S 13 04 55.0 -1.4**
GTA sS **sS 13 05 03.0 -1.4**
GTA pmax pmax
comp=Z,89nm,6.7s
GTA LR LR
comp=N,200nm,19.5s
GTA LR LR
comp=E,550nm,20.4s
GTA LR LR
comp=Z,800nm,22.3s
MTDJ Mount Denham 99.24 74 PFAKE 12 53 40.0 +15
MTDJ LR LR
comp=Z,946nm,20.0s
ZAK Zakamensk 99.59 320 *e*P **Pdif 12 53 25.2 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY Talaya 99.70 321 *e*P **Pdif 12 53 32.7 +6.1**
TLY *e*S **S 13 04 56.0 -3.7**
TLY *e* 13 06 30.1
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,327nm,20.0s
TLY Talaya 99.70 321 PFAKE 12 53 40.0 +13
TLY LR LR
comp=Z,518nm,20.0s
GLMI Grayling 99.92 46 PFAKE 12 53 40.0 +12
GLMI LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 100.00 49 PFAKE 12 53 40.0 +12
AAM LR LR
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 100.00 51 PFAKE 12 53 40.0 +12
ACSO LR LR
comp=Z,1μm,20.0s
NHSC New Hope 100.54 59 PFAKE 12 53 40.0 +9.3
NHSC LR LR
comp=Z,941nm,20.0s
BLA Blacksburg 101.27 54 PFAKE 12 53 50.0 +16
BLA LR LR
comp=Z,1μm,19.0s
GTBY Guantanamo Bay 101.88 73 PFAKE 12 53 50.0 +13
GTBY LR LR
comp=Z,555nm,21.0s
ERPA Erie 102.62 50 PFAKE 12 53 50.0 +10
ERPA LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 102.85 57 PFAKE 12 53 50.0 +9.1
CNNC LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 103.33 85 PFAKE 12 54 00.0 +16
SDV LR LR
comp=Z,169nm,20.0s
CBN Corbin 103.83 54 PFAKE 12 54 00.0 +15
CBN LR LR
comp=Z,1μm,20.0s
LSA Lhasa 104.04 297 PFAKE 12 54 00.0 +13
LSA LR LR
comp=Z,421nm,21.0s
SAML Samuel 105.06 104 PFAKE 12 58 20.0
SAML LR LR
comp=Z,734nm,21.0s
SDDR Presa de Saban 105.17 74 PFAKE 12 58 20.0
SDDR LR LR
comp=Z,1μm,22.0s
BINY Binghamton 105.56 50 PFAKE 12 58 20.0
BINY LR LR
comp=Z,2μm,19.0s
GRTK Grand Turk 105.87 72 PFAKE 12 58 20.0
GRTK LR LR
comp=Z,598nm,20.0s
LBNH Lisbon 108.76 48 PFAKE 12 58 20.0
LBNH LR LR
comp=Z,1μm,19.0s
SJG San Juan 109.75 76 PFAKE 12 58 30.0
SJG LR LR
comp=Z,439nm,20.0s
ZAA0 Zalesovo Array 111.29 322 *e*PKPdf **PKiKP 12 58 15.5 -1.0**
ZALV Zalesovo Beam 111.29 322 PKiKP **PKiKP 12 58 15.8 -0.8**
comp=Z,1.2nm,0.6s,baz=66,slow=1.2,SNR=6.7
ZALV PP **PP 12 58 53.0 -3.7**
comp=Z,0.5nm,0.4s,baz=64,slow=3.4,SNR=4.2
ZALV PKKPbc **PKKPab 13 09 21.5 +0.5**
comp=Z,0.2nm,0.3s,baz=235,slow=5.2,SNR=4.4
ZALV Zalesovo Beam 111.29 322 *i* PKiKP **PKiKP 12 58 15.8 -0.8**
ZALV 12 58 53.0
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 111.29 322 PKiKP **PKiKP 12 58 15.8 -0.8**
ZALV PP **PP 12 58 53.0 -3.7**
ZALV PKKPbc **PKKPab 13 09 21.5 +0.5**
DGAR Diego Garcia 111.87 255 PFAKE 12 58 30.0
DGAR LR LR
comp=Z,1μm,20.0s
SCHQ Schefferville 112.41 37 PFAKE 12 58 30.0
SCHQ LR LR
comp=Z,2μm,19.0s
SPB Sao Paulo 112.49 125 PFAKE 12 58 30.0
SPB LR LR
comp=Z,969nm,20.0s
GRGR Grenville 112.68 84 PFAKE 12 58 30.0
GRGR LR LR
comp=Z,582nm,19.0s
MK31 Makanchi Array 112.89 314 *e*PKiKP **PKiKP 12 58 18.7 -1.2**
MK31 Makanchi Array 112.89 314 *e*PKPdf **PKiKP 12 58 18.7 -1.2**
MKAR Makanchi Array 112.89 314 PKiKP **PKiKP 12 58 18.8 -1.1**
comp=Z,2.1nm,0.7s,baz=70,slow=1.4,SNR=17
MKAR PKKPbc **PKKPbc 13 09 07.7 -0.7**
comp=Z,0.8nm,0.8s,baz=290,slow=3.5,SNR=7.8
MKAR Makanchi Array 112.89 314 *i* PKiKP **PKiKP 12 58 18.8 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 112.89 314 PKiKP **PKiKP 12 58 18.8 -1.1**
MKAR PKKPbc **PKKPbc 13 09 07.7 -0.7**
BBSR BB Station 113.27 62 PFAKE 12 58 30.0
BBSR LR LR
comp=Z,520nm,19.0s
ANWB Willy Bob 113.73 78 PFAKE 12 58 30.0
ANWB LR LR
comp=Z,558nm,20.0s
KURK Kurchatov 115.21 318⇑*i*PKiKP **PKPdf 12 58 23.4 -0.7**
KURK Kurchatov 115.21 318 *e*PKPdf **PKPdf 12 58 23.3 -0.9**
KURK LR LR
comp=Z,393nm,20.0s
SFJD Kangerlussuaq 117.54 22 *i* P **PKPdf 12 58 26.5 -1.6**
comp=Z,6.4nm,1.0s
POO Poona 117.61 282 *ex* x 12 59 24.0
TKM2 Tokmak 2 117.71 310 *e*PKiKP **PKPdf 12 58 28.1 -1.4**
TKM2 MLR MLR
comp=Z,423nm,20.0s
TKM2 Tokmak 2 117.71 310 *e*PKPdf **PKPdf 12 58 28.1 -1.4**
TKM2 LR LR
comp=Z,423nm,20.0s
KBS Kingsbay 117.98 359 PFAKE 12 58 40.0 +11
KBS LR LR

comp=Z,712nm,19.0s
SUMG Summit 118.36 14 *i* P **PKPdf 12 58 29.7 -0.4**
comp=Z,6.8nm,1.0s
FRU Bishkek 118.43 310 *e*PKIKP **PKPdf 12 58 30.0 -0.7**
AAK Ala-Archa 118.53 310 *e*PKIKP **PKPdf 12 58 30.2 -0.8**
AAK MLR MLR
comp=Z,415nm,20.0s
AAK Ala-Archa 118.53 310 *e*PKPdf **PKPdf 12 58 30.2 -0.8**
AAK LR LR
comp=Z,415nm,20.0s
DAG Danmarks Havn 118.63 7 *i* P **PKPdf 12 58 28.7 -1.3**
comp=Z,27nm,0.9s
DAG *i* 12 58 36.8
EKS2 Erkin-Say 119.06 310 *e*PKIKP **PKPdf 12 58 31.6 -0.4**
EKS2 MLR MLR
comp=Z,406nm,19.0s
EKS2 Erkin-Say 119.06 310 *e*PKPdf **PKPdf 12 58 31.6 -0.4**
EKS2 LR LR
comp=Z,406nm,19.0s
NIL Nilore 119.63 299 PFAKE 12 58 40.0 +6.7
NIL LR LR
comp=Z,58nm,20.0s
BVA0 Borovoye Array 119.95 322 *i* PKIKP **PKPdf 12 58 32.2 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.4s
BRVK Borovoye 120.00 322 *i* PKIKP **PKPdf 12 58 33.0 -0.3**
BRVK Borovoye 120.00 322 *e*PKPdf **PKPdf 12 58 32.9 -0.4**
BRVK *e*PP **PP 12 59 58.1 +0.3**
BRVK LR LR
comp=Z,820nm,19.0s
KKAR Karatay Array 121.41 310 *e*PKIKP **PKPdf 12 58 35.3 -1.1**
KKAR *e* 13 00 06.4
KKAR Karatay Array 121.41 310 *e*PKPdf **PKPdf 12 58 35.3 -1.1**
KKAR *e*PP **PP 13 00 06.4 -1.5**
KBL Kabul 123.12 300 *e*PKIKP **PKPdf 12 58 40.4 +0.2**
KBL Kabul 123.12 300 *e*PKPdf **PKPdf 12 58 40.4 +0.2**
SCO Scoresbysund 123.49 12 *i* P **PKPdf 12 58 40.0 +0.5**
comp=Z,8.2nm,1.1s
SVE Sverdlovsk 124.17 328 ⇓ *i* PKIKP **PKPdf 12 58 40.8 -0.4**
SVE *e* 13 05 51.1
SVE *e* 13 17 26.6
SVE pmax pmax
comp=Z,26nm,1.3s
SVE MLR MLR
comp=Z,784nm,20.0s
SOKR Solikamsk 124.80 332 *e*PKIKP **PKPdf 12 58 40.5 -1.7**
SOKR pmax pmax
comp=Z,30nm,1.3s
ARU Arti 125.38 328 *e*PKIKP **PKPdf 12 58 43.1 -0.4**
ARU MLR MLR
comp=Z,760nm,19.0s
ARU Arti 125.38 328 *e*PKPdf **PKPdf 12 58 43.1 -0.4**
ARU LR LR
comp=Z,760nm,19.0s
KEV Kevo 125.93 352 *e*PKIKP **PKPdf 12 58 42.9 -1.3**
KEV Kevo 125.93 352 PFAKE 12 59 00.0 +16
KEV LR LR
comp=Z,770nm,20.0s
KEV Kevo 125.93 352 *e*pkp **PKPdf 12 58 42.9 -1.3**
KEV Kevo 125.93 352 *e*pkp **PKPdf 12 58 42.9 -1.3**
LVZ Lovozero 126.31 348 PFAKE 12 59 00.0 +15
LVZ LR LR
comp=Z,776nm,20.0s
ARCES ARCESS Array B 126.33 352 PKP **PKPdf 12 58 44.8 -0.2**
comp=Z,9.8nm,1.0s,baz=48,slow=3.6,SNR=10
ARCES ARCESS Array B 126.33 352 PKIKP **PKPdf 12 58 44.8 -0.2**
ARCES pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 126.33 352 PKP **PKPdf 12 58 44.8 -0.2**
AB31 Akbulak array 127.29 320 *i* PKIKP **PKPdf 12 58 46.9 -0.5**
AB31 pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 127.29 320 *e*PKPdf **PKPdf 12 58 47.1 -0.3**
ABPO Ambohimpanom 127.42 229 PFAKE 12 59 00.0 +11
ABPO LR LR
comp=Z,527nm,20.0s
AKTO Aktyubinsk 128.05 322 PKIKP **PKPdf 12 58 47.8 -1.0**
MSEY Mahe Island 128.43 250 PFAKE 12 59 00.0 +9.3
MSEY LR LR
comp=Z,537nm,21.0s
KLMR Klimovskoe 130.72 340 *e*PKIKP **PKPdf 12 58 51.8 -1.7**
KLMR *e* 13 01 10.3
KLMR pmax pmax
comp=Z,58nm,1.4s
KLMR MLR MLR
comp=Z,500nm,15.0s
RCBR Riachuelo 131.04 114 PFAKE 12 59 10.0 +14
RCBR LR LR
comp=Z,1μm,20.0s
JOF Joensuu 131.31 346 *e*PKIKP **PKPdf 12 58 52.5 -2.1**
JOF Joensuu 131.31 346 *e*pkp **PKPdf 12 58 52.5 -2.1**
JOF Joensuu 131.31 346 *e*pkp **PKPdf 12 58 52.5 -2.1**
BOSA Boshof 131.72 200 PKP **PKPdf 12 58 56.5 -0.2**
comp=Z,12nm,0.9s,baz=155,slow=1.3,SNR=11
BOSA Boshof 131.72 200 PKIKP **PKPdf 12 58 56.5 -0.2**
BOSA pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 131.72 200 PKP **PKPdf 12 58 56.5 -0.2**
BOSA LR LR
comp=Z,649nm,19.0s
KAF Kangasniemi 133.09 348 *e*PKIKP **PKPdf 12 58 56.4 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 133.09 348 *e*pkp **PKPdf 12 58 56.4 -1.6**
comp=Z,2.7nm,0.6s
KAF Kangasniemi 133.09 348 *e*pkp **PKPdf 12 58 56.4 -1.6**
comp=Z,2.7nm,0.6s
FINES FINESS Array B 133.75 348 PKP **PKPdf 12 58 58.9 -0.4**
comp=Z,6.7nm,1.0s,baz=107,slow=2.0,SNR=8.0
FINES FINESS Array B 133.75 348 PKIKP **PKPdf 12 58 58.9 -0.4**
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 133.75 348 PKP **PKPdf 12 58 58.9 -0.4**
LBTB Lobatse 134.90 203 PFAKE 12 59 10.0 +7.2
LBTB LR LR
comp=Z,624nm,20.0s
NOA NORSAR Array B 135.92 358 PKP **PKPdf 12 59 03.6 +0.2**
comp=Z,2.5nm,1.0s,baz=48,slow=4.8,SNR=4.9
NOA NORSAR Array B 135.92 358 PKIKP **PKPdf 12 59 03.6 +0.2**
NOA NORSAR Array B 135.92 358 PKP **PKPdf 12 59 03.6 +0.2**
OBN Obninsk 136.08 337 ⇓ *i* PKIKP **PKPdf 12 59 03.2 -0.6**
OBN *i* 12 59 10.4
OBN *i* 13 01 45.9
OBN *e*SS SS 13 20 16.6 +35
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,600nm,20.0s
OBN Obninsk 136.08 337 PFAKE 12 59 20.0 +16
OBN LR LR
comp=Z,744nm,20.0s
VRHR Novokhopersk 136.69 329 *e*PKIKP **PKPdf 12 59 03.9 -1.2**
VRHR *e* 13 01 44.1
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,40nm,2.2s
VRHR pmax pmax
comp=E,40nm,2.2s
VRHR pmax pmax
comp=Z,90nm,2.2s
VRHR MLR MLR
comp=N,280nm,23.0s
VRHR MLR MLR
comp=Z,1μm,23.0s
VRHR MLR MLR
comp=E,160nm,8.0s
VSR Storozhevoye 137.78 331 *e*PKIKP **PKPdf 12 59 04.7 -2.4**
VSR *e* 13 01 54.5
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR pmax pmax
comp=N,30nm,2.0s
VSR pmax pmax
comp=E,40nm,2.0s
VSR pmax pmax
comp=Z,60nm,2.0s
VSR MLR MLR
comp=Z,540nm,13.0s
VSR MLR MLR
comp=N,200nm,8.0s
VSR MLR MLR
comp=E,180nm,8.0s
VORD Divnogorie 137.89 331 *e*PKIKP **PKPdf 12 59 05.9 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD MLR MLR
comp=Z,850nm,22.0s
VORD MLR MLR
comp=N,480nm,23.0s
VORD MLR MLR
comp=E,930nm,23.0s
ZEI Tsey 140.10 318 *i* PKIKP **PKPdf 12 59 13.4 +1.5**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 140.27 320 *i* PKIKP **PKPdf 12 59 08.1 -3.9**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,427nm,21.0s
KIV Kislovodsk 140.27 320 PFAKE 12 59 20.0 +8.0
KIV LR LR
comp=Z,528nm,22.0s
GNI Garni 140.74 314 *i* PKIKP **PKPdf 12 59 13.3 +0.2**
GNI Garni 140.74 314 PFAKE 12 59 20.0 +6.9
GNI LR LR
comp=Z,344nm,21.0s
SUW Suwalki 141.19 346 *e*PKP **PKPdf 12 59 08.7 -4.5**
SUW *e*PKPbc **PKiKP 12 59 15.9 0.0**
SUW Suwalki 141.19 346 *e*PKHKP PKPpre 12 59 08.7
AKASG Malin Array Be 142.30 338 PKhKP PKPpre 12 59 10.7
comp=Z,1.6nm,0.5s,baz=31,slow=3.1,SNR=9.8
AKASG Malin Array Be 142.30 338 *i* PKHKP PKPpre 12 59 10.7
AKASG Malin Array Be 142.30 338 PKPpre PKPpre 12 59 10.7
AKBB Malin Array Si 142.30 338 *e*PKHKP PKPpre 12 59 10.2
AKBB Malin Array Si 142.30 338 *e*PKPdf PKPpre 12 59 10.2
KIEV Kiev 142.31 338 *e*PKHKP PKPpre 12 59 10.0
KIEV MLR MLR
comp=Z,911nm,20.0s
KIEV Kiev 142.31 338 *e*PKPdf PKPpre 12 59 09.9
KIEV LR LR
comp=Z,911nm,20.0s
TSUM Tsumeb 142.85 195 *e*PKPdf **PKPdf 12 59 13.3 -4.2**
TSUM LR LR
comp=Z,859nm,20.0s
ANN Anapa 142.86 325 *i* PKIKP PKPdf 12 59 21.6 +5.1
ANN pmax pmax
comp=Z,64nm,1.2s
BSEG Bad Segeberg 143.06 358 *e*PKPbc PKPbc 12 59 13.0 -0.3
BSEG Bad Segeberg 143.06 358 *e*PKIKP PKPbc 12 59 13.0 -0.3
BHD Baghdad 143.52 303 *i* PKP PKPab 12 59 12.0 -2.3
BHD *i* PKS 12 02 56.0
BHD *i* SKS 12 06 25.0
SIM Simferopol' 144.54 327 *c i* PKIKP **PKiKP 12 59 26.1 +3.0**
SIM pmax pmax
comp=Z,13nm,1.0s
SIM MLR MLR
comp=Z,1μm,23.7s
IBBN Ibbenburen 144.74 0 *e*PKPbc PKPbc 12 59 18.4 0.0
LVV L'vov 144.76 342 *e*PKIKP **PKPab 12 59 18.0 -0.5**
LVV *e* 12 59 25.2
DHBB Dhamar BB 144.95 271 *e*P **PKPdf 12 59 21.9 +0.5**
WTSB Winterswijk 145.06 1 *e*PKP **PKPbc 12 59 19.1 -0.3**
comp=Z,177nm,1.7s
WTSB *e*X 12 59 27.0
comp=Z,245nm,1.7s
CLZ Clausthal 145.15 357 *e*PKPbc **PKPbc 12 59 19.8 -0.1**
CLZ Clausthal 145.15 357 *e*PKIKP **PKPbc 12 59 19.8 -0.1**
KWP Kalwaria Pacla 145.31 343 *e*PKP **PKPab 12 59 20.5 0.0**
KWP *e*PKPbc **PKiKP 12 59 27.8 +3.2**
KWP Kalwaria Pacla 145.31 343 *e*PKIKP **PKPab 12 59 20.4 -0.2**
KWP MLR MLR
comp=Z,853nm,19.0s
KWP Kalwaria Pacla 145.31 343 *e*PKPbc **PKPab 12 59 20.4 -0.2**
KWP LR LR
comp=Z,853nm,19.0s
KWP Kalwaria Pacla 145.31 343 ⇑ *i*P **PKPab 12 59 20.6 0.0**
KIS Kishinev 145.47 335 *e*PKP2 **PKPbc 12 59 20.0 -0.9**
KIS Kishinev 145.47 335 *e*PKP **PKPbc 12 59 20.0 -0.9**
KIS LRM MLR 14 08 24.0
comp=Z,300nm,24.0s
OJC Ojcow 145.50 347 *e*PKP **PKPab 12 59 21.1 -0.1**
OJC *e* 12 59 27.8
OJC Ojcow 145.50 347 *e*PKIKP **PKPab 12 59 21.1 -0.1**
OJC *e* 12 59 27.8
CLL Collm 145.51 354 *e*PKPbc **PKPdf 12 59 20.6 -0.4**
CLL Collm 145.51 354 ⇑ *i*PKIKP **PKPdf 12 59 20.5 -0.4**
CLL *i* 12 59 28.6
CLL *e* 13 02 49.0
CLL pmax pmax
comp=Z,90nm,1.3s
CLL MLR MLR
comp=Z,700nm,19.8s
CLL Collm 145.51 354 ⇑ *i*PKPbc **PKPdf 12 59 20.5 -0.4**
comp=Z,90nm,1.3s
CLL *i* pPKiKP **pPKiKP 12 59 28.6 -1.2**
CLL *e*(PP) 13 02 36.0
CLL *e*(SKPdf) 13 02 49.0
CLL Lm MLR 14 07 00.0
comp=N,400nm,19.8s
CLL Lm MLR 14 07 00.0
comp=E,400nm,19.1s
CLL Lm MLR 14 07 00.0
comp=Z,700nm,19.8s
KSP Ksiaz 145.56 351 *e*PKP **PKPab 12 59 21.6 +0.1**
KSP *e*PKPbc **PKiKP 12 59 29.0 +4.0**
KSP Ksiaz 145.56 351 ⇈ *e*PKIKP **PKPab 12 59 21.5 +0.1**
KSP *e* 12 59 28.4
BUG Bochum--Univer 145.60 1 *e*PKPbc **PKPbc 12 59 21.2 0.0**
BUG *e*pPKPbc pPKPbc 12 59 29.0 +2.9
BRG Berggiesshubel 145.84 353 *i* PKP **PKPdf 12 59 21.7 +0.2**
comp=Z,123nm,1.3s
BRG *i* 12 59 29.5
comp=Z,157nm,1.4s
BRG *i* 12 59 37.0
comp=Z,30nm,1.1s
BRG PP **PP 13 02 44.0 +1.8**
comp=Z,9.6nm,1.2s
BRG PKS **PKSdf 13 03 00.5 +3.8**
comp=Z,23nm,1.8s
BRG Berggiesshubel 145.84 353 *e*PKPbc **PKPbc 12 59 21.8 -0.2**
BRG Berggiesshubel 145.84 353 *i* PKIKP **PKPdf 12 59 21.7 +0.2**
BRG *i* 12 59 29.5
BRG *i* 12 59 37.0
BRG 13 02 44.0
BRG pmax pmax
comp=Z,123nm,1.3s
UPC Upice 145.93 351 *e*PKP PKPab 12 59 30.4 +7.6
RAC Raciborz 145.96 348 *e*PKP2 **PKPab 12 59 23.1 +0.2**
DPC Dobruska-Polom 146.03 350 *e*PKP PKPab 12 59 30.4 +7.2
KMBO Kilima Mbogo 146.03 241 *e*PKP2 **PKPab 12 59 24.7 +0.1**
KMBO MLR MLR
comp=Z,472nm,20.0s
KMBO Kilima Mbogo 146.03 241 *e*PKPbc **PKPab 12 59 24.7 +0.1**
KMBO LR LR
comp=Z,472nm,20.0s
KOLS Kolonicke sedl 146.07 343 *e*PKP2 **PKPab 12 59 23.4 0.0**
KOLS Kolonicke sedl 146.07 343 *e*PKP **PKPab 12 59 23.4 0.0**
PVCC Panska Ves 146.11 353 *e*PKP PKPab 12 59 31.1 +7.7
LEOM Leova 146.12 335 PKP2 **PKPbc 12 59 23.1 +0.1**
BEBN Eben Emael 146.20 3 PKP **PKPab 12 59 24.0 +0.2**
BEBN E 12 59 31.1
OKC Ostrava-Krasne 146.20 348 *e*PKP PKPab 12 59 31.1 +7.3
KRLC Kraliky 146.22 350 *e*PKP PKPab 12 59 31.6 +7.6
HGN Heimansgroeve 146.24 2 *e*PKP **PKPbc 12 59 23.1 -0.1**
comp=Z,396nm,1.8s
HGN *e*X 12 59 30.4
comp=Z,393nm,1.7s
MOX Moxa 146.28 356 *e*PKPbc **PKPbc 12 59 22.8 -0.6**
MOX *e*pPKPbc pPKPbc 12 59 30.9 +2.7
MOX Moxa 146.28 356 *e*PKP2 **PKPbc 12 59 22.8 -0.6**
BUR08 Bucovina Ar. S 146.30 339 *e*PKPdf **PKPdf 12 59 22.2 -0.3**
BUR08 *e*PKPbc **PKPab 12 59 24.0 -0.4**
BURAR Bucovina Array 146.31 339 ⇑ *i*P **PKPab 12 59 24.4 -0.1**
CRVS Cervenica-Dubn 146.31 344 *e*PKP2 **PKPbc 12 59 23.1 -0.5**
CRVS Cervenica-Dubn 146.31 344 *e*PKP **PKPbc 12 59 23.1 -0.5**
UZH Uzhgorod 146.34 343 *e*PKP2 **PKPdf 12 59 22.8 +0.4**
MORC Moravsky Berou 146.38 349 *e*PKP2 **PKPbc 12 59 23.9 +0.2**
MORC Moravsky Berou 146.38 349 *e*PKPbc **PKPbc 12 59 23.9 +0.2**
MORC Moravsky Berou 146.38 349 ⇓ *i*P **PKPab 12 59 24.4 -0.2**
MEM Membach 146.40 2 PKP **PKPbc 12 59 23.4 -0.3**
MEM E 12 59 31.6
SNF Seneffe 146.40 4 PKP **PKPab 12 59 24.8 +0.3**
SNF E 12 59 31.8
TANN Tannenbergstha 146.44 355 *e*PKPbc **PKPbc 12 59 23.6 -0.3**
BCLA Clavier 146.56 3 PKP **PKPbc 12 59 24.2 0.0**
BCLA E 12 59 32.1
PRA Prague 146.57 352 PKP PKPab 12 59 32.0 +6.8
NKC Novy Kostel 146.62 355 *e*PKP PKPab 12 59 32.3 +6.8
PRU Pruhonice 146.64 352 *e*PKP PKPab 12 59 32.1 +6.6
TRPA Tarpa 146.72 342 ⇑ *i*P **PKPbc 12 59 24.9 +0.3**
TRPA Tarpa 146.72 342 ⇑ *e*PKPdf **PKPbc 12 59 25.0 +0.3**
TESR 146.73 336 ⇓ *i*P **PKPbc 12 59 24.8 0.0**
GHRR 146.80 335 ⇓ *i*P **PKPab 12 59 26.6 +0.4**
BMR Baia Mare 146.83 341 PKP2 **PKPab 12 59 26.0 -0.3**
DOU Dourbes 146.84 4 PKP **PKPbc 12 59 25.4 +0.5**
DOU E 12 59 33.1
GIVF Givet 146.84 4 *e*PKIKP **PKPdf 12 59 23.4 +0.2**
BAIF Baives 146.84 4 *e*PKIKP **PKPdf 12 59 23.5 +0.3**
VRAC Vranov 147.00 350 ⇑ PKP2 **PKPbc 12 59 25.8 +0.3**
VRAC Vranov 147.00 350 ⇑ *i*P **PKPbc 12 59 25.8 +0.3**
ROTZ Rotzenmuhle 147.10 355 *e*PKPbc **PKPbc 12 59 26.3 +0.5**
ROTZ *ep*PKPbc **pPKPbc 12 59 33.9 +3.2**
ABH Alteburg 147.16 1 PKP **PKPbc 12 59 26.1 +0.1**
TREC Trest 147.19 351 *e*PKP PKPab 12 59 34.0 +6.3
CFR Carcaliu 147.20 333 ⇑ PKP2 **PKPbc 12 59 26.6 +0.4**
CFR Carcaliu 147.20 333 ⇑ *i*P **PKPbc 12 59 26.6 +0.4**
VRI Vrincioaia 147.23 336 ⇑ PKP2 **PKPbc 12 59 26.4 +0.1**
VRI Vrincioaia 147.23 336 ⇑ *i*P **PKPbc 12 59 26.4 +0.1**
GRF Grafenberg Arr 147.25 356 *e*L L 14 09 11.0
comp=Z,521nm,21.0s
GRFO Grafenberg 147.25 356 *e*PKP2 **PKPbc 12 59 26.8 +0.6**
GRFO Grafenberg 147.25 356 *e*PKPbc **PKPbc 12 59 26.8 +0.6**
PLOR Plostina 147.27 336 ⇓ PKP2 **PKPbc 12 59 26.7 +0.3**
PLOR Plostina 147.27 336 ⇓ *i*P **PKPbc 12 59 26.7 +0.3**
VYHS Vyhne 147.33 347 *e*PKIKP **PKPdf 12 59 24.9 +0.8**
VYHS Vyhne 147.33 347 *e*PKP **PKPdf 12 59 24.9 +0.8**
RUP Ruppelstein 147.34 1 PKIKP **PKPdf 12 59 24.6 +0.5**
RUP Ruppelstein 147.34 1 PKP **PKPdf 12 59 24.6 +0.5**
WLF Walferdange 147.35 2 PKP **PKPab 12 59 27.8 -0.4**
WLF E 12 59 35.3
WLF Walferdange 147.35 2 *e*PKPbc **PKPab 12 59 27.4 -0.9**
WLF Walferdange 147.35 2 *e*PKP2 **PKPab 12 59 27.7 -0.6**
WLF MLR MLR
comp=Z,962nm,20.0s
WLF Walferdange 147.35 2 *e*PKPbc **PKPab 12 59 27.7 -0.6**
WLF LR LR
comp=Z,962nm,20.0s
ROSF Rostrenen 147.37 14 *e*PKIKP **PKPdf 12 59 24.2 0.0**
TOD Tromm 147.44 359 PKP2 **PKPbc 12 59 25.9 -0.8**
TOD Tromm 147.44 359 PKP **PKPbc 12 59 25.9 -0.8**
FLN La Foliniere 147.53 11 *e*PKIKP **PKPdf 12 59 24.5 +0.1**
comp=Z,68nm,1.2s
FLN *e*R
comp=Z,1μm,19.0s
KHC Kasperske Hory 147.60 353 *e*PKIKP **PKPdf 12 59 24.5 -0.1**
KHC *e* 12 59 27.9
KHC Kasperske Hory 147.60 353 *e*PKPdf **PKPdf 12 59 24.5 -0.1**
KHC *e*PKPbc **PKPbc 12 59 27.9 +0.6**
KHC Kasperske Hory 147.60 353 *e*PKP PKPab 12 59 35.3 +6.0
KHC *e*PP **PP 13 02 52.0 -0.7**
SGMF Saint Gilles 147.61 13 *e*PKIKP **PKPdf 12 59 24.5 -0.1**
PSZ Piszkesteto 147.62 345 ⇑ PKIKP **PKPdf 12 59 25.6 +0.9**
PSZ Piszkesteto 147.62 345 *e*PKPdf **PKPdf 12 59 24.9 +0.2**
PSZ *e*PKPbc **PKPbc 12 59 27.9 +0.5**
PSZ LR LR
comp=Z,816nm,19.0s
PSZ Piszkesteto 147.62 345 ⇑ *i*P **PKPdf 12 59 25.6 +0.9**
PSZ Piszkesteto 147.62 345 ⇑ *e*PKPdf **PKPbc 12 59 27.8 +0.5**
TIRR Tirgusor 147.65 332 *e*PKHKP **PKPdf 12 59 23.2 -1.5**
TIRR Tirgusor 147.65 332 *e*PKPdf **PKPdf 12 59 23.2 -1.5**
WET Wettzell 147.66 354 *e*PKPdf **PKPdf 12 59 25.1 +0.4**
WET *e*PKPbc **PKPbc 12 59 27.6 +0.2**
WET Wettzell 147.66 354 *e*PKIKP **PKPdf 12 59 25.1 +0.4**
LDF La Druitiere 147.76 10 *e*PKIKP **PKPdf 12 59 24.7 -0.1**
QUIF Quistinic 147.79 14 *e*PKIKP **PKPdf 12 59 24.8 0.0**
GRR Gorron 147.83 11 *e*PKIKP **PKPdf 12 59 25.1 +0.2**
MLR Muntele Rosu 147.85 336 ⇓ PKP2 **PKPbc 12 59 29.0 +0.9**
MLR Muntele Rosu 147.85 336 ⇓ *i*P **PKPbc 12 59 29.0 +0.9**
DRGR 147.86 341 ⇑ PKP2 **PKPbc 12 59 28.2 +0.1**
DRGR 147.86 341 ⇑ *i*P **PKPbc 12 59 28.2 +0.1**
GEC2 GERESS Array S 147.87 353 *ep*PKPbc pPKPbc 12 59 35.8 +2.9
GERES GERESS Array B 147.87 353 PKP **PKPdf 12 59 25.2 +0.1**
comp=Z,8.8nm,1.0s,baz=356,slow=1.4,SNR=34
GERES PKPbc **PKPbc 12 59 28.3 +0.3**
comp=Z,20nm,1.0s,baz=24,slow=1.6,SNR=44
GERES GERESS Array B 147.87 353 PKIKP **PKPdf 12 59 25.2 +0.1**
GERES 12 59 28.3
GERES pmax pmax
comp=Z,9.0nm,1.0s
GERES pmax pmax
comp=Z,20nm,1.0s
GERES GERESS Array B 147.87 353 PKP **PKPdf 12 59 25.2 +0.1**
GERES PKPbc **PKPbc 12 59 28.3 +0.3**
ZST Bratislava 147.97 349 *e*PKP2 **PKPbc 12 59 29.0 +0.8**
ZST Bratislava 147.97 349 *e*PKP **PKPbc 12 59 29.0 +0.8**
LANF Langenberg 148.07 0 PKIKP **PKPbc 12 59 27.1 -1.4**
LANF Langenberg 148.07 0 PKP **PKPbc 12 59 27.1 -1.4**
LANF Langenberg 148.07 0 PKP **PKPbc 12 59 27.1 -1.4**
BRTR Keskin Array B 148.23 321 PKPbc **PKPbc 12 59 29.8 +0.4**
comp=Z,31nm,1.0s,baz=111,slow=2.1,SNR=69
BRTR Keskin Array B 148.23 321 PKP2 **PKPbc 12 59 29.8 +0.4**
BRTR pmax pmax
comp=Z,31nm,1.0s
BRTR Keskin Array B 148.23 321 PKPbc **PKPbc 12 59 29.8 +0.4**
VOIR 148.24 337 ⇓ PKP2 **PKPbc 12 59 30.0 +0.9**
VOIR 148.24 337 ⇓ *i*P **PKPbc 12 59 30.0 +0.9**
BUD Budapest 148.24 346 ⇑ *e*PKPdf **PKPbc 12 59 28.8 -0.1**
STU Stuttgart 148.26 359 *e*PKPdf **PKPdf 12 59 26.7 +1.1**
STU *e*PKPbc **PKPbc 12 59 29.4 +0.4**
STU Stuttgart 148.26 359 *e*PKIKP **PKPdf 12 59 26.2 +0.6**
STU *e* 12 59 29.7
STU *e* 12 59 32.1
STU Stuttgart 148.26 359 *e*PKPdf **PKPdf 12 59 26.2 +0.6**
STU *e*PKPbc **PKPbc 12 59 29.7 +0.8**
STU *e*PKPab **PKPab 12 59 32.4 +0.5**
PAGF Fort de Pagny 148.44 3 *e*PKIKP **PKPdf 12 59 26.4 +0.5**
MEZF Maizieres J'vi 148.45 4 *e*PKIKP **PKPdf 12 59 26.4 +0.5**
comp=Z,42nm,1.2s
CONA Conrad Observa 148.46 350 ⇑ *i*P **PKPdf 12 59 26.4 +0.3**
CONA ⇑ *i*P **PKiKP 12 59 30.4 -0.8**
CONA ⇑ *i*P **sPKPab 12 59 38.1 -1.3**
CONA Conrad Observa 148.46 350 ⇑ *i*PKPdf **PKPdf 12 59 26.4 +0.3**
comp=Z,22nm,1.5s,SNR=15
CONA ⇑ *i*sPKPdf **PKiKP 12 59 30.4 -0.8**
comp=Z,128nm,1.4s
CONA ⇑ *i*sPKPab **sPKPab 12 59 38.1 -1.3**
comp=Z,198nm,1.5s
PKSG 148.47 346 ⇑ *e*PKPdf **PKPbc 12 59 29.4 -0.1**
SOP Sopron 148.57 349 ⇑ *e*PKPdf **PKPbc 12 59 30.5 +0.7**
CDF Champ du Feu 148.63 1 *e*PKIKP **PKPdf 12 59 26.4 0.0**
PKST T``s 148.68 347 ⇑ *e*PKPdf **PKPdf 12 59 25.3 -1.1**
LOT Lotru 148.69 338 ⇑ *i*P **PKPdf 12 59 28.2 +1.6**
BFO Black Forest 148.72 360 *e*PKPbc **PKPbc 12 59 30.5 +0.3**
BFO *ep*PKPbc **pPKPbc 12 59 38.5 +3.4**
BFO Black Forest 148.72 360 *e*PKP2 **PKPbc 12 59 30.5 +0.3**
BFO Black Forest 148.72 360 *e*PKPdf **PKPdf 12 59 27.3 +0.9**
BFO *e*PKPbc **PKPbc 12 59 30.6 +0.5**
SFTF Sexfontaines 148.75 4 *e*PKIKP **PKPdf 12 59 26.9 +0.5**
comp=Z,58nm,1.1s
FUR Furstenfeldbru 148.77 356 *e*PKPbc **PKPbc 12 59 30.9 +0.6**
FUR Furstenfeldbru 148.77 356 *e*PKP2 **PKPbc 12 59 30.9 +0.6**
MOA Molln 148.77 352 ⇑ *i*P **PKPdf 12 59 26.1 -0.4**
MOA *i*P **PKPbc 12 59 30.6 +0.2**
MOA ⇑ *i*P **sPKPab 12 59 38.6 -2.0**
MOA Molln 148.77 352 ⇑ *i*PKPdf **PKPdf 12 59 26.2 -0.4**
comp=Z,5.4nm,1.2s
MOA *i* sPKPdf **PKPbc 12 59 30.6 +0.2**
comp=Z,74nm,1.6s,SNR=16
MOA ⇑ *i*sPKPab **sPKPab 12 59 38.6 -2.0**
comp=Z,96nm,1.4s
THEF They Montfort 148.78 3 PKIKP **PKPdf 12 59 27.9 +1.4**
THEF They Montfort 148.78 3 PKP **PKPdf 12 59 27.9 +1.4**
THEF They Montfort 148.78 3 PKP **PKPdf 12 59 27.9 +1.4**
ECH Echery 148.82 1 PKIKP **PKPdf 12 59 27.4 +0.8**
ECH *e* 12 59 30.9
ECH MLR MLR
comp=Z,824nm,19.0s

ECH	**Echery**	**148.82**	**1**	PKP	**PKPdf**	12 59 27.4	+0.8
ECH				*e*PKPbc	**PKPbc**	**12 59 30.9**	**+0.4**
ECH				LR	LR		
	comp=Z,824nm,19.0s						
ECH	**Echery**	**148.82**	**1**	PKP	**PKPdf**	12 59 27.4	+0.8
LIBD	**Limburg**	**148.90**	**1**	PKIKP	**PKPdf**	12 59 28.4	+1.7
LIBD	**Limburg**	**148.90**	**1**	PKP	**PKPdf**	12 59 28.4	+1.7
SPAK	**Spaichingen-Ko**	**148.94**	**359**	PKP	**PKPdf**	12 59 28.4	+1.5
HAU	**Haudompre**	**149.01**	**2**	*e*PKIKP	**PKPdf**	12 59 27.0	+0.1
HAU				*e*R			
	comp=Z,1μm,19.5s						
RJOB	**Jochberg**	**149.06**	**354**	*e*PKPbc	**PKPbc**	12 59 31.5	+0.4
PRD	**Provadia**	**149.09**	**332**	P	**PKPbc**	12 59 31.1	-0.1
FURI	**Furi**	**149.10**	**259**	*i* P	**PKiKP**	12 59 34.4	+0.6
ARSA	**Arzberg**	**149.17**	**350**	⇑*i* P	**PKPdf**	12 59 27.8	+0.6
ARSA				⇑*i* P	**PKPbc**	12 59 31.7	+0.3
ARSA				⇑*i* P	**sPKPab**	**12 59 39.2**	**-3.0**
ARSA	**Arzberg**	**149.17**	**350**	⇑*i*PKPdf	**PKPdf**	12 59 27.8	+0.6
	comp=Z,16nm,1.6s,SNR=11						
ARSA				⇑*i*sPKPdf	**PKPbc**	**12 59 31.7**	**+0.3**
	comp=Z,70nm,1.5s						
ARSA				⇑*i*sPKPab	**sPKPab**	**12 59 39.2**	**-3.0**
	comp=Z,100nm,1.4s						
FELD	**Feldberg im Sc**	**149.17**	**0**	PKP	**PKPdf**	12 59 27.4	+0.1
MOF	**Molkenrain**	**149.19**	**1**	PKIKP	**PKPdf**	12 59 29.3	+2.0
MOF	**Molkenrain**	**149.19**	**1**	PKP	**PKPdf**	12 59 29.3	+2.0
MOF	**Molkenrain**	**149.19**	**1**	PKP	**PKPdf**	12 59 29.3	+2.0
HINF	**Hinteralfeld**	**149.22**	**2**	*e*PKIKP	**PKPdf**	12 59 27.4	+0.1
BZS	**Buzias**	**149.25**	**341**	⇑PKP2	**PKPbc**	12 59 32.1	+0.5
BZS	**Buzias**	**149.25**	**341**	⇑*i* P	**PKPbc**	12 59 32.1	+0.5
PKS9	**Tamasi**	**149.26**	**346**	⇑*e*PKPdf	**PKPbc**	12 59 30.9	-0.7
RETA	**Reutte**	**149.48**	**356**	⇑*i* P	**PKPdf**	12 59 28.9	+1.1
RETA				⇓*i* P	**PKPbc**	12 59 32.5	+0.3
RETA				⇑*i* P	**pPKPab**	**12 59 40.3**	**-1.6**
RETA	**Reutte**	**149.48**	**356**	⇑*i*pPKPdf	**PKPdf**	12 59 28.9	+1.1
	comp=Z,7.4nm,1.3s,SNR=7.8						
RETA				⇓*i*PKiKP	**PKPbc**	**12 59 32.5**	**+0.3**
	comp=Z,104nm,1.3s						
RETA				⇑*i*pPKPab	**pPKPab**	**12 59 40.3**	**-1.6**
	comp=Z,134nm,1.4s						
PKSM	**Moragy**	**149.53**	**345**	PKP2	**PKPbc**	**12 59 33.0**	**+0.8**
PKSM	**Moragy**	**149.53**	**345**	⇓*i* P	**PKPdf**	12 59 27.9	+0.2
PKSM	**Moragy**	**149.53**	**345**	⇑*e*PKPdf	**PKPdf**	12 59 27.4	-0.3
SACV	**Santiago Islan**	**149.54**	**89**	PFAKE		12 59 40.0	+1.8
SACV				LR	LR		
	comp=Z,647nm,19.0s						
WATA	**Walderalm**	**149.57**	**355**	⇓*i*PKHKP	PKPpre	12 59 28.1	
WATA	**Walderalm**	**149.57**	**355**	⇓*i* P	**PKPdf**	**12 59 28.1**	**+0.1**
WATA				⇑*i* P	**PKPbc**	**12 59 32.7**	**+0.1**
WATA				⇑*i* P	**pPKPab**	**12 59 40.2**	**-2.0**
WATA	**Walderalm**	**149.57**	**355**	⇓*i*PKPdf	**PKPdf**	**12 59 28.1**	**+0.1**
	comp=Z,4.1nm,0.9s,SNR=12						
WATA				⇑*i*PKiKP	**PKPbc**	**12 59 32.7**	**+0.1**
	comp=Z,101nm,1.3s						
WATA				⇑*i*pPKPab	**pPKPab**	**12 59 40.3**	**-2.0**
	comp=Z,83nm,1.1s						
LOR	**Lormes**	**149.59**	**6**	*e*PKIKP	**PKPdf**	**12 59 28.2**	**+0.4**
	comp=Z,108nm,1.3s						
LOR				*e*R			
	comp=Z,1μm,19.2s						
MOTA	**Moosalm**	**149.60**	**356**	⇑*i*PKIKP	**PKPdf**	**12 59 27.7**	**-0.4**
MOTA				*i*		12 59 32.9	
MOTA				*i*		12 59 40.4	
MOTA	**Moosalm**	**149.60**	**356**	⇑*i* P	**PKPdf**	**12 59 27.7**	**-0.4**
MOTA				⇑*i* P	**PKPbc**	**12 59 32.9**	**+0.2**
MOTA				⇑*i* P	**pPKPab**	**12 59 40.4**	**-2.0**
MOTA	**Moosalm**	**149.60**	**356**	⇑*i*PKPdf	**PKPdf**	**12 59 27.7**	**-0.4**
	comp=Z,6.0nm,1.0s,SNR=21						
MOTA				⇑*i*PKiKP	**PKPbc**	**12 59 32.8**	**+0.2**
	comp=Z,106nm,1.1s						
MOTA				⇑*i*pPKPab	**pPKPab**	**12 59 40.4**	**-2.0**
	comp=Z,167nm,1.2s						
WTTA	**Wattenberg**	**149.64**	**355**	⇓*i*PKHKP	PKPpre	12 59 28.4	
WTTA				*i*		12 59 33.3	
WTTA	**Wattenberg**	**149.64**	**355**	⇓*i* P	**PKPdf**	**12 59 28.4**	**+0.3**
WTTA				⇑*i* P	**PKiKP**	**12 59 33.2**	**-0.5**
WTTA				⇑*i* P	**pPKPab**	**12 59 40.8**	**-1.8**
WTTA	**Wattenberg**	**149.64**	**355**	⇓*i*PKPdf	**PKPdf**	**12 59 28.4**	**+0.3**
	comp=Z,18nm,1.6s,SNR=19						
WTTA				⇑*i*PKiKP	**PKiKP**	**12 59 33.2**	**-0.5**
	comp=Z,110nm,1.0s						
WTTA				⇑*i*pPKPab	**pPKPab**	**12 59 40.8**	**-1.8**
	comp=Z,188nm,1.6s						
KBA	**Koelnbreinsper**	**149.65**	**353**	⇑*i*PKHKP	PKPpre	12 59 28.3	
KBA	**Koelnbreinsper**	**149.65**	**353**	⇑*i* P	**PKPdf**	**12 59 28.3**	**+0.2**
KBA				⇑*i* P	**PKPbc**	**12 59 32.5**	**-0.3**
KBA				⇑*i* P	**pPKPab**	**12 59 40.2**	**-2.4**
KBA	**Koelnbreinsper**	**149.65**	**353**	⇑*i*PKPdf	**PKPdf**	**12 59 28.3**	**+0.2**
	comp=Z,13nm,1.3s,SNR=8.8						
KBA				⇑*i*PKPbc	**PKPbc**	**12 59 32.5**	**-0.3**
	comp=Z,50nm,1.4s						
KBA				⇑*i*pPKPab	**pPKPab**	**12 59 40.2**	**-2.4**
	comp=Z,110nm,1.4s						
MFF	**Saint Martin d**	**149.68**	**11**	*e*PKIKP	**PKPdf**	**12 59 28.0**	**0.0**
	comp=Z,39nm,1.3s						
LOMF	**Lomont**	**149.68**	**2**	PKHKP	PKPpre	12 59 28.1	
LOMF	**Lomont**	**149.68**	**2**	PKP	**PKPdf**	**12 59 28.1**	**0.0**
LOMF	**Lomont**	**149.68**	**2**	PKP	**PKPdf**	**12 59 28.1**	**0.0**
SZH	**Strazhica**	**149.68**	**334**	P	**PKPbc**	12 59 32.6	-0.1
BEHE	**Becsehely**	**149.69**	**348**	⇑*e*PKPdf	**PKPbc**	**12 59 32.8**	**+0.1**
DAVA	**Damuels**	**149.72**	**357**	⇓*i* P	**PKPdf**	12 59 28.7	+0.4
DAVA				⇑*i* P	**PKPbc**	**12 59 33.3**	**+0.4**
DAVA				⇑*i* P	**pPKPab**	**12 59 40.5**	**-2.4**
DAVA	**Damuels**	**149.72**	**357**	⇓*i*PKPdf	**PKPdf**	**12 59 28.7**	**+0.4**
	comp=Z,4.2nm,0.8s,SNR=23						
DAVA				⇑*i*PKiKP	**PKPbc**	**12 59 33.3**	**+0.4**
	comp=Z,116nm,1.1s						
DAVA				⇑*i*pPKPab	**pPKPab**	**12 59 40.5**	**-2.4**
	comp=Z,98nm,1.1s						
SSF	**Saint Saulge**	**149.75**	**6**	*e*PKIKP	**PKPdf**	**12 59 28.4**	**+0.3**
	comp=Z,56nm,1.1s						
SOKA	**Soboth**	**149.81**	**350**	⇑*i* P	**PKPdf**	12 59 27.5	-0.8
SOKA				⇑*i* P	**PKPbc**	**12 59 32.8**	**-0.3**
SOKA				⇑*i* P	**pPKPab**	**12 59 40.6**	**-2.6**
SOKA	**Soboth**	**149.81**	**350**	⇑*i*PKPdf	**PKPdf**	**12 59 27.5**	**-0.8**
	comp=Z,15nm,1.3s						
SOKA				⇑*i*PKPbc	**PKPbc**	**12 59 32.8**	**-0.3**
	comp=Z,91nm,1.3s						
SOKA				⇑*i*pPKPab	**pPKPab**	**12 59 40.6**	**-2.6**
	comp=Z,134nm,1.4s						
FETA	**Feichten**	**149.94**	**356**	⇑*i* P	**PKPdf**	**12 59 28.8**	**+0.2**
FETA				⇑*i* P	**PKiKP**	**12 59 34.0**	**-0.4**
FETA				⇑*i* P	**pPKPab**	**12 59 41.9**	**-1.9**
FETA	**Feichten**	**149.94**	**356**	⇑*i*PKPdf	**PKPdf**	**12 59 28.8**	**+0.2**
	comp=Z,10nm,1.1s,SNR=24						
FETA				⇑*i*PKiKP	**PKiKP**	**12 59 34.0**	**-0.4**
	comp=Z,124nm,1.2s						
FETA				⇑*i*pPKPab	**pPKPab**	**12 59 41.9**	**-1.9**
	comp=Z,180nm,1.2s						
PVL	**Pavlikeni**	**149.98**	**334**	P	**PKPbc**	12 59 33.9	+0.5
AVF	**Avril sur Loir**	**150.01**	**6**	*e*PKIKP	**PKPdf**	**12 59 28.5**	**0.0**
JMB	**Yambol**	**150.04**	**332**	P	**PKPbc**	12 59 34.2	+0.6
MYKA	**Terra Mystica**	**150.05**	**352**	⇓*i* P	**PKPdf**	12 59 28.6	-0.1
MYKA				⇑*i* P	**PKPbc**	12 59 33.1	-0.5
MYKA				⇑*i* P	**PKPab**	**12 59 41.0**	**+1.6**
MYKA	**Terra Mystica**	**150.05**	**352**	⇓*i*PKPdf	**PKPdf**	12 59 28.6	-0.1
	comp=Z,13nm,1.7s						
MYKA				⇑*i*PKPbc	**PKPbc**	**12 59 33.1**	**-0.5**
	comp=Z,70nm,1.3s						
MYKA				⇑*i*pPKPab	**PKPab**	**12 59 41.0**	**+1.6**
	comp=Z,123nm,1.6s						
ABTA	**Abfaltersbach**	**150.07**	**354**	⇑*i* P	**PKPdf**	12 59 28.0	-0.7
ABTA				⇑*i* P	**PKPbc**	12 59 33.6	-0.1
ABTA				⇑*i* P	**PKPab**	**12 59 41.2**	**+1.7**
ABTA	**Abfaltersbach**	**150.07**	**354**	⇑*i*PKPdf	**PKPdf**	12 59 28.0	-0.7
	comp=Z,16nm,1.4s,SNR=24						
ABTA				⇑*i*PKPbc	**PKPbc**	**12 59 33.6**	**-0.1**
	comp=Z,128nm,1.0s						
ABTA				⇑*i*pPKPab	**PKPab**	**12 59 41.2**	**+1.7**
	comp=Z,164nm,1.1s						
BGF	**Bois d'Agland**	**150.18**	**7**	*e*PKIKP	**PKPdf**	**12 59 29.0**	**+0.2**
	comp=Z,60nm,1.3s						
TCF	**Toulx Ste Croi**	**150.36**	**8**	*e*PKIKP	**PKPdf**	**12 59 29.2**	**+0.1**
	comp=Z,41nm,1.1s						
CABF	**La Chapelle**	**150.39**	**3**	*e*PKIKP	**PKPdf**	**12 59 30.1**	**+0.9**
	comp=Z,244nm,1.7s						
MPEP	**Malo Peshtene**	**150.50**	**336**	P	**PKPbc**	12 59 35.0	+0.3
LJU	**Ljubljana**	**150.50**	**351**	*i* PKPdf	**PKPdf**	**12 59 29.9**	**+0.6**
LJU				*i* PKPbc	**PKPbc**	**12 59 34.6**	**-0.1**
LJU				*i* PKPab	**PKPab**	**12 59 42.2**	**+1.1**
LJU				*i*		12 59 50.1	
TUE	**Stuetta**	**150.56**	**358**	*e*PKPdf	**PKPdf**	**12 59 29.4**	**-0.2**
TUE				*e*PKPbc	**PKiKP**	**12 59 35.7**	**-0.1**
TUE				*e*PKPab	**PKPab**	**12 59 42.8**	**+1.2**
TUE				LR	LR		
	comp=Z,1μm,19.0s						
VOY	**Vojsko**	**150.61**	**352**	*e*PKPdf	**PKPdf**	**12 59 28.0**	**-1.6**
VOY				*e*PKPbc	**PKPbc**	**12 59 34.2**	**-0.8**
VOY				*e*PKPab	**PKPab**	**12 59 42.2**	**+0.5**
VISS	**Visnje**	**150.69**	**350**	*i* PKPdf	**PKPdf**	**12 59 30.2**	**+0.6**
VISS				*i* PKPbc	**PKPbc**	**12 59 35.0**	**-0.1**
VISS				*i* PKPab	**PKPab**	**12 59 42.5**	**+0.5**
OG01	**Vacheresse**	**150.70**	**2**	PKP	**PKPdf**	**12 59 30.4**	**+0.7**
OG01	**Vacheresse**	**150.70**	**2**	PKP	**PKPdf**	**12 59 30.4**	**+0.7**
AGO	**Saint Agoulin**	**150.71**	**7**	PKP	**PKPdf**	**12 59 31.2**	**+1.5**
AGO	**Saint Agoulin**	**150.71**	**7**	PKP	**PKPdf**	**12 59 31.2**	**+1.5**
JAVS	**Javornik**	**150.72**	**351**	*i* PKPdf	**PKPdf**	**12 59 29.8**	**+0.1**
JAVS				*i* PKPbc	**PKPbc**	**12 59 34.9**	**-0.3**
JAVS				*i* PKPab	**PKPab**	**12 59 42.3**	**+0.1**
DIM	**Dimitrovgrad**	**150.84**	**333**	P	**PKPbc**	12 59 36.0	+0.5
PLDF	**La Plantade**	**150.85**	**6**	PKIKP	**PKPdf**	**12 59 32.7**	**+2.8**
PLDF	**La Plantade**	**150.85**	**6**	PKP	**PKPdf**	**12 59 32.7**	**+2.8**
PLDF	**La Plantade**	**150.85**	**6**	PKP	**PKPdf**	**12 59 32.7**	**+2.8**
BOJS	**Bojanci**	**150.91**	**350**	*i* PKPdf	**PKPdf**	**12 59 30.8**	**+0.8**
BOJS				*i* PKPbc	**PKiKP**	**12 59 36.1**	**-0.1**
BOJS				*i* PKPab	**PKPab**	**12 59 43.6**	**+0.8**
OG35	**Corcelles**	**150.93**	**4**	PKP	**PKPdf**	**12 59 30.5**	**+0.4**
TRI	**Trieste**	**150.94**	**352**	*e*PKIKP	**PKPbc**	**12 59 35.5**	**-0.2**
TRI				*e*		12 59 43.7	
TRI	**Trieste**	**150.94**	**352**	*e*PKPbc	**PKPbc**	**12 59 35.5**	**-0.2**
TRI				*e*PKPab	**PKPab**	**12 59 43.7**	**+0.8**
PYM	**Petit Puy Mans**	**150.99**	**7**	PKIKP	**PKPdf**	**12 59 30.7**	**+0.5**
PYM	**Petit Puy Mans**	**150.99**	**7**	PKP	**PKPdf**	**12 59 30.7**	**+0.5**
PYM	**Petit Puy Mans**	**150.99**	**7**	PKP	**PKPdf**	**12 59 30.7**	**+0.5**
PGB	**Panagyurishte**	**151.01**	**335**	P	**PKPbc**	**12 59 36.3**	**+0.3**
CSS	**Prodhromos**	**151.17**	**313**	*e*PKPbc	**PKPbc**	**12 59 36.8**	**+0.2**
CSS				*e*PKPab	**PKPab**	**12 59 44.1**	**-0.3**
CSS				LR	LR		
	comp=Z,352nm,21.0s						
KDZ	**Kurdzhali**	**151.21**	**332**	P	**PKPbc**	**12 59 36.6**	**+0.1**
RJF	**Les Rejaudoux**	**151.22**	**10**	*e*PKIKP	**PKPdf**	**12 59 30.7**	**+0.2**
	comp=Z,109nm,1.6s						
RJF				*e*R			
	comp=Z,1μm,19.8s						
FRNF	**Fournols**	**151.29**	**8**	PKP	**PKPdf**	**12 59 31.1**	**+0.5**
FRNF	**Fournols**	**151.29**	**8**	PKP	**PKPdf**	**12 59 31.1**	**+0.5**
COLF	**Collangettes**	**151.30**	**6**	PKP	**PKPdf**	**12 59 31.1**	**+0.5**
COLF	**Collangettes**	**151.30**	**6**	PKP	**PKPdf**	**12 59 31.1**	**+0.5**
ISP	**Isparta**	**151.31**	**321**	PFAKE		12 59 40.0	+3.0
ISP				LR	LR		
	comp=Z,456nm,19.0s						
RSL	**Roselend**	**151.34**	**2**	PKIKP	**PKPdf**	**12 59 32.6**	**+1.8**
RSL	**Roselend**	**151.34**	**2**	PKP	**PKPdf**	**12 59 32.6**	**+1.8**
RSL	**Roselend**	**151.34**	**2**	PKP	**PKPdf**	**12 59 32.6**	**+1.8**
RZN	**Rozhen**	**151.49**	**333**	P	**PKPbc**	**12 59 37.0**	**-0.3**
LPL	**La Plagne**	**151.51**	**2**	*e*PKIKP	**PKPdf**	**12 59 32.0**	**+0.8**
LPG	**La Plagne**	**151.53**	**2**	*e*PKIKP	**PKPdf**	**12 59 32.1**	**+0.8**
LBL	**Lubilhac**	**151.53**	**7**	PKIKP	**PKPdf**	**12 59 32.6**	**+1.6**
LBL	**Lubilhac**	**151.53**	**7**	PKP	**PKPdf**	**12 59 32.6**	**+1.6**
LBL	**Lubilhac**	**151.53**	**7**	PKP	**PKPdf**	**12 59 32.6**	**+1.6**
MBAR	**Mbarara**	**151.61**	**234**	PFAKE		12 59 40.0	+1.6
MBAR				LR	LR		
	comp=Z,533nm,21.0s						
SSB	**Saint Sauveur**	**151.62**	**5**	PKIKP	**PKPdf**	**12 59 32.2**	**+1.1**
SSB	**Saint Sauveur**	**151.62**	**5**	PKP	**PKPdf**	**12 59 32.2**	**+1.1**
SSB	**Saint Sauveur**	**151.62**	**5**	PKP	**PKPdf**	**12 59 32.2**	**+1.1**
CAF	**Calviac**	**151.68**	**9**	*e*PKIKP	**PKPdf**	**12 59 31.7**	**+0.5**
	comp=Z,79nm,1.5s						
PCAB	**Cabril**	**151.75**	**26**	*e*PKPbc	**PKPbc**	**12 59 38.5**	**+0.8**
PCAB	**Cabril**	**151.75**	**26**	*e*PKPab	**PKPab**	**12 59 46.2**	**-0.3**
BNI	**Bardonecchia**	**151.97**	**2**	*e*PKIKP	**PKPdf**	**12 59 32.2**	**+0.4**
BNI				*e*		12 59 39.4	
BNI				MLR	MLR		
	comp=Z,1μm,20.0s						
BNI	**Bardonecchia**	**151.97**	**2**	*e*PKPdf	**PKPdf**	**12 59 32.2**	**+0.4**
BNI				*e*PKPbc	**PKiKP**	**12 59 39.4**	**+0.8**
BNI				LR	LR		
	comp=Z,1μm,20.0s						
MMB	**Musomiste**	**151.99**	**334**	P	**PKPbc**	**12 59 38.3**	**0.0**
KKB	**Krupnik**	**152.02**	**336**	P	**PKPbc**	**12 59 38.2**	**-0.1**
VIVF	**Saint-Julien-l**	**152.05**	**5**	*e*PKIKP	**PKPdf**	**12 59 32.4**	**+0.6**
	comp=Z,76nm,1.5s						
ORIF	**Oris-en-Rattie**	**152.07**	**3**	*e*PKIKP	**PKPdf**	**12 59 32.4**	**+0.5**
ORIF				*e*R			
	comp=Z,1μm,18.5s						
POLO	**Lamas de Olo**	**152.12**	**26**	*e*PKPbc	**PKPbc**	**12 59 39.3**	**+0.6**
POLO	**Lamas de Olo**	**152.12**	**26**	*e*PKPab	**PKPab**	**12 59 46.9**	**-1.3**
PBRG	**Braganca**	**152.19**	**24**	*e*PKPdf	**PKPdf**	**12 59 33.2**	**+1.1**
PBRG	**Braganca**	**152.19**	**24**	*e*PKPbc	**PKPbc**	**12 59 39.0**	**+0.3**
PBRG	**Braganca**	**152.19**	**24**	*e*PKPab	**PKPab**	**12 59 46.6**	**-1.8**
PVRL	**Vila Real**	**152.24**	**26**	*e*PKPbc	**PKPbc**	**12 59 39.1**	**+0.2**
PVRL	**Vila Real**	**152.24**	**26**	*e*PKPab	**PKPab**	**12 59 48.2**	**-0.4**
MBDF	**Montbardon**	**152.30**	**2**	*e*PKIKP	**PKPdf**	**12 59 32.8**	**+0.5**
	comp=Z,76nm,1.5s						
MVO	**Moncorvo**	**152.61**	**25**	*e*PKPdf	**PKPdf**	**12 59 34.1**	**+1.3**
MVO	**Moncorvo**	**152.61**	**25**	*e*PKPbc	**PKPbc**	**12 59 40.4**	**+0.6**
MVO	**Moncorvo**	**152.61**	**25**	*e*PKPab	**PKPab**	**12 59 47.7**	**-2.5**
OG25	**Le Caire**	**152.63**	**3**	PKP	**PKPdf**	**12 59 32.3**	**-0.4**
OG25	**Le Caire**	**152.63**	**3**	PKP	**PKPdf**	**12 59 32.3**	**-0.4**
LASF	**Ste Croix**	**152.74**	**7**	*e*PKIKP	**PKPdf**	**12 59 33.6**	**+0.8**
	comp=Z,69nm,1.6s						
SJPF	**Ste Jean**	**152.77**	**15**	*e*PKIKP	**PKPdf**	**12 59 34.4**	**+1.5**
SMRF	**Simiane la Rot**	**152.99**	**4**	*e*PKIKP	**PKPdf**	**12 59 34.1**	**+0.9**
	comp=Z,48nm,1.2s						
MTE	**Manteigas**	**153.03**	**27**	*e*PKPdf	**PKPdf**	**12 59 34.7**	**+1.3**
MTE	**Manteigas**	**153.03**	**27**	*e*PKPbc	**PKPbc**	**12 59 41.0**	**+0.3**
MTE	**Manteigas**	**153.03**	**27**	PFAKE		12 59 40.0	-0.7
MTE				LR	LR		
	comp=Z,990nm,19.0s						
VILF	**Villemus**	**153.12**	**4**	PKP	**PKPdf**	**12 59 32.8**	**-0.6**
VILF	**Villemus**	**153.12**	**4**	PKP	**PKPdf**	**12 59 32.8**	**-0.6**
ETSF	**Etsaut**	**153.13**	**14**	*e*PKIKP	**PKPdf**	**12 59 34.3**	**+0.8**
	comp=Z,122nm,1.7s						
SBF	**Sospel**	**153.18**	**1**	*e*PKIKP	**PKPdf**	**12 59 33.2**	**-0.3**
	comp=Z,118nm,1.5s						
EPF	**Esparros**	**153.21**	**13**	*e*PKIKP	**PKPdf**	**12 59 34.0**	**+0.5**
	comp=Z,40nm,1.2s						
PTOM	**Tomar**	**153.28**	**29**	*e*PKPbc	**PKPbc**	**12 59 41.4**	**+0.2**
PCBR	**Castelo Branco**	**153.52**	**27**	*e*PKPdf	**PKPdf**	**12 59 33.6**	**-0.4**
PCBR	**Castelo Branco**	**153.52**	**27**	*e*PKPbc	**PKPbc**	**12 59 41.9**	**+0.2**
TIR	**Tirane**	**153.65**	**340**	PFAKE		12 59 50.0	-4.4
TIR				LR	LR		
	comp=Z,960nm,20.0s						
LMR	**La Mourre**	**153.68**	**2**	*e*PKIKP	**PKPdf**	**12 59 34.3**	**+0.2**
	comp=Z,37nm,1.1s						
PMTG	**Montargil**	**153.80**	**30**	*e*PKPbc	**PKPbc**	**12 59 42.8**	**+0.5**
PMRV	**Marv??o**	**153.90**	**28**	*e*PKPdf	**PKPdf**	**12 59 35.3**	**+0.7**
AQU	**L'Aquila**	**154.28**	**351**	PFAKE		12 59 50.0	+6.7
AQU				LR	LR		
	comp=Z,1μm,19.0s						
EVO	**Evora**	**154.33**	**30**	*e*PKIKP	**PKPdf**	**12 59 35.1**	**-0.1**
	comp=Z,83nm,1.5s						
EVO				*e*R			
	comp=Z,894nm,18.5s						
PGF	**Pioggiola**	**154.49**	**358**	*e*PKIKP	**PKPdf**	**12 59 35.3**	**-0.1**
	comp=Z,120nm,1.3s						
MESJ	**Messejana**	**154.77**	**31**	*e*P	**PKPdf**	**12 59 37.0**	**+1.2**
MESJ				AMS	AMS	14 07 19.1	
	comp=Z,526nm,15.3s						
MESJ	**Messejana**	**154.77**	**31**	*e*PKIKP	**PKPdf**	**12 59 37.0**	**+1.2**
PBEJ	**Beja**	**154.80**	**31**	*e*PKPdf	**PKPdf**	**12 59 37.6**	**+1.7**
PBEJ	**Beja**	**154.80**	**31**	*e*PKPbc	**PKPbc**	**12 59 45.0**	**+0.5**
MORF	**Marmelete**	**154.96**	**33**	*e*PKPdf	**PKPdf**	**12 59 37.5**	**+1.3**
MORF	**Marmelete**	**154.96**	**33**	*e*PKPbc	**PKPbc**	**12 59 45.4**	**+0.5**
MORF	**Marmelete**	**154.96**	**33**	*e*PKIKP	**PKPdf**	**12 59 37.5**	**+1.3**
PFVI	**Vila Bisbo**	**155.00**	**33**	*e*PKPbc	PKPdf	12 59 45.4	+9.2
PCVE	**Castro Verde**	**155.02**	**31**	*e*PKPdf	**PKPdf**	**12 59 38.0**	**+1.8**
PCVE	**Castro Verde**	**155.02**	**31**	*e*PKPbc	PKPdf	12 59 45.1	+8.9
PAB	**San Pablo**	**155.05**	**23**	PFAKE		12 59 50.0	-11
PAB				LR	LR		
	comp=Z,599nm,19.0s						
PBAR	**Barrancos**	**155.07**	**29**	*e*PKPdf	**PKPdf**	**12 59 37.8**	**+1.6**
PBAR	**Barrancos**	**155.07**	**29**	*e*PKPbc	PKPdf	12 59 45.1	+8.9
ESDC	**Sonseca Array**	**155.08**	**22**	PKP	**PKPdf**	**12 59 37.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=349,slow=4.5,SNR=7.2						
ESDC	**Sonseca Array**	**155.08**	**22**	PKP	**PKPdf**	**12 59 37.1**	**+0.9**
ESLA	**Sonseca Array**	**155.08**	**22**	PFAKE		12 59 50.0	-11
ESLA				LR	LR		
	comp=Z,5μm,22.0s						
PVAQ	**Vaqueiros**	**155.36**	**31**	*e*PKPab	**PKPab**	**13 00 02.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**155.38**	**32**	*e*PKPdf	**PKPdf**	**12 59 33.9**	**-2.8**
PBDV	**Barranco-do-Ve**	**155.38**	**32**	*e*PKPab	**PKPab**	**13 00 03.1**	**+1.1**
CUC	**Castrocucco**	**156.07**	**345**	PFAKE		12 59 50.0	+12
CUC				LR	LR		
	comp=Z,680nm,20.0s						
TIP	**Timpagrande**	**156.59**	**343**	PFAKE		12 59 50.0	+12
TIP				LR	LR		
	comp=Z,1μm,22.0s						
RTC	**Rabat Centre**	**158.42**	**35**	PFAKE		12 59 50.0	+9.4
RTC				LR	LR		
	comp=Z,493nm,20.0s						
LIC	**Lamto**	**163.36**	**128**	⇑*i*PKIKP	**PKPdf**	**12 59 45.6**	**-1.0**
	comp=Z,47nm,1.3s						
LIC				*e*R			
	comp=Z,1μm,20.2s						
DBIC	**Dimbokro**	**163.78**	**128**	PKP	**PKPdf**	**12 59 45.8**	**-1.2**
	comp=Z,10nm,1.2s,baz=204,slow=1.8,SNR=7.7						
DBIC				PKPab	**PKPab**	**13 00 39.5**	**+0.4**
	comp=Z,18nm,1.1s,baz=216,slow=4.6,SNR=11						
DBIC				PP	**PP**	**13 04 21.4**	**-2.7**
	comp=Z,1.8nm,1.0s,baz=236,slow=6.3,SNR=3.5						
DBIC	**Dimbokro**	**163.78**	**128**	*e*PKIKP	**PKPdf**	**12 59 45.7**	**-1.2**
DBIC	**Dimbokro**	**163.78**	**128**	*e*PKPdf	**PKPdf**	**12 59 45.7**	**-1.2**
DBIC				PKPab	**PKPab**	**13 00 39.5**	**+0.4**
DBIC				PP	**PP**	**13 04 21.4**	**-2.7**
DBIC				LR	LR		
	comp=Z,846nm,20.0s						
TOA0	**Torodi Ar. Sit**	**172.81**	**121**	*e*PKPdf	**PKPdf**	**12 59 51.5**	**-1.5**
TOA0				*e*PP	**PP**	**13 05 08.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**172.81**	**121**	PKP	**PKPdf**	**12 59 51.4**	**-1.6**
	comp=Z,9.1nm,1.1s,baz=299,slow=0.9,SNR=27						
TORD				PKPab	**PKPab**	**13 01 19.0**	**-0.1**
	comp=Z,29nm,1.0s,baz=257,slow=4.1,SNR=41						
TORD

GTA					pP	pP	13 30 21.8	
GTA					sP		13 30 24.3	
GTA					pmax	pmax		
	comp=Z,3.0nm,1.4s							
HHC	**Hu-ho-hao-te**	**9.88**	**30**	*eP*	**Pn**		**13 30 38.5**	**+1.4**
HHC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**14.97**	**203**	Pn	**Pn**		**13 31 45.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=13,slow=12,SNR=4.2							
SONM	**Songino Array**	**15.44**	**3**	Pn	Pn		13 31 49.9	-3.0
	comp=Z,0.0nm,0.3s,baz=183,slow=14,SNR=2.1							
KSRS	**Korea Array**	**19.33**	**69**	P	**P**		**13 32 42.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=252,slow=10,SNR=2.0							
MKAR	**Makanchi Array**	**22.62**	**316**	P	**P**		**13 33 15.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=118,slow=11,SNR=8.6							
KURK	**Kurchatov**	**26.77**	**321**	P	**P**		**13 33 54.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=132,slow=7.8,SNR=2.6							
WRA	**Warramunga Arr**	**59.08**	**148**	P	**P**		**13 38 14.5**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=339,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**62.16**	**150**	P	**P**		**13 38 35.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=333,slow=6.9,SNR=5.3							
YKA	**Yellowknife Ar**	**80.19**	**18**	P	**P**		**13 40 23.7**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=328,slow=5.1,SNR=5.6							

GUC ***28*** *13:35:09.1±0.4, 42.°84S×72.°61W, h22km±3km, ML3.1*
ISCJB ***28*** *13:35:10.4±0.9, 42.°76S±0.°07×72.°7W±0.°1, h10km, mb3.8/4, Error ellipse: s-maj=16.3km s-min=4.7km az=37.0*
IDC ***28*** *13:35:10.3±1.1, 42.°80S×72.°52W, h0km, mb4.0/3, mb1 4.3/4, mb1mx4.0/15, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=35.8km s-min=16.3km az=121.0*

ISC 28 13:35:11.2±0.8**, 42.°74S**±0.°08×**72.°74W**±0.°10**, h10**km**, n13,** σ1**§25/16, mb3.9/4, 1C-1D, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUNY	**Huinay**	**0.43**	**34**	⇑*iP*	**Pg**	**13 35 18.6**	**-1.0**
HUNY				*i* S	**Sg**	**13 35 25.8**	**+0.5**
HUNY				AML	AML	13 35 27.3	
	comp=N,2μm,0.4s						
ILCA	**Isla Las Cabra**	**0.69**	**13**	⇓*iP*	**Pg**	**13 35 23.5**	**-1.0**
ILCA				*i* S	**Sb**	**13 35 34.9**	**0.0**
ILCA				AML	AML	13 35 36.2	
	comp=E,949nm,0.4s						
QLLN	**Quelln**	**0.74**	**240**	*eP*	**Pg**	**13 35 24.2**	**-1.4**
QLLN				*eS*	**Sg**	**13 35 35.1**	**-0.3**
HOCH	**HornopirØn**	**0.86**	**17**	*iP*	**Pg**	**13 35 26.4**	**-1.5**
HOCH				*i* S	**Sg**	**13 35 39.5**	**+0.4**
HOCH				AML	AML	13 35 44.0	
	comp=E,1μm,0.7s						
PLCA	**Paso Flores**	**2.59**	**40**	Pn	**Pn**	**13 35 53.5**	**+0.2**
	comp=E,6.1nm,0.3s,baz=216,slow=16,SNR=94						
PLCA				Pg	**Pb**	**13 35 56.4**	**-1.3**
	comp=E,12nm,0.3s,baz=215,slow=16,SNR=125						
PLCA				Lg	Lg	13 36 32.1	
	comp=E,19nm,0.3s,baz=123,slow=16,SNR=14						
COYC	**Coyhaique**	**2.88**	**171**	AML	AML	13 36 51.6	
	comp=E,82nm,0.5s						
SIV	**San Ignacio**	**28.47**	**24**	P	P	13 41 03.4	-3.1
	comp=E,0.5nm,0.4s,baz=204,slow=15,SNR=3.2						
QSPA	**South Pole Qui**	**47.51**	**180**	P	**P**	**13 43 47.4**	**+1.1**
	comp=E,3.7nm,0.8s,baz=171,slow=4.9,SNR=7.7						
TXAR	**Lajitas Array**	**77.16**	**333**	P	**P**	**13 47 07.1**	**+2.1**
	comp=E,0.6nm,0.8s,baz=151,slow=8.0,SNR=5.2						
PDAR	**Pinedale Array**	**91.33**	**334**	P	**P**	**13 48 17.4**	**+0.5**
	comp=E,0.6nm,0.8s,baz=134,slow=8.5,SNR=4.7						
AKTO	**Aktyubinsk**	**145.83**	**60**	PKPbc	**PKPdf**	**13 54 49.1**	**-0.2**
	comp=E,1.7nm,1.0s,baz=229,slow=4.8,SNR=6.2						
MKAR	**Makanchi Array**	**161.84**	**69**	PKPab	**PKPab**	**13 55 55.7**	**-2.2**
	comp=E,0.4nm,0.7s,baz=270,slow=4.3,SNR=4.8						
SONM	**Songino Array**	**174.87**	**7**	PKPab	**PKPab**	**13 56 56.3**	**+1.0**
	comp=E,0.5nm,0.9s,baz=310,slow=5.4,SNR=3.6						

IDC 28 13:39:00.8±17.0**, 6.°63S×128.°99E, h147**km±183**km, mb3.1/1, mb1 3.6/4, mb1mx3.2/16, mbtmp3.4/4, ML4.0/3, Error ellipse: s-maj=145.7km s-min=56.0km az=43.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.86**	**196**	P	Pn	13 41 45.9	+0.4
	1.2nm,0.3s,baz=29,slow=9.7,SNR=19						
FITZ				S	Sn	13 43 48.2	-8.4
	0.3nm,0.3s,baz=114,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**14.22**	**159**	P	Pn	13 42 14.8	-1.0
	0.5nm,0.3s,baz=331,slow=13,SNR=5.7						
WRA				S	Sn	13 44 39.7	-14
	0.3nm,0.3s,baz=341,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.59**	**165**	P	P	13 42 56.1	+0.2
	0.5nm,0.3s,baz=340,slow=9.9,SNR=42						
ASAR				S	S	13 46 04.5	-7.0
	0.2nm,0.3s,baz=344,slow=22,SNR=8.0						
MKAR	**Makanchi Array**	**67.37**	**327**	P	P	13 49 40.3	0.0
	0.2nm,0.3s,baz=116,slow=8.0,SNR=12						

NIED ***28*** *13:43:00, 44.°70N×141.°90E, h270km, Mw4.2 Best double couple: M0 2.65000×10^15 NP1:φ=258.00000°, δ=68.00000°, λ=-143.00000°. NP2:φ=152.00000°, δ=56.00000°, λ=-26.00000°.*
MOS ***28*** *13:43:12.4±1.3, 44.°72N×141.°67E, h254km, mb4.3/20, Error ellipse: s-maj=11.1km s-min=7.4km az=99.7*
BJI ***28*** *13:43:12.3, 44.°87N×141.°78E, h247km, mB4.3/4, mb3.9/5*
ISCJB ***28*** *13:43:12.2±0.2, 44.°65N±0.°03×141.°82E±0.°05, h255km±2km, mb3.9/32, Error ellipse: s-maj=5.9km s-min=5.1km az=7.5*
JMA ***28*** *13:43:12.4±0.2, 44.°68N×141.°86E, h257km±2km, M4.3*
IDC ***28*** *13:43:14.0±0.4, 44.°81N×141.°80E, h242km±5km, mb3.7/25, mb1 3.8/29, mb1mx3.7/36, mbtmp3.7/29, Error ellipse: s-maj=17.4km s-min=8.1km az=173.0*

ISC 28 13:43:13.4±0.5**, 44.°62N**±0.°05×**141.°80E**±0.°04**, h252**km±4**km, n105,** σ1**§25/132, mb3.9/32, 7C-10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSS	**Shosan**	**0.22**	**169**	⇓P	**Pn**	**13 43 46.0**	**+0.1**
JSS				*eS*	**S**	**13 44 11.3**	**-0.1**
JYG	**Yagishiri**	**0.33**	**234**	⇓P	**Pn**	**13 43 46.0**	**0.0**
JRR	**Rishiri**	**0.62**	**327**	⇓P	**Pn**	**13 43 46.7**	**0.0**
JSE	**Soyaes**	**0.66**	**59**	⇓P	**Pn**	**13 43 46.4**	**-0.5**
JSE				*eS*	**S**	**13 44 12.0**	**-1.2**
JWK2	**Keihoku**	**0.70**	**6**	⇓P	**Pn**	**13 43 46.5**	**-0.5**
JWK2				*eS*	**S**	**13 44 12.7**	**-0.9**
ASAJ	**Asahikawa**	**0.76**	**131**	P	**Pn**	**13 43 47.3**	**-0.1**
	72nm,0.3s,baz=282,slow=7.1,SNR=1122						
ASAJ				S	**S**	**13 44 13.5**	**-0.6**
	9.6nm,0.3s,baz=126,slow=30,SNR=7.3						
ASAJ	**Asahikawa**	**0.76**	**131**	PN	**Pn**	**13 43 47.3**	**-0.1**
ASAJ				S	**S**	**13 44 13.5**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,72nm,0.3s						
ASAJ				smax	smax		
	comp=N,10.0nm,0.3s						
ASAJ	**Asahikawa**	**0.76**	**131**	⇓P	**Pn**	**13 43 47.2**	**-0.2**
ASAJ				S	**S**	**13 44 13.9**	**-0.2**
JHR	**Hokuryu**	**0.88**	**183**	⇓P	**Pn**	**13 43 48.4**	**+0.4**
JHR				*eS*	**S**	**13 44 16.0**	**+0.9**
JKK2	**Kamakawa 2**	**1.01**	**137**	⇓P	**Pn**	**13 43 48.7**	**0.0**
JKK2				*eS*	**S**	**13 44 16.4**	**0.0**
JAB	**Ashibetsu**	**1.16**	**164**	P	**Pn**	**13 43 49.8**	**+0.3**
JAB				*eS*	**S**	**13 44 18.3**	**+0.4**
JSK	**Shakotan**	**1.58**	**217**	P	**Pn**	**13 43 52.7**	**+0.2**
JSK				*eS*	**S**	**13 44 23.1**	**-0.1**
JTKR	**Abashiri--Toko**	**1.65**	**112**	⇓P	**Pn**	**13 43 53.2**	**+0.3**
JTKR				*eS*	**S**	**13 44 24.0**	**-0.1**
JEW	**Eniwo**	**1.80**	**188**	⇑P	**Pn**	**13 43 54.8**	**+0.6**
JEW				*eS*	**S**	**13 44 26.9**	**+0.5**
JAR	**Ashorobuto**	**1.94**	**132**	⇑P	**Pn**	**13 43 55.8**	**+0.3**
JAR				S	**S**	**13 44 28.5**	**-0.1**
JCH	**Churui**	**2.30**	**150**	⇑P	**Pn**	**13 43 57.3**	**-1.5**
JCH				S	**S**	**13 44 31.0**	**-3.7**
YSS	**Yuzh-Sakhalins**	**2.43**	**16**	⇑*i*PN	**Pn**	**13 43 59.8**	**-0.1**
YSS				*eS*	**S**	**13 44 34.8**	**-2.0**
YSS				pmax	pmax		
	comp=Z,530nm,0.4s						
YSS				smax	smax		
	comp=N,560nm,0.5s						
JNBK	**Urakawa-nobuka**	**2.44**	**163**	P	**Pn**	**13 43 59.9**	**-0.2**
JNBK				*eS*	**S**	**13 44 36.1**	**-1.0**
JAK	**Akkeshi**	**2.65**	**127**	P	**Pn**	**13 44 01.0**	**-1.2**
JAK				*eS*	**S**	**13 44 38.2**	**-2.7**
ERM	**Erimo**		**2.79**	**159**	*e*PN	**Pn**	**13 44 03.1**	**-0.6**
JKB	**Kayabe**		**2.79**	**192**	⇑P	**Pn**	**13 44 02.9**	**-0.8**
JKB					*eS*	**S**	**13 44 40.3**	**-3.2**
YUK	**Yuzh-Kuril'sk**		**2.98**	**100**	*c i*PN	Pn	13 44 09.9	+4.3
YUK					*i* S	**S**	**13 44 52.9**	**+6.0**
YUK					pmax	pmax		
	comp=Z,87nm,0.9s							
YUK					pmax	pmax		
	comp=N,53nm,0.5s							
YUK					pmax	pmax		
	comp=E,55nm,0.5s							
YUK					smax	smax		
	comp=E,119nm,0.7s							
YUK					smax	smax		
	comp=N,76nm,0.6s							
JOSM	**Okushiri--Mats**		**3.05**	**215**	⇑P	**Pn**	**13 44 06.2**	**-0.3**
NEM2	**Nemuro 2**		**3.11**	**112**	P	**Pn**	**13 44 05.3**	**-1.8**
NEM2					*eS*	**S**	**13 44 45.5**	**-4.1**
HABR	**Khabarovsk**		**6.04**	**312**	*e*PN	**Pn**	**13 44 40.2**	**-1.7**
HABR					*eS*	**S**	**13 45 51.0**	**-1.7**
HABR					pmax	pmax		
	comp=E,32nm,1.8s							
HABR					pmax	pmax		
	comp=N,15nm,1.2s							
HABR					pmax	pmax		
	comp=Z,22nm,1.2s							
USRK	**Ussuriysk Arra**		**7.03**	**270**	P	**Pn**	**13 44 54.7**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=82,slow=13,SNR=16							
KLR	**Kul'dur**		**8.28**	**307**	*e*PN	Pn	13 45 05.8	-4.2
MJA0	**Matsu Arr-Jizo**		**8.51**	**200**	*e*PN	**Pn**	**13 45 11.9**	**-1.2**
MJA0					pmax	pmax		
	comp=Z,5.0nm,0.3s							
MAT	**Matsushiro**		**8.52**	**200**	P	**Pn**	**13 45 11.5**	**-1.7**
MAT					*eS*	**S**	**13 46 48.2**	**-1.8**
MJAR	**Matsushiro Arr**		**8.52**	**200**	P	**Pn**	**13 45 12.0**	**-1.2**
	comp=Z,5.0nm,0.3s,baz=8.0,slow=12,SNR=84							
MJAR	**Matsushiro Arr**		**8.52**	**200**	PN	**Pn**	**13 45 12.0**	**-1.2**
MJAR					pmax	pmax		
	comp=Z,5.0nm,0.3s							
KSRS	**Korea Array**		**12.68**	**240**	P	**Pn**	**13 46 05.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=57,slow=11,SNR=5.0							
KSRS	**Korea Array**		**12.68**	**240**	*e*PN	**P**	**13 46 07.9**	**+0.6**
PETK	**Petropavlovsk-**		**13.46**	**45**	P	**P**	**13 46 15.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=204,slow=6.5,SNR=6.2							
PETK	**Petropavlovsk-**		**13.46**	**45**	*e*PN	**P**	**13 46 15.2**	**-0.6**
JNU	**Nakatsue**		**14.27**	**220**	P	**P**	**13 46 26.1**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=50,slow=4.4,SNR=14							
CBIJ	**Chichi jima**		**17.49**	**179**	P	**Pn**	**13 47 02.9**	**0.0**
	comp=Z,8.0nm,0.3s,baz=324,slow=21,SNR=1.6							
SEY	**Seymchan**		**19.34**	**15**	⇓*i*P	**P**	**13 47 18.8**	**-1.0**
BOD	**Bodaibo**		**21.66**	**317**	*e*P	**P**	**13 47 41.4**	**-2.3**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.2s							
FX1	**Attu Island--F**		**22.13**	**57**	P	**P**	**13 47 49.0**	**+0.9**
	comp=Z,5.5nm,0.5s,baz=284,slow=20,SNR=6.0							
FX1	**Attu Island--F**		**22.13**	**57**	P	**P**	**13 47 49.0**	**+0.9**
FX1					pmax	pmax		
	comp=Z,6.0nm,0.5s							
SONM	**Songino Array**		**24.57**	**290**	P	**P**	**13 48 11.0**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=84,slow=9.0,SNR=20							
SONM					pP	**pP**	**13 48 58.3**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=79,slow=10,SNR=5.9							
SONM	**Songino Array**		**24.57**	**290**	P	**P**	**13 48 11.0**	**+0.5**
SONM					*PP	**pP**	**13 48 58.3**	**+1.4**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ZAK	**Zakamensk**		**26.43**	**296**	*e*P	**P**	**13 48 27.6**	**+0.5**
ZAK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**		**37.38**	**305**	P	**P**	**13 50 02.8**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=85,slow=8.6,SNR=8.0							
ZALV					PcP	**PcP**	**13 52 15.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=85,slow=2.6,SNR=5.4							
ZALV	**Zalesovo Beam**		**37.38**	**305**	*e*P	**P**	**13 50 02.8**	**+1.0**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**		**40.75**	**295**	*e*P	**P**	**13 50 30.2**	**+0.4**
MK31					pmax	pmax		
	comp=Z,4.0nm,0.5s							
MKAR	**Makanchi Array**		**40.75**	**295**	P	**P**	**13 50 30.4**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=83,slow=9.4,SNR=47							
MKAR					PcP	**PcP**	**13 52 25.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=37,slow=1.0,SNR=3.1							
MKAR					ScP	**ScP**	**13 55 51.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=88,slow=3.0,SNR=3.5							
MKAR	**Makanchi Array**		**40.75**	**295**	P	**P**	**13 50 30.4**	**+0.6**
MKAR							13 52 25.8	
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
KDAK	**Kodiak Island**		**41.50**	**47**	P	**P**	**13 50 35.7**	**+0.1**
	comp=Z,8.8nm,0.9s,baz=164,slow=7.9,SNR=10.0							
KDAK	**Kodiak Island**		**41.50**	**47**	P	**P**	**13 50 35.7**	**+0.1**
KDAK					pmax	pmax		
	comp=Z,9.0nm,0.9s							
KURK	**Kurchatov**		**41.82**	**302**	P	**P**	**13 50 39.1**	**+0.7**
	comp=Z,3.2nm,0.4s,baz=71,slow=8.9,SNR=15							
KURK	**Kurchatov**		**41.82**	**302**	P	**P**	**13 50 39.1**	**+0.7**
KURK					pmax	pmax		
	comp=Z,3.0nm,0.4s							
ILAR	**Eielson Array**		**43.07**	**36**	P	**P**	**13 50 47.1**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=264,slow=5.5,SNR=45							
ILAR	**Eielson Array**		**43.07**	**36**	P	**P**	**13 50 47.1**	**-1.1**
ILAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**		**44.17**	**248**	PcP	**PcP**	**13 52 38.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=22,slow=1.9,SNR=5.0							
VOSK	**Vostochnaya**		**45.70**	**307**	P	**P**	**13 51 06.8**	**-2.4**
VOSK					pmax	pmax		
	comp=Z,3.0nm,1.2s							
BVAR	**Borovoye Array**		**45.94**	**307**	P	**P**	**13 51 10.5**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=70,slow=9.1,SNR=9.2							
BVAR					PcP	**PcP**	**13 52 43.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=90,slow=3.3,SNR=5.5							
BVAR	**Borovoye Array**		**45.94**	**307**	P	**P**	**13 51 10.5**	**-0.5**
BVAR							13 52 43.4	
BVAR					pmax	pmax		
	comp=Z,2.0nm,0.4s							
ZRNK	**Zerenda**		**46.75**	**307**	P	**P**	**13 51 16.0**	**-1.3**
AAK	**Ala-Archa**		**47.49**	**293**	P	**P**	**13 51 23.8**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=76,slow=4.3,SNR=8.9							
AAK	**Ala-Archa**		**47.49**	**293**	P	**P**	**13 51 23.8**	**+0.5**
AAK					pmax	pmax		
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**		**47.59**	**30**	P	**P**	**13 51 22.6**	**-0.9**
	comp=Z,2.4nm,0.4s,baz=293,slow=8.4,SNR=31							
INK	**Inuvik**		**47.59**	**30**	P	**P**	**13 51 22.6**	**-0.9**
INK					pmax	pmax		
	comp=Z,2.0nm,0.4s							
AB31	**Akbulak array**		**53.48**	**306**	*e*P	**P**	**13 52 07.8**	**+0.2**
AB31					pmax	pmax		
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**		**54.01**	**308**	P	**P**	**13 52 13.2**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=66,slow=11,SNR=4.8							
AKTO	**Aktyubinsk**		**54.01**	**308**	P	**P**	**13 52 13.2**	**+1.7**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.3s							
RES	**Resolute Bay**		**55.21**	**16**	P	**P**	**13 52 18.9**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=302,slow=5.8,SNR=7.6							
RES	**Resolute Bay**		**55.21**	**16**	P	**P**	**13 52 18.9**	**-0.7**
RES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KEV	**Kevo**		**56.50**	**338**	*e*P	**P**	**13 52 27.0**	**-1.8**
KEV	**Kevo**		**56.50**	**338**	*ep*	**P**	**13 52 27.0**	**-1.8**
KEV	**Kevo**		**56.50**	**338**	*ep*	**P**	**13 52 27.0**	**-1.8**
ARCES	**ARCESS Array B**		**57.04**	**338**	P	**P**	**13 52 31.6**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=59,slow=7.2,SNR=6.2							
ARCES	**ARCESS Array B**		**57.04**	**338**	P	**P**	**13 52 31.6**	**-1.1**
ARCES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**		**57.18**	**32**	P	**P**	**13 52 33.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=307,slow=6.9,SNR=37							
YKA					PcP	**PcP**	**13 53 25.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=303,slow=3.6,SNR=6.2							
YKA	**Yellowknife Ar**		**57.18**	**32**	P	**P**	**13 52 33.5**	**-0.2**
YKA							13 53 25.4	
YKA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
JOF	**Joensuu**		**59.47**	**330**	*e*P	**P**	**13 52 48.5**	**-1.0**
JOF					pmax	pmax		
	comp=Z,2.0nm,0.4s							
JOF	**Joensuu**		**59.47**	**330**	*ep*	**P**	**13 52 48.5**	**-1.0**
	comp=Z,1.5nm,0.4s							
JOF	**Joensuu**		**59.47**	**330**	*ep*	**P**	**13 52 48.5**	**-1.0**
	comp=Z,1.5nm,0.4s							
KAF	**Kangasniemi**		**61.75**	**331**	*e*P	**P**	**13 53 04.0**	**-0.8**
KAF					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KAF	**Kangasniemi**		**61.75**	**331**	*ep*	**P**	**13 53 04.0**	**-0.8**
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**		**62.29**	**331**	P	**P**	**13 53 08.2**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=49,slow=8.1,SNR=15							
FINES	**FINESS Array B**		**62.29**	**331**	P	**P**	**13 53 08.2**	**-0.2**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.4s							
YBH	**Yreka Blue Hor**		**65.60**	**55**	P	**P**	**13 53 32.0**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=286,slow=11,SNR=4.0							
YBH	**Yreka Blue Hor**		**65.60**	**55**	P	**P**	**13 53 32.0**	**+1.6**
YBH					pmax	pmax		
	comp=Z,2.0nm,0.7s							
HFS	**Hagfors**		**67.33**	**335**	P	**P**	**13 53 40.0**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=46,slow=6.4,SNR=12							
HFS	**Hagfors**		**67.33**	**335**	P	**P**	**13 53 40.0**	**-0.8**
HFS					pmax	pmax		
	comp=Z,2.0nm,0.3s							
NOA	**NORSAR Array B**		**67.33**	**336**	P	**P**	**13 53 41.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=40,slow=6.3,SNR=3.9							
NOA	**NORSAR Array B**		**67.33**	**336**	P	**P**	**13 53 41.3**	**+0.4**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
FRB	**Frobisher Bay**		**69.34**	**14**	P	**P**	**13 53 52.0**	**-1.2**
	comp=Z,3.2nm,0.4s,baz=342,slow=7.2,SNR=6.2							
FRB	**Frobisher Bay**		**69.34**	**14**	P	**P**	**13 53 52.0**	**-1.2**
FRB					pmax	pmax		
	comp=Z,3.0nm,0.4s							
NVAR	**Mina Array Bea**		**70.31**	**55**	P	**P**	**13 54 01.1**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=293,slow=6.0,SNR=22							
PDAR	**Pinedale Array**		**72.22**	**47**	P	**P**	**13 54 11.6**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=321,slow=0.9,SNR=58							
ULM	**Lac du Bonnet**		**73.05**	**35**	P	**P**	**13 54 15.2**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=328,slow=6.1,SNR=12							
ULM	**Lac du Bonnet**		**73.05**	**35**	*e*P	**P**	**13 54 15.2**	**-0.4**
ULM					pmax	pmax		
	comp=Z,5.0nm,0.6s							
BRTR	**Keskin Array B**		**74.10**	**310**	P	**P**	**13 54 22.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=40,slow=5.6,SNR=2.1							
BRTR	**Keskin Array B**		**74.10**	**310**	P	**P**	**13 54 22.6**	**+0.5**
SCHQ	**Schefferville**		**77.98**	**16**	P	**P**	**13 54 42.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=96,slow=11,SNR=2.0							
TXAR	**Lajitas Array**		**85.28**	**53**	P	**P**	**13 55 22.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=292,slow=4.3,SNR=14							
TXAR	**Lajitas Array**		**85.28**	**53**	P	**P**	**13 55 22.9**	**+0.7**
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**		**112.06**	**318**	PKiKP	**PKiKP**	**14 01 18.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=18,slow=2.3,SNR=3.6							
SIV	**San Ignacio**		**145.54**	**41**	PKPbc	**PKPab**	**14 02 22.6**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=294,slow=3.6,SNR=10							
VNA2	**Neumayer--Watz**		**149.62**	**199**	*e*	**PKPbc**	**14 02 32.6**	**+0.9**
	baz=113,slow=1.6							
VNA1	**Neumayer--Stat**		**150.02**	**199**	*e*	**PKPbc**	**14 02 35.7**	**+3.1**

MAN 28 13:44:26, 9.°75N×125.°45E, h21km, mb4.2, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.70**	**303**	*eP*	Pb	13 44 40.1	+0.5
MSLP				*eS*	Sn	13 44 50.6	-0.2
BUTP	**Butuan**	**0.79**	**168**	*eP*	Pb	13 44 41.0	-0.1
PLP	**Palo**	**1.48**	**342**	⇓*eP*	Pb	13 45 03.5	+11
PLP				*eS*	Sb	13 45 12.8	+1.5
OCLP	**Ormoc**	**1.54**	**327**	*eP*	Pb	13 45 09.4	+16
TBP	**Tagbilaran**	**1.57**	**268**	*eP*	Pn	13 44 53.3	+0.7
BESP	**Borongan**	**1.84**	**360**	*eP*	Pb	13 44 59.9	+0.9
BESP				*eS*	Sn	13 45 06.8	-12
BUKP	**Musuan**	**1.90**	**192**	*eP*	Pb	13 45 14.9	+15
CNP	**Catarman**	**2.85**	**344**	*eP*	Pn	13 45 09.2	-1.1
CNP				*eS*	Sn	13 45 23.1	-21

IDC ***28*** *13:47:33.0±5.0, 6.°19S×130.°62E, h62km±50km, mb4.0/5, mb1 4.4/9, mb1m

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.56**	**204**	P	P	14 08 14.5	-0.2
	0.8nm,1.0s,baz=26,slow=9.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**47.67**	**287**	P	P	14 10 38.2	+0.5
	1.1nm,0.8s,baz=84,slow=6.4,SNR=8.7						
SONM	**Songino Array**	**52.32**	**326**	P	P	14 11 12.8	0.0
	1.0nm,1.1s,baz=139,slow=6.3,SNR=7.3						
MKAR	**Makanchi Array**	**66.80**	**318**	P	P	14 12 52.8	+0.1
	0.4nm,0.6s,baz=95,slow=8.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**67.19**	**325**	P	P	14 12 54.1	-0.9
	0.7nm,0.5s,baz=91,slow=7.2,SNR=3.2						
ILAR	**Eielson Array**	**72.61**	**24**	P	P	14 13 28.5	+0.4
	0.3nm,0.6s,baz=248,slow=4.8,SNR=2.3						

*DJA **28** 14:06:12.2˝.66S×120˚.20E,h63km,MLv2.8/4*
IDC 28 14:05:07.2±1.8,3˚.09S×126˚.43E,h0km,mb3.0/2, mb1 3.3/3,mb1mx3.1/18,mbtmp3.1/3,ML3.2/1,Error ellipse: s-maj=153.3km s-min=25.8km az=65.0,Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.44**	**156**	P	P	14 09 25.9	+1.4
	0.1nm,0.3s,baz=334,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**21.69**	**161**	P	P	14 09 58.3	-1.6
	0.3nm,0.7s,baz=346,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**63.04**	**328**	P	P	14 15 36.5	+0.3
	0.2nm,0.5s,baz=120,slow=8.4,SNR=2.6						

IDC 28 14:35:31.5±3.7,16˚.80S×69˚.14W,h176km±12km,mb3.3/3, mb1 3.4/3,mb1mx3.1/18,mbtmp3.3/3,Error ellipse: s-maj=103.6km s-min=42.1km az=20.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.10**	**62**	P	Pn	14 36 00.2	-0.1
	13nm,0.3s,baz=235,slow=6.8,SNR=220						
DBIC	**Dimbokro**	**67.69**	**75**	P	P	14 46 10.8	+0.4
	1.3nm,0.6s,baz=229,slow=8.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.03**	**71**	P	P	14 46 59.6	-0.4
	0.8nm,0.7s,baz=258,slow=5.1,SNR=4.9						
YKA	**Yellowknife Ar**	**86.70**	**341**	P	P	14 47 54.9	-0.1
	0.1nm,0.3s,baz=134,slow=4.9,SNR=4.1						

*DDA **28** 14:51:02.0,38˚.77N×25˚.51E,h7km,MD3.4*
*ISK **28** 14:51:02.8,38˚.72N×25˚.47E,h19km,ML3.6*
*ISCJB **28** 14:51:02.5±0.7,38˚.72N±0˚.02×25˚.52E±0˚.02,h10km±5km, mb3.3/2,Error ellipse: s-maj=2.8km s-min=2.2km az=168.4*
*ATH **28** 14:51:02.7,38˚.74N×25˚.54E,h29km±1km,ML3.3*
*CSEM **28** 14:51:02.5±0.1,38˚.71N×25˚.50E,h5km,ML3.5/6,Error ellipse: s-maj=2.7km s-min=2.0km az=158.0*
*THE **28** 14:51:04.0,38˚.74N×25˚.59E,h18km±1km,ML3.5/6,Error ellipse: s-maj=1.4km s-min=0.5km az=90.0*
*IDC **28** 14:51:04.9±1.8,34˚.52N×29˚.35E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.3/23,mbtmp3.7/3,ML3.2/1,Error ellipse: s-maj=142.1km s-min=27.2km az=140.0*
ISC 28 14:51:02.4±1.1,38˚.72N±0˚.02×25˚.52E±0˚.02,h5km±9km, n204,σ0.80/248,9C-2D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.53**	**128**	P	Pb	**14 51 13.9**	**-0.4**
CHOS				S	Sb	14 51 21.6	-0.7
CHOS	**Chios island**	**0.53**	**128**	*e*PN	Pb	14 51 13.9	-0.4
CHOS				*e*SN	Sb	14 51 21.7	-0.6
CHOS	**Chios island**	**0.53**	**128**	P	Pb	14 51 13.9	-0.4
CHOS				S	Sb	14 51 21.6	-0.7
PRK	**Paraskevi**	**0.79**	**48**	P	Pg	14 51 17.3	-0.2
PRK				S	Sg	14 51 28.4	+0.7
PRK	**Paraskevi**	**0.79**	**48**	↑*i* PN	Pg	14 51 17.3	-0.2
PRK				*e*SN	Sb	14 51 29.5	0.0
PRK	**Paraskevi**	**0.79**	**48**	P	Pg	14 51 17.3	-0.2
PRK				S	Sg	14 51 28.4	+0.7
PRK				*e*Sn	Sb	14 51 29.5	0.0
URLA	**Izmir**	**0.91**	**113**	*i* P	Pb	14 51 20.7	-0.1
URLA				*i* S	Sb	14 51 33.1	-0.2
URLA	**Izmir**	**0.91**	**113**	*i* P	Pb	14 51 20.7	-0.1
URLA				*i* S	Sb	14 51 33.1	-0.2
AYVA	**Ayvalik**	**1.08**	**57**	*i* P	Pg	14 51 22.9	-0.2
AYVA				*i* S	Sb	14 51 38.0	-0.1
AYVA	**Ayvalik**	**1.08**	**57**	*i* P	Pg	14 51 22.9	-0.2
AYVA				*i* S	Sb	14 51 38.0	-0.1
BOZC	**Bozcaada**	**1.19**	**20**	*i* P	Pg	14 51 23.8	-1.5
BOZC				*i* S	Sg	14 51 40.0	-0.8
LIA	**Limnos Island**	**1.21**	**347**	P	Pg	14 51 24.7	-0.8
LIA				S	Sn	14 51 42.1	-0.6
LIA	**Limnos Island**	**1.21**	**347**	*e*PN	Pg	14 51 24.7	-0.8
LIA				*e*SN	Sg	14 51 40.7	-0.5
LIA	**Limnos Island**	**1.21**	**347**	P	Pg	14 51 24.7	-0.8
LIA				*e*Sn	Sg	14 51 40.7	-0.5
LIA				S	Sn	14 51 42.1	-0.6
BLCB	**Balcova**	**1.24**	**105**	*e*PN	Pn	14 51 26.8	+0.4
BLCB				*e*SN	Sn	14 51 43.5	+0.1
EZN	**Ezine**	**1.27**	**29**	*e*PN	Pn	14 51 26.3	-0.5
EZN	**Ezine**	**1.27**	**29**	*e*Pn	Pn	14 51 26.3	-0.5
AOS	**Alonnisos**	**1.36**	**290**	P	Pg	14 51 28.4	0.0
AOS				S	Sb	14 51 45.8	-0.3
AOS	**Alonnisos**	**1.36**	**290**	P	Pg	14 51 28.4	0.0
AOS				S	Sb	14 51 45.8	-0.3
ERET	**Eretria**	**1.37**	**259**	P	Pn	14 51 28.1	-0.3
ERET				S	Sb	14 51 46.0	-0.6
ERET	**Eretria**	**1.37**	**259**	P	Pn	14 51 28.1	-0.3
ERET				S	Sb	14 51 46.0	-0.6
IZM	**Izmir**	**1.40**	**103**	*e*PN	Pn	14 51 28.3	-0.4
SMG	**Samos**	**1.45**	**134**	P	Pn	14 51 28.5	-0.7
SMG				S	Sn	14 51 46.6	-2.1
SMG	**Samos**	**1.45**	**134**	*e*PN	Pn	14 51 28.6	-0.7
SMG				*e*SN	Sg	14 51 48.9	+0.1
SMG	**Samos**	**1.45**	**134**	*e*Pn	Pn	14 51 28.6	-0.7
SMG				S	Sn	14 51 46.6	-2.1
SMG				*e*Sn	Sg	14 51 48.9	+0.1
PTL	**Penteli**	**1.47**	**243**	P	Pn	14 51 29.5	-0.1
PTL				S	Sg	14 51 49.7	+0.2
PTL	**Penteli**	**1.47**	**243**	P	Pn	14 51 29.5	-0.1
PTL				S	Sg	14 51 49.7	+0.2
MRKA	**Markates**	**1.52**	**270**	P	Pn	14 51 29.4	-0.9
MRKA				S	Sn	14 51 50.0	-0.4
MRKA	**Markates**	**1.52**	**270**	P	Pn	14 51 29.4	-0.9
MRKA				S	Sn	14 51 50.0	-0.4
ATH	**Athens Observa**	**1.60**	**243**	P	Pn	14 51 31.7	+0.2
ATH	**Athens Observa**	**1.60**	**243**	*e*PN	Pn	14 51 31.6	+0.1
ATH	**Athens Observa**	**1.60**	**243**	*e*Pn	Pn	14 51 31.6	+0.1
VLY	**Voula,Athens**	**1.61**	**238**	P	Pn	14 51 31.4	-0.1
VLY	**Voula,Athens**	**1.61**	**238**	*e*PN	Pn	14 51 31.5	-0.1
VLY				*e*SN	Sb	14 51 53.0	-0.4
VLY	**Voula,Athens**	**1.61**	**238**	*e*Pn	Pn	14 51 31.5	-0.1
VLY				*e*Sn	Sb	14 51 53.0	-0.4
APE	**Apeiranthos**	**1.65**	**180**	*e*PN	Pn	14 51 32.1	0.0
APE				*e*SN	Sn	14 51 52.1	-1.5
APE	**Apeiranthos**	**1.65**	**180**	P	Pn	14 51 31.0	-1.1
APE				S	Sn	14 51 52.9	-0.8
APE	**Apeiranthos**	**1.65**	**180**	*e*PB	Pn	14 51 31.3	-0.8
APE	**Apeiranthos**	**1.65**	**180**	P	Pn	14 51 31.0	-1.1
APE	**Apeiranthos**	**1.65**	**180**	*e*Pb	Pn	14 51 31.3	-0.8
APE				*e*Sn	Sn	14 51 52.2	-1.5
APE				S	Sn	14 51 52.9	-0.8
SKIA	**Skiathos**	**1.67**	**286**	P	Pn	14 51 32.1	-0.2
SKIA				S	Sb	14 51 54.7	-0.2
SKIA	**Skiathos**	**1.67**	**286**	P	Pn	14 51 32.1	-0.2
SKIA				S	Sb	14 51 54.7	-0.2
GCAM	**G?zelcaml?**	**1.69**	**127**	*i* P	Pn	14 51 32.8	+0.2
GCAM				*i* S	Sg	14 51 59.8	+3.1
AKHS	**Akhisar**	**1.80**	**84**	*i* P	Pn	14 51 33.3	-0.8
AKHS	**Akhisar**	**1.80**	**84**	*i* P	Pn	14 51 33.3	-0.8
AKS	**Akhisar**	**1.80**	**84**	*e*PN	Pn	14 51 33.4	-0.7
AKS	**Akhisar**	**1.80**	**84**	*e*Pn	Pn	14 51 33.4	-0.7
GELI	**Tayfur-Gelibol**	**1.83**	**23**	*e*PN	Pn	14 51 33.7	-0.9
GELI	**Tayfur-Gelibol**	**1.83**	**23**	*e*Pn	Pn	14 51 33.7	-0.9
NAIG	**Nisos Aigina**	**1.87**	**240**	*e*PB	Pn	14 51 35.8	+0.7
NAIG	**Nisos Aigina**	**1.87**	**240**	*e*Pb	Pn	14 51 35.8	+0.7
PAIG	**Paliouri**	**1.87**	**311**	P	Pn	14 51 35.1	0.0
PAIG	**Paliouri**	**1.87**	**311**	P	Pn	14 51 35.1	0.0
NEO	**Neokhori**	**1.89**	**289**	P	Pn	14 51 35.3	-0.1
NEO	**Neokhori**	**1.89**	**289**	*e*PB	Pn	14 51 35.4	0.0
NEO	**Neokhori**	**1.89**	**289**	*e*Pb	Pn	14 51 35.4	0.0
LPK	**Lapseki**	**1.91**	**30**	*e*PN	Pn	14 51 36.0	+0.4
LPK	**Lapseki**	**1.91**	**30**	*e*Pn	Pn	14 51 36.0	+0.4
BALY	**Balya**	**1.92**	**57**	*i* P	Pn	14 51 36.1	+0.2
BALY				*i* S	Sg	14 52 05.0	+0.9
BALY	**Balya**	**1.92**	**57**	*i* P	Pn	14 51 36.1	+0.2
XOR	**Xorichti**	**1.93**	**290**	P	Pn	14 51 36.0	+0.1
XOR	**Xorichti**	**1.93**	**290**	P	Pn	14 51 36.0	+0.1
ATAL	**Atalanti**	**1.96**	**270**	P	Pn	14 51 36.4	+0.1
ATAL				S	Sn	14 52 00.9	-0.4
ATAL	**Atalanti**	**1.96**	**270**	P	Pn	14 51 36.4	+0.1
ATAL				S	Sn	14 52 00.9	-0.4
LKR	**Lokris**	**1.98**	**269**	*e*PB	Pn	14 51 36.7	+0.1
LKR	**Lokris**	**1.98**	**269**	*e*Pb	Pn	14 51 36.7	+0.1
OUR	**Ouranopolis**	**2.01**	**324**	P	Pn	14 51 36.6	-0.4
OUR	**Ouranopolis**	**2.01**	**324**	P	Pn	14 51 36.6	-0.4
BALB	**Balikesir**	**2.05**	**63**	*e*PN	Pn	14 51 36.9	-0.7
BALB	**Balikesir**	**2.05**	**63**	*e*Pn	Pn	14 51 36.9	-0.7
ENEZ	**Enez**	**2.07**	**13**	*e*PN	Pn	14 51 37.8	-0.1
ENEZ	**Enez**	**2.07**	**13**	*e*Pn	Pn	14 51 37.8	-0.1
ERIK	**Erikli-Kesan**	**2.09**	**21**	*e*PN	Pn	14 51 37.2	-1.0
ERIK	**Erikli-Kesan**	**2.09**	**21**	*e*Pn	Pn	14 51 37.2	-1.0
LTK	**Loutraki**	**2.13**	**252**	P	Pn	14 51 38.5	-0.2
LTK	**Loutraki**	**2.13**	**252**	*e*PB	Pn	14 51 39.5	+0.8
LTK	**Loutraki**	**2.13**	**252**	P	Pn	14 51 38.5	-0.2
LTK	**Loutraki**	**2.13**	**252**	*e*Pb	Pn	14 51 39.5	+0.8
GONE	**Gonen-Balikesi**	**2.14**	**51**	*e*PN	Pn	14 51 38.9	+0.1
GONE	**Gonen-Balikesi**	**2.14**	**51**	*e*Pn	Pn	14 51 38.9	+0.1
KRBG	**Karabiga-Canak**	**2.16**	**39**	*e*PN	Pn	14 51 38.9	-0.2
KRBG	**Karabiga-Canak**	**2.16**	**39**	*e*Pn	Pn	14 51 38.9	-0.2
DID	**Didima**	**2.17**	**237**	P	Pn	14 51 39.0	-0.3
DID	**Didima**	**2.17**	**237**	*e*PN	Pn	14 51 39.2	-0.1
DID	**Didima**	**2.17**	**237**	*e*Pn	Pn	14 51 39.2	-0.1
BODT	**Bodrum**	**2.18**	**139**	*e*PN	Pn	14 51 39.1	-0.2
ALN	**Alexandroupoli**	**2.21**	**10**	P	Pn	14 51 38.5	-1.3
ALN	**Alexandroupoli**	**2.21**	**10**	*e*PN	Pn	14 51 38.5	-1.3
ALN	**Alexandroupoli**	**2.21**	**10**	P	Pn	14 51 38.5	-1.3
PLG	**Polygyros**	**2.31**	**316**	*e*PB	Pn	14 51 41.2	+0.1
PLG	**Polygyros**	**2.31**	**316**	*e*Pb	Pn	14 51 41.2	+0.1
RKY	**Sarkoy-Tekirda**	**2.34**	**32**	*e*PN	Pn	14 51 42.7	+1.0
RKY	**Sarkoy-Tekirda**	**2.34**	**32**	*e*Pn	Pn	14 51 42.7	+1.0
DSF	**Desfina**	**2.37**	**263**	P	Pn	14 51 41.9	-0.1
DSF				S	Sn	14 52 12.2	+0.7
DSF	**Desfina**	**2.37**	**263**	P	Pn	14 51 41.9	-0.1
DSF				S	Sn	14 52 12.2	+0.7
KAVA	**Kavala**	**2.40**	**341**	P	Pn	14 51 41.3	-1.1
KAVA	**Kavala**	**2.40**	**341**	P	Pn	14 51 41.3	-1.1
EDC	**Edincik**	**2.43**	**47**	*e*PN	Pn	14 51 43.3	+0.5
EDC	**Edincik**	**2.43**	**47**	*e*Pn	Pn	14 51 43.3	+0.5
DURS	**Dursunbey**	**2.46**	**68**	*i* P	Pn	14 51 43.4	+0.1
DURS				*i* S	Sg	14 52 21.6	+0.3
DURS	**Dursunbey**	**2.46**	**68**	*i* P	Pn	14 51 43.4	+0.1
KULA	**Kula-Manisa**	**2.47**	**94**	*e*PN	Pn	14 51 44.0	+0.6
KULA	**Kula-Manisa**	**2.47**	**94**	*e*Pn	Pn	14 51 44.0	+0.6
BNT	**Bandirma**	**2.47**	**48**	*e*PN	Pn	14 51 42.9	-0.5
BNT	**Bandirma**	**2.47**	**48**	*e*Pn	Pn	14 51 42.9	-0.5
DEMI	**Demirci**	**2.51**	**82**	*i* P	Pn	14 51 43.5	-0.5
DEMI	**Demirci**	**2.51**	**82**	*i* P	Pn	14 51 43.5	-0.5
GUR	**Goura**	**2.62**	**254**	P	Pn	14 51 46.1	+0.5
GUR	**Goura**	**2.62**	**254**	*e*PN	Pn	14 51 46.1	+0.5
GUR	**Goura**	**2.62**	**254**	P	Pn	14 51 46.1	+0.5
KALE	**Kalithea**	**2.67**	**264**	P	Pn	14 51 46.5	+0.3
KALE	**Kalithea**	**2.67**	**264**	P	Pn	14 51 46.5	+0.3
KCTX	**Karacabey (Bur**	**2.68**	**54**	*e*PN	Pn	14 51 47.3	+1.0
KCTX	**Karacabey (Bur**	**2.68**	**54**	*e*Pn	Pn	14 51 47.3	+1.0
SOH	**Sokhos**	**2.68**	**322**	*e*PN	Pn	14 51 46.5	+0.1
SOH	**Sokhos**	**2.68**	**322**	*e*Pn	Pn	14 51 46.5	+0.1
YER	**Yerkesik**	**2.69**	**125**	*e*PN	Pn	14 51 46.7	+0.2
YER	**Yerkesik**	**2.69**	**125**	*e*Pn	Pn	14 51 46.7	+0.2
LIT	**Litokhoron**	**2.73**	**301**	*e*PN	Pn	14 51 46.7	-0.2
LIT	**Litokhoron**	**2.73**	**301**	*e*Pn	Pn	14 51 46.7	-0.2
SRS	**Serrai**	**2.82**	**329**	P	Pn	14 51 47.9	-0.3
SRS	**Serrai**	**2.82**	**329**	P	Pn	14 51 47.9	-0.3
LAKA	**Lakka**	**2.82**	**261**	P	Pn	14 51 48.9	+0.6
LAKA	**Lakka**	**2.82**	**261**	P	Pn	14 51 48.9	+0.6
VLX	**Vlachokerasia**	**2.83**	**242**	P	Pn	14 51 49.0	+0.7
VLX	**Vlachokerasia**	**2.83**	**242**	*e*PN	Pn	14 51 49.2	+0.9
VLX	**Vlachokerasia**	**2.83**	**242**	P	Pn	14 51 49.0	+0.7
EFP	**Efpalio**	**2.85**	**265**	P	Pn	14 51 49.6	+1.0
EFP	**Efpalio**	**2.85**	**265**	*e*PN	Pn	14 51 49.4	+0.8
EFP	**Efpalio**	**2.85**	**265**	*e*Pn	Pn	14 51 49.4	+0.8
THL	**Klokotos Trika**	**2.86**	**288**	P	Pn	14 51 48.9	+0.2
THL	**Klokotos Trika**	**2.86**	**288**	*e*PN	Pn	14 51 49.2	+0.5
THL	**Klokotos Trika**	**2.86**	**288**	P	Pn	14 51 48.9	+0.2
THL	**Klokotos Trika**	**2.86**	**288**	*e*Pn	Pn	14 51 49.2	+0.5
VLI	**Veliai**	**2.86**	**227**	P	Pn	14 51 48.6	-0.2
VLI	**Veliai**	**2.86**	**227**	*e*PN	Pn	14 51 48.6	-0.2
VLI	**Veliai**	**2.86**	**227**	*e*Pn	Pn	14 51 48.6	-0.2
EVR	**Evrytania**	**2.91**	**275**	*e*PN	Pn	14 51 49.5	0.0
EVR	**Evrytania**	**2.91**	**275**	*e*Pn	Pn	14 51 49.5	0.0
NVR	**Nevrokopi**	**2.92**	**335**	*e*PN	Pn	14 51 49.2	-0.4
NVR	**Nevrokopi**	**2.92**	**335**	*e*Pn	Pn	14 51 49.2	-0.4
KDZ	**Kurdzhali**	**2.93**	**358**	P	Pn	14 51 48.2	-1.5
KDZ	**Kurdzhali**	**2.93**	**358**	P	Pn	14 51 48.2	-1.5
ORLT	**Orhaneli**	**2.93**	**62**	*e*PN	Pn	14 51 50.6	+0.9
ORLT	**Orhaneli**	**2.93**	**62**	*e*Pn	Pn	14 51 50.7	+0.9
RZN	**Rozhen**	**3.03**	**348**	P	Pn	14 51 50.9	-0.3
RZN	**Rozhen**	**3.03**	**348**	P	Pn	14 51 50.9	-0.3
MDNY	**Mudanya-Bursa**	**3.08**	**57**	*e*PN	Pn	14 51 53.3	+1.6
MDNY	**Mudanya-Bursa**	**3.08**	**57**	*e*Pn	Pn	14 51 53.3	+1.6
KYTH	**Kithira**	**3.14**	**220**	P	Pn	14 51 52.4	-0.2
KYTH	**Kithira**	**3.14**	**220**	*e*PN	Pn	14 51 52.8	+0.2
KYTH	**Kithira**	**3.14**	**220**	P	Pn	14 51 52.4	-0.2
KYTH	**Kithira**	**3.14**	**220**	*e*Pn	Pn	14 51 52.8	+0.2
ARMT	**Armutlu**	**3.17**	**53**	*e*PN	Pn	14 51 54.0	+1.0
ARMT	**Armutlu**	**3.17**	**53**	*e*Pn	Pn	14 51 54.0	+1.0
MMB	**Musomiste**	**3.18**	**335**	P	Pn	14 51 54.0	+0.8
MMB	**Musomiste**	**3.18**	**335**	P	Pn	14 51 54.0	+0.8
ITM	**Ithomi**	**3.23**	**243**	*e*PN	Pn	14 51 55.0	+1.1
ITM	**Ithomi**	**3.23**	**243**	*e*Pn	Pn	14 51 55.0	+1.1
SLVT	**Silivri**	**3.25**	**39**	*e*PN	Pn	14 51 55.1	+1.1
SLVT	**Silivri**	**3.25**	**39**	*e*Pn	Pn	14 51 55.1	+1.1
EDRB	**Edirne**	**3.26**	**16**	*e*PN	Pn	14 51 55.1	+0.9
EDRB	**Edirne**	**3.26**	**16**	*e*Pn	Pn	14 51 55.1	+0.9
CTKS	**Kestanelik-??a**	**3.40**	**41**	*e*PN	Pn	14 51 57.2	+1.1
CTKS	**Kestanelik-??a**	**3.40**	**41**	*e*Pn	Pn	14 51 57.2	+1.1
KARP	**Karpathos**	**3.43**	**157**	P	Pn	14 51 56.1	-0.5
KARP				S	Sn	14 52 37.0	-0.6
KARP	**Karpathos**	**3.43**	**157**	*e*PN	Pn	14 51 56.4	-0.2
KARP	**Karpathos**	**3.43**	**157**	P	Pn	14 51 56.1	-0.5
KARP	**Karpathos**	**3.43**	**157**	*e*Pn	Pn	14 51 56.4	-0.2
KARP				S	Sn	14 52 37.0	-0.6
CTYL	**Yal??k??y-??at**	**3.47**	**37**	*e*PN	Pn	14 51 58.3	+1.1
CTYL	**Yal??k??y-??at**	**3.47**	**37**	*e*Pn	Pn	14 51 58.3	+1.1
YLV	**Yalova**	**3.50**	**57**	*e*PN	Pn	14 51 58.9	+1.4
YLV	**Yalova**	**3.50**	**57**	*e*Pn	Pn	14 51 58.9	+1.4
PYL	**PYLOS**	**3.50**	**240**	*e*PN	Pn	14 51 58.8	+1.2
PYL	**PYLOS**	**3.50**	**240**	*e*Pn	Pn	14 51 58.8	+1.2
KARN	**Karanos**	**3.55**	**202**	*e*PN	Pn	14 51 58.4	+0.1
KARN	**Karanos**	**3.55**	**202**	*e*Pn	Pn	14 51 58.4	+0.1
ISK	**Istanbul-Kandi**	**3.59**	**48**	*e*PN	Pn	14 52 00.1	+1.3
ISK	**Istanbul-Kandi**	**3.59**	**48**	*e*Pn	Pn	14 52 00.1	+1.3
ALT	**Altintas**	**3.59**	**83**	*e*PN	Pn	14 51 59.2	+0.3
ALT	**Altintas**	**3.59**	**83**	*e*Pn	Pn	14 51 59.2	+0.3
ADVT	**Abdulvahap**	**3.68**	**61**	*e*PN	Pn	14 52 01.5	+1.5
ADVT	**Abdulvahap**	**3.68**	**61**	*e*Pn	Pn	14 52 01.5	+1.5
KLYT	**Kilyos**	**3.70**	**46**	*e*PN	Pn	14 52 01.8	+1.5
KLYT	**Kilyos**	**3.70**	**46**	*e*Pn	Pn	14 52 01.8	+1.5
HRT	**Hereke**	**3.82**	**55**	*e*PN	Pn	14 52 03.3	+1.3
HRT	**Hereke**	**3.82**	**55**	*e*Pn	Pn	14 52 03.3	+1.3
SILT	**Sile**	**3.99**	**51**	*e*PN	Pn	14 52 06.1	+1.8
SILT	**Sile**	**3.99**	**51**	*e*Pn	Pn	14 52 06.1	+1.8
ESKT	**Eskisehir**	**4.22**	**77**	*e*PN	Pn	14 52 08.9	+1.4
ESKT	**Eskisehir**	**4.22**	**77**	*e*Pn	Pn	14 52 08.9	+1.4
BRTR	**Keskin Array B**	**6.38**	**78**	Pn	Pn	**14 52 38.1**	**+0.8**
	0.5nm,0.3s,baz=256,slow=12,SNR=13						
VOIR		**6.72**	**357**	↓*i* P	Pn	14 52 41.3	-0.6
VOIR		**6.72**	**357**	↓*i* P	Pn	14 52 41.3	-0.6
MLR	**Muntele Rosu**	**6.77**	**3**	↑*i* P	Pn	14 52 46.2	+3.6
PLOR	**Plostina**	**7.17**	**6**	↑*i* P	Pn	14 52 50.0	+2.0
PLOR	**Plostina**	**7.17**	**6**	↑*i* P	Pn	14 52 50.0	+2.0
VRI	**Vrincioaia**	**7.20**	**7**	↑*i* P	Pn	14 52 49.9	+1.6
VRI	**Vrincioaia**	**7.20**	**7**	↑*i* P	Pn	14 52 49.9	+1.6
TESR		**7.83**	**6**	↑*i* P	Pn	14 52 58.4	+1.4
TESR		**7.83**	**6**	↑*i* P	Pn	14 52 58.4	+1.4
DRGR		**8.33**	**347**	↑*i* P	Pn	14 53 09.1	+5.2
TORD	**Torodi Ar. Bea**	**33.09**	**226**	P	P	**14 57 40.6**	**+1.3**
	0.8nm,0.8s,baz=40,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**41.65**	**60**	P	P	**14 58 51.5**	**-0.2**
	0.3nm,0.8s,baz=274,slow=7.5,SNR=5.2						

IDC 28 15:02:33.4±3.0,24˚.16S×179˚.30E,h503km±33km,mb3.3/7, mb1 3.4/8,mb1mx3.2/18,mbtmp3.3/8,Error ellipse: s-maj=24.7km s-min=20.2km az=109.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.01**	**277**	P	P	15 05 16.2	+3.9
	0.7nm,0.3s,baz=121,slow=16,SNR=7.2						
AFI	**Afiamalu**	**13.22**	**41**	P	P	15 05 25.2	+0.1
	2.8nm,0.3s,baz=252,slow=3.2,SNR=4.9						
RPZ	**Rata Peaks**	**20.65**	**197**	P	P	15 06 37.2	-0.4
	5.9nm,0.9s,baz=41,slow=16,SNR=2.9						
CTA	**Charters Tower**	**30.84**	**271**	P	P	15 08 08.7	+0.7
	2.5nm,0.4s,baz=92,slow=12,SNR=9.6						
STKA	**Stephens Creek**	**34.03**	**248**	P	P	15 08 35.5	+0.5
	1.5nm,0.5s,baz=323,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**41.36**	**261**	P	P	15 09 34.9	-0.4
	2.1nm,0.6s,baz=94,slow=7.4,SNR=53						
WRA	**Warramunga Arr**	**41.75**	**267**	P	P	15 09 37.4	-0.9
	2.6nm,0.3s,baz=96,slow=8.4,SNR=74						
MJAR	**Matsushiro Arr**	**71.75**	**326**	P	P	15 13 03.9	-0.4
	1.0nm,0.6s,baz=159,slow=4.4,SNR=3.9						
KSRS	**Korea Array**	**78.03**	**321**	P	P	15 13 40.1	+0.6
	0.8nm,0.7s,baz=155,slow=4.9,SNR=3.5						
HFS	**Hagfors**	**142.67**	**348**	PKhKP	PKPpre	15 21 04.6	
	2.3nm,0.4s,baz=45,slow=2.9,SNR=26						
AKASG	**Malin Array Be**	**144.84**	**327**	PKP	PKPdf	15 21 11.9	-0.6
	1.4nm,0.5s,baz=49,slow=4.1,SNR=6.0						
BRTR	**Keskin Array B**	**147.22**	**307**	PKPbc	PKPbc	15 21 19.2	-0.9
	1.1nm,0.8s,baz=129,slow=3.4,SNR=4.8						
MMAI	**Mount Meron Ar**	**147.22**	**294**	PKPbc	PKPbc	15 21 19.5	-0.8
	1.1nm,0.5s,baz=48,slow=2.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**168.82**	**192**	PKPab	PKPab	15 22 57.1	+

AGRA AML AML 15 23 15.7
comp=N,87nm,0.3s

DANN Dangsing 13.04 124 *e*P **Pn** **Pn** 15 21 46.9 **-1.5**
comp=N,44nm,0.3s

MK31 Makanchi Array 13.11 34 ⇓Pn **Pn** **Pn** 15 21 49.1 **+0.2**
comp=N,1.8nm,0.8s,baz=217,slow=5.0,SNR=12

MK31 Makanchi Array 13.11 34 *i* P **Pn** **Pn** 15 21 47.6 **-1.3**
MK31 pmax pmax
comp=Z,1.0nm,0.3s

MKAR Makanchi Array 13.11 34 Pn **Pn** **Pn** 15 21 47.3 **-1.6**
comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=15

MKAR Makanchi Array 13.11 34 *i* P **Pn** **Pn** 15 21 48.2 **-0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s

KOLN Koldanda 13.32 127 *e*P **Pn** **Pn** 15 21 50.7 **-1.2**
comp=Z,42nm,0.4s

GKN Gorkha 13.86 123 *e*P **Pn** **Pn** 15 21 57.1 **-1.7**
comp=Z,54nm,0.5s

DMN Daman 14.43 124 *e*P **Pn** **Pn** 15 22 05.1 **-1.1**
comp=Z,28nm,0.4s

KKN Kakani 14.43 123 *e*P **Pn** **Pn** 15 22 04.3 **-1.8**
comp=Z,34nm,0.5s

PKI Pulchoki 14.65 123 *e*P **Pn** **Pn** 15 22 07.6 **-1.5**

GUN Gumba 14.76 121 *e*P **Pn** **Pn** 15 22 08.3 **-2.2**
comp=Z,48nm,0.5s

KURBB Kurchatov Arra 15.08 17 Pn **Pn** **Pn** 15 22 10.9 **-3.2**
comp=Z,0.5nm,0.7s

JIRN Jiri 15.13 121 *e*P **Pn** **Pn** 15 22 14.1 **-1.1**
comp=Z,66nm,0.4s

KURK Kurchatov 15.19 17 Pn Pn 15 22 09.8 -5.6
comp=Z,0.0nm,0.3s,baz=210,slow=11,SNR=7.9

KURK Kurchatov 15.19 17 ⇑Pn **Pn** **Pn** 15 22 11.3 **-4.1**
comp=Z,3.5nm,0.9s

KURK Kurchatov 15.19 17 *e*P **Pn** **Pn** 15 22 16.1 **+0.7**

AB31 Akbulak array 15.41 330 Pn Pn 15 22 11.9 -6.2
comp=Z,1.0nm,0.2s,baz=139,slow=12,SNR=210

AB31 ⇑Sn Sn 15 24 55.0 -13
comp=Z,5.3nm,0.7s,baz=150,slow=23,SNR=5.4

AB31 Akbulak array 15.41 330 *i* P Pn 15 22 11.9 -6.2
AB31 pmax pmax
comp=Z,4.0nm,0.2s

RAMN Ramite 15.86 122 *e*P **Pn** **Pn** 15 22 22.0 **-2.2**

VOSK Vostochnaya 16.34 359 ⇓Pn **Pn** **Pn** 15 22 25.1 **-4.5**
comp=Z,7.8nm,0.9s

TAPN Taplejung 16.39 119 *e*P **Pn** **Pn** 15 22 30.3 **-0.4**
comp=Z,24nm,0.3s

ODAN Odare 16.46 121 *e*P **Pn** **Pn** 15 22 30.2 **-1.4**
comp=Z,39nm,0.6s

BVA0 Borovoye Array 16.65 358 ⇓Pn Pn 15 22 28.2 -5.3
comp=Z,0.4nm,0.7s,baz=165,slow=13,SNR=22

BVA0 Borovoye Array 16.65 358 *i* P **Pn** **Pn** 15 22 28.8 **-4.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s

BVAR Borovoye Array 16.65 358 Pn **Pn** **Pn** 15 22 29.8 **-3.7**
comp=Z,0.6nm,0.3s,baz=165,slow=13,SNR=22

BVAR Sn Sn 15 25 24.6 -14
comp=Z,0.1nm,0.3s,baz=251,slow=27,SNR=3.1

BVAR LR LR 15 29 01.1
comp=Z,72nm,21.6s,baz=326,slow=37

BVAR Borovoye Array 16.65 358 P **Pn** **Pn** 15 22 29.8 **-3.7**
BVAR pmax pmax
comp=Z,1.0nm,0.3s

ZRNK Zerenda 16.66 355 ⇑Pn **Pn** **Pn** 15 22 29.0 **-4.5**
comp=Z,3.1nm,0.6s

ZRNK ⇓Sn Sn 15 25 27.5 -11
comp=Z,4.4nm,1.1s

BRVK Borovoye 16.69 357 ⇑Pn Pn 15 22 28.7 -5.2
comp=Z,8.7nm,1.0s

BRVK Borovoye 16.69 357 ⇓*i*P **Pn** **Pn** 15 22 30.1 **-3.8**
BRVK pmax pmax
comp=Z,9.0nm,1.4s

AKTO Aktyubinsk 17.11 329 P **P** **P** 15 22 35.0 **-3.9**
comp=Z,1.8nm,0.3s,baz=142,slow=14,SNR=54

AKTO S Sn 15 25 28.9 -21
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.6

AKTO Aktyubinsk 17.11 329 ⇑Pn P 15 22 33.3 -5.6
comp=Z,1.9nm,0.7s

AKTO ⇑Sn Sn 15 25 35.6 -14
comp=Z,1.0nm,0.9s

AKTO Aktyubinsk 17.11 329 *i* P **P** **P** 15 22 34.5 **-4.4**
AKTO pmax pmax
comp=Z,1.0nm,0.6s

LSA Lhasa 17.70 107 P **Pn** **Pn** 15 22 47.5 **+0.6**
LSA pmax pmax
comp=Z,40nm,0.8s

POO Poona 17.91 173 *e*P **S** **S** 15 26 04.0 **-4.0**

ZALV Zalesovo Beam 19.83 24 P **P** **P** 15 23 08.5 **-0.1**
comp=Z,3.9nm,0.4s,baz=232,slow=9.5,SNR=17

ZALV S **Sn** **Sn** 15 26 55.1 **+0.8**
comp=Z,2.0nm,0.8s,baz=222,slow=15,SNR=4.1

ZALV Zalesovo Beam 19.83 24 P **P** **P** 15 23 08.5 **-0.1**
ZALV S **Sn** **Sn** 15 26 55.2 **+0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.4s

ZALV smax smax
comp=N,2.0nm,0.8s

NVS Novosibirsk 20.12 20 *e*P **P** **P** 15 23 10.6 **-1.1**
NVS pmax pmax
comp=Z,3.0nm,0.6s

KBD Kabd 21.30 257 *e*P **P** **P** 15 23 23.6 **-1.0**

MIB Mutribah 21.31 259 *e*P **P** **P** 15 23 23.4 **-1.3**
MIB AMb AMB 15 23 27.3
comp=Z,32nm,0.8s

GNI Garni 21.37 288 P **P** **P** 15 23 26.0 **+0.5**
comp=Z,3.7nm,0.4s,baz=174,slow=17,SNR=6.1

GNI Garni 21.37 288 ⇓*e*P **P** **P** 15 23 25.9 **+0.4**
GNI pmax pmax
comp=Z,21nm,1.4s

RDF Al-Radifah 21.52 257 *e*P **P** **P** 15 23 26.1 **-0.9**
RDF AMb AMB 15 23 26.9
comp=Z,31nm,0.7s

NAY Al-Naaiem 21.62 258 *e*P **P** **P** 15 23 26.4 **-1.7**
NAY AMb AMB 15 23 29.9
comp=Z,12nm,0.8s

SVE Sverdlovsk 21.73 344 *e*P **P** **P** 15 23 27.7 **-1.2**
SVE pmax pmax
comp=Z,7.0nm,0.6s

ZEI Tsey 22.20 295 *e*P **P** **P** 15 23 36.5 **+2.2**
ZEI pmax pmax
comp=Z,4.0nm,1.2s

GTA Gaotai 22.45 74 *e*P P 15 23 41.8 +5.0

KIV Kislovodsk 23.25 298 *e*P **P** **P** 15 23 47.1 **+2.7**
KIV *e*S **S** **S** 15 27 52.1 **+4.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s

VRHR Novokhopersk 25.93 314 *e*P **P** **P** 15 24 10.4 **+1.9**
VRHR pmax pmax
comp=N,2.0nm,0.8s

VRHR pmax pmax
comp=E,6.0nm,0.8s

VRHR pmax pmax
comp=Z,7.0nm,0.8s

ZAK Zakamensk 26.71 48 *e*P pP 15 24 33.8 -6.6
ZAK pmax pmax
comp=Z,1.0nm,1.1s

VSR Storozhevoye 27.42 313 *e*P **P** **P** 15 24 22.7 **+0.9**
VSR pmax pmax
comp=N,5.0nm,0.9s

VSR pmax pmax
comp=E,7.0nm,0.9s

VSR pmax pmax
comp=Z,5.0nm,0.9s

SONM Songino Array 28.02 55 P **P** **P** 15 24 29.8 **+2.4**
comp=Z,0.3nm,0.4s,baz=265,slow=8.7,SNR=4.1

SONM Songino Array 28.02 55 P **P** **P** 15 24 29.8 **+2.4**

CMAR Chiang Mai Arr 30.00 119 P **P** **P** 15 24 49.1 **+4.2**
comp=Z,0.3nm,0.6s,baz=295,slow=11,SNR=3.3

CMAR Chiang Mai Arr 30.00 119 P **P** **P** 15 24 49.2 **+4.2**

KLMR Klimovskoe 31.80 330 P **P** **P** 15 25 01.1 **+0.7**
KLMR pmax pmax
comp=Z,14nm,1.6s

AKASG Malin Array Be 33.38 309 P **P** **P** 15 25 15.1 **+0.8**
comp=Z,3.6nm,0.5s,baz=81,slow=7.1,SNR=12

AKASG Malin Array Be 33.38 309 P **P** **P** 15 25 15.1 **+0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.5s

JOF Joensuu 36.20 330 *e*P **P** **P** 15 25 38.5 **+0.2**
JOF pmax pmax
comp=Z,5.0nm,0.5s

JOF Joensuu 36.20 330 *e*p **P** **P** 15 25 38.5 **+0.2**
comp=Z,4.9nm,0.5s

JOF Joensuu 36.20 330 *e*p **P** **P** 15 25 38.5 **+0.2**
comp=Z,4.9nm,0.5s

FINES FINESS Array B 37.83 326 P **P** **P** 15 25 52.1 **-0.1**
comp=Z,3.0nm,0.6s,baz=118,slow=8.8,SNR=14

FINES FINESS Array B 37.83 326 P **P** **P** 15 25 52.1 **-0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s

KEV Kevo 41.08 338 *e*P **P** **P** 15 26 20.4 **+1.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s

KEV Kevo 41.08 338 *e*p **P** **P** 15 26 20.4 **+1.4**
comp=Z,0.8nm,0.3s

KEV Kevo 41.08 338 *e*p **P** **P** 15 26 20.4 **+1.4**
comp=Z,0.8nm,0.3s

ARCES ARCESS Array B 41.42 337 P **P** **P** 15 26 23.7 **+1.8**
comp=Z,4.6nm,0.6s,baz=116,slow=8.3,SNR=36

ARCES ARCESS Array B 41.42 337 P **P** **P** 15 26 23.7 **+1.8**
ARCES pmax pmax
comp=Z,5.0nm,0.6s

HFS Hagfors 43.44 322 P **P** **P** 15 26 38.2 **-0.1**
comp=Z,6.0nm,0.5s,baz=98,slow=9.7,SNR=26

HFS Hagfors 43.44 322 P **P** **P** 15 26 38.2 **-0.1**
HFS pmax pmax
comp=Z,6.0nm,0.5s

NB2 NORSAR Subarra 44.75 323 P **P** **P** 15 26 49.3 **+0.5**
comp=Z,4.7nm,0.6s,baz=97,slow=7.9

NOA NORSAR Array B 44.75 323 P **P** **P** 15 26 49.8 **+1.0**
comp=Z,5.1nm,0.6s,baz=96,slow=7.8,SNR=20

NOA NORSAR Array B 44.75 323 P **P** **P** 15 26 49.8 **+1.0**
NOA pmax pmax
comp=Z,5.0nm,0.6s

DAG Danmarks Havn 54.97 344 *i* P **P** **P** 15 28 07.8 **+2.1**
comp=Z,34nm,0.8s

SUMG Summit 61.31 341 *i* P **P** **P** 15 28 52.9 **+2.4**
comp=Z,5.0nm,0.8s

TORD Torodi Ar. Bea 66.18 269 P **P** **P** 15 29 21.2 **-1.5**
comp=Z,1.0nm,0.5s,baz=48,slow=5.4,SNR=20

BOSA Boshof 77.96 221 P **P** **P** 15 30 32.9 **+0.1**
comp=Z,2.7nm,0.8s,baz=51,slow=4.4,SNR=3.8

BOSA Boshof 77.96 221 P **P** **P** 15 30 32.9 **+0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.8s

YKA Yellowknife Ar 81.33 3 P **P** **P** 15 30 51.7 **+1.2**
comp=Z,0.7nm,0.5s,baz=348,slow=5.4,SNR=19

YKA Yellowknife Ar 81.33 3 P **P** **P** 15 30 51.7 **+1.2**
YKA pmax pmax
comp=Z,1.0nm,0.5s

WRA Warramunga Arr 81.54 122 P **P** **P** 15 30 53.3 **+1.1**
comp=Z,0.5nm,0.4s,baz=330,slow=4.8,SNR=13

WRA Warramunga Arr 81.54 122 P **P** **P** 15 30 53.3 **+1.1**
WRA pmax pmax
comp=Z,1.0nm,0.4s

ASAR Alice Springs 83.81 125 P **P** **P** 15 31 05.2 **+1.4**
comp=Z,0.4nm,0.8s,baz=310,slow=4.9,SNR=5.2

ASAR Alice Springs 83.81 125 P **P** **P** 15 31 05.3 **+1.4**

*IDC **28** 15:38:14.9±0.6, 1.°07N×125.°74E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/22, mbtmp4.1/14, ML3.9/1, Error ellipse: s-maj=52.3km s-min=13.1km az=72.0*
*ISCJB **28** 15:38:19.1±0.6, 1.°06N±0.°10×125.°8E±0.°3, h44km, mb4.1/13, Error ellipse: s-maj=42.3km s-min=9.5km az=165.2*
*DJA **28** 15:38:20, 1.°22N×126.°14E, h17km, MLv4.4/4*

ISC 28 15:38:20.9±0.7, 1.°1N±0.°1×125.°8E±0.°4, h44km, n16, σ0s67/18, mb4.2/13, 1C, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**6.33**	**346**	*i*	*P*		**Pn**	**15 39 52.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.03**	**181**		P		**Pn**	**15 42 40.7**	**+0.3**
	0.3nm,0.5s,baz=2.8,slow=5.6,SNR=4.1								
WRA	**Warramunga Arr**	**22.47**	**159**		P		**P**	**15 43 16.3**	**-0.4**
	1.9nm,0.4s,baz=334,slow=10.0,SNR=45								
ASAR	**Alice Springs**	**25.79**	**163**		P		**P**	**15 43 47.9**	**-0.2**
	0.7nm,0.3s,baz=348,slow=12,SNR=32								
ASAR					PcP		**PcP**	**15 47 17.5**	**+0.4**
	0.4nm,0.6s,baz=0.3,slow=2.3,SNR=4.7								
STKA	**Stephens Creek**	**36.00**	**157**		P		**P**	**15 45 18.0**	**+0.1**
	2.0nm,0.7s,baz=338,slow=8.4,SNR=23								
KSRS	**Korea Array**	**36.28**	**3**		P		**P**	**15 45 19.6**	**-0.6**
	0.5nm,0.6s,baz=179,slow=10,SNR=5.2								
USRK	**Ussuriysk Arra**	**43.32**	**6**		P		**P**	**15 46 19.2**	**+0.6**
	2.8nm,0.6s,baz=188,slow=7.6,SNR=6.0								
SONM	**Songino Array**	**49.55**	**343**		P		**P**	**15 47 07.2**	**-0.4**
	0.4nm,0.4s,baz=159,slow=9.1,SNR=11								
SONM					PcP		**PcP**	**15 48 29.4**	**+0.5**
	0.3nm,0.7s,baz=154,slow=3.0,SNR=3.0								
MKAR	**Makanchi Array**	**59.25**	**327**		P		**P**	**15 48 17.3**	**-0.7**
	1.5nm,0.5s,baz=120,slow=7.7,SNR=81								
ZALV	**Zalesovo Beam**	**62.57**	**334**		P		**P**	**15 48 40.1**	**-0.2**
	0.5nm,0.4s,baz=152,slow=7.1,SNR=4.8								
KURK	**Kurchatov**	**63.52**	**329**		P		**P**	**15 48 47.0**	**+0.3**
	1.8nm,0.5s,baz=133,slow=6.4,SNR=8.6								
BVAR	**Borovoye Array**	**69.07**	**328**		P		**P**	**15 49 23.1**	**+0.9**
	0.7nm,0.5s,baz=148,slow=6.8,SNR=7.7								
AKTO	**Aktyubinsk**	**75.19**	**322**		P		**P**	**15 49 58.5**	**-0.4**
	1.1nm,0.3s,baz=107,slow=6.2,SNR=8.6								
ARCES	**ARCESS Array B**	**92.63**	**340**		P		**P**	**15 51 26.5**	**-1.2**
	1.6nm,0.9s,baz=99,slow=5.6,SNR=4.0								
FINES	**FINESS Array B**	**93.75**	**332**		P		**P**	**15 51 34.3**	**+1.4**
	1.3nm,0.7s,baz=78,slow=7.8,SNR=3.1								
TORD	**Torodi Ar. Bea**	**122.83**	**286**		PKP		**PKPdf**	**15 57 13.0**	**-0.3**
	0.5nm,0.7s,baz=45,slow=1.9,SNR=4.7								

IDC 28 15:40:13.8±5.5, 6.°55S×154.°95E, h61km±45km, mb3.8/9, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, ML3.6/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=37.2km s-min=24.0km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.72**	**120**			LR	LR	15 43 38.8	
	comp=Z,297nm,21.4s,baz=304,slow=36								
PMG	**Port Moresby**	**8.22**	**249**		P		Pn	15 42 11.2	+0.7
	4.0nm,0.3s,baz=59,slow=11,SNR=20								
PMG					S		Sn	15 43 41.9	-0.1
	0.9nm,0.3s,baz=41,slow=19,SNR=2.1								
CTA	**Charters Tower**	**15.89**	**211**		LR		LR	15 49 26.8	
	comp=Z,209nm,18.5s,baz=46,slow=35								
DZM	**Mont Dzumac**	**19.01**	**145**		LR		LR	15 49 15.0	
	comp=Z,32nm,21.4s,baz=207,slow=28								
GUMO	**Guam**	**22.37**	**333**		LR		LR	15 52 16.3	
	comp=Z,53nm,19.4s,baz=163,slow=32								
WRA	**Warramunga Arr**	**24.04**	**234**		P		P	15 45 23.5	0.0
	7.3nm,0.9s,baz=57,slow=9.5,SNR=13								
WRA					PcP		PcP	15 49 04.0	-0.1
	0.9nm,0.8s,baz=64,slow=2.2,SNR=5.2								
WRA					LR		LR	15 54 36.3	
	comp=Z,113nm,20.6s,baz=60,slow=36								
ASAR	**Alice Springs**	**26.44**	**228**		P		P	15 45 45.1	-0.1
	1.8nm,0.7s,baz=61,slow=8.4,SNR=11								
ASAR					PcP		PcP	15 49 09.7	+0.3
	1.0nm,0.8s,baz=65,slow=2.5,SNR=6.3								
STKA	**Stephens Creek**	**28.12**	**205**		LR		LR	15 56 54.4	
	comp=Z,160nm,19.8s,baz=26,slow=36								
FITZ	**Fitzroy Crossi**	**30.79**	**245**		P		P	15 46 23.5	-0.5
	3.1nm,0.7s,baz=91,slow=10,SNR=4.3								
FITZ					LR		LR	15 58 27.0	
	comp=Z,108nm,20.3s,baz=87,slow=36								
AFI	**Afiamalu**	**33.52**	**105**		LR		LR	15 58 06.6	
	comp=Z,101nm,21.3s,baz=322,slow=32								
CMAR	**Chiang Mai Arr**	**60.55**	**295**		P		P	15 50 19.6	+1.1
	4.4nm,0.9s,baz=112,slow=5.0,SNR=31								
SONM	**Songino Array**	**68.94**	**327**		P		P	15 51 12.4	-0.2
	1.0nm,0.8s,baz=143,slow=4.8,SNR=13								
ILAR	**Eielson Array**	**82.98**	**22**		P		P	15 52 30.6	-1.4
	0.3nm,0.8s,baz=244,slow=5.4,SNR=4.3								
MKAR	**Makanchi Array**	**83.04**	**319**		P		P	15 52 32.5	-0.3
	1.8nm,1.0s,baz=101,slow=6.3,SNR=8.8								
MKAR					LR		LR	16 31 14.0	
	comp=Z,162nm,18.3s,baz=224,slow=37								
YBH	**Yreka Blue Hor**	**88.62**	**48**		LR		LR	16 25 32.2	
	comp=Z,72nm,20.5s,baz=338,slow=31								
NVAR	**Mina Array Sea**	**91.48**	**52**		P		P	15 53 15.3	+1.1
	1.2nm,0.9s,baz=261,slow=4.9,SNR=5.5								
YKA	**Yellowknife Ar**	**95.96**	**28**		P		P	15 53 33.9	0.0
	0.7nm,0.9s,baz=270,slow=4.5,SNR=9.1								
TORD	**Torodi Ar. Bea**	**152.86**	**286**		PKPbc		PKPbc	16 00 04.0	-1.2
	1.0nm,0.8s,baz=62,slow=1.9,SNR=7.0								

IDC 28 15:43:12.9±6.3, 15.°73N×145.°98E, h75km±72km, mb3.4/6, mb1 3.7/7, mb1mx3.4/24, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=56.0km s-min=28.6km az=7.0, Mariana Islands

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

GUMO Guam 2.38 207 P Pn 15 43 51.5 +1.6
17nm,0.3s,baz=39,slow=13,SNR=15

GUMO S Sn 15 44 18.5 +0.4
36nm,0.3s,baz=16,slow=23,SNR=16

ASAR Alice Springs 40.89 197 pP pP 15 51 08.1 +1.8
0.5nm,0.8s,baz=11,slow=11,SNR=9.6

MKAR Makanchi Array 60.72 315 P P 15 53 17.5 +0.8
0.5nm,0.6s,baz=85,slow=7.8,SNR=4.8

KURK Kurchatov 63.66 319 P P 15 53 36.8 +0.5
1.8nm,0.5s,baz=96,slow=7.2,SNR=22

ILAR Eielson Array 66.19 26 P P 15 53 51.5 -0.9
0.7nm,1.0s,baz=247,slow=5.8,SNR=2.9

BVAR Borovoye Array 68.93 321 P P 15 54 09.6 -0.3
0.7nm,0.4s,baz=105,slow=7.4,SNR=9.7

YKA Yellowknife Ar 80.48 28 P P 15 55 16.0 -0.4
0.1nm,0.4s,baz=283,slow=5.1,SNR=4.3

NVAR Mina Array Bea 84.76 52 P P 15 55 40.0 +0.5
0.3nm,0.5s,baz=270,slow=4.5,SNR=3.4

*ISK **28** 15:50:02.9, 40.°45N×29.°21E, h4km, MD2.9*
*ISCJB **28** 15:50:03.8±0.5, 40.°49N±0.°05×29.°21E±0.°03, h1km±8km, Error ellipse: s-maj=8.2km s-min=4.1km az=12.1*
*CSEM **28** 15:50:03.9±0.1, 40.°50N×29.°22E, h10km, MD2.9, Error ellipse: s-maj=4.1km s-min=2.8km az=10.0*
*DDA **28** 15:50:03.7, 40.°45N×29.°18E, h7km, MD2.8*

ISC 28 15:50:04.1±0.9, 40.°48N±0.°04×29.°22E±0.°02, h11km±7km, n26, σ0s57/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.14**	**54**	*e*	PG		**Pg**	**15 50 07.0**	**-0.4**
YLV				*e*	SG		**Sg**	**15 50 10.6**	**+0.8**
YLV	**Yalova**	**0.14**	**54**	*e*	Pg		**Pg**	**15 50 07.1**	**-0.4**
YLV				*e*	Sg		**Sg**	**15 50 10.6**	**+0.8**
ARMT	**Armutlu**	**0.28**	**287**	*e*	PG		**Pg**	**15 50 09.4**	**-0.4**
ARMT				*e*	SG		**Sg**	**15 50 14.1**	**+0.4**
ARMT	**Armutlu**	**0.28**	**287**	*e*	Pg		**Pg**	**15 50 09.4**	**-0.4**
ARMT				*e*	Sg		**Sg**	**15 50 14.1**	**+0.4**
ADVT	**Abdulvahap**	**0.40**	**97**	*e*	PG		**Pg**	**15 50 11.2**	**-0.7**
ADVT				*e*	SG		**Sg**	**15 50 17.8**	**+0.5**
ADVT	**Abdulvahap**	**0.40**	**97**	*e*	Pg		**Pg**	**15 50 11.2**	**-0.7**
ADVT				*e*	Sg		**Sg**	**15 50 17.8**	**+0.5**
CAVI	**Cavuskoy**	**0.55**	**120**	*e*	PG		**Pg**	**15 50 14.5**	**-0.3**
CAVI				*e*	SG		**Sg**	**15 50 22.1**	**0.0**
CAVI	**Cavuskoy**	**0.55**	**120**	*e*	Pg		**Pg**	**15 50 14.5**	**-0.3**
CAVI				*e*	Sg		**Sg**	**15 50 22.1**	**0.0**
KCTX	**Karacabey (Bur**	**0.69**	**252**	*e*	PG		**Pg**	**15 50 17.3**	**-0.2**
KCTX	**Karacabey (Bur**	**0.69**	**252**	*e*	Pg		**Pg**	**15 50 17.3**	**-0.2**
SILT	**Sile**	**0.74**	**26**	*e*	PG		**Pg**	**15 50 18.2**	**-0.2**
SILT	**Sile**	**0.74**	**26**	*e*	Pg		**Pg**	**15 50 18.2**	**-0.2**
CTKS	**Kestanelik-??a**	**0.93**	**325**	*e*	PG		**Pg**	**15 50 21.0**	**-0.9**
CTKS	**Kestanelik-??a**	**0.93**	**325**	*e*	Pg		**Pg**	**15 50 21.0**	**-0.9**
GULT	**Gulveren**	**0.99**	**92**	*e*	PG		**Pg**	**15 50 22.8**	**-0.3**
GULT	**Gulveren**	**0.99**	**92**	*e*	Pg		**Pg**	**15 50 22.8**	**-0.3**
DURS	**Dursunbey**	**1.05**	**213**	*i*	P		**Pg**	**15 50 24.1**	**-0.2**
DURS				*i*	S		**Sn**	**15 50 40.2**	**+0.7**
DURS	**Dursunbey**	**1.05**	**213**	*i*	P		**Pg**	**15 50 24.1**	**-0.2**
DURS				*i*	S		**Sn**	**15 50 40.2**	**+0.7**
BORA	**Eskisehir**	**1.12**	**122**	*i*	P		**Pb**	**15 50 24.9**	**-0.6**
BORA				*i*	S		**Sn**	**15 50 42.4**	**+1.1**
BORA	**Eskisehir**	**1.12**	**122**	*i*	P		**Pb**	**15 50 24.9**	**-0.6**
BORA				*i*	S		**Sn**	**15 50 42.4**	**+1.1**
CTYL	**Yal??k??y-??at**	**1.22**	**325**	*e*	PN		**Pb**	**15 50 27.3**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.22**	**325**	*e*	Pn		**Pb**	**15 50 27.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.25**	**250**	*e*	PN		**Pn**	**15 50 27.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.25**	**250**	*e*	Pn		**Pn**	**15 50 27.2**	**-0.3**
ALT	**Altintas**	**1.58**	**154**	*e*	PN		**Pb**	**15 50 33.0**	**-0.4**
ALT	**Altintas**	**1.58**	**154**	*e*	Pn		**Pb**	**15 50 33.0**	**-0.4**

IDC 28 15:54:25.7±53.0, 15.°32S×178.°59W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=975.7km s-min=161.7km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.78**	**238**		P		P	16 01 59.1	-1.5
	1.0nm,0.8s,baz=89,slow=9.9,SNR=4.4								
WRA	**Warramunga Arr**	**44.99**	**257**		P		P	16 02 44.0	+0.8
	0.2nm,0.5s,baz=86,slow=8.3,SNR=8.6								
ASAR	**Alice Springs**	**45.38**	**252**		P		P	16 02 46.4	0.0
	1.1nm,0.7s,baz=90,slow=7.9,SNR=23								

SKHL 28 16:08:27.9±0.5, 53.°60N×142.°62E, h10km, mb4.2/3, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.19**	**105**	*e*	Pg		Pg	16 08 32.2	+0.2
OKH				⇓*i*	Pg		Pg	16 08 32.2	+0.2
OKH					AMB		AMB	16 08 32.3	
	900nm,0.3s								
OKH				*e*	Sg		Sg	16 08 35.2	+0.5
OKH				⇓*i*	Sg		Sg	16 08 35.2	+0.5
OKH					A		A	16 08 37.6	
	2μm,0.5s								
OKH					A		A	16 08 37.6	
	4μm,0.5s								
NKL	**Nikolayevsk**	**1.25**	**250**	*i*	Pg		Pg	16 08 52.5	+0.7
NKL					AMB		AMB	16 08 53.5	
	15nm,0.3s								
NKL					AMB		AMB	16 08 53.5	
	22nm,0.3s								
NKL					AMB		AMB	16 08 53.5	
	48nm,0.3s								
NKL				*e*	Sg		Sn	16 09 10.0	+1.8
NKL					A		A	16 09 10.3	
	290nm,0.3s								
NKL					A		A	16 09 10.3	
	240nm,0.3s								
NKL				*e*	Sg		A	16 09 10.3	
TYV	**Tymovskoe**	**2.74**	**180**	*e*	Pg		Pg	16 09 22.4	+2.0
TYV				*e*	Sg		Sg	16 10 00.5	+4.6
GRNR	**Gornyy**	**4.75**	**236**	*e*	Sg		Sg	16 11 07.0	+6.5
GRNR					A		A	16 11 08.0	
	12nm,0.6s								
GRNR					A		A	16 11 08.0	
	13nm,0.6s								
EKMR	**Ekimchan**	**5.82**	**269**	*e*	Pg		Pg	16 10 23.0	+3.7
EKMR					AMB		AMB	16 10 24.0	
	2.0nm,0.3s								
EKMR				*e*	Sg		Sg	16 11 43.5	+8.8
EKMR					A		A	16 11 44.5	
	5.0nm,0.7s								

*ISCJB **28** 16:12:55.5±1.2, 14.°36N±0.°10×93.°69W±0.°05, h22km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=14.4km s-min=6.6km az=0.5*
*MEX **28** 16:12:55.3±1.8, 14.°13N×93.°73W, h20km±132km, MD4.2*
*IDC **28** 16:12:55.4±3.1, 14.°59N×93.°20W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.8/6, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=87.2km s-min=42.6km az=36.0*

ISC 28 16:12:56.0±1.4, 14.°2N±0.°1×93.°67W±0.°05, h22km, n13, σ2s45/16, mb3.9/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.52**	**63**	*i*	P		**Pn**	**16 13 19.1**	**-2.7**
THIG					*i*	S	**Sn**	**16 13 38.5**

1.3nm,0.8s,baz=139,slow=8.2,SNR=7.2
ULM Lac du Bonnet 35.97 358 P **P 16 19 53.4 -1.7**
1.7nm,0.8s,baz=179,slow=9.8,SNR=3.5
YKA Yellowknife Ar 50.44 348 P **P 16 21 52.9 +1.1**
1.0nm,0.8s,baz=152,slow=7.3,SNR=15
NOA NORSAR Array B 84.71 28 P **P 16 25 29.3 +1.1**
1.2nm,0.8s,baz=292,slow=4.9,SNR=3.3
CMAR Chiang Mai Arr 145.22 339 PKPbc **PKPdf 16 32 33.1 +0.2**
1.6nm,0.9s,baz=344,slow=4.3,SNR=14

IDC 28 16:24:23.5±2.1,11°30N×126°88E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=169.5km s-min=25.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.34**	**161**	P		P	16 29 21.8 -1.4
	0.6nm,0.4s,baz=340,slow=11,SNR=32						
ASAR	**Alice Springs**	**25.74**	**165**	P		P	16 29 57.0 +1.0
	0.3nm,0.3s,baz=341,slow=10,SNR=15						
MKAR	**Makanchi Array**	**59.63**	**326**	P		P	16 34 29.4 -0.2
	0.2nm,0.6s,baz=114,slow=7.7,SNR=4.8						

IDC 28 16:34:03.2±3.0,19°02N×145°50E,h258km±29km,mb3.1/8, mb1 3.3/9,mb1mx3.1/24,mbtmp3.1/9,Error ellipse: s-maj=35.7km s-min=14.5km az=88.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.43**	**186**	P		Pn	16 35 24.1 -0.5
	1.8nm,0.3s,baz=0.0,slow=20,SNR=2.6						
GUMO				S		S	16 36 26.4 -3.3
	7.0nm,0.3s,baz=176,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**40.24**	**196**	P		P	16 41 15.5 +0.3
	0.7nm,0.3s,baz=18,slow=9.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**41.73**	**209**	P		P	16 41 26.4 -1.0
	2.7nm,0.8s,baz=42,slow=12,SNR=3.6						
SONM	**Songino Array**	**42.77**	**321**	P		P	16 41 36.3 +0.6
	0.1nm,0.4s,baz=138,slow=6.9,SNR=2.2						
ASAR	**Alice Springs**	**43.91**	**195**	P		P	16 41 45.0 +0.1
	0.6nm,0.6s,baz=17,slow=8.0,SNR=15						
STKA	**Stephens Creek**	**50.74**	**184**	P		P	16 42 37.4 +0.2
	2.1nm,1.1s,baz=5.7,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**58.10**	**314**	P		P	16 43 30.1 +0.2
	0.2nm,0.5s,baz=86,slow=8.0,SNR=4.0						
YKA	**Yellowknife Ar**	**77.80**	**28**	P		P	16 45 31.9 +0.2
	0.1nm,0.4s,baz=289,slow=5.4,SNR=3.3						
FINES	**FINESS Array B**	**86.51**	**335**	P		P	16 46 14.9 -1.9
	0.8nm,0.5s,baz=72,slow=5.2,SNR=6.7						

*ISCJB **28** 16:37:11.2±0.6,45°50N±0°08×142°8E±0°1,h320km±6km, mb3.0/3,Error ellipse: s-maj=14.0km s-min=11.2km az=38.9*
*JMA **28** 16:37:11.3±0.5,45°60N×142°78E,h319km±4km,M2.9*
*IDC **28** 16:37:12.2±1.2,45°56N×142°76E,h316km±24km,mb3.0/3, mb1 3.1/5,mb1mx2.8/24,mbtmp2.9/5,Error ellipse: s-maj=46.4km s-min=19.2km az=166.0*

ISC 28 16:37:11.4±0.9,45°44N±0°08×142°74E±0°09,h318km±8km, n23,σ1°49/32,mb3.2/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.49**	**193**	P		**Pn**	**16 37 52.3 +0.3**
JWK2	**Keihoku**	**0.61**	**259**	P		**Pn**	**16 37 52.8 +0.6**
JWK2				*e*S		**S**	**16 38 24.2 -0.7**
JRR	**Rishiri**	**1.05**	**254**	P		**Pn**	**16 37 53.9 0.0**
JSS	**Shosan**	**1.21**	**212**	P		**Pn**	**16 37 55.9 +1.2**
ASAJ	**Asahikawa**	**1.32**	**184**	P		**Pn**	**16 37 56.9 +1.5**
	3.4nm,0.3s,baz=345,slow=6.0,SNR=39						
ASAJ				S		**S**	**16 38 27.9 -2.5**
	0.4nm,0.3s,baz=38,slow=19,SNR=1.6						
ASAJ	**Asahikawa**	**1.32**	**184**	P		**Pn**	**16 37 56.8 +1.5**
JMP	**Maruseppu**	**1.50**	**163**	P		**Pn**	**16 37 57.7 +1.3**
JKK2	**Kamakawa 2**	**1.56**	**180**	P		**Pn**	**16 37 58.3 +1.5**
JTKR	**Abashiri--Toko**	**1.69**	**150**	P		**Pn**	**16 37 59.0 +1.5**
JTKR				*e*S		**S**	**16 38 35.8 +1.4**
JHR	**Hokuryu**	**1.84**	**204**	P		**Pn**	**16 38 00.2 +1.6**
JAR	**Ashorobuto**	**2.26**	**161**	P		**Pn**	**16 38 03.7 +1.8**
JAR				*e*S		**S**	**16 38 44.4 +2.2**
JFR	**Furan**	**2.27**	**183**	P		**Pn**	**16 38 03.6 +1.6**
JEW	**Eniwo**	**2.76**	**200**	P		**Pn**	**16 38 08.4 +2.2**
JAK	**Akkeshi**	**2.81**	**149**	P		**Pn**	**16 38 07.9 +1.2**
JAK				*e*S		**S**	**16 38 50.3 -0.6**
JCH	**Churui**	**2.86**	**171**	P		**Pn**	**16 38 07.4 +0.3**
JCH				*e*S		**S**	**16 38 49.6 -2.1**
NEM2	**Nemuro 2**	**2.99**	**133**	P		**Pn**	**16 38 08.2 0.0**
NEM2				*e*S		**S**	**16 38 51.5 -2.3**
JNBK	**Urakawa-nobuka**	**3.15**	**180**	P		**Pn**	**16 38 11.2 +1.3**
JNBK				*e*S		**S**	**16 38 57.0 +0.2**
JKB	**Kayabe**	**3.76**	**200**	P		**Pn**	**16 38 16.9 +0.9**
JKB				*e*S		**S**	**16 39 05.5 -2.4**
USRK	**Ussuriysk Arra**	**7.74**	**265**	P		**Pn**	**16 39 02.9 +1.1**
	0.4nm,0.3s,baz=70,slow=13,SNR=7.1						
MJAR	**Matsushiro Arr**	**9.52**	**203**	P		**P**	**16 39 25.8 -1.1**
	0.4nm,0.3s,baz=2.6,slow=12,SNR=7.5						
SONM	**Songino Array**	**24.93**	**289**	P		**P**	**16 42 07.2 +0.8**
	1.2nm,0.6s,baz=78,slow=8.8,SNR=13						
ILAR	**Eielson Array**	**42.02**	**37**	P		**P**	**16 44 31.2 -0.7**
	0.4nm,0.9s,baz=275,slow=8.2,SNR=5.8						
YKA	**Yellowknife Ar**	**56.13**	**33**	P		**P**	**16 46 18.5 +0.5**
	0.6nm,0.6s,baz=305,slow=6.9,SNR=13						

IDC 28 16:55:52.5±70.0,21°44S×178°25W,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/16,mbtmp3.5/3,Error ellipse: s-maj=1271.0km s-min=160.7km az=84.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.17**	**245**	P		P	17 03 04.6 -0.9
	1.6nm,0.9s,baz=63,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**44.08**	**258**	P		P	17 04 02.4 -0.3
	0.3nm,0.7s,baz=98,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.24**	**263**	P		P	17 04 04.7 +0.7
	0.2nm,0.2s,baz=93,slow=8.3,SNR=15						

*IDC **28** 17:24:37.9±1.8,13°70N×89°31W,h26km±11km,mb4.2/24, mb1 4.3/24,mb1mx4.3/27,mbtmp4.2/24,ML5.1/1,MS4.3/28, Ms1 4.3/28,ms1mx4.3/31,Error ellipse: s-maj=21.5km s-min=10.1km az=61.0*
*ISCJB **28** 17:24:41.9±0.3,13°40N±0°04×89°71W±0°03,h75km±2km, mb4.6/107,Error ellipse: s-maj=6.8km s-min=3.2km az=28.3*
*NEIC **28** 17:24:41.6±0.3,13°34N×89°71W,mb4.7/85, MD5.1(SNET),Error ellipse: s-maj=7.0km s-min=4.4km az=219.0*
NEIC Felt [IV] at San Salvador. Also felt at Antiguo Cuscatlan. Felt [II] at Guatemala, Guatemala. Also felt in Jutiapa, Retalhuleu and Santa Rosa and at Acatenango, Antigua Guatemala, Escuintla, Jocotenango, Palin and San Bartolome Milpas Altas.
*MEX **28** 17:24:41.8±0.9,12°73N×90°39W,h30km,MD5.2*
*CASC **28** 17:24:41.7±1.6,13°26N×89°85W,h34km±3km,MD4.4, ML4.8,mb4.7(NEIC)*

ISC 28 17:24:41.1±0.5,13°34N±0°05×89°76W±0°04,h56km±3km, h56km:pP-P,n588,σ1°28/938,mb4.7/107,MS4.5/36, 306C-280D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONS	**Sonsonate**	**0.40**	**6**	*e*P		**Pn**	**17 24 51.8 +0.1**
SONS				*e*S		**Sn**	**17 25 00.4 +1.0**
SONS				AML	AML	17 25 07.0	
	comp=Z,43μm,0.3s						
SBLS	**San Blas**	**0.51**	**15**	*i*P		**Pn**	**17 24 53.9 +0.7**
SNJE	**San Jose**	**0.55**	**16**	*i*P		**Pn**	**17 24 54.3 +0.7**
RTR	**El Retiro**	**0.56**	**11**	*i*P		**Pn**	**17 24 54.6 +0.9**
BOQS	**Boqueron**	**0.61**	**50**	*i*P		**Pn**	**17 24 55.6 +1.4**
SNET	**Serv Nac Est T**	**0.62**	**56**	*e*P		**Pn**	**17 24 55.4 +1.2**
SNET				*e*P			17 24 55.5
SNET				AML	AML	17 24 56.4	
	comp=Z,37μm,0.2s						
SNET				*e*S		**Sn**	**17 25 06.7 +2.9**
AIES	**Las Flores**	**0.70**	**80**	*e*P		**Pn**	**17 24 56.4 +1.3**
AIES				*e*S		**Sn**	**17 25 08.2 +2.9**
AIES				AML	AML	17 25 13.0	
	comp=Z,23μm,0.6s						
LFRS	**El Faro**	**0.73**	**67**	*i*P		**Pn**	**17 24 57.0 +1.4**
RBDL	**Robledal**	**0.77**	**5**	*i*P		**Pn**	**17 24 57.4 +1.2**
LBRS	**Las Brisas**	**0.80**	**60**	*i*P		**Pn**	**17 24 58.3 +1.8**
SNVI	**San Vicente**	**0.94**	**73**	*i*P		**Pn**	**17 25 00.1 +1.8**
MTO2	**Montecristo 2**	**1.12**	**20**	*i*P		**Pn**	**17 25 02.4 +1.6**
PCG	**Pacaya**	**1.33**	**322**	*e*P		**Pn**	**17 25 04.2 +0.5**
NBG	**Las Nubes**	**1.37**	**335**	*e*P		**Pn**	**17 25 06.1 +1.9**
VSM	**San Miguel**	**1.45**	**86**	*e*P		**Pn**	**17 25 07.2 +2.0**
GCG	**Guatemala City**	**1.45**	**329**	*e*P		**Pn**	**17 25 05.8 +0.6**
GCG				*e*P			17 25 07.4
GCG				*e*S		**Sn**	**17 25 23.1 -0.1**
GCG				*e*S			17 25 25.6
GCG				*e*S			17 25 25.9
GCG				*e*S			17 25 26.0
BLLM	**Bellamira**	**1.48**	**86**	*e*P		**Pn**	**17 25 07.5 +2.0**
FUG	**Fuego 3**	**1.52**	**316**	*e*P		**Pn**	**17 25 06.4 +0.2**
CAHU	**Cacacuatique**	**1.56**	**74**	*i*P		**Pn**	**17 25 08.8 +2.1**
MRL	**Marmol**	**1.72**	**2**	*e*P		**Pn**	**17 25 11.6 +2.8**
CNCH	**Conchagua**	**1.88**	**92**	*i*P		**Pn**	**17 25 12.9 +2.0**
TGUH	**Tegucigalpa,Un**	**2.52**	**73**	*e*Pn		**Pn**	**17 25 21.6 +2.1**
TGUH	**Tegucigalpa,Un**	**2.52**	**73**	*e*P		**Pn**	**17 25 21.8 +2.2**
THIG		**2.89**	**303**	*e*P		**Pn**	**17 25 23.7 -1.0**
THIG				*i*S		**Sn**	**17 25 54.9 -3.3**
THIG		**2.89**	**303**	*e*P		**Pn**	**17 25 23.7 -1.0**
THIG				*i*S		**Sn**	**17 25 54.9 -3.3**
CNGN	**Cerro Negro**	**3.10**	**105**	*e*P		**Pn**	**17 25 29.3 +1.7**
CCIG	**Comitan**	**3.72**	**322**	*e*P		**Pn**	**17 25 37.7 +1.5**
CCIG				*i*S		**Sn**	**17 26 23.9 +5.0**
CCIG	**Comitan**	**3.72**	**322**	*e*P		**Pn**	**17 25 37.7 +1.5**
CCIG				*i*S		**Sn**	**17 26 23.9 +5.0**
PCIG		**4.09**	**305**	*e*P		**Pn**	**17 25 40.6 -0.6**
PCIG				*i*S		**Sn**	**17 26 25.4 -2.4**
PCIG		**4.09**	**305**	*e*P		**Pn**	**17 25 40.6 -0.6**
PCIG				*i*S		**Sn**	**17 26 25.4 -2.4**
JTS	**JuntasAbangare**	**5.60**	**122**	Pn		**Pn**	**17 26 04.6 +2.8**
	comp=Z,12nm,0.3s,baz=310,slow=22,SNR=40						
JTS				Lg		Lg	17 27 25.8
	comp=Z,7.1nm,0.3s,baz=82,slow=23,SNR=13						
JTS	**JuntasAbangare**	**5.60**	**122**	*e*Pn		**Pn**	**17 26 03.8 +2.0**
	comp=Z,214nm,0.6s						
JTS				Lg		Lg	17 27 25.8
JCR	**Jicaral**	**5.72**	**127**	*e*P		**Pn**	**17 26 06.5 +2.9**
SCIG	**Sabancuy**	**5.76**	**346**	*e*P		Pn	17 26 13.4 +9.3
SCIG				*i*S		Sn	17 27 19.4 +11
SCIG	**Sabancuy**	**5.76**	**346**	*e*P		Pn	17 26 13.4 +9.3
SCIG				*i*S		Sn	17 27 19.4 +11
CMIG	**Matias Romero**	**6.20**	**308**	Pn		**Pn**	**17 26 10.2 +0.1**
	comp=Z,46nm,0.3s,baz=84,slow=9.6,SNR=232						
CMIG				Sn		**Sn**	**17 27 17.4 -2.1**
	comp=Z,52nm,0.3s,baz=94,slow=18,SNR=6.7						
CMIG	**Matias Romero**	**6.20**	**308**	Pn		**Pn**	**17 26 10.2 +0.1**
CMIG				Sn		**Sn**	**17 27 17.4 -2.1**
CMIG				*i*S			17 27 19.4
CMIG	**Matias Romero**	**6.20**	**308**	*e*P		**Pn**	**17 26 10.1 +0.1**
CMIG				*i*S		**Sn**	**17 27 19.4 -0.2**
LAJ	**Bijagual**	**6.51**	**121**	*e*P		**Pn**	**17 26 13.5 -1.1**
HUIG	**Huatulco**	**6.61**	**292**	*e*P		**Pn**	**17 26 13.4 -2.2**
HUIG				*i*S		**Sn**	**17 27 25.0 -4.6**
HUIG	**Huatulco**	**6.61**	**292**	*e*P		**Pn**	**17 26 13.4 -2.2**
HUIG				*i*S		**Sn**	**17 27 25.0 -4.6**
URSC	**Urasca**	**6.82**	**120**	*e*P		Pn	17 26 22.2 +3.5
BUS	**Buena Vista**	**6.98**	**122**	*e*P		Pn	17 26 25.7 +4.5
TEIG	**Tepich**	**6.99**	**12**	*e*P		**Pn**	**17 26 23.3 +2.4**
	comp=Z,750nm,0.8s						
VHO	**Vista Hermosa**	**7.69**	**300**	*e*P		Pn	17 26 35.7 +5.1
VHO				*i*S		**Sn**	**17 27 53.1 -3.4**
VHO	**Vista Hermosa**	**7.69**	**300**	*e*P		Pn	17 26 35.7 +5.1
VHO				*i*S		**Sn**	**17 27 53.1 -3.4**
PNIG	**Pinotepa**	**8.64**	**292**	*e*P		**Pn**	**17 26 42.5 -1.0**
PNIG				*i*S		**Sn**	**17 28 21.7 +2.1**
PNIG	**Pinotepa**	**8.64**	**292**	*e*P		**Pn**	**17 26 42.5 -1.0**
PNIG				*i*S		**Sn**	**17 28 21.7 +2.1**
TPIG	**Tehuac#an**	**8.89**	**306**	*e*P		**Pn**	**17 26 47.7 +0.7**
TPIG				*i*S		**Sn**	**17 28 26.0 +0.1**
TPIG	**Tehuac#an**	**8.89**	**306**	*e*P		**Pn**	**17 26 47.7 +0.7**
TPIG				*i*S		**Sn**	**17 28 26.0 +0.1**
PPM	**Popocatepetl**	**10.24**	**305**	*e*P		Pn	17 27 10.5 +4.6
PPM				*i*S		**Sn**	**17 29 01.9 +2.4**
PPM	**Popocatepetl**	**10.24**	**305**	*e*P		Pn	17 27 10.5 +4.6
PPM				*i*S		**Sn**	**17 29 01.9 +2.4**
YAIG	**Yautepec**	**10.49**	**303**	*e*P		**Pn**	**17 27 10.7 +1.7**
YAIG				*e*S		**Sn**	**17 29 10.8 +5.7**
YAIG	**Yautepec**	**10.49**	**303**	*e*P		**Pn**	**17 27 10.7 +1.7**
YAIG				*e*S		**Sn**	**17 29 10.8 +5.7**
PLIG	**Platanillo**	**10.63**	**299**	*e*P		**Pn**	**17 27 13.1 +2.2**
PLIG	**Platanillo**	**10.63**	**299**	*e*P		**Pn**	**17 27 13.1 +2.2**
CAIG	**El Cayaco**	**10.79**	**291**	*e*P		**Pn**	**17 27 13.3 +0.3**
CAIG	**El Cayaco**	**10.79**	**291**	*e*P		**Pn**	**17 27 13.3 +0.3**
DEIG	**Demacu**	**11.26**	**309**	*i*P		**Pn**	**17 27 22.6 +3.1**
DEIG	**Demacu**	**11.26**	**309**	*i*P		**Pn**	**17 27 22.6 +3.1**
ZIIG	**Zihuatanejo**	**12.05**	**292**	*i*P		**Pn**	**17 27 31.7 +1.5**
ZIIG	**Zihuatanejo**	**12.05**	**292**	*i*P		**Pn**	**17 27 31.7 +1.5**
MOIG	**Morelia**	**12.64**	**301**	*i*P		**Pn**	**17 27 40.7 +2.3**
MOIG	**Morelia**	**12.64**	**301**	*i*P		**Pn**	**17 27 40.7 +2.3**
MMIG	**Aquila**	**13.97**	**292**	*i*P		**Pn**	**17 27 56.5 +0.3**
MMIG	**Aquila**	**13.97**	**292**	*i*P		**Pn**	**17 27 56.5 +0.3**
ZAIG	**Zacatecas**	**15.36**	**309**	*i*P		**P**	**17 28 19.9 +1.5**
ZAIG	**Zacatecas**	**15.36**	**309**	*i*P		**P**	**17 28 19.9 +1.5**
DWPF	**Disney**	**16.62**	**27**	*e*Pn		**P**	**17 28 32.3 +0.4**
	comp=Z,404nm,1.8s						
ROSC	**El Rosal**	**17.40**	**118**	P		**P**	**17 28 43.9 +2.8**
	comp=Z,1.8nm,0.3s,baz=73,slow=22,SNR=4.0						
ROSC	**El Rosal**	**17.40**	**118**	P		**P**	**17 28 43.9 +2.8**
HKT	**Hockley**	**17.46**	**342**	*e*P		**P**	**17 28 42.3 +1.1**
	comp=Z,111nm,1.5s						
NATX	**Nacogdoches**	**18.88**	**347**	*e*P		**Pn**	**17 28 59.0 +1.1**
	comp=Z,357nm,1.3s						
SDV	**Santo Domingo**	**19.28**	**101**	*e*P		**P**	**17 29 01.2 -0.3**
	comp=Z,18nm,0.6s						
JCT	**Junction City**	**19.42**	**333**	*e*P		**P**	**17 29 02.8 0.0**
	comp=Z,35nm,0.8s						
JCT	**Junction City**	**19.42**	**333**	↑P		**Pn**	**17 29 03.8 -0.7**
	baz=20,SNR=17						
JCT				↑P		**Pn**	**17 29 03.8 -0.7**
	baz=20,SNR=17						
LRAL	**Lakeview Retre**	**19.77**	**7**	*e*P		**P**	**17 29 07.4 +0.9**
	comp=Z,42nm,1.0s						
628A	**Black Gap, Mar**	**20.16**	**325**	↓P		Pn	17 29 12.5 -0.7
	baz=20,SNR=38						
628A				↓P		Pn	17 29 12.5 -0.7
	baz=20,SNR=38						
627A	**Terlingua Ranc**	**20.42**	**324**	↑P		Pn	17 29 15.8 -0.6
	baz=20,SNR=35						
627A				↑P		Pn	17 29 15.8 -0.6
	baz=20,SNR=35						
TXAR	**Lajitas Array**	**20.49**	**323**	P		Pn	17 29 17.2 0.0
	comp=Z,18nm,0.7s,baz=150,slow=10,SNR=188						
TXAR				PcP		**PcP**	**17 33 25.4 +0.8**
	comp=Z,4.5nm,0.9s,baz=145,slow=4.6,SNR=6.4						
TXAR				ScP		**ScP**	**17 37 00.8 +4.2**
	comp=Z,0.7nm,0.8s,baz=133,slow=5.3,SNR=3.7						
TXAR				LR		LR	17 38 51.1
	comp=Z,262nm,21.5s,baz=355,slow=42						
TXAR	**Lajitas Array**	**20.49**	**323**	P		Pn	17 29 17.2 0.0
TXAR				PcP		**PcP**	**17 33 25.4 +0.8**
TXAR				ScP		**ScP**	**17 37 00.8 +4.2**
528A	**Cox Ranch, San**	**20.62**	**326**	↓P		Pn	17 29 17.4 -1.4
	baz=21,SNR=14						
528A				↓P		Pn	17 29 17.4 -1.4
	baz=21,SNR=14						
GOGA	**Godfrey**	**20.79**	**15**	*e*P		**P**	**17 29 18.8 +1.2**
	comp=Z,48nm,1.0s						
626A	**Big Bend Ranch**	**20.92**	**323**	↓P		Pn	17 29 20.9 -1.5
	baz=21,SNR=69						
626A				↓P		Pn	17 29 20.9 -1.5
	baz=21,SNR=69						
428A	**Kincaid Ranch,**	**21.01**	**328**	↑P		**P**	**17 29 22.1 +2.0**
	baz=21						
428A				↑P		**P**	**17 29 22.1 +2.0**
	baz=21						
527A	**Woodward Ranch**	**21.07**	**325**	↓P		**P**	**17 29 22.2 +1.4**
	baz=21						
527A				↓P		**P**	**17 29 22.2 +1.4**
	baz=21						
OXF	**Oxford**	**21.08**	**1**	*e*P		**P**	**17 29 22.3 +1.6**
	comp=Z,198nm,1.0s						
526A	**Mary Lane Ranc**	**21.27**	**324**	↓P		**P**	**17 29 24.1 +1.1**
	baz=21,SNR=13						
526A				↓P		**P**	**17 29 24.1 +1.1**
	baz=21,SNR=13						
MIAR	**Mount Ida**	**21.39**	**351**	*e*P		**P**	**17 29 24.3 +0.2**
	comp=Z,83nm,1.0s						
UALR	**University of**	**21.47**	**354**	*e*P		**P**	**17 29 26.4 +1.5**
	comp=Z,214nm,1.4s						
427A	**Hayter Ranch,**	**21.49**	**326**	↑P		**P**	**17 29 26.4 +1.1**
	baz=22,SNR=5.5						
427A				↑P		**P**	**17 29 26.4 +1.1**
	baz=22,SNR=5.5						
328A	**Wristen Ranch,**	**21.60**	**328**	↓P		**P**	**17 29 27.7 +1.3**
	baz=22,SNR=30						
328A				↓P		**P**	**17 29 27.7 +1.3**
	baz=22,SNR=30						
PLAL	**Pickwick Lake**	**21.60**	**4**	*e*P		**P**	**17 29 27.4 +1.1**
	comp=Z,22nm,0.8s						
426A	**McDonald Obser**	**21.70**	**325**	↓P		**P**	**17 29 27.9 +0.3**
	baz=22,SNR=9.2						
426A				↓P		**P**	**17 29 27.9 +0.3**
	baz=22,SNR=9.2						
SWET	**Sewanee**	**22.05**	**8**	*e*P		**P**	**17 29 31.9 +0.7**
	comp=Z,33nm,0.8s						
326A	**Caldwell Ranch**	**22.16**	**326**	↑P		**P**	**17 29 33.1 +0.6**
	baz=22						
326A				↑P		**P**	**17 29 33.1 +0.6**
	baz=22						
JSC	**Jenkinsville**	**22.23**	**19**	*e*P		**P**	**17 29 34.6 +1.5**
425A	**Indio Mountain**	**22.33**	**323**	↑P		**P**	**17 29 34.5 +0.2**
	baz=22,SNR=48						
425A				↑P		**P**	**17 29 34.5 +0.2**
	baz=22,SNR=48						
CPCT	**Cooper Cave**	**22.52**	**11**	*e*P		**P**	**17 29 36.7 +0.5**
325A	**Bean Ranch, Si**	**22.75**	**325**	↑P		**P**	**17 29 38.9 0.0**
	baz=23,SNR=19						
325A				↑P		**P**	**17 29 38.9 0.0**
	baz=23,SNR=19						
WVT	**Waverly**	**22.76**	**4**	*e*P		**P**	**17 29 38.4 -0.3**
	comp=Z,218nm,1.6s						
WMOK	**Wichita Mounta**	**22.82**	**341**	*e*P		**P**	**17 29 37.6 -1.7**
	comp=Z,108nm,1.2s						
CLNB	**Carlsbad**	**22.85**	**328**	*e*P		**P**	**17 29 40.7 +0.9**
	comp=Z,3.2nm,0.7s						
CLNB				*e*pP		**pP**	**17 29 53.1 +0.6**
TKL	**Tuckaleechee C**	**22.87**	**13**	P		**P**	**17 29 38.2 -1.7**
	comp=Z,27nm,0.9s,baz=196,slow=11,SNR=15						
TKL				LR		LR	17 39 02.5
	comp=Z,2μm,21.3s,baz=200,slow=38						
TKL	**Tuckaleechee C**	**22.87**	**13**	*e*P		**P**	**17 29 40.4 +0.5**
127A	**Arkansas Junct**	**22.91**	**329**	↑P		**P**	**17 29 40.1 -0.4**
	baz=23,SNR=7.5						
127A				↑P		**P**	**17 29 40.1 -0.4**
	baz=23,SNR=7.5						
UTMT	**University of**	**22.92**	**2**	*e*P		**P**	**17 29 40.8 +0.5**
	comp=Z,131nm,0.9s						
GDL2	**Guadalupe Moun**	**23.05**	**327**	*e*P		**P**	**17 29 41.4 -0.5**
	comp=Z,42nm,1.1s						
GDL2				*e*pP		**pP**	**17 29 56.4 +1.7**
324A	**Moseley Ranch,**	**23.10**	**324**	↑P		**P**	**17 29 42.4 0.0**
	baz=23,SNR=26						
324A				↑P		**P**	**17 29 42.4 0.0**
	baz=23,SNR=26						
TUL1	**Tulsa**	**23.12**	**347**	↓P		**P**	**17 29 42.4 +0.1**
	baz=23						
TUL1				↓P		**P**	**17 29 42.4 +0.1**
	baz=23						
126A	**Clayton Basin,**	**23.23**	**328**	↑P		**P**	**17 29 43.1 -0.5**
	baz=23,SNR=6.2						
126A				↑P		**P**	**17 29 43.1 -0.5**
	baz=23,SNR=6.2						
MNTX	**Cornudas Mount**	**23.23**	**324**	*e*P		**P**	**17 29 43.5 0.0**
	comp=Z,14nm,0.8s						
MNTX				*e*pP		**pP**	**17 29 58.1 +1.6**
MNTX	**Cornudas Mount**	**23.23**	**324**	↓P		**P**	**17 29 43.3 -0.2**
	baz=23,SNR=26						
MNTX				↓P		**P**	**17 29 43.3 -0.2**
	baz=23,SNR=26						
MNTX				↓P		**P**	**17 29 43.3 -0.2**
	baz=23,SNR=26						
MNTX				↓P		**P**	**17 29 43.3 -0.2**
	baz=23,SNR=26						
ATAH	**Atahualpa**	**23.26**	**150**	P		**P**	**17 29 46.0 +1.7**
	comp=Z,9.4nm,0.8s,baz=318,slow=12,SNR=2.3						
ATAH				LR		LR	17 37 49.9
	comp=Z,791nm,21.1s,baz=154,slow=34						
ATAH	**Atahualpa**	**23.26**	**150**	P		**P**	**17 29 46.0 +1.7**
CPRX	**Cap Rock**	**23.45**	**329**	*e*P		**P**	**17 29 45.7 0.0**
	comp=Z,27nm,0.8s						
CPRX				*e*pP		**pP**	**17 30 01.1 +2.1**
224A	**Cornudas Mount**	**23.59**	**325**	↑P		**P**	**17 29 47.0 0.0**
	baz=24,SNR=32						
224A				↑P		**P**	**17 29 47.0 0.0**
	baz=24,SNR=32						
MSTX	**Muleshoe**	**23.70**	**332**	↓P		**P**	**17 29 47.4 -0.6**
	baz=24,SNR=9.3						
MSTX				↓P		**P**	**17 29 47.4 -0.6**
	baz=24,SNR=9.3						
Z26A	**Caprock**	**23.70**	**329**	↑P		**P**	**17 29 47.7 -0.3**
	baz=24,SNR=

	baz=25						
W26A	**Owens Ranch, T**	**25.08**	**332**	⇓P	**P**	**17 30 01.2**	**+0.6**
	baz=25						
W26A				⇓P	**P**	**17 30 01.2**	**+0.6**
	baz=25						
SLM	**Saint Louis**	**25.20**	**359**	*e*P	**P**	**17 30 03.0**	**+1.6**
	comp=Z,27nm,0.6s						
SLM				*ep*P	**pP**	**17 30 16.6**	**+1.2**
121A	**Cookes Peak, D**	**25.24**	**322**	⇓P	**P**	**17 30 03.3**	**+1.3**
	baz=25,SNR=25						
121A				⇓P	**P**	**17 30 03.3**	**+1.3**
	baz=25,SNR=25						
220A	**Playas Peak, P**	**25.25**	**320**	⇓P	**P**	**17 30 03.6**	**+1.4**
	baz=25,SNR=27						
220A				⇓P	**P**	**17 30 03.6**	**+1.4**
	baz=25,SNR=27						
Z22A	**Elephant Butte**	**25.28**	**325**	⇑P	**P**	**17 30 03.3**	**+0.8**
	baz=25,SNR=13						
Z22A				⇑P	**P**	**17 30 03.3**	**+0.8**
	baz=25,SNR=13						
OLIL	**Olney**	**25.34**	**3**	*e*P	**P**	**17 30 03.0**	**+0.3**
	comp=Z,105nm,0.9s						
OLIL				*ep*P	**pP**	**17 30 17.6**	**+1.0**
X24A	**Lazy VL Ranch,**	**25.46**	**329**	⇓P	**P**	**17 30 04.2**	**+0.1**
	baz=26						
X24A				⇓P	**P**	**17 30 04.2**	**+0.1**
	baz=26						
W25A	**X Bar L Ranch,**	**25.51**	**331**	⇑P	**P**	**17 30 04.9**	**+0.4**
	baz=26,SNR=13						
W25A				⇑P	**P**	**17 30 04.9**	**+0.4**
	baz=26,SNR=13						
120A	**U Bar Ranch, L**	**25.76**	**321**	⇓P	**P**	**17 30 08.0**	**+1.3**
	baz=26,SNR=21						
120A				⇓P	**P**	**17 30 08.0**	**+1.3**
	baz=26,SNR=21						
BNM	**Barren Site**	**25.76**	**326**	*e*P	**P**	**17 30 07.9**	**+1.0**
	comp=Z,14nm,0.9s						
Y22A	**Socorro**	**25.79**	**326**	⇑P	**P**	**17 30 08.1**	**+1.0**
	baz=26,SNR=8.7						
Y22A				⇑P	**P**	**17 30 08.1**	**+1.0**
	baz=26,SNR=8.7						
LPM	**Los Pinos Moun**	**25.89**	**327**	*e*P	**P**	**17 30 08.8**	**+0.9**
	comp=Z,4.3nm,0.7s						
W24A	**Lazy 6 Ranch,**	**25.96**	**330**	⇑P	**P**	**17 30 09.6**	**+0.9**
	baz=26,SNR=11						
W24A				⇑P	**P**	**17 30 09.6**	**+0.9**
	baz=26,SNR=11						
V25A	**Rancho No Teng**	**26.09**	**332**	⇑P	**P**	**17 30 10.3**	**+0.5**
	baz=26,SNR=14						
V25A				⇑P	**P**	**17 30 10.3**	**+0.5**
	baz=26,SNR=14						
T28A	**Walsh**	**26.13**	**337**	⇑P	**P**	**17 30 10.1**	**+0.1**
	baz=26						
T28A				⇑P	**P**	**17 30 10.1**	**+0.1**
	baz=26						
U26A	**Atchley Ranch,**	**26.17**	**334**	⇑P	**P**	**17 30 11.2**	**+0.7**
	baz=26,SNR=24						
U26A				⇑P	**P**	**17 30 11.2**	**+0.7**
	baz=26,SNR=24						
Y21A	**Point of Rocks**	**26.23**	**325**	⇑P	**P**	**17 30 12.6**	**+1.4**
	baz=26,SNR=16						
Y21A				⇑P	**P**	**17 30 12.6**	**+1.4**
	baz=26,SNR=16						
ANMO	**Albuquerque**	**26.29**	**328**	P	**P**	**17 30 12.0**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=151,slow=13,SNR=6.4						
ANMO				PcP	**PcP**	**17 33 36.3**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=176,slow=11,SNR=3.9						
ANMO	**Albuquerque**	**26.29**	**328**	*e*P	**P**	**17 30 12.8**	**+1.2**
	comp=Z,3.3nm,0.7s						
ANMO				PcP	**PcP**	**17 33 36.3**	**-0.5**
W23A	**Werner Place,**	**26.29**	**329**	⇑P	**P**	**17 30 12.7**	**+1.0**
	baz=26						
W23A				⇑P	**P**	**17 30 12.7**	**+1.0**
	baz=26						
V24A	**Rampart Ranch,**	**26.31**	**331**	⇓P	**P**	**17 30 11.9**	**+0.1**
	baz=26						
V24A				⇓P	**P**	**17 30 11.9**	**+0.1**
	baz=26						
T27A	**Campo**	**26.32**	**336**	⇓P	**P**	**17 30 12.0**	**+0.3**
	baz=26						
T27A				⇓P	**P**	**17 30 12.0**	**+0.3**
	baz=26						
KSU1	**Kansas State U**	**26.37**	**348**	*e*P	**P**	**17 30 12.4**	**+0.4**
	comp=Z,33nm,1.0s						
U25A	**Circle Dot Ran**	**26.46**	**333**	⇓P	**P**	**17 30 14.0**	**+0.8**
	baz=27,SNR=11						
U25A				⇓P	**P**	**17 30 14.0**	**+0.8**
	baz=27,SNR=11						
Y20A	**Horse Springs,**	**26.56**	**324**	⇑P	**P**	**17 30 15.4**	**+1.3**
	baz=27,SNR=18						
Y20A				⇑P	**P**	**17 30 15.4**	**+1.3**
	baz=27,SNR=18						
CBKS	**Cedar Bluff**	**26.87**	**343**	*e*P	**P**	**17 30 16.9**	**+0.3**
	comp=Z,37nm,0.9s						
CBKS				*ep*P	**pP**	**17 30 31.0**	**+0.3**
CBKS	**Cedar Bluff**	**26.87**	**343**	⇑P	**P**	**17 30 17.5**	**+0.9**
	baz=27						
CBKS				⇑P	**P**	**17 30 17.5**	**+0.9**
	baz=27						
CBKS				⇑P	**P**	**17 30 17.5**	**+0.9**
	baz=27						
CBKS				⇑P	**P**	**17 30 17.5**	**+0.9**
	baz=27						
TUC	**Tucson**	**26.96**	**318**	*e*P	**P**	**17 30 19.1**	**+1.5**
	comp=Z,14nm,0.9s						
SFIN	**Scholer Farm**	**27.04**	**4**	⇓P	**P**	**17 30 18.3**	**+0.3**
	baz=27						
SFIN				⇓P	**P**	**17 30 18.3**	**+0.3**
	baz=27						
T25A	**Trinidad**	**27.08**	**334**	⇑P	**P**	**17 30 19.6**	**+0.8**
	baz=27,SNR=9.3						
T25A				⇑P	**P**	**17 30 19.6**	**+0.8**
	baz=27,SNR=9.3						
S26A	**Kim**	**27.10**	**336**	⇓P	**P**	**17 30 19.7**	**+0.9**
	baz=27						
S26A				⇓P	**P**	**17 30 19.7**	**+0.9**
	baz=27						
Y19A	**Nutrioso**	**27.11**	**323**	⇑P	**P**	**17 30 19.4**	**+0.2**
	baz=27						
Y19A				⇑P	**P**	**17 30 19.4**	**+0.2**
	baz=27						
HDIL	**Hopedale**	**27.11**	**1**	P	**P**	**17 30 19.5**	**+0.8**
HDIL				*ep*P	**pP**	**17 30 33.8**	**+1.1**
U23A	**El Rito**	**27.24**	**330**	⇑P	**P**	**17 30 21.2**	**+1.0**
	baz=27,SNR=8.6						
U23A				⇑P	**P**	**17 30 21.2**	**+1.0**
	baz=27,SNR=8.6						
T24A	**Torres, Weston**	**27.31**	**333**	⇓P	**P**	**17 30 22.2**	**+1.4**
	baz=27						
T24A				⇓P	**P**	**17 30 22.2**	**+1.4**
	baz=27						
R27A	**Eads**	**27.41**	**337**	⇓P	**P**	**17 30 21.5**	**-0.1**
	baz=28						
R27A				⇓P	**P**	**17 30 21.5**	**-0.1**
	baz=28						
ACSO	**Alum Creek Sta**	**27.44**	**11**	*e*P	**P**	**17 30 20.2**	**-1.4**
	comp=Z,12nm,0.8s						
ACSO				*ep*P	**pP**	**17 30 35.4**	**-0.3**
Y18A	**Canyon Day Jun**	**27.45**	**321**	⇓P	**P**	**17 30 23.2**	**+1.1**
	baz=28,SNR=5.9						
Y18A				⇓P	**P**	**17 30 23.2**	**+1.1**
	baz=28,SNR=5.9						
X19A	**St. Johns**	**27.46**	**323**	⇑P	**P**	**17 30 23.5**	**+1.3**
	baz=28,SNR=6.2						
X19A				⇑P	**P**	**17 30 23.5**	**+1.3**
	baz=28,SNR=6.2						
W20A	**Ramah**	**27.52**	**325**	⇑P	**P**	**17 30 24.0**	**+1.3**
	baz=28,SNR=7.9						
W20A				⇑P	**P**	**17 30 24.0**	**+1.3**
	baz=28,SNR=7.9						
S25A	**Robets Cordova**	**27.53**	**334**	⇑P	**P**	**17 30 23.6**	**+0.9**
	baz=28,SNR=7.6						
S25A				⇑P	**P**	**17 30 23.6**	**+0.9**
	baz=28,SNR=7.6						
V21A	**Milan**	**27.56**	**327**	⇑P	**P**	**17 30 23.5**	**+0.5**
	baz=28						
V21A				⇑P	**P**	**17 30 23.5**	**+0.5**
	baz=28						
U22A	**Llaves**	**27.60**	**329**	⇑P	**P**	**17 30 24.5**	**+1.1**
	baz=28						
U22A				⇑P	**P**	**17 30 24.5**	**+1.1**
	baz=28						
R26A	**Arlington**	**27.68**	**336**	⇑P	**P**	**17 30 24.4**	**+0.5**
	baz=28						
R26A				⇑P	**P**	**17 30 24.4**	**+0.5**
	baz=28						
S24A	**Houchin Ranch,**	**27.85**	**333**	⇓P	**P**	**17 30 26.4**	**+0.7**
	baz=28						
S24A				⇓P	**P**	**17 30 26.4**	**+0.7**
	baz=28						
R25A	**Fountain Ranch**	**27.88**	**335**	⇑P	**P**	**17 30 26.5**	**+0.7**
	baz=28						
R25A				⇑P	**P**	**17 30 26.5**	**+0.7**
	baz=28						
X18A	**Snowflake**	**27.92**	**323**	⇑P	**P**	**17 30 27.2**	**+1.0**
	baz=28,SNR=5.7						
X18A				⇑P	**P**	**17 30 27.2**	**+1.0**
	baz=28,SNR=5.7						
KSCO	**Kaye Shedlock'**	**27.99**	**338**	⇑P	**P**	**17 30 26.7**	**0.0**
	baz=28						
KSCO				⇑P	**P**	**17 30 26.7**	**0.0**
	baz=28						
V20A	**Brimhall**	**28.00**	**326**	⇑P	**P**	**17 30 27.7**	**+0.8**
	baz=28						
V20A				⇑P	**P**	**17 30 27.7**	**+0.8**
	baz=28						
U21A	**Nageezi**	**28.05**	**328**	⇓P	**P**	**17 30 28.6**	**+1.2**
	baz=28						
U21A				⇓P	**P**	**17 30 28.6**	**+1.2**
	baz=28						
SDCO	**Great Sand Dun**	**28.07**	**333**	⇑P	**P**	**17 30 28.7**	**+1.1**
	baz=28						
SDCO				⇑P	**P**	**17 30 28.7**	**+1.1**
	baz=28						
SDCO				⇑P	**P**	**17 30 28.7**	**+1.1**
	baz=28						
SDCO				⇑P	**P**	**17 30 28.7**	**+1.1**
	baz=28						
W18A	**Petrified Fore**	**28.21**	**324**	⇑P	**P**	**17 30 29.2**	**+0.4**
	baz=28						
W18A				⇑P	**P**	**17 30 29.2**	**+0.4**
	baz=28						
NNA	**Nana**	**28.24**	**152**	LR	LR	17 40 03.9	
	comp=Z,343nm,21.9s,baz=336,slow=33						
V19A	**Window Rock**	**28.25**	**325**	⇓P	**P**	**17 30 29.4**	**+0.1**
	baz=28						
V19A				⇓P	**P**	**17 30 29.4**	**+0.1**
	baz=28						
R24A	**Sanders Place,**	**28.30**	**334**	⇓P	**P**	**17 30 30.5**	**+1.0**
	baz=28						
R24A				⇓P	**P**	**17 30 30.5**	**+1.0**
	baz=28						
X17A	**Forest Lakes**	**28.30**	**321**	⇓P	**P**	**17 30 30.6**	**+0.9**
	baz=28						
X17A				⇓P	**P**	**17 30 30.6**	**+0.9**
	baz=28						
T21A	**Navajo Lake**	**28.42**	**329**	⇓P	**P**	**17 30 31.8**	**+1.1**
	baz=28						
T21A				⇓P	**P**	**17 30 31.8**	**+1.1**
	baz=28						
Q25A	**Bedland, Calha**	**28.52**	**336**	⇑P	**P**	**17 30 32.3**	**+0.7**
	baz=29						
Q25A				⇑P	**P**	**17 30 32.3**	**+0.7**
	baz=29						
R23A	**Moffat**	**28.58**	**333**	⇓P	**P**	**17 30 32.8**	**+0.6**
	baz=29						
R23A				⇓P	**P**	**17 30 32.8**	**+0.6**
	baz=29						
114A	**Black Gap (USA**	**28.63**	**316**	⇑P	**P**	**17 30 33.8**	**+1.5**
	baz=29,SNR=6.8						
114A				⇑P	**P**	**17 30 33.8**	**+1.5**
	baz=29,SNR=6.8						
S22A	**4UR Ranch, Cre**	**28.67**	**331**	⇑P	**P**	**17 30 33.5**	**+0.5**
	baz=29,SNR=5.2						
S22A				⇑P	**P**	**17 30 33.5**	**+0.5**
	baz=29,SNR=5.2						
V18A	**Ganado**	**28.75**	**324**	⇓P	**P**	**17 30 33.8**	**+0.2**
	baz=29						
V18A				⇓P	**P**	**17 30 33.8**	**+0.2**
	baz=29						
X16A	**Lo Mia Camp, P**	**28.75**	**321**	⇓P	**P**	**17 30 34.9**	**+1.3**
	baz=29,SNR=14						
X16A				⇓P	**P**	**17 30 34.9**	**+1.3**
	baz=29,SNR=14						
W17A	**Winslow**	**28.75**	**322**	⇓P	**P**	**17 30 34.1**	**+0.5**
	baz=29						
W17A				⇓P	**P**	**17 30 34.1**	**+0.5**
	baz=29						
U19A	**Dine' College,**	**28.76**	**326**	⇑P	**P**	**17 30 34.7**	**+1.0**
	baz=29						
U19A				⇑P	**P**	**17 30 34.7**	**+1.0**
	baz=29						
Q24A	**Divide**	**28.93**	**335**	⇑P	**P**	**17 30 35.8**	**+0.5**
	baz=29						
Q24A				⇑P	**P**	**17 30 35.8**	**+0.5**
	baz=29						
O27A	**Beecher Island**	**28.99**	**340**	⇓P	**P**	**17 30 36.6**	**+1.0**
	baz=29						
O27A				⇓P	**P**	**17 30 36.6**	**+1.0**
	baz=29						
R22A	**Saguache, Gunn**	**29.03**	**332**	⇓P	**P**	**17 30 36.8**	**+0.6**
	baz=29						
R22A				⇓P	**P**	**17 30 36.8**	**+0.6**
	baz=29						
Z14A	**Wintersburg**	**29.04**	**317**	⇓P	**P**	**17 30 37.3**	**+1.4**
	baz=29						
Z14A				⇓P	**P**	**17 30 37.3**	**+1.4**
	baz=29						
S21A	**Coal Bank Pass**	**29.07**	**330**	⇑P	**P**	**17 30 37.1**	**+0.5**
	baz=29						
S21A				⇑P	**P**	**17 30 37.1**	**+0.5**
	baz=29						
MVCO	**Mesa Verde**	**29.08**	**328**	*e*P	**P**	**17 30 37.0**	**+0.5**
	comp=Z,12nm,1.0s						
MVCO	**Mesa Verde**	**29.08**	**328**	⇑P	**P**	**17 30 37.5**	**+1.0**
	baz=29						
MVCO				⇑P	**P**	**17 30 37.5**	**+1.0**
	baz=29						
V17A	**Tonalea, Kykot**	**29.18**	**323**	⇓P	**P**	**17 30 38.6**	**+1.2**
	baz=29,SNR=14						
V17A				⇓P	**P**	**17 30 38.6**	**+1.2**
	baz=29,SNR=14						
U18A	**Rough Rock, Ch**	**29.22**	**325**	⇓P	**P**	**17 30 38.5**	**+0.7**
	baz=29						
U18A				⇓P	**P**	**17 30 38.5**	**+0.7**
	baz=29						
113A	**Mohawk Valley,**	**29.23**	**315**	⇑P	**P**	**17 30 38.7**	**+1.0**
	baz=29						
113A				⇑P	**P**	**17 30 38.7**	**+1.0**
	baz=29						
Z13A	**Yuma Proving G**	**29.41**	**316**	⇑P	**P**	**17 30 40.4**	**+1.1**
	baz=30,SNR=5.1						
Z13A				⇑P	**P**	**17 30 40.4**	**+1.1**
	baz=30,SNR=5.1						
WUAZ	**Wupatki**	**29.45**	**322**	*e*P	**P**	**17 30 41.4**	**+1.6**
	comp=Z,18nm,0.9s						
WUAZ	**Wupatki**	**29.45**	**322**	⇑P	**P**	**17 30 40.9**	**+1.1**
	baz=30,SNR=12						
WUAZ				⇑P	**P**	**17 30 40.9**	**+1.1**
	baz=30,SNR=12						
S20A	**Disappointment**	**29.48**	**329**	⇓P	**P**	**17 30 40.7**	**+0.5**
	baz=30						
S20A				⇓P	**P**	**17 30 40.7**	**+0.5**
	baz=30						
P23A	**Jefferson**	**29.57**	**334**	⇓P	**P**	**17 30 41.8**	**+0.8**
	baz=30						
P23A				⇓P	**P**	**17 30 41.8**	**+0.8**
	baz=30						
T18A	**Mexican Hat**	**29.75**	**326**	⇑P	**P**	**17 30 43.4**	**+1.1**
	baz=30						
T18A				⇑P	**P**	**17 30 43.4**	**+1.1**
	baz=30						
U17A	**Shonto**	**29.79**	**325**	⇑P	**P**	**17 30 43.8**	**+1.0**
	baz=30						
U17A				⇑P	**P**	**17 30 43.8**	**+1.0**
	baz=30						
S19A	**Harvey Farm, M**	**29.81**	**328**	⇑P	**P**	**17 30 43.6**	**+0.5**
	baz=30,SNR=5.6						
S19A				⇑P	**P**	**17 30 43.6**	**+0.5**
	baz=30,SNR=5.6						
ISCO	**Idaho Springs**	**29.83**	**335**	*e*P	**P**	**17 30 43.6**	**+0.3**
	comp=Z,7.1nm,0.9s						
ISCO	**Idaho Springs**	**29.83**	**335**	⇑P	**P**	**17 30 43.7**	**+0.5**
	baz=30,SNR=8.3						
ISCO				⇑P	**P**	**17 30 43.7**	**+0.5**
	baz=30,SNR=8.3						
SMCO	**Snowmass**	**29.90**	**333**	*e*P	**P**	**17 30 44.4**	**+0.4**
	comp=Z,3.3nm,0.8s						
GLA	**Glamis**	**30.13**	**315**	*e*P	**P**	**17 30 47.7**	**+2.1**
	comp=Z,23nm,1.0s						
GLA	**Glamis**	**30.13**	**315**	⇑P	**P**	**17 30 46.2**	**+0.5**
	baz=30						
GLA				⇑P	**P**	**17 30 46.2**	**+0.5**
	baz=30						
P22A	**Eagle**	**30.14**	**333**	⇑P	**P**	**17 30 46.6**	**+0.7**
	baz=30						
P22A				⇑P	**P**	**17 30 46.6**	**+0.7**
	baz=30						
T17A	**Navajo Res., N**	**30.16**	**325**	⇑P	**P**	**17 30 47.2**	**+1.1**
	baz=30,SNR=5.6						
T17A				⇑P	**P**	**17 30 47.2**	**+1.1**
	baz=30,SNR=5.6						
PV04	**Paradox Valley**	**30.19**	**329**	*e*P	**P**	**17 30 46.6**	**+0.3**
S18A	**Hurst Farm, Bl**	**30.22**	**327**	⇓P	**P**	**17 30 47.4**	**+0.7**
	baz=30,SNR=5.4						
S18A				⇓P	**P**	**17 30 47.4**	**+0.7**
	baz=30,SNR=5.4						
R19A	**Curley Farm, L**	**30.29**	**329**	⇓P	**P**	**17 30 47.9**	**+0.6**
	baz=30						
R19A				⇓P	**P**	**17 30 47.9**	**+0.6**
	baz=30						
O23A	**Lake Granby, G**	**30.30**	**335**	⇑P	**P**	**17 30 48.0**	**+0.6**
	baz=30						
O23A				⇑P	**P**	**17 30 48.0**	**+0.6**
	baz=30						
Y12C	**Blythe**	**30.32**	**316**	⇓P	**P**	**17 30 48.7**	**+1.3**
	baz=30						
Y12C				⇓P	**P**	**17 30 48.7**	**+1.3**
	baz=30						
PDMCI	**Parker Dam,Lak**	**30.40**	**318**	⇓P	**P**	**17 30 49.2**	**+1.3**
	baz=30,SNR=9.8						
PDMCI				⇓P	**P**	**17 30 49.2**	**+1.3**
	baz=30,SNR=9.8						
O22A	**Kremmling**	**30.52**	**334**	⇓P	**P**	**17 30 49.7**	**+0.3**
	baz=31						
O22A				⇓P	**P**	**17 30 49.7**	**+0.3**
	baz=31						
U15A	**North Rim**	**30.61**	**323**	⇓P	**P**	**17 30 51.7**	**+1.5**
	baz=31,SNR=8.9						
U15A				⇓P	**P**	**17 30 51.7**	**+1.5**
	baz=31,SNR=8.9						
S17A	**Black Ridge (B**	**30.61**	**326**	⇓P	**P**	**17 30 51.3**	**+1.3**
	baz=31						
S17A				⇓P	**P**	**17 30 51.3**	**+1.3**
	baz=31						
R18A	**Canyonlands Na**	**30.69**	**328**	⇑P	**P**	**17 30 51.9**	**+1.1**
	baz=31						
R18A				⇑P	**P**	**17 30 51.9**	**+1.1**
	baz=31						
W13A	**Hualapai Mount**	**30.72**	**319**	⇓P	**P**	**17 30 52.6**	**+1.5**
	baz=31,SNR=12						
W13A				⇓P	**P**	**17 30 52.6**	**+1.5**
	baz=31,SNR=12						
SWSC	**Sam W. Stewart**	**30.74**	**314**	⇑P	**P**	**17 30 52.6**	**+1.5**
	baz=31,SNR=6.1						
SWSC				⇑P	**P**	**17 30 52.6**	**+1.5**
	baz=31,SNR=6.1						
DVTC	**Desert V Tower**	**30.80**	**313**	⇓P	**P**	**17 30 53.2**	**+1.5**
	baz=31						
DVTC				⇓P	**P**	**17 30 53.2**	**+1.5**
	baz=31						
ECSD	**EROS Data Cent**	**30.86**	**350**	*e*P	**P**	**17 30 50.6**	**-1.3**
	comp=Z,26nm,1.1s						
N23A	**Red Feather La**	**30.89**	**336**	⇓P	**P**	**17 30 53.3**	**+0.8**
	baz=31						
N23A				⇓P	**P**	**17 30 53.3**	**+0.8**
	baz=31						
BC3	**Big Chuckawall**	**30.90**	**315**	⇑P	**P**	**17 30 54.1**	**+1.5**
	baz=31,SNR=27						
BC3				⇑P	**P**	**17 30 54.1**	**+1.5**
	baz=31,SNR=27						
M24A	**Cheyenne**	**30.95**	**338**	⇓P	**P**	**17 30 54.0**	**+1.0**
	baz=31						
M24A				⇓P	**P**	**17 30 54.0**	**+1.0**
	baz=31						
O21A	**Pagoda**	**30.97**	**333**	⇑P	**P**	**17 30 54.4**	**+1.1**
	baz=31						
O21A				⇑P	**P**	**17 30 54.4**	**+1.1**
	baz=31						
IRM	**Iron Mountain**	**30.98**	**316**	⇑P	**P**	**17 30 54.7**	**+1.5**
	baz=31,SNR=10						
IRM				⇑P	**P**	**17 30 54.7**	**+1.5**
	baz=31,SNR=10						
N22A	**Wattenberg Ran**	**31.02**	**335**	⇓P	**P**	**17 30 54.7**	**+1.0**
	baz=31,SNR=10						
N22A				⇓P	**P**	**17 30 54.7**	**+1.0**
	baz=31,SNR=10						
S16A	**Weppner Ranch,**	**31.11**	**325**	⇑P	**P**	**17 30 56.0**	**+1.5**
	baz=31						
S16A				⇑P	**P**	**17 30 56.0**	**+1.5**
	baz=31						
R17A	**Hanksville Air**	**31.14**	**327**	⇑P	**P**	**17 30 56.1**	**+1.4**
	baz=31						
R17A				⇑P	**P**	**17 30 56.1**	**+1.4**
	baz=31						
BINY	**Binghamton**	**31.14**	**20**	*e*P	**P**	**17 30 54.1**	**-0.4**
	comp=Z,16nm,0.9s						
MONP	**Monument Peak**	**31.15**	**313**	⇑P	**P**	**17 30 56.5**	**+1.5**
	baz=31,SNR=19						
MONP				⇑P	**P**	**17 30 56.5**	**+1.5**
	baz=31,SNR=19						
BAR	**Barrett**	**31.22**	**313**	*e*P	**P**	**17 30 57.0**	**+1.6**
	comp=Z,5.4nm,0.8s						
N21A	**Black Mountain**	**31.43**	**334**	⇓P	**P**	**17 30 58.0**	**+0.6**
	baz=32						
N21A				⇓P	**P**	**17 30 58.0**	**+0.6**
	baz=32						
R16A	**Teasdale**	**31.45**	**326**	⇑P	**P**	**17 30 59.1**	**+1.5**
	baz=32,SNR=5.1						
R16A				⇑P	**P**	**17 30 59.1**	**+1.5**
	baz=32,SNR=5.1						
BELC	**Belle Mtn. Jos**	**31.47**	**315**	⇓P	**P**	**17 30 59.0**	**+1.4**
	baz=32,SNR=5.8						
BELC				⇓P	**P**	**17 30 59.0**	**+1.4**
	baz=32,SNR=5.8						
SRU	**San Rafael**	**31.56**	**328**	⇑P	**P**	**17 31 00.0**	**+1.6**
	baz=32						
SRU				⇑P	**P**	**17 31 00.0**	**+1.6**
	baz=32						
PFO	**Pinyon Flat Ob**	**31.57**	**314**	*e*P	**P**	**17 31 00.4**	**+1.9**
	comp=Z,9.0nm,1.0s						
PFO	**Pinyon Flat Ob**	**31.57**	**314**	⇓P	**P**	**17 31 00.1**	**+1.6**
	baz=32,SNR=7.1						
PFO				⇓P	**P**	**17 31 00.1**	**+1.6**
	baz=32,SNR=7.1						
M22A	**Cedar Creek Ra**	**31.58**	**335**	⇑P	**P**	**17 31 00.4**	**+1.8**
	baz=32						
M22A				⇑P	**P**	**17 31 00.4**	**+1.8**
	baz=32						
GMRC	**Granite Mounta**	**31.69**	**317**	⇓P	**P**	**17 31 01.1**	**+1.5**
	baz=32,SNR=22						
GMRC				⇓P	**P**	**17 31 01.1**	**+1.5**
	baz=32,SNR=22						
N20A	**Spence Gulch,**	**31.82**	**333**	⇓P	**P**	**17 31 01.9**	**+1.1**
	baz=32,SNR=5.7						
N20A				⇓P	**P**	**17 31 01.9**	**+1.1**
	baz=32,SNR=5.7						
MSU	**Marysvale**	**32.00**	**326**	*e*P	**P**	**17 31 04.1**	**+1.8**
	comp=Z,8.5nm,1.2s						
CCUT	**Cedar City**	**32.00**	**323**	*e*P	**P**	**17 31 04.1**	**+1.7**
	comp=Z,14nm,1.2s						
MURC	**Murrieta**	**32.08**	**314**	⇓P	**P**	**17 31 04.2**	**+1.3**
	baz=32						
MURC				⇓P	**P**	**17 31 04.2**	**+1.3**
	baz=32						
HEC	**Hector,Ludlow**	**32.17**	**316**	⇓P	**P**	**17 31 05.4**	**+1.7**
	baz=32,SNR=12						
HEC				⇓P	**P**	**17 31 05.4**	**+1.7**
	baz=32,SNR=12						
ARUT	**Antelope Range**	**32.21**	**323**	*e*P	**P**	**17 31 06.3**	**+2.2**
	comp=Z,12nm,1.0s						
TUQ	**Turquoise Moun**	**32.25**	**318**	⇓P	**P**	**17 31 05.7**	**+1.3**
	baz=32,SNR=6.9						
TUQ				⇓P	**P**	**17 31 05.7**	**+1.3**
	baz=32,SNR=6.9						
N19A	**John Jarvie Ra**	**32.28**	**332**	⇓P	**P**	**17 31 05.3**	**+0.6**
	baz=32						
N19A				⇓P	**P**	**17 31 05.3**	**

K22A ⇓P P 17 31 08.7 +1.1
baz=33
COWI Conover 32.66 1 *e*P P 17 31 06.7 -1.1
comp=Z,24nm,0.8s
BFSC Mount Baldy Ra 32.75 314 ⇑P P 17 31 10.3 +1.4
baz=33,SNR=7.1
BFSC ⇑P P 17 31 10.3 +1.4
baz=33,SNR=7.1
GSC Goldstone 32.76 317 *e*P P 17 31 10.7 +1.8
comp=Z,10nm,0.6s
GSC Goldstone 32.76 317 ⇓P P 17 31 10.1 +1.3
baz=33,SNR=8.7
GSC ⇓P P 17 31 10.1 +1.3
baz=33,SNR=8.7
R13A O'Grain Ranch, 32.78 323 ⇑P P 17 31 11.0 +1.9
baz=33,SNR=6.8
R13A ⇑P P 17 31 11.0 +1.9
baz=33,SNR=6.8
L20A Wamsutter 32.81 334 ⇓P P 17 31 10.1 +0.8
baz=33
L20A ⇓P P 17 31 10.1 +0.8
baz=33
CIS Catalina Islan 32.84 312 ⇓P P 17 31 10.4 +0.8
baz=33
CIS ⇓P P 17 31 10.4 +0.8
baz=33
O16A Springville 32.88 328 ⇓P P 17 31 10.8 +0.8
baz=33
O16A ⇓P P 17 31 10.8 +0.8
baz=33
K21A Alcova 32.88 336 ⇓P P 17 31 10.5 +0.5
baz=33
K21A ⇓P P 17 31 10.5 +0.5
baz=33
I24A Kuemmerle Ranc 32.98 340 ⇑P P 17 31 11.1 +0.3
baz=33
I24A ⇑P P 17 31 11.1 +0.3
baz=33
MWC Mount Wilson 33.02 314 *e*P P 17 31 13.0 +1.7
comp=Z,19nm,0.9s
RSSD Black Hills 33.03 341 *e*P P 17 31 11.5 +0.3
comp=Z,4.4nm,0.8s
J22A Midwest 33.25 338 ⇑P P 17 31 14.1 +1.0
baz=33,SNR=9.7
J22A ⇑P P 17 31 14.1 +1.0
baz=33,SNR=9.7
K20A Yellowstone Ra 33.34 335 ⇓P P 17 31 14.7 +0.7
baz=33
K20A ⇓P P 17 31 14.7 +0.7
baz=33
LRMC Laurel Mountai 33.45 316 ⇑P P 17 31 16.2 +1.3
baz=34,SNR=14
LRMC ⇑P P 17 31 16.2 +1.3
baz=34,SNR=14
L18A Fontenelle, Gr 33.49 332 ⇑P P 17 31 16.3 +1.0
baz=34
L18A ⇑P P 17 31 16.3 +1.0
baz=34
J21A Lysite 33.56 336 ⇑P P 17 31 16.6 +0.8
baz=34
J21A ⇑P P 17 31 16.6 +0.8
baz=34
MPMC Manual Prospec 33.65 317 ⇓P P 17 31 17.7 +1.0
baz=34,SNR=34
MPMC ⇓P P 17 31 17.7 +1.0
baz=34,SNR=34
I22A 9 Mile Ranch, 33.66 338 ⇓P P 17 31 17.2 +0.5
baz=34,SNR=9.7
I22A ⇓P P 17 31 17.2 +0.5
baz=34,SNR=9.7
OSI Osito Adit 33.69 314 *e*P P 17 31 18.6 +1.7
comp=Z,28nm,1.0s
OSI Osito Adit 33.69 314 ⇓P P 17 31 18.1 +1.1
baz=34
OSI ⇓P P 17 31 18.1 +1.1
baz=34
K19A Absolon Red Bu 33.69 334 ⇓P P 17 31 17.6 +0.5
baz=34
K19A ⇓P P 17 31 17.6 +0.5
baz=34
H24A Dirks Ranch, A 33.75 341 ⇑P P 17 31 17.5 +0.1
baz=34,SNR=12
H24A ⇑P P 17 31 17.5 +0.1
baz=34,SNR=12
R11A Troy Canyon, C 33.85 322 ⇑P P 17 31 20.2 +1.8
baz=34,SNR=17
R11A ⇑P P 17 31 20.2 +1.8
baz=34,SNR=17
I21A Big Trails, Te 33.89 337 ⇓P P 17 31 20.2 +1.4
baz=34
I21A ⇓P P 17 31 20.2 +1.4
baz=34
PDAR Pinedale Array 33.95 333 P P 17 31 18.5 -0.8
comp=Z,0.6nm,0.6s,baz=138,slow=9.1,SNR=5.8
PDAR PcP PcP 17 33 56.6 0.0
comp=Z,3.5nm,0.7s,baz=132,slow=5.1,SNR=9.6
PDAR ScP ScP 17 37 38.3 +1.5
comp=Z,1.9nm,1.0s,baz=145,slow=5.4,SNR=7.8
PDAR PKiKP PKiKP 17 41 20.1 -0.8
comp=Z,0.6nm,0.7s,baz=107,slow=5.6,SNR=4.2
PDAR LR LR 17 47 32.8
comp=Z,439nm,21.6s,baz=152,slow=41
PDAR Pinedale Array 33.95 333 P P 17 31 18.5 -0.8
PDAR PcP PcP 17 33 56.6 0.0
PDAR ScP ScP 17 37 38.3 +1.5
PDAR PKiKP PKiKP 17 41 20.1 -0.8
PD02 Pinedale Array 33.96 333 *e*P P 17 31 22.0 +2.6
HWUT Hardware Ranch 33.97 330 *e*P P 17 31 19.7 +0.3
comp=Z,10nm,1.0s
L17A Cokeville 34.02 331 ⇓P P 17 31 21.2 +1.3
baz=34
L17A ⇓P P 17 31 21.2 +1.3
baz=34
BSC Santa Cruz Isl 34.02 312 ⇑P P 17 31 21.2 +1.4
baz=34
BSC ⇑P P 17 31 21.2 +1.4
baz=34
ARVC Arvin 34.04 315 ⇓P P 17 31 21.6 +1.7
baz=34
ARVC ⇓P P 17 31 21.6 +1.7
baz=34
K18A Toltan Ranch, 34.06 333 ⇓P P 17 31 21.7 +1.4
baz=34
K18A ⇓P P 17 31 21.7 +1.4
baz=34
ISA Isabella 34.09 316 *e*P P 17 31 22.3 +1.9
comp=Z,18nm,1.1s
ISA Isabella 34.09 316 ⇑P P 17 31 22.1 +1.7
baz=34,SNR=15
ISA ⇑P P 17 31 22.1 +1.7
baz=34,SNR=15
GRAC Grapevine Rang 34.12 319 ⇑P P 17 31 22.4 +1.8
baz=34,SNR=12
GRAC ⇑P P 17 31 22.4 +1.8
baz=34,SNR=12
J19A Crowheart 34.14 335 ⇑P P 17 31 21.2 +0.3
baz=34
J19A ⇑P P 17 31 21.2 +0.3
baz=34
L16A Fish Haven 34.21 331 ⇓P P 17 31 21.8 +0.2
baz=34,SNR=6.4
L16A ⇓P P 17 31 21.8 +0.2
baz=34,SNR=6.4
H22A Clearmont 34.22 339 ⇓P P 17 31 21.8 +0.3
baz=34,SNR=5.8
H22A ⇓P P 17 31 21.8 +0.3
baz=34,SNR=5.8
CWC Cottonwood Cre 34.26 317 ⇑P P 17 31 23.4 +1.4
baz=34
CWC ⇑P P 17 31 23.4 +1.4
baz=34
M15A Larsen Ranch, 34.29 329 ⇑P P 17 31 23.8 +1.6
baz=34
M15A ⇑P P 17 31 23.8 +1.6
baz=34
I20A Worland 34.33 336 ⇓P P 17 31 23.5 +1.0
baz=34,SNR=9.8
I20A ⇓P P 17 31 23.5 +1.0
baz=34,SNR=9.8
G23A Biddle 34.43 340 ⇑P P 17 31 23.8 +0.6
baz=34
G23A ⇑P P 17 31 23.8 +0.6
baz=34
SAML Samuel 34.45 129 *e*P P 17 31 23.3 -0.3
comp=Z,26nm,0.9s
H21A Big Horn, Sher 34.50 338 ⇑P P 17 31 24.3 +0.4
baz=35
H21A ⇑P P 17 31 24.3 +0.4
baz=35
EYMN Ely 34.53 358 *e*P P 17 31 22.3 -1.7
comp=Z,11nm,0.6s
VES Vestal, Richgr 34.60 316 ⇑P P 17 31 26.7 +1.9
baz=35
VES ⇑P P 17 31 26.7 +1.9
baz=35
PKM Peak Mountain 34.61 314 ⇑P P 17 31 26.1 +1.0
baz=35,SNR=8.1
PKM ⇑P P 17 31 26.1 +1.0
baz=35,SNR=8.1
L15A Malad City 34.67 330 ⇓P P 17 31 25.8 +0.3
baz=35,SNR=11
L15A ⇓P P 17 31 25.8 +0.3
baz=35,SNR=11
F24A Ekalaka 34.70 342 ⇓P P 17 31 26.3 +0.7
baz=35
F24A ⇓P P 17 31 26.3 +0.7
baz=35
H20A Greybull 34.73 337 ⇑P P 17 31 26.3 +0.4
baz=35
H20A ⇑P P 17 31 26.3 +0.4
baz=35
G22A Birney 34.74 339 ⇑P P 17 31 24.9 -1.1
baz=35
G22A ⇑P P 17 31 24.9 -1.1
baz=35
I19A Meeteetse 34.75 335 ⇑P P 17 31 25.1 -1.1
baz=35
I19A ⇑P P 17 31 25.1 -1.1
baz=35
F23A Volborg 34.89 341 ⇑P P 17 31 27.2 -0.1
baz=35
F23A ⇑P P 17 31 27.2 -0.1
baz=35
RCTC Rector, Farmer 34.96 316 ⇓P P 17 31 29.1 +1.3
baz=35
RCTC ⇓P P 17 31 29.1 +1.3
baz=35
REDW Red Top Meadow 35.00 333 *e*P P 17 31 28.7 +0.3
comp=Z,16nm,0.7s
SNOW Snow King Moun 35.03 333 *e*P P 17 31 29.9 +1.2
comp=Z,28nm,0.8s
G21A Lodge Grass 35.07 338 ⇓P P 17 31 29.2 +0.4
baz=35
G21A ⇓P P 17 31 29.2 +0.4
baz=35
LOHW Long Hollow 35.09 333 *e*P P 17 31 29.7 +0.6
comp=Z,11nm,0.8s
L14A Malta 35.11 329 ⇓P P 17 31 30.1 +0.8
baz=35
L14A ⇓P P 17 31 30.1 +0.8
baz=35
TPAW Teton Pass 35.14 333 *e*P P 17 31 29.7 0.0
comp=Z,4.6nm,0.7s
TPAW *e*pP pP 17 31 45.1 +1.2
RRI2 Red Ridge 35.20 332 *e*P P 17 31 30.7 +0.6
comp=Z,29nm,1.4s
AGMN Agassiz Nation 35.22 353 *e*P P 17 31 29.2 -0.7
comp=Z,47nm,0.7s
ELK Elko 35.25 326 P P 17 31 30.6 +0.1
comp=Z,1.5nm,0.6s,baz=117,slow=2.7,SNR=6.4
ELK PcP PcP 17 34 01.4 +1.0
comp=Z,4.6nm,0.9s,baz=156,slow=2.1,SNR=6.7
ELK ScP ScP 17 37 44.8 +3.3
comp=Z,0.5nm,0.3s,baz=127,slow=5.0,SNR=3.1
ELK LR LR 17 47 43.0
comp=Z,438nm,21.8s,baz=144,slow=39
ELK Elko 35.25 326 P P 17 31 30.6 +0.1
ELK PcP PcP 17 34 01.4 +1.0
ELK ScP ScP 17 37 44.8 +3.3
K15A Arbon 35.25 330 ⇑P P 17 31 31.3 +0.8
baz=35
K15A ⇑P P 17 31 31.3 +0.8
baz=35
MOOW Moose Ponds 35.26 333 *e*P P 17 31 30.1 -0.5
comp=Z,7.3nm,1.0s
J16A Bone 35.27 332 ⇑P P 17 31 30.9 +0.2
baz=35,SNR=7.3
J16A ⇑P P 17 31 30.9 +0.2
baz=35,SNR=7.3
E24A Baker 35.31 343 ⇑P P 17 31 30.8 0.0
baz=35,SNR=9.7
E24A ⇑P P 17 31 30.8 0.0
baz=35,SNR=9.7
MDND Maddock 35.37 349 ⇑P P 17 31 30.9 -0.3
baz=36,SNR=12
MDND ⇑P P 17 31 30.9 -0.3
baz=36,SNR=12
G20A Bridger 35.44 337 ⇑P P 17 31 31.6 -0.4
baz=36
G20A ⇑P P 17 31 31.6 -0.4
baz=36
K14A Jones Ranch, D 35.46 330 ⇑P P 17 31 32.6 +0.4
baz=36,SNR=12
K14A ⇑P P 17 31 32.6 +0.4
baz=36,SNR=12
H18A Shoshone NF, C 35.55 335 ⇑P P 17 31 33.0 -0.1
baz=36
H18A ⇑P P 17 31 33.0 -0.1
baz=36
E23A Ismay 35.55 341 ⇓P P 17 31 33.1 +0.2
baz=36
E23A ⇓P P 17 31 33.1 +0.2
baz=36
NVAR Mina Array Bea 35.56 320 P P 17 31 35.0 +1.7
comp=Z,42nm,0.7s,baz=136,slow=8.2,SNR=204
NVAR PcP PcP 17 34 02.9 +1.5
comp=Z,13nm,0.7s,baz=137,slow=3.9,SNR=17
NVAR ScP ScP 17 37 46.3 +3.6
comp=Z,1.9nm,0.8s,baz=137,slow=4.7,SNR=7.7
NVAR LR LR 17 47 33.9
comp=Z,868nm,21.6s,baz=227,slow=39
NVAR Mina Array Bea 35.56 320 P P 17 31 35.0 +1.7
NVAR PcP PcP 17 34 02.9 +1.5
NVAR ScP ScP 17 37 46.3 +3.6
E22A Miles City 35.70 341 ⇓P P 17 31 34.6 +0.5
baz=36
E22A ⇓P P 17 31 34.6 +0.5
baz=36
J15A Blackfoot 35.75 331 ⇑P P 17 31 35.1 +0.4
baz=36
J15A ⇑P P 17 31 35.1 +0.4
baz=36
RLMT Red Lodge 35.76 336 *e*P P 17 31 34.8 0.0
comp=Z,6.5nm,0.9s
RLMT Red Lodge 35.76 336 ⇑P P 17 31 35.4 +0.6
baz=36,SNR=7.2
RLMT ⇑P P 17 31 35.4 +0.6
baz=36,SNR=7.2
RLMT ⇑P P 17 31 35.4 +0.6
baz=36,SNR=7.2
RLMT ⇑P P 17 31 35.4 +0.6
baz=36,SNR=7.2
D24A Glendive 35.82 343 ⇓P P 17 31 35.2 +0.1
baz=36,SNR=9.9
D24A ⇓P P 17 31 35.2 +0.1
baz=36,SNR=9.9
F20A Billings 35.91 338 ⇓P P 17 31 36.5 +0.5
baz=36
F20A ⇓P P 17 31 36.5 +0.5
baz=36
G18A Lazy EL Ranch, 36.04 336 ⇑P P 17 31 37.7 +0.5
baz=36
G18A ⇑P P 17 31 37.7 +0.5
baz=36
YMR Madison River 36.09 334 *e*P P 17 31 37.4 -0.3
comp=Z,8.7nm,1.0s
YMR *e*pP pP 17 31 53.1 +1.1
D23A Lindsay 36.13 342 ⇓P P 17 31 38.4 +0.6
baz=36
D23A ⇓P P 17 31 38.4 +0.6
baz=36
BMN Battle Mountai 36.16 323 *e*P P 17 31 39.0 +0.7
comp=Z,12nm,1.1s
E21A Keefer Ranch, 36.17 340 ⇑P P 17 31 38.2 +0.1
baz=36,SNR=5.8
E21A ⇑P P 17 31 38.2 +0.1
baz=36,SNR=5.8
J14A Carey 36.21 330 ⇑P P 17 31 39.0 +0.3
baz=36,SNR=18
J14A ⇑P P 17 31 39.0 +0.3
baz=36,SNR=18
C24A Savage 36.22 343 ⇓P P 17 31 38.6 0.0
baz=36,SNR=5.9
C24A ⇓P P 17 31 38.6 0.0
baz=36,SNR=5.9
H16A Russell Place, 36.24 334 ⇓P P 17 31 40.1 +1.2
baz=36
H16A ⇓P P 17 31 40.1 +1.2
baz=36
LPAZ La Paz 36.38 143 P P 17 31 42.5 +1.5
comp=Z,2.9nm,0.7s,baz=334,slow=5.2,SNR=14
LPAZ LR LR 17 47 04.4
comp=Z,404nm,18.9s,baz=299,slow=37
LPAZ La Paz 36.38 143 P P 17 31 42.5 +1.5
D22A Cohagen 36.41 341 ⇑P P 17 31 40.4 +0.2
baz=36,SNR=26
D22A ⇑P P 17 31 40.4 +0.2
baz=36,SNR=26
E20A Meyer Farm, Mu 36.50 339 ⇑P P 17 31 41.4 +0.4
baz=37,SNR=6.9
E20A ⇑P P 17 31 41.4 +0.4
baz=37,SNR=6.9
J13A Cove Ranch, Pi 36.58 330 ⇓P P 17 31 42.4 +0.5
baz=37
J13A ⇓P P 17 31 42.4 +0.5
baz=37
F18A Big Timber 36.59 336 ⇑P P 17 31 42.3 +0.6
baz=37,SNR=5.7
F18A ⇑P P 17 31 42.3 +0.6
baz=37,SNR=5.7
D21A La Casta Ranch 36.60 340 ⇓P P 17 31 42.3 +0.5
baz=37
D21A ⇓P P 17 31 42.3 +0.5
baz=37
I14A Mackay 36.63 331 ⇑P P 17 31 43.1 +0.8
baz=37,SNR=9.1
I14A ⇑P P 17 31 43.1 +0.8
baz=37,SNR=9.1
CMB Columbia Colle 36.67 318 *e*P P 17 31 43.9 +1.3
comp=Z,14nm,0.9s
C23A Lambert 36.69 343 ⇑P P 17 31 43.1 +0.6
baz=37,SNR=12
C23A ⇑P P 17 31 43.1 +0.6
baz=37,SNR=12
E19A Rath Farm, Rou 36.70 338 ⇑P P 17 31 42.8 +0.1
baz=37
E19A ⇑P P 17 31 42.8 +0.1
baz=37
H15A Lima 36.78 332 ⇑P P 17 31 44.4 +0.8
baz=37,SNR=6.7
H15A ⇑P P 17 31 44.4 +0.8
baz=37,SNR=6.7
HLID Hailey 36.82 330 *e*P P 17 31 43.7 -0.2
comp=Z,4.2nm,0.8s
HLID Hailey 36.82 330 ⇓P P 17 31 43.9 0.0
baz=37
HLID ⇓P P 17 31 43.9 0.0
baz=37
C22A Vida 36.85 342 ⇑P P 17 31 44.5 +0.6
baz=37,SNR=7.9
C22A ⇑P P 17 31 44.5 +0.6
baz=37,SNR=7.9
G16A Moss Hill, Enn 36.89 334 ⇓P P 17 31 45.5 +1.1
baz=37,SNR=6.5
G16A ⇓P P 17 31 45.5 +1.1
baz=37,SNR=6.5
I13A Wildhorse Cree 36.94 330 ⇑P P 17 31 45.7 +0.7
baz=37,SNR=12
I13A ⇑P P 17 31 45.7 +0.7
baz=37,SNR=12
F17A Fitzpatrick Pl 36.96 336 ⇑P P 17 31 45.4 +0.4
baz=37
F17A ⇑P P 17 31 45.4 +0.4
baz=37
WCN Washoe City 36.99 320 *e*P P 17 31 46.8 +1.4
comp=Z,9.6nm,1.1s
WCN *e*pP pP 17 32 01.5 +1.7
WCN Washoe City 36.99 320 ⇑P P 17 31 46.6 +1.2
baz=37
WCN ⇑P P 17 31 46.6 +1.2
baz=37
D20A Manuel Ranch, 37.01 339 ⇑P P 17 31 45.4 +0.1
baz=37,SNR=14
D20A ⇑P P 17 31 45.4 +0.1
baz=37,SNR=14
DGMT Dagmar 37.02 344 *e*P P 17 31 45.5 +0.2
comp=Z,55nm,1.0s
DGMT Dagmar 37.02 344 ⇓P P 17 31 45.5 +0.2
baz=37,SNR=11
DGMT ⇓P P 17 31 45.5 +0.2
baz=37,SNR=11
H14A Leadore 37.11 332 ⇓P P 17 31 47.5 +1.1
baz=37,SNR=5.7
H14A ⇓P P 17 31 47.5 +1.1
baz=37,SNR=5.7
G15A Dillon 37.14 333 ⇓P P 17 31 47.3 +0.7
baz=37,SNR=10
G15A ⇓P P 17 31 47.3 +0.7
baz=37,SNR=10
ULM Lac du Bonnet 37.15 353 P P 17 31 44.5 -1.9
comp=Z,16nm,0.7s,baz=171,slow=9.2,SNR=42
ULM PcP PcP 17 34 05.6 +0.1
comp=Z,3.4nm,0.6s,baz=135,slow=2.9,SNR=2.6
ULM ScP ScP 17 37 49.6 +1.6
comp=Z,1.1nm,0.6s,baz=225,slow=8.6,SNR=2.9
ULM LR LR 17 49 27.9
comp=Z,666nm,20.1s,baz=278,slow=40
ULM Lac du Bonnet 37.15 353 P P 17 31 44.5 -1.9
ULM PcP PcP 17 34 05.6 +0.1
ULM ScP ScP 17 37 49.6 +1.6
BOZ Bozeman (W) 37.15 334 *e*P P 17 31 46.9 +0.3
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 37.15 334 ⇓P P 17 31 47.1 +0.5
baz=37,SNR=5.5
BOZ ⇓P P 17 31 47.1 +0.5
baz=37,SNR=5.5
BOZ ⇓P P 17 31 47.1 +0.5
baz=37,SNR=5.5
BOZ ⇓P P 17 31 47.1 +0.5
baz=37,SNR=5.5
E18A Harlowton 37.21 337 ⇓P P 17 31 47.4 +0.3
baz=37
E18A ⇓P P 17 31 47.4 +0.3
baz=37
B23A Brockton 37.23 343 ⇓P P 17 31 47.6 +0.5
baz=37,SNR=7.4
B23A ⇓P P 17 31 47.6 +0.5
baz=37,SNR=7.4
C21A Desert Coulee 37.30 341 ⇓P P 17 31 47.9 +0.2
baz=37,SNR=9.4
C21A ⇓P P 17 31 47.9 +0.2
baz=37,SNR=9.4
D19A Cripps Ranch, 37.33 338 ⇑P P 17 31 48.3 +0.2
baz=37
D19A ⇑P P 17 31 48.3 +0.2
baz=37
DLMT Dillon 37.34 333 *e*P P 17 31 49.3 +1.1
comp=Z,5.4nm,0.7s
B22A Reddig Ranch S 37.38 342 ⇑P P 17 31 48.6 +0.2
baz=38,SNR=8.8
B22A ⇑P P 17 31 48.6 +0.2
baz=38,SNR=8.8
A24A Westby 37.38 344 ⇓P P 17 31 48.9 +0.5
baz=38,SNR=8.1
A24A ⇓P P 17 31 48.9 +0.5
baz=38,SNR=8.1
MFID Camas Ranch 37.43 328 *e*P P 17 31 49.9 +0.9
comp=Z,7.0nm,1.0s
MFID Camas Ranch 37.43 328 ⇑P P 17 31 49.1 +0.2
baz=38
MFID ⇑P P 17 31 49.1 +0.2
baz=38
H13A Challis 37.49 331 ⇑P P 17 31 50.1 +0.5
baz=38,SNR=19
H13A ⇑P P 17 31 50.1 +0.5
baz=38,SNR=19
C20A Veseth Ranch, 37.50 340 ⇓P P 17 31 50.0 +0.5
baz=38,SNR=12
C20A ⇓P P 17 31 50.0 +0.5
baz=38,SNR=12
G14A Jackson 37.63 332 ⇑P P 17 31 51.1 +0.2
baz=38
G14A ⇑P P 17 31 51.1 +0.2
baz=38
LRM Limekiln Ridge 37.64 334 *e*P P 17 31 51.4 +0.5
comp=Z,108nm,0.9s
A23A Redstone 37.65 344 ⇑P P 17 31 51.1 +0.5
baz=38,SNR=7.4
A23A ⇑P P 17 31 51.1 +0.5
baz=38,SNR=7.4
F15A Butte 37.67 334 ⇓P P 17 31 51.4 +0.3
baz=38,SNR=11
F15A ⇓P P 17 31 51.4 +0.3
baz=38,SNR=11

D18A Linhart Farms, 37.70 338 ⇑P P **17 31 51.7 +0.6**
baz=38
D18A ⇑P P **17 31 51.7 +0.6**
baz=38
H12A Diamond D Ranc 37.77 330 ⇑P P **17 31 52.1 +0.2**
baz=38,SNR=8.2
H12A ⇑P P **17 31 52.1 +0.2**
baz=38,SNR=8.2
G13A Cobalt 37.88 331 ⇑P P **17 31 53.1 +0.3**
baz=38,SNR=12
G13A ⇑P P **17 31 53.1 +0.3**
baz=38,SNR=12
C19A Slack Wire Ran 37.88 339 ⇓P P **17 31 52.9 +0.2**
baz=38,SNR=6.4
C19A ⇓P P **17 31 52.9 +0.2**
baz=38,SNR=6.4
E16A East Helena 37.88 335 ⇑P P **17 31 53.2 +0.4**
baz=38,SNR=7.8
E16A ⇑P P **17 31 53.2 +0.4**
baz=38,SNR=7.8
A22A Carney Farms, 37.97 343 ⇑P P **17 31 53.7 +0.3**
baz=38,SNR=14
A22A ⇑P P **17 31 53.7 +0.3**
baz=38,SNR=14
D17A Six Diamond Ra 37.99 337 ⇓P P **17 31 54.1 +0.4**
baz=38,SNR=5.9
D17A ⇓P P **17 31 54.1 +0.4**
baz=38,SNR=5.9
HRY Holter Researc 38.09 335 *e*P P **17 31 55.1 +0.5**
B20A Solberg Farm, 38.13 340 ⇓P P **17 31 54.8 0.0**
baz=38,SNR=5.8
B20A ⇓P P **17 31 54.8 0.0**
baz=38,SNR=5.8
E15A Deer Lodge 38.20 334 ⇑P P **17 31 55.8 +0.3**
baz=38,SNR=6.3
E15A ⇑P P **17 31 55.8 +0.3**
baz=38,SNR=6.3
D16A Dana Ranch, Ca 38.23 336 ⇓P P **17 31 56.2 +0.5**
baz=38
D16A ⇓P P **17 31 56.2 +0.5**
baz=38
WVOR Wild Horse Val 38.27 325 *e*P P **17 31 57.1 +1.0**
comp=Z,8.2nm,0.9s
A21A Bergtoll Ranch 38.27 342 ⇓P P **17 31 56.3 +0.4**
baz=38
A21A ⇓P P **17 31 56.3 +0.4**
baz=38
C17A Wharram Farm, 38.42 337 ⇑P P **17 31 57.7 +0.4**
baz=38,SNR=5.7
C17A ⇑P P **17 31 57.7 +0.4**
baz=38,SNR=5.7
F13A Darby 38.45 332 ⇓P P **17 31 57.6 +0.1**
baz=38,SNR=9.3
F13A ⇓P P **17 31 57.6 +0.1**
baz=38,SNR=9.3
B19A Brinkman Farms 38.46 339 ⇑P P **17 31 57.6 +0.1**
baz=39,SNR=6.8
B19A ⇑P P **17 31 57.6 +0.1**
baz=39,SNR=6.8
A20A Cobblestone Ra 38.49 341 ⇑P P **17 31 57.6 -0.1**
baz=39,SNR=6.5
A20A ⇑P P **17 31 57.6 -0.1**
baz=39,SNR=6.5
E14A Clinton 38.56 333 ⇑P P **17 31 58.9 +0.4**
baz=39
E14A ⇑P P **17 31 58.9 +0.4**
baz=39
D15A Lincoln 38.64 335 ⇓P P **17 31 59.2 +0.1**
baz=39,SNR=7.4
D15A ⇓P P **17 31 59.2 +0.1**
baz=39,SNR=7.4
B18A Beardsley Farm 38.70 339 ⇑P P **17 31 59.9 +0.3**
baz=39
B18A ⇑P P **17 31 59.9 +0.3**
baz=39
A19A Klindworth Far 38.80 340 ⇑P P **17 32 00.7 +0.3**
baz=39,SNR=5.4
A19A ⇑P P **17 32 00.7 +0.3**
baz=39,SNR=5.4
CHMT Chamberlain Mo 38.84 334 *e*P P **17 32 01.0 +0.1**
comp=Z,3.4nm,0.8s
E13A Victor 38.88 333 ⇓P P **17 32 00.9 -0.3**
baz=39,SNR=14
E13A ⇓P P **17 32 00.9 -0.3**
baz=39,SNR=14
C16A Fuhringer Ranc 38.94 336 ⇑P P **17 32 01.7 +0.1**
baz=39
C16A ⇑P P **17 32 01.7 +0.1**
baz=39
B17A L&G Farms, Che 38.98 338 ⇑P P **17 32 02.5 +0.6**
baz=39
B17A ⇑P P **17 32 02.5 +0.6**
baz=39
MSO Missoula 39.07 333 *e*P P **17 32 03.6 +0.8**
comp=Z,8.2nm,1.3s
MSO Missoula 39.07 333 ⇑P P **17 32 02.7 0.0**
baz=39
MSO ⇑P P **17 32 02.7 0.0**
baz=39
D14A Greenough 39.08 334 ⇓P P **17 32 03.0 +0.2**
baz=39
D14A ⇓P P **17 32 03.0 +0.2**
baz=39
A18A Metzger Ranch, 39.17 339 ⇓P P **17 32 03.8 +0.4**
baz=39
A18A ⇓P P **17 32 03.8 +0.4**
baz=39
BMO Blue Mountains 39.20 329 *e*P P **17 32 02.5 -1.3**
comp=Z,14nm,1.7s
C15A Salmond Ranch, 39.26 336 ⇓P P **17 32 04.9 +0.6**
baz=39
C15A ⇓P P **17 32 04.9 +0.6**
baz=39
A17A Triple J Farms 39.49 338 ⇓P P **17 32 05.6 -0.6**
baz=40,SNR=5.5
A17A ⇓P P **17 32 05.6 -0.6**
baz=40,SNR=5.5
D13A Huson 39.50 333 ⇓P P **17 32 06.2 -0.1**
baz=40,SNR=9.8
D13A ⇓P P **17 32 06.2 -0.1**
baz=40,SNR=9.8
KIPM Iron Peak 39.66 318 *e*P P **17 32 09.7 +1.9**
comp=Z,29nm,1.0s
KCPM Cahto Peak 39.66 318 *e*P P **17 32 09.9 +2.1**
B15A Bradely Ranch, 39.67 336 ⇑P P **17 32 08.2 +0.5**
baz=40
B15A ⇑P P **17 32 08.2 +0.5**
baz=40
JTMT Jette 39.93 334 *e*P P **17 32 10.7 +0.7**
comp=Z,3.1nm,0.8s
C13A Hot Springs 40.00 334 ⇑P P **17 32 10.8 +0.4**
baz=40,SNR=6.1
C13A ⇑P P **17 32 10.8 +0.4**
baz=40,SNR=6.1
BSMT Bassoo Peak 40.23 334 *e*P P **17 32 12.1 -0.4**
comp=Z,2.4nm,0.8s
YBH Yreka Blue Hor 40.24 321 P P **17 32 12.4 -0.1**
comp=Z,4.2nm,0.6s,baz=110,slow=5.4,SNR=12
YBH PcP **PcP** **17 34 15.6 0.0**
comp=Z,4.5nm,0.8s,baz=112,slow=2.2,SNR=6.1
YBH LR LR 17 50 52.3
comp=Z,688nm,20.2s,baz=139,slow=39
YBH Yreka Blue Hor 40.24 321 *e*P P **17 32 12.2 -0.3**
comp=Z,2.9nm,0.6s
YBH PcP **PcP** **17 34 15.6 0.0**
A15A Johnson Ranch, 40.28 337 ⇑P P **17 32 13.0 +0.2**
baz=40
A15A ⇑P P **17 32 13.0 +0.2**
baz=40
KHMM Horse Mountain 40.40 319 *e*P P **17 32 14.5 +0.6**
comp=Z,26nm,0.8s
C12B Naegeli Ranch, 40.42 333 ⇑P P **17 32 14.2 +0.4**
baz=40
C12B ⇑P P **17 32 14.2 +0.4**
baz=40
B13A Whitefish 40.50 335 ⇑P P **17 32 14.5 0.0**
baz=41,SNR=5.7
B13A ⇑P P **17 32 14.5 0.0**
baz=41,SNR=5.7
A14A Double T Ranch 40.54 336 ⇓P P **17 32 14.7 -0.3**
baz=41,SNR=17
A14A ⇓P P **17 32 14.7 -0.3**
baz=41,SNR=17
SIV San Ignacio 40.67 135 P P **17 32 17.2 +0.9**
comp=Z,6.6nm,0.6s,baz=319,slow=8.7,SNR=30
SIV San Ignacio 40.67 135 P P **17 32 17.2 +0.9**
WALA Waterton Lakes 40.81 336 *e*P P **17 32 16.8 -0.4**
comp=Z,0.3nm,0.9s

OD2 Odessa Site #2 41.68 330 *e*P P **17 32 24.0 -0.1**
comp=Z,7.6nm,1.0s
HOOD Mount Hood Mea 41.80 326 P P **17 32 25.0 -0.3**
comp=Z,19nm,0.8s
FFC Flin Flon 42.39 350 *e*P P **17 32 29.3 -0.5**
comp=Z,14nm,1.1s
RPN Rapa Nui 44.49 205 LR LR 17 46 25.1
comp=Z,726nm,21.6s,baz=356,slow=29
SCHQ Schefferville 45.12 19 P P **17 32 50.0 -1.8**
comp=Z,19nm,0.7s,baz=218,slow=7.1,SNR=51
SCHQ PcP **PcP** **17 34 29.8 -1.7**
comp=Z,2.0nm,0.6s,baz=249,slow=8.6,SNR=2.5
SCHQ LR LR 17 54 21.5
comp=Z,422nm,18.5s,baz=34,slow=40
SCHQ Schefferville 45.12 19 *e*P P **17 32 49.9 -1.8**
comp=Z,26nm,1.0s
SCHQ PcP **PcP** **17 34 29.8 -1.7**
CFAA Coronel Fontan 49.23 156 P P **17 33 25.7 +1.6**
comp=Z,0.5nm,0.6s,baz=332,slow=7.2,SNR=8.4
CFAA PcP **PcP** **17 34 47.4 +1.0**
comp=Z,0.6nm,0.7s,baz=333,slow=4.0,SNR=5.9
CFAA LR LR 17 50 12.2
comp=Z,33nm,21.8s,baz=280,slow=31
CFAA Coronel Fontan 49.23 156 P P **17 33 25.7 +1.6**
CFAA PcP **PcP** **17 34 47.4 +1.0**
BDFB Brasilia 50.34 124 PcP **PcP** **17 34 51.6 +0.7**
comp=Z,5.6nm,0.8s,baz=268,slow=3.3,SNR=4.4
BDFB LR LR 17 56 49.5
comp=Z,337nm,20.1s,baz=214,slow=38
BDFB Brasilia 50.34 124 PcP **PcP** **17 34 51.6 +0.7**
YKA Yellowknife Ar 52.18 346 P P **17 33 44.7 -1.1**
comp=Z,5.7nm,0.7s,baz=145,slow=7.8,SNR=100
YKA PcP **PcP** **17 34 56.8 +0.1**
comp=Z,1.7nm,0.8s,baz=150,slow=6.4,SNR=5.4
YKA Yellowknife Ar 52.18 346 P P **17 33 44.7 -1.1**
YKA PcP **PcP** **17 34 56.9 +0.1**
FRB Frobisher Bay 52.49 12 LR LR 17 56 35.5
comp=Z,904nm,20.9s,baz=182,slow=37
PLCA Paso Flores 56.67 163 P P **17 34 19.7 +0.9**
comp=Z,4.5nm,1.0s,baz=341,slow=8.7,SNR=7.4
PLCA LR LR 17 53 26.9
comp=Z,299nm,19.0s,baz=334,slow=30
PLCA Paso Flores 56.67 163 P P **17 34 19.7 +0.9**
RCBR Riachuelo 56.77 106 P P **17 34 20.8 +0.8**
comp=Z,5.4nm,0.8s,baz=285,slow=12,SNR=2.7
RCBR LR LR 17 59 25.4
comp=Z,145nm,20.4s,baz=104,slow=37
RCBR Riachuelo 56.77 106 P P **17 34 20.8 +0.8**
RKT Rikitea 57.20 231 *e*LR LR 17 51 08.8
comp=Z,651nm,26.0s
SFJD Kangerlussuaq 59.50 17 LR LR 17 59 23.5
comp=Z,478nm,18.6s,baz=232,slow=35
RES Resolute Bay 61.40 358 P P **17 34 49.1 -1.9**
comp=Z,3.4nm,0.4s,baz=186,slow=8.4,SNR=32
RES Resolute Bay 61.40 358 *e*P P **17 34 49.1 -1.9**
comp=Z,4.9nm,0.6s
INK Inuvik 61.69 343 *e*P P **17 34 51.9 -1.1**
comp=Z,8.1nm,0.9s
BMRM Bremner River 61.74 333 *e*P P **17 34 54.2 +0.7**
ILAR Eielson Array 64.31 336 P P **17 35 08.4 -2.0**
comp=Z,2.8nm,0.9s,baz=109,slow=5.5,SNR=32
ILAR LR LR 18 07 12.1
comp=Z,237nm,19.4s,baz=319,slow=40
ILAR Eielson Array 64.31 336 P P **17 35 08.4 -2.0**
KDAK Kodiak Island 64.42 328 P P **17 35 10.8 -0.5**
comp=Z,14nm,1.1s,baz=111,slow=8.6,SNR=4.7
KDAK Kodiak Island 64.42 328 P P **17 35 10.8 -0.5**
TRF Thorofare Moun 65.17 334 *e*P P **17 35 15.1 -1.2**
comp=Z,9.1nm,0.9s
SUMG Summit 66.30 15 *i* P P **17 35 21.8 -1.9**
comp=Z,4.7nm,1.0s
PPT2 Papeete2 66.55 244 *e*S S 17 44 20.4 +7.4
comp=Z,100nm,25.2s
PPT2 *e*SS **SS** **17 48 37.6 +6.3**
comp=Z,165nm,32.5s
PPT2 *e*LR LR 17 55 22.1
comp=Z,967nm,26.2s,baz=56
TBI Tubuai 68.84 238 *e*S S 17 44 47.5 +7.4
comp=Z,111nm,29.2s
TBI *e*LR LR 17 56 40.6
comp=Z,632nm,27.2s
BORG Borgarnes 68.86 25 LR LR 18 09 25.5
comp=Z,373nm,18.3s,baz=351,slow=39
DAG Danmarks Havn 72.80 13 *i* P **17 36 00.6 -2.6**
ESDC Sonseca Array 78.41 52 P P **17 36 33.8 -2.3**
comp=Z,0.3nm,0.3s,baz=286,slow=6.0,SNR=5.4
ESDC LR LR 18 09 15.8
comp=Z,111nm,19.5s,baz=325,slow=34
ESDC Sonseca Array 78.41 52 P P **17 36 33.8 -2.3**
FLN La Foliniere 79.63 42 *e*P P **17 36 41.2 -1.3**
LDF La Druitiere 79.89 42 *e*P P **17 36 42.0 -1.9**
comp=Z,7.2nm,0.7s
SSF Saint Saulge 82.56 43 *e*P P **17 36 55.7 -2.4**
LOR Lormes 82.76 43 *e*P P **17 36 57.2 -2.0**
comp=Z,9.3nm,0.8s
GIVF Givet 82.80 40 *e*P P **17 36 57.5 -1.8**
BILL Bilibino 82.88 338 *e*P P **17 36 58.0 -1.4**
comp=Z,9.1nm,1.0s
LIC Lamto 83.48 85 *e*P P **17 37 02.6 -0.9**
comp=Z,8.6nm,0.7s
DBIC Dimbokro 83.55 85 P P **17 37 01.7 -2.1**
comp=Z,2.8nm,0.7s,baz=284,slow=5.9,SNR=6.4
DBIC LR LR 18 10 03.2
comp=Z,219nm,21.5s,baz=265,slow=33
DBIC Dimbokro 83.55 85 P P **17 37 01.7 -2.1**
NB2 NORSAR Subarra 83.68 29 P P **17 37 01.5 -2.1**
comp=Z,25nm,2.0s,baz=290,slow=5.3
NOA NORSAR Array B 83.68 29 P P **17 37 01.4 -2.3**
comp=Z,0.9nm,0.7s,baz=290,slow=5.1,SNR=3.8
NOA NORSAR Array B 83.68 29 P P **17 37 01.4 -2.3**
HINF Hinteralfeld 84.62 42 *e*P P **17 37 05.9 -2.8**
HFS Hagfors 85.12 29 P P **17 37 08.6 -2.3**
comp=Z,2.0nm,0.6s,baz=298,slow=3.2,SNR=6.7
HFS Hagfors 85.12 29 P P **17 37 08.6 -2.3**
ARCES ARCESS Array B 86.07 19 P P **17 37 13.8 -1.7**
comp=Z,1.3nm,0.5s,baz=293,slow=6.5,SNR=27
ARCES ARCESS Array B 86.07 19 P P **17 37 13.8 -1.7**
CLL Collm 87.51 38 *e*P P **17 37 21.0 -1.8**
CLL *e*(pP) **pP** **17 37 36.0 -2.9**
CLL LmV 18 09 00.0
comp=Z,400nm,18.5s
TORD Torodi Ar. Bea 88.41 77 P P **17 37 24.9 -2.9**
comp=Z,0.8nm,0.6s,baz=289,slow=5.6,SNR=5.4
TORD LR LR 18 12 59.6
comp=Z,131nm,19.6s,baz=290,slow=33
TORD Torodi Ar. Bea 88.41 77 P P **17 37 24.9 -2.9**
GERES GERESS Array B 88.71 40 LR LR 18 15 32.8
comp=Z,168nm,21.9s,baz=74,slow=35
KEST Kesra 89.54 53 LR LR 18 13 35.1
comp=Z,57nm,20.1s,baz=5.2,slow=33
FINES FINESS Array B 90.16 26 P P **17 37 32.1 -2.9**
comp=Z,1.7nm,0.9s,baz=298,slow=4.6,SNR=5.4
FINES LR LR 18 18 44.4
comp=Z,271nm,21.1s,baz=55,slow=36
FINES FINESS Array B 90.16 26 P P **17 37 32.1 -2.9**
PETK Petropavlovsk- 92.41 326 P P **17 37 46.3 +0.6**
comp=Z,3.0nm,0.7s,baz=36,slow=12,SNR=4.1
PETK LR LR 18 20 06.4
comp=Z,49nm,19.9s,baz=253,slow=36
PETK Petropavlovsk- 92.41 326 P P **17 37 46.4 +0.6**
AKASG Malin Array Be 97.06 34 LR LR 18 21 07.9
comp=Z,186nm,21.0s,baz=315,slow=35
DZM Mont Dzumac 107.52 251 *e*LR LR 18 14 34.8
comp=Z,286nm,27.7s
BVAR Borovoye Array 111.73 13 PKiKP **PKiKP** **17 43 09.5 0.0**
comp=Z,0.8nm,0.7s,baz=113,slow=3.7,SNR=6.3
BVAR Borovoye Array 111.73 13 PKiKP **PKiKP** **17 43 09.5 0.0**
MDJ Mudanjiang 112.15 331 Pdif **Pdif** **17 39 14.5 +0.1**
MDJ AMB AMB
comp=Z,180nm,4.4s
MDJ LR LR
comp=N,71nm,27.8s
MDJ LR LR
comp=E,100nm,24.1s
MDJ LR LR
comp=Z,140nm,22.2s
ZALV Zalesovo Beam 112.82 3 PKiKP **PKiKP** **17 43 10.8 -0.8**
comp=Z,1.5nm,0.5s,baz=294,slow=2.3,SNR=9.7
ZALV PP **PP** **17 43 55.8 -3.2**
comp=Z,0.7nm,0.5s,baz=10,slow=3.5,SNR=4.1
ZALV Zalesovo Beam 112.82 3 PKiKP **PKiKP** **17 43 10.8 -0.8**
ZALV PP **PP** **17 43 55.8 -3.2**
CN2 Changchun 114.69 333 *e*PKP PKPdf 17 43 10.5 -4.9
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
KURK Kurchatov 115.41 8 PKP **PKPdf** **17 43 16.1 -0.5**
comp=Z,2.1nm,0.7s,baz=346,slow=2.2,SNR=12
KURK Kurchatov 115.41 8 PKP **PKPdf** **17 43 16.1 -0.5**
SONM Songino Array 117.42 348 PKP **PKPdf** **17 43 20.4 -0.3**
comp=Z,1.2nm,0.7s,baz=344,slow=1.4,SNR=16
SONM PKKPbc **PKKPbc** **17 53 43.9 -1.4**
comp=Z,0.7nm,0.8s,baz=186,slow=3.1,SNR=6.5
SONM Songino Array 117.42 348 PKP **PKPdf** **17 43 20.4 -0.3**
SONM PKKPbc **PKKPbc** **17 53 43.9 -1.4**
BOSA Boshof 118.11 115 PKP **PKPdf** **17 43 22.1 -0.5**
comp=Z,3.8nm,0.8s,baz=2.9,slow=7.9,SNR=4.5
BOSA Boshof 118.11 115 PKP **PKPdf** **17 43 22.1 -0.5**
KSRS Korea Array 118.31 326 PKP **PKPdf** **17 43 22.6 +0.1**
comp=Z,3.6nm,0.7s,baz=15,slow=1.5,SNR=19
KSAR Wonju Array Be 118.34 326 PKP **PKPdf** **17 43 22.6 0.0**
MK31 Makanchi Array 119.72 6 *e*PKPdf **PKPdf** **17 43 23.7 -1.3**
MKAR Makanchi Array 119.72 6 PKP **PKPdf** **17 43 23.4 -1.7**
comp=Z,0.3nm,0.4s,baz=332,slow=2.6,SNR=7.2
MKAR Makanchi Array 119.72 6 PKP **PKPdf** **17 43 23.4 -1.7**
EKS2 Erkin-Say 122.26 14 *e*PKPdf **PKPdf** **17 43 30.4 +0.2**
AAK Ala-Archa 122.45 14 *e*PKPdf **PKPdf** **17 43 30.5 -0.1**
HHC Hu-ho-hao-te 122.58 341 *e*PKP **PKPdf** **17 43 30.0 -0.9**
HHC PP **PP** **17 45 10.5 +3.4**
HHC PKS **PKSdf** **17 47 05.0 -2.6**
HHC SKS **SKSdf** **17 50 36.8 -1.6**
HHC SKKS **SKKSac** **17 51 58.8 -3.9**
HHC SS **SS** **18 01 45.5 +1.6**
HHC AMB AMB
comp=Z,81nm,9.0s
HHC LR LR
comp=N,210nm,20.2s
HHC LR LR
comp=E,160nm,20.3s
HHC LR LR
comp=Z,220nm,20.2s
WMQ Urumqi 123.07 2 PKP **PKPdf** **17 43 30.5 -1.2**
WMQ LR LR
comp=N,280nm,22.8s
WMQ LR LR
comp=E,200nm,21.8s
WMQ LR LR
comp=Z,280nm,22.8s
CMSA Cobar Meteorol 126.20 241 *e*P **PKPdf** **17 43 38.8 +1.0**
GTA Gaotai 126.77 351 *e*PKP **PKPdf** **17 43 39.5 +0.5**
GTA PP PP 17 45 42.8 +7.8
GTA SKS **SKSdf** **17 50 45.8 -0.6**
GTA SKKS **SKKSac** **17 52 31.5 +2.0**
GTA AMB AMB
comp=Z,99nm,6.6s
GTA LR LR
comp=N,140nm,20.9s
GTA LR LR
comp=E,200nm,18.5s
GTA LR LR
comp=Z,250nm,23.3s
LZH Lanzhou 129.19 346 *e*PKP **PKPdf** **17 43 44.5 +0.8**
STKA Stephens Creek 129.62 240 PKP **PKPdf** **17 43 45.1 +0.8**
comp=Z,4.9nm,0.8s,baz=43,slow=3.7,SNR=12
STKA Stephens Creek 129.62 240 *e*P **PKPdf** **17 43 45.1 +0.8**
STKA Stephens Creek 129.62 240 PKP **PKPdf** **17 43 45.1 +0.8**
XAN Xi'an 129.64 340 PKP **PKPdf** **17 43 44.3 -0.2**
ENH Enshi 132.84 337 *e*PKPdf **PKPdf** **17 43 50.1 -0.5**
CD2 Chengdu 134.13 344 PKP **PKPdf** **17 43 52.8 -0.2**
CD2 sPKP 17 44 16.3
CD2 PP **PP** **17 46 27.5 +4.8**
CD2 PKS **PKSdf** **17 47 27.5 -2.1**
CD2 SKKS 17 53 11.8
CD2 SS **SS** **18 04 07.3 +0.7**
CD2 AMB AMB
comp=Z,100nm,5.1s
CD2 LR LR
comp=N,160nm,7.7s
CD2 LR LR
comp=Z,220nm,15.5s
WB2 Warramunga Arr 137.33 255 *e*PKPdf **PKPdf** **17 43 60.0 +0.8**
WRA Warramunga Arr 137.34 255 PKhKP PKPpre 17 43 54.7
comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=5.2
WRA PKP **PKPdf** **17 43 60.0 +0.8**
comp=Z,3.9nm,0.9s,baz=88,slow=1.9,SNR=17
WRA Warramunga Arr 137.34 255 PKPpre PKPpre 17 43 54.7
WRA PKP **PKPdf** **17 43 60.0 +0.8**
GYA Guiyang 137.34 338 *e*Pdif **Pdif** **17 41 05.0 -1.9**
GYA PKP **PKPdf** **17 43 59.0 -0.2**
GYA sPKP 17 44 22.5
GYA PP **PP** **17 46 47.0 +3.8**
GYA AMB AMB
comp=Z,90nm,7.8s
ASAR Alice Springs 137.49 250 PKhKP PKPpre 17 43 47.8
comp=Z,0.5nm,0.7s,baz=111,slow=3.5,SNR=9.3
ASAR PKP **PKPdf** **17 43 59.9 +0.4**
comp=Z,2.4nm,0.9s,baz=101,slow=2.2,SNR=14
ASAR SKPbc **SKPab** **17 47 35.3 -0.4**
comp=Z,1.3nm,1.0s,baz=103,slow=2.8,SNR=4.9
ASAR Alice Springs 137.49 250 PKPpre PKPpre 17 43 47.8
ASAR PKP **PKPdf** **17 43 59.9 +0.4**
ASAR SKPbc **SKPab** **17 47 35.3 -0.4**
DANN Dangsing 138.08 9 *e*P **PKPdf** **17 44 00.3 -0.5**
comp=Z,49nm,0.7s
DANN Dangsing 138.08 9 *e*P **PKPdf** **17 44 00.3 -0.5**
GKN Gorkha 138.54 7 *e*P **PKPdf** **17 44 01.1 -0.4**
GKN Gorkha 138.54 7 *e*P **PKPdf** **17 44 01.1 -0.4**
KOLN Koldanda 138.63 9 *e*P **PKPdf** **17 44 00.8 -0.9**
comp=Z,12nm,0.8s
KOLN Koldanda 138.63 9 *e*P **PKPdf** **17 44 00.8 -0.9**
GUN Gumba 138.78 6 *e*P **PKPdf** **17 44 02.0 -0.1**
GUN Gumba 138.78 6 *e*P **PKPdf** **17 44 02.0 -0.1**
KKN Kakani 138.83 7 *e*P **PKPdf** **17 44 01.5 -0.6**
comp=Z,15nm,0.7s
KKN Kakani 138.83 7 *e*P **PKPdf** **17 44 01.5 -0.6**
DMN Daman 138.99 7 *e*P **PKPdf** **17 44 02.2 -0.2**
DMN Daman 138.99 7 *e*P **PKPdf** **17 44 02.2 -0.2**
JIRN Jiri 139.06 5 *e*P **PKPdf** **17 44 00.8 -1.9**
comp=Z,6.4nm,0.7s
JIRN Jiri 139.06 5 *e*P **PKPdf** **17 44 00.8 -1.9**
PKI Pulchoki 139.06 7 *e*P **PKPdf** **17 44 01.9 -0.7**
comp=Z,17nm,0.7s
PKI Pulchoki 139.06 7 *e*P **PKPdf** **17 44 01.9 -0.7**
TAPN Taplejung 139.48 3 *e*P **PKPdf** **17 44 00.9 -2.5**
TAPN Taplejung 139.48 3 *e*P **PKPdf** **17 44 00.9 -2.5**
KMI Kunming 139.87 342 PKP **PKPdf** **17 44 03.3 -0.7**
KMI sPKP 17 44 28.3
KMI PP **PP** **17 47 02.5 +3.6**
KMI SS SS 18 05 19.0 +3.5
KMI AMB AMB
comp=Z,60nm,7.4s
KMI LR LR
comp=N,160nm,26.3s
KMI LR LR
comp=E,64nm,23.2s
KMI LR LR
comp=Z,190nm,27.1s
ODAN Odare 139.94 4 *e*P **PKPdf** **17 44 02.4 -1.7**
ODAN Odare 139.94 4 *e*P **PKPdf** **17 44 02.4 -1.7**
FITZ Fitzroy Crossi 145.63 257 *e*P **PKPab** **17 44 14.6 -0.1**
FITZ Fitzroy Crossi 145.63 257 *e*PKPdf **PKPab** **17 44 15.0 +0.2**
KMBL Kambalda 145.85 233 *e*P **PKPbc** **17 44 14.8 +0.1**
CHTO Chiang Mai 146.92 345 *e*PKPdf **PKPdf** **17 44 17.1 +0.8**
SDKM Sandakan 147.26 303 P P **17 44 18.7 -0.7**
CM31 Chiang Mai Arr 147.26 345 *e*PKPdf **PKPdf** **17 44 17.8 +0.9**
CMAR Chiang Mai Arr 147.26 345 PKPbc **PKPdf** **17 44 17.4 +0.6**
comp=Z,15nm,0.7s,baz=340,slow=3.4,SNR=140
CMAR SKPbc **SKiKP** **17 47 57.0 +3.9**
comp=Z,0.5nm,0.8s,baz=345,slow=2.7,SNR=4.7
CMAR Chiang Mai Arr 147.26 345 PKPbc **PKPdf** **17 44 17.4 +0.6**
CMAR SKPbc **SKiKP** **17 47 57.0 +3.9**
HYB Hyderabad 147.33 21 *i* PKP **PKPdf** **17 44 15.0 -2.0**
HYB *e* **pPKPdf** **17 44 31.5 -2.3**
HYB *ep*PKP sPKPdf 17 44 48.0 +8.2
TSM Tawau 147.45 301 P **PKPab** **17 44 21.7 -0.1**
KAPI Kappang 149.75 283 *e*PKPbc **PKPbc** **17 44 24.9 -0.9**
MBWA Marble Bar 150.82 250 *e*P **PKPbc** **17 44 28.4 +0.3**

IDC 28 17:25:47.1±9.8, 3°77'N×63°07'E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse:
s-maj=307.9km s-min=35.6km az=75.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**53.09**	**16**	P	P	17 35 05.4	-0.8
	0.3nm,0.5s,baz=224,slow=6.0,SNR=3.6						
SONM	**Songino Array**	**57.50**	**33**	P	P	17 35 38.9	+0.6

0.8nm,0.9s,baz=230,slow=7.1,SNR=7.1
WRA Warramunga Arr 73.78 112 P P 17 37 24.0 +0.1
0.4nm,0.6s,baz=285,slow=5.2,SNR=3.8
ASAR Alice Springs 74.08 116 P P 17 37 25.6 -0.1
0.2nm,0.6s,baz=293,slow=6.3,SNR=5.9

*IDC **28** 17:28:07.7±1.6,30°.10N×96°.66E,h0km,mb3.2/4, mb1 3.4/5,mb1mx3.2/25,mbtmp3.2/5,ML2.4/1, Error ellipse: s-maj=79.6km s-min=22.5km az=66.0*
*ISCJB **28** 17:28:10.6±0.9,30°.2N±0°.1×96°.76E±0°.09,h33km,mb3.4/3, Error ellipse: s-maj=17.6km s-min=10.9km az=172.1*
ISC 28 17:28:13.0±1.2,30°.2N±0°.2×96°.8E±0°.1,h35km,n6,σ0s64/7, mb3.4/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.89**	**266**	Pn	**Pn**	**17 29 25.0**	**+0.5**
LSA				Sn	**Sn**	**17 30 19.5**	**-0.6**
LSA				smax	smax		
	comp=E,10.0nm,0.8s						
SONM	**Songino Array**	**19.11**	**20**	P	**Pn**	**17 32 33.5**	**-0.4**
	comp=E,0.0nm,0.3s,baz=201,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**20.01**	**330**	P	**P**	**17 32 42.3**	**-0.3**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**25.26**	**343**	P	**P**	**17 33 36.4**	**+0.7**
	comp=E,0.4nm,0.6s,baz=175,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**61.59**	**139**	P	**P**	**17 38 27.2**	**+0.1**
	comp=E,0.3nm,0.5s,baz=333,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**64.35**	**142**	P	**P**	**17 38 45.0**	**-0.4**
	comp=E,0.2nm,0.6s,baz=324,slow=6.3,SNR=4.5						

*ISCJB **28** 17:30:57.3±0.3,11°.22N±0°.02×61°.52W±0°.03,h73km±4km, mb3.9/6,Error ellipse: s-maj=5.5km s-min=3.1km az=23.3*
*TRN **28** 17:30:58.1,11°.29N×61°.48W,h20km,MD3.7*
TRN Felt II and III in Port of Spain and environs, II inS t. Augustine and Mt. Hope.
*FUNV **28** 17:30:58.8,11°.11N×61°.45W,h26km,MW4.1*
*NEIC **28** 17:30:59.7±0.9,11°.35N×61°.54W,h77km±8km,mb3.6/1, MD3.6(TRN),Error ellipse: s-maj=15.2km s-min=10.2km az=136.0*
NEIC Felt [II] at Port-of-Spain. Also felt at Saint Joseph.
*IDC **28** 17:31:01.0±5.9,11°.44N×61°.42W,h82km±38km,mb3.7/6, mb1 3.8/6,mb1mx3.4/22,mbtmp3.7/6,Error ellipse: s-maj=58.4km s-min=35.3km az=66.0*
ISC 28 17:30:58.6±0.9,11°.24N±0°.03×61°.52W±0°.04,h61km±10km, n66,σ1s35/68,mb4.0/6,7C-4D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.60**	**169⇓**	*eP*	**Pn**	**17 31 11.4**	**-0.3**
TRN				*eS*	**Sn**	**17 31 20.2**	**-1.1**
TPR	**Prospect**	**0.73**	**94⇑**	*iP*	**Pn**	**17 31 12.2**	**-1.1**
TPR				*eS*	**Sn**	**17 31 21.7**	**-2.4**
TBH	**Brigand Hill**	**0.87**	**149⇑**	*iP*	**Pn**	**17 31 14.6**	**-0.5**
GRGR	**Grenville**	**0.90**	**352⇑**	*iP*	**Pn**	**17 31 14.9**	**-0.6**
GUIV	**Guiria**	**0.91**	**230**	*eP*	**Pn**	**17 31 15.3**	**-0.2**
GUIV				*eS*	**Sn**	**17 31 28.1**	**+0.1**
TPP	**Pointe-a-Pierr**	**0.92**	**176**	*eP*	**Pn**	**17 31 17.8**	**+2.1**
TPP				*eS*	**Sn**	**17 31 30.6**	**+2.4**
GRW	**Mount Saint Ca**	**0.93**	**351⇑**	*iP*	**Pn**	**17 31 15.6**	**-0.3**
TOSP	**Speyside**	**0.97**	**86**	*eP*	**Pn**	**17 31 15.1**	**-1.1**
TOSP				*eS*	**Sn**	**17 31 29.7**	**+0.4**
GRHS	**Sauteurs**	**0.99**	**353⇓**	*iP*	**Pn**	**17 31 15.9**	**-0.6**
GRHS				*iS*	**Sn**	**17 31 29.6**	**-0.2**
GRIC	**Isle de Caille**	**1.04**	**356**	*eP*	**Pn**	**17 31 16.3**	**-1.0**
GRSS	**Sisters**	**1.06**	**355**	*eP*	**Pn**	**17 31 16.7**	**-0.7**
ALNG	**Atlantic LNG**	**1.06**	**189**	*eP*	**Pn**	**17 31 18.1**	**+0.6**
SIPA	**Siparia**	**1.09**	**179**	*eP*	**Pn**	**17 31 19.1**	**+1.3**
BUAY	**Buenos Aires**	**1.14**	**188**	*eP*	**Pn**	**17 31 20.6**	**+2.1**
GUNV	**Guanoco**	**1.76**	**233**	*eP*	**Pn**	**17 31 26.8**	**0.0**
GUNV				*eS*	**Sn**	**17 31 48.0**	**-0.2**
CRUV	**Carupano**	**1.78**	**252**	*eP*	**Pn**	**17 31 26.9**	**-0.1**
CRUV				*eS*	**Sn**	**17 31 48.9**	**+0.2**
FCV	**Fort Charlotte**	**1.93**	**8⇓**	*eP*	**Pn**	**17 31 29.7**	**+0.6**
FCV				*eS*	**Sn**	**17 31 52.7**	**+0.4**
SVB	**Belmont**	**2.04**	**7**	*eP*	**Pn**	**17 31 30.4**	**-0.3**
SVB				*eS*	**Sn**	**17 31 55.2**	**+0.2**
BHS	**Barnard House**	**2.08**	**11**	*eP*	**Pn**	**17 31 32.4**	**+1.2**
BHS				*eS*	**Sn**	**17 31 55.4**	**-0.7**
SVV	**Soufriere Volc**	**2.09**	**8**	*eP*	**Pn**	**17 31 31.9**	**+0.6**
MCLT	**Moule a Chique**	**2.52**	**13**	*eP*	**Pn**	**17 31 37.2**	**0.0**
MCLT				*eS*	**Sn**	**17 32 06.0**	**-0.8**
SLB	**Belfond**	**2.62**	**10**	*eP*	**Pn**	**17 31 38.8**	**+0.2**
BBGH	**Gun Hill**	**2.69**	**45**	Pn	**Pn**	**17 31 41.1**	**+1.5**
ORIV	**Oritupano**	**2.85**	**221**	*eS*	**Sn**	**17 32 11.7**	**-3.1**
RIOV	**Rio Grande**	**3.16**	**185**	*eP*	**Pn**	**17 31 45.0**	**-1.0**
RIOV				*eS*	**Sn**	**17 32 18.8**	**-3.8**
PCRV	**Puerto La Cruz**	**3.24**	**251**	*eP*	**Pn**	**17 31 47.5**	**+0.4**
BIM	**Bigot**	**3.29**	**8**	*eP*	**Pn**	**17 31 48.1**	**+0.4**
FDF	**Fort de France**	**3.49**	**6**	*ePn*	**Pn**	**17 31 50.2**	**-0.3**
FDF				*eSn*	**Sn**	**17 32 26.1**	**-4.6**
FDF	**Fort de France**	**3.49**	**6⇑**	*eP*	**Pn**	**17 31 51.1**	**+0.5**
FDF				*⇑eS*	**Sn**	**17 32 28.4**	**-2.3**
GURV	**El Guri**	**3.79**	**204⇓**	*eP*	**Pn**	**17 31 53.0**	**-1.5**
GURV				*eS*	Sn	17 32 33.0	-4.8
DLPL	**La Plaine**	**4.08**	**4**	*eS*	**Sn**	**17 32 45.1**	**+0.1**
CUPV	**Cepira**	**4.36**	**255⇑**	*iP*	**Pn**	**17 32 02.7**	**+0.3**
TBG	**Guadaloupe-3**	**4.59**	**358**	*eP*	**Pn**	**17 32 06.7**	**+1.2**
MGG	**Marie-Galante**	**4.60**	**2**	*eP*	**Pn**	**17 32 08.0**	**+1.5**
HMG	**Houelmont**	**4.72**	**358**	*eP*	**Pn**	**17 32 07.9**	**+0.5**
BIRV	**Birongo**	**4.73**	**261**	*eP*	**Pn**	**17 32 07.8**	**+0.4**
PHG	**Guadaloupe-2**	**4.75**	**359**	*eP*	**Pn**	**17 32 08.8**	**+0.9**
SCG	**Saint Claude**	**4.76**	**358**	*eP*	**Pn**	**17 32 09.8**	**+1.8**
DOG	**Dongo Capester**	**4.77**	**359**	*eP*	**Pn**	**17 32 08.9**	**+0.9**
LZG	**Guadaloupe-1**	**4.88**	**357**	*eP*	**Pn**	**17 32 10.2**	**+0.7**
DEG	**La Desirade**	**5.07**	**5**	*eP*	**Pn**	**17 32 12.6**	**+0.5**
MERV	**Las Mercedes**	**5.10**	**248**	*eP*	**Pn**	**17 32 11.7**	**-0.8**
SEG	**Port Louis**	**5.13**	**0**	*eP*	**Pn**	**17 32 14.6**	**+1.6**
LUEV	**Luepa**	**5.36**	**179**	*eP*	Pn	17 32 13.5	-2.8
SKI	**Saint Kitts**	**6.17**	**349**	*eP*	**Pn**	**17 32 28.3**	**+1.1**
TURV	**Turiamo**	**6.26**	**263**	*eP*	**Pn**	**17 32 29.0**	**+0.6**
BAUV	**El Baul**	**6.81**	**251**	*eP*	**Pn**	**17 32 34.4**	**-1.6**
MAPV	**Macapo**	**6.96**	**259**	*eP*	**Pn**	**17 32 36.8**	**-1.3**
MONV	**Montecano**	**8.31**	**276**	*eP*	**Pn**	**17 32 56.3**	**-0.2**
SDV	**Santo Domingo**	**9.27**	**256**	*ePn*	**Pn**	**17 33 10.4**	**+0.5**
SDDR	**Presa de Saban** 54nm,0.9s	**12.17**	**310**	*ePn*	**Pn**	**17 33 50.1**	**+0.8**
SDDR				*eSn*	Sn	17 35 55.6	-7.9
SAML	**Samuel** 1.9nm,0.7s	**20.12**	**185**	*eP*	**P**	**17 35 29.6**	**+1.9**
SCHQ	**Schefferville** 2.0nm,0.8s,baz=221,slow=9.3,SNR=3.7	**43.69**	**356**	P	P	17 38 56.5	-0.8
SCHQ	**Schefferville**	**43.69**	**356**	P	P	17 38 56.5	-0.8
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,baz=289,slow=6.2,SNR=4.6	**61.68**	**81**	P	P	17 41 09.7	-1.2
TORD	**Torodi Ar. Bea**	**61.68**	**81**	P	P	17 41 09.7	-1.2
GERES	**GERESS Array B** 0.7nm,0.7s,baz=240,slow=4.5,SNR=6.6	**71.90**	**42**	P	P	17 42 14.6	-0.9
GERES	**GERESS Array B**	**71.90**	**42**	P	P	17 42 14.6	-0.9
HFS	**Hagfors** 1.0nm,0.6s,baz=232,slow=7.1,SNR=4.1	**72.97**	**30**	P	P	17 42 20.6	-0.8
HFS	**Hagfors**	**72.97**	**30**	P	P	17 42 20.6	-0.8
ARCES	**ARCESS Array B** 2.1nm,0.9s,baz=280,slow=7.0,SNR=5.1	**78.51**	**21**	P	P	17 42 51.6	-1.4
ARCES	**ARCESS Array B**	**78.51**	**21**	P	P	17 42 51.6	-1.4
FINES	**FINESS Array B** 0.9nm,0.6s,baz=253,slow=2.0,SNR=7.2	**79.07**	**29**	P	P	17 42 55.0	-1.1
FINES	**FINESS Array B**	**79.07**	**29**	P	P	17 42 55.0	-1.1
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=311,slow=4.8,SNR=4.3	**144.75**	**33**	PKP	**PKPab**	**17 50 27.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**144.75**	**33**	PKP	**PKPab**	**17 50 27.3**	**-1.1**

*TRN **28** 17:43:49.0,19°.08N×64°.79W,h35km,MD3.2(RSPR)*
*NEIC **28** 17:43:50.7,19°.14N×64°.82W,h8km,MD3.2(RSPR),After RSPR.*
RSPR 28 17:43:50.7,19°.13N×64°.82W,h8km±5km,MD3.2/6,15C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.61**	**131⇑**	*eP*	Pg	17 44 01.4	-1.1
ABV				*eS*	Sg	17 44 10.8	+0.3
ABV	**Anegada**	**0.61**	**131⇑**	*eP*	Pg	17 44 01.4	-1.1
ABV				*eS*	Sg	17 44 10.8	+0.3
ABVI	**Anegada Island**	**0.61**	**131⇑**	*eP*	Pg	17 44 01.4	-1.1
ABVI				*eS*	Sg	17 44 10.8	+0.3
TBVI	**Tortola**	**0.74**	**165⇑**	*eP*	Pg	17 44 04.2	-0.7
TBVI				*eS*	Sg	17 44 14.6	+0.1
TBVI	**Tortola**	**0.74**	**165⇑**	*eP*	Pg	17 44 04.2	-0.7
TBVI				*eS*	Sg	17 44 14.6	+0.1
STVI	**Saint Thomas**	**0.79**	**189**	*eS*	Sg	17 44 15.8	-0.3
STVI	**Saint Thomas**	**0.79**	**189⇑**	*eP*	Pg	17 44 04.8	-1.0
STVI	**Saint Thomas**	**0.79**	**189⇑**	*eP*	Pg	17 44 04.8	-1.0
STVI				*eS*	Sg	17 44 15.8	-0.3
STVI	**Saint Thomas**	**0.79**	**189⇑**	*eP*	Pg	17 44 04.8	-1.1
STVI				*eS*	Sg	17 44 15.8	-0.3
MTP	**Monte Pirata**	**1.24**	**214⇓**	*eP*	Pn	17 44 11.5	-2.9
MTP	**Monte Pirata**	**1.24**	**214**	*eS*	Sb	17 44 27.0	-3.7
MTP	**Monte Pirata**	**1.24**	**214⇓**	*eP*	Pn	17 44 11.5	-2.9
MTP				*eS*	Sb	17 44 27.0	-3.7
MTP	**Monte Pirata**	**1.24**	**214⇓**	*eP*	Pn	17 44 11.5	-2.9
MTP				*eS*	Sb	17 44 27.0	-3.7
CBYP	**Canovanas**	**1.30**	**229⇑**	*eP*	Pn	17 44 12.3	-3.0
CBYP	**Canovanas**	**1.30**	**229**	*eS*	Sb	17 44 29.2	-3.4
CBYP	**Canovanas**	**1.30**	**229⇑**	*eP*	Pn	17 44 12.3	-3.0
CBYP				*eS*	Sb	17 44 29.2	-3.4
CBYP	**Canovanas**	**1.30**	**229⇑**	*eP*	Pn	17 44 12.3	-3.0
CBYP				*eS*	Sb	17 44 29.2	-3.4
HUMP	**Col San Antoni**	**1.39**	**225⇑**	*eP*	Pn	17 44 13.0	-3.4
HUMP	**Col San Antoni**	**1.39**	**225**	*eS*	Sb	17 44 30.5	-4.3
HUMP	**Col San Antoni**	**1.39**	**225⇑**	*eP*	Pn	17 44 13.0	-3.4
HUMP				*eS*	Sb	17 44 30.5	-4.3
HUMP	**Col San Antoni**	**1.39**	**225⇑**	*eP*	Pn	17 44 13.0	-3.4
HUMP				*eS*	Sb	17 44 30.5	-4.3
CPD	**Cerro la Pandu**	**1.51**	**224**	*eS*	Sn	17 44 33.6	-4.4
CPD	**Cerro la Pandu**	**1.51**	**224**	*eS*	Sn	17 44 33.6	-4.4

*IDC **28** 17:48:30.6±0.8,0°.46S×132°.80E,h0km,mb3.9/9, mb1 4.2/11,mb1mx4.0/21,mbtmp4.0/11,ML4.5/2,MS3.4/2, Ms1 3.4/2,ms1mx2.6/26,Error ellipse: s-maj=39.9km s-min=14.5km az=71.0*
*ISCJB **28** 17:48:34.3±0.6,0°.67S±0°.06×132°.4E±0°.1,h33km, mb4.0/11,MS3.4/1,Error ellipse: s-maj=20.3km s-min=7.6km az=171.3*
*NEIC **28** 17:48:35.8±0.5,0°.51S×132°.78E,h35km,mb4.2/4,Error ellipse: s-maj=21.6km s-min=6.7km az=74.0*
*DJA **28** 17:48:37,0°.67S×132°.57E,h10km,MLv4.5/4*
ISC 28 17:48:36.1±0.7,0.71S±0°.07×132.4E±0°.2,h33km,n27, σ2s11/31,mb4.0/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.53**	**201**	P	**Pn**	**17 52 53.1**	**+2.8**
	0.7nm,0.3s,baz=33,slow=12,SNR=12						
FITZ				S	**Sn**	**17 56 11.4**	**-5.3**
	0.3nm,0.3s,baz=244,slow=5.3,SNR=4.3						
FITZ				LR	LR	18 00 47.9	
	comp=Z,67nm,18.1s,baz=10,slow=39						
FITZ	**Fitzroy Crossi**	**18.53**	**201**	P	**Pn**	**17 52 53.1**	**+2.8**
FITZ				S	**Sn**	**17 56 11.4**	**-5.3**
WRAB	**Tennant Creek** 14nm,0.7s	**19.20**	**175**	*eP*	**Pn**	**17 52 58.7**	**+0.2**
WRA	**Warramunga Arr** 1.7nm,0.3s,baz=355,slow=11,SNR=49	**19.21**	**175**	P	**Pn**	**17 52 58.9**	**+0.3**
WRA				S	Sn	17 56 25.6	-7.5
	0.4nm,0.3s,baz=358,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**19.21**	**175**	P	**Pn**	**17 52 58.9**	**+0.3**
WRA				S	Sn	17 56 25.6	-7.5
WB2	**Warramunga Arr**	**19.21**	**175**	*eP*	**Pn**	**17 52 59.1**	**+0.6**
AS31	**Alice Springs**	**22.87**	**177**	*eP*	**P**	**17 53 37.9**	**+1.0**
ASAR	**Alice Springs** 14nm,0.6s,baz=353,slow=10,SNR=272	**22.87**	**177**	P	**P**	**17 53 38.0**	**+1.1**
ASAR				S	**S**	**17 57 48.1**	**+3.6**
	0.5nm,0.6s,baz=351,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**22.87**	**177**	P	**P**	**17 53 38.0**	**+1.1**
ASAR				S	**S**	**17 57 48.1**	**+3.6**
CTA	**Charters Tower** 5.7nm,0.8s,baz=326,slow=13,SNR=4.7	**23.54**	**146**	P	**P**	**17 53 43.9**	**+0.3**
CTA				LR	LR	18 03 58.8	
	comp=Z,129nm,18.6s,baz=60,slow=39						
CTA	**Charters Tower**	**23.54**	**146**	P	**P**	**17 53 43.9**	**+0.3**
STKA	**Stephens Creek** 10nm,0.7s,baz=335,slow=7.7,SNR=25	**32.19**	**165**	P	**P**	**17 55 01.0**	**-0.1**
STKA	**Stephens Creek** 4.0nm,1.1s	**32.19**	**165**	*eP*	**P**	**17 55 00.5**	**-0.7**
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=121,slow=6.6,SNR=8.9	**38.03**	**302**	P	**P**	**17 55 52.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**38.03**	**302**	P	**P**	**17 55 52.9**	**+1.2**
LSA	**Lhasa** 1.6nm,0.6s	**49.63**	**311**	*eP*	**P**	**17 57 25.9**	**+0.6**
SONM	**Songino Array** 0.7nm,1.1s,baz=127,slow=9.2,SNR=3.0	**53.40**	**338**	P	**P**	**17 57 53.3**	**+0.6**
SONM	**Songino Array**	**53.40**	**338**	P	**P**	**17 57 53.3**	**+0.6**
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=115,slow=8.0,SNR=7.2	**64.44**	**324**	P	**P**	**17 59 09.1**	**-0.3**
MKAR	**Makanchi Array**	**64.44**	**324**	P	**P**	**17 59 09.1**	**-0.3**
KURK	**Kurchatov** 0.9nm,0.9s,baz=124,slow=6.3,SNR=6.8	**68.54**	**327**	P	**P**	**17 59 34.8**	**-0.6**
KURK	**Kurchatov**	**68.54**	**327**	P	**P**	**17 59 34.8**	**-0.6**
BVAR	**Borovoye Array** 0.9nm,0.8s,baz=121,slow=7.6,SNR=5.9	**74.13**	**326**	P	**P**	**18 00 07.8**	**-1.4**
BVAR	**Borovoye Array**	**74.13**	**326**	P	**P**	**18 00 07.8**	**-1.4**
BRVK	**Borovoye** 4.0nm,1.3s	**74.20**	**326**	*eP*	**P**	**18 00 08.3**	**-1.3**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=278,slow=8.0,SNR=2.8	**86.66**	**25**	P	**P**	**18 01 13.6**	**-2.5**
ILAR	**Eielson Array**	**86.66**	**25**	P	**P**	**18 01 13.6**	**-2.5**

IDC 28 18:20:41.2±0.9,12°.65N×143°.09E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/22,mbtmp3.6/7,MS3.0/2,Ms1 3.0/2, ms1mx2.5/31,Error ellipse: s-maj=35.0km s-min=20.1km az=111.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.97**	**62**	Pn	Pn	18 21 15.1	-0.7
	66nm,0.3s,baz=207,slow=11,SNR=26						
GUMO				Sn	Sn	18 21 37.2	-4.1
	47nm,0.3s,baz=88,slow=21,SNR=9.3						
CBIJ	**Chichi jima**	**14.40**	**357**	LR	LR	18 28 08.4	
	comp=Z,49nm,19.3s,baz=105,slow=31						
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=19,slow=9.8,SNR=9.7	**33.51**	**195**	P	P	18 27 22.4	-0.3
WRA				LR	LR	18 39 51.7	
	comp=Z,25nm,20.3s,baz=115,slow=34						
ASAR	**Alice Springs** 0.3nm,0.6s,baz=21,slow=13,SNR=8.8	**37.20**	**194**	P	P	18 27 54.4	0.0
SONM	**Songino Array** 0.1nm,0.3s,baz=149,slow=3.4,SNR=3.0	**46.52**	**326**	P	P	18 29 10.8	+0.2
ILAR	**Eielson Array** 0.3nm,0.8s,baz=249,slow=5.6,SNR=3.1	**70.15**	**25**	P	P	18 31 54.9	-0.6
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=290,slow=4.9,SNR=4.4	**84.48**	**27**	P	P	18 33 16.7	+0.9
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=230,slow=6.7,SNR=2.1	**88.86**	**51**	P	P	18 33 39.0	+1.0
FINES	**FINESS Array B** 1.2nm,0.9s,baz=79,slow=7.2,SNR=3.6	**91.27**	**335**	P	P	18 33 47.0	-1.4

*ISCJB **28** 18:21:27.2±0.3,58°.87N±0°.03×152°.17W±0°.05,h67km±5km, mb3.6/7,Error ellipse: s-maj=5.3km s-min=3.4km az=140.5*
*IDC **28** 18:21:28.3±0.9,58°.97N×152°.57W,h50km±7km,mb3.4/7, mb1 3.6/9,mb1mx3.4/25,mbtmp3.4/9,Error ellipse: s-maj=21.4km s-min=16.5km az=58.0*
*NEIC **28** 18:21:29.3,58°.89N×152°.22W,h41km,ML3.4(AEIC),After AEIC.*
ISC 28 18:21:28.4±0.6,58°.90N±0°.03×152°.28W±0°.04,h52km±5km, h51km:pP-P,n97,σ0s94/116,mb3.6/7,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOPK	**Fourpeaked Vol**	**0.64**	**258**	P	**Pn**	**18 21 41.4**	**-0.1**
AUE	**Augustine Isla**	**0.73**	**310**	P	**Pn**	**18 21 43.1**	**+0.5**
AUI	**Augustine Isla**	**0.74**	**307**	P	**Pn**	**18 21 43.0**	**+0.3**
AUI				S	**Sn**	**18 21 52.5**	**-0.6**
FOSS	**Fourpeaked Sta**	**0.74**	**263**	P	**Pn**	**18 21 43.0**	**+0.2**
AUP	**Augustine Pinn**	**0.75**	**309**	P	**Pn**	**18 21 43.5**	**+0.5**
AUW	**Augustine West**	**0.78**	**308**	P	**Pn**	**18 21 43.5**	**+0.3**
AUNW	**Augustine NWes**	**0.78**	**309**	P	**Pn**	**18 21 43.7**	**+0.4**
HOM	**Homer**	**0.83**	**23**	P	**Pn**	**18 21 44.4**	**+0.4**
HOM				S	**Sn**	**18 21 55.9**	**+0.5**
OPT	**Oil Point**	**0.90**	**328**	P	**Pn**	**18 21 45.2**	**+0.3**
KAPH	**Katmai Pasha**	**1.12**	**255**	P	**Pn**	**18 21 48.5**	**+0.7**
KAPH				S	**Sn**	**18 22 03.8**	**+1.6**
BRLK	**Bradley Lake**	**1.13**	**39**	P	**Pn**	**18 21 47.9**	**0.0**
BRLK				S	**Sn**	**18 22 03.5**	**+1.1**
KDAK	**Kodiak Island** 104nm,0.3s,baz=34,slow=9.4,SNR=978	**1.13**	**188**	P	**Pn**	**18 21 48.0**	**+0.2**
KDAK				S	**Sn**	**18 22 00.3**	**-2.0**
	174nm,0.3s,baz=14,slow=15,SNR=33						
KDAK	**Kodiak Island**	**1.13**	**188**	P	**Pn**	**18 21 48.0**	**+0.2**
KDAK				S	**Sn**	**18 22 00.3**	**-2.0**
KDAK				S		18 22 03.1	
INE	**Iliamna NE**	**1.23**	**342**	P	**Pn**	**18 21 49.4**	**-0.1**
ILW	**Iliamna West**	**1.25**	**340**	P	**Pn**	**18 21 49.6**	**-0.1**
KAKN	**Katmai Knife C**	**1.57**	**249**	P	**Pn**	**18 21 54.5**	**+0.4**
RSO	**Redoubt South**	**1.59**	**352**	P	**Pn**	**18 21 54.7**	**+0.3**
REF	**Redoubt East F**	**1.61**	**353**	P	**Pn**	**18 21 54.9**	**+0.3**
REF				S	**Sn**	**18 22 15.3**	**+1.0**
RDN	**Redoubt North**	**1.64**	**352**	P	**Pn**	**18 21 55.4**	**+0.4**
KCE	**Katmai Mt Cerb**	**1.66**	**248**	P	**Pn**	**18 21 56.3**	**+1.2**
MGLS	**Mageik Landsli**	**1.69**	**244**	P	**Pn**	**18 21 56.1**	**+0.5**
NCT	**North Crescent**	**1.70**	**349**	P	**Pn**	**18 21 56.4**	**+0.6**
DFR	**Drift River**	**1.71**	**353**	P	**Pn**	**18 21 56.3**	**+0.4**
CAHL	**Cahill**	**1.80**	**243**	P	**Pn**	**18 21 57.7**	**+0.6**
KELA	**Mount Kelaz**	**1.86**	**257**	P	**Pn**	**18 21 58.2**	**+0.3**
SEW	**Seward**	**1.89**	**49**	P	**Pn**	**18 21 57.5**	**-0.6**
SEW				S	**Sn**	**18 22 20.3**	**-0.4**
SLKM	**Skilak Lake**	**1.93**	**32**	P	**Pn**	**18 21 58.8**	**+0.1**
BKG	**Blockade Glaci**	**2.18**	**0**	P	**Pn**	**18 22 03.1**	**+0.8**
CKL	**Chakachamna La**	**2.31**	**359**	P	**Pn**	**18 22 05.2**	**+1.1**
SPCG	**Spurr Cappps Gl**	**2.41**	**3**	P	**Pn**	**18 22 06.8**	**+1.3**
FIB	**Fire Island**	**2.51**	**24**	P	**Pn**	**18 22 07.7**	**+1.0**
RC01	**Rabbit Creek A**	**2.54**	**29**	P	**Pn**	**18 22 07.3**	**+0.1**
RC01				S	**Sn**	**18 22 36.9**	**0.0**
STLK	**Strandline Lak**	**2.62**	**5**	P	**Pn**	**18 22 09.4**	**+1.1**
SUA	**Susitna One**	**2.69**	**16**	P	**Pn**	**18 22 09.7**	**+0.4**
SUA				S	**Sn**	**18 22 41.5**	**+0.8**
SKT	**Skwentna**	**3.12**	**7**	P	**Pn**	**18 22 16.0**	**+0.9**
SKT				S	**Sn**	**18 22 52.2**	**+1.2**
PMR	**Palmer**	**3.13**	**29**	P	**Pn**	**18 22 14.8**	**-0.3**
KNK	**Knik Glacier**	**3.17**	**36**	P	**Pn**	**18 22 15.4**	**-0.4**
GHO	**Glory Hole Cre**	**3.33**	**29**	P	**Pn**	**18 22 17.9**	**-0.1**
SML	**Sawmill**	**3.52**	**32**	P	**Pn**	**18 22 20.2**	**-0.3**
TRAP	**Trapper Creek**	**3.59**	**15**	P	**Pn**	**18 22 22.3**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.70**	**61**	P	**Pn**	**18 22 22.2**	**-0.8**
ANNW	**Aniakchak Nort**	**3.71**	**241**	P	**Pn**	**18 22 24.9**	**+1.7**
VLZ	**Valdez**	**3.73**	**51**	P	**Pn**	**18 22 23.1**	**-0.4**
SCM	**Sheep Creek Mo**	**3.84**	**38**	P	**Pn**	**18 22 25.0**	**0.0**
SGAM	**Sherman Glacie**	**3.93**	**63**	P	**Pn**	**18 22 26.0**	**-0.2**
DIV	**Divide**	**3.96**	**53**	*eP*	**Pn**	**18 22 26.0**	**-0.6**
PPLA	**Purkeypile**	**4.01**	**1**	P	**Pn**	**18 22 28.6**	**+1.1**
KLU	**Klutina**	**4.11**	**48**	P	**Pn**	**18 22 28.3**	**-0.3**
GOAT	**Goat Mountain**	**4.18**	**63**	P	**Pn**	**18 22 29.6**	**-0.1**
CHGN	**Chignik**	**4.20**	**234**	*eP*	**Pn**	**18 22 29.8**	**-0.1**
BMRM	**Bremner River**	**4.39**	**58**	P	**Pn**	**18 22 31.6**	**-0.9**
TT01	**Tatalina**	**4.42**	**337**	P	**Pn**	**18 22 33.2**	**+0.4**
TRF	**Thorofare Moun**	**4.67**	**11**	P	**Pn**	**18 22 36.8**	**+0.4**
RND	**Reindeer**	**4.82**	**19**	P	**Pn**	**18 22 38.9**	**+0.5**
DHY	**Denali Highway**	**4.83**	**28**	P	**Pn**	**18 22 38.7**	**+0.1**
KHIT	**Khitrov Hills**	**4.83**	**67**	P	**Pn**	**18 22 38.4**	**-0.3**
HARP	**HAARP**	**4.97**	**42**	P	**Pn**	**18 22 40.8**	**+0.3**
VRDI	**Verde Repeater**	**5.00**	**58**	P	**Pn**	**18 22 40.3**	**-0.8**
MCK	**McKinley**	**5.11**	**17**	P	**Pn**	**18 22 43.3**	**+0.9**
BARK	**Barkley Ridge**	**5.19**	**69**	P	**Pn**	**18 22

*WAR **28** 18:28:04.7, 50°27′N × 18°76′E*
*PRU **28** 18:28:05.3, 50°33′N × 18°68′E, h0km*
ISC 28 18:28:04.7±1.1, 50°29′N±0°07′ × 18°70′E±0°03, h0km, n12, σ0s34/22, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**219**	*e*PG	**Pb**	**18 28 17.0**	**-0.6**
OKC				*e*SG	**Sb**	**18 28 26.3**	**0.0**
	comp=Z,13nm,0.6s						
OKC	**Ostrava-Krasne**	**0.57**	**219**	*e*Pg	**Pg**	**18 28 15.8**	**+0.1**
	baz=40						
OKC				Sg	**Sb**	**18 28 26.3**	**0.0**
	13nm,0.6s						
OJC	**Ojcow**	**0.71**	**95**	*e*Pg	**Pg**	**18 28 18.1**	**-0.2**
OJC				*e*Sg	**Sg**	**18 28 27.3**	**-0.1**
OJC	**Ojcow**	**0.71**	**95**	*e*Pg	**Pg**	**18 28 18.0**	**-0.2**
	baz=275						
MORC	**Moravsky Berou**	**0.90**	**236**	*e*Pg	**Pg**	**18 28 22.3**	**+0.3**
	baz=56						
MORC				*e*Sg	**Sg**	**18 28 33.3**	**-0.4**
	7.4nm,0.2s,baz=56						
NIE	**Niedzica**	**1.36**	**129**	*e*Pg	**Pb**	**18 28 31.6**	**+0.6**
NIE				*e*Sg	**Sn**	**18 28 50.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.53**	**273**	*e*PG	**Pb**	**18 28 33.9**	**0.0**
DPC				*e*SG	**Sn**	**18 28 54.2**	**+0.3**
	comp=Z,3.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.53**	**273**	*e*Pn	**Pn**	**18 28 33.3**	**0.0**
	baz=92						
DPC	**Dobruska-Polom**	**1.53**	**273**	Pg	**Pb**	**18 28 33.9**	**0.0**
DPC				Sg	**Sn**	**18 28 54.2**	**+0.3**
	3.8nm,0.3s						
VRAC	**Vranov**	**1.68**	**235**	*e*Pn	**Pb**	**18 28 35.9**	**-0.6**
	baz=54						
VRAC				*e*Sg	**Sn**	**18 28 57.5**	**-0.1**
	4.4nm,0.2s,baz=54						
VYHS	**Vyhne**	**1.79**	**177**	*e*PN	**Pg**	**18 28 39.4**	**+0.3**
VYHS				*e*SN	**Sb**	**18 29 01.2**	**-0.3**
KRUC	**Moravsky**	**1.94**	**232**	*e*Pn	**Pn**	**18 28 39.2**	**+0.4**
	baz=50						
KRUC				*e*Sg	**Sb**	**18 29 05.5**	**0.0**
	2.0nm,0.2s,baz=50						

*DDA **28** 18:38:14.7, 38°69′N × 25°31′E, h9km, MD3.1*
*ISCJB **28** 18:38:17.2±1.3, 38°70′N±0°05′ × 25°45′E±0°08, h16km±8km, Error ellipse: s-maj=11.9km s-min=5.3km az=148.7*
*ATH **28** 18:38:17.1, 38°68′N × 25°53′E, h39km±18km, MD3.0/3*
*CSEM **28** 18:38:18.0±0.4, 38°74′N × 25°52′E, h10km, MD3.0, Error ellipse: s-maj=9.8km s-min=4.1km az=59.0*
*ISK **28** 18:38:19.5, 38°89′N × 25°81′E, h5km, MD3.0*
ISC 28 18:38:16.3±1.8, 38°71′N±0°04′ × 25°47′E±0°06, h3km±12km, n39, σ0s63/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.56**	**125**	*e*PN	**Pb**	**18 38 28.8**	**0.0**
CHOS				*e*SN	**Sb**	**18 38 36.5**	**-0.7**
CHOS	**Chios island**	**0.56**	**125**	*e*Pn	**Pb**	**18 38 28.8**	**0.0**
CHOS				*e*Sn	**Sb**	**18 38 36.5**	**-0.7**
PRK	**Paraskevi**	**0.82**	**49**	*e*PB	**Pg**	**18 38 32.3**	**+0.2**
PRK				*e*SN	**Sb**	**18 38 45.2**	**+0.5**
PRK	**Paraskevi**	**0.82**	**49**	*e*Pb	**Pg**	**18 38 32.3**	**+0.2**
PRK				*e*Sn	**Sb**	**18 38 45.2**	**+0.5**
URLA	**Izmir**	**0.95**	**111**	*i* P	**Pg**	**18 38 34.6**	**+0.1**
URLA				*i* S	**Sb**	**18 38 48.5**	**+0.1**
URLA	**Izmir**	**0.95**	**111**	*i* P	**Pg**	**18 38 34.6**	**+0.1**
URLA				*i* S	**Sb**	**18 38 48.5**	**+0.1**
AYVA	**Ayvalik**	**1.12**	**58**	*i* P	**Pg**	**18 38 37.6**	**-0.2**
AYVA				*i* S	**Sg**	**18 38 52.0**	**-0.4**
AYVA	**Ayvalik**	**1.12**	**58**	*i* P	**Pg**	**18 38 37.6**	**-0.2**
AYVA				*i* S	**Sg**	**18 38 52.0**	**-0.4**
LIA	**Limnos Island**	**1.21**	**350**	*e*PN	**Pg**	**18 38 39.8**	**+0.4**
LIA				*e*SN	**Sb**	**18 38 55.7**	**0.0**
LIA	**Limnos Island**	**1.21**	**350**	*e*Pn	**Pg**	**18 38 39.8**	**+0.4**
LIA				*e*Sn	**Sb**	**18 38 55.7**	**0.0**
BOZC	**Bozcaada**	**1.22**	**22**	*i* P	**Pg**	**18 38 38.6**	**-1.0**
BOZC				*i* S	**Sg**	**18 38 55.4**	**0.0**
BLCB	**Balcova**	**1.28**	**104**	*e*PN	**Pn**	**18 38 41.7**	**+0.8**
BLCB				*e*SN	**Sg**	**18 38 57.2**	**-0.1**
BLCB	**Balcova**	**1.28**	**104**	*e*Pn	**Pn**	**18 38 41.7**	**+0.8**
BLCB				*e*Sn	**Sg**	**18 38 57.2**	**-0.1**
IZM	**Izmir**	**1.44**	**102**	*e*PN	**Pg**	**18 38 44.0**	**+0.1**
IZM				*e*SN	**Sb**	**18 39 02.4**	**-0.1**
IZM	**Izmir**	**1.44**	**102**	*e*Pn	**Pg**	**18 38 44.0**	**+0.1**
IZM				*e*Sn	**Sb**	**18 39 02.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.86**	**24**	*e*PN	**Pn**	**18 38 49.1**	**+0.1**
GELI				*e*SN	**Sn**	**18 39 12.0**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.86**	**24**	*e*Pn	**Pn**	**18 38 49.1**	**+0.1**
GELI				*e*Sn	**Sn**	**18 39 12.0**	**-0.9**
LPK	**Lapseki**	**1.94**	**31**	*e*PN	**Pn**	**18 38 50.7**	**+0.6**
LPK	**Lapseki**	**1.94**	**31**	*e*Pn	**Pn**	**18 38 50.7**	**+0.6**
BALY	**Balya**	**1.96**	**58**	*i* P	**Pn**	**18 38 51.5**	**+1.0**
BALY				*i* S	**Sg**	**18 39 18.7**	**-0.7**
BALY	**Balya**	**1.96**	**58**	*i* P	**Pn**	**18 38 51.5**	**+1.0**
BALY				*i* S	**Sg**	**18 39 18.7**	**-0.7**
BALB	**Balikesir**	**2.09**	**63**	*e*PN	**Pn**	**18 38 52.5**	**+0.3**
BALB	**Balikesir**	**2.09**	**63**	*e*Pn	**Pn**	**18 38 52.5**	**+0.3**
ERIK	**Erikli-Kesan**	**2.12**	**22**	*e*PN	**Pn**	**18 38 53.4**	**+0.9**
ERIK	**Erikli-Kesan**	**2.12**	**22**	*e*Pn	**Pn**	**18 38 53.4**	**+0.9**
GONE	**Gonen-Balikesi**	**2.18**	**51**	*e*PN	**Pn**	**18 38 53.9**	**+0.6**
GONE	**Gonen-Balikesi**	**2.18**	**51**	*e*Pn	**Pn**	**18 38 53.9**	**+0.6**
KRBG	**Karabiga-Canak**	**2.20**	**40**	*e*PN	**Pn**	**18 38 54.4**	**+0.8**
KRBG	**Karabiga-Canak**	**2.20**	**40**	*e*Pn	**Pn**	**18 38 54.4**	**+0.8**
ALN	**Alexandroupoli**	**2.23**	**11**	*e*PN	**Pn**	**18 38 53.6**	**-0.5**
ALN	**Alexandroupoli**	**2.23**	**11**	*e*Pn	**Pn**	**18 38 53.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.38**	**33**	*e*PN	**Pn**	**18 38 56.8**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.38**	**33**	*e*Pn	**Pn**	**18 38 56.8**	**+0.7**
MFT	**Murefte**	**2.50**	**33**	*e*PN	**Pn**	**18 38 59.6**	**+1.7**
MFT	**Murefte**	**2.50**	**33**	*e*Pn	**Pn**	**18 38 59.6**	**+1.7**
KCTX	**Karacabey (Bur**	**2.72**	**54**	*e*PN	**Pn**	**18 39 01.4**	**+0.5**
KCTX	**Karacabey (Bur**	**2.72**	**54**	*e*Pn	**Pn**	**18 39 01.4**	**+0.5**
ARMT	**Armutlu**	**3.21**	**54**	*e*PN	**Pn**	**18 39 07.9**	**+0.3**
ARMT	**Armutlu**	**3.21**	**54**	*e*Pn	**Pn**	**18 39 07.9**	**+0.3**

IDC 28 18:42:26.8±4.0, 17°98S × 178°01W, h565km±44km, mb2.9/10, mb1 3.3/11, mb1mx3.2/18, mbtmp3.0/11, Error ellipse: s-maj=45.4km s-min=18.8km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**57**	S	S	18 45 42.1	-6.5
	baz=217,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**15.16**	**252**	P	P	18 45 37.9	+0.1
	0.4nm,0.3s,baz=84,slow=19,SNR=3.7						
STKA	**Stephens Creek**	**38.93**	**241**	P	P	18 49 04.3	-0.6
	0.8nm,0.6s,baz=44,slow=16,SNR=4.9						
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	18 49 52.6	-0.2
	0.4nm,0.4s,baz=95,slow=7.2,SNR=6.3						
WRA				PcP	PcP	18 51 21.5	-0.2
	0.2nm,0.3s,baz=90,slow=3.4,SNR=5.3						
ASAR	**Alice Springs**	**45.13**	**254**	P	P	18 49 53.8	-0.1
	0.8nm,0.4s,baz=89,slow=8.3,SNR=48						
ASAR				PcP	PcP	18 51 21.9	-0.4
	0.7nm,0.7s,baz=104,slow=4.1,SNR=9.3						
ASAR				S	S	18 55 52.6	-0.2
	0.9nm,0.9s,baz=91,slow=16,SNR=6.0						
MJAR	**Matsushiro Arr**	**68.19**	**323**	P	P	18 52 31.2	-0.3
	1.0nm,0.5s,baz=157,slow=6.3,SNR=5.3						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	P	18 53 34.5	+0.2
	0.4nm,0.4s,baz=232,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**85.72**	**57**	P	P	18 54 07.3	+0.3
	1.0nm,0.8s,baz=209,slow=7.0,SNR=6.1						
ILAR	**Eielson Array**	**85.87**	**13**	P	P	18 54 06.1	-0.7
	0.3nm,0.4s,baz=217,slow=5.3,SNR=7.7						
PDAR	**Pinedale Array**	**87.14**	**43**	P	P	18 54 13.4	-0.2
	0.3nm,0.7s,baz=260,slow=4.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P	P	18 54 23.9	+0.1
	0.8nm,1.0s,baz=97,slow=2.2,SNR=5.7						
YKA	**Yellowknife Ar**	**94.24**	**25**	P	P	18 54 45.0	-0.5
	0.2nm,0.8s,baz=246,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	**109.46**	**314**	PKiKP	PKiKP	18 59 52.3	-1.3
	0.2nm,0.6s,baz=63,slow=2.7,SNR=2.9						
ARCES	**ARCESS Array B**	**126.45**	**350**	PKP	PKPdf	19 00 24.9	-0.6
	1.3nm,0.8s,baz=90,slow=1.0,SNR=3.8						
BRTR	**Keskin Array B**	**145.10**	**315**	PKPbc	PKPbc	19 01 01.6	-0.1
	1.1nm,0.6s,baz=132,slow=3.9,SNR=7.4						
GERES	**GERESS Array B**	**147.78**	**345**	PKPbc	PKPbc	19 01 08.4	-0.3
	1.5nm,0.8s,baz=11,slow=3.4,SNR=7.7						

*IDC **28** 18:56:06.6±0.7, 54°45′N × 161°59′W, h0km, mb4.1/22, mb1 4.2/26, mb1mx4.2/32, mbtmp4.1/26, ML3.8/4, MS3.6/3, Ms1 3.6/3, ms1mx2.9/50, Error ellipse: s-maj=20.7km s-min=11.1km az=167.0*
*ISCJB **28** 18:56:12.9±0.7, 54°51′N±0°07′ × 161°44′W±0°06, h58km±4km, mb4.3/42, MS3.7/2, Error ellipse: s-maj=12.2km s-min=4.1km az=157.4*
*NEIC **28** 18:56:12.1, 54°46′N × 161°44′W, h16km, mb4.8/16, After AEIC.*
ISC 28 18:56:13.3±1.3, 54°51′N±0°09′ × 161°43′W±0°04, h47km±10km, n127, σ0s98/133, mb4.5/42, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.67**	**314**	P	**Pn**	**18 56 25.7**	**-0.8**
DOL	**Dolgoi Island**	**0.69**	**339**	P	**Pn**	**18 56 26.2**	**-0.5**
DT1	**Dutton Round H**	**0.78**	**321**	P	**Pn**	**18 56 27.3**	**-0.6**
DTNA	**Dutton South F**	**0.80**	**324**	P	**Pn**	**18 56 27.9**	**-0.3**
HAG	**Hague Volcano**	**0.86**	**342**	P	**Pn**	**18 56 29.4**	**+0.4**
PS4A	**Pavlof South-4**	**0.88**	**344**	P	**Pn**	**18 56 29.6**	**+0.3**
PVV	**Pavlof Volcano**	**0.89**	**347**	P	**Pn**	**18 56 29.9**	**+0.4**
PS1A	**Pavlof South-1**	**0.93**	**349**	P	**Pn**	**18 56 30.8**	**+0.8**
SDPT	**Sand Point**	**1.01**	**33**	P	**Pn**	**18 56 30.9**	**0.0**
SDPT				S	**Sn**	**18 56 46.2**	**+2.1**
FALS	**False Pass**	**1.20**	**288**	P	**Pn**	**18 56 33.2**	**-0.4**
FALS				S	**Sn**	**18 56 50.5**	**+1.7**
BRPK	**Brown Peak**	**1.35**	**277**	P	**Pn**	**18 56 35.6**	**0.0**
SSLS	**Shishaldin Sou**	**1.51**	**279**	P	**Pn**	**18 56 38.6**	**+0.8**
SSLS				S	**Sn**	**18 56 57.5**	**+1.2**
WESE	**West Dahl East**	**1.84**	**270**	P	**Pn**	**18 56 42.9**	**+0.5**
VNFG	**Veniaminof 2**	**2.08**	**30**	P	**Pn**	**18 56 45.9**	**+0.1**
VNSG	**Veniaminof 6**	**2.11**	**39**	P	**Pn**	**18 56 47.8**	**+1.8**
VNHG	**Veniaminof 1**	**2.15**	**36**	P	**Pn**	**18 56 47.9**	**+1.2**
CHGN	**Chignik**	**2.49**	**43**	*e*P	**Pn**	**18 56 52.0**	**+0.8**
AKUT	**Akutan**	**2.57**	**263**	P	**Pn**	**18 56 52.7**	**+0.4**
AHB	**Akutan Harbor**	**2.60**	**263**	P	**Pn**	**18 56 52.9**	**+0.1**
ZRO	**Akutan Zero**	**2.69**	**263**	P	**Pn**	**18 56 54.8**	**+0.7**
ANPK	**Aniakchak Peak**	**3.00**	**37**	P	**Pn**	**18 57 00.1**	**+1.8**
AZAC	**Aniakchak**	**3.00**	**36**	P	**Pn**	**18 56 59.7**	**+1.3**
UNV	**Unalaska Valle**	**3.05**	**260**	P	**Pn**	**18 56 59.4**	**+0.4**
ANNW	**Aniakchak Nort**	**3.06**	**35**	P	**Pn**	**18 57 00.4**	**+1.3**
MSOM	**Makushin Julie**	**3.31**	**260**	P	**Pn**	**18 57 04.3**	**+1.8**
CAHL	**Cahill**	**4.93**	**41**	P	**Pn**	**18 57 25.7**	**+0.9**
MGLS	**Mageik Landsli**	**5.04**	**41**	P	**Pn**	**18 57 27.1**	**+0.9**
SPIA	**Saint Paul Isl**	**5.64**	**302**	P	**Pn**	**18 57 35.9**	**+1.5**
KDAK	**Kodiak Island**	**5.94**	**53**	P	**Pn**	**18 57 37.1**	**-1.4**
	2.2nm,0.3s,baz=266,slow=9.3,SNR=52						
KDAK				Sn	**Sn**	**18 58 42.0**	**-3.0**
	baz=343,slow=20,SNR=2.2						
KDAK	**Kodiak Island**	**5.94**	**53**	P	**Pn**	**18 57 37.5**	**-0.9**
KDAK				Sn	**Sn**	**18 58 42.0**	**-3.0**
KDAK				S		18 58 48.8	
ILW	**Iliamna West**	**7.15**	**36**	P	**Pn**	**18 57 57.7**	**+2.4**
NCT	**North Crescent**	**7.60**	**34**	P	Pn	18 58 04.7	+3.4
GAMB	**Gambell**	**10.67**	**335**	*e*P	**Pn**	**18 58 45.3**	**+2.1**
MCK	**McKinley**	**11.24**	**30**	*e*P	**Pn**	**18 58 51.5**	**+0.5**
TNA	**Tin City**	**11.54**	**346**	*e*P	**Pn**	**18 58 57.8**	**+2.7**
PAX	**Paxson**	**11.83**	**38**	*e*Pn	**Pn**	**18 58 57.9**	**-1.2**
ILAR	**Eielson Array**	**12.61**	**30**	Pn	Pn	18 59 05.8	-3.9
	0.3nm,0.3s,baz=221,slow=14,SNR=12						
ILAR				Sn	Sn	19 01 22.2	-6.2
	0.1nm,0.3s,baz=208,slow=17,SNR=2.8						
ILAR	**Eielson Array**	**12.61**	**30**	Pn	Pn	18 59 05.8	-3.9
ILAR				Sn	Sn	19 01 22.2	-6.2
COLD	**Coldfoot**	**13.85**	**18**	*e*P	**Pn**	**18 59 27.5**	**+0.9**
FX1	**Attu Island--F**	**15.11**	**274**	Pn	**Pn**	**18 59 42.9**	**-0.5**
	0.8nm,0.3s,baz=90,slow=19,SNR=3.0						
FX1	**Attu Island--F**	**15.11**	**274**	Pn	**Pn**	**18 59 42.9**	**-0.5**
INK	**Inuvik**	**18.97**	**32**	P	**P**	**19 00 28.6**	**-1.6**
	0.6nm,0.3s,baz=227,slow=14,SNR=17						
INK				LR	LR	19 08 42.1	
	comp=Z,103nm,21.5s,baz=299,slow=40						
INK	**Inuvik**	**18.97**	**32**	*e*P	**P**	**19 00 28.6**	**-1.6**
	6.1nm,0.8s						
PETK	**Petropavlovsk-**	**23.94**	**284**	P	**P**	**19 01 21.7**	**-0.9**
	14nm,0.5s,baz=86,slow=12,SNR=37						
PETK	**Petropavlovsk-**	**23.94**	**284**	P	**P**	**19 01 21.7**	**-0.9**
YKA	**Yellowknife Ar**	**25.21**	**53**	P	**P**	**19 01 34.9**	**+0.8**
	0.7nm,0.5s,baz=269,slow=9.3,SNR=20						
YKA				PcP	**PcP**	**19 05 06.5**	**+0.2**
	0.5nm,0.7s,baz=287,slow=2.4,SNR=5.2						
YKA	**Yellowknife Ar**	**25.21**	**53**	P	**P**	**19 01 35.0**	**+0.8**
YKA				PcP	**PcP**	**19 05 06.5**	**+0.2**
YBH	**Yreka Blue Hor**	**28.45**	**101**	LR	LR	19 10 36.5	
	comp=Z,84nm,19.1s,baz=353,slow=30						
PDAR	**Pinedale Array**	**35.44**	**88**	P	**P**	**19 03 05.3**	**+0.4**
	0.3nm,0.7s,baz=294,slow=4.8,SNR=3.3						
PDAR	**Pinedale Array**	**35.44**	**88**	P	**P**	**19 03 05.3**	**+0.4**
ULM	**Lac du Bonnet**	**38.95**	**68**	P	**P**	**19 03 34.8**	**+0.6**
	3.3nm,0.7s,baz=298,slow=10,SNR=7.9						
ULM	**Lac du Bonnet**	**38.95**	**68**	P	**P**	**19 03 34.8**	**+0.6**
MJAR	**Matsushiro Arr**	**44.45**	**272**	P	**P**	**19 04 19.1**	**-0.3**
	1.8nm,0.9s,baz=22,slow=7.1,SNR=5.7						
MJAR	**Matsushiro Arr**	**44.45**	**272**	P	**P**	**19 04 19.1**	**-0.3**
TXAR	**Lajitas Array**	**48.12**	**97**	P	**P**	**19 04 49.2**	**+0.8**
	0.2nm,0.5s,baz=323,slow=1.4,SNR=2.3						
TXAR				PcP	**PcP**	**19 06 15.4**	**+0.1**
	0.5nm,0.7s,baz=346,slow=0.4,SNR=3.5						
TXAR	**Lajitas Array**	**48.12**	**97**	P	**P**	**19 04 49.2**	**+0.8**
TXAR				PcP	**PcP**	**19 06 15.4**	**+0.1**
KSRS	**Korea Array**	**49.78**	**280**	P	**P**	**19 05 01.4**	**+0.6**
	4.4nm,0.8s,baz=46,slow=7.2,SNR=21						
KSAR	**Wonju Array Be**	**49.81**	**280**	P	**P**	**19 05 01.4**	**+0.4**
SCHQ	**Schefferville**	**50.54**	**48**	P	**P**	**19 05 06.5**	**0.0**
	2.1nm,0.8s,baz=331,slow=10,SNR=4.2						
SCHQ	**Schefferville**	**50.54**	**48**	P	**P**	**19 05 06.5**	**0.0**
ULN	**Ulaanbaatar**	**53.83**	**304**	*e*P	**P**	**19 05 30.0**	**-1.1**
	2.7nm,0.9s						
SONM	**Songino Array**	**54.17**	**304**	P	**P**	**19 05 33.6**	**0.0**
	1.9nm,0.9s,baz=37,slow=8.0,SNR=16						
SONM				PcP	**PcP**	**19 06 37.8**	**+0.3**
	0.5nm,0.5s,baz=59,slow=2.1,SNR=7.3						
SONM	**Songino Array**	**54.17**	**304**	P	**P**	**19 05 33.6**	**0.0**
SONM				PcP	**PcP**	**19 06 37.8**	**+0.3**
LBNH	**Lisbon**	**55.36**	**61**	*e*P	**P**	**19 05 40.3**	**-1.7**
	17nm,1.1s						
KEV	**Kevo**	**55.89**	**356**	*e*p	**P**	**19 05 44.2**	**-1.3**
	5.0nm,0.4s						
KEV	**Kevo**	**55.89**	**356**	*e*p	**P**	**19 05 44.2**	**-1.3**
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**56.16**	**357**	P	**P**	**19 05 46.3**	**-1.1**
	1.6nm,0.7s,baz=1.6,slow=6.9,SNR=5.1						
ARCES	**ARCESS Array B**	**56.16**	**357**	P	**P**	**19 05 46.3**	**-1.1**
ZALV	**Zalesovo Beam**	**58.91**	**321**	LR	LR	19 35 37.5	
	comp=Z,105nm,18.8s,baz=71,slow=40						
JOF	**Joensuu**	**62.49**	**353**	*e*p	**P**	**19 06 28.8**	**-2.3**
	2.3nm,0.5s						
JOF	**Joensuu**	**62.49**	**353**	*e*p	**P**	**19 06 28.8**	**-2.3**
	2.3nm,0.5s						
KAF	**Kangasniemi**	**63.56**	**356**	*e*p	**P**	**19 06 37.2**	**-1.1**
	2.6nm,0.5s						
KAF	**Kangasniemi**	**63.56**	**356**	*e*p	**P**	**19 06 37.2**	**-1.1**
	2.6nm,0.5s						
FINES	**FINESS Array B**	**64.24**	**356**	P	**P**	**19 06 42.1**	**-0.6**
	3.6nm,0.7s,baz=14,slow=8.0,SNR=21						
FINES	**FINESS Array B**	**64.24**	**356**	P	**P**	**19 06 42.1**	**-0.6**
BVAR	**Borovoye Array**	**64.56**	**328**	P	**P**	**19 06 45.5**	**+0.5**
	baz=40,slow=5.9						
BVAR	**Borovoye Array**	**64.56**	**328**	P	**P**	**19 06 45.5**	**+0.5**
BRVK	**Borovoye**	**64.56**	**328**	*e*P	**P**	**19 06 45.0**	**+0.1**
	6.1nm,0.9s						
NB2	**NORSAR Subarra**	**64.65**	**4**	P	**P**	**19 06 45.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**64.65**	**4**	P	**P**	**19 06 45.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=356,slow=6.5,SNR=4.5						
NOA	**NORSAR Array B**	**64.65**	**4**	P	**P**	**19 06 45.8**	**+0.3**
MKAR	**Makanchi Array**	**65.62**	**317**	P	**P**	**19 06 50.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=40,slow=6.2,SNR=22						
MKAR	**Makanchi Array**	**65.62**	**317**	P	**P**	**19 06 50.9**	**-1.0**
AKTO	**Aktyubinsk**	**70.33**	**334**	P	**P**	**19 07 21.6**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=38,slow=5.1,SNR=18						
AKTO	**Aktyubinsk**	**70.33**	**334**	P	**P**	**19 07 21.6**	**+0.1**
ABKAR	**Akbulak array**	**70.92**	**333**	*e*P	**P**	**19 07 25.3**	**+0.3**
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**72.12**	**320**	*e*P	**P**	**19 07 32.8**	**+0.1**
	comp=Z,7.7nm,0.9s						
AKASG	**Malin Array Be**	**74.78**	**353**	P	**P**	**19 07 47.1**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=7.6,slow=5.5,SNR=9.6						
AKASG	**Malin Array Be**	**74.78**	**353**	P	**P**	**19 07 47.1**	**-0.8**
LSA	**Lhasa**	**75.61**	**301**	*e*P	**P**	**19 07 54.2**	**+0.6**
	comp=Z,1.8nm,0.7s						
VRAC	**Vranov**	**76.54**	**1**	P	**P**	**19 07 58.5**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=288,slow=3.2						
VRAC	**Vranov**	**76.54**	**1**	P	**P**	**19 07 58.5**	**+0.5**
GERES	**GERESS Array B**	**76.94**	**3**	P	**P**	**19 08 01.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=357,slow=5.3,SNR=9.1						
GERES	**GERESS Array B**	**76.94**	**3**	P	**P**	**19 08 01.0**	**+0.6**
TAPN	**Taplejung**	**79.25**	**302**	*e*P	**P**	**19 08 13.8**	**0.0**
	comp=Z,5.2nm,0.5s						
TAPN	**Taplejung**	**79.25**	**302**	*e*P	**P**	**19 08 13.8**	**0.0**
	comp=Z,5.2nm,0.5s						
GUN	**Gumba**	**79.68**	**304**	*e*P	**P**	**19 08 16.3**	**+0.2**
	comp=Z,7.4nm,0.6s						
GUN	**Gumba**	**79.68**	**304**	*e*P	**P**	**19 08 16.3**	**+0.2**
	comp=Z,7.4nm,0.6s						
JIRN	**Jiri**	**79.73**	**304**	*e*P	**P**	**19 08 16.9**	**+0.4**
	comp=Z,14nm,0.4s						
JIRN	**Jiri**	**79.73**	**304**	*e*P	**P**	**19 08 16.9**	**+0.4**
	comp=Z,14nm,0.4s						
ODAN	**Odare**	**79.81**	**302**	*e*P	**P**	**19 08 16.0**	**-0.8**
ODAN	**Odare**	**79.81**	**302**	*e*P	**P**	**19 08 16.0**	**-0.8**
KKN	**Kakani**	**80.07**	**304**	*e*P	**P**	**19 08 18.1**	**0.0**
	comp=Z,4.7nm,0.5s						
KKN	**Kakani**	**80.07**	**304**	*e*P	**P**	**19 08 18.1**	**0.0**
	comp=Z,4.7nm,0.5s						
RAMN	**Ramite**	**80.13**	**303**	*e*P	**P**	**19 08 18.5**	**0.0**
	comp=Z,9.2nm,0.6s						
RAMN	**Ramite**	**80.13**	**303**	*e*P	**P**	**19 08 18.5**	**0.0**
	comp=Z,9.2nm,0.6s						
PKI	**Pulchoki**	**80.19**	**304**	*e*P	**P**	**19 08 18.9**	**0.0**
	comp=Z,4.6nm,0.5s						
PKI	**Pulchoki**	**80.19**	**304**	*e*P	**P**	**19 08 18.9**	**0.0**
	comp=Z,4.6nm,0.5s						
GKN	**Gorkha**	**80.20**	**305**	*e*P	**P**	**19 08 18.8**	**+0.1**
	comp=Z,6.9nm,0.7s						
GKN	**Gorkha**	**80.20**	**305**	*e*P	**P**	**19 08 18.8**	**+0.1**
	comp=Z,6.9nm,0.7s						
DMN	**Daman**	**80.30**	**304**	*e*P	**P**	**19 08 19.5**	**+0.1**
	comp=Z,6.6nm,0.6s						
DMN	**Daman**	**80.30**	**304**	*e*P	**P**	**19 08 19.5**	**+0.1**
	comp=Z,6.6nm,0.6s						
DANN	**Dangsing**	**80.32**	**306**	*e*P	**P**	**19 08 20.0**	**+0.4**
	comp=Z,28nm,0.7s						
DANN	**Dangsing**	**80.32**	**306**	*e*P	**P**	**19 08 20.0**	**+0.4**
	comp=Z,28nm,0.7s						
CMAR	**Chiang Mai Arr**	**80.61**	**288**	P	**P**	**19 08 20.6**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=14,slow=5.3,SNR=19						
CMAR	**Chiang Mai Arr**	**80.61**	**288**	P	**P**	**19 08 20.6**	**-0.3**
KOLN	**Koldanda**	**80.89**	**306**	*e*P	**P**	**19 08 22.5**	**0.0**
	comp=Z,5.3nm,0.5s						
KOLN	**Koldanda**	**80.89**	**306**	*e*P	**P**	**19 08 22.5**	**0.0**

JIRN	**Jiri**	**30.12**	**337**	*eP*		**P**	**19 33 22.5**	**+0.7**
	comp=Z,11nm,0.6s								
PKI	**Pulchoki**	**30.34**	**337**	*eP*		**P**	**19 33 24.2**	**+0.5**
PKI	**Pulchoki**	**30.34**	**337**	*eP*		**P**	**19 33 24.2**	**+0.5**
GUN	**Gumba**	**30.46**	**338**	*eP*		**P**	**19 33 25.1**	**+0.3**
	comp=Z,13nm,0.6s								
GUN	**Gumba**	**30.46**	**338**	*eP*		**P**	**19 33 25.1**	**+0.3**
	comp=Z,13nm,0.6s								
DMN	**Daman**	**30.49**	**337**	*eP*		**P**	**19 33 26.1**	**+1.2**
DMN	**Daman**	**30.49**	**337**	*eP*		**P**	**19 33 26.1**	**+1.2**
KKN	**Kakani**	**30.58**	**337**	*eP*		**P**	**19 33 25.9**	**+0.2**
KKN	**Kakani**	**30.58**	**337**	*eP*		**P**	**19 33 25.9**	**+0.2**
LSA	**Lhasa**	**30.61**	**348**	*eP*		**P**	**19 33 26.8**	**+0.6**
	comp=Z,4.2nm,0.8s								
GKN	**Gorkha**	**31.03**	**336**	*eP*		**P**	**19 33 30.0**	**+0.4**
	comp=Z,13nm,0.9s								
GKN	**Gorkha**	**31.03**	**336**	*eP*		**P**	**19 33 30.0**	**+0.4**
	comp=Z,13nm,0.9s								
KOLN	**Koldanda**	**31.25**	**335**	*eP*		**P**	**19 33 32.3**	**+0.7**
	comp=Z,13nm,0.7s								
KOLN	**Koldanda**	**31.25**	**335**	*eP*		**P**	**19 33 32.3**	**+0.7**
	comp=Z,13nm,0.7s								
DANN	**Dangsing**	**31.69**	**335**	*eP*		**P**	**19 33 36.2**	**+0.6**
DANN	**Dangsing**	**31.69**	**335**	*eP*		**P**	**19 33 36.2**	**+0.6**
ENH	**Enshi**	**32.28**	**19**	*eP*		**P**	**19 33 39.4**	**-1.0**
	comp=Z,11nm,0.6s								
XAN	**Xi'an**	**35.64**	**15**	P		**P**	**19 34 09.0**	**-0.6**
XAN				*pP*		**pP**	**19 34 18.5**	**+0.9**
XAN				PP		PP	19 35 30.0	-0.9
XAN				S		**S**	**19 39 41.5**	**-3.0**
XAN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
XAN				pmax	pmax				
	comp=Z,30nm,9.9s								
XAN				LR	LR				
	comp=N,130nm,15.1s								
XAN				LR	LR				
	comp=E,34nm,14.2s								
XAN				LR	LR				
	comp=Z,50nm,16.0s								
GTA	**Gaotai**	**39.58**	**2**	*eP*		**P**	**19 34 42.5**	**-0.4**
GTA				pmax	pmax				
	comp=Z,2.0nm,1.2s								
WRA	**Warramunga Arr**	**40.40**	**121**	P		**P**	**19 34 48.5**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=300,slow=9.0,SNR=26								
WRA	**Warramunga Arr**	**40.40**	**121**	P		**P**	**19 34 48.5**	**-1.4**
WRAB	**Tennant Creek**	**40.41**	**121**	*eP*		**P**	**19 34 48.9**	**-1.1**
	comp=Z,6.5nm,0.8s								
ASAR	**Alice Springs**	**41.70**	**126**	P		**P**	**19 34 59.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=298,slow=7.8,SNR=22								
ASAR	**Alice Springs**	**41.70**	**126**	P		**P**	**19 34 59.9**	**-0.7**
KSAR	**Wonju Array Be**	**46.54**	**33**	P		**P**	**19 35 38.2**	**-0.8**
KSRS	**Korea Array**	**46.57**	**33**	P		**P**	**19 35 38.2**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=231,slow=8.6,SNR=9.1								
TKM2	**Tokmak 2**	**47.60**	**338**	*eP*		**P**	**19 35 48.6**	**+1.0**
	comp=Z,1.6nm,0.7s								
SONM	**Songino Array**	**48.50**	**7**	P		**P**	**19 35 54.7**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=184,slow=7.3,SNR=31								
SONM	**Songino Array**	**48.50**	**7**	P		**P**	**19 35 54.7**	**+0.3**
ULN	**Ulaanbaatar**	**48.62**	**8**	*eP*		**P**	**19 35 55.3**	**0.0**
	comp=Z,10nm,1.0s								
MKAR	**Makanchi Array**	**48.96**	**346**	P		**P**	**19 35 58.0**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=154,slow=7.9,SNR=103								
MKAR	**Makanchi Array**	**48.96**	**346**	P		**P**	**19 35 58.0**	**+0.3**
CN2	**Changchun**	**50.23**	**26**	*eP*		**P**	**19 36 06.8**	**-0.7**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
STKA	**Stephens Creek**	**51.61**	**132**	P		**P**	**19 36 18.7**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=304,slow=7.1,SNR=6.5								
STKA	**Stephens Creek**	**51.61**	**132**	P		**P**	**19 36 18.7**	**+0.6**
MJAR	**Matsushiro Arr**	**52.17**	**41**	P		**P**	**19 36 23.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=244,slow=9.8,SNR=2.7								
MJAR	**Matsushiro Arr**	**52.17**	**41**	P		**P**	**19 36 23.2**	**+1.0**
KURK	**Kurchatov**	**53.52**	**345**	P		**P**	**19 36 31.5**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=168,slow=7.4,SNR=20								
KURK	**Kurchatov**	**53.52**	**345**	*eP*		**P**	**19 36 31.7**	**-0.2**
	comp=Z,7.1nm,1.2s								
USRK	**Ussuriysk Arra**	**53.59**	**30**	P		**P**	**19 36 32.4**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=229,slow=5.9,SNR=13								
ZALV	**Zalesovo Beam**	**55.22**	**350**	P		**P**	**19 36 44.0**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=182,slow=6.2,SNR=33								
ZALV	**Zalesovo Beam**	**55.22**	**350**	P		**P**	**19 36 44.0**	**-0.2**
BVAR	**Borovoye Array**	**58.01**	**341**	P		**P**	**19 37 03.3**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=142,slow=7.5,SNR=6.2								
BVAR	**Borovoye Array**	**58.01**	**341**	P		**P**	**19 37 03.3**	**-0.8**
ABKAR	**Akbulak array**	**59.32**	**332**	*eP*		**P**	**19 37 12.2**	**-1.1**
	comp=Z,1.9nm,0.9s								
AKTO	**Aktyubinsk**	**61.04**	**332**	P		**P**	**19 37 25.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=103,slow=14,SNR=3.5								
AKTO	**Aktyubinsk**	**61.04**	**332**	P		**P**	**19 37 25.1**	**+0.1**
YAK	**Yakutsk**	**66.61**	**16**	*eP*		**P**	**19 37 59.6**	**-1.8**
	comp=Z,18nm,0.9s								
BRTR	**Keskin Array B**	**70.86**	**313**	P		**P**	**19 38 30.2**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=145,slow=5.3,SNR=2.6								
BRTR	**Keskin Array B**	**70.86**	**313**	P		**P**	**19 38 30.2**	**+1.5**
FINES	**FINESS Array B**	**81.80**	**332**	P		**P**	**19 39 29.7**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=132,slow=8.5,SNR=3.8								
FINES	**FINESS Array B**	**81.80**	**332**	P		**P**	**19 39 29.7**	**-0.4**
TXAR	**Lajitas Array**	**144.41**	**34**	PKP		PKPbc	19 46 47.6	+0.7
	comp=Z,0.8nm,0.6s,baz=224,slow=0.9,SNR=8.5								
TXAR	**Lajitas Array**	**144.41**	**34**	PKP		PKPbc	19 46 47.6	+0.7
TKL	**Tuckaleechee C**	**144.81**	**3**	PKP		**PKPab**	**19 46 47.6**	**0.0**
	comp=Z,1.5nm,0.5s,baz=113,slow=7.7,SNR=4.5								
TKL	**Tuckaleechee C**	**144.81**	**3**	PKP		**PKPab**	**19 46 47.6**	**0.0**
JCT	**Junction City**	**145.49**	**28**	*e*PKPdf		**PKPab**	**19 46 50.5**	**+0.1**

*ISK **28** 19:28:36.7,38.38N×39.14E,h8km,MD2.9*
*ISCJB **28** 19:28:37.5±0.6,38.39N±0.04×39.12E±0.03,h6km±5km, Error ellipse: s-maj=6.6km s-min=4.2km az=4.1*
*CSEM **28** 19:28:37.5±0.2,38.41N×39.11E,h5km,MD2.9,Error ellipse: s-maj=6.4km s-min=3.9km az=176.0*
*DDA **28** 19:28:37.4,38.41N×39.13E,h7km,MD3.0*
ISC 28 19:28:37.7±1.0,38.39N±0.03×39.13E±0.02,h5km±10km, n20,σ0:64/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.14**	**94**	*e*PG	**Pg**	**19 28 40.4**	**-0.3**
SVRC				*e*SG	**Sg**	**19 28 42.1**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.14**	**94**	*e*Pg	**Pg**	**19 28 40.4**	**-0.3**
SVRC				*e*Sg	**Sg**	**19 28 42.1**	**-0.5**
ELZG	**Elazig**	**0.16**	**314**	*i* P	**Pg**	**19 28 40.9**	**-0.1**
ELZG				*i* S	**Sg**	**19 28 44.0**	**+0.8**
ELZG	**Elazig**	**0.16**	**314**	*i* P	**Pg**	**19 28 40.9**	**-0.1**
ELZG				*i* S	**Sg**	**19 28 44.0**	**+0.8**
PTK	**Pertek**	**0.55**	**22**	*e*PG	**Pg**	**19 28 47.6**	**-0.7**
PTK				*e*SG	**Sg**	**19 28 56.2**	**+0.9**
PTK	**Pertek**	**0.55**	**22**	*e*Pg	**Pg**	**19 28 47.6**	**-0.7**
PTK				*e*Sg	**Sg**	**19 28 56.3**	**+0.9**
MALT	**Malatya**	**0.56**	**263**	*e*PG	**Pg**	**19 28 48.1**	**-0.4**
MALT				*e*SG	**Sg**	**19 28 56.3**	**+0.6**
MALT	**Malatya**	**0.56**	**263**	*e*Pg	**Pg**	**19 28 48.1**	**-0.4**
MALT				*e*Sg	**Sg**	**19 28 56.3**	**+0.6**
MYA	**Malatya**	**0.56**	**264**	*e*PG	**Pg**	**19 28 48.4**	**0.0**
MYA	**Malatya**	**0.56**	**264**	*e*Pg	**Pg**	**19 28 48.4**	**0.0**
DIYA	**Diyarbakir**	**0.91**	**120**	*i* P	**Pg**	**19 28 55.5**	**+0.3**
DIYA				*i* S	**Sb**	**19 29 08.6**	**+0.2**
DIYA	**Diyarbakir**	**0.91**	**120**	*i* P	**Pg**	**19 28 55.5**	**+0.3**
DIYA				*i* S	**Sb**	**19 29 08.6**	**+0.2**
AKCD	**Akcadag**	**0.95**	**265**	*i* P	**Pg**	**19 28 55.5**	**-0.5**
AKCD				*i* S	**Sb**	**19 29 09.7**	**0.0**
AKCD	**Akcadag**	**0.95**	**265**	*i* P	**Pg**	**19 28 55.5**	**-0.5**
AKCD				*i* S	**Sb**	**19 29 09.7**	**0.0**
ILIC	**ilic-Erzincan**	**1.15**	**338**	*e*PN	**Pg**	**19 28 59.0**	**-0.8**
ILIC				*e*SN	**Sb**	**19 29 15.5**	**+0.1**
ILIC	**ilic-Erzincan**	**1.15**	**338**	*e*Pn	**Pg**	**19 28 59.0**	**-0.8**
ILIC				*e*Sn	**Sb**	**19 29 15.5**	**+0.1**
BINT	**Bingol**	**1.17**	**65**	*e*Pn	**Pn**	**19 29 02.5**	**+1.6**
BNGB	**Bing¶l**	**1.35**	**63**	*e*Pn	**Pn**	**19 29 02.5**	**-0.9**
KMRS	**Kahramanmaras**	**1.97**	**244**	*e*Pn	**Pn**	**19 29 11.0**	**-0.8**
KMRS	**Kahramanmaras**	**1.97**	**244**	*e*Pn	**Pn**	**19 29 11.0**	**-0.8**

*IDC **28** 19:42:21.8±1.6,40.93N×71.37E,h0km,mb3.6/7, mb1 3.7/12,mb1mx3.5/29,mbtmp3.5/12,ML3.2/5,Error ellipse: s-maj=29.9km s-min=15.4km az=157.0*
*ISCJB **28** 19:42:24.9±0.8,41.34N±0.07×71.11E±0.06,h15km, mb3.3/8,Error ellipse: s-maj=10.5km s-min=6.1km az=18.9*
*BJI **28** 19:42:24.8,41.09N×71.61E,h10km,ML3.4/3*
*NNC **28** 19:42:25.6±2.0,41.17N×71.39E,h26km±9km,mb3.9, mpv4.0,Error ellipse: s-maj=17.3km s-min=5.4km az=19.0*
ISC 28 19:42:25.6±0.8,41.26N±0.08×71.35E±0.05,h15km,n35, σ1:45/47,mb3.5/8,10C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**1.95**	**342**	⇑Pg	**Pg**	**19 43 02.8**	**-0.2**
	24nm,0.3s,baz=153,slow=15,SNR=625						
KK31				⇓Lg	Lg	19 43 32.0	
	253nm,0.6s,baz=179,slow=28,SNR=29						
AML	**Almayashu**	**1.96**	**63**	P	**Pb**	**19 43 00.7**	**-0.6**
	SNR=234						
AML				P	**Pb**	**19 43 00.7**	**-0.6**
	SNR=234						
EKS2	**Erkin-Say**	**2.29**	**51**	P	**Pb**	**19 43 06.3**	**-0.5**
	SNR=94						
EKS2				P	**Pb**	**19 43 06.3**	**-0.5**
	SNR=94						
UCH	**Uchtor**	**2.56**	**67**	P	**Pb**	**19 43 12.9**	**+1.4**
	SNR=16						
UCH				P	**Pb**	**19 43 12.9**	**+1.4**
	SNR=16						
AAK	**Ala-Archa**	**2.72**	**59**	P	**Pg**	**19 43 16.1**	**-1.6**
	SNR=77						
AAK				P	**Pg**	**19 43 16.1**	**-1.6**
	SNR=77						
KBK	**Karagaybulak**	**3.02**	**61**	P	**Pb**	**19 43 16.6**	**-2.7**
	SNR=19						
KBK				P	**Pb**	**19 43 16.6**	**-2.7**
	SNR=19						
KZA	**Kyzart**	**3.03**	**73**	P	**Pb**	**19 43 21.0**	**+1.4**
	SNR=15						
KZA				P	**Pb**	**19 43 21.0**	**+1.4**
	SNR=15						
CHMS	**Chumysh**	**3.07**	**54**	P	**Pg**	**19 43 22.8**	**-1.6**
	SNR=30						
CHMS				P	**Pg**	**19 43 22.8**	**-1.6**
	SNR=30						
USP	**Ospenovka**	**3.08**	**48**	P	**Pg**	**19 43 23.9**	**-0.8**
	SNR=12						
USP				P	**Pg**	**19 43 23.9**	**-0.8**
	SNR=12						
TKM2	**Tokmak 2**	**3.57**	**61**	P	**Pn**	**19 43 23.3**	**+2.6**
	SNR=9.8						
TKM2				P	**Pn**	**19 43 23.3**	**+2.6**
	SNR=9.8						
TKM2	**Tokmak 2**	**3.57**	**61**	⇓Pg	**Pb**	**19 43 30.6**	**+2.0**
	16nm,0.4s						
TKM2				⇑Lg	Lg	19 44 19.3	
	89nm,0.6s						
ULHL	**Ulahol**	**3.79**	**73**	P	**Pb**	**19 43 32.1**	**-0.3**
	SNR=8.5						
ULHL				P	**Pb**	**19 43 32.1**	**-0.3**
	SNR=8.5						
KSH	**Kashi**	**3.93**	**115**	Pn	**Pn**	**19 43 23.8**	**-1.8**
KSH				Sn	Sn	19 44 03.8	-7.7
KSH				smax	smax		
	comp=N,120nm,0.7s						
KSH				smax	smax		
	comp=E,83nm,0.8s						
KNDC	**Almaty**	**4.60**	**63**	⇓Pg	Pb	19 43 49.7	+3.6
	comp=E,38nm,0.8s						
KNDC				⇑Lg	Lg	19 44 52.3	
	comp=E,154nm,0.7s						
MK31	**Makanchi Array**	**9.62**	**51**	Pn	**Pn**	**19 44 45.7**	**+2.2**
	comp=E,1.6nm,0.7s,baz=236,slow=13,SNR=10						
MK31				⇓Lg	Lg	19 47 32.0	
	comp=E,5.3nm,0.8s,baz=245,slow=18,SNR=4.6						
MKAR	**Makanchi Array**	**9.62**	**51**	Pn	**Pn**	**19 44 46.0**	**+2.4**
	comp=E,0.1nm,0.3s,baz=231,slow=14,SNR=6.5						
MKAR				Lg	Lg	19 47 33.1	
	comp=E,0.3nm,0.3s,baz=238,slow=28,SNR=3.5						
KURBB	**Kurchatov Arra**	**10.61**	**26**	Lg	Lg	19 48 04.7	
	comp=E,3.2nm,0.7s						
KURK	**Kurchatov**	**10.72**	**26**	Pn	**Pn**	**19 44 56.2**	**-2.3**
	comp=E,0.0nm,0.3s,baz=212,slow=13,SNR=2.6						
KURK				Lg	Lg	19 48 02.0	
	comp=E,0.1nm,0.3s,baz=211,slow=28,SNR=7.1						
KURK	**Kurchatov**	**10.72**	**26**	⇑Lg	Lg	19 48 08.2	
	comp=E,16nm,1.2s						
AB31	**Akbulak array**	**11.33**	**319**	⇑Pn	**Pn**	**19 45 07.0**	**+0.1**
	comp=E,1.5nm,0.8s,baz=134,slow=13						
AB31				⇑Sn	**Sn**	**19 47 12.0**	**-1.2**
	comp=E,6.6nm,0.8s,baz=128,slow=23						
AB31				⇑Lg	Lg	19 48 28.8	
	comp=E,7.0nm,1.0s						
VOSK	**Vostochnaya**	**11.47**	**359**	⇑Pn	**Pn**	**19 45 09.2**	**+0.3**
	comp=E,7.3nm,2.5s						
VOSK				⇓Lg	Lg	19 48 32.1	
	comp=E,13nm,0.9s						
BVAR	**Borovoye Array**	**11.79**	**357**	Pn	**Pn**	**19 45 14.5**	**+1.4**
	comp=E,0.4nm,0.3s,baz=160,slow=14,SNR=8.5						
BVAR				Sn	**Sn**	**19 47 24.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=164,slow=22,SNR=4.9						
BVAR				Lg	Lg	19 48 46.7	
	comp=E,0.1nm,0.3s,baz=166,slow=25,SNR=3.6						
ZRNK	**Zerenda**	**11.81**	**353**	⇓Pn	**Pn**	**19 45 13.4**	**0.0**
	comp=E,0.2nm,0.3s						
ZRNK				⇓Lg	Lg	19 48 42.9	
	comp=E,2.1nm,0.7s						
AKTO	**Aktyubinsk**	**13.05**	**319**	Pn	**Pn**	**19 45 30.3**	**-0.1**
	comp=E,0.2nm,0.3s,baz=126,slow=12,SNR=5.9						
AKTO				Sn	**Sn**	**19 47 52.9**	**-2.2**
	comp=E,0.2nm,0.3s,baz=24,slow=19,SNR=3.6						
AKTO	**Aktyubinsk**	**13.05**	**319**	⇑Pn	**Pn**	**19 45 30.0**	**-0.3**
	comp=E,0.6nm,1.3s						
AKTO				⇑Sn	**Sn**	**19 47 54.8**	**-0.4**
	comp=E,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**15.57**	**31**	Pn	**Pn**	**19 46 06.4**	**+1.9**
	comp=E,0.1nm,0.3s,baz=229,slow=14,SNR=2.6						
GTA	**Gaotai**	**21.74**	**85**	*e*P	**P**	**19 47 17.3**	**+0.8**
GTA				pP	**pP**	**19 47 20.8**	**0.0**
GTA				sP	**sP**	**19 47 23.3**	**+0.6**
SONM	**Songino Array**	**25.66**	**63**	P	P	19 48 00.2	+5.3
	comp=E,0.3nm,0.7s,baz=270,slow=12,SNR=6.3						
BRTR	**Keskin Array B**	**28.58**	**280**	P	**P**	**19 48 20.9**	**-0.3**
	comp=E,0.3nm,0.6s,baz=117,slow=7.4,SNR=2.6						
FINES	**FINESS Array B**	**33.79**	**322**	P	**P**	**19 49 07.8**	**+1.2**
	comp=E,0.6nm,0.7s,baz=116,slow=13,SNR=5.6						
GERES	**GERESS Array B**	**40.56**	**301**	P	**P**	**19 50 05.7**	**+1.3**
	comp=E,0.1nm,0.2s,baz=68,slow=5.4,SNR=2.2						
NOA	**NORSAR Array B**	**40.84**	**320**	P	**P**	**19 50 06.8**	**+0.4**
	comp=E,1.1nm,0.8s,baz=92,slow=8.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.19**	**267**	P	**P**	**19 53 10.9**	**-2.0**
	comp=E,0.5nm,0.6s,baz=51,slow=5.3,SNR=5.1						
ILAR	**Eielson Array**	**70.14**	**16**	P	**P**	**19 53 36.5**	**-0.5**
	comp=E,0.4nm,0.8s,baz=323,slow=5.0,SNR=5.1						
YKA	**Yellowknife Ar**	**76.49**	**3**	P	**P**	**19 54 14.1**	**-0.3**
	comp=E,0.3nm,0.7s,baz=351,slow=5.9,SNR=8.7						

*BJI **28** 19:51:57.2,2.57N×128.65E,h205km,mB4.7/28,mb4.6/48*
*ISCJB **28** 19:51:57.4±0.5,2.44N±0.03×128.65E±0.04,h220km±4km, mb4.8/78,Error ellipse: s-maj=6.6km s-min=4.2km az=168.0*
*NEIC **28** 19:51:57.5±0.2,2.45N×128.61E,mb4.9/43,Error ellipse: s-maj=6.8km s-min=4.5km az=69.0*
*IDC **28** 19:51:59.6±1.0,2.44N×128.59E,h229km±9km,mb4.4/22, mb1 4.5/26,mb1mx4.5/26,mbtmp4.5/26,Error ellipse: s-maj=12.1km s-min=6.8km az=80.0*
*DJA **28** 19:52:02,2.40N×128.43E,h213km,mb5.3/37*
ISC 28 19:51:57.6±0.4,2.39N±0.04×128.60E±0.05,h210km±2km, h210km:pP-P,n202,σ1:45/273,mb4.8/77,8C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**5.09**	**333**	*e*P	**Pn**	**19 53 12.8**	**-0.7**
DAV	**Davao City (W)**	**5.54**	**327**	P	**Pn**	**19 53 21.3**	**+2.1**
	150nm,0.3s,baz=136,slow=3.5,SNR=46						
DAV	**Davao City (W)**	**5.54**	**327**	P	**Pn**	**19 53 21.3**	**+2.1**
KCP	**Kidapawan**	**5.77**	**323**	*e*P	**Pn**	**19 53 24.9**	**+2.7**
CTBH	**Cotabato--PC H**	**6.47**	**318**	*e*P	**Pn**	**19 53 30.7**	**-0.3**
BUKP	**Musuan**	**6.49**	**327**	*e*P	**Pn**	**19 53 31.5**	**+0.1**
CGP	**Cagayan de Oro**	**7.17**	**327**	*e*P	**Pn**	**19 53 39.7**	**-0.5**
BUTP	**Butuan**	**7.17**	**336**	*e*P	**Pn**	**19 53 38.1**	**-2.1**
PAGZ	**Pagadian**	**7.51**	**316**	*e*P	**Pn**	**19 53 44.5**	**-0.1**
IPIL	**Ipil**	**8.05**	**312**	*e*P	**Pn**	**19 53 51.9**	**+0.3**
MSLP	**Maasin**	**8.54**	**334**	*e*P	**Pn**	**19 53 58.1**	**+0.2**
OCLP	**Ormoc**	**9.47**	**335**	*e*P	**Pn**	**19 54 10.7**	**+0.8**
GUIM	**Jordan**	**10.13**	**324**	*e*P	**Pn**	**19 54 18.3**	**-0.1**
TSM	**Tawau**	**10.88**	**280**	P	**Pn**	**19 54 29.8**	**+1.8**
CUYO	**Cuyo Island**	**11.28**	**318**	*e*P	**Pn**	**19 54 34.0**	**+0.8**
KAPI	**Kappang**	**11.50**	**230**	P	**Pn**	**19 54 36.9**	**+0.8**
	11nm,0.3s,baz=32,slow=10,SNR=60						
KAPI				S	**S**	**19 56 43.3**	**-0.2**
	6.5nm,0.3s,baz=90,slow=20,SNR=6.7						
KAPI	**Kappang**	**11.50**	**230**	*e*P	**Pn**	**19 54 35.5**	**-0.6**
	104nm,0.6s						
KAPI				S	**S**	**19 56 43.3**	**-0.2**
KAPI	**Kappang**	**11.50**	**230**	Pn	**Pn**	**19 54 38.0**	**+2.0**
	1µm,0.5s,SNR=40						
SDKM	**Sandakan**	**11.83**	**286**	P	**Pn**	**19 54 42.3**	**+2.1**
OTRP	**Odiongan**	**11.86**	**327**	*e*P	**Pn**	**19 54 40.7**	**+0.2**
AUOP	**San Andres**	**12.34**	**332**	*e*P	**P**	**19 54 50.5**	**0.0**
BATP	**Bataraza**	**12.49**	**301**	*e*P	**P**	**19 54 50.5**	**-1.6**
ENPP	**El Nido**	**12.63**	**314**	*e*P	**Pn**	**19 54 50.8**	**+0.5**
BUSP	**Coron**	**12.67**	**319**	*e*P	**Pn**	**19 54 51.0**	**+0.3**
KKM	**Kota Kinabalu**	**12.87**	**287**	*e*P	**Pn**	**19 54 53.9**	**+0.4**
	52nm,1.0s						
KKM	**Kota Kinabalu**	**12.87**	**287**	P	**P**	**19 54 55.1**	**-1.4**
TGY	**Tagaytay City**	**13.88**	**327**	P	**P**	**19 55 07.0**	**-0.6**
	35nm,0.3s,baz=200,slow=4.3,SNR=18						
TGY	**Tagaytay City**	**13.88**	**327**	P	**P**	**19 55 07.0**	**-0.6**
LUBP	**Lubang**	**13.97**	**324**	*e*P	**P**	**19 55 08.5**	**-0.1**
BALP	**Baler**	**14.96**	**333**	*e*P	**P**	**19 55 19.6**	**0.0**
BTM	**Bintulu**	**15.52**	**273**	P	**Pn**	**19 55 27.5**	**+1.6**
SCZP	**Santa Cruz**	**15.82**	**328**	*e*P	**P**	**19 55 27.4**	**-1.5**
CAUP	**Cauayan**	**15.92**	**336**	*e*P	**Pn**	**19 55 31.0**	**+0.4**
BOLP	**Bolinao**	**16.32**	**329**	*e*P	**P**	**19 55 33.4**	**-1.1**
SBUM	**Sibu**	**16.37**	**271**	P	**Pn**	**19 55 36.8**	**+0.8**
ABRA	**Dolores**	**17.02**	**333**	*e*P	**P**	**19 55 42.4**	**+0.2**
KSM	**Kuching**	**18.31**	**267**	*e*P	**Pn**	**19 55 57.6**	**-1.3**
	225nm,1.2s						
KSM	**Kuching**	**18.31**	**267**	P	**Pn**	**19 55 57.8**	**-1.0**
GUMO	**Guam**	**19.55**	**54**	P	**P**	**19 56 10.3**	**+0.6**
	37nm,0.3s,baz=218,slow=7.4,SNR=8.2						
GUMO	**Guam**	**19.55**	**54**	P	**P**	**19 56 10.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.57**	**188**	P	**P**	**19 56 20.9**	**+0.4**
	31nm,0.4s,baz=22,slow=8.8,SNR=78						
FITZ	**Fitzroy Crossi**	**20.57**	**188**	*e*P	**P**	**19 56 20.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.57**	**188**	*e*P	**P**	**19 56 20.4**	**-0.2**
	31nm,0.5s						
TWG	**Pinlang**	**21.58**	**341**	*e*P	**P**	**19 56 28.2**	**-2.8**
	139nm,0.6s						
COEN	**Coen**	**21.74**	**139**	*e*P	**P**	**19 56 32.9**	**+0.3**
COEN	**Coen**	**21.74**	**139**	*e*P	**P**	**19 56 32.6**	**-0.1**
	191nm,0.7s						
PMG	**Port Moresby**	**21.89**	**123**	P	**P**	**19 56 34.8**	**+0.7**
	6.6nm,0.8s,baz=291,slow=8.6,SNR=2.2						
PMG	**Port Moresby**	**21.89**	**123**	P	**P**	**19 56 34.8**	**+0.7**
YULB	**Yu-li**	**22.04**	**342**	*e*P	**P**	**19 56 33.1**	**-2.4**
	28nm,0.4s						
TPUB	**Ta-pu**	**22.17**	**340**	*e*P	**P**	**19 56 34.8**	**-1.9**
	169nm,0.5s						
SSLB	**Suanglung**	**22.52**	**341**	*e*P	**P**	**19 56 38.3**	**-1.6**
	60nm,0.6s						
NACB	**Ninganchiao**	**22.69**	**343**	*e*P	**P**	**19 56 40.1**	**-1.3**
	25nm,0.4s						
WRAB	**Tennant Creek**	**22.89**	**166**	*e*P	**P**	**19 56 43.6**	**+0.3**
	233nm,0.9s						
WRA	**Warramunga Arr**	**22.90**	**166**	P	**P**	**19 56 43.7**	**+0.4**
	131nm,0.6s,baz=343,slow=11,SNR=262						
WRA				S	**S**	**20 00 32.8**	**-4.4**
	6.7nm,0.8s,baz=348,slow=15,SNR=3.7						
WRA				ScP	**ScP**	**20 03 42.4**	**-2.8**
	3.9nm,0.7s,baz=337,slow=3.0,SNR=6.1						
WRA	**Warramunga Arr**	**22.90**	**166**	P	**P**	**19 56 43.7**	**+0.4**
WRA				S	**S**	**20 00 32.8**	**-4.4**
WRA				ScP	**Sc

STKA				*e*S		**S**	**20 04 02.9**	**-2.5**
STKA	**Stephens Creek**	**36.25**	**161**	*e*P		**P**	**19 58 41.5**	**+0.7**
XAN	**Xi'an**	**36.45**	**332**	P		**P**	**19 58 42.5**	**-0.1**
XAN				pP		**pP**	**19 59 25.0**	**-1.2**
XAN				sP		**sP**	**19 59 48.3**	**-1.9**
XAN				PP		PP	20 00 12.3	+2.0
XAN				sS		sS	20 05 20.5	-5.5
XAN				SS		SS	20 06 42.3	-15
XAN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,20nm,7.7s							
CD2	**Chengdu**	**36.82**	**323**	P		**P**	**19 58 47.0**	**+1.2**
CD2				pP		**pP**	**19 59 30.5**	**+1.1**
CD2				sP		**sP**	**19 59 54.0**	**+0.5**
CD2				PP		PP	20 00 19.8	+5.4
CD2				S		**S**	**20 04 15.5**	**+1.1**
CD2				sS		**sS**	**20 05 32.0**	**+0.2**
CD2				pmax		pmax		
	comp=Z,50nm,0.8s							
CD2				pmax		pmax		
	comp=Z,110nm,4.5s							
BJT	**Baijiatuau**	**39.12**	**345**	*e*P		**P**	**19 59 04.1**	**-0.6**
	comp=Z,23nm,0.6s							
BJI	**Beijing**	**39.13**	**345**	P		**P**	**19 59 04.5**	**-0.3**
BJI				pP		**pP**	**19 59 49.5**	**+0.6**
BJI				sP		**sP**	**20 00 12.0**	**-0.8**
BJI				S		**S**	**20 04 53.3**	**+4.6**
BJI				sS		**sS**	**20 06 02.5**	**-4.2**
BJI				pmax		pmax		
	comp=Z,56nm,1.2s							
BJI				pmax		pmax		
	comp=Z,87nm,5.3s							
ARMA	**Armidale**	**39.34**	**148**	*e*P		**P**	**19 59 08.0**	**+1.2**
ARMA	**Armidale**	**39.34**	**148**	*e*P		**P**	**19 59 08.0**	**+1.2**
	comp=Z,29nm,0.8s							
SNY	**Shenyang**	**39.52**	**354**	⇑P		**P**	**19 59 08.0**	**+0.1**
SNY				S		**S**	**20 04 59.3**	**+5.0**
SNY				pmax		pmax		
	comp=Z,11nm,0.5s							
SNY				pmax		pmax		
	comp=Z,55nm,4.1s							
SNY				LR		LR		
	comp=N,170nm,19.4s							
SNY				LR		LR		
	comp=E,94nm,8.2s							
SNY				LR		LR		
	comp=Z,130nm,13.4s							
LZH	**Lanzhou**	**40.60**	**329**	*e*P		**P**	**19 59 18.5**	**+1.3**
LZH				pP		**pP**	**20 00 02.3**	**+0.7**
LZH				sP		**sP**	**20 00 28.0**	**+2.6**
LZH				PP		PP	20 00 58.0	+2.5
LZH				PcP		**PcP**	**20 01 12.8**	**-2.3**
LZH				ScP		**ScP**	**20 04 43.3**	**-1.3**
LZH				*e*S		**S**	**20 05 11.3**	**+0.3**
LZH				SS		SS	20 08 13.0	-7.3
LZH				pmax		pmax		
	comp=Z,80nm,1.1s							
LZH				pmax		pmax		
	comp=Z,200nm,4.1s							
ARPS	**Mount Arapiles**	**40.87**	**164**	*e*P		**P**	**19 59 20.6**	**+1.5**
HHC	**Hu-ho-hao-te**	**41.26**	**340**	⇑P		**P**	**19 59 22.8**	**+0.4**
HHC				pP		**pP**	**20 00 06.8**	**-0.1**
HHC				sP		**sP**	**20 00 29.5**	**-1.3**
HHC				PP		PP	20 01 04.5	+2.1
HHC				PcP		**PcP**	**20 01 18.0**	**+1.0**
HHC				ScP		**ScP**	**20 04 47.5**	**+0.5**
HHC				PcS		**PcS**	**20 05 08.5**	**0.0**
HHC				S		**S**	**20 05 21.0**	**+0.5**
HHC				sS		**sS**	**20 06 38.0**	**-1.0**
HHC				SS		SS	20 08 27.5	-5.5
HHC				ScS		**ScS**	**20 09 02.3**	**-1.3**
HHC				pmax		pmax		
	comp=Z,23nm,0.8s							
HHC				pmax		pmax		
	comp=Z,99nm,6.2s							
CN2	**Changchun**	**41.33**	**357**	*e*P		**P**	**19 59 25.8**	**+3.1**
CN2				*e*pP		**pP**	**20 00 09.5**	**+2.2**
CN2				*e*S		**S**	**20 05 24.8**	**+3.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				LR		LR		
	comp=N,100nm,17.0s							
CN2				LR		LR		
	comp=E,200nm,17.0s							
CN2				LR		LR		
	comp=Z,200nm,14.0s							
USRK	**Ussuriysk Arra**	**41.74**	**4**	P		**P**	**19 59 26.6**	**+0.5**
	comp=Z,4.6nm,0.5s,baz=198,slow=6.6,SNR=14							
MDJ	**Mudanjiang**	**42.06**	**1**	P		**P**	**19 59 30.0**	**+1.4**
MDJ				pP		**pP**	**20 00 12.5**	**-0.8**
MDJ				sP		**sP**	**20 00 34.8**	**-2.3**
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.3s							
MDJ				pmax		pmax		
	comp=Z,92nm,4.8s							
SHL	**Shillong**	**42.17**	**306**	*e*P		**P**	**19 59 32.0**	**+1.9**
TOO	**Toolangi**	**42.74**	**160**	*e*P		**P**	**19 59 36.4**	**+2.1**
LSA	**Lhasa**	**44.72**	**311**	*e*P		**P**	**19 59 52.3**	**+1.5**
LSA	**Lhasa**	**44.72**	**311**	*e*P		**P**	**19 59 51.9**	**+1.2**
	comp=Z,15nm,0.8s							
GTA	**Gaotai**	**45.20**	**328**	⇑P		**P**	**19 59 54.5**	**+0.5**
GTA				pP		**pP**	**20 00 39.0**	**-0.3**
GTA				sP		**sP**	**20 01 02.0**	**-0.9**
GTA				PP		PP	20 01 44.0	-0.1
GTA				S		**S**	**20 06 18.0**	**+0.1**
GTA				sS		**sS**	**20 07 36.0**	**-1.5**
GTA				SS		SS	20 09 38.0	-6.3
GTA				pmax		pmax		
	comp=Z,19nm,1.5s							
GTA				pmax		pmax		
	comp=Z,76nm,5.9s							
GTA				LR		LR		
	comp=N,96nm,14.2s							
GTA				LR		LR		
	comp=E,120nm,16.1s							
GTA				LR		LR		
	comp=Z,120nm,15.2s							
TAPN	**Taplejung**	**46.31**	**306**	*e*P		**P**	**20 00 03.5**	**+0.4**
TAPN	**Taplejung**	**46.31**	**306**	*e*P		**P**	**20 00 03.5**	**+0.4**
ODAN	**Odare**	**46.36**	**306**	*e*P		**P**	**20 00 03.8**	**+0.4**
	comp=Z,35nm,0.6s							
ODAN	**Odare**	**46.36**	**306**	*e*P		**P**	**20 00 03.8**	**+0.4**
	comp=Z,35nm,0.6s							
RAMN	**Ramite**	**47.04**	**305**	*e*P		**P**	**20 00 09.3**	**+0.6**
	comp=Z,47nm,0.5s							
RAMN	**Ramite**	**47.04**	**305**	*e*P		**P**	**20 00 09.3**	**+0.6**
	comp=Z,47nm,0.5s							
JIRN	**Jiri**	**47.66**	**306**	*e*P		**P**	**20 00 14.0**	**+0.4**
	comp=Z,23nm,0.3s							
JIRN	**Jiri**	**47.66**	**306**	*e*P		**P**	**20 00 14.0**	**+0.4**
	comp=Z,23nm,0.3s							
GUN	**Gumba**	**48.02**	**306**	*e*P		**P**	**20 00 16.5**	**+0.2**
GUN	**Gumba**	**48.02**	**306**	*e*P		**P**	**20 00 16.5**	**+0.2**
PKI	**Pulchoki**	**48.26**	**305**	*e*P		**P**	**20 00 17.9**	**-0.2**
PKI	**Pulchoki**	**48.26**	**305**	*e*P		**P**	**20 00 17.9**	**-0.2**
KKN	**Kakani**	**48.45**	**306**	*e*P		**P**	**20 00 19.5**	**0.0**
	comp=Z,10.0nm,0.4s							
KKN	**Kakani**	**48.45**	**306**	*e*P		**P**	**20 00 19.5**	**0.0**
	comp=Z,10.0nm,0.4s							
DMN	**Daman**	**48.52**	**305**	*e*P		**P**	**20 00 20.1**	**0.0**
	comp=Z,18nm,0.7s							
DMN	**Daman**	**48.52**	**305**	*e*P		**P**	**20 00 20.1**	**0.0**
	comp=Z,18nm,0.7s							
ULN	**Ulaanbaatar**	**48.97**	**341**	*e*P		**P**	**20 00 22.8**	**-0.2**
	comp=Z,9.2nm,0.8s							
GKN	**Gorkha**	**49.06**	**306**	*e*P		**P**	**20 00 23.9**	**-0.1**
	comp=Z,5.3nm,0.3s							
GKN	**Gorkha**	**49.06**	**306**	*e*P		**P**	**20 00 23.9**	**-0.1**
	comp=Z,5.3nm,0.3s							
SONM	**Songino Array**	**49.16**	**340**	P		**P**	**20 00 24.4**	**0.0**
	comp=Z,3.6nm,0.6s,baz=154,slow=8.1,SNR=49							
SONM				pP		**pP**	**20 01 08.9**	**-1.5**
	comp=Z,4.4nm,0.9s,baz=148,slow=8.5,SNR=3.9							
SONM				ScP		**ScP**	**20 05 17.2**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=161,slow=4.0,SNR=4.2							
SONM	**Songino Array**	**49.16**	**340**	P		**P**	**20 00 24.4**	**0.0**
SONM				pP		**pP**	**20 01 08.9**	**-1.5**
SONM				ScP		**ScP**	**20 05 17.2**	**-2.3**
KOLN	**Koldanda**	**49.82**	**305**	*e*P		**P**	**20 00 30.2**	**+0.4**
KOLN	**Koldanda**	**49.82**	**305**	*e*P		**P**	**20 00 30.2**	**+0.4**
DANN	**Dangsing**	**49.91**	**306**	*e*P		**P**	**20 00 30.7**	**+0.1**
	comp=Z,52nm,0.6s							
DANN	**Dangsing**	**49.91**	**306**	*e*P		**P**	**20 00 30.7**	**+0.1**
	comp=Z,52nm,0.6s							
MSVF	**Nonsavu**	**52.66**	**114**	P		**P**	**20 00 53.9**	**+3.0**
	comp=Z,127nm,0.5s,SNR=6.5							
WMQ	**Urumqi**	**54.89**	**325**	P		**P**	**20 01 06.5**	**-0.1**
WMQ				pP		**pP**	**20 01 54.0**	**+0.4**
WMQ				sP		**sP**	**20 02 13.5**	**-3.3**
WMQ				pmax		pmax		
	comp=Z,12nm,0.9s							
PEA0B	**Petropavlovsk-**	**55.98**	**21**	*e*P		**P**	**20 01 14.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.98**	**21**	P		**P**	**20 01 15.0**	**+0.9**
	comp=Z,14nm,0.6s,baz=190,slow=4.3,SNR=18							
PETK				PcP		**PcP**	**20 02 09.1**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=186,slow=4.6,SNR=4.4							
PETK	**Petropavlovsk-**	**55.98**	**21**	P		**P**	**20 01 15.0**	**+0.9**
PETK				PcP		**PcP**	**20 02 09.1**	**-0.8**
YAK	**Yakutsk**	**59.50**	**1**	*e*P		**P**	**20 01 38.5**	**+0.1**
	comp=Z,27nm,0.6s							
MKAR	**Makanchi Array**	**59.72**	**325**	P		**P**	**20 01 40.0**	**-0.2**
	comp=Z,6.8nm,0.4s,baz=115,slow=8.0,SNR=296							
MKAR				pP		**pP**	**20 02 29.0**	**+1.0**
	comp=Z,7.4nm,0.6s,baz=123,slow=7.9,SNR=4.8							
MKAR				ScP		**ScP**	**20 06 02.8**	**-2.9**
	comp=Z,1.1nm,0.7s,baz=120,slow=5.6,SNR=5.8							
MKAR	**Makanchi Array**	**59.72**	**325**	P		**P**	**20 01 40.0**	**-0.2**
MKAR				pP		**pP**	**20 02 29.0**	**+1.0**
MKAR				ScP		**ScP**	**20 06 02.8**	**-2.9**
KSH	**Kashi**	**60.30**	**315**	P		**P**	**20 01 45.5**	**+1.0**
KSH				pmax		pmax		
	comp=Z,99nm,5.3s							
TKM2	**Tokmak 2**	**61.98**	**318**	*e*P		**P**	**20 01 55.6**	**-0.2**
	comp=Z,2.4nm,0.6s							
FX1	**Attu Island--F**	**62.33**	**29**	P		**P**	**20 01 56.7**	**-0.9**
	comp=Z,48nm,0.8s,baz=33,slow=2.6,SNR=14							
FX1	**Attu Island--F**	**62.33**	**29**	P		**P**	**20 01 56.7**	**-0.9**
AAK	**Ala-Archa**	**62.60**	**318**	*e*P		**P**	**20 01 59.4**	**-0.5**
	comp=Z,18nm,1.4s							
ZAA0	**Zalesovo Array**	**62.62**	**333**	*e*P		**P**	**20 01 57.7**	**-1.8**
ZALV	**Zalesovo Beam**	**62.62**	**333**	P		**P**	**20 01 58.0**	**-1.6**
	comp=Z,2.3nm,0.3s,baz=113,slow=5.9,SNR=16							
ZALV	**Zalesovo Beam**	**62.62**	**333**	P		**P**	**20 01 58.0**	**-1.6**
EKS2	**Erkin-Say**	**63.09**	**317**	*e*P		**P**	**20 02 02.9**	**-0.2**
	comp=Z,2.7nm,0.7s							
KURK	**Kurchatov**	**63.87**	**327**	*e*P		**P**	**20 02 07.1**	**-0.7**
	comp=Z,18nm,0.6s							
KURK	**Kurchatov**	**63.87**	**327**	P		**P**	**20 02 07.8**	**+0.1**
	comp=Z,211nm,0.5s,SNR=9.3							
KKAR	**Karatay Array**	**65.48**	**317**	*e*P		**P**	**20 02 17.3**	**-1.1**
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**69.53**	**327**	*e*P		**P**	**20 02 42.4**	**-1.0**
	comp=Z,10nm,0.8s							
BRVK				*e*pP		pP	20 03 24.3	-8.5
BRVK	**Borovoye**	**69.53**	**327**	P		**P**	**20 02 42.8**	**-0.7**
	comp=Z,41nm,0.9s,SNR=6.3							
CASY	**Casey**	**69.74**	**188**	*e*P		**P**	**20 02 45.1**	**+0.7**
	comp=Z,31nm,0.9s							
UNV	**Unalaska Valle**	**73.47**	**34**	*e*P		**P**	**20 03 07.2**	**+0.2**
ABKAR	**Akbulak array**	**74.36**	**321**	*e*P		**P**	**20 03 10.8**	**-1.4**
	comp=Z,4.6nm,0.6s							
ABKAR				*e*pP		pP	20 03 55.7	-6.5
GAMB	**Gambell**	**74.86**	**23**	*e*P		**P**	**20 03 15.8**	**+1.0**
	comp=Z,23nm,1.2s							
AKTO	**Aktyubinsk**	**75.86**	**322**	P		**P**	**20 03 19.4**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=98,slow=8.6,SNR=8.4							
AKTO	**Aktyubinsk**	**75.86**	**322**	P		**P**	**20 03 19.4**	**-1.4**
TNA	**Tin City**	**77.09**	**22**	*e*P		**P**	**20 03 28.8**	**+1.4**
	comp=Z,3.7nm,1.0s							
KDAK	**Kodiak Island**	**82.02**	**32**	P		**P**	**20 03 55.0**	**+1.0**
	comp=Z,301nm,0.6s,SNR=15							
MAW	**Mawson**	**83.16**	**201**	P		**P**	**20 04 00.5**	**+0.8**
	comp=Z,12nm,1.0s,baz=107,slow=11,SNR=4.0							
MAW	**Mawson**	**83.16**	**201**	P		**P**	**20 04 00.5**	**+0.8**
COLD	**Coldfoot**	**84.39**	**23**	*e*P		**P**	**20 04 06.9**	**+0.9**
	comp=Z,6.9nm,0.5s							
SML	**Sawmill**	**84.62**	**28**	*e*P		**P**	**20 04 07.0**	**-0.3**
	comp=Z,7.3nm,0.9s							
ILAR	**Eielson Array**	**85.50**	**25**	P		**P**	**20 04 10.6**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=248,slow=4.8,SNR=29							
ILAR	**Eielson Array**	**85.50**	**25**	P		**P**	**20 04 10.6**	**-1.0**
DIV	**Divide**	**85.80**	**29**	*e*P		**P**	**20 04 14.2**	**+1.0**
SYO	**Syowa Base**	**91.86**	**201**	⇑*e*P		**P**	**20 04 41.0**	**-0.5**
SYO	**Syowa Base**	**91.86**	**201**	⇑*e*PcP		**PcP**	**20 04 43.6**	**+1.4**
BRTR	**Keskin Array B**	**92.31**	**310**	pP		pP	20 05 43.7	+7.5
	comp=Z,0.9nm,0.8s,baz=127,slow=6.2,SNR=4.1							
QSPA	**South Pole Qui**	**92.31**	**180**	*e*P		**P**	**20 04 44.0**	**+0.3**
	comp=Z,20nm,1.1s							
ARCES	**ARCESS Array B**	**92.34**	**340**	P		**P**	**20 04 42.3**	**-1.4**
	comp=Z,6.8nm,1.1s,baz=89,slow=6.3,SNR=19							
ARCES	**ARCESS Array B**	**92.34**	**340**	P		**P**	**20 04 42.3**	**-1.4**
FINES	**FINESS Array B**	**93.88**	**332**	P		**P**	**20 04 49.0**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=54,slow=7.1,SNR=3.9							
FINES	**FINESS Array B**	**93.88**	**332**	P		**P**	**20 04 49.0**	**-2.0**
AKASG	**Malin Array Be**	**94.10**	**321**	pP		pP	20 05 50.0	+6.0
	comp=Z,1.5nm,0.7s,baz=70,slow=4.8,SNR=2.9							
RES	**Resolute Bay**	**98.78**	**11**	*e*P		**P**	**20 05 12.3**	**-0.6**
	comp=Z,3.6nm,0.8s							
YKA	**Yellowknife Ar**	**99.92**	**25**	P		**Pdif**	**20 05 18.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=296,slow=4.4,SNR=16							
YKA				PKiKP		**PKiKP**	**20 09 44.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=298,slow=1.4,SNR=4.0							
YKA	**Yellowknife Ar**	**99.92**	**25**	P		**Pdif**	**20 05 18.2**	**0.0**
YKA				PKiKP		**PKiKP**	**20 09 45.0**	**-0.2**
NVAR	**Mina Array Bea**	**106.39**	**49**	PP		PP	20 10 15.0	+0.3
	comp=Z,0.6nm,0.6s,baz=297,slow=10.0,SNR=4.2							
NVAR	**Mina Array Bea**	**106.39**	**49**	PP		PP	20 10 15.0	+0.3
TXAR	**Lajitas Array**	**120.91**	**54**	PKP		**PKPdf**	**20 10 25.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=269,slow=0.6,SNR=9.1							
TXAR	**Lajitas Array**	**120.91**	**54**	PKP		**PKPdf**	**20 10 25.9**	**+0.1**
SCHQ	**Schefferville**	**121.56**	**10**	PKP		**PKPdf**	**20 10 25.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=221,slow=16,SNR=3.8							
SCHQ	**Schefferville**	**121.56**	**10**	PKP		**PKPdf**	**20 10 25.9**	**-0.3**
JCT	**Junction City**	**123.48**	**51**	*e*P		**PKPdf**	**20 10 31.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**125.11**	**288**	PKP		**PKPdf**	**20 10 33.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=70,slow=1.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**125.11**	**288**	PKP		**PKPdf**	**20 10 33.2**	**-0.9**
PLCA	**Paso Flores**	**138.09**	**158**	PKP		**PKPdf**	**20 11 00.3**	**+2.4**
	comp=Z,1.1nm,0.8s,baz=205,slow=13,SNR=3.6							
PLCA	**Paso Flores**	**138.09**	**158**	PKP		**PKPdf**	**20 11 00.3**	**+2.4**
CFAA	**Coronel Fontan**	**146.89**	**153**	PKPbc		**PKPbc**	**20 11 16.2**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=207,slow=2.8,SNR=13							
CFAA	**Coronel Fontan**	**146.89**	**153**	PKPbc		**PKPbc**	**20 11 16.2**	**+0.3**
LCO	**Las Campanas**	**147.78**	**147**	*e*PKPbc		**PKPbc**	**20 11 19.5**	**+0.8**
ATAH	**Atahualpa**	**152.69**	**101**	PKPbc		**PKPbc**	**20 11 28.6**	**-2.5**
	comp=Z,1.4nm,0.4s,baz=315,slow=8.6,SNR=2.5							
ATAH	**Atahualpa**	**152.69**	**101**	PKPbc		**PKPbc**	**20 11 28.6**	**-2.5**

*ISCJB **28** 20:01:19.4±0.5, 37°.84N±0°.02×27°.56E±0°.04, h3km±6km, Error ellipse: s-maj=5.2km s-min=3.5km az=146.1*
*CSEM **28** 20:01:19.8±0.1, 37°.84N×27°.57E, h5km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.1km az=82.0*
*DDA **28** 20:01:19.6, 37°.81N×27°.55E, h7km, MD3.0*
*ISK **28** 20:01:19.1, 37°.85N×27°.55E, h6km, MD3.1*

ISC 28 20:01:19.8±1.0, 37°.84N±0°.02×27°.56E±0°.02, h5km±11km, n48, σ0°.36/68, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.30**	**242**	*i* P		**Pg**	**20 01 25.5**	**0.0**
GCAM				*i* S		**Sg**	**20 01 29.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.30**	**242**	*i* P		**Pg**	**20 01 25.5**	**0.0**
GCAM				*i* S		**Sg**	**20 01 29.1**	**-0.3**
AYDN	**Tasoluk**	**0.31**	**126**	*i* P		**Pg**	**20 01 25.9**	**+0.1**
AYDN				*i* S		**Sg**	**20 01 30.2**	**+0.2**
AYDN	**Tasoluk**	**0.31**	**126**	*i* P		**Pg**	**20 01 25.9**	**+0.1**
AYDN				*i* S		**Sg**	**20 01 30.2**	**+0.2**
IZM	**Izmir**	**0.60**	**337**	*e*PG		**Pg**	**20 01 31.4**	**-0.1**
IZM				*e*SG		**Sg**	**20 01 39.7**	**+0.4**
IZM	**Izmir**	**0.60**	**337**	*e*Pg		**Pg**	**20 01 31.4**	**-0.1**
IZM				*e*Sg		**Sg**	**20 01 39.7**	**+0.4**
BLCB	**Balcova**	**0.68**	**323**	*e*PG		**Pg**	**20 01 32.3**	**-0.6**
BLCB				*e*SG		**Sg**	**20 01 42.2**	**+0.4**
BLCB	**Balcova**	**0.68**	**323**	*e*Pg		**Pg**	**20 01 32.3**	**-0.6**
BLCB				*e*Sg		**Sg**	**20 01 42.2**	**+0.4**
BDRM	**Kayabasi**	**0.78**	**187**	*i* P		**Pg**	**20 01 34.2**	**-0.6**
BDRM				*i* S		**Sg**	**20 01 45.5**	**+0.6**
BDRM	**Kayabasi**	**0.78**	**187**	*i* P		**Pg**	**20 01 34.2**	**-0.6**
BDRM				*i* S		**Sg**	**20 01 45.5**	**+0.6**
BODT	**Bodrum**	**0.80**	**194**	*e*PG		**Pg**	**20 01 35.0**	**-0.2**
BODT	**Bodrum**	**0.80**	**194**	*e*Pg		**Pg**	**20 01 35.0**	**-0.2**
YER	**Yerkesik**	**0.91**	**141**	*e*PG		**Pg**	**20 01 37.4**	**+0.1**
YER				*e*SG		**Sb**	**20 01 50.3**	**-0.2**
YER	**Yerkesik**	**0.91**	**141**	*e*Pg		**Pg**	**20 01 37.4**	**+0.1**
YER				*e*Sg		**Sb**	**20 01 50.3**	**-0.2**
URLA	**Izmir**	**0.92**	**304**	*i* P		**Pb**	**20 01 38.2**	**-0.1**
URLA				*i* S		**Sb**	**20 01 50.7**	**-0.1**
URLA	**Izmir**	**0.92**	**304**	*i* P		**Pb**	**20 01 38.2**	**-0.1**
URLA				*i* S		**Sb**	**20 01 50.7**	**-0.1**
MANT	**Manisa**	**1.02**	**50**	*i* P		**Pg**	**20 01 39.2**	**-0.2**
MANT				*i* S		**Sg**	**20 01 51.7**	**-0.9**
MANT	**Manisa**	**1.02**	**50**	*i* P		**Pg**	**20 01 39.2**	**-0.2**
MANT				*i* S		**Sg**	**20 01 51.7**	**-0.9**
AKHS	**Akhisar**	**1.05**	**11**	*i* P		**Pg**	**20 01 40.2**	**+0.2**
AKHS				*i* S		**Sb**	**20 01 54.8**	**+0.1**
AKHS	**Akhisar**	**1.05**	**11**	*i* P		**Pg**	**20 01 40.2**	**+0.2**
AKHS				*i* S		**Sb**	**20 01 54.8**	**+0.1**
AKS	**Akhisar**	**1.05**	**11**	*e*PG		**Pg**	**20 01 40.0**	**0.0**
AKS	**Akhisar**	**1.05**	**11**	*e*Pg		**Pg**	**20 01 40.0**	**0.0**
KULA	**Kula-Manisa**	**1.10**	**52**	*e*PN		**Pg**	**20 01 40.3**	**-0.5**
KULA	**Kula-Manisa**	**1.10**	**52**	*e*Pn		**Pg**	**20 01 40.3**	**-0.5**
DEMI	**Demirci**	**1.50**	**37**	*i* P		**Pg**	**20 01 48.7**	**+0.1**
DEMI				*i* S		**Sb**	**20 02 07.7**	**+0.1**
DEMI	**Demirci**	**1.50**	**37**	*i* P		**Pg**	**20 01 48.7**	**+0.1**
DEMI				*i* S		**Sb**	**20 02 07.7**	**+0.1**
KHL	**Karahalli**	**1.62**	**72**	*e*PN		**Pn**	**20 01 49.1**	**0.0**
KHL	**Karahalli**	**1.62**	**72**	*e*Pn		**Pn**	**20 01 49.1**	**0.0**
FETY	**Fethiye**	**1.71**	**134**	*e*PN		**Pn**	**20 01 50.7**	**+0.5**
FETY	**Fethiye**	**1.71**	**134**	*e*Pn		**Pn**	**20 01 50.7**	**+0.5**
APE	**Apeiranthos**	**1.79**	**245**	*e*PN		**Pn**	**20 01 51.4**	**0.0**
APE	**Apeiranthos**	**1.79**	**245**	*e*Pn		**Pn**	**20 01 51.4**	**0.0**
BALB	**Balikesir**	**1.81**	**8**	*e*PN		**Pn**	**20 01 51.9**	**+0.3**
BALB	**Balikesir**	**1.81**	**8**	*e*Pn		**Pn**	**20 01 51.9**	**+0.3**
DST	**Dursunbey**	**1.94**	**25**	*e*PN		**Pn**	**20 01 53.7**	**+0.2**
DST	**Dursunbey**	**1.94**	**25**	*e*Pn		**Pn**	**20 01 53.7**	**+0.2**
GONE	**Gonen-Balikesi**	**2.20**	**2**	*e*PN		**Pn**	**20 01 57.4**	**+0.4**
GONE	**Gonen-Balikesi**	**2.20**	**2**	*e*Pn		**Pn**	**20 01 57.4**	**+0.4**
ALT	**Altintas**	**2.34**	**58**	*e*PN		**Pn**	**20 01 58.4**	**-0.6**
ALT	**Altintas**	**2.34**	**58**	*e*Pn		**Pn**	**20 01 58.4**	**-0.6**
KCTX	**Karacabey (Bur**	**2.50**	**14**	*e*PN		**Pn**	**20 02 01.5**	**+0.4**
KCTX	**Karacabey (Bur**	**2.50**	**14**	*e*Pn		**Pn**	**20 02 01.5**	**+0.4**
KRBG	**Karabiga-Canak**	**2.56**	**355**	*e*PN		**Pn**	**20 02 02.4**	**+0.6**
KRBG	**Karabiga-Canak**	**2.56**	**355**	*e*Pn		**Pn**	**20 02 02.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.69**	**342**	*e*PN		**Pn**	**20 02 03.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.69**	**342**	*e*Pn		**Pn**	**20 02 03.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.86**	**354**	*e*PN		**Pn**	**20 02 06.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.86**	**354**	*e*Pn		**Pn**	**20 02 06.1**	**0.0**

IDC 28 20:02:24.1±4.2, 8°.45S×158°.86E, h81km±50km, mb3.3/6, mb1 3.5/6, mb1mx3.3/16, mbtmp3.3/6, MS3.9/1, Ms1 3.9/1, ms1mx2.7/17, Error ellipse: s-maj=49.6km s-min=22.7km az=135.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**1.45**	**132**	P		Pn	20 02 48.2	-0.6
	105nm,0.3s,baz=194,slow=3.8,SNR=38							
HNR				S		Sn	20 03 07.5	0.0
	515nm,0.3s,baz=75,slow=20,SNR=22							
WRA	**Warramunga Arr**	**26.33**	**242**	P		P	20 07 52.9	+0.2
	0.4nm,0.5s,baz=66,slow=9.2,SNR=11							
ASAR	**Alice Springs**	**28.28**	**235**	P		P	20 08 09.5	-0

YKA	**Yellowknife Ar**	**93.68**	**340**	P		**P**	**20**	**15**	**23.9**	**+0.5**
	comp=N,1.7nm,0.5s,baz=136,slow=4.7,SNR=51									
ASAR	**Alice Springs**	**129.05**	**205**	PKPbc		**PKPdf**	**20**	**21**	**15.0**	**-0.1**
	comp=N,0.3nm,0.3s,baz=129,slow=1.5,SNR=6.6									
ASAR				SKPbc	SKPab		20	24	17.1	-0.2
	comp=N,0.3nm,0.6s,baz=157,slow=5.4,SNR=4.7									
WRA	**Warramunga Arr**	**132.22**	**207**	PKP		**PKPdf**	**20**	**21**	**21.3**	**+0.1**
	comp=N,0.4nm,0.4s,baz=155,slow=2.0,SNR=15									
WRA				SKPbc		**SKPbc**	**20**	**24**	**29.0**	**-0.4**
	comp=N,1.6nm,1.0s,baz=152,slow=3.5,SNR=9.5									
ZALV	**Zalesovo Beam**	**142.80**	**28**	PKP		**PKPdf**	**20**	**21**	**37.5**	**-1.9**
	comp=N,0.7nm,0.5s,baz=292,slow=4.2,SNR=2.3									
MKAR	**Makanchi Array**	**145.96**	**39**	PKPbc		**PKPbc**	**20**	**21**	**46.2**	**-0.1**
	comp=N,2.3nm,0.7s,baz=309,slow=2.6,SNR=26									
MKAR				pPKPbc	pPKPbc		20	22	38.6	+2.3
	comp=N,0.3nm,0.7s,baz=346,slow=19,SNR=1.2									
MKAR				SKPbc		**SKiKP**	**20**	**25**	**07.4**	**+0.3**
	comp=N,0.3nm,0.4s,baz=0.0,slow=1.7,SNR=7.3									
SONM	**Songino Array**	**155.05**	**11**	PKPbc	PKPdf		20	22	08.4	+9.0
	comp=N,0.2nm,0.6s,baz=302,slow=1.1,SNR=4.1									
SONM				PKPab		**PKPab**	**20**	**22**	**25.4**	**+0.7**
	comp=N,0.5nm,0.5s,baz=321,slow=3.0,SNR=9.3									
KSRS	**Korea Array**	**161.18**	**321**	PKPab		**PKPab**	**20**	**22**	**50.6**	**-0.8**
	comp=N,0.6nm,0.6s,baz=57,slow=4.5,SNR=3.3									
CMAR	**Chiang Mai Arr**	**165.76**	**108**	PKPab		**PKPab**	**20**	**23**	**12.2**	**0.0**
	comp=N,2.1nm,0.5s,baz=253,slow=5.3,SNR=23									

*DJA **28** 20:03:41.0˚.19N×125˚.89E, h10km, MLv3.4/4*
IDC 28 20:03:36.8±2.1, 0.40N×125.90E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, Error ellipse: s-maj=221.0km s-min=25.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**21.84**	**158**	P		P	20	08	30.1	-1.0
	1.0nm,0.8s,baz=336,slow=12,SNR=3.1									
ASAR	**Alice Springs**	**25.15**	**163**	P		P	20	09	04.7	+0.7
	0.3nm,0.6s,baz=350,slow=10,SNR=4.1									
MKAR	**Makanchi Array**	**59.84**	**327**	P		P	20	13	44.2	-0.1
	0.2nm,0.3s,baz=124,slow=8.6,SNR=11									

*IDC **28** 20:20:17.6±2.6, 1.˚33N×97.˚37E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=79.3km s-min=26.7km az=58.0*
*ISCJB **28** 20:20:20.1±2.3, 1.˚4N±0.˚2×97.˚4E±0.˚4, h30km, mb3.6/5, Error ellipse: s-maj=64.1km s-min=22.3km az=153.4*
*DJA **28** 20:20:23, 0.˚85N×97.˚28E, h10km, MLv3.5/7*
ISC 28 20:20:22.3±2.7, 1.˚4N±0.˚3×97.˚4E±0.˚5, h30km, n6, σ0≤46/6, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CMAR	**Chiang Mai Arr**	**17.04**	**5**	P		**Pn**	**20**	**24**	**18.5**	**0.0**
	baz=193,slow=12,SNR=1.9									
WRA	**Warramunga Arr**	**41.92**	**122**	P		**P**	**20**	**28**	**10.6**	**0.0**
	0.3nm,0.5s,baz=303,slow=8.8,SNR=2.5									
KSRS	**Korea Array**	**45.57**	**34**	P		**P**	**20**	**28**	**39.2**	**-0.3**
	1.1nm,0.9s,baz=222,slow=8.3,SNR=4.0									
SONM	**Songino Array**	**46.92**	**8**	P		**P**	**20**	**28**	**50.9**	**+0.6**
	0.2nm,0.5s,baz=184,slow=8.9,SNR=5.4									
MKAR	**Makanchi Array**	**47.13**	**346**	P		**P**	**20**	**28**	**51.5**	**-0.2**
	0.3nm,0.5s,baz=164,slow=8.9,SNR=8.7									
ZALV	**Zalesovo Beam**	**53.42**	**351**	P		**P**	**20**	**29**	**39.0**	**-0.2**
	1.7nm,0.9s,baz=187,slow=7.3,SNR=6.3									

*SZGRF **28** 20:29:45.3, 12˚.01N×92˚.90E, h33km, mb5.4, Andaman Islands, India, region*
*BJI **28** 20:29:53.0, 13˚.26N×92˚.73E, h44km, mB4.8/37, mb4.7/56, Ms4.7/57, Ms7 4.5/53*
*MOS **28** 20:29:54.6±0.9, 13˚.66N×92˚.85E, h33km, mb5.4/54, MS4.6/21, Error ellipse: s-maj=7.7km s-min=3.8km az=120.6*
*ISCJB **28** 20:29:54.3±0.1, 13˚.63N±0˚.03×92˚.81E±0˚.02, h30km, mb5.1/205, MS4.7/91, Error ellipse: s-maj=4.0km s-min=2.9km az=16.0*
*NEIC **28** 20:29:56.9±0.2, 13˚.73N×92˚.82E, h35km, mb5.2/64, MS4.8/34, Error ellipse: s-maj=4.9km s-min=3.5km az=218.0*
*IDC **28** 20:29:56.0±0.6, 13˚.64N×92˚.86E, h28km±3km, mb4.8/30, mb1 4.9/31, mb1mx4.8/33, mbtmp4.8/31, ML4.1/1, MS4.5/31, Ms1 4.5/31, ms1mx4.4/39, Error ellipse: s-maj=13.2km s-min=9.9km az=48.0*
*DJA **28** 20:29:59, 13˚.59N×92˚.84E, h55km, mb5.3/44*
ISC 28 20:29:56.9±0.3, 13˚.68N±0˚.04×92˚.85E±0˚.03, h34km, h35km: pP-P, n692, σ1≤16/769, mb5.2/205, MS4.6/92, 38C-78D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CMAR	**Chiang Mai Arr**	**7.54**	**50**	Pn		**Pn**	**20**	**31**	**44.3**	**-0.1**
	0.8nm,0.3s,baz=241,slow=15,SNR=80									
CMAR				Sn		**Sn**	**20**	**33**	**04.9**	**-3.8**
	3.5nm,0.3s,baz=240,slow=29,SNR=17									
CMAR				LR		LR	20	35	30.0	
	comp=Z,4μm,18.1s,baz=234,slow=44									
CMAR				ScP		**ScP**	**20**	**41**	**54.7**	**-0.8**
	0.1nm,0.3s,baz=298,slow=1.9,SNR=4.7									
CMAR	**Chiang Mai Arr**	**7.54**	**50**	P		**Pn**	**20**	**31**	**44.3**	**-0.1**
CMAR							20	33	04.9	
CMAR	**Chiang Mai Arr**	**7.54**	**50**	Pn		**Pn**	**20**	**31**	**44.3**	**-0.1**
CMAR				Sn		**Sn**	**20**	**33**	**04.9**	**-3.8**
CMAR				ScP		**ScP**	**20**	**41**	**54.7**	**-0.8**
CHTO	**Chiang Mai**	**7.76**	**48**	*e*P		**Pn**	**20**	**31**	**47.2**	**-0.3**
CHTO				pmax		pmax				
	comp=Z,34nm,0.6s									
CHTO	**Chiang Mai**	**7.76**	**48**	*e*P		**Pn**	**20**	**31**	**47.2**	**-0.3**
	comp=Z,34nm,0.6s									
CHTO	**Chiang Mai**	**7.76**	**48**	Pn		Pn	20	31	51.3	+3.8
	SNR=27									
CAL	**Calcutta**	**9.80**	**335**	*e*P		**Pn**	**20**	**32**	**14.1**	**-1.3**
CAL				*e*S		Sn	20	33	53.2	-11
AGT	**Agartala**	**10.26**	**352**	*ex*		P	20	32	28.0	
AGT				*ex*		x	20	33	25.0	
SHL	**Shillong**	**11.86**	**356**	*e*P		**Pn**	**20**	**32**	**41.5**	**-2.3**
SHL				*e*S		Sn	20	34	44.0	-11
IPM	**Ipoh**	**12.19**	**138**	P		**Pn**	**20**	**32**	**48.8**	**+0.5**
FRIM	**Kepong**	**13.52**	**139**	P		Pn	20	33	09.6	+3.2
ODAN	**Odare**	**14.07**	**340**	*e*P		**Pn**	**20**	**33**	**11.2**	**-2.9**
ODAN	**Odare**	**14.07**	**340**	*e*P		**Pn**	**20**	**33**	**11.2**	**-2.9**
HYB	**Hyderabad**	**14.27**	**287**	*i* P		**Pn**	**20**	**33**	**14.0**	**-2.7**
	comp=Z,75nm,1.0s									
HYB				*e*S		**Sn**	**20**	**35**	**54.0**	**+0.1**
TAPN	**Taplejung**	**14.42**	**341**	*e*P		Pn	20	33	15.2	-3.7
TAPN	**Taplejung**	**14.42**	**341**	*e*P		Pn	20	33	15.2	-3.7
RAMN	**Ramite**	**14.44**	**337**	*e*P		Pn	20	33	14.6	-4.5
	comp=Z,133nm,0.5s									
RAMN	**Ramite**	**14.44**	**337**	*e*P		Pn	20	33	14.6	-4.5
	comp=Z,133nm,0.5s									
KMI	**Kunming**	**14.70**	**38**	P		**P**	**20**	**33**	**29.8**	**+1.3**
KMI				S		S	20	36	14.5	-8.2
KMI				SS		sS	20	36	33.3	
KMI				pmax		pmax				
	comp=Z,9.0nm,1.0s									
KMI				pmax		pmax				
	comp=Z,180nm,5.3s									
KMI				LR		LR				
	comp=N,930nm,14.0s									
KMI				LR		LR				
	comp=E,2μm,16.1s									
KMI				LR		LR				
	comp=Z,1μm,15.9s									
NGP	**Nagpur**	**15.11**	**301**	*e*P		**Pn**	**20**	**33**	**27.3**	**-0.7**
NGP				*ex*		x	20	33	29.1	
	comp=Z,178nm,0.6s									
NGP				*ex*		x	20	35	59.8	
JIRN	**Jiri**	**15.23**	**337**	*e*P		**Pn**	**20**	**33**	**27.4**	**-2.5**
JIRN	**Jiri**	**15.23**	**337**	*e*P		**Pn**	**20**	**33**	**27.4**	**-2.5**
PKI	**Pulchoki**	**15.47**	**334**	*e*P		**Pn**	**20**	**33**	**30.0**	**-2.9**
PKI	**Pulchoki**	**15.47**	**334**	*e*P		**Pn**	**20**	**33**	**30.0**	**-2.9**
PKI	**Pulchoki**	**15.47**	**334**	*e*P		**Pn**	**20**	**33**	**30.0**	**-2.9**
KGM	**Kluang**	**15.54**	**137**	P		**P**	**20**	**33**	**38.1**	**+0.5**
GUN	**Gumba**	**15.58**	**336**	*e*P		**Pn**	**20**	**33**	**32.0**	**-2.4**
GUN	**Gumba**	**15.58**	**336**	*e*P		**Pn**	**20**	**33**	**32.0**	**-2.4**
DMN	**Daman**	**15.63**	**334**	*e*P		**Pn**	**20**	**33**	**33.4**	**-1.5**
DMN	**Daman**	**15.63**	**334**	*e*P		**Pn**	**20**	**33**	**33.4**	**-1.5**
KKN	**Kakani**	**15.71**	**334**	*e*P		**Pn**	**20**	**33**	**34.2**	**-1.8**
KKN	**Kakani**	**15.71**	**334**	*e*P		**Pn**	**20**	**33**	**34.2**	**-1.8**
KKN	**Kakani**	**15.71**	**334**	*e*P		**Pn**	**20**	**33**	**34.2**	**-1.8**
LSA	**Lhasa**	**16.02**	**355**	P		**P**	**20**	**33**	**44.0**	**+0.7**
LSA				sP		**sP**	**20**	**33**	**53.3**	**-3.3**
LSA				S		**Sn**	**20**	**36**	**39.3**	**+2.4**
LSA				pmax		pmax				
	comp=Z,30nm,0.8s									
LSA				LR		LR				
	comp=N,1μm,20.0s									
LSA				LR		LR				
	comp=E,2μm,25.0s									
LSA				LR		LR				
	comp=Z,2μm,22.0s									
LSA	**Lhasa**	**16.02**	**355**	*e*P		**Pn**	**20**	**33**	**39.4**	**-0.7**
LSA				pmax		pmax				
	comp=Z,84nm,0.9s									
LSA	**Lhasa**	**16.02**	**355**	*e*P		**Pn**	**20**	**33**	**39.4**	**-0.7**
	comp=Z,84nm,0.9s									
MYKOM	**Kota Tinggi**	**16.06**	**136**	P		**P**	**20**	**33**	**43.9**	**+0.6**
GKN	**Gorkha**	**16.18**	**333**	*e*P		**Pn**	**20**	**33**	**40.2**	**-1.6**
GKN	**Gorkha**	**16.18**	**333**	*e*P		**Pn**	**20**	**33**	**40.2**	**-1.6**
LATR	**Latur**	**16.35**	**289**	*e*P		**Pn**	**20**	**33**	**42.9**	**-1.1**
LATR				*ex*		x	20	36	30.6	
KOLN	**Koldanda**	**16.46**	**330**	*e*P		**Pn**	**20**	**33**	**45.1**	**-0.4**
KOLN	**Koldanda**	**16.46**	**330**	*e*P		**Pn**	**20**	**33**	**45.1**	**-0.4**
DANN	**Dangsing**	**16.87**	**331**	*e*P		**Pn**	**20**	**33**	**50.2**	**-0.6**
DANN	**Dangsing**	**16.87**	**331**	*e*P		**Pn**	**20**	**33**	**50.2**	**-0.6**
QIZ	**Qiongzhong**	**17.14**	**70**	P		**Pn**	**20**	**33**	**54.5**	**+0.5**
QIZ				sP		**sP**	**20**	**34**	**08.3**	**-0.3**
QIZ				S		**Sn**	**20**	**37**	**04.3**	**+0.6**
QIZ				pmax		pmax				
	comp=Z,14nm,1.4s									
QIZ				LR		LR				
	comp=N,1μm,21.9s									
QIZ				LR		LR				
	comp=E,640nm,23.3s									
QIZ				LR		LR				
	comp=Z,3μm,16.7s									
MNGI	**Mangalore**	**17.57**	**270**	*i* P		**Pn**	**20**	**33**	**58.6**	**-0.6**
GYA	**Guiyang**	**18.14**	**43**	P		**Pn**	**20**	**34**	**06.3**	**0.0**
GYA				pP		**pP**	**20**	**34**	**14.3**	**-1.1**
GYA				PP		pwP	20	34	22.5	+7.1
GYA				S		**S**	**20**	**37**	**31.5**	**-1.1**
GYA				sS		**sS**	**20**	**37**	**43.8**	**-3.0**
GYA				SS		Sn	20	37	56.5	+28
GYA				pmax		pmax				
	comp=Z,20nm,0.9s									
GYA				pmax		pmax				
	comp=Z,120nm,8.0s									
GYA				LR		LR				
	comp=N,1μm,16.1s									
GYA				LR		LR				
	comp=E,950nm,14.8s									
GYA				LR		LR				
	comp=Z,2μm,15.2s									
POO	**Poona**	**18.88**	**287**	*e*P		**P**	**20**	**34**	**14.8**	**+0.3**
POO				AMb		AMB	20	34	17.5	
	comp=Z,89nm,1.4s									
CD2	**Chengdu**	**19.87**	**29**	P		**Pn**	**20**	**34**	**27.3**	**+0.3**
CD2				pP		**pP**	**20**	**34**	**36.3**	**+2.0**
CD2				sP		**sP**	**20**	**34**	**41.0**	**+2.4**
CD2				PP		pwP	20	34	47.0	+13
CD2				S		**S**	**20**	**38**	**05.0**	**-2.2**
CD2				SS		Sn	20	38	33.5	+24
CD2				pmax		pmax				
	comp=Z,40nm,1.1s									
CD2				pmax		pmax				
	comp=Z,290nm,5.4s									
CD2				LR		LR				
	comp=N,2μm,18.4s									
CD2				LR		LR				
	comp=Z,2μm,20.8s									
NDI	**New Delhi**	**20.83**	**318**	*e*P		**P**	**20**	**34**	**35.2**	**-0.4**
NDI				AMb		AMB	20	34	39.9	
	comp=Z,103nm,0.8s									
NDI				*ex*		x	20	38	14.0	
DDI	**Dehra Dun**	**21.46**	**323**	*e*P		**P**	**20**	**34**	**42.0**	**-0.5**
DDI				*ex*		x	20	38	30.5	
SBUM	**Sibu**	**22.16**	**119**	P		**P**	**20**	**34**	**50.6**	**+0.5**
ENH	**Enshi**	**22.54**	**40**	*e*P		**P**	**20**	**34**	**52.6**	**-1.5**
	comp=Z,92nm,0.9s									
KKM	**Kota Kinabalu**	**24.22**	**106**	P		**P**	**20**	**35**	**10.8**	**-0.1**
THN	**Thein Dam**	**24.37**	**323**	*e*P		**P**	**20**	**35**	**11.1**	**-0.8**
THN				*ex*		x	20	39	38.2	
LZH	**Lanzhou**	**24.39**	**22**	*e*P		**P**	**20**	**35**	**13.5**	**+1.2**
LZH				pP		**pP**	**20**	**35**	**21.5**	**-0.6**
LZH				sP		**sP**	**20**	**35**	**24.3**	**-2.0**
LZH				PP		pwP	20	35	54.5	+32
LZH				*e*S		**S**	**20**	**39**	**28.5**	**-1.4**
LZH				sS		**sS**	**20**	**39**	**43.8**	**-2.2**
LZH				SS			20	40	26.0	
LZH				pmax		pmax				
	comp=Z,32nm,1.1s									
LZH				pmax		pmax				
	comp=Z,93nm,4.0s									
LZH				LR		LR				
	comp=Z,2μm,14.0s									
KDM	**Kudat**	**24.52**	**104**	P		**P**	**20**	**35**	**14.2**	**+0.7**
XAN	**Xi'an**	**24.96**	**33**	P		**P**	**20**	**35**	**17.0**	**-0.4**
XAN				pP		**pP**	**20**	**35**	**26.5**	**-0.6**
XAN				sP		**sP**	**20**	**35**	**30.3**	**-1.0**
XAN				PP		pwP	20	35	58.3	+31
XAN				S		**S**	**20**	**39**	**43.5**	**+4.6**
XAN				sS		**sS**	**20**	**39**	**58.8**	**+3.7**
XAN				pmax		pmax				
	comp=Z,6.0nm,0.9s									
XAN				pmax		pmax				
	comp=Z,25nm,4.8s									
XAN				LR		LR				
	comp=N,670nm,16.7s									
XAN				LR		LR				
	comp=E,280nm,13.6s									
XAN				LR		LR				
	comp=Z,240nm,14.8s									
SDKM	**Sandakan**	**25.27**	**106**	P		**P**	**20**	**35**	**20.1**	**-0.3**
WHN	**Wuhan**	**25.96**	**46**	⇑P		**P**	**20**	**35**	**23.5**	**-2.9**
WHN				LR		LR				
	comp=N,3μm,15.2s									
WHN				LR		LR				
	comp=E,3μm,20.8s									
WHN				LR		LR				
	comp=Z,3μm,16.1s									
COCO	**West Island**	**26.01**	**171**	PFAKE			20	35	40.0	+13
COCO				LR		LR				
	comp=Z,1μm,20.0s									
GTA	**Gaotai**	**26.35**	**12**	P		**P**	**20**	**35**	**31.0**	**+1.0**
GTA				pP		**pP**	**20**	**35**	**40.5**	**+0.7**
GTA				sP		**sP**	**20**	**35**	**44.5**	**+0.6**
GTA				S		**S**	**20**	**40**	**02.8**	**+1.8**
GTA				sS		**sS**	**20**	**40**	**18.8**	**+1.6**
GTA				SS			20	41	16.3	
GTA				pmax		pmax				
	comp=Z,6.0nm,1.3s									
GTA				pmax		pmax				
	comp=Z,120nm,5.5s									
GTA				LR		LR				
	comp=N,870nm,18.5s									
GTA				LR		LR				
	comp=E,600nm,17.6s									
GTA				LR		LR				
	comp=Z,1μm,17.1s									
TSM	**Tawau**	**26.39**	**108**	P		**P**	**20**	**35**	**29.4**	**-1.0**
TWG	**Pinlang**	**28.25**	**67**	*e*P		**P**	**20**	**35**	**48.1**	**+1.1**
	comp=Z,67nm,1.3s									
SSLB	**Suanglung**	**28.39**	**65**	*e*P		**P**	**20**	**35**	**49.2**	**+0.8**
	comp=Z,60nm,1.1s									
DGAR	**Diego Garcia**	**29.15**	**225**	PFAKE			20	36	10.0	+15
DGAR				LR		LR				
	comp=Z,1μm,20.0s									
KSH	**Kashi**	**29.72**	**333**	⇓*i* P		**P**	**20**	**35**	**59.3**	**-0.8**
KSH				*e*pP		**pP**	**20**	**36**	**08.5**	**-1.4**
KSH				*e*sP		**sP**	**20**	**36**	**12.5**	**-1.6**
KSH				*e*PP		PP	20	36	55.0	-13
KSH				*e*PcP		**PcP**	**20**	**39**	**04.8**	**+1.2**
KSH				*e*S		**S**	**20**	**40**	**48.5**	**-5.6**
KSH				*e*ScP		**ScP**	**20**	**42**	**42.8**	**-0.4**
KSH				*e*PcS		**PcS**	**20**	**42**	**46.5**	**-0.4**
KSH				*e*ScS		**ScS**	**20**	**46**	**36.0**	**-2.2**
KSH				pmax		pmax				
	comp=Z,22nm,0.8s									
KSH				LR		LR				
	comp=N,410nm,10.6s									
KSH				LR		LR				
	comp=E,450nm,10.5s									
KSH				LR		LR				
	comp=Z,790nm,15.4s									
KBL	**Kabul**	**29.92**	**318**	*e*P		**P**	**20**	**36**	**01.3**	**-0.7**
KBL				pmax		pmax				
	comp=Z,23nm,0.8s									
KBL	**Kabul**	**29.92**	**318**	*e*P		**P**	**20**	**36**	**01.3**	**-0.7**
	comp=Z,22nm,0.8s									
NJ2	**Nanjing**	**30.00**	**48**	*e*P		**P**	**20**	**36**	**02.8**	**+0.3**
NJ2				pP		**pP**	**20**	**36**	**12.3**	**0.0**
NJ2				sP		**sP**	**20**	**36**	**15.5**	**-1.0**
NJ2				S		**S**	**20**	**41**	**01.0**	**+2.6**
NJ2				sS		**sS**	**20**	**41**	**16.0**	**+1.4**
NJ2				pmax		pmax				
	comp=Z,20nm,0.8s									
NJ2				pmax		pmax				
	comp=Z,290nm,4.2s									
NJ2				LR		LR				
	comp=N,1μm,17.0s									
NJ2				LR		LR				
	comp=E,1μm,19.5s									
NJ2				LR		LR				
	comp=Z,1μm,14.7s									
WMQ	**Urumqi**	**30.36**	**353**	P		**P**	**20**	**36**	**06.5**	**+0.9**
WMQ				pP		**pP**	**20**	**36**	**15.5**	**+0.1**
WMQ				sP		**sP**	**20**	**36**	**20.5**	**+0.9**
WMQ				PP		PP	20	37	06.5	-8.0
WMQ				S		**S**	**20**	**41**	**03.5**	**-0.3**
WMQ				pmax		pmax				
	comp=Z,12nm,0.8s									
WMQ				pmax		pmax				
	comp=Z,260nm,5.2s									
WMQ				LR		LR				
	comp=N,650nm,18.0s									
WMQ				LR		LR				
	comp=E,630nm,18.2s									
WMQ				LR		LR				
	comp=Z,660nm,16.7s									
BTO	**Baotou**	**30.74**	**26**	*e*P		**P**	**20**	**36**	**08.8**	**-0.3**
SSE	**Sheshan**	**31.27**	**52**	P		**P**	**20**	**36**	**14.8**	**+1.1**
SSE				pP		**pP**	**20**	**36**	**25.0**	**+1.5**
SSE				S		**S**	**20**	**41**	**20.3**	**+2.1**
SSE				sS		**sS**	**20**	**41**	**39.3**	**+4.8**
SSE				pmax		pmax				
	comp=Z,14nm,0.7s									
SSE				pmax		pmax				
	comp=Z,95nm,3.5s									
SSE				LR		LR				
	comp=N,810nm,17.1s									
SSE				LR		LR				
	comp=E,420nm,17.2s									
SSE				LR		LR				
	comp=Z,800nm,14.3s									
HHC	**Hu-ho-hao-te**	**31.62**	**28**	*e*P		**P**	**20**	**36**	**18.8**	**+2.0**
HHC				sP		**sP**	**20**	**36**	**32.0**	**+1.2**
HHC				PP		PP	20	37	24.0	-4.6
HHC				PcP		**PcP**	**20**	**39**	**10.0**	**+1.4**
HHC				S		**S**	**20**	**41**	**25.3**	**+1.6**
HHC				sS		**sS**	**20**	**41**	**41.5**	**+1.5**
HHC				ScP		**ScP**	**20**	**42**	**49.8**	**+0.4**
HHC				PcS		**PcS**	**20**	**42**	**53.3**	**+0.2**
HHC				SS		SS	20	43	16.3	-24
HHC				ScS		**ScS**	**20**	**46**	**45.8**	**-1.6**
HHC				pmax		pmax				
	comp=Z,9.0nm,1.0s									
HHC				pmax		pmax				
	comp=Z,100nm,6.1s									
HHC				LR		LR				
	comp=N,550nm,14.1s									
HHC				LR		LR				
	comp=E,790nm,13.8s									
HHC				LR		LR				
	comp=Z,680nm,12.7s									
KZA	**Kyzart**	**32.15**	**335**	P		**P**	**20**	**36**	**22.8**	**+1.0**
	SNR=8.6									
KZA				P		**P**	**20**	**36**	**22.8**	**+1.0**
	SNR=8.6									
KAPI	**Kappang**	**32.53**	**123**	P		**P**	**20**	**36**	**23.6**	**-1.3**
	comp=Z,15nm,0.7s,baz=307,slow=8.9,SNR=11									
KAPI	**Kappang**	**32.53**	**123**	*e*P		**P**	**20**	**36**	**22.6**	**-2.3**
	comp=Z,9.3nm,0.6s									
TKM2	**Tokmak 2**	**32.72**	**336**	P		**P**	**20**	**36**	**27.2**	**+0.7**
	SNR=14									
TKM2				P		**P**	**20**	**36**	**27.2**	**+0.7**
	SNR=14									
TKM2	**Tokmak 2**	**32.72**	**336**	*i* P		**P**	**20**	**36**	**27.2**	**+0.7**
TKM2	**Tokmak 2**	**32.72**	**336**	*e*P		**P**	**20**	**36**	**26.8**	**+0.3**
	comp=Z,6.0nm,0.8s									
KBK	**Karagaybulak**	**32.76**	**335**	P		**P**	**20**	**36**	**27.9**	**+1.1**
	SNR=13									
KBK				P		**P**	**20**	**36**	**27.9**	**+1.1**
	SNR=13									
AML	**Almayashu**	**32.85**	**333**	P		**P**	**20**	**36**	**28.9**	**+0.9**
	SNR=33									
AML				P		**P**	**20**	**36**	**28.9**	**+0.9**
	SNR=33									
AAK	**Ala-Archa**	**32.92**	**335**	P		**P**	**20**	**36**	**29.7**	**+1.4**
	SNR=14									
AAK				P		**P**	**20**	**36**	**29.7**	**+1.4**
	SNR=14									
AAK	**Ala-Archa**	**32.92**	**335**	*i* P		**P**	**20**	**36**	**29.6**	**+1.4**
AAK	**Ala-Archa**	**32.92**	**335**	*e*P		**P**	**20**	**36**	**29.2**	**+1.0**
	comp=Z,85nm,1.1s									
AAK				LR		LR				
	comp=Z,2μm,20.0s									
AAK	**Ala-Archa**	**32.92**	**335**	P		**P**	**20**	**36**	**29.0**	**+0.7**
	comp=Z,92nm,1.0s,SNR=18									
FRU	**Bishkek**	**33.04**	**335**	⇓*e*P		**P**	**20**	**36**	**30.0**	**+0.9**
FR

SNR=7.4
KK31 Karatay Array 35.07 331 *i* P **P** **20 36 47.0 +0.3**
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 35.07 331 *e*P **P** **20 36 47.3 +0.6**
KKAR pmax pmax
comp=Z,39nm,1.2s
KKAR Karatay Array 35.07 331 *e*P **P** **20 36 47.3 +0.6**
comp=Z,39nm,1.2s
JOW Kunigami 35.58 63 *e*P **P** **20 36 51.4 +0.1**
DL2 Dalian 35.73 40 *e*P P 20 36 48.8 -3.6
DL2 S S 20 42 18.5 -8.7
DL2 LR LR
comp=E,470nm,18.0s
DL2 LR LR
comp=Z,510nm,18.9s
SONM Songino Array 35.87 16 P **P** **20 36 54.3 +0.6**
comp=Z,7.9nm,1.0s,baz=201,slow=6.8,SNR=41
SONM PcP **PcP** **20 39 21.2 +0.7**
comp=Z,1.5nm,0.6s,baz=199,slow=3.7,SNR=4.6
SONM ScP **ScP** **20 43 05.6 +1.4**
comp=Z,0.9nm,0.7s,baz=215,slow=3.7,SNR=5.4
SONM LR LR 20 53 22.3
comp=Z,474nm,21.6s,baz=13,slow=39
SONM PKPPKP P'P'df 21 09 52.6 -7.1
comp=Z,0.4nm,1.0s,baz=92,slow=2.2,SNR=3.7
SONM Songino Array 35.87 16 P **P** **20 36 54.3 +0.6**
SONM 20 39 21.2
SONM Songino Array 35.87 16 P **P** **20 36 54.3 +0.6**
SONM PcP **PcP** **20 39 21.2 +0.7**
SONM ScP **ScP** **20 43 05.6 +1.4**
SONM P'P' 21 09 52.6
ULN Ulaanbaatar 36.07 16 *e*P **P** **20 36 55.5 +0.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 36.07 16 *e*P **P** **20 36 55.5 +0.1**
comp=Z,9.1nm,1.0s
HATD Hatta, Dubai 36.29 293 P **P** **20 36 59.8 +2.4**
SNR=5.3
ASHO Ashiyiah 36.33 293 P **P** **20 37 00.7 +2.9**
SNR=8.3
ZAK Zakamensk 37.57 11 *e*P **P** **20 37 08.7 +0.6**
ZAK *e* 20 39 25.9
ABTO Aybut 38.24 281 P **P** **20 37 16.2 +2.0**
SNR=6.0
MOY Mondy 38.45 8 *e*P **P** **20 37 16.7 +1.2**
SNY Shenyang 38.68 38 ⇓P P 20 37 26.3 +8.9
SNY S S 20 43 29.0 +17
SNY pmax pmax
comp=Z,14nm,2.1s
SNY pmax pmax
comp=Z,180nm,2.6s
SNY LR LR
comp=N,790nm,17.8s
SNY LR LR
comp=E,730nm,16.9s
SNY LR LR
comp=Z,600nm,17.6s
KURK Kurchatov 38.70 346 P **P** **20 37 17.2 -0.2**
comp=Z,32nm,0.8s,baz=164,slow=8.0,SNR=197
KURK LR LR 20 56 34.6
comp=Z,1μm,18.3s,baz=170,slow=41
KURK Kurchatov 38.70 346*d i*P **P** **20 37 17.5 0.0**
KURK pmax pmax
comp=Z,43nm,1.1s
KURK Kurchatov 38.70 346 *e*P **P** **20 37 16.8 -0.6**
comp=Z,32nm,0.9s
KURK Kurchatov 38.70 346 P **P** **20 37 18.0 +0.6**
SNR=15
KURK Kurchatov 38.70 346 P **P** **20 37 17.5 0.0**
comp=Z,199nm,0.9s,SNR=35
TLY Talaya 38.88 11 *e*P P 20 37 29.8 +11
TLY *e* 20 38 56.6
TLY *e*S S 20 43 04.8 -10
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,889nm,20.0s
KSAR Wonju Array Be 39.12 46 P **P** **20 37 20.9 -0.3**
KSAR Wonju Array Be 39.12 46 P **P** **20 37 20.9 -0.3**
ABKT Ailbek 39.15 314 P **P** **20 37 22.5 +1.0**
comp=Z,459nm,0.7s,SNR=32
KSRS Korea Array 39.16 46 P **P** **20 37 20.9 -0.6**
comp=Z,7.5nm,0.7s,baz=244,slow=8.0,SNR=34
KSRS LR LR 20 56 00.1
comp=Z,1μm,18.4s,baz=237,slow=40
JNU Nakatsue 39.61 54 P **P** **20 37 25.8 +0.4**
comp=Z,8.8nm,0.8s,baz=328,slow=1.1,SNR=5.8
JNU LR LR 20 56 19.1
comp=Z,715nm,18.2s,baz=253,slow=40
JNU Nakatsue 39.61 54 P **P** **20 37 25.8 +0.4**
ZALV Zalesovo Beam 40.67 353 P **P** **20 37 33.5 -0.3**
comp=Z,23nm,0.6s,baz=176,slow=8.5,SNR=159
ZALV pP **pP** **20 37 42.6 -1.1**
comp=Z,20nm,0.7s,baz=167,slow=7.3,SNR=20
ZALV LR LR 20 58 10.2
comp=Z,616nm,20.2s,baz=347,slow=42
ZALV Zalesovo Beam 40.67 353 P **P** **20 37 33.5 -0.3**
ZALV *PP **pP** **20 37 42.7 -1.1**
ZALV Zalesovo Beam 40.67 353 P **P** **20 37 33.5 -0.3**
ZALV pP **pP** **20 37 42.6 -1.1**
CN2 Changchun 40.97 37 *e*P **P** **20 37 38.5 +2.1**
CN2 *e*pP **pP** **20 37 48.3 +1.8**
CN2 *e*sP **sP** **20 37 52.3 +1.7**
CN2 *e*S **S** **20 43 48.3 +2.1**
CN2 SS SS 20 46 46.5 -2.4
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=E,600nm,17.0s
CN2 LR LR
comp=Z,700nm,19.0s
NVS Novosibirsk 41.75 352 *e*P **P** **20 37 41.1 -1.5**
NVS *e* 20 39 34.4
NVS *e*S S 20 43 50.7 -6.7
NVS pmax pmax
comp=Z,14nm,1.0s
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS smax smax
comp=N,10.0nm,1.8s
NVS smax smax
comp=E,22nm,2.2s
HIA Hailar 41.80 26 *e*P **P** **20 37 42.2 -1.0**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 41.80 26 *e*P **P** **20 37 42.1 -1.0**
comp=Z,6.1nm,0.9s
VOSK Vostochnaya 42.67 340 P **P** **20 37 49.2 -1.1**
VOSK pmax pmax
comp=Z,28nm,0.8s
BVA0 Borovoye Array 43.12 340 *e*P **P** **20 37 51.7 -2.2**
BVAR Borovoye Array 43.12 340 P **P** **20 37 53.7 -0.2**
comp=Z,17nm,1.0s,baz=141,slow=7.6,SNR=62
BVAR LR LR 20 58 14.4
comp=Z,640nm,20.4s,baz=146,slow=39
BVAR Borovoye Array 43.12 340 P **P** **20 37 53.7 -0.2**
BVAR Borovoye Array 43.12 340 P **P** **20 37 53.7 -0.2**
BRVK Borovoye 43.19 340 ⇑*i*P **P** **20 37 54.0 -0.3**
BRVK pmax pmax
comp=Z,24nm,1.1s
BRVK Borovoye 43.19 340 *e*P **P** **20 37 54.0 -0.3**
comp=Z,15nm,0.8s
BRVK LR LR
comp=Z,908nm,21.0s
BRVK Borovoye 43.19 340 P **P** **20 37 54.8 +0.4**
comp=Z,124nm,0.8s,SNR=6.9
BRVK Borovoye 43.19 340 P **P** **20 37 54.5 +0.2**
SNR=5.8
ZRNK Zerenda 43.53 339 P **P** **20 37 56.3 -0.8**
ZRNK pmax pmax
comp=Z,16nm,0.8s
MDJ Mudanjiang 43.88 38 P **P** **20 38 02.0 +1.9**
MDJ pP **pP** **20 38 10.0 -0.2**
MDJ sP **sP** **20 38 14.3 0.0**
MDJ PP **PcP** **20 39 46.5 +0.6**
MDJ S S 20 44 35.5 +6.4
MDJ pmax pmax
comp=Z,9.0nm,2.3s
MDJ LR LR
comp=N,490nm,21.1s
MDJ LR LR
comp=E,430nm,22.3s
MDJ LR LR
comp=Z,640nm,18.2s
QRN Al-Qurain 44.22 297 *e*P **P** **20 38 03.1 0.0**
QRN AMb AMB 20 38 03.7
comp=Z,82nm,0.7s
RDF Al-Radifah 44.57 297 *e*P **P** **20 38 06.4 +0.5**
RDF AMb AMB 20 38 07.3
comp=Z,98nm,0.7s
AB31 Akbulak array 44.58 330 P **P** **20 38 06.0 +0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 44.58 330 *e*P **P** **20 38 06.1 +0.5**
comp=Z,28nm,0.6s
NAY Al-Naaiem 44.89 298 *e*P **P** **20 38 08.2 -0.3**
NAY AMb AMB 20 38 09.4
comp=Z,35nm,1.2s
MIB Mutribah 44.91 299 *e*P **P** **20 38 08.2 -0.3**
MIB AMb AMB 20 38 09.3
comp=Z,59nm,0.8s
USRK Ussuriysk Arra 45.13 40 P **P** **20 38 09.8 -0.2**
comp=Z,2.8nm,0.9s,baz=34,slow=0.7,SNR=4.7
USRK LR LR 21 01 09.4
comp=Z,798nm,18.3s,baz=156,slow=42
FITZ Fitzroy Crossi 45.20 133 P **P** **20 38 09.6 -1.4**
comp=Z,21nm,0.5s,baz=318,slow=5.5,SNR=62
FITZ LR LR 20 59 17.3
comp=Z,458nm,21.5s,baz=308,slow=39
FITZ Fitzroy Crossi 45.20 133 *e*P **P** **20 38 09.5 -1.4**
FITZ Fitzroy Crossi 45.20 133 P **P** **20 38 09.6 -1.4**
RAYN Ar Rayn 45.76 290 P **P** **20 38 15.0 -0.4**
comp=Z,95nm,1.1s,SNR=15
AKTO Aktyubinsk 46.30 330 P **P** **20 38 19.1 -0.1**
comp=Z,23nm,0.6s,baz=126,slow=16,SNR=16
AKTO LR LR 21 00 52.0
comp=Z,440nm,19.0s,baz=274,slow=40
AKTO Aktyubinsk 46.30 330 P **P** **20 38 19.1 -0.1**
AKTO Aktyubinsk 46.30 330 P **P** **20 38 19.1 -0.1**
MAJO Matsushiro 46.41 52 *e*P **P** **20 38 20.8 +0.4**
MAJO pmax pmax
comp=Z,20nm,1.0s
MAJO Matsushiro 46.41 52 *e*P **P** **20 38 20.8 +0.4**
comp=Z,20nm,1.0s
MAT Matsushiro 46.41 52 P **P** **20 38 19.9 -0.5**
MAT S **S** **20 45 06.0 -0.1**
MJAR Matsushiro Arr 46.42 52 P **P** **20 38 21.0 +0.6**
comp=Z,7.7nm,1.0s,baz=264,slow=11,SNR=18
MJAR PcP **PcP** **20 39 55.6 +0.7**
comp=Z,3.4nm,0.6s,baz=237,slow=3.2,SNR=9.8
MJAR LR LR 21 00 07.9
comp=Z,683nm,19.1s,baz=250,slow=39
MJAR Matsushiro Arr 46.42 52 P **P** **20 38 21.0 +0.6**
MJAR 20 39 55.6
MJAR Matsushiro Arr 46.42 52 P **P** **20 38 21.0 +0.6**
MJAR PcP **PcP** **20 39 55.6 +0.7**
BOD Bodaibo 46.87 15 *e*P **P** **20 38 23.8 +0.3**
BOD pmax pmax
comp=Z,12nm,1.5s
KLR Kul'dur 47.67 34 *e*P P 20 38 34.8 +4.8
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
BHD Baghdad 48.07 303 *e*P P 20 38 28.0 -5.3
BHD *e*PP PP 20 40 27.0 +1.3
BHD *e*S **S** **20 45 27.0 -2.7**
BHD *i* PS 20 45 37.0
MAK Makhachkala 48.62 316 *e*P P 20 38 41.2 +3.8
MAK *e*PPP PPP 20 41 23.9
MAK *e*S **S** **20 45 40.3 +3.2**
MAK pmax pmax
comp=Z,60nm,1.1s
MAK MLR MLR
comp=Z,521nm,16.0s
HABR Khabarovsk 49.11 36 *e*P P 20 38 48.9 +7.9
HABR *e* 20 40 32.8
HABR *e*PPP PPP 20 41 25.1
HABR *e*S **S** **20 45 43.0 -0.8**
HABR *e**SS sS 20 45 59.7 -0.9
HABR *e* 20 48 28.0
HABR *e*SS SS 20 49 16.0 +0.8
HABR *e*SSS SSS 20 50 34.6
HABR pmax pmax
comp=N,33nm,2.1s
HABR pmax pmax
comp=Z,49nm,2.1s
HABR pmax pmax
comp=E,26nm,1.4s
HABR MLR MLR
comp=Z,311nm,21.0s
CLNS Chul'man 49.52 23 *e*P **P** **20 38 44.0 -0.1**
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.2s
CLNS pmax pmax
comp=N,6.0nm,1.0s
DGRG David-gareji 49.55 313 P **P** **20 38 46.5 +1.9**
SVE Sverdlovsk 49.58 337⇑*i*P **P** **20 38 45.1 +0.6**
SVE *e*S S 20 45 58.8 +8.6
SVE pmax pmax
comp=Z,84nm,0.9s
SVE MLR MLR
comp=Z,761nm,20.0s
GNI Garni 49.58 311 *e*P **P** **20 38 45.2 +0.2**
GNI Garni 49.58 311*d i*P **P** **20 38 46.8 +1.8**
GNI pmax pmax
comp=Z,110nm,1.4s
GNI Garni 49.58 311 *e*P **P** **20 38 46.4 +1.4**
comp=Z,72nm,1.0s
GNI Garni 49.58 311 P **P** **20 38 47.2 +2.2**
SNR=16
CUKT Cukurca 49.61 307 *e*P **P** **20 38 45.6 +0.4**
CLDR Caldiran 49.89 310 *e*P **P** **20 38 48.1 +0.7**
TBLG Delisi 50.09 313 *e*P **P** **20 38 49.9 +1.2**
TBLG Delisi 50.09 313 P **P** **20 38 49.9 +1.2**
ARU Arti 50.09 336 *e*P **P** **20 38 48.2 -0.2**
ARU pmax pmax
comp=Z,29nm,0.8s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 50.09 336 *e*P **P** **20 38 48.2 -0.2**
comp=Z,29nm,0.8s
ARU LR LR
comp=Z,1μm,20.0s
ARU Arti 50.09 336 P **P** **20 38 48.5 +0.1**
comp=Z,232nm,0.7s,SNR=15
GUMO Guam 50.46 84 LR LR 21 00 53.0
comp=Z,267nm,18.1s,baz=80,slow=37
GOR Gori 50.62 314 P **P** **20 38 54.8 +2.1**
AGRB Hanur-Agry 50.70 310 *e*P **P** **20 38 54.9 +1.3**
AKH Akhalkalaki 50.87 313 P **P** **20 38 56.6 +1.8**
KLBR Kellerberrin 50.96 152 *e*P **P** **20 38 54.3 -1.0**
ZEI Tsey 51.02 314 *e*P **P** **20 38 56.4 +0.4**
ZEI pmax pmax
comp=Z,35nm,0.8s
ONI Oni 51.27 314 P **P** **20 38 58.8 +1.1**
NWAO Narrogin (SRO) 51.87 154 LR LR 21 02 27.3
comp=Z,394nm,19.4s,baz=341,slow=38
NWAO Narrogin (SRO) 51.87 154 *e*P **P** **20 39 00.9 -1.2**
NWAO pmax pmax
comp=Z,29nm,0.6s
NWAO Narrogin (SRO) 51.87 154 *e*P **P** **20 39 00.9 -1.2**
comp=Z,29nm,0.6s
EZM Erzurum 52.00 310 *e*P **P** **20 39 04.7 +1.3**
ASAJ Asahikawa 52.01 44 P **P** **20 39 03.3 +0.2**
comp=Z,8.6nm,0.8s,baz=281,slow=15,SNR=3.1
ASAJ LR LR 21 05 09.3
comp=Z,551nm,19.3s,baz=308,slow=41
ASAJ Asahikawa 52.01 44 P **P** **20 39 03.3 +0.2**
KIV Kislovodsk 52.25 315 *e*P **P** **20 39 05.5 +0.6**
KIV *e*S **S** **20 46 29.9 +2.1**
KIV pmax pmax
comp=Z,571nm,17.9s
KIV MLR MLR
comp=Z,571nm,18.0s
KIV Kislovodsk 52.25 315 *e*P **P** **20 39 05.5 +0.6**
comp=Z,75nm,0.8s
KIV Kislovodsk 52.25 315 P **P** **20 39 06.1 +1.1**
SNR=20
KIV Kislovodsk 52.25 315 P **P** **20 39 05.0 0.0**
comp=Z,575nm,0.8s,SNR=32
BNGB Bing˜¶l 52.28 309 *e*P **P** **20 39 05.8 +0.5**
WRA Warramunga Arr 52.75 128 P **P** **20 39 07.9 -0.9**
comp=Z,57nm,0.5s,baz=300,slow=10,SNR=432
WRA PcP **PcP** **20 40 18.0 -0.3**
WRA comp=Z,11nm,0.7s,baz=316,slow=3.3,SNR=7.9
WRA ScP **ScP** **20 44 12.5 -0.7**
WRA comp=Z,0.7nm,0.7s,baz=318,slow=3.5,SNR=4.9
WRA S **S** **20 46 30.6 -4.4**
WRA comp=Z,3.9nm,1.0s,baz=310,slow=15,SNR=8.5
WRA LR LR 21 02 59.5
comp=Z,311nm,21.4s,baz=320,slow=38
WRA Warramunga Arr 52.75 128 P **P** **20 39 07.9 -0.9**
WRA 20 40 18.0
WRA S **S** **20 46 30.6 -4.4**
WRA Warramunga Arr 52.75 128 P **P** **20 39 07.9 -0.9**
WRA PcP **PcP** **20 40 18.0 -0.3**
WRA ScP **ScP** **20 44 12.5 -0.7**
WRA S **S** **20 46 30.6 -4.4**
WRAB Tennant Creek 52.75 128 *e*P **P** **20 39 08.0 -0.9**
WRAB Tennant Creek 52.75 128 *e*P **P** **20 39 08.0 -0.9**
comp=Z,100nm,0.6s
WRAB Tennant Creek 52.75 128 P **P** **20 39 07.0 -1.9**
comp=Z,1μm,0.6s
KMBL Kambalda 52.75 149 *e*P **P** **20 39 07.8 -0.9**
WB2 Warramunga Arr 52.76 128 *e*P **P** **20 39 07.8 -1.1**
SOKR Solikamsk 52.97 338*c i*P **P** **20 39 10.6 +0.8**
SOKR pmax pmax
comp=Z,30nm,0.6s
SOKR MLR MLR
comp=Z,750nm,20.0s
BAYT Ayd¯ntepe-Bay 53.03 310 *e*P **P** **20 39 11.3 +0.5**
YSS Yuzh-Sakhalins 53.12 41 *e*P **P** **20 39 13.0 +1.8**
PTK Pertek 53.23 308 *e*P **P** **20 39 12.5 +0.1**
SOC Sochi 54.18 314 *e*P **P** **20 39 18.8 -0.3**
SOC pmax pmax
comp=Z,34nm,0.7s
SOC MLR MLR
comp=Z,429nm,17.0s
ASAR Alice Springs 54.67 132 P **P** **20 39 22.1 -0.8**
comp=Z,37nm,0.5s,baz=308,slow=6.7,SNR=880
ASAR PcP **PcP** **20 40 25.8 +0.3**
comp=Z,7.5nm,0.9s,baz=316,slow=4.1,SNR=7.1
ASAR ScP **ScP** **20 44 20.4 -1.2**
comp=Z,0.8nm,0.5s,baz=312,slow=5.1,SNR=4.7
ASAR S **S** **20 46 56.7 -4.3**
comp=Z,1.7nm,1.1s,baz=306,slow=16,SNR=7.0
ASAR Alice Springs 54.67 132 P **P** **20 39 22.1 -0.8**
ASAR 20 40 25.8
ASAR S **S** **20 46 56.7 -4.3**
ASAR Alice Springs 54.67 132 P **P** **20 39 22.1 -0.8**
ASAR PcP **PcP** **20 40 25.8 +0.3**
ASAR ScP **ScP** **20 44 20.4 -1.2**
ASAR S **S** **20 46 56.7 -4.3**
YAK Yakutsk 54.96 20 *e*P **P** **20 39 21.8 -2.6**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK MLR MLR
comp=Z,285nm,17.0s
YAK MLR MLR
comp=N,210nm,15.0s
YAK MLR MLR
comp=E,317nm,20.0s
YAK Yakutsk 54.96 20 *e*P **P** **20 39 23.9 -0.5**
comp=E,24nm,0.6s
ABPO Ambohimpanom 55.46 235 *e*P **P** **20 39 28.8 -0.1**
ABPO pmax pmax
comp=Z,19nm,1.5s
ABPO MLR MLR
comp=Z,730nm,19.0s
ABPO Ambohimpanom 55.46 235 *e*P **P** **20 39 28.8 -0.1**
comp=Z,19nm,1.5s
ABPO LR LR
comp=Z,730nm,19.0s
FORT Forrest 55.68 143 *e*P **P** **20 39 29.0 -1.0**
VORD Divnogorie 56.83 323 *e*P **P** **20 39 36.8 -1.1**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,6.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD MLR MLR
comp=Z,320nm,8.0s
VORD MLR MLR
comp=N,270nm,10.0s
VORD MLR MLR
comp=E,260nm,9.0s
KMBO Kilima Mbogo 57.02 260 *e*P **P** **20 39 41.5 +1.3**
KMBO Kilima Mbogo 57.02 260 *e*P **P** **20 39 41.5 +1.3**
comp=E,2.9nm,0.6s
CSS Prodhromos 57.38 303 PFAKE 20 39 50.0 +7.8
CSS LR LR
comp=Z,488nm,19.0s
BRTR Keskin Array B 57.77 308 P **P** **20 39 44.5 -0.5**
comp=Z,37nm,0.8s,baz=119,slow=7.7,SNR=222
BRTR PKKP **PKKPdf** **21 01 11.8 +2.4**
comp=Z,0.2nm,0.3s,baz=225,slow=0.2,SNR=3.5
BRTR LR LR 21 08 05.1
comp=Z,578nm,20.2s,baz=95,slow=40
BRTR Keskin Array B 57.77 308 *i* P **P** **20 39 44.5 -0.5**
BRTR pmax pmax
comp=Z,37nm,0.8s
BRTR Keskin Array B 57.77 308 P **P** **20 39 44.5 -0.5**
BRTR PKKP **PKKPdf** **21 01 11.8 +2.4**
PMG Port Moresby 58.57 110*ce*P **P** **20 39 50.8 0.0**
PMG pmax pmax
comp=Z,79nm,1.0s
PMG Port Moresby 58.57 110 *e*P **P** **20 39 50.7 0.0**
comp=Z,54nm,0.9s
MOS Moscow 59.51 327 *e*P P 20 39 52.5 -4.1
MOS *e* 20 40 11.1
MOS pmax pmax
comp=Z,55nm,0.9s
OBN Obninsk 59.84 326*d i*P **P** **20 39 58.4 -0.5**
OBN *i* 20 40 10.8
OBN *i* 20 40 44.9
OBN pmax pmax
comp=Z,58nm,1.2s
OBN MLR MLR
comp=Z,500nm,19.0s
OBN Obninsk 59.84 326 *e*P **P** **20 39 58.6 -0.3**
comp=Z,47nm,1.1s
KLMR Klimovskoe 60.72 333 *e*P **P** **20 40 02.4 -2.4**
KLMR *e* 20 40 42.0
KLMR *e*SSS SSS 20 54 55.3
KLMR pmax pmax
comp=Z,39nm,0.9s
KLMR MLR MLR
comp=Z,1μm,16.0s
BBOO Buckleboo 61.97 139 *e*P **P** **20 40 12.3 -1.4**
comp=Z,245nm,0.8s
TLCR 62.15 314 ⇑P **P** **20 40 15.1 +0.3**
TLCR 62.15 314⇑*i*P **P** **20 40 15.1 +0.3**
CTA Charters Tower 62.33 122 *e*P **P** **20 40 16.3 0.0**
CTAO Charters Tower 62.33 122 PFAKE 20 40 30.0 +14
CTAO LR LR
comp=Z,274nm,21.0s
TIRR Tirgusor 62.33 313 ⇑P **P** **20 40 16.3 +0.3**
TIRR Tirgusor 62.33 313⇑*i*P **P** **20 40 16.3 +0.3**
KIS Kishinev 62.44 316 *e*P **P** **20 40 15.0 -1.7**
KIS *e* 20 50 10.0
KIS Kishinev 62.44 316 *e*P **P** **20 40 15.0 -1.7**
KIS LRM MLR 21 10 24.0
comp=Z,600nm,18.0s
KARP Karpathos 62.46 303 P **P** **20 40 16.8 -0.3**
CFR Carcaliu 62.63 314 ⇑P **P** **20 40 18.3 +0.4**
CFR Carcaliu 62.63 314⇑*i*P **P** **20 40 18.3 +0.4**
SMG Samos 62.84 305 P **P** **20 40 19.2 -0.3**
AKASG Malin Array Be 62.87 320 P **P** **20 40 18.6 -0.9**
comp=Z,14nm,0.7s,baz=81,slow=6.4,SNR=43
AKASG pP **pP** **20 40 28.6 -1.3**
comp=Z,3.6nm,0.7s,baz=78,slow=6.6,SNR=3.9
AKASG LR LR 21 10 33.2
comp=Z,410nm,21.8s,baz=100,slow=39
AKASG Malin Array Be 62.87 320 P **P** **20 40 18.6 -0.9**
AKASG *PP **pP** **20 40 28.7 -1.3**
AKASG Malin Array Be 62.87 320 P **P** **20 40 18.6 -0.9**
AKASG pP **pP** **20 40 28.6 -1.3**
AKBB Malin Array Si 62.87 320 *e*P **P** **20 40 18.5 -1.0**
AKBB Malin Array Si 62.87 320 *e*P **P** **20 40 18.4 -1.0**
KIEV Kiev 62.88 320 *e*P **P** **20 40 18.5 -1.0**
KIEV pmax pmax

KIEV **Kiev** 62.88 320 *e*P P 20 40 18.5 -1.0
comp=Z,8.2nm,0.6s
ZKR **Zakros** 63.22 303 P P 20 40 21.7 -0.4
PRK **Paraskevi** 63.38 307 P P 20 40 23.1 0.0
PRK **Paraskevi** 63.38 307 P P 20 40 23.1 0.0
ALN **Alexandroupoli** 63.67 309 P P 20 40 25.0 0.0
ALN **Alexandroupoli** 63.67 309 P P 20 40 25.0 0.0
VRI **Vrincioaia** 63.70 315⇓P P 20 40 25.8 +0.7
VRI **Vrincioaia** 63.70 315⇓*i*P P 20 40 25.8 +0.7
NPS **Neapolis** 63.72 303 P P 20 40 25.6 +0.2
NPS **Neapolis** 63.72 303 P P 20 40 25.6 +0.2
PLOR **Plostina** 63.76 315⇓P P 20 40 26.3 +0.8
PLOR **Plostina** 63.76 315⇓*i*P P 20 40 26.3 +0.8
LAST **Lasithi** 63.82 303 P P 20 40 25.9 -0.3
TESR 63.84 315⇓*i*P P 20 40 27.0 +1.0
APE **Apeiranthos** 63.84 305 P P 20 40 25.1 -1.2
APE **Apeiranthos** 63.84 305 P P 20 40 25.1 -1.2
APE **Apeiranthos** 63.84 305⇑*i*P P 20 40 24.4 -1.9
PETK **Petropavlovsk-** 64.11 37 LR LR 21 12 50.4
comp=Z,305nm,20.3s,baz=252,slow=40
SEY **Seymchan** 64.25 26⇓*e*P P 20 40 28.6 +0.3
LIA **Limnos Island** 64.26 308 P P 20 40 28.5 -0.4
IDI **Anoyia** 64.31 303 *e*P P 20 40 28.2 -1.1
comp=Z,40nm,0.6s
SIVA **Sivas** 64.37 302 P P 20 40 29.4 -0.3
MICGM **Minsk** 64.48 324 *e* P 20 40 28.0 -2.0
MNK **Minsk** 64.51 324 *e*P P 20 40 28.0 -2.2
VOIR 64.82 314⇑P P 20 40 33.0 +0.5
VOIR 64.82 314⇑*i*P P 20 40 33.0 +0.5
KAVA **Kavala** 64.84 309 P P 20 40 32.7 +0.1
VAM **Vamos** 64.88 303 P P 20 40 33.0 0.0
VAM **Vamos** 64.88 303 P P 20 40 33.0 0.0
BURAR **Bucovina Array** 64.96 316⇓*i*P P P 20 40 34.0 +0.6
STKA **Stephens Creek** 65.05 135 P P 20 40 33.5 -0.6
comp=Z,19nm,0.8s,baz=315,slow=5.8,SNR=43
STKA LR LR 21 09 50.5
comp=Z,366nm,21.8s,baz=118,slow=37
STKA **Stephens Creek** 65.05 135 *e*P P 20 40 33.5 -0.6
STKA **Stephens Creek** 65.05 135 P P 20 40 33.5 -0.6
STKA **Stephens Creek** 65.05 135 P P 20 40 33.5 -0.6
JOF **Joensuu** 65.10 334 *e*P P 20 40 32.6 -1.3
JOF pmax pmax
comp=Z,30nm,0.7s
JOF **Joensuu** 65.10 334 *ep* P 20 40 32.6 -1.3
comp=Z,30nm,0.7s
JOF **Joensuu** 65.10 334 *ep* P 20 40 32.6 -1.3
comp=Z,30nm,0.7s
KARN **Karanos** 65.11 303 P P 20 40 34.2 -0.3
NACGM **Naroch** 65.19 324 *e*P P 20 40 31.0 -3.6
AOS **Alonnisos** 65.23 307 P P 20 40 34.1 -1.1
VLY **Voula,Athens** 65.25 306 P P 20 40 34.1 -1.3
NVR **Nevrokopi** 65.35 309 P P 20 40 35.5 -0.5
PAIG **Paliouri** 65.42 308 P P 20 40 36.1 -0.3
PAIG **Paliouri** 65.42 308 P P 20 40 36.1 -0.3
SRS **Serrai** 65.54 309 P P 20 40 36.3 -0.9
SRS **Serrai** 65.54 309 P P 20 40 36.3 -0.9
PLG **Polygyros** 65.62 308 P P 20 40 37.2 -0.6
PLG **Polygyros** 65.62 308 P P 20 40 37.2 -0.6
SOH **Sokhos** 65.71 309 P P 20 40 37.8 -0.5
SOH **Sokhos** 65.71 309 P P 20 40 37.8 -0.5
NEO **Neokhori** 65.75 307 P P 20 40 37.3 -1.3
XOR **Xorichti** 65.77 307 P P 20 40 37.5 -1.3
ATAL **Atalanti** 65.88 306 P P 20 40 37.6 -1.9
LKR **Lokris** 65.90 306 P P 20 40 38.0 -1.5
LTK **Loutraki** 65.91 306 P P 20 40 37.6 -2.1
VLI **Veliai** 65.91 304 P P 20 40 38.1 -1.6
VSU **Vasula** 66.00 328⇑*i*P P 20 40 39.0 -0.7
VSU pmax pmax
comp=Z,36nm,1.0s
APA **Apatity** 66.00 339⇑*i*P P 20 40 39.6 -0.1
APA *i* 20 41 04.0
APA *i*S S 20 49 20.0 -4.9
APA pmax pmax
comp=Z,43nm,1.2s
APA MLR MLR
comp=Z,600nm,22.0s
LVV **L'vov** 66.01 319 *e*P P 20 40 39.6 -0.5
KNT **Kendrikon** 66.07 309 P P 20 40 39.8 -0.8
KNT **Kendrikon** 66.07 309 P P 20 40 39.8 -0.8
DSF **Desfina** 66.27 306 P P 20 40 40.4 -1.6
GRG **Griva** 66.43 309 P P 20 40 42.2 -0.8
GRG **Griva** 66.43 309 P P 20 40 42.2 -0.8
DRGR 66.57 315⇓P P 20 40 44.4 +0.6
DRGR 66.57 315⇓*i*P P 20 40 44.4 +0.6
KALE **Kalithea** 66.57 306 P P 20 40 41.8 -2.1
MAKR **Makrakomi, Fth** 66.59 307 P P 20 40 42.2 -1.8
LAKA **Lakka** 66.69 306 P P 20 40 43.1 -1.6
ITM **Ithomi** 66.73 305 P P 20 40 43.3 -1.6
TRPA **Tarpa** 66.81 317⇓*i*P P 20 40 45.8 +0.7
TRPA **Tarpa** 66.81 317⇓*e*P P 20 40 45.4 +0.3
EVR **Evrytania** 66.84 307 P P 20 40 44.0 -1.7
KWP **Kalwaria Pacla** 66.84 318 *e*P P 20 40 45.6 +0.1
KWP **Kalwaria Pacla** 66.84 318⇑P P 20 40 46.0 +0.6
KWP **Kalwaria Pacla** 66.84 318 *e*P P 20 40 45.5 +0.1
comp=Z,59nm,1.0s
KWP **Kalwaria Pacla** 66.84 318⇑*i*P P 20 40 46.0 +0.6
UZH **Uzhgorod** 67.02 317 *e*P P 20 40 45.5 -1.0
UZH *i* 20 40 55.0
UZH *i* 20 41 03.0
FINES **FINESS Array B** 67.03 331 P P 20 40 46.0 -0.3
comp=Z,26nm,0.7s,baz=103,slow=8.4,SNR=83
FINES pP pP 20 40 55.1 -1.7
comp=Z,14nm,0.7s,baz=103,slow=8.2,SNR=11
FINES LR LR 21 11 46.7
comp=Z,508nm,18.3s,baz=116,slow=37
FINES **FINESS Array B** 67.03 331 P P 20 40 46.0 -0.3
FINES *PP pP 20 40 55.1 -1.7
FINES **FINESS Array B** 67.03 331 P P 20 40 46.0 -0.3
FINES pP pP 20 40 55.1 -1.7
KOLS **Kolonicke sedl** 67.06 318 *e*P P 20 40 47.0 +0.2
KOLS **Kolonicke sedl** 67.06 318 *e*P P 20 40 47.0 +0.2
KAF **Kangasniemi** 67.09 332 *e*P P 20 40 45.3 -1.4
KAF pmax pmax
comp=Z,11nm,0.8s
KAF **Kangasniemi** 67.09 332 *ep* P 20 40 45.3 -1.4
comp=Z,11nm,0.8s
KAF **Kangasniemi** 67.09 332 *ep* P 20 40 45.3 -1.4
comp=Z,11nm,0.8s
RLS **Riolos of Patr** 67.10 306 P P 20 40 46.4 -0.8
SUW **Suwalki** 67.11 323 *e*P P 20 40 46.3 -0.7
SUW **Suwalki** 67.11 323 *e*P P 20 40 46.3 -0.7
SUW **Suwalki** 67.11 323 *e*P P 20 40 46.2 -0.7
comp=Z,108nm,0.9s
FNA **Florina** 67.21 309 P P 20 40 46.7 -1.2
FNA **Florina** 67.21 309 P P 20 40 46.7 -1.2
BZS **Buzias** 67.24 314 ⇓P P 20 40 48.0 0.0
BZS **Buzias** 67.24 314⇓*i*P P 20 40 48.0 0.0
CRVS **Cervenica-Dubn** 67.59 317 *e*P P 20 40 50.8 +0.7
CRVS **Cervenica-Dubn** 67.59 317 *e*P P 20 40 50.8 +0.7
CMSA **Cobar Meteorol** 67.73 133 *e*P P 20 40 51.1 -0.1
VLS **Valsamata** 67.79 306 P P 20 40 50.5 -1.1
VLS **Valsamata** 67.79 306 P P 20 40 50.5 -1.1
IGT **Igoumenitsa** 67.99 307 P P 20 40 51.2 -1.6
IGT **Igoumenitsa** 67.99 307 P P 20 40 51.2 -1.6
BEL **Belsk** 68.28 321 *e*P P 20 40 54.5 +0.1
BEL **Belsk** 68.28 321 *e*P P 20 40 54.5 +0.1
NIE **Niedzica** 68.38 318 *e*P P 20 40 56.0 +0.9
NIE **Niedzica** 68.38 318⇓*e*P P 20 40 56.0 +0.9
PSZ **Piszkesteto** 68.56 316 ⇑P P 20 40 56.8 +0.5
PSZ **Piszkesteto** 68.56 316 *e*P P 20 40 56.2 -0.2
comp=Z,18nm,0.9s
PSZ **Piszkesteto** 68.56 316⇑*i*P P 20 40 56.8 +0.5
PSZ **Piszkesteto** 68.56 316⇓*e*P P 20 40 56.4 +0.1
OJC **Ojcow** 68.77 319 *i* P P 20 40 57.5 0.0
OJC **Ojcow** 68.77 319⇓*i*P P 20 40 57.5 0.0
KEV **Kevo** 68.97 340 *e*P P 20 40 58.1 -0.3
KEV **Kevo** 68.97 340 *e*P P 20 40 58.1 -0.3
KEV **Kevo** 68.97 340 *ep* P 20 40 57.5 -0.9
comp=Z,15nm,0.6s
KEV **Kevo** 68.97 340 *ep* P 20 40 57.5 -0.9
comp=Z,15nm,0.6s
VYHS **Vyhne** 69.30 317 *e*P P 20 41 00.7 -0.1
VYHS **Vyhne** 69.30 317 *e*P P 20 41 00.7 -0.1
PKSM **Moragy** 69.34 314 ⇓P P 20 41 00.8 -0.3
PKSM **Morągy** 69.34 314⇓*i*P P 20 41 00.8 -0.3
PKSM **Morągy** 69.34 314⇓*e*P P 20 41 00.8 -0.3
ARCES **ARCESS Array B** 69.41 340 P P 20 41 01.1 0.0
comp=Z,16nm,0.6s,baz=95,slow=7.6,SNR=61
ARCES LR LR 21 14 37.4
comp=Z,962nm,18.1s,baz=110,slow=39
ARCES **ARCESS Array B** 69.41 340 P P 20 41 01.1 0.0
ARCES **ARCESS Array B** 69.41 340 P P 20 41 01.1 0.0
PKSG 69.55 316 *e*P P 20 41 01.9 -0.5
PKS9 **Tamasi** 69.60 315⇓*e*P P 20 41 03.2 +0.5
RHK3 **Tenkes** 69.61 314⇓*e*P P 20 41 02.5 -0.3
PKST **T"'s** 69.79 316⇑*e*P P 20 41 04.0 +0.1
OKC **Ostrava-Krasne** 69.81 318 *e*P P 20 41 03.9 0.0
MORC **Moravsky Berou** 70.20 318 ⇓P P 20 41 07.1 +0.7
MORC **Moravsky Berou** 70.20 318 *e*P P 20 41 06.6 +0.2
comp=Z,33nm,0.8s
MORC **Moravsky Berou** 70.20 318⇓*i*P P 20 41 07.1 +0.7
ZST **Bratislava** 70.44 317 *e*P P 20 41 08.0 +0.1
ZST **Bratislava** 70.44 317 *e*P P 20 41 08.0 +0.1
GKP **Gorka Klasztor** 70.55 322 *e*P P 20 41 08.3 -0.1
GKP **Gorka Klasztor** 70.55 322 *e*P P 20 41 08.3 -0.1
VRAC **Vranov** 70.80 318 ⇑P P 20 41 10.2 +0.1
VRAC **Vranov** 70.80 318⇑*i*P P 20 41 10.2 +0.1
TOO **Toolangi** 70.98 138 *e*P P 20 41 12.2 +1.0
DPC **Dobruska-Polom** 71.00 319 *e*P P 20 41 12.0 +0.7
KSP **Ksiaz** 71.03 319 *e*P P 20 41 11.8 +0.4
KSP **Ksiaz** 71.03 319⇓*e*P P 20 41 11.6 +0.2
UPC **Upice** 71.20 319 *e*P P 20 41 13.0 +0.5
BILL **Bilibino** 71.21 22⇓*i*P P 20 41 12.4 +0.3
BILL *i* 20 41 20.4
BILL MLR MLR
comp=Z,300nm,19.0s
BILL **Bilibino** 71.21 22 *e*P P 20 41 11.3 -0.8
comp=Z,17nm,1.4s
BILL LR LR
comp=Z,352nm,20.0s
CONA **Conrad Observa** 71.27 316⇑*i*P P 20 41 12.9 -0.1
comp=Z,10nm,0.8s
CONA **Conrad Observa** 71.27 316⇑*i*P P 20 41 12.9 -0.1
comp=Z,10nm,0.8s
CUC **Castrocucco** 71.46 308 PFAKE 20 41 30.0 +16
CUC LR LR
comp=Z,238nm,19.0s
ARSA **Arzberg** 71.50 316⇓*i*P P 20 41 14.4 +0.1
comp=Z,10nm,0.8s
ARSA **Arzberg** 71.50 316⇓*i*P P 20 41 14.4 +0.1
comp=Z,10nm,0.8s,SNR=7.2
TREC **Trest** 71.53 318 *e*P P 20 41 14.8 +0.3
ARMA **Armidale** 71.53 129 *e*P P 20 41 15.9 +1.1
ARMA **Armidale** 71.53 129 *e*P P 20 41 15.9 +1.1
comp=Z,61nm,1.2s
BOJS **Bojanci** 71.71 314 *i* P P 20 41 14.2 -1.3
SOKA **Soboth** 71.84 315⇓*i*P P 20 41 16.6 +0.1
comp=Z,26nm,1.1s
SOKA **Soboth** 71.84 315⇓*i*P P 20 41 16.6 +0.1
comp=Z,26nm,1.1s
BSD **Bornholm Skovb** 72.00 324⇓*i*P P 20 41 16.3 -0.8
comp=Z,21nm,0.9s
CAN **Canberra** 72.09 134 *e*P P 20 41 17.8 -0.3
CAN pmax pmax
comp=Z,10.0nm,0.6s
CAN MLR MLR
comp=Z,468nm,19.0s
CAN **Canberra** 72.09 134 *e*P P 20 41 17.8 -0.3
comp=Z,9.9nm,0.6s
CAN LR LR
comp=Z,468nm,19.0s
PVCC **Panska Ves** 72.13 319 *e*P P 20 41 18.3 +0.3
PRU **Pruhonice** 72.14 318 *e*P P 20 41 18.4 +0.3
OBKA **Obir** 72.18 315⇓*i*P P 20 41 18.6 +0.1
comp=Z,30nm,0.8s
OBKA **Obir** 72.18 315⇓*i*P P 20 41 18.6 +0.1
comp=Z,30nm,0.8s,SNR=15
LJU **Ljubljana** 72.20 314 *i* P P 20 41 18.7 +0.2
CEY **Cerknica** 72.28 314 *i* P P 20 41 18.4 -0.6
CNB **Canberra Magne** 72.34 134 *e*P P 20 41 19.1 -0.5
MOA **Molln** 72.34 316⇑*i*P P 20 41 19.0 -0.4
comp=Z,18nm,0.8s
MOA **Molln** 72.34 316⇑*i*P P 20 41 19.0 -0.4
comp=Z,18nm,0.8s,SNR=7.3
BRG **Berggiesshubel** 72.52 319 *i* P P 20 41 20.9 +0.5
comp=Z,34nm,0.9s
BRG **Berggiesshubel** 72.52 319 *e*P P 20 41 20.8 +0.5
comp=Z,34nm,0.9s
BRG **Berggiesshubel** 72.52 319 *i* P P 20 41 20.9 +0.5
BRG pmax pmax
comp=Z,34nm,0.8s
JAVS **Javornik** 72.53 314 *i* P P 20 41 20.0 -0.7
RUE **Ruedersdorf** 72.62 321 *e*P P 20 41 21.2 +0.3
comp=Z,94nm,1.1s
VOY **Vojsko** 72.64 314 *e*(P) P 20 41 20.3 -1.0
VOY *e* 20 41 21.0
VOY *e* 20 41 24.6
VOY *e* 20 41 46.6
GEC2 **GERESS Array S** 72.70 317 *e*P P 20 41 21.9 +0.2
comp=Z,41nm,0.8s
GEC2 **GERESS Array S** 72.70 317 *e*P P 20 41 21.9 +0.2
GEC2 pmax pmax
comp=Z,41nm,0.8s
GERES **GERESS Array B** 72.70 317 P P 20 41 21.8 +0.2
comp=Z,34nm,0.8s,baz=86,slow=5.5,SNR=172
GERES LR LR 21 19 05.5
comp=Z,276nm,20.7s,baz=221,slow=41
GERES **GERESS Array B** 72.70 317 P P 20 41 21.8 +0.2
GERES **GERESS Array B** 72.70 317 P P 20 41 21.8 +0.2
KHC **Kasperske Hory** 72.78 317 *e*P P 20 41 21.8 -0.2
KHC pmax pmax
comp=Z,17nm,0.9s
KHC **Kasperske Hory** 72.78 317 *e*P P 20 41 21.8 -0.2
comp=Z,17nm,0.9s
KHC **Kasperske Hory** 72.78 317 *e*P P 20 41 22.1 +0.1
KHC *e*pP pP 20 41 31.0 -1.6
KHC *es*P sP 20 41 38.5 +1.9
MYKA **Terra Mystica** 72.80 315⇑*i*P P 20 41 21.9 -0.3
comp=Z,9.5nm,0.8s
MYKA **Terra Mystica** 72.80 315⇑*i*P P 20 41 21.9 -0.3
comp=Z,9.5nm,0.8s
RGN **Rugen** 72.91 323 *e*P P 20 41 23.1 +0.6
comp=Z,18nm,0.7s
KBA **Koelnbreinsper** 72.99 315⇑*i*P P 20 41 22.6 -0.9
KBA pmax pmax
comp=Z,18nm,1.0s
KBA **Koelnbreinsper** 72.99 315⇑*i*P P 20 41 22.6 -0.9
comp=Z,18nm,1.0s
KBA **Koelnbreinsper** 72.99 315⇑*i*P P 20 41 22.6 -0.9
comp=Z,18nm,1.0s,SNR=8.8
CLL **Collm** 73.11 320 *e*P P 20 41 23.9 +0.1
comp=Z,20nm,1.0s
CLL **Collm** 73.11 320⇓*i*P P 20 41 23.8 0.0
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,400nm,19.1s
CLL **Collm** 73.11 320⇓*i*P P 20 41 23.8 0.0
comp=Z,21nm,1.0s
CLL LmH 21 15 00.0
comp=N,300nm,22.0s
CLL LmH 21 15 00.0
comp=E,500nm,19.8s
CLL LmV 21 18 00.0
comp=Z,400nm,19.1s
AQU **L'Aquila** 73.16 310 PFAKE 20 41 40.0 +16
AQU LR LR
comp=Z,196nm,19.0s
WET **Wettzell** 73.24 318 *e*P P 20 41 25.0 +0.3
comp=Z,34nm,1.1s
WET **Wettzell** 73.24 318 *e*P P 20 41 25.0 +0.3
WET pmax pmax
comp=Z,34nm,1.1s
RJOB **Jochberg** 73.34 316 *e*P P 20 41 24.9 -0.5
comp=Z,25nm,1.2s
COP **Copenhagen** 73.42 324 *i* P P 20 41 26.1 +0.6
comp=Z,9.3nm,0.9s
TANN **Tannenbergstha** 73.47 319 *e*P P 20 41 26.4 +0.3
comp=Z,24nm,1.2s
NKC **Novy Kostel** 73.49 319 *e*P P 20 41 26.3 +0.2
LLD **Lille Linde** 73.55 324 *i* P P 20 41 26.6 +0.3
comp=Z,29nm,0.9s
ABTA **Abfaltersbach** 73.57 315⇓*i*P P 20 41 25.7 -1.1
comp=Z,17nm,1.2s
ABTA **Abfaltersbach** 73.57 315⇓*i*P P 20 41 25.7 -1.1
comp=Z,17nm,1.2s
ROTZ **Rotzenmuhle** 73.66 318 *e*P P 20 41 28.0 +0.9
comp=Z,40nm,1.0s
MOX **Moxa** 74.01 319 *e*P P 20 41 29.4 +0.3
comp=Z,23nm,0.9s
MOX **Moxa** 74.01 319 *e*P P 20 41 29.4 +0.3
MOX pmax pmax
comp=Z,23nm,0.9s
NB2 **NORSAR Subarra** 74.09 330 P P 20 41 28.8 -0.7
comp=Z,15nm,0.7s,baz=90,slow=6.2
NOA **NORSAR Array B** 74.09 330 P P 20 41 28.7 -0.7
comp=Z,11nm,0.6s,baz=90,slow=5.8,SNR=48
NOA pP pP 20 41 38.3 -1.8
comp=Z,5.1nm,0.8s,baz=90,slow=5.8,SNR=6.2
NOA PP PP 20 44 15.2 +0.4
comp=Z,2.6nm,0.9s,baz=91,slow=8.5,SNR=4.1
NOA LR LR 21 21 28.1
comp=Z,352nm,19.2s,baz=95,slow=42
NOA **NORSAR Array B** 74.09 330 P P 20 41 28.7 -0.7
NOA *PP pP 20 41 38.3 -1.8
NOA 20 44 15.3
NOA **NORSAR Array B** 74.09 330 P P 20 41 28.7 -0.7
NOA pP pP 20 41 38.3 -1.8
NOA PP PP 20 44 15.2 +0.4
WTTA **Wattenberg** 74.15 316⇑*i*P P 20 41 29.3 -0.9
WTTA pmax pmax
comp=Z,28nm,0.7s
WTTA **Wattenberg** 74.15 316⇑*i*P P 20 41 29.3 -0.9
comp=Z,28nm,0.7s
WTTA **Wattenberg** 74.15 316⇑*i*P P 20 41 29.3 -0.9
comp=Z,28nm,0.7s,SNR=14
WATA **Walderalm** 74.18 316⇓*i*P P 20 41 29.4 -1.0
WATA pmax pmax
comp=Z,11nm,0.6s
WATA **Walderalm** 74.18 316⇓*i*P P 20 41 29.4 -1.0
comp=Z,10nm,0.6s
WATA **Walderalm** 74.18 316⇓*i*P P 20 41 29.4 -1.0
comp=Z,10nm,0.6s,SNR=7.1
GRF **Grafenberg Arr** 74.30 318 *e*P P 20 41 31.5 +0.6
comp=Z,33nm,0.9s
GRF **Grafenberg Arr** 74.30 318 *e*P P 20 41 31.5 +0.6
GRF pmax pmax
comp=Z,33nm,0.9s
GRFO **Grafenberg** 74.30 318 *e*P P 20 41 31.5 +0.6
GRFO pmax pmax
comp=Z,27nm,0.9s
GRFO **Grafenberg** 74.30 318 *e*P P 20 41 31.5 +0.6
comp=Z,27nm,0.9s
FUR **Furstenfeldbru** 74.34 317 *e*P P 20 41 30.9 -0.3
comp=Z,30nm,0.8s
FUR **Furstenfeldbru** 74.34 317 *e*P P 20 41 30.9 -0.3
FUR pmax pmax
comp=Z,30nm,0.8s
MOTA **Moosalm** 74.50 316⇓*i*P P 20 41 31.2 -1.1
MOTA pmax pmax
comp=Z,20nm,0.7s
MOTA **Moosalm** 74.50 316⇓*i*P P 20 41 31.2 -1.1
comp=Z,20nm,0.7s
MOTA **Moosalm** 74.50 316⇓*i*P P 20 41 31.2 -1.1
comp=Z,20nm,0.7s,SNR=18
BSEG **Bad Segeberg** 74.68 323 *e*P P 20 41 33.6 +0.7
comp=Z,80nm,0.9s
BSEG **Bad Segeberg** 74.68 323 *e*P P 20 41 33.6 +0.7
BSEG pmax pmax
comp=Z,80nm,0.9s
RETA **Reutte** 74.73 316⇓*i*P P 20 41 32.8 -0.6
comp=Z,28nm,0.7s
RETA **Reutte** 74.73 316⇓*i*P P 20 41 32.8 -0.6
comp=Z,28nm,0.7s,SNR=11
CLZ **Clausthal** 74.74 320 *e*P P 20 41 33.8 +0.4
comp=Z,46nm,1.1s
CLZ **Clausthal** 74.74 320 *e*P P 20 41 33.8 +0.4
CLZ pmax pmax
comp=Z,46nm,1.1s
FETA **Feichten** 74.78 315⇑*i*P P 20 41 33.0 -0.9
comp=Z,18nm,0.8s
FETA **Feichten** 74.78 315⇑*i*P P 20 41 33.0 -0.9
comp=Z,18nm,0.8s,SNR=20
NRDL **Niedersach Rie** 74.87 321 *e*P P 20 41 34.8 +0.8
comp=Z,44nm,1.3s
TAU **Tasmania Unive** 75.19 142 *e*P P 20 41 36.2 +0.2
TAU pmax pmax
comp=Z,17nm,0.9s
TAU **Tasmania Unive** 75.19 142 *e*P P 20 41 36.2 +0.2
comp=Z,18nm,0.9s
MUD **Monsted U'grnd** 75.23 325⇓*i*P P 20 41 36.7 +0.7
comp=Z,16nm,0.9s
DAVA **Damuels** 75.34 316 *i* P P 20 41 36.7 -0.4
comp=Z,41nm,0.7s
DAVA **Damuels** 75.34 316 *i* P P 20 41 36.7 -0.4
comp=Z,41nm,0.7s,SNR=21
STU **Stuttgart** 75.68 317 *e*P P 20 41 38.7 -0.2
comp=Z,22nm,0.8s
TUE **Stuetta** 75.77 315 *e*P P 20 41 39.3 -0.4
comp=Z,19nm,0.8s
TOD **Tromm** 75.87 318 *e*P P 20 41 40.0 0.0
TOD **Tromm** 75.87 318 *e*P P 20 41 40.0 0.0
SPAK **Spaichingen-Ko** 76.01 317 *e*P P 20 41 40.4 -0.4
TNS **Taunus Mts** 76.05 319 *e*P P 20 41 41.2 +0.2
comp=Z,24nm,0.9s
TNS **Taunus Mts** 76.05 319 *e*P P 20 41 41.2 +0.2
TNS pmax pmax
comp=Z,24nm,0.9s
BFO **Black Forest** 76.29 317 *e*P P 20 41 41.8 -0.6
BFO pmax pmax
comp=Z,15nm,1.2s
BFO **Black Forest** 76.29 317 *e*P P 20 41 41.8 -0.6
comp=Z,15nm,1.2s
IBBN **Ibbenburen** 76.32 321 *e*P P 20 41 42.8 +0.4
comp=Z,63nm,1.2s
PGF **Pioggiola** 76.39 311⇓*i*P P 20 41 42.5 -0.7
comp=Z,37nm,0.9s
FELD **Feldberg im Sc** 76.55 316 *e*P P 20 41 43.5 -0.5
LANF **Langenberg** 76.58 318 *e*P P 20 41 44.2 +0.2
LANF **Langenberg** 76.58 318 *e*P P 20 41 44.2 +0.2
LANF **Langenberg** 76.58 318 *e*P P 20 41 44.2 +0.2
ABH **Alteburg** 76.66 319 *e*P P 20 41 44.7 +0.3
BUG **Bochum--Univer** 76.69 320 *e*P P 20 41 44.8 +0.3
comp=Z,35nm,1.0s
BBS **Basel-Blauen** 76.93 316 *e*P P 20 41 45.3 -0.7
BBS **Basel-Blauen** 76.93 316 *e*P P 20 41 45.3 -0.7
KEST **Kesra** 76.93 304 P P 20 41 46.1 -0.3
comp=Z,14nm,0.8s,baz=30,slow=0.8,SNR=26
KEST LR LR 21 21 51.5
comp=Z,89nm,18.9s,baz=225,slow=40
KEST **Kesra** 76.93 304 *e*P P 20 41 46.2 -0.1
CDF **Champ du Feu** 76.98 317⇓*i*P P 20 41 45.7 -0.7
comp=Z,22nm,0.8s
RUP **Ruppelstein** 76.99 318 *e*P P 20 41 46.7 +0.4
RUP **Ruppelstein** 76.99 318 *e*P P 20 41 46.7 +0.4
ECH **Echery** 77.08 317 *e*P P 20 41 46.4 -0.4
ECH **Echery** 77.08 317 *e*P P 20 41 46.4 -0.4
ECH **Echery** 77.08 317 *e*P P 20 41 46.4 -0.4
MOF **Molkenrain** 77.14 316 *e*P P 20 41 46.7 -0.5
MOF **Molkenrain** 77.14 316 *e*P P 20 41 46.7 -0.5
MOF **Molkenrain** 77.14 316 *e*P P 20 41 46.7 -0.5
HINF **Hinteralfeld** 77.33 316 *e*P P 20 41 47.3 -1.0
comp=Z,15nm,0.7s
SBF **Sospel** 77.38 312⇓*i*P P 20 41 48.1 -0.6
comp=Z,70nm,0.9s
LOMF **Lomont** 77.40 316 *e*P P 20 41 47.1 -1.6
LOMF **Lomont** 77.40 316 *e*P P 20 41 47.1 -1.6
LOMF **Lomont** 77.40 316 *e*P P 20 41 47.1 -1.6
MEM **Membach** 77.57 319 P P 20 41 49.5 0.0
WLF **Walferdange** 77.58 318 P P 20 41 49.9 +0.3
comp=Z,15nm,1.9s
HAU **Haudompre** 77.65 317⇓*i*P P 20 41 49.3 -0.7
comp=Z,51nm,0.9s
HAU *e*R
comp=Z,428nm,21.2s
BOSA **Boshof** 77.66 236 P P 20 41 51.3 +0.8
comp=Z,18nm,0.6s,baz=72,slow=4.6,SNR=54
BOSA LR LR 21 16 07.7
comp=Z,304nm,18.0s,baz=52,slow=36
BOSA **Boshof** 77.66 236 P P 20 41 51.3 +0.8
BOSA **Boshof** 77.66 236 P P 20 41 51.3 +0.8
LPG **La Plagne** 77.67 314⇓*i*P P 20 41 50.4 -0.1
comp=Z,92nm,0.7s
LPL **La Plagne** 77.68 314⇓*i*P P 20 41 50.4 -0.1
comp=Z,121nm,0.7s
RSL **Roselend** 77.73 314 *e*P P 20 41 51.4 +0.7
RSL **Roselend** 77.73 314 *e*P P 20 41 51.4 +0.7
RSL **Roselend** 77.73 314 *e*P P 20 41 51.4 +0.7
MBDF **Montbardon** 77.75 313⇓*i*P P 20 41 49.8 -1.0
comp=Z,42nm,0.8s
BNI **Bardonecchia** 77.77 314 *e*P P 20 41 50.4 -0.5
BNI pmax pmax
comp=Z,25nm,0.8s
BNI **Bardonecchia** 77.77 314 *e*P P 20 41 50.4 -0.5
comp=Z,25nm,0.8s
THEF **They Montfort** 77.86 317 *e*P P 20 41 51.0 -0.2
THEF **They Montfort** 77.86 317 *e*P P 20 41 51.0 -0.2
THEF **They Montfort** 77.86 317 *e*P P 20 41 51.0 -0.2
CABF **La Chapelle** 77.99 315⇓*i*P P 20 41 51.9 -0.1
comp=Z,50nm,0.9s
PAGF **Fort de Pagny** 77.99 317⇓*i*P P 20 41 51.6 -0.3
comp=Z,5.9nm,0.9s
LMR **La Mourre** 78.11 312⇓*i*P P 20 41 52.3 -0.4

comp=Z,82nm,1.2s
ORIF Oris-en-Rattie 78.35 314 ⇓*i*P P **20 41 53.3 -0.8**
comp=Z,34nm,1.0s
ORIF *e*R
comp=Z,494nm,20.0s
GIVF Givet 78.38 319 *e*P P **20 41 53.6 -0.4**
comp=Z,17nm,0.8s
OG35 Corcelles 78.42 315 *e*P P **20 41 54.1 -0.3**
MEZF Maizieres J'vi 78.44 317 *e*P P **20 41 54.0 -0.4**
comp=Z,14nm,0.7s
SFTF Sexfontaines 78.49 317 ⇓*i*P P **20 41 54.2 -0.5**
comp=Z,52nm,0.9s
DOU Dourbes 78.53 319 P P **20 41 55.1 +0.3**
SNF Seneffe 78.67 319 P P **20 41 55.5 0.0**
comp=Z,10nm,1.0s
SMRF Simiane la Rot 78.70 313 ⇓*i*P P **20 41 56.2 +0.3**
comp=Z,32nm,0.8s
BAIF Baives 78.78 319 ⇓*i*P P **20 41 56.2 0.0**
comp=Z,49nm,0.9s
VIVF Saint-Julien-l 79.21 314 ⇓*i*P P **20 41 58.4 -0.3**
comp=Z,36nm,0.9s
LOR Lormes 79.41 316 ⇓*i*P P **20 41 59.1 -0.7**
comp=Z,44nm,0.9s
LOR *e*R
comp=Z,394nm,17.8s
SSF Saint Saulge 79.68 316 ⇓*i*P P **20 42 00.8 -0.4**
comp=Z,44nm,1.0s
PLDF La Plantade 79.77 315 *e*P P **20 42 01.8 0.0**
PLDF La Plantade 79.77 315 *e*P P **20 42 01.8 0.0**
PLDF La Plantade 79.77 315 *e*P P **20 42 01.8 0.0**
AVF Avril sur Loir 79.83 316 ⇓*i*P P **20 42 01.4 -0.6**
comp=Z,36nm,0.8s
LASF Ste Croix 79.91 313 ⇓*i*P P **20 42 02.6 +0.1**
comp=Z,78nm,1.1s
AGO Saint Agoulin 80.10 315 *e*P P **20 42 03.5 0.0**
AGO Saint Agoulin 80.10 315 *e*P P **20 42 03.5 0.0**
LBL Lubilhac 80.15 314 *e*P P **20 42 02.3 -1.6**
LBL Lubilhac 80.15 314 *e*P P **20 42 02.3 -1.6**
LBL Lubilhac 80.15 314 *e*P P **20 42 02.3 -1.6**
BGF Bois d'Agland 80.21 316 ⇓*i*P P **20 42 03.8 -0.3**
comp=Z,34nm,1.0s
HYF Humbligny 80.23 316 *e*P P **20 42 04.3 +0.1**
DZM Mont Dzumac 80.39 116 *e*P P **20 42 06.3 +0.8**
comp=Z,54nm,1.2s
DZM *e*LR LR 21 07 14.4
comp=Z,430nm,30.9s
DZM Mont Dzumac 80.39 116 LR LR 21 20 01.7
comp=Z,198nm,19.7s,baz=188,slow=37
TCF Toulx Ste Croi 80.69 315 ⇓*i*P P **20 42 06.6 -0.1**
comp=Z,51nm,1.0s
CASY Casey 80.81 173 *e*P P **20 42 07.0 +0.3**
CASY Casey 80.81 173 *e*P P **20 42 06.9 +0.2**
comp=Z,31nm,1.0s
CASY LR LR
comp=Z,500nm,21.0s
CAF Calviac 81.03 314 ⇓*i*P P **20 42 08.5 0.0**
comp=Z,41nm,1.0s
RJF Les Rejaudoux 81.34 314 ⇓*i*P P **20 42 10.3 +0.1**
comp=Z,54nm,0.9s
RJF *e*R
comp=Z,495nm,21.0s
LDF La Druitiere 81.82 318 ⇓*i*P P **20 42 12.0 -0.6**
comp=Z,32nm,0.7s
LFF La Frestale 81.95 314 *e*P P **20 42 13.4 +0.1**
comp=Z,64nm,1.1s
FLN La Foliniere 82.02 318 *e*P P **20 42 13.2 -0.4**
comp=Z,41nm,0.8s
FLN *e*R
comp=Z,597nm,18.0s
MFF Saint Martin d 82.23 316 ⇓*i*P P **20 42 14.4 -0.4**
comp=Z,43nm,0.9s
GRR Gorron 82.34 318 *e*P P **20 42 14.9 -0.4**
TAM Tamanrasset 82.40 292 *e*P P **20 42 16.6 +0.3**
TAM Tamanrasset 82.40 292 *e*P P **20 42 16.6 +0.3**
comp=Z,3.3nm,0.8s
EPF Esparros 82.61 312 ⇓*i*P P **20 42 15.9 -1.0**
comp=Z,13nm,1.0s
ALE Alert 83.27 357 P P **20 42 19.0 -0.6**
comp=Z,80nm,0.6s,SNR=5.2
ETSF Etsaut 83.29 312 ⇓*i*P P **20 42 20.5 0.0**
comp=Z,23nm,0.8s
SGMF Saint Gilles 83.48 318 *e*P P **20 42 21.0 -0.2**
comp=Z,28nm,0.7s
SJPF Ste Jean 83.72 313 *e*P P **20 42 21.9 -0.7**
comp=Z,19nm,0.8s
ROSF Rostrenen 83.92 318 *e*P P **20 42 23.3 -0.2**
comp=Z,82nm,1.1s
MAW Mawson 83.94 191 LR LR 21 12 55.5
comp=Z,168nm,18.3s,baz=166,slow=31
QUIF Quistinic 83.95 318 *e*P P **20 42 22.9 -0.7**
comp=Z,81nm,1.2s
SCO Scoresbysund 85.16 342 *i*P P **20 42 30.1 +0.8**
comp=Z,2.7nm,1.1s
ESDC Sonseca Array 86.54 310 P P **20 42 36.9 0.0**
comp=Z,8.3nm,0.7s,baz=58,slow=4.4,SNR=34
ESDC pP **pP** **20 42 46.3 -1.4**
comp=Z,4.1nm,0.8s,baz=59,slow=4.3,SNR=8.4
ESDC Sonseca Array 86.54 310 P P **20 42 36.9 0.0**
ESDC pP **pP** **20 42 46.3 -1.4**
TORD Torodi Ar. Bea 88.05 283 P P **20 42 44.8 +0.3**
comp=Z,14nm,0.9s,baz=80,slow=4.6,SNR=57
TORD PP **PP** **20 46 09.0 -2.4**
comp=Z,2.3nm,0.9s,baz=68,slow=7.1,SNR=7.4
TORD PKPPKP **P'P'df** **21 08 41.0 +1.3**
comp=Z,1.4nm,1.2s,baz=284,slow=2.2,SNR=3.5
TORD LR LR 21 26 01.1
comp=Z,357nm,18.9s,baz=70,slow=38
TORD Torodi Ar. Bea 88.05 283 P P **20 42 44.8 +0.3**
TORD PP **PP** **20 46 09.0 -2.4**
TORD P'P' 21 08 41.0
SUMG Summit 88.23 347 *e*P P **20 42 44.5 -0.3**
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 88.23 347 *e*P P **20 42 44.5 -0.3**
comp=Z,15nm,1.0s
SUMG Summit 88.23 347 *i*P P **20 42 44.6 -0.3**
comp=Z,9.8nm,0.9s
SUMG *i* 20 42 53.9
MVO Moncorvo 88.39 312 *e*P P **20 42 46.2 +0.5**
comp=Z,40nm,1.7s
PCAB Cabril 88.94 313 *e*P P **20 42 48.9 +0.6**
comp=Z,51nm,1.6s
PCBR Castelo Branco 89.10 311 *e*P P **20 42 49.5 +0.5**
comp=Z,34nm,1.7s
PVIS Viseu 89.14 312 *e*P P **20 42 48.9 -0.4**
comp=Z,51nm,1.9s
PBAR Barrancos 89.25 309 *e*P P **20 42 50.6 +0.8**
comp=Z,28nm,1.9s
COLA College 89.45 22 PFAKE
COLA LR LR
comp=Z,221nm,20.0s
MCK McKinley 89.65 23 *e*P P **20 42 51.6 +0.4**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 89.65 23 *e*P P **20 42 51.6 +0.4**
comp=Z,10nm,0.9s
PTOM Tomar 89.85 311 *e*P P **20 42 53.5 +1.0**
comp=Z,51nm,2.0s
ILAR Eielson Array 89.86 22 P P **20 42 51.4 -0.7**
comp=Z,2.5nm,0.7s,baz=301,slow=4.3,SNR=35
ILAR PP **PP** **20 46 24.9 +0.6**
comp=Z,0.5nm,0.9s,baz=304,slow=6.6,SNR=5.2
ILAR LR LR 21 31 27.4
comp=Z,149nm,19.0s,baz=304,slow=41
ILAR Eielson Array 89.86 22 P P **20 42 51.4 -0.7**
ILAR 20 46 24.9
ILAR Eielson Array 89.86 22 P P **20 42 51.4 -0.7**
ILAR PP **PP** **20 46 24.9 +0.6**
PMTG Montargil 89.88 310 *e*P P **20 42 52.9 +0.2**
comp=Z,37nm,1.8s
EVO Evora 89.88 310 *e*P P **20 42 53.7 +1.0**
comp=Z,25nm,1.7s
PBEJ Beja 89.92 309 *e*P P **20 42 53.6 +0.7**
comp=Z,23nm,1.4s
PVAQ Vaqueiros 89.99 308 *e*P P **20 42 52.7 -0.5**
comp=Z,36nm,1.1s
PBDV Barranco-do-Ve 90.20 308 *e*P P **20 42 55.0 +0.7**
comp=Z,40nm,1.5s
PNCL Nicolau / Gran 90.39 309 *e*P P **20 42 55.3 +0.2**
comp=Z,46nm,1.9s
SYO Syowa Base 90.56 197 ⇓*e*P P **20 42 57.6 +2.6**
RC01 Rabbit Creek A 90.69 26 *e*P P **20 42 56.1 +0.1**
comp=Z,21nm,0.9s
KDAK Kodiak Island 91.03 29 P P **20 42 57.5 -0.1**
comp=Z,10.0nm,0.9s,baz=349,slow=19,SNR=4.7
KDAK Kodiak Island 91.03 29 P P **20 42 57.5 -0.1**
KDAK Kodiak Island 91.03 29 P P **20 42 57.5 -0.1**

DOT Dot Lake 91.51 22 *e*P P **20 43 00.3 +0.5**
RES Resolute Bay 91.68 2 P P **20 43 00.7 +0.4**
comp=Z,3.5nm,0.8s,baz=352,slow=4.2,SNR=20
RES Resolute Bay 91.68 2 *e*P P **20 43 00.6 +0.3**
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 91.68 2 *e*P P **20 43 00.6 +0.3**
comp=Z,5.9nm,0.9s
INK Inuvik 91.78 16 P P **20 43 00.2 -0.6**
comp=Z,2.0nm,0.7s,baz=321,slow=8.2,SNR=5.6
INK Inuvik 91.78 16 *e*P P **20 43 01.0 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 91.78 16 *e*P P **20 43 01.0 +0.1**
comp=Z,7.0nm,1.0s
DAWY Dawson 92.90 20 *e*P P **20 43 06.1 -0.1**
DBIC Dimbokro 95.88 278 P P **20 43 20.9 +0.1**
comp=Z,4.4nm,1.0s,baz=49,slow=5.2,SNR=5.1
DBIC LR LR 21 25 44.1
comp=Z,169nm,19.4s,baz=55,slow=35
DBIC Dimbokro 95.88 278 P P **20 43 20.9 +0.1**
DBIC Dimbokro 95.88 278 P P **20 43 20.9 +0.1**
YKA Yellowknife Ar 101.08 13 P **Pdif** **20 43 42.9 -0.3**
comp=Z,0.1nm,0.5s,baz=325,slow=4.1,SNR=4.4
YKA PP **PP** **20 47 52.3 +1.2**
comp=Z,0.5nm,0.9s,baz=324,slow=7.6,SNR=3.7
YKA PKKPbc **PKKPbc** **20 59 58.1 +1.9**
comp=Z,0.1nm,0.6s,baz=125,slow=2.1,SNR=3.6
YKA Yellowknife Ar 101.08 13 P **Pdif** **20 43 42.9 -0.3**
YKA 20 47 52.4
YKA Yellowknife Ar 101.08 13 P **Pdif** **20 43 42.9 -0.3**
YKA PP **PP** **20 47 52.4 +1.2**
YKA PKKPbc **PKKPbc** **20 59 58.1 +1.9**
BMO Blue Mountains 115.63 23 PFAKE 20 48 50.0 +14
BMO LR LR
comp=Z,250nm,19.0s
BOZ Bozeman (W) 116.94 19 PFAKE 20 48 50.0 +11
BOZ LR LR
comp=Z,275nm,20.0s
AGMN Agassiz Nation 117.81 7 PFAKE 20 48 50.0 +10
AGMN LR LR
comp=Z,298nm,19.0s
BMN Battle Mountai 119.35 26 PFAKE 20 48 50.0 +6.7
BMN LR LR
comp=Z,278nm,21.0s
AHID Auburn Hatcher 119.68 20 PFAKE 20 49 00.0 +16
AHID LR LR
comp=Z,362nm,20.0s
PPT2 Papeete2 119.98 103 *e*LR LR 21 25 42.8
comp=Z,153nm,23.8s
BW06 Boulder Array 120.18 19 PFAKE 20 49 00.0 +15
BW06 LR LR
comp=Z,274nm,20.0s
PDAR Pinedale Array 120.18 19 PKP **PKPdf** **20 48 44.8 -0.2**
comp=Z,0.8nm,0.6s,baz=111,slow=1.9,SNR=7.6
PDAR Pinedale Array 120.18 19 PKP **PKPdf** **20 48 44.8 -0.2**
COWI Conover 120.47 2 PFAKE 20 49 00.0 +15
COWI LR LR
comp=Z,434nm,22.0s
TBI Tubuai 120.51 109 *e*LR LR 21 26 07.9
comp=Z,226nm,27.5s
NVAR Mina Array Bea 120.52 28 PKP **PKPdf** **20 48 46.4 +0.7**
comp=Z,5nm,0.7s,baz=337,slow=1.3,SNR=5.0
NVAR Mina Array Bea 120.52 28 PKP **PKPdf** **20 48 46.4 +0.7**
DAC Darwin (Calif) 122.59 29 PFAKE 20 49 00.0 +10
DAC LR LR
comp=Z,258nm,22.0s
MSU Marysvale 123.03 23 *e*PKIKP **PKPdf** **20 48 52.0 +1.4**
MSU Marysvale 123.03 23 *e*PKPdf **PKPdf** **20 48 52.0 +1.4**
AAM Ann Arbor 124.20 357 PFAKE 20 49 00.0 +7.7
AAM LR LR
comp=Z,462nm,21.0s
ACSO Alum Creek Sta 126.22 356 PFAKE 20 49 10.0 +14
ACSO LR LR
comp=Z,322nm,19.0s
CBKS Cedar Bluff 126.47 12 PFAKE 20 49 10.0 +13
CBKS LR LR
comp=Z,337nm,22.0s
CBN Corbin 127.58 350 PFAKE 20 49 10.0 +11
CBN LR LR
comp=Z,359nm,21.0s
ANMO Albuquerque 128.28 20 PKP **PKPdf** **20 49 01.6 +1.0**
comp=Z,1.6nm,0.8s,baz=54,slow=6.7,SNR=3.9
ANMO Albuquerque 128.28 20 PKIKP **PKPdf** **20 49 01.6 +1.0**
ANMO MLR MLR
comp=Z,303nm,20.0s
ANMO Albuquerque 128.28 20 PKP **PKPdf** **20 49 01.6 +1.0**
ANMO LR LR
comp=Z,303nm,20.0s
BLA Blacksburg 128.98 353 PFAKE 20 49 10.0 +8.3
BLA LR LR
comp=Z,462nm,22.0s
AMTX Amarillo 129.77 16 PFAKE 20 49 10.0 +6.7
AMTX LR LR
comp=Z,281nm,20.0s
CNNC Cliffs of the 130.56 350 PFAKE 20 49 20.0 +15
CNNC LR LR
comp=Z,2µm,19.0s
TXAR Lajitas Array 134.35 20 PKP **PKPdf** **20 49 13.6 +1.4**
comp=Z,0.7nm,0.6s,baz=43,slow=0.4,SNR=9.1
TXAR SKPbc **SKPbc** **20 52 40.5 +1.0**
comp=Z,0.8nm,1.0s,baz=20,slow=2.9,SNR=3.8
TXAR Lajitas Array 134.35 20 PKIKP **PKPdf** **20 49 13.6 +1.4**
TXAR Lajitas Array 134.35 20 PKP **PKPdf** **20 49 13.6 +1.4**
TXAR SKPbc **SKPbc** **20 52 40.5 +1.0**
JCT Junction City 134.43 15 *e*PKIKP **PKPdf** **20 49 13.3 +1.1**
JCT Junction City 134.43 15 *e*PKPdf **PKPdf** **20 49 13.3 +1.1**
BRAL Brewton 135.56 360 PFAKE 20 49 30.0 +16
BRAL LR LR
comp=Z,255nm,21.0s
BDFB Brasilia 142.13 262 PKhKP PKPpre 20 49 22.4
comp=Z,1.9nm,0.7s,baz=61,slow=7.6,SNR=2.8
BDFB Brasilia 142.13 262 PKPpre PKPpre 20 49 22.4
TEIG Tepich 146.28 2 *e*PKPdf **PKPab** **20 49 35.2 -0.3**
TRQA Tornquist 147.01 218 *e*PKPdf **PKPbc** **20 49 35.5 -1.0**
CMIG Matias Romero 148.48 14 PKPbc **PKPbc** **20 49 40.9 -0.1**
comp=Z,6.6nm,0.8s,baz=354,slow=4.6,SNR=8.2
CMIG Matias Romero 148.48 14 PKPbc **PKPbc** **20 49 40.9 -0.1**
PLCA Paso Flores 149.39 205 PKPbc **PKPbc** **20 49 43.3 +0.5**
comp=Z,2.6nm,0.7s,baz=261,slow=2.6,SNR=6.8
PLCA Paso Flores 149.39 205 *e*PKP2 **PKPbc** **20 49 43.7 +1.0**
PLCA Paso Flores 149.39 205 *e*PKPbc **PKPbc** **20 49 43.7 +1.0**
SDV Santo Domingo 152.22 323 *e*PKPbc **PKPbc** **20 49 49.3 -1.0**
SIV San Ignacio 154.70 262 PKPab **PKPab** **20 50 10.6 +0.2**
comp=Z,2.2nm,0.7s,baz=80,slow=5.1,SNR=9.5
SIV San Ignacio 154.70 262 PKPab **PKPab** **20 50 10.6 +0.2**
BCIP Isla Barro Col 156.17 342 PFAKE 20 50 00.0 +11
BCIP LR LR
comp=Z,214nm,19.0s
ROSC El Rosal 157.61 325 PKPab **PKPab** **20 50 22.8 -0.4**
comp=Z,5.9nm,0.4s,baz=81,slow=16,SNR=3.9
ROSC El Rosal 157.61 325 PKPab **PKPab** **20 50 22.8 -0.4**
LPAZ La Paz 161.45 260 PKP **PKPdf** **20 49 56.0 +0.1**
comp=Z,0.5nm,0.5s,baz=18,slow=6.4,SNR=2.3
LPAZ PKPab **PKPab** **20 50 39.5 -0.8**
comp=Z,3.9nm,0.8s,baz=123,slow=4.1,SNR=14
LPAZ La Paz 161.45 260 PKIKP **PKPdf** **20 49 56.0 +0.1**
LPAZ 20 50 39.5
LPAZ La Paz 161.45 260 PKP **PKPdf** **20 49 56.0 +0.1**
LPAZ PKPab **PKPab** **20 50 39.5 -0.8**

*CSEM **28** 20:40:58.2,35.17N×40.81E,h3km,ML2.2,After NSSC*
NSSC 28 20:41:00.4±1.7,35.24N×40.72E,h13km±12km,ML2.1,
Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
MZRK	**Al-Mazaregh**	**0.59**	**355**	*e*P		Pb	20 41 12.4	-0.2	
MZRK				*e*S		Sn	20 41 23.1	-1.0	
MZRK				AML		AML	20 41 27.3		
	comp=Z,53nm,0.2s								
MZRK	**Al-Mazaregh**	**0.59**	**355**	*e*P		Pb	20 41 12.5	-0.2	
MZRK	**Al-Mazaregh**	**0.59**	**355**	*e*P		Pb	20 41 12.5	-0.2	
	SNR=75								
SFNV	**Sufian**	**1.28**	**337**	*e*P		Pn	20 41 22.7	-1.4	
SFNV				*e*S		Sb	20 41 39.3	-1.6	
SFNV				AML		AML	20 41 49.2		
	comp=Z,42nm,0.2s								
SFNV	**Sufian**	**1.28**	**337**	*e*P		Pn	20 41 22.8	-1.3	
SFNV				*e*S		Sn	20 41 41.5	+0.3	
SFNV				AML		AML	20 41 46.0		
	comp=N,93nm,0.3s								
SFNV				AML		AML	20 41 49.1		
	comp=Z,42nm,0.2s								
SFNV				AML		AML	20 41 49.9		
	comp=E,76nm,0.3s								
SFNV	**Sufian**	**1.28**	**337**	*e*P		Pn	20 41 22.8	-1.3	
	SNR=57								
SFNV				*e*S		Sn	20 41 41.5	+0.3	
	comp=E,76nm,0.3s,SNR=49								
MNKR	**ALMNKUR**	**1.38**	**301**	*e*P		Pn	20 41 17.2	-8.2	
MNKR				*e*S		Sn	20 41 35.8	-7.7	
MNKR				AML		AML	20 41 44.3		
	comp=Z,211nm,0.2s								
MNKR	**ALMNKUR**	**1.38**	**301**	*e*P		Pn	20 41 25.1	-0.2	
MNKR				AML		AML	20 41 48.5		
	comp=Z,211nm,0.2s								
MNKR	**ALMNKUR**	**1.38**	**301**	*e*P		Pn	20 41 25.1	-0.3	
	SNR=57								
KSRV	**Kasrt alli**	**1.54**	**295**	*e*P		Pn	20 41 24.5	-3.0	
KSRV				*e*S		Sn	20 41 45.7	-1.7	
KSRV				AML		AML	20 41 46.7		
	comp=Z,29nm,0.2s								
KSRV				AML		AML	20 41 50.4		
	comp=N,18nm,0.2s								
KSRV	**Kasrt alli**	**1.54**	**295**	*e*P		Pn	20 41 24.5	-3.0	
	SNR=57								
KSRV				*e*S		Sn	20 41 45.7	-1.7	
	comp=N,18nm,0.2s,SNR=49								
KBSD	**Kabsdagh**	**1.77**	**355**	*e*P		Pn	20 41 28.7	-2.1	
KBSD				*e*S		Sn	20 41 52.5	-0.7	
KBSD				AML		AML	20 42 01.3		
	comp=Z,20nm,0.2s								
KBSD	**Kabsdagh**	**1.77**	**355**	*e*P		Pn	20 41 31.1	+0.3	
KBSD				*e*S		Sb	20 41 54.5	-0.4	
KBSD				AML		AML	20 41 58.4		
	comp=N,22nm,0.3s								
KBSD				AML		AML	20 42 02.4		
	comp=Z,20nm,0.2s								
KBSD	**Kabsdagh**	**1.77**	**355**	*e*P		Pn	20 41 31.1	+0.3	
	SNR=45								
KBSD				*e*S		Sb	20 41 54.5	-0.4	
	SNR=40								

IDC 28 20:49:22.3±1.3,0.58S×134.21E,h0km,mb3.4/3,
mb1 3.7/5,mb1mx3.5/18,mbtmp3.5/5,ML3.6/2,MS3.6/1,
Ms1 3.6/1,ms1mx2.5/20,Error ellipse: s-maj=58.3km
s-min=22.9km az=90.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
DAV	**Davao City (W)**	**11.48**	**312**	LR		LR	20 56 28.7		
	comp=Z,276nm,18.8s,baz=309,slow=37								
WRA	**Warramunga Arr**	**19.24**	**180**	P		P	20 53 47.5	-0.9	
	0.2nm,0.3s,baz=358,slow=11,SNR=13								
FITZ	**Fitzroy Crossi**	**19.34**	**205**	P		Pn	20 53 51.3	+0.8	
	0.2nm,0.3s,baz=34,slow=11,SNR=4.0								
ASAR	**Alice Springs**	**22.95**	**181**	P		P	20 54 28.1	-0.3	
	0.8nm,0.7s,baz=0.8,slow=11,SNR=8.1								
MKAR	**Makanchi Array**	**65.39**	**323**	P		P	21 00 06.4	-0.4	
	0.4nm,0.6s,baz=120,slow=7.5,SNR=6.1								
ILAR	**Eielson Array**	**85.79**	**25**	P		P	21 02 03.7	+0.4	
	0.2nm,0.6s,baz=262,slow=5.3,SNR=3.2								

PLV 28 21:21:47.4±3.0,23.45N×103.03E,h0km±999km,MD3.1,
Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
LCVN	**Lai Chau**	**1.41**	**175**	*e*Pg		Pn	21 22 14.5	0.0	
LCVN				*e*Sg		Sg	21 22 31.6	-1.4	
KMI	**Kunming**	**1.69**	**351**	Pg		Pg	21 22 23.5	+3.4	
KMI				Sg		Sg	21 22 50.0	+7.8	
KMI				smax		smax			
	comp=N,34nm,0.9s								
KMI				smax		smax			
	comp=E,45nm,0.7s								
KMI				LR		LR			
	comp=N,160nm,6.5s								
KMI				LR		LR			
	comp=E,160nm,7.8s								
KMI				LR		LR			
	comp=Z,71nm,5.9s								
TGV	**Tuan Giao**	**1.89**	**169**	*e*Pg		Pg	21 22 23.7	+0.1	
TGV				*e*Sg		Sg	21 22 48.1	0.0	
SLVN	**Son La**	**2.26**	**159**	*e*Pg		Pg	21 22 31.9	+1.0	
SLVN				*e*Sg		Sg	21 23 02.4	+2.2	
TTVN	**Tram Tau**	**2.32**	**148**	*e*Pg		Pg	21 22 31.1	-0.8	
TTVN				*e*Sg		Sg	21 23 01.6	-0.5	

*IDC **28** 21:44:45.6±0.9,4.35S×152.52E,h101km±7km,mb4.0/7,*
mb1 4.2/8,mb1mx3.8/16,mbtmp4.0/8,MS3.8/2,Ms1 3.8/2,
ms1mx3.0/19,Error ellipse: s-maj=26.0km s-min=14.7km
az=122.0
*ISCJB **28** 21:44:46.0±3.5,4.4S±0.1×152.4E±0.1,h117km±33km,*
mb4.0/10,Error ellipse: s-maj=23.6km s-min=22.7km
az=149.2
*NEIC **28** 21:44:46.5±0.7,4.38S×152.57E,h110km±6km,mb4.2/4,*
Error ellipse: s-maj=15.3km s-min=8.9km az=111.0
ISC 28 21:44:45.7±0.8,4.4S±0.1×152.5E±0.1,h103km±6km,
h102km:pP-P,n26,σ0.95/33,mb4.1/10,New Britain
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
PMG	**Port Moresby**	**7.32**	**227**	P		**Pn**	**21 46 31.2**	**+1.1**	
	9.8nm,0.3s,baz=47,slow=9.8,SNR=21								
PMG				S		**Sn**	**21 47 50.6**	**-1.1**	
	7.3nm,0.3s,baz=114,slow=20,SNR=7.8								
PMG	**Port Moresby**	**7.32**	**227**	P		**Pn**	**21 46 31.2**	**+1.1**	
PMG				S		**Sn**	**21 47 50.6**	**-1.1**	
CTAO	**Charters Tower**	**16.79**	**201**	*e*Pn		**Pn**	**21 48 34.5**	**-0.1**	
	7.4nm,0.9s								
DZM	**Mont Dzumac**	**22.18**	**144**	P		**P**	**21 49 34.9**	**+1.3**	
	13nm,0.5s,baz=318,slow=14,SNR=23								
DZM	**Mont Dzumac**	**22.18**	**144**	*e*P		**P**	**21 49 33.8**	**+0.2**	
	12nm,0.4s								
WRAB	**Tennant Creek**	**23.53**	**227**	*e*P		**P**	**21 49 47.2**	**+0.4**	
	6.4nm,0.3s								
WRAB				*e*			21 50 07.7		
WRAB				*e*PcP		**PcP**	**21 53 29.8**	**+0.1**	
WRA	**Warramunga Arr**	**23.54**	**227**	P		**P**	**21 49 47.4**	**+0.4**	
	4.5nm,0.3s,baz=51,slow=10,SNR=90								
WRA				pP		**pP**	**21 50 08.7**	**+0.4**	
	5.3nm,0.5s,baz=50,slow=10,SNR=8.5								
WRA	**Warramunga Arr**	**23.54**	**227**	P		**P**	**21 49 47.4**	**+0.4**	
WRA				pP		**pP**	**21 50 08.7**	**+0.4**	
ASAR	**Alice Springs**	**26.30**	**221**	P		**P**	**21 50 11.6**	**-0.4**	
	0.5nm,0.3s,baz=54,slow=8.8,SNR=12								
ASAR				pP		**pP**	**21 50 33.9**	**-0.8**	
	1.6nm,0.4s,baz=51,slow=9.6,SNR=8.9								
ASAR				sP		**sP**	**21 50 47.8**	**+1.1**	
	2.9nm,0.7s,baz=51,slow=9.4,SNR=6.2								
ASAR	**Alice Springs**	**26.30**	**221**	P		**P**	**21 50 11.6**	**-0.4**	
ASAR				pP		**pP**	**21 50 33.9**	**-0.8**	
ASAR				sP		**sP**	**21 50 47.8**	**+1.1**	
STKA	**Stephens Creek**	**29.24**	**199**	P		**P**	**21 50 36.9**	**-1.1**	
	1.6nm,0.7s,baz=29,slow=16,SNR=6.4								
MJAR	**Matsushiro Arr**	**42.84**	**343**	LR		LR	22 08 26.6		
	comp=Z,47nm,18.0s,baz=230,slow=33								
ULN	**Ulaanbaatar**	**65.48**	**328**	*e*P		**P**	**21 55 17.7**	**-0.4**	
	0.3nm,0.4s								
SONM	**Songino Array**	**65.81**	**328**	pP		pP	21 55 47.6	+1.7	
	0.3nm,0.5s,baz=140,slow=4.1,SNR=2.3								
SONM	**Songino Array**	**65.81**	**328**	pP		pP	21 55 47.6	+1.7	
MKAR	**Makanchi Array**	**79.82**	**319**	P		**P**	**21 56 44.2**	**+1.3**	
	0.2nm,0.5s,baz=92,slow=8.9,SNR=6.5								
MKAR	**Makanchi Array**	**79.82**	**319**	P		**P**	**21 56 44.2**	**+1.3**	
ILAR	**Eielson Array**	**81.85**	**22**	P		**P**	**21 56 52.5**	**-0.7**	
	1.7nm,0.6s,baz=246,slow=5.2,SNR=26								
ILAR	**Eielson Array**	**81.85**	**22**	P		**P**	**21 56 52.5**	**-0.7**	
MAW	**Mawson**	**85.87**	**203**	LR		LR	22 30 36.6		
	comp=Z,142nm,21.4s,baz=336,slow=32								
YKA	**Yellowknife Ar**	**95.16**	**28**	P		**P**	**21 57 57.6**	**+0.4**	
	0.5nm,0.5s,baz=268,slow=5.2,SNR=12								
YKA	**Yellowknife Ar**	**95.16**	**28**	P		**P**	**21 57 57.6**	**+0.4**	
PDAR	**Pinedale Array**	**98.75**	**48**	P		**P**	**21 58 14.1**	**-0.2**	
	0.8nm,0.9s,baz=249,slow=3.8,SNR=4.7								
PDAR	**Pinedale Array**	**98.75**	**48**	P		**P**	**21 58 14.1**	**-0.2**	
TORD	**Torodi Ar. Bea**	**149.92**	**289**	PKPbc		**PKPbc**	**22 04 25.0**	**-0.1**	
	0.3nm,0.3s,baz=78,slow=2.0,SNR=12								
TORD				pPKPbc		**pPKPbc**	**22 04 51.1**	**-2.1**	
	0.9nm,0.8s,baz=100,slow=1.8,SNR=3.2								
TORD	**Torodi Ar. Bea**	**149.92**	**289**	PKPbc		**PKPbc**	**22 04 25.0**	**-0.1**	
TORD				pPKPbc		**pPKPbc**	**22 04 51.1**	**-2.1**	

*ISK **28** 21:51:53.1, 38˙98N×41˙82E, h8km, MD3.5*
*CSEM **28** 21:51:54.4±0.2, 39˙04N×41˙85E, h10km, MD3.5, Error ellipse: s-maj=8.4km s-min=5.2km az=35.0*
*DDA **28** 21:51:55.6, 39˙00N×41˙78E, h4km, MD3.3*

ISC 28 21:51:54.9±1.1, 39˙01N±0˙02×41˙80E±0˙02, h4km±11km, n39, σ1§46/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.31**	**300**	*e*PG		**Pg**	**21 51 59.9**	**-1.0**
VRTB	**Varto-Mus**	**0.31**	**300**	*e*Pg		**Pg**	**21 51 59.9**	**-1.0**
TATV	**Tatvan**	**0.62**	**144**	*i* P		**Pg**	**21 52 06.9**	**+0.1**
TATV				*i* S		**Sg**	**21 52 16.4**	**+1.6**
TATV	**Tatvan**	**0.62**	**144**	*i* P		**Pg**	**21 52 06.9**	**+0.1**
TATV				*i* S		**Sg**	**21 52 16.4**	**+1.6**
BNGB	**Bingˆll**	**0.88**	**269**	*e*PG		**Pg**	**21 52 10.8**	**-0.9**
BNGB				*e*SG		**Sg**	**21 52 23.5**	**+0.5**
ERZM	**Erzurum**	**0.96**	**339**	*i* P		**Pb**	**21 52 14.8**	**+0.5**
ERZM				*i* S		Sn	21 52 36.1	+6.4
ERZM	**Erzurum**	**0.96**	**339**	*i* P		**Pb**	**21 52 14.8**	**+0.5**
EZM	**Erzurum**	**0.96**	**339**	*e*PG		**Pg**	**21 52 12.5**	**-0.8**
EZM				*e*SG		**Sg**	**21 52 26.9**	**+1.1**
HOMI	**Horasan**	**1.04**	**4**	*i* P		**Pg**	**21 52 14.8**	**0.0**
HOMI				*i* S		**Sn**	**21 52 32.9**	**+1.2**
AGRB	**Hanur-Agry**	**1.08**	**58**	*e*PN		**Pg**	**21 52 14.2**	**-1.5**
AGRB				*e*SN		**Sg**	**21 52 29.6**	**-0.2**
AGRB	**Hanur-Agry**	**1.08**	**58**	*e*Pn		**Pg**	**21 52 14.2**	**-1.5**
AGRB				*e*Sn		**Sg**	**21 52 29.6**	**-0.2**
BEST	**Besiri**	**1.19**	**201**	*i* P		**Pg**	**21 52 18.0**	**+0.3**
BEST				*i* S		**Sn**	**21 52 35.6**	**+0.4**
VANT	**Van**	**1.29**	**117**	*e*PN		**Pn**	**21 52 18.5**	**-1.4**
VANT	**Van**	**1.29**	**117**	*e*Pn		**Pn**	**21 52 18.5**	**-1.4**
VANB	**Van**	**1.31**	**108**	*e*PN		**Pn**	**21 52 18.0**	**-2.1**
VANB	**Van**	**1.31**	**108**	*e*Pn		**Pn**	**21 52 18.0**	**-2.1**
TVAN	**Van**	**1.34**	**110**	*i* P		**Pn**	**21 52 19.6**	**-1.1**
TVAN				*i* S		**Sn**	**21 52 40.9**	**+1.8**
TVAN	**Van**	**1.34**	**110**	*i* P		**Pn**	**21 52 19.6**	**-1.1**
TVAN				*i* S		**Sn**	**21 52 40.9**	**+1.8**
KOPT	**Kop Dagi**	**1.43**	**315**	*i* P		**Pb**	**21 52 22.3**	**0.0**
KOPT				*i* S		Sg	21 52 51.5	+11
KOPT	**Kop Dagi**	**1.43**	**315**	*i* P		**Pb**	**21 52 22.3**	**0.0**
CLDR	**Caldiran**	**1.65**	**85**	*e*PN		**Pn**	**21 52 23.0**	**-2.0**
CLDR	**Caldiran**	**1.65**	**85**	*e*Pn		**Pn**	**21 52 23.0**	**-2.0**
DIYA	**Diyarbakir**	**1.71**	**231**	*i* P		**Pb**	**21 52 27.1**	**+0.2**
DIYA				*i* S		Sg	21 52 56.3	+6.5
DIYA	**Diyarbakir**	**1.71**	**231**	*i* P		**Pb**	**21 52 27.1**	**+0.2**
PTK	**Pertek**	**1.88**	**267**	*e*PN		**Pn**	**21 52 27.4**	**-0.7**
PTK	**Pertek**	**1.88**	**267**	*e*Pn		**Pn**	**21 52 27.4**	**-0.7**
BAYT	**Ayd¨¬ntepe-Bay**	**1.89**	**318**	*e*PN		**Pn**	**21 52 26.9**	**-1.3**
BAYT	**Ayd¨¬ntepe-Bay**	**1.89**	**318**	*e*Pn		**Pn**	**21 52 26.9**	**-1.3**
KARS	**Kars**	**1.89**	**31**	*e*PN		**Pn**	**21 52 26.9**	**-1.3**
KARS	**Kars**	**1.89**	**31**	*e*Pn		**Pn**	**21 52 26.9**	**-1.3**
SVRC	**Sivrice-ELAZID**	**2.05**	**253**	*e*PN		**Pn**	**21 52 28.5**	**-1.9**
SVRC	**Sivrice-ELAZID**	**2.05**	**253**	*e*Pn		**Pn**	**21 52 28.5**	**-1.9**
DAGI	**Agillar**	**2.07**	**2**	*i* P		**Pb**	**21 52 34.0**	**+0.8**
DAGI				*i* S		**Sg**	**21 53 05.8**	**+4.4**
CUKT	**Cukurca**	**2.26**	**140**	*e*PN		**Pn**	**21 52 31.0**	**-2.3**
CUKT	**Cukurca**	**2.26**	**140**	*e*Pn		**Pn**	**21 52 31.0**	**-2.3**
GUMT	**Gumushane**	**2.30**	**310**	*e*PN		**Pn**	**21 52 32.9**	**-0.9**
GUMT	**Gumushane**	**2.30**	**310**	*e*Pn		**Pn**	**21 52 32.9**	**-0.9**
ILIC	**ilic-Erzincan**	**2.55**	**281**	*e*PN		**Pn**	**21 52 35.7**	**-1.5**
ILIC	**ilic-Erzincan**	**2.55**	**281**	*e*Pn		**Pn**	**21 52 35.7**	**-1.5**

IDC 28 22:44:43.1±0.9, 2˙05N×126˙29E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.8/7, Error ellipse: s-maj=76.5km s-min=16.9km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.03**	**182**	P		Pn	22 49 19.4	-0.1
	2.1nm,0.7s,baz=8.2,slow=15,SNR=2.1							
WRA	**Warramunga Arr**	**23.24**	**161**	P		P	22 49 51.4	-0.9
	3.0nm,0.6s,baz=339,slow=11,SNR=22							
WRA				PcP		PcP	22 53 39.7	-0.8
	0.1nm,0.6s,baz=326,slow=2.0,SNR=4.9							
ASAR	**Alice Springs**	**26.61**	**164**	P		P	22 50 23.5	0.0
	0.6nm,0.5s,baz=339,slow=6.7,SNR=7.1							
STKA	**Stephens Creek**	**36.73**	**158**	P		P	22 51 52.5	+0.2
	1.3nm,0.6s,baz=352,slow=11,SNR=3.8							
USRK	**Ussuriysk Arra**	**42.28**	**6**	P		P	22 52 38.9	+0.5
	1.1nm,0.6s,baz=172,slow=8.3,SNR=4.3							
SONM	**Songino Array**	**48.75**	**342**	P		P	22 53 29.7	-0.1
	0.2nm,0.5s,baz=147,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**58.69**	**326**	P		P	22 54 42.3	-0.3
	0.6nm,0.4s,baz=120,slow=7.5,SNR=27							

*IDC **28** 22:47:56.1±1.3, 17˙58S×178˙46W, h524km±13km, mb3.7/20, mb1 3.8/21, mb1mx3.8/24, mbtmp3.7/21, Error ellipse: s-maj=21.2km s-min=8.8km az=150.0*
*ISCJB **28** 22:47:57.3±0.7, 17˙64S±0˙09×178˙53W±0˙08, h550km±6km, mb4.4/35, Error ellipse: s-maj=15.6km s-min=8.6km az=142.5*
*NEIC **28** 22:47:57.3±0.9, 17˙62S×178˙47W, h537km±9km, mb4.7/14, Error ellipse: s-maj=14.2km s-min=9.8km az=137.0*

ISC 28 22:47:56.4±0.7, 17˙6S±0˙1×178˙39W±0˙08, h533km±6km, n114, σ1§16/124, mb4.3/35, 6C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.40**	**267**	*e*P		**P**	**22 49 14.8**	**+2.0**
MSVF				S		**S**	**22 50 16.0**	**+1.1**
AFI	**Afiamalu**	**7.34**	**61**	P		**P**	**22 49 45.5**	**-1.9**
	9.5nm,0.3s,baz=59,slow=4.1,SNR=11							
AFI				S		**S**	**22 51 14.8**	**-3.3**
	2.4nm,0.3s,baz=357,slow=21,SNR=3.0							
AFI	**Afiamalu**	**7.34**	**61**	*e*P		**P**	**22 49 44.6**	**-2.7**
	101nm,0.8s							
AFI				*e*S		**S**	**22 51 20.2**	**+2.2**
DZM	**Mont Dzumac**	**14.95**	**250**	*e*LR		LR	22 53 41.4	
	239nm,24.8s							
DZM	**Mont Dzumac**	**14.95**	**250**	P		P	22 51 09.6	+3.9
	0.7nm,0.3s,baz=98,slow=23,SNR=5.5							
DZM	**Mont Dzumac**	**14.95**	**250**	P		P	22 51 09.6	+3.9
URZ	**Urewera**	**20.97**	**190**	*e*P		**P**	**22 52 00.0**	**-1.9**
EIDS	**Eidsvold**	**29.39**	**249**	*e*P		**P**	**22 53 16.5**	**-0.2**
	21nm,0.8s							
ARMA	**Armidale**	**30.11**	**239**	*e*P		**P**	**22 53 23.4**	**+0.4**
ARMA	**Armidale**	**30.11**	**239**	*e*P		**P**	**22 53 23.6**	**+0.6**
	20nm,0.8s							
CTA	**Charters Tower**	**33.52**	**260**	P		**P**	**22 53 52.0**	**-0.1**
	17nm,0.8s,baz=89,slow=9.9,SNR=8.0							
CTA	**Charters Tower**	**33.52**	**260**	*e*P		**P**	**22 53 51.8**	**-0.3**
CTA	**Charters Tower**	**33.52**	**260**	P		**P**	**22 53 52.0**	**-0.1**
CNB	**Canberra Magne**	**33.63**	**232**	*e*P		**P**	**22 53 53.6**	**+0.7**
PMG	**Port Moresby**	**34.42**	**279**	P		**P**	**22 54 00.9**	**+1.2**
	74nm,0.8s,baz=78,slow=6.7,SNR=27							
PMG	**Port Moresby**	**34.42**	**279**	*e*P		**P**	**22 54 00.7**	**+1.0**
	81nm,0.9s							
CMSA	**Cobar Meteorol**	**35.32**	**240**	*e*P		**P**	**22 54 07.1**	**+0.1**
COEN	**Coen**	**37.12**	**270**	*e*P		**P**	**22 54 22.7**	**+0.6**
	219nm,0.9s							
TOO	**Toolangi**	**37.38**	**230**	*e*P		**P**	**22 54 24.4**	**+0.4**
STKA	**Stephens Creek**	**38.80**	**241**	P		**P**	**22 54 36.2**	**+0.6**
	26nm,0.8s,baz=77,slow=8.5,SNR=35							
STKA	**Stephens Creek**	**38.80**	**241**	*e*P		**P**	**22 54 36.1**	**+0.6**
STKA	**Stephens Creek**	**38.80**	**241**	*e*P		**P**	**22 54 36.3**	**+0.7**
BBOO	**Buckleboo**	**43.57**	**241**	*e*P		**P**	**22 55 13.5**	**+0.1**
BBOO	**Buckleboo**	**43.57**	**241**	*e*P		**P**	**22 55 13.6**	**+0.1**
	741nm,0.8s							
WB2	**Warramunga Arr**	**44.69**	**259**	*e*P		**P**	**22 55 21.5**	**-0.8**
WRAB	**Tennant Creek**	**44.70**	**259**	*e*P		**P**	**22 55 21.4**	**-0.9**
	17nm,0.8s							
WRA	**Warramunga Arr**	**44.71**	**259**	P		**P**	**22 55 21.2**	**-1.2**
	14nm,0.8s,baz=94,slow=7.1,SNR=93							
WRA				PcP		PcP	**22 56 53.8**	**+0.4**
	0.6nm,0.6s,baz=92,slow=3.7,SNR=5.1							
WRA				ScP		ScP	**22 59 57.2**	**+2.2**
	1.6nm,0.9s,baz=84,slow=4.7,SNR=5.1							
WRA				S		**S**	**23 01 16.8**	**-3.6**
	1.1nm,0.8s,baz=93,slow=14,SNR=5.3							
WRA	**Warramunga Arr**	**44.71**	**259**	P		**P**	**22 55 21.2**	**-1.2**
WRA				PcP		PcP	**22 56 53.8**	**+0.4**
WRA				ScP		ScP	**22 59 57.2**	**+2.2**
WRA				S		**S**	**23 01 16.8**	**-3.6**
AS31	**Alice Springs**	**44.89**	**254**	*e*P		**P**	**22 55 23.5**	**-0.3**
AS31				*e*PcP		**PcP**	**22 56 53.3**	**-0.8**
ASAR	**Alice Springs**	**44.89**	**254**	P		**P**	**22 55 23.5**	**-0.3**
	100nm,0.7s,baz=86,slow=8.4,SNR=621							
ASAR				PcP		**PcP**	**22 56 54.1**	**0.0**
	4.2nm,0.8s,baz=103,slow=4.0,SNR=6.3							
ASAR				ScP		**ScP**	**22 59 58.1**	**+2.3**
	1.4nm,0.9s,baz=87,slow=5.0,SNR=5.3							
ASAR				S		**S**	**23 01 20.8**	**-2.3**
	1.4nm,0.9s,baz=80,slow=15,SNR=7.0							
ASAR	**Alice Springs**	**44.89**	**254**	P		**P**	**22 55 23.5**	**-0.3**
ASAR				PcP		**PcP**	**22 56 54.1**	**0.0**
ASAR				ScP		**ScP**	**22 59 58.1**	**+2.3**
ASAR				S		**S**	**23 01 20.8**	**-2.3**
GUMO	**Guam**	**47.69**	**308**	P		**P**	**22 55 45.4**	**+0.4**
	46nm,0.4s,baz=9.7,slow=18,SNR=2.5							
GUMO	**Guam**	**47.69**	**308**	P		**P**	**22 55 45.4**	**+0.4**
FORT	**Forrest**	**50.16**	**244**	*e*P		**P**	**22 56 02.1**	**-1.0**
FORT	**Forrest**	**50.16**	**244**	*e*P		**P**	**22 56 02.5**	**-0.7**
	63nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.10**	**260**	P		**P**	**22 56 24.9**	**+0.3**
	8.2nm,0.6s,baz=145,slow=3.5,SNR=19							
FITZ	**Fitzroy Crossi**	**53.10**	**260**	P		**P**	**22 56 24.9**	**+0.3**
MBWA	**Marble Bar**	**58.17**	**256**	*e*P		**P**	**22 56 59.1**	**-0.6**
	36nm,1.0s							
MEEK	**Meekatharra**	**58.56**	**249**	*e*P		**P**	**22 57 01.3**	**-1.1**
KLBR	**Kellerberrin**	**58.98**	**243**	*e*P		**P**	**22 57 04.2**	**-0.9**
KAPI	**Kappang**	**61.69**	**274**	P		**P**	**22 57 21.4**	**-1.9**
	6.5nm,0.6s,baz=167,slow=5.8,SNR=5.2							
KAPI	**Kappang**	**61.69**	**274**	P		**P**	**22 57 21.4**	**-1.9**
CASY	**Casey**	**66.43**	**205**	*e*P		**P**	**22 57 53.2**	**+0.7**
	9.9nm,1.0s							
MJAR	**Matsushiro Arr**	**67.66**	**323**	P		**P**	**22 58 00.0**	**-0.5**
	5.2nm,0.7s,baz=164,slow=6.8,SNR=15							
MJAR	**Matsushiro Arr**	**67.66**	**323**	P		**P**	**22 58 00.0**	**-0.5**
JNU	**Nakatsue**	**69.92**	**316**	P		**P**	**22 58 14.0**	**-0.3**
	3.5nm,0.7s,baz=224,slow=17,SNR=2.4							
JNU	**Nakatsue**	**69.92**	**316**	P		**P**	**22 58 14.0**	**-0.3**
FX1	**Attu Island--F**	**70.56**	**355**	P		**P**	**22 58 16.6**	**-0.9**
	7.0nm,0.8s,baz=250,slow=19,SNR=3.5							
FX1	**Attu Island--F**	**70.56**	**355**	P		**P**	**22 58 16.6**	**-0.9**
ASAJ	**Asahikawa**	**71.01**	**331**	P		**P**	**22 58 21.6**	**+1.2**
	7.0nm,0.6s,baz=260,slow=23,SNR=5.1							
ASAJ	**Asahikawa**	**71.01**	**331**	P		**P**	**22 58 21.6**	**+1.2**
QSPA	**South Pole Qui**	**72.46**	**180**	*e*P		**P**	**22 58 30.1**	**+1.4**
	5.6nm,0.9s							
PETK	**Petropavlovsk-**	**73.38**	**345**	P		**P**	**22 58 33.4**	**-0.5**
	5.7nm,0.7s,baz=142,slow=12,SNR=4.3							
PETK	**Petropavlovsk-**	**73.38**	**345**	P		**P**	**22 58 33.4**	**-0.5**
KSRS	**Korea Array**	**74.48**	**318**	P		**P**	**22 58 41.4**	**+1.0**
	1.7nm,0.7s,baz=132,slow=6.1,SNR=7.3							
KSAR	**Wonju Array Be**	**74.49**	**318**	P		**P**	**22 58 41.4**	**+0.8**
USRK	**Ussuriysk Arra**	**76.36**	**326**	P		**P**	**22 58 52.7**	**+2.0**
	1.1nm,0.6s,baz=184,slow=3.1,SNR=3.4							
NVAR	**Mina Array Bea**	**79.19**	**44**	P		**P**	**22 59 07.5**	**+1.0**
	1.5nm,0.8s,baz=224,slow=8.6,SNR=7.8							
NVAR	**Mina Array Bea**	**79.19**	**44**	P		**P**	**22 59 07.5**	**+1.0**
IPM	**Ipoh**	**82.40**	**277**	*e*P		**P**	**22 59 23.4**	**0.0**
	18nm,0.8s							
ENH	**Enshi**	**84.11**	**304**	*e*P		**P**	**22 59 32.2**	**+0.6**
	15nm,1.1s							
ILAR	**Eielson Array**	**85.58**	**13**	P		**P**	**22 59 36.9**	**-1.0**
	0.8nm,0.4s,baz=227,slow=5.4,SNR=15							
ILAR	**Eielson Array**	**85.58**	**13**	P		**P**	**22 59 36.9**	**-1.0**
TXAR	**Lajitas Array**	**85.81**	**58**	P		**P**	**22 59 42.1**	**+2.1**
	1.5nm,0.7s,baz=218,slow=6.3,SNR=14							
TXAR	**Lajitas Array**	**85.81**	**58**	P		**P**	**22 59 42.1**	**+2.1**
AHID	**Auburn Hatcher**	**86.10**	**43**	*e*P		**P**	**22 59 42.4**	**+1.2**
	7.3nm,0.5s							
PDAR	**Pinedale Array**	**87.11**	**43**	P		**P**	**22 59 46.3**	**+0.3**
	0.3nm,0.6s,baz=177,slow=2.8,SNR=3.8							
PDAR	**Pinedale Array**	**87.11**	**43**	P		**P**	**22 59 46.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P		**P**	**22 59 55.5**	**+1.4**
	4.0nm,1.0s,baz=107,slow=2.9,SNR=19							
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P		**P**	**22 59 55.5**	**+1.4**
CHTO	**Chiang Mai**	**88.91**	**290**	*e*P		**P**	**22 59 55.8**	**+1.2**
	5.6nm,1.1s							
SONM	**Songino Array**	**93.32**	**319**	P		**P**	**23 00 14.4**	**-0.1**
	0.4nm,0.6s,baz=138,slow=5.7,SNR=6.3							
SONM	**Songino Array**	**93.32**	**319**	P		**P**	**23 00 14.4**	**-0.1**
YKA	**Yellowknife Ar**	**94.04**	**25**	P		**P**	**23 00 17.1**	**-0.1**
	0.3nm,0.7s,baz=240,slow=4.5,SNR=8.4							
YKA	**Yellowknife Ar**	**94.04**	**25**	P		**P**	**23 00 17.1**	**-0.1**
MKAR	**Makanchi Array**	**108.93**	**314**	PKiKP		**PKiKP**	**23 05 24.5**	**-0.9**
	0.2nm,0.5s,baz=111,slow=3.2,SNR=4.7							
MKAR	**Makanchi Array**	**108.93**	**314**	PKiKP		**PKiKP**	**23 05 24.5**	**-0.9**
KURK	**Kurchatov**	**111.60**	**318**	PKiKP		**PKiKP**	**23 05 29.2**	**-1.0**
	0.1nm,0.4s,baz=97,slow=2.4,SNR=5.2							
KURK	**Kurchatov**	**111.60**	**318**	PKiKP		**PKiKP**	**23 05 29.2**	**-1.0**
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP		**PKPdf**	**23 05 57.4**	**0.0**
	2.0nm,0.8s,baz=19,slow=4.1,SNR=3.8							
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP		**PKPdf**	**23 05 57.4**	**0.0**
FINES	**FINESS Array B**	**132.89**	**344**	SKPbc		**SKPab**	**23 08 49.9**	**-1.0**
	0.9nm,0.7s,baz=44,slow=5.8,SNR=5.5							
FINES	**FINESS Array B**	**132.89**	**344**	SKPbc		**SKPab**	**23 08 49.9**	**-1.0**
BURAR	**Bucovina Array**	**144.34**	**332**	⇓*i*P		**PKPab**	**23 06 32.8**	**+0.6**
TESR		**144.49**	**330**	⇑*i*P		**PKPab**	**23 06 33.3**	**+0.6**
KOLS	**Kolonicke sedl**	**144.52**	**336**	*e*PKP		PKPbc	23 06 32.4	+0.2
BRTR	**Keskin Array B**	**144.57**	**315**	PKP		**PKPdf**	**23 06 32.5**	**-0.2**
	4.9nm,0.9s,baz=121,slow=3.2,SNR=21							
BRTR	**Keskin Array B**	**144.57**	**315**	PKP		**PKPdf**	**23 06 32.5**	**-0.2**
NIE	**Niedzica**	**144.83**	**339**	*e*PX		PKPbc	23 06 33.7	+0.5
VRI	**Vrincioaia**	**144.92**	**329**	⇓*i*P		PKPbc	23 06 33.5	-0.1
TRPA	**Tarpa**	**145.07**	**335**	⇓*i*P		**PKPbc**	**23 06 34.0**	**+0.1**
CLL	**Collm**	**145.16**	**347**	⇓*i*PKPbc		**PKPbc**	**23 06 33.9**	**-0.1**
	comp=Z,22nm,1.4s							
DPC	**Dobruska-Polom**	**145.25**	**343**	*e*PKPdf		**PKPbc**	**23 06 34.2**	**-0.2**
DPC	**Dobruska-Polom**	**145.25**	**343**	*e*PKP		**PKPbc**	**23 06 34.0**	**-0.4**
BRG	**Berggiesshubel**	**145.36**	**346**	*i* P		**PKPbc**	**23 06 34.4**	**-0.2**
	comp=Z,6.9nm,0.8s							
PRU	**Pruhonice**	**146.04**	**345**	*e*PKP		**PKPbc**	**23 06 36.7**	**0.0**
DRGR		**146.06**	**334**	⇓*i*P		**PKPbc**	**23 06 36.8**	**-0.1**
VYHS	**Vyhne**	**146.13**	**339**	*e*PKP		**PKPbc**	**23 06 37.3**	**+0.3**
ZST	**Bratislava**	**146.95**	**341**	*e*PKP		**PKPbc**	**23 06 38.8**	**-0.4**
KHC	**Kasperske Hory**	**147.07**	**345**	*e*PKPdf		**PKPbc**	**23 06 39.2**	**-0.4**
KHC	**Kasperske Hory**	**147.07**	**345**	*e*PKP		**PKPbc**	**23 06 39.2**	**-0.4**
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		**PKPbc**	**23 06 40.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=18,slow=2.4,SNR=17							
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		**PKPbc**	**23 06 40.1**	**-0.1**
BZS	**Buzias**	**147.46**	**333**	⇑*i*P		**PKPbc**	**23 06 40.7**	**+0.1**
CONA	**Conrad Observa**	**147.57**	**342**	⇑*i*P		**PKPbc**	**23 06 39.4**	**-1.6**
CONA	**Conrad Observa**	**147.57**	**342**	⇑*i*PKPbc		**PKPbc**	**23 06 39.4**	**-1.6**
	comp=Z,6.3nm,0.7s							
WTTA	**Wattenberg**	**149.28**	**347**	⇓*i*P		**PKPbc**	**23 06 45.1**	**-0.2**
WTTA	**Wattenberg**	**149.28**	**347**	⇓*i*PKPbc		**PKPbc**	**23 06 45.1**	**-0.2**
	comp=Z,8.4nm,0.6s							
ABTA	**Abfaltersbach**	**149.56**	**345**	⇑*i*P		**PKPbc**	**23 06 44.9**	**-1.0**
ABTA	**Abfaltersbach**	**149.56**	**345**	⇑*i*PKPbc		**PKPbc**	**23 06 44.9**	**-1.0**
	comp=Z,9.8nm,1.1s							
FETA	**Feichten**	**149.70**	**348**	⇓*i*P		**PKPbc**	**23 06 46.5**	**+0.2**
FETA	**Feichten**	**149.70**	**348**	⇓*i*PKiKP		**PKPbc**	**23 06 46.5**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**150.18**	**348**	*e*PKPdf		**PKPbc**	**23 06 48.1**	**+0.5**
TUE	**Stuetta**	**150.49**	**349**	*e*PKPdf		**PKPbc**	**23 06 48.2**	**-0.1**

*ISCJB **28** 22:56:45.5±0.9, 24˙77N±0˙08×122˙42E±0˙03, h107km±8km, Error ellipse: s-maj=13.2km s-min=4.2km az=177.4*
*JMA **28** 22:56:45.0±0.2, 24˙81N×122˙42E, h112km*
*TAP **28** 22:56:45.1, 24˙78N×122˙38E, h115km, ML3.0, C*

ISC 28 22:56:46.2±2.0, 24˙7N±0˙1×122˙43E±0˙04, h104km±14km, n25, σ0§56/38, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**304**	*e*P		**Pn**	**22 57 02.2**	**-0.1**
	baz=297							
TWC	**Suao**	**0.54**	**257**	*e*P		**Pn**	**22 57 02.5**	**-0.1**
	baz=247							
TWC				*e*S		**Sn**	**22 57 15.0**	**0.0**
	baz=247							
YOJ	**Yonaguni jima**	**0.60**	**117**	P		**Pn**	**22 57 03.2**	**+0.1**
YOJ				*e*S		**Sn**	**22 57 16.6**	**+0.8**
TWE	**Neicheng**	**0.69**	**269**	P		**Pn**	**22 57 03.7**	**-0.1**
	baz=270							
TWE				*e*S		**Sn**	**22 57 16.7**	**-0.5**
	baz=270							
ENA	**Nanau**	**0.69**	**244**	*e*P		**Pn**	**22 57 04.1**	**+0.2**
	baz=239							
ENTT	**Nioudou**	**0.79**	**263**	*e*P		**Pn**	**22 57 04.9**	**+0.1**
	baz=261							
ENTT				*e*S		**Sn**	**22 57 19.5**	**+0.7**
	baz=261							
TWA	**Mucha**	**0.80**	**288**	*e*P		**Pn**	**22 57 04.2**	**-0.7**
	baz=286							
NSK	**Sanguang**	**0.97**	**267**	P		**Pn**	**22 57 06.6**	**-0.1**
	baz=270							
NSK				*e*S		**Sn**	**22 57 21.8**	**-0.4**
	baz=270							
TWD	**Chiawan**	**1.00**	**229**	*e*P		**Pn**	**22 57 06.3**	**-0.6**
	baz=224							
TWD				S		**Sn**	**22 57 22.4**	**0.0**
	baz=224							
NNS	**Nan Shan**	**1.00**	**253**	*e*P		**Pn**	**22 57 07.2**	**+0.1**
	baz=245							
NNS				*e*S		**Sn**	**22 57 22.9**	**+0.1**
	baz=245							
HWA	**Hwalien**	**1.06**	**225**	*e*P		**Pn**	**22 57 06.8**	**-0.8**
	baz=214							
WHF	**Hehuan Shan**	**1.21**	**241**	*e*P		**Pn**	**22 57 09.7**	**0.0**
	baz=233							
WHF				*e*S		**Sn**	**22 57 27.0**	**-0.4**
	baz=233							
TWT	**Tachien**	**1.24**	**247**	*e*P		**Pn**	**22 57 10.4**	**+0.6**
	baz=239							
TWT				*e*S		**Sn**	**22 57 28.1**	**+0.6**
	baz=239							
IRIF	**Iriomote-Funau**	**1.25**	**108**	P		**Pn**	**22 57 09.4**	**-0.3**
ESL	**Shilin**	**1.29**	**225**	*e*P		**Pn**	**22 57 09.0**	**-1.2**
	baz=228							
NSTT	**Nanjuang**	**1.30**	**266**	*e*P		**Pn**	**22 57 10.4**	**+0.1**
	baz=263							
NSTT				*e*S		**Sn**	**22 57 27.7**	**-0.8**
	baz=263							
HATJ	**Hateruma jima**	**1.43**	**118**	*e*S			22 57 32.5	
JKRS	**Kuro-shima**	**1.52**	**109**	*e*S			22 57 34.5	
TWQ1	**Liyutan**	**1.55**	**256**	*e*P		**Pn**	**22 57 13.8**	**+0.4**
	baz=254							
JIJ	**Ishigaki jima**	**1.61**	**103**	P		**Pn**	**22 57 13.6**	**-0.4**
JIJ				*e*S		**Sn**	**22 57 34.6**	**-0.5**
SMLT	**Sun Moon Lake**	**1.63**	**239**	*e*P		**Pn**	**22 57 14.4**	**0.0**
	baz=232							
SMLT				*e*S		**Sn**	**22 57 37.0**	**+1.2**
	baz=232							
TYC	**Yuchr**	**1.65**	**240**	*e*P		**Pn**	**22 57 15.3**	**+0.7**
	baz=235							
TYC				*e*S		**Sn**	**22 57 36.4**	**+0.3**
	baz=235							
TWF1	**Yuli**	**1.72**	**217**	*e*P		**Pn**	**22 57 14.2**	**-1.2**
	baz=221							
CHN5	**Tsauling**	**1.96**	**235**	*e*P		**Pn**	**22 57 18.9**	**+0.4**
	baz=241							
CHN5				*e*S		**Sn**	**22 57 43

IDC 28 23:27:17.1±1.1, 13°54N×92°77E, h30^{km}±6^{km}, mb3.6/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, MS4.0/2, Ms1 4.0/2, ms1mx2.9/42, Error ellipse: s-maj=38.6km s-min=18.5km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.69**	**50**	Pn	Pn	23 29 06.3	-0.8
	baz=242,slow=15,SNR=4.1						
CMAR				Sn	Sn	23 30 27.7	-5.6
	0.4nm,0.3s,baz=239,slow=28,SNR=8.1						
MKAR	**Makanchi Array**	**34.30**	**347**	P	P	23 34 00.9	+0.1
	0.3nm,0.7s,baz=169,slow=8.7,SNR=5.4						
MKAR				pP	pP	23 34 09.7	+0.1
	0.2nm,0.6s,baz=163,slow=7.0,SNR=3.3						
SONM	**Songino Array**	**36.02**	**16**	pP	pP	23 34 25.7	+1.2
	0.1nm,0.4s,baz=189,slow=8.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**40.80**	**353**	P	P	23 34 55.0	-0.6
	0.4nm,0.5s,baz=161,slow=9.2,SNR=2.9						
ZALV				pP	pP	23 35 05.3	+0.8
	0.4nm,0.4s,baz=25,slow=30,SNR=1.3						
WRA	**Warramunga Arr**	**52.73**	**128**	P	P	23 36 29.2	-0.3
	1.6nm,0.5s,baz=300,slow=10,SNR=10						
ASAR	**Alice Springs**	**54.64**	**132**	P	P	23 36 43.5	0.0
	0.9nm,0.4s,baz=310,slow=6.7,SNR=18						
BRTR	**Keskin Array B**	**57.79**	**309**	P	P	23 37 06.2	+0.1
	0.7nm,0.8s,baz=131,slow=7.4,SNR=4.3						
BRTR				pP	pP	23 37 14.4	-0.7
	0.3nm,0.6s,baz=112,slow=9.1,SNR=1.6						
BRTR				LR	LR	00 03 53.7	
	comp=Z,246nm,20.8s,baz=295,slow=38						
FINES	**FINESS Array B**	**67.11**	**331**	P	P	23 38 07.3	-0.4
	1.0nm,0.8s,baz=102,slow=5.8,SNR=3.2						
FINES				pP	pP	23 38 16.8	-0.1
	0.9nm,0.7s,baz=84,slow=7.4,SNR=2.0						
GERES	**GERESS Array B**	**72.75**	**317**	P	P	23 38 42.9	+0.2
	0.4nm,0.7s,baz=71,slow=6.3,SNR=3.2						
LBTB	**Lobatse**	**75.85**	**240**	LR	LR	00 11 22.0	
	comp=Z,55nm,18.6s,baz=134,slow=35						

IDC 28 23:32:19.8±2.8, 0°65S×133°91E, h0^{km}, mb3.4/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=110.2km s-min=26.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.15**	**205**	P	P	23 36 45.1	+0.2
	0.2nm,0.3s,baz=42,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**19.18**	**179**	P	P	23 36 44.9	-0.3
	0.4nm,0.3s,baz=358,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**22.88**	**180**	P	P	23 37 25.3	+0.2
	0.9nm,0.7s,baz=0.5,slow=12,SNR=7.8						
MKAR	**Makanchi Array**	**65.27**	**324**	P	P	23 43 03.4	-0.1
	0.3nm,0.6s,baz=122,slow=5.9,SNR=4.4						

*DDA **28** 23:32:23.4, 36°85N×34°31E, h29^{km}, MD3.1*
*ISK **28** 23:32:23.2, 36°95N×34°32E, h5^{km}, MD2.9*
*ISCJB **28** 23:32:24.2±1.3, 36°88N±0°06×34°29E±0°07, h6^{km}±6^{km}, Error ellipse: s-maj=12.3km s-min=7.0km az=40.6*
*CSEM **28** 23:32:24.9±0.5, 36°88N×34°35E, h10^{km}, MD2.9, Error ellipse: s-maj=13.5km s-min=7.5km az=34.0*

ISC 28 23:32:24.1±1.3, 36°85N±0°06×34°35E±0°05, h10^{km}±7^{km}, n18, σ0°97/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.15**	**83**	*e*PG	**Pg**	**23 32 27.5**	**-0.1**
MERS				*e*SG	**Sg**	**23 32 30.7**	**+0.7**
MERS	**Mersin**	**0.15**	**83**	*e*Pg	**Pg**	**23 32 27.5**	**-0.1**
MERS				*e*Sg	**Sg**	**23 32 30.7**	**+0.7**
GULE	**Gulek**	**0.56**	**39**	*i* P	**Pg**	**23 32 35.1**	**0.0**
GULE				*i* S	**Sb**	**23 32 44.2**	**-0.1**
GULE				*i* S	**Sb**	**23 32 44.2**	**-0.1**
GULE	**Gulek**	**0.56**	**39**	*i* P	**Pg**	**23 32 35.1**	**0.0**
GULE				*i* S	**Sb**	**23 32 44.2**	**-0.1**
KRTS	**Karatas**	**0.88**	**108**	*e*PG	**Pn**	**23 32 42.2**	**-0.3**
KRTS				*e*SG	**Sn**	**23 32 56.0**	**+0.7**
KRTS	**Karatas**	**0.88**	**108**	*e*Pg	**Pn**	**23 32 42.2**	**-0.3**
KRTS				*e*Sg	**Sn**	**23 32 56.0**	**+0.7**
CEYT	**Ceyhan**	**1.15**	**81**	*e*PN	**Pg**	**23 32 46.2**	**0.0**
CEYT				*e*SN	**Sn**	**23 33 03.0**	**+1.1**
CEYT	**Ceyhan**	**1.15**	**81**	*e*Pn	**Pg**	**23 32 46.2**	**0.0**
CEYT				*e*Sn	**Sn**	**23 33 03.0**	**+1.1**
KOZT	**Kozan**	**1.35**	**62**	*e*PN	**Pg**	**23 32 49.9**	**-0.1**
KOZT	**Kozan**	**1.35**	**62**	*e*Pn	**Pg**	**23 32 49.9**	**-0.1**
SULT	**Sultanhani-AKS**	**1.50**	**335**	*e*PN	**Pn**	**23 32 51.1**	**0.0**
SULT	**Sultanhani-AKS**	**1.50**	**335**	*e*Pn	**Pn**	**23 32 51.1**	**0.0**
YAYL	**Yayladag**	**1.65**	**119**	*i* P	**Pn**	**23 32 53.3**	**+0.1**
YAYL				*i* S	**Sg**	**23 33 18.3**	**+1.3**
YAYL	**Yayladag**	**1.65**	**119**	*i* P	**Pn**	**23 32 53.3**	**+0.1**
YAYL				*i* S	**Sg**	**23 33 18.3**	**+1.3**
BNN	**Bunyan**	**2.33**	**30**	*e*PN	**Pn**	**23 33 02.2**	**-0.4**
BNN	**Bunyan**	**2.33**	**30**	*e*Pn	**Pn**	**23 33 02.3**	**-0.4**
KDHN	**Kadinhani**	**2.42**	**314**	*i* P	**Pb**	**23 33 06.1**	**-1.8**
KDHN				*i* S	**Sg**	**23 33 45.3**	**+3.2**
KDHN	**Kadinhani**	**2.42**	**314**	*i* P	**Pb**	**23 33 06.1**	**-1.8**

*BJI **28** 23:32:36.0, 24°95N×122°23E, h24^{km}, mb3.9/1, ML3.7/2, Ms3.6/1, Ms7 3.5/2*
*TAP **28** 23:32:37.1, 24°88N×122°00E, h4^{km}, ML3.7, C*
*IDC **28** 23:32:56.1±5.8, 24°84N×121°76E, h178^{km}±58^{km}, mb3.3/7, mb1 3.4/8, mb1mx3.2/23, mbtmp3.3/8, MS3.1/1, Ms1 3.3/1, ms1mx2.2/30, Error ellipse: s-maj=34.0km s-min=16.7km az=67.0*

ISC 28 23:32:37.2±1.0, 24°89N±0°02×122°04E±0°04, h8^{km}±6^{km}, n58, σ1°906/78, mb3.6/7, 13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.13**	**338**	⇓*i*P	**Pg**	**23 32 40.4**	**+0.3**
	baz=358						
TWB1				*e*S	**Sg**	**23 32 42.4**	**+0.4**
	baz=358						
ILA	**Ilan**	**0.29**	**245**	P	**Pb**	**23 32 43.2**	**-1.4**
	baz=242						
ILA				*e*S	**Sb**	**23 32 47.8**	**-1.9**
	baz=242						
NWF	**Wu-fen Shan**	**0.30**	**308**	⇓*i*P	**Pb**	**23 32 43.9**	**-0.9**
	baz=315						
NWF				S	**Sb**	**23 32 48.6**	**-1.3**
	baz=315						
TWC	**Suao**	**0.33**	**212**	⇓*i*P	**Pg**	**23 32 43.9**	**+0.2**
	baz=205						
TWC				*e*S	**Sg**	**23 32 47.7**	**-0.3**
	baz=205						
TWE	**Neicheng**	**0.38**	**244**	⇓*i*P	**Pb**	**23 32 44.7**	**-1.4**
	baz=241						
TWE				*e*S	**Sg**	**23 32 49.5**	**-0.1**
	baz=241						
TWA	**Mucha**	**0.42**	**282**	⇓*i*P	**Pb**	**23 32 46.0**	**-0.9**
	baz=286						
TWA				S	**Sb**	**23 32 52.1**	**-1.4**
	baz=286						
TAP1	**Taipei**	**0.49**	**288**	⇓*i*P	**Pb**	**23 32 47.8**	**-0.3**
	baz=291						
TAP1				*e*S	**Sb**	**23 32 54.2**	**-1.2**
	baz=291						
ENTT	**Nioudou**	**0.50**	**240**	⇓*i*P	**Pg**	**23 32 46.8**	**-0.1**
	baz=236						
ENA	**Nanau**	**0.53**	**211**	P	**Pg**	**23 32 47.5**	**-0.1**
	baz=204						
TWY	**Chenhua**	**0.56**	**314**	⇓*i*P	**Pb**	**23 32 49.0**	**-0.1**
	baz=318						
TWS1	**Kuangyinshan**	**0.60**	**291**	⇓*i*P	**Pb**	**23 32 50.2**	**+0.3**
	baz=295						
TWS1				*e*S	**Sb**	**23 32 59.3**	**+0.7**
	baz=295						
NSK	**Sanguang**	**0.66**	**251**	⇓*i*P	**Pg**	**23 32 49.6**	**-0.3**
	baz=251						
NSK				*e*S	**Sg**	**23 32 57.5**	**-0.9**
	baz=251						
NNS	**Nan Shan**	**0.75**	**234**	*e*P	**Pg**	**23 32 51.2**	**-0.6**
	baz=230						
NCU	**National Centr**	**0.78**	**276**	⇓*i*P	**Pn**	**23 32 53.8**	**-0.6**
	baz=265						
NCU				*e*S	**Sn**	**23 33 04.8**	**-1.5**
	baz=265						
TWD	**Chiawan**	**0.90**	**207**	*e*P	**Pb**	**23 32 54.7**	**-0.4**
	baz=194						
TWD				*e*S	**Sg**	**23 33 05.8**	**-0.4**
	baz=194						
HSN	**Hsinchu**	**0.98**	**265**	⇓*i*P	**Pb**	**23 32 56.4**	**+0.1**
	baz=281						
NSTT	**Nanjuang**	**0.98**	**255**	P	**Pb**	**23 32 56.2**	**-0.1**
	baz=255						
NSTT				*e*S	**Sn**	**23 33 09.9**	**-1.3**
	baz=255						
YOJ	**Yonaguni jima**	**0.98**	**116**	*e*P	**Pg**	**23 32 55.4**	**-0.7**
	baz=115						
HWA	**Hwalien**	**0.99**	**204**	*e*P	**Pb**	**23 32 56.5**	**-0.1**
	baz=198						
TWT	**Tachien**	**1.01**	**231**	*e*P	**Pb**	**23 32 56.8**	**-0.2**
	baz=218						
WHF	**Hehuan Shan**	**1.02**	**224**	*e*P	**Pg**	**23 32 56.8**	**-0.1**
	baz=221						
WHF				*e*S	**Sb**	**23 33 11.3**	**+0.2**
	baz=221						
ESL	**Shilin**	**1.21**	**207**	*e*P	**Pg**	**23 32 59.7**	**-0.6**
	baz=204						
ESL				*e*S	**Sb**	**23 33 16.2**	**+0.3**
	baz=204						
NSY	**Sanyi**	**1.25**	**248**	*e*P	**Pg**	**23 33 01.6**	**+0.6**
	baz=247						
NSY				*e*S	**Sn**	**23 33 19.2**	**+1.1**
	baz=247						
TWQ1	**Liyutan**	**1.27**	**245**	*e*P	**Pn**	**23 33 02.1**	**+0.8**
	baz=243						
TWQ1				*e*S	**Sn**	**23 33 19.2**	**+0.6**
	baz=243						
SMLT	**Sun Moon Lake**	**1.44**	**226**	*e*P	**Pg**	**23 33 04.5**	**-0.4**
	baz=210						
TCU	**Taichung**	**1.45**	**240**	*e*P	**Pg**	**23 33 05.5**	**+0.6**
	baz=237						
TCU				*e*S	**Sn**	**23 33 25.2**	**+2.4**
	baz=237						
TYC	**Yuchr**	**1.46**	**228**	*e*P	**Pg**	**23 33 04.4**	**-0.7**
	baz=217						
TYC				*e*S	**Sg**	**23 33 25.4**	**+1.3**
	baz=217						
EHY	**Hungye**	**1.52**	**206**	*e*P	**Pn**	**23 33 05.1**	**+0.4**
	baz=203						
WNT	**Mingjian**	**1.59**	**231**	*e*P	**Pg**	**23 33 08.3**	**+0.5**
	baz=221						
TWF1	**Yuli**	**1.67**	**204**	*e*P	**Pn**	**23 33 07.2**	**+0.5**
	baz=212						
CHN5	**Tsauling**	**1.79**	**224**	⇓P	**Pg**	**23 33 11.3**	**-0.2**
	baz=223						
CHN5				*e*S	**Sg**	**23 33 36.2**	**+1.5**
	baz=223						
WGK	**Gukeng**	**1.80**	**229**	*e*P	**Pg**	**23 33 11.8**	**0.0**
	baz=247						
CHKT	**Chengkung**	**1.89**	**199**	*e*P	**Pb**	**23 33 10.9**	**-1.0**
	baz=180						
CHN2	**Minshiung**	**1.97**	**227**	*e*P	**Pb**	**23 33 13.0**	**-0.2**
	baz=224						
CHN4	**Tsaushan**	**2.02**	**221**	*e*P	**Pg**	**23 33 14.7**	**-1.3**
	baz=205						
STYT	**Tauyuan**	**2.08**	**215**	*e*P	**Pb**	**23 33 14.7**	**-0.5**
	baz=202						
STYT				*e*S	**Sg**	**23 33 43.4**	**-0.7**
	baz=202						
WTP	**Ta-pu**	**2.09**	**219**	*e*P	**Pb**	**23 33 15.9**	**+0.5**
	baz=202						
TWK	**Hsinying**	**2.15**	**222**	*e*P	**Pb**	**23 33 15.5**	**-0.9**
	baz=219						
CHN1	**Nanshi**	**2.19**	**219**	*e*P	**Pb**	**23 33 16.6**	**-0.4**
	baz=206						
CHN1				*e*S	**Sg**	**23 33 45.8**	**-1.7**
	baz=206						
SGST	**Jiashian**	**2.24**	**217**	*e*P	**Pb**	**23 33 18.3**	**+0.4**
	baz=204						
SGST				*e*S	**Sg**	**23 33 48.8**	**-0.4**
	baz=204						
TWG	**Pinlang**	**2.24**	**203**	*e*P	**Pn**	**23 33 15.8**	**+1.3**
	baz=202						
ECL	**Taimali**	**2.49**	**204**	*e*P	**Pn**	**23 33 19.8**	**+1.8**
	baz=190						
SSD	**Sandimen**	**2.49**	**211**	*e*P	**Pb**	**23 33 20.7**	**-1.5**
	baz=212						
TWM1	**Shoushan**	**2.53**	**216**	*e*P	**Pb**	**23 33 22.5**	**-0.5**
	baz=216						
EAST	**Anshuo**	**2.72**	**204**	*e*P	**Pb**	**23 33 24.2**	**-2.0**
	baz=192						
QZH	**Quanzhou**	**3.13**	**272**	Pn	**Pn**	**23 33 26.5**	**-0.3**
QZH				smax	smax		
	comp=N,290nm,1.1s						
QZH				smax	smax		
	comp=E,280nm,1.2s						
QZH				LR	LR		
	comp=N,1μm,12.6s						
QZH				LR	LR		
	comp=E,610nm,10.2s						
QZH				LR	LR		
	comp=Z,1μm,9.6s						
WHN	**Wuhan**	**8.84**	**311**	P	**Pn**	**23 34 46.0**	**+0.8**
WHN				S	**Sn**	**23 36 21.5**	**-3.5**
WHN				LR	LR		
	comp=N,410nm,3.6s						
WHN				LR	LR		
	comp=E,440nm,3.7s						
KSRS	**Korea Array**	**13.49**	**20**	P	P	23 36 02.6	+4.3
	comp=E,0.2nm,0.3s,baz=196,slow=11,SNR=9.8						
HHC	**Hu-ho-hao-te**	**18.16**	**334**	*e*P	**Pn**	**23 36 48.8**	**-1.0**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
USRK	**Ussuriysk Arra**	**20.91**	**20**	P	Pn	23 37 25.7	+3.2
	comp=Z,1.8nm,0.8s,baz=206,slow=13,SNR=3.3						
CMAR	**Chiang Mai Arr**	**22.38**	**258**	LR	LR	23 47 00.2	
	comp=Z,48nm,19.0s,baz=165,slow=38						
GTA	**Gaotai**	**23.66**	**313**	P	**P**	**23 37 52.5**	**+3.3**
GTA				pP	pP	23 37 57.3	+5.6
GTA				sP	sP	23 37 59.8	+7.0
GTA				pmax	pmax		
	comp=Z,3.0nm,2.2s						
SONM	**Songino Array**	**26.04**	**336**	P	**P**	**23 38 12.0**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=147,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**38.38**	**315**	P	**P**	**23 39 59.3**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=99,slow=11,SNR=8.3						
ZALV	**Zalesovo Beam**	**40.09**	**326**	P	**P**	**23 40 12.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=116,slow=6.8,SNR=6.0						
WRA	**Warramunga Arr**	**46.14**	**164**	P	**P**	**23 41 02.8**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=346,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**49.62**	**166**	P	**P**	**23 41 29.8**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=346,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**82.02**	**23**	P	**P**	**23 44 56.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=313,slow=4.9,SNR=7.3						

CASC 28 23:44:30.9±2.2, 13°65N×91°08W, h21^{km}±8^{km}, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.83**	**16**	*e*P	Pb	23 44 47.1	+0.3
FUG				*e*S	Sn	23 44 58.6	-0.8
PCG	**Pacaya**	**0.87**	**32**	*e*P	Pb	23 44 47.6	-0.1
PCG				*e*S	Sn	23 45 01.4	+0.8
FG6		**0.93**	**12**	*e*P	Pb	23 44 47.9	-0.8
FG6				*e*S	Sb	23 45 01.0	+0.2
TP2	**Tecpan 2**	**1.13**	**3**	*e*P	Pn	23 44 51.6	-0.4
TP2				*e*S	Sb	23 45 06.5	-0.4
NBG	**Las Nubes**	**1.17**	**37**	*e*P	Pb	23 44 53.0	+0.2
NBG				*e*S	Sn	23 45 08.1	0.0
SBLS	**San Blas**	**1.43**	**82**	*e*P	Pn	23 44 55.7	-0.3
SBLS				*e*S	Sn	23 45 14.5	+0.2
RBDL	**Robledal**	**1.43**	**71**	*e*P	Pn	23 44 55.8	-0.1
RBDL				*e*S	Sn	23 45 13.8	-0.5
MTO2	**Montecristo 2**	**1.83**	**66**	*e*P	Pn	23 45 00.5	-0.9
MRL	**Marmol**	**1.95**	**44**	*e*P	Pn	23 45 03.3	+0.3
MRL				*e*S	Sb	23 45 29.2	-0.8
LFRS	**El Faro**	**1.96**	**91**	*e*P	Pn	23 45 03.1	0.0
LFRS				*e*S	Sb	23 45 29.3	-1.0
SNVI	**San Vicente**	**2.18**	**91**	*e*S		23 45 34.6	

IDC 28 23:49:52.0±1.2, 0°23S×133°44E, h0^{km}, mb3.6/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=60.1km s-min=21.3km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.34**	**203**	P	Pn	23 54 20.5	+0.4
	0.1nm,0.3s,baz=37,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**19.61**	**177**	P	P	23 54 22.1	0.0
	0.3nm,0.3s,baz=354,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**23.30**	**179**	P	P	23 55 01.1	-0.6
	1.3nm,0.5s,baz=358,slow=12,SNR=17						
STKA	**Stephens Creek**	**32.40**	**167**	P	P	23 56 23.6	-0.1
	2.2nm,1.0s,baz=331,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**64.66**	**324**	P	P	00 00 31.5	-0.2
	0.2nm,0.7s,baz=107,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**85.81**	**25**	P	P	00 02 33.3	+0.2
	0.4nm,0.9s,baz=256,slow=3.6,SNR=3.6						

*IDC **28** 23:50:07.0±1.1, 0°34S×133°39E, h0^{km}, mb3.9/6, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.1/2, MS3.4/1, Ms1 3.3/1, ms1mx2.4/26, Error ellipse: s-maj=45.2km s-min=17.9km az=77.0*
*ISCJB **28** 23:50:09.4±0.7, 0°40S±0°08×133°2E±0°2, h28^{km}, mb3.8/8, MS3.3/1, Error ellipse: s-maj=28.4km s-min=10.5km az=166.3*
*NEIC **28** 23:50:12.1±0.6, 0°40S×133°31E, h35^{km}, mb3.9/4, Error ellipse: s-maj=28.6km s-min=8.9km az=73.0*

ISC 28 23:50:11.2±0.8, 0°4S±0°1×133°3E±0°2, h28^{km}, n19, σ0°78/19, mb3.9/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.14**	**203**	P	**Pn**	**23 54 33.3**	**-0.1**
	0.4nm,0.3s,baz=44,slow=13,SNR=4.4						
WRAB	**Tennant Creek**	**19.45**	**177**	*e*P	**P**	**23 54 36.1**	**+0.4**
	9.3nm,0.9s						
WRA	**Warramunga Arr**	**19.46**	**177**	P	**P**	**23 54 36.1**	**+0.3**
	0.6nm,0.3s,baz=354,slow=11,SNR=7.9						
WRA	**Warramunga Arr**	**19.46**	**177**	P	**P**	**23 54 36.1**	**+0.3**
AS31	**Alice Springs**	**23.14**	**179**	*e*P	**P**	**23 55 15.0**	**-0.4**
ASAR	**Alice Springs**	**23.14**	**179**	P	**P**	**23 55 15.8**	**+0.4**
	3.4nm,0.4s,baz=358,slow=12,SNR=19						
ASAR	**Alice Springs**	**23.14**	**179**	P	**P**	**23 55 15.8**	**+0.4**
CTAO	**Charters Tower**	**23.32**	**148**	*e*P	**P**	**23 55 17.4**	**+0.1**
	6.6nm,0.7s						
STKA	**Stephens Creek**	**32.28**	**167**	P	**P**	**23 56 37.5**	**-0.1**
	1.3nm,0.4s,baz=331,slow=11,SNR=5.3						
STKA				LR	LR	00 12 19.5	
	comp=Z,54nm,18.1s,baz=205,slow=41						
STKA	**Stephens Creek**	**32.28**	**167**	*e*P	**P**	**23 56 37.2**	**-0.4**
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.61**	**301**	P	**P**	**23 57 31.3**	**-1.0**
	0.5nm,0.3s,baz=129,slow=8.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**38.61**	**301**	P	**P**	**23 57 31.3**	**-1.0**
ULN	**Ulaanbaatar**	**53.21**	**338**	*e*P	**P**	**23 59 26.7**	**-0.5**
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**64.70**	**324**	P	**P**	**00 00 48.5**	**+1.7**
	0.6nm,0.6s,baz=110,slow=8.2,SNR=9.6						
MKAR	**Makanchi Array**	**64.70**	**324**	P	**P**	**00 00 48.5**	**+1.7**
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**00 01 46.4**	**+0.1**
	0.6nm,0.6s,baz=120,slow=10,SNR=5.0						
BVAR	**Borovoye Array**	**74.36**	**326**	P	**P**	**00 01 46.4**	**+0.1**
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**	**00 02 48.3**	**-0.5**
	0.3nm,0.7s,baz=264,slow=4.7,SNR=4.0						
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**	**00 02 48.3**	**-0.5**

*NIED **28** 23:56:00, 35°70N×140°70E, h53^{km}, Mw4.7 Best double couple: M0 1.30000×10^{16} NP1:φ$_s$358.00000°, δ68.00000°, λ87.00000°. NP2:φ$_s$185.00000°, δ22.00000°, λ96.00000°.*
*JMA **28** 23:56:04.9±0.1, 35°65N×140°66E, h51^{km}±1^{km}, M4.3 Broadband fault plane solution: P waves. NP1: φ$_s$9.00000°, δ82.00000°, λ91.00000°. NP2:φ$_s$179.00000°, δ8.00000°, λ80.00000°. Principal axes: T Plg53.0000°, Azm281.0000°; N Plg1.0000°, Azm189.0000°; P Plg37.0000°, Azm98.0000°;*
JMA Felt III J1.
*ISCJB **28** 23:56:05.2±0.3, 35°58N±0°03×140°63E±0°04, h55^{km}±2^{km}, mb4.6/87, MS3.9/22 Error ellipse: s-maj=5.0km s-min=4.6km az=171.5*
*NEIC **28** 23:56:05.7±0.6, 35°49N×140°54E, h43^{km}±5^{km}, mb4.9/25, MW4.7(NIED), Error ellipse: s-maj=4.9km s-min=4.4km az=97.0*
NEIC Felt at Ayase, Narita, Sagamihara, Tokyo and Yokohama. Recorded [3 JMA] in Chiba, [2 JMA] in Ibaraki and [1 JMA] in Kanagawa and Tochigi.
*MOS **28** 23:56:06.8±1.4, 35°68N×140°55E, h67^{km}, mb4.7/46, Error ellipse: s-maj=8.9km s-min=5.9km az=116.6*
*BJI **28** 23:56:06.1, 35°48N×140°48E, h70^{km}, mB4.8/30, mb4.7/48, Ms4.2/31, Ms7 4.0/30*
*IDC **28** 23:56:06.3±2.0, 35°51N×140°51E, h47^{km}±18^{km}, mb4.1/38, mb1 4.2/41, mb1mx4.2/44, mbtmp4.2/41, ML4.3/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/35, Error ellipse: s-maj=12.6km s-min=10.3km az=97.0*

ISC 28 23:56:05.8±0.5, 35°61N±0°04×140°64E±0°04, h51^{km}±3^{km}, n260, σ1°815/224, mb4.6/87, MS3.9/22, 10C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20**	**62**	⇑P	**Pn**	**23 56 13.1**	**-1.2**
CHOJ				*e*S	**Sn**	**23 56 19.6**	**-0.7**
JCN	**Nagara**	**0.41**	**242**	⇓P	**Pn**	**23 56 16.2**	**+0.1**
JCN				*e*S	**Sn**	**23 56 24.6**	**+1.2**
BSO4	**Boso 4**	**0.67**	**202**	⇓P	**Pn**	**23 56 19.4**	**+0.3**
BSO4				*e*S	**Sn**	**23 56 29.1**	**+0.4**
JYT	**Yasato**	**0.72**	**330**	P	**Pn**	**23 56 18.4**	**-1.4**
JYT				*e*S	**Sn**	**23 56 29.5**	**-0.5**
BSO3	**Boso 3**	**0.81**	**188**	P	**Pn**	**23 56 20.9**	**+0.1**
BSO1	**Boso 1**	**0.99**	**164**	P	**Pn**	**23 56 22.9**	**-0.1**
JAG	**Ashikaga**	**1.26**	**310**	⇓P	**Pn**	**23 56 26.6**	**-0.5**
JOD2	**Odawara 2**	**1.32**	**255**	⇓P	**Pn**	**23 56 27.6**	**-0.3**
JOD2				*e*S	**Sn**	**23 56 44.3**	**0.0**
JIM2	**Oshima 3**	**1.33**	**229**	P	**Pn**	**23 56 27.1**	**-1.0**
JIM2				*e*S	**Sn**	**23 56 45.3**	**+0.5**
JRY	**Ryogami san**	**1.47**	**287**	P	**Pn**	**23 56 30.6**	**+0.6**
MJAR	**Matsushiro Arr**	**2.18**	**296**	P	**Pn**	**23 56 40.5**	**+0.8**
	93nm,0.3s,baz=99,slow=15,SNR=166						
MJAR				LR	LR	23 57 40.9	
	comp=Z,μm,20.0s,baz=110,slow=45						
MJAR	**Matsushiro Arr**	**2.18**	**296**	P	**Pn**	**23 56 40.5**	**+0.8

KSAR **Wonju Array Be** 10.43 284 P Pn 23 58 36.6 +4.0
KSAR **Wonju Array Be** 10.43 284 P Pn 23 58 36.6 +4.0
USRK **Ussuriysk Arra** 10.84 325 P Pn 23 58 39.5 +1.3
comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=9.8
USRK LR LR 00 02 33.3
comp=Z,360nm,20.7s,baz=325,slow=36
MDJ Mudanjiang 12.34 320 P Pn 23 59 00.8 +2.1
MDJ pP **P** **23 59 09.5 +0.1**
MDJ sP 23 59 17.8
MDJ S **Sn** **00 01 17.5 +2.9**
MDJ pmax pmax
comp=Z,13nm,1.9s
MDJ pmax pmax
comp=Z,88nm,5.2s
MDJ LR LR
comp=N,280nm,29.0s
MDJ LR LR
comp=E,250nm,22.0s
MDJ LR LR
comp=Z,290nm,22.0s
MDJ Mudanjiang 12.34 320 *e*Pn Pn 23 58 60.0 +1.3
comp=Z,13nm,0.9s
HABR **Khabarovsk** 13.50 344 *e*P **Pn** **23 59 13.1 -1.5**
HABR *e*S **Sn** **00 01 40.8 -2.1**
HABR pmax pmax
comp=E,26nm,0.8s
HABR pmax pmax
comp=Z,51nm,2.2s
HABR pmax pmax
comp=N,47nm,2.2s
JOW Kunigami 13.72 234 LR LR 00 04 23.1
comp=N,298nm,21.0s,baz=94,slow=37
KLR Kul'dur 15.10 337 *e*P **P** **23 59 41.0 +1.0**
KLR MLR MLR
comp=Z,600nm,13.5s
BJI Beijing 19.81 290 P **P** **00 00 30.0 -2.0**
BJI S **Sn** **00 04 13.5 -2.2**
BJI pmax pmax
comp=Z,22nm,0.9s
BJI pmax pmax
comp=Z,76nm,4.9s
BJI LR LR
comp=N,240nm,25.0s
BJI LR LR
comp=E,310nm,25.0s
BJI LR LR
comp=Z,250nm,29.7s
SSLB Suanglung 20.73 241 *e*P **P** **00 00 40.0 -2.1**
comp=Z,60nm,1.7s
PETK Petropavlovsk- 21.23 29 P P 00 00 50.6 +3.3
comp=Z,4.1nm,0.8s,baz=234,slow=8.7,SNR=2.6
PETK LR LR 00 09 08.3
comp=Z,43nm,20.0s,baz=227,slow=37
PETK Petropavlovsk- 21.23 29 P P 00 00 50.6 +3.3
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 21.23 29 P P 00 00 50.6 +3.3
PET Petropavlovsk 21.55 31 *e*P pP 00 01 08.2 +5.7
PET *e*S Sn 00 04 56.7 -0.7
PET MLR MLR
comp=Z,200nm,21.0s
HHC Hu-ho-hao-te 23.38 292 *e*P **P** **00 01 08.0 -2.0**
HHC sP **sP** **00 01 31.8 +3.2**
HHC PP pP 00 01 42.5 +20
HHC PcP **PcP** **00 04 57.8 +2.5**
HHC S S 00 05 11.3 -8.0
HHC sS **sS** **00 05 37.5 -3.5**
HHC SS Sn 00 06 02.8 +21
HHC ScP **ScP** **00 08 29.8 +0.7**
HHC PcS **PcS** **00 08 36.8 +2.1**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.1s
HHC LR LR
comp=N,190nm,9.0s
HHC LR LR
comp=E,220nm,8.9s
HHC LR LR
comp=Z,210nm,11.0s
XAN Xi'an 26.03 276 P **P** **00 01 33.3 -1.0**
XAN pP **pP** **00 01 47.8 +0.6**
XAN sP **sP** **00 01 55.3 +2.0**
XAN PP PP 00 02 16.5 -17
XAN S **S** **00 05 57.5 -4.2**
XAN sS **sS** **00 06 22.5 -1.2**
XAN SS SS 00 07 07.5 -44
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,14nm,4.9s
XAN LR LR
comp=N,170nm,17.7s
XAN LR LR
comp=E,78nm,19.1s
XAN LR LR
comp=Z,74nm,19.6s
ULN Ulaanbaatar 27.67 307 *e*P **P** **00 01 48.7 -0.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 27.67 307 *e*P **P** **00 01 48.7 -0.3**
comp=Z,3.2nm,0.8s
SONM Songino Array 28.10 306 P **P** **00 01 52.5 -0.3**
comp=Z,2.6nm,0.7s,baz=106,slow=8.9,SNR=28
SONM LR LR 00 13 22.9
comp=Z,169nm,18.9s,baz=89,slow=37
SONM Songino Array 28.10 306 P **P** **00 01 52.5 -0.3**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM MLR MLR
comp=Z,169nm,18.9s
SONM Songino Array 28.10 306 P **P** **00 01 52.5 -0.3**
WAKE Wake Island 28.11 118 *e*P **P** **00 01 50.0 -2.9**
BOD Bodaibo 28.42 330⇑ *i*P **P** **00 01 55.2 -0.2**
BOD pmax pmax
comp=Z,6.0nm,0.8s
FX1 Attu Island--F 28.66 43 LR LR 00 11 33.8
comp=Z,79nm,19.7s,baz=342,slow=32
LZH Lanzhou 29.72 282 *e*P **P** **00 02 07.0 -0.4**
LZH pP **pP** **00 02 20.5 +0.1**
LZH sP **sP** **00 02 28.5 +2.0**
LZH PP PP 00 03 10.0 -5.0
LZH *e*S **S** **00 06 55.0 -5.0**
LZH SS ScP 00 08 30.5 -18
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,67nm,4.4s
LZH LR LR
comp=N,1μm,14.1s
LZH LR LR
comp=E,1μm,10.2s
LZH LR LR
comp=Z,1μm,15.0s
GYA Guiyang 30.39 262⇑ *i*P **P** **00 02 11.5 -1.8**
GYA pP **pP** **00 02 26.3 -0.1**
GYA PP PP 00 03 10.3 -12
GYA PcP **PcP** **00 05 13.8 +1.6**
GYA S S 00 07 01.0 -10
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.6s
GYA LR LR
comp=N,850nm,13.5s
GYA LR LR
comp=E,780nm,15.5s
GYA LR LR
comp=Z,1μm,17.0s
ZAK Zakamensk 30.69 310 *e*P **P** **00 02 13.9 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 30.82 313 *e*P **P** **00 02 16.4 -0.3**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,124nm,19.0s
CD2 Chengdu 31.08 272 P **P** **00 02 18.0 -1.2**
CD2 pP **pP** **00 02 33.0 +0.6**
CD2 sP **sP** **00 02 40.5 +2.1**
CD2 PP PP 00 03 21.3 -8.7
CD2 S **S** **00 07 16.0 -5.1**
CD2 sS **sS** **00 07 42.3 -0.9**
CD2 SS ScP 00 09 02.8 +10
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,80nm,4.1s
CD2 LR LR
comp=N,490nm,17.8s
CD2 LR LR
comp=Z,530nm,21.4s
DAV Davao City (W) 31.59 210 LR LR 00 12 46.2
comp=Z,93nm,19.0s,baz=336,slow=32
GTA Gaotai 32.41 289⇑ P **P** **00 02 31.0 0.0**
GTA sS S 00 08 06.5 +24
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,82nm,5.5s
GTA LR LR
comp=N,170nm,15.9s
GTA LR LR
comp=E,200nm,17.3s
GTA LR LR
comp=Z,240nm,18.5s
BILL Bilibino 35.57 16 P P 00 02 59.0 +1.2
BILL pmax pmax
comp=Z,11nm,2.6s
BILL MLR MLR
comp=Z,100nm,16.0s
CMAR Chiang Mai Arr 40.55 256 P **P** **00 03 40.2 0.0**
comp=Z,1.7nm,0.6s,baz=54,slow=7.2,SNR=8.2
CMAR LR LR 00 22 17.2
comp=Z,131nm,18.7s,baz=69,slow=39
CMAR Chiang Mai Arr 40.55 256 P **P** **00 03 40.3 0.0**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,131nm,18.7s
CMAR Chiang Mai Arr 40.55 256 P **P** **00 03 40.2 0.0**
WMQ Urumqi 40.95 298 P P 00 03 45.8 +2.4
WMQ pP pP 00 03 58.8 +1.9
WMQ sP sP 00 04 10.8 +8.0
WMQ pmax pmax
comp=Z,19nm,0.8s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=N,150nm,19.0s
WMQ LR LR
comp=Z,140nm,22.9s
LSA Lhasa 41.73 276 P P 00 03 52.3 +1.8
LSA pmax pmax
comp=Z,30nm,0.8s
ZAA0 Zalesovo Array 42.43 314 *e*P **P** **00 03 55.2 -0.1**
ZAA0 *e*PcP **PcP** **00 05 47.9 +0.4**
ZALV Zalesovo Beam 42.43 314 P **P** **00 03 55.6 +0.3**
comp=Z,5.1nm,0.7s,baz=89,slow=6.8,SNR=28
ZALV PcP **PcP** **00 05 48.9 +1.4**
comp=Z,1.5nm,0.6s,baz=93,slow=2.9,SNR=4.1
ZALV LR LR 00 21 24.3
comp=Z,118nm,19.4s,baz=52,slow=36
ZALV Zalesovo Beam 42.43 314 P **P** **00 03 55.6 +0.3**
ZALV 00 05 48.9
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV MLR MLR
comp=Z,118nm,19.4s
ZALV Zalesovo Beam 42.43 314 P **P** **00 03 55.6 +0.3**
ZALV PcP **PcP** **00 05 48.9 +1.4**
NVS Novosibirsk 43.39 315 *e*P **P** **00 04 02.1 -0.9**
NVS pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 44.36 303 *e*P **P** **00 04 11.7 +0.6**
MK31 Makanchi Array 44.36 303 *e*P **P** **00 04 11.7 +0.6**
MKAR Makanchi Array 44.36 303 P **P** **00 04 11.7 +0.7**
comp=Z,6.0nm,0.8s,baz=89,slow=9.9,SNR=66
MKAR PcP PP 00 05 54.7 -0.3
comp=Z,1.6nm,0.9s,baz=72,slow=4.7,SNR=2.7
MKAR LR LR 00 20 58.6
comp=Z,117nm,21.6s,baz=84,slow=34
MKAR Makanchi Array 44.36 303 *ce*P **P** **00 04 11.6 +0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 44.36 303 *e*P **P** **00 04 11.9 +0.8**
MKAR PcP PP 00 05 54.7 -0.3
KAPI Kappang 44.92 210 P **P** **00 04 15.0 -0.7**
comp=Z,5.3nm,0.6s,baz=263,slow=8.5,SNR=3.0
KAPI Kappang 44.92 210 P **P** **00 04 15.0 -0.7**
TAPN Taplejung 45.43 275 *e*P **P** **00 04 20.8 +0.7**
comp=Z,9.1nm,0.3s
TAPN Taplejung 45.43 275 *e*P **P** **00 04 20.8 +0.7**
comp=Z,9.1nm,0.3s
ODAN Odare 45.89 275 *e*P **P** **00 04 23.4 -0.3**
comp=Z,14nm,0.6s
ODAN Odare 45.89 275 *e*P **P** **00 04 23.4 -0.3**
comp=Z,14nm,0.6s
KURK Kurchatov 46.33 309 P **P** **00 04 27.1 +0.5**
comp=Z,13nm,0.8s,baz=84,slow=8.2,SNR=62
KURK Kurchatov 46.33 309 *ce*P **P** **00 04 26.7 +0.2**
KURK pmax pmax
comp=Z,23nm,0.9s
KURK Kurchatov 46.33 309 *e*P **P** **00 04 26.9 +0.4**
comp=Z,20nm,0.8s
RAMN Ramite 46.50 275 *e*P **P** **00 04 28.4 0.0**
comp=Z,31nm,0.7s
RAMN Ramite 46.50 275 *e*P **P** **00 04 28.4 0.0**
comp=Z,31nm,0.7s
JIRN Jiri 46.54 276 *e*P **P** **00 04 29.4 +0.5**
comp=Z,22nm,0.5s
JIRN Jiri 46.54 276 *e*P **P** **00 04 29.4 +0.5**
comp=Z,22nm,0.5s
GUN Gumba 46.69 277 *e*P **P** **00 04 30.5 +0.4**
comp=Z,15nm,0.5s
GUN Gumba 46.69 277 *e*P **P** **00 04 30.5 +0.4**
comp=Z,15nm,0.5s
PKI Pulchoki 47.21 276 *e*P **P** **00 04 34.6 +0.5**
comp=Z,8.7nm,0.6s
PKI Pulchoki 47.21 276 *e*P **P** **00 04 34.6 +0.5**
PKI pmax pmax
comp=Z,9.0nm,0.6s
PKI Pulchoki 47.21 276 *e*P **P** **00 04 34.6 +0.5**
comp=Z,8.7nm,0.6s
KKN Kakani 47.22 277 *e*P **P** **00 04 34.4 +0.3**
comp=Z,11nm,0.6s
KKN Kakani 47.22 277 *e*P **P** **00 04 34.4 +0.3**
KKN pmax pmax
comp=Z,11nm,0.6s
KKN Kakani 47.22 277 *e*P **P** **00 04 34.4 +0.3**
comp=Z,11nm,0.6s
GKN Gorkha 47.66 277 *e*P **P** **00 04 37.7 +0.3**
GKN Gorkha 47.66 277 *e*P **P** **00 04 37.7 +0.3**
DANN Dangsing 48.23 278 *e*P **P** **00 04 42.6 +0.7**
comp=Z,43nm,0.5s
DANN Dangsing 48.23 278 *e*P **P** **00 04 42.6 +0.7**
comp=Z,43nm,0.5s
HNR Honiara 48.36 154 LR LR 00 22 10.3
comp=Z,136nm,20.7s,baz=310,slow=32
KOLN Koldanda 48.59 278 *e*P **P** **00 04 45.2 +0.6**
comp=Z,14nm,0.7s
KOLN Koldanda 48.59 278 *e*P **P** **00 04 45.2 +0.6**
comp=Z,14nm,0.7s
TKM2 Tokmak 2 49.77 299 P P 00 04 54.8 +1.3
SNR=22
TKM2 P P 00 04 54.8 +1.3
SNR=22
TKM2 Tokmak 2 49.77 299 *i* P P 00 04 54.8 +1.3
TKM2 Tokmak 2 49.77 299 *e*P P 00 04 54.8 +1.3
comp=Z,9.1nm,0.8s
KZA Kyzart 50.24 298 P P 00 04 59.5 +2.2
SNR=6.2
KZA P P 00 04 59.5 +2.2
SNR=6.2
KBK Karagaybulak 50.30 299 P **P** **00 04 58.5 +1.0**
SNR=19
KBK P **P** **00 04 58.5 +1.0**
SNR=19
KSH Kashi 50.43 295 *e*P P 00 05 02.5 +4.1
KSH *ep*P pP 00 05 18.0 +5.8
KSH *es*P sP 00 05 25.3 +7.2
KSH *e*PcP PcP 00 06 19.5 +3.4
KSH PP PP 00 06 59.5 +5.3
KSH *e*ScP **ScP** **00 10 08.8 +1.0**
KSH *e*PcS **PcS** **00 10 15.5 +2.0**
KSH *e*S **S** **00 12 10.5 +2.2**
KSH *es*S sS 00 12 38.0 +6.6
KSH *e*ScS **ScS** **00 14 44.5 -0.6**
KSH *e*SS SS 00 15 43.3 +0.9
KSH pmax pmax
comp=Z,2.0nm,0.4s
KSH pmax pmax
comp=Z,85nm,5.3s
KSH LR LR
comp=N,180nm,7.2s
KSH LR LR
comp=E,140nm,5.8s
KSH LR LR
comp=Z,140nm,6.4s
USP Ospenovka 50.46 300 P **P** **00 04 59.3 +0.8**
SNR=12
USP P **P** **00 04 59.3 +0.8**
SNR=12
FRU Bishkek 50.49 299 *e*P **P** **00 05 00.0 +1.3**
PSI Prapat 50.53 239 P **P** **00 04 58.4 -1.0**
comp=Z,2.2nm,0.4s,baz=347,slow=12,SNR=2.8
PSI Prapat 50.53 239 P **P** **00 04 58.4 -1.0**
PSI pmax pmax
comp=Z,2.0nm,0.4s
PSI Prapat 50.53 239 P **P** **00 04 58.4 -1.0**
AAK Ala-Archa 50.63 299 P **P** **00 05 00.5 +0.6**
comp=Z,4.7nm,0.8s,baz=160,slow=4.6,SNR=15
AAK Ala-Archa 50.63 299 P **P** **00 05 00.5 +0.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 50.63 299 P **P** **00 05 00.5 +0.6**
ILAR Eielson Array 51.03 32 P P 00 05 03.6 +1.3
comp=Z,2.7nm,0.8s,baz=271,slow=6.4,SNR=28
ILAR PcP **PcP** **00 06 18.3 +0.6**
comp=Z,0.4nm,0.5s,baz=271,slow=3.8,SNR=2.9
ILAR Eielson Array 51.03 32 P P 00 05 03.7 +1.3
ILAR 00 06 18.3
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 51.03 32 P P 00 05 03.6 +1.3
ILAR PcP **PcP** **00 06 18.3 +0.6**
BVAR Borovoye Array 51.08 313 P **P** **00 05 03.4 +0.5**
comp=Z,3.1nm,0.7s,baz=81,slow=9.2,SNR=19
BVAR Borovoye Array 51.08 313 P **P** **00 05 03.4 +0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 51.08 313 P **P** **00 05 03.4 +0.5**
EKS2 Erkin-Say 51.13 299 P P 00 05 07.1 +3.5
SNR=5.9
EKS2 P P 00 05 07.1 +3.5
SNR=5.9
EKS2 Erkin-Say 51.13 299 *e*P **P** **00 05 04.7 +1.0**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 51.13 299 *e*P **P** **00 05 04.7 +1.0**
comp=Z,3.7nm,0.7s
BRVK Borovoye 51.14 313 *d*/P **P** **00 05 04.2 +0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 51.14 313 *e*P **P** **00 05 04.4 +1.0**
comp=Z,4.9nm,0.8s
AML Almayashu 51.34 299 P P 00 05 06.9 +1.4
SNR=28
AML P P 00 05 06.9 +1.4
SNR=28
KKAR Karatay Array 53.31 301 *e*P **P** **00 05 20.5 +0.9**
KKAR Karatay Array 53.31 301 *e*P **P** **00 05 20.5 +0.9**
FITZ Fitzroy Crossi 55.28 197 P **P** **00 05 34.8 +0.8**
comp=Z,8.7nm,0.7s,baz=6.4,slow=9.8,SNR=7.4
FITZ Fitzroy Crossi 55.28 197 P **P** **00 05 34.8 +0.8**
WRAB Tennant Creek 55.56 187 *e*P **P** **00 05 36.0 -0.1**
WRAB Tennant Creek 55.56 187 *e*P **P** **00 05 36.0 -0.1**
comp=Z,77nm,1.9s
WB2 Warramunga Arr 55.57 187 *e*P **P** **00 05 36.0 -0.1**
WRA Warramunga Arr 55.57 187 P **P** **00 05 35.5 -0.6**
comp=Z,11nm,0.7s,baz=3.1,slow=7.6,SNR=36
WRA Warramunga Arr 55.57 187 P **P** **00 05 35.5 -0.6**
WRA pmax pmax
comp=Z,11nm,0.7s
WRA Warramunga Arr 55.57 187 P **P** **00 05 35.5 -0.6**
SVE Sverdlovsk 55.81 319⇑ *i*P **P** **00 05 38.4 +0.9**
SVE *e*S S 00 13 09.2 -11
SVE *e* 00 15 20.8
SVE pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 55.94 27 P P 00 05 40.3 +2.1
comp=Z,2.3nm,0.8s,baz=301,slow=9.2,SNR=4.6
INK Inuvik 55.94 27 P P 00 05 40.3 +2.1
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 55.94 27 P P 00 05 40.3 +2.1
ARU Arti 57.02 319 *e*P **P** **00 05 46.1 0.0**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 57.02 319 *e*P **P** **00 05 46.1 0.0**
comp=Z,15nm,0.9s
KBL Kabul 57.35 292 *e*P **P** **00 05 48.9 -0.3**
comp=Z,9.0nm,1.3s
AS31 Alice Springs 59.30 187 *e*P **P** **00 06 02.2 -0.1**
ASAR Alice Springs 59.30 187 P **P** **00 06 02.2 -0.1**
comp=Z,3.8nm,0.9s,baz=11,slow=6.5,SNR=27
ASAR Alice Springs 59.30 187 P **P** **00 06 02.3 -0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 59.30 187 P **P** **00 06 02.2 -0.1**
MBWA Marble Bar 59.84 203 *e*P **P** **00 06 05.8 -0.3**
comp=Z,11nm,0.5s
DZM Mont Dzumac 62.36 153 *e*LR LR 00 24 52.3
comp=Z,106nm,24.6s
RES Resolute Bay 64.13 14 P **P** **00 06 35.1 +0.8**
comp=Z,5.3nm,0.9s
RES Resolute Bay 64.13 14 P **P** **00 06 35.1 +0.8**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 64.13 14 P **P** **00 06 35.1 +0.8**
YKA Yellowknife Ar 65.35 30 P P 00 06 43.6 +1.2
comp=Z,1.0nm,0.7s,baz=298,slow=6.6,SNR=18
YKA Yellowknife Ar 65.35 30 P P 00 06 43.6 +1.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 65.35 30 P P 00 06 43.6 +1.2
ARMA Armidale 66.49 170 *e*P **P** **00 06 49.9 -0.2**
comp=Z,11nm,1.1s
FORT Forrest 67.09 192 *e*P **P** **00 06 54.1 +0.3**
STKA Stephens Creek 67.14 179 P **P** **00 06 54.6 +0.5**
comp=Z,2.8nm,0.7s,baz=335,slow=9.2,SNR=7.5
STKA Stephens Creek 67.14 179 P **P** **00 06 54.6 +0.5**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 67.14 179 P **P** **00 06 54.6 +0.5**
VRHR Novokhopersk 68.33 318 *e*P **P** **00 06 59.4 -2.1**
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VSR Storozhevoye 69.59 319 *e*P **P** **00 07 09.4 0.0**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 69.66 319 *e*P **P** **00 07 09.5 -0.3**
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 69.78 332 P **P** **00 07 10.9 +0.6**
comp=Z,2.3nm,0.6s,baz=37,slow=4.9,SNR=4.1
FINES LR LR 00 38 55.6
comp=Z,191nm,20.0s,baz=141,slow=37
FINES FINESS Array B 69.78 332 P **P** **00 07 10.9 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,191nm,20.0s
FINES FINESS Array B 69.78 332 P **P** **00 07 10.9 +0.6**
KIV Kislovodsk 71.37 311 *e*P P 00 07 21.8 +1.3
KIV pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 71.37 311 *e*P P 00 07 21.8 +1.3
comp=Z,11nm,0.8s
NWAO Narrogin (SRO) 71.62 201 P **P** **00 07 22.2 +0.4**
comp=Z,4.5nm,0.6s,baz=25,slow=4.3,SNR=5.2
NWAO Narrogin (SRO) 71.62 201 P **P** **00 07 22.2 +0.4**
NWAO pmax pmax
comp=Z,5.0nm,0.6s
NWAO Narrogin (SRO) 71.62 201 P **P** **00 07 22.2 +0.4**

YBH	**Yreka Blue Hor**	**71.71**	**52**	P		P		00 07 25.2	+2.6
	comp=Z,1.4nm,0.8s,baz=215,slow=11,SNR=2.4								
YBH	**Yreka Blue Hor**	**71.71**	**52**	P		P		00 07 25.2	+2.6
YBH				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YBH	**Yreka Blue Hor**	**71.71**	**52**	P		P		00 07 25.2	+2.6
GNI	**Garni**	**72.06**	**307**	P		P		00 07 26.6	+1.8
	comp=Z,2.5nm,0.6s,baz=104,slow=14,SNR=3.5								
GNI	**Garni**	**72.06**	**307**	P		P		00 07 26.6	+1.8
GNI				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GNI	**Garni**	**72.06**	**307**	P		P		00 07 26.6	+1.8
AKASG	**Malin Array Be**	**75.04**	**322**	P		**P**		**00 07 42.2**	**+0.4**
	comp=Z,7.0nm,0.8s,baz=46,slow=6.0,SNR=12								
AKASG				LR		LR		00 43 40.2	
	comp=Z,156nm,18.6s,baz=325,slow=38								
AKASG	**Malin Array Be**	**75.04**	**322**	*ceP*		**P**		**00 07 41.7**	**-0.2**
AKASG				pmax		pmax			
	comp=Z,7.0nm,0.9s								
AKASG	**Malin Array Be**	**75.04**	**322**	P		**P**		**00 07 42.2**	**+0.4**
KIEV	**Kiev**	**75.05**	**322**	*eP*		**P**		**00 07 42.3**	**+0.4**
KIEV				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KIEV	**Kiev**	**75.05**	**322**	*eP*		**P**		**00 07 42.3**	**+0.4**
	comp=Z,6.3nm,0.8s								
HFS	**Hagfors**	**75.13**	**336**	P		**P**		**00 07 43.3**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=27,slow=3.9,SNR=5.1								
HFS	**Hagfors**	**75.13**	**336**	P		**P**		**00 07 43.3**	**+1.1**
HFS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
HFS	**Hagfors**	**75.13**	**336**	P		**P**		**00 07 43.3**	**+1.1**
FFC	**Flin Flon**	**75.24**	**32**	*i* P		P		00 07 44.7	+1.8
FFC	**Flin Flon**	**75.24**	**32**	*eP*		**P**		**00 07 44.0**	**+1.1**
	comp=Z,8.1nm,1.2s								
NOA	**NORSAR Array B**	**75.26**	**337**	P		**P**		**00 07 43.8**	**+0.8**
	comp=Z,5.0nm,0.8s,baz=39,slow=5.7,SNR=12								
NOA				LR		LR		00 43 04.5	
	comp=Z,201nm,21.5s,baz=35,slow=37								
NOA	**NORSAR Array B**	**75.26**	**337**	P		**P**		**00 07 43.8**	**+0.8**
NOA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
NOA				MLR		MLR			
	comp=Z,201nm,21.5s								
NOA	**NORSAR Array B**	**75.26**	**337**	P		**P**		**00 07 43.8**	**+0.8**
MIB	**Mutribah**	**75.77**	**296**	*eP*		**P**		**00 07 46.4**	**-0.1**
MIB				AMb		AMB		00 07 56.6	
	comp=Z,34nm,1.5s								
KBD	**Kabd**	**75.85**	**296**	*eP*		**P**		**00 07 46.9**	**0.0**
NAY	**Al-Naaiem**	**76.14**	**296**	*eP*		**P**		**00 07 48.0**	**-0.6**
NAY				AMb		AMB		00 07 49.6	
	comp=Z,14nm,1.4s								
NVAR	**Mina Array Bea**	**76.34**	**52**	P		P		00 07 52.2	+2.3
	comp=Z,1.5nm,0.8s,baz=288,slow=5.7,SNR=9.2								
NVAR	**Mina Array Bea**	**76.34**	**52**	P		P		00 07 52.2	+2.3
ELK	**Elko**	**76.94**	**49**	P		P		00 07 55.7	+2.5
	comp=Z,1.5nm,1.0s,baz=187,slow=3.2,SNR=2.7								
ELK	**Elko**	**76.94**	**49**	P		P		00 07 55.7	+2.5
ELK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ELK	**Elko**	**76.94**	**49**	P		P		00 07 55.7	+2.5
FRB	**Frobisher Bay**	**78.30**	**13**	P		**P**		**00 08 01.1**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=20,slow=6.6,SNR=5.7								
FRB	**Frobisher Bay**	**78.30**	**13**	P		**P**		**00 08 01.1**	**+1.1**
FRB				pmax		pmax			
	comp=Z,4.0nm,0.8s								
FRB	**Frobisher Bay**	**78.30**	**13**	P		**P**		**00 08 01.1**	**+1.1**
BORG	**Borgarnes**	**78.97**	**352**	P		P		00 08 05.6	+1.9
	comp=Z,50nm,1.2s,baz=61,slow=7.4,SNR=3.0								
BORG	**Borgarnes**	**78.97**	**352**	P		P		00 08 05.6	+1.9
BORG				pmax		pmax			
	comp=Z,50nm,1.2s								
BORG	**Borgarnes**	**78.97**	**352**	P		P		00 08 05.6	+1.9
PDAR	**Pinedale Array**	**79.11**	**45**	P		P		00 08 07.0	+1.8
	comp=Z,1.0nm,0.6s,baz=270,slow=2.0,SNR=10								
PDAR	**Pinedale Array**	**79.11**	**45**	P		P		00 08 07.0	+1.8
BRTR	**Keskin Array B**	**79.33**	**311**	P		P		00 08 07.8	+1.5
	comp=Z,3.4nm,0.8s,baz=118,slow=5.1,SNR=9.9								
BRTR	**Keskin Array B**	**79.33**	**311**	*ceP*		P		00 08 07.8	+1.5
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**79.33**	**311**	P		P		00 08 07.8	+1.5
SRU	**San Rafael**	**80.82**	**48**	*eP*		P		00 08 17.1	+2.6
SRU				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SRU	**San Rafael**	**80.82**	**48**	*eP*		P		00 08 17.1	+2.6
	comp=Z,3.0nm,0.7s								
ULM	**Lac du Bonnet**	**81.03**	**33**	P		P		00 08 16.5	+1.4
	comp=Z,1.4nm,0.6s,baz=315,slow=6.5,SNR=3.5								
ULM				LR		LR		00 47 11.2	
	comp=Z,86nm,19.4s,baz=309,slow=38								
ULM	**Lac du Bonnet**	**81.03**	**33**	P		P		00 08 16.5	+1.4
ULM				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ULM				MLR		MLR			
	comp=Z,86nm,19.4s								
ULM	**Lac du Bonnet**	**81.03**	**33**	P		P		00 08 16.5	+1.4
ASF	**Jabal al Asfar**	**81.78**	**304**	P		**P**		**00 08 20.7**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=47,slow=3.5,SNR=4.0								
ASF	**Jabal al Asfar**	**81.78**	**304**	P		**P**		**00 08 20.7**	**+1.2**
ASF				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ASF	**Jabal al Asfar**	**81.78**	**304**	P		**P**		**00 08 20.7**	**+1.2**
VRAC	**Vranov**	**81.97**	**327**	P		P		00 08 21.7	+1.6
	comp=Z,1.4nm,0.6s,baz=76,slow=11,SNR=3.4								
VRAC	**Vranov**	**81.97**	**327**	P		P		00 08 21.7	+1.6
VRAC				pmax		pmax			
	comp=Z,1.0nm,0.6s								
VRAC	**Vranov**	**81.97**	**327**	P		P		00 08 21.7	+1.6
CLL	**Collm**	**82.02**	**330**	*eP*		**P**		**00 08 21.0**	**+0.7**
CLL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CLL	**Collm**	**82.02**	**330**	*eP*		**P**		**00 08 21.0**	**+0.7**
	comp=Z,8.0nm,1.0s								
MMAI	**Mount Meron Ar**	**82.28**	**305**	P		P		00 08 24.0	+1.9
	comp=Z,2.4nm,0.6s,baz=33,slow=9.3,SNR=3.5								
MMAI	**Mount Meron Ar**	**82.28**	**305**	P		P		00 08 24.0	+1.9
KHC	**Kasperske Hory**	**83.43**	**328**	*eP*		**P**		**00 08 28.0**	**+0.3**
KHC	**Kasperske Hory**	**83.43**	**328**	*eP*		**P**		**00 08 28.0**	**+0.3**
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**		**00 08 29.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=4.0								
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**		**00 08 29.4**	**+0.8**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**		**00 08 29.4**	**+0.8**
PMOR	**Pomariorio Ree**	**84.19**	**113**	*eT*		T		01 41 00.3	
	comp=Z,6.2nm,0.2s								
PPT2	**Papeete2**	**84.58**	**116**	*eLR*		LR		00 35 16.0	
	comp=Z,112nm,22.5s								
EIL	**Elat**	**84.62**	**303**	P		**P**		**00 08 35.3**	**+1.1**
	comp=Z,7.9nm,0.8s,baz=5.3,slow=9.8,SNR=4.4								
EIL	**Elat**	**84.62**	**303**	P		**P**		**00 08 35.2**	**+1.1**
SDCO	**Great Sand Dun**	**84.71**	**47**	*eP*		P		00 08 37.7	+2.9
	comp=Z,6.0nm,1.4s								
MEH	**Mehetia**	**85.87**	**115**	*eT*		T		01 43 05.8	
	comp=Z,27nm,0.3s								
BAIF	**Baives**	**86.41**	**334**	*eP*		**P**		**00 08 42.9**	**+0.3**
CDF	**Champ du Feu**	**86.59**	**331**	*eP*		**P**		**00 08 44.2**	**+0.5**
	comp=Z,17nm,1.0s								
SCHQ	**Schefferville**	**86.87**	**16**	P		P		00 08 46.4	+1.6
	comp=Z,2.1nm,0.8s,baz=248,slow=8.8,SNR=4.9								
SCHQ	**Schefferville**	**86.87**	**16**	P		P		00 08 46.4	+1.6
PAGF	**Fort de Pagny**	**87.08**	**332**	*eP*		**P**		**00 08 46.7**	**+0.8**
	comp=Z,1.9nm,0.6s								
HINF	**Hinteralfeld**	**87.24**	**331**	*eP*		**P**		**00 08 46.8**	**0.0**
HAU	**Haudompre**	**87.28**	**331**	*eP*		**P**		**00 08 47.7**	**+0.7**
SFTF	**Sexfontaines**	**87.63**	**332**	*eP*		**P**		**00 08 49.2**	**+0.6**
TBI	**Tubuai**	**88.34**	**120**	*eLR*		LR		00 36 51.7	
	comp=Z,98nm,28.5s								
TBI				*eT*		T		01 46 10.0	
	comp=Z,3.4nm,0.3s								
LPL	**La Plagne**	**89.15**	**330**	*eP*		**P**		**00 08 56.4**	**+0.3**
LPG	**La Plagne**	**89.16**	**330**	*eP*		**P**		**00 08 56.5**	**+0.3**
AVF	**Avril sur Loir**	**89.44**	**332**	*eP*		**P**		**00 08 58.0**	**+0.9**
	comp=Z,6.8nm,0.7s								
BGF	**Bois d'Agland**	**89.83**	**332**	*eP*		**P**		**00 08 59.8**	**+0.8**
TXAR	**Lajitas Array**	**91.48**	**52**	P		P		00 09 09.2	+2.0
	comp=Z,0.9nm,0.8s,baz=301,slow=2.9,SNR=8.4								
TXAR	**Lajitas Array**	**91.48**	**52**	P		P		00 09 09.2	+2.0
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**91.48**	**52**	P		P		00 09 09.2	+2.0
CAF	**Calviac**	**91.50**	**332**	*eP*		P		00 09 08.1	+1.3
	comp=Z,22nm,1.2s								
TORD	**Torodi Ar. Bea**	**117.88**	**314**	PKP		**PKPdf**		**00 14 47.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=9.0,slow=1.4,SNR=7.3								
TORD	**Torodi Ar. Bea**	**117.88**	**314**	PKP		**PKPdf**		**00 14 47.3**	**0.0**
SAML	**Samuel**	**145.69**	**45**	*e*PKPdf		**PKPab**		**00 15 39.9**	**0.0**
LPAZ	**La Paz**	**147.94**	**61**	PKPbc		**PKPab**		**00 15 48.3**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=6.2,slow=4.5,SNR=10								
LPAZ	**La Paz**	**147.94**	**61**	PKP2		**PKPab**		**00 15 48.3**	**-1.1**
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**147.94**	**61**	PKPbc		**PKPab**		**00 15 48.3**	**-1.1**

SZGRF ***28*** *23:58:49.9, 34.°99N×29.°76E, h10km, mb4.9, Eastern Mediterranean Sea*
IDC ***28*** *23:59:01.1±0.5, 35.°78N×28.°03E, h0km, mb4.5/30, mb1 4.6/32, mb1mx4.5/37, mbtmp4.5/32, ML4.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/43, Error ellipse: s-maj=12.8km s-min=12.1km az=164.0*
BJI ***28*** *23:59:02.9, 35.°51N×27.°64E, h47km, mB5.0/15, mb4.5/25, Ms4.6/10, Ms7 4.3/12*
MOS ***28*** *23:59:03.7±1.5, 35.°52N×28.°17E, h33km, mb4.7/37, Error ellipse: s-maj=5.8km s-min=2.9km az=110.5*
ISK ***28*** *23:59:04.1, 35.°54N×28.°09E, h56km, ML4.8*
ISCJB ***28*** *23:59:05.7±0.1, 35.°58N×0.°01×28.°26E±0.°01, h61km±2km, mb4.6/95, Error ellipse: s-maj=2.2km s-min=1.5km az=26.6*
DDA ***28*** *23:59:05.3, 35.°70N×28.°07E, h26km, ML4.6*
ATH ***28*** *23:59:07.4, 35.°74N×28.°18E, h64km±1km, ML4.5*
PDG ***28*** *23:59:07.7±0.1, 34.°64N×26.°19E, h11km±1km, ML4.8/10, Error ellipse: s-maj=244.7km s-min=200.9km az=90.0*
CSEM ***28*** *23:59:07.5±0.1, 35.°57N×28.°27E, h65km±1km, mb4.7/36, Ms3.4, Mw4.3, Error ellipse: s-maj=2.2km s-min=1.5km az=35.0*
NEIC ***28*** *23:59:07.4, 35.°74N×28.°18E, h64km, mb4.7/30, After ATH.*
NEIC Felt at Lardos and Rodos, Greece. Also felt at Kas, Turkey.
THE ***28*** *23:59:09.7, 35.°71N×28.°18E, h48km±2km, ML4.8/6, Error ellipse: s-maj=2.8km s-min=0.9km az=122.0*
HLW ***28*** *23:59:09.2, 35.°50N×28.°33E, h32km±29km, Md4.5, Ml4.4*
NSSC ***28*** *23:59:14.0±1.7, 35.°65N×28.°98E, h36km±999km, ML4.3*
NIC ***28*** *23:59:15.9±0.2, 35.°56N×28.°99E, h65km, mb4.8, ML4.6, MW4.1, Eastern Mediterranean Sea 65km. SE Lardhos*
ISC 28 23:59:07.4±0.3, 35°65N±0°03×28°23E±0°02, h51km±2km, h50km:pP-P,n1121,σ1938/1225, mb4.6/95, MS3.8/8, 70C-49D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ARG	**Arkhangelos**	**0.57**	**352**	P	**Pn**	**23 59 20.4**	**+0.8**
ARG				S	**Sn**	**23 59 29.2**	**+0.8**
ARG	**Arkhangelos**	**0.57**	**352**	P	**Pn**	**23 59 20.4**	**+0.8**
ARG				S	**Sn**	**23 59 29.2**	**+0.8**
ARG	**Arkhangelos**	**0.57**	**352**	P	**Pn**	**23 59 20.4**	**+0.8**
ARG				S	**Sn**	**23 59 29.2**	**+0.8**
ARG	**Arkhangelos**	**0.57**	**352**	*i* P	**Pn**	**23 59 20.5**	**+0.8**
ARG				*e*S	**Sn**	**23 59 29.4**	**+1.0**
ARG	**Arkhangelos**	**0.57**	**352**	*i* P	**Pn**	**23 59 20.5**	**+0.8**
ARG				*e*S	**Sn**	**23 59 29.4**	**+1.0**
KARP	**Karpathos**	**0.87**	**264**	P	**Pn**	**23 59 24.6**	**+1.1**
KARP				S	**Sn**	**23 59 36.8**	**+1.5**
KARP	**Karpathos**	**0.87**	**264**	P	**Pn**	**23 59 24.6**	**+1.1**
KARP				S	**Sn**	**23 59 36.8**	**+1.5**
KARP	**Karpathos**	**0.87**	**264**	*e*P	**Pn**	**23 59 24.6**	**+1.1**
KARP				*e*S	**Sn**	**23 59 36.5**	**+1.2**
KARP	**Karpathos**	**0.87**	**264**	*e*P	**Pn**	**23 59 24.6**	**+1.1**
KARP				S	**Sn**	**23 59 36.8**	**+1.5**
FETY	**Fethiye**	**1.21**	**35**	*e*PN	**Pn**	**23 59 28.0**	**0.0**
FETY				*e*SN	**Sn**	**23 59 44.6**	**+1.4**
FETY	**Fethiye**	**1.21**	**35**	*e*Pn	**Pn**	**23 59 28.0**	**0.0**
FETY				*e*Sn	**Sn**	**23 59 44.7**	**+1.4**
KSL	**Kastellorizon**	**1.21**	**65**	*i* P	**Pn**	**23 59 29.1**	**+1.1**
TURN	**Turunc**	**1.26**	**14**	*i* P	**Pn**	**23 59 28.0**	**-0.7**
TURN				*i* S	**Sn**	**23 59 42.4**	**-2.1**
TURN	**Turunc**	**1.26**	**14**	*i* P	**Pn**	**23 59 28.0**	**-0.7**
TURN				*i* S	**Sn**	**23 59 42.4**	**-2.1**
NIS1	**Nisyros Isl.**	**1.28**	**319**	P	**Pn**	**23 59 29.5**	**+0.6**
NIS1	**Nisyros Isl.**	**1.28**	**319**	P	**Pn**	**23 59 29.5**	**+0.6**
NIS1	**Nisyros Isl.**	**1.28**	**319**	P	**Pn**	**23 59 29.5**	**+0.6**
NISR	**Nisiros**	**1.31**	**318**	P	**Pn**	**23 59 29.7**	**+0.4**
NISR	**Nisiros**	**1.31**	**318**	P	**Pn**	**23 59 29.7**	**+0.4**
NISR	**Nisiros**	**1.31**	**318**	P	**Pn**	**23 59 29.7**	**+0.4**
YER	**Yerkesik**	**1.48**	**2**	*e*PN	**Pn**	**23 59 31.5**	**-0.3**
YER				*e*SN	**Sn**	**23 59 50.7**	**+0.6**
YER	**Yerkesik**	**1.48**	**2**	*e*Pn	**Pn**	**23 59 31.5**	**-0.3**
YER				*e*Sn	**Sn**	**23 59 50.7**	**+0.6**
BDRM	**Kayabasi**	**1.55**	**336**	*i* P	**Pn**	**23 59 33.2**	**+0.6**
BDRM				*i* S	**Sn**	**23 59 51.0**	**-0.6**
BDRM	**Kayabasi**	**1.55**	**336**	*i* P	**Pn**	**23 59 33.2**	**+0.6**
BDRM				*i* S	**Sn**	**23 59 51.0**	**-0.6**
BODT	**Bodrum**	**1.59**	**333**	*e*PN	**Pn**	**23 59 32.6**	**-0.6**
BODT				*e*SN	**Sn**	**23 59 52.4**	**-0.3**
BODT	**Bodrum**	**1.59**	**333**	*e*Pn	**Pn**	**23 59 32.6**	**-0.6**
BODT				*e*Sn	**Sn**	**23 59 52.4**	**-0.3**
ZKR	**Zakros**	**1.73**	**253**	P	**Pn**	**23 59 36.5**	**+1.5**
ZKR				S	**Sn**	**23 59 57.5**	**+1.6**
ZKR	**Zakros**	**1.73**	**253**	P	**Pn**	**23 59 36.5**	**+1.5**
ZKR				S	**Sn**	**23 59 57.5**	**+1.6**
ZKR	**Zakros**	**1.73**	**253**	P	**Pn**	**23 59 36.5**	**+1.5**
ZKR				S	**Sn**	**23 59 57.5**	**+1.6**
ELL	**Elmali**	**1.75**	**51**	*e*PN	**Pn**	**23 59 36.1**	**+0.7**
ELL	**Elmali**	**1.75**	**51**	*e*Pn	**Pn**	**23 59 36.1**	**+0.7**
AYDN	**Tasoluk**	**2.03**	**352**	*i* P	**Pn**	**23 59 39.5**	**+0.3**
AYDN				*i* S	**Sn**	**00 00 05.0**	**+1.6**
AYDN	**Tasoluk**	**2.03**	**352**	*i* P	**Pn**	**23 59 39.5**	**+0.3**
AYDN				*i* S	**Sn**	**00 00 05.0**	**+1.6**
NPS	**Neapolis**	**2.17**	**261**	P	**Pn**	**23 59 42.5**	**+1.4**
NPS	**Neapolis**	**2.17**	**261**	P	**Pn**	**23 59 42.5**	**+1.4**
NPS	**Neapolis**	**2.17**	**261**	P	**Pn**	**23 59 42.5**	**+1.4**
NPS				S	**Sn**	**00 00 07.1**	**+0.3**
NPS	**Neapolis**	**2.17**	**261**	*e*P	**Pn**	**23 59 42.6**	**+1.4**
NPS				*e*S	**Sn**	**00 00 06.9**	**+0.1**
NPS	**Neapolis**	**2.17**	**261**	P	**Pn**	**23 59 42.5**	**+1.4**
NPS				S	**Sn**	**00 00 07.1**	**+0.3**
KORT	**Korkueli**	**2.18**	**51**	*i* P	**Pn**	**23 59 43.6**	**+2.2**
KORT				*i* S	**Sn**	**00 00 09.0**	**+1.7**
KORT	**Korkueli**	**2.18**	**51**	*i* P	**Pn**	**23 59 43.6**	**+2.2**
KORT				*i* S	**Sn**	**00 00 09.0**	**+1.7**
GCAM	**G?zelcaml?**	**2.20**	**339**	*i* P	**Pn**	**23 59 42.1**	**+0.7**
GCAM				*i* S	**Sn**	**00 00 06.8**	**-0.7**
GCAM	**G?zelcaml?**	**2.20**	**339**	*i* P	**Pn**	**23 59 42.1**	**+0.7**
GCAM				*i* S	**Sn**	**00 00 06.8**	**-0.7**
LAST	**Lasithi**	**2.30**	**259**	P	**Pn**	**23 59 44.8**	**+1.9**
LAST	**Lasithi**	**2.30**	**259**	P	**Pn**	**23 59 44.8**	**+1.9**
LAST				S	**Sn**	**00 00 10.9**	**+0.9**
LAST	**Lasithi**	**2.30**	**259**	P	**Pn**	**23 59 44.8**	**+1.9**
LAST				S	**Sn**	**00 00 10.9**	**+0.9**
ANTB	**Antalya**	**2.33**	**57**	*e*PN	**Pn**	**23 59 44.2**	**+1.0**
ANTB	**Antalya**	**2.33**	**57**	*e*Pn	**Pn**	**23 59 44.2**	**+1.0**
SMG	**Samos**	**2.34**	**332**	P	**Pn**	**23 59 43.8**	**+0.4**
SMG	**Samos**	**2.34**	**332**	P	**Pn**	**23 59 43.8**	**+0.4**
SMG				S	**Sn**	**00 00 10.4**	**-0.6**
SMG	**Samos**	**2.34**	**332**	*i* P	**Pn**	**23 59 43.8**	**+0.4**
SMG				*e*S	**Sn**	**00 00 09.8**	**-1.2**
SMG	**Samos**	**2.34**	**332**	*i* P	**Pn**	**23 59 43.8**	**+0.4**
SMG				S	**Sn**	**00 00 10.4**	**-0.6**
APE	**Apeiranthos**	**2.60**	**304**	*e*PN	**Pn**	**23 59 45.4**	**-1.6**
APE	**Apeiranthos**	**2.60**	**304**	P	**Pn**	**23 59 47.7**	**+0.7**
APE	**Apeiranthos**	**2.60**	**304**	P	**Pn**	**23 59 47.7**	**+0.7**
APE	**Apeiranthos**	**2.60**	**304**	P	**Pn**	**23 59 47.7**	**+0.7**
APE				S	**Sn**	**00 00 16.5**	**-0.9**
APE	**Apeiranthos**	**2.60**	**304**	*i* P	**Pn**	**23 59 47.7**	**+0.7**
APE				*e*S	**Sn**	**00 00 16.3**	**-1.1**
APE	**Apeiranthos**	**2.60**	**304**	*e*Pn	**Pn**	**23 59 45.4**	**-1.6**
APE	**Apeiranthos**	**2.60**	**304**	*i* P	**Pn**	**23 59 47.7**	**+0.7**
APE				S	**Sn**	**00 00 16.5**	**-0.9**
BCK	**Bucak**	**2.63**	**46**	*e*PN	**Pn**	**23 59 47.9**	**+0.5**
BCK	**Bucak**	**2.63**	**46**	*e*Pn	**Pn**	**23 59 47.9**	**+0.5**
IDI	**Anoyia**	**2.75**	**263**	*e*Pn	**Pn**	**23 59 49.9**	**+0.9**
IDI				*e*Sn	**Sn**	**00 00 19.5**	**-1.5**
IDI	**Anoyia**	**2.75**	**263**	P	**Pn**	**23 59 49.9**	**+0.9**
IDI				S	**Sn**	**00 00 20.6**	**-0.5**
IDI	**Anoyia**	**2.75**	**263**	P	**Pn**	**23 59 49.9**	**+0.9**
IDI				S	**Sn**	**00 00 20.6**	**-0.5**
ISP	**Isparta**	**2.85**	**40**	*e*PN	**Pn**	**23 59 50.8**	**+0.3**
ISP	**Isparta**	**2.85**	**40**	*e*P	**Pn**	**23 59 51.8**	**+1.3**
ISP				*e*		00 00 21.2	
ISP	**Isparta**	**2.85**	**40**	*e*Pn	**Pn**	**23 59 51.8**	**+1.3**
ISP				*e*Sn	**Sn**	**00 00 21.2**	**-2.4**
ISP	**Isparta**	**2.85**	**40**	P	**Pn**	**23 59 51.8**	**+1.3**
ISP	**Isparta**	**2.85**	**40**	*e*Pn	**Pn**	**23 59 50.8**	**+0.3**
ISP	**Isparta**	**2.85**	**40**	P	**Pn**	**23 59 51.8**	**+1.3**
MANT	**Manisa**	**2.85**	**5**	*i* P	**Pn**	**23 59 51.0**	**+0.4**
MANT				*i* S	**Sn**	**00 00 19.0**	**-4.8**
MANT	**Manisa**	**2.85**	**5**	*i* P	**Pn**	**23 59 51.0**	**+0.4**
IZM	**Izmir**	**2.85**	**345**	*e*PN	**Pn**	**23 59 50.7**	**+0.3**
IZM	**Izmir**	**2.85**	**345**	*e*Pn	**Pn**	**23 59 50.7**	**+0.2**
SIVA	**Sivas**	**2.86**	**258**	P	**Pn**	**23 59 52.5**	**+1.9**
SIVA	**Sivas**	**2.86**	**258**	P	**Pn**	**23 59 52.5**	**+1.9**
SIVA	**Sivas**	**2.86**	**258**	P	**Pn**	**23 59 52.5**	**+1.9**
KHL	**Karahalli**	**2.87**	**21**	*e*PN	**Pn**	**23 59 51.4**	**+0.7**
KHL	**Karahalli**	**2.87**	**21**	*e*Pn	**Pn**	**23 59 51.4**	**+0.7**
KULA	**Kula-Manisa**	**2.88**	**7**	*e*PN	**Pn**	**23 59 51.0**	**+0.1**
KULA	**Kula-Manisa**	**2.88**	**7**	*e*Pn	**Pn**	**23 59 51.0**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.88**	**50**	*e*PN	**Pn**	**23 59 52.3**	**+1.3**
SUTC	**Sutluce-Ispart**	**2.88**	**50**	*e*Pn	**Pn**	**23 59 52.3**	**+1.3**
BLCB	**Balcova**	**2.89**	**341**	*e*PN	**Pn**	**23 59 49.9**	**-1.1**
BLCB	**Balcova**	**2.89**	**341**	*e*Pn	**Pn**	**23 59 49.9**	**-1.1**
KHAL	**Karahalli**	**2.90**	**20**	*i* P	**Pn**	**23 59 51.6**	**+0.4**
KHAL				*i* S	**Sn**	**00 00 23.0**	**-1.9**
KHAL	**Karahalli**	**2.90**	**20**	*i* P	**Pn**	**23 59 51.6**	**+0.4**
KHAL				*i* S	**Sn**	**00 00 23.0**	**-1.9**
URLA	**Izmir**	**3.01**	**335**	*i* P	**Pn**	**23 59 52.9**	**+0.3**
URLA				*i* S	**Sn**	**00 00 25.6**	**-1.7**
URLA	**Izmir**	**3.01**	**335**	*i* P	**Pn**	**23 59 52.9**	**+0.3**
URLA				*i* S	**Sn**	**00 00 25.6**	**-1.7**
CHOS	**Chios island**	**3.24**	**328**	P	**Pn**	**23 59 56.3**	**+0.5**
CHOS				S	**Sn**	**00 00 33.1**	**-0.1**
CHOS	**Chios island**	**3.24**	**328**	*i* P	**Pn**	**23 59 56.3**	**+0.5**
CHOS				*e*S	**Sn**	**00 00 31.2**	**-2.0**
CHOS	**Chios island**	**3.24**	**328**	*i* P	**Pn**	**23 59 56.3**	**+0.5**
CHOS				S	**Sn**	**00 00 33.1**	**-0.1**
AKHS	**Akhisar**	**3.24**	**354**	*i* P	**Pn**	**23 59 56.0**	**+0.2**
AKHS	**Akhisar**	**3.24**	**354**	*i* P	**Pn**	**23 59 56.0**	**+0.2**
AKS	**Akhisar**	**3.24**	**354**	*e*PN	**Pn**	**23 59 56.2**	**+0.4**
AKS	**Akhisar**	**3.24**	**354**	*e*Pn	**Pn**	**23 59 56.2**	**+0.4**
VAM	**Vamos**	**3.29**	**267**	P	**Pn**	**23 59 57.2**	**+0.7**
VAM	**Vamos**	**3.29**	**267**	P	**Pn**	**23 59 57.2**	**+0.7**
VAM	**Vamos**	**3.29**	**267**	P	**Pn**	**23 59 57.2**	**+0.7**
VAM	**Vamos**	**3.29**	**267**	*e*P	**Pn**	**23 59 57.5**	**+1.0**
VAM	**Vamos**	**3.29**	**267**	P	**Pn**	**23 59 57.2**	**+0.7**
AKMC	**Akamas**	**3.41**	**99**	*i* P	**Pn**	**23 59 58.0**	**-0.1**
AKMC	**Akamas**	**3.41**

EREN	**Erenkoy**	**4.84**	**90**	*e*Pn	**Pn**	**00 00 18.5 +0.7**	**SOH**	**Sokhos**	**6.43**	**325**	*e*P	**Pn**	**00 00 41.7 +2.1**	QASN			*e*S	Sn	00 01 53.9 -11
SLUM		**4.85**	**212**	P	**Pn**	**00 00 17.8 0.0**	**SOH**	**Sokhos**	**6.43**	**325**	*e*P	**Pn**	**00 00 41.7 +2.1**	QASN			AML	AML	00 02 06.4
SLUM				S	**Sn**	**00 01 07.3 -5.3**	**HTY**	**Hatay**	**6.44**	**83**	*e*PN	**Pn**	**00 00 40.5 +0.9**		comp=N,613nm,0.3s				
LPK	**Lapseki**	**4.86**	**347**	*e*PN	**Pn**	**00 00 18.4 +0.5**	**HTY**	**Hatay**	**6.44**	**83**	*e*Pn	**Pn**	**00 00 40.5 +0.9**	QASN			AML	AML	00 02 07.4
LPK	**Lapseki**	**4.86**	**347**	*e*Pn	**Pn**	**00 00 18.4 +0.5**	**KFL**	**Anninata**	**6.45**	**295**	P	**Pn**	**00 00 40.8 +1.1**		comp=E,836nm,0.8s				
LIA	**Limnos Island**	**4.88**	**331**	P	**Pn**	**00 00 19.2 +1.0**	**KFL**	**Anninata**	**6.45**	**295**	P	**Pn**	**00 00 40.8 +1.1**	**SUZ**		**6.97**	**145**	P	**Pn**	**00 00 45.7 -1.2**
LIA	**Limnos Island**	**4.88**	**331**	P	**Pn**	**00 00 19.2 +1.0**	**KOT**	**Kottamia**	**6.46**	**151**	P	**Pn**	**00 00 38.4 -1.6**	**GRG**	**Griva**	**7.00**	**321**	P	**Pn**	**00 00 50.2 +2.8**
LIA	**Limnos Island**	**4.88**	**331**	⇑*i*P	**Pn**	**00 00 19.4 +1.2**	**THE**	**Thessaloniki**	**6.48**	**322**	P	**Pn**	**00 00 42.7 +2.6**	**GRG**	**Griva**	**7.00**	**321**	P	**Pn**	**00 00 50.2 +2.8**
LIA	**Limnos Island**	**4.88**	**331**	⇑*i*P	**Pn**	**00 00 19.4 +1.2**	**THE**	**Thessaloniki**	**6.48**	**322**	P	**Pn**	**00 00 42.7 +2.6**	**PLD**	**Plovdiv**	**7.01**	**338**	P	**Pn**	**00 00 49.0 +1.6**
GPA	**Golpazari**	**4.92**	**19**	*e*PN	**Pn**	**00 00 19.8 +1.0**	**HWQ**	**Hawqa**	**6.48**	**100**	*e*P	**Pn**	**00 00 39.6 -0.8**	**PLD**	**Plovdiv**	**7.01**	**338**	P	**Pn**	**00 00 49.3 +1.9**
GPA	**Golpazari**	**4.92**	**19**	*e*Pn	**Pn**	**00 00 19.8 +1.0**	**MMAI**	**Mount Meron Ar**	**6.49**	**112**	Pn	**Pn**	**00 00 38.8 -1.6**	**PLD**	**Plovdiv**	**7.01**	**338**	P	**Pn**	**00 00 49.0 +1.6**
ADVT	**Abdulvahap**	**4.92**	**14**	*e*PN	**Pn**	**00 00 19.8 +1.0**		comp=N,68nm,0.3s,baz=310,slow=12,SNR=448						**KFRA**	**Kufra**	**7.01**	**91**	AML	AML	00 02 04.1
ADVT	**Abdulvahap**	**4.92**	**14**	*e*Pn	**Pn**	**00 00 19.8 +1.0**	MMAI				Sn	**Sn**	**00 01 49.2 -4.0**		comp=N,2µm,0.4s				
AOS	**Alonnisos**	**4.93**	**317**	P	**Pn**	**00 00 20.6 +1.7**		comp=N,158nm,0.3s,baz=298,slow=25,SNR=12						KFRA			AML	AML	00 02 13.0
AOS	**Alonnisos**	**4.93**	**317**	P	**Pn**	**00 00 20.6 +1.7**	**MMAI**	**Mount Meron Ar**	**6.49**	**112**	Pn	**Pn**	**00 00 38.8 -1.6**		comp=Z,932nm,0.6s				
AOS	**Alonnisos**	**4.93**	**317**	P	**Pn**	**00 00 20.6 +1.7**	MMAI				Sn	**Sn**	**00 01 49.2 -4.0**	**KFRA**	**Kufra**	**7.01**	**91**	*e*P	**Pn**	**00 00 47.2 -0.3**
ARMT	**Armutlu**	**4.94**	**6**	*e*PN	**Pn**	**00 00 19.4 +0.4**	**MMAI**	**Mount Meron Ar**	**6.49**	**112**	Pn	**Pn**	**00 00 38.8 -1.6**	KFRA			AML	AML	00 02 04.1
ARMT	**Armutlu**	**4.94**	**6**	*e*Pn	**Pn**	**00 00 19.4 +0.4**	MMAI				Sn	**Sn**	**00 01 49.2 -4.0**		comp=N,2µm,0.4s				
GELI	**Tayfur-Gelibol**	**4.94**	**344**	*e*PN	**Pn**	**00 00 19.6 +0.5**	**AMAG**	**Maghara**	**6.51**	**139**	P	**Pn**	**00 00 38.1 -2.5**	KFRA			AML	AML	00 02 05.3
GELI	**Tayfur-Gelibol**	**4.94**	**344**	*e*PN	**Pn**	**00 00 19.6 +0.6**	**CANT**	**Cankiri**	**6.52**	**39**	*e*PN	**Pn**	**00 00 42.4 +1.6**		comp=E,3µm,0.5s				
SULT	**Sultanhani-AKS**	**4.94**	**57**	*e*PN	**Pn**	**00 00 20.3 +1.1**	**HHAG**	**Hagoal**	**6.55**	**149**	P	**Pn**	**00 00 39.6 -1.6**	KFRA			AML	AML	00 02 13.1
SULT	**Sultanhani-AKS**	**4.94**	**57**	*e*Pn	**Pn**	**00 00 20.3 +1.1**	**RSH**		**6.56**	**134**	P	**Pn**	**00 00 39.7 -1.6**		comp=Z,932nm,0.6s				
VLX	**Vlachokerasia**	**5.01**	**292**	P	**Pn**	**00 00 21.9 +1.7**	**SRS**	**Serrai**	**6.56**	**328**	P	**Pn**	**00 00 43.4 +2.1**	**KFRA**	**Kufra**	**7.01**	**91**	*e*P	**Pn**	**00 00 47.1 -0.4**
VLX	**Vlachokerasia**	**5.01**	**292**	*e*P	**Pn**	**00 00 20.8 +0.6**	**SRS**	**Serrai**	**6.56**	**328**	P	**Pn**	**00 00 43.4 +2.1**	KFRA			*e*S	Sn	00 01 54.0 -12
VLX	**Vlachokerasia**	**5.01**	**292**	*e*P	**Pn**	**00 00 20.8 +0.6**	**SAFT**	**Safranbolu**	**6.59**	**31**	*e*PN	**Pn**	**00 00 43.2 +1.5**	KFRA			AML	AML	00 02 04.1
LTBQ	**Tobruq**	**5.07**	**226**	*i* P	**Pn**	**00 00 21.0 +0.2**	**SAFT**	**Safranbolu**	**6.59**	**31**	*e*Pn	**Pn**	**00 00 43.2 +1.5**		comp=N,2µm,0.4s				
	258nm,1.4s,SNR=23						**VLS**	**Valsamata**	**6.62**	**295**	P	**Pn**	**00 00 43.0 +0.9**	KFRA			AML	AML	00 02 05.3
RKY	**Sarkoy-Tekirda**	**5.10**	**351**	*e*PN	**Pn**	**00 00 21.7 +0.4**	**VLS**	**Valsamata**	**6.62**	**295**	*e*P	**Pn**	**00 00 43.2 +1.1**		comp=E,3µm,0.5s				
RKY	**Sarkoy-Tekirda**	**5.10**	**351**	*e*Pn	**Pn**	**00 00 21.7 +0.4**	**VLS**	**Valsamata**	**6.62**	**295**	*e*P	**Pn**	**00 00 43.2 +1.1**	**KFRA**	**Kufra**	**7.01**	**91**	*e*P	**Pn**	**00 00 47.1 -0.4**
GULT	**Gulveren**	**5.11**	**20**	*e*PN	**Pn**	**00 00 22.4 +1.0**	**RZN**	**Rozhen**	**6.63**	**337**	P	**Pn**	**00 00 43.5 +1.2**	KFRA			*e*S	Sn	00 01 55.5 -10
GULT	**Gulveren**	**5.11**	**20**	*e*Pn	**Pn**	**00 00 22.4 +1.0**	**RCY**	**Rachaya**	**6.63**	**107**	*e*P	**Pn**	**00 00 41.2 -1.3**	KFRA			AML	AML	00 02 04.4
LKR	**Lokris**	**5.14**	**307**	P	**Pn**	**00 00 23.5 +1.7**	**NVR**	**Nevrokopi**	**6.64**	**330**	P	**Pn**	**00 00 43.8 +1.4**		comp=N,2µm,0.5s				
LKR	**Lokris**	**5.14**	**307**	P	**Pn**	**00 00 23.5 +1.7**	**NVR**	**Nevrokopi**	**6.64**	**330**	*e*P	**Pn**	**00 00 43.8 +1.4**	KFRA			AML	AML	00 02 05.6
LKR	**Lokris**	**5.14**	**307**	⇑*i*P	**Pn**	**00 00 23.6 +1.7**	**NVR**	**Nevrokopi**	**6.64**	**330**	*e*P	**Pn**	**00 00 43.8 +1.4**		comp=E,3µm,0.5s				
LKR	**Lokris**	**5.14**	**307**	P	**Pn**	**00 00 23.5 +1.7**	**BIDA**	**Albida**	**6.65**	**93**	*e*P	**Pn**	**00 00 41.8 -0.8**	**TOS**	**Tosya**	**7.05**	**39**	*e*PN	**Pn**	**00 00 48.5 +0.5**
ATAL	**Atalanti**	**5.15**	**308**	P	**Pn**	**00 00 23.8 +1.9**	BIDA				AML	AML	00 01 52.4	**TOS**	**Tosya**	**7.05**	**39**	*e*Pn	**Pn**	**00 00 48.5 +0.5**
ATAL	**Atalanti**	**5.15**	**308**	P	**Pn**	**00 00 23.8 +1.9**		comp=Z,3µm,0.3s						**TCHB**	**Talchebab**	**7.07**	**113**⇑	*e*P	**Pn**	**00 00 47.9 -0.4**
SKIA	**Skiathos**	**5.17**	**314**	P	**Pn**	**00 00 24.2 +2.0**	BIDA				AML	AML	00 01 53.3	**TCHB**	**Talchebab**	**7.07**	**113**	*e*P	**Pn**	**00 00 47.7 -0.7**
SKIA	**Skiathos**	**5.17**	**314**	P	**Pn**	**00 00 24.2 +2.0**		comp=N,1µm,0.9s						TCHB			*e*S	Sn	00 01 57.4 -10
ERIK	**Erikli-Kesan**	**5.19**	**345**	*e*PN	**Pn**	**00 00 22.9 +0.4**	BIDA				AML	AML	00 01 54.4	TCHB			AML	AML	00 02 13.0
ERIK	**Erikli-Kesan**	**5.19**	**345**	*e*Pn	**Pn**	**00 00 22.9 +0.4**		comp=E,3µm,0.5s							comp=E,307nm,0.8s				
MERS	**Mersin**	**5.23**	**75**	*e*PN	**Pn**	**00 00 24.7 +1.5**	**BIDA**	**Albida**	**6.65**	**93**	*e*P	**Pn**	**00 00 41.8 -0.8**	TCHB			AML	AML	00 02 17.3
MERS	**Mersin**	**5.23**	**75**	*e*Pn	**Pn**	**00 00 24.7 +1.6**	BIDA				AML	AML	00 01 52.5		comp=N,681nm,0.7s				
GUR	**Goura**	**5.25**	**298**	P	**Pn**	**00 00 25.3 +2.0**		comp=Z,3µm,0.3s						**TCHB**	**Talchebab**	**7.07**	**113**	*e*P	**Pn**	**00 00 47.7 -0.7**
GUR	**Goura**	**5.25**	**298**	*e*P	**Pn**	**00 00 25.7 +2.4**	BIDA				AML	AML	00 01 53.3	TCHB			*e*S	Sn	00 01 57.4 -10
GUR	**Goura**	**5.25**	**298**	P	**Pn**	**00 00 25.3 +2.0**		comp=N,1µm,0.9s						TCHB			AML	AML	00 02 13.2
HRT	**Hereke**	**5.29**	**12**	*e*PN	**Pn**	**00 00 24.7 +0.8**	BIDA				AML	AML	00 01 54.4		comp=E,298nm,0.4s				
HRT	**Hereke**	**5.29**	**12**	*e*Pn	**Pn**	**00 00 24.7 +0.8**		comp=E,3µm,0.5s						TCHB			AML	AML	00 02 17.4
ITM	**Ithomi**	**5.30**	**289**	P	**Pn**	**00 00 26.6 +2.5**	**BIDA**	**Albida**	**6.65**	**93**	*e*P	**Pn**	**00 00 41.8 -0.8**		comp=N,691nm,0.7s				
ITM	**Ithomi**	**5.30**	**289**	P	**Pn**	**00 00 26.6 +2.5**		SNR=90						**TCHB**	**Talchebab**	**7.07**	**113**	*e*P	**Pn**	**00 00 48.0 -0.3**
DESF	**Desfina**	**5.33**	**303**	P	**Pn**	**00 00 25.4 +1.0**	**WRDH**	**Warideh**	**6.67**	**89**	*e*P	**Pn**	**00 00 41.8 -1.1**	TCHB			*e*S	Sn	00 01 57.0 -10
DESF	**Desfina**	**5.33**	**303**	P	**Pn**	**00 00 25.4 +1.0**	WRDH				AML	AML	00 01 55.8	TCHB			AML	AML	00 02 13.2
ENEZ	**Enez**	**5.34**	**343**	*e*PN	**Pn**	**00 00 24.7 +0.2**		comp=N,663nm,0.6s							comp=E,294nm,0.3s				
ENEZ	**Enez**	**5.34**	**343**	*e*Pn	**Pn**	**00 00 24.7 +0.2**	WRDH				AML	AML	00 01 56.1	TCHB			AML	AML	00 02 17.3
MDUB	**Mudurnu**	**5.36**	**25**	*e*PN	**Pn**	**00 00 25.6 +0.7**		comp=E,464nm,0.5s							comp=N,682nm,0.7s				
MDUB	**Mudurnu**	**5.36**	**25**	*e*Pn	**Pn**	**00 00 25.6 +0.7**	**WRDH**	**Warideh**	**6.67**	**89**	*e*P	**Pn**	**00 00 41.8 -1.1**	**JAN**	**Janina**	**7.09**	**307**	P	Pn	00 00 52.2 +3.7
PYL	**PYLOS**	**5.38**	**285**	P	**Pn**	**00 00 25.6 +0.4**		SNR=45						**HBNS**	**Bani Suwayf**	**7.14**	**158**	P	**Pn**	**00 00 48.1 -1.1**
PYL	**PYLOS**	**5.38**	**285**	*e*P	**Pn**	**00 00 25.5 +0.4**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 41.6 -1.6**	**TOTH**	**TOTAH**	**7.14**	**106**	*e*P	**Pn**	**00 00 50.3 +0.9**
PYL	**PYLOS**	**5.38**	**285**	P	**Pn**	**00 00 25.6 +0.4**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 42.0 -1.2**	TOTH			*e*S	**Sn**	**00 02 04.4 -4.8**
NEO	**Neokhori**	**5.40**	**314**	⇑*i*P	**Pn**	**00 00 27.4 +2.0**	BTCH				AML	AML	00 01 59.2	TOTH			AML	AML	00 02 10.4
NEO	**Neokhori**	**5.40**	**314**	⇑*i*P	**Pn**	**00 00 27.4 +2.0**		comp=Z,795nm,0.5s							comp=E,509nm,0.2s				
AFSR	**Af˙ar-Bala (A**	**5.40**	**44**	*e*PN	**Pn**	**00 00 26.5 +1.0**	BTCH				AML	AML	00 02 02.4	TOTH			AML	AML	00 02 10.7
AFSR	**Af˙ar-Bala (A**	**5.40**	**44**	*e*Pn	**Pn**	**00 00 26.5 +1.0**		comp=N,2µm,0.4s							comp=N,242nm,0.5s				
ISK	**Istanbul-Kandi**	**5.45**	**7**	*e*PN	**Pn**	**00 00 26.7 +0.7**	BTCH				AML	AML	00 02 04.3	TOTH			AML	AML	00 02 12.3
ISK	**Istanbul-Kandi**	**5.45**	**7**	*e*Pn	**Pn**	**00 00 26.7 +0.7**		comp=E,1µm,0.4s							comp=Z,585nm,0.7s				
XOR	**Xorichti**	**5.46**	**314**	P	**Pn**	**00 00 27.9 +1.7**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 42.2 -1.0**	**TOTH**	**TOTAH**	**7.14**	**106**⇓	*e*P	**Pn**	**00 00 49.7 +0.3**
XOR	**Xorichti**	**5.46**	**314**	P	**Pn**	**00 00 27.9 +1.7**	BTCH				*e*S	Sn	00 01 46.7 -12	TOTH			*e*S	**Sn**	**00 02 05.5 -3.7**
CRLT	**Corlu**	**5.49**	**356**	*e*PN	**Pn**	**00 00 27.0 +0.5**	BTCH				AML	AML	00 02 02.4	TOTH			AML	AML	00 02 10.4
CRLT	**Corlu**	**5.49**	**356**	*e*Pn	**Pn**	**00 00 27.0 +0.5**		comp=N,2µm,0.4s							comp=E,509nm,0.2s				
ALN	**Alexandroupoli**	**5.51**	**343**	P	**Pn**	**00 00 27.6 +0.7**	BTCH				AML	AML	00 02 04.3	TOTH			AML	AML	00 02 12.3
ALN	**Alexandroupoli**	**5.51**	**343**	*e*P	**Pn**	**00 00 27.7 +0.8**		comp=E,1µm,0.4s							comp=Z,535nm,0.7s				
ALN	**Alexandroupoli**	**5.51**	**343**	*e*P	**Pn**	**00 00 27.7 +0.8**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 42.2 -1.0**	**TOTH**	**TOTAH**	**7.14**	**106**	*e*P	**Pn**	**00 00 49.2 -0.1**
BGKT	**Bogazkoy**	**5.54**	**4**	*e*PN	**Pn**	**00 00 27.5 +0.2**	BTCH				*e*S	Sn	00 01 48.5 -10	TOTH			*e*S	Sn	00 01 58.8 -10
BGKT	**Bogazkoy**	**5.54**	**4**	*e*Pn	**Pn**	**00 00 27.5 +0.2**	BTCH				AML	AML	00 02 02.6	TOTH			AML	AML	00 02 10.3
LOD	**Lodumlu**	**5.55**	**39**	*e*PN	**Pn**	**00 00 28.5 +1.0**		comp=N,2µm,0.3s							comp=E,509nm,0.2s				
LOD	**Lodumlu**	**5.55**	**39**	*e*Pn	**Pn**	**00 00 28.5 +1.0**	BTCH				AML	AML	00 02 04.4	TOTH			AML	AML	00 02 10.8
SLVT	**Silivri**	**5.57**	**360**	*e*PN	**Pn**	**00 00 28.2 +0.5**		comp=E,1µm,0.4s							comp=N,242nm,0.5s				
SLVT	**Silivri**	**5.57**	**360**	*e*Pn	**Pn**	**00 00 28.2 +0.5**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 41.6 -1.6**	**TOTH**	**TOTAH**	**7.14**	**106**	*e*P	**Pn**	**00 00 49.3 -0.1**
CTKS	**Kestanelik-??a**	**5.58**	**2**	*e*PN	**Pn**	**00 00 28.3 +0.5**	BTCH				*e*S	Sn	00 01 45.0 -13	TOTH			*e*S	Sn	00 01 58.0 -11
CTKS	**Kestanelik-??a**	**5.58**	**2**	*e*Pn	**Pn**	**00 00 28.3 +0.5**	BTCH				AML	AML	00 02 02.6	TOTH			AML	AML	00 02 09.7
KALE	**Kalithea**	**5.59**	**301**	P	**Pn**	**00 00 30.6 +2.6**		comp=N,2µm,0.4s							comp=E,582nm,0.8s				
KALE	**Kalithea**	**5.59**	**301**	P	**Pn**	**00 00 30.6 +2.6**	BTCH				AML	AML	00 02 04.4	TOTH			AML	AML	00 02 10.8
PAIG	**Paliouri**	**5.59**	**321**	P	**Pn**	**00 00 29.5 +1.6**		comp=E,1µm,0.4s							comp=N,244nm,0.5s				
PAIG	**Paliouri**	**5.59**	**321**	P	**Pn**	**00 00 29.5 +1.6**	**BTCH**	**Batrach**	**6.70**	**84**	*e*P	**Pn**	**00 00 42.2 -1.0**	**TOTH**	**TOTAH**	**7.14**	**106**	*e*P	**Pn**	**00 00 49.6 +0.2**
SILT	**Sile**	**5.61**	**11**	*e*PN	**Pn**	**00 00 29.0 +0.8**		SNR=45						TOTH			*e*S	Sn	00 01 52.4 -17
SILT	**Sile**	**5.61**	**11**	*e*Pn	**Pn**	**00 00 29.0 +0.8**	**DIM**	**Dimitrovgrad**	**6.73**	**343**	P	**Pn**	**00 00 44.8 +1.2**	TOTH			AML	AML	00 02 10.3
TRIZ	**Trizonia**	**5.62**	**301**	P	**Pn**	**00 00 30.9 +2.5**	**BRBR**	**Barbar**	**6.75**	**107**⇓	*e*P	**Pn**	**00 00 43.8 -0.4**		comp=E,509nm,0.2s				
TRIZ	**Trizonia**	**5.62**	**301**	P	**Pn**	**00 00 30.9 +2.5**	**BRBR**	**Barbar**	**6.75**	**107**⇓	*e*P	**Pn**	**00 00 43.8 -0.4**	TOTH			AML	AML	00 02 10.8
LAKA	**Lakka**	**5.63**	**299**	P	**Pn**	**00 00 31.1 +2.5**	BRBR				*e*S	Sn	00 01 52.2 -7.6		comp=N,245nm,0.5s				
LAKA	**Lakka**	**5.63**	**299**	P	**Pn**	**00 00 31.1 +2.5**	BRBR				AML	AML	00 01 57.9	**KMRS**	**Kahramanmaras**	**7.22**	**73**	*e*PN	**Pn**	**00 00 51.1 +0.7**
KLYT	**Kilyos**	**5.63**	**6**	*e*PN	**Pn**	**00 00 28.8 +0.3**		comp=E,1µm,0.7s						**KMRS**	**Kahramanmaras**	**7.22**	**73**	*e*Pn	**Pn**	**00 00 51.1 +0.7**
KLYT	**Kilyos**	**5.63**	**6**	*e*Pn	**Pn**	**00 00 28.8 +0.3**	BRBR				AML	AML	00 01 58.4	**RGA**	**Parga**	**7.25**	**303**	P	**Pn**	**00 00 52.5 +1.7**
NIG	**Nigde**	**5.68**	**62**	*e*PN	**Pn**	**00 00 30.1 +0.7**		comp=Z,640nm,0.6s						**RGA**	**Parga**	**7.25**	**303**	P	**Pn**	**00 00 52.5 +1.7**
NIG	**Nigde**	**5.68**	**62**	*e*Pn	**Pn**	**00 00 30.1 +0.7**	BRBR				AML	AML	00 01 58.6	**ZAF**		**7.32**	**149**	P	**Pn**	**00 00 49.7 -2.0**
KAMT	**Kaman**	**5.73**	**48**	*e*PN	**Pn**	**00 00 30.7 +0.7**		comp=N,371nm,0.2s						**AWBH**		**7.33**	**175**	P	**Pn**	**00 00 50.1 -1.7**
KAMT	**Kaman**	**5.73**	**48**	*e*Pn	**Pn**	**00 00 30.7 +0.7**	**BRBR**	**Barbar**	**6.75**	**107**	*e*P	**Pn**	**00 00 43.6 -0.6**	**IGT**	**Igoumenitsa**	**7.37**	**304**	P	**Pn**	**00 00 53.9 +1.5**
OUR	**Ouranopolis**	**5.75**	**326**	P	**Pn**	**00 00 32.0 +1.8**	BRBR				*e*S	Sn	00 01 49.0 -11	**IGT**	**Igoumenitsa**	**7.37**	**304**	P	**Pn**	**00 00 53.9 +1.5**
OUR	**Ouranopolis**	**5.75**	**326**	P	**Pn**	**00 00 32.0 +1.8**	BRBR				AML	AML	00 01 58.5	**ZNM**		**7.38**	**147**	P	**Pn**	**00 00 51.4 -1.2**
EFP	**Efpalio**	**5.77**	**301**	P	**Pn**	**00 00 33.1 +2.7**		comp=N,6µm,0.2s						**KKB**	**Krupnik**	**7.39**	**329**	P	**Pn**	**00 00 55.4 +2.7**
EFP	**Efpalio**	**5.77**	**301**	*e*P	**Pn**	**00 00 33.1 +2.7**	BRBR				AML	AML	00 01 59.1	**NEST**	**Nestorio**	**7.40**	**312**	P	Pn	00 00 56.5 +3.7
EFP	**Efpalio**	**5.77**	**301**	*e*P	**Pn**	**00 00 33.1 +2.7**		comp=E,8µm,0.2s						**NEST**	**Nestorio**	**7.40**	**312**	P	Pn	00 00 56.5 +3.7
UPR	**University Cam**	**5.79**	**299**	P	Pn	00 00 34.1 +3.4	**BRBR**	**Barbar**	**6.75**	**107**	*e*P	**Pn**	**00 00 43.6 -0.6**	**FNA**	**Florina**	**7.44**	**316**	P	Pn	00 00 56.5 +3.1
UPR	**University Cam**	**5.79**	**299**	*e*P	Pn	00 00 34.0 +3.4	BRBR				*e*S	Sn	00 01 47.5 -12	**FNA**	**Florina**	**7.44**	**316**	P	Pn	00 00 56.5 +3.1
UPR	**University Cam**	**5.79**	**299**	*e*P	Pn	00 00 34.0 +3.4	**BRBR**	**Barbar**	**6.75**	**107**	*e*P	**Pn**	**00 00 43.6 -0.5**	**HNKL**	**Nakhl**	**7.48**	**138**	P	**Pn**	**00 00 52.2 -1.8**
CTYL	**Yal??k??y-??at**	**5.82**	**0**	*e*PN	**Pn**	**00 00 31.5 +0.4**	BRBR				*e*S	Sn	00 01 48.2 -12	**PGB**	**Panagyurishte**	**7.58**	**337**	P	**Pn**	**00 00 57.0 +1.7**
CTYL	**Yal??k??y-??at**	**5.82**	**0**	*e*Pn	**Pn**	**00 00 31.5 +0.4**	BRBR				AML	AML	00 01 57.9	**ROOS**	**tl_alroos**	**7.59**	**99**	*e*P	**Pn**	**00 00 55.8 +0.3**
KRTS	**Karatas**	**5.86**	**79**	*e*PN	**Pn**	**00 00 32.2 +0.5**		comp=E,1µm,0.7s						ROOS			*e*S	**Sn**	**00 02 15.2 -5.0**
KRTS	**Karatas**	**5.86**	**79**	*e*Pn	**Pn**	**00 00 32.2 +0.5**	BRBR				AML	AML	00 01 58.8	**ROOS**	**tl_alroos**	**7.59**	**99**	*e*P	**Pn**	**00 00 55.0 -0.5**
MAKR	**Makrakomi, Fth**	**5.90**	**306**	P	Pn	00 00 35.5 +3.2		comp=N,382nm,0.2s						ROOS			*e*S	Sn	00 02 09.1 -11
MAKR	**Makrakomi, Fth**	**5.90**	**306**	P	Pn	00 00 35.5 +3.2	**CORM**	**Corum**	**6.79**	**46**	*e*PN	**Pn**	**00 00 45.2 +0.7**	ROOS			AML	AML	00 02 20.5
BRTR	**Keskin Array B**	**5.92**	**45**	Pn	**Pn**	**00 00 33.3 +0.8**	**CORM**	**Corum**	**6.79**	**46**	*e*Pn	**Pn**	**00 00 45.2 +0.7**		comp=N,9.1nm,0.5s				
	6.9nm,0.3s,baz=217,slow=14,SNR=178						**HAWK**	**Haweek**	**6.80**	**97**	*e*P	**Pn**	**00 00 43.9 -0.8**	ROOS			AML	AML	00 02 20.9
BRTR				Sn	**Sn**	**00 01 38.7 -0.4**	HAWK				AML	AML	00 01 56.8		comp=E,6.6nm,0.6s				
	7.9nm,0.3s,baz=216,slow=23,SNR=11							comp=Z,3µm,0.6s						**SALA**	**Sala**	**7.63**	**110**⇑	*e*P	**Pn**	**00 00 56.2 +0.1**
BRTR	**Keskin Array B**	**5.92**	**45**	*c*eP	**Pn**	**00 00 33.5 +0.9**	HAWK				AML	AML	00 01 57.4	SALA			AML	AML	00 00 59.9
BRTR				pmax	pmax			comp=E,639nm,0.5s							comp=N,74nm,0.4s				
	comp=Z,14nm,0.3s						**HAWK**	**Haweek**	**6.80**	**97**	*e*P	**Pn**	**00 00 43.9 -0.7**	SALA			AML	AML	00 01 04.2
BRTR	**Keskin Array B**	**5.92**	**45**	Pn	**Pn**	**00 00 33.3 +0.8**	HAWK				AML	AML	00 01 56.8		comp=E,14nm,0.5s				
BRTR				Sn	**Sn**	**00 01 38.7 -0.4**		comp=Z,3µm,0.6s						**SALA**	**Sala**	**7.63**	**110**	*e*P	**Pn**	**00 00 55.9 -0.3**
BRTR	**Keskin Array B**	**5.92**	**45**	Pn	**Pn**	**00 00 33.3 +0.8**	HAWK				AML	AML	00 01 57.5	SALA			*e*S	Sn	00 02 11.6 -10
BRTR				Sn	**Sn**	**00 01 38.7 -0.4**		comp=E,639nm,0.5s						SALA			AML	AML	00 02 23.8
RLS	**Riolos of Patr**	**5.93**	**296**	P	**Pn**	**00 00 35.5 +2.9**	**HAWK**	**Haweek**	**6.80**	**97**	*e*P	**Pn**	**00 00 43.9 -0.7**		comp=E,24nm,0.5s				
RLS	**Riolos of Patr**	**5.93**	**296**	*e*P	**Pn**	**00 00 35.2 +2.6**		SNR=90						SALA			AML	AML	00 02 25.6
RLS	**Riolos of Patr**	**5.93**	**296**	*e*P	**Pn**	**00 00 35.3 +2.6**	**SWA2**		**6.80**	**201**	P	**Pn**	**00 00 44.0 -0.6**		comp=N,332nm,0.4s				
PLG	**Polygyros**	**6.04**	**323**	P	**Pn**	**00 00 35.8 +1.6**	**LKD2**	**Lefkada island**	**6.80**	**300**	P	**Pn**	**00 00 46.7 +2.1**	**SALA**	**Sala**	**7.63**	**110**	*e*P	**Pn**	**00 00 55.9 -0.3**
PLG	**Polygyros**	**6.04**	**323**	*e*P	**Pn**	**00 00 35.9 +1.7**	**LKD2**	**Lefkada island**	**6.80**	**300**	*e*P	**Pn**	**00 00 46.3 +1.7**	SALA			*e*S	Sn	00 02 10.4 -11
PLG	**Polygyros**	**6.04**	**323**	P	**Pn**	**00 00 35.8 +1.6**	**LKD2**	**Lefkada island**	**6.80**	**300**	*e*P	**Pn**	**00 00 46.3 +1.7**	SALA			AML	AML	00 02 23.8
EVR	**Evrytania**	**6.07**	**304**	P	Pn	00 00 37.7 +3.1	**BNN**	**Bunyan**	**6.87**	**60**	*e*PN	**Pn**	**00 00 47.2 +1.6**		comp=E,24nm,0.5s				
EVR	**Evrytania**	**6.07**	**304**	P	Pn	00 00 37.7 +3.1	**BNN**	**Bunyan**	**6.87**	**60**	*e*Pn	**Pn**	**00 00 47.2 +1.6**	SALA			AML	AML	00 02 25.6
KAVA	**Kavala**	**6.09**	**332**	P	**Pn**	**00 00 35.7 +1.0**	**YOZ**	**Yozgat**	**6.89**	**53**	*e*PN	**Pn**	**00 00 47.3 +1.3**		comp=N,337nm,0.5s				
KAVA	**Kavala**	**6.09**	**332**	P	**Pn**	**00 00 35.7 +1.0**	**YOZ**	**Yozgat**	**6.89**	**53**	*e*Pn	**Pn**	**00 00 47.3 +1.3**	**SALA**	**Sala**	**7.63**	**110**	*e*P	**Pn**	**00 00 56.1 -0.1**
KDZE	**Karadeniz Ereo**	**6.19**	**23**	*e*PN	**Pn**	**00 00 36.7 +0.4**	**MMB**	**Musomiste**	**6.90**	**331**	P	**Pn**	**00 00 47.0 +1.1**	SALA			*e*S	Sn	00 02 08.5 -13
KDZE	**Karadeniz Ereo**	**6.19**	**23**	*e*Pn	**Pn**	**00 00 36.7 +0.4**	**DRWC**	**Darouich**	**6.90**	**79**	AML	AML	00 02 00.1	SALA			AML	AML	00 02 23.9
CEYT	**Ceyhan**	**6.22**	**75**	*e*PN	**Pn**	**00 00 37.5 +0.9**		comp=N,165nm,0.6s							comp=E,24nm,0.5s				
CEYT	**Ceyhan**	**6.22**	**75**	*e*Pn	**Pn**	**00 00 37.5 +0.9**	**KZN**	**Kozani**	**6.90**	**314**	P	**Pn**	**00 00

ZALF Zalf 8.01 107 *e*P Pn 00 01 00.8 -0.5
ZALF eS Sn 00 02 19.6 -11
ZALF AML AML 00 02 42.3
comp=N,1µm,1.3s
ZALF AML AML 00 02 47.6
comp=E,173nm,0.6s
ZALF Zalf 8.01 107 *e*P Pn 00 01 00.7 -0.5
ZALF eS Sn 00 02 19.6 -11
ZALF AML AML 00 02 36.3
comp=N,130nm,0.4s
ZALF AML AML 00 02 47.6
comp=E,175nm,0.6s
ZALF Zalf 8.01 107 *e*P Pn 00 00 59.8 -1.4
ZALF eS Sn 00 02 16.6 -14
ZALF AML AML 00 02 36.3
comp=N,130nm,0.5s
ZALF AML AML 00 02 47.7
comp=E,173nm,0.6s
DIKM Dikmen 8.13 40 *e*PN Pn 00 01 03.5 +0.7
DIKM Dikmen 8.13 40 *e*Pn Pn 00 01 03.5 +0.7
LJBD Adjabya 8.21 237 *i* P Pn 00 01 02.8 -1.1
SNR=22
EIL Elat 8.22 135 Pn Pn 00 01 01.7 -2.4
comp=E,23nm,0.3s,baz=323,slow=5.4,SNR=242
EIL Sn Sn 00 02 28.0 -7.6
comp=E,48nm,0.3s,baz=316,slow=16,SNR=15
EIL LR LR 00 06 17.7
comp=E,201nm,19.2s,baz=330,slow=52
EIL Elat 8.22 135 *e*PN Pn 00 01 02.9 -1.2
EIL Elat 8.22 135 Pn Pn 00 01 01.7 -2.4
EIL Sn Sn 00 02 28.0 -7.6
EIL Elat 8.22 135 *e*Pn Pn 00 01 02.9 -1.2
GRB Gharib 8.31 151 P Pn 00 01 03.1 -2.2
DARE Darende-Malaty 8.31 64 *e*PN Pn 00 01 01.4 -4.1
MPEP Malo Peshtene 8.44 337 P Pn 00 01 09.2 +2.2
HBST Basata 8.45 138 P Pn 00 01 05.5 -1.6
HFRF Wahat Farafira 8.47 179 P Pn 00 01 05.9 -1.6
PHP Peshkopia 8.56 317 P Pn 00 01 11.7 +2.9
PHP Peshkopia 8.56 317 P Pn 00 01 11.7 +2.9
MALT Malatya 8.59 69 *e*PN Pn 00 01 09.4 +0.2
MALT Malatya 8.59 69 *e*Pn Pn 00 01 09.4 +0.3
MYA Malatya 8.59 69 *e*PN Pn 00 01 09.4 +0.3
MYA Malatya 8.59 69 *e*Pn Pn 00 01 09.4 +0.3
RSDY Resadiye-TOKAT 8.60 54 *e*PN Pn 00 01 10.0 +0.7
RSDY Resadiye-TOKAT 8.60 54 *e*Pn Pn 00 01 10.0 +0.7
HKAT Jabal Katrina 8.62 144 P Pn 00 01 08.5 -1.3
TIR Tirane 8.68 313 *e*P Pn 00 01 13.5 +3.2
TIR *e* 00 02 49.2
TIR Tirane 8.68 313 *e*Pn Pn 00 01 13.5 +3.2
TIR eSn Sn 00 02 49.2 +2.5
TIR Tirane 8.68 313 P Pn 00 01 13.8 +3.5
TIR Tirane 8.68 313 *e*Pn Pn 00 01 13.5 +3.2
TIR Tirane 8.68 313 P Pn 00 01 13.8 +3.5
TIR eSn Sn 00 02 49.2 +2.5
ASUT 8.70 160 P Pn 00 01 09.6 -1.1
LUJL Ujela 8.75 224 *i* P Pn 00 01 09.9 -1.4
SNR=22
KSRV Kasrt alli 8.76 85 *e*P Pn 00 01 09.5 -1.9
KSRV AML AML 00 02 60.0
comp=Z,86nm,0.3s
KSRV Kasrt alli 8.76 85 *e*P Pn 00 01 11.8 +0.3
KSRV eS Sn 00 02 37.6 -11
KSRV AML AML 00 03 00.2
comp=Z,86nm,0.2s
HDHB Dhahab 8.77 140 P Pn 00 01 10.1 -1.5
TIRR Tirgusor 8.80 1 *e*P Pn 00 01 12.8 +0.9
TIRR Tirgusor 8.80 1 *e*Pn Pn 00 01 12.8 +0.9
TIRR Tirgusor 8.80 1 ⇓*i*P Pn 00 01 13.3 +1.4
TIRR Tirgusor 8.80 1 *e*Pn Pn 00 01 12.8 +0.9
TR1 9.04 146 P Pn 00 01 13.9 -1.4
ILIC ilic-Erzincan 9.05 62 *e*PN Pn 00 01 16.0 +0.6
ILIC ilic-Erzincan 9.05 62 *e*Pn Pn 00 01 16.0 +0.5
SHRM 9.22 145 P Pn 00 01 16.5 -1.3
SVRC Sivrice-ELAZID 9.27 70 *e*PN Pn 00 01 19.2 +0.6
SVRC Sivrice-ELAZID 9.27 70 *e*Pn Pn 00 01 19.2 +0.6
ULC Ulcinj 9.43 315 ⇑*i*Pn Pn 00 01 21.6 +1.1
ULC eSn Sn 00 03 01.2 -3.8
ULC Ulcinj 9.43 315 ⇑*i*Pn Pn 00 01 21.6 +1.1
ULC eSn Sn 00 03 01.2 -3.8
PVY Plav 9.45 320 ⇓*i*Pn Pn 00 01 24.4 +3.4
PVY eSn Sn 00 03 06.2 +0.4
PTK Pertek 9.47 67 *e*PN Pn 00 01 21.4 +0.1
PTK Pertek 9.47 67 *e*Pn Pn 00 01 21.4 +0.1
CFR Carcaliu 9.52 360 ⇑*i*P Pn 00 01 23.5 +1.8
TLCR 9.54 3 ⇓*i*P Pn 00 01 24.5 +2.5
HHRG Al Ghardaqah 9.56 150 P Pn 00 01 21.3 -1.1
SFNV Sufian 9.66 82 *e*P Pn 00 01 21.1 -2.6
IVA Berane 9.68 321 ⇓*i*Pn Pn 00 01 27.8 +3.8
IVA eSn Sn 00 03 12.3 +1.0
BEY Berane 9.68 321 ⇓*i*Pn Pn 00 01 27.8 +3.7
BEY eSn Sn 00 03 12.3 +0.9
TTG Podgorica 9.72 317 ⇓*i*Pn Pn 00 01 26.3 +1.9
TTG eSn Sn 00 03 10.0 -2.1
PDG Podgorica 9.72 317 ⇓*i*Pn Pn 00 01 26.3 +1.8
PDG eSn Sn 00 03 10.0 -2.2
TIP Timpagrande 9.78 295 *e*Pn Pn 00 01 23.9 -1.4
TIP eSn Sn 00 03 03.1 -11
TIP Timpagrande 9.78 295 *e*Pn Pn 00 01 24.0 -1.4
BUM Brajici-Budva 9.84 315 *e*Pn Pn 00 01 27.5 +1.3
BUM eSn Sn 00 03 11.5 -3.8
BUM Brajici-Budva 9.84 315 *e*Pn Pn 00 01 27.5 +1.3
BUM eSn Sn 00 03 11.5 -3.8
MLR Muntele Rosu 9.98 351 Pn Pn 00 01 29.9 +1.6
comp=Z,0.1nm,0.3s,baz=146,slow=6.2,SNR=9.8
MLR Sn Sn 00 03 21.1 +2.2
comp=Z,0.1nm,0.3s,baz=98,slow=23,SNR=2.2
MLR Muntele Rosu 9.98 351 P Pn 00 01 29.9 +1.6
MLR 00 03 21.1
MLR Muntele Rosu 9.98 351 Pn Pn 00 01 29.9 +1.6
MLR Sn Sn 00 03 21.1 +2.2
MLR Muntele Rosu 9.98 351 Pn Pn 00 01 29.9 +1.6
MLR Sn Sn 00 03 21.1 +2.2
KBSD Kabsdagh 10.03 79 *e*P Pn 00 01 28.7 -0.2
KBSD AML AML 00 03 50.8
comp=E,63nm,0.5s
KBSD AML AML 00 03 54.4
comp=Z,52nm,0.5s
KBSD Kabsdagh 10.03 79 *e*P Pn 00 01 29.6 +0.7
KBSD eS Sn 00 03 09.7 -10
KBSD AML AML 00 03 54.7
comp=Z,53nm,0.3s
VOIR 10.07 347 ⇑*i*P Pn 00 01 30.5 +1.1
MZRK Al-Mazaregh 10.10 85 *e*P Pn 00 01 27.5 -2.3
MZRK AML AML 00 03 44.2
comp=Z,42nm,0.5s
MZRK AML AML 00 03 47.8
comp=N,87nm,0.5s
NKY Niksic 10.12 318 ⇑*i*Pn Pn 00 01 32.4 +2.3
NKY eSn Sn 00 03 20.4 -1.7
NKY Niksic 10.12 318 ⇑*i*Pn Pn 00 01 32.4 +2.3
NKY eSn Sn 00 03 20.4 -1.7
HCY Herceg Novi 10.16 315 ⇓*i*Pn Pn 00 01 31.3 +0.7
HCY eSn Sn 00 03 18.9 -4.2
HCY Herceg Novi 10.16 315 ⇓*i*Pn Pn 00 01 31.3 +0.7
HCY eSn Sn 00 03 18.9 -4.2
PLOR Plostina 10.26 354 ⇓*i*P Pn 00 01 36.0 +4.0
PLE Pljevlja 10.27 321 ⇑*i*Pn Pn 00 01 35.8 +3.7
PLE eSn Sn 00 03 26.3 +0.6
PLE Pljevlja 10.27 321 ⇑*i*Pn Pn 00 01 35.8 +3.7
PLE eSn Sn 00 03 26.3 +0.6
VRI Vrincioaia 10.27 354 ⇑*i*P Pn 00 01 34.6 +2.5
HSFG 10.28 150 P Pn 00 01 30.6 -1.7
SIM Simferopol' 10.32 24 *e*P Pn 00 01 33.5 +0.8
SIM eS Sn 00 03 28.1 +1.3
BRY Bratogost 10.43 317 ⇑*i*Pn Pn 00 01 35.9 +1.6
BRY eSn Sn 00 03 26.8 -2.9
BRY Bratogost 10.43 317 ⇑*i*Pn Pn 00 01 35.9 +1.6
BRY eSn Sn 00 03 26.8 -2.9
UPM Unac-Piva 10.43 319 ⇓*i*Pn Pn 00 01 37.1 +2.7
UPM eSn Sn 00 03 28.7 -1.2
UPM Unac-Piva 10.43 319 ⇓*i*Pn Pn 00 01 37.1 +2.7
UPM eSn Sn 00 03 28.7 -1.2
CUC Castrocucco 10.73 298 *e*Pn Pn 00 01 36.6 -1.8
STON Ston 10.88 315 *i* P Pn 00 01 40.1 -1.3
TESR 10.92 354 ⇑*i*P Pn 00 01 42.9 +2.0
BZS Buzias 11.15 335 ⇑*i*P Pn 00 01 44.9 +0.9
HQSR 11.19 150 P Pn 00 01 43.8 -0.9
KIS Kishinev 11.35 2 *e* Pn 00 01 54.0 +7.3
ANN Anapa 11.53 35 *e*P Pn 00 01 47.3 -1.9
ANN eS Sn 00 03 55.2 -1.2
ANN pmax pmax
comp=Z,54nm,1.2s
HADB 11.65 150 P Pn 00 01 49.5 -1.4
DRGR 11.88 341 ⇑*i*P Pn 00 01 55.9 +1.8
EMRS Mersa Alam 12.04 150 P Pn 00 01 55.3 -0.9
BURAR Bucovina Array 12.17 350 ⇑*i*P Pn 00 02 02.6 +4.6
LKFR Kufra 12.24 202 *i* P Pn 00 01 57.7 -1.4
comp=Z,14nm,0.5s,SNR=22
HAGS Hagol 12.66 151 P Pn 00 02 04.0 -0.8
PKSM Moragy 12.79 329 ⇑*i*P Pn 00 02 07.8 +1.4
PKSM Moragy 12.79 329 ⇑*e*Pn Pn 00 02 07.1 +0.7
TRPA Tarpa 13.17 343 ⇓*e*Pn Pn 00 02 12.1 +0.6
AKH Akhalkalaki 13.26 60 P Pn 00 02 15.4 +2.4
AQU L'Aquila 13.32 305 *e*P Pn 00 02 14.4 +0.6
AQU L'Aquila 13.32 305 *e*Pn Pn 00 02 14.4 +0.6
AQU L'Aquila 13.32 305 ⇓*i*P Pn 00 02 14.7 +0.9
AQU L'Aquila 13.32 305 *e*Pn Pn 00 02 14.4 +0.6
BHD Baghdad 13.54 95 *e*P Pn 00 02 15.0 -1.7
BHD *e*S Sn 00 04 44.0 -1.6
NVLJ Novalja 13.54 315 *i* P Pn 00 02 15.9 -0.8
BUD Budapest 13.67 333 ⇓*e*Pn P 00 02 26.5 +0.7
ONI Oni 13.69 55 P Pn 00 02 18.5 -0.4
UZH Uzhgorod 13.69 343 *e*P Pn 00 02 21.8 +3.1
PSZ Piszkesteto 13.73 336 *e*P Pn 00 02 19.8 +0.4
PSZ Piszkesteto 13.73 336 *e*Pn Pn 00 02 19.8 +0.4
PSZ Piszkesteto 13.73 336 ⇓*i*P Pn 00 02 20.8 +1.4
PSZ Piszkesteto 13.73 336 ⇓*e*Pn Pn 00 02 20.1 +0.7
PSZ Piszkesteto 13.73 336 *e*Pn Pn 00 02 19.8 +0.4
GNI Garni 13.79 66 Pn Pn 00 02 19.4 -0.9
comp=Z,0.1nm,0.3s,baz=248,slow=4.1,SNR=6.1
GNI Garni 13.79 66 *ce*P Pn 00 02 18.7 -1.6
GNI pmax pmax
comp=Z,23nm,1.8s
GNI Garni 13.79 66 *e*Pn Pn 00 02 20.8 +0.5
GNI Garni 13.79 66 *e*Pn Pn 00 02 20.8 +0.5
BEHE Becsehely 13.82 325 ⇓*e*pPn P 00 02 29.1 +1.6
KIV Kislovodsk 13.86 49 *e*P Pn 00 02 22.6 +1.5
KIV Kislovodsk 13.86 49 *e*Pn Pn 00 02 22.6 +1.5
KIV Kislovodsk 13.86 49 *e*Pn Pn 00 02 22.6 +1.5
GOR Gori 13.90 58 P Pn 00 02 24.4 +2.8
BOJS Bojanci 13.92 319 *i* Pn Pn 00 02 21.3 -0.5
BOJS *i* Sn Sn 00 04 50.8 -3.9
KOLS Kolonicke sedl 13.98 344 *e*P Pn 00 02 24.3 +1.6
ZEI Tsey 14.07 55 *e*P Pn 00 02 25.4 +1.3
ZEI pmax pmax
comp=Z,16nm,1.1s
CRVS Cervenica-Dubn 14.15 341 *e*P Pn 00 02 26.7 +1.8
TBLG Delisi 14.25 60 *e*P Pn 00 02 28.8 +2.5
TBLG Delisi 14.25 60 P Pn 00 02 28.9 +2.6
PDKS Podkum 14.42 320 *i* Pn Pn 00 02 28.9 +0.4
LVV L'vov 14.49 349 *e*P P 00 02 35.5 +0.6
CEY Cerknica 14.51 318 *i* Pn Pn 00 02 30.2 +0.5
CEY *i* Sn Sn 00 05 07.8 -1.4
VYHS Vyhne 14.59 334 *e*P Pn 00 02 32.6 +1.8
DGRG David-gareji 14.61 61 P P 00 02 35.6 -0.7
JAVS Javornik 14.81 318 *i* Pn Pn 00 02 33.4 -0.2
JAVS *i* Sn Sn 00 05 09.0 -7.4
SOKA Soboth 14.81 322 ⇑*i*Pn Pn 00 02 33.2 -0.5
comp=Z,44nm,1.0s
SOKA Soboth 14.81 322 ⇑*i*Pn Pn 00 02 33.2 -0.5
comp=Z,44nm,1.0s
SOKA Soboth 14.81 322 ⇑*i*Pn Pn 00 02 33.2 -0.5
comp=Z,44nm,1.0s
CRNS Crni Vrh 14.82 319 *i* Pn Pn 00 02 33.2 -0.5
CRNS *i* Sn Sn 00 05 14.2 -2.4
SOP Sopron 14.83 328 ⇓*e*Pn Pn 00 02 34.4 +0.5
TRI Trieste 14.86 317 *e*P Pn 00 02 33.8 -0.4
TRI Trieste 14.86 317 *e*Pn Pn 00 02 33.8 -0.4
TRI Trieste 14.86 317 *e*Pn Pn 00 02 33.8 -0.4
MOZS Mozjanca 14.86 320 *i* Pn Pn 00 02 34.6 +0.3
OBKA Obir 14.95 321 ⇓*i*Pn Pn 00 02 35.3 -0.2
comp=Z,17nm,0.5s
OBKA Obir 14.95 321 ⇓*i*Pn Pn 00 02 35.3 -0.2
comp=Z,17nm,0.5s,SNR=22
OBKA Obir 14.95 321 ⇓*i*Pn Pn 00 02 35.3 -0.2
comp=Z,17nm,0.5s
ARSA Arzberg 14.98 325 ⇑*i*Pn Pn 00 02 37.1 +1.2
comp=Z,14nm,0.7s
ARSA Arzberg 14.98 325 ⇑*i*P Pn 00 02 37.1 +1.2
comp=Z,14nm,0.7s,SNR=17
ARSA Arzberg 14.98 325 ⇑*i*Pn Pn 00 02 37.1 +1.2
comp=Z,14nm,0.7s
VOJS Vojsko 14.99 318 *e*Pn Pn 00 02 34.5 -1.6
ZST Bratislava 15.00 330 *e*P P 00 02 40.3 -0.3
KIEV Kiev 15.06 2 *e*P P 00 02 39.2 -1.9
KIEV pmax pmax
comp=Z,15nm,0.5s
KIEV Kiev 15.06 2 *e*Pn P 00 02 39.2 -1.9
comp=Z,15nm,0.5s
KIEV Kiev 15.06 2 *e*Pn P 00 02 39.2 -1.9
comp=Z,15nm,0.5s
AKASG Malin Array Be 15.06 2 Pn Pn 00 02 37.6 +0.7
comp=Z,6.3nm,0.3s,baz=187,slow=10,SNR=35
AKASG Malin Array Be 15.06 2 *i* P P 00 02 41.5 +0.3
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 15.06 2 Pn Pn 00 02 37.6 +0.7
AKASG Malin Array Be 15.06 2 Pn Pn 00 02 37.6 +0.7
AKBB Malin Array Si 15.06 2 *e*P Pn 00 02 38.3 +1.4
AKBB Malin Array Si 15.06 2 *e*Pn Pn 00 02 38.3 +1.4
AKBB Malin Array Si 15.06 2 *e*Pn Pn 00 02 38.3 +1.4
SMOL Smolenice 15.13 331 *e*P P 00 02 43.5 +1.5
CONA Conrad Observa 15.32 327 *i* Pn Pn 00 02 40.7 +0.4
comp=Z,8.6nm,0.6s
CONA Conrad Observa 15.32 327 *i* P Pn 00 02 40.7 +0.4
comp=Z,8.6nm,0.6s,SNR=13
CONA Conrad Observa 15.32 327 *i* Pn Pn 00 02 40.7 +0.4
comp=Z,8.6nm,0.6s
KEST Kesra 15.35 276 Pn Pn 00 02 40.5 -0.2
comp=Z,0.2nm,0.3s,baz=24,slow=5.0,SNR=7.9
KEST Sn Sn 00 05 18.6 -11
comp=Z,0.1nm,0.3s,baz=46,slow=22,SNR=4.8
KEST Kesra 15.35 276 *e*Pn Pn 00 02 41.5 +0.8
KEST Sn Sn 00 05 18.6 -11
KEST Kesra 15.35 276 *e*Pn Pn 00 02 41.5 +0.8
VSL Villasalto 15.43 290 *e*Pn Pn 00 02 40.6 -1.1
comp=Z,115nm,1.0s
VSL Villasalto 15.43 290 *e*Pn Pn 00 02 40.6 -1.1
comp=Z,115nm,1.0s
MYKA Terra Mystica 15.50 320 ⇓*i*Pn Pn 00 02 42.5 -0.1
comp=Z,25nm,0.9s
MYKA Terra Mystica 15.50 320 ⇓*i*Pn Pn 00 02 42.5 -0.1
comp=Z,25nm,0.9s
MYKA Terra Mystica 15.50 320 ⇓*i*Pn Pn 00 02 42.5 -0.1
comp=Z,25nm,0.9s
OJC Ojcow 15.80 340 *e*P P 00 02 49.7 +0.3
OJC Ojcow 15.80 340 *e*P P 00 02 49.7 +0.3
OJC Ojcow 15.80 340 *e*P P 00 02 50.0 +0.6
comp=Z,14nm,0.6s
OJC Ojcow 15.80 340 *e*P P 00 02 50.0 +0.6
comp=Z,14nm,0.6s
KBA Koelnbreinsper 15.95 320 ⇑*i*P Pn 00 02 48.7 +0.3
KBA pmax pmax
comp=Z,61nm,0.6s
KBA Koelnbreinsper 15.95 320 ⇑*i*Pn Pn 00 02 48.7 +0.3
comp=Z,61nm,0.6s
KBA Koelnbreinsper 15.95 320 ⇑*i*P Pn 00 02 48.7 +0.3
comp=Z,61nm,0.7s,SNR=46
KBA Koelnbreinsper 15.95 320 ⇑*i*Pn Pn 00 02 48.7 +0.3
comp=Z,61nm,0.6s
OKC Ostrava-Krasne 15.97 336 *e*P Pn 00 02 49.8 +1.2
OKC Ostrava-Krasne 15.97 336 *e*P Pn 00 02 49.8 +1.2
MOA Molln 16.00 324 ⇓*i*Pn Pn 00 02 49.1 +0.1
comp=Z,8.9nm,0.7s
MOA Molln 16.00 324 ⇓*i*P Pn 00 02 49.1 +0.1
comp=Z,8.9nm,0.7s,SNR=15
MOA Molln 16.00 324 ⇓*i*Pn Pn 00 02 49.1 +0.1
comp=Z,8.9nm,0.7s
VRAC Vranov 16.10 332 Pn Pn 00 02 50.6 +0.4
comp=Z,1.1nm,0.3s,baz=148,slow=8.4,SNR=20
VRAC LR LR 00 08 54.2
comp=Z,294nm,19.1s,baz=38,slow=37
VRAC Vranov 16.10 332 P Pn 00 02 50.6 +0.4
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,294nm,19.1s
VRAC Vranov 16.10 332 Pn Pn 00 02 50.6 +0.4
VRAC Vranov 16.10 332 ⇓*i*Pn Pn 00 02 50.9 +0.7
VRAC Vranov 16.10 332 Pn Pn 00 02 50.6 +0.4
MORC Moravsky Berou 16.13 334 *e*P Pn 00 02 51.4 +0.8
MORC pmax pmax
comp=Z,15nm,1.0s
MORC Moravsky Berou 16.13 334 *e*Pn Pn 00 02 51.4 +0.8
comp=Z,15nm,1.0s
MORC Moravsky Berou 16.13 334 ⇑*i*P P 00 02 52.3 -0.8
MORC Moravsky Berou 16.13 334 *e*Pn Pn 00 02 51.4 +0.8
comp=Z,15nm,1.0s
ABTA Abfaltersbach 16.18 318 ⇑*i*Pn Pn 00 02 50.9 -0.4
comp=Z,44nm,0.7s
ABTA Abfaltersbach 16.18 318 ⇑*i*P Pn 00 02 50.9 -0.4
comp=Z,44nm,0.7s,SNR=23
ABTA Abfaltersbach 16.18 318 ⇑*i*Pn Pn 00 02 50.9 -0.4
comp=Z,44nm,0.7s
PGF Pioggiola 16.42 301 *e*P Pn 00 02 52.4 -2.0
comp=Z,42nm,0.8s
TREC Trest 16.53 330 *e*P P 00 02 59.0 +1.5
TREC Trest 16.53 330 *e*P P 00 02 59.0 +1.5
MAK Makhachkala 16.59 58 *e*P P 00 03 01.3 +3.1
MAK MLR MLR
comp=Z,201nm,9.0s
WTTA Wattenberg 16.97 318 ⇓*i*P Pn 00 03 01.8 +0.5
WTTA pmax pmax
comp=Z,30nm,0.6s
WTTA Wattenberg 16.97 318 ⇓*i*Pn Pn 00 03 01.8 +0.5
comp=Z,30nm,0.6s
WTTA Wattenberg 16.97 318 ⇓*i*P Pn 00 03 01.7 +0.5
comp=Z,30nm,0.6s,SNR=38
WTTA Wattenberg 16.97 318 ⇓*i*Pn Pn 00 03 01.8 +0.5
comp=Z,30nm,0.6s
GEC2 GERESS Array S 16.98 325 *e*P Pn 00 03 01.4 +0.1
comp=Z,108nm,1.2s
GEC2 GERESS Array S 16.98 325 *e*P Pn 00 03 01.4 +0.1
GEC2 pmax pmax
comp=Z,108nm,1.2s
GERES GERESS Array B 16.98 325 Pn P 00 03 02.2 -0.3
comp=Z,1.4nm,0.3s,baz=141,slow=13,SNR=200
GERES GERESS Array B 16.98 325 P P 00 03 02.2 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 16.98 325 Pn P 00 03 02.2 -0.3
GERES GERESS Array B 16.98 325 Pn P 00 03 02.2 -0.3
WATA Walderalm 17.05 318 ⇑*i*P P 00 03 02.8 -0.6
WATA pmax pmax
comp=Z,33nm,0.6s
WATA Walderalm 17.05 318 ⇑*i*Pn P 00 03 02.8 -0.6
comp=Z,33nm,0.6s
WATA Walderalm 17.05 318 ⇑*i*P P 00 03 02.8 -0.6
comp=Z,33nm,0.6s,SNR=45
WATA Walderalm 17.05 318 ⇑*i*Pn P 00 03 02.8 -0.6
comp=Z,33nm,0.6s
DPC Dobruska-Polom 17.05 333 *e*P P 00 03 03.0 -0.3
DPC pmax pmax
comp=Z,40nm,1.1s
DPC Dobruska-Polom 17.05 333 *e*Pn P 00 03 03.0 -0.3
comp=Z,40nm,1.1s
DPC Dobruska-Polom 17.05 333 *e*P P 00 03 02.9 -0.3
DPC Dobruska-Polom 17.05 333 *e*Pn P 00 03 03.0 -0.3
comp=Z,40nm,1.1s
MIB Mutribah 17.10 105 *e*P Pn 00 03 01.8 -1.0
MIB AMb AMB 00 03 17.5
comp=Z,54nm,0.7s
KHC Kasperske Hory 17.24 326 *e*P P 00 03 05.5 +0.2
KHC pmax pmax
comp=Z,64nm,0.9s
KHC Kasperske Hory 17.24 326 *e*Pn P 00 03 05.5 +0.2
comp=Z,64nm,0.9s
KHC Kasperske Hory 17.24 326 *e*P P 00 03 05.6 +0.2
KHC *ex* x 00 03 20.0
KHC Kasperske Hory 17.24 326 *e*Pn P 00 03 05.5 +0.2
comp=Z,64nm,0.9s
NAY Al-Naaiem 17.26 106 *e*P Pn 00 03 03.3 -1.5
NAY AMb AMB 00 03 17.1
comp=Z,14nm,0.7s
VORD Divnogorie 17.27 24 *e*P Pn 00 03 04.3 -0.4
VORD pmax pmax
comp=Z,8.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,1.2s
UPC Upice 17.29 333 *e*P P 00 03 06.3 +0.4
UPC Upice 17.29 333 *e*P P 00 03 06.3 +0.4
MOTA Moosalm 17.31 318 *i* P P 00 03 06.2 -0.1
MOTA pmax pmax
comp=Z,19nm,0.5s
MOTA Moosalm 17.31 318 *i* Pn P 00 03 06.2 -0.1
comp=Z,19nm,0.5s
MOTA Moosalm 17.31 318 *i* P P 00 03 06.2 -0.1
comp=Z,19nm,0.5s,SNR=36
MOTA Moosalm 17.31 318 *i* Pn P 00 03 06.2 -0.1
comp=Z,19nm,0.5s
FETA Feichten 17.33 316 *i* Pn P 00 03 06.6 +0.1
comp=Z,105nm,0.7s
FETA Feichten 17.33 316 *i* P P 00 03 06.6 +0.1
comp=Z,105nm,0.7s,SNR=170
FETA Feichten 17.33 316 *i* Pn P 00 03 06.6 +0.1
comp=Z,105nm,0.7s
FUORN Ofenpass-Fuorn 17.37 315 *e*Pn P 00 03 06.9 -0.2
comp=Z,46nm,0.7s
FUORN Ofenpass-Fuorn 17.37 315 *e*Pn P 00 03 06.9 -0.2
comp=Z,46nm,0.7s
VSR Storozhevoye 17.44 23 *e*P Pn 00 03 06.3 -0.6
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,8.0nm,0.6s
PRU Pruhonice 17.46 329 *e*P P 00 03 07.6 -0.1
PRU Pruhonice 17.46 329 *e*P P 00 03 07.6 -0.1
KSP Ksiaz 17.46 334 *e*P P 00 03 08.2 +0.4
KSP Ksiaz 17.46 334 *e*P P 00 03 08.1 +0.3
UMR Umm Al-Rimmam 17.50 105 *e*P Pn 00 03 06.9 -0.9
UMR AMb AMB 00 03 15.3
comp=Z,35nm,1.2s
WET Wettzell 17.57 325 *e*P P 00 03 08.9 -0.1
comp=Z,136nm,1.6s
WET Wettzell 17.57 325 *e*P P 00 03 08.9 -0.1
WET pmax pmax
comp=Z,136nm,1.6s
RETA Reutte 17.58 318 ⇓*i*Pn P 00 03 09.2 -0.1
comp=Z,23nm,0.7s
RETA Reutte 17.58 318 ⇓*i*P P 00 03 09.1 -0.1
comp=Z,23nm,0.7s,SNR=49
RETA Reutte 17.58 318 ⇓*i*Pn P 00 03 09.1 -0.1
comp=Z,23nm,0.7s
DAVOX Davos/Dischmat 17.68 315 P P 00 03 11.7 +1.3
comp=Z,3.2nm,0.3s,baz=118,slow=8.8,SNR=48
DAVOX Davos/Dischmat 17.68 315 P P 00 03 11.7 +1.3
DAVOX Davos/Dischmat 17.68 315 P P 00 03 11.7 +1.3
DAVOX Davos/Dischmat 17.68 315 P P 00 03 11.7 +1.3
FUR Furstenfeldbru 17.72 320 *e*P Pn 00 03 10.2 -0.1
comp=Z,132nm,1.2s
FUR Furstenfeldbru 17.72 320 *e*P Pn 00 03 10.2 -0.1
FUR pmax pmax
comp=Z,132nm,1.2s
TUE Stuetta 17.83 313 *e*P P 00 03 13.0 +0.9
comp=Z,42nm,0.8s
TUE Stuetta 17.83 313 *e*P P 00 03 13.0 +0.9
comp=Z,42nm,0.8s
PVCC Panska Ves 17.86 331 *e*P P 00 03 12.8 +0.6
PVCC Panska Ves 17.86 331 *e*P P 00 03 12.8 +0.6
SAOF Saorge 17.90 304 *e*P Pn 00 03 09.1 -3.5
SAOF Saorge 17.90 304 *e*P Pn 00 03 09.1 -3.5
SAOF Saorge 17.90 304 *e*P Pn 00 03 09.1 -3.5
SAOF Saorge 17.90 304 *e*P Pn 00 03 09.1 -3.5
SBF Sospel 17.94 304 *e*P Pn 00 03 11.6 -1.5
comp=Z,224nm,0.8s
SBF Sospel 17.94 304 *e*P Pn 00 03 11.6 -1.5
comp=Z,112nm,0.8s
REVF Revere 17.94 303 *e*P Pn 00 03 09.1 -4.0
REVF Revere 17.94 303 *e*P Pn 00 03 09.1 -4.0
REVF Revere 17.94 303 *e*P Pn 00 03 09.1 -4.0
REVF Revere 17.94 303 *e*P Pn 00 03 09.1 -4.0
DAVA Damuels 17.96 316 ⇑*i*Pn P 00 03 13.5 +0.1
comp=Z,52nm,0.6s
DAVA Damuels 17.96 316 ⇑*i*Pn P 00 03 13.5 +0.1
comp=Z,52nm,0.7s,SNR=48
DAVA Damuels 17.96 316 ⇑*i*Pn P 00 03 13.5 +0.1
comp=Z,52nm,0.6s
AUTN L'Aution 17.99 304 *e*P P 00 03 10.9 -3.0
AUTN L'Aution 17.99 304 *e*P P 00 03 10.9 -3.0
AUTN L'Aution 17.99 304 *e*P P 00 03 10.9 -3.0
AUTN L'Aution 17.99 304 *e*P P 00 03 10.9 -3.0
TOUF Mont Tournerai 18.11 304 *e*P P 00 03 12.8 -2.4
TOUF Mont Tournerai 18.11 304 *e*P P 00 03 12.8 -2.4
TOUF Mont Tournerai 18.11 304 *e*P P 00 03 12.8 -2.4
TOUF Mont Tournerai 18.11 304 *e*P P 00 03 12.8 -2.4
MVIF Mont Vial 18.14 303 *e*P P 00 03 13.0 -2.5

MVIF	Mont Vial	18.14	303	*e*P		P	00 03 13.0	-2.5	
MVIF	Mont Vial	18.14	303	*e*P		P	00 03 13.0	-2.5	
MVIF	Mont Vial	18.14	303	*e*P		P	00 03 13.0	-2.5	
VRHR	Novokhopersk	18.21	28	*e*P		Pn	00 03 18.2	+1.9	
VRHR				*e*S		Sn	00 06 39.6	+1.0	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,8.0nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VRHR				smax	smax				
	comp=N,100nm,3.0s								
VRHR				smax	smax				
	comp=E,70nm,3.0s								
VRHR				smax	smax				
	comp=Z,50nm,3.0s								
CALN	Calern	18.27	303	*e*P		P	00 03 13.1	-3.8	
CALN	Calern	18.27	303	*e*P		P	00 03 13.1	-3.8	
CALN	Calern	18.27	303	*e*P		P	00 03 13.1	-3.8	
CALN	Calern	18.27	303	*e*P		P	00 03 13.1	-3.8	
BRG	Berggiesshubel	18.38	330	*e*P		Pn	00 03 18.6	+0.2	
	comp=Z,18nm,1.2s								
BRG				*i*			00 03 20.8		
	comp=Z,111nm,1.7s								
BRG				sP		sP	00 03 36.1	+0.1	
	comp=Z,16nm,1.1s								
BRG				*e*			00 15 53.2		
	comp=Z,7.6nm,1.5s								
BRG	Berggiesshubel	18.38	330	*e*P		P	00 03 15.9	-2.0	
	comp=Z,111nm,1.7s								
BRG	Berggiesshubel	18.38	330	*e*P		Pn	00 03 18.6	+0.2	
BRG				pmax	pmax				
	comp=Z,18nm,1.2s								
LMR	La Mourre	18.40	301	*e*P		P	00 03 16.9	-1.3	
	comp=Z,127nm,1.3s								
LMR	La Mourre	18.40	301	*e*P		P	00 03 16.9	-1.3	
	comp=Z,64nm,1.3s								
NKC	Novy Kostel	18.54	327	*e*P		P	00 03 19.9	+0.2	
NKC	Novy Kostel	18.54	327	*e*P		P	00 03 19.9	+0.2	
TANN	Tannenbergstha	18.67	327	*e*P		P	00 03 20.8	-0.3	
	comp=Z,28nm,1.0s								
MBDF	Montbardon	18.69	306	*e*P		P	00 03 20.2	-1.3	
	comp=Z,101nm,0.9s								
MBDF	Montbardon	18.69	306	*e*P		P	00 03 20.2	-1.3	
	comp=Z,51nm,0.9s								
SUW	Suwalki	18.70	351	*e*P		P	00 03 20.7	-0.6	
SUW	Suwalki	18.70	351	*e*P		P	00 03 20.7	-0.6	
SUW	Suwalki	18.70	351	*e*P		P	00 03 20.7	-0.6	
	comp=Z,70nm,1.0s								
SUW	Suwalki	18.70	351	*e*P		P	00 03 20.7	-0.6	
	comp=Z,70nm,1.0s								
GRF	Grafenberg Arr	18.73	324	*e*P		Pn	00 03 22.4	-0.3	
	comp=Z,148nm,1.5s								
GRF	Grafenberg Arr	18.73	324	*e*P		Pn	00 03 22.4	-0.3	
GRF				pmax	pmax				
	comp=Z,148nm,1.5s								
GRFO	Grafenberg	18.73	324	*e*P		Pn	00 03 22.4	-0.3	
GRFO				pmax	pmax				
	comp=Z,63nm,1.1s								
GRFO	Grafenberg	18.73	324	*e*P		Pn	00 03 22.4	-0.3	
	comp=Z,63nm,1.1s								
GRFO	Grafenberg	18.73	324	*e*P		Pn	00 03 22.4	-0.3	
	comp=Z,63nm,1.1s								
BNI	Bardonecchia	18.87	306	*e*P		P	00 03 23.5	0.0	
BNI				pmax	pmax				
	comp=Z,27nm,0.8s								
BNI	Bardonecchia	18.87	306	*e*P		P	00 03 23.4	0.0	
	comp=Z,27nm,0.8s								
BNI	Bardonecchia	18.87	306	*e*P		P	00 03 23.5	0.0	
	comp=Z,27nm,0.8s								
LPG	La Plagne	19.00	308	*e*P		P	00 03 24.4	-0.6	
	comp=Z,134nm,0.8s								
LPG	La Plagne	19.00	308	*e*P		P	00 03 24.4	-0.6	
	comp=Z,67nm,0.8s								
LPL	La Plagne	19.02	308	*e*P		P	00 03 23.9	-1.3	
	comp=Z,126nm,0.8s								
LPL	La Plagne	19.02	308	*e*P		P	00 03 23.9	-1.3	
	comp=Z,63nm,0.8s								
SENIN	Lac Senin/Sane	19.02	311	*e*P		P	00 03 24.6	-0.6	
	comp=Z,59nm,0.7s								
SENIN	Lac Senin/Sane	19.02	311	*e*P		P	00 03 24.6	-0.6	
	comp=Z,59nm,0.7s								
SPAK	Spaichingen-Ko	19.02	317	*e*P		P	00 03 25.0	-0.1	
SPAK	Spaichingen-Ko	19.02	317	*e*P		P	00 03 25.0	-0.1	
CLL	Collm	19.10	330	*e*P		P	00 03 25.5	-0.2	
	comp=Z,126nm,1.4s								
CLL	Collm	19.10	330	⇓ *i*P		P	00 03 25.6	-0.1	
CLL				pmax	pmax				
	comp=Z,12nm,0.8s								
CLL	Collm	19.10	330	⇓ *i*P		P	00 03 25.6	-0.1	
	comp=Z,12nm,0.8s								
CLL				*i* Pmax			00 03 28.3		
	comp=Z,125nm,1.4s								
CLL				*i* pP		pP	00 03 37.0	-0.3	
RSL	Roselend	19.16	308	*e*P		Pn	00 03 27.3	-0.6	
RSL	Roselend	19.16	308	*e*P		Pn	00 03 27.3	-0.6	
RSL	Roselend	19.16	308	*e*P		Pn	00 03 27.3	-0.6	
RSL	Roselend	19.16	308	*e*P		Pn	00 03 27.3	-0.6	
STU	Stuttgart	19.18	319	*e*P		P	00 03 26.7	0.0	
	comp=Z,78nm,0.9s								
STU	Stuttgart	19.18	319	*e*P		P	00 03 27.2	+0.5	
STU				pmax	pmax				
	comp=Z,74nm,0.8s								
STU	Stuttgart	19.18	319	*e*P		P	00 03 27.2	+0.5	
	comp=Z,74nm,0.8s								
STU	Stuttgart	19.18	319	*e*P		P	00 03 27.2	+0.5	
	comp=Z,74nm,0.8s								
MOX	Moxa	19.21	326	*e*P		Pn	00 03 27.8	-0.5	
	comp=Z,58nm,1.2s								
MOX	Moxa	19.21	326	*e*P		Pn	00 03 27.8	-0.5	
MOX				pmax	pmax				
	comp=Z,58nm,1.2s								
SMRF	Simiane la Rot	19.24	302	*e*P		P	00 03 26.0	-1.5	
	comp=Z,48nm,0.9s								
SMRF	Simiane la Rot	19.24	302	*e*P		P	00 03 26.0	-1.5	
	comp=Z,24nm,0.9s								
GKP	Gorka Klasztor	19.25	340	*e*P		P	00 03 27.6	+0.3	
GKP	Gorka Klasztor	19.25	340	*e*P		P	00 03 27.6	+0.3	
NACGM	Naroch	19.28	357	*e*		P	00 03 25.0	-2.7	
FELD	Feldberg im Sc	19.34	315	*e*P		P	00 03 28.2	-0.4	
FELD	Feldberg im Sc	19.34	315	*e*P		P	00 03 28.2	-0.4	
ORIF	Oris-en-Rattie	19.35	305	*e*P		P	00 03 26.8	-1.9	
	comp=Z,75nm,1.0s								
ORIF				*e*R					
	comp=Z,278nm,22.0s								
ORIF	Oris-en-Rattie	19.35	305	*e*P		P	00 03 26.8	-1.9	
	comp=Z,38nm,1.0s								
BFO	Black Forest	19.41	317	*e*P		P	00 03 29.6	+0.4	
	comp=Z,50nm,0.8s								
BFO	Black Forest	19.41	317	*e*P		P	00 03 29.6	+0.4	
BFO				pmax	pmax				
	comp=Z,50nm,0.8s								
BFO	Black Forest	19.41	317	*e*P		P	00 03 29.4	+0.2	
	comp=Z,47nm,0.7s								
BFO	Black Forest	19.41	317	*e*P		P	00 03 29.4	+0.2	
	comp=Z,47nm,0.7s								
BBS	Basel-Blauen	19.42	314	*e*P		P	00 03 28.9	-0.5	
BBS	Basel-Blauen	19.42	314	*e*P		P	00 03 28.9	-0.5	
BBS	Basel-Blauen	19.42	314	*e*P		P	00 03 28.9	-0.5	
LOMF	Lomont	19.77	313	*e*P		P	00 03 34.0	+0.8	
LOMF	Lomont	19.77	313	*e*P		P	00 03 34.0	+0.8	
LOMF	Lomont	19.77	313	*e*P		P	00 03 34.0	+0.8	
LOMF	Lomont	19.77	313	*e*P		P	00 03 34.0	+0.8	
MOF	Molkenrain	19.83	314	*e*P		P	00 03 34.7	+0.8	
MOF	Molkenrain	19.83	314	*e*P		P	00 03 34.7	+0.8	
MOF	Molkenrain	19.83	314	*e*P		P	00 03 34.7	+0.8	
MOF	Molkenrain	19.83	314	*e*P		P	00 03 34.7	+0.8	
CABF	La Chapelle	19.88	310	*e*P		P	00 03 33.2	-1.3	
	comp=Z,285nm,0.8s								
CABF	La Chapelle	19.88	310	*e*P		P	00 03 33.2	-1.3	
	comp=Z,142nm,0.8s								
HINF	Hinteralfeld	19.98	314	*e*P		P	00 03 35.7	+0.2	
	comp=Z,49nm,0.8s								
HINF	Hinteralfeld	19.98	314	*e*P		P	00 03 35.7	+0.2	
	comp=Z,24nm,0.8s								
ECH	Echery	20.01	315	*e*P		P	00 03 35.1	-0.6	
ECH	Echery	20.01	315	*e*P		P	00 03 35.1	-0.6	
ECH	Echery	20.01	315	*e*P		P	00 03 35.1	-0.6	
ECH	Echery	20.01	315	*e*P		P	00 03 35.1	-0.6	
CDF	Champ du Feu	20.04	316	*e*P		P	00 03 35.7	-0.5	
	comp=Z,114nm,0.9s								
CDF	Champ du Feu	20.04	316	*e*P		P	00 03 35.7	-0.5	
	comp=Z,57nm,0.9s								
LANF	Langenberg	20.06	318	*e*P		P	00 03 35.8	-0.4	
LANF	Langenberg	20.06	318	*e*P		P	00 03 35.8	-0.4	
LANF	Langenberg	20.06	318	*e*P		P	00 03 35.8	-0.4	
KTD	Kalmit	20.10	319	*e*P		P	00 03 37.4	+0.7	
KTD	Kalmit	20.10	319	*e*P		P	00 03 37.4	+0.7	
KTD	Kalmit	20.10	319	*e*P		P	00 03 37.4	+0.7	
VIVF	Saint-Julien-l	20.14	304	*e*P		P	00 03 36.0	-1.2	
	comp=Z,137nm,0.7s								
VIVF	Saint-Julien-l	20.14	304	*e*P		P	00 03 36.0	-1.2	
	comp=Z,69nm,0.7s								
OBN	Obninsk	20.30	14	*o*e*P		P	00 03 39.3	+0.5	
OBN				*e*			00 03 50.6		
OBN				*e*			00 03 57.8		
OBN				*e*S		Sn	00 07 31.4	+2.6	
OBN				pmax	pmax				
	comp=Z,21nm,0.8s								
OBN				MLR	MLR				
	comp=Z,100nm,14.0s								
OBN	Obninsk	20.30	14	*e*P		P	00 03 39.1	+0.3	
	comp=Z,20nm,0.6s								
OBN	Obninsk	20.30	14	*e*P		P	00 03 39.1	+0.3	
	comp=Z,20nm,0.6s								
SSB	Saint Sauveur	20.36	305	*e*P		P	00 03 38.5	-1.1	
SSB	Saint Sauveur	20.36	305	*e*P		P	00 03 38.5	-1.1	
SSB	Saint Sauveur	20.36	305	*e*P		P	00 03 38.5	-1.1	
SSB	Saint Sauveur	20.36	305	*e*P		P	00 03 38.5	-1.1	
HAU	Haudompre	20.37	314	*e*P		P	00 03 40.4	+0.8	
	comp=Z,95nm,0.7s								
HAU				*e*R					
	comp=Z,318nm,18.0s								
HAU	Haudompre	20.37	314	*e*P		P	00 03 40.4	+0.8	
	comp=Z,48nm,0.7s								
TNS	Taunus Mts	20.45	322	*e*P		P	00 03 41.2	+0.7	
	comp=Z,170nm,1.3s								
TNS	Taunus Mts	20.45	322	*e*P		P	00 03 41.2	+0.7	
LASF	Ste Croix	20.46	302	*e*P		P	00 03 39.6	-1.1	
	comp=Z,28nm,0.7s								
LASF	Ste Croix	20.46	302	*e*P		P	00 03 39.6	-1.1	
	comp=Z,14nm,0.7s								
CLZ	Clausthal	20.61	327	*e*P		P	00 03 41.0	-1.2	
	comp=Z,22nm,1.0s								
CLZ	Clausthal	20.61	327	*e*P		P	00 03 41.0	-1.2	
CLZ				pmax	pmax				
	comp=Z,22nm,1.0s								
THEF	They Montfort	20.69	314	*e*P		P	00 03 41.0	-2.1	
THEF	They Montfort	20.69	314	*e*P		P	00 03 41.0	-2.1	
THEF	They Montfort	20.69	314	*e*P		P	00 03 41.0	-2.1	
THEF	They Montfort	20.69	314	*e*P		P	00 03 41.0	-2.1	
RUP	Ruppelstein	20.86	319	*e*P		P	00 03 44.4	-0.6	
RUP	Ruppelstein	20.86	319	*e*P		P	00 03 44.4	-0.6	
RUP	Ruppelstein	20.86	319	*e*P		P	00 03 44.4	-0.6	
PAGF	Fort de Pagny	21.00	315	*e*P		P	00 03 47.1	+0.7	
	comp=Z,26nm,0.9s								
PAGF	Fort de Pagny	21.00	315	*e*P		P	00 03 47.1	+0.7	
	comp=Z,13nm,0.9s								
MOS	Moscow	21.10	15	*e*P		P	00 03 46.1	-1.3	
MOS				*e*			00 04 00.8		
MOS				*e*			00 07 41.3		
PLDF	La Plantade	21.21	307	*e*P		P	00 03 47.0	-1.8	
PLDF	La Plantade	21.21	307	*e*P		P	00 03 47.0	-1.8	
PLDF	La Plantade	21.21	307	*e*P		P	00 03 47.0	-1.8	
PLDF	La Plantade	21.21	307	*e*P		P	00 03 47.0	-1.8	
PLDF	La Plantade	21.21	307	*e*P		P	00 03 47.0	-1.8	
LBL	Lubilhac	21.21	304	*e*P		P	00 03 47.7	-1.1	
LBL	Lubilhac	21.21	304	*e*P		P	00 03 47.7	-1.1	
LBL	Lubilhac	21.21	304	*e*P		P	00 03 47.7	-1.1	
LBL	Lubilhac	21.21	304	*e*P		P	00 03 47.7	-1.1	
LBL	Lubilhac	21.21	304	*e*P		P	00 03 47.7	-1.1	
SFTF	Sexfontaines	21.23	313	*e*P		P	00 03 49.0	0.0	
	comp=Z,214nm,1.0s								
SFTF	Sexfontaines	21.23	313	*e*P		P	00 03 49.0	0.0	
	comp=Z,107nm,1.0s								
WLF	Walferdange	21.34	318	P		P	00 03 50.4	+0.4	
	comp=Z,15nm,1.3s								
WLF	Walferdange	21.34	318	*e*P		P	00 03 50.4	+0.4	
	comp=Z,33nm,0.8s								
WLF	Walferdange	21.34	318	*e*P		P	00 03 50.2	+0.2	
WLF				pmax	pmax				
	comp=Z,27nm,0.7s								
WLF	Walferdange	21.34	318	*e*P		P	00 03 50.2	+0.2	
	comp=Z,27nm,0.7s								
WLF	Walferdange	21.34	318	*e*P		P	00 03 50.2	+0.2	
	comp=Z,27nm,0.7s								
MEZF	Maizieres J'vi	21.37	314	*e*P		P	00 03 50.4	+0.1	
	comp=Z,159nm,0.8s								
MEZF	Maizieres J'vi	21.37	314	*e*P		P	00 03 50.4	+0.1	
	comp=Z,80nm,0.8s								
BSD	Bornholm Skovb	21.52	339	*i* P		P	00 03 49.0	-2.9	
	comp=Z,14nm,0.9s								
LOR	Lormes	21.55	310	*e*P		P	00 03 52.2	-0.1	
	comp=Z,38nm,0.6s								
LOR				*e*R					
	comp=Z,250nm,18.5s								
LOR	Lormes	21.55	310	*e*P		P	00 03 52.2	-0.1	
	comp=Z,19nm,0.6s								
AGO	Saint Agoulin	21.56	307	*e*P		P	00 03 52.5	+0.1	
AGO	Saint Agoulin	21.56	307	*e*P		P	00 03 52.5	+0.1	
AGO	Saint Agoulin	21.56	307	*e*P		P	00 03 52.5	+0.1	
AGO	Saint Agoulin	21.56	307	*e*P		P	00 03 52.5	+0.1	
AVF	Avril sur Loir	21.68	309	*e*P		P	00 03 53.3	-0.4	
	comp=Z,91nm,0.7s								
AVF	Avril sur Loir	21.68	309	*e*P		P	00 03 53.3	-0.4	
	comp=Z,46nm,0.7s								
SSF	Saint Saulge	21.68	309	*e*P		P	00 03 51.8	-2.0	
	comp=Z,160nm,0.8s								
SSF	Saint Saulge	21.68	309	*e*P		P	00 03 51.8	-2.0	
	comp=Z,80nm,0.8s								
FRNF	Fournols	21.72	304	*e*P		P	00 03 55.6	+1.4	
FRNF	Fournols	21.72	304	*e*P		P	00 03 55.6	+1.4	
FRNF	Fournols	21.72	304	*e*P		P	00 03 55.6	+1.4	
BGF	Bois d'Agland	21.92	308	*e*P		P	00 03 56.2	-0.1	
	comp=Z,103nm,0.9s								
BGF	Bois d'Agland	21.92	308	*e*P		P	00 03 56.2	-0.1	
	comp=Z,51nm,0.9s								
CAF	Calviac	21.93	303	*e*P		P	00 03 55.9	-0.5	
	comp=Z,60nm,0.9s								
CAF	Calviac	21.93	303	*e*P		P	00 03 55.9	-0.5	
	comp=Z,30nm,0.9s								
MEM	Membach	21.94	320	P		P	00 03 57.8	+1.4	
	comp=Z,19nm,1.2s								
BCLA	Clavier	22.21	319	P		P	00 03 59.4	+0.1	
	comp=Z,25nm,1.2s								
TCF	Toulx Ste Croi	22.24	307	*e*P		P	00 04 00.3	+0.5	
	comp=Z,36nm,0.8s								
TCF	Toulx Ste Croi	22.24	307	*e*P		P	00 04 00.3	+0.5	
	comp=Z,18nm,0.8s								
GIVF	Givet	22.30	318	*e*P		P	00 03 59.8	-0.5	
	comp=Z,37nm,0.6s								
GIVF	Givet	22.30	318	*e*P		P	00 03 59.8	-0.5	
	comp=Z,18nm,0.6s								
HYF	Humbligny	22.31	309	*e*P		P	00 04 01.3	+0.8	
HYF	Humbligny	22.31	309	*e*P		P	00 04 01.3	+0.8	
RJF	Les Rejaudoux	22.40	304	*e*P		P	00 04 01.7	+0.2	
	comp=Z,108nm,1.0s								
RJF				*e*R					
	comp=Z,296nm,18.8s								
RJF	Les Rejaudoux	22.40	304	*e*P		P	00 04 01.7	+0.2	
	comp=Z,54nm,1.0s								
DOU	Dourbes	22.42	317	P		P	00 04 01.4	-0.2	
	comp=Z,12nm,1.1s								
LLD	Lille Linde	22.56	336	*i* P		P	00 04 01.3	-1.7	
	comp=Z,22nm,0.8s								
BAIF	Baives	22.61	317	*e*P		P	00 04 03.6	-0.1	
	comp=Z,78nm,0.8s								
BAIF	Baives	22.61	317	*e*P		P	00 04 03.6	-0.1	
	comp=Z,39nm,0.8s								
EPF	Esparros	22.72	297	*e*P		P	00 04 04.5	-0.5	
	comp=Z,21nm,0.9s								
EPF	Esparros	22.72	297	*e*P		P	00 04 04.5	-0.5	
	comp=Z,10nm,0.9s								
COP	Copenhagen	22.77	337	*i* P		P	00 04 03.2	-2.1	
	comp=Z,20nm,0.9s								
SNF	Seneffe	22.80	318	P		P	00 04 07.3	+1.7	
LFF	La Frestale	22.84	302	*e*P		P	00 04 04.9	-1.2	
	comp=Z,55nm,0.7s								
LFF	La Frestale	22.84	302	*e*P		P	00 04 04.9	-1.2	
	comp=Z,28nm,0.7s								
VSU	Vasula	22.85	358	⇓ *e*P		P	00 04 06.2	+0.2	
VSU				pmax	pmax				
	comp=Z,35nm,1.7s								
ETSF	Etsaut	23.36	297	*e*P		P	00 04 10.5	-0.8	
	comp=Z,31nm,0.8s								
ETSF	Etsaut	23.36	297	*e*P		P	00 04 10.5	-0.8	
	comp=Z,15nm,0.8s								
SJPF	Ste Jean	23.87	297	*e*P		P	00 04 15.2	-0.9	
	comp=Z,114nm,1.2s								
SJPF	Ste Jean	23.87	297	*e*P		P	00 04 15.2	-0.9	
	comp=Z,57nm,1.2s								
MFF	Saint Martin d	23.89	306	*e*P		P	00 04 15.6	-0.5	
	comp=Z,100nm,1.2s								
MFF	Saint Martin d	23.89	306	*e*P		P	00 04 15.6	-0.5	
	comp=Z,50nm,1.2s								
MUD	Monsted U'grnd	24.50	334	*i* P		P	00 04 20.0	-1.6	
	comp=Z,11nm,0.9s								
LDF	La Druitiere	24.53	311	*e*P		P	00 04 20.4	-1.6	
	comp=Z,30nm,0.5s								
LDF	La Druitiere	24.53	311	*e*P		P	00 04 20.4	-1.6	
	comp=Z,15nm,0.5s								
FLN	La Foliniere	24.81	311	*e*P		P	00 04 22.9	-1.6	
	comp=Z,83nm,0.6s								
FLN				*e*R					
	comp=Z,272nm,17.8s								
FLN	La Foliniere	24.81	311	*e*P		P	00 04 22.9	-1.6	
	comp=Z,42nm,0.6s								
GRR	Gorron	24.91	310	*e*P		P	00 04 24.0	-1.5	
	comp=Z,93nm,0.6s								
GRR	Gorron	24.91	310	*e*P		P	00 04 24.0	-1.5	
	comp=Z,47nm,0.6s								
ESDC	Sonseca Array	25.72	289	P		P	00 04 32.5	-0.5	
	comp=Z,25nm,0.7s,baz=81,slow=9.8,SNR=102								
ESDC	Sonseca Array	25.72	289	P		P	00 04 32.5	-0.5	
ESDC	Sonseca Array	25.72	289	P		P	00 04 32.5	-0.5	
ESLA	Sonseca Array	25.72	289	*e*P		P	00 04 33.2	+0.2	
	comp=Z,6.8nm,0.8s								
ESLA	Sonseca Array	25.72	289	*e*P		P	00 04 33.2	+0.2	
	comp=Z,6.8nm,0.8s								
FINES	FINESS Array B	25.85	358	P		P	00 04 32.8	-1.0	
	comp=Z,10nm,0.7s,baz=152,slow=12,SNR=31								
FINES				LR		LR	00 14 48.7		
	comp=Z,196nm,18.9s,baz=140,slow=37								
FINES	FINESS Array B	25.85	358	P		P	00 04 32.8	-1.0	
FINES				pmax	pmax				
	comp=Z,10.0nm,0.7s								
FINES				MLR	MLR				
	comp=Z,196nm,18.9s								
FINES	FINESS Array B	25.85	358	P		P	00 04 32.8	-1.0	
FINES	FINESS Array B	25.85	358	P		P	00 04 32.8	-1.0	
SGMF	Saint Gilles	25.94	309	*e*P		P	00 04 33.3	-1.5	
	comp=Z,25nm,0.6s								
SGMF	Saint Gilles	25.94	309	*e*P		P	00 04 33.3	-1.5	
	comp=Z,13nm,0.6s								
PAB	San Pablo	26.02	288	*e*P		P	00 04 35.8	+0.1	
PAB				pmax	pmax				
	comp=Z,30nm,0.9s								
PAB	San Pablo	26.02	288	*e*P		P	00 04 35.8	+0.1	
	comp=Z,30nm,0.9s								
PAB	San Pablo	26.02	288	*e*P		P	00 04 35.8	+0.1	
	comp=Z,30nm,0.9s								
AKTO	Aktyubinsk	26.09	46	P		P	00 04 36.8	+0.6	
	comp=Z,4.3nm,0.5s,baz=249,slow=8.4,SNR=26								
AKTO	Aktyubinsk	26.09	46	P		P	00 04 36.8	+0.6	
AKTO				pmax	pmax				
	comp=Z,4.0nm,0.5s								
AKTO	Aktyubinsk	26.09	46	P		P	00 04 36.8	+0.6	
AKTO	Aktyubinsk	26.09	46	P		P	00 04 36.8	+0.6	
QUIF	Quistinic	26.23	308	*e*P		P	00 04 36.2	-1.2	
	comp=Z,27nm,0.6s								
QUIF	Quistinic	26.23	308	*e*P		P	00 04 36.2	-1.2	
	comp=Z,14nm,0.6s								
KLMR	Klimovskoe	26.24	13	*d i*P		P	00 04 35.5	-1.9	
KLMR				*e**PP		pP	00 04 48.5	-1.9	
KLMR				*e*S		S	00 09 02.7	-3.2	
KLMR				pmax	pmax				
	comp=Z,46nm,1.4s								
HFS	Hagfors	26.25	344	P		P	00 04 35.9	-1.5	
	comp=Z,20nm,0.8s,baz=160,slow=9.0,SNR=28								
HFS	Hagfors	26.25	344	P		P	00 04 35.9	-1.5	
HFS				pmax	pmax				
	comp=Z,20nm,0.9s								
HFS	Hagfors	26.25	344	P		P	00 04 35.9	-1.5	
HFS	Hagfors	26.25	344	P		P	00 04 35.9	-1.5	
ROSF	Rostrenen	26.42	308	*e*P		P	00 04 37.5	-1.7	
	comp=Z,42nm,0.9s								
ROSF	Rostrenen	26.42	308	*e*P		P	00 04 37.5	-1.7	
	comp=Z,21nm,0.9s								
KAF	Kangasniemi	26.52	358	*e*P		P	00 04 37.4	-2.4	
KAF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KAF	Kangasniemi	26.52	358	*e*p		P	00 04 37.4	-2.4	
	comp=Z,3.5nm,0.8s								
KAF	Kangasniemi	26.52	358	*e*p		P	00 04 37.4	-2.4	
	comp=Z,3.5nm,0.8s								
ABKAR	Akbulak array	26.84	50	*e*P		P	00 04 43.5	+0.6	
	comp=Z,5.2nm,0.6s								
ABKAR	Akbulak array	26.84	50	*e*P		P	00 04 43.5	+0.6	
	comp=Z,5.2nm,0.6s								
MDT	Midelt	27.23	274	P		P	00 04 49.8	+3.1	
	comp=Z,5.5n

	comp=Z,4.1nm,0.7s								
KEV	**Kevo**	**34.17**	**359**		*e*p		P	00 05 42.9	-4.4
	comp=Z,4.1nm,0.7s								
BVAR	**Borovoye Array**	**34.20**	**46**		P		**P**	**00 05 48.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=267,slow=7.4,SNR=4.6								
BVAR	**Borovoye Array**	**34.20**	**46**		P		**P**	**00 05 48.9**	**+1.1**
BVAR	**Borovoye Array**	**34.20**	**46**		P		**P**	**00 05 48.9**	**+1.1**
AAK	**Ala-Archa**	**36.19**	**65**		P		**P**	**00 06 07.1**	**+1.8**
	comp=Z,3.0nm,0.6s,baz=207,slow=3.2,SNR=5.1								
AAK	**Ala-Archa**	**36.19**	**65**		P		**P**	**00 06 07.1**	**+1.8**
AAK					pmax		pmax		
	comp=Z,3.0nm,0.6s								
AAK	**Ala-Archa**	**36.19**	**65**		P		**P**	**00 06 07.1**	**+1.8**
KSH	**Kashi**	**37.69**	**69**	*e*	P		**P**	**00 06 18.5**	**+0.5**
KSH					*e*pP		**pP**	**00 06 30.8**	**-0.5**
KSH					*e*sP		**sP**	**00 06 36.0**	**-1.3**
KSH					*e*PP		PP	00 07 48.0	+3.4
KSH					*e*PcP		**PcP**	**00 08 36.0**	**+1.7**
KSH					*e*S		**S**	**00 12 03.0**	**-1.6**
KSH					*e*ScP		**ScP**	**00 12 18.5**	**+1.1**
KSH					*e*PcS		**PcS**	**00 12 23.0**	**-0.1**
KSH					*e*sS		**sS**	**00 12 25.0**	**-2.1**
KSH					*e*SS		SS	00 14 40.0	-11
KSH					*e*ScS		**ScS**	**00 16 25.5**	**-0.8**
KSH					pmax		pmax		
	comp=Z,2.0nm,0.3s								
KSH					pmax		pmax		
	comp=Z,90nm,5.6s								
KSH					LR		LR		
	comp=N,180nm,7.2s								
KSH					LR		LR		
	comp=E,190nm,7.7s								
KSH					LR		LR		
	comp=Z,96nm,6.1s								
KURK	**Kurchatov**	**38.93**	**51**		P		**P**	**00 06 28.6**	**+0.6**
	comp=Z,4.1nm,0.6s,baz=274,slow=8.8,SNR=14								
KURK					PP		PP	00 07 58.3	+0.5
	comp=Z,5.1nm,0.9s,baz=273,slow=11,SNR=5.9								
KURK					LR		LR	00 24 41.1	
	comp=Z,93nm,20.6s,baz=5.0,slow=40								
KURK	**Kurchatov**	**38.93**	**51**		P		**P**	**00 06 28.6**	**+0.6**
KURK								00 07 58.3	
KURK					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KURK					pmax		pmax		
	comp=Z,5.0nm,0.9s								
KURK					MLR		MLR		
	comp=Z,93nm,20.6s								
KURK	**Kurchatov**	**38.93**	**51**		P		**P**	**00 06 28.6**	**+0.6**
KURK					PP		PP	00 07 58.3	+0.5
KURK	**Kurchatov**	**38.93**	**51**		P		**P**	**00 06 28.6**	**+0.6**
JMIC	**Jan Mayen**	**40.35**	**342**		P		**P**	**00 06 38.1**	**-1.5**
	comp=Z,46nm,0.4s,baz=182,slow=20,SNR=2.8								
JMIC	**Jan Mayen**	**40.35**	**342**		P		**P**	**00 06 38.1**	**-1.5**
JMIC	**Jan Mayen**	**40.35**	**342**		P		**P**	**00 06 38.1**	**-1.5**
BORG	**Borgarnes**	**41.34**	**330**		P		**P**	**00 06 46.9**	**-0.9**
	comp=Z,8.1nm,0.8s,baz=345,slow=7.2,SNR=4.1								
BORG	**Borgarnes**	**41.34**	**330**		P		**P**	**00 06 46.9**	**-0.9**
BORG					pmax		pmax		
	comp=Z,8.0nm,0.8s								
BORG	**Borgarnes**	**41.34**	**330**		P		**P**	**00 06 46.9**	**-0.9**
BORG	**Borgarnes**	**41.34**	**330**		P		**P**	**00 06 46.9**	**-0.9**
MKAR	**Makanchi Array**	**41.41**	**57**		P		**P**	**00 06 49.7**	**+1.0**
	comp=Z,3.2nm,0.5s,baz=270,slow=7.8,SNR=16								
MKAR	**Makanchi Array**	**41.41**	**57**	*i*	P		**P**	**00 06 49.7**	**+1.0**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.5s								
MKAR	**Makanchi Array**	**41.41**	**57**		P		**P**	**00 06 49.7**	**+1.0**
MKAR	**Makanchi Array**	**41.41**	**57**		P		**P**	**00 06 49.7**	**+1.0**
DBIC	**Dimbokro**	**41.86**	**234**		P		**P**	**00 06 52.5**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=33,slow=8.0,SNR=23								
DBIC	**Dimbokro**	**41.86**	**234**		P		**P**	**00 06 52.5**	**-0.1**
DBIC					pmax		pmax		
	comp=Z,2.0nm,0.3s								
DBIC	**Dimbokro**	**41.86**	**234**		P		**P**	**00 06 52.5**	**-0.1**
DBIC	**Dimbokro**	**41.86**	**234**		P		**P**	**00 06 52.5**	**-0.1**
NVS	**Novosibirsk**	**41.97**	**45**	*e*	P		**P**	**00 06 50.4**	**-2.7**
LIC	**Lamto**	**42.30**	**234**	*e*	P		**P**	**00 06 55.8**	**-0.5**
	comp=Z,21nm,0.9s								
LIC					*e*R				
	comp=Z,112nm,21.5s								
LIC	**Lamto**	**42.30**	**234**	*e*	P		**P**	**00 06 55.8**	**-0.5**
	comp=Z,10nm,0.9s								
ZALV	**Zalesovo Beam**	**42.86**	**47**		P		**P**	**00 07 00.7**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=269,slow=7.6,SNR=6.4								
ZALV	**Zalesovo Beam**	**42.86**	**47**		P		**P**	**00 07 00.7**	**+0.4**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**42.86**	**47**		P		**P**	**00 07 00.7**	**+0.4**
ZALV	**Zalesovo Beam**	**42.86**	**47**		P		**P**	**00 07 00.7**	**+0.4**
SPITS	**Spitsbergen Ar**	**42.94**	**356**		P		**P**	**00 07 00.5**	**-0.3**
	comp=Z,13nm,0.9s,baz=163,slow=14,SNR=9.8								
SPITS	**Spitsbergen Ar**	**42.94**	**356**		P		**P**	**00 07 00.5**	**-0.3**
SPITS					pmax		pmax		
	comp=Z,13nm,0.9s								
SPITS	**Spitsbergen Ar**	**42.94**	**356**		P		**P**	**00 07 00.5**	**-0.3**
SPITS	**Spitsbergen Ar**	**42.94**	**356**		P		**P**	**00 07 00.4**	**-0.3**
SCO	**Scoresbysund**	**43.80**	**338**	*i*	P		**P**	**00 07 08.0**	**+0.3**
	comp=Z,10nm,0.8s								
WMQ	**Urumqi**	**45.59**	**61**	*e*	P		**P**	**00 07 23.8**	**+1.4**
WMQ					pP		**pP**	**00 07 36.8**	**+0.7**
WMQ					sP		**sP**	**00 07 42.8**	**+0.8**
WMQ					pmax		pmax		
	comp=Z,9.0nm,0.8s								
WMQ					LR		LR		
	comp=N,150nm,19.6s								
WMQ					LR		LR		
	comp=Z,130nm,23.0s								
SUMG	**Summit**	**49.43**	**339**	*i*	P		**P**	**00 07 51.6**	**-0.6**
	comp=Z,15nm,0.9s								
SFJD	**Kangerlussuaq**	**53.46**	**331**		P		**P**	**00 08 20.8**	**-1.1**
	comp=Z,4.1nm,0.5s,baz=87,slow=8.0,SNR=3.5								
SFJD	**Kangerlussuaq**	**53.46**	**331**		P		**P**	**00 08 20.8**	**-1.1**
SFJD					pmax		pmax		
	comp=Z,4.0nm,0.5s								
SFJD	**Kangerlussuaq**	**53.46**	**331**		P		**P**	**00 08 20.8**	**-1.1**
SFJD	**Kangerlussuaq**	**53.46**	**331**		P		**P**	**00 08 20.8**	**-1.1**
TLY	**Talaya**	**54.43**	**48**	*e*	P		**pP**	**00 08 47.2**	**+4.0**
TLY					pmax		pmax		
	comp=Z,4.0nm,1.0s								
ZAK	**Zakamensk**	**54.54**	**49**	*e*	P		**P**	**00 08 31.9**	**+1.7**
ZAK				*e*				00 08 48.0	
ZAK					pmax		pmax		
	comp=Z,2.0nm,0.9s								
GTA	**Gaotai**	**55.52**	**63**	*e*	P		**P**	**00 08 39.0**	**+1.6**
GTA					pP		**pP**	**00 08 51.8**	**+0.4**
GTA					sP		**sP**	**00 08 57.5**	**+0.2**
GTA					S		**S**	**00 16 23.0**	**+3.9**
GTA					sS		**sS**	**00 16 42.8**	**+0.2**
GTA					SS		SS	00 20 08.0	+3.8
GTA					pmax		pmax		
	comp=Z,2.0nm,1.6s								
GTA					pmax		pmax		
	comp=Z,120nm,6.9s								
GTA					LR		LR		
	comp=N,110nm,14.7s								
GTA					LR		LR		
	comp=E,96nm,17.1s								
GTA					LR		LR		
	comp=Z,170nm,17.1s								
SONM	**Songino Array**	**57.23**	**52**		P		**P**	**00 08 51.4**	**+1.9**
	comp=Z,2.8nm,0.5s,baz=287,slow=7.8,SNR=41								
SONM					LR		LR	00 35 44.6	
	comp=Z,152nm,18.2s,baz=279,slow=38								
SONM	**Songino Array**	**57.23**	**52**		P		**P**	**00 08 51.4**	**+1.9**
SONM					pmax		pmax		
	comp=Z,3.0nm,0.5s								
SONM					MLR		MLR		
	comp=Z,152nm,18.2s								
SONM	**Songino Array**	**57.23**	**52**		P		**P**	**00 08 51.4**	**+1.9**
BOD	**Bodaibo**	**58.52**	**39**	*e*	P		**P**	**00 08 57.9**	**-0.3**
BOD					pmax		pmax		
	comp=Z,7.0nm,0.8s								
LZH	**Lanzhou**	**59.73**	**65**	*e*	P		**P**	**00 09 08.8**	**+1.7**
LZH					pmax		pmax		
	comp=Z,16nm,1.5s								
LBTB	**Lobatse**	**60.38**	**183**		P		**P**	**00 09 13.7**	**+2.2**
	comp=Z,3.9nm,0.7s,baz=13,slow=6.3,SNR=11								
LBTB	**Lobatse**	**60.38**	**183**		P		**P**	**00 09 13.7**	**+2.2**
LBTB					pmax		pmax		
	comp=Z,4.0nm,0.7s								
LBTB	**Lobatse**	**60.38**	**183**		P		**P**	**00 09 13.7**	**+2.2**
FRB	**Frobisher Bay**	**61.51**	**330**		P		**P**	**00 09 17.5**	**-1.1**
	comp=Z,9.6nm,0.7s,baz=66,slow=7.1,SNR=18								
FRB	**Frobisher Bay**	**61.51**	**330**		P		**P**	**00 09 17.5**	**-1.1**
FRB					pmax		pmax		
	comp=Z,10.0nm,0.7s								
FRB	**Frobisher Bay**	**61.51**	**330**		P		**P**	**00 09 17.5**	**-1.1**
FRB	**Frobisher Bay**	**61.51**	**330**		P		**P**	**00 09 17.5**	**-1.1**
CD2	**Chengdu**	**61.87**	**71**		P		**P**	**00 09 23.0**	**+1.4**
CD2					pP		**pP**	**00 09 36.8**	**+1.0**
CD2					sP		**sP**	**00 09 42.5**	**+0.9**
CD2					PP		**PP**	**00 11 41.5**	**+3.5**
CD2					S		**S**	**00 17 40.8**	**-0.9**
CD2					sS		**sS**	**00 18 04.0**	**-1.5**
CD2					SS		**SS**	**00 21 44.5**	**+0.4**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,100nm,4.8s								
CD2					LR		LR		
	comp=N,190nm,6.5s								
CD2					LR		LR		
	comp=Z,150nm,5.3s								
HHC	**Hu-ho-hao-te**	**63.27**	**58**	*e*	P		**P**	**00 09 31.8**	**+0.9**
HHC					sP		**sP**	**00 09 51.3**	**+0.3**
HHC					PcP		**PcP**	**00 10 08.3**	**+0.5**
HHC					PP		**PP**	**00 11 52.5**	**+2.3**
HHC					ScP			00 14 05.5	
HHC					PcS			00 14 11.5	
HHC					S		**S**	**00 17 58.3**	**-0.9**
HHC					sS		**sS**	**00 18 21.3**	**-1.7**
HHC					ScS		**SKKSac**	**00 19 16.5**	**-3.2**
HHC					SS		**SS**	**00 22 07.3**	**+1.6**
HHC					pmax		pmax		
	comp=Z,9.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,180nm,6.9s								
HHC					LR		LR		
	comp=N,140nm,16.8s								
HHC					LR		LR		
	comp=E,170nm,17.4s								
HHC					LR		LR		
	comp=Z,110nm,16.4s								
RES	**Resolute Bay**	**63.83**	**346**		P		**P**	**00 09 35.0**	**+1.2**
	comp=Z,0.8nm,0.7s								
RES	**Resolute Bay**	**63.83**	**346**		P		**P**	**00 09 35.1**	**+1.2**
RES					pmax		pmax		
	comp=Z,1.0nm,0.7s								
RES	**Resolute Bay**	**63.83**	**346**		P		**P**	**00 09 35.0**	**+1.2**
RES	**Resolute Bay**	**63.83**	**346**		P		**P**	**00 09 35.0**	**+1.2**
BOSA	**Boshof**	**63.98**	**183**		P		**P**	**00 09 37.2**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=12,slow=6.1,SNR=6.1								
BOSA	**Boshof**	**63.98**	**183**		P		**P**	**00 09 37.2**	**+1.7**
BOSA					pmax		pmax		
	comp=Z,4.0nm,0.8s								
BOSA	**Boshof**	**63.98**	**183**		P		**P**	**00 09 37.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**64.03**	**85**		P		**P**	**00 09 36.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=296,slow=8.3,SNR=6.9								
CMAR	**Chiang Mai Arr**	**64.03**	**85**		P		**P**	**00 09 36.9**	**+0.8**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**64.03**	**85**		P		**P**	**00 09 36.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**64.03**	**85**		P		**P**	**00 09 36.8**	**+0.8**
SCHQ	**Schefferville**	**64.43**	**320**		P		**P**	**00 09 37.4**	**-0.7**
	comp=Z,12nm,0.7s,baz=68,slow=5.8,SNR=30								
SCHQ	**Schefferville**	**64.43**	**320**		P		**P**	**00 09 37.4**	**-0.7**
SCHQ	**Schefferville**	**64.43**	**320**		P		**P**	**00 09 37.4**	**-0.7**
GYA	**Guiyang**	**66.20**	**74**		P		**P**	**00 09 51.0**	**+0.8**
GYA					pP		**pP**	**00 10 04.8**	**+0.2**
GYA					sP		**sP**	**00 10 11.3**	**+1.0**
GYA					PP		**PP**	**00 12 19.5**	**+3.2**
GYA					ScP			00 14 17.5	
GYA					S		**S**	**00 18 34.0**	**-1.7**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
BJI	**Beijing**	**66.79**	**57**		P		**P**	**00 09 53.5**	**0.0**
BJI					pmax		pmax		
	comp=Z,9.0nm,0.7s								
CN2	**Changchun**	**70.97**	**49**	*e*	P		**P**	**00 10 20.8**	**+1.3**
USRK	**Ussuriysk Arra**	**74.72**	**46**		P		**P**	**00 10 42.3**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=310,slow=4.0,SNR=7.9								
INK	**Inuvik**	**75.46**	**353**		P		**P**	**00 10 45.1**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=25,slow=7.8,SNR=4.8								
INK	**Inuvik**	**75.46**	**353**		P		**P**	**00 10 45.1**	**-0.4**
INK					pmax		pmax		
	comp=Z,2.0nm,0.7s								
INK	**Inuvik**	**75.46**	**353**		P		**P**	**00 10 45.1**	**-0.4**
INK	**Inuvik**	**75.46**	**353**		P		**P**	**00 10 45.1**	**-0.4**
KSAR	**Wonju Array Be**	**75.97**	**54**		P		**P**	**00 10 50.7**	**+1.7**
KSAR	**Wonju Array Be**	**75.97**	**54**		P		**P**	**00 10 50.7**	**+1.7**
KSRS	**Korea Array**	**75.98**	**54**		P		**P**	**00 10 50.7**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=297,slow=4.6,SNR=4.3								
KSRS	**Korea Array**	**75.98**	**54**		P		**P**	**00 10 50.7**	**+1.6**
KSRS					pmax		pmax		
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**77.73**	**343**		P		**P**	**00 10 57.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=30,slow=5.3,SNR=21								
YKA	**Yellowknife Ar**	**77.73**	**343**		P		**P**	**00 10 57.6**	**-0.8**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**77.73**	**343**		P		**P**	**00 10 57.6**	**-0.8**
YKA	**Yellowknife Ar**	**77.73**	**343**		P		**P**	**00 10 57.6**	**-0.8**
ILAR	**Eielson Array**	**79.84**	**358**		P		**P**	**00 11 10.8**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=352,slow=3.8,SNR=15								
ILAR	**Eielson Array**	**79.84**	**358**		P		**P**	**00 11 10.8**	**+0.8**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**79.84**	**358**		P		**P**	**00 11 10.8**	**+0.8**
ILAR	**Eielson Array**	**79.84**	**358**		P		**P**	**00 11 10.8**	**+0.8**
FFC	**Flin Flon**	**80.35**	**333**	*i*	P		**P**	**00 11 13.1**	**+0.2**
ULM	**Lac du Bonnet**	**81.27**	**327**		P		**P**	**00 11 17.1**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=90,slow=4.3,SNR=4.8								
ULM	**Lac du Bonnet**	**81.27**	**327**		P		**P**	**00 11 17.1**	**-0.8**
ULM					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ULM	**Lac du Bonnet**	**81.27**	**327**		P		**P**	**00 11 17.1**	**-0.8**
ULM	**Lac du Bonnet**	**81.27**	**327**		P		**P**	**00 11 17.1**	**-0.8**
PDAR	**Pinedale Array**	**92.96**	**330**		P		**P**	**00 12 14.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=52,slow=6.0,SNR=2.5								
PDAR	**Pinedale Array**	**92.96**	**330**		P		**P**	**00 12 14.7**	**-0.8**
PDAR	**Pinedale Array**	**92.96**	**330**		P		**P**	**00 12 14.6**	**-0.8**

NIED ***29*** *00:05:00.0, 35.70N× 140.70E, h62km, Mw4.3 Best double couple: M0 2.87000× 10^15 NP1:φs 359.00000°, δ 72.00000°, λ 92.00000°. NP2:φs 173.00000°, δ 18.00000°, λ 84.00000°.*

IDC ***29*** *00:05:46.9± 1.0, 35.57N× 140.69E, h27km± 5km, mb3.7/22, mb1 3.9/27, mb1mx3.9/35, mbtmpg3.8/27, ML3.7/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/32, Error ellipse: s-maj=17.7km s-min=15.9km az=33.0*

ISCJB ***29*** *00:05:48.0± 0.4, 35.72N± 0.03× 140.66E± 0.06, h45km, mb4.2/33, MS2.5/1, Error ellipse: s-maj=6.6km s-min=4.9km az=179.0*

NEIC ***29*** *00:05:49.0± 0.8, 35.56N× 140.64E, h48km± 7km, mb4.5/6, MW4.2(NIED), Error ellipse: s-maj=8.3km s-min=7.8km az=152.0*

JMA ***29*** *00:05:49.0± 0.1, 35.65N× 140.66E, h50km± 1km, M4.0 Broadband fault plane solution: P waves. NP1: φs 9.00000°, δ 79.00000°, λ 81.00000°. NP2:φs 228.00000°, δ 14.00000°, λ 129.00000°. Principal axes: T Plg55.0000°, Azm268.0000°; N Plg8.0000°, Azm10.0000°; P Plg34.0000°, Azm106.0000°;*

JMA Felt II J1.

ISC 29 00:05:49.0± 0.5, 35.67N± 0.05× 140.65E± 0.05, h45km, h44km:pP-P, n87, σ1 9 50/99, mb4.1/33, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**78**	↑	P	**Pn**		**00 05 57.1**	**+0.5**
CHOJ					S	**Sn**		**00 06 03.3**	**+1.4**
JCN	**Nagara**	**0.44**	**236**		P	**Pn**		**00 06 00.2**	**+1.0**
JCN					S	**Sn**		**00 06 08.6**	**+2.1**
JYT	**Yasato**	**0.67**	**327**	↓	P	**Pn**		**00 06 02.6**	**+0.5**
JYT					*e*S	**Sn**		**00 06 12.5**	**+0.9**
BSO4	**Boso 4**	**0.72**	**201**		P	**Pn**		**00 06 03.1**	**+0.4**
BSO3	**Boso 3**	**0.87**	**188**		P	**Pn**		**00 06 04.6**	**0.0**
BSO3					*e*S	**Sn**		**00 06 16.9**	**+0.9**
BSO2	**Boso 2**	**0.92**	**175**	*e*	S	**Sn**		**00 06 21.4**	**+4.3**
BSO1	**Boso 1**	**1.05**	**165**		P	**Pn**		**00 06 07.2**	**+0.5**
JAG	**Ashikaga**	**1.23**	**308**		P	**Pn**		**00 06 10.2**	**+0.5**
JOD2	**Odawara 2**	**1.34**	**253**	↓	P	**Pn**		**00 06 11.6**	**+0.4**
JIM2	**Oshima 3**	**1.38**	**227**		P	**Pn**		**00 06 11.1**	**-0.7**
MJAR	**Matsushiro Arr**	**2.16**	**295**		Pn	**Pn**		**00 06 22.9**	**+0.4**
	37nm,0.3s,baz=105,slow=14,SNR=112								
MJAR	**Matsushiro Arr**	**2.16**	**295**		Pn	**Pn**		**00 06 22.9**	**+0.4**
MAT	**Matsushiro**	**2.16**	**295**		P	**Pn**		**00 06 24.7**	**+2.2**
MAT					*e*S	**Sn**		**00 06 52.3**	**+4.1**
JNU	**Nakatsue**	**8.47**	**255**		Pn	**Pn**		**00 07 51.0**	**+1.9**
	0.1nm,0.3s,baz=88,slow=13,SNR=2.2								
JNU	**Nakatsue**	**8.47**	**255**		Pn	**Pn**		**00 07 51.0**	**+1.9**
ASAJ	**Asahikawa**	**8.57**	**9**	*e*	Pn	**Pn**		**00 07 50.2**	**-0.2**
	0.8nm,0.3s,baz=37,slow=20,SNR=3.9								
ASAJ	**Asahikawa**	**8.57**	**9**	*e*	Pn	**Pn**		**00 07 50.8**	**+0.4**
ASAJ					*e*Sn	Sn		00 09 19.2	-6.4
CBIJ	**Chichi jima**	**8.64**	**171**		Pn	**Pn**		**00 07 49.3**	**-2.2**
	16nm,0.3s,baz=352,slow=14,SNR=5.4								
CBIJ	**Chichi jima**	**8.64**	**171**		Pn	**Pn**		**00 07 49.3**	**-2.2**
KSRS	**Korea Array**	**10.39**	**284**		Pn	**Pn**		**00 08 16.4**	**+1.0**
	baz=97,slow=14,SNR=3.9								
KSRS					LR	LR		00 12 23.3	
	comp=Z,88nm,19.3s,baz=153,slow=38								
KSAR	**Wonju Array Be**	**10.42**	**284**		Pn	**Pn**		**00 08 16.4**	**+0.6**
USRK	**Ussuriysk Arra**	**10.80**	**325**		Pn	**Pn**		**00 08 21.7**	**+0.9**
	0.2nm,0.3s,baz=128,slow=13,SNR=4.2								
USRK					LR	LR		00 12 08.6	
	comp=Z,87nm,20.4s,baz=303,slow=35								
PETK	**Petropavlovsk-comp=Z,22nm,21.1s,baz=296,slow=36**	**21.18**	**29**		LR	LR		00 18 30.1	
ENH	**Enshi**	**26.63**	**267**	*e*	P		**P**	**00 11 21.6**	**-1.8**
	9.5nm,0.7s								
SONM	**Songino Array**	**28.07**	**306**		P		**P**	**00 11 36.2**	**0.0**
	1.3nm,0.6s,baz=108,slow=9.0,SNR=6.4								
SONM					pP		**pP**	**00 11 45.3**	**-2.8**
	1.1nm,0.6s,baz=107,slow=9.1,SNR=5.1								
SONM	**Songino Array**	**28.07**	**306**		P		**P**	**00 11 36.2**	**0.0**
SONM					pP		**pP**	**00 11 45.3**	**-2.8**
LSA	**Lhasa**	**41.73**	**276**	*e*	P		**P**	**00 13 33.3**	**-0.9**
	2.5nm,0.4s								
ZALV	**Zalesovo Beam**	**42.39**	**313**		P		**P**	**00 13 39.3**	**+0.6**
	1.4nm,0.6s,baz=84,slow=5.9,SNR=8.4								
ZALV					pP		**pP**	**00 13 47.0**	**-4.1**
	1.7nm,0.6s,baz=75,slow=6.3,SNR=4.7								
ZALV	**Zalesovo Beam**	**42.39**	**313**		P		**P**	**00 13 39.3**	**+0.6**
ZALV					pP		**pP**	**00 13 47.0**	**-4.1**
MK31	**Makanchi Array**	**44.34**	**303**	*e*	P		**P**	**00 13 54.4**	**-0.1**
MKAR	**Makanchi Array**	**44.34**	**303**		P		**P**	**00 13 55.2**	**+0.7**
	1.6nm,0.7s,baz=85,slow=9.6,SNR=18								
MKAR					pP		**pP**	**00 14 03.5**	**-3.5**
	1.8nm,0.7s,baz=80,slow=8.1,SNR=7.6								
MKAR	**Makanchi Array**	**44.34**	**303**		P		**P**	**00 13 55.2**	**+0.7**
MKAR					pP		**pP**	**00 14 03.5**	**-3.5**
TAPN	**Taplejung**	**45.43**	**275**	*e*	P		**P**	**00 14 03.3**	**-0.6**
	4.1nm,0.3s								
TAPN	**Taplejung**	**45.43**	**275**	*e*	P		**P**	**00 14 03.3**	**-0.6**
	4.1nm,0.3s								
ODAN	**Odare**	**45.90**	**274**	*e*	P		**P**	**00 14 05.1**	**-2.3**
	13nm,0.8s								
ODAN	**Odare**	**45.90**	**274**	*e*	P		**P**	**00 14 05.1**	**-2.3**
	13nm,0.8s								
KURK	**Kurchatov**	**46.30**	**309**		P		**P**	**00 14 10.8**	**+0.8**
	3.6nm,0.7s,baz=83,slow=8.4,SNR=20								
KURK					pP		**pP**	**00 14 19.0**	**-3.4**
	3.6nm,0.6s,baz=82,slow=7.6,SNR=6.7								
KURK	**Kurchatov**	**46.30**	**309**	*e*	P		**P**	**00 14 10.2**	**+0.2**
	5.3nm,0.7s								
KURK					pP		**pP**	**00 14 19.0**	**-3.4**
JIRN	**Jiri**	**46.54**	**276**	*e*	P		**P**	**00 14 12.9**	**+0.2**
	9.5nm,0.4s								
JIRN	**Jiri**	**46.54**	**276**	*e*	P		**P**	**00 14 12.9**	**+0.2**
	9.5nm,0.4s								
GUN	**Gumba**	**46.69**	**277**	*e*	P		**P**	**00 14 14.3**	**+0.5**
	5.1nm,0.4s								
GUN	**Gumba**	**46.69**	**277**	*e*	P		**P**	**00 14 14.3**	**+0.5**
	5.1nm,0.4s								
GKN	**Gorkha**	**47.66**	**277**	*e*	P		**P**	**00 14 21.3**	**+0.2**
	11nm,0.5s								
GKN	**Gorkha**	**47.66**	**277**	*e*	P		**P**	**00 14 21.3**	**+0.2**
	11nm,0.5s								
DANN	**Dangsing**	**48.22**	**278**	*e*	P		**P**	**00 14 26.4**	**+0.7**
	17nm,0.5s								
DANN	**Dangsing**	**48.22**	**278**	*e*	P		**P**	**00 14 26.4**	**+0.7**
	17nm,0.5s								
**

KURK Kurchatov 72.33 329 P P 00 19 05.4 0.0
0.3nm,0.5s,baz=123,slow=5.2,SNR=4.5

*ISCJB **29** 00:08:39.3±0.6,34°.05N±0°.02×59°.88E±0°.05, h6km±5km, mb3.6/10,MS3.9/1,Error ellipse: s-maj=6.7km s-min=3.3km az=11.4*
*THR **29** 00:08:39.8±0.3,34°.18N×59°.93E, h18km±7km, ML3.8*
*IDC **29** 00:08:39.6±2.4,34°.00N×59°.77E, h0km, mb3.5/10, mb1 3.7/12,mb1mx3.5/30,mbtmp3.6/12,ML3.4/2,MS3.5/2, Ms1 3.5/2,ms1mx2.8/37,Error ellipse: s-maj=48.7km s-min=20.7km az=158.0*
*CSEM **29** 00:08:40.7±0.2,34°.02N×59°.87E, h2km, ML3.8,Error ellipse: s-maj=4.8km s-min=2.6km az=89.0*
*TEH **29** 00:08:41.6,33°.99N×60°.00E, h12km, ML3.8*
ISC 29 00:08:40.7±1.2,34°.02N±0°.02×59°.89E±0°.05, h9km±9km, n77, σ0s96/89, mb3.5/10, 4D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.50**	**138**	*e*Pg	**Pb**	**00 08 51.7**	**-0.1**
SHRT				AML	AML	00 09 00.2	
	comp=E,11μm,0.3s						
SHRT	**Shahrakht**	**0.50**	**138**	*e*Pg	**Pb**	**00 08 51.7**	**-0.1**
IMON	**Monand**	**0.85**	**193**	*e*Pg	**Pg**	**00 08 56.8**	**-0.3**
IMON				*e*		00 09 03.1	
	comp=Z,62μm,0.1s						
IMON				*e*Sg	**Sg**	**00 09 08.6**	**+0.5**
IMON	**Monand**	**0.85**	**193**	*e*Pg	**Pg**	**00 08 56.8**	**-0.3**
IMON				*e*Sg	**Sg**	**00 09 08.6**	**+0.5**
IDAH	**Dahanechah**	**1.28**	**181**	*e*Sg	**Sg**	**00 09 22.5**	**+0.6**
IDAH				*e*Pg	**Pn**	**00 09 03.8**	**-1.2**
IDAH				*e*		00 09 27.2	
	comp=Z,15μm,0.1s						
ITEG	**Tejag**	**1.47**	**221**	*e*Sg	**Sg**	**00 09 29.0**	**+0.9**
ITEG				*e*Pn	**Pn**	**00 09 07.8**	**+0.2**
ITEG				*e*		00 09 31.2	
	comp=Z,19μm,0.2s						
IKOO	**Kooshah**	**1.76**	**205**	*e*Pn	**Pn**	**00 09 12.1**	**+0.5**
IKOO				*e*		00 09 20.0	
	comp=Z,5μm,0.1s						
IKOO				*e*Sg	**Sg**	**00 09 37.5**	**+0.2**
IKOO	**Kooshah**	**1.76**	**205**	*e*Pn	**Pn**	**00 09 12.1**	**+0.5**
IKOO				*e*Sg	**Sg**	**00 09 37.5**	**+0.2**
ISRO	**Mashad**	**2.31**	**352**	*e*Pn	**Pn**	**00 09 20.2**	**+1.2**
ISRO				*e*Sg	**Sg**	**00 09 54.5**	**-0.4**
ISRO	**Mashad**	**2.31**	**352**	*e*Pn	**Pn**	**00 09 20.2**	**+1.2**
ISRO				*e*Sg	**Sg**	**00 09 54.5**	**-0.4**
MHI	**Mashad**	**2.31**	**352**	*e*Pn	**Pn**	**00 09 20.0**	**+1.0**
MHI				*e*Sg	**Sg**	**00 09 55.4**	**+0.5**
MHI				*e*		00 09 56.8	
	comp=Z,4μm,0.2s						
IMYA	**Miami**	**2.32**	**4**	*e*Pn	**Pn**	**00 09 20.0**	**+0.7**
IMYA				*e*Sg	**Sg**	**00 09 54.7**	**-0.6**
IMYA				*e*		00 09 56.1	
	comp=Z,10μm,0.3s						
IMYA	**Miami**	**2.32**	**4**	*e*Pn	**Pn**	**00 09 20.0**	**+0.7**
IMYA				*e*Sg	**Sg**	**00 09 54.7**	**-0.6**
TABS	**Tabas**	**2.34**	**262**	*e*Pn	**Pn**	**00 09 20.1**	**+0.7**
TABS				AML	AML	00 09 57.5	
	comp=N,335nm,0.4s						
TABS	**Tabas**	**2.34**	**262**	*e*Pn	**Pn**	**00 09 20.1**	**+0.7**
IPAY	**Payeh**	**2.53**	**343**	*e*Pn	**Pn**	**00 09 23.4**	**+1.2**
IPAY				*e*		00 10 05.7	
	comp=Z,3μm,0.1s						
IPAY	**Payeh**	**2.53**	**343**	*e*Pn	**Pn**	**00 09 23.4**	**+1.2**
IKRD	**Kardeh**	**2.97**	**338**	*e*Pn	**Pn**	**00 09 26.3**	**-2.0**
IKRD				*e*		00 09 37.2	
	comp=Z,2μm,0.3s						
IKRD	**Kardeh**	**2.97**	**338**	*e*Pn	**Pn**	**00 09 26.3**	**-2.0**
ISFR	**Sfrayin**	**3.40**	**334**	*e*Pn	**Pn**	**00 09 35.0**	**+0.9**
ISFR				*e*		00 10 48.1	
	comp=Z,1μm,0.2s						
IBAF	**Bafgh**	**4.37**	**238**	*e*Pn	**Pn**	**00 09 48.2**	**+0.7**
IBAF				*e*		00 10 07.7	
	comp=Z,517nm,0.2s						
IBAF	**Bafgh**	**4.37**	**238**	*e*Pn	**Pn**	**00 09 48.2**	**+0.7**
KRBR	**Kerman**	**4.83**	**214**	*e*Pn	**Pn**	**00 09 56.1**	**+2.3**
KRBR				*e*Sg	**Sg**	**00 11 14.0**	**-1.7**
KRBR				AML	AML	00 11 29.2	
	comp=N,39nm,0.8s						
KRBR	**Kerman**	**4.83**	**214**	*e*Pn	**Pn**	**00 09 56.1**	**+2.3**
KRBR				*e*Sg	**Sg**	**00 11 14.0**	**-1.7**
ICHK	**Chekchek**	**4.93**	**250**	*e*Pn	**Pn**	**00 09 55.7**	**+0.5**
ICHK				*e*		00 11 27.8	
	comp=Z,917nm,0.3s						
ICHK	**Chekchek**	**4.93**	**250**	*e*Pn	**Pn**	**00 09 55.7**	**+0.5**
IANJ	**Anjilo**	**5.13**	**288**	*e*Pn	**Pn**	**00 09 58.5**	**+0.6**
IANJ				*e*		00 11 28.8	
	comp=Z,694nm,0.3s						
IANJ	**Anjilo**	**5.13**	**288**	*e*Pn	**Pn**	**00 09 58.5**	**+0.6**
IMEH	**Mehriz**	**5.17**	**241**	*e*Pn	**Pn**	**00 09 58.0**	**-0.4**
IMEH				*e*		00 11 32.1	
	comp=Z,406nm,0.4s						
IMEH	**Mehriz**	**5.17**	**241**	*e*Pn	**Pn**	**00 09 58.0**	**-0.4**
IKIA	**Kiasar**	**5.53**	**295**	*e*Pn	**Pn**	**00 10 04.5**	**+1.0**
IKIA				*e*		00 11 42.0	
	comp=Z,292nm,0.3s						
IKIA	**Kiasar**	**5.53**	**295**	*e*Pn	**Pn**	**00 10 04.5**	**+1.0**
IGLO	**Ghaloghah**	**5.54**	**298**	*e*		00 10 07.0	
	comp=Z,1μm,0.3s						
IGLO				*e*Pn	**Pn**	**00 10 06.1**	**+2.5**
ISAD	**Sadrabad**	**5.62**	**250**	*e*Pn	**Pn**	**00 10 05.3**	**+0.5**
ISAD	**Sadrabad**	**5.62**	**250**	*e*Pn	**Pn**	**00 10 05.3**	**+0.5**
ISHM	**Shahmirzad**	**5.71**	**290**	*e*Pn	**Pn**	**00 10 06.6**	**+0.7**
ISHM				*e*		00 11 13.9	
	comp=Z,1μm,0.2s						
ISHM	**Shahmirzad**	**5.71**	**290**	*e*Pn	**Pn**	**00 10 06.6**	**+0.7**
ILAS	**Lasjerd**	**5.87**	**285**	*e*Pn	**Pn**	**00 10 09.3**	**+1.2**
ILAS				*e*		00 12 02.0	
	comp=Z,536nm,0.4s						
ILAS	**Lasjerd**	**5.87**	**285**	*e*Pn	**Pn**	**00 10 09.3**	**+1.2**
NASN	**Na'in**	**6.05**	**260**	*e*Pn	**Pn**	**00 10 11.9**	**+1.3**
NASN	**Na'in**	**6.05**	**260**	*e*Pn	**Pn**	**00 10 11.9**	**+1.3**
IFIR	**Firoozkooh**	**6.09**	**287**	*e*Pn	**Pn**	**00 10 11.5**	**+0.4**
IFIR				*e*		00 10 15.4	
	comp=Z,377nm,0.1s						
IFIR	**Firoozkooh**	**6.09**	**287**	*e*Pn	**Pn**	**00 10 11.5**	**+0.4**
IALA	**Alasht**	**6.16**	**291**	*e*Pn	**Pn**	**00 10 13.3**	**+1.1**
IALA				*e*		00 10 15.4	
	comp=Z,308nm,0.1s						
IALA	**Alasht**	**6.16**	**291**	*e*Pn	**Pn**	**00 10 13.3**	**+1.1**
IZEF	**Zefreh**	**6.42**	**262**	*e*Pn	**Pn**	**00 10 16.2**	**+0.5**
IZEF				*e*		00 12 21.1	
	comp=Z,126nm,0.4s						
IZEF	**Zefreh**	**6.42**	**262**	*e*Pn	**Pn**	**00 10 16.2**	**+0.5**
IPRN	**Peran**	**6.57**	**292**	*e*Pn	**Pn**	**00 10 19.6**	**+1.9**
IPRN				*e*		00 10 21.8	
	comp=Z,683nm,0.1s						
DAMV	**Damavand**	**6.71**	**286**	*e*Pn	**Pn**	**00 10 20.1**	**+0.4**
DAMV	**Damavand**	**6.71**	**286**	*e*Pn	**Pn**	**00 10 20.1**	**+0.4**
IKLH	**Kolahrood**	**6.96**	**267**	*e*Pn	**Pn**	**00 10 23.7**	**+0.5**
IKLH	**Kolahrood**	**6.96**	**267**	*e*Pn	**Pn**	**00 10 23.7**	**+0.5**
TEH	**Tehran**	**7.20**	**286**	*e*Pn	**Pn**	**00 10 27.1**	**+0.8**
TEH	**Tehran**	**7.20**	**286**	*e*Pn	**Pn**	**00 10 27.1**	**+0.8**
IPIR	**Pirpir**	**7.65**	**262**	*e*Pn	**Pn**	**00 10 33.9**	**+1.3**
IPIR				*e*		00 13 13.0	
	comp=Z,60nm,0.3s						
IPIR	**Pirpir**	**7.65**	**262**	*e*Pn	**Pn**	**00 10 33.9**	**+1.3**
ASAO	**Ashtian**	**8.18**	**276**	*e*Pn	**Pn**	**00 10 40.5**	**+0.6**
ASAO	**Ashtian**	**8.18**	**276**	*e*Pn	**Pn**	**00 10 40.5**	**+0.6**
IRAZ	**Razeghan**	**8.32**	**282**	*e*Pn	**Pn**	**00 10 42.0**	**+0.3**
IRAZ				*e*		00 10 55.6	
	comp=Z,117nm,0.1s						
IRAZ	**Razeghan**	**8.32**	**282**	*e*Pn	**Pn**	**00 10 42.0**	**+0.3**
AAK	**Ala-Archa**	**14.31**	**49**	Pn	**Pn**	**00 12 04.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=217,slow=11,SNR=4.9						
AAK				LR	LR	00 18 08.5	
	comp=Z,98nm,18.2s,baz=89,slow=40						
AKTO	**Aktyubinsk**	**16.46**	**356**	Pn	**Pn**	**00 12 30.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=2.5						
BVAR	**Borovoye Array**	**20.42**	**18**	P	**P**	**00 13 18.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=201,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**21.21**	**46**	P	**P**	**00 13 28.0**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=236,slow=11,SNR=8.1						
KURK	**Kurchatov**	**21.57**	**34**	P	**P**	**00 13 30.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=227,slow=11,SNR=5.4						
BRTR	**Keskin Array B**	**21.72**	**293**	P	**P**	**00 13 32.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=109,slow=9.1,SNR=4.6						
JOF	**Joensuu**	**34.00**	**337**	*ep*	**P**	**00 15 24.1**	**-0.4**
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**34.00**	**337**	*ep*	**P**	**00 15 24.1**	**-0.4**
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**34.91**	**332**	P	**P**	**00 15 32.7**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=131,slow=9.1,SNR=16						
GERES	**GERESS Array B**	**37.07**	**308**	P	**P**	**00 15 51.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=94,slow=6.3,SNR=2.3						
HFS	**Hagfors**	**39.66**	**326**	P	**P**	**00 16 12.7**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=111,slow=8.1,SNR=11						
NB2	**NORSAR Subarra**	**41.11**	**326**	P	**P**	**00 16 24.4**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=109,slow=8.6						
NB2	**NORSAR Subarra**	**41.11**	**326**	P	**P**	**00 16 24.4**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=109,slow=8.2,SNR=4.0						
NOA	**NORSAR Array B**	**41.11**	**326**	P	**P**	**00 16 24.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=110,slow=8.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**56.48**	**263**	P	**P**	**00 18 21.9**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=57,slow=5.3,SNR=3.6						
ASAJ	**Asahikawa**	**62.47**	**54**	LR	LR	00 47 34.6	
	comp=Z,70nm,18.3s,baz=23,slow=37						
YKA	**Yellowknife Ar**	**83.72**	**357**	P	**P**	**00 21 09.8**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=359,slow=6.1,SNR=5.1						

*CSEM **29** 00:30:39.7±0.2,37°.10N×5°.37W, h10km, ML1.9/4,Error ellipse: s-maj=3.9km s-min=3.1km az=11.0*
MDD 29 00:30:41.1±0.5,37°.04N×5°.38W, h11km±1km, mbLg1.3/15, Error ellipse: s-maj=4.4km s-min=3.2km az=6.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.14**	**189**	Pg	Pg	00 30 42.8	-1.6
LIJA				Lg	Lg	00 30 45.6	
LIJA	**Lijar**	**0.14**	**189**	*i* P	Pg	00 30 42.8	-1.6
LIJA				*i* S	Sg	00 30 45.6	-1.2
LIJA				Lg	Lg	00 30 45.6	
ESPR	**Espera**	**0.42**	**246**	Pg	Pb	00 30 49.9	-0.6
	4.6nm,0.3s,SNR=9.5						
ESPR				Lg	Lg	00 30 55.9	
	4.6nm,0.3s,SNR=5.0						
ESPR	**Espera**	**0.42**	**246**	Pg	Pg	00 30 49.9	+0.5
	4.6nm,0.3s,SNR=9.5						
ESPR				Lg	Lg	00 30 55.9	
	4.6nm,0.3s,SNR=5.0						
EJIF	**Jimena Fronter**	**0.59**	**187**	Pg	Pb	00 30 53.2	-0.2
	0.7nm,0.6s,SNR=7.9						
EJIF				Lg	Lg	00 31 00.7	
	7.3nm,0.9s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.59**	**187**	Pg	Pb	00 30 53.2	-0.2
	0.7nm,0.6s,SNR=7.9						
EJIF				Lg	Lg	00 31 00.7	
	7.3nm,0.9s,SNR=7.9						
EMIJ	**Mijas**	**0.68**	**134**	Pg	Pg	00 30 53.6	-0.7
	6.7nm,0.6s,SNR=10						
EMIJ				Lg	Lg	00 31 04.2	
	5.8nm,0.4s						
EMIJ	**Mijas**	**0.68**	**134**	Pg	Pg	00 30 53.6	-0.7
	6.7nm,0.6s,SNR=10						
EMIJ				Lg	Lg	00 31 04.2	
	5.8nm,0.4s						
ELUQ	**Luque**	**1.03**	**59**	Lg	Lg	00 31 14.6	
	18nm,1.1s,SNR=7.9						
ELUQ	**Luque**	**1.03**	**59**	Lg	Lg	00 31 14.6	
	18nm,1.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.26**	**306**	Pn	Pn	00 31 02.7	-1.9
	SNR=4.0						
EMIN				Pg	Pb	00 31 04.2	-0.7
	1.0nm,0.4s,SNR=13						
EMIN				Lg	Lg	00 31 20.7	
	2.7nm,0.3s						
EMIN	**Mina Concepcio**	**1.26**	**306**	Pn	Pn	00 31 02.7	-1.9
	SNR=4.0						
EADA	**Adamuz**	**1.29**	**29**	Pg	Pn	00 31 04.4	-0.7
	0.7nm,0.6s,SNR=7.9						
EADA				Sn	Sb	00 31 20.3	-1.8
	SNR=4.0						
EADA				Lg	Lg	00 31 22.2	
	4.0nm,1.2s,SNR=7.9						
EADA	**Adamuz**	**1.29**	**29**	Pg	Pn	00 31 04.4	-0.7
	0.7nm,0.6s,SNR=7.9						
EADA				Sn	Sb	00 31 20.3	-1.8
	SNR=4.0						
EADA				Lg	Lg	00 31 22.2	
	4.0nm,1.2s,SNR=7.9						
EGUA	**Guajares**	**1.47**	**98**	Lg	Lg	00 31 27.3	
	80nm,0.7s,SNR=7.9						
EGUA	**Guajares**	**1.47**	**98**	Lg	Lg	00 31 27.3	
	80nm,0.7s,SNR=7.9						
PBAR	**Barrancos**	**1.74**	**311**	*e*Sg	Sb	00 31 35.5	+0.6
PBAR				A	A	00 31 43.3	
	1.5nm,0.2s						
PBAR	**Barrancos**	**1.74**	**311**	Lg	Lg	00 31 35.5	
	1.5nm,0.2s						
PBAR	**Barrancos**	**1.74**	**311**	Lg	Lg	00 31 35.5	
	1.5nm,0.2s						
EGRO	**El Granado**	**1.75**	**287**	Pg	Pn	00 31 11.7	+0.4
	0.5nm,0.5s,SNR=7.9						
EGRO				Lg	Lg	00 31 34.8	
	5.5nm,1.2s,SNR=7.9						
EGRO	**El Granado**	**1.75**	**287**	Pg	Pn	00 31 11.7	+0.4
	0.5nm,0.5s,SNR=7.9						
EGRO				Lg	Lg	00 31 34.8	
	5.5nm,1.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.90**	**282**	*e*Pg	Pb	00 31 15.9	+0.1
PVAQ				*e*Sg	Sg	00 31 41.6	-0.7
PVAQ	**Vaqueiros**	**1.90**	**282**	Pg	Pb	00 31 15.9	+0.1
PVAQ				Lg	Lg	00 31 41.6	
PVAQ	**Vaqueiros**	**1.90**	**282**	Pg	Pb	00 31 15.9	+0.1
PVAQ				*e*Sg	Sg	00 31 41.6	-0.7
PVAQ				Lg	Lg	00 31 41.6	
EQES	**Quesada**	**1.99**	**67**	Pg	Pb	00 31 17.6	+0.1
	2.6nm,0.9s,SNR=7.9						
EQES				Lg	Lg	00 31 44.8	
	3.6nm,0.7s,SNR=7.9						
EQES	**Quesada**	**1.99**	**67**	Pg	Pb	00 31 17.5	+0.1
	2.6nm,0.9s,SNR=7.9						
EQES				Lg	Lg	00 31 44.8	
	3.6nm,0.7s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.05**	**276**	*e*Pn	Pn	00 31 14.1	-1.4
PBDV				*e*Sg	Sg	00 31 46.3	-0.8
PBDV				A	A	00 31 48.9	
	2.8nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.05**	**276**	Pn	Pn	00 31 14.1	-1.4
PBDV				Lg	Lg	00 31 46.3	
	2.8nm,0.8s						
PBDV	**Barranco-do-Ve**	**2.05**	**276**	Pn	Pn	00 31 14.1	-1.4
PBDV				*e*Sg	Sg	00 31 46.3	-0.8
	2.8nm,0.8s						
EBAD	**Badajoz**	**2.15**	**323**	Pn	Pn	00 31 15.2	-1.6
	0.5nm,0.4s,SNR=7.9						
EBAD				Pg	Pb	00 31 18.9	-1.1
	0.6nm,0.4s,SNR=7.9						
EBAD				Sn	Sn	00 31 41.1	-2.3
	1.3nm,0.8s,SNR=7.9						
EBAD				Lg	Lg	00 31 47.7	
	4.6nm,1.7s,SNR=7.9						
EBAD	**Badajoz**	**2.15**	**323**	Pn	Pn	00 31 15.2	-1.6
	0.5nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**2.35**	**70**	Pn	Pn	00 31 18.7	-1.0
	0.3nm,0.5s,SNR=7.9						
EHUE				Sn	Sn	00 31 45.6	-3.1
	0.5nm,0.6s,SNR=7.9						
EHUE				Lg	Lg	00 31 53.7	
	1.7nm,0.8s,SNR=7.9						
EHUE	**Huescar**	**2.35**	**70**	Pn	Pn	00 31 18.7	-1.0
	0.3nm,0.5s,SNR=7.9						
EHUE				Sn	Sn	00 31 45.6	-3.0
	0.5nm,0.6s,SNR=7.9						
EHUE				Lg	Lg	00 31 53.7	
	1.7nm,0.8s,SNR=7.9						
ESDC	**Sonseca Array**	**2.86**	**22**	Lg	Lg	00 32 08.3	
	1.1nm,1.2s,baz=204,slow=28,SNR=9.0						
ESDC	**Sonseca Array**	**2.86**	**22**	Lg	Lg	00 32 08.3	
	1.1nm,1.2s,baz=204,slow=28,SNR=9.0						
EPLA	**Plasencia**	**3.07**	**350**	Lg	Lg	00 32 15.3	
	4.0nm,1.3s,SNR=6.1						
EPLA	**Plasencia**	**3.07**	**350**	Lg	Lg	00 32 15.4	
	4.0nm,1.3s,SNR=6.1						

*IDC **29** 00:34:54.6±2.0,23°.66N×88°.70E, h0km, mb3.4/5, mb1 3.8/6,mb1mx3.5/26,mbtmp3.5/6,ML4.4/1,Error ellipse: s-maj=69.5km s-min=21.2km az=64.0*
*DMN **29** 00:34:59.7±0.3,23°.67N×88°.57E, h30km, ML4.8/11,Error ellipse: s-maj=9.6km s-min=6.4km az=56.0*
*ISCJB **29** 00:35:00.0±1.0,23°.79N±0°.04×88°.20E±0°.09, h33km, mb3.2/6,Error ellipse: s-maj=11.3km s-min=5.4km az=0.7*

*NDI **29** 00:35:02.1±2.3,23°.70N×88°.17E, h10km, ML3.7*
ISC 29 00:35:01.5±1.1,23°.81N±0°.05×88°.25E±0°.07, h35km, n23, σ1s53/31, mb3.3/6, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**2.16**	**270**	*i* P	**Pn**	**00 35 37.0**	**+1.9**
BOK				*i* S	**Sn**	**00 36 05.0**	**+4.3**
AGT	**Agartala**	**2.75**	**88**	*ex*	**Pn**	**00 35 45.0**	**+1.9**
AGT				*e*S	S	00 36 21.0	
ODAN	**Odare**	**3.13**	**346**	*e*Pn	**Pn**	**00 35 48.6**	**-0.1**
ODAN				*e*Sg	**Sn**	**00 36 24.5**	**-0.5**
	567nm,0.3s						
RAMN	**Ramite**	**3.46**	**335**	*e*Pn	**Pn**	**00 35 54.6**	**+1.4**
RAMN				*e*Sg	**Sn**	**00 36 34.0**	**+0.8**
	315nm,0.2s						
TAPN	**Taplejung**	**3.56**	**352**	*e*Pn	**Pn**	**00 35 54.3**	**-0.3**
TAPN				*e*Sg	**Sn**	**00 36 34.6**	**-1.0**
	308nm,0.3s						
BWNR	**Bhubaneshwar**	**4.17**	**213**	*ex*	Pn	00 35 52.0	-11
BWNR				*e*S	**Sn**	**00 36 50.0**	**-0.1**
JIRN	**Jiri**	**4.26**	**335**	*e*Pn	**Pn**	**00 36 05.2**	**+0.9**
JIRN				*e*Sg	**Sn**	**00 36 53.3**	**+0.3**
	319nm,0.3s						
PKI	**Pulchoki**	**4.54**	**326**	*e*Pn	**Pn**	**00 36 08.8**	**+0.7**
PKI				*e*Sg	**Sn**	**00 37 00.4**	**+0.6**
	190nm,0.3s						
GUN	**Gumba**	**4.61**	**333**	*e*Pn	**Pn**	**00 36 10.0**	**+1.0**
GUN				*e*Sg	**Sn**	**00 37 01.6**	**+0.1**
	202nm,0.3s						
DMN	**Daman**	**4.73**	**324**	*e*Pn	**Pn**	**00 36 11.5**	**+0.9**
DMN				*e*Sg	**Sn**	**00 37 05.7**	**+1.4**
	178nm,0.3s						
KKN	**Kakani**	**4.78**	**327**	*e*Pn	**Pn**	**00 36 11.9**	**+0.6**
KKN				*e*Sg	**Sn**	**00 37 05.7**	**+0.1**
	119nm,0.2s						
GKN	**Gorkha**	**5.29**	**323**	*e*Pn	**Pn**	**00 36 18.4**	**+0.1**
GKN				*e*Sg	**Sn**	**00 37 18.5**	**+0.4**
	150nm,0.2s						
KOLN	**Koldanda**	**5.75**	**314**	*e*Pn	**Pn**	**00 36 25.5**	**+0.8**
KOLN				*e*Sg	**Sn**	**00 37 30.4**	**+0.8**
	127nm,0.2s						
DANN	**Dangsing**	**6.06**	**319**	*e*Pn	**Pn**	**00 36 29.3**	**+0.4**
DANN				*e*Sg	**Sn**	**00 37 37.1**	**-0.1**
	135nm,0.3s						
NGP	**Nagpur**	**8.91**	**255**	*e*P	**Pn**	**00 37 08.5**	**+0.7**
NGP				*e*S	**Sn**	**00 38 42.1**	**-4.8**
NGP				AML	AML	00 39 51.9	
	comp=E,27nm,0.7s						
NGP				AML	AML	00 39 53.1	
	comp=N,53nm,0.6s						
HYB	**Hyderabad**	**11.08**	**237**	*e*P	**Pn**	**00 37 35.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**11.31**	**116**	Pn	Pn	00 37 32.0	-8.7
	comp=N,0.8nm,0.3s,baz=293,slow=14,SNR=53						
MKAR	**Makanchi Array**	**23.43**	**350**	P	**P**	**00 40 07.2**	**-0.2**
	comp=N,0.1nm,0.4s,baz=175,slow=10,SNR=5.9						
KURK	**Kurchatov**	**27.88**	**347**	P	**P**	**00 40 48.1**	**+0.3**
	comp=N,0.2nm,0.4s,baz=168,slow=8.7,SNR=3.6						
SONM	**Songino Array**	**27.99**	**27**	P	P	00 40 46.4	-2.7
	comp=N,0.3nm,1.0s,baz=212,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**30.21**	**356**	P	P	00 41 13.7	+5.1
	comp=N,0.4nm,0.5s,baz=150,slow=6.7,SNR=2.3						
WRA	**Warramunga Ar**	**62.52**	**130**	P	P	00 45 17.4	-4.5
	comp=N,0.5nm,0.5s,baz=326,slow=6.5,SNR=3.1						
ASAR	**Alice Springs**	**64.74**	**134**	P	P	00 45 32.5	-4.1
	comp=N,0.3nm,0.6s,baz=315,slow=6.1,SNR=4.7						

*CSEM **29** 00:37:09.0±0.1,37°.08N×5°.41W, h8km, ML2.1/4,Error ellipse: s-maj=2.9km s-min=2.7km az=16.0*
MDD 29 00:37:09.9±0.4,37°.06N×5°.41W, h4km±8km, mbLg1.3/14, Error ellipse: s-maj=3.7km s-min=3.5km az=15.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.15**	**177**	Pg	Pg	00 37 12.1	-0.9
LIJA				Lg	Lg	00 37 14.8	
LIJA	**Lijar**	**0.15**	**177**	*i* P	Pg	00 37 12.1	-1.0
LIJA				*i* S	Sg	00 37 14.8	-0.4
LIJA				Lg	Lg	00 37 14.8	
ESPR	**Espera**	**0.40**	**242**	Pg	Pg	00 37 17.9	+0.3
	13nm,0.3s,SNR=9.6						
ESPR				Lg	Lg	00 37 22.5	
	14nm,0.4s,SNR=4.6						
ESPR	**Espera**	**0.40**	**242**	Pg	Pg	00 37 17.9	+0.2
	13nm,0.3s,SNR=9.6						
ESPR				Lg	Lg	00 37 22.5	
	14nm,0.4s,SNR=4.6						
EJIF	**Jimena Fronter**	**0.61**	**184**	Pg	Pg	00 37 21.1	-0.5
	0.1nm,0.6s,SNR=7.9						
EJIF				Lg	Lg	00 37 29.8	
	4.5nm,1.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.61**	**184**	Pg

	18nm,1.6s,SNR=7.9						
ESDC	**Sonseca Array**	**2.85**	**23**	Lg	Lg	00 38 40.4	
	1.2nm,1.3s,baz=206,slow=27,SNR=5.2						
ESDC	**Sonseca Array**	**2.85**	**23**	Lg	Lg	00 38 40.4	
	1.2nm,1.3s,baz=206,slow=27,SNR=5.2						
EPLA	**Plasencia**	**3.05**	**350**	Lg	Lg	00 38 45.7	
	6.1nm,0.7s,SNR=7.9						
EPLA	**Plasencia**	**3.05**	**350**	Lg	Lg	00 38 45.7	
	6.1nm,0.7s,SNR=7.9						

*ATH **29** 00:51:34.6,36.19N×25.39E,h27km±1km,MD3.6/13*
*ISCJB **29** 00:51:35.9±0.6,36.21N±0.02×25.38E±0.04,h26km±6km, Error ellipse: s-maj=5.6km s-min=3.7km az=175.0*
*CSEM **29** 00:51:35.1±0.2,36.21N×25.38E,h15km,ML2.2/1,Error ellipse: s-maj=6.1km s-min=4.0km az=80.0*
*THE **29** 00:51:37.6,36.21N×25.38E,h32km±36km,ML2.2/1,Error ellipse: s-maj=36.5km s-min=1.1km az=88.0*
ISC 29 00:51:35.7±1.2,36.19N±0.02×25.40E±0.03,h19km±3km, n48,σ0s51/78,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.89**	**7**	P		**Pb**	**00 51 52.0**	**-0.5**
APE				S		**Sg**	**00 52 04.9**	**+0.1**
APE	**Apeiranthos**	**0.89**	**7**	*e*PN		**Pb**	**00 51 52.0**	**-0.5**
APE				*e*SN		**Sg**	**00 52 04.4**	**-0.4**
APE	**Apeiranthos**	**0.89**	**7**	P		**Pb**	**00 51 52.0**	**-0.5**
APE				*e*Sn		**Sg**	**00 52 04.4**	**-0.4**
APE				S		**Sg**	**00 52 04.9**	**+0.1**
NPS	**Neapolis**	**0.94**	**169**	P		**Pg**	**00 51 54.3**	**+0.3**
NPS				S		**Sn**	**00 52 07.1**	**+0.2**
NPS	**Neapolis**	**0.94**	**169**	*e*PN		**Pb**	**00 51 52.6**	**-0.8**
NPS				*e*SN		**Sg**	**00 52 06.3**	**-0.1**
NPS	**Neapolis**	**0.94**	**169**	*e*Pn		**Pb**	**00 51 52.6**	**-0.8**
NPS	**Neapolis**	**0.94**	**169**	P		**Pg**	**00 51 54.3**	**+0.3**
NPS				*e*Sn		**Sg**	**00 52 06.3**	**-0.1**
NPS				S		**Sn**	**00 52 07.1**	**+0.2**
IDI	**Anoyia**	**0.99**	**205**	P		**Pb**	**00 51 53.8**	**-0.5**
IDI				S		**Sg**	**00 52 07.8**	**-0.2**
IDI	**Anoyia**	**0.99**	**205**	*e*PN		**Pb**	**00 51 53.4**	**-0.9**
IDI				*e*SN		**Sb**	**00 52 07.4**	**+0.5**
IDI	**Anoyia**	**0.99**	**205**	*e*Pn		**Pb**	**00 51 53.4**	**-0.9**
IDI	**Anoyia**	**0.99**	**205**	P		**Pb**	**00 51 53.8**	**-0.5**
IDI				*e*Sn		**Sb**	**00 52 07.4**	**+0.5**
IDI				S		**Sg**	**00 52 07.8**	**-0.2**
LAST	**Lasithi**	**1.03**	**176**	P		**Pn**	**00 51 55.2**	**0.0**
LAST				S		**Sb**	**00 52 08.7**	**+0.6**
LAST	**Lasithi**	**1.03**	**176**	*e*PN		**Pb**	**00 51 54.3**	**-0.7**
LAST				*e*SN		**Sn**	**00 52 09.3**	**+0.2**
LAST	**Lasithi**	**1.03**	**176**	*e*Pn		**Pb**	**00 51 54.3**	**-0.7**
LAST	**Lasithi**	**1.03**	**176**	P		**Pn**	**00 51 55.2**	**0.0**
LAST				S		**Sb**	**00 52 08.7**	**+0.6**
LAST				*e*Sn		**Sn**	**00 52 09.3**	**+0.2**
VAM	**Vamos**	**1.25**	**232**	P		**Pn**	**00 51 57.5**	**-0.6**
VAM				S		**Sb**	**00 52 14.2**	**-0.1**
VAM	**Vamos**	**1.25**	**232**	*e*PN		**Pn**	**00 51 57.5**	**-0.6**
VAM				*e*SN		**Sb**	**00 52 14.2**	**-0.1**
VAM	**Vamos**	**1.25**	**232**	P		**Pn**	**00 51 57.5**	**-0.6**
VAM				S		**Sb**	**00 52 14.2**	**-0.1**
SIVA	**Sivas**	**1.26**	**202**	P		**Pb**	**00 51 59.3**	**+0.4**
SIVA				S		**Sg**	**00 52 16.6**	**0.0**
SIVA	**Sivas**	**1.26**	**202**	*e*PN		**Pn**	**00 51 58.1**	**-0.2**
SIVA	**Sivas**	**1.26**	**202**	*e*Pn		**Pn**	**00 51 58.1**	**-0.2**
SIVA	**Sivas**	**1.26**	**202**	P		**Pb**	**00 51 59.3**	**+0.4**
SIVA				S		**Sg**	**00 52 16.6**	**0.0**
ZKR	**Zakros**	**1.26**	**148**	P		**Pn**	**00 51 58.6**	**+0.2**
ZKR				S		**Sn**	**00 52 15.5**	**+0.6**
ZKR	**Zakros**	**1.26**	**148**	*e*PN		**Pn**	**00 51 58.6**	**+0.2**
ZKR				*e*SN		**Sn**	**00 52 15.5**	**+0.6**
ZKR	**Zakros**	**1.26**	**148**	P		**Pn**	**00 51 58.6**	**+0.2**
ZKR				S		**Sn**	**00 52 15.5**	**+0.6**
KARN	**Karanos**	**1.43**	**237**	P		**Pb**	**00 52 01.5**	**-0.4**
KARN				S		**Sn**	**00 52 18.6**	**-0.5**
KARN	**Karanos**	**1.43**	**237**	*e*PN		**Pn**	**00 52 00.7**	**-0.1**
KARN				*e*SN		**Sb**	**00 52 20.2**	**+0.4**
KARN	**Karanos**	**1.43**	**237**	*e*Pn		**Pn**	**00 52 00.7**	**-0.1**
KARN	**Karanos**	**1.43**	**237**	P		**Pb**	**00 52 01.5**	**-0.4**
KARN				S		**Sn**	**00 52 18.6**	**-0.5**
KARN				*e*Sn		**Sb**	**00 52 20.2**	**+0.4**
KARP	**Karpathos**	**1.57**	**114**	*e*PN		**Pn**	**00 52 03.0**	**+0.3**
KARP				*e*SN		**Sn**	**00 52 22.0**	**-0.5**
KARP	**Karpathos**	**1.57**	**114**	*e*Pn		**Pn**	**00 52 03.0**	**+0.3**
KARP				*e*Sn		**Sn**	**00 52 22.0**	**-0.5**
SMG	**Samos**	**1.91**	**37**	*e*PN		**Pb**	**00 52 08.7**	**-1.2**
SMG	**Samos**	**1.91**	**37**	*e*Pn		**Pb**	**00 52 08.7**	**-1.2**
KYTH	**Kithira**	**1.91**	**273**	P		**Pn**	**00 52 07.4**	**+0.1**
KYTH	**Kithira**	**1.91**	**273**	*e*PN		**Pn**	**00 52 07.5**	**+0.1**
KYTH	**Kithira**	**1.91**	**273**	P		**Pn**	**00 52 07.4**	**+0.1**
VLI	**Veliai**	**2.05**	**286**	*e*PN		**Pn**	**00 52 08.9**	**-0.3**
VLI	**Veliai**	**2.05**	**286**	*e*Pn		**Pn**	**00 52 08.9**	**-0.3**
VLY	**Voula,Athens**	**2.10**	**323**	*e*PB		**Pn**	**00 52 10.4**	**+0.5**
VLY	**Voula,Athens**	**2.10**	**323**	*e*Pb		**Pn**	**00 52 10.4**	**+0.5**
DID	**Didima**	**2.17**	**308**	*e*PN		**Pn**	**00 52 11.0**	**0.0**
DID	**Didima**	**2.17**	**308**	*e*Pn		**Pn**	**00 52 11.0**	**0.0**
PTL	**Penteli**	**2.22**	**327**	*e*PB		**Pn**	**00 52 12.2**	**+0.6**
PTL	**Penteli**	**2.22**	**327**	*e*Pb		**Pn**	**00 52 12.2**	**+0.6**
VLX	**Vlachokerasia**	**2.69**	**297**	*e*PN		**Pn**	**00 52 19.2**	**+1.1**
VLX	**Vlachokerasia**	**2.69**	**297**	*e*Pn		**Pn**	**00 52 19.2**	**+1.1**
GUR	**Goura**	**3.00**	**306**	*e*PN		**Pn**	**00 52 22.8**	**+0.4**
GUR	**Goura**	**3.00**	**306**	*e*Pn		**Pn**	**00 52 22.8**	**+0.4**

*ISCJB **29** 00:56:37.6±0.7,36.96N±0.05×28.30E±0.05,h12km±5km, Error ellipse: s-maj=9.2km s-min=5.0km az=33.1*
*CSEM **29** 00:56:37.8±0.3,36.98N×28.32E,h12km,MD2.9,Error ellipse: s-maj=8.0km s-min=4.2km az=31.0*
*DDA **29** 00:56:37.7,36.97N×28.19E,h7km,MD3.1*
*ISK **29** 00:56:38.0,37.02N×28.28E,h17km,MD2.9*
ISC 29 00:56:36.7±1.2,36.89N±0.04×28.26E±0.03,h7km±10km, n28,σ0s55/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**5**	*e*PG		**Pg**	**00 56 41.6**	**+0.1**
YER				*e*SG		**Sg**	**00 56 45.1**	**+0.3**
YER	**Yerkesik**	**0.24**	**5**	*e*Pg		**Pg**	**00 56 41.6**	**+0.1**
YER				*e*Sg		**Sg**	**00 56 45.1**	**+0.3**
TURN	**Turunc**	**0.28**	**94**	*i* P		**Pg**	**00 56 41.9**	**-0.3**
TURN				*i* S		**Sg**	**00 56 46.0**	**+0.1**
TURN	**Turunc**	**0.28**	**94**	*i* P		**Pg**	**00 56 41.9**	**-0.3**
TURN				*i* S		**Sg**	**00 56 46.0**	**+0.1**
BDRM	**Kayabasi**	**0.67**	**285**	*i* P		**Pg**	**00 56 49.1**	**-0.6**
BDRM				*i* S		**Sb**	**00 57 01.4**	**+1.1**
BDRM				*i* S		**Sb**	**00 57 01.4**	**+1.1**
BDRM	**Kayabasi**	**0.67**	**285**	*i* P		**Pg**	**00 56 49.1**	**-0.6**
BDRM				*i* S		**Sb**	**00 57 01.4**	**+1.1**
FETY	**Fethiye**	**0.71**	**111**	*e*PG		**Pn**	**00 56 53.0**	**-0.2**
FETY				*e*SG		**Sn**	**00 57 04.1**	**-0.3**
FETY	**Fethiye**	**0.71**	**111**	*e*Pg		**Pn**	**00 56 53.0**	**-0.2**
BODT	**Bodrum**	**0.78**	**283**	*e*PG		**Pn**	**00 56 53.8**	**-0.3**
BODT	**Bodrum**	**0.78**	**283**	*e*Pg		**Pn**	**00 56 53.8**	**-0.3**
AYDN	**Tasoluk**	**0.82**	**339**	*i* P		**Pg**	**00 56 52.5**	**0.0**
AYDN				*i* S		**Sg**	**00 57 03.1**	**-0.1**
AYDN	**Tasoluk**	**0.82**	**339**	*i* P		**Pg**	**00 56 52.5**	**0.0**
AYDN				*i* S		**Sg**	**00 57 03.1**	**-0.1**
GCAM	**G?zelcaml?**	**1.15**	**315**	*i* P		**Pg**	**00 56 58.3**	**-0.4**
GCAM				*i* S		**Sb**	**00 57 14.4**	**+0.5**
GCAM	**G?zelcaml?**	**1.15**	**315**	*i* P		**Pg**	**00 56 58.3**	**-0.4**
GCAM				*i* S		**Sb**	**00 57 14.4**	**+0.5**
ELL	**Elmali**	**1.33**	**96**	*e*PN		**Pn**	**00 57 02.2**	**+0.4**
ELL	**Elmali**	**1.33**	**96**	*e*Pn		**Pn**	**00 57 02.2**	**+0.4**
KULA	**Kula-Manisa**	**1.65**	**11**	*e*PN		**Pn**	**00 57 05.4**	**-0.8**
KULA	**Kula-Manisa**	**1.65**	**11**	*e*Pn		**Pn**	**00 57 05.4**	**-0.8**
IZM	**Izmir**	**1.70**	**333**	*e*PN		**Pn**	**00 57 06.7**	**-0.1**
IZM	**Izmir**	**1.70**	**333**	*e*Pn		**Pn**	**00 57 06.7**	**-0.1**
KHL	**Karahalli**	**1.75**	**35**	*e*PN		**Pn**	**00 57 06.8**	**-0.7**
KHL	**Karahalli**	**1.75**	**35**	*e*Pn		**Pn**	**00 57 06.8**	**-0.7**
KHAL	**Karahalli**	**1.77**	**33**	*i* P		**Pn**	**00 57 06.9**	**-0.9**
KHAL				*i* S		**Sg**	**00 57 33.6**	**0.0**
KHAL	**Karahalli**	**1.77**	**33**	*i* P		**Pn**	**00 57 06.9**	**-0.9**
BLCB	**Balcova**	**1.77**	**327**	*e*PN		**Pn**	**00 57 07.2**	**-0.6**
BLCB	**Balcova**	**1.77**	**327**	*e*Pn		**Pn**	**00 57 07.2**	**-0.6**
AKHS	**Akhisar**	**2.01**	**350**	*i* P		**Pn**	**00 57 10.7**	**-0.4**
AKHS	**Akhisar**	**2.01**	**350**	*i* P		**Pn**	**00 57 10.7**	**-0.4**

KRSC 29 01:12:25.4±0.6,52.77N×162.79E,h31km±31km,ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.71**	**282**	*e*P		Pn	01 12 54.4	+1.4
SPN				*i* S		Sb	01 13 15.7	-1.5
MKZ	**Mys Kozlova**	**1.90**	**341**	*e*P		Pn	01 12 56.9	+1.3
MKZ				*i* S		Sn	01 13 20.4	+2.0
KII	**Karymskiy**	**2.37**	**304**	*e*P		Pn	01 13 04.4	+2.2
KII				*i* S		Sn	01 13 32.1	+1.8
SDLR	**Sedlovina**	**2.41**	**284**	*e*P		Pn	01 13 05.2	+2.3
UGLR	**Uglovaya**	**2.44**	**282**	*e*P		Pb	01 13 06.0	-2.7
UGLR				*i* S		Sb	01 13 35.6	-2.8
AVH	**Avacha**	**2.50**	**283**	*e*P		Pb	01 13 06.9	-2.8
AVH				*i* S		Sn	01 13 36.6	+3.2
PET	**Petropavlovsk**	**2.52**	**277**	*e*P		Pn	01 13 06.2	+2.1
PET				*i* S		Sn	01 13 36.2	+2.5
KOK	**Koryaka**	**2.56**	**283**	*e*P		Pn	01 13 07.5	+2.6
RUS	**Russkaya**	**2.63**	**264**	*e*P		Pn	01 13 07.6	+1.9
RUS				*i* S		Sn	01 13 37.5	+1.0
MTVR	**Mutnovka**	**2.82**	**266**	*e*P		Pn	01 13 10.5	+2.0
MTVR				*i* S		Sn	01 13 42.9	+1.3
TUMR	**Tumrok**	**2.96**	**329**	*e*P		Pn	01 13 13.1	+2.7
ASAK	**Asacha**	**3.01**	**265**	*e*P		Pn	01 13 13.6	+2.6
ASAK				*i* S		Sn	01 13 48.2	+2.1
KMNR	**Kamenistaya**	**3.35**	**334**	*e*P		Pn	01 13 18.8	+3.1
KMNR				*i* S		Sn	01 13 58.1	+3.7
BZGR	**Bezymyannyi-Gr**	**3.41**	**340**	*e*P		Pn	01 13 19.1	+2.6
BZMR	**Bezymyannaya**	**3.44**	**338**	*e*P		Pn	01 13 21.1	+4.0
KBTR	**Krutoberegovo**	**3.45**	**0**	*e*P		Pn	01 13 17.4	+0.5
KBTR				*i* S		Sn	01 13 56.2	-0.4
KPT	**Kopyto**	**3.54**	**336**	*e*P		Pn	01 13 21.9	+3.6
SMKR	**Semkarok**	**3.90**	**349**	*e*P		Pn	01 13 26.1	+2.9
SRDR	**Sredinnyy**	**3.98**	**335**	*e*P		Pn	01 13 26.8	+2.5
SRKR	**Sorokina**	**4.00**	**347**	*e*P		Pn	01 13 27.2	+2.5

*NEIC **29** 01:46:29.7±0.6,6.72S×156.14E,h150km,mb4.4/1,Error ellipse: s-maj=17.6km s-min=9.7km az=109.0*
IDC 29 01:46:11.9±1.1,6.49S×156.25E,h0km,mb4.1/9, mb1 4.2/9,mb1mx4.0/18,mbtmp4.1/9,Error ellipse: s-maj=35.5km s-min=21.0km az=107.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**25.12**	**236**	*e*P		P	01 51 39.2	+0.5
WRA	**Warramunga Arr**	**25.13**	**236**	P		P	01 51 39.3	+0.5
	0.8nm,0.2s,baz=68,slow=10,SNR=9.8							
WRA	**Warramunga Arr**	**25.13**	**236**	P		P	01 51 39.3	+0.5
AS31	**Alice Springs**	**27.44**	**229**	*e*P		P	01 51 59.2	-0.5
ASAR	**Alice Springs**	**27.44**	**229**	P		P	01 51 59.4	-0.4
	1.7nm,0.3s,baz=58,slow=9.7,SNR=19							
ASAR	**Alice Springs**	**27.44**	**229**	P		P	01 51 59.4	-0.4
STKA	**Stephens Creek**	**28.73**	**207**	P		P	01 52 10.9	-0.2
	1.6nm,0.8s,baz=27,slow=6.8,SNR=2.9							
STKA	**Stephens Creek**	**28.73**	**207**	P		P	01 52 10.9	-0.2
FITZ	**Fitzroy Crossi**	**32.00**	**246**	P		P	01 52 39.9	-0.3
	1.9nm,0.4s,baz=55,slow=9.1,SNR=10.0							
FITZ	**Fitzroy Crossi**	**32.00**	**246**	P		P	01 52 39.9	-0.3
FORT	**Forrest**	**35.81**	**224**	*e*P		P	01 53 12.6	-0.6
	3.7nm,0.4s							
RPZ	**Rata Peaks**	**39.29**	**163**	P		P	01 53 42.7	+0.2
	14nm,0.9s,baz=326,slow=3.6,SNR=4.5							
RPZ	**Rata Peaks**	**39.29**	**163**	P		P	01 53 42.7	+0.2
SONM	**Songino Array**	**69.60**	**327**	P		P	01 57 24.0	+0.9
	0.7nm,0.8s,baz=133,slow=8.1,SNR=6.5							
SONM	**Songino Array**	**69.60**	**327**	P		P	01 57 24.0	+0.9
ILAR	**Eielson Array**	**82.45**	**21**	P		P	01 58 35.6	-0.3
	0.2nm,0.4s,baz=247,slow=5.4,SNR=5.6							
ILAR	**Eielson Array**	**82.45**	**21**	P		P	01 58 35.6	-0.3
MK31	**Makanchi Array**	**83.86**	**318**	*e*P		P	01 58 43.3	-0.2
MKAR	**Makanchi Array**	**83.86**	**318**	P		P	01 58 43.2	-0.4
	0.5nm,0.6s,baz=104,slow=6.4,SNR=8.1							
MKAR	**Makanchi Array**	**83.86**	**318**	P		P	01 58 43.2	-0.4
ZALV	**Zalesovo Beam**	**84.47**	**326**	P		P	01 58 45.9	-0.6
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.6							
ZALV	**Zalesovo Beam**	**84.47**	**326**	P		P	01 58 45.9	-0.6

*ISCJB **29** 01:48:00.3±0.4,32.11N±0.02×115.69W±0.02,h9km±3km, Error ellipse: s-maj=3.5km s-min=3.1km az=23.0*
*NEIC **29** 01:48:02.1,32.11N×115.71W,h5km,ML3.6(ECX), ML3.5(PAS),After ECX.*
*ECX **29** 01:48:02.1±0.6,32.11N×115.71W,h5km,MD3.4,ML3.6*
ISC 29 01:48:00.6±1.2,32.09N±0.02×115.70W±0.02,h0km±12km, n34,σ1s38/54,18C-11D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.26**	**231**	↑ *i*P		**Pg**	**01 48 06.6**	**+1.0**
RDX				*e*S		**Sg**	**01 48 10.7**	**+1.6**
RDX				↑*e*			01 48 11.1	
	comp=N,5μm,0.3s							
EMX	**El Mayor**	**0.41**	**105**	↑ *e*P		**Pg**	**01 48 08.2**	**-0.2**
EMX				*e*S		**Sg**	**01 48 13.9**	**+0.3**
EMX				↓*e*			01 48 15.9	
	comp=N,4μm,0.2s							
EMX				↑*e*			01 48 15.9	
	comp=E,5μm,0.2s							
CPBX	**Cerro Prieto**	**0.47**	**46**	*e*P		**Pg**	**01 48 10.4**	**+0.8**
CPBX				*e*S		**Sg**	**01 48 16.9**	**+1.4**
SGL	**Mount Signal**	**0.55**	**358**	↑ *i*P		**Pg**	**01 48 11.4**	**+0.2**
YUH	**Yuha Desert**	**0.58**	**341**	↑ *i*P		**Pg**	**01 48 11.7**	**-0.1**
RMX	**La Rumorosa**	**0.60**	**328**	↑ *e*P		**Pg**	**01 48 12.0**	**0.0**
RMX				*e*S		**Sg**	**01 48 20.4**	**+0.5**
DVTC	**Desert V Tower**	**0.66**	**329**	↓ P		**Pg**	**01 48 13.2**	**0.0**
	baz=0.6							
DVTC				↓S		**Sg**	**01 48 21.3**	**-0.4**
	baz=0.6							
COK	**Cook Ranch**	**0.75**	**358**	*e*P		**Pg**	**01 48 15.5**	**+0.5**
ECBX	**El Chinero**	**0.83**	**138**	↓ *e*P		**Pg**	**01 48 15.6**	**-0.9**
ECBX				*e*S		**Sg**	**01 48 27.4**	**+0.1**
ECBX				↓*e*			01 48 28.3	
	comp=N,1μm,0.2s							
CBX	**Cerro Bola**	**0.84**	**285**	↑ *i*P		**Pg**	**01 48 16.9**	**+0.1**
CBX				*e*S		**Sg**	**01 48 28.1**	**+0.4**
CBX				↑*e*			01 48 34.0	
	comp=E,3μm,0.4s							
SWSC	**Sam W. Stewart**	**0.85**	**355**	↓ P		**Pg**	**01 48 16.6**	**-0.2**
	baz=0.8							
ECNX	**Esteban Cantu**	**0.88**	**240**	↑ *e*P		**Pb**	**01 48 17.7**	**-1.1**
ECNX				↑ *i*P		**Pg**	**01 48 17.2**	**-0.2**
ECNX				*e*S		**Sg**	**01 48 28.4**	**-0.4**
ECNX				*e*S		**Sb**	**01 48 29.8**	**-1.3**
COA	**Coachella**	**0.91**	**32**	*e*P		**Pg**	**01 48 17.6**	**-0.4**
PBX	**Punta Banda**	**0.94**	**248**	↑ *e*P		**Pg**	**01 48 18.7**	**+0.1**
PBX				*e*S		**Sg**	**01 48 31.2**	**+0.5**
PBX				↑*e*			01 48 36.5	
	comp=N,1μm,0.2s							
MONP	**Monument Peak**	**1.00**	**323**	↓ P		**Pg**	**01 48 19.4**	**-0.4**
	baz=1.0							
MONP				↑S		**Sg**	**01 48 32.1**	**-0.6**
	baz=1.0							
BAR	**Barrett**	**1.01**	**306**	*e*Pg		**Pg**	**01 48 19.1**	**-0.8**
BAR				*e*S		**Sg**	**01 48 32.2**	**-0.8**
SPX	**San Pedro Mart**	**1.07**	**169**	*e*P		**Pg**	**01 48 21.1**	**+0.1**
SPX				*e*S		**Sg**	**01 48 35.8**	**+1.0**
YMD	**Yuma Desert**	**1.08**	**65**	*e*P		**Pg**	**01 48 21.2**	**-0.1**
GLA	**Glamis**	**1.21**	**37**	*e*Pn		Pg	01 48 21.7	-2.0
GLA				*e*S		**Sg**	**01 48 37.0**	**-2.4**
GLA	**Glamis**	**1.21**	**37**	↓ P		Pg	01 48 21.6	-2.0
	baz=1.2							
GLA				↑S		**Sg**	**01 48 36.1**	**-3.3**
	baz=1.2							
109C	**Camp Elliot, M**	**1.43**	**304**	↑ P		**Pn**	**01 48 26.2**	**-1.6**
	baz=1.4							
109C				↑S		**Sb**	**01 48 44.1**	**-2.7**
	baz=1.4							
PFO	**Pinyon Flat Ob**	**1.64**	**337**	*e*Pn		Pn	01 48 28.2	-2.6
PFO				*e*S		**Sn**	**01 48 52.7**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.64**	**337**	↓ P		Pn	01 48 28.1	-2.6
	baz=1.6							
113A	**Mohawk Valley,**	**1.77**	**67**	↑ P		Pn	01 48 30.1	-2.3
	baz=1.8							
MURC	**Murrieta**	**1.96**	**320**	↓ Pb		**Pn**	**01 48 35.5**	**+0.4**
	baz=1.9							
Z13A	**Yuma Proving G**	**2.05**	**57**	↓ Pn		**Pn**	**01 48 34.1**	**-2.2**
	baz=2.0							
MWC	**Mount Wilson**	**2.90**	**318**	*e*Pn		**Pn**	**01 48 50.7**	**+2.5**
MWC				*e*S		**Sb**	**01 49 29.3**	**-0.1**
PASC	**Pasadena Art C**	**2.94**	**315**	*e*Pn		**Pn**	**01 48 48.6**	**+0.1**
PASC				*e*S		**Sb**	**01 49 30.5**	**+0.2**

LDFC	**Landfair**	**3.02**	**9**	*e*Pn		**Pn**	**01 48 51.6**	**+1.9**
GSC	**Goldstone**	**3.33**	**344**	Pn		**Pn**	**01 48 54.2**	**+0.2**
GSC				*e*Pg		**Pg**	**01 49 04.0**	**-0.4**
TUC	**Tucson**	**4.17**	**86**	*e*Pn		**Pn**	**01 49 05.7**	**+0.1**
TUC				*e*Pg		**Pg**	**01 49 23.5**	**+2.9**
TUC				*e*S		**Sg**	**01 50 12.3**	**-2.4**
ISA	**Isabella**	**4.24**	**328**	*e*Pn		**Pn**	**01 49 07.1**	**+0.5**
ISA				*e*S		**Sb**	**01 50 11.6**	**+3.7**
WUAZ	**Wupatki**	**4.96**	**45**	*e*Pn		**Pn**	**01 49 17.6**	**+1.1**
CCUT	**Cedar City**	**5.77**	**19**	*e*Pn		**Pn**	**01 49 28.2**	**+0.5**
	comp=N,1.1nm,0.3s							
CCUT				*e*S		**Sg**	**01 51 09.2**	**+3.1**

*DDA **29** 02:12:09.8,36.76N×27.35E,h7km,MD3.2*
*ISK **29** 02:12:10.4,36.78N×27.32E,h9km,MD3.1*
*CSEM **29** 02:12:11.4±0.2,36.80N×27.33E,h15km,ML3.2/2,Error ellipse: s-maj=5.4km s-min=4.2km az=95.0*
*ISCJB **29** 02:12:11.8±0.4,36.81N±0.02×27.33E±0.03,h16km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=6.6*
*ATH **29** 02:12:11.2,36.79N×27.33E,h28km±2km,MD3.3/9*
*THE **29** 02:12:13.6,36.75N×27.31E,h22km±2km,ML3.2/2,Error ellipse: s-maj=3.4km s-min=1.6km az=227.0*
ISC 29 02:12:11.4±0.9,36.81N±0.02×27.38E±0.02,h13km±7km, n52,σ0s75/84,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.26**	**348**	*e*PG		**Pg**	**02 12 16.6**	**-0.2**
BODT				*e*SG		**Sg**	**02 12 21.1**	**+0.7**
BODT	**Bodrum**	**0.26**	**348**	*e*Pg		**Pg**	**02 12 16.6**	**-0.2**
BODT				*e*Sg		**Sg**	**02 12 21.1**	**+0.7**
BDRM	**Kayabasi**	**0.26**	**12**	*i* P		**Pg**	**02 12 16.3**	**-0.5**
BDRM				*i* S		**Sg**	**02 12 20.6**	**+0.1**
BDRM	**Kayabasi**	**0.26**	**12**	*i* P		**Pg**	**02 12 16.3**	**-0.5**
BDRM				*i* S		**Sg**	**02 12 20.6**	**+0.1**
NIS1	**Nisyros Isl.**	**0.26**	**218**	P		**Pb**	**02 12 18.2**	**+0.2**
NIS1				S		**Sb**	**02 12 22.9**	**+0.4**
NIS1	**Nisyros Isl.**	**0.26**	**218**	P		**Pb**	**02 12 18.2**	**+0.2**
NIS1				S		**Sb**	**02 12 22.9**	**+0.4**
NISR	**Nisiros**	**0.28**	**225**	P		**Pb**	**02 12 18.5**	**+0.2**
NISR				S		**Sb**	**02 12 23.4**	**+0.4**
NISR	**Nisiros**	**0.28**	**225**	P		**Pb**	**02 12 18.5**	**+0.2**
NISR				S		**Sb**	**02 12 23.4**	**+0.4**
YER	**Yerkesik**	**0.79**	**66**	*e*PG		**Pg**	**02 12 26.6**	**-0.2**
YER				*e*SG		**Sn**	**02 12 39.8**	**-0.3**
YER	**Yerkesik**	**0.79**	**66**	*e*Pg		**Pg**	**02 12 26.6**	**-0.2**
YER				*e*Sg		**Sn**	**02 12 39.8**	**-0.3**
ARG	**Arkhangelos**	**0.85**	**134**	P		**Pg**	**02 12 27.6**	**-0.2**
ARG				S		**Sn**	**02 12 41.9**	**+0.6**
ARG	**Arkhangelos**	**0.85**	**134**	*e*PN		**Pg**	**02 12 27.7**	**-0.1**
ARG				*e*SN		**Sn**	**02 12 40.7**	**-0.6**
ARG	**Arkhangelos**	**0.85**	**134**	P		**Pg**	**02 12 27.6**	**-0.2**
ARG				*e*Sn		**Sn**	**02 12 40.7**	**-0.6**
ARG				S		**Sn**	**02 12 41.9**	**+0.6**
GCAM	**G?zelcaml?**	**0.89**	**353**	*i* P		**Pb**	**02 12 28.3**	**-0.5**
GCAM		

ASAR	**Alice Springs**	**45.91**	**255**	P	P	02 40 56.6	-0.1
	5.6nm,1.0s,baz=86,slow=8.3,SNR=16							
NWAO	**Narrogin (SRO)**	**60.03**	**242**	LR	LR	03 07 05.1	
	comp=Z,125nm,20.0s,baz=196,slow=34							
NVAR	**Mina Array Bea**	**79.11**	**43**	P	P	02 44 38.8	0.0
	0.9nm,0.8s,baz=224,slow=8.2,SNR=5.0							
TXAR	**Lajitas Array**	**85.30**	**57**	P	P	02 45 11.3	0.0
	0.5nm,0.9s,baz=201,slow=4.7,SNR=3.5							
TXAR				LR	LR	03 14 51.3		
	comp=Z,59nm,20.5s,baz=0.0,slow=30							
GERES	**GERESS Array B**	**148.84**	**346**	PKPbc	PKPbc	02 52 21.1	-0.5	
	0.6nm,0.7s,baz=27,slow=4.5,SNR=4.9							

CSEM ***29*** *02:32:56.5±0.3,36.94N×28.24E,h2km, MD2.7, Error ellipse: s-maj=8.0km s-min=4.7km az=24.0*
ISK ***29*** *02:32:56.6,36.97N×28.24E,h4km, MD2.7*
DDA ***29*** *02:32:57.2,36.97N×28.30E,h7km, MD3.0*

ISC 29 02:32:56.2±1.3, 36.92N±0.04×28.25E±0.03, h0km±13km, n24, σ0.970/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.21**	**6**	*e*PG	**Pg**	**02 33 00.2**	**-0.1**
YER				*e*SG	**Sg**	**02 33 03.8**	**+0.6**
YER	**Yerkesik**	**0.21**	**6**	*e*Pg	**Pg**	**02 33 00.2**	**-0.1**
YER				*e*Sg	**Sg**	**02 33 03.8**	**+0.6**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**02 33 00.9**	**-0.7**
TURN				*i* S	**Sg**	**02 33 05.1**	**-0.2**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**02 33 00.9**	**-0.7**
TURN				*i* S	**Sg**	**02 33 05.1**	**-0.2**
BDRM	**Kayabasi**	**0.66**	**283**	*i* P	**Pg**	**02 33 07.7**	**-1.2**
BDRM				*i* S	**Sb**	**02 33 21.3**	**+0.8**
BDRM	**Kayabasi**	**0.66**	**283**	*i* P	**Pg**	**02 33 07.7**	**-1.2**
BDRM				*i* S	**Sb**	**02 33 21.3**	**+0.8**
FETY	**Fethiye**	**0.72**	**113**	*e*PG	**Pb**	**02 33 11.9**	**+0.2**
FETY				*e*SG	**Sb**	**02 33 22.8**	**+0.6**
FETY	**Fethiye**	**0.72**	**113**	*e*Pg	**Pb**	**02 33 11.9**	**+0.2**
FETY				*e*Sg	**Sb**	**02 33 22.8**	**+0.6**
BODT	**Bodrum**	**0.77**	**281**	*e*PG	**Pg**	**02 33 11.6**	**+0.7**
BODT				*e*SG	**Sb**	**02 33 22.5**	**-1.0**
BODT	**Bodrum**	**0.77**	**281**	*e*Pg	**Pg**	**02 33 11.6**	**+0.7**
BODT				*e*Sg	**Sb**	**02 33 22.5**	**-1.0**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pg**	**02 33 11.2**	**-0.3**
AYDN				*i* S	**Sb**	**02 33 22.9**	**-1.5**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pg**	**02 33 11.2**	**-0.3**
AYDN				*i* S	**Sb**	**02 33 22.9**	**-1.5**
ELL	**Elmali**	**1.34**	**97**	*e*PN	**Pb**	**02 33 22.8**	**+0.6**
ELL	**Elmali**	**1.34**	**97**	*e*Pn	**Pb**	**02 33 22.8**	**+0.6**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*PN	**Pn**	**02 33 26.3**	**+0.1**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*Pn	**Pn**	**02 33 26.3**	**+0.1**
IZM	**Izmir**	**1.67**	**332**	*e*PN	**Pn**	**02 33 26.6**	**-0.1**
IZM	**Izmir**	**1.67**	**332**	*e*Pn	**Pn**	**02 33 26.7**	**-0.1**
KHL	**Karahalli**	**1.73**	**35**	*e*PN	**Pn**	**02 33 27.9**	**+0.3**
KHL	**Karahalli**	**1.73**	**35**	*e*Pn	**Pn**	**02 33 27.9**	**+0.3**
KHAL	**Karahalli**	**1.75**	**34**	*i* P	**Pn**	**02 33 27.4**	**-0.5**
KHAL				*i* S	**Sg**	**02 33 53.0**	**+0.6**
KHAL	**Karahalli**	**1.75**	**34**	*i* P	**Pn**	**02 33 27.4**	**-0.5**
KHAL				*i* S	**Sg**	**02 33 53.0**	**+0.6**
BLCB	**Balcova**	**1.75**	**327**	*e*PN	**Pn**	**02 33 28.1**	**+0.3**
BLCB	**Balcova**	**1.75**	**327**	*e*Pn	**Pn**	**02 33 28.1**	**+0.3**

IDC ***29*** *02:33:27.1±1.1,0.70S×133.36E,h0km, mb3.8/5, mb1 4.0/7,mb1mx3.8/18,mbtmp3.8/7,ML4.0/2,Error ellipse: s-maj=61.9km s-min=19.2km az=81.0*
ISCJB ***29*** *02:33:30.5±0.8,0.81S±0.07×133.1E±0.3,h33km, mb3.8/8, Error ellipse: s-maj=37.6km s-min=8.4km az=170.7*
NEIC ***29*** *02:33:32.5±0.6,0.75S×133.21E,h35km, mb4.1/2,Error ellipse: s-maj=29.3km s-min=7.9km az=79.0*
DJA ***29*** *02:33:33,0.66S×133.24E,h75km, MLv4.2/5*

ISC 29 02:33:32.2±0.9, 0.89S±0.09×133.2E±0.3, h35km, n19, σ1.564/21, mb3.9/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.64**	**203**	P	**Pn**	**02 37 47.9**	**+0.4**
	0.3nm,0.3s,baz=30,slow=16,SNR=3.7						
FITZ	**Fitzroy Crossi**	**18.64**	**203**	P	**Pn**	**02 37 47.9**	**+0.4**
WRA	**Warramunga Arr**	**18.97**	**177**	P	**Pn**	**02 37 52.3**	**+0.6**
	0.5nm,0.3s,baz=356,slow=13,SNR=9.8						
WRA				S	**Sn**	**02 41 19.6**	**-3.6**
	0.2nm,0.3s,baz=339,slow=24,SNR=2.0						
WRA	**Warramunga Arr**	**18.97**	**177**	P	**Pn**	**02 37 52.3**	**+0.6**
WRA				S	**Sn**	**02 41 19.6**	**-3.6**
AS31	**Alice Springs**	**22.66**	**178**	*e*P	**P**	**02 38 32.9**	**+2.3**
ASAR	**Alice Springs**	**22.66**	**178**	P	**P**	**02 38 32.5**	**+1.9**
	1.9nm,0.4s,baz=358,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.66**	**178**	P	**P**	**02 38 32.5**	**+1.9**
STKA	**Stephens Creek**	**31.84**	**166**	P	**P**	**02 39 55.3**	**+1.4**
	1.2nm,0.5s,baz=337,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**31.84**	**166**	P	**P**	**02 39 55.3**	**+1.4**
MK31	**Makanchi Array**	**65.01**	**324**	*e*P	**P**	**02 44 08.7**	**-0.2**
MKAR	**Makanchi Array**	**65.01**	**324**	P	**P**	**02 44 09.2**	**+0.3**
	0.6nm,0.6s,baz=114,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**65.01**	**324**	P	**P**	**02 44 09.2**	**+0.3**
ZALV	**Zalesovo Beam**	**67.64**	**331**	P	**P**	**02 44 25.5**	**0.0**
	0.3nm,0.4s,baz=128,slow=4.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**67.64**	**331**	P	**P**	**02 44 25.5**	**0.0**
EKS2	**Erkin-Say**	**68.58**	**317**	*e*P	**P**	**02 44 31.4**	**-0.4**
	3.6nm,1.2s						
KURK	**Kurchatov**	**69.09**	**326**	*e*P	**P**	**02 44 34.6**	**0.0**
	1.0nm,0.7s						
ABKAR	**Akbulak array**	**79.77**	**320**	*e*P	**P**	**02 45 36.1**	**-0.7**
	0.3nm,0.6s						
ILAR	**Eielson Array**	**86.51**	**25**	P	**P**	**02 46 09.9**	**-1.3**
	0.4nm,0.8s,baz=267,slow=4.6,SNR=4.4						
ILAR	**Eielson Array**	**86.51**	**25**	P	**P**	**02 46 09.9**	**-1.3**

IDC 29 02:41:12.2±4.6, 3.05S×148.26E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=161.5km s-min=34.3km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**218**	P	P	02 46 03.0	-1.0
	3.7nm,1.1s,baz=44,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**24.75**	**213**	P	P	02 46 36.5	+0.7
	1.4nm,0.7s,baz=43,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**76.06**	**320**	P	P	02 53 01.6	-0.1
	0.1nm,0.4s,baz=114,slow=7.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**145.46**	**289**	PKPbc	PKPbc	03 00 52.6	-0.8
	0.6nm,0.8s,baz=58,slow=2.3,SNR=5.3						

IDC ***29*** *02:44:54.2±0.8, 1.13S×138.39E,h0km, mb4.1/7, mb1 4.4/9,mb1mx4.2/17,mbtmp4.3/9,ML4.3/2,MS3.3/5, Ms1 3.3/5,ms1mx2.9/25,Error ellipse: s-maj=43.4km s-min=16.7km az=75.0*
ISCJB ***29*** *02:44:57.1±0.4, 1.25S±0.06×138.4E±0.1,h33km, mb4.2/16,MS3.4/4,Error ellipse: s-maj=17.8km s-min=7.0km az=162.3*
DJA ***29*** *02:44:57, 1.02S×138.63E,h34km, MLv4.6/5*
NEIC ***29*** *02:44:58.1±4.1, 1.21S×138.39E,h26km±30km, mb4.3/12, Error ellipse: s-maj=13.8km s-min=9.9km az=76.0*

ISC 29 02:44:59.3±0.6, 1.27S±0.09×138.3E±0.1, h35km, n45, σ1.501/38, mb4.3/16, MS3.4/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**11.93**	**133**	Pn	**Pn**	**02 47 47.5**	**+0.4**
	1.1nm,0.3s,baz=331,slow=6.7,SNR=5.5						
PMG	**Port Moresby**	**11.93**	**133**	Pn	**Pn**	**02 47 47.5**	**+0.4**
COEN	**Coen**	**13.49**	**159**	*e*P	**Pn**	**02 48 05.6**	**-2.7**
COEN	**Coen**	**13.49**	**159**	*e*Pn	**Pn**	**02 48 06.9**	**-1.4**
GUMO	**Guam**	**16.12**	**23**	LR	LR	02 53 05.8	
	comp=Z,25nm,19.6s,baz=122,slow=31						
MTSU	**Mount Surprise**	**17.76**	**161**	*e*P	**P**	**02 49 05.0**	**+0.5**
WRAB	**Tennant Creek**	**18.96**	**192**	*e*P	**Pn**	**02 49 17.8**	**-0.7**
	15nm,0.3s						
WB2	**Warramunga Arr**	**18.97**	**192**	*e*P	**Pn**	**02 49 17.9**	**-0.7**
WRA	**Warramunga Arr**	**18.97**	**192**	P	**P**	**02 49 17.6**	**-0.1**
	3.8nm,0.3s,baz=17,slow=12,SNR=31						
WRA				S	Sn	02 52 37.3	-13
	0.3nm,0.3s,baz=5.7,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**18.97**	**192**	P	**P**	**02 49 17.6**	**-0.1**
WRA				S	Sn	02 52 37.3	-13
CTA	**Charters Tower**	**20.25**	**158**	P	Pn	02 49 32.5	-1.3
	13nm,0.8s,baz=330,slow=10.0,SNR=8.4						
CTA	**Charters Tower**	**20.25**	**158**	P	Pn	02 49 32.5	-1.3
	11nm,0.7s						
AS31	**Alice Springs**	**22.68**	**191**	*e*P	**P**	**02 49 58.2**	**+0.3**
ASAR	**Alice Springs**	**22.68**	**191**	P	**P**	**02 49 58.5**	**+0.6**
	9.6nm,0.5s,baz=16,slow=11,SNR=134						
ASAR	**Alice Springs**	**22.68**	**191**	P	**P**	**02 49 58.5**	**+0.6**
STKA	**Stephens Creek**	**30.60**	**175**	P	**P**	**02 51 12.7**	**+2.6**
	1.4nm,0.4s,baz=344,slow=9.5,SNR=3.4						
STKA				LR	LR	03 04 21.4	
	comp=Z,126nm,18.8s,baz=205,slow=38						
STKA	**Stephens Creek**	**30.60**	**175**	P	**P**	**02 51 12.7**	**+2.6**
CMSA	**Cobar Meteorol**	**30.90**	**168**	*e*P	**P**	**02 51 12.8**	**+0.1**
JNU	**Nakatsue**	**34.92**	**349**	LR	LR	03 02 56.1	
	comp=Z,92nm,20.2s,baz=159,slow=31						
IPM	**Ipoh**	**37.71**	**279**	*e*P	**P**	**02 52 12.7**	**+0.7**
	7.0nm,0.6s						
KSRS	**Korea Array**	**39.72**	**347**	LR	LR	03 05 55.5	
	comp=Z,50nm,19.3s,baz=319,slow=32						
CMAR	**Chiang Mai Arr**	**43.41**	**299**	LR	LR	03 09 46.0	
	comp=Z,18nm,19.1s,baz=205,slow=34						
ULN	**Ulaanbaatar**	**56.01**	**335**	*e*P	**P**	**02 54 34.0**	**-0.6**
	2.4nm,0.9s						
SONM	**Songino Array**	**56.26**	**335**	P	**P**	**02 54 36.0**	**-0.3**
	0.5nm,0.7s,baz=160,slow=7.0,SNR=4.9						
SONM	**Songino Array**	**56.26**	**335**	P	**P**	**02 54 36.0**	**-0.3**
MK31	**Makanchi Array**	**68.43**	**322**	*e*P	**P**	**02 55 58.5**	**+0.8**
MKAR	**Makanchi Array**	**68.43**	**322**	P	**P**	**02 55 58.6**	**+0.9**
	2.8nm,0.9s,baz=107,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**68.43**	**322**	P	**P**	**02 55 58.6**	**+0.9**
ZALV	**Zalesovo Beam**	**70.51**	**330**	P	**P**	**02 56 09.3**	**-1.0**
	1.1nm,0.7s,baz=128,slow=4.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**70.51**	**330**	P	**P**	**02 56 09.3**	**-1.0**
TKM2	**Tokmak 2**	**71.25**	**316**	*e*P	**P**	**02 56 15.2**	**-0.2**
	2.1nm,0.7s						
KURK	**Kurchatov**	**72.33**	**325**	*e*P	**P**	**02 56 21.4**	**0.0**
	2.8nm,0.9s						
EKS2	**Erkin-Say**	**72.42**	**316**	*e*P	**P**	**02 56 22.9**	**+0.6**
	2.6nm,0.8s						
KKAR	**Karatay Array**	**74.84**	**315**	*e*P	**P**	**02 56 37.3**	**+0.8**
	0.4nm,0.5s						
VNDA	**Vanda**	**77.24**	**175**	*e*P	**P**	**02 56 49.1**	**-0.2**
	2.5nm,1.1s						
BRVK	**Borovoye**	**77.99**	**325**	*e*P	**P**	**02 56 54.4**	**+0.4**
	7.4nm,0.7s						
ABKAR	**Akbulak array**	**83.39**	**320**	*e*P	**P**	**02 57 23.2**	**+0.2**
	2.6nm,1.0s						
ILAR	**Eielson Array**	**84.68**	**25**	P	**P**	**02 57 28.2**	**-1.1**
	0.7nm,0.9s,baz=265,slow=5.4,SNR=4.2						
ILAR	**Eielson Array**	**84.68**	**25**	P	**P**	**02 57 28.2**	**-1.1**
INK	**Inuvik**	**90.48**	**22**	*e*P	**P**	**02 57 56.0**	**-1.0**
	1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**135.48**	**287**	PKP	**PKPdf**	**03 04 16.4**	**-0.4**
	0.6nm,0.8s,baz=56,slow=2.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**135.48**	**287**	PKP	**PKPdf**	**03 04 16.4**	**-0.4**
LPAZ	**La Paz**	**148.58**	**125**	PKPbc	**PKPbc**	**03 04 44.3**	**-0.1**
	2.4nm,0.8s,baz=308,slow=5.5,SNR=6.3						
LPAZ	**La Paz**	**148.58**	**125**	PKPbc	**PKPbc**	**03 04 44.3**	**-0.1**

DJA ***29*** *02:55:27,6.31S×105.72E,h98km, MLv3.4/7*

IDC 29 02:55:07.1±5.9, 4.97S×106.22E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=197.8km s-min=95.8km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.14**	**121**	P	P	03 01 28.8	+0.9
	0.3nm,0.3s,baz=303,slow=9.9,SNR=3.8						
ASAR	**Alice Springs**	**32.51**	**128**	P	P	03 01 40.2	+0.2
	0.7nm,0.8s,baz=293,slow=7.8,SNR=8.2						
STKA	**Stephens Creek**	**42.58**	**133**	P	P	03 03 04.0	-1.1
	0.8nm,0.4s,baz=311,slow=11,SNR=8.4						
TXAR	**Lajitas Array**	**142.77**	**46**	PKP	PKPdf	03 14 43.5	0.0
	0.2nm,0.5s,baz=251,slow=2.8,SNR=5.1						

CASC 29 03:03:30.9±1.8, 13.23N×90.31W, h13km±11km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.91**	**48**	*e*P	Pg	03 03 47.8	-0.9
SBLS				*e*S	Sg	03 04 00.3	-0.5
RTR	**El Retiro**	**0.93**	**44**	*e*P	Pg	03 03 48.2	-0.9
RTR				*e*S	Sb	03 04 01.9	+0.2
SNJE	**San Jose**	**0.94**	**47**	*e*P	Pg	03 03 48.2	-1.1
RBDL	**Robledal**	**1.07**	**35**	*e*P	Pb	03 03 50.4	-1.2
BOQS	**Boqueron**	**1.12**	**63**	*e*P	Pb	03 03 50.9	-1.7
LFRS	**El Faro**	**1.28**	**72**	*e*P	Pn	03 03 52.9	-1.8
LFRS				*e*S	Sb	03 04 11.6	0.0
FUG	**Fuego 3**	**1.32**	**337**	*e*P	Pn	03 03 53.9	-1.4
FUG				*e*S	Sb	03 04 10.2	-2.6
LBRS	**Las Brisas**	**1.34**	**68**	*e*P	Pn	03 03 54.1	-1.3
NBG	**Las Nubes**	**1.35**	**359**	*e*P	Pb	03 03 56.5	0.0
NBG				*e*S	Sb	03 04 13.1	-0.9
TP2	**Tecpan 2**	**1.69**	**336**	*e*P	Pn	03 04 00.4	-0.4
TP2				*e*S	Sb	03 04 23.5	-0.6
MRL	**Marmol**	**1.92**	**18**	*e*P	Pb	03 04 06.0	-0.1
MRL				*e*S	Sb	03 04 31.6	+1.3

MAN 29 03:09:58, 12.77N×123.63E, h69km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.41**	**180**	*e*P	Pn	03 10 03.7	-6.2
MMPH				*e*S	Sn	03 10 09.1	-10
PVCP	**Virac**	**0.97**	**32**	*e*P	Pn	03 10 17.0	+0.9
AUQP	**San Andres**	**1.08**	**301**	*e*P	Pn	03 10 17.6	+0.1
AUQP				*e*S	Sn	03 10 33.8	+1.9
GQP	**Guinayangan**	**1.61**	**315**	*e*P	Pn	03 10 26.0	+1.6
GQP				*e*S	Sn	03 10 48.7	+4.4
OTRP	**Odiongan**	**1.62**	**256**	*e*P	Pn	03 10 23.1	-1.5
GUIM	**Jordan**	**2.36**	**206**	*e*P	Pn	03 10 36.1	+1.5

CASC 29 03:13:56.0±2.3, 8.92N×82.80W, h13km±7km, MD3.5, 4C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.16**	**139**	*i* P	Pb	03 14 00.8	-0.3
BRU2				*e*S	Sg	03 14 03.5	+0.7
TBS2		**0.18**	**131**	*i* P	Pb	03 14 01.7	+0.2
BUS	**Buena Vista**	**1.14**	**304**	*e*P	Pb	03 14 16.4	-1.8
BUS				*e*S	Sb	03 14 31.9	-1.5
URSC	**Urasca**	**1.33**	**313**	*e*P	Pn	03 14 19.9	-0.7
URSC				*e*S	Sn	03 14 38.6	+0.3
LAJ	**Bijagual**	**1.61**	**306**	*e*P	Pg	03 14 28.7	+1.4
PTP	**Ponta Puerca**	**19.08**	**59**	*i* P	x	03 14 08.3	
PTP				*i* S	x	03 14 18.8	

WEL 29 03:15:22.0±0.4, 37.75S×176.44E, h145km±4km, ML3.5/4, Error ellipse: s-maj=4.7km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.73**	**134**	PN	Pn	03 15 44.3	+0.1
URZ				SN	Sn	03 16 00.9	-0.2
MWZ	**Matawai**	**1.04**	**125**	PN	Pn	03 15 46.8	+0.1
MWZ				SN	Sn	03 16 05.4	-0.2
RAHZ	**Arahi**	**1.27**	**157**	PN	Pn	03 15 49.3	+0.4
RAHZ				SN	Sn	03 16 09.5	0.0
NMHZ	**Naumai**	**1.38**	**168**	PN	Pn	03 15 50.4	+0.4
NMHZ				SN	Sn	03 16 10.8	-0.7
BKZ	**Black Stump Fm**	**1.42**	**178**	PN	Pn	03 15 50.0	-0.4
BKZ				SN	Sn	03 16 11.2	-1.0
MXZ	**Matakaoa Point**	**1.49**	**83**	PN	Pn	03 15 51.0	-0.1
MXZ				SN	Sn	03 16 14.1	+0.8
NGZ	**Ngauruhoe**	**1.57**	**205**	PN	Pn	03 15 53.2	+1.1
CNGZ	**Carnagh Statio**	**1.57**	**118**	PN	Pn	03 15 52.0	0.0
KNZ	**Kokohu**	**1.60**	**143**	PN	Pn	03 15 51.7	-0.5
TUVZ	**Tukino**	**1.64**	**202**	PN	Pn	03 15 53.0	+0.2
FWVZ	**Far West T-bar**	**1.66**	**205**	PN	Pn	03 15 53.7	+0.5
MCHZ	**McNeill Hill**	**1.70**	**173**	PN	Pn	03 15 53.4	0.0
WNVZ	**Wahianoa**	**1.71**	**202**	PN	Pn	03 15 53.7	0.0
MOVZ	**Moawhango**	**1.74**	**198**	PN	Pn	03 15 53.2	-0.7
BHHZ	**Black Hill Sta**	**1.76**	**190**	PN	Pn	03 15 53.6	-0.6
PKVZ	**Pokaka**	**1.76**	**209**	PN	Pn	03 15 54.5	+0.3

CSEM ***29*** *03:21:42.9±0.2,38.67N×21.66E,h10km, MD3.2, Error ellipse: s-maj=3.7km s-min=3.0km az=92.0*
THE ***29*** *03:21:43.2,38.67N×21.67E,h6km±2km, ML2.5/7, Error ellipse: s-maj=2.0km s-min=0.6km az=188.0*

ATH 29 03:21:42.5, 38.67N×21.67E, h18km±1km, MD3.2/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.27**	**24**	P	Pg	03 21 48.7	0.0
EVR				S	Sg	03 21 53.0	+0.1
EVR	**Evrytania**	**0.27**	**24**	*e*PB	Pg	03 21 48.5	-0.2
EVR				*e*SB	Sb	03 21 53.2	-0.1
EVR	**Evrytania**	**0.27**	**24**	*e*Pb	Pg	03 21 48.5	-0.2
EVR				S	Sg	03 21 53.0	+0.1
EFP	**Efpalio**	**0.30**	**143**	P	Pb	03 21 49.4	0.0
EFP				S	Sb	03 21 54.5	+0.4
EFP	**Efpalio**	**0.30**	**143**	*e*PB	Pg	03 21 49.2	+0.1
EFP				*e*SB	Sb	03 21 54.6	+0.5
EFP	**Efpalio**	**0.30**	**143**	P	Pb	03 21 49.4	0.0
EFP				S	Sb	03 21 54.5	+0.4
UPR	**University Cam**	**0.40**	**167**	P	Pb	03 21 50.9	-0.1
UPR				S	Sb	03 21 58.1	+1.3
UPR	**University Cam**	**0.40**	**167**	*e*PB	Pb	03 21 50.9	-0.1
UPR	**University Cam**	**0.40**	**167**	P	Pb	03 21 50.9	-0.1
UPR				S	Sb	03 21 58.1	+1.3
TRIZ	**Trizonia**	**0.44**	**134**	P	Pg	03 21 51.0	-0.2
TRIZ				S	Sb	03 21 58.5	+0.5
TRIZ	**Trizonia**	**0.44**	**134**	P	Pg	03 21 51.2	-0.2
TRIZ				S	Sb	03 21 58.5	+0.5
KALE	**Kalithea**	**0.46**	**127**	P	Pg	03 21 51.5	-0.5
KALE	**Kalithea**	**0.46**	**127**	P	Pg	03 21 51.5	-0.5
LAKA	**Lakka**	**0.49**	**150**	P	Pg	03 21 52.3	-0.2
LAKA				S	Sb	03 21 59.7	+0.1
LAKA	**Lakka**	**0.49**	**150**	P	Pg	03 21 52.3	-0.2
LAKA				S	Sb	03 21 59.7	+0.1
MAKR	**Makrakomi, Fth**	**0.50**	**46**	P	Pg	03 21 52.7	+0.1
MAKR				S	Sb	03 22 00.6	+0.8
MAKR	**Makrakomi, Fth**	**0.50**	**46**	P	Pg	03 21 52.7	+0.1
MAKR				S	Sb	03 22 00.6	+0.8
RLS	**Riolos of Patr**	**0.63**	**195**	P	Pg	03 21 55.2	+0.2
RLS				S	Sg	03 22 04.5	+1.0
RLS	**Riolos of Patr**	**0.63**	**195**	*e*PN	Pg	03 21 55.4	+0.4
RLS	**Riolos of Patr**	**0.63**	**195**	*e*Pn	Pg	03 21 55.4	+0.4
RLS				S	Sg	03 22 04.5	+1.0
DSF	**Desfina**	**0.72**	**111**	P	Pb	03 21 55.6	-1.0
DSF				S	Sg	03 22 07.1	+0.7
DSF	**Desfina**	**0.72**	**111**	P	Pb	03 21 55.6	-1.0
DSF				S	Sg	03 22 07.1	+0.7
LKD2	**Lefkada island**	**0.80**	**279**	*e*PN	Pb	03 21 58.0	+0.1
LKD2	**Lefkada island**	**0.80**	**279**	*e*Pn	Pb	03 21 58.0	+0.1
KFL	**Anninata**	**0.89**	**231**	P	Pb	03 21 59.5	+0.1
KFL				S	Sn	03 22 12.4	-0.2
KFL	**Anninata**	**0.89**	**231**	P	Pb	03 21 59.5	+0.1
KFL				S	Sn	03 22 12.4	-0.2
GUR	**Goura**	**0.90**	**144**	P	Pb	03 21 59.4	-0.4
GUR				S	Sn	03 22 13.5	+0.3
GUR	**Goura**	**0.90**	**144**	*e*PN	Pb	03 21 59.4	-0.4
GUR				*e*SN	Sn	03 22 13.1	-0.1
GUR	**Goura**	**0.90**	**144**	P	Pb	03 21 59.4	-0.4
GUR				S	Sn	03 22 13.5	+0.3
THL	**Klokotos Trika**	**0.93**	**17**	P	Pb	03 22 00.4	+0.2
THL				S	Sn	03 22 14.6	+1.0
THL	**Klokotos Trika**	**0.93**	**17**	*e*PN	Pb	03 22 00.4	+0.2
THL	**Klokotos Trika**	**0.93**	**17**	P	Pb	03 22 00.4	+0.2
THL				S	Sn	03 22 14.6	+1.0
VLS	**Valsamata**	**0.98**	**240**	P	Pb	03 22 00.5	-0.5
VLS				S	Sn	03 22 16.1	+1.2
VLS	**Valsamata**	**0.98**	**240**	*e*PB	Pb	03 22 00.6	-0.4
VLS				*e*SN	Sn	03 22 15.1	+0.2
VLS	**Valsamata**	**0.98**	**240**	*e*Pb	Pb	03 22 00.6	-0.4
VLS				*e*Sn	Sn	03 22 15.1	+0.2
VLS				S	Sg	03 22 16.1	+1.5
LKR	**Lokris**	**1.04**	**91**	P	Pb	03 22 01.4	-0.6
LKR				S	Sg	03 22 17.1	+0.7
LKR	**Lokris**	**1.04**	**91**	*e*PB	Pb	03 22 01.5	-0.5
LKR				*e*SN	Sg	03 22 17.2	+0.8
LKR	**Lokris**

CFR	**Carcaliu**	**1.18**	**113**	S	Sn	03 25 32.7	-0.5
CFR	**Carcaliu**	**1.18**	**113**	‖iP	Pn	03 25 16.8	+0.6
CFR				*i* S	Sn	03 25 32.7	-0.5
CFR	**Carcaliu**	**1.18**	**113**	‖iP	Pn	03 25 16.8	+0.6
CFR				*i* S	Sn	03 25 32.7	-0.5
LEOM	**Leova**	**1.42**	**54**	S	Sn	03 25 37.5	-0.6
LEOM	**Leova**	**1.42**	**54**	*i* S	Sn	03 25 37.5	-0.6
LEOM	**Leova**	**1.42**	**54**	*i* S	Sn	03 25 37.5	-0.6
TIRR	**Tirgusor**	**1.75**	**132**	S	Sn	03 25 45.7	+0.2
TIRR	**Tirgusor**	**1.75**	**132**	*i* S	Sn	03 25 45.7	+0.2
TIRR	**Tirgusor**	**1.75**	**132**	*i* S	Sn	03 25 45.7	+0.2

IDC ***29*** *03:25:30.7±0.8, 13°31′N×120°05′E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.0/21, mbtmp4.2/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/37, Error ellipse: s-maj=17.1km s-min=12.5km az=135.0*
ISCJB ***29*** *03:25:32.6±0.4, 13°33′N±0°04′×119°97′E±0°04′, h16km, mb4.3/15, MS3.0/2, Error ellipse: s-maj=6.1km s-min=5.1km az=35.1*
MAN ***29*** *03:25:34, 13°40′N×120°08′E, h15km, mb4.5, ML3.4, MS3.3*
NEIC ***29*** *03:25:37.4±1.6, 13°38′N×120°31′E, h50km±16km, mb4.5/6, Error ellipse: s-maj=19.8km s-min=8.1km az=60.0*

ISC 29 03:25:33.3±0.6, 13°31′N±0°04′×120°07′E±0°06′, h16km, n47, σ1§09/47, mb4.3/15, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.46**	**22**	*e*P	**Pb**	**03 25 42.9**	**-0.1**
TGY	**Tagaytay City**	**1.16**	**47**	Pg	**Pn**	**03 25 54.5**	**-0.4**
	6μm,0.3s,baz=232,slow=4.5,SNR=143						
TGY				Lg	Lg	03 26 08.6	
	3μm,0.3s,baz=317,slow=20,SNR=17						
TGY	**Tagaytay City**	**1.16**	**47**	Pg	**Pn**	**03 25 54.5**	**-0.4**
TGY				Lg	Lg	03 26 08.6	
TGY	**Tagaytay City**	**1.16**	**47**	‖*e*P	**Pn**	**03 25 54.5**	**-0.4**
TGY				*e*S	**Sg**	**03 26 10.7**	**-0.1**
BUSP	**Coron**	**1.30**	**174**	*e*P	**Pg**	**03 25 58.5**	**+0.1**
LQP	**Lukban**	**1.64**	**61**	‖*e*P	**Pb**	**03 26 02.0**	**+0.4**
OTRP	**Odiongan**	**2.12**	**116**	*e*P	**Pb**	**03 26 11.3**	**0.0**
ENPP	**El Nido**	**2.18**	**197**	*e*P	**Pb**	**03 26 11.5**	**-0.8**
GQP	**Guinayangan**	**2.39**	**75**	*e*P	**Pn**	**03 26 13.4**	**+1.7**
GQP				*e*S	**Sn**	**03 26 41.7**	**+1.0**
PCPH	**Palayan**	**2.45**	**24**	‖*e*P	**Pn**	**03 26 12.6**	**0.0**
PCPH				*e*S	**Sn**	**03 26 41.5**	**-0.9**
SCZP	**Santa Cruz**	**2.46**	**356**	*e*P	**Pn**	**03 26 13.3**	**+0.5**
CUYO	**Cuyo Island**	**2.61**	**159**	*e*P	**Pn**	**03 26 16.2**	**+1.3**
BALP	**Baler**	**2.83**	**31**	*e*P	**Pn**	**03 26 19.0**	**+1.3**
BOLP	**Bolinao**	**3.06**	**357**	*e*P	**Pn**	**03 26 22.4**	**+1.4**
PVCP	**Virac**	**3.98**	**85**	*e*P	Pn	03 26 37.4	+3.6
CAUP	**Cauayan**	**3.99**	**25**	*e*P	**Pn**	**03 26 36.1**	**+2.2**
CMAR	**Chiang Mai Arr**	**20.95**	**287**	P	**P**	**03 30 17.1**	**+1.4**
	4.6nm,0.8s,baz=95,slow=12,SNR=22						
CMAR	**Chiang Mai Arr**	**20.95**	**287**	P	**P**	**03 30 17.1**	**+1.4**
KSRS	**Korea Array**	**25.05**	**15**	LR	LR	03 41 28.2	
	comp=Z,38nm,20.4s,baz=200,slow=38						
WRA	**Warramunga Arr**	**35.90**	**157**	P	**P**	**03 32 32.5**	**-0.4**
	2.6nm,0.5s,baz=336,slow=9.5,SNR=16						
WRA	**Warramunga Arr**	**35.90**	**157**	P	**P**	**03 32 32.5**	**-0.4**
WB2	**Warramunga Arr**	**35.91**	**157**	*e*P	**P**	**03 32 32.7**	**-0.3**
ULN	**Ulaanbaatar**	**36.12**	**345**	*e*P	**P**	**03 32 34.0**	**-0.7**
	6.7nm,1.0s						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**03 32 35.9**	**0.0**
	6.5nm,0.7s,baz=160,slow=9.7,SNR=69						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**03 32 35.9**	**0.0**
AS31	**Alice Springs**	**39.16**	**160**	*e*P	**P**	**03 33 01.1**	**+0.6**
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**03 33 01.1**	**+0.6**
	2.4nm,0.6s,baz=340,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**03 33 01.1**	**+0.6**
MK31	**Makanchi Array**	**45.99**	**324**	*e*P	**P**	**03 33 56.9**	**+1.1**
MKAR	**Makanchi Array**	**45.99**	**324**	P	**P**	**03 33 56.5**	**+0.7**
	1.1nm,0.7s,baz=133,slow=8.9,SNR=20						
MKAR	**Makanchi Array**	**45.99**	**324**	P	**P**	**03 33 56.5**	**+0.7**
AAK	**Ala-Archa**	**48.91**	**316**	*e*P	**P**	**03 34 21.5**	**+2.7**
	5.0nm,0.7s						
ZALV	**Zalesovo Beam**	**49.13**	**333**	P	**P**	**03 34 20.5**	**+0.5**
	0.8nm,0.5s,baz=134,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**49.13**	**333**	P	**P**	**03 34 20.5**	**+0.5**
EKS2	**Erkin-Say**	**49.41**	**315**	*e*P	**P**	**03 34 24.9**	**+2.3**
	1.6nm,0.7s						
PETK	**Petropavlovsk-**	**49.66**	**29**	LR	LR	03 56 37.6	
	comp=Z,22nm,18.2s,baz=87,slow=38						
KURK	**Kurchatov**	**50.18**	**327**	*e*P	**P**	**03 34 28.7**	**+0.6**
	3.7nm,0.6s						
BRVK	**Borovoye**	**55.83**	**326**	*e*P	**P**	**03 35 10.8**	**+1.0**
	2.6nm,0.8s						
ABKAR	**Akbulak array**	**60.63**	**319**	*e*P	**P**	**03 35 43.7**	**+0.3**
	0.4nm,0.4s						
MSVF	**Nonsavu**	**64.99**	**117**	*e*P	**P**	**03 36 11.3**	**-1.7**
	8.5nm,0.4s						
ARCES	**ARCESS Array B**	**79.23**	**339**	P	**P**	**03 37 36.2**	**-1.2**
	5.9nm,1.0s,baz=80,slow=7.5,SNR=14						
ARCES	**ARCESS Array B**	**79.23**	**339**	P	**P**	**03 37 36.2**	**-1.2**
FINES	**FINESS Array B**	**80.33**	**331**	P	**P**	**03 37 42.9**	**-0.5**
	1.4nm,0.7s,baz=46,slow=5.5,SNR=6.3						
FINES	**FINESS Array B**	**80.33**	**331**	P	**P**	**03 37 42.9**	**-0.5**
NB2	**NORSAR Subarra**	**87.33**	**333**	P	**P**	**03 38 17.7**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=70,slow=4.4						
NOA	**NORSAR Array B**	**87.33**	**333**	P	**P**	**03 38 17.9**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=70,slow=4.6,SNR=5.6						
NOA	**NORSAR Array B**	**87.33**	**333**	P	**P**	**03 38 17.9**	**-1.4**

WEL 29 03:40:55.7±0.4, 36°91′S×176°93′E, h248km±5km, ML4.2/20, Error ellipse: s-maj=8.9km s-min=6.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.28**	**121**	PN	Pn	03 41 32.7	+0.5
MXZ				SN	S	03 42 00.7	-0.2
URZ	**Urewera**	**1.36**	**174**	PN	Pn	03 41 32.6	-0.1
URZ				SN	S	03 42 01.4	-0.5
MWZ	**Matawai**	**1.50**	**162**	PN	Pn	03 41 34.0	+0.1
MWZ				SN	S	03 42 03.2	-0.8
PUZ	**Puketiti**	**1.57**	**138**	PN	Pn	03 41 34.9	+0.6
PUZ				SN	S	03 42 03.8	-1.0
PRRZ	**Plateau Road**	**1.65**	**195**	PN	Pn	03 41 36.2	+1.3
PRRZ				SN	S	03 42 06.4	+0.5
CNGZ	**Carnagh Statio**	**1.87**	**148**	PN	Pn	03 41 37.8	+1.0
RAHZ	**Arahi**	**2.01**	**177**	PN	Pn	03 41 38.5	+0.4
RAHZ				SN	S	03 42 11.7	+0.1
PRGZ	**Paritu Road**	**2.15**	**160**	PN	Pn	03 41 40.2	+0.9
NMHZ	**Naumai**	**2.19**	**183**	PN	Pn	03 41 40.3	+0.5
KNZ	**Kokohu**	**2.19**	**165**	PN	Pn	03 41 39.7	+0.1
BKZ	**Black Stump Fm**	**2.28**	**189**	PN	Pn	03 41 40.3	-0.4
MHGZ	**Mahia Peninsul**	**2.37**	**161**	PN	Pn	03 41 41.8	+0.4
WTVZ	**West Tongariro**	**2.45**	**205**	PN	Pn	03 41 42.4	+0.1
TWVZ	**Taurewa**	**2.46**	**208**	PN	Pn	03 41 42.6	+0.1
OTVZ	**Oturere**	**2.46**	**204**	PN	Pn	03 41 42.9	+0.3
NGZ	**Ngauruhoe**	**2.50**	**204**	PN	Pn	03 41 43.4	+0.5
MCHZ	**McNeill Hill**	**2.54**	**184**	PN	Pn	03 41 43.4	+0.3
WPVZ	**Whakapapa**	**2.54**	**205**	PN	Pn	03 41 43.6	+0.2
TUVZ	**Tukino**	**2.56**	**203**	PN	Pn	03 41 43.7	+0.1
FWVZ	**Far West T-bar**	**2.58**	**204**	PN	Pn	03 41 43.8	-0.1
DRZ	**Dome Shelter**	**2.60**	**204**	PN	Pn	03 41 44.3	+0.2
TRVZ	**Turoa**	**2.63**	**204**	PN	Pn	03 41 44.4	0.0
WNVZ	**Wahianoa**	**2.64**	**203**	PN	Pn	03 41 44.3	0.0
MOVZ	**Moawhango**	**2.66**	**200**	PN	Pn	03 41 43.9	-0.6
BHHZ	**Black Hill Sta**	**2.67**	**195**	PN	Pn	03 41 44.1	-0.4
MTVZ	**Mangateitei**	**2.73**	**204**	PN	Pn	03 41 45.3	+0.1
CKHZ	**Cape Kidnapper**	**2.75**	**178**	PN	Pn	03 41 45.1	-0.2
KAHZ	**Kahuranaki**	**2.88**	**181**	PN	Pn	03 41 46.5	-0.3
PNHZ	**Pukenui**	**3.06**	**191**	PN	Pn	03 41 47.7	-1.0
PXZ	**Pawanui**	**3.12**	**181**	PN	Pn	03 41 48.6	-0.7
WPHZ	**Waipukurau**	**3.18**	**187**	PN	Pn	03 41 49.1	-0.8
WAZ	**Wanganui**	**3.23**	**208**	PN	Pn	03 41 50.0	-0.6
TSZ	**Takapari Road**	**3.24**	**193**	PN	Pn	03 41 49.4	-1.2
PRHZ	**Porangahau**	**3.36**	**184**	PN	Pn	03 41 51.0	-1.0
DVHZ	**Dannevirke**	**3.44**	**190**	PN	Pn	03 41 51.7	-1.2
POWZ	**Post Office Ro**	**3.60**	**194**	PN	Pn	03 41 53.3	-1.3
BFZ	**Birch Farm**	**3.81**	**188**	PN	Pn	03 41 55.4	-1.6
MRZ	**Mangatainoka R**	**3.90**	**195**	PN	Pn	03 41 56.0	-2.1
TIWZ	**Tintock**	**3.95**	**192**	PN	Pn	03 41 57.0	-1.7
HOWZ	**Holdsworth Sta**	**4.14**	**195**	PN	Pn	03 41 58.8	-2.1
OGWZ	**Otaki Gorge**	**4.14**	**199**	PN	Pn	03 41 58.8	-2.1
KIW	**Kapiti Island**	**4.25**	**201**	PN	Pn	03 41 60.0	-2.4
TMWZ	**Te Maipa**	**4.27**	**191**	PN	Pn	03 42 00.5	-2.0
MTW	**Mount Morrison**	**4.39**	**194**	PN	Pn	03 42 01.1	-2.8
CAW	**Cannon Point**	**4.44**	**198**	PN	Pn	03 42 02.0	-2.6
DUWZ	**D'Urville Isla**	**4.54**	**210**	PN	Pn	03 42 03.3	-2.6
TRWZ	**Traveller**	**4.59**	**192**	PN	Pn	03 42 04.3	-2.0
MSWZ	**Moikau Station**	**4.69**	**196**	PN	Pn	03 42 04.5	-3.0
SNZO	**South Karori**	**4.72**	**201**	PN	Pn	03 42 05.3	-2.6
TCW	**Tory Channel**	**4.77**	**205**	PN	Pn	03 42 05.8	-2.7
BHW	**Baring Head**	**4.77**	**199**	PN	Pn	03 42 05.9	-2.7
PLWZ	**Palliser**	**4.83**	**195**	PN	Pn	03 42 06.4	-3.0
TUWZ	**Tuamarina**	**5.08**	**206**	PN	Pn	03 42 09.2	-3.0
NNZ	**Nelson**	**5.12**	**212**	PN	Pn	03 42 09.8	-2.9
QRZ	**Quartz Range**	**5.21**	**220**	PN	Pn	03 42 10.6	-3.3
CMWZ	**Cape Campbell**	**5.27**	**203**	PN	Pn	03 42 13.1	-1.6
BSWZ	**Blackbirch Sta**	**5.35**	**205**	PN	Pn	03 42 13.0	-2.6
THZ	**Tophouse**	**5.77**	**212**	PN	Pn	03 42 17.3	-3.6
KHZ	**Kahutara**	**6.09**	**204**	PN	Pn	03 42 21.9	-2.9
DSZ	**Dennistoun Nort**	**6.26**	**218**	PN	Pn	03 42 22.7	-4.3
LTZ	**Lake Taylor**	**6.88**	**210**	PN	Pn	03 42 31.3	-3.5
MQZ	**McQueen's Vall**	**7.54**	**204**	PN	Pn	03 42 38.7	-4.2
RPZ	**Rata Peaks**	**8.15**	**212**	PN	Pn	03 42 46.5	-4.2
FOZ	**Fox Glacier**	**8.65**	**218**	PN	Pn	03 42 51.1	-6.0
LBZ	**Lake Benmore**	**9.06**	**212**	PN	Pn	03 42 57.9	-4.4
ODZ	**Otahua Downs**	**9.41**	**208**	PN	Pn	03 43 03.3	-3.4
JCZ	**Jackson Bay**	**9.48**	**218**	PN	Pn	03 43 03.1	-4.7
TUZ	**Tuapeka**	**10.56**	**209**	PN	Pn	03 43 18.6	-2.6

ISCJB ***29*** *04:01:13.1±0.4, 40°02′N±0°02′×27°80′E±0°03′, h3km±4km, Error ellipse: s-maj=3.4km s-min=2.8km az=163.1*
CSEM ***29*** *04:01:13.4±0.1, 40°02′N×27°78′E, h8km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=67.0*
DDA ***29*** *04:01:13.1, 40°02′N×27°81′E, h7km, MD3.2*
ISK ***29*** *04:01:13.0, 40°02′N×27°77′E, h8km, MD3.0*

ISC 29 04:01:13.6±0.9, 40°01′N±0°02′×27°79′E±0°02′, h13km±7km, n83, σ0§55/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.30**	**206**	*i* P	**Pg**	**04 01 20.0**	**+0.1**
BALY				*i* S	**Sg**	**04 01 24.6**	**+0.5**
BALY	**Balya**	**0.30**	**206**	*i* P	**Pg**	**04 01 20.0**	**+0.1**
BALY				*i* S	**Sg**	**04 01 24.6**	**+0.5**
EDC	**Edincik**	**0.34**	**9**	*e*PG	**Pg**	**04 01 20.6**	**0.0**
EDC				*e*SG	**Sg**	**04 01 25.1**	**0.0**
EDC	**Edincik**	**0.34**	**9**	*e*Pg	**Pg**	**04 01 20.6**	**0.0**
EDC				*e*Sg	**Sg**	**04 01 25.2**	**0.0**
BNT	**Bandirma**	**0.36**	**16**	*e*PG	**Pg**	**04 01 20.8**	**-0.1**
BNT				*e*SG	**Sg**	**04 01 26.1**	**+0.4**
BNT	**Bandirma**	**0.36**	**16**	*e*Pg	**Pg**	**04 01 20.8**	**-0.1**
BNT				*e*Sg	**Sg**	**04 01 26.1**	**+0.4**
BALB	**Balikesir**	**0.38**	**170**	*e*PG	**Pg**	**04 01 21.2**	**0.0**
BALB	**Balikesir**	**0.38**	**170**	*e*Pg	**Pg**	**04 01 21.2**	**0.0**
KCTX	**Karacabey (Bur**	**0.50**	**59**	*e*PG	**Pg**	**04 01 23.0**	**-0.5**
KCTX	**Karacabey (Bur**	**0.50**	**59**	*e*Pg	**Pg**	**04 01 23.0**	**-0.5**
KRBG	**Karabiga-Canak**	**0.54**	**315**	*e*PG	**Pg**	**04 01 23.1**	**-1.1**
KRBG				*e*SG	**Sg**	**04 01 31.3**	**0.0**
KRBG	**Karabiga-Canak**	**0.54**	**315**	*e*Pg	**Pg**	**04 01 23.1**	**-1.1**
KRBG				*e*Sg	**Sg**	**04 01 31.3**	**0.0**
DURS	**Dursunbey**	**0.67**	**128**	*i* P	**Pg**	**04 01 26.4**	**-0.2**
DURS				*i* S	**Sg**	**04 01 33.9**	**-1.5**
DURS	**Dursunbey**	**0.67**	**128**	*i* P	**Pg**	**04 01 26.4**	**-0.2**
DURS				*i* S	**Sg**	**04 01 33.9**	**-1.5**
DST	**Dursunbey**	**0.76**	**122**	*e*PG	**Pg**	**04 01 27.9**	**-0.4**
DST	**Dursunbey**	**0.76**	**122**	*e*Pg	**Pg**	**04 01 27.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.82**	**325**	*e*PG	**Pg**	**04 01 29.0**	**-0.6**
RKY				*e*SG	**Sg**	**04 01 40.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.82**	**325**	*e*Pg	**Pg**	**04 01 29.0**	**-0.6**
RKY				*e*Sg	**Sg**	**04 01 40.6**	**+0.2**
SART	**Tekirdag**	**0.82**	**325**	*i* P	**Pg**	**04 01 29.5**	**-0.1**
SART				*i* S	**Sb**	**04 01 41.1**	**+0.2**
SART	**Tekirdag**	**0.82**	**325**	*i* P	**Pg**	**04 01 29.5**	**-0.1**
SART				*i* S	**Sb**	**04 01 41.1**	**+0.2**
ORLT	**Orhaneli**	**0.85**	**87**	*e*PG	**Pg**	**04 01 30.2**	**+0.2**
ORLT	**Orhaneli**	**0.85**	**87**	*e*Pg	**Pg**	**04 01 30.3**	**+0.2**
MFT	**Murefte**	**0.87**	**333**	*e*PG	**Pg**	**04 01 30.2**	**-0.3**
MFT	**Murefte**	**0.87**	**333**	*e*Pg	**Pg**	**04 01 30.2**	**-0.3**
LPK	**Lapseki**	**0.87**	**295**	*e*PG	**Pg**	**04 01 29.7**	**-0.8**
LPK	**Lapseki**	**0.87**	**295**	*e*Pg	**Pg**	**04 01 29.7**	**-0.8**
MDNY	**Mudanya-Bursa**	**0.91**	**67**	*e*PG	**Pg**	**04 01 30.3**	**-0.9**
MDNY	**Mudanya-Bursa**	**0.91**	**67**	*e*Pg	**Pg**	**04 01 30.3**	**-0.9**
ARMT	**Armutlu**	**0.99**	**56**	*e*PG	**Pb**	**04 01 32.0**	**-0.6**
ARMT	**Armutlu**	**0.99**	**56**	*e*Pg	**Pb**	**04 01 32.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.08**	**291**	*e*PG	**Pb**	**04 01 33.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.08**	**291**	*e*Pg	**Pb**	**04 01 33.8**	**-0.4**
AYVA	**Ayvalik**	**1.10**	**231**	*i* P	**Pb**	**04 01 33.9**	**-0.7**
AYVA				*i* S	**Sn**	**04 01 51.0**	**+1.1**
AYVA	**Ayvalik**	**1.10**	**231**	*i* P	**Pb**	**04 01 33.9**	**-0.7**
CRLT	**Corlu**	**1.12**	**358**	*e*PN	**Pb**	**04 01 34.7**	**-0.1**
CRLT	**Corlu**	**1.12**	**358**	*e*Pn	**Pb**	**04 01 34.7**	**-0.1**
AKHS	**Akhisar**	**1.13**	**179**	*i* P	**Pb**	**04 01 34.9**	**-0.2**
AKHS				*i* S	**Sn**	**04 01 50.8**	**+0.1**
AKHS	**Akhisar**	**1.13**	**179**	*i* P	**Pb**	**04 01 34.9**	**-0.2**
AKHS				*i* S	**Sn**	**04 01 50.8**	**+0.1**
AKS	**Akhisar**	**1.13**	**179**	*e*PN	**Pg**	**04 01 35.6**	**+0.2**
AKS	**Akhisar**	**1.13**	**179**	*e*Pn	**Pg**	**04 01 35.7**	**+0.2**
EZN	**Ezine**	**1.14**	**261**	*e*PN	**Pb**	**04 01 34.5**	**-0.8**
EZN	**Ezine**	**1.14**	**261**	*e*Pn	**Pb**	**04 01 34.5**	**-0.8**
ERIK	**Erikli-Kesan**	**1.18**	**304**	*e*PN	**Pn**	**04 01 35.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.18**	**304**	*e*Pn	**Pn**	**04 01 35.3**	**-0.5**
DEMI	**Demirci**	**1.20**	**143**	*i* P	**Pn**	**04 01 35.9**	**-0.4**
DEMI				*i* S	**Sb**	**04 01 51.8**	**0.0**
DEMI	**Demirci**	**1.20**	**143**	*i* P	**Pn**	**04 01 35.9**	**-0.4**
DEMI				*i* S	**Sb**	**04 01 51.8**	**0.0**
ELBA	**Catalca**	**1.23**	**23**	*i* P	**Pn**	**04 01 36.1**	**-0.5**
ELBA				*i* S	**Sn**	**04 01 53.3**	**+0.1**
ELBA	**Catalca**	**1.23**	**23**	*i* P	**Pn**	**04 01 36.1**	**-0.5**
ELBA				*i* S	**Sn**	**04 01 53.3**	**+0.1**
SLVT	**Silivri**	**1.26**	**14**	*e*PN	**Pb**	**04 01 37.5**	**+0.3**
SLVT	**Silivri**	**1.26**	**14**	*e*Pn	**Pb**	**04 01 37.5**	**+0.3**
YLV	**Yalova**	**1.33**	**65**	*e*PN	**Pg**	**04 01 39.2**	**0.0**
YLV	**Yalova**	**1.33**	**65**	*e*Pn	**Pg**	**04 01 39.2**	**0.0**
CTKS	**Kestanelik-??a**	**1.34**	**24**	*e*PN	**Pn**	**04 01 38.4**	**+0.3**
CTKS	**Kestanelik-??a**	**1.34**	**24**	*e*Pn	**Pn**	**04 01 38.4**	**+0.3**
BOZC	**Bozcaada**	**1.35**	**263**	*i* P	**Pn**	**04 01 38.0**	**-0.2**
BOZC				*i* S	**Sg**	**04 01 56.8**	**-0.4**
BGKT	**Bogazkoy**	**1.39**	**32**	*e*PN	**Pn**	**04 01 38.5**	**-0.2**
BGKT	**Bogazkoy**	**1.39**	**32**	*e*Pn	**Pn**	**04 01 38.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.43**	**42**	*e*PN	**Pn**	**04 01 39.1**	**-0.2**
ISK	**Istanbul-Kandi**	**1.43**	**42**	*e*Pn	**Pn**	**04 01 39.1**	**-0.2**
ENEZ	**Enez**	**1.45**	**301**	*e*PN	**Pn**	**04 01 39.9**	**+0.4**
ENEZ	**Enez**	**1.45**	**301**	*e*Pn	**Pn**	**04 01 39.9**	**+0.4**
CTYL	**Yal??k??y-??at**	**1.51**	**14**	*e*PN	**Pn**	**04 01 40.9**	**+0.5**
CTYL	**Yal??k??y-??at**	**1.51**	**14**	*e*Pn	**Pn**	**04 01 40.9**	**+0.5**
ADVT	**Abdulvahap**	**1.55**	**74**	*e*PN	**Pn**	**04 01 41.0**	**+0.1**
ADVT	**Abdulvahap**	**1.55**	**74**	*e*Pn	**Pn**	**04 01 41.0**	**+0.1**
KLYT	**Kilyos**	**1.56**	**37**	*e*PN	**Pn**	**04 01 41.8**	**+0.7**
KLYT	**Kilyos**	**1.56**	**37**	*e*Pn	**Pn**	**04 01 41.8**	**+0.7**
GDZ	**Gediz**	**1.60**	**125**	*i* P	**Pn**	**04 01 41.5**	**-0.3**
GDZ				*i* S	**Sg**	**04 02 05.0**	**-0.1**
GDZ	**Gediz**	**1.60**	**125**	*i* P	**Pn**	**04 01 41.5**	**-0.3**
GDZ				*i* S	**Sg**	**04 02 05.0**	**-0.1**
MANT	**Manisa**	**1.63**	**158**	*i* P	**Pb**	**04 01 44.2**	**+0.4**
MANT				*i* S	**Sb**	**04 02 05.4**	**+1.1**
MANT	**Manisa**	**1.63**	**158**	*i* P	**Pb**	**04 01 44.2**	**+0.4**
MANT				*i* S	**Sb**	**04 02 05.4**	**+1.1**
KULA	**Kula-Manisa**	**1.64**	**155**	*e*PN	**Pb**	**04 01 43.4**	**-0.4**
KULA	**Kula-Manisa**	**1.64**	**155**	*e*Pn	**Pb**	**04 01 43.4**	**-0.4**
HRT	**Hereke**	**1.64**	**60**	*e*PN	**Pb**	**04 01 43.4**	**-0.4**
HRT	**Hereke**	**1.64**	**60**	*e*Pn	**Pb**	**04 01 43.4**	**-0.4**
BLCB	**Balcova**	**1.73**	**200**	*e*PN	**Pb**	**04 01 44.6**	**-0.6**
BLCB	**Balcova**	**1.73**	**200**	*e*Pn	**Pb**	**04 01 44.6**	**-0.6**
SILT	**Sile**	**1.81**	**50**	*e*PN	**Pb**	**04 01 45.9**	**-0.8**
SILT	**Sile**	**1.81**	**50**	*e*Pn	**Pb**	**04 01 45.9**	**-0.8**
EDRB	**Edirne**	**2.00**	**337**	*e*PN	**Pn**	**04 01 48.0**	**+1.0**
EDRB	**Edirne**	**2.00**	**337**	*e*Pn	**Pn**	**04 01 48.1**	**+1.0**
GULT	**Gulveren**	**2.12**	**78**	*e*PN	**Pn**	**04 01 50.2**	**+1.2**
GULT	**Gulveren**	**2.12**	**78**	*e*Pn	**Pn**	**04 01 50.2**	**+1.2**

IDC ***29*** *04:15:03.1±2.2, 30°94N×50°10E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, Error ellipse: s-maj=54.8km s-min=26.3km az=155.0*
THR ***29*** *04:15:04.9±0.5, 30°70N×50°37E, h14km±11km, ML3.5*
ISCJB ***29*** *04:15:05.1±0.4, 30°82N±0°04′×50°33E±0°04′, h10km, mb3.5/5, Error ellipse: s-maj=5.8km s-min=4.7km az=142.3*
CSEM ***29*** *04:15:05.2±0.1, 30°78N×50°35E, h2km, ML3.5, Error ellipse: s-maj=4.2km s-min=3.7km az=150.0*
TEH ***29*** *04:15:05.2, 30°70N×50°26E, h6km, ML3.8*

ISC 29 04:15:04.7±0.9, 30°76N±0°04′×50°35E±0°04′, h10km, n68, σ1§65/66, mb3.6/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.88**	**316**	*e*Pg	**Pb**	**04 15 40.3**	**+1.1**
SHGR				AML	AML	04 16 23.7	
	comp=E,397nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.88**	**316**	*e*Pg	**Pb**	**04 15 40.3**	**+1.1**
SHI	**Shiraz**	**2.18**	**120**	*e*Sg	Sg	04 16 14.2	-1.1
IPAR	**Pars**	**2.51**	**111**	*e*Pn	**Pn**	**04 15 47.3**	**+1.4**
IPAR				*e*		04 16 54.5	
	comp=Z,748nm,0.4s						
IPAR	**Pars**	**2.51**	**111**	*e*Pn	**Pn**	**04 15 47.3**	**+1.4**
UMR	**Umm Al-Rimmam**	**2.58**	**243**	*e*P	**Pn**	**04 15 48.5**	**+2.0**
UMR	**Umm Al-Rimmam**	**2.58**	**243**	*e*P	**Pn**	**04 15 48.5**	**+2.0**
ISRV	**Sarvestan**	**2.77**	**119**	*e*Pn	**Pn**	**04 15 50.5**	**+1.1**
ISRV				*e*		04 16 49.2	
	comp=Z,1μm,0.3s						
ISRV	**Sarvestan**	**2.77**	**119**	*e*Pn	**Pn**	**04 15 50.5**	**+1.1**
MIB	**Mutribah**	**2.77**	**251**	*e*P	**Pn**	**04 15 51.0**	**+1.8**
MIB				AML	AML	04 16 33.5	
	comp=Z,45nm,0.4s						
MIB	**Mutribah**	**2.77**	**251**	*e*P	**Pn**	**04 15 51.0**	**+1.8**
KBD	**Kabd**	**2.79**	**236**	*e*P	**Pn**	**04 15 51.4**	**+2.0**
KBD				AML	AML	04 16 27.4	
	comp=Z,59nm,0.3s						
KBD	**Kabd**	**2.79**	**236**	*e*P	**Pn**	**04 15 51.4**	**+2.0**
QRN	**Al-Qurain**	**2.92**	**227**	*e*P	**Pn**	**04 15 52.7**	**+1.6**
NASN	**Na'in**	**2.92**	**45**	*e*Pn	**Pn**	**04 15 53.5**	**+1.9**
NASN	**Na'in**	**2.92**	**45**	*e

ISC 29 04:45:05.4±0.9, 9°04S±0.05×124°09E±0.06, h67km±7km, n492, σ1°25/519, mb5.2/93, 99C-91D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.87**	**313**	P	Pn	04 46 33.4	+3.5
	14nm,0.3s,baz=154,slow=7.6,SNR=40						
KAPI				LR	LR	04 48 53.9	
	comp=Z,2μm,21.1s,baz=128,slow=40						
KAPI	**Kappang**	**5.87**	**313**	P	Pn	04 46 33.4	+3.5
KAPI	**Kappang**	**5.87**	**313**	Pn	Pn	04 46 34.3	+4.4
	1μm,1.0s,SNR=20						
FITZ	**Fitzroy Crossi**	**9.14**	**171**	P	**Pn**	**04 47 11.6**	**-2.9**
	31nm,0.3s,baz=8.0,slow=8.8,SNR=178						
FITZ				S	Sn	04 48 45.3	-11
	34nm,0.3s,baz=106,slow=3.5,SNR=26						
FITZ				LR	LR	04 51 00.4	
	comp=Z,387nm,18.6s,baz=352,slow=38						
FITZ	**Fitzroy Crossi**	**9.14**	**171**	*e*P	Pn	04 47 11.3	-3.3
FITZ				*e*S	Sn	04 48 45.0	-11
FITZ	**Fitzroy Crossi**	**9.14**	**171**	*e*Pn	**Pn**	**04 47 11.5**	**-3.1**
	40nm,0.8s						
FITZ				*e*S	Sn	04 48 44.8	-11
MBWA	**Marble Bar**	**12.76**	**199**	*e*P	**Pn**	**04 48 02.9**	**-1.1**
MBWA				*e*S	Sn	04 50 13.4	-11
MBWA	**Marble Bar**	**12.76**	**199**	*e*Pn	**Pn**	**04 48 03.0**	**-1.1**
MBWA				*e*S	Sn	04 50 13.4	-11
UGM	**Wanagama**	**13.46**	**274**	*e*Pn	**Pn**	**04 48 13.0**	**-0.6**
TSM	**Tawau**	**14.62**	**335**	P	**P**	**04 48 34.2**	**+0.8**
WRA	**Warramunga Arr**	**14.69**	**139**	P	Pn	04 48 23.4	-6.3
	6.0nm,0.3s,baz=310,slow=13,SNR=97						
WRA				S	Sn	04 50 54.3	-17
	5.8nm,0.3s,baz=317,slow=18,SNR=4.6						
WRA				LR	LR	04 55 09.3	
	comp=Z,132nm,19.0s,baz=330,slow=41						
WRA	**Warramunga Arr**	**14.69**	**139**	P	Pn	04 48 23.5	-6.3
WRA	**Warramunga Arr**	**14.69**	**139**	P	Pn	04 48 23.4	-6.3
WRA				S	Sn	04 50 54.3	-17
WRAB	**Tennant Creek**	**14.69**	**139**	*e*P	Pn	04 48 23.3	-6.5
WRAB				pmax	pmax		
	comp=Z,59nm,0.6s						
WRAB	**Tennant Creek**	**14.69**	**139**	*e*Pn	Pn	04 48 23.3	-6.5
	comp=Z,59nm,0.6s						
WRAB				*e*S	Sn	04 50 53.3	-18
WRAB	**Tennant Creek**	**14.69**	**139**	Pn	Pn	04 48 23.0	-6.7
	comp=Z,529nm,0.7s,SNR=32						
WB2	**Warramunga Arr**	**14.70**	**139**	*e*Pn	Pn	04 48 22.8	-7.1
WB2				*e*S	Sn	04 50 54.6	-17
DAV	**Davao City (W)**	**16.07**	**5**	P	**P**	**04 48 50.6**	**+1.1**
	comp=Z,50nm,0.3s,baz=216,slow=9.4,SNR=6.7						
DAV				LR	LR	04 54 42.0	
	comp=Z,229nm,21.9s,baz=131,slow=36						
DAV	**Davao City (W)**	**16.07**	**5**	P	**P**	**04 48 50.6**	**+1.1**
SDKM	**Sandakan**	**16.12**	**335**	P	**P**	**04 48 54.2**	**+4.0**
CTBH	**Cotabato--PC H**	**16.15**	**1**	*i*P	**P**	**04 48 54.0**	**+3.5**
BTM	**Bintulu**	**16.37**	**317**	P	P	04 48 59.0	+6.1
SBUM	**Sibu**	**16.43**	**313**	P	**P**	**04 48 57.3**	**+3.7**
KKM	**Kota Kinabalu**	**16.91**	**332**	Pn	**P**	**04 48 58.0**	**-0.9**
	comp=Z,70nm,1.0s						
KKM	**Kota Kinabalu**	**16.91**	**332**	P	P	04 49 03.9	+5.0
KSM	**Kuching**	**17.25**	**307**	*e*Pn	**P**	**04 49 03.1**	**+0.6**
	comp=Z,52nm,0.8s						
KSM	**Kuching**	**17.25**	**307**	P	**P**	**04 49 07.1**	**+4.5**
AS31	**Alice Springs**	**17.32**	**148**	*e*Pn	**Pn**	**04 48 58.9**	**-4.0**
ASAR	**Alice Springs**	**17.32**	**148**	P	**Pn**	**04 48 58.6**	**-4.2**
	comp=Z,2.5nm,0.3s,baz=320,slow=11,SNR=79						
ASAR				S	Sn	04 52 01.6	-13
	comp=Z,5.6nm,0.3s,baz=321,slow=19,SNR=9.1						
ASAR	**Alice Springs**	**17.32**	**148**	P	**Pn**	**04 48 58.7**	**-4.2**
ASAR	**Alice Springs**	**17.32**	**148**	P	**Pn**	**04 48 58.6**	**-4.2**
ASAR				S	Sn	04 52 01.6	-13
KDM	**Kudat**	**17.42**	**335**	P	P	04 49 10.4	+6.0
MEEK	**Meekatharra**	**18.26**	**196**	*e*P	**Pn**	**04 49 14.4**	**+0.1**
MEEK				*e*S	Sn	04 52 23.7	-14
COEN	**Coen**	**19.33**	**106**	*e*P	**P**	**04 49 25.0**	**-0.5**
	comp=Z,842nm,0.8s						
FORT	**Forrest**	**21.95**	**171**	*e*P	**P**	**04 49 53.1**	**-0.5**
FORT				*e*S	S	04 53 43.5	-8.7
FORT	**Forrest**	**21.95**	**171**	*e*P	**P**	**04 49 52.8**	**-0.8**
	comp=Z,244nm,1.3s						
PMG	**Port Moresby**	**22.78**	**93**	P	**P**	**04 50 02.8**	**+0.2**
	comp=Z,26nm,0.6s,baz=271,slow=12,SNR=6.2						
PMG				S	**S**	**04 54 09.3**	**+2.5**
	comp=Z,26nm,1.1s,baz=0.0,slow=20,SNR=6.5						
PMG	**Port Moresby**	**22.78**	**93**	*ce*P	**P**	**04 50 04.1**	**+1.5**
PMG				pmax	pmax		
	comp=Z,172nm,1.7s						
PMG	**Port Moresby**	**22.78**	**93**	*e*P	**P**	**04 50 03.7**	**+1.1**
	comp=Z,111nm,0.7s						
PMG				S	**S**	**04 54 09.3**	**+2.5**
MYKOM	**Kota Tinggi**	**22.85**	**297**	P	**P**	**04 50 05.6**	**+2.2**
TGY	**Tagaytay City**	**23.20**	**352**	P	**P**	**04 50 07.4**	**+0.6**
	comp=Z,151nm,0.4s,baz=253,slow=9.8,SNR=4.8						
TGY	**Tagaytay City**	**23.20**	**352**	P	**P**	**04 50 07.4**	**+0.6**
TGY	**Tagaytay City**	**23.20**	**352**	P	**P**	**04 50 07.4**	**+0.6**
KLBR	**Kellerberrin**	**23.20**	**194**	*e*P	**P**	**04 50 06.1**	**-0.6**
KLBR				*e*S	**S**	**04 54 15.3**	**+1.9**
KGM	**Kluang**	**23.43**	**297**	P	**P**	**04 50 11.1**	**+2.1**
CTA	**Charters Tower**	**24.07**	**120**	P	**P**	**04 50 14.6**	**-0.2**
	comp=Z,28nm,1.0s,baz=283,slow=13,SNR=8.4						
CTA				LR	LR	05 00 35.7	
	comp=Z,493nm,20.4s,baz=298,slow=38						
CTA	**Charters Tower**	**24.07**	**120**	*e*P	**P**	**04 50 15.3**	**+0.5**
CTA	**Charters Tower**	**24.07**	**120**	P	**P**	**04 50 14.6**	**-0.2**
CTA	**Charters Tower**	**24.07**	**120**	P	**P**	**04 50 14.6**	**-0.2**
CTAO	**Charters Tower**	**24.07**	**120**	*e*P	**P**	**04 50 14.8**	**0.0**
CTAO				pmax	pmax		
	comp=Z,287nm,1.9s						
CTAO	**Charters Tower**	**24.07**	**120**	*e*P	**P**	**04 50 14.8**	**0.0**
	comp=Z,287nm,1.9s						
NWAO	**Narrogin (SRO)**	**24.61**	**194**	P	**P**	**04 50 19.3**	**-0.1**
	comp=Z,23nm,0.8s,baz=25,slow=10,SNR=13						
NWAO				LR	LR	05 02 27.7	
	comp=Z,199nm,18.4s,baz=5.2,slow=42						
NWAO	**Narrogin (SRO)**	**24.61**	**194**	*e*P	**P**	**04 50 19.0**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,35nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.61**	**194**	*e*P	**P**	**04 50 19.0**	**-0.5**
	comp=Z,35nm,1.1s						
FRIM	**Kepong**	**25.49**	**298**	P	**P**	**04 50 29.4**	**+1.6**
BBOO	**Buckleboo**	**26.12**	**157**	*e*P	**P**	**04 50 33.0**	**-0.3**
	comp=Z,599nm,0.5s						
IPM	**Ipoh**	**26.62**	**299**	P	**P**	**04 50 39.6**	**+1.7**
STKA	**Stephens Creek**	**27.94**	**147**	P	**P**	**04 50 49.7**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=313,slow=8.3,SNR=23						
STKA				LR	LR	05 03 09.9	
	comp=Z,261nm,19.5s,baz=99,slow=39						
STKA	**Stephens Creek**	**27.94**	**147**	*e*P	**P**	**04 50 49.9**	**+0.3**
STKA	**Stephens Creek**	**27.94**	**147**	*e*P	**P**	**04 50 49.4**	**-0.2**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**27.94**	**147**	*e*P	**P**	**04 50 49.4**	**-0.2**
	comp=Z,5.3nm,0.9s						
QIZ	**Qiongzhong**	**31.22**	**333**	P	**P**	**04 51 20.8**	**+2.1**
QIZ				S	**S**	**04 56 26.0**	**+5.5**
QIZ				pmax	pmax		
	comp=Z,23nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,82nm,4.1s						
TPUB	**Ta-pu**	**32.31**	**354**	*e*P	**P**	**04 51 27.9**	**-0.4**
	comp=Z,47nm,0.9s						
YULB	**Yu-li**	**32.34**	**355**	*e*P	**P**	**04 51 27.3**	**-1.2**
	comp=Z,7.6nm,0.6s						
SSLB	**Suanglung**	**32.77**	**355**	*e*P	**P**	**04 51 31.3**	**-0.9**
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**33.37**	**133**	*e*P	**P**	**04 51 38.5**	**+0.9**
YHNB	**Yeheng**	**33.60**	**356**	*e*P	**P**	**04 51 39.3**	**-0.2**
	comp=Z,29nm,0.9s						
CNB	**Canberra Magne**	**34.89**	**142**	*e*P	**P**	**04 51 51.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.90**	**318**	P	**P**	**04 52 08.8**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=142,slow=7.0,SNR=35						
CMAR				ScP	**ScP**	**04 58 10.5**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=164,slow=3.5,SNR=19						
CMAR				LR	LR	05 10 03.4	
	comp=Z,104nm,18.0s,baz=140,slow=41						
CMAR	**Chiang Mai Arr**	**36.90**	**318**	P	**P**	**04 52 08.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**36.90**	**318**	P	**P**	**04 52 08.8**	**+0.8**
CMAR				ScP	**ScP**	**04 58 10.5**	**+0.8**
CHTO	**Chiang Mai**	**37.16**	**318**	*e*P	**P**	**04 52 11.1**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**37.16**	**318**	*e*P	**P**	**04 52 11.1**	**+1.0**
	comp=Z,7.3nm,0.8s						
GYA	**Guiyang**	**39.13**	**335**	P	**P**	**04 52 27.3**	**+0.6**
GYA				PP	PP	04 54 03.0	+5.3
GYA				PcP	**PcP**	**04 54 36.0**	**+0.7**
GYA				S	**S**	**04 58 19.8**	**-2.2**
GYA				sS	sS	04 58 59.3	+9.1
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.1s						
GYA				LR	LR		
	comp=N,550nm,17.5s						
GYA				LR	LR		
	comp=E,480nm,18.5s						
GYA				LR	LR		
	comp=Z,530nm,17.0s						
KMI	**Kunming**	**39.82**	**329**	P	**P**	**04 52 34.5**	**+1.9**
KMI				pP	pP	04 52 54.3	+5.1
KMI				sP	sP	04 53 04.5	+7.5
KMI				S	**S**	**04 58 34.3**	**+1.8**
KMI				SS	SS	05 01 28.8	-2.4
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI				pmax	pmax		
	comp=Z,70nm,3.3s						
KMI				LR	LR		
	comp=N,110nm,18.0s						
KMI				LR	LR		
	comp=E,130nm,19.8s						
KMI				LR	LR		
	comp=Z,120nm,16.2s						
CBIJ	**Chichi jima**	**39.98**	**26**	P	**P**	**04 52 31.9**	**-1.7**
	comp=Z,146nm,0.8s,baz=267,slow=17,SNR=3.5						
CBIJ	**Chichi jima**	**39.98**	**26**	P	**P**	**04 52 31.9**	**-1.7**
NJ2	**Nanjing**	**41.16**	**353**	*e*P	**P**	**04 52 43.5**	**+0.2**
NJ2				PP	PP	04 54 21.5	+1.9
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
ENH	**Enshi**	**41.52**	**341**	*e*P	**P**	**04 52 46.6**	**+0.2**
	comp=Z,17nm,0.9s						
JNU	**Nakatsue**	**42.42**	**8**	P	**P**	**04 52 53.0**	**-0.7**
	comp=Z,15nm,0.8s,baz=160,slow=5.9,SNR=7.5						
JNU	**Nakatsue**	**42.42**	**8**	P	**P**	**04 52 53.0**	**-0.7**
DZM	**Mont Dzumac**	**42.66**	**113**	*e*P	**P**	**04 52 56.1**	**+0.2**
	comp=Z,35nm,0.9s						
DZM				*e*LR	LR	05 05 02.3	
	comp=Z,889nm,36.4s						
DZM	**Mont Dzumac**	**42.66**	**113**	P	**P**	**04 52 57.4**	**+1.5**
	comp=Z,7.9nm,0.7s,baz=270,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**42.66**	**113**	P	**P**	**04 52 57.4**	**+1.5**
CD2	**Chengdu**	**44.25**	**335**	P	**P**	**04 53 08.8**	**+0.4**
CD2				pP	pP	04 53 30.0	+4.8
CD2				sP	sP	04 53 40.3	+7.4
CD2				PP	PP	04 54 55.0	+2.2
CD2				S	**S**	**04 59 36.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,90nm,4.5s						
CD2				LR	LR		
	comp=N,190nm,5.3s						
CD2				LR	LR		
	comp=Z,140nm,11.3s						
XAN	**Xi'an**	**45.19**	**342**	P	**P**	**04 53 15.0**	**-0.9**
XAN				pP	pP	04 53 37.5	+4.7
XAN				sP	sP	04 53 48.0	+7.5
XAN				S	**S**	**04 59 46.3**	**-4.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,21nm,7.8s						
KSAR	**Wonju Array Be**	**46.37**	**4**	P	**P**	**04 53 24.9**	**-0.1**
KSAR						04 54 59.4	
KSAR	**Wonju Array Be**	**46.37**	**4**	P	**P**	**04 53 24.9**	**-0.1**
KSAR				PcP	**PcP**	**04 54 59.4**	**+0.2**
KSRS	**Korea Array**	**46.38**	**4**	P	**P**	**04 53 24.9**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=182,slow=10,SNR=30						
KSRS				PcP	**PcP**	**04 54 59.4**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=189,slow=4.1,SNR=7.2						
KSRS				LR	LR	05 11 13.6	
	comp=Z,70nm,20.8s,baz=303,slow=34						
SHL	**Shillong**	**46.53**	**318**	*e*P	**P**	**04 53 26.5**	**-0.2**
MJAR	**Matsushiro Arr**	**47.24**	**16**	P	**P**	**04 53 30.0**	**-1.9**
	comp=Z,22nm,0.8s,baz=195,slow=9.1,SNR=46						
MJAR				LR	LR	05 13 33.8	
	comp=Z,36nm,20.5s,baz=180,slow=36						
MJAR	**Matsushiro Arr**	**47.24**	**16**	P	**P**	**04 53 30.0**	**-1.9**
MJAR	**Matsushiro Arr**	**47.24**	**16**	P	**P**	**04 53 30.0**	**-1.9**
MAJO	**Matsushiro**	**47.24**	**16**	*e*P	**P**	**04 53 31.0**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s						
MAJO	**Matsushiro**	**47.24**	**16**	*e*P	**P**	**04 53 31.0**	**-0.9**
	comp=Z,24nm,0.8s						
MAT	**Matsushiro**	**47.24**	**16**	P	**P**	**04 53 30.8**	**-1.1**
LZH	**Lanzhou**	**48.76**	**338**	*e*P	**P**	**04 53 44.3**	**+0.5**
LZH				*e*S	**S**	**05 00 40.0**	**-2.0**
LZH				SS	SS	05 04 06.3	-7.3
LZH				pmax	pmax		
	comp=Z,54nm,1.2s						
LZH				pmax	pmax		
	comp=Z,210nm,5.1s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=E,560nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,15.6s						
BJT	**Baijiatuau**	**49.35**	**352**	*e*P	**P**	**04 53 47.0**	**-1.0**
BJT				pmax	pmax		
	comp=Z,28nm,0.7s						
BJT	**Baijiatuau**	**49.35**	**352**	*e*P	**P**	**04 53 47.0**	**-1.0**
	comp=Z,28nm,0.7s						
BJI	**Beijing**	**49.37**	**352**	P	**P**	**04 53 46.8**	**-1.4**
BJI				S	S	05 00 56.0	+5.9
BJI				pmax	pmax		
	comp=Z,27nm,0.8s						
BJI				pmax	pmax		
	comp=Z,52nm,4.4s						
BJI				LR	LR		
	comp=N,170nm,29.8s						
BJI				LR	LR		
	comp=E,96nm,26.3s						
BJI				LR	LR		
	comp=Z,56nm,24.8s						
LSA	**Lhasa**	**49.88**	**322**	P	**P**	**04 53 54.5**	**+1.7**
LSA				pmax	pmax		
	comp=Z,50nm,0.7s						
LSA	**Lhasa**	**49.88**	**322**	*e*P	**P**	**04 53 53.9**	**+1.1**
LSA				pmax	pmax		
	comp=Z,26nm,0.6s						
LSA	**Lhasa**	**49.88**	**322**	*e*P	**P**	**04 53 53.9**	**+1.1**
	comp=Z,26nm,0.6s						
ODAN	**Odare**	**50.40**	**316**	*e*P	**P**	**04 53 57.2**	**+0.6**
	comp=Z,41nm,0.6s						
ODAN	**Odare**	**50.40**	**316**	*e*P	**P**	**04 53 57.2**	**+0.6**
	comp=Z,41nm,0.6s						
TAPN	**Taplejung**	**50.50**	**317**	*e*P	**P**	**04 53 58.0**	**+0.6**
	comp=Z,90nm,0.9s						
TAPN	**Taplejung**	**50.50**	**317**	*e*P	**P**	**04 53 58.0**	**+0.6**
	comp=Z,90nm,0.9s						
SNY	**Shenyang**	**50.62**	**360**	*i*P	**P**	**04 53 56.0**	**-1.6**
SNY				S	**S**	**05 01 12.5**	**+5.2**
SNY				pmax	pmax		
	comp=Z,12nm,1.1s						
SNY				pmax	pmax		
	comp=Z,120nm,5.4s						
SNY				LR	LR		
	comp=N,100nm,3.0s						
SNY				LR	LR		
	comp=E,110nm,3.7s						
SNY				LR	LR		
	comp=Z,110nm,4.5s						
HHC	**Hu-ho-hao-te**	**50.96**	**348**	*e*P	**P**	**04 53 58.5**	**-1.9**
HHC				pP	pP	04 54 22.5	+5.0
HHC				sP	sP	04 54 33.0	+7.8
HHC				PP	PP	04 55 58.8	+1.3
HHC				S	**S**	**05 01 08.0**	**-4.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,75nm,5.1s						
HHC				LR	LR		
	comp=N,130nm,11.8s						
HHC				LR	LR		
	comp=E,150nm,14.3s						
HHC				LR	LR		
	comp=Z,130nm,12.1s						
RAMN	**Ramite**	**51.00**	**316**	*e*P	**P**	**04 54 02.1**	**+1.0**
	comp=Z,139nm,0.5s						
RAMN	**Ramite**	**51.00**	**316**	*e*P	**P**	**04 54 02.1**	**+1.0**
	comp=Z,139nm,0.5s						
JIRN	**Jiri**	**51.73**	**316**	*e*P	**P**	**04 54 07.3**	**+0.6**
	comp=Z,67nm,0.6s						
JIRN	**Jiri**	**51.73**	**316**	*e*P	**P**	**04 54 07.3**	**+0.6**
	comp=Z,67nm,0.6s						
GUN	**Gumba**	**52.10**	**316**	*e*P	**P**	**04 54 09.9**	**+0.5**
	comp=Z,113nm,0.6s						
GUN	**Gumba**	**52.10**	**316**	*e*P	**P**	**04 54 09.9**	**+0.5**
	comp=Z,113nm,0.6s						
PKI	**Pulchoki**	**52.21**	**315**	*e*P	**P**	**04 54 10.5**	**+0.3**
	comp=Z,61nm,0.5s						
PKI	**Pulchoki**	**52.21**	**315**	*e*P	**P**	**04 54 10.5**	**+0.3**
PKI				pmax	pmax		
	comp=Z,61nm,0.5s						
PKI	**Pulchoki**	**52.21**	**315**	*e*P	**P**	**04 54 10.5**	**+0.3**
	comp=Z,61nm,0.5s						
KKN	**Kakani**	**52.44**	**316**	*e*P	**P**	**04 54 12.2**	**+0.4**
	comp=Z,57nm,0.7s						
KKN	**Kakani**	**52.44**	**316**	*e*P	**P**	**04 54 12.2**	**+0.4**
KKN				pmax	pmax		
	comp=Z,57nm,0.7s						
KKN	**Kakani**	**52.44**	**316**	*e*P	**P**	**04 54 12.2**	**+0.4**
	comp=Z,57nm,0.7s						
DMN	**Daman**	**52.45**	**315**	*e*P	**P**	**04 54 12.3**	**+0.4**
	comp=Z,50nm,0.7s						
DMN	**Daman**	**52.45**	**315**	*e*P	**P**	**04 54 12.3**	**+0.4**
	comp=Z,50nm,0.7s						
CN2	**Changchun**	**52.60**	**1**	*e*P	**P**	**04 54 11.0**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GKN	**Gorkha**	**53.02**	**315**	*e*P	**P**	**04 54 16.2**	**+0.2**
	comp=Z,50nm,0.5s						
GKN	**Gorkha**	**53.02**	**315**	*e*P	**P**	**04 54 16.2**	**+0.2**
	comp=Z,50nm,0.5s						
MSVF	**Nonsavu**	**53.06**	**105**	*e*P	**P**	**04 54 17.0**	**+0.6**
MSVF				pmax	pmax		
	comp=Z,14nm,0.8s						
MSVF	**Nonsavu**	**53.06**	**105**	*e*P	**P**	**04 54 17.0**	**+0.6**
	comp=Z,14nm,0.8s						
GTA	**Gaotai**	**53.21**	**337**	*e*P	**P**	**04 54 17.5**	**+0.4**
GTA				PcP	**PcP**	**04 55 25.0**	**+0.7**
GTA				S	**S**	**05 01 46.0**	**+2.7**
GTA				SS	**SKiKP**	**05 05 26.8**	**-1.8**
GTA				pmax	pmax		
	comp=Z,17nm,0.7s						
GTA				pmax	pmax		
	comp=Z,56nm,5.2s						
GTA				LR	LR		
	comp=N,77nm,20.4s						
GTA				LR	LR		
	comp=E,100nm,17.1s						
GTA				LR	LR		
	comp=Z,160nm,15.7s						
RPZ	**Rata Peaks**	**53.40**	**139**	LR	LR	05 15 55.4	
	comp=Z,188nm,19.6s,baz=248,slow=35						
RPZ	**Rata Peaks**	**53.40**	**139**	*e*P	**P**	**04 54 18.4**	**0.0**
	comp=Z,18nm,0.7s						
USRK	**Ussuriysk Arra**	**53.47**	**7**	P	**P**	**04 54 18.4**	**-0.4**
	comp=Z,32nm,0.9s,baz=191,slow=7.1,SNR=43						
KOLN	**Koldanda**	**53.60**	**314**	*e*P	**P**	**04 54 20.6**	**+0.3**
	comp=Z,66nm,0.6s						
KOLN	**Koldanda**	**53.60**	**314**	*e*P	**P**	**04 54 20.6**	**+0.3**
	comp=Z,66nm,0.6s						
MDJ	**Mudanjiang**	**53.63**	**5**	P	**P**	**04 54 20.0**	**0.0**
MDJ				PcP	**PcP**	**04 55 25.8**	**+0.2**
MDJ				PP	PP	04 56 19.0	-2.5
MDJ				S	S	05 01 54.0	+5.4
MDJ				SS	SS	05 05 29.5	-0.7
MDJ				pmax	pmax		
	comp=Z,180nm,0.9s						
MDJ	**Mudanjiang**	**53.63**	**5**	*e*P	**P**	**04 54 19.9**	**0.0**
	comp=Z,170nm,0.9s						
ERM	**Erimo**	**53.73**	**18**	*i*P	**P**	**04 54 21.1**	**+0.5**
ERM	**Erimo**	**53.73**	**18**	*e*P	**P**	**04 54 21.2**	**+0.5**
	comp=Z,37nm,0.8s						
DANN	**Dangsing**	**53.84**	**315**	*e*P	**P**	**04 54 22.5**	**+0.3**
	comp=Z,106nm,0.5s						
DANN	**Dangsing**	**53.84**	**315**	*e*P	**P**	**04 54 22.5**	**+0.3**
	comp=Z,106nm,0.5s						
ASAJ	**Asahikawa**	**55.50**	**16**	P	**P**	**04 54 32.9**	**-0.6**
	comp=Z,44nm,0.8s,baz=240,slow=10.0,SNR=14						
ASAJ	**Asahikawa**	**55.50**	**16**	*e*P	**P**	**04 54 33.6**	**+0.2**
	comp=Z,19nm,0.8s						
HABR	**Khabarovsk**	**58.07**	**9**	*e*P	**P**	**04 54 49.6**	**-2.0**
HABR				*e**PP	pP	04 55 13.9	+4.8
HABR				*e*S	**S**	**05 02 42.6**	**-4.8**
HABR				*e*		05 04 29.6	
HABR				*e*SS	**SS**	**05 06 36.0**	**-4.0**
HABR				pmax	pmax		
	comp=N,65nm,2.5s						
HABR				pmax	pmax		
	comp=Z,36nm,1.2s						
HABR				pmax	pmax		
	comp=E,48nm,2.5s						
HABR				MLR	MLR		
	comp=Z,241nm,20.0s						
YSS	**Yuzh-Sakhalins**	**58.17**	**15**	*e*P	**P**	**04 54 53.0**	**+0.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
HIA	**Hailar**	**58.18**	**357**	*e*P	**P**	**04 54 52.4**	**0.0**
HIA				pmax	pmax		
	comp=Z,29nm,0.8s						
HIA	**Hailar**	**58.18**	**357**	*e*P	**P**	**04 54 52.4**	**0.0**
	comp=Z,29nm,0.8s						
KLR	**Kul'dur**	**58.41**	**6**	*e*P	P	04 54 48.7	-5.2
KLR				pmax	pmax		
	comp=Z,28nm,1.2s						
ULN	**Ulaanbaatar**	**58.63**	**347**	*e*P	**P**	**04 54 55.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,30nm,1.0s						
ULN	**Ulaanbaatar**	**58.63**	**347**	*e*P	**P**	**04 54 55.5**	**-0.2**
	comp=Z,30nm,1.0s						
SONM	**Songino Array**	**58.75**	**346**	P	**P**	**04 54 56.0**	**-0.6**
	comp=Z,20nm,0.7s,baz=164,slow=8.6,SNR=182						
SONM	**Songino Array**	**58.75**	**346**	P	**P**	**04 54 56.0**	**-0.6**
SONM	**Songino Array**	**58.75**	**346**	P	**P**	**04 54 56.0**	**-0.6**
ZAK	**Zakamensk**	**61.88**	**345**	*i*P	**P**	**04 55 17.7**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ	**Urumqi**	**62.

comp=Z,18nm,0.7s
TKM2 Tokmak 2 67.97 324 P **P** 04 55 57.9 +0.1
SNR=9.9
TKM2 P **P** 04 55 57.9 +0.1
SNR=9.9
TKM2 Tokmak 2 67.97 324 *i* P **P** 04 55 57.8 +0.1
TKM2 Tokmak 2 67.97 324 *e*P **P** 04 55 57.8 +0.1
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 68.19 21 *e*P **P** 04 55 58.7 +0.1
PETK Petropavlovsk- 68.19 21 P **P** 04 55 58.2 -0.4
comp=Z,21nm,0.9s,baz=198,slow=7.5,SNR=13
PETK Petropavlovsk- 68.19 21 P **P** 04 55 58.2 -0.4
PETK Petropavlovsk- 68.19 21 P **P** 04 55 58.2 -0.4
AAK Ala-Archa 68.45 323 P **P** 04 56 01.2 +0.5
SNR=14
AAK P **P** 04 56 01.2 +0.5
SNR=14
AAK Ala-Archa 68.45 323 *i* P **P** 04 56 01.2 +0.5
AAK Ala-Archa 68.45 323 *e*P **P** 04 56 01.4 +0.7
comp=Z,73nm,0.8s
AAK Ala-Archa 68.45 323 P **P** 04 56 01.9 +1.2
comp=Z,124nm,0.8s,SNR=10
AML Almayashu 68.64 322 P **P** 04 56 02.8 +0.7
SNR=28
AML P **P** 04 56 02.8 +0.7
SNR=28
USP Ospenovka 68.83 323 P **P** 04 56 02.4 -0.4
SNR=18
USP P **P** 04 56 02.4 -0.4
SNR=18
EKS2 Erkin-Say 68.90 323 P **P** 04 56 04.3 +0.9
SNR=12
EKS2 P **P** 04 56 04.3 +0.9
SNR=12
EKS2 Erkin-Say 68.90 323 *e*P **P** 04 56 03.7 +0.3
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 68.90 323 *e*P **P** 04 56 03.7 +0.3
comp=Z,12nm,0.8s
MAW Mawson 70.95 201 LR LR 05 22 07.3
comp=Z,146nm,19.9s,baz=156,slow=31
ZAA0 Zalesovo Array 70.96 337 *e*P **P** 04 56 14.1 -1.5
ZALV Zalesovo Beam 70.96 337 P **P** 04 56 14.3 -1.3
comp=Z,17nm,0.8s,baz=128,slow=4.3,SNR=75
ZALV Zalesovo Beam 70.96 337 P **P** 04 56 14.3 -1.3
ZALV Zalesovo Beam 70.96 337 P **P** 04 56 14.3 -1.3
YAK Yakutsk 70.98 3 *e*P **P** 04 56 15.0 -0.5
YAK pmax pmax
comp=Z,69nm,0.9s
YAK Yakutsk 70.98 3 *e*P **P** 04 56 15.0 -0.5
comp=Z,69nm,0.9s
KK31 Karatay Array 71.14 321 *ce*P **P** 04 56 17.2 +0.2
KKAR Karatay Array 71.14 321 *e*P **P** 04 56 17.2 +0.2
KKAR Karatay Array 71.14 321 *e*P **P** 04 56 17.2 +0.2
comp=Z,2.3nm,0.7s
VNDA Vanda 71.21 172 *e*P **P** 04 56 17.6 +0.8
VNDA Vanda 71.21 172 *e*P **P** 04 56 17.6 +0.8
KURK Kurchatov 71.34 331 *d* /P **P** 04 56 17.3 -0.7
KURK pmax pmax
comp=Z,32nm,0.9s
KURK Kurchatov 71.34 331 *e*P **P** 04 56 17.5 -0.4
comp=Z,27nm,0.8s
KURK Kurchatov 71.34 331 P **P** 04 56 17.4 -0.6
comp=Z,186nm,0.8s,SNR=26
NVS Novosibirsk 72.25 337 *e*P **P** 04 56 20.6 -2.7
NVS *e*S S 05 05 31.9 -8.9
NVS pmax pmax
comp=Z,21nm,1.1s
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,12nm,1.6s
NVS smax smax
comp=N,12nm,1.7s
NVS smax smax
comp=E,33nm,1.6s
FX1 Attu Island--F 74.45 28 LR LR 05 26 37.1
comp=E,41nm,20.3s,baz=39,slow=34
FX1 Attu Island--F 74.45 28 *e*P **P** 04 56 36.4 0.0
FX1 Attu Island--F 74.45 28 *e*P **P** 04 56 36.4 0.0
SEY Seymchan 74.98 13 *ce*P **P** 04 56 38.2 -1.0
BVA0 Borovoye Array 76.77 330 P **P** 04 56 49.1 -0.5
BRVK Borovoye 76.84 330⇑ *i* /P **P** 04 56 50.1 +0.1
BRVK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 76.84 330 *e*P **P** 04 56 49.9 -0.1
comp=Z,19nm,1.2s
SYO Syowa Base 79.65 201⇑ *e*P **P** 04 57 05.2 -0.1
SYO Syowa Base 79.65 201⇓ *e*PcP **PcP** 04 57 13.0 +0.1
AB31 Akbulak array 80.54 323 *ce*P **P** 04 57 09.6 -0.8
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 80.54 323 *e*P **P** 04 57 09.6 -0.8
comp=Z,11nm,1.0s
QSPA South Pole Qui 80.96 180 LR LR 05 32 58.8
comp=Z,110nm,18.1s,baz=52,slow=36
QSPA South Pole Qui 80.96 180 *e*P **P** 04 57 13.3 +0.8
comp=Z,12nm,1.0s
BILL Bilibino 82.49 15 P **P** 04 57 20.0 -0.3
BILL *e* 04 57 37.6
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 82.49 15 *e*P **P** 04 57 19.6 -0.7
comp=Z,3.7nm,0.6s
RDF Al-Radifah 82.73 301 *e*P **P** 04 57 22.6 +0.1
RDF AMb AMB 04 57 24.0
comp=Z,25nm,0.9s
NAY Al-Naaiem 83.07 301 *e*P **P** 04 57 23.8 -0.4
NAY AMb AMB 04 57 25.0
comp=Z,16nm,0.8s
MIB Mutribah 83.13 302 *e*P **P** 04 57 23.8 -0.6
MIB AMb AMB 04 57 26.9
comp=Z,19nm,1.1s
TBI Tubuai 83.25 113 *e*LR LR 05 23 46.8
comp=Z,152nm,32.0s
SVE Sverdlovsk 83.55 330⇑ *i* /P **P** 04 57 26.2 +0.2
SVE pmax pmax
comp=Z,27nm,1.1s
PPT2 Papeete2 83.86 107 *e*LR LR 05 24 04.1
comp=Z,323nm,38.8s
ARU Arti 84.40 329 *e*P P 04 57 27.0 -3.3
ARU Arti 84.40 329 *e*P P 04 57 27.0 -3.3
GAMB Gambell 87.07 24 *e*P **P** 04 57 42.7 -0.7
comp=Z,3.3nm,0.6s
GNI Garni 87.72 311 *i* P **P** 04 57 45.8 -1.5
GNI pmax pmax
comp=Z,8.0nm,1.4s
GNI Garni 87.72 311 *e*P **P** 04 57 48.6 +1.3
comp=Z,8.0nm,0.8s
ZEI Tsey 88.94 313 *e*P **P** 04 57 53.1 0.0
ZEI pmax pmax
comp=Z,8.0nm,1.0s
VRHR Novokhopersk 92.26 321 *e*P **P** 04 58 06.7 -1.3
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,9.0nm,0.8s
SNAA Sanae 92.28 195 P **P** 04 58 07.2 -0.7
SNAA Sanae 92.28 195 P **P** 04 58 07.2 -0.7
BOSA Boshof 93.38 240 P **P** 04 58 15.1 +1.1
comp=Z,3.3nm,0.8s,baz=178,slow=14,SNR=5.0
BOSA LR LR 05 30 55.6
comp=Z,78nm,20.5s,baz=166,slow=29
BOSA Boshof 93.38 240 *e*P **P** 04 58 14.4 +0.4
BOSA Boshof 93.38 240 *e*P **P** 04 58 14.4 +0.4
VORD Divnogorie 93.68 321 *e*P **P** 04 58 12.8 -1.8
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=N,2.0nm,0.9s
VORD pmax pmax
comp=E,8.0nm,1.1s
VSR Storozhevoye 93.80 321 *e*P **P** 04 58 14.3 -0.8
VSR *e*PP pP 04 58 39.5 +5.7
VSR *e*S S 05 09 12.1 -7.1
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR smax smax
comp=N,90nm,2.0s
VSR smax smax
comp=E,20nm,2.0s
VSR smax smax
comp=Z,60nm,2.0s
VSR smax smax
comp=N,180nm,3.7s
VSR smax smax
comp=E,130nm,3.7s
VSR smax smax
comp=Z,310nm,3.7s
LBTB Lobatse 93.82 244 P **P** 04 58 17.7 +1.6
LBTB Lobatse 93.82 244 P **P** 04 58 17.6 +1.6
OBN Obninsk 95.92 325 P **P** 04 58 24.0 -0.7
OBN *e* 04 58 50.9
OBN pmax pmax
comp=Z,4.0nm,0.4s
BRTR Keskin Array B 96.04 309 P **P** 04 58 24.6 -1.3
comp=Z,0.8nm,0.7s,baz=155,slow=5.8,SNR=5.6
BRTR Keskin Array B 96.04 309 *ce*P **P** 04 58 24.6 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 96.04 309 P **P** 04 58 24.6 -1.3
ILAR Eielson Array 97.69 26 P P 04 58 28.5 -4.1
comp=Z,1.1nm,0.8s,baz=277,slow=4.1,SNR=14
ILAR PP **PP** 05 02 36.3 +5.2
comp=Z,1.3nm,0.9s,baz=261,slow=6.8,SNR=7.7
ILAR Eielson Array 97.69 26 P P 04 58 28.5 -4.1
ILAR 05 02 36.3
ILAR Eielson Array 97.69 26 P P 04 58 28.5 -4.1
ILAR PP **PP** 05 02 36.3 +5.2
AKASG Malin Array Be 100.00 320 P **Pdif** 04 58 41.4 -1.8
comp=Z,1.0nm,0.6s,baz=81,slow=4.0,SNR=4.6
AKASG Malin Array Be 100.00 320 P **Pdif** 04 58 41.4 -1.8
AKASG Malin Array Be 100.00 320 P **Pdif** 04 58 41.4 -1.8
ARCES ARCESS Array B 101.41 339 P **Pdif** 04 58 47.8 -1.3
comp=Z,3.6nm,0.9s,baz=347,slow=9.9,SNR=3.8
ARCES ARCESS Array B 101.41 339 P **Pdif** 04 58 47.8 -1.3
ARCES ARCESS Array B 101.41 339 P **Pdif** 04 58 47.8 -1.3
UZH Uzhgorod 104.52 318 *e*P **Pdif** 04 59 02.4 -0.9
YKA Yellowknife Ar 112.12 25 PKiKP **PKiKP** 05 03 32.3 -0.6
comp=Z,1.0nm,0.7s,baz=307,slow=1.9,SNR=17
YKA PKKPbc **PKKPbc** 05 14 23.9 -3.0
comp=Z,0.1nm,0.4s,baz=112,slow=3.6,SNR=4.8
YKA PKKP **PKKPdf** 05 14 48.3 +2.2
comp=Z,0.2nm,0.8s,baz=102,slow=3.0,SNR=4.2
YKA Yellowknife Ar 112.12 25 PKiKP 05 03 32.3
YKA 05 14 48.3
YKA Yellowknife Ar 112.12 25 PKiKP **PKiKP** 05 03 32.3 -0.6
YKA PKKPbc **PKKPbc** 05 14 23.9 -3.0
YKA PKKP **PKKPdf** 05 14 48.3 +2.2
HINF Hinteralfeld 114.83 319 *e*PKIKP PKPdf 05 03 38.4 -0.2
comp=Z,4.2nm,0.6s
CABF La Chapelle 115.64 318 *e*PKIKP **PKPdf** 05 03 40.8 +0.5
comp=Z,5.5nm,0.7s
SMRF Simiane la Rot 116.64 315 *e*PKIKP **PKPdf** 05 03 42.4 +0.2
LOR Lormes 116.93 319 *e*PKIKP **PKPdf** 05 03 42.2 -0.5
NVAR Mina Array Bea 117.14 51 PKP **PKPdf** 05 03 44.8 +1.2
comp=Z,1.0nm,0.7s,baz=256,slow=2.4,SNR=5.0
NVAR Mina Array Bea 117.14 51 PKP **PKPdf** 05 03 44.8 +1.2
SSF Saint Saulge 117.22 319 *e*PKIKP **PKPdf** 05 03 42.9 -0.3
comp=Z,21nm,1.0s
A13A Flathead Natio 117.23 39⇓ P **PKPdf** 05 03 43.7 +0.4
baz=117
AVF Avril sur Loir 117.40 318 *e*PKIKP **PKPdf** 05 03 43.6 +0.1
D13A Huson 117.78 41⇓ P **PKPdf** 05 03 43.9 -0.5
baz=118
BGF Bois d'Agland 117.80 318 *e*PKIKP **PKPdf** 05 03 44.2 -0.1
comp=Z,19nm,0.8s
MFID Camas Ranch 117.88 46⇓ P **PKPdf** 05 03 45.2 +0.4
baz=118
EDW2 Edwards Air Fo 117.98 55⇑ P **PKPdf** 05 03 45.5 +0.3
baz=118
MSO Missoula 118.20 41⇓ P **PKPdf** 05 03 45.1 -0.1
baz=118
H12A Diamond D Ranc 118.26 44⇓ P **PKPdf** 05 03 45.5 0.0
baz=118
I12A Atlanta 118.27 45⇑ P **PKPdf** 05 03 45.8 +0.2
baz=118
H13A Challis 118.67 44⇑ P **PKPdf** 05 03 47.1 +0.8
baz=119
CAF Calviac 118.81 317 *e*PKIKP **PKPdf** 05 03 46.5 +0.1
comp=Z,9.9nm,0.9s
HLID Hailey 118.84 45 *e*PKPdf **PKPdf** 05 03 47.9 +1.2
HLID Hailey 118.84 45⇓ P **PKPdf** 05 03 47.5 +0.8
baz=119
GSC Goldstone 118.87 55⇓ P **PKPdf** 05 03 47.1 +0.2
baz=119
I13A Wildhorse Cree 118.95 45⇑ P **PKPdf** 05 03 47.7 +0.8
baz=119
ELK Elko 118.97 48 PKP **PKPdf** 05 03 47.3 +0.2
comp=Z,2.4nm,0.9s,baz=38,slow=1.7,SNR=7.5
ELK Elko 118.97 48 PKIKP **PKPdf** 05 03 47.3 +0.2
ELK Elko 118.97 48 PKP **PKPdf** 05 03 47.3 +0.2
J13A Cove Ranch, Pi 119.05 45⇓ P **PKPdf** 05 03 47.7 +0.6
baz=119
HEC Hector,Ludlow 119.33 55⇑ P **PKPdf** 05 03 48.0 +0.2
baz=119
A17A Triple J Farms 119.53 38⇑ P **PKPdf** 05 03 47.7 0.0
baz=120
J14A Carey 119.53 45⇓ P **PKPdf** 05 03 48.6 +0.6
baz=120
MONP Monument Peak 119.57 57⇓ P **PKPdf** 05 03 48.9 +0.4
baz=120
G15A Dillon 119.68 43⇑ P **PKPdf** 05 03 49.1 +0.9
baz=120
D16A Dana Ranch, Ca 119.68 41⇓ P **PKPdf** 05 03 48.4 +0.3
baz=120
B17A L&G Farms, Che 119.71 39⇑ P **PKPdf** 05 03 47.4 -0.7
baz=120
BELC Belle Mtn. Jos 119.74 56⇑ P **PKPdf** 05 03 49.8 +1.1
baz=120
H15A Lima 119.75 43⇓ P **PKPdf** 05 03 49.0 +0.6
baz=120
E16A East Helena 119.77 41⇑ P **PKPdf** 05 03 46.1 -2.2
baz=120
GMRC Granite Mounta 119.89 55⇓ P **PKPdf** 05 03 49.5 +0.6
baz=120
C17A Wharram Farm, 119.97 40⇑ P **PKPdf** 05 03 47.8 -0.8
baz=120
K14A Jones Ranch, D 119.99 46⇓ P **PKPdf** 05 03 50.0 +1.2
baz=120
F16A Kennard Place, 120.06 42⇓ P **PKPdf** 05 03 49.1 +0.3
baz=120
A18A Metzger Ranch, 120.06 38⇑ P **PKPdf** 05 03 48.0 -0.7
baz=120
BC3 Big Chuckawall 120.25 56⇑ P **PKPdf** 05 03 49.8 +0.2
baz=120
J15A Blackfoot 120.27 45⇑ P **PKPdf** 05 03 49.9 +0.5
baz=120
B18A Beardsley Farm 120.30 39⇓ P **PKPdf** 05 03 49.0 -0.1
baz=120
IRM Iron Mountain 120.41 56⇓ P **PKPdf** 05 03 50.1 +0.3
baz=120
EGMT Eagleton 120.46 39 *e*PKPdf **PKPdf** 05 03 49.6 +0.1
EGMT Eagleton 120.46 39⇑ P **PKPdf** 05 03 49.2 -0.4
baz=120
EPF Esparros 120.56 315 *e*PKIKP **PKPdf** 05 03 50.3 +0.5
F17A Fitzpatrick Pl 120.65 42⇑ P **PKPdf** 05 03 50.4 +0.3
baz=121
L15A Malad City 120.71 46⇑ P **PKPdf** 05 03 50.5 +0.2
baz=121
A19A Klindworth Far 120.72 38⇓ P **PKPdf** 05 03 49.9 -0.1
baz=121
DUG Dugway 120.90 48⇓ P **PKPdf** 05 03 51.2 +0.5
baz=121
C19A Slack Wire Ran 121.01 39⇓ P **PKPdf** 05 03 51.0 +0.4
baz=121
QUIF Quistinic 121.17 321 *e*PKIKP **PKPdf** 05 03 50.8 +0.1
comp=Z,102nm,1.3s
A20A Cobblestone Ra 121.23 37⇑ P **PKPdf** 05 03 51.0 0.0
baz=121
F18A Big Timber 121.27 41⇓ P **PKPdf** 05 03 51.5 +0.3
baz=121
D19A Cripps Ranch, 121.33 40⇑ P **PKPdf** 05 03 51.0 -0.2
baz=121
B20A Solberg Farm, 121.36 38⇑ P **PKPdf** 05 03 51.1 -0.1
baz=121
REDW Red Top Meadow 121.37 44 *e*PKPdf **PKPdf** 05 03 52.5 +0.9
L16A Fish Haven 121.39 46⇑ P **PKPdf** 05 03 52.3 +0.6
baz=121
P15A Leamington 121.46 49⇓ P **PKPdf** 05 03 52.4 +0.6
baz=121
LOHW Long Hollow 121.46 44 *e*PKPdf **PKPdf** 05 03 52.2 +0.4
J17A Brown Place, J 121.47 44⇑ P **PKPdf** 05 03 52.4 +0.6
baz=121
FFC Flin Flon 121.65 29 *i* PKIKP **PKPdf** 05 03 52.2 +0.7
C20A Veseth Ranch, 121.66 39⇓ P **PKPdf** 05 03 52.0 +0.2
baz=122
A21A Bergtoll Ranch 121.79 37⇑ P **PKPdf** 05 03 52.0 0.0
baz=122
Z13A Yuma Proving G 121.81 57⇑ P **PKPdf** 05 03 53.3 +0.9
baz=122
D20A Manuel Ranch, 121.83 39⇑ P **PKPdf** 05 03 51.9 -0.3
baz=122
RLMT Red Lodge 121.84 42⇑ P **PKPdf** 05 03 53.3 +0.8
baz=122
RLMT ⇑P **PKPdf** 05 03 53.3 +0.8
baz=122
B21A Ellsworth Farm 121.97 38⇓ P **PKPdf** 05 03 52.3 0.0
baz=122
M17A Scullys Gap (B 122.09 46⇓ P **PKPdf** 05 03 53.4 +0.3
baz=122
N17A Moffit Pass 122.14 47⇓ P **PKPdf** 05 03 53.3 +0.1
baz=122
K18A Toltan Ranch, 122.17 45⇑ P **PKPdf** 05 03 53.9 +0.7
baz=122
C21A Desert Coulee 122.18 38⇑ P **PKPdf** 05 03 52.9 +0.1
baz=122
U15A North Rim 122.23 53⇑ P **PKPdf** 05 03 54.7 +1.1
baz=122
L18A Fontenelle, Gr 122.40 46⇓ P **PKPdf** 05 03 54.5 +0.9
baz=122
I19A Meeteetse 122.41 43⇑ P **PKPdf** 05 03 54.5 +1.0
baz=122
O17A Robinson Place 122.42 48⇓ P **PKPdf** 05 03 54.4 +0.7
baz=122
S16A Weppner Ranch, 122.46 51⇑ P **PKPdf** 05 03 54.7 +0.9
baz=122
BW06 Boulder Array 122.46 45⇑ P **PKPdf** 05 03 53.5 -0.2
baz=122
BW06 ⇑P **PKPdf** 05 03 53.5 -0.2
baz=122
PDAR Pinedale Array 122.46 45 PKP **PKPdf** 05 03 53.8 0.0
comp=Z,1.5nm,0.9s,baz=242,slow=2.5,SNR=10
PDAR PKKPbc **PKKPbc** 05 13 51.0 +1.3
comp=Z,0.3nm,0.5s,baz=150,slow=3.3,SNR=3.4
PDAR Pinedale Array 122.46 45 PKP **PKPdf** 05 03 53.8 0.0
PDAR PKKPbc **PKKPbc** 05 13 51.0 +1.3
G20A Bridger 122.50 42⇓ P **PKPdf** 05 03 53.9 +0.3
baz=122
114A Black Gap (USA 122.53 57⇓ P **PKPdf** 05 03 54.0 +0.1
baz=122
D21A La Casta Ranch 122.55 39⇑ P **PKPdf** 05 03 53.6 0.0
baz=122
P17A Butcher Ranch, 122.63 49⇓ P **PKPdf** 05 03 54.8 +0.7
baz=123
J19A Crowheart 122.64 44⇓ P **PKPdf** 05 03 54.2 +0.1
baz=123
L19A Farson 122.82 45⇑ P **PKPdf** 05 03 54.8 +0.3
baz=123
SRU San Rafael 122.89 49⇑ P **PKPdf** 05 03 55.1 +0.5
baz=123
K19A Absolon Red Bu 122.94 44⇓ P **PKPdf** 05 03 54.3 -0.2
baz=123
R17A Hanksville Air 122.95 50⇓ P **PKPdf** 05 03 54.9 +0.3
baz=123
C22A Vida 122.95 38⇓ P **PKPdf** 05 03 54.6 +0.4
baz=123
D22A Cohagen 123.02 39⇑ P **PKPdf** 05 03 55.3 +0.9
baz=123
I20A Worland 123.03 43⇑ P **PKPdf** 05 03 54.8 +0.1
baz=123
S17A Black Ridge (B 123.09 51⇓ P **PKPdf** 05 03 55.4 +0.4
baz=123
B23A Brockton 123.17 37⇑ P **PKPdf** 05 03 54.8 +0.1
baz=123
WUAZ Wupatki 123.17 53 *e*PKPdf **PKPdf** 05 03 56.1 +0.8
WUAZ Wupatki 123.17 53⇓ P **PKPdf** 05 03 54.9 -0.3
baz=123
Q18A Rafter H Ranch 123.19 49⇓ P **PKPdf** 05 03 55.2 +0.1
baz=123
U16A Tuba City 123.21 53⇓ P **PKPdf** 05 03 56.4 +1.2
baz=123
T17A Navajo Res., N 123.25 52⇓ P **PKPdf** 05 03 56.2 +0.9
baz=123
J20A Shoshoni 123.27 44⇓ P **PKPdf** 05 03 55.0 -0.2
baz=123
K20A Yellowstone Ra 123.34 44⇑ P **PKPdf** 05 03 55.2 -0.1
baz=123
C23A Lambert 123.35 38⇓ P **PKPdf** 05 03 55.8 +0.8
baz=123
X16A Lo Mia Camp, P 123.37 55⇓ P **PKPdf** 05 03 56.4 +0.7
baz=123
TOA0 Torodi Ar. Sit 123.41 280 *e*PKPdf **PKPdf** 05 03 56.3 +0.3
TORD Torodi Ar. Bea 123.41 280 PKP **PKPdf** 05 03 56.1 +0.1
comp=Z,4.0nm,0.8s,baz=45,slow=2.1,SNR=39
TORD PKKPbc **PKKPab** 05 13 46.2 +1.1
comp=Z,0.7nm,0.7s,baz=300,slow=5.6,SNR=5.4
TORD Torodi Ar. Bea 123.41 280 PKP **PKPdf** 05 03 56.1 +0.1
TORD PKKPbc **PKKPab** 05 13 46.2 +1.1
O19A Miners Draw (B 123.57 47⇑ P **PKPdf** 05 03 55.8 0.0
baz=124
R18A Canyonlands Na 123.57 50⇓ P **PKPdf** 05 03 55.8 -0.1
baz=124
V17A Tonalea, Kykot 123.60 53⇑ P **PKPdf** 05 03 57.1 +1.0
baz=124
D23A Lindsay 123.61 38⇓ P **PKPdf** 05 03 56.2 +0.6
baz=124
I21A Big Trails, Te 123.64 43⇑ P **PKPdf** 05 03 55.7 -0.2
baz=124
S18A Hurst Farm, BI 123.69 51⇑ P **PKPdf** 05 03 56.4 +0.1
baz=124
J21A Lysite 123.71 43⇑ P **PKPdf** 05 03 56.5 +0.4
baz=124
E23A Ismay 123.84 39⇑ P **PKPdf** 05 03 56.6 +0.6
baz=124
Q19A Hogan Spring (123.88 49⇓ P **PKPdf** 05 03 57.1 +0.6
baz=124
P19A Cripple Cowboy 123.88 48⇓ P **PKPdf** 05 03 57.3 +0.8
baz=124
C24A Savage 123.93 38⇓ P **PKPdf** 05 03 56.6 +0.4
baz=124
T18A Mexican Hat 123.93 51⇑ P **PKPdf** 05 03 57.3 +0.7
baz=124
N20A Spence Gulch, 124.02 46⇑ P **PKPdf** 05 03 57.7 +0.9
baz=124
K21A Alcova 124.10 44⇑ P **PKPdf** 05 03 57.0 +0.2
baz=124
F23A Volborg 124.11 40⇑ P **PKPdf** 05 03 56.8 +0.1
baz=124
U18A Rough Rock, Ch 124.13 52⇑ P **PKPdf** 05 03 57.7 +0.6
baz=124
L21A Rawlins 124.26 45⇑ P **PKPdf** 05 03 57.3 +0.1
baz=124
O20A White River Ci 124.26 47⇓ P **PKPdf** 05 03 58.2 +0.9
baz=124
S19A Harvey Farm, M 124.33 50⇓ P **PKPdf** 05 03 57.8 +0.4
baz=124
J22A Midwest 124.34 43⇓ P **PKPdf** 05 03 56.8 -0.4
baz=124
P20A De Beque 124.36 48⇓ P **PKPdf** 05 03 58.3 +0.9
baz=124
M21A Separation Pea 124.39 45⇑ P **PKPdf** 05 03 57.8 +0.3
baz=124
N21A Black Mountain 124.58 46⇑ P **PKPdf** 05 03 58.1 +0.2
baz=124
K22A Casper 124.60 44⇑ P **PKPdf** 05 03 57.8 0.0
baz=124
Q20A Ridgley Place, 124.60 49⇑ P **PKPdf** 05 03 58.9 +1.0
baz=124
FRB Frobisher Bay 124.64 7 PKP **PKPdf** 05 03 55.8 -1.1
comp=Z,2.4nm,0.8s,baz=348,slow=2.1,SNR=7.2
FRB Frobisher Bay 124.64 7 PKIKP **PKPdf** 05 03 55.8 -1.1
FRB Frobisher Bay 124.64 7 PKP **PKPdf** 05 03 55.8 -1.1
PV01 Paradox Valley 124.64 50 *e*PKPdf **PKPdf** 05 03 59.1 +1.0
ESDC Sonseca Array 124.68 312 PKP **PKPdf** 05 03 58.2 +0.3
comp=Z,1.2nm,0.7s,baz=12,slow=3.4,SNR=6.3
ESDC Sonseca Array 124.68 312 PKP **PKPdf** 05 03 58.2 +0.3
R20A Redvale 124.77 50⇓ P **PKPdf** 05 03 58.5 +0.2
baz=125
S20A Disappointment 124.89 50⇓ P **PKPdf** 05 03 59.2 +0.6
baz=125
MVCO Mesa Verde 124.97 51 *e*PKPdf **PKPdf** 05 03 59.5 +0.7
MVCO Mesa Verde 124.97 51⇓ P **PKPdf** 05 03 59.4 +0.7
baz=125
H24A Dirks Ranch, A 125.07 41⇑ P **PKPdf** 05 03 58.4 -0.1
baz=125
S21A Coal Bank Pass 125.37 50⇑ P **PKPdf** 05 04 00.8 +1.2
baz=125
P22A Eagle 125.52 47⇓ P **PKPdf** 05 04 00.9 +1.2
baz=126
W20A Ramah 125.54 53⇑ P **PKPdf** 05 04 01.0 +1.1
baz=126
Q22A Crested Butte, 125.65 48⇓ P **PKPdf** 05 04 01.3 +1.3
baz=126
U21A Nageezi 125.84 51⇑ P **PKPdf** 05 04 01.4 +1.0

	baz=126							
O23A	Lake Granby, G	125.91	46	⇓P		PKPdf	05 04 01.3	+0.8
	baz=126							
R22A	Saguache, Gunn	125.97	49	⇓P		PKPdf	05 04 02.5	+1.8
	baz=126							
Z20A	Nine Sixteen R	125.98	56	⇓P		PKPdf	05 04 02.4	+1.8
	baz=126							
S22A	4UR Ranch, Cre	126.07	50	⇑P		PKPdf	05 04 02.0	+1.1
	baz=126							
X21A	Alamocita Cree	126.29	54	⇑P		PKPdf	05 04 02.5	+1.1
	baz=126							
220A	Playas Peak, P	126.31	57	⇓P		PKPdf	05 04 02.2	+0.8
	baz=126							
320A	Kipp Ranch, An	126.44	58	⇑P		PKPdf	05 04 03.0	+1.4
	baz=126							
Y21A	Point of Rocks	126.49	54	⇓P		PKPdf	05 04 03.5	+1.8
	baz=126							
R23A	Moffat	126.68	49	⇑P		PKPdf	05 04 02.9	+0.9
	baz=127							
121A	Cookes Peak, D	126.78	56	⇑P		PKPdf	05 04 03.0	+0.8
	baz=127							
U23A	El Rito	127.00	51	⇓P		PKPdf	05 04 03.6	+1.0
	baz=127							
SDCO	Great Sand Dun	127.07	49	*e*PKPdf		PKPdf	05 04 03.4	+0.6
SDCO	Great Sand Dun	127.07	49	⇑P		PKPdf	05 04 03.5	+0.7
	baz=127							
SDCO				⇑P		PKPdf	05 04 03.5	+0.7
	baz=127							
Y22A	Socorro	127.08	54	⇓P		PKPdf	05 04 03.8	+1.0
	baz=127							
ANMO	Albuquerque	127.20	53	*e*PKIKP		PKPdf	05 04 03.9	+0.9
ANMO	Albuquerque	127.20	53	*e*PKPdf		PKPdf	05 04 03.9	+0.9
Z22A	Elephant Butte	127.26	55	⇑P		PKPdf	05 04 04.6	+1.5
	baz=127							
ULM	Lac du Bonnet	127.28	31	PKP		PKPdf	05 04 01.6	-0.8
	comp=Z,3.4nm,0.8s,baz=307,slow=2.0,SNR=8.7							
ULM	Lac du Bonnet	127.28	31	PKIKP		PKPdf	05 04 01.6	-0.8
ULM	Lac du Bonnet	127.28	31	PKP		PKPdf	05 04 01.6	-0.8
BNM	Barren Site	127.29	54	*e*PKPdf		PKPdf	05 04 04.3	+1.1
X23A	Hourglass Bar	127.52	53	⇓P		PKPdf	05 04 04.8	+1.2
	baz=128							
T24A	Torres, Weston	127.63	50	⇓P		PKPdf	05 04 04.4	+0.6
	baz=128							
Y23A	Lovelace Mesa,	127.81	54	⇓P		PKPdf	05 04 04.4	+0.2
	baz=128							
R25A	Fountain Ranch	127.83	48	⇓P		PKPdf	05 04 05.1	+1.1
	baz=128							
Z23A	Rita Site, Whi	127.85	55	⇑P		PKPdf	05 04 06.0	+1.8
	baz=128							
V24A	Rampart Ranch,	127.89	51	⇑P		PKPdf	05 04 06.2	+1.9
	baz=128							
W24A	Lazy 6 Ranch,	127.95	52	⇓P		PKPdf	05 04 06.0	+1.5
	baz=128							
P26A	Davis Ranch, A	127.99	46	⇑P		PKPdf	05 04 05.4	+1.1
	baz=128							
T25A	Trinidad	128.09	49	⇑P		PKPdf	05 04 05.9	+1.2
	baz=128							
Y24A	Capitan	128.31	54	⇓P		PKPdf	05 04 06.4	+1.2
	baz=128							
V25A	Rancho No Teng	128.36	51	⇑P		PKPdf	05 04 07.6	+2.4
	baz=128							
R26A	Arlington	128.39	48	⇓P		PKPdf	05 04 06.3	+1.2
	baz=128							
Z24A	Sheeppen Canyo	128.53	54	⇑P		PKPdf	05 04 07.4	+1.8
	baz=128							
S26A	Kim	128.62	49	⇑P		PKPdf	05 04 06.5	+0.9
	baz=129							
T26A	Comanche Natio	128.69	49	⇓P		PKPdf	05 04 06.7	+0.9
	baz=129							
224A	Cornudas Mount	128.75	56	⇓P		PKPdf	05 04 06.9	+1.0
	baz=129							
R27A	Eads	128.87	48	⇓P		PKPdf	05 04 07.0	+1.0
	baz=129							
MNTX	Cornudas Mount	128.96	56	*e*PKPdf		PKPdf	05 04 07.4	+1.2
MNTX	Cornudas Mount	128.96	56	⇓P		PKPdf	05 04 07.5	+1.3
	baz=129							
MNTX				⇓P		PKPdf	05 04 07.5	+1.3
	baz=129							
Z25A	Roswell	129.07	54	⇓P		PKPdf	05 04 07.5	+1.0
	baz=129							
225A	Deer Hill, Car	129.31	56	⇓P		PKPdf	05 04 08.4	+1.3
	baz=129							
325A	Bean Ranch, Si	129.38	57	⇑P		PKPdf	05 04 08.3	+1.1
	baz=129							
DBIC	Dimbokro	129.40	271	PKP		PKPdf	05 04 07.3	-0.2
	comp=Z,3.1nm,0.6s,baz=121,slow=2.5,SNR=8.7							
DBIC				SKPbc		SKPab	05 07 22.4	-0.3
	comp=Z,4.8nm,0.8s,baz=143,slow=3.4,SNR=8.1							
DBIC	Dimbokro	129.40	271	PKIKP		PKPdf	05 04 07.3	-0.2
DBIC	Dimbokro	129.40	271	PKP		PKPdf	05 04 07.3	-0.2
DBIC				*e*PKPdf		PKiKP	05 04 08.5	+0.2
DBIC				SKPbc		SKPab	05 07 22.4	-0.4
LIC	Lamto	129.52	271	*e*PKIKP		PKPdf	05 04 07.5	-0.2
	comp=Z,5.1nm,0.4s							
425A	Indio Mountain	129.52	57	⇓P		PKPdf	05 04 08.6	+1.1
	baz=130							
T28A	Walsh	129.81	49	⇓P		PKPdf	05 04 08.6	+0.9
	baz=130							
W27A	Bowe Ranch, En	129.81	52	⇑P		PKPdf	05 04 09.1	+1.2
	baz=130							
226A	Malaga, Loving	129.91	56	⇑P		PKPdf	05 04 09.3	+1.2
	baz=130							
326A	Caldwell Ranch	130.22	56	⇑P		PKPdf	05 04 09.5	+0.8
	baz=130							
Z27A	Tatum	130.26	54	⇑P		PKPdf	05 04 09.7	+0.9
	baz=130							
526A	Mary Lane Ranc	130.45	58	⇑P		PKPdf	05 04 10.3	+1.0
	baz=130							
626A	Big Bend Ranch	130.54	59	⇓P		PKPdf	05 04 09.9	+0.5
	baz=130							
X28A	Dimmitt	130.67	52	⇑P		PKPdf	05 04 10.9	+1.4
	baz=131							
427A	Hayter Ranch,	130.82	57	⇓P		PKPdf	05 04 11.3	+1.4
	baz=131							
527A	Woodward Ranch	130.83	58	⇑P		PKPdf	05 04 10.7	+0.7
	baz=131							
TXAR	Lajitas Array	130.99	59	PKP		PKPdf	05 04 11.2	+1.0
	comp=Z,1.2nm,0.7s,baz=230,slow=1.9,SNR=16							
TXAR				SKPbc		SKPbc	05 07 28.1	-0.9
	comp=Z,3.4nm,0.7s,baz=257,slow=2.5,SNR=21							
TXAR	Lajitas Array	130.99	59	PKIKP		PKPdf	05 04 11.2	+1.0
TXAR	Lajitas Array	130.99	59	PKP		PKPdf	05 04 11.2	+1.0
TXAR				SKPbc		SKPbc	05 07 28.1	-0.9
328A	Wristen Ranch,	131.16	56	⇑P		PKPdf	05 04 11.6	+1.1
	baz=131							
627A	Terlingua Ranc	131.20	59	⇓P		PKPdf	05 04 11.4	+0.7
	baz=131							
628A	Black Gap, Mar	131.61	58	⇓P		PKPdf	05 04 12.4	+1.1
	baz=132							
SCHQ	Schefferville	133.50	9	PKP		PKPdf	05 04 14.2	+0.1
	comp=Z,3.4nm,0.9s,baz=24,slow=5.9,SNR=9.6							
SCHQ				SKPbc		SKPbc	05 07 35.2	-1.7
	comp=Z,5.1nm,0.9s,baz=268,slow=17,SNR=4.8							
SCHQ	Schefferville	133.50	9	PKP		PKPdf	05 04 14.2	+0.1
SCHQ				SKPbc		SKPbc	05 07 35.2	-1.7
JCT	Junction City	133.89	56	*e*PKIKP		PKPdf	05 04 17.1	+1.5
JCT	Junction City	133.89	56	*e*PKPdf		PKPdf	05 04 17.1	+1.5
JCT	Junction City	133.89	56	⇓P		PKPdf	05 04 16.5	+0.9
	baz=134							
GOGA	Godfrey	144.89	42	*e*PKIKP		PKPab	05 04 34.1	-0.5
GOGA	Godfrey	144.89	42	*e*PKPdf		PKPab	05 04 34.1	-0.5
KMSC	Kings Mountain	145.14	38	⇑P		PKPbc	05 04 34.5	-1.0
	baz=145							
JSC	Jenkinsville	145.76	39	*e*PKP2		PKPbc	05 04 36.9	-0.5
JSC	Jenkinsville	145.76	39	*e*PKPdf		PKPbc	05 04 36.9	-0.5
TEIG	Tepich	146.84	67	*e*PKPbc		PKPbc	05 04 41.2	+0.2
CNNC	Cliffs of the	147.08	34	*e*PKPbc		PKPbc	05 04 40.8	-0.5
TGUH	Tegucigalpa,Un	148.89	78	*e*PKPbc		PKPbc	05 04 47.8	+1.2
NNA	Nana	150.52	135	*e*PKIKP		PKPbc	05 04 51.6	+0.9
NNA	Nana	150.52	135	*e*PKPbc		PKPbc	05 04 51.6	+0.9
JTS	JuntasAbangare	151.35	85	PKPbc		PKPbc	05 04 51.7	-0.9
	comp=Z,17nm,0.9s,baz=332,slow=4.4,SNR=6.8							
JTS	JuntasAbangare	151.35	85	*e*PKIKP		PKPdf	05 04 48.2	+1.6
JTS	JuntasAbangare	151.35	85	*e*PKPdf		PKPdf	05 04 48.2	+1.6
JTS				PKPbc		PKPbc	05 04 51.7	-0.9
JTS				*e*PKPbc		PKiKP	05 04 53.8	+0.7
LPAZ	La Paz	152.09	154	PKPbc		PKPbc	05 04 56.1	+1.2
	comp=Z,7.6nm,0.8s,baz=189,slow=0.2,SNR=19							
LPAZ				PKPab		PKPab	05 05 05.7	+1.3
	comp=Z,10nm,0.6s,baz=233,slow=2.3,SNR=16							
LPAZ	La Paz	152.09	154	*e*PKIKP		PKPbc	05 04 56.5	+1.5
LPAZ	La Paz	152.09	154	*e*PKPbc		PKPbc	05 04 56.5	+1.5
LPAZ				*e*PKPab		PKPab	05 05 05.9	+1.4
BDFB	Brasilia	154.26	198	PKP		PKPdf	05 04 52.4	+1.5
	comp=Z,1.3nm,0.7s,baz=190,slow=6.1,SNR=2.7							
BDFB	Brasilia	154.26	198	PKIKP		PKPdf	05 04 52.4	+1.5
BDFB	Brasilia	154.26	198	PKP		PKPdf	05 04 52.4	+1.5
ROSC	El Rosal	161.26	102	PKPab		PKPab	05 05 46.2	+2.2
	comp=Z,6.0nm,0.6s,baz=270,slow=20,SNR=6.8							
ROSC	El Rosal	161.26	102	PKPab		PKPab	05 05 46.2	+2.2

MEX 29 05:09:33.8±1.1, 16°09N×94°85W, h8km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.26	255	*e*P	Pn	05 09 53.5	-4.3
HUIG				*i* S	Sb	05 10 10.3	-3.9
VHO	Vista Hermosa	2.06	299	*i* P	Pn	05 10 06.5	-2.5
VHO				*i* S	Sn	05 10 29.6	-5.4
CCIG	Comitan	2.61	85	*e*P	Pn	05 10 13.2	-3.4
CCIG				*i* S	Sn	05 10 45.1	-3.6
THIG		2.75	115	*i* P	Pn	05 10 16.3	-2.0
THIG				*i* S	Sn	05 10 47.8	-4.0
PNIG	Pinotepa	3.17	276	*i* P	Pn	05 10 20.0	-4.0
PNIG				*i* S	Sn	05 10 56.5	-5.6
UTMO	Huajuapan	3.32	302	*i* P	Pn	05 10 23.5	-2.9
UTMO				*i* S	Sn	05 11 02.2	-4.0

IDC 29 05:15:13.0±3.6, 30°24S×138°49E, h0km, mb1 3.0/3, mb1mx2.9/13, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=99.9km s-min=16.0km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.12	122	Pn	Pn	05 16 03.2	-0.4
	0.2nm,0.3s,baz=300,slow=9.4,SNR=5.2						
STKA				Pg	Pg	05 16 11.6	-1.4
	1.0nm,0.3s,baz=300,slow=16,SNR=18						
STKA				Sn	Sn	05 16 41.1	-0.5
	1.6nm,0.3s,baz=281,slow=16,SNR=5.3						
STKA				Lg	Lg	05 16 51.4	
	2.5nm,0.3s,baz=41,slow=15,SNR=8.1						
ASAR	Alice Springs	7.72	327	Pn	Pn	05 17 06.4	-0.4
	0.1nm,0.3s,baz=147,slow=13,SNR=3.0						
ASAR				Sn	Sn	05 18 35.1	+0.1
	0.1nm,0.3s,baz=152,slow=22,SNR=3.6						
WRA	Warramunga Arr	10.92	339	Pn	Pn	05 17 50.9	+0.3
	0.1nm,0.3s,baz=154,slow=14,SNR=4.1						

IDC 29 05:45:17.6±0.9, 0°15N×18°60W, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/27, mbtmp4.1/16, ML4.6/2, MS3.8/11, Ms1 3.8/11, ms1mx3.6/31, Error ellipse: s-maj=34.9km s-min=13.9km az=147.0
NEIC 29 05:45:18.6±0.6, 0°06N×18°46W, h10km, mb4.6/3, Error ellipse: s-maj=23.3km s-min=10.6km az=146.0
ISC 29 05:45:18.7±0.7, 0°1N±0°1×18°5W±0°1, h10km, n53, σ1s65/52, mb4.3/22, MS3.7/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	14.63	8	Pn	Pn	05 48 44.4	-1.6
	5.3nm,0.3s,baz=274,slow=0.5,SNR=25						
BBTS				Sn	Sn	05 51 15.5	-13
	5.5nm,0.3s,baz=76,slow=0.6,SNR=5.8						
BBTS				LR	LR	05 53 49.7	
	comp=Z,337nm,18.4s,baz=308,slow=35						
BBTS	Babate	14.63	8	Pn	Pn	05 48 44.4	-1.6
BBTS				Sn	Sn	05 51 15.5	-13
LIC	Lamto	14.81	65	*e*Pn	Pn	05 48 44.8	-3.6
LIC				*e*Sn	Sn	05 51 10.3	-22
	36nm,0.8s						
DBIC	Dimbokro	15.15	64	Pn	Pn	05 48 49.4	-3.6
	4.2nm,0.3s,baz=234,slow=15,SNR=69						
DBIC				Sn	Sn	05 51 25.2	-16
	2.3nm,0.3s,baz=144,slow=18,SNR=5.0						
DBIC				LR	LR	05 52 53.8	
	comp=Z,235nm,19.5s,baz=221,slow=30						
DBIC	Dimbokro	15.15	64	*e*Pn	Pn	05 48 49.6	-3.3
DBIC				*e*Sn	Sn	05 51 23.5	-17
DBIC				Sn	S	05 51 25.2	-33
RCBR	Riachuelo	18.29	251	P	Pn	05 49 31.1	-1.8
	1.1nm,0.3s,baz=80,slow=16,SNR=12						
RCBR				S	Sn	05 52 40.4	-17
	0.3nm,0.3s,baz=0.2,slow=21,SNR=7.3						
RCBR				LR	LR	05 54 12.1	
	comp=Z,99nm,21.1s,baz=254,slow=29						
RCBR	Riachuelo	18.29	251	P	Pn	05 49 31.1	-1.8
RCBR				S	Sn	05 52 40.4	-17
TOA0	Torodi Ar. Sit	23.90	56	*e*P	P	05 50 31.1	-1.9
TOA0				*e*S	S	05 54 53.3	+3.8
TORD	Torodi Ar. Bea	23.90	56	P	P	05 50 31.6	-1.4
	19nm,0.9s,baz=241,slow=11,SNR=80						
TORD				S	S	05 54 53.4	+4.0
	2.6nm,0.9s,baz=237,slow=24,SNR=4.3						
TORD				LR	LR	05 58 20.5	
	comp=Z,219nm,20.8s,baz=245,slow=33						
TORD	Torodi Ar. Bea	23.90	56	P	P	05 50 31.6	-1.4
TORD				S	S	05 54 53.4	+4.0
TAM	Tamanrasset	32.53	44	*e*P	P	05 51 51.1	+0.8
	1.7nm,0.8s						
BDFB	Brasilia	33.02	240	P	P	05 51 54.3	-0.3
	1.3nm,0.6s,baz=79,slow=12,SNR=3.2						
BDFB				LR	LR	06 03 22.9	
	comp=Z,161nm,18.3s,baz=270,slow=33						
BDFB	Brasilia	33.02	240	P	P	05 51 54.3	-0.3
MDT	Midelt	35.12	21	P	P	05 52 14.2	+1.5
	2.0nm,0.7s,baz=221,slow=5.6,SNR=8.4						
MDT	Midelt	35.12	21	P	P	05 52 14.2	+1.5
EVO	Evora	39.48	13	*e*P	P	05 52 51.4	+1.9
	17nm,0.9s						
ESDC	Sonseca Array	41.61	17	P	P	05 53 08.8	+1.7
	1.0nm,0.7s,baz=198,slow=9.2,SNR=8.0						
ESDC	Sonseca Array	41.61	17	P	P	05 53 08.8	+1.7
KEST	Kesra	43.96	33	LR	LR	06 12 11.8	
	comp=Z,82nm,18.5s,baz=281,slow=37						
SIV	San Ignacio	44.89	247	P	P	05 53 35.3	+1.3
	1.0nm,0.8s,baz=120,slow=8.8,SNR=4.4						
SIV	San Ignacio	44.89	247	P	P	05 53 35.3	+1.3
SJPF	Ste Jean	45.58	18	*e*P	P	05 53 39.0	0.0
	28nm,1.2s						
ETSF	Etsaut	45.59	19	*e*P	P	05 53 41.4	+2.2
	67nm,1.5s						
EPF	Esparros	46.00	19	*e*P	P	05 53 44.5	+2.1
MBDF	Montbardon	49.82	24	*e*P	P	05 54 13.2	+1.1
	25nm,1.3s						
LPG	La Plagne	50.45	23	*e*P	P	05 54 18.2	+1.2
	14nm,1.2s						
LPL	La Plagne	50.46	23	*e*P	P	05 54 18.6	+1.6
LPAZ	La Paz	51.52	249	LR	LR	06 16 38.4	
	comp=Z,44nm,19.7s,baz=105,slow=36						
GERES	GERESS Array B	55.97	25	P	P	05 54 57.4	0.0
	0.7nm,0.6s,baz=202,slow=5.7,SNR=8.0						
GERES	GERESS Array B	55.97	25	P	P	05 54 57.4	0.0
BRTR	Keskin Array B	61.73	44	P	P	05 55 37.3	-0.4
	1.4nm,0.8s,baz=245,slow=6.9,SNR=8.5						
BRTR				LR	LR	06 21 52.6	
	comp=Z,68nm,19.2s,baz=109,slow=36						
BRTR	Keskin Array B	61.73	44	P	P	05 55 37.3	-0.4
PLCA	Paso Flores	62.16	223	LR	LR	06 22 49.7	
	comp=Z,50nm,18.2s,baz=296,slow=36						
KIEV	Kiev	64.63	31	*e*P	P	05 55 56.2	-0.3
	6.1nm,1.1s						
AKASG	Malin Array Be	64.64	31	P	P	05 55 55.7	-0.8
	2.6nm,0.8s,baz=234,slow=6.9,SNR=7.7						
AKASG	Malin Array Be	64.64	31	P	P	05 55 55.7	-0.8
FINES	FINESS Array B	69.94	21	P	P	05 56 29.3	-0.7
	3.7nm,0.9s,baz=162,slow=3.0,SNR=5.8						
FINES				LR	LR	06 25 23.8	
	comp=Z,210nm,18.6s,baz=314,slow=34						
FINES	FINESS Array B	69.94	21	P	P	05 56 29.3	-0.7
ARCES	ARCESS Array B	75.29	15	P	P	05 57 01.5	-0.2
	3.2nm,1.0s,baz=230,slow=5.7,SNR=5.2						
ARCES				LR	LR	06 30 52.8	
	comp=Z,208nm,21.7s,baz=322,slow=36						
ARCES	ARCESS Array B	75.29	15	P	P	05 57 01.5	-0.2
ULM	Lac du Bonnet	81.85	321	P	P	05 57 38.0	-0.3
	1.5nm,0.8s,baz=84,slow=8.0,SNR=3.1						
ULM	Lac du Bonnet	81.85	321	P	P	05 57 38.0	-0.3
TXAR	Lajitas Array	85.71	299	P	P	05 57 59.2	+0.6
	0.6nm,0.8s,baz=124,slow=7.2,SNR=7.2						
TXAR	Lajitas Array	85.71	299	P	P	05 57 59.2	+0.6
GDL2	Guadalupe Moun	86.42	302	*e*P	P	05 58 03.4	+1.3
	5.0nm,0.9s						
YKA	Yellowknife Ar	92.75	332	P	P	05 58 31.5	+0.5
	0.6nm,0.9s,baz=87,slow=5.2,SNR=8.8						
YKA	Yellowknife Ar	92.75	332	P	P	05 58 31.6	+0.5
MKAR	Makanchi Array	97.37	43	P	P	05 58 51.7	-1.0
	0.2nm,0.6s,baz=273,slow=2.7,SNR=2.7						
MKAR	Makanchi Array	97.37	43	P	P	05 58 51.7	-1.0
ASAR	Alice Springs	144.43	133	PKP	PKPdf	06 04 57.6	+1.3
	0.6nm,0.7s,baz=186,slow=2.8,SNR=4.3						
ASAR	Alice Springs	144.43	133	PKP	PKPdf	06 04 57.6	+1.3
WRA	Warramunga Arr	146.90	128	PKPbc	PKPab	06 05 04.1	+0.3
	0.6nm,0.3s,baz=235,slow=1.8,SNR=3.3						
WRA	Warramunga Arr	146.90	128	PKPbc	PKPab	06 05 04.1	+0.3

IDC 29 05:47:32.4±0.6, 16°39S×173°31W, h0km, mb4.3/11, mb1 4.6/12, mb1mx4.4/21, mbtmp4.3/12, ML2.7/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/25, Error ellipse: s-maj=30.9km s-min=16.3km az=138.0
NEIC 29 05:47:38.4±1.4, 16°77S×173°12W, h47km±13km, mb4.6/16, Error ellipse: s-maj=15.5km s-min=7.4km az=155.0
ISC 29 05:47:38.8±0.8, 16°7S±0°1×173°10W±0°08, h50km±7km, h44km:pP-P, n109, σ1s19/96, mb4.5/26, MS3.7/11, 7C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.05	25	Pn	Pn	05 48 17.7	-6.8
	66nm,0.3s,baz=198,slow=0.9,SNR=40						
AFI				Sn	Sn	05 48 49.3	-11
	283nm,0.3s,baz=54,slow=19,SNR=9.0						
AFI				LR	LR	05 49 06.1	
	comp=Z,907nm,21.6s,baz=270,slow=33						
AFI	Afiamalu	3.05	25	Pn	Pn	05 48 17.7	-6.8
AFI				Sn	Sn	05 48 49.3	-11
MSVF	Nonsavu	8.52	262	*e*Pn	Pn	05 49 40.6	+1.0
RAR	Rarotonga	13.38	112	Pn	Pn	05 50 43.9	-2.2
	2.9nm,0.3s,baz=267,slow=9.6,SNR=6.4						
RAR				LR	LR	05 54 16.8	
	comp=Z,306nm,21.3s,baz=260,slow=30						
RAR	Rarotonga	13.38	112	*e*P	Pn	05 50 44.4	-1.7
RAR				*e*Sn	Sn	05 53 05.0	-8.4
DZM	Mont Dzumac	20.02	251	*e*P	Pn	05 52 14.8	+5.1
	89nm,1.5s						
DZM				*e*LR	LR	05 57 01.8	
	401nm,26.6s						
DZM	Mont Dzumac	20.02	251	LR	LR	05 57 56.4	
	comp=Z,83nm,18.8s,baz=24,slow=31						
PAE	Paea	22.49	96	*e*T	T	06 15 28.6	
	4.5nm,0.3s						
PPT2	Papeete2	22.50	96	*e*LR	LR	05 57 58.0	
	239nm,25.2s						
PPT2				*e*T	T	06 15 29.7	
	8.8nm,0.4s						
TIAR	Tiarei	22.72	96	*e*T	T	06 15 45.4	
	20nm,0.3s						
URZ	Urewera	23.14	200	*e*P	P	05 52 40.4	-0.3
	18nm,0.5s						
URZ				*e*S	S	05 56 52.0	+3.5
TBI	Tubuai	23.16	110	*e*S	S	05 56 51.4	+2.4
	92nm,27.4s						
TBI				*e*LR	LR	05 58 10.3	
	264nm,27.5s						
TBI				*e*T	T	06 16 31.4	
	16nm,0.3s						
MEH	Mehetia	23.93	97	*e*T	T	06 17 16.9	
	48nm,0.3s						
PMOR	Pomariorio Ree	24.30	90	*e*T	T	06 17 39.0	
	6.2nm,0.2s						
HNR	Honiara	27.21	282	LR	LR	06 02 20.0	
	comp=Z,314nm,21.2s,baz=327,slow=33						
RPZ	Rata Peaks	30.11	203	P	P	05 53 46.8	+3.2
	7.7nm,0.7s,baz=327,slow=1.3,SNR=3.9						
RPZ	Rata Peaks	30.11	203	*e*P	P	05 53 43.7	+0.1
	37nm,1.2s						
RPZ				*e*PcP	PcP	05 56 40.3	-4.0
ARMA	Armidale	34.94	241	*e*P	P	05 54 24.8	-1.5
	2.9nm,0.5s						
RKT	Rikitea	36.34	106	*e*T	T	06 32 55.2	
	8.1nm,0.4s						
CTA	Charters Tower	38.65	259	LR	LR	06 09 07.2	
	comp=Z,109nm,19.2s,baz=60,slow=34						
STKA	Stephens Creek	43.66	241	P	P	05 55 38.1	-0.7
	7.4nm,0.8s,baz=68,slow=8.1,SNR=14						
STKA				LR	LR	06 11 17.7	
	comp=Z,89nm,19.1s,baz=24,slow=33						
STKA	Stephens Creek	43.66	241	P	P	05 55 38.1	-0.7
WB2	Warramunga Arr	49.83	258	*e*P	P	05 56 26.8	-0.4
WRAB	Tennant Creek	49.83	258	*e*P	P	05 56 26.2	-1.0
WRAB				*e*S	ScP	06 01 17.8	-21
WRA	Warramunga Arr	49.84	258	P	P	05 56 26.0	-1.3
	0.9nm,0.3s,baz=93,slow=6.8,SNR=6.1						
WRA	Warramunga Arr	49.84	258	P			
AS31	Alice Springs	50.00	253	*e*P	P	05 56 26.6	-1.9
ASAR	Alice Springs	50.00	253	P	P	05 56 26.6	-1.9
	9.0nm,0.6s,baz=88,slow=8.2,SNR=102						
ASAR	Alice Springs	50.00	253	P	P	05 56 26.6	-1.9
GUMO	Guam	51.28	303	LR	LR	06 15 54.2	
	comp=Z,46nm,18.3s,baz=138,slow=33						
CASY	Casey	69.36	205	*e*pP	P

BVAR	**Borovoye Array**	**119.07**	**322**	PKP	**PKPdf**	**06 06 22.1**	**+0.2**
	0.5nm,0.5s,baz=80,slow=1.8,SNR=6.0						
BVAR	**Borovoye Array**	**119.07**	**322**	PKP	**PKPdf**	**06 06 22.1**	**+0.2**
ARCES	**ARCESS Array B**	**125.92**	**352**	PKP	**PKPdf**	**06 06 37.2**	**+2.6**
	1.8nm,0.8s,baz=58,slow=5.4,SNR=2.7						
ARCES	**ARCESS Array B**	**125.92**	**352**	PKP	**PKPdf**	**06 06 37.2**	**+2.6**
KWP	**Kalwaria Pacla**	**144.73**	**342**	*e*PKPbc	**PKPdf**	**06 07 09.6**	**-0.4**
OJC	**Ojcow**	**144.97**	**346**	*e*PX		06 07 08.8	
CLL	**Collm**	**145.12**	**353**	*e*PKPdf	**PKPbc**	**06 07 11.0**	**+0.8**
	comp=Z,5.0nm,0.9s						
CLL				*ep*PKPdf	**pPKPdf**	**06 07 26.0**	**+0.2**
KMBO	**Kilima Mbogo**	**145.21**	**242**	*e*PKPbc	**PKPdf**	**06 07 13.9**	**+1.6**
UPC	**Upice**	**145.48**	**350**	*e*PKP	**PKPab**	**06 07 12.3**	**+0.7**
UPC				*ep*PKP	**pPKPdf**	**06 07 27.1**	**+0.7**
KOLS	**Kolonicke sedl**	**145.49**	**342**	*e*PKP	**PKPbc**	**06 07 11.9**	**+0.5**
KOLS				*e*		06 07 25.8	
DPC	**Dobruska-Polom**	**145.58**	**349**	*e*PKP	**PKPab**	**06 07 12.7**	**+0.7**
DPC				*ep*PKP	**pPKPdf**	**06 07 27.4**	**+0.7**
NIE	**Niedzica**	**145.59**	**344**	*e*PX		06 07 13.0	
BUR08	**Bucovina Ar. S**	**145.65**	**338**	*e*PKPbc	**PKPab**	**06 07 13.2**	**+0.8**
BURAR	**Bucovina Array**	**145.67**	**338**	⇑*i*P	**PKPab**	**06 07 12.7**	**+0.2**
PVCC	**Panska Ves**	**145.69**	**351**	*e*PKP	**PKPab**	**06 07 13.2**	**+0.9**
PVCC				*ep*PKP	**pPKPdf**	**06 07 27.3**	**+0.5**
OKC	**Ostrava-Krasne**	**145.71**	**347**	*e*PKP	**PKPab**	**06 07 13.0**	**+0.6**
OKC				*ep*PKP	**pPKPdf**	**06 07 27.4**	**+0.6**
CRVS	**Cervenica-Dubn**	**145.75**	**343**	*e*PKP	**PKPbc**	**06 07 13.4**	**+1.1**
CRVS				*e*		06 07 28.3	
MORC	**Moravsky Berou**	**145.89**	**348**	*e*PKPbc	**PKPab**	**06 07 13.5**	**+0.2**
MORC	**Moravsky Berou**	**145.89**	**348**	⇑*i*P	**PKPab**	**06 07 13.4**	**+0.2**
TLCR		**146.16**	**332**	⇑*i*P	**PKPab**	**06 07 14.6**	**+0.3**
PRU	**Pruhonice**	**146.22**	**351**	*e*PKP	**PKPab**	**06 07 14.5**	**+0.1**
PRU				*ep*PKP	**pPKPdf**	**06 07 29.4**	**+1.7**
NKC	**Novy Kostel**	**146.25**	**354**	*e*PKP	**PKPab**	**06 07 14.6**	**+0.1**
NKC				*ep*PKP	**pPKPdf**	**06 07 29.2**	**+1.4**
CFR	**Carcaliu**	**146.47**	**332**	⇓*i*P	**PKPbc**	**06 07 14.3**	**-0.2**
VRI	**Vrincioaia**	**146.53**	**335**	⇓*i*P	**PKPbc**	**06 07 15.5**	**+0.8**
VYHS	**Vyhne**	**146.81**	**345**	*e*PKP	**PKPbc**	**06 07 16.6**	**+1.2**
VYHS				*e*		06 07 31.0	
PSZ	**Piszkesteto**	**147.08**	**344**	⇓*i*P	**PKPab**	**06 07 18.4**	**+0.5**
KHC	**Kasperske Hory**	**147.19**	**352**	*e*PKPbc	**PKPab**	**06 07 17.4**	**-0.8**
KHC	**Kasperske Hory**	**147.19**	**352**	*e*PKP	**PKPab**	**06 07 17.4**	**-0.8**
KHC				*ep*PKP	**pPKPdf**	**06 07 32.1**	**+2.7**
DRGR		**147.25**	**340**	⇑*i*P	**PKPbc**	**06 07 17.2**	**+0.4**
BRTR	**Keskin Array B**	**147.33**	**320**	PKPbc	**PKPbc**	**06 07 18.0**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=73,slow=2.5,SNR=26						
BRTR	**Keskin Array B**	**147.33**	**320**	PKPbc	**PKPbc**	**06 07 18.0**	**+0.6**
GERES	**GERESS Array B**	**147.46**	**352**	PKPbc	**PKPbc**	**06 07 17.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=11,slow=2.9,SNR=13						
GERES	**GERESS Array B**	**147.46**	**352**	PKPbc	**PKPbc**	**06 07 17.6**	**+0.2**
VOIR		**147.56**	**336**	⇑*i*P	**PKPbc**	**06 07 19.1**	**+1.4**
CONA	**Conrad Observa**	**147.99**	**349**	⇑*i*PKiKP	**PKiKP**	**06 07 19.7**	**-0.9**
	comp=Z,4.0nm,0.7s						
BFO	**Black Forest**	**148.43**	**358**	*e*PKPbc	**PKPbc**	**06 07 20.5**	**+0.7**
PKSM	**Moragy**	**148.98**	**344**	⇑*i*P	**PKPdf**	**06 07 17.9**	**+0.7**
FETA	**Feichten**	**149.59**	**355**	⇓*i*PKiKP	**PKiKP**	**06 07 23.9**	**-0.2**
	comp=Z,5.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**173.86**	**124**	PKP	**PKPdf**	**06 07 42.5**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=237,slow=0.6,SNR=4.1						
TORD				PKPab	**PKPbc**	**06 09 15.7**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=252,slow=4.2,SNR=11						
TORD	**Torodi Ar. Bea**	**173.86**	**124**	PKP	**PKPdf**	**06 07 42.5**	**-1.2**
TORD				PKPab	**PKPab**	**06 09 15.7**	**+1.5**

MEX 29 05:49:21.2±0.6, 16.69N×98.85W, h20km±182km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.75**	**113**	*i* P	Pb	05 49 33.0	-2.6
PNIG				*i* S	Sb	05 49 43.1	-2.4
CAIG	**El Cayaco**	**1.41**	**285**	*e*P	Pn	05 49 42.9	-2.8
CAIG				*i* S	Sn	05 49 58.5	-5.1
UTMO	**Huajuapan**	**1.51**	**41**	*i* P	Pn	05 49 44.1	-3.3
UTMO				*i* S	Sn	05 50 02.0	-4.7
PLIG	**Platanillo**	**1.80**	**340**	*e*P	Pn	05 49 49.5	-1.8
PLIG				*i* S	Sn	05 50 10.1	-3.7
VHO	**Vista Hermosa**	**2.06**	**79**	*i* P	Pn	05 49 53.2	-1.7
VHO				*i* S	Sn	05 50 15.2	-5.1

IDC 29 05:55:48.0±1.6, 6.87S×129.46E, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, ML4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=70.8km s-min=24.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.77**	**198**	Pn	Pn	05 58 38.2	+1.0
	2.0nm,0.3s,baz=16,slow=15,SNR=18						
FITZ				Sn	Sn	06 00 33.6	-16
	2.4nm,0.3s,baz=184,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**13.83**	**160**	Pn	Pn	05 59 06.8	+1.3
	0.6nm,0.3s,baz=338,slow=13,SNR=6.5						
WRA				Sn	Sn	06 01 26.4	-14
	1.4nm,0.3s,baz=329,slow=21,SNR=10.0						
WRA				LR	LR	06 04 53.4	
	comp=Z,43nm,19.9s,baz=220,slow=39						
ASAR	**Alice Springs**	**17.24**	**166**	Pn	Pn	05 59 51.0	+0.6
	0.2nm,0.3s,baz=343,slow=11,SNR=11						
ASAR				Sn	Sn	06 02 47.6	-15
	0.6nm,0.3s,baz=334,slow=22,SNR=7.6						
STKA	**Stephens Creek**	**27.34**	**157**	P	P	06 01 33.8	-0.9
	0.9nm,0.5s,baz=333,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	06 06 48.1	+0.1
	0.5nm,0.5s,baz=115,slow=7.3,SNR=7.4						

MAN 29 06:26:08, 16.05N×122.04E, h9km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.55**	**236**	*e*P	Pb	06 26 19.6	-0.1
BALP				*e*S	Sg	06 26 26.5	+0.7
CAUP	**Cauayan**	**0.91**	**347**	*e*P	Pg	06 26 25.0	-0.6
PCPH	**Palayan**	**1.03**	**242**	⇑*e*P	Pb	06 26 28.1	0.0
PCPH				*e*S	Sn	06 26 43.8	+0.5
ABRA	**Dolores**	**2.04**	**321**	*e*P	Pn	06 26 43.2	+0.7
BOLP	**Bolinao**	**2.07**	**279**	*e*P	Pb	06 26 45.7	-0.1

*NIED **29** 06:37:00.44˚.50N×141˚.80E, h11km, Mw3.7 Best double couple: M0 3.60000×10^14 NP1:φ=19.00000°, δ=48.00000°, λ=81.00000°. NP2:φ=213.00000°, δ=42.00000°, λ=100.00000°.*

*IDC **29** 06:37:25.6±0.7, 44˚.48N×141˚.57E, h0km, mb3.4/8, mb1 3.7/9, mb1mx3.6/23, mbtmp3.5/9, ML3.4/1, Error ellipse: s-maj=20.7km s-min=9.4km az=28.0*

*ISCJB **29** 06:37:28.5±0.5, 44˚.51N±0˚.06×141˚.77E±0˚.08, h29km±4km, mb3.4/8, Error ellipse: s-maj=9.3km s-min=9.0km az=159.7*

*JMA **29** 06:37:29.5±0.1, 44˚.52N×141˚.82E, h19km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φ=209.00000°, δ=57.00000°, λ=103.00000°. NP2:φ=5.00000°, δ=35.00000°, λ=70.00000°. Principal axes: T Plg=74.0000°, Azm=155.0000°; N Plg=11.0000°, Azm=21.0000°; P Plg=11.0000°, Azm=289.0000°;*

JMA Felt I J1.

ISC 29 06:37:29.3±0.9, 44˚.50N±0˚.05×141˚.80E±0˚.05, h23km±6km, n19, σ1=92/21, mb3.4/8, 2C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSS	**Shosan**	**0.10**	**160**	⇑P	**Pb**	**06 37 33.3**	**-0.5**
JSS				*e*S	**Sb**	**06 37 36.7**	**0.0**
JYG	**Yagishiri**	**0.28**	**255**	⇓P	**Pb**	**06 37 35.6**	**-0.3**
JYG				*e*S	**Sb**	**06 37 40.5**	**+0.2**
ASAJ	**Asahikawa**	**0.69**	**123**	Pg	**Pb**	**06 37 42.0**	**-0.6**
	133nm,0.3s,baz=300,slow=14,SNR=370						
ASAJ				Lg	Lg	06 37 52.9	
	451nm,0.3s,baz=324,slow=19,SNR=45						
ASAJ	**Asahikawa**	**0.69**	**123**	⇓P	**Pb**	**06 37 42.0**	**-0.6**
JSE	**Soyaes**	**0.72**	**50**	P	**Pb**	**06 37 42.2**	**-1.1**
JHR	**Hokuryu**	**0.76**	**184**	⇑P	**Pb**	**06 37 44.0**	**+0.2**
JWK2	**Keihoku**	**0.82**	**5**	⇓P	**Pb**	**06 37 44.8**	**-0.1**
JKK2	**Kamakawa 2**	**0.92**	**132**	⇓P	**Pb**	**06 37 46.4**	**-0.3**
JAB	**Ashibetsu**	**1.04**	**163**	P	**Pb**	**06 37 48.8**	**+0.2**
PETK	**Petropavlovsk-**	**13.54**	**45**	Pn	**Pn**	**06 40 42.0**	**+2.2**
	0.2nm,0.3s,baz=201,slow=12,SNR=5.0						
SONM	**Songino Array**	**24.61**	**290**	P	**P**	**06 42 46.9**	**-1.0**
	0.1nm,0.4s,baz=72,slow=9.3,SNR=2.3						
MKAR	**Makanchi Array**	**40.80**	**295**	P	**P**	**06 45 08.9**	**+0.2**
	0.5nm,0.8s,baz=87,slow=8.0,SNR=6.2						
ILAR	**Eielson Array**	**43.17**	**36**	P	**P**	**06 45 29.6**	**+1.8**
	0.5nm,0.8s,baz=298,slow=6.8,SNR=4.6						
YKA	**Yellowknife Ar**	**57.28**	**32**	P	**P**	**06 47 13.5**	**-1.1**
	0.1nm,0.3s,baz=303,slow=5.8,SNR=3.4						
FINES	**FINESS Array B**	**62.40**	**331**	P	**P**	**06 47 48.5**	**-1.3**
	1.1nm,0.6s,baz=49,slow=4.2,SNR=2.7						
WRA	**Warramunga Arr**	**64.49**	**188**	P	**P**	**06 48 02.3**	**-1.7**
	0.5nm,0.5s,baz=5.8,slow=6.9,SNR=2.9						
ASAR	**Alice Springs**	**68.22**	**188**	P	**P**	**06 48 28.0**	**+0.2**
	0.4nm,0.6s,baz=14,slow=7.8,SNR=3.6						
TXAR	**Lajitas Array**	**85.35**	**53**	P	**P**	**06 50 05.3**	**+0.5**
	0.2nm,0.7s,baz=313,slow=3.6,SNR=4.2						
SIV	**San Ignacio**	**145.63**	**41**	PKPbc	**PKPbc**	**06 57 06.1**	**-0.1**
	0.9nm,0.6s,baz=251,slow=3.1,SNR=5.4						

*CSEM **29** 07:05:00.9±0.2, 36˚.33N×35˚.54E, h25km±2km, MD3.0, Error ellipse: s-maj=8.4km s-min=4.3km az=47.0*

*DDA **29** 07:05:00.6, 36˚.41N×35˚.60E, h7km, MD2.9*

*ISK **29** 07:05:00.2, 36˚.31N×35˚.55E, h27km, MD3.0*

*ISCJB **29** 07:05:01.1±0.7, 36˚.34N±0˚.05×35˚.53E±0˚.07, h26km±5km, Error ellipse: s-maj=11.4km s-min=5.7km az=137.7*

*NSSC **29** 07:05:01.0±2.0, 36˚.37N×35˚.60E, h11km±11km, ML2.3*

ISC 29 07:05:00.9±1.0, 36˚.37N±0˚.04×35˚.58E±0˚.04, h32km±9km, n24, σ=69/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRTS	**Karatas**	**0.26**	**322**	*e*PG	**Pb**	**07 05 07.7**	**-0.4**
KRTS				*e*SG	**Sn**	**07 05 13.4**	**-0.2**
KRTS	**Karatas**	**0.26**	**322**	*e*Pg	**Pb**	**07 05 07.7**	**-0.4**
KRTS				*e*Sg	**Sn**	**07 05 13.4**	**-0.2**
HTY	**Hatay**	**0.52**	**118**	*e*PG	**Pb**	**07 05 11.5**	**-0.2**
HTY	**Hatay**	**0.52**	**118**	*e*Pg	**Pb**	**07 05 11.5**	**-0.2**
YAYL	**Yayladag**	**0.54**	**128**	*i* P	**Pb**	**07 05 11.3**	**-0.9**
YAYL				*i* S	**Sb**	**07 05 19.8**	**-0.1**
YAYL	**Yayladag**	**0.54**	**128**	*i* P	**Pb**	**07 05 11.3**	**-0.9**
YAYL				*i* S	**Sb**	**07 05 19.8**	**-0.1**
ARNB	**Al Arnab**	**0.60**	**148**	*e*P	**Pb**	**07 05 12.9**	**-0.2**
ARNB				AML	AML	07 05 23.9	
	comp=E,90nm,0.2s						
ARNB				AML	AML	07 05 31.4	
	comp=Z,45nm,0.3s						
ARNB	**Al Arnab**	**0.60**	**148**	*e*P	**Pb**	**07 05 12.9**	**-0.2**
	SNR=100						
BTCH	**Batrach**	**0.79**	**115**	*e*P	**Pn**	**07 05 16.0**	**+0.1**
BTCH				*e*S	**Sb**	**07 05 26.8**	**+0.2**
BTCH				AML	AML	07 05 27.7	
	comp=N,181nm,0.3s						
BTCH				AML	AML	07 05 28.9	
	comp=Z,158nm,0.3s						
BTCH				AML	AML	07 05 29.7	
	comp=E,266nm,0.3s						
BTCH	**Batrach**	**0.79**	**115**	*e*P	**Pn**	**07 05 16.0**	**+0.1**
	SNR=97						
BTCH				*e*S	**Sb**	**07 05 26.8**	**+0.2**
	comp=E,266nm,0.3s,SNR=97						
MERS	**Mersin**	**0.98**	**301**	*e*PG	**Pn**	**07 05 18.7**	**+0.1**
MERS	**Mersin**	**0.98**	**301**	*e*Pg	**Pn**	**07 05 18.7**	**+0.1**
WRDH	**Warideh**	**1.09**	**141**	*e*P	**Pb**	**07 05 21.8**	**+0.5**
WRDH				*e*S	**Sb**	**07 05 36.7**	**+1.4**
WRDH	**Warideh**	**1.09**	**141**	*e*P	**Pb**	**07 05 21.8**	**+0.5**
	SNR=57						
WRDH				*e*S	**Sb**	**07 05 36.7**	**+1.4**
	SNR=94						
KOZT	**Kozan**	**1.13**	**10**	*e*PN	**Pb**	**07 05 21.4**	**-0.5**
KOZT	**Kozan**	**1.13**	**10**	*e*Pn	**Pb**	**07 05 21.4**	**-0.5**
KUZU	**Kuzuini**	**1.27**	**71**	*i* P	**Pb**	**07 05 24.2**	**-0.1**
KUZU				*i* S	**Sb**	**07 05 41.2**	**+0.8**
KUZU	**Kuzuini**	**1.27**	**71**	*i* P	**Pb**	**07 05 24.2**	**-0.1**
KUZU				*i* S	**Sb**	**07 05 41.2**	**+0.8**
BIDA	**Albida**	**1.48**	**156**	*e*P	**Pn**	**07 05 25.2**	**-0.3**
BIDA				AML	AML	07 05 47.5	
	comp=Z,272nm,0.4s						
BIDA				AML	AML	07 05 47.8	
	comp=E,258nm,0.4s						
BIDA				AML	AML	07 05 48.0	
	comp=N,76nm,0.3s						
BIDA	**Albida**	**1.48**	**156**	*e*P	**Pn**	**07 05 25.2**	**-0.3**
	SNR=57						
GAZ	**Gaziantep**	**1.54**	**58**	*e*PN	**Pn**	**07 05 26.9**	**+0.7**
GAZ	**Gaziantep**	**1.54**	**58**	*e*Pn	**Pn**	**07 05 26.9**	**+0.7**
HAWK	**Haweek**	**1.96**	**160**	AML	AML	07 06 03.4	
	comp=Z,29nm,0.3s						
KSRV	**Kasrt alli**	**2.82**	**99**	*e*P	**Pb**	**07 05 48.7**	**-1.9**
KSRV				*e*S	**Sb**	**07 06 25.8**	**+1.1**
KSRV				AML	AML	07 06 32.5	
	comp=N,20nm,0.2s						
KSRV				AML	AML	07 06 33.2	
	comp=Z,19nm,0.5s						
KSRV				AML	AML	07 06 34.2	
	comp=E,9.6nm,0.4s						

IDC 29 07:27:33.2±2.0, 7.65S×126.93E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, ML4.2/2, Error ellipse: s-maj=285.9km s-min=31.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**150**	Pn	Pn	07 30 54.5	-0.8
	1.6nm,0.3s,baz=327,slow=13,SNR=12						
WRA				Sn	Sn	07 33 18.8	-15
	1.7nm,0.3s,baz=325,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**17.27**	**158**	P	Pn	07 31 36.6	+0.6
	0.3nm,0.3s,baz=337,slow=11,SNR=17						
ASAR				S	Sn	07 34 35.1	-14
	0.2nm,0.3s,baz=327,slow=23,SNR=5.2						
MKAR	**Makanchi Array**	**67.14**	**328**	P	P	07 38 28.9	0.0
	0.2nm,0.4s,baz=128,slow=7.7,SNR=4.5						

IDC 29 07:36:08.1±57.0, 17.67S×178.43W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=1040.0km s-min=154.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.73**	**241**	P	P	07 43 33.8	-0.4
	1.4nm,0.8s,baz=96,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**44.66**	**259**	P	P	07 44 23.5	+0.6
	0.4nm,0.3s,baz=93,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**44.84**	**254**	P	P	07 44 23.8	-0.5
	1.0nm,0.7s,baz=88,slow=8.7,SNR=9.9						

IDC 29 07:42:20.9±58.0, 19.49S×178.42W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=1057.0km s-min=155.3km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.88**	**243**	P	P	07 49 39.7	-0.2
	1.9nm,0.9s,baz=96,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**44.36**	**261**	P	P	07 50 33.6	+0.2
	0.8nm,0.3s,baz=96,slow=7.4,SNR=4.1						
ASAR	**Alice Springs**	**44.37**	**256**	P	P	07 50 33.0	-0.5
	0.4nm,0.3s,baz=96,slow=8.8,SNR=6.2						

*IDC **29** 08:15:24.5±0.7, 51˚.57N×175˚.21W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/24, mbtmp3.8/9, ML4.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/39, Error ellipse: s-maj=34.6km s-min=17.4km az=160.0*

*ISCJB **29** 08:15:29.6±0.5, 51˚.50N±0˚.06×175˚.11W±0˚.05, h40km, mb3.8/10, MS3.0/2, Error ellipse: s-maj=8.3km s-min=3.8km az=166.2*

*NEIC **29** 08:15:31.1, 51˚.57N×175˚.18W, h15km, mb3.9/2, ML4.0(AEIC), After AEIC.*

ISC 29 08:15:30.5±0.6, 51˚.51N±0˚.08×175˚.12W±0˚.04, h40km, n57, σ1=54/64, mb3.9/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**0.79**	**313**	P	**Pn**	**08 15 44.2**	**-1.0**
GSCK	**Great Sitkin C**	**0.82**	**308**	P	**Pn**	**08 15 44.7**	**-0.9**
GSTR	**Great Sitkin T**	**0.83**	**316**	*e*Pg	**Pn**	**08 15 44.9**	**-0.8**
GSTR				*e*Sg	**Sn**	**08 15 56.7**	**0.0**
GSTD	**Great Sitkin T**	**0.84**	**311**	P	**Pn**	**08 15 45.0**	**-0.9**
ETKA	**Kagalaska Isla**	**0.88**	**294**	P	**Pn**	**08 15 45.6**	**-0.7**
ATKA	**Atka Island**	**0.90**	**39**	P	**Pn**	**08 15 45.7**	**-1.0**
ATKA				S	**Sn**	**08 15 56.7**	**-1.8**
KOKL	**Mount Kliuchef**	**0.99**	**34**	P	**Pn**	**08 15 48.1**	**+0.1**
KOFP	**Korovin Flat P**	**0.99**	**39**	P	**Pn**	**08 15 48.2**	**+0.2**
KOKV	**Korovin Volcan**	**1.04**	**34**	P	**Pn**	**08 15 49.0**	**+0.4**
KOKV				S	**Sn**	**08 16 02.2**	**+0.2**
KIKV	**Kanaga Island**	**1.33**	**287**	P	**Pn**	**08 15 52.1**	**-0.4**
KIMD	**Kanaga Island**	**1.34**	**282**	P	**Pn**	**08 15 52.0**	**-0.7**
TAFL	**Tanaga Flats**	**1.75**	**279**	P	**Pn**	**08 15 58.3**	**0.0**
TASE	**Tanaga Southea**	**1.84**	**281**	P	**Pn**	**08 15 60.0**	**+0.3**
TANO	**Tanaga North**	**1.91**	**283**	P	**Pn**	**08 16 00.6**	**+0.1**
GAEA	**Gareloi East**	**2.28**	**278**	P	**Pn**	**08 16 06.9**	**+1.4**
GALAA	**Gareloi Lava P**	**2.29**	**278**	P	**Pn**	**08 16 06.8**	**+1.0**
GANE	**Gareloi Northe**	**2.30**	**279**	P	**Pn**	**08 16 06.9**	**+1.0**
OKRE	**Okmok R'deer P**	**4.70**	**62**	P	**Pn**	**08 16 40.1**	**+1.2**
MSOM	**Makushin Julie**	**5.48**	**62**	P	**Pn**	**08 16 51.2**	**+1.7**
MREP	**Makushin Rep't**	**5.59**	**62**	P	**Pn**	**08 16 53.0**	**+1.9**
UNV	**Unalaska Valle**	**5.74**	**63**	*e*Pn	Pn	08 16 56.6	+3.5
FX1	**Attu Island--F**	**7.33**	**285**	Pn	**Pn**	**08 17 16.4**	**+1.4**
	5.1nm,0.3s,baz=132,slow=6.1,SNR=12						
FX1				Sn	**Sn**	**08 18 39.1**	**+2.4**
	1.8nm,0.3s,baz=127,slow=20,SNR=2.7						
FX1	**Attu Island--F**	**7.33**	**285**	Pn	**Pn**	**08 17 16.4**	**+1.4**
FX1				Sn	**Sn**	**08 18 39.1**	**+2.4**
GAMB	**Gambell**	**12.44**	**7**	*e*Pn	**Pn**	**08 18 24.7**	**+0.1**
	2.2nm,0.7s						
GAMB				*e*Sn	Sn	08 20 35.5	-6.1
KDAK	**Kodiak Island**	**14.44**	**55**	Pn	**Pn**	**08 18 49.1**	**-2.8**
	0.8nm,0.3s,baz=356,slow=8.6,SNR=14						
KDAK				Sn	**Sn**	**08 21 36.2**	**+5.7**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.7						
KDAK	**Kodiak Island**	**14.44**	**55**	Pn	**Pn**	**08 18 49.1**	**-2.8**
KDAK				Sn	**Sn**	**08 21 36.2**	**+5.7**
PETK	**Petropavlovsk-**	**16.66**	**286**	Pn	**P**	**08 19 23.1**	**+0.4**
	0.1nm,0.3s,baz=93,slow=16,SNR=3.2						
PETK				LR	LR	08 25 26.1	
	comp=Z,24nm,20.3s,baz=268,slow=36						
PETK	**Petropavlovsk-**	**16.66**	**286**	Pn	**P**	**08 19 23.1**	**+0.4**
BILL	**Bilibino**	**18.89**	**338**	*e*P	**P**	**08 19 47.6**	**+0.4**
	3.1nm,0.6s						
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**08 19 56.4**	**0.0**
	0.3nm,0.3s,baz=233,slow=10,SNR=24						
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**08 19 56.4**	**0.0**
EGAK	**Eagle**	**21.96**	**40**	*e*P	**P**	**08 20 21.0**	**+0.7**
	5.7nm,0.6s						
ASAJ	**Asahikawa**	**29.01**	**272**	LR	LR	08 32 28.2	
	comp=Z,40nm,18.3s,baz=342,slow=35						
YKA	**Yellowknife Ar**	**33.46**	**47**	P	**P**	**08 22 05.0**	**-0.3**
	0.1nm,0.4s,baz=277,slow=9.1,SNR=3.6						
YKA				PcP	**PcP**	**08 24 45.2**	**-0.2**
	0.1nm,0.4s,baz=287,slow=3.3,SNR=7.8						
YKA	**Yellowknife Ar**	**33.46**	**47**	P	**P**	**08 22 05.0**	**-0.3**
YKA				PcP	**PcP**	**08 24 45.2**	**-0.2**
KSRS	**Korea Array**	**41.93**	**273**	P	**P**	**08 23 18.0**	**+0.9**
	1.4nm,0.7s,baz=51,slow=8.2,SNR=6.9						
KSRS				LR	LR	08 37 59.3	
	comp=Z,22nm,21.1s,baz=350,slow=32						
KSAR	**Wonju Array Be**	**41.97**	**273**	P	**P**	**08 23 18.0**	**+0.7**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**08 23 35.7**	**+1.2**
	1.3nm,0.6s,baz=299,slow=4.4,SNR=14						
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**08 23 35.7**	**+1.2**
SONM	**Songino Array**	**48.63**	**298**	PcP	**PcP**	**08 25 33.8**	**-1.3**
	1.7nm,1.2s,baz=89,slow=2.5,SNR=4.4						
SONM	**Songino Array**	**48.63**	**298**	PcP	**PcP**	**08 25 33.8**	**-1.3**
TXAR	**Lajitas Array**	**56.35**	**84**	P	**P**	**08 25 06.1**	**-1.4**
	0.4nm,0.8s,baz=291,slow=3.9,SNR=3.8						
TXAR	**Lajitas Array**	**56.35**	**84**	P	**P**	**08 25 06.1**	**-1.4**
MKAR	**Makanchi Array**	**61.73**	**310**	P	**P**	**08 25 42.1**	**-2.4**
	0.2nm,0.3s,baz=46,slow=5.5,SNR=8.1						
MKAR	**Makanchi Array**	**61.73**	**310**	P	**P**	**08 25 42.0**	**-2.4**
CMAR	**Chiang Mai Arr**	**73.28**

WRA	**Warramunga Arr**	**49.13**	**126**	P	**P**	**08 43 05.4**	**-0.8**
	0.4nm,0.3s,baz=303,slow=8.7,SNR=3.0						
WRA	**Warramunga Ar**	**49.13**	**126**	P	**P**	**08 43 05.4**	**-0.8**
ABKAR	**Akbulak array**	**49.27**	**331**	*e*P	**P**	**08 43 07.0**	**+0.1**
	0.8nm,0.3s						
ASAR	**Alice Springs**	**50.81**	**130**	P	**P**	**08 43 18.2**	**-0.8**
	0.6nm,0.8s,baz=304,slow=7.5,SNR=6.7						
ASAR				PcP	**PcP**	**08 44 36.5**	**+0.8**
	0.4nm,0.7s,baz=322,slow=3.5,SNR=4.0						
ASAR	**Alice Springs**	**50.81**	**130**	P	**P**	**08 43 18.2**	**-0.8**
ASAR				PcP	**PcP**	**08 44 36.5**	**+0.8**
AKTO	**Aktyubinsk**	**50.99**	**331**	P	**P**	**08 43 19.1**	**-0.8**
	1.3nm,0.6s,baz=113,slow=16,SNR=5.6						
AKTO	**Aktyubinsk**	**50.99**	**331**	P	**P**	**08 43 19.1**	**-0.8**
BRTR	**Keskin Array B**	**61.53**	**311**	P	**P**	**08 44 34.8**	**-0.8**
	1.6nm,0.8s,baz=124,slow=6.6,SNR=7.9						
BRTR	**Keskin Array B**	**61.53**	**311**	P	**P**	**08 44 34.8**	**-0.8**
AKASG	**Malin Array Be**	**67.21**	**322**	P	**P**	**08 45 10.9**	**-1.4**
	0.9nm,0.6s,baz=97,slow=4.3,SNR=3.6						
AKASG	**Malin Array Be**	**67.21**	**322**	P	**P**	**08 45 10.9**	**-1.4**
FINES	**FINESS Array B**	**71.75**	**332**	P	**P**	**08 45 38.6**	**-1.6**
	1.1nm,0.7s,baz=108,slow=8.9,SNR=3.0						
FINES	**FINESS Array B**	**71.75**	**332**	P	**P**	**08 45 38.6**	**-1.6**
ARCES	**ARCESS Array B**	**74.32**	**340**	P	**P**	**08 45 55.5**	**+0.2**
	3.6nm,0.9s,baz=90,slow=7.0,SNR=6.7						
ARCES	**ARCESS Array B**	**74.32**	**340**	P	**P**	**08 45 55.5**	**+0.2**
BOSA	**Boshof**	**75.64**	**238**	P	**P**	**08 46 05.5**	**+1.7**
	6.7nm,1.0s,baz=101,slow=7.6,SNR=4.4						
BOSA	**Boshof**	**75.64**	**238**	P	**P**	**08 46 05.5**	**+1.7**
GERES	**GERESS Array B**	**76.89**	**318**	P	**P**	**08 46 10.8**	**+0.2**
	1.3nm,0.8s,baz=89,slow=5.7,SNR=10.0						
GERES	**GERESS Array B**	**76.89**	**318**	P	**P**	**08 46 10.8**	**+0.2**
NB2	**NORSAR Subarra**	**78.77**	**331**	P	**P**	**08 46 19.6**	**-1.1**
	comp=Z,3.7nm,1.1s,baz=90,slow=5.9						
NOA	**NORSAR Array B**	**78.77**	**331**	P	**P**	**08 46 20.2**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=91,slow=5.7,SNR=5.0						
NOA	**NORSAR Array B**	**78.77**	**331**	P	**P**	**08 46 20.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**89.95**	**283**	P	**P**	**08 47 16.8**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=91,slow=4.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**89.95**	**283**	P	**P**	**08 47 16.8**	**-1.4**
ILAR	**Eielson Array**	**94.14**	**22**	P	**P**	**08 47 35.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=295,slow=5.5,SNR=6.1						
ILAR	**Eielson Array**	**94.14**	**22**	P	**P**	**08 47 35.9**	**-0.7**
PDAR	**Pinedale Array**	**124.55**	**21**	PKP	**PKPdf**	**08 53 18.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=58,slow=2.6,SNR=4.9						
PDAR	**Pinedale Array**	**124.55**	**21**	PKP	**PKPdf**	**08 53 18.2**	**+0.1**
TXAR	**Lajitas Array**	**138.64**	**23**	PKP	**PKPdf**	**08 53 46.8**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=329,slow=1.1,SNR=3.9						
TXAR	**Lajitas Array**	**138.64**	**23**	PKP	**PKPdf**	**08 53 46.8**	**+1.9**

BJI ***29*** *08:41:56.0,32.˝70N×118.˝20W,h10km,mB5.3/2,mb4.7/2, Ms4.8/2,Ms7 4.4/1*

ISCJB ***29*** *08:41:59.8±0.6,32.˝75N±0.˝03×118.˝21W±0.˝03,h22km±4km, mb4.1/4,MS3.9/4,Error ellipse: s-maj=5.2km s-min=2.5km az=38.5*

NEIC ***29*** *08:41:59.0,32.˝73N×118.˝22W,h0km,ML4.2(PAS),After PAS.*

NEIC Felt [II] at Aliso Viejo, Avalon, Corona del Mar, Costa Mesa, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Lake Forest, Mission Viejo, Newport Beach, Newport Coast, Orange, San Clemente, San Juan Capistrano and Santa Ana. Felt in Orange and western San Diego Counties.

ECX ***29*** *08:41:59.9±0.6,32.˝71N×118.˝23W,h18km±4km,MD4.1, ML4.0*

IDC ***29*** *08:42:02.2±1.9,32.˝89N×117.˝98W,h0km,mb3.5/2, mb1 3.5/7,mb1mx3.4/27,mbtmp3.2/7,ML3.1/5,MS3.2/6, Ms1 3.2/6,ms1mx3.1/24,Error ellipse: s-maj=26.3km s-min=15.6km az=67.0*

ISC 29 08:41:58.3±0.8,32.˝70N±0.˝03×118.˝18W±0.˝03,h16km±4km, n88,σ1°41/105,mb4.1/4,MS4.0/4,36C-26D,Off coast of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCI	**San Clemente I**	**0.41**	**312**	P	**Pg**	**08 42 07.0**	**+0.3**
	baz=0.4,SNR=1000						
SCI				⇑S	**Sg**	**08 42 12.9**	**+0.5**
	baz=0.4						
CIS	**Catalina Islan**	**0.73**	**345**	P	**Pg**	**08 42 12.5**	**-0.1**
	baz=0.7,SNR=1000						
CIS				⇓S	**Sg**	**08 42 22.0**	**-0.2**
	baz=0.7						
109C	**Camp Elliot, M**	**0.93**	**78**	⇑P	**Pn**	**08 42 17.0**	**+0.4**
	baz=1.0,SNR=332						
109C				⇑S	**Sn**	**08 42 29.6**	**0.0**
	baz=1.0						
FMP	**Fort Macarthur**	**1.01**	**355**	P	**Pb**	**08 42 17.5**	**0.0**
	baz=1.0,SNR=209						
FMP				⇓S	**Sb**	**08 42 30.2**	**-0.4**
	baz=1.0						
DPP	**Dos Picos Cty**	**1.09**	**74**	⇑*i*P	**Pb**	**08 42 19.2**	**+0.5**
MURC	**Murrieta**	**1.22**	**42**	P	**Pn**	**08 42 21.0**	**+0.2**
	baz=1.2,SNR=180						
MURC				⇓S	**Sb**	**08 42 36.7**	**+0.2**
	baz=1.2						
BAR	**Barrett**	**1.27**	**91**	*e*Pg	**Pn**	**08 42 22.1**	**+0.6**
BAR				*e*Sg	**Sg**	**08 42 39.6**	**0.0**
BAR	**Barrett**	**1.27**	**91**	⇑*i*P	**Pn**	**08 42 22.1**	**+0.6**
CBX	**Cerro Bola**	**1.34**	**106**	*e*P	**Pn**	**08 42 23.4**	**+0.9**
CBX				*e*S	**Sb**	**08 42 41.7**	**+1.6**
CBX				⇑*e*		08 42 50.0	
	comp=E,7μm,0.8s						
CBX				⇑*e*		08 42 52.4	
	comp=N,5μm,0.8s						
DGR	**Domenigoni Val**	**1.37**	**46**	⇑*i*P	**Pn**	**08 42 23.0**	**+0.2**
PASC	**Pasadena Art C**	**1.47**	**360**	*e*Pg	**Pn**	**08 42 23.9**	**-0.2**
PASC				*e*Sg	**Sn**	**08 42 40.9**	**-2.1**
MONP	**Monument Peak**	**1.50**	**82**	P	**Pn**	**08 42 25.6**	**+0.9**
	baz=1.5,SNR=222						
MONP				⇓S	**Sb**	**08 42 45.5**	**+0.7**
	baz=1.5						
MWC	**Mount Wilson**	**1.52**	**4**	*e*Pg	**Pn**	**08 42 25.1**	**0.0**
MWC				*e*Sg	**Sn**	**08 42 43.4**	**-1.3**
DECC	**Green Verdugo**	**1.55**	**356**	P	**Pn**	**08 42 25.5**	**+0.2**
	baz=1.5,SNR=22						
DECC				⇑S	**Sn**	**08 42 44.2**	**-0.9**
	baz=1.5						
PBX	**Punta Banda**	**1.56**	**127**	*e*P	**Pn**	**08 42 26.5**	**+1.0**
PBX				*e*S	**Sb**	**08 42 47.8**	**+1.3**
PBX				⇓*e*		08 42 52.1	
	comp=E,1μm,0.6s						
BLG	**Laguna Peak**	**1.59**	**333**	⇑P	**Pb**	**08 42 27.3**	**0.0**
	baz=1.5,SNR=23						
BLG				⇑Sb	**Sb**	**08 42 48.2**	**+1.1**
	baz=1.5						
BFSC	**Mount Baldy Ra**	**1.59**	**16**	P	**Pn**	**08 42 26.5**	**+0.4**
	baz=1.6,SNR=302						
BFSC				⇑S	**Sn**	**08 42 46.2**	**-0.1**
	baz=1.6						
ECNX	**Esteban Cantu**	**1.70**	**127**	*e*P	**Pb**	**08 42 28.8**	**-0.5**
ECNX				*e*P	**Pn**	**08 42 25.9**	**-1.5**
ECNX				*e*S	**Sn**	**08 42 46.8**	**-2.2**
ECNX				*e*S	**Sb**	**08 42 51.7**	**+1.2**
PFO	**Pinyon Flat Ob**	**1.71**	**58**	*e*Pn	**Pn**	**08 42 29.0**	**+1.4**
PFO				*e*Sn	**Sn**	**08 42 49.8**	**+0.6**
PFO	**Pinyon Flat Ob**	**1.71**	**58**	⇑P	**Pn**	**08 42 28.9**	**+1.4**
	baz=1.7,SNR=292						
PFO				⇑S	**Sn**	**08 42 50.0**	**+0.8**
	baz=1.7						
DVTC	**Desert V Tower**	**1.76**	**91**	⇓P	**Pb**	**08 42 29.9**	**-0.3**
	baz=1.8,SNR=79						
DVTC				⇑Sb	**Sb**	**08 42 53.8**	**+1.8**
	baz=1.8						
BSC	**Santa Cruz Isl**	**1.77**	**317**	⇓P	**Pn**	**08 42 28.5**	**+0.2**
	baz=1.7						
BSC				⇓S	**Sn**	**08 42 51.9**	**+1.3**
	baz=1.7						
RMX	**La Rumorosa**	**1.78**	**93**	*e*P	**Pn**	**08 42 30.1**	**+1.5**
RMX				*e*S	**Sb**	**08 42 53.7**	**+0.9**
BBRC	**Big Bear Solar**	**1.88**	**34**	⇑P	**Pb**	**08 42 31.8**	**-0.6**
	baz=1.9,SNR=26						
BBRC				⇑Sb	**Sb**	**08 42 56.9**	**+1.1**
	baz=1.9						
OSI	**Osito Adit**	**1.96**	**347**	*e*Pn	**Pg**	**08 42 35.5**	**-0.5**
OSI	**Osito Adit**	**1.96**	**347**	⇓Pg	**Pg**	**08 42 35.8**	**-0.2**
	baz=1.9						
SWSC	**Sam W. Stewart**	**2.02**	**83**	⇓P	**Pn**	**08 42 32.8**	**+1.0**
	baz=2.0,SNR=92						
RDX	**Rancho Dawling**	**2.05**	**111**	*e*P	**Pn**	**08 42 34.0**	**+1.7**
RDX				*e*S	**Sb**	**08 43 01.1**	**+0.5**
RDX				⇓*e*		08 43 24.8	
	comp=E,768nm,0.8s						
SBC	**Santa Barbara**	**2.15**	**324**	⇑P	**Pn**	**08 42 34.8**	**+1.3**
	baz=2.1						
SBC				⇓S	**Sn**	**08 43 01.4**	**+1.4**
	baz=2.1						
EDW2	**Edwards Air Fo**	**2.18**	**4**	⇑P	**Pn**	**08 42 35.2**	**+1.2**
	baz=2.2,SNR=82						
EDW2				⇑S	**Sn**	**08 43 01.1**	**+0.4**
	baz=2.2						
BELC	**Belle Mtn. Jos**	**2.24**	**54**	⇑P	**Pn**	**08 42 36.3**	**+1.4**
	baz=2.3						
BELC				⇑Sb	**Sb**	**08 43 07.6**	**+1.5**
	baz=2.3						
RRX	**Edison Barstow**	**2.39**	**24**	⇓Pg	**Pg**	**08 42 44.0**	**-0.1**
	baz=2.4						
ARVC	**Arvin**	**2.48**	**348**	⇑P	**Pn**	**08 42 39.1**	**+1.0**
	baz=2.5,SNR=13						
ARVC				⇑S	**Sn**	**08 43 08.6**	**+0.6**
	baz=2.5						
PKM	**Peak Mountain**	**2.58**	**329**	⇓P	**Pn**	**08 42 40.5**	**+1.0**
	baz=2.5						
HEC	**Hector,Ludlow**	**2.63**	**36**	⇑P	**Pn**	**08 42 41.7**	**+1.6**
	baz=2.6						
LRMC	**Laurel Mountai**	**2.80**	**8**	⇑P	**Pn**	**08 42 44.1**	**+1.5**
	baz=2.8						
LRMC				⇓S	**Sn**	**08 43 15.6**	**-0.4**
	baz=2.8						
GSC	**Goldstone**	**2.83**	**23**	*e*Pn	**Pn**	**08 42 45.0**	**+2.0**
GSC	**Goldstone**	**2.83**	**23**	⇓P	**Pn**	**08 42 44.8**	**+1.8**
	baz=2.8						
SPX	**San Pedro Mart**	**2.84**	**125**	*e*P	**Pn**	**08 42 45.5**	**+2.2**
SPX				*e*PN	Pb	08 42 45.9	-3.0
SPX				⇑*e*		08 43 37.3	
	comp=E,241nm,0.8s						
SPX				*e*		08 43 40.1	
	comp=N,214nm,0.8s						
GLA	**Glamis**	**2.85**	**82**	*e*Pn	**Pn**	**08 42 45.4**	**+2.2**
GLA	**Glamis**	**2.85**	**82**	⇑P	**Pn**	**08 42 44.8**	**+1.6**
	baz=2.9						
IRM	**Iron Mountain**	**2.92**	**59**	⇑P	**Pn**	**08 42 45.9**	**+1.7**
	baz=2.9,SNR=19						
GMRC	**Granite Mounta**	**2.95**	**45**	⇑P	**Pn**	**08 42 46.3**	**+1.6**
	baz=3.0						
ISA	**Isabella**	**2.96**	**355**	*e*Pn	**Pn**	**08 42 46.3**	**+1.6**
ISA	**Isabella**	**2.96**	**355**	⇓P	**Pn**	**08 42 46.4**	**+1.6**
	baz=2.9,SNR=32						
ISA				⇑S	**Sn**	**08 43 19.6**	**-0.5**
	baz=2.9						
SMMC	**Simmler**	**3.01**	**330**	⇑P	**Pn**	**08 42 46.4**	**+1.1**
	baz=3.0						
SMMC				⇑S	**Sn**	**08 43 22.4**	**+1.3**
	baz=3.0						
VES	**Vestal, Richgr**	**3.22**	**347**	⇑P	**Pn**	**08 42 48.8**	**+0.6**
	baz=3.2,SNR=16						
Y12C	**Blythe**	**3.24**	**70**	⇑P	**Pn**	**08 42 49.6**	**+1.1**
	baz=3.3,SNR=8.2						
TUQ	**Turquoise Moun**	**3.31**	**34**	⇓P	**Pn**	**08 42 51.3**	**+1.7**
	baz=3.3						
PTRM	**Twissleman Ran**	**3.39**	**331**	*e*Pn	**Pn**	**08 42 52.9**	**+2.3**
MPMC	**Manual Prospec**	**3.40**	**10**	⇓P	**Pn**	**08 42 52.2**	**+1.3**
	baz=3.4						
LDFC	**Landfair**	**3.49**	**46**	*e*Pn	**Pn**	**08 42 54.2**	**+2.1**
RCTC	**Rector, Farmer**	**3.70**	**347**	⇓P	**Pn**	**08 42 55.8**	**+0.9**
	baz=3.7						
113A	**Mohawk Valley,**	**3.72**	**88**	⇓P	**Pn**	**08 42 57.6**	**+2.5**
	baz=3.7,SNR=13						
PDMCI	**Parker Dam,Lak**	**3.74**	**64**	⇓P	**Pn**	**08 42 57.3**	**+2.0**
	baz=3.7						
Z13A	**Yuma Proving G**	**3.84**	**81**	⇓P	Pn	08 42 59.9	+3.2
	baz=3.9						
FURC	**Furnace Creek,**	**3.92**	**16**	⇓P	**Pn**	**08 42 59.8**	**+2.1**
	baz=3.9						
W13A	**Hualapai Mount**	**4.30**	**55**	⇑P	**Pn**	**08 43 05.6**	**+2.3**
	baz=4.3,SNR=31						
LRV	**Little Rabbit**	**4.39**	**329**	*e*Pn	**Pn**	**08 43 05.3**	**+1.0**
114A	**Black Gap (USA**	**4.47**	**88**	⇓P	Pn	08 43 08.7	+3.3
	baz=4.5,SNR=6.3						
Y14A	**Wickenburg**	**4.51**	**73**	⇓P	**Pn**	**08 43 08.1**	**+2.1**
	baz=4.5						
SAO	**San Andreas Ge**	**4.86**	**327**	*e*Pn	**Pn**	**08 43 11.5**	**+0.7**
CMB	**Columbia Colle**	**5.62**	**342**	*e*Pn	Pn	08 43 26.8	+5.6
NVAR	**Mina Array Bea**	**5.72**	**359**	Pn	Pn	08 43 26.1	+3.3
	comp=N,0.3nm,0.3s,baz=181,slow=14,SNR=9.9						
NVAR				Pg	Pb	08 43 43.0	+5.2
	comp=N,1.1nm,0.3s,baz=185,slow=19,SNR=31						
NVAR				Lg	Lg	08 44 59.1	
	comp=N,0.3nm,0.3s,baz=177,slow=22,SNR=2.3						
NVAR				LR	LR	08 45 18.8	
	comp=N,89nm,21.4s,baz=276,slow=36						
NVAR	**Mina Array Bea**	**5.72**	**359**	Pn	Pn	08 43 26.1	+3.3
NVAR				Pg	Pb	08 43 43.0	+5.2
NVAR				Lg	Lg	08 44 59.1	
CCUT	**Cedar City**	**6.25**	**38**	*e*Pn	Pn	08 43 34.3	+4.3
WUAZ	**Wupatki**	**6.31**	**62**	*e*Pn	Pn	08 43 34.8	+4.0
ARUT	**Antelope Range**	**6.39**	**36**	*e*Pn	Pn	08 43 35.2	+3.3
	comp=N,14nm,0.5s						
ARUT				*e*Sg	**Sg**	**08 45 21.2**	**-2.1**
WCN	**Washoe City**	**6.71**	**350**	*e*Pb	**Pb**	**08 43 52.8**	**-1.9**
ELK	**Elko**	**8.37**	**16**	Pn	Pn	08 44 03.3	+4.1
	comp=N,0.2nm,0.3s,baz=196,slow=13,SNR=3.4						
ELK				Sn	**Sn**	**08 45 33.2**	**-0.2**
	comp=N,0.2nm,0.3s,baz=201,slow=12,SNR=2.0						
ELK				Lg	Lg	08 46 18.4	
	comp=N,0.2nm,0.3s,baz=190,slow=17,SNR=6.6						
ELK	**Elko**	**8.37**	**16**	Pn	Pn	08 44 03.3	+4.1
ELK				*e*Pg	Pb	08 44 36.3	+13
ELK				*e*Pg	Pb	08 44 36.3	+13
ELK				Sn	**Sn**	**08 45 33.2**	**-0.2**
ELK				Lg	Lg	08 46 18.4	
YBH	**Yreka Blue Hor**	**9.71**	**339**	LR	LR	08 48 28.4	
	comp=N,221nm,18.9s,baz=67,slow=40						
ANMO	**Albuquerque**	**10.01**	**74**	Pn	Pn	08 44 25.4	+3.7
	comp=N,0.0nm,0.3s,baz=304,slow=18,SNR=2.5						
ANMO				Lg	Lg	08 47 19.7	
	comp=N,0.1nm,0.3s,baz=180,slow=7.1,SNR=2.7						
ANMO				LR	LR	08 48 30.0	
	comp=N,167nm,19.4s,baz=206,slow=40						
ANMO	**Albuquerque**	**10.01**	**74**	Pn	Pn	08 44 25.4	+3.7
ANMO				Lg	Lg	08 47 19.7	
PDAR	**Pinedale Array**	**12.14**	**32**	Pn	Pn	08 44 55.2	+4.4
	comp=N,0.1nm,0.3s,baz=210,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**12.14**	**32**	Pn	Pn	08 44 55.2	+4.4
TXAR	**Lajitas Array**	**12.90**	**101**	Pn	P	08 45 07.3	-4.5
	comp=N,0.0nm,0.3s,baz=282,slow=12,SNR=4.5						
TXAR				LR	LR	08 50 11.3	
	comp=N,88nm,21.5s,baz=180,slow=38						
TXAR	**Lajitas Array**	**12.90**	**101**	Pn	P	08 45 07.3	-4.5
LKWY	**Lake**	**13.31**	**25**	*e*Pn	**Pn**	**08 45 08.5**	**+1.7**
DLBC	**Dease Lake**	**26.96**	**346**	LR	LR	08 59 33.7	
	comp=N,107nm,18.3s,baz=124,slow=39						
TKL	**Tuckaleechee C**	**28.54**	**74**	LR	LR	08 58 28.0	
	comp=N,56nm,20.5s,baz=270,slow=35						
YKA	**Yellowknife Ar**	**29.90**	**3**	P	P	08 48 09.4	+4.4
	comp=N,0.3nm,0.6s,baz=181,slow=9.0,SNR=17						
YKA	**Yellowknife Ar**	**29.90**	**3**	P	P	08 48 09.4	+4.4
ILAR	**Eielson Array**	**36.61**	**340**	P	P	08 49 08.2	+4.8
	comp=N,0.7nm,0.7s,baz=154,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**36.61**	**340**	P	P	08 49 08.2	+4.8
BJI	**Beijing**	**91.87**	**321**	P	**P**	**08 55 06.0**	**+0.2**
BJI				S	**S**	**09 06 06.3**	**-0.3**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,89nm,5.1s						
BJI				LR	LR		
	comp=N,110nm,15.9s						
BJI				LR	LR		
	comp=E,110nm,16.6s						
HHC	**Hu-ho-hao-te**	**93.61**	**325**	*e*P	**P**	**08 55 12.5**	**-1.5**
HHC				sP	**sP**	**08 55 19.5**	**-1.8**
HHC				PP	**PP**	**08 59 00.0**	**+2.0**
HHC				SKS	**SKSac**	**09 05 44.8**	**-3.4**
HHC				S	**S**	**09 06 17.5**	**-4.8**
HHC				SS	**SS**	**09 12 37.8**	**-0.6**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,79nm,6.3s						
HHC				LR	LR		
	comp=N,96nm,17.2s						
HHC				LR	LR		
	comp=E,150nm,16.4s						
HHC				LR	LR		
	comp=Z,100nm,17.2s						
LZH	**Lanzhou**	**101.07**	**326**	*e*P	**Pdif**	**08 55 50.5**	**+2.6**
LZH				pP	pP	08 55 56.0	+2.7
LZH				sP		08 55 58.5	

TAP 29 09:00:52.4,24.˝78N×121.˝96E,h92km,ML3.6,7D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.19**	**265**	*e*P	Pn	09 01 05.8	+0.3
	baz=271						
ILA				*e*S	Sn	09 01 15.8	+0.4
	baz=271						
TWC	**Suao**	**0.20**	**210**	⇓P	Pn	09 01 05.9	+0.3
	baz=211						
TWC				*e*S	Sn	09 01 15.6	+0.2
	baz=211						
TWB1	**Santiao Chiao**	**0.23**	**6**	⇓*i*P	Pn	09 01 05.8	+0.1
	baz=13						
TWB1				*e*S	Sn	09 01 15.1	-0.5
	baz=13						
TWE	**Neicheng**	**0.27**	**257**	P	Pn	09 01 06.4	+0.5
	baz=256						
TWE				*e*S	Sn	09 01 16.6	+0.6
	baz=256						
NWF	**Wu-fen Shan**	**0.33**	**331**	*i*P	Pn	09 01 06.3	0.0
	baz=329						
NWF				*e*S	Sn	09 01 15.3	-1.3
	baz=329						
ENTT	**Nioudou**	**0.39**	**249**	⇓*i*P	Pn	09 01 07.5	+0.9
	baz=258						
ENTT				*e*S	Sn	09 01 17.5	+0.4
	baz=258						
TWA	**Mucha**	**0.40**	**300**	*e*P	Pn	09 01 06.5	-0.1
	baz=303						
TWA				*e*S	Sn	09 01 17.5	+0.3
	baz=303						
ENA	**Nanau**	**0.41**	**210**	P	Pn	09 01 07.3	+0.6
	baz=204						
ENA				*e*S	Sn	09 01 18.1	+0.9
	baz=204						
TAP1	**Taipei**	**0.47**	**303**	*e*P	Pn	09 01 07.3	+0.2
	baz=309						
NSK	**Sanguang**	**0.56**	**259**	⇓*i*P	Pn	09 01 08.1	+0.2
	baz=259						
NSK				*e*S	Sn	09 01 19.2	-0.2
	baz=259						
TWS1	**Kuangyinshan**	**0.59**	**303**	P	Pn	09 01 08.5	+0.5
	baz=307						
TWS1				*e*S	Sn	09 01 20.2	+0.5
	baz=307						
TWY	**Chenhua**	**0.59**	**326**	P	Pn	09 01 08.0	0.0
	baz=330						
TWY				*e*S	Sn	09 01 19.4	-0.4
	baz=330						
NNS	**Nan Shan**	**0.63**	**238**	⇓*i*P	Pn	09 01 09.2	+0.5
	baz=242						
NNS				*e*S	Sn	09 01 21.1	+0.4
	baz=242						
NCU	**National Centr**	**0.73**	**285**	P	Pn	09 01 09.8	+0.5
	baz=276						
NCU				*e*S	Sn	09 01 23.1	+1.1
	baz=276						
TWD	**Chiawan**	**0.77**	**205**	P	Pn	09 01 09.6	-0.2
	baz=215						
TWD				*e*S	Sn	09 01 23.1	+0.3
	baz=215						
HWA	**Hwalien**	**0.86**	**202**	*e*P	Pn	09 01 11.1	+0.4
	baz=191						
NSTT	**Nanjuang**	**0.89**	**260**	⇓*i*P	Pn	09 01 11.2	+0.3
	baz=260						
NSTT				*e*S	Sn	09 01 24.9	+0.1
	baz=260						
TWT	**Tachien**	**0.89**	**234**	P	Pn	09 01 12.2	+1.0
	baz=229						
TWT				*e*S	Sn	09 01 26.0	+0.7
	baz=229						
WHF	**Hehuan Shan**	**0.90**	**225**	⇓*i*P	Pn	09 01 11.9	+0.3
	baz=222						
WHF				S	Sn	09 01 26.1	+0.1
	baz=222						
HSN	**Hsinchu**	**0.90**	**271**	P	Pn	09 01 11.2	+0.1
	baz=264						
HSN				S	Sn	09 01 25.2	0.0
	baz=264						
ESL	**Shilin**	**1.08**	**207**	*e*P	Pn	09 01 12.1	-1.0
	baz=211						
NSY	**Sanyi**	**1.15**	**252**	*e*P	Pn	09 01 14.6	+0.6
	baz=251						
NSY				*e*S	Sn	09 01 31.3	+1.0
	baz=251						
TWQ1	**Liyutan**	**1.16**	**248**	P	Pn	09 01 14.4	+0.3
	baz=248						
TWQ1				*e*S	Sn	09 01 30.2	-0.3
	baz=248						
SMLT	**Sun Moon Lake**	**1.32**	**227**	P	Pn	09 01 16.8	+0.7
	baz=236						
SMLT				*e*S	Sn	09 01 34.6	+0.5
	baz=236						
TCU	**Taichung**	**1.33**	**242**	*e*P	Pn	09 01 16.4	+0.3
	baz=248						
TCU				*e*S	Sn	09 01 34.5	+0.4
	baz=248						
TYC	**Yuchr**	**1.33**	**229**	*e*P	Pn	09 01 16.8	+0.7
	baz=236						
TYC				*e*S	Sn	09 01 35.3	+1.3
	baz=236						
EHY	**Hungye**	**1.40**	**205**	*e*P	Pn	09 01 15.9	-1.1
	baz=199						
EHY				*e*S	Sn	09 01 34.2	-1.3
	baz=199						
TWF1	**Yuli**	**1.55**	**203**	*e*P	Pn	09 01 18.7	-0.1
	baz=210						
TWF1				*e*S	Sn	09 01 37.0	-1.9
	baz=210						
CHN5	**Tsauling**	**1.66**	**225**	*e*P	Pn	09 01 20.9	+0.5
	baz=226						
CHN5				*e*S	Sn	09 01 42.2

CBIJ	**Chichi jima**	**1.64 281**	Pn	Pn	09 09 12.0	+3.2
	11nm,0.3s,baz=76,slow=19,SNR=7.6					
CBIJ			Sn	**Sn**	**09 09 29.2**	**+0.5**
	81nm,0.3s,baz=47,slow=19,SNR=11					
CBIJ	**Chichi jima**	**1.64 281**	P	Pn	09 09 09.2	+0.4
CBIJ			*eS*	**Sn**	**09 09 27.7**	**-1.0**
JHU	**Hanno**	**9.88 337**	P	**Pn**	**09 11 01.3**	**-0.7**
JHU			*eS*	**Sn**	**09 12 52.0**	**+0.4**
JRY	**Ryogami san**	**10.16 336**	P	Pn	09 11 07.3	+1.4
JHO	**Hitachi**	**10.20 344**	P	Pn	09 11 08.5	+2.0
JHO			*eS*	**Sn**	**09 12 58.2**	**-1.4**
JAG	**Ashikaga**	**10.34 339**	P	Pn	09 11 11.3	+2.9
JAG			*eS*	**Sn**	**09 13 02.4**	**-0.6**
MJAR	**Matsushiro Arr**	**10.88 335**	Pn	Pn	09 11 16.4	+0.6
	0.5nm,0.3s,baz=157,slow=10,SNR=8.2					
MAT	**Matsushiro**	**10.88 335**	P	Pn	09 11 17.6	+1.8
MAT			S		09 11 27.9	
GUMO	**Guam**	**13.17 176**	LR	LR	09 15 23.0	
	comp=Z,28nm,21.1s,baz=55,slow=31					
KSRS	**Korea Array**	**17.24 312**	P	P	09 12 45.5	+3.8
	0.1nm,0.3s,baz=126,slow=9.7,SNR=4.1					
ASAJ	**Asahikawa**	**17.31 357**	LR	LR	09 19 21.6	
	comp=Z,110nm,20.1s,baz=179,slow=37					
PETK	**Petropavlovsk-**	**28.20 18**	LR	LR	09 24 12.6	
	comp=Z,52nm,20.0s,baz=167,slow=33					
SONM	**Songino Array**	**36.04 316**	P	P	09 15 44.3	+3.7
	1.5nm,0.8s,baz=110,slow=7.9,SNR=13					
CMAR	**Chiang Mai Arr**	**42.22 268**	P	**P**	**09 16 33.1**	**+0.6**
	1.0nm,0.5s,baz=70,slow=8.7,SNR=6.0					
CMAR			LR	LR	09 33 12.2	
	comp=Z,35nm,19.2s,baz=218,slow=35					
CTA	**Charters Tower**	**46.66 177**	LR	LR	09 33 29.4	
	comp=Z,65nm,18.7s,baz=315,slow=32					
WRA	**Warramunga Arr**	**47.40 192**	P	**P**	**09 17 11.8**	**-1.8**
	3.1nm,0.8s,baz=14,slow=8.4,SNR=5.0					
FITZ	**Fitzroy Crossi**	**48.06 204**	P	**P**	**09 17 17.6**	**-1.1**
	6.5nm,0.8s,baz=16,slow=8.5,SNR=6.4					
ASAR	**Alice Springs**	**51.11 192**	P	**P**	**09 17 42.1**	**+0.2**
	0.3nm,0.7s,baz=19,slow=5.9,SNR=3.9					
MKAR	**Makanchi Array**	**51.90 310**	P	P	09 17 49.5	+1.8
	1.2nm,0.8s,baz=82,slow=9.3,SNR=8.6					
KURK	**Kurchatov**	**54.34 315**	P	P	09 18 08.2	+2.8
	1.7nm,0.9s,baz=90,slow=7.4,SNR=10					
ILAR	**Eielson Array**	**57.20 28**	P	**P**	**09 18 26.6**	**+0.7**
	0.6nm,0.8s,baz=253,slow=7.0,SNR=5.6					
BVAR	**Borovoye Array**	**59.34 318**	P	P	09 18 42.9	+1.9
	0.3nm,0.5s,baz=82,slow=10,SNR=2.4					
YKA	**Yellowknife Ar**	**71.63 29**	P	**P**	**09 20 01.6**	**+1.4**
	0.1nm,0.7s,baz=290,slow=5.8,SNR=3.2					
FINES	**FINESS Array B**	**78.91 334**	P	P	09 20 44.7	+2.6
	0.7nm,0.6s,baz=44,slow=8.2,SNR=2.8					
NVAR	**Mina Array Bea**	**79.43 52**	P	P	09 20 47.9	+2.2
	0.1nm,0.5s,baz=235,slow=3.2,SNR=2.4					
PDAR	**Pinedale Array**	**83.28 45**	LR	LR	09 52 31.8	
	comp=Z,65nm,19.2s,baz=177,slow=32					

IDC 29 09:16:55.5±2.2, 4.89N×126.90E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=168.2km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.74**	**164**	P	P	09 22 27.9	-0.1
	1.8nm,0.7s,baz=344,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**29.20**	**167**	P	P	09 22 59.1	+0.1
	0.3nm,0.6s,baz=345,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**56.70**	**325**	P	P	09 26 40.9	-0.1
	0.2nm,0.5s,baz=117,slow=7.6,SNR=8.0						

IDC 29 09:19:21.6±2.3, 6.27S×129.94E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=110.8km s-min=27.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.48**	**199**	Pn	Pn	09 22 21.4	+0.8
	0.3nm,0.3s,baz=24,slow=12,SNR=4.5						
FITZ				Sn	Sn	09 24 23.6	-17
	0.2nm,0.3s,baz=79,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**14.24**	**163**	Pn	Pn	09 22 45.2	+0.4
	0.2nm,0.3s,baz=335,slow=13,SNR=3.1						
WRA				Sn	Sn	09 25 06.2	-17
	0.2nm,0.3s,baz=334,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**17.71**	**168**	P	Pn	09 23 28.8	-1.1
	0.3nm,0.3s,baz=348,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	09 30 20.1	0.0
	0.4nm,0.4s,baz=115,slow=8.0,SNR=12						

*IDC **29** 09:31:33.7±1.4, 12.45N×86.81W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=51.3km s-min=19.7km az=47.0*
*ISCJB **29** 09:31:35.4±0.5, 11.84N±0.06×87.34W±0.06, h10km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=4.0km az=44.6*
*CASC **29** 09:31:37.6±2.5, 11.91N×87.24W, h19km±18km, MD4.1*
ISC 29 09:31:36.5±1.0, 11.91N±0.08×87.26W±0.07, h10km, n25, σ1°30/26, mb3.5/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.80**	**43**	*eP*	**Pb**	**09 31 53.2**	**+0.7**
CNCH	**Conchagua**	**1.47**	**338**	*eP*	**Pn**	**09 32 02.4**	**-0.8**
BLLM	**Bellamira**	**1.80**	**328**	*eP*	**Pn**	**09 32 07.0**	**-0.6**
VSM	**San Miguel**	**1.81**	**327**	*eP*	**Pn**	**09 32 08.3**	**+0.4**
GBS2	**Las Lilas**	**2.07**	**121**	*iP*	**Pn**	**09 32 11.3**	**0.0**
CAHU	**Cacacuatique**	**2.07**	**333**	*eP*	**Pn**	**09 32 11.7**	**+0.2**
NY14	**Universidad de**	**2.10**	**126**	*iP*	**Pn**	**09 32 11.1**	**-0.7**
LAPC	**Finca la Perla**	**2.12**	**122**	*iP*	**Pn**	**09 32 10.6**	**-1.4**
TGUH	**Tegucigalpa,Un**	**2.13**	**360**	*eP*	**Pn**	**09 32 12.3**	**+0.1**
TGUH				*eS*	**Sn**	**09 32 39.3**	**+0.6**
SNVI	**San Vicente**	**2.29**	**318**	*eP*	**Pn**	**09 32 14.0**	**-0.5**
SNVI				*eS*	**Sn**	**09 32 44.4**	**+1.5**
BOQS	**Boqueron**	**2.68**	**313**	*eP*	**Pn**	**09 32 19.6**	**-0.3**
JTS	**JuntasAbangare**	**2.78**	**125**	Pn	**Pn**	**09 32 20.3**	**-0.7**
	5.2nm,0.3s,baz=321,slow=18,SNR=41						
JTS				Sn	**Sn**	**09 32 56.0**	**+1.3**
	13nm,0.3s,baz=282,slow=21,SNR=6.2						
JCR	**Jicaral**	**2.94**	**134**	*eP*	**Pn**	**09 32 25.8**	**+2.5**
SBLS	**San Blas**	**3.00**	**310**	*eP*	**Pn**	**09 32 24.7**	**+0.4**
SBLS				*eS*	**Sn**	**09 33 03.4**	**+2.9**
QCR	**Quepos**	**3.92**	**129**	*eP*	**Pn**	**09 32 37.2**	**+0.5**
URSC	**Urasca**	**3.99**	**121**	*eP*	**Pn**	**09 32 37.5**	**-0.5**
BUS	**Buena Vista**	**4.16**	**124**	*eP*	**Pn**	**09 32 42.9**	**+2.4**
CMIG	**Matias Romero**	**9.00**	**306**	Pn	**Pn**	**09 33 47.1**	**+0.5**
	0.2nm,0.3s,baz=133,slow=12,SNR=6.2						
CMIG				Sn	**Sn**	**09 35 27.7**	**-0.5**
	0.1nm,0.3s,baz=143,slow=20,SNR=2.1						
TXAR	**Lajitas Array**	**23.11**	**321**	P	**P**	**09 36 41.1**	**-1.7**
	2.3nm,0.7s,baz=138,slow=9.8,SNR=26						
PDAR	**Pinedale Array**	**36.33**		P	P	09 38 37.8	-3.1
	0.5nm,0.6s,baz=123,slow=12,SNR=5.0						
NVAR	**Mina Array Bea**	**38.23**	**319**	P	P	09 38 53.8	-3.2
	0.5nm,0.8s,baz=123,slow=7.6,SNR=2.4						
SCHQ	**Schefferville**	**45.74**	**16**	P	P	09 39 51.4	-6.4
	2.6nm,1.1s,baz=217,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**54.18**	**345**	P	P	09 40 57.4	-4.4
	0.2nm,0.7s,baz=140,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**139.24**	**248**	PKP	**PKPdf**	**09 51 02.7**	**-2.0**
	0.1nm,0.5s,baz=90,slow=1.9,SNR=3.0						
WRA	**Warramunga Arr**	**139.30**	**253**	PKP	**PKPdf**	**09 51 04.3**	**-0.5**
	0.3nm,0.4s,baz=88,slow=2.2,SNR=4.6						

IDC 29 09:53:24.9±2.8, 0.62S×133.03E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=144.7km s-min=26.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.25**	**176**	P	P	09 57 51.1	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	09 58 30.9	+0.1
	0.4nm,0.5s,baz=351,slow=10,SNR=12						
MKAR	**Makanchi Array**	**64.72**	**324**	P	P	10 04 05.0	-0.1
	0.1nm,0.3s,baz=122,slow=5.2,SNR=4.4						

*ISCJB **29** 10:16:04.1±0.3, 43.70N±0.02×20.50E±0.02, h9km±2km, Error ellipse: s-maj=2.9km s-min=2.6km az=136.3*

*PDG **29** 10:16:04.5±0.5, 43.72N×20.49E, h10km±1km, MD2.9/3, ML2.9/9, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*CSEM **29** 10:16:04.3±0.1, 43.70N×20.53E, h2km, Ms3.7, Error ellipse: s-maj=2.6km s-min=2.2km az=120.0*
*BEO **29** 10:16:05.2±0.2, 43.66N×20.46E, h7km±1km, ML2.9/1*
*VIE **29** 10:16:06.3±0.3, 43.83N×20.50E, h10km, mb2.7/5, ML2.7/4, Ms3.7/1, Error ellipse: s-maj=4.7km s-min=2.8km az=23.0*
112 km S of Beograd
ISC 29 10:16:04.6±1.0, 43.69N±0.02×20.50E±0.02, h8km±8km, n114, σ0°93/174, 32C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRUS	**Gruza**	**0.25**	**38**	⇓*iPg*	**Pb**	**10 16 11.3**	**-0.1**
GRUS				*eSg*	**Sb**	**10 16 15.5**	**-0.5**
IVAS	**Ivanjica**	**0.28**	**246**	⇑*iPg*	**Pg**	**10 16 09.9**	**-0.2**
IVAS				*eSg*	**Sg**	**10 16 13.6**	**-0.2**
IVAS	**Ivanjica**	**0.28**	**246**	⇑*iPg*	**Pg**	**10 16 09.9**	**-0.2**
IVAS				*eSg*	**Sg**	**10 16 13.6**	**-0.2**
TRUS	**Trudelj**	**0.54**	**353**	⇑*ePg*	**Pg**	**10 16 14.9**	**-0.1**
TRUS				*eSg*	**Sb**	**10 16 24.0**	**-0.2**
TRUS	**Trudelj**	**0.54**	**353**	⇑*ePg*	**Pg**	**10 16 14.9**	**-0.1**
DIVS	**Divibare**	**0.55**	**318**	*ePg*	**Pg**	**10 16 15.6**	**+0.3**
DIVS				*eSg*	**Sg**	**10 16 23.2**	**+0.7**
DIVS	**Divibare**	**0.55**	**318**	*ePg*	**Pg**	**10 16 15.6**	**+0.3**
DIVS				*eSg*	**Sg**	**10 16 23.2**	**+0.7**
PLE	**Pljevlja**	**0.89**	**246**	⇑*iPg*	**Pg**	**10 16 20.5**	**-1.1**
PLE				*eSg*	**Sb**	**10 16 34.3**	**0.0**
PLE	**Pljevlja**	**0.89**	**246**	⇑*iPg*	**Pg**	**10 16 20.5**	**-1.1**
PLE				*eSg*	**Sb**	**10 16 34.3**	**0.0**
IVA	**Berane**	**0.93**	**208**	⇑*iPg*	**Pg**	**10 16 21.6**	**-0.9**
BEY	**Berane**	**0.93**	**209**	⇑*iPg*	**Pg**	**10 16 21.6**	**-0.9**
BOLS	**Boljevac**	**1.06**	**82**	*ePg*	**Pg**	**10 16 24.1**	**-0.9**
BOLS				*eSg*	**Sb**	**10 16 39.6**	**+0.3**
BOLS	**Boljevac**	**1.06**	**82**	*ePg*	**Pg**	**10 16 24.1**	**-0.9**
BOLS				*eSg*	**Sb**	**10 16 39.6**	**+0.3**
TEKS	**Tekeris**	**1.11**	**321**	*ePg*	**Pg**	**10 16 26.0**	**+0.1**
TEKS				*eSg*	**Sb**	**10 16 41.0**	**+0.4**
TEKS	**Tekeris**	**1.11**	**321**	*ePg*	**Pg**	**10 16 26.0**	**+0.1**
TEKS				*eSg*	**Sb**	**10 16 41.0**	**+0.4**
BEO	**Beograd**	**1.12**	**359**	*ePg*	**Pn**	**10 16 26.6**	**0.0**
BEO				*eSg*	**Sn**	**10 16 42.5**	**+0.4**
PVY	**Plav**	**1.17**	**200**	⇑*iPg*	**Pb**	**10 16 25.4**	**-1.7**
PVY	**Plav**	**1.17**	**200**	⇑*iPg*	**Pb**	**10 16 25.4**	**-1.7**
UPM	**Unac-Piva**	**1.26**	**248**	⇓*iPg*	**Pn**	**10 16 27.8**	**-0.9**
UPM				*eSg*	**Sn**	**10 16 47.0**	**+1.1**
UPM	**Unac-Piva**	**1.26**	**248**	⇓*iPg*	**Pn**	**10 16 27.8**	**-0.9**
UPM				*eSg*	**Sn**	**10 16 47.0**	**+1.1**
BARS	**Barje**	**1.30**	**132**	*ePg*	**Pn**	**10 16 28.6**	**-0.5**
BARS				*eSg*	**Sn**	**10 16 46.9**	**+0.3**
BARS	**Barje**	**1.30**	**132**	*ePg*	**Pn**	**10 16 28.6**	**-0.5**
BARS				*eSg*	**Sn**	**10 16 46.9**	**+0.3**
NKY	**Niksic**	**1.41**	**232**	⇓*iPg*	**Pn**	**10 16 30.2**	**-0.4**
NKY				*eSg*	**Sg**	**10 16 52.2**	**+2.3**
NKY	**Niksic**	**1.41**	**232**	⇓*iPg*	**Pn**	**10 16 30.2**	**-0.4**
NKY				*eSg*	**Sg**	**10 16 52.2**	**+2.3**
FGSL	**Fruska Gora**	**1.55**	**342**	*ePn*	**Pn**	**10 16 32.4**	**-0.1**
FGSL				*eSn*	**Sg**	**10 16 54.0**	**-0.3**
FRGS	**Fruska Gora**	**1.55**	**342**	*ePn*	**Pn**	**10 16 32.4**	**-0.1**
FRGS				*eSn*	**Sg**	**10 16 54.0**	**-0.4**
TTG	**Podgorica**	**1.56**	**216**	⇑*iPg*	**Pb**	**10 16 33.1**	**-0.5**
TTG				*eSg*	**Sg**	**10 16 55.4**	**+0.9**
PDG	**Podgorica**	**1.56**	**216**	*ePg*	**Pb**	**10 16 33.3**	**-0.3**
PDG				*eSg*	**Sn**	**10 16 52.9**	**0.0**
PDG	**Podgorica**	**1.56**	**216**	*ePg*	**Pb**	**10 16 33.3**	**-0.3**
PDG				*eSg*	**Sg**	**10 16 55.4**	**+0.8**
ZAPS	**Zavoj**	**1.61**	**104**	⇓*ePg*	**Pn**	**10 16 34.0**	**+0.7**
ZAPS				*eSn*	**Sb**	**10 16 55.6**	**+0.6**
BRY	**Bratogost**	**1.63**	**242**	⇓*iPn*	**Pn**	**10 16 34.0**	**+0.2**
BRY				*eSn*	**Sg**	**10 16 57.0**	**+0.5**
BRY	**Bratogost**	**1.63**	**242**	⇓*iPn*	**Pn**	**10 16 34.0**	**+0.2**
BRY				*eSn*	**Sg**	**10 16 57.6**	**+0.5**
BUM	**Brajici-Budva**	**1.82**	**221**	⇑*iPn*	**Pb**	**10 16 37.9**	**-0.3**
BUM				*eSn*	**Sg**	**10 17 02.6**	**-0.5**
BUM	**Brajici-Budva**	**1.82**	**221**	⇑*iPn*	**Pb**	**10 16 37.9**	**-0.3**
BUM				*eSn*	**Sg**	**10 17 02.6**	**-0.5**
HCY	**Herceg Novi**	**1.93**	**230**	⇓*iPn*	**Pb**	**10 16 39.0**	**-0.9**
HCY				*eSn*	**Sb**	**10 17 04.6**	**+0.5**
HCY	**Herceg Novi**	**1.93**	**230**	⇓*iPn*	**Pb**	**10 16 39.0**	**-0.9**
HCY				*eSn*	**Sb**	**10 17 04.6**	**+0.5**
ULC	**Ulcinj**	**1.96**	**209**	⇑*iPn*	**Pb**	**10 16 39.5**	**-1.0**
ULC				*eSn*	**Sb**	**10 17 06.0**	**+0.9**
ULC	**Ulcinj**	**1.96**	**209**	⇑*iPn*	**Pb**	**10 16 39.5**	**-1.0**
ULC				*eSn*	**Sb**	**10 17 06.0**	**+0.9**
BZS	**Buzias**	**2.08**	**22**	⇑*iPn*	**Pn**	**10 16 39.6**	**-0.2**
BZS	**Buzias**	**2.08**	**22**	*ePn*	**Pn**	**10 16 40.0**	**+0.2**
BZS				*eSn*	**Sn**	**10 17 07.1**	**+1.1**
BZS	**Buzias**	**2.08**	**22**	⇑*iP*	**Pn**	**10 16 39.6**	**-0.2**
BZS	**Buzias**	**2.08**	**22**	*ePn*	**Pn**	**10 16 40.0**	**+0.2**
BZS				S	**Sn**	**10 17 05.5**	**-0.5**
BZS				*eSn*	**Sn**	**10 17 07.1**	**+1.1**
STON	**Ston**	**2.20**	**249**	*ePn*	**Pn**	**10 16 42.4**	**+1.0**
STON				Sn	**Sb**	**10 17 11.4**	**-0.6**
STON	**Ston**	**2.20**	**249**	*ePn*	**Pn**	**10 16 42.4**	**+1.0**
STON				Sn	**Sb**	**10 17 11.4**	**-0.6**
GZR	**Gura Zlata**	**2.36**	**43**	⇑*iP*	**Pn**	**10 16 43.9**	**+0.3**
GZR	**Gura Zlata**	**2.36**	**43**	⇑*iP*	**Pn**	**10 16 43.9**	**+0.3**
GZR				S	**Sn**	**10 17 13.7**	**+0.9**
KRUS	**Krusevo**	**2.39**	**166**	*ePn*	**Pb**	**10 16 48.4**	**+0.5**
BLY	**Banja Luka**	**2.61**	**295**	*ePn*	**Pn**	**10 16 48.4**	**+1.4**
BLY	**Banja Luka**	**2.61**	**295**	*ePn*	**Pn**	**10 16 48.4**	**+1.4**
RHK3	**Tenkes**	**2.72**	**325**	⇓*ePn*	**Pn**	**10 16 48.9**	**+0.3**
RHK3	**Tenkes**	**2.72**	**325**	⇓*ePn*	**Pn**	**10 16 48.9**	**+0.3**
BIA	**Bitola**	**2.74**	**167**	*ePn*	**Pb**	**10 16 54.1**	**+0.2**
VAY	**Valandovo**	**2.82**	**146**	*eLg*	Lg	10 17 37.4	
	56nm,0.8s						
PKSM	**Moragy**	**2.84**	**333**	⇑*iP*	**Pn**	**10 16 50.4**	**+0.1**
PKSM	**Moragy**	**2.84**	**333**	⇑*ePn*	**Pn**	**10 16 50.3**	**0.0**
PKSM	**Moragy**	**2.84**	**333**	⇓*ePn*	**Pn**	**10 16 50.6**	**+0.3**
PKSM	**Moragy**	**2.84**	**333**	⇑*iP*	**Pn**	**10 16 50.4**	**+0.1**
PKS9	**Tamasi**	**3.29**	**332**	⇓*ePn*	**Pn**	**10 16 57.0**	**+0.5**
PKS9	**Tamasi**	**3.29**	**332**	⇓*ePn*	**Pn**	**10 16 57.0**	**+0.5**
DRGR		**3.47**	**26**	⇑*iP*	**Pn**	**10 16 59.0**	**0.0**
DRGR		**3.47**	**26**	⇑*iP*	**Pn**	**10 16 59.0**	**0.0**
DRGR				S	**Sn**	**10 17 38.6**	**-1.7**
PLD	**Plovdiv**	**3.47**	**116**	*eSn*	**Sn**	**10 17 40.9**	**+0.7**
PLD	**Plovdiv**	**3.47**	**116**	*eSn*	**Sn**	**10 17 40.9**	**+0.7**
VOIR		**3.69**	**60**	⇑*iP*	**Pn**	**10 17 03.6**	**+1.6**
VOIR		**3.69**	**60**	⇑*iP*	**Pn**	**10 17 03.6**	**+1.6**
BUD	**Budapest**	**3.93**	**345**	⇓*ePn*	**Pn**	**10 17 05.9**	**+0.7**
BUD	**Budapest**	**3.93**	**345**	⇓*ePn*	**Pn**	**10 17 05.9**	**+0.7**
PKSG		**3.99**	**339**	⇓*e*	**Pn**	**10 17 06.6**	**+0.6**
PKSG						10 17 52.8	
PKSG			**3.99**	**339**	⇓*ePn*	**Pn**	**10 17 06.6**	**+0.6**
PKSG				*eSn*	**Sn**	**10 17 52.8**	**-0.1**
NVLJ	**Novalja**	**4.14**	**284**	*ePn*	**Pn**	**10 17 09.2**	**+1.0**
NVLJ	**Novalja**	**4.14**	**284**	*ePn*	**Pn**	**10 17 09.1**	**+1.0**
BOJS	**Bojanci**	**4.16**	**298**	*iPn*	**Pn**	**10 17 10.9**	**+2.5**
BOJS				*iSn*	**Sn**	**10 17 57.8**	**+0.6**
BOJS	**Bojanci**	**4.16**	**298**	*iPn*	**Pn**	**10 17 10.9**	**+2.5**
BOJS				*iSn*	**Sn**	**10 17 57.8**	**+0.6**
GOLS	**Golise**	**4.17**	**305**	*iPn*	**Pn**	**10 17 09.3**	**+0.7**
GOLS	**Golise**	**4.17**	**305**	*iPn*	**Pn**	**10 17 09.3**	**+0.7**
CRES	**Cresnjev**	**4.18**	**302**	*iPn*	**Pn**	**10 17 09.5**	**+0.9**
CRES	**Cresnjev**	**4.18**	**302**	*iPn*	**Pn**	**10 17 09.5**	**+0.9**
PSZ	**Piszkesteto**	**4.25**	**355**	⇑*iP*	**Pn**	**10 17 09.9**	**+0.2**
PSZ	**Piszkesteto**	**4.25**	**355**	⇓*ePn*	**Pn**	**10 17 09.9**	**+0.2**
PSZ				*eSn*	**Sn**	**10 17 58.4**	**-1.1**
PSZ	**Piszkesteto**	**4.25**	**355**	⇑*iP*	**Pn**	**10 17 09.9**	**+0.2**
PSZ				S	**Sn**	**10 17 57.2**	**-2.3**
PSZ				*eSn*	Sb	10 17 58.4	-13
LEGS	**Legarje**	**4.32**	**303**	*iPn*	**Pn**	**10 17 11.7**	**+1.1**
LEGS	**Legarje**	**4.32**	**303**	*iPn*	**Pn**	**10 17 11.7**	**+1.1**
DOBS	**Dobrina**	**4.34**	**306**	*iPn*	**Pn**	**10 17 11.4**	**+0.6**
DOBS	**Dobrina**	**4.34**	**306**	*iPn*	**Pn**	**10 17 11.4**	**+0.6**
GROS	**Grobnik**	**4.49**	**310**	*iPn*	**Pn**	**10 17 13.1**	**+0.1**
GROS				*iSn*	**Sn**	**10 18 03.0**	**-2.5**
GROS	**Grobnik**	**4.49**	**310**	*iPn*	**Pn**	**10 17 13.1**	**+0.1**
GROS				*iSn*	**Sn**	**10 18 03.0**	**-2.5**
VISS	**Visnje**	**4.55**	**300**	*iPn*	**Pn**	**10 17 15.0**	**+1.2**
VISS	**Visnje**	**4.55**	**300**	*iPn*	**Pn**	**10 17 15.0**	**+1.2**
PDKS	**Podkum**	**4.57**	**303**	*iPn*	**Pn**	**10 17 15.0**	**+0.9**
PDKS	**Podkum**	**4.57**	**303**	*iPn*	**Pn**	**10 17 15.0**	**+0.9**
VNDS	**Vrh nad Dolski**	**4.77**	**302**	*iPn*	**Pn**	**10 17 18.1**	**+1.2**
CEY	**Cerknica**	**4.79**	**297**	*iPn*	**Pn**	**10 17 18.3**	**+1.3**
CEY				*iSn*	**Sn**	**10 18 12.2**	**-0.6**
CEY	**Cerknica**	**4.79**	**297**	*iPn*	**Pn**	**10 17 18.3**	**+1.3**
CEY				*iSn*	**Sn**	**10 18 12.1**	**-0.6**
SOKA	**Soboth**	**4.88**	**310**	⇑*iPn*	**Pn**	**10 17 18.7**	**+0.3**
SOKA	**Soboth**	**4.88**	**310**	Pn	**Pn**	**10 17 18.7**	**+0.3**
VYHS	**Vyhne**	**4.94**	**347**	*ePn*	**Pn**	**10 17 20.0**	**+0.9**
VYHS				*eSN*	**Sn**	**10 18 13.6**	**-2.8**
VYHS	**Vyhne**	**4.94**	**347**	*ePn*	**Pn**	**10 17 20.0**	**+0.9**
VYHS				*eSn*	**Sn**	**10 18 13.6**	**-2.8**
ARSA	**Arzberg**	**4.99**	**317**	⇑*iPn*	**Pn**	**10 17 20.0**	**+0.2**
ARSA				⇓*iSn*	**Sn**	**10 18 17.6**	**-0.1**
ARSA	**Arzberg**	**4.99**	**317**	Pn	**Pn**	**10 17 20.0**	**+0.2**
ARSA				Sn	**Sn**	**10 18 17.6**	**-0.1**
CRNS	**Crni Vrh**	**5.04**	**300**	*iPn*	**Pn**	**10 17 21.6**	**+1.2**
OBKA	**Obir**	**5.07**	**306**	⇓*iPn*	**Pn**	**10 17 21.5**	**+0.6**
OBKA				⇓*iSn*	**Sn**	**10 18 19.5**	**-0.2**
OBKA	**Obir**	**5.07**	**306**	Pn	**Pn**	**10 17 21.5**	**+0.6**
OBKA				Sn	**Sn**	**10 18 19.5**	**-0.2**
JAVS	**Javornik**	**5.08**	**298**	*i Pn*	**Pn**	**10 17 22.5**	**+1.4**
JAVS				*i Sn*	**Sn**	**10 18 20.1**	**+0.1**
JAVS	**Javornik**	**5.08**	**298**	*i Pn*	**Pn**	**10 17 22.5**	**+1.4**
JAVS				*i Sn*	**Sn**	**10 18 20.1**	**+0.1**
ZST	**Bratislava**	**5.09**	**333**	*ePN*	**Pn**	**10 17 22.4**	**+1.3**
ZST				*eSN*	**Sn**	**10 18 20.6**	**+0.5**
ZST	**Bratislava**	**5.09**	**333**	*ePn*	**Pn**	**10 17 22.4**	**+1.3**
ZST				*eSn*	**Sn**	**10 18 20.6**	**+0.5**
VOJS	**Vojsko**	**5.25**	**299**	*i Pn*	**Pn**	**10 17 24.3**	**+0.8**
VOJS	**Vojsko**	**5.25**	**299**	*i Pn*	**Pn**	**10 17 24.3**	**+0.8**
CONA	**Conrad Observa**	**5.33**	**324**	⇓*iPn*	**Pn**	**10 17 24.0**	**-0.6**
CONA	**Conrad Observa**	**5.33**	**324**	Pn	**Pn**	**10 17 24.0**	**-0.6**
CADS	**Cadrg**	**5.43**	**300**	*i Pn*	**Pn**	**10 17 26.6**	**+0.8**
CADS	**Cadrg**	**5.43**	**300**	*i Pn*	**Pn**	**10 17 26.6**	**+0.8**
MOA	**Molln**	**6.02**	**316**	⇑*iPn*	**Pn**	**10 17 35.0**	**+1.0**
MOA				⇑*iSn*	**Sn**	**10 18 42.3**	**-0.8**
MOA	**Molln**	**6.02**	**316**	Pn	**Pn**	**10 17 35.0**	**+1.0**
MOA				Sn	**Sn**	**10 18 42.3**	**-0.8**

*IDC **29** 10:23:19.8±0.7, 11.72N×94.94E, h0km, mb4.2/17, mb1 4.2/18, mb1mx4.1/27, mbtmp4.1/18, ML4.1/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/35, Error ellipse: s-maj=25.4km s-min=14.1km az=54.0*
*ISCJB **29** 10:23:21.7±0.5, 11.71N±0.07×95.03E±0.08, h24km, mb4.2/23, MS3.5/6, Error ellipse: s-maj

2.4nm,0.7s,baz=107,slow=7.9,SNR=12
BRTR Keskin Array B 60.65 309 P **P** **10 33 31.9 -1.1**
STKA Stephens Creek 62.17 136 P **P** **10 33 43.4 +0.3**
2.9nm,0.7s,baz=306,slow=7.4,SNR=10.0
STKA Stephens Creek 62.17 136 P **P** **10 33 43.4 +0.3**
FINES FINESS Array B 69.76 331 P **P** **10 34 31.6 +0.1**
1.5nm,0.5s,baz=104,slow=8.0,SNR=5.8
FINES FINESS Array B 69.76 331 P **P** **10 34 31.6 +0.1**
ARCES ARCESS Array B 71.98 340 P **P** **10 34 45.5 +0.7**
1.4nm,0.8s,baz=94,slow=7.7,SNR=4.1
ARCES ARCESS Array B 71.98 340 P **P** **10 34 45.5 +0.7**
TORD Torodi Ar. Bea 90.55 283 P **P** **10 36 22.9 -1.5**
0.8nm,1.0s,baz=70,slow=4.1,SNR=3.7
TORD Torodi Ar. Bea 90.55 283 P **P** **10 36 22.9 -1.5**
ILAR Eielson Array 90.90 22 P **P** **10 36 23.9 -1.0**
0.5nm,0.7s,baz=304,slow=4.3,SNR=7.2
ILAR Eielson Array 90.90 22 P **P** **10 36 23.9 -1.0**
NVAR Mina Array Bea 121.21 30 PKP **PKPdf** **10 42 15.9 +0.8**
0.4nm,0.7s,baz=116,slow=3.4,SNR=4.8
NVAR Mina Array Bea 121.21 30 PKP **PKPdf** **10 42 15.9 +0.8**

GUC 29 10:28:57.5±0.9, 27°83S×70°77W, h45km±4km, ML4.1, 5C,
Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.60**	**38**	⇑*i*P	Pn	10 29 10.1	+0.4
CPCH				*i*S	Sn	10 29 19.4	+0.9
CPCH				AML	AML	10 29 22.0	
	comp=N,51μm,0.1s						
VACH	**Vallenar**	**0.74**	**179**	⇑*i*P	Pn	10 29 12.1	+0.5
VACH				*i*S	Sn	10 29 22.9	+1.0
VACH				AML	AML	10 29 24.4	
	comp=E,48μm,0.1s						
CDCH	**Caldera**	**0.76**	**356**	⇑*i*P	Pn	10 29 12.0	+0.1
CDCH				*i*S	Sn	10 29 23.3	+1.0
CDCH				AML	AML	10 29 24.1	
	comp=N,6μm,0.3s						
LCO	**Las Campanas**	**1.18**	**177**	⇑*i*P	Pn	10 29 18.2	+0.3
LCO				*i*S	Sn	10 29 33.6	+0.6
LCO				AML	AML	10 29 35.2	
	comp=E,3μm,0.3s						
TLL	**Tololo Astrono**	**2.33**	**181**	⇑*i*P	Pn	10 29 35.0	+1.3
TLL				*e*S	Sn	10 30 03.2	+1.8
TLL				AML	AML	10 30 17.0	
	comp=N,840nm,0.4s						

NNC 29 10:40:24.8±2.7, 53°38N×87°27E, h25km±18km, mb3.7,
mpv3.4,6C-5D, Error ellipse: s-maj=19.5km
s-min=10.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.97**	**247**	⇑Pn	Pn	10 41 50.8	-0.7
KURK	5.3nm,1.0s			⇓Lg	Lg	10 43 34.8	
	24nm,1.2s						
MK31	**Makanchi Array**	**7.33**	**208**	⇑Pn	Pn	10 42 09.7	-0.5
MK31	1.4nm,0.7s,baz=26,slow=13,SNR=26			⇑Sn	Sn	10 43 34.1	+1.5
MK31	2.3nm,0.9s,baz=18,slow=23,SNR=4.2			⇓Lg	Lg	10 44 16.2	
	6.5nm,0.9s,baz=25,slow=27,SNR=5.2						
VOSK	**Vostochnaya**	**9.84**	**273**	⇑Sn	Sn	10 44 35.6	+1.5
	3.6nm,0.9s						
BVA0	**Borovoye Array**	**10.14**	**275**	Pn	Pn	10 42 49.4	+0.7
BVA0	0.3nm,1.2s,baz=84,slow=13,SNR=6.8			⇓Sn	Sn	10 44 41.1	-0.4
	1.0nm,1.2s,baz=87,slow=25,SNR=5.0						
BRVK	**Borovoye**	**10.20**	**275**	⇑Pn	Pn	10 42 49.8	+0.3
BRVK	4.9nm,1.2s			⇓Sn	Sn	10 44 44.3	+1.4
	7.8nm,1.0s						
ZRNK	**Zerenda**	**10.98**	**275**	⇓Pn	Pn	10 43 00.7	+0.5
ZRNK	3.0nm,1.3s			⇑Sn	Sn	10 45 00.3	-1.8
	6.9nm,1.4s						

IDC 29 10:50:03.7±16.0, 0°30S×133°15E, h0km, mb3.6/2,
mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.3/1, MS3.2/2,
Ms1 3.2/2, ms1mx2.5/26, Error ellipse: s-maj=246.4km
s-min=126.7km az=160.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.55**	**177**	P	P	10 54 33.4	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**23.24**	**178**	P	P	10 55 13.2	+0.5
	0.6nm,0.5s,baz=356,slow=11,SNR=22						
HNR	**Honiara**	**28.17**	**110**	LR	LR	11 07 43.1	
	comp=Z,50nm,18.6s,baz=322,slow=38						
STKA	**Stephens Creek**	**32.40**	**167**	P	P	10 56 34.7	-0.7
	0.6nm,0.5s,baz=344,slow=10,SNR=4.4						
JNU	**Nakatsue**	**33.31**	**357**	LR	LR	11 08 13.9	
	comp=Z,34nm,21.3s,baz=113,slow=33						

ISCJB ***29*** *11:02:54.9±0.3, 9.42S±0.04×124.08E±0.06, h66km,*
mb4.8/25, Error ellipse: s-maj=9.1km s-min=4.1km
az=149.7
NEIC ***29*** *11:02:56.4±0.8, 9.09S×124.24E, h51km±9km, mb4.7/9,*
Error ellipse: s-maj=13.4km s-min=5.4km az=51.0
BJI ***29*** *11:02:56.3, 9.65S×124.14E, h101km, mB5.1/4, mb4.7/9*
IDC ***29*** *11:02:57.4±2.0, 9.07S×124.23E, h54km±17km, mb4.1/8,*
mb1 4.4/12, mb1mx4.2/17, mbtmp4.3/12, ML4.6/4, MS3.4/4,
Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=32.0km
s-min=16.6km az=66.0
DJA ***29*** *11:03:01, 9.41S×124.03E, h65km, mb4.7/19*
ISC 29 11:02:57.0±0.4, 9°46S±0.05×124°07E±0.08, h66km, n84,
σ1s79/94, mb4.8/25, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.15**	**316**	P	**Pn**	**11 04 25.4**	**+0.1**
	3.6nm,0.3s,baz=175,slow=6.5,SNR=5.6						
KAPI	**Kappang**	**6.15**	**316**	*e*Pn	**Pn**	**11 04 24.0**	**-1.3**
	34nm,0.8s						
MTN	**Manton Dam**	**7.71**	**116**	*e*P	Pn	11 04 50.5	+4.0
MTN				*e*S	**Sn**	**11 06 12.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**8.72**	**170**	P	Pn	11 05 05.4	+5.0
	8.9nm,0.3s,baz=10,slow=9.5,SNR=100						
FITZ				S	**Sn**	**11 06 36.8**	**-0.5**
	65nm,0.3s,baz=331,slow=16,SNR=24						
FITZ				LR	LR	11 09 11.2	
	comp=Z,50nm,20.6s,baz=349,slow=41						
FITZ	**Fitzroy Crossi**	**8.72**	**170**	*e*P	Pn	11 05 05.3	+4.8
FITZ				*e*S	**Sn**	**11 06 37.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**8.72**	**170**	*e*Pn	Pn	11 05 05.2	+4.8
	1.1nm,0.2s						
FITZ				S	**Sn**	**11 06 36.8**	**-0.5**
MBWA	**Marble Bar**	**12.35**	**199**	*e*P	Pn	11 05 54.5	+4.4
MBWA				*e*S	**Sn**	**11 08 04.2**	**-1.9**
MBWA	**Marble Bar**	**12.35**	**199**	*e*Pn	Pn	11 05 54.9	+4.9
MBWA				*e*Sn	**Sn**	**11 08 06.0**	**-0.1**
WRA	**Warramunga Arr**	**14.39**	**138**	P	**Pn**	**11 06 18.9**	**+1.5**
	3.4nm,0.3s,baz=308,slow=14,SNR=27						
WRA				S	**Sn**	**11 08 50.8**	**-4.8**
	6.8nm,0.3s,baz=316,slow=24,SNR=20						
WRA	**Warramunga Arr**	**14.39**	**138**	P	**Pn**	**11 06 18.9**	**+1.5**
WRA				S	**Sn**	**11 08 50.8**	**-4.8**
WRAB	**Tennant Creek**	**14.39**	**137**	*e*Pn	**Pn**	**11 06 18.7**	**+1.4**
	9.6nm,0.5s						
WRAB				*e*Sn	**Sn**	**11 08 51.4**	**-4.2**
WB2	**Warramunga Arr**	**14.40**	**137**	*e*Pn	**Pn**	**11 06 18.9**	**+1.4**
WB2				*e*Sn	**Sn**	**11 08 51.1**	**-4.7**
AS31	**Alice Springs**	**16.97**	**148**	*e*Pn	**P**	**11 06 53.8**	**+2.7**
AS31				*e*Sn	**Sn**	**11 09 54.9**	**-3.2**
ASAR	**Alice Springs**	**16.97**	**148**	P	**P**	**11 06 53.4**	**+2.3**
	3.2nm,0.3s,baz=321,slow=11,SNR=98						
ASAR				S	**Sn**	**11 09 54.1**	**-4.1**
	2.4nm,0.3s,baz=314,slow=21,SNR=12						
ASAR	**Alice Springs**	**16.97**	**148**	P	**P**	**11 06 53.4**	**+2.3**
ASAR				S	**Sn**	**11 09 54.1**	**-4.1**
MEEK	**Meekatharra**	**17.84**	**196**	*e*P	Pn	11 07 07.9	+7.0
MEEK				*e*S	**Sn**	**11 10 14.7**	**-4.6**
MORW	**Morawa**	**20.91**	**200**	*e*P	Pn	11 07 39.6	+2.4
MORW				*e*S	**Sn**	**11 11 24.2**	**+0.7**
BBOO	**Buckleboo**	**25.74**	**156**	*e*P	P	11 08 26.8	+5.4
STKA	**Stephens Creek**	**27.60**	**146**	LR	LR	11 20 48.8	
	comp=Z,60nm,18.0s,baz=19,slow=38						
STKA	**Stephens Creek**	**27.60**	**146**	*e*P	**P**	**11 08 40.9**	**+2.7**
CM31	**Chiang Mai Arr**	**37.21**	**318**	*e*P	**P**	**11 10 00.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**37.21**	**318**	P	**P**	**11 10 03.0**	**+0.8**
	4.2nm,0.5s,baz=141,slow=6.6,SNR=31						
CMAR				LR	LR	11 27 08.4	
	comp=Z,29nm,18.1s,baz=226,slow=39						
CMAR	**Chiang Mai Arr**	**37.21**	**318**	P	**P**	**11 10 03.0**	**+0.8**
KSAR	**Wonju Array Be**	**46.80**	**4**	P	**P**	**11 11 18.9**	**-1.1**
KSRS	**Korea Array**	**46.81**	**4**	P	**P**	**11 11 18.9**	**-1.2**
	1.1nm,0.7s,baz=184,slow=9.2,SNR=6.4						
MJAR	**Matsushiro Arr**	**47.66**	**15**	P	**P**	**11 11 24.4**	**-2.3**
	1.3nm,0.6s,baz=192,slow=9.2,SNR=5.9						
MJAR	**Matsushiro Arr**	**47.66**	**15**	P	**P**	**11 11 24.4**	**-2.3**
LZH	**Lanzhou**	**49.15**	**338**	*e*P	P	11 11 43.0	+4.6
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LSA	**Lhasa**	**50.20**	**322**	P	**P**	**11 11 47.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA	**Lhasa**	**50.20**	**322**	*e*P	**P**	**11 11 47.4**	**+0.4**
	comp=Z,16nm,0.6s						
ODAN	**Odare**	**50.70**	**316**	*e*P	**P**	**11 11 50.3**	**-0.1**
	comp=Z,19nm,0.5s						
ODAN	**Odare**	**50.70**	**316**	*e*P	**P**	**11 11 50.3**	**-0.1**
	comp=Z,19nm,0.5s						
TAPN	**Taplejung**	**50.80**	**317**	*e*P	**P**	**11 11 51.0**	**-0.3**
	comp=Z,23nm,0.4s						
TAPN	**Taplejung**	**50.80**	**317**	*e*P	**P**	**11 11 51.0**	**-0.3**
	comp=Z,23nm,0.4s						
RAMN	**Ramite**	**51.29**	**316**	*e*P	**P**	**11 11 55.0**	**+0.1**
	comp=Z,58nm,0.7s						
RAMN	**Ramite**	**51.29**	**316**	*e*P	**P**	**11 11 55.0**	**+0.1**
	comp=Z,58nm,0.7s						
JIRN	**Jiri**	**52.03**	**316**	*e*P	**P**	**11 12 00.5**	**0.0**
	comp=Z,20nm,0.3s						
JIRN	**Jiri**	**52.03**	**316**	*e*P	**P**	**11 12 00.5**	**0.0**
	comp=Z,20nm,0.3s						
GUN	**Gumba**	**52.40**	**316**	*e*P	**P**	**11 12 02.9**	**-0.4**
	comp=Z,36nm,0.4s						
PKI	**Pulchoki**	**52.51**	**316**	*e*P	**P**	**11 12 03.6**	**-0.4**
	comp=Z,28nm,0.2s						
KKN	**Kakani**	**52.73**	**316**	*e*P	**P**	**11 12 05.3**	**-0.3**
	comp=Z,18nm,0.4s						
DMN	**Daman**	**52.74**	**315**	*e*P	**P**	**11 12 05.0**	**-0.7**
	comp=Z,18nm,0.4s						
RPZ	**Rata Peaks**	**53.10**	**138**	LR	LR	11 34 23.3	
	comp=Z,341nm,18.8s,baz=296,slow=35						
GKN	**Gorkha**	**53.31**	**316**	*e*P	**P**	**11 12 09.0**	**-0.7**
	comp=Z,52nm,0.3s						
GTA	**Gaotai**	**53.59**	**337**	*e*P	**P**	**11 12 11.0**	**-0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,140nm,13.3s						
GTA				LR	LR		
	comp=E,120nm,13.8s						
GTA				LR	LR		
	comp=Z,110nm,13.3s						
KOLN	**Koldanda**	**53.89**	**315**	*e*P	**P**	**11 12 13.2**	**-0.8**
	comp=Z,32nm,0.6s						
KOLN	**Koldanda**	**53.89**	**315**	*e*P	**P**	**11 12 13.2**	**-0.8**
	comp=Z,32nm,0.6s						
USRK	**Ussuriysk Arra**	**53.89**	**7**	P	**P**	**11 12 13.0**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=203,slow=8.1,SNR=7.7						
DANN	**Dangsing**	**54.13**	**315**	*e*P	**P**	**11 12 15.3**	**-0.6**
	comp=Z,69nm,0.5s						
DANN	**Dangsing**	**54.13**	**315**	*e*P	**P**	**11 12 15.3**	**-0.6**
	comp=Z,69nm,0.5s						
ULN	**Ulaanbaatar**	**59.04**	**347**	*e*P	**P**	**11 12 48.0**	**-2.2**
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**59.16**	**346**	P	**P**	**11 12 49.5**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=160,slow=8.8,SNR=25						
SONM	**Songino Array**	**59.16**	**346**	P	**P**	**11 12 49.5**	**-1.5**
KSH	**Kashi**	**66.03**	**321**	P	**P**	**11 13 37.0**	**0.0**
KSH				pmax	pmax		
	comp=Z,110nm,6.1s						
MK31	**Makanchi Array**	**67.24**	**330**	*e*P	**P**	**11 13 43.9**	**-0.6**
MKAR	**Makanchi Array**	**67.24**	**330**	P	**P**	**11 13 44.0**	**-0.4**
	comp=Z,8.5nm,0.7s,baz=132,slow=7.8,SNR=124						
MKAR	**Makanchi Array**	**67.24**	**330**	P	**P**	**11 13 44.0**	**-0.4**
KBL	**Kabul**	**68.00**	**313**	*e*P	**P**	**11 13 49.5**	**-0.2**
	comp=Z,13nm,0.6s						
KZA	**Kyzart**	**68.00**	**323**	P	**P**	**11 13 50.4**	**+0.6**
	SNR=8.1						
KZA				P	**P**	**11 13 50.4**	**+0.6**
	SNR=8.1						
TKM2	**Tokmak 2**	**68.31**	**324**	P	**P**	**11 13 51.3**	**-0.2**
	SNR=6.2						
TKM2				P	**P**	**11 13 51.3**	**-0.2**
	SNR=6.2						
TKM2	**Tokmak 2**	**68.31**	**324**	*e*P	**P**	**11 13 50.8**	**-0.6**
	comp=Z,3.4nm,0.6s						
PETK	**Petropavlovsk-**	**68.60**	**21**	P	**P**	**11 13 52.4**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=189,slow=5.9,SNR=8.4						
PETK	**Petropavlovsk-**	**68.60**	**21**	P	**P**	**11 13 52.4**	**-0.4**
AAK	**Ala-Archa**	**68.78**	**323**	P	**P**	**11 13 55.3**	**+0.9**
	SNR=7.8						
AAK				P	**P**	**11 13 55.3**	**+0.9**
	SNR=7.8						
AAK	**Ala-Archa**	**68.78**	**323**	*e*P	**P**	**11 13 54.3**	**-0.1**
	comp=Z,38nm,0.6s						
AML	**Almayashu**	**68.97**	**322**	P	**P**	**11 13 56.0**	**+0.1**
	SNR=9.5						
AML				P	**P**	**11 13 56.0**	**+0.1**
	SNR=9.5						
EKS2	**Erkin-Say**	**69.23**	**323**	P	**P**	**11 13 58.1**	**+1.0**
	SNR=6.3						
EKS2				P	**P**	**11 13 58.1**	**+1.0**
	SNR=6.3						
EKS2	**Erkin-Say**	**69.23**	**323**	*e*P	**P**	**11 13 56.8**	**-0.3**
	comp=Z,5.1nm,1.0s						
ZAA0	**Zalesovo Array**	**71.35**	**337**	*e*P	**P**	**11 14 07.6**	**-1.9**
ZALV	**Zalesovo Beam**	**71.35**	**337**	P	**P**	**11 14 07.9**	**-1.6**
	comp=Z,4.1nm,0.4s,baz=133,slow=4.3,SNR=25						
ZALV	**Zalesovo Beam**	**71.35**	**337**	P	**P**	**11 14 07.9**	**-1.6**
KKAR	**Karatay Array**	**71.46**	**322**	*e*P	**P**	**11 14 09.7**	**-0.9**
	comp=Z,1.2nm,0.5s						
KURK	**Kurchatov**	**71.70**	**332**	*e*P	**P**	**11 14 11.3**	**-0.5**
	comp=Z,5.3nm,0.3s						
ABKAR	**Akbulak array**	**80.87**	**323**	*e*P	**P**	**11 15 03.5**	**-0.3**
	comp=Z,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**112.51**	**25**	PKiKP	**PKiKP**	**11 21 25.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=305,slow=2.2,SNR=4.7						
YKA	**Yellowknife Ar**	**112.51**	**25**	PKiKP	**PKiKP**	**11 21 25.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.47**	**280**	PKP	**PKPdf**	**11 21 49.8**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=78,slow=1.8,SNR=18						
TORD	**Torodi Ar. Bea**	**123.47**	**280**	PKP	**PKPdf**	**11 21 49.8**	**+2.0**
DBIC	**Dimbokro**	**129.38**	**271**	PKP	**PKPdf**	**11 22 01.6**	**+2.5**
	comp=Z,1.3nm,0.4s,baz=179,slow=15,SNR=4.1						
DBIC	**Dimbokro**	**129.38**	**271**	PKP	**PKPdf**	**11 22 01.6**	**+2.5**
TXAR	**Lajitas Array**	**131.23**	**59**	PKP	**PKPdf**	**11 22 05.1**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=198,slow=2.7,SNR=12						
TXAR				SKPbc	**SKPab**	**11 25 22.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=257,slow=3.4,SNR=9.7						
TXAR	**Lajitas Array**	**131.23**	**59**	PKP	**PKPdf**	**11 22 05.1**	**+2.7**
TXAR				SKPbc	**SKPab**	**11 25 22.4**	**+0.3**
LPAZ	**La Paz**	**151.71**	**155**	PKPbc	**PKPbc**	**11 22 48.8**	**+3.0**
	comp=Z,1.0nm,0.5s,baz=281,slow=8.9,SNR=5.6						
LPAZ	**La Paz**	**151.71**	**155**	PKPbc	**PKPbc**	**11 22 48.8**	**+3.0**

IDC 29 11:19:04.7±1.6, 22°74S×175°17W, h0km, mb4.2/8,
mb1 4.5/8, mb1mx4.3/18, mbtmp4.2/8, MS3.7/11,
Ms1 3.7/11, ms1mx3.5/27, Error ellipse: s-maj=78.8km
s-min=23.1km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.36**	**21**	Pn	Pn	11 21 14.4	-6.7
	2.3nm,0.3s,baz=234,slow=14,SNR=4.4						
AFI				Sn	Sn	11 22 53.5	-14
	3.0nm,0.3s,baz=221,slow=23,SNR=4.5						
RAR	**Rarotonga**	**14.36**	**87**	LR	LR	11 26 21.6	
	comp=Z,169nm,21.0s,baz=269,slow=30						
DZM	**Mont Dzumac**	**17.02**	**269**	*e*LR	LR	11 27 27.9	
	297nm,21.2s						
DZM	**Mont Dzumac**	**17.02**	**269**	LR	LR	11 27 11.4	
	comp=Z,111nm,21.9s,baz=30,slow=29						
TBI	**Tubuai**	**23.66**	**97**	*e*LR	LR	11 29 48.4	
	218nm,29.0s						
PPT2	**Papeete2**	**24.55**	**83**	*e*LQ	LQ	11 28 56.9	
	313nm,26.2s						
PPT2				*e*LR	LR	11 30 09.6	
	245nm,26.5s,baz=256						
HNR	**Honiara**	**27.27**	**295**	LR	LR	11 34 26.0	
	comp=Z,62nm,18.8s,baz=358,slow=34						
CTA	**Charters Tower**	**35.95**	**267**	P	P	11 26 06.5	-0.8
	4.5nm,0.5s,baz=90,slow=11,SNR=7.1						
CTA				LR	LR	11 38 01.9	
	comp=Z,82nm,19.6s,baz=2.1,slow=32						
STKA	**Stephens Creek**	**39.27**	**247**	P	P	11 26 35.5	+0.2
	1.1nm,0.4s,baz=99,slow=12,SNR=8.9						
WRA	**Warramunga Arr**	**46.93**	**263**	LR	LR	11 45 42.2	
	comp=Z,91nm,19.3s,baz=80,slow=34						
GUMO	**Guam**	**53.25**	**309**	LR	LR	11 49 08.5	
	comp=Z,76nm,18.3s,baz=83,slow=34						
FITZ	**Fitzroy Crossi**	**55.36**	**263**	LR	LR	11 52 10.1	
	comp=Z,133nm,19.3s,baz=75,slow=36						
NWAO	**Narrogin (SRO)**	**59.74**	**244**	LR	LR	11 55 51.1	
	comp=Z,102nm,19.0s,baz=279,slow=37						
KAPI	**Kappang**	**65.11**	**275**	LR	LR	11 56 53.3	
	comp=Z,49nm,19.0s,baz=7.2,slow=35						
NVAR	**Mina Array Bea**	**80.89**	**42**	P	P	11 31 22.0	+0.9
	1.3nm,0.8s,baz=223,slow=8.0,SNR=6.5						
USRK	**Ussuriysk Arra**	**82.29**	**325**	P	P	11 31 29.1	+1.0
	5.6nm,0.9s,baz=146,slow=3.7,SNR=5.6						
VNA3	**Neumayer Olymp**	**85.72**	**175**	*e*	P	11 31 46.1	+0.8
TXAR	**Lajitas Array**	**86.08**	**56**	P	P	11 31 47.8	0.0
	0.5nm,0.9s,baz=222,slow=6.1,SNR=3.4						
TXAR				LR	LR	12 05 22.6	
	comp=Z,53nm,18.0s,baz=0.0,slow=32						
VNA2	**Neumayer--Watz**	**86.19**	**176**	*e*	P	11 31 48.8	+1.1
	baz=174,slow=1.5						
ILAR	**Eielson Array**	**89.94**	**12**	P	P	11 32 04.7	-0.6
	1.5nm,1.0s,baz=234,slow=4.6,SNR=7.1						
CMAR	**Chiang Mai Arr**	**93.33**	**288**	P	P	11 32 22.9	+0.7
	3.0nm,0.9s,baz=129,slow=2.8,SNR=13						
CMAR				LR	LR	12 11 56.0	
	comp=Z,42nm,18.2s,baz=80,slow=34						
YKA	**Yellowknife Ar**	**97.46**	**24**	P	P	11 32 38.7	-1.2
	0.2nm,0.8s,baz=244,slow=4.6,SNR=4.0						
AKASG	**Malin Array Be**	**146.23**	**332**	PKPbc	PKPdf	11 38 45.4	-0.6
	3.2nm,0.7s,baz=41,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**150.29**	**311**	PKPbc	PKPbc	11 38 57.9	-0.5
	1.9nm,0.8s,baz=77,slow=2.7,SNR=8.3						

BJI ***29*** *11:22:47.0, 7.37S×125.93E, h478km, mB4.5/29, mb4.4/42*
ISCJB ***29*** *11:22:50.9±0.8, 7.05S±0.04×125.56E±0.07, h487km±11km,*
mb4.5/55, Error ellipse: s-maj=11.4km s-min=4.9km
az=155.7
DJA ***29*** *11:22:51, 7.22S×125.64E, h466km, mb5.0/31*
NEIC ***29*** *11:22:51.6±0.4, 7.05S×125.57E, h481km±5km, mb4.6/27,*
Error ellipse: s-maj=8.0km s-min=3.6km az=64.0
IDC ***29*** *11:22:51.2±0.6, 7.06S×125.55E, h473km±6km, mb4.2/15,*
mb1 4.2/19, mb1mx4.2/23, mbtmp4.2/19, Error ellipse:
s-maj=15.0km s-min=6.7km az=72.0
ISC 29 11:22:51.0±0.3, 7.06S±0.04×125.71E±0.08, h474km±3km,
h475km:pP-P, n127, σ1s40/187, mb4.5/55, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.27**	**289**	P	**P**	**11 24 29.6**	**+0.6**
	12nm,0.3s,baz=135,slow=6.5,SNR=33						
KAPI	**Kappang**	**6.27**	**289**	*e*P	**P**	**11 24 28.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.97**	**180**	P	**P**	**11 25 19.8**	**+1.1**
	20nm,0.3s,baz=15,slow=8.2,SNR=272						
FITZ				S	**S**	**11 27 18.3**	**-2.0**
	9.7nm,0.3s,baz=184,slow=18,SNR=30						
FITZ	**Fitzroy Crossi**	**10.97**	**180**	*e*P	**P**	**11 25 19.5**	**+0.8**
	78nm,0.6s						
FITZ				S	**S**	**11 27 18.3**	**-2.0**
MBWA	**Marble Bar**	**15.16**	**202**	*e*P	**P**	**11 26 02.7**	**-0.7**
	37nm,1.2s						
WRAB	**Tennant Creek**	**15.29**	**148**	*e*P	**P**	**11 26 05.6**	**+0.8**
	153nm,1.2s						
WRA	**Warramunga Arr**	**15.30**	**148**	P	**P**	**11 26 05.1**	**+0.3**
	11nm,0.3s,baz=324,slow=10,SNR=158						
WRA				S	**S**	**11 28 43.6**	**-1.3**
	baz=328,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**15.30**	**148**	P	**P**	**11 26 05.1**	**+0.3**
WRA				S	**S**	**11 28 43.6**	**-1.3**
WB2	**Warramunga Arr**	**15.30**	**148**	*e*P	**P**	**11 26 05.3**	**+0.4**
KKM	**Kota Kinabalu**	**16.11**	**324**	*e*P	**P**	**11 26 13.7**	**+0.1**
	55nm,1.0s						
AS31	**Alice Springs**	**18.29**	**155**	*e*P	**P**	**11 26 36.5**	**+1.0**
ASAR	**Alice Springs**	**18.29**	**155**	P	**P**	**11 26 36.3**	**+0.9**
	19nm,0.3s,baz=342,slow=14,SNR=705						
ASAR				S	**S**	**11 29 39.4**	**+0.5**
	baz=336,slow=20,SNR=8.5						
ASAR				ScP	**ScP**	**11 33 31.3**	**-1.3**
	baz=29,slow=2.9,SNR=5.0						
ASAR	**Alice Springs**	**18.29**	**155**	P	**P**	**11 26 36.3**	**+0.9**
ASAR				S	**S**	**11 29 39.4**	**+0.5**
ASAR				ScP	**ScP**	**11 33 31.3**	**-1.3**
FORT	**Forrest**	**23.70**	**175**	*e*P	**P**	**11 27 24.8**	**+0.4**
FORT	**Forrest**	**23.70**	**175**	*e*P	**P**	**11 27 24.3**	**0.0**
	163nm,0.8s						
CTA	**Charters Tower**	**23.76**	**125**	P	**P**	**11 27 27.0**	**+1.9**
	25nm,0.8s,baz=301,slow=9.9,SNR=9.3						
**CT

XAN				sP	**sP**	11 32 35.3	-1.3	
XAN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,15nm,5.3s							
KSAR	**Wonju Array Be**	**44.32**	**2**	P	**P**	11 30 18.6	+0.8	
KSAR				pP	**pP**	11 31 47.7	+0.8	
KSRS	**Korea Array**	**44.33**	**3**	P	**P**	11 30 18.6	+0.7	
	comp=Z,10nm,1.0s,baz=180,slow=9.2,SNR=32							
KSRS				pP	**pP**	11 31 47.7	+0.7	
	comp=Z,2.9nm,1.0s,baz=173,slow=4.5,SNR=3.1							
MJAR	**Matsushiro Arr**	**44.93**	**14**	P	**P**	11 30 22.2	-0.3	
	comp=Z,24nm,0.7s,baz=194,slow=9.1,SNR=75							
MJAR	**Matsushiro Arr**	**44.93**	**14**	P	**P**	11 30 22.2	-0.3	
MAJO	**Matsushiro**	**44.93**	**14**	*e*P	**P**	11 30 22.2	-0.3	
	comp=Z,26nm,0.7s							
MAT	**Matsushiro**	**44.93**	**14**	P	**P**	11 30 22.0	-0.5	
LZH	**Lanzhou**	**47.59**	**336**	*e*P	**P**	11 30 43.5	+0.5	
LZH				pP	**pP**	11 32 16.0	+2.1	
LZH				sP	**sP**	11 33 07.3	+0.7	
LZH				pmax	pmax			
	comp=Z,25nm,1.0s							
LZH				pmax	pmax			
	comp=Z,120nm,4.8s							
BJI	**Beijing**	**47.69**	**350**	P	**P**	11 30 42.8	-0.6	
BJI				S	**S**	11 37 08.3	+4.7	
BJI				SS	SS	11 40 45.8	+6.0	
BJI				pmax	pmax			
	comp=Z,11nm,1.0s							
BJI				pmax	pmax			
	comp=Z,94nm,3.6s							
SNY	**Shenyang**	**48.69**	**358**	⇑P	**P**	11 30 50.8	-0.1	
SNY				S	**S**	11 37 13.0	-4.4	
SNY				pmax	pmax			
	comp=Z,25nm,1.0s							
SNY				pmax	pmax			
	comp=Z,160nm,5.5s							
HHC	**Hu-ho-hao-te**	**49.42**	**346**	*e*P	**P**	11 30 56.5	0.0	
HHC				pP	**pP**	11 32 29.5	+1.1	
HHC				PP	PP	11 32 59.0	+2.2	
HHC				sP	**sP**	11 33 20.5	-0.3	
HHC				S	**S**	11 37 29.0	+1.3	
HHC				ScS	**ScS**	11 39 56.5	-0.6	
HHC				sS	**sS**	11 40 14.5	+1.3	
HHC				SS	SS	11 41 08.0	+0.5	
HHC				pmax	pmax			
	comp=Z,11nm,0.9s							
HHC				pmax	pmax			
	comp=Z,86nm,5.5s							
ODAN	**Odare**	**50.16**	**314**	*e*P	**P**	11 31 01.8	-0.6	
	comp=Z,7.1nm,0.4s							
TAPN	**Taplejung**	**50.22**	**315**	*e*P	**P**	11 31 02.1	-0.8	
	comp=Z,17nm,0.7s							
TAPN	**Taplejung**	**50.22**	**315**	*e*P	**P**	11 31 02.1	-0.8	
	comp=Z,17nm,0.7s							
CN2	**Changchun**	**50.63**	**360**	*e*P	P	11 31 10.0	+4.8	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
RAMN	**Ramite**	**50.78**	**313**	*e*P	**P**	11 31 06.6	-0.4	
	comp=Z,32nm,0.9s							
RAMN	**Ramite**	**50.78**	**313**	*e*P	**P**	11 31 06.6	-0.4	
	comp=Z,32nm,0.9s							
USRK	**Ussuriysk Arra**	**51.34**	**6**	P	**P**	11 31 10.7	+0.4	
	comp=Z,8.6nm,0.7s,baz=186,slow=7.4,SNR=20							
JIRN	**Jiri**	**51.49**	**314**	*e*P	**P**	11 31 11.6	-0.7	
	comp=Z,14nm,0.9s							
JIRN	**Jiri**	**51.49**	**314**	*e*P	**P**	11 31 11.6	-0.7	
	comp=Z,14nm,0.9s							
MDJ	**Mudanjiang**	**51.56**	**4**	P	**P**	11 31 12.5	+0.5	
MDJ				pP	**pP**	11 32 44.0	-0.9	
MDJ				PP	PP	11 33 14.0	-1.8	
MDJ				sP	**sP**	11 33 36.5	-0.5	
MDJ				S	**S**	11 37 56.0	-0.4	
MDJ				sS	**sS**	11 40 40.3	-3.1	
MDJ				SS	SS	11 41 39.0	-1.8	
MDJ				pmax	pmax			
	comp=Z,34nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,100nm,4.6s							
GUN	**Gumba**	**51.86**	**314**	*e*P	**P**	11 31 14.3	-0.6	
	comp=Z,13nm,0.5s							
GUN	**Gumba**	**51.86**	**314**	*e*P	**P**	11 31 14.3	-0.6	
	comp=Z,13nm,0.5s							
PKI	**Pulchoki**	**52.00**	**313**	*e*P	**P**	11 31 15.0	-0.9	
	comp=Z,8.8nm,0.4s							
GTA	**Gaotai**	**52.09**	**335**	P	**P**	11 31 16.5	+0.4	
GTA				pP	**pP**	11 32 51.8	+2.6	
GTA				sP	**sP**	11 33 39.5	-1.8	
GTA				pmax	pmax			
	comp=Z,13nm,0.9s							
KKN	**Kakani**	**52.22**	**313**	*e*P	**P**	11 31 16.6	-0.8	
	comp=Z,13nm,0.5s							
KKN	**Kakani**	**52.22**	**313**	*e*P	**P**	11 31 16.6	-0.8	
	comp=Z,13nm,0.5s							
DMN	**Daman**	**52.24**	**313**	*e*P	**P**	11 31 17.0	-0.6	
	comp=Z,10nm,0.5s							
DMN	**Daman**	**52.24**	**313**	*e*P	**P**	11 31 17.0	-0.6	
	comp=Z,10nm,0.5s							
GKN	**Gorkha**	**52.81**	**313**	*e*P	**P**	11 31 20.7	-0.8	
	comp=Z,22nm,0.4s							
ASAJ	**Asahikawa**	**53.18**	**15**	P	**P**	11 31 24.7	+1.0	
	comp=Z,16nm,1.0s,baz=233,slow=19,SNR=6.0							
ASAJ	**Asahikawa**	**53.18**	**15**	P	**P**	11 31 24.7	+1.0	
KOLN	**Koldanda**	**53.43**	**312**	*e*P	**P**	11 31 25.5	-0.6	
	comp=Z,14nm,0.5s							
KOLN	**Koldanda**	**53.43**	**312**	*e*P	**P**	11 31 25.5	-0.6	
	comp=Z,14nm,0.5s							
DANN	**Dangsing**	**53.64**	**313**	*e*P	**P**	11 31 26.9	-0.8	
	comp=Z,16nm,0.7s							
DANN	**Dangsing**	**53.64**	**313**	*e*P	**P**	11 31 26.9	-0.8	
	comp=Z,16nm,0.7s							
RPZ	**Rata Peaks**	**53.85**	**140**	P	**P**	11 31 30.1	+1.6	
	comp=Z,74nm,0.8s,baz=251,slow=2.1,SNR=32							
RPZ	**Rata Peaks**	**53.85**	**140**	P	**P**	11 31 30.1	+1.6	
KHZ	**Kahutara**	**54.86**	**138**	*e*P	**P**	11 31 37.1	+1.4	
	comp=Z,23nm,0.8s							
ULN	**Ulaanbaatar**	**57.12**	**345**	*e*P	**P**	11 31 51.4	0.0	
	comp=Z,14nm,1.0s							
SONM	**Songino Array**	**57.26**	**345**	P	**P**	11 31 52.4	0.0	
	comp=Z,6.3nm,0.8s,baz=162,slow=7.1,SNR=51							
SONM				pP	**pP**	11 33 26.8	-1.1	
	comp=Z,1.2nm,0.8s,baz=160,slow=8.5,SNR=4.0							
SONM	**Songino Array**	**57.26**	**345**	P	**P**	11 31 52.4	0.0	
SONM				pP	**pP**	11 33 26.8	-1.1	
CASY	**Casey**	**60.05**	**187**	*e*P	**P**	11 32 11.1	+0.3	
	comp=Z,7.7nm,0.9s							
WMQ	**Urumqi**	**61.20**	**329**	P	**P**	11 32 19.0	+0.1	
WMQ				pmax	pmax			
	comp=Z,12nm,1.2s							
KSH	**Kashi**	**65.25**	**319**	*e*P	**P**	11 32 45.0	-0.2	
KSH				*e*PcP	**PcP**	11 33 13.3	+0.3	
KSH				*e*pP	**pP**	11 34 25.0	+1.1	
KSH				*e*sP	**sP**	11 35 15.0	+0.6	
KSH				*e*PP	**PP**	11 35 17.5	+0.9	
KSH				*e*ScP		11 36 29.0		
KSH				*e*PcS		11 37 16.0		
KSH				*e*S	S	11 40 42.5	-8.5	
KSH				*e*sS	**sS**	11 43 45.5	-1.8	
KSH				*e*SS	**SS**	11 45 15.5	+0.2	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,47nm,3.5s							
PETK	**Petropavlovsk-**	**65.79**	**20**	P	**P**	11 32 49.3	+1.2	
	comp=Z,14nm,0.9s,baz=226,slow=2.0,SNR=28							
PETK				PcP	**PcP**	11 33 14.4	-0.4	
	comp=Z,1.0nm,0.4s,baz=216,slow=4.9,SNR=5.1							
PETK	**Petropavlovsk-**	**65.79**	**20**	P	**P**	11 32 49.3	+1.2	
PETK				PcP	**PcP**	11 33 14.4	-0.4	
MK31	**Makanchi Array**	**66.01**	**329**	*e*P	**P**	11 32 48.8	-0.9	
MKAR	**Makanchi Array**	**66.01**	**329**	P	**P**	11 32 49.4	-0.3	
	comp=Z,2.8nm,0.4s,baz=121,slow=7.1,SNR=99							
MKAR				pP	**pP**	11 34 26.9	-1.8	
	comp=Z,3.3nm,0.8s,baz=128,slow=7.9,SNR=8.4							
MKAR	**Makanchi Array**	**66.01**	**329**	P	**P**	11 32 49.4	-0.3	
MKAR				pP	**pP**	11 34 26.9	-1.8	
TKM2	**Tokmak 2**	**67.38**	**322**	*e*P	**P**	11 32 58.2	-0.3	
	comp=Z,16nm,1.9s							
KBL	**Kabul**	**67.59**	**312**	*e*P	**P**	11 32 59.7	-0.3	
	comp=Z,4.9nm,0.8s							
AAK	**Ala-Archa**	**67.89**	**322**	P	**P**	11 33 01.0	-0.6	
	comp=Z,1.6nm,0.4s,baz=114,slow=5.0,SNR=9.0							
AAK	**Ala-Archa**	**67.89**	**322**	P	**P**	11 33 01.0	-0.6	
EKS2	**Erkin-Say**	**68.35**	**321**	*e*P	**P**	11 33 04.5	+0.2	
	comp=Z,6.7nm,1.4s							
YAK	**Yakutsk**	**68.96**	**2**	*e*P	**P**	11 33 06.6	-0.8	
	comp=Z,46nm,0.9s							
ZAA0	**Zalesovo Array**	**69.82**	**336**	*e*P	**P**	11 33 11.5	-1.3	
ZALV	**Zalesovo Beam**	**69.82**	**336**	P	**P**	11 33 11.8	-1.0	
	comp=Z,6.7nm,0.4s,baz=124,slow=4.3,SNR=45							
ZALV				pP	**pP**	11 34 51.6	-1.6	
	comp=Z,2.4nm,0.9s,baz=112,slow=4.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**69.82**	**336**	P	**P**	11 33 11.8	-1.0	
ZALV				pP	**pP**	11 34 51.6	-1.6	
KURK	**Kurchatov**	**70.41**	**330**	*e*P	**P**	11 33 16.1	-0.3	
	comp=Z,16nm,1.0s							
VNDA	**Vanda**	**72.93**	**172**	*e*P	**P**	11 33 30.1	-0.6	
	comp=Z,4.2nm,0.9s							
BRVK	**Borovoye**	**75.97**	**329**	*e*P	**P**	11 33 48.1	-0.2	
	comp=Z,17nm,1.1s							
SYO	**Syowa Base**	**82.06**	**201⇑**	*e*P	**P**	11 34 19.2	-1.3	
QSPA	**South Pole Qui**	**82.92**	**180**	*e*P	**P**	11 34 25.1	+0.1	
ARU	**Arti**	**83.54**	**329**	*e*P	P	11 34 24.4	-3.7	
ILAR	**Eielson Array**	**95.22**	**25**	P	**P**	11 35 20.6	-2.1	
	comp=Z,1.2nm,0.8s,baz=249,slow=4.7,SNR=5.7							
ILAR				PP	**PP**	11 39 15.9	-4.6	
	comp=Z,0.9nm,0.9s,baz=262,slow=6.4,SNR=6.1							
ILAR	**Eielson Array**	**95.22**	**25**	P	**P**	11 35 20.6	-2.1	
ILAR				PP	**PP**	11 39 15.9	-4.6	
YKA	**Yellowknife Ar**	**109.66**	**25**	PKiKP	**PKiKP**	11 40 26.1	-0.7	
	comp=Z,0.2nm,0.3s,baz=299,slow=1.9,SNR=15							
YKA	**Yellowknife Ar**	**109.66**	**25**	PKiKP	**PKiKP**	11 40 26.1	-0.7	
PDAR	**Pinedale Array**	**119.94**	**44**	PKP	**PKPdf**	11 40 47.5	0.0	
	comp=Z,0.6nm,0.4s,baz=101,slow=2.3,SNR=7.1							
PDAR	**Pinedale Array**	**119.94**	**44**	PKP	**PKPdf**	11 40 47.5	0.0	
TORD	**Torodi Ar. Bea**	**124.65**	**281**	PKP	**PKPdf**	11 40 56.5	-0.5	
	comp=Z,0.7nm,0.3s,baz=30,slow=2.5,SNR=9.9							
TORD	**Torodi Ar. Bea**	**124.65**	**281**	PKP	**PKPdf**	11 40 56.5	-0.5	
ANMO	**Albuquerque**	**124.73**	**52**	PKP	**PKPdf**	11 40 57.9	+1.0	
	comp=Z,0.3nm,0.4s,baz=212,slow=4.2,SNR=5.2							
ANMO	**Albuquerque**	**124.73**	**52**	PKP	**PKPdf**	11 40 57.9	+1.0	
ULM	**Lac du Bonnet**	**124.77**	**31**	PKP	**PKPdf**	11 40 55.8	-0.4	
	comp=Z,1.5nm,0.9s,baz=338,slow=4.4,SNR=3.4							
ULM	**Lac du Bonnet**	**124.77**	**31**	PKP	**PKPdf**	11 40 55.8	-0.4	
TXAR	**Lajitas Array**	**128.59**	**58**	PKP	**PKPdf**	11 41 05.3	+1.0	
	comp=Z,0.4nm,0.5s,baz=206,slow=3.0,SNR=12							
TXAR				SKPbc	SKiKP	11 43 39.3	-16	
	comp=Z,3.9nm,1.0s,baz=264,slow=3.8,SNR=17							
TXAR	**Lajitas Array**	**128.59**	**58**	PKP	**PKPdf**	11 41 05.3	+1.0	
TXAR				SKPbc	**sPKPdf**	11 43 39.3	-5.1	
PLCA	**Paso Flores**	**130.14**	**164**	SKPbc	**SKPbc**	11 43 44.4	-1.0	
	comp=Z,9.8nm,1.2s,baz=229,slow=6.0,SNR=5.4							
PLCA	**Paso Flores**	**130.14**	**164**	SKPbc	**SKPbc**	11 43 44.4	-1.0	
SCHQ	**Schefferville**	**131.31**	**10**	PKP	**PKPdf**	11 41 09.2	+0.6	
	comp=Z,1.0nm,0.3s,baz=92,slow=19,SNR=12							
SCHQ				SKPbc	**SKPbc**	11 43 47.9	-1.1	
	comp=Z,3.4nm,1.1s,baz=346,slow=8.3,SNR=4.3							
SCHQ	**Schefferville**	**131.31**	**10**	PKP	**PKPdf**	11 41 09.2	+0.6	
SCHQ				SKPbc	**SKPbc**	11 43 47.9	-1.1	
LPAZ	**La Paz**	**153.06**	**150**	PKPab	**PKPab**	11 42 10.5	+1.0	
	comp=Z,2.5nm,0.7s,baz=227,slow=3.6,SNR=10							
LPAZ	**La Paz**	**153.06**	**150**	PKPab	**PKPab**	11 42 10.5	+1.0	

JMA **29** *11:34:43.8*±0.6, *45°.42*N×*150°.12*E, *h30*km, **M4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.75**	**238**	P	P		Pn	11 35 38.4	-1.2
NEM2				*e*S	S		Sn	11 36 18.8	-3.9
JRA	**Rausu**	**3.86**	**249**	P	P		Pn	11 35 42.5	+1.4
JNK	**Nakash**	**4.28**	**247**	P	P		Pn	11 35 47.9	+1.1
JNK				*e*S	S		Sn	11 36 36.0	+0.3
JAK	**Akkeshi**	**4.59**	**240**	P	P		Pn	11 35 50.2	-0.9
JAK				*e*S	S		Sn	11 36 38.7	-4.7
JTKR	**Abashiri--Toko**	**4.66**	**254**	P	P		Pn	11 35 54.4	+2.3
JMP	**Maruseppu**	**5.02**	**256**	P	P		Pn	11 36 00.0	+2.9
JAR	**Ashorobuto**	**5.02**	**247**	P	P		Pn	11 35 58.7	+1.6
JOB	**Onbets**	**5.17**	**243**	P	P		Pn	11 35 59.6	+0.5
JOB				*e*S	S		Sn	11 36 55.7	-2.1
JKK2	**Kamakawa 2**	**5.48**	**256**	P	P		Pn	11 36 06.3	+2.9
JCH	**Churui**	**5.62**	**242**	P	P		Pn	11 36 05.2	-0.1
JCH				*e*S	S		Sn	11 37 05.8	-3.0
JFR	**Furan**	**5.85**	**250**	P	P		Pn	11 36 11.8	+3.3
JNBK	**Urakawa-nobuka**	**6.18**	**242**	P	P		Pn	11 36 12.1	-0.9
JNB	**Noboribetsu**	**7.19**	**249**	P	P		Pn	11 36 28.0	+1.2
JKB	**Kayabe**	**7.47**	**245**	*e*S	S		Sn	11 37 49.3	-5.1
JTM	**Tenmabayashi**	**8.08**	**238**	*e*S	S		Sn	11 38 01.1	-8.2
JANG	**Nango**	**8.08**	**234**	*e*S	S		Sn	11 37 59.4	-10
JTH	**Tanohata**	**8.18**	**231**	*e*S	S		Sn	11 38 00.8	-11
OFUJ	**Ofunato**	**8.91**	**228**	*e*S	S		Sn	11 38 19.8	-10
JIO	**Ouri**	**9.54**	**226**	*e*S	S		Sn	11 38 33.5	-12

DJA **29** *11:44:14, 0°.06*N×*98°.55*E, *h55*km, *MLv3.7/7*
IDC 29 11:44:02.0±2.8, **0°.44**S×**98°.18E, h0**km, **mb3.7**/5, **mb1 3.8**/6, **mb1mx3.6**/22, **mbtmp3.7**/6, **ML4.3**/1, **Error ellipse: s-maj=111.6km s-min=20.9km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.79**	**2**	P	P		P	11 48 22.9	-0.3
	0.4nm,0.3s,baz=178,slow=8.1,SNR=3.8								
WRA	**Warramunga Arr**	**40.35**	**121**	P	P		P	11 51 41.6	-0.2
	0.3nm,0.3s,baz=299,slow=9.0,SNR=3.3								
ASAR	**Alice Springs**	**41.64**	**126**	P	P		P	11 51 52.5	+0.1
	0.2nm,0.7s,baz=299,slow=7.9,SNR=4.3								
SONM	**Songino Array**	**48.61**	**7**	P	P		P	11 52 47.6	-0.1
	0.5nm,0.7s,baz=194,slow=9.7,SNR=3.9								
MKAR	**Makanchi Array**	**49.06**	**346**	P	P		P	11 52 51.1	+0.2
	1.6nm,0.5s,baz=153,slow=8.3,SNR=26								
ZALV	**Zalesovo Beam**	**55.32**	**350**	P	P		P	11 53 37.1	-0.2
	1.6nm,0.6s,baz=192,slow=6.1,SNR=8.8								
TXAR	**Lajitas Array**	**144.50**	**34**	PKP	PKPbc			12 03 40.2	+0.3
	0.3nm,0.5s,baz=161,slow=0.4,SNR=11								

CSEM **29** *11:52:00.2*±0.2, *36°.22*N×*25°.44*E, *h10*km, *MD2.9, Error ellipse: s-maj=5.0km s-min=4.0km az=95.0*
ATH **29** *11:52:01.8, 36°.22*N×*25°.46*E, *h38*km±*3*km, *MD2.9/6*
THE **29** *11:52:01.6, 36°.14*N×*25°.46*E, *h8*km±*4*km, *Error ellipse: s-maj=4.5km s-min=2.8km az=330.0*
ISC 29 11:52:00.7±1.2, **36°.15N**×**25°.45E**±0°.04, **h6**km±11km, **n22**, **σ0°71/44, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.90**	**171**	P	P		**Pb**	11 52 18.8	+0.2
NPS				S	S		**Sn**	11 52 31.8	-1.3
NPS	**Neapolis**	**0.90**	**171**	*e*PN	Pn		**Pn**	11 52 19.6	-0.2
NPS				*e*SN	Sn		**Sn**	11 52 33.5	+0.4
NPS	**Neapolis**	**0.90**	**171**	P	P		**Pb**	11 52 18.8	+0.2
NPS	**Neapolis**	**0.90**	**171**	*e*Pn	Pn		**Pn**	11 52 19.6	-0.2
NPS				S	S		**Sn**	11 52 31.8	-1.3
NPS				*e*Sn	Sn		**Sn**	11 52 33.5	+0.4
APE	**Apeiranthos**	**0.92**	**4**	*e*PN	Pg		**Pg**	11 52 18.0	-0.4
APE				*e*SN	Sg		**Sg**	11 52 31.1	+0.8
APE	**Apeiranthos**	**0.92**	**4**	*e*Pn	Pg		**Pg**	11 52 18.0	-0.4
APE				*e*Sn	Sg		**Sg**	11 52 31.1	+0.8
IDI	**Anoyia**	**0.97**	**208**	P	Pg		**Pg**	11 52 19.1	-0.3
IDI				S	Sb		**Sb**	11 52 32.9	-0.2
IDI	**Anoyia**	**0.97**	**208**	P	Pg		**Pg**	11 52 19.1	-0.3
IDI				S	Sb		**Sb**	11 52 32.9	-0.2
LAST	**Lasithi**	**0.99**	**179**	*e*PN	Pn		**Pn**	11 52 21.5	+0.3
LAST				*e*SN	Sn		**Sn**	11 52 35.5	0.0
LAST	**Lasithi**	**0.99**	**179**	*e*Pn	Pn		**Pn**	11 52 21.5	+0.3
LAST				*e*Sn	Sn		**Sn**	11 52 35.5	0.0
ZKR	**Zakros**	**1.21**	**149**	P	Pb		**Pb**	11 52 23.6	-0.4
ZKR				S	Sg		**Sg**	11 52 39.2	-0.3
ZKR	**Zakros**	**1.21**	**149**	*e*PN	Pn		**Pn**	11 52 24.8	+0.7
ZKR				*e*SN	Sn		**Sn**	11 52 41.3	+0.5
ZKR	**Zakros**	**1.21**	**149**	P	Pb		**Pb**	11 52 23.6	-0.4
ZKR	**Zakros**	**1.21**	**149**	*e*Pn	Pn		**Pn**	11 52 24.8	+0.7
ZKR				S	Sg		**Sg**	11 52 39.2	-0.3
ZKR				*e*Sn	Sn		**Sn**	11 52 41.3	+0.5
SIVA	**Sivas**	**1.25**	**205**	P	Pg		**Pg**	11 52 24.8	+0.2
SIVA				S	Sn		**Sn**	11 52 42.2	+0.5
SIVA	**Sivas**	**1.25**	**205**	*e*PN	Pg		**Pg**	11 52 25.4	+0.8
SIVA				*e*SN	Sn		**Sn**	11 52 43.0	+1.3
SIVA	**Sivas**	**1.25**	**205**	P	Pg		**Pg**	11 52 24.8	+0.2
SIVA	**Sivas**	**1.25**	**205**	*e*Pn	Pg		**Pg**	11 52 25.4	+0.8
SIVA				S	Sn		**Sn**	11 52 42.2	+0.5
SIVA				*e*Sn	Sn		**Sn**	11 52 43.0	+1.3
VAM	**Vamos**	**1.26**	**234**	P	Pn		**Pn**	11 52 23.7	-1.1
VAM				S	Sb		**Sb**	11 52 40.1	-1.2
VAM	**Vamos**	**1.26**	**234**	*e*PB	Pn		**Pn**	11 52 24.9	+0.1
VAM				*e*SN	Sn		**Sn**	11 52 43.0	+1.0
VAM	**Vamos**	**1.26**	**234**	P	Pn		**Pn**	11 52 23.7	-1.1
VAM	**Vamos**	**1.26**	**234**	*e*Pb	Pn		**Pn**	11 52 24.9	+0.1
VAM				S	Sb		**Sb**	11 52 40.1	-1.2
VAM				*e*Sn	Sn		**Sn**	11 52 43.0	+1.0

IDC **29** *12:14:20.4*±0.5, *55°.90S*×*27°.54W, h87*km±*4km, mb4.5/8, mb1 4.5/10, mb1mx4.3/15, mbtmp4.5/10, MS3.5/8, Ms1 3.5/8, ms1mx3.3/18, Error ellipse: s-maj=18.8km s-min=13.2km az=62.0*
ISCJB **29** *12:14:21.5*±2.6, *55°.95S*±0°.09×*27°.5W*±0°.2, *h108*km±*23*km, *mb4.6/11, Error ellipse: s-maj=20.7km s-min=12.8km az=154.8*
NEIC **29** *12:14:24.2*±1.5, *55°.94S*×*27°.54W, h121*km±*12*km, *mb4.8/3, Error ellipse: s-maj=13.9km s-min=8.5km az=67.0*
ISC 29 12:14:19.9±0.6, **55°.93S**±0°.08×**27°.5W**±0°.1, **h88**km±4km, **h87**km:**pP-P, n69**, **σ1°50/95, mb4.7**/10, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.99**	**158**	*e*P	**P**		**P**	**12 18 12.6**	**+0.5**
VNA3	**Neumayer Olymp**	**17.18**	**160**	*e*P	**P**		**P**	**12 18 15.7**	**+1.5**
VNA2	**Neumayer--Watz**	**17.39**	**158**	*e*P	**P**		**P**	**12 18 17.4**	**+0.9**
	baz=316,slow=13								
SNAA	**Sanae**	**18.94**	**156**	*e*P	**P**		**P**	**12 18 31.7**	**-1.9**
SNAA	**Sanae**	**18.94**	**156**	P	**Pn**		**P**	**12 18 34.9**	**-0.2**
	13nm,0.3s,baz=309,slow=10,SNR=814								
SNAA				ScP	**ScP**		**ScP**	**12 26 21.2**	**-1.6**
	0.0nm,0.3s,baz=332,slow=2.8,SNR=7.2								
SNAA	**Sanae**	**18.94**	**156**	P	**Pn**		**P**	**12 18 34.9**	**-0.2**
SNAA				ScP	**ScP**		**ScP**	**12 26 21.2**	**-1.6**
PMSA	**Palmer Station**	**19.83**	**229**	P	**Pn**		**P**	**12 18 45.4**	**-0.1**
	1.7nm,0.3s,baz=100,slow=6.1,SNR=4.6								
PMSA				ScP	**ScP**		**ScP**	**12 26 22.8**	**-2.0**
	1.6nm,0.3s,baz=147,slow=4.6,SNR=4.4								
PMSA	**Palmer Station**	**19.83**	**229**	P	**Pn**		**P**	**12 18 45.4**	**-0.1**
PMSA				ScP	**ScP**		**ScP**	**12 26 22.8**	**-2.0**
MAIT	**Maitri**	**22.45**	**147**	*e*P	**P**		**P**	**12 19 13.3**	**+2.1**
USHA	**Ushuaia**	**23.02**	**256**	LR	LR			12 26 07.1	
	comp=Z,98nm,18.9s,baz=245,slow=31								
PLCA	**Paso Flores**	**31.78**	**280**	LR	LR			12 32 35.9	
	comp=Z,44nm,18.9s,baz=59,slow=34								
QSPA	**South Pole Qui**	**34.33**	**180**	P	**P**		**P**	**12 20 59.6**	**+1.8**
	22nm,0.5s,baz=205,slow=1.0,SNR=65								
QSPA				PcP	**PcP**		**PcP**	**12 23 31.5**	**-0.1**
	4.2nm,0.6s,baz=158,slow=5.4,SNR=3.4								
QSPA				LR	LR			12 32 26.7	
	comp=Z,133nm,18.9s,baz=206,slow=32								
QSPA	**South Pole Qui**	**34.33**	**180**	P	**P**		**P**	**12 20 59.6**	**+1.8**
QSPA				PcP	**PcP**		**PcP**	**12 23 31.5**	**-0.1**
CFAA	**Coronel Fontan**	**37.32**	**293**	P	**P**		**P**	**12 21 24.4**	**+0.9**
	0.2nm,0.6s,baz=158,slow=5.4,SNR=2.7								
CFAA				pP	**pP**		**pP**	**12 21 43.5**	**-0.5**
	0.3nm,0.4s,baz=151,slow=9.0,SNR=3.1								
CFAA				PcP	**PcP**		**PcP**	**12 23 40.4**	**-0.5**
	0.3nm,0.6s,baz=145,slow=12,SNR=3.7								
CFAA	**Coronel Fontan**	**37.32**	**293**	P	**P**		**P

ILAR				PKPbc	**PKPbc**	**12 33 58.5**	**+0.3**		
	12nm,0.7s,baz=137,slow=2.4,SNR=130								
ILAR				pPKPbc	**pPKPbc**	**12 34 21.2**	**-1.4**		
	6.5nm,1.1s,baz=134,slow=1.3,SNR=4.0								
ILAR	**Eielson Array**	**149.88**	**312**	PKP	**PKPdf**	**12 33 50.9**	**-2.4**		
ILAR				PKPbc	**PKPbc**	**12 33 58.5**	**+0.3**		
ILAR				pPKPbc	**pPKPbc**	**12 34 21.2**	**-1.4**		
COLA	**College**	**150.30**	**312**	*e*PKPbc	**PKPbc**	**12 33 58.7**	**-0.5**		
MCK	**McKinley**	**150.53**	**309**	*e*PKPbc	**PKPbc**	**12 34 00.7**	**+0.8**		
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**12 34 01.9**	**+0.5**		
	6.3nm,0.6s,baz=227,slow=3.2,SNR=63								
SONM				pPKPbc	**pPKPbc**	**12 34 25.7**	**-0.1**		
	3.0nm,0.8s,baz=227,slow=3.2,SNR=4.6								
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**12 34 01.9**	**+0.5**		
SONM				pPKPbc	**pPKPbc**	**12 34 25.7**	**-0.1**		
ULN	**Ulaanbaatar**	**151.31**	**87**	*e*PKPbc	**PKPbc**	**12 34 01.4**	**-0.9**		
COLD	**Coldfoot**	**151.59**	**316**	*e*PKPbc	**PKPbc**	**12 34 01.7**	**-0.5**		
MJAR	**Matsushiro Arr**	**158.34**	**148**	PKPab	**PKPab**	**12 34 40.2**	**-0.7**		
	1.6nm,0.8s,baz=202,slow=6.7,SNR=6.0								
MJAR	**Matsushiro Arr**	**158.34**	**148**	PKPab	**PKPab**	**12 34 40.2**	**-0.7**		

MEX 29 12:22:51.8±0.3, 17°30'N×101°61'W, h15km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.34**	**24**	*e*P	Pg	12 22 57.9	-0.9
ZIIG				*i* S	Sg	12 23 02.8	-0.7
CAIG	**El Cayaco**	**1.31**	**101**	*i* P	Pn	12 23 11.9	-3.6
CAIG				*i* S	Sb	12 23 27.4	-5.3
ACX	**Acapulco**	**1.73**	**104**	*i* P	Pn	12 23 17.5	-3.8
ACX				*i* S	Sn	12 23 36.3	-6.9
PLIG	**Platanillo**	**2.28**	**61**	*e*P	Pn	12 23 25.7	-3.4
PLIG				*i* S	Sn	12 23 53.4	-3.7
UTMO	**Huajuapan**	**3.67**	**81**	*i* P	Pn	12 23 45.9	-2.4
UTMO				*i* S	Sn	12 24 28.3	-3.2

*CSEM **29** 12:26:53.4±0.5, 33°82'N×36°72'E, h15km, ML2.2, Error ellipse: s-maj=10.5km s-min=4.0km az=95.0*
*NSSC **29** 12:26:53.6±1.1, 33°83'N×36°65'E, h13km±11km, MD1.7, ML2.0*
*GRAL **29** 12:26:54.1±0.4, 33°80'N×36°78'E, h7km±4km, MD3.0*
ISC 29 12:26:53.3±1.5, 33°84'N±0'03×36°69'E±0'06, h15km±10km, n14, σ0°48/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QASN	**Qassioun**	**0.46**	**229**	*e*P	**Pg**	**12 27 02.1**	**-0.5**
QASN				*e*S	**Sg**	**12 27 09.4**	**+0.5**
QASN				AML	AML	12 27 13.1	
	comp=E,639nm,0.3s						
QASN				AML	AML	12 27 15.1	
	comp=N,377nm,0.5s						
QASN	**Qassioun**	**0.46**	**229**	*e*P	**Pg**	**12 27 02.1**	**-0.5**
	SNR=91						
QASN				*e*S	**Sg**	**12 27 09.4**	**+0.5**
	comp=N,377nm,0.5s,SNR=59						
TOTH	**TOTAH**	**0.53**	**205**	*e*P	**Pb**	**12 27 04.3**	**0.0**
TOTH				*e*S	**Sb**	**12 27 12.0**	**+0.2**
TOTH				AML	AML	12 27 14.3	
	comp=E,101nm,0.5s						
TOTH				AML	AML	12 27 32.2	
	comp=N,88nm,0.8s						
TOTH	**TOTAH**	**0.53**	**205**	*e*P	**Pb**	**12 27 04.3**	**0.0**
	SNR=91						
TOTH				*e*S	**Sb**	**12 27 12.0**	**+0.2**
	comp=N,88nm,0.8s,SNR=59						
HAWK	**Haweek**	**0.72**	**341**	*e*P	**Pb**	**12 27 08.1**	**+0.5**
HAWK				*e*S	**Sb**	**12 27 17.6**	**+0.2**
HAWK				AML	AML	12 27 21.9	
	comp=N,101nm,0.6s						
HAWK				AML	AML	12 27 22.4	
	comp=E,62nm,0.6s						
HAWK	**Haweek**	**0.72**	**341**	*e*P	**Pb**	**12 27 08.1**	**+0.5**
	SNR=75						
HAWK				*e*S	**Sb**	**12 27 17.6**	**+0.2**
	comp=E,62nm,0.6s,SNR=59						
BRBR	**Barbar**	**0.75**	**236**	*e*P	**Pg**	**12 27 07.4**	**-0.6**
BRBR				*e*S	**Sg**	**12 27 18.3**	**+0.3**
BRBR				AML	AML	12 27 26.1	
	comp=E,157nm,0.5s						
BRBR				AML	AML	12 27 26.1	
	comp=N,77nm,0.4s						
HWQ	**Hawqa**	**0.76**	**305**	*e*P	**Pn**	**12 27 09.2**	**-0.4**
HWQ				*e*S	**Sn**	**12 27 20.3**	**-0.6**
HWQ	**Hawqa**	**0.76**	**305**	*e*P	**Pn**	**12 27 09.2**	**-0.4**
HWQ				*e*S	**Sn**	**12 27 20.3**	**-0.6**
RCY	**Rachaya**	**0.79**	**245**	*e*P	**Pb**	**12 27 09.1**	**+0.2**
RCY				*e*S	**Sb**	**12 27 20.4**	**+0.9**
BHL	**Bhannes**	**0.87**	**274**	*e*P	**Pb**	**12 27 10.8**	**+0.6**
BHL	**Bhannes**	**0.87**	**274**	*e*P	**Pb**	**12 27 10.8**	**+0.6**
ZALF	**Zalf**	**1.06**	**149**	*e*P	**Pn**	**12 27 10.9**	**+0.1**
ZALF				*e*S	**Sn**	**12 27 28.6**	**+0.4**
ZALF				AML	AML	12 27 41.0	
	comp=E,39nm,0.5s						
ZALF				AML	AML	12 27 41.6	
	comp=N,43nm,0.5s						
SALA	**Sala**	**1.13**	**178**	*e*P	**Pb**	**12 27 14.6**	**-0.1**
SALA				*e*S	**Sn**	**12 27 30.3**	**+0.2**
SALA				AML	AML	12 27 43.4	
	comp=N,52nm,0.5s						
SALA				AML	AML	12 27 46.4	
	comp=E,3.7nm,0.5s						

*ISCJB **29** 12:43:58.2±0.4, 38°54'N±0'03×73°53'E±0'08, h107km, mb3.9/4, Error ellipse: s-maj=9.1km s-min=3.9km az=171.4*
*BJI **29** 12:44:01.5, 38°54'N×73°65'E, h49km, ML3.7/4*
*NNC **29** 12:44:06.6±2.1, 39°16'N×73°41'E, h138km±16km, mb3.4, mpv3.9, Error ellipse: s-maj=24.2km s-min=8.5km az=19.0*
*IDC **29** 12:44:12.6±4.0, 39°64'N×73°50'E, h149km±27km, mb3.4/3, mb1 3.5/9, mb1mx3.2/31, mbtmp3.4/9, Error ellipse: s-maj=50.2km s-min=29.5km az=149.0*
*DMN **29** 12:45:51.0±21.0, 32°27'N×80°82'E, h60km, Mb4.2/6, Error ellipse: s-maj=541.9km s-min=25.9km az=141.0*
ISC 29 12:44:00.4±0.7, 38°59'N±0'05×73°63'E±0'10, h107km, n42, σ1°47/45, mb3.9/4, 5C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.05**	**62**	⇑*i* P	Pn	12 44 30.5	-3.5
KSH				S	Sn	12 44 50.3	-9.3
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,2μm,0.3s						
AML	**Almayashu**	**3.54**	**1**	P	**Pn**	**12 44 53.6**	**-0.3**
	SNR=128						
AML				P	Pn	12 44 53.6	-0.3
	SNR=128						
UCH	**Uchtor**	**3.70**	**10**	P	**Pn**	**12 44 56.6**	**+0.5**
	SNR=16						
UCH				P	Pn	12 44 56.6	+0.5
	SNR=16						
KZA	**Kyzart**	**3.70**	**19**	P	**Pn**	**12 44 56.3**	**+0.3**
	SNR=27						
KZA				P	Pn	12 44 56.3	+0.3
	SNR=27						
EKS2	**Erkin-Say**	**4.07**	**2**	P	**Pn**	**12 45 01.1**	**+0.3**
	SNR=69						
EKS2				P	Pn	12 45 01.1	+0.3
	SNR=69						
AAK	**Ala-Archa**	**4.09**	**9**	P	**Pn**	**12 45 01.8**	**+0.7**
	SNR=73						
AAK				P	Pn	12 45 01.8	+0.7
	SNR=73						
AAK	**Ala-Archa**	**4.09**	**9**	P	**Pn**	**12 45 01.9**	**+0.8**
	comp=E,17nm,0.3s,baz=157,slow=6.6,SNR=221						
AAK				S	Sn	12 45 47.1	-1.0
	comp=E,3.5nm,0.3s,baz=324,slow=15,SNR=8.4						
ULHL	**Ulahol**	**4.16**	**28**	P	**Pn**	**12 45 02.9**	**+0.8**
	SNR=67						
ULHL				P	Pn	12 45 02.9	+0.8
	SNR=67						
KBK	**Karagaybulak**	**4.19**	**13**	P	**Pn**	**12 45 03.3**	**+0.9**
	SNR=33						
KBK				P	Pn	12 45 03.3	+0.9
	SNR=33						
CHMS	**Chumysh**	**4.49**	**11**	P	**Pn**	**12 45 07.0**	**+0.7**
	SNR=16						
CHMS				P	**Pn**	**12 45 07.0**	**+0.7**
	SNR=16						
TKM2	**Tokmak 2**	**4.58**	**18**	P	**Pn**	**12 45 08.7**	**+1.0**
	SNR=24						
TKM2				P	**Pn**	**12 45 08.7**	**+1.0**
	SNR=24						
TKM2	**Tokmak 2**	**4.58**	**18**	⇑P	**Pn**	**12 45 08.1**	**+0.4**
	comp=E,12nm,0.5s						
USP	**Ospenovka**	**4.72**	**8**	P	**Pn**	**12 45 10.1**	**+0.7**
	SNR=25						
USP				P	**Pn**	**12 45 10.1**	**+0.7**
	SNR=25						
CHCP	**Chirah Chowk**	**4.93**	**184**	P	Pn	12 45 16.2	+3.9
CEP	**Cherat**	**4.95**	**197**	P	**Pn**	**12 45 15.5**	**+2.8**
CEP				S	**Sn**	**12 46 07.0**	**-2.0**
KK31	**Karatay Array**	**5.09**	**333**	⇓P	**Pn**	**12 45 13.4**	**-1.1**
	comp=E,11nm,0.3s,baz=146,slow=12,SNR=186						
KK31				⇑S	Sn	12 46 05.7	-6.3
	comp=E,40nm,0.7s,baz=151,slow=20,SNR=9.9						
THW	**Thamme Wali**	**5.98**	**195**	P	**Pn**	**12 45 28.4**	**+1.8**
THN	**Thein Dam**	**6.37**	**164**	*e*P	**Pn**	**12 45 33.1**	**+1.3**
THN				*e*S	**Sn**	**12 46 40.2**	**-2.9**
SARP	**Sargodha**	**6.70**	**187**	P	**Pn**	**12 45 38.2**	**+2.0**
MK31	**Makanchi Array**	**10.38**	**35**	P	**Pn**	**12 46 27.0**	**+0.8**
	comp=E,1.0nm,0.6s,baz=218,slow=14,SNR=21						
MKAR	**Makanchi Array**	**10.38**	**35**	P	**Pn**	**12 46 26.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=21						
KURK	**Kurchatov**	**12.63**	**15**	P	Pn	12 46 51.2	-4.9
	comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=9.0						
DANN	**Dangsing**	**13.25**	**137**	*e*P	**Pn**	**12 47 01.5**	**-3.1**
	comp=E,7.2nm,0.3s						
KOLN	**Koldanda**	**13.63**	**139**	*e*P	**Pn**	**12 47 06.9**	**-2.6**
	comp=E,7.0nm,0.4s						
GKN	**Gorkha**	**13.99**	**136**	*e*P	Pn	12 47 10.8	-3.3
	comp=E,7.7nm,0.4s						
VOSK	**Vostochnaya**	**14.26**	**353**	⇓P	Pn	12 47 15.1	-2.1
	comp=E,2.9nm,0.8s						
AB31	**Akbulak array**	**14.50**	**322**	P	Pn	12 47 16.6	-3.8
	comp=E,0.8nm,0.4s,baz=127,slow=14,SNR=31						
AB31				S	Sn	12 49 51.9	-8.2
	comp=E,1.0nm,0.3s,baz=125,slow=24,SNR=5.3						
DMN	**Daman**	**14.56**	**135**	*e*P	**Pn**	**12 47 18.8**	**-2.7**
	comp=E,3.0nm,0.3s						
BVA0	**Borovoye Array**	**14.61**	**352**	⇓P	**Pn**	**12 47 19.8**	**-2.0**
	comp=E,1.6nm,0.6s,baz=173,slow=12,SNR=8.3						
BVAR	**Borovoye Array**	**14.61**	**352**	P	Pn	12 47 19.5	-2.3
	comp=E,0.4nm,0.3s,baz=161,slow=14,SNR=10						
BRVK	**Borovoye**	**14.66**	**352**	⇑P	Pn	12 47 20.1	-2.2
	comp=E,24nm,0.6s						
ZRNK	**Zerenda**	**14.72**	**349**	⇓P	Pn	12 47 20.1	-2.9
	comp=E,6.8nm,0.5s						
GUN	**Gumba**	**14.76**	**133**	*e*P	**Pn**	**12 47 21.8**	**-2.4**
	comp=E,5.2nm,0.4s						
JIRN	**Jiri**	**15.13**	**132**	*e*P	**Pn**	**12 47 27.7**	**-1.2**
	comp=E,5.5nm,0.3s						
AKTO	**Aktyubinsk**	**16.22**	**322**	P	**Pn**	**12 47 39.9**	**-2.0**
	comp=E,0.3nm,0.3s,baz=94,slow=14,SNR=8.9						
AKTO				S	Sn	12 50 28.0	-14
	comp=E,0.1nm,0.3s,baz=343,slow=20,SNR=4.3						
AKTO	**Aktyubinsk**	**16.22**	**322**	⇑P	**Pn**	**12 47 40.8**	**-1.0**
	comp=E,0.4nm,0.6s						
ODAN	**Odare**	**16.43**	**131**	*e*P	**Pn**	**12 47 45.4**	**+0.5**
	comp=E,6.6nm,0.6s						
ZALV	**Zalesovo Beam**	**17.17**	**23**	P	**P**	**12 47 53.2**	**-0.2**
	comp=E,2.1nm,0.3s,baz=210,slow=12,SNR=34						
HHC	**Hu-ho-hao-te**	**29.12**	**73**	*e*P	**P**	**12 49 53.5**	**+2.3**
HHC				pmax	pmax		
	comp=E,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,42nm,5.2s						
ARCES	**ARCESS Array B**	**40.05**	**336**	P	**P**	**12 51 24.3**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=107,slow=6.9,SNR=18						
TORD	**Torodi Ar. Bea**	**67.84**	**269**	P	P	12 54 54.4	+7.0
	comp=Z,0.2nm,0.5s,baz=53,slow=5.9,SNR=3.0						
YKA	**Yellowknife Ar**	**79.05**	**4**	P	**P**	**12 55 54.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=348,slow=5.7,SNR=13						

IDC 29 12:52:42.2±1.5, 14°01'S×179°65'W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp3.9/6, MS3.8/8, Ms1 3.8/8, ms1mx3.4/27, Error ellipse: s-maj=105.9km s-min=21.7km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.61**	**237**	P	P	13 00 14.9	-0.8
	3.4nm,1.0s,baz=101,slow=9.4,SNR=5.3						
STKA				LR	LR	13 16 17.9	
	comp=Z,92nm,18.4s,baz=31,slow=36						
WRA	**Warramunga Arr**	**44.30**	**256**	P	P	13 00 55.7	+1.6
	1.2nm,1.0s,baz=95,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**44.83**	**250**	P	P	13 00 57.6	-0.8
	1.8nm,0.6s,baz=83,slow=8.6,SNR=23						
JOW	**Kunigami**	**64.84**	**309**	LR	LR	13 28 51.8	
	comp=Z,52nm,18.4s,baz=106,slow=34						
FX1	**Attu Island--F**	**66.90**	**355**	LR	LR	13 25 55.7	
	comp=Z,86nm,20.4s,baz=45,slow=30						
PETK	**Petropavlovsk-**	**69.62**	**346**	LR	LR	13 30 29.1	
	comp=Z,30nm,19.2s,baz=340,slow=33						
NVAR	**Mina Array Bea**	**77.48**	**45**	P	P	13 04 40.8	+0.8
	0.8nm,0.9s,baz=225,slow=8.3,SNR=4.5						
ILAR	**Eielson Array**	**82.38**	**14**	P	P	13 05 04.8	-0.9
	0.9nm,0.9s,baz=219,slow=7.3,SNR=4.4						
ILAR				LR	LR	13 36 25.3	
	comp=Z,58nm,18.9s,baz=151,slow=32						
TXAR	**Lajitas Array**	**84.95**	**58**	P	P	13 05 20.0	+0.2
	1.1nm,1.1s,baz=235,slow=4.4,SNR=5.6						
TXAR				LR	LR	13 36 28.8	
	comp=Z,62nm,18.1s,baz=5.0,slow=31						
MAW	**Mawson**	**87.11**	**200**	LR	LR	13 38 03.2	
	comp=Z,106nm,18.7s,baz=248,slow=31						
CMIG	**Matias Romero**	**89.17**	**72**	LR	LR	13 38 14.1	
	comp=Z,40nm,19.1s,baz=113,slow=31						
BRTR	**Keskin Array B**	**141.16**	**318**	PKP	PKPdf	13 12 12.3	-2.9
	1.2nm,1.0s,baz=96,slow=1.2,SNR=4.5						

*ISCJB **29** 13:04:01.0±0.5, 30°21'N±0°04×138°70'E±0'09, h421km, mb3.2/7, Error ellipse: s-maj=11.0km s-min=5.3km az=0.8*
*IDC **29** 13:04:02.0±0.9, 30°22'N×138°83'E, h428km±11km, mb2.9/7, mb1 3.1/11, mb1mx2.9/27, mbtmp3.0/11, Error ellipse: s-maj=17.3km s-min=11.4km az=70.0*
*JMA **29** 13:04:03.6±0.3, 30°50'N×139°08'E, h458km, M3.5*
ISC 29 13:04:01.6±0.7, 30°25'N±0°07×138°8'E±0'1, h421km, n26, σ1°54/24, mb3.3/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.99**	**17**	P	P	13 05 09.6	+3.5
TK02	**Tokai 2**	**3.79**	**347**	P	P	13 05 17.4	+4.8
CBIJ	**Chichi jima**	**4.34**	**136**	P	**P**	**13 05 19.2**	**+1.1**
	16nm,0.3s,baz=288,slow=20,SNR=3.4						
CBIJ				S	**S**	**13 06 19.9**	**-0.5**
	47nm,0.3s,baz=306,slow=23,SNR=13						
JIE	**Ise**	**4.49**	**338**	P	P	13 05 23.7	+4.4
BSO1	**Boso 1**	**4.77**	**22**	P	P	13 05 24.2	+2.8
BSO1				*e*S	**S**	**13 06 29.0**	**+2.2**
BSO3	**Boso 3**	**4.77**	**17**	*e*S	S	13 06 28.8	+1.6
JOD2	**Odawara 2**	**5.01**	**3**	P	**P**	**13 05 26.5**	**+2.1**
JNY	**Yasuok**	**5.15**	**352**	P	P	13 05 29.1	+3.1
JHU	**Hanno**	**5.60**	**4**	P	**P**	**13 05 31.7**	**+1.2**
JHU				*e*S	**S**	**13 06 41.9**	**-1.4**
JRY	**Ryogami san**	**5.75**	**1**	P	**P**	**13 05 34.2**	**+2.1**
JRY				*e*S	**S**	**13 06 44.3**	**-1.9**
JYT	**Yasato**	**6.08**	**11**	*e*S	S	13 06 49.7	-2.7
JAG	**Ashikaga**	**6.18**	**5**	P	**P**	**13 05 37.3**	**+0.7**
JAG				*e*S	**S**	**13 06 50.9**	**-3.6**
MJAR	**Matsushiro Arr**	**6.29**	**356**	P	**P**	**13 05 39.4**	**+1.6**
	1.2nm,0.3s,baz=171,slow=12,SNR=19						
MAT	**Matsushiro**	**6.29**	**356**	P	**P**	**13 05 39.2**	**+1.4**
MAT				*e*S	**S**	**13 06 57.0**	**+0.3**
MAT	**Matsushiro**	**6.29**	**356**	P	**P**	**13 05 39.5**	**+1.7**
JHO	**Hitachi**	**6.52**	**13**	P	**P**	**13 05 41.1**	**+0.5**
JHO				*e*S	**S**	**13 06 59.3**	**-1.8**
JFK	**Kawauchi**	**7.31**	**13**	*e*S	S	13 07 14.5	-2.5
JNU	**Nakatsue**	**7.32**	**295**	P	P	13 05 52.1	+2.7
	0.5nm,0.3s,baz=72,slow=9.6,SNR=8.6						
KSRS	**Korea Array**	**11.53**	**311**	P	**P**	**13 06 37.0**	**+1.4**
	0.4nm,0.3s,baz=128,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**37.96**	**261**	P	**P**	**13 10 40.9**	**-0.8**
	1.0nm,0.7s,baz=55,slow=6.4,SNR=9.5						
KURK	**Kurchatov**	**48.65**	**313**	P	**P**	**13 12 05.0**	**-0.2**
	0.4nm,0.5s,baz=97,slow=7.6,SNR=4.2						
WRA	**Warramunga Arr**	**50.08**	**185**	P	**P**	**13 12 15.9**	**-0.3**
	1.5nm,0.4s,baz=2.0,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**53.81**	**186**	P	**P**	**13 12 43.0**	**-0.3**
	0.9nm,0.5s,baz=16,slow=13,SNR=26						
ILAR	**Eielson Array**	**56.42**	**30**	P	**P**	**13 13 00.8**	**-0.3**
	0.4nm,0.9s,baz=263,slow=4.9,SNR=6.7						
STKA	**Stephens Creek**	**61.84**	**177**	P	**P**	**13 13 38.2**	**+0.1**
	1.2nm,0.7s,baz=347,slow=7.4,SNR=5.1						
YKA	**Yellowknife Ar**	**70.79**	**28**	P	**P**	**13 14 33.5**	**-0.1**
	0.2nm,0.7s,baz=290,slow=5.9,SNR=5.0						

*DDA **29** 13:04:17.7, 39°51'N×33°10'E, h25km, MD3.0*
*CSEM **29** 13:04:18.6±0.2, 39°46'N×33°10'E, h10km, MD2.9, Error ellipse: s-maj=9.4km s-min=4.4km az=148.0*
*ISK **29** 13:04:18.9, 39°43'N×33°14'E, h8km, MD2.9*
*ISCJB **29** 13:04:19.2±0.6, 39°43'N±0°07×33°12'E±0°07, h11km±5km, Error ellipse: s-maj=13.3km s-min=6.1km az=148.0*
ISC 29 13:04:19.0±0.9, 39°42'N±0°04×33°12'E±0°04, h10km±6km, n18, σ0°77/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFSR	**Af˙ar-Bala (A**	**0.04**	**304**	PG	**Pg**	**13 04 20.2**	**-0.8**
AFSR				*e*SG	**Sg**	**13 04 22.8**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**0.04**	**304**	*i* Pg	**Pg**	**13 04 20.2**	**-0.8**
AFSR				*e*Sg	**Sg**	**13 04 22.8**	**+0.3**
BBAL	**Bala**	**0.12**	**3**	*i* P	**Pg**	**13 04 22.3**	**+0.3**
BBAL				*i* S	**Sg**	**13 04 25.4**	**+1.3**
BBAL	**Bala**	**0.12**	**3**	*i* P	**Pg**	**13 04 22.3**	**+0.3**
BBAL				*i* S	**Sg**	**13 04 25.4**	**+1.3**
CDAG	**Cicekdag**	**0.99**	**78**	*i* P	**Pg**	**13 04 36.8**	**-1.3**
CDAG				*i* S	**Sg**	**13 04 50.9**	**-0.1**
CDAG	**Cicekdag**	**0.99**	**78**	*i* P	**Pg**	**13 04 36.8**	**-1.3**
CDAG				*i* S	**Sg**	**13 04 50.9**	**-0.1**
KIZT	**Kizilcal**	**1.10**	**241**	*e*PN	**Pn**	**13 04 40.2**	**-0.4**
KIZT				*e*SN	**Sn**	**13 04 56.3**	**+0.3**
KIZT	**Kizilcal**	**1.10**	**241**	*e*Pn	**Pn**	**13 04 40.2**	**-0.4**
KIZT				*e*Sn	**Sn**	**13 04 56.3**	**+0.3**
KDHN	**Kadinhani**	**1.19**	**221**	*e*P	**Pb**	**13 04 41.2**	**-0.5**
KDHN	**Kadinhani**	**1.19**	**221**	*e*P	**Pb**	**13 04 41.2**	**-0.5**
SULT	**Sultanhani-AKS**	**1.26**	**166**	*e*PN	**Pg**	**13 04 43.5**	**+0.4**
SULT				*e*SN	**Sg**	**13 05 00.9**	**+1.3**
SULT	**Sultanhani-AKS**	**1.26**	**166**	*e*Pn	**Pg**	**13 04 43.6**	**+0.4**
SULT				*e*Sn	**Sg**	**13 05 00.9**	**+1.3**
CORM	**Corum**	**1.39**	**57**	*e*PN	**Pn**	**13 04 44.2**	**-0.4**
CORM	**Corum**	**1.39**	**57**	*e*Pn	**Pn**	**13 04 44.2**	**-0.4**
KONT	**Konya--Tatoy**	**1.59**	**202**	*e*PN	**Pn**	**13 04 47.1**	**-0.1**
KONT	**Konya--Tatoy**	**1.59**	**202**	*e*Pn	**Pn**	**13 04 47.1**	**-0.1**
YOZ	**Yozgat**	**1.72**	**82**	*e*PN	**Pn**	**13 04 49.6**	**+0.5**
YOZ	**Yozgat**	**1.72**	**82**	*e*Pn	**Pn**	**13 04 49.6**	**+0.5**

*IDC **29** 13:28:27.0±1.1, 22°52'S×171°32'E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/18, mbtmp4.4/10, ML5.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.4/19, Error ellipse: s-maj=28.3km s-min=24.6km az=142.0*
*VIE **29** 13:28:29.1, 22°69'S×171°12'E, h0km, mb4.2 623 km SSE of Port Vila*
*ISCJB **29** 13:28:33.9±2.2, 22°5'S±0°1×171°1'E±0°1, h51km±16km, mb4.1/9, MS3.5/5, Error ellipse: s-maj=23.4km s-min=16.6km az=4.6*
*NOU **29** 13:28:33.9±1.3, 19°87'S×170°53'E, h30km, MD3.0, ML3.6*
ISC 29 13:28:33.3±4.0, 22°4'S±0°2×171°2'E±0°2, h48km±31km, n34, σ1°44/23, mb4.2/9, MS3.5/5, 4C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.00**	**272**	*e*P	**Pn**	**13 29 33.1**	**+0.9**
BAYA				*e*S	**Sn**	**13 30 17.3**	**-0.5**
BAYA				AMP		13 30 21.6	
	comp=Z,33nm,0.7s						
LASL	**Noumea**	**4.32**	**271**	*e*P	**Pn**	**13 29 37.2**	**+0.6**
DZM	**Mont Dzumac**	**4.42**	**273**	*e*Pn	**Pn**	**13 29 38.8**	**+0.8**
	comp=Z,401nm,0.3s						
DZM				*e*Sn	**Sn**	**13 30 28.3**	**+0.1**
	comp=Z,305nm,0.2s						
DZM	**Mont Dzumac**	**4.42**	**273**	Pn	**Pn**	**13 29 39.1**	**+1.1**
	comp=Z,104nm,0.3s,baz=114,slow=15,SNR=817						
DZM				Sn	**Sn**	**13 30 27.8**	**-0.4**
	comp=Z,70nm,0.3s,baz=123,slow=23,SNR=15						
DZM	**Mont Dzumac**	**4.42**	**273**	*e*P	**Pn**	**13 29 38.7**	**+0.8**
DZM				*e*S	**Sn**	**13 30 25.7**	**-2.5**
DZM				AMP		13 30 30.7	
	comp=Z,4μm,4.3s						
NOUC	**Port Laguerre**	**4.55**	**272**	*e*P	**Pn**	**13 29 40.2**	**+0.5**
NOUC				*e*S	**Sn**	**13 30 29.0**	**-2.2**
NOUC				AMP		13 30 33.1	
	comp=Z,156nm,1.3s						
AFI	**Afiamalu**	**18.21**	**65**	LR	LR	13 38 10.7	
	comp=Z,136nm,19.4s,baz=224,slow=32						
ARMA	**Armidale**	**19.27**	**241**	*e*P	**Pn**	**13 32 57.1**	**+1.6**
RPZ	**Rata Peaks**	**21.30**	**180**	P	**P**	**13 33 13.8**	**-2.2**
	comp=Z,16nm,0.7s,baz=219,slow=1.4,SNR=9.1						
RPZ				LR

KBL	**Kabul**	**2.40**	**233**	*e*Pn		Pn	13 30 02.9	+2.7	
KBL				*e*Sn		Sn	13 30 31.9	+2.1	
CHCP	**Chirah Chowk**	**2.82**	**146**	P		Pn	13 30 13.7	+8.3	
THW	**Thamme Wali**	**3.22**	**174**	P		Pn	13 30 17.5	+6.8	
THN	**Thein Dam**	**5.07**	**133**	*e*P		Pn	13 30 41.9	+6.6	
THN				*e*S		Sn	13 31 38.8	+6.0	
AML	**Almayashu**	**6.38**	**16**	P		**Pn**	**13 30 55.1**	**+1.9**	
	SNR=227								
AML				P		**Pn**	**13 30 55.1**	**+1.9**	
	SNR=227								
UCH	**Uchtor**	**6.67**	**21**	P		**Sn**	**13 32 10.7**	**-1.5**	
	SNR=11								
UCH				P		**Sn**	**13 32 10.7**	**-1.5**	
	SNR=11								
KZA	**Kyzart**	**6.77**	**25**	P		**Pn**	**13 31 01.0**	**+2.4**	
	SNR=21								
KZA				P		**Pn**	**13 31 01.0**	**+2.4**	
	SNR=21								
EKS2	**Erkin-Say**	**6.90**	**15**	P		**Pn**	**13 31 02.0**	**+2.0**	
	SNR=45								
EKS2				P		**Pn**	**13 31 02.0**	**+2.0**	
	SNR=45								
EKS2	**Erkin-Say**	**6.90**	**15**	*e*Pn		**Pn**	**13 31 02.1**	**+2.0**	
	22nm,0.5s								
EKS2				*e*Sn		**Sn**	**13 32 15.7**	**-1.4**	
AAK	**Ala-Archa**	**7.04**	**19**	P		**Pn**	**13 31 04.5**	**+2.5**	
	SNR=84								
AAK				P		**Pn**	**13 31 04.5**	**+2.5**	
	SNR=84								
AAK	**Ala-Archa**	**7.04**	**19**	P		**Pn**	**13 31 03.2**	**+1.1**	
	21nm,0.3s,baz=170,slow=6.1,SNR=353								
AAK				S		**Sn**	**13 32 19.4**	**-1.3**	
	6.2nm,0.3s,baz=86,slow=23,SNR=15								
AAK	**Ala-Archa**	**7.04**	**19**	P		**Pn**	**13 31 03.2**	**+1.1**	
AAK				*e*Pn		Pn	13 31 03.9	+1.7	
AAK				*e*Sn		**Sn**	**13 32 20.2**	**-0.5**	
KK31	**Karatay Array**	**7.11**	**355**	⇑P		**Pn**	**13 31 03.1**	**+0.2**	
	5.7nm,0.3s,baz=187,slow=15,SNR=162								
KK31				⇓S		Sn	13 32 14.6	-7.5	
	12nm,0.3s,baz=190,slow=25,SNR=10								
KKAR	**Karatay Array**	**7.11**	**355**	*e*Pn		**Pn**	**13 31 03.1**	**+0.2**	
	20nm,0.4s								
KBK	**Karagaybulak**	**7.19**	**22**	P		Pn	13 31 06.9	+2.8	
	SNR=6.4								
KBK				P		Pn	13 31 06.9	+2.8	
	SNR=6.4								
ULHL	**Ulahol**	**7.29**	**30**	P		Pn	13 31 08.3	+2.9	
	SNR=6.2								
ULHL				P		Pn	13 31 08.3	+2.9	
	SNR=6.2								
CHMS	**Chumysh**	**7.45**	**20**	P		Pn	13 31 10.1	+2.6	
	SNR=19								
CHMS				P		Pn	13 31 10.1	+2.6	
	SNR=19								
KKR	**Kurukshetra**	**7.57**	**141**	*e*S		Sn	13 32 36.5	+3.0	
TKM2	**Tokmak 2**	**7.64**	**24**	P		**Pn**	**13 31 12.6**	**+2.4**	
	SNR=49								
TKM2				P		**Pn**	**13 31 12.6**	**+2.4**	
	SNR=49								
TKM2	**Tokmak 2**	**7.64**	**24**	⇓P		**Pn**	**13 31 12.5**	**+2.4**	
	9.7nm,0.5s								
TKM2				⇓S		**Sn**	**13 32 35.0**	**-0.1**	
	19nm,0.8s								
TKM2	**Tokmak 2**	**7.64**	**24**	*e*Pn		**Pn**	**13 31 12.5**	**+2.4**	
	20nm,0.4s								
USP	**Ospenovka**	**7.64**	**17**	P		**Pn**	**13 31 11.9**	**+1.9**	
	SNR=39								
USP				P		**Pn**	**13 31 11.9**	**+1.9**	
	SNR=39								
DDI	**Dehra Dun**	**7.97**	**133**	*e*P		Pn	13 31 22.0	+7.3	
KHET	**Khetri**	**8.76**	**153**	*e*P		Pn	13 31 29.9	+4.7	
KHET				*e*S		Sn	13 33 02.7	+0.3	
KHET				*e*S		Sn	13 33 02.7	+0.3	
NDI	**New Delhi**	**8.82**	**144**	*e*S		Sn	13 33 04.5	+0.7	
AYAN	**Aya Nagar**	**8.95**	**145**	*e*P		Pn	13 31 32.7	+5.0	
AYAN				*e*S		Sn	13 33 07.3	+0.5	
BISR	**Bishrakh**	**9.02**	**144**	*e*S		Sn	13 33 09.3	+0.8	
AGRA	**Agra**	**10.39**	**146**	*e*P		Pn	13 31 50.5	+3.3	
AGRA				*e*S		**Sn**	**13 33 39.2**	**-2.6**	
AGRA				AML		AML	13 33 45.5		
	comp=N,111nm,0.3s								
AGRA				AML		AML	13 33 46.2		
	comp=E,183nm,0.3s								
MK31	**Makanchi Array**	**13.52**	**34**	P		**P**	**13 32 34.0**	**+0.7**	
	comp=E,1.1nm,0.7s,baz=224,slow=10,SNR=7.1								
MK31	**Makanchi Array**	**13.52**	**34**	*e*Pn		**Pn**	**13 32 29.7**	**+1.3**	
MKAR	**Makanchi Array**	**13.52**	**34**	P		**Pn**	**13 32 29.8**	**+1.4**	
	comp=E,0.1nm,0.3s,baz=227,slow=15,SNR=5.2								
MKAR	**Makanchi Array**	**13.52**	**34**	P		**Pn**	**13 32 29.8**	**+1.4**	
KURK	**Kurchatov**	**15.60**	**17**	P		**Pn**	**13 32 53.3**	**-1.3**	
	comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=5.8								
KURK	**Kurchatov**	**15.60**	**17**	P		**Pn**	**13 32 53.3**	**-1.3**	
KURK				*e*Pn		**P**	**13 32 55.5**	**-0.8**	
AB31	**Akbulak array**	**15.65**	**331**	P		**Pn**	**13 32 54.1**	**-1.1**	
	comp=E,3.1nm,0.3s,baz=145,slow=12,SNR=194								
AB31				S		Sn	13 35 35.5	-13	
	comp=E,3.5nm,0.4s,baz=160,slow=20,SNR=14								
ABKAR	**Akbulak array**	**15.65**	**331**	*e*Pn		**Pn**	**13 32 54.0**	**-1.3**	
	comp=E,6.4nm,0.3s								
NGP	**Nagpur**	**16.26**	**154**	*ex*		x	13 35 57.1		
VOSK	**Vostochnaya**	**16.71**	**359**	⇓P		**P**	**13 33 09.5**	**+0.9**	
	comp=E,3.6nm,0.9s								
ZRNK	**Zerenda**	**17.02**	**355**	⇓P		**Pn**	**13 33 11.2**	**-0.8**	
	comp=E,2.1nm,0.8s								
BVA0	**Borovoye Array**	**17.03**	**358**	P		**Pn**	**13 33 14.4**	**+2.3**	
	comp=E,0.6nm,1.1s,baz=164,slow=14,SNR=13								
BVAR	**Borovoye Array**	**17.03**	**358**	P		**Pn**	**13 33 13.0**	**+0.9**	
	comp=E,0.5nm,0.3s,baz=173,slow=11,SNR=11								
BVAR	**Borovoye Array**	**17.03**	**358**	P		**Pn**	**13 33 13.0**	**+0.9**	
BRVK	**Borovoye**	**17.06**	**358**	*e*Pn		**Pn**	**13 33 12.4**	**-0.2**	
	comp=E,3.3nm,0.8s								
BRVK				*e*Sn		**Sn**	**13 36 17.3**	**-5.1**	
AKTO	**Aktyubinsk**	**17.35**	**330**	P		**Pn**	**13 33 17.0**	**+1.0**	
	comp=E,1.8nm,0.3s,baz=141,slow=9.7,SNR=40								
AKTO				S		Sn	13 36 16.1	-13	
	comp=E,0.9nm,0.3s,baz=338,slow=22,SNR=8.4								
AKTO	**Aktyubinsk**	**17.35**	**330**	⇓P		**Pn**	**13 33 16.7**	**+0.7**	
	comp=E,2.3nm,0.7s								
AKTO				⇓S		Sn	13 36 15.8	-14	
AKTO	**Aktyubinsk**	**17.35**	**330**	P		**Pn**	**13 33 17.0**	**+1.0**	
ZAA0	**Zalesovo Array**	**20.24**	**23**	*e*P		Pn	13 33 49.4	-0.7	
ZALV	**Zalesovo Beam**	**20.24**	**23**	P		Pn	13 33 49.0	-1.0	
	comp=E,1.9nm,0.4s,baz=218,slow=10,SNR=10								
ZALV	**Zalesovo Beam**	**20.24**	**23**	P		Pn	13 33 49.0	-1.0	
FINES	**FINESS Array B**	**38.05**	**326**	P		P	13 36 30.9	+3.0	
	comp=E,0.6nm,0.5s,baz=113,slow=13,SNR=4.8								
FINES	**FINESS Array B**	**38.05**	**326**	P		P	13 36 30.9	+3.0	
ARCES	**ARCESS Array B**	**41.71**	**338**	P		P	13 37 01.2	+3.1	
	comp=E,5.8nm,1.1s,baz=111,slow=7.3,SNR=20								
ARCES	**ARCESS Array B**	**41.71**	**338**	P		P	13 37 01.2	+3.1	
NB2	**NORSAR Subarra**	**44.95**	**323**	P		P	13 37 26.4	+2.2	
	comp=Z,0.6nm,0.4s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.95**	**323**	P		P	13 37 26.5	+2.2	
	comp=Z,0.7nm,0.7s,baz=102,slow=7.3,SNR=3.8								
NOA	**NORSAR Array B**	**44.95**	**323**	P		P	13 37 26.5	+2.2	
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P		P	13 39 57.0	+1.5	
	comp=Z,1.5nm,0.4s,baz=50,slow=6.1,SNR=31								
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P		P	13 39 57.0	+1.5	
YKA	**Yellowknife Ar**	**81.72**	**3**	P		P	13 41 30.2	+3.9	
	comp=Z,0.2nm,0.5s,baz=351,slow=5.8,SNR=7.0								
YKA	**Yellowknife Ar**	**81.72**	**3**	P		P	13 41 30.2	+3.9	

*NSSC **29** 13:29:32.3±3.5, 37.°96N×37.°27E, h116km±156km, ML2.3*
*CSEM **29** 13:29:33.6±0.2, 37.°94N×37.°32E, h10km, MD3.0, Error ellipse: s-maj=5.8km s-min=3.4km az=139.0*
*DDA **29** 13:29:33.0, 37.°98N×37.°26E, h7km, MD3.2*

ISK 29 13:29:31.9, 37.°97N×37.°30E, h5km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.56**	**215**	*e*PG	Pg	13 29 43.4	+0.7
KMRS				*e*SG	Sb	13 29 52.5	-0.1
KMRS	**Kahramanmaras**	**0.56**	**215**	*e*Pg	Pg	13 29 43.4	+0.7
KMRS				*e*Sg	Sb	13 29 52.5	-0.1
AKCD	**Akcadag**	**0.59**	**56**	*i* P	Pb	13 29 44.8	-0.2
AKCD				*i* S	Sb	13 29 54.1	+0.3
AKCD	**Akcadag**	**0.59**	**56**	*i* P	Pb	13 29 44.8	-0.2
AKCD				*i* S	Sb	13 29 54.1	+0.3
GZT	**Gaziantep**	**0.65**	**161**	*e*P	Pb	13 29 46.2	+0.3
GAZ	**Gaziantep**	**0.80**	**185**	*e*PG	Pb	13 29 49.0	+0.6
GAZ	**Gaziantep**	**0.80**	**185**	*e*Pg	Pb	13 29 49.0	+0.7
MALT	**Malatya**	**0.96**	**68**	*e*PG	Pb	13 29 51.1	0.0
MALT	**Malatya**	**0.96**	**68**	*e*Pg	Pb	13 29 51.2	+0.1
MYA	**Malatya**	**0.96**	**68**	*e*PG	Pb	13 29 51.3	+0.1
MYA	**Malatya**	**0.96**	**68**	*e*Pg	Pb	13 29 51.3	+0.1
DARE	**Darende-Malaty**	**1.06**	**22**	*e*PG	Pg	13 29 44.9	-7.6
DARE				*e*SG	Sg	13 29 54.9	-12
KUZU	**Kuzuini**	**1.20**	**189**	*e*P	Pn	13 29 56.9	+1.5
KUZU	**Kuzuini**	**1.20**	**189**	*e*P	Pn	13 29 56.9	+1.4
KOZT	**Kozan**	**1.26**	**248**	*e*PN	Pn	13 29 57.5	+1.2
KOZT	**Kozan**	**1.26**	**248**	*e*Pn	Pn	13 29 57.5	+1.2
URFA	**Urfa**	**1.32**	**113**	*e*PN	Pg	13 29 58.4	+1.1
URFA	**Urfa**	**1.32**	**113**	*e*Pn	Pg	13 29 58.4	+1.1
BNN	**Bunyan**	**1.44**	**308**	*e*PN	Pg	13 29 59.9	+0.1
BNN	**Bunyan**	**1.44**	**308**	*e*Pn	Pg	13 29 59.9	+0.1
SVRC	**Sivrice-ELAZID**	**1.64**	**75**	*e*PN	Pb	13 30 03.0	+0.2
SVRC	**Sivrice-ELAZID**	**1.64**	**75**	*e*Pn	Pb	13 30 03.0	+0.2
ILIC	**ilic-Erzincan**	**1.79**	**33**	*e*PN	Pb	13 30 05.7	+0.4
ILIC	**ilic-Erzincan**	**1.79**	**33**	*e*Pn	Pb	13 30 05.7	+0.4
PTK	**Pertek**	**1.89**	**60**	*e*PN	Pb	13 30 07.0	-0.2
PTK	**Pertek**	**1.89**	**60**	*e*Pn	Pb	13 30 07.0	-0.1
BTCH	**Batrach**	**2.04**	**199**	*e*P	Pn	13 30 06.7	-0.2
BTCH				*e*S	Sn	13 30 32.5	-0.4
BTCH				AML	AML	13 30 43.8	
	comp=Z,38nm,0.7s						
BTCH	**Batrach**	**2.04**	**199**	*e*P	Pn	13 30 06.7	-0.3
	SNR=47						
BTCH				*e*S	Sn	13 30 32.5	-0.4
	comp=Z,38nm,0.7s,SNR=49						
KSRV	**Kasrt alli**	**2.50**	**146**	*e*P	Pg	13 30 20.9	+1.0
KSRV				AML	AML	13 30 57.2	
	comp=Z,24nm,0.2s						
SFNV	**Sufian**	**2.73**	**124**	*e*P	Pn	13 30 17.5	+1.0
SFNV				*e*S	Sn	13 30 49.5	-0.4
SFNV	**Sufian**	**2.73**	**124**	*e*P	Pn	13 30 17.5	+1.0
	SNR=47						
SFNV				*e*S	Sn	13 30 49.5	-0.4
	SNR=49						
MZRK	**Al-Mazaregh**	**3.43**	**127**	*e*P	Pn	13 30 22.0	-4.1
MZRK				AML	AML	13 30 38.4	
	comp=Z,13nm,0.4s						
MZRK				*e*S	Sn	13 31 06.5	-0.7

*CSEM **29** 13:29:37.2, 37.°42N×32.°28E, h19km, MD2.7, After ISK*

ISK 29 13:29:37.2, 37.°42N×32.°28E, h19km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.53**	**7**	*e*PG	Pg	13 29 48.8	+0.8
KONT				*e*SG	Sb	13 29 56.2	+1.0
KONT	**Konya--Tatoy**	**0.53**	**7**	*e*Pg	Pg	13 29 48.8	+0.8
KONT				*e*Sg	Sb	13 29 56.3	+1.0
LADK	**Ladik-KONYA**	**0.78**	**5**	*e*PG	Pb	13 29 52.6	+0.1
LADK				*e*SG	Sn	13 30 04.3	-0.5
LADK	**Ladik-KONYA**	**0.78**	**5**	*e*Pg	Pb	13 29 52.6	+0.2
LADK				*e*Sg	Sn	13 30 04.3	-0.5
SUTC	**Sutluce-Ispart**	**1.02**	**274**	*e*PG	Pg	13 29 57.3	-0.1
SUTC				*e*SG	Sg	13 30 11.7	+0.7
SUTC	**Sutluce-Ispart**	**1.02**	**274**	*e*Pg	Pg	13 29 57.3	0.0
SUTC				*e*Sg	Sg	13 30 11.7	+0.8
SULT	**Sultanhani-AKS**	**1.25**	**51**	*e*PN	Pb	13 30 00.3	0.0
SULT	**Sultanhani-AKS**	**1.25**	**51**	*e*Pn	Pb	13 30 00.3	0.0
KIZT	**Kizilcal**	**1.50**	**348**	*e*PN	Pn	13 30 02.9	-0.3
KIZT	**Kizilcal**	**1.50**	**348**	*e*Pn	Pn	13 30 02.9	-0.3
NIG	**Nigde**	**1.97**	**69**	*e*PN	Pn	13 30 10.2	+0.3
NIG	**Nigde**	**1.97**	**69**	*e*Pn	Pn	13 30 10.2	+0.3

*IDC **29** 13:31:09.9±0.5, 13.°19N×126.°07E, h0km, mb4.3/22, mb1 4.5/24, mb1mx4.5/26, mbtmp4.4/24, ML4.6/2, MS3.3/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=19.9km s-min=12.0km az=77.0*
*ISCJB **29** 13:31:11.0±2.4, 13.°20N±0.°04×125.°98E±0.°05, h15km±15km, mb4.6/52, MS3.2/3, Error ellipse: s-maj=8.7km s-min=5.9km az=149.9*
*BJI **29** 13:31:11.2, 13.°11N×126.°10E, h14km, mB4.7/5, mb4.4/28, Ms4.1/2, Ms7 4.0/1*
*MAN **29** 13:31:14, 13.°30N×125.°78E, h33km, mb5.1, ML4.1, MS4.2*
*NEIC **29** 13:31:15.6±1.2, 13.°20N×126.°03E, h38km±11km, mb4.9/24, Error ellipse: s-maj=6.6km s-min=4.5km az=63.0*
*DJA **29** 13:31:22, 13.°27N×126.°00E, h93km, mb4.8/10*

ISC 29 13:31:14.7±0.6, 13.°25N±0.°05×125.°92E±0.°06, h30km±4km, n128, σ1°18/138, mb4.6/52, MS3.2/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**2.53**	**210**	*e*P	Pb	13 32 07.2	+7.7
AUQP	**San Andres**	**3.15**	**272**	*e*P	**Pn**	**13 32 03.4**	**+1.1**
MSLP	**Maasin**	**3.26**	**199**	*e*P	**Pn**	**13 32 04.1**	**+0.3**
GQP	**Guinayangan**	**3.44**	**281**	*e*P	**Pn**	**13 32 03.9**	**-2.4**
GQP				*e*S	**Sn**	**13 32 43.1**	**-2.9**
OTRP	**Odiongan**	**3.90**	**257**	*e*P	**Pn**	**13 32 12.3**	**-0.2**
BOAC	**Boac**	**3.97**	**274**	*e*P	**Pn**	**13 32 13.3**	**-0.2**
GUIM	**Jordan**	**4.17**	**232**	*e*P	**Pn**	**13 32 16.5**	**+0.2**
BALP	**Baler**	**4.88**	**301**	*e*P	**Pn**	**13 32 23.3**	**-2.8**
TGY	**Tagaytay City**	**4.91**	**281**	Pn	**Pn**	**13 32 27.5**	**+0.9**
	46nm,0.3s,baz=118,slow=6.7,SNR=6.1						
TGY	**Tagaytay City**	**4.91**	**281**	Pn	**Pn**	**13 32 27.5**	**+0.9**
PCPH	**Palayan**	**5.21**	**297**	*e*P	**Pn**	**13 32 27.7**	**-2.8**
CUYO	**Cuyo Island**	**5.35**	**244**	*e*P	**Pn**	**13 32 33.2**	**+0.6**
CAUP	**Cauayan**	**5.40**	**313**	*e*P	**Pn**	**13 32 32.8**	**-0.4**
SCZP	**Santa Cruz**	**6.33**	**294**	*e*P	**Pn**	**13 32 45.8**	**-0.3**
BOLP	**Bolinao**	**6.59**	**299**	*e*P	**Pn**	**13 32 47.8**	**-1.7**
ABRA	**Dolores**	**6.66**	**312**	*e*P	**Pn**	**13 32 50.9**	**+0.4**
QIZ	**Qiongzhong**	**16.47**	**293**	P	**Pn**	**13 35 01.5**	**-2.2**
QIZ				pP	**pP**	**13 35 13.0**	**-1.2**
QIZ				sP	**sP**	**13 35 18.8**	**+0.7**
QIZ				S	**Sn**	**13 38 04.3**	**-1.4**
QIZ				pmax	pmax		
	comp=Z,140nm,3.2s						
QIZ				LR	LR		
	comp=Z,190nm,17.6s						
GUMO	**Guam**	**18.44**	**87**	LR	LR	13 41 00.4	
	comp=Z,108nm,18.2s,baz=358,slow=32						
KAPI	**Kappang**	**19.15**	**199**	P	**P**	**13 35 35.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=61,slow=12,SNR=3.1						
KAPI	**Kappang**	**19.15**	**199**	P	**P**	**13 35 35.3**	**-0.4**
KAPI				*e*P	**Pn**	**13 35 36.9**	**+0.2**
WHN	**Wuhan**	**20.26**	**330**	*e*P	Pn	13 35 53.0	+3.2
JNU	**Nakatsue**	**20.30**	**12**	P	**P**	**13 35 48.6**	**+0.4**
	comp=Z,14nm,0.9s,baz=164,slow=9.6,SNR=4.6						
JNU	**Nakatsue**	**20.30**	**12**	P	**P**	**13 35 48.6**	**+0.4**
ENH	**Enshi**	**22.75**	**321**	*e*P	**P**	**13 36 17.4**	**+2.9**
	comp=Z,13nm,1.1s						
KSAR	**Wonju Array Be**	**24.16**	**4**	P	**P**	**13 36 29.6**	**+1.4**
KSAR				PcP	**PcP**	**13 40 08.5**	**-0.2**
KSRS	**Korea Array**	**24.17**	**4**	P	**P**	**13 36 29.6**	**+1.3**
	comp=Z,7.9nm,0.9s,baz=181,slow=10,SNR=32						
KSRS				PcP	**PcP**	**13 40 08.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=194,slow=2.6,SNR=4.6						
KMI	**Kunming**	**24.82**	**302**	P	**P**	**13 36 37.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MJAR	**Matsushiro Arr**	**25.69**	**23**	P	**P**	**13 36 40.9**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=198,slow=9.8,SNR=6.9						
MJAR				LR	LR	13 45 12.4	
	comp=Z,46nm,20.9s,baz=235,slow=33						
MJAR	**Matsushiro Arr**	**25.69**	**23**	P	**P**	**13 36 40.9**	**-1.3**
XAN	**Xi'an**	**25.82**	**326**	P	**P**	**13 36 43.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,17nm,6.2s						
CM31	**Chiang Mai Arr**	**26.44**	**285**	*e*P	**P**	**13 36 49.4**	**+0.2**
	comp=Z,7.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.44**	**285**	P	**P**	**13 36 50.1**	**+0.9**
	comp=Z,10nm,0.7s,baz=98,slow=7.5,SNR=55						
CMAR				LR	LR	13 47 36.3	
	comp=Z,60nm,18.1s,baz=138,slow=37						
CMAR	**Chiang Mai Arr**	**26.44**	**285**	P	**P**	**13 36 50.1**	**+0.9**
CHTO	**Chiang Mai**	**26.49**	**286**	*e*P	**P**	**13 36 51.5**	**+1.8**
	comp=Z,43nm,2.1s						
LZH	**Lanzhou**	**30.18**	**323**	*e*P	**P**	**13 37 25.0**	**+2.4**
LZH				pP	**pP**	**13 37 30.0**	**-1.4**
LZH				sP	**sP**	**13 37 32.0**	**-3.1**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
USRK	**Ussuriysk Arra**	**31.28**	**8**	P	**P**	**13 37 32.8**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=198,slow=9.5,SNR=7.3						
WRA	**Warramunga Arr**	**34.01**	**166**	P	**P**	**13 37 54.2**	**-1.9**
	comp=Z,4.9nm,0.9s,baz=344,slow=10.0,SNR=14						
WRA				PcP	**PcP**	**13 40 32.9**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=340,slow=3.2,SNR=4.6						
WRA	**Warramunga Arr**	**34.01**	**166**	P	**P**	**13 37 54.2**	**-1.9**
WRA				PcP	**PcP**	**13 40 32.9**	**-0.8**
GTA	**Gaotai**	**34.77**	**323**	*e*P	**P**	**13 38 04.0**	**+1.3**
GTA				pP	**pP**	**13 38 13.5**	**+1.9**
GTA				sP	**sP**	**13 38 18.0**	**+2.7**
GTA				PcP	**PcP**	**13 40 37.5**	**+1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
LSA	**Lhasa**	**36.08**	**303**	*e*P	**P**	**13 38 16.9**	**+2.5**
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**37.51**	**168**	*e*P	**P**	**13 38 25.1**	**-1.0**
ASAR	**Alice Springs**	**37.51**	**168**	P	**P**	**13 38 25.4**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=350,slow=7.4,SNR=33						
ASAR	**Alice Springs**	**37.51**	**168**	P	**P**	**13 38 25.4**	**-0.8**
ULN	**Ulaanbaatar**	**37.93**	**339**	*e*P	**P**	**13 38 30.9**	**+1.3**
	comp=Z,7.9nm,0.9s						
SONM	**Songino Array**	**38.13**	**339**	P	**P**	**13 38 32.4**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=156,slow=9.2,SNR=35						
SONM				LR	LR	13 54 22.2	
	comp=Z,57nm,19.0s,baz=346,slow=36						
SONM	**Songino Array**	**38.13**	**339**	P	**P**	**13 38 32.4**	**+1.2**
TAPN	**Taplejung**	**38.31**	**297**	*e*P	**P**	**13 38 34.4**	**+1.1**
	comp=Z,29nm,1.2s						
TAPN	**Taplejung**	**38.31**	**297**	*e*P	**P**	**13 38 34.4**	**+1.1**
	comp=Z,29nm,1.2s						
ODAN	**Odare**	**38.48**	**297**	*e*P	**P**	**13 38 35.9**	**+1.3**
	comp=Z,42nm,0.9s						
ODAN	**Odare**	**38.48**	**297**	*e*P	**P**	**13 38 35.9**	**+1.3**
	comp=Z,42nm,0.9s						
RAMN	**Ramite**	**39.19**	**296**	*e*P	**P**	**13 38 41.7**	**+1.2**
	comp=Z,26nm,0.8s						
RAMN	**Ramite**	**39.19**	**296**	*e*P	**P**	**13 38 41.7**	**+1.2**
	comp=Z,26nm,0.8s						
JIRN	**Jiri**	**39.70**	**297**	*e*P	**P**	**13 38 46.2**	**+1.3**
	comp=Z,18nm,0.6s						
JIRN	**Jiri**	**39.70**	**297**	*e*P	**P**	**13 38 46.2**	**+1.3**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**40.02**	**298**	*e*P	**P**	**13 38 48.8**	**+1.2**
	comp=Z,30nm,0.7s						
GUN	**Gumba**	**40.02**	**298**	*e*P	**P**	**13 38 48.8**	**+1.2**
	comp=Z,30nm,0.7s						
PKI	**Pulchoki**	**40.35**	**297**	*e*P	**P**	**13 38 51.1**	**+0.8**
PKI	**Pulchoki**	**40.35**	**297**	*e*P	**P**	**13 38 51.1**	**+0.8**
KKN	**Kakani**	**40.51**	**297**	*e*P	**P**	**13 38 52.3**	**+0.8**
KKN	**Kakani**	**40.51**	**297**	*e*P	**P**	**13 38 52.3**	**+0.8**
DMN	**Daman**	**40.62**	**297**	*e*P	**P**	**13 38 53.3**	**+0.8**
DMN	**Daman**	**40.62**	**297**	*e*P	**P**	**13 38 53.3**	**+0.8**
GKN	**Gorkha**	**41.11**	**297**	*e*P	**P**	**13 38 56.9**	**+0.5**
	comp=Z,25nm,1.1s						
GKN	**Gorkha**	**41.11**	**297**	*e*P	**P**	**13 38 56.9**	**+0.5**
	comp=Z,25nm,1.1s						
KWAJ	**Kwajalein Atol**	**41.13**	**92**	*e*P	**P**	**13 38 55.6**	**-0.9**
	comp=Z,966nm,2.0s						
DANN	**Dangsing**	**41.94**	**298**	*e*P	**P**	**13 39 04.2**	**+0.8**
	comp=Z,33nm,1.0s						
DANN	**Dangsing**	**41.94**	**298**	*e*P	**P**	**13 39 04.2**	**+0.8**
	comp=Z,33nm,1.0s						
KOLN	**Koldanda**	**41.97**	**297**	*e*P	**P**	**13 39 04.1**	**+0.6**
	comp=Z,22nm,0.7s						
KOLN	**Koldanda**	**41.97**	**297**	*e*P	**P**	**13 39 04.1**	**+0.6**
	comp=Z,22nm,0.7s						
TLY	**Talaya**	**42.34**	**339**	*e*P	**P**	**13 39 07.2**	**+1.3**
	comp=Z,5.3nm,0.9s						
QLP

HUIG	**Huatulco**	**2.13 215**	*e*P	Pn	14 02 49.0	-2.2
HUIG			*i* S	Sn	14 03 18.0	-1.2
PCIG		**2.40 139**	*i* P	Pn	14 02 53.9	-0.6
PCIG			*i* S	Sn	14 03 23.8	-1.2
TPIG	**Tehuac#an**	**2.55 291**	*i* P	Pn	14 02 55.4	-1.1
TPIG			*i* S	Sn	14 03 27.1	-1.6
UTMO	**Huajuapan**	**2.83 276**	*i* P	Pn	14 02 59.3	-0.8
UTMO			*i* S	Sn	14 03 32.9	-2.2
CCIG	**Comitan**	**2.88 115**	*i* P	Pn	14 03 00.2	-0.6
CCIG			*i* S	Sn	14 03 34.5	-1.7
PNIG	**Pinotepa**	**3.33 251**	*e*P	Pn	14 03 03.4	-2.9
PNIG			*i* S	Sn	14 03 44.0	-2.1

IDC ***29*** *14:04:32.4±1.4, 15°.64S×178°.34W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/17, mbtmp3.9/9, MS3.9/18, Ms1 3.9/18, ms1mx3.8/35, Error ellipse: s-maj=83.3km s-min=20.1km az=148.0*

NEIC ***29*** *14:04:34.7±10.0, 15°.64S×178°.39W, h15km±63km, mb4.4/1, Error ellipse: s-maj=52.2km s-min=17.6km az=153.0*

ISCJB ***29*** *14:04:35.9±1.0, 15°.8S±0°.3×178°.4W±0°.2, h33km, mb3.9/10, MS3.9/16, Error ellipse: s-maj=53.0km s-min=8.7km az=145.4*

ISC 29 14:04:37.5±1.1, 15°.8S±0°.3×178°.4W±0°.2, h35km, n48, σ1§13/31, mb4.0/10, MS3.9/16, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.95**	**240**	*e*Pn	**Pn**	**14 05 35.5**	**-0.2**
MSVF				*e*Sn	**Sn**	**14 06 20.4**	**-0.6**
AFI	**Afiamalu**	**6.63**	**75**	LR	LR	14 07 59.4	
	comp=Z,1μm,20.0s,baz=79,slow=32						
DZM	**Mont Dzumac**	**15.68**	**244**	*e*LR	LR	14 11 53.3	
	898nm,25.7s						
RAR	**Rarotonga**	**18.43**	**110**	LR	LR	14 13 32.7	
	comp=Z,869nm,21.1s,baz=279,slow=29						
PPT2	**Papeete2**	**27.62**	**98**	*e*LR	LR	14 16 52.1	
	913nm,27.5s,baz=261						
TBI	**Tubuai**	**28.21**	**110**	*e*LR	LR	14 17 01.5	
	1μm,29.0s,baz=282						
RPZ	**Rata Peaks**	**29.27**	**196**	LR	LR	14 21 33.0	
	comp=Z,380nm,19.3s,baz=40,slow=35						
CTA	**Charters Tower**	**33.90**	**257**	LR	LR	14 23 31.9	
	comp=Z,386nm,19.0s,baz=83,slow=34						
STKA	**Stephens Creek**	**39.73**	**239**	P	**P**	**14 12 07.3**	**+0.5**
	2.8nm,0.9s,baz=127,slow=3.5,SNR=4.8						
STKA				LR	LR	14 27 07.1	
	comp=Z,170nm,20.4s,baz=215,slow=34						
STKA	**Stephens Creek**	**39.73**	**239**	P	**P**	**14 12 07.3**	**+0.5**
RKT	**Rikitea**	**41.44**	**107**	*e*LR	LR	14 23 06.5	
	689nm,28.2s,baz=283						
WRA	**Warramunga Arr**	**45.10**	**257**	P	**P**	**14 12 51.3**	**+0.6**
	1.4nm,1.1s,baz=92,slow=7.8,SNR=6.2						
WRA				LR	LR	14 29 32.8	
	comp=Z,141nm,20.9s,baz=65,slow=33						
WRA	**Warramunga Arr**	**45.10**	**257**	P	**P**	**14 12 51.3**	**+0.6**
AS31	**Alice Springs**	**45.45**	**252**	*e*P	**P**	**14 12 52.6**	**-0.8**
ASAR	**Alice Springs**	**45.45**	**252**	P	**P**	**14 12 53.5**	**0.0**
	2.8nm,0.6s,baz=84,slow=8.7,SNR=59						
ASAR	**Alice Springs**	**45.45**	**252**	P	**P**	**14 12 53.5**	**0.0**
FITZ	**Fitzroy Crossi**	**53.45**	**259**	LR	LR	14 35 20.4	
	comp=Z,301nm,19.8s,baz=99,slow=34						
MJAR	**Matsushiro Arr**	**66.24**	**323**	LR	LR	14 39 08.4	
	comp=Z,73nm,21.7s,baz=90,slow=31						
PETK	**Petropavlovsk-**	**77.84**	**345**	LR	LR	14 39 42.0	
	comp=Z,43nm,21.9s,baz=267,slow=30						
KSRS	**Korea Array**	**73.16**	**318**	LR	LR	14 41 51.7	
	comp=Z,63nm,21.1s,baz=135,slow=31						
QSPA	**South Pole Qui**	**74.27**	**180**	LR	LR	14 43 45.9	
	comp=Z,82nm,19.9s,baz=158,slow=32						
USRK	**Ussuriysk Arra**	**74.89**	**325**	LR	LR	14 44 40.6	
	comp=Z,58nm,19.9s,baz=128,slow=32						
NVAR	**Mina Array Bea**	**77.86**	**44**	P	**P**	**14 16 32.3**	**+0.4**
	1.6nm,0.9s,baz=221,slow=7.1,SNR=5.3						
NVAR	**Mina Array Bea**	**77.86**	**44**	P	**P**	**14 16 32.3**	**+0.4**
ENH	**Enshi**	**83.13**	**304**	*e*P	**P**	**14 16 59.4**	**-0.8**
	2.6nm,1.0s						
ILAR	**Eielson Array**	**83.81**	**13**	P	**P**	**14 17 00.7**	**-2.1**
	1.1nm,0.9s,baz=219,slow=6.8,SNR=6.8						
ILAR				LR	LR	14 46 44.8	
	comp=Z,61nm,21.2s,baz=189,slow=30						
ILAR	**Eielson Array**	**83.81**	**13**	P	**P**	**14 17 00.7**	**-2.1**
TXAR	**Lajitas Array**	**84.82**	**58**	P	**P**	**14 17 08.3**	**-0.6**
	0.5nm,0.8s,baz=215,slow=6.1,SNR=5.1						
TXAR	**Lajitas Array**	**84.82**	**58**	P	**P**	**14 17 08.3**	**-0.6**
PDAR	**Pinedale Array**	**85.78**	**44**	P	**P**	**14 17 13.7**	**+0.1**
	0.6nm,0.8s,baz=237,slow=5.1,SNR=4.0						
PDAR				LR	LR	14 50 07.7	
	comp=Z,48nm,18.2s,baz=254,slow=32						
PDAR	**Pinedale Array**	**85.78**	**44**	P	**P**	**14 17 13.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**88.22**	**290**	LR	LR	14 54 52.1	
	comp=Z,69nm,19.3s,baz=294,slow=34						
USHA	**Ushuaia**	**88.25**	**147**	LR	LR	14 47 55.7	
	comp=Z,81nm,18.8s,baz=307,slow=30						
SONM	**Songino Array**	**91.98**	**319**	P	**P**	**14 17 43.8**	**+1.1**
	0.2nm,0.7s,baz=104,slow=6.1,SNR=2.3						
SONM	**Songino Array**	**91.98**	**319**	P	**P**	**14 17 43.8**	**+1.1**
YKA	**Yellowknife Ar**	**92.39**	**25**	P	**P**	**14 17 45.3**	**+1.3**
	0.7nm,1.1s,baz=252,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**92.39**	**25**	P	**P**	**14 17 45.4**	**+1.3**
PLCA	**Paso Flores**	**92.76**	**134**	LR	LR	14 50 09.3	
	comp=Z,69nm,18.5s,baz=234,slow=30						
CFAA	**Coronel Fontan**	**98.14**	**126**	LR	LR	14 52 39.7	
	comp=Z,8.4nm,18.4s,baz=63,slow=29						
BRTR	**Keskin Array B**	**143.30**	**317**	PKP	**PKPdf**	**14 24 08.7**	**+0.1**
	2.0nm,1.0s,baz=116,slow=2.9,SNR=4.5						
BRTR	**Keskin Array B**	**143.30**	**317**	PKP	**PKPdf**	**14 24 08.7**	**+0.1**
MLR	**Muntele Rosu**	**144.03**	**330**	PKP	**PKPdf**	**14 24 10.3**	**+0.7**
	0.3nm,0.5s,baz=247,slow=12,SNR=2.9						
MLR	**Muntele Rosu**	**144.03**	**330**	PKP	**PKPdf**	**14 24 10.3**	**+0.7**
DRGR		**144.45**	**335**	⇑*i*P	**PKPdf**	**14 24 10.7**	**+0.4**
VOIR		**144.49**	**331**	⇑*i*P	**PKPdf**	**14 24 13.8**	**+3.4**
PSZ	**Piszkesteto**	**144.59**	**339**	⇑*i*P	**PKPdf**	**14 24 12.2**	**+1.7**
GERES	**GERESS Array B**	**145.57**	**346**	PKPbc	**PKPdf**	**14 24 11.4**	**-0.7**
	0.5nm,0.7s,baz=117,slow=0.3,SNR=4.9						
GERES	**GERESS Array B**	**145.57**	**346**	PKPbc	**PKPdf**	**14 24 11.4**	**-0.7**

ISCJB ***29*** *14:15:53.5±0.5, 39°.98N±0°.03×28°.09E±0°.03, h2km±5km, Error ellipse: s-maj=4.4km s-min=3.5km az=25.9*

CSEM ***29*** *14:15:53.7±0.1, 39°.98N×28°.08E, h8km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.4km az=27.0*

DDA ***29*** *14:15:53.7, 39°.97N×28°.11E, h7km, MD2.8*

ISK ***29*** *14:15:53.2, 39°.97N×28°.08E, h8km, MD2.7*

ISC 29 14:15:53.9±1.0, 39°.98N±0°.02×28°.08E±0°.02, h6km±10km, n42, σ0§63/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.31**	**283**	*e*PG	**Pg**	**14 15 59.2**	**-0.8**
GONE				*e*SG	**Sg**	**14 16 04.9**	**+0.8**
GONE	**Gonen-Balikesi**	**0.31**	**283**	*e*Pg	**Pg**	**14 15 59.2**	**-0.8**
GONE				*e*Sg	**Sg**	**14 16 04.9**	**+0.8**
KCTX	**Karacabey (Bur**	**0.35**	**36**	*e*PG	**Pg**	**14 15 59.9**	**-0.9**
KCTX				*e*SG	**Sg**	**14 16 05.4**	**-0.1**
KCTX	**Karacabey (Bur**	**0.35**	**36**	*e*Pg	**Pg**	**14 15 59.9**	**-0.9**
KCTX				*e*Sg	**Sg**	**14 16 05.4**	**-0.1**
BALB	**Balikesir**	**0.37**	**205**	*e*PG	**Pg**	**14 16 00.8**	**-0.3**
BALB	**Balikesir**	**0.37**	**205**	*e*Pg	**Pg**	**14 16 00.8**	**-0.3**
EDC	**Edincik**	**0.41**	**335**	*e*PG	**Pg**	**14 16 01.4**	**-0.4**
EDC	**Edincik**	**0.41**	**335**	*e*Pg	**Pg**	**14 16 01.4**	**-0.4**
BALY	**Balya**	**0.43**	**237**	*i* P	**Pg**	**14 16 01.0**	**-1.2**
BALY				*i* S	**Sg**	**14 16 09.1**	**+1.3**
BALY	**Balya**	**0.43**	**237**	*i* P	**Pg**	**14 16 01.0**	**-1.2**
BALY				*i* S	**Sg**	**14 16 09.1**	**+1.3**
DURS	**Dursunbey**	**0.48**	**141**	*i* P	**Pg**	**14 16 02.6**	**-0.6**
DURS				*i* S	**Sg**	**14 16 09.9**	**+0.5**
DURS	**Dursunbey**	**0.48**	**141**	*i* P	**Pg**	**14 16 02.6**	**-0.6**
DURS				*i* S	**Sg**	**14 16 09.9**	**+0.5**
ORLT	**Orhaneli**	**0.63**	**84**	*e*PG	**Pg**	**14 16 06.3**	**+0.3**
ORLT	**Orhaneli**	**0.63**	**84**	*e*Pg	**Pg**	**14 16 06.3**	**+0.3**
ULDT	**Uludag**	**0.82**	**78**	*i* P	**Pg**	**14 16 09.4**	**-0.3**
ULDT				*i* S	**Sg**	**14 16 21.0**	**+0.6**
ULDT	**Uludag**	**0.82**	**78**	*i* P	**Pg**	**14 16 09.4**	**-0.3**
ULDT				*i* S	**Sg**	**14 16 21.0**	**+0.6**
ARMT	**Armutlu**	**0.84**	**45**	*e*PG	**Pb**	**14 16 10.7**	**-0.1**
ARMT	**Armutlu**	**0.84**	**45**	*e*Pg	**Pb**	**14 16 10.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.99**	**316**	*e*PG	**Pb**	**14 16 13.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.99**	**316**	*e*Pg	**Pb**	**14 16 13.6**	**+0.2**
SART	**Tekirdag**	**0.99**	**316**	*i* P	**Pg**	**14 16 12.4**	**-0.5**
SART				*i* S	**Sb**	**14 16 27.7**	**+0.9**
SART	**Tekirdag**	**0.99**	**316**	*i* P	**Pg**	**14 16 12.4**	**-0.5**
SART				*i* S	**Sb**	**14 16 27.7**	**+0.9**
MFT	**Murefte**	**1.01**	**323**	*e*PG	**Pg**	**14 16 13.5**	**+0.2**
MFT	**Murefte**	**1.01**	**323**	*e*Pg	**Pg**	**14 16 13.5**	**+0.2**
DEMI	**Demirci**	**1.05**	**152**	*i* P	**Pg**	**14 16 14.1**	**0.0**
DEMI				*i* S	**Sg**	**14 16 28.0**	**+0.2**
DEMI	**Demirci**	**1.05**	**152**	*i* P	**Pg**	**14 16 14.1**	**0.0**
DEMI				*i* S	**Sg**	**14 16 28.0**	**+0.2**
LPK	**Lapseki**	**1.09**	**292**	*e*PN	**Pb**	**14 16 15.2**	**+0.2**
LPK	**Lapseki**	**1.09**	**292**	*e*Pn	**Pb**	**14 16 15.2**	**+0.2**
YLV	**Yalova**	**1.15**	**59**	*e*PN	**Pg**	**14 16 15.7**	**-0.2**
YLV	**Yalova**	**1.15**	**59**	*e*Pn	**Pg**	**14 16 15.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.30**	**289**	*e*PN	**Pn**	**14 16 18.2**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.30**	**289**	*e*Pn	**Pn**	**14 16 18.2**	**-0.3**
EZN	**Ezine**	**1.36**	**264**	*e*PN	**Pn**	**14 16 18.6**	**-0.7**
EZN	**Ezine**	**1.36**	**264**	*e*Pn	**Pn**	**14 16 18.6**	**-0.7**
CAVI	**Cavuskoy**	**1.37**	**80**	*e*PN	**Pb**	**14 16 19.7**	**-0.1**
CAVI	**Cavuskoy**	**1.37**	**80**	*e*Pn	**Pb**	**14 16 19.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.39**	**300**	*e*PN	**Pn**	**14 16 19.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.39**	**300**	*e*Pn	**Pn**	**14 16 19.6**	**-0.1**
GDZ	**Gediz**	**1.40**	**129**	*i* P	**Pn**	**14 16 19.5**	**-0.5**
GDZ				*i* S	**Sg**	**14 16 40.3**	**+1.5**
GDZ	**Gediz**	**1.40**	**129**	*i* P	**Pn**	**14 16 19.5**	**-0.5**
GDZ				*i* S	**Sg**	**14 16 40.3**	**+1.5**
MANT	**Manisa**	**1.53**	**166**	*i* P	**Pb**	**14 16 22.6**	**-0.1**
MANT				*i* S	**Sn**	**14 16 41.5**	**-0.7**
MANT	**Manisa**	**1.53**	**166**	*i* P	**Pb**	**14 16 22.6**	**-0.1**
MANT				*i* S	**Sn**	**14 16 41.5**	**-0.7**

ISCJB ***29*** *14:24:41.4±1.0, 40°.31N±0°.03×25°.51E±0°.06, h6km±5km, Error ellipse: s-maj=7.8km s-min=4.9km az=22.8*

ISK ***29*** *14:24:41.8, 40°.26N×25°.55E, h12km, MD2.7*

ATH ***29*** *14:24:41.6, 40°.33N×25°.44E, h32km±3km, MD2.9/3*

DDA ***29*** *14:24:42.6, 40°.32N×25°.64E, h7km, MD2.9*

CSEM ***29*** *14:24:42.3±0.3, 40°.28N×25°.56E, h2km, MD2.9, Error ellipse: s-maj=7.4km s-min=4.5km az=120.0*

ISC 29 14:24:42.6±1.1, 40°.30N±0°.03×25°.58E±0°.03, h9km±10km, n27, σ0§44/43, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.51**	**217**	*e*PB	**Pg**	**14 24 52.1**	**-0.4**
LIA				*e*SB	**Sg**	**14 24 59.7**	**+0.6**
LIA	**Limnos Island**	**0.51**	**217**	*e*Pb	**Pg**	**14 24 52.1**	**-0.4**
LIA				*e*Sb	**Sg**	**14 24 59.7**	**+0.6**
BOZC	**Bozcaada**	**0.59**	**142**	*i* P	**Pg**	**14 24 54.3**	**+0.3**
BOZC				*i* S	**Sg**	**14 25 02.3**	**+0.6**
ENEZ	**Enez**	**0.61**	**45**	*e*PG	**Pb**	**14 24 55.0**	**-0.5**
ENEZ				*e*SG	**Sb**	**14 25 04.9**	**+0.6**
ENEZ	**Enez**	**0.61**	**45**	*e*Pg	**Pb**	**14 24 55.0**	**-0.5**
ENEZ				*e*Sg	**Sb**	**14 25 04.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.69**	**82**	*e*PG	**Pb**	**14 24 56.6**	**-0.1**
GELI				*e*SG	**Sb**	**14 25 06.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.69**	**82**	*e*Pg	**Pb**	**14 24 56.7**	**-0.1**
GELI				*e*Sg	**Sb**	**14 25 06.7**	**+0.3**
ALN	**Alexandroupoli**	**0.69**	**31**	⇑*i*PN	**Pb**	**14 24 56.3**	**-0.5**
ALN				*e*SN	**Sb**	**14 25 06.6**	**+0.2**
ALN	**Alexandroupoli**	**0.69**	**31**	⇑*i*Pn	**Pb**	**14 24 56.3**	**-0.5**
ALN				*e*Sn	**Sb**	**14 25 06.6**	**+0.2**
EZN	**Ezine**	**0.74**	**130**	*e*PG	**Pg**	**14 24 56.5**	**-0.5**
EZN				*e*SG	**Sg**	**14 25 06.8**	**+0.1**
EZN	**Ezine**	**0.74**	**130**	*e*Pg	**Pg**	**14 24 56.5**	**-0.5**
EZN				*e*Sg	**Sg**	**14 25 06.8**	**+0.1**
ERIK	**Erikli-Kesan**	**0.80**	**62**	*e*PG	**Pg**	**14 24 58.0**	**0.0**
ERIK	**Erikli-Kesan**	**0.80**	**62**	*e*Pg	**Pg**	**14 24 58.1**	**0.0**
LPK	**Lapseki**	**0.90**	**85**	*e*PG	**Pg**	**14 25 00.0**	**0.0**
LPK	**Lapseki**	**0.90**	**85**	*e*Pg	**Pg**	**14 25 00.0**	**0.0**
PRK	**Paraskevi**	**1.18**	**153**	*e*PN	**Pb**	**14 25 04.9**	**-0.3**
PRK				*e*SN	**Sn**	**14 25 21.6**	**+0.1**
PRK	**Paraskevi**	**1.18**	**153**	*e*Pn	**Pb**	**14 25 04.9**	**-0.3**
PRK				*e*Sn	**Sn**	**14 25 21.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.28**	**72**	*e*PN	**Pn**	**14 25 06.4**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.28**	**72**	*e*Pn	**Pn**	**14 25 06.4**	**-0.3**
SART	**Tekirdag**	**1.28**	**72**	*i* P	**Pn**	**14 25 05.6**	**-1.1**
SART				*i* S	**Sn**	**14 25 24.1**	**+0.1**
SART	**Tekirdag**	**1.28**	**72**	*i* P	**Pn**	**14 25 05.6**	**-1.1**
GONE	**Gonen-Balikesi**	**1.63**	**98**	*e*PN	**Pn**	**14 25 11.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.63**	**98**	*e*Pn	**Pn**	**14 25 11.8**	**+0.3**
BALY	**Balya**	**1.66**	**109**	*i* P	**Pb**	**14 25 13.1**	**-0.3**
BALY				*i* S	**Sg**	**14 25 36.0**	**-0.1**
BALY	**Balya**	**1.66**	**109**	*i* P	**Pb**	**14 25 13.1**	**-0.3**
BALY				*i* S	**Sg**	**14 25 36.0**	**-0.1**
EDRB	**Edirne**	**1.77**	**29**	*e*PN	**Pn**	**14 25 13.9**	**+0.4**
EDRB	**Edirne**	**1.77**	**29**	*e*Pn	**Pn**	**14 25 13.9**	**+0.4**

ISCJB ***29*** *14:31:45.3±0.8, 26°.30S±0°.04×178°.68W±0°.09, h311km±8km, mb4.6/43, Error ellipse: s-maj=12.4km s-min=6.2km az=176.9*

BJI ***29*** *14:31:46.0, 26°.30S×178°.00W, h339km, mB4.8/14, mb4.4/24*

NEIC ***29*** *14:31:48.5±0.3, 26°.29S×178°.66W, mb4.7/17, Error ellipse: s-maj=9.9km s-min=7.7km az=96.0*

IDC ***29*** *14:31:49.3±0.9, 26°.16S×178°.65W, h334km±8km, mb4.2/22, mb1 4.3/22, mb1mx4.2/24, mbtmp4.2/22, Error ellipse: s-maj=12.4km s-min=12.2km az=46.0*

ISC 29 14:31:49.1±0.5, 26°.40S±0°.05×178°.62W±0°.08, h340km±3km, h339km; pP-P, n187, σ1§61/214, mb4.6/42, 4C-8D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.16**	**340**	*e*Pn	**Pn**	**14 33 54.1**	**-3.0**
OUZ	**Omahuta**	**11.05**	**215**	*e*Pn	**P**	**14 34 21.0**	**+0.5**
MXZ	**Matakaoa Point**	**11.44**	**192**	PN	**Pn**	**14 34 24.3**	**+0.2**
MXZ				SN	**S**	**14 36 29.4**	**-2.5**
MXZ				SN		14 36 30.1	
PUZ	**Puketiti**	**11.94**	**192**	PN	**Pn**	**14 34 27.3**	**-2.8**
PUZ				SN	**S**	**14 36 38.5**	**-4.6**
MWZ	**Matawai**	**12.34**	**194**	PN	**P**	**14 34 33.8**	**-1.0**
CNGZ	**Carnagh Statio**	**12.35**	**192**	PN	**P**	**14 34 34.8**	**0.0**
URZ	**Urewera**	**12.37**	**196**	*e*Pn	**P**	**14 34 35.1**	**0.0**
URZ	**Urewera**	**12.37**	**196**	PN	**P**	**14 34 33.5**	**-1.5**
URZ				SN	**S**	**14 36 49.5**	**-2.6**
PRRZ	**Plateau Road**	**12.78**	**198**	PN	**P**	**14 34 39.5**	**-0.1**
PRGZ	**Paritu Road**	**12.84**	**192**	PN	**Pn**	**14 34 41.8**	**+1.1**
KNZ	**Kokohu**	**12.97**	**193**	PN	**P**	**14 34 41.8**	**+0.1**
KNZ				SN	**S**	**14 37 00.4**	**-4.2**
RAHZ	**Arahi**	**13.00**	**195**	PN	**P**	**14 34 41.0**	**-1.1**
MHGZ	**Mahia Peninsul**	**13.05**	**192**	PN	**Pn**	**14 34 43.7**	**+0.4**
NMHZ	**Naumai**	**13.24**	**196**	PN	**Pn**	**14 34 46.1**	**+0.5**
HIZ	**Hauiti**	**13.28**	**203**	PN	**Pn**	**14 34 47.7**	**+1.8**
BKZ	**Black Stump Fm**	**13.38**	**197**	PN	P	14 34 43.2	-3.1
MCHZ	**McNeill Hill**	**13.59**	**196**	PN	**Pn**	**14 34 49.3**	**-0.3**
CKHZ	**Cape Kidnapper**	**13.71**	**194**	PN	**P**	**14 34 50.4**	**+0.5**
FWVZ	**Far West T-bar**	**13.72**	**199**	PN	**Pn**	**14 34 51.1**	**-0.3**
BHHZ	**Black Hill Sta**	**13.80**	**198**	PN	P	14 34 47.9	-3.0
MOVZ	**Moawhango**	**13.81**	**199**	PN	**P**	**14 34 50.9**	**-0.1**
MTVZ	**Mangateitei**	**13.87**	**199**	PN	**P**	**14 34 52.3**	**+0.5**
KAHZ	**Kahuranaki**	**13.88**	**195**	PN	**P**	**14 34 51.5**	**-0.3**
AFI	**Afiamalu**	**13.98**	**29**	P	P	14 34 47.1	-6.0
	9.1nm,0.3s,baz=358,slow=4.1,SNR=14						
AFI				S	S	14 37 06.6	-19
	6.4nm,0.3s,baz=84,slow=18,SNR=4.9						
AFI	**Afiamalu**	**13.98**	**29**	*e*Pn	P	14 34 47.1	-6.0
PXZ	**Pawanui**	**14.11**	**194**	PN	**P**	**14 34 54.6**	**+0.3**
PNHZ	**Pukenui**	**14.16**	**197**	PN	**P**	**14 34 52.9**	**-1.9**
WPHZ	**Waipukurau**	**14.24**	**196**	PN	**P**	**14 34 55.6**	**-0.1**
DZM	**Mont Dzumac**	**14.29**	**284**	P	Pn	14 35 00.4	+2.2
	12nm,0.3s,baz=101,slow=12,SNR=111						
DZM	**Mont Dzumac**	**14.29**	**284**	*e*P	Pn	14 34 59.8	+1.6
DZM	**Mont Dzumac**	**14.29**	**284**	*e*P	**Pn**	**14 34 56.6**	**-1.6**
	178nm,0.7s						
DZM				P	Pn	14 35 00.4	+2.2
NWEZ	**Newall Road**	**14.30**	**204**	PN	Pn	14 35 01.2	+3.1
WAZ	**Wanganui**	**14.36**	**200**	PN	**P**	**14 34 57.4**	**+0.4**
TSZ	**Takapari Road**	**14.36**	**197**	PN	**P**	**14 34 54.2**	**-2.8**
TSZ				SN	**S**	**14 37 29.9**	**-3.1**
PRHZ	**Porangahau**	**14.39**	**195**	PN	**Pn**	**14 34 58.2**	**-0.8**
NOUC	**Port Laguerre**	**14.40**	**284**	*e*P	Pn	14 35 02.4	+3.0
DVHZ	**Dannevirke**	**14.53**	**196**	PN	**P**	**14 34 58.3**	**-0.6**
BFZ	**Birch Farm**	**14.87**	**195**	PN	**P**	**14 35 03.3**	**+0.7**
TIWZ	**Tintock**	**15.05**	**196**	PN	**P**	**14 35 04.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**15.26**	**197**	PN	**P**	**14 35 05.9**	**-1.0**
OGWZ	**Otaki Gorge**	**15.28**	**198**	PN	**P**	**14 35 05.7**	**-1.4**
TMWZ	**Te Maipa**	**15.36**	**196**	PN	**P**	**14 35 07.5**	**-0.6**
MTW	**Mount Morrison**	**15.51**	**197**	PN	**P**	**14 35 09.1**	**-0.5**
CAW	**Cannon Point**	**15.58**	**198**	PN	**P**	**14 35 10.2**	**-0.1**
PLWZ	**Palliser**	**15.96**	**197**	PN	**P**	**14 35 14.8**	**+0.3**
QRZ	**Quartz Range**	**16.16**	**205**	PN	**Pn**	**14 35 18.8**	**-0.8**
DSZ	**Denniston Nort**	**17.23**	**205**	*e*PN	**P**	**14 35 25.9**	**-2.3**
KHZ	**Kahutara**	**17.23**	**200**	*e*P	**P**	**14 35 25.0**	**-3.1**
KHZ	**Kahutara**	**17.23**	**200**	*e*PN	**P**	**14 35 26.5**	**-1.6**
MQZ	**McQueen's Vall**	**18.67**	**200**	SN	**S**	**14 38 57.7**	**-0.4**
WVZ	**Waitaha Valley**	**18.77**	**205**	*e*PN	**P**	**14 35 43.9**	**-0.6**
RPZ	**Rata Peaks**	**19.21**	**203**	P	**P**	**14 35 47.3**	**-2.0**
	4.4nm,0.3s,baz=46,slow=2.5,SNR=23						
RPZ	**Rata Peaks**	**19.21**	**203**	*e*P	**P**	**14 35 46.0**	**-3.3**
RPZ				P	**P**	**14 35 47.3**	**-2.0**
FOZ	**Fox Glacier**	**19.59**	**206**	*e*PN	**P**	**14 35 52.1**	**-1.2**
LBZ	**Lake Benmore**	**20.10**	**204**	*e*PN	**P**	**14 35 56.4**	**-2.1**
JCZ	**Jackson Bay**	**20.39**	**207**	*e*PN	**P**	**14 35 59.3**	**-2.0**
EAZ	**Earnscleugh**	**21.15**	**204**	*e*PN	**P**	**14 36 08.5**	**+0.4**
MLZ	**Mavora Lakes**	**21.68**	**206**	*e*PN	**P**	**14 36 14.3**	**+1.3**
WHZ	**Wether Hill Ro**	**22.22**	**205**	*e*P	**P**	**14 36 19.9**	**+2.0**
WHZ	**Wether Hill Ro**	**22.22**	**205**	*e*PN	**P**	**14 36 18.3**	**+0.4**
ARMA	**Armidale**	**26.44**	**254**	*e*P	**P**	**14 36 59.1**	**+2.9**
ARMA	**Armidale**	**26.44**	**254**	*e*P	**P**	**14 36 59.6**	**+3.4**
EIDS	**Eidsvold**	**27.25**	**265**	*e*P	**P**	**14 37 03.2**	**-0.1**
	16nm,0.6s						
TARA	**Tarawa**	**28.77**	**342**	*e*P	P	14 37 11.6	-5.1
CNB	**Canberra Magne**	**28.79**	**244**	*e*P	P	14 37 20.1	+3.3
TOO	**Toolangi**	**32.24**	**241**	⇓*i*P	**P**	**14 37 49.0**	**+2.1**
CTA	**Charters Tower**	**32.81**	**274**	P	**P**	**14 37 53.1**	**+1.1**
	64nm,0.5s,baz=102,slow=11,SNR=92						
CTA	**Charters Tower**	**32.81**	**274**	*e*P	**P**	**14 37 53.0**	**+1.0**
CTA	**Charters Tower**	**32.81**	**274**	P	**P**	**14 37 53.1**	**+1.1**
CTAO	**Charters Tower**	**32.81**	**274**	*e*P	**P**	**14 37 51.3**	**-0.7**
	58nm,0.7s						
STKA	**Stephens Creek**	**35.04**	**251**	P	**P**	**14 38 11.6**	**+0.8**
	5.1nm,0.4s,baz=90,slow=9.3,SNR=52						
STKA				PcP	**PcP**	**14 40 36.2**	**+1.9**
	8.3nm,0.6s,baz=72,slow=3.1,SNR=9.1						
STKA	**Stephens Creek**	**35.04**	**251**	*e*P	**P**	**14 38 11.7**	**+0.8**
STKA				*e*PcP	**PcP**	**14 40 35.9**	**+1.6**
STKA	**Stephens Creek**	**35.04**	**251**	*e*P	**P**	**14 38 10.6**	**-0.3**
	18nm,1.9s					

GYA				sP	**sP**	14 46 01.3	-0.5
GYA				PP	**PP**	14 47 45.3	+2.6
GYA				SKS	**SKSac**	14 54 01.8	-2.0
GYA				S	**S**	14 54 25.0	-1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**89.69**	**316**	P	**P**	14 44 08.5	-0.6
BJI				S	**S**	14 54 33.3	+2.5
BJI				SS	**SS**	15 00 42.3	+5.1
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,92nm,4.9s						
BJI				LR	LR		
	comp=N,100nm,15.2s						
BJI				LR	LR		
	comp=E,100nm,15.9s						
BJI				LR	LR		
	comp=Z,26nm,17.2s						
TXAR	**Lajitas Array**	**90.69**	**57**	P	**P**	14 44 15.1	+0.9
	comp=Z,0.5nm,0.7s,baz=218,slow=7.8,SNR=5.7						
TXAR	**Lajitas Array**	**90.69**	**57**	P	**P**	14 44 15.1	+0.9
XAN	**Xi'an**	**91.26**	**308**	P	**P**	14 44 17.0	+0.4
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMI	**Kunming**	**91.53**	**297**	P	**P**	14 44 19.3	+1.0
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,98nm,4.0s						
CMAR	**Chiang Mai Arr**	**91.56**	**290**	P	**P**	14 44 20.0	+1.7
	comp=Z,3.0nm,0.9s,baz=143,slow=3.4,SNR=21						
CMAR	**Chiang Mai Arr**	**91.56**	**290**	P	**P**	14 44 20.0	+1.7
CHTO	**Chiang Mai**	**91.72**	**290**	*e*P	**P**	14 44 18.8	-0.2
	comp=Z,5.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**93.06**	**315**	*e*P	**P**	14 44 22.3	-2.5
HHC				sP	**sP**	14 46 22.5	+2.5
HHC				PP	**PP**	14 48 14.3	+0.7
HHC				SKS	**SKSac**	14 54 22.5	-3.1
HHC				S	**S**	14 54 57.3	-3.8
HHC				sS	**sS**	14 57 24.5	+0.7
HHC				SS	**SS**	15 01 31.0	+5.3
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,60nm,6.9s						
CD2	**Chengdu**	**93.49**	**303**	P	**P**	14 44 28.3	+1.3
CD2				pP	**pP**	14 45 48.5	+1.5
CD2				sP	**sP**	14 46 23.0	+0.9
CD2				PP	**PP**	14 48 22.3	+5.3
CD2				S	**ScS**	14 55 05.8	-0.5
CD2				sS	**sS**	14 57 28.0	+0.1
CD2				SS	**SS**	15 01 39.0	+7.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,80nm,4.1s						
PDAR	**Pinedale Array**	**93.62**	**44**	P	**P**	14 44 27.5	0.0
	comp=Z,0.4nm,0.7s,baz=252,slow=3.0,SNR=3.2						
PDAR				pP	**pP**	14 45 45.7	-1.8
	comp=Z,1.0nm,1.0s,baz=182,slow=4.5,SNR=4.8						
PDAR	**Pinedale Array**	**93.62**	**44**	P	**P**	14 44 27.5	0.0
PDAR				pP	**pP**	14 45 45.7	-1.8
SONM	**Songino Array**	**99.80**	**319**	P	**Pdif**	14 44 55.7	+0.6
	comp=Z,0.3nm,0.6s,baz=133,slow=6.3,SNR=3.0						
SONM	**Songino Array**	**99.80**	**319**	P	**Pdif**	14 44 55.7	+0.6
GTA	**Gaotai**	**100.24**	**309**	P	**Pdif**	14 44 59.5	+2.2
GTA				pP	pP	14 46 17.3	-0.3
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**114.66**	**320**	PKP	PKPdf	14 49 47.6	-1.3
	comp=Z,0.9nm,0.7s,baz=354,slow=1.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**114.66**	**320**	PKP	PKPdf	14 49 47.6	-1.3
MKAR	**Makanchi Array**	**114.75**	**312**	PKP	PKPdf	14 49 48.3	-1.0
	comp=Z,1.2nm,0.8s,baz=72,slow=2.0,SNR=11						
MKAR	**Makanchi Array**	**114.75**	**312**	PKP	PKPdf	14 49 48.3	-1.0
KURK	**Kurchatov**	**117.86**	**315**	PKP	**PKPdf**	14 49 54.1	-1.0
	comp=Z,1.6nm,0.7s,baz=99,slow=1.8,SNR=15						
KURK	**Kurchatov**	**117.86**	**315**	PKP	**PKPdf**	14 49 54.1	-1.0
AAK	**Ala-Archa**	**119.39**	**306**	PKP	**PKPdf**	14 49 58.0	-0.6
	comp=Z,0.4nm,0.4s,baz=169,slow=8.7,SNR=4.4						
AAK	**Ala-Archa**	**119.39**	**306**	PKP	**PKPdf**	14 49 58.0	-0.6
BOSA	**Boshof**	**120.69**	**204**	PKP	**PKPdf**	14 50 02.6	+1.0
	comp=Z,1.7nm,0.6s,baz=69,slow=0.4,SNR=6.7						
BOSA	**Boshof**	**120.69**	**204**	PKP	**PKPdf**	14 50 02.6	+1.0
BVAR	**Borovoye Array**	**123.13**	**318**	PKP	**PKPdf**	14 50 04.7	-0.5
	comp=Z,1.7nm,0.4s,baz=129,slow=0.7,SNR=16						
BVAR	**Borovoye Array**	**123.13**	**318**	PKP	**PKPdf**	14 50 04.7	-0.5
AKTO	**Aktyubinsk**	**130.95**	**315**	PKP	**PKPdf**	14 50 20.0	-0.2
	comp=Z,2.0nm,0.7s,baz=23,slow=3.1,SNR=9.1						
AKTO	**Aktyubinsk**	**130.95**	**315**	PKP	**PKPdf**	14 50 20.0	-0.2
ARCES	**ARCESS Array B**	**134.57**	**348**	PKhKP	PKPpre	14 50 20.5	
	comp=Z,2.2nm,0.8s,baz=26,slow=8.6,SNR=3.7						
ARCES				PKP	**PKiKP**	14 50 27.2	-0.8
	comp=Z,1.4nm,0.6s,baz=82,slow=1.7,SNR=10						
ARCES				SKPbc	**SKPab**	14 53 25.1	-2.7
	comp=Z,1.4nm,0.8s,baz=12,slow=6.2,SNR=4.4						
ARCES	**ARCESS Array B**	**134.57**	**348**	PKPpre	PKPpre	14 50 20.5	
ARCES				PKP	**PKiKP**	14 50 27.2	-0.8
ARCES				SKPbc	**SKPab**	14 53 25.1	-2.7
JOF	**Joensuu**	**138.50**	**340**	*e*pkp	**PKPdf**	14 50 33.6	-0.3
	comp=Z,2.8nm,0.6s						
JOF	**Joensuu**	**138.50**	**340**	*e*pkp	**PKPdf**	14 50 33.6	-0.3
	comp=Z,2.8nm,0.6s						
FINES	**FINESS Array B**	**141.20**	**341**	PKhKP	PKPpre	14 50 31.5	
	comp=Z,0.8nm,0.4s,baz=49,slow=1.9,SNR=7.5						
FINES				PKP	**PKiKP**	14 50 39.8	-1.9
	comp=Z,1.1nm,0.4s,baz=12,slow=3.9,SNR=6.4						
FINES	**FINESS Array B**	**141.20**	**341**	PKPpre	PKPpre	14 50 31.5	
FINES				PKP	**PKiKP**	14 50 39.8	-1.9
NB2	**NORSAR Subarra**	**144.73**	**352**	PKP	PKPbc	14 50 43.4	-1.5
	comp=Z,13nm,0.9s,baz=18,slow=3.5						
NOA	**NORSAR Array B**	**144.73**	**352**	PKP	**PKPdf**	14 50 44.0	-1.1
	comp=Z,6.7nm,0.7s,baz=16,slow=4.9,SNR=28						
NOA	**NORSAR Array B**	**144.73**	**352**	PKP	**PKPdf**	14 50 44.0	-1.1
AKASG	**Malin Array Be**	**147.74**	**326**	PKPbc	**PKPbc**	14 50 52.8	-0.9
	comp=Z,2.8nm,0.4s,baz=46,slow=4.2,SNR=15						
AKASG	**Malin Array Be**	**147.74**	**326**	PKPbc	**PKPbc**	14 50 52.8	-0.9
BRTR	**Keskin Array B**	**150.05**	**304**	PKPbc	**PKPbc**	14 50 59.8	-0.3
	comp=Z,3.2nm,0.7s,baz=141,slow=4.1,SNR=14						
BRTR				PKPab	**PKPab**	14 51 07.5	+0.3
	comp=Z,6.1nm,0.7s,baz=103,slow=4.0,SNR=22						
BRTR	**Keskin Array B**	**150.05**	**304**	PKPbc	**PKPbc**	14 50 59.8	-0.3
BRTR				PKPab	**PKPab**	14 51 07.5	+0.3
TLCR		**151.12**	**318**	‖ *i*P	**PKPbc**	14 51 02.3	+0.1
CFR	**Carcaliu**	**151.53**	**318**	‖ *i*P	**PKPbc**	14 51 03.1	0.0
KWP	**Kalwaria Pacla**	**151.55**	**330**	‖ *i*P	**PKPbc**	14 51 03.1	0.0
BURAR	**Bucovina Array**	**151.73**	**325**	‖ *i*P	**PKPbc**	14 51 04.8	+1.2
TIRR	**Tirgusor**	**151.74**	**317**	‖ *i*P	**PKPbc**	14 51 03.6	0.0
VRI	**Vrincioaia**	**151.97**	**320**	‖ *i*P	**PKPbc**	14 51 04.1	0.0
OJC	**Ojcow**	**152.32**	**334**	*e*PKP	**PKPbc**	14 51 04.7	0.0
CLL	**Collm**	**153.60**	**343**	*e*PKPbc	**PKPbc**	14 51 08.0	+0.5
	comp=Z,5.0nm,0.7s						
CLL				*e*PKPab	**PKPab**	14 51 21.0	-0.5
TORD	**Torodi Ar. Bea**	**166.82**	**181**	PKP	**PKPdf**	14 51 14.7	-0.3
	comp=Z,1.6nm,0.8s,baz=322,slow=0.6,SNR=9.0						
TORD				PKPab	**PKPab**	14 52 21.4	+1.4
	comp=Z,4.5nm,0.8s,baz=176,slow=3.4,SNR=21						
TORD	**Torodi Ar. Bea**	**166.82**	**181**	PKP	**PKPdf**	14 51 14.7	-0.3
TORD				PKPab	**PKPab**	14 52 21.4	+1.4

*IDC **29** 14:36:17.2±0.7,33.38S×178.67W,h0km,mb4.4/9, mb1 4.6/9,mb1mx4.4/17,mbtmp4.4/9,MS4.1/14, Ms1 4.1/14,ms1mx3.9/27, Error ellipse: s-maj=30.1km s-min=23.0km az=1.0*

*NEIC **29** 14:36:20.6±6.1,33.49S×178.72W,h23km±39km,mb4.8/2, Error ellipse: s-maj=20.3km s-min=14.2km az=49.0*

*ISCJB **29** 14:36:23.5±0.8,33.78S±0.04×179.1W±0.1,h41km, mb4.5/10,MS4.2/13, Error ellipse: s-maj=14.3km s-min=6.0km az=10.1*

ISC 29 14:36:23.1±0.6,33.61S±0.08×178.9W±0.1,h41km,n104, σ1s56/73,mb4.7/10,MS4.1/13,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.56**	**209**	*e*PN	**Pn**	**14 37 29.4**	**-0.2**
PUZ	**Puketiti**	**5.03**	**207**	*e*PN	**Pn**	14 37 36.2	+0.3
PUZ				SN	**Sn**	14 38 35.9	+3.2
CNGZ	**Carnagh Statio**	**5.41**	**205**	*e*PN	**Pn**	14 37 39.9	-1.3
MWZ	**Matawai**	**5.54**	**211**	*e*PN	**Pn**	14 37 43.6	+0.5
MWZ				SN	**Sn**	14 38 49.1	+3.5
URZ	**Urewera**	**5.67**	**214**	*e*PN	**Pn**	14 37 45.6	+0.9
URZ				SN	**Sn**	14 38 50.6	+2.1
OUZ	**Omahuta**	**6.42**	**253**	*e*Pn	**Pn**	14 37 55.6	+0.6
	131nm,0.8s						
BKZ	**Black Stump Fm**	**6.68**	**213**	PN	**Pn**	14 37 59.3	+0.5
BKZ				*e*SN	**Sn**	14 39 13.5	-0.2
MCHZ	**McNeill Hill**	**6.83**	**210**	*e*PN	**Pn**	14 38 01.0	+0.4
HIZ	**Hauiti**	**7.05**	**224**	PN	Pn	14 38 07.5	+3.8
KAHZ	**Kahuranaki**	**7.05**	**208**	*e*PN	**Pn**	14 38 03.8	0.0
BHHZ	**Black Hill Sta**	**7.14**	**213**	*e*PN	Pn	14 38 08.1	+3.1
TSZ	**Takapari Road**	**7.65**	**211**	*e*PN	**Pn**	14 38 08.9	-3.1
TSZ				SN	**Sn**	14 39 35.8	-1.6
TSZ				SN	SN	14 39 35.9	
MRZ	**Mangatainoka R**	**8.31**	**210**	*e*PN	**Pn**	14 38 20.7	-0.3
MRZ				SN	**Sn**	14 39 49.1	-4.5
HOWZ	**Holdsworth Sta**	**8.54**	**210**	SN	Sn	14 39 53.9	-5.2
MTW	**Mount Morrison**	**8.76**	**209**	SN	Sn	14 39 59.2	-5.4
SNZO	**South Karori**	**9.22**	**212**	SN	Sn	14 40 09.5	-6.3
TUWZ	**Tuamarina**	**9.66**	**214**	SN	Sn	14 40 20.9	-5.8
NNZ	**Nelson**	**9.77**	**217**	SN	**Sn**	14 40 25.9	-3.5
THZ	**Tophouse**	**10.42**	**216**	SN	**Sn**	14 40 40.6	-4.7
KHZ	**Kahutara**	**10.63**	**212**	SN	Sn	14 40 42.4	-7.9
LTZ	**Lake Taylor**	**11.50**	**215**	SN	Sn	14 41 01.8	-10
MQZ	**McQueen's Vall**	**12.05**	**211**	SN	Sn	14 41 14.2	-11
RPZ	**Rata Peaks**	**12.78**	**215**	Pn	Pn	14 39 12.6	-10
	0.8nm,0.3s,baz=354,slow=10,SNR=4.2						
RPZ				SN	Sn	14 41 32.2	-11
	1.2nm,0.3s,baz=321,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**17.31**	**308**	*e*LR	LR	14 44 48.3	
	1μm,23.0s						
DZM	**Mont Dzumac**	**17.31**	**308**	LR	LR	14 45 42.1	
	comp=Z,1μm,20.9s,baz=217,slow=33						
YNG	**Young**	**27.09**	**259**	*e*P	P	14 42 05.1	+3.1
EIDS	**Eidsvold**	**27.33**	**280**	*e*P	P	14 42 07.1	+2.9
TBI	**Tubuai**	**27.73**	**76**	*e*LR	LR	14 48 59.7	
	330nm,29.2s,baz=241						
TBI	**Tubuai**	**27.73**	**76**	*e*LR	LR	14 42 54.0	
	285nm,28.5s						
RMQ	**Roma**	**28.81**	**276**	*e*P	P	14 42 20.7	+3.3
CMSA	**Cobar Meteorol**	**29.83**	**264**	*e*P	**P**	**14 42 26.5**	**+0.1**
PPT2	**Papeete2**	**30.73**	**66**	*e*LR	LR	14 50 19.4	
	278nm,24.2s,baz=233						
PPT2	**Papeete2**	**30.73**	**66**	*e*LR	LR	14 43 29.8	
	98nm,26.2s						
HNR	**Honiara**	**30.95**	**316**	LR	LR	14 53 19.5	
	comp=Z,193nm,18.4s,baz=138,slow=33						
QLP	**Quilpie**	**32.54**	**272**	*e*P	P	14 42 52.6	+2.3
STKA	**Stephens Creek**	**33.15**	**262**	P	P	14 42 58.0	+2.5
	2.4nm,0.8s,baz=49,slow=9.9,SNR=4.3						
STKA				LR	LR	14 55 53.0	
	comp=Z,864nm,18.8s,baz=283,slow=35						
STKA	**Stephens Creek**	**33.15**	**262**	P	P	14 42 58.0	+2.5
CTA	**Charters Tower**	**33.72**	**285**	P	P	14 43 02.2	+1.6
	12nm,0.8s,baz=112,slow=12,SNR=12						
CTA	**Charters Tower**	**33.72**	**285**	P	P	14 43 02.2	+1.6
AS31	**Alice Springs**	**42.29**	**271**	*e*P	**P**	**14 44 13.0**	**+0.1**
ASAR	**Alice Springs**	**42.29**	**271**	P	**P**	**14 44 13.8**	**+0.9**
	11nm,0.8s,baz=112,slow=7.5,SNR=31						
ASAR				S	**S**	**14 50 31.6**	**+0.6**
	1.2nm,1.0s,baz=104,slow=16,SNR=5.5						
ASAR	**Alice Springs**	**42.29**	**271**	P	**P**	**14 44 13.8**	**+0.9**
ASAR				S	**S**	**14 50 31.6**	**+0.6**
WB2	**Warramunga Arr**	**43.56**	**276**	*e*P	**P**	**14 44 23.9**	**+0.7**
WRAB	**Tennant Creek**	**43.57**	**276**	*e*P	**P**	**14 44 23.8**	**+0.5**
	16nm,1.0s						
WRA	**Warramunga Arr**	**43.57**	**276**	P	**P**	**14 44 23.9**	**+0.6**
	11nm,0.7s,baz=117,slow=7.4,SNR=23						
WRA				LR	LR	15 02 56.7	
	comp=Z,363nm,18.1s,baz=115,slow=37						
WRA	**Warramunga Arr**	**43.57**	**276**	P	**P**	**14 44 23.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**51.68**	**273**	P	**P**	**14 45 27.0**	**+0.8**
	7.9nm,0.8s,baz=170,slow=3.0,SNR=5.9						
FITZ	**Fitzroy Crossi**	**51.68**	**273**	*e*P	**P**	**14 45 26.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.68**	**273**	P	**P**	**14 45 27.0**	**+0.8**
QSPA	**South Pole Qui**	**56.51**	**180**	P	P	14 46 03.1	+2.1
	3.9nm,0.7s,baz=78,slow=4.0,SNR=5.0						
QSPA	**South Pole Qui**	**56.51**	**180**	*e*P	P	14 46 02.0	+1.0
	9.4nm,0.8s						
QSPA				P	**P**	**14 46 03.1**	**+2.1**
GUMO	**Guam**	**58.27**	**317**	LR	LR	15 09 13.7	
	comp=Z,76nm,18.1s,baz=90,slow=34						
KAPI	**Kappang**	**63.49**	**282**	LR	LR	15 15 40.0	
	comp=Z,170nm,18.3s,baz=276,slow=37						
MAW	**Mawson**	**69.05**	**201**	LR	LR	15 15 18.2	
	comp=Z,157nm,19.4s,baz=269,slow=34						
SNAA	**Sanae**	**74.98**	**179**	*e*	P	14 48 04.3	+4.6
VNA2	**Neumayer--Watz**	**75.59**	**177**	*e*	P	14 48 05.7	+2.6
JOW	**Kunigami**	**78.28**	**313**	LR	LR	15 17 05.8	
	comp=Z,371nm,20.6s,baz=267,slow=31						
MJAR	**Matsushiro Arr**	**80.46**	**326**	LR	LR	15 20 35.3	
	comp=Z,8nm,19.6s,baz=25,slow=33						
PLCA	**Paso Flores**	**80.88**	**133**	LR	LR	15 14 24.2	
	comp=Z,61nm,19.9s,baz=355,slow=28						
KSRS	**Korea Array**	**86.31**	**320**	P	P	14 49 01.5	+1.0
	0.9nm,0.7s,baz=153,slow=6.3,SNR=4.2						
KSRS				LR	LR	15 26 31.1	
	comp=Z,54nm,19.0s,baz=155,slow=35						
KSAR	**Wonju Array Be**	**86.32**	**320**	P	P	14 49 01.5	+0.9
PETK	**Petropavlovsk-**	**88.73**	**346**	P	P	14 49 12.0	+0.2
	3.8nm,0.7s,baz=146,slow=2.9,SNR=5.1						
PETK				LR	LR	15 25 15.2	
	comp=Z,64nm,18.6s,baz=247,slow=33						
PETK	**Petropavlovsk-**	**88.73**	**346**	P	P	14 49 12.0	+0.2
NVAR	**Mina Array Bea**	**91.09**	**43**	P	**P**	**14 49 22.5**	**-1.0**
	0.5nm,0.9s,baz=267,slow=4.5,SNR=3.0						
NVAR	**Mina Array Bea**	**91.09**	**43**	P	P	14 49 22.5	-1.0
TXAR	**Lajitas Array**	**94.74**	**58**	LR	LR	15 28 10.6	
	comp=Z,96nm,18.2s,baz=85,slow=33						
LPAZ	**La Paz**	**97.50**	**115**	LR	LR	15 23 20.9	
	comp=Z,66nm,19.4s,baz=50,slow=29						
MKAR	**Makanchi Array**	**119.22**	**309**	PKP	**PKPdf**	**14 55 06.9**	**-0.5**
	1.0nm,0.9s,baz=50,slow=1.9,SNR=7.9						
MKAR	**Makanchi Array**	**119.22**	**309**	PKP	**PKPdf**	14 55 06.9	-0.5
ZALV	**Zalesovo Beam**	**119.89**	**317**	PKP	**PKPdf**	14 55 08.0	-0.3
	0.9nm,0.6s,baz=169,slow=3.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**119.89**	**317**	PKP	**PKPdf**	14 55 08.0	-0.3
KURK	**Kurchatov**	**122.68**	**312**	PKP	**PKPdf**	14 55 13.6	-0.2
	1.2nm,0.6s,baz=112,slow=1.8,SNR=9.6						
KURK	**Kurchatov**	**122.68**	**312**	PKP	**PKPdf**	**14 55 13.6**	**-0.2**
AAK	**Ala-Archa**	**123.22**	**302**	PKP	**PKPdf**	**14 55 16.2**	**+0.8**
	1.5nm,0.8s,baz=180,slow=1.1,SNR=5.8						
AAK	**Ala-Archa**	**123.22**	**302**	*e*PKPdf	**PKPdf**	14 55 14.6	-0.8
AAK				PKP	**PKPdf**	14 55 16.2	+0.8
KBL	**Kabul**	**124.73**	**291**	*e*PKPdf	**PKPdf**	14 55 18.8	+0.1
BVAR	**Borovoye Array**	**128.13**	**314**	PKP	**PKPdf**	14 55 24.9	+0.6
	1.1nm,0.5s,baz=114,slow=1.4,SNR=10						
BVAR	**Borovoye Array**	**128.13**	**314**	PKP	**PKPdf**	14 55 24.9	+0.6
AKTO	**Aktyubinsk**	**135.64**	**310**	PKP	**PKPdf**	14 55 39.7	+1.2
	0.9nm,0.7s						
AKTO	**Aktyubinsk**	**135.64**	**310**	PKP	**PKPdf**	14 55 39.7	+1.2
KEV	**Kevo**	**141.06**	**346**	*e*p	**PKPdf**	14 55 49.4	+1.6
KEV	**Kevo**	**141.06**	**346**	*e*p	**PKPdf**	14 55 49.4	+1.6
ARCES	**ARCESS Array B**	**141.54**	**346**	PKhKP	PKPpre	14 55 43.6	
	3.2nm,0.9s,baz=0.0,slow=2.4,SNR=2.8						
ARCES				PKP	**PKPdf**	**14 55 50.0**	**+1.3**
	1.1nm,0.5s,baz=31,slow=2.8,SNR=7.3						
ARCES	**ARCESS Array B**	**141.54**	**346**	PKP	**PKPdf**	14 55 50.0	+1.3
JOF	**Joensuu**	**145.08**	**336**	*e*p	**PKPdf**	14 55 55.2	+0.1
JOF	**Joensuu**	**145.08**	**336**	*e*p	**PKPdf**	14 55 55.2	+0.1
KAF	**Kangasniemi**	**147.28**	**338**	*e*p	**PKPab**	14 55 59.8	-3.3
KAF	**Kangasniemi**	**147.28**	**338**	*e*p	**PKPab**	14 55 59.8	-3.3
FINES	**FINESS Array B**	**147.85**	**338**	PKPbc	**PKPab**	14 56 02.7	-2.7
	18nm,1.0s,baz=45,slow=2.7,SNR=22						
FINES	**FINESS Array B**	**147.85**	**338**	PKPbc	**PKPab**	14 56 02.7	-2.7
NB2	**NORSAR Subarra**	**151.78**	**350**	PKP	**PKPbc**	14 56 12.3	-0.3
	comp=Z,2.4nm,0.6s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.78**	**350**	PKPbc	**PKPbc**	14 56 12.5	-0.1
	comp=Z,2.3nm,0.5s,baz=14,slow=4.1,SNR=14						
NOA	**NORSAR Array B**	**151.78**	**350**	PKPbc	**PKPbc**	14 56 12.5	-0.1
MICGM	**Minsk**	**151.90**	**326**	*e*	**PKPbc**	14 56 11.0	-1.9
DBIC	**Dimbokro**	**152.63**	**167**	PKPbc	**PKPbc**	14 56 17.3	+1.4
	comp=Z,1.8nm,0.6s,baz=194,slow=6.1,SNR=3.1						
DBIC	**Dimbokro**	**152.63**	**167**	PKPbc	**PKPbc**	14 56 17.3	+1.4
AKASG	**Malin Array Be**	**153.29**	**318**	PKPbc	**PKPbc**	14 56 15.9	-0.3
	comp=Z,1.1nm,0.5s,baz=64,slow=2.6,SNR=7.8						
AKASG	**Malin Array Be**	**153.29**	**318**	PKPbc	**PKPbc**	14 56 15.9	-0.3
BR131	**Keskin Array S**	**153.30**	**293**	*e*PKPbc	**PKPbc**	14 56 17.2	+0.4
BRTR	**Keskin Array B**	**153.30**	**293**	PKPbc	**PKPbc**	14 56 16.9	+0.1
	comp=Z,5.0nm,0.8s,baz=117,slow=3.7,SNR=19						
BRTR	**Keskin Array B**	**153.30**	**293**	PKPbc	**PKPbc**	14 56 16.9	+0.1
TORD	**Torodi Ar. Bea**	**159.63**	**182**	PKPab	**PKPab**	14 56 57.0	+0.8
	comp=Z,0.9nm,0.7s,baz=183,slow=2.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**159.63**	**182**	PKPab	**PKPab**	14 56 57.0	+0.8
CLL	**Collm**	**160.30**	**337**	*e*PKPab	**PKPab**	14 56 58.0	-0.3

*ISCJB **29** 14:37:51.8±0.8,40.31N±0.04×25.52E±0.04,h1km±9km, Error ellipse: s-maj=6.0km s-min=5.8km az=8.3*

*DDA **29** 14:37:51.0,40.31N×25.54E,h5km, MD2.9*

*CSEM **29** 14:37:52.1±0.2,40.31N×25.54E,h2km, ML1.7/3, Error ellipse: s-maj=6.0km s-min=4.9km az=149.0*

*THE **29** 14:37:52.4,40.32N×25.49E,h4km±24km, ML1.7/3, Error ellipse: s-maj=24.6km s-min=0.6km az=134.0*

ISC 29 14:37:52.3±1.1,40.31N±0.03×25.52E±0.03,h11km±12km, n11,σ0s55/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.49**	**212**	P	**Pg**	**14 38 01.6**	**-0.2**
LIA				S	**Sg**	14 38 08.8	+0.5
LIA	**Limnos Island**	**0.49**	**212**	P	**Pg**	**14 38 01.6**	**-0.2**
LIA				S	**Sg**	**14 38 08.8**	**+0.5**
BOZC	**Bozcaada**	**0.62**	**139**	*i* P	**Pg**	**14 38 04.0**	**-0.4**
BOZC				*i* S	**Sg**	**14 38 12.2**	**-0.5**
ALN	**Alexandroupoli**	**0.71**	**34**	P	**Pg**	**14 38 05.9**	**-0.2**
ALN				S	**Sg**	**14 38 15.8**	**+0.4**
ALN	**Alexandroupoli**	**0.71**	**34**	P	**Pg**	**14 38 05.9**	**-0.2**
ALN				S	**Sg**	**14 38 15.8**	**+0.4**
KAVA	**Kavala**	**1.02**	**312**	P	**Pg**	**14 38 11.7**	**-0.3**
KAVA				S	**Sb**	**14 38 25.7**	**+0.2**
KAVA	**Kavala**	**1.02**	**312**	P	**Pg**	**14 38 11.7**	**-0.3**
KAVA				S	**Sb**	**14 38 25.7**	**+0.2**
SART	**Tekirdag**	**1.32**	**73**	*i* P	**Pn**	**14 38 15.8**	**-1.0**
SART				*i* S	**Sg**	**14 38 35.3**	**+0.3**
SART	**Tekirdag**	**1.32**	**73**	*i* P	**Pn**	**14 38 15.8**	**-1.0**
SART				*i* S	**Sg**	**14 38 35.3**	**+0.3**
BALY	**Balya**	**1.71**	**109**	*i* P	**Pn**	**14 38 22.7**	**+0.5**
BALY				*i* S	**Sb**	**14 38 46.0**	**+0.6**
BALY	**Balya**	**1.71**	**109**	*i* P	**Pn**	**14 38 22.7**	**+0.5**
BALY				*i* S	**Sb**	**14 38 46.0**	**+0.6**

IDC 29 15:00:51.5±4.5,4.89S×153.39E,h113km±41km,mb3.4/8, mb1 3.5/9,mb1mx3.4/18,mbtmp3.4/9,MS3.5/1,Ms1 3.5/1, ms1mx2.6/17,Error ellipse: s-maj=25.4km s-min=22.8km az=55.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.64**	**234**	P	Pn	15 02 40.0	-0.2
	1.1nm,0.3s,baz=64,slow=7.4,SNR=2.1						
PMG				S	Sn	15 04 05.8	+0.6
	3.9nm,0.3s,baz=154,slow=21,SNR=8.6						
DZM	**Mont Dzumac**	**21.25**	**145**	P	P	15 05 29.2	+0.3
	12nm,1.1s,baz=264,slow=16,SNR=9.4						

YAYL	**Yayladag**	**1.98**	**248**	*i* P	**Pb**	**15**	**13**	**27.0 +0.5**
YAYL				*i* S	**Sb**	**15**	**13**	**52.7 +1.3**
YAYL	**Yayladag**	**1.98**	**248**	*i* P	**Pb**	**15**	**13**	**27.0 +0.5**
YAYL				*i* S	**Sb**	**15**	**13**	**52.7 +1.3**
MZRK	**Al-Mazaregh**	**2.07**	**117**	*e*P	**Pn**	**15**	**13**	**24.4 -0.9**
MZRK				*e*S	**Sn**	**15**	**13**	**50.0 -1.3**
MZRK				AML	AML	15	14	01.9
	comp=Z,11nm,0.6s							
MZRK	**Al-Mazaregh**	**2.07**	**117**	*e*P	**Pn**	**15**	**13**	**24.4 -0.9**
	SNR=100							
MZRK				*e*S	**Sn**	**15**	**13**	**50.0 -1.3**
	comp=Z,11nm,0.6s,SNR=100							

*IDC **29** 15:20:43.6±1.0, 18°.47N×120°.06E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=74.1km s-min=20.4km az=65.0*
*ISCJB **29** 15:20:47.2±0.8, 18°.4N±0°.1×119°.73E±0°.08, h32km, mb3.5/5, Error ellipse: s-maj=17.0km s-min=8.6km az=31.5*
*MAN **29** 15:20:52, 18°.24N×120°.13E, h10km, mb4.8, ML3.7, MS3.7*
ISC 29 15:20:47.9±1.1, 18°.2N±0°.1×119°.76E±0°.09, h32km, n9, σ1§25/11, mb3.6/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.82**	**82**	⇑*i*P	**Pn**	**15**	**21**	**02.4 -0.9**
PIP				*e*S	**Sb**	**15**	**21**	**14.6 0.0**
ABRA	**Dolores**	**1.06**	**122**	*e*P	**Pb**	**15**	**21**	**08.4 +0.6**
ABRA				*e*S	**Sb**	**15**	**21**	**22.2 +0.8**
CAUP	**Cauayan**	**2.34**	**122**	*e*P	**Pb**	**15**	**21**	**29.5 +0.2**
BALP	**Baler**	**3.01**	**144**	*e*P	**Pb**	**15**	**21**	**38.7 -2.1**
WRA	**Warramunga Arr**	**40.53**	**159**	P	**P**	**15**	**28**	**25.2 +1.0**
	1.3nm,0.7s,baz=341,slow=8.9,SNR=9.8							
MKAR	**Makanchi Array**	**41.92**	**321**	P	**P**	**15**	**28**	**36.2 +0.7**
	0.1nm,0.5s,baz=112,slow=6.3,SNR=2.0							
ASAR	**Alice Springs**	**43.85**	**161**	P	**P**	**15**	**28**	**53.4 +2.0**
	0.8nm,0.6s,baz=340,slow=6.7,SNR=23							
KURK	**Kurchatov**	**45.98**	**324**	P	**P**	**15**	**29**	**07.5 -0.5**
	0.4nm,0.5s,baz=123,slow=7.9,SNR=5.2							
YKA	**Yellowknife Ar**	**88.97**	**22**	P	**P**	**15**	**33**	**38.5 -0.7**
	0.3nm,0.9s,baz=320,slow=4.2,SNR=4.7							

IDC 29 15:24:27.7±7.6, 4°.69S×151°.27E, h93km±54km, mb3.1/2, mb1 3.3/3, mb1mx3.0/17, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=133.1km s-min=50.7km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**221**	P	Pn	15	25	57.8 +1.0
	1.4nm,0.3s,baz=50,slow=7.9,SNR=6.0							
PMG				S	Sn	15	27	07.9 +1.5
	2.8nm,0.3s,baz=156,slow=19,SNR=6.5							
WRA	**Warramunga Arr**	**22.39**	**226**	P	P	15	29	17.9 -0.7
	1.0nm,0.7s,baz=52,slow=10,SNR=5.6							
WRA				pP	pP	15	29	37.2 +0.1
	1.1nm,0.7s,baz=52,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**25.22**	**220**	P	P	15	29	44.6 -0.4
	0.2nm,0.3s,baz=53,slow=8.7,SNR=8.6							
ASAR				pP	pP	15	30	04.2 -1.7
	1.2nm,0.7s,baz=53,slow=9.1,SNR=8.5							
TORD	**Torodi Ar. Bea**	**148.82**	**288**	PKPbc	PKPbc	15	44	05.4 -0.1
	0.3nm,0.8s,baz=72,slow=0.5,SNR=2.9							

IDC 29 15:53:44.2±3.2, 2°.59S×99°.05E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=128.3km s-min=21.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.91**	**360**	P	P	15	58	28.3 -0.3
	0.8nm,0.8s,baz=191,slow=9.6,SNR=7.4							
WRA	**Warramunga Arr**	**38.52**	**119**	P	P	16	01	10.2 +1.4
	0.3nm,0.9s,baz=302,slow=9.1,SNR=2.9							
ASAR	**Alice Springs**	**39.69**	**125**	P	P	16	01	16.9 -1.6
	0.3nm,0.8s,baz=294,slow=8.0,SNR=3.8							
SONM	**Songino Array**	**50.62**	**6**	P	P	16	02	44.9 -0.3
	0.3nm,0.5s,baz=180,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**51.34**	**345**	P	P	16	02	51.3 +0.8
	0.6nm,0.4s,baz=160,slow=8.8,SNR=13							
ZALV	**Zalesovo Beam**	**57.57**	**350**	P	P	16	03	35.2 -0.4
	0.8nm,0.4s,baz=180,slow=4.6,SNR=6.8							
TXAR	**Lajitas Array**	**145.74**	**37**	PKPbc	PKPdf	16	13	24.0 -1.7
	0.2nm,0.7s,baz=270,slow=0.9,SNR=2.3							

IDC 29 15:54:08.8±16.0, 0°.27S×133°.22E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/17, mbtmp3.6/3, Error ellipse: s-maj=248.5km s-min=121.4km az=164.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.59**	**177**	P	P	15	58	39.1 +0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**23.27**	**178**	P	P	15	59	18.2 0.0
	0.6nm,0.3s,baz=356,slow=10,SNR=21							
STKA	**Stephens Creek**	**32.43**	**167**	P	P	16	00	40.3 -0.4
	0.4nm,0.4s,baz=331,slow=13,SNR=3.3							

*OMAN **29** 15:55:28.0±99.0, 29°.79N×58°.43E, h16km±999km, Error ellipse: s-maj=392.1km s-min=45.6km az=14.0*
*ISCJB **29** 15:55:41.4±0.5, 28°.67N±0°.03×57°.85E±0°.06, h10km, Error ellipse: s-maj=8.2km s-min=4.6km az=7.8*
*THR **29** 15:55:41.7±0.7, 28°.74N×57°.68E, h14km±8km, ML3.7*
*CSEM **29** 15:55:42.0±0.3, 28°.70N×57°.81E, h2km, ML3.7, Error ellipse: s-maj=10.6km s-min=6.2km az=87.0*
*TEH **29** 15:55:43.5, 28°.66N×57°.88E, h10km, ML3.7*
ISC 29 15:55:42.1±1.3, 28°.73N±0°.04×57°.81E±0°.07, h10km, n52, σ1§47/56, 5C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**1.54**	**324**	*e*Pg	**Pn**	**15**	**56**	**08.9 -1.1**
KRBR				AML	AML	15	56	33.2
	comp=E,2μm,0.5s							
KRBR	**Kerman**	**1.54**	**324**	*e*Pg	**Pn**	**15**	**56**	**08.9 -1.1**
IBND	**Bandar-abas**	**1.70**	**221**	*e*Pn	**Pn**	**15**	**56**	**12.4 +0.6**
IBND				*e*Sg	**Sg**	**15**	**56**	**36.4 -0.4**
IBND				*e*		15	56	47.3
	comp=Z,11μm,0.3s							
IBND	**Bandar-abas**	**1.70**	**221**	*e*Pn	**Pn**	**15**	**56**	**12.4 +0.6**
IBND				*e*Sg	**Sg**	**15**	**56**	**36.4 -0.4**
BNDS	**Bandar-Abbas**	**1.96**	**228**	*e*Pg	**Pn**	**15**	**56**	**16.0 +0.4**
BNDS				AML	AML	15	56	52.6
	comp=N,399nm,0.4s							
BNDS	**Bandar-Abbas**	**1.96**	**228**	*e*Pg	**Pn**	**15**	**56**	**16.0 +0.4**
BANOM	**Banah**	**3.10**	**206**	P	**Pn**	**15**	**56**	**31.6 +0.4**
	SNR=24							
BANOM	**Banah**	**3.10**	**206**	P	**Pn**	**15**	**56**	**31.6 +0.4**
	SNR=24							
IBAF	**Bafgh**	**3.44**	**326**	*e*Pn	**Pn**	**15**	**56**	**38.7 +2.7**
IBAF				*e*		15	57	34.9
	comp=Z,1μm,0.2s							
IBAF	**Bafgh**	**3.44**	**326**	*e*Pn	**Pn**	**15**	**56**	**38.7 +2.7**
IKOO	**Kooshah**	**3.82**	**15**	*e*Pn	**Pn**	**15**	**56**	**41.7 +0.4**
IKOO				*e*		15	57	48.5
	comp=Z,1μm,0.1s							
IKOO	**Kooshah**	**3.82**	**15**	*e*Pn	**Pn**	**15**	**56**	**41.7 +0.4**
IMEH	**Mehriz**	**3.83**	**315**	*e*Pn	**Pn**	**15**	**56**	**43.3 +1.9**
IMEH				*e*		15	57	48.6
	comp=Z,991nm,0.2s							
IMEH	**Mehriz**	**3.83**	**315**	*e*Pn	**Pn**	**15**	**56**	**43.3 +1.9**
ISRV	**Sarvestan**	**4.16**	**280**	*e*Pn	**Pn**	**15**	**56**	**47.4 +1.4**
ISRV				*e*		15	58	21.0
	comp=Z,1μm,0.6s							
ISRV	**Sarvestan**	**4.16**	**280**	*e*Pn	**Pn**	**15**	**56**	**47.4 +1.4**
HATD	**Hatta, Dubai**	**4.17**	**201**	⇑P	**Pn**	**15**	**56**	**48.9 +3.0**
HATD	**Hatta, Dubai**	**4.17**	**201**	P	**Pn**	**15**	**56**	**48.9 +3.0**
GHIR	**Ghir-Karzin**	**4.26**	**265**	*e*Pn	**Pn**	**15**	**56**	**47.2 0.0**
GHIR	**Ghir-Karzin**	**4.26**	**265**	*e*Pn	**Pn**	**15**	**56**	**47.2 0.0**
IPAR	**Pars**	**4.30**	**286**	*e*Pn	**Pn**	**15**	**56**	**49.8 +1.9**
IPAR				*e*		15	58	04.7
	comp=Z,686nm,0.3s							
IPAR	**Pars**	**4.30**	**286**	*e*Pn	**Pn**	**15**	**56**	**49.8 +1.9**
ASHO	**Ashiyiah**	**4.33**	**202**	⇓P	**Pn**	**15**	**56**	**49.3 +1.3**
	SNR=8.5							
ASHO	**Ashiyiah**	**4.33**	**202**	P	**Pn**	**15**	**56**	**49.3 +1.3**
	SNR=8.5							
IDAH	**Dahanechah**	**4.37**	**23**	*e*Pn	**Pn**	**15**	**56**	**50.0 +1.2**
IDAH				*e*		15	58	12.0
	comp=Z,454nm,0.3s							
IDAH	**Dahanechah**	**4.37**	**23**	*e*Pn	**Pn**	**15**	**56**	**50.0 +1.2**
ICHK	**Chekchek**	**4.57**	**321**	*e*Pn	**Pn**	**15**	**56**	**54.3 +2.8**
ICHK				*e*		15	58	09.9
	comp=Z,802nm,0.3s							
ICHK	**Chekchek**	**4.57**	**321**	*e*Pn	**Pn**	**15**	**56**	**54.3 +2.8**
ASUD	**Al Ashush, Dub**	**4.65**	**209**	P	**Pn**	**15**	**56**	**54.0 +1.5**
	SNR=12							
ASUD	**Al Ashush, Dub**	**4.65**	**209**	P	**Pn**	**15**	**56**	**54.0 +1.5**
	SNR=12							
IMON	**Monand**	**4.72**	**19**	*e*Pn	**Pn**	**15**	**56**	**55.1 +1.5**
IMON				*e*		15	57	12.1
	comp=Z,480nm,0.1s							
IMON	**Monand**	**4.72**	**19**	*e*Pn	**Pn**	**15**	**56**	**55.1 +1.5**
ISAD	**Sadrabad**	**4.77**	**313**	*e*Pn	**Pn**	**15**	**56**	**56.6 +2.3**
ISAD				*e*Sg	**Sg**	**15**	**58**	**14.8 -0.5**
ISAD				*e*		15	58	20.7
	comp=Z,588nm,0.3s							
ISAD	**Sadrabad**	**4.77**	**313**	*e*Pn	**Pn**	**15**	**56**	**56.6 +2.3**
ISAD				*e*Sg	**Sg**	**15**	**58**	**14.8 -0.5**
TABS	**Tabas**	**4.94**	**353**	*e*Pn	**Pn**	**15**	**56**	**57.4 +1.0**
TABS				AML	AML	15	58	22.6
	comp=N,63nm,0.6s							
TABS				AML	AML	15	58	34.5
	comp=E,30nm,0.6s							
TABS	**Tabas**	**4.94**	**353**	*e*Pn	**Pn**	**15**	**56**	**57.4 +1.0**
HOQ	**Hoqain**	**5.15**	**185**	⇑P	**Pn**	**15**	**56**	**57.9 -1.4**
HOQ	**Hoqain**	**5.15**	**185**	P	**Pn**	**15**	**56**	**57.9 -1.4**
ARQ	**Araqi**	**5.50**	**192**	⇑P	**Pn**	**15**	**57**	**05.1 +1.0**
ARQ	**Araqi**	**5.50**	**192**	P	**Pn**	**15**	**57**	**05.1 +1.0**
SMDO	**Samad**	**5.66**	**178**	⇑P	**Pn**	**15**	**57**	**06.2 -0.1**
SMDO	**Samad**	**5.66**	**178**	P	**Pn**	**15**	**57**	**06.2 -0.1**
BSY	**Bisya**	**5.99**	**185**	⇓P	**Pn**	**15**	**57**	**11.8 +0.9**
BSYO	**Bisya**	**6.00**	**185**	P	**Pn**	**15**	**57**	**11.8 +0.8**
WBK	**Wadi Bani Khal**	**6.19**	**170**	⇑P	**Pn**	**15**	**57**	**12.6 -1.0**
WBK	**Wadi Bani Khal**	**6.19**	**170**	P	**Pn**	**15**	**57**	**12.6 -1.0**
RDF	**Al-Radifah**	**9.00**	**274**	*e*P	**Pn**	**15**	**57**	**51.4 -0.7**
RDF				AML	AML	15	59	26.9
	comp=Z,9.5nm,0.4s							
RDF	**Al-Radifah**	**9.00**	**274**	*e*P	**Pn**	**15**	**57**	**51.4 -0.7**
MIB	**Mutribah**	**9.21**	**279**	*e*P	**Pn**	**15**	**57**	**54.5 -0.4**
MIB				AML	AML	15	59	34.4
	comp=Z,15nm,0.5s							
MIB	**Mutribah**	**9.21**	**279**	*e*P	**Pn**	**15**	**57**	**54.5 -0.4**
NAY	**Al-Naaiem**	**9.27**	**276**	*e*P	**Pn**	**15**	**57**	**54.7 -1.1**
NAY				AML	AML	15	59	35.0
	comp=Z,6.3nm,0.5s							
NAY	**Al-Naaiem**	**9.27**	**276**	*e*P	**Pn**	**15**	**57**	**54.7 -1.1**

IDC 29 15:57:50.4±13.0, 0°.82S×133°.22E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/17, mbtmp3.6/3, Error ellipse: s-maj=205.9km s-min=126.5km az=155.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.04**	**177**	P	P	16	02	14.4 +0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**22.73**	**178**	P	P	16	02	54.9 +0.7
	2.1nm,1.0s,baz=357,slow=11,SNR=11							
STKA	**Stephens Creek**	**31.89**	**166**	P	P	16	04	16.7 -0.9
	1.5nm,0.9s,baz=345,slow=11,SNR=3.1							

IDC 29 16:01:20.3±1.1, 11°.60S×165°.19E, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, ML4.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=34.1km s-min=25.3km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.59**	**292**	Pn	Pn	16	02	43.2 -1.5
	10nm,0.3s,baz=86,slow=6.0,SNR=3.2							
DZM	**Mont Dzumac**	**10.49**	**174**	Pn	Pn	16	03	52.7 +0.6
	2.3nm,0.3s,baz=168,slow=23,SNR=31							
CTA	**Charters Tower**	**20.06**	**243**	LR	LR	16	12	04.5
	comp=Z,53nm,19.7s,baz=51,slow=32							
AFI	**Afiamalu**	**22.58**	**98**	LR	LR	16	13	22.4
	comp=Z,86nm,20.9s,baz=275,slow=32							
STKA	**Stephens Creek**	**29.67**	**223**	LR	LR	16	17	55.0
	comp=Z,86nm,19.4s,baz=24,slow=34							
WRA	**Warramunga Arr**	**30.79**	**250**	P	P	16	07	37.6 -0.3
	0.8nm,0.8s,baz=79,slow=9.0,SNR=3.7							
ASAR	**Alice Springs**	**32.06**	**244**	P	P	16	07	48.5 -0.7
	0.6nm,1.0s,baz=71,slow=11,SNR=3.1							
FITZ	**Fitzroy Crossi**	**38.72**	**255**	LR	LR	16	23	37.0
	comp=Z,47nm,18.6s,baz=173,slow=34							
CMAR	**Chiang Mai Arr**	**71.83**	**294**	P	P	16	12	46.4 +0.8
	0.2nm,0.3s,baz=122,slow=4.3,SNR=4.3							
SONM	**Songino Array**	**78.79**	**324**	P	P	16	13	25.7 +0.6
	0.6nm,0.9s,baz=116,slow=3.4,SNR=4.6							
ILAR	**Eielson Array**	**84.20**	**19**	P	P	16	13	53.5 +0.2
	0.4nm,0.5s,baz=239,slow=5.2,SNR=9.9							
NVAR	**Mina Array Bea**	**86.79**	**50**	P	P	16	14	06.9 -0.2
	0.5nm,0.7s,baz=276,slow=4.4,SNR=3.6							
MKAR	**Makanchi Array**	**93.55**	**317**	P	P	16	14	38.9 +0.6
	0.5nm,0.7s,baz=106,slow=5.5,SNR=6.7							
YKA	**Yellowknife Ar**	**95.71**	**27**	P	P	16	14	45.8 -1.9
	0.1nm,0.4s,baz=260,slow=3.7,SNR=3.3							

IDC 29 16:09:43.1±5.4, 5°.33S×132°.83E, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.2/13, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=329.3km s-min=30.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.60**	**174**	Pn	Pn	16	13	13.1 +2.0
	0.1nm,0.3s,baz=355,slow=13,SNR=6.2							
WRA				Sn	Sn	16	15	53.8 0.0
	0.1nm,0.3s,baz=8.8,slow=23,SNR=1.7							
ASAR	**Alice Springs**	**18.26**	**177**	P	Pn	16	13	57.0 -1.1
	0.1nm,0.3s,baz=355,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**68.42**	**325**	P	P	16	20	47.0 +0.1
	0.1nm,0.4s,baz=132,slow=7.4,SNR=3.6							

*TAP **29** 16:14:57.8, 24°.88N×122°.01E, h6km, ML3.3, C*
*JMA **29** 16:15:08.9±0.3, 24°.86N×123°.05E, h1km, M2.3*
ISC 29 16:14:56.0±1.0, 24°.89N±0°.03×122°.17E±0°.02, h14km±8km, n43, σ1§27/62, 10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.20**	**305**	⇓*i*P	**Pg**	**16**	**15**	**01.0 +0.4**
	baz=355							
TWB1				*i* S	**Sg**	**16**	**15**	**03.0 -0.7**
	baz=355							
NWF	**Wu-fen Shan**	**0.39**	**297**	⇓*i*P	**Pg**	**16**	**15**	**04.5 +0.5**
	baz=313							
NWF				*i* S	**Sg**	**16**	**15**	**08.9 -0.5**
	baz=313							
ILA	**Ilan**	**0.40**	**252**	P	**Pg**	**16**	**15**	**03.9 -0.2**
	baz=244							
ILA				S	**Sg**	**16**	**15**	**08.4 -1.1**
	baz=244							
TWC	**Suao**	**0.41**	**226**	⇓P	**Pg**	**16**	**15**	**04.4 +0.3**
	baz=207							
TWC				S	**Sg**	**16**	**15**	**08.2 -1.4**
	baz=207							
TWE	**Neicheng**	**0.49**	**249**	⇓*i*P	**Pg**	**16**	**15**	**05.3 -0.3**
	baz=242							
TWE				*e*S	**Sg**	**16**	**15**	**10.1 -2.1**
	baz=242							
TWA	**Mucha**	**0.54**	**279**	⇓*i*P	**Pg**	**16**	**15**	**06.6 0.0**
	baz=285							
TWA				S	**Sg**	**16**	**15**	**12.1 -1.7**
	baz=285							
ENTT	**Nioudou**	**0.60**	**245**	P	**Pg**	**16**	**15**	**07.5 -0.3**
	baz=239							
ENTT				*e*S	**Sg**	**16**	**15**	**14.2 -1.6**
	baz=239							
TAP1	**Taipei**	**0.60**	**284**	⇓*i*P	**Pb**	**16**	**15**	**08.4 +0.1**
	baz=290							
TAP1				*e*S	**Sg**	**16**	**15**	**14.3 -1.6**
	baz=290							
ENA	**Nanau**	**0.60**	**220**	*e*P	**Pg**	**16**	**15**	**08.2 +0.3**
	baz=207							
TWY	**Chenhua**	**0.64**	**307**	⇓*i*P	**Pb**	**16**	**15**	**09.6 +0.6**
	baz=317							
TWS1	**Kuangyinshan**	**0.71**	**287**	⇓P	**Pb**	**16**	**15**	**10.8 +0.7**
	baz=293							
TWS1				*e*S	**Sg**	**16**	**15**	**18.6 -0.7**
	baz=293							
NSK	**Sanguang**	**0.77**	**254**	⇓*i*P	**Pg**	**16**	**15**	**10.1 -0.8**
	baz=251							
NSK				*e*S	**Sg**	**16**	**15**	**17.7 -3.3**
	baz=251							
NNS	**Nan Shan**	**0.85**	**238**	P	**Pg**	**16**	**15**	**12.4 -0.2**
	baz=232							
YOJ	**Yonaguni jima**	**0.88**	**119**	P	**Pn**	**16**	**15**	**16.9 +3.1**
YOJ				*e*S	**Sg**	**16**	**15**	**22.7 -1.8**
NCU	**National Centr**	**0.90**	**275**	⇓P	**Pb**	**16**	**15**	**14.4 +1.2**
	baz=278							
NCU				*e*S	**Sg**	**16**	**15**	**25.1 +0.1**
	baz=278							
TWD	**Chiawan**	**0.96**	**213**	*e*P	**Pb**	**16**	**15**	**15.2 +0.8**
	baz=196							
TWD				*e*S	**Sg**	**16**	**15**	**25.9 -1.3**
	baz=196							
HSN	**Hsinchu**	**1.09**	**265**	*e*P	**Pg**	**16**	**15**	**17.0 -0.1**
	baz=268							
HSN				*e*S	**Sg**	**16**	**15**	**30.2 -1.2**
	baz=268							
NSTT	**Nanjuang**	**1.09**	**256**	*e*P	**Pg**	**16**	**15**	**17.0 -0.1**
	baz=256							
NSTT				*e*S	**Sg**	**16**	**15**	**30.8 -0.6**
	baz=256							
TWT	**Tachien**	**1.11**	**235**	*e*P	**Pg**	**16**	**15**	**17.7 +0.4**
	baz=222							
WHF	**Hehuan Shan**	**1.11**	**228**	*e*P	**Pg**	**16**	**15**	**17.7 +0.3**
	baz=223							
ESL	**Shilin**	**1.27**	**212**	*e*P	**Pg**	**16**	**15**	**20.2 -0.1**
	baz=207							
NSY	**Sanyi**	**1.37**	**250**	*e*P	**Pg**	**16**	**15**	**22.3 0.0**
	baz=249							
NSY				*e*S	**Sg**	**16**	**15**	**40.1 0.0**
	baz=249							
TWQ1	**Liyutan**	**1.38**	**247**	*e*P	**Pn**	**16**	**15**	**21.9 +1.1**
	baz=265							
IRIF	**Iriomote-Funau**	**1.53**	**111**	P	**Pg**	**16**	**15**	**24.8 -0.5**
IRIF				*e*S	Sb	16	15	35.2 -8.0
SMLT	**Sun Moon Lake**	**1.53**	**229**	*e*P	**Pn**	**16**	**15**	**24.7 +1.7**
	baz=216							
TYC	**Yuchr**	**1.55**	**231**	*e*P	**Pb**	**16**	**15**	**25.3 +0.9**
	baz=236							
EHY	**Hungye**	**1.58**	**209**	*e*P	**Pb**	**16**	**15**	**26.3 +1.3**
	baz=207							
WNT	**Mingjian**	**1.69**	**234**	*e*P	**Pg**	**16**	**15**	**30.0 +1.6**
	baz=221							
HATJ	**Hateruma jima**	**1.71**	**119**	P	**Pg**	**16**	**15**	**29.5 +0.7**
HATJ				*e*S	**Sn**	**16**	**15**	**42.8 -4.0**
TWF1	**Yuli**	**1.73**	**208**	*e*P	**Pb**	**16**	**15**	**28.1 +0.6**
	baz=215							
JKRS	**Kuro-shima**	**1.80**	**111**	P	**Pg**	**16**	**15**	**29.8 -0.7**
JIJ	**Ishigaki jima**	**1.87**	**106**	P	**Pb**	**16**	**15**	**30.6 +0.7**
CHN5	**Tsauling**	**1.88**	**227**	*e*P	**Pg**	**16**	**15**	**31.9 -0.1**
	baz=216							
CHN5				*e*S	**Sg**	**16**	**15**	**56.9 +0.6**
	baz=216							
ELDTW	**Lidau**	**2.00**	**212**	*e*P	**Pg**	**16**	**15**	**34.3 0.0**
	baz=211							
CHN4	**Tsaushan**	**2.10**	**223**	*e*P	**Pb**	**16**	**15**	**34.5 +0.6**
	baz=224							
STYT	**Tauyuan**	**2.15**	**217**	*e*P	**Pg**	**16**	**15**	**36.8 -0.5**
	baz=204							
WTP	**Ta-pu**	**2.17**	**221**	*e*P	**Pb**	**16**	**15**	**35.9 +0.8**
	baz=224							
TWK	**Hsinying**	**2.23**	**224**	*e*P	**Pn**	**16**	**15**	**35.2 +2.6**
	baz=224							
CHN1	**Nanshi**	**2.27**	**222**	*e*P	**Pb**	**16**	**15**	**37.7 +1.0**
	baz=222							
TWG	**Pinlang**	**2.29**	**206**	*e*P	**Pb**	**16**	**15**	**36.8 -0.4**
	baz=207							
SGST	**Jiashian**	**2.31**	**219**	*e*P	**Pb**	**16**	**15**	**38.6 +1.1**
	baz=207							
SSD	**Sandimen**	**2.56**	**214**	*e*P	**Pb**	**16**	**15**	**42.9 +1.2**
	baz=217							
QZH	**Quanzhou**	**3.25**	**272**	Pn	**Pn**	**16**	**15**	**47.0 +0.6**
QZH				Sn	**Sn**	**16**	**16**	**22.8 -2.1**
QZH				smax	smax			
	comp=N,50nm,0.8s							
QZH				smax	smax			
	comp=E,70nm,1.0s							

*ISCJB **29** 16:30:09.7±0.7, 48°.2N±0°.1×153°.4E±0°.2, h132km, mb3.4/13, Error ellipse: s-maj=20.1km s-min=11.2km az=135.0*
*MOS **29** 16:30:11.6±1.0, 48°.22N×153°.31E, h152km, mb4.0/7, Error ellipse: s-maj=25.5km s-min=14.7km az=76.4*
*IDC **29** 16:30:12.3±2.5, 48°.17N×153°.39E, h141km±22km, mb3.2/13, mb1 3.4/15, mb1mx3.3/25, mbtmp3.2/15, Error ellipse: s-maj=19.2km s-min=13.7km az=128.0*
ISC 29 16:30:11.6±0.8, 48°.2N±0°.1×153°.4E±0°.1, h132km, n31, σ0§79/30, mb3.6/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.02**	**35**	*e*PN	Pn	16	31	09.0 +11
SKR				pmax	pmax			
	comp=Z

GERES **GERESS Array B** 77.20 334 P **P** 16 41 50.7 0.0

*ISCJB **29** 16:38:39.6±0.8,31°.39S±0°.04×68°.8W±0°.1,h139km±16km, mb4.4/1,Error ellipse: s-maj=19.0km s-min=5.4km az=173.2*
*NEIC **29** 16:38:39.5±0.8,31°.39S×68°.57W,h111km±15km,mb4.4/4, MD4.2(SJA),Error ellipse: s-maj=15.7km s-min=6.9km az=77.0*
NEIC Felt [III] at San Juan.
*GUC **29** 16:38:39.9±0.6,31°.38S×68°.90W,h150km,ML4.2*

ISC 29 16:38:41.2±1.5,31°.38S±0°.04×68°.9W±0°.2,h139km±18km, n33,σ0°.74/52,12C-9D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.95**	**228**	⇑*i*P		**Pn**	**16 39 15.2**	**+0.1**
JACH				*i*S		**Sn**	**16 39 42.0**	**+0.8**
JACH	**Jahuel**	**1.95**	**228**	⇑*i*P		**Pn**	**16 39 15.2**	**+0.1**
JACH				*i*S		**Sn**	**16 39 42.0**	**+0.8**
PTCH	**Petorca**	**1.96**	**243**	⇑*i*P		**Pn**	**16 39 14.7**	**-0.4**
PTCH				*i*S		**Sn**	**16 39 41.3**	**+0.1**
PTCH	**Petorca**	**1.96**	**243**	⇑*i*P		**Pn**	**16 39 14.7**	**-0.4**
PTCH				*i*S		**Sn**	**16 39 41.3**	**+0.1**
PTCH				AML	AML		16 39 43.2	
	comp=E,2μm,0.4s							
TLL	**Tololo Astrono**	**2.05**	**306**	⇓*i*P		**Pn**	**16 39 16.8**	**+0.2**
TLL				*i*S		**Sn**	**16 39 44.3**	**+0.7**
TLL	**Tololo Astrono**	**2.05**	**306**	⇓*i*P		**Pn**	**16 39 16.8**	**+0.2**
TLL				*i*S		**Sn**	**16 39 44.3**	**+0.7**
TLL				AML	AML		16 39 47.5	
	comp=N,850nm,0.4s							
OVCH	**Ovalle**	**2.14**	**291**	⇓*i*P		**Pn**	**16 39 17.3**	**0.0**
OVCH				*i*S		**Sn**	**16 39 45.2**	**+0.1**
OVCH	**Ovalle**	**2.14**	**291**	⇓*i*P		**Pn**	**16 39 17.3**	**0.0**
OVCH				*i*S		**Sn**	**16 39 45.2**	**+0.1**
FCH	**Farellones**	**2.28**	**211**	*e*P		**Pn**	**16 39 19.5**	**+0.2**
FCH				*i*S		**Sn**	**16 39 49.9**	**+1.2**
FCH				AML	AML		16 39 54.8	
	comp=N,592nm,0.2s							
CHNG	**Los Chungos**	**2.29**	**257**	⇑*i*P		**Pn**	**16 39 18.4**	**-0.7**
CHNG				*i*S		**Sn**	**16 39 47.7**	**-0.6**
CHNG	**Los Chungos**	**2.29**	**257**	⇑*i*P		**Pn**	**16 39 18.4**	**-0.7**
CHNG				*i*S		**Sn**	**16 39 47.7**	**-0.6**
PEL	**Peldehue**	**2.33**	**221**	⇑*i*P		**Pn**	**16 39 19.4**	**-0.3**
PEL				*i*S		**Sn**	**16 39 49.2**	**-0.1**
PEL				AML	AML		16 39 51.1	
	comp=E,2μm,0.3s							
ROCH	**El Roble**	**2.40**	**228**	⇓*i*P		**Pn**	**16 39 19.8**	**-1.0**
ROCH				*i*S		**Sn**	**16 39 50.9**	**-0.4**
ROCH				AML	AML		16 39 53.1	
	comp=N,991nm,0.3s							
CLCH	**Cerro Calan**	**2.45**	**215**	*e*P		**Pn**	**16 39 21.1**	**-0.1**
CLCH				*i*S		**Sn**	**16 39 52.3**	**+0.2**
CLCH				AML	AML		16 39 59.9	
	comp=E,856nm,0.5s							
STL	**Santa Lucia**	**2.53**	**216**	*e*P		**Pn**	**16 39 21.6**	**-0.6**
STL				*i*S		**Sn**	**16 39 54.0**	**+0.1**
PCH	**Pirque**	**2.62**	**211**	⇓*i*P		**Pn**	**16 39 23.3**	**-0.1**
PCH	**Pirque**	**2.62**	**211**	⇓*i*P		**Pn**	**16 39 23.3**	**-0.1**
ANTU	**Antumapu**	**2.64**	**214**	*e*P		**Pn**	**16 39 23.0**	**-0.5**
ANTU				*i*S		**Sn**	**16 39 56.3**	**+0.1**
ANTU	**Antumapu**	**2.64**	**214**	*e*P		**Pn**	**16 39 23.0**	**-0.5**
ANTU				*i*S		**Sn**	**16 39 56.3**	**+0.1**
ANTU				AML	AML		16 39 57.4	
	comp=E,879nm,0.2s							
RCDM	**Rinconada Maip**	**2.66**	**217**	P		**Pn**	**16 39 22.9**	**-0.9**
RCDM	**Rinconada Maip**	**2.66**	**217**	⇑*i*P		**Pn**	**16 39 22.9**	**-0.9**
RCDM				AML	AML		16 39 55.9	
	comp=N,1μm,0.4s							
LMEL	**Las Melosas**	**2.70**	**204**	⇑*i*P		**Pn**	**16 39 24.0**	**-0.4**
LMEL	**Las Melosas**	**2.70**	**204**	⇑*i*P		**Pn**	**16 39 24.0**	**-0.4**
LMEL				AML	AML		16 40 07.9	
	comp=N,394nm,0.2s							
LCO	**Las Campanas**	**2.84**	**326**	*e*Pn		**Pn**	**16 39 24.4**	**-2.0**
LCO				⇑*i*P			16 39 26.1	
LCO				*e*Sn		**Sn**	**16 40 00.5**	**-0.7**
LCO	**Las Campanas**	**2.84**	**326**	⇑*i*P		**Pn**	**16 39 26.1**	**-0.3**
LCO				AML	AML		16 40 01.4	
	comp=E,680nm,0.2s							
CHCH	**Chadas Angostu**	**2.95**	**210**	*e*P		**Pn**	**16 39 27.0**	**-0.5**
CHCH				*e*S		**Sn**	**16 40 03.1**	**-0.2**
CHCH	**Chadas Angostu**	**2.95**	**210**	*e*P		**Pn**	**16 39 27.0**	**-0.5**
CHCH				*e*S		**Sn**	**16 40 03.1**	**-0.2**
VACH	**Vallenar**	**3.24**	**329**	⇓*i*P		**Pn**	**16 39 30.8**	**-0.4**
VACH	**Vallenar**	**3.24**	**329**	⇓*i*P		**Pn**	**16 39 30.8**	**-0.4**
TRQA	**Tornquist**	**8.75**	**141**	*e*Pn		Pn	16 40 40.4	-4.2
	comp=E,7.3nm,0.5s							
TRQA				*e*Sn		Sn	16 42 11.6	-10
PLCA	**Paso Flores**	**9.43**	**188**	Pn		**Pn**	**16 40 51.2**	**-2.5**
	comp=E,4.7nm,1.2s							
LPAZ	**La Paz**	**15.04**	**3**	*e*Pn		**P**	**16 42 08.2**	**-1.2**
	comp=E,3.0nm,0.6s							
TEIG	**Tepich**	**54.59**	**337**	P		**P**	**16 47 57.0**	**+1.8**
	comp=E,4.1nm,0.5s							

IDC 29 16:39:25.8±1.9,7°.03S×152°.84E,h0km,mb3.3/6, mb1 3.6/7,mb1mx3.5/16,mbtmp3.4/7,ML2.4/1,Error ellipse: s-maj=62.0km s-min=25.6km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**247**	Pn		Pn	16 40 57.3	0.0
	0.5nm,0.3s,baz=11,slow=19,SNR=2.5							
WRA	**Warramunga Arr**	**22.06**	**233**	P		P	16 44 23.7	+1.2
	0.6nm,0.8s,baz=55,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**24.58**	**226**	P		P	16 44 47.5	-0.4
	0.3nm,0.5s,baz=60,slow=8.8,SNR=11							
CMAR	**Chiang Mai Arr**	**58.87**	**296**	P		P	16 49 26.6	-0.5
	0.5nm,0.9s,baz=108,slow=7.1,SNR=4.6							
SONM	**Songino Array**	**68.23**	**328**	P		P	16 50 28.9	+0.4
	0.4nm,0.7s,baz=144,slow=5.5,SNR=3.4							
MKAR	**Makanchi Array**	**82.03**	**319**	P		P	16 51 48.2	+0.1
	0.2nm,0.7s,baz=107,slow=5.0,SNR=2.7							
ILAR	**Eielson Array**	**84.20**	**22**	P		P	16 51 59.3	+0.4
	0.3nm,0.7s,baz=218,slow=5.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**150.96**	**284**	PKPbc		PKPbc	16 59 20.8	-1.0
	0.4nm,0.7s,baz=101,slow=4.3,SNR=2.6							

IDC 29 16:39:41.2±3.3,29°.66S×177°.67W,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.7/15,mbtmp3.6/4,Error ellipse: s-maj=199.7km s-min=30.7km az=159.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.93**	**256**	P		P	16 46 35.2	+0.4
	1.2nm,0.9s,baz=101,slow=10,SNR=3.6							
ASAR	**Alice Springs**	**43.44**	**266**	P		P	16 47 45.6	-0.4
	0.2nm,0.5s,baz=104,slow=6.9,SNR=6.1							
WRA	**Warramunga Arr**	**44.36**	**271**	P		P	16 47 53.5	-0.1
	0.6nm,0.5s,baz=110,slow=8.1,SNR=9.9							
NVAR	**Mina Array Bea**	**87.51**	**43**	P		P	16 52 31.4	+0.3
	0.2nm,0.5s,baz=205,slow=3.7,SNR=2.8							
FINES	**FINESS Array B**	**144.55**	**341**	PKP		PKPab	16 59 17.1	-0.2
	1.2nm,0.5s,baz=51,slow=4.8,SNR=7.6							

*GUC **29** 16:43:28.7±0.5,42°.90S×72°.52W,h19km±4km,ML3.5*
*ISCJB **29** 16:43:29.7±1.1,42°.86S±0°.07×72°.6W±0°.1,h10km,mb3.8/2, Error ellipse: s-maj=15.1km s-min=5.7km az=38.8*
*IDC **29** 16:43:30.4±1.3,42°.92S×72°.33W,h0km,mb3.7/2, mb1 4.1/3,mb1mx3.8/14,mbtmp3.8/3,ML4.2/1,Error ellipse: s-maj=64.3km s-min=18.6km az=121.0*

ISC 29 16:43:31.1±0.9,42°.80S±0°.09×72°.7W±0°.1,h10km,n10, σ1°.33/13,2C,Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.46**	**24**	⇑*i*P		**Pg**	**16 43 38.8**	**-1.2**
HUNY				*i*S		**Sg**	**16 43 46.8**	**+0.7**
HUNY				AML	AML		16 43 49.5	
	comp=E,2μm,0.6s							
ILCA	**Isla Las Cabra**	**0.74**	**7**	⇑*i*P		**Pg**	**16 43 44.0**	**-1.4**
ILCA				*i*S		**Sg**	**16 43 56.1**	**+1.0**
ILCA				AML	AML		16 43 57.4	
	comp=E,917nm,0.5s							
QLLN	**Quelln**	**0.77**	**246**	*e*P		**Pg**	**16 43 44.7**	**-1.3**
QLLN				*i*S		**Sg**	**16 43 56.0**	**0.0**
QLLN				AML	AML		16 44 04.3	
	comp=N,6μm,0.7s							
PLCA	**Paso Flores**	**2.60**	**38**	Pn		**Pn**	**16 44 13.9**	**+0.7**
	comp=N,10nm,0.3s,baz=214,slow=15,SNR=98							
PLCA				Pg		**Pb**	**16 44 16.4**	**-1.5**
	comp=N,10nm,0.3s,baz=224,slow=16,SNR=100							
PLCA				Lg		Lg	16 44 52.6	
	comp=N,17nm,0.3s,baz=127,slow=23,SNR=10.0							
COYC	**Coyhaique**	**2.81**	**172**	AML		AML	16 44 59.6	
	comp=E,130nm,0.8s							
TORD	**Torodi Ar. Bea**	**87.69**	**70**	P		**P**	**16 56 18.9**	**-1.3**
	comp=E,0.4nm,0.9s,baz=237,slow=6.4,SNR=2.7							
PDAR	**Pinedale Array**	**91.41**	**334**	P		**P**	**16 56 38.6**	**+1.4**
	comp=E,0.5nm,0.8s,baz=147,slow=5.4,SNR=4.1							
ILAR	**Eielson Array**	**121.73**	**331**	PKP		**PKPdf**	**17 02 25.7**	**+1.6**
	comp=E,0.1nm,0.5s,baz=127,slow=1.8,SNR=2.7							
CMAR	**Chiang Mai Arr**	**154.71**	**161**	PKPbc		**PKPbc**	**17 03 34.2**	**+1.5**
	comp=E,0.6nm,0.9s,baz=212,slow=3.5,SNR=5.0							
MKAR	**Makanchi Array**	**161.81**	**69**	PKPab		**PKPab**	**17 04 17.7**	**0.0**
	comp=E,0.7nm,1.0s,baz=289,slow=3.7,SNR=4.8							

*ISCJB **29** 17:16:22.3±0.5,41°.98N±0°.05×142°.57E±0°.04,h68km±3km, mb3.6/10,Error ellipse: s-maj=8.4km s-min=4.5km az=153.3*
*MOS **29** 17:16:22.4±0.9,41°.98N×142°.54E,h73km,mb4.5/5,Error ellipse: s-maj=20.6km s-min=12.7km az=74.1*
*JMA **29** 17:16:23.1±0.2,42°.02N×142°.59E,h63km±2km,M3.3*
*IDC **29** 17:16:23.9±1.0,41°.98N×142°.54E,h67km±7km,mb3.4/10, mb1 3.5/14,mb1mx3.4/26,mbtmp3.4/14,MS2.5/2, Ms1 2.5/2,ms1mx2.1/29,Error ellipse: s-maj=20.1km s-min=9.1km az=102.0*

ISC 29 17:16:23.7±0.6,42°.00N±0°.05×142°.55E±0°.04,h62km±5km, h61km:pP-P,n43,σ0°.81/59,mb3.7/10,3C-6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.32**	**28**	⇑P		**Pn**	**17 16 33.2**	**-0.9**
JNBK				*e*S		**Sn**	**17 16 41.0**	**-0.6**
JEM	**Erimo**	**0.45**	**88**	⇑P		**Pn**	**17 16 34.8**	**-0.5**
JEM				*e*S		**Sn**	**17 16 43.7**	**0.0**
JBT2	**Biratori 2**	**0.79**	**350**	⇓P		**Pn**	**17 16 38.3**	**-0.8**
JBT2				*e*S		**Sn**	**17 16 49.8**	**-0.6**
JCH	**Churui**	**0.86**	**44**	⇑P		**Pn**	**17 16 39.2**	**-0.8**
JKB	**Kayabe**	**1.14**	**265**	⇓P		**Pn**	**17 16 43.1**	**-0.4**
JKB				*e*S		**Sn**	**17 16 58.1**	**-0.2**
JFR	**Furan**	**1.16**	**2**	P		**Pn**	**17 16 43.1**	**-0.8**
JEW	**Eniwo**	**1.17**	**316**	⇓P		**Pn**	**17 16 43.6**	**-0.3**
JNB	**Noboribetsu**	**1.22**	**293**	⇓P		**Pn**	**17 16 43.6**	**-0.9**
JNB				*e*S		**Sn**	**17 16 59.4**	**-0.8**
JOT	**Ohata**	**1.28**	**242**	P		**Pn**	**17 16 45.3**	**-0.1**
JOT				*e*S		**Sn**	**17 17 01.9**	**+0.2**
JOB	**Onbets**	**1.31**	**46**	P		**Pn**	**17 16 46.2**	**+0.4**
JOB				*e*S		**Sn**	**17 17 02.8**	**+0.4**
JAB	**Ashibetsu**	**1.52**	**351**	P		**Pn**	**17 16 48.5**	**-0.2**
JAR	**Ashorobuto**	**1.58**	**34**	⇓P		**Pn**	**17 16 48.9**	**-0.5**
JYM2	**Yakumo 2**	**1.63**	**275**	⇓P		**Pn**	**17 16 49.7**	**-0.3**
JYM2				*e*S		**Sn**	**17 17 09.7**	**-0.3**
ASAJ	**Asahikawa**	**2.12**	**1**	P		**Pn**	**17 16 57.0**	**+0.3**
	9.5nm,0.3s,baz=219,slow=11,SNR=95							
ASAJ				S		**Sn**	**17 17 23.9**	**+2.0**
	10nm,0.3s,baz=62,slow=32,SNR=14							
ASAJ	**Asahikawa**	**2.12**	**1**	P		**Pn**	**17 16 57.0**	**+0.3**
ASAJ				S		**Sn**	**17 17 23.9**	**+2.0**
ASAJ				pmax	pmax			
	comp=Z,10.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,10.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.17**	**49**	*i*P		**Pn**	**17 17 11.5**	**+0.5**
YUK				*i*S		**Sn**	**17 17 46.7**	**-0.9**
YUK				pmax	pmax			
	comp=E,34nm,0.3s							
YUK				pmax	pmax			
	comp=N,36nm,0.3s							
YUK				pmax	pmax			
	comp=Z,42nm,0.3s							
YUK				smax	smax			
	comp=N,169nm,0.5s							
YUK				smax	smax			
	comp=E,203nm,0.5s							
MJAR	**Matsushiro Arr**	**6.41**	**213**	P		**Pn**	**17 17 55.4**	**0.0**
	comp=E,0.4nm,0.3s,baz=23,slow=13,SNR=7.0							
MJAR	**Matsushiro Arr**	**6.41**	**213**	P		**Pn**	**17 17 55.4**	**0.0**
USRK	**Ussuriysk Arra**	**8.03**	**289**	P		**Pn**	**17 18 19.4**	**+1.9**
	comp=E,0.2nm,0.3s,baz=80,slow=15,SNR=4.4							
USRK				LR	LR		17 21 46.1	
	comp=E,36nm,20.2s,baz=22,slow=40							
KSRS	**Korea Array**	**12.14**	**253**	P		**Pn**	**17 19 14.8**	**+1.2**
	comp=E,0.1nm,0.3s,baz=66,slow=14,SNR=3.4							
KSRS				LR	LR		17 23 26.5	
	comp=E,26nm,20.4s,baz=0.0,slow=35							
KSRS	**Korea Array**	**12.14**	**253**	P		**Pn**	**17 19 14.9**	**+1.2**
SONM	**Songino Array**	**26.09**	**295**	P		**P**	**17 21 51.5**	**0.0**
	comp=E,0.5nm,0.7s,baz=74,slow=9.5,SNR=9.4							
SONM	**Songino Array**	**26.09**	**295**	P		**P**	**17 21 51.5**	**0.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**39.38**	**308**	P		**P**	**17 23 46.6**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=79,slow=7.9,SNR=11							
ZALV	**Zalesovo Beam**	**39.38**	**308**	P		**P**	**17 23 46.6**	**-0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**42.40**	**298**	P		**P**	**17 24 11.5**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=79,slow=9.0,SNR=12							
MKAR	**Makanchi Array**	**42.40**	**298**	P		**P**	**17 24 11.5**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**44.88**	**35**	P		**P**	**17 24 31.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=266,slow=5.5,SNR=6.2							
ILAR	**Eielson Array**	**44.88**	**35**	P		**P**	**17 24 31.2**	**-0.3**
INK	**Inuvik**	**49.60**	**29**	P		**P**	**17 25 08.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=198,slow=11,SNR=6.3							
INK	**Inuvik**	**49.60**	**29**	P		**P**	**17 25 08.3**	**+0.2**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**59.10**	**32**	P		**P**	**17 26 17.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=311,slow=7.0,SNR=3.5							
YKA	**Yellowknife Ar**	**59.10**	**32**	P		**P**	**17 26 17.2**	**0.0**
WRA	**Warramunga Arr**	**62.10**	**189**	P		**P**	**17 26 37.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=4.8,slow=7.4,SNR=3.2							
WRA				pP		**pP**	**17 26 56.0**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=6.0,slow=6.9,SNR=2.1							
WRA	**Warramunga Arr**	**62.10**	**189**	P		**P**	**17 26 37.6**	**-0.4**
WRA				*PP		**pP**	**17 26 56.0**	**+1.5**
FINES	**FINESS Array B**	**64.85**	**332**	P		**P**	**17 26 54.7**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=55,slow=7.9,SNR=11							
FINES				pP		**pP**	**17 27 13.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=45,slow=5.9,SNR=1.1							
FINES	**FINESS Array B**	**64.85**	**332**	P		**P**	**17 26 54.7**	**-1.0**
FINES				*PP		**pP**	**17 27 13.2**	**+0.9**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**65.82**	**189**	pP		pP	17 27 20.3	+1.3
	comp=Z,0.3nm,0.9s,baz=4.1,slow=7.7,SNR=1.8							
NB2	**NORSAR Subarra**	**69.95**	**337**	P		**P**	**17 27 27.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**69.95**	**337**	P		**P**	**17 27 27.2**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=39,slow=6.2,SNR=4.5							
NOA				pP		**pP**	**17 27 43.8**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=70,slow=20,SNR=1.0							
NOA	**NORSAR Array B**	**69.95**	**337**	P		**P**	**17 27 27.2**	**-0.8**
NOA				*PP		**pP**	**17 27 43.8**	**-1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**76.23**	**311**	P		**P**	**17 28 05.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.6,SNR=2.8							
BRTR	**Keskin Array B**	**76.23**	**311**	P		**P**	**17 28 05.6**	**0.0**

IDC 29 17:21:08.2±1.9,1°.71N×127°.20E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/17,mbtmp3.4/4,Error ellipse: s-maj=168.7km s-min=23.3km az=65.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.63**	**162**	P		P	17 26 10.6	-0.4
	0.5nm,0.5s,baz=340,slow=11,SNR=8.0							
ASAR	**Alice Springs**	**26.05**	**166**	P		P	17 26 44.4	+0.9
	0.1nm,0.3s,baz=348,slow=13,SNR=6.9							
STKA	**Stephens Creek**	**36.09**	**159**	P		P	17 28 11.2	-0.7
	1.3nm,0.8s,baz=336,slow=10.0,SNR=3.0							
MKAR	**Makanchi Array**	**59.48**	**326**	P		P	17 31 13.1	-0.1
	0.3nm,0.9s,baz=117,slow=8.5,SNR=3.2							

MEX 29 17:44:12.9±0.5,16°.67N×99°.67W,h4km±3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.27**	**317**	*i*P		Pg	17 44 18.7	+0.6
ACX				*i*S		Sg	17 44 22.8	+1.1
CAIG	**El Cayaco**	**0.69**	**303**	*e*P		Pg	17 44 25.2	-0.9
CAIG				*i*S		Sg	17 44 34.8	-0.2
PLIG	**Platanillo**	**1.72**	**5**	*i*P		Pn	17 44 39.7	-3.9
PLIG				*i*S		Sn	17 45 01.8	-4.4
UTMO	**Huajuapan**	**2.12**	**57**	*i*P		Pn	17 44 45.8	-3.5
UTMO				*i*S		Sn	17 45 11.4	-4.9
YAIG	**Yautepec**	**2.25**	**15**	*i*P		Pn	17 44 46.8	-4.4
YAIG				*i*S		Sn	17 45 14.6	-4.9
PPM	**Popocatepetl**	**2.58**	**22**	*i*P		Pn	17 44 53.9	-2.1
PPM				*i*S		Sn	17 45 23.4	-4.9

IDC 29 17:56:20.7±1.2,0°.69S×133°.68E,h0km,mb3.5/5, mb1 3.8/7,mb1mx3.5/19,mbtmp3.6/7,ML3.9/2,Error ellipse: s-maj=56.8km s-min=19.3km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.02**	**204**	P		P	18 00 44.0	-0.4
	0.3nm,0.3s,baz=38,slow=16,SNR=1.7							
WRA	**Warramunga Arr**	**19.15**	**178**	P		P	18 00 45.2	-0.6
	0.3nm,0.3s,baz=358,slow=11,SNR=21							
WRA				S		Sn	18 04 12.1	-10
	0.1nm,0.3s,baz=354,slow=23,SNR=4.6							
ASAR	**Alice Springs**	**22.84**	**179**	P		P	18 01 26.3	+0.5
	0.9nm,0.4s,baz=1.0,slow=10,SNR=20							
STKA	**Stephens Creek**	**31.91**	**167**	P		P	18 02 48.2	+0.1
	0.9nm,0.7s,baz=343,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**65.16**	**324**	P		P	18 07 03.7	-0.1
	0.3nm,0.5s,baz=110,slow=8.5,SNR=9.0							
KURK	**Kurchatov**	**69.21**	**326**	P		P	18 07 29.4	+0.1
	0.3nm,0.6s,baz=120,slow=5.3,SNR=4.2							
ILAR	**Eielson Array**	**86.11**	**25**	P		P	18 09 03.4	0.0
	0.2nm,0.6s,baz=271,slow=5.3,SNR=3.4							

MAN 29 18:03:49,11°.64N×124°.36E,h0km,mb4.4,ML3.3,MS3.1, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.63**	**157**	*e*P		Pg	18 04 01.6	+0.4
MSLP	**Maasin**	**1.57**	**162**	*e*P		Pn	18 04 17.6	-0.5
MSLP				*e*S		Sn	18 04 35.2	-4.0
TBP	**Tagbilaran**	**1.99**	**194**	*e*P		Pb	18 04 25.9	-0.3
GUIM	**Jordan**	**2.01**	**240**	*e*P		Pn	18 04 25.2	+1.0

*IDC **29** 18:06:04.1±0.6,35°.22N×141°.37E,h0km,mb3.9/17, mb1 4.1/21,mb1mx4.0/30,mbtmp3.9/21,ML3.4/4,MS3.3/8, Ms1 3.3/8,ms1mx3.0/36,Error ellipse: s-maj=16.7km s-min=14.3km az=80.0*
*JMA **29** 18:06:06.9±0.2,35°.23N×141°.42E,h38km±3km,M3.4*
*ISCJB **29** 18:06:07.8±1.0,35°.21N±0°.04×141°.37E±0°.09,h38km±8km, mb3.9/17,MS3.4/3,Error ellipse: s-maj=11.9km s-min=6.4km az=0.4*

ISC 29 18:06:06.8±1.5,35°.20N±0°.05×141°.39E±0°.06,h19km±5km, n34,σ0°.99/38,mb3.9/17,MS3.1/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**211**	P		**Pn**	**18 06 20.0**	**-0.4**
BSO1				*e*S		**Sn**	**18 06 28.9**	**-0.9**
CHOJ	**Chosi**	**0.66**	**319**	P		**Pg**	**18 06 19.8**	**-0.1**
CHOJ				*e*S		**Sg**	**18 06 28.9**	**+0.2**
BSO2	**Boso 2**	**0.69**	**229**	*e*S		**Sn**	**18 06 31.6**	**+0.3**
BSO3	**Boso 3**	**0.82**	**241**	P		**Pn**	**18 06 23.2**	**0.0**
BSO3				*e*S		**Sg**	**18 06 33.6**	**-0.2**
KTR	**Katsuura**	**0.88**	**267**	P		**Pg**	**18 06 23.8**	**-0.2**
KTR				*e*S		**Sn**	**18 06 36.4**	**0.0**
BSO4	**Boso 4**	**0.89**	**256**	P		**Pn**	**18 06 24.2**	**0.0**
JCN	**Nagara**	**0.99**	**283**	P		**Pg**	**18 06 25.9**	**-0.2**
JYT	**Yasato**	**1.41**	**317**	P		**Pn**	**18 06 31.2**	**-0.2**
JHO	**Hitachi**	**1.55**	**335**	P		**Pn**	**18 06 33.2**	**-0.3**
JIM2	**Oshima 3**	**1.68**	**254**	P		**Pn**	**18 06 33.5**	**-1.7**
MJAR	**Matsushiro Arr**	**2.90**	**298**	Pn		**Pn**	**18 06 53.0**	**+0.9**
	5.8nm,0.3s,baz=80,slow=8.7,SNR=61							
MJAR				LR		LR	18 08 07.6	
	comp=Z,344nm,18.1s,baz=115,slow=43							
MAT	**Matsushiro**	**2.91**	**298**	P		**Pn**	**18 06 53.5**	**+1.4**

0.3nm,0.7s,baz=134,slow=8.9,SNR=3.6
SIV San Ignacio 38.17 136 P P 18 31 10.5 0.0
2.0nm,1.1s,baz=236,slow=3.6,SNR=3.2
ULM Lac du Bonnet 38.87 352 P P 18 31 14.7 -1.2
2.1nm,0.6s,baz=162,slow=15,SNR=4.7
SCHQ Schefferville 45.89 17 P P 18 32 12.0 -0.7
1.9nm,0.8s,baz=222,slow=16,SNR=3.3
YKA Yellowknife Ar 54.13 345 P P 18 33 14.7 0.0
0.3nm,0.6s,baz=139,slow=7.8,SNR=6.8
CMAR Chiang Mai Arr 149.18 348 PKPbc PKPab 18 43 41.3 -1.1
0.4nm,0.7s,baz=358,slow=3.6,SNR=6.3

IDC 29 18:29:02.5±0.9, 12°37'N×144°26'E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, MS3.4/1, Ms1 3.4/1, ms1mx2.3/38, Error ellipse: s-maj=31.1km s-min=16.2km az=114.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.34**	**26**	Pn	Pb	18 29 30.6	+2.0
	147nm,0.3s,baz=203,slow=6.7,SNR=45						
GUMO				Sn	Sn	18 29 48.7	+1.6
	90nm,0.3s,baz=33,slow=22,SNR=6.8						
USRK	**Ussuriysk Arra**	**33.42**	**344**	LR	LR	18 47 05.7	
	comp=Z,64nm,21.1s,baz=102,slow=32						
WRA	**Warramunga Arr**	**33.57**	**197**	P	P	18 35 44.4	-0.1
	0.5nm,0.7s,baz=19,slow=9.7,SNR=5.0						
ASAR	**Alice Springs**	**37.23**	**196**	P	P	18 36 16.6	+0.7
	0.4nm,0.6s,baz=21,slow=10,SNR=7.3						
CMAR	**Chiang Mai Arr**	**44.02**	**284**	P	P	18 37 11.9	-0.3
	0.6nm,0.4s,baz=78,slow=6.7,SNR=12						
CMAR				PcP	PcP	18 38 59.2	+1.2
	0.4nm,0.5s,baz=82,slow=1.8,SNR=5.5						
SONM	**Songino Array**	**47.39**	**326**	P	P	18 37 38.8	+0.1
	0.4nm,0.6s,baz=145,slow=7.7,SNR=4.4						
SONM				PcP	PcP	18 39 09.8	+0.4
	0.2nm,0.5s,baz=154,slow=4.4,SNR=2.6						
MKAR	**Makanchi Array**	**61.96**	**317**	P	P	18 39 24.4	+0.1
	1.1nm,0.6s,baz=91,slow=8.9,SNR=15						
ILAR	**Eielson Array**	**69.91**	**25**	P	P	18 40 13.9	-1.3
	0.3nm,0.5s,baz=249,slow=6.2,SNR=7.2						
YKA	**Yellowknife Ar**	**84.20**	**27**	P	P	18 41 35.0	-0.6
	0.1nm,0.3s,baz=284,slow=5.2,SNR=3.7						
ARCES	**ARCESS Array B**	**88.05**	**342**	P	P	18 41 54.5	0.0
	4.2nm,0.9s,baz=52,slow=5.8,SNR=2.7						
NVAR	**Mina Array Bea**	**88.14**	**51**	P	P	18 41 58.5	+2.6
	0.6nm,0.7s,baz=271,slow=5.2,SNR=3.8						
FINES	**FINESS Array B**	**92.01**	**335**	P	P	18 42 11.2	-1.9
	1.7nm,0.8s,baz=109,slow=4.6,SNR=4.1						
DBIC	**Dimbokro**	**143.94**	**300**	PKP	PKPbc	18 48 38.5	-0.2
	1.1nm,0.4s,baz=72,slow=5.5,SNR=5.1						

*IDC **29** 19:05:42.4±2.5, 43°38N×105°24W, h0km, mb4.2/1, mb1 4.0/4, mb1mx3.5/26, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=57.3km s-min=8.7km az=154.0*
*ISCJB **29** 19:05:44.4±0.2, 43°67N±0°01×105°28W±0°02, h0km, mb4.3/1, Error ellipse: s-maj=2.1km s-min=1.8km az=168.6*
*NEIC **29** 19:05:44.7±0.4, 43°68N×105°21W, h0km, ML3.2, Error ellipse: s-maj=6.9km s-min=5.0km az=140.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 29 19:05:44.4±0.6, 43°66N±0°02×105°29W±0°02, h0km, n128, σ1899/151, 48C-62D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.32**	**217**	⇓P	**Pg**	**19 05 51.3**	**+0.8**
	baz=0.4						
I23A	**Meade Ranch, G**	**0.33**	**337**	P	**Pg**	**19 05 52.1**	**+1.5**
	baz=0.3,SNR=78						
I23A				⇓S	**Sg**	**19 05 56.2**	**+1.3**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.52**	**67**	P	**Pg**	**19 05 55.3**	**+0.9**
	baz=0.5,SNR=318						
I24A				⇑S	**Sg**	**19 06 02.4**	**+1.3**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.56**	**126**	⇓P	**Pg**	**19 05 55.6**	**+0.5**
	baz=0.5						
J24A				⇓S	**Sg**	**19 06 03.6**	**+1.2**
	baz=0.5						
I22A	**9 Mile Ranch,**	**0.90**	**285**	⇓P	**Pg**	**19 06 02.0**	**+0.4**
	baz=0.9						
I22A				⇑S	**Sg**	**19 06 14.4**	**+1.2**
	baz=0.9						
J22A	**Midwest**	**0.90**	**255**	⇑P	**Pg**	**19 06 01.6**	**-0.1**
	baz=1.0						
J22A				⇓S	**Sg**	**19 06 14.4**	**+1.1**
	baz=1.0						
H23A	**Clabaugh Cattl**	**0.91**	**355**	⇓P	**Pg**	**19 06 02.0**	**+0.3**
	baz=0.9,SNR=15						
K23A	**Bowen Ranch, D**	**0.94**	**195**	⇑P	**Pg**	**19 06 02.7**	**+0.4**
	baz=1.0						
K24A	**Anderson Ranch**	**1.00**	**160**	⇓P	**Pg**	**19 06 03.5**	**0.0**
	baz=1.0						
K24A				⇓S	**Sb**	**19 06 17.9**	**-0.5**
	baz=1.0						
RSSD	**Black Hills**	**1.02**	**63**	*e*P	**Pg**	**19 06 03.6**	**-0.3**
H22A	**Clearmont**	**1.21**	**321**	⇓P	**Pg**	**19 06 07.8**	**+0.3**
	baz=1.2,SNR=26						
H22A				⇑S	**Sb**	**19 06 25.6**	**+1.1**
	baz=1.2						
H24A	**Dirks Ranch, A**	**1.21**	**26**	⇓P	**Pg**	**19 06 07.2**	**-0.4**
	baz=1.2						
H24A				⇓S	**Sg**	**19 06 23.8**	**+0.6**
	baz=1.2						
K22A	**Casper**	**1.35**	**222**	⇓P	**Pg**	**19 06 09.6**	**-0.8**
	baz=1.4						
K22A				⇑S	**Sn**	**19 06 29.4**	**-0.1**
	baz=1.4						
I21A	**Big Trails, Te**	**1.46**	**277**	⇑P	**Pn**	**19 06 11.4**	**-0.7**
	baz=1.5						
I21A				⇓S	**Sg**	**19 06 31.6**	**+0.3**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.47**	**135**	⇓P	**Pn**	**19 06 12.5**	**+0.2**
	baz=1.4						
K25A				⇓S	**Sn**	**19 06 32.9**	**+0.5**
	baz=1.4						
G23A	**Biddle**	**1.54**	**357**	⇓P	**Pn**	**19 06 13.3**	**0.0**
	baz=1.5,SNR=38						
G23A				⇑S	**Sg**	**19 06 35.3**	**+1.3**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.59**	**308**	⇑P	**Pn**	**19 06 14.2**	**+0.3**
	baz=1.6,SNR=6.4						
H21A				⇑S	**Sn**	**19 06 36.2**	**+0.9**
	baz=1.6						
J21A	**Lysite**	**1.60**	**259**	⇓P	**Pn**	**19 06 13.7**	**-0.4**
	baz=1.7						
J21A				⇑S	**Sn**	**19 06 35.6**	**0.0**
	baz=1.7						
L24A	**Wheatland**	**1.64**	**171**	⇓P	**Pn**	**19 06 14.5**	**-0.1**
	baz=1.6						
L24A				⇑S	**Sg**	**19 06 37.6**	**+0.7**
	baz=1.6						
G22A	**Birney**	**1.72**	**336**	⇓P	**Pn**	**19 06 16.5**	**+0.9**
	baz=1.7,SNR=22						
K21A	**Alcova**	**1.77**	**235**	P	**Pn**	**19 06 16.9**	**+0.5**
	baz=1.8,SNR=378						
K21A				⇓S	**Sn**	**19 06 40.2**	**+0.5**
	baz=1.8						
G24A	**Alzada**	**1.78**	**20**	⇑P	**Pn**	**19 06 17.5**	**+1.0**
	baz=1.7,SNR=24						
L25A	**Engebretsen Ra**	**1.79**	**147**	⇓P	**Pb**	**19 06 17.8**	**-0.3**
	baz=1.8,SNR=20						
K26A	**Motz Farm, Whi**	**1.82**	**121**	⇑P	**Pb**	**19 06 18.0**	**-0.5**
	baz=1.8,SNR=17						
L22A	**Ellis Ranch, M**	**1.83**	**208**	⇓P	**Pn**	**19 06 17.8**	**+0.4**
	baz=1.9,SNR=12						
L22A				⇑S	**Sb**	**19 06 42.6**	**+0.1**
	baz=1.9						
J20A	**Shoshoni**	**2.06**	**262**	⇓P	**Pb**	**19 06 22.4**	**-0.3**
	baz=2.1,SNR=97						
J20A				⇑Sb	**Sg**	**19 06 50.8**	**+0.3**
	baz=2.1						
I20A	**Worland**	**2.08**	**279**	⇓P	**Pn**	**19 06 21.7**	**+1.0**
	baz=2.1						
G21A	**Lodge Grass**	**2.08**	**319**	⇓P	**Pn**	**19 06 21.6**	**+0.9**
	baz=2.1,SNR=19						
H20A	**Greybull**	**2.12**	**294**	⇑P	**Pn**	**19 06 21.8**	**+0.6**
	baz=2.2,SNR=20						
M23A	**Laramie**	**2.21**	**188**	⇑P	**Pn**	**19 06 23.5**	**+0.9**
	baz=2.2,SNR=56						
M23A				⇓S	**Sb**	**19 06 53.4**	**-0.1**
	baz=2.2						
M24A	**Cheyenne**	**2.22**	**171**	⇓P	**Pn**	**19 06 23.9**	**+1.3**
	baz=2.2,SNR=90						
M24A				⇑Sb	**Sg**	**19 06 55.2**	**-0.4**
	baz=2.2						
F22A	**Rosebud**	**2.23**	**342**	⇓P	**Pn**	**19 06 23.4**	**+0.7**
	baz=2.2,SNR=28						
F24A	**Ekalaka**	**2.27**	**15**	⇓Sb	Sb	19 06 56.4	+1.4
	baz=2.2						
L21A	**Rawlins**	**2.28**	**223**	⇓P	**Pn**	**19 06 24.7**	**+1.1**
	baz=2.3,SNR=13						
L21A				⇑S	**Sb**	**19 06 55.2**	**-0.3**
	baz=2.3						
L26A	**Underwood Farm**	**2.29**	**134**	⇑Pb	**Pb**	**19 06 26.7**	**-0.1**
	baz=2.3						
PHWY	**Pilot Hill**	**2.36**	**183**	*e*P	**Pn**	**19 06 24.3**	**-0.3**
M25A	**Palm-Egli Farm**	**2.40**	**157**	⇑P	**Pn**	**19 06 26.7**	**+1.5**
	baz=2.4,SNR=14						
K27A	**Flueckinger Fa**	**2.43**	**112**	⇓Pb	**Pb**	**19 06 28.8**	**-0.2**
	baz=2.4						
RWWY	**Rawlins**	**2.43**	**216**	*e*P	**Pn**	**19 06 27.2**	**+1.6**
K20A	**Yellowstone Ra**	**2.45**	**247**	⇓P	**Pn**	**19 06 27.4**	**+1.6**
	baz=2.5,SNR=48						
M22A	**Cedar Creek Ra**	**2.45**	**204**	⇓P	**Pn**	**19 06 27.6**	**+1.7**
	baz=2.5,SNR=184						
M21A	**Separation Pea**	**2.56**	**217**	⇓P	**Pn**	**19 06 29.0**	**+1.6**
	baz=2.6,SNR=36						
M21A				⇓S	**Sb**	**19 07 02.3**	**-1.1**
	baz=2.6						
G20A	**Bridger**	**2.61**	**308**	⇑P	**Pn**	**19 06 28.1**	**+0.1**
	baz=2.6,SNR=20						
I19A	**Meeteetse**	**2.71**	**279**	⇑P	**Pn**	**19 06 30.7**	**+1.3**
	baz=2.8						
K19A	**Absolon Red Bu**	**2.73**	**253**	⇓P	**Pn**	**19 06 30.7**	**+1.0**
	baz=2.8						
N23A	**Red Feather La**	**2.81**	**190**	⇑P	**Pn**	**19 06 32.1**	**+1.3**
	baz=2.8,SNR=72						
E22A	**Miles City**	**2.82**	**351**	⇓P	**Pn**	**19 06 30.7**	**0.0**
	baz=2.8,SNR=8.8						
E23A	**Ismay**	**2.84**	**360**	⇓P	**Pn**	**19 06 31.6**	**+0.6**
	baz=2.8						
H19A	**Powell**	**2.85**	**292**	⇓P	**Pn**	**19 06 32.2**	**+1.0**
	baz=2.9,SNR=16						
F20A	**Billings**	**2.96**	**317**	⇑P	**Pn**	**19 06 32.8**	**+0.1**
	baz=3.0,SNR=12						
N25A	**Grover**	**2.98**	**162**	⇑Pb	**Pb**	**19 06 38.4**	**-0.1**
	baz=3.0						
E24A	**Baker**	**2.98**	**13**	⇑P	**Pn**	**19 06 34.0**	**+1.0**
	baz=2.9,SNR=15						
M20A	**Sweetwater, Wa**	**3.05**	**226**	⇓Pb	**Pb**	**19 06 39.6**	**0.0**
	baz=3.1						
E21A	**Keefer Ranch,**	**3.15**	**337**	⇓P	**Pn**	**19 06 35.0**	**-0.2**
	baz=3.1						
RLMT	**Red Lodge**	**3.21**	**299**	⇓P	**Pn**	**19 06 37.3**	**+1.1**
	baz=3.2						
RLMT				⇓P	**Pn**	**19 06 37.3**	**+1.1**
	baz=3.2						
BW06	**Boulder Array**	**3.25**	**256**	*e*P	**Pn**	**19 06 37.5**	**+0.6**
BW06	**Boulder Array**	**3.25**	**256**	⇑P	**Pn**	**19 06 37.6**	**+0.8**
	baz=3.3						
BW06				⇑P	**Pn**	**19 06 37.6**	**+0.8**
	baz=3.3						
PDAR	**Pinedale Array**	**3.25**	**256**	Pn	**Pn**	**19 06 37.9**	**+1.1**
	3.8nm,0.3s,baz=78,slow=17,SNR=55						
PDAR				Lg	Lg	19 07 22.9	
	19nm,0.3s,baz=64,slow=28,SNR=23						
PDAR	**Pinedale Array**	**3.25**	**256**	Pn	**Pn**	**19 06 37.9**	**+1.1**
PDAR				Lg	Lg	19 07 22.9	
PD02	**Pinedale Array**	**3.25**	**256**	*e*P	**Pn**	**19 06 37.5**	**+0.6**
PD01	**Pinedale Array**	**3.26**	**256**	*e*P	**Pn**	**19 06 37.4**	**+0.4**
I18A	**Diamond G Ranc**	**3.29**	**272**	⇓P	**Pn**	**19 06 38.0**	**+0.6**
	baz=3.3						
N21A	**Black Mountain**	**3.34**	**211**	⇑P	**Pn**	**19 06 40.0**	**+1.9**
	baz=3.4						
J18A	**Kendall Valley**	**3.48**	**264**	⇑P	**Pn**	**19 06 41.4**	**+1.4**
	baz=3.5,SNR=7.2						
G18A	**Lazy EL Ranch,**	**3.48**	**300**	⇑P	**Pn**	**19 06 40.7**	**+0.8**
	baz=3.5,SNR=11						
D23A	**Lindsay**	**3.51**	**1**	⇑P	**Pn**	**19 06 40.9**	**+0.6**
	baz=3.5,SNR=18						
D24A	**Glendive**	**3.52**	**11**	⇓P	**Pn**	**19 06 41.4**	**+0.9**
	baz=3.5,SNR=9.2						
O24A	**Longmont**	**3.54**	**177**	⇑Pb	**Pb**	**19 06 48.4**	**+0.5**
	baz=3.6						
D22A	**Cohagen**	**3.55**	**350**	⇓P	**Pn**	**19 06 41.3**	**+0.5**
	baz=3.5,SNR=8.8						
N20A	**Ravence Gulch,**	**3.58**	**219**	⇓P	**Pn**	**19 06 42.4**	**+0.9**
	baz=3.6						
D21A	**La Casta Ranch**	**3.61**	**341**	⇓P	**Pn**	**19 06 42.3**	**+0.6**
	baz=3.6						
E19A	**Rath Farm, Rou**	**3.74**	**320**	⇑P	**Pn**	**19 06 43.9**	**+0.5**
	baz=3.8						
LKWY	**Lake**	**3.79**	**286**	*e*P	**Pn**	**19 06 46.4**	**+2.1**
LOHW	**Long Hollow**	**3.86**	**271**	*e*P	**Pn**	**19 06 48.3**	**+3.1**
ISCO	**Idaho Springs**	**3.87**	**184**	*e*Pn	**Pn**	**19 06 46.5**	**+1.2**
F18A	**Big Timber**	**3.87**	**307**	⇑P	**Pn**	**19 06 46.4**	**+1.1**
	baz=3.9						
C24A	**Savage**	**3.92**	**9**	⇓P	**Pn**	**19 06 47.5**	**+1.7**
	baz=3.9						
MOOW	**Moose Ponds**	**3.96**	**273**	*e*P	**Pn**	**19 06 47.5**	**+1.0**
REDW	**Red Top Meadow**	**4.06**	**268**	*e*P	**Pb**	**19 06 55.8**	**-1.1**
YFT	**Old Faithful**	**4.08**	**283**	*e*Pn	**Pn**	**19 06 48.2**	**0.0**
C22A	**Vida**	**4.11**	**354**	⇑P	**Pn**	**19 06 49.9**	**+1.4**
	baz=4.1,SNR=10						
TPAW	**Teton Pass**	**4.12**	**270**	*e*Pn	**Pn**	**19 06 50.8**	**+2.0**
C23A	**Lambert**	**4.14**	**1**	⇓P	**Pn**	**19 06 50.3**	**+1.4**
	baz=4.1						
O20A	**White River Ci**	**4.16**	**213**	⇓P	**Pn**	**19 06 50.7**	**+1.5**
	baz=4.2						
YMR	**Madison River**	**4.21**	**286**	Pn	**Pn**	**19 06 51.4**	**+1.4**
P25A	**Willow Gulch B**	**4.23**	**168**	⇓P	**Pn**	**19 06 51.2**	**+1.0**
	baz=4.2						
DCID1	**Drake Creek**	**4.28**	**271**	Pn	**Pn**	**19 06 49.0**	**-2.0**
P26A	**Davis Ranch, A**	**4.35**	**160**	⇑P	**Pn**	**19 06 52.7**	**+0.8**
	baz=4.3,SNR=13						
RRI2	**Red Ridge**	**4.40**	**268**	*e*P	**Pn**	**19 06 54.4**	**+1.7**
QLMT	**Earthquake Lak**	**4.57**	**287**	*e*P	**Pn**	**19 06 56.6**	**+1.7**
SMCO	**Snowmass**	**4.65**	**196**	*e*Pg	**Pb**	**19 07 08.7**	**+1.6**
Q25A	**Bedland, Calha**	**4.80**	**170**	⇑P	**Pn**	**19 06 59.0**	**+0.8**
	baz=4.8						
L16A	**Fish Haven**	**4.81**	**252**	⇓P	**Pn**	**19 06 59.3**	**+1.0**
	baz=4.9						
B23A	**Brockton**	**4.81**	**2**	⇑P	**Pn**	**19 06 59.4**	**+1.3**
	baz=4.8						
DGMT	**Dagmar**	**4.87**	**9**	*e*Pn	**Pn**	**19 07 00.2**	**+1.3**
DGMT	**Dagmar**	**4.87**	**9**	⇓P	**Pn**	**19 07 00.2**	**+1.3**
	baz=4.8,SNR=13						
HWUT	**Hardware Ranch**	**5.07**	**248**	*e*Pn	**Pn**	**19 07 02.7**	**+1.0**
	8.4nm,0.6s						
D17A	**Six Diamond Ra**	**5.16**	**314**	⇑P	**Pn**	**19 07 03.7**	**+0.7**
	baz=5.2,SNR=8.3						
A21A	**Bergtoll Ranch**	**5.45**	**349**	⇑P	**Pn**	**19 07 07.8**	**+0.9**
	baz=5.4						
P18A	**Preston Nutter**	**5.48**	**224**	⇓P	**Pn**	**19 07 08.6**	**+1.1**
	baz=5.5,SNR=13						
R26A	**Arlington**	**5.53**	**165**	⇑P	**Pn**	**19 07 08.4**	**+0.3**
	baz=5.5						
HRY	**Holter Researc**	**5.54**	**306**	*e*Pn	**Pn**	**19 07 07.2**	**-1.0**
	11nm,0.5s						
R25A	**Fountain Ranch**	**5.56**	**172**	⇑P	**Pn**	**19 07 08.7**	**+0.2**
	baz=5.6						
R27A	**Eads**	**5.69**	**160**	⇓P	**Pn**	**19 07 10.8**	**+0.5**
	baz=5.7						
HVU	**Hansel Valley**	**5.83**	**254**	Pn	**Pn**	**19 07 12.2**	**0.0**
	4.1nm,0.5s						
E15A	**Deer Lodge**	**5.90**	**300**	⇓P	**Pn**	**19 07 13.5**	**+0.4**
	baz=5.9						
PV04	**Paradox Valley**	**5.93**	**209**	*e*P	**Pn**	**19 07 15.4**	**+1.8**
SRU	**San Rafael**	**6.01**	**223**	*e*Pn	**Pn**	**19 07 14.6**	**-0.1**
	12nm,0.7s						
PV01	**Paradox Valley**	**6.05**	**205**	*e*P	**Pn**	**19 07 17.3**	**+2.0**
	330nm,0.6s						
S26A	**Kim**	**6.19**	**166**	⇑P	**Pn**	**19 07 17.5**	**+0.4**
	baz=6.2						
TMUT	**Trail Mountain**	**6.23**	**228**	*e*Pn	**Pn**	**19 07 18.3**	**+0.5**
	5.6nm,0.4s						
ECSD	**EROS Data Cent**	**6.29**	**86**	*e*Pn	**Pn**	**19 07 17.7**	**-0.7**
	6.5nm,0.4s						
R18A	**Canyonlands Na**	**6.32**	**215**	⇓P	**Pn**	**19 07 19.1**	**+0.2**
	baz=6.4,SNR=32						
Q16A	**Castle Valley**	**6.49**	**225**	⇓P	**Pn**	**19 07 22.2**	**+1.0**
	baz=6.5,SNR=5.5						
B16A	**M & M Farms, S**	**6.52**	**319**	⇑P	**Pn**	**19 07 21.7**	**0.0**
	baz=6.5						
DUG	**Dugway**	**6.59**	**241**	*e*Pn	**Pn**	**19 07 23.6**	**+0.9**
	2.7nm,0.5s						
DUG	**Dugway**	**6.59**	**241**	⇑P	**Pn**	**19 07 23.3**	**+0.6**
	baz=6.6						
S18A	**Hurst Farm, Bl**	**6.95**	**213**	⇓P	**Pn**	**19 07 27.9**	**+0.2**
	baz=7.0						
MSU	**Marysvale**	**7.31**	**228**	Pn	**Pn**	**19 07 33.2**	**+0.5**
	5.5nm,1.0s						
S17A	**Black Ridge (B**	**7.33**	**217**	⇓P	**Pn**	**19 07 33.5**	**+0.6**
	baz=7.4						
JTMT	**Jette**	**7.51**	**306**	*e*Pn	**Pn**	**19 07 36.7**	**+1.5**
	1.2nm,0.3s						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**19 07 57.0**	**-1.4**
	2.0nm,0.3s,baz=237,slow=12,SNR=14						
ULM				Sn	Sn	19 09 33.9	-8.8
	0.7nm,0.3s,baz=129,slow=2.5,SNR=3.0						
ULM				Lg	Lg	19 10 30.7	
	0.3nm,0.3s,baz=334,slow=13,SNR=5.2						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**19 07 57.0**	**-1.4**
ULM				Sn	Sn	19 09 33.9	-8.8
ULM				Lg	Lg	19 10 30.7	
FFC	**Flin Flon**	**11.28**	**10**	*e*Pn	**Pn**	**19 08 25.0**	**-1.8**
	2.4nm,0.6s						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**19 10 15.6**	**0.0**
	0.1nm,0.3s,baz=153,slow=13,SNR=8.7						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**19 10 15.7**	**0.0**
ARCES	**ARCESS Array B**	**61.50**	**18**	P	**P**	**19 16 01.3**	**-1.1**
	1.6nm,0.7s,baz=332,slow=6.9,SNR=5.0						
ARCES	**ARCESS Array B**	**61.50**	**18**	P	**P**	**19 16 01.3**	**-1.1**

*NSSC **29** 19:07:47.3±1.9, 33°58N×36°54E, h0km±59km*
*GRAL **29** 19:07:51.4±0.3, 33°17N×35°50E, h0km±134km, MD2.6*
CSEM 29 19:07:49.2±0.4, 33°47N×36°43E, h2km, ML2.6, Error ellipse: s-maj=17.5km s-min=6.2km az=41.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOTH	**TOTAH**	**0.11**	**179**	*e*P	Pg	19 07 52.0	+0.6
TOTH	**TOTAH**	**0.11**	**179**	*e*P	Pg	19 07 52.0	+0.6
	SNR=91						
QASN	**Qassioun**	**0.14**	**297**	*e*P	Pg	19 07 51.3	-0.8
QASN	**Qassioun**	**0.14**	**297**	*e*P	Pg	19 07 51.3	-0.8
	SNR=92						
BRBR	**Barbar**	**0.40**	**262**	*e*P	Pb	19 07 58.7	-0.6
RCY	**Rachaya**	**0.49**	**273**	*e*P	Pg	19 07 59.2	+0.3
RCY				*e*S	Sg	19 08 05.0	-0.5
BHL	**Bhannes**	**0.78**	**304**	*e*P	Pg	19 08 04.7	+0.5
BHL				*e*S	Sg	19 08 14.7	+0.2
BHL	**Bhannes**	**0.78**	**304**	*e*P	Pg	19 08 04.7	+0.4
BHL				*e*S	Sg	19 08 14.6	+0.2
SALA	**Sala**	**0.80**	**161**	*e*P	Pg	19 08 04.9	+0.1
SALA				*e*S	Sb	19 08 18.5	+1.0
SALA	**Sala**	**0.80**	**161**	*e*P	Pg	19 08 04.9	+0.1
	SNR=67						
SALA				*e*S	Sb	19 08 18.5	+1.0
	SNR=59						
HWQ	**Hawqa**	**0.90**	**334**	*e*P	Pn	19 08 12.5	+3.5
HWQ	**Hawqa**	**0.90**	**334**	*e*P	Pn	19 08 12.5	+3.4

*ISK **29** 19:08:59.2, 37°88N×29°23E, h3km, MD3.3*
*DDA **29** 19:08:59.6, 37°88N×29°25E, h12km, MD3.4*
*CSEM **29** 19:09:00.1±0.1, 37°87N×29°24E, h2km, MD3.3, Error ellipse: s-maj=3.1km s-min=3.0km az=104.0*
ISC 29 19:09:00.1±1.1, 37°87N±0°02×29°24E±0°02, h4km±11km, n80, σ0°87/104, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHL	**Karahalli**	**0.50**	**26**	*e*PG	**Pg**	**19 09 09.2**	**-0.6**
KHL				*e*SG	**Sg**	**19 09 16.9**	**+0.6**
KHL	**Karahalli**	**0.50**	**26**	*e*Pg	**Pg**	**19 09 09.2**	**-0.6**
KHL				*e*Sg	**Sg**	**19 09 16.9**	**+0.6**
KHAL	**Karahalli**	**0.54**	**22**	*i*P	**Pg**	**19 09 09.7**	**-0.7**
KHAL				*i*S	**Sg**	**19 09 17.8**	**+0.4**
KHAL	**Karahalli**	**0.54**	**22**	*i*P	**Pg**	**19 09 09.7**	**-0.7**
KHAL				*i*S	**Sg**	**19 09 17.8**	**+0.4**
KULA	**Kula-Manisa**	**0.79**	**325**	*e*PG	**Pg**	**19 09 14.7**	**-0.5**
KULA	**Kula-Manisa**	**0.79**	**325**	*e*Pg	**Pg**	**19 09 14.7**	**-0.5**
MANT	**Manisa**	**0.82**	**319**	*i*P	**Pg**	**19 09 15.7**	**-0.1**
MANT				*i*S	**Sg**	**19 09 26.4**	**-0.1**
MANT	**Manisa**	**0.82**	**319**	*i*P	**Pg**	**19 09 15.7**	**-0.1**
MANT				*i*S	**Sg**	**19 09 26.4**	**-0.1**
YER	**Yerkesik**	**1.06**	**226**	*e*PG	**Pg**	**19 09 19.6**	**-0.8**
YER				*e*SG	**Sb**	**19 09 35.4**	**+0.1**
YER	**Yerkesik**	**1.06**	**226**	*e*Pg	**Pg**	**19 09 19.6**	**-0.8**
YER				*e*Sg	**Sb**	**19 09 35.4**	**+0.1**
AYDN	**Tasoluk**	**1.10**	**259**	*i*P	**Pg**	**19 09 21.0**	**-0.2**
AYDN				*i*S	**Sb**	**19 09 36.8**	**+0.4**
AYDN	**Tasoluk**	**1.10**	**259**	*i*P	**Pg**	**19 09 21.0**	**-0.2**
AYDN				*i*S	**Sb**	**19 09 36.8**	**+0.4**
TURN	**Turunc**	**1.12**	**207**	*i*P	**Pn**	**19 09 25.2**	**+2.7**
TURN				*i*S	Sn	19 09 44.9	+6.5
TURN	**Turunc**	**1.12**	**207**	*i*

MDNY	**Mudanya-Bursa**	**2.51**	**354**	*e*Pn		**Pn**	**19 09 42.6**	**+1.0**
BNT	**Bandirma**	**2.68**	**338**	*e*PN		**Pn**	**19 09 44.8**	**+0.7**
BNT	**Bandirma**	**2.68**	**338**	*e*PN		**Pn**	**19 09 44.8**	**+0.7**
YLV	**Yalova**	**2.69**	**2**	*e*PN		**Pn**	**19 09 45.5**	**+1.2**
YLV	**Yalova**	**2.69**	**2**	*e*Pn		**Pn**	**19 09 45.5**	**+1.2**
EDC	**Edincik**	**2.69**	**337**	*e*PN		**Pn**	**19 09 45.2**	**+1.0**
EDC	**Edincik**	**2.69**	**337**	*e*Pn		**Pn**	**19 09 45.2**	**+1.0**
ARMT	**Armutlu**	**2.71**	**354**	*e*PN		**Pn**	**19 09 45.6**	**+1.2**
ARMT	**Armutlu**	**2.71**	**354**	*e*Pn		**Pn**	**19 09 45.6**	**+1.2**
GULT	**Gulveren**	**2.74**	**21**	*e*PN		**Pn**	**19 09 45.6**	**+0.7**
GULT	**Gulveren**	**2.74**	**21**	*e*Pn		**Pn**	**19 09 45.6**	**+0.7**

*ISCJB **29** 19:14:12.9±0.6, 37°.79S±0°.05×177°.60E±0°.06, h61km±5km, mb4.0/3, Error ellipse: s-maj=9.1km s-min=7.3km az=147.6*

*WEL **29** 19:14:14.5±0.2, 37°.74S×177°.58E, h44km±3km, ML4.5/20, Error ellipse: s-maj=1.4km s-min=1.0km az=0.0*

WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.

*NEIC **29** 19:14:14.6, 37°.77S×177°.58E, h41km, ML4.5(WEL), After WEL.*

*IDC **29** 19:14:14.9±9.0, 38°.14S×177°.31E, h56km±73km, mb3.9/3, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=59.4km s-min=40.3km az=47.0*

ISC 29 19:14:13.7±0.9, 37°.79S±0°.04×177°.60E±0°.04, h51km±7km, n49, σ1°.41/49, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.42**	**309**	P*	**Pn**	**19 14 23.7**	**-0.4**
WIZ				S*	**Sn**	**19 14 30.4**	**-1.1**
WIZ	**White Island**	**0.42**	**309**	P*	**Pn**	**19 14 23.7**	**-0.4**
MWZ	**Matawai**	**0.54**	**186**	P*	**Pn**	**19 14 25.7**	**+0.2**
MWZ				S*	**Sn**	**19 14 34.4**	**+0.3**
MWZ	**Matawai**	**0.54**	**186**	P*	**Pn**	**19 14 25.7**	**+0.2**
MWZ				S*	**Sn**	**19 14 34.4**	**+0.3**
PUZ	**Puketiti**	**0.59**	**118**	PN	**Pn**	**19 14 26.8**	**+0.7**
PUZ				SN	**Sn**	**19 14 37.0**	**+2.0**
PUZ	**Puketiti**	**0.59**	**118**	Pn	**Pn**	**19 14 26.8**	**+0.7**
MXZ	**Matakaoa Point**	**0.60**	**68**	P*	**Pn**	**19 14 26.3**	**+0.1**
MXZ				S*	**Sn**	**19 14 35.8**	**+0.5**
MXZ	**Matakaoa Point**	**0.60**	**68**	P*	**Pn**	**19 14 26.3**	**+0.1**
MXZ				S*	**Sn**	**19 14 35.8**	**+0.5**
URZ	**Urewera**	**0.61**	**220**	P*	**Pn**	**19 14 26.5**	**+0.2**
URZ				S*	**Sn**	**19 14 36.0**	**+0.6**
URZ	**Urewera**	**0.61**	**220**	P*	**Pn**	**19 14 26.5**	**+0.2**
EDRZ	**Edgecumbe**	**0.75**	**245**	P*	**Pn**	**19 14 28.6**	**+0.4**
EDRZ	**Edgecumbe**	**0.75**	**245**	P*	**Pn**	**19 14 28.6**	**+0.4**
MARZ	**Manawahe**	**0.76**	**255**	P*	**Pn**	**19 14 28.3**	**0.0**
MARZ	**Manawahe**	**0.76**	**255**	P*	**Pn**	**19 14 28.3**	**0.0**
OPRZ	**Ohinepanea**	**0.83**	**266**	P*	**Pn**	**19 14 29.1**	**0.0**
OPRZ	**Ohinepanea**	**0.83**	**266**	P*	**Pn**	**19 14 29.1**	**0.0**
NMHZ	**Naumai**	**1.45**	**205**	PN	**Pn**	**19 14 38.7**	**+1.2**
NMHZ	**Naumai**	**1.45**	**205**	Pn	**Pn**	**19 14 38.7**	**+1.2**
DRZ	**Dome Shelter**	**2.18**	**227**	P*	**Pn**	**19 14 49.5**	**+1.7**
DRZ	**Dome Shelter**	**2.18**	**227**	P*	**Pn**	**19 14 49.5**	**+1.7**
WAZ	**Wanganui**	**2.83**	**225**	PN	**Pn**	**19 14 57.8**	**+1.4**
WAZ	**Wanganui**	**2.83**	**225**	Pn	**Pn**	**19 14 57.9**	**+1.4**
RAEZ	**Rainy Point**	**2.92**	**238**	PN	**Pn**	**19 14 59.9**	**+2.2**
RAEZ	**Rainy Point**	**2.92**	**238**	Pn	**Pn**	**19 15 00.2**	**+2.5**
NEZ	**North Egmont**	**3.12**	**241**	Pn		19 15 03.9	**+3.4**
DFE	**Dawson Falls**	**3.14**	**240**	Pn		19 15 04.0	**+3.3**
WCZ	**Waipu Caves**	**3.20**	**304**	Pn	**Pn**	**19 15 01.9**	**+0.4**
NRZ	**Ngariki Road**	**3.26**	**241**	Pn	**Pn**	**19 15 05.3**	**+3.0**
OGWZ	**Otaki Gorge**	**3.56**	**211**	Pn	**Pn**	**19 15 04.8**	**-1.6**
TMWZ	**Te Maipa**	**3.56**	**201**	Pn	**Pn**	**19 15 04.3**	**-2.2**
MTW	**Mount Morrison**	**3.73**	**205**	Pn	**Pn**	**19 15 06.1**	**-2.7**
TRWZ	**Traveller**	**3.89**	**202**	Pn	**Pn**	**19 15 08.5**	**-2.5**
PAWZ	**Paruwai Farm**	**3.96**	**204**	Pn	**Pn**	**19 15 09.2**	**-2.6**
SNZO	**South Karori**	**4.17**	**212**	Pn	**Pn**	**19 15 12.0**	**-2.6**
RPZ	**Rata Peaks**	**7.72**	**218**	P	Pn	19 15 59.1	-4.4
	2.9nm,0.3s,baz=293,slow=2.0,SNR=12						
RPZ				S	Sn	19 17 21.0	-8.6
	5.8nm,0.3s,baz=355,slow=15,SNR=11						
RPZ	**Rata Peaks**	**7.72**	**218**	P	Pn	19 15 59.1	-4.4
RPZ				S	Sn	19 17 21.0	-8.6
AFI	**Afiamalu**	**25.60**	**24**	LR	LR	19 28 23.3	
	comp=Z,43nm,21.8s,baz=236,slow=33						
ASAR	**Alice Springs**	**39.76**	**278**	P	**P**	**19 21 41.0**	**-0.6**
	1.2nm,0.7s,baz=126,slow=8.4,SNR=18						
ASAR	**Alice Springs**	**39.76**	**278**	P	**P**	**19 21 41.0**	**-0.6**
WRA	**Warramunga Arr**	**41.44**	**283**	P	**P**	**19 21 55.2**	**-0.4**
	2.5nm,0.7s,baz=124,slow=7.0,SNR=20						
WRA	**Warramunga Arr**	**41.44**	**283**	P	**P**	**19 21 55.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**92.53**	**291**	P	**P**	**19 27 18.8**	**-0.9**
	1.1nm,0.7s,baz=152,slow=3.4,SNR=11						
CMAR	**Chiang Mai Arr**	**92.53**	**291**	P	**P**	**19 27 18.8**	**-0.9**
ARCES	**ARCESS Array B**	**144.84**	**343**	PKPbc	**PKPab**	**19 33 42.3**	**-0.7**
	2.0nm,0.8s,baz=66,slow=5.0,SNR=4.4						
ARCES	**ARCESS Array B**	**144.84**	**343**	PKPbc	**PKPab**	**19 33 42.3**	**-0.7**
FINES	**FINESS Array B**	**150.44**	**332**	PKPbc	**PKPbc**	**19 34 00.7**	**+2.2**
	1.2nm,0.6s,baz=48,slow=2.8,SNR=6.8						
FINES	**FINESS Array B**	**150.44**	**332**	PKPbc	**PKPbc**	**19 34 00.7**	**+2.2**
TORD	**Torodi Ar. Bea**	**155.19**	**190**	PKPbc	PKPdf	19 34 10.5	+8.9
	0.2nm,0.4s,baz=147,slow=0.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**155.19**	**190**	PKPbc	PKPdf	19 34 10.5	+8.9

*ISCJB **29** 19:20:00.5±0.7, 32°.69N±0°.04×118°.21W±0°.04, h10km, Error ellipse: s-maj=6.9km s-min=3.5km az=40.6*

*NEIC **29** 19:20:02.4, 32°.73N×118°.23W, h10km, ML3.1(PAS), After PAS.*

NEIC Felt at Aliso Viejo and El Cajon. Also felt at Tijuana, Baja California.

*ECX **29** 19:20:02.0±0.5, 32°.67N×118°.27W, h20km±5km, MD3.1, ML3.0*

ISC 29 19:20:00.9±1.2, 32°.70N±0°.05×118°.21W±0°.05, h10km, n19, σ1°.46/32, 8C-8D, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCI	**San Clemente I**	**0.40**	**314**	⇑P	**Pg**	**19 20 09.5**	**+0.7**
	baz=0.4						
SCI				⇓S	**Sg**	**19 20 14.7**	**+0.6**
	baz=0.4						
CIS	**Catalina Islan**	**0.72**	**347**	⇓P	**Pg**	**19 20 14.8**	**-0.1**
	baz=0.7						
109C	**Camp Elliot, M**	**0.94**	**78**	⇓P	**Pg**	**19 20 19.5**	**+0.4**
	baz=1.0						
109C				⇓S	**Sg**	**19 20 31.9**	**+0.5**
	baz=1.0						
FMP	**Fort Macarthur**	**1.01**	**356**	⇑P	**Pg**	**19 20 19.9**	**-0.5**
	baz=1.0						
DPP	**Dos Picos Cty**	**1.10**	**74**	⇑*iP*	**Pb**	**19 20 21.7**	**-0.4**
MURC	**Murrieta**	**1.23**	**43**	⇓S		19 20 40.2	
	baz=1.2						
BAR	**Barrett**	**1.29**	**91**	*e*Pn	**Pn**	**19 20 24.0**	**-1.0**
BAR				*e*Sn	**Sb**	**19 20 40.6**	**-1.4**
BAR	**Barrett**	**1.29**	**91**	*e*P*	**Pn**	**19 20 24.4**	**-0.6**
CBX	**Cerro Bola**	**1.36**	**106**	*e*P	**Pn**	**19 20 25.7**	**-0.3**
CBX				*e*S	**Sn**	**19 20 43.4**	**-0.8**
CBX				⇓*e*		19 20 48.9	
	comp=E,480nm,0.8s						
CBX				⇓*e*		19 20 49.3	
	comp=N,338nm,0.4s						
MONP	**Monument Peak**	**1.52**	**82**	⇑P	**Pn**	**19 20 27.8**	**-0.4**
	baz=1.5						
MONP				⇓S	**Sn**	**19 20 47.6**	**-0.6**
	baz=1.5						
MWC	**Mount Wilson**	**1.52**	**5**	*e*Pn	**Pn**	**19 20 26.6**	**-1.8**
MWC				*e*Sn	**Sn**	**19 20 43.1**	**-5.2**
PBX	**Punta Banda**	**1.58**	**127**	*e*P	**Pn**	**19 20 28.4**	**-0.5**
PBX				*e*S	**Sn**	**19 20 48.8**	**-0.7**
PBX				⇑*e*		19 20 53.9	
	comp=N,132nm,0.5s						
ECNX	**Esteban Cantu**	**1.71**	**127**	*e*P	**Pn**	**19 20 30.8**	**-0.1**
ECNX				*e*S	**Sn**	**19 20 52.7**	**-0.2**
PFO	**Pinyon Flat Ob**	**1.72**	**58**	*e*Pn	**Pn**	**19 20 31.1**	**+0.1**
PFO				*e*Sn	**Sn**	**19 20 52.6**	**-0.7**
PFO	**Pinyon Flat Ob**	**1.72**	**58**	⇑P	**Pn**	**19 20 31.3**	**+0.2**
	baz=1.7						
PFO				⇑S	**Sn**	**19 20 52.7**	**-0.5**
	baz=1.7						
RMX	**La Rumorosa**	**1.80**	**93**	*e*P	**Pn**	**19 20 32.4**	**+0.3**
RMX				*e*S	**Sn**	**19 20 55.7**	**+0.6**
EDW2	**Edwards Air Fo**	**2.18**	**5**	⇑P	**Pn**	**19 20 37.6**	**+0.3**
	baz=2.2						
GSC	**Goldstone**	**2.84**	**24**	*e*Pn	**Pn**	**19 20 47.4**	**+1.0**
GSC				*e*Sn	**Sn**	**19 21 18.4**	**-2.4**
GSC				*e*Sg	**Sb**	**19 21 30.7**	**+4.0**
SPX	**San Pedro Mart**	**2.86**	**125**	*e*P	**Pn**	**19 20 46.2**	**-0.6**
SPX				*e*S	**Sn**	**19 21 21.6**	**+0.1**

GUC 29 19:34:03.6±0.6, 32°.11S×71°.77W, h30km±2km, ML3.8, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.32**	**45**	⇓*iP*	Pb	19 34 11.1	-0.2
CHNG				*i* S	Sb	19 34 16.8	+0.3
PTCH	**Petorca**	**0.73**	**103**	⇓*iP*	Pb	19 34 17.4	-0.4
PTCH				*i* S	Sb	19 34 27.7	+0.1
PTCH				AML	AML	19 34 28.0	
	comp=E,12μm,0.2s						
IHA	**Instituto Hidr**	**0.92**	**173**	*e*P	Pn	19 34 20.1	-0.5
IHA				*i* S	Sb	19 34 33.1	+0.2
ROCH	**El Roble**	**1.07**	**144**	⇓*iP*	Pn	19 34 22.7	-0.3
ROCH				*i* S	Sn	19 34 37.0	-0.1
ROCH				AML	AML	19 34 39.1	
	comp=E,3μm,0.4s						
JACH	**Jahuel**	**1.15**	**120**	⇑*iP*	Pn	19 34 23.9	+0.1
JACH				*i* S	Sb	19 34 39.1	-0.5
PEL	**Peldehue**	**1.38**	**139**	⇓*iP*	Pn	19 34 27.5	+0.5
PEL				*i* S	Sb	19 34 45.8	-0.3
PEL				AML	AML	19 34 48.2	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**1.60**	**150**	*e*P	Pn	19 34 30.7	+0.8
RCDM				*i* S	Sb	19 34 51.4	-0.9
RCDM				AML	AML	19 34 52.7	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**1.63**	**146**	*e*P	Pn	19 34 31.4	+1.0
SAN				*e*S	Sb	19 34 52.4	-1.0
CLCH	**Cerro Calan**	**1.65**	**141**	⇑*iP*	Pn	19 34 31.7	+1.0
CLCH				*i* S	Sb	19 34 53.3	-0.7
CLCH				AML	AML	19 34 56.2	
	comp=E,1μm,0.5s						
TACH	**Talagante**	**1.69**	**156**	⇑*iP*	Pn	19 34 32.4	+1.2
ANTU	**Antumapu**	**1.74**	**147**	*e*P	Pb	19 34 33.5	-1.5
ANTU				*i* S	Sb	19 34 55.7	-0.9
ANTU				AML	AML	19 35 00.6	
	comp=N,1μm,0.2s						
PCH	**Pirque**	**1.84**	**145**	⇑*iP*	Pb	19 34 35.2	-1.6
PCH				*e*S	Sb	19 34 58.4	-1.1
CHCH	**Chadas Angostu**	**2.05**	**153**	*e*P	Pn	19 34 37.5	+1.4
CHCH				*i* S	Sb	19 35 03.2	-2.2
TLL	**Tololo Astrono**	**2.10**	**23**	*e*P	Pn	19 34 38.3	+1.1
TLL				*e*S	Sb	19 35 05.2	-2.2
LMEL	**Las Melosas**	**2.18**	**143**	*e*P	Pn	19 34 39.6	+1.6
LMEL				*e*S	Sb	19 35 06.8	-2.5
LMEL				AML	AML	19 35 14.9	
	comp=N,831nm,0.2s						

IDC 29 19:37:55.7±1.8, 7°.54S×156°.33E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, MS3.7/2, Ms1 3.7/2, ms1mx2.9/27, Error ellipse: s-maj=57.3km s-min=24.8km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.04**	**118**	LR	LR	19 39 42.9	
	comp=Z,124nm,18.7s,baz=343,slow=26						
WRA	**Warramunga Arr**	**24.62**	**238**	P	P	19 43 18.6	+0.5
	1.6nm,0.7s,baz=64,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**26.83**	**231**	P	P	19 43 37.7	-0.4
	0.7nm,0.8s,baz=64,slow=8.9,SNR=6.8						
JOW	**Kunigami**	**43.67**	**323**	LR	LR	20 01 22.0	
	comp=Z,762nm,21.3s,baz=97,slow=32						
CMAR	**Chiang Mai Arr**	**62.21**	**295**	P	P	19 48 19.9	+0.3
	0.8nm,0.7s,baz=122,slow=5.4,SNR=8.5						
SONM	**Songino Array**	**70.51**	**327**	P	P	19 49 13.2	+0.7
	1.7nm,0.8s,baz=140,slow=7.0,SNR=17						
ILAR	**Eielson Array**	**83.39**	**21**	P	P	19 50 24.4	-0.2
	0.8nm,1.1s,baz=256,slow=3.4,SNR=3.2						
MKAR	**Makanchi Array**	**84.68**	**318**	P	P	19 50 31.7	+0.1
	5.4nm,0.8s,baz=105,slow=5.8,SNR=59						
ZALV	**Zalesovo Beam**	**85.37**	**326**	P	P	19 50 33.9	-0.8
	5.0nm,0.8s,baz=107,slow=5.5,SNR=20						
KURK	**Kurchatov**	**88.07**	**322**	P	P	19 50 47.4	-0.7
	1.1nm,0.6s,baz=108,slow=3.5,SNR=9.3						
AAK	**Ala-Archa**	**89.08**	**313**	P	P	19 50 52.8	-0.5
	0.3nm,0.4s,baz=163,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	P	19 51 26.2	+0.8
	0.0nm,0.4s,baz=264,slow=5.0,SNR=4.0						

NNC 29 19:44:22.2±5.4, 36°.89N×71°.39E, h164km±104km, mb2.6, mpv3.6, 2C-2D, Error ellipse: s-maj=52.9km s-min=28.8km az=11.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.25**	**354**	⇑P	Pn	19 45 52.0	-0.2
	2.9nm,0.4s,baz=179,slow=13,SNR=99						
KK31				⇑S	Sn	19 47 03.7	+0.7
	0.5nm,0.3s,baz=183,slow=23,SNR=5.5						
TKM2	**Tokmak 2**	**6.84**	**27**	⇓P	Pn	19 46 00.6	+0.2
	1.6nm,0.6s						
TKM2				⇓S	Sn	19 47 17.4	-0.1
	1.4nm,0.9s						
AB31	**Akbulak array**	**14.91**	**330**	P	Pn	19 47 44.5	0.0
	0.1nm,0.3s,baz=144,slow=13,SNR=14						

IDC 29 19:46:04.8±0.7, 7°.41S×155°.95E, h50km±6km, mb3.7/5, mb1 3.8/6, mb1mx3.5/17, mbtmp3.8/6, Error ellipse: s-maj=21.9km s-min=13.0km az=31.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.44**	**117**	P	Pn	19 47 10.7	+1.1
	7.6nm,0.3s,baz=329,slow=12,SNR=2.9						
HNR				S	Sn	19 48 00.4	+0.3
	11nm,0.3s,baz=328,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**24.38**	**237**	P	P	19 51 19.1	+0.5
	0.6nm,0.5s,baz=62,slow=9.9,SNR=10.0						
ASAR	**Alice Springs**	**26.62**	**230**	P	P	19 51 38.1	-0.9
	0.3nm,0.8s,baz=54,slow=10,SNR=2.8						
ASAR				pP	pP	19 51 52.4	+0.6
	0.7nm,0.7s,baz=67,slow=8.4,SNR=4.7						
SONM	**Songino Array**	**70.19**	**327**	P	P	19 57 13.4	+0.8
	1.1nm,0.8s,baz=137,slow=6.2,SNR=10						
SONM				pP	pP	19 57 27.8	+1.0
	1.2nm,0.7s,baz=137,slow=6.9,SNR=9.0						
MKAR	**Makanchi Array**	**84.34**	**319**	P	P	19 58 32.0	+0.3
	2.7nm,0.8s,baz=108,slow=5.5,SNR=28						
MKAR				pP	pP	19 58 46.2	0.0
	3.2nm,0.8s,baz=106,slow=5.7,SNR=12						
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	P	19 58 34.4	-0.7
	2.6nm,0.7s,baz=108,slow=6.1,SNR=11						
ZALV				pP	pP	19 58 48.8	-0.8
	3.5nm,0.6s,baz=116,slow=6.0,SNR=9.2						
KURK	**Kurchatov**	**87.74**	**322**	P	P	19 58 48.0	-0.4
	baz=100,slow=4.7,SNR=9.4						
KURK				pP	pP	19 59 02.4	-0.5
	0.7nm,0.6s,baz=101,slow=5.0,SNR=6.4						

*ISK **29** 19:54:17.8, 39°.42N×28°.02E, h5km, MD2.8*

*ISCJB **29** 19:54:19.1±0.4, 39°.44N±0°.02×28°.00E±0°.04, h6km±6km, Error ellipse: s-maj=4.7km s-min=3.5km az=167.2*

*CSEM **29** 19:54:19.3±0.1, 39°.44N×28°.01E, h8km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.3km az=76.0*

*DDA **29** 19:54:19.0, 39°.45N×27°.97E, h7km, MD2.9*

ISC 29 19:54:19.1±1.0, 39°.44N±0°.02×27°.99E±0°.02, h16km±9km, n38, σ0°.37/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.22**	**337**	*e*PG	**Pg**	**19 54 23.9**	**-0.2**
BALB				*e*SG	**Sb**	**19 54 28.4**	**-0.1**
BALB	**Balikesir**	**0.22**	**337**	*e*Pg	**Pg**	**19 54 23.9**	**-0.2**
BALB				*e*Sg	**Sb**	**19 54 28.4**	**-0.1**
DURS	**Dursunbey**	**0.41**	**67**	*i* P	**Pg**	**19 54 27.6**	**+0.2**
DURS				*i* S	**Sb**	**19 54 33.7**	**-0.3**
DURS	**Dursunbey**	**0.41**	**67**	*i* P	**Pg**	**19 54 27.6**	**+0.2**
DURS				*i* S	**Sb**	**19 54 33.7**	**-0.3**
BALY	**Balya**	**0.41**	**316**	*i* P	**Pg**	**19 54 27.4**	**-0.2**
BALY				*i* S	**Sg**	**19 54 33.5**	**+0.2**
BALY	**Balya**	**0.41**	**316**	*i* P	**Pg**	**19 54 27.4**	**-0.2**
BALY				*i* S	**Sg**	**19 54 33.5**	**+0.2**
DST	**Dursunbey**	**0.51**	**71**	*e*PG	**Pg**	**19 54 28.5**	**-0.8**
DST				*e*SG	**Sg**	**19 54 36.6**	**+0.4**
DST	**Dursunbey**	**0.51**	**71**	*e*Pg	**Pg**	**19 54 28.5**	**-0.8**
DST				*e*Sg	**Sg**	**19 54 36.6**	**+0.4**
AKHS	**Akhisar**	**0.58**	**194**	*i* P	**Pb**	**19 54 30.8**	**0.0**
AKHS				*i* S	**Sb**	**19 54 38.8**	**0.0**
AKHS	**Akhisar**	**0.58**	**194**	*i* P	**Pb**	**19 54 30.8**	**0.0**
AKHS				*i* S	**Sb**	**19 54 38.8**	**0.0**
AKS	**Akhisar**	**0.58**	**194**	*e*PG	**Pg**	**19 54 30.0**	**-0.5**
AKS				*e*SG	**Sb**	**19 54 38.9**	**+0.1**
AKS	**Akhisar**	**0.58**	**194**	*e*Pg	**Pg**	**19 54 30.0**	**-0.5**
AKS				*e*Sg	**Sb**	**19 54 38.9**	**+0.1**
GONE	**Gonen-Balikesi**	**0.65**	**339**	*e*PG	**Pg**	**19 54 31.6**	**-0.3**
GONE	**Gonen-Balikesi**	**0.65**	**339**	*e*Pg	**Pg**	**19 54 31.6**	**-0.3**
DEMI	**Demirci**	**0.69**	**125**	*i* P	**Pg**	**19 54 32.6**	**0.0**
DEMI				*i* S	**Sb**	**19 54 42.6**	**+0.5**
DEMI	**Demirci**	**0.69**	**125**	*i* P	**Pg**	**19 54 32.6**	**0.0**
DEMI				*i* S	**Sb**	**19 54 42.6**	**+0.5**
KCTX	**Karacabey (Bur**	**0.87**	**19**	*e*PG	**Pb**	**19 54 35.5**	**-0.4**
KCTX	**Karacabey (Bur**	**0.87**	**19**	*e*Pg	**Pb**	**19 54 35.5**	**-0.4**
EDC	**Edincik**	**0.91**	**354**	*e*PG	**Pb**	**19 54 36.2**	**-0.4**
EDC	**Edincik**	**0.91**	**354**	*e*Pg	**Pb**	**19 54 36.2**	**-0.4**
BNT	**Bandirma**	**0.92**	**357**	*e*PG	**Pb**	**19 54 36.5**	**-0.1**
BNT	**Bandirma**	**0.92**	**357**	*e*Pg	**Pb**	**19 54 36.5**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**49**	*e*PG	**Pb**	**19 54 36.9**	**+0.1**
ORLT	**Orhaneli**	**0.92**	**49**	*e*Pg	**Pb**	**19 54 36.9**	**+0.1**
MANT	**Manisa**	**1.05**	**155**	*i* P	**Pg**	**19 54 39.5**	**+0.2**
MANT				*i* S	**Sb**	**19 54 52.7**	**+0.2**
MANT	**Manisa**	**1.05**	**155**	*i* P	**Pg**	**19 54 39.5**	**+0.2**
MANT				*i* S	**Sb**	**19 54 52.7**	**+0.2**
KULA	**Kula-Manisa**	**1.06**	**150**	*e*PG	**Pb**	**19 54 38.5**	**-0.6**
KULA	**Kula-Manisa**	**1.06**	**150**	*e*Pg	**Pb**	**19 54 38.5**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.16**	**36**	*e*PN	**Pg**	**19 54 41.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.16**	**36**	*e*Pn	**Pg**	**19 54 41.2**	**-0.2**
ARMT	**Armutlu**	**1.31**	**30**	*e*PN	**Pg**	**19 54 44.1**	**-0.2**
ARMT	**Armutlu**	**1.31**	**30**	*e*Pn	**Pg**	**19 54 44.1**	**-0.2**
MFT	**Murefte**	**1.45**	**338**	*e*PN	**Pb**	**19 54 46.6**	**+0.8**
MFT	**Murefte**	**1.45**	**338**	*e*Pn	**Pb**	**19 54 46.6**	**+0.8**
YLV	**Yalova**	**1.55**	**43**	*e*PN	**Pb**	**19 54 47.6**	**+0.2**
YLV	**Yalova**	**1.55**	**43**	*e*Pn	**Pb**	**19 54 47.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.67**	**318**	*e*PN	**Pb**	**19 54 50.0**	**+0.5**
ERIK	**Erikli-Kesan**	**1.67**	**318**	*e*Pn	**Pb**	**19 54 50.0**	**+0.5**

IDC 29 19:58:06.1±4.3, 4°.31S×149°.61E, h196km±40km, mb3.0/3, mb1 3.2/4, mb1mx3.0/16, mbtmp3.1/4, Error ellipse: s-maj=103.2km s-min=26.3km az=105.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.61**	**206**	P	Pn	19 59 29.3	+0.9
	1.3nm,0.3s,baz=352,slow=7.1,SNR=5.2						
PMG				S	Sn	20 00 47.0	+14
	1.0nm,0.3s,baz=156,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**21.51**	**223**	P	P	20 02 41.3	+1.4
	2.6nm,0.3s,baz=50,slow=10,SNR=85						
ASAR	**Alice Springs**	**24.49**	**217**	P	P	20 03 06.4	-1.1
	0.2nm,0.3s,baz=51,slow=8.6,SNR=10						
SONM	**Songino Array**	**64.25**	**329**	P	P	20 08 20.2	-0.2
	0.3nm,0.9s,baz=122,slow=5.2,SNR=3.2						

IDC 29 19:58:30.7±1.1, 7°.34S×155°.99E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, ML3.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/31, Error ellipse: s-maj=29.0km s-min=26.2km az=51.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.43**	**118**	P	Pn	19 59 39.9	+0.8
	3.6nm,0.3s,baz=53,slow=20,SNR=2.4						
HNR				Sn	Sn	20 00 33.7	+2.2
	15nm,0.3s,baz=22,slow=19,SNR=3.4						
HNR				LR	LR	20 00 41.2	
	comp=Z,139nm,18.6s,baz=249,slow=30						
DZM	**Mont Dzumac**	**17

NVAR pP **PcP** 20 11 43.9 +1.5
0.9nm,0.8s,baz=268,slow=7.1,SNR=4.2

MEX 29 20:05:56.0±1.0, 16.87N×100.00W, h12km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.14**	**90**	*e*P	Pg	20 05 57.7	-1.7
ACX				*i* S	Sg	20 06 00.2	-1.5
CAIG	**El Cayaco**	**0.31**	**305**	*i* P	Pg	20 06 01.4	-1.0
CAIG				*i* S	Sg	20 06 06.7	+0.1
ZIIG	**Zihuatanejo**	**1.58**	**298**	*i* P	Pn	20 06 21.5	-2.4
ZIIG				*i* S	Sn	20 06 39.9	-4.4
PLIG	**Platanillo**	**1.59**	**17**	*e*P	Pn	20 06 19.9	-4.3
PLIG				*i* S	Sn	20 06 39.1	-5.6
PNIG	**Pinotepa**	**1.86**	**105**	*i* P	Pn	20 06 23.8	-4.0
PNIG				*i* S	Sn	20 06 46.4	-4.9
YAIG	**Yautepec**	**2.17**	**24**	*e*P	Pn	20 06 29.0	-3.2
YAIG				*i* S	Sn	20 06 55.1	-4.2
UTMO	**Huajuapan**	**2.31**	**65**	*i* P	Pn	20 06 35.6	-2.6
UTMO				*i* S	Sn	20 06 58.7	-4.1
PPM	**Popocatepetl**	**2.55**	**31**	*i* P	Pn	20 06 35.5	-2.4
PPM				*i* S	Sn	20 07 04.5	-4.9

IDC 29 20:18:27.7±6.2, 21.60S×174.00W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=287.3km s-min=49.4km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.91**	**257**	P	P	20 27 07.9	-0.3
	0.9nm,0.7s,baz=100,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**48.15**	**262**	P	P	20 27 09.6	-0.5
	1.0nm,0.8s,baz=98,slow=8.3,SNR=6.7						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	PcP	20 31 49.8	+1.0
	0.6nm,0.9s,baz=124,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**145.72**	**334**	PKPbc	PKPdf	20 38 06.8	-1.3
	0.9nm,0.4s,baz=39,slow=4.2,SNR=5.3						
BRTR	**Keskin Array B**	**150.32**	**314**	PKPbc	PKPbc	20 38 20.9	-0.5
	0.4nm,0.7s,baz=42,slow=2.3,SNR=3.6						

*DDA **29** 20:30:20.3,36.94N×28.24E,h22km, MD3.5*
*ISK **29** 20:30:20.8,36.98N×28.22E,h2km, MD3.3*
*ISCJB **29** 20:30:21.2±0.6,36.95N±0.02×28.20E±0.02, h3km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=5.3*
*ATH **29** 20:30:21.3,37.00N×28.16E,h15km, MD3.5/10*
*CSEM **29** 20:30:22.1±0.1,36.98N×28.18E,h5km, MD3.3, Error ellipse: s-maj=3.8km s-min=2.9km az=8.0*
ISC 29 20:30:21.1±1.1, 36.97N±0.02×28.21E±0.02, h3km±10km, n90,σ1§19/122, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.17**	**19**	*e*PG	**Pg**	**20 30 24.8**	**+0.3**
YER				*e*SG	**Sg**	**20 30 28.0**	**+1.1**
YER	**Yerkesik**	**0.17**	**19**	*e*Pg	**Pg**	**20 30 24.8**	**+0.3**
YER				*e*Sg	**Sg**	**20 30 28.0**	**+1.1**
TURN	**Turunc**	**0.33**	**107**	*i* P	**Pg**	**20 30 25.3**	**-2.1**
TURN				*i* S	**Sg**	**20 30 28.6**	**-3.0**
TURN	**Turunc**	**0.33**	**107**	*i* P	**Pg**	**20 30 25.3**	**-2.1**
BDRM	**Kayabasi**	**0.62**	**279**	*i* P	**Pg**	**20 30 33.2**	**+0.2**
BDRM				*i* S	**Sb**	**20 30 42.8**	**-1.0**
BDRM	**Kayabasi**	**0.62**	**279**	*i* P	**Pg**	**20 30 33.2**	**+0.2**
BDRM				*i* S	**Sb**	**20 30 42.8**	**-1.0**
BODT	**Bodrum**	**0.73**	**278**	*e*PG	**Pg**	**20 30 35.4**	**+0.4**
BODT				*e*SG	**Sb**	**20 30 47.2**	**+0.4**
BODT	**Bodrum**	**0.73**	**278**	*e*Pg	**Pg**	**20 30 35.4**	**+0.4**
BODT				*e*Sg	**Sb**	**20 30 47.2**	**+0.4**
AYDN	**Tasoluk**	**0.74**	**339**	*i* P	**Pg**	**20 30 35.7**	**+0.4**
AYDN				*i* S	**Sb**	**20 30 46.1**	**-1.2**
AYDN	**Tasoluk**	**0.74**	**339**	*i* P	**Pg**	**20 30 35.7**	**+0.4**
AYDN				*i* S	**Sb**	**20 30 46.1**	**-1.2**
ARG	**Arkhangelos**	**0.76**	**185**	*e*PN	**Pg**	**20 30 35.6**	**0.0**
ARG				*e*SN	**Sb**	**20 30 47.5**	**-0.1**
ARG	**Arkhangelos**	**0.76**	**185**	*e*Pn	**Pg**	**20 30 35.6**	**0.0**
ARG				*e*Sn	**Sb**	**20 30 47.5**	**-0.1**
FETY	**Fethiye**	**0.78**	**115**	*e*PG	**Pg**	**20 30 36.1**	**+0.1**
FETY	**Fethiye**	**0.78**	**115**	*e*Pg	**Pg**	**20 30 36.1**	**+0.1**
GCAM	**G?zelcaml?**	**1.07**	**313**	*i* P	**Pb**	**20 30 41.9**	**-0.3**
GCAM				*i* S	**Sn**	**20 30 57.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.07**	**313**	*i* P	**Pb**	**20 30 41.9**	**-0.3**
GCAM				*i* S	**Sn**	**20 30 57.6**	**-0.7**
SMG	**Samos**	**1.32**	**304**	*e*PN	**Pn**	**20 30 45.4**	**-1.1**
SMG				*e*SN	**Sb**	**20 31 02.8**	**-1.1**
SMG	**Samos**	**1.32**	**304**	*e*Pn	**Pn**	**20 30 45.4**	**-1.1**
SMG				*e*Sn	**Sb**	**20 31 02.8**	**-1.1**
KSL	**Kastellorizon**	**1.37**	**126**	*e*PN	**Pg**	**20 30 48.1**	**+0.7**
ELL	**Elmali**	**1.38**	**99**	*e*PN	**Pg**	**20 30 48.8**	**+1.3**
ELL				*e*SN	**Sn**	**20 31 07.5**	**+1.3**
ELL	**Elmali**	**1.38**	**99**	*e*Pn	**Pg**	**20 30 48.8**	**+1.3**
ELL				*e*Sn	**Sn**	**20 31 07.5**	**+1.3**
MANT	**Manisa**	**1.54**	**10**	*i* P	**Pn**	**20 30 49.6**	**-0.1**
MANT				*i* S	**Sg**	**20 31 11.5**	**+0.8**
MANT	**Manisa**	**1.54**	**10**	*i* P	**Pn**	**20 30 49.6**	**-0.1**
MANT				*i* S	**Sg**	**20 31 11.5**	**+0.8**
KULA	**Kula-Manisa**	**1.58**	**13**	*e*PN	**Pb**	**20 30 50.7**	**-0.4**
KULA	**Kula-Manisa**	**1.58**	**13**	*e*Pn	**Pb**	**20 30 50.7**	**-0.4**
IZM	**Izmir**	**1.61**	**332**	*e*PN	**Pn**	**20 30 50.7**	**+0.2**
IZM	**Izmir**	**1.61**	**332**	*e*Pn	**Pn**	**20 30 50.7**	**+0.2**
KARP	**Karpathos**	**1.65**	**211**	*e*PN	**Pn**	**20 30 51.3**	**+0.2**
KARP				*e*SN	**Sg**	**20 31 14.5**	**+0.3**
KARP	**Karpathos**	**1.65**	**211**	*e*Pn	**Pn**	**20 30 51.3**	**+0.2**
KARP				*e*Sn	**Sg**	**20 31 14.5**	**+0.3**
KHL	**Karahalli**	**1.71**	**37**	*e*PN	**Pn**	**20 30 51.8**	**-0.1**
KHL	**Karahalli**	**1.71**	**37**	*e*Pn	**Pn**	**20 30 51.8**	**-0.1**
KORT	**Korkueli**	**1.71**	**88**	*i* P	**Pg**	**20 30 54.6**	**+0.7**
KORT				*i* S	**Sg**	**20 31 19.1**	**+3.0**
KORT	**Korkueli**	**1.71**	**88**	*i* P	**Pg**	**20 30 54.6**	**+0.7**
KORT				*i* S	**Sg**	**20 31 19.1**	**+3.0**
KHAL	**Karahalli**	**1.73**	**36**	*i* P	**Pn**	**20 30 52.3**	**+0.1**
KHAL				*i* S	**Sn**	**20 31 14.1**	**-0.8**
KHAL	**Karahalli**	**1.73**	**36**	*i* P	**Pn**	**20 30 52.3**	**+0.1**
KHAL				*i* S	**Sn**	**20 31 14.1**	**-0.8**
URLA	**Izmir**	**1.89**	**318**	*i* P	**Pb**	**20 30 56.4**	**+0.1**
URLA				*i* S	**Sb**	**20 31 20.9**	**+0.6**
URLA	**Izmir**	**1.89**	**318**	*i* P	**Pb**	**20 30 56.4**	**+0.1**
AKHS	**Akhisar**	**1.93**	**351**	*i* P	**Pn**	**20 30 54.2**	**-0.7**
AKHS				*i* S	**Sn**	**20 31 15.0**	**-4.8**
AKHS	**Akhisar**	**1.93**	**351**	*i* P	**Pn**	**20 30 54.2**	**-0.7**
AKS	**Akhisar**	**1.93**	**351**	*e*PN	**Pn**	**20 30 55.4**	**+0.5**
AKS	**Akhisar**	**1.93**	**351**	*e*Pn	**Pn**	**20 30 55.4**	**+0.5**
ANTB	**Antalya**	**1.96**	**91**	*e*PN	**Pb**	**20 30 56.4**	**-1.0**
ANTB	**Antalya**	**1.96**	**91**	*e*Pn	**Pb**	**20 30 56.4**	**-1.0**
BCK	**Bucak**	**1.96**	**75**	*e*PN	**Pb**	**20 30 56.4**	**-1.1**
BCK	**Bucak**	**1.96**	**75**	*e*Pn	**Pb**	**20 30 56.4**	**-1.1**
ISP	**Isparta**	**2.03**	**64**	*e*PN	**Pb**	**20 30 57.5**	**-1.2**
ISP	**Isparta**	**2.03**	**64**	*e*Pn	**Pb**	**20 30 57.5**	**-1.2**
DEMI	**Demirci**	**2.11**	**11**	*i* P	**Pn**	**20 30 57.3**	**-0.1**
DEMI				*i* S	**Sn**	**20 31 20.2**	**-3.9**
DEMI	**Demirci**	**2.11**	**11**	*i* P	**Pn**	**20 30 57.3**	**-0.1**
APE	**Apeiranthos**	**2.15**	**273**	*e*PN	**Pn**	**20 30 59.1**	**-1.6**
APE	**Apeiranthos**	**2.15**	**273**	*e*Pn	**Pn**	**20 30 58.5**	**+0.6**
APE				*e*SN	**Sn**	**20 31 25.5**	**+0.4**
APE	**Apeiranthos**	**2.15**	**273**	*e*Pn	**Pn**	**20 30 58.5**	**+0.6**
APE				*e*Sn	**Sn**	**20 31 25.5**	**+0.4**
CHOS	**Chios island**	**2.22**	**310**	*e*PN	**Pn**	**20 30 59.2**	**+0.3**
CHOS				*e*SN	**Sn**	**20 31 27.0**	**+0.1**
CHOS	**Chios island**	**2.22**	**310**	*e*Pn	**Pn**	**20 30 59.2**	**+0.3**
CHOS				*e*Sn	**Sn**	**20 31 27.0**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.28**	**76**	*e*PN	**Pn**	**20 31 00.9**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.28**	**76**	*e*Pn	**Pn**	**20 31 01.0**	**+1.2**
SHUT	**Suhut-Afyon**	**2.44**	**49**	*e*PN	**Pn**	**20 31 03.1**	**+1.2**
SHUT	**Suhut-Afyon**	**2.44**	**49**	*e*Pn	**Pn**	**20 31 03.1**	**+1.2**
ZKR	**Zakros**	**2.46**	**222**	*e*PB	**Pn**	**20 31 02.8**	**+0.7**
ZKR	**Zakros**	**2.46**	**222**	*e*Pn	**Pn**	**20 31 02.8**	**+0.7**
ALT	**Altintas**	**2.57**	**35**	*e*PN	**Pn**	**20 31 04.5**	**+0.8**
ALT	**Altintas**	**2.57**	**35**	*e*Pn	**Pn**	**20 31 04.5**	**+0.8**
BALB	**Balikesir**	**2.68**	**355**	*e*PN	**Pn**	**20 31 06.3**	**+1.2**
BALB	**Balikesir**	**2.68**	**355**	*e*Pn	**Pn**	**20 31 06.3**	**+1.2**
NPS	**Neapolis**	**2.71**	**232**	*e*PN	**Pn**	**20 31 06.4**	**+0.9**
NPS	**Neapolis**	**2.71**	**232**	*e*Pn	**Pn**	**20 31 06.4**	**+0.9**
PRK	**Paraskevi**	**2.74**	**327**	*e*PN	**Pn**	**20 31 06.4**	**+0.4**
PRK	**Paraskevi**	**2.74**	**327**	*e*Pn	**Pn**	**20 31 06.4**	**+0.4**
LAST	**Lasithi**	**2.86**	**232**	*e*PN	**Pn**	**20 31 08.7**	**+1.0**
LAST	**Lasithi**	**2.86**	**232**	*e*Pn	**Pn**	**20 31 08.7**	**+1.0**
GONE	**Gonen-Balikesi**	**3.10**	**353**	*e*PN	**Pn**	**20 31 11.6**	**+0.7**
GONE	**Gonen-Balikesi**	**3.10**	**353**	*e*Pn	**Pn**	**20 31 11.6**	**+0.7**
KCTX	**Karacabey (Bur**	**3.29**	**2**	*e*PN	**Pn**	**20 31 15.2**	**+1.6**
KCTX	**Karacabey (Bur**	**3.29**	**2**	*e*Pn	**Pn**	**20 31 15.2**	**+1.6**
KONT	**Konya--Tatoy**	**3.44**	**72**	*e*PN	**Pn**	**20 31 17.4**	**+1.8**
KONT	**Konya--Tatoy**	**3.44**	**72**	*e*Pn	**Pn**	**20 31 17.5**	**+1.8**
KIZT	**Kizilcal**	**3.47**	**56**	*e*PN	**Pn**	**20 31 17.6**	**+1.5**
KIZT	**Kizilcal**	**3.47**	**56**	*e*Pn	**Pn**	**20 31 17.6**	**+1.5**
LADK	**Ladik-KONYA**	**3.52**	**68**	*e*PN	**Pn**	**20 31 18.5**	**+1.7**
LADK	**Ladik-KONYA**	**3.52**	**68**	*e*Pn	**Pn**	**20 31 18.5**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.68**	**339**	*e*PN	**Pn**	**20 31 20.2**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.68**	**339**	*e*Pn	**Pn**	**20 31 20.2**	**+1.3**
YLV	**Yalova**	**3.71**	**14**	*e*PN	**Pn**	**20 31 21.6**	**+2.3**
YLV	**Yalova**	**3.71**	**14**	*e*Pn	**Pn**	**20 31 21.6**	**+2.3**
LIA	**Limnos Island**	**3.77**	**322**	*e*PN	**Pn**	**20 31 21.0**	**+0.9**
LIA	**Limnos Island**	**3.77**	**322**	*e*Pn	**Pn**	**20 31 21.0**	**+0.9**
RKY	**Sarkoy-Tekirda**	**3.80**	**348**	*e*PN	**Pn**	**20 31 21.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**3.80**	**348**	*e*Pn	**Pn**	**20 31 21.3**	**+0.7**
ALN	**Alexandroupoli**	**4.27**	**337**	*e*PN	**Pn**	**20 31 27.8**	**+0.8**
ALN	**Alexandroupoli**	**4.27**	**337**	*e*Pn	**Pn**	**20 31 27.8**	**+0.8**

IDC 29 20:35:43.1±44.0, 16.40S×170.70W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=866.2km s-min=199.0km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.81**	**241**	P	P	20 44 07.5	+0.4
	2.0nm,0.9s,baz=59,slow=5.9,SNR=2.9						
WRA	**Warramunga Arr**	**52.15**	**257**	P	P	20 44 54.9	-1.0
	0.4nm,0.5s,baz=97,slow=6.5,SNR=10						
ASAR	**Alice Springs**	**52.28**	**253**	P	P	20 44 57.2	+0.3
	2.7nm,0.5s,baz=90,slow=8.4,SNR=33						

IDC 29 20:38:07.6±8.7, 18.94S×175.15W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=380.9km s-min=39.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.49**	**260**	P	P	20 46 43.9	-0.9
	0.4nm,0.9s,baz=100,slow=7.4,SNR=3.4						
ASAR	**Alice Springs**	**47.50**	**255**	P	P	20 46 45.4	+0.5
	1.4nm,0.5s,baz=89,slow=8.1,SNR=17						
ILAR	**Eielson Array**	**86.23**	**12**	P	P	20 50 50.6	0.0
	0.3nm,0.6s,baz=215,slow=6.1,SNR=4.6						

*NNC **29** 20:48:40.7±9.4,36.81N×69.92E,h0km, mb4.0, mpv3.8, Error ellipse: s-maj=84.7km s-min=74.4km az=50.0*
*IDC **29** 20:48:41.5±16.0,36.27N×70.49E,h187km±73km, mb3.7/3, mb1 3.5/7, mb1mx3.0/29, mbtmp3.4/7, Error ellipse: s-maj=190.4km s-min=46.5km az=174.0*
*ISCJB **29** 20:48:42.7±0.7,36.50N±0.05×70.4E±0.1, h204km, mb3.7/2, Error ellipse: s-maj=12.2km s-min=5.1km az=157.2*
ISC 29 20:48:43.7±1.1, 36.53N±0.08×70.4E±0.1, h204km, n30, σ1§16/42, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.99**	**131**	*e*P	**Pn**	**20 50 10.7**	**-0.1**
THN				*e*S	**S**	**20 51 15.8**	**-3.6**
AML	**Almayashu**	**6.14**	**23**	P	**Pn**	**20 50 13.2**	**0.0**
	SNR=115						
AML				P	**Pn**	**20 50 13.2**	**0.0**
	SNR=115						
KK31	**Karatay Array**	**6.57**	**1**	P	**Pn**	**20 50 17.8**	**-0.5**
	0.9nm,0.3s,baz=167,slow=9.5,SNR=77						
KK31				⇑S	**S**	**20 51 28.5**	**-4.6**
	3.2nm,0.3s,baz=172,slow=15,SNR=11						
EKS2	**Erkin-Say**	**6.65**	**22**	P	**Pn**	**20 50 19.7**	**+0.3**
	SNR=20						
EKS2				P	**Pn**	**20 50 19.7**	**+0.3**
	SNR=20						
KZA	**Kyzart**	**6.69**	**33**	P	**Pn**	**20 50 20.1**	**-0.1**
	SNR=7.4						
KZA				P	**Pn**	**20 50 20.1**	**-0.1**
	SNR=7.4						
AAK	**Ala-Archa**	**6.86**	**26**	P	**Pn**	**20 50 22.7**	**+0.5**
	SNR=10.0						
AAK				P	**Pn**	**20 50 22.7**	**+0.5**
	SNR=10.0						
AAK	**Ala-Archa**	**6.86**	**26**	P	**Pn**	**20 50 22.7**	**+0.5**
	2.9nm,0.3s,baz=182,slow=5.4,SNR=56						
KBK	**Karagaybulak**	**7.05**	**28**	P	**Pn**	**20 50 24.7**	**+0.1**
	SNR=7.0						
KBK				P	**Pn**	**20 50 24.7**	**+0.1**
	SNR=7.0						
CHMS	**Chumysh**	**7.27**	**26**	P	**Pn**	**20 50 27.7**	**+0.3**
	SNR=6.0						
CHMS				P	**Pn**	**20 50 27.7**	**+0.3**
	SNR=6.0						
USP	**Ospenovka**	**7.43**	**24**	P	**Pn**	**20 50 29.6**	**+0.3**
	SNR=7.1						
USP				P	**Pn**	**20 50 29.6**	**+0.3**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.53**	**30**	P	**Pn**	**20 50 31.0**	**+0.2**
	SNR=28						
TKM2				P	**Pn**	**20 50 31.0**	**+0.2**
	SNR=28						
TKM2	**Tokmak 2**	**7.53**	**30**	⇑P	**Pn**	**20 50 30.5**	**-0.3**
	8.0nm,0.5s						
TKM2				⇑S	**S**	**20 51 56.7**	**+0.6**
	6.3nm,1.0s						
MKAR	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**20 51 48.6**	**+0.9**
	0.4nm,0.3s,baz=219,slow=11,SNR=17						
DANN	**Dangsing**	**13.90**	**122**	*e*P	**Pn**	**20 51 52.2**	**-0.3**
	6.6nm,0.3s						
KOLN	**Koldanda**	**14.16**	**124**	*e*P	**Pn**	**20 51 55.6**	**-0.1**
	4.2nm,0.3s						
GKN	**Gorkha**	**14.72**	**121**	*e*P	**Pn**	**20 52 02.3**	**-0.1**
	9.4nm,0.3s						
AB31	**Akbulak array**	**14.84**	**332**	⇑P	**Pn**	**20 52 01.8**	**-1.7**
	0.3nm,0.3s,baz=146,slow=12,SNR=35						
AB31				S	**S**	**20 54 47.7**	**-0.3**
	0.5nm,0.4s,baz=164,slow=22,SNR=3.3						
DMN	**Daman**	**15.29**	**121**	*e*P	**Pn**	**20 52 09.9**	**+0.4**
	7.3nm,0.5s						
KKN	**Kakani**	**15.29**	**121**	*e*P	**Pn**	**20 52 09.7**	**+0.2**
	7.0nm,0.3s						
PKI	**Pulchoki**	**15.52**	**121**	*e*P	**Pn**	**20 52 12.9**	**+0.5**
	7.7nm,0.3s						
GUN	**Gumba**	**15.64**	**119**	*e*P	**P**	**20 52 14.1**	**+0.4**
	22nm,0.9s						
JIRN	**Jiri**	**16.01**	**119**	*e*P	**P**	**20 52 18.5**	**+0.7**
	23nm,0.6s						
BVAR	**Borovoye Array**	**16.50**	**360**	P	**Pn**	**20 52 24.3**	**+0.8**
	0.4nm,0.3s,baz=167,slow=9.2,SNR=12						
AKTO	**Aktyubinsk**	**16.53**	**331**	P	**Pn**	**20 52 24.5**	**+0.6**
	0.3nm,0.3s,baz=137,slow=9.9,SNR=9.8						
RAMN	**Ramite**	**16.73**	**120**	*e*P	**P**	**20 52 26.7**	**+1.0**
	9.8nm,0.6s						
TAPN	**Taplejung**	**17.27**	**117**	*e*P	**Pn**	**20 52 34.1**	**+0.8**
	4.8nm,0.5s						
ODAN	**Odare**	**17.34**	**119**	*e*P	**Pn**	**20 52 35.3**	**+1.3**
	8.5nm,0.6s						
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**20 53 02.7**	**+1.3**
	2.4nm,0.5s,baz=213,slow=11,SNR=10						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**20 55 36.4**	**+1.5**
	3.3nm,1.1s,baz=112,slow=11,SNR=2.8						
ARCES	**ARCESS Array B**	**40.94**	**338**	P	**P**	**20 56 07.3**	**+1.5**
	2.5nm,0.9s,baz=112,slow=6.9,SNR=5.6						

*ISCJB **29** 21:27:09.2±0.7,36.93N±0.04×28.24E±0.04, h6km±5km, Error ellipse: s-maj=7.3km s-min=4.5km az=14.0*
*ISK **29** 21:27:09.9,37.00N×28.19E,h11km, MD2.7*
*DDA **29** 21:27:09.6,36.98N×28.25E,h7km, MD2.9*
*CSEM **29** 21:27:09.7±0.3,36.97N×28.25E,h2km, MD2.7, Error ellipse: s-maj=7.5km s-min=4.7km az=27.0*
ISC 29 21:27:08.2±1.2, 36.89N±0.04×28.20E±0.03, h4km±10km, n22,σ0§80/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.26**	**15**	*e*PG	**Pg**	**21 27 13.7**	**+0.5**
YER				*e*SG	**Sg**	**21 27 16.9**	**+0.3**
YER	**Yerkesik**	**0.26**	**15**	*e*Pg	**Pg**	**21 27 13.7**	**+0.5**
YER				*e*Sg	**Sg**	**21 27 16.9**	**+0.3**
TURN	**Turunc**	**0.32**	**92**	*i* P	**Pg**	**21 27 14.2**	**-0.2**
TURN				*i* S	**Sg**	**21 27 17.2**	**-1.4**
TURN	**Turunc**	**0.32**	**92**	*i* P	**Pg**	**21 27 14.2**	**-0.2**
TURN				*i* S	**Sg**	**21 27 17.2**	**-1.4**
BDRM	**Kayabasi**	**0.63**	**287**	*i* P	**Pg**	**21 27 19.1**	**-1.2**
BDRM				*i* S	**Sb**	**21 27 32.0**	**+0.9**
BDRM	**Kayabasi**	**0.63**	**287**	*i* P	**Pg**	**21 27 19.1**	**-1.2**
BDRM				*i* S	**Sb**	**21 27 32.0**	**+0.9**
BODT	**Bodrum**	**0.73**	**284**	*e*PG	**Pb**	**21 27 24.5**	**+0.9**
BODT				*e*SG	**Sb**	**21 27 34.2**	**+0.2**
BODT	**Bodrum**	**0.73**	**284**	*e*Pg	**Pb**	**21 27 24.5**	**+0.9**
BODT				*e*Sg	**Sb**	**21 27 34.2**	**+0.2**
FETY	**Fethiye**	**0.75**	**109**	*e*PG	**Pn**	**21 27 25.9**	**+0.2**
FETY	**Fethiye**	**0.75**	**109**	*e*Pg	**Pn**	**21 27 25.9**	**+0.2**
AYDN	**Tasoluk**	**0.81**	**342**	*i* P	**Pg**	**21 27 24.0**	**+0.2**
AYDN				*i* S	**Sb**	**21 27 35.4**	**-1.0**
AYDN	**Tasoluk**	**0.81**	**342**	*i* P	**Pg**	**21 27 24.0**	**+0.2**
AYDN				*i* S	**Sb**	**21 27 35.4**	**-1.0**
GCAM	**G?zelcaml?**	**1.12**	**317**	*i* P	**Pg**	**21 27 30.0**	**+0.4**
GCAM				*i* S	**Sg**	**21 27 43.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.12**	**317**	*i* P	**Pg**	**21 27 30.0**	**+0.4**
GCAM				*i* S	**Sg**	**21 27 43.9**	**-0.3**
ELL	**Elmali**	**1.38**	**95**	*e*PN	**Pb**	**21 27 36.0**	**+1.4**
ELL	**Elmali**	**1.38**	**95**	*e*Pn	**Pb**	**21 27 36.0**	**+1.4**
MANT	**Manisa**	**1.63**	**10**	*i* P	**Pb**	**21 27 38.6**	**-0.3**
MANT				*i* S	**Sn**	**21 27 58.3**	**-1.1**
MANT	**Manisa**	**1.63**	**10**	*i* P	**Pb**	**21 27 38.7**	**-0.3**
MANT				*i* S	**Sn**	**21 27 58.3**	**-1.1**
KULA	**Kula-Manisa**	**1.67**	**13**	*e*PN	**Pn**	**21 27 38.1**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**13**	*e*Pn	**Pn**	**21 27 38.1**	**-0.2**
KHAL	**Karahalli**	**1.80**	**34**	*i* P	**Pn**	**21 27 40.9**	**+0.7**
KHAL				*i* S	**Sn**	**21 28 03.3**	**-0.3**
KHAL	**Karahalli**	**1.80**	**34**	*i* P	**Pn**	**21 27 40.9**	**+0.7**
KHAL				*i* S	**Sn**	**21 28 03.3**	**-0.3**

*ISCJB **29** 22:05:19.6±0.9,32.41N±0.07×105.41E±0.07, h10km, mb3.2/4, Error ellipse: s-maj=10.6km s-min=8.2km az=2.8*
*IDC **29** 22:05:20.1±2.1,32.09N×104.96E,h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=370.2km s-min=22.1km az=53.0*
ISC 29 22:05:21.4±1.3, 32.32N±0.09×105.22E±0.06, h10km, n6, σ1§81/12, mb3.3/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**3.54**	**60**	Pn	**Pn**	**22 06 15.8**	**-0.7**
XAN				Pg	**Pb**	**22 06 26.5**	**+2.3**
XAN				Sn	**Sn**	**22 06 54.8**	**-3.7**
XAN				Sg	**Sb**	**22 07 08.5**	**+1.2**
XAN				smax	smax		
	comp=N,76nm,0.6s						
XAN				smax	smax		
	comp=E,38nm,0.7s						
LZH	**Lanzhou**	**3.92**	**343**	Pn	**Pn**	**22 06 21.8**	**0.0**
LZH				Pg	**Pb**	**22 06 31.5**	**+0.8**
LZH				Sn	**Sn**	**22 07 05.8**	**-2.2**
LZH				Sg	**Sb**	**22 07 19.5**	**+1.2**
LZH				smax	smax		
	comp=N,100nm,0.5s						
LZH				smax	smax		
	comp=E,180nm,0.7s						
LZH				LR	LR		
	comp=N,190nm,4.9s						
LZH				LR	LR		
	comp=E,160nm,5.3s						
LZH				LR	LR		
	comp=Z,270nm,5.6s						
MKAR	**Makanchi Array**	**22.72**	**316**	P	**P**	**22 10 23.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=110,slow=10,SNR=5.7						
KURK	**Kurchatov**	**26.87**	**321**	P	**P**	**22 11 03.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=128,slow=9.0,SNR=5.0						
WRA	**Warramunga Arr**	**58.98**	**148**	P	**P**	**22 15 20.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=339,slow=7.7,SNR=5.4

GUMT	**Gumushane**	**2.29 317**	*e*PN		**Pb**	**22 11 22.4**	**-0.3**		
GUMT	**Gumushane**	**2.29 317**	*e*Pn		**Pb**	**22 11 22.4**	**-0.3**		
DAGI	**Agillar**	**2.30 7**	*i* P		**Pb**	**22 11 22.2**	**-0.6**		
DAGI			*i* S		**Sg**	**22 11 54.2**	**-1.0**		
ILIC	**ilic-Erzincan**	**2.39 287**	*e*PN		**Pb**	**22 11 23.2**	**-1.1**		
ILIC	**ilic-Erzincan**	**2.39 287**	*e*Pn		**Pb**	**22 11 23.2**	**-1.1**		
KEMA	**Kemaliye**	**2.41 282**	*e*P		**Pb**	**22 11 25.9**	**+1.3**		
KEMA			*i* S		**Sg**	**22 11 59.1**	**+0.6**		
KEMA	**Kemaliye**	**2.41 282**	*e*P		**Pb**	**22 11 25.9**	**+1.3**		
MYA	**Malataya**	**2.47 260**	*e*PN		**Pb**	**22 11 24.5**	**-1.2**		
MYA	**Malataya**	**2.47 260**	*e*Pn		**Pb**	**22 11 24.5**	**-1.2**		
MALT	**Malatya**	**2.47 260**	*e*PN		**Pb**	**22 11 24.9**	**-0.8**		
MALT	**Malatya**	**2.47 260**	*e*Pn		**Pb**	**22 11 24.9**	**-0.8**		
URFA	**Urfa**	**2.52 239**	*e*PN		**Pb**	**22 11 24.7**	**-1.8**		
URFA	**Urfa**	**2.52 239**	*e*Pn		**Pb**	**22 11 24.7**	**-1.8**		
KTUT	**Trabzon**	**2.58 329**	*e*PN		**Pb**	**22 11 26.1**	**-1.2**		
KTUT	**Trabzon**	**2.58 329**	*e*Pn		**Pb**	**22 11 26.1**	**-1.2**		
SFNV	**Sufian**	**2.62 206**	*e*P		**Pn**	**22 11 25.6**	**+2.1**		
SFNV			*e*S		**Sn**	**22 11 50.1**	**-5.3**		
SFNV				AML	AML	22 12 13.5			
	comp=Z,62nm,0.6s								
SFNV	**Sufian**	**2.62 206**	*e*P		**Pn**	**22 11 25.6**	**+2.1**		
	SNR=90								
BCA	**Borcka**	**2.65 2**	*e*PN		**Pb**	**22 11 27.7**	**-1.0**		
BCA	**Borcka**	**2.65 2**	*e*Pn		**Pb**	**22 11 27.7**	**-1.0**		
GNI	**Garni**	**2.84 60**	*e*PN		**Pb**	**22 11 30.4**	**-1.6**		
GNI	**Garni**	**2.84 60**	*e*Pn		**Pb**	**22 11 30.4**	**-1.6**		
AKCD	**Akcadag**	**2.87 261**	*e*P		**Pn**	**22 11 28.9**	**+1.9**		
AKCD			*i* S		**Sb**	**22 12 07.5**	**-0.1**		
AKCD	**Akcadag**	**2.87 261**	*e*P		**Pn**	**22 11 28.9**	**+1.9**		
ATAB	**Bozova**	**2.87 244**	*e*P		**Pn**	**22 11 27.7**	**+0.8**		
ATAB			*i* S		**Sn**	**22 11 59.9**	**-1.5**		
ATAB	**Bozova**	**2.87 244**	*e*P		**Pn**	**22 11 27.7**	**+0.8**		
ESPY	**Espiye-Giresun**	**3.02 315**	*e*PN		**Pb**	**22 11 32.2**	**-2.7**		
ESPY	**Espiye-Giresun**	**3.02 315**	*e*Pn		**Pb**	**22 11 32.3**	**-2.7**		
MZRK	**Al-Mazaregh**	**3.04 193**	*e*P		Pn	22 11 18.0	-11		
MZRK				AML	AML	22 12 09.7			
	comp=Z,54nm,0.4s								
MNKR	**ALMNKUR**	**3.36 213**	AML		AML	22 12 23.2			
	comp=Z,168nm,0.3s								
KSRV	**Kasrt alli**	**3.55 215**	AML		AML	22 12 20.6			
	comp=Z,24nm,0.4s								
GAZ	**Gaziantep**	**3.77 246**	*e*PN		Pn	22 11 42.5	+3.2		
GAZ	**Gaziantep**	**3.77 246**	*e*Pn		Pn	22 11 42.5	+3.2		
KMRS	**Kahramanmaras**	**3.86 252**	*e*PN		Pn	22 11 44.1	+3.5		
KMRS	**Kahramanmaras**	**3.86 252**	*e*Pn		Pn	22 11 44.1	+3.5		

*ISCJB **29** 22:26:48.8±0.5, 11˚.06N±0˚.04×124˚.84E±0˚.06, h10km, mb4.1/12, Error ellipse: s-maj=8.7km s-min=5.1km az=177.9*

*IDC **29** 22:26:48.2±0.9, 10˚.89N×124˚.87E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, MS3.5/3, Ms1 3.5/3, ms1mx3.1/37, Error ellipse: s-maj=45.2km s-min=16.1km az=69.0*

*NEIC **29** 22:26:49.3±0.5, 10˚.91N×124˚.92E, h10km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=9.1km az=56.0*

*MAN **29** 22:26:49, 10˚.97N×124˚.77E, h3km, mb4.8, ML3.8, MS3.8*

ISC 29 22:26:49.0±0.6, 10˚.87N±0˚.03×124˚.94E±0˚.06, h10km, n33, σ1§55/36, mb4.1/12, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.29**	**7**	*e*P			**Pb**	**22 26 56.1**	**-0.3**
PLP				*i* S			**Sb**	**22 26 59.4**	**-1.9**
OCLP	**Ormoc**	**0.37**	**299**	*e*P			**Pg**	**22 26 54.1**	**-2.3**
MSLP	**Maasin**	**0.74**	**186**	*e*P			**Pn**	**22 27 05.5**	**0.0**
MSLP				*e*S			**Sn**	**22 27 21.9**	**+5.1**
TBP	**Tagbilaran**	**1.58**	**222**	*e*P			**Pb**	**22 27 18.8**	**+0.4**
TBP				*e*S			**Sb**	**22 27 39.0**	**+0.5**
GUIM	**Jordan**	**2.33**	**264**	*e*P			**Pn**	**22 27 26.4**	**-0.9**
CGP	**Cagayan de Oro**	**2.41**	**186**	*e*P			**Sg**	**22 28 04.4**	**-2.2**
CGP				*i* S			**Sg**	**22 28 04.4**	**-2.2**
OTRP	**Odiongan**	**3.22**	**298**	*e*P			**Pn**	**22 27 39.9**	**+0.2**
CTBH	**Cotabato--PC H**	**3.69**	**191**	⇑*i*P			Pb	22 27 50.9	-3.5
DAV	**Davao City (W)**	**3.83**	**171**	Pn			**Pb**	**22 27 55.3**	**-1.3**
	44nm,0.3s,baz=230,slow=14,SNR=3.9								
DAV							**Sn**	**22 28 40.8**	**-2.3**
	baz=348,slow=17,SNR=2.6								
DAV					LR		LR	22 29 44.2	
	comp=Z,692nm,19.2s,baz=64,slow=46								
DAV	**Davao City (W)**	**3.83**	**171**	*e*Pn			**Pb**	**22 27 55.4**	**-1.3**
DAV							**Sn**	**22 28 40.8**	**-2.3**
JOW	**Kunigami**	**16.18**	**11**	LR			LR	22 35 34.8	
	comp=Z,147nm,21.6s,baz=96,slow=32								
GUMO	**Guam**	**19.66**	**80**	LR			LR	22 37 00.7	
	comp=Z,114nm,19.0s,baz=351,slow=31								
GUMO	**Guam**	**19.66**	**80**	*e*P			**P**	**22 31 18.9**	**+0.7**
	114nm,1.0s								
CMAR	**Chiang Mai Arr**	**26.24**	**290**	P			**P**	**22 32 24.9**	**+0.4**
	0.5nm,0.3s,baz=110,slow=7.1,SNR=4.9								
CMAR	**Chiang Mai Arr**	**26.24**	**290**	P			**P**	**22 32 24.9**	**+0.4**
WRA	**Warramunga Arr**	**31.99**	**163**	P			**P**	**22 33 16.9**	**+1.4**
	1.2nm,0.9s,baz=344,slow=9.6,SNR=5.2								
WRA	**Warramunga Arr**	**31.99**	**163**	P			**P**	**22 33 16.9**	**+1.4**
USRK	**Ussuriysk Arra**	**33.76**	**9**	P			**P**	**22 33 32.0**	**+1.2**
	3.1nm,0.8s,baz=188,slow=7.4,SNR=7.6								
ASAR	**Alice Springs**	**35.43**	**166**	P			**P**	**22 33 44.8**	**-0.8**
	1.3nm,0.8s,baz=343,slow=7.8,SNR=9.1								
ASAR	**Alice Springs**	**35.43**	**166**	P			**P**	**22 33 44.8**	**-0.8**
ULN	**Ulaanbaatar**	**39.83**	**341**	*e*P			**P**	**22 34 22.9**	**+0.2**
	4.0nm,0.8s								
SONM	**Songino Array**	**40.01**	**341**	P			**P**	**22 34 23.1**	**-1.0**
	2.7nm,1.1s,baz=153,slow=6.8,SNR=13								
SONM	**Songino Array**	**40.01**	**341**	P			**P**	**22 34 23.1**	**-1.0**
STKA	**Stephens Creek**	**45.40**	**160**	P			**P**	**22 35 10.2**	**+2.3**
	2.7nm,0.8s,baz=352,slow=6.0,SNR=6.5								
STKA	**Stephens Creek**	**45.40**	**160**	*e*P			**P**	**22 35 09.2**	**+1.3**
	0.6nm,0.8s								
MK31	**Makanchi Array**	**50.76**	**323**	*e*P			**P**	**22 35 49.4**	**+0.1**
MKAR	**Makanchi Array**	**50.76**	**323**	P			**P**	**22 35 50.0**	**+0.7**
	1.7nm,0.6s,baz=125,slow=8.1,SNR=22								
MKAR	**Makanchi Array**	**50.76**	**323**	P			**P**	**22 35 50.0**	**+0.7**
ZALV	**Zalesovo Beam**	**53.48**	**332**	P			**P**	**22 36 10.1**	**+0.7**
	1.7nm,0.8s,baz=108,slow=7.7,SNR=5.9								
ZALV	**Zalesovo Beam**	**53.48**	**332**	P			**P**	**22 36 10.1**	**+0.7**
KURK	**Kurchatov**	**54.84**	**326**	*e*P			**P**	**22 36 19.2**	**-0.1**
	6.7nm,0.9s								
BRVK	**Borovoye**	**60.51**	**326**	*e*P			**P**	**22 36 58.5**	**-0.7**
	4.6nm,0.9s								
ABKAR	**Akbulak array**	**65.57**	**319**	*e*P			**P**	**22 37 32.8**	**-0.2**
	2.8nm,0.9s								

*MOS **29** 22:28:04.2±1.8, 8˚.00S×71˚.35W, h601km, mb5.4/62, MS5.2/4, Error ellipse: s-maj=11.8km s-min=7.0km az=61.7*

*ISCJB **29** 22:28:05.4±0.1, 8˚.02S±0˚.03×71˚.48W±0˚.02, h607km, mb5.2/280, Error ellipse: s-maj=3.8km s-min=2.3km az=28.9*

*NEIC **29** 22:28:05.9±0.1, 8˚.11S×71˚.40W, mb5.3/172, MW5.6, Error ellipse: s-maj=4.2km s-min=3.0km az=47.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.60; $M_{\theta\theta}$=0.07; $M_{\phi\phi}$=2.67; $M_{r\theta}$=1.44; $M_{\theta\phi}$=0.86; $M_{r\phi}$=1.92; Best double couple: M0 3.70000×10^{17} NP1:ϕ_s150.00000°, δ66.00000°, λ-103.00000°. NP2:ϕ_s359.00000°, δ27.00000°, λ-64.00000°. Principal axes: T 3.7300, Plg19.0000°, Azm249.0000°; N -0.1400, Plg11.0000°, Azm155.0000°; P -3.5900, Plg66.0000°, Azm36.0000°;*

*IDC **29** 22:28:06.4±0.3, 8˚.15S×71˚.48W, h609km±3km, mb4.4/27, mb1 4.5/32, mb1mx4.5/33, mbtmp4.4/32 Error ellipse: s-maj=7.2km s-min=5.8km az=61.0*

*SZGRF **29** 22:28:17.1, 6˚.31S×69˚.78W, h602km, mb5.5, Western Brazil*

ISC 29 22:28:06.0±0.2, 8˚.14S±0˚.03×71˚.48W±0˚.04, h610km, h610km:pP-P, n1326, σ1§06/2170, mb5.2/279, 446C-454D, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.52**	**234**	P			**P**	**22 29 52.8**	**+0.5**
	271nm,0.3s,baz=57,slow=8.9,SNR=269								
NNA					S		**S**	**22 31 17.2**	**-1.9**
	42nm,0.3s,baz=166,slow=22,SNR=18								
NNA	**Nana**	**6.52**	**234**	*e*P			**P**	**22 29 51.7**	**-0.6**
NNA				*e*S			**S**	**22 31 16.9**	**-2.2**
NNA					pmax	pmax			
	comp=Z,595nm,0.4s								
NNA	**Nana**	**6.52**	**234**	*e*P			**P**	**22 29 51.7**	**-0.6**
	comp=Z,595nm,0.4s								
NNA				*e*S			**S**	**22 31 16.9**	**-2.2**
NNA	**Nana**	**6.52**	**234**	P			**P**	**22 29 51.0**	**-1.3**
	comp=Z,8μm,0.4s								
ATAH	**Atahualpa**	**6.92**	**278**	P			**P**	**22 29 57.0**	**+0.7**
	comp=Z,21nm,0.3s,baz=124,slow=5.9,SNR=119								
ATAH					S		**S**	**22 31 25.7**	**-0.7**
	comp=Z,21nm,0.3s,baz=0.6,slow=23,SNR=17								
ATAH	**Atahualpa**	**6.92**	**278**	P			**P**	**22 29 57.0**	**+0.7**
ATAH					S		**S**	**22 31 25.7**	**-0.7**
SAML	**Samuel**	**8.25**	**96**	*e*P			**P**	**22 30 08.6**	**+0.5**
	comp=Z,17nm,0.9s								
SAML				*e*S			**S**	**22 31 47.3**	**-0.8**
LPAZ	**La Paz**	**8.74**	**158**	P			**P**	**22 30 13.2**	**-0.2**
	comp=Z,14nm,0.3s,baz=339,slow=9.2,SNR=290								
LPAZ					S		**S**	**22 31 55.1**	**-2.6**
	comp=Z,2.3nm,0.3s,baz=5.0,slow=16,SNR=5.1								
LPAZ	**La Paz**	**8.74**	**158**	*e*P			**P**	**22 30 12.9**	**-0.5**
LPAZ				*e*S			**S**	**22 31 56.0**	**-1.7**
LPAZ	**La Paz**	**8.74**	**158**	*e*P			**P**	**22 30 12.9**	**-0.5**
LPAZ				*e*S			**S**	**22 31 56.0**	**-1.7**
OTAV	**Otavalo**	**10.84**	**320**	*e*P			**P**	**22 30 34.3**	**+0.4**
OTAV				*e*S			**S**	**22 32 35.3**	**+0.2**
SIV	**San Ignacio**	**12.82**	**128**	P			**P**	**22 30 53.1**	**+0.1**
	comp=Z,11nm,0.3s,baz=316,slow=10,SNR=105								
SIV					S		**S**	**22 33 08.0**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=330,slow=16,SNR=7.5								
SIV	**San Ignacio**	**12.82**	**128**	P			**P**	**22 30 53.1**	**+0.1**
SIV					S		**S**	**22 33 08.0**	**-2.2**
ROSC	**El Rosal**	**13.22**	**348**	P			**P**	**22 30 58.0**	**+0.6**
	comp=Z,10nm,0.3s,baz=102,slow=17,SNR=8.9								
ROSC					S		**S**	**22 33 21.5**	**+3.6**
	comp=Z,1.1nm,0.3s,baz=96,slow=22,SNR=3.6								
ROSC	**El Rosal**	**13.22**	**348**	*e*P			**P**	**22 30 58.0**	**+0.6**
ROSC				*e*S			**S**	**22 33 22.1**	**+4.2**
SDV	**Santo Domingo**	**16.93**	**3**	*e*P			**P**	**22 31 31.7**	**-0.1**
	comp=Z,168nm,1.0s								
SDV				*e*S			**S**	**22 34 17.1**	**-2.0**
BCIP	**Isla Barro Col**	**19.10**	**334**	*e*P			**P**	**22 31 51.0**	**-0.3**
	comp=Z,147nm,1.3s								
PAYG	**Puerto Ayora**	**20.15**	**291**	*e*P			**P**	**22 32 02.1**	**+1.3**
	comp=Z,122nm,0.9s								
PAYG					*e*PcP		**PcP**	**22 35 46.8**	**-0.3**
LCO	**Las Campanas**	**20.78**	**178**	*e*P			**P**	**22 32 06.4**	**-0.2**
	comp=Z,90nm,1.0s								
LCO					*e*PcP		**PcP**	**22 35 48.5**	**+0.1**
LCO					*e*ScP		**ScP**	**22 38 28.9**	**+0.5**
GRGR	**Grenville**	**22.38**	**26**	*e*P			**P**	**22 32 21.3**	**+0.6**
	comp=Z,391nm,1.3s								
GRGR					*e*PcP		**PcP**	**22 35 47.6**	**-3.9**
JTS	**JuntasAbangare**	**22.69**	**324**	P			**P**	**22 32 25.3**	**+1.8**
	comp=Z,8.0nm,0.4s,baz=214,slow=1.1,SNR=8.9								
JTS	**JuntasAbangare**	**22.69**	**324**	*e*P			**P**	**22 32 25.0**	**+1.5**
JTS	**JuntasAbangare**	**22.69**	**324**	*e*P			**P**	**22 32 25.8**	**+2.3**
	comp=Z,62nm,1.3s								
CFAA	**Coronel Fontan**	**23.55**	**173**	P			**P**	**22 32 31.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=358,slow=9.5,SNR=34								
CFAA					PcP		**PcP**	**22 35 52.8**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=340,slow=3.5,SNR=4.0								
CFAA					ScP		**ScP**	**22 38 35.4**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=328,slow=2.1,SNR=13								
CFAA	**Coronel Fontan**	**23.55**	**173**	P			**P**	**22 32 31.4**	**+0.5**
CFAA					PcP		**PcP**	**22 35 52.8**	**-1.1**
CFAA					ScP		**ScP**	**22 38 35.4**	**+0.1**
BDFB	**Brasilia**	**24.13**	**110**	P			**P**	**22 32 37.0**	**+0.6**
	comp=Z,22nm,0.6s,baz=270,slow=11,SNR=53								
BDFB					ScP		**ScP**	**22 38 37.5**	**+0.2**
	comp=Z,14nm,0.6s,baz=282,slow=8.6,SNR=5.0								
BDFB	**Brasilia**	**24.13**	**110**	P			**P**	**22 32 37.0**	**+0.6**
BDFB	**Brasilia**	**24.13**	**110**	P			**P**	**22 32 37.0**	**+0.6**
BDFB					ScP		**ScP**	**22 38 37.5**	**+0.2**
BBGH	**Gun Hill**	**24.23**	**29**	*e*P			**P**	**22 32 36.6**	**-0.6**
MVM	**Montagne Vaucl**	**24.87**	**25**	*e*P			**P**	**22 32 41.6**	**-1.2**
FDF	**Fort de France**	**24.93**	**24**	*e*P			**P**	**22 32 43.2**	**0.0**
ICM	**Isla Caja Muer**	**26.32**	**11**	*e*P			**P**	**22 32 55.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**26.33**	**9**	*e*P			**P**	**22 32 56.8**	**+1.2**
OBIP	**Obispado Ponce**	**26.45**	**10**	*e*P			**P**	**22 32 56.5**	**-0.2**
	comp=Z,303nm,1.2s								
OBIP					*e*S		**S**	**22 36 50.2**	**+1.0**
CELP	**Cerrillos**	**26.49**	**11**	*e*P			**P**	**22 32 57.3**	**+0.4**
LSP	**Las Mesas**	**26.50**	**9**	*e*P			**P**	**22 32 58.4**	**+1.3**
MPR	**Mayaguez**	**26.53**	**9**	*e*P			**P**	**22 32 58.0**	**+0.8**
	comp=Z,268nm,1.0s								
CDVI	**St. Croix**	**26.57**	**14**	*e*P			**P**	**22 32 56.3**	**-1.3**
SJG	**San Juan**	**26.61**	**11**	P			**P**	**22 32 57.9**	**0.0**
	comp=Z,82nm,0.6s,baz=23,slow=1.6,SNR=17								
SJG	**San Juan**	**26.61**	**11**	*e*P			**P**	**22 32 57.6**	**-0.3**
SJG				*e**SP			**sP**	**22 35 42.7**	**-1.3**
SJG				*e*S			**S**	**22 36 49.7**	**-1.9**
SJG					pmax	pmax			
	comp=Z,102nm,0.9s								
SJG	**San Juan**	**26.61**	**11**	*e*P			**P**	**22 32 57.6**	**-0.3**
	comp=Z,102nm,0.9s								
SJG				*e*sP			**sP**	**22 35 42.7**	**-1.3**
SJG				*e*S			**S**	**22 36 49.7**	**-1.9**
LRS	**Lares**	**26.66**	**10**	*e*P			**P**	**22 32 58.5**	**0.0**
LRS				*e*PcP			**PcP**	**22 36 01.0**	**-0.2**
HUMP	**Col San Antoni**	**26.70**	**12**	*e*P			**P**	**22 32 58.8**	**+0.1**
	comp=Z,112nm,1.3s								
MTP	**Monte Pirata**	**26.72**	**13**	*e*P			**P**	**22 32 57.6**	**-1.3**
	comp=Z,78nm,1.0s								
MTP					*e*PcP		**PcP**	**22 36 01.1**	**-0.2**
MTP					*e*S		**S**	**22 36 52.2**	**-1.1**
CBYP	**Canovanas**	**26.82**	**12**	*e*P			**P**	**22 32 59.9**	**0.0**
	comp=Z,255nm,1.0s								
CBYP					*e*PcP		**PcP**	**22 36 01.9**	**+0.3**
CBYP					*e*S		**S**	**22 36 53.1**	**-2.0**
MTDJ	**Mount Denham**	**26.87**	**347**	*e*P			**P**	**22 33 00.2**	**-0.1**
	comp=Z,63nm,0.6s								
SDDR	**Presa de Saban**	**26.95**	**0**	*e*P			**P**	**22 33 01.8**	**+0.8**
	comp=Z,97nm,1.3s								
TGUH	**Tegucigalpa,Un**	**27.05**	**325**	*e*P			**P**	**22 33 02.4**	**+0.5**
	comp=Z,96nm,1.4s								
TGUH					*e*PcP		**PcP**	**22 36 03.2**	**+1.1**
STVI	**Saint Thomas**	**27.10**	**14**	*e*P			**P**	**22 33 02.8**	**+0.5**
	comp=Z,52nm,0.6s								
ANWB	**Willy Bob**	**27.37**	**20**	*e*P			**P**	**22 33 01.6**	**-3.1**
	comp=Z,1μm,0.8s								
ANWB					*e*S		**S**	**22 36 56.8**	**-6.7**
SPB	**Sao Paulo**	**27.70**	**126**	*e*P			**P**	**22 33 06.4**	**-1.1**
	comp=Z,54nm,0.8s								
SPB					*e*sP		**sP**	**22 35 52.6**	**-1.7**
SPB					*e*PcP		**PcP**	**22 36 04.8**	**+1.1**
SPB					*e*S		**S**	**22 37 04.9**	**-3.7**
GRTK	**Grand Turk**	**29.47**	**1**	*e*P			**P**	**22 33 24.1**	**+1.4**
	comp=Z,514nm,1.1s								
TRQA	**Tornquist**	**31.00**	**165**	*e*P			**P**	**22 33 34.5**	**-1.2**
	comp=Z,40nm,0.8s								
TRQA					*e*PcP		**PcP**	**22 36 11.9**	**-0.2**
TRQA					*e*S		**S**	**22 37 55.2**	**-3.8**
TRQA					*e*ScP		**ScP**	**22 38 57.9**	**-0.2**
CAM4	**Nova Friburgo**	**31.19**	**120**	⇑*i*P			**P**	**22 33 37.6**	**-0.2**
CAM4				*i*				22 33 39.9	
CAM4				*i*				22 33 41.5	
CAM4				*i*				22 33 43.4	
CAM4				*i*				22 33 46.3	
CAM4				*i*				22 33 52.5	
CAM4				*i*				22 33 55.5	
CAM4				*i*				22 33 59.8	
CAM4				*i*				22 34 03.8	
CAM4				*i*				22 34 10.9	
PLCA	**Paso Flores**	**32.47**	**179**	P			**P**	**22 33 48.2**	**+0.1**
	comp=Z,19nm,0.7s,baz=355,slow=9.4,SNR=39								
PLCA					PcP		**PcP**	**22 36 16.5**	**+0.2**
	comp=Z,36nm,0.7s,baz=357,slow=4.6,SNR=7.8								
PLCA					S		**S**	**22 38 19.5**	**-1.9**
	comp=Z,6.0nm,0.7s,baz=169,slow=17,SNR=5.0								
PLCA					ScP		**ScP**	**22 39 03.8**	**+0.6**
	comp=Z,33nm,0.8s,baz=359,slow=4.8,SNR=13								
PLCA	**Paso Flores**	**32.47**	**179**	*e*P			**P**	**22 33 48.7**	**+0.5**
PLCA				*e*				22 36 16.5	
PLCA					S		**S**	**22 38 19.5**	**-1.9**
PLCA					pmax	pmax			
	comp=Z,22nm,0.8s								
PLCA	**Paso Flores**	**32.47**	**179**	*e*P			**P**	**22 33 48.7**	**+0.5**
	comp=Z,22nm,0.8s								
PLCA					*e*PcP		**PcP**	**22 36 16.5**	**+0.2**
PLCA					S		**S**	**22 38 19.5**	**-1.9**
PLCA					*e*ScP		**ScP**	**22 39 03.1**	**-0.1**
TEIG	**Tepich**	**32.67**	**330**	*e*P			**P**	**22 33 49.4**	**-0.6**
	comp=Z,51nm,0.6s								
TEIG					*e*PcP		**PcP**	**22 36 17.4**	**+0.4**
TEIG					*e*ScP		**ScP**	**22 39 04.8**	**+0.7**
CMIG	**Matias Romero**	**34.11**	**317**	P			**P**	**22 34 02.6**	**+0.5**
	comp=Z,12nm,0.4s,baz=117,slow=6.6,SNR=30								
CMIG					PcP		**PcP**	**22 36 22.0**	**+0.7**
	comp=Z,24nm,0.8s,baz=70,slow=1.6,SNR=9.0								
CMIG					S		**S**	**22 38 47.5**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=284,slow=23,SNR=6.8								
CMIG					ScP		**ScP**	**22 39 09.8**	**+0.5**
	comp=Z,8.7nm,0.8s,baz=49,slow=2.2,SNR=5.5								
CMIG	**Matias Romero**	**34.11**	**317**	P			**P**	**22 34 02.6**	**+0.5**
CMIG					PcP		**PcP**	**22 36 22.0**	**+0.7**
CMIG					S		**S**	**22 38 47.5**	**+0.9**
CMIG					ScP		**ScP**	**22 39 09.8**	**+0.5**
RCBR	**Riachuelo**	**35.38**	**89**	P			**P**	**22 34 13.6**	**+0.8**
	comp=Z,7.6nm,0.6s,baz=256,slow=13,SNR=11								
RCBR	**Riachuelo**	**35.38**	**89**	P			**P**	**22 34 13.6**	**+0.8**
RPN	**Rapa Nui**	**40.49**	**237**	P			**P**	**22 34 55.0**	**+1.2**
	comp=Z,109nm,0.6s,baz=56,slow=2.9,SNR=9.3								
RPN	**Rapa Nui**	**40.49**	**237**	*e*P			**P**	**22 34 54.2**	**+0.3**
RPN					pmax	pmax			
	comp=Z,322nm,1.0s								
RPN	**Rapa Nui**	**40.49**	**237**	*e*P			**P**	**22 34 54.2**	**+0.3**
	comp=Z,322nm,1.0s								
BBSR	**BB Station**	**40.80**	**9**	*e*P			**P**	**22 34 55.9**	**-0.2**
	comp=Z,149nm,1.1s								
BRAL	**Brewton**	**41.69**	**340**	*e*P			**P**	**22 35 04.7**	**+1.5**
	comp=Z,364nm,1.3s								
BRAL					*e*PcP		**PcP**	**22 36 45.0**	**0.0**
NHSC	**New Hope**	**41.84**	**349**	*e*P			**P**	**22 35 04.2**	**-0.2**
	comp=Z,619nm,1.2s								
NHSC					*e*PcP		**PcP**	**22 36 46.1**	**+0.7**
COW	**Cow Castle Cre**	**42.21**	**348**	*e*P			**P**	**22 35 06.5**	**-0.7**
GOGA	**Godfrey**	**42.86**	**345**	*e*P			**P**	**22 35 11.8**	**-0.5**
GOGA				*e*				22 36 48.7	
GOGA				*e*S			**S**	**22 40 51.2**	**-2.8**
GOGA					pmax	pmax			
	comp=Z,194nm,1.0s								
GOGA	**Godfrey**	**42.86**	**345**	*e*P			**P**	**22 35 11.8**	**-0.5**
	comp=Z,194nm,1.0s								
GOGA					*e*PcP		**PcP**	**22 36 48.7**	**-0.2**
GOGA					*e*ScP		**ScP**	**22 39 42.4**	**-0.4**
GOGA					*e*S		**S**	**22 40 51.2**	**-2.8**
JSC	**Jenkinsville**	**43.19**	**348**	*e*P			**P**	**22 35 14.6**	**-0.2**
JSC				*e*				22 36 50.6	
JSC	**Jenkinsville**	**43.19**	**348**	*e*P			**P**	**22 35 14.6**	**-0.2**
JSC					*e*PcP		**PcP**	**22 36 50.6**	**+0.5**
JSC					*e*ScP		**ScP**	**22 39 44.5**	**+0.4**
LRAL	**Lakeview Retre**	**43.52**	**341**	*e*P			**P**	**22 35 16.7**	**-0.8**
	comp=Z,131nm,1.2s								
LRAL					*e*PcP		**PcP**	**22 36 51.1**	**-0.1**
LRAL					*e*ScP		**ScP**	**22 39 46.1**	**+0.6**
CNNC	**Cliffs of the**	**43.56**	**352**	*e*P			**P**	**22 35 18.1**	**+0.4**
	comp=Z,87nm,1.1s								
KVTX	**Kingsville**	**43.73**	**325**	*e*P			P	22 35 22.1	+3.1
	comp=Z,330nm,1.3s								
KMSC	**Kings Mountain**	**44.04**	**

628A ⇑P P 22 35 53.0 +0.8
baz=48,SNR=59
628A ⇓S S 22 42 08.2 +1.0
baz=48
628A ⇓S S 22 42 08.2 +1.0
baz=48
MVL Millersville 48.10 355 eP P 22 35 51.8 -0.2
comp=Z,112nm,1.0s
MVL ePcP PcP 22 37 08.1 +0.8
627A Terlingua Ranc 48.37 322 ⇑P P 22 35 55.0 +0.7
baz=49,SNR=84
627A ⇑P P 22 35 55.0 +0.7
baz=49,SNR=84
TXAR Lajitas Array 48.46 322 P P 22 35 55.2 +0.3
comp=Z,9.4nm,0.7s,baz=140,slow=7.7,SNR=84
TXAR PcP PcP 22 37 09.1 0.0
comp=Z,4.5nm,0.6s,baz=143,slow=6.7,SNR=6.5
TXAR pP pP 22 37 45.7 +0.9
comp=Z,4.1nm,0.8s,baz=147,slow=7.0,SNR=3.0
TXAR ScP ScP 22 40 06.0 -0.4
comp=Z,3.8nm,0.6s,baz=140,slow=8.3,SNR=7.4
TXAR Lajitas Array 48.46 322 P P 22 35 55.2 +0.3
TXAR 22 37 09.1
TXAR *PP pP 22 37 45.7 +0.9
TXAR Lajitas Array 48.46 322 P P 22 35 55.2 +0.3
TXAR PcP PcP 22 37 09.1 0.0
TXAR pP pP 22 37 45.7 +0.9
TXAR ScP ScP 22 40 06.0 -0.4
528A Cox Ranch, San 48.52 323 ⇑P P 22 35 55.6 +0.2
baz=49,SNR=24
528A ⇑P P 22 35 55.6 +0.2
baz=49,SNR=24
SIUC Southern Illin 48.53 341 eP P 22 35 53.9 -1.2
comp=Z,272nm,0.7s
SIUC ePcP PcP 22 37 09.1 +0.1
SIUC eScP ScP 22 40 06.2 -0.2
428A Kincaid Ranch, 48.87 324 ⇑P P 22 35 58.8 +0.9
baz=49,SNR=24
428A ⇑P P 22 35 58.8 +0.9
baz=49,SNR=24
SSPA Standing Stone 48.89 354 eP P 22 35 57.3 -0.4
comp=Z,128nm,1.4s
SSPA ePcP PcP 22 37 10.5 +0.3
SSPA eS S 22 42 11.1 -6.4
626A Big Bend Ranch 48.90 321 ⇑P P 22 35 58.8 +0.6
baz=49,SNR=92
626A ⇑P P 22 35 58.8 +0.6
baz=49,SNR=92
PAL Palisades 48.95 358 eP P 22 35 57.7 -0.5
PAL pmax pmax
comp=Z,118nm,1.3s
PAL Palisades 48.95 358 eP P 22 35 57.6 -0.5
comp=Z,118nm,1.3s
527A Woodward Ranch 49.00 322 ⇓P P 22 35 59.4 +0.4
baz=49,SNR=66
527A ⇓P P 22 35 59.4 +0.4
baz=49,SNR=66
BLO Bloomington 49.10 345 eP P 22 35 58.2 -1.1
BLO e 22 37 11.6
BLO pmax pmax
comp=Z,375nm,1.3s
BLO Bloomington 49.10 345 eP P 22 35 58.2 -1.1
comp=Z,375nm,1.3s
BLO ePcP PcP 22 37 11.6 +0.6
BLO eScP ScP 22 40 08.8 0.0
OLIL Olney 49.13 343 eP P 22 35 56.8 -2.7
comp=Z,131nm,1.2s
OLIL ePcP PcP 22 37 11.1 0.0
YLE Yale 49.23 359 eP P 22 35 59.4 -0.8
comp=Z,370nm,1.1s
YLE ePcP PcP 22 37 12.3 +0.9
526A Mary Lane Ranc 49.23 322 ⇓P P 22 36 01.0 +0.4
baz=49,SNR=36
526A ⇓P P 22 36 01.0 +0.4
baz=49,SNR=36
ACSO Alum Creek Sta 49.28 348 eP P 22 36 00.0 -0.6
comp=Z,116nm,0.8s
ACSO ePcP PcP 22 37 11.6 -0.2
427A Hayter Ranch, 49.38 323 ⇓P P 22 36 02.2 +0.5
baz=50,SNR=28
427A ⇓P P 22 36 02.2 +0.5
baz=50,SNR=28
328A Wristen Ranch, 49.42 324 ⇑P P 22 36 02.2 +0.3
baz=50,SNR=33
328A ⇑P P 22 36 02.2 +0.3
baz=50,SNR=33
TUL1 Tulsa 49.43 334 ⇑P P 22 36 01.7 -0.1
baz=50,SNR=26
TUL1 ⇑P P 22 36 01.7 -0.1
baz=50,SNR=26
426A McDonald Obser 49.63 323 ⇓P P 22 36 04.0 +0.4
baz=50,SNR=55
426A ⇓P P 22 36 04.0 +0.4
baz=50,SNR=55
SLM Saint Louis 49.70 341 eP P 22 36 02.6 -1.1
SLM e 22 37 12.6
SLM pmax pmax
comp=Z,328nm,1.2s
SLM Saint Louis 49.70 341 eP P 22 36 02.6 -1.1
comp=Z,328nm,1.2s
SLM ePcP PcP 22 37 12.6 -0.7
327A Balmorhea Ranc 49.81 324 ⇓P P 22 36 05.6 +0.8
baz=50
327A ⇓P P 22 36 05.6 +0.8
baz=50
WMOK Wichita Mounta 49.85 330 eP P 22 36 04.2 -0.7
WMOK e 22 37 14.2
WMOK eS S 22 42 30.0 -0.8
WMOK pmax pmax
comp=Z,34nm,0.8s
WMOK Wichita Mounta 49.85 330 eP P 22 36 04.2 -0.7
comp=Z,34nm,0.8s
WMOK ePcP PcP 22 37 14.2 +0.2
WMOK eScP ScP 22 40 12.1 -0.1
WMOK eS S 22 42 30.0 -0.8
326A Caldwell Ranch 50.06 323 ⇓P P 22 36 07.1 +0.5
baz=50,SNR=54
326A ⇓P P 22 36 07.1 +0.5
baz=50,SNR=54
227A Bennet, Jal 50.16 324 ⇑P P 22 36 08.0 +0.7
baz=50,SNR=17
227A ⇑P P 22 36 08.0 +0.7
baz=50,SNR=17
ALLY Alegheny Colle 50.17 352 eP P 22 36 07.0 -0.1
comp=Z,624nm,1.2s
ALLY ePcP PcP 22 37 15.6 +0.5
BINY Binghamton 50.26 356 eP P 22 36 07.8 +0.1
comp=Z,283nm,1.1s
425A Indio Mountain 50.29 322 ⇓P P 22 36 08.6 +0.3
baz=50,SNR=65
425A ⇓P P 22 36 08.6 +0.3
baz=50,SNR=65
SFIN Scholer Farm 50.38 345 ⇓P P 22 36 06.8 -1.8
baz=51,SNR=11
SFIN ⇓P P 22 36 06.8 -1.8
baz=51,SNR=11
HRV Adam Dziewonsk 50.40 360 eP P 22 36 07.5 -1.2
HRV e 22 37 15.6
HRV pmax pmax
comp=Z,159nm,1.1s
HRV Adam Dziewonsk 50.40 360 eP P 22 36 07.5 -1.2
comp=Z,159nm,1.1s
HRV ePcP PcP 22 37 15.6 -0.3
ERPA Erie 50.61 352 eP P 22 36 10.2 -0.1
comp=Z,682nm,1.2s
ERPA ePcP PcP 22 37 16.4 -0.3
TRY Troy 50.66 358 eP P 22 36 10.5 -0.1
TRY ePcP PcP 22 37 17.2 +0.4
226A Malaga, Loving 50.67 324 ⇓P P 22 36 12.2 +1.2
baz=51,SNR=64
226A ⇓P P 22 36 12.2 +1.2
baz=51,SNR=64
CLNB Carlsbad 50.69 324 eP P 22 36 11.9 +0.8
comp=Z,39nm,1.2s
CLNB ePcP PcP 22 37 18.1 +0.8
CLNB eScP ScP 22 40 16.6 +0.6
127A Arkansas Junct 50.69 325 ⇓P P 22 36 11.0 -0.2
baz=51,SNR=8.9
127A ⇓P P 22 36 11.0 -0.2
baz=51,SNR=8.9
325A Bean Ranch, Si 50.70 322 ⇓P P 22 36 11.6 +0.3
baz=51,SNR=83
325A ⇓P P 22 36 11.6 +0.3
baz=51,SNR=83
GDL2 Guadalupe Moun 50.92 324 eP P 22 36 14.1 +1.2
GDL2 ePcP PcP 22 37 18.3 +0.1
GDL2 eScP ScP 22 40 17.2 +0.1
126A Clayton Basin, 51.05 324 ⇓P P 22 36 14.5 +0.7
baz=51,SNR=42
126A ⇓P P 22 36 14.5 +0.7
baz=51,SNR=42
324A Moseley Ranch, 51.05 322 ⇓P P 22 36 13.4 -0.5
baz=51,SNR=67
324A ⇓P P 22 36 13.4 -0.5
baz=51,SNR=67
225A Deer Hill, Car 51.13 323 ⇑P P 22 36 15.0 +0.6
baz=51,SNR=77
225A ⇑P P 22 36 15.0 +0.6
baz=51,SNR=77
HDIL Hopedale 51.16 343 eP P 22 36 12.1 -2.2
comp=Z,139nm,1.3s
HDIL ePcP PcP 22 37 18.8 0.0
HDIL eScP ScP 22 40 17.9 +0.2
MNTX Cornudas Mount 51.17 322 eP P 22 36 14.1 -0.4
comp=Z,70nm,1.4s
MNTX ePcP PcP 22 37 18.5 -0.6
MNTX epP pP 22 38 08.0 +1.7
MNTX eScP ScP 22 40 17.6 -0.4
MNTX eS S 22 42 48.7 -0.1
MNTX Cornudas Mount 51.17 322 ⇑P P 22 36 14.4 -0.2
baz=51
MNTX ⇑P P 22 36 14.4 -0.2
baz=51
MNTX ⇑P P 22 36 14.4 -0.2
baz=51
MNTX ⇑P P 22 36 14.4 -0.2
baz=51
CPRX Cap Rock 51.24 325 eP P 22 36 16.0 +0.8
comp=Z,135nm,1.0s
CPRX ePcP PcP 22 37 20.0 +0.6
CPRX eScP ScP 22 40 19.4 +1.0
ACCN Adirondack Com 51.31 358 eP P 22 36 14.9 -0.4
comp=Z,72nm,1.1s
ACCN ePcP PcP 22 37 19.2 -0.1
MSTX Muleshoe 51.32 326 ⇑P P 22 36 15.7 -0.1
baz=52,SNR=38
MSTX ⇑P P 22 36 15.7 -0.1
baz=52,SNR=38
FFD Franklin Falls 51.36 360 eP P 22 36 15.5 -0.1
comp=Z,40nm,0.7s
FFD ePcP PcP 22 37 20.2 +0.8
AAM Ann Arbor 51.41 348 eP P 22 36 15.3 -0.8
AAM e 22 37 18.6
AAM pmax pmax
comp=Z,61nm,0.7s
AAM Ann Arbor 51.41 348 eP P 22 36 15.2 -0.8
comp=Z,61nm,0.7s
AAM ePcP PcP 22 37 18.6 -1.0
AAM eScP ScP 22 40 18.6 -0.1
125A Gardner Draw, 51.43 324 ⇑P P 22 36 16.6 +0.1
baz=52,SNR=52
125A ⇑P P 22 36 16.6 +0.1
baz=52,SNR=52
AMTX Amarillo 51.43 328 eP P 22 36 16.7 +0.2
comp=Z,155nm,1.2s
AMTX ePcP PcP 22 37 20.1 +0.1
AMTX eScP ScP 22 40 19.9 +0.7
AMTX Amarillo 51.43 328 ⇓P P 22 36 16.7 +0.2
baz=52
AMTX ⇓P P 22 36 16.7 +0.2
baz=52
AMTX ⇓P P 22 36 16.7 +0.2
baz=52
AMTX ⇓P P 22 36 16.7 +0.2
baz=52
Y27A Causey 51.47 326 ⇓P P 22 36 16.8 0.0
baz=52,SNR=60
Y27A ⇓P P 22 36 16.8 0.0
baz=52,SNR=60
Z26A Caprock 51.48 325 ⇑P P 22 36 17.1 +0.2
baz=52,SNR=63
Z26A ⇑P P 22 36 17.1 +0.2
baz=52,SNR=63
224A Cornudas Mount 51.52 323 ⇓P P 22 36 17.5 +0.2
baz=52,SNR=100
224A ⇓P P 22 36 17.5 +0.2
baz=52,SNR=100
Y26A Elida 51.87 326 ⇑P P 22 36 19.4 -0.3
baz=52,SNR=24
Y26A ⇑P P 22 36 19.4 -0.3
baz=52,SNR=24
Z25A Roswell 51.91 324 ⇑P P 22 36 20.4 +0.4
baz=52,SNR=65
Z25A ⇑P P 22 36 20.4 +0.4
baz=52,SNR=65
MDV Middlebury 51.91 358 eP P 22 36 19.4 -0.1
MDV ePcP PcP 22 37 21.0 -0.5
W28A Vega 51.99 328 ⇓P P 22 36 20.8 +0.3
baz=52,SNR=26
W28A ⇓P P 22 36 20.8 +0.3
baz=52,SNR=26
X27A F and S Farms, 52.01 327 ⇑P P 22 36 20.9 +0.3
baz=52,SNR=21
X27A ⇑P P 22 36 20.9 +0.3
baz=52,SNR=21
223A Chaparral, Ant 52.02 322 ⇓P P 22 36 21.1 +0.3
baz=52
223A ⇓P P 22 36 21.1 +0.3
baz=52
V29A Stinnett 52.12 329 ⇑P P 22 36 21.9 +0.5
baz=52
V29A ⇑P P 22 36 21.9 +0.5
baz=52
W27A Bowe Ranch, En 52.30 327 ⇓P P 22 36 23.0 +0.3
baz=52
W27A ⇓P P 22 36 23.0 +0.3
baz=52
Z24A Sheeppen Canyo 52.32 324 ⇑P P 22 36 23.2 +0.2
baz=52,SNR=83
Z24A ⇑P P 22 36 23.2 +0.2
baz=52,SNR=83
X26A CR and CF Fran 52.33 326 ⇓P P 22 36 23.2 +0.3
baz=52,SNR=89
X26A ⇓P P 22 36 23.2 +0.3
baz=52,SNR=89
Y25A Mesa, Roswell 52.36 325 ⇑P P 22 36 23.0 -0.1
baz=53,SNR=28
Y25A ⇑P P 22 36 23.0 -0.1
baz=53,SNR=28
123A Bell Site, Whi 52.36 323 ⇑P P 22 36 23.8 +0.6
baz=53
123A ⇑P P 22 36 23.8 +0.6
baz=53
V28A Channing 52.38 328 ⇓P P 22 36 23.5 +0.3
baz=53,SNR=14
V28A ⇓P P 22 36 23.5 +0.3
baz=53,SNR=14
KSU1 Kansas State U 52.47 335 eP P 22 36 23.0 -0.7
comp=Z,474nm,1.2s
WVL Waterville 52.48 2 eP P 22 36 23.9 +0.3
comp=Z,20nm,0.7s
WVL ePcP PcP 22 37 24.1 +0.4
222A Williams Famil 52.51 321 ⇑P P 22 36 25.0 +0.7
baz=53,SNR=45
222A ⇑P P 22 36 25.0 +0.7
baz=53,SNR=45
LONY Lake Ozonia 52.59 357 eP P 22 36 23.9 -0.4
comp=Z,81nm,1.0s
W26A Owens Ranch, T 52.70 327 ⇓P P 22 36 25.9 +0.4
baz=53,SNR=9.7
W26A ⇓P P 22 36 25.9 +0.4
baz=53,SNR=9.7
FRNY Flat Rock 52.76 358 eP P 22 36 25.3 -0.3
comp=Z,108nm,1.1s
FRNY ePcP PcP 22 37 24.9 +0.2
X25A Clemmons Ranch 52.78 325 ⇓P P 22 36 26.0 -0.2
baz=53
X25A ⇓P P 22 36 26.0 -0.2
baz=53
Z23A Rita Site, Whi 52.78 323 ⇓P P 22 36 26.6 +0.4
baz=53,SNR=24
Z23A ⇓P P 22 36 26.6 +0.4
baz=53,SNR=24
Y24A Capitan 52.79 324 ⇑P P 22 36 26.3 0.0
baz=53,SNR=41
Y24A ⇑P P 22 36 26.3 0.0
baz=53,SNR=41
122A Conniff Cattle 52.85 322 ⇑P P 22 36 27.6 +0.9
baz=53
122A ⇑P P 22 36 27.6 +0.9
baz=53
221A Mesquite Ranch 52.86 321 ⇑P P 22 36 27.7 +1.0
baz=53,SNR=6.7
221A ⇑P P 22 36 27.7 +1.0
baz=53,SNR=6.7
320A Kipp Ranch, An 52.88 320 ⇑P P 22 36 27.9 +0.9
baz=53,SNR=17
320A ⇑P P 22 36 27.9 +0.9
baz=53,SNR=17
MSNY Massena 52.98 357 eP P 22 36 26.8 -0.3
comp=Z,988nm,0.9s
Y23A Lovelace Mesa, 53.15 324 ⇓P P 22 36 29.2 +0.3
baz=53,SNR=34
Y23A ⇓P P 22 36 29.2 +0.3
baz=53,SNR=34
W25A X Bar L Ranch, 53.18 326 ⇓P P 22 36 29.0 +0.1
baz=53,SNR=38
W25A ⇓P P 22 36 29.0 +0.1
baz=53,SNR=38
Z22A Elephant Butte 53.22 323 ⇑P P 22 36 29.8 +0.5
baz=53,SNR=18
Z22A ⇑P P 22 36 29.8 +0.5
baz=53,SNR=18
121A Cookes Peak, D 53.22 321 ⇑P P 22 36 30.3 +0.9
baz=53,SNR=22
121A ⇑P P 22 36 30.3 +0.9
baz=53,SNR=22
X24A Lazy VL Ranch, 53.25 325 ⇓P P 22 36 29.8 +0.3
baz=53,SNR=16
X24A ⇓P P 22 36 29.8 +0.3
baz=53,SNR=16
220A Playas Peak, P 53.26 320 ⇑P P 22 36 30.5 +0.9
baz=53,SNR=112
220A ⇑P P 22 36 30.5 +0.9
baz=53,SNR=112
T28A Walsh 53.38 330 ⇓P P 22 36 30.3 -0.1
baz=54,SNR=25
T28A ⇓P P 22 36 30.3 -0.1
baz=54,SNR=25
CBKS Cedar Bluff 53.59 333 eP P 22 36 31.9 +0.3
CBKS pmax pmax
comp=Z,388nm,1.3s
CBKS Cedar Bluff 53.59 333 eP P 22 36 31.9 +0.3
comp=Z,388nm,1.3s
CBKS Cedar Bluff 53.59 333 ⇑P P 22 36 32.0 +0.3
baz=54
CBKS ⇑P P 22 36 32.0 +0.3
baz=54
CBKS ⇑P P 22 36 32.0 +0.3
baz=54
CBKS ⇑P P 22 36 32.0 +0.3
baz=54
SCIA State Center 53.63 340 eP P 22 36 30.7 -1.2
comp=Z,210nm,0.7s
BNM Barren Site 53.64 324 eP P 22 36 32.8 +0.5
comp=Z,59nm,1.0s
BNM ePcP PcP 22 37 29.5 +0.8
BNM eScP ScP 22 40 29.8 +0.8
T27A Campo 53.65 329 ⇓P P 22 36 32.3 +0.1
baz=54,SNR=71
T27A ⇓P P 22 36 32.3 +0.1
baz=54,SNR=71
U26A Atchley Ranch, 53.67 328 ⇑P P 22 36 32.8 +0.4
baz=54,SNR=54
U26A ⇑P P 22 36 32.8 +0.4
baz=54,SNR=54
Z21A St. Cloud Mine 53.68 322 ⇑P P 22 36 33.7 +1.0
baz=54,SNR=18
Z21A ⇑P P 22 36 33.7 +1.0
baz=54,SNR=18
X23A Hourglass Bar 53.69 324 ⇑P P 22 36 33.4 +0.8
baz=54,SNR=31
X23A ⇑P P 22 36 33.4 +0.8
baz=54,SNR=31
Y22A Socorro 53.69 323 ⇓P P 22 36 33.4 +0.8
baz=54,SNR=11
Y22A ⇓P P 22 36 33.4 +0.8
baz=54,SNR=11
W24A Lazy 6 Ranch, 53.70 325 ⇓P P 22 36 33.0 +0.3
baz=54,SNR=31
W24A ⇓P P 22 36 33.0 +0.3
baz=54,SNR=31
V25A Rancho No Teng 53.72 327 ⇓P P 22 36 33.3 +0.4
baz=54,SNR=106
V25A ⇓P P 22 36 33.3 +0.4
baz=54,SNR=106
120A U Bar Ranch, L 53.76 321 ⇓P P 22 36 33.8 +0.7
baz=54,SNR=20
120A ⇓P P 22 36 33.8 +0.7
baz=54,SNR=20
LPM Los Pinos Moun 53.76 324 eP P 22 36 33.8 +0.7
LPM ePcP PcP 22 37 30.2 +1.1
LPM eScP ScP 22 40 29.6 +0.2
Y22D IRIS PASSCAL I 53.76 323 ⇓P P 22 36 33.8 +0.7
baz=54
Y22D ⇓P P 22 36 33.8 +0.7
baz=54
LENM Lemitar 53.86 323 eP P 22 36 34.6 +0.8
LENM ePcP PcP 22 37 30.9 +1.4
LENM eScP ScP 22 40 31.2 +1.3
HOPE Hope Point 53.88 155 eP P 22 36 34.2 +0.8
comp=Z,169nm,0.8s
V24A Rampart Ranch, 54.00 326 ⇓P P 22 36 35.2 +0.4
baz=54,SNR=41
V24A ⇓P P 22 36 35.2 +0.4
baz=54,SNR=41
U25A Circle Dot Ran 54.03 327 ⇓P P 22 36 35.5 +0.5
baz=54,SNR=78
U25A ⇓P P 22 36 35.5 +0.5
baz=54,SNR=78
GLMI Grayling 54.03 348 eP P 22 36 33.0 -1.6
comp=Z,154nm,1.0s
GLMI ePcP PcP 22 37 29.7 0.0
W23A Werner Place, 54.08 325 ⇓P P 22 36 36.0 +0.6
baz=54,SNR=18
W23A ⇓P P 22 36 36.0 +0.6
baz=54,SNR=18
ANMO Albuquerque 54.11 324 eP P 22 36 35.6 0.0
ANMO e 22 37 31.2
ANMO pmax pmax
comp=Z,30nm,1.1s
ANMO Albuquerque 54.11 324 eP P 22 36 35.6 0.0
comp=Z,30nm,1.1s
ANMO ePcP PcP 22 37 31.2 +0.8
ANMO eScP ScP 22 40 31.6 +0.7
Z20A Nine Sixteen R 54.11 321 ⇑P P 22 36 36.7 +1.1
baz=54,SNR=31
Z20A ⇑P P 22 36 36.7 +1.1
baz=54,SNR=31
LAZ Ladron 54.12 323 eP P 22 36 36.7 +1.0
comp=Z,45nm,1.2s
LAZ ePcP PcP 22 37 31.5 +1.0
Y21A Point of Rocks 54.16 323 ⇑P P 22 36 37.3 +1.2
baz=54,SNR=76
Y21A ⇑P P 22 36 37.3 +1.2
baz=54,SNR=76
T26A Comanche Natio 54.18 328 ⇓P P 22 36 36.3 +0.3
baz=54,SNR=30
T26A ⇓P P 22 36 36.3 +0.3
baz=54,SNR=30
S27A Las Animas 54.21 329 ⇑P P 22 36 36.6 +0.4
baz=54,SNR=10.0
S27A ⇑P P 22 36 36.6 +0.4
baz=54,SNR=10.0
W22A Albuquerque 54.43 324 ⇑P P 22 36 38.9 +1.1
baz=55
W22A ⇑P P 22 36 38.9 +1.1
baz=55
S26A Kim 54.46 329 ⇓P P 22 36 38.4 +0.6
baz=55,SNR=60
S26A ⇓P P 22 36 38.4 +0.6
baz=55,SNR=60
U24A Moreno Valley 54.50 327 ⇑P P 22 36 39.3 +0.9
baz=55
U24A ⇑P P 22 36 39.3 +0.9
baz=55
Y20A Horse Springs, 54.52 322 ⇑P P 22 36 39.5 +1.0
baz=55,SNR=60
Y20A ⇑P P 22 36 39.5 +1.0
baz=55,SNR=60
V23A Ortiz Mt. (NFS 54.52 325 ⇓P P 22 36 39.4 +0.9
baz=55,SNR=14
V23A ⇓P P 22 36 39.4 +0.9
baz=55,SNR=14
T25A Trinidad 54.58 328 ⇓P P 22 36 39.5 +0.7
baz=55,SNR=52
T25A ⇓P P 22 36 39.5 +0.7
baz=55,SNR=52
R27A Eads 54.63 330 ⇑P P 22 36 39.1 +0.1
baz=55,SNR=33
R27A ⇑P P 22 36 39.1 +0.1

	baz=55,SNR=33					
T24A	**Torres, Weston**	**54.87**	**327**	⇓P	**P**	**22 36 41.6 +0.6**
	baz=55,SNR=25					
T24A				⇓P	**P**	**22 36 41.6 +0.6**
	baz=55,SNR=25					
W21A	**San Fidel**	**54.92**	**324**	⇓P	**P**	**22 36 42.2 +0.9**
	baz=55,SNR=23					
W21A				⇓P	**P**	**22 36 42.2 +0.9**
	baz=55,SNR=23					
U23A	**El Rito**	**54.95**	**326**	⇓P	**P**	**22 36 42.0 +0.6**
	baz=55,SNR=31					
U23A				⇓P	**P**	**22 36 42.0 +0.6**
	baz=55,SNR=31					
R26A	**Arlington**	**54.97**	**329**	⇑P	**P**	**22 36 41.6 +0.2**
	baz=55,SNR=47					
R26A				⇑P	**P**	**22 36 41.6 +0.2**
	baz=55,SNR=47					
TUC	**Tucson**	**54.97**	**319**	*e*P	**P**	**22 36 42.1 +0.6**
TUC				pmax	pmax	
	comp=Z,28nm,1.0s					
TUC	**Tucson**	**54.97**	**319**	*e*P	**P**	**22 36 42.0 +0.6**
	comp=Z,28nm,1.0s					
TUC				*e*ScP	**ScP**	**22 40 34.7 0.0**
S25A	**Robles Cordova**	**54.98**	**328**	⇑P	**P**	**22 36 42.2 +0.6**
	baz=55,SNR=74					
S25A				⇑P	**P**	**22 36 42.2 +0.6**
	baz=55,SNR=74					
X20A	**Quemado**	**55.02**	**323**	⇓P	**P**	**22 36 43.0 +1.0**
	baz=55,SNR=21					
X20A				⇓P	**P**	**22 36 43.0 +1.0**
	baz=55,SNR=21					
BGNE	**Belgrade**	**55.05**	**336**	⇓P	**P**	**22 36 41.5 -0.3**
	baz=55,SNR=8.5					
BGNE				⇓P	**P**	**22 36 41.5 -0.3**
	baz=55,SNR=8.5					
V22A	**San Miguel Ran**	**55.05**	**325**	⇑P	**P**	**22 36 43.1 +0.9**
	baz=55,SNR=92					
V22A				⇑P	**P**	**22 36 43.1 +0.9**
	baz=55,SNR=92					
Y19A	**Nutrioso**	**55.09**	**322**	⇑P	**P**	**22 36 43.3 +0.8**
	baz=55,SNR=42					
Y19A				⇑P	**P**	**22 36 43.3 +0.8**
	baz=55,SNR=42					
KSCO	**Kaye Shedlock'**	**55.11**	**331**	⇑P	**P**	**22 36 43.1 +0.7**
	baz=55,SNR=12					
KSCO				⇑P	**P**	**22 36 43.1 +0.7**
	baz=55,SNR=12					
R25A	**Fountain Ranch**	**55.27**	**329**	⇓P	**P**	**22 36 44.0 +0.5**
	baz=56,SNR=13					
R25A				⇓P	**P**	**22 36 44.0 +0.5**
	baz=56,SNR=13					
U22A	**Llaves**	**55.35**	**325**	⇑P	**P**	**22 36 45.3 +1.0**
	baz=56,SNR=28					
U22A				⇑P	**P**	**22 36 45.3 +1.0**
	baz=56,SNR=28					
T23A	**Casias Ranch,**	**55.38**	**327**	⇑P	**P**	**22 36 45.4 +1.0**
	baz=56,SNR=23					
T23A				⇑P	**P**	**22 36 45.4 +1.0**
	baz=56,SNR=23					
S24A	**Houchin Ranch,**	**55.38**	**328**	⇓P	**P**	**22 36 45.3 +0.8**
	baz=56,SNR=22					
S24A				⇓P	**P**	**22 36 45.3 +0.8**
	baz=56,SNR=22					
V21A	**Milan**	**55.40**	**324**	⇑P	**P**	**22 36 45.4 +0.9**
	baz=56,SNR=19					
V21A				⇑P	**P**	**22 36 45.4 +0.9**
	baz=56,SNR=19					
X19A	**St. Johns**	**55.43**	**322**	⇑P	**P**	**22 36 45.6 +0.8**
	baz=56,SNR=20					
X19A				⇑P	**P**	**22 36 45.6 +0.8**
	baz=56,SNR=20					
W20A	**Ramah**	**55.43**	**323**	⇑P	**P**	**22 36 45.8 +1.0**
	baz=56,SNR=12					
W20A				⇑P	**P**	**22 36 45.8 +1.0**
	baz=56,SNR=12					
Y18A	**Canyon Day Jun**	**55.45**	**321**	⇑P	**P**	**22 36 45.7 +0.8**
	baz=56,SNR=5.1					
Y18A				⇑P	**P**	**22 36 45.7 +0.8**
	baz=56,SNR=5.1					
Q26A	**Hugo**	**55.48**	**330**	⇑P	**P**	**22 36 45.6 +0.6**
	baz=56,SNR=17					
Q26A				⇑P	**P**	**22 36 45.6 +0.6**
	baz=56,SNR=17					
SDCO	**Great Sand Dun**	**55.61**	**327**	*e*P	**P**	**22 36 46.6 +0.5**
SDCO				*e*PcP	**PcP**	**22 37 35.2 -1.2**
SDCO				*e*ScP	**ScP**	**22 40 38.5 +0.9**
SDCO	**Great Sand Dun**	**55.61**	**327**	⇓P	**P**	**22 36 46.8 +0.7**
	baz=56					
SDCO				⇓P	**P**	**22 36 46.8 +0.7**
	baz=56					
SDCO				⇓P	**P**	**22 36 46.8 +0.7**
	baz=56					
SDCO				⇓P	**P**	**22 36 46.8 +0.7**
	baz=56					
R24A	**Sanders Place,**	**55.76**	**328**	⇓P	**P**	**22 36 47.8 +0.8**
	baz=56,SNR=21					
R24A				⇓P	**P**	**22 36 47.8 +0.8**
	baz=56,SNR=21					
Q25A	**Bedland, Calha**	**55.84**	**329**	⇑P	**P**	**22 36 48.0 +0.5**
	baz=56					
Q25A				⇑P	**P**	**22 36 48.0 +0.5**
	baz=56					
T22A	**Edith**	**55.84**	**326**	⇑P	**P**	**22 36 48.5 +0.9**
	baz=56,SNR=49					
T22A				⇑P	**P**	**22 36 48.5 +0.9**
	baz=56,SNR=49					
U21A	**Nageezi**	**55.84**	**325**	⇓P	**P**	**22 36 48.6 +0.9**
	baz=56,SNR=36					
U21A				⇓P	**P**	**22 36 48.6 +0.9**
	baz=56,SNR=36					
S23A	**Nye Farm, Mont**	**55.85**	**327**	⇓P	**P**	**22 36 48.6 +1.0**
	baz=56					
S23A				⇓P	**P**	**22 36 48.6 +1.0**
	baz=56					
V20A	**Brimhall**	**55.87**	**324**	⇑P	**P**	**22 36 48.5 +0.7**
	baz=56,SNR=20					
V20A				⇑P	**P**	**22 36 48.5 +0.7**
	baz=56,SNR=20					
P26A	**Davis Ranch, A**	**55.89**	**330**	⇓P	**P**	**22 36 48.5 +0.7**
	baz=56,SNR=19					
P26A				⇓P	**P**	**22 36 48.5 +0.7**
	baz=56,SNR=19					
X18A	**Snowflake**	**55.90**	**322**	⇓P	**P**	**22 36 49.1 +1.1**
	baz=56,SNR=18					
X18A				⇓P	**P**	**22 36 49.1 +1.1**
	baz=56,SNR=18					
W19A	**Sanders**	**55.95**	**323**	⇑P	**P**	**22 36 49.0 +0.7**
	baz=56					
W19A				⇑P	**P**	**22 36 49.0 +0.7**
	baz=56					
O27A	**Beecher Island**	**55.96**	**332**	⇓P	**P**	**22 36 49.0 +0.8**
	baz=56,SNR=15					
O27A				⇓P	**P**	**22 36 49.0 +0.8**
	baz=56,SNR=15					
214A	**Organ Pipe Nat**	**56.09**	**317**	⇑P	**P**	**22 36 49.9 +0.8**
	baz=56,SNR=12					
214A				⇑P	**P**	**22 36 49.9 +0.8**
	baz=56,SNR=12					
R23A	**Moffat**	**56.11**	**328**	⇑P	**P**	**22 36 50.7 +1.2**
	baz=56,SNR=60					
R23A				⇑P	**P**	**22 36 50.7 +1.2**
	baz=56,SNR=60					
V19A	**Window Rock**	**56.15**	**323**	⇑P	**P**	**22 36 50.7 +0.9**
	baz=56,SNR=13					
V19A				⇑P	**P**	**22 36 50.7 +0.9**
	baz=56,SNR=13					
W18A	**Petrified Fore**	**56.16**	**322**	⇓P	**P**	**22 36 50.4 +0.6**
	baz=56,SNR=10					
W18A				⇓P	**P**	**22 36 50.4 +0.6**
	baz=56,SNR=10					
T21A	**Navajo Lake**	**56.17**	**325**	⇑P	**P**	**22 36 50.6 +0.8**
	baz=56,SNR=24					
T21A				⇑P	**P**	**22 36 50.6 +0.8**
	baz=56,SNR=24					
P25A	**Willow Gulch B**	**56.25**	**330**	⇑P	**P**	**22 36 51.2 +0.8**
	baz=56,SNR=30					
P25A				⇑P	**P**	**22 36 51.2 +0.8**
	baz=56,SNR=30					
X17A	**Forest Lakes**	**56.30**	**321**	⇑P	**P**	**22 36 52.1 +1.2**
	baz=56,SNR=7.1					
X17A				⇑P	**P**	**22 36 52.1 +1.2**
	baz=56,SNR=7.1					
U20A	**Newcomb**	**56.30**	**324**	⇓P	**P**	**22 36 51.4 +0.7**
	baz=56,SNR=51					
U20A				⇓P	**P**	**22 36 51.4 +0.7**
	baz=56,SNR=51					
S22A	**4UR Ranch, Cre**	**56.33**	**327**	⇓P	**P**	**22 36 51.8 +0.8**
	baz=56,SNR=65					
S22A				⇓P	**P**	**22 36 51.8 +0.8**
	baz=56,SNR=65					
Q24A	**Divide**	**56.33**	**329**	⇓P	**P**	**22 36 51.6 +0.6**
	baz=56,SNR=35					
Q24A				⇓P	**P**	**22 36 51.6 +0.6**
	baz=56,SNR=35					
OGNE	**Ogallala**	**56.35**	**332**	*e*P	**P**	**22 36 51.5 +0.6**
	comp=Z,269nm,1.0s					
OGNE				*e*PcP	**PcP**	**22 37 39.8 +0.8**
OGNE	**Ogallala**	**56.35**	**332**	⇑P	**P**	**22 36 51.4 +0.5**
	baz=57,SNR=22					
OGNE				⇑P	**P**	**22 36 51.4 +0.5**
	baz=57,SNR=22					
O26A	**Horse Wrangler**	**56.40**	**331**	⇑P	**P**	**22 36 52.3 +1.1**
	baz=57					
O26A				⇑P	**P**	**22 36 52.3 +1.1**
	baz=57					
ECSD	**EROS Data Cent**	**56.44**	**338**	*e*P	**P**	**22 36 50.0 -1.2**
	comp=Z,105nm,1.0s					
ECSD				*e*PcP	**PcP**	**22 37 38.6 -0.6**
ECSD				*e*ScP	**ScP**	**22 40 40.9 +0.1**
ECSD				*e*S	S	22 43 51.1 -6.0
SPMN	**St. Paul**	**56.47**	**342**	⇑P	**P**	**22 36 50.0 -1.4**
	baz=57,SNR=38					
SPMN				⇑P	**P**	**22 36 50.0 -1.4**
	baz=57,SNR=38					
N27A	**Anderson Farm,**	**56.47**	**332**	⇓P	**P**	**22 36 52.4 +0.7**
	baz=57,SNR=10					
N27A				⇓P	**P**	**22 36 52.4 +0.7**
	baz=57,SNR=10					
114A	**Black Gap (USA**	**56.62**	**318**	⇑P	**P**	**22 36 53.6 +0.9**
	baz=57,SNR=15					
114A				⇑P	**P**	**22 36 53.6 +0.9**
	baz=57,SNR=15					
P24A	**Kohler Place,**	**56.63**	**329**	⇑P	**P**	**22 36 53.9 +1.0**
	baz=57,SNR=9.4					
P24A				⇑P	**P**	**22 36 53.9 +1.0**
	baz=57,SNR=9.4					
R22A	**Saguache, Gunn**	**56.64**	**327**	⇑P	**P**	**22 36 53.9 +0.8**
	baz=57,SNR=20					
R22A				⇑P	**P**	**22 36 53.9 +0.8**
	baz=57,SNR=20					
U19A	**Dine' College,**	**56.65**	**324**	⇑P	**P**	**22 36 52.8 -0.3**
	baz=57,SNR=5.7					
U19A				⇑P	**P**	**22 36 52.8 -0.3**
	baz=57,SNR=5.7					
O25A	**Wiggins**	**56.69**	**330**	⇑P	**P**	**22 36 54.2 +1.0**
	baz=57,SNR=6.0					
O25A				⇑P	**P**	**22 36 54.2 +1.0**
	baz=57,SNR=6.0					
W17A	**Winslow**	**56.73**	**322**	⇑P	**P**	**22 36 54.2 +0.6**
	baz=57					
W17A				⇑P	**P**	**22 36 54.2 +0.6**
	baz=57					
X16A	**Lo Mia Camp, P**	**56.75**	**321**	⇑P	**P**	**22 36 54.8 +1.0**
	baz=57,SNR=39					
X16A				⇑P	**P**	**22 36 54.8 +1.0**
	baz=57,SNR=39					
PMSA	**Palmer Station**	**56.79**	**176**	P	**P**	**22 36 53.6 +0.4**
	comp=Z,35nm,0.7s,baz=357,slow=7.6,SNR=11					
PMSA	**Palmer Station**	**56.79**	**176**	P	**P**	**22 36 53.6 +0.4**
S21A	**Coal Bank Pass**	**56.80**	**326**	⇑P	**P**	**22 36 54.6 +0.3**
	baz=57,SNR=44					
S21A				⇑P	**P**	**22 36 54.6 +0.3**
	baz=57,SNR=44					
N26A	**Koester Ranch,**	**56.81**	**332**	⇑P	**P**	**22 36 54.8 +0.8**
	baz=57,SNR=8.9					
N26A				⇑P	**P**	**22 36 54.8 +0.8**
	baz=57,SNR=8.9					
MVCO	**Mesa Verde**	**56.87**	**325**	*e*P	**P**	**22 36 54.9 +0.3**
	comp=Z,167nm,1.1s					
MVCO	**Mesa Verde**	**56.87**	**325**	⇑P	**P**	**22 36 55.5 +0.8**
	baz=57,SNR=63					
MVCO				⇑P	**P**	**22 36 55.5 +0.8**
	baz=57,SNR=63					
T19A	**Beclabito**	**56.91**	**324**	⇑P	**P**	**22 36 55.3 +0.5**
	baz=57,SNR=38					
T19A				⇑P	**P**	**22 36 55.3 +0.5**
	baz=57,SNR=38					
M27A	**Reverse DX Ran**	**56.98**	**333**	⇓P	**P**	**22 36 55.6 +0.5**
	baz=57,SNR=10					
M27A				⇓P	**P**	**22 36 55.6 +0.5**
	baz=57,SNR=10					
P23A	**Jefferson**	**57.00**	**329**	⇓P	**P**	**22 36 56.8 +1.2**
	baz=57,SNR=11					
P23A				⇓P	**P**	**22 36 56.8 +1.2**
	baz=57,SNR=11					
U18A	**Rough Rock, Ch**	**57.12**	**323**	⇑P	**P**	**22 36 57.0 +0.7**
	baz=57,SNR=22					
U18A				⇑P	**P**	**22 36 57.0 +0.7**
	baz=57,SNR=22					
V17A	**Tonalea, Kykot**	**57.14**	**322**	⇓P	**P**	**22 36 57.4 +1.0**
	baz=57,SNR=73					
V17A				⇓P	**P**	**22 36 57.4 +1.0**
	baz=57,SNR=73					
O24A	**Longmont**	**57.17**	**330**	⇑P	**P**	**22 36 57.5 +0.9**
	baz=57,SNR=9.3					
O24A				⇑P	**P**	**22 36 57.5 +0.9**
	baz=57,SNR=9.3					
R21A	**Cimarron**	**57.17**	**327**	⇓P	**P**	**22 36 57.3 +0.6**
	baz=57,SNR=46					
R21A				⇓P	**P**	**22 36 57.3 +0.6**
	baz=57,SNR=46					
Q22A	**Crested Butte,**	**57.18**	**327**	⇓P	**P**	**22 36 57.4 +0.5**
	baz=57,SNR=27					
Q22A				⇓P	**P**	**22 36 57.4 +0.5**
	baz=57,SNR=27					
ISCO	**Idaho Springs**	**57.20**	**329**	*e*P	**P**	**22 36 57.9 +1.0**
ISCO				*e*		22 37 43.3
ISCO				pmax	pmax	
	comp=Z,138nm,1.3s					
ISCO	**Idaho Springs**	**57.20**	**329**	*e*P	**P**	**22 36 57.9 +1.0**
	comp=Z,138nm,1.3s					
ISCO				*e*PcP	**PcP**	**22 37 43.3 +0.6**
ISCO	**Idaho Springs**	**57.20**	**329**	⇑P	**P**	**22 36 57.9 +1.0**
	baz=57					
ISCO				⇑P	**P**	**22 36 57.9 +1.0**
	baz=57					
N25A	**Grover**	**57.21**	**331**	⇓P	**P**	**22 36 57.9 +1.0**
	baz=57					
N25A				⇓P	**P**	**22 36 57.9 +1.0**
	baz=57					
113A	**Mohawk Valley,**	**57.22**	**318**	⇓P	**P**	**22 36 57.3 +0.5**
	baz=57,SNR=10					
113A				⇓P	**P**	**22 36 57.3 +0.5**
	baz=57,SNR=10					
S20A	**Disappointment**	**57.23**	**326**	⇓P	**P**	**22 36 58.0 +0.9**
	baz=57,SNR=66					
S20A				⇓P	**P**	**22 36 58.0 +0.9**
	baz=57,SNR=66					
M26A	**McRoberts Ranc**	**57.28**	**332**	⇓P	**P**	**22 36 57.9 +0.7**
	baz=58,SNR=16					
M26A				⇓P	**P**	**22 36 57.9 +0.7**
	baz=58,SNR=16					
L27A	**T5 Ranch, Ells**	**57.39**	**333**	⇓P	**P**	**22 36 58.6 +0.7**
	baz=58					
L27A				⇓P	**P**	**22 36 58.6 +0.7**
	baz=58					
Z13A	**Yuma Proving G**	**57.41**	**318**	⇑P	**P**	**22 36 59.1 +1.0**
	baz=58,SNR=14					
Z13A				⇑P	**P**	**22 36 59.1 +1.0**
	baz=58,SNR=14					
WUAZ	**Wupatki**	**57.43**	**322**	*e*P	**P**	**22 36 59.4 +1.0**
	comp=Z,108nm,1.1s					
WUAZ				*e*PcP	**PcP**	**22 37 43.7 +0.2**
WUAZ				*e*sP	**sP**	**22 39 59.5 +0.3**
WUAZ				*e*ScP	**ScP**	**22 40 46.5 +1.0**
WUAZ	**Wupatki**	**57.43**	**322**	⇓P	**P**	**22 36 59.4 +1.0**
	baz=58,SNR=53					
WUAZ				⇓P	**P**	**22 36 59.4 +1.0**
	baz=58,SNR=53					
Y14A	**Wickenburg**	**57.44**	**319**	⇓P	**P**	**22 36 59.2 +0.8**
	baz=58,SNR=12					
Y14A				⇓P	**P**	**22 36 59.2 +0.8**
	baz=58,SNR=12					
SMCO	**Snowmass**	**57.45**	**328**	*e*P	**P**	**22 37 00.0 +1.3**
	comp=Z,83nm,1.2s					
SMCO				*e*PcP	**PcP**	**22 37 43.7 -0.1**
SMCO				*e*sP	**sP**	**22 39 59.1 -0.5**
SMCO				*e*ScP	**ScP**	**22 40 45.1 -0.7**
R20A	**Redvale**	**57.50**	**326**	⇑P	**P**	**22 37 00.1 +1.3**
	baz=58,SNR=64					
R20A				⇑P	**P**	**22 37 00.1 +1.3**
	baz=58,SNR=64					
Q21A	**Lamborn Mesa,**	**57.52**	**327**	⇑P	**P**	**22 36 59.8 +0.8**
	baz=58,SNR=13					
Q21A				⇑P	**P**	**22 36 59.8 +0.8**
	baz=58,SNR=13					
PV01	**Paradox Valley**	**57.56**	**326**	*e*P	**P**	**22 37 00.2 +0.9**
	comp=Z,8μm,1.0s					
N24A	**Carr**	**57.61**	**330**	⇓P	**P**	**22 37 00.4 +0.8**
	baz=58,SNR=17					
N24A				⇓P	**P**	**22 37 00.4 +0.8**
	baz=58,SNR=17					
S19A	**Harvey Farm, M**	**57.61**	**325**	⇑P	**P**	**22 37 00.1 +0.4**
	baz=58,SNR=78					
S19A				⇑P	**P**	**22 37 00.1 +0.4**
	baz=58,SNR=78					
T18A	**Mexican Hat**	**57.61**	**324**	⇑P	**P**	**22 37 00.0 +0.5**
	baz=58,SNR=94					
T18A				⇑P	**P**	**22 37 00.0 +0.5**
	baz=58,SNR=94					
P22A	**Eagle**	**57.64**	**328**	⇓P	**P**	**22 37 00.6 +0.8**
	baz=58,SNR=25					
P22A				⇓P	**P**	**22 37 00.6 +0.8**
	baz=58,SNR=25					
O23A	**Lake Granby, G**	**57.66**	**329**	⇑P	**P**	**22 37 00.7 +0.6**
	baz=58,SNR=19					
O23A				⇑P	**P**	**22 37 00.7 +0.6**
	baz=58,SNR=19					
M25A	**Palm-Egli Farm**	**57.68**	**331**	⇓P	**P**	**22 37 00.5 +0.6**
	baz=58,SNR=30					
M25A				⇓P	**P**	**22 37 00.5 +0.6**
	baz=58,SNR=30					
U16A	**Tuba City**	**57.69**	**322**	⇓P	**P**	**22 37 01.2 +1.0**
	baz=58,SNR=34					
U16A				⇓P	**P**	**22 37 01.2 +1.0**
	baz=58,SNR=34					
L26A	**Underwood Farm**	**57.70**	**332**	⇑P	**P**	**22 37 00.9 +0.9**
	baz=58,SNR=7.9					
L26A				⇑P	**P**	**22 37 00.9 +0.9**
	baz=58,SNR=7.9					
U17A	**Shonto**	**57.71**	**323**	⇑P	**P**	**22 37 01.2 +0.9**
	baz=58,SNR=18					
U17A				⇑P	**P**	**22 37 01.2 +0.9**
	baz=58,SNR=18					
K27A	**Flueckinger Fa**	**57.85**	**334**	⇓P	**P**	**22 37 01.2 +0.2**
	baz=58,SNR=28					
K27A				⇓P	**P**	**22 37 01.2 +0.2**
	baz=58,SNR=28					
BRSD	**Miller**	**57.92**	**337**	⇓P	**P**	**22 37 00.4 -0.9**
	baz=58					
BRSD				⇓P	**P**	**22 37 00.4 -0.9**
	baz=58					
PV04	**Paradox Valley**	**57.93**	**326**	*e*P	**P**	**22 37 02.2 +0.4**
O22A	**Kremmling**	**57.95**	**329**	⇓P	**P**	**22 37 02.4 +0.5**
	baz=58,SNR=58					
O22A				⇓P	**P**	**22 37 02.4 +0.5**
	baz=58,SNR=58					
P21A	**Newcastle**	**57.95**	**328**	⇓P	**P**	**22 37 03.3 +1.4**
	baz=58,SNR=23					
P21A				⇓P	**P**	**22 37 03.3 +1.4**
	baz=58,SNR=23					
Q20A	**Ridgley Place,**	**57.99**	**327**	⇓P	**P**	**22 37 02.5 +0.4**
	baz=58,SNR=10					
Q20A				⇓P	**P**	**22 37 02.5 +0.4**
	baz=58,SNR=10					
R19A	**Curley Farm, L**	**58.06**	**325**	⇓P	**P**	**22 37 02.9 +0.3**
	baz=58,SNR=27					
R19A				⇓P	**P**	**22 37 02.9 +0.3**
	baz=58,SNR=27					
S18A	**Hurst Farm, Bl**	**58.06**	**324**	⇑P	**P**	**22 37 03.3 +0.5**
	baz=58,SNR=35					
S18A				⇑P	**P**	**22 37 03.3 +0.5**
	baz=58,SNR=35					
T17A	**Navajo Res., N**	**58.06**	**323**	⇑P	**P**	**22 37 03.9 +1.2**
	baz=58,SNR=12					
T17A				⇑P	**P**	**22 37 03.9 +1.2**
	baz=58,SNR=12					
M24A	**Cheyenne**	**58.07**	**331**	⇓P	**P**	**22 37 03.9 +1.2**
	baz=58,SNR=22					
M24A				⇓P	**P**	**22 37 03.9 +1.2**
	baz=58,SNR=22					
GLA	**Glamis**	**58.10**	**317**	*e*P	**P**	**22 37 03.5 +0.6**
GLA				*e*		22 37 46.2
GLA				*e**SP	**sP**	**22 40 01.8 -2.3**
GLA				pmax	pmax	
	comp=Z,45nm,1.0s					
GLA	**Glamis**	**58.10**	**317**	*e*P	**P**	**22 37 03.5 +0.6**
	comp=Z,45nm,1.0s					
GLA				*e*PcP	**PcP**	**22 37 46.1 0.0**
GLA				*e*sP	**sP**	**22 40 01.8 -2.3**
GLA				*e*ScP	**ScP**	**22 40 48.8 +0.3**
GLA	**Glamis**	**58.10**	**317**	⇓P	**P**	**22 37 03.6 +0.8**
	baz=58					
GLA				⇓P	**P**	**22 37 03.6 +0.8**
	baz=58					
N23A	**Red Feather La**	**58.19**	**330**	⇑P	**P**	**22 37 04.5 +0.9**
	baz=58,SNR=17					
N23A				⇑P	**P**	**22 37 04.5 +0.9**
	baz=58,SNR=17					
L25A	**Engebretsen Ra**	**58.20**	**332**	⇑P	**P**	**22 37 04.3 +1.0**
	baz=58,SNR=13					
L25A				⇑P	**P**	**22 37 04.3 +1.0**
	baz=58,SNR=13					
PHWY	**Pilot Hill**	**58.25**	**330**	*e*P	**P**	**22 37 04.6 +0.6**
	comp=Z,14nm,0.9s					
PHWY				*e*PcP	**PcP**	**22 37 47.1 +0.3**
K26A	**Motz Farm, Whi**	**58.27**	**333**	⇑P	**P**	**22 37 04.7 +0.9**
	baz=58,SNR=27					
K26A				⇑P	**P**	**22 37 04.7 +0.9**
	baz=58,SNR=27					
Y12C	**Blythe**	**58.32**	**318**	⇓P	**P**	**22 37 05.1 +0.9**
	baz=58,SNR=7.3					
Y12C				⇓P	**P**	**22 37 05.1 +0.9**
	baz=58,SNR=7.3					
N22A	**Wattenberg Ran**	**58.38**	**329**	⇑P	**P**	**22 37 05.4 +0.6**
	baz=59,SNR=11					
N22A				⇑P	**P**	**22 37 05.4 +0.6**
	baz=59,SNR=11					
PDMCI	**Parker Dam,Lak**	**58.41**	**319**	⇓P	**P**	**22 37 05.5 +0.8**
	baz=59					
PDMCI				⇓P	**P**	**22 37 05.5 +0.8**
	baz=59					
P20A	**De Beque**	**58.44**	**327**	⇓P	**P**	**22 37 05.8 +0.7**
	baz=59,SNR=17					
P20A				⇓P	**P**	**22 37 05.8 +0.7**
	baz=59,SNR=17					
O21A	**Pagoda**	**58.46**	**328**	⇓P	**P**	**22 37 06.6 +1.3**
	baz=59,SNR=14					
O21A				⇓P	**P**	**22 37 06.6 +1.3**
	baz=59,SNR=14					
R18A	**Canyonlands Na**	**58.48**	**325**	⇓P	**P**	**22 37 05.9 +0.4**
	baz=59,SNR=47					
R18A				⇓P	**P**	**22 37 05.9 +0.4**
	baz=59,SNR=47					
S17A	**Black Ridge (B**	**58.49**	**324**	⇓P	**P**	**22 37 06.4 +0.9**
	baz=59,SNR=31					
S17A				⇓P	**P**	**22 37 06.4 +0.9**
	baz=59,SNR=31					
M23A	**Laramie**	**58.51**	**330**	⇓P	**P**	**22 37 06.5 +0.9**
	baz=59,SNR=14					
M23A				⇓P	**P**	**22 37 06.5 +0.9**
	baz=59,SNR=14					
K25A	**Mack Ranch, Ha**	**58.51**	**332**	⇓P	**P**	**22 37 06.6 +1.1**
	baz=59,SNR=14					
K25A				⇓P	**P**	**22 37 06.6 +1.1**
	baz=59,SNR=14					
Q19A	**Hogan Spring (**	**58.53**	**326**	⇑P	**P**	**22 37 06.6 +0.9**
	baz=59,SNR=85					
Q19A				⇑P	**P**	**22 37 06.6 +0.9**
	baz=59,SNR=85					
L24A	**Wheatland**	**58.57**	**331**	⇓P	**P**	**22 37 06.9 +1.0**
	baz=59					
L24A				⇓P	**P**	**22 37 06.9 +1.0**
	baz=59					
EYMN	**Ely**	**58.58**	**344**	*e*P	**P**	**22 37 04.3 -1.4**
	comp=Z,360nm,1.3s					
U15A	**North Rim**	**58.58**	**322**	⇓P	**P**	**22 37 07.7 +1.4**
	baz=59,SNR=35					
U15A				⇓P	**P**	**22 37 07.7 +1.4**
	baz=59,SNR=35					
SWSC	**Sam W. Stewart**	**58.69**	**317**	⇑P	**P**	**22 37 07.9 +1.1**
	baz=59					
SWSC				⇑P	**P**	**22 37 07.9 +1.1**
	baz=59					
W13A	**Hualapai Mount**	**58.73**	**320**	⇓P	**P**	**22 37 08.4 +1.1**
	baz=59					
W13A				⇓P	**P**	**22 37 08.4 +1.1**
	baz=59			

O20A ⇓P P 22 37 08.5 +0.9
baz=59,SNR=23
P19A Cripple Cowboy 58.85 327 ⇓P P 22 37 08.8 +0.8
baz=59,SNR=72
P19A ⇓P P 22 37 08.8 +0.8
baz=59,SNR=72
BC3 Big Chuckawall 58.88 317 ⇑P P 22 37 08.9 +0.7
baz=59
BC3 ⇑P P 22 37 08.9 +0.7
baz=59
N21A Black Mountain 58.89 329 ⇑P P 22 37 09.5 +1.3
baz=59,SNR=13
N21A ⇑P P 22 37 09.5 +1.3
baz=59,SNR=13
M22A Cedar Creek Ra 58.89 330 ⇑P P 22 37 08.8 +0.6
baz=59,SNR=10
M22A ⇑P P 22 37 08.8 +0.6
baz=59,SNR=10
R17A Hanksville Air 58.97 325 ⇓P P 22 37 09.7 +1.0
baz=59,SNR=50
R17A ⇓P P 22 37 09.7 +1.0
baz=59,SNR=50
IRM Iron Mountain 58.98 318 ⇑P P 22 37 09.7 +1.0
baz=59
IRM ⇑P P 22 37 09.7 +1.0
baz=59
BBTS Babate 59.01 68 P P 22 37 10.7 +1.5
comp=Z,70nm,0.8s,baz=278,slow=1.9,SNR=13
BBTS Babate 59.01 68 P P 22 37 10.7 +1.5
S16A Weppner Ranch, 59.02 323 ⇓P P 22 37 09.8 +0.7
baz=59,SNR=36
S16A ⇓P P 22 37 09.8 +0.7
baz=59,SNR=36
K24A Anderson Ranch 59.03 332 ⇑P P 22 37 09.8 +0.8
baz=59,SNR=9.7
K24A ⇑P P 22 37 09.8 +0.8
baz=59,SNR=9.7
MONP Monument Peak 59.09 316 ⇑P P 22 37 10.4 +0.7
baz=59
MONP ⇑P P 22 37 10.4 +0.7
baz=59
Q18A Rafter H Ranch 59.12 326 ⇑P P 22 37 10.3 +0.7
baz=59,SNR=25
Q18A ⇑P P 22 37 10.3 +0.7
baz=59,SNR=25
BAR Barrett 59.14 316 *e*P P 22 37 11.2 +1.4
comp=Z,36nm,1.1s
BAR *e*PcP PcP 22 37 50.9 +0.6
BAR *e*ScP ScP 22 40 53.1 0.0
L22A Ellis Ranch, M 59.28 330 ⇑P P 22 37 11.7 +1.0
baz=60,SNR=15
L22A ⇑P P 22 37 11.7 +1.0
baz=60,SNR=15
N20A Spence Gulch, 59.33 328 ⇓P P 22 37 12.1 +1.0
baz=60,SNR=43
N20A ⇓P P 22 37 12.1 +1.0
baz=60,SNR=43
SRU San Rafael 59.34 325 *e*P P 22 37 11.6 +0.4
SRU *e* 22 37 51.5
SRU pmax pmax
comp=Z,113nm,1.2s
SRU San Rafael 59.34 325 *e*P P 22 37 11.6 +0.4
comp=Z,113nm,1.2s
SRU *e*PcP PcP 22 37 51.5 +0.3
SRU *e*ScP ScP 22 40 54.2 +0.2
SRU San Rafael 59.34 325 ⇑P P 22 37 11.6 +0.4
baz=60
SRU ⇑P P 22 37 11.6 +0.4
baz=60
O19A Miners Draw (B 59.40 327 ⇓P P 22 37 12.0 +0.5
baz=60,SNR=66
O19A ⇓P P 22 37 12.0 +0.5
baz=60,SNR=66
M21A Separation Pea 59.43 329 ⇓P P 22 37 12.6 +0.8
baz=60,SNR=20
M21A ⇓P P 22 37 12.6 +0.8
baz=60,SNR=20
J24A Dixon Ranch, L 59.43 332 ⇓P P 22 37 12.9 +1.3
baz=60,SNR=17
J24A ⇓P P 22 37 12.9 +1.3
baz=60,SNR=17
K23A Bowen Ranch, D 59.44 331 ⇑P P 22 37 12.6 +0.9
baz=60,SNR=22
K23A ⇑P P 22 37 12.6 +0.9
baz=60,SNR=22
BELC Belle Mtn. Jos 59.45 317 ⇑P P 22 37 12.7 +0.8
baz=60,SNR=8.9
BELC ⇑P P 22 37 12.7 +0.8
baz=60,SNR=8.9
PFO Pinyon Flat Ob 59.53 317 *e*P P 22 37 13.7 +1.2
PFO *e* 22 37 52.4
PFO Pinyon Flat Ob 59.53 317 *e*P P 22 37 13.7 +1.2
comp=Z,24nm,1.1s
PFO *e*PcP PcP 22 37 52.4 +0.5
PFO *e*sP sP 22 40 07.5 -6.8
PFO *e*ScP ScP 22 40 55.8 +0.9
PFO Pinyon Flat Ob 59.53 317 P P 22 37 13.9 +1.4
comp=Z,108nm,1.0s,SNR=5.6
PFO Pinyon Flat Ob 59.53 317 ⇓P P 22 37 13.4 +1.0
baz=60
PFO ⇓P P 22 37 13.4 +1.0
baz=60
P18A Preston Nutter 59.54 326 ⇑P P 22 37 13.2 +0.5
baz=60,SNR=64
P18A ⇑P P 22 37 13.2 +0.5
baz=60,SNR=64
109C Camp Elliot, M 59.56 316 ⇑P P 22 37 13.3 +0.8
baz=60
109C ⇑P P 22 37 13.3 +0.8
baz=60
Q16A Castle Valley 59.58 325 ⇑P P 22 37 13.5 +0.8
baz=60,SNR=11
Q16A ⇑P P 22 37 13.5 +0.8
baz=60,SNR=11
GMRC Granite Mounta 59.69 318 ⇑P P 22 37 14.3 +0.8
baz=60
GMRC ⇑P P 22 37 14.3 +0.8
baz=60
L21A Rawlins 59.70 330 ⇓P P 22 37 14.2 +0.6
baz=60,SNR=66
L21A ⇓P P 22 37 14.2 +0.6
baz=60,SNR=66
P17A Butcher Ranch, 59.71 325 ⇓P P 22 37 14.2 +0.6
baz=60,SNR=31
P17A ⇓P P 22 37 14.2 +0.6
baz=60,SNR=31
R15A Junction 59.74 323 ⇓P P 22 37 14.7 +0.8
baz=60,SNR=12
R15A ⇓P P 22 37 14.7 +0.8
baz=60,SNR=12
M20A Sweetwater, Wa 59.77 329 ⇓P P 22 37 14.8 +0.9
baz=60,SNR=34
M20A ⇓P P 22 37 14.8 +0.9
baz=60,SNR=34
RSSD Black Hills 59.77 333 *e*P P 22 37 14.5 +0.6
RSSD *e* 22 37 51.3
RSSD pmax pmax
comp=Z,171nm,1.3s
RSSD Black Hills 59.77 333 *e*P P 22 37 14.5 +0.6
comp=Z,171nm,1.3s
RSSD *e*PcP PcP 22 37 51.3 -1.4
K22A Casper 59.79 331 ⇓P P 22 37 14.9 +0.8
baz=60,SNR=32
K22A ⇓P P 22 37 14.9 +0.8
baz=60,SNR=32
I24A Kuemmerle Ranc 59.83 333 ⇓P P 22 37 15.1 +0.9
baz=60,SNR=26
I24A ⇓P P 22 37 15.1 +0.9
baz=60,SNR=26
N19A John Jarvie Ra 59.85 328 ⇓P P 22 37 15.0 +0.5
baz=60,SNR=42
N19A ⇓P P 22 37 15.0 +0.5
baz=60,SNR=42
TMUT Trail Mountain 59.85 325 *e*P P 22 37 14.6 -0.1
comp=Z,116nm,1.4s
TMUT *e*PcP PcP 22 37 51.2 -2.2
TMUT *e*sP sP 22 40 07.5 -9.1
O18A Roosevelt 59.86 327 ⇑P P 22 37 15.4 +0.9
baz=60,SNR=16
O18A ⇑P P 22 37 15.4 +0.9
baz=60,SNR=16
MSU Marysvale 59.89 324 *e*P P 22 37 16.4 +1.6
MSU *e* 22 37 55.1
MSU Marysvale 59.89 324 *e*P P 22 37 16.4 +1.6
MSU *e*PcP PcP 22 37 55.1 +1.7
MSU *e*sP sP 22 40 09.2 -7.6
MSU *e*ScP ScP 22 40 57.0 +0.5

J23A Dilts Ranch, B 59.90 332 ⇓P P 22 37 15.5 +0.8
baz=60,SNR=5.7
J23A ⇓P P 22 37 15.5 +0.8
baz=60,SNR=5.7
CCUT Cedar City 59.96 322 *e*P P 22 37 17.1 +1.7
comp=Z,63nm,1.1s
CCUT *e*PcP PcP 22 37 54.0 +0.2
CCUT *e*sP sP 22 40 08.8 -8.6
CCUT *e*ScP ScP 22 40 57.2 +0.3
MURC Murrieta 60.03 316 ⇑P P 22 37 16.4 +0.7
baz=60
MURC ⇑P P 22 37 16.4 +0.7
baz=60
ARUT Antelope Range 60.16 322 *e*P P 22 37 18.0 +1.4
ARUT pmax pmax
comp=Z,123nm,1.3s
ARUT Antelope Range 60.16 322 *e*P P 22 37 18.0 +1.4
comp=Z,123nm,1.3s
HEC Hector,Ludlow 60.16 318 ⇑P P 22 37 18.0 +1.5
baz=60
HEC ⇑P P 22 37 18.0 +1.5
baz=60
AGMN Agassiz Nation 60.16 341 *e*P P 22 37 15.3 -0.8
comp=Z,315nm,1.3s
AGMN *e*PcP PcP 22 37 54.0 0.0
O17A Robinson Place 60.21 326 ⇓P P 22 37 18.1 +1.1
baz=60,SNR=36
O17A ⇓P P 22 37 18.1 +1.1
baz=60,SNR=36
L20A Wamsutter 60.22 329 ⇓P P 22 37 17.8 +0.8
baz=60,SNR=30
L20A ⇓P P 22 37 17.8 +0.8
baz=60,SNR=30
BBRC Big Bear Solar 60.23 317 ⇑P P 22 37 18.3 +1.1
baz=60
BBRC ⇑P P 22 37 18.3 +1.1
baz=60
TUQ Turquoise Moun 60.26 319 ⇑P P 22 37 18.1 +0.8
baz=60
TUQ ⇑P P 22 37 18.1 +0.8
baz=60
M19A Rock Springs 60.28 328 ⇑P P 22 37 17.8 +0.4
baz=60
M19A ⇑P P 22 37 17.8 +0.4
baz=60
I23A Meade Ranch, G 60.29 332 ⇑P P 22 37 17.8 +0.5
baz=60
I23A ⇑P P 22 37 17.8 +0.5
baz=60
P16A Fountain Green 60.32 325 ⇓P P 22 37 18.9 +1.2
baz=60,SNR=8.5
P16A ⇓P P 22 37 18.9 +1.2
baz=60,SNR=8.5
J22A Midwest 60.35 331 ⇑P P 22 37 18.2 +0.5
baz=61,SNR=109
J22A ⇑P P 22 37 18.2 +0.5
baz=61,SNR=109
H24A Dirks Ranch, A 60.49 333 ⇓P P 22 37 18.9 +0.3
baz=61,SNR=71
H24A ⇓P P 22 37 18.9 +0.3
baz=61,SNR=71
MPU Maple Canyon 60.58 325 *e*P P 22 37 19.9 +0.5
comp=Z,116nm,1.2s
MPU *e*PcP PcP 22 37 56.6 +0.4
SCI San Clemente I 60.61 315 ⇑P P 22 37 20.4 +0.9
baz=61
SCI ⇑P P 22 37 20.4 +0.9
baz=61
RRX Edison Barstow 60.64 318 ⇑P P 22 37 20.9 +1.3
baz=61
RRX ⇑P P 22 37 20.9 +1.3
baz=61
P15A Leamington 60.65 325 ⇓P P 22 37 20.6 +0.8
baz=61
P15A ⇓P P 22 37 20.6 +0.8
baz=61
K20A Yellowstone Ra 60.70 330 ⇑P P 22 37 20.1 0.0
baz=61,SNR=19
K20A ⇑P P 22 37 20.1 0.0
baz=61,SNR=19
M18A Lyman 60.70 327 ⇓P P 22 37 20.2 +0.1
baz=61
M18A ⇓P P 22 37 20.2 +0.1
baz=61
BFSC Mount Baldy Ra 60.71 317 ⇑P P 22 37 21.1 +0.9
baz=61
BFSC ⇑P P 22 37 21.1 +0.9
baz=61
I22A 9 Mile Ranch, 60.71 332 ⇑P P 22 37 20.5 +0.4
baz=61,SNR=89
I22A ⇑P P 22 37 20.5 +0.4
baz=61,SNR=89
H23A Clabaugh Cattl 60.73 333 ⇑P P 22 37 20.4 +0.3
baz=61
H23A ⇑P P 22 37 20.4 +0.3
baz=61
R13A O'Grain Ranch, 60.73 322 ⇑P P 22 37 21.8 +1.4
baz=61
R13A ⇑P P 22 37 21.8 +1.4
baz=61
CIS Catalina Islan 60.75 316 ⇑P P 22 37 21.0 +0.6
baz=61
CIS ⇑P P 22 37 21.0 +0.6
baz=61
GSC Goldstone 60.76 318 *e*P P 22 37 21.9 +1.4
GSC *e* 22 37 54.3
GSC pmax pmax
comp=Z,77nm,1.3s
GSC Goldstone 60.76 318 *e*P P 22 37 21.9 +1.4
comp=Z,77nm,1.3s
GSC *e*PcP PcP 22 37 54.3 -2.5
GSC *e*ScP ScP 22 40 56.9 -3.4
GSC Goldstone 60.76 318 ⇑P P 22 37 21.6 +1.1
baz=61
GSC ⇑P P 22 37 21.6 +1.1
baz=61
J21A Lysite 60.76 331 ⇑P P 22 37 21.1 +0.6
baz=61
J21A ⇑P P 22 37 21.1 +0.6
baz=61
SHOC Shoshone 60.77 319 ⇓P P 22 37 21.2 +0.8
baz=61
SHOC ⇓P P 22 37 21.2 +0.8
baz=61
N17A Moffit Pass 60.78 327 ⇓P P 22 37 21.7 +0.9
baz=61,SNR=28
N17A ⇓P P 22 37 21.7 +0.9
baz=61,SNR=28
L19A Farson 60.81 328 ⇓P P 22 37 21.4 +0.5
baz=61
L19A ⇓P P 22 37 21.4 +0.5
baz=61
JLU Jordanelle 60.88 326 *e*P P 22 37 22.2 +0.9
comp=Z,161nm,1.4s
JLU *e*PcP PcP 22 37 57.6 +0.2
JLU *e*ScP ScP 22 41 01.6 +0.7
G24A Alzada 60.89 334 ⇑P P 22 37 21.7 +0.6
baz=61
G24A ⇑P P 22 37 21.7 +0.6
baz=61
MWC Mount Wilson 60.97 317 *e*P P 22 37 22.6 +0.5
MWC pmax pmax
comp=Z,62nm,1.1s
MWC Mount Wilson 60.97 317 *e*P P 22 37 22.6 +0.5
comp=Z,62nm,1.1s
PASC Pasadena Art C 61.03 316 *e*P P 22 37 23.1 +0.9
I21A Big Trails, Te 61.04 331 ⇓P P 22 37 22.4 +0.2
baz=61
I21A ⇓P P 22 37 22.4 +0.2
baz=61
MDND Maddock 61.04 339 ⇑P P 22 37 22.4 +0.5
baz=61,SNR=46
MDND ⇑P P 22 37 22.4 +0.5
baz=61,SNR=46
L18A Fontenelle, Gr 61.04 328 ⇓P P 22 37 22.6 +0.2
baz=61
L18A ⇓P P 22 37 22.6 +0.2
baz=61
M17A Scullys Gap (B 61.06 327 ⇓P P 22 37 22.8 +0.3
baz=61,SNR=29
M17A ⇓P P 22 37 22.8 +0.3
baz=61,SNR=29
N16A Rees Ranch, Co 61.07 326 ⇑P P 22 37 23.5 +1.0
baz=61,SNR=33
N16A ⇑P P 22 37 23.5 +1.0
baz=61,SNR=33
K19A Absolon Red Bu 61.07 329 ⇑P P 22 37 22.4 -0.1
baz=61

K19A ⇑P P 22 37 22.4 -0.1
baz=61
J20A Shoshoni 61.08 330 ⇑P P 22 37 23.2 +0.7
baz=61
J20A ⇑P P 22 37 23.2 +0.7
baz=61
DECC Green Verdugo 61.17 316 ⇓P P 22 37 24.1 +1.0
baz=61
DECC ⇓P P 22 37 24.1 +1.0
baz=61
H22A Clearmont 61.19 332 ⇑P P 22 37 23.4 +0.3
baz=61
H22A ⇑P P 22 37 23.4 +0.3
baz=61
G23A Biddle 61.22 333 ⇓P P 22 37 23.6 +0.4
baz=61
G23A ⇓P P 22 37 23.6 +0.4
baz=61
O15A The Old Anders 61.24 325 ⇑P P 22 37 24.7 +1.1
baz=61,SNR=8.9
O15A ⇑P P 22 37 24.7 +1.1
baz=61,SNR=8.9
EDW2 Edwards Air Fo 61.30 317 ⇑P P 22 37 24.8 +0.8
baz=62
EDW2 ⇑P P 22 37 24.8 +0.8
baz=62
F24A Ekalaka 61.31 334 ⇑P P 22 37 24.2 +0.4
baz=62
F24A ⇑P P 22 37 24.2 +0.4
baz=62
DUG Dugway 61.37 325 *e*P P 22 37 25.3 +0.8
DUG *e* 22 37 59.5
DUG pmax pmax
comp=Z,127nm,1.1s
DUG Dugway 61.37 325 *e*P P 22 37 25.3 +0.8
comp=Z,127nm,1.1s
DUG *e*PcP PcP 22 37 59.5 +0.2
DUG *e*ScP ScP 22 41 03.6 +0.6
DUG Dugway 61.37 325 ⇑P P 22 37 25.5 +1.0
baz=62
DUG ⇑P P 22 37 25.5 +1.0
baz=62
BW06 Boulder Array 61.39 329 *e*P P 22 37 24.6 -0.1
comp=Z,91nm,1.4s
BW06 Boulder Array 61.39 329 ⇓P P 22 37 24.5 -0.1
baz=62
BW06 ⇓P P 22 37 24.5 -0.1
baz=62
BW06 ⇓P P 22 37 24.5 -0.1
baz=62
BW06 ⇓P P 22 37 24.5 -0.1
baz=62
PDAR Pinedale Array 61.39 329 P P 22 37 24.4 -0.2
comp=Z,20nm,0.5s,baz=124,slow=8.6,SNR=149
PDAR PcP PcP 22 37 59.1 -0.3
comp=Z,11nm,0.5s,baz=126,slow=7.4,SNR=11
PDAR Pinedale Array 61.39 329 P P 22 37 24.4 -0.2
PDAR PcP PcP 22 37 59.1 -0.3
PD02 Pinedale Array 61.41 329 *e*P P 22 37 24.2 -0.5
PD02 *e*PcP PcP 22 37 58.9 -0.7
PD02 *e*S S 22 44 58.7 -1.2
PD01 Pinedale Array 61.41 329 *e*P P 22 37 24.4 -0.4
PD01 *e*PcP PcP 22 37 58.8 -0.8
PD01 *e*ScP ScP 22 41 03.9 +0.7
LRMC Laurel Mountai 61.45 318 ⇑P P 22 37 26.0 +1.0
baz=62
LRMC ⇑P P 22 37 26.0 +1.0
baz=62
FURC Furnace Creek, 61.48 319 ⇑P P 22 37 26.4 +1.4
baz=62
FURC ⇑P P 22 37 26.4 +1.4
baz=62
J19A Crowheart 61.50 330 ⇑P P 22 37 25.5 +0.3
baz=62
J19A ⇑P P 22 37 25.5 +0.3
baz=62
H21A Big Horn, Sher 61.53 332 ⇓P P 22 37 25.2 -0.2
baz=62,SNR=18
H21A ⇓P P 22 37 25.2 -0.2
baz=62,SNR=18
I20A Worland 61.54 331 ⇓P P 22 37 25.9 +0.4
baz=62,SNR=68
I20A ⇓P P 22 37 25.9 +0.4
baz=62,SNR=68
K18A Toltan Ranch, 61.55 328 ⇑P P 22 37 26.3 +0.7
baz=62
K18A ⇑P P 22 37 26.3 +0.7
baz=62
BLG Laguna Peak 61.60 316 ⇓P P 22 37 26.8 +0.9
baz=62
BLG ⇓P P 22 37 26.8 +0.9
baz=62
L17A Cokeville 61.60 328 ⇓P P 22 37 26.1 +0.1
baz=62
L17A ⇓P P 22 37 26.1 +0.1
baz=62
F23A Volborg 61.63 334 ⇑P P 22 37 26.7 +0.8
baz=62
F23A ⇑P P 22 37 26.7 +0.8
baz=62
G22A Birney 61.64 333 ⇓P P 22 37 26.1 +0.1
baz=62,SNR=46
G22A ⇓P P 22 37 26.1 +0.1
baz=62,SNR=46
HWUT Hardware Ranch 61.64 327 *e*P P 22 37 26.3 +0.1
HWUT *e*PcP PcP 22 38 00.5 +0.1
HWUT *e*ScP ScP 22 41 04.2 0.0
OSI Osito Adit 61.65 317 *e*P P 22 37 27.0 +0.8
comp=Z,26nm,0.3s
MPMC Manual Prospec 61.65 319 ⇑P P 22 37 27.1 +0.7
baz=62
MPMC ⇑P P 22 37 27.1 +0.7
baz=62
N15A Stansbury Isla 61.67 326 ⇑P P 22 37 27.0 +0.6
baz=62
N15A ⇑P P 22 37 27.0 +0.6
baz=62
E24A Baker 61.81 335 ⇑P P 22 37 28.0 +0.9
baz=62
E24A ⇑P P 22 37 28.0 +0.9
baz=62
R11A Troy Canyon, C 61.83 322 ⇓P P 22 37 28.7 +1.2
baz=62
R11A ⇓P P 22 37 28.7 +1.2
baz=62
L16A Fish Haven 61.84 327 ⇓P P 22 37 27.7 +0.1
baz=62
L16A ⇓P P 22 37 27.7 +0.1
baz=62
H20A Greybull 61.88 331 ⇓P P 22 37 27.7 +0.1
baz=62
H20A ⇓P P 22 37 27.7 +0.1
baz=62
ULM Lac du Bonnet 61.90 343 P P 22 37 26.3 -1.1
comp=Z,195nm,0.7s,baz=151,slow=6.0,SNR=269
ULM S S 22 45 00.1 -5.0
comp=Z,3.6nm,0.9s,baz=246,slow=22,SNR=8.2
ULM Lac du Bonnet 61.90 343 *e*P P 22 37 26.1 -1.3
ULM *e* 22 38 01.0
ULM S S 22 45 00.2 -5.0
ULM pmax pmax
comp=Z,254nm,0.9s
ULM Lac du Bonnet 61.90 343 *e*P P 22 37 26.1 -1.3
comp=Z,254nm,0.9s
ULM *e*PcP PcP 22 38 01.0 0.0
ULM S S 22 45 00.1 -5.0
J18A Kendall Valley 61.95 329 ⇓P P 22 37 28.6 +0.4
baz=62
J18A ⇓P P 22 37 28.6 +0.4
baz=62
ARVC Arvin 62.01 317 ⇓P P 22 37 29.5 +1.0
baz=62
ARVC ⇓P P 22 37 29.5 +1.0
baz=62
M15A Larsen Ranch, 62.02 326 ⇓P P 22 37 29.0 +0.4
baz=62
M15A ⇓P P 22 37 29.0 +0.4
baz=62
I19A Meeteetse 62.03 330 ⇓P P 22 37 29.3 +0.6
baz=62
I19A ⇓P P 22 37 29.3 +0.6
baz=62
F22A Rosebud 62.05 333 ⇑P P 22 37 29.1 +0.5
baz=62
F22A ⇑P P 22 37 29.1 +0.5
baz=62
G21A Lodge Grass 62.06 332 ⇑P P 22 37 28.8 +0.1

baz=62
G21A ⇑P P 22 37 28.8 +0.1
baz=62
ISA Isabella 62.07 318 *e*P P 22 37 30.4 +1.4
ISA *e* 22 38 03.0
ISA pmax pmax
comp=Z,67nm,1.2s
ISA Isabella 62.07 318 *e*P P 22 37 30.4 +1.4
comp=Z,67nm,1.2s
ISA *e*PcP PcP 22 38 03.0 +0.8
ISA Isabella 62.07 318 ⇑P P 22 37 30.0 +1.0
baz=62
ISA ⇑P P 22 37 30.0 +1.0
baz=62
K17A Gardner Place, 62.09 328 ⇑P P 22 37 29.5 +0.4
baz=62
K17A ⇑P P 22 37 29.5 +0.4
baz=62
GRAC Grapevine Rang 62.13 319 ⇑P P 22 37 30.7 +1.4
baz=62
GRAC ⇑P P 22 37 30.7 +1.4
baz=62
E23A Ismay 62.19 334 ⇑P P 22 37 30.0 +0.5
baz=62
E23A ⇑P P 22 37 30.0 +0.5
baz=62
AHID Auburn Hatcher 62.19 328 *e*P P 22 37 29.6 -0.1
AHID *e*PcP PcP 22 38 01.6 -1.1
I18A Diamond G Ranc 62.20 329 ⇑P P 22 37 30.3 +0.4
baz=62
I18A ⇑P P 22 37 30.3 +0.4
baz=62
D24A Glendive 62.26 335 ⇑P P 22 37 30.8 +0.9
baz=62
D24A ⇑P P 22 37 30.8 +0.9
baz=62
L15A Malad City 62.35 327 ⇓P P 22 37 30.9 +0.1
baz=62
L15A ⇓P P 22 37 30.9 +0.1
baz=62
J17A Brown Place, J 62.41 329 ⇓P P 22 37 32.1 +0.9
baz=63
J17A ⇓P P 22 37 32.1 +0.9
baz=63
HVU Hansel Valley 62.42 326 *e*P P 22 37 31.5 +0.3
HVU pmax pmax
comp=Z,65nm,1.2s
HVU Hansel Valley 62.42 326 *e*P P 22 37 31.5 +0.3
comp=Z,65nm,1.2s
E22A Miles City 62.42 334 ⇓P P 22 37 31.1 +0.1
baz=63
E22A ⇓P P 22 37 31.1 +0.1
baz=63
F21A Absaloka Mine, 62.47 333 ⇑P P 22 37 31.5 +0.1
baz=63
F21A ⇑P P 22 37 31.5 +0.1
baz=63
REDW Red Top Meadow 62.48 329 *e*P P 22 37 32.0 +0.3
comp=Z,79nm,1.3s
H19A Powell 62.49 331 ⇑P P 22 37 32.1 +0.5
baz=63
H19A ⇑P P 22 37 32.1 +0.5
baz=63
K16A Soda Springs 62.50 328 ⇑P P 22 37 32.5 +0.8
baz=63
K16A ⇑P P 22 37 32.5 +0.8
baz=63
RKT Rikitea 62.50 248 *e*P P 22 37 34.2 +2.3
comp=Z,62nm,1.1s
SNOW Snow King Moun 62.50 329 *e*P P 22 37 31.4 -0.4
comp=Z,76nm,1.3s
G20A Bridger 62.53 332 ⇓P P 22 37 32.0 +0.2
baz=63
G20A ⇓P P 22 37 32.0 +0.2
baz=63
LOHW Long Hollow 62.53 329 *e*P P 22 37 32.1 +0.2
comp=Z,488nm,2.5s
LOHW *e*PcP PcP 22 38 04.6 +0.5
PKM Peak Mountain 62.55 316 ⇑P P 22 37 33.0 +0.8
baz=63
PKM ⇑P P 22 37 33.0 +0.8
baz=63
VES Vestal, Richgr 62.58 317 ⇓P P 22 37 33.1 +1.0
baz=63
VES ⇓P P 22 37 33.1 +1.0
baz=63
TPAW Teton Pass 62.62 329 *e*P P 22 37 33.5 +0.9
C24A Savage 62.63 335 ⇑P P 22 37 33.0 +0.7
baz=63
C24A ⇑P P 22 37 33.0 +0.7
baz=63
D23A Lindsay 62.68 335 ⇑P P 22 37 33.4 +0.8
baz=63
D23A ⇑P P 22 37 33.4 +0.8
baz=63
MOOW Moose Ponds 62.70 329 *e*P P 22 37 33.6 +0.6
comp=Z,64nm,1.3s
MOOW *e*PcP PcP 22 38 04.6 -0.2
RRI2 Red Ridge 62.71 328 *e*P P 22 37 33.8 +0.6
RRI2 *e*PcP PcP 22 38 04.1 -0.9
TIN Tinemaha 62.72 319 ⇓P P 22 37 34.6 +1.4
baz=63
TIN ⇓P P 22 37 34.6 +1.4
baz=63
I17A Pilgrim Ck. 62.74 329 ⇓P P 22 37 34.3 +1.0
baz=63
I17A ⇓P P 22 37 34.3 +1.0
baz=63
J16A Bone 62.81 328 ⇑P P 22 37 34.2 +0.4
baz=63
J16A ⇑P P 22 37 34.2 +0.4
baz=63
DCID1 Drake Creek 62.82 329 *e*P P 22 37 34.3 +0.5
comp=Z,95nm,1.0s
H18A Shoshone NF, C 62.83 330 ⇑P P 22 37 34.0 +0.1
baz=63
H18A ⇑P P 22 37 34.0 +0.1
baz=63
L14A Malta 62.84 326 ⇓P P 22 37 34.1 +0.2
baz=63
L14A ⇓P P 22 37 34.1 +0.2
baz=63
SCHQ Schefferville 62.85 3 P P 22 37 32.9 -0.6
comp=Z,48nm,0.9s,baz=199,slow=4.6,SNR=62
SCHQ PcP PcP 22 38 05.1 +0.3
comp=Z,8.9nm,0.4s,baz=226,slow=4.2,SNR=5.7
SCHQ Schefferville 62.85 3 *e*P P 22 37 32.8 -0.7
comp=Z,98nm,1.1s
SCHQ *e*PcP PcP 22 38 04.2 -0.7
K15A Arbon 62.90 327 ⇑P P 22 37 34.8 +0.5
baz=63
K15A ⇑P P 22 37 34.8 +0.5
baz=63
SMMC Simmler 62.91 317 ⇓P P 22 37 35.7 +1.4
baz=63
SMMC ⇓P P 22 37 35.7 +1.4
baz=63
F20A Billings 62.93 332 ⇓P P 22 37 34.8 +0.5
baz=63
F20A ⇓P P 22 37 34.8 +0.5
baz=63
RCTC Rector, Farmer 62.95 318 ⇓P P 22 37 34.7 +0.2
baz=63
RCTC ⇓P P 22 37 34.7 +0.2
baz=63
RLMT Red Lodge 62.96 331 *e*P P 22 37 35.0 +0.4
comp=Z,92nm,1.1s
RLMT Red Lodge 62.96 331 ⇑P P 22 37 35.5 +0.8
baz=63
RLMT ⇑P P 22 37 35.5 +0.8
baz=63
RLMT ⇑P P 22 37 35.5 +0.8
baz=63
RLMT ⇑P P 22 37 35.5 +0.8
baz=63
E21A Keefer Ranch, 63.00 333 ⇓P P 22 37 35.4 +0.7
baz=63
E21A ⇓P P 22 37 35.4 +0.7
baz=63
D22A Cohagen 63.07 334 ⇑P P 22 37 36.2 +1.1
baz=63
D22A ⇑P P 22 37 36.2 +1.1
baz=63
H17A Grant Village 63.08 330 ⇑P P 22 37 36.8 +1.3
baz=63
H17A ⇑P P 22 37 36.8 +1.3
baz=63
LKWY Lake 63.11 330 *e*P P 22 37 37.0 +1.3
MTUM Tungsten Hills 63.11 319 *e*P P 22 37 37.0 +1.2
ELK Elko 63.13 324 *e*P P 22 37 36.0 +0.1
ELK *e* 22 38 06.5
ELK Elko 63.13 324 *e*P P 22 37 36.0 +0.1
ELK *e*PcP PcP 22 38 06.5 -0.2
C23A Lambert 63.16 335 ⇓P P 22 37 36.5 +0.8
baz=63
C23A ⇓P P 22 37 36.5 +0.8
baz=63
I16A Newdale 63.17 329 ⇑P P 22 37 36.9 +0.9
baz=63
I16A ⇑P P 22 37 36.9 +0.9
baz=63
G18A Lazy EL Ranch, 63.24 331 ⇑P P 22 37 37.1 +0.7
baz=63
G18A ⇑P P 22 37 37.1 +0.7
baz=63
DGMT Dagmar 63.29 336 *e*P P 22 37 37.1 +0.7
comp=Z,309nm,1.2s
DGMT *e*PP PP 22 40 03.8 -3.0
DGMT Dagmar 63.29 336 ⇓P P 22 37 37.5 +1.0
baz=64
DGMT ⇓P P 22 37 37.5 +1.0
baz=64
J15A Blackfoot 63.34 328 ⇑P P 22 37 37.7 +0.7
baz=64
J15A ⇑P P 22 37 37.7 +0.7
baz=64
F19A Roth Farm, Mol 63.34 332 ⇓P P 22 37 37.4 +0.4
baz=64
F19A ⇓P P 22 37 37.4 +0.4
baz=64
D21A La Casta Ranch 63.36 334 ⇑P P 22 37 37.9 +0.9
baz=64
D21A ⇑P P 22 37 37.9 +0.9
baz=64
C22A Vida 63.41 335 ⇓P P 22 37 38.2 +0.9
baz=64
C22A ⇓P P 22 37 38.2 +0.9
baz=64
MLAC Mammoth Lakes 63.45 319 ⇓P P 22 37 39.1 +1.2
baz=64
MLAC ⇓P P 22 37 39.1 +1.2
baz=64
E20A Meyer Farm, Mu 63.45 333 ⇑P P 22 37 38.7 +1.1
baz=64
E20A ⇑P P 22 37 38.7 +1.1
baz=64
YMR Madison River 63.47 330 *e*P P 22 37 39.0 +1.1
comp=Z,125nm,0.9s
NVAR Mina Array Bea 63.57 320 P P 22 37 40.0 +1.2
comp=Z,15nm,0.9s,baz=142,slow=6.6,SNR=63
NVAR PcP PcP 22 38 08.7 +0.2
comp=Z,7.7nm,0.5s,baz=122,slow=4.4,SNR=14
NVAR pP pP 22 39 39.7 +1.5
comp=Z,4.0nm,0.7s,baz=122,slow=7.4,SNR=4.7
NVAR Mina Array Bea 63.57 320 P P 22 37 40.0 +1.2
NVAR PcP PcP 22 38 08.7 +0.2
NVAR pP pP 22 39 39.7 +1.5
A24A Westby 63.58 337 ⇑P P 22 37 39.4 +1.1
baz=64
A24A ⇑P P 22 37 39.4 +1.1
baz=64
B23A Brockton 63.61 336 ⇑P P 22 37 39.6 +1.1
baz=64
B23A ⇑P P 22 37 39.6 +1.1
baz=64
H16A Russell Place, 63.63 329 ⇑P P 22 37 40.3 +1.3
baz=64
H16A ⇑P P 22 37 40.3 +1.3
baz=64
GCMT Greycliff 63.64 331 *e*P P 22 37 39.5 +0.6
comp=Z,130nm,1.0s
E19A Rath Farm, Rou 63.72 332 ⇑P P 22 37 40.0 +0.7
baz=64
E19A ⇑P P 22 37 40.0 +0.7
baz=64
F18A Big Timber 63.74 331 ⇓P P 22 37 40.5 +1.0
baz=64
F18A ⇓P P 22 37 40.5 +1.0
baz=64
I15A Monteview 63.77 328 ⇓P P 22 37 40.6 +0.8
baz=64
I15A ⇓P P 22 37 40.6 +0.8
baz=64
QLMT Earthquake Lak 63.81 329 *e*P P 22 37 41.5 +1.4
G17A Pierce Place, 63.82 330 ⇓P P 22 37 41.2 +1.2
baz=64
G17A ⇓P P 22 37 41.2 +1.2
baz=64
D20A Manuel Ranch, 63.89 333 ⇓P P 22 37 41.0 +0.6
baz=64
D20A ⇓P P 22 37 41.0 +0.6
baz=64
B22A Reddig Ranch S 63.89 335 ⇑P P 22 37 41.0 +0.7
baz=64
B22A ⇑P P 22 37 41.0 +0.7
baz=64
A23A Redstone 63.95 336 ⇓P P 22 37 41.3 +0.6
baz=64
A23A ⇓P P 22 37 41.3 +0.6
baz=64
C21A Desert Coulee 63.99 334 ⇑P P 22 37 41.9 +1.0
baz=64
C21A ⇑P P 22 37 41.9 +1.0
baz=64
BMN Battle Mountai 64.11 323 *e*P P 22 37 41.9 -0.1
BMN Battle Mountai 64.11 323 *e*P P 22 37 41.9 -0.1
F17A Fitzpatrick Pl 64.20 331 ⇓P P 22 37 43.4 +1.0
baz=64
F17A ⇓P P 22 37 43.4 +1.0
baz=64
I14A Mackay 64.24 328 ⇓P P 22 37 44.1 +1.3
baz=64
I14A ⇓P P 22 37 44.1 +1.3
baz=64
J13A Cove Ranch, Pi 64.27 327 ⇑P P 22 37 43.7 +0.7
baz=64
J13A ⇑P P 22 37 43.7 +0.7
baz=64
G16A Moss Hill, Enn 64.28 330 ⇓P P 22 37 43.7 +0.7
baz=64
G16A ⇓P P 22 37 43.7 +0.7
baz=64
D19A Cripps Ranch, 64.28 333 ⇓P P 22 37 43.6 +0.8
baz=64
D19A ⇓P P 22 37 43.6 +0.8
baz=64
H15A Lima 64.28 329 ⇓P P 22 37 44.5 +1.5
baz=64
H15A ⇓P P 22 37 44.5 +1.5
baz=64
C20A Veseth Ranch, 64.30 334 ⇓P P 22 37 43.3 +0.4
baz=64
C20A ⇓P P 22 37 43.3 +0.4
baz=64
E18A Harlowton 64.32 332 ⇑P P 22 37 44.3 +1.1
baz=64
E18A ⇑P P 22 37 44.3 +1.1
baz=64
A22A Carney Farms, 64.40 336 ⇑P P 22 37 44.3 +0.8
baz=65
A22A ⇑P P 22 37 44.3 +0.8
baz=65
B21A Ellsworth Farm 64.42 335 ⇓P P 22 37 44.4 +0.8
baz=65
B21A ⇓P P 22 37 44.4 +0.8
baz=65
BOZ Bozeman (W) 64.49 330 *e*P P 22 37 44.7 +0.4
BOZ Bozeman (W) 64.49 330 *e*P P 22 37 44.7 +0.4
BOZ Bozeman (W) 64.49 330 ⇓P P 22 37 45.0 +0.7
baz=65
BOZ ⇓P P 22 37 45.0 +0.7
baz=65
BOZ ⇓P P 22 37 45.0 +0.7
baz=65
HLID Hailey 64.51 327 *e*P P 22 37 45.4 +0.9
comp=Z,84nm,1.3s
HLID Hailey 64.51 327 ⇓P P 22 37 45.4 +0.9
baz=65
HLID ⇓P P 22 37 45.4 +0.9
baz=65
MCMT McKenzie Canyo 64.53 329 *e*P P 22 37 46.1 +1.4
comp=Z,38nm,1.2s
MCMT *e*PcP PcP 22 38 12.2 -0.2
I13A Wildhorse Cree 64.58 327 ⇑P P 22 37 46.3 +1.3
baz=65
I13A ⇑P P 22 37 46.3 +1.3
baz=65
G15A Dillon 64.58 329 ⇓P P 22 37 45.8 +0.9
baz=65
G15A ⇓P P 22 37 45.8 +0.9
baz=65
F16A Kennard Place, 64.58 330 ⇑P P 22 37 45.7 +0.9
baz=65
F16A ⇑P P 22 37 45.7 +0.9
baz=65
H14A Leadore 64.66 328 ⇑P P 22 37 46.3 +0.8
baz=65
H14A ⇑P P 22 37 46.3 +0.8
baz=65
SAO San Andreas Ge 64.68 317 *e*P P 22 37 46.9 +1.4
SAO San Andreas Ge 64.68 317 *e*P P 22 37 46.9 +1.4
CMB Columbia Colle 64.68 319 *e*P P 22 37 46.8 +1.3
CMB Columbia Colle 64.68 319 *e*P P 22 37 46.8 +1.3
E17A Martinsdale 64.69 331 ⇑P P 22 37 46.2 +0.6
baz=65
E17A ⇑P P 22 37 46.2 +0.6
baz=65
D18A Linhart Farms, 64.73 332 ⇓P P 22 37 46.5 +0.8
baz=65
D18A ⇓P P 22 37 46.5 +0.8
baz=65
LCCM Lewis and Clar 64.75 330 P P 22 37 47.4 +1.5
DLMT Dillon 64.78 329 *e*P P 22 37 47.0 +0.9
DLMT *e*PcP PcP 22 38 13.0 -0.3
C19A Slack Wire Ran 64.78 333 ⇑P P 22 37 46.6 +0.6
baz=65
C19A ⇑P P 22 37 46.6 +0.6
baz=65
A21A Bergtoll Ranch 64.82 335 ⇑P P 22 37 46.6 +0.4
baz=65
A21A ⇑P P 22 37 46.6 +0.4
baz=65
B20A Solberg Farm, 64.86 334 ⇓P P 22 37 47.1 +0.6
baz=65
B20A ⇓P P 22 37 47.1 +0.6
baz=65
WCN Washoe City 65.00 320 *e*P P 22 37 48.9 +1.2
WCN Washoe City 65.00 320 *e*P P 22 37 48.9 +1.2
WCN Washoe City 65.00 320 ⇓P P 22 37 49.0 +1.4
baz=65
WCN ⇓P P 22 37 49.0 +1.4
baz=65
LRM Limekiln Ridge 65.02 330 *e*P P 22 37 48.7 +0.9
F15A Butte 65.06 330 ⇑P P 22 37 48.4 +0.5
baz=65
F15A ⇑P P 22 37 48.4 +0.5
baz=65
H13A Challis 65.09 328 ⇑P P 22 37 48.9 +0.8
baz=65
H13A ⇑P P 22 37 48.9 +0.8
baz=65
D17A Six Diamond Ra 65.11 332 ⇓P P 22 37 48.7 +0.6
baz=65
D17A ⇓P P 22 37 48.7 +0.6
baz=65
G14A Jackson 65.14 329 ⇓P P 22 37 49.0 +0.6
baz=65
G14A ⇓P P 22 37 49.0 +0.6
baz=65
E16A East Helena 65.14 331 ⇓P P 22 37 49.0 +0.7
baz=65
E16A ⇓P P 22 37 49.0 +0.7
baz=65
A20A Cobblestone Ra 65.16 334 ⇓P P 22 37 49.0 +0.8
baz=65
A20A ⇓P P 22 37 49.0 +0.8
baz=65
MFID Camas Ranch 65.19 326 *e*P P 22 37 49.4 +0.8
comp=Z,181nm,1.0s
MFID *e*pP pP 22 39 48.5 -0.5
MFID Camas Ranch 65.19 326 ⇓P P 22 37 49.8 +1.1
baz=65
MFID ⇓P P 22 37 49.8 +1.1
baz=65
B19A Brinkman Farms 65.28 334 ⇑P P 22 37 49.6 +0.6
baz=66
B19A ⇑P P 22 37 49.6 +0.6
baz=66
EGMT Eagleton 65.32 333 *e*P P 22 37 48.5 -0.8
comp=Z,316nm,1.3s
EGMT Eagleton 65.32 333 ⇑P P 22 37 50.0 +0.7
baz=66
EGMT ⇑P P 22 37 50.0 +0.7
baz=66
HRY Holter Researc 65.34 331 *e*P P 22 37 50.2 +0.7
H12A Diamond D Ranc 65.40 327 ⇓P P 22 37 51.0 +0.9
baz=66
H12A ⇓P P 22 37 51.0 +0.9
baz=66
D16A Dana Ranch, Ca 65.43 331 ⇑P P 22 37 51.2 +1.1
baz=66
D16A ⇑P P 22 37 51.2 +1.1
baz=66
G13A Cobalt 65.44 328 ⇑P P 22 37 51.1 +0.9
baz=66
G13A ⇑P P 22 37 51.1 +0.9
baz=66
F14A Wisdom 65.48 329 ⇓P P 22 37 51.6 +1.1
baz=66
F14A ⇓P P 22 37 51.6 +1.1
baz=66
C17A Wharram Farm, 65.50 332 ⇓P P 22 37 50.7 +0.2
baz=66
C17A ⇓P P 22 37 50.7 +0.2
baz=66
E15A Deer Lodge 65.54 330 ⇑P P 22 37 51.6 +0.8
baz=66
E15A ⇑P P 22 37 51.6 +0.8
baz=66
A19A Klindworth Far 65.54 334 ⇓P P 22 37 51.3 +0.6
baz=66
A19A ⇓P P 22 37 51.3 +0.6
baz=66
B18A Beardsley Farm 65.60 333 ⇑P P 22 37 51.8 +0.7
baz=66
B18A ⇑P P 22 37 51.8 +0.7
baz=66
D15A Lincoln 65.91 331 ⇓P P 22 37 54.1 +1.0
baz=66
D15A ⇓P P 22 37 54.1 +1.0
baz=66
E14A Clinton 65.96 330 ⇓P P 22 37 54.6 +1.2
baz=66
E14A ⇓P P 22 37 54.6 +1.2
baz=66
F13A Darby 65.96 329 ⇑P P 22 37 54.2 +0.8
baz=66
F13A ⇑P P 22 37 54.2 +0.8
baz=66
B17A L&G Farms, Che 65.99 332 ⇓P P 22 37 53.7 +0.2
baz=66
B17A ⇓P P 22 37 53.7 +0.2
baz=66
A18A Metzger Ranch, 66.02 333 ⇑P P 22 37 53.8 +0.2
baz=66
A18A ⇑P P 22 37 53.8 +0.2
baz=66
C16A Fuhringer Ranc 66.08 332 ⇓P P 22 37 54.7 +0.7
baz=66
C16A ⇓P P 22 37 54.7 +0.7
baz=66
OHCM Honcut 66.12 319 *e*P P 22 37 55.7 +1.3
CHMT Chamberlain Mo 66.18 330 *e*P P 22 37 55.9 +1.0
CHMT *e*PP PP 22 40 33.6 +1.7
E13A Victor 66.33 329 ⇓P P 22 37 56.6 +1.0
baz=66
E13A ⇓P P 22 37 56.6 +1.0
baz=66
A17A Triple J Farms 66.42 333 ⇓P P 22 37 56.7 +0.5
baz=67
A17A ⇓P P 22 37 56.7 +0.5
baz=67
D14A Greenough 66.42 330 ⇓P P 22 37 57.2 +0.9
baz=67
D14A ⇓P P 22 37 57.2 +0.9
baz=67
MSO Missoula 66.47 330 *e*P P 22 37 57.3 +0.8
comp=Z,106nm,1.3s
MSO Missoula 66.47 330 ⇑P P 22 37 57.5 +1.0
baz=67
MSO ⇑P P 22 37 57.5 +1.0

	baz=67									
C15A	**Salmond Ranch,**	**66.47**	**331**	⇓	*e*P		**P**	**22 37 57.7**	**+1.2**
	baz=67									
C15A				⇓	P		**P**	**22 37 57.7**	**+1.2**
	baz=67									
B16A	**M & M Farms, S**	**66.50**	**332**	⇓	P		**P**	**22 37 57.1**	**+0.5**
	baz=67									
B16A				⇓	P		**P**	**22 37 57.1**	**+0.5**
	baz=67									
SLMT	**Seeley Lake**	**66.53**	**330**		*e*P		**P**	**22 37 58.2**	**+1.2**
B15A	**Bradely Ranch,**	**66.83**	**332**	⇑	P		**P**	**22 37 58.9**	**+0.3**
	baz=67									
B15A				⇑	P		**P**	**22 37 58.9**	**+0.3**
	baz=67									
MOD	**Modoc**	**66.85**	**322**		*e*P		**P**	**22 37 59.9**	**+0.9**
MOD					*e*PcP		**PcP**	**22 38 22.1**	**0.0**
MOD					*e*PP		**PP**	**22 40 35.4**	**-2.2**
LBCM	**Butte Creek Ri**	**66.88**	**321**		P		**P**	**22 38 00.7**	**+1.5**
D13A	**Huson**	**66.91**	**330**	⇓	P		**P**	**22 37 60.0**	**+0.8**
	baz=67									
D13A				⇓	P		**P**	**22 37 60.0**	**+0.8**
	baz=67									
BMO	**Blue Mountains**	**66.92**	**326**		*e*P		**P**	**22 37 59.9**	**+0.6**
	comp=Z,50nm,1.5s									
BMO					*e*PP		**PP**	**22 40 36.2**	**-1.9**
SWMT	**Swartz Lake**	**66.96**	**330**		*e*P		**P**	**22 38 00.9**	**+1.4**
SWMT					*e*PcP		**PcP**	**22 38 19.1**	**-3.3**
E12A	**Beaver Dam Sad**	**67.02**	**328**	⇓	P		**P**	**22 38 00.4**	**+0.5**
	baz=67									
E12A				⇓	P		**P**	**22 38 00.4**	**+0.5**
	baz=67									
LKVW	**Lakeview**	**67.08**	**323**		P		**P**	**22 38 02.3**	**+1.9**
B14A	**Marquette Ranc**	**67.20**	**331**	⇑	P		**P**	**22 38 01.2**	**+0.2**
	baz=67									
B14A				⇑	P		**P**	**22 38 01.2**	**+0.2**
	baz=67									
YBMT	**Yellow Bay**	**67.21**	**330**		*e*P		**P**	**22 38 01.8**	**+0.8**
	comp=Z,49nm,1.0s									
JTMT	**Jette**	**67.26**	**330**		*e*P		**P**	**22 38 02.7**	**+1.3**
JTMT					*e*PcP		**PcP**	**22 38 24.1**	**+0.5**
JTMT					*e*PP		**pP**	**22 40 03.5**	**+0.7**
C13A	**Hot Springs**	**67.36**	**330**	⇑	P		**P**	**22 38 03.0**	**+1.1**
	baz=68									
C13A				⇑	P		**P**	**22 38 03.0**	**+1.1**
	baz=68									
A15A	**Johnson Ranch,**	**67.38**	**332**	⇓	P		**P**	**22 38 01.9**	**-0.2**
	baz=68									
A15A				⇓	P		**P**	**22 38 01.9**	**-0.2**
	baz=68									
LASM	**Arnica Sink**	**67.46**	**321**		P		**P**	**22 38 04.5**	**+1.6**
BLMT	**Blacktail Moun**	**67.48**	**330**		*e*P		**P**	**22 38 04.2**	**+1.3**
WDC	**Whiskeytown Da**	**67.49**	**320**		*e*P		**P**	**22 38 02.0**	**-0.8**
WDC					*e*			22 38 23.8	
WDC					*e*			22 40 38.0	
WDC	**Whiskeytown Da**	**67.49**	**320**		*e*P		**P**	**22 38 02.0**	**-0.8**
WDC					*e*PcP		**PcP**	**22 38 23.8**	**-0.7**
WDC					*e*PP		**PP**	**22 40 38.0**	**-4.9**
BSMT	**Bassoo Peak**	**67.58**	**330**		*e*P		**P**	**22 38 04.2**	**+0.8**
FFC	**Flin Flon**	**67.64**	**341**		*i* P		**P**	**22 38 03.3**	**-0.1**
FFC	**Flin Flon**	**67.64**	**341**		*e*P		**P**	**22 38 03.0**	**-0.4**
FFC	**Flin Flon**	**67.64**	**341**		P		**P**	**22 38 03.6**	**+0.2**
	comp=Z,498nm,1.2s,SNR=46									
KCPM	**Cahto Peak**	**67.67**	**319**		*e*P		**P**	**22 38 06.3**	**+2.2**
A14A	**Double T Ranch**	**67.70**	**332**	⇑	P		**P**	**22 38 04.5**	**+0.5**
	baz=68									
A14A				⇑	P		**P**	**22 38 04.5**	**+0.5**
	baz=68									
B13A	**Whitefish**	**67.78**	**331**	⇑	P		**P**	**22 38 05.2**	**+0.8**
	baz=68									
B13A				⇑	P		**P**	**22 38 05.2**	**+0.8**
	baz=68									
LIC	**Lamto**	**67.79**	**80**	⇓	*i*P		**P**	**22 38 05.4**	**+0.3**
	comp=Z,60nm,0.5s,baz=261									
LIC					*e*R					
	comp=Z,192nm,22.5s									
C12B	**Naegeli Ranch,**	**67.83**	**330**	⇓	P		**P**	**22 38 05.9**	**+1.1**
	baz=68									
C12B				⇓	P		**P**	**22 38 05.9**	**+1.1**
	baz=68									
LHEM	**Herd Peak**	**67.87**	**321**		P		**P**	**22 38 06.9**	**+1.5**
HOG	**Hogback Mounta**	**67.90**	**322**		P		**P**	**22 38 07.4**	**+1.9**
WALA	**Waterton Lakes**	**67.99**	**331**		*e*P		**P**	**22 38 05.8**	**0.0**
	comp=Z,2.4nm,0.9s									
DBIC	**Dimbokro**	**68.04**	**79**		P		**P**	**22 38 07.2**	**+0.6**
	comp=Z,82nm,0.5s,baz=240,slow=5.4,SNR=416									
DBIC					pP		**pP**	**22 40 09.0**	**+0.5**
	comp=Z,6.9nm,0.6s,baz=226,slow=9.4,SNR=2.8									
DBIC					S		**S**	**22 46 17.2**	**-2.4**
	comp=Z,14nm,1.0s,baz=92,slow=17,SNR=13									
DBIC	**Dimbokro**	**68.04**	**79**		*e*P		**P**	**22 38 07.2**	**+0.6**
DBIC					*e**PP		**pP**	**22 40 08.6**	**+0.1**
DBIC					*e**SP		**sP**	**22 41 10.0**	**-1.8**
DBIC					*e*S		**S**	**22 46 19.0**	**-0.6**
DBIC					pmax		pmax			
	comp=Z,163nm,0.8s									
DBIC	**Dimbokro**	**68.04**	**79**		*e*P		**P**	**22 38 07.2**	**+0.6**
	comp=Z,162nm,0.8s									
DBIC					*e*pP		**pP**	**22 40 08.6**	**+0.1**
DBIC					*e*sP		**sP**	**22 41 10.0**	**-1.8**
DBIC					*e*S		**S**	**22 46 18.9**	**-0.6**
LNOR	**Lincton Mounta**	**68.10**	**327**		*e*P		**P**	**22 38 07.5**	**+1.0**
LNOR	**Lincton Mounta**	**68.10**	**327**		*e*P		**P**	**22 38 07.5**	**+1.0**
LAMM	**Antelope Mount**	**68.11**	**321**		P		**P**	**22 38 07.3**	**+0.6**
YBH	**Yreka Blue Hor**	**68.23**	**321**		*e*P		**P**	**22 38 06.4**	**-0.9**
YBH					pmax		pmax			
	comp=Z,33nm,1.0s									
YBH	**Yreka Blue Hor**	**68.23**	**321**		*e*P		**P**	**22 38 06.4**	**-0.9**
	comp=Z,33nm,1.0s									
B12A	**Libby**	**68.40**	**330**	⇓	P		**P**	**22 38 09.3**	**+1.1**
	baz=69									
B12A				⇓	P		**P**	**22 38 09.3**	**+1.1**
	baz=69									
KHMM	**Horse Mountain**	**68.41**	**320**		*e*P		**P**	**22 38 10.1**	**+1.6**
KHMM					*e*PcP		**PcP**	**22 38 27.5**	**-1.2**
VIPM	**Ingram Point**	**68.58**	**324**		P		**P**	**22 38 11.9**	**+2.4**
VIPM	**Ingram Point**	**68.58**	**324**		P		**P**	**22 38 11.9**	**+2.4**
GMO	**Grizzlie Mount**	**68.73**	**324**		P		**P**	**22 38 12.8**	**+2.5**
A12A	**Yaak River Ran**	**68.74**	**330**	⇑	P		**P**	**22 38 11.5**	**+1.3**
	baz=69									
A12A				⇑	P		**P**	**22 38 11.5**	**+1.3**
	baz=69									
KTRM	**Thompson Ridge**	**68.75**	**321**		P		**P**	**22 38 12.3**	**+1.9**
KRMB	**Red Mountain**	**68.87**	**320**		*e*P		**P**	**22 38 13.2**	**+1.9**
HUMO	**Hull Mountain**	**68.87**	**322**		*e*P		**P**	**22 38 11.0**	**-0.1**
NEW	**Newport**	**69.03**	**329**		*e*P		**P**	**22 38 12.6**	**+0.7**
NEW					*e**PP		**pP**	**22 40 14.5**	**+0.2**
NEW	**Newport**	**69.03**	**329**		*e*P		**P**	**22 38 12.6**	**+0.7**
NEW					*e*pP		**pP**	**22 40 14.5**	**+0.2**
NEW	**Newport**	**69.03**	**329**	⇑	P		**P**	**22 38 12.3**	**+0.4**
	baz=69									
NEW				⇑	P		**P**	**22 38 12.3**	**+0.4**
	baz=69									
HAWA	**Hanford**	**69.11**	**327**		*e*P		**P**	**22 38 12.8**	**+0.4**
HAWA					*e*PcP		**PcP**	**22 38 32.0**	**+0.7**
RSW	**Rattlesnake Hi**	**69.14**	**327**		*e*P		**P**	**22 38 14.1**	**+1.4**
RSW					*e*PcP		**PcP**	**22 38 32.2**	**+0.7**
FRIS	**Frissel Point**	**69.27**	**324**		P		**P**	**22 38 15.6**	**+2.0**
OD2	**Odessa Site #2**	**69.29**	**328**		*e*P		**P**	**22 38 14.7**	**+1.2**
OD2					*e*pP		**pP**	**22 40 15.3**	**-0.7**
DPW	**Davenport**	**69.33**	**328**		P		**P**	**22 38 15.7**	**+2.0**
DPW	**Davenport**	**69.33**	**328**		P		**P**	**22 38 15.7**	**+2.0**
BROR	**Big Rock Looko**	**69.50**	**323**		P		**P**	**22 38 16.2**	**+1.5**
VFP	**Flag Point**	**69.54**	**325**		P		**P**	**22 38 17.8**	**+2.5**
HOOD	**Mount Hood Mea**	**69.65**	**325**		*e*P		**P**	**22 38 17.3**	**+1.4**
HOOD					*e*pP		**pP**	**22 40 19.2**	**+0.6**
TDH	**Tom, Dick, Har**	**69.71**	**325**		P		**P**	**22 38 18.0**	**+1.8**
KEBM	**Edson Butte**	**69.87**	**321**		*e*P		**P**	**22 38 19.2**	**+2.2**
EBG	**Ellensburg**	**69.99**	**327**		P		**P**	**22 38 20.4**	**+2.7**
NAC	**Naches**	**70.02**	**326**		P		**P**	**22 38 20.4**	**+2.5**
ASR	**Mount Adams--S**	**70.10**	**325**		P		**P**	**22 38 20.8**	**+2.4**
WTV	**Waterville**	**70.14**	**327**		P		**P**	**22 38 20.5**	**+1.9**
COR	**Corvallis**	**70.19**	**323**		*e*P		**P**	**22 38 19.5**	**+0.7**
COR					*e**PP		**pP**	**22 40 23.5**	**+1.7**
COR					pmax		pmax			
	comp=Z,101nm,1.0s									
COR	**Corvallis**	**70.19**	**323**		*e*P		**P**	**22 38 19.5**	**+0.7**
	comp=Z,101nm,1.0s									
COR					*e*pP		**pP**	**22 40 23.5**	**+1.7**
ETW	**Entiat**	**70.28**	**327**		*e*P		**P**	**22 38 20.7**	**+1.2**
ETW					*e*PcP		**PcP**	**22 38 37.2**	**+0.8**
ETW					*e*pP		**pP**	**22 40 22.9**	**+0.4**
MPOR	**Mary's Peak**	**70.29**	**323**		P		**P**	**22 38 22.1**	**+2.5**
MTMW	**Mount Mitchell**	**70.38**	**325**		P		**P**	**22 38 22.1**	**+2.1**
LVP	**Lakeview Peak**	**70.52**	**325**		P		**P**	**22 38 22.9**	**+2.0**
LON	**Longmire**	**70.58**	**326**		*e*P		**P**	**22 38 21.7**	**+0.5**
LON					*e**PP		**pP**	**22 40 23.7**	**-0.6**
LON	**Longmire**	**70.58**	**326**		*e*P		**P**	**22 38 21.7**	**+0.5**
LON					*e*pP		**pP**	**22 40 23.7**	**-0.6**
ERK	**Elk Rock**	**70.61**	**325**		P		**P**	**22 38 23.3**	**+1.9**
RVW	**Rose Valley**	**70.75**	**325**		P		**P**	**22 38 24.1**	**+1.9**
HEBO	**Mount Hebo**	**70.81**	**324**		*e*P		**P**	**22 38 24.9**	**+2.4**
KMOR	**Kings Mountain**	**70.89**	**324**		P		**P**	**22 38 25.7**	**+2.7**
BMW	**Boistfort Moun**	**71.21**	**325**		*e*P		**P**	**22 38 26.5**	**+1.6**
BMW	**Boistfort Moun**	**71.21**	**325**		*e*P		**P**	**22 38 26.5**	**+1.6**
RPW	**Rockport**	**71.43**	**327**		*e*P		**P**	**22 38 26.4**	**+0.4**
RPW					*e*pP		**pP**	**22 40 29.3**	**-0.4**
JCW	**Jim Creek**	**71.50**	**327**		*e*P		**P**	**22 38 26.7**	**+0.2**
JCW					*e*PcP		**PcP**	**22 38 41.4**	**-0.1**
JCW					*e*pP		**pP**	**22 40 29.4**	**-0.7**
GNW	**Green Mountain**	**71.62**	**326**		*e*P		**P**	**22 38 27.2**	**+0.1**
GNW					*e*PcP		**PcP**	**22 38 41.8**	**-0.1**
GNW					*e*pP		**pP**	**22 40 30.6**	**-0.2**
CMW	**Cultus Mountai**	**71.73**	**327**		P		**P**	**22 38 29.2**	**+1.2**
MBW	**Mount Baker**	**71.83**	**328**		P		**P**	**22 38 29.6**	**+1.1**
BLN	**Blyn Mountain**	**71.95**	**326**		P		**P**	**22 38 31.1**	**+1.9**
VDB	**Vedder Mountai**	**72.08**	**328**		P		**P**	**22 38 31.0**	**+1.2**
NLWA	**Neilton Lookou**	**72.10**	**326**		*e*P		**P**	**22 38 31.2**	**+1.3**
NLWA					*e*PcP		**PcP**	**22 38 43.8**	**-0.3**
NLWA					*e*pP		**pP**	**22 40 34.9**	**+1.1**
MCW	**Mount Constitu**	**72.27**	**327**		P		**P**	**22 38 33.0**	**+2.1**
MCW	**Mount Constitu**	**72.27**	**327**		P		**P**	**22 38 33.0**	**+2.1**
PGC	**Sidney**	**72.59**	**327**		*e*P		**P**	**22 38 33.5**	**+0.9**
	comp=Z,7.0nm,1.1s									
PGC					*e*PcP		**PcP**	**22 38 45.0**	**-1.0**
PGC					*e*pP		**pP**	**22 40 37.0**	**+0.2**
VNA3	**Neumayer Olymp**	**73.48**	**163**		*e*		**P**	**22 38 38.0**	**+0.6**
VNA1	**Neumayer--Stat**	**73.67**	**162**		*e*		**P**	**22 38 39.5**	**+1.1**
PFVI	**Vila Bisbo**	**73.81**	**48**		*e*P		**P**	**22 38 41.9**	**+2.0**
	comp=Z,229nm,1.5s									
MORF	**Marmelete**	**74.00**	**48**		*e*P		**P**	**22 38 43.4**	**+2.3**
	comp=Z,257nm,1.9s									
VNA2	**Neumayer--Watz**	**74.04**	**162**		*e*		**P**	**22 38 41.1**	**+0.5**
	baz=290,slow=6.7									
VNA2					*e*			22 38 49.6		
PTEO	**Sao Teotonio**	**74.05**	**47**		*e*P		**P**	**22 38 44.2**	**+3.0**
	comp=Z,272nm,1.6s									
PNCL	**Nicolau / Gran**	**74.41**	**47**		*e*P		**P**	**22 38 45.3**	**+2.0**
	comp=Z,105nm,1.4s									
PBDV	**Barranco-do-Ve**	**74.50**	**48**		*e*P		**P**	**22 38 46.1**	**+2.3**
	comp=Z,159nm,1.3s									
PCVE	**Castro Verde**	**74.58**	**47**		*e*P		**P**	**22 38 46.4**	**+2.2**
	comp=Z,152nm,1.3s									
PVAQ	**Vaqueiros**	**74.72**	**48**		*e*P		**P**	**22 38 47.0**	**+2.0**
	comp=Z,76nm,1.8s									
PBEJ	**Beja**	**74.86**	**47**		*e*P		**P**	**22 38 47.9**	**+2.1**
	comp=Z,87nm,1.7s									
EVO	**Evora**	**74.95**	**47**		*e*P		**P**	**22 38 47.8**	**+1.5**
	comp=Z,80nm,1.3s									
EVO	**Evora**	**74.95**	**47**	⇓	*i*P		**P**	**22 38 47.0**	**+0.7**
	comp=Z,146nm,0.9s									
EVO					*e*R					
	comp=Z,190nm,22.5s									
PMTG	**Montargil**	**75.02**	**46**		*e*P		**P**	**22 38 48.0**	**+1.4**
	comp=Z,150nm,1.8s									
PTOM	**Tomar**	**75.11**	**45**		*e*P		**P**	**22 38 48.6**	**+1.5**
	comp=Z,163nm,1.3s									
PESTR	**Estremoz**	**75.39**	**46**		*e*P		**P**	**22 38 50.2**	**+1.5**
	comp=Z,122nm,1.9s									
MDT	**Midelt**	**75.42**	**53**		P		**P**	**22 38 50.9**	**+1.7**
	comp=Z,35nm,0.9s,baz=262,slow=4.8,SNR=71									
MDT	**Midelt**	**75.42**	**53**		P		**P**	**22 38 50.9**	**+1.7**
PBAR	**Barrancos**	**75.52**	**47**		*e*P		**P**	**22 38 51.2**	**+1.8**
	comp=Z,67nm,1.6s									
PTO	**Porto**	**75.60**	**44**		*e*P		**P**	**22 38 50.7**	**+0.9**
	comp=Z,146nm,1.8s									
SNAA	**Sanae**	**75.67**	**162**		*e*		**P**	**22 38 46.8**	**-2.9**
SNAA	**Sanae**	**75.67**	**162**		*e*P		P	22 38 46.3	-3.4
SNAA					pmax		pmax			
	comp=Z,122nm,0.8s									
SNAA	**Sanae**	**75.67**	**162**		*e*P		P	22 38 46.3	-3.4
	comp=Z,122nm,0.8s									
TOA0	**Torodi Ar. Sit**	**75.68**	**74**		*e*P		**P**	**22 38 50.7**	**-0.1**
TOA0					*e*pP		**pP**	**22 40 55.2**	**-1.1**
TOA0					*e*S		**S**	**22 47 42.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**75.68**	**74**		P		**P**	**22 38 50.9**	**+0.1**
	comp=Z,75nm,0.8s,baz=251,slow=4.3,SNR=308									
TORD					pP		**pP**	**22 40 56.8**	**+0.4**
	comp=Z,10.0nm,0.7s,baz=260,slow=5.2,SNR=5.2									
TORD					S		**S**	**22 47 43.3**	**-1.2**
	comp=Z,9.7nm,1.3s,baz=282,slow=8.4,SNR=13									
TORD	**Torodi Ar. Bea**	**75.68**	**74**		P		**P**	**22 38 50.9**	**+0.1**
TORD					pP		**pP**	**22 40 56.8**	**+0.4**
TORD					S		**S**	**22 47 43.3**	**-1.2**
PMRV	**Marv??o**	**75.75**	**46**		*e*P		**P**	**22 38 52.0**	**+1.3**
	comp=Z,54nm,1.9s									
TBI	**Tubuai**	**75.82**	**248**		*e*S		**S**	**22 47 44.6**	**-1.1**
	comp=Z,450nm,39.5s									
TBI					*e*LR		LR	23 03 15.8		
	comp=Z,243nm,33.0s									
PCBR	**Castelo Branco**	**75.86**	**46**		*e*P		**P**	**22 38 52.8**	**+1.6**
	comp=Z,103nm,2.0s									
PVIS	**Viseu**	**75.91**	**45**		*e*P		**P**	**22 38 52.8**	**+1.2**
	comp=Z,123nm,1.3s									
MTE	**Manteigas**	**76.03**	**45**		*e*P		**P**	**22 38 53.5**	**+1.2**
	comp=Z,77nm,2.3s									
MTE	**Manteigas**	**76.03**	**45**		*e*P		**P**	**22 38 51.9**	**-0.4**
	comp=Z,55nm,0.8s									
MTE					*e*PcP		**PcP**	**22 38 60.0**	**-1.3**
MTE					*e*sP		**sP**	**22 41 59.3**	**-1.0**
PGAV	**Gavieira, Arco**	**76.17**	**43**		*e*P		**P**	**22 38 54.4**	**+1.4**
	comp=Z,214nm,1.6s									
PCAB	**Cabril**	**76.23**	**44**		*e*P		**P**	**22 38 54.8**	**+1.5**
	comp=Z,142nm,1.8s									
POLO	**Lamas de Olo**	**76.25**	**44**		*e*P		**P**	**22 38 54.8**	**+1.3**
	comp=Z,58nm,1.2s									
PVRL	**Vila Real**	**76.26**	**44**		*e*P		**P**	**22 38 54.7**	**+1.2**
	comp=Z,101nm,2.3s									
PPT2	**Papeete2**	**76.29**	**254**		*e*S		**S**	**22 47 48.6**	**-2.4**
	comp=Z,570nm,32.0s									
PPT2					*e*LR		LR	23 03 27.8		
	comp=Z,366nm,27.2s									
SFJD	**Kangerlussuaq**	**76.45**	**8**		*e*P		**P**	**22 38 52.5**	**-1.3**
SFJD					*e**PP		**pP**	**22 40 59.0**	**-0.9**
SFJD					pmax		pmax			
	comp=Z,63nm,0.9s									
SFJD	**Kangerlussuaq**	**76.45**	**8**		*e*P		**P**	**22 38 52.5**	**-1.3**
	comp=Z,63nm,0.9s									
SFJD					*e*pP		**pP**	**22 40 59.0**	**-0.9**
SFJD	**Kangerlussuaq**	**76.45**	**8**	⇓	*i*P		**P**	**22 38 52.7**	**-1.1**
	comp=Z,28nm,1.0s									
MVO	**Moncorvo**	**76.69**	**44**		*e*P		**P**	**22 38 57.1**	**+1.2**
	comp=Z,145nm,2.1s									
BBB	**Bella Bella**	**77.03**	**328**		P		**P**	**22 38 58.5**	**+1.3**
	comp=Z,40nm,0.8s,baz=167,slow=8.1,SNR=8.7									
BBB	**Bella Bella**	**77.03**	**328**		P		**P**	**22 38 58.5**	**+1.3**
PBRG	**Braganca**	**77.15**	**44**		*e*P		**P**	**22 38 59.4**	**+1.1**
	comp=Z,109nm,1.8s									
YKA	**Yellowknife Ar**	**77.82**	**341**		P		**P**	**22 39 01.2**	**-0.2**
	comp=Z,58nm,0.6s,baz=136,slow=5.9,SNR=919									
YKA					S		**S**	**22 48 03.2**	**-1.9**
	comp=Z,2.2nm,1.0s,baz=133,slow=11,SNR=8.3									
YKA	**Yellowknife Ar**	**77.82**	**341**		P		**P**	**22 39 01.2**	**-0.2**
YKA					S		**S**	**22 48 03.3**	**-1.9**
YKA	**Yellowknife Ar**	**77.82**	**341**		P		**P**	**22 39 01.2**	**-0.2**
YKA					S		**S**	**22 48 03.2**	**-1.9**
PAB	**San Pablo**	**77.98**	**47**		*e*P		**P**	**22 39 04.0**	**+1.1**
PAB					*e*			22 39 09.6		
PAB					*e**PP		**pP**	**22 41 08.3**	**-1.2**
PAB					pmax		pmax			
	comp=Z,48nm,1.0s									
PAB	**San Pablo**	**77.98**	**47**		*e*P		**P**	**22 39 04.0**	**+1.1**
	comp=Z,48nm,1.0s									
PAB					*e*PcP		**PcP**	**22 39 09.6**	**-0.3**
PAB					*e*pP		**pP**	**22 41 08.3**	**-1.2**
ESDC	**Sonseca Array**	**78.30**	**47**		P		**P**	**22 39 05.8**	**+1.3**
	comp=Z,19nm,0.8s,baz=259,slow=5.2,SNR=75									
ESDC					pP		**pP**	**22 41 13.1**	**+1.7**
	comp=Z,4.1nm,0.8s,baz=268,slow=7.3,SNR=3.5									
ESDC	**Sonseca Array**	**78.30**	**47**		P		**P**	**22 39 05.8**	**+1.3**
ESDC					pP		**pP**	**22 41 13.1**	**+1.7**
ESLA	**Sonseca Array**	**78.30**	**47**		*e*P		**P**	**22 39 05.8**	**+1.2**
	comp=Z,119nm,1.8s									
MAIT	**Maitri**	**80.13**	**160**		*e*P		**P**	**22 39 15.7**	**+2.2**
DLBC	**Dease Lake**	**81.25**	**333**		*e*P		**P**	**22 39 20.3**	**+0.8**
DLBC					*e*pP		**pP**	**22 41 26.5**	**-1.1**
TAM	**Tamanrasset**	**81.30**	**65**		*e*P		**P**	**22 39 21.9**	**+1.2**
TAM					*e**PP		**pP**	**22 41 29.1**	**+0.3**
TAM					*e**SP		**sP**	**22 42 29.4**	**-1.0**
TAM					pmax		pmax			
	comp=Z,91nm,0.8s									
TAM	**Tamanrasset**	**81.30**	**65**		*e*P		**P**	**22 39 21.9**	**+1.2**
	comp=Z,91nm,0.8s									
TAM					*e*pP		**pP**	**22 41 29.1**	**+0.3**
TAM					*e*sP		**sP**	**22 42 29.4**	**-1.0**
BST	**Brest**	**81.42**	**39**		*e*P		**P**	**22 39 21.5**	**+0.9**
BST	**Brest**	**81.42**	**39**		*e*P		**P**	**22 39 21.5**	**+0.9**
SJPF	**Ste Jean**	**81.42**	**44**		*e*P		**P**	**22 39 22.0**	**+1.3**
	comp=Z,268nm,1.1s									
OSSF	**Osses**	**81.44**	**44**		*e*P		**P**	**22 39 21.7**	**+0.9**
OSSF	**Osses**	**81.44**	**44**		*e*P		**P**	**22 39 21.7**	**+0.9**
LARF	**Larrau**	**81.56**	**44**		*e*P		**P**	**22 39 23.1**	**+1.6**
LARF	**Larrau**	**81.56**	**44**		*e*P		**P**	**22 39 23.1**	**+1.6**
ATE	**Arette**	**81.78**	**44**		*e*P		**P**	**22 39 23.5**	**+1.0**
ATE	**Arette**	**81.78**	**44**		*e*P		**P**	**22 39 23.5**	**+1.0**
ETSF	**Etsaut**	**81.81**	**45**		*e*P		**P**	**22 39 24.0**	**+1.2**
	comp=Z,30nm,0.6s									
QUIF	**Quistinic**	**81.83**	**39**		*e*P		**P**	**22 39 23.0**	**+0.4**
	comp=Z,454nm,1.4s									
ROSF	**Rostrenen**	**81.92**	**39**		*e*P		**P**	**22 39 23.5**	**+0.4**
	comp=Z,166nm,1.0s									
QSPA	**South Pole Qui**	**81.97**	**180**		*e*P		**P**	**22 39 23.9**	**+0.7**
	comp=Z,135nm,0.8s									
QSPA					*e*pP		**pP**	**22 41 30.2**	**-1.4**
REYF	**Montagne du Re**	**81.98**	**44**		*e*P		**P**	**22 39 24.9**	**+1.2**
REYF	**Montagne du Re**	**81.98**	**44**		*e*P		**P**	**22 39 24.9**	**+1.2**
LABF	**Labassere**	**82.30**	**45**		*e*P		**P**	**22 39 26.2**	**+1.0**
LABF	**Labassere**	**82.30**	**45**		*e*P		**P**	**22 39 26.2**	**+1.0**
SGMF	**Saint Gilles**	**82.34**	**39**		*e*P		**P**	**22 39 25.3**	**+0.1**
	comp=Z,330nm,1.3s									
EPF	**Esparros**	**82.48**	**45**		*e*P		**P**	**22 39 26.7**	**+0.6**
	comp=Z,33nm,0.9s									
EPF					*e*pP		**pP**	**22 41 37.5**	**+2.7**
MELF	**Melles**	**82.72**	**45**		*e*P		**P**	**22 39 28.5**	**+1.1**
MELF	**Melles**	**82.72**	**45**		*e*P		**P**	**22 39 28.5**	**+1.1**
MLS	**Moulis**	**82.98**	**45**		*e*P		**P**	**22 39 29.1**	**+0.5**
MLS	**Moulis**	**82.98**	**45**		*e*P		**P**	**22 39 29.1**	**+0.5**
SALF	**Salau**	**82.99**	**45**		*e*P		**P**	**22 39 29.6**	**+0.9**
SALF	**Salau**	**82.99**	**45**		*e*P		**P**	**22 39 29.6**	**+0.9**
MFF	**Saint Martin d**	**83.30**	**41**		*e*P		**P**	**22 39 30.1**	**+0.1**
	comp=Z,68nm,0.8s									
SUMG	**Summit**	**83.34**	**10**		*e*P		**P**	**22 39 30.1**	**-0.1**
SUMG					*e**PP		**pP**	**22 41 39.1**	**-0.1**
SUMG					pmax		pmax			
	comp=Z,262nm,1.0s									
SUMG	**Summit

LPL *ep*P **pP** **22 42 01.8 +0.1**
LPG La Plagne 87.59 44 *e*P **P** **22 39 51.5 +0.5**
comp=Z,53nm,0.6s
REVF Revere 87.60 45 *e*P **P** **22 39 51.4 +0.6**
REVF Revere 87.60 45 *e*P **P** **22 39 51.4 +0.6**
REVF Revere 87.60 45 *e*P **P** **22 39 51.4 +0.6**
SUR Sutherland 87.63 122 P **P** **22 39 51.2 -0.2**
comp=Z,356nm,0.8s,SNR=9.0
PAGF Fort de Pagny 87.68 40 *e*P **P** **22 39 50.9 -0.1**
comp=Z,36nm,0.9s
SBF Sospel 87.68 45 *e*P **P** **22 39 51.0 -0.2**
comp=Z,119nm,1.0s
AUTN L'Aution 87.70 45 *e*P **P** **22 39 52.2 +0.7**
AUTN L'Aution 87.70 45 *e*P **P** **22 39 52.2 +0.7**
AUTN L'Aution 87.70 45 *e*P **P** **22 39 52.2 +0.7**
THEF They Montfort 87.76 41 *e*P **P** **22 39 51.6 +0.2**
THEF They Montfort 87.76 41 *e*P **P** **22 39 51.6 +0.2**
THEF They Montfort 87.76 41 *e*P **P** **22 39 51.6 +0.2**
SAOF Saorge 87.79 45 *e*P **P** **22 39 52.1 +0.5**
SAOF Saorge 87.79 45 *e*P **P** **22 39 52.1 +0.5**
SAOF Saorge 87.79 45 *e*P **P** **22 39 52.1 +0.5**
DAWY Dawson 87.85 336 *e*P **P** **22 39 51.6 +0.2**
DAWY *ep*P **pP** **22 42 01.1 -1.2**
BCLA Clavier 87.90 39 P **P** **22 39 52.5 +0.6**
HAU Haudompre 87.94 41 *e*P **P** **22 39 51.7 -0.5**
comp=Z,36nm,0.8s
HAU *e*R
comp=Z,165nm,22.8s
LOMF Lomont 88.09 42 *e*P **P** **22 39 53.4 +0.4**
LOMF Lomont 88.09 42 *e*P **P** **22 39 53.4 +0.4**
LOMF Lomont 88.09 42 *e*P **P** **22 39 53.4 +0.4**
HINF Hinteralfeld 88.22 41 *e*P **P** **22 39 53.0 -0.6**
comp=Z,53nm,0.9s
BEBN Eben Emael 88.23 38 P **P** **22 39 53.7 +0.3**
comp=Z,16nm,1.6s
WLF Walferdange 88.23 39 P **P** **22 39 54.3 +0.8**
comp=Z,48nm,1.0s
WLF Walferdange 88.23 39 *e*P **P** **22 39 54.3 +0.8**
comp=Z,114nm,1.0s
WLF Walferdange 88.23 39 *e*P **P** **22 39 53.1 -0.4**
WLF *e**PP **pP** **22 42 05.3 +0.8**
WLF pmax pmax
comp=Z,101nm,1.0s
WLF Walferdange 88.23 39 *e*P **P** **22 39 53.1 -0.4**
comp=Z,101nm,1.0s
WLF *ep*P **pP** **22 42 05.3 +0.8**
HGN Heimansgroeve 88.37 38 *e*P **P** **22 39 54.0 -0.1**
comp=Z,128nm,1.5s
MEM Membach 88.38 38 P **P** **22 39 54.8 +0.6**
MOF Molkenrain 88.41 41 *e*P **P** **22 39 54.5 0.0**
MOF Molkenrain 88.41 41 *e*P **P** **22 39 54.5 0.0**
MOF Molkenrain 88.41 41 *e*P **P** **22 39 54.5 0.0**
SBA Scott Base 88.45 190 *e*P **P** **22 39 54.8 +0.8**
SBA *e**PP **pP** **22 42 05.3 +0.2**
SBA pmax pmax
comp=Z,48nm,1.4s
SBA Scott Base 88.45 190 *e*P **P** **22 39 54.8 +0.8**
comp=Z,48nm,1.4s
SBA *ep*P **pP** **22 42 05.2 +0.2**
PGF Pioggiola 88.50 47 *e*P **P** **22 39 54.7 -0.4**
ECH Echery 88.52 41 *e*P **P** **22 39 54.6 -0.3**
ECH *e**PP **pP** **22 42 05.0 -1.0**
ECH pmax pmax
comp=Z,90nm,1.1s
ECH Echery 88.52 41 *e*P **P** **22 39 54.6 -0.3**
comp=Z,90nm,1.1s
ECH *ep*P **pP** **22 42 05.0 -1.0**
ECH Echery 88.52 41 *e*P **P** **22 39 55.1 +0.2**
BBS Basel-Blauen 88.57 42 *e*P **P** **22 39 55.1 -0.1**
BBS Basel-Blauen 88.57 42 *e*P **P** **22 39 55.1 -0.1**
CDF Champ du Feu 88.64 41 *e*P **P** **22 39 55.1 -0.5**
comp=Z,134nm,0.9s
CDF *ep*P **pP** **22 42 05.5 -1.2**
LIBD Limburg 88.79 41 *e*P **P** **22 39 56.6 +0.5**
LIBD Limburg 88.79 41 *e*P **P** **22 39 56.6 +0.5**
RUP Ruppelstein 88.81 40 *e*P **P** **22 39 56.6 +0.3**
RUP Ruppelstein 88.81 40 *e*P **P** **22 39 56.6 +0.3**
EGAK Eagle 88.84 336 *e*P **P** **22 39 56.5 +0.5**
comp=Z,125nm,1.2s
EGAK *ep*P **pP** **22 42 06.2 -1.0**
FELD Feldberg im Sc 88.99 41 *e*P **P** **22 39 57.5 +0.2**
BMRM Bremner River 89.00 332 *e*P **P** **22 39 57.4 +0.5**
comp=Z,54nm,1.3s
BMRM *ep*P **pP** **22 42 07.6 -0.6**
LANF Langenberg 89.11 40 *e*P **P** **22 39 57.9 +0.2**
LANF Langenberg 89.11 40 *e*P **P** **22 39 57.9 +0.2**
LANF Langenberg 89.11 40 *e*P **P** **22 39 57.9 +0.2**
ABH Alteburg 89.16 39 *e*P **P** **22 39 58.1 +0.2**
WTSB Winterswijk 89.20 37 *e*P **P** **22 39 57.8 -0.1**
comp=Z,119nm,1.4s
MENT Mentasta 89.25 334 *e*P **P** **22 39 58.5 +0.5**
BFO Black Forest 89.31 41 *e*P **P** **22 39 58.8 +0.2**
comp=Z,23nm,1.1s
BFO Black Forest 89.31 41 *e*P **P** **22 39 58.8 +0.2**
BFO pmax pmax
comp=Z,23nm,1.1s
BFO Black Forest 89.31 41 *e*P **P** **22 39 58.4 -0.2**
comp=Z,9.0nm,1.0s
BUG Bochum--Univer 89.36 38 *e*P **P** **22 39 59.1 +0.4**
comp=Z,87nm,1.4s
KTD Kalmit 89.37 40 *e*P **P** **22 39 59.2 +0.3**
KTD Kalmit 89.37 40 *e*P **P** **22 39 59.2 +0.3**
VNDA Vanda 89.50 190 *e*P **P** **22 40 00.3 +1.3**
VNDA *e**PP **pP** **22 42 09.6 -0.7**
VNDA pmax pmax
comp=Z,27nm,2.4s
VNDA Vanda 89.50 190 *e*P **P** **22 40 00.3 +1.3**
comp=Z,27nm,2.4s
VNDA *ep*P **pP** **22 42 09.6 -0.7**
SPAK Spaichingen-Ko 89.55 41 *e*P **P** **22 39 59.9 +0.1**
TUE Stuetta 89.58 43 *e*P **P** **22 40 00.1 0.0**
comp=Z,122nm,1.8s
TUE *ep*P **pP** **22 42 11.4 -0.1**
DIV Divide 89.59 332 *e*P **P** **22 39 59.6 0.0**
comp=Z,39nm,0.9s
DIV *ep*P **pP** **22 42 10.6 -0.4**
DOT Dot Lake 89.63 335 *e*P **P** **22 40 00.2 +0.4**
comp=Z,37nm,1.1s
DOT *ep*P **pP** **22 42 10.8 -0.4**
TNS Taunus Mts 89.80 39 *e*P **P** **22 40 01.3 +0.4**
comp=Z,30nm,1.1s
TNS Taunus Mts 89.80 39 *e*P **P** **22 40 01.3 +0.4**
TNS pmax pmax
comp=Z,30nm,1.1s
SYO Syowa Base 89.83 160⇑*i*P **P** **22 39 59.2 -1.4**
IBBN Ibbenburen 89.86 37 *e*P **P** **22 40 01.5 +0.6**
comp=Z,81nm,1.5s
TOD Tromm 89.89 40 *e*P **P** **22 40 00.9 -0.4**
TOD Tromm 89.89 40 *e*P **P** **22 40 00.9 -0.4**
DAG Danmarks Havn 89.95 11⇓*i*P **P** **22 40 00.5 -0.4**
comp=Z,449nm,0.9s
STU Stuttgart 89.96 41 *e*P **P** **22 40 01.8 +0.2**
STU pmax pmax
comp=Z,33nm,0.9s
STU Stuttgart 89.96 41 *e*P **P** **22 40 01.8 +0.2**
comp=Z,33nm,0.9s
PAX Paxson 90.02 334 *e*P **P** **22 40 01.5 -0.1**
PAX *e**PP **pP** **22 42 11.9 -1.2**
PAX pmax pmax
comp=Z,44nm,1.0s
PAX Paxson 90.02 334 *e*P **P** **22 40 01.5 -0.1**
comp=Z,44nm,1.0s
PAX *ep*P **pP** **22 42 11.9 -1.2**
DAVA Damuels 90.10 42⇑*i*P **P** **22 40 02.4 0.0**
comp=Z,45nm,1.1s
DAVA Damuels 90.10 42⇑*i*P **P** **22 40 02.4 0.0**
comp=Z,45nm,1.1s
FETA Feichten 90.62 43⇓*i*P **P** **22 40 04.6 -0.2**
comp=Z,39nm,1.4s
FETA Feichten 90.62 43⇓*i*P **P** **22 40 04.6 -0.2**
comp=Z,39nm,1.4s,SNR=9.7
FETA ⇑*i*p**P** **pP** **22 42 18.5 +2.0**
comp=Z,11nm,1.6s
ALE Alert 90.63 1 P **P** **22 40 03.0 -1.0**
comp=Z,253nm,1.2s,SNR=26
RETA Reutte 90.73 42⇓*i*P **P** **22 40 05.2 0.0**
comp=Z,41nm,1.4s
RETA Reutte 90.73 42⇓*i*P **P** **22 40 05.2 0.0**
comp=Z,41nm,1.4s,SNR=12
RETA ⇑*i*p**P** **pP** **22 42 17.3 +0.4**
comp=Z,18nm,1.5s
UBBA Unterbreizbach 90.90 39 *e*P **P** **22 40 06.9 +1.2**
comp=Z,47nm,1.7s
MOTA Moosalm 90.93 42⇓*i*P **P** **22 40 06.1 -0.2**
MOTA pmax pmax
comp=Z,57nm,1.3s
MOTA Moosalm 90.93 42⇓*i*P **P** **22 40 06.1 -0.2**
comp=Z,57nm,1.3s
MOTA Moosalm 90.93 42⇓*i*P **P** **22 40 06.1 -0.2**
comp=Z,57nm,1.3s,SNR=20
MOTA ⇑*i*p**P** **pP** **22 42 19.5 +1.6**
comp=Z,7.2nm,0.8s
SML Sawmill 90.96 332 *e*P **P** **22 40 05.9 0.0**
SML *e**PP **pP** **22 42 17.3 -0.3**
SML pmax pmax
comp=Z,18nm,1.0s
SML Sawmill 90.96 332 *e*P **P** **22 40 05.9 0.0**
comp=Z,18nm,1.0s
SML *ep*P **pP** **22 42 17.3 -0.3**
ILAR Eielson Array 91.15 335 P **P** **22 40 07.0 +0.3**
comp=Z,17nm,0.8s,baz=128,slow=3.7,SNR=99
ILAR pP **pP** **22 42 18.6 +0.2**
comp=Z,8.1nm,0.9s,baz=118,slow=3.9,SNR=19
ILAR PP PP 22 43 49.0 -6.0
comp=Z,3.0nm,0.9s,baz=100,slow=7.2,SNR=7.7
ILAR Eielson Array 91.15 335 P **P** **22 40 07.0 +0.3**
ILAR *e**PP **pP** **22 42 18.6 +0.2**
ILAR Eielson Array 91.15 335 P **P** **22 40 07.0 +0.3**
ILAR pP **pP** **22 42 18.6 +0.2**
ILAR PP PP 22 43 49.0 -6.0
FUR Furstenfeldbru 91.20 42 *e*P **P** **22 40 07.8 +0.5**
comp=Z,67nm,1.2s
FUR Furstenfeldbru 91.20 42 *e*P **P** **22 40 07.8 +0.5**
FUR pmax pmax
comp=Z,67nm,1.2s
WATA Walderalm 91.24 42⇓*i*P **P** **22 40 07.9 +0.2**
WATA pmax pmax
comp=Z,28nm,1.1s
WATA Walderalm 91.24 42⇓*i*P **P** **22 40 07.9 +0.2**
comp=Z,28nm,1.1s
WATA Walderalm 91.24 42⇓*i*P **P** **22 40 07.9 +0.2**
comp=Z,28nm,1.1s,SNR=5.5
WATA ⇑*i*p**P** **pP** **22 42 21.3 +1.9**
comp=Z,9.1nm,1.1s
NRDL Niedersach Rie 91.30 37 *e*P **P** **22 40 08.5 +1.0**
comp=Z,28nm,1.2s
CLZ Clausthal 91.33 38 *e*P **P** **22 40 08.7 +0.8**
comp=Z,52nm,1.5s
CLZ Clausthal 91.33 38 *e*P **P** **22 40 08.7 +0.8**
CLZ pmax pmax
comp=Z,52nm,1.5s
GRF Grafenberg Arr 91.45 40 *e*P **P** **22 40 09.3 +0.9**
comp=Z,43nm,1.4s
GRF *ep*P **pP** **22 42 18.9 -1.2**
GRF Grafenberg Arr 91.45 40 *e*P **P** **22 40 09.3 +0.9**
GRF *e**PP **pP** **22 42 18.9 -1.2**
GRF pmax pmax
comp=Z,43nm,1.4s
SLKM Skilak Lake 91.52 331 *e*P **P** **22 40 08.6 +0.1**
SLKM *e**PP **pP** **22 42 19.7 -0.5**
SLKM Skilak Lake 91.52 331 *e*P **P** **22 40 08.6 +0.1**
SLKM *ep*P **pP** **22 42 19.7 -0.5**
COLA College 91.58 335 *e*P **P** **22 40 08.3 -0.3**
COLA *e**PP **pP** **22 42 19.3 -1.0**
COLA pmax pmax
comp=Z,114nm,1.0s
COLA College 91.58 335 *e*P **P** **22 40 08.3 -0.3**
comp=Z,114nm,1.0s
COLA *ep*P **pP** **22 42 19.3 -1.0**
MUD Monsted U'grnd 91.59 33 *i*P **P** **22 40 09.6 +0.8**
comp=Z,23nm,0.9s
MCK McKinley 91.73 334 *e*P **P** **22 40 09.1 -0.3**
MCK *e**PP **pP** **22 42 20.4 -0.7**
MCK pmax pmax
comp=Z,27nm,0.9s
MCK McKinley 91.73 334 *e*P **P** **22 40 09.1 -0.3**
comp=Z,27nm,0.9s
MCK *ep*P **pP** **22 42 20.4 -0.7**
ABTA Abfaltersbach 91.77 43⇓*i*P **P** **22 40 10.0 0.0**
comp=Z,64nm,1.2s
ABTA Abfaltersbach 91.77 43⇓*i*P **P** **22 40 10.0 0.0**
comp=Z,64nm,1.2s,SNR=20
ABTA ⇑*i*p**P** **pP** **22 42 24.1 +2.3**
comp=Z,19nm,1.2s
MOX Moxa 91.87 39 *e*P **P** **22 40 11.3 +1.0**
comp=Z,20nm,1.5s
MOX Moxa 91.87 39 *e*P **P** **22 40 11.3 +1.0**
MOX pmax pmax
comp=Z,20nm,1.5s
BOSA Boshof 92.02 119 P **P** **22 40 11.8 0.0**
comp=Z,20nm,0.9s,baz=236,slow=3.4,SNR=22
BOSA Boshof 92.02 119 *e*P **P** **22 40 11.5 -0.2**
BOSA *e**PP **pP** **22 42 22.1 -1.3**
BOSA pmax pmax
comp=Z,21nm,0.9s
BOSA Boshof 92.02 119 *e*P **P** **22 40 11.4 -0.2**
comp=Z,21nm,0.9s
BOSA *ep*P **pP** **22 42 22.1 -1.3**
ROTZ Rotzenmuhle 92.09 40 *e*P **P** **22 40 12.3 +0.9**
comp=Z,33nm,1.3s
TRF Thorofare Moun 92.25 334 *e*P **P** **22 40 11.0 -1.0**
comp=Z,23nm,0.5s
TRF *ep*P **pP** **22 42 21.8 -2.0**
NKC Novy Kostel 92.33 40 *i*P **P** **22 40 13.6 +1.2**
NKC MLR MLR
comp=Z,800nm,14.1s
NKC Novy Kostel 92.33 40 *e*P **P** **22 40 13.6 +1.2**
NKC *ep*P pP 22 42 29.6 +5.4
NKC AMS AMS 23 45 10.0
comp=Z,800nm,14.1s
TANN Tannenbergstha 92.36 40 *e*P **P** **22 40 13.4 +0.7**
comp=Z,31nm,1.4s
KBA Koelnbreinsper 92.39 43⇓*i*P **P** **22 40 13.0 0.0**
KBA pmax pmax
comp=Z,43nm,1.1s
KBA Koelnbreinsper 92.39 43⇓*i*P **P** **22 40 13.0 0.0**
comp=Z,43nm,1.1s
KBA Koelnbreinsper 92.39 43⇓*i*P **P** **22 40 13.0 0.0**
comp=Z,43nm,1.1s,SNR=11
KBA ⇓*i*p**P** **pP** **22 42 26.3 +1.6**
comp=Z,18nm,1.5s
WET Wettzell 92.42 41 *e*P **P** **22 40 13.5 +0.6**
comp=Z,53nm,1.5s
WET Wettzell 92.42 41 *e*P **P** **22 40 13.5 +0.6**
WET pmax pmax
comp=Z,53nm,1.5s
MYKA Terra Mystica 92.52 43⇓*i*P **P** **22 40 13.6 +0.1**
comp=Z,35nm,1.2s
MYKA Terra Mystica 92.52 43⇓*i*P **P** **22 40 13.6 +0.1**
comp=Z,35nm,1.2s
MYKA ⇑*i*p**P** **pP** **22 42 27.6 +2.4**
comp=Z,14nm,1.1s
SKDS Skadanscina 92.60 45 *i*P **P** **22 40 14.0 +0.2**
JAVS Javornik 92.69 44 *i*P **P** **22 40 15.0 +0.7**
RSO Redoubt South 92.73 331 *e*P **P** **22 40 14.4 +0.1**
comp=Z,41nm,0.6s
CLL Collm 92.85 39 *e*P **P** **22 40 15.4 +0.6**
comp=Z,58nm,1.9s
CLL Collm 92.85 39 *i*P **P** **22 40 15.3 +0.5**
CLL *e**PP **pP** **22 42 27.0 +0.4**
CLL pmax pmax
comp=Z,56nm,1.9s
CLL MLR MLR
comp=Z,1μm,21.1s
CLL Collm 92.85 39 *i*P **P** **22 40 15.3 +0.5**
comp=Z,56nm,1.9s
CLL *ep*P **pP** **22 42 27.0 +0.4**
CLL *e*SP SP 22 51 45.0 -1.6
CLL *e*sS sS 22 54 17.0 -8.5
CLL *e*SS SS 22 56 42.0 -20
CLL *e*SSS SKKPdf 23 00 36.0 +37
CLL *e* 23 07 06.0
CLL *e* 23 08 30.0
KHC Kasperske Hory 92.87 41 *i*P **P** **22 40 15.6 +0.6**
KHC *e**PP **pP** **22 42 26.6 -0.2**
KHC MLR MLR
comp=Z,1μm,20.6s
KHC Kasperske Hory 92.87 41 *e*P **P** **22 40 14.7 -0.3**
comp=Z,22nm,1.3s
KHC *ep*P **pP** **22 42 27.0 +0.2**
KHC Kasperske Hory 92.87 41 *e*P **P** **22 40 15.6 +0.6**
KHC *ex* x 22 40 57.5
KHC *ep*P **pP** **22 42 26.6 -0.2**
KHC AMS AMS 23 41 10.0
comp=Z,1μm,20.6s
GEC2 GERESS Array S 92.90 41 *e*P **P** **22 40 15.5 +0.3**
comp=Z,19nm,1.0s
GEC2 GERESS Array S 92.90 41 *e*P **P** **22 40 15.5 +0.3**
GEC2 pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 92.90 41 P **P** **22 40 15.2 0.0**
comp=Z,10.0nm,0.8s,baz=245,slow=2.8,SNR=43
GERES pP **pP** **22 42 26.2 -0.9**
comp=Z,1.0nm,0.7s,baz=255,slow=2.6,SNR=3.8
GERES GERESS Array B 92.90 41 P **P** **22 40 15.2 0.0**
GERES *e**PP **pP** **22 42 26.2 -0.9**
GERES GERESS Array B 92.90 41 P **P** **22 40 15.2 0.0**
GERES pP **pP** **22 42 26.2 -0.9**
CEY Cerknica 92.92 44 *i*P **P** **22 40 16.0 +0.7**
LBTB Lobatse 92.96 116 *e*P **P** **22 40 15.3 -0.8**
LBTB pmax pmax
comp=Z,18nm,0.8s
LBTB Lobatse 92.96 116 *e*P **P** **22 40 15.2 -0.8**
comp=Z,18nm,0.8s
LLD Lille Linde 93.06 35 *i*P **P** **22 40 16.8 +1.2**
comp=Z,17nm,0.8s
COLD Coldfoot 93.10 338 *e*P **P** **22 40 16.9 +1.3**
comp=Z,54nm,1.0s
COLD *ep*P **pP** **22 42 26.1 -1.3**
MOA Molln 93.12 42 *i*P **P** **22 40 16.5 +0.3**
comp=Z,59nm,1.1s
MOA Molln 93.12 42 *i*P **P** **22 40 16.5 +0.3**
comp=Z,59nm,1.1s,SNR=35
MOA ⇑*i*p**P** **pP** **22 42 29.9 +1.9**
comp=Z,26nm,1.4s
BRG Berggiesshubel 93.37 39 *e*P **P** **22 40 18.3 +1.1**
comp=Z,28nm,1.3s
BRG *e* 22 42 30.0
comp=Z,2.2nm,0.8s
BRG
comp=N,896nm,18.9s
BRG
comp=E,935nm,23.1s
BRG
comp=Z,1μm,18.6s
BRG Berggiesshubel 93.37 39 *e*P **P** **22 40 18.0 +0.8**
comp=Z,28nm,1.3s
BRG Berggiesshubel 93.37 39 *e*P **P** **22 40 18.3 +1.1**
BRG *e* 22 42 30.0
BRG pmax pmax
comp=Z,28nm,1.2s
BRG MLR MLR
comp=N,896nm,18.9s
BRG MLR MLR
comp=E,935nm,23.1s
BRG MLR MLR
comp=Z,1μm,18.6s
BOJS Bojanci 93.46 45 *i*P **P** **22 40 18.4 +0.7**
SOKA Soboth 93.47 44⇑*i*P **P** **22 40 17.1 -0.8**
comp=Z,11nm,1.2s
SOKA Soboth 93.47 44⇑*i*P **P** **22 40 17.1 -0.8**
comp=Z,11nm,1.2s
NB2 NORSAR Subarra 93.53 29 P **P** **22 40 17.8 +0.1**
comp=Z,38nm,1.2s,baz=260,slow=4.4
NOA NORSAR Array B 93.53 29 P **P** **22 40 18.8 +1.1**
comp=Z,9.9nm,0.9s,baz=256,slow=4.3,SNR=19
NOA NORSAR Array B 93.53 29 P **P** **22 40 18.8 +1.1**
NOA NORSAR Array B 93.53 29 P **P** **22 40 18.8 +1.1**
PRA Prague 93.56 40 P **P** **22 40 19.0 +1.0**
PRU Pruhonice 93.62 40 *i*P **P** **22 40 19.3 +1.0**
PRU MLR MLR
comp=Z,700nm,17.0s
PRU Pruhonice 93.62 40 *e*P **P** **22 40 19.3 +1.0**
PRU AMS AMS 23 43 50.0
comp=Z,700nm,17.0s
PVCC Panska Ves 93.71 40 *i*P **P** **22 40 19.9 +1.2**
PVCC MLR MLR
comp=Z,1μm,22.1s
PVCC Panska Ves 93.71 40 *e*P **P** **22 40 19.9 +1.2**
PVCC AMS AMS 23 38 00.0
comp=Z,1μm,22.1s
ARSA Arzberg 93.88 43⇓*i*P **P** **22 40 19.6 0.0**
comp=Z,32nm,1.4s
ARSA Arzberg 93.88 43⇓*i*P **P** **22 40 19.6 0.0**
comp=Z,32nm,1.4s,SNR=8.2
TREC Trest 94.13 41 *i*P **P** **22 40 21.1 +0.4**
TREC *e**PP **pP** **22 42 33.5 +0.9**
TREC MLR MLR
comp=Z,1μm,21.1s
TREC Trest 94.13 41 *e*P **P** **22 40 21.1 +0.4**
TREC *ep*P **pP** **22 42 33.5 +0.9**
TREC AMS AMS 23 40 20.0
comp=Z,1μm,21.1s
CONA Conrad Observa 94.20 42⇓*i*P **P** **22 40 21.3 +0.1**
comp=Z,54nm,1.4s
CONA Conrad Observa 94.20 42⇓*i*P **P** **22 40 21.3 +0.1**
comp=Z,54nm,1.4s
CONA ⇑*i*p**P** **pP** **22 42 30.8 -2.3**
comp=Z,22nm,1.5s
BSD Bornholm Skovb 94.55 35 *i*P **P** **22 40 23.4 +1.0**
comp=Z,12nm,0.9s
BSD
comp=Z,1μm,16.0s
UPC Upice 94.62 40 *i*P **P** **22 40 24.2 +1.3**
UPC *e**PP **pP** **22 42 38.2 +3.3**
UPC Upice 94.62 40 *e*P **P** **22 40 24.2 +1.3**
UPC *ep*P **pP** **22 42 38.2 +3.3**
SOP Sopron 94.63 43⇑*e* **P** **22 40 23.8 +0.8**
DPC Dobruska-Polom 94.80 40 *i*P **P** **22 40 25.2 +1.5**
DPC *e**PP **pP** **22 42 38.8 +3.1**
DPC MLR MLR
comp=Z,700nm,16.8s
DPC Dobruska-Polom 94.80 40 *e*P **P** **22 40 25.2 +1.5**
DPC *ep*P **pP** **22 42 38.8 +3.1**
DPC AMS AMS 23 43 10.0
comp=Z,700nm,16.8s
KSP Ksiaz 94.84 39 *e*P **P** **22 40 25.5 +1.6**
KSP Ksiaz 94.84 39⇑*e*P **P** **22 40 25.4 +1.6**
VRAC Vranov 94.85 41⇓P **P** **22 40 25.0 +1.0**
VRAC Vranov 94.85 41⇓*i*P **P** **22 40 25.0 +1.0**
ZST Bratislava 95.06 42 *e*P **P** **22 40 25.4 +0.5**
ZST pmax pmax
comp=Z,41nm,1.1s
ZST Bratislava 95.06 42 *e*P **P** **22 40 25.4 +0.5**
ZST *ep*P **pP** **22 42 37.1 +0.2**
KRLC Kraliky 95.06 40 *e*P **P** **22 40 26.6 +1.7**
KRLC *ep*P **pP** **22 42 38.4 +1.4**
SMOL Smolenice 95.31 42 *e*P **P** **22 40 27.5 +1.5**
SMOL Smolenice 95.31 42 *e*P **P** **22 40 27.5 +1.5**
MORC Moravsky Berou 95.52 41 *e*P **P** **22 40 27.8 +0.8**
MORC *e**PP **pP** **22 42 40.3 +1.2**
MORC pmax pmax
comp=Z,40nm,1.1s
MORC Moravsky Berou 95.52 41 *e*P **P** **22 40 27.8 +0.8**
comp=Z,40nm,1.1s
MORC *ep*P **pP** **22 42 40.3 +1.2**
MORC Moravsky Berou 95.52 41⇑*i*P **P** **22 40 28.2 +1.2**
PKST T``s 95.58 43⇓*e* **P** **22 40 28.6 +1.3**
RHK3 Tenkes 95.59 45 *i*P **P** **22 40 27.9 +0.5**
PKS9 Tamasi 95.68 44⇓*e*P **P** **22 40 29.4 +1.7**
GKP Gorka Klasztor 95.69 37 *e*P **P** **22 40 28.6 +1.0**
GKP Gorka Klasztor 95.69 37 *e*P **P** **22 40 28.6 +1.0**
PKSG 95.84 43⇓*e* **P** **22 40 28.8 +0.4**
PKSM Moragy 95.89 44⇑P **P** **22 40 30.0 +1.3**
PKSM Moragy 95.89 44⇑*i*P **P** **22 40 30.0 +1.3**
PKSM Moragy 95.89 44⇑*e* **P** **22 40 29.8 +1.1**
OKC Ostrava-Krasne 95.91 41 *i*P **P** **22 40 30.1 +1.4**
OKC *e**PP **pP** **22 42 44.6 +3.8**
OKC MLR MLR
comp=Z,800nm,20.0s
OKC Ostrava-Krasne 95.91 41 *e*P **P** **22 40 30.1 +1.4**
OKC *ep*P **pP** **22 42 44.6 +3.8**
OKC AMS AMS 23 39 30.0
comp=Z,800nm,20.0s
VYHS Vyhne 96.24 42 *e*P **P** **22 40 30.8 +0.6**
VYHS pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 96.24 42 PDIF **P** **22 40 30.8 +0.6**
VYHS *ep*P **pP** **22 42 40.9 -1.5**
PSZ Piszkesteto 96.90 43⇓*e* **P** **22 40 34.8 +1.5**
OJC Ojcow 97.01 40 *e*P **P** **22 40 34.4 +0.8**
OJC Ojcow 97.01 40 *e*P **P** **22 40 34.4 +0.8**
NIE Niedzica 97.28 41 *e*P **P** **22 40 37.2 +2.3**
NIE Niedzica 97.28 41 *e*P **P** **22 40 37.2 +2.3**
BZS Buzias 97.92 45⇓P **P** **22 40 38.2 +0.4**
BZS Buzias 97.92 45⇓*i*P **P** **22 40 38.2 +0.4**
TRPA Tarpa 98.68 43⇑*i*P **P** **22 40 42.3 +1.2**
GZR Gura Zlata 98.72 45⇓P Pdif 22 40 40.7 -0.7
GZR Gura Zlata 98.72 45⇓*i*P Pdif 22 40 40.7 -0.7
DRGR 98.74 44⇑P **P** **22 40 42.5 +1.0**
DRGR 98.74 44⇑*i*P **P** **22 40 42.5 +1.0**
KWP Kalwaria Pacla 98.85 41 *e*P **P** **22 40 43.8 +1.9**
KWP Kalwaria Pacla 98.85 41 *e*P **P** **22 40 43.2 +1.3**

KWP pmax pmax
comp=Z,20nm,1.4s
KWP Kalwaria Pacla 98.85 41 *e*Pdif **P** **22 40 43.2 +1.3**
comp=Z,20nm,1.4s
KWP Kalwaria Pacla 98.85 41⇑ *i*P **P** **22 40 43.8 +1.9**
BMR Baia Mare 99.31 43⇑P **Pdif** **22 40 42.5 -1.4**
BMR Baia Mare 99.31 43⇑ *i*P **Pdif** **22 40 42.5 -1.4**
ARCES ARCESS Array B 100.02 21 P **Pdif** **22 40 46.4 -0.2**
comp=Z,6.8nm,0.8s,baz=260,slow=3.2,SNR=26
ARCES ARCESS Array B 100.02 21 P **Pdif** **22 40 46.4 -0.2**
ARCES ARCESS Array B 100.02 21 P **Pdif** **22 40 46.4 -0.2**
TNA Tin City 100.02 335 Pdif **Pdif** **22 40 48.8 +2.2**
TNA *e*PP **PP** **22 45 01.6 -0.5**
VOIR 100.32 45⇓P **Pdif** **22 40 50.1 +1.5**
VOIR 100.32 45⇓ *i*P **Pdif** **22 40 50.1 +1.5**
BUR08 Bucovina Ar. S 100.46 43 *e*Pdif **Pdif** **22 40 50.5 +1.4**
FINES FINESS Array B 100.71 29 P **Pdif** **22 40 51.4 +1.6**
comp=Z,1.7nm,0.8s,baz=302,slow=3.6,SNR=6.4
FINES FINESS Array B 100.71 29 P **Pdif** **22 40 51.4 +1.6**
FINES FINESS Array B 100.71 29 P **Pdif** **22 40 51.4 +1.6**
GRER 101.68 45⇓ *i*P **Pdif** **22 41 03.9 +9.4**
GAMB Gambell 101.77 333 *e*Pdif **Pdif** **22 40 55.4 +0.9**
comp=Z,4.3nm,1.0s
DRV Dumont d'Urvil 101.97 192 SP SP 22 53 15.0 -7.6
DRV L L 23 09 00.0
BRTR Keskin Array B 106.78 51 PKiKP **PKiKP** **22 45 24.0 +0.2**
comp=Z,2.0nm,0.8s,baz=189,slow=3.5,SNR=9.8
BRTR Keskin Array B 106.78 51 PKiKP **PKiKP** **22 45 24.0 +0.2**
OBN Obninsk 106.94 35 P **Pdif** **22 41 18.0 +0.4**
OBN *e* 22 45 52.0
OBN pmax pmax
comp=Z,12nm,1.1s
ZEI Tsey 114.06 47 *e*PKIKP PKPdf 22 45 37.4 -0.2
ZEI pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 115.19 49*c i*PKIKP **PKPdf** **22 45 40.1 +0.4**
DZM Mont Dzumac 115.79 241 *e*SP SP 22 55 35.8 -1.9
comp=Z,310nm,27.5s
SEY Seymchan 116.84 339 *i* PKIKP **PKPdf** **22 45 42.6 +0.6**
ARU Arti 118.09 29 PKIKP **PKPdf** **22 45 44.4 -0.2**
ARU Arti 118.09 29 PKPdf **PKPdf** **22 45 44.4 -0.2**
SVE Sverdlovsk 118.85 28 *e*PKIKP **PKPdf** **22 45 46.8 +0.8**
SVE pmax pmax
comp=Z,8.0nm,0.9s
NAY Al-Naaiem 118.96 61 *e*P **PKPdf** **22 45 46.8 -0.3**
NAY AMb AMB 22 45 48.1
comp=Z,18nm,0.5s
RDF Al-Radifah 119.27 61 *e*P **PKPdf** **22 45 47.9 +0.2**
RDF AMb AMB 22 45 49.0
comp=Z,40nm,0.5s
UMR Umm Al-Rimmam 119.33 61 *e*P **PKPdf** **22 45 48.0 +0.2**
UMR AMb AMB 22 45 49.2
comp=Z,112nm,0.5s
PETK Petropavlovsk- 120.16 328 PKP **PKPdf** **22 45 49.2 +0.6**
comp=Z,7.5nm,0.9s,baz=139,slow=7.5,SNR=4.2
PETK Petropavlovsk- 120.16 328 PKiKP **PKPdf** **22 45 49.2 +0.6**
PETK Petropavlovsk- 120.16 328 PKP **PKPdf** **22 45 49.2 +0.6**
CNB Canberra Magne 122.11 219 *e*PKP **PKPdf** **22 45 53.9 +0.8**
ABKAR Akbulak array 122.37 36 *e*PKPdf **PKPdf** **22 45 52.9 -0.1**
ABKAR epPKPdf **pPKPdf** **22 48 12.1 -1.5**
ABKAR *e*SKPdf **SKiKP** **22 48 32.2 +0.1**
TOO Toolangi 122.89 215 *e*PKP **PKPdf** **22 45 54.9 +0.4**
ARMA Armidale 123.61 225 *e*PKP **PKPdf** **22 45 56.9 +0.7**
YAK Yakutsk 124.01 348 *e*PKIKP **PKPdf** **22 45 54.8 -0.9**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK Yakutsk 124.01 348 *e*PKIKP **PKPdf** **22 45 55.3 -0.5**
YAK Yakutsk 124.01 348 *e*PKPdf **PKPdf** **22 45 55.3 -0.5**
BRVK Borovoye 125.56 27*d i*PKIKP **PKPdf** **22 45 59.4 +0.4**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 125.56 27 *e*PKPdf **PKPdf** **22 45 59.3 +0.3**
BRVK epPKPdf **pPKPdf** **22 48 16.8 -2.9**
BVAR Borovoye Array 125.63 27 PP PP 22 48 03.2 +2.5
comp=Z,2.4nm,0.9s,baz=324,slow=4.0,SNR=4.0
BVAR pPKP pPKPdf 22 48 18.8 -1.0
comp=Z,4.1nm,0.7s,baz=272,slow=2.7,SNR=6.5
BVAR Borovoye Array 125.63 27 PP PP 22 48 03.2 +2.5
BVAR pPKP pPKPdf 22 48 18.8 -1.0
STKA Stephens Creek 129.19 217 PKP **PKPdf** **22 46 07.3 +0.6**
comp=Z,32nm,0.8s,baz=98,slow=1.8,SNR=60
STKA pPKP **pPKPdf** **22 48 26.8 -0.5**
comp=Z,4.8nm,0.7s,baz=0.3,slow=5.6,SNR=5.1
STKA SKPbc SKPab 22 48 31.5 -0.3
comp=Z,8.3nm,0.7s,baz=119,slow=4.5,SNR=8.3
STKA Stephens Creek 129.19 217 *e*PKP **PKPdf** **22 46 07.0 +0.3**
STKA *ep*PKP **PP** **22 48 24.9 +1.0**
STKA Stephens Creek 129.19 217 *e*PKIKP **PKPdf** **22 46 06.7 0.0**
STKA *e* 22 48 26.8
STKA Stephens Creek 129.19 217 *e*PKPdf **PKPdf** **22 46 06.7 0.0**
STKA PKP **PKPdf** **22 46 07.3 +0.6**
STKA epPKPdf **pPKPdf** **22 48 26.8 -0.5**
STKA *e*SKPab SKPab 22 48 31.3 -0.6
STKA SKPbc SKPbc 22 48 31.5 -0.6
NVS Novosibirsk 129.24 19 *e*PKIKP **PKPdf** **22 46 06.0 0.0**
NVS *e* 22 48 22.1
NVS pmax pmax
comp=Z,115nm,1.4s
NVS pmax pmax
comp=E,25nm,1.3s
CLNS Chul'man 129.76 348 *e*PKIKP **PKPdf** **22 46 07.2 +0.2**
CLNS pmax pmax
comp=Z,37nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,1.2s
BOD Bodaibo 130.25 356 *e*PKHKP PKPpre 22 45 44.9
BOD *e* 22 46 07.2
ZAA0 Zalesovo Array 130.49 18 *e*PKPdf **PKPdf** **22 46 08.5 +0.2**
ZAA0 *ep*PKPdf **pPKPdf** **22 48 27.1 -1.9**
ZAA0 *e*SKPbc **SKPbc** **22 48 35.9 -0.2**
ZALV Zalesovo Beam 130.49 18 PKhKP PKPpre 22 45 52.1
comp=E,3.4nm,0.8s,baz=336,slow=3.3,SNR=4.1
ZALV PKP **PKiKP** **22 46 09.2 -0.1**
comp=E,118nm,0.9s,baz=302,slow=2.8,SNR=160
ZALV pPKP pPKPdf 22 48 28.8 -0.2
comp=E,23nm,0.8s,baz=318,slow=2.0,SNR=12
ZALV SKPbc **SKPbc** **22 48 36.0 -0.1**
comp=E,16nm,0.7s,baz=331,slow=4.5,SNR=10.0
ZALV Zalesovo Beam 130.49 18 PKHKP PKPpre 22 45 52.1
ZALV *e* 22 46 09.2
ZALV 22 48 36.0
ZALV Zalesovo Beam 130.49 18 PKPpre PKPpre 22 45 52.1
ZALV PKP **PKiKP** **22 46 09.2 -0.1**
ZALV pPKP pPKPdf 22 48 28.8 -0.2
ZALV SKPbc **SKPbc** **22 48 36.0 -0.1**
KURK Kurchatov 130.86 25 PKP **PKPdf** **22 46 10.2 +1.1**
comp=E,26nm,0.5s,baz=311,slow=2.5,SNR=18
KURK pPKP **pPKPdf** **22 48 30.1 +0.3**
comp=E,8.3nm,0.8s,baz=306,slow=2.5,SNR=12
KURK SKPbc **SKPbc** **22 48 37.5 0.0**
comp=E,10nm,1.0s,baz=312,slow=4.5,SNR=8.6
KURK Kurchatov 130.86 25*c i*PKIKP **PKPdf** **22 46 08.7 -0.5**
KURK pmax pmax
comp=Z,64nm,1.0s
KURK Kurchatov 130.86 25 *e*PKPdf **PKPdf** **22 46 09.6 +0.4**
KURK PKP **PKPdf** **22 46 10.2 +1.1**
KURK *ep*PKPdf **pPKPdf** **22 48 28.1 -1.7**
KURK pPKP **pPKPdf** **22 48 30.1 +0.3**
KURK SKPbc **SKPbc** **22 48 37.5 0.0**
KURK *e*SKPbc **SKPab** **22 48 37.7 -0.6**
YSS Yuzh-Sakhalins 131.54 329⇑ *e*PKIKP **PKPdf** **22 46 12.0 +1.4**
YSS *e* 22 48 41.5
YSS pmax pmax
comp=Z,40nm,0.8s
KKAR Karatay Array 131.84 37 *e*PKIKP **PKPdf** **22 46 10.3 -1.0**
KKAR Karatay Array 131.84 37 *e*PKPdf **PKPdf** **22 46 10.3 -1.0**
CTA Charters Tower 133.46 232 PKP **PKPdf** **22 46 15.6 +0.6**
comp=Z,16nm,0.6s,baz=135,slow=2.0,SNR=19
CTA SKPbc **SKPbc** **22 48 46.8 -0.7**
comp=Z,28nm,0.7s,baz=147,slow=1.3,SNR=17
CTA Charters Tower 133.46 232 *e*PKP **PKPdf** **22 46 15.6 +0.6**
CTA *ep*PKP **PP** **22 48 46.6 -5.1**
CTA Charters Tower 133.46 232 PKiKP **PKPdf** **22 46 15.6 +0.6**
CTA Charters Tower 133.46 232 PKP **PKPdf** **22 46 15.6 +0.6**
CTA SKPbc **SKPbc** **22 48 46.8 -0.7**
ASAJ Asahikawa 133.49 326 PKP **PKPdf** **22 46 15.6 +1.3**
comp=Z,10nm,0.5s,baz=237,slow=8.7,SNR=13
ASAJ SKPbc **SKPab** **22 48 48.4 -1.5**
comp=Z,18nm,0.9s,baz=271,slow=6.5,SNR=7.5
ASAJ Asahikawa 133.49 326 PKP **PKPdf** **22 46 15.6 +1.3**
ASAJ SKPbc **SKPab** **22 48 48.4 -1.5**

EKS2 Erkin-Say 134.03 36 P **PKPdf** **22 46 17.7 +2.1**
SNR=22
EKS2 P **PKPdf** **22 46 17.7 +2.1**
SNR=22
EKS2 Erkin-Say 134.03 36 *e*PKIKP **PKPdf** **22 46 17.2 +1.6**
EKS2 Erkin-Say 134.03 36 *e*PKPdf **PKPdf** **22 46 17.2 +1.6**
EKS2 epPKPdf **pPKPdf** **22 48 35.8 -0.5**
EKS2 *e*SKPbc **SKPbc** **22 48 49.0 +0.2**
USP Ospenovka 134.06 35 P **PKPdf** **22 46 16.7 +1.2**
SNR=14
USP P **PKPdf** **22 46 16.7 +1.2**
SNR=14
AML Almayashu 134.31 36 P **PKPdf** **22 46 18.2 +1.7**
SNR=15
AML P **PKPdf** **22 46 18.2 +1.7**
SNR=15
CHMS Chumysh 134.38 35 P **PKPdf** **22 46 17.9 +1.8**
SNR=6.5
CHMS P **PKPdf** **22 46 17.9 +1.8**
SNR=6.5
FRU Bishkek 134.41 35 *e*PKIKP **PKPdf** **22 46 17.5 +1.3**
FRU pmax pmax
comp=Z,100nm,2.0s
AAK Ala-Archa 134.46 35 P **PKPdf** **22 46 18.3 +1.8**
SNR=10
AAK P **PKPdf** **22 46 18.3 +1.8**
SNR=10
AAK Ala-Archa 134.46 35 PKhKP PKPpre 22 46 04.3
comp=Z,0.8nm,0.4s,baz=303,slow=1.2,SNR=7.0
AAK PKP **PKiKP** **22 46 17.9 -0.1**
comp=Z,12nm,0.8s,baz=175,slow=1.7,SNR=20
AAK pPKP pPKPdf 22 48 36.5 -0.7
comp=Z,4.2nm,0.7s,baz=200,slow=2.5,SNR=3.5
AAK Ala-Archa 134.46 35 PKHKP PKPpre 22 46 04.3
AAK *e* 22 46 16.4
AAK Ala-Archa 134.46 35 PKPpre PKPpre 22 46 04.3
AAK *e*PKPdf **PKPdf** **22 46 16.4 0.0**
AAK PKP **PKiKP** **22 46 17.9 -0.1**
AAK pPKP pPKPdf 22 48 36.5 -0.7
AAK epPKPdf x 22 48 36.6
KLR Kul'dur 134.63 339 *e*PKIKP **PKPdf** **22 46 12.1 -4.2**
KLR pmax pmax
comp=Z,100nm,1.8s
KBK Karagaybulak 134.71 35 P **PKPdf** **22 46 18.8 +1.9**
SNR=6.0
KBK P **PKPdf** **22 46 18.8 +1.9**
SNR=6.0
TKM2 Tokmak 2 134.90 34 P **PKPdf** **22 46 18.8 +1.5**
SNR=9.2
TKM2 P **PKPdf** **22 46 18.8 +1.5**
SNR=9.2
TKM2 Tokmak 2 134.90 34 *e*PKIKP **PKPdf** **22 46 18.1 +0.8**
TKM2 Tokmak 2 134.90 34 *e*PKPdf **PKPdf** **22 46 18.1 +0.8**
TKM2 *ep*PKPdf **pPKPdf** **22 48 38.4 +0.4**
TKM2 *e*SKPbc **SKPbc** **22 48 52.1 +0.5**
KZA Kyzart 135.25 35 P **PKPdf** **22 46 20.5 +2.3**
SNR=7.7
KZA P **PKPdf** **22 46 20.5 +2.3**
SNR=7.7
KBL Kabul 135.25 48 *e*PKIKP **PKPdf** **22 46 18.5 +0.3**
KBL Kabul 135.25 48 *e*PKPdf **PKPdf** **22 46 18.5 +0.3**
MK31 Makanchi Array 135.43 26 *e*PKIKP **PKPdf** **22 46 17.8 -0.1**
MK31 Makanchi Array 135.43 26 *e*PKPdf **PKPdf** **22 46 17.8 -0.1**
MK31 epPKPdf **pPKPdf** **22 48 37.4 -1.3**
MKAR Makanchi Array 135.43 26 PKhKP PKPpre 22 46 05.2
comp=Z,0.7nm,0.4s,baz=14,slow=2.9,SNR=17
MKAR PKP **PKPdf** **22 46 18.0 +0.1**
comp=Z,16nm,0.6s,baz=325,slow=1.5,SNR=75
MKAR pPKP pPKPdf 22 48 38.0 -0.6
comp=Z,5.5nm,0.7s,baz=6.2,slow=1.9,SNR=7.2
MKAR Makanchi Array 135.43 26 PKHKP PKPpre 22 46 05.2
MKAR 22 46 18.0
MKAR Makanchi Array 135.43 26 PKPpre PKPpre 22 46 05.2
MKAR PKP **PKPdf** **22 46 18.0 +0.1**
MKAR pPKP pPKPdf 22 48 38.0 -0.6
ULHL Ulahol 135.70 35 P **PKPdf** **22 46 20.9 +2.1**
SNR=18
ULHL P **PKPdf** **22 46 20.9 +2.1**
SNR=18
MOY Mondy 136.16 7 *e*PKIKP **PKPdf** **22 46 20.4 +1.1**
MOY pmax pmax
comp=Z,61nm,2.1s
TLY Talaya 136.40 4 *e*PKIKP **PKPdf** **22 46 20.2 +0.6**
TLY Talaya 136.40 4 *e*PKPdf **PKPdf** **22 46 20.2 +0.6**
FORT Forrest 137.00 205 *e*PKP PKPpre 22 46 09.8
FORT *ep*PKP **SKPbc** **22 48 56.9 -1.1**
KSH Kashi 137.28 38 PKP **PKPdf** **22 46 22.0 +0.3**
ZAK Zakamensk 137.66 5 *e*PKHKP PKPpre 22 46 11.6
ZAK pmax pmax
comp=Z,65nm,1.1s
HIA Hailar 137.93 349 *e*PKIKP **PKPdf** **22 46 23.0 +0.5**
HIA *e* 22 49 16.2
HIA Hailar 137.93 349 *e*PKPdf **PKPdf** **22 46 23.0 +0.5**
HIA *e*SKPbc **SKPbc** **22 48 59.8 -0.3**
HIA *e*PP **PP** **22 49 16.2 -1.8**
NWAO Narrogin (SRO) 138.33 191 PKhKP PKPpre 22 46 13.8
baz=140,slow=4.6
NWAO SKPbc **SKPbc** **22 49 01.5 -0.2**
comp=Z,6.7nm,0.5s,baz=184,slow=4.0,SNR=7.3
NWAO Narrogin (SRO) 138.33 191 PKHKP PKPpre 22 46 13.8
NWAO Narrogin (SRO) 138.33 191 PKPpre PKPpre 22 46 13.8
NWAO SKPbc **SKPbc** **22 49 01.5 -0.2**
USRK Ussuriysk Arra 138.66 334 PKhKP PKPpre 22 46 15.8
comp=Z,5.0nm,0.7s,baz=42,slow=1.4,SNR=13
USRK PKP **PKPdf** **22 46 24.4 +0.5**
comp=Z,16nm,0.8s,baz=10,slow=2.2,SNR=13
USRK SKPbc **SKPbc** **22 49 03.1 +0.9**
comp=Z,8.9nm,0.7s,baz=36,slow=1.4,SNR=9.9
MDJ Mudanjiang 139.31 337 PKP **PKPdf** **22 46 25.0 -0.1**
MDJ Mudanjiang 139.31 337 *e*PKPdf **PKPdf** **22 46 25.4 +0.3**
MDJ *e*SKPdf **SKPdf** **22 49 01.7 -1.3**
KLBR Kellerberrin 139.52 192 *e*PKP PKPpre 22 46 17.7
AS31 Alice Springs 139.82 218 *e*SKPdf **SKPdf** **22 49 05.0 +0.4**
ASAR Alice Springs 139.82 218 PKhKP PKPpre 22 46 18.7
comp=Z,4.4nm,0.4s,baz=136,slow=3.8,SNR=41
ASAR PKP **PKPdf** **22 46 26.2 -0.5**
comp=Z,16nm,0.6s,baz=134,slow=2.1,SNR=34
ASAR pPKP pPKPdf 22 48 48.1 +0.6
comp=Z,1.5nm,0.6s,baz=138,slow=2.4,SNR=4.9
ASAR SKPbc **SKPbc** **22 49 05.0 -1.0**
comp=Z,53nm,0.6s,baz=130,slow=3.4,SNR=72
ASAR Alice Springs 139.82 218 PKHKP PKPpre 22 46 18.7
ASAR 22 46 26.2
ASAR Alice Springs 139.82 218 PKPpre PKPpre 22 46 18.7
ASAR PKP **PKPdf** **22 46 26.2 -0.5**
ASAR pPKP pPKPdf 22 48 48.1 +0.6
ASAR SKPbc **SKPbc** **22 49 05.0 -1.0**
WMQ Urumqi 140.07 24 PKP PKPpre 22 46 20.5
ULN Ulaanbaatar 140.39 2 *e*PKHKP PKPpre 22 46 21.2
ULN Ulaanbaatar 140.39 2 *e*PKPdf PKPdf 22 46 21.2 -6.0
ULN *e*SKPdf **SKPbc** **22 49 06.1 -0.8**
ULN *e*SKPab **SKPab** **22 49 24.4 +4.0**
SONM Songino Array 140.40 2 PKhKP PKPpre 22 46 21.6
comp=Z,5.5nm,0.4s,baz=325,slow=3.2,SNR=87
SONM PKP **PKPdf** **22 46 27.4 +0.2**
comp=Z,7.0nm,0.5s,baz=309,slow=1.7,SNR=28
SONM SKPbc **SKPbc** **22 49 07.0 +0.1**
comp=Z,6.8nm,0.8s,baz=339,slow=2.5,SNR=6.8
SONM Songino Array 140.40 2 PKHKP PKPpre 22 46 21.6
SONM 22 46 27.4
SONM Songino Array 140.40 2 PKPpre PKPpre 22 46 21.6
SONM PKP **PKPdf** **22 46 27.4 +0.2**
SONM SKPbc **SKPbc** **22 49 07.0 +0.1**
MJAR Matsushiro Arr 140.90 321 PKhKP PKPpre 22 46 23.1
comp=Z,11nm,0.9s,baz=100,slow=0.8,SNR=24
MJAR Matsushiro Arr 140.90 321 PKHKP PKPpre 22 46 23.1
MJAR Matsushiro Arr 140.90 321 PKPpre PKPpre 22 46 23.1
MAT Matsushiro 140.90 321 PKP PKPpre 22 46 23.0
CN2 Changchun 141.51 340 *e*PKP **PKPdf** **22 46 24.8 -4.3**
WB2 Warramunga Arr 142.25 222 *e*PKPdf **PKPdf** **22 46 27.5 -3.6**
WB2 *ep*PKPdf **pPKPdf** **22 48 52.2 +0.2**
WB2 *e*SKPdf **SKPbc** **22 49 11.5 -0.8**
WRAB Tennant Creek 142.25 222 *e*PKPdf **PKPdf** **22 46 28.0 -3.1**
WRAB *ep*PKPdf **pPKPdf** **22 48 51.2 -0.7**
WRAB *e*SKPdf **SKPbc** **22 49 11.4 -0.8**
WRA Warramunga Arr 142.25 222 PKhKP PKPpre 22 46 27.8
comp=Z,19nm,0.6s,baz=130,slow=2.6,SNR=548
WRA PKP **PKPdf** **22 46 31.8 +0.7**
comp=Z,33nm,0.5s,baz=131,slow=2.0,SNR=56
WRA pPKP pPKPdf 22 48 52.3 +0.3
comp=Z,6.4nm,0.8s,baz=116,slow=1.6,SNR=5.9
WRA SKPbc **SKPbc** **22 49 11.6 -0.7**
comp=Z,20nm,0.7s,baz=137,slow=2.0,SNR=15
WRA Warramunga Arr 142.25 222 PKHKP PKPpre 22 46 27.8

WRA 22 46 31.8
WRA Warramunga Arr 142.25 222 PKPpre PKPpre 22 46 27.8
WRA PKP **PKPdf** **22 46 31.8 +0.7**
WRA pPKP pPKPdf 22 48 52.3 +0.3
WRA SKPbc **SKPbc** **22 49 11.6 -0.7**
KKR Kurukshetra 143.22 50 *e*P PKPbc 22 46 31.1 +0.1
KHET Khetri 143.32 53 *e*P PKPbc 22 46 31.5 +0.1
KUDL Kundal 143.82 53 *e*P **PKPdf** **22 46 33.4 -0.2**
SNY Shenyang 143.90 341⇓PKP PKPab 22 46 32.8 -0.1
GUMO Guam 143.92 282 PKP PKPbc 22 46 33.1 -0.4
comp=Z,106nm,0.4s,baz=25,slow=19,SNR=5.7
GUMO Guam 143.92 282 PKIKP PKPbc 22 46 33.1 -0.5
GUMO Guam 143.92 282 PKP PKPbc 22 46 33.1 -0.4
DDI Dehra Dun 143.96 48 *e*P PKPbc 22 46 33.0 -0.4
MEEK Meekatharra 144.07 196 *e*PKP PKPbc 22 46 33.1 -0.7
NDI New Delhi 144.14 51⇑ *i*P PKPbc 22 46 31.5 -2.4
comp=Z,49nm,0.5s
AYAN Aya Nagar 144.16 52 *e*P **PKPab** **22 46 34.3 -0.1**
ASOR Ausora 144.53 51 *e*P **PKPab** **22 46 35.5 -0.3**
POO Poona 144.79 69⇓ *i*P **PKPdf** **22 46 34.5 -1.1**
comp=Z,160nm,1.0s
AGRA Agra 145.39 53 *e*P **PKPdf** **22 46 36.6 +0.3**
KSRS Korea Array 145.92 332 PKPbc **PKPbc** **22 46 38.0 -0.8**
comp=Z,142nm,0.9s,baz=28,slow=2.1,SNR=86
KSRS pPKPbc pPKPbc 22 48 56.1 -0.8
comp=Z,21nm,1.1s,baz=24,slow=2.4,SNR=9.1
KSAR Wonju Array Be 145.95 332 PKIKP **PKPbc** **22 46 38.1 -0.9**
KSAR 22 48 56.2
KSAR Wonju Array Be 145.95 332 PKPbc **PKPbc** **22 46 38.0 -0.9**
KSAR pPKPbc pPKPbc 22 48 56.1 -0.9
INCN Inchon 146.49 333 *e*PKPdf **PKPdf** **22 46 38.2 +0.3**
INCN *e*PKPbc **PKPbc** **22 46 40.2 -0.3**
DL2 Dalian 147.17 341 PKPbc PKPpre 22 46 22.3
HHC Hu-ho-hao-te 147.31 356 *e*PKPbc **PKPdf** **22 46 40.3 +1.0**
HHC pPKP **pPKPdf** **22 49 00.5 +0.2**
HHC sPKP 22 49 56.5
HHC PKS **PKSdf** **22 50 14.3 -0.2**
HHC PP PP 22 50 19.0 +5.4
HHC SKS **SKSdf** **22 52 50.0 -1.1**
HHC SS **SS** **23 08 32.5 +5.2**
HHC AMB AMB
comp=Z,120nm,9.5s
LATR Latur 147.32 69 *e*P **PKPdf** **22 46 39.4 -0.3**
BJI Beijing 147.50 349 PKPbc **PKPdf** **22 46 39.3 -0.1**
BJT Baijiatuau 147.52 349 *e*PKIKP **PKPdf** **22 46 40.5 +1.0**
BJT *e* 22 46 47.2
BJT *e* 22 48 58.6
BJT Baijiatuau 147.52 349 *e*PKPdf **PKPdf** **22 46 40.5 +1.0**
BJT *e*PKPbc **PKPbc** **22 46 43.0 -0.1**
BJT *e*PKPab **PKPab** **22 46 47.2 -0.1**
BJT *ep*PKPdf **pPKPdf** **22 48 58.6 -2.0**
BTO Baotou 147.64 358 *e*P **PKPdf** **22 46 41.0 +1.2**
BTO Baotou 147.64 358 *e*PKPbc **PKPdf** **22 46 40.3 +0.5**
JNU Nakatsue 147.65 323 PKPbc **PKPbc** **22 46 43.5 -0.2**
comp=Z,93nm,1.0s,baz=53,slow=5.1,SNR=25
JNU Nakatsue 147.65 323 *e*PKPdf **PKPdf** **22 46 39.8 -0.2**
JNU *e*PKPbc **PKPbc** **22 46 43.5 -0.2**
GTA Gaotai 147.90 13 PKPbc **PKPdf** **22 46 41.0 +0.7**
GTA PKPab **PKPab** **22 46 52.3 +3.3**
GTA pPKP **pPKPdf** **22 49 01.0 -0.4**
GTA sPKP 22 50 00.0
GTA SKKS 22 56 12.3
GTA AMB AMB
comp=Z,250nm,9.0s
TRD Trivandrum 148.78 87⇑ *ex* x 22 48 51.4
MBWA Marble Bar 148.87 201 *e*PKPdf **PKPdf** **22 46 42.4 +0.2**
MBWA *e*PKPbc **PKPbc** **22 46 47.1 +0.1**
MBWA *e*PKPab **PKPab** **22 46 53.3 -0.1**
MBWA *ep*PKPdf **pPKPdf** **22 49 03.3 0.0**
FITZ Fitzroy Crossi 148.93 213 PKP **PKPdf** **22 46 43.2 +0.8**
comp=Z,83nm,0.9s,baz=204,slow=2.9,SNR=16
FITZ PKPbc **PKiKP** **22 46 47.8 -0.3**
comp=Z,43nm,0.4s,baz=164,slow=1.7,SNR=92
FITZ pPKPbc **pPKPbc** **22 49 04.9 -1.5**
comp=Z,15nm,0.7s,baz=161,slow=2.7,SNR=5.7
FITZ Fitzroy Crossi 148.93 213 *e*PKP **PKPbc** **22 46 47.2 0.0**
FITZ Fitzroy Crossi 148.93 213 *e*PKP **PKPab** **22 46 53.3 -0.3**
FITZ *ep*PKPdf **pPKPdf** **22 49 03.8 +0.3**
FITZ Fitzroy Crossi 148.93 213 PKP **PKPdf** **22 46 43.2 +0.8**
FITZ PKPbc **PKiKP** **22 46 47.8 -0.3**
FITZ pPKPbc **pPKPbc** **22 49 04.9 -1.5**
DANN Dangsing 149.19 46 *e*P **PKPdf** **22 46 43.5 +0.6**
comp=Z,250nm,0.5s
DANN Dangsing 149.19 46 *e*P **PKPdf** **22 46 43.5 +0.6**
comp=Z,250nm,0.5s
DANN Dangsing 149.19 46 *e*P **PKPdf** **22 46 43.5 +0.6**
HYB Hyderabad 149.40 70 *i* PKP **PKPdf** **22 46 42.0 -1.2**
HYB *e* 22 46 47.0
HYB *e* 22 46 55.0
HYB *e* 22 47 40.0
HYB *e* 22 49 05.0
HYB *e*PP **PP** **22 50 26.0 -1.6**
KOLN Koldanda 149.41 47 *e*P **PKPdf** **22 46 43.4 +0.2**
comp=Z,202nm,0.9s
KOLN Koldanda 149.41 47 *e*P **PKPdf** **22 46 43.2 0.0**
comp=Z,202nm,0.9s
KOLN Koldanda 149.41 47 *e*P **PKPdf** **22 46 43.2 0.0**
GKN Gorkha 150.02 46 *e*P **PKPdf** **22 46 44.6 +0.5**
comp=Z,411nm,0.4s
GKN Gorkha 150.02 46 *e*P **PKPdf** **22 46 44.5 +0.5**
comp=Z,411nm,0.4s
DMN Daman 150.59 46 *e*P **PKPdf** **22 46 45.6 +0.5**
comp=Z,379nm,0.8s
DMN Daman 150.59 46 *e*P **PKPdf** **22 46 45.3 +0.2**
comp=Z,379nm,0.8s
DMN Daman 150.59 46 *e*P **PKPdf** **22 46 45.3 +0.2**
KKN Kakani 150.60 45 *e*P **PKPdf** **22 46 45.6 +0.6**
comp=Z,274nm,0.6s
KKN Kakani 150.60 45 *e*P **PKPdf** **22 46 45.3 +0.3**
comp=Z,274nm,0.6s
KKN Kakani 150.60 45 *e*PKIKP **PKPdf** **22 46 45.3 +0.3**
KKN Kakani 150.60 45 *e*P **PKPdf** **22 46 45.3 +0.3**
PKI Pulchoki 150.82 46 *e*P **PKPdf** **22 46 45.6 +0.1**
comp=Z,222nm,0.8s
PKI Pulchoki 150.82 46 *e*P **PKPdf** **22 46 45.4 -0.1**
comp=Z,222nm,0.8s
PKI Pulchoki 150.82 46 *e*PKIKP **PKPdf** **22 46 45.4 -0.1**
PKI Pulchoki 150.82 46 *e*P **PKPdf** **22 46 45.4 -0.1**
GUN Gumba 150.94 45 *e*P **PKPdf** **22 46 46.0 +0.3**
comp=Z,344nm,0.7s
GUN Gumba 150.94 45 *e*P **PKPdf** **22 46 46.0 +0.3**
comp=Z,344nm,0.7s
GUN Gumba 150.94 45 *e*P **PKPdf** **22 46 46.0 +0.3**
TIA Tai'an 150.97 346 PKPbc **PKPdf** **22 46 46.0 +0.9**
JIRN Jiri 151.32 45 *e*P **PKPdf** **22 46 46.3 0.0**
comp=Z,93nm,0.5s
JIRN Jiri 151.32 45 *e*P **PKPdf** **22 46 46.3 0.0**
comp=Z,93nm,0.5s
JIRN Jiri 151.32 45 *e*P **PKPdf** **22 46 46.3 0.0**
LZH Lanzhou 151.85 8 PKPbc **PKPdf** **22 46 48.0 +1.4**
LZH PKPab **PKPab** **22 47 10.0 +4.3**
LZH pPKP **pPKPdf** **22 49 08.0 +0.1**
LZH sPKP 22 50 04.0
LZH PP **PP** **22 50 41.0 +1.5**
LZH SKKS 22 56 33.3
LZH SS **SS** **23 09 23.0 +5.7**
LZH AMB AMB
comp=Z,400nm,4.5s
RAMN Ramite 152.04 45 *e*P **PKPdf** **22 46 47.5 +0.3**
comp=Z,262nm,0.5s
RAMN Ramite 152.04 45 *e*P **PKPdf** **22 46 47.6 +0.3**
comp=Z,262nm,0.5s
RAMN Ramite 152.04 45 *e*P **PKPdf** **22 46 47.6 +0.3**
TAPN Taplejung 152.56 43 *e*P **PKPdf** **22 46 48.2 +0.1**
comp=Z,90nm,0.5s
TAPN Taplejung 152.56 43 *e*P **PKPdf** **22 46 48.2 +0.1**
comp=Z,90nm,0.5s
TAPN Taplejung 152.56 43 *e*P **PKPdf** **22 46 48.2 +0.1**
ODAN Odare 152.65 44 *e*P **PKPdf** **22 46 48.2 +0.1**
comp=Z,218nm,1.0s
ODAN Odare 152.65 44 *e*P **PKPdf** **22 46 48.2 +0.1**
comp=Z,218nm,1.0s
ODAN Odare 152.65 44 *e*P **PKPdf** **22 46 48.2 +0.1**
LSA Lhasa 153.06 35 *e*PKIKP **PKPdf** **22 46 49.6 +0.7**
LSA Lhasa 153.06 35 *e*PKPdf **PKPdf** **22 46 49.6 +0.7**
LSA *e*PKPbc **PKiKP** **22 46 57.2 +0.3**
JOW Kunigami 153.60 317 PKP **PKPdf** **22 46 49.9 +0.8**
comp=Z,42nm,1.1s,baz=84,slow=6.6,SNR=4.3
JOW PKPbc **PKiKP** **22 46 58.3 +0.8**
comp=Z,34nm,1.0s,baz=80,slow=6.1,SNR=3.4
JOW Kunigami 153.60 317 PKP **PKPdf** **22 46 49.9 +0.8**
JOW PKPbc **PKiKP** **22 46 58.3 +0.8**
XAN Xi'an 154.22 359 PKPbc **PKPdf** **22 46 50.0 +0.1**

NJ2	**Nanjing**	**154.34**	**339**	*e*PKPbc	**PKPdf**	**22 46 50.5**	**+0.5**
NJ2				PKPab	**PKPab**	**22 47 14.3**	**-1.8**
SHL	**Shillong**	**156.51**	**40**	*ex*	x	22 46 48.5	
SHL				*ex*	x	22 47 18.5	
CD2	**Chengdu**	**156.91**	**10**	PKP	**PKPdf**	**22 46 54.0**	**+0.5**
CD2				PKPab	**PKPab**	**22 47 30.0**	**+2.6**
CD2				pPKP	**pPKPdf**	**22 49 14.3**	**-0.8**
CD2				sPKP		22 50 13.0	
CD2				PKS	**PKSdf**	**22 50 26.5**	**-0.9**
CD2				PP	**PP**	**22 51 11.8**	**+4.6**
CD2				SKS	**SKSdf**	**22 53 01.8**	**-1.2**
CD2				SKKS	**SKKSac**	**22 56 59.8**	**+2.1**
CD2				SS	**SS**	**23 10 14.3**	**+3.2**
CD2				AMB	AMB		
	comp=Z,320nm,7.7s						
WHN	**Wuhan**	**157.05**	**347**	⇑PKP	**PKPdf**	**22 46 54.0**	**+0.4**
WHN				PKPab	**PKPab**	**22 47 27.0**	**-0.9**
ENH	**Enshi**	**157.96**	**358**	*e*PKPdf	**PKPdf**	**22 46 54.9**	**+0.1**
ENH				*e*PKPab	**PKPab**	**22 47 31.5**	**-0.4**
YHNB	**Yeheng**	**159.47**	**325**	*e*PKPdif	PKPdf	22 47 08.5	+12
SSLB	**Suanglung**	**160.40**	**324**	*e*PKPdf	**PKPdf**	**22 46 57.4**	**-0.3**
SSLB				*ep*PKPdf	**pPKPdf**	**22 49 20.2**	**+0.6**
YULB	**Yu-li**	**160.50**	**322**	*e*PKPdf	PKPdf	22 46 47.6	-10
TPUB	**Ta-pu**	**160.96**	**324**	*e*PKPdf	**PKPdf**	**22 46 53.8**	**-4.6**
GYA	**Guiyang**	**161.69**	**5**	PKP	**PKPdf**	**22 46 58.0**	**-1.1**
GYA				pPKP	**pPKPdf**	**22 49 20.5**	**-0.5**
GYA				sPKP		22 50 17.0	
GYA				PKS	**PKSdf**	**22 50 30.5**	**-2.1**
GYA				PP	**PP**	**22 51 35.3**	**+2.6**
GYA				AMB	AMB		
	comp=Z,180nm,8.4s						
KMI	**Kunming**	**162.23**	**17**	PKP	**PKPdf**	**22 47 00.0**	**+0.1**
CHTO	**Chiang Mai**	**165.89**	**40**	*e*PKIKP	**PKPdf**	**22 47 02.4**	**-0.5**
CHTO	**Chiang Mai**	**165.89**	**40**	*e*PKPdf	**PKPdf**	**22 47 02.4**	**-0.5**
CHTO	**Chiang Mai**	**165.89**	**40**	PKPdf	**PKPdf**	**22 47 03.2**	**+0.3**
	SNR=10						
CM31	**Chiang Mai Arr**	**166.15**	**41**	*e*PKPdf	**PKPdf**	**22 47 03.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**166.15**	**41**	PKP	**PKPdf**	**22 47 03.8**	**+0.6**
	comp=Z,19nm,0.9s,baz=292,slow=2.4,SNR=131						
CMAR				PKPab	**PKPab**	**22 48 08.9**	**+0.6**
	comp=Z,7.2nm,0.6s,baz=309,slow=6.6,SNR=11						
CMAR	**Chiang Mai Arr**	**166.15**	**41**	PKIKP	**PKPdf**	**22 47 03.8**	**+0.6**
CMAR						22 48 08.9	
CMAR	**Chiang Mai Arr**	**166.15**	**41**	PKP	**PKPdf**	**22 47 03.8**	**+0.6**
CMAR				PKPab	**PKPab**	**22 48 08.9**	**+0.6**
QIZ	**Qiongzhong**	**169.10**	**353**	PKP	**PKPdf**	**22 47 04.5**	**-0.7**
KSM	**Kuching**	**173.14**	**195**	*e*PKPdf	**PKPdf**	**22 47 07.4**	**0.0**

ISCJB ***29*** *22:43:43.7±0.2, 10.96N±0.02×124.98E±0.03, h10km, mb5.1/99, MS4.9/49, Error ellipse: s-maj=4.7km s-min=3.1km az=174.2*

IDC ***29*** *22:43:44.6±0.4, 11.00N×124.97E, h0km, mb4.8/32, mb1 4.9/35, mb1mx4.8/37, mbtmp4.8/35, ML4.6/3, MS4.9/21, Ms1 4.9/21, ms1mx4.7/35, Error ellipse: s-maj=16.4km s-min=9.4km az=74.0*

MAN ***29*** *22:43:45, 10.96N×124.75E, h4km, mb5.7, ML4.7, MS5.1*
MAN INTENSITY VI - ALBUERA PASTRANA BURAUEN LEYTE; INTENSITY V - PALO LEYTE; ORMOC CITY; INTENSITY IV - LA PAZ.

NEIC ***29*** *22:43:45.1±0.2, 10.97N×124.96E, h8km, mb5.3/37, MW5.4, MW5.4, Error ellipse: s-maj=7.9km s-min=5.2km az=82.0, Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁷Nm; Mrr0.53; Mθθ0.93; Mφφ-1.46; Mrθ0.03; Mrφ0.42; Mθφ0.40; Best double couple: M₀1.40000×10¹⁷ NP1:φs124.00000°, δ74.00000°, λ1.00000°. NP2: φs34.00000°, δ89.00000°, λ164.00000°. Principal axes: T 1.0200, Plg12.0000°, Azm348.0000°; N 0.5800, Plg73.0000°, Azm210.0000°; P -1.6000, Plg10.0000°, Azm80.0000°;*

NEIC Felt [VI PIVS] at Albuera and Pastrana; [V PIVS] at Ormoc and Palo; [IV PIVS] at Abuyog, Dulag and La Paz; [III PIVS] at Mahaplag. Also felt at Baybay and Tanauan. Felt [II PIVS] at Cebu City, Cebu. Also felt at Compostela, Mandaue City, Minglanilla and Talisay. Felt [II PIVS] at Borongan and Catarman, Samar and [I PIVS] at Iloilo, Panay.

MOS ***29*** *22:43:47.0±1.3, 10.95N×124.92E, h33km, mb5.5/35, MS4.9/15 Error ellipse: s-maj=11.7km s-min=5.6km az=111.7*

BJI ***29*** *22:43:47.8, 10.79N×125.06E, h57km, mB5.3/35, mb5.0/57, Ms5.3/65, Ms7 5.0/58*

DJA ***29*** *22:43:53, 10.97N×125.10E, h67km, Mw5.1/38*

NEIC ***29*** *22:44:05.5±0.0, 11.12N×125.41E, h10km, Moment Tensor Solution. s159 Moment tensor: Scale 10¹⁷Nm; Mrr0.03; Mθθ1.28; Mφφ-1.32; Mrθ-0.89; Mrφ-0.14; Mθφ0.38; Best double couple: M₀1.60000×10¹⁷ NP1:φs224.00000°, δ58.00000°, λ171.00000°. NP2:φs319.00000°, δ82.00000°, λ32.00000°. Principal axes: T 1.7700, Plg27.0000°, Azm186.0000°; N -0.3600, Plg57.0000°, Azm331.0000°; P -1.4200, Plg15.0000°, Azm87.0000°;*

ISC 29 22:43:45.4±0.3, 11°00N±0°03×124°78E±0°04, h10km, n304, σ1s84/335, mb5.2/99, MS5.0/50, 16C-12D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	h m s	Res ISC
PLP	**Palo**	**0.26**	**49**	⇓*i*P		**Pg**	**22 43 51.1**	**+0.4**
PLP				*i* S		**Sg**	**22 43 55.9**	**+1.7**
TBP	**Tagbilaran**	**1.58**	**215**	⇓*i*P		**Pn**	**22 44 14.3**	**+0.8**
TBP				*i* S		**Sg**	**22 44 36.6**	**+0.3**
MMPH	**Masbate**	**1.77**	**320**	*e*P		**Pn**	**22 44 16.0**	**-0.1**
MMPH				*e*S		**Sg**	**22 44 41.6**	**-0.6**
RCP	**Roxas**	**2.08**	**286**	⇑*e*P		**Pn**	**22 44 20.4**	**+0.1**
KALP	**Kalibo**	**2.49**	**286**	*e*P		Pn	22 44 22.4	-3.7
CGP	**Cagayan de Oro**	**2.53**	**182**	*e*P		**Pn**	**22 44 25.8**	**-0.8**
CGP				*i* S		**Sb**	**22 44 59.2**	**-2.9**
DCPH	**Dipolog City**	**2.78**	**211**	⇓*e*P		**Pn**	**22 44 30.0**	**-0.1**
DCPH				*e*S		**Sn**	**22 45 01.5**	**-2.2**
GQP	**Guinayangan**	**3.68**	**322**	*e*P		**Pn**	**22 44 44.9**	**+2.5**
CTBH	**Cotabato--PC H**	**3.79**	**188**	⇑P		**Pn**	**22 44 44.4**	**+0.4**
DMPH	**Davao City--Mi**	**3.96**	**169**	*e*P		Pn	22 44 48.8	+2.6
KCP	**Kidapawan**	**3.97**	**176**	⇓*e*P		**Pn**	**22 44 43.4**	**-3.1**
DAV	**Davao City (W)**	**3.98**	**169**	Pn		**Pn**	**22 44 48.2**	**+1.7**
	61nm,0.3s,baz=266,slow=0.4,SNR=14							
DAV				Sn		**Sb**	**22 45 40.9**	**-3.1**
	74nm,0.3s,baz=258,slow=19,SNR=3.8							
DAV				LR		LR	22 46 41.0	
	comp=Z,33µm,18.6s,baz=327,slow=45							
DAV	**Davao City (W)**	**3.98**	**169**	*e*Pn		**Pn**	**22 44 48.7**	**+2.1**
DAV				Sn		**Sb**	**22 45 40.9**	**-3.1**
LXP	**Lukban**	**4.43**	**315**	*e*P		**Pg**	**22 45 08.9**	**-1.5**
ZMPH	**Zamboanga City**	**4.83**	**214**	⇑*e*P		**Pn**	**22 44 59.0**	**+0.8**
TGY	**Tagaytay City**	**4.86**	**310**	Pn		Pn	22 45 02.1	+3.4
	57nm,0.3s,baz=222,slow=4.8,SNR=9.5							
TGY	**Tagaytay City**	**4.86**	**310**	P		Pn	22 45 02.1	+3.4
TGY	**Tagaytay City**	**4.86**	**310**	Pn		Pn	22 45 02.1	+3.4
GSPH	**General Santos**	**4.88**	**178**	*e*P		Pn	22 45 03.9	+4.8
KKM	**Kota Kinabalu**	**9.80**	**241**	*e*Pn		Pn	22 46 09.7	+3.1
KKM				*e*Sn		**Sn**	**22 47 53.8**	**-3.0**
TWG	**Pinlang**	**12.28**	**344**	*e*Pn		Pn	22 46 45.2	+4.8
NACB	**Ninganchiao**	**13.45**	**347**	*e*Pn		**Pn**	**22 46 59.4**	**+2.9**
QZH	**Quanzhou**	**15.06**	**338**	⇑*i*P		**P**	**22 47 23.0**	**-0.8**
QZH				S		**Sn**	**22 50 09.0**	**+3.6**
QZH				pmax		pmax		
	comp=Z,100nm,1.0s							
QZH				LR		LR		
	comp=N,6µm,15.0s							
QZH				LR		LR		
	comp=E,6µm,16.0s							
QZH				LR		LR		
	comp=Z,12µm,26.5s							
HKC	**Hong Kong Obse**	**15.14**	**319**	P		**P**	**22 47 22.0**	**-2.7**
JOW	**Kunigami**	**16.09**	**11**	Pn		**P**	**22 47 33.9**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=208,slow=14,SNR=10.0							
JOW				LR		LR	22 52 31.7	
	comp=Z,6µm,22.0s,baz=207,slow=33							
JOW	**Kunigami**	**16.09**	**11**	*e*Pn		**P**	**22 47 34.2**	**-1.0**
	comp=Z,75nm,1.0s							
GZH	**Guangzhou**	**16.24**	**319**	P		**P**	**22 47 39.5**	**+2.6**
GZH				S		**S**	**22 50 41.3**	**-5.7**
GZH				LR		LR		
	comp=N,9µm,19.0s							
GZH				LR		LR		
	comp=E,6µm,17.8s							
GZH				LR		LR		
	comp=Z,7µm,17.6s							
QIZ	**Qiongzhong**	**16.48**	**301**	P		**P**	**22 47 40.0**	**+0.4**
QIZ				sP		sP	22 47 59.8	+16
QIZ				S		**Sn**	**22 50 43.5**	**+3.4**
QIZ				pmax		pmax		
	comp=Z,42nm,1.6s							
QIZ				LR		LR		
	comp=N,3µm,15.3s							
QIZ				LR		LR		
	comp=E,800nm,18.1s							
QIZ				LR		LR		
	comp=Z,5µm,16.4s							
KAPI	**Kappang**	**16.68**	**198**	Pn		**P**	**22 47 44.5**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=43,slow=14,SNR=4.2							
KAPI	**Kappang**	**16.68**	**198**	Pn		**P**	**22 47 44.5**	**+2.7**
KSM	**Kuching**	**17.21**	**238**	*e*Pn		**P**	**22 47 48.2**	**+0.5**
	comp=Z,242nm,1.4s							
KSM				*ep*P		pP	22 48 01.8	+11
GUMO	**Guam**	**19.79**	**80**	LR		LR	22 54 39.2	
	comp=Z,3µm,19.7s,baz=253,slow=33							
SSE	**Sheshan**	**20.28**	**351**	P		**P**	**22 48 21.0**	**-0.3**
SSE				sP		sP	22 48 39.3	+14
SSE				S		**S**	**22 52 06.0**	**-2.7**
SSE				sS		sS	22 52 24.8	+12
SSE				pmax		pmax		
	comp=Z,73nm,1.2s							
SSE				pmax		pmax		
	comp=Z,620nm,7.9s							
SSE				LR		LR		
	comp=N,2µm,15.7s							
SSE				LR		LR		
	comp=E,4µm,15.6s							
SSE				LR		LR		
	comp=Z,4µm,16.2s							
NJ2	**Nanjing**	**21.66**	**346**	*e*P		**P**	**22 48 38.5**	**+2.3**
NJ2				pP		pP	22 48 51.0	+12
NJ2				sP		sP	22 48 59.3	+19
NJ2				PP		PP	22 49 04.8	
NJ2				pmax		pmax		
	comp=Z,100nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,500nm,7.6s							
NJ2				LR		LR		
	comp=N,3µm,16.4s							
NJ2				LR		LR		
	comp=E,5µm,18.1s							
NJ2				LR		LR		
	comp=Z,7µm,17.6s							
WHN	**Wuhan**	**21.73**	**335**	⇓P		**P**	**22 48 39.8**	**+2.8**
WHN				LR		LR		
	comp=N,9µm,12.2s							
WHN				LR		LR		
	comp=E,7µm,12.3s							
WHN				LR		LR		
	comp=Z,15µm,16.7s							
JNU	**Nakatsue**	**22.72**	**13**	P		**P**	**22 48 48.5**	**+0.9**
	comp=Z,56nm,1.0s,baz=190,slow=7.1,SNR=6.2							
JNU				LR		LR	22 57 04.7	
	comp=Z,2µm,20.5s,baz=190,slow=35							
JNU	**Nakatsue**	**22.72**	**13**	*e*P		**P**	**22 48 46.7**	**-0.9**
	comp=Z,36nm,1.2s							
GYA	**Guiyang**	**22.99**	**314**	⇑*i*P		**P**	**22 48 53.0**	**+2.3**
GYA				pP		pP	22 49 05.5	+12
GYA				sP		sP	22 49 13.0	+18
GYA				PP		PP	22 49 24.8	
GYA				PcP		**PcP**	**22 52 41.0**	**+0.4**
GYA				S		**S**	**22 52 57.5**	**-3.9**
GYA				sS		Sn	22 53 19.8	+2.5
GYA				SS			22 53 45.3	
GYA				ScP		**ScP**	**22 56 14.5**	**-4.3**
GYA				pmax		pmax		
	comp=Z,40nm,1.0s							
GYA				pmax		pmax		
	comp=Z,150nm,4.8s							
GYA				LR		LR		
	comp=N,850nm,17.2s							
GYA				LR		LR		
	comp=E,680nm,18.0s							
GYA				LR		LR		
	comp=Z,930nm,17.4s							
ENH	**Enshi**	**23.88**	**326**	*e*P		**P**	**22 49 00.2**	**+0.9**
	comp=Z,222nm,1.4s							
IPM	**Ipoh**	**24.40**	**256**	*e*P		**P**	**22 49 05.0**	**+0.6**
	comp=Z,57nm,0.8s							
KMI	**Kunming**	**25.17**	**307**	P		**P**	**22 49 12.0**	**+0.6**
KMI				PP		PP	22 49 55.0	
KMI				S		**S**	**22 53 37.0**	**+0.1**
KMI				SS			22 54 42.5	
KMI				pmax		pmax		
	comp=Z,17nm,1.1s							
KMI				pmax		pmax		
	comp=Z,320nm,4.2s							
KMI				LR		LR		
	comp=N,1µm,13.2s							
KMI				LR		LR		
	comp=E,3µm,18.7s							
KMI				LR		LR		
	comp=Z,3µm,19.8s							
CMAR	**Chiang Mai Arr**	**26.04**	**290**	P		**P**	**22 49 22.4**	**+3.2**
	comp=Z,13nm,1.0s,baz=88,slow=6.8,SNR=12							
CMAR				LR		LR	22 58 24.0	
	comp=Z,1µm,21.5s,baz=359,slow=34							
CMAR	**Chiang Mai Arr**	**26.04**	**290**	P		**P**	**22 49 22.4**	**+3.2**
CMAR	**Chiang Mai Arr**	**26.04**	**290**	P		**P**	**22 49 22.4**	**+3.2**
KSAR	**Wonju Array Be**	**26.48**	**6**	P		**P**	**22 49 24.3**	**+1.4**
KSAR	**Wonju Array Be**	**26.48**	**6**	P		**P**	**22 49 24.3**	**+1.4**
KSRS	**Korea Array**	**26.49**	**6**	P		**P**	**22 49 24.3**	**+1.3**
	comp=Z,16nm,0.8s,baz=184,slow=9.5,SNR=18							
KSRS				LR		LR	22 58 59.5	
	comp=Z,3µm,21.0s,baz=196,slow=35							
XAN	**Xi'an**	**27.14**	**330**	P		**P**	**22 49 30.0**	**+1.1**
XAN				pP		pP	22 49 44.5	+12
XAN				sP		sP	22 49 52.0	+19
XAN				PP		PP	22 50 19.3	-11
XAN				S		**S**	**22 54 04.5**	**-3.0**
XAN				sS		sS	22 54 30.0	+17
XAN				SS		SS	22 55 24.8	-37
XAN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
XAN				pmax		pmax		
	comp=Z,52nm,4.3s							
XAN				LR		LR		
	comp=N,3µm,14.3s							
XAN				LR		LR		
	comp=E,1µm,14.7s							
XAN				LR		LR		
	comp=Z,1µm,16.5s							
CD2	**Chengdu**	**27.80**	**319**	P		**P**	**22 49 37.8**	**+2.9**
CD2				pP		pP	22 49 52.5	+15
CD2				sP		sP	22 49 59.8	+21
CD2				PP		PP	22 50 29.3	-8.4
CD2				S		**S**	**22 54 15.8**	**-2.1**
CD2				sS		sS	22 54 41.0	+18
CD2				SS		SS	22 55 40.8	-34
CD2				pmax		pmax		
	comp=Z,70nm,1.0s							
CD2				pmax		pmax		
	comp=Z,390nm,7.7s							
CD2				LR		LR		
	comp=N,4µm,15.5s							
CD2				LR		LR		
	comp=Z,6µm,16.6s							
MAT	**Matsushiro**	**28.18**	**23**	P		**P**	**22 49 37.1**	**-1.1**
MAT				S		**S**	**22 54 20.0**	**-3.8**
MJAR	**Matsushiro Arr**	**28.18**	**23**	P		**P**	**22 49 37.4**	**-0.8**
	comp=Z,6.9nm,0.8s,baz=200,slow=9.8,SNR=12							
MJAR				LR		LR	22 59 04.3	
	comp=Z,3µm,19.7s,baz=210,slow=33							
MJAR	**Matsushiro Arr**	**28.18**	**23**	P		**P**	**22 49 37.4**	**-0.8**
MJAR	**Matsushiro Arr**	**28.18**	**23**	P		**P**	**22 49 37.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**28.93**	**178**	P		**P**	**22 49 44.7**	**-0.2**
	comp=Z,22nm,1.0s,baz=0.0,slow=5.1,SNR=2.3							
FITZ	**Fitzroy Crossi**	**28.93**	**178**	P		**P**	**22 49 44.7**	**-0.2**
BJT	**Baijiatuau**	**29.90**	**347**	*e*P		**P**	**22 49 53.3**	**-0.1**
BJT				pmax		pmax		
	comp=Z,23nm,0.8s							
BJT	**Baijiatuau**	**29.90**	**347**	*e*P		**P**	**22 49 53.3**	**-0.1**
	comp=Z,23nm,0.8s							
BJI	**Beijing**	**29.92**	**347**	P		**P**	**22 49 54.3**	**+0.8**
BJI				S		**S**	**22 54 51.0**	**+0.1**
BJI				pmax		pmax		
	comp=Z,31nm,1.2s							
BJI				pmax		pmax		
	comp=Z,350nm,4.0s							
BJI				LR		LR		
	comp=N,2µm,17.5s							
BJI				LR		LR		
	comp=E,3µm,15.3s							
BJI				LR		LR		
	comp=Z,960nm,19.8s							
SNY	**Shenyang**	**30.73**	**358**	⇓P		**P**	**22 50 02.0**	**+1.3**
SNY				pmax		pmax		
	comp=Z,37nm,1.0s							
SNY				pmax		pmax		
	comp=Z,160nm,2.9s							
SNY				LR		LR		
	comp=N,1µm,20.0s							
SNY				LR		LR		
	comp=E,1µm,20.4s							
SNY				LR		LR		
	comp=Z,1µm,30.2s							
COEN	**Coen**	**30.78**	**143**	*e*P		**P**	**22 50 00.3**	**-1.1**
	comp=Z,228nm,1.2s							
LZH	**Lanzhou**	**31.36**	**326**	*e*P		P	22 50 09.5	+3.0
LZH				pP		pP	22 50 23.3	+14
LZH				sP		sP	22 50 30.0	+19
LZH				*e*S		**S**	**22 55 13.0**	**-1.0**
LZH				sS		sS	22 55 34.3	+15
LZH				pmax		pmax		
	comp=Z,200nm,1.7s							
LZH				pmax		pmax		
	comp=Z,740nm,4.0s							
LZH				LR		LR		
	comp=N,3µm,13.1s							
LZH				LR		LR		
	comp=E,2µm,15.4s							
LZH				LR		LR		
	comp=Z,3µm,16.0s							
HHC	**Hu-ho-hao-te**	**31.94**	**341**	*e*P		**P**	**22 50 13.5**	**+2.0**
HHC				pP		pP	22 50 29.0	+14
HHC				sP		sP	22 50 36.3	+20
HHC				PP		PP	22 51 21.5	-2.2
HHC				S		**S**	**22 55 21.5**	**-1.4**
HHC				sS		sS	22 55 46.5	+19
HHC				SS		SS	22 57 15.8	-24
HHC				pmax		pmax		
	comp=Z,41nm,1.3s							
HHC				pmax		pmax		
	comp=Z,180nm,6.5s							
HHC				LR		LR		
	comp=N,2µm,14.3s							
HHC				LR		LR		
	comp=E,3µm,14.1s							
HHC				LR		LR		
	comp=Z,3µm,15.9s							
WRA	**Warramunga Arr**	**32.15**	**163**	P		**P**	**22 50 13.1**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=338,slow=9.2,SNR=11							
WRA	**Warramunga Arr**	**32.15**	**163**	P		**P**	**22 50 13.1**	**-0.4**
WRA	**Warramunga Arr**	**32.15**	**163**	P		**P**	**22 50 13.1**	**-0.4**
WB2	**Warramunga Arr**	**32.16**	**163**	*e*P		P	22 50 10.3	-3.2
CN2	**Changchun**	**32.69**	**1**	*e*P		**P**	**22 50 18.5**	**+0.6**
CN2				*ep*P		pP	22 50 33.5	+13
CN2				*es*P		sP	22 50 40.5	+18
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				pmax		pmax		
	comp=Z,100nm,3.0s							
CN2				LR		LR		
	comp=N,2µm,16.0s							
CN2				LR		LR		
	comp=E,1µm,16.0s							
CN2				LR		LR		
	comp=Z,2µm,17.0s							
USRK	**Ussuriysk Arra**	**33.66**	**9**	P		**P**	**22 50 27.8**	**+1.4**
	comp=Z,26nm,0.8s,baz=193,slow=8.2,SNR=29							
USRK				LR		LR	23 02 34.4	
	comp=Z,2µm,20.4s,baz=358,slow=34							
MDJ	**Mudanjiang**	**33.75**	**6**	P		**P**	**22 50 28.5**	**+1.2**
MDJ				pP		pP	22 50 41.5	+11
MDJ				sP		sP	22 50 47.5	+16
MDJ				PP		PP	22 51 45.5	+1.8
MDJ				PcP		**PcP**	**22 53 04.5**	**-2.1**
MDJ				S		**S**	**22 55 50.0**	**-0.7**
MDJ				sS		sS	22 56 12.3	+16
MDJ				ScS		**ScS**	**23 00 47.8**	**-5.1**
MDJ				pmax		pmax		
	comp=Z,29nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,120nm,4.7s							
MDJ				LR		LR		
	comp=N,1µm,19.3s							
MDJ				LR		LR		
	comp=E,3µm,19.3s							
MDJ				LR		LR		
	comp=Z,2µm,15.8s							
MDJ	**Mudanjiang**	**33.75**	**6**	*e*P		**P**	**22 50 28.4**	**+1.2**
	comp=Z,55nm,1.4s							
ASAR	**Alice Springs**	**35.59**	**166**	P		**P**	**22 50 42.6**	**-0.7**
	comp=Z,19nm,0.8s,baz=340,slow=7.4,SNR=20							
ASAR	**Alice Springs**	**35.59**	**166**	P		**P**	**22 50 42.6**	**-0.7**
ASAR	**Alice Springs**	**35.59**	**166**	P		**P**	**22 50 42.6**	**-0.7**
GTA	**Gaotai**	**35.96**	**326**	*e*P		**P**	**22 50 48.8**	**+2.3**
GTA				pP		pP	22 51 02.5	+13
GTA				sP		sP	22 51 08.0	+17
GTA				PP		PP	22 52 15.0	+6.7
GTA				S		**S**	**22 56 26.3**	**+1.1**
GTA				sS		ScP	22 56 50.5	-9.3
GTA				pmax		pmax		
	comp=Z,28nm,1.1s							
GTA				pmax		pmax		
	comp=Z,440nm,4.7s							
GTA				LR		LR		
	comp=N,5µm,20.4s							
GTA				LR		LR		
	comp=E,5µm,20.4s							
GTA				LR		LR		
	comp=Z,3µm,17.1s							
ASAJ	**Asahikawa**	**36.41**	**22**	P		**P**	**22 50 51.1**	**+0.9**
	comp=Z,14nm,0.9s,baz=247,slow=10,SNR=5.2							
ASAJ				LR		LR	23 03 56.4	
	comp=Z,1µm,21.9s,baz=308,slow=33							
ASAJ	**Asahikawa**	**36.41**	**22**	P		**P**	**22 50 51.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**37.62**	**25**	*d* iP		**P**	**22 51 02.3**	**+1.9**
YUK				*i*			22 52 27.0	
YUK				*i* S		**S**	**22 56 47.2**	**-2.9**
YUK				MLR		MLR		
	comp=E,392nm,20.0s							
YUK				MLR		MLR		
	comp=Z,773nm,20.0s							
MEEK	**Meekatharra**	**37.89**	**189**	*e*P		**P**	**22 51 00.5**	**-2.4**
HABR	**Khabarovsk**	**38.33**	**11**	*e*P		**P**	**22 51 03.6**	**-2.8**
HABR				*e**PP		pP	22 51 16.5	+7.0
HABR				*e*S		S	22 56 53.5	-7.2
HABR				*e*			22 57 06.5	
HABR				*e*			23 01 10.5	
HABR				pmax		pmax		
	comp=N,77nm,3.2s							
HABR				pmax		pmax		
	comp=E,129nm,3.2s							
HABR				pmax		pmax		
	comp=Z,134nm,3.2s							
HABR				MLR		MLR		
	comp=Z,1µm,18.0s							
HIA	**Hailar**	**38.38**	**355**	*e*P		**P**	**22 51 05.5**	**-1.3**
HIA				pmax		pmax		
	comp=Z,61nm,1.6s							
HIA	**Hailar**	**38.38**	**355**	*e*P		**P**	**22 51 05.5**	**-1.3**
	comp=Z,60nm,1.6s							
KLR	**Kul'dur**	**38.55**	**7**	*e*P		**P**	**22 51 05.1**	**-3.1**
KLR				*e*S		**S**	**22 57 00.0**	**-4.1**
KLR				pmax		pmax		
	comp=Z,80nm,1.6s							
KLR				MLR		MLR		
	comp=N,1µm,13.5s							
KLR				MLR		MLR		
	comp=E,1µm,13.5s							
KLR				MLR		MLR		
	comp=Z,4µm,13.5s							
YSS	**Yuzh-Sakhalins**	**38.93**	**20**	⇑*e*P		**P**	**22 51 13.5**	**+2.1**
YSS		

UGL **Uglegorsk** 40.60 17 P P 22 51 27.0 +1.7
UGL pmax pmax
comp=Z,40nm,0.6s
FORT **Forrest** 41.66 176 eP P 22 51 33.5 -0.6
FORT **Forrest** 41.66 176 eP P 22 51 33.6 -0.6
comp=E,68nm,0.8s
KLBR **Kellerberrin** 42.88 189 eP P 22 51 41.9 -2.2
ZAK **Zakamensk** 43.08 340 eP P 22 51 46.1 +0.4
ZAK pmax pmax
comp=Z,15nm,1.2s
TLY **Talaya** 44.07 341 eP P 22 51 54.8 +1.2
TLY eS S 22 58 34.1 +8.1
TLY eSS SS 23 01 46.3 +3.0
TLY pmax pmax
comp=Z,47nm,1.1s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY **Talaya** 44.07 341 eP P 22 51 54.5 +0.9
comp=E,50nm,1.1s
TLY **Talaya** 44.07 341 P P 22 51 55.1 +1.5
comp=Z,221nm,1.2s,SNR=11
NWAO **Narrogin (SRO)** 44.27 189 P P 22 51 56.0 +0.7
comp=Z,7.2nm,0.6s,baz=11,slow=10,SNR=7.2
NWAO LR LR 23 12 35.1
comp=Z,761nm,19.6s,baz=14,slow=39
NWAO **Narrogin (SRO)** 44.27 189 eP P 22 51 52.9 -2.4
NWAO pmax pmax
comp=Z,109nm,1.7s
NWAO **Narrogin (SRO)** 44.27 189 eP P 22 51 52.9 -2.4
comp=Z,109nm,1.7s
IRK **Irkutsk** 44.36 342 eP P 22 51 55.6 -0.3
IRK pmax pmax
comp=Z,54nm,1.4s
BBOO **Buckleboo** 44.87 167 eP P 22 51 59.1 -1.1
BBOO **Buckleboo** 44.87 167 eP P 22 51 59.4 -0.7
comp=Z,755nm,0.8s
MOY **Mondy** 44.94 339 eP P 22 52 02.5 +1.8
MOY pmax pmax
comp=Z,93nm,1.6s
HYB **Hyderabad** 45.18 284 i P P 22 52 04.0 +1.0
HYB eS S 22 58 44.0 +0.9
STKA **Stephens Creek** 45.57 160 P P 22 52 05.2 -0.5
comp=Z,26nm,0.8s,baz=342,slow=7.8,SNR=10
STKA **Stephens Creek** 45.57 160 eP P 22 52 04.9 -0.8
STKA **Stephens Creek** 45.57 160 eP P 22 52 04.5 -1.2
STKA pmax pmax
comp=Z,7.0nm,0.9s
STKA **Stephens Creek** 45.57 160 eP P 22 52 04.5 -1.2
comp=Z,7.3nm,0.9s
WMQ **Urumqi** 45.76 322 P P 22 52 10.0 +2.8
WMQ pP pP 22 52 23.0 +13
WMQ sP sP 22 52 30.0 +18
WMQ PP PP 22 53 58.0 +3.6
WMQ S S 22 58 49.0 -1.8
WMQ SS ScS 23 02 08.0 +4.2
WMQ pmax pmax
comp=Z,26nm,1.5s
WMQ pmax pmax
comp=Z,300nm,6.8s
WMQ LR LR
comp=N,8µm,21.3s
WMQ LR LR
comp=E,4µm,27.0s
WMQ LR LR
comp=Z,3µm,19.5s
CMSA **Cobar Meteorol** 46.80 155 eP P 22 52 14.9 -0.5
BOD **Bodaibo** 47.45 352 eP P 22 52 20.5 +0.4
BOD pmax pmax
comp=Z,30nm,1.5s
PETK **Petropavlovsk-** 49.60 25 P P 22 52 35.9 -0.9
comp=Z,5.9nm,0.9s,baz=205,slow=2.5,SNR=4.0
PETK LR LR 23 09 44.3
comp=Z,730nm,21.9s,baz=66,slow=32
PETK **Petropavlovsk-** 49.60 25 P P 22 52 35.9 -0.9
PETK **Petropavlovsk-** 49.60 25 P P 22 52 35.9 -0.9
MKAR **Makanchi Array** 50.57 323 P P 22 52 45.7 +1.4
comp=Z,30nm,1.0s,baz=120,slow=8.6,SNR=31
MKAR **Makanchi Array** 50.57 323 P P 22 52 45.7 +1.4
MKAR **Makanchi Array** 50.57 323 P P 22 52 45.7 +1.4
YAK **Yakutsk** 51.07 3 eP P 22 52 47.8 +0.1
YAK e 22 53 58.2
YAK e 22 54 44.2
YAK ePPP PPP 22 55 47.1
YAK eS S 22 59 59.5 -5.6
YAK e 23 02 28.1
YAK eSS SS 23 03 37.3 -2.9
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=Z,94nm,3.9s
YAK pmax pmax
comp=E,32nm,2.7s
YAK pmax pmax
comp=N,81nm,3.5s
YAK **Yakutsk** 51.07 3 eP P 22 52 48.0 +0.2
comp=N,40nm,0.8s
CNB **Canberra Magne** 51.60 154 eP P 22 52 52.0 -0.2
KSH **Kashi** 51.66 312 P P 22 52 55.5 +2.7
KSH pP pP 22 53 11.3 +15
KSH sP sP 22 53 18.3 +21
KSH PcP PcP 22 54 08.0 +1.6
KSH PP PP 22 54 54.5 +4.2
KSH ScP ScP 22 57 58.3 -5.1
KSH PcS PcS 22 58 04.5 +0.1
KSH S S 23 00 11.5 -2.8
KSH sS sS 23 00 38.8 +19
KSH SS SS 23 03 47.0 -3.7
KSH pmax pmax
comp=Z,26nm,1.2s
KSH LR LR
comp=N,1µm,15.4s
KSH LR LR
comp=E,1µm,14.6s
KSH LR LR
comp=Z,1µm,17.8s
TOO **Toolangi** 52.07 159 eP P 22 52 55.8 +0.2
ULHL **Ulahol** 52.44 315 P P 22 53 00.8 +2.2
SNR=27
ULHL P P 22 53 00.8 +2.2
SNR=27
DZM **Mont Dzumac** 52.44 129 eLR LR 23 07 53.2
comp=Z,1µm,28.1s
DZM **Mont Dzumac** 52.44 129 P P 22 52 59.7 +1.0
comp=Z,10.0nm,0.5s,baz=27,slow=18,SNR=8.0
DZM **Mont Dzumac** 52.44 129 P P 22 52 59.7 +1.0
KZA **Kyzart** 53.06 315 P P 22 53 06.1 +2.6
SNR=26
KZA P P 22 53 06.1 +2.6
SNR=26
TKM2 **Tokmak 2** 53.13 316 P P 22 53 05.7 +2.0
SNR=18
TKM2 P P 22 53 05.7 +2.0
SNR=18
TKM2 **Tokmak 2** 53.13 316 i P P 22 53 05.7 +2.0
TKM2 **Tokmak 2** 53.13 316 eP P 22 53 03.7 0.0
comp=Z,58nm,1.4s
ZAA0 **Zalesovo Array** 53.29 332 eP P 22 53 04.2 -0.3
ZALV **Zalesovo Beam** 53.29 332 P P 22 53 04.7 +0.3
comp=Z,14nm,0.8s,baz=116,slow=6.8,SNR=15
ZALV LR LR 23 16 19.6
comp=Z,2µm,21.2s,baz=128,slow=37
ZALV **Zalesovo Beam** 53.29 332 P P 22 53 04.7 +0.3
ZALV **Zalesovo Beam** 53.29 332 P P 22 53 04.7 +0.3
KBK **Karagaybulak** 53.48 315 P P 22 53 08.6 +2.4
SNR=17
KBK P P 22 53 08.6 +2.4
SNR=17
UCH **Uchtor** 53.63 315 P P 22 53 10.3 +2.6
SNR=18
UCH P P 22 53 10.3 +2.6
SNR=18
CHMS **Chumysh** 53.73 316 P P 22 53 09.7 +1.7
SNR=22
CHMS P P 22 53 09.7 +1.7
SNR=22
FRU **Bishkek** 53.77 316 eP P 22 53 06.0 -2.2
AAK **Ala-Archa** 53.78 315 P P 22 53 10.2 +1.7
SNR=9.5
AAK P P 22 53 10.2 +1.7
SNR=9.5
AAK **Ala-Archa** 53.78 315 P P 22 53 09.9 +1.4
comp=Z,19nm,1.2s,baz=126,slow=7.2,SNR=9.2
AAK **Ala-Archa** 53.78 315 i P P 22 53 10.2 +1.7
AAK **Ala-Archa** 53.78 315 P P 22 53 09.9 +1.4
AAK **Ala-Archa** 53.78 315 P P 22 53 10.2 +1.7
comp=Z,130nm,1.1s,SNR=7.5
USP **Ospenovka** 54.00 316 P P 22 53 11.7 +1.8
SNR=28
USP P P 22 53 11.7 +1.8
SNR=28
AML **Almayashu** 54.17 314 P P 22 53 13.2 +1.6
SNR=36
AML P P 22 53 13.2 +1.6
SNR=36
EKS2 **Erkin-Say** 54.29 315 P P 22 53 14.4 +2.2
SNR=20
EKS2 P P 22 53 14.4 +2.2
SNR=20
EKS2 **Erkin-Say** 54.29 315 eP P 22 53 13.3 +1.2
EKS2 pmax pmax
comp=Z,53nm,1.1s
EKS2 **Erkin-Say** 54.29 315 eP P 22 53 13.3 +1.2
comp=Z,53nm,1.1s
NVS **Novosibirsk** 54.57 332 eP P 22 53 13.4 -0.4
NVS eS S 23 00 48.8 -4.3
NVS pmax pmax
comp=Z,78nm,1.5s
NVS pmax pmax
comp=N,29nm,1.4s
NVS pmax pmax
comp=E,34nm,1.4s
NVS smax smax
comp=E,35nm,2.6s
KURK **Kurchatov** 54.65 326 P P 22 53 15.0 +0.6
comp=E,69nm,1.0s,baz=124,slow=6.7,SNR=64
KURK **Kurchatov** 54.65 326 d iP P 22 53 14.9 +0.6
KURK pmax pmax
comp=Z,184nm,1.2s
KURK **Kurchatov** 54.65 326 eP P 22 53 15.0 +0.6
comp=Z,136nm,1.0s
KURK **Kurchatov** 54.65 326 P P 22 53 15.7 +1.3
comp=Z,818nm,1.1s,SNR=63
SEY **Seymchan** 55.49 15 eP P 22 53 19.4 -0.9
KBL **Kabul** 55.72 304 eP P 22 53 23.0 +0.3
KBL e 22 54 22.9
KBL pmax pmax
comp=Z,25nm,0.9s
KBL **Kabul** 55.72 304 eP P 22 53 22.9 +0.3
comp=Z,25nm,0.9s
KBL ePcP PcP 22 54 22.9 +0.8
KKAR **Karatay Array** 56.70 315 eP P 22 53 30.0 +0.6
KKAR **Karatay Array** 56.70 315 eP P 22 53 29.9 +0.6
BVAR **Borovoye Array** 60.24 326 P P 22 53 54.4 +0.6
comp=Z,33nm,1.0s,baz=117,slow=8.5,SNR=41
BVAR **Borovoye Array** 60.24 326 P P 22 53 54.4 +0.6
BVAR **Borovoye Array** 60.24 326 P P 22 53 54.4 +0.6
BRVK **Borovoye** 60.31 326 i iP P 22 53 54.6 +0.3
BRVK pmax pmax
comp=Z,96nm,1.2s
BRVK **Borovoye** 60.31 326 eP P 22 53 54.6 +0.3
comp=Z,67nm,1.0s
BRVK **Borovoye** 60.31 326 P P 22 53 55.0 +0.7
comp=Z,403nm,1.0s,SNR=38
BILL **Bilibino** 63.11 16 P P 22 54 13.0 0.0
BILL e 22 54 24.1
BILL 22 54 48.0
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,600nm,16.0s
BILL **Bilibino** 63.11 16 eP P 22 54 12.9 0.0
comp=Z,20nm,1.4s
ABKT **Ailbek** 64.94 307 P P 22 54 28.2 +2.6
comp=Z,126nm,1.3s,SNR=7.3
ABKAR **Akiak array** 65.37 319 eP P 22 54 28.1 0.0
comp=Z,20nm,0.8s
SVE **Sverdlovsk** 66.81 327 i eP P 22 54 37.2 0.0
SVE eSS SS 23 07 48.9 +1.4
SVE pmax pmax
comp=Z,120nm,1.0s
SVE MLR MLR
comp=Z,897nm,16.0s
AKTO **Aktyubinsk** 66.83 320 P P 22 54 37.9 +0.4
comp=Z,15nm,0.9s,baz=89,slow=7.6,SNR=20
AKTO **Aktyubinsk** 66.83 320 P P 22 54 37.9 +0.4
AKTO **Aktyubinsk** 66.83 320 P P 22 54 37.9 +0.4
ARU **Arti** 67.82 327 eP P 22 54 43.0 -0.6
ARU pmax pmax
comp=Z,48nm,0.8s
ARU **Arti** 67.82 327 eP P 22 54 43.0 -0.6
comp=Z,48nm,0.8s
ARU **Arti** 67.82 327 P P 22 54 43.7 +0.1
comp=Z,427nm,0.9s,SNR=23
RPZ **Rata Peaks** 68.80 146 P P 22 54 49.7 -0.2
comp=Z,15nm,0.7s,baz=251,slow=1.5,SNR=8.7
RPZ **Rata Peaks** 68.80 146 P P 22 54 49.8 -0.2
SOKR **Solikamsk** 69.48 330 eP P 22 54 54.2 +0.3
SOKR pmax pmax
comp=Z,50nm,1.3s
SOKR MLR MLR
comp=Z,1µm,19.0s
MAK **Makhachkala** 73.30 312 P P 22 55 20.1 +2.8
MAK e 22 58 08.1
MAK ePPP PPP 22 59 46.7
MAK eS S 23 04 45.2 -0.9
MAK e 23 05 25.3
MAK eSS SS 23 09 26.6 -1.1
MAK pmax pmax
comp=Z,22nm,0.6s
DGRG **David-gareji** 74.89 310 P P 22 55 31.3 +4.6
TBLG **Delisi** 75.36 310 eP P 22 55 32.4 +3.0
TBLG **Delisi** 75.36 310 P P 22 55 32.4 +3.0
GNI **Garni** 75.41 309 P P 22 55 33.5 +3.6
comp=Z,5.2nm,0.9s,baz=217,slow=21,SNR=6.2
GNI **Garni** 75.41 309 eP P 22 55 31.4 +1.5
GNI pmax pmax
comp=Z,22nm,1.3s
GNI **Garni** 75.41 309 eP P 22 55 30.7 +0.8
comp=Z,62nm,1.5s
RAYN **Ar Rayn** 75.94 292 P P 22 55 33.7 +0.6
comp=Z,105nm,1.1s,SNR=16
ZEI **Tsey** 75.95 311 eP P 22 55 32.7 -0.3
ZEI pmax pmax
comp=Z,43nm,1.6s
BHD **Baghdad** 76.08 302 i P P 22 55 35.0 +1.4
BHD i PcP PcP 22 55 50.0 +4.1
BHD eS S 23 05 15.0 -2.5
ONI **Oni** 76.28 311 P P 22 55 36.8 +2.0
AKH **Akhalkalaki** 76.31 310 P P 22 55 39.1 +4.0
KIV **Kislovodsk** 76.78 313 eP P 22 55 37.5 -0.1
KIV pmax pmax
comp=Z,19nm,0.8s
KIV **Kislovodsk** 76.78 313 eP P 22 55 37.5 -0.1
comp=Z,19nm,0.8s
KDAK **Kodiak Island** 76.85 33 P P 22 55 37.1 -0.4
comp=Z,13nm,0.8s,baz=150,slow=9.3,SNR=11
KDAK **Kodiak Island** 76.85 33 i P P 22 55 38.2 +0.7
KDAK **Kodiak Island** 76.85 33 P P 22 55 37.1 -0.4
VRHR **Novokhopersk** 77.24 320 eP P 22 55 39.2 -0.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR MLR MLR
comp=N,400nm,19.0s
VRHR MLR MLR
comp=E,290nm,19.0s
VRHR MLR MLR
comp=Z,550nm,19.0s
TRF **Thorofare Moun** 77.98 27 eP P 22 55 43.0 -1.0
comp=Z,30nm,1.3s
COLD **Coldfoot** 78.01 23 eP P 22 55 43.9 0.0
comp=Z,7.2nm,0.9s
KLMR **Klimovskoe** 78.17 330 i iP P 22 55 43.6 -1.2
KLMR e*PP PcP 22 55 57.8 +3.5
KLMR e 22 58 41.8
KLMR eSSS SSS 23 13 59.8
KLMR pmax pmax
comp=Z,175nm,1.7s
KLMR MLR MLR
comp=Z,2µm,21.0s
MCK **McKinley** 78.58 27 eP P 22 55 45.7 -1.4
MCK pmax pmax
comp=Z,20nm,0.8s
MCK **McKinley** 78.58 27 eP P 22 55 45.7 -1.4
comp=Z,20nm,0.8s
VORD **Divnogorie** 78.72 320 eP P 22 55 47.6 -0.4
VORD pmax pmax
comp=Z,20nm,1.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR **Storozhevoye** 78.78 320 eP P 22 55 47.6 -0.8
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.5s
MOS **Moscow** 79.41 325 eP P 22 55 49.1 -2.6
MOS eS S 23 05 52.9 +0.2
MOS pmax pmax
comp=Z,34nm,0.8s
MOS MLR MLR
comp=Z,800nm,19.0s
ILAR **Eielson Array** 79.43 26 P P 22 55 51.2 -0.4
comp=Z,1.1nm,0.7s,baz=253,slow=5.4,SNR=11
ILAR LR LR 23 30 26.5
comp=Z,392nm,19.4s,baz=173,slow=35
ILAR **Eielson Array** 79.43 26 P P 22 55 51.3 -0.4
ILAR **Eielson Array** 79.43 26 P P 22 55 51.2 -0.4
OBN **Obninsk** 80.05 324 i eP P 22 55 55.7 +0.5
OBN 22 56 04.0
OBN *PP PcP 22 56 11.0 +8.4
OBN 22 59 01.0
OBN pmax pmax
comp=Z,27nm,1.3s
OBN **Obninsk** 80.05 324 eP P 22 55 54.6 -0.7
comp=Z,58nm,1.4s
PAX **Paxson** 80.18 28 eP P 22 55 55.0 -1.0
PAX pmax pmax
comp=Z,110nm,2.2s
PAX **Paxson** 80.18 28 eP P 22 55 55.0 -1.0
comp=Z,110nm,2.2s
DIV **Divide** 80.19 30 eP P 22 55 54.5 -1.5
comp=Z,17nm,0.8s
APA **Apatity** 80.45 337 i iP P 22 56 02.6 +5.5
APA i S S 23 06 14.0 +11
APA i PS 23 07 10.0
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,1µm,16.0s
ANN **Anapa** 80.48 314 eP P 22 55 58.6 +0.8
ANN e*PP PcP 22 56 12.3 +7.6
ANN eS S 23 06 00.9 -3.5
ANN pmax pmax
comp=Z,154nm,1.3s
ANN MLR MLR
comp=N,1µm,22.0s
ANN MLR MLR
comp=E,850nm,22.0s
ANN MLR MLR
comp=Z,952nm,22.0s
JOF **Joensuu** 81.88 333 eP P 22 56 02.8 -2.0
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF **Joensuu** 81.88 333 ep P 22 56 02.8 -2.0
comp=Z,5.9nm,0.6s
JOF **Joensuu** 81.88 333 ep P 22 56 02.8 -2.0
comp=Z,5.9nm,0.6s
OPO **Ambohidratompo** 81.95 249 P P 22 56 08.9 +2.7
comp=Z,4.5nm,0.8s,baz=98,slow=6.8,SNR=5.0
OPO **Ambohidratompo** 81.95 249 P P 22 56 08.9 +2.7
ABPO **Ambohimpanom** 82.02 249 eP P 22 56 06.5 -0.2
ABPO pmax pmax
comp=Z,15nm,1.1s
ABPO **Ambohimpanom** 82.02 249 eP P 22 56 06.5 -0.2
comp=Z,15nm,1.1s
KEV **Kevo** 82.45 340 eP P 22 56 09.1 +1.4
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV **Kevo** 82.45 340 ep P 22 56 09.1 +1.4
comp=Z,4.3nm,0.7s
KEV **Kevo** 82.45 340 ep P 22 56 09.1 +1.4
comp=Z,4.3nm,0.7s
DAWY **Dawson** 82.74 26 eP P 22 56 09.2 -0.2
ARCES **ARCESS Array B** 83.01 340 P P 22 56 11.4 +0.8
comp=Z,12nm,1.0s,baz=72,slow=7.8,SNR=11
ARCES LR LR 23 37 17.9
comp=Z,934nm,18.6s,baz=88,slow=39
ARCES **ARCESS Array B** 83.01 340 P P 22 56 11.4 +0.8
ARCES **ARCESS Array B** 83.01 340 P P 22 56 11.4 +0.8
SPB4 **Spitsbergen Ar** 83.03 349 eP P 22 56 10.1 -0.5
BRTR **Keskin Array B** 83.94 309 P P 22 56 18.4 +2.1
comp=Z,1.3nm,0.8s,baz=121,slow=4.6,SNR=5.8
BRTR PP PP 22 59 25.8 -3.9
comp=Z,0.9nm,0.9s,baz=52,slow=4.8,SNR=3.8
BRTR **Keskin Array B** 83.94 309 P P 22 56 18.4 +2.1
BRTR 22 59 25.8
BRTR **Keskin Array B** 83.94 309 P P 22 56 18.4 +2.1
BRTR PP PP 22 59 25.8 -3.9
INK **Inuvik** 84.15 21 P P 22 56 17.7 +1.2
comp=Z,16nm,1.2s,baz=305,slow=7.2,SNR=10
INK **Inuvik** 84.15 21 eP P 22 56 17.0 +0.5
INK pmax pmax
comp=Z,26nm,1.4s
INK **Inuvik** 84.15 21 eP P 22 56 17.0 +0.5
comp=Z,26nm,1.4s
KAF **Kangasniemi** 84.31 332 eP P 22 56 15.8 -1.6
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF **Kangasniemi** 84.31 332 ep P 22 56 15.8 -1.6
comp=Z,4.8nm,0.7s
KAF **Kangasniemi** 84.31 332 ep P 22 56 15.8 -1.6
comp=Z,4.8nm,0.7s
FINES **FINESS Array B** 84.56 332 P P 22 56 19.0 +0.3
comp=Z,5.3nm,0.8s,baz=80,slow=4.5,SNR=10
FINES LR LR 23 35 28.8
comp=Z,780nm,21.6s,baz=87,slow=37
FINES **FINESS Array B** 84.56 332 P P 22 56 19.0 +0.3
FINES **FINESS Array B** 84.56 332 P P 22 56 19.0 +0.3
AKASG **Malin Array Be** 85.08 321 P P 22 56 21.4 -0.2
comp=Z,12nm,0.9s,baz=68,slow=4.4,SNR=14
AKASG LR LR 23 39 07.3
comp=Z,776nm,18.9s,baz=80,slow=39
AKASG **Malin Array Be** 85.08 321 P P 22 56 21.4 -0.2
AKASG **Malin Array Be** 85.08 321 P P 22 56 21.4 -0.2
AKBB **Malin Array Si** 85.08 321 eP P 22 56 20.9 -0.6
AKBB **Malin Array Si** 85.08 321 eP P 22 56 20.9 -0.6
KIEV **Kiev** 85.09 321 eP P 22 56 21.8 +0.2
KIEV pmax pmax
comp=Z,27nm,1.1s
KIEV **Kiev** 85.09 321 eP P 22 56 21.8 +0.2
comp=Z,27nm,1.1s
MICGM **Minsk** 85.12 324 e P 22 56 21.0 -0.7
MNK **Minsk** 85.14 324 eP P 22 56 21.0 -0.8
NACGM **Naroch** 85.65 325 e P 22 56 22.0 -2.3
KIS **Kishinev** 86.08 317 eP sP 22 56 40.0 +8.8
KIS e 22 59 52.0
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
KIS **Kishinev** 86.08 317 eP sP 22 56 40.0 +8.8
KIS **Kishinev** 86.08 317 ePP PP 22 59 52.0 +5.3
KIS LRM MLR 23 36 40.0
comp=Z,600nm,22.0s
EFOR **EFORIE** 86.81 314 i iP P 22 56 32.5 +2.2
CFR **Carcaliu** 86.93 315 i P P 22 56 34.0 +3.2
CFR **Carcaliu** 86.93 315 i iP P 22 56 34.0 +3.2
GRER 87.68 316 i iP P 22 56 33.0 -1.5
KMBO **Kilima Mbogo** 87.79 268 eP P 22 56 36.3 +0.3
KMBO pmax pmax
comp=Z,24nm,1.4s
KMBO **Kilima Mbogo** 87.79 268 eP P 22 56 36.2 +0.3
comp=Z,24nm,1.4s
SUW **Suwalki** 87.91 325 eP P 22 56 35.5 +0.1
SUW pmax pmax
comp=Z,34nm,1.0s
SUW **Suwalki** 87.91 325 eP P 22 56 35.5 +0.1
comp=Z,34nm,1.0s
BURAR **Bucovina Array** 88.33 318 i iP P 22 56 40.5 +2.8
BUR08 **Bucovina Ar. S** 88.33 318 eP P 22 56 38.6 +0.9
LVV **L'vov** 88.52 320 eP P 22 56 37.0 -1.4
LVV MLR MLR
comp=Z,700nm,24.0s
LVV MLR MLR
comp=N,400nm,25.0s
LVV MLR MLR
comp=E,600nm,24.0s

PPT2	**Papeete2**	**89.18**	**108**	*e*S		**S**	**23 07 29.3**	**-2.7**
	comp=E,318nm,28.0s							
PPT2				*e*LQ		LQ	23 21 19.0	
	comp=E,606nm,26.2s							
PPT2				*e*LR		LR	23 24 57.5	
	comp=E,511nm,22.5s							
MAW	**Mawson**	**89.88**	**200**	LR		LR	23 33 13.6	
	comp=E,298nm,21.1s,baz=60,slow=33							
UZH	**Uzhgorod**	**89.94**	**320**	*e*P		**P**	**22 56 46.6**	**+1.5**
UZH				*e*			23 00 21.6	
UZH				*e*PPP		PPP	23 02 18.0	
UZH				*e*			23 07 06.0	
UZH				*e*S		**S**	**23 07 36.0**	**-1.9**
UZH				*i* PS		PS	23 08 45.2	+0.5
UZH				*e*SS		**SS**	**23 13 28.8**	**-6.4**
UZH				*e*SSS		SSS	23 17 03.4	
UZH				MLR		MLR		
	comp=N,300nm,20.0s							
UZH				MLR		MLR		
	comp=E,650nm,20.0s							
UZH				MLR		MLR		
	comp=Z,350nm,20.0s							
DRGR		**90.19**	**318**	⇑*i*P		**P**	**22 56 48.1**	**+1.7**
DRGR		**90.19**	**318**	⇑*i*P		**P**	**22 56 48.1**	**+1.7**
TBI	**Tubuai**	**90.45**	**114**	*e*LQ		LQ	23 21 45.2	
	comp=Z,580nm,39.2s							
TBI				*e*LR		LR	23 25 38.9	
	comp=Z,1μm,23.2s							
VNDA	**Vanda**	**90.83**	**172**	*e*P		**P**	**22 56 47.6**	**-0.9**
VNDA				pmax		pmax		
	comp=Z,25nm,1.0s							
VNDA	**Vanda**	**90.83**	**172**	*e*P		**P**	**22 56 47.6**	**-0.9**
	comp=Z,25nm,1.0s							
NOA	**NORSAR Array B**	**91.46**	**333**	LR		LR	23 41 20.6	
	comp=Z,1μm,19.6s,baz=60,slow=38							
YKA	**Yellowknife Ar**	**93.69**	**24**	P		**P**	**22 57 01.2**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=300,slow=4.5,SNR=18							
YKA	**Yellowknife Ar**	**93.69**	**24**	P		**P**	**22 57 01.3**	**-0.8**
YKA	**Yellowknife Ar**	**93.69**	**24**	P		**P**	**22 57 01.2**	**-0.8**
CLL	**Collm**	**94.65**	**324**	*e*(PP)			23 01 00.0	
CLL				*e*SS		SS	23 14 42.0	-0.5
CLL				*e*SSSS			23 21 54.0	
CLL				LmV			23 41 00.0	
	comp=Z,1μm,21.1s							
GERES	**GERESS Array B**	**95.22**	**322**	P		**P**	**22 57 12.4**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=55,slow=8.5,SNR=2.9							
GERES				LR		LR	23 40 30.7	
	comp=Z,836nm,21.6s,baz=73,slow=36							
GERES	**GERESS Array B**	**95.22**	**322**	P		**P**	**22 57 12.4**	**+2.8**
GERES	**GERESS Array B**	**95.22**	**322**	P		**P**	**22 57 12.4**	**+2.8**
MOA	**Molln**	**95.26**	**321**	⇑*i*P		**P**	**22 57 09.2**	**-0.5**
	comp=Z,6.2nm,1.0s							
MOA	**Molln**	**95.26**	**321**	⇑*i*P		**P**	**22 57 09.2**	**-0.5**
	comp=Z,6.2nm,1.1s							
LPG	**La Plagne**	**100.94**	**321**	*e*PP		PP	23 01 46.4	+3.1
	comp=Z,45nm,1.6s							
LPL	**La Plagne**	**100.94**	**321**	*e*PP		PP	23 01 46.5	+3.3
	comp=Z,20nm,1.1s							
TXAR	**Lajitas Array**	**118.44**	**48**	PKP		**PKPdf**	**23 02 34.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=270,slow=1.3,SNR=4.8							
TXAR	**Lajitas Array**	**118.44**	**48**	PKIKP		**PKPdf**	**23 02 34.3**	**0.0**
TXAR	**Lajitas Array**	**118.44**	**48**	PKP		**PKPdf**	**23 02 34.2**	**0.0**
TORD	**Torodi Ar. Bea**	**118.64**	**292**	PKP		**PKPdf**	**23 02 36.2**	**+1.4**
	comp=Z,2.5nm,1.1s,baz=38,slow=2.9,SNR=6.9							
TORD				PP		**PP**	**23 03 55.9**	**+3.7**
	comp=Z,1.7nm,1.1s,baz=57,slow=7.1,SNR=4.1							
TORD				PKKPbc		**PKKPab**	**23 12 58.8**	**+4.8**
	comp=Z,1.0nm,0.9s,baz=256,slow=4.1,SNR=5.0							
TORD	**Torodi Ar. Bea**	**118.64**	**292**	PKP		**PKPdf**	**23 02 36.2**	**+1.4**
TORD				PP		**PP**	**23 03 55.9**	**+3.7**
TORD				PKKPbc		**PKKPab**	**23 12 58.8**	**+4.8**
JCT	**Junction City**	**120.53**	**45**	*e*PKIKP		**PKPdf**	**23 02 38.2**	**0.0**
JCT	**Junction City**	**120.53**	**45**	*e*PKPdf		**PKPdf**	**23 02 38.2**	**0.0**
DBIC	**Dimbokro**	**126.89**	**287**	PKP		**PKPdf**	**23 02 53.1**	**+2.5**
	comp=Z,4.8nm,1.0s,baz=110,slow=7.7,SNR=5.0							
DBIC	**Dimbokro**	**126.89**	**287**	PKIKP		**PKPdf**	**23 02 53.1**	**+2.5**
DBIC	**Dimbokro**	**126.89**	**287**	PKP		**PKPdf**	**23 02 53.1**	**+2.5**
LIC	**Lamto**	**127.20**	**287**	*e*PKIKP		**PKPdf**	**23 02 51.0**	**-0.3**
	comp=Z,38nm,1.2s							
SDDR	**Presa de Saban**	**146.26**	**28**	*e*PKPab		**PKPab**	**23 03 27.5**	**-0.5**
PLCA	**Paso Flores**	**147.44**	**158**	PKPbc		**PKPab**	**23 03 30.9**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=253,slow=2.8,SNR=8.8							
PLCA	**Paso Flores**	**147.44**	**158**	*e*PKP2		**PKPbc**	**23 03 29.7**	**-0.4**
PLCA	**Paso Flores**	**147.44**	**158**	*e*PKPbc		**PKPbc**	**23 03 29.7**	**-0.4**
SDV	**Santo Domingo**	**154.99**	**38**	*e*PKPbc		PKPdf	23 03 47.5	+7.5
LCO	**Las Campanas**	**156.96**	**143**	*e*PKPdf		**PKPdf**	**23 03 43.0**	**+0.6**
LPAZ	**La Paz**	**166.40**	**114**	PKP		**PKPdf**	**23 03 55.0**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=56,slow=3.4,SNR=5.7							
LPAZ				PKPab		**PKPab**	**23 04 56.1**	**+1.8**
	comp=Z,6.9nm,1.1s,baz=253,slow=2.5,SNR=6.6							
LPAZ	**La Paz**	**166.40**	**114**	PKIKP		**PKPdf**	**23 03 55.0**	**+2.2**
LPAZ	**La Paz**	**166.40**	**114**	PKP		**PKPdf**	**23 03 55.0**	**+2.2**
LPAZ				PKPab		**PKPab**	**23 04 56.1**	**+1.8**

*ISCJB **29** 22:45:01.2±0.6,36.95N±0.05×28.24E±0.04,h10km, Error ellipse: s-maj=7.1km s-min=3.8km az=21.2*
*CSEM **29** 22:45:01.5±0.3,36.95N×28.23E,h2km, MD2.7, Error ellipse: s-maj=8.5km s-min=4.9km az=22.0*
*DDA **29** 22:45:01.4,36.99N×28.24E,h7km, MD2.9*
*ISK **29** 22:45:01.3,36.97N×28.21E,h5km, MD2.7*

ISC 29 22:45:01.5±1.3,36.96N±0.04×28.25E±0.03,h10km,n14, σ1§19/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**8**	*e*PG		**Pg**	**22 45 05.3**	**-0.1**
YER				*e*SG		**Sg**	**22 45 08.4**	**+0.3**
YER	**Yerkesik**	**0.18**	**8**	*e*Pg		**Pg**	**22 45 05.3**	**-0.1**
YER				*e*Sg		**Sg**	**22 45 08.4**	**+0.3**
TURN	**Turunc**	**0.29**	**107**	*i* P		**Pg**	**22 45 05.9**	**-1.6**
TURN				*i* S		**Sg**	**22 45 09.1**	**-2.3**
TURN	**Turunc**	**0.29**	**107**	*i* P		**Pg**	**22 45 05.9**	**-1.6**
TURN				*i* S		**Sg**	**22 45 09.1**	**-2.3**
BDRM	**Kayabasi**	**0.65**	**280**	*i* P		**Pg**	**22 45 13.2**	**-1.0**
BDRM				*i* S		**Sg**	**22 45 23.6**	**+0.8**
BDRM	**Kayabasi**	**0.65**	**280**	*i* P		**Pg**	**22 45 13.2**	**-1.0**
BDRM				*i* S		**Sg**	**22 45 23.6**	**+0.8**
FETY	**Fethiye**	**0.74**	**116**	*e*PG		**Pg**	**22 45 16.8**	**+0.9**
FETY				*e*SG		**Sg**	**22 45 27.9**	**+2.3**
FETY	**Fethiye**	**0.74**	**116**	*e*Pg		**Pg**	**22 45 16.8**	**+0.9**
FETY				*e*Sg		**Sg**	**22 45 27.9**	**+2.3**
BODT	**Bodrum**	**0.76**	**278**	*e*PG		**Pg**	**22 45 16.0**	**-0.2**
BODT				*e*SG		**Sg**	**22 45 26.2**	**+0.1**
BODT	**Bodrum**	**0.76**	**278**	*e*Pg		**Pg**	**22 45 16.0**	**-0.2**
BODT				*e*Sg		**Sg**	**22 45 26.2**	**+0.1**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P		**Pg**	**22 45 16.0**	**-0.2**
AYDN				*i* S		**Sg**	**22 45 26.2**	**0.0**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P		**Pg**	**22 45 16.0**	**-0.2**
AYDN				*i* S		**Sg**	**22 45 26.2**	**0.0**
ELL	**Elmali**	**1.35**	**98**	*e*PN		**Pg**	**22 45 27.8**	**+0.4**
ELL	**Elmali**	**1.35**	**98**	*e*Pn		**Pg**	**22 45 27.8**	**+0.4**

*ISCJB **29** 22:46:01.8±0.5,23.2N±0.1×93.70E±0.08,h73km, mb4.0/16, Error ellipse: s-maj=17.4km s-min=4.3km az=35.3*
*NEIC **29** 22:46:03.5±0.7,23.34N×93.97E,h76km±6km, mb4.5/4, Error ellipse: s-maj=15.6km s-min=6.0km az=224.0*
*IDC **29** 22:46:06.2±3.0,23.47N×94.21E,h104km±30km, mb3.6/14, mb1 3.7/15, mb1mx3.6/29, mbtmp3.6/15, Error ellipse: s-maj=48.9km s-min=12.2km az=55.0*

ISC 29 22:46:03.5±0.6,23.3N±0.1×93.80E±0.10,h73km,n56, σ1§73/78,mb4.1/16,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**6.79**	**340**	*e*Pn		**Pn**	**22 47 41.4**	**+0.5**
ODAN	**Odare**	**6.79**	**303**	*e*Pn		**Pn**	**22 47 42.8**	**+2.0**
ODAN				*e*Sn		**Sn**	**22 48 55.9**	**-0.9**
	622nm,0.4s							
ODAN	**Odare**	**6.79**	**303**	*e*Pn		**Pn**	**22 47 42.8**	**+2.0**
ODAN				*e*Sn		**Sn**	**22 48 55.9**	**-0.9**
TAPN	**Taplejung**	**6.82**	**307**	*e*Pn		**Pn**	**22 47 43.0**	**+1.9**
TAPN				*e*Sn		**Sn**	**22 48 56.7**	**-0.7**
	250nm,0.4s							
TAPN	**Taplejung**	**6.82**	**307**	*e*Pn		**Pn**	**22 47 43.0**	**+1.9**
TAPN				*e*Sn		**Sn**	**22 48 56.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**6.82**	**134**	P		**Pn**	**22 47 40.3**	**-0.6**
	0.7nm,0.3s,baz=313,slow=14,SNR=5.6							
CMAR				S		**Sn**	**22 48 57.4**	**+0.3**
	0.6nm,0.3s,baz=314,slow=22,SNR=2.6							
CMAR	**Chiang Mai Arr**	**6.82**	**134**	P		**Pn**	**22 47 40.3**	**-0.6**
CMAR				S		**Sn**	**22 48 57.5**	**+0.3**
RAMN	**Ramite**	**7.46**	**301**	*e*Pn		**Pn**	**22 47 51.9**	**+2.1**
RAMN				*e*Sn		**Sn**	**22 49 11.1**	**-2.0**
	246nm,0.4s							
RAMN	**Ramite**	**7.46**	**301**	*e*Pn		**Pn**	**22 47 51.9**	**+2.1**
RAMN				*e*Sn		**Sn**	**22 49 11.1**	**-2.0**
JIRN	**Jiri**	**8.12**	**304**	*e*Pn		**Pn**	**22 48 00.5**	**+1.5**
JIRN				*e*Sn		**Sn**	**22 49 27.2**	**-2.2**
	366nm,0.4s							
JIRN	**Jiri**	**8.12**	**304**	*e*Pn		**Pn**	**22 48 00.5**	**+1.5**
JIRN				*e*Sn		**Sn**	**22 49 27.2**	**-2.2**
GUN	**Gumba**	**8.48**	**304**	*e*Pn		**Pn**	**22 48 05.7**	**+1.7**
GUN				*e*Sn		**Sn**	**22 49 35.6**	**-2.7**
	357nm,0.5s							
GUN	**Gumba**	**8.48**	**304**	*e*Pn		**Pn**	**22 48 05.7**	**+1.7**
GUN				*e*Sn		**Sn**	**22 49 35.6**	**-2.7**
PKI	**Pulchoki**	**8.68**	**301**	*e*Pn		**Pn**	**22 48 07.9**	**+1.2**
PKI				*e*Sn		**Sn**	**22 49 40.5**	**-2.7**
	138nm,0.5s							
PKI	**Pulchoki**	**8.68**	**301**	*e*Pn		**Pn**	**22 48 07.9**	**+1.2**
PKI				*e*Sn		**Sn**	**22 49 40.5**	**-2.7**
KKN	**Kakani**	**8.89**	**302**	*e*Pn		**Pn**	**22 48 11.3**	**+2.0**
KKN				*e*Sn		**Sn**	**22 49 45.3**	**-2.7**
	98nm,0.3s							
KKN	**Kakani**	**8.89**	**302**	*e*Pn		**Pn**	**22 48 11.3**	**+2.0**
KKN				*e*Sn		**Sn**	**22 49 45.3**	**-2.7**
DMN	**Daman**	**8.94**	**300**	*e*Pn		**Pn**	**22 48 12.1**	**+2.0**
DMN				*e*Sn		**Sn**	**22 49 46.8**	**-2.6**
	120nm,0.5s							
DMN	**Daman**	**8.94**	**300**	*e*Pn		**Pn**	**22 48 12.1**	**+2.0**
DMN				*e*Sn		**Sn**	**22 49 46.8**	**-2.6**
GKN	**Gorkha**	**9.49**	**301**	*e*Pn		**Pn**	**22 48 19.4**	**+1.9**
GKN				*e*Sn		**Sn**	**22 50 00.2**	**-2.4**
	220nm,0.4s							
GKN	**Gorkha**	**9.49**	**301**	*e*Pn		**Pn**	**22 48 19.4**	**+1.9**
GKN				*e*Sn		**Sn**	**22 50 00.2**	**-2.4**
KOLN	**Koldanda**	**10.22**	**298**	*e*Pn		**Pn**	**22 48 28.0**	**+0.5**
KOLN				*e*Sn		**Sn**	**22 50 16.5**	**-4.0**
	120nm,0.4s							
KOLN	**Koldanda**	**10.22**	**298**	*e*Pn		**Pn**	**22 48 28.0**	**+0.5**
KOLN				*e*Sn		**Sn**	**22 50 16.5**	**-4.0**
DANN	**Dangsing**	**10.34**	**301**	*e*Pn		**Pn**	**22 48 30.4**	**+1.2**
DANN	**Dangsing**	**10.34**	**301**	*e*Pn		**Pn**	**22 48 30.4**	**+1.2**
TKM2	**Tokmak 2**	**24.70**	**327**	*e*P		**P**	**22 51 19.3**	**+1.4**
	7.7nm,0.6s							
AAK	**Ala-Archa**	**25.06**	**325**	P		**P**	**22 51 23.3**	**+2.1**
	3.2nm,0.5s,baz=108,slow=6.5,SNR=5.6							
AAK	**Ala-Archa**	**25.06**	**325**	*e*P		**P**	**22 51 23.1**	**+1.9**
	14nm,0.5s							
MKAR	**Makanchi Array**	**25.19**	**341**	P		**P**	**22 51 22.3**	**+0.1**
	3.8nm,0.7s,baz=149,slow=11,SNR=15							
MKAR	**Makanchi Array**	**25.19**	**341**	P		**P**	**22 51 22.3**	**+0.1**
KURK	**Kurchatov**	**29.79**	**340**	P		**P**	**22 52 02.3**	**-0.9**
	0.9nm,0.6s,baz=184,slow=5.9,SNR=9.5							
KURK	**Kurchatov**	**29.79**	**340**	*e*P		**P**	**22 52 02.6**	**-0.6**
	2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**31.33**	**350**	P		**P**	**22 52 15.9**	**-0.8**
	0.5nm,0.3s,baz=162,slow=9.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**31.33**	**350**	P		**P**	**22 52 15.9**	**-0.8**
BVAR	**Borovoye Array**	**34.59**	**335**	P		**P**	**22 52 45.2**	**0.0**
	0.3nm,0.3s,baz=131,slow=8.8,SNR=5.2							
BVAR	**Borovoye Array**	**34.59**	**335**	P		**P**	**22 52 45.2**	**0.0**
ABKAR	**Akbulak array**	**37.11**	**323**	*e*P		**P**	**22 53 07.8**	**+1.1**
	4.4nm,0.5s							
AKTO	**Aktyubinsk**	**38.78**	**323**	P		**P**	**22 53 21.9**	**+1.1**
	2.3nm,0.4s,baz=120,slow=8.2,SNR=14							
AKTO	**Aktyubinsk**	**38.78**	**323**	P		**P**	**22 53 21.9**	**+1.1**
BRTR	**Keskin Array B**	**52.89**	**303**	P		**P**	**22 55 13.0**	**+0.7**
	0.5nm,0.5s,baz=134,slow=11,SNR=4.4							
BRTR	**Keskin Array B**	**52.89**	**303**	P		**P**	**22 55 13.0**	**+0.7**
AKASG	**Malin Array Be**	**56.31**	**316**	P		**P**	**22 55 36.4**	**-0.2**
	1.7nm,0.5s,baz=82,slow=6.5,SNR=7.7							
AKASG	**Malin Array Be**	**56.31**	**316**	P		**P**	**22 55 36.4**	**-0.2**
WRA	**Warramunga Arr**	**58.41**	**134**	P		**P**	**22 55 50.2**	**-1.7**
	1.0nm,0.4s,baz=323,slow=7.4,SNR=7.9							
WRA	**Warramunga Arr**	**58.41**	**134**	P		**P**	**22 55 50.2**	**-1.7**
FINES	**FINESS Array B**	**59.16**	**329**	P		**P**	**22 55 56.1**	**-0.3**
	1.9nm,0.9s,baz=120,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**59.16**	**329**	P		**P**	**22 55 56.1**	**-0.3**
KWP	**Kalwaria Pacla**	**60.48**	**315**	P		**P**	**22 56 06.7**	**+0.9**
ASAR	**Alice Springs**	**60.82**	**137**	P		**P**	**22 56 07.0**	**-1.4**
	0.9nm,0.4s,baz=320,slow=6.7,SNR=8.7							
ASAR	**Alice Springs**	**60.82**	**137**	P		**P**	**22 56 07.0**	**-1.4**
NOA	**NORSAR Array B**	**66.32**	**328**	P		**P**	**22 56 42.6**	**-1.5**
	0.5nm,0.5s,baz=85,slow=6.6,SNR=2.9							
NOA	**NORSAR Array B**	**66.32**	**328**	P		**P**	**22 56 42.6**	**-1.5**
GERES	**GERESS Array B**	**66.43**	**315**	P		**P**	**22 56 45.8**	**+0.7**
	0.8nm,0.4s,baz=68,slow=6.7,SNR=8.4							
GERES	**GERESS Array B**	**66.43**	**315**	P		**P**	**22 56 45.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**86.78**	**283**	P		**P**	**22 58 41.9**	**+1.5**
	0.4nm,0.9s,baz=5.7,slow=1.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**86.78**	**283**	P		**P**	**22 58 41.9**	**+1.5**

IDC 29 22:47:06.3±0.8,1.94N×127.33E,h0km,mb4.3/8, mb1 4.4/9,mb1mx4.1/20,mbtmp4.3/9,ML4.4/1,Error ellipse: s-maj=56.6km s-min=14.7km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.98**	**185**	P		Pn	22 51 41.4	-0.8
	0.8nm,0.3s,baz=20,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**22.81**	**163**	P		P	22 52 10.8	-0.1
	14nm,0.6s,baz=340,slow=11,SNR=32							
ASAR	**Alice Springs**	**26.24**	**166**	P		P	22 52 43.0	-0.4
	2.1nm,0.6s,baz=350,slow=8.0,SNR=5.2							
MJAR	**Matsushiro Arr**	**35.87**	**15**	P		P	22 54 08.0	-0.1
	1.5nm,0.6s,baz=186,slow=11,SNR=4.7							
STKA	**Stephens Creek**	**36.25**	**159**	P		P	22 54 11.4	0.0
	12nm,0.6s,baz=335,slow=8.7,SNR=9.1							
SONM	**Songino Array**	**49.18**	**341**	P		P	22 55 57.1	+0.8
	0.7nm,0.7s,baz=154,slow=7.2,SNR=5.0							
MKAR	**Makanchi Array**	**59.36**	**326**	P		P	22 57 10.6	+0.1
	1.4nm,0.4s,baz=115,slow=7.6,SNR=20							
KURK	**Kurchatov**	**63.56**	**328**	P		P	22 57 38.4	-0.3
	2.9nm,0.6s,baz=128,slow=6.2,SNR=20							
BVAR	**Borovoye Array**	**69.14**	**327**	P		P	22 58 13.8	-0.7
	1.4nm,0.8s,baz=99,slow=4.0,SNR=4.4							

*ISCJB **29** 22:49:57.8±0.8, 10.99N±0.06×124.9E±0.1, h22km±7km, mb4.0/8, Error ellipse: s-maj=17.9km s-min=9.3km az=9.6*
*IDC **29** 22:49:57.0±2.2, 10.44N×123.68E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=271.4km s-min=18.3km az=64.0*
*MAN **29** 22:49:57, 10.87N×124.65E, h1km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY IV - ALBUERA LEYTE.
*NEIC **29** 22:49:59.9±1.0, 11.02N×124.89E, h10km, mb4.2/4, Error ellipse: s-maj=25.6km s-min=10.0km az=100.0*
NEIC Felt [IV PIVS] at Albuera.

ISC 29 22:49:58.8±1.3,10.98N±0.08×124.9E±0.1,h14km±10km, n17,σ2§01/17,mb4.1/8,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.20**	**22**	⇑*i*P		**Pg**	**22 50 02.6**	**-0.7**
PLP				*e*S		**Sg**	**22 50 06.1**	**-0.2**
TBP	**Tagbilaran**	**1.64**	**219**	*e*P		**Pn**	**22 50 26.3**	**-1.1**
TBP				*e*S		**Sn**	**22 50 43.7**	**-4.6**
KKM	**Kota Kinabalu**	**9.90**	**241**	*e*Pn		**Pn**	**22 52 22.3**	**+1.4**
YULB	**Yu-li**	**12.81**	**345**	*e*Pn		**Pn**	**22 53 01.3**	**+0.6**
TPUB	**Ta-pu**	**12.91**	**342**	*e*Pn		**Pn**	**22 53 04.4**	**+2.3**
TATO	**Taipei**	**14.29**	**347**	*e*P		P	22 53 32.4	+4.3
JOW	**Kunigami**	**16.08**	**11**	*e*Pn		**Pn**	**22 53 46.4**	**+1.7**
	18nm,1.2s							
KAPI	**Kappang**	**16.70**	**198**	*e*Pn		**Pn**	**22 53 55.1**	**+2.5**
	21nm,0.9s							
IPM	**Ipoh**	**24.52**	**257**	*e*P		**P**	**22 55 19.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**28.91**	**179**	*e*P		**P**	**22 55 59.3**	**+1.7**
	4.9nm,0.8s							
WRA	**Warramunga Arr**	**32.10**	**163**	P		**P**	**22 56 25.4**	**-0.5**
	0.4nm,0.6s,baz=343,slow=8.7,SNR=3.0							
ASAR	**Alice Springs**	**35.54**	**166**	P		P	22 56 53.7	-2.1
	1.2nm,0.5s,baz=340,slow=7.2,SNR=7.3							
ULN	**Ulaanbaatar**	**39.71**	**341**	*e*P		**P**	**22 57 30.0**	**-0.9**
	3.4nm,0.8s							
STKA	**Stephens Creek**	**45.52**	**160**	P		P	**22 58 17.9**	**-0.2**
	2.7nm,0.8s,baz=0.0,slow=8.1,SNR=2.9							
MKAR	**Makanchi Array**	**50.65**	**323**	P		**P**	**22 58 56.6**	**-1.2**
	1.1nm,0.8s,baz=124,slow=7.9,SNR=2.7							
KURK	**Kurchatov**	**54.73**	**326**	P		**P**	**22 59 26.0**	**-1.8**
	1.8nm,0.8s,baz=126,slow=7.0,SNR=5.5							
BVAR	**Borovoye Array**	**60.32**	**326**	P		**P**	**23 00 05.8**	**-1.4**
	1.0nm,0.8s,baz=106,slow=9.4,SNR=3.6							

*CSEM **29** 22:56:56.7±0.1,36.92N×28.30E,h10km,MD2.6, Error ellipse: s-maj=3.2km s-min=2.3km az=9.0*
*DDA **29** 22:56:57.8,36.99N×28.23E,h7km,MD2.9*

ISK 29 22:56:58.2,37.03N×28.17E,h2km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**42**	*e*PG		Pg	22 57 01.6	+0.5
YER				*e*SG		Sg	22 57 04.4	+1.5
YER	**Yerkesik**	**0.14**	**42**	*e*Pg		Pg	22 57 01.6	+0.6
YER				*e*Sg		Sg	22 57 04.4	+1.4
TURN	**Turunc**	**0.38**	**114**	*i* P		Pg	22 57 02.1	-3.4
TURN				*i* S		Sg	22 57 05.5	-5.1
TURN	**Turunc**	**0.38**	**114**	*i* P		Pg	22 57 02.1	-3.5
TURN				*i* S		Sg	22 57 05.5	-5.0
BDRM	**Kayabasi**	**0.58**	**274**	*i* P		Pb	22 57 10.4	-0.7
BDRM				*i* S		Sb	22 57 19.3	-0.5
BDRM	**Kayabasi**	**0.58**	**274**	*i* P		Pb	22 57 10.4	-0.7
BDRM				*i* S		Sb	22 57 19.3	-0.5
AYDN	**Tasoluk**	**0.67**	**340**	*i* P		Pb	22 57 12.3	-0.4
AYDN				*i* S		Sb	22 57 22.2	-0.3
AYDN	**Tasoluk**	**0.67**	**340**	*i* P		Pb	22 57 12.3	-0.4
AYDN				*i* S		Sb	22 57 22.2	-0.3
BODT	**Bodrum**	**0.69**	**273**	*e*PG		Pb	22 57 12.4	-0.5
BODT				*e*SG		Sb	22 57 22.7	-0.2
BODT	**Bodrum**	**0.69**	**273**	*e*Pg		Pb	22 57 12.4	-0.5
BODT				*e*Sg		Sb	22 57 22.7	-0.2
ELL	**Elmali**	**1.43**	**101**	*e*PN		Pg	22 57 26.2	+0.4
ELL				*e*SN		Sn	22 57 46.1	+1.4

MAN 29 23:08:01,11.04N×124.82E,h11km,mb4.4,ML3.2,MS3.0, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.21**	**51**	⇑*e*P		Pb	23 08 08.9	+2.0
PLP				*e*S		Sg	23 08 12.5	+4.1
TBP	**Tagbilaran**	**1.63**	**215**	*e*P		Pg	23 08 32.1	-0.3

*NEIC **29** 23:12:59.7±1.3, 11.12N×124.37E, h10km, mb4.1/2, Error ellipse: s-maj=26.8km s-min=11.0km az=106.0*
NEIC Felt [IV PIVS] at Albuera.

MAN 29 23:12:45,11.10N×124.76E,h24km,mb4.4,ML3.3,MS3.2, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.23**	**72**	⇑*i*P		Pn	23 12 52.8	-0.1
PLP				*i* S		Sb	23 12 57.5	+2.6
TBP	**Tagbilaran**	**1.65**	**212**	*e*P		Pb	23 13 18.4	+3.6
YHNB	**Yeheng**	**13.88**	**347**	*e*Pn		P	23 16 13.6	+5.2
TATO	**Taipei**	**14.15**	**348**	*e*Pn		P	23 16 19.1	+7.7
QIZ	**Qiongzhong**	**16.41**	**300**	*e*Pn		P	23 16 46.0	+9.4

*ISCJB **29** 23:35:06.5±0.7,23.95N±0.02×122.45E±0.02,h8km±5km, Error ellipse: s-maj=3.3km s-min=2.6km az=167.7*
*TAP **29** 23:35:07.7,24.01N×122.41E,h21km,

	baz=328							
NCU	**National Centr**	**1.51**	**311**	*e*P	**Pg**	**23**	**35**	**36.5 +0.7**
	baz=308							
TWQ1	**Liyutan**	**1.57**	**284**	*e*P	**Pn**	**23**	**35**	**35.0 +0.5**
	baz=281							
TWQ1				*e*S	**Sn**	**23**	**35**	**55.1 +0.2**
	baz=281							
JIJ	**Ishigaki jima**	**1.59**	**76**	P	**Pn**	**23**	**35**	**34.4 -0.3**
JIJ				*e*S	**Sn**	**23**	**35**	**54.4 -0.9**
NSY	**Sanyi**	**1.60**	**286**	*e*P	**Pn**	**23**	**35**	**35.6 +0.7**
	baz=284							
TCU	**Taichung**	**1.63**	**276**	*e*P	**Pn**	**23**	**35**	**36.0 +0.7**
	baz=273							
TCU				*e*S	**Sn**	**23**	**35**	**56.2 0.0**
	baz=273							
CHN5	**Tsauling**	**1.67**	**257**	P	**Pn**	**23**	**35**	**36.2 +0.4**
	baz=242							
CHN5				S	**Sn**	**23**	**35**	**57.6 +0.3**
	baz=242							
TWG	**Pinlang**	**1.71**	**228**	*e*P	**Pn**	**23**	**35**	**37.1 +0.6**
	baz=237							
STYT	**Tauyuan**	**1.75**	**243**	*e*P	**Pn**	**23**	**35**	**37.7 +0.6**
	baz=229							
STYT				*e*S	**Sn**	**23**	**35**	**58.3 -1.0**
	baz=229							
CHN4	**Tsaushan**	**1.81**	**250**	*e*P	**Pn**	**23**	**35**	**38.4 +0.5**
	baz=247							
CHN4				*e*S	**Sn**	**23**	**36**	**01.1 +0.4**
	baz=247							
WTP	**Ta-pu**	**1.84**	**247**	*e*P	**Pn**	**23**	**35**	**38.5 +0.4**
	baz=232							
WTP				*e*S	**Sn**	**23**	**36**	**02.0 +0.7**
	baz=232							
CHN2	**Minshiung**	**1.86**	**257**	*e*P	**Pn**	**23**	**35**	**40.0 +1.6**
	baz=254							
CHN2				*e*S	**Sn**	**23**	**36**	**03.0 +1.1**
	baz=254							
CHY	**Chiayi**	**1.92**	**256**	*e*P	**Pn**	**23**	**35**	**40.1 +0.9**
	baz=253							
CHY				*e*S	**Sn**	**23**	**36**	**04.0 +0.7**
	baz=253							
CHN1	**Nanshi**	**1.93**	**246**	*e*P	**Pn**	**23**	**35**	**40.4 +0.9**
	baz=243							
CHN1				*e*S	**Sn**	**23**	**36**	**04.4 +0.7**
	baz=243							
SGST	**Jiashian**	**1.93**	**243**	*e*P	**Pn**	**23**	**35**	**40.6 +1.1**
	baz=229							
SGST				*e*S	**Sn**	**23**	**36**	**04.6 +0.9**
	baz=229							
TWK	**Hsinying**	**1.94**	**249**	*e*P	**Pn**	**23**	**35**	**40.6 +1.1**
	baz=246							
TWK				*e*S	**Sn**	**23**	**36**	**04.3 +0.5**
	baz=246							
ECL	**Taimali**	**1.95**	**225**	*e*P	**Pn**	**23**	**35**	**39.9 +0.2**
	baz=234							
SSD	**Sandimen**	**2.07**	**234**	*e*P	**Pn**	**23**	**35**	**42.3 +0.9**
	baz=224							
SSD				*e*S	**Sn**	**23**	**36**	**08.2 +1.0**
	baz=224							
CHN3	**Shinhua**	**2.12**	**245**	*e*P	**Pn**	**23**	**35**	**43.2 +1.2**
	baz=242							
CHN3				*e*S	**Sn**	**23**	**36**	**09.5 +1.3**
	baz=242							
EAST	**Anshuo**	**2.17**	**223**	*e*P	**Pn**	**23**	**35**	**43.5 +0.8**
	baz=221							
TWM1	**Shoushan**	**2.19**	**239**	*e*P	**Pn**	**23**	**35**	**43.9 +0.9**
	baz=236							
TWM1				*e*S	**Sn**	**23**	**36**	**11.9 +1.8**
	baz=236							
TWK1	**Hengchun**	**2.53**	**217**	*e*P	**Pn**	**23**	**35**	**48.4 +0.7**
	baz=214							
TWK1				*e*S	**Sn**	**23**	**36**	**19.3 +0.8**
	baz=214							

IDC 29 23:39:46.5±4.9, 2°16S×100°17E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=190.5km s-min=29.4km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.77**	**120**	P	P	23 47 04.5	-0.2
	0.3nm,0.3s,baz=300,slow=8.5,SNR=3.7						
SONM	**Songino Array**	**50.09**	**5**	P	P	23 48 43.7	+0.3
	0.2nm,0.5s,baz=181,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**51.23**	**344**	P	P	23 48 51.6	-0.4
	0.1nm,0.3s,baz=163,slow=9.0,SNR=7.7						

*DDA **29** 23:41:16.6, 36°.74N×39°.02E, h2km, MD2.9*
*NSSC **29** 23:41:17.2±3.3, 36°.47N×38°.82E, h44km±437km, ML2.0*
*CSEM **29** 23:41:18.6±0.3, 36°.75N×39°.03E, h10km, ML2.0, Error ellipse: s-maj=11.2km s-min=6.5km az=31.0*
*ISCJB **29** 23:41:19.3±0.8, 36°.74N±0°.05×39°.00E±0°.05, h15km±12km, Error ellipse: s-maj=8.9km s-min=5.7km az=22.8*
ISC 29 23:41:17.8±1.3, 36°.74N±0°.06×39°.01E±0°.03, h12km±12km, n15, σ0s50/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRV	**Kasrt alli**	**0.87**	**181**	*e*P	**Pn**	**23 41 36.5**	**+0.6**
KSRV				AML	AML	23 41 52.0	
	comp=Z,29nm,0.3s						
KSRV	**Kasrt alli**	**0.87**	**181**	*e*P	**Pn**	**23 41 36.5**	**+0.6**
	SNR=90						
ATAB	**Bozova**	**0.93**	**322**	*i* P	**Pg**	**23 41 35.2**	**-0.6**
ATAB				*i* S	**Sg**	**23 41 47.9**	**0.0**
ATAB	**Bozova**	**0.93**	**322**	*i* P	**Pg**	**23 41 35.2**	**-0.6**
ATAB				*i* S	**Sg**	**23 41 47.9**	**0.0**
SFNV	**Sufian**	**0.94**	**110**	*e*P	**Pn**	**23 41 36.7**	**-0.2**
SFNV				*e*S	**Sn**	**23 41 50.0**	**-0.3**
SFNV				AML	AML	23 41 57.5	
	comp=Z,21nm,0.3s						
SFNV	**Sufian**	**0.94**	**110**	*e*P	**Pn**	**23 41 36.7**	**-0.2**
	SNR=90						
SFNV				*e*S	**Sn**	**23 41 50.0**	**-0.3**
	comp=Z,21nm,0.3s,SNR=90						
KBSD	**Kabsdagh**	**1.25**	**77**	*e*P	**Pg**	**23 41 42.2**	**+0.2**
KBSD				*e*S	**Sg**	**23 41 58.7**	**+0.4**
KBSD				AML	AML	23 41 59.6	
	comp=Z,51nm,0.3s						
KBSD				AML	AML	23 42 00.7	
	comp=E,81nm,0.4s						
KBSD	**Kabsdagh**	**1.25**	**77**	*e*P	**Pg**	**23 41 42.2**	**+0.2**
	SNR=90						
KBSD				*e*S	**Sg**	**23 41 58.7**	**+0.4**
	comp=E,81nm,0.4s,SNR=90						
MARD	**Mardin**	**1.52**	**67**	*i* P	**Pb**	**23 41 45.8**	**-0.3**
MARD				*i* S	**Sb**	**23 42 05.6**	**+0.1**
KUZU	**Kuzuini**	**1.56**	**272**	*i* P	**Pb**	**23 41 46.5**	**-0.1**
KUZU				*i* S	**Sb**	**23 42 06.5**	**+0.2**
KUZU	**Kuzuini**	**1.56**	**272**	*i* P	**Pb**	**23 41 46.5**	**-0.1**
KUZU				*i* S	**Sb**	**23 42 06.5**	**+0.2**
MZRK	**Al-Mazaregh**	**1.61**	**124**	*e*P	**Pn**	**23 41 45.2**	**-0.8**
MZRK				AML	AML	23 42 06.3	
	comp=Z,10nm,0.5s						
MZRK	**Al-Mazaregh**	**1.61**	**124**	*e*P	**Pn**	**23 41 45.2**	**-0.8**
	SNR=90						
AKCD	**Akcadag**	**1.78**	**331**	*e*P	**Pb**	**23 41 50.8**	**+0.3**
AKCD				*e*S	**Sb**	**23 42 13.7**	**+0.9**
AKCD	**Akcadag**	**1.78**	**331**	*e*P	**Pb**	**23 41 50.8**	**+0.3**
AKCD				*e*S	**Sb**	**23 42 13.7**	**+0.9**

MAN 29 23:41:20, 10°.91N×124°.82E, h1km, mb4.3, ML3.1, MS2.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.30**	**31⇑**	*e*P	Pg	23 41 25.8	0.0
PLP				*i* S	Sg	23 41 30.2	+0.4
TBP	**Tagbilaran**	**1.53**	**218**	*e*P	Pb	23 41 49.3	+0.1
TBP				*e*S	Sg	23 42 11.7	+2.3

*ISCJB **29** 23:50:31.8±0.9, 29°.33N±0°.10×51°.9E±0°.1, h10km, mb3.5/3, Error ellipse: s-maj=17.2km s-min=10.7km az=44.4*
*IDC **29** 23:50:31.8±2.7, 29°.29N×51°.95E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=62.7km s-min=32.6km az=157.0*
*CSEM **29** 23:50:32.3, 29°.38N×51°.82E, h18km, ML3.0, After THR*
ISC 29 23:50:33.8±1.1, 29°.4N±0°.1×51°.9E±0°.1, h10km, n8, σ0s78/8, mb3.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.46**	**138**	*e*Pg	**Pn**	**23 50 59.8**	**-0.6**
NASN	**Na'in**	**3.51**	**13**	*e*Pn	**Pn**	**23 51 28.4**	**-0.3**
KRBR	**Kerman**	**4.30**	**81**	*e*Pn	**Pn**	**23 51 39.8**	**+0.3**
ASAO	**Ashtian**	**5.39**	**344**	*e*Pn	**Pn**	**23 51 54.0**	**-0.5**
BRTR	**Keskin Array B**	**18.19**	**309**	P	**Pn**	**23 54 48.1**	**+1.5**
	0.1nm,0.3s,baz=134,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**29.34**	**45**	P	**P**	**23 56 36.5**	**-0.2**
	0.1nm,0.3s,baz=230,slow=9.0,SNR=4.8						
FINES	**FINESS Array B**	**36.33**	**339**	P	**P**	**23 57 37.2**	**-0.3**
	1.5nm,0.9s,baz=148,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**49.09**	**262**	P	**P**	**23 59 21.6**	**-0.1**
	0.3nm,0.6s,baz=53,slow=8.3,SNR=4.8						

WEL 30 00:15:16.7±0.3, 36°.94S×177°.18E, h12km, ML3.5/7, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.58**	**180**	P*	Pg	00 15 27.2	-0.9
WIZ				S*	Sg	00 15 35.4	-0.5
MYRZ	**Mayor Island**	**0.83**	**246**	P*	Pg	00 15 31.0	-1.7
MYRZ				S*	Sg	00 15 43.6	0.0
OPRZ	**Ohinepanea**	**1.03**	**209**	P*	Pb	00 15 34.3	-2.2
OPRZ				S*	Sb	00 15 48.3	-1.7
TGRZ	**Tauranga**	**1.08**	**223**	P*	Pb	00 15 35.6	-1.7
MXZ	**Matakaoa Point**	**1.09**	**125**	P*	Pb	00 15 35.5	-2.0
MXZ				S*	Sb	00 15 49.9	-1.8
MARZ	**Manawahe**	**1.12**	**201**	P*	Pb	00 15 36.3	-1.7
KUZ	**Kuaotunu**	**1.19**	**279**	P*	Pn	00 15 38.0	-1.1
URZ	**Urewera**	**1.32**	**183**	P*	Pn	00 15 38.6	-2.3
PUZ	**Puketiti**	**1.42**	**143**	PN	Pn	00 15 41.3	-1.0
MWZ	**Matawai**	**1.42**	**169**	P*	Pn	00 15 40.1	-2.3
MKAZ	**Moumakai**	**1.62**	**263**	PN	Pn	00 15 45.0	-0.1

MAN 30 00:31:52, 10°.96N×124°.81E, h36km, mb3.5, ML2.2, MS1.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.21**	**296**	*e*P	Pn	00 32 01.5	+2.4
OCLP				*e*S	Sn	00 32 05.4	+1.5
PLP	**Palo**	**0.27**	**40⇓**	*e*P	Pn	00 32 02.7	+2.5
PLP				*i* S	Sn	00 32 07.7	+0.5
MSLP	**Maasin**	**0.82**	**176**	*e*P	Pn	00 32 09.4	+2.3
MSLP				*e*S	Sn	00 32 13.8	-4.2

MAN 30 00:39:14, 11°.12N×124°.71E, h32km, mb3.8, ML2.6, MS2.2, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.12**	**233**	*e*P	Pb	00 39 21.3	+1.5
OCLP				*e*S	Sb	00 39 23.4	-0.3
PLP	**Palo**	**0.27**	**81⇓**	*e*P	Pn	00 39 23.2	+1.4
PLP				*i* S	Sn	00 39 27.8	+0.9
MSLP	**Maasin**	**0.99**	**171**	*e*P	Pb	00 39 33.3	+0.6
MSLP				*e*S	Sn	00 39 44.3	-0.3

*CSEM **30** 00:40:23.0, 37°.25N×2°.35W, h0km, ML1.3, After MDD*
MDD 30 00:40:22.9±0.4, 37°.25N×2°.35W, h0km, mbLg1.3/5, Error ellipse: s-maj=4.9km s-min=3.2km az=80.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.30**	**157**	Pg	Pg	00 40 28.5	-0.2
	8.3nm,0.1s,SNR=7.9						
ENIJ				Lg	Lg	00 40 33.1	
	7.9nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.30**	**157**	Pg	Pg	00 40 28.5	-0.2
	8.3nm,0.1s,SNR=7.9						
ENIJ				Lg	Lg	00 40 33.1	
	7.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.55**	**231**	Pg	Pg	00 40 32.3	-1.5
	0.7nm,0.1s,SNR=9.0						
EBER				Lg	Lg	00 40 39.9	
	5.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**0.55**	**231**	Pg	Pg	00 40 32.3	-1.6
	0.7nm,0.1s,SNR=9.0						
EBER				Lg	Lg	00 40 39.9	
	5.7nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**0.60**	**341**	Pg	Pg	00 40 35.0	+0.4
	0.4nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	00 40 41.3	
	0.7nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**0.60**	**341**	Pg	Pg	00 40 35.0	+0.4
	0.4nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	00 40 41.3	
	0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**0.80**	**314**	Pg	Pg	00 40 38.5	0.0
	1.0nm,0.2s,SNR=13						
EQES				Lg	Lg	00 40 49.9	
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**0.80**	**314**	Pg	Pg	00 40 38.5	0.0
	1.0nm,0.2s,SNR=13						
EQES				Lg	Lg	00 40 49.9	
	0.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**1.06**	**56**	Pg	Pg	00 40 42.1	-1.4
	1.5nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	00 40 57.0	
	2.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**1.06**	**56**	Pg	Pg	00 40 42.1	-1.3
	1.5nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	00 40 57.0	
	2.4nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**1.40**	**355**	Pg	Pn	00 40 47.6	-2.2
	3.3nm,0.3s,SNR=7.9						
EVIA				Lg	Lg	00 41 06.1	
	2.5nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**1.40**	**355**	Pg	Pn	00 40 47.6	-2.3
	3.3nm,0.3s,SNR=7.9						
EVIA				Lg	Lg	00 41 06.1	
	2.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**1.53**	**24**	Pg	Pn	00 40 50.6	-1.1
	1.2nm,0.5s,SNR=7.9						
ETOB				Lg	Lg	00 41 10.5	
	1.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.53**	**24**	Pg	Pn	00 40 50.6	-1.1
	1.2nm,0.5s,SNR=7.9						
ETOB				Lg	Lg	00 41 10.5	
	1.7nm,0.2s,SNR=7.9						

*CSEM **30** 00:41:15.1±0.2, 37°.10N×4°.65W, h15km, ML1.6, Error ellipse: s-maj=6.0km s-min=3.4km az=176.0*
MDD 30 00:41:17.4±0.3, 36°.96N×4°.60W, h30km, mbLg1.6/11, 1C-1D, Error ellipse: s-maj=4.4km s-min=2.8km az=144.0, PRXIMO PROFUNDIDAD POBRE, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOJ	**Sierra Loja**	**0.40**	**62**	⇑Pg	Pb	00 41 25.9	-0.5
	5.8nm,0.2s,SNR=18						
ELOJ				Lg	Lg	00 41 33.8	
	4.8nm,0.2s,SNR=6.8						
ELOJ	**Sierra Loja**	**0.40**	**62**	Pg	Pb	00 41 25.9	-0.5
	5.8nm,0.2s,SNR=18						
ELOJ				Lg	Lg	00 41 33.8	
	4.8nm,0.2s,SNR=6.8						
EMIJ	**Mijas**	**0.42**	**200**	⇓Pg	Pb	00 41 26.2	-0.4
	4.9nm,0.1s,SNR=18						
EMIJ				Lg	Lg	00 41 33.2	
	21nm,0.2s,SNR=32						
EMIJ	**Mijas**	**0.42**	**200**	Pg	Pb	00 41 26.2	-0.5
	4.9nm,0.1s,SNR=18						
EMIJ				Lg	Lg	00 41 33.2	
	21nm,0.2s,SNR=32						
ERON	**Agron**	**0.63**	**85**	Pg	Pb	00 41 29.1	-1.1
	3.9nm,0.2s,SNR=7.9						
ERON				Lg	Lg	00 41 37.1	
	3.5nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.63**	**85**	Pg	Pb	00 41 29.1	-1.1
	3.9nm,0.2s,SNR=7.9						
ERON				Lg	Lg	00 41 37.1	
	3.5nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.65**	**24**	Pg	Pb	00 41 29.9	-0.6
	2.2nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	00 41 40.4	
	26nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.83**	**98**	Pg	Pn	00 41 31.8	-1.3
	3.1nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	00 41 42.9	
	7.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.83**	**98**	Pg	Pn	00 41 31.8	-1.4
	3.1nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	00 41 42.9	
	7.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.87**	**234**	Pg	Pn	00 41 33.5	-0.1
	SNR=7.9						
EJIF				Lg	Lg	00 41 46.2	
	4.3nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.87**	**234**	Pg	Pn	00 41 33.5	-0.1
	SNR=7.9						
EJIF				Lg	Lg	00 41 46.2	
	4.3nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.88**	**69**	Pg	Pn	00 41 32.8	-1.1
	1.4nm,0.1s,SNR=7.9						
ECOG				Lg	Lg	00 41 46.4	
	8.1nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.88**	**69**	Pg	Pn	00 41 32.8	-1.1
	1.4nm,0.1s,SNR=7.9						
ECOG				Lg	Lg	00 41 46.4	
	8.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.20**	**1**	Pn	Pn	00 41 36.5	-1.8
	0.2nm,0.2s,SNR=7.9						
EADA				Pg	Pb	00 41 39.3	-0.4
	0.1nm,0.1s,SNR=7.9						
EADA				Lg	Lg	00 41 55.5	
	3.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.20**	**1**	Pn	Pn	00 41 36.5	-1.8
	0.2nm,0.2s,SNR=7.9						
EADA				Lg	Lg	00 41 55.5	
	3.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.37**	**92**	Pg	Pn	00 41 41.2	+0.5
	0.3nm,0.2s,SNR=7.9						
EBER				Lg	Lg	00 42 00.3	
	2.6nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.37**	**92**	Pg	Pn	00 41 41.2	+0.5
	0.3nm,0.2s,SNR=7.9						
EBER				Lg	Lg	00 42 00.3	
	2.6nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.48**	**55**	Pn	Pn	00 41 40.6	-1.5
	0.1nm,0.1s,SNR=7.9						
EQES				Pg	Pb	00 41 43.5	-0.9
	0.6nm,0.1s,SNR=7.9						
EQES				Sn	Sn	00 41 58.3	-2.2
	1.8nm,0.2s,SNR=7.9						
EQES				Lg	Lg	00 42 04.1	
	5.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.48**	**55**	Pn	Pn	00 41 40.6	-1.5
	0.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**1.81**	**61**	Pg	Pb	00 41 49.6	-0.4
	0.1nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	00 42 06.3	-2.3
	SNR=7.9						
EHUE				Lg	Lg	00 42 12.8	
	0.8nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**1.81**	**61**	Pg	Pb	00 41 49.6	-0.4
	0.1nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	00 42 06.3	-2.4
	SNR=7.9						
EHUE				Lg	Lg	00 42 12.8	
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.84**	**297**	Pn	Pn	00 41 44.7	-2.3
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	00 42 06.1	-3.1
	1.2nm,0.3s,SNR=6.8						
EMIN				Lg	Lg	00 42 13.9	
	0.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.84**	**297**	Pn	Pn	00 41 44.7	-2.3
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	00 42 06.1	-3.1
	1.2nm,0.3s,SNR=6.8						
EMIN				Lg	Lg	00 42 13.9	
	0.1nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**2.29**	**303**	*e*Sg	Sb	00 42 29.4	+3.5
PBAR	**Barrancos**	**2.29**	**303**	Lg	Lg	00 42 29.4	
PBAR	**Barrancos**	**2.29**	**303**	Lg	Lg	00 42 29.4	
PVAQ	**Vaqueiros**	**2.53**	**281**	*e*Pn	Pn	00 41 55.1	-1.4
PVAQ				*e*Sn	Sn	00 42 21.8	-4.5
PVAQ	**Vaqueiros**	**2.53**	**281**	Pn	Pn	00 41 55.1	-1.4
PVAQ				Sn	Sn	00 42 21.8	-4.5
PVAQ	**Vaqueiros**	**2.53**	**281**	Pn	Pn	00 41 55.1	-1.4
PVAQ				Sn	Sn	00 42 21.8	-4.5
EBAD	**Badajoz**	**2.62**	**314**	Pn	Pn	00 41 55.7	-2.0
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 42 24.6	-3.9
	SNR=7.9						
EBAD				Lg	Lg	00 42 39.2	
	1.3nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**2.62**	**314**	Pn	Pn	00 41 55.7	-2.0
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 42 24.6	-3.9
	SNR=7.9						
EBAD				Lg	Lg	00 42 39.2	
	1.3nm,0.1s,SNR=5.0						
PBDV	**Barranco-do-Ve**	**2.68**	**277**	*e*Sn	Sn	00 42 27.1	-3.0
PBDV	**Barranco-do-Ve**	**2.68**	**277**	Sn	Sn	00 42 27.1	-3.0
PBDV	**Barranco-do-Ve**	**2.68**	**277**	Sn	Sn	00 42 27.1	-3.0
ESDC	**Sonseca Array**	**2.75**	**10**	Lg	Lg	00 42 41.5	
	0.8nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**2.75**	**10**	Lg	Lg	00 42 41.5	
	0.8nm,0.4s,SNR=7.9						
PCVE	**Castro Verde**	**2.83**	**285**	*e*Sn	Sn	00 42 30.6	-3.0
PCVE	**Castro Verde**	**2.83**	**285**	Sn	Sn	00 42 30.6	-3.0
PCVE	**Castro Verde**	**2.83**	**285**	Sn	Sn	00 42 30.6	-3.0
ETOB	**Tobarra**	**2.94**	**54**	Pn	Pn	00 41 59.8	-2.4
	0.1nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	00 42 32.3	-4.3
	SNR=7.9						
ETOB				Lg	Lg	00 42 49.1	
	SNR=7.9						
ETOB	**Tobarra**	**2.94**	**54**	Pn	Pn	00 41 59.8	-2.4
	0.1nm,0.1s,SNR=7.9						
ETOB				Lg	Lg	00 42 49.1	
	SNR=7.9						
PNCL	**Nicolau / Gran**	**3.33**	**291**	*e*Sn	Sn	00 42 42.7	-3.3
PNCL	**Nicolau / Gran**	**3.33**	**291**	*e*Sn	Sn	00 42 42.7	-3.3
PFVI	**Vila Bisbo**	**3.39**	**274**	Sn	Sn	00 42 41.5	-6.0
	1.3nm,0.1s,SNR=7.9						

IDC 30 01:07:56.1±0.9, 8°.80N×75°.35W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=40.7km s-min=20.4km az=57.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.05**	**165**	Pn	Pn	01 09 03.9	+4.0
	1.8nm,0.3s,baz=262,slow=16,SNR=3.1						
ROSC				Lg	Lg	01 10 08.3	
	12nm,0.3s,baz=265,slow=21,SNR=13						
JTS	**JuntasAbangare**	**9.58**	**280**	Pn	Pn	01 10 17.1	+1.6
	1.6nm,0.3s,baz=62,slow=15,SNR=6.6						
LPAZ	**La Paz**	**25.94

ellipse: s-maj=4.9km s-min=3.3km az=6.0
*CSEM **30** 01:18:54.1±0.5,50.47N× 18.78E, h2km, ML2.9/8, Error ellipse: s-maj=10.7km s-min=5.5km az=177.0*
*IPEC **30** 01:18:54.7±0.2,50.39N× 18.86E, h0km≤1km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.2km az=170.0*
*WAR **30** 01:18:54.3,50.36N× 18.88E*
*PRU **30** 01:18:55.0,50.38N× 18.82E, h0km*
*IDC **30** 01:18:55.1±2.5,50.16N× 19.00E, h0km, mb1 3.7/2, mb1mx3.2/22, mbtmp3.7/2, ML2.6/3, Error ellipse: s-maj=49.0km s-min=10.2km az=136.0*
*VIE **30** 01:18:58.0±1.1,49.90N× 18.91E, h0km, mb1.9/2, ML2.5/3, Error ellipse: s-maj=10.6km s-min=6.1km az=145.0 39 km S of Katowice Suspected Mining induced.*

ISC 30 01:18:53.9±0.8, 50.33N±0.04× 18.83E±0.02, h0km, n38, σ0.96/60, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.48**	**239**	*e*Pg	**Pb**	**01 19 05.0**	**-0.2**
RAC				*e*Sg	**Sb**	**01 19 12.7**	**-0.2**
OJC	**Ojcow**	**0.63**	**100**	*e*Pg	**Pg**	**01 19 06.9**	**+0.9**
OJC				*e*Sg	**Sg**	**01 19 15.7**	**+1.6**
OJC	**Ojcow**	**0.63**	**100**	*e*Pg	**Pg**	**01 19 06.8**	**+0.8**
OKC	**Ostrava-Krasne**	**0.67**	**222**	*e*PG	**Pb**	**01 19 08.6**	**+0.2**
OKC				*e*SG	**Sb**	**01 19 18.5**	**+0.4**
	comp=Z,18nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**222**	Pg	**Pb**	**01 19 08.6**	**+0.2**
OKC				Sg	**Sb**	**01 19 18.5**	**+0.4**
	18nm,0.3s						
MORC	**Moravsky Berou**	**1.00**	**237**	⇓*i*P	**Pb**	**01 19 14.3**	**+0.1**
MORC	**Moravsky Berou**	**1.00**	**237**	S	**Sb**	**01 19 28.4**	**+0.5**
MORC	**Moravsky Berou**	**1.00**	**237**	*e*Pg	**Pb**	**01 19 14.4**	**+0.2**
MORC				*e*Sg	**Sb**	**01 19 27.8**	**-0.1**
	36nm,0.3s						
NIE	**Niedzica**	**1.32**	**133**	*e*Pg	**Pb**	**01 19 20.3**	**+0.6**
NIE				*e*Sg	**Sb**	**01 19 37.5**	**+0.3**
NIE				*e*		01 19 38.5	
KRLC	**Kraliky**	**1.34**	**260**	*e*PG	**Pg**	**01 19 19.8**	**+0.1**
KRLC				*e*SG	**Sg**	**01 19 37.3**	**+0.3**
KRLC	**Kraliky**	**1.34**	**260**	Pg	**Pg**	**01 19 19.8**	**+0.1**
KRLC				Sg	**Sg**	**01 19 37.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.61**	**272**	*e*PG	**Pb**	**01 19 24.4**	**-0.1**
DPC				*e*SG	**Sg**	**01 19 46.2**	**+0.6**
	comp=Z,20nm,0.4s						
DPC	**Dobruska-Polom**	**1.61**	**272**	Pg	**Pb**	**01 19 24.4**	**-0.1**
DPC				Sg	**Sg**	**01 19 46.2**	**+0.6**
	20nm,0.4s						
KSP	**Ksiaz**	**1.70**	**288**	*e*Pn	**Pg**	**01 19 27.5**	**+1.1**
KSP				*e*Sn	**Sg**	**01 19 49.9**	**+1.4**
KSP	**Ksiaz**	**1.70**	**288**	*e*Pg	**Pg**	**01 19 27.3**	**+0.9**
KSP				*e*Sg	**Sg**	**01 19 49.4**	**+1.0**
VRAC	**Vranov**	**1.78**	**236**	Pg	**Pb**	**01 19 27.8**	**+0.4**
	2.6nm,0.3s,baz=58,slow=15,SNR=22						
VRAC				Lg	Lg	01 19 52.2	
	5.5nm,0.3s,baz=142,slow=22,SNR=14						
VRAC	**Vranov**	**1.78**	**236**	⇓*i*P	**Pb**	**01 19 27.8**	**+0.4**
VRAC	**Vranov**	**1.78**	**236**	S	**Sg**	**01 19 51.6**	**+0.6**
VRAC	**Vranov**	**1.78**	**236**	*e*Pn	**Pb**	**01 19 27.2**	**-0.2**
VRAC				*e*Sg	**Sg**	**01 19 51.8**	**+0.8**
	19nm,0.4s						
VYHS	**Vyhne**	**1.84**	**180**	*e*PN	**Pb**	**01 19 28.7**	**+0.2**
VYHS				*e*SN	**Sn**	**01 19 50.2**	**-0.6**
KRUC	**Moravsky**	**2.03**	**232**	*e*Pn	**Pb**	**01 19 31.0**	**-0.7**
KRUC				*e*Sn	**Sb**	**01 19 58.6**	**+1.1**
	9.6nm,0.4s						
PSZ	**Piszkesteto**	**2.52**	**164**	⇓*i*P	**Sg**	**01 19 42.2**	**+0.1**
PSZ	**Piszkesteto**	**2.52**	**164**	S	**Sg**	**01 20 15.7**	**+1.0**
KWP	**Kalwaria Pacla**	**2.60**	**104**	⇑*i*P	**Sg**	**01 19 42.9**	**-0.8**
KWP	**Kalwaria Pacla**	**2.60**	**104**	S	**Sg**	**01 20 18.4**	**+1.1**
PRU	**Pruhonice**	**2.78**	**265**	*e*PG	**Pb**	**01 19 45.7**	**+1.2**
PRU				*e*SG	**Sg**	**01 20 21.8**	**-1.4**
	comp=Z,4.0nm,0.3s						
PRU	**Pruhonice**	**2.78**	**265**	Pg	**Pb**	**01 19 45.7**	**+1.2**
PRU				Sg	**Sg**	**01 20 21.8**	**-1.4**
	4.0nm,0.3s						
BRG	**Berggiesshubel**	**3.16**	**282**	PG	**Pg**	**01 19 55.5**	**+1.0**
BRG				SG	**Sg**	**01 20 35.3**	**-0.2**
	5.3nm,0.5s						
KHC	**Kasperske Hory**	**3.62**	**253**	*e*PN	**Pn**	**01 19 52.5**	**+1.3**
KHC				*e*PG	**Pb**	**01 20 00.0**	**+1.3**
KHC				*e*SG	**Sg**	**01 20 49.2**	**-0.8**
	comp=Z,6.5nm,0.5s						
KHC	**Kasperske Hory**	**3.62**	**253**	Pn	**Pn**	**01 19 52.5**	**+1.3**
KHC	**Kasperske Hory**	**3.62**	**253**	Pg	**Pb**	**01 20 00.0**	**+1.3**
KHC				Sg	**Sg**	**01 20 49.2**	**-0.8**
	6.5nm,0.5s						
GERES	**GERESS Array B**	**3.66**	**248**	Pn	**Pn**	**01 19 53.7**	**+1.9**
	0.1nm,0.3s,baz=62,slow=17,SNR=2.8						
GERES				Pg	**Pg**	**01 20 02.8**	**-1.2**
	0.6nm,0.3s,baz=68,slow=14,SNR=21						
GERES				Lg	Lg	01 20 50.3	
	2.4nm,0.3s,baz=61,slow=26,SNR=16						
CLL	**Collm**	**3.82**	**287**	*e*Sg	**Sg**	**01 20 57.0**	**+0.3**
	comp=Z,7.0nm,0.7s						
MOA	**Molln**	**3.90**	**232**	⇓*i*Sg	**Sg**	**01 20 59.8**	**+0.8**
	comp=Z,3.1nm,0.3s						
MOA	**Molln**	**3.90**	**232**	Sg	**Sg**	**01 20 59.8**	**+0.8**
	comp=Z,3.1nm,0.3s						
DRGR		**4.38**	**143**	S	**Sb**	**01 21 03.2**	**-1.9**
FINES	**FINESS Array B**	**11.84**	**17**	Pn	**Pn**	**01 21 41.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=6.7						
ARCES	**ARCESS Array B**	**19.53**	**7**	Pn	**P**	**01 23 21.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=2.7						

IDC 30 01:22:47.8±1.8, 2.78N× 124.85E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=181.7km s-min=24.4km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**158**	P	P	01 28 08.2	-0.2
	0.8nm,0.5s,baz=337,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**27.72**	**162**	P	P	01 28 38.6	+0.4
	0.1nm,0.3s,baz=335,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	01 32 37.1	-0.3
	0.3nm,0.4s,baz=120,slow=7.6,SNR=14						

*IDC **30** 01:24:34.1±1.0, 11.09N× 124.96E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=50.8km s-min=18.6km az=65.0*
*ISCJB **30** 01:24:35.9±0.5, 11.05N±0.03× 124.80E±0.04, h19km≤4km, mb4.2/17, MS3.4/2, Error ellipse: s-maj=6.5km s-min=5.4km az=10.3*
*MAN **30** 01:24:35, 10.94N× 124.79E, h1km, mb4.9, ML3.8, MS3.9*
MAN INTENSITY IV - ALBUERA LEYTE.
*NEIC **30** 01:24:35.8±0.3, 11.09N× 124.96E, h10km, mb4.6/9, Error ellipse: s-maj=13.8km s-min=7.5km az=68.0*
NEIC Felt [IV PIVS] at Albuera.

ISC 30 01:24:36.0±0.9, 11.02N±0.04× 124.78E±0.04, h11km≤6km, n41, σ0.86/44, mb4.3/17, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.17**	**279**	*e*P	**Pg**	**01 24 39.5**	**-0.3**
OCLP				*e*S	**Sg**	**01 24 42.5**	**+0.1**
PLP	**Palo**	**0.24**	**54**	⇓*e*P	**Pg**	**01 24 41.0**	**+0.1**
PLP				*i* S	**Sg**	**01 24 45.6**	**+1.3**
BESP	**Borongan**	**0.86**	**48**	*e*P	**Pg**	**01 24 52.1**	**-0.5**
MSLP	**Maasin**	**0.89**	**175**	*e*P	**Pg**	**01 24 51.4**	**-1.7**
MSLP				*e*S	**Sb**	**01 25 05.9**	**+0.7**
CNP	**Catarman**	**1.48**	**355**	*e*P	**Pn**	**01 25 03.0**	**+0.4**
TBP	**Tagbilaran**	**1.60**	**214**	*e*P	**Pn**	**01 25 04.6**	**+0.3**
RCP	**Roxas**	**2.07**	**285**	⇓*e*P	**Pb**	**01 25 13.1**	**-0.5**
RCP				*e*S	**Sn**	**01 25 37.7**	**+1.1**
GUIM	**Jordan**	**2.19**	**260**	*e*P	**Pn**	**01 25 12.3**	**0.0**
CGP	**Cagayan de Oro**	**2.55**	**182**	⇑*e*P	**Pn**	**01 25 17.0**	**-0.4**
CGP				*e*S	**Sn**	**01 25 50.2**	**+1.8**
PVCP	**Virac**	**2.63**	**347**	*e*P	**Pb**	**01 25 21.5**	**-1.6**
BUKP	**Musuan**	**3.14**	**175**	*e*P	**Pn**	**01 25 26.4**	**+0.9**
PAGZ	**Pagadian**	**3.45**	**204**	*e*P	**Pn**	**01 25 30.3**	**+0.7**
KAPI	**Kappang**	**16.70**	**198**	LR	LR	01 36 18.4	
	comp=Z,41nm,18.7s,baz=262,slow=42						
IPM	**Ipoh**	**24.41**	**256**	*e*P	**P**	**01 29 55.7**	**+0.9**
	10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.04**	**290**	P	**P**	**01 30 10.6**	**+1.0**
	0.7nm,0.3s,baz=95,slow=7.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**26.04**	**290**	P	**P**	**01 30 10.6**	**+1.0**
AS31	**Alice Springs**	**35.61**	**166**	*e*P	**P**	**01 31 34.3**	**+0.4**
ASAR	**Alice Springs**	**35.61**	**166**	P	**P**	**01 31 33.9**	**-0.1**
	0.8nm,0.5s,baz=346,slow=7.6,SNR=9.6						
ASAR	**Alice Springs**	**35.61**	**166**	P	**P**	**01 31 33.9**	**-0.1**
ULN	**Ulaanbaatar**	**39.63**	**341**	*e*P	**P**	**01 32 08.9**	**+1.0**
	6.9nm,1.0s						
SONM	**Songino Array**	**39.82**	**341**	P	**P**	**01 32 09.9**	**+0.5**
	2.5nm,1.0s,baz=161,slow=6.1,SNR=13						
SONM	**Songino Array**	**39.82**	**341**	P	**P**	**01 32 09.9**	**+0.5**
STKA	**Stephens Creek**	**45.59**	**160**	P	**P**	**01 32 56.4**	**+0.1**
	3.1nm,0.9s,baz=34,slow=5.9,SNR=5.3						
STKA	**Stephens Creek**	**45.59**	**160**	P	**P**	**01 32 56.4**	**+0.1**
MK31	**Makanchi Array**	**50.55**	**323**	*e*P	**P**	**01 33 35.6**	**+1.0**
MKAR	**Makanchi Array**	**50.55**	**323**	P	**P**	**01 33 35.1**	**+0.6**
	1.2nm,0.6s,baz=125,slow=7.9,SNR=15						
MKAR				LR	LR	01 57 23.5	
	comp=Z,26nm,18.4s,baz=173,slow=39						
MKAR	**Makanchi Array**	**50.55**	**323**	P	**P**	**01 33 35.1**	**+0.6**
ZALV	**Zalesovo Beam**	**53.27**	**332**	P	**P**	**01 33 54.8**	**+0.1**
	0.7nm,0.5s,baz=116,slow=6.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**53.27**	**332**	P	**P**	**01 33 54.8**	**+0.1**
AAK	**Ala-Archa**	**53.76**	**315**	LR	LR	01 57 13.8	
	comp=Z,48nm,21.2s,baz=284,slow=36						
KURK	**Kurchatov**	**54.62**	**326**	*e*P	**P**	**01 34 05.1**	**+0.4**
	9.2nm,0.9s						
BRVK	**Borovoye**	**60.29**	**326**	*e*P	**P**	**01 34 44.9**	**+0.3**
	6.7nm,0.9s						
AKTO	**Aktyubinsk**	**66.81**	**320**	P	**P**	**01 35 27.3**	**-0.5**
	1.1nm,0.6s,baz=117,slow=9.9,SNR=3.7						
AKTO	**Aktyubinsk**	**66.81**	**320**	P	**P**	**01 35 27.3**	**-0.5**
ARU	**Arti**	**67.80**	**327**	*e*P	**P**	**01 35 33.3**	**-0.5**
	8.5nm,0.9s						
MCK	**McKinley**	**78.55**	**27**	*e*P	**P**	**01 36 36.4**	**-1.0**
	3.5nm,0.7s						
INK	**Inuvik**	**84.12**	**21**	*e*P	**P**	**01 37 05.9**	**-0.9**
	0.9nm,0.5s						
VNDA	**Vanda**	**90.86**	**172**	*e*P	**P**	**01 37 39.9**	**+0.8**
	2.8nm,1.0s						
RES	**Resolute Bay**	**91.01**	**10**	*e*P	**P**	**01 37 38.7**	**-1.2**
	4.9nm,1.5s						
YKA	**Yellowknife Ar**	**93.66**	**24**	P	**P**	**01 37 51.0**	**-1.3**
	0.4nm,0.8s,baz=300,slow=4.6,SNR=7.5						
YKA	**Yellowknife Ar**	**93.66**	**24**	P	**P**	**01 37 51.0**	**-1.3**

*ISCJB **30** 01:35:27.8±2.2,42.3N±0.1× 81.9E±0.2, h10km, Error ellipse: s-maj=21.4km s-min=7.4km az=44.4*
*NNC **30** 01:35:36.0±5.7,42.72N× 81.38E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=53.5km s-min=15.9km az=138.0*

ISC 30 01:35:29.4±2.8, 42.3N±0.1× 81.9E±0.1, h10km, n6, σ2s14/8, 5C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.50**	**3**	⇑Pn	**Pn**	**01 36 37.9**	**+0.3**
	2.3nm,0.3s,baz=196,slow=16,SNR=10						
MK31				⇓Sn	**Sn**	**01 37 30.6**	**+0.5**
	12nm,0.5s,baz=194,slow=33,SNR=12						
TKM2	**Tokmak 2**	**4.69**	**280**	⇓Pn	**Pn**	**01 36 40.3**	**0.0**
	6.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**01 37 33.9**	**-1.1**
	19nm,0.4s						
KSH	**Kashi**	**5.28**	**240**	*e*Pn	Pg	01 37 18.5	+8.1
KSH				Sn	**Sn**	**01 37 49.0**	**-0.3**
KSH				smax	smax		
	comp=N,2.0nm,0.6s						
KSH				smax	smax		
	comp=E,3.0nm,0.6s						
KK31	**Karatay Array**	**8.42**	**279**	⇓Pn	**Pn**	**01 37 31.5**	**0.0**
	comp=E,0.3nm,0.4s,baz=83,slow=16,SNR=4.3						
KK31				⇑Sn	**Sn**	**01 39 09.6**	**+3.0**
	comp=E,1.4nm,0.4s,baz=84,slow=25,SNR=4.5						
KURBB	**Kurchatov Arra**	**8.64**	**346**	⇑Pn	Pn	01 37 40.6	+6.2
	comp=E,0.1nm,0.3s						
KURBB				⇓Sn	**Sn**	**01 39 08.4**	**-3.5**
	comp=E,1.4nm,0.7s						
KURK	**Kurchatov**	**8.72**	**346**	⇑Pn	Pn	01 37 39.6	+4.2
	comp=E,1.0nm,0.5s						
KURK				⇑Sn	Sn	01 39 08.0	-5.7
	comp=E,5.9nm,0.7s						

MAN 30 01:44:59, 11.07N× 124.77E, h19km, mb4.5, ML3.4, MS3.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.16**	**262**	*e*P	Pg	01 45 04.6	+1.1
OCLP				*e*S	Sg	01 45 07.5	+0.9
PLP	**Palo**	**0.23**	**66**	⇓*e*P	Pg	01 45 05.9	+1.5
PLP				*i* S	Sg	01 45 10.9	+2.8
MSLP	**Maasin**	**0.94**	**175**	*e*P	Pb	01 45 16.7	0.0
MSLP				*e*S	Sb	01 45 28.2	-0.5

*ISCJB **30** 01:56:57.8±0.5, 40.41N±0.04× 28.95E±0.05, h7km≤5km, Error ellipse: s-maj=6.5km s-min=5.7km az=38.1*
*ISK **30** 01:56:57.4, 40.40N× 28.97E, h8km, MD2.6*
*DDA **30** 01:56:57.5, 40.39N× 28.98E, h7km, MD2.6*
*CSEM **30** 01:56:57.9±0.1, 40.39N× 28.98E, h2km, MD2.6, Error ellipse: s-maj=2.6km s-min=2.3km az=60.0*

ISC 30 01:56:57.7±0.9, 40.40N±0.02× 28.96E±0.03, h9km≤6km, n28, σ0.47/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDNY	**Mudanya-Bursa**	**0.07**	**242**	*e*PG	**Pg**	**01 56 59.4**	**-0.3**
MDNY				*e*SG	**Sg**	**01 57 01.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.07**	**242**	*e*Pg	**Pg**	**01 56 59.4**	**-0.3**
MDNY				*e*Sg	**Sg**	**01 57 01.5**	**+0.4**
ARMT	**Armutlu**	**0.18**	**336**	*e*PG	**Pg**	**01 57 01.6**	**+0.1**
ARMT				*e*SG	**Sg**	**01 57 04.5**	**+0.3**
ARMT	**Armutlu**	**0.18**	**336**	*e*Pg	**Pg**	**01 57 01.6**	**+0.1**
ARMT				*e*Sg	**Sg**	**01 57 04.5**	**+0.3**
ORLT	**Orhaneli**	**0.36**	**188**	*e*PG	**Pg**	**01 57 04.7**	**0.0**
ORLT	**Orhaneli**	**0.36**	**188**	*e*Pg	**Pg**	**01 57 04.7**	**0.0**
YLV	**Yalova**	**0.36**	**62**	*e*PG	**Pg**	**01 57 05.0**	**+0.2**
YLV	**Yalova**	**0.36**	**62**	*e*Pg	**Pg**	**01 57 05.0**	**+0.2**
BNT	**Bandirma**	**0.80**	**267**	*e*PG	**Pb**	**01 57 14.0**	**+0.3**
BNT	**Bandirma**	**0.80**	**267**	*e*Pg	**Pb**	**01 57 14.0**	**+0.3**
DST	**Dursunbey**	**0.84**	**198**	*e*PG	**Pg**	**01 57 14.0**	**+0.2**
DST	**Dursunbey**	**0.84**	**198**	*e*Pg	**Pg**	**01 57 14.0**	**+0.2**
EDC	**Edincik**	**0.84**	**267**	*e*PG	**Pg**	**01 57 14.1**	**+0.2**
EDC	**Edincik**	**0.84**	**267**	*e*Pg	**Pg**	**01 57 14.1**	**+0.2**
DURS	**Dursunbey**	**0.88**	**205**	*i* P	**Pg**	**01 57 14.7**	**+0.1**
DURS				*i* S	**Sg**	**01 57 26.3**	**+0.2**
DURS	**Dursunbey**	**0.88**	**205**	*i* P	**Pg**	**01 57 14.7**	**+0.1**
DURS				*i* S	**Sg**	**01 57 26.3**	**+0.2**
SLVT	**Silivri**	**1.01**	**326**	*e*PG	**Pn**	**01 57 17.8**	**-0.2**
SLVT	**Silivri**	**1.01**	**326**	*e*Pg	**Pn**	**01 57 17.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.04**	**251**	*e*PG	**Pg**	**01 57 17.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.04**	**251**	*e*Pg	**Pg**	**01 57 17.7**	**+0.1**
BALY	**Balya**	**1.22**	**238**	*i* P	Pn	01 57 16.5	-4.5
BALY				*i* S	**Sb**	**01 57 36.3**	**-0.6**
BALY	**Balya**	**1.22**	**238**	*i* P	Pn	01 57 16.5	-4.5
BALY				*i* S	**Sb**	**01 57 36.3**	**-0.6**
BORA	**Eskisehir**	**1.26**	**114**	*i* P	**Pn**	**01 57 20.9**	**-0.7**
BORA				*i* S	**Sb**	**01 57 37.5**	**-0.5**
BORA	**Eskisehir**	**1.26**	**114**	*i* P	**Pn**	**01 57 20.9**	**-0.7**
BORA				*i* S	**Sb**	**01 57 37.5**	**-0.5**
DEMI	**Demirci**	**1.37**	**188**	*i* P	**Pg**	**01 57 24.0**	**+0.1**
DEMI				*i* S	**Sg**	**01 57 42.7**	**+1.0**
DEMI	**Demirci**	**1.37**	**188**	*i* P	**Pg**	**01 57 24.0**	**+0.1**
DEMI				*i* S	**Sg**	**01 57 42.7**	**+1.0**
GDZ	**Gediz**	**1.37**	**163**	*i* P	**Pg**	**01 57 23.9**	**-0.1**
GDZ				*i* S	**Sg**	**01 57 42.8**	**+1.1**
GDZ	**Gediz**	**1.37**	**163**	*i* P	**Pg**	**01 57 23.9**	**-0.1**
GDZ				*i* S	**Sg**	**01 57 42.8**	**+1.1**

WEL 30 02:07:29.8±0.4, 39.63S× 174.12E, h190km±3km, ML3.5/8, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.68**	**101**	PN	Pn	02 07 56.7	+0.2
WAZ				SN	Sn	02 08 17.3	+0.1
PKVZ	**Pokaka**	**1.01**	**71**	PN	Pn	02 07 58.6	-0.1
PKVZ				SN	Sn	02 08 20.0	-0.9
MTVZ	**Mangateitei**	**1.07**	**77**	PN	Pn	02 07 59.2	+0.1
MTVZ				SN	Sn	02 08 20.7	-1.1
TRVZ	**Turoa**	**1.15**	**74**	PN	Pn	02 07 59.8	-0.1
TRVZ				SN	Sn	02 08 21.8	-1.4
TWVZ	**Taurewa**	**1.16**	**62**	PN	Pn	02 07 59.4	-0.4
TWVZ				SN	Sn	02 08 21.4	-1.6
FWVZ	**Far West T-bar**	**1.17**	**72**	PN	Pn	02 07 60.0	-0.1
FWVZ				SN	Sn	02 08 21.7	-1.7
DRZ	**Dome Shelter**	**1.17**	**73**	PN	Pn	02 08 00.5	+0.3
DUWZ	**D'Urville Isla**	**1.18**	**187**	PN	Pn	02 08 00.1	+0.2
WNVZ	**Wahianoa**	**1.18**	**76**	PN	Pn	02 08 00.1	+0.1
WNVZ				SN	Sn	02 08 21.7	-1.8
WPVZ	**Whakapapa**	**1.18**	**69**	PN	Pn	02 08 00.0	0.0
NGZ	**Ngauruhoe**	**1.23**	**69**	PN	Pn	02 08 00.4	-0.1
TUVZ	**Tukino**	**1.24**	**73**	PN	Pn	02 08 00.7	+0.2
WTVZ	**West Tongariro**	**1.25**	**66**	PN	Pn	02 08 00.4	-0.1
HIZ	**Hauiti**	**1.25**	**27**	PN	Pn	02 07 59.9	-0.6
MOVZ	**Moawhango**	**1.28**	**80**	PN	Pn	02 08 00.4	-0.4
MOVZ				SN	Sn	02 08 21.9	-2.8
KIW	**Kapiti Island**	**1.37**	**154**	PN	Pn	02 08 01.4	0.0
OGWZ	**Otaki Gorge**	**1.43**	**146**	PN	Pn	02 08 02.1	+0.2
TSZ	**Takapari Road**	**1.48**	**107**	PN	Pn	02 08 02.5	+0.2
BHHZ	**Black Hill Sta**	**1.51**	**85**	PN	Pn	02 08 02.0	-0.7
MRZ	**Mangatainoka R**	**1.52**	**133**	PN	Pn	02 08 02.6	-0.1
TCW	**Tory Channel**	**1.58**	**176**	PN	Pn	02 08 03.7	+0.4
PNHZ	**Pukenui**	**1.62**	**101**	PN	Pn	02 08 03.7	-0.1
CAW	**Cannon Point**	**1.64**	**154**	PN	Pn	02 08 03.8	-0.1
HOWZ	**Holdsworth Sta**	**1.65**	**140**	PN	Pn	02 08 03.8	-0.2
NNZ	**Nelson**	**1.68**	**199**	PN	Pn	02 08 04.1	-0.1
DVHZ	**Dannevirke**	**1.71**	**114**	PN	Pn	02 08 04.4	-0.1
QRZ	**Quartz Range**	**1.71**	**225**	PN	Pn	02 08 03.8	-0.7
SNZO	**South Karori**	**1.73**	**165**	PN	Pn	02 08 04.5	-0.2
TIWZ	**Tintock**	**1.77**	**131**	PN	Pn	02 08 04.9	-0.2
TUWZ	**Tuamarina**	**1.80**	**184**	PN	Pn	02 08 05.3	-0.2
WPHZ	**Waipukurau**	**1.83**	**104**	PN	Pn	02 08 05.9	+0.1
MTW	**Mount Morrison**	**1.85**	**146**	PN	Pn	02 08 05.5	-0.5
BHW	**Baring Head**	**1.86**	**162**	PN	Pn	02 08 05.5	-0.5
BKZ	**Black Stump Fm**	**1.89**	**77**	PN	Pn	02 08 05.8	-0.7
BFZ	**Birch Farm**	**1.93**	**123**	PN	Pn	02 08 06.5	-0.3
TMWZ	**Te Maipa**	**2.00**	**138**	PN	Pn	02 08 07.1	-0.4
MCHZ	**McNeill Hill**	**2.00**	**85**	PN	Pn	02 08 07.8	+0.3
PAWZ	**Paruwai Farm**	**2.01**	**151**	PN	Pn	02 08 07.0	-0.6
PRHZ	**Porangahau**	**2.03**	**109**	PN	Pn	02 08 07.8	-0.1
BSWZ	**Blackbirch Sta**	**2.09**	**185**	PN	Pn	02 08 08.5	0.0
PLWZ	**Palliser**	**2.12**	**156**	PN	Pn	02 08 08.0	-0.8
KAHZ	**Kahuranaki**	**2.13**	**95**	PN	Pn	02 08 09.0	+0.1
PXZ	**Pawanui**	**2.15**	**102**	PN	Pn	02 08 08.9	-0.2
CKHZ	**Cape Kidnapper**	**2.28**	**92**	PN	Pn	02 08 10.5	0.0
THZ	**Tophouse**	**2.32**	**203**	PN	Pn	02 08 10.3	-0.7
RAHZ	**Arahi**	**2.41**	**74**	PN	Pn	02 08 11.4	-0.6
URZ	**Urewera**	**2.70**	**60**	PN	Pn	02 08 13.6	-1.8
KHZ	**Kahutara**	**2.82**	**189**	PN	Pn	02 08 16.1	-0.5
KNZ	**Kokohu**	**2.82**	**79**	PN	Pn	02 08 15.7	-1.0
MWZ	**Matawai**	**2.95**	**65**	PN	Pn	02 08 16.6	-1.7
MHGZ	**Mahia Peninsul**	**2.97**	**82**	PN	Pn	02 08 17.9	-0.6
PRGZ	**Paritu Road**	**3.00**	**78**	PN	Pn	02 08 17.8	-1.1
CNGZ	**Carnagh Statio**	**3.38**	**71**	PN	Pn	02 08 22.6	-0.9
LTZ	**Lake Taylor**	**3.44**	**203**	PN	Pn	02 08 23.0	-1.2
MQZ	**McQueen's Vall**	**4.22**	**195**	PN	Pn	02 08 31.4	-2.4

*DJA **30** 02:15:54, 1.00N× 97.62E, h38km, MLv3.2/5*

IDC 30 02:15:48.1±3.1, 1.27N× 98.26E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=135.1km s-min=20.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.18**	**123**	P	P	02 23 34.6	-0.2
	0.5nm,0.5s,baz=304,slow=9.1,SNR=4.

ellipse: s-maj=7.3km s-min=4.3km az=20.0

ISC 30 02:39:25.8±1.1, 36°94N±0°04×28°24E±0°03, h7km±11km, n18, σ0°68/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**10**	*e*PG	**Pg**	**02 39 30.4**	**+0.5**
YER				*e*SG	**Sg**	**02 39 33.5**	**+0.8**
YER	**Yerkesik**	**0.20**	**10**	*e*Pg	**Pg**	**02 39 30.4**	**+0.5**
YER				*e*Sg	**Sg**	**02 39 33.5**	**+0.8**
TURN	**Turunc**	**0.30**	**102**	*i* P	**Pg**	**02 39 30.9**	**-0.8**
TURN				*i* S	**Sg**	**02 39 34.4**	**-1.2**
TURN	**Turunc**	**0.30**	**102**	*i* P	**Pg**	**02 39 30.9**	**-0.8**
TURN				*i* S	**Sg**	**02 39 34.4**	**-1.2**
BDRM	**Kayabasi**	**0.65**	**282**	*e*P	**Pg**	**02 39 38.4**	**0.0**
BDRM				*i* S	**Sb**	**02 39 48.8**	**0.0**
BDRM	**Kayabasi**	**0.65**	**282**	*e*P	**Pg**	**02 39 38.4**	**0.0**
BDRM				*i* S	**Sb**	**02 39 48.8**	**0.0**
FETY	**Fethiye**	**0.74**	**114**	*e*PG	**Pb**	**02 39 41.5**	**+0.5**
FETY				*e*SG	**Sb**	**02 39 52.5**	**+1.1**
FETY	**Fethiye**	**0.74**	**114**	*e*Pg	**Pb**	**02 39 41.5**	**+0.5**
FETY				*e*Sg	**Sb**	**02 39 52.5**	**+1.1**
BODT	**Bodrum**	**0.76**	**280**	*e*PG	**Pb**	**02 39 41.5**	**+0.2**
BODT				*e*SG	**Sb**	**02 39 51.4**	**-0.4**
BODT	**Bodrum**	**0.76**	**280**	*e*Pg	**Pb**	**02 39 41.5**	**+0.2**
BODT				*e*Sg	**Sb**	**02 39 51.4**	**-0.4**
AYDN	**Tasoluk**	**0.78**	**338**	*i* P	**Pb**	**02 39 41.3**	**-0.5**
AYDN				*i* S	**Sb**	**02 39 51.8**	**-0.8**
AYDN	**Tasoluk**	**0.78**	**338**	*i* P	**Pb**	**02 39 41.3**	**-0.5**
AYDN				*i* S	**Sb**	**02 39 51.8**	**-0.8**
KULA	**Kula-Manisa**	**1.61**	**12**	*e*PN	**Pb**	**02 39 55.3**	**-0.7**
KULA	**Kula-Manisa**	**1.61**	**12**	*e*Pn	**Pb**	**02 39 55.3**	**-0.7**
KHL	**Karahalli**	**1.72**	**36**	*e*PN	**Pb**	**02 39 57.8**	**0.0**
KHL	**Karahalli**	**1.72**	**36**	*e*Pn	**Pb**	**02 39 57.8**	**0.0**
BCK	**Bucak**	**1.95**	**74**	*e*PN	**Pn**	**02 39 59.8**	**+0.4**
BCK	**Bucak**	**1.95**	**74**	*e*Pn	**Pn**	**02 39 59.8**	**+0.4**

*IDC **30** 02:40:21.2±2.7, 54°00N×161°59W, h0km, mb3.7/7, mb1 3.7/10, mb1mx3.5/31, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=67.0km s-min=21.3km az=161.0*

*NEIC **30** 02:40:28.1, 54°43N×161°43W, h12km, ML3.4(AEIC), After AEIC.*

ISC 30 02:40:26.6±2.2, 54°31N±0°10×161°37W±0°07, h24km±14km, n33, σ0°91/40, mb3.9/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**0.84**	**322**	P	**Pb**	**02 40 42.2**	**-0.3**
DOL	**Dolgoi Island**	**0.89**	**341**	P	**Pb**	**02 40 42.9**	**-0.5**
DT1	**Dutton Round H**	**0.96**	**327**	P	**Pb**	**02 40 43.8**	**-0.7**
DTNA	**Dutton South F**	**0.98**	**329**	P	**Pb**	**02 40 44.5**	**-0.5**
HAG	**Hague Volcano**	**1.05**	**343**	P	**Pn**	**02 40 46.0**	**+0.2**
PS4A	**Pavlof South-4**	**1.07**	**345**	P	**Pn**	**02 40 46.2**	**+0.1**
PVV	**Pavlof Volcano**	**1.09**	**347**	P	**Pn**	**02 40 46.5**	**+0.1**
PVV				S	**Sb**	**02 40 59.8**	**-0.8**
SDPT	**Sand Point**	**1.16**	**26**	P	**Pb**	**02 40 47.9**	**0.0**
SDPT				S	**Sn**	**02 41 03.2**	**+0.9**
FALS	**False Pass**	**1.31**	**295**	P	**Pn**	**02 40 49.9**	**+0.6**
FALS				S	**Sb**	**02 41 07.9**	**+1.1**
BRPK	**Brown Peak**	**1.42**	**285**	P	**Pn**	**02 40 51.7**	**+0.7**
BRPK				S	**Sb**	**02 41 10.4**	**+0.3**
SSLS	**Shishaldin Sou**	**1.58**	**286**	P	**Pb**	**02 40 54.9**	**-0.4**
SSLS				S	**Sb**	**02 41 15.6**	**+0.8**
WESE	**West Dahl East**	**1.89**	**276**	P	**Pb**	**02 41 00.2**	**-0.2**
AHB	**Akutan Harbor**	**2.62**	**267**	P	**Pb**	**02 41 11.1**	**-1.7**
KDAK	**Kodiak Island**	**6.03**	**51**	Pn	**Pn**	**02 41 55.7**	**+1.6**
KDAK	0.7nm,0.3s,baz=109,slow=23,SNR=14			Sn	**Sn**	**02 43 00.8**	**-1.4**
KDAK	**Kodiak Island**	**6.03**	**51**	Pn	**Pn**	**02 41 55.7**	**+1.6**
KDAK	0.5nm,0.3s,baz=342,slow=21,SNR=2.0			Sn	**Sn**	**02 43 00.8**	**-1.4**
ILAR	**Eielson Array**	**12.76**	**29**	Pn	**Pn**	**02 43 25.8**	**-0.5**
	0.1nm,0.3s,baz=224,slow=13,SNR=3.4						
ILAR	**Eielson Array**	**12.76**	**29**	Pn	**Pn**	**02 43 25.8**	**-0.5**
INK	**Inuvik**	**19.11**	**32**	P	**P**	**02 44 47.6**	**+0.3**
	0.3nm,0.3s,baz=85,slow=8.9,SNR=4.7						
INK	**Inuvik**	**19.11**	**32**	P	**P**	**02 44 47.6**	**+0.3**
PETK	**Petropavlovsk-**	**24.02**	**284**	P	**P**	**02 45 38.8**	**-0.5**
	1.4nm,0.3s,baz=86,slow=13,SNR=32						
PETK	**Petropavlovsk-**	**24.02**	**284**	P	**P**	**02 45 38.8**	**-0.5**
YKA	**Yellowknife Ar**	**25.30**	**52**	P	**P**	**02 45 52.5**	**+1.8**
	0.1nm,0.4s,baz=270,slow=6.2,SNR=6.7						
YKA	**Yellowknife Ar**	**25.30**	**52**	P	**P**	**02 45 52.5**	**+1.8**
SCHQ	**Schefferville**	**50.64**	**48**	P	**P**	**02 49 23.6**	**+0.3**
	0.9nm,0.3s,baz=243,slow=19,SNR=6.3						
SCHQ	**Schefferville**	**50.64**	**48**	P	**P**	**02 49 23.6**	**+0.3**
BVAR	**Borovoye Array**	**64.74**	**328**	P	**P**	**02 51 01.3**	**-1.0**
	0.7nm,0.7s,baz=44,slow=4.5,SNR=3.6						
BVAR	**Borovoye Array**	**64.74**	**328**	P	**P**	**02 51 01.3**	**-1.0**
NOA	**NORSAR Array B**	**64.84**	**4**	P	**P**	**02 51 02.3**	**-0.6**
	0.6nm,0.9s,baz=303,slow=13,SNR=3.3						
NOA	**NORSAR Array B**	**64.84**	**4**	P	**P**	**02 51 02.3**	**-0.6**
HFS	**Hagfors**	**65.83**	**3**	P	**P**	**02 51 08.5**	**-0.8**
	0.6nm,0.3s,baz=25,slow=4.9,SNR=13						
HFS	**Hagfors**	**65.83**	**3**	P	**P**	**02 51 08.5**	**-0.8**
BRTR	**Keskin Array B**	**85.45**	**348**	P	**P**	**02 53 02.5**	**+0.4**
	0.3nm,0.7s,baz=30,slow=3.8,SNR=3.5						
BRTR	**Keskin Array B**	**85.45**	**348**	P	**P**	**02 53 02.5**	**+0.4**

CASC 30 02:49:58.6±2.5, 8°94N×82°83W, h15km±11km, MD3.5, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.20**	**137**	*i* P	Pg	02 50 04.2	+0.8
BRU2				*i* S	Sg	02 50 08.4	+1.8
TBS2		**0.22**	**130**	*i* P	Pg	02 50 04.6	+0.8
TBS2				*i* S	Sg	02 50 08.5	+1.2
BUS	**Buena Vista**	**1.11**	**304**	*e*P	Pb	02 50 18.4	-1.7
BUS				*e*S	Sb	02 50 33.6	-1.1
URSC	**Urasca**	**1.30**	**314**	*e*P	Pn	02 50 21.8	-0.6
URSC				*e*S	Sb	02 50 39.2	-0.4
QCR	**Quepos**	**1.41**	**290**	*e*P	Pn	02 50 24.4	-0.3
SJS	**Escuela Geolog**	**1.57**	**310**	*e*P	Pn	02 50 26.4	+0.3
SJS				*e*S	Sg	02 50 48.6	-0.9
LAJ	**Bijagual**	**1.57**	**306**	*e*P	Pg	02 50 30.8	+1.6
LAJ				*e*S	Sg	02 50 52.7	+2.8
PTP	**Ponta Puerca**	**19.09**	**59**	*e*P	x	02 50 12.4	
PTP				*i* S	x	02 50 22.2	

*IDC **30** 03:06:47.0±0.8, 2°28S×120°65E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/22, mbtmp3.9/11, MS3.3/4, Ms1 3.3/4, ms1mx2.8/27, Error ellipse: s-maj=49.8km s-min=14.7km az=64.0*

*DJA **30** 03:06:49, 2°28S×120°65E, h10km, MLv4.2/6*

*NEIC **30** 03:06:50.0±9.1, 2°34S×120°60E, h19km±58km, mb4.3/5, Error ellipse: s-maj=26.1km s-min=9.4km az=54.0*

*ISCJB **30** 03:06:50.0±0.5, 2°34S±0°05×120°6E±0°1, h33km, mb4.0/14, MS3.3/3, Error ellipse: s-maj=18.0km s-min=7.3km az=174.3*

ISC 30 03:06:52.3±0.7, 2°38S±0°07×120°6E±0°2, h35km, n29, σ0°69/30, mb4.0/14, MS3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.75**	**198**	Pn	**Pn**	**03 07 33.2**	**-0.8**
KAPI				Sn	**Sn**	**03 08 06.2**	**+0.2**
	9.9nm,0.3s,baz=346,slow=23,SNR=3.9						
KAPI	**Kappang**	**2.75**	**198**	Pn	**Pn**	**03 07 33.1**	**-0.8**
KAPI				Sn	**Sn**	**03 08 06.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**16.39**	**163**	LR	LR	03 17 24.3	
	comp=Z,69nm,20.1s,baz=36,slow=39						
WRA	**Warramunga Arr**	**22.03**	**143**	P	**P**	**03 11 43.5**	**-0.5**
	3.1nm,0.9s,baz=319,slow=12,SNR=9.3						
WRA	**Warramunga Arr**	**22.03**	**143**	P	**P**	**03 11 43.5**	**-0.5**
ASAR	**Alice Springs**	**24.78**	**150**	P	**P**	**03 12 11.1**	**0.0**
	2.2nm,1.0s,baz=332,slow=8.9,SNR=9.5						
ASAR	**Alice Springs**	**24.78**	**150**	P	**P**	**03 12 11.1**	**0.0**
FORT	**Forrest**	**29.12**	**167**	*e*P	**P**	**03 12 50.4**	**+0.5**
	12nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.71**	**315**	P	**P**	**03 12 56.5**	**+1.1**
	1.2nm,0.7s,baz=143,slow=8.1,SNR=5.4						
CMAR				LR	LR	03 25 35.4	
	comp=Z,29nm,18.1s,baz=185,slow=38						
CMAR	**Chiang Mai Arr**	**29.71**	**315**	P	**P**	**03 12 56.5**	**+1.1**
STKA	**Stephens Creek**	**35.39**	**148**	P	**P**	**03 13 45.8**	**+0.9**
	2.6nm,0.7s,baz=322,slow=8.7,SNR=6.1						
STKA				LR	LR	03 30 05.2	
	comp=Z,72nm,18.1s,baz=23,slow=40						
STKA	**Stephens Creek**	**35.39**	**148**	P	**P**	**03 13 45.8**	**+0.9**
ULN	**Ulaanbaatar**	**51.42**	**348**	*e*P	**P**	**03 15 53.8**	**-0.2**
	0.9nm,0.6s						
SONM	**Songino Array**	**51.52**	**348**	P	**P**	**03 15 54.5**	**-0.3**
	1.3nm,0.8s,baz=164,slow=7.0,SNR=12						
SONM				LR	LR	03 36 27.8	
	comp=Z,54nm,20.4s,baz=290,slow=35						
SONM	**Songino Array**	**51.52**	**348**	P	**P**	**03 15 54.5**	**-0.3**
MK31	**Makanchi Array**	**59.41**	**330**	*e*P	**P**	**03 16 51.3**	**-0.1**
MKAR	**Makanchi Array**	**59.41**	**330**	P	**P**	**03 16 51.4**	**0.0**
	1.0nm,0.9s,baz=128,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**59.41**	**330**	P	**P**	**03 16 51.4**	**0.0**
KBL	**Kabul**	**60.68**	**312**	*e*P	**P**	**03 17 00.9**	**+0.3**
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**63.51**	**337**	P	**P**	**03 17 17.6**	**-1.3**
	1.1nm,0.9s,baz=127,slow=3.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**63.51**	**337**	P	**P**	**03 17 17.6**	**-1.3**
KURK	**Kurchatov**	**63.87**	**332**	P	**P**	**03 17 19.9**	**-1.3**
	0.7nm,0.8s,baz=143,slow=5.9,SNR=8.3						
KURK	**Kurchatov**	**63.87**	**332**	*e*P	**P**	**03 17 21.5**	**+0.2**
	2.8nm,0.9s						
BVAR	**Borovoye Array**	**69.30**	**330**	P	**P**	**03 17 55.7**	**-0.2**
	1.0nm,0.8s,baz=115,slow=7.0,SNR=5.5						
BVAR	**Borovoye Array**	**69.30**	**330**	P	**P**	**03 17 55.7**	**-0.2**
ABKAR	**Akbulak array**	**73.15**	**323**	*e*P	**P**	**03 18 18.6**	**-0.8**
AKTO	**Aktyubinsk**	**74.77**	**324**	P	**P**	**03 18 28.3**	**-0.5**
	0.8nm,0.6s,baz=125,slow=6.9,SNR=3.9						
AKTO	**Aktyubinsk**	**74.77**	**324**	P	**P**	**03 18 28.3**	**-0.5**
BR131	**Keskin Array S**	**89.15**	**310**	*e*P	**P**	**03 19 44.6**	**-0.1**
	1.3nm,0.9s						

IDC 30 03:12:55.2±16.0, 21°63N×143°09E, h318km±166km, mb3.1/9, mb1 3.2/9, mb1mx3.0/25, mbtmp3.1/9, Error ellipse: s-maj=31.2km s-min=21.1km az=59.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.20**	**192**	P	P	03 20 17.5	-0.3
	0.8nm,0.5s,baz=15,slow=8.3,SNR=4.0						
ASAR	**Alice Springs**	**45.90**	**192**	P	P	03 20 47.1	+0.1
	0.2nm,0.6s,baz=12,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**54.68**	**313**	P	P	03 21 52.2	+0.1
	0.3nm,0.8s,baz=90,slow=10,SNR=4.0						
KURK	**Kurchatov**	**57.47**	**317**	P	P	03 22 11.7	+0.1
	0.2nm,0.3s,baz=92,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**62.14**	**27**	P	P	03 22 42.5	-0.4
	0.2nm,0.6s,baz=270,slow=4.5,SNR=4.4						
BVAR	**Borovoye Array**	**62.67**	**320**	P	P	03 22 46.8	+0.2
	1.1nm,0.3s,baz=100,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	P	03 24 11.1	+0.5
	0.3nm,0.5s,baz=291,slow=5.9,SNR=7.7						
ARCES	**ARCESS Array B**	**78.96**	**341**	P	P	03 24 23.9	+0.2
	4.8nm,0.9s,baz=68,slow=8.0,SNR=5.7						
FINES	**FINESS Array B**	**83.20**	**334**	P	P	03 24 45.2	-0.8
	0.5nm,0.4s,baz=66,slow=4.9,SNR=9.2						

*IDC **30** 03:19:24.7±14.0, 36°00N×71°81E, h91km±91km, mb3.1/2, mb1 3.0/5, mb1mx2.8/28, mbtmp3.0/5, ML3.0/3, Error ellipse: s-maj=248.7km s-min=51.3km az=143.0*

*ISCJB **30** 03:19:29.5±0.8, 36°62N±0°04×71°9E±0°1, h100km, mb3.4/1, Error ellipse: s-maj=13.0km s-min=4.8km az=170.5*

ISC 30 03:19:31.4±1.2, 36°59N±0°06×71°9E±0°1, h100km, n28, σ1°86/30, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.77**	**181**	P	**Pn**	**03 20 14.8**	**+0.7**
CEP				S	**Sn**	**03 20 50.0**	**+3.0**
CHCP	**Chirah Chowk**	**3.12**	**159**	P	Pn	03 20 22.4	+3.6
THW	**Thamme Wali**	**3.79**	**183**	P	**Pn**	**03 20 27.6**	**-0.2**
SARP	**Sargodha**	**4.70**	**172**	P	**Pn**	**03 20 39.7**	**-0.3**
THN	**Thein Dam**	**5.19**	**142**	*e*P	**Pn**	**03 20 48.2**	**+1.6**
THN				*e*S	**Sn**	**03 21 47.8**	**+2.6**
DLH	**Dalhousie**	**5.23**	**139**	*e*P	**Pn**	**03 20 50.0**	**+2.6**
DLH				*e*S	**Sn**	**03 21 49.0**	**+2.4**
AAK	**Ala-Archa**	**6.34**	**17**	P	**Pn**	**03 21 03.5**	**+1.1**
	1.5nm,0.3s,baz=168,slow=7.1,SNR=17						
AAK				S	**Sn**	**03 22 12.0**	**-1.5**
	0.6nm,0.3s,baz=326,slow=20,SNR=4.3						
KK31	**Karatay Array**	**6.59**	**351**	⇑Pn	**Pn**	**03 21 03.2**	**-2.5**
	5.0nm,0.3s,baz=180,slow=13,SNR=187						
KK31				⇑Sn	Sn	03 22 12.3	-7.0
	3.2nm,0.3s,baz=174,slow=21,SNR=4.0						
TKM2	**Tokmak 2**	**6.92**	**23**	⇑Pn	**Pn**	**03 21 11.9**	**+1.6**
	1.6nm,0.6s						
KHET	**Khetri**	**9.10**	**158**	*e*P	**Pn**	**03 21 38.7**	**-1.2**
KHET				*e*S	Sn	03 23 12.8	-7.7
KHET				AML	AML	03 23 17.5	
	comp=E,11nm,0.2s						
KHET				AML	AML	03 23 19.6	
	comp=N,12nm,0.1s						
AYAN	**Aya Nagar**	**9.19**	**150**	*e*S	**Sn**	**03 23 19.7**	**-3.0**
KUDL	**Kundal**	**9.26**	**154**	*e*P	**Pn**	**03 21 40.4**	**-1.6**
KUDL				*e*S	Sn	03 23 17.5	-6.8
KUDL				AML	AML	03 23 21.8	
	comp=E,7.6nm,0.7s						
KUDL				AML	AML	03 23 25.9	
	comp=N,6.2nm,0.3s						
AGRA	**Agra**	**10.63**	**150**	*e*S	**Sn**	**03 23 52.9**	**-4.9**
AGRA				AML	AML	03 24 16.7	
	comp=E,58nm,0.4s						
AGRA				AML	AML	03 24 17.2	
	comp=N,70nm,0.4s						
MKAR	**Makanchi Array**	**12.78**	**34**	P	**Pn**	**03 22 31.1**	**+1.9**
	comp=N,0.0nm,0.3s,baz=212,slow=13,SNR=3.0						
DANN	**Dangsing**	**12.92**	**126**	*e*P	**Pn**	**03 22 30.8**	**-0.6**
	comp=N,12nm,0.3s						
KOLN	**Koldanda**	**13.21**	**128**	*e*P	**Pn**	**03 22 34.8**	**-0.4**
	comp=N,14nm,0.3s						
GKN	**Gorkha**	**13.72**	**125**	*e*P	**Pn**	**03 22 41.2**	**-0.7**
	comp=N,16nm,0.3s						
KKN	**Kakani**	**14.29**	**124**	*e*P	**Pn**	**03 22 47.9**	**-1.3**
DMN	**Daman**	**14.30**	**125**	*e*P	**Pn**	**03 22 48.5**	**-0.8**
	comp=N,12nm,0.3s						
PKI	**Pulchoki**	**14.52**	**124**	*e*P	**Pn**	**03 22 51.2**	**-1.1**
	comp=N,6.5nm,0.2s						
GUN	**Gumba**	**14.62**	**122**	*e*P	**Pn**	**03 22 52.6**	**-0.9**
	comp=N,10nm,0.4s						
KURK	**Kurchatov**	**14.91**	**17**	P	**Pn**	**03 22 57.9**	**+1.1**
	comp=N,0.0nm,0.3s,baz=209,slow=9.5,SNR=3.6						
JIRN	**Jiri**	**14.99**	**122**	*e*P	**Pn**	**03 22 57.4**	**-0.9**
	comp=N,22nm,0.4s						
RAMN	**Ramite**	**15.72**	**124**	*e*P	**Pn**	**03 23 06.3**	**-1.1**
	comp=N,7.2nm,0.3s						
TAPN	**Taplejung**	**16.23**	**120**	*e*P	**Pn**	**03 23 14.0**	**+0.2**
	comp=N,9.6nm,0.3s						
ODAN	**Odare**	**16.32**	**122**	*e*P	**Pn**	**03 23 15.0**	**+0.2**
	comp=N,8.2nm,0.6s						
ZALV	**Zalesovo Beam**	**19.52**	**23**	P	**P**	**03 23 50.5**	**-0.1**
	comp=N,0.4nm,0.3s,baz=225,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.48**	**269**	P	P	03 30 04.2	-6.4
	comp=N,0.4nm,0.7s,baz=52,slow=5.8,SNR=4.7						

MAN 30 03:32:44, 11°13N×124°74E, h34km, mb3.6, ML2.3, MS1.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.15**	**239**	*e*P	Pb	03 32 51.7	+1.4
OCLP				*e*S	Sb	03 32 54.0	-0.5
PLP	**Palo**	**0.24**	**81**	⇓*e*P	Pb	03 32 53.0	+1.8
PLP				*i* S	Sb	03 32 57.6	+1.6
MSLP	**Maasin**	**0.99**	**173**	*e*P	Pb	03 33 03.8	+0.9
MSLP				*e*S	Sn	03 33 12.3	-2.1

*ISCJB **30** 03:37:29.8±0.7, 15°0S±0°2×174°9W±0°2, h10km, mb4.0/10, MS3.8/1, Error ellipse: s-maj=36.6km s-min=15.7km az=141.5*

*IDC **30** 03:37:29.7±1.7, 15°02S×174°87W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/17, mbtmp3.8/7, MS3.8/1, Ms1 3.8/1, ms1mx3.5/24, Error ellipse: s-maj=109.2km s-min=21.9km az=150.0*

*NEIC **30** 03:37:31.3±0.4, 15°05S×174°84W, h10km, mb4.4/3, Error ellipse: s-maj=23.4km s-min=10.4km az=141.0*

ISC 30 03:37:31.4±0.8, 15°0S±0°3×174°9W±0°2, h10km, n27, σ0°54/24, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.20**	**70**	Pn	Px	03 38 13.4	
	21nm,0.3s,baz=65,slow=2.2,SNR=12						
AFI				Sn	Sx	03 38 46.3	
	18nm,0.3s,baz=149,slow=20,SNR=4.0						
AFI	**Afiamalu**	**3.20**	**70**	Pn	Px	03 38 13.4	
AFI				Sn	Sx	03 38 46.3	
CTA	**Charters Tower**	**37.34**	**257**	LR	LR	03 56 48.3	
	comp=Z,146nm,21.1s,baz=137,slow=31						
WRA	**Warramunga Arr**	**48.55**	**257**	P	**P**	**03 46 14.6**	**-0.6**
	0.9nm,0.9s,baz=92,slow=7.0,SNR=3.9						
WRA	**Warramunga Arr**	**48.55**	**257**	P	**P**	**03 46 14.6**	**-0.6**
AS31	**Alice Springs**	**48.88**	**252**	*e*P	**P**	**03 46 18.7**	**+0.9**
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**03 46 17.6**	**-0.2**
	5.8nm,0.9s,baz=85,slow=8.4,SNR=30						
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**03 46 17.6**	**-0.2**
NVAR	**Mina Array Bea**	**75.01**	**43**	P	**P**	**03 49 13.4**	**-0.1**
	0.6nm,0.7s,baz=224,slow=9.7,SNR=5.9						
NVAR	**Mina Array Bea**	**75.01**	**43**	P	**P**	**03 49 13.4**	**-0.1**
QSPA	**South Pole Qui**	**75.02**	**180**	*e*P	**P**	**03 49 12.8**	**-0.3**
	4.5nm,1.0s						
MCK	**McKinley**	**81.03**	**11**	*e*P	**P**	**03 49 46.1**	**-0.1**
	1.6nm,0.8s						
TXAR	**Lajitas Array**	**81.59**	**57**	P	**P**	**03 49 50.0**	**0.0**
	0.4nm,0.8s,baz=66,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**81.59**	**57**	P	**P**	**03 49 50.0**	**0.0**
COLA	**College**	**82.27**	**11**	*e*P	**P**	**03 49 52.7**	**+0.1**
	3.0nm,0.7s						
ILAR	**Eielson Array**	**82.36**	**12**	P	**P**	**03 49 52.9**	**-0.3**
	1.1nm,0.9s,baz=241,slow=6.3,SNR=7.0						
ILAR	**Eielson Array**	**82.36**	**12**	P	**P**	**03 49 52.9**	**-0.3**
PDAR	**Pinedale Array**	**82.94**	**42**	P	**P**	**03 49 56.6**	**-0.3**
	1.2nm,0.8s,baz=216,slow=3.0,SNR=11						
PDAR	**Pinedale Array**	**82.94**	**42**	P	**P**	**03 49 56.6**	**-0.3**
YKA	**Yellowknife Ar**	**90.33**	**24**	P	**P**	**03 50 32.1**	**-0.2**
	0.2nm,0.8s,baz=245,slow=4.6,SNR=3.7						
YKA	**Yellowknife Ar**	**90.33**	**24**	P	**P**	**03 50 32.1**	**-0.2**
KMBO	**Kilima Mbogo**	**144.40**	**246**	*e*PKPdf	**PKPdf**	**03 57 09.5**	**+0.2**
BRTR	**Keskin Array B**	**144.97**	**320**	PKP	**PKPdf**	**03 57 09.5**	**0.0**
	1.1nm,1.1s,baz=47,slow=2.1,SNR=2.9						
BRTR	**Keskin Array B**	**144.97**	**320**	PKP	**PKPdf**	**03 57 09.5**	**0.0**
KHC	**Kasperske Hory**	**145.29**	**350**	*e*PKP	**PKPdf**	**03 57 11.5**	**+1.9**
GERES	**GERESS Array B**	**145.54**	**350**	PKPbc	**PKPbc**	**03 57 10.1**	**0.0**
	1.3nm,1.0s,baz=286,slow=5.0,SNR=6.6						
GERES	**GERESS Array B**	**145.54**	**350**	PKPbc	**PKPbc**	**03 57 10.1**	**0.0**

MAN 30 03:44:20, 10°93N×124°80E, h4km, mb4.5, ML3.4, MS3.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.22**	**303**	*e*P	Pg	03 44 25.4	+1.1
OCLP				*e*S	Sg	03 44 27.7	+0.3
PLP	**Palo**	**0.29**	**37**	⇑*e*P	Pg	03 44 27.2	+1.5
PLP				*i* S	Sg	03 44 32.2	+2.6
MSLP	**Maasin**	**0.79**	**176**	*e*P	Pn	03 44 37.5	-0.5
MSLP				*e*S	Sn	03 44 51.1	+0.9
TBP	**Tagbilaran**	**1.54**	**217**	*i* P	Pg	03 44 49.3	-0.2

*IDC **30** 03:47:08.8±0.8, 15°33S×174°62W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.6/17, mbtmp4.4/14, MS5.3/24, Ms1 5.3/24, ms1mx5.2/29, Error ellipse: s-maj=32.5km s-min=17.3km az=152.0*

*NEIC **30** 03:47:10.9±0.3, 15°39S×174°47W, h10km, mb5.2/70, MS5.4/169, MW5.6, Error ellipse: s-maj=14.0km s-min=5.4km az=148.0*

*SZGRF **30** 03:47:13.9, 15°99S×174°29W, h33km, mb5.5, Tonga Islands*

*ISCJB **30** 03:47:13.1±2.1, 15°48S±0°07×174°48W±0°04, h36km±18km, mb5.0/104, MS5.4/213, Error ellipse: s-maj=11.7km s-min=6.0km az=161.7*

*BJI **30** 03:47:14.2, 14°91S×174°13W, h31km, mB5.6/29, mb4.9/31, Ms5.5/34, Ms7 5.3/29*

*MOS **30** 03:47:16.2±1.1, 14°62S×174°50W, h33km, mb5.3/32, MS5.4/31, Error ellipse: s-maj=15.6km s-min=9.5km az=61.6*

*NEIC **30** 03:47:36.5±0.0, 14°58S×175°02W, h10km, Moment Tensor Solution. s161 Moment tensor: Scale 10^17^Nm; Mrr=0.08; Mθθ=0.12; Mφφ=-0.04; Mrθ=-1.57; Mθφ=2.91; Mφr=1.48; Best double couple: M0=3.50000×10^17^ NP1:φs=87.00000°, δ72.00000°, λ-22.

TAU	**Tasmania Unive**	**42.63**	**222**	PFAKE		03 55 20.0	+12		
TAU				LR	LR				
	comp=Z,6µm,19.0s								
STKA	**Stephens Creek**	**43.19**	**240**	P	**P**	**03 55 10.8**	**-1.9**		
	comp=Z,12nm,1.0s,baz=70,slow=9.1,SNR=11								
STKA				LR	LR	04 11 29.4			
	comp=Z,4µm,18.9s,baz=70,slow=34								
STKA	**Stephens Creek**	**43.19**	**240**	*eP*	**P**	**03 55 11.1**	**-1.6**		
STKA	**Stephens Creek**	**43.19**	**240**	*eP*	**P**	**03 55 11.5**	**-1.1**		
STKA	**Stephens Creek**	**43.19**	**240**	*eP*	**P**	**03 55 11.5**	**-1.1**		
	comp=Z,5.6nm,1.3s								
WB2	**Warramunga Ar**	**48.90**	**257**	*eP*	**P**	**03 55 56.7**	**-1.2**		
WRAB	**Tennant Creek**	**48.90**	**257**	*eP*	**P**	**03 55 56.7**	**-1.1**		
WRAB				pmax	pmax				
	comp=Z,11nm,1.0s								
WRAB				MLR	MLR				
	comp=Z,5µm,19.0s								
WRAB	**Tennant Creek**	**48.90**	**257**	*eP*	**P**	**03 55 56.7**	**-1.1**		
	comp=Z,11nm,1.0s								
WRAB				LR	LR				
	comp=Z,5µm,19.0s								
WRA	**Warramunga Arr**	**48.91**	**257**	P	P	03 55 54.6	-3.3		
	comp=Z,3.9nm,0.9s,baz=90,slow=7.3,SNR=11								
WRA				LR	LR	04 15 07.2			
	comp=Z,6µm,19.8s,baz=90,slow=34								
WRA	**Warramunga Arr**	**48.91**	**257**	P	P	03 55 54.6	-3.3		
WRA	**Warramunga Arr**	**48.91**	**257**	P	P	03 55 54.6	-3.3		
AS31	**Alice Springs**	**49.19**	**252**	*eP*	**P**	**03 55 57.3**	**-2.8**		
ASAR	**Alice Springs**	**49.19**	**252**	P	P	03 55 56.9	-3.2		
	comp=Z,11nm,0.8s,baz=85,slow=8.4,SNR=80								
ASAR	**Alice Springs**	**49.19**	**252**	P	P	03 55 56.9	-3.2		
ASAR	**Alice Springs**	**49.19**	**252**	P	P	03 55 56.9	-3.2		
GUMO	**Guam**	**49.58**	**304**	PFAKE		03 56 10.0	+7.0		
GUMO				LR	LR				
	comp=Z,3µm,20.0s								
FORT	**Forrest**	**54.54**	**243**	*eP*	**P**	**03 56 40.7**	**+0.9**		
	comp=Z,13nm,0.8s								
DRV	**Dumont d'Urvil**	**59.22**	**199**	P	P	03 57 17.0	+4.7		
DRV				S	S	04 05 09.0	-8.5		
DRV				SS	SS	04 09 29.0	+17		
DRV				L	L	04 11 00.0			
DRV				R		04 15 00.0			
MBWA	**Marble Bar**	**62.43**	**254**	*eP*	**P**	**03 57 32.7**	**-2.3**		
	comp=Z,28nm,1.3s								
MBWA				LR	LR				
	comp=Z,5µm,19.0s								
SBA	**Scott Base**	**63.11**	**184**	PFAKE		03 57 50.0	+11		
SBA				LR	LR				
	comp=Z,2µm,19.0s								
VNDA	**Vanda**	**63.22**	**186**	*eP*	P	03 57 34.0	-5.2		
VNDA				pmax	pmax				
	comp=Z,17nm,1.4s								
VNDA				MLR	MLR				
	comp=Z,943nm,20.0s								
VNDA	**Vanda**	**63.22**	**186**	*eP*	P	03 57 34.0	-5.2		
	comp=Z,17nm,1.4s								
VNDA				LR	LR				
	comp=Z,943nm,20.0s								
DAV	**Davao City (W)**	**63.54**	**286**	LR	LR	04 23 43.1			
	comp=Z,2µm,18.0s,baz=122,slow=35								
NWAO	**Narrogin (SRO)**	**63.76**	**241**	LR	LR	04 23 27.8			
	comp=Z,3µm,21.2s,baz=38,slow=34								
KAPI	**Kappang**	**65.44**	**272**	*eP*	**P**	**03 57 55.2**	**+0.3**		
	comp=Z,29nm,1.0s								
KAPI				LR	LR				
	comp=Z,570nm,21.0s								
MJAR	**Matsushiro Arr**	**68.38**	**320**	P	P	03 58 08.9	-4.2		
	comp=Z,0.7nm,0.4s,baz=160,slow=4.2,SNR=3.7								
MJAR				LR	LR	04 22 18.6			
	comp=Z,3µm,21.6s,baz=135,slow=31								
MJAR	**Matsushiro Arr**	**68.38**	**320**	P	P	03 58 08.9	-4.2		
MJAR	**Matsushiro Arr**	**68.38**	**320**	P	P	03 58 08.9	-4.2		
MAJO	**Matsushiro**	**68.39**	**320**	PFAKE		03 58 20.0	+6.8		
MAJO				LR	LR				
	comp=Z,3µm,22.0s								
ERM	**Erimo**	**69.31**	**327**	PFAKE		03 58 30.0	+11		
ERM				LR	LR				
	comp=Z,2µm,20.0s								
CASY	**Casey**	**69.95**	**205**	PFAKE		03 58 30.0	+7.6		
CASY				LR	LR				
	comp=Z,2µm,20.0s								
KKM	**Kota Kinabalu**	**71.97**	**282**	PFAKE		03 58 50.0	+14		
KKM				LR	LR				
	comp=Z,764nm,20.0s								
SAO	**San Andreas Ge**	**72.01**	**42**	*eP*	P	03 58 41.0	+5.6		
SAO				pmax	pmax				
	comp=Z,24nm,1.4s								
SAO	**San Andreas Ge**	**72.01**	**42**	*eP*	P	03 58 41.0	+5.6		
	comp=Z,24nm,1.4s								
PET	**Petropavlovsk**	**72.07**	**343**	PFAKE		03 58 50.0	+15		
PET				LR	LR				
	comp=Z,875nm,20.0s								
CIS	**Catalina Islan**	**72.18**	**47**	⇓P	**P**	**03 58 36.8**	**+0.3**		
	baz=72								
CIS				⇓P	**P**	**03 58 36.8**	**+0.3**		
	baz=72								
CIS				⇓P	**P**	**03 58 36.8**	**+0.3**		
	baz=72								
PETK	**Petropavlovsk-**	**72.41**	**343**	P	**P**	**03 58 36.6**	**-0.8**		
	comp=Z,3.8nm,0.7s,baz=128,slow=12,SNR=3.1								
PETK	**Petropavlovsk-**	**72.41**	**343**	P	**P**	**03 58 36.6**	**-0.8**		
PETK	**Petropavlovsk-**	**72.41**	**343**	P	**P**	**03 58 36.6**	**-0.8**		
VES	**Vestal, Richgr**	**73.05**	**44**	⇓P	**P**	**03 58 42.0**	**+0.5**		
	baz=73								
VES				⇓P	**P**	**03 58 42.0**	**+0.5**		
	baz=73								
VES				⇓P	**P**	**03 58 42.0**	**+0.5**		
	baz=73								
YSS	**Yuzh-Sakhalins**	**73.08**	**331**	PFAKE		03 58 50.0	+8.6		
YSS				LR	LR				
	comp=Z,429nm,20.0s								
MURC	**Murrieta**	**73.13**	**47**	⇓P	**P**	**03 58 42.5**	**+0.3**		
	baz=73								
MURC				⇓P	**P**	**03 58 42.5**	**+0.3**		
	baz=73								
MURC				⇓P	**P**	**03 58 42.5**	**+0.3**		
	baz=73								
EDW2	**Edwards Air Fo**	**73.27**	**46**	⇑P	**P**	**03 58 42.8**	**-0.2**		
	baz=73								
EDW2				⇑P	**P**	**03 58 42.8**	**-0.2**		
	baz=73								
EDW2				⇑P	**P**	**03 58 42.8**	**-0.2**		
	baz=73								
ISA	**Isabella**	**73.36**	**45**	*eP*	**P**	**03 58 43.9**	**+0.4**		
ISA				pmax	pmax				
	comp=Z,32nm,1.4s								
ISA	**Isabella**	**73.36**	**45**	*eP*	**P**	**03 58 43.9**	**+0.4**		
	comp=Z,32nm,1.4s								
ISA	**Isabella**	**73.36**	**45**	⇓P	**P**	**03 58 43.3**	**-0.3**		
	baz=74								
ISA				⇓P	**P**	**03 58 43.3**	**-0.3**		
	baz=74								
ISA				⇓P	**P**	**03 58 43.3**	**-0.3**		
	baz=74								
CMB	**Columbia Colle**	**73.44**	**42**	*eP*	**P**	**03 58 42.9**	**-1.0**		
CMB				pmax	pmax				
	comp=Z,23nm,1.3s								
CMB	**Columbia Colle**	**73.44**	**42**	*eP*	**P**	**03 58 42.9**	**-1.0**		
	comp=Z,23nm,1.3s								
OHCM	**Honcut**	**73.51**	**40**	*eP*	**P**	**03 58 45.9**	**+1.8**		
WDC	**Whiskeytown Da**	**73.62**	**39**	*eP*	**P**	**03 58 46.2**	**+1.4**		
WDC				pmax	pmax				
	comp=Z,59nm,1.8s								
WDC	**Whiskeytown Da**	**73.62**	**39**	*eP*	**P**	**03 58 46.2**	**+1.4**		
	comp=Z,59nm,1.8s								
PFO	**Pinyon Flat Ob**	**73.66**	**47**	PFAKE		03 59 00.0	+15		
PFO				LR	LR				
	comp=Z,3µm,20.0s								
YBH	**Yreka Blue Hor**	**74.22**	**38**	*eP*	**P**	**03 58 48.4**	**-0.1**		
YBH				pmax	pmax				
	comp=Z,29nm,1.4s								
YBH	**Yreka Blue Hor**	**74.22**	**38**	*eP*	**P**	**03 58 48.4**	**-0.1**		
	comp=Z,30nm,1.4s								
MTUM	**Tungsten Hills**	**74.24**	**43**	*eP*	P	03 58 44.2	-4.6		
MPMC	**Manual Prospec**	**74.25**	**45**	⇓P	**P**	**03 58 48.7**	**-0.2**		
	baz=74								
MPMC				⇓P	**P**	**03 58 48.7**	**-0.2**		
	baz=74								
MPMC				⇓P	**P**	**03 58 48.7**	**-0.2**		
	baz=74								
YHNB	**Yeheng**	**74.27**	**302**	PFAKE		03 59 00.0	+11		
YHNB				LR	LR				
	comp=Z,3µm,19.0s								
DAC	**Darwin (Calif)**	**74.30**	**45**	PFAKE		03 59 00.0	+11		
DAC				LR	LR				
	comp=Z,3µm,20.0s								
TATO	**Taipei**	**74.30**	**302**	PFAKE		03 59 00.0	+11		
TATO				LR	LR				
	comp=Z,3µm,20.0s								
GSC	**Goldstone**	**74.31**	**46**	*eP*	**P**	**03 58 49.0**	**-0.1**		
GSC				pmax	pmax				
	comp=Z,39nm,1.5s								
GSC	**Goldstone**	**74.31**	**46**	*eP*	**P**	**03 58 49.0**	**-0.1**		
	comp=Z,39nm,1.5s								
GSC	**Goldstone**	**74.31**	**46**	⇓P	**P**	**03 58 48.9**	**-0.2**		
	baz=74								
GSC				⇓P	**P**	**03 58 48.9**	**-0.2**		
	baz=74								
GSC				⇓P	**P**	**03 58 48.9**	**-0.2**		
	baz=74								
HEC	**Hector,Ludlow**	**74.39**	**46**	⇓P	**P**	**03 58 49.2**	**-0.4**		
	baz=75								
HEC				⇓P	**P**	**03 58 49.2**	**-0.4**		
	baz=75								
HEC				⇓P	**P**	**03 58 49.2**	**-0.4**		
	baz=75								
WCN	**Washoe City**	**74.58**	**41**	*eP*	**P**	**03 58 52.3**	**+1.6**		
WCN	**Washoe City**	**74.58**	**41**	*eP*	**P**	**03 58 52.3**	**+1.6**		
WCN	**Washoe City**	**74.58**	**41**	⇓P	**P**	**03 58 50.5**	**-0.1**		
	baz=75								
WCN				⇓P	**P**	**03 58 50.5**	**-0.1**		
	baz=75								
WCN				⇓P	**P**	**03 58 50.5**	**-0.1**		
	baz=75								
QSPA	**South Pole Qui**	**74.58**	**180**	LR	LR	04 26 50.5			
	comp=Z,2µm,20.5s,baz=223,slow=32								
QSPA	**South Pole Qui**	**74.58**	**180**	*eP*	**P**	**03 58 50.7**	**+0.5**		
	comp=Z,28nm,1.2s								
HUMO	**Hull Mountain**	**74.62**	**37**	*eP*	**P**	**03 58 50.4**	**-0.2**		
GMRC	**Granite Mounta**	**74.83**	**47**	⇑P	**P**	**03 58 51.8**	**-0.4**		
	baz=75								
GMRC				⇑P	**P**	**03 58 51.8**	**-0.4**		
	baz=75								
GMRC				⇑P	**P**	**03 58 51.8**	**-0.4**		
	baz=75								
IRM	**Iron Mountain**	**74.88**	**48**	⇓P	**P**	**03 58 52.2**	**-0.1**		
	baz=75								
IRM				⇓P	**P**	**03 58 52.2**	**-0.1**		
	baz=75								
IRM				⇓P	**P**	**03 58 52.2**	**-0.1**		
	baz=75								
FURC	**Furnace Creek,**	**74.90**	**45**	⇑P	**P**	**03 58 52.3**	**0.0**		
	baz=75								
FURC				⇑P	**P**	**03 58 52.3**	**0.0**		
	baz=75								
FURC				⇑P	**P**	**03 58 52.3**	**0.0**		
	baz=75								
NVAR	**Mina Array Bea**	**75.01**	**42**	P	**P**	**03 58 53.0**	**-0.2**		
	comp=Z,3.7nm,1.0s,baz=235,slow=6.2,SNR=15								
NVAR				LR	LR	04 25 07.1			
	comp=Z,2µm,19.7s,baz=105,slow=30								
NVAR	**Mina Array Bea**	**75.01**	**42**	P	**P**	**03 58 53.0**	**-0.2**		
KDAK	**Kodiak Island**	**75.18**	**12**	PFAKE		03 59 00.0	+6.6		
KDAK				LR	LR				
	comp=Z,2µm,21.0s								
Z13A	**Yuma Proving G**	**75.47**	**49**	⇓P	**P**	**03 58 55.8**	**+0.1**		
	baz=76								
Z13A				⇓P	**P**	**03 58 55.8**	**+0.1**		
	baz=76								
Z13A				⇓P	**P**	**03 58 55.8**	**+0.1**		
	baz=76								
TPH	**Tonopah**	**75.53**	**43**	PFAKE		03 59 10.0	+14		
TPH				LR	LR				
	comp=Z,2µm,20.0s								
KSRS	**Korea Array**	**75.55**	**316**	LR	LR	04 29 18.6			
	comp=Z,2µm,18.8s,baz=131,slow=34								
PDMCI	**Parker Dam,Lak**	**75.67**	**48**	⇓P	**P**	**03 58 57.0**	**+0.2**		
	baz=76								
PDMCI				⇓P	**P**	**03 58 57.0**	**+0.2**		
	baz=76								
PDMCI				⇓P	**P**	**03 58 57.0**	**+0.2**		
	baz=76								
MOD	**Modoc**	**75.76**	**39**	*eP*	**P**	**03 58 56.5**	**-0.8**		
114A	**Black Gap (USA**	**75.81**	**50**	⇑P	**P**	**03 58 57.7**	**0.0**		
	baz=76								
114A				⇑P	**P**	**03 58 57.7**	**0.0**		
	baz=76								
114A				⇑P	**P**	**03 58 57.7**	**0.0**		
	baz=76								
Z14A	**Wintersburg**	**76.07**	**49**	⇓P	**P**	**03 58 59.1**	**0.0**		
	baz=76								
Z14A				⇓P	**P**	**03 58 59.1**	**0.0**		
	baz=76								
Z14A				⇓P	**P**	**03 58 59.1**	**0.0**		
	baz=76								
W13A	**Hualapai Mount**	**76.25**	**47**	⇑P	**P**	**03 58 60.0**	**-0.5**		
	baz=76								
W13A				⇑P	**P**	**03 58 60.0**	**-0.5**		
	baz=76								
W13A				⇑P	**P**	**03 58 60.0**	**-0.5**		
	baz=76								
KSM	**Kuching**	**76.25**	**275**	*eP*	**P**	**03 58 58.7**	**-1.9**		
	comp=Z,30nm,1.1s								
KSM				LR	LR				
	comp=Z,440nm,20.0s								
INCN	**Inchon**	**76.43**	**315**	PFAKE		03 59 10.0	+8.9		
INCN				LR	LR				
	comp=Z,2µm,20.0s								
R11A	**Troy Canyon, C**	**76.76**	**44**	⇑P	**P**	**03 59 03.0**	**-0.2**		
	baz=77,SNR=13								
R11A				⇑P	**P**	**03 59 03.0**	**-0.2**		
	baz=77,SNR=13								
R11A				⇑P	**P**	**03 59 03.0**	**-0.2**		
	baz=77,SNR=13								
BMN	**Battle Mountai**	**76.82**	**41**	*eP*	**P**	**03 59 02.7**	**-0.8**		
BMN				pmax	pmax				
	comp=Z,36nm,1.5s								
BMN				MLR	MLR				
	comp=Z,2µm,19.0s								
BMN	**Battle Mountai**	**76.82**	**41**	*eP*	**P**	**03 59 02.7**	**-0.8**		
	comp=Z,36nm,1.5s								
BMN				LR	LR				
	comp=Z,2µm,19.0s								
USRK	**Ussuriysk Arra**	**76.87**	**324**	P	**P**	**03 59 02.1**	**-1.3**		
	comp=Z,0.8nm,0.7s,baz=132,slow=14,SNR=2.4								
USRK				LR	LR	04 26 23.6			
	comp=Z,3µm,22.0s,baz=300,slow=31								
BMW	**Boistfort Moun**	**76.91**	**34**	*eP*	P	03 59 10.2	+6.5		
BMW	**Boistfort Moun**	**76.91**	**34**	*eP*	P	03 59 10.2	+6.5		
WVOR	**Wild Horse Val**	**77.08**	**39**	*eP*	**P**	**03 59 05.4**	**+0.6**		
WVOR				pmax	pmax				
	comp=Z,32nm,1.5s								
WVOR				MLR	MLR				
	comp=Z,2µm,20.0s								
WVOR	**Wild Horse Val**	**77.08**	**39**	*eP*	**P**	**03 59 05.4**	**+0.6**		
	comp=Z,32nm,1.5s								
WVOR				LR	LR				
	comp=Z,2µm,20.0s								
NLWA	**Neilton Lookou**	**77.16**	**33**	PFAKE		03 59 20.0	+15		
NLWA				LR	LR				
	comp=Z,2µm,19.0s								
TUC	**Tucson**	**77.17**	**51**	*eP*	**P**	**03 59 07.4**	**+1.9**		
TUC				MLR	MLR				
	comp=Z,4µm,20.0s								
TUC	**Tucson**	**77.17**	**51**	*eP*	**P**	**03 59 07.4**	**+1.9**		
TUC				LR	LR				
	comp=Z,4µm,20.0s								
SSE	**Sheshan**	**77.25**	**307**	P	**P**	**03 59 04.3**	**-1.5**		
SSE				sP	**sP**	**03 59 17.5**	**-3.2**		
SSE				S	**S**	**04 08 52.5**	**-0.8**		
SSE				sS	**sS**	**04 09 09.5**	**-1.8**		
SSE				SS	**SS**	**04 13 55.0**	**+2.8**		
SSE				pmax	pmax				
	comp=Z,17nm,1.0s								
SSE				pmax	pmax				
	comp=Z,320nm,3.9s								
SSE				LR	LR				
	comp=N,1µm,34.0s								
SSE				LR	LR				
	comp=E,1µm,34.0s								
SSE				LR	LR				
	comp=Z,2µm,32.4s								
X16A	**Lo Mia Camp, P**	**77.67**	**49**	⇓P	**P**	**03 59 07.9**	**-0.5**		
	baz=78								
X16A				⇓P	**P**	**03 59 07.9**	**-0.5**		
	baz=78								
X16A				⇓P	**P**	**03 59 07.9**	**-0.5**		
	baz=78								
HABR	**Khabarovsk**	**77.89**	**328**	*eP*	**P**	**03 59 07.7**	**-1.3**		
HABR				*e*		03 59 17.0			
HABR				*e*SP	**sP**	**03 59 22.1**	**-1.8**		
HABR				*e*		04 02 01.3			
HABR				*e*PPP	PPP	04 03 49.5			
HABR				*e*S	**S**	**04 08 57.4**	**-2.2**		
HABR				*e**SS	**sS**	**04 09 14.9**	**-2.7**		
HABR						04 09 22.7			
HABR				*e*SS	**SS**	**04 13 56.6**	**-4.7**		
HABR				pmax	pmax				
	comp=E,73nm,3.0s								
HABR				pmax	pmax				
	comp=N,59nm,3.0s								
HABR				pmax	pmax				
	comp=Z,136nm,2.3s								
HABR				MLR	MLR				
	comp=Z,820nm,18.0s								
U15A	**North Rim**	**78.03**	**47**	⇓P	**P**	**03 59 10.4**	**-0.1**		
	baz=78,SNR=22								
U15A				⇓P	**P**	**03 59 10.4**	**-0.1**		
	baz=78,SNR=22								
U15A				⇓P	**P**	**03 59 10.4**	**-0.1**		
	baz=78,SNR=22								
SLKM	**Skilak Lake**	**78.17**	**12**	*eP*	**P**	**03 59 08.7**	**-1.7**		
SLKM	**Skilak Lake**	**78.17**	**12**	*eP*	**P**	**03 59 08.7**	**-1.7**		
WUAZ	**Wupatki**	**78.24**	**48**	*eP*	**P**	**03 59 11.1**	**-0.5**		
	comp=Z,55nm,1.5s								
WUAZ				LR	LR				
	comp=Z,2µm,22.0s								
WUAZ	**Wupatki**	**78.24**	**48**	⇓P	**P**	**03 59 11.3**	**-0.2**		
	baz=78								
WUAZ				⇓P	**P**	**03 59 11.3**	**-0.2**		
	baz=78								
WUAZ				⇓P	**P**	**03 59 11.3**	**-0.2**		
	baz=78								
ELK	**Elko**	**78.26**	**42**	*eP*	**P**	**03 59 11.4**	**-0.2**		
ELK	**Elko**	**78.26**	**42**	*eP*	**P**	**03 59 11.4**	**-0.2**		
Y18A	**Canyon Day Jun**	**78.40**	**50**	⇓P	**P**	**03 59 12.3**	**-0.2**		
	baz=79								
Y18A				⇓P	**P**	**03 59 12.3**	**-0.2**		
	baz=79								
Y18A				⇓P	**P**	**03 59 12.3**	**-0.2**		
	baz=79								
320A	**Kipp Ranch, An**	**78.44**	**53**	⇑P	**P**	**03 59 12.4**	**-0.3**		
	baz=79								
320A				⇑P	**P**	**03 59 12.4**	**-0.3**		
	baz=79								
320A				⇑P	**P**	**03 59 12.4**	**-0.3**		
	baz=79								
SPU	**Mount Spurr**	**78.44**	**11**	*eP*	**P**	**03 59 11.5**	**-0.4**		
MDJ	**Mudanjiang**	**78.50**	**323**	P	**P**	**03 59 13.5**	**+1.0**		
MDJ				pmax	pmax				
	comp=Z,9.0nm,2.4s								
MDJ				pmax	pmax				
	comp=Z,79nm,3.9s								
MDJ	**Mudanjiang**	**78.50**	**323**	PFAKE		03 59 20.0	+7.5		
MDJ				LR	LR				
	comp=Z,3µm,22.0s								
JCW	**Jim Creek**	**78.68**	**33**	*eP*	**P**	**03 59 12.3**	**-1.2**		
	comp=Z,79nm,1.9s								
220A	**Playas Peak, P**	**78.69**	**52**	⇓P	**P**	**03 59 13.6**	**-0.5**		
	baz=79								
220A				⇓P	**P**	**03 59 13.6**	**-0.5**		
	baz=79								
220A				⇓P	**P**	**03 59 13.6**	**-0.5**		
	baz=79								
V17A	**Tonalea, Kykot**	**78.71**	**48**	⇑P	**P**	**03 59 14.2**	**+0.1**		
	baz=79,SNR=15								
V17A				⇑P	**P**	**03 59 14.2**	**+0.1**		
	baz=79,SNR=15								
V17A				⇑P	**P**	**03 59 14.2**	**+0.1**		
	baz=79,SNR=15								
U16A	**Tuba City**	**78.72**	**47**	⇓P	**P**	**03 59 14.0**	**-0.1**		
	baz=79								
U16A				⇓P	**P**	**03 59 14.0**	**-0.1**		
	baz=79								
U16A				⇓P	**P**	**03 59 14.0**	**-0.1**		
	baz=79								
X18A	**Snowflake**	**78.81**	**49**	⇑P	**P**	**03 59 14.6**	**-0.1**		
	baz=79								
X18A				⇑P	**P**	**03 59 14.6**	**-0.1**		
	baz=79								
X18A				⇑P	**P**	**03 59 14.6**	**-0.1**		
	baz=79								
HAWA	**Hanford**	**78.87**	**35**	*eP*	**P**	**03 59 13.6**	**-1.0**		
HAWA				LR	LR				
	comp=Z,2µm,20.0s								
120A	**U Bar Ranch, L**	**78.89**	**52**	⇓P	**P**	**03 59 15.1**	**-0.1**		
	baz=79								
120A				⇓P	**P**	**03 59 15.1**	**-0.1**		
	baz=79								
120A				⇓P	**P**	**03 59 15.1**	**-0.1**		
	baz=79								
R15A	**Junction**	**78.92**	**45**	⇑P	**P**	**03 59 15.0**	**-0.3**		
	baz=79								
R15A				⇑P	**P**	**03 59 15.0**	**-0.3**		
	baz=79								
R15A				⇑P	**P**	**03 59 15.0**	**-0.3**		
	baz=79								
Y19A	**Nutrioso**	**79.06**	**50**	⇓P	**P**	**03 59 16.0**	**-0.2**		
	baz=79								
Y19A				⇓P	**P**	**03 59 16.0**	**-0.2**		
	baz=79								
Y19A				⇓P	**P**	**03 59 16.0**	**-0.2**		
	baz=79								
MVU	**Marysvale**	**79.11**	**45**	PFAKE		03 59 30.0	+14		
MVU				LR	LR				
	comp=Z,2µm,20.0s								
MSU	**Marysvale**	**79.14**	**45**	*eP*	**P**	**03 59 18.1**	**+1.6**		
MSU	**Marysvale**	**79.14**	**45**	*eP*	**P**	**03 59 18.1**	**+1.6**		
S16A	**Weppner Ranch,**	**79.15**	**46**	⇑P	**P**	**03 59 16.3**	**-0.2**		
	baz=79								
S16A				⇑P	**P**	**03 59 16.3**	**-0.2**		
	baz=79								
S16A				⇑P	**P**	**03 59 16.3**	**-0.2**		
	baz=79								
ETW	**Entiat**	**79.17**	**34**	*eP*	**P**	**03 59 15.1**	**-1.2**		
Z20A	**Nine Sixteen R**	**79.18**	**51**	⇓P	**P**	**03 59 16.4**	**-0.4**		
	baz=79								
Z20A				⇓P	**P**	**03 59 16.4**	**-0.4**		
	baz=79								
Z20A				⇓P	**P**	**03 59 16.4**	**-0.4**		
	baz=79								
X19A	**St. Johns**	**79.25**	**50**	⇓P	**P**	**03 59 16.8**	**-0.4**		
	baz=79								
X19A				⇓P	**P**	**03 59 16.8**	**-0.4**		
	baz=79								
X19A				⇓P	**P**	**03 59 16.8**	**-0.4**		
	baz=79								
BMO	**Blue Mountains**	**79.25**	**37**	*eP*	**P**	**03 59 15.2**	**-1.5**		
BMO	comp=Z,24nm,1.7s			LR	LR				
	comp=Z,1µm,21.0s								
U17A	**Shonto**	**79.27**	**47**	⇑P	**P**	**03 59 17.0**	**-0.1**		
	baz=79								
U17A				⇑P	**P**	**03 59 17.0**	**-0.1**		
	baz=79								
U17A				⇑P	**P**	**03 59 17.0**	**-0.1**		
	baz=79								
MFID	**Camas Ranch**	**79.33**	**39**	*eP*	**P**	**03 59 17.1**	**-0.2**		
MFID	**Camas Ranch**	**79.33**	**39**	⇑P	**P**	**

NJ2 comp=Z,440nm,6.2s LR LR
NJ2 comp=N,820nm,19.7s LR LR
W19A Sanders 79.49 49 ⇓P P 03 59 18.0 -0.4
W19A baz=80 ⇓P P 03 59 18.0 -0.4
W19A baz=80 ⇓P P 03 59 18.0 -0.4
121A Cookes Peak, D 79.53 52 ⇓P P 03 59 18.6 0.0
121A baz=80 ⇓P P 03 59 18.6 0.0
121A baz=80 ⇓P P 03 59 18.6 0.0
DUG Dugway 79.55 43 *e*P P 03 59 19.2 +0.6
DUG MLR MLR
DUG Dugway 79.55 43 *e*P P 03 59 19.2 +0.6
DUG comp=Z,2µm,20.0s LR LR
DUG Dugway 79.55 43 ⇑P P 03 59 18.4 -0.2
DUG baz=80 ⇑P P 03 59 18.4 -0.2
DUG baz=80 ⇑P P 03 59 18.4 -0.2
P15A Leamington 79.60 44 ⇓P P 03 59 19.5 +0.7
P15A baz=80 ⇓P P 03 59 19.5 +0.7
P15A baz=80 ⇓P P 03 59 19.5 +0.7
S17A Black Ridge (B 79.66 46 ⇓P P 03 59 19.2 0.0
S17A baz=80,SNR=13 ⇓P P 03 59 19.2 0.0
S17A baz=80,SNR=13 ⇓P P 03 59 19.2 0.0
DIV Divide 79.68 14 *e*P P 03 59 16.9 -1.8
comp=Z,29nm,0.9s
Y20A Horse Springs, 79.69 51 ⇓P P 03 59 19.9 +0.3
Y20A baz=80,SNR=13 ⇓P P 03 59 19.9 +0.3
Y20A baz=80,SNR=13 ⇓P P 03 59 19.9 +0.3
U18A Rough Rock, Ch 79.74 48 ⇓P P 03 59 19.7 0.0
U18A baz=80 ⇓P P 03 59 19.7 0.0
U18A baz=80 ⇓P P 03 59 19.7 0.0
WRAK Wrangell Islan 79.77 22 PFAKE 03 59 30.0 +11
WRAK LR LR
comp=Z,2µm,22.0s
BMRM Bremner River 79.81 14 *e*P P 03 59 19.9 +0.5
comp=Z,38nm,1.0s
O15A The Old Anders 79.83 43 ⇑P P 03 59 20.3 +0.2
O15A baz=80 ⇑P P 03 59 20.3 +0.2
O15A baz=80 ⇑P P 03 59 20.3 +0.2
X20A Quemado 79.88 50 ⇓P P 03 59 20.3 -0.3
X20A baz=80 ⇓P P 03 59 20.3 -0.3
X20A baz=80 ⇓P P 03 59 20.3 -0.3
OD2 Odessa Site #2 79.92 35 *e*P P 03 59 19.1 -1.1
Z21A St. Cloud Mine 79.95 51 ⇑P P 03 59 20.9 -0.1
Z21A baz=80,SNR=15 ⇑P P 03 59 20.9 -0.1
Z21A baz=80,SNR=15 ⇑P P 03 59 20.9 -0.1
V19A Window Rock 80.01 49 ⇓P P 03 59 21.7 +0.4
V19A baz=80 ⇓P P 03 59 21.7 +0.4
V19A baz=80 ⇓P P 03 59 21.7 +0.4
KLR Kul'dur 80.06 327 *e*P P 03 59 19.6 -1.3
KLR *e*S S 04 09 24.5 +1.7
KLR pmax pmax
comp=Z,30nm,1.6s
T18A Mexican Hat 80.08 47 ⇓P P 03 59 21.4 0.0
T18A baz=80,SNR=30 ⇓P P 03 59 21.4 0.0
T18A baz=80,SNR=30 ⇓P P 03 59 21.4 0.0
N15A Stansbury Isla 80.10 43 ⇑P P 03 59 21.2 -0.3
N15A baz=80 ⇑P P 03 59 21.2 -0.3
N15A baz=80 ⇑P P 03 59 21.2 -0.3
R17A Hanksville Air 80.10 46 ⇓P P 03 59 21.7 +0.1
R17A baz=80 ⇓P P 03 59 21.7 +0.1
R17A baz=80 ⇓P P 03 59 21.7 +0.1
W20A Ramah 80.14 49 ⇓P P 03 59 21.4 -0.7
W20A baz=80,SNR=19 ⇓P P 03 59 21.4 -0.7
W20A baz=80,SNR=19 ⇓P P 03 59 21.4 -0.7
U19A Dine' College, 80.16 48 ⇓P P 03 59 21.8 -0.2
U19A baz=80 ⇓P P 03 59 21.8 -0.2
U19A baz=80 ⇓P P 03 59 21.8 -0.2
TMUT Trail Mountain 80.18 45 *e*P P 03 59 23.8 +1.6
L14A Malta 80.22 41 ⇓P P 03 59 22.5 +0.4
L14A baz=80 ⇓P P 03 59 22.5 +0.4
L14A baz=80 ⇓P P 03 59 22.5 +0.4
S18A Hurst Farm, Bl 80.25 47 ⇑P P 03 59 22.2 -0.3
S18A baz=80 ⇑P P 03 59 22.2 -0.3
S18A baz=80 ⇑P P 03 59 22.2 -0.3
Y21A Point of Rocks 80.26 51 ⇑P P 03 59 22.7 0.0
Y21A baz=80 ⇑P P 03 59 22.7 0.0
Y21A baz=80 ⇑P P 03 59 22.7 0.0
HLID Hailey 80.28 40 *e*P P 03 59 22.4 -0.1
HLID LR LR
comp=Z,1µm,22.0s
HLID Hailey 80.28 40 ⇓P P 03 59 21.9 -0.6
HLID baz=80,SNR=13 ⇓P P 03 59 21.9 -0.6
HLID baz=80,SNR=13 ⇓P P 03 59 21.9 -0.6
J13A Cove Ranch, Pi 80.34 40 ⇑P P 03 59 22.1 -0.7
J13A baz=80,SNR=16 ⇑P P 03 59 22.1 -0.7
J13A baz=80,SNR=16 ⇑P P 03 59 22.1 -0.7
X21A Alamocita Cree 80.37 50 ⇓P P 03 59 22.7 -0.6
X21A baz=80 ⇓P P 03 59 22.7 -0.6
X21A baz=80 ⇓P P 03 59 22.7 -0.6
HVU Hansel Valley 80.38 42 *e*P P 03 59 22.1 -1.0
HVU Hansel Valley 80.38 42 *e*P P 03 59 22.1 -1.0
M15A Larsen Ranch, 80.44 42 ⇓P P 03 59 23.2 -0.1
M15A baz=81 ⇓P P 03 59 23.2 -0.1
M15A baz=81 ⇓P P 03 59 23.2 -0.1
Z22A Elephant Butte 80.47 52 ⇑P P 03 59 23.2 -0.5
Z22A baz=81 ⇑P P 03 59 23.2 -0.5
Z22A baz=81 ⇑P P 03 59 23.2 -0.5
K14A Jones Ranch, D 80.52 41 ⇓P P 03 59 23.5 -0.2
K14A baz=81 ⇓P P 03 59 23.5 -0.2
K14A baz=81 ⇓P P 03 59 23.5 -0.2
CN2 Changchun 80.53 320 *e*P P 03 59 25.5 +1.9
CN2 *ep*P pP 03 59 36.8 +2.3
CN2 *e*S S 04 09 28.5 +0.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,1µm,22.0s
CN2 LR LR
comp=E,2µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
T19A Beclabito 80.54 48 ⇓P P 03 59 23.7 -0.3
T19A baz=81 ⇓P P 03 59 23.7 -0.3
T19A baz=81 ⇓P P 03 59 23.7 -0.3
H12A Diamond D Ranc 80.54 39 ⇑P P 03 59 23.7 -0.2
H12A baz=81 ⇑P P 03 59 23.7 -0.2
H12A baz=81 ⇑P P 03 59 23.7 -0.2
DL2 Dalian 80.55 315 ⇑P P 03 59 32.5 +8.7
DL2 S S 04 09 41.5 +13
DL2 pmax pmax
comp=Z,20nm,1.1s
DL2 pmax pmax
comp=Z,220nm,5.6s
DL2 LR LR
comp=N,560nm,20.0s
DL2 LR LR
comp=E,550nm,21.9s
DL2 LR LR
comp=Z,680nm,22.5s
SRU San Rafael 80.56 45 *e*P P 03 59 25.0 +0.9
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael 80.56 45 *e*P P 03 59 25.0 +0.9
comp=Z,14nm,1.0s
SRU San Rafael 80.56 45 ⇑P P 03 59 23.4 -0.7
SRU baz=81 ⇑P P 03 59 23.4 -0.7
SRU baz=81 ⇑P P 03 59 23.4 -0.7
R18A Canyonlands Na 80.65 46 ⇑P P 03 59 23.7 -0.9
baz=81,SNR=5.0
R18A ⇑P P 03 59 23.7 -0.9
R18A baz=81,SNR=5.0 ⇑P P 03 59 23.7 -0.9
I13A Wildhorse Cree 80.65 39 ⇓P P 03 59 24.0 -0.5
I13A baz=81 ⇓P P 03 59 24.0 -0.5
I13A baz=81 ⇓P P 03 59 24.0 -0.5
JLU Jordanelle 80.66 43 *e*P P 03 59 24.9 +0.2
comp=Z,39nm,1.7s
SNY Shenyang 80.69 318 ⇑P P 03 59 36.3 +12
SNY S S 04 09 38.8 +9.2
SNY pmax pmax
comp=Z,24nm,2.4s
SNY pmax pmax
comp=Z,360nm,5.9s
SNY LR LR
comp=N,370nm,17.2s
SNY LR LR
comp=E,620nm,18.6s
SNY LR LR
comp=Z,1µm,28.0s
J14A Carey 80.71 40 ⇑P P 03 59 24.5 -0.2
J14A baz=81 ⇑P P 03 59 24.5 -0.2
J14A baz=81 ⇑P P 03 59 24.5 -0.2
L15A Malad City 80.75 42 ⇑P P 03 59 24.6 -0.4
L15A baz=81 ⇑P P 03 59 24.6 -0.4
L15A baz=81 ⇑P P 03 59 24.6 -0.4
Y22A Socorro 80.76 51 ⇓P P 03 59 25.2 0.0
Y22A baz=81 ⇓P P 03 59 25.2 0.0
Y22A baz=81 ⇓P P 03 59 25.2 0.0
N16A Rees Ranch, Co 80.81 43 ⇓P P 03 59 24.8 -0.7
N16A baz=81 ⇓P P 03 59 24.8 -0.7
N16A baz=81 ⇓P P 03 59 24.8 -0.7
LAZ Ladron 80.83 51 *e*P P 03 59 27.1 +1.4
comp=Z,35nm,2.0s
324A Moseley Ranch, 80.84 54 ⇑P P 03 59 24.9 -0.9
324A baz=81 ⇑P P 03 59 24.9 -0.9
324A baz=81 ⇑P P 03 59 24.9 -0.9
TRF Thorofare Moun 80.86 11 *e*P P 03 59 22.7 -2.5
comp=Z,24nm,0.8s
S19A Harvey Farm, M 80.88 47 ⇑P P 03 59 25.5 -0.4
S19A baz=81 ⇑P P 03 59 25.5 -0.4
S19A baz=81 ⇑P P 03 59 25.5 -0.4
H13A Challis 80.91 39 ⇑P P 03 59 25.8 0.0
H13A baz=81 ⇑P P 03 59 25.8 0.0
H13A baz=81 ⇑P P 03 59 25.8 0.0
TNA Tin City 80.93 3 *e*P P 03 59 24.6 -0.6
comp=Z,22nm,1.0s
O17A Robinson Place 80.94 44 ⇓P P 03 59 25.7 -0.5
O17A baz=81 ⇓P P 03 59 25.7 -0.5
O17A baz=81 ⇓P P 03 59 25.7 -0.5
F12A Elk City 80.96 37 ⇑P P 03 59 25.4 -0.6
F12A baz=81,SNR=10 ⇑P P 03 59 25.4 -0.6
F12A baz=81,SNR=10 ⇑P P 03 59 25.4 -0.6
425A Indio Mountain 80.96 55 ⇑P P 03 59 25.9 -0.5
425A baz=81 ⇑P P 03 59 25.9 -0.5
425A baz=81 ⇑P P 03 59 25.9 -0.5
P18A Preston Nutter 80.99 45 ⇑P P 03 59 25.5 -1.1
P18A baz=81 ⇑P P 03 59 25.5 -1.1
P18A baz=81 ⇑P P 03 59 25.5 -1.1
K15A Arbon 81.00 41 ⇑P P 03 59 25.8 -0.5
K15A baz=81 ⇑P P 03 59 25.8 -0.5
K15A baz=81 ⇑P P 03 59 25.8 -0.5
MNTX Cornudas Mount 81.03 54 *e*P P 03 59 26.1 -0.5
MNTX comp=Z,16nm,1.4s LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 81.03 54 ⇓P P 03 59 25.9 -0.7
MNTX baz=81 ⇓P P 03 59 25.9 -0.7
MNTX baz=81 ⇓P P 03 59 25.9 -0.7
MNTX baz=81 ⇓P P 03 59 25.9 -0.7
MNTX baz=81 ⇓P P 03 59 25.9 -0.7
MNTX baz=81 ⇓P P 03 59 25.9 -0.7
R19A Curley Farm, L 81.04 46 ⇓P P 03 59 26.3 -0.4
R19A baz=81 ⇓P P 03 59 26.3 -0.4
R19A baz=81 ⇓P P 03 59 26.3 -0.4
I14A Mackay 81.06 40 ⇓P P 03 59 26.4 -0.3
I14A baz=81 ⇓P P 03 59 26.4 -0.3
I14A baz=81 ⇓P P 03 59 26.4 -0.3
224A Cornudas Mount 81.07 53 ⇓P P 03 59 26.5 -0.5
224A baz=81 ⇓P P 03 59 26.5 -0.5
224A baz=81 ⇓P P 03 59 26.5 -0.5
HWUT Hardware Ranch 81.08 42 PFAKE 03 59 40.0 +13
HWUT LR LR
comp=Z,2µm,21.0s
MVCO Mesa Verde 81.08 48 PFAKE 03 59 40.0 +13
MVCO LR LR
comp=Z,3µm,22.0s
BNM Barren Site 81.10 51 *e*P P 03 59 27.6 +0.4
comp=Z,60nm,1.9s
E12A Beaver Dam Sad 81.13 37 ⇓P P 03 59 27.0 0.0
E12A baz=81 ⇓P P 03 59 27.0 0.0
E12A baz=81 ⇓P P 03 59 27.0 0.0
626A Big Bend Ranch 81.15 56 ⇑P P 03 59 26.6 -0.8
626A baz=81 ⇑P P 03 59 26.6 -0.8
626A baz=81 ⇑P P 03 59 26.6 -0.8
LPM Los Pinos Moun 81.17 51 *e*P P 03 59 28.6 +1.1
G13A Cobalt 81.20 38 ⇑P P 03 59 26.9 -0.4
G13A baz=81 ⇑P P 03 59 26.9 -0.4
G13A baz=81 ⇑P P 03 59 26.9 -0.4
325A Bean Ranch, Si 81.21 54 ⇓P P 03 59 26.7 -1.0
325A baz=81 ⇓P P 03 59 26.7 -1.0
325A baz=81 ⇓P P 03 59 26.7 -1.0
N17A Moffit Pass 81.23 43 ⇓P P 03 59 27.1 -0.6
N17A baz=81 ⇓P P 03 59 27.1 -0.6
N17A baz=81 ⇓P P 03 59 27.1 -0.6
NEW Newport 81.30 35 PFAKE 03 59 40.0 +12
NEW LR LR
comp=Z,2µm,20.0s
U21A Nageezi 81.34 49 ⇓P P 03 59 27.7 -0.7
U21A baz=82,SNR=21 ⇓P P 03 59 27.7 -0.7
U21A baz=82,SNR=21 ⇓P P 03 59 27.7 -0.7
PV04 Paradox Valley 81.34 46 *e*P P 03 59 30.5 +2.2
Q19A Hogan Spring (81.35 46 ⇓P P 03 59 27.8 -0.4
Q19A baz=82 ⇓P P 03 59 27.8 -0.4
Q19A baz=82 ⇓P P 03 59 27.8 -0.4
MCK McKinley 81.37 11 *e*P P 03 59 26.0 -1.6
MCK pmax pmax
MCK McKinley 81.37 11 *e*P P 03 59 26.0 -1.6
comp=Z,28nm,0.8s
PAX Paxson 81.38 13 *e*P P 03 59 27.3 -0.5
PAX pmax pmax
comp=Z,38nm,1.6s
PAX Paxson 81.38 13 *e*P P 03 59 27.3 -0.5
comp=Z,38nm,1.6s
526A Mary Lane Ranc 81.38 56 ⇑P P 03 59 28.1 -0.6
526A baz=82 ⇑P P 03 59 28.1 -0.6
526A baz=82 ⇑P P 03 59 28.1 -0.6
J15A Blackfoot 81.43 41 ⇓P P 03 59 28.2 -0.4
J15A baz=82,SNR=13 ⇓P P 03 59 28.2 -0.4
J15A baz=82,SNR=13 ⇓P P 03 59 28.2 -0.4
TXAR Lajitas Array 81.44 56 P P 03 59 29.0 +0.1
comp=Z,4.8nm,1.2s,baz=229,slow=4.8,SNR=10
TXAR LR LR 04 27 29.5
comp=Z,2µm,21.7s,baz=345,slow=30
TXAR Lajitas Array 81.44 56 P P 03 59 29.0 +0.1
TXAR Lajitas Array 81.44 56 P P 03 59 29.0 +0.1
PV01 Paradox Valley 81.45 47 *e*P P 03 59 30.1 +1.1
comp=Z,3µm,1.6s
S20A Disappointment 81.46 47 ⇓P P 03 59 28.4 -0.6
S20A baz=82 ⇓P P 03 59 28.4 -0.6
S20A baz=82 ⇓P P 03 59 28.4 -0.6
H14A Leadore 81.48 39 ⇓P P 03 59 28.4 -0.5
H14A baz=82 ⇓P P 03 59 28.4 -0.5
H14A baz=82 ⇓P P 03 59 28.4 -0.5
F13A Darby 81.52 38 ⇑P P 03 59 28.5 -0.5
F13A baz=82 ⇑P P 03 59 28.5 -0.5
F13A baz=82 ⇑P P 03 59 28.5 -0.5
C11A Tepee Creek (N 81.54 35 ⇑P P 03 59 28.5 -0.5
C11A baz=82,SNR=10 ⇑P P 03 59 28.5 -0.5
C11A baz=82,SNR=10 ⇑P P 03 59 28.5 -0.5
ANMO Albuquerque 81.57 50 *e*P P 03 59 29.4 -0.2
ANMO pmax pmax
comp=Z,25nm,1.3s
ANMO MLR MLR
comp=Z,3µm,20.0s
ANMO Albuquerque 81.57 50 *e*P P 03 59 29.4 -0.2
comp=Z,25nm,1.3s
ANMO LR LR
comp=Z,3µm,20.0s
M17A Scullys Gap (B 81.60 43 ⇓P P 03 59 29.1 -0.6
M17A baz=82 ⇓P P 03 59 29.1 -0.6
M17A baz=82 ⇓P P 03 59 29.1 -0.6
D12A Red Ives Fores 81.61 36 ⇓P P 03 59 29.1 -0.3
D12A baz=82 ⇓P P 03 59 29.1 -0.3
D12A baz=82 ⇓P P 03 59 29.1 -0.3
R20A Redvale 81.61 47 ⇑P P 03 59 28.8 -0.9
R20A baz=82 ⇑P P 03 59 28.8 -0.9
R20A baz=82 ⇑P P 03 59 28.8 -0.9
225A Deer Hill, Car 81.63 53 ⇑P P 03 59 29.3 -0.7
225A baz=82,SNR=7.4 ⇑P P 03 59 29.3 -0.7

baz=82,SNR=7.4
225A ⇑P P 03 59 29.3 -0.7
baz=82,SNR=7.4
V22A San Miguel Ran 81.65 49 ⇑P P 03 59 29.4 -0.7
baz=82
V22A ⇑P P 03 59 29.4 -0.7
baz=82
V22A ⇑P P 03 59 29.4 -0.7
baz=82
426A McDonald Obser 81.67 55 ⇓P P 03 59 29.7 -0.5
baz=82,SNR=12
426A ⇓P P 03 59 29.7 -0.5
baz=82,SNR=12
426A ⇓P P 03 59 29.7 -0.5
baz=82,SNR=12
K16A Soda Springs 81.67 41 ⇓P P 03 59 29.7 -0.2
baz=82
K16A ⇓P P 03 59 29.7 -0.2
baz=82
K16A ⇓P P 03 59 29.7 -0.2
baz=82
T21A Navajo Lake 81.67 48 ⇑P P 03 59 29.5 -0.6
baz=82
T21A ⇑P P 03 59 29.5 -0.6
baz=82
T21A ⇑P P 03 59 29.5 -0.6
baz=82
I15A Monteview 81.70 40 ⇑P P 03 59 29.5 -0.5
baz=82
I15A ⇑P P 03 59 29.5 -0.5
baz=82
I15A ⇑P P 03 59 29.5 -0.5
baz=82
627A Terlingua Ranc 81.70 56 ⇑P P 03 59 29.9 -0.5
baz=82,SNR=14
627A ⇑P P 03 59 29.9 -0.5
baz=82,SNR=14
627A ⇑P P 03 59 29.9 -0.5
baz=82,SNR=14
MENT Mentasta 81.74 14 *e*P P 03 59 30.0 +0.4
G14A Jackson 81.75 39 ⇓P P 03 59 29.9 -0.4
baz=82
G14A ⇓P P 03 59 29.9 -0.4
baz=82
G14A ⇓P P 03 59 29.9 -0.4
baz=82
L17A Cokeville 81.77 42 ⇓P P 03 59 30.1 -0.4
baz=82
L17A ⇓P P 03 59 30.1 -0.4
baz=82
L17A ⇓P P 03 59 30.1 -0.4
baz=82
S21A Coal Bank Pass 81.79 47 ⇑P P 03 59 30.7 -0.1
baz=82,SNR=18
S21A ⇑P P 03 59 30.7 -0.1
baz=82,SNR=18
S21A ⇑P P 03 59 30.7 -0.1
baz=82,SNR=18
527A Woodward Ranch 81.80 56 ⇑P P 03 59 30.0 -0.8
baz=82
527A ⇑P P 03 59 30.0 -0.8
baz=82
527A ⇑P P 03 59 30.0 -0.8
baz=82
P19A Cripple Cowboy 81.86 45 ⇑P P 03 59 30.5 -0.5
baz=82
P19A ⇑P P 03 59 30.5 -0.5
baz=82
P19A ⇑P P 03 59 30.5 -0.5
baz=82
J16A Bone 81.88 41 ⇑P P 03 59 30.9 -0.1
baz=82,SNR=12
J16A ⇑P P 03 59 30.9 -0.1
baz=82,SNR=12
J16A ⇑P P 03 59 30.9 -0.1
baz=82,SNR=12
W23A Werner Place, 81.89 50 ⇓P P 03 59 30.7 -0.6
baz=82
W23A ⇓P P 03 59 30.7 -0.6
baz=82
W23A ⇓P P 03 59 30.7 -0.6
baz=82
U22A Llaves 81.89 49 ⇓P P 03 59 30.8 -0.6
baz=82
U22A ⇓P P 03 59 30.8 -0.6
baz=82
U22A ⇓P P 03 59 30.8 -0.6
baz=82
C12B Naegeli Ranch, 81.90 36 ⇑P P 03 59 31.0 +0.2
baz=82
C12B ⇑P P 03 59 31.0 +0.2
baz=82
C12B ⇑P P 03 59 31.0 +0.2
baz=82
MCMT McKenzie Canyo 81.90 39 *e*P P 03 59 30.9 -0.2
comp=Z,10nm,1.6s
Y24A Capitan 81.90 52 ⇓P P 03 59 30.9 -0.5
baz=82
Y24A ⇓P P 03 59 30.9 -0.5
baz=82
Y24A ⇓P P 03 59 30.9 -0.5
baz=82
H15A Lima 81.92 39 ⇓P P 03 59 30.9 -0.3
baz=82,SNR=15
H15A ⇓P P 03 59 30.9 -0.3
baz=82,SNR=15
H15A ⇓P P 03 59 30.9 -0.3
baz=82,SNR=15
E13A Victor 81.95 37 ⇑P P 03 59 30.5 -0.7
baz=82,SNR=7.6
E13A ⇑P P 03 59 30.5 -0.7
baz=82,SNR=7.6
E13A ⇑P P 03 59 30.5 -0.7
baz=82,SNR=7.6
AHID Auburn Hatcher 81.95 42 PFAKE 03 59 40.0 +8.5
AHID LR LR
comp=Z,1μm,19.0s
M18A Lyman 81.97 43 ⇓P P 03 59 31.3 -0.3
baz=82
M18A ⇓P P 03 59 31.3 -0.3
baz=82
M18A ⇓P P 03 59 31.3 -0.3
baz=82
125A Gardner Draw, 81.98 53 ⇓P P 03 59 30.9 -0.8
baz=82
125A ⇓P P 03 59 30.9 -0.8
baz=82
125A ⇓P P 03 59 30.9 -0.8
baz=82
GDL2 Guadalupe Moun 82.02 54 *e*P P 03 59 32.7 +0.8
Q20A Ridgley Place, 82.02 46 ⇓P P 03 59 31.8 0.0
baz=82,SNR=17
Q20A ⇓P P 03 59 31.8 0.0
baz=82,SNR=17
Q20A ⇓P P 03 59 31.8 0.0
baz=82,SNR=17
QIZ Qiongzhong 82.06 292 P P 03 59 32.8 +0.6
QIZ S S 04 09 47.8 +3.1
QIZ sS sS 04 10 02.0 -0.8
QIZ pmax pmax
comp=Z,31nm,2.5s
QIZ LR LR
comp=E,570nm,23.6s
QIZ LR LR
comp=Z,2μm,24.4s
QIZ Qiongzhong 82.06 292 PFAKE 03 59 40.0 +7.8
QIZ LR LR
comp=Z,856nm,21.0s
K17A Gardner Place, 82.06 42 ⇑P P 03 59 31.6 -0.4
baz=82
K17A ⇑P P 03 59 31.6 -0.4
baz=82
K17A ⇑P P 03 59 31.6 -0.4
baz=82
O19A Miners Draw (B 82.07 45 ⇓P P 03 59 31.8 -0.3
baz=82
O19A ⇓P P 03 59 31.8 -0.3
baz=82
O19A ⇓P P 03 59 31.8 -0.3
baz=82
F14A Wisdom 82.10 38 ⇓P P 03 59 32.1 0.0
baz=82
F14A ⇓P P 03 59 32.1 0.0
baz=82
F14A ⇓P P 03 59 32.1 0.0
baz=82
RRI2 Red Ridge 82.10 41 *e*P P 03 59 32.3 0.0
comp=Z,64nm,1.6s
V23A Ortiz Mt. (NFS 82.11 50 ⇑P P 03 59 32.5 +0.1
baz=82,SNR=6.5
V23A ⇑P P 03 59 32.5 +0.1
baz=82,SNR=6.5
V23A ⇑P P 03 59 32.5 +0.1
baz=82,SNR=6.5
628A Black Gap, Mar 82.12 57 ⇓P P 03 59 31.8 -0.6
baz=82
628A ⇓P P 03 59 31.8 -0.6
baz=82
628A ⇓P P 03 59 31.8 -0.6
baz=82
T22A Edith 82.14 48 ⇑P P 03 59 31.9 -0.7
baz=82
T22A ⇑P P 03 59 31.9 -0.7
baz=82
T22A ⇑P P 03 59 31.9 -0.7
baz=82
D13A Huson 82.14 37 ⇓P P 03 59 31.8 -0.4
baz=82
D13A ⇓P P 03 59 31.8 -0.4
baz=82
D13A ⇓P P 03 59 31.8 -0.4
baz=82
226A Malaga, Loving 82.17 54 ⇑P P 03 59 32.0 -0.7
baz=82
226A ⇑P P 03 59 32.0 -0.7
baz=82
226A ⇑P P 03 59 32.0 -0.7
baz=82
Z25A Roswell 82.18 52 ⇓P P 03 59 32.1 -0.7
baz=82
Z25A ⇓P P 03 59 32.1 -0.7
baz=82
Z25A ⇓P P 03 59 32.1 -0.7
baz=82
P20A De Beque 82.20 46 ⇑P P 03 59 32.8 0.0
baz=82,SNR=12
P20A ⇑P P 03 59 32.8 0.0
baz=82,SNR=12
P20A ⇑P P 03 59 32.8 0.0
baz=82,SNR=12
427A Hayter Ranch, 82.24 55 ⇓P P 03 59 33.1 0.0
baz=82
427A ⇓P P 03 59 33.1 0.0
baz=82
427A ⇓P P 03 59 33.1 0.0
baz=82
I16A Newdale 82.26 41 ⇓P P 03 59 33.1 +0.1
baz=82,SNR=11
I16A ⇓P P 03 59 33.1 +0.1
baz=82,SNR=11
I16A ⇓P P 03 59 33.1 +0.1
baz=82,SNR=11
R21A Cimarron 82.28 47 ⇓P P 03 59 33.2 -0.1
baz=82,SNR=16
R21A ⇓P P 03 59 33.2 -0.1
baz=82,SNR=16
R21A ⇓P P 03 59 33.2 -0.1
baz=82,SNR=16
DOT Dot Lake 82.28 13 *e*P P 03 59 30.8 -1.7
comp=Z,7.1nm,0.8s
G15A Dillon 82.29 39 ⇓P P 03 59 32.9 -0.3
baz=82,SNR=14
G15A ⇓P P 03 59 32.9 -0.3
baz=82,SNR=14
G15A ⇓P P 03 59 32.9 -0.3
baz=82,SNR=14
MSO Missoula 82.30 37 *e*P P 03 59 32.5 -0.6
comp=Z,25nm,1.6s
MSO LR LR
comp=Z,985nm,20.0s
MSO Missoula 82.30 37 ⇑P P 03 59 33.5 +0.4
baz=82
MSO ⇑P P 03 59 33.5 +0.4
baz=82
MSO ⇑P P 03 59 33.5 +0.4
baz=82
DCID1 Drake Creek 82.31 41 *e*P P 03 59 32.4 -0.9
comp=Z,86nm,1.7s
N19A John Jarvie Ra 82.31 44 ⇓P P 03 59 33.2 -0.2
baz=82
N19A ⇓P P 03 59 33.2 -0.2
baz=82
N19A ⇓P P 03 59 33.2 -0.2
baz=82
DLMT Dillon 82.33 39 *e*P P 03 59 33.6 +0.3
comp=Z,40nm,1.5s
SEY Seymchan 82.34 345 *e*P P 03 59 31.1 -1.6
E14A Clinton 82.34 38 ⇓P P 03 59 33.2 -0.2
baz=82
E14A ⇓P P 03 59 33.2 -0.2
baz=82
E14A ⇓P P 03 59 33.2 -0.2
baz=82
U23A El Rito 82.36 49 ⇑P P 03 59 33.3 -0.4
baz=82,SNR=12
U23A ⇑P P 03 59 33.3 -0.4
baz=82,SNR=12
U23A ⇑P P 03 59 33.3 -0.4
baz=82,SNR=12
BSMT Bassoo Peak 82.37 36 *e*P P 03 59 34.1 +0.6
C13A Hot Springs 82.39 36 ⇑P P 03 59 33.6 +0.1
baz=83
C13A ⇑P P 03 59 33.6 +0.1
baz=83
C13A ⇑P P 03 59 33.6 +0.1
baz=83
REDW Red Top Meadow 82.41 41 *e*P P 03 59 33.3 -0.6
comp=Z,59nm,1.6s
TPAW Teton Pass 82.41 41 *e*P P 03 59 33.8 0.0
comp=Z,41nm,1.5s
528A Cox Ranch, San 82.46 56 ⇓P P 03 59 33.7 -0.6
baz=83
528A ⇓P P 03 59 33.7 -0.6
baz=83
528A ⇓P P 03 59 33.7 -0.6
baz=83
W24A Lazy 6 Ranch, 82.46 50 ⇓P P 03 59 33.8 -0.5
baz=83
W24A ⇓P P 03 59 33.8 -0.5
baz=83
W24A ⇓P P 03 59 33.8 -0.5
baz=83
126A Clayton Basin, 82.46 53 ⇑P P 03 59 33.6 -0.6
baz=83
126A ⇑P P 03 59 33.6 -0.6
baz=83
126A ⇑P P 03 59 33.6 -0.6
baz=83
Y25A Mesa, Roswell 82.47 52 ⇑P P 03 59 34.1 -0.2
baz=83,SNR=12
Y25A ⇑P P 03 59 34.1 -0.2
baz=83,SNR=12
Y25A ⇑P P 03 59 34.1 -0.2
baz=83,SNR=12
Q21A Lamborn Mesa, 82.47 46 ⇑P P 03 59 34.0 -0.2
baz=83
Q21A ⇑P P 03 59 34.0 -0.2
baz=83
Q21A ⇑P P 03 59 34.0 -0.2
baz=83
J17A Brown Place, J 82.50 41 ⇓P P 03 59 34.5 +0.2
baz=83
J17A ⇓P P 03 59 34.5 +0.2
baz=83
J17A ⇓P P 03 59 34.5 +0.2
baz=83
S22A 4UR Ranch, Cre 82.51 48 ⇑P P 03 59 34.4 -0.2
baz=83,SNR=22
S22A ⇑P P 03 59 34.4 -0.2
baz=83,SNR=22
S22A ⇑P P 03 59 34.4 -0.2
baz=83,SNR=22
SNOW Snow King Moun 82.52 41 *e*P P 03 59 34.7 +0.3
comp=Z,38nm,1.4s
K18A Toltan Ranch, 82.57 42 ⇓P P 03 59 34.4 -0.3
baz=83,SNR=11
K18A ⇓P P 03 59 34.4 -0.3
baz=83,SNR=11
K18A ⇓P P 03 59 34.4 -0.3
baz=83,SNR=11
O20A White River Ci 82.59 45 ⇓P P 03 59 34.5 -0.4
baz=83
O20A ⇓P P 03 59 34.5 -0.4
baz=83
O20A ⇓P P 03 59 34.5 -0.4
baz=83
JTMT Jette 82.60 36 *e*P P 03 59 36.5 +1.9
comp=Z,5.0nm,1.1s
COLA College 82.61 11 *e*P P 03 59 32.3 -1.7
COLA pmax pmax
comp=Z,31nm,0.8s
COLA MLR MLR
comp=Z,2μm,22.0s
COLA College 82.61 11 *e*P P 03 59 32.3 -1.7
comp=Z,31nm,0.8s
COLA LR LR
comp=Z,2μm,22.0s
SWMT Swartz Lake 82.63 36 *e*P P 03 59 33.5 -1.3
comp=Z,16nm,1.7s
F15A Butte 82.64 38 ⇓P P 03 59 34.9 0.0
baz=83
F15A ⇓P P 03 59 34.9 0.0
baz=83
F15A ⇓P P 03 59 34.9 0.0
baz=83
LRM Limekiln Ridge 82.65 38 *e*P P 03 59 35.3 +0.2
comp=Z,349nm,1.8s
MOOW Moose Ponds 82.66 41 *e*P P 03 59 34.6 -0.6
comp=Z,32nm,1.7s
LOHW Long Hollow 82.69 41 *e*P P 03 59 35.3 0.0
comp=Z,57nm,1.9s
D14A Greenough 82.69 37 ⇓P P 03 59 34.8 -0.3
baz=83
D14A ⇓P P 03 59 34.8 -0.3
baz=83
D14A ⇓P P 03 59 34.8 -0.3
baz=83
ILAR Eielson Array 82.70 12 P P 03 59 32.5 -2.1
comp=Z,3.7nm,1.0s,baz=213,slow=5.5,SNR=17
ILAR LR LR 04 28 01.5
comp=Z,740nm,21.6s,baz=21,slow=30
ILAR Eielson Array 82.70 12 P P 03 59 32.5 -2.1
ILAR Eielson Array 82.70 12 P P 03 59 32.5 -2.1
X25A Clemmons Ranch 82.74 51 ⇓P P 03 59 34.6 -1.1
baz=83
X25A ⇓P P 03 59 34.6 -1.1
baz=83
X25A ⇓P P 03 59 34.6 -1.1
baz=83
G16A Moss Hill, Enn 82.74 39 ⇓P P 03 59 35.2 -0.3
baz=83
G16A ⇓P P 03 59 35.2 -0.3
baz=83
G16A ⇓P P 03 59 35.2 -0.3
baz=83
Z26A Caprock 82.75 53 ⇑P P 03 59 35.1 -0.6
baz=83,SNR=17
Z26A ⇑P P 03 59 35.1 -0.6
baz=83,SNR=17
Z26A ⇑P P 03 59 35.1 -0.6
baz=83,SNR=17
CHMT Chamberlain Mo 82.75 37 *e*P P 03 59 35.0 -0.5
428A Kincaid Ranch, 82.76 55 ⇓P P 03 59 36.1 +0.3
baz=83
428A ⇓P P 03 59 36.1 +0.3
baz=83
428A ⇓P P 03 59 36.1 +0.3
baz=83
L19A Farson 82.76 43 ⇑P P 03 59 35.7 0.0
baz=83
L19A ⇑P P 03 59 35.7 0.0
baz=83
L19A ⇑P P 03 59 35.7 0.0
baz=83
QLMT Earthquake Lak 82.77 40 *e*P P 03 59 36.2 +0.6
T23A Casias Ranch, 82.77 49 ⇑P P 03 59 35.7 -0.2
baz=83
T23A ⇑P P 03 59 35.7 -0.2
baz=83
T23A ⇑P P 03 59 35.7 -0.2
baz=83
R22A Saguache, Gunn 82.77 47 ⇓P P 03 59 36.2 +0.2
baz=83,SNR=9.5
R22A ⇓P P 03 59 36.2 +0.2
baz=83,SNR=9.5
R22A ⇓P P 03 59 36.2 +0.2
baz=83,SNR=9.5
V24A Rampart Ranch, 82.78 50 ⇓P P 03 59 35.7 -0.3
baz=83,SNR=7.7
V24A ⇓P P 03 59 35.7 -0.3
baz=83,SNR=7.7
V24A ⇓P P 03 59 35.7 -0.3
baz=83,SNR=7.7
H16A Russell Place, 82.82 40 ⇓P P 03 59 35.8 -0.1
baz=83,SNR=21
H16A ⇓P P 03 59 35.8 -0.1
baz=83,SNR=21
H16A ⇓P P 03 59 35.8 -0.1
baz=83,SNR=21
E15A Deer Lodge 82.85 38 ⇑P P 03 59 36.0 +0.1
baz=83
E15A ⇑P P 03 59 36.0 +0.1
baz=83
E15A ⇑P P 03 59 36.0 +0.1
baz=83
I17A Pilgrim Ck. 82.85 41 ⇓P P 03 59 36.1 0.0
baz=83
I17A ⇓P P 03 59 36.1 0.0
baz=83
I17A ⇓P P 03 59 36.1 0.0
baz=83
J18A Kendall Valley 82.86 42 ⇑P P 03 59 35.7 -0.6
baz=83,SNR=17
J18A ⇑P P 03 59 35.7 -0.6
baz=83,SNR=17
J18A ⇑P P 03 59 35.7 -0.6
baz=83,SNR=17
P21A Newcastle 82.86 46 ⇑P P 03 59 36.1 -0.2
baz=83
P21A ⇑P P 03 59 36.1 -0.2
baz=83
P21A ⇑P P 03 59 36.1 -0.2
baz=83
N20A Spence Gulch, 82.90 44 ⇑P P 03 59 36.2 -0.3
baz=83,SNR=14
N20A ⇑P P 03 59 36.2 -0.3
baz=83,SNR=14
N20A ⇑P P 03 59 36.2 -0.3
baz=83,SNR=14
328A Wristen Ranch, 82.91 55 ⇑P P 03 59 35.7 -0.8
baz=83
328A ⇑P P 03 59 35.7 -0.8
baz=83
328A ⇑P P 03 59 35.7 -0.8
baz=83
PD01 Pinedale Array 82.94 42 *e*P P 03 59 35.2 -1.4
Q22A Crested Butte, 82.94 47 ⇑P P 03 59 36.4 -0.5
baz=83,SNR=22
Q22A ⇑P P 03 59 36.4 -0.5
baz=83,SNR=22
Q22A ⇑P P 03 59 36.4 -0.5
baz=83,SNR=22
BW06 Boulder Array 82.95 42 PFAKE 03 59 50.0 +13
BW06 LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 82.95 42 ⇑P P 03 59 35.8 -0.8
baz=83,SNR=9.0
BW06 ⇑P P 03 59 35.8 -0.8
baz=83,SNR=9.0
BW06 ⇑P P 03 59 35.8 -0.8
baz=83,SNR=9.0
BW06 ⇑P P 03 59 35.8 -0.8
baz=83,SNR=9.0
BW06 ⇑P P 03 59 35.8 -0.8
baz=83,SNR=9.0
PD02 Pinedale Array 82.95 42 *e*P P 03 59 35.4 -1.3
PDAR Pinedale Array 82.95 42 P P 03 59 35.6 -1.0
comp=Z,3.4nm,0.9s,baz=210,slow=3.0,SNR=17
PDAR LR LR 04 32 13.1
comp=Z,1μm,18.4s,baz=262,slow=33
PDAR Pinedale Array 82.95 42 P P 03 59 35.6 -1.0
YMR Madison River 82.98 40 *e*P P 03 59 36.7 -0.1
comp=Z,76nm,1.6s
127A Arkansas Junct 82.99 53 ⇑P P 03 59 36.5 -0.5
baz=83
127A ⇑P P 03 59 36.5 -0.5
baz=83
127A ⇑P P 03 59 36.5 -0.5
baz=83
SMCO Snowmass 83.04 46 *e*P P 03 59 37.0 -0.5
comp=Z,23nm,1.0s
BOZ Bozeman (W) 83.06 39 *e*P P 03 59 37.0 -0.1

BOZ					pmax	pmax			
	comp=Z,32nm,1.6s								
BOZ					MLR	MLR			
	comp=Z,2µm,21.0s								
BOZ	**Bozeman (W)**	**83.06**	**39**	*eP*	**P**		**03 59 37.0**	**-0.1**	
BOZ	comp=Z,32nm,1.6s			LR	LR				
	comp=Z,2µm,21.0s								
BOZ	**Bozeman (W)**	**83.06**	**39**	⇑P	**P**		**03 59 37.3**	**+0.3**	
BOZ	baz=83			⇑P	**P**		**03 59 37.3**	**+0.3**	
BOZ	baz=83			⇑P	**P**		**03 59 37.3**	**+0.3**	
BOZ	baz=83			⇑P	**P**		**03 59 37.3**	**+0.3**	
BOZ	baz=83			⇑P	**P**		**03 59 37.3**	**+0.3**	
BOZ	baz=83			⇑P	**P**		**03 59 37.3**	**+0.3**	
	baz=83								
H17A	**Grant Village**	**83.09**	**40**	⇓P	**P**		**03 59 38.1**	**+0.7**	
H17A	baz=83			⇓P	**P**		**03 59 38.1**	**+0.7**	
H17A	baz=83			⇓P	**P**		**03 59 38.1**	**+0.7**	
	baz=83								
Y26A	**Elida**	**83.12**	**52**	⇓P	**P**		**03 59 37.3**	**-0.3**	
Y26A	baz=83			⇓P	**P**		**03 59 37.3**	**-0.3**	
Y26A	baz=83			⇓P	**P**		**03 59 37.3**	**-0.3**	
	baz=83								
F16A	**Kennard Place,**	**83.13**	**39**	⇓P	**P**		**03 59 37.6**	**+0.2**	
F16A	baz=83			⇓P	**P**		**03 59 37.6**	**+0.2**	
F16A	baz=83			⇓P	**P**		**03 59 37.6**	**+0.2**	
	baz=83								
O21A	**Pagoda**	**83.16**	**45**	⇑P	**P**		**03 59 37.9**	**0.0**	
O21A	baz=83			⇑P	**P**		**03 59 37.9**	**0.0**	
O21A	baz=83			⇑P	**P**		**03 59 37.9**	**0.0**	
	baz=83								
A13A	**Flathead Natio**	**83.16**	**35**	⇑P	**P**		**03 59 38.2**	**+0.7**	
A13A	baz=83			⇑P	**P**		**03 59 38.2**	**+0.7**	
A13A	baz=83			⇑P	**P**		**03 59 38.2**	**+0.7**	
	baz=83								
W25A	**X Bar L Ranch,**	**83.17**	**51**	⇓P	**P**		**03 59 37.3**	**-0.6**	
W25A	baz=83,SNR=17			⇓P	**P**		**03 59 37.3**	**-0.6**	
W25A	baz=83,SNR=17			⇓P	**P**		**03 59 37.3**	**-0.6**	
	baz=83,SNR=17								
I18A	**Diamond G Ranc**	**83.23**	**41**	⇑P	**P**		**03 59 38.5**	**+0.4**	
I18A	baz=83			⇑P	**P**		**03 59 38.5**	**+0.4**	
I18A	baz=83			⇑P	**P**		**03 59 38.5**	**+0.4**	
	baz=83								
D15A	**Lincoln**	**83.24**	**37**	⇓P	**P**		**03 59 38.4**	**+0.4**	
D15A	baz=83			⇓P	**P**		**03 59 38.4**	**+0.4**	
D15A	baz=83			⇓P	**P**		**03 59 38.4**	**+0.4**	
	baz=83								
LKWY	**Lake**	**83.28**	**40**	*eP*	**P**		**03 59 38.4**	**0.0**	
LKWY	comp=Z,31nm,1.4s			pmax	pmax				
LKWY	comp=Z,1µm,19.0s			MLR	MLR				
LKWY	**Lake**	**83.28**	**40**	*eP*	**P**		**03 59 38.4**	**0.0**	
LKWY	comp=Z,30nm,1.4s			LR	LR				
	comp=Z,1µm,19.0s								
V25A	**Rancho No Teng**	**83.31**	**50**	⇑P	**P**		**03 59 38.3**	**-0.4**	
V25A	baz=84,SNR=14			⇑P	**P**		**03 59 38.3**	**-0.4**	
V25A	baz=84,SNR=14			⇑P	**P**		**03 59 38.3**	**-0.4**	
	baz=84,SNR=14								
Z27A	**Tatum**	**83.35**	**53**	⇓P	**P**		**03 59 38.7**	**-0.1**	
Z27A	baz=84			⇓P	**P**		**03 59 38.7**	**-0.1**	
Z27A	baz=84			⇓P	**P**		**03 59 38.7**	**-0.1**	
	baz=84								
N21A	**Black Mountain**	**83.37**	**45**	⇑P	**P**		**03 59 38.5**	**-0.5**	
N21A	baz=84,SNR=14			⇑P	**P**		**03 59 38.5**	**-0.5**	
N21A	baz=84,SNR=14			⇑P	**P**		**03 59 38.5**	**-0.5**	
	baz=84,SNR=14								
P22A	**Eagle**	**83.37**	**46**	⇓P	**P**		**03 59 38.2**	**-0.7**	
P22A	baz=84			⇓P	**P**		**03 59 38.2**	**-0.7**	
P22A	baz=84			⇓P	**P**		**03 59 38.2**	**-0.7**	
	baz=84								
L20A	**Wamsutter**	**83.39**	**43**	⇓P	**P**		**03 59 38.7**	**-0.2**	
L20A	baz=84,SNR=16			⇓P	**P**		**03 59 38.7**	**-0.2**	
L20A	baz=84,SNR=16			⇓P	**P**		**03 59 38.7**	**-0.2**	
	baz=84,SNR=16								
X26A	**CR and CF Fran**	**83.39**	**52**	⇓P	**P**		**03 59 38.8**	**-0.2**	
X26A	baz=84			⇓P	**P**		**03 59 38.8**	**-0.2**	
X26A	baz=84			⇓P	**P**		**03 59 38.8**	**-0.2**	
	baz=84								
R23A	**Moffat**	**83.42**	**48**	⇓P	**P**		**03 59 39.2**	**-0.1**	
R23A	baz=84,SNR=7.3			⇓P	**P**		**03 59 39.2**	**-0.1**	
R23A	baz=84,SNR=7.3			⇓P	**P**		**03 59 39.2**	**-0.1**	
	baz=84,SNR=7.3								
K19A	**Absolon Red Bu**	**83.44**	**42**	⇓P	**P**		**03 59 38.6**	**-0.6**	
K19A	baz=84,SNR=9.0			⇓P	**P**		**03 59 38.6**	**-0.6**	
K19A	baz=84,SNR=9.0			⇓P	**P**		**03 59 38.6**	**-0.6**	
	baz=84,SNR=9.0								
G17A	**Pierce Place,**	**83.44**	**40**	⇓P	**P**		**03 59 39.3**	**+0.2**	
G17A	baz=84			⇓P	**P**		**03 59 39.3**	**+0.2**	
G17A	baz=84			⇓P	**P**		**03 59 39.3**	**+0.2**	
	baz=84								
SDCO	**Great Sand Dun**	**83.46**	**48**	*eP*	**P**		**03 59 38.8**	**-0.8**	
SDCO	comp=Z,44nm,1.8s			LR	LR				
	comp=Z,2µm,20.0s								
SDCO	**Great Sand Dun**	**83.46**	**48**	⇓P	**P**		**03 59 38.7**	**-0.8**	
SDCO	baz=84			⇓P	**P**		**03 59 38.7**	**-0.8**	
SDCO	baz=84			⇓P	**P**		**03 59 38.7**	**-0.8**	
	baz=84								
SDCO	baz=84			⇓P	**P**		**03 59 38.7**	**-0.8**	
SDCO	baz=84			⇓P	**P**		**03 59 38.7**	**-0.8**	
	baz=84								
HRY	**Holter Researc**	**83.48**	**38**	*eP*	**P**		**03 59 38.1**	**-1.1**	
E16A	**East Helena**	**83.48**	**38**	⇓P	**P**		**03 59 38.6**	**-0.6**	
E16A	baz=84,SNR=5.9			⇓P	**P**		**03 59 38.6**	**-0.6**	
E16A	baz=84,SNR=5.9			⇓P	**P**		**03 59 38.6**	**-0.6**	
	baz=84,SNR=5.9								
B14A	**Marquette Ranc**	**83.50**	**36**	⇓P	**P**		**03 59 39.0**	**-0.3**	
B14A	baz=84			⇓P	**P**		**03 59 39.0**	**-0.3**	
B14A	baz=84			⇓P	**P**		**03 59 39.0**	**-0.3**	
	baz=84								
T24A	**Torres, Weston**	**83.50**	**49**	⇑P	**P**		**03 59 39.1**	**-0.7**	
T24A	baz=84			⇑P	**P**		**03 59 39.1**	**-0.7**	
T24A	baz=84			⇑P	**P**		**03 59 39.1**	**-0.7**	
	baz=84								
J19A	**Crowheart**	**83.51**	**42**	⇓P	**P**		**03 59 39.0**	**-0.5**	
J19A	baz=84			⇓P	**P**		**03 59 39.0**	**-0.5**	
J19A	baz=84			⇓P	**P**		**03 59 39.0**	**-0.5**	
	baz=84								
Y27A	**Causey**	**83.61**	**52**	⇓P	**P**		**03 59 39.5**	**-0.7**	
Y27A	baz=84,SNR=6.1			⇓P	**P**		**03 59 39.5**	**-0.7**	
Y27A	baz=84,SNR=6.1			⇓P	**P**		**03 59 39.5**	**-0.7**	
	baz=84,SNR=6.1								
S24A	**Houchin Ranch,**	**83.62**	**48**	⇑P	**P**		**03 59 40.1**	**-0.3**	
S24A	baz=84			⇑P	**P**		**03 59 40.1**	**-0.3**	
S24A	baz=84			⇑P	**P**		**03 59 40.1**	**-0.3**	
	baz=84								
K20A	**Yellowstone Ra**	**83.69**	**43**	⇑P	**P**		**03 59 39.9**	**-0.6**	
K20A	baz=84			⇑P	**P**		**03 59 39.9**	**-0.6**	
K20A	baz=84			⇑P	**P**		**03 59 39.9**	**-0.6**	
	baz=84								
U25A	**Circle Dot Ran**	**83.69**	**50**	⇓P	**P**		**03 59 40.1**	**-0.5**	
U25A	baz=84			⇓P	**P**		**03 59 40.1**	**-0.5**	
U25A	baz=84			⇓P	**P**		**03 59 40.1**	**-0.5**	
	baz=84								
DAWY	**Dawson**	**83.72**	**15**	*eP*	**P**		**03 59 39.0**	**-0.9**	
A14A	**Double T Ranch**	**83.74**	**35**	⇑P	**P**		**03 59 39.8**	**-0.6**	
A14A	baz=84			⇑P	**P**		**03 59 39.8**	**-0.6**	
A14A	baz=84			⇑P	**P**		**03 59 39.8**	**-0.6**	
	baz=84								
O22A	**Kremmling**	**83.77**	**46**	⇓P	**P**		**03 59 40.1**	**-1.0**	
O22A	baz=84,SNR=17			⇓P	**P**		**03 59 40.1**	**-1.0**	
O22A	baz=84,SNR=17			⇓P	**P**		**03 59 40.1**	**-1.0**	
	baz=84,SNR=17								
F17A	**Fitzpatrick Pl**	**83.78**	**39**	⇓P	**P**		**03 59 40.4**	**-0.4**	
F17A	baz=84			⇓P	**P**		**03 59 40.4**	**-0.4**	
F17A	baz=84			⇓P	**P**		**03 59 40.4**	**-0.4**	
	baz=84								
D16A	**Dana Ranch, Ca**	**83.81**	**38**	⇑P	**P**		**03 59 40.4**	**-0.5**	
D16A	baz=84			⇑P	**P**		**03 59 40.4**	**-0.5**	
D16A	baz=84			⇑P	**P**		**03 59 40.4**	**-0.5**	
	baz=84								
M21A	**Separation Pea**	**83.86**	**44**	⇑P	**P**		**03 59 40.4**	**-0.9**	
M21A	baz=84,SNR=12			⇑P	**P**		**03 59 40.4**	**-0.9**	
M21A	baz=84,SNR=12			⇑P	**P**		**03 59 40.4**	**-0.9**	
	baz=84,SNR=12								
B15A	**Bradely Ranch,**	**83.88**	**36**	⇑P	**P**		**03 59 40.8**	**-0.4**	
B15A	baz=84			⇑P	**P**		**03 59 40.8**	**-0.4**	
B15A	baz=84			⇑P	**P**		**03 59 40.8**	**-0.4**	
	baz=84								
EGAK	**Eagle**	**83.91**	**14**	*eP*	**P**		**03 59 39.3**	**-1.5**	
EGAK	comp=Z,13nm,0.9s			LR	LR				
	comp=Z,1µm,22.0s								
I19A	**Meeteetse**	**83.91**	**41**	⇓P	**P**		**03 59 41.4**	**-0.2**	
I19A	baz=84			⇓P	**P**		**03 59 41.4**	**-0.2**	
I19A	baz=84			⇓P	**P**		**03 59 41.4**	**-0.2**	
	baz=84								
E17A	**Martinsdale**	**83.93**	**38**	⇑P	**P**		**03 59 41.4**	**-0.2**	
E17A	baz=84			⇑P	**P**		**03 59 41.4**	**-0.2**	
E17A	baz=84			⇑P	**P**		**03 59 41.4**	**-0.2**	
	baz=84								
MSTX	**Muleshoe**	**83.95**	**52**	⇓P	**P**		**03 59 41.5**	**-0.4**	
MSTX	baz=84			⇓P	**P**		**03 59 41.5**	**-0.4**	
MSTX	baz=84			⇓P	**P**		**03 59 41.5**	**-0.4**	
	baz=84								
R24A	**Sanders Place,**	**83.95**	**48**	⇑P	**P**		**03 59 41.5**	**-0.4**	
R24A	baz=84			⇑P	**P**		**03 59 41.5**	**-0.4**	
R24A	baz=84			⇑P	**P**		**03 59 41.5**	**-0.4**	
	baz=84								
X27A	**F and S Farms,**	**83.97**	**52**	⇓P	**P**		**03 59 41.5**	**-0.5**	
X27A	baz=84			⇓P	**P**		**03 59 41.5**	**-0.5**	
X27A	baz=84			⇓P	**P**		**03 59 41.5**	**-0.5**	
	baz=84								
T25A	**Trinidad**	**84.00**	**49**	⇑P	**P**		**03 59 41.4**	**-0.7**	
T25A	baz=84			⇑P	**P**		**03 59 41.4**	**-0.7**	
T25A	baz=84			⇑P	**P**		**03 59 41.4**	**-0.7**	
	baz=84								
L21A	**Rawlins**	**84.01**	**44**	⇓P	**P**		**03 59 41.6**	**-0.5**	
L21A	baz=84			⇓P	**P**		**03 59 41.6**	**-0.5**	
L21A	baz=84			⇓P	**P**		**03 59 41.6**	**-0.5**	
	baz=84								
C16A	**Fuhringer Ranc**	**84.08**	**37**	⇓P	**P**		**03 59 41.7**	**-0.5**	
C16A	baz=84			⇓P	**P**		**03 59 41.7**	**-0.5**	
C16A	baz=84			⇓P	**P**		**03 59 41.7**	**-0.5**	
	baz=84								
N22A	**Wattenberg Ran**	**84.11**	**45**	⇑P	**P**		**03 59 42.3**	**-0.4**	
N22A	baz=84,SNR=12			⇑P	**P**		**03 59 42.3**	**-0.4**	
N22A	baz=84,SNR=12			⇑P	**P**		**03 59 42.3**	**-0.4**	
	baz=84,SNR=12								
A15A	**Johnson Ranch,**	**84.13**	**36**	⇑P	**P**		**03 59 42.7**	**+0.3**	
A15A	baz=84			⇑P	**P**		**03 59 42.7**	**+0.3**	
A15A	baz=84			⇑P	**P**		**03 59 42.7**	**+0.3**	
	baz=84								
PAYG	**Puerto Ayora**	**84.13**	**89**		PFAKE		03 59 50.0	+6.9	
PAYG	comp=Z,823nm,19.0s				LR	LR			
W27A	**Bowe Ranch, En**	**84.16**	**51**	⇑P	**P**		**03 59 42.3**	**-0.6**	
W27A	baz=84			⇑P	**P**		**03 59 42.3**	**-0.6**	
W27A	baz=84			⇑P	**P**		**03 59 42.3**	**-0.6**	
	baz=84								
G18A	**Lazy EL Ranch,**	**84.16**	**40**	⇓P	**P**		**03 59 42.7**	**-0.1**	
G18A	baz=84			⇓P	**P**		**03 59 42.7**	**-0.1**	
G18A	baz=84			⇓P	**P**		**03 59 42.7**	**-0.1**	
	baz=84								
J20A	**Shoshoni**	**84.18**	**42**	⇑P	**P**		**03 59 42.3**	**-0.5**	
J20A	baz=84,SNR=9.6			⇑P	**P**		**03 59 42.3**	**-0.5**	
J20A	baz=84,SNR=9.6			⇑P	**P**		**03 59 42.3**	**-0.5**	
	baz=84,SNR=9.6								
U26A	**Atchley Ranch,**	**84.18**	**50**	⇑P	**P**		**03 59 42.5**	**-0.6**	
U26A	baz=84			⇑P	**P**		**03 59 42.5**	**-0.6**	
U26A	baz=84			⇑P	**P**		**03 59 42.5**	**-0.6**	
	baz=84								
S25A	**Robets Cordova**	**84.19**	**49**	⇓P	**P**		**03 59 42.4**	**-0.7**	
S25A	baz=84			⇓P	**P**		**03 59 42.4**	**-0.7**	
S25A	baz=84			⇓P	**P**		**03 59 42.4**	**-0.7**	
	baz=84								
H19A	**Powell**	**84.22**	**41**	⇓P	**P**		**03 59 42.4**	**-0.6**	
H19A	baz=84,SNR=8.5			⇓P	**P**		**03 59 42.4**	**-0.6**	
H19A	baz=84,SNR=8.5			⇓P	**P**		**03 59 42.4**	**-0.6**	
	baz=84,SNR=8.5								
O23A	**Lake Granby, G**	**84.22**	**46**	⇓P	**P**		**03 59 43.1**	**-0.2**	
O23A	baz=84			⇓P	**P**		**03 59 43.1**	**-0.2**	
O23A	baz=84			⇓P	**P**		**03 59 43.1**	**-0.2**	
	baz=84								
Q24A	**Divide**	**84.23**	**47**	⇑P	**P**		**03 59 42.0**	**-1.4**	
Q24A	baz=84			⇑P	**P**		**03 59 42.0**	**-1.4**	
Q24A	baz=84			⇑P	**P**		**03 59 42.0**	**-1.4**	
	baz=84								
RLMT	**Red Lodge**	**84.25**	**40**		PFAKE		03 59 50.0	+6.7	
RLMT	comp=Z,1µm,20.0s				LR	LR			
ISCO	**Idaho Springs**	**84.26**	**46**	*eP*	**P**		**03 59 44.9**	**+1.3**	
ISCO	comp=Z,8.0nm,1.0s			pmax	pmax				
ISCO	comp=Z,2µm,19.0s			MLR	MLR				
ISCO	**Idaho Springs**	**84.26**	**46**	*eP*	**P**		**03 59 44.9**	**+1.3**	
ISCO	comp=Z,7.9nm,1.0s			LR	LR				
	comp=Z,2µm,19.0s								
M22A	**Cedar Creek Ra**	**84.28**	**44**	⇓P	**P**		**03 59 42.7**	**-0.9**	
M22A	baz=84			⇓P	**P**		**03 59 42.7**	**-0.9**	
M22A	baz=84			⇓P	**P**		**03 59 42.7**	**-0.9**	
	baz=84								
F18A	**Big Timber**	**84.35**	**39**	⇑P	**P**		**03 59 43.0**	**-0.6**	
F18A	baz=84			⇑P	**P**		**03 59 43.0**	**-0.6**	
F18A	baz=84			⇑P	**P**		**03 59 43.0**	**-0.6**	
	baz=84								
COLD	**Coldfoot**	**84.36**	**9**	*eP*	**P**		**03 59 42.7**	**-0.3**	
	comp=Z,21nm,1.2s								
D17A	**Six Diamond Ra**	**84.38**	**38**	⇑P	**P**		**03 59 43.0**	**-0.7**	
D17A	baz=84,SNR=16			⇑P	**P**		**03 59 43.0**	**-0.7**	
D17A	baz=84,SNR=16			⇑P	**P**		**03 59 43.0**	**-0.7**	
	baz=84,SNR=16								
I20A	**Worland**	**84.42**	**42**	⇑P	**P**		**03 59 43.3**	**-0.7**	
I20A	baz=85,SNR=9.1			⇑P	**P**		**03 59 43.3**	**-0.7**	
I20A	baz=85,SNR=9.1			⇑P	**P**		**03 59 43.3**	**-0.7**	
	baz=85,SNR=9.1								
BILL	**Bilibino**	**84.45**	**353**	*eP*	**P**		**03 59 41.4**	**-2.1**	
BILL				*e*			03 59 53.2		
BILL				*e*			04 03 02.8		
BILL				pmax	pmax				
	comp=Z,27nm,2.4s								
BILL	**Bilibino**	**84.45**	**353**	*eP*	**P**		**03 59 41.7**	**-1.8**	
BILL	comp=Z,8.2nm,0.9s			LR	LR				
	comp=Z,2µm,21.0s								
PMSA	**Palmer Station**	**84.50**	**156**		PFAKE		04 00 00.0	+16	
PMSA	comp=Z,2µm,19.0s				LR	LR			
N23A	**Red Feather La**	**84.50**	**45**	⇑P	**P**		**03 59 44.2**	**-0.5**	
N23A	baz=85			⇑P	**P**		**03 59 44.2**	**-0.5**	
N23A	baz=85			⇑P	**P**		**03 59 44.2**	**-0.5**	
	baz=85								
R25A	**Fountain Ranch**	**84.50**	**48**	⇑P	**P**		**03 59 44.0**	**-0.6**	
R25A	baz=85			⇑P	**P**		**03 59 44.0**	**-0.6**	
R25A	baz=85			⇑P	**P**		**03 59 44.0**	**-0.6**	
	baz=85								
E18A	**Harlowton**	**84.55**	**39**	⇑P	**P**		**03 59 44.3**	**-0.4**	
E18A	baz=85			⇑P	**P**		**03 59 44.3**	**-0.4**	
E18A	baz=85			⇑P	**P**		**03 59 44.3**	**-0.4**	
	baz=85								
C17A	**Wharram Farm,**	**84.57**	**37**	⇑P	**P**		**03 59 44.0**	**-0.7**	
C17A	baz=85			⇑P	**P**		**03 59 44.0**	**-0.7**	
C17A	baz=85			⇑P	**P**		**03 59 44.0**	**-0.7**	
	baz=85								
J21A	**Lysite**	**84.59**	**42**	⇑P	**P**		**03 59 44.0**	**-1.0**	
J21A	baz=85,SNR=13			⇑P	**P**		**03 59 44.0**	**-1.0**	
J21A	baz=85,SNR=13			⇑P	**P**		**03 59 44.0**	**-1.0**	
	baz=85,SNR=13								
T26A	**Comanche Natio**	**84.61**	**49**	⇓P	**P**		**03 59 44.0**	**-1.2**	
T26A	baz=85			⇓P	**P**		**03 59 44.0**	**-1.2**	
T26A	baz=85			⇓P	**P**		**03 59 44.0**	**-1.2**	
	baz=85								
L22A	**Ellis Ranch, M**	**84.67**	**44**	⇓P	**P**		**03 59 45.6**	**+0.2**	
L22A	baz=85			⇓P	**P**		**03 59 45.6**	**+0.2**	
L22A	baz=85			⇓P	**P**		**03 59 45.6**	**+0.2**	
	baz=85								
A16A	**West Butte Ran**	**84.75**	**36**	⇑P	**P**		**03 59 44.4**	**-1.2**	
A16A	baz=85			⇑P	**P**		**03 59 44.4**	**-1.2**	
A16A	baz=85			⇑P	**P**		**03 59 44.4**	**-1.2**	
	baz=85								
H20A	**Greybull**	**84.75**	**41**	⇑P	**P**		**03 59 45.6**	**-0.1**	
H20A	baz=85			⇑P	**P**		**03 59 45.6**	**-0.1**	
H20A	baz=85			⇑P	**P**		**03 59 45.6**	**-0.1**	
	baz=85								
CMIG	**Matias Romero**	**84.80**	**71**	LR	LR		04 31 11.7		
	comp=Z,1µm,18.2s,baz=250,slow=31								
BJT	**Baijiatuau**	**84.83**	**314**	*eP*	**P**		**03 59 44.6**	**-1.4**	
BJT	comp=Z,45nm,1.4s			pmax	pmax				
BJT	comp=Z,1µm,22.0s			MLR	MLR				
BJT	**Baijiatuau**	**84.83**	**314**	*eP*	**P**		**03 59 44.6**	**-1.4**	
BJT	comp=Z,45nm,1.4s			LR	LR				
	comp=Z,1µm,22.0s								
BJI	**Beijing**	**84.83**	**314**	P	**P**		**03 59 47.3**	**+1.3**	
BJI				S	**S**		**04 10 14.5**	**+2.6**	
BJI				SS	**SS**		**04 15 48.8**	**+3.7**	
BJI	comp=Z,23nm,1.3s			pmax	pmax				
BJI	comp=Z,330nm,5.6s			pmax	pmax				
BJI	comp=N,670nm,20.5s			LR	LR				
BJI	comp=E,950nm,23.4s			LR	LR				
BJI	comp=Z,1µm,26.0s			LR	LR				
S26A	**Kim**	**84.88**	**49**	⇓P	**P**		**03 59 46.2**	**-0.3**	
S26A	baz=85			⇓P	**P**		**03 59 46.2**	**-0.3**	
S26A	baz=85			⇓P	**P**		**03 59 46.2**	**-0.3**	
	baz=85								
B17A	**L&G Farms, Che**	**84.88**	**37**	⇑P	**P**		**03 59 46.1**	**-0.1**	
B17A	baz=85			⇑P	**P**		**03 59 46.1**	**-0.1**	
B17A	baz=85			⇑P	**P**		**03 59 46.1**	**-0.1**	
	baz=85								
K22A	**Casper**	**84.88**	**43**	⇑P	**P**		**03 59 46.5**	**0.0**	
K22A	baz=85			⇑P	**P**		**03 59 46.5**	**0.0**	
K22A	baz=85			⇑P	**P**		**03 59 46.5**	**0.0**	
	baz=85								
I21A	**Big Trails, Te**	**84.90**	**42**	⇓P	**P**		**03 59 45.0**	**-1.5**	
I21A	baz=85,SNR=9.0			⇓P	**P**		**03 59 45.0**	**-1.5**	
I21A	baz=85,SNR=9.0			⇓P	**P**		**03 59 45.0**	**-1.5**	
	baz=85,SNR=9.0								
JCT	**Junction City**	**84.97**	**57**		PFAKE		04 00 00.0	+13	
JCT	comp=Z,2µm,21.0s				LR	LR			
AMTX	**Amarillo**	**85.13**	**52**	*eP*	**P**		**03 59 46.9**	**-0.9**	

comp=Z,77nm,1.6s
AMTX LR LR
comp=Z,4μm,20.0s
AMTX Amarillo 85.13 52 ⇓P **P 03 59 47.1 -0.7**
baz=85
AMTX ⇓P **P 03 59 47.1 -0.7**
baz=85
AMTX ⇓P **P 03 59 47.1 -0.7**
baz=85
AMTX ⇓P **P 03 59 47.1 -0.7**
baz=85
AMTX ⇓P **P 03 59 47.1 -0.7**
baz=85
AMTX ⇓P **P 03 59 47.1 -0.7**
baz=85
P25A Willow Gulch B 85.15 47 ⇓P **P 03 59 47.4 -0.5**
baz=85
P25A ⇓P **P 03 59 47.4 -0.5**
baz=85
P25A ⇓P **P 03 59 47.4 -0.5**
baz=85
R26A Arlington 85.17 48 ⇑P **P 03 59 47.2 -0.7**
baz=85
R26A ⇑P **P 03 59 47.2 -0.7**
baz=85
R26A ⇑P **P 03 59 47.2 -0.7**
baz=85
E19A Rath Farm, Rou 85.19 39 ⇓P **P 03 59 47.4 -0.4**
baz=85
E19A ⇓P **P 03 59 47.4 -0.4**
baz=85
E19A ⇓P **P 03 59 47.4 -0.4**
baz=85
N24A Carr 85.20 46 ⇓P **P 03 59 47.5 -0.6**
baz=85
N24A ⇓P **P 03 59 47.5 -0.6**
baz=85
N24A ⇓P **P 03 59 47.5 -0.6**
baz=85
T27A Campo 85.20 50 ⇓P **P 03 59 47.0 -1.2**
baz=85
T27A ⇓P **P 03 59 47.0 -1.2**
baz=85
T27A ⇓P **P 03 59 47.0 -1.2**
baz=85
A17A Triple J Farms 85.26 36 ⇓P **P 03 59 48.2 +0.1**
baz=85
A17A ⇓P **P 03 59 48.2 +0.1**
baz=85
A17A ⇓P **P 03 59 48.2 +0.1**
baz=85
F20A Billings 85.27 40 ⇓P **P 03 59 48.4 +0.2**
baz=85
F20A ⇓P **P 03 59 48.4 +0.2**
baz=85
F20A ⇓P **P 03 59 48.4 +0.2**
baz=85
EGMT Eagleton 85.36 37 PFAKE 04 00 00.0 +11
EGMT LR LR
comp=Z,1μm,22.0s
I22A 9 Mile Ranch, 85.46 42 ⇓P **P 03 59 48.6 -0.7**
baz=86
I22A ⇓P **P 03 59 48.6 -0.7**
baz=86
I22A ⇓P **P 03 59 48.6 -0.7**
baz=86
KVTX Kingsville 85.52 60 PFAKE 04 00 00.0 +10
KVTX LR LR
comp=Z,926nm,20.0s
C19A Slack Wire Ran 85.63 38 ⇑P **P 03 59 49.7 -0.3**
baz=86
C19A ⇑P **P 03 59 49.7 -0.3**
baz=86
C19A ⇑P **P 03 59 49.7 -0.3**
baz=86
COCO West Island 85.67 259 PFAKE 04 00 00.0 +9.2
COCO LR LR
comp=Z,932nm,19.0s
A18A Metzger Ranch, 85.74 37 ⇑P **P 03 59 50.8 +0.4**
baz=86
A18A ⇑P **P 03 59 50.8 +0.4**
baz=86
A18A ⇑P **P 03 59 50.8 +0.4**
baz=86
H22A Clearmont 85.85 42 ⇑P **P 03 59 51.4 +0.2**
baz=86
H22A ⇑P **P 03 59 51.4 +0.2**
baz=86
H22A ⇑P **P 03 59 51.4 +0.2**
baz=86
D20A Manuel Ranch, 85.88 39 ⇑P **P 03 59 51.6 +0.4**
baz=86
D20A ⇑P **P 03 59 51.6 +0.4**
baz=86
D20A ⇑P **P 03 59 51.6 +0.4**
baz=86
ENH Enshi 86.16 303 *e*P **P 03 59 53.3 +0.4**
comp=Z,34nm,1.4s
ENH LR LR
comp=Z,923nm,19.0s
C20A Veseth Ranch, 86.25 38 ⇑P **P 03 59 53.4 +0.4**
baz=86
C20A ⇑P **P 03 59 53.4 +0.4**
baz=86
C20A ⇑P **P 03 59 53.4 +0.4**
baz=86
A19A Klindworth Far 86.38 37 ⇑P **P 03 59 53.8 +0.2**
baz=86
A19A ⇑P **P 03 59 53.8 +0.2**
baz=86
A19A ⇑P **P 03 59 53.8 +0.2**
baz=86
D21A La Casta Ranch 86.56 39 ⇓P **P 03 59 55.0 +0.5**
baz=87
D21A ⇓P **P 03 59 55.0 +0.5**
baz=87
D21A ⇓P **P 03 59 55.0 +0.5**
baz=87
HIA Hailar 86.68 323 PFAKE 04 00 10.0 +15
HIA LR LR
comp=Z,3μm,20.0s
A20A Cobblestone Ra 86.83 37 ⇓P **P 03 59 55.9 0.0**
baz=87
A20A ⇓P **P 03 59 55.9 0.0**
baz=87
A20A ⇓P **P 03 59 55.9 0.0**
baz=87
OGNE Ogallala 87.22 46 PFAKE 04 00 10.0 +12
OGNE LR LR
comp=Z,2μm,22.0s
GYA Guiyang 87.24 298 P **P 03 59 58.0 -0.4**
GYA pP **pP 04 00 10.8 +1.3**
GYA sP **sP 04 00 15.3 +1.9**
GYA PP **PP 04 03 25.5 +2.6**
GYA SKS **SKSac 04 10 20.0 -3.8**
GYA S **SKKSac 04 10 34.3 +1.4**
GYA sS **sS 04 10 54.0 -0.6**
GYA SS **SS 04 16 22.0 +0.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,6.4s
GYA LR LR
comp=N,550nm,19.2s
GYA LR LR
comp=E,480nm,20.0s
GYA LR LR
comp=E,530nm,19.4s
WMOK Wichita Mounta 87.30 53 PFAKE 04 00 10.0 +12
WMOK LR LR
comp=Z,2μm,21.0s
MAW Mawson 87.43 199 LR LR 04 37 02.3
comp=Z,3μm,18.2s,baz=117,slow=34
XAN Xi'an 87.91 306 P **P 03 59 59.5 -1.9**
XAN pP **pP 04 00 11.5 -0.9**
XAN sP **sP 04 00 16.5 +0.1**
XAN PP PP 04 03 34.5 +6.5
XAN SKS **SKSac 04 10 25.8 -1.6**
XAN S **ScS 04 10 48.5 -0.1**
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN LR LR
comp=N,520nm,18.7s
XAN LR LR
comp=E,230nm,17.6s
XAN LR LR
comp=Z,370nm,22.7s

HKT Hockley 88.02 58 *e*P **P 03 59 59.4 -2.4**
HKT pmax pmax
comp=Z,20nm,1.6s
HKT Hockley 88.02 58 *e*P **P 03 59 59.4 -2.4**
comp=Z,20nm,1.6s
CBKS Cedar Bluff 88.05 49 PFAKE 04 00 10.0 +8.1
CBKS LR LR
comp=Z,2μm,20.0s
HHC Hu-ho-hao-te 88.38 313 *e*P **P 04 00 03.3 -0.2**
HHC pP **pP 04 00 13.8 -0.8**
HHC sP **sP 04 00 17.5 -1.1**
HHC PP **PP 04 03 34.0 +2.2**
HHC SKS **SKSac 04 10 28.0 -2.0**
HHC S **S 04 10 48.3 +1.7**
HHC sS **sS 04 11 05.0 +0.1**
HHC SS **SS 04 16 37.5 +0.1**
HHC pmax pmax
comp=Z,13nm,1.5s
HHC pmax pmax
comp=Z,260nm,5.3s
HHC LR LR
comp=N,480nm,14.7s
HHC LR LR
comp=E,700nm,17.5s
HHC LR LR
comp=Z,1μm,20.5s
INK Inuvik 88.56 14 LR LR 04 33 26.1
comp=Z,567nm,19.7s,baz=110,slow=31
INK Inuvik 88.56 14 *e*P **P 04 00 03.4 -0.2**
INK *e**PP **pP 04 00 15.0 +0.4**
INK pmax pmax
comp=Z,22nm,1.6s
INK Inuvik 88.56 14 *e*P **P 04 00 03.4 -0.2**
comp=Z,22nm,1.6s
INK *e*pP **pP 04 00 14.9 +0.4**
YAK Yakutsk 88.80 337 *e*P **P 04 00 05.5 +0.7**
YAK *e**PP **pP 04 00 15.3 -0.6**
YAK *e*S S 04 10 32.1 -17
YAK *e**SS **SKKSac 04 10 44.4 +1.7**
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=Z,15nm,1.4s
YAK smax smax
comp=N,125nm,5.1s
YAK smax smax
comp=E,156nm,6.4s
YAK MLR MLR
comp=N,265nm,17.0s
YAK MLR MLR
comp=Z,622nm,20.0s
YAK MLR MLR
comp=E,161nm,19.0s
YAK Yakutsk 88.80 337 PFAKE 04 00 20.0 +15
YAK LR LR
comp=Z,667nm,21.0s
DGMT Dagmar 88.87 39 PFAKE 04 00 20.0 +14
DGMT LR LR
comp=Z,3μm,21.0s
NATX Nacogdoches 89.55 57 PFAKE 04 00 20.0 +11
NATX LR LR
comp=Z,2μm,19.0s
PLCA Paso Flores 90.17 132 LR LR 04 31 36.8
comp=Z,2μm,21.1s,baz=231,slow=30
KMI Kunming 90.20 296 P **P 04 00 12.0 -0.6**
KMI pP **pP 04 00 25.5 +1.9**
KMI sP **sP 04 00 29.8 +2.2**
KMI SKS **SKSac 04 10 39.5 -2.2**
KMI S **S 04 11 02.0 -2.6**
KMI sS **sS 04 11 21.8 -1.1**
KMI SS **SS 04 17 07.5 +2.8**
KMI pmax pmax
comp=Z,6.0nm,1.6s
KMI pmax pmax
comp=Z,120nm,3.6s
KMI LR LR
comp=N,260nm,19.6s
KMI LR LR
comp=E,840nm,18.8s
KMI LR LR
comp=Z,1μm,19.6s
KSU1 Kansas State U 90.43 50 PFAKE 04 00 20.0 +6.9
KSU1 LR LR
comp=Z,3μm,20.0s
YKA Yellowknife Ar 90.54 24 P **P 04 00 11.8 -1.1**
comp=Z,2.8nm,0.8s,baz=242,slow=4.5,SNR=21
YKA PP **PP 04 03 47.4 -0.8**
comp=Z,0.2nm,0.7s,baz=235,slow=8.2,SNR=4.4
YKA Yellowknife Ar 90.54 24 P **P 04 00 11.8 -1.1**
YKA 04 03 47.5
YKA Yellowknife Ar 90.54 24 P **P 04 00 11.8 -1.1**
YKA PP **PP 04 03 47.5 -0.8**
TGUH Tegucigalpa,Un 90.96 76 PFAKE 04 00 30.0 +14
TGUH LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 91.04 302 P **P 04 00 16.0 -0.1**
CD2 pP **pP 04 00 28.0 +0.8**
CD2 sP **sP 04 00 32.8 +1.6**
CD2 PP **PP 04 03 55.3 +2.2**
CD2 SKS **SKSac 04 10 43.0 -2.9**
CD2 S **S 04 11 08.3 -3.4**
CD2 sS **sS 04 11 28.8 -1.2**
CD2 SS **SS 04 17 16.5 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,4.8s
CD2 LR LR
comp=N,1μm,17.8s
CD2 LR LR
comp=Z,1μm,26.8s
MIAR Mount Ida 91.28 55 PFAKE 04 00 30.0 +13
MIAR LR LR
comp=Z,2μm,22.0s
TEIG Tepich 91.69 70 PFAKE 04 00 30.0 +11
TEIG LR LR
comp=Z,628nm,21.0s
CM31 Chiang Mai Arr 91.74 289 PFAKE 04 00 30.0 +10
CM31 LR LR
comp=Z,1μm,21.0s
CMAR Chiang Mai Arr 91.74 289 P **P 04 00 18.6 -1.0**
comp=Z,5.9nm,1.0s,baz=90,slow=2.6,SNR=8.6
CMAR LR LR 04 36 10.9
comp=Z,1μm,21.6s,baz=272,slow=32
CMAR Chiang Mai Arr 91.74 289 P **P 04 00 18.6 -1.0**
CMAR Chiang Mai Arr 91.74 289 P **P 04 00 18.6 -1.0**
CHTO Chiang Mai 91.83 289 *e*P **P 04 00 21.2 +1.2**
CHTO pmax pmax
comp=Z,2.0nm,0.4s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 91.83 289 *e*P **P 04 00 21.2 +1.2**
comp=Z,1.9nm,0.4s
CHTO LR LR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 91.97 45 PFAKE 04 00 30.0 +10
ECSD LR LR
comp=Z,4μm,22.0s
JTS JuntasAbangare 92.15 80 LR LR 04 32 35.2
comp=Z,1μm,19.5s,baz=342,slow=30
JTS JuntasAbangare 92.15 80 *e*P **P 04 00 21.8 +0.2**
JTS JuntasAbangare 92.15 80 *e*P **P 04 00 22.3 +0.7**
comp=Z,21nm,1.4s
LZH Lanzhou 92.50 307 *e*P P 04 00 27.0 +4.1
LZH pP pP 04 00 37.0 +3.0
LZH sP sP 04 00 42.0 +4.0
LZH S **S 04 11 24.5 -0.4**
LZH sS sS 04 11 43.0 -0.3
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.6s
LZH LR LR
comp=N,470nm,14.0s
LZH LR LR
comp=E,790nm,17.2s
LZH LR LR
comp=Z,900nm,17.4s
FFC Flin Flon 92.68 34 *e*P **P 04 00 22.8 -0.3**
FFC pmax pmax
comp=Z,24nm,1.7s
FFC MLR MLR
comp=Z,2μm,20.0s

FFC Flin Flon 92.68 34 *e*P **P 04 00 22.8 -0.3**
comp=Z,24nm,1.7s
FFC LR LR
comp=Z,2μm,20.0s
SNAA Sanae 92.89 177 *e*P P 04 00 19.4 -4.6
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 92.89 177 *e*P P 04 00 19.4 -4.6
comp=Z,8.3nm,1.1s
VBMS Vicksburg 93.05 58 PFAKE 04 00 40.0 +15
VBMS LR LR
comp=Z,1μm,20.0s
EFI East Falkland 93.37 146 PFAKE 04 00 40.0 +14
EFI LR LR
comp=Z,1μm,21.0s
SCIA State Center 93.77 48 PFAKE 04 00 40.0 +12
SCIA LR LR
comp=Z,3μm,21.0s
ATAH Atahualpa 93.85 98 LR LR 04 36 03.1
comp=Z,675nm,18.1s,baz=262,slow=31
ULN Ulaanbaatar 93.86 319 *e*P **P 04 00 29.6 +0.7**
ULN pmax pmax
comp=Z,9.0nm,1.6s
ULN MLR MLR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 93.86 319 *e*P **P 04 00 29.6 +0.7**
comp=Z,9.4nm,1.6s
ULN LR LR
comp=Z,1μm,22.0s
NNA Nana 93.96 104 LR LR 04 35 40.4
comp=Z,437nm,19.0s,baz=162,slow=31
AGMN Agassiz Nation 93.96 41 *e*P **P 04 00 26.6 -2.6**
comp=Z,11nm,1.3s
AGMN LR LR
comp=Z,2μm,19.0s
LCO Las Campanas 94.12 121 PFAKE 04 00 40.0 +9.2
LCO LR LR
comp=Z,1μm,21.0s
SONM Songino Array 94.27 318 P **P 04 00 28.8 -1.9**
comp=Z,0.4nm,0.6s,baz=78,slow=1.9,SNR=3.5
SONM PP **PP 04 04 20.9 +2.7**
comp=Z,0.5nm,0.8s,baz=118,slow=4.8,SNR=3.7
SONM LR LR 04 37 33.8
comp=Z,1μm,21.9s,baz=143,slow=32
SONM Songino Array 94.27 318 P **P 04 00 28.8 -1.9**
SONM 04 04 20.9
SONM Songino Array 94.27 318 P **P 04 00 28.8 -1.9**
SONM PP **PP 04 04 20.9 +2.7**
OXF Oxford 94.57 56 PFAKE 04 00 40.0 +7.7
OXF LR LR
comp=Z,2μm,20.0s
ULM Lac du Bonnet 94.58 39 P **P 04 00 30.4 -1.5**
comp=Z,0.9nm,0.5s,baz=203,slow=1.5,SNR=3.1
ULM LR LR 04 36 36.3
comp=Z,2μm,20.8s,baz=252,slow=31
ULM Lac du Bonnet 94.58 39 P **P 04 00 30.4 -1.5**
ULM Lac du Bonnet 94.58 39 P **P 04 00 30.4 -1.5**
BRAL Brewton 95.58 60 PFAKE 04 00 50.0 +13
BRAL LR LR
comp=Z,1μm,19.0s
PLAL Pickwick Lake 95.75 55 PFAKE 04 00 50.0 +12
PLAL LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 95.78 91 *e*P **P 04 00 38.8 -0.1**
comp=Z,1.7nm,0.6s
OTAV LR LR
comp=Z,368nm,22.0s
LRAL Lakeview Retre 96.13 58 PFAKE 04 00 50.0 +11
LRAL LR LR
comp=Z,1μm,20.0s
HDIL Hopedale 96.24 50 PFAKE 04 00 50.0 +10
HDIL LR LR
comp=Z,2μm,19.0s
GTA Gaotai 96.48 309 *e*P P 04 00 44.8 +3.7
GTA pP pP 04 00 56.3 +4.1
GTA sP sP 04 01 00.5 +4.4
GTA S **ScS 04 12 03.8 +3.8**
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,6.7s
GTA LR LR
comp=N,400nm,21.9s
GTA LR LR
comp=E,910nm,28.5s
GTA LR LR
comp=Z,2μm,29.0s
EYMN Ely 96.66 42 PFAKE 04 00 50.0 +8.5
EYMN LR LR
comp=Z,1μm,22.0s
BCIP Isla Barro Col 96.74 82 PFAKE 04 00 50.0 +7.4
BCIP LR LR
comp=Z,555nm,19.0s
TLY Talaya 97.10 322 PFAKE 04 00 50.0 +6.5
TLY LR LR
comp=Z,1μm,21.0s
TRQA Tornquist 97.32 133 PFAKE 04 01 00.0 +15
TRQA LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 99.10 58 PFAKE 04 01 00.0 +7.2
GOGA LR LR
comp=Z,2μm,21.0s
GLMI Grayling 100.56 46 PFAKE 04 01 10.0 +11
GLMI LR LR
comp=Z,2μm,19.0s
LPAZ La Paz 100.67 110 PFAKE 04 01 10.0 +9.0
LPAZ LR LR
comp=Z,677nm,22.0s
AAM Ann Arbor 100.76 49 PFAKE 04 01 10.0 +10
AAM LR LR
comp=Z,2μm,22.0s
ACSO Alum Creek Sta 100.87 51 PFAKE 04 01 10.0 +9.5
ACSO LR LR
comp=Z,3μm,20.0s
MTDJ Mount Denham 101.05 74 PFAKE 04 01 10.0 +8.1
MTDJ LR LR
comp=Z,576nm,21.0s
LSA Lhasa 101.31 298 PFAKE 04 01 10.0 +6.7
LSA LR LR
comp=Z,613nm,22.0s
NHSC New Hope 101.73 59 PFAKE 04 01 20.0 +15
NHSC LR LR
comp=Z,1μm,20.0s
BLA Blacksburg 102.28 55 PFAKE 04 01 20.0 +13
BLA LR LR
comp=Z,2μm,22.0s
ERPA Erie 103.42 50 PFAKE 04 01 20.0 +8.2
ERPA LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 103.64 73 PFAKE 04 01 20.0 +6.7
GTBY LR LR
comp=Z,656nm,19.0s
CNNC Cliffs of the 103.97 57 PFAKE 04 01 30.0 +16
CNNC LR LR
comp=Z,1μm,21.0s
CBN Corbin 104.83 54 PFAKE 04 01 30.0 +12
CBN LR LR
comp=Z,3μm,20.0s
SDV Santo Domingo 105.49 85 PFAKE 04 05 50.0
SDV LR LR
comp=Z,185nm,19.0s
BINY Binghamton 106.38 50 PFAKE 04 05 50.0
BINY LR LR
comp=Z,3μm,20.0s
SDDR Presa de Saban 107.00 75 PFAKE 04 05 50.0
SDDR LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 107.60 72 PFAKE 04 05 50.0
GRTK LR LR
comp=Z,642nm,21.0s
LONY Lake Ozonia 107.62 48 PFAKE 04 05 50.0
LONY LR LR
comp=Z,2μm,20.0s
SAML Samuel 107.67 105 PFAKE 04 05 50.0
SAML LR LR
comp=Z,638nm,20.0s
LBNH Lisbon 109.49 48 PFAKE 04 05 50.0
LBNH LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 110.02 256 PFAKE 04 06 00.0
DGAR LR LR
comp=Z,2μm,20.0s
SJG San Juan 111.64 76 PFAKE 04 06 00.0
SJG LR LR
comp=Z,514nm,19.0s
KURK Kurchatov 112.57 319 PFAKE 04 06 00.0

KURK LR LR
comp=Z,864nm,21.0s
SCHQ Schefferville 112.60 37 PFAKE 04 06 00.0
SCHQ LR LR
comp=Z,2µm,21.0s
BBSR BB Station 114.58 61 PFAKE 04 06 00.0 +8.1
BBSR LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 114.98 310 PFAKE 04 06 00.0 +7.3
TKM2 LR LR
comp=Z,1µm,22.0s
SPB Sao Paulo 115.23 126 PFAKE 04 06 10.0 +17
SPB LR LR
comp=Z,1µm,19.0s
ANWB Willy Bob 115.67 78 PFAKE 04 06 10.0 +16
ANWB LR LR
comp=Z,316nm,19.0s
FDF Fort de France 115.78 81 PFAKE 04 06 10.0 +15
FDF LR LR
comp=Z,655nm,21.0s
AAK Ala-Archa 115.81 310 PFAKE 04 06 10.0 +16
AAK LR LR
comp=Z,1µm,21.0s
EKS2 Erkin-Say 116.33 310 PFAKE 04 06 10.0 +15
EKS2 LR LR
comp=Z,613nm,19.0s
KBS Kingsbay 116.44 359 PFAKE 04 06 10.0 +16
KBS LR LR
comp=Z,578nm,21.0s
SFJD Kangerlussuaq 117.02 22 PFAKE 04 06 10.0 +14
SFJD LR LR
comp=Z,1µm,19.0s
BRVK Borovoye 117.41 322 PFAKE 04 06 10.0 +13
BRVK LR LR
comp=Z,1µm,20.0s
RER Riviere de l'E 118.81 235 PFAKE 04 06 10.0 +9.5
RER LR LR
comp=Z,675nm,21.0s
ARU Arti 122.90 328 PFAKE 04 06 20.0 +13
ARU LR LR
comp=Z,1µm,21.0s
KEV Kevo 124.12 351 PFAKE 04 06 20.0 +11
KEV LR LR
comp=Z,959nm,21.0s
LVZ Lovozero 124.36 347 PFAKE 04 06 20.0 +10
LVZ LR LR
comp=Z,1µm,19.0s
ABKAR Akbulak array 124.66 320 *e*PKPdf **PKPdf 04 06 11.1 +0.3**
APA Apatity 124.90 347 ⇓*i*PKIKP **PKPdf 04 06 15.4 +4.7**
ABPO Ambohimpanom 126.60 231 PFAKE 04 06 30.0 +14
ABPO LR LR
comp=Z,797nm,21.0s
MSEY Mahe Island 126.74 252 PFAKE 04 06 30.0 +14
MSEY LR LR
comp=Z,1µm,20.0s
KLMR Klimovskoe 128.53 340 PKHKP PKPpre 04 06 07.4
KLMR pmax pmax
comp=Z,39nm,3.0s
SUR Sutherland 130.25 197 PFAKE 04 06 30.0 +7.7
SUR LR LR
comp=Z,1µm,20.0s
BOSA Boshof 132.24 204 PFAKE 04 06 40.0 +14
BOSA LR LR
comp=Z,871nm,22.0s
RCBR Riachuelo 133.75 114 PFAKE 04 06 40.0 +11
RCBR LR LR
comp=Z,1µm,20.0s
OBN Obninsk 133.79 336 PFAKE 04 06 40.0 +12
OBN LR LR
comp=Z,834nm,21.0s
LBTB Lobatse 135.30 206 PFAKE 04 06 40.0 +8.1
LBTB LR LR
comp=Z,1µm,19.0s
KONO Kongsberg 135.79 357 PFAKE 04 06 40.0 +8.5
KONO LR LR
comp=Z,660nm,19.0s
KIV Kislovodsk 137.64 320 PFAKE 04 06 50.0 +14
KIV LR LR
comp=Z,1µm,21.0s
GNI Garni 138.04 314 PFAKE 04 06 50.0 +13
GNI LR LR
comp=Z,510nm,20.0s
AKASG Malin Array Be 140.03 337 PKP **PKPdf 04 06 40.5 +0.8**
comp=Z,0.3nm,0.4s,baz=40,slow=1.6,SNR=3.7
AKASG Malin Array Be 140.03 337 PKIKP **PKPdf 04 06 40.5 +0.8**
AKASG Malin Array Be 140.03 337 PKP **PKPdf 04 06 40.5 +0.8**
KIEV Kiev 140.04 337 PFAKE 04 06 50.0 +10
KIEV LR LR
comp=Z,1µm,21.0s
LVV L'vov 142.61 340 *e*PKIKP **PKPdf 04 06 44.0 -0.3**
LVV MLR MLR
comp=N,400nm,21.0s
LVV MLR MLR
comp=E,800nm,21.0s
LVV MLR MLR
comp=Z,1µm,21.0s
KIS Kishinev 143.12 333 *e*PP PP 04 10 02.0 +7.1
KIS LRM MLR 05 07 48.0
comp=Z,1µm,22.0s
KWP Kalwaria Pacla 143.19 341 PFAKE 04 07 00.0 +15
KWP LR LR
comp=Z,1µm,21.0s
TSUM Tsumeb 143.59 199 *e*PKPdf **PKPdf 04 06 47.2 +0.1**
TSUM LR LR
comp=Z,865nm,20.0s
CLL Collm 143.76 352 *e*PKIKP **PKPdf 04 06 48.0 +1.7**
CLL MLR MLR
comp=Z,900nm,18.2s
CLL Collm 143.76 352 *e*PKPdf **PKPdf 04 06 48.0 +1.7**
CLL *e*PP **PP 04 09 55.0 -3.4**
CLL *e*SS SS 04 28 33.0 -5.0
CLL *e*SSS SSS 04 34 13.0
CLL *e* 04 35 31.0
CLL LmV 05 20 00.0
comp=Z,900nm,18.2s
BRG Berggiesshubel 144.05 351 *e*PKP **PKPdf 04 06 47.3 +0.5**
comp=Z,35nm,2.0s
BRG SS SS 04 28 49.0 +7.6
BRG
comp=N,706nm,28.1s
BRG
comp=E,362nm,25.7s
BRG
comp=Z,1µm,20.4s
BRG Berggiesshubel 144.05 351 *e*PKIKP **PKPdf 04 06 47.3 +0.5**
BRG pmax pmax
comp=Z,35nm,2.0s
BRG MLR MLR
comp=N,706nm,28.1s
BRG MLR MLR
comp=E,362nm,25.7s
BRG MLR MLR
comp=Z,1µm,20.4s
UPC Upice 144.05 349 *e*PKIKP PKPbc 04 06 45.4 +0.6
UPC Upice 144.05 349 *e*PKP PKPbc 04 06 45.4 +0.6
BUR08 Bucovina Ar. S 144.05 337 *e*PKPdf **PKPdf 04 06 49.0 +1.9**
BURAR Bucovina Array 144.07 337 ⇑*iP* **PKPdf 04 06 51.2 +4.1**
DPC Dobruska-Polom 144.14 348 *e*PKIKP PKPbc 04 06 45.9 +0.8
DPC MLR MLR
comp=Z,800nm,22.7s
DPC Dobruska-Polom 144.14 348 *e*PKP PKPbc 04 06 45.9 +0.8
DPC AMS AMS 05 07 10.0
comp=Z,800nm,22.7s
UZH Uzhgorod 144.20 341 *e*PKIKP **PKPab 04 06 44.8 -0.1**
UZH *e* 04 06 55.2
OKC Ostrava-Krasne 144.24 346 *e*PKIKP PKPbc 04 06 45.4 0.0
OKC Ostrava-Krasne 144.24 346 *e*PKP PKPbc 04 06 45.4 0.0
PVCC Panska Ves 144.29 350 AMS AMS 05 09 00.0
comp=Z,1µm,19.5s
MORC Moravsky Berou 144.43 347 *e*PKIKP PKPbc 04 06 46.4 +0.3
MORC Moravsky Berou 144.43 347 *e*PKPdf PKPbc 04 06 46.4 +0.3
MORC Moravsky Berou 144.43 347 ⇑*iP* **PKPdf 04 06 48.1 +0.5**
TRPA Tarpa 144.56 340 ⇑*e*PKPdf **PKPdf 04 06 47.0 -0.8**
KMBO Kilima Mbogo 144.65 245 *e*PKPdf **PKPab 04 06 47.9 -0.1**
KMBO LR LR
comp=Z,798nm,20.0s
TANN Tannenbergstha 144.70 352 *e*PKPbc **PKPab 04 06 46.4 -0.4**
PRU Pruhonice 144.81 350 *e*PKIKP PKPbc 04 06 47.2 0.0
PRU *e* 04 07 00.9
PRU MLR MLR
comp=Z,1µm,20.8s
PRU Pruhonice 144.81 350 *e*PKP PKPbc 04 06 47.2 0.0
PRU *ex* x 04 07 00.9
PRU AMS AMS 05 10 10.0
comp=Z,1µm,20.8s

NKC Novy Kostel 144.88 352 *e*PKIKP **PKPdf 04 06 48.6 +0.3**
NKC Novy Kostel 144.88 352 *e*PKP **PKPdf 04 06 48.6 +0.3**
SNF Seneffe 145.03 1 PKP **PKPdf 04 06 50.8 +2.3**
VRAC Vranov 145.08 347 ⇑PKIKP **PKPab 04 06 48.2 +0.1**
VRAC Vranov 145.08 347 ⇑*iP* **PKPab 04 06 48.2 +0.1**
BCLA Clavier 145.14 0 PKP **PKPdf 04 06 49.1 +0.4**
TNS Taunus Mts 145.26 357 *e*PKPbc **PKPbc 04 06 48.4 -0.3**
TNS Taunus Mts 145.26 357 *e*PKIKP **PKPbc 04 06 48.4 -0.3**
TREC Trest 145.31 349 *e*PKIKP **PKPbc 04 06 48.8 -0.1**
TREC MLR MLR
comp=Z,1µm,23.5s
TREC Trest 145.31 349 *e*PKP **PKPbc 04 06 48.8 -0.1**
TREC AMS AMS 05 08 00.0
comp=Z,1µm,23.5s
VYHS Vyhne 145.32 344 *e*PKIKP **PKPbc 04 06 48.7 -0.2**
VYHS Vyhne 145.32 344 *e*PKP **PKPbc 04 06 48.7 -0.2**
ROTZ Rotzenmuhle 145.37 352 *e*PKPbc **PKPab 04 06 49.1 -0.1**
DOU Dourbes 145.45 1 APKP **PKPab 04 06 53.0 +3.6**
PSZ Piszkesteto 145.56 343 ⇓PKIKP **PKPdf 04 06 49.5 -0.1**
PSZ Piszkesteto 145.56 343 *e*PKPbc **PKPdf 04 06 49.6 -0.1**
PSZ LR LR
comp=Z,1µm,21.0s
PSZ Piszkesteto 145.56 343 ⇓*iP* **PKPdf 04 06 49.5 -0.1**
PSZ Piszkesteto 145.56 343 ⇓*e*PKPbc **PKPab 04 06 49.8 -0.2**
GRF Grafenberg Arr 145.56 354 *e*PKPbc **PKPab 04 06 49.7 -0.2**
GRF *e*L L 05 16 35.0
comp=Z,833nm,18.9s
GRF Grafenberg Arr 145.56 354 *e*PKIKP **PKPab 04 06 49.7 -0.2**
GRFO Grafenberg 145.56 354 *e*PKIKP **PKPab 04 06 50.9 +1.0**
GRFO Grafenberg 145.56 354 *e*PKPbc **PKPab 04 06 50.9 +1.0**
BR131 Keskin Array S 145.61 320 *e*PKPbc **PKPab 04 06 51.4 +0.8**
BR131 LR LR
comp=Z,735nm,22.0s
BRTR Keskin Array B 145.61 320 PKPbc **PKPbc 04 06 50.1 -0.2**
comp=Z,11nm,0.9s,baz=79,slow=1.9,SNR=14
BRTR Keskin Array B 145.61 320 PKIKP **PKPbc 04 06 50.1 -0.2**
BRTR Keskin Array B 145.61 320 PKPbc **PKPab 04 06 50.1 -0.2**
ABH Alteburg 145.64 358 *e*P **PKPab 04 06 51.2 +1.0**
DRGR 145.67 339 PKIKP **PKPab 04 06 50.4 -0.9**
DRGR 145.67 339 ⇓*iP* **PKPab 04 06 51.4 +0.9**
KHC Kasperske Hory 145.80 351 *e*PKIKP **PKPbc 04 06 50.2 -0.3**
KHC *e* 04 07 03.0
KHC MLR MLR
comp=Z,800nm,17.4s
KHC Kasperske Hory 145.80 351 *e*PKPbc **PKPdf 04 06 50.0 0.0**
KHC Kasperske Hory 145.80 351 *e*PKP **PKPbc 04 06 50.2 -0.3**
KHC *ex* x 04 07 03.0
KHC AMS AMS 05 10 50.0
comp=Z,800nm,17.4s
RUP Ruppelstein 145.84 358 *e*PKIKP **PKPbc 04 06 50.3 -0.3**
RUP Ruppelstein 145.84 358 *e*P **PKPbc 04 06 50.3 -0.3**
TOD Tromm 145.85 356 *e*PKIKP **PKPbc 04 06 50.6 0.0**
TOD Tromm 145.85 356 *e*P **PKPbc 04 06 50.6 0.0**
WLF Walferdange 145.85 359 PKP **PKPab 04 06 51.4 +0.3**
WLF Walferdange 145.85 359 *e*PKPbc **PKPab 04 06 51.0 -0.1**
WLF Walferdange 145.85 359 *e*PKIKP **PKPab 04 06 51.7 +0.6**
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 145.85 359 *e*PKPbc **PKPab 04 06 51.7 +0.6**
WLF LR LR
comp=Z,2µm,20.0s
WET Wettzell 145.89 351 *e*PKPbc **PKPbc 04 06 50.8 +0.1**
WET Wettzell 145.89 351 *e*PKIKP **PKPbc 04 06 50.8 +0.1**
VOIR 145.94 335 ⇑PKIKP **PKPab 04 06 52.0 +0.4**
VOIR 145.94 335 ⇑*iP* **PKPab 04 06 52.0 +0.4**
ZST Bratislava 146.02 346 *e*PKIKP **PKPbc 04 06 51.3 -0.3**
ZST Bratislava 146.02 346 *e*PKP **PKPbc 04 06 51.3 -0.3**
GEC2 GERESS Array S 146.06 350 *e*PKPbc **PKPbc 04 06 51.1 -0.2**
GEC2 GERESS Array S 146.06 350 *e*PKIKP **PKPbc 04 06 51.1 -0.2**
GERES GERESS Array B 146.06 350 PKPbc **PKPdf 04 06 50.7 +0.2**
comp=Z,4.2nm,0.9s,baz=43,slow=2.4,SNR=11
GERES GERESS Array B 146.06 350 PKIKP **PKPdf 04 06 50.7 +0.2**
GERES GERESS Array B 146.06 350 PKPbc **PKPdf 04 06 50.7 +0.2**
BUD Budapest 146.19 344 *e*PKPdf **PKPab 04 06 54.5 +2.2**
CSNA Conrad Observa 146.54 347 ⇑*iP* **PKPbc 04 06 52.4 -0.4**
CSNA Conrad Observa 146.54 347 ⇑*i*PKPab **PKPbc 04 06 52.4 -0.4**
comp=Z,49nm,1.3s
SOP Sopron 146.62 347 *e*PKPdf **PKPdf 04 06 51.8 +0.5**
STU Stuttgart 146.66 356 *e*PKPbc **PKPbc 04 06 53.0 0.0**
STU Stuttgart 146.66 356 *e*PKP2 **PKPbc 04 06 52.9 0.0**
STU Stuttgart 146.66 356 *e*PKPbc **PKPbc 04 06 52.9 0.0**
GZR Gura Zlata 146.85 338 PKP2 **PKPab 04 06 57.8 +2.8**
GZR Gura Zlata 146.85 338 ⇑*iP* **PKPab 04 06 58.2 +3.2**
MOA Molln 146.93 349 ⇑*iP* **PKPab 04 06 54.8 -0.4**
MOA Molln 146.93 349 ⇑*i*sPKPdf **PKPab 04 06 54.8 -0.4**
comp=Z,30nm,1.6s
BZS Buzias 147.07 339 ⇓PKP2 **PKPbc 04 06 53.4 -0.8**
BZS Buzias 147.07 339 ⇓*iP* **PKPbc 04 06 53.4 -0.8**
BFO Black Forest 147.15 357 *e*PKPbc **PKPbc 04 06 54.6 +0.2**
BFO Black Forest 147.15 357 *e*PKP2 **PKPbc 04 06 54.6 +0.2**
BFO Black Forest 147.15 357 *e*PKPbc **PKPbc 04 06 55.0 +0.6**
BFO LR LR
comp=Z,1µm,20.0s
RJOB Jochberg 147.28 351 *e*PKPbc **PKPbc 04 06 54.9 0.0**
ECH Echery 147.32 358 *e*PKP2 **PKPab 04 06 56.2 -0.5**
ECH MLR MLR
comp=Z,1µm,21.0s
ECH Echery 147.32 358 *e*P **PKPab 04 06 56.2 -0.5**
ECH LR LR
comp=Z,1µm,21.0s
ECH Echery 147.32 358 PKP **PKPab 04 06 56.2 -0.5**
SPAK Spaichingen-Ko 147.35 356 *e*P **PKPab 04 06 57.3 +0.4**
PKSM Moragy 147.47 343 ⇑PKP2 **PKPbc 04 06 55.3 0.0**
PKSM Moragy 147.47 343 ⇑*iP* **PKPbc 04 06 55.3 0.0**
PKSM Moragy 147.47 343 ⇑*e*PKPdf **PKPbc 04 06 54.7 -0.6**
FELD Feldberg im Sc 147.62 357 *e*P **PKPab 04 06 58.3 +0.2**
FETA Feichten 148.25 353 ⇑*iP* **PKPbc 04 06 57.0 -0.7**
FETA Feichten 148.25 353 ⇑*i*sPKPdf **PKPbc 04 06 57.0 -0.7**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 148.29 351 ⇑*iP* **PKPbc 04 06 57.8 +0.1**
ABTA Abfaltersbach 148.29 351 ⇑*i*sPKPdf **PKPbc 04 06 57.7 +0.1**
comp=Z,13nm,1.4s
CSS Prodhromos 148.46 313 PFAKE 04 07 10.0 +8.3
CSS LR LR
comp=Z,526nm,19.0s
ISP Isparta 148.70 320 PFAKE 04 07 10.0 +7.3
ISP LR LR
comp=Z,740nm,20.0s
TUE Stuetta 148.93 355 *e*PKPbc **PKPbc 04 06 59.6 +0.2**
TUE LR LR
comp=Z,1µm,20.0s
MBAR Mbarara 150.49 240 PFAKE 04 07 10.0 -0.8
MBAR LR LR
comp=Z,839nm,21.0s
BNI Bardonecchia 150.50 358 *e*PKP2 **PKPbc 04 07 04.1 +0.9**
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 150.50 358 *e*PKPbc **PKPbc 04 07 04.1 +0.9**
BNI LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 151.12 353 PFAKE 04 07 10.0 -2.2
VLC LR LR
comp=Z,1µm,21.0s
TIR Tirane 151.41 337 PFAKE 04 07 10.0 -3.5
TIR LR LR
comp=Z,2µm,22.0s
SACV Santiago Islan 151.80 87 PFAKE 04 07 10.0 +3.0
SACV LR LR
comp=Z,841nm,19.0s
AQU L'Aquila 152.38 347 PFAKE 04 07 10.0 +2.4
AQU LR LR
comp=Z,419nm,22.0s
CUC Castrocucco 153.99 342 PFAKE 04 07 10.0 -1.2
CUC LR LR
comp=Z,546nm,19.0s
TIP Timpagrande 154.43 340 PFAKE 04 07 10.0 -2.2
TIP LR LR
comp=Z,1µm,21.0s
ESDC Sonseca Array 154.47 17 PKPab **PKPab 04 07 28.7 +2.2**
comp=Z,1.4nm,0.7s,baz=338,slow=3.4,SNR=7.0
ESDC PP PP 04 10 54.2 -6.6
comp=Z,0.4nm,0.8s,baz=284,slow=18,SNR=4.4
ESDC Sonseca Array 154.47 17 PKPab **PKPab 04 07 28.7 +2.2**
ESDC PP PP 04 10 54.2 -6.6
ESLA Sonseca Array 154.47 17 PFAKE 04 07 10.0 -2.2
ESLA LR LR
comp=Z,5µm,19.0s
PAB San Pablo 154.47 18 PFAKE 04 07 10.0 -2.3
PAB LR LR
comp=Z,1µm,21.0s
VSL Villasalto 155.84 353 PFAKE 04 07 20.0 -12
VSL LR LR
comp=Z,903nm,20.0s

WDD Wield Dalam 158.18 340 PFAKE 04 07 20.0 +11
WDD LR LR
comp=Z,945nm,21.0s
RTC Rabat Centre 158.39 29 PFAKE 04 07 20.0 +11
RTC LR LR
comp=Z,830nm,20.0s
DBIC Dimbokro 166.51 129 *e*PKIKP **PKPdf 04 07 17.5 -0.2**
DBIC MLR MLR
comp=Z,1µm,20.0s
DBIC Dimbokro 166.51 129 *e*PKPdf **PKPdf 04 07 17.5 -0.2**
DBIC *e*PKPab **PKPab 04 08 19.3 -0.3**
DBIC LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 172.71 1 *e*PKPab **PKPab 04 08 46.0 -0.8**
TAM LR LR
comp=Z,924nm,19.0s
TOA0 Torodi Ar. Sit 175.55 121 *e*PKPdf **PKPdf 04 07 21.7 -0.5**
TOA0 *e*PKPab **PKPab 04 08 59.8 +0.1**
TORD Torodi Ar. Bea 175.55 121 PKP **PKPdf 04 07 20.8 -1.5**
comp=Z,0.9nm,1.1s,baz=270,slow=1.5,SNR=2.9
TORD PKPab **PKPab 04 09 00.2 +0.5**
comp=Z,2.5nm,1.1s,baz=245,slow=3.2,SNR=6.3
TORD PP **PP 04 12 56.9 +4.6**
comp=Z,1.3nm,1.2s,baz=224,slow=6.2,SNR=3.6
TORD Torodi Ar. Bea 175.55 121 PKP **PKPdf 04 07 20.8 -1.5**
TORD PKPab **PKPab 04 09 00.2 +0.5**
TORD PP **PP 04 12 56.9 +4.6**

IDC 30 04:02:29.4±1.9, 14°46S×175°17W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.8/5, MS4.2/2, Ms1 4.3/2, ms1mx3.9/29, Error ellipse: s-maj=122.3km s-min=25.3km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.33**	**81**	Pn		Pn	Pn	04 03 12.5	-10
	15nm,0.3s,baz=58,slow=5.3,SNR=17								
AFI				LR		LR	LR	04 04 13.9	
	comp=Z,2µm,19.0s,baz=105,slow=31								
WRA	**Warramunga Arr**	**48.40**	**256**	P		P		04 11 15.0	+1.2
	0.4nm,0.6s,baz=102,slow=8.5,SNR=3.2								
ASAR	**Alice Springs**	**48.79**	**251**	P		P		04 11 15.4	-1.3
	2.3nm,0.9s,baz=86,slow=8.4,SNR=10.0								
TXAR	**Lajitas Array**	**81.52**	**57**	P		P		04 14 49.5	+0.1
	0.3nm,0.7s,baz=214,slow=10,SNR=3.7								
ILAR	**Eielson Array**	**81.87**	**12**	P		P		04 14 50.0	-0.2
	0.4nm,0.7s,baz=232,slow=6.4,SNR=8.3								
ILAR				LR		LR	LR	04 48 26.3	
	comp=Z,238nm,18.2s,baz=115,slow=34								
PDAR	**Pinedale Array**	**82.72**	**43**	P		P		04 14 55.8	+0.3
	0.6nm,0.7s,baz=262,slow=1.0,SNR=4.5								
GERES	**GERESS Array B**	**144.94**	**350**	PKP		PKPbc		04 22 08.2	+0.2
	0.2nm,0.6s,baz=23,slow=5.3,SNR=2.7								

*CSEM **30** 04:06:48.1±0.3, 43°39N×17°70E, h2km, ML2.4/8, Error ellipse: s-maj=6.1km s-min=3.7km az=74.0*
*BEO **30** 04:06:49.1±0.6, 43°41N×17°63E, h10km±3km, ML2.5/8*
*PDG **30** 04:06:51.0±0.3, 43°34N×17°90E, h2km±2km, ML2.4/8, Error ellipse: s-maj=1.3km s-min=2.2km az=0.0*

ISC 30 04:06:47.9±1.2, 43°41N±0°03×17°69E±0°03, h0km±10km, n41, σ0=78/72, 12C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.54**	**179**	*i* Pg		**Pg**	**Pg**	**04 06 57.6**	**-0.6**
STON				Sg		**Sg**	**Sg**	**04 07 05.9**	**+0.8**
STON	**Ston**	**0.54**	**179**	*i* Pg		**Pg**	**Pg**	**04 06 57.6**	**-0.6**
STON				Sg		**Sg**	**Sg**	**04 07 05.9**	**+0.8**
BRY	**Bratogost**	**0.80**	**129**	⇑*i*Pg		**Pg**	**Pg**	**04 07 02.5**	**-0.8**
BRY				*e*Sg		**Sg**	**Sg**	**04 07 13.9**	**+0.2**
BRY	**Bratogost**	**0.80**	**129**	⇑*i*Pg		**Pg**	**Pg**	**04 07 02.5**	**-0.8**
BRY				*e*Sg		**Sg**	**Sg**	**04 07 13.9**	**+0.2**
UPM	**Unac-Piva**	**0.91**	**103**	⇑*i*Pg		**Pg**	**Pg**	**04 07 04.2**	**-1.2**
UPM				*e*Sg		**Sg**	**Sg**	**04 07 16.7**	**-0.5**
UPM	**Unac-Piva**	**0.91**	**103**	⇑*i*Pg		**Pg**	**Pg**	**04 07 04.2**	**-1.2**
UPM				*e*Sg		**Sg**	**Sg**	**04 07 16.7**	**-0.5**
HCY	**Herceg Novi**	**1.13**	**148**	⇑*i*Pg		**Pg**	**Pg**	**04 07 09.2**	**-0.3**
HCY				*e*Sg		**Sg**	**Sb**	**04 07 25.1**	**-0.4**
HCY	**Herceg Novi**	**1.13**	**148**	⇑*i*Pg		**Pg**	**Pg**	**04 07 09.2**	**-0.3**
HCY				*e*Sg		**Sg**	**Sb**	**04 07 25.1**	**-0.4**
PLE	**Pljevlja**	**1.24**	**93**	⇓*i*Pg		**Pg**	**Pg**	**04 07 11.0**	**-0.7**
PLE				*e*Sg		**Sg**	**Sg**	**04 07 27.6**	**-0.2**
PLE	**Pljevlja**	**1.24**	**93**	⇓*i*Pg		**Pg**	**Pg**	**04 07 11.0**	**-0.7**
PLE				*e*Sg		**Sg**	**Sg**	**04 07 27.6**	**-0.2**
BLY	**Banja Luka**	**1.39**	**345**	*e*Pg		**Pn**	**Pn**	**04 07 14.7**	**+0.1**
BLY				*e*Sg		**Sn**	**Sn**	**04 07 34.2**	**+0.6**
BLY	**Banja Luka**	**1.39**	**345**	*e*Pg		**Pn**	**Pn**	**04 07 14.7**	**+0.1**
BLY				*e*Sg		**Sn**	**Sn**	**04 07 34.2**	**+0.6**
BUM	**Brajici-Budva**	**1.42**	**141**	⇑*i*Pg		**Pb**	**Pb**	**04 07 15.4**	**+0.1**
BUM				*e*Sg		**Sn**	**Sn**	**04 07 34.2**	**-0.2**
BUM	**Brajici-Budva**	**1.42**	**141**	⇑*i*Pg		**Pb**	**Pb**	**04 07 15.4**	**+0.1**
BUM				*e*Sg		**Sn**	**Sn**	**04 07 34.2**	**-0.2**
PDG	**Podgorica**	**1.51**	**130**	*e*Pn		**Pb**	**Pb**	**04 07 16.9**	**+0.1**
PDG				*e*Sg		**Sg**	**Sg**	**04 07 38.4**	**+2.0**
PDG	**Podgorica**	**1.51**	**130**	⇑*i*Pg		**Pn**	**Pn**	**04 07 16.5**	**+0.3**
PDG	**Podgorica**	**1.51**	**130**	*e*Pn		**Pb**	**Pb**	**04 07 16.9**	**+0.1**
PDG				*e*Sg		**Sg**	**Sg**	**04 07 37.4**	**+1.0**
TTG	**Podgorica**	**1.51**	**130**	⇑*i*Pg		**Pn**	**Pn**	**04 07 16.5**	**+0.3**
TTG				*e*Sg		**Sg**	**Sg**	**04 07 37.4**	**+0.9**
BEY	**Berane**	**1.70**	**108**	*e*Pg		**Pn**	**Pn**	**04 07 19.4**	**+0.5**
BEY				*e*Sg		**Sg**	**Sg**	**04 07 43.4**	**+0.9**
IVA	**Berane**	**1.70**	**108**	*e*Pg		**Pn**	**Pn**	**04 07 19.4**	**+0.5**
IVA				*e*Sg		**Sg**	**Sg**	**04 07 43.4**	**+0.8**
TEKS	**Tekeris**	**1.75**	**49**	*e*Pn		**Pn**	**Pn**	**04 07 20.3**	**+0.8**
TEKS	**Tekeris**	**1.75**	**49**	*e*Pn		**Pn**	**Pn**	**04 07 20.3**	**+0.8**
IVAS	**Ivanjica**	**1.80**	**84**	*e*Pn		**Pn**	**Pn**	**04 07 20.8**	**+0.5**
IVAS				*e*Sg		**Sg**	**Sg**	**04 07 47.1**	**+1.4**
IVAS	**Ivanjica**	**1.80**	**84**	*e*Pn		**Pn**	**Pn**	**04 07 20.8**	**+0.5**
IVAS				*e*Sg		**Sg**	**Sg**	**04 07 47.1**	**+1.4**
DIVS	**Divibare**	**1.81**	**67**	*e*Pn		**Pn**	**Pn**	**04 07 20.5**	**+0.1**
DIVS				*e*Sg		**Sg**	**Sg**	**04 07 48.3**	**+2.4**
DIVS	**Divibare**	**1.81**	**67**	*e*Pn		**Pn**	**Pn**	**04 07 20.5**	**+0.1**
DIVS				*e*Sg		**Sg**	**Sg**	**04 07 48.3**	**+2.4**
PVY	**Plav**	**1.85**	**115**	⇑*i*Pn		**Pb**	**Pb**	**04 07 22.6**	**-0.1**
PVY				*e*Sn		**Sg**	**Sg**	**04 07 47.7**	**+0.3**
PVY	**Plav**	**1.85**	**115**	⇑*i*Pn		**Pb**	**Pb**	**04 07 22.6**	**-0.1**
PVY				*e*Sn		**Sg**	**Sg**	**04 07 47.7**	**+0.3**
TRUS	**Trudelj**	**2.13**	**67**	*e*Pn		**Pn**	**Pn**	**04 07 24.0**	**-0.7**
TRUS	**Trudelj**	**2.13**	**67**	*e*Pn		**Pn**	**Pn**	**04 07 24.0**	**-0.7**
GRUS	**Gruza**	**2.25**	**77**	*e*Pn		**Pn**	**Pn**	**04 07 27.0**	**+0.6**
GRUS	**Gruza**	**2.25**	**77**	*e*Pn		**Pn**	**Pn**	**04 07 27.0**	**+0.6**
FGSL	**Fruska Gora**	**2.32**	**40**	*e*Pn		**Pn**	**Pn**	**04 07 26.8**	**-0.6**
FGSL				*e*Sn		**Sn**	**Sn**	**04 07 56.9**	**+0.3**
FRGS	**Fruska Gora**	**2.32**	**40**	*e*Pn		**Pn**	**Pn**	**04 07 26.8**	**-0.6**
FRGS				*e*Sn		**Sn**	**Sn**	**04 07 56.9**	**+0.3**
NVLJ	**Novalja**	**2.34**	**301**	*e*Pn		**Pb**	**Pb**	**04 07 30.6**	**-0.3**
NVLJ				Sn		**Sg**	**Sg**	**04 08 03.2**	**+0.1**
NVLJ	**Novalja**	**2.34**	**301**	*e*Pn		**Pb**	**Pb**	**04 07 30.6**	**-0.3**
PKSM	**Moragy**	**2.88**	**13**	*e*Pn		**Pn**	**Pn**	**04 07 35.8**	**+0.7**
PKSM	**Moragy**	**2.88**	**13**	*e*Pn		**Pn**	**Pn**	**04 07 35.8**	**+0.7**
BZS	**Buzias**	**3.57**	**50**	*e*Pn		**Pn**	**Pn**	**04 07 44.3**	**-0.3**
BZS				*e*Sn		**Sn**	**Sn**	**04 08 26.3**	**-1.2**
BZS	**Buzias**	**3.57**	**50**	*e*Pn		**Pn**	**Pn**	**04 07 44.3**	**-0.3**
BZS				*e*Sn		**Sn**	**Sn**	**04 08 26.0**	**-1.2**
ZAPS	**Zavoj**	**3.61**	**90**	*e*Pn		**Pn**	**Pn**	**04 07 45.7**	**+0.6**
ZAPS				*e*Sn		**Sn**	**Sn**	**04 08 28.6**	**+0.2**

IDC 30 04:19:11.1±3.2, 6°33S×147°25E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.0/2, MS4.1/1, Ms1 4.1/1, ms1mx3.5/23, Error ellipse: s-maj=70.9km s-min=33.9km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.06**	**182**	Pn		Pn	Pn	04 20 00.7	0.0
	3.0nm,0.3s,baz=348,slow=14,SNR=5.1								
PMG				Sn		Sn	Sn	04 20 40.0	+2.0
	4.1nm,0.3s,baz=307,slow=22,SNR=6.3								
WRA	**Warramunga Arr**	**18.45**	**222**	P		P	Pn	04 23 28.4	-0.1
	0.1nm,0.3s,baz=41,slow=11,SNR=5.4								
WRA				LR		LR	LR	04 30 47.4	
	comp=Z,562nm,21.1s,baz=30,slow=38								
ASAR	**Alice Springs**	**21.49**	**215**	P		P		04 24 01.1	-0.6
	2.1nm,0.7s,baz=49,slow=9.0,SNR=8.1								
FITZ	**Fitzroy Crossi**	**24.11**	**239**	P		P		04 24 28.5	-0.2
	3.8nm,0.7s,baz=77,slow=8.6,SNR=6.1								
TORD	**Torodi Ar. Bea**	**145.41**	**284**	PKPbc		PKPbc		04 38 51.7	-0.4
	0.9nm,1.1s,baz=58,slow=1.9,SNR=3.3								

IDC 30 04:36:46.1±1.7, 8°82'S×123°52'E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=135.0km s-min=26.6km az=62.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.46**	**168**	Pn	Pn	04 39 03.6	-0.1
	0.4nm,0.3s,baz=13,slow=12,SNR=13						
FITZ				Sn	Sn	04 40 37.5	-13
	1.4nm,0.3s,baz=188,slow=10,SNR=11						
WRA	**Warramunga Arr**	**15.23**	**138**	Pn	Pn	04 40 20.9	-1.7
	0.2nm,0.3s,baz=305,slow=13,SNR=9.5						
WRA				Sn	Sn	04 42 59.0	-13
	0.7nm,0.3s,baz=313,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.80**	**147**	P	P	04 40 56.4	+0.1
	0.2nm,0.3s,baz=318,slow=11,SNR=8.8						
ASAR				S	Sn	04 43 58.6	-16
	0.2nm,0.3s,baz=315,slow=22,SNR=6.1						
MKAR	**Makanchi Array**	**66.42**	**330**	P	P	04 47 37.1	0.0
	0.3nm,0.6s,baz=141,slow=6.2,SNR=5.8						

IDC 30 05:01:06.2±2.2, 22°70'S×171°01'E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, Error ellipse: s-maj=91.5km s-min=29.0km az=152.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.62**	**244**	P	P	05 06 55.8	+0.2
	1.6nm,0.9s,baz=54,slow=19,SNR=2.2						
ASAR	**Alice Springs**	**34.06**	**261**	P	P	05 07 51.9	-0.7
	1.0nm,0.9s,baz=90,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**34.22**	**268**	P	P	05 07 53.8	-0.1
	0.3nm,0.6s,baz=100,slow=8.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P	P	05 13 25.9	+0.3
	0.6nm,0.4s,baz=123,slow=4.4,SNR=5.0						
NVAR	**Mina Array Bea**	**89.87**	**48**	P	P	05 14 07.1	-0.3
	0.5nm,0.7s,baz=220,slow=8.0,SNR=4.9						
SONM	**Songino Array**	**90.97**	**322**	P	P	05 14 12.1	-0.2
	1.2nm,1.0s,baz=116,slow=3.4,SNR=6.2						
GERES	**GERESS Array B**	**148.31**	**331**	PKPbc	PKPbc	05 20 54.1	-0.4
	1.1nm,0.7s,baz=41,slow=2.5,SNR=8.3						

IDC 30 05:06:18.4±2.1, 54°05'N×86°53'E, h0km, mb1 3.2/2, mb1mx3.0/28, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=18.9km s-min=7.3km az=79.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.01**	**265**	Pg	Pg	05 06 36.5	-1.2
	1.1nm,0.3s,baz=84,slow=18,SNR=14						
ZALV				Lg	Lg	05 06 51.8	
	0.9nm,0.3s,baz=87,slow=26,SNR=5.5						
ZALV				Rg	Rg	05 06 57.5	
	51nm,1.1s,baz=81,slow=28,SNR=39						
KURK	**Kurchatov**	**5.88**	**239**	Pn	Pn	05 07 49.5	+2.8
	0.1nm,0.3s,baz=56,slow=14,SNR=12						
KURK				Lg	Lg	05 09 28.7	
	0.1nm,0.3s,baz=60,slow=33,SNR=4.8						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	05 08 13.0	+0.6
	0.2nm,0.3s,baz=25,slow=14,SNR=16						
MKAR				Sn	Sn	05 09 40.6	-0.3
	0.1nm,0.3s,baz=26,slow=26,SNR=5.1						
MKAR				Lg	Lg	05 10 26.5	
	0.0nm,0.3s,baz=24,slow=30,SNR=7.6						

CASC 30 05:10:11.3±2.6, 9°13'N×84°13'W, h28km±30km, MD3.6, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QCR	**Quepos**	**0.29**	**353**	⇓*i* P	Pb	05 10 17.9	-0.7
QCR				*e* S	Sb	05 10 23.5	0.0
BUS	**Buena Vista**	**0.56**	**41**	⇓*e* P	Pb	05 10 22.3	-0.9
BUS				*e* S	Sn	05 10 32.8	+0.1
URSC	**Urasca**	**0.78**	**26**	⇓*e* P	Pb	05 10 26.2	-0.4
URSC				*e* S	Sn	05 10 38.9	+1.3
SJS	**Escuela Geolog**	**0.81**	**5**	*e* P	Pb	05 10 27.2	+0.2
BRU2	**Volcan**	**1.46**	**103**	*e* P	Pn	05 10 35.5	-0.4
BRU2				*i* S	Sb	05 10 56.0	-0.3
PTP	**Ponta Puerca**	**20.12**	**61**	*e* P	x	05 10 37.6	
PTP				*i* S	x	05 10 57.5	

*IDC **30** 05:19:42.0±0.9, 46°81'N×155°49'E, h0km, mb3.9/15, mb1 4.1/17, mb1mx4.0/28, mbtmp3.9/17, ML3.6/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/45, Error ellipse: s-maj=25.0km s-min=15.8km az=163.0*

*NEIC **30** 05:19:44.9±4.1, 46°99'N×155°41'E, h12km±26km, mb4.4/9, Error ellipse: s-maj=16.8km s-min=7.9km az=145.0*

*BJI **30** 05:19:45.1, 46°83'N×155°69'E, h31km, mB4.7/1, mb4.2/5, Ms4.3/1, Ms7 4.0/1*

*MOS **30** 05:19:47.2±1.4, 47°01'N×155°40'E, h42km, mb4.3/16, Error ellipse: s-maj=13.8km s-min=10.3km az=74.3*

ISC 30 05:19:43.9±0.7, 46°8N±0°1×155°50E±0°10, h10km, n79, σ1§21/82, mb4.0/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEA0B	**Petropavlovsk-**	**6.45**	**12**	*e* Pn	**Pn**	**05 21 17.3**	**-1.6**
PETK	**Petropavlovsk-**	**6.45**	**12**	Pn	**Pn**	**05 21 16.7**	**-2.1**
	1.0nm,0.3s,baz=166,slow=17,SNR=13						
PETK				LR	LR	05 23 29.1	
	comp=Z,103nm,18.4s,baz=105,slow=35						
PETK	**Petropavlovsk-**	**6.45**	**12**	*e* Pn	**Pn**	**05 21 19.5**	**+0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.45**	**12**	Pn	**Pn**	**05 21 16.7**	**-2.1**
PET	**Petropavlovsk**	**6.53**	**17**	*e* Pn	Pn	05 21 14.3	-5.6
PET				*e*		05 22 28.3	
PET				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PET				smax	smax		
	comp=N,320nm,0.6s						
ASAJ	**Asahikawa**	**9.46**	**258**	Pn	**Pn**	**05 22 01.3**	**+1.2**
	comp=N,0.7nm,0.3s,baz=58,slow=9.9,SNR=4.5						
ASAJ	**Asahikawa**	**9.46**	**258**	PN	**Pn**	**05 22 01.3**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.46**	**258**	Pn	**Pn**	**05 22 01.3**	**+1.2**
ERM	**Erimo**	**10.05**	**246**	*i* PN	**Pn**	**05 22 08.3**	**+0.1**
ERM	**Erimo**	**10.05**	**246**	*e* Pn	**Pn**	**05 22 07.2**	**-1.0**
ERM				*e* Sn	Sn	05 23 51.9	-8.9
MAJO	**Matsushiro**	**16.47**	**238**	*e* P	**P**	**05 23 38.2**	**+0.6**
MJAR	**Matsushiro Arr**	**16.47**	**238**	Pn	**P**	**05 23 38.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=7.8,SNR=6.5						
MJAR	**Matsushiro Arr**	**16.47**	**238**	P	**P**	**05 23 38.3**	**+0.7**
MJAR	**Matsushiro Arr**	**16.47**	**238**	Pn	**P**	**05 23 38.3**	**+0.7**
USRK	**Ussuriysk Arra**	**16.66**	**270**	Pn	**P**	**05 23 39.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=71,slow=12,SNR=4.0						
BILL	**Bilibino**	**21.98**	**11**	*e* P	**P**	**05 24 38.6**	**+1.0**
BILL				*e* S	**S**	**05 28 38.1**	**-1.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	**Bilibino**	**21.98**	**11**	*e* P	**P**	**05 24 41.8**	**+4.2**
	comp=Z,9.7nm,1.0s						
KSRS	**Korea Array**	**22.39**	**255**	P	**P**	**05 24 45.4**	**+3.2**
	comp=Z,1.5nm,0.6s,baz=62,slow=12,SNR=4.7						
KSRS	**Korea Array**	**22.39**	**255**	P	**P**	**05 24 45.4**	**+3.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSAR	**Wonju Array Be**	**22.42**	**255**	P	**P**	**05 24 45.4**	**+2.8**
KSAR	**Wonju Array Be**	**22.42**	**255**	P	**P**	**05 24 45.4**	**+2.8**
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**05 26 16.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=70,slow=9.3,SNR=4.1						
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**05 26 16.6**	**-1.1**
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**05 26 16.6**	**-1.1**
COLA	**College**	**35.06**	**38**	*e* P	**P**	**05 26 37.3**	**+0.8**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
COLA	**College**	**35.06**	**38**	*e* P	**P**	**05 26 37.2**	**+0.8**
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**35.47**	**39**	P	**P**	**05 26 39.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=257,slow=7.4,SNR=18						
ILAR	**Eielson Array**	**35.47**	**39**	P	**P**	**05 26 39.0**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**35.47**	**39**	P	**P**	**05 26 39.0**	**-1.1**
EGAK	**Eagle**	**37.92**	**39**	*e* P	**P**	**05 27 01.2**	**+0.2**
	comp=Z,6.3nm,1.0s						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**05 27 24.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=266,slow=7.9,SNR=2.6						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**05 27 24.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**05 27 24.8**	**+0.7**
ZALV	**Zalesovo Beam**	**43.89**	**306**	P	**P**	**05 27 50.0**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=64,slow=6.8,SNR=5.9						
ZALV				PcP	**PcP**	**05 29 36.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=56,slow=3.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**43.89**	**306**	*e* P	**P**	**05 27 51.6**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**43.89**	**306**	P	**P**	**05 27 50.0**	**-0.3**
ZALV				PcP	**PcP**	**05 29 36.3**	**+0.1**
MK31	**Makanchi Array**	**48.35**	**298**	*e* P	**P**	**05 28 24.5**	**-1.0**
MK31	**Makanchi Array**	**48.35**	**298**	*e* P	**P**	**05 28 24.5**	**-1.0**
MKAR	**Makanchi Array**	**48.35**	**298**	P	**P**	**05 28 24.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=65,slow=7.0,SNR=12						
MKAR				PcP	**PcP**	**05 29 51.4**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=70,slow=1.7,SNR=2.4						
MKAR	**Makanchi Array**	**48.35**	**298**	*e* P	**P**	**05 28 24.6**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.35**	**298**	P	**P**	**05 28 24.6**	**-0.9**
MKAR				PcP	**PcP**	**05 29 51.4**	**-0.6**
KURK	**Kurchatov**	**48.68**	**304**	P	**P**	**05 28 24.6**	**+0.5**
	comp=Z,6.2nm,0.9s,baz=66,slow=8.4,SNR=26						
KURK	**Kurchatov**	**48.68**	**304**	*i* P	**P**	**05 28 27.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**48.68**	**304**	*e* P	**P**	**05 28 27.1**	**-0.8**
	comp=Z,4.3nm,0.8s						
YKA	**Yellowknife Ar**	**49.88**	**37**	P	**P**	**05 28 36.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=294,slow=7.2,SNR=6.5						
YKA	**Yellowknife Ar**	**49.88**	**37**	P	**P**	**05 28 36.7**	**-0.2**
YKA	**Yellowknife Ar**	**49.88**	**37**	P	**P**	**05 28 36.8**	**-0.2**
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**05 28 53.5**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=44,slow=8.8,SNR=8.5						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**05 28 53.5**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**05 28 53.5**	**-0.1**
BRVK	**Borovoye**	**52.11**	**310**	*e* P	**P**	**05 28 53.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**52.11**	**310**	*e* P	**P**	**05 28 53.4**	**-0.4**
	comp=Z,3.3nm,0.7s						
AAK	**Ala-Archa**	**55.26**	**298**	P	**P**	**05 29 16.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=340,slow=11,SNR=4.6						
AAK	**Ala-Archa**	**55.26**	**298**	P	**P**	**05 29 16.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**55.26**	**298**	*e* P	**P**	**05 29 17.1**	**-0.2**
	comp=Z,9.2nm,0.9s						
ARU	**Arti**	**56.05**	**318**	*e* P	**P**	**05 29 22.3**	**-0.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**56.05**	**318**	*e* P	**P**	**05 29 22.3**	**-0.3**
	comp=Z,4.6nm,0.6s						
WALA	**Waterton Lakes**	**57.12**	**52**	*e* P	**P**	**05 29 33.2**	**+2.7**
	comp=Z,0.1nm,0.5s						
KKAR	**Karatay Array**	**57.39**	**300**	*e* P	**P**	**05 29 31.5**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**57.39**	**300**	*e* P	**P**	**05 29 31.5**	**-0.8**
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.31**	**342**	P	**P**	**05 29 38.6**	**+0.3**
	comp=Z,6.5nm,1.1s,baz=24,slow=9.9,SNR=4.1						
ARCES	**ARCESS Array B**	**58.31**	**342**	P	**P**	**05 29 38.7**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**58.31**	**342**	P	**P**	**05 29 38.6**	**+0.3**
ABKAR	**Akbulak array**	**59.62**	**311**	*e* P	**P**	**05 29 47.4**	**-0.4**
	comp=Z,1.7nm,0.4s						
PDAR	**Pinedale Array**	**63.37**	**55**	P	**P**	**05 30 12.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=341,slow=3.1,SNR=3.5						
PDAR	**Pinedale Array**	**63.37**	**55**	P	**P**	**05 30 12.2**	**-1.3**
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**05 30 20.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=43,slow=8.3,SNR=10.0						
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**05 30 20.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**05 30 20.7**	**-0.6**
SFJD	**Kangerlussuaq**	**64.78**	**11**	LR	LR	06 01 37.1	
	comp=Z,181nm,19.1s,baz=178,slow=39						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**05 30 49.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=19,slow=6.5,SNR=7.4						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**05 30 49.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**05 30 49.4**	**-0.9**
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**05 31 32.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=294,slow=3.9,SNR=8.2						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**05 31 32.4**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**05 31 32.4**	**+0.9**
BRTR	**Keskin Array B**	**79.44**	**318**	P	**P**	**05 31 51.0**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=315,slow=0.2,SNR=4.9						
BRTR	**Keskin Array B**	**79.44**	**318**	P	**P**	**05 31 51.0**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**79.44**	**318**	P	**P**	**05 31 51.0**	**+0.6**

IDC 30 05:44:30.0±2.1, 7°53'S×127°33'E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=189.5km s-min=31.9km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.09**	**152**	Pn	Pn	05 47 49.3	-1.8
	0.6nm,0.3s,baz=328,slow=13,SNR=17						
WRA				Sn	Sn	05 50 13.0	-15
	0.2nm,0.3s,baz=336,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**17.25**	**159**	P	P	05 48 33.9	-0.3
	0.4nm,0.3s,baz=336,slow=10.0,SNR=29						
ASAR				S	Sn	05 51 38.0	-7.1
	0.1nm,0.3s,baz=327,slow=17,SNR=3.1						
MKAR	**Makanchi Array**	**67.24**	**328**	P	P	05 55 26.4	0.0
	0.4nm,0.6s,baz=122,slow=8.1,SNR=5.1						

*IDC **30** 05:47:50.9±0.6, 43°04'N×47°04'E, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.7/31, mbtmp3.8/18, ML2.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.9/37, Error ellipse: s-maj=16.5km s-min=8.7km az=132.0*

*MOS **30** 05:47:50.9±1.3, 43°10'N×47°27'E, h13km, mb4.5/10, Error ellipse: s-maj=5.2km s-min=4.7km az=82.5*

MOS Felt (IV) at Korkmaskala; (II-III) at Makhachkala.

*CSEM **30** 05:47:51.6±0.2, 43°26'N×47°14'E, h2km, mb3.8, Error ellipse: s-maj=7.4km s-min=5.6km az=103.0*

*AZER **30** 05:47:54.9, 43°10'N×47°14'E, h47km*

*NNC **30** 05:47:54.2±2.4, 43°73'N×47°03'E, h0km, mb3.8, mpv4.4, Error ellipse: s-maj=62.0km s-min=18.3km az=166.0*

ISC 30 05:47:51.9±1.0, 43°11'N±0°03×47°21'E±0°02, h13km±6km, n124, σ1§76/179, mb3.8/16, 20C-22D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.27**	**125**	⇓*i* Pg	**Pb**	**05 47 57.5**	**-1.1**
MAK				*i*	**Sg**	**05 48 03.0**	**+1.9**
MAK				pmax	pmax		
	comp=Z,1μm,0.2s						
MAK				smax	smax		
	comp=E,7μm,0.6s						
MAK				smax	smax		
	comp=N,7μm,0.3s						
DBC	**Dubki**	**0.29**	**252**	*i* Pg	**Pg**	**05 47 56.2**	**-1.8**
BUJR	**Buynaksk**	**0.30**	**194**	⇓*i* Pg	**Pg**	**05 47 56.0**	**-2.0**
KRNR	**Karanay**	**0.36**	**218**	⇑*i* Pg	**Pg**	**05 47 57.0**	**-2.2**
KRNR				*e* S	**Sg**	**05 48 03.8**	**-0.3**
DLMR	**Dylym**	**0.42**	**264**	*e* Pg	**Pb**	**05 48 00.5**	**-0.8**
DLMR				*e* S	**Sb**	**05 48 07.0**	**-0.7**
UNCR	**Uncukul**	**0.50**	**217**	*e* Pg	**Pg**	**05 47 59.7**	**-2.1**
MNSR	**Manas**	**0.56**	**137**	⇑*i* Pg	**Pb**	**05 48 02.8**	**-0.7**
MNSR				*e* S	**Sb**	**05 48 12.8**	**+1.4**
XNZR	**Khunzakh**	**0.68**	**213**	*e* Pg	**Pg**	**05 48 02.6**	**-2.6**
SGKR	**Sergokala**	**0.73**	**153**	*i* Pg	**Pg**	**05 48 06.0**	**-0.1**
SGKR				*e* S	**Sn**	**05 48 19.0**	**-0.1**
BTLR	**Botlikh**	**0.85**	**239**	⇓*i* Pg	**Pg**	**05 48 06.8**	**-1.6**
BTLR				*e* S	**Sg**	**05 48 18.0**	**-1.5**
BTLR				pmax	pmax		
	comp=Z,1μm,0.7s						
KMKR	**Kumukh**	**0.98**	**185**	⇓*i* Pg	**Pg**	**05 48 09.2**	**-1.7**
KMKR				*e* S	**Sb**	**05 48 24.5**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,976nm,0.2s						
URKR	**Urkarakh**	**1.00**	**162**	⇑*i* Pg	**Pg**	**05 48 10.0**	**-1.2**
URKR				S	**Sg**	**05 48 23.5**	**-0.7**
URKR				pmax	pmax		
	comp=Z,668nm,0.2s						
GRO	**Groznyy**	**1.08**	**281**	*e* Pg	**Pn**	**05 48 12.6**	**-0.2**
GRO				*i* S	**Sn**	**05 48 30.3**	**+2.5**
DRN	**Derbent**	**1.36**	**142**	⇑*i* Pg	**Pb**	**05 48 17.2**	**-0.1**
DRN				S	**Sg**	**05 48 39.8**	**+4.0**
KSMR	**Kasumkent**	**1.66**	**155**	*i* PN	**Pn**	**05 48 21.5**	**+0.7**
KSMR				*e* S	**Sg**	**05 48 46.5**	**+1.3**
KSMR				pmax	pmax		
	comp=Z,856nm,0.2s						
AKT	**Akhty**	**1.68**	**166**	*e* PN	**Pn**	**05 48 21.2**	**+0.1**
AKT				*e* S	**Sg**	**05 48 47.0**	**+1.1**
AKT				pmax	pmax		
	comp=Z,495nm,0.3s						
SNJR	**Sundja**	**1.76**	**269**	⇑*i* PN	**Pb**	**05 48 24.0**	**0.0**
SNJR				*i* S	**Sg**	**05 48 50.7**	**+2.3**
VLKR	**Vladikavkaz**	**1.85**	**269**	*e* PN	**Pb**	**05 48 25.0**	**-0.7**
VLKR				*i* S	**Sg**	**05 48 53.1**	**+1.6**
SEKA	**Sheki**	**1.90**	**180**	⇓P	**Pb**	**05 48 25.7**	**-0.8**
	SNR=72						
SEKA				⇓S	**Sg**	**05 48 54.3**	**+1.2**
SEKA	**Sheki**	**1.90**	**180**	P	**Pb**	**05 48 25.7**	**-0.8**
	SNR=72						
SEKA				S	**Sg**	**05 48 54.3**	**+1.2**
TRKR	**Terskaya**	**1.90**	**290**	*e* PN	**Pb**	**05 48 25.5**	**-1.0**
TRKR				*i* S	**Sg**	**05 48 55.9**	**+2.8**
BTKR	**Batakoyurt**	**1.96**	**278**	*e* PN	**Pg**	**05 48 28.0**	**-1.6**
BTKR				*e* S	**Sg**	**05 48 57.5**	**+2.4**
QUBA	**Quba, Azerbaij**	**2.00**	**151**	⇓P	**Pb**	**05 48 27.7**	**-0.5**
	SNR=15						
QUBA				⇓S	**Sg**	**05 48 56.2**	**0.0**
QUBA	**Quba, Azerbaij**	**2.00**	**151**	P	**Pb**	**05 48 27.7**	**-0.5**
	SNR=15						
QUBA				S	**Sg**	**05 48 56.2**	**0.0**
ARNR	**Ardon**	**2.14**	**273**	*e* PN	**Pb**	**05 48 29.3**	**-1.3**
ARNR				*e* S	**Sg**	**05 49 00.0**	**-0.8**
KMSR	**Komsomolskaya**	**2.15**	**278**	*e* PN	**Pb**	**05 48 30.0**	**-0.6**
KMSR				*e* S	**Sg**	**05 49 01.5**	**+0.6**
DGRG	**David-gareji**	**2.15**	**220**	*e* PN	**Pb**	**05 48 29.9**	**-0.8**
DGRG				*e* S	**Sg**	**05 49 00.5**	**-0.4**
DGRG	**David-gareji**	**2.15**	**220**	P	**Pb**	**05 48 29.9**	**-0.8**
DGRG				S	**Sg**	**05 49 00.5**	**-0.4**
LACR	**Lac**	**2.16**	**263**	⇑*i* PN	**Pn**	**05 48 28.2**	**+0.5**
LACR				*i* S	**Sb**	**05 48 58.5**	**+0.9**
PRTR	**Priterechnaya**	**2.23**	**288**	*e* PN	**Pb**	**05 48 32.0**	**0.0**
PRTR				*e* S	**Sg**	**05 49 05.2**	**+1.8**
TBLG	**Delisi**	**2.29**	**234**	*e* PN	**Pb**	**05 48 31.7**	**-1.4**
TBLG				*e* S	**Sb**	**05 49 01.6**	**+0.2**
TBLG	**Delisi**	**2.29**	**234**	P	**Pb**	**05 48 31.8**	**-1.4**
TBLG				S	**Sb**	**05 49 01.6**	**+0.2**
TBLG	**Delisi**	**2.29**	**234**	P	**Pb**	**05 48 31.8**	**-1.4**
TBLG				S	**Sb**	**05 49 01.6**	**+0.2**
KORR	**Kora**	**2.30**	**270**	*e* PN	**Pn**	**05 48 30.8**	**+1.2**
KORR				*e* S	**Sb**	**05 49 03.2**	**+1.6**
SIZA	**Siyzn**	**2.39**	**148**	⇑P	**Pb**	**05 48 34.3**	**-0.6**
	SNR=15						
SIZA				⇑S	**Sb**	**05 49 06.7**	**+2.3**
SIZA	**Siyzn**	**2.39**	**148**	P	**Pb**	**05 48 34.3**	**-0.6**
	SNR=15						
SIZA				S	**Sb**	**05 49 06.7**	**+2.3**
IML	**Ismayilli**	**2.43**	**162**	⇓P	**Pb**	**05 48 35.1**	**-0.4**
	SNR=13						
IML				⇑S	**Sg**	**05 49 08.5**	**-1.5**
IML	**Ismayilli**	**2.43**	**162**	P	**Pb**	**05 48 35.1**	**-0.4**
	SNR=13						
IML				S	**Sg**	**05 49 08.5**	**-1.5**
ZEI	**Tsey**	**2.45**	**263**	⇑*i* PN	**Pn**	**05 48 31.7**	**-0.2**
ZEI				*i* S	**Sb**	**05 49 04.4**	**-1.9**
LSNR	**Lesken**	**2.49**	**275**	*e* PN	**Pn**	**05 48 33.9**	**+1.7**
LSNR				*e* S	**Sb**	**05 49 08.6**	**+1.6**
PQL	**Pirkuli**	**2.54**	**156**	⇑P	**Pb**	**05 48 36.4**	**-1.1**
	SNR=34						
PQL				⇓S	**Sg**	**05 49 14.6**	**+1.1**
PQL	**Pirkuli**	**2.54**	**156**	P	**Pb**	**05 48 36.4**	**-1.1**
	SNR=34						
GOR	**Gori**	**2.55**	**245**	*e* PN	**Pb**	**05 48 38.7**	**+1.1**
GOR				*e* S	**Sb**	**05 49 10.7**	**+1.8**
GOR	**Gori**	**2.55**	**245**	P	**Pb**	**05 48 38.7**	**+1.1**
GOR				S	**Sb**	**05 49 10.7**	**+1.8**
GANJ	**Ganja**	**2.55**	**195**

comp=E,0.5nm,0.5s
AKTO ⇓S Sn 05 52 11.0 -6.4

comp=E,2.0nm,0.7s
AKTO Aktyubinsk 10.41 42 P **Pn 05 50 22.3 +1.5**
AKTO pmax pmax

comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 10.41 42 P **Pn 05 50 22.4 +1.5**
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 10.74 256 Pn **Pn 05 50 24.7 -0.8**
comp=Z,0.1nm,0.3s,baz=61,slow=14,SNR=3.0
BRTR Keskin Array B 10.74 256 P **Pn 05 50 24.7 -0.8**
AB31 Akbulak array 10.75 51 ⇑P **Pn 05 50 26.9 +1.5**
comp=Z,1.2nm,0.3s,baz=237,slow=11,SNR=107
AB31 ⇑S **Sn 05 52 22.3 -3.3**
comp=Z,4.6nm,0.4s,baz=248,slow=21,SNR=6.9
AB31 Akbulak array 10.75 51 *ce*P **Pn 05 50 26.2 +0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AB31 Akbulak array 10.75 51 P **Pn 05 50 26.9 +1.5**
comp=Z,1.2nm,0.3s,baz=237,SNR=107
AKASG Malin Array Be 14.42 308 Pn **P 05 51 20.0 -2.5**
comp=Z,0.7nm,0.3s,baz=157,slow=26,SNR=4.2
AKASG Malin Array Be 14.42 308 P **P 05 51 20.0 -2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
ARU Arti 15.18 25 *e*PD
ARU *e*S **Sn 05 54 12.3 -1.5**
ARU *e*SS **S 05 54 24.5 -6.3**
ARU pmax pmax
comp=Z,7.0nm,1.3s
MLR Muntele Rosu 15.40 286 Pn **P 05 51 34.3 +0.7**
comp=Z,0.1nm,0.3s,baz=129,slow=16,SNR=3.1
MLR Muntele Rosu 15.40 286 P **P 05 51 34.3 +0.7**
EIL Elat 16.63 220 Pn **P 05 51 51.0 +3.9**
comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=2.8
KK31 Karatay Array 17.01 82 P **P 05 51 52.6 +1.3**
comp=Z,0.4nm,0.4s,baz=342,slow=50,SNR=5.8
KK31 Karatay Array 17.01 82 P **P 05 51 52.6 +1.3**
comp=Z,0.4nm,0.4s,SNR=5.8
ZRNK Zerenda 17.52 48 ⇓P **Pn 05 51 55.8 0.0**
comp=Z,3.9nm,0.8s
ZRNK Zerenda 17.52 48 P **Pn 05 51 55.8 0.0**
comp=Z,3.9nm,0.8s
BRVK Borovoye 18.27 49 *ce*P **Pn 05 52 03.0 -2.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 18.32 49 ⇓P **P 05 52 06.0 +0.4**
comp=Z,0.4nm,0.5s,baz=239,slow=14,SNR=21
BVA0 Borovoye Array 18.32 49 P **P 05 52 06.0 +0.4**
comp=Z,0.4nm,0.5s,SNR=21
BVAR Borovoye Array 18.32 49 Pn **Pn 05 52 04.6 -0.9**
comp=Z,1.0nm,0.3s,baz=242,slow=12,SNR=14
BVAR Sn Sn 05 55 19.4 -10
comp=Z,0.4nm,0.3s,baz=243,slow=26,SNR=5.7
BVAR Borovoye Array 18.32 49 P **Pn 05 52 04.6 -0.9**
BVAR 05 55 19.4
BVAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 18.36 348 *e*P **Pn 05 52 02.0 -4.0**
KLMR S **Sn 05 55 29.2 -1.6**
KLMR pmax pmax
comp=Z,28nm,2.0s
VOSK Vostochnaya 18.53 50 ⇓P **Pn 05 52 08.1 -0.1**
comp=Z,2.6nm,0.6s
AAK Ala-Archa 19.98 82 P **Pn 05 52 25.8 0.0**
comp=Z,0.5nm,0.5s,baz=215,slow=10,SNR=2.6
AAK Ala-Archa 19.98 82 P **Pn 05 52 25.8 0.0**
AAK pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 21.90 340 *ep* **P 05 52 45.3 +0.8**
comp=Z,1.7nm,0.3s
JOF Joensuu 21.90 340 *ep* **P 05 52 45.3 +0.8**
comp=Z,1.7nm,0.3s
FINES FINESS Array B 22.27 333 P **P 05 52 49.0 +0.6**
comp=Z,1.5nm,0.4s,baz=141,slow=12,SNR=10
FINES FINESS Array B 22.27 333 P **P 05 52 49.0 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 22.64 59 P **P 05 52 53.3 +0.9**
comp=Z,1.4nm,0.4s,baz=267,slow=12,SNR=17
KURK Kurchatov 22.64 59 ⇓P P 05 52 58.1 +5.6
comp=Z,5.0nm,1.2s
KURK Kurchatov 22.64 59 ⇑ *e*P **P 05 52 52.0 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.7s
KAF Kangasniemi 22.68 334 *ep* **P 05 52 56.6 +3.8**
comp=Z,1.0nm,0.3s
KAF Kangasniemi 22.68 334 *ep* **P 05 52 56.6 +3.8**
comp=Z,1.0nm,0.3s
GERES GERESS Array B 23.85 296 P **P 05 53 05.8 +1.0**
comp=Z,0.3nm,0.4s,baz=80,slow=10.0,SNR=4.1
GERES GERESS Array B 23.85 296 P **P 05 53 05.9 +1.0**
MK31 Makanchi Array 24.97 69 P **P 05 53 16.8 +1.7**
comp=Z,0.7nm,0.5s,baz=275,slow=7.3,SNR=20
MK31 Makanchi Array 24.97 69 *i* P **P 05 53 16.7 +1.7**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 24.97 69 P **P 05 53 16.8 +1.7**
comp=Z,0.7nm,0.5s,baz=275,SNR=20
MKAR Makanchi Array 24.97 69 P **P 05 53 16.7 +1.6**
comp=Z,1.0nm,0.5s,baz=277,slow=7.9,SNR=15
MKAR Makanchi Array 24.97 69 P **P 05 53 16.7 +1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 26.47 322 P **P 05 53 29.2 +0.7**
comp=Z,1.3nm,0.5s,baz=128,slow=9.7,SNR=12
HFS Hagfors 26.47 322 P **P 05 53 29.2 +0.7**
HFS pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 26.85 53 P **P 05 53 34.4 +2.4**
comp=Z,0.6nm,0.5s,baz=281,slow=10,SNR=2.4
ZALV Zalesovo Beam 26.85 53 P **P 05 53 34.4 +2.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 27.96 322 P **P 05 53 41.9 -0.1**
comp=Z,0.6nm,0.7s,baz=109,slow=9.6,SNR=3.7
NOA NORSAR Array B 27.96 322 P **P 05 53 41.9 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 28.74 344 P **P 05 53 50.4 +1.7**
comp=Z,3.9nm,1.0s,baz=143,slow=10,SNR=6.1
ARCES ARCESS Array B 28.74 344 P **P 05 53 50.4 +1.7**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
KEST Kesra 29.97 269 P **P 05 54 01.1 +1.1**
comp=Z,1.7nm,0.8s,baz=259,slow=3.5,SNR=4.4
KEST LR LR 06 07 35.5
comp=Z,52nm,19.1s,baz=350,slow=40
SPITS Spitsbergen Ar 37.25 350 P **P 05 55 05.4 +2.6**
comp=Z,2.1nm,0.5s,baz=142,slow=22,SNR=9.6
SPITS Spitsbergen Ar 37.25 350 P **P 05 55 05.4 +2.6**
SPITS pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 49.17 247 P **P 05 56 38.1 -1.7**
comp=Z,1.8nm,0.9s,baz=44,slow=7.4,SNR=8.4
DBIC Dimbokro 58.28 247 P **P 05 57 45.2 -1.3**
comp=Z,1.7nm,0.7s,baz=19,slow=9.5,SNR=3.8
DBIC Dimbokro 58.28 247 P **P 05 57 45.2 -1.3**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 73.73 351 P **P 05 59 25.4 +0.2**
comp=Z,0.2nm,0.7s,baz=13,slow=5.9,SNR=4.2
YKA Yellowknife Ar 73.73 351 P **P 05 59 25.4 +0.2**

IDC 30 05:54:33.0±8.9, 24°20S×177°85W, h125km±72km, mb3.5/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=120.7km s-min=21.3km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.73**	**30**	P		Pn	05 57 17.6	+0.9
	5.8nm,0.3s,baz=130,slow=2.2,SNR=5.5							
AFI				S		Sn	05 59 24.3	-1.7
	14nm,0.3s,baz=47,slow=19,SNR=7.4							
STKA	**Stephens Creek**	**36.44**	**249**	P		P	06 01 25.1	-0.8
	2.2nm,0.4s,baz=108,slow=9.4,SNR=11							
ASAR	**Alice Springs**	**43.92**	**260**	P		P	06 02 28.1	+0.4
	0.6nm,0.3s,baz=91,slow=7.4,SNR=11							
WRA	**Warramunga Ar**	**44.34**	**266**	P		P	06 02 31.1	0.0
	0.9nm,0.7s,baz=104,slow=7.9,SNR=3.4							
NVAR	**Mina Array Bea**	**83.61**	**43**	P		P	06 06 48.0	+0.3
	0.4nm,0.6s,baz=202,slow=4.7,SNR=4.0							
HFS	**Hagfors**	**143.19**	**350**	PKP		PKPbc	06 13 49.6	+0.5
	1.0nm,0.5s,baz=50,slow=4.6,SNR=11							

MAN 30 06:07:13, 11°08N×124°96E, h8km, mb4.1, ML2.9, MS2.6, Leyte

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.08**	**14**	*eP*		Pg	06 07 22.3	+7.2
PLP				*i* S		Sg	06 07 27.3	+11
OCLP	**Ormoc**	**0.34**	**265**	*eP*		Pg	06 07 20.6	+0.8
OCLP				*eS*		Sg	06 07 23.9	-0.5
MSLP	**Maasin**	**0.95**	**186**	*eP*		Pn	06 07 32.7	0.0
MSLP				*eS*		Sn	06 07 45.9	-0.4
TBP	**Tagbilaran**	**1.75**	**218**	*eP*		Pb	06 07 45.8	+0.3

*ISCJB **30** 06:12:34.9±1.2, 40°37N±0°03×25°80E±0°08, h3km±5km, Error ellipse: s-maj=10.5km s-min=5.0km az=5.6*
*ISK **30** 06:12:35.1, 40°37N×25°84E, h6km, MD2.7*
*CSEM **30** 06:12:35.1±0.5, 40°37N×25°78E, h8km, MD2.7, Error ellipse: s-maj=8.9km s-min=4.2km az=90.0*
*DDA **30** 06:12:36.8, 40°33N×25°98E, h7km, MD2.7*
ISC 30 06:12:35.7±1.5, 40°37N±0°03×25°84E±0°07, h13km±10km, n29, σ0°54/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.44**	**33**	*e*PG		**Pg**	**06 12 43.6**	**-0.9**
ENEZ				*e*SG		**Sg**	**06 12 50.7**	**+0.3**
ENEZ	**Enez**	**0.44**	**33**	*e*Pg		**Pg**	**06 12 43.6**	**-0.9**
ENEZ				*e*Sg		**Sg**	**06 12 50.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.49**	**86**	*e*PG		**Pg**	**06 12 45.6**	**+0.3**
GELI				*e*SG		**Sg**	**06 12 52.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.49**	**86**	*e*Pg		**Pg**	**06 12 45.6**	**+0.3**
GELI				*e*Sg		**Sg**	**06 12 52.3**	**+0.5**
BOZC	**Bozcaada**	**0.55**	**162**	*i* P		**Pg**	**06 12 46.4**	**-0.1**
BOZC				*i* S		**Sg**	**06 12 53.9**	**+0.2**
ERIK	**Erikli-Kesan**	**0.60**	**59**	*e*PG		**Pg**	**06 12 47.2**	**-0.1**
ERIK				*e*SG		**Sb**	**06 12 55.9**	**-0.4**
ERIK	**Erikli-Kesan**	**0.60**	**59**	*e*Pg		**Pg**	**06 12 47.3**	**-0.1**
ERIK				*e*Sg		**Sb**	**06 12 55.9**	**-0.4**
EZN	**Ezine**	**0.66**	**145**	*e*PG		**Pg**	**06 12 48.7**	**+0.2**
EZN				*e*SG		**Sg**	**06 12 57.0**	**-0.1**
EZN	**Ezine**	**0.66**	**145**	*e*Pg		**Pg**	**06 12 48.7**	**+0.2**
EZN				*e*Sg		**Sg**	**06 12 57.0**	**-0.1**
LPK	**Lapseki**	**0.70**	**89**	*e*PG		**Pg**	**06 12 49.4**	**0.0**
LPK	**Lapseki**	**0.70**	**89**	*e*Pg		**Pg**	**06 12 49.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.12**	**88**	*e*PN		**Pb**	**06 12 55.9**	**-0.9**
KRBG	**Karabiga-Canak**	**1.12**	**88**	*e*Pn		**Pb**	**06 12 55.9**	**-0.9**
MFT	**Murefte**	**1.18**	**69**	*e*PN		**Pg**	**06 12 58.7**	**+0.3**
MFT	**Murefte**	**1.18**	**69**	*e*Pn		**Pg**	**06 12 58.7**	**+0.3**
AYVA	**Ayvalik**	**1.24**	**148**	*i* P		**Pn**	**06 12 58.7**	**0.0**
AYVA				*i* S		**Sg**	**06 13 16.0**	**+0.2**
AYVA	**Ayvalik**	**1.24**	**148**	*i* P		**Pn**	**06 12 58.7**	**0.0**
AYVA				*i* S		**Sg**	**06 13 16.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.45**	**102**	*e*PN		**Pb**	**06 13 02.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.45**	**102**	*e*Pn		**Pb**	**06 13 02.7**	**+0.2**
BALY	**Balya**	**1.50**	**114**	*i* P		**Pn**	**06 13 02.8**	**+0.5**
BALY				*i* S		**Sg**	**06 13 23.4**	**-0.7**
BALY	**Balya**	**1.50**	**114**	*i* P		**Pn**	**06 13 02.8**	**+0.5**
BALY				*i* S		**Sg**	**06 13 23.4**	**-0.7**
EDC	**Edincik**	**1.55**	**90**	*e*PN		**Pb**	**06 13 03.8**	**-0.4**
EDC	**Edincik**	**1.55**	**90**	*e*Pn		**Pb**	**06 13 03.8**	**-0.4**
EDRB	**Edirne**	**1.63**	**25**	*e*PN		**Pn**	**06 13 05.1**	**+1.0**
EDRB	**Edirne**	**1.63**	**25**	*e*Pn		**Pn**	**06 13 05.1**	**+1.0**
BALB	**Balikesir**	**1.73**	**114**	*e*PN		**Pb**	**06 13 06.7**	**-0.5**
BALB	**Balikesir**	**1.73**	**114**	*e*Pn		**Pb**	**06 13 06.7**	**-0.5**
DURS	**Dursunbey**	**2.17**	**110**	*i* P		**Pb**	**06 13 15.6**	**+0.9**
DURS				*i* S		**Sb**	**06 13 40.8**	**-0.7**
DURS	**Dursunbey**	**2.17**	**110**	*i* P		**Pb**	**06 13 15.6**	**+0.9**
DURS				*i* S		**Sb**	**06 13 40.8**	**-0.7**

IDC 30 06:16:55.4±3.3, 53°94N×89°91E, h0km, mb1 2.9/3, mb1mx2.9/29, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=31.2km s-min=20.3km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.01**	**272**	Pn		Pn	06 17 46.5	+2.1
	0.4nm,0.3s,baz=87,slow=16,SNR=6.1							
ZALV				Lg		Lg	06 18 30.6	
	1.3nm,0.3s,baz=86,slow=28,SNR=14							
KURK	**Kurchatov**	**7.63**	**250**	Pn		Pn	06 18 49.4	+1.6
	0.2nm,0.3s,baz=51,slow=14,SNR=5.6							
KURK				Lg		Lg	06 20 59.1	
	0.0nm,0.3s,baz=60,slow=30,SNR=3.1							
MKAR	**Makanchi Array**	**8.65**	**217**	Pn		Pn	06 19 02.0	+0.3
	0.1nm,0.3s,baz=31,slow=12,SNR=7.7							

*DJA **30** 06:21:30, 9°05S×110°72E, h15km, MLv3.6/9*
IDC 30 06:21:21.5±3.1, 9°41S×110°14E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=156.1km s-min=28.7km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.61**	**117**	P		P	06 26 51.6	-1.2
	1.1nm,0.8s,baz=289,slow=12,SNR=4.3							
ASAR	**Alice Springs**	**26.77**	**125**	P		P	06 27 04.5	+1.2
	0.6nm,0.7s,baz=300,slow=9.9,SNR=9.1							
MKAR	**Makanchi Array**	**61.22**	**339**	P		P	06 31 38.2	-0.1
	0.1nm,0.3s,baz=153,slow=7.9,SNR=4.0							

MAN 30 06:29:32, 10°93N×124°80E, h36km, mb3.5, ML2.2, MS1.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.23**	**303**	*e*P		Pn	06 29 41.1	+2.0
OCLP				*e*S		Sn	06 29 43.3	-0.8
PLP	**Palo**	**0.29**	**36**	⇓*i*P		Pn	06 29 42.5	+2.4
PLP				*i* S		Sn	06 29 47.6	+0.7
MSLP	**Maasin**	**0.79**	**176**	*e*P		Pn	06 29 48.9	+2.2
MSLP				*e*S		Sn	06 29 59.4	+2.2

IDC 30 06:34:22.3±1.7, 10°09N×91°28E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=60.1km s-min=21.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.82**	**315**	*i* P		Pn	06 36 47.4	-11
VIS				*i* S		Sn	06 38 40.7	-20
VIS				*i* S			06 38 42.0	
VIS				*ex*	x		06 38 43.0	
	comp=E,16nm,0.5s							
VIS				*ex*	x		06 38 44.8	
	comp=N,14nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.15**	**41**	Pn		Pn	06 37 03.5	+0.3
	comp=N,0.3nm,0.3s,baz=228,slow=12,SNR=3.6							
MKAR	**Makanchi Array**	**37.37**	**350**	P		P	06 41 37.3	+0.6
	comp=N,0.7nm,0.9s,baz=171,slow=8.1,SNR=6.5							
MKAR				PcP	PcP		06 43 56.5	+0.6
	comp=N,0.1nm,0.4s,baz=149,slow=3.2,SNR=3.6							
SONM	**Songino Array**	**39.73**	**16**	P		P	06 41 57.1	+0.4
	comp=N,0.3nm,0.6s,baz=208,slow=8.3,SNR=5.7							
ZALV	**Zalesovo Beam**	**44.05**	**355**	P		P	06 42 29.9	-1.9
	comp=N,0.3nm,0.4s,baz=167,slow=7.2,SNR=2.2							
WRA	**Warramunga Arr**	**51.84**	**125**	P		P	06 43 32.4	-0.3
	comp=N,3.3nm,0.9s,baz=304,slow=8.5,SNR=11							
ASAR	**Alice Springs**	**53.50**	**129**	P		P	06 43 44.8	-0.2
	comp=N,1.0nm,0.7s,baz=306,slow=7.9,SNR=9.0							

*ATH **30** 06:45:09.8, 41°19N×23°19E, h8km±3km, MD2.9/3*
*SOF **30** 06:45:09.1, 41°20N×23°18E, h4km, MD2.9*
*CSEM **30** 06:45:10.0±0.3, 41°17N×23°16E, h2km, MD2.9, Error ellipse: s-maj=5.9km s-min=5.1km az=54.0*
*BEO **30** 06:45:11.7±1.4, 41°16N×23°22E, h20km±7km, ML2.4/3*
ISC 30 06:45:10.2±1.1, 41°18N±0°02×23°20E±0°03, h7km±11km, n32, σ0°89/45, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.38**	**162**	*e*PB		**Pg**	**06 45 17.7**	**+0.1**
SOH				*e*SB		**Sg**	**06 45 23.0**	**+0.4**
SOH	**Sokhos**	**0.38**	**162**	*e*Pb		**Pg**	**06 45 17.7**	**+0.1**
SOH				*e*Sb		**Sg**	**06 45 23.0**	**+0.4**
VAY	**Valandovo**	**0.49**	**287**	*e*Pg		**Pg**	**06 45 19.1**	**-0.7**
VAY				*e*Sg		**Sg**	**06 45 28.5**	**+2.3**
NVR	**Nevrokopi**	**0.53**	**71**	*e*PG		**Pg**	**06 45 19.9**	**-0.5**
NVR				*e*SB		**Sg**	**06 45 27.5**	**+0.2**
NVR	**Nevrokopi**	**0.53**	**71**	*e*Pg		**Pg**	**06 45 19.9**	**-0.5**
NVR				*e*Sb		**Sg**	**06 45 27.5**	**+0.2**
MMB	**Musomiste**	**0.57**	**44**	*i* Pg		**Pg**	**06 45 20.2**	**-1.0**
MMB	**Musomiste**	**0.57**	**44**	*i* Pg		**Pg**	**06 45 20.2**	**-1.0**
KKB	**Krupnik**	**0.69**	**353**	*i* Pg		**Pg**	**06 45 22.0**	**-1.5**
KKB	**Krupnik**	**0.69**	**353**	*i* Pg		**Pg**	**06 45 22.0**	**-1.5**
PLG	**Polygyros**	**0.83**	**167**	*e*PG		**Pg**	**06 45 25.7**	**-0.5**
PLG				*e*SB		**Sg**	**06 45 36.2**	**-0.7**
PLG	**Polygyros**	**0.83**	**167**	*e*Pg		**Pg**	**06 45 25.7**	**-0.5**
PLG				*e*Sb		**Sg**	**06 45 36.2**	**-0.7**
RZN	**Rozhen**	**1.25**	**66**	*i* P		**Pg**	**06 45 34.5**	**+0.3**
RZN	**Rozhen**	**1.25**	**66**	*i* P		**Pg**	**06 45 34.5**	**+0.3**
BIA	**Bitola**	**1.43**	**264**	*e*Sn		**Sn**	**06 45 55.1**	**-0.6**
PLD	**Plovdiv**	**1.46**	**50**	*i* P		**Pb**	**06 45 37.8**	**+0.1**
PLD	**Plovdiv**	**1.46**	**50**	*e*Pg		**Pg**	**06 45 38.0**	**-0.2**
PLD				*e*Sg		**Sg**	**06 45 58.4**	**+1.3**
PLD	**Plovdiv**	**1.46**	**50**	*i* P		**Pb**	**06 45 37.8**	**+0.1**
PLD	**Plovdiv**	**1.46**	**50**	*e*Pg		**Pg**	**06 45 38.0**	**-0.2**
PLD				*e*Sg		**Sg**	**06 45 58.4**	**+1.3**
PGB	**Panagyurishte**	**1.55**	**28**	*i* P		**Pn**	**06 45 38.3**	**0.0**
PGB	**Panagyurishte**	**1.55**	**28**	*i* P		**Pn**	**06 45 38.3**	**0.0**
RDO	**Rodhopi**	**1.77**	**90**	*e*PG		**Pn**	**06 45 41.5**	**+0.2**
RDO				*e*SN		**Sg**	**06 46 07.2**	**+0.2**
DIM	**Dimitrovgrad**	**1.95**	**63**	*i* P		**Pb**	**06 45 46.5**	**+0.3**
DIM	**Dimitrovgrad**	**1.95**	**63**	*i* P		**Pb**	**06 45 46.5**	**+0.3**
ZAPS	**Zavoj**	**2.13**	**349**	*e*Pn		**Pn**	**06 45 46.9**	**+0.5**
ZAPS				*e*Sn		**Sn**	**06 46 12.9**	**-0.2**
PVL	**Pavlikeni**	**2.58**	**37**	*i* P		**Pn**	**06 45 55.2**	**-1.6**
PVL	**Pavlikeni**	**2.58**	**37**	*i* P		**Pb**	**06 45 55.2**	**-1.6**
JMB	**Yambol**	**2.84**	**62**	*i* P		**Pn**	**06 45 56.8**	**+0.8**
JMB	**Yambol**	**2.84**	**62**	*i* P		**Pn**	**06 45 56.8**	**+0.8**
GRUS	**Gruza**	**3.27**	**327**	*e*Sg		**Sg**	**06 46 56.1**	**+0.9**
GRUS	**Gruza**	**3.27**	**327**	*e*Sg		**Sg**	**06 46 56.1**	**+0.9**
DIVS	**Divibare**	**3.75**	**322**	*e*Pn		**Pn**	**06 46 09.0**	**+0.3**
DIVS				*e*Sg		**Sg**	**06 47 12.3**	**+1.5**
DIVS	**Divibare**	**3.75**	**322**	*e*Pn		**Pn**	**06 46 09.0**	**+0.3**
DIVS				*e*Sg		**Sg**	**06 47 12.3**	**+1.5**

*DJA **30** 07:18:14, 1°74N×126°44E, h20km, MLv4.3/6*
IDC 30 07:18:06.8±1.2, 1°87N×126°52E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/26, Error ellipse: s-maj=76.7km s-min=22.0km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.99**	**161**	P		P	07 23 13.0	-0.4
	2.8nm,0.4s,baz=339,slow=11,SNR=14							
ASAR	**Alice Springs**	**26.38**	**165**	P		P	07 23 45.5	+0.4
	0.9nm,0.3s,baz=346,slow=12,SNR=13							
MKAR	**Makanchi Array**	**58.97**	**326**	P		P	07 28 08.2	0.0
	0.6nm,0.4s,baz=121,slow=7.4,SNR=25							
MKAR				LR		LR	07 52 21.4	
	comp=Z,67nm,19.6s,baz=129,slow=35							
ILAR	**Eielson Array**	**86.86**	**25**	P		P	07 30 53.0	-0.2
	0.2nm,0.6s,baz=256,slow=4.9,SNR=5.4							

*ISCJB **30** 07:28:48.6±0.8, 51°44N±0°04×16°03E±0°04, h0km, Error ellipse: s-maj=5.8km s-min=3.2km az=16.2*
*CSEM **30** 07:28:49.1±0.5, 51°51N×16°03E, h2km, ML3.2/7, Error ellipse: s-maj=7.7km s-min=4.4km az=3.0*
*PRU **30** 07:28:50.0, 51°50N×16°04E, h0km*
*VIE **30** 07:28:52.0±0.5, 51°30N×16°08E, h0km, mb2.1/3, ML2.6/4, Error ellipse: s-maj=2.9km s-min=2.6km az=177.0 69 km WNW of Wroclaw Suspected Mining induced.*
*WAR **30** 07:28:52.1, 51°44N×16°20E*
ISC 30 07:28:51.2±1.3, 51°45N±0°07×16°08E±0°03, h0km, n31, σ1§28/46, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**167**	*e*Pg		**Pg**	**07 29 03.3**	**+0.3**
KSP				*e*Sg		**Sb**	**07 29 13.1**	**-0.9**
KSP	**Ksiaz**	**0.62**	**167**	*i* Pg		**Pg**	**07 29 03.3**	**+0.3**
KSP				*e*Sg		**Sb**	**07 29 13.1**	**-0.9**
KSP	**Ksiaz**	**0.62**	**167**	⇓*i*Pg		**Pg**	**07 29 03.3**	**+0.3**
KSP				*e*Sg		**Sb**	**07 29 13.1**	**-0.9**
UPC	**Upice**	**0.94**	**183**	*e*PG		**Pg**	**07 29 09.3**	**+0.1**
UPC	**Upice**	**0.94**	**183**	Pg		**Pg**	**07 29 09.3**	**+0.1**
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG		**Pg**	**07 29 12.2**	**-0.2**
DPC				*e*SG		**Sg**	**07 29 27.7**	**+1.0**
	comp=Z,23nm,0.2s							
DPC	**Dobruska-Polom**	**1.11**	**172**	Pg		**Pg**	**07 29 12.2**	**-0.2**
DPC				Sg		**Sg**	**07 29 27.7**	**+1.0**
	23nm,0.2s							
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG		**Pn**	**07 29 15.9**	**-1.0**
PVCC				*e*SG		**Sn**	**07 29 32.4**	**-2.9**
	comp=Z,81nm,0.3s							
PVCC	**Panska Ves**	**1.32**	**227**	Pg		**Pn**	**07 29 15.9**	**-1.0**
PVCC				Sg		**Sn**	**07 29 32.4**	**-2.9**
	81nm,0.3s							
KRLC	**Kraliky**	**1.44**	**162**	*e*PG		**Pn**	**07 29 17.9**	**-0.7**
KRLC	**Kraliky**	**1.44**	**162**	Pg		**Pn**	**07 29 17.9**	**-0.7**
BRG	**Berggiesshubel**	**1.46**	**248**	PN		**Pn**	**07 29 16.7**	**-2.1**
BRG				PG		**Pb**	**07 29 17.7**	**-1.5**
BRG				SG		**Sn**	**07 29 37.7**	**-1.0**
	51nm,0.4s							
PRU	**Pruhonice**	**1.75**	**214**	*e*PG		**Pn**	**07 29 23.0**	**+0.1**
PRU				*e*SG		**Sn**	**07 29 47.2**	**+1.3**
	comp=Z,15nm,0.3s							
PRU	**Pruhonice**	**1.75**	**214**	Pg		**Pn**	**07 29 23.0**	**+0.1**
PRU				Sg		**Sn**	**07 29 47.2**	**+1.3**
	15nm,0.3s							
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn		**Pn**	**07 29 23.6**	**-1.5**
MORC				*e*Sg		**Sg**	**07 29 52.4**	**-0.2**
CLL	**Collm**	**1.93**	**267**	*i* Pn		Pn	07 29 22.1	-3.2
CLL				*e*Pg		Pb	07 29 25.0	-2.3
CLL				*i*			07 29 29.3	
CLL				*i* Sg		**Sn**	**07 29 51.0**	**+0.7**
	comp=Z,11nm,0.8s							
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*SG

σ1$38/20, **mb3.6**/10, **2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.91**	**213**	⇑*iP*	**Pn**	**07 30 17.4**	**-0.9**
PIP				*eS*	**Sn**	**07 30 30.2**	**0.0**
SGCP	**Mt. Cagua**	**1.20**	**135**	*eP*	**Pn**	**07 30 23.0**	**+0.8**
ABRA	**Dolores**	**1.49**	**196**	*eP*	**Pn**	**07 30 27.3**	**+1.0**
ABRA				*eS*	**Sn**	**07 30 44.5**	**-0.1**
CVP	**Callao Caves**	**1.52**	**155**	*eP*	**Pn**	**07 30 27.7**	**+1.0**
CVP				*eS*	**Sn**	**07 30 47.7**	**+2.4**
BCPH	**Baguio City Da**	**2.75**	**191**	⇑*iP*	**Pn**	**07 30 44.7**	**+1.0**
BCPH				*i* S	Sn	07 31 24.9	+9.1
BOLP	**Bolinao**	**2.94**	**204**	*eP*	Pn	07 30 49.9	+3.7
TGY	**Tagaytay City**	**4.97**	**182**	Pn	**Pn**	**07 31 15.7**	**+1.6**
	38nm,0.3s,baz=350,slow=6.1,SNR=1.9						
DAV	**Davao City (W)**	**12.70**	**160**	LR	LR	07 38 20.7	
	comp=Z,132nm,19.0s,baz=100,slow=40						
CMAR	**Chiang Mai Arr**	**21.03**	**272**	P	**P**	**07 34 44.2**	**+1.6**
	0.4nm,0.4s,baz=68,slow=9.8,SNR=3.3						
GUMO	**Guam**	**23.40**	**100**	LR	LR	07 41 48.7	
	comp=Z,64nm,20.7s,baz=108,slow=31						
SONM	**Songino Array**	**31.09**	**341**	P	**P**	**07 36 18.4**	**+1.8**
	0.2nm,0.4s,baz=157,slow=7.8,SNR=2.6						
WRA	**Warramunga Arr**	**40.89**	**161**	P	**P**	**07 37 39.3**	**-1.3**
	0.7nm,0.4s,baz=342,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**42.08**	**320**	P	**P**	**07 37 51.6**	**+1.5**
	0.5nm,0.8s,baz=112,slow=9.2,SNR=8.2						
ASAR	**Alice Springs**	**44.28**	**163**	P	**P**	**07 38 07.0**	**-1.1**
	0.8nm,0.3s,baz=342,slow=6.9,SNR=18						
KURK	**Kurchatov**	**46.05**	**323**	P	**P**	**07 38 22.9**	**+1.1**
	0.3nm,0.5s,baz=117,slow=8.2,SNR=4.4						
STKA	**Stephens Creek**	**54.34**	**159**	P	**P**	**07 39 23.3**	**-1.4**
	1.7nm,1.0s,baz=323,slow=9.1,SNR=3.3						
ILAR	**Eielson Array**	**73.75**	**26**	P	**P**	**07 41 30.4**	**-1.4**
	0.3nm,0.6s,baz=272,slow=4.5,SNR=8.2						
ARCES	**ARCESS Array B**	**74.24**	**339**	P	**P**	**07 41 34.2**	**-0.3**
	2.8nm,0.8s,baz=69,slow=8.4,SNR=4.2						
NOA	**NORSAR Array B**	**82.70**	**333**	LR	LR	08 22 21.6	
	comp=Z,54nm,19.3s,baz=30,slow=38						
YKA	**Yellowknife Ar**	**87.66**	**23**	P	**P**	**07 42 45.6**	**-0.5**
	1.1nm,0.7s,baz=310,slow=4.5,SNR=24						
TXAR	**Lajitas Array**	**115.30**	**43**	PKP	**PKPdf**	**07 48 38.4**	**-1.7**
	0.3nm,0.7s,baz=112,slow=1.3,SNR=3.6						

IDC 30 07:30:45.4±2.4, 6°37S×129°38E, h0^{km}, mb3.2/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=108.7km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.37**	**199**	Pn	Pn	07 33 43.5	+0.6
	0.2nm,0.3s,baz=49,slow=20,SNR=5.0						
FITZ				Sn	Sn	07 35 49.3	-12
	0.2nm,0.3s,baz=5.2,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**14.17**	**163**	Pn	Pn	07 34 07.3	-0.3
	0.4nm,0.3s,baz=338,slow=14,SNR=6.7						
WRA				Sn	Sn	07 36 30.9	-15
	0.3nm,0.3s,baz=343,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**17.63**	**168**	P	Pn	07 34 52.3	-0.3
	0.1nm,0.3s,baz=345,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	07 41 44.3	0.0
	0.1nm,0.4s,baz=116,slow=5.8,SNR=4.3						

*IDC **30** 07:31:38.4±2.0, 32°08N×47°64E, h0^{km}, mb3.8/8, mb1 3.9/13, mb1mx3.7/32, mbtmp3.8/13, ML3.8/5, MS3.4/13, Ms1 3.4/13, ms1mx3.2/42, Error ellipse: s-maj=40.4km s-min=15.5km az=160.0*

*TEH **30** 07:31:41.5, 32°17N×47°27E, h4^{km}, ML4.2*

*NEIC **30** 07:31:42.3±0.5, 32°23N×47°37E, h10^{km}, mb4.0/5, ML4.3(THR), MN4.2(TEH), Error ellipse: s-maj=7.3km s-min=4.4km az=191.0*

*THR **30** 07:31:42.3±1.0, 32°39N×47°29E, h15^{km}±8^{km}, ML4.3*

*CSEM **30** 07:31:42.2±0.1, 32°19N×47°32E, h15^{km}, mb4.0/5, Ms4.3, Error ellipse: s-maj=4.4km s-min=3.0km az=26.0*

*MOS **30** 07:31:43.7±1.7, 32°33N×47°32E, h33^{km}, mb4.2/6, Error ellipse: s-maj=12.8km s-min=9.0km az=100.5*

ISC 30 07:31:42.0±1.2, 32°18N±0°03×47°32E±0°03, h15^{km}±8^{km}, n209, σ1$31/211, mb3.9/13, MS3.4/10, 7C-1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.26**	**93**	Pg	**Pb**	**07 32 06.0**	**+0.6**
SHGR				Sg	**Sn**	**07 32 24.0**	**+2.3**
SHGR	**Shooshtar-Gavs**	**1.26**	**93**	*e*Pg	**Pb**	**07 32 06.2**	**+0.8**
SHGR				*e*Sg	**Sn**	**07 32 24.6**	**+2.9**
SHGR				AML	AML	07 32 28.8	
	comp=E,9μm,0.6s						
SHGR				AML	AML	07 32 29.1	
	comp=N,8μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.26**	**93**	*e*Pg	**Pb**	**07 32 06.2**	**+0.8**
SHGR				Sg	**Sn**	**07 32 24.0**	**+2.3**
IKOM	**Komasi**	**2.00**	**4**	Pn	**Pn**	**07 32 15.9**	**+0.5**
IKOM				Sg	**Sb**	**07 32 44.3**	**+1.3**
IKOM	**Komasi**	**2.00**	**4**	*e*Pn	**Pn**	**07 32 15.9**	**+0.5**
IKOM				*e*Sg	**Sb**	**07 32 44.3**	**+1.3**
IKOM				*e*		07 32 45.1	
	comp=Z,39μm,0.4s						
IKOM	**Komasi**	**2.00**	**4**	*e*Pn	**Pn**	**07 32 15.9**	**+0.5**
IKOM				*e*Sg	**Sb**	**07 32 44.3**	**+1.3**
IGHG	**Ghaleghazi**	**2.24**	**344**	Pn	**Pn**	**07 32 19.4**	**+0.7**
IGHG				Sg	**Sb**	**07 32 50.9**	**+1.0**
IGHG	**Ghaleghazi**	**2.24**	**344**	*e*Pn	**Pn**	**07 32 19.5**	**+0.7**
IGHG				*e*Sg	**Sb**	**07 32 51.0**	**+1.0**
IGHG				*e*		07 33 06.1	
	comp=Z,34μm,0.4s						
IGHG	**Ghaleghazi**	**2.24**	**344**	Pn	**Pn**	**07 32 19.4**	**+0.7**
IGHG				*e*Sg	**Sb**	**07 32 51.0**	**+1.0**
MIB	**Mutribah**	**2.37**	**180**	*e*P	**Pg**	**07 32 25.1**	**-2.3**
MIB				AML	AML	07 33 07.0	
	comp=Z,630nm,0.5s						
MIB	**Mutribah**	**2.37**	**180**	*e*P	**Pg**	**07 32 25.1**	**-2.3**
IVIS	**Veis**	**2.38**	**351**	Pn	**Pn**	**07 32 21.2**	**+0.6**
IVIS				Sg	**Sb**	**07 32 54.8**	**+1.0**
IVIS	**Veis**	**2.38**	**351**	*e*Pn	**Pn**	**07 32 21.2**	**+0.6**
IVIS				*e*Sg	**Sb**	**07 32 54.9**	**+1.1**
IVIS	**Veis**	**2.38**	**351**	*e*Pn	**Pn**	**07 32 21.2**	**+0.6**
IVIS				*e*Sg	**Sb**	**07 32 54.9**	**+1.1**
IDHR	**Dehrash**	**2.64**	**343**	Pn	**Pn**	**07 32 24.7**	**+0.5**
IDHR	**Dehrash**	**2.64**	**343**	*e*Pn	**Pn**	**07 32 24.7**	**+0.5**
IDHR				*e*		07 33 06.2	
	comp=Z,17μm,0.2s						
IDHR	**Dehrash**	**2.64**	**343**	*e*Pn	**Pn**	**07 32 24.7**	**+0.5**
UMR	**Umm Al-Rimmam**	**2.64**	**173**	*e*P	**Pb**	**07 32 28.4**	**-0.6**
UMR	**Umm Al-Rimmam**	**2.64**	**173**	*e*P	**Pb**	**07 32 28.4**	**-0.6**
BHD	**Baghdad**	**2.71**	**295**	*e*Pn	**Pn**	**07 32 24.0**	**-1.0**
BHD				*i* Pg	**Pg**	**07 32 35.0**	**+1.1**
BHD				*i* Sn	**Sn**	**07 32 59.0**	**+1.5**
BHD				*i* Sg	**Sg**	**07 33 12.0**	**+2.9**
BHD	**Baghdad**	**2.71**	**295**	*e*Pn	**Pn**	**07 32 24.0**	**-1.0**
KHMZ	**Khomeyn**	**2.71**	**54**	*e*Pn	**Pn**	**07 32 26.6**	**+1.3**
KHMZ	**Khomeyn**	**2.71**	**54**	*e*Pn	**Pn**	**07 32 26.6**	**+1.3**
ILIN	**Lien**	**2.75**	**354**	Pn	**Pn**	**07 32 26.5**	**+0.7**
ILIN	**Lien**	**2.75**	**354**	*e*Pn	**Pn**	**07 32 26.6**	**+0.7**
ILIN	**Lien**	**2.75**	**354**	Pn	**Pn**	**07 32 26.5**	**+0.7**
SNGE	**Sanandaj**	**2.91**	**0**	Pn	**Pn**	**07 32 27.0**	**-1.0**
SNGE	**Sanandaj**	**2.91**	**0**	*e*Pn	**Pn**	**07 32 27.5**	**-0.5**
SNGE	**Sanandaj**	**2.91**	**0**	*e*Pn	**Pn**	**07 32 27.5**	**-0.5**
NAY	**Al-Naaiem**	**2.92**	**181**	*e*P	Pn	07 32 32.4	+4.5
NAY				AML	AML	07 33 14.6	
	comp=Z,114nm,0.6s						
NAY	**Al-Naaiem**	**2.92**	**181**	*e*P	Pn	07 32 32.4	+4.5
KBD	**Kabd**	**3.01**	**174**	*e*P	Pn	07 32 33.5	+4.4
KBD				AML	AML	07 33 16.0	
	comp=Z,196nm,0.5s						
KBD	**Kabd**	**3.01**	**174**	*e*P	Pn	07 32 33.5	+4.4
IPIR	**Pirpir**	**3.06**	**80**	Pn	**Pn**	**07 32 31.2**	**+1.1**
IPIR	**Pirpir**	**3.06**	**80**	*e*Pn	**Pn**	**07 32 31.2**	**+1.1**
IPIR				*e*Sg	**Sb**	**07 33 18.5**	**+4.8**
IPIR				*e*		07 33 29.7	
	comp=Z,7μm,0.4s						
IPIR	**Pirpir**	**3.06**	**80**	Pn	**Pn**	**07 32 31.2**	**+1.1**
IPIR				*e*Sg	**Sb**	**07 33 18.5**	**+4.8**
RDF	**Al-Radifah**	**3.25**	**176**	*e*P	Pn	07 32 37.5	+5.1
RDF				AML	AML	07 33 21.9	
	comp=Z,404nm,0.8s						
RDF	**Al-Radifah**	**3.25**	**176**	*e*P	Pn	07 32 37.5	+5.1
ASAO	**Ashtian**	**3.27**	**43**	Pn	**Pn**	**07 32 33.0**	**0.0**
ASAO				Sg	**Sb**	**07 33 20.0**	**+0.3**
ASAO	**Ashtian**	**3.27**	**43**	*e*Pn	**Pn**	**07 32 33.7**	**+0.7**
ASAO				*e*Sg	**Sb**	**07 33 20.5**	**+0.8**
ASAO				AML	AML	07 33 33.9	
	comp=N,466nm,0.7s						
ASAO	**Ashtian**	**3.27**	**43**	*e*Pn	**Pn**	**07 32 33.7**	**+0.7**
QRN	**Al-Qurain**	**3.46**	**171**	*e*P	Pn	07 32 39.9	+4.5
QRN				AML	AML	07 33 25.5	
	comp=Z,272nm,0.4s						
IKLH	**Kolahrood**	**3.76**	**71**	Pn	**Pn**	**07 32 40.6**	**+0.8**
IKLH	**Kolahrood**	**3.76**	**71**	*e*Pn	**Pn**	**07 32 40.6**	**+0.8**
IKLH				*e*		07 34 03.5	
	comp=Z,6μm,0.5s						
IKLH	**Kolahrood**	**3.76**	**71**	*e*Pn	**Pn**	**07 32 40.6**	**+0.8**
IRAZ	**Razeghan**	**3.88**	**33**	Pn	**Pn**	**07 32 42.0**	**+0.6**
IRAZ	**Razeghan**	**3.88**	**33**	*e*Pn	**Pn**	**07 32 42.0**	**+0.6**
IRAZ				*e*		07 33 50.2	
	comp=Z,5μm,0.4s						
IRAZ	**Razeghan**	**3.88**	**33**	*e*Pn	**Pn**	**07 32 42.0**	**+0.6**
IGAR	**Gharneh**	**4.00**	**85**	*e*Pn	**Pn**	**07 32 43.9**	**+0.9**
IGAR				*e*		07 33 32.6	
	comp=Z,5μm,0.2s						
GHVR	**GHOM**	**4.04**	**54**	Pn	**Pn**	**07 32 43.0**	**-0.4**
GHVR	**GHOM**	**4.04**	**54**	*e*Pn	**Pn**	**07 32 44.0**	**+0.6**
GHVR				AML	AML	07 33 58.7	
	comp=N,283nm,1.0s						
GHVR	**GHOM**	**4.04**	**54**	*e*Pn	**Pn**	**07 32 44.0**	**+0.6**
IZEF	**Zefreh**	**4.29**	**79**	Pn	**Pn**	**07 32 47.7**	**+0.7**
IZEF	**Zefreh**	**4.29**	**79**	*e*Pn	**Pn**	**07 32 47.7**	**+0.7**
IZEF				*e*		07 34 02.5	
	comp=Z,2μm,0.4s						
IZEF	**Zefreh**	**4.29**	**79**	*e*Pn	**Pn**	**07 32 47.7**	**+0.7**
IMHD	**Mahdasht**	**4.47**	**38**	Pn	**Pn**	**07 32 50.1**	**+0.8**
IMHD	**Mahdasht**	**4.47**	**38**	*e*Pn	**Pn**	**07 32 50.1**	**+0.8**
IMHD				*e*		07 34 05.1	
	comp=Z,2μm,0.3s						
IMHD	**Mahdasht**	**4.47**	**38**	*e*Pn	**Pn**	**07 32 50.1**	**+0.8**
IR3	**Iran Long-Peri**	**4.51**	**42**	*e*Pn	**Pn**	**07 32 50.4**	**+0.6**
IR3				*e*Sg	**Sg**	**07 34 03.2**	**-3.5**
IR3	**Iran Long-Peri**	**4.51**	**42**	*e*Pn	**Pn**	**07 32 50.4**	**+0.6**
IR3				*e*Sg	**Sg**	**07 34 03.2**	**-3.5**
ZNJK	**Zanjan**	**4.62**	**14**	*e*Pn	**Pn**	**07 32 51.8**	**+0.2**
ZNJK	**Zanjan**	**4.62**	**14**	*e*Pn	**Pn**	**07 32 51.8**	**+0.2**
IVRN	**Varamin**	**4.63**	**51**	Pn	**Pn**	**07 32 52.0**	**+0.5**
IVRN	**Varamin**	**4.63**	**51**	*e*Pn	**Pn**	**07 32 52.0**	**+0.5**
IVRN				*e*		07 34 22.6	
	comp=Z,3μm,0.4s						
IVRN	**Varamin**	**4.63**	**51**	*e*Pn	**Pn**	**07 32 52.0**	**+0.5**
DAMV	**Damavand**	**5.18**	**47**	*e*Pn	**Pn**	**07 32 59.2**	**0.0**
DAMV				Sn	**Sn**	**07 33 56.7**	**-2.1**
DAMV	**Damavand**	**5.18**	**47**	*e*Pn	**Pn**	**07 32 59.2**	**0.0**
IDMV	**Damavand**	**5.18**	**48**	Pn	**Pn**	**07 32 59.3**	**0.0**
IDMV	**Damavand**	**5.18**	**48**	*e*Pn	**Pn**	**07 32 59.3**	**0.0**
IDMV				*e*		07 34 35.8	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**5.18**	**48**	*e*Pn	**Pn**	**07 32 59.3**	**0.0**
IPAR	**Pars**	**5.44**	**114**	Pn	**Pn**	**07 33 03.3**	**+0.5**
IPAR	**Pars**	**5.44**	**114**	*e*Pn	**Pn**	**07 33 03.4**	**+0.6**
IPAR				*e*		07 34 14.2	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**5.44**	**114**	*e*Pn	**Pn**	**07 33 03.4**	**+0.6**
IBST	**Bostanabad**	**5.52**	**356**	Pn	**Pn**	**07 33 03.9**	**+0.1**
IBST	**Bostanabad**	**5.52**	**356**	*e*Pn	**Pn**	**07 33 04.0**	**+0.1**
IBST				*e*		07 34 08.7	
	comp=Z,528nm,0.4s						
IBST	**Bostanabad**	**5.52**	**356**	*e*Pn	**Pn**	**07 33 04.0**	**+0.1**
ISRB	**Sarab**	**5.64**	**3**	Pn	**Pn**	**07 33 05.6**	**+0.1**
ISRB	**Sarab**	**5.64**	**3**	*e*Pn	**Pn**	**07 33 05.7**	**+0.2**
ISRB				*e*		07 33 51.9	
	comp=Z,579nm,0.5s						
ISRB	**Sarab**	**5.64**	**3**	*e*Pn	**Pn**	**07 33 05.7**	**+0.2**
ILAS	**Lasjerd**	**5.68**	**54**	Pn	**Pn**	**07 33 06.3**	**+0.2**
ILAS	**Lasjerd**	**5.68**	**54**	*e*Pn	**Pn**	**07 33 06.3**	**+0.2**
ILAS				*e*		07 34 55.5	
	comp=Z,2μm,0.4s						
ILAS	**Lasjerd**	**5.68**	**54**	*e*Pn	**Pn**	**07 33 06.3**	**+0.2**
IFIR	**Firoozkooh**	**5.69**	**51**	Pn	**Pn**	**07 33 06.9**	**+0.7**
IFIR	**Firoozkooh**	**5.69**	**51**	*e*Pn	**Pn**	**07 33 07.0**	**+0.7**
IFIR				*e*		07 34 45.7	
	comp=Z,274nm,0.2s						
IFIR	**Firoozkooh**	**5.69**	**51**	Pn	**Pn**	**07 33 06.9**	**+0.7**
ISRV	**Sarvestan**	**5.71**	**118**	Pn	**Pn**	**07 33 07.0**	**+0.4**
ISRV	**Sarvestan**	**5.71**	**118**	*e*Pn	**Pn**	**07 33 07.0**	**+0.4**
ISRV				*e*		07 35 33.9	
	comp=Z,3μm,0.6s						
ISRV	**Sarvestan**	**5.71**	**118**	*e*Pn	**Pn**	**07 33 07.0**	**+0.4**
IPRN	**Peran**	**5.81**	**44**	Pn	**Pn**	**07 33 08.1**	**+0.4**
IPRN	**Peran**	**5.81**	**44**	*e*Pn	**Pn**	**07 33 08.2**	**+0.5**
IPRN				*e*		07 34 50.1	
	comp=Z,1μm,0.3s						
IALA	**Alasht**	**5.99**	**48**	Pn	**Pn**	**07 33 10.2**	**-0.1**
IALA	**Alasht**	**5.99**	**48**	*e*Pn	**Pn**	**07 33 10.3**	**-0.1**
IALA				*e*		07 34 53.8	
	comp=Z,1μm,0.3s						
IALA	**Alasht**	**5.99**	**48**	*e*Pn	**Pn**	**07 33 10.3**	**-0.1**
ICHK	**Chekchek**	**6.00**	**87**	Pn	**Pn**	**07 33 10.7**	**+0.1**
ICHK	**Chekchek**	**6.00**	**87**	*e*Pn	**Pn**	**07 33 10.7**	**+0.1**
ICHK				*e*		07 34 21.7	
	comp=Z,713nm,0.3s						
ICHK	**Chekchek**	**6.00**	**87**	*e*Pn	**Pn**	**07 33 10.7**	**+0.1**
IHRS	**Heris**	**6.13**	**358**	Pn	**Pn**	**07 33 12.4**	**+0.2**
IHRS	**Heris**	**6.13**	**358**	*e*Pn	**Pn**	**07 33 12.5**	**+0.2**
IHRS				*e*		07 33 36.7	
	comp=Z,244nm,0.0s						
IHRS	**Heris**	**6.13**	**358**	*e*Pn	**Pn**	**07 33 12.5**	**+0.2**
ISHM	**Shahmirzad**	**6.14**	**52**	Pn	**Pn**	**07 33 12.8**	**+0.4**
ISHM	**Shahmirzad**	**6.14**	**52**	*e*Pn	**Pn**	**07 33 12.9**	**+0.5**
ISHM				*e*		07 35 14.4	
	comp=Z,1μm,0.4s						
ISHM	**Shahmirzad**	**6.14**	**52**	*e*Pn	**Pn**	**07 33 12.9**	**+0.5**
IANJ	**Anjilo**	**6.39**	**57**	Pn	**Pn**	**07 33 15.9**	**0.0**
IANJ	**Anjilo**	**6.39**	**57**	*e*Pn	**Pn**	**07 33 15.9**	**0.0**
IANJ				*e*		07 35 28.4	
	comp=Z,2μm,0.8s						
IANJ	**Anjilo**	**6.39**	**57**	*e*Pn	**Pn**	**07 33 15.9**	**0.0**
IGLO	**Ghaloghah**	**6.90**	**49**	Pn	**Pn**	**07 33 22.6**	**-0.2**
IGLO	**Ghaloghah**	**6.90**	**49**	*e*Pn	**Pn**	**07 33 22.7**	**-0.1**
IBAF	**Bafgh**	**7.04**	**93**	Pn	**Pn**	**07 33 24.5**	**-0.2**
IBAF	**Bafgh**	**7.04**	**93**	*e*Pn	**Pn**	**07 33 24.5**	**-0.2**
IBAF	**Bafgh**	**7.04**	**93**	*e*Pn	**Pn**	**07 33 24.5**	**-0.2**
ASF	**Jabal al Asfar**	**8.84**	**273**	Pn	**Pn**	**07 33 49.4**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=314,slow=5.3,SNR=25						
ASF				Sn	**Sn**	**07 35 27.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=89,slow=18,SNR=2.2						
ASF				Lg	Lg	07 36 29.8	
	comp=Z,1.1nm,0.3s,baz=326,slow=22,SNR=4.0						
ASF				LR	LR	07 37 01.6	
	comp=Z,77nm,20.2s,baz=93,slow=36						
ASF	**Jabal al Asfar**	**8.84**	**273**	P	**Pn**	**07 33 49.4**	**+0.1**
ASF						07 35 27.9	
ASF				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,77nm,20.3s						
ASF	**Jabal al Asfar**	**8.84**	**273**	Pn	**Pn**	**07 33 49.4**	**+0.1**
ASF				Sn	**Sn**	**07 35 27.9**	**-0.8**
ASF				Lg	Lg	07 36 29.8	
BANOM	**Banah**	**10.02**	**126**	⇑P	**Pn**	**07 34 05.7**	**+0.1**
	SNR=17						
BANOM	**Banah**	**10.02**	**126**	P	**Pn**	**07 34 05.3**	**-0.2**
	SNR=17						
MMAI	**Mount Meron Ar**	**10.09**	**278**	Pn	Pn	07 34 09.9	+3.5
	comp=Z,1.3nm,0.3s,baz=94,slow=12,SNR=2.6						
MMAI	**Mount Meron Ar**	**10.09**	**278**	Pn	Pn	07 34 09.9	+3.5
NAZ	**Nazwa, Dubai**	**10.24**	**132**	P	**Pn**	**07 34 09.5**	**+1.0**
	SNR=10						
NAZ	**Nazwa, Dubai**	**10.24**	**132**	P	**Pn**	**07 34 09.5**	**+1.0**
ASUD	**Al Ashush, Dub**	**10.30**	**135**	P	**Pn**	**07 34 10.0**	**+0.7**
FAQ	**Al Faqa, Dubai**	**10.38**	**133**	P	**Pn**	**07 34 11.0**	**+0.7**
HATD	**Hatta, Dubai**	**10.66**	**131**	P	**Pn**	**07 34 14.7**	**+0.5**
	SNR=11						
HATD	**Hatta, Dubai**	**10.66**	**131**	P	**Pn**	**07 34 14.7**	**+0.5**
ASHO	**Ashiyiah**	**10.71**	**132**	P	**Pn**	**07 34 15.2**	**+0.3**
	SNR=20						
ASHO	**Ashiyiah**	**10.71**	**132**	P	**Pn**	**07 34 15.0**	**0.0**
	SNR=20						
EIL	**Elat**	**10.91**	**260**	Pn	Pn	07 34 20.8	+3.1
	comp=Z,0.4nm,0.3s,baz=45,slow=5.7,SNR=2.3						
EIL				Lg	Lg	07 37 35.2	
	comp=Z,0.5nm,0.3s,baz=355,slow=11,SNR=4.4						
EIL				LR	LR	07 39 24.0	
	comp=Z,155nm,19.4s,baz=84,slow=42						
EIL	**Elat**	**10.91**	**260**	Pn	Pn	07 34 20.8	+3.1
EIL				Lg	Lg	07 37 35.2	
ARQ	**Araqi**	**11.99**	**135**	P	**Pn**	**07 34 33.4**	**+1.0**
	SNR=11						
ARQ	**Araqi**	**11.99**	**135**	P	**Pn**	**07 34 33.4**	**+1.0**
	SNR=11						
KIV	**Kislovodsk**	**12.31**	**344**	P	**Pn**	**07 34 36.6**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SMDO	**Samad**	**13.14**	**131**	P	**Pn**	**07 34 47.7**	**-0.5**
	SNR=9.3						
SMDO	**Samad**	**13.14**	**131**	P	**Pn**	**07 34 47.7**	**-0.5**
	SNR=9.3						
BRTR	**Keskin Array B**	**13.39**	**308**	Pn	**Pn**	**07 34 53.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=4.9						
BRTR	**Keskin Array B**	**13.39**	**308**	*e*P	**Pn**	**07 34 53.8**	**+2.2**
BRTR	**Keskin Array B**	**13.39**	**308**	Pn	**Pn**	**07 34 53.9**	**+2.2**
BRTR	**Keskin Array B**	**13.39**	**308**	Pn	**Pn**	**07 34 53.8**	**+2.2**
RBK	**Rabkut**	**15.88**	**155**	P	**Pn**	**07 35 25.1**	**0.0**
	SNR=5.6						
KBL	**Kabul**	**18.30**	**77**	*e*P	**Pn**	**07 35 55.5**	**0.0**
KBL				pmax	pmax		
	comp=Z,52nm,1.7s						
KBL	**Kabul**	**18.30**	**77**	*e*P	**Pn**	**07 35 55.5**	**0.0**
	comp=Z,52nm,1.7s						
KBL	**Kabul**	**18.30**	**77**	*e*P	**Pn**	**07 35 55.5**	**0.0**
	comp=Z,52nm,1.7s						
VRHR	**Novokhopersk**	**19.37**	**349**	*e*P	**P**	**07 36 07.8**	**+0.8**
VRHR				pmax	pmax		
	comp=E,3.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,1.0nm,0.2s						
ABKAR	**Akbulak array**	**19.51**	**25**	*e*P	**P**	**07 36 08.0**	**-0.6**
	comp=N,3.7nm,0.7s						
ABKAR	**Akbulak array**	**19.51**	**25**	*e*P	**P**	**07 36 08.0**	**-0.6**
	comp=N,3.7nm,0.7s						
AKTO	**Aktyubinsk**	**19.89**	**20**	P	**P**	**07 36 11.1**	**-1.7**
	comp=N,0.3nm,0.3s,baz=208,slow=13,SNR=8.1						
AKTO				LR	LR	07 46 55.7	
	comp=N,69nm,18.0s,baz=354,slow=46						
AKTO	**Aktyubinsk**	**19.89**	**20**	P	**P**	**07 36 11.1**	**-1.7**
AKTO				MLR	MLR		
	comp=Z,69nm,18.0s						
AKTO	**Aktyubinsk**	**19.89**	**20**	P	**P**	**07 36 11.1**	**-1.7**
AKTO	**Aktyubinsk**	**19.89**	**20**	P	**P**	**07 36 11.1**	**-1.7**
VSR	**Storozhevoye**	**19.95**	**345**	*e*P	**P**	**07 36 11.3**	**-2.1**
VSR				*e*S	**S**	**07 39 51.5**	**-5.8**
VSR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VSR				smax	smax		
	comp=N,30nm,0.9s						
VSR				smax	smax		
	comp=E,20nm,0.9s						
VSR				smax	smax		
	comp=Z,5.0nm,0.4s						
ATD	**Arta Tunnel**	**20.96**	**192**	LR	LR	07 45 16.4	
	comp=Z,78nm,19.4s,baz=55,slow=39						
VRI	**Vrincioaia**	**20.96**	**317**	⇑P	Pn	07 36 29.2	+2.1
VRI	**Vrincioaia**	**20.96**	**317**	⇑*iP*	Pn	07 36 29.2	+2.1
MLR	**Muntele Rosu**	**21.23**	**315**	P	**P**	**07 36 29.7**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=111,slow=15,SNR=

comp=Z,54nm,21.0s,baz=105,slow=36
TORD Torodi Ar. Bea 45.78 256 P **P** **07 40 03.1 -0.1**
TORD Torodi Ar. Bea 45.78 256 P **P** **07 40 03.2 -0.1**
DBIC Dimbokro 54.71 254 LR LR 08 06 53.9
comp=Z,49nm,18.9s,baz=220,slow=38
BOSA Boshof 63.99 202 LR LR 08 11 27.9
comp=Z,74nm,18.6s,baz=360,slow=37
KSRS Korea Array 64.46 60 LR LR 08 13 41.0
comp=Z,38nm,20.1s,baz=190,slow=39

*ISCJB **30** 07:46:41.9±0.9, 39°39N±0°03×25°60E±0°05, h7km±5km, Error ellipse: s-maj=6.5km s-min=4.3km az=162.6*
*CSEM **30** 07:46:42.2±0.3, 39°38N×25°59E, h10km, MD3.0, Error ellipse: s-maj=5.7km s-min=3.5km az=67.0*
*DDA **30** 07:46:42.2, 39°38N×25°75E, h4km, MD2.8*
*ATH **30** 07:46:42.7, 39°38N×25°60E, h5km±3km, MD3.0/4*
*ISK **30** 07:46:43.4, 39°42N×25°75E, h16km, MD3.2*
ISC 30 07:46:41.9±1.2, 39°39N±0°02×25°61E±0°03, h5km±11km, n42, σ0°67/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.54**	**105**	*e*PB	**Pb**	**07 46 53.4**	**-0.4**
PRK				*e*SB	**Sb**	**07 47 01.2**	**-0.6**
PRK	**Paraskevi**	**0.54**	**105**	*e*Pb	**Pb**	**07 46 53.4**	**-0.4**
PRK				*e*Sb	**Sb**	**07 47 01.2**	**-0.6**
BOZC	**Bozcaada**	**0.57**	**37**	*i* P	**Pb**	**07 47 54.0**	**-0.4**
BOZC				*i* S	**Sb**	**07 47 02.0**	**+0.7**
LIA	**Limnos Island**	**0.60**	**327**	*e*PB	**Pb**	**07 46 54.8**	**-0.1**
LIA				*e*SB	**Sb**	**07 47 03.0**	**-0.8**
LIA	**Limnos Island**	**0.60**	**327**	*e*Pb	**Pb**	**07 46 54.8**	**-0.1**
LIA				*e*Sb	**Sb**	**07 47 03.0**	**-0.8**
EZN	**Ezine**	**0.71**	**52**	*e*PG	**Pg**	**07 46 55.4**	**0.0**
EZN				*e*SG	**Sg**	**07 47 05.0**	**+0.5**
EZN	**Ezine**	**0.71**	**52**	*e*Pg	**Pg**	**07 46 55.4**	**0.0**
EZN				*e*Sg	**Sg**	**07 47 05.1**	**+0.5**
AYVA	**Ayvalik**	**0.84**	**95**	*i* P	**Pb**	**07 46 59.1**	**+0.1**
AYVA				*i* S	**Sb**	**07 47 10.6**	**-0.1**
AYVA	**Ayvalik**	**0.84**	**95**	*i* P	**Pb**	**07 46 59.1**	**+0.1**
AYVA				*i* S	**Sb**	**07 47 10.6**	**-0.1**
CHOS	**Chios island**	**1.06**	**161**	*e*PG	**Pg**	**07 47 02.5**	**+0.3**
CHOS				*e*SB	**Sb**	**07 47 17.7**	**+0.7**
CHOS	**Chios island**	**1.06**	**161**	*e*Pg	**Pg**	**07 47 02.5**	**+0.3**
CHOS				*e*Sb	**Sb**	**07 47 17.7**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.21**	**33**	*e*PN	**Pg**	**07 47 05.3**	**+0.3**
GELI				*e*SN	**Sg**	**07 47 20.7**	**0.0**
GELI	**Tayfur-Gelibol**	**1.21**	**33**	*e*Pn	**Pg**	**07 47 05.3**	**+0.3**
GELI				*e*Sn	**Sg**	**07 47 20.7**	**0.0**
URLA	**Izmir**	**1.29**	**143**	*i* P	**Pn**	**07 47 05.5**	**-1.1**
URLA				*i* S	**Sg**	**07 47 21.5**	**-1.7**
URLA	**Izmir**	**1.29**	**143**	*i* P	**Pn**	**07 47 05.5**	**-1.1**
URLA				*i* S	**Sg**	**07 47 21.5**	**-1.7**
LPK	**Lapseki**	**1.32**	**42**	*e*PN	**Pn**	**07 47 06.6**	**-0.4**
LPK				*e*SN	**Sb**	**07 47 23.4**	**-1.1**
LPK	**Lapseki**	**1.32**	**42**	*e*Pn	**Pn**	**07 47 06.6**	**-0.4**
LPK				*e*Sn	**Sb**	**07 47 23.4**	**-1.1**
ENEZ	**Enez**	**1.41**	**17**	*e*PN	**Pg**	**07 47 09.2**	**+0.3**
ENEZ	**Enez**	**1.41**	**17**	*e*Pn	**Pg**	**07 47 09.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.46**	**28**	*e*PN	**Pn**	**07 47 08.3**	**-0.6**
ERIK	**Erikli-Kesan**	**1.46**	**28**	*e*Pn	**Pn**	**07 47 08.3**	**-0.6**
BALY	**Balya**	**1.59**	**77**	*i* P	**Pn**	**07 47 10.8**	**0.0**
BALY				*i* S	**Sb**	**07 47 32.5**	**+0.1**
BALY	**Balya**	**1.59**	**77**	*i* P	**Pn**	**07 47 10.8**	**0.0**
BALY				*i* S	**Sb**	**07 47 32.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.64**	**52**	*e*PN	**Pn**	**07 47 11.0**	**-0.4**
KRBG	**Karabiga-Canak**	**1.64**	**52**	*e*Pn	**Pn**	**07 47 11.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.73**	**67**	*e*PN	**Pn**	**07 47 12.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.73**	**67**	*e*Pn	**Pn**	**07 47 12.4**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.77**	**42**	*e*PN	**Pn**	**07 47 12.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.77**	**42**	*e*Pn	**Pn**	**07 47 12.9**	**-0.4**
SART	**Tekirdag**	**1.77**	**42**	*i* P	**Pn**	**07 47 14.1**	**+0.8**
SART				*i* S	**Sb**	**07 47 37.9**	**+0.4**
SART	**Tekirdag**	**1.77**	**42**	*i* P	**Pn**	**07 47 14.1**	**+0.8**
SART				*i* S	**Sb**	**07 47 37.9**	**+0.4**
AKHS	**Akhisar**	**1.79**	**106**	*i* P	**Pn**	**07 47 14.0**	**+0.5**
AKHS				*i* S	**Sn**	**07 47 37.3**	**+0.6**
AKHS	**Akhisar**	**1.79**	**106**	*i* P	**Pn**	**07 47 14.0**	**+0.5**
AKHS				*i* S	**Sn**	**07 47 37.3**	**+0.6**
SMG	**Samos**	**1.94**	**150**	*e*PN	**Pg**	**07 47 19.8**	**+0.8**
SMG				*e*SN	**Sg**	**07 47 45.5**	**+1.4**
EDC	**Edincik**	**1.98**	**60**	*e*PN	**Pn**	**07 47 16.5**	**+0.4**
EDC	**Edincik**	**1.98**	**60**	*e*Pn	**Pn**	**07 47 16.5**	**+0.4**
KCTX	**Karacabey (Bur**	**2.29**	**67**	*e*PN	**Pn**	**07 47 19.3**	**-1.1**
KCTX	**Karacabey (Bur**	**2.29**	**67**	*e*Pn	**Pn**	**07 47 19.3**	**-1.1**
EDRB	**Edirne**	**2.60**	**19**	*e*PN	**Pn**	**07 47 25.7**	**+1.1**
EDRB	**Edirne**	**2.60**	**19**	*e*Pn	**Pn**	**07 47 25.7**	**+1.1**
YLV	**Yalova**	**3.12**	**67**	*e*PN	**Pn**	**07 47 31.4**	**-0.5**
YLV	**Yalova**	**3.12**	**67**	*e*Pn	**Pn**	**07 47 31.4**	**-0.5**

*ISCJB **30** 08:17:31.5±0.7, 30°76S±0°06×139°03E±0°06, h10km, Error ellipse: s-maj=8.9km s-min=6.1km az=32.9*
*IDC **30** 08:17:34.1±3.9, 30°68S×139°19E, h0km, mb1 3.1/3, mb1mx3.1/13, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=118.8km s-min=16.7km az=41.0*
ISC 30 08:17:33.5±1.0, 30°86S±0°08×139°02E±0°05, h10km, n7, σ1°9/7/12, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.43**	**115**	Pn	**Pn**	**08 18 14.1**	**+0.8**
	1.0nm,0.3s,baz=305,slow=12,SNR=22						
STKA				Pg	**Pg**	**08 18 18.9**	**-1.2**
	2.7nm,0.3s,baz=296,slow=16,SNR=26						
STKA				Sn	**Sn**	**08 18 43.8**	**+0.8**
	5.0nm,0.3s,baz=308,slow=18,SNR=11						
STKA				Lg	Lg	08 18 49.1	
	9.7nm,0.3s,baz=343,slow=15,SNR=9.1						
STKA	**Stephens Creek**	**2.43**	**115**	*e*P	**Pn**	**08 18 14.0**	**+0.8**
STKA				*e*S	**Sn**	**08 18 43.6**	**+0.6**
BBOO	**Buckleboo**	**3.18**	**232**	*e*P	**Pn**	**08 18 23.6**	**0.0**
BBOO				*e*S	**Sn**	**08 19 03.3**	**+1.7**
CMSA	**Cobar Meteorol**	**5.76**	**98**	*e*P	**Pn**	**08 18 59.5**	**+0.5**
CMSA				*e*S	Sn	08 19 53.6	-12
ARPS	**Mount Arapiles**	**6.34**	**159**	*e*P	**Pn**	**08 19 06.2**	**-0.9**
ASAR	**Alice Springs**	**8.49**	**326**	Pn	**Pn**	**08 19 37.3**	**+0.7**
	0.1nm,0.3s,baz=147,slow=13,SNR=3.3						
ASAR				Sn	**Sn**	**08 21 11.0**	**-1.5**
	0.2nm,0.3s,baz=149,slow=22,SNR=6.4						
WRA	**Warramunga Arr**	**11.66**	**338**	Pn	**Pn**	**08 20 20.4**	**+0.3**
	0.1nm,0.3s,baz=163,slow=11,SNR=2.1						

*IDC **30** 08:26:55.1±1.1, 42°78S×172°58E, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.2/12, mbtmp4.3/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/22, Error ellipse: s-maj=31.2km s-min=15.5km az=134.0*
*ISCJB **30** 08:26:56.2±0.5, 42°81S±0°03×172°44E±0°04, h14km±4km, mb4.2/6, MS3.6/4, Error ellipse: s-maj=6.3km s-min=3.4km az=135.9*
*WEL **30** 08:26:57.6±0.1, 42°74S×172°38E, h8km±1km, ML4.8/58, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0*
WEL Felt from West Coast to Canterbury, maximum reported intensity MM 4.
*NEIC **30** 08:26:57.3, 42°75S×172°43E, h6km, mb4.3/3, ML4.8(WEL), After WEL.*
ISC 30 08:26:56.6±1.0, 42°80S±0°03×172°46E±0°03, h9km±6km, n98, σ1°9/12/105, mb4.2/6, MS3.5/4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.14**	**278**	PG	**Pg**	**08 27 00.0**	**+0.3**
LTZ				SG	**Sg**	**08 27 02.0**	**+0.1**
LTZ	**Lake Taylor**	**0.14**	**278**	Pg	**Pg**	**08 27 00.0**	**+0.3**
LTZ				Sg	**Sg**	**08 27 02.0**	**+0.1**
CRLZ	**Canterbury Las**	**0.78**	**171**	P*	**Pn**	**08 27 14.0**	**+0.2**
CRLZ				S*	**Sn**	**08 27 25.8**	**+0.2**
CRLZ	**Canterbury Las**	**0.78**	**171**	P*	**Pn**	**08 27 14.0**	**+0.2**
CRLZ				S*	**Sn**	**08 27 25.8**	**+0.2**
KHZ	**Kahutara**	**0.89**	**65**	P*	**Pb**	**08 27 14.5**	**+0.3**
KHZ				S*	**Sn**	**08 27 28.6**	**+0.4**
KHZ	**Kahutara**	**0.89**	**65**	*e*Pg	**Pb**	**08 27 14.4**	**+0.3**
KHZ				*e*S	**Sn**	**08 27 30.6**	**+2.4**
MQZ	**McQueen's Vall**	**0.92**	**171**	P*	**Pn**	**08 27 15.4**	**-0.2**
MQZ				S*	**Sn**	**08 27 29.6**	**+0.7**
MQZ	**McQueen's Vall**	**0.92**	**171**	P*	**Pn**	**08 27 15.4**	**-0.2**
THZ	**Tophouse**	**1.09**	**18**	P*	**Pg**	**08 27 16.3**	**-1.2**
THZ				S*	**Sg**	**08 27 30.4**	**-1.3**
THZ	**Tophouse**	**1.09**	**18**	P*	**Pg**	**08 27 16.2**	**-1.2**
DSZ	**Denniston Nort**	**1.16**	**335**	P*	**Pb**	**08 27 18.3**	**-0.6**
DSZ				S*	**Sg**	**08 27 32.7**	**-1.3**
DSZ	**Denniston Nort**	**1.16**	**335**	P*	**Pb**	**08 27 18.2**	**-0.6**
WVZ	**Waitaha Valley**	**1.29**	**257**	P*	**Pn**	**08 27 20.8**	**0.0**
WVZ	**Waitaha Valley**	**1.29**	**257**	P*	**Pn**	**08 27 20.8**	**0.0**
RPZ	**Rata Peaks**	**1.37**	**228**	PN	**Pn**	**08 27 22.0**	**-0.1**
RPZ	**Rata Peaks**	**1.37**	**228**	Pg	**Pn**	**08 27 21.9**	**-0.1**
	427nm,0.3s,baz=40,slow=0.8,SNR=258						
RPZ				Lg	Lg	08 27 41.6	
	154nm,0.3s,baz=196,slow=21,SNR=9.0						
RPZ	**Rata Peaks**	**1.37**	**228**	*e*Pn	**Pn**	**08 27 21.9**	**-0.1**
RPZ				Pg	**Pn**	**08 27 21.9**	**-0.1**
RPZ				Lg	Lg	08 27 41.6	
BSWZ	**Blackbirch Sta**	**1.51**	**44**	PN	**Pg**	**08 27 25.2**	**-0.4**
CMWZ	**Cape Campbell**	**1.67**	**52**	PN	**Pb**	**08 27 27.0**	**-0.6**
NNZ	**Nelson**	**1.73**	**24**	PN	**Pn**	**08 27 26.8**	**+0.1**
TUWZ	**Tuamarina**	**1.76**	**39**	PN	**Pn**	**08 27 27.7**	**+0.5**
QRZ	**Quartz Range**	**1.98**	**2**	PN	**Pn**	**08 27 29.9**	**-0.3**
TCW	**Tory Channel**	**2.09**	**41**	PN	**Pn**	**08 27 32.1**	**+0.4**
FOZ	**Fox Glacier**	**2.17**	**248**	PN	**Pn**	**08 27 32.1**	**-0.7**
SNZO	**South Karori**	**2.24**	**49**	PN	**Pn**	**08 27 33.9**	**+0.1**
SNZO	**South Karori**	**2.24**	**49**	*e*Pn	**Pn**	**08 27 33.6**	**-0.2**
SNZO				*e*Sg	**Sg**	**08 28 12.5**	**+4.0**
BHW	**Baring Head**	**2.27**	**53**	PN	**Pn**	**08 27 33.9**	**-0.4**
DUWZ	**D'Urville Isla**	**2.28**	**29**	PN	**Pn**	**08 27 35.8**	**+1.4**
LBZ	**Lake Benmore**	**2.29**	**225**	PN	**Pn**	**08 27 34.4**	**-0.1**
PLWZ	**Palliser**	**2.41**	**60**	PN	**Pn**	**08 27 35.4**	**-0.9**
MSWZ	**Moikau Station**	**2.50**	**57**	PN	**Pn**	**08 27 36.8**	**-0.5**
CAW	**Cannon Point**	**2.58**	**50**	PN	**Pn**	**08 27 38.2**	**-0.3**
ODZ	**Otahua Downs**	**2.60**	**210**	PN	**Pn**	**08 27 38.2**	**-0.5**
ODZ	**Otahua Downs**	**2.60**	**210**	*e*Pn	**Pn**	**08 27 38.3**	**-0.5**
ODZ				*e*Pg	**Pg**	**08 27 47.0**	**+0.7**
PAWZ	**Paruwai Farm**	**2.62**	**58**	PN	**Pn**	**08 27 38.0**	**-1.2**
MTW	**Mount Morrison**	**2.80**	**55**	PN	**Pn**	**08 27 40.3**	**-1.2**
JCZ	**Jackson Bay**	**2.98**	**243**	PN	**Pn**	**08 27 44.0**	**-0.2**
MRZ	**Mangatainoka R**	**3.17**	**49**	PN	**Pn**	**08 27 45.5**	**-1.1**
NRZ	**Ngariki Road**	**3.64**	**18**	Pn	**Pn**	**08 27 55.4**	**+2.4**
DFE	**Dawson Falls**	**3.69**	**20**	Pn	**Pn**	**08 27 55.9**	**+2.0**
NEZ	**North Egmont**	**3.74**	**20**	Pn	**Pn**	**08 27 56.8**	**+2.3**
RAEZ	**Rainy Point**	**3.80**	**23**	Pn	**Pn**	**08 27 56.9**	**+1.5**
MLZ	**Mavora Lakes**	**4.00**	**229**	Pn	**Pn**	**08 27 57.5**	**-0.6**
WPHZ	**Waipukurau**	**4.05**	**49**	Pn	**Pn**	**08 27 57.2**	**-1.6**
VRZ	**Vera Road**	**4.06**	**26**	Pn	**Pn**	**08 28 00.5**	**+1.6**
MTVZ	**Mangateitei**	**4.10**	**35**	Pn	**Pn**	**08 28 00.2**	**+0.7**
WNVZ	**Wahianoa**	**4.20**	**35**	Pn	**Pn**	**08 28 01.4**	**+0.4**
FWVZ	**Far West T-bar**	**4.25**	**34**	Pn	**Pn**	**08 28 02.0**	**+0.4**
TUVZ	**Tukino**	**4.28**	**35**	Pn	**Pn**	**08 28 02.3**	**+0.3**
BHHZ	**Black Hill Sta**	**4.28**	**41**	Pn	**Pn**	**08 28 01.4**	**-0.7**
WPVZ	**Whakapapa**	**4.29**	**34**	Pn	**Pn**	**08 28 02.5**	**+0.5**
PXZ	**Pawanui**	**4.31**	**52**	Pn	**Pn**	**08 27 59.4**	**-3.0**
TWVZ	**Taurewa**	**4.36**	**32**	Pn	**Pn**	**08 28 03.5**	**+0.5**
OTVZ	**Oturere**	**4.37**	**35**	Pn	**Pn**	**08 28 03.6**	**+0.3**
KRVZ	**Karewarewa**	**4.42**	**34**	Pn	**Pn**	**08 28 04.5**	**+0.6**
SYZ	**Scrubby Hill**	**4.42**	**211**	Pn	**Pn**	**08 28 03.4**	**-0.4**
KAHZ	**Kahuranaki**	**4.48**	**49**	Pn	**Pn**	**08 28 02.6**	**-2.1**
MCHZ	**McNeill Hill**	**4.64**	**45**	Pn	**Pn**	**08 28 05.7**	**-1.1**
HIZ	**Hauiti**	**4.66**	**24**	Pn	**Pn**	**08 28 07.8**	**+0.8**
BKZ	**Black Stump Fm**	**4.74**	**41**	Pn	**Pn**	**08 28 06.4**	**-1.9**
RAHZ	**Arahi**	**5.23**	**44**	Pn	**Pb**	**08 28 27.3**	**-0.9**
URZ	**Urewera**	**5.76**	**40**	*e*Pn	**Pn**	**08 28 20.8**	**-1.4**
	289nm,0.9s						
MWZ	**Matawai**	**5.90**	**43**	Pn	**Pn**	**08 28 22.1**	**-2.0**
WCZ	**Waipu Caves**	**7.01**	**13**	Pn	**Pn**	**08 28 38.5**	**-0.8**
OUZ	**Omahuta**	**7.62**	**7**	*e*Pn	**Pn**	**08 28 48.5**	**+0.7**
	42nm,0.8s						
DZM	**Mont Dzumac**	**21.28**	**344**	*e*LR	LR	08 36 58.2	
	194nm,24.4s						
STKA	**Stephens Creek**	**26.71**	**284**	P	**P**	**08 32 37.7**	**+1.5**
	2.1nm,0.7s,baz=111,slow=9.4,SNR=5.9						
STKA				LR	LR	08 41 32.9	
	comp=Z,92nm,19.8s,baz=117,slow=33						
STKA	**Stephens Creek**	**26.71**	**284**	*e*P	**P**	**08 32 37.4**	**+1.1**
	14nm,2.0s						
CTA	**Charters Tower**	**31.59**	**308**	LR	LR	08 44 06.6	
	comp=Z,76nm,18.8s,baz=127,slow=33						
TBI	**Tubuai**	**36.94**	**71**	*e*LR	LR	08 44 49.5	
	74nm,24.8s						
ASAR	**Alice Springs**	**37.07**	**289**	P	**P**	**08 34 06.7**	**-0.5**
	1.4nm,0.5s,baz=129,slow=6.9,SNR=30						
ASAR	**Alice Springs**	**37.07**	**289**	P	**P**	**08 34 06.7**	**-0.5**
WB2	**Warramunga Arr**	**39.26**	**293**	*e*P	**P**	**08 34 25.2**	**-0.4**
WRAB	**Tennant Creek**	**39.26**	**293**	*e*P	**P**	**08 34 25.4**	**-0.2**
	7.5nm,1.1s						
WRA	**Warramunga Arr**	**39.26**	**293**	P	**P**	**08 34 25.2**	**-0.4**
	1.3nm,0.7s,baz=132,slow=8.1,SNR=7.1						
WRA				LR	LR	08 51 19.3	
	comp=Z,105nm,19.1s,baz=115,slow=37						
WRA	**Warramunga Arr**	**39.26**	**293**	P	**P**	**08 34 25.2**	**-0.4**
PMG	**Port Moresby**	**39.96**	**319**	P	**P**	**08 34 33.2**	**+1.7**
	15nm,0.7s,baz=175,slow=9.3,SNR=4.8						
PMG	**Port Moresby**	**39.96**	**319**	P	**P**	**08 34 33.2**	**+1.7**
PPT2	**Papeete2**	**40.82**	**64**	*e*LR	LR	08 46 35.9	
	80nm,22.2s						
QSPA	**South Pole Qui**	**47.32**	**180**	P	P	08 35 36.1	+5.7
	0.9nm,0.3s,baz=28,slow=1.1,SNR=5.3						
QSPA	**South Pole Qui**	**47.32**	**180**	*e*P	P	08 35 35.6	+5.2
	5.1nm,1.0s						
MAW	**Mawson**	**57.94**	**205**	LR	LR	09 01 04.5	
	comp=Z,81nm,18.2s,baz=164,slow=35						
MKAR	**Makanchi Array**	**119.57**	**308**	PKP	**PKPdf**	**08 45 48.5**	**+2.4**
	0.1nm,0.5s,baz=202,slow=2.9,SNR=2.4						
MKAR	**Makanchi Array**	**119.57**	**308**	PKP	**PKPdf**	**08 45 48.5**	**+2.4**
YKA	**Yellowknife Ar**	**119.96**	**31**	PKP	**PKPdf**	**08 45 47.3**	**+1.0**
	0.1nm,0.5s,baz=221,slow=1.8,SNR=2.9						
YKA	**Yellowknife Ar**	**119.96**	**31**	PKP	**PKPdf**	**08 45 47.3**	**+1.0**
KURK	**Kurchatov**	**123.64**	**310**	PKP	**PKPdf**	**08 45 52.5**	**-1.3**
	0.3nm,0.5s,baz=113,slow=1.7,SNR=3.5						
KURK	**Kurchatov**	**123.64**	**310**	PKP	**PKPdf**	**08 45 52.5**	**-1.3**
ARCES	**ARCESS Array B**	**148.29**	**339**	PKPbc	**PKPbc**	**08 46 41.0**	**-0.9**
	1.1nm,0.5s,baz=52,slow=2.0,SNR=9.8						
ARCES	**ARCESS Array B**	**148.29**	**339**	PKPbc	**PKPbc**	**08 46 41.0**	**-0.9**
BRTR	**Keskin Array B**	**149.11**	**278**	PKPbc	**PKPbc**	**08 46 44.5**	**-0.6**
	1.5nm,0.8s,baz=132,slow=4.4,SNR=7.1						
BRTR	**Keskin Array B**	**149.11**	**278**	PKPbc	**PKPbc**	**08 46 44.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**149.39**	**198**	PKPbc	**PKPbc**	**08 46 46.0**	**-0.4**
	1.8nm,0.8s,baz=155,slow=1.8,SNR=12						
TORD	**Torodi Ar. Bea**	**149.39**	**198**	PKPbc	**PKPbc**	**08 46 46.0**	**-0.4**
FINES	**FINESS Array B**	**152.65**	**325**	PKPbc	**PKPbc**	**08 46 52.4**	**-0.1**
	2.2nm,0.7s,baz=58,slow=3.4,SNR=4.4						
FINES				PKPab	**PKPab**	**08 47 01.7**	**-1.5**
	3.0nm,0.9s,baz=145,slow=4.7,SNR=3.9						
FINES	**FINESS Array B**	**152.65**	**325**	PKPbc	**PKPbc**	**08 46 52.4**	**-0.1**
FINES				PKPab	**PKPab**	**08 47 01.7**	**-1.5**
AKASG	**Malin Array Be**	**153.82**	**300**	PKPbc	**PKPbc**	**08 46 54.5**	**-1.0**
	0.6nm,0.3s,baz=77,slow=1.8,SNR=4.7						
AKASG	**Malin Array Be**	**153.82**	**300**	PKPbc	**PKPbc**	**08 46 54.5**	**-1.0**

IDC 30 08:28:03.4±1.9, 2°53N×127°40E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=163.6km s-min=21.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.35**	**163**	P	P	08 33 13.9	+0.3
	0.6nm,0.5s,baz=342,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**26.80**	**167**	P	P	08 33 44.9	-0.6
	0.5nm,0.6s,baz=352,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**58.92**	**325**	P	P	08 38 05.0	+0.5
	0.4nm,0.5s,baz=116,slow=8.2,SNR=8.5						
KURK	**Kurchatov**	**63.11**	**328**	P	P	08 38 32.5	-0.3
	0.8nm,0.5s,baz=130,slow=5.4,SNR=7.9						

IDC 30 08:35:00.9±24.0, 29°99S×178°87W, h318km±215km, mb3.6/6, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=119.6km s-min=23.1km az=56.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.99**	**279**	P	P	08 41 08.3	+1.1
	2.9nm,0.4s,baz=107,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**33.84**	**257**	P	P	08 41 14.2	-0.1
	4.1nm,0.5s,baz=96,slow=10,SNR=19						
ASAR	**Alice Springs**	**42.38**	**267**	P	P	08 42 24.6	-0.6
	0.8nm,0.4s,baz=106,slow=7.5,SNR=31						
WRA	**Warramunga Arr**	**43.33**	**272**	P	P	08 42 32.6	-0.1
	1.7nm,0.3s,baz=111,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**51.61**	**270**	P	P	08 43 35.6	-0.4
	1.1nm,0.6s,baz=168,slow=20,SNR=2.8						
QSPA	**South Pole Qui**	**60.11**	**180**	P	P	08 44 34.9	-0.4
	3.1nm,0.8s,baz=57,slow=2.1,SNR=8.4						
KURK	**Kurchatov**	**120.23**	**314**	PKP	PKPdf	08 53 13.4	-0.5
	0.6nm,0.6s,baz=99,slow=3.1,SNR=4.7						
BVAR	**Borovoye Array**	**125.59**	**316**	PKP	PKPdf	08 53 24.3	+0.1
	0.7nm,0.5s,baz=73,slow=4.8,SNR=3.9						
FINES	**FINESS Array B**	**144.51**	**340**	PKP	PKPab	08 53 58.0	-0.4
	2.8nm,0.4s,baz=53,slow=3.9,SNR=25						
AKASG	**Malin Array Be**	**150.52**	**323**	PKPbc	PKPbc	08 54 15.0	+0.2
	0.3nm,0.3s,baz=45,slow=2.6,SNR=4.5						
AKASG				PKPab	PKPab	08 54 21.4	-1.4
	0.3nm,0.3s,baz=326,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**163.23**	**182**	PKPab	PKPab	08 55 19.3	+1.0
	0.4nm,0.7s,baz=166,slow=2.0,SNR=3.6						

*TRN **30** 08:37:32.6, 18°59N×64°16W, h43km, MD3.1(RSPR)*
*NEIC **30** 08:37:33.6, 18°74N×64°12W, h52km, MD3.1(RSPR), After RSPR.*
RSPR 30 08:37:33.6, 18°74N×64°12W, h52km±1km, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.20**	**267**	⇓*e*P	Pn	08 37 41.6	-0.6
ABV				*e*S	Sn	08 37 47.9	-0.3
ABV	**Anegada**	**0.20**	**267**	⇓*e*P	Pn	08 37 41.6	-0.6
ABV				*e*S	Sn	08 37 47.9	-0.3
ABVI	**Anegada Island**	**0.20**	**267**	⇓*e*P	Pn	08 37 41.6	-0.6
ABVI				*e*S	Sn	08 37 47.9	-0.3
STVI	**Saint Thomas**	**0.88**	**244**	⇑*e*P	Pn	08 37 48.8	-1.0
STVI	**Saint Thomas**	**0.88**	**244**	*e*S	Sn	08 38 00.9	-0.9
STVI	**Saint Thomas**	**0.88**	**244**	⇑*e*P	Pn	08 37 48.8	-1.0
STVI				*e*S	Sn	08 38 00.9	-0.9
STVI	**Saint Thomas**	**0.88**	**244**	⇑*e*P	Pn	08 37 48.8	-1.0
STVI				*e*S	Sn	08 38 00.9	-0.9
MTP	**Monte Pirata**	**1.51**	**245**	⇑*e*P	Pn	08 37 57.5	-0.7
MTP	**Monte Pirata**	**1.51**	**245**	⇑*e*P	Pn	08 37 57.5	-0.7
MTP	**Monte Pirata**	**1.51**	**245**	⇑*e*P	Pn	08 37 57.5	-0.7
CBYP	**Canovanas**	**1.72**	**254**	⇑*e*P	Pn	08 38 00.1	-1.1
CBYP	**Canovanas**	**1.72**	**254**	⇑*e*P	Pn	08 38 00.1	-1.1
CBYP	**Canovanas**	**1.72**	**254**	⇑*e*P	Pn	08 38 00.7	-0.5

*ISCJB **30** 09:00:38.2±0.5, 37°77N±0°02×37°76E±0°03, h0km±4km, Error ellipse: s-maj=3.9km s-min=2.8km az=28.8*
*ISK **30** 09:00:38.1, 37°76N×37°76E, h5km, ML3.4*
*DDA **30** 09:00:38.0, 37°80N×37°71E, h7km, MD3.6, ML3.7*
*CSEM **30** 09:00:38.6±0.1, 37°77N×37°77E, h2km, ML3.7, Error ellipse: s-maj=3.7km s-min=2.9km az=138.0*
**ISC 30 09:00:39.0±1.1, 37°76N±0°02×37°78E±0°02, h5km±10km, n87, σ

	comp=Z,292nm,0.6s							
MNKR	**ALMNKUR**	**2.17**	**146**	*e*P	**Pn**	**09 01 16.0**	**+0.2**
MNKR				AML	AML	09 01 55.3	
	comp=E,1μm,0.2s						
MNKR				AML	AML	09 01 59.9	
	comp=N,602nm,0.6s						
MNKR				AML	AML	09 02 01.9	
	comp=Z,2μm,0.4s						
MNKR	**ALMNKUR**	**2.17**	**146**	*e*P	**Pn**	**09 01 14.3**	**-1.5**
MNKR				AML	AML	09 01 52.0	
	comp=E,1μm,0.2s						
MNKR				AML	AML	09 01 56.6	
	comp=N,602nm,0.6s						
MNKR				AML	AML	09 01 58.7	
	comp=Z,2μm,0.4s						
MNKR	**ALMNKUR**	**2.17**	**146**	*i* P	**Pn**	**09 01 13.1**	**-2.7**
MNKR				AML	AML	09 01 51.9	
	comp=E,1μm,0.2s						
MNKR				AML	AML	09 01 56.6	
	comp=N,602nm,0.6s						
MNKR				AML	AML	09 01 58.7	
	comp=Z,2μm,0.4s						
SFNV	**Sufian**	**2.29**	**125**	*e*P	**Pn**	**09 01 16.9**	**-0.6**
SFNV				AML	AML	09 01 56.9	
	comp=Z,452nm,0.4s						
SFNV				AML	AML	09 02 00.2	
	comp=E,636nm,0.9s						
SFNV				AML	AML	09 02 01.0	
	comp=N,530nm,0.3s						
SFNV	**Sufian**	**2.29**	**125**	*e*P	**Pn**	**09 01 14.5**	**-3.0**
SFNV				*e*S	**Sb**	**09 01 48.3**	**-1.2**
SFNV				AML	AML	09 01 54.7	
	comp=Z,452nm,0.4s						
SFNV				AML	AML	09 01 57.8	
	comp=E,636nm,0.9s						
SFNV				AML	AML	09 01 58.8	
	comp=N,530nm,0.3s						
SFNV	**Sufian**	**2.29**	**125**	*e*P	**Pn**	**09 01 14.6**	**-3.0**
SFNV				AML	AML	09 01 54.7	
	comp=Z,452nm,0.4s						
SFNV				AML	AML	09 01 57.8	
	comp=E,636nm,0.9s						
SFNV	**Sufian**	**2.29**	**125**	*e*P	**Pn**	**09 01 16.9**	**-0.6**
	SNR=126						
KBSD	**Kabsdagh**	**2.33**	**108**	*e*P	**Pn**	**09 01 17.9**	**+0.1**
KBSD	**Kabsdagh**	**2.33**	**108**	*e*P	Pn	09 01 14.6	-3.4
KBSD				AML	AML	09 02 00.6	
	comp=E,416nm,0.4s						
KBSD	**Kabsdagh**	**2.33**	**108**	*e*P	Pn	09 01 13.6	-4.4
KBSD				AML	AML	09 01 57.1	
	comp=E,256nm,0.8s						
KBSD				AML	AML	09 02 00.5	
	comp=E,416nm,0.4s						
KBSD				AML	AML	09 02 01.8	
	comp=N,378nm,0.3s						
KBSD	**Kabsdagh**	**2.33**	**108**	*e*P	**Pn**	**09 01 18.0**	**+0.1**
	SNR=125						
EZC	**Erzincan**	**2.34**	**31**	*e*PN	**Pn**	**09 01 18.5**	**+0.3**
EZC	**Erzincan**	**2.34**	**31**	*e*Pn	**Pn**	**09 01 19.0**	**+0.8**
ERZN	**Erzincan**	**2.37**	**39**	*e*PN	**Pn**	**09 01 19.0**	**+0.4**
ARNB	**Al Arnab**	**2.39**	**218**	*e*P	**Pn**	**09 01 19.0**	**+0.2**
ARNB				*e*S	**Sn**	**09 01 49.6**	**+1.0**
ARNB				AML	AML	09 02 01.0	
	comp=Z,116nm,0.6s						
ARNB				AML	AML	09 02 01.5	
	comp=E,235nm,0.5s						
ARNB				AML	AML	09 02 02.4	
	comp=N,232nm,0.6s						
ARNB	**Al Arnab**	**2.39**	**218**	*e*P	**Pn**	**09 01 18.6**	**-0.2**
ARNB				AML	AML	09 02 01.0	
	comp=Z,116nm,0.6s						
ARNB				AML	AML	09 02 02.4	
	comp=N,232nm,0.6s						
ARNB	**Al Arnab**	**2.39**	**218**	*e*P	**Pn**	**09 01 19.1**	**+0.2**
ARNB				*e*S	**Sn**	**09 01 49.5**	**+1.0**
ARNB				AML	AML	09 02 01.0	
	comp=Z,116nm,0.6s						
ARNB				AML	AML	09 02 02.4	
	comp=N,232nm,0.6s						
BINT	**Bingol**	**2.40**	**62**	*e*Pn	**Pb**	**09 01 22.5**	**-0.3**
NIG	**Nigde**	**2.53**	**279**	*e*PN	**Pn**	**09 01 21.2**	**+0.2**
NIG	**Nigde**	**2.53**	**279**	*e*Pn	**Pn**	**09 01 21.2**	**+0.2**
BNGB	**Bing¨||**	**2.59**	**61**	*e*PN	**Pn**	**09 01 22.4**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.66**	**352**	*e*PN	**Pn**	**09 01 23.0**	**+0.5**
RSDY	**Resadiye-TOKAT**	**2.66**	**352**	*e*Pn	**Pn**	**09 01 23.0**	**+0.5**
YOZ	**Yozgat**	**2.69**	**315**	*e*PN	**Pn**	**09 01 23.2**	**+0.2**
YOZ	**Yozgat**	**2.69**	**315**	*e*Pn	**Pn**	**09 01 23.3**	**+0.2**
MERS	**Mersin**	**2.75**	**252**	*e*PN	**Pn**	**09 01 23.5**	**-0.2**
MERS	**Mersin**	**2.75**	**252**	*e*Pn	**Pn**	**09 01 23.5**	**-0.2**
MZRK	**Al-Mazaregh**	**3.00**	**129**	*e*P	**Pn**	**09 01 27.7**	**+0.5**
MZRK				AML	AML	09 02 17.5	
	comp=E,289nm,0.9s						
MZRK				AML	AML	09 02 20.7	
	comp=Z,163nm,0.4s						
MZRK				AML	AML	09 02 21.2	
	comp=N,468nm,0.5s						
MZRK	**Al-Mazaregh**	**3.00**	**129**	*e*P	**Pn**	**09 01 24.9**	**-2.3**
MZRK				AML	AML	09 02 17.6	
	comp=E,289nm,0.9s						
MZRK				AML	AML	09 02 20.7	
	comp=Z,163nm,0.4s						
MZRK				AML	AML	09 02 21.4	
	comp=N,468nm,0.5s						
MZRK	**Al-Mazaregh**	**3.00**	**129**	*e*P	**Pn**	**09 01 25.0**	**-2.2**
MZRK				AML	AML	09 02 17.6	
	comp=E,289nm,0.9s						
MZRK				AML	AML	09 02 20.7	
	comp=Z,163nm,0.4s						
MZRK				AML	AML	09 02 21.4	
	comp=N,468nm,0.5s						
BAYT	**Ayd¨–ntepe-Bay**	**3.21**	**34**	*e*PN	**Pn**	**09 01 31.4**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**3.21**	**34**	*e*Pn	**Pn**	**09 01 31.4**	**+1.2**
SULT	**Sultanhani-AKS**	**3.40**	**279**	*e*PN	**Pn**	**09 01 33.2**	**+0.4**
SULT	**Sultanhani-AKS**	**3.40**	**279**	*e*Pn	**Pn**	**09 01 33.2**	**+0.4**
CORM	**Corum**	**3.44**	**315**	*e*PN	**Pn**	**09 01 34.4**	**+1.0**
CORM	**Corum**	**3.44**	**315**	*e*Pn	**Pn**	**09 01 34.4**	**+1.0**
KAMT	**Kaman**	**3.57**	**298**	*e*PN	**Pn**	**09 01 35.5**	**+0.4**
KAMT	**Kaman**	**3.57**	**298**	*e*Pn	**Pn**	**09 01 35.5**	**+0.4**
BRBR	**Barbar**	**4.59**	**200**	*e*P	**Pn**	**09 01 49.2**	**0.0**
BRBR				AML	AML	09 03 14.1	
	comp=Z,56nm,0.7s						
BRBR				AML	AML	09 03 16.5	
	comp=N,37nm,0.6s						
BRBR				AML	AML	09 03 18.7	
	comp=E,42nm,0.7s						
ZALF	**Zalf**	**4.84**	**184**	*e*P	**Pn**	**09 01 52.7**	**+0.2**
SALA	**Sala**	**5.11**	**190**	*e*P	**Pn**	**09 01 55.1**	**-1.2**
SALA				*e*S	**Sb**	**09 03 14.4**	**+3.6**

IDC 30 09:17:08.6±3.1, 5°.94S×147°.83E, h45km±29km, mb4.0/4, mb1 4.3/6, mb1mx3.8/17, mbtmp4.1/6, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=45.4km s-min=17.2km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.50**	**191**	P	Pn	09 17 59.7	-1.0
	21nm,0.3s,baz=3.2,slow=3.7,SNR=33						
PMG				S	Sn	09 18 41.9	+1.0
	30nm,0.3s,baz=349,slow=20,SNR=5.6						
CTA	**Charters Tower**	**14.14**	**186**	LR	LR	09 25 27.7	
	comp=Z,78nm,18.9s,baz=142,slow=35						
WRA	**Warramunga Arr**	**19.12**	**222**	P	P	09 21 27.1	-1.0
	1.2nm,0.3s,baz=46,slow=11,SNR=20						
ASAR	**Alice Springs**	**22.14**	**216**	P	P	09 22 00.0	-0.7
	12nm,0.5s,baz=52,slow=8.9,SNR=300						
ASAR				S	S	09 26 02.4	+0.1
	1.3nm,1.0s,baz=43,slow=16,SNR=4.9						
FITZ	**Fitzroy Crossi**	**24.80**	**239**	P	P	09 22 27.4	+0.7
	14nm,0.8s,baz=67,slow=5.9,SNR=16						
STKA	**Stephens Creek**	**26.45**	**192**	P	P	09 22 41.6	+0.1
	6.5nm,0.9s,baz=3.4,slow=11,SNR=8.9						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	09 29 38.7	-0.8
	0.2nm,0.8s,baz=261,slow=3.6,SNR=3.1						
SIV	**San Ignacio**	**144.04**	**128**	PKP	PKPdf	09 36 41.0	+0.5
	0.8nm,0.7s,baz=261,slow=7.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.87**	**285**	PKPbc	PKPbc	09 36 44.4	+0.2
	0.3nm,0.4s,baz=68,slow=3.5,SNR=5.8						

*ISCJB **30** 09:20:02.6±0.3, 54°.62N±0°.02×161°.59E±0°.05, h75km±3km, mb3.7/12, Error ellipse: s-maj=4.9km s-min=2.4km az=22.3*
*MOS **30** 09:20:02.0±0.9, 54°.65N×161°.53E, h76km, mb4.1/7, Error ellipse: s-maj=14.5km s-min=7.5km az=76.7*
*KRSC **30** 09:20:02.1±0.0, 54°.62N×161°.54E, h74km±34km, ML4.6*
*IDC **30** 09:20:05.9±1.9, 54°.87N×161°.10E, h90km±21km, mb3.5/12, mb1 3.8/14, mb1mx3.5/30, mbtmp3.6/14, MS3.0/1, Ms1 3.1/1, ms1mx2.3/45, Error ellipse: s-maj=26.7km s-min=14.3km az=149.0*

ISC 30 09:20:03.3±0.7, 54°.63N±0°.03×161°.56E±0°.03, h67km±6km, n79, σ1s00/123, mb3.9/12, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.12**	**125**	P	**Pn**	**09 20 13.2**	**0.0**
MKZ				S	**Sn**	**09 20 20.7**	**+0.3**
MKZ	**Mys Kozlova**	**0.12**	**125**	P	**Pn**	**09 20 13.2**	**0.0**
MKZ				*i* S	**Sn**	**09 20 20.7**	**+0.3**
TUMR	**Tumrok**	**1.05**	**310**	*e*P	**Pn**	**09 20 21.8**	**-0.5**
TUMR				*i* S	**Sn**	**09 20 36.4**	**-0.1**
KMNR	**Kamenistaya**	**1.36**	**327**	P	**Pn**	**09 20 26.6**	**+0.2**
KMNR				*i* S	**Sn**	**09 20 44.3**	**+0.5**
KII	**Karymskiy**	**1.37**	**245**	*e*P	**Pn**	**09 20 26.4**	**-0.1**
KII				*i* S	**Sn**	**09 20 44.6**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.41**	**340**	*e*P	**Pn**	**09 20 27.0**	**0.0**
BZGR				*i* S	**Sn**	**09 20 44.7**	**-0.1**
BZMR	**Bezymyannaya**	**1.45**	**335**	*e*P	**Pn**	**09 20 27.4**	**-0.2**
BZMR				*i* S	**Sn**	**09 20 46.1**	**+0.3**
ZLN	**Zelenaya**	**1.46**	**343**	*e*P	**Pn**	**09 20 27.8**	**+0.1**
ZLN				*i* S	**Sn**	**09 20 47.5**	**+1.5**
BZWR	**Bezymyannyi-We**	**1.47**	**336**	*e*P	**Pn**	**09 20 27.9**	**0.0**
BZWR				*i* S	**Sn**	**09 20 46.6**	**+0.1**
KIRR	**Kirishev**	**1.50**	**333**	*e*P	**Pn**	**09 20 28.4**	**+0.1**
KIRR				*i* S	**Sn**	**09 20 47.5**	**+0.4**
LGNR	**Loginova**	**1.54**	**342**	P	**Pn**	**09 20 29.5**	**+0.6**
LGNR				*i* S	**Sn**	**09 20 49.3**	**+1.0**
KPT	**Kopyto**	**1.55**	**331**	*e*P	**Pn**	**09 20 29.2**	**+0.4**
KPT				*i* S	**Sn**	**09 20 48.0**	**-0.1**
CIRR	**Tsirk**	**1.56**	**343**	*e*P	**Pn**	**09 20 29.5**	**+0.4**
CIRR				*i* S	**Sn**	**09 20 49.8**	**+1.2**
KRSR	**Krestovskiy**	**1.69**	**341**	*e*P	**Pn**	**09 20 30.5**	**-0.3**
KRSR				*i* S	**Sn**	**09 20 51.5**	**-0.1**
KOZR	**Kozyr**	**1.73**	**327**	PN	**Pn**	**09 20 31.3**	**+0.1**
KOZR				S	**Sn**	**09 20 53.0**	**+0.7**
KOZ	**Kozyrevsk**	**1.73**	**327**	*e*P	**Pn**	**09 20 31.3**	**+0.1**
KOZ				*i* S	**Sn**	**09 20 53.0**	**+0.7**
KBTR	**Krutoberegovo**	**1.74**	**24**	PN	**Pn**	**09 20 31.5**	**+0.2**
KBTR				S	**Sn**	**09 20 52.9**	**+0.3**
KBTR	**Krutoberegovo**	**1.74**	**24**	*e*P	**Pn**	**09 20 31.5**	**+0.2**
KBTR				*i* S	**Sn**	**09 20 52.9**	**+0.3**
KLY	**Klyuchi**	**1.77**	**343**	PN	**Pn**	**09 20 31.5**	**-0.2**
KLY				S	**Sn**	**09 20 53.1**	**-0.1**
KLY	**Klyuchi**	**1.77**	**343**	*e*P	**Pn**	**09 20 31.5**	**-0.2**
KLY				*i* S	**Sn**	**09 20 53.1**	**-0.1**
SPN	**Mys Shipunski**	**1.78**	**211**	PN	**Pn**	**09 20 31.4**	**-0.4**
SPN				S	**Sn**	**09 20 52.5**	**-1.0**
SPN	**Mys Shipunski**	**1.78**	**211**	*e*P	**Pn**	**09 20 31.4**	**-0.4**
SPN				*i* S	**Sn**	**09 20 52.5**	**-1.0**
BDR	**Baidarnaya**	**1.96**	**354**	*e*P	**Pn**	**09 20 35.0**	**+0.7**
BDR				*i* S	**Sn**	**09 20 59.8**	**+1.9**
NLC	**Nalytchevo**	**1.96**	**223**	PN	**Pn**	**09 20 34.3**	**+0.1**
NLC				S	**Sn**	**09 20 58.6**	**+0.8**
NLC	**Nalytchevo**	**1.96**	**223**	*e*P	**Pn**	**09 20 34.3**	**+0.1**
NLC				*i* S	**Sn**	**09 20 58.6**	**+0.8**
SMKR	**Semkarok**	**1.96**	**358**	*e*P	**Pn**	**09 20 35.0**	**+0.6**
SMKR				*i* S	**Sn**	**09 20 59.1**	**+1.1**
SRDR	**Sredinnyy**	**1.99**	**329**	*e*P	**Pn**	**09 20 34.7**	**-0.1**
SRDR				*i* S	**Sn**	**09 20 57.6**	**-1.2**
SRKR	**Sorokina**	**2.05**	**354**	*e*P	**Pn**	**09 20 36.1**	**+0.6**
SRKR				*i* S	**Sn**	**09 21 01.3**	**+1.3**
SDLR	**Sedlovina**	**2.08**	**231**	P	**Pn**	**09 20 36.5**	**+0.5**
SDLR				*i* S	**Sn**	**09 21 01.6**	**+0.7**
ESO	**Esso**	**2.09**	**310**	PN	**Pn**	**09 20 35.7**	**-0.4**
ESO				S	**Sn**	**09 20 59.9**	**-1.2**
ESO	**Esso**	**2.09**	**310**	*e*P	**Pn**	**09 20 35.7**	**-0.4**
ESO				*i* S	**Sn**	**09 20 59.9**	**-1.2**
SMAR	**Somma**	**2.13**	**231**	P	**Pn**	**09 20 37.3**	**+0.6**
SMAR				*i* S	**Sn**	**09 21 03.1**	**+0.9**
UGLR	**Uglovaya**	**2.15**	**230**	P	**Pn**	**09 20 37.7**	**+0.7**
UGLR				*i* S	**Sn**	**09 21 03.9**	**+1.2**
AVH	**Avacha**	**2.15**	**232**	P	**Pn**	**09 20 37.8**	**+0.8**
AVH				*i* S	**Sn**	**09 21 03.9**	**+1.2**
KOK	**Koryaka**	**2.18**	**233**	P	**Pn**	**09 20 38.0**	**+0.6**
KOK				*i* S	**Sn**	**09 21 04.5**	**+1.1**
GNL	**Ganaly**	**2.32**	**248**	*e*P	**Pn**	**09 20 38.0**	**-1.3**
PET	**Petropavlovsk**	**2.35**	**228**	PN	**Pn**	**09 20 40.2**	**+0.6**
PET				S	**Sn**	**09 20 48.0**	**+0.6**
PET	**Petropavlovsk**	**2.35**	**228**	*e*P	**Pn**	**09 20 40.2**	**+0.6**
PET				*i* S	**Sn**	**09 21 08.0**	**+0.6**
BKI	**Bering**	**2.61**	**75**	PN	**Pn**	**09 20 43.5**	**+0.5**
BKI				S	**Sn**	**09 21 12.7**	**-0.9**
BKI	**Bering**	**2.61**	**75**	*e*P	**Pn**	**09 20 43.5**	**+0.5**
BKI				*i* S	**Sn**	**09 21 12.7**	**-0.9**
PETK	**Petropavlovsk-**	**2.75**	**238**	P	**Pn**	**09 20 45.6**	**+0.6**
	26nm,0.3s,baz=68,slow=19,SNR=366						
PETK				S	**Sn**	**09 21 19.9**	**+2.9**
	19nm,0.3s,baz=84,slow=40,SNR=7.8						
PETK	**Petropavlovsk-**	**2.75**	**238**	*e*PN	**Pn**	**09 20 45.5**	**+0.6**
PETK				pmax	pmax		
	comp=Z,26nm,0.3s						
RUS	**Russkaya**	**2.85**	**221**	PN	**Pn**	**09 20 46.2**	**-0.1**
RUS				S	**Sn**	**09 21 18.9**	**-0.6**
RUS	**Russkaya**	**2.85**	**221**	*e*P	**Pn**	**09 20 46.2**	**-0.1**
RUS				*i* S	**Sn**	**09 21 18.9**	**-0.6**
MTVR	**Mutnovka**	**2.94**	**225**	*e*P	**Pn**	**09 20 48.3**	**+0.6**
MTVR				*i* S	**Sn**	**09 21 23.4**	**+1.4**
ASAK	**Asacha**	**3.13**	**226**	P	**Pn**	**09 20 51.6**	**+1.3**
ASAK				*i* S	**Sn**	**09 21 28.8**	**+2.2**
MIPR	**Malaya Ipel'ka**	**3.71**	**233**	P	**Pn**	**09 20 59.5**	**+1.4**
PALN	**Palana**	**4.56**	**350**	P	Pn	09 21 13.0	+3.4
TILK	**Tilichiki**	**6.33**	**21**	*e*P	Pn	09 21 37.0	+3.2
TILK				*i* S	**Sn**	**09 22 46.9**	**+2.2**
FX1	**Attu Island--F**	**7.10**	**100**	P	**Pn**	**09 21 44.5**	**+0.1**
	comp=Z,31nm,0.3s,baz=309,slow=4.4,SNR=69						
FX1				S	**Sn**	**09 22 59.9**	**-3.6**
	comp=Z,27nm,0.3s,baz=178,slow=21,SNR=13						
FX1	**Attu Island--F**	**7.10**	**100**	PN	**Pn**	**09 21 44.5**	**+0.1**
FX1				pmax	pmax		
	comp=Z,31nm,0.3s						
SEY	**Seymchan**	**9.59**	**334**	*i* PN	**Pn**	**09 22 17.1**	**-1.1**
BILL	**Bilibino**	**13.64**	**8**	P	**Pn**	**09 23 13.3**	**0.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAJ	**Asahikawa**	**16.17**	**237**	P	**Pn**	**09 23 45.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=51,slow=7.1,SNR=9.0						
ASAJ	**Asahikawa**	**16.17**	**237**	P	**Pn**	**09 23 45.1**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**24.17**	**231**	*e*P	**P**	**09 25 12.8**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAT	**Matsushiro**	**24.18**	**231**	P	**P**	**09 25 12.6**	**-0.6**
MJAR	**Matsushiro Arr**	**24.18**	**231**	P	**P**	**09 25 12.4**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=21,slow=7.7,SNR=10						
MJAR	**Matsushiro Arr**	**24.18**	**231**	P	**P**	**09 25 12.4**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**27.13**	**47**	P	**P**	**09 25 39.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=258,slow=7.1,SNR=9.0						
ILAR				LR	LR	09 38 24.9	
	comp=Z,30nm,18.4s,baz=248,slow=40						
ILAR	**Eielson Array**	**27.13**	**47**	P	**P**	**09 25 39.6**	**+0.1**
INK	**Inuvik**	**32.13**	**39**	P	**P**	**09 26 23.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=270,slow=3.0,SNR=6.7						
INK	**Inuvik**	**32.13**	**39**	P	**P**	**09 26 23.0**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**41.45**	**44**	P	**P**	**09 27 43.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=299,slow=7.9,SNR=17						
YKA	**Yellowknife Ar**	**41.45**	**44**	P	**P**	**09 27 43.2**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.67**	**301**	P	**P**	**09 28 31.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=7.7,SNR=3.1						
KURK	**Kurchatov**	**47.67**	**301**	P	**P**	**09 28 31.1**	**-1.4**
BVAR	**Borovoye Array**	**50.12**	**308**	P	**P**	**09 28 48.9**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=42,slow=9.2,SNR=2.1						
BVAR	**Borovoye Array**	**50.12**	**308**	P	**P**	**09 28 48.9**	**-2.3**
NVAR	**Mina Array Bea**	**54.42**	**72**	P	**P**	**09 29 25.7**	**+2.2**
	comp=Z,1.4nm,0.6s,baz=301,slow=7.4,SNR=14						
PDAR	**Pinedale Array**	**56.03**	**63**	P	**P**	**09 29 36.2**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=328,slow=3.3,SNR=8.9						
ULM	**Lac du Bonnet**	**57.14**	**48**	P	**P**	**09 29 43.0**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=312,slow=8.0,SNR=4.0						
ULM	**Lac du Bonnet**	**57.14**	**48**	P	**P**	**09 29 43.0**	**+0.5**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**59.05**	**337**	P	**P**	**09 29 53.8**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=46,slow=8.2,SNR=2.9						
FINES	**FINESS Array B**	**59.05**	**337**	P	**P**	**09 29 53.8**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**69.25**	**69**	P	**P**	**09 31 04.5**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=300,slow=4.8,SNR=22						
TXAR	**Lajitas Array**	**69.25**	**69**	P	**P**	**09 31 04.5**	**+1.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**81.52**	**205**	P	**P**	**09 32 13.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=17,slow=4.8,SNR=6.3						
ASAR	**Alice Springs**	**81.52**	**205**	*e*P	**P**	**09 32 15.4**	**+2.3**

JMA 30 09:33:22.8±0.2, 26°.44N×128°.48E, h24km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.43**	**335**	P	Pb	09 33 31.7	-0.2
JOW				S	Sb	09 33 37.7	-0.4
JJT2	**Tamagusuku 2**	**0.72**	**246**	P	Pb	09 33 36.5	-0.2
JJT2				*e*S	Sb	09 33 46.7	+0.5
NAH1	**Naha**	**0.75**	**252**	P	Pb	09 33 36.7	-0.4
NAH1				S	Sb	09 33 46.3	-0.6
JIH	**Iheya**	**0.75**	**322**	P	Pb	09 33 37.1	-0.1
JIH				*e*S	Sb	09 33 47.4	+0.4
JAGN	**Aguni-jima**	**1.12**	**278**	P	Pn	09 33 42.7	-0.3
JAGN				S	Sb	09 33 57.9	+0.3
JTK	**Tokunoshima**	**1.40**	**17**	P	Pn	09 33 46.5	-0.4
JTK				S	Sn	09 34 05.0	+0.3
JKE	**Kume jima 2**	**1.52**	**266**	P	Pn	09 33 47.3	-1.2
JAM	**Amami Oshima**	**2.20**	**27**	P	Pn	09 33 57.6	-0.3
JAM				S	Sn	09 34 23.9	-0.5
JZK	**Kikaishima**	**2.29**	**35**	P	Pn	09 33 59.7	+0.6
JZK				S	Sn	09 34 27.5	+0.9
JMZ	**Minamidaito 2**	**2.54**	**103**	P	Pn	09 33 59.9	-2.6
JMZ				*e*S	Sn	09 34 26.9	-5.8

*NNC **30** 09:39:01.5±7.6, 37°.56N×71°.33E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=61.4km s-min=49.1km az=172.0*

ISC 30 09:39:04.5±5.1, 37°.4N±0°.3×71°.4E±0°.2, h109km, n9, σ0s30/16, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.06**	**20**	P	**Pn**	**09 40 18.7**	**+0.2**
	SNR=61						
AML				P	**Pn**	**09 40 18.7**	**+0.2**
	SNR=61						
EKS2	**Erkin-Say**	**5.58**	**18**	P	**Pn**	**09 40 25.9**	**+0.6**
	SNR=26						
EKS2				P	**Pn**	**09 40 25.9**	**+0.6**
	SNR=26						
KK31	**Karatay Array**	**5.75**	**354**	⇓Pn	**Pn**	**09 40 27.2**	**-0.3**
	1.5nm,0.3s,baz=173,slow=12,SNR=85						
KK31				⇑Sn	**Sn**	**09 41 32.2**	**0.0**
	2.5nm,0.4s,baz=182,slow=23,SNR=8.8						
AAK	**Ala-Archa**	**5.76**	**23**	P	**Pn**	**09 40 27.8**	**+0.1**
	SNR=15						
AAK				P	**Pn**	**09 40 27.8**	**+0.1**
	SNR=15						
CHMS	**Chumysh**	**6.17**	**24**	P	**Pn**	**09 40 33.1**	**0.0**
	SNR=6.9						
CHMS				P	**Pn**	**09 40 33.1**	**0.0**
	SNR=6.9						
USP	**Ospenovka**	**6.34**	**21**	P	**Pn**	**09 40 35.6**	**+0.2**
	SNR=7.5						
USP				P	**Pn**	**09 40 35.6**	**+0.2**
	SNR=7.5						
TKM2	**Tokmak 2**	**6.40**	**29**	P	**Pn**	**09 40 36.3**	**-0.2**
	SNR=12						
TKM2				P	**Pn**	**09 40 36.3**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**6.40**	**29**	⇓Pn	**Pn**	**09 40 36.2**	**-0.2**
	4.0nm,0.6s						
TKM2				⇑Sn	**Sn**	**09 41 47.9**	**-0.2**
	1.5nm,0.8s						
AB31	**Akbulak array**	**14.48**	**329**	⇓P	Pn	09 42 19.5	-4.6
	0.7nm,0.6s,baz=142,slow=13,SNR=13						

*IDC **30** 09:52:05.5±0.7, 20°.47S×174°.37W, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/24, mbtmp4.3/16, ML3.7/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/24, Error ellipse: s-maj=27.6km s-min=15.3km az=145.0*
*ISCJB **30** 09:52:07.4

ASAR	**Alice Springs**	**48.03 256**	P	**P**	**10 00 44.5**	**-2.1**
WRAB	**Tennant Creek**	**48.16 261**	*e*P	**P**	**10 00 45.1**	**-2.5**
	6.9nm,0.9s					
WRA	**Warramunga Arr**	**48.17 261**	P	**P**	**10 00 45.2**	**-2.4**
	4.9nm,0.8s,baz=97,slow=8.3,SNR=28					
WRA	**Warramunga Arr**	**48.17 261**	P	**P**	**10 00 45.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**56.60 261**	P	**P**	**10 01 48.7**	**-1.5**
	3.1nm,0.5s,baz=127,slow=4.7,SNR=7.8					
FITZ	**Fitzroy Crossi**	**56.60 261**	*e*P	**P**	**10 01 48.8**	**-1.5**
	3.2nm,0.5s					
MBWA	**Marble Bar**	**61.37 257**	*e*P	**P**	**10 02 21.4**	**-1.9**
	11nm,0.5s					
QSPA	**South Pole Qui**	**69.57 180**	P	**P**	**10 03 17.0**	**+1.3**
	1.2nm,0.3s,baz=99,slow=2.2,SNR=3.7					
QSPA	**South Pole Qui**	**69.57 180**	P	**P**	**10 03 17.0**	**+1.3**
MJAR	**Matsushiro Art**	**72.41 321**	P	**P**	**10 03 33.1**	**-0.1**
	1.1nm,0.5s,baz=153,slow=6.2,SNR=7.3					
MJAR	**Matsushiro Art**	**72.41 321**	P	**P**	**10 03 33.1**	**-0.1**
NVAR	**Mina Array Bea**	**78.59 42**	P	**P**	**10 04 10.2**	**+1.4**
	2.0nm,0.8s,baz=225,slow=8.7,SNR=12					
NVAR	**Mina Array Bea**	**78.59 42**	P	**P**	**10 04 10.2**	**+1.4**
TXAR	**Lajitas Array**	**84.04 56**	P	**P**	**10 04 39.6**	**+1.7**
	0.4nm,0.7s,baz=202,slow=5.3,SNR=4.8					
TXAR	**Lajitas Array**	**84.04 56**	P	**P**	**10 04 39.6**	**+1.7**
PDAR	**Pinedale Array**	**86.52 42**	P	**P**	**10 04 49.8**	**-0.4**
	0.8nm,0.9s,baz=224,slow=4.1,SNR=5.3					
PDAR	**Pinedale Array**	**86.52 42**	P	**P**	**10 04 49.8**	**-0.4**
COLA	**College**	**87.48 11**	*e*P	**P**	**10 04 54.6**	**+0.7**
	6.7nm,1.0s					
ILAR	**Eielson Array**	**87.56 11**	P	**P**	**10 04 54.9**	**+0.5**
	0.6nm,1.1s,baz=196,slow=6.6,SNR=3.6					
ILAR	**Eielson Array**	**87.56 11**	P	**P**	**10 04 54.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**93.53 288**	P	**P**	**10 05 24.5**	**+1.2**
	0.9nm,0.3s,baz=92,slow=2.7,SNR=7.8					
CMAR			LR	LR	10 45 34.9	
	comp=Z,24nm,19.4s,baz=126,slow=34					
CMAR	**Chiang Mai Arr**	**93.53 288**	P	**P**	**10 05 24.6**	**+1.2**
YKA	**Yellowknife Ar**	**95.03 24**	P	**P**	**10 05 30.0**	**+0.8**
	0.2nm,0.8s,baz=232,slow=4.1,SNR=3.6					
YKA	**Yellowknife Ar**	**95.03 24**	P	**P**	**10 05 30.0**	**+0.8**
ARU	**Arti**	**127.23 326**	*e*PKPdf	**PKPdf**	**10 11 09.4**	**-1.5**
AKASG	**Malin Array Be**	**144.68 334**	PKP	**PKPab**	**10 11 41.6**	**-0.5**
	0.6nm,0.5s,baz=26,slow=4.1,SNR=2.8					
AKASG	**Malin Array Be**	**144.68 334**	PKP	**PKPab**	**10 11 41.5**	**-0.5**
BRTR	**Keskin Array B**	**149.46 315**	PKPbc	**PKPbc**	**10 11 56.2**	**-0.2**
	0.5nm,0.5s,baz=128,slow=2.4,SNR=3.4					
BRTR	**Keskin Array B**	**149.46 315**	PKPbc	**PKPbc**	**10 11 56.2**	**-0.2**

*IDC **30** 10:00:51.8±2.2,64°.61N×31°.07E,h0km,mb1 3.2/4, mb1mx3.0/27,mbtmp3.2/4,ML2.6/4,Error ellipse: s-maj=29.1km s-min=8.3km az=105.0*

*CSEM **30** 10:00:51.3,64°.74N×30°.84E,h0km,ML1.8,Mining explosion. After HEL*

*HEL **30** 10:00:51.3±0.4,64°.74N×30°.84E,h0km,ML1.8,Explosion*

ISC 30 10:00:51.1±1.1,64°.74N±0°.03×30°.73E±0°.06,h0km,n28, σ1s38/47,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.33**	**345**	PG	**Pg**	**10 01 16.0**	**-0.7**
KU6				SG	**Sg**	**10 01 33.8**	**-0.2**
KU6				MSG		10 01 33.8	
	comp=Z,6.1nm,0.4s						
KU6	**Riekki**	**1.33**	**345**	Pg	**Pg**	**10 01 16.0**	**-0.7**
KU6				Sg	**Sg**	**10 01 33.8**	**-0.2**
MSF	**Maaselka**	**1.37**	**330**	PG	**Pn**	**10 01 16.4**	**-1.1**
MSF				SG	**Sg**	**10 01 34.6**	**-0.5**
MSF				MSG		10 01 34.6	
	comp=Z,4.1nm,0.4s						
MSF	**Maaselka**	**1.37**	**330**	Pg	**Pn**	**10 01 16.4**	**-1.1**
MSF				Sg	**Sg**	**10 01 34.6**	**-0.5**
JOF	**Joensuu**	**1.85**	**172**	PN	**Pn**	**10 01 23.1**	**-1.0**
JOF				SG	**Sn**	**10 01 47.1**	**-1.1**
JOF				MSG		10 01 47.1	
	comp=Z,7.3nm,0.2s						
JOF	**Joensuu**	**1.85**	**172**	Pn	**Pn**	**10 01 23.1**	**-1.0**
JOF				Sg	**Sn**	**10 01 47.0**	**-1.1**
OUL	**Oulu**	**2.09**	**282**	PN	**Pn**	**10 01 28.1**	**+0.8**
OUL				SG	**Sn**	**10 01 54.3**	**+0.4**
OUL				MSG		10 01 54.3	
	comp=Z,2.9nm,0.4s						
OUL	**Oulu**	**2.09**	**282**	Pn	**Pn**	**10 01 28.1**	**+0.8**
OUL				Sg	**Sn**	**10 01 54.3**	**+0.4**
RNF	**Rovaniemi**	**2.71**	**316**	PN	**Pb**	**10 01 39.1**	**-1.2**
	baz=130						
RNF				SG	**Sb**	**10 02 13.8**	**-0.2**
RNF				MSG		10 02 13.8	
	comp=Z,1.5nm,0.4s						
RNF	**Rovaniemi**	**2.71**	**316**	Pn	**Pb**	**10 01 39.1**	**-1.2**
RNF				Sg	**Sb**	**10 02 13.8**	**-0.2**
SUF	**Sumiainen**	**2.88**	**227**	PN	**Pn**	**10 01 39.8**	**+1.6**
SUF	**Sumiainen**	**2.88**	**227**	Pn	**Pn**	**10 01 39.7**	**+1.6**
VRF	**Varrio**	**3.05**	**352**	PN	**Pn**	**10 01 42.3**	**+1.7**
VRF				SG	**Sb**	**10 02 26.8**	**+2.8**
VRF				MSG		10 02 26.8	
	comp=Z,2.2nm,0.4s						
VRF	**Varrio**	**3.05**	**352**	Pn	**Pn**	**10 01 42.2**	**+1.7**
VRF				Sg	**Sb**	**10 02 26.8**	**+2.8**
SGF	**Sodankyl**	**3.21**	**330**	SG		10 02 27.5	
SGF				MSG		10 02 27.5	
	comp=Z,2.0nm,0.4s						
SGF	**Sodankyl**	**3.21**	**330**	Sg	Sg	10 02 27.5	-6.5
KAF	**Kangasniemi**	**3.30**	**219**	PN	**Pn**	**10 01 45.1**	**+1.1**
KAF				SG	**Sb**	**10 02 33.2**	**+2.0**
KAF				MSG		10 02 33.2	
	comp=Z,5.4nm,0.4s						
KAF	**Kangasniemi**	**3.30**	**219**	Pn	**Pn**	**10 01 45.1**	**+1.1**
KAF				Sg	**Sb**	**10 02 33.2**	**+2.0**
KEF	**Keuruu**	**3.69**	**228**	PN	**Pn**	**10 01 50.2**	**+0.9**
KEF	**Keuruu**	**3.69**	**228**	Pn	**Pn**	**10 01 50.2**	**+0.9**
FIA0	**FINESS Array S**	**3.93**	**215**	PN	**Pn**	**10 01 52.1**	**-0.5**
	baz=35						
FIA0				SG	**Sb**	**10 02 52.2**	**+3.0**
FIA0				MSG		10 02 52.2	
	comp=Z,3.8nm,0.6s						
FIA0	**FINESS Array S**	**3.93**	**215**	Pn	**Pn**	**10 01 52.1**	**-0.5**
FIA0				Sg	**Sb**	**10 02 52.2**	**+3.0**
FINES	**FINESS Array B**	**3.93**	**215**	Pn	**Pn**	**10 01 52.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=37,slow=14,SNR=6.1						
FINES				Pg	**Pb**	**10 02 00.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=30,slow=15,SNR=7.8						
FINES				Sn	**Sn**	**10 02 37.1**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=40,slow=24,SNR=2.8						
FINES				Lg	Lg	10 02 52.4	
	comp=Z,1.3nm,0.3s,baz=44,slow=25,SNR=11						
VAF	**Ylistaro**	**3.95**	**248**	PN	**Pn**	**10 01 52.7**	**-0.2**
	baz=68						
VAF				SG	**Sb**	**10 02 51.5**	**+1.8**
VAF				MSG		10 02 51.5	
	comp=Z,2.8nm,0.4s						
VAF	**Ylistaro**	**3.95**	**248**	Pn	**Pn**	**10 01 52.6**	**-0.2**
VAF				Sg	**Sb**	**10 02 51.5**	**+1.8**
ARCES	**ARCESS Array B**	**5.22**	**339**	Pn	**Pn**	**10 02 10.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=15						
ARCES				Sn	**Sn**	**10 03 10.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=22,SNR=4.4						
ARCES				Lg	Lg	10 03 30.8	
	comp=Z,0.6nm,0.3s,baz=141,slow=32,SNR=7.5						
HFS	**Hagfors**	**9.13**	**247**	Pn	**Pn**	**10 03 02.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=6.5						
HFS				Sn	Sn	10 04 40.9	-6.4
	comp=Z,0.1nm,0.3s,baz=64,slow=20,SNR=2.3						
HFS				Lg	Lg	10 05 31.8	
	comp=Z,0.2nm,0.3s,baz=49,slow=31,SNR=2.6						
NOA	**NORSAR Array B**	**9.63**	**256**	Pn	**Pn**	**10 03 10.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=6.7						

*ISCJB **30** 10:05:43.9±0.7,59°.34N±0°.03×27°.13E±0°.09,h0km,Error ellipse: s-maj=6.8km s-min=3.7km az=10.2*

*CSEM **30** 10:05:45.4±0.3,59°.33N×27°.14E,h2km,ML2.4,Error ellipse: s-maj=6.2km s-min=3.0km az=97.0,Mining explosion.*

*HEL **30** 10:05:46.3±0.4,59°.29N×27°.18E,h0km,ML1.9, ML2.4(NAO),Explosion*

*BER **30** 10:05:46.7±3.2,59°.30N×27°.21E,h0km,ML2.4(NAO), Suspected explosion*

*NAO **30** 10:05:46.0±1.1,59°.30N×27°.09E,ML2.4*

*IDC **30** 10:05:47.8±2.0,59°.38N×27°.17E,h0km,mb1 3.1/4, mb1mx3.0/27,mbtmp3.0/4,ML2.6/4,Error ellipse: s-maj=17.0km s-min=9.6km az=127.0*

ISC 30 10:05:44.9±0.8,59°.34N±0°.02×27°.04E±0°.04,h0km,n35, σ1s63/60,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.90**	**190**	Pg	**Pg**	**10 06 02.5**	**+0.5**
VSU				Lg	Lg	10 06 14.0	
VSU	**Vasula**	**0.90**	**190**	*i* Pg	**Pg**	**10 06 02.5**	**+0.5**
VSU				*i* Sg	**Sg**	**10 06 14.0**	**+0.4**
VSU	**Vasula**	**0.90**	**190**	Pg	**Pg**	**10 06 02.5**	**+0.5**
	SNR=90						
VSU				*e*S	**Sg**	**10 06 13.4**	**-0.2**
	484nm,0.7s,SNR=90						
VSU				Sg	**Sg**	**10 06 14.0**	**+0.4**
VSU				Lg	Lg	10 06 14.0	
	SNR=50						
VJF	**Virojoki**	**1.23**	**12**	PG	**Pg**	**10 06 08.9**	**+0.5**
VJF				SG	**Sb**	**10 06 25.7**	**+0.4**
VJF				MSG		10 06 25.7	
	comp=Z,7.0nm,0.2s						
VJF	**Virojoki**	**1.23**	**12**	Pg	**Pg**	**10 06 08.9**	**+0.5**
VJF				Sg	**Sb**	**10 06 25.7**	**+0.4**
PVF	**Pernaja**	**1.35**	**334**	PG	**Pb**	**10 06 11.8**	**+0.9**
PVF				SG	**Sn**	**10 06 29.9**	**+0.4**
PVF				MSG		10 06 29.9	
	comp=Z,3.5nm,0.2s						
PVF	**Pernaja**	**1.35**	**334**	Pg	**Pb**	**10 06 11.8**	**+0.9**
PVF				Sg	**Sn**	**10 06 29.8**	**+0.4**
MEF	**Metsahovi**	**1.60**	**304**	PG	**Pg**	**10 06 16.8**	**+1.3**
MEF				SG	**Sg**	**10 06 38.4**	**+2.2**
MEF				MSG		10 06 38.4	
	comp=Z,12nm,0.2s						
MEF	**Metsahovi**	**1.60**	**304**	Pg	**Pg**	**10 06 16.8**	**+1.3**
MEF				*e*S	**Sg**	**10 06 38.1**	**+1.9**
	comp=Z,24nm,0.2s,SNR=50						
MEF				Sg	**Sg**	**10 06 38.4**	**+2.2**
MTSE	**Matsula**	**1.78**	**251**	PN	**Pg**	**10 06 19.2**	**+0.2**
MTSE				SG	**Sg**	**10 06 43.5**	**+1.4**
MTSE	**Matsula**	**1.78**	**251**	Pn	**Pg**	**10 06 19.2**	**+0.2**
MTSE				Sg	**Sg**	**10 06 43.5**	**+1.4**
FIA0	**FINESS Array S**	**2.16**	**348**	Pn	**Pb**	**10 06 24.1**	**-0.8**
	baz=164,slow=18						
FIA0				Sn	**Sb**	**10 06 52.4**	**+0.2**
	baz=160,slow=28						
FIA0				Lg	Lg	10 06 55.5	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.16**	**348**	PN	**Pb**	**10 06 24.0**	**-0.9**
	baz=166						
FIA0				SG	**Sg**	**10 06 54.4**	**+0.1**
FIA0				MSG		10 06 54.4	
	comp=Z,7.3nm,0.3s						
FIA0				RG	Rg	10 07 07.6	
FIA0	**FINESS Array S**	**2.16**	**348**	Pn	**Pb**	**10 06 24.0**	**-0.9**
FIA0				Sn	**Sb**	**10 06 52.4**	**+0.2**
	baz=160,slow=23,SNR=50						
FIA0				Sg	**Sg**	**10 06 54.4**	**+0.1**
FIA0				Lg	Lg	10 06 55.5	
	baz=168,slow=28						
FINES	**FINESS Array B**	**2.16**	**348**	Pn	**Pb**	**10 06 24.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=166,slow=15,SNR=25						
FINES				Pg	**Pg**	**10 06 25.3**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=162,slow=16,SNR=28						
FINES				Lg	Lg	10 06 55.0	
	comp=Z,6.0nm,0.3s,baz=169,slow=27,SNR=36						
FINES				Rg	Rg	10 07 08.2	
	comp=Z,42nm,1.1s,baz=165,slow=32,SNR=14						
KAF	**Kangasniemi**	**2.81**	**353**	SG	**Sg**	**10 07 14.0**	**-0.9**
KAF				MSG		10 07 14.0	
	comp=Z,4.5nm,0.4s						
KAF	**Kangasniemi**	**2.81**	**353**	Sg	**Sg**	**10 07 14.0**	**-0.9**
SLIT	**Slitere, Latvi**	**3.03**	**237**	*e*P	**Pb**	**10 06 38.9**	**-0.7**
	SNR=50						
RAF	**Rauma**	**3.13**	**305**	PN	**Pb**	**10 06 39.1**	**-2.2**
	baz=119						
RAF				SG	**Sb**	**10 07 22.3**	**+2.4**
RAF				MSG		10 07 22.3	
	comp=Z,3.5nm,0.4s						
RAF	**Rauma**	**3.13**	**305**	Pn	**Pb**	**10 06 39.1**	**-2.2**
RAF	**Rauma**	**3.13**	**305**	*e*P	**Pb**	**10 06 39.4**	**-1.9**
	SNR=50						
RAF				*e*S	**Sb**	**10 07 18.4**	**-1.5**
	comp=Z,7.9nm,0.3s,SNR=50						
RAF				Sg	**Sb**	**10 07 22.3**	**+2.4**
SUF	**Sumiainen**	**3.42**	**353**	PN	**Pn**	**10 06 42.5**	**+3.1**
SUF				SG	**Sb**	**10 07 31.8**	**+3.5**
SUF				MSG		10 07 31.8	
	comp=Z,3.2nm,0.4s						
SUF	**Sumiainen**	**3.42**	**353**	Pn	**Pn**	**10 06 42.4**	**+3.1**
SUF				Sg	**Sb**	**10 07 31.8**	**+3.5**
HFS	**Hagfors**	**6.79**	**282**	Sn	**Sn**	**10 08 41.2**	**-2.5**
	baz=108,slow=18						
HFS				Lg	Lg	10 09 19.0	
	baz=83,slow=28						
HFS	**Hagfors**	**6.79**	**282**	Pn	**Pn**	**10 07 27.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=2.6						
HFS				Sn	**Sn**	**10 08 42.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=96,slow=29,SNR=4.1						
HFS				Lg	Lg	10 09 19.2	
	comp=Z,0.7nm,0.3s,baz=95,slow=29,SNR=6.8						
HFS	**Hagfors**	**6.79**	**282**	SN	**Sn**	**10 08 41.2**	**-2.5**
HFS				SG	**Sg**	**10 09 19.0**	**-3.8**
HFS	**Hagfors**	**6.79**	**282**	Lg	Lg	10 09 19.0	
	baz=83,slow=25,SNR=51						
NB2	**NORSAR Subarra**	**8.07**	**289**	Pn	**Pn**	**10 07 43.9**	**+0.6**
	baz=88,slow=14						
NB2	**NORSAR Subarra**	**8.07**	**289**	PN	**Pn**	**10 07 43.9**	**+0.6**
NB2	**NORSAR Subarra**	**8.07**	**289**	Pn	**Pn**	**10 07 43.8**	**+0.6**
	baz=88,slow=14,SNR=50						
NOA	**NORSAR Array B**	**8.07**	**289**	Pn	**Pn**	**10 07 43.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=81,slow=12,SNR=2.8						
NOA				Sn	**Sn**	**10 09 13.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=69,slow=19,SNR=2.9						
NOA				Lg	Lg	10 09 55.5	
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=3.3						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**10 08 13.0**	**-0.1**
	baz=175,slow=14						
ARA0				Sn	Sn	10 10 01.7	-7.0
	baz=172,slow=22						
ARA0	**ARCESS Array S**	**10.26**	**357**	PN	**Pn**	**10 08 13.0**	**-0.1**
ARA0				SN	Sn	10 10 01.7	-7.0
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**10 08 13.0**	**-0.1**
	baz=175,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	**Pn**	**10 08 12.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=5.4						
ARCES				Sn	**Sn**	**10 10 04.6**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=175,slow=22,SNR=2.8						
ARCES				Lg	Lg	10 11 03.5	
	comp=Z,0.2nm,0.3s,baz=159,slow=31,SNR=4.3						

*TRN **30** 10:19:39.4,19°.13N×64°.88W,h34km,MD2.9(RSPR)*

RSPR 30 10:19:40.7,19°.24N×64°.84W,h35km±19km,MD2.9/3,6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.89**	**187**	*e*P	Pn	10 19 55.5	-1.2
STVI	**Saint Thomas**	**0.89**	**187**	*e*P	Pn	10 19 55.5	-1.2
STVI				*e*S	Sn	10 20 06.7	-1.6
MTP	**Monte Pirata**	**1.32**	**211**	*e*P	Pn	10 20 01.8	-0.9
MTP	**Monte Pirata**	**1.32**	**211**	*e*P	Pn	10 20 01.8	-0.9
MTP				*e*S	Sn	10 20 18.0	-1.0
CBYP	**Canovanas**	**1.36**	**225**	*e*P	Pn	10 20 01.8	-1.5
CBYP	**Canovanas**	**1.36**	**225**	*e*P	Pn	10 20 01.8	-1.5
CBYP				*e*S	Sn	10 20 18.3	-1.8
CPD	**Cerro la Pandu**	**1.57**	**221**	*e*S	Sn	10 20 24.2	-1.1
CPD	**Cerro la Pandu**	**1.57**	**221**	*e*S	Sn	10 20 24.2	-1.1

MAN 30 10:25:37,10°.93N×124°.77E,h1km,mb4.1,ML2.9,MS2.9, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.20**	**308**	*e*P	Pg	10 25 41.2	+0.3
OCLP				*e*S	Sg	10 25 43.8	+0.2
PLP	**Palo**	**0.31**	**41**	*e*P	Pg	10 25 43.1	0.0
PLP				*i* S	Sg	10 25 47.9	+0.7
MSLP	**Maasin**	**0.79**	**174**	*e*P	Pb	10 25 53.9	+0.4
MSLP				*e*S	Sb	10 26 05.3	+0.5
TBP	**Tagbilaran**	**1.52**	**216**	*e*P	Pb	10 26 06.0	+0.1

IDC 30 11:00:36.1±1.1,18°.98N×145°.54E,h0km,mb3.4/5, mb1 3.7/5,mb1mx3.5/21,mbtmp3.4/5,Error ellipse: s-maj=58.3km s-min=23.5km az=106.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.21**	**196**	P	P	11 08 13.6	-1.1
	0.9nm,1.0s,baz=11,slow=8.5,SNR=6.2						
ASAR	**Alice Springs**	**43.88**	**195**	P	P	11 08 45.5	+0.8
	0.5nm,0.8s,baz=18,slow=6.8,SNR=4.1						
MKAR	**Makanchi Array**	**58.16**	**314**	P	P	11 10 32.7	+0.7
	0.1nm,0.5s,baz=92,slow=7.2,SNR=2.9						
ILAR	**Eielson Array**	**63.46**	**26**	P	P	11 11 07.5	-0.1
	0.2nm,0.5s,baz=256,slow=6.4,SNR=6.2						
YKA	**Yellowknife Ar**	**77.81**	**28**	P	P	11 12 34.8	-0.3
	0.2nm,0.6s,baz=285,slow=5.5,SNR=5.1						

MEX 30 11:23:37.9±0.7,16°.83N×100°.18W,h5km,MD4.0,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**338**	*e*P	Pg	11 23 41.8	-0.6
CAIG				*i* S	Sg	11 23 45.5	+0.1
ACX	**Acapulco**	**0.31**	**83**	*i* P	Pg	11 23 42.4	-1.6
ACX				*i* S	Sg	11 23 46.4	-1.7
ZIIG	**Zihuatanejo**	**1.45**	**302**	*e*P	Pn	11 24 01.6	-3.2
ZIIG				*i* S	Sb	11 24 20.1	-4.1
PLIG	**Platanillo**	**1.68**	**23**	*e*P	Pn	11 24 04.5	-3.6
PLIG				*i* S	Sn	11 24 25.7	-4.5
PNIG	**Pinotepa**	**2.02**	**102**	*e*P	Pn	11 24 09.4	-3.3
PNIG				*i* S	Sn	11 24 34.8	-3.4
YAIG	**Yautepec**	**2.28**	**28**	*e*P	Pn	11 24 12.3	-4.1
YAIG				*i* S	Sn	11 24 41.0	-4.1
UTMO	**Huajuapan**	**2.48**	**66**	*e*P	Pn	11 24 15.3	-3.9
UTMO				*i* S	Sn	11 24 46.4	-3.6
MMIG	**Aquila**	**3.35**	**296**	*e*P	Pn	11 24 28.4	-2.5
MMIG				*i* S	Sn	11 25 06.0	-5.1

MEX 30 11:26:05.2±1.4,16°.88N×95°.22W,h105km±13km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**57**	*e*P	Pn	11 26 19.2	-1.6
CMIG				*i* S	Sn	11 26 30.5	-2.0
HUIG	**Huatulco**	**1.39**	**218**	*i* P	Pn	11 26 28.3	-2.1
HUIG				*i* S	Sn	11 26 48.5	-1.0
VHO	**Vista Hermosa**	**1.46**	**278**	*i* P	Pn	11 26 31.2	-0.3
VHO				*i* S	Sn	11 26 50.6	-0.8
TGIG		**2.01**	**92**	*i* P	Pn	11 26 37.8	-0.5
TGIG				*i* S	Sn	11 27 01.7	-1.8
PCIG		**2.25**	**121**	*i* P	Pn	11 26 39.3	-1.9
PCIG				*i* S	Sn	11 27 08.6	-0.2
PNIG	**Pinotepa**	**2.83**	**261**	*i* P	Pn	11 26 46.2	-2.6
PNIG				*i* S	Sn	11 27 20.2	-2.1
CCIG	**Comitan**	**3.02**	**101**	*e*P	Pn	11 26 51.0	-0.5
CCIG				*i* S	Sn	11 27 27.3	0.0

*IDC **30** 11:34:35.0±1.0,50°.98N×168°.39W,h0km,mb3.8/12, mb1 4.1/12,mb1mx3.9/27,mbtmp3.9/12,MS3.3/4, Ms1 3.3/4,ms1mx2.8/45,Error ellipse: s-maj=32.4km s-min=16.0km az=3.0*

*ISCJB **30** 11:34:36.4±1.4,51°.23N±0°.05×168°.33W±0°.05, h17km±10km,mb4.0/17,MS3.2/3,Error ellipse: s-maj=8.6km s-min=4.3km az=151.0*

*NEIC **30** 11:34:38.6,51°.26N×168°.34W,h28km,mb4.2/12, ML3.8(AEIC),After AEIC.*

ISC 30 11:34:39.6±2.9,51°.31N±0°.07×168°.39W±0°.05, h24km±20km,n72,σ1s27/78,mb4.1/17,MS3.2/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.69**	**350**	*e*Pn	**Pn**	**11 35 06.6**	**-1.0**
NIKO				*e*Sn	**Sn**	**11 35 28.8**	**+0.3**
NIKO				S	**Sb**	**11 35 29.7**	**-1.2**
OKFG	**Magazine Ridge**	**2.13**	**8**	P	**Pn**	**11 35 13.3**	**-0.3**
OKFG				S	**Sn**	**11 35 40.4**	**+1.2**
OKWE	**Okmok W'ng Wal**	**2.17**	**2**	P	**Pn**	**11 35 14.5**	**+0.3**
OKRE	**Okmok R'deer P**	**2.22**	**3**	P	**Pn**	**11 35 15.8**	**+0.9**
OKAK	**Okmok**	**2.28**	**0**	P	**Pn**	**11 35 13.5**	**-2.2**
MSOM	**Makushin Julie**	**2.66**	**19**	P	**Pn**	**11 35 20.4**	**-0.6**
MREP	**Makushin Rep't**	**2.70**	**21**	P	**Pn**	**11 35 21.9**	**+0.4**
UNV	**Unalaska Valle**	**2.79**	**24**	P	**Pn**	**11 35 21.9**	**-0.8**
UNV				S	**Sn**	**11 35 55.1**	**+0.5**
ZRO	**Akutan Zero**	**3.15**	**27**	P	**Pn**	**11 35 27.9**	**+0.2**
AKRB	**Akutan Reef Bi**	**3.16**	**26**	P	**Pn**	**11 35 27.6**	**-0.2**
AKRB				S	**Sn**	**11 36 05.0**	**+0.3**
KOFP	**Korovin Flat P**	**3.68**	**288**	P	**Pn**	**11 35 36.0**	**+1.0**
ATKA	**Atka Island**	**3.72**	**286**	P	**Pn**	**11 35 35.2**	**-0.3**
ATKA				S	**Sn**	**11 36 18.1**	**-0.4**
KOKL	**Mount Kliuchef**	**3.75**	**288**	P	**Pn**	**11 35 36.4**	**+0.4**
FALS	**False Pass**	**4.65**	**38**	P	**Pn**	**11 35 47.4**	**-0.8**
GSMY	**Great Sitkin M**	**4.83**	**282**	P	**Pn**	**11 35 51.4**	**+0.7**
GSTR	**Great Sitkin T**	**4.84**	**282**	*e*Pn	**Pn**	**11 35 49.1**	**-1.8**
GSTD	**Great Sitkin T**	**4.89**	**282**	P	**Pn**	**11 35 52.3**	**+0.7**
GSCK	**Great Sitkin C

SONM	**Songino Array**	**52.38**	**302**	P		**P**	**11 43 49.6**	**+0.1**
	0.9nm,0.7s,baz=50,slow=6.7,SNR=8.4							
SONM	**Songino Array**	**52.38**	**302**	P		**P**	**11 43 49.6**	**+0.1**
ZALV	**Zalesovo Beam**	**58.62**	**318**	P		**P**	**11 44 35.4**	**+1.2**
	0.9nm,0.6s,baz=36,slow=7.6,SNR=3.5							
ZALV	**Zalesovo Beam**	**58.62**	**318**	P		**P**	**11 44 35.4**	**+1.2**
KURK	**Kurchatov**	**63.58**	**319**	LR		LR	12 12 49.6	
	comp=Z,34nm,18.7s,baz=5.0,slow=36							
KURK	**Kurchatov**	**63.58**	**319**	*e*P		**P**	**11 45 09.0**	**+1.2**
	2.7nm,0.7s							
MK31	**Makanchi Array**	**64.98**	**314**	*e*P		**P**	**11 45 17.8**	**+0.7**
MKAR	**Makanchi Array**	**64.98**	**314**	P		**P**	**11 45 17.7**	**+0.6**
	1.0nm,0.7s,baz=50,slow=6.2,SNR=16							
MKAR	**Makanchi Array**	**64.98**	**314**	P		**P**	**11 45 17.7**	**+0.6**
FINES	**FINESS Array B**	**67.01**	**353**	P		P	11 45 31.5	+1.6
	2.3nm,0.6s,baz=12,slow=9.8,SNR=7.4							
FINES	**FINESS Array B**	**67.01**	**353**	P		P	11 45 31.5	+1.6
ABKAR	**Akbulak array**	**71.66**	**329**	*e*P		**P**	**11 45 60.0**	**+1.1**
	1.8nm,0.7s							
AAK	**Ala-Archa**	**71.69**	**316**	*e*P		**P**	**11 45 60.0**	**+0.5**
	7.9nm,0.8s							
KKAR	**Karatay Array**	**72.99**	**319**	*e*P		**P**	**11 46 08.0**	**+1.0**
	1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**77.46**	**284**	P		**P**	**11 46 32.1**	**-0.9**
	0.4nm,0.3s,baz=12,slow=4.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**77.46**	**284**	P		**P**	**11 46 32.1**	**-0.9**
ASAR	**Alice Springs**	**90.19**	**231**	P		**P**	**11 47 36.0**	**-1.8**
	0.9nm,0.8s,baz=33,slow=4.3,SNR=7.4							
ASAR	**Alice Springs**	**90.19**	**231**	P		**P**	**11 47 36.0**	**-1.8**
CASY	**Casey**	**132.26**	**213**	*e*PKPdf		**PKPdf**	**11 53 50.4**	**+0.4**

*ISCJB **30** 11:45:28.5±0.8, 17.7°S×0.2°×175.2°W±0.2°, h228km, mb4.0/8, Error ellipse: s-maj=29.3km s-min=11.7km az=137.7*
*IDC **30** 11:45:28.6±2.7, 17.73°S×175.15°W, h211km±23km, mb3.8/5, mb1 4.0/6, mb1mx3.6/18, mbtmp3.9/6, Error ellipse: s-maj=74.7km s-min=16.1km az=137.0*
*NEIC **30** 11:45:29.8±1.4, 17.92°S×174.82°W, h238km±12km, mb4.2/5, Error ellipse: s-maj=29.7km s-min=12.2km az=143.0*

ISC 30 11:45:29.6±0.8, 17.7°S±0.2°×175.1°W±0.2°, h228km, n25, σ0°81/26, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.94**	**40**	P	**Pn**	**11 46 43.3**	**-0.9**
	21nm,0.3s,baz=172,slow=1.3,SNR=16						
AFI				S		11 47 37.0	
	88nm,0.3s,baz=35,slow=19,SNR=28						
AFI	**Afiamalu**	**4.94**	**40**	*e*Pn	**Pn**	**11 46 43.3**	**-0.9**
AFI				*e*S		11 47 36.8	
AFI				S		11 47 37.0	
MSVF	**Nonsavu**	**6.57**	**269**	*e*Pn	Pn	11 47 10.1	+5.3
	26nm,0.6s						
MSVF				*e*S		11 48 10.2	
URZ	**Urewera**	**21.57**	**197**	*e*Pn	**P**	**11 50 00.7**	**-0.6**
URZ				*e*S	**S**	**11 53 45.7**	**+1.2**
STKA	**Stephens Creek**	**41.52**	**242**	P	**P**	**11 52 55.2**	**+0.4**
	2.6nm,0.4s,baz=78,slow=11,SNR=18						
STKA	**Stephens Creek**	**41.52**	**242**	*e*P	**P**	**11 52 55.0**	**+0.2**
	0.6nm,0.6s						
WB2	**Warramunga Arr**	**47.79**	**259**	*e*P	**P**	**11 53 43.7**	**-0.8**
WB2				*e*pP	**pP**	**11 54 31.7**	**-2.1**
WB2				*e*sP	sP	11 54 53.9	-5.4
WRAB	**Tennant Creek**	**47.80**	**259**	*e*P	**P**	**11 53 44.0**	**-0.5**
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**47.80**	**259**	P	**P**	**11 53 43.8**	**-0.8**
	2.4nm,0.4s,baz=94,slow=7.8,SNR=44						
WRA	**Warramunga Arr**	**47.80**	**259**	P	**P**	**11 53 43.8**	**-0.8**
AS31	**Alice Springs**	**47.91**	**254**	*e*P	**P**	**11 53 45.2**	**-0.2**
ASAR	**Alice Springs**	**47.91**	**254**	P	**P**	**11 53 45.1**	**-0.3**
	31nm,0.6s,baz=90,slow=7.9,SNR=452						
ASAR	**Alice Springs**	**47.91**	**254**	P	**P**	**11 53 45.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**56.21**	**260**	*e*P	**P**	**11 54 46.6**	**+0.2**
	19nm,1.4s						
PETK	**Petropavlovsk-**	**74.38**	**343**	P	**P**	**11 56 43.3**	**+1.2**
	2.4nm,0.9s,baz=114,slow=6.5,SNR=3.8						
PETK	**Petropavlovsk-**	**74.38**	**343**	P	**P**	**11 56 43.3**	**+1.2**
RRI2	**Red Ridge**	**84.22**	**41**	*e*P	**P**	**11 57 35.4**	**-0.4**
	3.3nm,0.9s						
ILAR	**Eielson Array**	**85.03**	**12**	P	**P**	**11 57 39.5**	**+0.4**
	0.2nm,0.5s,baz=220,slow=5.2,SNR=9.8						
ILAR	**Eielson Array**	**85.03**	**12**	P		**11 57 39.5**	**+0.4**
BVAR	**Borovoye Array**	**118.72**	**321**	PKP	**PKiKP**	**12 03 50.6**	**+0.2**
	0.3nm,0.4s,baz=33,slow=3.4,SNR=3.1						
BVAR	**Borovoye Array**	**118.72**	**321**	PKP	**PKiKP**	**12 03 50.6**	**+0.2**
BRTR	**Keskin Array B**	**146.88**	**317**	PKPbc	**PKPbc**	**12 04 46.0**	**+0.5**
	0.7nm,0.7s,baz=107,slow=1.9,SNR=3.7						
BRTR	**Keskin Array B**	**146.88**	**317**	PKPbc	**PKPbc**	**12 04 46.0**	**+0.5**
DAVOX	**Davos/Dischmat**	**150.75**	**353**	PKPbc	**PKPbc**	**12 04 55.7**	**+0.7**
	2.0nm,0.5s,baz=207,slow=2.3,SNR=3.2						
DAVOX	**Davos/Dischmat**	**150.75**	**353**	PKPbc	**PKPbc**	**12 04 55.7**	**+0.7**

IGQ 30 11:56:37.8, 3.10°S×79.44°W, h12km±33km, Mb4.0, Ms3.8, 4C-2D, Error ellipse: s-maj=13.1km s-min=5.5km az=5.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	**Trigal station**	**1.85**	**31**	P	Pb	11 57 11.7	-0.4
BMAS	**Trigal station**	**1.85**	**31**	S	Sb	11 57 36.3	+0.7
RETU	**Refugio**	**1.91**	**31**	⇑S	Sb	11 57 38.4	+0.7
RETU	**Refugio**	**1.91**	**31**	⇑P	Pb	11 57 12.9	-0.5
BULB	**Ulba Tungurahu**	**1.94**	**32**	⇑S	Sb	11 57 39.1	+0.9
BULB	**Ulba Tungurahu**	**1.94**	**32**	⇑P	Pb	11 57 14.4	+0.7
RUN5	**Runtun**	**1.95**	**31**	S	Sb	11 57 39.4	+0.9
RUN5	**Runtun**	**1.95**	**31**	P	Pb	11 57 13.5	-0.3
BRUN	**Tungurahua Vol**	**1.96**	**32**	S	Sb	11 57 38.4	-0.1
BRUN	**Tungurahua Vol**	**1.96**	**32**	P	Pb	11 57 12.9	-1.0
PISA	**Pisayambo**	**2.28**	**27**	P	Pn	11 57 17.7	+1.7
BMOR	**Cotopaxi Volca**	**2.55**	**23**	P	Pb	11 57 22.3	-2.0
MOV1	**Cotopaxi Vol s**	**2.57**	**23**	P	Pb	11 57 22.5	-2.2
BNAS	**Cotopaxi Volca**	**2.59**	**22**	P	Pb	11 57 22.9	-2.1
BREF	**Cotopaxi Volca**	**2.61**	**22**	P	Pb	11 57 25.7	+0.3
TAMB	**Tambo**	**2.62**	**24**	P	Pb	11 57 24.1	-1.2
BTAM	**Cotopaxi Volca**	**2.62**	**23**	⇓P	Pb	11 57 23.3	-2.2
BVC2	**Cotopaxi Volca**	**2.63**	**23**	S	Sb	11 57 59.6	+1.1
BVC2	**Cotopaxi Volca**	**2.63**	**23**	P	Pb	11 57 24.6	-1.2
VC1	**Cotopaxi 1**	**2.65**	**23**	P	Pb	11 57 24.5	-1.5
ANTI	**Antisana**	**2.92**	**26**	⇓P	Pb	11 57 31.3	+0.6
GGP	**Refugio Guagua**	**3.02**	**16**	P	Pn	11 57 28.1	+1.8

MAN 30 12:09:38, 10.94°N×124.79°E, h1km, mb4.3, ML3.1, MS2.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.21**	**301**	*e*P	Pg	12 09 41.9	-0.2
OCLP				*e*S	Sg	12 09 44.7	-0.2
PLP	**Palo**	**0.29**	**39**	⇑*e*P	Pg	12 09 43.6	+0.1
PLP				*i* S	Sg	12 09 47.9	+0.6
MSLP	**Maasin**	**0.81**	**175**	*e*P	Pb	12 09 54.5	-0.3
MSLP				*e*S	Sn	12 10 08.1	-1.1
TBP	**Tagbilaran**	**1.54**	**217**	*e*P	Pb	12 10 07.1	-0.3

MEX 30 12:18:14.0±1.2, 18.05°N×100.79°W, h60km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.78**	**236**	*e*P	Pn	12 18 27.2	-1.9
ZIIG				*i* S	Sn	12 18 39.0	-1.3
CAIG	**El Cayaco**	**1.11**	**153**	*e*P	Pn	12 18 31.9	-1.6
CAIG				*i* S	Sn	12 18 45.8	-2.2
PLIG	**Platanillo**	**1.27**	**74**	*i* P	Pn	12 18 34.0	-1.8
PLIG				*i* S	Sn	12 18 47.7	-4.4
YAIG	**Yautepec**	**1.83**	**63**	*e*P	Pn	12 18 41.8	-1.6
YAIG				*i* S	Sn	12 19 03.0	-2.6
MMIG	**Aquila**	**2.44**	**276**	*e*P	Pn	12 18 52.8	+1.4
MMIG				*i* S	Sn	12 19 16.5	-3.7
UTMO	**Huajuapan**	**2.85**	**94**	*i* P	Pn	12 18 57.3	-0.1
PNIG	**Pinotepa**	**3.03**	**122**	*e*P	Pn	12 19 00.2	+0.6
PNIG				*i* S	Sn	12 19 31.1	-3.7
TPIG	**Tehuac#an**	**3.28**	**83**	*i* P	Pn	12 19 02.9	-0.4
TPIG				*i* S	Sn	12 19 37.7	-3.5
VHO	**Vista Hermosa**	**3.99**	**103**	*i* P	Pn	12 19 08.8	-4.2
VHO				*i* S	Sn	12 19 57.2	-1.5

MEX 30 12:19:13.0±0.5, 15.65°N×93.10°W, h118km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.13**	**297**	*e*P	Pn	12 19 27.6	-1.6
PCIG				*i* S	Sn	12 19 39.5	-1.9
THIG		**1.09**	**132**	*i* P	Pn	12 19 33.7	-2.1
THIG				*i* S	Sn	12 19 51.5	-1.5
CCIG	**Comitan**	**1.12**	**56**	*i* P	Pn	12 19 35.1	-1.2
CCIG				*i* S	Sn	12 19 52.0	-2.0
TGIG		**1.12**	**359**	*i* P	Pn	12 19 35.0	-1.3
TGIG				*i* S	Sn	12 19 52.2	-1.7
CMIG	**Matias Romero**	**2.23**	**310**	*i* P	Pn	12 19 49.0	-0.4
CMIG				*i* S	Sn	12 20 15.8	-1.4

IDC 30 12:42:49.4±2.3, 14.86°S×71.32W, h116km±25km, mb3.7/4, mb1 3.7/7, mb1mx3.5/20, mbtmp3.6/7, MS2.8/1, Ms1 2.8/1, ms1mx2.1/31, Error ellipse: s-maj=150.4km s-min=14.3km az=24.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.39**	**115**	P	Pn	12 43 41.6	+0.1
	7.5nm,0.3s,baz=268,slow=9.6,SNR=124						
LPAZ				S	Sn	12 44 32.6	+11
	baz=60,slow=20,SNR=2.2						
NNA	**Nana**	**6.08**	**297**	P	Pn	12 44 16.0	-1.0
	1.5nm,0.3s,baz=138,slow=15,SNR=5.5						
NNA				S	Sn	12 45 27.5	+2.0
	0.9nm,0.3s,baz=75,slow=20,SNR=3.0						
SIV	**San Ignacio**	**9.95**	**98**	P	Pn	12 45 08.1	-1.2
	0.5nm,0.3s,baz=274,slow=14,SNR=7.1						
ATAH	**Atahualpa**	**10.35**	**317**	LR	LR	12 49 48.1	
	comp=Z,45nm,18.3s,baz=337,slow=40						
TXAR	**Lajitas Array**	**53.91**	**325**	P	P	12 52 00.6	-0.5
	0.2nm,0.6s,baz=153,slow=12,SNR=2.5						
DBIC	**Dimbokro**	**69.26**	**77**	P	P	12 53 44.9	+0.5
	1.8nm,0.6s,baz=209,slow=8.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.43**	**73**	P	P	12 54 32.9	+0.5
	4.5nm,0.6s,baz=260,slow=5.5,SNR=55						
YKA	**Yellowknife Ar**	**84.20**	**341**	P	P	12 55 07.1	-0.2
	0.8nm,0.6s,baz=136,slow=4.9,SNR=25						
ZALV	**Zalesovo Beam**	**136.74**	**20**	PKP	PKPdf	13 01 56.6	-1.4
	0.4nm,0.6s,baz=343,slow=2.0,SNR=2.3						
MKAR	**Makanchi Array**	**141.29**	**29**	PKhKP	PKPpre	13 02 00.9	
	0.1nm,0.5s,baz=313,slow=1.6,SNR=3.2						
SONM	**Songino Array**	**147.07**	**3**	PKPbc	PKPbc	13 02 18.0	-0.9
	0.7nm,0.7s,baz=32,slow=3.8,SNR=5.6						

MAN 30 12:51:23, 11.14°N×124.71E, h23km, mb3.6, ML2.3, MS1.8, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.13**	**227**	*e*P	Pn	12 51 29.1	-0.5
OCLP				*e*S	Sb	12 51 31.6	+0.8
PLP	**Palo**	**0.27**	**85**	⇑*e*P	Pn	12 51 31.1	-0.5
PLP				*i* S	Sn	12 51 36.4	-0.6
MSLP	**Maasin**	**1.01**	**171**	*e*P	Pb	12 51 42.1	+0.2
MSLP				*e*S	Sb	12 51 53.0	-1.8

*IDC **30** 13:17:52.0±1.1, 10.98°N×124.96E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, MS3.3/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=68.1km s-min=16.1km az=65.0*
*MAN **30** 13:17:52, 11.01°N×124.83E, h3km, mb4.9, ML3.9, MS3.9*
MAN INTENSITY IV - ALBUERA LEYTE; INTENSITY III -ORMOC CITY.
*ISCJB **30** 13:17:53.4±0.5, 11.04°N±0.04°×124.78E±0.05, h20km±4km, mb3.9/11, MS3.2/5, Error ellipse: s-maj=8.4km s-min=6.3km az=176.4*
*NEIC **30** 13:17:53.6±0.6, 11.06°N×124.99E, h10km, mb4.3/3, Error ellipse: s-maj=39.8km s-min=8.6km az=64.0*
NEIC Felt [IV PIVS] at Albuera and [III PIVS] at Ormoc.

ISC 30 13:17:53.8±1.1, 10.97°N±0.04°×124.78E±0.05, h8km±7km, n32, σ1°09/33, mb4.0/11, MS3.1/5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.18**	**297**	*e*P	**Pg**	**13 17 57.1**	**-0.5**
OCLP				*e*S	**Sg**	**13 18 00.6**	**+0.4**
PLP	**Palo**	**0.28**	**45**	⇑*e*P	**Pg**	**13 17 58.8**	**-0.6**
PLP				*i* S	**Sg**	**13 18 03.6**	**+0.5**
MSLP	**Maasin**	**0.83**	**174**	*e*P	**Pg**	**13 18 09.3**	**-0.5**
MSLP				*e*S	**Sn**	**13 18 23.8**	**-0.5**
TBP	**Tagbilaran**	**1.56**	**215**	*e*P	**Pg**	**13 18 23.4**	**-0.3**
CGP	**Cagayan de Oro**	**2.50**	**182**	*e*P	**Pn**	**13 18 33.9**	**-0.9**
CGP				*i* S	**Sn**	**13 19 06.3**	**+0.8**
DAV	**Davao City (W)**	**3.95**	**168**	Pn	**Pn**	**13 18 57.3**	**+2.4**
	57nm,0.3s,baz=354,slow=9.2,SNR=2.5						
DAV				Lg	Lg	13 19 53.0	
	baz=253,slow=19,SNR=2.0						
DAV	**Davao City (W)**	**3.95**	**168**	Pn	**Pn**	**13 18 57.3**	**+2.4**
DAV				Lg	Lg	13 19 53.0	
JNU	**Nakatsue**	**22.75**	**13**	LR	LR	13 30 35.5	
	comp=Z,55nm,21.1s,baz=66,slow=34						
CMAR	**Chiang Mai Arr**	**26.05**	**290**	P	**P**	**13 23 29.2**	**+1.2**
	0.3nm,0.4s,baz=90,slow=10,SNR=4.1						
CMAR				LR	LR	13 35 04.5	
	comp=Z,24nm,18.6s,baz=110,slow=39						
CMAR	**Chiang Mai Arr**	**26.05**	**290**	P	**P**	**13 23 29.2**	**+1.2**
KSRS	**Korea Array**	**26.52**	**6**	LR	LR	13 33 05.7	
	comp=Z,54nm,20.3s,baz=195,slow=34						
WRAB	**Tennant Creek**	**32.12**	**163**	*e*P	**P**	**13 24 20.8**	**-1.1**
	12nm,1.4s						
WRA	**Warramunga Arr**	**32.13**	**163**	P	**P**	**13 24 20.2**	**-1.8**
	0.7nm,0.8s,baz=340,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**32.13**	**163**	P	**P**	**13 24 20.2**	**-1.8**
AS31	**Alice Springs**	**35.56**	**166**	*e*P	**P**	**13 24 50.1**	**-1.7**
ASAR	**Alice Springs**	**35.56**	**166**	P	**P**	**13 24 51.0**	**-0.8**
	1.4nm,0.8s,baz=345,slow=6.9,SNR=17						
ASAR	**Alice Springs**	**35.56**	**166**	P	**P**	**13 24 51.0**	**-0.8**
CTAO	**Charters Tower**	**37.41**	**145**	*e*P	**P**	**13 25 08.3**	**+0.6**
SONM	**Songino Array**	**39.87**	**341**	P	**P**	**13 25 28.9**	**+0.8**
	0.9nm,0.9s,baz=154,slow=9.6,SNR=6.2						
SONM				LR	LR	13 42 08.6	
	comp=Z,51nm,20.1s,baz=126,slow=36						
SONM	**Songino Array**	**39.87**	**341**	P	**P**	**13 25 28.9**	**+0.8**
STKA	**Stephens Creek**	**45.54**	**160**	P	**P**	**13 26 13.7**	**-0.5**
	2.5nm,0.9s,baz=354,slow=7.1,SNR=3.5						
STKA	**Stephens Creek**	**45.54**	**160**	P	**P**	**13 26 13.7**	**-0.5**
MK31	**Makanchi Array**	**50.59**	**323**	*e*P	**P**	**13 26 52.8**	**-0.4**
MKAR	**Makanchi Array**	**50.59**	**323**	P	**P**	**13 26 53.1**	**-0.1**
	1.2nm,0.7s,baz=125,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**50.59**	**323**	P	**P**	**13 26 53.1**	**-0.1**
ZALV	**Zalesovo Beam**	**53.32**	**332**	P	**P**	**13 27 12.3**	**-1.1**
	0.3nm,0.5s,baz=122,slow=7.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**53.32**	**332**	P	**P**	**13 27 12.3**	**-1.1**
KURK	**Kurchatov**	**54.67**	**326**	P	**P**	**13 27 23.0**	**-0.3**
	1.8nm,0.8s,baz=126,slow=7.0,SNR=12						
KURK	**Kurchatov**	**54.67**	**326**	P	**P**	**13 27 23.0**	**-0.3**
KKAR	**Karatay Array**	**56.72**	**315**	*e*P	**P**	**13 27 38.3**	**+0.1**
	1.5nm,0.8s						
ABKAR	**Akbulak array**	**65.39**	**319**	*e*P	**P**	**13 28 36.4**	**-0.6**
	2.2nm,0.9s						
GERES	**GERESS Array B**	**95.24**	**322**	LR	LR	14 17 54.3	
	comp=Z,63nm,19.3s,baz=54,slow=38						

*IDC **30** 13:24:57.7±0.5, 47.89°N×122.30W, h0km, mb4.1/16, mb1 4.5/21, mb1mx4.3/30, mbtmp4.3/21, ML4.1/4, MS3.3/7, Ms1 3.3/7, ms1mx2.9/48, Error ellipse: s-maj=16.5km s-min=8.0km az=67.0*
*BJI **30** 13:25:01.0, 47.80°N×122.60W, h40km, mB5.2/5, mb4.5/12, Ms5.2/3, Ms7 4.8/3*
*ISCJB **30** 13:25:03.2±0.1, 47.81°N±0.01°×122.43W±0.02, h60km±1km, mb4.5/53, MS3.9/6, Error ellipse: s-maj=2.1km s-min=1.5km az=136.0*
*NEIC **30** 13:25:03.0, 47.77°N×122.56W, h58km, mb4.6/28, MD4.5(SEA), MW4.5(USGS), MW4.6(PGC), After SEA.*
NEIC Felt [III] at Bremerton and [II] at Anacortes, Arlington, Auburn, Bainbridge Island, Belfair, Bellevue, Bellingham, Bonney Lake, Bothell, Buckley, Burlington, Camano Island, Carnation, Chimacum, Cle Elum, Clinton, Concrete, Coupeville, Darrington, Duvall, Eastsound, Eatonville, Edmonds, Enumclaw, Everett, Fall City, Federal Way, Fox Island, Freeland, Friday Harbor, Gig Harbor, Gold Bar, Granite Falls, Greenbank, Hansville, Index, Issaquah, Kenmore, Kent, Kingston, Kirkland, La Conner, Lacey, Lake Stevens, Lakebay, Lakewood, Langley, Leavenworth, Lynnwood, Maple Valley, Marysville, Mercer Island, Monroe, Mount Vernon, Mountlake Terrace, Mukilteo, Nordland, North Bend, Oak Harbor, Olalla, Olympia, Orting, Pacific, Port Angeles, Port Hadlock, Port Ludlow, Port Orchard, Port Townsend, Poulsbo, Puyallup, Quilcene, Redmond, Renton, Sammamish, Seabeck, Seattle, Sedro Woolley, Sequim, Silverdale, Snohomish, Snoqualmie, Spanaway, Stanwood, Sultan, Tacoma, University Place, Vashon and Woodinville. Felt in much of western Washington and as far east as Spokane. Also felt in the Portland area as far south as Salem, Oregon. Felt [II] at Abbotsford, Duncan, Nanaimo, Sooke, Vancouver, Victoria and White Rock, British Columbia.
*PNSN **30** 13:25:03.6, 47.79°N×122.57W, h63km, MD4.5, Fault plane solution: NP1:ϕs220.00000°, δ85.00000°, NP2: ϕs310.00000°, δ90.00000°, Principal axes: T Plg4.0000°, Azm175.0000°; P Plg4.0000°, Azm85.0000°;*
*PGC **30** 13:25:03.4±0.0, 47.80°N×122.67W, h71km, ML4.4/17, Mw4.6*
PGC 34km Wnw of Seattle, Wa Washington Felt (II-III) in Greater Victoria and Vancouver area.

ISC 30 13:25:03.4±0.4, 47.80°N±0.03°×122.51W±0.03, h53km±3km, h53km:pP-P, n631, σ1°26/894, mb4.6/53, MS3.4/6, 343C-370D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KINR	**Kitsap County**	**0.10**	**240**	⇓P	**Pn**	**13 25 12.6**	**+1.0**
LYNC	**Lynnwood City**	**0.15**	**82**	⇓P	**Pn**	**13 25 13.1**	**+1.3**
KITP	**Kitsap County**	**0.15**	**212**	⇓P	**Pn**	**13 25 13.0**	**+1.2**
BRKS	**Brookside Elem**	**0.16**	**108**	P	**Pn**	**13 25 13.4**	**+1.5**
LAWT	**Lawton Element**	**0.17**	**151**	P	**Pn**	**13 25 13.5**	**+1.6**
BEVT	**Boeing Everett**	**0.20**	**54**	⇑P	**Pn**	**13 25 13.5**	**+1.4**
BABE	**Bainbridge Sch**	**0.20**	**185**	⇑P	**Pn**	**13 25 13.6**	**+1.5**
QAW	**Queen Anne**	**0.20**	**149**	⇑P	**Pn**	**13 25 13.9**	**+1.8**
SEA	**Seattle**	**0.20**	**138**	⇑P	**Pn**	**13 25 13.9**	**+1.8**
FINN	**Finn Hill Juni**	**0.21**	**114**	P	**Pn**	**13 25 13.9**	**+1.8**
NOWS	**NOAA--Sand Poi**	**0.21**	**124**	P	**Pn**	**13 25 13.9**	**+1.8**
MEAN	**Meany Midle Sc**	**0.23**	**143**	P	**Pn**	**13 25 14.1**	**+1.9**
ALKI	**Alki Wastewate**	**0.24**	**165**	⇑P	**Pn**	**13 25 14.0**	**+1.7**
MNWA	**Manchester**	**0.24**	**184**	⇑P	**Pn**	**13 25 13.2**	**+0.6**
EVGW	**Everett Gatewa**	**0.24**	**78**	⇓P	**Pn**	**13 25 13.8**	**+1.4**
HART	**Harbor Island**	**0.25**	**154**	P	**Pn**	**13 25 14.5**	**+2.2**
HOLY	**Holy Rosary Sc**	**0.25**	**160**	⇑P	**Pn**	**13 25 14.1**	**+1.7**
LEOT	**Leota Junior H**	**0.27**	**98**	⇓P	**Pn**	**13 25 14.1**	**+1.6**
KIMB	**Kimball Elemen**	**0.27**	**148**	P	**Pn**	**13 25 14.3**	**+1.8**
ACES	**Army Corps of**	**0.27**	**155**	⇑P	**Pn**	**13 25 14.4**	**+1.8**
EVCC	**Everett Colleg**	**0.29**	**45**	⇑P	**Pn**	**13 25 14.3**	**+1.6**
TKCO	**King County**	**0.30**	**152**	⇑P	**Pn**	**13 25 14.3**	**+1.5**
BSFP	**Boeing Fire Pr**	**0.32**	**153**	P	**Pn**	**13 25 14.4**	**+1.4**
GMW	**Gold Mountain**	**0.32**	**216**	⇑P	**Pn**	**13 25 13.3**	**+0.3**
GNW	**Green Mountain**	**0.32**	**222**	*e*Pg	**Pn**	**13 25 13.3**	**+0.3**
GNW				*e*Sg	**Sn**	**13 25 20.6**	**+0.7**
BLH	**Bald Hill**	**0.32**	**84**	⇓P	**Pn**	**13 25 14.0**	**+1.0**
EARN	**East Ridge Ele**	**0.32**	**101**	⇓P	**Pn**	**13 25 14.5**	**+1.5**
RHAZ	**Hazelwood Elem**	**0.34**	**140**	⇓P	**Pn**	**13 25 14.3**	**+1.2**
KIMR	**Kitsap County**	**0.35**	**210**	P	**Pn**	**13 25 13.6**	**+0.3**
ALCT	**Alcott Element**	**0.36**	**116**	⇓P	**Pn**	**13 25 14.9**	**+1.6**
BLN	**Blyn Mountain**	**0.37**	**303**	⇑P	**Pn**	**13 25 14.2**	**+0.7**
PNLK	**Pine Lake Midd**	**0.40**	**124**	⇓P	**Pn**	**13 25 15.0**	**+1.4**
HDW	**Hoodsport**	**0.40**	**247**	⇓P	**Pn**	**13 25 14.0**	**+0.1**
MPL	**Maple Valley S**	**0.40**	**147**	⇑P	**Pn**	**13 25 14.9**	**+1.2**
MBPA	**Monroe Substat**	**0.43**	**77**	⇓P	**Pn**	**13 25 15.2**	**+1.2**
HICC	**Highline Commu**	**0.44**	**161**	⇑P	**Pn**	**13 25 15.2**	**+1.0**
SQM	**Sequim**	**0.45**	**307**	⇓P	**Pn**	**13 25 15.5**	**+1.2**
KNEL	**Kent Elementar**	**0.46**	**158**	⇑P	**Pn**	**13 25 15.6**	**+1.2**
HTW	**Haystack Looko**	**0.50**	**90**	⇑P	**Pn**	**13 25 15.9**	**+1.0**
ATES	**Arlington Traf**	**0.53**	**35**	⇑P	**Pn**	**13 25 16.3**	**+1.1**
ELW	**Echo Lake**	**0.53**	**125**	⇓P	**Pn**	**13 25 16.3**	**+1.0**
UPS	**University of**	**0.54**	**178**	⇑P	**Pn**	**13 25 16.0**	**+0.7**
JCW	**Jim Creek**	**0.55**	**45**	*e*Pg	**Pn**	**13 25 16.6**	**+1.1**
TBPA	**Tacoma Substat**	**0.56**	**170**	⇑P	**Pn**	**13 25 16.3**	**+0.9**
RMW	**Rattlesnake Mo**	**0.59**	**126**	⇓P	**Pn**	**13 25 16.9**	**+1.0**
MEW	**McN

HOPB Hope 1.74 24 ⇓P Pn 13 25 32.6 +1.4
HOPB ⇓S Sn 13 25 53.4 +1.1
MTMW Mount Mitchell 1.79 173 ⇑P Pn 13 25 33.4 +1.4
NLO Nicolai Mounta 1.83 201 ⇑P Pn 13 25 32.9 +0.3
DHW2 Dyer Hill 2 1.85 83 ⇓P Pn 13 25 34.0 +1.2
MGB Mount Grey 1.88 310 ⇑P Pn 13 25 33.3 +0.1
MGB ⇓S Sn 13 25 54.8 -1.1
GHNB Nanoose 1.89 323 ⇑P Pn 13 25 33.4 +0.2
GHNB ⇓S Sn 13 25 54.9 -1.0
WPB Watts Point 1.91 346 ⇑P Pn 13 25 34.2 +0.7
WPB ⇑S Sn 13 25 56.4 -0.1
MXC Moxie City 1.95 128 ⇓P Pn 13 25 35.2 +1.2
GULW Guler Mountain 1.98 161 ⇑P Pn 13 25 35.8 +1.2
SHB Sechelt 2.01 334 ⇑P Pn 13 25 35.5 +0.6
SHB ⇓S Sn 13 25 58.5 -0.5
EPH Ephrata 2.02 102 ⇓P Pn 13 25 35.8 +0.7
BMSB Bamfield Mari 2.03 301 ⇓P Pn 13 25 34.5 -0.7
BMSB ⇓S Sn 13 25 57.2 -2.2
BVW Beverly 2.04 118 ⇓P Pn 13 25 36.3 +0.9
SAW Saint Andrews 2.10 92 ⇓P Pn 13 25 36.8 +0.6
ALB Alberni 2.13 314 ⇓P Pn 13 25 36.5 0.0
ALB ⇑S Sn 13 26 00.4 -1.3
APM Augspurger Mou 2.15 164 ⇑P Pn 13 25 38.2 +1.4
BRVW Black Rock Val 2.17 127 ⇓P Pn 13 25 38.1 +1.0
HUBA Hudson Bay Hig 2.18 183 ⇑P Pn 13 25 38.3 +1.2
GL2 New Goldendale 2.18 147 P Pn 13 25 38.1 +0.9
KMOR Kings Mountain 2.27 198 ⇑P Pn 13 25 38.3 -0.3
TXB Texada 2.28 327 ⇓P Pn 13 25 39.0 +0.3
TXB ⇑S Sn 13 26 05.1 -0.5
VLMM Larch Mountain 2.29 172 ⇓P Pn 13 25 40.2 +1.4
OZB Mount Ozzard 2.30 301 ⇑P Pn 13 25 38.1 -0.8
OZB ⇑S Sn 13 26 03.5 -2.6
WSLR Whistler 2.34 353 ⇑P Pn 13 25 40.6 +1.2
RSW Rattlesnake Hi 2.44 124 *e*Pn Pn 13 25 41.7 +0.8
PNT Penticton 2.45 51 ⇓P Pn 13 25 42.2 +1.4
HAWA Hanford 2.48 124 *e*Pn Pn 13 25 41.9 +0.6
HOOD Mount Hood Mea 2.55 166 *e*Pn Pn 13 25 43.5 +1.1
BTB Buttle Lake 2.60 311 ⇓P Pn 13 25 43.1 0.0
BTB ⇑S Sn 13 26 12.3 -1.2
OD2 Odessa Site #2 2.60 98 *e*Pn Pn 13 25 43.3 +0.3
HEBO Mount Hebo 2.73 199 *e*Pn Pn 13 25 44.6 -0.2
LLLB Lillooet 2.84 8 ⇑P Pn 13 25 47.5 +1.3
COR Corvallis 3.27 190 *e*Pn Pn 13 25 52.8 +0.8
LNOR Lincton Mounta 3.48 122 *e*Pn Pn 13 25 55.8 +0.6
NEW Newport 3.64 81 *e*Pn Pn 13 25 57.3 0.0
NEW Newport 3.64 81 ⇑P Pn 13 25 57.4 +0.1
baz=3.7
NEW ⇑P Pn 13 25 57.4 +0.1
baz=3.7
NEW ⇓S Sn 13 26 39.2 +0.2
baz=3.7
NEW ⇓S Sn 13 26 39.2 +0.2
baz=3.7
C11A Tepee Creek (N 4.21 87 ⇑P Pn 13 26 05.2 +0.1
baz=4.2
C11A ⇑P Pn 13 26 05.2 +0.1
baz=4.2
BMO Blue Mountains 4.66 127 *e*Pn Pn 13 26 11.8 +0.6
B12A Libby 4.68 79 ⇑P Pn 13 26 11.7 +0.2
baz=4.7
B12A ⇑P Pn 13 26 11.7 +0.2
baz=4.7
A12A Yaak River Ran 4.71 74 ⇑P Pn 13 26 12.5 +0.6
baz=4.7
A12A ⇑P Pn 13 26 12.5 +0.6
baz=4.7
C12B Naegeli Ranch, 4.75 89 ⇓P Pn 13 26 12.3 -0.1
baz=4.8
C12B ⇓P Pn 13 26 12.3 -0.1
baz=4.8
KEBM Edson Butte 5.10 195 *e*Pn Pn 13 26 16.9 -0.4
BSMT Bassoo Peak 5.20 87 *e*Pn Pn 13 26 18.7 -0.1
HUMO Hull Mountain 5.21 184 *e*Pn Pn 13 26 19.9 +1.2
C13A Hot Springs 5.36 88 ⇑P Pn 13 26 20.7 0.0
baz=5.4
C13A ⇑P Pn 13 26 20.7 0.0
baz=5.4
B13A Whitefish 5.42 81 ⇑P Pn 13 26 21.5 -0.1
baz=5.4
B13A ⇑P Pn 13 26 21.5 -0.1
baz=5.4
BLMT Blacktail Moun 5.48 85 *e*Pn Pn 13 26 22.5 -0.1
D13A Huson 5.51 94 ⇓P Pn 13 26 22.5 -0.3
baz=5.5
D13A ⇓P Pn 13 26 22.5 -0.3
baz=5.5
D13A ⇑S Sn 13 27 24.1 -0.8
baz=5.5
D13A ⇑S Sn 13 27 24.1 -0.8
baz=5.5
JTMT Jette 5.55 88 *e*Pn Pn 13 26 23.4 -0.1
BBB Bella Bella 5.68 323 Pn Pn 13 26 25.4 +0.3
13nm,0.3s,baz=140,slow=9.2,SNR=32
BBB Sn Sn 13 27 26.2 -2.7
11nm,0.3s,baz=248,slow=23,SNR=6.6
BBB Lg Lg 13 27 50.5
16nm,0.3s,baz=63,slow=21,SNR=3.6
BBB Bella Bella 5.68 323 Pn Pn 13 26 25.4 +0.3
BBB Sn Sn 13 27 26.2 -2.7
BBB Lg Lg 13 27 50.5
KBO Bosley Butte 5.72 193 *e*Pn Pn 13 26 25.1 -0.7
115nm,0.9s
YBMT Yellow Bay 5.72 86 *e*Pn Pn 13 26 25.6 -0.3
89nm,0.5s
SWMT Swartz Lake 5.76 90 *e*Pn Pn 13 26 26.0 -0.4
E13A Victor 5.84 100 ⇓P Pn 13 26 27.5 0.0
baz=5.9,SNR=672
E13A ⇓P Pn 13 26 27.5 0.0
baz=5.9,SNR=672
E13A ⇑S Sn 13 27 32.2 -0.9
baz=5.9
E13A ⇑S Sn 13 27 32.2 -0.9
baz=5.9
WALA Waterton Lakes 5.86 74 *e*Pn Pn 13 26 28.2 +0.5
3.5nm,0.4s
MSO Missoula 5.91 96 *e*Pn Pn 13 26 27.9 -0.4
MSO Missoula 5.91 96 ⇓P Pn 13 26 27.9 -0.4
baz=5.9
MSO ⇓P Pn 13 26 27.9 -0.4
baz=5.9
MSO ⇑S Sn 13 27 34.1 -0.6
baz=5.9
MSO ⇑S Sn 13 27 34.1 -0.6
baz=5.9
F13A Darby 5.97 107 ⇑P Pn 13 26 29.3 +0.1
baz=6.0
F13A ⇑P Pn 13 26 29.3 +0.1
baz=6.0
F13A ⇓S Sn 13 27 36.8 +0.6
baz=6.0
F13A ⇓S Sn 13 27 36.8 +0.6
baz=6.0
YBH Yreka Blue Hor 6.07 181 Pn Pn 13 26 32.1 +1.4
17nm,0.3s,baz=12,slow=13,SNR=587
YBH Lg Lg 13 28 18.9
baz=170,slow=15,SNR=1.8
YBH Yreka Blue Hor 6.07 181 *e*Pn Pn 13 26 31.9 +1.2
45nm,0.4s
YBH Lg Lg 13 28 18.9
MOD Modoc 6.11 164 *e*Pn Pn 13 26 34.4 +3.3
SLMT Seeley Lake 6.13 92 *e*Pn Pn 13 26 31.0 -0.5
A14A Double T Ranch 6.17 76 ⇓P Pn 13 26 32.5 +0.6
baz=6.2
A14A ⇓P Pn 13 26 32.5 +0.6
baz=6.2
B14A Marquette Ranc 6.21 81 ⇑P Pn 13 26 32.4 -0.2
baz=6.2
B14A ⇑P Pn 13 26 32.4 -0.2
baz=6.2
H12A Diamond D Ranc 6.23 119 ⇓P Pn 13 26 33.1 +0.2
baz=6.2
H12A ⇓P Pn 13 26 33.1 +0.2
baz=6.2
E14A Clinton 6.31 99 ⇑P Pn 13 26 33.8 -0.1
baz=6.3,SNR=64
E14A ⇑P Pn 13 26 33.8 -0.1
baz=6.3,SNR=64
E14A ⇓S Sn 13 27 44.8 +0.1
baz=6.3
E14A ⇓S Sn 13 27 44.8 +0.1
baz=6.3
G13A Cobalt 6.33 112 ⇓P Pn 13 26 34.7 +0.6
baz=6.3
G13A ⇓P Pn 13 26 34.7 +0.6
baz=6.3

CHMT Chamberlain Mo 6.35 95 *e*Pn Pn 13 26 34.2 -0.3
KRMB Red Mountain 6.36 190 *e*Pn Pn 13 26 35.4 +0.8
MFID Camas Ranch 6.42 131 *e*Pn Pn 13 26 36.3 +0.9
MFID Camas Ranch 6.42 131 ⇓P Pn 13 26 36.3 +0.9
baz=6.4
MFID ⇓P Pn 13 26 36.3 +0.9
baz=6.4
F14A Wisdom 6.58 104 ⇓P Pn 13 26 37.9 +0.2
baz=6.6,SNR=42
F14A ⇓P Pn 13 26 37.9 +0.2
baz=6.6,SNR=42
H13A Challis 6.58 116 ⇓P Pn 13 26 38.0 +0.4
baz=6.6
H13A ⇓P Pn 13 26 38.0 +0.4
baz=6.6
H13A ⇑S Sn 13 27 52.2 +0.8
baz=6.6
H13A ⇑S Sn 13 27 52.2 +0.8
baz=6.6
A15A Johnson Ranch, 6.62 76 ⇑P Pn 13 26 38.6 +0.5
baz=6.6
A15A ⇑P Pn 13 26 38.6 +0.5
baz=6.6
C15A Salmond Ranch, 6.67 87 ⇓P Pn 13 26 39.0 +0.1
baz=6.7
C15A ⇓P Pn 13 26 39.0 +0.1
baz=6.7
B15A Bradely Ranch, 6.69 82 ⇑P Pn 13 26 38.7 -0.3
baz=6.7
B15A ⇑P Pn 13 26 38.7 -0.3
baz=6.7
G14A Jackson 6.75 109 ⇑P Pn 13 26 40.3 +0.3
baz=6.8
G14A ⇑P Pn 13 26 40.3 +0.3
baz=6.8
D15A Lincoln 6.82 93 ⇓P Pn 13 26 40.7 -0.2
baz=6.8
D15A ⇓P Pn 13 26 40.7 -0.2
baz=6.8
E15A Deer Lodge 6.88 98 ⇑P Pn 13 26 41.5 -0.2
baz=6.9,SNR=94
E15A ⇑P Pn 13 26 41.5 -0.2
baz=6.9,SNR=94
E15A ⇓S Sn 13 27 57.3 -1.2
baz=6.9
E15A ⇓S Sn 13 27 57.3 -1.2
baz=6.9
KHMM Horse Mountain 6.98 188 *e*Pn Pn 13 26 43.7 +0.5
I13A Wildhorse Cree 7.03 121 ⇑P Pn 13 26 44.1 +0.2
baz=7.0
I13A ⇑P Pn 13 26 44.1 +0.2
baz=7.0
HLID Hailey 7.08 124 *e*Pn Pn 13 26 45.2 +0.7
HLID Hailey 7.08 124 ⇓P Pn 13 26 45.0 +0.5
baz=7.1
HLID ⇓P Pn 13 26 45.0 +0.5
baz=7.1
H14A Leadore 7.10 113 ⇑P Pn 13 26 45.2 +0.5
baz=7.1
H14A ⇑P Pn 13 26 45.2 +0.5
baz=7.1
F15A Butte 7.15 102 ⇓P Pn 13 26 45.5 +0.1
baz=7.2,SNR=73
F15A ⇓P Pn 13 26 45.5 +0.1
baz=7.2,SNR=73
LRM Limekiln Ridge 7.18 102 *e*Pn Pn 13 26 46.0 +0.1
WDC Whiskeytown Da 7.22 180 *e*Pn Pn 13 26 46.0 -0.3
C16A Fuhringer Ranc 7.25 86 ⇓P Pn 13 26 47.0 +0.3
baz=7.3
C16A ⇓P Pn 13 26 47.0 +0.3
baz=7.3
DLMT Dillon 7.25 106 *e*Pn Pn 13 26 47.4 +0.5
B16A M & M Farms, S 7.26 81 ⇓P Pn 13 26 47.5 +0.7
baz=7.3
B16A ⇓P Pn 13 26 47.5 +0.7
baz=7.3
J13A Cove Ranch, Pi 7.32 124 ⇑P Pn 13 26 48.8 +1.1
baz=7.3
J13A ⇑P Pn 13 26 48.8 +1.1
baz=7.3
MCMT McKenzie Canyo 7.32 110 *e*Pn Pn 13 26 48.3 +0.4
19nm,0.4s
HRY Holter Researc 7.35 95 *e*Pn Pn 13 26 47.9 -0.2
A16A West Butte Ran 7.36 77 ⇑P Pn 13 26 48.7 +0.4
baz=7.4
A16A ⇑P Pn 13 26 48.7 +0.4
baz=7.4
G15A Dillon 7.40 107 ⇑P Pn 13 26 49.1 +0.1
baz=7.4
G15A ⇑P Pn 13 26 49.1 +0.1
baz=7.4
I14A Mackay 7.42 118 ⇑P Pn 13 26 49.3 +0.2
baz=7.4
I14A ⇑P Pn 13 26 49.3 +0.2
baz=7.4
D16A Dana Ranch, Ca 7.48 92 ⇑P Pn 13 26 49.9 +0.1
baz=7.5
D16A ⇑P Pn 13 26 49.9 +0.1
baz=7.5
E16A East Helena 7.49 96 ⇓P Pn 13 26 49.9 -0.2
baz=7.5,SNR=61
E16A ⇓P Pn 13 26 49.9 -0.2
baz=7.5,SNR=61
H15A Lima 7.55 111 ⇑P Pn 13 26 51.4 +0.5
baz=7.6
H15A ⇑P Pn 13 26 51.4 +0.5
baz=7.6
J14A Carey 7.74 122 ⇑P Pn 13 26 54.6 +1.1
baz=7.7
J14A ⇑P Pn 13 26 54.6 +1.1
baz=7.7
F16A Kennard Place, 7.74 101 ⇓P Pn 13 26 53.5 +0.1
baz=7.7,SNR=12
F16A ⇓P Pn 13 26 53.5 +0.1
baz=7.7,SNR=12
BOZ Bozeman (W) 7.78 102 *e*Pn Pn 13 26 54.5 +0.4
BOZ Bozeman (W) 7.78 102 ⇑P Pn 13 26 54.4 +0.4
baz=7.8,SNR=85
BOZ ⇑P Pn 13 26 54.4 +0.4
baz=7.8,SNR=85
BOZ ⇑P Pn 13 26 54.4 +0.4
baz=7.8,SNR=85
BOZ ⇑P Pn 13 26 54.4 +0.4
baz=7.8,SNR=85
G16A Moss Hill, Enn 7.82 105 ⇑P Pn 13 26 55.0 +0.3
baz=7.8,SNR=48
G16A ⇑P Pn 13 26 55.0 +0.3
baz=7.8,SNR=48
B17A L&G Farms, Che 7.87 82 ⇑P Pn 13 26 55.2 +0.1
baz=7.9
B17A ⇑P Pn 13 26 55.2 +0.1
baz=7.9
C17A Wharram Farm, 7.93 87 ⇑P Pn 13 26 56.0 +0.1
baz=7.9
C17A ⇑P Pn 13 26 56.0 +0.1
baz=7.9
A17A Triple J Farms 7.95 77 ⇑P Pn 13 26 56.5 +0.3
baz=8.0
A17A ⇑P Pn 13 26 56.5 +0.3
baz=8.0
I15A Monteview 7.96 115 ⇑P Pn 13 26 57.4 +0.9
baz=8.0
I15A ⇑P Pn 13 26 57.4 +0.9
baz=8.0
KIPM Iron Peak 8.02 185 *e*Pn Pn 13 26 58.4 +1.0
43nm,0.7s
D17A Six Diamond Ra 8.04 90 ⇑P Pn 13 26 57.4 -0.2
baz=8.0
D17A ⇑P Pn 13 26 57.4 -0.2
baz=8.0
E17A Martinsdale 8.06 95 ⇓P Pn 13 26 58.1 +0.2
baz=8.1,SNR=103
E17A ⇓P Pn 13 26 58.1 +0.2
baz=8.1,SNR=103
KCPM Cahto Peak 8.15 186 *e*Pn Pn 13 26 59.5 +0.3
QLMT Earthquake Lak 8.23 107 *e*Pn Pn 13 27 01.0 +0.8
BMN Battle Mountai 8.29 151 *e*Pn Pn 13 27 05.9 +4.8
J15A Blackfoot 8.32 118 ⇓P Pn 13 27 02.2 +0.7
baz=8.3
J15A ⇓P Pn 13 27 02.2 +0.7
baz=8.3
F17A Fitzpatrick Pl 8.34 99 ⇓P Pn 13 27 02.3 +0.5
baz=8.4,SNR=70
F17A ⇓P Pn 13 27 02.3 +0.5
baz=8.4,SNR=70
H16A Russell Place, 8.40 108 ⇑P Pn 13 27 03.3 +0.7
baz=8.4,SNR=78
H16A ⇑P Pn 13 27 03.3 +0.7
baz=8.4,SNR=78
G17A Pierce Place, 8.48 103 ⇓P Pn 13 27 04.4 +0.7
baz=8.5
G17A ⇓P Pn 13 27 04.4 +0.7
baz=8.5
OHCM Honcut 8.50 175 *e*Pn Pn 13 27 06.9 +3.1
A18A Metzger Ranch, 8.51 78 ⇓P Pn 13 27 04.0 +0.1
baz=8.5
A18A ⇓P Pn 13 27 04.0 +0.1
baz=8.5
B18A Beardsley Farm 8.54 81 ⇓P Pn 13 27 04.9 +0.5
baz=8.6
B18A ⇓P Pn 13 27 04.9 +0.5
baz=8.6
EGMT Eagleton 8.57 84 *e*Pn Pn 13 27 04.9 +0.1
EGMT Eagleton 8.57 84 ⇑P Pn 13 27 05.0 +0.2
baz=8.6
EGMT ⇑P Pn 13 27 05.0 +0.2
baz=8.6
YMR Madison River 8.60 107 *e*Pn Pn 13 27 06.5 +1.2
94nm,0.8s
D18A Linhart Farms, 8.63 89 ⇑P Pn 13 27 05.8 +0.2
baz=8.6
D18A ⇑P Pn 13 27 05.8 +0.2
baz=8.6
I16A Newdale 8.64 113 ⇑P Pn 13 27 06.6 +0.8
baz=8.6
I16A ⇑P Pn 13 27 06.6 +0.8
baz=8.6
E18A Harlowton 8.67 94 ⇓P Pn 13 27 06.6 +0.3
baz=8.7,SNR=17
E18A ⇓P Pn 13 27 06.6 +0.3
baz=8.7,SNR=17
K15A Arbon 8.70 122 ⇓P Pn 13 27 08.8 +2.2
baz=8.7
K15A ⇓P Pn 13 27 08.8 +2.2
baz=8.7
WCN Washoe City 8.73 166 *e*Pn Pn 13 27 09.4 +2.3
WCN Washoe City 8.73 166 ⇓P Pn 13 27 09.4 +2.3
baz=8.7
WCN ⇓P Pn 13 27 09.4 +2.3
baz=8.7
YNR Norris Junctio 8.76 106 *e*Pn Pn 13 27 09.1 +1.6
38nm,0.9s
ELK Elko 8.77 141 Pn Pn 13 27 13.0 +5.3
0.6nm,0.3s,baz=317,slow=12,SNR=95
ELK Lg Lg 13 29 36.9
0.2nm,0.3s,baz=163,slow=19,SNR=2.7
ELK LR LR 13 30 36.3
comp=Z,75nm,21.9s,baz=146,slow=39
ELK Elko 8.77 141 *e*Pn Pn 13 27 13.1 +5.3
YFT Old Faithful 8.77 108 *e*Pn Pn 13 27 07.9 +0.2
53nm,0.8s
HOPS Hopland 8.82 183 *e*Pn Pn 13 27 07.0 -1.1
J16A Bone 8.89 117 ⇑P Pn 13 27 10.4 +1.1
baz=8.9
J16A ⇑P Pn 13 27 10.4 +1.1
baz=8.9
H17A Grant Village 8.96 108 ⇓P Pn 13 27 11.4 +1.1
baz=9.0
H17A ⇓P Pn 13 27 11.4 +1.1
baz=9.0
DCID1 Drake Creek 8.97 114 *e*Pn Pn 13 27 10.1 -0.4
F18A Big Timber 8.97 98 ⇑P Pn 13 27 10.8 +0.5
baz=9.0
F18A ⇑P Pn 13 27 10.8 +0.5
baz=9.0
LKWY Lake 9.00 107 *e*Pn Pn 13 27 13.5 +2.6
RRI2 Red Ridge 9.02 115 *e*Pn Pn 13 27 11.0 -0.1
GCMT Greycliff 9.04 98 *e*Pn Pn 13 27 11.5 +0.2
19nm,0.7s
C19A Slack Wire Ran 9.07 85 ⇑P Pn 13 27 11.9 +0.3
baz=9.1
C19A ⇑P Pn 13 27 11.9 +0.3
baz=9.1
B19A Brinkman Farms 9.10 81 ⇓P Pn 13 27 12.4 +0.4
baz=9.1
B19A ⇓P Pn 13 27 12.4 +0.4
baz=9.1
K16A Soda Springs 9.16 119 ⇑P Pn 13 27 14.2 +1.2
baz=9.2
K16A ⇑P Pn 13 27 14.2 +1.2
baz=9.2
MOOW Moose Ponds 9.16 112 *e*Pn Pn 13 27 14.3 +1.2
TPAW Teton Pass 9.17 114 *e*Pn Pn 13 27 14.1 +0.8
I17A Pilgrim Ck. 9.19 111 ⇑P Pn 13 27 15.0 +1.6
baz=9.2,SNR=11
I17A ⇑P Pn 13 27 15.0 +1.6
baz=9.2,SNR=11
L15A Malad City 9.23 125 ⇑P Pn 13 27 15.5 +1.6
baz=9.2
L15A ⇑P Pn 13 27 15.5 +1.6
baz=9.2
A19A Klindworth Far 9.24 78 ⇑P Pn 13 27 14.2 +0.3
baz=9.2
A19A ⇑P Pn 13 27 14.2 +0.3
baz=9.2
D19A Cripps Ranch, 9.25 89 ⇓P Pn 13 27 14.8 +0.6
baz=9.3
D19A ⇓P Pn 13 27 14.8 +0.6
baz=9.3
G18A Lazy EL Ranch, 9.26 101 ⇓P Pn 13 27 15.2 +0.9
baz=9.3
G18A ⇓P Pn 13 27 15.2 +0.9
baz=9.3
REDW Red Top Meadow 9.30 114 *e*Pn Pn 13 27 16.1 +1.2
SNOW Snow King Moun 9.31 113 *e*Pn Pn 13 27 14.8 -0.2
LOHW Long Hollow 9.32 112 *e*Pn Pn 13 27 18.1 +2.8
J17A Brown Place, J 9.39 114 ⇓P Pn 13 27 17.5 +1.4
baz=9.4
J17A ⇓P Pn 13 27 17.5 +1.4
baz=9.4
H18A Shoshone NF, C 9.44 105 ⇑P Pn 13 27 18.0 +1.2
baz=9.4
H18A ⇑P Pn 13 27 18.0 +1.2
baz=9.4
E19A Rath Farm, Rou 9.45 93 ⇓P Pn 13 27 18.0 +1.1
baz=9.5
E19A ⇓P Pn 13 27 18.0 +1.1
baz=9.5
F19A Roth Farm, Mol 9.50 97 ⇑P Pn 13 27 18.6 +1.0
baz=9.5
F19A ⇑P Pn 13 27 18.6 +1.0
baz=9.5
RLMT Red Lodge 9.53 101 *e*Pn Pn 13 27 19.8 +1.8
RLMT Red Lodge 9.53 101 ⇓P Pn 13 27 19.5 +1.5
baz=9.5
RLMT ⇓P Pn 13 27 19.5 +1.5
baz=9.5
RLMT ⇓P Pn 13 27 19.5 +1.5
baz=9.5
RLMT ⇓P Pn 13 27 19.5 +1.5
baz=9.5
MCCM Marconi Confer 9.66 182 *e*Pn Pn 13 27 19.2 -0.4
B20A Solberg Farm, 9.71 81 ⇓P Pn 13 27 20.4 0.0
baz=9.7
B20A ⇓P Pn 13 27 20.4 0.0
baz=9.7
L16A Fish Haven 9.76 122 ⇓P Pn 13 27 23.5 +2.4
baz=9.8
L16A ⇓P Pn 13 27 23.5 +2.4
baz=9.8
D20A Manuel Ranch, 9.77 89 ⇑P Pn 13 27 22.0 +0.8
baz=9.8
D20A ⇑P Pn 13 27 22.0 +0.8
baz=9.8
C20A Veseth Ranch, 9.77 85 ⇓P Pn 13 27 21.6 +0.4
baz=9.8
C20A ⇓P Pn 13 27 21.6 +0.4
baz=9.8
I18A Diamond G Ranc 9.77 110 ⇓P Pn 13 27 23.4 +2.0
baz=9.8
I18A ⇓P Pn 13 27 23.4 +2.0
baz=9.8
A20A Cobblestone Ra 9.77 78 ⇑P Pn 13 27 21.5 +0.3
baz=9.8
A20A ⇑P Pn 13 27 21.5 +0.3
baz=9.8
NVAR Mina Array Bea 9.86 160 Pn Pn 13 27 25.9 +3.3
2.1nm,0.3s,baz=334,slow=12,SNR=76
NVAR Lg Lg 13 30 18.9
baz=7.7,slow=28,SNR=1.8
NVAR LR LR 13 31 37.6
comp=Z,213nm,19.7s,baz=8.7,slow=40
NVAR Mina Array Bea 9.86 160 Pn Pn 13 27 25.9 +3.3
H19A Powell 9.88 104 ⇓P Pn 13 27 24.0 +1.2
baz=9.9
H19A ⇓P Pn 13 27 24.0 +1.2

baz=9.9
CMB Columbia Colle 9.89 170 ePn Pn 13 27 22.1 -0.7
J18A Kendall Valley 9.89 113 ⇓P Pn 13 27 25.5 +2.4
baz=9.9
J18A ⇓P Pn 13 27 25.5 +2.4
baz=9.9
HWUT Hardware Ranch 9.95 125 ePn Pn 13 27 28.9 +5.2
F20A Billings 10.05 96 ⇓P Pn 13 27 26.1 +1.0
baz=10
F20A ⇓P Pn 13 27 26.1 +1.0
baz=10
I19A Meeteetse 10.14 107 ⇑P Pn 13 27 28.7 +2.3
baz=10
I19A ⇑P Pn 13 27 28.7 +2.3
baz=10
G20A Bridger 10.19 99 ⇑P Pn 13 27 27.8 +0.9
baz=10
G20A ⇑P Pn 13 27 27.8 +0.9
baz=10
DUG Dugway 10.32 134 ePn Pn 13 27 28.3 -0.5
DUG Dugway 10.32 134 ⇓P Pn 13 27 30.3 +1.5
baz=10
DUG ⇓P Pn 13 27 30.3 +1.5
baz=10
C21A Desert Coulee 10.37 84 ⇓P Pn 13 27 29.6 +0.2
baz=10
C21A ⇓P Pn 13 27 29.6 +0.2
baz=10
B21A Ellsworth Farm 10.38 81 ⇓P Pn 13 27 29.5 0.0
baz=10
B21A ⇓P Pn 13 27 29.5 0.0
baz=10
PD01 Pinedale Array 10.40 114 ePn Pn 13 27 29.5 -0.5
PD02 Pinedale Array 10.41 114 ePn Pn 13 27 29.4 -0.7
BW06 Boulder Array 10.42 114 ePn Pn 13 27 34.7 +4.4
BW06 Boulder Array 10.42 114 ⇓P Pn 13 27 33.0 +2.8
baz=10
BW06 ⇓P Pn 13 27 33.0 +2.8
baz=10
BW06 ⇓P Pn 13 27 33.0 +2.8
baz=10
BW06 ⇓P Pn 13 27 33.0 +2.8
baz=10
PDAR Pinedale Array 10.42 114 Pn Pn 13 27 30.7 +0.5
0.2nm,0.3s,baz=308,slow=11,SNR=22
PDAR Lg Lg 13 30 26.2
baz=302,slow=27,SNR=3.2
PDAR Pinedale Array 10.42 114 Pn Pn 13 27 30.8 +0.5
PDAR Lg Lg 13 30 26.2
A21A Bergtoll Ranch 10.44 78 ⇑P Pn 13 27 29.8 -0.4
baz=10
A21A ⇑P Pn 13 27 29.8 -0.4
baz=10
J19A Crowheart 10.47 111 ⇑P Pn 13 27 35.5 +4.6
baz=10
J19A ⇑P Pn 13 27 35.5 +4.6
baz=10
D21A La Casta Ranch 10.54 88 ⇑P Pn 13 27 32.7 +0.9
baz=10
D21A ⇑P Pn 13 27 32.7 +0.9
baz=10
M17A Scullys Gap (B 10.54 123 ⇑P Pn 13 27 34.0 +2.1
baz=10
M17A ⇑P Pn 13 27 34.0 +2.1
baz=10
E21A Keefer Ranch, 10.59 91 ⇑P Pn 13 27 33.4 +1.1
baz=11
E21A ⇑P Pn 13 27 33.4 +1.1
baz=11
H20A Greybull 10.60 103 ⇑P Pn 13 27 33.6 +1.0
baz=11
H20A ⇑P Pn 13 27 33.6 +1.0
baz=11
JLU Jordanelle 10.71 128 ePn Pn 13 27 34.3 0.0
R11A Troy Canyon, C 10.72 149 ⇓P Pn 13 27 37.9 +3.7
baz=11
R11A ⇓P Pn 13 27 37.9 +3.7
baz=11
F21A Absaloka Mine, 10.73 95 ⇑P Pn 13 27 35.4 +1.0
baz=11
F21A ⇑P Pn 13 27 35.4 +1.0
baz=11
I20A Worland 10.74 106 ⇓P Pn 13 27 36.7 +2.2
baz=11
I20A ⇓P Pn 13 27 36.7 +2.2
baz=11
N17A Moffit Pass 10.80 125 ⇓P Pn 13 27 38.5 +2.9
baz=11
N17A ⇓P Pn 13 27 38.5 +2.9
baz=11
MTUM Tungsten Hills 10.84 163 ePn Pn 13 27 44.0 +8.0
G21A Lodge Grass 10.86 98 ⇑P Pn 13 27 37.6 +1.5
baz=11
G21A ⇑P Pn 13 27 37.6 +1.5
baz=11
M18A Lyman 10.92 121 ⇓P Pn 13 27 40.6 +3.6
baz=11
M18A ⇓P Pn 13 27 40.6 +3.6
baz=11
L19A Farson 10.92 117 ⇓P Pn 13 27 40.4 +3.4
baz=11
L19A ⇓P Pn 13 27 40.4 +3.4
baz=11
J20A Shoshoni 11.04 108 ⇑P Pn 13 27 42.0 +3.4
baz=11
J20A ⇑P Pn 13 27 42.0 +3.4
baz=11
SAO San Andreas Ge 11.06 176 ePn Pn 13 27 38.0 -0.8
B22A Reddig Ranch S 11.07 81 ⇑P Pn 13 27 39.1 +0.2
baz=11
B22A ⇑P Pn 13 27 39.1 +0.2
baz=11
D22A Cohagen 11.08 87 ⇓P Pn 13 27 39.4 +0.4
baz=11
D22A ⇓P Pn 13 27 39.4 +0.4
baz=11
A22A Carney Farms, 11.10 78 ⇑P Pn 13 27 38.9 -0.5
baz=11
A22A ⇑P Pn 13 27 38.9 -0.5
baz=11
H21A Big Horn, Sher 11.18 101 ⇑P Pn 13 27 41.3 +0.8
baz=11
H21A ⇑P Pn 13 27 41.3 +0.8
baz=11
C22A Vida 11.19 84 ⇑P Pn 13 27 40.7 +0.1
baz=11
C22A ⇑P Pn 13 27 40.7 +0.1
baz=11
K20A Yellowstone Ra 11.23 112 ⇓P Pn 13 27 42.7 +1.4
baz=11
K20A ⇓P Pn 13 27 42.7 +1.4
baz=11
F22A Rosebud 11.33 94 ⇑P Pn 13 27 43.0 +0.6
baz=11
F22A ⇑P Pn 13 27 43.0 +0.6
baz=11
I21A Big Trails, Te 11.35 105 ⇓P Pn 13 27 43.8 +1.0
baz=11
I21A ⇓P Pn 13 27 43.8 +1.0
baz=11
E22A Miles City 11.37 91 ⇓P Pn 13 27 43.5 +0.4
baz=11
E22A ⇓P Pn 13 27 43.5 +0.4
baz=11
O17A Robinson Place 11.38 128 ⇑P Pn 13 27 48.3 +4.9
baz=11
O17A ⇑P Pn 13 27 48.3 +4.9
baz=11
J21A Lysite 11.46 107 ⇑P Pn 13 27 46.5 +2.1
baz=12
J21A ⇑P Pn 13 27 46.5 +2.1
baz=12
R13A O'Grain Ranch, 11.46 144 ⇓P Pn 13 27 47.8 +3.3
baz=12
R13A ⇓P Pn 13 27 47.8 +3.3
baz=12
G22A Birney 11.47 97 ⇑P Pn 13 27 45.2 +0.8
baz=12
G22A ⇑P Pn 13 27 45.2 +0.8
baz=12
H22A Clearmont 11.65 100 ⇓P Pn 13 27 47.9 +1.0
baz=12
H22A ⇓P Pn 13 27 47.9 +1.0
baz=12
C23A Lambert 11.65 84 ⇓P Pn 13 27 46.9 0.0
baz=12
C23A ⇓P Pn 13 27 46.9 0.0
baz=12
B23A Brockton 11.73 80 ⇓P Pn 13 27 47.4 -0.5
baz=12
B23A ⇓P Pn 13 27 47.4 -0.5
baz=12
N19A John Jarvie Ra 11.77 121 ⇓P Pn 13 27 50.7 +2.0
baz=12
N19A ⇓P Pn 13 27 50.7 +2.0
baz=12
A23A Redstone 11.78 78 ⇑P Pn 13 27 48.6 0.0
baz=12
A23A ⇑P Pn 13 27 48.6 0.0
baz=12
CWC Cottonwood Cre 11.82 162 ⇓P Pn 13 27 52.0 +2.7
baz=12
CWC ⇓P Pn 13 27 52.0 +2.7
baz=12
I22A 9 Mile Ranch, 11.84 103 ⇑P Pn 13 27 51.2 +1.6
baz=12
I22A ⇑P Pn 13 27 51.2 +1.6
baz=12
F23A Volborg 11.92 94 ⇓P Pn 13 27 50.8 +0.3
baz=12
F23A ⇓P Pn 13 27 50.8 +0.3
baz=12
MSU Marysvale 11.95 137 ePn Pn 13 27 50.1 -1.1
5.8nm,1.4s
ARUT Antelope Range 12.01 143 ePn Pn 13 27 55.4 +3.4
13nm,0.9s
J22A Midwest 12.05 105 ⇑P Pn 13 27 54.4 +2.0
baz=12
J22A ⇑P Pn 13 27 54.4 +2.0
baz=12
FURC Furnace Creek, 12.07 158 ⇓P Pn 13 27 56.2 +3.7
baz=12
FURC ⇓P Pn 13 27 56.2 +3.7
baz=12
G23A Biddle 12.08 96 ⇓P Pn 13 27 53.4 +0.7
baz=12
G23A ⇓P Pn 13 27 53.4 +0.7
baz=12
O19A Miners Draw (B 12.20 123 ⇑P Pn 13 27 57.1 +2.6
baz=12
O19A ⇑P Pn 13 27 57.1 +2.6
baz=12
C24A Savage 12.20 85 ⇑P Pn 13 27 54.2 -0.1
baz=12
C24A ⇑P Pn 13 27 54.2 -0.1
baz=12
L21A Rawlins 12.21 113 ⇓P Pn 13 27 57.4 +2.7
baz=12
L21A ⇓P Pn 13 27 57.4 +2.7
baz=12
VES Vestal, Richgr 12.22 167 ⇑P Pn 13 27 58.6 +3.9
baz=12
VES ⇑P Pn 13 27 58.6 +3.9
baz=12
CCUT Cedar City 12.25 143 ePn Pn 13 27 54.3 -0.9
DGMT Dagmar 12.26 80 ePn Pn 13 27 54.6 -0.5
DGMT Dagmar 12.26 80 ⇓P Pn 13 27 54.6 -0.5
baz=12
DGMT ⇓P Pn 13 27 54.6 -0.5
baz=12
PTRM Twissleman Ran 12.26 171 ePn Pn 13 27 59.1 +3.9
SRU San Rafael 12.29 131 ePn P 13 28 04.9 -1.5
SRU San Rafael 12.29 131 ⇑P Pn 13 27 57.9 +2.2
baz=12
SRU ⇑P Pn 13 27 57.9 +2.2
baz=12
MPMC Manual Prospec 12.31 161 ⇑P Pn 13 27 59.4 +3.3
baz=12
MPMC ⇑P Pn 13 27 59.4 +3.3
baz=12
N20A Spence Gulch, 12.35 119 ⇓P Pn 13 27 59.3 +2.8
baz=12
N20A ⇓P Pn 13 27 59.3 +2.8
baz=12
A24A Westby 12.36 78 ⇑P Pn 13 27 56.6 +0.1
baz=12
A24A ⇑P Pn 13 27 56.6 +0.1
baz=12
K22A Casper 12.39 109 ⇓P Pn 13 27 58.6 +1.6
baz=12
K22A ⇓P Pn 13 27 58.6 +1.6
baz=12
M21A Separation Pea 12.42 114 ⇓P Pn 13 27 59.1 +1.6
baz=12
M21A ⇓P Pn 13 27 59.1 +1.6
baz=12
E24A Baker 12.45 89 ⇑P Pn 13 27 58.8 +1.0
baz=12
E24A ⇑P Pn 13 27 58.8 +1.0
baz=12
ISA Isabella 12.50 165 ePn P 13 28 04.4 -4.3
ISA Isabella 12.50 165 ⇓P Pn 13 28 02.3 +3.8
baz=12
ISA ⇓P Pn 13 28 02.3 +3.8
baz=12
F24A Ekalaka 12.53 92 ⇑P Pn 13 27 57.9 -1.0
baz=12
F24A ⇑P Pn 13 27 57.9 -1.0
baz=13
SMMC Simmler 12.62 171 ⇓P Pn 13 28 01.3 +1.2
baz=13
SMMC ⇓P Pn 13 28 01.3 +1.2
baz=13
R17A Hanksville Air 12.72 133 ⇓P Pn 13 28 04.6 +3.0
baz=13
R17A ⇓P Pn 13 28 04.6 +3.0
baz=13
P19A Cripple Cowboy 12.73 125 ⇑P Pn 13 28 04.6 +2.8
baz=13
P19A ⇑P Pn 13 28 04.6 +2.8
baz=13
H24A Dirks Ranch, A 12.79 97 ⇑P Pn 13 28 01.5 -1.0
baz=13
H24A ⇑P Pn 13 28 01.5 -1.0
baz=13
O20A White River Ci 12.81 122 ⇑P Pn 13 28 04.6 +1.8
baz=13
O20A ⇑P Pn 13 28 04.6 +1.8
baz=13
LRMC Laurel Mountai 12.83 162 ⇓P Pn 13 28 06.3 +3.2
baz=13
LRMC ⇓P Pn 13 28 06.3 +3.2
baz=13
N21A Black Mountain 12.83 118 ⇑P Pn 13 28 05.1 +1.9
baz=13
N21A ⇑P Pn 13 28 05.1 +1.9
baz=13
PKM Peak Mountain 13.05 170 ⇓P Pn 13 28 09.4 +3.2
baz=13
PKM ⇓P Pn 13 28 09.4 +3.2
baz=13
Q19A Hogan Spring (13.06 128 ⇓P Pn 13 28 08.3 +2.1
baz=13
Q19A ⇓P Pn 13 28 08.3 +2.1
baz=13
I24A Kuemmerle Ranc 13.08 101 ⇓P Pn 13 28 07.9 +1.5
baz=13
I24A ⇓P Pn 13 28 07.9 +1.5
baz=13
P20A De Beque 13.15 124 ⇓P Pn 13 28 09.4 +1.9
baz=13
P20A ⇓P Pn 13 28 09.4 +1.9
baz=13
R18A Canyonlands Na 13.16 131 ⇑P Pn 13 28 08.8 +1.2
baz=13
R18A ⇑P Pn 13 28 08.8 +1.2
baz=13
GSC Goldstone 13.20 159 ePn P 13 28 14.3 -2.2
S17A Black Ridge (B 13.30 136 ⇑P Pn 13 28 12.0 +2.5
baz=13
S17A ⇑P Pn 13 28 12.0 +2.5
baz=13
EDW2 Edwards Air Fo 13.35 164 ⇓P Pn 13 28 12.9 +2.8
baz=13
EDW2 ⇓P Pn 13 28 12.9 +2.8
baz=13
RSSD Black Hills 13.37 99 ePn Pn 13 28 11.7 +1.3
N22A Wattenberg Ran 13.45 115 ⇑P Pn 13 28 13.0 +1.4
baz=13
N22A ⇑P Pn 13 28 13.0 +1.4
baz=13
R19A Curley Farm, L 13.56 130 ⇓P Pn 13 28 15.1 +2.1
baz=14
R19A ⇓P Pn 13 28 15.1 +2.1
baz=14
Q20A Ridgley Place, 13.59 125 ⇓P Pn 13 28 14.8 +1.4
baz=14
Q20A ⇓P Pn 13 28 14.8 +1.4
baz=14
S18A Hurst Farm, Bl 13.65 133 ⇑P Pn 13 28 14.5 +0.2
baz=14
S18A ⇑P Pn 13 28 14.5 +0.2
baz=14
U15A North Rim 13.65 143 ⇓P Pn 13 28 16.5 +2.1
baz=14
U15A ⇓P Pn 13 28 16.5 +2.1
baz=14
PV04 Paradox Valley 13.67 129 ePn Pn 13 28 15.0 +0.5
P21A Newcastle 13.67 122 ⇓P Pn 13 28 16.4 +1.8
baz=14
P21A ⇓P Pn 13 28 16.4 +1.8
baz=14
N23A Red Feather La 13.71 114 ⇓P Pn 13 28 16.5 +1.3
baz=14
N23A ⇓P Pn 13 28 16.5 +1.3
baz=14
HEC Hector,Ludlow 13.76 158 ⇓P Pn 13 28 17.5 +1.7
baz=14
HEC ⇓P Pn 13 28 17.5 +1.7
baz=14
PHWY Pilot Hill 13.78 112 ePn Pn 13 28 17.4 +1.3
O22A Kremmling 13.78 118 ⇓P Pn 13 28 17.5 +1.3
baz=14
O22A ⇓P Pn 13 28 17.5 +1.3
baz=14
GMRC Granite Mounta 13.98 156 ⇑P Pn 13 28 20.4 +1.6
baz=14
GMRC ⇑P Pn 13 28 20.4 +1.6
baz=14
P22A Eagle 14.02 120 ⇓P Pn 13 28 20.2 +0.8
baz=14
P22A ⇓P Pn 13 28 20.2 +0.8
baz=14
S19A Harvey Farm, M 14.03 131 ⇓P Pn 13 28 21.3 +1.8
baz=14
S19A ⇓P Pn 13 28 21.3 +1.8
baz=14
PV01 Paradox Valley 14.03 128 ePn Pn 13 28 19.0 -0.6
411nm,0.6s
M24A Cheyenne 14.08 110 ⇓P Pn 13 28 21.4 +1.3
baz=14
M24A ⇓P Pn 13 28 21.4 +1.3
baz=14
K25A Mack Ranch, Ha 14.12 105 ⇓P Pn 13 28 20.6 +0.1
baz=14
K25A ⇓P Pn 13 28 20.6 +0.1
baz=14
O23A Lake Granby, G 14.13 116 ⇑P Pn 13 28 22.2 +1.3
baz=14
O23A ⇑P Pn 13 28 22.2 +1.3
baz=14
SMCO Snowmass 14.18 122 ePn Pn 13 28 22.6 +1.0
S20A Disappointment 14.37 129 ⇑P Pn 13 28 25.6 +1.6
baz=14
S20A ⇑P Pn 13 28 25.6 +1.6
baz=14
N24A Carr 14.40 112 ⇓P Pn 13 28 25.8 +1.5
baz=14
N24A ⇓P Pn 13 28 25.8 +1.5
baz=14
R21A Cimarron 14.41 125 ⇓P Pn 13 28 25.8 +1.3
baz=14
R21A ⇓P Pn 13 28 25.8 +1.3
baz=14
Q22A Crested Butte, 14.43 123 ⇑P Pn 13 28 26.0 +1.2
baz=14
Q22A ⇑P Pn 13 28 26.0 +1.2
baz=14
K26A Motz Farm, Whi 14.53 103 ⇓P Pn 13 28 25.9 0.0
baz=14
K26A ⇓P Pn 13 28 25.9 0.0
baz=14
FFC Flin Flon 14.57 54 ePn Pn 13 28 23.4 -2.8
ISCO Idaho Springs 14.57 117 ePn Pn 13 28 28.3 +1.6
ISCO Idaho Springs 14.57 117 ⇑P Pn 13 28 27.9 +1.2
baz=15
ISCO ⇑P Pn 13 28 27.9 +1.2
baz=15
P23A Jefferson 14.71 119 ⇓P Pn 13 28 29.7 +1.3
baz=15
P23A ⇓P Pn 13 28 29.7 +1.3
baz=15
IRM Iron Mountain 14.71 155 ⇓P P 13 28 31.5 -1.7
baz=15
IRM ⇓P P 13 28 31.5 -1.7
baz=15
CIS Catalina Islan 14.71 166 ⇑P P 13 28 31.3 -1.9
baz=15
CIS ⇑P P 13 28 31.3 -1.9
baz=15
MVCO Mesa Verde 14.77 131 ePn Pn 13 28 29.0 -0.2
34nm,1.7s
MVCO Mesa Verde 14.77 131 ⇓P P 13 28 32.1 -2.0
baz=15
MVCO ⇓P P 13 28 32.1 -2.0
baz=15
S21A Coal Bank Pass 14.80 128 ⇓P P 13 28 31.7 -2.8
baz=15
S21A ⇓P P 13 28 31.7 -2.8
baz=15
PFO Pinyon Flat Ob 14.90 160 ePn Pn 13 28 29.6 -1.2
17nm,0.8s
PFO Pinyon Flat Ob 14.90 160 ⇓P P 13 28 33.6 -1.8
baz=15
PFO ⇓P P 13 28 33.6 -1.8
baz=15
L26A Underwood Farm 14.91 106 ⇓P Pn 13 28 32.3 +1.4
baz=15
L26A ⇓P Pn 13 28 32.3 +1.4
baz=15
R22A Saguache, Gunn 14.95 124 ⇑P P 13 28 34.0 -2.2
baz=15
R22A ⇑P P 13 28 34.0 -2.2
baz=15
V17A Tonalea, Kykot 14.97 140 ⇓P P 13 28 34.1 -2.1
baz=15
V17A ⇓P P 13 28 34.1 -2.1
baz=15
K27A Flueckinger Fa 15.15 102 ⇑P Pn 13 28 35.2 +1.2
baz=15
K27A ⇑P Pn 13 28 35.2 +1.2
baz=15
S22A 4UR Ranch, Cre 15.26 125 ⇑P P 13 28 38.0 -1.6
baz=15
S22A ⇑P P 13 28 38.0 -1.6
baz=15
O25A Wiggins 15.29 113 ⇑P Pn 13 28 37.2 +1.4
baz=15
O25A ⇑P Pn 13 28 37.2 +1.4
baz=15
YKA Yellowknife Ar 15.38 14 Pn Pn 13 28 33.2 -3.4
0.9nm,0.3s,baz=200,slow=12,SNR=78
YKA Sn Sn 13 31 15.6 -10
0.1nm,0.3s,baz=200,slow=22,SNR=2.3
YKA Lg Lg 13 32 59.5
baz=191,slow=26,SNR=3.1
YKA Yellowknife Ar 15.38 14 Pn Pn 13 28 33.2 -3.4
M27A Reverse DX Ran 15.61 106 ⇑P P 13 28 41.5 -1.7
baz=16
M27A ⇑P P 13 28 41.5 -1.7
baz=16
P25A Willow Gulch B 15.62 115 ⇑P P 13 28 41.8 -1.6
baz=16
P25A ⇑P P 13 28 41.8 -1.6
baz=16
BAR Barrett 15.74 162 eP P 13 28 45.6 +0.9
27nm,0.8s
U21A Nageezi 15.80 131 ⇑P P 13 28 43.9 -1.6
baz=16
U21A ⇑P P 13 28 43.9 -1.6
baz=16
DVTC Desert V Tower 15.89 160 ⇓P P 13 28 46.0 -0.3
baz=16
DVTC ⇓P P 13 28 46.0 -0.3
baz=16
R24A Sanders Place, 15.89 121 ⇓P P 13 28 44.6 -1.9
baz=16
R24A ⇓P P 13 28 44.6 -1.9
baz=16
N27A Anderson Farm, 15.89 109 ⇓P P 13 28 45.0 -1.4
baz=16
N27A ⇓P P 13 28 45.0 -1.4
baz=16
SDCO Great Sand Dun 16.00 123 ePn Pn 13 28 44.8 -0.3

	12nm,0.8s							
SDCO	**Great Sand Dun**	**16.00**	**123**	⇓P	**P**	**13 28 47.3**	**-0.4**
	baz=16							
SDCO				⇓P	**P**	**13 28 47.3**	**-0.4**
	baz=16							
SDCO				⇓P	**P**	**13 28 47.3**	**-0.4**
	baz=16							
SDCO				⇓P	**P**	**13 28 47.3**	**-0.4**
	baz=16							
P26A	**Davis Ranch, A**	**16.10**	**114**	⇓P	**P**	**13 28 47.5**	**-1.2**
	baz=16							
P26A				⇓P	**P**	**13 28 47.5**	**-1.2**
	baz=16							
OGNE	**Ogallala**	**16.14**	**108**	*e*Pn	**Pn**	**13 28 46.6**	**-0.1**
	83nm,0.6s							
T23A	**Casias Ranch,**	**16.20**	**126**	⇓P	**P**	**13 28 50.0**	**-0.1**
	baz=16							
T23A				⇓P	**P**	**13 28 50.0**	**-0.1**
	baz=16							
S24A	**Houchin Ranch,**	**16.23**	**122**	⇑P	**P**	**13 28 49.8**	**-0.6**
	baz=16							
S24A				⇑P	**P**	**13 28 49.8**	**-0.6**
	baz=16							
X18A	**Snowflake**	**16.26**	**140**	⇓P	**P**	**13 28 50.9**	**+0.3**
	baz=16							
X18A				⇓P	**P**	**13 28 50.9**	**+0.3**
	baz=16							
O27A	**Beecher Island**	**16.27**	**111**	⇑P	**P**	**13 28 49.2**	**-1.4**
	baz=16							
O27A				⇑P	**P**	**13 28 49.2**	**-1.4**
	baz=16							
Q26A	**Hugo**	**16.38**	**116**	⇓P	**P**	**13 28 51.9**	**0.0**
	baz=16							
Q26A				⇓P	**P**	**13 28 51.9**	**0.0**
	baz=16							
W20A	**Ramah**	**16.42**	**135**	⇓P	**P**	**13 28 51.6**	**-0.8**
	baz=16							
W20A				⇓P	**P**	**13 28 51.6**	**-0.8**
	baz=16							
R25A	**Fountain Ranch**	**16.43**	**119**	⇓P	**P**	**13 28 52.8**	**+0.5**
	baz=16							
R25A				⇓P	**P**	**13 28 52.8**	**+0.5**
	baz=16							
X19A	**St. Johns**	**16.63**	**139**	⇓P	**P**	**13 28 53.5**	**-1.2**
	baz=17							
X19A				⇓P	**P**	**13 28 53.5**	**-1.2**
	baz=17							
U23A	**El Rito**	**16.64**	**128**	⇓P	**P**	**13 28 53.6**	**-1.2**
	baz=17							
U23A				⇓P	**P**	**13 28 53.6**	**-1.2**
	baz=17							
S25A	**Robets Cordova**	**16.67**	**121**	⇓P	**P**	**13 28 53.8**	**-1.3**
	baz=17							
S25A				⇓P	**P**	**13 28 53.8**	**-1.3**
	baz=17							
114A	**Black Gap (USA**	**16.71**	**151**	⇓P	**P**	**13 28 57.5**	**+2.1**
	baz=17							
114A				⇓P	**P**	**13 28 57.5**	**+2.1**
	baz=17							
T24A	**Torres, Weston**	**16.72**	**124**	⇑P	**P**	**13 28 56.6**	**+0.8**
	baz=17							
T24A				⇑P	**P**	**13 28 56.6**	**+0.8**
	baz=17							
R26A	**Arlington**	**16.82**	**117**	⇓P	**P**	**13 28 57.7**	**+1.0**
	baz=17							
R26A				⇓P	**P**	**13 28 57.7**	**+1.0**
	baz=17							
Y18A	**Canyon Day Jun**	**16.87**	**142**	⇓P	**P**	**13 28 59.0**	**+1.8**
	baz=17							
Y18A				⇓P	**P**	**13 28 59.0**	**+1.8**
	baz=17							
KSCO	**Kaye Shedlock'**	**16.87**	**114**	⇓P	**P**	**13 28 58.4**	**+1.1**
	baz=17							
KSCO				⇓P	**P**	**13 28 58.4**	**+1.1**
	baz=17							
T25A	**Trinidad**	**17.04**	**122**	⇑P	**P**	**13 29 00.2**	**+0.9**
	baz=17							
T25A				⇑P	**P**	**13 29 00.2**	**+0.9**
	baz=17							
Y19A	**Nutrioso**	**17.05**	**139**	⇓P	**P**	**13 29 00.5**	**+1.1**
	baz=17							
Y19A				⇓P	**P**	**13 29 00.5**	**+1.1**
	baz=17							
U24A	**Moreno Valley**	**17.08**	**126**	⇑P	**P**	**13 29 00.8**	**+1.1**
	baz=17							
U24A				⇑P	**P**	**13 29 00.8**	**+1.1**
	baz=17							
R27A	**Eads**	**17.22**	**116**	⇑P	**P**	**13 29 02.0**	**+0.9**
	baz=17							
R27A				⇑P	**P**	**13 29 02.0**	**+0.9**
	baz=17							
S26A	**Kim**	**17.26**	**119**	⇓P	**P**	**13 29 02.4**	**+0.9**
	baz=17							
S26A				⇓P	**P**	**13 29 02.4**	**+0.9**
	baz=17							
X21A	**Alamocita Cree**	**17.31**	**135**	⇓P	**P**	**13 29 03.5**	**+1.3**
	baz=17							
X21A				⇓P	**P**	**13 29 03.5**	**+1.3**
	baz=17							
Y20A	**Horse Springs,**	**17.48**	**137**	⇓P	**P**	**13 29 04.8**	**+0.7**
	baz=18							
Y20A				⇓P	**P**	**13 29 04.8**	**+0.7**
	baz=18							
T26A	**Comanche Natio**	**17.49**	**120**	⇓P	**P**	**13 29 04.8**	**+0.6**
	baz=18							
T26A				⇓P	**P**	**13 29 04.8**	**+0.6**
	baz=18							
ANMO	**Albuquerque**	**17.56**	**131**	P	**P**	**13 29 08.1**	**+3.2**
	0.2nm,0.3s,baz=333,slow=9.9,SNR=8.4							
ANMO	**Albuquerque**	**17.56**	**131**	*e*P	**Pn**	**13 29 03.0**	**-1.5**
U25A	**Circle Dot Ran**	**17.57**	**124**	⇓P	**P**	**13 29 06.3**	**+1.3**
	baz=18							
U25A				⇓P	**P**	**13 29 06.3**	**+1.3**
	baz=18							
V24A	**Rampart Ranch,**	**17.59**	**127**	⇓P	**P**	**13 29 06.7**	**+1.5**
	baz=18							
V24A				⇓P	**P**	**13 29 06.7**	**+1.5**
	baz=18							
ULM	**Lac du Bonnet**	**17.61**	**72**	P	**Pn**	**13 29 02.1**	**-2.5**
	5.2nm,0.3s,baz=277,slow=12,SNR=86							
ULM				Lg	Lg	13 34 07.1		
	0.3nm,0.3s,baz=204,slow=19,SNR=2.5							
ULM				LR	LR	13 36 56.8		
	comp=Z,73nm,18.2s,baz=348,slow=41							
ULM	**Lac du Bonnet**	**17.61**	**72**	*e*Pn	**Pn**	**13 29 02.2**	**-2.5**
	33nm,0.7s							
ULM				Lg	Lg	13 34 07.1		
Y21A	**Point of Rocks**	**17.72**	**136**	⇑P	**P**	**13 29 08.7**	**+1.9**
	baz=18							
Y21A				⇑P	**P**	**13 29 08.7**	**+1.9**
	baz=18							
TUC	**Tucson**	**17.86**	**146**	*e*Pn	**P**	**13 29 07.4**	**-0.7**
	5.4nm,0.9s							
V25A	**Rancho No Teng**	**17.86**	**126**	⇑P	**Pn**	**13 29 09.7**	**+1.5**
	baz=18							
V25A				⇑P	**Pn**	**13 29 09.7**	**+1.5**
	baz=18							
W24A	**Lazy 6 Ranch,**	**17.90**	**128**	⇓P	**Pn**	**13 29 11.2**	**+2.5**
	baz=18							
W24A				⇓P	**Pn**	**13 29 11.2**	**+2.5**
	baz=18							
U26A	**Atchley Ranch,**	**17.95**	**123**	⇓P	**Pn**	**13 29 10.6**	**+1.4**
	baz=18							
U26A				⇓P	**Pn**	**13 29 10.6**	**+1.4**
	baz=18							
Z20A	**Nine Sixteen R**	**18.05**	**139**	⇑P	**Pn**	**13 29 12.8**	**+2.4**
	baz=18							
Z20A				⇑P	**Pn**	**13 29 12.8**	**+2.4**
	baz=18							
T27A	**Campo**	**18.07**	**119**	⇑P	**Pn**	**13 29 11.5**	**+0.8**
	baz=18							
T27A				⇑P	**Pn**	**13 29 11.5**	**+0.8**
	baz=18							
BNM	**Barren Site**	**18.11**	**133**	*e*Pn	**P**	**13 29 10.1**	**-1.0**
	1.7nm,0.3s							
Y22A	**Socorro**	**18.12**	**134**	⇑P	**Pn**	**13 29 13.2**	**+1.9**
	baz=18							
Y22A				⇑P	**Pn**	**13 29 13.2**	**+1.9**
	baz=18							
Z21A	**St. Cloud Mine**	**18.30**	**137**	⇑P	**Pn**	**13 29 15.7**	**+2.1**
	baz=18							
Z21A				⇑P	**Pn**	**13 29 15.7**	**+2.1**
	baz=18							
X24A	**Lazy VL Ranch,**	**18.39**	**130**	⇓P	**Pn**	**13 29 16.2**	**+1.6**
	baz=18							
X24A				⇓P	**Pn**	**13 29 16.2**	**+1.6**
	baz=18							
T28A	**Walsh**	**18.39**	**118**	⇓P	**Pn**	**13 29 15.4**	**+0.9**
	baz=18							
T28A				⇓P	**Pn**	**13 29 15.4**	**+0.9**
	baz=18							
W25A	**X Bar L Ranch,**	**18.41**	**127**	⇑P	**Pn**	**13 29 15.9**	**+1.2**
	baz=18							
W25A				⇑P	**Pn**	**13 29 15.9**	**+1.2**
	baz=18							
120A	**U Bar Ranch, L**	**18.52**	**140**	⇑P	**Pn**	**13 29 18.5**	**+2.4**
	baz=18							
120A				⇑P	**Pn**	**13 29 18.5**	**+2.4**
	baz=18							
Y23A	**Lovelace Mesa,**	**18.57**	**132**	⇓P	**Pn**	**13 29 18.3**	**+1.6**
	baz=19							
Y23A				⇓P	**Pn**	**13 29 18.3**	**+1.6**
	baz=19							
Z22A	**Elephant Butte**	**18.68**	**135**	⇓P	**Pn**	**13 29 19.8**	**+1.8**
	baz=19							
Z22A				⇓P	**Pn**	**13 29 19.8**	**+1.8**
	baz=19							
CBKS	**Cedar Bluff**	**18.80**	**110**	*e*P	**P**	**13 29 17.9**	**-0.4**
	14nm,0.8s							
X25A	**Clemmons Ranch**	**18.82**	**128**	⇓P	**Pn**	**13 29 20.9**	**+1.1**
	baz=19							
X25A				⇓P	**Pn**	**13 29 20.9**	**+1.1**
	baz=19							
W26A	**Owens Ranch, T**	**18.88**	**125**	⇑P	**Pn**	**13 29 21.0**	**+0.6**
	baz=19							
W26A				⇑P	**Pn**	**13 29 21.0**	**+0.6**
	baz=19							
Y24A	**Capitan**	**18.89**	**131**	⇓P	**Pn**	**13 29 21.9**	**+1.3**
	baz=19							
Y24A				⇓P	**Pn**	**13 29 21.9**	**+1.3**
	baz=19							
121A	**Cookes Peak, D**	**18.90**	**138**	⇓P	**Pn**	**13 29 22.3**	**+1.5**
	baz=19							
121A				⇓P	**Pn**	**13 29 22.3**	**+1.5**
	baz=19							
Z23A	**Rita Site, Whi**	**19.02**	**134**	⇓P	**Pn**	**13 29 23.4**	**+1.2**
	baz=19							
Z23A				⇓P	**Pn**	**13 29 23.4**	**+1.2**
	baz=19							
220A	**Playas Peak, P**	**19.12**	**141**	⇑P	**Pn**	**13 29 24.7**	**+1.4**
	baz=19							
220A				⇑P	**Pn**	**13 29 24.7**	**+1.4**
	baz=19							
122A	**Conniff Cattle**	**19.12**	**137**	⇑P	**Pn**	**13 29 24.9**	**+1.5**
	baz=19							
122A				⇑P	**Pn**	**13 29 24.9**	**+1.5**
	baz=19							
X26A	**CR and CF Fran**	**19.26**	**127**	⇓P	**Pn**	**13 29 24.9**	**-0.1**
	baz=19							
X26A				⇓P	**Pn**	**13 29 24.9**	**-0.1**
	baz=19							
V28A	**Chnning**	**19.27**	**121**	⇑P	**Pn**	**13 29 25.3**	**+0.3**
	baz=19							
V28A				⇑P	**Pn**	**13 29 25.3**	**+0.3**
	baz=19							
Y25A	**Mesa, Roswell**	**19.27**	**130**	⇓P	**Pn**	**13 29 26.0**	**+0.9**
	baz=19							
Y25A				⇓P	**Pn**	**13 29 26.0**	**+0.9**
	baz=19							
Z24A	**Sheeppen Canyo**	**19.40**	**132**	⇑P	**Pn**	**13 29 27.1**	**+0.5**
	baz=19							
Z24A				⇑P	**Pn**	**13 29 27.1**	**+0.5**
	baz=19							
X27A	**F and S Farms,**	**19.58**	**125**	⇓P	**Pn**	**13 29 28.5**	**-0.2**
	baz=20							
X27A				⇓P	**Pn**	**13 29 28.5**	**-0.2**
	baz=20							
Y26A	**Elida**	**19.73**	**128**	⇓P	**Pn**	**13 29 30.1**	**-0.4**
	baz=20							
Y26A				⇓P	**Pn**	**13 29 30.1**	**-0.4**
	baz=20							
Z25A	**Roswell**	**19.76**	**131**	⇓P	**Pn**	**13 29 30.6**	**-0.3**
	baz=20							
Z25A				⇓P	**Pn**	**13 29 30.6**	**-0.3**
	baz=20							
EGAK	**Eagle**	**19.77**	**336**	*e*Pn	**Pn**	**13 29 31.6**	**+1.0**
Y27A	**Causey**	**20.11**	**127**	⇑P	Pn	13 29 34.1	-1.0
	baz=20							
Y27A				⇑P	Pn	13 29 34.1	-1.0
	baz=20							
Z26A	**Caprock**	**20.15**	**129**	⇑P	Pn	13 29 34.6	-0.9
	baz=20							
Z26A				⇑P	Pn	13 29 34.6	-0.9
	baz=20							
AMTX	**Amarillo**	**20.20**	**122**	*e*P	**P**	**13 29 32.7**	**-1.0**
	9.0nm,0.5s							
AMTX	**Amarillo**	**20.20**	**122**	⇑P	Pn	13 29 34.7	-1.4
	baz=20							
AMTX				⇑P	Pn	13 29 34.7	-1.4
	baz=20							
AMTX				⇑P	Pn	13 29 34.7	-1.4
	baz=20							
AMTX				⇑P	Pn	13 29 34.7	-1.4
	baz=20							
MSTX	**Muleshoe**	**20.26**	**126**	⇓P	Pn	13 29 35.1	-1.7
	baz=20							
MSTX				⇓P	Pn	13 29 35.1	-1.7
	baz=20							
125A	**Gardner Draw,**	**20.29**	**132**	⇑P	Pn	13 29 36.5	-0.6
	baz=20							
125A				⇑P	Pn	13 29 36.5	-0.6
	baz=20							
224A	**Cornudas Mount**	**20.34**	**134**	⇑P	Pn	13 29 37.1	-0.7
	baz=20							
224A				⇑P	Pn	13 29 37.1	-0.7
	baz=20							
CPRX	**Cap Rock**	**20.40**	**130**	*e*P	**P**	**13 29 35.7**	**-0.2**
	28nm,0.8s							
PMR	**Palmer**	**20.47**	**322**	*e*P	**P**	**13 29 36.0**	**-0.3**
	33nm,1.2s							
SPMN	**St. Paul**	**20.55**	**86**	⇑P	**P**	**13 29 36.2**	**-1.1**
	baz=20							
SPMN				⇑P	**P**	**13 29 36.2**	**-1.1**
	baz=20							
126A	**Clayton Basin,**	**20.62**	**131**	⇑P	Pn	13 29 39.6	-1.5
	baz=21							
126A				⇑P	Pn	13 29 39.6	-1.5
	baz=21							
KSU1	**Kansas State U**	**20.64**	**105**	*e*P	**P**	**13 29 38.0**	**-0.4**
225A	**Deer Hill, Car**	**20.65**	**133**	⇑P	Pn	13 29 40.2	-1.3
	baz=21							
225A				⇑P	Pn	13 29 40.2	-1.3
	baz=21							
MNTX	**Cornudas Mount**	**20.71**	**135**	*e*P	**P**	**13 29 37.6**	**-1.6**
	13nm,1.0s							
MNTX				*es*P	**sP**	**13 29 58.4**	**+0.4**
MNTX	**Cornudas Mount**	**20.71**	**135**	⇓P	Pn	13 29 40.8	-1.2
	baz=21							
MNTX				⇓P	Pn	13 29 40.8	-1.2
	baz=21							
MNTX				⇓P	Pn	13 29 40.8	-1.2
	baz=21							
MNTX				⇓P	Pn	13 29 40.8	-1.2
	baz=21							
EYMN	**Ely**	**20.74**	**78**	*e*P	**P**	**13 29 36.3**	**-3.1**
GDL2	**Guadalupe Moun**	**20.80**	**132**	*e*P	**P**	**13 29 39.6**	**-0.7**
	13nm,0.5s							
324A	**Moseley Ranch,**	**20.88**	**135**	⇑P	Pn	13 29 42.4	-1.7
	baz=21							
324A				⇑P	Pn	13 29 42.4	-1.7
	baz=21							
127A	**Arkansas Junct**	**20.94**	**129**	⇑P	**P**	**13 29 42.5**	**+0.8**
	baz=21							
127A				⇑P	**P**	**13 29 42.5**	**+0.8**
	baz=21							
226A	**Malaga, Loving**	**21.05**	**132**	⇑P	**P**	**13 29 43.9**	**+1.0**
	baz=21							
226A				⇑P	**P**	**13 29 43.9**	**+1.0**
	baz=21							
325A	**Bean Ranch, Si**	**21.18**	**134**	⇑P	**P**	**13 29 45.5**	**+1.1**
	baz=21							
325A				⇑P	**P**	**13 29 45.5**	**+1.1**
	baz=21							
INK	**Inuvik**	**21.30**	**349**	P	**P**	**13 29 46.6**	**+1.5**
	28nm,0.9s,baz=152,slow=11,SNR=25							
INK				LR	LR	13 38 44.1		
	comp=Z,171nm,18.9s,baz=138,slow=39							
INK	**Inuvik**	**21.30**	**349**	*e*P	**P**	**13 29 42.5**	**-2.6**
	32nm,0.9s							
ILAR	**Eielson Array**	**21.49**	**331**	P	**P**	**13 29 49.5**	**+2.2**
	10nm,0.8s,baz=141,slow=9.3,SNR=146							
ILAR				LR	LR	13 38 10.5		
	comp=Z,41nm,18.0s,baz=142,slow=37							
ILAR	**Eielson Array**	**21.49**	**331**	P	**P**	**13 29 49.5**	**+2.2**
227A	**Bennet, Jal**	**21.50**	**130**	⇓P	**P**	**13 29 50.0**	**+2.3**
	baz=22							
227A				⇓P	**P**	**13 29 50.0**	**+2.3**
	baz=22							
SCIA	**State Center**	**21.51**	**95**	*e*P	**P**	**13 29 46.7**	**-1.0**
	23nm,0.4s							
425A	**Indio Mountain**	**21.66**	**135**	⇑P	**P**	**13 29 50.8**	**+1.3**
	baz=22							
425A				⇑P	**P**	**13 29 50.8**	**+1.3**
	baz=22							
326A	**Caldwell Ranch**	**21.71**	**133**	⇓P	**P**	**13 29 51.2**	**+1.2**
	baz=22							
326A				⇓P	**P**	**13 29 51.2**	**+1.2**
	baz=22							
COLA	**College**	**21.87**	**331**	*e*P	**P**	**13 29 50.6**	**-0.7**
	17nm,1.1s							
TRF	**Thorofare Moun**	**21.90**	**326**	*e*P	**P**	**13 29 52.0**	**+0.2**
	27nm,1.1s							
WMOK	**Wichita Mounta**	**22.00**	**118**	*e*P	**P**	**13 29 52.3**	**-0.6**
	16nm,0.7s							
426A	**McDonald Obser**	**22.21**	**134**	⇑P	**P**	**13 29 56.4**	**+0.8**
	baz=22							
426A				⇑P	**P**	**13 29 56.4**	**+0.8**
	baz=22							
328A	**Wristen Ranch,**	**22.25**	**130**	⇑P	**P**	**13 29 55.7**	**0.0**
	baz=22							
328A				⇑P	**P**	**13 29 55.7**	**0.0**
	baz=22							
427A	**Hayter Ranch,**	**22.38**	**132**	⇑P	**P**	**13 29 57.2**	**0.0**
	baz=22							
427A				⇑P	**P**	**13 29 57.2**	**0.0**
	baz=22							
526A	**Mary Lane Ranc**	**22.69**	**135**	⇓P	**P**	**13 30 01.3**	**+0.7**
	baz=23							
526A				⇓P	**P**	**13 30 01.3**	**+0.7**
	baz=23							
428A	**Kincaid Ranch,**	**22.84**	**131**	⇑P	**P**	**13 30 02.1**	**+0.1**
	baz=23							
428A				⇑P	**P**	**13 30 02.1**	**+0.1**
	baz=23							
527A	**Woodward Ranch**	**22.85**	**134**	⇑P	**P**	**13 30 02.3**	**+0.1**
	baz=23							
527A				⇑P	**P**	**13 30 02.3**	**+0.1**
	baz=23							
TUL1	**Tulsa**	**23.05**	**111**	⇓P	**P**	**13 30 03.1**	**-1.0**
	baz=23							
TUL1				⇓P	**P**	**13 30 03.1**	**-1.0**
	baz=23							
626A	**Big Bend Ranch**	**23.09**	**136**	⇑P	**P**	**13 30 05.0**	**+0.5**
	baz=23							
626A				⇑P	**P**	**13 30 05.0**	**+0.5**
	baz=23							
528A	**Cox Ranch, San**	**23.24**	**132**	⇓P	**P**	**13 30 06.2**	**+0.2**
	baz=23							
528A				⇓P	**P**	**13 30 06.2**	**+0.2**
	baz=23							
TXAR	**Lajitas Array**	**23.50**	**135**	P	**P**	**13 30 09.1**	**+0.6**
	6.0nm,0.8s,baz=332,slow=7.9,SNR=41							
TXAR	**Lajitas Array**	**23.50**	**135**	P	**P**	**13 30 09.1**	**+0.6**
627A	**Terlingua Ranc**	**23.53**	**134**	⇑P	**P**	**13 30 09.2**	**+0.4**
	baz=24							
627A				⇑P	**P**	**13 30 09.2**	**+0.4**
	baz=24							
628A	**Black Gap, Mar**	**23.75**	**133**	⇑P	**P**	**13 30 10.7**	**0.0**
	baz=24							
628A				⇑P	**P**	**13 30 10.7**	**0.0**
	baz=24							
JCT	**Junction City**	**24.54**	**127**	*e*P	**P**	**13 30 15.4**	**-2.6**
	14nm,0.8s							
JCT				*e*pP	**pP**	**13 30 30.8**	**-0.7**
JCT				*es*P	**sP**	**13 30 38.0**	**+0.3**
JCT	**Junction City**	**24.54**	**127**	⇑P	**P**	**13 30 17.8**	**-0.2**
	baz=24							
JCT				⇑P	**P**	**13 30 17.8**	**-0.2**
	baz=24							
HDIL	**Hopedale**	**24.76**	**95**	*e*P	**P**	**13 30 18.2**	**-1.6**
	70nm,0.6s							
FVM	**French Village**	**25.31**	**101**	*e*P	**P**	**13 30 22.2**	**-2.7**
	19nm,0.8s							
MIAR	**Mount Ida**	**25.32**	**111**	*e*P	**P**	**13 30 24.1**	**-0.8**
	25nm,0.6s							
SIUC	**Southern Illin**	**26.26**	**100**	*e*P	**P**	**13 30 31.6**	**-1.8**
	25nm,0.7s							
SFIN	**Scholer Farm**	**26.32**	**93**	⇓P	**P**	**13 30 32.6**	**-1.4**
	baz=26							
SFIN				⇓P	**P**	**13 30 32.6**	**-1.4**
	baz=26							
OLIL	**Olney**	**26.46**	**97**	*e*P	**P**	**13 30 33.9**	**-1.4**
	10nm,0.6s							
OXF	**Oxford**	**28.00**	**106**	*e*P	**P**	**13 30 47.1**	**-2.0**
	37nm,1.1s							
RES	**Resolute Bay**	**29.45**	**15**	P	**P**	**13 31 02.6**	**+1.1**
	0.8nm,0.7s,baz=240,slow=9.9,SNR=3.8							
RES	**Resolute Bay**	**29.45**	**15**	P	**P**	**13 31 02.6**	**+1.1**
SADO	**Sadowa**	**29.83**	**79**	P	**P**	**13 31 02.6**	**-2.7**
	12nm,0.6s,baz=308,slow=9.9,SNR=18							
SADO	**Sadowa**	**29.83**	**79**	P	**P**	**13 31 02.6**	**-2.7**
ALLY	**Alegheny Colle**	**30.42**	**86**	*e*P	**P**	**13 31 08.4**	**-2.1**
	20nm,0.4s							
TKL	**Tuckaleechee C**	**31.03**	**99**	LR	LR	13 45 06.4		
	comp=Z,42nm,18.2s,baz=304,slow=39							
LONY	**Lake Ozonia**	**32.90**	**77**	*e*P	P	13 31 28.6	-3.7
KMSC	**Kings Mountain**	**32.96**	**97**	⇑P	**P**	**13 31 31.0**	**-1.8**
	baz=33							
KMSC				⇑P	**P**	**13 31 31.0**	**-1.8**
	baz=33							
FRB	**Frobisher Bay**	**33.08**	**41**	P	**P**	**13 31 30.4**	**-3.2**
	1.0nm,0.3s,baz=274,slow=6.8,SNR=5.5							
FRB	**Frobisher Bay**	**33.08**	**41**	P	**P**	**13 31 30.4**	**-3.2**
SCHQ	**Schefferville**	**34.68**	**57**	P	P	13 31 44.1	-3.4
	1.9nm,0.6s,baz=292,slow=8.4,SNR=11							
SCHQ	**Schefferville**	**34.68**	**57**	P	P	13 31 44.1	-3.4
CMIG	**Matias Romero**	**38.10**	**134**	LR	LR	13 49 57.2		
	comp=Z,51nm,18.0s,baz=177,slow=39							
SDV	**Santo Domingo**	**58.36**	**114**	*e*P	**P**	**13 34 53.1**	**-0.3**
	8.1nm,0.8s							
ARCES	**ARCESS Array B**	**60.64**	**12**	P	**P**	**13 35 08.6**	**+0.4**
	5.3nm,1.0s,baz=347,slow=7.4,SNR=4.8							
ARCES	**ARCESS Array B**	**60.64**	**12**	P	**P**	**13 35 08.6**	**+0.4**
NB2	**NORSAR Subarra**	**65.26**	**23**	P	**P**	**13 35 39.6**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=325,slow=6.9							
NOA	**NORSAR Array B**	**65.26**	**23**	P	**P**	**13 35 40.0**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=325,slow=6.8,SNR=6.3							
NOA	**NORSAR Array B**	**65.26**	**23**	P	**P**	**13 35 40.0**	**+0.9**
FINES	**FINESS Array B**	**68.20**	**16**	P	**P**	**13 35 58.5**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=339,slow=6.0,SNR=20							
FINES	**FINESS Array B**	**68.20**	**16**	P	**P**	**13 35 58.5**	**+0.8**
MDJ	**Mudanjiang**	**68.34**	**313**	P	**P**	**13 35 58.5**	**-0.4**
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,20nm,3.0s							
CN2	**Changchun**	**70.96**	**315**	*e*P	**P**	**13 36 16.0**	**+1.0**
GRR	**Gorron**	**71.65**	**37**	*e*P	**P**	**13 36 19.9**	**+0.8**
BAIF	**Baives**	**72.25**	**33**	*e*P	**P**	**13 36 23.6**	**+1.0**
GIVF	**Givet**	**72.43**	**32**	*e*P	**P**	**13 36 24.8**	**+1.1**
MFF	**Saint Martin d**	**73.37**	**37**	*e*P	**P**	**13 36 29.9**	**+0.6**
HYF	**Humbligny**	**73.95**	**35**	*e*P	**P**	**13 36 33.8**	**+1.1**
PAGF	**Fort de Pagny**	**74.05**	**33**	*e*P	**P**	**13 36 34.4**	**+1.1**
	comp=Z,9.4nm,0.9s							
SFTF	**Sexfontaines**	**74.09**	**33**	*e*P	**P**	**13 36 34.5**	**+1.0**
**LOR

VIVF	**Saint-Julien-l**	**76.74**	**36**	*eP*		**P**		**13 36 49.9**	**+1.1**
	comp=Z,14nm,0.9s								
LPL	**La Plagne**	**76.97**	**34**	*eP*		**P**		**13 36 52.2**	**+1.8**
LPG	**La Plagne**	**77.00**	**34**	*eP*		**P**		**13 36 52.5**	**+1.9**
ORIF	**Oris-en-Rattie**	**77.15**	**35**	*eP*		**P**		**13 36 52.4**	**+1.2**
ESDC	**Sonseca Array**	**77.23**	**44**	P		**P**		**13 36 52.4**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=311,slow=5.5,SNR=18								
ESDC	**Sonseca Array**	**77.23**	**44**	P		**P**		**13 36 52.4**	**+0.7**
MBDF	**Montbardon**	**77.66**	**34**	*eP*		**P**		**13 36 56.1**	**+2.0**
	comp=Z,6.9nm,0.7s								
BJI	**Beijing**	**78.21**	**318**	P		P		**13 36 56.8**	**-0.2**
BJI				pmax		pmax			
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**78.90**	**18**	P		**P**		**13 37 01.2**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=338,slow=5.0,SNR=5.1								
AKASG	**Malin Array Be**	**78.90**	**18**	P		**P**		**13 37 01.2**	**+0.6**
BVAR	**Borovoye Array**	**78.95**	**352**	P		**P**		**13 37 01.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=350,slow=7.5,SNR=4.3								
BVAR	**Borovoye Array**	**78.95**	**352**	P		**P**		**13 37 01.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**79.56**	**321**	*eP*		**P**		**13 37 06.5**	**+1.9**
HHC				pP		**pP**		**13 37 16.5**	**-3.2**
HHC				sP		sP		13 37 20.5	-5.2
HHC				PP		**PP**		**13 40 08.0**	**+3.1**
HHC				S		**S**		**13 47 04.3**	**+2.1**
HHC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,76nm,6.2s								
HHC				LR		LR			
	comp=N,410nm,12.7s								
HHC				LR		LR			
	comp=E,170nm,10.8s								
HHC				LR		LR			
	comp=Z,360nm,14.1s								
LPAZ	**La Paz**	**80.14**	**128**	P		**P**		**13 37 08.3**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=318,slow=2.5,SNR=15								
LPAZ	**La Paz**	**80.14**	**128**	*eP*		**P**		**13 37 08.0**	**-0.5**
	comp=Z,3.6nm,0.6s								
KURK	**Kurchatov**	**80.19**	**347**	P		**P**		**13 37 08.8**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=9.0,slow=4.8,SNR=4.5								
KURK	**Kurchatov**	**80.19**	**347**	P		**P**		**13 37 08.8**	**+1.1**
PGF	**Pioggiola**	**80.36**	**34**	*eP*		**P**		**13 37 09.5**	**+0.6**
	comp=Z,29nm,1.2s								
ABKAR	**Akbulak array**	**83.30**	**358**	*eP*		**P**		**13 37 24.6**	**+0.6**
	comp=Z,5.2nm,1.1s								
ABKAR				*e*pP		**pP**		**13 37 40.6**	**+1.3**
MKAR	**Makanchi Array**	**83.33**	**343**	P		**P**		**13 37 24.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=16,slow=5.4,SNR=5.1								
MKAR	**Makanchi Array**	**83.33**	**343**	P		**P**		**13 37 24.8**	**+0.5**
NJ2	**Nanjing**	**83.35**	**311**	*eP*		P		13 37 27.0	+2.4
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**91.32**	**322**	P		P		13 38 07.3	+4.0
CD2				pP		pP		13 38 12.0	-6.7
CD2				PP		**PP**		**13 41 46.0**	**+5.7**
CD2				S		S		13 49 02.8	+4.8
CD2				SS		**SS**		**13 55 09.3**	**+6.8**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.9s								
CD2				LR		LR			
	comp=N,680nm,11.9s								
CD2				LR		LR			
	comp=Z,720nm,12.5s								
GYA	**Guiyang**	**93.89**	**317**	*eP*		**P**		**13 38 15.0**	**-0.3**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KMI	**Kunming**	**96.80**	**320**	P		**P**		**13 38 29.5**	**+0.8**
KMI				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ASAR	**Alice Springs**	**116.11**	**263**	PKKPab		PKKPab		13 54 15.0	+0.6
	comp=Z,0.2nm,0.4s,baz=218,slow=4.5,SNR=7.7								
SNAA	**Sanae**	**143.73**	**152**	PKhKP		PKPpre		13 44 28.6	
	comp=Z,0.7nm,0.7s,baz=272,slow=8.7,SNR=5.6								
SNAA	**Sanae**	**143.73**	**152**	PKPpre		PKPpre		13 44 28.6	
LBTB	**Lobatse**	**146.09**	**59**	PKPbc		**PKPab**		**13 44 38.2**	**0.0**
	comp=Z,6.5nm,1.1s,baz=326,slow=6.1,SNR=5.7								
LBTB	**Lobatse**	**146.09**	**59**	PKPbc		**PKPab**		**13 44 38.2**	**0.0**
SUR	**Sutherland**	**148.33**	**74**	PKPbc		**PKPab**		**13 44 44.5**	**-2.4**
	comp=Z,7.6nm,0.8s,baz=319,slow=3.1,SNR=8.3								
SUR	**Sutherland**	**148.33**	**74**	PKPbc		**PKPab**		**13 44 44.5**	**-2.4**
BOSA	**Boshof**	**148.57**	**64**	PKPbc		**PKPbc**		**13 44 44.9**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=161,slow=2.2,SNR=6.7								
BOSA	**Boshof**	**148.57**	**64**	PKPbc		**PKPbc**		**13 44 44.9**	**+0.7**

IDC 30 13:37:20.0±2.3, 0.56S×132.99E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=120.9km s-min=26.4km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**19.31**	**176**	P		P	13	41 47.2	+0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=11								
WRA				S		Sn	13	45 15.0	-10
	0.1nm,0.3s,baz=4.8,slow=23,SNR=3.8								
ASAR	**Alice Springs**	**22.99**	**178**	P		P	13	42 26.7	+0.2
	1.2nm,0.5s,baz=359,slow=12,SNR=32								
STKA	**Stephens Creek**	**32.19**	**166**	P		P	13	43 49.5	-0.4
	2.5nm,0.9s,baz=329,slow=5.9,SNR=5.5								
MKAR	**Makanchi Array**	**64.65**	**324**	P		P	13	47 59.6	-0.1
	0.1nm,0.2s,baz=111,slow=7.9,SNR=3.7								

MAN 30 13:46:52, 11.11N×124.72E, h23km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
OCLP	**Ormoc**	**0.13**	**240**	*eP*		Pn	13	46 58.6	0.0
OCLP				*eS*		Sb	13	47 01.3	+1.5
PLP	**Palo**	**0.26**	**79↑**	*eP*		Pn	13	47 00.5	0.0
PLP				*i* S		Sn	13	47 04.7	-1.1
MSLP	**Maasin**	**0.98**	**172**	*eP*		Pn	13	47 11.3	+0.9
MSLP				*eS*		Sn	13	47 25.5	+1.9

IDC 30 13:50:11.6±2.5, 5.12S×132.39E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=189.8km s-min=25.4km az=70.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**14.86**	**173**	Pn		Pn	13	53 41.9	-1.3
	0.3nm,0.3s,baz=352,slow=13,SNR=18								
WRA				Sn		Sn	13	56 13.8	-15
	0.5nm,0.3s,baz=339,slow=22,SNR=6.6								
ASAR	**Alice Springs**	**18.50**	**176**	P		Pn	13	54 30.2	+0.6
	0.7nm,0.3s,baz=349,slow=9.1,SNR=90								
ASAR				S		Sn	13	57 40.7	-16
	0.1nm,0.3s,baz=355,slow=26,SNR=4.9								
STKA	**Stephens Creek**	**27.99**	**163**	P		P	13	56 04.0	-0.1
	1.2nm,0.8s,baz=0.0,slow=18,SNR=7.3								
MKAR	**Makanchi Array**	**68.00**	**325**	P		P	14	01 12.8	0.0
	0.4nm,0.6s,baz=122,slow=7.7,SNR=7.3								

*IDC **30** 13:51:25.4±1.0, 36.88N×135.51E, h368km±12km, mb3.2/6, mb1 3.2/11, mb1mx2.9/29, mbtmp3.1/11, Error ellipse: s-maj=22.4km s-min=13.1km az=64.0*

JMA 30 13:51:25.1±0.5, 36.88N×135.50E, h364km±4km, M3.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
JKG	**Kaga**	**0.90**	**132**	P		Pn	13	52 12.1	+0.1
JJH	**Hakui**	**1.03**	**87**	P		Pn	13	52 12.8	+0.4
JGM	**Miyama**	**1.54**	**140**	P		Pn	13	52 15.0	0.0
JWT	**Wachi**	**1.60**	**183**	P		Pn	13	52 15.3	0.0
JWT				*e*S		S	13	52 54.0	-1.6
MAT	**Matsushiro**	**2.20**	**98**	P		Pn	13	52 19.5	+0.4
MAT	**Matsushiro**	**2.20**	**98**	P		Pn	13	52 19.5	+0.4
MJAR	**Matsushiro Arr**	**2.20**	**98**	P		Pn	13	52 19.9	+0.7
	5.5nm,0.3s,baz=277,slow=11,SNR=100								
JSD	**Sado**	**2.48**	**61**	P		Pn	13	52 21.7	+0.6
JYN	**Shimob**	**2.82**	**118**	P		Pn	13	52 24.4	+0.3
JRY	**Ryogami san**	**2.88**	**106**	P		Pn	13	52 25.1	+0.6
JOD2	**Odawara 2**	**3.32**	**118**	P		Pn	13	52 29.1	+0.6
JMK	**Ichinoseki**	**4.97**	**64**	P		Pn	13	52 45.1	+0.1
JMK				*e*S		S	13	53 48.8	-0.9
BSO1	**Boso 1**	**4.98**	**115**	P		Pn	13	52 44.1	-0.3
BSO1				*e*S		S	13	53 48.3	-0.4
JNU	**Nakatsue**	**5.33**	**227**	P		Pn	13	52 49.5	+0.4
	0.3nm,0.3s,baz=68,slow=5.4,SNR=3.1								
KSRS	**Korea Array**	**6.08**	**278**	P		Pn	13	52 58.2	+1.0
	0.1nm,0.3s,baz=93,slow=12,SNR=6.5								
USRK	**Ussuriysk Arra**	**7.78**	**341**	P		P	13	53 17.6	-0.2
	0.7nm,0.3s,baz=159,slow=11,SNR=9.9								
ASAJ	**Asahikawa**	**9.02**	**35**	P		Pn	13	53 31.6	+0.3
	1.8nm,0.3s,baz=225,slow=9.2,SNR=22								
ASAJ				S		S	13	55 07.4	-7.4
	1.0nm,0.3s,baz=66,slow=29,SNR=13								
SONM	**Songino Array**	**23.99**	**306**	P		P	13	56 07.5	-0.8
	0.7nm,0.6s,baz=111,slow=9.6,SNR=5.6								
MKAR	**Makanchi Array**	**40.17**	**301**	P		P	13	58 27.0	-0.3
	0.9nm,0.5s,baz=82,slow=11,SNR=15								
AAK	**Ala-Archa**	**46.36**	**297**	P		P	13	59 16.8	+0.4
	1.2nm,0.4s,baz=116,slow=5.2,SNR=6.8								
WRA	**Warramunga Arr**	**56.53**	**181**	P		P	14	00 30.6	-0.2
	1.5nm,0.3s,baz=359,slow=7.6,SNR=21								
ASAR	**Alice Springs**	**60.24**	**182**	P		P	14	00 56.1	-0.1
	0.4nm,0.6s,baz=14,slow=13,SNR=7.1								
FINES	**FINESS Array B**	**66.68**	**330**	P		P	14	01 37.2	-0.2
	1.2nm,0.8s,baz=72,slow=6.0,SNR=6.0								

*IDC **30** 13:53:11.2±0.7, 2.83N×95.45E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML4.4/1, MS3.9/11, Ms1 3.9/11, ms1mx3.5/36, Error ellipse: s-maj=23.2km s-min=13.4km az=52.0*

*ISCJB **30** 13:53:13.6±0.4, 2.87N±0.06×95.51E±0.05, h27km, mb4.6/41, MS4.0/15, Error ellipse: s-maj=9.1km s-min=5.5km az=34.9*

*BJI **30** 13:53:14.0, 2.88N×95.63E, h30km, mB5.1/15, mb4.8/36, Ms4.6/15, Ms7 4.3/13*

*DJA **30** 13:53:15, 2.70N×95.40E, h29km, MLv4.7/11*

*NEIC **30** 13:53:16.3±0.3, 2.86N×95.55E, h35km, mb4.9/16, Error ellipse: s-maj=7.3km s-min=5.3km az=45.0*

ISC 30 13:53:15.5±0.5, 2.89N±0.07×95.48E±0.07, h27km, n104, σ1.904/106, mb4.7/41, MS4.0/15, 2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
IPM	**Ipoh**	**5.76**	**74**	*e*Pn		**Pn**	**13**	**54 39.1**	**-0.2**
IPM	**Ipoh**	**5.76**	**74**	P		**Pn**	**13**	**54 40.1**	**+0.8**
FRIM	**Kepong**	**6.15**	**87**	P		**Pn**	**13**	**54 45.4**	**+0.8**
KGM	**Kluang**	**7.88**	**96**	P		**Pn**	**13**	**55 09.8**	**+1.4**
MYKOM	**Kota Tinggi**	**8.44**	**97**	P		**Pn**	**13**	**55 17.6**	**+1.6**
KSM	**Kuching**	**14.89**	**95**	*e*Pn		**Pn**	**13**	**56 43.0**	**-1.3**
KSM				*e*P		**P**	**13**	**56 51.0**	**+1.3**
CM31	**Chiang Mai Arr**	**15.84**	**12**	*e*Pn		**Pn**	**13**	**56 56.8**	**0.0**
CMAR	**Chiang Mai Arr**	**15.84**	**12**	Pn		**Pn**	**13**	**56 56.5**	**-0.2**
	0.6nm,0.3s,baz=202,slow=11,SNR=100								
CMAR				LR		LR	14	04 02.5	
	comp=Z,539nm,18.2s,baz=199,slow=41								
CMAR	**Chiang Mai Arr**	**15.84**	**12**	Pn		**Pn**	**13**	**56 56.5**	**-0.2**
CHTO	**Chiang Mai**	**16.18**	**12**	*e*Pn		**Pn**	**13**	**57 00.6**	**-0.6**
	15nm,0.9s								
KKM	**Kota Kinabalu**	**20.91**	**81**	*e*P		**P**	**13**	**57 54.7**	**-1.5**
	56nm,0.9s								
KKM	**Kota Kinabalu**	**20.91**	**81**	P		**P**	**13**	**57 57.2**	**+1.0**
QIZ	**Qiongzhong**	**21.32**	**40**	*e*P		**P**	**13**	**57 59.6**	**-0.9**
SDKM	**Sandakan**	**21.83**	**82**	P		**P**	**13**	**58 07.5**	**+1.4**
HYB	**Hyderabad**	**22.01**	**312**	*i* P		P	13	58 15.5	+7.6
HYB				*e*S		**S**	**14**	**02 10.0**	**+0.4**
TSM	**Tawau**	**22.39**	**86**	P		**P**	**13**	**58 14.3**	**+2.2**
SHL	**Shillong**	**22.81**	**352**	*e*P		**P**	**13**	**58 12.0**	**-4.5**
SHL				*e*S		**S**	**14**	**02 25.0**	**+0.7**
MYLDM	**Lahad Datu**	**23.07**	**84**	P		**P**	**13**	**58 21.0**	**+1.8**
KMI	**Kunming**	**23.18**	**17**	P		**P**	**13**	**58 21.0**	**+0.6**
KMI				pP		**pP**	**13**	**58 29.5**	**+1.5**
KMI				sP		**sP**	**13**	**58 33.5**	**+2.1**
KMI				pmax		pmax			
	comp=Z,24nm,0.8s								
KMI				pmax		pmax			
	comp=Z,100nm,4.6s								
KMI				LR		LR			
	comp=N,750nm,13.6s								
KMI				LR		LR			
	comp=E,300nm,13.8s								
KMI				LR		LR			
	comp=Z,780nm,14.1s								
ODAN	**Odare**	**25.06**	**343**	*e*P		**P**	**13**	**58 38.6**	**+0.6**
	comp=Z,96nm,1.2s								
DGAR	**Diego Garcia**	**25.15**	**246**	*e*P		**P**	**13**	**58 37.2**	**-1.5**
	comp=Z,181nm,1.1s								
RAMN	**Ramite**	**25.39**	**341**	*e*P		**P**	**13**	**58 42.1**	**+1.1**
	comp=Z,32nm,0.8s								
TAPN	**Taplejung**	**25.43**	**344**	*e*P		**P**	**13**	**58 42.4**	**+1.0**
	comp=Z,62nm,0.9s								
TAPN	**Taplejung**	**25.43**	**344**	*e*P		**P**	**13**	**58 42.4**	**+1.0**
	comp=Z,62nm,0.9s								
KAPI	**Kappang**	**25.49**	**108**	P		**P**	**13**	**58 41.2**	**-0.6**
	comp=Z,18nm,0.8s,baz=332,slow=7.0,SNR=5.0								
KAPI	**Kappang**	**25.49**	**108**	P		**P**	**13**	**58 41.2**	**-0.6**
JIRN	**Jiri**	**26.18**	**341**	*e*P		**P**	**13**	**58 49.3**	**+1.0**
	comp=Z,51nm,0.7s								
PKI	**Pulchoki**	**26.36**	**340**	*e*P		**P**	**13**	**58 50.8**	**+0.9**
DMN	**Daman**	**26.50**	**339**	*e*P		**P**	**13**	**58 52.5**	**+1.4**
	comp=Z,43nm,1.0s								
GUN	**Gumba**	**26.51**	**341**	*e*P		**P**	**13**	**58 52.1**	**+0.8**
	comp=Z,48nm,0.7s								
GUN	**Gumba**	**26.51**	**341**	*e*P		**P**	**13**	**58 52.1**	**+0.8**
	comp=Z,48nm,0.8s								
KKN	**Kakani**	**26.61**	**339**	*e*P		**P**	**13**	**58 52.2**	**+0.2**
	comp=Z,48nm,0.8s								
LSA	**Lhasa**	**26.98**	**352**	*e*P		**P**	**13**	**58 55.9**	**+0.3**
	comp=Z,21nm,0.8s								
GKN	**Gorkha**	**27.03**	**339**	*e*P		**P**	**13**	**58 56.4**	**+0.6**
	comp=Z,63nm,0.8s								
KOLN	**Koldanda**	**27.22**	**336**	*e*P		**P**	**13**	**58 58.1**	**+0.6**
	comp=Z,30nm,0.7s								
DANN	**Dangsing**	**27.67**	**337**	*e*P		**P**	**13**	**59 03.0**	**+1.3**
	comp=Z,62nm,0.8s								
CD2	**Chengdu**	**28.94**	**15**	P		**P**	**13**	**59 11.5**	**-1.2**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
ENH	**Enshi**	**30.29**	**25**	*e*P		**P**	**13**	**59 23.4**	**-1.3**
	comp=Z,8.4nm,0.7s								
DDI	**Dehra Dun**	**31.88**	**331**	*ex*		x	13	59 37.5	
WHN	**Wuhan**	**32.79**	**31**	↓P		**P**	**13**	**59 47.0**	**+0.5**
LZH	**Lanzhou**	**33.92**	**12**	*e*P		**P**	**13**	**59 55.5**	**-1.1**
LZH				pP		**pP**	**14**	**00 04.0**	**-0.6**
LZH				sP		**sP**	**14**	**00 06.5**	**-1.4**
LZH				pmax		pmax			
	comp=Z,15nm,1.1s								
FITZ	**Fitzroy Crossi**	**36.31**	**126**	P		**P**	**14**	**00 16.1**	**-1.1**
	comp=Z,7.9nm,0.9s,baz=336,slow=2.0,SNR=4.7								
FITZ	**Fitzroy Crossi**	**36.31**	**126**	P		**P**	**14**	**00 16.1**	**-1.1**
GTA	**Gaotai**	**36.56**	**6**	*e*P		**P**	**14**	**00 19.0**	**-0.2**
GTA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GTA				LR		LR			
	comp=N,170nm,13.8s								
GTA				LR		LR			
	comp=E,150nm,13.8s								
GTA				LR		LR			
	comp=Z,220nm,12.8s								
WMQ	**Urumqi**	**41.34**	**351**	P		**P**	**14**	**00 59.5**	**+0.4**
WMQ				pP		**pP**	**14**	**01 06.5**	**-0.7**
WMQ				sP		**sP**	**14**	**01 11.5**	**+1.0**
WMQ				pmax		pmax			
	comp=Z,15nm,1.3s								
WMQ				LR		LR			
	comp=N,88nm,19.4s								
WMQ				LR		LR			
	comp=E,14nm,22.2s								
WMQ				LR		LR			
	comp=Z,61nm,16.0s								
BJT	**Baijiatuan**	**41.44**	**24**	*e*P		**P**	**14**	**00 58.8**	**-1.1**
	comp=Z,57nm,0.8s								
BJI	**Beijing**	**41.46**	**24**	P		**P**	**14**	**01 01.0**	**+0.9**
BJI				pmax		pmax			
	comp=Z,74nm,0.8s								
BJI				pmax		pmax			
	comp=Z,130nm,4.4s								
TKM2	**Tokmak 2**	**43.62**	**339**	*e*P		**P**	**14**	**01 18.3**	**+0.5**
	comp=Z,9.9nm,1.2s								
AAK	**Ala-Archa**	**43.78**	**338**	P		**P**	**14**	**01 20.2**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=154,slow=8.9,SNR=12								
AAK	**Ala-Archa**	**43.78**	**338**	P		**P**	**14**	**01 20.2**	**+1.1**
EKS2	**Erkin-Say**	**44.08**	**337**	*e*P		**P**	**14**	**01 22.3**	**+0.8**
	comp=Z,3.8nm,0.7s								
WRA	**Warramunga Arr**	**44.39**	**122**	P		**P**	**14**	**01 23.4**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=302,slow=8.9,SNR=15								
WRA	**Warramunga Arr**	**44.39**	**122**	P		**P**	**14**	**01 23.4**	**-0.7**
MK31	**Makanchi Array**	**45.21**	**347**	*e*P		**P**	**14**	**01 30.0**	**-0.3**
MKAR	**Makanchi Array**	**45.21**	**347**	P		**P**	**14**	**01 30.6**	**+0.4**
	comp=Z,15nm,0.6s,baz=166,slow=7.9,SNR=222								
MKAR				LR		LR	14	23 01.2	
	comp=Z,78nm,21.6s,baz=162,slow=40								
MKAR	**Makanchi Array**	**45.21**	**347**	*e*P		**P**	**14**	**01 30.6**	**+0.4**
KSAR	**Wonju Array Be**	**45.45**	**37**	P		**P**	**14**	**01 32.1**	**-0.2**
KSRS	**Korea Array**	**45.48**	**37**	P		**P**	**14**	**01 32.1**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=217,slow=10,SNR=7.0								
KSRS				LR		LR	14	23 03.7	
	comp=Z,103nm,21.6s,baz=315,slow=39								
SONM	**Songino Array**	**45.75**	**10**	P		**P**	**14**	**01 34.7**	**+0.1**
	comp=Z,11nm,0.8s,baz=187,slow=8.6,SNR=74								
SONM				PcP		**PcP**	**14**	**03 12.8**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=194,slow=4.0,SNR=5.6								
SONM				LR		LR	14	22 31.3	
	comp=Z,169nm,21.6s,baz=182,slow=38								
SONM	**Songino Array**	**45.75**	**10**	P		**P**	**14**	**01 34.7**	**+0.1**
SONM				PcP		**PcP**	**14**	**03 12.8**	**+0.6**
ASAR	**Alice Springs**	**45.78**	**127**	P		**P**	**14**	**01 34.9**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=302,slow=8.6,SNR=9.7								
ASAR	**Alice Springs**	**45.78**	**127**	P		**P**	**14**	**01 34.9**	**-0.4**
KKAR	**Karatay Array**	**45.79**	**334**	*e*P		**P**	**14**	**01 35.6**	**+0.7**
ULN	**Ulaanbaatar**	**45.90**	**11**	*e*P		**P**	**14**	**01 35.6**	**-0.3**
	comp=Z,6.0nm,0.9s								
SNY	**Shenyang**	**46.23**	**29**	↓P		**P**	**14**	**01 38.8**	**+0.4**
SNY				S		**S**	**14**	**08 20.3**	**-3.0**
SNY				pmax		pmax			
	comp=Z,12nm,0.7s								
SNY				pmax		pmax			
	comp=Z,230nm,4.3s								
SNY				LR		LR			
	comp=N,210nm,11.5s								
SNY				LR		LR			
	comp=E,290nm,15.1s								
SNY				LR		LR			
	comp=Z,280nm,16.9s								
CN2	**Changchun**	**48.62**	**29**	*e*P		**P**	**14**	**01 57.0**	**0.0**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				LR		LR			
	comp=N,300nm,16.0s								
CN2				LR		LR			
	comp=E,300nm,16.0s								
CN2				LR		LR			
	comp=Z,300nm,17.0s								
TLY	**Talaya**	**49.10**	**7**	*e*P		**P**	**14**	**02 00.7**	**+0.2**
	comp=Z,8.4nm,0.8s								
KURK	**Kurchatov**	**49.73**	**346**	*e*P		**P**	**14**	**02 05.5**	**+0.1**
	comp=Z,8.8nm,0.8s								
ZAA0	**Zalesovo Array**	**51.64**	**352**	*e*P		**P**	**14**	**02 20.0**	**+0.3**
ZALV	**Zalesovo Beam**	**51.64**	**352**	P		**P**	**14**	**02 20.1**	**+0.4**
	comp=Z,32nm,0.6s,baz=182,slow=7.0,SNR=176								
ZALV				LR		LR	14	28 31.0	
	comp=Z,77nm,18.8s,baz=340,slow=41								
ZALV	**Zalesovo Beam**	**51.64**	**352**	P		**P**	**14**	**02 20.1**	**+0.4**
MJAR	**Matsushiro Arr**	**51.65**	**44**	P		**P**	**14**	**02 19.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=242,slow=8.4,SNR=5.0								
MJAR				LR		LR	14	24 27.6	
	comp=Z,94nm,19.7s,baz=225,slow=36								
MJAR	**Matsushiro Arr**	**51.65**	**44**	P		**P**	**14**	**02 19.6**	**-0.4**
USRK	**Ussuriysk Arra**	**52.26**	**33**	P		**P**	**14**	**02 25.3**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=232,slow=4.1,SNR=8.0								
BRVK	**Borovoye**	**54.16**	**342**	*e*P		**P**	**14**	**02 38.2**	**-0.2**
	comp=Z,7.1nm,0.8s								
ABKAR	**Akbulak array**	**55.22**	**332**	*e*P		**P**	**14**	**02 46.3**	**+0.3**
STKA	**Stephens Creek**	**55.76**	**132**	P		**P**	**14**	**02 51.0**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=319,slow=10,SNR=2.4								
STKA	**Stephens Creek**	**55.76**	**132**	P		**P**	**14**	**02 51.0**	**+0.7**
GNI	**Garni**	**58.89**	**316**	LR		LR	14	29 19.4	
	comp=Z,36nm,20.2s,baz=271,slow=37								
ARU	**Arti**	**60.97**	**338**	*e*P		**P**	**14**	**03 26.3**	**+0.2**
	comp=Z,50nm,2.0s								
YAK	**Yakutsk**	**64.30**	**17**	*e*P		**P**	**14**	**03 47.4**	**-0.9**
	comp=Z,30nm,0.9s								
BRTR	**Keskin Array B**	**66.71**	**312**	P		P	14	04 09.3	+4.8
	comp=Z,0.7nm,0.7s,baz=138,slow=4.3,SNR

STON					Sg		Sg	14 16 53.7	+0.6
BRY	**Bratogost**	**0.77**	**128**	⇓	*i*Pg		Pg	14 16 49.1	-2.6
BRY					*e*Sg		Sg	14 17 01.5	-0.4
BRY	**Bratogost**	**0.77**	**128**	⇓	*i*Pg		Pg	14 16 49.1	-2.6
UPM	**Unac-Piva**	**0.89**	**101**	⇑	*i*Pg		Pg	14 16 51.7	-2.3
UPM					*e*Sg		Sg	14 17 05.5	-0.2
NKY	**Niksic**	**1.09**	**121**	⇑	*i*Pg		Pg	14 16 55.9	-2.0
NKY					*e*Sg		Sg	14 17 12.2	0.0
HCY	**Herceg Novi**	**1.10**	**148**	⇓	*i*Pg		Pg	14 16 56.1	-1.6
HCY					*e*Sg		Sb	14 17 13.5	+0.3
HCY	**Herceg Novi**	**1.10**	**148**	⇓	*i*Pg		Pg	14 16 56.1	-1.6
HCY					*e*Sg		Sb	14 17 13.5	+0.3
PLE	**Pljevlja**	**1.22**	**92**	⇓	*i*Pg		Pn	14 16 57.8	-3.2
PLE					*e*Sg		Sg	14 17 16.4	+0.1
BUM	**Brajici-Budva**	**1.39**	**141**	⇓	*i*Pg		Pn	14 17 01.3	-1.9
BUM					*e*Sn		Sn	14 17 22.9	+0.8
BUM	**Brajici-Budva**	**1.39**	**141**	⇓	*i*Pg		Pn	14 17 01.3	-1.9
BLY	**Banja Luka**	**1.42**	**344**		*e*Sn		Sg	14 17 20.1	-2.2
PDG	**Podgorica**	**1.48**	**130**		*e*Pn		Pb	14 17 04.7	-0.2
PDG					*e*Sn		Sg	14 17 25.3	+1.1
PDG	**Podgorica**	**1.48**	**130**	⇓	*i*Pg		Pn	14 17 03.6	-0.7
PDG	**Podgorica**	**1.48**	**130**		*e*Pn		Pb	14 17 04.7	-0.2
PDG					*e*Sn		Sg	14 17 25.3	+1.1
PDG					*e*Sg		Sn	14 17 25.8	+1.6
TTG	**Podgorica**	**1.48**	**129**	⇓	*i*Pg		Pn	14 17 03.6	-0.7
TTG					*e*Sg		Sg	14 17 25.8	+1.5
BEY	**Berane**	**1.67**	**107**	⇓	*i*Pn		Pn	14 17 07.1	-0.1
BEY					*e*Sn		Sg	14 17 31.8	+1.1
IVA	**Berane**	**1.68**	**107**	⇓	*i*Pn		Pn	14 17 07.1	-0.1
IVA					*e*Sn		Sg	14 17 31.8	+1.0
TEKS	**Tekeris**	**1.75**	**48**		*e*Pn		Pn	14 17 07.8	-0.4
TEKS					*e*Sn		Sn	14 17 31.1	0.0
TEKS	**Tekeris**	**1.75**	**48**		*e*Pn		Pn	14 17 07.8	-0.4
TEKS					*e*Sn		Sn	14 17 31.1	0.0
IVAS	**Ivanjica**	**1.78**	**83**		*e*Pn		Pn	14 17 09.0	+0.4
IVAS					*e*Sn		Sn	14 17 32.5	+0.5
IVAS	**Ivanjica**	**1.78**	**83**		*e*Pn		Pn	14 17 09.0	+0.4
IVAS					*e*Sn		Sn	14 17 32.5	+0.5
DIVS	**Divibare**	**1.80**	**66**		*e*Pn		Pn	14 17 07.9	-1.0
DIVS					*e*Sn		Sn	14 17 32.2	-0.1
DIVS	**Divibare**	**1.80**	**66**		*e*Pn		Pn	14 17 07.9	-1.0
PVY	**Plav**	**1.82**	**115**	⇑	*i*Pn		Pb	14 17 10.3	-0.7
PVY					*e*Sn		Sg	14 17 35.6	-0.1
PVY	**Plav**	**1.82**	**115**	⇑	*i*Pn		Pb	14 17 10.3	-0.7
PVY					*e*Sn		Sg	14 17 35.6	-0.1
TRUS	**Trudelj**	**2.12**	**66**		*e*Pn		Pn	14 17 12.2	-1.0
TRUS	**Trudelj**	**2.12**	**66**		*e*Pn		Pn	14 17 12.2	-1.0
GRUS	**Gruza**	**2.23**	**76**		*e*Pn		Pn	14 17 14.9	+0.1
GRUS					*e*Sn		Sn	14 17 44.1	+1.2
GRUS	**Gruza**	**2.23**	**76**		*e*Pn		Pn	14 17 14.9	+0.1
GRUS					*e*Sn		Sn	14 17 44.1	+1.2
FGSL	**Fruska Gora**	**2.33**	**40**		*e*Pn		Pn	14 17 14.7	-1.3
FRGS	**Fruska Gora**	**2.33**	**40**		*e*Pn		Pn	14 17 14.7	-1.3
NVLJ	**Novalja**	**2.37**	**301**		*e*Pn		Pn	14 17 18.0	+1.5
NVLJ					*e*Sn		Sn	14 17 47.4	+1.2
NVLJ	**Novalja**	**2.37**	**301**		*e*Pn		Pn	14 17 18.0	+1.5
NVLJ					*e*Sn		Sn	14 17 47.4	+1.2
SELS	**Selova**	**2.49**	**93**		*e*Pn		Pn	14 17 18.3	0.0
SELS	**Selova**	**2.49**	**93**		*e*Pn		Pn	14 17 18.3	0.0
BARS	**Barje**	**3.06**	**99**		*e*Pn		Pn	14 17 26.8	+0.8
BARS					*e*Sn		Sn	14 18 02.7	-0.5
BARS	**Barje**	**3.06**	**99**		*e*Pn		Pn	14 17 26.8	+0.8
BARS					*e*Sn		Sn	14 18 02.7	-0.5

*IDC **30** 14:17:59.7±1.6,22.37S×170.90E, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.0/8, MS3.8/5, Ms1 3.8/5, ms1mx3.5/18, Error ellipse: s-maj=68.7km s-min=24.6km az=154.0*

*ISCJB **30** 14:18:03.7±0.9,22.7S±0.2×170.89E±0.07, h42km, mb4.0/8, MS4.0/4, Error ellipse: s-maj=34.6km s-min=9.3km az=179.2*

ISC 30 14:18:05.6±1.1, 22.5S±0.3×170.91E±0.10, h42km, n23, σ0.66/20, mb4.1/8, MS4.0/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.16**	**275**	*e*Pn	**Pn**	**14 19 06.7**	**+0.1**
	42nm,0.3s						
DZM				*e*Sn	**Sn**	**14 19 54.9**	**+0.9**
	43nm,0.2s						
DZM				*e*LR	LR	14 20 01.3	
	634nm,25.6s						
NOUC	**Port Laguerre**	**4.28**	**274**	*e*P	**Pn**	**14 19 07.9**	**-0.3**
NOUC				*e*S	**Sn**	**14 19 56.6**	**-0.4**
AFI	**Afiamalu**	**18.50**	**66**	LR	LR	14 27 25.4	
	comp=Z,142nm,21.6s,baz=234,slow=31						
CTA	**Charters Tower**	**23.09**	**271**	P	**P**	**14 23 09.1**	**+1.3**
	13nm,1.1s,baz=80,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**27.64**	**244**	P	**P**	**14 23 48.9**	**-0.5**
	1.2nm,0.8s,baz=109,slow=18,SNR=1.2						
STKA				LR	LR	14 33 45.5	
	comp=Z,196nm,20.1s,baz=28,slow=34						
ASAR	**Alice Springs**	**34.01**	**261**	P	**P**	**14 24 45.0**	**-0.7**
	2.2nm,1.0s,baz=89,slow=8.8,SNR=8.0						
WRA	**Warramunga Arr**	**34.14**	**267**	P	**P**	**14 24 45.5**	**-1.2**
	0.8nm,0.8s,baz=97,slow=8.5,SNR=3.5						
TBI	**Tubuai**	**36.44**	**99**	*e*LR	LR	14 34 52.4	
	88nm,28.5s						
PPT2	**Papeete2**	**37.36**	**90**	*e*LR	LR	14 35 05.4	
	78nm,30.8s						
CMAR	**Chiang Mai Arr**	**81.24**	**294**	P	**P**	**14 30 17.8**	**+0.2**
	1.4nm,0.7s,baz=128,slow=4.3,SNR=4.8						
NVAR	**Mina Arraya Bea**	**89.78**	**48**	P	**P**	**14 30 59.9**	**0.0**
	1.3nm,0.7s,baz=226,slow=8.7,SNR=12						
NVAR				LR	LR	15 01 56.4	
	comp=Z,75nm,19.1s,baz=97,slow=29						
SONM	**Songino Array**	**90.72**	**323**	P	**P**	**14 31 03.5**	**-0.5**
	0.9nm,0.9s,baz=111,slow=2.3,SNR=5.1						
ILAR	**Eielson Array**	**92.84**	**17**	P	**P**	**14 31 13.7**	**+0.4**
	0.6nm,0.9s,baz=217,slow=8.5,SNR=3.3						
TXAR	**Lajitas Array**	**96.93**	**61**	LR	LR	15 07 31.1	
	comp=Z,43nm,18.5s,baz=185,slow=31						
PDAR	**Pinedale Array**	**97.66**	**47**	LR	LR	15 12 44.5	
	comp=Z,48nm,18.4s,baz=83,slow=34						
DPC	**Dobruska-Polom**	**145.79**	**331**	*e*P	**PKPab**	**14 37 40.4**	**0.0**
DPC				*ex*	x	14 37 49.7	
UPC	**Upice**	**145.82**	**331**	*e*P	**PKPab**	**14 37 40.7**	**+0.2**
UPC				*ex*	x	14 37 50.0	
PVCC	**Panska Ves**	**146.43**	**332**	*e*P	**PKPab**	**14 37 42.5**	**-0.3**
BRG	**Berggiesshubel**	**146.44**	**333**	*e*P	**PKPab**	**14 37 42.6**	**-0.2**
	13nm,1.2s						
BRG				*e*		14 37 51.9	
	12nm,1.1s						
CLL	**Collm**	**146.49**	**335**	*e*(P)	**PKPbc**	**14 37 42.0**	**0.0**
	comp=Z,8.0nm,0.8s						
CLL				*i*		14 37 51.7	
	comp=Z,17nm,1.2s						
KHC	**Kasperske Hory**	**147.90**	**332**	*e*P	**PKPbc**	**14 37 45.7**	**-0.4**
KHC				*ex*	x	14 37 55.7	
GERES	**GERESS Array B**	**148.06**	**331**	PKPbc	**PKPbc**	**14 37 46.6**	**0.0**
	comp=Z,1.1nm,0.4s,baz=54,slow=2.3,SNR=8.2						
TORD	**Torodi Ar. Bea**	**166.18**	**230**	PKPab	**PKPab**	**14 39 09.1**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=101,slow=2.5,SNR=3.3						

IDC 30 14:25:42.8±2.2, 29.22N×52.75E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/29, mbtmp3.6/9, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=54.0km s-min=23.4km az=154.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**18.88**	**309**	P	Pn	14 30 06.1	+0.7
	0.1nm,0.3s,baz=115,slow=12,SNR=2.0						
AKTO	**Aktyubinsk**	**21.56**	**9**	P	P	14 30 33.7	0.0
	0.9nm,0.7s,baz=212,slow=9.3,SNR=5.3						
BVAR	**Borovoye Array**	**27.09**	**24**	P	P	14 31 27.5	+0.4
	0.7nm,0.8s,baz=208,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**28.91**	**44**	P	P	14 31 43.0	-0.4
	0.2nm,0.7s,baz=239,slow=8.3,SNR=4.4						
KURK	**Kurchatov**	**28.96**	**35**	P	P	14 31 43.5	-0.3
	0.5nm,0.6s,baz=235,slow=9.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**33.94**	**34**	P	P	14 32 27.7	+0.1
	1.1nm,0.5s,baz=243,slow=9.8,SNR=5.3						
ZALV				LR	LR	14 46 45.3	
	comp=Z,25nm,18.6s,baz=13,slow=37						
FINES	**FINESS Array B**	**36.75**	**339**	P	P	14 32 50.5	-1.1
	2.2nm,0.9s,baz=134,slow=8.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**49.83**	**262**	P	P	14 34 38.0	0.0
	1.2nm,0.8s,baz=60,slow=6.0,SNR=6.8						
YKA	**Yellowknife Ar**	**88.04**	**354**	P	P	14 38 34.1	-0.6
	0.3nm,0.8s,baz=5.2,slow=5.0,SNR=6.3						

*IDC **30** 14:51:58.0±0.7, 19.74S×168.86E, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/19, mbtmp4.4/14, MS3.6/3, Ms1 3.6/3, ms1mx3.3/23, Error ellipse: s-maj=23.7km s-min=17.0km az=149.0*

*NEIC **30** 14:51:59.5±0.3, 19.78S×168.86E, h10km, mb4.6/4, Error ellipse: s-maj=10.8km s-min=8.1km az=157.0*

*BJI **30** 14:52:00.3, 19.60S×168.70E, h30km, mB5.2/3, mb4.6/8*

*SZGRF **30** 14:52:00.8, 20.74S×169.15E, h33km, Vanuatu Islands*

*ISCJB **30** 14:52:01.7±1.6, 19.84S±0.08×168.82E±0.08, h33km±14km, mb4.4/19, MS3.4/1, Error ellipse: s-maj=14.7km s-min=10.5km az=139.7*

*NOU **30** 14:52:02.5±1.1, 19.34S×168.33E, h30km, MD3.0, ML3.3*

ISC 30 14:52:01.4±0.8, 19.80S±0.07×168.87E±0.07, h23km±5km, n114, σ0.96/118, mb4.5/18, 10C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.99**	**218**	*e*S		14 53 22.2	
DZM	**Mont Dzumac**	**3.20**	**225**	*e*Pn	**Pn**	**14 52 50.1**	**-0.3**
	52nm,0.2s						
DZM				*e*Sn	**Sn**	**14 53 25.2**	**-2.8**
	161nm,0.3s						
DZM				*e*LR	LR	14 53 36.7	
	938nm,21.3s						
DZM	**Mont Dzumac**	**3.20**	**225**	*e*Pn	**Pn**	**14 52 49.2**	**-1.2**
DZM				*e*Sn	**Sn**	**14 53 26.6**	**-1.3**
PLUM	**Mont Dore**	**3.22**	**220**	*e*P	**Pn**	**14 52 51.3**	**+0.7**
PLUM				*e*S	**Sn**	**14 53 27.3**	**-1.1**
LASL	**Noumea**	**3.25**	**222**	*e*P	**Pn**	**14 52 51.1**	**0.0**
LASL				*e*S	**Sn**	**14 53 27.1**	**-2.0**
NORM	**Noumea**	**3.29**	**222**	*e*P	**Pn**	**14 52 51.4**	**-0.1**
NORM				AMP		14 53 28.6	
	comp=Z,441nm,1.7s						
NORM				*e*S	**Sn**	**14 53 29.2**	**-0.7**
NOUC	**Port Laguerre**	**3.32**	**226**	*e*P	**Pn**	**14 52 52.4**	**+0.5**
NOUC				*e*S	**Sn**	**14 53 28.1**	**-2.6**
NOUC				AMP		14 53 42.3	
	comp=Z,104nm,3.8s						
MSVF	**Nonsavu**	**8.93**	**78**	*e*Pn	**Pn**	**14 54 08.5**	**-0.7**
	comp=Z,41nm,1.1s						
HNR	**Honiara**	**13.44**	**319**	LR	LR	14 59 20.6	
	comp=Z,289nm,20.2s,baz=110,slow=33						
AFI	**Afiamalu**	**19.42**	**75**	LR	LR	15 02 32.4	
	comp=Z,229nm,18.4s,baz=268,slow=33						
URZ	**Urewera**	**19.73**	**160**	*e*P	**P**	**14 56 29.5**	**-0.1**
	comp=Z,21nm,0.8s						
URZ				*e*S	**Sn**	**15 00 13.7**	**+1.6**
CTA	**Charters Tower**	**21.26**	**265**	P	**P**	**14 56 47.8**	**+1.5**
	comp=Z,28nm,0.6s,baz=90,slow=12,SNR=28						
CTA				LR	LR	15 03 47.5	
	comp=Z,150nm,21.0s,baz=306,slow=33						
CTA	**Charters Tower**	**21.26**	**265**	*e*P	**P**	**14 56 50.2**	**+3.9**
CTA	**Charters Tower**	**21.26**	**265**	P	**P**	**14 56 47.8**	**+1.5**
PMG	**Port Moresby**	**23.39**	**293**	P	**P**	**14 57 08.4**	**-0.3**
	comp=Z,14nm,0.8s,baz=119,slow=7.5,SNR=4.4						
PMG	**Port Moresby**	**23.39**	**293**	P	**P**	**14 57 08.4**	**-0.3**
QLP	**Quilpie**	**23.61**	**249**	*e*P	**P**	**14 57 11.5**	**+0.7**
CMSA	**Cobar Meteorol**	**23.88**	**236**	*e*P	**P**	**14 57 14.8**	**+1.4**
RPZ	**Rata Peaks**	**23.91**	**176**	P	**P**	**14 57 15.6**	**+2.0**
	comp=Z,5.7nm,0.7s,baz=28,slow=7.2,SNR=5.1						
RPZ	**Rata Peaks**	**23.91**	**176**	P	**P**	**14 57 15.6**	**+2.0**
COEN	**Coen**	**25.25**	**279**	*e*P	**P**	**14 57 27.2**	**+1.1**
STKA	**Stephens Creek**	**27.25**	**238**	P	**P**	**14 57 44.0**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=63,slow=10.0,SNR=15						
STKA	**Stephens Creek**	**27.25**	**238**	*e*P	**P**	**14 57 45.2**	**+1.2**
STKA	**Stephens Creek**	**27.25**	**238**	P	**P**	**14 57 44.0**	**-0.1**
WRA	**Warramunga Arr**	**32.44**	**264**	P	**P**	**14 58 29.1**	**-1.1**
	comp=Z,2.4nm,0.4s,baz=89,slow=8.5,SNR=64						
WRA				PcP	**PcP**	**15 01 16.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=95,slow=3.2,SNR=6.7						
WRA	**Warramunga Arr**	**32.44**	**264**	P	**P**	**14 58 29.1**	**-1.1**
WRA				PcP	**PcP**	**15 01 16.7**	**-0.5**
AS31	**Alice Springs**	**32.66**	**257**	*e*P	**P**	**14 58 31.7**	**-0.4**
ASAR	**Alice Springs**	**32.66**	**257**	P	**P**	**14 58 31.8**	**-0.3**
	comp=Z,19nm,0.7s,baz=86,slow=8.9,SNR=320						
ASAR				PcP	**PcP**	**15 01 17.7**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=111,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**32.66**	**257**	P	**P**	**14 58 31.8**	**-0.3**
ASAR				PcP	**PcP**	**15 01 17.7**	**-0.1**
TBI	**Tubuai**	**38.81**	**103**	*e*LR	LR	15 10 01.9	
	comp=Z,86nm,26.0s						
PPT2	**Papeete2**	**39.35**	**94**	*e*LR	LR	15 10 44.0	
	comp=Z,77nm,23.2s						
FITZ	**Fitzroy Crossi**	**40.84**	**265**	P	**P**	**14 59 41.4**	**-0.4**
	comp=Z,7.8nm,0.7s,baz=134,slow=8.1,SNR=8.8						
FITZ	**Fitzroy Crossi**	**40.84**	**265**	*e*P	**P**	**14 59 41.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.84**	**265**	P	**P**	**14 59 41.4**	**-0.4**
MJAR	**Matsushiro Arr**	**63.09**	**333**	P	**P**	**15 02 26.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=161,slow=5.9,SNR=3.9						
MJAR	**Matsushiro Arr**	**63.09**	**333**	P	**P**	**15 02 26.6**	**-0.5**
QSPA	**South Pole Qui**	**70.25**	**180**	*e*P	**P**	**15 03 13.1**	**+0.4**
	comp=Z,18nm,1.3s						
WHN	**Wuhan**	**72.47**	**313**	P	**P**	**15 03 27.0**	**+0.6**
PETK	**Petropavlovsk-**	**73.25**	**353**	P	**P**	**15 03 30.9**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=120,slow=4.4,SNR=10						
PETK	**Petropavlovsk-**	**73.25**	**353**	P	**P**	**15 03 30.9**	**+0.4**
XAN	**Xi'an**	**78.24**	**313**	P	**P**	**15 04 00.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,18nm,5.2s						
CMAR	**Chiang Mai Arr**	**78.42**	**294**	P	**P**	**15 04 02.3**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=133,slow=3.9,SNR=11						
CMAR	**Chiang Mai Arr**	**78.42**	**294**	P	**P**	**15 04 02.3**	**+1.5**
LZH	**Lanzhou**	**82.85**	**312**	*e*P	P	15 04 19.5	-4.9
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
GTA	**Gaotai**	**87.26**	**314**	*e*P	**P**	**15 04 47.5**	**+1.1**
GTA				pP	**pP**	**15 04 53.3**	**-0.6**
GTA				sP	**sP**	**15 04 56.8**	**+0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**87.46**	**323**	P	**P**	**15 04 47.6**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=148,slow=4.9,SNR=14						
SONM	**Songino Array**	**87.46**	**323**	P	**P**	**15 04 47.6**	**+0.4**
CMB	**Columbia Colle**	**87.79**	**48**	*e*P	**P**	**15 04 48.4**	**-0.5**
	comp=Z,2.2nm,0.8s						
ISA	**Isabella**	**88.10**	**51**	*e*P	**P**	**15 04 50.7**	**+0.2**
	comp=Z,4.2nm,1.2s						
NVAR	**Mina Array Bea**	**89.43**	**49**	P	**P**	**15 04 57.8**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=228,slow=7.8,SNR=10						
NVAR	**Mina Array Bea**	**89.43**	**49**	P	**P**	**15 04 57.8**	**+0.9**
ILAR	**Eielson Array**	**90.87**	**17**	P	**P**	**15 05 00.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=239,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**90.87**	**17**	P	**P**	**15 05 00.8**	**-1.9**
TXAR	**Lajitas Array**	**97.34**	**62**	P	Pdif	15 05 34.6	+1.2
	comp=Z,0.2nm,0.7s,baz=208,slow=3.7,SNR=3.4						
TXAR	**Lajitas Array**	**97.34**	**62**	P	Pdif	15 05 34.6	+1.2
YKA	**Yellowknife Ar**	**101.33**	**27**	P	**Pdif**	**15 05 51.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=258,slow=4.6,SNR=7.7						
YKA	**Yellowknife Ar**	**101.33**	**27**	P	**Pdif**	**15 05 51.3**	**+1.1**
MKAR	**Makanchi Array**	**101.90**	**316**	P	**Pdif**	**15 05 53.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=93,slow=5.9,SNR=7.2						
MKAR	**Makanchi Array**	**101.90**	**316**	P	**Pdif**	**15 05 53.7**	**+0.5**
BOSA	**Boshof**	**120.40**	**217**	PKP	**PKPdf**	**15 10 51.9**	**+0.1**
	comp=Z,5.4nm,1.3s,baz=170,slow=14,SNR=3.8						
BOSA	**Boshof**	**120.40**	**217**	PKP	**PKPdf**	**15 10 51.9**	**+0.1**
ARCES	**ARCESS Array B**	**125.52**	**345**	PKP	**PKPdf**	**15 10 59.7**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=51,slow=2.1,SNR=12						
ARCES	**ARCESS Array B**	**125.52**	**345**	PKP	**PKPdf**	**15 10 59.7**	**-0.4**
BDFB	**Brasilia**	**129.44**	**132**	PKP	**PKPdf**	**15 11 08.5**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=64,slow=3.4,SNR=3.2						
BDFB	**Brasilia**	**129.44**	**132**	PKP	**PKPdf**	**15 11 08.5**	**-0.8**
FINES	**FINESS Array B**	**130.97**	**337**	PKP	**PKPdf**	**15 11 10.3**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=353,slow=4.6,SNR=4.9						
FINES	**FINESS Array B**	**130.97**	**337**	PKP	**PKPdf**	**15 11 10.3**	**-0.3**
AKASG	**Malin Array Be**	**135.74**	**324**	PKP	**PKPdf**	**15 11 19.0**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=48,slow=2.6,SNR=6.2						
AKASG	**Malin Array Be**	**135.74**	**324**	PKP	**PKPdf**	**15 11 19.0**	**-1.0**
NOA	**NORSAR Array B**	**135.90**	**345**	PKP	**PKPdf**	**15 11 20.7**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=37,slow=2.0,SNR=3.3						
NOA	**NORSAR Array B**	**135.90**	**345**	PKP	**PKPdf**	**15 11 20.7**	**+0.7**
BRTR	**Keskin Array B**	**136.88**	**307**	PKP	**PKPdf**	**15 11 23.9**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=129,slow=3.3,SNR=4.8						
BRTR	**Keskin Array B**	**136.88**	**307**	PKP	**PKPdf**	**15 11 23.9**	**+1.2**
BRG	**Berggiesshubel**	**143.22**	**333**	*e*(P)	**PKPdf**	**15 11 32.3**	**-1.3**
	comp=Z,4.8nm,1.1s						
CLL	**Collm**	**143.28**	**335**	*e*PKPdf	**PKPdf**	**15 11 32.0**	**-1.7**
CLL				*e*(PKiKP)		15 11 37.0	
TANN	**Tannenbergstha**	**144.18**	**334**	*e*PKPbc	PKPbc	15 11 34.0	+0.5
WERD	**Werda**	**144.22**	**334**	*e*PKPbc	PKPbc	15 11 33.6	0.0
GUNZ	**Gunzen**	**144.28**	**334**	*e*PKPbc	PKPbc	15 11 34.1	+0.3
WERN	**Wernitzgruen**	**144.32**	**334**	*e*PKPbc	PKPbc	15 11 34.3	+0.4
NKC	**Novy Kostel**	**144.33**	**334**	*e*PKPbc	PKPbc	15 11 34.3	+0.4
IBBN	**Ibbenburen**	**144.37**	**340**	*e*PKPbc	PKPbc	15 11 34.2	+0.3
CONA	**Conrad Observa**	**144.44**	**328**	⇑	*i*P	**PKPdf**	**15 11 35.9**	**0.0**
CONA	**Conrad Observa**	**144.44**	**328**	⇑	*i*PKPdf	**PKPdf**	**15 11 35.9**	**0.0**
	comp=Z,6.2nm,0.7s						
KHC	**Kasperske Hory**	**144.67**	**332**	*e*PKP	**PKPab**	**15 11 34.5**	**-0.4**
KHC				*ex*	x	15 12 07.0	
ROTZ	**Rotzenmuhle**	**144.78**	**334**	*e*PKPbc	**PKPdf**	**15 11 35.9**	**-0.5**
GERES	**GERESS Array B**	**144.82**	**331**	PKP	**PKPdf**	**15 11 36.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=29,slow=1.9,SNR=17						
GERES	**GERESS Array B**	**144.82**	**331**	PKP	**PKPdf**	**15 11 36.0**	**-0.7**
ARSA	**Arzberg**	**145.07**	**328**	⇓	*i*P	**PKPdf**	**15 11 36.9**	**-0.1**
ARSA	**Arzberg**	**145.07**	**328**	⇓	*i*PKPdf	**PKPdf**	**15 11 36.9**	**-0.1**
	comp=Z,9.8nm,1.2s						
GRF	**Grafenberg Arr**	**145.25**	**334**	*e*PKPbc	**PKPdf**	**15 11 37.7**	**+0.5**
MOA	**Molln**	**145.27**	**330**	⇑	*i*P	**PKPdf**	**15 11 37.9**	**+0.6**
MOA	**Molln**	**145.27**	**330**	⇑	*i*PKPdf	**PKPdf**	**15 11 37.9**	**+0.6**
	comp=Z,18nm,1.0s						
BUG	**Bochum--Univer**	**145.27**	**340**	*e*PKPbc	**PKPdf**	**15 11 36.8**	**-0.3**
SOKA	**Soboth**	**145.70**	**327**	⇑	*i*P	**PKPab**	**15 11 38.8**	**-0.1**
SOKA	**Soboth**	**145.70**	**327**	⇑	*i*PKPab	**PKPab**	**15 11 38.8**	**-0.1**
	comp=Z,21nm,1.3s						
TNS	**Taunus Mts**	**145.89**	**337**	*e*PKPbc	**PKPab**	**15 11 39.6**	**+0.2**
RJOB	**Jochberg**	**146.04**	**331**	*e*PKPbc	**PKPab**	**15 11 39.9**	**-0.2**
KBA	**Koelnbreinsper**	**146.26**	**329**	⇑	*i*P	**PKPab**	**15 11 40.5**	**-0.6**
KBA	**Koelnbreinsper**	**146.26**	**329**	⇑	*i*PKPab	**PKPab**	**15 11 40.5**	**-0.6**
	comp=Z,12nm,1.1s						
STU	**Stuttgart**	**146.79**	**335**	*e*PKPbc	**PKPab**	**15 11 42.3**	**-0.6**
MOTA	**Moosalm**	**147.10**	**332**	⇓	*i*P	**PKPbc**	**15 11 42.7**	**0.0**
MOTA	**Moosalm**	**147.10**	**332**	⇓	*i*pPKPdf	**PKPbc**	**15 11 42.7**	**0.0**
	comp=Z,19nm,1.1s						
WLF	**Walferdange**	**147.16**	**339**	PKP	**PKPab**	**15 11 43.7**	**-0.6**
WLF	**Walferdange**	**147.16**	**339**	*e*PKPbc	**PKPab**	**15 11 43.5**	**-0.8**
DOU	**Dourbes**	**147.28**	**341**	PKPbc	**PKPbc**	**15 11 43.3**	**+0.3**
BFO	**Black Forest**	**147.49**	**336**	*e*PKPbc	**PKPbc**	**15 11 43.8**	**+0.2**
BFO	**

KRBG	**Karabiga-Canak**	**0.36**	**188**	*e*Pg	**Pg**	**15 40 17.1**	**0.0**
KRBG				*e*Sg	**Sg**	**15 40 22.7**	**+0.5**
EDC	**Edincik**	**0.56**	**137**	*e*PG	**Pg**	**15 40 20.3**	**-0.4**
EDC	**Edincik**	**0.56**	**137**	*e*Pg	**Pg**	**15 40 20.3**	**-0.4**
LPK	**Lapseki**	**0.60**	**231**	*e*PG	**Pg**	**15 40 21.5**	**0.0**
LPK	**Lapseki**	**0.60**	**231**	*e*Pg	**Pg**	**15 40 21.5**	**0.0**
ERIK	**Erikli-Kesan**	**0.66**	**263**	*e*PG	**Pg**	**15 40 22.4**	**-0.1**
ERIK	**Erikli-Kesan**	**0.66**	**263**	*e*Pg	**Pg**	**15 40 22.4**	**-0.1**
GONE	**Gonen-Balikesi**	**0.75**	**161**	*e*PG	**Pg**	**15 40 24.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.75**	**161**	*e*Pg	**Pg**	**15 40 24.1**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.77**	**243**	*e*PG	**Pg**	**15 40 24.1**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.77**	**243**	*e*Pg	**Pg**	**15 40 24.1**	**-0.6**
SLVT	**Silivri**	**0.80**	**53**	*e*PG	**Pb**	**15 40 25.5**	**+0.2**
SLVT	**Silivri**	**0.80**	**53**	*e*Pg	**Pb**	**15 40 25.5**	**+0.2**
KCTX	**Karacabey (Bur**	**0.90**	**123**	*e*PG	**Pb**	**15 40 26.3**	**-0.8**
KCTX	**Karacabey (Bur**	**0.90**	**123**	*e*Pg	**Pb**	**15 40 26.3**	**-0.8**
ENEZ	**Enez**	**0.92**	**269**	*e*PG	**Pg**	**15 40 27.6**	**0.0**
ENEZ	**Enez**	**0.92**	**269**	*e*Pg	**Pg**	**15 40 27.6**	**0.0**
CTKS	**Kestanelik-??a**	**0.99**	**60**	*e*PG	**Pb**	**15 40 28.4**	**-0.1**
CTKS	**Kestanelik-??a**	**0.99**	**60**	*e*Pg	**Pb**	**15 40 28.4**	**-0.1**
CTYL	**Yal??k??y-??at**	**1.00**	**44**	*e*PG	**Pn**	**15 40 29.4**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.00**	**44**	*e*Pg	**Pn**	**15 40 29.4**	**+0.2**
BALY	**Balya**	**1.03**	**169**	*i* P	**Pb**	**15 40 29.0**	**-0.3**
BALY				*i* S	**Sg**	**15 40 43.6**	**+0.4**
BALY	**Balya**	**1.03**	**169**	*i* P	**Pb**	**15 40 29.0**	**-0.3**
BALY				*i* S	**Sg**	**15 40 43.6**	**+0.4**
BGKT	**Bogazkoy**	**1.15**	**68**	*e*PN	**Pg**	**15 40 32.1**	**+0.3**
BGKT	**Bogazkoy**	**1.15**	**68**	*e*Pn	**Pg**	**15 40 32.1**	**+0.3**
ARMT	**Armutlu**	**1.15**	**99**	*e*PN	**Pg**	**15 40 32.4**	**+0.4**
ARMT	**Armutlu**	**1.15**	**99**	*e*Pn	**Pg**	**15 40 32.4**	**+0.4**
BALB	**Balikesir**	**1.18**	**160**	*e*PN	**Pb**	**15 40 32.1**	**+0.3**
BALB	**Balikesir**	**1.18**	**160**	*e*Pn	**Pb**	**15 40 32.1**	**+0.3**
EDRB	**Edirne**	**1.19**	**337**	*e*PN	**Pn**	**15 40 31.6**	**-0.2**
EDRB	**Edirne**	**1.19**	**337**	*e*Pn	**Pn**	**15 40 31.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**108**	*e*PN	**Pg**	**15 40 33.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.22**	**108**	*e*Pn	**Pg**	**15 40 33.2**	**0.0**
ISK	**Istanbul-Kandi**	**1.32**	**76**	*e*PN	**Pg**	**15 40 34.9**	**-0.2**
ISK	**Istanbul-Kandi**	**1.32**	**76**	*e*Pn	**Pg**	**15 40 34.9**	**-0.2**
KLYT	**Kilyos**	**1.36**	**68**	*e*PN	**Pg**	**15 40 35.7**	**-0.2**
KLYT	**Kilyos**	**1.36**	**68**	*e*Pn	**Pg**	**15 40 35.7**	**-0.2**
DURS	**Dursunbey**	**1.43**	**143**	*i* P	**Pb**	**15 40 36.2**	**0.0**
DURS				*i* S	**Sg**	**15 40 55.7**	**-0.2**
DURS	**Dursunbey**	**1.43**	**143**	*i* P	**Pb**	**15 40 36.2**	**0.0**
DURS				*i* S	**Sg**	**15 40 55.7**	**-0.2**
DST	**Dursunbey**	**1.50**	**140**	*e*PN	**Pb**	**15 40 37.1**	**-0.1**
DST	**Dursunbey**	**1.50**	**140**	*e*Pn	**Pb**	**15 40 37.1**	**-0.1**
YLV	**Yalova**	**1.54**	**96**	*e*PN	**Pn**	**15 40 37.0**	**+0.3**
YLV	**Yalova**	**1.54**	**96**	*e*Pn	**Pn**	**15 40 37.0**	**+0.3**

*IDC **30** 15:45:03.4±2.4, 43°.33N×105°.28W, h0km, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, ML2.2/2, Error ellipse: s-maj=50.9km s-min=9.0km az=153.0*
*ISCJB **30** 15:45:04.0±0.3, 43°.71N±0°.02×105°.27W±0°.03, h0km, Error ellipse: s-maj=3.2km s-min=2.6km az=173.3*
*NEIC **30** 15:45:05.7±0.7, 43°.67N×105°.22W, h0km, ML2.8, Error ellipse: s-maj=12.1km s-min=8.3km az=143.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 30 15:45:05.1±0.7, 43°.72N±0°.02×105°.31W±0°.03, h0km, n87, σ1§10/94, 33C-33D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**335**	⇓P	**Pg**	**15 45 10.4**	**+0.2**
	baz=0.3,SNR=42						
I24A	**Kuemmerle Ranc**	**0.51**	**74**	⇑P	**Pg**	**15 45 14.6**	**-0.3**
	baz=0.5,SNR=166						
H23A	**Clabaugh Cattl**	**0.85**	**355**	⇓P	**Pg**	**15 45 20.6**	**-0.8**
	baz=0.9,SNR=40						
I22A	**9 Mile Ranch,**	**0.87**	**282**	⇑P	**Pg**	**15 45 20.8**	**-1.0**
	baz=0.9,SNR=414						
I22A				⇑S	**Sg**	**15 45 33.9**	**+0.8**
	baz=0.9						
J22A	**Midwest**	**0.91**	**251**	⇓P	**Pg**	**15 45 20.9**	**-1.5**
	baz=0.9,SNR=116						
RSSD	**Black Hills**	**1.00**	**66**	*e*Pg	**Pg**	**15 45 23.6**	**-0.7**
K24A	**Anderson Ranch**	**1.06**	**160**	⇑P	**Pg**	**15 45 23.8**	**-1.5**
	baz=1.0,SNR=201						
K24A				⇓S	**Sb**	**15 45 40.9**	**+0.1**
	baz=1.0						
H22A	**Clearmont**	**1.16**	**320**	⇓P	**Pg**	**15 45 26.3**	**-1.0**
	baz=1.2,SNR=124						
K22A	**Casper**	**1.39**	**220**	⇓S	**Sb**	**15 45 50.6**	**+0.3**
	baz=1.4						
G23A	**Biddle**	**1.49**	**358**	⇓P	**Pn**	**15 45 31.8**	**-1.3**
	baz=1.5,SNR=96						
H21A	**Big Horn, Sher**	**1.55**	**307**	⇑P	**Pn**	**15 45 32.7**	**-1.4**
	baz=1.6,SNR=55						
H21A				⇑S	**Sn**	**15 45 54.6**	**-0.3**
	baz=1.6						
J21A	**Lysite**	**1.60**	**257**	⇓P	**Pn**	**15 45 33.0**	**-1.8**
	baz=1.6,SNR=30						
G22A	**Birney**	**1.66**	**335**	⇓Pb	**Pn**	**15 45 35.8**	**+0.2**
	baz=1.7,SNR=20						
G24A	**Alzada**	**1.73**	**21**	⇑P	**Pn**	**15 45 35.8**	**-0.8**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.84**	**147**	⇑P	**Pn**	**15 45 37.5**	**-0.6**
	baz=1.8,SNR=13						
K26A	**Motz Farm, Whi**	**1.86**	**122**	⇓Pb	**Pn**	**15 45 38.7**	**+0.5**
	baz=1.8,SNR=16						
L22A	**Ellis Ranch, M**	**1.88**	**207**	⇓P	**Pn**	**15 45 37.6**	**-1.0**
	baz=1.9,SNR=24						
L22A				⇓S	**Sn**	**15 46 03.8**	**+0.7**
	baz=1.9						
F23A	**Volborg**	**2.01**	**358**	⇓P	**Pn**	**15 45 39.5**	**-0.8**
	baz=2.1						
G21A	**Lodge Grass**	**2.03**	**319**	⇓P	**Pn**	**15 45 39.3**	**-1.4**
	baz=2.1,SNR=37						
J20A	**Shoshoni**	**2.05**	**261**	⇓Pb	**Pn**	**15 45 41.9**	**+0.8**
	baz=2.1,SNR=37						
I20A	**Worland**	**2.06**	**277**	⇓P	**Pn**	**15 45 40.0**	**-1.0**
	baz=2.1,SNR=329						
H20A	**Greybull**	**2.09**	**293**	⇓P	**Pn**	**15 45 40.3**	**-1.2**
	baz=2.2,SNR=46						
F22A	**Rosebud**	**2.17**	**342**	⇑P	**Pn**	**15 45 41.9**	**-0.7**
	baz=2.2,SNR=60						
F24A	**Ekalaka**	**2.21**	**16**	⇓Pb	**Pb**	**15 45 45.1**	**-1.0**
	baz=2.2						
M23A	**Laramie**	**2.27**	**188**	⇓P	**Pn**	**15 45 42.8**	**-1.3**
	baz=2.2,SNR=24						
M24A	**Cheyenne**	**2.27**	**171**	⇑Pb	**Pb**	**15 45 45.8**	**-1.3**
	baz=2.2,SNR=39						
L21A	**Rawlins**	**2.32**	**222**	⇓P	**Pn**	**15 45 43.5**	**-1.2**
	baz=2.3,SNR=21						
L26A	**Underwood Farm**	**2.34**	**135**	⇑Pb	**Pb**	**15 45 46.9**	**-1.4**
	baz=2.3						
PHWY	**Pilot Hill**	**2.42**	**183**	*e*Pn	**Pn**	**15 45 44.8**	**-1.3**
K20A	**Yellowstone Ra**	**2.46**	**246**	⇑P	**Pn**	**15 45 47.6**	**+1.0**
	baz=2.5,SNR=105						
M21A	**Separation Pea**	**2.60**	**216**	⇑P	**Pn**	**15 45 48.8**	**+0.3**
	baz=2.6,SNR=28						
I19A	**Meeteetse**	**2.69**	**278**	⇑P	**Pn**	**15 45 49.9**	**+0.1**
	baz=2.7,SNR=83						
E22A	**Miles City**	**2.76**	**351**	⇑P	**Pn**	**15 45 50.6**	**-0.1**
	baz=2.8,SNR=8.1						
J19A	**Crowheart**	**2.77**	**262**	⇑Pb	**Pb**	**15 45 53.7**	**-1.8**
	baz=2.8						
E23A	**Ismay**	**2.78**	**360**	⇑P	**Pn**	**15 45 50.5**	**-0.5**
	baz=2.8						
L20A	**Wamsutter**	**2.81**	**234**	⇑Pb	**Pb**	**15 45 54.5**	**-1.8**
	baz=2.8						
H19A	**Powell**	**2.81**	**291**	⇓P	**Pn**	**15 45 51.7**	**+0.2**
	baz=2.9,SNR=25						
N23A	**Red Feather La**	**2.86**	**190**	⇑P	**Pn**	**15 45 52.6**	**+0.4**
	baz=2.8,SNR=35						
F20A	**Billings**	**2.91**	**317**	⇑P	**Pn**	**15 45 52.4**	**-0.3**
	baz=3.0,SNR=21						
E24A	**Baker**	**2.93**	**14**	⇓P	**Pn**	**15 45 53.0**	**0.0**
	baz=3.0,SNR=13						
RLMT	**Red Lodge**	**3.17**	**298**	*e*Pn	**Pn**	**15 45 57.4**	**+1.0**
RLMT	**Red Lodge**	**3.17**	**298**	⇓P	**Pn**	**15 45 56.1**	**-0.3**
	baz=3.2,SNR=19						
RLMT				⇓P	**Pn**	**15 45 56.1**	**-0.3**
	baz=3.2,SNR=19						
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**15 45 58.8**	**+1.3**
	1.1nm,0.3s,baz=73,slow=17,SNR=46						
PDAR				Pg	**Pb**	**15 46 03.8**	**0.0**
	3.2nm,0.3s,baz=70,slow=19,SNR=60						
PDAR				Lg	Lg	15 46 42.6	
	2.8nm,0.3s,baz=83,slow=26,SNR=6.2						
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**15 45 58.8**	**+1.3**
PDAR	**Pinedale Array**	**3.25**	**254**	Pg	**Pb**	**15 46 03.8**	**0.0**
BW06	**Boulder Array**	**3.25**	**254**	⇑P	**Pn**	**15 45 57.3**	**-0.3**
	baz=3.3,SNR=95						
BW06				⇑P	**Pn**	**15 45 57.3**	**-0.3**
	baz=3.3,SNR=95						
PD02	**Pinedale Array**	**3.25**	**255**	*e*Pn	**Pn**	**15 45 57.7**	**+0.1**
PD01	**Pinedale Array**	**3.26**	**255**	*e*Pn	**Pn**	**15 45 58.3**	**+0.6**
I18A	**Diamond G Ranc**	**3.27**	**271**	⇓Sb	**Sb**	**15 46 46.3**	**+1.7**
	baz=3.3						
H18A	**Shoshone NF, C**	**3.28**	**289**	⇑P	**Pn**	**15 45 57.7**	**-0.3**
	baz=3.3,SNR=6.0						
F19A	**Roth Farm, Mol**	**3.36**	**311**	⇓P	**Pn**	**15 45 58.8**	**-0.1**
	baz=3.4,SNR=13						
N21A	**Black Mountain**	**3.38**	**210**	⇓P	**Pn**	**15 45 58.8**	**-0.5**
	baz=3.4,SNR=7.0						
G18A	**Lazy EL Ranch,**	**3.44**	**299**	⇑P	**Pn**	**15 45 59.7**	**-0.4**
	baz=3.5,SNR=21						
D22A	**Cohagen**	**3.49**	**350**	⇓P	**Pn**	**15 46 01.2**	**+0.5**
	baz=3.5,SNR=9.5						
O23A	**Lake Granby, G**	**3.53**	**188**	⇑P	**Pn**	**15 46 01.8**	**+0.3**
	baz=3.5,SNR=15						
N20A	**Spence Gulch,**	**3.62**	**218**	⇓P	**Pn**	**15 46 02.3**	**-0.3**
	baz=3.6,SNR=12						
LKWY	**Lake**	**3.77**	**285**	*e*Pn	**Pn**	**15 46 06.3**	**+1.7**
LOHW	**Long Hollow**	**3.85**	**270**	*e*Pn	**Pn**	**15 46 07.8**	**+2.1**
D20A	**Manuel Ranch,**	**3.92**	**330**	⇑P	**Pn**	**15 46 06.7**	**+0.1**
	baz=4.0,SNR=16						
MOOW	**Moose Ponds**	**3.94**	**272**	*e*Pn	**Pn**	**15 46 09.9**	**+2.9**
REDW	**Red Top Meadow**	**4.05**	**267**	*e*Pn	**Pn**	**15 46 10.1**	**+1.6**
C22A	**Vida**	**4.05**	**354**	⇑P	**Pn**	**15 46 08.5**	**+0.1**
	baz=4.1,SNR=8.8						
C23A	**Lambert**	**4.09**	**1**	⇑P	**Pn**	**15 46 09.2**	**+0.3**
	baz=4.1,SNR=12						
TPAW	**Teton Pass**	**4.11**	**269**	*e*Pn	**Pn**	**15 46 10.1**	**+0.7**
AHID	**Auburn Hatcher**	**4.34**	**259**	*e*Pn	**Pn**	**15 46 13.5**	**+1.0**
RRI2	**Red Ridge**	**4.39**	**267**	*e*Pn	**Pn**	**15 46 14.7**	**+1.4**
P26A	**Davis Ranch, A**	**4.40**	**160**	⇑P	**Pn**	**15 46 13.0**	**-0.3**
	baz=4.3,SNR=13						
SMCO	**Snowmass**	**4.71**	**196**	*e*P	**Pn**	**15 46 20.5**	**+2.8**
L16A	**Fish Haven**	**4.81**	**251**	⇑P	**Pn**	**15 46 19.1**	**0.0**
	baz=4.8,SNR=11						
DGMT	**Dagmar**	**4.82**	**9**	*e*P	**Pn**	**15 46 21.8**	**+2.9**
Q25A	**Beland, Calha**	**4.86**	**170**	⇑P	**Pn**	**15 46 19.6**	**-0.1**
	baz=4.8,SNR=5.9						
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pb**	**15 46 29.7**	**-2.2**
HWUT	**Hardware Ranch**	**5.08**	**248**	*e*Pn	**Pn**	**15 46 21.9**	**-0.7**
EGMT	**Eagleton**	**5.31**	**326**	*e*Pn	**Pg**	**15 46 45.2**	**-1.7**
E16A	**East Helena**	**5.32**	**304**	⇓P	**Pn**	**15 46 26.7**	**+0.8**
	baz=5.4,SNR=8.9						
HRY	**Holter Researc**	**5.50**	**305**	*e*Pn	**Pn**	**15 46 30.3**	**+2.0**
	3.6nm,0.5s						
R26A	**Arlington**	**5.59**	**165**	⇓P	**Pn**	**15 46 28.8**	**-0.8**
	baz=5.5,SNR=8.4						
HVU	**Hansel Valley**	**5.83**	**253**	*e*Pn	**Pn**	**15 46 31.6**	**-1.3**
B17A	**L&G Farms, Che**	**5.96**	**322**	⇓P	**Pn**	**15 46 35.7**	**+1.0**
	baz=6.0,SNR=5.1						
SRU	**San Rafael**	**6.05**	**222**	*e*Pn	**Pn**	**15 46 36.9**	**+1.0**
	5.8nm,0.6s						
R18A	**Canyonlands Na**	**6.35**	**215**	⇓P	**Pn**	**15 46 39.7**	**-0.4**
	baz=6.4,SNR=15						
DUG	**Dugway**	**6.61**	**240**	*e*Pn	**Pn**	**15 46 44.6**	**+1.0**
S18A	**Hurst Farm, Bl**	**6.99**	**212**	⇑P	**Pn**	**15 46 48.4**	**-0.6**
	baz=7.0,SNR=9.5						
S17A	**Black Ridge (B**	**7.37**	**216**	⇑P	**Pn**	**15 46 54.2**	**+0.2**
	baz=7.4,SNR=11						
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**15 47 18.0**	**-0.6**
	0.9nm,0.3s,baz=230,slow=12,SNR=7.0						
ULM				Lg	Lg	15 49 54.6	
	0.2nm,0.3s,baz=126,slow=15,SNR=3.5						
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**15 47 18.0**	**-0.6**
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**15 49 37.3**	**+1.6**
	0.0nm,0.3s,baz=157,slow=10,SNR=2.6						

IDC 30 16:14:00.7±1.6, 7°.07S×128°.31E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.5/16, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=98.1km s-min=24.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.27**	**193**	Pn	Pn	16 16 44.8	+1.7
	0.6nm,0.3s,baz=33,slow=12,SNR=5.7						
FITZ				Sn	Sn	16 18 41.1	-8.7
	0.5nm,0.3s,baz=64,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**14.07**	**156**	Pn	Pn	16 17 20.2	-1.2
	0.2nm,0.3s,baz=330,slow=13,SNR=12						
WRA				Sn	Sn	16 19 43.6	-15
	0.8nm,0.3s,baz=322,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.35**	**163**	P	Pn	16 18 04.0	-0.5
	0.1nm,0.3s,baz=340,slow=10,SNR=14						
ASAR				S	Sn	16 21 03.3	-15
	0.2nm,0.3s,baz=342,slow=25,SNR=5.6						
SONM	**Songino Array**	**58.00**	**343**	P	P	16 23 56.3	+1.0
	0.3nm,0.7s,baz=164,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**67.38**	**328**	P	P	16 24 57.0	-0.9
	0.3nm,0.4s,baz=120,slow=8.4,SNR=12						

*CSEM **30** 16:34:40.2±1.0, 51°.49N×16°.14E, h1km, ML2.8/4, Error ellipse: s-maj=15.5km s-min=7.8km az=16.0*
*PRU **30** 16:34:41.9, 51°.43N×16°.14E, h0km*

WAR 30 16:34:42.1, 51°.44N×16°.20E, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	16 34 53.3	-0.3
KSP				*e*Sg	Sg	16 35 02.6	+1.2
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	16 34 53.3	-0.3
KSP				e		16 35 00.5	
KSP				*e*Sg	Sg	16 35 02.6	+1.2
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	16 34 53.3	-0.3
KSP				*e*Sg	Sg	16 35 02.6	+1.2
UPC	**Upice**	**0.94**	**187**	*e*PG	Pg	16 34 59.4	-0.7
UPC	**Upice**	**0.94**	**187**	Pg	Pg	16 34 59.4	-0.7
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	Pg	16 35 02.1	-1.0
DPC				*e*SG	Sg	16 35 17.1	-0.3
	comp=Z,5.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.09**	**176**	Pg	Pg	16 35 02.1	-1.0
DPC				Sg	Sg	16 35 17.1	-0.3
	5.3nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	Pg	16 35 06.9	-1.5
PVCC				*e*SG	Sg	16 35 25.1	-1.2
	comp=Z,22nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**229**	Pg	Pg	16 35 06.9	-1.5
PVCC				Sg	Sg	16 35 25.1	-1.2
	22nm,0.2s						
KRLC	**Kraliky**	**1.41**	**164**	*e*PG	Pn	16 35 08.3	-0.9
KRLC				*e*SG	Sg	16 35 26.5	-1.2
KRLC	**Kraliky**	**1.41**	**164**	Pg	Pn	16 35 08.3	-0.9
KRLC				Sg	Sg	16 35 26.5	-1.2
BRG	**Berggiesshubel**	**1.53**	**249**	PG	Pn	16 35 09.5	-1.1
BRG				SG	Sb	16 35 29.8	-1.4
	8.7nm,0.4s						
PRU	**Pruhonice**	**1.79**	**217**	*e*PG	Pn	16 35 14.2	-0.1
PRU				*e*SG	Sn	16 35 38.2	+0.5
	comp=Z,6.4nm,0.4s						
PRU	**Pruhonice**	**1.79**	**217**	Pg	Pn	16 35 14.2	-0.1
PRU				Sg	Sn	16 35 38.2	+0.5
	6.4nm,0.4s						
CLL	**Collm**	**2.00**	**268**	*e*Pg	Pn	16 35 18.0	+0.8
CLL				*e*Sg	Sb	16 35 45.0	+0.1
	comp=Z,6.0nm,0.6s						
OJC	**Ojcow**	**2.59**	**117**	*e*Pg	Pg	16 35 30.7	-1.1
OJC				*e*Sg	Sg	16 36 06.1	+0.7
NKC	**Novy Kostel**	**2.66**	**245**	*e*SG	Sg	16 36 07.7	-0.1
	comp=Z,5.1nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**245**	Sg	Sg	16 36 07.7	-0.1
	comp=Z,5.1nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	Pn	16 35 27.7	-1.3
KHC				*e*PG	Pb	16 35 33.6	-0.4
KHC				*e*SG	Sb	16 36 11.4	+1.9
KHC	**Kasperske Hory**	**2.85**	**217**	Pn	Pn	16 35 27.7	-1.3
KHC	**Kasperske Hory**	**2.85**	**217**	Pg	Pb	16 35 33.6	-0.4
KHC				Sg	Sb	16 36 11.4	+1.9

*LDG **30** 16:37:52.2±0.3, 37°.56N×17°.81W, h10km, Ml4.8/8, Error ellipse: s-maj=10.9km s-min=8.6km az=148.0*
*IDC **30** 16:37:53.1±0.9, 37°.67N×17°.90W, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.0/32, mbtmp4.1/17, ML5.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/34, Error ellipse: s-maj=20.3km s-min=17.9km az=18.0*
*CNRM **30** 16:37:53.3, 38°.03N×17°.77W, h31km, MD4.4*
*SFS **30** 16:37:53.0, 37°.64N×17°.70W, h0km, ML5.0*
*NEIC **30** 16:37:55.2±0.7, 37°.78N×17°.72W, h10km, mb4.6/6, Error ellipse: s-maj=11.6km s-min=9.4km az=164.0*
*MDD **30** 16:37:56.2±1.4, 37°.68N×17°.81W, h27km±22km, mb5.0/31, Error ellipse: s-maj=20.0km s-min=7.5km az=111.0, PRXIMO*
*BGS **30** 16:37:57.3±2.6, 37°.78N×17°.72W, h10km, mb4.7*
*CSEM **30** 16:38:01.3±0.3, 37°.97N×17°.07W, h10km, mb4.6/5, ML5.1/8, Error ellipse: s-maj=7.9km s-min=6.0km az=19.0*
*IGIL **30** 16:38:01.3, 37°.44N×17°.30W, h10km, ML4.7*
*SZGRF **30** 16:38:03.2, 38°.14N×17°.63W, h33km, mb4.2, Azores-Cape St. Vincent Ridge*
*INMG **30** 16:38:03.4±2.6, 37°.51N×17°.45W, h10km, ML4.5, Error ellipse: s-maj=18.3km s-min=3.3km az=113.0*

ISC 30 16:37:56.9±0.7, 37.72N±0°.05×17°.28W±0°.07, h10km, n352, σ2§39/472, mb4.2/26, 4C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.69**	**170**	*e*Pn	**Pn**	**16 39 06.6**	**-1.1**
PMPST				*e*Sn	Sn	16 39 52.2	-10
PMPST				A	A	16 39 57.6	
	800nm,0.4s						
PMPS	**Porto Santo**	**4.71**	**170**	*e*Pn	**Pn**	**16 39 06.7**	**-1.3**
PMPS				*e*Sn	Sn	16 39 52.6	-10
PMPS				A	A	16 39 58.4	
	543nm,0.4s						
PMPS	**Porto Santo**	**4.71**	**170**	P	**Pn**	**16 39 06.7**	**-1.3**
PMPS				S	Sn	16 39 52.6	-10
	272nm,0.4s						
PMOZ	**Porto Moniz, M**	**4.89**	**179**	*e*Pn	**Pn**	**16 39 08.8**	**-1.7**
PMOZ				*e*Sn	Sn	16 39 56.7	-10
PMOZ				A	A	16 40 02.2	
	3µm,0.4s						
PMAR	**Madeira**	**4.99**	**176**	*e*Pn	**Pn**	**16 39 10.3**	**-1.7**
PMAR				*e*Sn	Sn	16 39 58.9	-11
PMAR				A	A	16 40 01.4	
	1µm,0.2s						
PMAR	**Madeira**	**4.99**	**176**	P	**Pn**	**16 39 10.3**	**-1.7**
PMAR				S	Sn	16 39 58.9	-11
	519nm,0.2s						
FUL	**Funchal**	**5.07**	**176**	*e*Pn	**Pn**	**16 39 11.0**	**-1.9**
FUL				*e*Sn	Sn	16 40 00.6	-11
FUL				A	A	16 40 02.2	
	1µm,0.2s						
FUL	**Funchal**	**5.07**	**176**	P	**Pn**	**16 39 11.0**	**-1.9**
FUL				S	Sn	16 40 00.6	-11
	718nm,0.2s						
PSMN	**Pico do Norte,**	**6.25**	**266**	*e*S	Sn	16 40 17.5	-23
PSMN				A	A	16 40 21.0	
	254nm,0.2s						
BART	**Pico Bartolome**	**6.25**	**273**	*e*S	Sn	16 40 20.1	-21
BART				A	A	16 40 26.2	
	142nm,0.2s						
PSMA	**Santa Maria**	**6.30**	**266**	*e*P	Pn	16 39 17.1	-13
PSMA				*e*S	Sn	16 40 20.2	-22
PSMA				A	A	16 40 25.5	
	231nm,0.3s						
PMAFR	**Mafra**	**6.40**	**76**	*e*Pn	Pn	16 39 34.4	+3.2
PMAFR				*e*Sn	**Sn**	**16 40 46.2**	**+1.8**
PMAFR				A	A	16 40 48.9	
	882nm,0.2s						
PMAFR	**Mafra**	**6.40**	**76**	P	**Pn**	**16 39 33.6**	**+2.4**
	38nm,0.1s,SNR=26						
PMAFR				S	**Sn**	**16 40 46.1**	**+1.7**
	1µm,0.2s,SNR=26						
PMAFR	**Mafra**	**6.40**	**76**	*e*Pn	Pn	16 39 34.4	+3.2
LIS	**Lisbon**	**6.48**	**79**	*e*P	Pn	16 39 35.2	+3.0
LIS				*e*S	**Sn**	**16 40 43.5**	**-2.6**
LIS				AML	AML	16 40 49.5	
	comp=N,1µm,0.3s						
LIS	**Lisbon**	**6.48**	**79**	*e*P	Pn	16 39 35.2	+3.0
LIS				*e*S	**Sn**	**16 40 43.5**	**-2.6**
LIS	**Lisbon**	**6.48**

PCVE **Castro Verde** 7.33 88 P Pn 16 39 46.2 +2.3
PCVE S Sn 16 41 05.6 -1.5
comp=N,151nm,1.1s
EVO Evora 7.35 81 *e*Pn Pn 16 39 46.0 +1.8
EVO *e*Sn Sn 16 41 03.9 -3.7
comp=N,478nm,0.3s
EVO Evora 7.35 81 *e*Pn Pn 16 39 47.7 +3.5
EVO *e*Sn Sn 16 41 08.3 +0.7
EVO A A 16 41 13.2
comp=N,184nm,0.4s
EVO Evora 7.35 81 P Pn 16 39 47.7 +3.5
EVO S Sn 16 41 08.3 +0.7
comp=N,184nm,0.4s
EVO Evora 7.35 81 P Pn 16 39 47.7 +3.5
PBDV Barranco-do-Ve 7.45 91 *e*Pn Pn 16 39 47.9 +2.3
PBDV *e*Sn Sn 16 41 10.1 0.0
PBDV A A 16 41 17.7
comp=N,170nm,0.4s
PBDV Barranco-do-Ve 7.45 91 P Pn 16 39 47.9 +2.3
PBDV S Sn 16 41 10.1 0.0
comp=N,170nm,0.4s
PBDV Barranco-do-Ve 7.45 91 P Pn 16 39 47.9 +2.3
PBDV S Sn 16 41 10.1 0.0
comp=N,170nm,0.4s
PBEJ Beja 7.45 85 *e*Pn Pn 16 39 48.8 +3.2
PBEJ *e*Sn Sn 16 41 09.5 -0.6
PBEJ A A 16 41 12.9
comp=N,254nm,0.4s
PBEJ Beja 7.45 85 P Pn 16 39 48.8 +3.2
PBEJ S Sn 16 41 09.5 -0.6
comp=N,127nm,0.4s
PBEJ Beja 7.45 85 P Pn 16 39 48.8 +3.2
PBEJ S Sn 16 41 09.5 -0.6
comp=N,127nm,0.4s
PTO Porto 7.53 60 *e*Pn Pn 16 39 48.4 +1.7
PTO *e*Sn Sn 16 41 10.0 -2.1
PTO A A 16 41 13.8
comp=N,394nm,0.7s
PTO Porto 7.53 60 P Pn 16 39 48.4 +1.7
PTO S Sn 16 41 10.0 -2.1
comp=N,197nm,0.7s
PTO Porto 7.53 60 P Pn 16 39 48.4 +1.7
PTO S Sn 16 41 10.0 -2.1
comp=N,197nm,0.7s
PVAQ Vaqueiros 7.60 89 *e*Pn Pn 16 39 49.9 +2.3
PVAQ *e*Sn Sn 16 41 12.0 -1.8
PVAQ A A 16 41 17.8
comp=N,170nm,0.3s
PVAQ Vaqueiros 7.60 89 P Pn 16 39 49.9 +2.3
PVAQ S Sn 16 41 12.0 -1.8
comp=N,170nm,0.3s
PVAQ Vaqueiros 7.60 89 P Pn 16 39 49.9 +2.3
PVAQ S Sn 16 41 12.0 -1.8
comp=N,170nm,0.3s
PESTR Estremoz 7.70 78 *e*Pn Pn 16 39 51.5 +2.4
PESTR *e*Sn Sn 16 41 15.1 -1.3
PESTR A A 16 41 19.8
comp=N,195nm,0.5s
PESTR Estremoz 7.70 78 P Pn 16 39 51.5 +2.4
PESTR S Sn 16 41 15.1 -1.3
comp=N,98nm,0.5s
PESTR Estremoz 7.70 78 P Pn 16 39 51.5 +2.4
PESTR S Sn 16 41 15.1 -1.3
comp=N,98nm,0.5s
PVIS Viseu 7.87 65 *e*Pn Pn 16 39 54.0 +2.6
PVIS *e*Sn Sn 16 41 18.4 -2.2
PVIS A A 16 41 22.2
comp=N,123nm,0.3s
PVIS Viseu 7.87 65 P Pn 16 39 54.0 +2.6
PVIS S Sn 16 41 18.4 -2.2
comp=N,61nm,0.3s
PVIS Viseu 7.87 65 P Pn 16 39 54.0 +2.6
PVIS S Sn 16 41 18.4 -2.2
comp=N,61nm,0.3s
ADH Angra Heroismo 7.90 280 *e*P Pn 16 39 44.1 -7.6
ADH *e*S Sn 16 41 02.2 -19
PMRV Marv??o 7.93 75 *e*Pn Pn 16 39 54.5 +2.3
PMRV *e*Sn Sn 16 41 21.6 -0.4
PMRV A A 16 41 25.4
comp=N,288nm,0.6s
PMRV Marv??o 7.93 75 P Pn 16 39 54.5 +2.3
PMRV S Sn 16 41 21.6 -0.4
comp=N,288nm,0.6s
PMRV Marv??o 7.93 75 P Pn 16 39 54.5 +2.3
PMRV S Sn 16 41 21.6 -0.4
comp=N,288nm,0.6s
EZAM Zamans 7.94 53 P Pn 16 39 53.5 +1.2
comp=N,60nm,0.3s,SNR=7.9
EZAM S Sn 16 41 17.9 -4.3
comp=N,99nm,0.2s,SNR=7.9
EZAM Zamans 7.94 53 P Pn 16 39 53.5 +1.2
comp=N,60nm,0.3s,SNR=7.9
EZAM S Sn 16 41 17.9 -4.3
comp=N,99nm,0.2s,SNR=7.9
PCBR Castelo Branco 7.94 72 *e*Pn Pn 16 39 54.3 +2.0
PCBR *e*Sn Sn 16 41 21.5 -0.7
PCBR A A 16 41 30.9
comp=N,112nm,0.4s
PCBR Castelo Branco 7.94 72 P Pn 16 39 54.3 +2.0
PCBR S Sn 16 41 21.5 -0.7
comp=N,56nm,0.4s
PCBR Castelo Branco 7.94 72 P Pn 16 39 54.3 +2.0
PCBR S Sn 16 41 21.5 -0.7
comp=N,56nm,0.4s
MTE Manteigas 8.03 68 *e*Pn Pn 16 39 56.3 +2.7
comp=N,24nm,0.5s
MTE *e*Sn Sn 16 41 16.6 -7.9
MTE Manteigas 8.03 68 *e*Pn Pn 16 39 56.3 +2.7
comp=N,24nm,0.5s
PBAR Barrancos 8.10 84 *e*Pn Pn 16 39 57.3 +2.8
PBAR *e*Sn Sn 16 41 24.9 -1.3
PBAR A A 16 41 30.4
comp=N,211nm,0.4s
PBAR Barrancos 8.10 84 P Pn 16 39 57.3 +2.8
PBAR S Sn 16 41 24.9 -1.3
comp=N,211nm,0.4s
PBAR Barrancos 8.10 84 P Pn 16 39 57.3 +2.8
PBAR S Sn 16 41 24.9 -1.3
comp=N,211nm,0.4s
PGAV Gavieira, Arco 8.12 56 *e*Pn Pn 16 39 56.1 +1.2
PGAV *e*Sn Sn 16 41 23.2 -3.6
PGAV A A 16 41 30.0
comp=N,207nm,0.7s
PGAV Gavieira, Arco 8.12 56 *e*Pn Pn 16 39 56.1 +1.2
PGAV *e*Sn Sn 16 41 23.2 -3.6
comp=N,207nm,0.7s
EBAD Badajoz 8.14 80 P Pn 16 39 57.0 +1.9
comp=N,7.4nm,0.1s,SNR=64
EBAD S Sn 16 41 26.7 -0.5
comp=N,361nm,0.2s,SNR=20
EBAD Badajoz 8.14 80 P Pn 16 39 57.0 +1.9
comp=N,7.4nm,0.1s,SNR=64
EBAD S Sn 16 41 26.7 -0.5
comp=N,361nm,0.2s,SNR=20
PCAB Cabril 8.17 58 *e*Pn Pn 16 39 57.6 +2.2
PCAB *e*Sn Sn 16 41 25.2 -2.6
PCAB A A 16 41 30.2
comp=N,167nm,0.2s
PCAB Cabril 8.17 58 P Pn 16 39 57.6 +2.2
PCAB S Sn 16 41 25.2 -2.6
comp=N,84nm,0.2s
PCAB Cabril 8.17 58 P Pn 16 39 57.6 +2.2
PCAB S Sn 16 41 25.2 -2.6
comp=N,84nm,0.2s
POLO Lamas de Olo 8.18 61 *e*Pn Pn 16 39 57.8 +2.1
POLO *e*Sn Sn 16 41 25.7 -2.6
POLO A A 16 41 39.9
comp=N,48nm,0.3s
POLO Lamas de Olo 8.18 61 *e*Pn Pn 16 39 57.8 +2.1
POLO *e*Sn Sn 16 41 25.7 -2.6
comp=N,48nm,0.3s
PVRL Vila Real 8.20 61 *e*Pn Pn 16 39 58.4 +2.5
PVRL *e*Sn Sn 16 41 25.9 -2.7
PVRL A A 16 41 41.8
comp=N,103nm,0.3s
PVRL Vila Real 8.20 61 P Pn 16 39 58.4 +2.5
PVRL S Sn 16 41 25.9 -2.7
comp=N,52nm,0.3s
PVRL Vila Real 8.20 61 P Pn 16 39 58.4 +2.5
PVRL S Sn 16 41 25.9 -2.7
comp=N,52nm,0.3s
EMAZ Mazaricos 8.21 48 P Pn 16 39 56.7 +0.7
comp=N,28nm,0.1s,SNR=201
EMAZ S Sn 16 41 24.3 -4.6
comp=N,28nm,0.1s,SNR=12
ELOB Lobios 8.21 57 P Pn 16 39 57.6 +1.4
comp=N,37nm,0.2s,SNR=76
ELOB S Sn 16 41 26.7 -2.3
comp=N,204nm,0.2s,SNR=12
ELOB Lobios 8.21 57 P Pn 16 39 57.6 +1.4
comp=N,37nm,0.2s,SNR=76
ELOB S Sn 16 41 26.7 -2.3
comp=N,204nm,0.2s,SNR=12
EMIN Mina Concepcio 8.40 86 P Pn 16 40 00.9 +2.3
comp=N,4.0nm,0.1s,SNR=41
EMIN S Sn 16 41 31.9 -1.7
comp=N,96nm,0.3s,SNR=14
EMIN Mina Concepcio 8.40 86 P Pn 16 40 00.9 +2.3
comp=N,4.0nm,0.1s,SNR=41
EMIN S Sn 16 41 31.9 -1.7
comp=N,96nm,0.3s,SNR=14
STS Santiago 8.43 50 P Pn 16 40 00.8 +1.8
comp=N,127nm,0.2s,SNR=36
STS S Sn 16 41 31.1 -3.1
comp=N,35nm,0.1s,SNR=5.6
STS Santiago 8.43 50 P Pn 16 40 00.8 +1.8
comp=N,127nm,0.2s,SNR=36
STS S Sn 16 41 31.1 -3.1
comp=N,35nm,0.1s,SNR=5.6
MVO Moncorvo 8.64 63 *e*Pn Pn 16 40 03.9 +1.9
MVO *e*Sn Sn 16 41 36.0 -3.5
MVO A A 16 41 43.6
comp=N,162nm,0.6s
MVO Moncorvo 8.64 63 P Pn 16 40 03.9 +1.9
comp=N,16nm,0.2s,SNR=45
MVO S Sn 16 41 36.6 -2.9
comp=N,149nm,0.2s,SNR=11
MVO Moncorvo 8.64 63 P Pn 16 40 03.9 +1.9
comp=N,16nm,0.2s,SNR=45
MVO *e*Sn Sn 16 41 36.0 -3.5
comp=N,162nm,0.6s
MVO S 16 41 36.6
comp=N,149nm,0.2s,SNR=11
ROSA Rosais 8.69 280 *e*P Pn 16 39 55.3 -7.3
JHA Jbel Lahdid 8.78 131 P Pn 16 40 05.0 +1.1
JHA S Sn 16 41 43.0 +0.1
PICO Pico 8.82 278 *e*P Pn 16 39 57.0 -7.5
EPLA Plasencia 9.04 72 P Pn 16 40 09.7 +2.3
comp=N,3.8nm,0.1s,SNR=6.8
EPLA S Sn 16 41 48.6 -0.7
comp=N,84nm,0.3s,SNR=11
EPLA Plasencia 9.04 72 P Pn 16 40 09.7 +2.3
comp=N,3.8nm,0.1s,SNR=6.8
EPLA S Sn 16 41 48.6 -0.7
comp=N,84nm,0.3s,SNR=11
CALA Caldeira 9.04 279 *e*P Pn 16 39 59.9 -7.6
ERUA La Rua 9.06 56 P Pn 16 40 08.7 +1.0
comp=N,8.7nm,0.1s,SNR=7.9
ERUA S Sn 16 41 47.1 -2.7
comp=N,49nm,0.3s,SNR=7.9
ERUA La Rua 9.06 56 P Pn 16 40 08.7 +1.0
comp=N,8.7nm,0.1s,SNR=7.9
ERUA S Sn 16 41 47.1 -2.7
comp=N,49nm,0.3s,SNR=7.9
PBRG Braganca 9.08 60 *e*Pn Pn 16 40 09.8 +1.8
PBRG *e*Sn Sn 16 41 47.3 -3.0
PBRG A A 16 41 54.2
comp=N,79nm,0.3s
PBRG Braganca 9.08 60 P Pn 16 40 09.8 +1.8
PBRG S Sn 16 41 47.3 -3.0
comp=N,39nm,0.3s
PBRG Braganca 9.08 60 P Pn 16 40 09.8 +1.8
PBRG S Sn 16 41 47.3 -3.0
comp=N,39nm,0.3s
EFAM Famara 9.12 159 S Sn 16 41 41.2 -10
comp=N,19nm,0.2s,SNR=7.9
ECAL Calabor 9.14 59 P Pn 16 40 09.8 +1.0
comp=N,21nm,0.3s,SNR=31
ECAL S Sn 16 41 48.6 -3.1
comp=N,124nm,0.2s,SNR=7.9
ECAL Calabor 9.14 59 P Pn 16 40 09.8 +1.0
comp=N,21nm,0.3s,SNR=31
ECAL S Sn 16 41 48.6 -3.1
comp=N,124nm,0.2s,SNR=7.9
EHIG Higuera 9.15 183 S Sn 16 41 33.8 -18
comp=N,156nm,0.1s,SNR=12
EBAJ Bajamar 9.19 175 S Sn 16 41 37.8 -15
comp=N,33nm,0.2s,SNR=7.9
CFUE Fuerteventura 9.47 162 P Pn 16 40 11.0 -2.3
comp=N,17nm,0.2s,SNR=7.9
CFUE S Sn 16 41 47.8 -12
comp=N,115nm,0.2s,SNR=7.9
CCAN Las Canadas 9.49 176 P Pn 16 40 09.9 -3.9
comp=N,3.5nm,0.2s,SNR=6.2
CCAN S Sn 16 41 44.2 -17
comp=N,7.1nm,0.1s,SNR=6.6
LIJA Lijar 9.49 91 P Pn 16 40 17.2 +3.5
LIJA S Sn 16 42 01.1 +0.6
LIJA Lijar 9.49 91 P Pn 16 40 17.2 +3.5
LIJA S Sn 16 42 01.1 +0.6
EJIF Jimena Fronter 9.52 94 P Pn 16 40 13.7 -0.3
comp=N,1.0nm,0.1s,SNR=7.9
EJIF S Sn 16 42 00.7 -0.3
comp=N,11nm,0.2s,SNR=7.9
EPON Pontenova 9.53 51 P Pn 16 40 14.5 +0.4
comp=N,30nm,0.4s,SNR=28
EPON S Sn 16 41 55.9 -5.3
comp=N,19nm,0.2s,SNR=4.7
EPON Pontenova 9.53 51 P Pn 16 40 14.5 +0.4
comp=N,30nm,0.4s,SNR=28
EPON S Sn 16 41 55.9 -5.3
comp=N,19nm,0.2s,SNR=4.7
EGOM La Gomera 9.53 180 P Pn 16 40 09.6 -4.6
comp=N,12nm,0.2s,SNR=8.1
EGOM S Sn 16 41 42.8 -19
comp=N,81nm,0.2s,SNR=8.4
CFTV Fuerteventura 9.66 163 P Pn 16 40 13.4 -2.6
comp=N,4.0nm,0.2s,SNR=7.9
CFTV S Sn 16 41 50.1 -15
comp=N,8.1nm,0.2s,SNR=7.9
EADA Adamuz 10.04 84 P Pn 16 40 23.0 +1.8
comp=N,5.8nm,0.2s,SNR=45
EADA S Sn 16 42 12.5 -1.4
comp=N,67nm,0.2s,SNR=9.8
EADA Adamuz 10.04 84 P Pn 16 40 23.0 +1.8
comp=N,5.8nm,0.2s,SNR=45
EADA S Sn 16 42 12.5 -1.4
comp=N,67nm,0.2s,SNR=9.8
EMIJ Mijas 10.05 93 P Pn 16 40 23.1 +1.8
comp=N,2.3nm,0.2s,SNR=7.9
EMIJ S Sn 16 42 14.0 -0.1
comp=N,28nm,0.3s,SNR=6.6
EMIJ Mijas 10.05 93 P Pn 16 40 23.1 +1.8
comp=N,2.3nm,0.2s,SNR=7.9
EMIJ S Sn 16 42 14.0 -0.1
comp=N,28nm,0.3s,SNR=6.6
PAB San Pablo 10.28 76 *e*Pn Pn 16 40 26.1 +1.6
comp=N,11nm,0.4s
PAB *e*Sn Sn 16 42 17.0 -2.8
PAB San Pablo 10.28 76 *e*Pn Pn 16 40 26.1 +1.6
comp=N,11nm,0.4s
PAB *e*Sn Sn 16 42 17.0 -2.8
ELUQ Luque 10.32 87 S Sn 16 42 17.3 -3.5
comp=N,27nm,0.3s,SNR=7.9
ELUQ Luque 10.32 87 S Sn 16 42 17.3 -3.5
comp=N,27nm,0.3s,SNR=7.9
TZC Tazercounte 10.45 119 P Pn 16 40 29.0 +2.1
TZC S Sn 16 42 23.0 -1.2
TZC Tazercounte 10.45 119 P Pn 16 40 29.0 +2.1
TZC S Sn 16 42 23.0 -1.2
ESDC Sonseca Array 10.59 75 Pn Pn 16 40 30.9 +2.2
comp=N,4.7nm,0.3s,baz=263,slow=13,SNR=17
ESDC Sn Sn 16 42 26.1 -1.2
comp=N,24nm,0.3s,baz=258,slow=22,SNR=20
ESDC Sonseca Array 10.59 75 Pn Pn 16 40 30.9 +2.2
ESDC Sn Sn 16 42 26.1 -1.2
ESDC Sonseca Array 10.59 75 P Pn 16 40 30.4 +1.7
comp=N,9.4nm,0.2s,baz=266,slow=13,SNR=7.9
ESDC S Sn 16 42 25.9 -1.4
comp=N,11nm,0.3s,baz=268,slow=23,SNR=15
ESDC Sonseca Array 10.59 75 P Pn 16 40 30.4 +1.7
comp=N,9.4nm,0.2s,baz=266,slow=13,SNR=7.9
ESDC Sonseca Array 10.59 75 Pn Pn 16 40 30.9 +2.2
GUD Guadarrama 10.60 70 P Pn 16 40 30.1 +1.3
comp=N,6.4nm,0.2s,SNR=13
GUD S Sn 16 42 24.9 -2.8
comp=N,18nm,0.3s,SNR=8.4
EARI Arriondas 10.74 55 P Pn 16 40 33.1 +2.4
comp=N,12nm,0.3s,SNR=20
EARI S Sn 16 42 28.1 -2.9
comp=N,50nm,0.5s,SNR=11
EARI Arriondas 10.74 55 P Pn 16 40 33.1 +2.4
comp=N,12nm,0.3s,SNR=20
EARI S Sn 16 42 28.1 -2.9
comp=N,50nm,0.5s,SNR=11
ERON Agron 10.75 90 S Sn 16 42 30.5 -0.8
comp=N,5.3nm,0.2s,SNR=7.9
ERON Agron 10.75 90 S Sn 16 42 30.5 -0.8
comp=N,5.3nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 10.90 88 S Sn 16 42 34.2 -0.9
comp=N,15nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 10.90 88 S Sn 16 42 34.2 -0.9
comp=N,15nm,0.2s,SNR=7.9
EGUA Guajares 10.96 90 P Pn 16 40 36.0 +2.2
comp=N,1.8nm,0.2s,SNR=7.9
EGUA S Sn 16 42 35.4 -1.0
comp=N,59nm,0.4s,SNR=7.9
EGUA Guajares 10.96 90 P Pn 16 40 36.0 +2.2
comp=N,1.8nm,0.2s,SNR=7.9
EGUA S Sn 16 42 35.4 -1.0
comp=N,59nm,0.4s,SNR=7.9
CZD Col de Zad 11.03 111 P Pn 16 40 36.0 +1.1
CZD S Sn 16 42 37.0 -1.4
CZD Col de Zad 11.03 111 P Pn 16 40 36.0 +1.1
CZD S Sn 16 42 37.0 -1.4
EQES Quesada 11.25 85 P Pn 16 40 40.0 +2.2
comp=N,1.6nm,0.2s,SNR=5.9
EQES S Sn 16 42 40.5 -3.1
comp=N,27nm,0.3s,SNR=10
EQES Quesada 11.25 85 P Pn 16 40 40.0 +2.2
comp=N,1.6nm,0.2s,SNR=5.9
EQES S Sn 16 42 40.5 -3.1
comp=N,27nm,0.3s,SNR=10
MDT Midelt 11.45 112 Pn Pn 16 40 42.5 +2.0
comp=N,7.3nm,0.3s,baz=298,slow=4.1,SNR=121
MDT Sn Sn 16 42 45.3 -3.1
comp=N,9.4nm,0.3s,baz=26,slow=22,SNR=18
MDT LR LR 16 44 51.0
comp=N,97nm,21.0s,baz=26,slow=35
MDT Midelt 11.45 112 Pn Pn 16 40 42.5 +2.0
MDT Sn Sn 16 42 45.3 -3.1
MDT Midelt 11.45 112 Pn Pn 16 40 42.5 +2.0
EBER Berja 11.49 90 P Pn 16 40 42.9 +1.8
comp=N,0.4nm,0.2s,SNR=4.7
EBER S Sn 16 42 46.4 -3.2
comp=N,10nm,0.3s,SNR=4.5
EBER Berja 11.49 90 P Pn 16 40 42.9 +1.8
comp=N,0.4nm,0.2s,SNR=4.7
EBER S Sn 16 42 46.4 -3.2
comp=N,10nm,0.3s,SNR=4.5
EALB Alboran 11.55 95 S Sn 16 42 49.3 -1.6
comp=N,2.4nm,0.2s,SNR=7.9
EALB Alboran 11.55 95 S Sn 16 42 49.3 -1.6
comp=N,2.4nm,0.2s,SNR=7.9
EHUE Huescar 11.62 85 P Pn 16 40 45.2 +2.3
comp=N,0.7nm,0.2s,SNR=7.9
EHUE S Sn 16 42 48.4 -4.4
comp=N,3.5nm,0.2s,SNR=7.9
EHUE Huescar 11.62 85 P Pn 16 40 45.2 +2.3
comp=N,0.7nm,0.2s,SNR=7.9
EHUE S Sn 16 42 48.4 -4.4
comp=N,3.5nm,0.2s,SNR=7.9
EVIA Vianos 11.67 81 P Pn 16 40 45.4 +1.9
comp=N,2.8nm,0.3s,SNR=7.9
EVIA S Sn 16 42 49.4 -4.4
comp=N,39nm,0.4s,SNR=7.2
EVIA Vianos 11.67 81 P Pn 16 40 45.4 +1.9
comp=N,2.8nm,0.3s,SNR=7.9
EVIA S Sn 16 42 49.4 -4.4
comp=N,39nm,0.4s,SNR=7.2
ELAN Lanestosa 11.89 58 P Pn 16 40 48.4 +2.1
comp=N,7.7nm,0.4s,SNR=7.9
ELAN S Sn 16 42 56.5 -2.5
comp=N,15nm,0.3s,SNR=4.9
ELAN Lanestosa 11.89 58 P Pn 16 40 48.4 +2.1
comp=N,7.7nm,0.4s,SNR=7.9
ELAN S Sn 16 42 56.5 -2.5
comp=N,15nm,0.3s,SNR=4.9
ENIJ Nijar 12.02 89 P Pn 16 40 50.4 +2.2
comp=N,5.7nm,0.3s,SNR=7.9
ENIJ S Sn 16 42 59.3 -3.1
comp=N,14nm,0.2s,SNR=7.9
ENIJ Nijar 12.02 89 P Pn 16 40 50.4 +2.2
comp=N,5.7nm,0.3s,SNR=7.9
ENIJ S Sn 16 42 59.3 -3.1
comp=N,14nm,0.2s,SNR=7.9
ETOR Torete 12.20 71 P Pn 16 40 52.6 +1.9
comp=N,6.7nm,0.3s,SNR=10.0
ETOR S Sn 16 43 02.6 -4.2
comp=N,50nm,0.3s,SNR=7.9
ETOR Torete 12.20 71 P Pn 16 40 52.6 +1.9
comp=N,6.7nm,0.3s,SNR=10.0
ETOR S Sn 16 43 02.6 -4.2
comp=N,50nm,0.3s,SNR=7.9
ETOB Tobarra 12.41 81 P Pn 16 40 55.6 +2.0
comp=N,0.6nm,0.2s,SNR=7.9
ETOB S Sn 16 43 08.0 -4.1
comp=N,7.4nm,0.3s,SNR=7.9
ETOB Tobarra 12.41 81 P Pn 16 40 55.6 +2.0
comp=N,0.6nm,0.2s,SNR=7.9
ETOB S Sn 16 43 08.0 -4.1
comp=N,7.4nm,0.3s,SNR=7.9
EMUR La Murta 12.69 85 S Sn 16 43 14.5 -4.3
comp=N,0.6nm,0.1s,SNR=7.9
EMUR La Murta 12.69 85 S Sn 16 43 14.5 -4.3
comp=N,0.6nm,0.1s,SNR=7.9
ECHE Chera 12.89 77 S Sn 16 43 21.0 -2.6
comp=N,19nm,0.5s,SNR=7.9
ECHE Chera 12.89 77 S Sn 16 43 21.0 -2.6
comp=N,19nm,0.5s,SNR=7.9
EARA Aranguren 13.01 62 S Sn 16 43 22.4 -4.0
comp=N,40nm,0.4s,SNR=7.9
EARA Aranguren 13.01 62 S Sn 16 43 22.4 -4.0
comp=N,40nm,0.4s,SNR=7.9
IUNC Unciti 13.06 62 P Pn 16 41 05.1 +2.7
comp=N,6.3nm,0.2s,SNR=7.9
IUNC S Sn 16 43 24.6 -3.1
comp=N,31nm,0.2s,SNR=7.9
IUNC Unciti 13.06 62 P Pn 16 41 05.1 +2.7
comp=N,6.3nm,0.2s,SNR=7.9
IUNC S Sn 16 43 24.6 -3.1
comp=N,31nm,0.2s,SNR=7.9
IZUN Zunzarren 13.12 62 P Pn 16 41 05.4 +2.1
comp=N,4.0nm,0.3s,SNR=7.9
IZUN S Sn 16 43 25.7 -3.5
comp=N,16nm,0.3s,SNR=7.9
IZUN Zunzarren 13.12 62 P Pn 16 41 05.4 +2.1
comp=N,4.0nm,0.3s,SNR=7.9
IZUN S Sn 16 43 25.7 -3.5
comp=N,16nm,0.3s,SNR=7.9
ELIZ Elizondo 13.16 61 P Pn 16 41 06.6 +2.8
comp=N,3.3nm,0.2s,SNR=7.9
ELIZ S Sn 16 43 26.6 -3.7
comp=N,5.6nm,0.2s,SNR=7.9
ELIZ Elizondo 13.16 61 P Pn 16 41 06.6 +2.8
comp=N,3.3nm,0.2s,SNR=7.9
ELIZ S Sn 16 43 26.6 -3.7
comp=N,5.6nm,0.2s,SNR=7.9
IPRE Itoiz 13.17 62 P Pn 16 41 07.3 +3.4
comp=N,1.6nm,0.3s,SNR=7.9
IPRE S Sn 16 43 26.9 -3.6
comp=N,14nm,0.4s,SNR=7.9
IPRE Itoiz 13.17 62 P Pn 16 41 07.3 +3.4
comp=N,1.6nm,0.3s,SNR=7.9
IPRE S Sn 16 43 26.9 -3.6
comp=N,14nm,0.4s,SNR=7.9
EALK Alkurruntz 13.20 60 S Sn 16 43 27.5 -3.5
comp=N,15nm,0.3s,SNR=7.9
EALK Alkurruntz 13.20 60 S Sn 16 43 27.5 -3.5
comp=N,15nm,0.3s,SNR=7.9
IEPA Eparoz 13.23 63 P Pn 16 41 07.7 +2.9
comp=N,4.4nm,0.2s,SNR=7.9
IEPA S Sn 16 43 28.3 -3.6
comp=N,18nm,0.3s,SNR=7.9
IEPA Eparoz 13.23 63 P Pn 16 41 07.7 +2.9
comp=N,4.4nm,0.2s,SNR=7.9
IEPA S Sn 16 43 28.3 -3.6
comp=N,18nm,0.3s,SNR=7.9
EORO Oroz-Betelu 13.23 62 P Pn 16 41 07.3 +2.5
comp=N,1.2nm,0.2s,SNR=7.9
EORO S Sn 16 43 28.4 -3.6
comp=N,18nm,0.2s,SNR=7.9

EORO	**Oroz-Betelu**	**13.23**	**62**	P	**Pn**	**16 41 07.3**	**+2.5**
	comp=N,1.2nm,0.2s,SNR=7.9						
EORO				S	**Sn**	**16 43 28.4**	**-3.6**
	comp=N,18nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**13.27**	**62**	P	**Pn**	**16 41 07.7**	**+2.4**
	comp=N,6.9nm,0.2s,SNR=7.9						
IELO				S	**Sn**	**16 43 27.5**	**-5.4**
	comp=N,11nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**13.27**	**62**	P	**Pn**	**16 41 07.7**	**+2.4**
	comp=N,6.9nm,0.2s,SNR=7.9						
IELO				S	**Sn**	**16 43 27.5**	**-5.4**
	comp=N,11nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**13.33**	**73**	P	**Pn**	**16 41 08.5**	**+2.2**
	comp=N,1.0nm,0.2s,SNR=6.1						
EMOS				S	**Sn**	**16 43 29.7**	**-4.9**
	comp=N,6.8nm,0.3s,SNR=8.4						
EMOS	**Mosqueruela**	**13.33**	**73**	P	**Pn**	**16 41 08.5**	**+2.2**
	comp=N,1.0nm,0.2s,SNR=6.1						
EMOS				S	**Sn**	**16 43 29.7**	**-4.9**
	comp=N,6.8nm,0.3s,SNR=8.4						
SJPF	**Ste Jean**	**13.36**	**61**	*e*Pn	**Pn**	**16 41 08.8**	**+2.3**
SJPF				*e*Sn	**Sn**	**16 43 31.0**	**-4.0**
	comp=N,34nm,0.4s						
SJPF	**Ste Jean**	**13.36**	**61**	*e*Pn	**Pn**	**16 41 08.8**	**+2.3**
SJPF				*e*Sn	**Sn**	**16 43 31.0**	**-4.0**
SJPF	**Ste Jean**	**13.36**	**61**	P	**Pn**	**16 41 08.8**	**+2.3**
SJPF				S	**Sn**	**16 43 31.0**	**-4.0**
	comp=N,8.6nm,0.4s						
ESAC	**San Caprasio**	**13.54**	**68**	P	**Pn**	**16 41 11.2**	**+2.2**
	comp=N,7.7nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**16 43 35.4**	**-4.1**
	comp=N,83nm,0.3s,SNR=8.7						
ESAC	**San Caprasio**	**13.54**	**68**	P	**Pn**	**16 41 11.2**	**+2.2**
	comp=N,7.7nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**16 43 35.4**	**-4.1**
	comp=N,83nm,0.3s,SNR=8.7						
ETSF	**Etsaut**	**13.76**	**63**	*e*Pn	**Pn**	**16 41 14.1**	**+2.1**
ETSF				*e*Sn	**Sn**	**16 43 39.8**	**-5.1**
	comp=N,32nm,0.4s						
ETSF	**Etsaut**	**13.76**	**63**	*e*Pn	**Pn**	**16 41 14.1**	**+2.1**
ETSF				*e*Sn	**Sn**	**16 43 39.8**	**-5.1**
ETSF	**Etsaut**	**13.76**	**63**	*e*Pn	**Pn**	**16 41 14.1**	**+2.1**
ETSF				S	**Sn**	**16 43 39.8**	**-5.1**
	comp=N,7.9nm,0.4s						
EBIE	**Bielsa**	**14.20**	**64**	P	**Pn**	**16 41 20.3**	**+2.1**
	comp=N,4.9nm,0.3s,SNR=18						
EBIE				S	**Sn**	**16 43 51.2**	**-4.7**
	comp=N,6.1nm,0.3s,SNR=5.8						
EPF	**Esparros**	**14.43**	**63**	*e*Pn	**Pn**	**16 41 23.7**	**+2.5**
EPF				*e*Sn	**Sn**	**16 43 56.8**	**-4.4**
	comp=N,23nm,0.4s						
EPF	**Esparros**	**14.43**	**63**	*e*Pn	**Pn**	**16 41 23.7**	**+2.5**
EPF				*e*Sn	**Sn**	**16 43 56.8**	**-4.4**
EPF	**Esparros**	**14.43**	**63**	*e*Pn	**Pn**	**16 41 23.7**	**+2.5**
EPF				*e*Sn	**Sn**	**16 43 56.8**	**-4.4**
	comp=N,11nm,0.4s						
QUIF	**Quistinic**	**14.51**	**41**	*e*Pn	**Pn**	**16 41 20.5**	**-1.6**
QUIF				*e*Sn	Sn	16 43 52.8	-10
	comp=N,14nm,0.2s						
QUIF	**Quistinic**	**14.51**	**41**	*e*Pn	**Pn**	**16 41 20.5**	**-1.6**
QUIF				*e*Sn	Sn	16 43 52.8	-10
EPOB	**Poblet**	**14.62**	**70**	P	**Pn**	**16 41 25.9**	**+2.2**
	comp=N,1.8nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**16 44 01.2**	**-4.6**
	comp=N,1.4nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**14.67**	**79**	S	**Sn**	**16 44 02.5**	**-4.4**
	comp=N,3.5nm,0.3s,SNR=7.9						
ROSF	**Rostrenen**	**14.72**	**39**	*e*Pn	**Pn**	**16 41 23.6**	**-1.4**
ROSF	**Rostrenen**	**14.72**	**39**	*e*Pn	**Pn**	**16 41 23.6**	**-1.4**
CSOR	**Sort**	**14.84**	**66**	S	**Sn**	**16 44 06.4**	**-5.0**
	comp=N,2.3nm,0.2s,SNR=7.9						
SGMF	**Saint Gilles**	**15.04**	**41**	*e*Pn	**Pn**	**16 41 27.7**	**-1.6**
SGMF	**Saint Gilles**	**15.04**	**41**	*e*Pn	**Pn**	**16 41 27.7**	**-1.6**
EMIR	**Miracle**	**15.04**	**68**	S	Sn	16 44 09.4	-6.7
	comp=N,1.4nm,0.1s,SNR=7.9						
MFF	**Saint Martin d**	**15.47**	**50**	*e*Pn	**Pn**	**16 41 35.0**	**0.0**
MFF	**Saint Martin d**	**15.47**	**50**	*e*Pn	**Pn**	**16 41 35.0**	**0.0**
MFF	**Saint Martin d**	**15.47**	**50**	*e*Pn	**Pn**	**16 41 35.0**	**0.0**
CLLI	**Llivia**	**15.47**	**66**	P	**P**	**16 41 38.6**	**-1.2**
	comp=N,0.6nm,0.4s,SNR=4.0						
CLLI				S	**Sn**	**16 44 21.4**	**-5.3**
	comp=N,1.7nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**15.47**	**66**	P	**P**	**16 41 38.6**	**-1.2**
	comp=N,0.6nm,0.4s,SNR=4.0						
CFON	**Fontmartina**	**15.69**	**69**	P	**P**	**16 41 40.0**	**-2.0**
	comp=N,1.5nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**16 44 26.6**	**-5.3**
	comp=N,8.5nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**15.96**	**56**	*e*Pn	**Pn**	**16 41 42.0**	**+0.5**
RJF				*e*Sn	Sn	16 44 31.2	-7.3
	comp=N,5.9nm,0.2s						
RJF	**Les Rejaudoux**	**15.96**	**56**	*e*Pn	**Pn**	**16 41 42.0**	**+0.5**
RJF				*e*Sn	Sn	16 44 31.2	-7.3
RJF	**Les Rejaudoux**	**15.96**	**56**	*e*Pn	**Pn**	**16 41 42.0**	**+0.5**
GRR	**Gorron**	**16.02**	**43**	*e*Pn	**Pn**	**16 41 40.7**	**-1.4**
GRR	**Gorron**	**16.02**	**43**	*e*Pn	**Pn**	**16 41 40.7**	**-1.4**
GRR	**Gorron**	**16.02**	**43**	*e*Pn	**Pn**	**16 41 40.7**	**-1.4**
HTL	**Hartland**	**16.09**	**30**	*e*P	**Pn**	**16 41 45.0**	**+2.0**
HTL				AMB	AMB	16 41 49.4	
	comp=N,78nm,2.4s						
HTL	**Hartland**	**16.09**	**30**	P	**Pn**	**16 41 45.0**	**+2.0**
HTL				AMB	AMB	16 41 49.4	
	comp=N,78nm,2.4s						
HTL	**Hartland**	**16.09**	**30**	*e*P	**Pn**	**16 41 45.0**	**+2.0**
CAF	**Calviac**	**16.19**	**58**	*e*Pn	**Pn**	**16 41 45.6**	**+1.1**
CAF	**Calviac**	**16.19**	**58**	*e*Pn	**Pn**	**16 41 45.6**	**+1.1**
CAF	**Calviac**	**16.19**	**58**	P	**Pn**	**16 41 45.6**	**+1.1**
HEX	**Exmoor**	**16.42**	**31**	*e*P	**Pn**	**16 41 49.1**	**+1.9**
HEX	**Exmoor**	**16.42**	**31**	P	**Pn**	**16 41 49.1**	**+1.9**
HEX	**Exmoor**	**16.42**	**31**	*e*P	**Pn**	**16 41 49.1**	**+1.9**
FLN	**La Foliniere**	**16.44**	**42**	*e*Pn	**Pn**	**16 41 47.8**	**+0.3**
	baz=230						
FLN	**La Foliniere**	**16.44**	**42**	*e*Pn	**Pn**	**16 41 47.8**	**+0.3**
	baz=230						
LDF	**La Druitiere**	**16.54**	**43**	*e*Pn	**Pn**	**16 41 49.5**	**+0.8**
LDF	**La Druitiere**	**16.54**	**43**	*e*Pn	**Pn**	**16 41 49.5**	**+0.8**
LDF	**La Druitiere**	**16.54**	**43**	*e*Pn	**Pn**	**16 41 49.5**	**+0.8**
TCF	**Toulx Ste Croi**	**16.79**	**53**	*e*Pn	**Pn**	**16 41 52.3**	**+0.2**
TCF				*e*Sn	Sn	16 44 49.7	-8.9
	comp=Z,7.5nm,0.3s						
TCF	**Toulx Ste Croi**	**16.79**	**53**	*e*Pn	**Pn**	**16 41 52.3**	**+0.2**
TCF				*e*Sn	Sn	16 44 49.7	-8.9
TCF	**Toulx Ste Croi**	**16.79**	**53**	P	**Pn**	**16 41 52.3**	**+0.2**
BGF	**Bois d'Agland**	**17.30**	**53**	*e*P	**P**	**16 42 01.9**	**+2.0**
BGF				*e*Sn	Sn	16 45 02.6	-8.3
	comp=Z,14nm,0.4s						
BGF	**Bois d'Agland**	**17.30**	**53**	*e*P	**P**	**16 42 01.9**	**+2.0**
BGF				*e*Sn	Sn	16 45 02.6	-8.3
BGF	**Bois d'Agland**	**17.30**	**53**	*e*P	**P**	**16 42 01.9**	**+2.0**
MCH1	**Michaelchurch**	**17.45**	**31**	*e*P	**P**	**16 42 02.4**	**+1.0**
MCH1				AMB	AMB	16 42 09.0	
	comp=Z,91nm,2.3s						
MCH1	**Michaelchurch**	**17.45**	**31**	P	**P**	**16 42 02.4**	**+1.0**
MCH1				AMB	AMB	16 42 09.0	
	comp=Z,91nm,2.3s						
MCH1	**Michaelchurch**	**17.45**	**31**	*e*P	**P**	**16 42 02.4**	**+1.0**
AVF	**Avril sur Loir**	**17.72**	**53**	*e*Pn	**Pn**	**16 42 04.0**	**+0.5**
AVF	**Avril sur Loir**	**17.72**	**53**	*e*Pn	**Pn**	**16 42 04.0**	**+0.5**
AVF	**Avril sur Loir**	**17.72**	**53**	P	**Pn**	**16 42 04.0**	**+0.5**
HLM1	**Long Mynd**	**17.90**	**30**	*e*P	**P**	**16 42 08.2**	**+1.8**
HLM1				AMB	AMB	16 42 13.2	
	comp=Z,69nm,2.4s						
HLM1	**Long Mynd**	**17.90**	**30**	P	**P**	**16 42 08.2**	**+1.8**
HLM1				AMB	AMB	16 42 13.2	
	comp=Z,69nm,2.4s						
HLM1	**Long Mynd**	**17.90**	**30**	*e*P	**P**	**16 42 08.2**	**+1.8**
SSW	**Stow on the Wo**	**17.91**	**32**	*e*P	**P**	**16 42 08.4**	**+1.9**
SSW	**Stow on the Wo**	**17.91**	**32**	P	**P**	**16 42 08.4**	**+1.9**
SSW	**Stow on the Wo**	**17.91**	**32**	*e*P	**P**	**16 42 08.4**	**+1.9**
SSF	**Saint Saulge**	**17.92**	**52**	*e*Pn	**P**	**16 42 09.6**	**+2.9**
SSF	**Saint Saulge**	**17.92**	**52**	*e*Pn	**P**	**16 42 09.6**	**+2.9**
SSF	**Saint Saulge**	**17.92**	**52**	P	**P**	**16 42 09.6**	**+2.9**
LOR	**Lormes**	**18.23**	**52**	*e*Pn	**P**	**16 42 13.0**	**+2.9**
	baz=242						
LOR	**Lormes**	**18.23**	**52**	*e*Pn	**P**	**16 42 13.0**	**+2.9**
LOR	**Lormes**	**18.23**	**52**	P	**P**	**16 42 13.0**	**+2.9**
DOU	**Dourbes**	**19.95**	**45**	P	**Pn**	**16 42 31.6**	**+1.0**
DOU					XP	**sP**	**16 42 35.1**	**+2.1**
DOU	**Dourbes**	**19.95**	**45**	P	**Pn**	**16 42 31.5**	**+1.0**
SNF	**Seneffe**	**19.99**	**43**	P	Pn	16 42 31.4	+0.4
SNF				AP	pP	16 42 34.8	+2.7
SNF	**Seneffe**	**19.99**	**43**	P	Pn	16 42 31.3	+0.3
GIVF	**Givet**	**20.08**	**45**	*e*Pn	Pn	16 42 32.9	+0.8
GIVF	**Givet**	**20.08**	**45**	P	Pn	16 42 32.9	+0.8
BCLA	**Clavier**	**20.50**	**45**	P	Pn	16 42 41.2	+4.2
	comp=Z,14nm,1.3s						
WLF	**Walferdange**	**20.63**	**47**	P	Pn	16 42 39.0	+0.5
WLF				AP	pP	16 42 42.0	+2.9
	comp=Z,49nm,1.2s						
WLF	**Walferdange**	**20.63**	**47**	*e*P	Pn	16 42 38.1	-0.4
	comp=Z,69nm,0.9s						
WLF	**Walferdange**	**20.63**	**47**	*e*P	Pn	16 42 38.2	-0.4
	comp=Z,69nm,0.9s						
MEM	**Membach**	**20.99**	**45**	P	**P**	**16 42 42.4**	**+2.2**
	comp=Z,9.5nm,0.9s						
MEM	**Membach**	**20.99**	**45**	P	**P**	**16 42 42.3**	**+2.2**
	comp=Z,9.5nm,0.9s						
BFO	**Black Forest**	**21.42**	**52**	*e*P	**P**	**16 42 46.5**	**+1.7**
	comp=Z,17nm,0.9s						
BFO	**Black Forest**	**21.42**	**52**	*e*P	**P**	**16 42 46.5**	**+1.7**
	comp=Z,17nm,0.9s						
TUE	**Stuetta**	**21.52**	**58**	*e*P	**P**	**16 42 47.9**	**+1.7**
	comp=Z,18nm,1.0s						
TUE	**Stuetta**	**21.52**	**58**	*e*P	**P**	**16 42 47.9**	**+1.7**
	comp=Z,18nm,1.0s						
DAVOX	**Davos/Dischmat**	**21.96**	**57**	P	**P**	**16 42 54.2**	**+3.4**
	comp=Z,13nm,0.7s,baz=249,slow=8.7,SNR=20						
DAVOX	**Davos/Dischmat**	**21.96**	**57**	P	**P**		
DAVA	**Damuels**	**22.09**	**56**	⇓*i*P	**P**	**16 42 56.8**	**+4.5**
DAVA	**Damuels**	**22.09**	**56**	⇓*i*SP	**P**	**16 42 56.8**	**+4.5**
	comp=Z,13nm,0.7s						
FETA	**Feichten**	**22.58**	**57**	⇑*i*P	**P**	**16 43 01.9**	**+4.4**
FETA	**Feichten**	**22.58**	**57**	⇑*i*pP	**P**	**16 43 01.9**	**+4.4**
	comp=Z,8.4nm,1.0s						
GRF	**Grafenberg Arr**	**23.67**	**51**	*e*P	**P**	**16 43 11.3**	**+2.9**
	comp=Z,7.0nm,0.9s						
KHC	**Kasperske Hory**	**24.97**	**53**	*e*P	**P**	**16 43 21.0**	**+0.5**
KHC				*ex*	x	16 43 41.5	
GERES	**GERESS Array B**	**24.97**	**54**	P	**P**	**16 43 22.5**	**+1.9**
	comp=Z,3.9nm,0.8s,baz=260,slow=5.3,SNR=25						
GERES	**GERESS Array B**	**24.97**	**54**	P	**P**	**16 43 22.5**	**+1.9**
GERES	**GERESS Array B**	**24.97**	**54**	P	**P**	**16 43 22.5**	**+1.9**
MOA	**Molln**	**25.11**	**56**	⇑*i*P	**P**	**16 43 25.7**	**+4.0**
MOA	**Molln**	**25.11**	**56**	⇑*i*SP	**P**	**16 43 25.7**	**+4.0**
	comp=Z,11nm,0.7s						
CLL	**Collm**	**25.30**	**48**	*e*P	**P**	**16 43 25.0**	**+1.7**
	comp=Z,9.0nm,1.3s						
NOA	**NORSAR Array B**	**29.38**	**28**	P	**P**	**16 43 59.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=230,slow=9.1,SNR=2.9						
NOA	**NORSAR Array B**	**29.38**	**28**	P	**P**	**16 43 59.9**	**0.0**
NOA	**NORSAR Array B**	**29.38**	**28**	P	**P**	**16 43 59.9**	**0.0**
TORD	**Torodi Ar. Bea**	**29.75**	**140**	P	**P**	**16 44 04.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=320,slow=10,SNR=7.3						
TORD				LR	LR	16 56 21.0	
	comp=Z,105nm,18.0s,baz=345,slow=37						
TORD	**Torodi Ar. Bea**	**29.75**	**140**	P	**P**	**16 44 04.1**	**+0.6**
HFS	**Hagfors**	**29.80**	**31**	P	**P**	**16 44 04.2**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=230,slow=3.7,SNR=13						
HFS				LR	LR	16 54 12.1	
	comp=Z,79nm,19.0s,baz=74,slow=32						
HFS	**Hagfors**	**29.80**	**31**	P	**P**	**16 44 04.2**	**+0.6**
HFS	**Hagfors**	**29.80**	**31**	P	**P**	**16 44 04.2**	**+0.6**
SUW	**Suwalki**	**32.02**	**46**	*e*P	**P**	**16 44 24.9**	**+1.7**
SUW	**Suwalki**	**32.02**	**46**	*e*P	**P**	**16 44 24.4**	**+1.2**
	comp=Z,51nm,0.9s						
SUW	**Suwalki**	**32.02**	**46**	*e*P	**P**	**16 44 24.4**	**+1.2**
	comp=Z,51nm,0.9s						
DBIC	**Dimbokro**	**32.91**	**157**	P	**P**	**16 44 30.7**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=309,slow=9.5,SNR=3.5						
DBIC	**Dimbokro**	**32.91**	**157**	P	**P**	**16 44 30.7**	**-0.6**
AKASG	**Malin Array Be**	**35.19**	**53**	P	**P**	**16 44 52.4**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=261,slow=11,SNR=11						
AKASG	**Malin Array Be**	**35.19**	**53**	P	**P**	**16 44 52.4**	**+1.5**
AKASG	**Malin Array Be**	**35.19**	**53**	P	**P**	**16 44 52.3**	**+1.5**
FINES	**FINESS Array B**	**35.77**	**34**	P	**P**	**16 44 56.5**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=246,slow=6.4,SNR=30						
FINES	**FINESS Array B**	**35.77**	**34**	P	**P**	**16 44 56.5**	**+0.7**
FINES	**FINESS Array B**	**35.77**	**34**	P	**P**	**16 44 56.5**	**+0.7**
KAF	**Kangasniemi**	**36.12**	**33**	*e*p	P	16 44 54.4	-4.3
	comp=Z,1.1nm,0.4s						
KAF	**Kangasniemi**	**36.12**	**33**	*e*p	P	16 44 54.4	-4.3
	comp=Z,1.1nm,0.4s						
SCHQ	**Schefferville**	**37.39**	**314**	P	P	16 45 04.9	-4.8
	comp=Z,1.4nm,0.5s,baz=248,slow=18,SNR=6.4						
SCHQ	**Schefferville**	**37.39**	**314**	P	P	16 45 04.9	-4.8
ARCES	**ARCESS Array B**	**39.20**	**22**	P	**P**	**16 45 24.1**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=235,slow=8.2,SNR=44						
ARCES	**ARCESS Array B**	**39.20**	**22**	P	**P**	**16 45 24.1**	**-0.6**
ARCES	**ARCESS Array B**	**39.20**	**22**	P	**P**	**16 45 24.1**	**-0.6**
YKA	**Yellowknife Ar**	**60.49**	**328**	P	P	16 48 02.4	-4.2
	comp=Z,0.1nm,0.4s,baz=64,slow=7.3,SNR=4.0						
YKA	**Yellowknife Ar**	**60.49**	**328**	P	P	16 48 02.4	-4.2
KKAR	**Karatay Array**	**64.07**	**54**	*e*P	**P**	**16 48 31.5**	**+0.6**
	comp=Z,0.8nm,0.5s						
KKAR	**Karatay Array**	**64.07**	**54**	*e*P	**P**	**16 48 31.5**	**+0.6**
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**65.26**	**44**	*e*P	**P**	**16 48 38.2**	**-0.3**
	comp=Z,5.6nm,1.0s						
KURK	**Kurchatov**	**65.26**	**44**	*e*P	**P**	**16 48 38.2**	**-0.3**
	comp=Z,5.6nm,1.0s						
ZAA0	**Zalesovo Array**	**66.85**	**39**	*e*P	**P**	**16 48 47.8**	**-0.8**
ZALV	**Zalesovo Beam**	**66.85**	**39**	P	**P**	**16 48 49.2**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=310,slow=6.9,SNR=12						
ZALV	**Zalesovo Beam**	**66.85**	**39**	P	**P**	**16 48 49.2**	**+0.6**
ZALV	**Zalesovo Beam**	**66.85**	**39**	P	**P**	**16 48 49.2**	**+0.6**
MK31	**Makanchi Array**	**69.38**	**46**	*e*P	**P**	**16 49 03.9**	**-0.9**
MKAR	**Makanchi Array**	**69.38**	**46**	P	**P**	**16 49 05.1**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=301,slow=5.2,SNR=22						
MKAR	**Makanchi Array**	**69.38**	**46**	P	**P**	**16 49 05.1**	**+0.3**
MKAR	**Makanchi Array**	**69.38**	**46**	P	**P**	**16 49 05.1**	**+0.3**
TXAR	**Lajitas Array**	**70.09**	**292**	P	P	16 49 04.5	-5.0
	comp=Z,0.1nm,0.3s,baz=17,slow=4.3,SNR=2.5						
TXAR	**Lajitas Array**	**70.09**	**292**	P	P	16 49 04.5	-5.0
SONM	**Songino Array**	**81.14**	**35**	P	**P**	**16 50 11.9**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=322,slow=4.8,SNR=6.1						
SONM	**Songino Array**	**81.14**	**35**	P	**P**	**16 50 11.9**	**-0.7**

IDC 30 16:38:45.1±2.0, 8.15S×120.45E, h145km±36km, mb3.3/2, mb1 3.4/5, mb1mx3.1/20, mbtmp3.2/5, Error ellipse: s-maj=74.4km s-min=25.9km az=69.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KAPI	**Kappang**	**3.19**	**347**	P	P	Pn	16 39 34.0	-0.8
	6.0nm,0.3s,baz=184,slow=8.2,SNR=24							
FITZ	**Fitzroy Crossi**	**11.11**	**153**	P	P	Pn	16 41 21.8	+1.8
	0.2nm,0.3s,baz=325,slow=14,SNR=4.0							
FITZ					S	Sn	16 43 21.1	-1.6
	0.4nm,0.3s,baz=188,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**17.84**	**133**	P	P	Pn	16 42 44.6	0.0
	0.2nm,0.3s,baz=315,slow=12,SNR=9.1							
WRA					S	Sn	16 46 03.0	-1.8
	0.3nm,0.3s,baz=300,slow=21,SNR=7.6							
ASAR	**Alice Springs**	**20.11**	**142**	P	P	P	16 43 08.2	+0.4
	0.8nm,0.4s,baz=315,slow=9.6,SNR=29							
ASAR					S	S	16 46 45.1	-0.8
	1.5nm,0.9s,baz=317,slow=21,SNR=7.9							
STKA	**Stephens Creek**	**30.73**	**143**	P	P	P	16 44 46.4	-0.3
	1.2nm,0.5s,baz=315,slow=11,SNR=6.2							

*BJI **30** 16:49:50.6, 8.40S×120.00E, h30km, mB4.9/12, mb4.8/25, Ms4.5/2, Ms7 4.1/2*

*ISCJB **30** 16:49:53.0±0.5, 8.37S±0.04×120.12E±0.04, h70km±5km, mb4.6/33, Error ellipse: s-maj=8.0km s-min=5.1km az=150.2*

*NEIC **30** 16:49:52.5±1.1, 8.29S±120.18E, h48km±11km, mb4.6/13, Error ellipse: s-maj=13.1km s-min=5.7km az=58.0*

*DJA **30** 16:49:54, 8.46S×120.05E, h32km, mb5.0/19*

*IDC **30** 16:49:54.9±1.9, 8.21S×120.22E, h64km±16km, mb4.2/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.2/14, MS3.6/6, Ms1 3.6/6, ms1mx3.2/30, Error ellipse: s-maj=25.9km s-min=10.1km az=69.0*

ISC 30 16:49:51.8±0.6, 8.45S±0.04×120.05E±0.06, h32km±4km, n112, σ1§59/75, mb4.7/33, MS3.6/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WSI	**Waingapu**	**1.23**	**168**	P	P	**Pb**	**16 50 15.8**	**+1.2**
MMRI	**Maumere**	**2.17**	**95**	P	P	**Pn**	**16 50 28.0**	**+2.1**
BKSI	**Bulukumba**	**3.11**	**1**	P	P	**Pn**	**16 50 39.1**	**+0.3**
KAPI	**Kappang**	**3.43**	**355**	P	P	**Pn**	**16 50 42.7**	**-0.4**
	142nm,0.3s,baz=184,slow=8.3,SNR=113							
KAPI					S	**Sn**	**16 51 19.9**	**-2.8**
	99nm,0.3s,baz=219,slow=22,SNR=8.7							
KAPI					LR	LR	16 52 23.8	
	comp=Z,803nm,18.7s,baz=152,slow=46							
KAPI	**Kappang**	**3.43**	**355**	*e*P	P	**Pn**	**16 50 42.2**	**-0.9**
KAPI					P	Pb	16 50 42.7	-9.2
KAPI	**Kappang**	**3.43**	**355**	P	P	**Pn**	**16 50 42.8**	**-0.3**
MTNI	**Mataram**	**3.84**	**267**	P	P	**Pn**	**16 50 49.6**	**+0.8**
KHKI	**Kahang-Kahang**	**4.39**	**271**	P	P	Pn	16 51 00.6	+4.2
SPSI	**Sidrap Palu**	**4.47**	**356**	P	P	**Pn**	**16 50 58.6**	**+1.2**
IGBI	**Denpasar**	**4.86**	**265**	P	P	**Pn**	**16 51 03.5**	**+0.7**
KDI	**Kendari**	**5.14**	**30**	P	P	**Pn**	**16 51 09.7**	**+3.0**
	60nm,0.7s,622nm0.2nm							
NBBI	**Negara**	**5.37**	**270**	P	P	Pn	16 51 16.6	+6.8
TTSI	**Tana Toraja**	**5.38**	**358**	P	P	**Pn**	**16 51 12.7**	**+2.8**
	264nm,0.7s,2µm0.8nm							
BLJI	**Banyuglugur**	**6.43**	**276**	P	P	**Pn**	**16 51 27.3**	**+2.9**
	258nm,0.6s,5µm1.0nm							
GMJI	**Gumukmas**	**6.54**	**271**	P	P	Pn	16 51 30.3	+4.4
	208nm,1.1s,3µm0.8nm							
KRKI	**Karangkates**	**7.52**	**272**	P	P	Pn	16 51 50.4	+11
PWJI	**Pagerwojo**	**8.17**	**272**	P	P	Pn	16 51 58.0	+10
SJI	**Sawahan**	**8.23**	**274**	P	P	Pn	16 51 59.6	+10
PCJI	**Pacitan**	**8.78**	**271**	P	P	Pn	16 52 09.9	+13
MRSI	**Marisa**	**9.07**	**12**	P	P	**Pn**	**16 52 03.3**	**+2.7**
	53nm,0.8s,449nm							
LBMI	**Labuha**	**10.74**	**44**	P	P	Pn	16 52 31.4	+7.8
FITZ	**Fitzroy Crossi**	**11.03**	**151**	P	P	**Pn**	**16 52 28.0**	**+0.5**
	0.8nm,0.3s,baz=343,slow=9.2,SNR=6.2							
FITZ					S	Sn	16 54 24.7	-5.0
	2.3nm,0.3s,baz=203,slow=16,SNR=6.9							
FITZ					LR	LR	16 57 46.8	
	comp=Z,120nm,18.3s,baz=335,slow=42							
FITZ	**Fitzroy Crossi**	**11.03**	**151**	*e*P	P	**Pn**	**16 52 27.4**	**-0.1**
FITZ					eS	Sn	16 54 25.3	-4.5
FITZ	**Fitzroy Crossi**	**11.03**	**151**	P	P	**Pn**	**16 52 28.0**	**+0.5**
FITZ					S	Sn	16 54 24.7	-5.0
MBWA	**Marble Bar**	**12.64**	**181**	*e*Pn	P	**Pn**	**16 52 50.9**	**+1.4**
	15nm,0.8s							
SWI	**Sorong**	**13.47**	**57**	P	P		**16 53 10.9**	**+1.1**
MYLDM	**Lahad Datu**	**13.63**	**353**	P	P		16 53 16.1	+4.5
DAV	**Davao City (W)**	**16.38**	**20**	LR	LR		16 59 59.2	
	comp=Z,94nm,19.4s,baz=137,slow=38							
WRA	**Warramunga Arr**	**17.94**	**131**	P	P	**Pn**	**16 53 57.5**	**-1.5**
	1.5nm,0.3s,baz=309,slow=12,SNR=58							
WRA					S	Sn	16 57 07.6	-11
	0.4nm,0.3s,baz=306,slow=23,SNR=6.7							
WRA	**Warramunga Arr**	**17.94**	**131**	P	P	**Pn**	**16 53 57.5**	**-1.5**
WRA					S	Sn	16 57 07.6	-11
WRAB	**Tennant Creek**	**17.94**	**131**	*e*P	P	**Pn**	**16 53 58.5**	**-0.5**
	16nm,0

GKN	Gorkha	49.85	318	*e*P		P	16 58 40.9	-1.6
KOLN	Koldanda	50.40	317	*e*P		P	16 58 43.9	-2.8
	comp=Z,6.7nm,0.6s							
KOLN	Koldanda	50.40	317	*e*P		P	16 58 43.9	-2.8
	comp=Z,6.7nm,0.6s							
DANN	Dangsing	50.66	318	*e*P		P	16 58 47.0	-1.8
	comp=Z,15nm,0.5s							
DANN	Dangsing	50.66	318	*e*P		P	16 58 47.0	-1.8
	comp=Z,15nm,0.5s							
GTA	Gaotai	51.19	340	*e*P		P	16 58 53.0	+0.6
GTA				pP		pP	16 58 59.8	-2.1
GTA				sP		sP	16 59 03.8	-1.8
GTA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
USRK	Ussuriysk Arra	53.51	11	P		P	16 59 06.9	-2.4
	comp=Z,4.1nm,0.4s,baz=197,slow=6.4,SNR=19							
MDJ	Mudanjiang	53.52	8	*e*P		P	16 59 06.6	-2.8
	comp=Z,18nm,1.4s							
RPZ	Rata Peaks	56.50	137	P		P	16 59 32.5	+1.4
	comp=Z,5.6nm,0.8s,baz=307,slow=3.4,SNR=4.2							
RPZ	Rata Peaks	56.50	137	P		P	16 59 32.5	+1.4
ULN	Ulaanbaatar	57.24	350	*e*P		P	16 59 34.8	-1.5
	comp=Z,3.0nm,0.8s							
SONM	Songino Array	57.33	349	P		P	16 59 35.5	-1.4
	comp=Z,2.2nm,0.8s,baz=165,slow=7.7,SNR=12							
SONM	Songino Array	57.33	349	P		P	16 59 35.5	-1.4
MK31	Makanchi Array	64.45	332	*e*P		P	17 00 21.4	-3.8
MKAR	Makanchi Array	64.45	332	P		P	17 00 23.7	-1.6
	comp=Z,3.7nm,0.6s,baz=148,slow=6.5,SNR=77							
MKAR	Makanchi Array	64.45	332	P		P	17 00 23.7	-1.6
MKAR				*e*P		P	17 00 24.0	-1.3
AAK	Ala-Archa	65.63	325	P		P	17 00 31.5	-1.7
	comp=Z,2.3nm,0.6s,baz=124,slow=6.3,SNR=13							
AAK	Ala-Archa	65.63	325	*e*P		P	17 00 31.0	-2.2
	comp=Z,6.2nm,0.6s							
AAK				P		P	17 00 31.5	-1.7
ZAA0	Zalesovo Array	68.91	339	*e*P		P	17 00 50.1	-3.3
ZALV	Zalesovo Beam	68.91	339	P		P	17 00 51.1	-2.3
	comp=Z,2.6nm,0.4s,baz=150,slow=5.4,SNR=14							
ZALV	Zalesovo Beam	68.91	339	P		P	17 00 51.1	-2.3
KURK	Kurchatov	68.97	333	*e*P		P	17 00 49.7	-4.2
	comp=Z,3.5nm,0.9s							
PETK	Petropavlovsk-	69.16	23	P		P	17 00 52.7	-2.4
	comp=Z,2.3nm,0.6s,baz=181,slow=1.9,SNR=7.0							
PETK	Petropavlovsk-	69.16	23	P		P	17 00 52.7	-2.4
MAW	Mawson	70.10	200	LR		LR	17 27 07.2	
	comp=Z,95nm,21.7s,baz=132,slow=32							
ABKAR	Akbulak array	77.72	324	*e*P		P	17 01 42.8	-2.7
	comp=Z,0.7nm,0.5s							
YKA	Yellowknife Ar	113.27	24	PKiKP		PKiKP	17 08 22.5	-3.5
	comp=Z,0.2nm,0.6s,baz=291,slow=1.9,SNR=4.8							
YKA	Yellowknife Ar	113.27	24	PKiKP		PKiKP	17 08 22.5	-3.5
LPAZ	La Paz	154.12	162	PKPab		PKPab	17 10 03.8	+0.1
	comp=Z,1.1nm,0.5s,baz=201,slow=8.1,SNR=5.6							
LPAZ	La Paz	154.12	162	PKPab		PKPab	17 10 03.8	+0.1

IDC 30 16:58:44.0±2.1, 17°98S×178°96W, h541km±24km, mb3.3/10, mb1 3.6/11, mb1mx3.4/20, mbtmp3.3/11, Error ellipse: s-maj=26.5km s-min=12.9km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	8.00	61	P	P	17 00 41.7	+0.1
	2.7nm,0.3s,baz=329,slow=20,SNR=4.3						
CTA	Charters Tower	32.92	261	P	P	17 04 35.3	+1.3
	7.0nm,0.8s,baz=95,slow=12,SNR=4.0						
STKA	Stephens Creek	38.14	241	P	P	17 05 17.0	-0.2
	2.9nm,0.8s,baz=56,slow=9.9,SNR=12						
WRA	Warramunga Arr	44.11	260	P	P	17 06 03.8	-0.9
	1.9nm,0.5s,baz=95,slow=9.3,SNR=26						
ASAR	Alice Springs	44.27	254	P	P	17 06 05.4	-0.5
	14nm,0.6s,baz=88,slow=8.1,SNR=136						
QSPA	South Pole Qui	72.08	180	P	P	17 09 13.3	0.0
	1.7nm,0.8s,baz=53,slow=1.5,SNR=12						
NVAR	Mina Array Bea	79.84	44	P	P	17 09 57.2	+0.6
	0.9nm,0.7s,baz=224,slow=8.8,SNR=7.6						
ILAR	Eielson Array	86.07	13	P	P	17 10 26.1	-0.9
	0.4nm,0.4s,baz=221,slow=5.0,SNR=12						
TXAR	Lajitas Array	86.47	58	P	P	17 10 29.9	+0.1
	1.1nm,0.7s,baz=226,slow=5.7,SNR=12						
PDAR	Pinedale Array	87.76	44	P	P	17 10 35.4	-0.4
	0.7nm,0.6s,baz=226,slow=2.5,SNR=7.0						
YKA	Yellowknife Ar	94.61	25	P	P	17 11 05.4	-1.2
	0.1nm,0.5s,baz=234,slow=4.0,SNR=4.9						
MKAR	Makanchi Array	108.81	314	PKiKP	PKiKP	17 16 10.6	-1.1
	0.2nm,0.5s,baz=142,slow=1.0,SNR=8.9						
ARCES	ARCESS Array B	126.29	350	PKP	PKPdf	17 16 44.3	-0.3
	6.5nm,1.0s,baz=7.1,slow=3.9,SNR=4.0						
BRTR	Keskin Array B	144.46	314	PKP	PKPbc	17 17 19.4	+0.2
	1.0nm,0.9s,baz=329,slow=12,SNR=5.2						
CLL	Collm	145.41	347	*i* (P)	PKPbc	17 17 21.6	+0.1
	comp=Z,8.0nm,0.7s						
BRG	Berggiesshubel	145.60	345	*e*P	PKPbc	17 17 22.2	+0.2
	comp=Z,18nm,1.6s						
MLR	Muntele Rosu	145.62	328	PKPbc	PKPbc	17 17 22.3	-0.1
	comp=Z,0.8nm,0.9s,baz=300,slow=16,SNR=3.9						
GERES	GERESS Array B	147.54	344	PKPbc	PKPbc	17 17 27.5	0.0
	comp=Z,1.8nm,0.7s,baz=32,slow=3.3,SNR=12						

*ISCJB **30** 17:07:51.6±0.6, 11°03N±0°05×124°73E±0°04, h9km±4km, mb3.8/12, MS3.4/8, Error ellipse: s-maj=9.2km s-min=6.9km az=165.0*
*MAN **30** 17:07:51, 10°99N×124°73E, h1km, mb5.1, ML4.1, MS4.2 MAN INTENSITY IV - ORMOC CITY.*
*IDC **30** 17:07:52.8±0.9, 10°82N×124°23E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, MS3.4/11, Ms1 3.4/11, ms1mx3.1/37, Error ellipse: s-maj=73.0km s-min=17.9km az=70.0*
*NEIC **30** 17:07:54.2±0.5, 10°80N×124°18E, h10km, mb4.2/5, Error ellipse: s-maj=44.7km s-min=10.1km az=68.0*
NEIC Felt [IV PIVS] at Albuera and Ormoc; [III PIVS] at Tacloban.

ISC 30 17:07:51.9±1.4, 11°01N±0°05×124°74E±0°04, h0km±10km, n35, σ0°75/24, mb3.8/12, MS3.2/8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.13	287	*e*P	**Pg**	17 07 54.3	-0.2
OCLP				*e*S	**Sg**	17 07 56.7	+0.5
PLP	Palo	0.28	57	*e*P	**Pg**	17 07 57.0	-0.4
PLP				*i* S	**Sg**	17 08 01.5	+0.5
MSLP	Maasin	0.88	172	*e*P	**Pg**	17 08 08.7	-0.1
MSLP				*e*S	**Sn**	17 08 26.3	+1.2
TBP	Tagbilaran	1.57	213	*e*P	**Pb**	17 08 21.4	-0.5
KALP	Kalibo	2.44	286	*e*P	Pn	17 08 29.2	-3.9
CGP	Cagayan de Oro	2.54	181	*e*P	**Pn**	17 08 33.4	-1.0
DAV	Davao City (W)	4.00	168	LR	LR	17 10 49.3	
	comp=Z,380nm,20.3s,baz=206,slow=45						
JOW	Kunigami	16.09	11	LR	LR	17 16 58.6	
	comp=Z,97nm,18.4s,baz=81,slow=33						
KAPI	Kappang	16.68	198	LR	LR	17 17 36.1	
	comp=Z,62nm,20.1s,baz=19,slow=36						
JNU	Nakatsue	22.72	13	LR	LR	17 21 10.1	
	comp=Z,55nm,19.0s,baz=71,slow=35						
CMAR	Chiang Mai Arr	26.00	290	LR	LR	17 23 58.3	
	comp=Z,15nm,18.9s,baz=130,slow=38						
KSRS	Korea Array	26.48	6	LR	LR	17 23 15.3	
	comp=Z,63nm,19.6s,baz=330,slow=34						
MJAR	Matsushiro Arr	28.18	23	LR	LR	17 22 59.3	
	comp=Z,69nm,22.0s,baz=225,slow=32						
WRA	Warramunga Arr	32.18	163	P	**P**	17 14 23.1	+1.3
	0.4nm,0.7s,baz=323,slow=12,SNR=3.1						
WRA	Warramunga Arr	32.18	163	P	**P**	17 14 23.1	+1.3
ASAR	Alice Springs	35.61	165	P	**P**	17 14 52.2	+0.7
	0.6nm,0.7s,baz=347,slow=6.9,SNR=6.5						
ASAR	Alice Springs	35.61	165	P	**P**	17 14 52.2	+0.7
ULN	Ulaanbaatar	39.63	341	*e*P	**P**	17 15 26.1	+0.6
	3.8nm,1.0s						
SONM	Songino Array	39.81	341	P	**P**	17 15 27.1	+0.1
	0.4nm,0.5s,baz=160,slow=9.6,SNR=4.6						
SONM				LR	LR	17 32 29.8	
	comp=Z,53nm,18.5s,baz=42,slow=37						
SONM	Songino Array	39.81	341	P	**P**	17 15 27.1	+0.1
STKA	Stephens Creek	45.60	160	P	**P**	17 16 13.1	-0.9
	1.9nm,0.8s,baz=344,slow=9.9,SNR=3.1						
STKA	Stephens Creek	45.60	160	P	**P**	17 16 13.1	-0.9
PETK	Petropavlovsk-	49.60	26	LR	LR	17 34 37.9	
	comp=Z,31nm,20.8s,baz=177,slow=32						
MKAR	Makanchi Array	50.53	323	P	**P**	17 16 52.1	0.0
	0.6nm,0.9s,baz=122,slow=7.7,SNR=5.6						
MKAR	Makanchi Array	50.53	323	P	**P**	17 16 52.1	0.0

ZALV	Zalesovo Beam	53.26	332	P		**P**	17 17 13.0	+0.7
	0.2nm,0.3s,baz=131,slow=4.0,SNR=2.2							
ZALV	Zalesovo Beam	53.26	332	P		**P**	17 17 13.0	+0.7
EKS2	Erkin-Say	54.25	315	P		P	17 17 23.1	+3.2
	1.7nm,0.9s							
KURK	Kurchatov	54.61	326	*e*P		**P**	17 17 21.7	-0.5
	3.2nm,1.1s							
BRVK	Borovoye	60.27	326	*e*P		**P**	17 18 01.8	-0.4
	2.8nm,1.2s							
ARU	Arti	67.78	327	P		**P**	17 18 51.2	-0.3
	3.1nm,1.0s							
ILAR	Eielson Array	79.43	26	P		P	17 20 03.4	+3.5
	0.7nm,1.1s,baz=236,slow=2.4,SNR=4.6							
ILAR	Eielson Array	79.43	26	P		P	17 20 03.4	+3.5
OPO	Ambohidratompo	81.91	249	LR		LR	17 49 36.1	
	comp=Z,134nm,20.8s,baz=265,slow=31							
HFS	Hagfors	90.69	332	LR		LR	18 03 19.9	
	comp=Z,120nm,18.1s,baz=74,slow=37							

JMA 30 17:18:34.8±0.2, 43°35N×146°48E, h52km±1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.54	272	P	Pn	17 18 46.6	0.0
NEM2				*e*S	Sn	17 18 55.2	+0.1
JRA	Rausu	1.15	301	P	Pn	17 18 54.7	+0.2
JRA				*e*S	Sn	17 19 09.5	+0.3
JNK	Nakash	1.30	281	P	Pn	17 18 56.6	-0.1
JNK				*e*S	Sn	17 19 13.0	0.0
JAK	Akkeshi	1.35	255	P	Pn	17 18 57.4	+0.1
JAK				*e*S	Sn	17 19 14.1	0.0
JTKR	Abashiri--Toko	1.97	289	P	Pn	17 19 06.7	+1.0
JAR	Ashorobuto	1.98	269	P	Pn	17 19 06.7	+0.8
JAR				*e*S	Sn	17 19 30.4	+0.9
JOB	Onbets	1.99	258	P	Pn	17 19 06.5	+0.6
JMP	Maruseppu	2.36	287	P	Pn	17 19 12.3	+1.2
JCH	Churui	2.40	253	P	Pn	17 19 11.7	+0.1

*IDC **30** 17:33:10.2±1.1, 30°41S×118°41E, h0km, mb3.9/1, mb1 4.6/4, mb1mx4.0/13, mbtmp4.4/4, ML4.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=53.4km s-min=14.4km az=114.0*

ISC 30 17:33:08.9±1.7, 30°23S±0°04×117°86E±0°05, h1km±12km, n21, σ2s04/30, 1C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLDU	Ballidu	1.07	248	*e*P	**Pg**	17 33 29.5	+0.1
BLDU				*e*S	**Sg**	17 33 41.9	-1.4
KLBR	Kellerberrin	1.36	184	*i* P	**Pg**	17 33 36.4	+1.3
KLBR				*e*S	**Sb**	17 33 53.4	+0.1
MORW	Morawa	1.96	306	*i* P	**Pn**	17 33 43.7	+0.4
MORW				*e*S	**Sn**	17 34 07.9	-0.6
NWAO	Narrogin (SRO)	2.75	191	Pn	**Pn**	17 33 55.3	+1.1
	5.7nm,0.3s,baz=6.3,slow=13,SNR=22						
NWAO				Pg	**Pg**	17 34 00.8	-0.7
	16nm,0.3s,baz=13,slow=16,SNR=26						
NWAO				Sn	**Sn**	17 34 26.1	-1.8
	70nm,0.3s,baz=158,slow=5.4,SNR=22						
NWAO				Lg	Lg	17 34 33.6	
	58nm,0.3s,baz=100,slow=20,SNR=27						
MEEK	Meekatharra	3.63	11	*e*P	**Pn**	17 34 08.1	+1.7
MEEK				*e*S	**Sn**	17 34 47.7	-2.3
KMBL	Kambalda	3.64	109	*e*P	**Pn**	17 34 07.7	+1.2
KMBL				*e*S	**Sn**	17 34 48.8	-1.3
RKGY	Rocky Gully	4.43	189	*e*P	**Pn**	17 34 18.9	+1.6
RKGY				*e*S	**Sn**	17 35 07.7	-1.9
FORT	Forrest	8.82	96	*e*P	**Pn**	17 35 19.2	+1.7
FORT				*e*S	**Sn**	17 36 53.7	-3.8
FITZ	Fitzroy Crossi	13.99	32	Pn	**Pn**	17 36 27.1	-1.3
	1.6nm,0.3s,baz=218,slow=9.9,SNR=28						
FITZ				Sn	Sn	17 38 50.8	-14
	1.0nm,0.3s,baz=132,slow=24,SNR=7.8						
FITZ				LR	LR	17 42 08.6	
	comp=Z,84nm,18.1s,baz=227,slow=39						
FITZ	Fitzroy Crossi	13.99	32	*e*P	**Pn**	17 36 26.7	-1.7
ASAR	Alice Springs	15.72	69	Pn	**Pn**	17 36 47.7	-4.0
	1.3nm,0.3s,baz=241,slow=10,SNR=33						
ASAR				Sn	Sn	17 39 33.2	-13
	1.4nm,0.3s,baz=247,slow=23,SNR=18						
WRA	Warramunga Arr	18.08	59	P	**Pn**	17 37 18.0	-3.5
	0.8nm,0.3s,baz=231,slow=13,SNR=39						
WRA				S	Sn	17 40 30.9	-13
	0.9nm,0.3s,baz=231,slow=21,SNR=7.4						
STKA	Stephens Creek	20.40	101	P	**P**	17 37 48.2	+0.9
	1.1nm,0.3s,baz=289,slow=11,SNR=13						
STKA				S	S	17 41 25.2	-11
	0.5nm,0.3s,baz=350,slow=6.4,SNR=4.4						
STKA	Stephens Creek	20.40	101	*e*P	**P**	17 37 47.1	-0.2
RMQ	Roma	27.40	90	*e*P	**P**	17 38 56.7	+0.6
CTA	Charters Tower	27.54	75	P	**P**	17 38 59.9	+2.5
	12nm,0.7s,baz=249,slow=11,SNR=11						
CTA	Charters Tower	27.54	75	*e*P	**P**	17 39 01.6	+4.2
SONM	Songino Array	78.38	352	P	**P**	17 45 13.2	+2.3
	0.7nm,0.7s,baz=174,slow=5.3,SNR=7.8						
YKA	Yellowknife Ar	133.51	31	PKP	**PKPdf**	17 52 26.9	+0.6
	0.2nm,0.5s,baz=288,slow=1.7,SNR=4.9						
TXAR	Lajitas Array	144.09	81	PKP	**PKPdf**	17 52 47.4	+0.5
	0.8nm,0.9s,baz=250,slow=3.7,SNR=6.1						
ULM	Lac du Bonnet	147.79	42	PKPbc	**PKPab**	17 52 56.7	-0.9
	1.8nm,0.6s,baz=318,slow=2.7,SNR=11						

*ISK **30** 17:36:28.9, 38°44N×39°08E, h11km, MD3.1*
*ISCJB **30** 17:36:29.7±0.4, 38°44N±0°03×39°08E±0°03, h9km±3km, Error ellipse: s-maj=4.6km s-min=3.5km az=170.9*
*CSEM **30** 17:36:29.7±0.1, 38°44N×39°07E, h8km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.7km az=159.0*
*DDA **30** 17:36:29.7, 38°43N×39°10E, h7km, MD2.9*

ISC 30 17:36:29.8±0.8, 38°44N±0°02×39°09E±0°02, h12km±5km, n44, σ0°59/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.10	305	*i* P	**Pg**	17 36 32.9	+0.1
ELZG				*i* S	**Sg**	17 36 35.4	+0.4
ELZG	Elazig	0.10	305	*i* P	**Pg**	17 36 32.9	+0.1
ELZG				*i* S	**Sg**	17 36 35.4	+0.4
SVRC	Sivrice-ELAZID	0.18	110	PG	**Pg**	17 36 33.4	-0.6
SVRC				*e*SG	**Sg**	17 36 36.5	-0.4
SVRC	Sivrice-ELAZID	0.18	110	*i* Pg	**Pg**	17 36 33.4	-0.6
SVRC				*e*Sg	**Sg**	17 36 36.5	-0.4
PTK	Pertek	0.51	28	PG	**Pg**	17 36 39.2	-0.6
PTK				*e*SG	**Sg**	17 36 47.5	+0.9
PTK	Pertek	0.51	28	*i* Pg	**Pg**	17 36 39.3	-0.6
PTK				*e*Sg	**Sg**	17 36 47.6	+0.9
MYA	Malataya	0.53	258	*e*PG	**Pg**	17 36 39.8	-0.5
MYA	Malataya	0.53	258	*e*Pg	**Pg**	17 36 39.8	-0.5
MALT	Malatya	0.53	256	*e*PG	**Pg**	17 36 39.8	-0.5
MALT				*e*SG	**Sg**	17 36 47.6	+0.2
MALT	Malatya	0.53	256	*e*Pg	**Pg**	17 36 39.8	-0.5
MALT				*e*Sg	**Sg**	17 36 47.6	+0.2
AKCD	Akcadag	0.93	261	*i* P	**Pg**	17 36 46.8	-1.0
AKCD				*i* S	**Sb**	17 37 00.5	+0.2
AKCD	Akcadag	0.93	261	*i* P	**Pg**	17 36 46.8	-1.0
AKCD				*i* S	**Sb**	17 37 00.5	+0.2
KEMA	Kemaliye	0.95	331	*i* P	**Pg**	17 36 47.4	-0.7
KEMA				*i* S	**Sb**	17 37 01.3	+0.4
KEMA	Kemaliye	0.95	331	*i* P	**Pg**	17 36 47.4	-0.7
KEMA				*i* S	**Sb**	17 37 01.3	+0.4
DIYA	Diyarbakir	0.96	122	*i* P	**Pg**	17 36 48.6	+0.1
DIYA				*i* S	**Sb**	17 37 01.9	+0.5
DIYA	Diyarbakir	0.96	122	*i* P	**Pg**	17 36 48.6	+0.1
DIYA				*i* S	**Sb**	17 37 01.9	+0.5
URFA	Urfa	1.02	192	*e*PG	**Pg**	17 36 49.3	-0.2
URFA	Urfa	1.02	192	*e*Pg	**Pg**	17 36 49.3	-0.2
ILIC	ilic-Erzincan	1.09	338	*e*PN	**Pb**	17 36 50.1	-0.6
ILIC	ilic-Erzincan	1.09	338	*e*Pn	**Pb**	17 36 50.1	-0.6
DARE	Darende-Malaty	1.12	297	*e*PN	**Pn**	17 36 52.3	+0.7
DARE	Darende-Malaty	1.12	297	*e*Pn	**Pn**	17 36 52.3	+0.7
ATAB	Bozova	1.15	213	*i* P	**Pb**	17 36 51.9	+0.1
ATAB				*i* S	**Sb**	17 37 06.2	-0.6
ATAB	Bozova	1.15	213	*i* P	**Pb**	17 36 51.9	+0.1
ATAB				*i* S	**Sb**	17 37 06.2	-0.6
BINT	Bingol	1.18	68	*e*Pn	**Pg**	17 36 54.4	+1.8
ERZN	Erzincan	1.25	23	*e*PN	**Pn**	17 36 52.5	-0.8
EZC	Erzincan	1.33	9	*e*PN	**Pn**	17 36 54.3	-0.1
EZC	Erzincan	1.33	9	*e*Pn	**Pn**	17 36 54.3	-0.1
BNGB	Bing¶ll	1.36	66	*e*PN	**Pn**	17 36 54.4	-0.5
GZT	Gaziantep	1.62	228	*i* P	**Pn**	17 36 58.4	0.0
GZT				*i* S	**Sg**	17 37 22.9	+0.9
BEST	Besiri	1.81	107	*i* P	**Pb**	17 37 02.3	-0.6
BEST				*i* S	**Sb**	17 37 25.6	0.0
GAZ	Gaziantep	1.95	230	*e*PN	**Pn**	17 37 03.4	+0.5
GAZ	Gaziantep	1.95	230	*e*Pn	**Pn**	17 37 03.4	+0.5
KMRS	Kahramanmaras	1.96	242	*e*PN	**Pn**	17 37 02.3	-0.7
KMRS	Kahramanmaras	1.96	242	*e*Pn	**Pn**	17 37 02.3	-0.7
BAYT	Ayd¯-ntepe-Bay	2.11	22	*e*PN	**Pn**	17 37 05.3	0.0
BAYT	Ayd¯-ntepe-Bay	2.11	22	*e*Pn	**Pn**	17 37 05.3	0.0
EZM	Erzurum	2.29	50	*e*PN	**Pn**	17 37 07.7	-0.1
BNN	Bunyan	2.57	280	*e*PN	**Pn**	17 37 12.0	+0.5
BNN	Bunyan	2.57	280	*e*Pn	**Pn**	17 37 12.0	+0.5
KOZT	Kozan	2.75	251	*e*PN	**Pn**	17 37 14.7	+0.9
KOZT	Kozan	2.75	251	*e*Pn	**Pn**	17 37 14.7	+0.9
CUKT	Cukurca	3.77	107	*e*PN	**Pn**	17 37 28.1	+0.1
CUKT	Cukurca	3.77	107	*e*Pn	**Pn**	17 37 28.1	+0.1

MAN 30 17:41:54, 11°10N×124°69E, h12km, mb4.0, ML2.8, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.09	242	*e*P	Pg	17 41 58.5	+1.7
OCLP				*e*S	Sg	17 41 59.6	+0.8
PLP	Palo	0.29	76	*i* P	Pb	17 42 01.6	+0.4
MSLP	Maasin	0.97	170	*e*P	Pn	17 42 13.7	+0.3
MSLP				*e*S	Sn	17 42 27.5	+0.4

*NSSC **30** 17:49:40.2±0.9, 36°38N×40°88E, h41km±31km, ML2.6*
*ISK **30** 17:49:45.7, 36°45N×41°03E, h20km, MD3.6*

CSEM 30 17:49:43.3±0.5, 36°12N×41°06E, h20km, ML2.6, Error ellipse: s-maj=12.7km s-min=7.4km az=150.0, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZRK	Al-Mazaregh	0.45	228	*e*P	Pb	17 49 52.0	-0.5
MZRK				*e*S	Sn	17 50 00.9	-1.2
MZRK	Al-Mazaregh	0.45	228	*e*P	Pb	17 49 52.0	-0.5
	SNR=119						
MZRK				*e*S	Sn	17 50 00.9	-1.2
	SNR=119						
SFNV	Sufian	0.82	291	*e*P	Pb	17 49 52.9	-6.1
SFNV				*e*S	Sb	17 50 03.3	-6.5
SFNV				AML	AML	17 50 18.6	
	comp=Z,259nm,0.4s						
KBSD	Kabsdagh	0.97	335	*e*P	Pb	17 49 53.9	-7.6
KBSD				*e*S	Sb	17 50 03.0	-11
KBSD				AML	AML	17 50 13.1	
	comp=Z,297nm,0.5s						
MARD	Mardin	1.21	349	*i* P	Pn	17 49 58.8	-6.5
MARD				*i* S	Sb	17 50 12.5	-8.5
KSRV	Kasrt alli	1.69	262	*e*P	Pn	17 50 10.0	-1.7
KSRV				AML	AML	17 50 37.6	
	comp=Z,68nm,0.5s						
KSRV	Kasrt alli	1.69	262	*e*P	Pn	17 50 10.0	-1.7
	SNR=95						
SIRN	S¯-rnak	1.75	38	*i* P	Pn	17 50 10.4	-2.2
SIRN				*i* S	Sn	17 50 33.7	-0.7
SIRN	S¯-rnak	1.75	38	*i* P	Pn	17 50 10.4	-2.2
SIRN				*i* S	Sn	17 50 33.7	-0.7
DIYA	Diyarbakir	1.95	338	*e*P	Pn	17 50 10.9	-4.4
DIYA				*i* S	Sn	17 50 35.2	-4.1
DIYA	Diyarbakir	1.95	338	*e*P	Pn	17 50 10.9	-4.5
DIYA				*i* S	Sn	17 50 35.2	-4.1
CUKT	Cukurca	2.33	61	*e*PN	Pn	17 50 22.1	+1.4
CUKT				*e*SN	Sn	17 50 49.3	+0.3
CUKT	Cukurca	2.33	61	*e*Pn	Pn	17 50 22.1	+1.4
CUKT				*e*Sn	Sn	17 50 49.3	+0.4
HAKT	HAKKARI	2.56	55	*i* P	Pn	17 50 23.1	-0.9
HAKT				*i* S	Sn	17 50 57.4	+2.6
HAKT	HAKKARI	2.56	55	*i* P	Pn	17 50 23.1	-0.9
HAKT				*i* S	Sn	17 50 57.4	+2.6
SVRC	Sivrice-ELAZID	2.65	329	*e*PN	Pn	17 50 24.3	-0.8
SVRC				*e*SN	Sn	17 50 52.8	-4.1
SVRC	Sivrice-ELAZID	2.65	329	*e*Pn	Pn	17 50 24.3	-0.9
SVRC				*e*Sn	Sn	17 50 52.8	-4.1
BINT	Bingol	2.78	351	*e*Pn	Pn	17 50 27.4

*NAO **30** 17:59:47.1±1.0,67.°06N×21.°32E,ML2.3*
*HEL **30** 17:59:47.5±0.2,67.°05N×21.°00E,h0km,ML2.0, ML1.9(UPP),ML1.9(BER),Explosion*
*IDC **30** 17:59:47.1±0.9,67.°02N×21.°17E,h0km,mb1 2.9/4, mb1mx2.8/27,mbtmp2.9/4,ML2.2/4,Error ellipse: s-maj=17.0km s-min=7.9km az=117.0*
*BER **30** 17:59:50.1±3.4,67.°01N×21.°16E,h0km,ML1.9, ML2.3(NAO),Suspected explosion*

ISC 30 17:59:45.9±0.7,67.°05N±0.°02×21.°01E±0.°02,h0km,n75, σ1$37/109,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.68**	**137**	*i* P	**Pg**	**17 59 59.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.68**	**137**	P	**Pg**	**17 59 59.4**	**+0.4**
PAJU	**Pajala**	**0.82**	**91**	*i* P	**Pg**	**18 00 01.6**	**-0.1**
PAJU	**Pajala**	**0.82**	**91**	P	**Pg**	**18 00 01.6**	**-0.1**
HARU	**Harads**	**0.89**	**181**	*e*P	**Pg**	**18 00 03.0**	**0.0**
HARU	**Harads**	**0.89**	**181**	P	**Pg**	**18 00 03.0**	**0.0**
KUA	**Kurravaara**	**0.94**	**344**	*e*P	**Pg**	**18 00 03.4**	**-0.6**
KUA	**Kurravaara**	**0.94**	**344**	P	**Pg**	**18 00 03.3**	**-0.6**
SALU	**Saltoluokta**	**1.03**	**290**	*e*P	**Pg**	**18 00 05.0**	**-0.6**
SALU	**Saltoluokta**	**1.03**	**290**	P	**Pg**	**18 00 05.0**	**-0.6**
LANU	**Lannavaara**	**1.07**	**20**	*e*P	**Pg**	**18 00 05.8**	**-0.6**
LANU	**Lannavaara**	**1.07**	**20**	P	**Pg**	**18 00 05.8**	**-0.6**
NIKU	**Nikkaluokta**	**1.12**	**318**	*e*P	**Pg**	**18 00 06.5**	**-0.8**
NIKU	**Nikkaluokta**	**1.12**	**318**	P	**Pg**	**18 00 06.5**	**-0.8**
SJUU	**Sjulsmark**	**1.57**	**171**	*e*P	**Pn**	**18 00 15.2**	**+0.2**
SJUU	**Sjulsmark**	**1.57**	**171**	P	**Pn**	**18 00 15.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*P	**Pb**	**18 00 21.9**	**-0.6**
KIF				*e*S	**Sb**	**18 00 48.3**	**+0.8**
KIF	**Kilpisjarvi**	**1.96**	**358**	P	**Pb**	**18 00 21.9**	**-0.6**
KIF				S	**Sb**	**18 00 48.2**	**+0.8**
RNF	**Rovaniemi**	**2.03**	**100**	*e*P	**Pb**	**18 00 22.9**	**-0.7**
RNF				*e*S	**Sg**	**18 00 51.5**	**+0.6**
RNF	**Rovaniemi**	**2.03**	**100**	P	**Pb**	**18 00 22.9**	**-0.7**
KTK1	**Kautokeino**	**2.14**	**22**	*e*P	**Pb**	**18 00 24.4**	**-1.1**
KTK1				*e*S	**Sb**	**18 00 53.0**	**+0.4**
KTK1				AML	AML	18 01 00.1	
	comp=Z,21nm,0.3s						
KTK1	**Kautokeino**	**2.14**	**22**	*e*P	**Pb**	**18 00 24.4**	**-1.1**
KTK1				*e*S	**Sb**	**18 00 53.0**	**+0.4**
KTK1				AML	AML	18 01 00.1	
	comp=Z,21nm,0.3s						
KTK1	**Kautokeino**	**2.14**	**22**	*e*P	**Pb**	**18 00 24.4**	**-1.1**
	SNR=50						
KTK1				S	**Sb**	**18 00 52.9**	**+0.4**
	comp=Z,21nm,0.3s						
SGF	**Sodankyl**	**2.18**	**77**	*e*P	**Pb**	**18 00 25.4**	**-0.8**
SGF				*e*S	**Sg**	**18 00 55.5**	**-0.3**
SGF	**Sodankyl**	**2.18**	**77**	P	**Pb**	**18 00 25.3**	**-0.8**
STEI	**Steigen**	**2.39**	**294**	*e*P	**Pb**	**18 00 30.4**	**+0.6**
STEI	**Steigen**	**2.39**	**294**	*e*P	**Pb**	**18 00 30.4**	**+0.6**
STEI	**Steigen**	**2.39**	**294**	P	**Pb**	**18 00 30.3**	**+0.6**
BURU	**Burvik**	**2.48**	**176**	*e*P	**Pn**	**18 00 28.9**	**+1.4**
BURU	**Burvik**	**2.48**	**176**	P	**Pn**	**18 00 28.9**	**+1.4**
SVAU	**Svanoeiden**	**2.64**	**194**	*e*P	**Pn**	**18 00 31.2**	**+1.5**
SVAU	**Svanoeiden**	**2.64**	**194**	P	**Pn**	**18 00 31.1**	**+1.5**
TRO	**Tromso**	**2.71**	**344**	*e*P	**Pb**	**18 00 33.7**	**-1.5**
TRO				*e*S	**Sb**	**18 01 08.6**	**-0.2**
TRO				AML	AML	18 01 15.7	
	comp=N,6.7nm,0.2s						
TRO	**Tromso**	**2.71**	**344**	*e*P	**Pb**	**18 00 33.7**	**-1.5**
TRO				*e*S	**Sb**	**18 01 08.6**	**-0.2**
TRO				AML	AML	18 01 15.7	
	comp=N,6.7nm,0.2s						
TRO	**Tromso**	**2.71**	**344**	P	**Pb**	**18 00 33.6**	**-1.5**
TRO				*e*S	**Sb**	**18 01 08.6**	**-0.2**
	comp=N,6.7nm,0.2s,SNR=50						
MOR8	**Moi Rana**	**2.77**	**254**	*e*P	**Pn**	**18 00 32.3**	**+0.9**
MOR8	**Moi Rana**	**2.77**	**254**	*e*P	**Pn**	**18 00 32.3**	**+0.9**
MOR8	**Moi Rana**	**2.77**	**254**	P	**Pn**	**18 00 32.3**	**+0.9**
OUL	**Oulu**	**2.80**	**133**	*e*SG	**Sg**	**18 01 14.9**	**-1.0**
OUL	**Oulu**	**2.80**	**133**	Sg	**Sg**	**18 01 14.9**	**-1.0**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 00 35.3**	**+0.6**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**18 01 10.3**	**-1.0**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**18 00 35.7**	**+1.0**
ARA0				*e*S	**Sn**	**18 01 14.2**	**+2.9**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 00 35.3**	**+0.6**
	baz=216,slow=14,SNR=50						
ARA0	**ARCESS Array S**	**3.00**	**32**	P	**Pn**	**18 00 35.7**	**+1.0**
ARA0				Sn	**Sn**	**18 01 10.3**	**-1.0**
	baz=210,slow=23,SNR=50						
ARA0				S	**Sn**	**18 01 14.2**	**+2.9**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 00 35.6**	**+1.0**
	comp=N,0.3nm,0.3s,baz=211,slow=16,SNR=35						
ARCES				Sn	**Sn**	**18 01 14.1**	**+2.8**
	comp=N,0.4nm,0.3s,baz=214,slow=25,SNR=5.7						
FLOS	**Flostrand**	**3.12**	**260**	*e*P	**Pn**	**18 00 39.0**	**+2.6**
FLOS	**Flostrand**	**3.12**	**260**	*e*P	**Pn**	**18 00 39.0**	**+2.6**
FLOS	**Flostrand**	**3.12**	**260**	P	**Pn**	**18 00 38.9**	**+2.6**
STOK	**Stokkvaagen**	**3.26**	**261**	*e*P	**Pn**	**18 00 39.9**	**+1.7**
STOK	**Stokkvaagen**	**3.26**	**261**	*e*P	**Pn**	**18 00 39.9**	**+1.7**
STOK	**Stokkvaagen**	**3.26**	**261**	P	**Pn**	**18 00 39.9**	**+1.7**
BREU	**Bredtraesk**	**3.33**	**199**	*e*P	**Pn**	**18 00 41.0**	**+1.8**
BREU	**Bredtraesk**	**3.33**	**199**	P	**Pn**	**18 00 41.0**	**+1.8**
VRF	**Varrio**	**3.39**	**74**	*e*P	**Pn**	**18 00 42.9**	**+2.8**
VRF				MSG	**Sg**	**18 01 34.2**	**-0.5**
	comp=Z,2.8nm,0.2s						
VRF				*e*SG	**Sg**	**18 01 34.2**	**-0.5**
VRF	**Varrio**	**3.39**	**74**	P	**Pn**	**18 00 42.8**	**+2.8**
VRF				Sg	**Sg**	**18 01 34.2**	**-0.5**
MSF	**Maaselka**	**3.42**	**106**	*e*	**Sg**	**18 01 36.8**	**+1.3**
KEV	**Kevo**	**3.50**	**36**	*e*P	**Pn**	**18 00 43.2**	**+1.7**
KEV				*e*S	**Sn**	**18 01 27.6**	**+3.9**
KEV				MSG		18 01 40.6	
	comp=Z,4.2nm,0.4s						
KEV				*e*		18 01 40.6	
KEV	**Kevo**	**3.50**	**36**	P	**Pn**	**18 00 43.2**	**+1.7**
KEV				S	**Sn**	**18 01 27.5**	**+3.9**
KU6	**Riekki**	**3.70**	**102**	*e*P	**Pn**	**18 00 45.8**	**+1.6**
KU6				*e*SG	**Sg**	**18 01 44.9**	**+0.3**
KU6	**Riekki**	**3.70**	**102**	P	**Pn**	**18 00 45.8**	**+1.6**
KU6				Sg	**Sg**	**18 01 44.8**	**+0.3**
APA0	**Apatity Array**	**4.67**	**78**	Pn	**Pn**	**18 00 58.4**	**+0.8**
	baz=267,slow=12						
APA0				Sn	**Sn**	**18 01 51.9**	**-0.4**
	baz=270,slow=22						
APA0	**Apatity Array**	**4.67**	**78**	*e*P	**Pn**	**18 00 58.4**	**+0.8**
APA0				*e*S	**Sn**	**18 01 51.9**	**-0.4**
APA0	**Apatity Array**	**4.67**	**78**	Pn	**Pn**	**18 00 58.4**	**+0.8**
	baz=267,slow=12,SNR=50						
APA0				S	**Sn**	**18 01 51.9**	**-0.4**
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**18 01 18.2**	**+1.7**
	baz=340,slow=16						
FIA0				Sn	**Sn**	**18 02 24.8**	**-1.5**
	baz=353,slow=22						
FIA0	**FINESS Array S**	**6.05**	**156**	*e*P	**Pn**	**18 01 18.2**	**+1.7**
FIA0				*e*S	**Sn**	**18 02 24.8**	**-1.5**
FIA0	**FINESS Array S**	**6.05**	**156**	P	**Pn**	**18 01 18.1**	**+1.7**
FIA0				S	**Sn**	**18 02 24.8**	**-1.5**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 01 17.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=11						
FINES				Sn	**Sn**	**18 02 25.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=350,slow=18,SNR=6.7						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 01 36.3**	**+1.2**
	baz=25,slow=16						
NB2	**NORSAR Subarra**	**7.40**	**220**	*e*P	**Pn**	**18 01 36.3**	**+1.2**
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 01 36.3**	**+1.2**
	baz=25,slow=14,SNR=50						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**18 01 34.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=352,slow=15,SNR=3.8						
NOA				Sn	**Sn**	**18 02 56.3**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=75,slow=18,SNR=2.7						
HFS	**Hagfors**	**7.67**	**209**	Pn	**Pn**	**18 01 38.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=8.3						
HFS				Sn	**Sn**	**18 03 05.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=31,slow=28,SNR=5.2						
HFS	**Hagfors**	**7.67**	**209**	P	**Pn**	**18 01 38.4**	**-0.3**
	baz=34,slow=12						
HFS				Sn	**Sn**	**18 03 05.0**	**-1.1**
	baz=33,slow=28						
HFS	**Hagfors**	**7.67**	**209**	*e*P	**Pn**	**18 01 38.4**	**-0.3**
HFS				*e*S	**Sn**	**18 03 05.0**	**-1.1**
HFS	**Hagfors**	**7.67**	**209**	P	**Pn**	**18 01 38.4**	**-0.3**
HFS				Sn	**Sn**	**18 03 05.0**	**-1.1**
	baz=33,slow=27,SNR=50						

IDC 30 18:12:48.7±6.0,25.°16N×108.°81W,h0km,mb3.1/2,
mb1 3.4/6,mb1mx3.4/24,mbtmp3.0/6,ML3.2/4,Error ellipse: s-maj=92.6km s-min=40.7km az=5.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**6.18**	**47**	Pn	Pn	18 14 22.4	+1.0
	0.1nm,0.3s,baz=222,slow=16,SNR=6.0						
TXAR				Lg	Lg	18 16 11.3	
	0.1nm,0.3s,baz=230,slow=25,SNR=3.2						
NVAR	**Mina Array Bea**	**15.49**	**331**	Pn	P	18 16 31.9	-1.5
	0.1nm,0.3s,baz=126,slow=15,SNR=2.8						
ELK	**Elko**	**16.45**	**342**	Pn	P	18 16 42.7	-1.3
	0.1nm,0.3s,baz=168,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**17.57**	**358**	P	Pn	18 16 55.6	+0.3
	0.0nm,0.3s,baz=187,slow=14,SNR=2.5						
YKA	**Yellowknife Ar**	**37.53**	**356**	P	P	18 20 04.3	+0.2
	0.1nm,0.4s,baz=161,slow=7.8,SNR=4.8						
ILAR	**Eielson Array**	**46.55**	**339**	P	P	18 21 17.4	-0.4
	0.2nm,0.5s,baz=129,slow=8.2,SNR=3.4						

MEX 30 18:15:43.2±0.6,16.°61N×98.°96W,h17km±999km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.82**	**105**	*i* P	Pb	18 15 56.5	-2.7
PNIG				*e*S	Sb	18 16 06.2	-3.9
CAIG	**El Cayaco**	**1.33**	**289**	*i* P	Pn	18 16 03.7	-3.3
CAIG				*e*S	Sn	18 16 18.6	-5.8
PLIG	**Platanillo**	**1.85**	**344**	*i* P	Pn	18 16 11.5	-2.9
PLIG				*e*S	Sn	18 16 32.4	-5.1
ZIIG	**Zihuatanejo**	**2.60**	**293**	*i* P	Pn	18 16 21.7	-2.7
ZIIG				*e*S	Sn	18 16 52.1	-3.6

MAN 30 18:17:53,10.°91N×124.°82E,h1km,mb5.0,ML4.0,MS4.0, Leyte

*ISCJB **30** 18:41:06.7±0.4,43.°72N±0.°07×138.°74E±0.°08, h253km±6km,mb3.5/18,Error ellipse: s-maj=11.2km s-min=8.2km az=151.8*
*IDC **30** 18:41:07.1±0.9,43.°77N×138.°59E,h242km±9km,mb3.3/15, mb1 3.5/18,mb1mx3.4/25,mbtmp3.3/18,Error ellipse: s-maj=12.4km s-min=10.9km az=165.0*
*JMA **30** 18:41:07.6±0.4,43.°69N×138.°75E,h248km±4km,M3.5*

ISC 30 18:41:07.7±0.8,43.°64N±0.°08×138.°86E±0.°09, h257km±10km,n49,σ1$27/49,mb3.6/18,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSK	**Shakotan**	**1.21**	**103**	P	**Pn**	**18 41 44.2**	**-0.4**
JOSM	**Okushiri--Mats**	**1.62**	**164**	P	**Pn**	**18 41 47.7**	**+0.1**
JEW	**Eniwo**	**2.05**	**112**	P	**Pn**	**18 41 51.8**	**+0.6**
JHR	**Hokuryu**	**2.08**	**86**	P	**Pn**	**18 41 51.6**	**+0.2**
JKB	**Kayabe**	**2.37**	**137**	P	**Pn**	**18 41 54.3**	**+0.2**
ASAJ	**Asahikawa**	**2.74**	**79**	P	**Pn**	**18 41 57.8**	**0.0**
	4.7nm,0.3s,baz=262,slow=4.1,SNR=58						
ASAJ				S	**S**	**18 42 38.7**	**+1.2**
	baz=104,slow=19,SNR=4.3						
JWK2	**Keihoku**	**2.75**	**51**	P	**Pn**	**18 41 58.2**	**+0.4**
JFR	**Furan**	**2.76**	**99**	P	**Pn**	**18 41 58.4**	**+0.4**
JFR				*e*S	**S**	**18 42 38.3**	**+0.3**
JOT	**Ohata**	**2.78**	**144**	P	**Pn**	**18 41 58.1**	**-0.1**
JKK2	**Kamakawa 2**	**2.83**	**84**	P	**Pn**	**18 41 59.1**	**+0.4**
JKK2				*e*S	**S**	**18 42 40.1**	**+1.0**
JSE	**Soyaes**	**2.98**	**62**	P	**Pn**	**18 42 00.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.16**	**114**	P	**Pn**	**18 42 02.4**	**+0.1**
JCH	**Churui**	**3.45**	**106**	P	**Pn**	**18 42 04.7**	**-0.8**
JAR	**Ashorobuto**	**3.59**	**94**	P	**Pn**	**18 42 07.5**	**+0.5**
JAR				*e*S	**S**	**18 42 54.4**	**+0.2**
JTKR	**Abashiri--Toko**	**3.67**	**83**	P	**Pn**	**18 42 08.2**	**+0.3**
JANG	**Nango**	**3.82**	**148**	P	**Pn**	**18 42 09.3**	**-0.4**
JANG				*e*S	**S**	**18 42 56.7**	**-2.3**
USRK	**Ussuriysk Arra**	**4.99**	**279**	P	Pn	18 42 20.7	-2.7
	2.7nm,0.3s,baz=86,slow=14,SNR=35						
NEM2	**Nemuro 2**	**5.01**	**91**	P	**Pn**	**18 42 22.0**	**-1.7**
NEM2				*e*S	**S**	**18 43 19.3**	**-5.2**
MJAR	**Matsushiro Arr**	**7.11**	**184**	P	**Pn**	**18 42 50.9**	**+1.1**
	0.7nm,0.3s,baz=357,slow=14,SNR=12						
SONM	**Songino Array**	**22.95**	**292**	P	**P**	**18 45 47.7**	**-2.0**
	0.3nm,0.4s,baz=81,slow=8.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**36.23**	**306**	P	**P**	**18 47 43.8**	**-2.3**
	0.5nm,0.3s,baz=76,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**39.24**	**295**	P	**P**	**18 48 10.6**	**-0.8**
	0.8nm,0.7s,baz=81,slow=9.5,SNR=13						
TAPN	**Taplejung**	**44.00**	**266**	*e*P	**P**	**18 48 51.9**	**+1.6**
	3.0nm,0.5s						
JIRN	**Jiri**	**44.92**	**267**	*e*P	**P**	**18 48 59.5**	**+1.8**
GUN	**Gumba**	**45.00**	**268**	*e*P	**P**	**18 48 59.0**	**+0.7**
	8.7nm,0.4s						
RAMN	**Ramite**	**45.04**	**266**	*e*P	**P**	**18 48 59.4**	**+1.0**
	4.5nm,0.5s						
ILAR	**Eielson Array**	**45.11**	**36**	P	**P**	**18 48 58.3**	**+0.1**
	0.6nm,0.8s,baz=288,slow=8.1,SNR=10						
KKN	**Kanni**	**45.51**	**268**	*e*P	**P**	**18 49 02.8**	**+0.7**
	3.8nm,0.4s						
DMN	**Daman**	**45.74**	**268**	*e*P	**P**	**18 49 04.4**	**+0.5**
DANN	**Dangsing**	**46.29**	**270**	*e*P	**P**	**18 49 09.0**	**+0.7**
	18nm,0.3s						
KOLN	**Koldanda**	**46.74**	**269**	*e*P	**P**	**18 49 11.7**	**+0.1**
KEV	**Kevo**	**56.59**	**337**	*e*p	P	18 50 18.5	-4.8
	0.9nm,0.3s						
KEV	**Kevo**	**56.59**	**337**	*e*p	P	18 50 18.5	-4.8
	0.9nm,0.3s						
ARCES	**ARCESS Array B**	**57.14**	**337**	P	**P**	**18 50 26.2**	**-1.0**
	5.2nm,0.9s,baz=61,slow=9.9,SNR=9.5						
YKA	**Yellowknife Ar**	**59.13**	**31**	P	**P**	**18 50 41.8**	**+0.9**
	0.8nm,0.5s,baz=308,slow=6.3,SNR=22						
JOF	**Joensuu**	**59.25**	**329**	*e*p	**P**	**18 50 40.6**	**-1.2**
	0.7nm,0.3s						
JOF	**Joensuu**	**59.25**	**329**	*e*p	**P**	**18 50 40.6**	**-1.2**
	0.7nm,0.3s						
KAF	**Kangasniemi**	**61.58**	**330**	*e*p	P	18 50 52.0	-5.5
	0.5nm,0.3s						
KAF	**Kangasniemi**	**61.58**	**330**	*e*p	P	18 50 52.0	-5.5
	0.5nm,0.3s						
FINES	**FINESS Array B**	**62.09**	**330**	P	**P**	**18 51 00.3**	**-0.6**
	2.5nm,0.5s,baz=46,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**63.40**	**185**	P	**P**	**18 51 11.5**	**+1.5**
	0.4nm,0.4s,baz=1.3,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**67.13**	**185**	P	**P**	**18 51 35.3**	**+1.5**
	0.4nm,0.8s,baz=1.0,slow=5.6,SNR=3.9						
NB2	**NORSAR Subarra**	**67.36**	**335**	P	**P**	**18 51 34.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**67.36**	**335**	P	**P**	**18 51 34.7**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=38,slow=6.3,SNR=7.4						
AKASG	**Malin Array Be**	**67.94**	**320**	P	**P**	**18 51 38.1**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=44,slow=6.5,SNR=9.7						
NVAR	**Mina Array Bea**	**72.60**	**53**	P	P	18 52 09.8	+2.6
	comp=Z,0.5nm,0.7s,baz=307,slow=6.6,SNR=4.3						
PDAR	**Pinedale Array**	**74.42**	**45**	P	**P**	**18 52 19.3**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=264,slow=0.9,SNR=6.2						
ULM	**Lac du Bonnet**	**75.04**	**33**	P	**P**	**18 52 21.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=326,slow=4.9,SNR=5.6						
GERES	**GERESS Array B**	**76.11**	**326**	P	**P**	**18 52 27.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=12,slow=6.8,SNR=4.4						

*NIED **30** 19:07:00,42.°40N×143.°70E,h32km,Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs 311.00000°,δ80.00000°, λ-139.00000°. NP2:φs 213.00000°,δ50.00000°, λ-13.00000°.*
*BJI **30** 19:07:21.4,42.°31N×143.°99E,h49km,mB4.7/2,mb4.1/5*
*MOS **30** 19:07:22.9±0.9,42.°34N×143.°66E,h59km,mb4.3/16,Error ellipse: s-maj=11.8km s-min=7.7km az=74.7*
*ISCJB **30** 19:07:23.3±0.4,42.°35N±0.°04×143.°70E±0.°06,h60km±3km, mb4.1/25,Error ellipse: s-maj=8.6km s-min=4.4km az=35.1*
*NEIC **30** 19:07:24.9±0.3,42.°38N×143.°64E,mb4.4/10,Error ellipse: s-maj=8.1km s-min=5.0km az=131.0*
NEIC Recorded [3 JMA] in southern Hokkaido.
*JMA **30** 19:07:24.5±0.1,42.°37N×143.°59E,h55km±2km,M4.2*
JMA Felt III J1.
*IDC **30** 19:07:25.6±0.7,42.°40N×143.°66E,h60km±6km,mb3.5/12, mb1 3.8/16,mb1mx3.7/25,mbtmp3.6/16,MS2.8/2, Ms1 2.8/2,ms1mx2.5/31,Error ellipse: s-maj=13.7km s-min=8.7km az=64.0*

ISC 30 19:07:24.9±0.5,42.°38N±0.°04×143.°65E±0.°05,h54km±4km, h53km:pP-P,n113,σ0.°98/128,mb4.0/25,3C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.31**	**318**	⇓P	**Pn**	**19 07 34.2**	**-0.3**
JCH				*e*S	**Sn**	**19 07 40.6**	**-0.8**
ERM	**Erimo**	**0.52**	**225**	*d i*PN	**Pn**	**19 07 36.0**	**-0.6**
ERM	**Erimo**	**0.52**	**225**	*e*Pn	**Pn**	**19 07 36.0**	**-0.6**
ERM				*e*Sn	**Sn**	**19 07 44.9**	**-0.1**
JEM	**Erimo**	**0.52**	**225**	P	**Pn**	**19 07 35.7**	**-0.8**
JOB	**Onbets**	**0.54**	**15**	⇓P	**Pn**	**19 07 36.9**	**+0.1**
JOB				*e*S	**Sn**	**19 07 46.0**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.67**	**261**	⇑P	**Pn**	**19 07 37.9**	**-0.5**
JAR	**Ashorobuto**	**0.92**	**6**	⇓P	**Pn**	**19 07 41.6**	**0.0**
JAR				*e*S	**Sn**	**19 07 53.5**	**-0.4**
JAK	**Akkeshi**	**0.99**	**51**	⇓P	**Pn**	**19 07 41.9**	**-0.6**
JBT2	**Biratori 2**	**1.03**	**293**	⇓P	**Pn**	**19 07 42.2**	**-0.8**
JFR	**Furan**	**1.10**	**316**	P	**Pn**	**19 07 42.6**	**-1.4**
JNK	**Nakash**	**1.44**	**33**	⇓P	**Pn**	**19 07 47.9**	**-0.7**
JNK				*e*S	**Sn**	**19 08 04.5**	**-1.8**
ASAJ	**Asahikawa**	**1.90**	**336**	P	**Pn**	**19 07 55.6**	**+0.9**
	53nm,0.3s,baz=189,slow=10,SNR=944						
ASAJ				S	**Sn**	**19 08 18.6**	**+1.1**
	61nm,0.3s,baz=264,slow=19,SNR=6.9						
ASAJ	**Asahikawa**	**1.90**	**336**	PN	**Pn**	**19 07 55.7**	**+0.9**
ASAJ				S	**Sn**	**19 08 18.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,53nm,0.3s						
ASAJ				smax	smax		
	comp=N,61nm,0.3s						
ASAJ	**Asahikawa**	**1.90**	**336**	P	**Pn**	**19 07 55.6**	**+0.9**
ASAJ				S	**Sn**	**19 08 18.6**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**2.31**	**44**	*i* PN	**Pn**	**19 08 00.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.61**	**352**	*e*PN	**Pn**	**19 08 32.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.61**	**352**	*e*Pn	**Pn**	**19 08 31.9**	**0.0**
MAJO	**Matsushiro**	**7.19**	**218**	*e*PN	**Pn**	**19 09 06.9**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,16nm,0.5s						
MAJO	**Matsushiro**	**7.19**	**218**	*e*Pn	**Pn**	**19 09 06.9**	**-0.5**
	comp=Z,16nm,0.5s						
MAT	**Matsushiro**	**7.19**	**218**	P	**Pn**	**19 09 07.1**	**-0.3**
MAT				*e*S	**Sn**	**19 10 29.1**	**+1.4**
MJAR	**Matsushiro Arr**	**7.19**	**218**	P	**Pn**	**19 09 07.8**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=32,slow=13,SNR=44						
MJAR	**Matsushiro Arr**	**7.19**	**218**	PN	**Pn**	**19 09 07.8**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.19**	**218**	P	**Pn**	**19 09 07.8**	**+0.4**
USRK	**Ussuriysk Arra**	**8.69**	**286**	P	Pn	19 09 30.4	+2.7
	comp=Z,0.4nm,0.3s,baz=93,slow=13,SNR=5.4						
KSRS	**Korea Array**	**13.03**	**253**	P	**Pn**	**19 10 27.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=57,slow=14,SNR=3.2						
KSRS				LR	LR	19 14 44.0	
	comp=Z,58nm,21.9s,baz=172,slow=34						
KSRS	**Korea Array**	**13.03**	**253**	PN	**Pn**	**19 10 27.7**	**+0.6**
KSAR	**Wonju Array Be**	**13.06**	**253**	PN	**Pn**	**19 10 27.7**	**+0.1**
KSAR	**Wonju Array Be**	**13.06**	**253**	P	**Pn**	**19 10 27.7**	**+0.1**
PETK	**Petropavlovsk-**	**14.27**	**36**	P	**Pn**	**19 10 42.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=6.5						
PETK				LR	LR	19 16 14.6	
	comp=Z,28nm,18.6s,baz=354,slow=37						
PETK	**Petropavlovsk-**	**14.27**	**36**	P	**Pn**	**19 10 42.7**	**-1.1**
PETK	**Petropavlovsk-**	**14.27**	**36**	P	**Pn**	**19 10 42.7**	**-1.1**
SEY	**Seymchan**	**21.22**	**11**	⇓*e*P	**P**	**19 12 02.8**	**-3.0**
ULN	**Ulaanbaatar**	**26.22**	**295**	*i* P	**P**	**19 12 54.9**	**+0.2**
SONM	**Songino Array**	**26.67**	**295**	P	**P**	**19 12 58.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=90,slow=7.7,SNR

comp=Z,0.5nm,0.7s,baz=303,slow=6.8,SNR=7.6
YKA pP **pP** **19 17 29.0 +0.4**
comp=Z,1.2nm,0.9s,baz=303,slow=6.7,SNR=5.5
YKA Yellowknife Ar 58.35 32 P **P** **19 17 13.7 -0.2**
YKA *PP **pP** **19 17 29.0 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 58.35 32 P **P** **19 17 13.7 -0.2**
YKA pP **pP** **19 17 29.1 +0.4**
WRAB Tennant Creek 62.59 190 P **P** **19 17 42.1 -1.3**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WRAB Tennant Creek 62.59 190 P **P** **19 17 42.0 -1.3**
comp=Z,4.6nm,1.0s
WRA Warramunga Arr 62.60 190 P **P** **19 17 42.8 -0.6**
comp=Z,2.2nm,0.5s,baz=7.1,slow=6.7,SNR=43
WRA Warramunga Arr 62.60 190 P **P** **19 17 42.8 -0.6**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 62.60 190 P **P** **19 17 42.8 -0.6**
OBN Obninsk 64.87 323 *eP* **P** **19 17 58.2 +0.2**
OBN *e* 19 18 23.6
OBN pmax pmax
comp=Z,6.0nm,1.3s
FINES FINESS Array B 64.90 332 P **P** **19 17 57.5 -0.5**
comp=Z,0.9nm,0.5s,baz=46,slow=8.2,SNR=9.4
FINES FINESS Array B 64.90 332 P **P** **19 17 57.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.90 332 P **P** **19 17 57.5 -0.5**
ASAR Alice Springs 66.33 190 P **P** **19 18 08.1 +0.3**
comp=Z,0.9nm,0.5s,baz=5.4,slow=6.8,SNR=22
ASAR Alice Springs 66.33 190 P **P** **19 18 08.1 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 66.33 190 P **P** **19 18 08.1 +0.3**
FFC Flin Flon 68.30 35 *i* P **P** **19 18 20.6 +0.7**
FFC Flin Flon 68.30 35 *eP* **P** **19 18 19.8 -0.1**
comp=Z,3.7nm,1.0s
NOA NORSAR Array B 69.92 338 P **P** **19 18 29.4 -0.4**
comp=Z,1.1nm,0.8s,baz=34,slow=6.1,SNR=3.9
NOA NORSAR Array B 69.92 338 P **P** **19 18 29.4 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 69.92 338 P **P** **19 18 29.4 -0.4**
NVAR Mina Array Bea 70.47 56 P **P** **19 18 35.4 +1.5**
comp=Z,0.5nm,0.6s,baz=284,slow=6.0,SNR=5.3
NVAR pP **pP** **19 18 51.0 +2.1**
comp=Z,1.2nm,0.6s,baz=296,slow=6.0,SNR=8.6
NVAR Mina Array Bea 70.47 56 P **P** **19 18 35.4 +1.5**
NVAR pP **pP** **19 18 51.0 +2.1**
PDAR Pinedale Array 72.74 48 pP pP 19 19 03.8 +1.1
comp=Z,1.6nm,0.5s,baz=254,slow=1.4,SNR=14
PDAR Pinedale Array 72.74 48 pP pP 19 19 03.8 +1.1
TXAR Lajitas Array 85.54 54 P **P** **19 19 58.0 +0.7**
comp=Z,0.3nm,0.7s,baz=270,slow=2.5,SNR=4.0
TXAR pP **pP** **19 20 14.3 +1.5**
comp=Z,1.3nm,0.7s,baz=294,slow=4.4,SNR=12
TXAR Lajitas Array 85.54 54 P **P** **19 19 58.0 +0.7**
TXAR *PP **pP** **19 20 14.3 +1.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 85.54 54 P **P** **19 19 58.0 +0.7**
TXAR pP **pP** **19 20 14.3 +1.5**
TORD Torodi Ar. Bea 114.62 319 PKP PKPdf 19 25 58.1 -1.3
comp=Z,0.2nm,0.5s,baz=10,slow=0.8,SNR=3.1
TORD Torodi Ar. Bea 114.62 319 PKP PKPdf 19 25 58.1 -1.3

*ISCJB **30** 19:19:10.2±0.6, 38°.99N±0°.04×29°.70E±0°.03, h1km±9km, Error ellipse: s-maj=7.0km s-min=4.5km az=6.7*
*CSEM **30** 19:19:10.5±0.1, 39°.00N×29°.70E, h3km±1km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.1km az=178.0*
*ISK **30** 19:19:10.0, 38°.99N×29°.70E, h5km, MD2.7*
ISC 30 19:19:10.8±1.2, 39°.00N±0°.03×29°.70E±0°.02, h2km±12km, n28, σ0°.42/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.19**	**297**	*i*	P	**Pg**		**19 19 14.5**	**0.0**
GDZ				*i*	S	**Sg**		**19 19 17.3**	**+0.3**
GDZ	**Gediz**	**0.19**	**297**	*i*	P	**Sg**		**19 19 14.5**	**0.0**
GDZ				*i*	S	**Sg**		**19 19 17.3**	**+0.3**
ALT	**Altintas**	**0.33**	**80**	PG		**Pg**		**19 19 16.7**	**-0.4**
ALT				*e*SG		**Sg**		**19 19 21.7**	**+0.4**
ALT	**Altintas**	**0.33**	**80**	*i* Pg		**Pg**		**19 19 16.7**	**-0.4**
ALT				*e*Sg		**Sg**		**19 19 21.7**	**+0.4**
KHL	**Karahalli**	**0.69**	**191**	*e*PG		**Pg**		**19 19 23.7**	**-0.3**
KHL				*e*SG		**Sg**		**19 19 33.3**	**+0.3**
KHL	**Karahalli**	**0.69**	**191**	*e*Pg		**Pg**		**19 19 23.7**	**-0.3**
KHL				*e*Sg		**Sg**		**19 19 33.3**	**+0.3**
DEMI	**Demirci**	**0.77**	**273**	*i* P		**Pg**		**19 19 25.2**	**-0.3**
DEMI				*i* S		**Sg**		**19 19 35.8**	**+0.4**
DEMI	**Demirci**	**0.77**	**273**	*i* P		**Pg**		**19 19 25.2**	**-0.3**
DEMI				*i* S		**Sg**		**19 19 35.8**	**+0.4**
SHUT	**Suhut-Afyon**	**0.80**	**124**	*e*PG		**Pg**		**19 19 26.6**	**+0.4**
SHUT	**Suhut-Afyon**	**0.80**	**124**	*e*Pg		**Pg**		**19 19 26.6**	**+0.4**
KULA	**Kula-Manisa**	**0.94**	**239**	*e*PG		**Pg**		**19 19 28.2**	**-0.7**
KULA	**Kula-Manisa**	**0.94**	**239**	*e*Pg		**Pg**		**19 19 28.2**	**-0.7**
DST	**Dursunbey**	**1.03**	**306**	*e*PG		**Pg**		**19 19 30.4**	**-0.2**
DST	**Dursunbey**	**1.03**	**306**	*e*Pg		**Pg**		**19 19 30.4**	**-0.2**
BORA	**Eskisehir**	**1.05**	**33**	*i* P		**Pg**		**19 19 30.4**	**-0.6**
BORA				*i* S		**Sg**		**19 19 45.0**	**+0.3**
BORA	**Eskisehir**	**1.05**	**33**	*i* P		**Pg**		**19 19 30.4**	**-0.6**
BORA				*i* S		**Sg**		**19 19 45.0**	**+0.3**
DURS	**Dursunbey**	**1.12**	**303**	*i* P		**Pg**		**19 19 32.7**	**+0.4**
DURS				*i* S		**Sn**		**19 19 50.3**	**+0.6**
DURS	**Dursunbey**	**1.12**	**303**	*i* P		**Pg**		**19 19 32.7**	**+0.4**
DURS				*i* S		**Sn**		**19 19 50.3**	**+0.6**
CAVI	**Cavuskoy**	**1.21**	**5**	*e*PN		**Pg**		**19 19 33.6**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**5**	*e*Pn		**Pg**		**19 19 33.6**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.49**	**72**	*e*PN		**Pn**		**19 19 38.3**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.49**	**72**	*e*Pn		**Pn**		**19 19 38.3**	**-0.3**
GULT	**Gulveren**	**1.56**	**24**	*e*PN		**Pn**		**19 19 39.0**	**-0.6**
GULT	**Gulveren**	**1.56**	**24**	*e*Pn		**Pn**		**19 19 39.1**	**-0.6**
KCTX	**Karacabey (Bur**	**1.63**	**321**	*e*PN		**Pn**		**19 19 40.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.63**	**321**	*e*Pn		**Pn**		**19 19 40.4**	**-0.2**
ARMT	**Armutlu**	**1.69**	**338**	*e*PN		**Pn**		**19 19 41.2**	**-0.2**
ARMT	**Armutlu**	**1.69**	**338**	*e*Pn		**Pn**		**19 19 41.2**	**-0.2**

IDC 30 19:19:50.1±10.0, 24°.36N×108°.71W, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/22, mbtmp3.1/4, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=156.6km s-min=52.0km az=3.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.70**	**41**	Pn		Pn	Pn	19 21 31.1	+1.2
	0.2nm,0.3s,baz=214,slow=14,SNR=5.4								
TXAR				Lg		Lg	Lg	19 23 28.5	
	0.1nm,0.3s,baz=222,slow=24,SNR=4.5								
ANMO	**Albuquerque**	**10.73**	**10**	LR		LR	LR	19 27 08.9	
	comp=Z,83nm,20.0s,baz=301,slow=41								
NVAR	**Mina Array Bea**	**16.23**	**332**	Pn		P		19 23 42.5	-0.6
	0.1nm,0.3s,baz=149,slow=9.7,SNR=4.3								
PDAR	**Pinedale Array**	**18.38**	**358**	P		Pn		19 24 06.0	-0.8
	0.1nm,0.3s,baz=159,slow=13,SNR=3.1								
YKA	**Yellowknife Ar**	**38.33**	**356**	P		P		19 27 12.4	0.0
	0.4nm,0.9s,baz=170,slow=7.3,SNR=5.2								

IDC 30 19:32:15.2±0.6, 27°.39N×140°.17E, h486km±9km, mb2.8/7, mb1 3.0/7, mb1mx2.8/22, mbtmp2.8/7, Error ellipse: s-maj=25.4km s-min=13.1km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.82**	**99**	P		P	P	19 33 19.8	+1.7
	13nm,0.3s,baz=290,slow=21,SNR=32								
CBIJ				S		S	S	19 34 09.2	0.0
	33nm,0.3s,baz=288,slow=22,SNR=11								
WRA	**Warramunga Arr**	**47.39**	**187**	P		P		19 40 04.5	-0.2
	1.1nm,0.3s,baz=6.3,slow=7.7,SNR=53								
MKAR	**Makanchi Array**	**48.90**	**309**	P		P		19 40 15.6	-0.2
	0.2nm,0.3s,baz=67,slow=10,SNR=14								
ASAR	**Alice Springs**	**51.12**	**187**	P		P		19 40 32.0	-0.3
	0.6nm,0.3s,baz=359,slow=4.6,SNR=26								
KURK	**Kurchatov**	**51.49**	**314**	P		P		19 40 34.9	+0.2
	0.5nm,0.4s,baz=92,slow=8.3,SNR=11								
ILAR	**Eielson Array**	**58.31**	**29**	P		P		19 41 21.8	-0.6
	0.2nm,0.3s,baz=258,slow=5.4,SNR=4.7								
STKA	**Stephens Creek**	**58.96**	**179**	P		P		19 41 27.2	+0.2
	1.3nm,0.8s,baz=355,slow=12,SNR=3.7								
YKA	**Yellowknife Ar**	**72.73**	**28**	P		P		19 42 53.2	+0.5
	0.3nm,0.6s,baz=295,slow=5.5,SNR=5.4								

*IDC **30** 19:38:47.2±3.0, 39°.47N×72°.41E, h0km, mb3.9/3, mb1 3.7/4, mb1mx3.3/26, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=70.8km s-min=22.3km az=151.0*
ISC 30 19:38:47.1±2.6, 39°.6N±0°.2×73°.4E±0°.1, h10km, n15, σ1°37/20, mb3.9/3, 2C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.99**	**91**	P		Pg	Pn	19 39 09.0	-12
KSH				S		Sg	Sn	19 39 25.8	-20
KSH				*s*max		*s*max			
	comp=N,140nm,0.7s								
KSH				*s*max		*s*max			
	comp=E,130nm,0.8s								
AML	**Almayashu**	**2.55**	**5**	P		**Pn**		**19 39 30.7**	**+1.8**
	SNR=50								
AML				P		**Pn**		**19 39 30.7**	**+1.8**
	SNR=50								
UCH	**Uchtor**	**2.77**	**17**	P		**Pn**		**19 39 32.5**	**+0.6**
	SNR=9.1								
UCH				P		**Pn**		**19 39 32.5**	**+0.6**
	SNR=9.1								
KZA	**Kyzart**	**2.85**	**29**	P		**Pn**		**19 39 34.1**	**+0.9**
	SNR=13								
KZA				P		**Pn**		**19 39 34.1**	**+0.9**
	SNR=13								
EKS2	**Erkin-Say**	**3.08**	**5**	P		**Pn**		**19 39 37.3**	**+1.3**
	SNR=19								
EKS2				P		**Pn**		**19 39 37.3**	**+1.3**
	SNR=19								
AAK	**Ala-Archa**	**3.15**	**15**	P		**Pn**		**19 39 37.3**	**+0.3**
	SNR=11								
AAK				P		**Pn**		**19 39 37.3**	**+0.3**
	SNR=11								
KBK	**Karagaybulak**	**3.28**	**20**	P		**Pn**		**19 39 40.0**	**+1.2**
	SNR=22								
KBK				P		**Pn**		**19 39 40.0**	**+1.2**
	SNR=22								
CHMS	**Chumysh**	**3.56**	**16**	P		**Pn**		**19 39 42.5**	**+0.1**
	SNR=7.3								
CHMS				P		**Pn**		**19 39 42.5**	**+0.1**
	SNR=7.3								
TKM2	**Tokmak 2**	**3.72**	**26**	⇑Pn		**Pn**		**19 39 44.0**	**-0.8**
	comp=E,8.1nm,0.6s								
TKM2				⇓Sn		**Sn**		**19 40 30.5**	**+1.8**
	comp=E,9.1nm,0.5s								
USP	**Ospenovka**	**3.77**	**12**	P		Pb		19 39 52.2	-1.6
	SNR=12								
USP				P		Pb		19 39 52.2	-1.6
	SNR=12								
KK31	**Karatay Array**	**4.13**	**329**	⇑Pn		**Pn**		**19 39 52.4**	**+2.1**
	comp=E,2.3nm,0.4s,baz=144,slow=17,SNR=13								
KK31				⇓Sn			**Sb**	**19 40 47.4**	**-2.6**
	comp=E,2.4nm,0.3s,baz=142,slow=24,SNR=4.1								
MKAR	**Makanchi Array**	**9.69**	**39**	Pn		Px		19 41 16.8	
	comp=E,0.0nm,0.3s,baz=207,slow=12,SNR=4.0								
FINES	**FINESS Array B**	**36.07**	**323**	P		**P**		**19 45 47.8**	**-0.8**
	comp=E,0.9nm,0.9s,baz=99,slow=8.6,SNR=3.7								
ARCES	**ARCESS Array B**	**39.07**	**336**	P		**P**		**19 46 12.8**	**-1.0**
	comp=E,3.1nm,0.9s,baz=96,slow=7.4,SNR=6.1								
TORD	**Torodi Ar. Bea**	**67.69**	**269**	P		P		19 49 41.6	-3.3
	comp=E,0.4nm,0.5s,baz=37,slow=4.8,SNR=5.5								

*IDC **30** 19:49:53.9±1.1, 2°.75S×127°.62E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML4.5/1, Error ellipse: s-maj=88.3km s-min=11.1km az=66.0*
*ISCJB **30** 19:49:58.2±0.4, 2°.73S±0°.06×127°.49E±0°.09, h42km, mb4.4/17, Error ellipse: s-maj=13.8km s-min=5.3km az=149.9*
*DJA **30** 19:49:59, 2°.60S×127°.33E, h62km, MLv4.1/7*
*NEIC **30** 19:50:04.8±4.5, 2°.80S×127°.64E, h96km±46km, mb4.5/14, Error ellipse: s-maj=21.6km s-min=10.9km az=50.0*
ISC 30 19:49:59.7±0.6, 2°.80S±0°.08×127°.5E±0°.1, h42km, n52, σ0°85/54, mb4.3/17, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.14**	**141**	P		Pn		19 50 22.1	+2.9
	1µm,0.8s,18µm5.4nm								
MSAI	**Masohi**	**1.55**	**111**	P		Pn		19 50 28.6	+3.8
	525nm,0.5s,7µm2.3nm								
TNTI	**Ternate**	**3.54**	**358**	P		Pn		19 51 10.9	+19
	99nm,0.8s,2µm								
SWI	**Sorong**	**4.24**	**63**	P		**Pn**		**19 51 02.3**	**+0.5**
MRSI	**Marisa**	**6.42**	**300**	P		**Pn**		**19 51 32.3**	**+0.5**
	27nm,0.5s								
WRAB	**Tennant Creek**	**18.31**	**159**	*e*P		**Pn**		**19 54 10.8**	**+0.1**
	5.2nm,0.4s								
WRA	**Warramunga Arr**	**18.31**	**159**	P		**Pn**		**19 54 11.2**	**+0.5**
	1.6nm,0.3s,baz=342,slow=12,SNR=84								
WRA				S			**Sn**	**19 57 34.7**	**+0.3**
	0.2nm,0.3s,baz=342,slow=21,SNR=5.5								
WRA	**Warramunga Arr**	**18.31**	**159**	P		**Pn**		**19 54 11.2**	**+0.5**
WRA				S		**Sn**		**19 57 34.7**	**+0.3**
WB2	**Warramunga Arr**	**18.32**	**159**	*e*P		**Pn**		**19 54 10.8**	**0.0**
WB2				*e*S		**Sn**		**19 57 32.8**	**-1.8**
AS31	**Alice Springs**	**21.66**	**164**	*e*P		**P**		**19 54 47.6**	**+0.7**
ASAR	**Alice Springs**	**21.66**	**164**	P		**P**		**19 54 47.9**	**+1.0**
	1.7nm,0.3s,baz=345,slow=12,SNR=74								
ASAR	**Alice Springs**	**21.66**	**164**	P		**P**		**19 54 47.9**	**+1.0**
COCO	**West Island**	**31.75**	**251**	P		**P**		**19 56 19.8**	**-0.3**
STKA	**Stephens Creek**	**31.84**	**157**	P		**P**		**19 56 20.6**	**-0.1**
	0.6nm,0.4s,baz=339,slow=11,SNR=2.6								
STKA	**Stephens Creek**	**31.84**	**157**	*e*P		**P**		**19 56 19.4**	**-1.3**
	1.5nm,1.3s								
CMAR	**Chiang Mai Arr**	**35.15**	**308**	P		**P**		**19 56 50.5**	**+0.7**
	0.5nm,0.6s,baz=137,slow=6.6,SNR=7.8								
CMAR	**Chiang Mai Arr**	**35.15**	**308**	P		**P**		**19 56 50.5**	**+0.7**
CHTO	**Chiang Mai**	**35.35**	**309**	*e*P		**P**		**19 56 51.0**	**-0.5**
	2.0nm,0.8s								
ENH	**Enshi**	**37.10**	**334**	P		**P**		**19 57 05.2**	**-1.1**
	4.8nm,0.9s								
LSA	**Lhasa**	**47.45**	**316**	*e*P		**P**		**19 58 32.7**	**+1.6**
	7.9nm,0.6s								
ODAN	**Odare**	**48.63**	**310**	*e*P		**P**		**19 58 40.9**	**+0.8**
	14nm,0.8s								
ODAN	**Odare**	**48.63**	**310**	*e*P		**P**		**19 58 40.9**	**+0.8**
	14nm,0.8s								
TAPN	**Taplejung**	**48.65**	**311**	*e*P		**P**		**19 58 41.1**	**+0.9**
	16nm,0.9s								
TAPN	**Taplejung**	**48.65**	**311**	*e*P		**P**		**19 58 41.1**	**+0.9**
	16nm,0.9s								
RAMN	**Ramite**	**49.29**	**310**	*e*P		**P**		**19 58 46.4**	**+1.3**
RAMN	**Ramite**	**49.29**	**310**	*e*P		**P**		**19 58 46.4**	**+1.3**
JIRN	**Jiri**	**49.96**	**310**	*e*P		**P**		**19 58 51.2**	**+0.9**
	8.3nm,0.6s								
JIRN	**Jiri**	**49.96**	**310**	*e*P		**P**		**19 58 51.2**	**+0.9**
	8.3nm,0.6s								
GUN	**Gumba**	**50.32**	**310**	*e*P		**P**		**19 58 53.7**	**+0.6**
GUN	**Gumba**	**50.32**	**310**	*e*P		**P**		**19 58 53.7**	**+0.6**
KKN	**Kakani**	**50.72**	**310**	*e*P		**P**		**19 58 56.4**	**+0.5**
KKN	**Kakani**	**50.72**	**310**	*e*P		**P**		**19 58 56.4**	**+0.5**
DMN	**Daman**	**50.77**	**309**	*e*P		**P**		**19 58 57.0**	**+0.7**
DMN	**Daman**	**50.77**	**309**	*e*P		**P**		**19 58 57.0**	**+0.7**
GKN	**Gorkha**	**51.32**	**310**	*e*P		**P**		**19 59 01.0**	**+0.6**
GKN	**Gorkha**	**51.32**	**310**	*e*P		**P**		**19 59 01.0**	**+0.6**
KOLN	**Koldanda**	**52.01**	**309**	*e*P		**P**		**19 59 06.6**	**+1.0**
	8.6nm,0.5s								
KOLN	**Koldanda**	**52.01**	**309**	*e*P		**P**		**19 59 06.6**	**+1.0**
	8.6nm,0.5s								
DANN	**Dangsing**	**52.17**	**310**	*e*P		**P**		**19 59 07.7**	**+0.9**
	21nm,0.9s								
DANN	**Dangsing**	**52.17**	**310**	*e*P		**P**		**19 59 07.7**	**+0.9**
	21nm,0.9s								
ULN	**Ulaanbaatar**	**53.53**	**343**	*e*P		**P**		**19 59 15.4**	**-0.9**
	0.9nm,0.7s								
SONM	**Songino Array**	**53.69**	**342**	P		**P**		**19 59 17.2**	**-0.4**
	0.7nm,0.8s,baz=147,slow=8.9,SNR=5.6								
SONM				PcP		**PcP**		**20 00 24.4**	**+1.0**
	0.8nm,0.9s,baz=153,slow=4.3,SNR=4.9								
SONM	**Songino Array**	**53.69**	**342**	P		**P**		**19 59 17.2**	**-0.4**
SONM				PcP		**PcP**		**20 00 24.4**	**+1.0**
MK31	**Makanchi Array**	**63.35**	**327**	*e*P		**P**		**20 00 24.4**	**-0.4**
MK31				*e*				20 00 32.0	
MKAR	**Makanchi Array**	**63.35**	**327**	P		**P**		**20 00 24.6**	**-0.1**
	1.5nm,0.7s,baz=123,slow=8.0,SNR=21								
MKAR	**Makanchi Array**	**63.35**	**327**	P		**P**		**20 00 24.6**	**-0.1**
TKM2	**Tokmak 2**	**65.16**	**320**	*e*P		**P**		**20 00 37.2**	**+0.2**
	1.7nm,0.6s								
AAK	**Ala-Archa**	**65.73**	**320**	P		**P**		**20 00 41.2**	**+0.7**
EKS2	**Erkin-Say**	**66.21**	**319**	*e*P		**P**		**20 00 42.5**	**-1.1**
	1.6nm,0.7s								
KURK	**Kurchatov**	**67.64**	**329**	*e*P		**P**		**20 00 51.6**	**-0.7**
	5.0nm,0.9s								
BRVK	**Borovoye**	**73.26**	**328**	*e*P		**P**		**20 01 25.9**	**-0.7**
ABKAR	**Akbulak array**	**77.67**	**322**	P		**P**		**20 01 50.4**	**-1.5**

IDC 30 19:51:31.5±3.2, 16°.21S×174°.18W, h0km, mb4.5/3, mb1 4.6/4, mb1mx4.0/16, mbtmp4.5/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/23, Error ellipse: s-maj=179.8km s-min=30.5km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.26**	**46**	Pn		Pn	Pn	19 52 24.1	0.0
	17nm,0.3s,baz=222,slow=12,SNR=5.2								
AFI				Sn		Sn	Sn	19 52 53.2	-11
	1.2nm,0.3s,baz=71,slow=21,SNR=4.0								
AFI				LR		LR		19 53 04.6	
	comp=Z,224nm,21.8s,baz=315,slow=28								
HNR	**Honiara**	**26.09**	**282**	LR		LR		20 05 42.2	
	comp=Z,64nm,19.2s,baz=114,slow=33								
RPZ	**Rata Peaks**	**30.15**	**202**	LR		LR		20 07 47.1	
	comp=Z,103nm,20.0s,baz=339,slow=32								
STKA	**Stephens Creek**	**42.98**	**240**	P		P		19 59 33.1	+0.3
	7.1nm,1.1s,baz=86,slow=8.9,SNR=5.1								
STKA				LR		LR		20 15 51.3	
	comp=Z,53nm,19.9s,baz=27,slow=34								
WRA	**Warramunga Arr**	**48.93**	**257**	P		P		20 00 19.5	-0.4
	1.5nm,0.5s,baz=95,slow=6.9,SNR=11								
ASAR	**Alice Springs**	**49.15**	**253**	P		P		20 00 21.3	-0.2
	14nm,0.6s,baz=88,slow=8.4,SNR=84								
MJAR	**Matsushiro Arr**	**69.07**	**320**	LR		LR		20 25 49.8	
	comp=Z,74nm,21.8s,baz=20,slow=30								
NVAR	**Mina Array Bea**	**75.43**	**42**	P		P		20 03 23.2	+5.5
	0.2nm,0.3s,baz=229,slow=8.1,SNR=3.8								
KSRS	**Korea Array**	**76.21**	**316**	LR		LR		20 33 19.0	
	comp=Z,17nm,21.8s,baz=110,slow=33								
PDAR	**Pinedale Array**	**83.37**	**42**	LR		LR		20 34 08.2	
	comp=Z,28nm,19.2s,baz=253,slow=31								
ILAR	**Eielson Array**	**83.38**	**11**	P		P		20 04 04.2	+4.0
	0.7nm,1.1s,baz=206,slow=6.0,SNR=3.0								

*ISCJB **30** 19:53:13.6±0.6, 1°.08N±0°.07×126°.21E±0°.07, h44km, mb3.9/9, Error ellipse: s-maj=10.7km s-min=9.9km az=166.1*
*DJA **30** 19:53:14, 1°.00N×126°.14E, h10km, MLv4.3/11*
*IDC **30** 19:53:17.4±4.3, 1°.00N×126°.09E, h69km±43km, mb3.6/9, mb1 3.8/10, mb1mx3.6/19, mbtmp3.6/10, ML3.8/1, Error ellipse: s-maj=37.2km s-min=15.0km az=75.0*
ISC 30 19:53:15.2±0.8, 1°.14N±0°.10×126°.2E±0°.1, h44km, n19, σ1°42/15, mb3.9/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**107**	P		**P**	**Pn**	**19 53 35.1**	**-0.9**
MNI	**Manado**	**1.38**	**283**	P		**P**	**Pn**	**19 53 37.2**	**-0.7**
LBMI	**Labuha**	**2.21**	**143**	P		Pn		19 53 54.4	+5.1
	322nm,0.9s,7µm2.1nm								
KMSI	**Cibinong**	**2.27**	**256**	P		**Pn**	**Pn**	**19 53 49.8**	**-0.4**
LUWI	**Luwuk**	**4.04**	**238**	P		Pn		19 54 26.2	+12
APSI	**Ampana**	**4.97**	**246**	P		Pn		19 54 36.5	+9.2
TTSI	**Tana Toraja**	**7.60**	**237**	P		**Pn**		**19 55 06.3**	**+2.9**
	37nm,1.0s								
SPSI	**Sidrap Palu**	**8.18**	**232**	P		Pn		19 55 17.0	+5.7
	27nm,0.8s								
KAPI	**Kappang**	**8.87**	**226**	P		**Pn**		**19 55 20.7**	**-0.1**
	1.0nm,0.3s,baz=18,slow=9.6,SNR=3.4								
WRA	**Warramunga Arr**	**22.43**	**160**	P		**P**		**19 58 09.1**	**-1.4**
	4.8nm,0.5s,baz=339,slow=11,SNR=13								
ASAR	**Alice Springs**	**25.78**	**164**	P		**P**		**19 58 41.2**	**-0.9**
	1.8nm,0.3s,baz=347,slow=13,SNR=17								
STKA	**Stephens Creek**	**35.94**	**157**	P		**P**		**20 00 10.8**	**-0.8**
	1.5nm,0.5s,baz=318,slow=14,SNR=2.4								
KSRS	**Korea Array**	**36.17**	**2**	P		**P**		**20 00 15.3**	**+1.9**
	0.7nm,0.7s,baz=178,slow=10,SNR=4.2								
MJAR	**Matsushiro Arr**	**36.94**	**16**	P		**P**		**20 00 20.4**	**+0.3**
	1.3nm,0.7s,baz=187,slow=11,SNR=4.4								
USRK	**Ussuriysk Arra**	**43.18**	**6**	P		**P**		**20 01 13.9**	**+2.3**
	0.9nm,0.5s,baz=198,slow=10,SNR=4.8								
SONM	**Songino Array**	**49.57**	**343**	P		**P**		**20 02 02.6**	**+0.6**
	0.8nm,0.8s,baz=158,slow=8.4,SNR=5.8								
MKAR	**Makanchi Array**	**59.38**	**326**	P		**P**		**20 03 12.2**	**-0.8**
	0.8nm,0.4s,baz=121,slow=7.6,SNR=33								
ILAR	**

	3.0nm,0.3s,baz=169,slow=6.6,SNR=65							
AAK				S	Sn	20 32 35.9	-0.8	
	1.0nm,0.3s,baz=148,slow=19,SNR=4.5							
KK31	**Karatay Array**	**6.72**	**354**	P	**Pn**	**20 31 23.6**	**-0.5**	
	9.6nm,0.3s,baz=181,slow=12,SNR=555							
KK31				⇑S	Sn	20 32 34.3	-4.9	
	6.0nm,0.4s,baz=185,slow=25,SNR=7.8							
CHMS	**Chumysh**	**7.02**	**20**	P	**Pn**	**20 31 29.1**	**+1.0**	
	SNR=6.2							
CHMS				P	Pn	20 31 29.1	+1.0	
	SNR=6.2							
TKM2	**Tokmak 2**	**7.21**	**24**	P	**Pn**	**20 31 32.2**	**+1.4**	
	SNR=10							
TKM2				P	Pn	20 31 32.2	+1.4	
	SNR=10							
TKM2	**Tokmak 2**	**7.21**	**24**	⇑P	**Pn**	**20 31 32.1**	**+1.4**	
	4.6nm,0.6s							
TKM2				⇑S	Sn	20 32 51.6	+0.5	
	1.7nm,0.6s							
USP	**Ospenovka**	**7.21**	**17**	P	**Pn**	**20 31 31.8**	**+1.1**	
	SNR=6.3							
USP				P	Pn	20 31 31.8	+1.1	
	SNR=6.3							
DDI	**Dehra Dun**	**8.16**	**136**	*ex*	x	20 32 51.0		
KHET	**Khetri**	**9.07**	**155**	*eP*	**Pn**	**20 31 54.4**	**-1.4**	
KHET				*eS*	Sn	20 33 26.4	-10	
KHET				AML	AML	20 33 32.2		
	comp=E,22nm,0.3s							
KHET				AML	AML	20 33 32.5		
	comp=N,21nm,0.3s							
AYAN	**Aya Nagar**	**9.21**	**148**	*eS*	Sn	20 33 33.0	-6.5	
KUDL	**Kundal**	**9.25**	**152**	*eP*	**Pn**	**20 31 56.8**	**-1.5**	
KUDL				*eS*	Sn	20 33 31.8	-8.7	
KUDL				AML	AML	20 33 37.4		
	comp=E,16nm,0.4s							
KUDL				AML	AML	20 33 39.5		
	comp=N,14nm,0.6s							
AGRA	**Agra**	**10.65**	**148**	*eS*	Sn	20 34 06.0	-8.6	
AGRA				AML	AML	20 34 12.1		
	comp=E,89nm,0.5s							
AGRA				AML	AML	20 34 15.1		
	comp=N,67nm,0.6s							
DANN	**Dangsing**	**13.08**	**124**	*eP*	**Pn**	**20 32 46.9**	**-2.7**	
	comp=N,6.7nm,0.2s							
DANN				*eS*	Sn	20 35 04.1	-10	
MKAR	**Makanchi Array**	**13.11**	**34**	P	**Pn**	**20 32 50.5**	**+0.9**	
	comp=N,0.0nm,0.3s,baz=225,slow=12,SNR=4.4							
KOLN	**Koldanda**	**13.36**	**127**	*eP*	**Pn**	**20 32 50.8**	**-2.4**	
	comp=N,7.5nm,0.4s							
GKN	**Gorkha**	**13.89**	**123**	*eP*	**Pn**	**20 32 58.0**	**-2.0**	
	comp=N,7.9nm,0.3s							
DMN	**Daman**	**14.46**	**124**	*eP*	**Pn**	**20 33 05.4**	**-2.0**	
	comp=N,6.6nm,0.4s							
KKN	**Kakani**	**14.46**	**123**	*eP*	**Pn**	**20 33 05.4**	**-2.0**	
PKI	**Pulchoki**	**14.69**	**123**	*eP*	**Pn**	**20 33 09.1**	**-1.3**	
GUN	**Gumba**	**14.80**	**121**	*eP*	**Pn**	**20 33 09.2**	**-2.6**	
JIRN	**Jiri**	**15.17**	**121**	*eP*	**Pn**	**20 33 14.3**	**-2.2**	
	comp=N,7.9nm,0.3s							
JIRN				*eS*	Sn	20 35 52.3	-12	
KURK	**Kurchatov**	**15.17**	**17**	P	**P**	**20 33 17.8**	**-0.5**	
	comp=N,0.0nm,0.3s,baz=207,slow=10,SNR=12							
AB31	**Akbulak array**	**15.37**	**330**	⇓P	**Pn**	**20 33 15.5**	**-2.9**	
	comp=N,0.7nm,0.2s,baz=140,slow=12,SNR=79							
RAMN	**Ramite**	**15.90**	**122**	*eP*	**Pn**	**20 33 23.5**	**-2.0**	
VOSK	**Vostochnaya**	**16.31**	**359**	⇓P	**Pn**	**20 33 28.3**	**-1.7**	
	comp=N,1.0nm,0.6s							
TAPN	**Taplejung**	**16.42**	**119**	*eP*	**Pn**	**20 33 30.8**	**-1.1**	
	comp=N,5.2nm,0.3s							
ODAN	**Odare**	**16.50**	**121**	*eP*	**Pn**	**20 33 32.0**	**-0.8**	
	comp=N,6.2nm,0.5s							
BVA0	**Borovoye Array**	**16.63**	**358**	⇓P	**P**	**20 33 34.8**	**+0.4**	
	comp=N,0.2nm,0.5s,baz=175,slow=13,SNR=11							
BVAR	**Borovoye Array**	**16.63**	**358**	P	**Pn**	**20 33 33.7**	**-0.2**	
	comp=N,0.4nm,0.3s,baz=172,slow=13,SNR=11							
ZRNK	**Zerenda**	**16.63**	**355**	⇓P	**Pn**	**20 33 33.6**	**-0.3**	
	comp=N,0.9nm,0.5s							
AKTO	**Aktyubinsk**	**17.07**	**329**	P	**P**	**20 33 39.2**	**-0.1**	
	comp=N,0.6nm,0.3s,baz=128,slow=14,SNR=5.9							
AKTO	**Aktyubinsk**	**17.07**	**329**	⇓P	**P**	**20 33 38.9**	**-0.4**	
	comp=N,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**19.81**	**24**	P	**P**	**20 34 10.2**	**+1.0**	
	comp=N,0.8nm,0.3s,baz=209,slow=11,SNR=13							
JOF	**Joensuu**	**36.16**	**330**	*ep*	**P**	**20 36 40.4**	**+1.5**	
	comp=N,0.9nm,0.3s							
JOF	**Joensuu**	**36.16**	**330**	*ep*	**P**	**20 36 40.4**	**+1.5**	
	comp=N,0.9nm,0.3s							
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**20 36 54.6**	**+1.9**	
	comp=N,0.9nm,0.6s,baz=125,slow=8.7,SNR=9.6							
KAF	**Kangasniemi**	**37.93**	**327**	*ep*	P	20 37 02.3	+8.4	
	comp=N,0.3nm,0.3s							
KAF	**Kangasniemi**	**37.93**	**327**	*ep*	P	20 37 02.3	+8.4	
	comp=N,0.3nm,0.3s							
ARCES	**ARCESS Array B**	**41.39**	**337**	P	**P**	**20 37 24.9**	**+2.4**	
	comp=N,1.9nm,0.8s,baz=109,slow=6.6,SNR=5.0							
NB2	**NORSAR Subarra**	**44.71**	**323**	P	**P**	**20 37 50.5**	**+1.2**	
	comp=Z,0.7nm,0.4s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.71**	**323**	P	**P**	**20 37 50.6**	**+1.3**	
	comp=Z,0.9nm,0.4s,baz=96,slow=7.8,SNR=7.5							

IDC 30 20:37:04.0±2.2, 5.89S×130.03E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=120.4km s-min=31.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.58**	**164**	Pn	Pn	20 40 31.1	-0.6
	0.1nm,0.3s,baz=344,slow=10,SNR=4.5						
WRA				Sn	Sn	20 42 59.1	-15
	0.3nm,0.3s,baz=333,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**18.06**	**168**	P	Pn	20 41 16.6	+0.1
	0.1nm,0.3s,baz=342,slow=10.0,SNR=6.7						
MKAR	**Makanchi Array**	**67.32**	**327**	P	P	20 48 00.9	+0.1
	0.1nm,0.5s,baz=117,slow=7.7,SNR=6.2						

*THE **30** 20:42:38.8, 40.39N×25.76E, h11km, ML2.7/3, Error ellipse: s-maj=1.0km s-min=0.5km az=91.0*
*CSEM **30** 20:42:38.5±0.2, 40.42N×25.74E, h2km, MD3.2, Error ellipse: s-maj=4.7km s-min=3.8km az=164.0*
*ISK **30** 20:42:39.1, 40.45N×25.91E, h5km, MD3.2*
*DDA **30** 20:42:40.1, 40.34N×25.98E, h8km, MD3.2*
ISC 30 20:42:37.9±1.1, 40.42N±0.02×25.81E±0.02, h9km±10km, n81, σ0s87/104, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.41**	**40**	*e*PG	**Pb**	**20 42 47.0**	**-0.4**
ENEZ				*e*SG	**Sb**	**20 42 53.3**	**-0.5**
ENEZ	**Enez**	**0.41**	**40**	*e*Pg	**Pb**	**20 42 47.0**	**-0.4**
ENEZ				*e*Sg	**Sb**	**20 42 53.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.51**	**92**	*e*PG	**Pb**	**20 42 48.3**	**-0.8**
GELI				*e*SG	**Sb**	**20 42 56.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.51**	**92**	*e*Pg	**Pb**	**20 42 48.3**	**-0.8**
GELI				*e*Sg	**Sb**	**20 42 56.3**	**-0.3**
ALN	**Alexandroupoli**	**0.51**	**21**	P	**Pb**	**20 42 49.1**	**0.0**
ALN				S	**Sb**	**20 42 57.1**	**+0.5**
ALN	**Alexandroupoli**	**0.51**	**21**	P	**Pb**	**20 42 49.1**	**0.0**
ALN				S	**Sb**	**20 42 57.1**	**+0.5**
ERIK	**Erikli-Kesan**	**0.59**	**65**	*e*PG	**Pb**	**20 42 50.1**	**-0.4**
ERIK				*e*SG	**Sb**	**20 42 58.8**	**-0.2**
ERIK	**Erikli-Kesan**	**0.59**	**65**	*e*Pg	**Pb**	**20 42 50.1**	**-0.4**
ERIK				*e*Sg	**Sb**	**20 42 58.8**	**-0.2**
BOZC	**Bozcaada**	**0.61**	**162**	*i* P	**Pg**	**20 42 49.7**	**+0.1**
BOZC				*i* S	**Sg**	**20 42 57.6**	**+0.1**
LIA	**Limnos Island**	**0.71**	**223**	P	**Pg**	**20 42 51.4**	**-0.1**
LIA				S	**Sg**	**20 43 01.2**	**+0.5**
LIA	**Limnos Island**	**0.71**	**223**	P	**Pg**	**20 42 51.4**	**-0.1**
LIA				S	**Sg**	**20 43 01.2**	**+0.5**
EZN	**Ezine**	**0.71**	**146**	*e*PG	**Pb**	**20 42 53.9**	**+1.4**
EZN	**Ezine**	**0.71**	**146**	*e*Pg	**Pb**	**20 42 53.9**	**+1.4**
LPK	**Lapseki**	**0.73**	**93**	*e*PG	**Pb**	**20 42 52.7**	**-0.1**
LPK	**Lapseki**	**0.73**	**93**	*e*Pg	**Pb**	**20 42 52.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.08**	**75**	*e*PG	**Pb**	**20 42 58.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.08**	**75**	*e*Pg	**Pb**	**20 42 58.7**	**-0.1**
SART	**Tekirdag**	**1.08**	**75**	*i* P	**Pb**	**20 42 58.9**	**+0.1**
SART				*i* S	**Sn**	**20 43 14.9**	**+0.4**
SART	**Tekirdag**	**1.08**	**75**	*i* P	**Pb**	**20 42 58.9**	**+0.1**
SART				*i* S	**Sn**	**20 43 14.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.14**	**91**	*e*PG	**Pb**	**20 42 59.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.14**	**91**	*e*Pg	**Pb**	**20 42 59.7**	**-0.1**
KAVA	**Kavala**	**1.14**	**301**	P	**Pg**	**20 42 59.9**	**+0.1**
KAVA				S	**Sg**	**20 43 15.3**	**+0.7**
KAVA	**Kavala**	**1.14**	**301**	P	**Pg**	**20 42 59.9**	**+0.1**
KAVA				S	**Sg**	**20 43 15.3**	**+0.7**
PRK	**Paraskevi**	**1.23**	**163**	P	**Pg**	**20 43 00.9**	**-0.5**
PRK				S	**Sg**	**20 43 17.3**	**0.0**
PRK	**Paraskevi**	**1.23**	**163**	P	**Pg**	**20 43 00.9**	**-0.5**
PRK				S	**Sg**	**20 43 17.3**	**0.0**
AYVA	**Ayvalik**	**1.30**	**148**	*i* P	**Pn**	**20 43 02.5**	**+0.2**
AYVA				*i* S	**Sg**	**20 43 19.4**	**-0.3**
AYVA	**Ayvalik**	**1.30**	**148**	*i* P	**Pn**	**20 43 02.5**	**+0.2**
AYVA				*i* S	**Sg**	**20 43 19.4**	**-0.3**
OUR	**Ouranopolis**	**1.40**	**267**	P	Pn	20 43 02.4	-1.2
OUR				S	**Sn**	**20 43 21.5**	**-0.6**
OUR	**Ouranopolis**	**1.40**	**267**	P	Pn	20 43 02.4	-1.2
OUR				S	**Sn**	**20 43 21.5**	**-0.6**
TKR	**Tekirdag**	**1.43**	**66**	*e*PN	**Pg**	**20 43 05.1**	**-0.3**
TKR	**Tekirdag**	**1.43**	**66**	*e*Pn	**Pg**	**20 43 05.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.49**	**104**	*e*PN	**Pg**	**20 43 06.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**104**	*e*Pn	**Pg**	**20 43 06.2**	**-0.2**
BALY	**Balya**	**1.55**	**115**	*i* P	**Pn**	**20 43 06.3**	**+0.6**
BALY				*i* S	**Sb**	**20 43 26.6**	**+0.1**
BALY	**Balya**	**1.55**	**115**	*i* P	**Pn**	**20 43 06.3**	**+0.6**
BALY				*i* S	**Sb**	**20 43 26.6**	**+0.1**
EDC	**Edincik**	**1.57**	**92**	*e*PN	**Pg**	**20 43 08.2**	**+0.2**
EDC	**Edincik**	**1.57**	**92**	*e*Pn	**Pg**	**20 43 08.2**	**+0.2**
EDRB	**Edirne**	**1.59**	**26**	*e*PN	**Pb**	**20 43 08.1**	**+0.6**
EDRB	**Edirne**	**1.59**	**26**	*e*Pn	**Pb**	**20 43 08.1**	**+0.6**
BNT	**Bandirma**	**1.62**	**92**	*e*PN	**Pg**	**20 43 08.4**	**-0.5**
BNT	**Bandirma**	**1.62**	**92**	*e*Pn	**Pg**	**20 43 08.4**	**-0.5**
CRLT	**Corlu**	**1.63**	**64**	*e*PN	**Pg**	**20 43 08.8**	**-0.3**
CRLT	**Corlu**	**1.63**	**64**	*e*Pn	**Pg**	**20 43 08.8**	**-0.3**
BALB	**Balikesir**	**1.77**	**115**	*e*PN	**Pb**	**20 43 10.6**	**+0.1**
BALB	**Balikesir**	**1.77**	**115**	*e*Pn	**Pb**	**20 43 10.6**	**+0.1**
SRS	**Serrai**	**1.82**	**293**	P	Pn	**20 43 08.7**	**-0.7**
SRS				S	**Sn**	**20 43 32.5**	**-0.2**
SRS	**Serrai**	**1.82**	**293**	P	**Pn**	**20 43 08.7**	**-0.7**
SRS				S	**Sn**	**20 43 32.5**	**-0.2**
AOS	**Alonnisos**	**1.94**	**231**	P	**Pn**	**20 43 10.7**	**-0.3**
AOS	**Alonnisos**	**1.94**	**231**	P	**Pn**	**20 43 10.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.96**	**94**	*e*PN	**Pb**	**20 43 13.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.96**	**94**	*e*Pn	**Pb**	**20 43 13.8**	**+0.1**
SLVT	**Silivri**	**2.00**	**65**	*e*PN	**Pb**	**20 43 14.6**	**+0.2**
SLVT	**Silivri**	**2.00**	**65**	*e*Pn	**Pb**	**20 43 14.6**	**+0.2**
AKS	**Akhisar**	**2.18**	**134**	*e*PN	**Pb**	**20 43 18.1**	**+0.5**
AKS	**Akhisar**	**2.18**	**134**	*e*Pn	**Pb**	**20 43 18.1**	**+0.5**
CTKS	**Kestanelik-??a**	**2.21**	**67**	*e*PN	**Pb**	**20 43 17.2**	**-0.7**
CTKS	**Kestanelik-??a**	**2.21**	**67**	*e*Pn	**Pb**	**20 43 17.3**	**-0.7**
BLCB	**Balcova**	**2.25**	**154**	*e*PN	**Pb**	**20 43 18.8**	**+0.2**
BLCB	**Balcova**	**2.25**	**154**	*e*Pn	**Pb**	**20 43 18.8**	**+0.2**
DST	**Dursunbey**	**2.31**	**110**	*e*PN	**Pb**	**20 43 19.1**	**-0.6**
DST	**Dursunbey**	**2.31**	**110**	*e*Pn	**Pb**	**20 43 19.1**	**-0.6**
IZM	**Izmir**	**2.31**	**150**	*e*PN	**Pb**	**20 43 19.9**	**+0.1**
IZM	**Izmir**	**2.31**	**150**	*e*Pn	**Pb**	**20 43 19.9**	**+0.1**
ARMT	**Armutlu**	**2.33**	**85**	*e*PN	**Pb**	**20 43 19.1**	**-1.1**
ARMT	**Armutlu**	**2.33**	**85**	*e*Pn	**Pb**	**20 43 19.1**	**-1.1**
MDNY	**Mudanya-Bursa**	**2.35**	**90**	*e*PN	**Pb**	**20 43 19.4**	**-1.0**
MDNY	**Mudanya-Bursa**	**2.35**	**90**	*e*Pn	**Pb**	**20 43 19.4**	**-1.0**
BGKT	**Bogazkoy**	**2.38**	**70**	*e*PN	**Pb**	**20 43 19.6**	**-1.3**
BGKT	**Bogazkoy**	**2.38**	**70**	*e*Pn	**Pb**	**20 43 19.6**	**-1.3**
ORLT	**Orhaneli**	**2.39**	**98**	*e*PN	**Pb**	**20 43 19.8**	**-1.4**
ORLT	**Orhaneli**	**2.39**	**98**	*e*Pn	**Pb**	**20 43 19.8**	**-1.4**
ISK	**Istanbul-Kandi**	**2.56**	**74**	*e*PN	**Pb**	**20 43 22.3**	**-1.6**
ISK	**Istanbul-Kandi**	**2.56**	**74**	*e*Pn	**Pb**	**20 43 22.3**	**-1.6**
YLV	**Yalova**	**2.72**	**86**	*e*PN	**Pb**	**20 43 25.1**	**-1.7**
YLV	**Yalova**	**2.72**	**86**	*e*Pn	**Pb**	**20 43 25.1**	**-1.7**
KULA	**Kula-Manisa**	**2.92**	**130**	*e*PN	**Pb**	**20 43 28.4**	**-1.7**
KULA	**Kula-Manisa**	**2.92**	**130**	*e*Pn	**Pb**	**20 43 28.4**	**-1.7**
HRT	**Hereke**	**2.97**	**81**	*e*PN	**Pn**	**20 43 28.3**	**+3.1**
HRT	**Hereke**	**2.97**	**81**	*e*Pn	**Pn**	**20 43 28.3**	**+3.1**
ADVT	**Abdulvahap**	**3.00**	**88**	*e*PN	**Pb**	**20 43 29.2**	**-2.3**
ADVT	**Abdulvahap**	**3.00**	**88**	*e*Pn	**Pb**	**20 43 29.2**	**-2.3**

*IDC **30** 20:48:27.6±8.7, 35.80N×140.75E, h45km±60km, mb3.2/2, mb1 3.5/3, mb1mx3.0/24, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=120.5km s-min=30.1km az=70.0*
*ISCJB **30** 20:48:30.7±1.0, 35.66N±0.07×140.2E±0.1, h76km±6km, mb3.3/2, Error ellipse: s-maj=14.1km s-min=10.7km az=156.1*
*JMA **30** 20:48:30.9±0.2, 35.73N×140.21E, h67km±2km, M2.7*
ISC 30 20:48:31.7±1.2, 35.66N±0.08×140.19E±0.10, h70km±7km, n11, σ1s23/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.24**	**177**	P	**Pn**	**20 48 42.4**	**-0.1**
JCN				*e*S	**Sn**	**20 48 51.4**	**+1.1**
TOK	**Tokyo**	**0.35**	**275**	P	**Pn**	**20 48 42.8**	**-0.3**
TOK				*e*S	**Sn**	**20 48 52.0**	**+0.5**
JAG	**Ashikaga**	**0.97**	**322**	P	**Pn**	**20 48 48.7**	**-1.1**
JAG				*e*S	**Sn**	**20 49 01.1**	**-1.1**
JOD2	**Odawara 2**	**0.98**	**247**	P	**Pn**	**20 48 49.3**	**-0.7**
JOD2				*e*S	**Sn**	**20 49 02.4**	**-1.1**
JRY	**Ryogami san**	**1.10**	**289**	P	**Pn**	**20 48 51.5**	**0.0**
JKT	**Katashina**	**1.34**	**326**	P	**Pn**	**20 48 53.7**	**-0.9**
JYN	**Shimob**	**1.35**	**264**	P	**Pn**	**20 48 54.4**	**-0.3**
JYN				*e*S	**Sn**	**20 49 11.9**	**-0.1**
MJAR	**Matsushiro Arr**	**1.83**	**299**	P	**Pn**	**20 49 01.1**	**+0.1**
	10nm,0.3s,baz=101,slow=14,SNR=127						
MAT	**Matsushiro**	**1.83**	**299**	P	**Pn**	**20 49 01.3**	**+0.2**
MAT				*e*S	**Sn**	**20 49 27.1**	**+3.7**
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**20 56 33.0**	**+0.7**
	0.1nm,0.6s,baz=83,slow=12,SNR=3.6						
MKAR				PcP	**PcP**	**20 58 16.8**	**+0.1**
	0.3nm,0.9s,baz=97,slow=3.3,SNR=2.6						
WRA	**Warramunga Arr**	**55.58**	**187**	P	**P**	**20 57 59.6**	**-0.5**
	0.7nm,0.5s,baz=1.9,slow=7.7,SNR=14						

*ISCJB **30** 21:03:57.8±0.4, 35.66N±0.03×140.24E±0.05, h74km±3km, mb4.0/20, Error ellipse: s-maj=7.0km s-min=5.5km az=0.7*
*NEIC **30** 21:03:57.7±0.6, 35.57N×140.31E, h60km±5km, mb4.5/7, MW3.9(NIED), Error ellipse: s-maj=6.6km s-min=5.7km az=95.0*
*JMA **30** 21:03:58.3±0.1, 35.72N×140.22E, h67km±2km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs41.00000°, δ89.00000°, λ89.00000°. NP2:ϕs277.00000°, δ2.00000°, λ146.00000°. Principal axes: T Plg46.0000°, Azm309.0000°; N Plg1.0000°, Azm41.0000°; P Plg44.0000°, Azm132.0000°;*
JMA Felt I J1.
*IDC **30** 21:03:58.1±2.0, 35.58N×140.28E, h60km±17km, mb3.7/12, mb1 3.8/16, mb1mx3.7/26, mbtmp3.7/16, MS3.0/1, Ms1 3.0/1, ms1mx2.3/29 Error ellipse: s-maj=22.5km s-min=14.4km az=74.0*
*NIED **30** 21:04:00, 35.70N×140.30E, h71km, Mw4.0 Best double couple: Mo1.01000×10^15 NP1:ϕs15.00000°, δ62.00000°, λ100.00000°. NP2:ϕs175.00000°, δ29.00000°, λ72.00000°.*
ISC 30 21:03:59.0±0.7, 35.71N±0.05×140.23E±0.05, h66km±7km, n74, σ1s18/86, mb4.2/20, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.29**	**184**	P	**Pn**	**21 04 09.8**	**+0.2**
JCN				S	**Sn**	**21 04 18.9**	**+1.5**
TOK	**Tokyo**	**0.38**	**267**	P	**Pn**	**21 04 10.5**	**+0.2**
TOK				*e*S	**Sn**	**21 04 19.6**	**+1.1**
BSO3	**Boso 3**	**0.93**	**165**	P	**Pn**	**21 04 15.5**	**-0.7**
BSO3				S	**Sn**	**21 04 30.5**	**+1.6**
JAG	**Ashikaga**	**0.95**	**319**	⇓P	**Pn**	**21 04 16.3**	**-0.4**
JAG				*e*S	**Sn**	**21 04 29.8**	**0.0**
JOD2	**Odawara 2**	**1.03**	**245**	⇓P	**Pn**	**21 04 16.8**	**-0.9**
JOD2				S	**Sn**	**21 04 29.9**	**-1.7**
JRY	**Ryogami san**	**1.12**	**286**	⇓P	**Pn**	**21 04 19.0**	**+0.1**
JIM2	**Oshima 3**	**1.18**	**214**	P	**Pn**	**21 04 18.7**	**-1.2**
JIM2				*e*S	**Sn**	**21 04 33.7**	**-1.4**
BSO1	**Boso 1**	**1.22**	**149**	P	**Pn**	**21 04 18.7**	**-0.9**
JKT	**Katashina**	**1.32**	**324**	P	**Pn**	**21 04 21.2**	**-0.4**
JYN	**Shimob**	**1.39**	**262**	⇓P	**Pn**	**21 04 21.9**	**-0.5**
JYN				S	**Sn**	**21 04 39.2**	**-0.8**
JIZS	**Izushimoda**	**1.48**	**229**	P	**Pn**	**21 04 22.5**	**-1.1**
JIZS				S	**Sn**	**21 04 40.1**	**-2.0**
MJAR	**Matsushiro Arr**	**1.83**	**298**	P	**Pn**	**21 04 28.4**	**0.0**
	47nm,0.3s,baz=100,slow=14,SNR=591						
MJAR	**Matsushiro Arr**	**1.83**	**298**	P	**Pn**	**21 04 28.4**	**0.0**
MAJO	**Matsushiro**	**1.83**	**298**	*e*Pn	**Pn**	**21 04 28.9**	**+0.5**
MAT	**Matsushiro**	**1.83**	**298**	P	**Pn**	**21 04 28.5**	**+0.1**
MAT				*e*S	**Sn**	**21 04 54.2**	**+3.6**
ERM	**Erimo**	**6.70**	**19**	*e*Pn	**Pn**	**21 05 34.6**	**-0.1**
ERM				*e*Sn	**Sn**	**21 06 51.0**	**+1.4**
JNU	**Nakatsue**	**8.14**	**254**	Pn	**Pn**	**21 05 53.7**	**-0.9**
ASAJ	**Asahikawa**	**8.59**	**11**	P	**Pn**	**21 06 00.1**	**-0.5**
	0.6nm,0.3s,baz=337,slow=29,SNR=7.1						
ASAJ				S	**Sn**	**21 07 31.6**	**-4.3**
	0.2nm,0.3s,baz=273,slow=18,SNR=2.5						
ASAJ	**Asahikawa**	**8.59**	**11**	*e*Pn	**Pn**	**21 06 00.6**	**0.0**
ASAJ				S	**Sn**	**21 07 31.6**	**-4.3**
CBIJ	**Chichi jima**	**8.75**	**168**	P	Pn	21 05 58.9	-3.8
	13nm,0.3s,baz=272,slow=18,SNR=7.6						
CBIJ				S	Sn	21 07 29.6	-10
	2.9nm,0.3s,baz=360,slow=19,SNR=1.9						
CBIJ	**Chichi jima**	**8.75**	**168**	P	Pn	21 05 58.9	-3.8
CBIJ				S	Sn	21 07 29.6	-10
KSRS	**Korea Array**	**10.05**	**284**	P	**Pn**	**21 06 22.6**	**+2.2**
	0.3nm,0.3s,baz=98,slow=14,SNR=5.0						
KSRS				LR	LR	21 09 52.6	
	comp=Z,68nm,18.1s,baz=174,slow=35						
KSAR	**Wonju Array Be**	**10.08**	**284**	P	**Pn**	**21 06 22.6**	**+1.8**
USRK	**Ussuriysk Arra**	**10.57**	**326**	P	**Pn**	**21 06 30.4**	**+2.9**
	0.2nm,0.3s,baz=135,slow=12,SNR=5.4						
SONM	**Songino Array**	**27.77**	**306**	P	**P**	**21 09 41.0**	**-0.6**
	0.2nm,0.4s,baz=112,slow=8.9,SNR=4.6						
SONM	**Songino Array**	**27.77**	**306**	P	**P**	**21 09 41.0**	**-0.6**
ZALV	**Zalesovo Beam**	**42.12**	**313**	P	**P**	**21 11 44.9**	**+0.5**
	1.5nm,0.4s,baz=98,slow=8.2,SNR=10						
ZALV				PcP	**PcP**	**21 13 37.8**	**-0.1**
	1.2nm,0.5s,baz=62,slow=3.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**42.12**	**313**	P	**P**	**21 11 44.9**	**+0.5**
ZALV				PcP	**PcP**	**21 13 37.8**	**-0.1**
MK31	**Makanchi Array**	**44.02**	**303**	*e*P	**P**	**21 12 00.2**	**+0.1**
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**21 12 00.2**	**+0.2**
	1.2nm,0.7s,baz=90,slow=9.9,SNR=17						
MKAR				PcP	**PcP**	**21 13 44.5**	**0.0**
	0.4nm,0.7s,baz=74,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**21 12 00.2**	**+0.2**
MKAR				PcP	**PcP**	**21 13 44.5**	**0.0**
TAPN	**Taplejung**	**45.09**	**275**	*e*P	**P**	**21 12 08.3**	**-0.7**
TAPN	**Taplejung**	**45.09**	**275**	*e*P	**P**	**21 12 08.3**	**-0.7**
ODAN	**Odare**	**45.55**	**274**	*e*P	**P**	**21 12 12.2**	**-0.4**
ODAN	**Odare**	**45.55**	**274**	*e*P	**P**	**21 12 12.2**	**-0.4**
KURK	**Kurchatov**	**46.01**	**309**	*e*P	**P**	**21 12 15.6**	**0.0**
	2.3nm,0.5s						
RAMN	**Ramite**	**46.15**	**275**	*e*P	**P**	**21 12 16.9**	**-0.5**
	10nm,0.9s						
RAMN	**Ramite**	**46.15**	**275**	*e*P	**P**	**21 12 16.9**	**-0.5**
	10nm,0.9s						
JIRN	**Jiri**	**46.19**	**276**	*e*P	**P**	**21 12 17.7**	**-0.1**
	7.8nm,0.7s						
JIRN	**Jiri**	**46.19**	**276**	*e*P	**P**	**21 12 17.7**	**-0.1**
	7.8nm,0.7s						
GUN	**Gumba**	**46.34**	**276**	*e*P	**P**	**21 12 18.5**	**-0.5**
GUN	**Gumba**	**46.34**

MEEK	**Meekatharra**	**3.61**	**10**	*eP*	Pn	21 51 19.1	+3.8
MEEK				*eS*	**Sn**	**21 51 58.7**	**+0.8**
RKGY	**Rocky Gully**	**4.46**	**190**	*eP*	Pn	21 51 31.5	+4.5
RKGY				*eS*	**Sn**	**21 52 18.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.96**	**32**	Pn	**Pn**	**21 53 38.1**	**+0.9**
	0.6nm,0.3s,baz=216,slow=10,SNR=7.1						
FITZ				Sn	Sn	21 56 03.0	-9.2
	0.3nm,0.3s,baz=135,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**15.68**	**69**	Pn	**Pn**	**21 53 59.0**	**-1.3**
	0.4nm,0.3s,baz=239,slow=11,SNR=21						
ASAR				Sn	Sn	21 56 45.0	-9.1
	0.3nm,0.3s,baz=248,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**18.04**	**59**	P	**Pn**	**21 54 28.9**	**-1.2**
	0.2nm,0.3s,baz=231,slow=13,SNR=11						
WRA				S	Sn	21 57 40.4	-11
	0.1nm,0.3s,baz=238,slow=24,SNR=3.3						
STKA	**Stephens Creek**	**20.36**	**101**	P	Pn	21 54 57.7	-0.4
	1.4nm,0.9s,baz=296,slow=14,SNR=2.4						
STKA				S	**S**	**21 58 41.7**	**-2.3**
	1.2nm,0.7s,baz=302,slow=20,SNR=2.9						

IDC 30 21:59:10.5±5.7, 23°.33S×175°.69W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/17, mbtmp4.5/4, Error ellipse: s-maj=139.8km s-min=96.8km az=147.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.44**	**268**	P	P		22 06 10.4	+1.8
	8.1nm,0.4s,baz=92,slow=9.0,SNR=19							
STKA	**Stephens Creek**	**38.59**	**248**	P	P		22 06 35.2	-0.2
	0.9nm,0.5s,baz=111,slow=9.7,SNR=7.1							
ASAR	**Alice Springs**	**46.02**	**259**	P	P		22 07 34.4	-1.7
	1.0nm,0.5s,baz=96,slow=8.5,SNR=20							
WRA	**Warramunga Arr**	**46.39**	**264**	P	P		22 07 38.6	-0.4
	2.5nm,0.3s,baz=99,slow=7.0,SNR=54							
FINES	**FINESS Array B**	**139.08**	**344**	PKP	PKPdf		22 18 39.6	+1.0
	2.4nm,0.9s,baz=15,slow=8.3,SNR=8.1							

*DJA **30** 21:59:51.2±2.39N×98.90E, h133km, MLv3.2/5*

IDC 30 21:59:52.3±12.0, 2.33N×98.90E, h170km±114km, mb3.0/4, mb1 3.1/5, mb1mx3.0/23, mbtmp3.0/5, Error ellipse: s-maj=115.9km s-min=18.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.02**	**0**	P	Pn		22 03 28.1	-0.4
	0.2nm,0.3s,baz=192,slow=10,SNR=6.6							
WRA	**Warramunga Arr**	**41.23**	**124**	P	P		22 07 20.7	-0.2
	0.8nm,0.3s,baz=304,slow=8.9,SNR=16							
SONM	**Songino Array**	**45.79**	**7**	P	P		22 07 57.1	0.0
	0.2nm,0.5s,baz=197,slow=8.5,SNR=2.7							
MKAR	**Makanchi Array**	**46.59**	**344**	P	P		22 08 03.1	0.0
	0.2nm,0.4s,baz=161,slow=8.5,SNR=8.1							
ZALV	**Zalesovo Beam**	**52.74**	**350**	P	P		22 08 49.0	-0.4
	0.6nm,0.5s,baz=182,slow=9.5,SNR=4.0							

IDC 30 22:03:44.1±26.0, 22°.39S×171°.94W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=495.7km s-min=158.8km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.94**	**265**	P	P		22 11 12.3	+0.2
	3.5nm,0.3s,baz=90,slow=12,SNR=8.4							
STKA	**Stephens Creek**	**42.15**	**247**	P	P		22 11 36.8	-1.7
	1.5nm,0.7s,baz=79,slow=10,SNR=3.8							
ASAR	**Alice Springs**	**49.60**	**257**	P	P		22 12 37.5	-0.1
	0.3nm,0.3s,baz=98,slow=8.2,SNR=8.0							
WRA	**Warramunga Arr**	**49.94**	**262**	P	P		22 12 40.7	+0.6
	1.1nm,0.3s,baz=99,slow=7.0,SNR=32							

*IDC **30** 22:19:15.8±1.1, 39°.38N×73°.92E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/29, mbtmp3.5/10, ML3.1/5, MS3.3/2, Ms1 3.3/2, ms1mx2.5/45, Error ellipse: s-maj=19.7km s-min=15.1km az=111.0*

*NNC **30** 22:19:21.3±7.8, 39°.51N×73°.61E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=65.6km s-min=32.1km az=169.0*

ISC 30 22:19:16.1±1.0, 39°.42N±0°.08×74°.12E±0°.06, h10km, n29, σ1s88/33, mb3.5/6, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.44**	**86**	Pg	**Pn**	**22 19 41.8**		**-0.6**
KSH				Sg	**Sn**	**22 19 58.8**		**-2.6**
KSH				smax	smax			
	comp=N,310nm,0.9s							
KSH				smax	smax			
	comp=E,300nm,1.0s							
AML	**Almayashu**	**2.72**	**353**	P	**Pb**	**22 20 02.9**		**-2.3**
	SNR=68							
AML				P	**Pb**	**22 20 02.9**		**-2.3**
	SNR=68							
KZA	**Kyzart**	**2.79**	**18**	P	**Pb**	**22 20 05.5**		**-0.7**
	SNR=18							
KZA				P	**Pb**	**22 20 05.5**		**-0.7**
	SNR=18							
UCH	**Uchtor**	**2.82**	**6**	P	**Pb**	**22 20 06.2**		**-0.6**
	SNR=7.4							
UCH				P	**Pb**	**22 20 06.2**		**-0.6**
	SNR=7.4							
AAK	**Ala-Archa**	**3.22**	**5**	P	**Pb**	**22 20 10.6**		**-2.9**
	SNR=24							
AAK				P	**Pb**	**22 20 10.6**		**-2.9**
	SNR=24							
AAK	**Ala-Archa**	**3.22**	**5**	Pn	**Pb**	**22 20 10.8**		**-2.6**
	comp=E,3.6nm,0.3s,baz=168,slow=7.1,SNR=40							
AAK				Sn	**Sb**	**22 20 54.1**		**+1.3**
	comp=E,9.6nm,0.3s,baz=106,slow=23,SNR=16							
EKS2	**Erkin-Say**	**3.25**	**356**	P	**Pb**	**22 20 13.0**		**-0.9**
	SNR=29							
EKS2				P	**Pb**	**22 20 13.0**		**-0.9**
	SNR=29							
ULHL	**Ulahol**	**3.25**	**29**	P	**Pb**	**22 20 13.3**		**-0.7**
	SNR=13							
ULHL				P	**Pb**	**22 20 13.3**		**-0.7**
	SNR=13							
KBK	**Karagaybulak**	**3.29**	**11**	P	**Pb**	**22 20 12.4**		**-2.3**
	SNR=33							
KBK				P	**Pb**	**22 20 12.4**		**-2.3**
	SNR=33							
TKM2	**Tokmak 2**	**3.67**	**17**	P	Pn	22 20 17.4		+4.3
	SNR=9.8							
TKM2				P	Pn	22 20 17.4		+4.3
	SNR=9.8							
TKM2	**Tokmak 2**	**3.67**	**17**	⇑Pn	Pn	22 20 17.5		+4.4
	comp=E,7.2nm,0.6s							
TKM2				⇑Sn	**Sb**	**22 21 03.3**		**-2.4**
	comp=E,16nm,0.6s							
USP	**Ospenovka**	**3.85**	**4**	P	Pb	22 20 20.7		-3.4
	SNR=14							
USP				P	Pb	22 20 20.7		-3.4
	SNR=14							
KNDC	**Almaty**	**4.35**	**29**	⇓Pn	**Pb**	**22 20 34.2**		**+1.5**
	comp=E,25nm,0.7s							
KNDC				⇑Sn	**Sb**	**22 21 28.0**		**+2.6**
	comp=E,44nm,0.6s							
KK31	**Karatay Array**	**4.57**	**325**	Pn	**Pn**	**22 20 26.4**		**+1.0**
	comp=E,3.2nm,0.3s,baz=143,slow=16,SNR=114							
KK31				⇓Sn	**Sn**	**22 21 21.2**		**+2.6**
	comp=E,7.6nm,0.4s,baz=143,slow=26,SNR=3.9							
MKAR	**Makanchi Array**	**9.48**	**36**	Pn	Pn	22 21 37.0		+4.4
	comp=E,0.0nm,0.3s,baz=212,slow=14,SNR=4.0							
MKAR				Lg	Lg	22 24 18.6		
	comp=E,0.1nm,0.3s,baz=228,slow=21,SNR=5.0							
KURK	**Kurchatov**	**11.73**	**14**	Lg	Lg	22 25 27.0		
	comp=E,0.0nm,0.3s,baz=197,slow=26,SNR=11							
BVAR	**Borovoye Array**	**13.84**	**351**	Pn	**Pn**	**22 22 32.2**		**-0.1**
	comp=E,0.2nm,0.3s,baz=166,slow=13,SNR=3.5							
AB31	**Akbulak array**	**14.10**	**319**	P	**Pn**	**22 22 34.0**		**-1.8**
	comp=E,0.2nm,0.3s,baz=128,slow=14,SNR=18							
AKTO	**Aktyubinsk**	**15.81**	**319**	Pn	**Pn**	**22 22 56.5**		**-2.2**
	comp=E,0.1nm,0.3s,baz=156,slow=19,SNR=2.5							
AKTO	**Aktyubinsk**	**15.81**	**319**	⇑P	**P**	**22 23 00.9**		**-1.7**
	comp=E,0.3nm,0.9s							
ZALV	**Zalesovo Beam**	**16.25**	**23**	Pn	**P**	**22 23 06.2**		**-1.2**
	comp=E,0.2nm,0.3s,baz=210,slow=13,SNR=3.9							
SONM	**Songino Array**	**24.68**	**59**	P	**P**	**22 24 40.0**		**+2.8**
	comp=E,0.7nm,0.9s,baz=265,slow=8.6,SNR=5.4							
MLR	**Muntele Rosu**	**35.62**	**296**	LR	LR	22 44 19.4		
	comp=E,12nm,18.2s,baz=141,slow=42							
FINES	**FINESS Array B**	**36.53**	**323**	P	**P**	**22 26 22.3**		**+0.9**
	comp=E,0.9nm,0.6s,baz=120,slow=11,SNR=4.0							
ARCES	**ARCESS Array B**	**39.45**	**335**	P	**P**	**22 26 47.1**		**+1.1**
	comp=E,2.8nm,0.9s,baz=100,slow=9.2,SNR=4.4							
ASAJ	**Asahikawa**	**49.95**	**61**	LR	LR	22 49 11.7		
	comp=E,115nm,19.0s,baz=320,slow=36							
TORD	**Torodi Ar. Bea**	**68.24**	**269**	P	**P**	**22 30 16.9**		**-0.3**
	comp=E,0.1nm,0.4s,baz=64,slow=5.6,SNR=3.1							
YKA	**Yellowknife Ar**	**78.19**	**4**	P	P	22 31 18.2		+3.0
	comp=E,0.1nm,0.6s,baz=349,slow=6.1,SNR=3.5							
WRA	**Warramunga Arr**	**81.52**	**124**	P	**P**	**22 31 35.7**		**+1.7**
	comp=E,0.4nm,0.7s,baz=314,slow=7.2,SNR=5.8							

MEX 30 22:24:43.6±0.6, 17°.30N×96°.84W, h5km±6km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.25**	**155**	*eP*	Pg		22 24 48.3	-0.6
VHO				*i* S	Sg		22 24 51.9	-0.5
UTMO	**Huajuapan**	**1.05**	**300**	*i* P	Pg		22 25 01.1	-3.1
UTMO				*i* S	Sg		22 25 14.9	-3.1
PNIG	**Pinotepa**	**1.53**	**234**	*i* P	Pn		22 25 08.7	-2.9
PNIG				*eS*	Sn		22 25 26.7	-5.1
HUIG	**Huatulco**	**1.68**	**155**	*i* P	Pn		22 25 10.3	-3.4
HUIG				*i* S	Sn		22 25 30.4	-5.2
CMIG	**Matias Romero**	**1.89**	**96**	*i* P	Pn		22 25 12.4	-4.1
CMIG				*eS*	Sn		22 25 36.9	-3.8

*IDC **30** 22:31:01.8±1.8, 49°.87N×88°.33E, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.4/31, mbtmp3.7/7, ML3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.0/55, Error ellipse: s-maj=18.7km s-min=12.0km az=103.0*

*NNC **30** 22:31:07.1±3.2, 49°.78N×87°.88E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=26.3km s-min=16.2km az=83.0*

ISC 30 22:31:04.5±2.0, 49°.88N±0°.07×88°.3E±0°.2, h10km, n16, σ1s47/23, 8C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**4.60**	**334**	Pn	**Pn**		**22 32 14.0**	**0.0**
	4.7nm,0.3s,baz=154,slow=14,SNR=72							
ZALV				Pg	**Pb**		**22 32 26.5**	**+1.3**
	5.3nm,0.3s,baz=146,slow=16,SNR=23							
ZALV				Sn	**Sn**		**22 33 05.7**	**-1.8**
	2.2nm,0.3s,baz=145,slow=16,SNR=4.8							
ZALV				Lg	Lg		22 33 28.5	
	7.3nm,0.3s,baz=170,slow=27,SNR=8.6							
MK31	**Makanchi Array**	**5.05**	**235**	Pn	**Pn**		**22 32 20.9**	**+0.7**
	3.8nm,0.5s,baz=53,slow=12,SNR=400							
MK31				⇑Pg	**Pb**		**22 32 33.8**	**+0.9**
	2.5nm,0.3s,baz=54,slow=17,SNR=9.0							
MK31				⇑Sn	**Sn**		**22 33 18.4**	**-0.3**
	4.2nm,0.4s,baz=52,slow=27,SNR=5.8							
MK31				⇑Lg	Lg		22 33 40.2	
	17nm,0.5s,baz=56,slow=30,SNR=6.8							
MKAR	**Makanchi Array**	**5.05**	**235**	Pn	**Pn**		**22 32 20.4**	**+0.2**
	2.1nm,0.3s,baz=50,slow=15,SNR=161							
MKAR				Pg	**Pb**		**22 32 32.6**	**-0.3**
	4.7nm,0.3s,baz=57,slow=18,SNR=21							
MKAR				Sn	**Sn**		**22 33 19.2**	**+0.5**
	4.1nm,0.3s,baz=58,slow=27,SNR=8.3							
MKAR				Lg	Lg		22 33 41.4	
	7.9nm,0.3s,baz=54,slow=31,SNR=9.6							
KURK	**Kurchatov**	**6.25**	**281**	Pn	**Pn**		**22 32 36.9**	**+0.2**
	0.6nm,0.3s,baz=93,slow=14,SNR=40							
KURK				Sn	**Sn**		**22 33 49.2**	**+1.2**
	1.0nm,0.3s,baz=88,slow=27,SNR=13							
KURK				Lg	Lg		22 34 21.4	
	1.3nm,0.3s,baz=86,slow=32,SNR=8.8							
KURK	**Kurchatov**	**6.25**	**281**	⇑Pn	**Pn**		**22 32 37.4**	**+0.8**
	9.5nm,0.5s							
KURK				⇑Sn	**Sn**		**22 33 45.4**	**-2.7**
	14nm,0.6s							
KURK				⇓Lg	Lg		22 34 16.0	
	47nm,0.7s							
VOSK	**Vostochnaya**	**11.20**	**291**	⇑P	**Pn**		**22 33 46.5**	**+2.0**
	0.7nm,0.5s							
BVA0	**Borovoye Array**	**11.60**	**293**	⇓P	**Pn**		**22 33 52.9**	**+3.0**
	0.2nm,0.5s,baz=312,slow=17,SNR=4.5							
BVAR	**Borovoye Array**	**11.60**	**293**	Pn	**Pn**		**22 33 48.3**	**-1.7**
	0.7nm,0.3s,baz=104,slow=14,SNR=20							
BVAR				Sn	Sn		22 35 52.3	-7.1
	0.4nm,0.3s,baz=98,slow=21,SNR=4.6							
BVAR				LR	LR		22 38 22.2	
	comp=Z,30nm,21.2s,baz=8.3,slow=38							
AAK	**Ala-Archa**	**11.97**	**238**	Pn	**Pn**		**22 33 54.1**	**-1.1**
	0.2nm,0.3s,baz=62,slow=10,SNR=7.0							
AAK				Lg	Lg		22 37 20.4	
	0.0nm,0.3s,baz=31,slow=19,SNR=2.9							
SONM	**Songino Array**	**12.10**	**93**	Lg	Lg		22 37 19.2	
	0.0nm,0.3s,baz=256,slow=18,SNR=3.8							
ZRNK	**Zerenda**	**12.42**	**292**	⇓P	**Pn**		**22 34 00.2**	**-1.0**
	0.6nm,0.3s							
KK31	**Karatay Array**	**13.98**	**248**	⇑P	**Pn**		**22 34 22.4**	**0.0**
	0.3nm,0.3s,baz=54,slow=14,SNR=4.2							
AB31	**Akbulak array**	**18.35**	**279**	⇑P	**P**		**22 35 20.7**	**+1.7**
	0.1nm,0.3s,baz=37,slow=5.1,SNR=9.5							
AKTO	**Aktyubinsk**	**19.34**	**283**	P	**Pn**		**22 35 32.0**	**+1.2**
	0.2nm,0.3s,baz=76,slow=17,SNR=3.0							
HFS	**Hagfors**	**41.74**	**314**	P	**P**		**22 38 51.5**	**-1.7**
	1.7nm,1.0s,baz=77,slow=14,SNR=3.3							
NOA	**NORSAR Array B**	**42.56**	**315**	P	**P**		**22 38 58.5**	**-1.5**
	0.7nm,0.9s,baz=81,slow=7.9,SNR=2.3							

IDC 30 22:51:38.9±1.6, 4.70S×145°.57E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=47.3km s-min=26.5km az=115.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.93**	**161**	Pn	Pn		22 52 54.8	+0.5
	14nm,0.3s,baz=323,slow=6.3,SNR=27							
PMG				Sn	Sn		22 53 42.7	-9.5
	16nm,0.3s,baz=136,slow=18,SNR=15							
WRA	**Warramunga Arr**	**18.69**	**215**	P	Pn		22 55 59.5	+0.3
	0.3nm,0.3s,baz=39,slow=11,SNR=20							
ASAR	**Alice Springs**	**21.96**	**210**	P	P		22 56 34.8	+0.2
	0.4nm,0.4s,baz=42,slow=8.8,SNR=7.5							
FITZ	**Fitzroy Crossi**	**23.61**	**234**	P	P		22 56 51.2	-0.5
	2.1nm,0.3s,baz=49,slow=14,SNR=4.3							
STKA	**Stephens Creek**	**27.29**	**187**	P	P		22 57 24.7	-0.6
	1.2nm,0.8s,baz=32,slow=9.5,SNR=3.4							
ILAR	**Eielson Array**	**84.86**	**23**	P	P		23 04 15.5	+0.2
	0.4nm,0.7s,baz=248,slow=5.7,SNR=5.9							

*IDC **30** 22:55:12.6±0.7, 10°.52N×145°.78E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.3/25, mbtmp4.2/18, ML5.1/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/35, Error ellipse: s-maj=24.3km s-min=15.2km az=90.0*

*ISCJB **30** 22:55:14.1±0.6, 10°.50N±0°.07×145°.6E±0°.1, h20km, mb4.4/29, MS3.4/6, Error ellipse: s-maj=15.2km s-min=9.7km az=176.8*

*NEIC **30** 22:55:14.1±0.4, 10°.50N×145°.71E, h10km, mb4.5/5, Error ellipse: s-maj=11.0km s-min=7.4km az=86.0*

ISC 30 22:55:15.9±0.6, 10°.60N±0°.08×145°.7E±0°.1, h20km, n70, σ0s94/70, mb4.4/29, MS3.4/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.08**	**345**	Pn	**Pn**		**22 56 02.4**	**-1.0**
	231nm,0.3s,baz=161,slow=10,SNR=40							
GUMO				Sn	**Sn**		**22 56 37.6**	**-2.1**
	216nm,0.3s,baz=9.0,slow=19,SNR=7.5							
GUMO				LR	LR		22 57 10.3	
	comp=Z,406nm,18.8s,baz=20,slow=37							
GUMO	**Guam**	**3.08**	**345**	*e*Pn	**Pn**		**22 56 02.3**	**-1.1**
GUMO				*e*Sn	**Sn**		**22 56 37.3**	**-2.4**
MJAR	**Matsushiro Arr**	**26.70**	**346**	P	**P**		**23 00 54.8**	**+0.9**
	2.9nm,0.6s,baz=169,slow=8.3,SNR=6.8							
MJAR				LR	LR		23 09 56.3	
	comp=Z,111nm,19.7s,baz=210,slow=33							
MJAR	**Matsushiro Arr**	**26.70**	**346**	P	**P**		**23 00 54.8**	**+0.9**
KAPI	**Kappang**	**30.14**	**240**	LR	LR		23 10 49.8	
	comp=Z,45nm,21.4s,baz=280,slow=31							
CTA	**Charters Tower**	**30.50**	**179**	LR	LR		23 13 35.0	
	comp=Z,85nm,18.1s,baz=51,slow=36							
KSRS	**Korea Array**	**31.16**	**332**	P	**P**		**23 01 35.2**	**+1.7**
	4.5nm,0.8s,baz=147,slow=9.4,SNR=9.4							
KSAR	**Wonju Array Be**	**31.17**	**332**	P	**P**		**23 01 35.2**	**+1.6**

WRAB	**Tennant Creek**	**32.34**	**200**	*eP*	**P**	**23 01 41.1**		**-2.9**
WRA	**Warramunga Arr**	**32.35**	**200**	P	**P**	**23 01 43.3**		**-0.8**
	1.8nm,0.6s,baz=28,slow=9.7,SNR=11							
WRA	**Warramunga Arr**	**32.35**	**200**	P	**P**	**23 01 43.3**		**-0.8**
USRK	**Ussuriysk Arra**	**35.52**	**343**	P	**P**	**23 02 11.8**		**+0.5**
	2.9nm,0.7s,baz=156,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**35.96**	**199**	P	**P**	**23 02 14.9**		**-0.5**
	1.4nm,0.8s,baz=24,slow=7.5,SNR=8.7							
ASAR	**Alice Springs**	**35.96**	**199**	P	**P**	**23 02 14.9**		**-0.5**
ENH	**Enshi**	**38.94**	**306**	*eP*	**P**	**23 02 40.9**		**+0.2**
	9.1nm,0.6s							
STKA	**Stephens Creek**	**42.42**	**185**	P	**P**	**23 03 07.7**		**-1.6**
	1.3nm,0.6s,baz=330,slow=13,SNR=3.6							
STKA				LR	LR	23 20 22.4		
	comp=Z,90nm,20.1s,baz=24,slow=36							
STKA	**Stephens Creek**	**42.42**	**185**	*eP*	**P**	**23 03 07.7**		**-1.6**
PETK	**Petropavlovsk-**	**43.48**	**10**	LR	LR	23 22 09.4		
	comp=Z,27nm,18.2s,baz=325,slow=37							
CMAR	**Chiang Mai Arr**	**45.83**	**285**	P	**P**	**23 03 38.4**		**+1.4**
	3.3nm,0.8s,baz=86,slow=6.3,SNR=21							
CMAR	**Chiang Mai Arr**	**45.83**	**285**	P	**P**	**23 03 38.4**		**+1.4**
ULN	**Ulaanbaatar**	**49.30**	**326**	*eP*	**P**	**23 04 04.0**		**+0.3**
	4.7nm,0.7s							
SONM	**Songino Array**	**49.64**	**326**	P	**P**	**23 04 07.3**		**+1.1**
	3.0nm,0.6s,baz=138,slow=6.2,SNR=47							
SONM				PcP	**PcP**	**23 05 28.0**		**+0.5**
	0.7nm,0.7s,baz=152,slow=5.9,SNR=2.5							
SONM	**Songino Array**	**49.64**	**326**	P	**P**	**23 04 07.3**		**+1.1**
SONM				PcP	**PcP**	**23 05 28.0**		**+0.5**
LSA	**Lhasa**	**54.12**	**299**	*eP*	**P**	**23 04 41.3**		**+1.0**
	1.6nm,0.6s							
TAPN	**Taplejung**	**56.84**	**296**	*eP*	**P**	**23 05 00.1**		**+0.3**
	7.2nm,0.7s							
TAPN	**Taplejung**	**56.84**	**296**	*eP*	**P**	**23 05 00.1**		**+0.3**
	7.2nm,0.7s							
ODAN	**Odare**	**57.08**	**295**	*eP*	**P**	**23 05 01.8**		**+0.3**
ODAN	**Odare**	**57.08**	**295**	*eP*	**P**	**23 05 01.8**		**+0.3**
RAMN	**Ramite**	**57.79**	**295**	*eP*	**P**	**23 05 06.1**		**-0.4**
RAMN	**Ramite**	**57.79**	**295**	*eP*	**P**	**23 05 06.1**		**-0.4**
JIRN	**Jiri**	**58.21**	**296**	*eP*	**P**	**23 05 09.7**		**+0.1**
	15nm,1.0s							
JIRN	**Jiri**	**58.21**	**296**	*eP*	**P**	**23 05 09.7**		**+0.1**
	15nm,1.0s							
GUN	**Gumba**	**58.51**	**296**	*eP*	**P**	**23 05 11.8**		**+0.2**
	28nm,0.9s							
GUN	**Gumba**	**58.51**	**296**	*eP*	**P**	**23 05 11.8**		**+0.2**
	28nm,0.9s							
RPZ	**Rata Peaks**	**58.78**	**159**	LR	LR	23 26 36.5		
	comp=Z,69nm,21.8s,baz=216,slow=32							
PKI	**Pulchoki**	**58.90**	**296**	*eP*	**P**	**23 05 14.2**		**-0.1**
PKI	**Pulchoki**	**58.90**	**296**	*eP*	**P**	**23 05 14.2**		**-0.1**
KKN	**Kakani**	**59.03**	**296**	*eP*	**P**	**23 05 15.1**		**+0.1**
	9.2nm,0.8s							
KKN	**Kakani**	**59.03**	**296**	*eP*	**P**	**23 05 15.1**		**+0.1**
	9.2nm,0.8s							
DMN	**Daman**	**59.17**	**296**	*eP*	**P**	**23 05 16.1**		**0.0**
DMN	**Daman**	**59.17**	**296**	*eP*	**P**	**23 05 16.1**		**0.0**
GKN	**Gorkha**	**59.61**	**296**	*eP*	**P**	**23 05 19.0**		**0.0**
	10.0nm,0.7s							
GKN	**Gorkha**	**59.61**	**296**	*eP*	**P**	**23 05 19.0**		**0.0**
	10.0nm,0.7s							
DANN	**Dangsing**	**60.41**	**297**	*eP*	**P**	**23 05 24.7**		**+0.1**
	19nm,0.6s							
DANN	**Dangsing**	**60.41**	**297**	*eP*	**P**	**23 05 24.7**		**+0.1**
	19nm,0.6s							
KOLN	**Koldanda**	**60.51**	**296**	*eP*	**P**	**23 05 25.3**		**0.0**
	11nm,0.8s							
KOLN	**Koldanda**	**60.51**	**296**	*eP*	**P**	**23 05 25.3**		**0.0**
	11nm,0.8s							
MK31	**Makanchi Array**	**64.21**	**317**	*eP*	**P**	**23 05 50.1**		**+0.6**
MKAR	**Makanchi Array**	**64.21**	**317**	P	**P**	**23 05 50.2**		**+0.8**
	2.5nm,0.8s,baz=94,slow=8.5,SNR=24							
MKAR	**Makanchi Array**	**64.21**	**317**	P	**P**	**23 05 50.2**		**+0.8**
ZALV	**Zalesovo Beam**	**64.52**	**325**	P	**P**	**23 05 51.5**		**+0.2**
	1.6nm,0.5s,baz=108,slow=6.3,SNR=10							
ZALV	**Zalesovo Beam**	**64.52**	**325**	P	**P**	**23 05 51.5**		**+0.2**
KURK	**Kurchatov**	**67.39**	**321**	*eP*	**P**	**23 06 10.0**		**+0.2**
	6.1nm,0.6s							
ILAR	**Eielson Array**	**70.91**	**25**	P	**P**	**23 06 30.4**		**-1.0**
	0.7nm,0.6s,baz=250,slow=5.8,SNR=16							
ILAR	**Eielson Array**	**70.91**	**25**	P	**P**	**23 06 30.4**		**-1.0**
ABKAR	**Akbulak array**	**79.30**	**318**	*eP*	**P**	**23 07 20.1**		**0.0**
	0.5nm,0.4s							
AKTO	**Aktyubinsk**	**80.45**	**320**	P	**P**	**23 07 26.1**		**-0.2**

AGRA	**Agra**	**3.51**	**216**	*e*S		**Sn**	**23 54 28.7**	**-1.4**
AGRA					AML	AML	23 54 53.7	
	comp=N,51nm,0.4s							
AGRA					AML	AML	23 54 55.5	
	comp=E,61nm,0.3s							
KUDL	**Kundal**	**3.83**	**240**	*e*P		**Pg**	**23 54 07.1**	**-1.4**
KUDL				*e*S		**Sb**	**23 54 46.1**	**-2.4**
KUDL					AML	AML	23 55 05.1	
	comp=E,14nm,0.2s							
KUDL					AML	AML	23 55 06.0	
	comp=N,19nm,0.1s							
KHET	**Khetri**	**4.39**	**244**	*e*P		**Pb**	**23 54 13.9**	**+2.0**
KHET				*e*S		**Sb**	**23 55 02.0**	**-2.6**
KHET					AML	AML	23 55 16.8	
	comp=N,12nm,0.5s							
KHET					AML	AML	23 55 17.1	
	comp=E,11nm,0.5s							
MKAR	**Makanchi Array**	**16.75**	**5**	P		**P**	**23 56 51.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=184,slow=11,SNR=10							
KURK	**Kurchatov**	**20.63**	**357**	P		**P**	**23 57 31.8**	**-1.9**
	comp=E,0.4nm,0.4s,baz=181,slow=10,SNR=7.3							
ZALV	**Zalesovo Beam**	**24.06**	**7**	P		**P**	**23 58 10.4**	**+0.9**
	comp=E,0.6nm,0.6s,baz=198,slow=9.1,SNR=3.9							
SONM	**Songino Array**	**26.76**	**41**	P		**P**	**23 58 33.9**	**-0.3**
	comp=E,0.1nm,0.4s,baz=222,slow=9.8,SNR=4.4							

IDC 30 23:57:50.1±20.0, 6°22S×131°02E, h149km±221km, mb3.4/1, mb1 2.9/3, mb1mx2.8/14, mbtmp2.8/3, ML3.0/2, Error ellipse: s-maj=94.9km s-min=89.4km az=1.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.02**	**167**	P	Pn	00 01 02.5	0.0
	0.2nm,0.3s,baz=347,slow=11,SNR=12						
WRA				S	Sn	00 03 26.6	-11
	0.2nm,0.3s,baz=331,slow=23,SNR=7.0						
ASAR	**Alice Springs**	**17.57**	**171**	P	P	00 01 44.9	0.0
	0.0nm,0.3s,baz=352,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**68.14**	**326**	P	P	00 08 34.1	0.0
	0.5nm,0.5s,baz=116,slow=7.9,SNR=19						

NNC 31 00:21:14.9±8.7, 39°06N×72°25E, h11km±39km, mb3.6, mpv3.4, 3C-6D, Error ellipse: s-maj=66.8km s-min=51.5km az=16.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.25**	**343**	Pn	Pn	00 22 20.1	+0.5
	3.8nm,0.5s,baz=157,slow=11,SNR=88						
KK31				⇓Sn	Sb	00 23 16.1	-4.9
	5.6nm,0.5s,baz=152,slow=22,SNR=4.7						
KK31				⇑Lg	Lg	00 23 32.1	
	12nm,0.6s,baz=153,slow=27						
TKM2	**Tokmak 2**	**4.61**	**32**	⇓Pn	Pn	00 22 28.3	+3.5
	1.8nm,0.5s						
TKM2				⇓Pg	Pb	00 22 39.0	+2.8
	4.6nm,0.6s						
TKM2				⇑Lg	Lg	00 23 43.6	
	8.4nm,0.6s						
AB31	**Akbulak array**	**13.47**	**323**	⇓Pn	Pn	00 24 23.1	-2.7
	0.7nm,0.6s,baz=134,slow=13,SNR=15						
AB31				⇓Sn	Sn	00 26 52.9	-2.6
	0.6nm,0.6s,baz=150,slow=22,SNR=4.3						
AKTO	**Aktyubinsk**	**15.19**	**323**	⇓Pn	P	00 24 52.2	-2.1
	0.8nm,1.1s						
AKTO				⇑Sn	Sn	00 27 42.0	+4.6
	0.3nm,0.8s						

NNC 31 00:38:22.2±5.7, 40°04N×72°06E, h0km, mb3.5, mpv3.2, 6C-4D, Error ellipse: s-maj=56.3km s-min=27.0km az=25.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.27**	**340**	⇑Pn	Pn	00 39 17.8	+3.0
	3.4nm,0.5s,baz=150,slow=11,SNR=18						
KK31				⇑Sn	Sb	00 40 00.6	-1.0
	14nm,0.6s,baz=181,slow=25						
KK31				⇑Lg	Lg	00 40 10.4	
	18nm,0.8s,baz=152,slow=22						
TKM2	**Tokmak 2**	**3.92**	**42**	⇓Pn	Pn	00 39 22.3	-1.7
	4.6nm,1.0s						
TKM2				⇓Pg	Pg	00 39 36.5	-1.1
	3.9nm,0.6s						
TKM2				⇓Lg	Lg	00 40 41.8	
	14nm,1.3s						
AB31	**Akbulak array**	**12.60**	**321**	⇑Pn	Pn	00 41 19.2	-3.5
	1.7nm,0.8s,baz=140,slow=13,SNR=8.1						
AB31				⇑Sn	Sn	00 43 45.3	+1.6
	0.7nm,0.6s,baz=135,slow=23,SNR=5.4						
AKTO	**Aktyubinsk**	**14.32**	**321**	⇑Pn	Pn	00 41 49.5	+3.4
	0.4nm,0.8s						
AKTO				⇓Sn	Sn	00 44 30.9	+5.2
	0.2nm,0.9s						

MEX 31 00:45:18.5±0.6, 17°14N×101°10W, h12km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.59**	**323**	*e*P	Pg	00 45 28.3	-1.6
ZIIG				*i* S	Sg	00 45 36.6	-1.1
CAIG	**El Cayaco**	**0.80**	**96**	*i* P	Pg	00 45 31.5	-2.4
CAIG				*i* S	Sg	00 45 41.7	-2.7
MEIG	**Mezcala**	**1.61**	**61**	*i* P	Pn	00 45 43.7	-3.2
MEIG				*i* S	Sn	00 46 02.9	-4.8
PLIG	**Platanillo**	**1.96**	**50**	*i* P	Pn	00 45 49.0	-2.8
PLIG				*i* S	Sn	00 46 10.8	-5.7
YAIG	**Yautepec**	**2.58**	**48**	*i* P	Pn	00 45 57.1	-3.3
YAIG				*i* S	Sn	00 46 27.9	-4.0
PNIG	**Pinotepa**	**2.94**	**104**	*i* P	Pn	00 46 02.4	-2.7
PNIG				*i* S	Sn	00 46 37.6	-2.8

IDC 31 00:51:17.1±3.5, 4°73S×153°16E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/16, mbtmp3.5/2, Error ellipse: s-maj=168.9km s-min=45.3km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.76**	**229**	P	P	00 56 31.3	-0.2
	1.0nm,0.4s,baz=54,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**26.44**	**223**	P	P	00 56 56.4	+0.3
	0.3nm,0.6s,baz=60,slow=8.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.63**	**288**	PKPbc	PKPbc	01 11 11.9	-0.4
	0.6nm,0.6s,baz=86,slow=2.3,SNR=21						

IDC 31 01:10:18.2±2.2, 8°43S×129°78E, h0km, mb3.0/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=73.2km s-min=30.4km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.43**	**202**	Pn	Pn	01 12 50.3	+1.2
	0.6nm,0.3s,baz=26,slow=10.0,SNR=12						
FITZ				Sn	Sn	01 14 41.1	-5.7
	1.5nm,0.3s,baz=168,slow=17,SNR=9.0						
WRA	**Warramunga Arr**	**12.27**	**159**	Pn	Pn	01 13 12.3	-2.0
	0.1nm,0.3s,baz=337,slow=13,SNR=2.9						
WRA				Sn	Sn	01 15 20.5	-11
	0.5nm,0.3s,baz=332,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**15.66**	**166**	Pn	Pn	01 14 01.6	+1.2
	0.1nm,0.3s,baz=341,slow=9.6,SNR=4.2						
MKAR	**Makanchi Array**	**69.30**	**327**	P	P	01 21 27.3	-0.1
	0.1nm,0.5s,baz=129,slow=6.4,SNR=3.1						

MEX 31 01:10:24.2±0.9, 15°98N×99°73W, h16km±25km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.18**	**334**	*i* P	Pn	01 10 42.7	-3.3
CAIG				*i* S	Sb	01 10 55.5	-5.7
PNIG	**Pinotepa**	**1.59**	**75**	*i* P	Pn	01 10 47.9	-3.9
PNIG				*e*S	Sn	01 11 07.1	-5.0
ZIIG	**Zihuatanejo**	**2.32**	**314**	*i* P	Pn	01 10 58.6	-3.1
ZIIG				*e*S	Sn	01 11 24.5	-5.4
PLIG	**Platanillo**	**2.41**	**5**	*i* P	Pn	01 11 00.6	-2.5
PLIG				*e*S	Sn	01 11 28.7	-3.7

DJA ***31*** *01:14:57.0˝56S×98˝09E, h30km, MLv3.9/7*

IDC 31 01:14:51.9±2.1, 0°53S×98°02E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML4.5/1, Error ellipse: s-maj=78.3km s-min=20.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.89**	**3**	P	P	01 19 13.8	-0.3
	0.6nm,0.3s,baz=190,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**40.45**	**121**	P	P	01 22 32.1	-0.3
	0.6nm,0.6s,baz=299,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**41.72**	**126**	P	P	01 22 42.9	0.0
	0.4nm,0.6s,baz=295,slow=8.2,SNR=5.4						
SONM	**Songino Array**	**48.72**	**8**	P	P	01 23 38.6	+0.4
	1.6nm,0.6s,baz=191,slow=9.7,SNR=5.0						
MKAR	**Makanchi Array**	**49.10**	**346**	P	P	01 23 41.4	+0.3
	0.9nm,0.6s,baz=150,slow=7.9,SNR=13						
KURK	**Kurchatov**	**53.66**	**345**	P	P	01 24 14.8	-0.4
	0.2nm,0.5s,baz=159,slow=7.3,SNR=4.6						
USRK	**Ussuriysk Arra**	**53.84**	**30**	P	P	01 24 16.5	-0.1
	3.7nm,0.8s,baz=233,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**55.38**	**351**	P	P	01 24 26.5	-1.1
	0.9nm,0.6s,baz=160,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**144.67**	**34**	PKP	PKPdf	01 34 31.4	-0.1
	0.3nm,0.7s,baz=333,slow=0.4,SNR=3.4						

ISCJB ***31*** *01:53:38.8±0.5, 67°68N±0°03×20°50E±0°08, h0km, Error ellipse: s-maj=4.8km s-min=3.6km az=23.4*
CSEM ***31*** *01:53:41.2±0.2, 67°76N×20°56E, h2km, ML2.2, Error ellipse: s-maj=5.5km s-min=3.8km az=91.0*
NAO ***31*** *01:53:41.7±1.1, 67°79N×20°61E, ML2.3*
HEL ***31*** *01:53:42.1±0.1, 67°82N×20°48E, h1km, ML2.2, ML2.1(BER), ML2.3(NAO)*
IDC ***31*** *01:53:42.2±1.1, 67°80N×20°55E, h0km, mb1 3.2/4, mb1mx3.0/27, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=18.2km s-min=7.9km az=118.0*
BER ***31*** *01:53:43.2±3.8, 67°86N×20°13E, h0km, ML2.1, ML2.3(NAO), Suspected explosion*

ISC 31 01:53:39.5±0.8, 67°77N±0°03×20°13E±0°05, h0km, n33, σ1s55/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.26**	**11**	*e*P	**Pg**	**01 54 04.0**	**+0.4**
KIF				*e*S	**Sg**	**01 54 19.8**	**-0.2**
KIF	**Kilpisjarvi**	**1.26**	**11**	P	**Pg**	**01 54 04.0**	**+0.4**
KIF				S	**Sg**	**01 54 19.7**	**-0.2**
KTK1	**Kautokeino**	**1.69**	**41**	*e*P	**Pn**	**01 54 10.5**	**+0.2**
KTK1				*e*Sg	**Sn**	**01 54 31.7**	**-1.0**
KTK1	**Kautokeino**	**1.69**	**41**	*e*P	**Pn**	**01 54 10.5**	**+0.2**
KTK1				*e*SN	**Sn**	**01 54 31.7**	**-1.0**
KTK1	**Kautokeino**	**1.69**	**41**	P	**Pn**	**01 54 10.5**	**+0.2**
KTK1				Sn	**Sn**	**01 54 31.6**	**-1.0**
TRO	**Tromso**	**1.92**	**347**	*e*P	**Pg**	**01 54 16.0**	**-0.2**
TRO				*e*Sg	**Sg**	**01 54 40.8**	**-0.2**
TRO				AML	AML	01 54 43.8	
	comp=Z,20nm,0.4s						
TRO	**Tromso**	**1.92**	**347**	*e*P	**Pg**	**01 54 16.0**	**-0.2**
TRO				*e*SG	**Sg**	**01 54 40.8**	**-0.2**
TRO				AML	AML	01 54 43.8	
	comp=Z,20nm,0.4s						
TRO	**Tromso**	**1.92**	**347**	P	**Pg**	**01 54 16.0**	**-0.2**
TRO				*e*Sg	**Sg**	**01 54 40.8**	**-0.2**
	comp=Z,20nm,0.4s,SNR=90						
SGF	**Sodankyl**	**2.47**	**95**	*e*PB	**Pn**	**01 54 22.5**	**+1.5**
SGF				*e*SG	**Sb**	**01 54 54.0**	**-1.7**
RNF	**Rovaniemi**	**2.57**	**114**	*e*PB	**Pb**	**01 54 25.2**	**-1.2**
RNF				*e*SG	**Sb**	**01 54 58.2**	**-0.5**
RNF	**Rovaniemi**	**2.57**	**114**	Pb	**Pb**	**01 54 25.2**	**-1.2**
RNF				Sg	**Sb**	**01 54 58.1**	**-0.5**
ARA0	**ARCESS Array S**	**2.65**	**46**	Pn	**Pn**	**01 54 24.3**	**+0.9**
	baz=232,slow=16						
ARA0				Sn	**Sn**	**01 54 56.0**	**-0.1**
	baz=227,slow=22						
ARA0				Lg	Lg	01 54 59.8	
	baz=225,slow=28						
ARA0	**ARCESS Array S**	**2.65**	**46**	*e*PB	**Pn**	**01 54 25.2**	**+1.9**
ARA0				*e*SB	**Sn**	**01 54 57.9**	**+1.8**
ARA0				MSG		01 55 01.0	
	comp=Z,5.8nm,0.2s						
ARA0	**ARCESS Array S**	**2.65**	**46**	Pn	**Pn**	**01 54 24.3**	**+0.9**
	baz=232,slow=14,SNR=50						
ARA0				Sn	**Sn**	**01 54 56.0**	**-0.1**
	baz=227,slow=21,SNR=50						
ARA0				Lg	Lg	01 54 59.8	
	baz=225,slow=24						
ARCES	**ARCESS Array B**	**2.65**	**46**	Pn	**Pn**	**01 54 24.5**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=225,slow=15,SNR=48						
ARCES				Sn	**Sn**	**01 54 57.2**	**+1.1**
	comp=Z,3.4nm,0.3s,baz=231,slow=23,SNR=18						
MOR8	**Moi Rana**	**2.75**	**237**	*e*Sg	Sg	01 55 03.8	-4.2
MOR8				AML	AML	01 55 06.0	
	comp=Z,26nm,0.3s						
MOR8	**Moi Rana**	**2.75**	**237**	*e*SB		01 55 03.8	
MOR8				AML	AML	01 55 06.0	
	comp=Z,26nm,0.3s						
KEV	**Kevo**	**3.20**	**48**	MSG		01 55 16.3	
	comp=Z,8.2nm,0.3s						
OUL	**Oulu**	**3.56**	**137**	*e*SG		01 55 29.5	
OUL	**Oulu**	**3.56**	**137**	Sg	Sg	01 55 29.4	-4.2
VAF	**Ylistaro**	**4.87**	**166**	*e*SG		01 56 11.4	
VAF				MSG		01 56 15.8	
	comp=Z,4.0nm,0.4s						
FIA0	**FINESS Array S**	**6.85**	**155**	Pn	**Pn**	**01 55 23.7**	**+2.6**
	baz=349,slow=12						
FIA0				Sn	**Sn**	**01 56 40.4**	**+0.9**
	baz=348,slow=28						
FIA0				Lg	Lg	01 57 12.5	
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.85**	**155**	*e*P	**Pn**	**01 55 23.7**	**+2.6**
FIA0				*e*S	**Sn**	**01 56 40.4**	**+0.9**
FIA0				*e*SG	Sg	01 57 12.5	-6.6
FIA0	**FINESS Array S**	**6.85**	**155**	P	**Pn**	**01 55 23.6**	**+2.6**
FIA0				Sn	**Sn**	**01 56 40.4**	**+0.9**
	baz=348,slow=23,SNR=50						
FIA0				Lg	Lg	01 57 12.5	
	baz=348,slow=26,SNR=50						
FINES	**FINESS Array B**	**6.85**	**155**	Pn	**Pn**	**01 55 23.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=5.4						
FINES				Sn	**Sn**	**01 56 40.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=347,slow=24,SNR=4.4						
FINES				Lg	Lg	01 57 15.0	
	comp=Z,0.5nm,0.3s,baz=343,slow=28,SNR=6.4						
NB2	**NORSAR Subarra**	**7.78**	**214**	Pn	**Pn**	**01 55 36.3**	**+2.5**
NB2				Lg	Lg	01 57 46.8	
	baz=358,slow=22						
NB2	**NORSAR Subarra**	**7.78**	**214**	*e*P	**Pn**	**01 55 36.3**	**+2.5**
NB2				*e*SG	**Sg**	**01 57 46.8**	**-2.1**
NB2	**NORSAR Subarra**	**7.78**	**214**	Pn	**Pn**	**01 55 36.3**	**+2.5**
	SNR=50						
NB2				Lg	Lg	01 57 46.8	
	baz=358,slow=21,SNR=50						
NOA	**NORSAR Array B**	**7.78**	**214**	Pn	Pn	01 55 37.0	+3.3
	comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=3.1						
NOA				Lg	Lg	01 57 48.0	
	comp=Z,0.4nm,0.3s,baz=274,slow=17,SNR=2.3						
HFS	**Hagfors**	**8.17**	**203**	Pn	**Pn**	**01 55 39.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=3.3						
HFS				Sn	**Sn**	**01 57 14.2**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=33,slow=20,SNR=5.6						
HFS				Lg	Lg	01 57 59.9	
	comp=Z,0.2nm,0.3s,baz=24,slow=28,SNR=3.2						
HFS	**Hagfors**	**8.17**	**203**	Pn	**Pn**	**01 55 41.4**	**+2.2**
	baz=29,slow=12						
HFS				Sn	**Sn**	**01 57 12.2**	**+0.1**
	baz=24,slow=28						
HFS				Lg	Lg	01 57 57.2	
	baz=25,slow=28						
HFS	**Hagfors**	**8.17**	**203**	*e*P	**Pn**	**01 55 41.4**	**+2.2**
HFS				*e*S	**Sn**	**01 57 12.2**	**+0.1**
HFS				*e*SG	**Sg**	**01 57 57.2**	**-4.3**
HFS	**Hagfors**	**8.17**	**203**	Pn	**Pn**	**01 55 41.3**	**+2.2**
	baz=29,slow=12,SNR=50						
HFS				Sn	**Sn**	**01 57 12.2**	**+0.1**
	baz=24,slow=28,SNR=50						
HFS				Lg	Lg	01 57 57.2	
	baz=25,slow=28,SNR=50						

CSEM ***31*** *02:02:00.0±0.2, 43°39N×17°72E, h2km, ML2.5/8, Error ellipse: s-maj=5.9km s-min=3.5km az=55.0*
BEO ***31*** *02:02:00.7±0.6, 43°43N×17°60E, h12km±3km, ML2.4/7*
PDG ***31*** *02:02:01.5±0.3, 43°38N×17°82E, h2km±1km, ML2.5/8, Error ellipse: s-maj=1.4km s-min=2.3km az=0.0*
VIE ***31*** *02:02:03.9±0.5, 43°65N×17°87E, h10km, mb2.6/3, ML2.3/4, Error ellipse: s-maj=7.3km s-min=3.9km az=59.0 49 km WSW of Sarajevo*

ISC 31 02:02:00.2±1.2, 43°41N±0°03×17°73E±0°02, h2km±10km, n58, σ1s17/104, 11C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.54**	**182**	*i* Pg	**Pg**	**02 02 09.2**	**-1.3**
STON				Sg	**Sg**	**02 02 17.8**	**+0.5**
STON	**Ston**	**0.54**	**182**	*i* Pg	**Pg**	**02 02 09.1**	**-1.3**
STON				Sg	**Sg**	**02 02 17.8**	**+0.5**
BRY	**Bratogost**	**0.78**	**130**	⇑*i* Pg	**Pg**	**02 02 13.4**	**-1.8**
BRY				*e*Sg	**Sg**	**02 02 25.9**	**+0.6**
BRY	**Bratogost**	**0.78**	**130**	⇑*i* Pg	**Pg**	**02 02 13.4**	**-1.8**
BRY				*e*Sg	**Sg**	**02 02 25.9**	**+0.6**
UPM	**Unac-Piva**	**0.89**	**103**	⇑*i* Pg	**Pg**	**02 02 16.0**	**-1.2**
UPM				*e*Sg	**Sb**	**02 02 30.0**	**-0.7**
UPM	**Unac-Piva**	**0.89**	**103**	⇑*i* Pg	**Pg**	**02 02 16.0**	**-1.2**
UPM				*e*Sg	**Sb**	**02 02 30.0**	**-0.7**
NKY	**Niksic**	**1.10**	**122**	⇓*i* Pg	**Pg**	**02 02 19.9**	**-1.4**
NKY				*e*Sg	**Sb**	**02 02 36.7**	**-0.2**
NKY	**Niksic**	**1.10**	**122**	⇓*i* Pg	**Pg**	**02 02 19.9**	**-1.4**
NKY				*e*Sg	**Sb**	**02 02 36.7**	**-0.2**
HCY	**Herceg Novi**	**1.11**	**149**	⇓*i* Pg	**Pg**	**02 02 20.8**	**-0.7**
HCY				*e*Sg	**Sn**	**02 02 37.9**	**-0.8**
HCY	**Herceg Novi**	**1.11**	**149**	⇓*i* Pg	**Pg**	**02 02 20.8**	**-0.7**
HCY				*e*Sg	**Sn**	**02 02 37.9**	**-0.8**
PLE	**Pljevlja**	**1.22**	**93**	⇓*i* Pg	**Pg**	**02 02 23.0**	**-0.5**
PLE				*e*Sg	**Sb**	**02 02 40.5**	**+0.3**
PLE	**Pljevlja**	**1.22**	**93**	⇓*i* Pg	**Pg**	**02 02 23.0**	**-0.5**
PLE				*e*Sg	**Sb**	**02 02 40.5**	**+0.3**
BLY	**Banja Luka**	**1.40**	**344**	*e*Pg	**Pn**	**02 02 26.6**	**-0.1**
BLY				*e*Sg	**Sn**	**02 02 46.2**	**+0.4**
BLY	**Banja Luka**	**1.40**	**344**	*e*Pg	**Pn**	**02 02 26.6**	**-0.1**
BLY				*e*Sg	**Sn**	**02 02 46.2**	**+0.4**
BUM	**Brajici-Budva**	**1.40**	**142**	⇓*i* Pg	**Pn**	**02 02 26.4**	**-0.4**
BUM				*e*Sg	**Sn**	**02 02 46.7**	**+0.8**
BUM	**Brajici-Budva**	**1.40**	**142**	⇓*i* Pg	**Pn**	**02 02 26.4**	**-0.4**
BUM				*e*Sg	**Sn**	**02 02 46.7**	**+0.8**
PDG	**Podgorica**	**1.49**	**130**	*e*Pn	**Pn**	**02 02 26.9**	**-1.1**
PDG				*e*Sg	**Sg**	**02 02 51.0**	**+3.0**
PDG	**Podgorica**	**1.49**	**130**	*e*Pn	**Pn**	**02 02 26.9**	**-1.1**
PDG	**Podgorica**	**1.49**	**130**	⇓*i* Pg	**Pn**	**02 02 27.5**	**-0.5**
PDG				*e*Sg	**Sg**	**02 02 50.2**	**+2.2**
TTG	**Podgorica**	**1.49**	**130**	⇓*i* Pg	**Pn**	**02 02 27.5**	**-0.5**
TTG				*e*Sg	**Sg**	**02 02 50.2**	**+2.1**
BEY	**Berane**	**1.68**	**108**	⇓*i* Pn	**Pb**	**02 02 31.3**	**-0.5**
BEY				*e*Sn	**Sg**	**02 02 55.8**	**+1.8**
IVA	**Berane**	**1.68**	**108**	⇓*i* Pn	**Pb**	**02 02 31.3**	**-0.6**
IVA				*e*Sn	**Sg**	**02 02 55.8**	**+1.7**
TEKS	**Tekeris**	**1.73**	**48**	⇓*i* Pg	**Pb**	**02 02 32.1**	**-0.7**
TEKS	**Tekeris**	**1.73**	**48**	⇓*i* Pg	**Pb**	**02 02 32.1**	**-0.7**
IVAS	**Ivanjica**	**1.77**	**84**	*e*Pn	**Pn**	**02 02 32.0**	**0.0**
IVAS				*e*Sn	**Sg**	**02 02 57.5**	**+0.3**
IVAS	**Ivanjica**	**1.77**	**84**	*e*Pn	**Pn**	**02 02 32.0**	**0.0**
IVAS				*e*Sn	**Sg**	**02 02 57.5**	**+0.3**
DIVS	**Divibare**	**1.78**	**66**	*e*Pn	**Pn**	**02 02 32.0**	**-0.1**
DIVS				*e*Sn	**Sb**	**02 02 56.6**	**+0.1**
DIVS				*e*Sg	**Sg**	**02 02 59.1**	**+1.6**
DIVS	**Divibare**	**1.78**	**66**	*e*Pn	**Pn**	**02 02 32.0**	**-0.1**
DIVS				*e*Sn	**Sb**	**02 02 56.6**	**+0.1**
DIVS				*e*Sg	**Sg**	**02 02 59.1**	**+1.6**
PVY	**Plav**	**1.83**	**116**	⇑*i* Pn	**Pb**	**02 02 34.2**	**-0.2**
PVY				*e*Sn	**Sg**	**02 03 00.5**	**+1.6**
TRUS	**Trudelj**	**2.11**	**66**	*e*Pn	**Pn**	**02 02 35.5**	**-1.0**
TRUS	**Trudelj**	**2.11**	**66**	*e*Pn	**Pn**	**02 02 35.5**	**-1.0**
GRUS	**Gruza**	**2.22**	**76**	⇓*i* Pn	**Pn**	**02 02 38.7**	**+0.6**
GRUS				*e*Sn	**Sn**	**02 03 06.9**	**+0.8**
GRUS				*e*Sg	**Sg**	**02 03 14.8**	**+3.2**
GRUS	**Gruza**	**2.22**	**76**	⇓*i* Pn	**Pn**	**02 02 38.7**	**+0.6**
GRUS				*e*Sn	**Sn**	**02 03 06.9**	**+0.8**
GRUS				*e*Sg	**Sg**	**02 03 14.8**	**+3.2**
FGSL	**Fruska Gora**	**2.30**	**40**	*e*Pn	**Pn**	**02 02 37.7**	**-1.5**
FRGS	**Fruska Gora**	**2.30**	**40**	*e*Pn	**Pn**	**02 02 37.7**	**-1.5**
FRGS				*e*Sn	**Sn**	**02 03 06.9**	**-1.3**
NVLJ	**Novalja**	**2.36**	**300**	*e*Pn	**Pn**	**02 02 41.6**	**+1.6**
NVLJ				Sn	**Sb**	**02 03 13.1**	**+0.1**
NVLJ	**Novalja**	**2.36**	**300**	*e*Pn	**Pn**	**02 02 41.6**	**+1.6**
NVLJ				Sn	**Sb**	**02 03 13.1**	**+0.1**
SELS	**Selova**	**2.48**	**93**	*e*Pn	**Pn**	**02 02 42.7**	**+1.0**
SELS	**Selova**	**2.48**	**93**	*e*Pn	**Pn**	**02 02 42.7**	**+1.0**
RHS	**Tenkes**	**2.51**	**8**	*e*	**Pn**	**02 02 43.9**	**+0.2**
BOJS	**Bojanci**	**2.75**	**321**	*i* Pn	**Pn**	**02 02 46.8**	**+1.6**
BOJS				*i* Sn	**Sb**	**02 03 23.0**	**-1.1**
PKSM	**Moragy**	**2.88**	**13**	⇑*i* Pn	**Pn**	**02 02 47.1**	**0.0**
PKSM	**Moragy**	**2.88**	**13**	*e*	**Pn**	**02 02 46.0**	**-1.1**
PKSM	**Moragy**	**2.88**	**13

*ISCJB **31** 02:07:23.7±1.2,26˚.15S±0˚.08×178˚.6W±0˚.1, h338km±11km, mb4.2/15, Error ellipse: s-maj=20.7km s-min=12.2km az=171.0*

*NEIC **31** 02:07:24.6±1.1,26˚.16S×178˚.53W, h344km±10km, mb4.5/8, Error ellipse: s-maj=13.9km s-min=11.4km az=223.0*

*IDC **31** 02:07:28.4±4.0,26˚.21S×178˚.79W, h368km±36km, mb3.8/11, mb1 3.9/12, mb1mx3.8/19, mbtmp3.8/12, Error ellipse: s-maj=24.1km s-min=14.1km az=89.0*

ISC 31 02:07:25.2±1.3,26˚.22S±0˚.09×178˚.6W±0˚.1, h346km±12km, n57, σ0.81/64, mb4.3/15, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.08**	**169**	*e*Pn	**Pn**	**02 08 24.5**	**-0.4**
URZ	**Urewera**	**12.54**	**196**	*e*P	**P**	**02 10 11.8**	**-1.1**
	26nm,0.7s						
NOUC	**Port Laguerre**	**14.39**	**283**	*e*P	**Pn**	**02 10 36.0**	**+0.7**
RPZ	**Rata Peaks**	**19.38**	**203**	P	**P**	**02 11 26.9**	**0.0**
	0.9nm,0.3s,baz=14,slow=4.2,SNR=3.9						
RPZ				S	**S**	**02 14 45.1**	**-1.4**
	0.5nm,0.3s,baz=45,slow=20,SNR=2.5						
RPZ	**Rata Peaks**	**19.38**	**203**	P	**P**	**02 11 26.9**	**0.0**
RPZ				S	**S**	**02 14 45.1**	**-1.4**
CTA	**Charters Tower**	**32.83**	**273**	P	**P**	**02 13 28.6**	**+0.7**
	15nm,0.3s,baz=100,slow=11,SNR=24						
CTA	**Charters Tower**	**32.83**	**273**	P	**P**	**02 13 28.6**	**+0.7**
CTAO	**Charters Tower**	**32.83**	**273**	*e*P	**P**	**02 13 28.4**	**+0.5**
	19nm,0.6s						
STKA	**Stephens Creek**	**35.13**	**251**	P	**P**	**02 13 47.2**	**0.0**
	2.3nm,0.5s,baz=103,slow=10,SNR=9.1						
STKA				PcP	**PcP**	**02 16 10.9**	**+0.9**
	1.5nm,0.5s,baz=124,slow=7.3,SNR=4.7						
STKA	**Stephens Creek**	**35.13**	**251**	P	**P**	**02 13 47.2**	**0.0**
STKA				PcP	**PcP**	**02 16 10.9**	**+0.9**
PMG	**Port Moresby**	**36.49**	**291**	*e*P	**P**	**02 13 58.9**	**0.0**
	14nm,0.8s						
COEN	**Coen**	**37.79**	**281**	*e*P	**P**	**02 14 10.7**	**+1.0**
	76nm,0.5s						
AS31	**Alice Springs**	**42.97**	**263**	*e*P	**P**	**02 14 51.1**	**-0.7**
ASAR	**Alice Springs**	**42.97**	**263**	P	**P**	**02 14 51.2**	**-0.6**
	2.6nm,0.4s,baz=93,slow=7.1,SNR=36						
ASAR				PcP	**PcP**	**02 16 35.4**	**+0.1**
	0.8nm,0.5s,baz=122,slow=4.1,SNR=4.8						
ASAR	**Alice Springs**	**42.97**	**263**	P	**P**	**02 14 51.2**	**-0.6**
ASAR				PcP	**PcP**	**02 16 35.4**	**+0.1**
WRA	**Warramunga Arr**	**43.57**	**268**	P	**P**	**02 14 55.5**	**-1.1**
	7.1nm,0.4s,baz=104,slow=7.3,SNR=95						
WRA				PcP	**PcP**	**02 16 37.8**	**+0.5**
	1.4nm,0.7s,baz=100,slow=3.4,SNR=5.2						
WRA	**Warramunga Arr**	**43.57**	**268**	P	**P**	**02 14 55.5**	**-1.1**
WRA				PcP	**PcP**	**02 16 37.8**	**+0.5**
FORT	**Forrest**	**46.75**	**251**	*e*P	**P**	**02 15 21.0**	**-0.2**
	30nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.96**	**267**	P	**P**	**02 15 59.8**	**-0.5**
	6.3nm,0.6s,baz=132,slow=7.8,SNR=12						
FITZ	**Fitzroy Crossi**	**51.96**	**267**	*e*P	**P**	**02 15 60.0**	**-0.3**
	6.1nm,0.6s						
VNDA	**Vanda**	**52.19**	**185**	*e*P	**P**	**02 16 03.3**	**+2.2**
	3.1nm,0.7s						
QSPA	**South Pole Qui**	**63.88**	**180**	P	**P**	**02 17 23.7**	**+2.0**
	1.9nm,0.7s,baz=14,slow=2.1,SNR=6.0						
QSPA	**South Pole Qui**	**63.88**	**180**	*e*P	**P**	**02 17 23.2**	**+1.5**
	3.2nm,0.8s						
MJAR	**Matsushiro Arr**	**74.53**	**325**	P	**P**	**02 18 26.0**	**-0.7**
	4.3nm,0.8s,baz=166,slow=5.4,SNR=8.6						
MJAR	**Matsushiro Arr**	**74.53**	**325**	P	**P**	**02 18 26.0**	**-0.7**
KSRS	**Korea Array**	**80.84**	**320**	P	**P**	**02 19 02.0**	**+0.8**
	1.9nm,0.6s,baz=134,slow=6.3,SNR=6.3						
KSAR	**Wonju Array Be**	**80.86**	**320**	P	**P**	**02 19 02.0**	**+0.7**
SYO	**Syowa Base**	**81.06**	**193**	⇓*e*P	**P**	**02 19 01.0**	**-0.9**
PETK	**Petropavlovsk-**	**81.65**	**346**	P	**P**	**02 19 05.0**	**-0.1**
	4.1nm,0.8s,baz=148,slow=5.8,SNR=3.4						
PETK	**Petropavlovsk-**	**81.65**	**346**	P	**P**	**02 19 05.0**	**-0.1**
USRK	**Ussuriysk Arra**	**83.39**	**327**	P	**P**	**02 19 15.2**	**+1.0**
	1.6nm,0.6s,baz=150,slow=4.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**91.53**	**290**	P	**P**	**02 19 53.6**	**-0.1**
	1.0nm,0.3s,baz=121,slow=4.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	**91.53**	**290**	P	**P**	**02 19 53.6**	**-0.1**
MK31	**Makanchi Array**	**114.66**	**312**	*e*PKP	PKPdf	02 25 23.4	-1.2
MKAR	**Makanchi Array**	**114.66**	**312**	PKP	PKPdf	02 25 23.6	-1.1
	0.1nm,0.4s,baz=117,slow=0.6,SNR=3.7						
MKAR	**Makanchi Array**	**114.66**	**312**	PKP	PKPdf	02 25 23.6	-1.0
KURK	**Kurchatov**	**117.75**	**316**	*e*PKPdf	**PKPdf**	**02 25 29.5**	**-0.9**
EKS2	**Erkin-Say**	**119.83**	**306**	*e*PKPdf	**PKPdf**	**02 25 32.7**	**-2.1**
KKAR	**Karatay Array**	**122.27**	**306**	*e*PKPdf	**PKPdf**	**02 25 38.8**	**-0.6**
ARCES	**ARCESS Array B**	**134.41**	**348**	PKhKP	PKPpre	02 25 56.6	
	2.8nm,0.9s,baz=39,slow=14,SNR=2.7						
ARCES				PKP	**PKPdf**	**02 26 01.8**	**+0.2**
	3.2nm,1.0s,baz=29,slow=2.1,SNR=4.9						
ARCES	**ARCESS Array B**	**134.41**	**348**	PKPpre	PKPpre	02 25 56.6	
ARCES				PKP	**PKPdf**	**02 26 01.8**	**+0.2**
FINES	**FINESS Array B**	**141.04**	**341**	PKhKP	PKPpre	02 26 07.9	
	1.0nm,0.7s,baz=57,slow=7.0,SNR=4.5						
FINES				PKP	**PKPdf**	**02 26 14.3**	**+0.3**
	3.5nm,0.9s,baz=33,slow=5.3,SNR=4.9						
FINES	**FINESS Array B**	**141.04**	**341**	PKPpre	PKPpre	02 26 07.9	
FINES				PKP	**PKPdf**	**02 26 14.3**	**+0.3**
NB2	**NORSAR Subarra**	**144.56**	**352**	PKP	PKPbc	02 26 19.1	-0.8
	comp=Z,2.2nm,0.7s,baz=20,slow=3.5						
NOA	**NORSAR Array B**	**144.56**	**352**	PKP	PKPbc	02 26 19.4	-0.5
	comp=Z,3.7nm,0.8s,baz=16,slow=5.0,SNR=12						
NOA	**NORSAR Array B**			PKP	PKPbc	02 26 19.4	-0.5
AKASG	**Malin Array Be**	**147.61**	**326**	PKPbc	**PKPbc**	**02 26 28.4**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=45,slow=4.1,SNR=5.2						
AKASG	**Malin Array Be**	**147.61**	**326**	PKPbc	**PKPbc**	**02 26 28.4**	**-0.5**
BR131	**Keskin Array S**	**149.97**	**305**	*e*PKPbc	**PKPbc**	**02 26 34.9**	**-0.5**
BR131				*e*PKPab	**PKPab**	**02 26 42.8**	**+0.3**
BRTR	**Keskin Array B**	**149.97**	**305**	PKPbc	**PKPbc**	**02 26 35.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=137,slow=4.3,SNR=7.7						
BRTR				PKPab	**PKPab**	**02 26 42.4**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=97,slow=3.8,SNR=10						
BRTR	**Keskin Array B**	**149.97**	**305**	PKPbc	**PKPbc**	**02 26 35.0**	**-0.5**
BRTR				PKPab	**PKPab**	**02 26 42.4**	**-0.1**
BUR08	**Bucovina Ar. S**	**151.59**	**325**	*e*PKPbc	**PKPbc**	**02 26 38.5**	**-0.3**
CLL	**Collm**	**153.44**	**344**	*e*P	**PKPbc**	**02 26 42.0**	**-0.6**
CLL	**Collm**	**153.44**	**344**	*e*PKPbc	**PKPbc**	**02 26 42.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**166.99**	**181**	*e*PKPab	**PKPab**	**02 27 56.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**166.99**	**181**	PKP	**PKPdf**	**02 26 49.9**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=208,slow=2.8,SNR=3.2						
TORD				PKPab	**PKPab**	**02 27 56.8**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=186,slow=3.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**166.99**	**181**	PKP	**PKPdf**	**02 26 49.9**	**-0.7**
TORD				PKPab	**PKPab**	**02 27 56.8**	**+0.5**

*DJA **31** 02:07:53, 2˚.60S×127˚.17E, h30km, MLv3.2/4*

IDC 31 02:07:30.5±2.0, 0˚.66S×128˚.19E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=155.9km s-min=24.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.09**	**163**	P	P	02 12 05.8	-0.1
	0.5nm,0.4s,baz=342,slow=12,SNR=17						
ASAR	**Alice Springs**	**23.54**	**167**	P	P	02 12 42.8	+0.1
	0.3nm,0.3s,baz=346,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**61.98**	**326**	P	P	02 17 52.4	-0.1
	0.9nm,0.4s,baz=120,slow=7.3,SNR=38						

IDC 31 02:11:04.2±6.3, 16˚.94S×177˚.00W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/17, mbtmp3.7/2, Error ellipse: s-maj=299.9km s-min=44.7km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.14**	**258**	P	P	02 19 30.7	-0.2
	0.5nm,0.8s,baz=94,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**46.35**	**253**	P	P	02 19 32.6	+0.1
	1.4nm,0.5s,baz=89,slow=8.7,SNR=16						
BRTR	**Keskin Array B**	**145.03**	**317**	PKPbc	PKPbc	02 30 41.9	-1.5
	0.3nm,0.6s,baz=48,slow=1.8,SNR=4.2						
GERES	**GERESS Array B**	**147.00**	**347**	PKPbc	PKPbc	02 30 48.5	-0.5
	0.6nm,0.7s,baz=20,slow=1.1,SNR=6.5						

*AZER **31** 02:21:30.8, 43˚.40N×45˚.19E, h0km*

*MOS **31** 02:21:33.8±1.9, 43˚.37N×46˚.02E, h21km, mb4.2/1, Error ellipse: s-maj=7.4km s-min=5.8km az=33.8*

*TIF **31** 02:21:33.6, 43˚.49N×45˚.88E, h25km±11km*

*NNC **31** 02:21:33.4±6.8, 43˚.72N×45˚.92E, h0km, mb3.5, mpv4.0, Error ellipse: s-maj=130.7km s-min=20.9km az=167.0*

*CSEM **31** 02:21:34.9±0.5, 43˚.50N×45˚.85E, h10km, mb3.5, Error ellipse: s-maj=14.4km s-min=12.3km az=63.0*

ISC 31 02:21:32.5±1.2, 43˚.43N±0˚.03×46˚.01E±0˚.02, h3km±9km, n54, σ1˚.56/92, 17C-15D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.22**	**240**	⇑*i*PG	**Pg**	**02 21 36.6**	**-0.1**
DLMR	**Dylym**	**0.58**	**128**	⇓*i*PG	**Pg**	**02 21 43.8**	**+0.1**
DLMR				S	**Sg**	**02 21 53.0**	**+1.8**
DLMR				pmax	pmax		
	comp=Z,186nm,0.4s						
DBC	**Dubki**	**0.73**	**124**	*i*PG	**Pg**	**02 21 46.2**	**-0.3**
DBC				*i*S	**Sg**	**02 21 57.0**	**+1.1**
BTLR	**Botlikh**	**0.78**	**168**	*e*PG	**Pg**	**02 21 45.2**	**-2.3**
BTLR				S	**Sg**	**02 21 55.2**	**-2.4**
BTLR				pmax	pmax		
	comp=Z,42nm,0.2s						
KRNR	**Karanay**	**0.89**	**132**	⇓*i*PG	**Pg**	**02 21 49.0**	**-0.7**
KRNR				pmax	pmax		
	comp=Z,50nm,0.3s						
UNCR	**Uncukul**	**0.92**	**141**	*e*PG	**Pg**	**02 21 48.4**	**-1.8**
UNCR				*e*S	**Sg**	**02 22 00.0**	**-2.1**
UNCR				pmax	pmax		
	comp=Z,161nm,0.3s						
SNJR	**Sundja**	**0.94**	**248**	*e*PG	**Pg**	**02 21 50.4**	**-0.2**
SNJR				*e*S	**Sg**	**02 22 02.9**	**+0.1**
TRKR	**Terskaya**	**0.97**	**288**	⇓*i*PG	**Pn**	**02 21 54.0**	**+0.9**
TRKR				*i*S	**Sn**	**02 22 09.4**	**+2.1**
BUJR	**Buynaksk**	**1.01**	**126**	*e*PG	**Pb**	**02 21 53.0**	**+0.3**
BUJR				*i*S	**Sb**	**02 22 06.2**	**-0.1**
BUJR				pmax	pmax		
	comp=Z,108nm,0.3s						
VLKR	**Vladikavkaz**	**1.04**	**249**	*e*PG	**Pb**	**02 21 53.3**	**0.0**
VLKR				*e*S	**Sb**	**02 22 07.0**	**-0.3**
BTKR	**Batakoyurt**	**1.07**	**267**	*e*PG	**Pb**	**02 21 53.9**	**+0.2**
BTKR				*e*S	**Sn**	**02 22 09.0**	**-0.8**
MAK	**Makhachkala**	**1.19**	**113**	*e*PG	**Pg**	**02 21 55.4**	**0.0**
MAK				*e*		02 22 12.7	
MAK				pmax	pmax		
	comp=Z,292nm,0.6s						
MAK				smax	smax		
	comp=E,1.0nm,0.6s						
MAK				smax	smax		
	comp=N,1.0nm,0.8s						
KMSR	**Komsomolskaya**	**1.25**	**268**	⇑*i*PG	**Pn**	**02 21 58.0**	**+1.1**
KMSR				*i*S	**Sn**	**02 22 15.5**	**+1.2**
ARNR	**Ardon**	**1.28**	**260**	*e*PG	**Pg**	**02 21 56.8**	**-0.3**
ARNR				*e*S	**Sb**	**02 22 14.2**	**0.0**
PRTR	**Priterechnaya**	**1.29**	**285**	⇑*i*PG	**Pn**	**02 21 59.1**	**+1.6**
PRTR				*e*S	**Sn**	**02 22 18.2**	**+2.9**
LACR	**Lac**	**1.39**	**245**	⇓*i*PG	**Pn**	**02 21 57.5**	**-1.4**
LACR				*i*S	**Sg**	**02 22 15.4**	**-1.8**
MNSR	**Manas**	**1.45**	**119**	*e*PG	**Pn**	**02 22 00.0**	**+0.4**
MNSR				*e*S	**Sb**	**02 22 18.5**	**-0.5**
MNSR				pmax	pmax		
	comp=Z,183nm,0.4s						
KORR	**Kora**	**1.46**	**257**	⇑*i*PG	**Pn**	**02 21 59.8**	**0.0**
KORR				*i*S	**Sb**	**02 22 19.2**	**0.0**
LSNR	**Lesken**	**1.60**	**265**	⇓*i*PG	**Pb**	**02 22 02.5**	**-0.3**
LSNR				*e*S	**Sg**	**02 22 24.4**	**+0.3**
ZEI	**Tsey**	**1.68**	**248**	⇓*i*PN	**Pn**	**02 22 01.9**	**-1.1**
URKR	**Urkarakh**	**1.74**	**136**	⇓*i*PN	**Pb**	**02 22 04.8**	**-0.4**
URKR				*e*S	**Sb**	**02 22 28.5**	**+1.0**
URKR				pmax	pmax		
	comp=Z,155nm,0.5s						
DIGR	**Digorskoe uzhe**	**1.85**	**254**	⇑*i*PN	**Pn**	**02 22 05.2**	**-0.2**
TBLG	**Delisi**	**1.94**	**209**	*i*PN	**Pn**	**02 22 06.0**	**-0.4**
TBLG	**Delisi**	**1.94**	**209**	P	**Pn**	**02 22 06.0**	**-0.4**
TBLG				S	**Sn**	**02 22 30.8**	**-0.4**
GOR	**Gori**	**2.01**	**225**	P	**Pn**	**02 22 07.3**	**0.0**
GOR				S	**Sn**	**02 22 33.6**	**+0.5**
DGRG	**David-gareji**	**2.03**	**194**	P	**Pn**	**02 22 08.4**	**+0.7**
DGRG				S	**Sb**	**02 22 35.8**	**0.0**
ONI	**Oni**	**2.05**	**247**	P	**Pn**	**02 22 08.5**	**+0.5**
ONI				S	**Sb**	**02 22 35.8**	**-0.6**
SEKA	**Sheki**	**2.39**	**158**	⇓P	**Pn**	**02 22 14.3**	**+1.7**
SEKA				⇑S	**Sg**	**02 22 48.4**	**-0.8**
SEKA	**Sheki**	**2.39**	**158**	P	**Pn**	**02 22 14.3**	**+1.7**
SEKA				S	**Sg**	**02 22 48.4**	**-0.8**
KSMR	**Kasumkent**	**2.41**	**139**	*e*PN	**Pb**	**02 22 16.0**	**-0.5**
KSMR				*e*S	**Sg**	**02 22 50.0**	**+0.2**
KSMR				pmax	pmax		
	comp=Z,107nm,0.2s						
KIV	**Kislovodsk**	**2.46**	**283**	⇓Pn	**Pn**	**02 22 13.5**	**-0.2**
	comp=Z,39nm,0.4s						
KIV				⇓Sn	**Sn**	**02 22 43.7**	**-0.6**
	comp=Z,200nm,0.7s						
KIV	**Kislovodsk**	**2.46**	**283**	*i*PN	**Pn**	**02 22 13.5**	**-0.2**
KIV				*i*S	**Sg**	**02 22 53.5**	**+1.8**
KIV	**Kislovodsk**	**2.46**	**283**	Pn	**Pn**	**02 22 13.5**	**-0.2**
	comp=Z,39nm,0.4s						
KIV				Sn	**Sn**	**02 22 43.7**	**-0.6**
	comp=Z,200nm,0.7s						
AKH	**Akhalkalaki**	**2.75**	**224**	P	**Pn**	**02 22 18.6**	**+1.0**
AKH				S	**Sn**	**02 22 53.9**	**+2.5**
QUBA	**Quba, Azerbaij**	**2.77**	**138**	⇓P	**Pb**	**02 22 21.4**	**-1.3**
	SNR=4.8						
QUBA				⇑S	**Sg**	**02 23 01.6**	**0.0**
QUBA	**Quba, Azerbaij**	**2.77**	**138**	P	**Pb**	**02 22 21.4**	**-1.3**
	SNR=4.8						
QUBA				S	**Sg**	**02 23 01.6**	**0.0**
GANJ	**Ganja**	**2.79**	**175**	⇑P	**Pn**	**02 22 17.9**	**-0.2**
GANJ				⇓S	**Sn**	**02 22 54.6**	**+2.3**
GANJ	**Ganja**	**2.79**	**175**	P	**Pn**	**02 22 17.9**	**-0.2**
GANJ				S	**Sn**	**02 22 54.6**	**+2.3**
IML	**Ismayilli**	**3.09**	**148**	⇑P	**Pn**	**02 22 25.4**	**+3.1**
IML				⇑S	**Sb**	**02 23 07.9**	**+1.6**
IML	**Ismayilli**	**3.09**	**148**	P	**Pn**	**02 22 25.4**	**+3.1**
IML				S	**Sb**	**02 23 07.9**	**+1.6**
SIZA	**Siyzn**	**3.19**	**137**	⇓P	**Pb**	**02 22 28.2**	**-1.6**
SIZA				⇑S	**Sg**	**02 23 12.7**	**-2.2**
SIZA	**Siyzn**	**3.19**	**137**	P	**Pb**	**02 22 28.2**	**-1.6**
SIZA				S	**Sg**	**02 23 12.7**	**-2.2**
PQL	**Pirkuli**	**3.27**	**143**	⇑P	Pn	02 22 28.2	+3.5
PQL				⇑S	**Sb**	**02 23 13.6**	**+2.2**
PQL	**Pirkuli**	**3.27**	**143**	P	Pn	02 22 28.2	+3.5
PQL				S	**Sb**	**02 23 13.6**	**+2.2**
GNI	**Garni**	**3.41**	**197**	⇑*e*PN	**Pn**	**02 22 27.6**	**+0.8**
GNI				*i*S	**Sg**	**02 23 24.0**	**+1.9**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
GNI				smax	smax		
	comp=Z,50nm,1.3s						
ANN	**Anapa**	**6.32**	**285**	*e*P	Pn	02 23 13.5	+6.9
ANN				pmax	pmax		
	comp=Z,41nm,1.2s						
VRHR	**Novokhopersk**	**8.23**	**340**	*e*P	**Pn**	**02 23 34.3**	**+1.6**
VRHR				pmax	pmax		
	comp=N,1.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,1.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VSR	**Storozhevoye**	**9.06**	**332**	*e*P	**Pn**	**02 23 45.3**	**+1.1**
VSR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,1.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**10.79**	**45**	⇑Pn	Pn	02 24 11.4	+3.6
	comp=Z,0.3nm,1.1s						
AKTO				⇓Sn	**Sn**	**02 26 05.9**	**-3.1**
	comp=Z,0.4nm,0.7s						
AKTO	**Aktyubinsk**	**10.79**	**45**	Pn	Pn	02 24 11.4	+3.6
	comp=Z,0.3nm,1.1s						
AKTO				Sn	**Sn**	**02 26 05.9**	**-3.1**
	comp=Z,0.4nm,0.7s						
AB31	**Akbulak array**	**11.25**	**54**	⇓Pn	Pn	02 24 14.3	+0.2
	comp=Z,0.1nm,0.2s,baz=240,slow=13,SNR=19						
AB31				⇑Sn	**Sn**	**02 26 15.3**	**-5.0**
	comp=Z,1.3nm,0.6s,baz=242,slow=20,SNR=4.4						
AB31	**Akbulak array**	**11.25**	**54**	Pn	**Pn**	**02 24 14.3**	**+0.2**
	comp=Z,0.1nm,0.2s,SNR=19						
AB31				Sn	**Sn**	**02 26 15.3**	**-5.0**
	comp=Z,1.3nm,0.6s,SNR=4.4						
OBN	**Obninsk**	**13.20**	**336**	⇑*e*P	**Pn**	**02 24 41.6**	**+0.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
ARU	**Arti**	**15.28**	**27**	*e*P	**Pn**	**02 25 10.2**	**+1.2**

MEX 31 02:33:24.6±0.6, 15˚.94N×95˚.76W, h10km±12km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.38**	**243**	*i*P	Pg	02 33 31.6	-0.6
HUIG				*i*S	Sg	02 33 37.7	+0.5
CMIG	**Matias Romero**	**1.41**	**36**	*i*P	Pn	02 33 46.6	-3.8
CMIG				*e*S	Sn	02 34 04.6	-4.6
VHO	**Vista Hermosa**	**1.46**	**320**	*i*P	Pn	02 33 47.4	-4.0
VHO				*e*S	Sn	02 34 05.7	-5.1
PNIG	**Pinotepa**	**2.32**	**281**	*i*P	Pn	02 33 60.0	-3.0
PNIG				*e*S	Sn	02 34 26.4	-5.2
UTMO	**Huajuapan**	**2.71**	**314**	*i*P	Pn	02 34 05.3	-3.2
UTMO				*i*S	Sn	02 34 36.5	-5.2

IDC 31 02:41:01.0±11.0, 53˚.41S×132˚.76W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/11, mbtmp3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx3.1/18, Error ellipse: s-maj=995.4km s-min=67.7km az=147.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**32.58**	**331**	*e*LR	LR	02 56 33.2	
	77nm,31.5s						
TBI				*e*T	T	03 23 47.4	
	28nm,0.4s						
RPZ	**Rata Peaks**	**37.52**	**262**	LR	LR	02 59 36.4	
	comp=Z,88nm,19.0s,baz=352,slow=30						
PPT2	**Papeete2**	**38.08**	**333**	*e*LR	LR	02 59 21.8	
	90nm,25.5s						
ASAR	**Alice Springs**	**73.28**	**253**	P	P	02 52 34.2	0.0
	0.5nm,0.8s,baz=141,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**75.93**	**256**	P	P	02 52 49.7	+0.1
	0.6nm,0.9s,baz=139,slow=5.5,SNR=6.9						
ILAR	**Eielson Array**	**118.36**	**353**	PKP	PKPdf	02 59 48.9	+0.1
	0.3nm,0.9s,baz=159,slow=2.8,SNR=4.1						
SONM	**Songino Array**	**143.01**	**286**	PKP	PKPbc	03 00 33.4	+0.7
	0.7nm,0.8s,baz=123,slow=3.5,SNR=6.0						

*IDC **31** 02:51:50.2±0.8, 16˚.45S×173˚.86W, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=41.0km s-min=18.7km az=150.0*

NEIC 31 02:51:54.2±2.8, 16˚.48S×173˚.85W, h27km±19km, mb4.7/2, Error ellipse: s-maj=12.4km s-min=8.5km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.24**	**38**	Pn	Pn	02 52 43.5	+0.1
	37nm,0.3s,baz=60,slow=2.4,SNR=11						
AFI				Sn	Sn	02 53 15.1	-6.2
	203nm,0.3s,baz=213,slow=23,SNR=15						
AFI	**Afiamalu**	**3.24**	**38**	Pn	Pn	02 52 43.5	+0.1
AFI				Sn	Sn	02 53 15.1	-6.1
MSVF	**Nonsavu**	**7.85**	**260**	*e*Pn	Pb	02 54 00.3	-9.4
RAR	**Rarotonga**	**14.13**	**112**	Pn	Pn	02 55 12.6	0.0
	4.2nm,0.3s,baz=252,slow=7.4,SNR=9.3						
RAR				Sn	Sn	02 57 37.3	-11
	1.1nm,0.3s,baz=344,slow=18,SNR=2.4						
RAR	**Rarotonga**	**14.13**	**112**	Pn	Pn	02 55 12.7	0.0
RAR				Sn	Sn	02 57 37.4	-11
HNR	**Honiara**	**26.46**	**282**	LR	LR	03 06 42.1	
	comp=Z,53nm,19.2s,baz=153,slow=34						
STKA	**Stephens Creek**	**43.13**	**241**	P	P	02 59 52.8	+0.3
	2.4nm,0.6s,baz=99,slow=16,SNR=4.9						
STKA	**Stephens Creek**	**43.13**	**241**	P	P	02 59 52.8	+0.3
WRA	**Warramunga Arr**	**49.19**	**258**	P	P	03 00 40.3	-0.1
	0.3nm,0.3s,baz=95,slow=6.9,SNR=16						
WRA	**Warramunga Arr**	**49.19**	**258**	P	P	03 00 40.3	-0.1
AS31	**Alice Springs**	**49.37**	**253**	*e*P	P	03 00 41.6	-0.2
ASAR	**Alice Springs**	**49.38**	**253**	P	P	03 00 41.9	0.0
	3.9nm,0.7s,baz=89,slow=8.0,SNR=31						
ASAR	**Alice Springs**	**49.38**	**253**	P	P	03 00 41.9	0.0
FORT	**Forrest**	**54.55**	**244**	*e*P	P	03 01 20.1	-0.1
	6.3nm,0.7s						
KKM	**Kota Kinabalu**	**72

KOLN Koldanda 7.76 126 *e*Pn **Pn** **03 09 10.5 +1.5**
KOLN *e*Sn **Sn** **03 10 35.4 -1.5**
comp=E,50nm,0.5s
KOLN Koldanda 7.76 126 *e*Pn **Pn** **03 09 10.5 +1.5**
KOLN *e*Sn **Sn** **03 10 35.4 -1.5**
GKN Gorkha 8.35 120 *e*Pn **Pn** **03 09 18.5 +1.4**
GKN *e*Sn **Sn** **03 10 47.5 -4.0**
comp=E,92nm,0.4s
GKN Gorkha 8.35 120 *e*Pn **Pn** **03 09 18.5 +1.4**
GKN *e*Sn **Sn** **03 10 47.5 -4.0**
DMN Daman 8.92 121 *e*Pn **Pn** **03 09 25.9 +0.9**
DMN *e*Sn **Sn** **03 11 01.4 -4.1**
comp=E,45nm,0.6s
DMN Daman 8.92 121 *e*Pn **Pn** **03 09 25.9 +0.9**
DMN *e*Sn **Sn** **03 11 01.4 -4.1**
KKN Kakani 8.94 119 *e*Pn **Pn** **03 09 26.7 +1.4**
KKN *e*Sn **Sn** **03 11 02.7 -3.4**
comp=E,52nm,0.6s
KKN Kakani 8.94 119 *e*Pn **Pn** **03 09 26.7 +1.4**
KKN *e*Sn **Sn** **03 11 02.7 -3.4**
PKI Pulchoki 9.16 120 *e*Pn **Pn** **03 09 28.9 +0.5**
PKI *e*Sn **Sn** **03 11 07.2 -4.4**
comp=E,46nm,0.5s
PKI Pulchoki 9.16 120 *e*Pn **Pn** **03 09 28.9 +0.5**
PKI *e*Sn **Sn** **03 11 07.2 -4.4**
GUN Gumba 9.32 117 *e*Pn **Pn** **03 09 31.3 +0.7**
GUN Gumba 9.32 117 *e*Pn **Pn** **03 09 31.3 +0.7**
JIRN Jiri 9.69 117 *e*Pn **Pn** **03 09 36.1 +0.5**
JIRN *e*Sn **Sn** **03 11 19.3 -5.4**
comp=E,30nm,0.3s
JIRN Jiri 9.69 117 *e*Pn **Pn** **03 09 36.1 +0.5**
JIRN *e*Sn **Sn** **03 11 19.3 -5.4**
AAK Ala-Archa 10.23 352 Pn **Pn** **03 09 44.9 +2.0**
comp=E,0.3nm,0.3s,baz=159,slow=8.6,SNR=12
AAK Sn **Sn** **03 11 39.5 +1.9**
comp=E,0.2nm,0.3s,baz=172,slow=7.1,SNR=2.0
AAK LR LR 03 14 09.4
comp=E,94nm,19.0s,baz=178,slow=40
AAK Ala-Archa 10.23 352 *e*Pn **Pn** **03 09 45.1 +2.2**
comp=E,12nm,0.6s
EKS2 Erkin-Say 10.36 349 *e*Pn Pn 03 09 48.1 +3.5
RAMN Ramite 10.38 120 *e*Pn **Pn** **03 09 45.5 +0.4**
RAMN *e*Sn **Sn** **03 11 36.7 -4.8**
comp=E,34nm,0.3s
RAMN Ramite 10.38 120 *e*Pn **Pn** **03 09 45.5 +0.4**
RAMN *e*Sn **Sn** **03 11 36.7 -4.8**
TKM2 Tokmak 2 10.42 356 ⇑Pn **Pn** **03 09 47.2 +1.7**
comp=E,8.8nm,1.2s
TKM2 ⇓Sn Sn 03 11 30.9 -12
comp=E,4.2nm,0.9s
TAPN Taplejung 11.00 115 *e*Pn **Pn** **03 09 53.0 -0.6**
TAPN Taplejung 11.00 115 *e*Pn **Pn** **03 09 53.0 -0.6**
KK31 Karatay Array 11.58 338 Pn **Pn** **03 10 00.7 -0.5**
comp=E,3.6nm,0.7s,baz=152,slow=12,SNR=45
KK31 ⇑Sn Sn 03 12 01.7 -8.8
comp=E,6.2nm,0.7s,baz=158,slow=22,SNR=7.0
KKAR Karatay Array 11.58 338 *e*Pn **Pn** **03 10 01.3 +0.1**
comp=E,2.5nm,0.4s
KKAR *e*Sn Sn 03 12 02.1 -8.4
POO Poona 14.12 190 *ex* x 03 10 25.0
MK31 Makanchi Array 14.94 16 ⇑Pn **Pn** **03 10 47.8 +0.7**
comp=E,0.5nm,0.3s,baz=202,slow=13,SNR=86
MK31 ⇓Sn Sn 03 13 26.2 -6.4
comp=E,2.9nm,0.9s,baz=198,slow=23,SNR=6.8
MK31 Makanchi Array 14.94 16 *e*Pn **Pn** **03 10 46.9 -0.1**
MKAR Makanchi Array 14.94 16 Pn **Pn** **03 10 47.0 -0.1**
comp=E,1.0nm,0.3s,baz=193,slow=12,SNR=44
MKAR Sn **Sn** **03 13 27.6 -4.9**
comp=E,0.2nm,0.3s,baz=198,slow=23,SNR=6.0
MKAR Makanchi Array 14.94 16 Pn **Pn** **03 10 47.0 -0.1**
MKAR Sn **Sn** **03 13 27.6 -4.9**
KURBB Kurchatov Arra 18.16 4 ⇓P **P** **03 11 28.3 +0.1**
comp=E,0.8nm,1.1s
KURK Kurchatov 18.26 4 P **Pn** **03 11 27.0 -2.1**
comp=E,0.1nm,0.3s,baz=196,slow=10,SNR=18
KURK Kurchatov 18.26 4 ⇓P **Pn** **03 11 27.9 -1.3**
comp=E,3.4nm,0.6s
KURK Kurchatov 18.26 4 *e*P **P** **03 11 29.4 +0.1**
comp=E,5.4nm,0.8s
VOSK Vostochnaya 20.59 350 ⇑P Pn 03 11 56.6 -0.6
comp=E,3.4nm,0.8s
AB31 Akbulak array 20.82 328 P **P** **03 11 58.1 +0.9**
comp=E,2.2nm,0.6s,baz=132,slow=9.5,SNR=65
ABKAR Akbulak array 20.82 328 *e*P **P** **03 11 58.3 +1.0**
comp=E,3.0nm,0.6s
BVA0 Borovoye Array 20.98 350 P **P** **03 11 59.4 +0.5**
comp=E,1.2nm,0.8s,baz=161,slow=10,SNR=30
BVAR Borovoye Array 20.98 350 P **P** **03 11 59.9 +0.9**
comp=E,5.1nm,0.7s,baz=160,slow=11,SNR=38
BVAR LR LR 03 20 43.4
comp=E,46nm,21.6s,baz=18,slow=38
BVAR Borovoye Array 20.98 350 P **P** **03 11 59.9 +0.9**
BRVK Borovoye 21.02 350 ⇑P **P** **03 11 60.0 +0.5**
comp=E,18nm,0.8s
BRVK Borovoye 21.02 350 *e*P **P** **03 11 60.0 +0.5**
comp=E,12nm,0.8s
ZRNK Zerenda 21.14 347 ⇓P **P** **03 12 01.3 +0.6**
comp=E,6.8nm,0.8s
ZAA0 Zalesovo Array 22.24 13 *e*P **P** **03 12 12.6 0.0**
ZALV Zalesovo Beam 22.24 13 P **P** **03 12 12.1 -0.5**
comp=E,16nm,1.2s,baz=209,slow=12,SNR=12
ZALV Zalesovo Beam 22.24 13 P **P** **03 12 12.1 -0.5**
AKTO Aktyubinsk 22.53 328 P **P** **03 12 17.0 +1.3**
comp=E,4.2nm,0.5s,baz=126,slow=11,SNR=24
AKTO Aktyubinsk 22.53 328 ⇓P **P** **03 12 16.6 +1.0**
comp=E,1.2nm,0.8s
AKTO Aktyubinsk 22.53 328 P **P** **03 12 17.0 +1.3**
CMAR Chiang Mai Arr 24.56 119 P **P** **03 12 37.5 +1.6**
comp=E,2.2nm,0.5s,baz=309,slow=9.5,SNR=19
CMAR Chiang Mai Arr 24.56 119 P **P** **03 12 37.5 +1.6**
SONM Songino Array 27.29 47 P **P** **03 13 02.4 +2.0**
comp=E,1.1nm,0.6s,baz=242,slow=9.4,SNR=14
SONM Songino Array 27.29 47 P **P** **03 13 02.4 +2.0**
ULN Ulaanbaatar 27.71 47 *e*P **P** **03 13 02.9 -1.4**
comp=E,1.6nm,0.9s
BRTR Keskin Array B 35.10 294 P **P** **03 14 10.9 +1.5**
comp=E,0.9nm,0.8s,baz=91,slow=11,SNR=4.2
BRTR Keskin Array B 35.10 294 P **P** **03 14 10.9 +1.5**
EIL Elat 35.53 277 P **P** **03 14 15.0 +2.0**
comp=E,2.5nm,0.8s,baz=101,slow=5.2,SNR=1.8
EIL Elat 35.53 277 P **P** **03 14 15.0 +2.0**
AKBB Malin Array Si 38.98 312 *e*P **P** **03 14 41.8 -0.2**
KIEV Kiev 38.99 312 *e*P **P** **03 14 41.8 -0.3**
comp=E,2.7nm,0.6s
FINES FINESS Array B 43.30 327 P **P** **03 15 18.1 +0.7**
comp=E,2.8nm,0.9s,baz=126,slow=9.7,SNR=9.9
FINES FINESS Array B 43.30 327 P **P** **03 15 18.1 +0.7**
TGY Tagaytay City 44.38 104 LR LR 03 35 11.0
comp=E,5.1nm,19.5s,baz=102,slow=38
KKM Kota Kinabalu 45.39 117 *e*P **P** **03 15 34.3 -0.5**
comp=E,72nm,1.5s
ARCES ARCESS Array B 46.55 338 P **P** **03 15 44.4 +1.2**
comp=E,5.1nm,1.0s,baz=97,slow=7.4,SNR=5.3
ARCES ARCESS Array B 46.55 338 P **P** **03 15 44.4 +1.2**
MJAR Matsushiro Arr 50.25 67 P **P** **03 16 13.1 +0.9**
comp=E,2.0nm,0.7s,baz=283,slow=11,SNR=3.6
MJAR Matsushiro Arr 50.25 67 P **P** **03 16 13.1 +0.9**
NB2 NORSAR Subarra 50.27 325 P **P** **03 16 12.2 +0.2**
comp=E,2.3nm,0.5s,baz=81,slow=7.4
NOA NORSAR Array B 50.27 325 P **P** **03 16 11.8 -0.2**
comp=E,1.1nm,0.9s,baz=108,slow=8.3,SNR=5.2
NOA NORSAR Array B 50.27 325 P **P** **03 16 11.8 -0.2**
TORD Torodi Ar. Bea 70.32 273 P **P** **03 18 29.0 -0.9**
comp=E,0.4nm,0.4s,baz=44,slow=5.7,SNR=14
TORD Torodi Ar. Bea 70.32 273 P **P** **03 18 29.0 -0.9**
WRA Warramunga Arr 76.01 125 P **P** **03 19 03.1 -0.3**
comp=E,0.5nm,0.5s,baz=325,slow=5.8,SNR=14
WRA Warramunga Arr 76.01 125 P **P** **03 19 03.1 -0.3**
ILAR Eielson Array 77.29 18 P **P** **03 19 09.6 -0.4**
comp=E,0.0nm,1.1s,baz=311,slow=5.2,SNR=6.3
ILAR Eielson Array 77.29 18 P **P** **03 19 09.6 -0.4**
ASAR Alice Springs 78.24 128 P **P** **03 19 15.7 -0.2**
comp=E,0.3nm,0.4s,baz=315,slow=5.5,SNR=3.6
ASAR Alice Springs 78.24 128 P **P** **03 19 15.7 -0.2**
YKA Yellowknife Ar 84.91 5 P **P** **03 19 51.0 +0.5**
comp=E,1.2nm,0.6s,baz=344,slow=5.2,SNR=33
YKA Yellowknife Ar 84.91 5 P **P** **03 19 51.0 +0.5**
SCHQ Schefferville 87.47 340 P **P** **03 20 03.3 -0.1**
comp=E,1.6nm,1.0s,baz=32,slow=4.7,SNR=2.5
SCHQ Schefferville 87.47 340 P **P** **03 20 03.3 -0.1**

*IDC **31** 03:17:59.5±0.7,0.°68S×133.°43E,h0km,mb4.4/13, mb1 4.6/15,mb1mx4.5/22,mbtmp4.5/15,ML4.7/1,MS4.1/18, Ms1 4.1/18,ms1mx3.9/32,Error ellipse: s-maj=30.7km*

s-min=13.1km az=78.0
*BJI **31** 03:18:01.6,0.°70S×133.°40E,h18km,mB5.1/23,mb4.6/34, Ms4.5/20,Ms7 4.1/21*
*ISCJB **31** 03:18:02.5±1.5,0.°76S±0.°03×133.°47E±0.°05,h31km±10km, mb4.7/45,MS4.1/25,Error ellipse: s-maj=8.5km*
s-min=4.7km az=163.2
*NEIC **31** 03:18:02.6±0.2,0.°70S×133.°43E,mb4.8/19,Error ellipse: s-maj=8.2km s-min=4.4km az=68.0*
*DJA **31** 03:18:06,0.°84S×133.°28E,h25km,mb5.0/17*
ISC 31 03:18:02.4±0.4,0.°81S±0.°04×133.°49E±0.°06,h19km±1km, h18km:pP-P,n138,σ1°72/164,mb4.8/45,MS4.2/25,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**2.23**	**269**	P	**Pn**	**03 18 36.9**	**-1.5**
FAKI	**Fak Fak**	**2.44**	**211**	P	**Pn**	**03 18 43.0**	**+1.8**
BAKI	**Biak**	**2.64**	**98**	P	**Pb**	**03 18 48.1**	**-1.0**
TLE	**Tual**	**4.86**	**189**	P	Pn	03 19 19.0	+4.5
BNDI	**Bandanaira**	**5.14**	**224**	P	**Pn**	**03 19 20.5**	**+2.0**
	2μm,1.1s,21μm7.7nm						
MSAI	**Masohi**	**5.21**	**241**	P	**Pn**	**03 19 21.2**	**+1.8**
	303nm,0.8s,3μm1.0nm						
LBMI	**Labuha**	**6.00**	**272**	P	**Pn**	**03 19 30.5**	**+0.3**
	242nm,1.0s,4μm1.1nm						
AAI	**Ambon**	**6.02**	**242**	P	**Pn**	**03 19 31.3**	**+0.8**
	810nm,0.9s,8μm2.6nm						
TNTI	**Ternate**	**6.33**	**284**	P	Pb	03 19 44.8	-7.2
NLAI	**Namlea**	**6.83**	**249**	P	**Pn**	**03 19 41.9**	**+0.2**
	269nm,0.9s,3μm1.1nm						
LUWI	**Luwuk**	**10.72**	**269**	P	**Pn**	**03 20 34.4**	**-0.7**
	162nm,1.0s,2μm						
DAV	**Davao City (W)**	**11.12**	**315**	LR	LR	03 23 48.8	
	comp=Z,227nm,22.0s,baz=149,slow=32						
KDI	**Kendari**	**11.30**	**254**	P	**Pn**	**03 20 43.8**	**+0.7**
	46nm,0.9s						
TTSI	**Tana Toraja**	**13.85**	**261**	P	P	03 21 22.3	-3.8
SPSI	**Sidrap Palu**	**14.06**	**257**	P	**P**	**03 21 27.1**	**-1.4**
BKSI	**Bulukumba**	**14.08**	**251**	P	Pn	03 21 25.0	+4.0
KAPI	**Kappang**	**14.34**	**253**	Pn	**Pn**	**03 21 26.8**	**+2.2**
	1.1nm,0.3s,baz=94,slow=5.1,SNR=20						
KAPI				LR	LR	03 27 12.2	
	comp=Z,277nm,20.4s,baz=87,slow=39						
KAPI	**Kappang**	**14.34**	**253**	Pn	**Pn**	**03 21 26.8**	**+2.2**
KAPI	**Kappang**	**14.34**	**253**	P	**Pn**	**03 21 26.9**	**+2.2**
	84nm,1.0s						
PMG	**Port Moresby**	**16.06**	**123**	*e*Pn	**P**	**03 21 49.6**	**-1.0**
MYLDM	**Lahad Datu**	**16.11**	**292**	P	P	03 22 00.1	+8.8
COEN	**Coen**	**16.20**	**144**	*e*Pn	**P**	**03 21 50.8**	**-1.4**
	102nm,1.0s						
GUMO	**Guam**	**18.21**	**38**	LR	LR	03 28 30.2	
	comp=Z,690nm,19.0s,baz=242,slow=35						
FITZ	**Fitzroy Crossi**	**18.84**	**204**	P	**P**	**03 22 20.1**	**-1.3**
	3.1nm,0.3s,baz=39,slow=12,SNR=17						
FITZ				S	Sn	03 25 40.9	-12
	1.2nm,0.3s,baz=119,slow=18,SNR=4.0						
FITZ				LR	LR	03 30 04.5	
	comp=Z,571nm,21.1s,baz=23,slow=38						
FITZ	**Fitzroy Crossi**	**18.84**	**204**	*e*P	**P**	**03 22 20.0**	**-1.4**
FITZ				*e*S	Sn	03 25 40.6	-12
FITZ	**Fitzroy Crossi**	**18.84**	**204**	*e*P	**P**	**03 22 20.5**	**-0.9**
	41nm,0.9s						
FITZ				*e*S	Sn	03 25 32.7	-20
MTNI	**Mataram**	**18.92**	**245**	P	**Pn**	**03 22 24.7**	**+1.7**
	95nm,1.5s,12μm						
WRAB	**Tennant Creek**	**19.02**	**178**	*e*P	**Pn**	**03 22 24.1**	**-0.1**
	38nm,0.6s						
WRAB				*e*S	**Sn**	**03 25 51.0**	**-6.0**
WB2	**Warramunga Arr**	**19.03**	**178**	*e*P	**Pn**	**03 22 24.5**	**+0.2**
WB2				*e*S	**Sn**	**03 25 51.8**	**-5.4**
WRA	**Warramunga Arr**	**19.03**	**178**	P	**Pn**	**03 22 24.2**	**-0.1**
	2.5nm,0.3s,baz=355,slow=11,SNR=70						
WRA				S	**Sn**	**03 25 52.6**	**-4.6**
	0.9nm,0.3s,baz=354,slow=23,SNR=5.1						
WRA	**Warramunga Arr**	**19.03**	**178**	P	**Pn**	**03 22 24.2**	**-0.1**
WRA				S	**Sn**	**03 25 52.6**	**-4.6**
KHKI	**Kahang-Kahang**	**19.33**	**247**	P	**Pn**	**03 22 27.7**	**-0.3**
	99nm,1.2s,2μm						
BYJI	**Banyuwangi**	**20.43**	**248**	P	Pn	03 22 46.0	+5.0
BLJI	**Banyuglugur**	**20.99**	**250**	P	Pn	03 22 47.0	-0.6
	103nm,1.5s,3μm						
GMJI	**Gumukmas**	**21.30**	**249**	P	P	03 22 54.5	+6.2
SBUM	**Sibu**	**21.51**	**279**	P	P	03 22 55.6	+5.1
SJI	**Sawahan**	**22.72**	**252**	P	P	03 23 10.0	+6.4
AS31	**Alice Springs**	**22.72**	**179**	*e*P	**P**	**03 23 04.4**	**+0.9**
AS31				*e*S	**S**	**03 27 07.5**	**-3.9**
ASAR	**Alice Springs**	**22.73**	**179**	P	**P**	**03 23 05.2**	**+1.8**
	48nm,0.8s,baz=3.0,slow=9.7,SNR=84						
ASAR				S	**S**	**03 27 12.4**	**+1.0**
	14nm,1.1s,baz=1.3,slow=20,SNR=8.0						
ASAR	**Alice Springs**	**22.73**	**179**	P	**P**	**03 23 05.2**	**+1.8**
ASAR				S	**S**	**03 27 12.4**	**+1.0**
CTA	**Charters Tower**	**22.87**	**148**	P	**P**	**03 23 07.5**	**+2.5**
	9.5nm,0.7s,baz=318,slow=13,SNR=6.5						
CTA	**Charters Tower**	**22.87**	**148**	*e*P	**P**	**03 23 09.7**	**+4.7**
CTA	**Charters Tower**	**22.87**	**148**	P	**P**	**03 23 07.5**	**+2.5**
CTAO	**Charters Tower**	**22.87**	**148**	*e*P	**P**	**03 23 07.8**	**+2.8**
	15nm,0.7s						
KSM	**Kuching**	**23.29**	**276**	*e*P	**P**	**03 23 08.4**	**-1.0**
	24nm,1.1s						
KSM	**Kuching**	**23.29**	**276**	P	P	03 23 17.2	+7.8
MBWA	**Marble Bar**	**24.28**	**213**	*e*P	**P**	**03 23 18.9**	**+0.1**
MBWA	**Marble Bar**	**24.28**	**213**	*e*P	**P**	**03 23 19.7**	**+1.0**
	224nm,1.7s						
MBWA				*e*pP	**pP**	**03 23 27.0**	**+2.5**
BJII	**Banjamegara**	**24.58**	**254**	P	**P**	**03 23 23.5**	**+1.8**
	113nm,1.0s						
JOW	**Kunigami**	**27.94**	**350**	LR	LR	03 33 12.5	
	comp=Z,1μm,18.6s,baz=76,slow=33						
QIZ	**Qiongzhong**	**30.47**	**312**	P	**P**	**03 24 15.8**	**+1.5**
QIZ				S	**S**	**03 29 17.0**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,9.0nm,2.2s						
QIZ				LR	LR		
	comp=Z,250nm,21.0s						
STKA	**Stephens Creek**	**31.84**	**167**	P	**P**	**03 24 27.2**	**+1.0**
	comp=Z,9.4nm,0.6s,baz=337,slow=8.8,SNR=21						
STKA				LR	LR	03 38 53.4	
	comp=Z,1μm,18.2s,baz=248,slow=39						
STKA	**Stephens Creek**	**31.84**	**167**	*e*P	**P**	**03 24 27.0**	**+0.8**
STKA	**Stephens Creek**	**31.84**	**167**	*e*P	**P**	**03 24 27.5**	**+1.3**
	comp=Z,2.4nm,0.8s						
BBOO	**Buckleboo**	**31.92**	**176**	*e*P	**P**	**03 24 28.3**	**+1.3**
	comp=Z,1μm,1.3s						
KMBL	**Kambalda**	**32.32**	**199**	*e*P	**P**	**03 24 31.4**	**+0.9**
BLDU	**Ballidu**	**33.65**	**207**	*e*P	**P**	**03 24 42.5**	**+0.3**
SSE	**Sheshan**	**33.82**	**341**	P	**P**	**03 24 41.0**	**-2.5**
SSE				sP	**sP**	**03 24 49.8**	**-1.7**
SSE				S	**S**	**03 30 04.8**	**-1.9**
SSE				sS	**sS**	**03 30 15.3**	**-0.8**
SSE				pmax	pmax		
	comp=Z,14nm,1.2s						
SSE				pmax	pmax		
	comp=Z,280nm,4.7s						
SSE				LR	LR		
	comp=N,85nm,20.5s						
SSE				LR	LR		
	comp=E,94nm,20.5s						
SSE				LR	LR		
	comp=Z,150nm,22.0s						
KLBR	**Kellerberrin**	**34.04**	**204**	*e*P	**P**	**03 24 46.1**	**+0.5**
ARMA	**Armidale**	**34.12**	**151**	*e*P	**P**	**03 24 49.3**	**+3.0**
NWAO	**Narrogin (SRO)**	**35.42**	**204**	P	**P**	**03 24 58.5**	**+1.1**
	comp=Z,16nm,1.1s,baz=23,slow=9.2,SNR=4.3						
NWAO				LR	LR	03 41 07.9	
	comp=Z,191nm,18.2s,baz=2.9,slow=39						
NWAO	**Narrogin (SRO)**	**35.42**	**204**	P	**P**	**03 24 58.5**	**+1.1**
ARPS	**Mount Arapiles**	**36.61**	**169**	*e*P	**P**	**03 25 09.1**	**+1.6**
GYA	**Guiyang**	**37.47**	**318**	P	**P**	**03 25 16.8**	**+1.6**
GYA				PP	PP	03 26 44.8	+3.9
GYA				PcP	**PcP**	**03 27 35.5**	**+1.9**
GYA				S	**S**	**03 31 04.3**	**+1.0**
GYA				SS	SS	03 33 35.5	-13
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,17.2s						
GYA				LR	LR		
	comp=E,380nm,18.0s						
GYA				LR	LR		
	comp=Z,430nm,17.4s						
DZM	**Mont Dzumac**	**38.41**	**126**	*e*LR	LR	03 36 04.2	
	comp=Z,249nm,24.2s						
KSRS	**Korea Array**	**38.42**	**353**	LR	LR	03 40 31.1	
	comp=Z,350nm,18.9s,baz=168,slow=35						
CMAR	**Chiang Mai Arr**	**38.99**	**301**	P	**P**	**03 25 28.2**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=123,slow=7.6,SNR=6.5						
CMAR	**Chiang Mai Arr**	**38.99**	**301**	P	**P**	**03 25 28.2**	**+0.3**
KMI	**Kunming**	**39.38**	**313**	P	**P**	**03 25 30.8**	**-0.5**
KMI				pP	**pP**	**03 25 38.8**	**+1.7**
KMI				sP	**sP**	**03 25 40.8**	**+1.4**
KMI				S	**S**	**03 31 36.0**	**+3.7**
KMI				SS	SS	03 34 19.5	-7.1
KMI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KMI				pmax	pmax		
	comp=Z,80nm,4.7s						
KMI				LR	LR		
	comp=N,160nm,24.0s						
KMI				LR	LR		
	comp=E,170nm,21.3s						
KMI				LR	LR		
	comp=Z,220nm,22.8s						
CD2	**Chengdu**	**42.35**	**321**	P	**P**	**03 25 56.5**	**+0.9**
CD2				pP	**pP**	**03 26 02.0**	**+0.6**
CD2				sP	**sP**	**03 26 05.0**	**+1.3**
CD2				PP	PP	03 27 37.8	+3.9
CD2				S	**S**	**03 32 16.5**	**+0.4**
CD2				sS	**sS**	**03 32 25.8**	**+0.2**
CD2				SS	SS	03 35 19.5	-5.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,4.9s						
CD2				LR	LR		
	comp=N,180nm,11.3s						
CD2				LR	LR		
	comp=Z,190nm,13.7s						
BJT	**Baijiatuau**	**43.61**	**341**	*e*P	**P**	**03 26 04.8**	**-0.7**
	comp=Z,12nm,0.6s						
BJI	**Beijing**	**43.63**	**341**	P	**P**	**03 26 04.8**	**-0.9**
BJI				S	**S**	**03 32 38.5**	**+4.1**
BJI				pmax	pmax		
	comp=Z,24nm,1.1s						
BJI				pmax	pmax		
	comp=Z,99nm,3.8s						
BJI				LR	LR		
	comp=N,230nm,25.3s						
BJI				LR	LR		
	comp=E,290nm,25.9s						
BJI				LR	LR		
	comp=Z,130nm,24.0s						
USRK	**Ussuriysk Arra**	**44.83**	**358**	LR	LR	03 44 05.2	
	comp=Z,205nm,18.2s,baz=359,slow=35						
CN2	**Changchun**	**44.99**	**352**	*e*P	P	03 26 20.3	+3.7
CN2				*es*P	sP	03 26 28.0	+3.3
CN2				*eS*	**S**	**03 32 57.8**	**+3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,17.0s						
CN2				LR	LR		
	comp=E,300nm,17.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
MDJ	**Mudanjiang**	**45.36**	**356**	P	**P**	**03 26 21.3**	**+1.8**
MDJ				pP	**pP**	**03 26 24.3**	**-1.0**
MDJ				sP	**sP**	**03 26 25.5**	**-2.1**
MDJ				PcP	**PcP**	**03 27 57.5**	**-1.3**
MDJ				PP	PP	03 28 09.5	+3.6
MDJ				ScP	**ScP**	**03 31 50.5**	**-0.4**
MDJ				PcS	**PcS**	**03 31 51.8**	**-0.8**
MDJ				S	**S**	**03 33 04.0**	**+4.5**
MDJ				ScS	**ScS**	**03 36 16.8**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,13nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,67nm,3.2s						
MDJ				LR	LR		
	comp=N,120nm,26.4s						
MDJ				LR	LR		
	comp=E,25nm,29.6s						
MDJ				LR	LR		
	comp=Z,140nm,28.0s						
ASAJ	**Asahikawa**	**45.46**	**9**	LR	LR	03 45 34.6	
	comp=Z,260nm,18.0s,baz=317,slow=36						
LZH	**Lanzhou**	**45.92**	**326**	*e*P	P	03 26 29.5	+5.2
LZH				pP	pP	03 26 34.5	+4.4
LZH				sP	sP	03 26 37.5	+5.1
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**46.01**	**337**	*e*P	**P**	**03 26 24.0**	**-0.9**
HHC				sP	**sP**	**03 26 32.8**	**-0.2**
HHC				PcP	**PcP**	**03 28 00.0**	**-1.3**
HHC				PP	PP	03 28 13.0	0.0
HHC				S	**S**	**03 33 07.8**	**-1.5**
HHC				sS	**sS**	**03 33 17.3**	**-1.6**
HHC				SS	**ScS**	**03 36 24.5**	**+4.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.6s						
HHC				LR	LR		
	comp=N,190nm,15.9s						
HHC				LR	LR		
	comp=E,220nm,14.3s						
HHC				LR	LR		
	comp=Z,170nm,15.3s						
YSS	**Yuzh-Sakhalins**	**48.26**	**8**	*e*P	**P**	**03 26 41.3**	**-0.8**
	comp=Z,21nm,0.8s						
LSA	**Lhasa**	**50.50**	**311**	*e*P	**P**	**03 27 00.4**	**+0.2**
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**50.52**	**326**	*e*P	**P**	**03 26 59.8**	**0.0**
GTA				pP	**pP**	**03 27 04.8**	**-0.9**
GTA				sP	**sP**	**03 27 08.3**	**+0.4**
GTA				S	**S**	**03 34 10.3**	**-3.0**
GTA				SS	SS	03 37 40.8	-6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,79nm,15.7s						
GTA				LR	LR		
	comp=E,140nm,17.1s						
GTA				LR	LR		
	comp=Z,130nm,19.5s						
TAPN	**Taplejung**	**52.13**	**306**	*e*P	P	03 27 15.6	+3.3
TAPN	**Taplejung**	**52.13**	**306**	*e*P	P	03 27 15.6	+3.3
ODAN	**Odare**	**52.19**	**305**	*e*P	**P**	**03 27 13.1**	**+0.5**
	comp=Z,15nm,0.7s						
ODAN	**Odare**	**52.19**	**305**	*e*P	**P**	**03 27 13.1**	**+0.5**
	comp=Z,15nm,0.7s						
RAMN	**Ramite**	**52.87**	**305**	*e*P	**P**	**03 27 16.5**	**-1.2**
	comp=Z,32nm,0.8s						
RAMN	**Ramite**	**52.87**	**305**	*e*P	**P**	**03 27 16.5**	**-1.2**
	comp=Z,32nm,0.8s						
ULN	**Ulaanbaatar**	**53.67**	**338**	*e*P	**P**	**03 27 22.7**	**-0.4**
	comp=Z,10.0nm,1.1s						
ULN				*ep*P	**pP**	**03 27 28.4**	**-0.6**
ULN	**Ulaanbaatar**	**53.67**	**338**	P	**P**	**03 27 23.3**	**+0.2**
GUN	**Gumba**	**53.84**	**306**	*e*P	**P**	**03 27 25.8**	**+0.8**
GUN	**Gumba**	**53.84**	**306**	*e*P	**P**	**03 27 25.8**	**+0.8**
SONM	**Songino Array**	**53.89**	**338**	P	**P**	**03 27 24.4**

WMQ				pP	**pP**	**03 28 14.8**	**-1.5**
WMQ				sP	**sP**	**03 28 17.8**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,18nm,1.0s						
WMQ				LR	LR		
	comp=N,49nm,23.0s						
WMQ				LR	LR		
	comp=E,62nm,19.8s						
WMQ				LR	LR		
	comp=Z,42nm,21.4s						
WMQ	**Urumqi**	**60.34**	**323**	P	**P**	**03 28 10.0**	**-0.3**
WMQ				pP	**pP**	**03 28 16.0**	**-0.3**
WMQ				sP	**sP**	**03 28 19.0**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,18nm,1.0s						
WMQ				LR	LR		
	comp=N,560nm,21.0s						
WMQ				LR	LR		
	comp=Z,46nm,20.1s						
YAK	**Yakutsk**	**62.74**	**358**	*e*P	**P**	**03 28 25.5**	**-0.6**
MK31	**Makanchi Array**	**65.15**	**324**	*e*P	**P**	**03 28 41.5**	**-0.8**
MK31				*e*pP	**pP**	**03 28 46.9**	**-1.4**
MKAR	**Makanchi Array**	**65.15**	**324**	P	**P**	**03 28 41.6**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=112,slow=8.1,SNR=46						
MKAR	**Makanchi Array**	**65.15**	**324**	P	**P**	**03 28 41.6**	**-0.7**
TKM2	**Tokmak 2**	**67.61**	**318**	*e*P	**P**	**03 28 57.3**	**-1.1**
	comp=Z,6.1nm,0.9s						
TKM2				*e*pP	**pP**	**03 29 02.9**	**-1.6**
ZAA0	**Zalesovo Array**	**67.73**	**331**	*e*P	**P**	**03 28 56.9**	**-1.7**
ZAA0				*e*pP	**pP**	**03 29 02.4**	**-2.3**
ZALV	**Zalesovo Beam**	**67.73**	**331**	P	**P**	**03 28 57.2**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=116,slow=6.8,SNR=7.7						
ZALV				LR	LR	04 01 31.7	
	comp=Z,56nm,18.8s,baz=78,slow=39						
ZALV	**Zalesovo Beam**	**67.73**	**331**	P	**P**	**03 28 57.2**	**-1.4**
EKS2	**Erkin-Say**	**68.75**	**317**	*e*P	**P**	**03 29 05.2**	**-0.2**
	comp=Z,8.3nm,1.0s						
EKS2				*e*pP	**pP**	**03 29 10.7**	**-0.8**
KURK	**Kurchatov**	**69.21**	**326**	*e*P	**P**	**03 29 06.8**	**-1.1**
	comp=Z,22nm,1.0s						
KURK				*e*pP	**pP**	**03 29 12.6**	**-1.4**
KBL	**Kabul**	**69.63**	**307**	*e*P	**P**	**03 29 10.6**	**-0.6**
	comp=Z,6.3nm,0.9s						
KKAR	**Karatay Array**	**71.15**	**316**	*e*P	**P**	**03 29 19.1**	**-0.9**
	comp=Z,17nm,1.0s						
KKAR				*e*pP	**pP**	**03 29 24.6**	**-1.5**
BVAR	**Borovoye Array**	**74.81**	**326**	P	**P**	**03 29 40.4**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=127,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**74.81**	**326**	P	**P**	**03 29 40.4**	**-1.0**
BRVK	**Borovoye**	**74.88**	**326**	*e*P	**P**	**03 29 41.1**	**-0.8**
	comp=Z,16nm,1.0s						
BRVK				*e*pP	**pP**	**03 29 46.5**	**-1.5**
PPT2	**Papeete2**	**77.30**	**108**	*e*S	**S**	**03 39 47.0**	**+0.8**
	comp=Z,181nm,27.2s						
PPT2				*e*SS	**SS**	**03 44 46.6**	**+1.9**
	comp=Z,58nm,24.8s						
PPT2				*e*LR	LR	03 53 55.6	
	comp=Z,72nm,21.8s						
TBI	**Tubuai**	**77.79**	**114**	*e*LR	LR	03 54 09.9	
	comp=Z,83nm,27.2s						
MEH	**Mehetia**	**78.75**	**108**	*e*T	T	03 29 48.3	
	comp=Z,20nm,0.2s						
ABKAR	**Akbulak array**	**79.93**	**320**	*e*P	**P**	**03 30 08.6**	**-1.6**
	comp=Z,1.9nm,0.6s						
AKTO	**Aktyubinsk**	**81.40**	**321**	P	**P**	**03 30 17.8**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=66,slow=4.7,SNR=8.2						
AKTO	**Aktyubinsk**	**81.40**	**321**	P	**P**	**03 30 17.8**	**-0.3**
MAW	**Mawson**	**81.95**	**201**	LR	LR	04 02 46.1	
	comp=Z,106nm,18.6s,baz=258,slow=33						
ARU	**Arti**	**82.37**	**327**	*e*P	**P**	**03 30 24.1**	**+1.0**
	comp=Z,5.1nm,1.0s						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**03 30 42.0**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=246,slow=5.2,SNR=33						
ILAR				LR	LR	04 02 14.3	
	comp=Z,118nm,21.3s,baz=282,slow=31						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**03 30 42.0**	**-0.9**
PAX	**Paxson**	**86.64**	**27**	*e*P	**P**	**03 30 45.2**	**+0.5**
	comp=Z,43nm,0.4s						
ARCES	**ARCESS Array B**	**96.99**	**340**	P	**P**	**03 31 31.9**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=64,slow=8.1,SNR=4.3						
ARCES				LR	LR	04 17 50.1	
	comp=Z,173nm,18.6s,baz=11,slow=37						
ARCES	**ARCESS Array B**	**96.99**	**340**	P	**P**	**03 31 31.9**	**-0.7**
FINES	**FINESS Array B**	**98.98**	**332**	LR	LR	04 18 48.2	
	comp=Z,173nm,18.5s,baz=314,slow=37						
YKA	**Yellowknife Ar**	**100.70**	**26**	P	**Pdif**	**03 31 48.5**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=298,slow=5.2,SNR=6.2						
YKA	**Yellowknife Ar**	**100.70**	**26**	P	**Pdif**	**03 31 48.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**130.72**	**287**	PKP	**PKPdf**	**03 37 13.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=79,slow=1.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**130.72**	**287**	PKP	**PKPdf**	**03 37 13.0**	**-0.5**
OTAV	**Otavalo**	**148.05**	**91**	*e*PKPbc	**PKPbc**	**03 37 49.4**	**+0.8**

*IDC **31** 03:29:04.6±1.0,55°.59S×26°.26W,h0km,mb4.3/3, mb1 4.3/3,mb1mx4.0/11,mbtmp4.2/3,MS4.0/3,Ms1 3.9/3, ms1mx3.5/14,Error ellipse: s-maj=46.1km s-min=41.3km az=155.0*

*ISCJB **31** 03:29:07.0±0.6,55°.7S±0°.1×26°.4W±0°.2,h35km,mb4.4/10, MS4.0/3,Error ellipse: s-maj=18.2km s-min=16.6km az=39.5*

*NEIC **31** 03:29:08.5±0.4,55°.85S×26°.34W,h35km,mb4.6/8,Error ellipse: s-maj=17.3km s-min=13.3km az=56.0*

ISC 31 03:29:08.7±0.6,55°.8S±0°.1×26°.3W±0°.2,h35km,n32, σ1s53/30,mb4.5/9,MS4.0/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.75**	**157**	*e*P	**P**	**03 33 21.0**	**-3.3**
	4.1nm,0.7s						
QSPA	**South Pole Qui**	**34.42**	**180**	*e*P	**P**	**03 35 53.3**	**+0.9**
	13nm,1.1s						
BOSA	**Boshof**	**45.45**	**75**	P	**P**	**03 37 22.8**	**-1.5**
	1.8nm,0.8s,baz=217,slow=5.1,SNR=3.9						
BOSA				LR	LR	03 53 04.8	
	comp=Z,167nm,20.2s,baz=171,slow=32						
BOSA	**Boshof**	**45.45**	**75**	P	**P**	**03 37 22.8**	**-1.5**
VNDA	**Vanda**	**46.81**	**182**	*e*P	**P**	**03 37 35.1**	**+0.9**
	5.6nm,0.8s						
LBTB	**Lobatse**	**48.48**	**73**	*e*P	**P**	**03 37 48.8**	**+0.9**
	12nm,1.3s						
LPAZ	**La Paz**	**50.65**	**304**	*e*P	**P**	**03 38 04.3**	**-0.8**
	5.6nm,0.9s						
SAML	**Samuel**	**55.00**	**314**	*e*P	**P**	**03 38 34.9**	**-1.5**
	5.3nm,1.1s						
NNA	**Nana**	**58.57**	**298**	*e*P	**P**	**03 39 01.5**	**-0.4**
	8.6nm,1.0s						
ATAH	**Atahualpa**	**63.51**	**299**	LR	LR	04 06 36.4	
	comp=Z,41nm,18.5s,baz=4.6,slow=36						
OTAV	**Otavalo**	**69.94**	**303**	*e*P	**P**	**03 40 17.0**	**+0.2**
	2.0nm,0.8s						
BBTS	**Babate**	**70.70**	**10**	LR	LR	04 02 22.0	
	comp=Z,214nm,21.6s,baz=227,slow=28						
TOA0	**Torodi Ar. Sit**	**72.63**	**29**	*e*P	**P**	**03 40 32.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**72.63**	**29**	P	**P**	**03 40 33.4**	**+1.0**
	1.5nm,0.6s,baz=198,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**72.63**	**29**	P	**P**	**03 40 33.4**	**+1.0**
ASAR	**Alice Springs**	**99.05**	**162**	P	**Pdif**	**03 42 49.5**	**+3.5**
	0.8nm,0.7s,baz=195,slow=5.1,SNR=5.8						
ASAR	**Alice Springs**	**99.05**	**162**	P	**Pdif**	**03 42 49.5**	**+3.5**
WRA	**Warramunga Arr**	**102.76**	**161**	P	**Pdif**	**03 43 04.9**	**+2.4**
	0.8nm,1.0s,baz=189,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**102.76**	**161**	P	**Pdif**	**03 43 04.9**	**+2.4**
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP	**PKPdf**	**03 48 24.9**	**-0.1**
	0.8nm,0.7s,baz=128,slow=2.3,SNR=15						
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP	**PKPdf**	**03 48 24.9**	**-0.1**
MKAR	**Makanchi Array**	**136.36**	**71**	PKP	**PKPdf**	**03 48 26.2**	**+0.6**
	0.4nm,1.0s,baz=249,slow=4.0,SNR=2.9						
MKAR	**Makanchi Array**	**136.36**	**71**	PKP	**PKPdf**	**03 48 26.2**	**+0.6**
INK	**Inuvik**	**145.94**	**321**	PKPbc	**PKPbc**	**03 48 42.9**	**0.0**
	3.9nm,0.7s,baz=110,slow=5.1,SNR=18						
INK	**Inuvik**	**145.94**	**321**	*e*PKPbc	**PKPdf**	**03 48 42.5**	**+0.5**
DAWY	**Dawson**	**147.00**	**312**	*e*PKPbc	**PKPbc**	**03 48 45.4**	**-0.8**
SONM	**Songino Array**	**150.23**	**85**	PKPbc	**PKPbc**	**03 48 56.3**	**+1.2**
	1.1nm,0.6s,baz=228,slow=3.1,SNR=10						
SONM	**Songino Array**	**150.23**	**85**	PKPbc	**PKPbc**	**03 48 56.3**	**+1.2**
ILAR	**Eielson Array**	**150.33**	**312**	PKPbc	**PKPbc**	**03 48 54.6**	**0.0**
	5.8nm,0.8s,baz=120,slow=1.3,SNR=59						
ILAR	**Eielson Array**	**150.33**	**312**	PKPbc	**PKPbc**	**03 48 54.6**	**0.0**
COLA	**College**	**150.75**	**312**	*e*PKPbc	**PKPbc**	**03 48 55.4**	**-0.2**
MCK	**McKinley**	**151.01**	**309**	*e*PKPbc	**PKPbc**	**03 48 56.5**	**+0.2**

*IDC **31** 03:50:46.8±0.9,0°.70S×133°.54E,h0km,mb3.9/7, mb1 4.2/10,mb1mx4.0/21,mbtmp4.0/10,ML4.2/2,MS3.4/2, Ms1 3.4/2,ms1mx2.6/28,Error ellipse: s-maj=45.2km s-min=13.0km az=81.0*

*DJA **31** 03:50:50,0°.65S×133°.31E,h11km,MLv4.6/7*

*NEIC **31** 03:50:52.1±0.5,0°.73S×133°.52E,h35km,mb4.4/2,Error ellipse: s-maj=15.3km s-min=7.3km az=81.0*

ISC 31 03:50:54.1±0.8,0°.98S±0°.07×132°.8E±0°.1,h35km,n29, σ2s49/33,mb4.0/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.63**	**253**	Pn	**P**	**03 54 13.9**	**+0.5**
	0.5nm,0.3s,baz=104,slow=12,SNR=3.2						
KAPI	**Kappang**	**13.63**	**253**	Pn	**P**	**03 54 13.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.41**	**202**	P	**Pn**	**03 55 08.7**	**+2.0**
	0.5nm,0.3s,baz=23,slow=13,SNR=4.7						
FITZ				S	**Sn**	**03 58 26.9**	**-4.6**
	0.3nm,0.3s,baz=114,slow=14,SNR=4.3						
FITZ				LR	LR	04 02 52.1	
	comp=Z,69nm,19.8s,baz=37,slow=38						
FITZ	**Fitzroy Crossi**	**18.41**	**202**	P	**Pn**	**03 55 08.7**	**+2.0**
FITZ				S	**Sn**	**03 58 26.9**	**-4.6**
WRAB	**Tennant Creek**	**18.90**	**176**	*e*P	**P**	**03 55 11.8**	**0.0**
	15nm,0.9s						
WRA	**Warramunga Arr**	**18.91**	**176**	P	**Pn**	**03 55 12.4**	**-0.3**
	0.7nm,0.3s,baz=356,slow=11,SNR=54						
WRA				S	**Sn**	**03 58 38.3**	**-5.1**
	0.2nm,0.3s,baz=355,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**18.91**	**176**	P	**Pn**	**03 55 12.4**	**-0.3**
WRA				S	**Sn**	**03 58 38.3**	**-5.1**
WB2	**Warramunga Arr**	**18.91**	**176**	*e*P	**P**	**03 55 11.8**	**-0.1**
AS31	**Alice Springs**	**22.58**	**177**	*e*P	**P**	**03 55 52.2**	**+0.6**
ASAR	**Alice Springs**	**22.58**	**177**	P	**P**	**03 55 52.4**	**+0.7**
	15nm,0.7s,baz=0.0,slow=10,SNR=58						
ASAR				S	**S**	**04 00 02.4**	**+5.4**
	1.3nm,0.9s,baz=5.7,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**22.58**	**177**	P	**P**	**03 55 52.4**	**+0.7**
ASAR				S	**S**	**04 00 02.4**	**+5.4**
CTA	**Charters Tower**	**23.11**	**146**	P	**P**	**03 55 57.8**	**+0.7**
	9.4nm,0.9s,baz=336,slow=11,SNR=3.5						
CTA	**Charters Tower**	**23.11**	**146**	P	**P**	**03 55 57.8**	**+0.7**
MBWA	**Marble Bar**	**23.77**	**212**	*e*P	**P**	**03 56 06.9**	**+3.4**
	16nm,1.1s						
STKA	**Stephens Creek**	**31.84**	**166**	P	**P**	**03 57 15.3**	**-0.4**
	3.6nm,0.6s,baz=340,slow=7.6,SNR=8.4						
STKA				LR	LR	04 11 32.9	
	comp=Z,110nm,18.4s,baz=25,slow=39						
STKA	**Stephens Creek**	**31.84**	**166**	P	**P**	**03 57 15.3**	**-0.4**
SONM	**Songino Array**	**53.78**	**338**	P	**P**	**04 00 12.9**	**-0.3**
	0.5nm,0.9s,baz=146,slow=8.0,SNR=3.4						
SONM	**Songino Array**	**53.78**	**338**	P	**P**	**04 00 12.9**	**-0.3**
MK31	**Makanchi Array**	**64.88**	**324**	*e*P	**P**	**04 01 29.5**	**-0.4**
MKAR	**Makanchi Array**	**64.88**	**324**	P	**P**	**04 01 29.1**	**-0.8**
	1.0nm,0.8s,baz=111,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**64.88**	**324**	P	**P**	**04 01 29.1**	**-0.8**
KURK	**Kurchatov**	**68.97**	**326**	P	**P**	**04 01 54.7**	**-1.0**
	0.9nm,0.7s,baz=120,slow=5.7,SNR=10						
KURK	**Kurchatov**	**68.97**	**326**	P	**P**	**04 01 54.7**	**-1.0**
BVAR	**Borovoye Array**	**74.56**	**326**	P	**P**	**04 02 28.5**	**-0.9**
	0.4nm,0.5s,baz=111,slow=7.9,SNR=3.1						
BVAR	**Borovoye Array**	**74.56**	**326**	P	**P**	**04 02 28.5**	**-0.9**
ILAR	**Eielson Array**	**86.74**	**25**	P	P	04 03 29.1	-5.2
	0.3nm,0.8s,baz=264,slow=5.0,SNR=4.6						
ILAR	**Eielson Array**	**86.74**	**25**	P	P	04 03 29.1	-5.2
TORD	**Torodi Ar. Bea**	**130.11**	**286**	PKP	**PKPdf**	**04 09 60.0**	**-1.5**
	0.5nm,1.2s,baz=50,slow=2.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**130.11**	**286**	PKP	**PKPdf**	**04 09 60.0**	**-1.5**

*BJI **31** 04:05:36.3,8°.37N×126°.45E,h112km,mB4.9/15,mb4.4/22*

*MAN **31** 04:05:37,8°.66N×126°.36E,h117km,mb5.3,ML4.3,MS4.5*

MAN INTENSITY II - BISLIG CITY.

*IDC **31** 04:05:38.5±0.5,8°.79N×126°.40E,h94km±4km,mb3.9/16, mb1 4.1/16,mb1mx4.0/23,mbtmp3.9/16,MS3.0/1, Ms1 3.0/1,ms1mx2.2/39,Error ellipse: s-maj=15.1km s-min=6.9km az=98.0*

*ISCJB **31** 04:05:38.3±0.6,8°.70N±0°.03×126°.34E±0°.06,h107km±4km, mb4.4/39,Error ellipse: s-maj=10.1km s-min=4.7km az=161.5*

*NEIC **31** 04:05:39.7±1.2,8°.74N×126°.31E,h106km±10km,mb4.6/14, Error ellipse: s-maj=12.2km s-min=5.3km az=60.0*

NEIC Felt [II PIVS] at Bislig.

ISC 31 04:05:39.4±0.4,8°.71N±0°.03×126°.35E±0°.06,h101km±2km, h101km:pP-P,n102,σ1s55/170,mb4.4/39,5C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.77**	**290**	*e*P	**Pn**	**04 05 56.1**	**-1.4**
BUTP				*e*S	**Sn**	**04 06 07.2**	**-3.9**
BUKP	**Musuan**	**1.52**	**237**	*e*P	**Pn**	**04 06 05.0**	**-1.0**
CGP	**Cagayan de Oro**	**1.66**	**261**	*i*P	**Pn**	**04 06 06.0**	**-1.6**
CGP				*i*S	**Sn**	**04 06 27.3**	**-1.8**
MATI	**Mati**	**1.75**	**183**	*e*P	**Pn**	**04 06 08.2**	**-0.7**
DAV	**Davao City (W)**	**1.80**	**205**	P	**Pn**	**04 06 10.7**	**+1.2**
	320nm,0.3s,baz=42,slow=16,SNR=14						
DAV				S	**Sn**	**04 06 33.8**	**+1.5**
	214nm,0.3s,baz=63,slow=21,SNR=8.7						
DAV	**Davao City (W)**	**1.80**	**205**	P	**Pn**	**04 06 10.7**	**+1.2**
DAV				S	**Sn**	**04 06 33.8**	**+1.5**
DMPH	**Davao City--Mi**	**1.82**	**207**	*i*P	**Pn**	**04 06 09.5**	**-0.2**
DMPH				*i*S	**Sn**	**04 06 32.5**	**-0.3**
DMPH	**Davao City--Mi**	**1.82**	**207**	*i*P	**Pn**	**04 06 09.5**	**-0.2**
DMPH				*i*S	**Sn**	**04 06 37.5**	**+4.7**
MSLP	**Maasin**	**2.04**	**314**	*e*P	**Pn**	**04 06 12.1**	**-0.5**
KCP	**Kidapawan**	**2.10**	**217**	*i*P	**Pn**	**04 06 14.0**	**+0.7**
KCP				*i*S	**Sn**	**04 06 39.0**	**-0.3**
TBP	**Tagbilaran**	**2.65**	**292**	*e*P	**Pn**	**04 06 20.7**	**+0.3**
TBP				*e*S	**Sn**	**04 06 52.8**	**+0.8**
PLP	**Palo**	**2.79**	**331**	*i*P	**Pn**	**04 06 21.4**	**-1.0**
PLP				*i*S	**Sn**	**04 06 55.9**	**+0.4**
GSPH	**General Santos**	**2.95**	**208**	*e*P	**Pn**	**04 06 23.9**	**-0.7**
DCPH	**Dipolog City**	**2.97**	**268**	*e*P	**Sn**	**04 06 57.7**	**-2.0**
PAGZ	**Pagadian**	**3.06**	**254**	*e*P	**Pn**	**04 06 25.2**	**-0.7**
GUIM	**Jordan**	**4.17**	**297**	*e*P	**Pn**	**04 06 40.4**	**-0.5**
PVCP	**Virac**	**5.31**	**336**	*e*P	**Pn**	**04 06 57.4**	**+1.0**
OTRP	**Odiongan**	**5.59**	**311**	*e*P	**Pn**	**04 07 00.5**	**+0.3**
GUMO	**Guam**	**18.80**	**73**	LR	LR	04 17 10.6	
	comp=Z,40nm,18.4s,baz=88,slow=37						
QIZ	**Qiongzhong**	**19.01**	**304**	P	**Pn**	**04 09 55.8**	**+0.6**
QIZ				S	**S**	**04 13 24.5**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,20nm,1.7s						
NJ2	**Nanjing**	**24.25**	**344**	*e*P	**P**	**04 10 46.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,1.1s						
IPM	**Ipoh**	**25.50**	**262**	*e*P	**P**	**04 10 58.1**	**-0.5**
	comp=Z,30nm,1.4s						
GYA	**Guiyang**	**25.70**	**316**	P	**P**	**04 11 01.5**	**+1.1**
GYA				pP	**pP**	**04 11 24.5**	**+1.8**
GYA				sP	**sP**	**04 11 36.8**	**+2.3**
GYA				PcP	**PcP**	**04 14 30.3**	**+2.0**
GYA				S	**S**	**04 15 18.5**	**-3.4**
GYA				ScP	**ScP**	**04 17 58.3**	**-0.5**
GYA				PcS	**PcS**	**04 18 08.5**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.65**	**182**	P	**P**	**04 11 08.9**	**0.0**
	comp=Z,5.9nm,1.1s,baz=5.7,slow=10,SNR=2.9						
FITZ	**Fitzroy Crossi**	**26.65**	**182**	P	**P**	**04 11 08.9**	**0.0**
KMI	**Kunming**	**27.79**	**309**	P	**P**	**04 11 17.8**	**-1.5**
KMI				pP	**pP**	**04 11 41.5**	**-0.3**
KMI				S	**S**	**04 15 54.5**	**-0.6**
KMI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,34nm,5.1s						
KMI				LR	LR		
	comp=N,130nm,23.9s						
KMI				LR	LR		
	comp=E,150nm,24.7s						
KMI				LR	LR		
	comp=Z,120nm,24.0s						
CMAR	**Chiang Mai Arr**	**28.31**	**293**	P	**P**	**04 11 24.0**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=111,slow=7.0,SNR=22						
CMAR				pP	**pP**	**04 11 46.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=103,slow=7.3,SNR=2.9						
CMAR				PcP	**PcP**	**04 14 36.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=64,slow=2.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**28.31**	**293**	P	**P**	**04 11 24.0**	**+0.2**
CMAR				pP	**pP**	**04 11 46.2**	**0.0**
CMAR				PcP	**PcP**	**04 14 36.0**	**+1.4**

WRAB	**Tennant Creek**	**29.53**	**165**	*e*P	**P**	**04 11 33.4**	**-1.1**
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**29.54**	**165**	P	**P**	**04 11 33.6**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=343,slow=8.0,SNR=55						
WRA				PcP	**PcP**	**04 14 38.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=344,slow=2.7,SNR=5.4						
WRA	**Warramunga Arr**	**29.54**	**165**	P	**P**	**04 11 33.6**	**-1.0**
WRA				PcP	**PcP**	**04 14 38.0**	**+0.4**
CD2	**Chengdu**	**30.53**	**319**	P	**P**	**04 11 44.8**	**+1.5**
CD2				pP	**pP**	**04 12 08.0**	**+2.1**
CD2				sP	**sP**	**04 12 20.8**	**+3.1**
CD2				PP	**PnPn**	**04 12 48.8**	**+2.1**
CD2				S	**S**	**04 16 37.5**	**-0.2**
CD2				sS	**sS**	**04 17 18.5**	**+1.5**
CD2				SS	**SnSn**	**04 18 26.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,4.8s						
CD2				LR	LR		
	comp=N,370nm,5.4s						
CD2				LR	LR		
	comp=Z,200nm,6.0s						
AS31	**Alice Springs**	**33.01**	**167**	*e*P	**P**	**04 12 04.3**	**-0.8**
ASAR	**Alice Springs**	**33.01**	**167**	P	**P**	**04 12 04.8**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=349,slow=7.2,SNR=55						
ASAR				PcP	**PcP**	**04 14 47.0**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=347,slow=2.6,SNR=8.9						
ASAR				pPcP		04 15 10.0	
	comp=Z,1.0nm,0.6s,baz=348,slow=2.8,SNR=5.1						
ASAR	**Alice Springs**	**33.01**	**167**	P	**P**	**04 12 04.8**	**-0.4**
ASAR				PcP	**PcP**	**04 14 47.0**	**+0.2**
ASAR				pPcP		04 15 10.0	
LZH	**Lanzhou**	**34.11**	**326**	*e*P	P	04 12 21.0	+6.3
LZH				pP	pP	04 12 45.8	+8.3
LZH				sP	sP	04 12 55.0	+5.8
LZH				S	S	04 17 44.0	+11
LZH				sS	**ScP**	**04 18 23.3**	**-2.6**
LZH				SS	**SnSn**	**04 19 56.0**	**+4.2**
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
HHC	**Hu-ho-hao-te**	**34.60**	**340**	*e*P	**P**	**04 12 19.8**	**+1.0**
HHC				pP	**pP**	**04 12 44.8**	**+3.1**
HHC				sP	**sP**	**04 12 57.8**	**+4.5**
HHC				PP	**PP**	**04 13 39.8**	**+0.7**
HHC				PcP	**PcP**	**04 14 51.0**	**-0.2**
HHC				S	**S**	**04 17 41.5**	**+0.7**
HHC				sS	**ScP**	**04 18 24.5**	**-3.0**
HHC				SS	**SnSn**	**04 20 01.8**	**-1.8**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,5.8s						
HHC				LR	LR		
	comp=N,150nm,10.3s						
HHC				LR	LR		
	comp=E,210nm,10.4s						
HHC				LR	LR		
	comp=Z,210nm,8.5s						
CN2	**Changchun**	**34.97**	**359**	*e*P	**P**	**04 12 24.3**	**+2.6**
CN2				*es*P	**sP**	**04 12 59.3**	**+3.0**
CN2				*e*S	**S**	**04 17 48.0**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
USRK	**Ussuriysk Arra**	**35.70**	**7**	P	**P**	**04 12 28.7**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=194,slow=10,SNR=6.3						
USRK				pP	**pP**	**04 12 50.2**	**-0.8**
	comp=Z,6.5nm,0.7s,baz=192,slow=8.4,SNR=6.4						
MDJ	**Mudanjiang**	**35.88**	**4**	P	**P**	**04 12 30.5**	**+0.9**
MDJ				pP	**pP**	**04 12 52.0**	**-0.6**
MDJ				sP	**sP**	**04 13 03.8**	**-0.4**
MDJ				PP	**PnPn**	**04 13 53.8**	**+0.5**
MDJ				PcP	**PcP**	**04 14 54.0**	**-0.7**
MDJ				S	**S**	**04 18 02.5**	**+2.4**
MDJ				ScP	**ScP**	**04 18 31.8**	**-0.1**
MDJ				PcS	**PcS**	**04 18 41.5**	**-0.6**
MDJ				ScS	**ScS**	**04 22 37.0**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,11nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,84nm,4.0s						
MDJ				LR	LR		
	comp=Z,23nm,16.7s						
GTA	**Gaotai**	**38.71**	**326**	*e*P	**P**	**04 12 53.0**	**-0.7**
GTA				pP	**pP**	**04 13 18.5**	**+1.5**
GTA				sP	**sP**

ABKAR	**Akbulak array**	**68.11**	**320**	*e*P		**P**	**04 16 27.5**	**-0.9**
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**	**69.57**	**321**	P		**P**	**04 16 36.8**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=58,slow=7.2,SNR=4.9								
AKTO	**Aktyubinsk**	**69.57**	**321**	P		**P**	**04 16 36.8**	**-0.7**
MCK	**McKinley**	**79.91**	**27**	*e*P		**P**	**04 17 36.9**	**0.0**
	comp=Z,6.4nm,0.7s								
ILAR	**Eielson Array**	**80.80**	**26**	P		**P**	**04 17 41.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=237,slow=5.0,SNR=14								
ILAR				pP		**pP**	**04 18 04.5**	**-3.4**
	comp=Z,0.6nm,0.6s,baz=236,slow=5.4,SNR=3.2								
ILAR	**Eielson Array**	**80.80**	**26**	P		**P**	**04 17 41.2**	**-0.4**
ILAR				pP		**pP**	**04 18 04.5**	**-3.4**
BRTR	**Keskin Array B**	**86.58**	**309**	P		**P**	**04 18 10.7**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=142,slow=4.8,SNR=5.1								
BRTR	**Keskin Array B**	**86.58**	**309**	P		**P**	**04 18 10.7**	**-1.2**
FINES	**FINESS Array B**	**87.30**	**332**	P		**P**	**04 18 14.3**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=76,slow=4.4,SNR=19								
FINES	**FINESS Array B**	**87.30**	**332**	P		**P**	**04 18 14.3**	**-0.3**
VNDA	**Vanda**	**88.38**	**173**	*e*P		**P**	**04 18 19.9**	**+0.5**
	comp=Z,9.4nm,0.9s								
BUR08	**Bucovina Ar. S**	**91.06**	**318**	*e*P		**P**	**04 18 34.6**	**+1.9**
RES	**Resolute Bay**	**93.01**	**10**	*e*P		**P**	**04 18 40.7**	**-0.3**
	comp=Z,1.9nm,0.9s								
YKA	**Yellowknife Ar**	**95.14**	**24**	P		**P**	**04 18 51.6**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=300,slow=4.6,SNR=18								
YKA				pP		**pP**	**04 19 14.6**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=301,slow=4.4,SNR=3.9								
YKA	**Yellowknife Ar**	**95.14**	**24**	P		**P**	**04 18 51.6**	**+0.6**
YKA				pP		**pP**	**04 19 14.7**	**-3.1**
MORC	**Moravsky Berou**	**95.28**	**322**	*e*P		**P**	**04 18 51.3**	**-0.8**
	comp=Z,9.8nm,1.4s								
TORD	**Torodi Ar. Bea**	**120.91**	**291**	PKP		**PKPdf**	**04 24 20.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=64,slow=2.0,SNR=58								
TORD				pPKP		**pPKPdf**	**04 24 44.5**	**-4.2**
	comp=Z,0.8nm,0.9s,baz=102,slow=2.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**120.91**	**291**	PKP		**PKPdf**	**04 24 20.4**	**-0.5**
TORD				pPKP		**pPKPdf**	**04 24 44.5**	**-4.2**
DBIC	**Dimbokro**	**129.02**	**286**	PKP		**PKPdf**	**04 24 37.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=29,slow=4.7,SNR=3.0								
DBIC	**Dimbokro**	**129.02**	**286**	PKP		**PKPdf**	**04 24 37.1**	**+0.6**
PLCA	**Paso Flores**	**144.75**	**157**	PKP		**PKPdf**	**04 25 05.4**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=202,slow=3.9,SNR=3.1								
PLCA	**Paso Flores**	**144.75**	**157**	PKP		**PKPdf**	**04 25 05.4**	**+0.5**

BJI ***31*** *04:27:31.2, 11.47N×94.96E, h27km, mB5.3/44, mb5.1/63, Ms5.0/61, Ms7 4.7/52*

ISCJB ***31*** *04:27:34.4±0.1, 11.84N±0.02×94.96E±0.02, h26km, mb5.0/194, MS4.5/58, Error ellipse: s-maj=3.7km s-min=2.9km az=37.0*

NEIC ***31*** *04:27:35.8±0.1, 11.80N×94.96E, mb5.1/71, Error ellipse: s-maj=5.0km s-min=3.3km az=51.0*

MOS ***31*** *04:27:35.3±0.8, 11.87N×94.98E, h33km, mb5.3/63, Error ellipse: s-maj=8.0km s-min=4.1km az=113.9*

IDC ***31*** *04:27:35.8±0.4, 11.80N×94.94E, h25km±2km, mb4.6/25, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, ML4.8/1, MS4.3/32, Ms1 4.3/32, ms1mx4.2/44, Error ellipse: s-maj=12.6km s-min=9.0km az=50.0*

TEH ***31*** *04:27:36.0, 11.79N×94.99E, h26km, ML5.1*

SZGRF ***31*** *04:27:37.7, 11.76N×94.61E, h28km, mb5.2, MS4.4, Andaman Islands, India, region*

DJA ***31*** *04:27:42, 11.64N×95.47E, h21km, mb5.1/17*

ISC 31 04:27:35.9±0.2, 11.81N±0.03×94.92E±0.04, h25km, h25km:pP-P, n627, σ1§11/849, mb5.1/194, MS4.5/62, 59C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.28**	**177**	P			Pn	04 29 12.7	+5.7
	94nm,0.8s,2μm0.5nm								
LHMI	**Lhok Sumawe**	**6.84**	**163**	P			Pn	04 29 22.7	+8.0
	202nm,1.0s,3μm1.3nm								
CM31	**Chiang Mai Arr**	**7.67**	**30**	*e*Pn			**Pn**	**04 29 25.6**	**-0.5**
	34nm,0.8s								
CMAR	**Chiang Mai Arr**	**7.67**	**30**	Pn			**Pn**	**04 29 25.6**	**-0.5**
	3.6nm,0.3s,baz=218,slow=14,SNR=101								
CMAR				LR			LR	04 32 38.8	
	comp=Z,1μm,20.5s,baz=226,slow=40								
CMAR	**Chiang Mai Arr**	**7.67**	**30**	P			**Pn**	**04 29 25.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.67**	**30**	Pn			**Pn**	**04 29 25.6**	**-0.5**
CHTO	**Chiang Mai**	**7.98**	**29**	*e*P			**Pn**	**04 29 29.3**	**-1.0**
CHTO	**Chiang Mai**	**7.98**	**29**	*e*Pn			**Pn**	**04 29 29.3**	**-1.0**
CHTO	**Chiang Mai**	**7.98**	**29**	P			**Pn**	**04 29 30.6**	**+0.3**
	SNR=17								
CHTO	**Chiang Mai**	**7.98**	**29**	P			**Pn**	**04 29 29.9**	**-0.4**
	34nm,0.9s,577nm0.1nm								
IPM	**Ipoh**	**9.46**	**140**	*e*Pn			Pn	04 29 46.1	-4.6
IPM	**Ipoh**	**9.46**	**140**	P			Pn	04 29 47.3	-3.5
PSI	**Prapat**	**9.79**	**156**	P			**Pn**	**04 29 55.6**	**+0.3**
	56nm,1.5s,827nm								
FRIM	**Kepong**	**10.80**	**142**	P			**Pn**	**04 30 07.9**	**-1.2**
MNSI	**Mandailing Nat**	**11.88**	**157**	P			**Pn**	**04 30 27.0**	**+3.2**
	39nm,0.9s,6μm								
KGM	**Kluang**	**12.81**	**139**	P			**Pn**	**04 30 36.6**	**0.0**
BKNI	**Bangkinang**	**12.93**	**152**	P			**Pn**	**04 30 40.5**	**+2.4**
	220nm,1.4s,3μm								
MYKOM	**Kota Tinggi**	**13.32**	**138**	P			**Pn**	**04 30 43.7**	**+0.1**
MYKOM	**Kota Tinggi**	**13.32**	**138**	P			**Pn**	**04 30 44.4**	**+0.8**
	106nm,1.4s,2μm								
PDSI	**Padang**	**13.79**	**156**	P			Pn	04 30 53.5	+3.6
	55nm,1.1s,4μm								
SHL	**Shillong**	**13.98**	**349**	*e*P			**Pn**	**04 30 50.0**	**-2.7**
KMI	**Kunming**	**15.17**	**28**	P			**Pn**	**04 31 11.0**	**+2.1**
KMI				pP			**pP**	**04 31 20.5**	**-0.1**
KMI				sP			**sP**	**04 31 24.0**	**+0.2**
KMI				pmax	pmax				
	comp=Z,30nm,1.0s								
KMI				pmax	pmax				
	comp=Z,640nm,4.9s								
KMI				LR	LR				
	comp=N,3μm,13.9s								
KMI				LR	LR				
	comp=E,2μm,12.5s								
KMI				LR	LR				
	comp=Z,2μm,10.8s								
QIZ	**Qiongzhong**	**16.07**	**62**	P			**Pn**	**04 31 20.0**	**-0.4**
QIZ				pP			**pP**	**04 31 27.5**	**-2.9**
QIZ				sP			**sP**	**04 31 34.3**	**+0.7**
QIZ				S			**Sn**	**04 34 18.3**	**+0.2**
QIZ				pmax	pmax				
	comp=Z,31nm,1.8s								
QIZ				LR	LR				
	comp=N,3μm,16.6s								
QIZ				LR	LR				
	comp=E,870nm,17.3s								
QIZ				LR	LR				
	comp=Z,2μm,11.8s								
QIZ	**Qiongzhong**	**16.07**	**62**	*e*Pn			**P**	**04 31 23.6**	**0.0**
	comp=Z,150nm,1.5s								
ODAN	**Odare**	**16.56**	**336**	*e*P			**Pn**	**04 31 24.4**	**-2.4**
	comp=Z,172nm,0.8s								
ODAN	**Odare**	**16.56**	**336**	*e*P			**Pn**	**04 31 24.4**	**-2.4**
	comp=Z,172nm,0.8s								
HYB	**Hyderabad**	**16.78**	**291**	*i* P			**P**	**04 31 31.0**	**-0.5**
HYB				*e*S			**Sn**	**04 34 36.0**	**+0.7**
TAPN	**Taplejung**	**16.88**	**337**	*e*P			**Pn**	**04 31 28.3**	**-2.6**
	comp=Z,240nm,0.7s								
TAPN	**Taplejung**	**16.88**	**337**	*e*P			**Pn**	**04 31 28.3**	**-2.6**
	comp=Z,240nm,0.7s								
RAMN	**Ramite**	**16.97**	**334**	*e*P			**Pn**	**04 31 31.6**	**-0.4**
RAMN	**Ramite**	**16.97**	**334**	*e*P			**Pn**	**04 31 31.6**	**-0.4**
JIRN	**Jiri**	**17.77**	**334**	*e*P			**Pn**	**04 31 40.3**	**-1.7**
	comp=Z,330nm,0.7s								
JIRN	**Jiri**	**17.77**	**334**	*e*P			**Pn**	**04 31 40.3**	**-1.7**
	comp=Z,330nm,0.7s								
PPBI	**Pangkal Pinang**	**17.80**	**141**	P			**P**	**04 31 42.7**	**0.0**
	comp=Z,150nm,1.2s,comp=Z,8μm								
NGP	**Nagpur**	**17.81**	**303**	*e*P			**P**	**04 31 43.4**	**+0.5**
NGP				*ex*			x	04 31 55.7	
	comp=Z,84nm,1.4s								
NGP				*e*S			**Sn**	**04 34 59.7**	**-0.5**
PKI	**Pulchoki**	**18.04**	**332**	*e*P			**Pn**	**04 31 44.7**	**-0.6**
PKI	**Pulchoki**	**18.04**	**332**	*e*P			**Pn**	**04 31 44.7**	**-0.6**
PKI	**Pulchoki**	**18.04**	**332**	*e*P			**Pn**	**04 31 44.7**	**-0.6**
GUN	**Gumba**	**18.12**	**333**	*e*P			**Pn**	**04 31 46.0**	**-0.3**
	comp=Z,212nm,0.7s								
GUN	**Gumba**	**18.12**	**333**	*e*P			**Pn**	**04 31 46.0**	**-0.3**
	comp=Z,212nm,0.7s								
LSA	**Lhasa**	**18.15**	**349**	*e*P			**Pn**	**04 31 46.4**	**-0.3**
LSA				pmax	pmax				
	comp=Z,54nm,0.6s								
LSA	**Lhasa**	**18.15**	**349**	*e*P			**Pn**	**04 31 46.4**	**-0.3**
	comp=Z,54nm,0.6s								
DMN	**Daman**	**18.22**	**331**	*e*P			**P**	**04 31 47.9**	**+0.4**
	comp=Z,243nm,0.8s								
DMN	**Daman**	**18.22**	**331**	*e*P			**P**	**04 31 47.9**	**+0.4**
	comp=Z,243nm,0.8s								
KKN	**Kakani**	**18.29**	**332**	*e*P			**P**	**04 31 48.6**	**+0.4**
	comp=Z,134nm,0.7s								
KKN	**Kakani**	**18.29**	**332**	*e*P			**P**	**04 31 48.6**	**+0.4**
KKN				pmax	pmax				
	comp=Z,134nm,0.7s								
KKN	**Kakani**	**18.29**	**332**	*e*P			**P**	**04 31 48.6**	**+0.4**
	comp=Z,134nm,0.7s								
GYA	**Guiyang**	**18.30**	**36**	⇓*i*P			**P**	**04 31 48.0**	**-0.3**
GYA				sP			**sP**	**04 32 01.3**	**+3.0**
GYA				S			**Sn**	**04 35 09.0**	**-3.1**
GYA				sS			**S**	**04 35 19.5**	**+3.1**
GYA				SS			**SnSn**	**04 35 34.0**	**+7.8**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,4.9s								
GYA				LR	LR				
	comp=N,550nm,15.2s								
GYA				LR	LR				
	comp=E,480nm,16.0s								
GYA				LR	LR				
	comp=Z,530nm,15.4s								
KSM	**Kuching**	**18.40**	**123**	*e*P			**P**	**04 31 48.4**	**-1.0**
	comp=Z,161nm,1.7s								
KSM	**Kuching**	**18.40**	**123**	P			**Pn**	**04 31 50.4**	**+0.9**
KSM	**Kuching**	**18.40**	**123**	P			Pn	04 31 56.9	+7.4
GKN	**Gorkha**	**18.77**	**331**	*e*P			**Pn**	**04 31 54.1**	**+0.1**
	comp=Z,211nm,0.8s								
GKN	**Gorkha**	**18.77**	**331**	*e*P			**Pn**	**04 31 54.1**	**+0.1**
	comp=Z,211nm,0.8s								
LWLI	**Liwa**	**19.03**	**151**	P			**Pn**	**04 31 58.4**	**+1.2**
	comp=Z,134nm,0.7s								
KOLN	**Koldanda**	**19.10**	**328**	*e*P			**Pn**	**04 31 58.5**	**+0.4**
	comp=Z,376nm,0.6s								
KOLN	**Koldanda**	**19.10**	**328**	*e*P			**Pn**	**04 31 58.5**	**+0.4**
	comp=Z,376nm,0.6s								
DANN	**Dangsing**	**19.49**	**329**	*e*P			**Pn**	**04 32 02.7**	**-0.1**
	comp=Z,213nm,0.8s								
DANN	**Dangsing**	**19.49**	**329**	*e*P			**Pn**	**04 32 02.7**	**-0.1**
	comp=Z,213nm,0.8s								
STKI	**Sintang**	**20.16**	**124**	P			**P**	**04 32 09.4**	**+0.8**
	comp=Z,103nm,1.1s,comp=Z,22μm								
CD2	**Chengdu**	**20.70**	**22**	P			**P**	**04 32 14.3**	**-0.1**
CD2				pP			**pP**	**04 32 21.3**	**0.0**
CD2				sP			**sP**	**04 32 25.0**	**+0.5**
CD2				PP			**PnPn**	**04 32 36.5**	**+3.7**
CD2				S			**S**	**04 36 00.0**	**-4.5**
CD2				sS			Sn	04 36 11.0	+1.2
CD2				SS			**SnSn**	**04 36 31.5**	**+6.6**
CD2				pmax	pmax				
	comp=Z,400nm,0.7s								
CD2				LR	LR				
	comp=N,3μm,11.3s								
CD2				LR	LR				
	comp=Z,2μm,14.3s								
POO	**Poona**	**21.39**	**291**	*e*P			**P**	**04 32 24.7**	**+2.7**
POO				AMb			AMB	04 32 29.3	
	comp=Z,56nm,1.1s								
KKM	**Kota Kinabalu**	**21.80**	**103**	*e*P			**P**	**04 32 27.9**	**+1.4**
	comp=Z,116nm,0.9s								
KKM	**Kota Kinabalu**	**21.80**	**103**	P			**P**	**04 32 29.7**	**+3.3**
KKM	**Kota Kinabalu**	**21.80**	**103**	P			P	04 32 31.7	+5.3
	comp=Z,151nm,1.3s,comp=Z,1μm								
LEM	**Lembang**	**22.41**	**145**	P			P	04 32 42.4	+9.4
ENH	**Enshi**	**22.81**	**34**	*e*P			**P**	**04 32 35.5**	**-1.6**
	comp=Z,33nm,0.6s								
SDKM	**Sandakan**	**22.85**	**104**	P			**P**	**04 32 40.0**	**+2.4**
NDI	**New Delhi**	**23.56**	**318**	*ex*			x	04 32 05.2	
NDI				*e*P			**P**	**04 32 43.0**	**-1.6**
TSM	**Tawau**	**23.91**	**106**	P			**P**	**04 32 48.6**	**+0.6**
COCO	**West Island**	**23.92**	**175**	*i* P			**P**	**04 32 51.2**	**+3.2**
BJI	**Banjamegara**	**24.04**	**142**	P			**P**	**04 32 50.8**	**+1.5**
	comp=Z,139nm,1.8s,comp=Z,2μm								
DDI	**Dehra Dun**	**24.17**	**322**	*e*P			**P**	**04 32 49.7**	**-0.7**
DDI				*ex*			x	04 37 27.8	
MYLDM	**Lahad Datu**	**24.22**	**104**	P			**P**	**04 32 52.2**	**+1.2**
MYLDM	**Lahad Datu**	**24.22**	**104**	P			**P**	**04 32 52.6**	**+1.6**
	comp=Z,91nm,2.0s,comp=Z,2μm								
BBKI	**Banjar Baru**	**24.95**	**126**	P			**P**	**04 33 00.4**	**+2.8**
	comp=Z,115nm,1.6s,comp=Z,3μm								
LZH	**Lanzhou**	**25.48**	**17**	⇓P			**P**	**04 33 02.5**	**+0.1**
LZH				pP			**pP**	**04 33 10.8**	**+1.0**
LZH				sP			**sP**	**04 33 12.5**	**-0.4**
LZH				S			**S**	**04 37 27.3**	**-1.1**
LZH				sS			**sS**	**04 37 40.0**	**-0.6**
LZH				pmax	pmax				
	comp=Z,120nm,1.0s								
LZH				pmax	pmax				
	comp=Z,480nm,4.0s								
LZH				LR	LR				
	comp=N,2μm,11.0s								
LZH				LR	LR				
	comp=E,2μm,15.4s								
LZH				LR	LR				
	comp=Z,2μm,11.4s								
XAN	**Xi'an**	**25.56**	**28**	P			**P**	**04 33 01.3**	**-1.6**
XAN				pP			**pP**	**04 33 08.3**	**-2.0**
XAN				sP			**sP**	**04 33 11.8**	**-1.6**
XAN				PP			**PnPn**	**04 33 44.0**	**+4.8**
XAN				S			**S**	**04 37 30.5**	**+1.2**
XAN				sS			**sS**	**04 37 42.3**	**+0.7**
XAN				pmax	pmax				
	comp=Z,26nm,0.9s								
XAN				pmax	pmax				
	comp=Z,80nm,7.2s								
XAN				LR	LR				
	comp=N,1μm,12.3s								
XAN				LR	LR				
	comp=E,520nm,12.0s								
XAN				LR	LR				
	comp=Z,630nm,13.8s								
SJI	**Sawahan**	**25.65**	**138**	P			**P**	**04 33 05.4**	**+1.5**
	comp=Z,168nm,1.2s,comp=Z,3μm								
PWJI	**Pagerwojo**	**25.89**	**139**	P			**P**	**04 33 08.7**	**+2.7**
	comp=Z,50nm,1.1s								
WHN	**Wuhan**	**25.92**	**41**	P			**P**	**04 33 05.8**	**-0.4**
WHN				S			**S**	**04 37 35.3**	**+0.2**
WHN				pmax	pmax				
	comp=Z,140nm,0.7s								
WHN				LR	LR				
	comp=N,3μm,12.2s								
WHN				LR	LR				
	comp=E,2μm,12.0s								
WHN				LR	LR				
	comp=Z,4μm,12.9s								
GTA	**Gaotai**	**27.83**	**8**	⇓P			**P**	**04 33 24.3**	**+0.8**
GTA				pP			**pP**	**04 33 32.5**	**+1.6**
GTA				sP			**sP**	**04 33 37.0**	**+3.0**
GTA				PP			**PnPn**	**04 34 17.0**	**+6.7**
GTA				S			**S**	**04 38 08.5**	**+3.2**
GTA				sS			**sS**	**04 38 20.8**	**+3.2**
GTA				SS			SnSn	04 39 34.3	+15
GTA				pmax	pmax				
	comp=Z,40nm,1.6s								
GTA				pmax	pmax				
	comp=Z,240nm,5.2s								
GTA				LR	LR				
	comp=N,740nm,18.5s								
GTA				LR	LR				
	comp=E,730nm,15.2s								
GTA				LR	LR				
	comp=Z,720nm,20.9s								
APSI	**Ampana**	**29.41**	**114**	P			P	04 33 45.3	+7.7
	comp=Z,17μm,0.8s								
KAPI	**Kappang**	**29.82**	**123**	P			**P**	**04 33 40.6**	**-0.7**
	comp=Z,12nm,0.8s,baz=261,slow=7.8,SNR=3.6								
KAPI				LR			LR	04 45 37.8	
	comp=Z,673nm,20.9s,baz=268,slow=36								
KAPI	**Kappang**	**29.82**	**123**	*e*P			**P**	**04 33 39.7**	**-1.6**
NJ2	**Nanjing**	**29.86**	**44**	*e*P			**P**	**04 33 41.5**	**+0.1**
NJ2				pP			**pP**	**04 33 47.5**	**-1.3**
NJ2				sP			**sP**	**04 33 50.3**	**-1.6**
NJ2				S			**S**	**04 38 37.0**	**0.0**
NJ2				sS			**sS**	**04 38 49.0**	**-0.3**
NJ2				pmax	pmax				
	comp=Z,30nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,390nm,4.4s								
NJ2				LR	LR				
	comp=N,1μm,13.9s								
NJ2				LR	LR				
	comp=E,2μm,19.7s								
NJ2				LR	LR				
	comp=Z,1μm,10.9s								
LUWI	**Luwuk**	**30.48**	**113**	P			P	04 33 55.4	+8.3
	comp=Z,96nm,1.4s,comp=Z,1μm								
SSE	**Sheshan**	**30.95**	**48**	P			**P**	**04 33 48.5**	**-2.5**
SSE				S			**S**	**04 38 54.8**	**+0.6**
SSE				pmax	pmax				
	comp=Z,14nm,1.1s								
SSE				pmax	pmax				
	comp=Z,280nm,4.3s								
SSE				LR	LR				
	comp=N,1μm,12.8s								
SSE				LR	LR				
	comp=E,560nm,12.8s								
SSE				LR	LR				
	comp=Z,930nm,13.9s								
KDI	**Kendari**	**31.69**	**118**	P			P	04 34 06.7	+8.9
KSH	**Kashi**	**32.31**	**332**	⇓*i*P			**P**	**04 34 02.0**	**-1.1**
KSH				*e*pP			**pP**	**04 34 09.0**	**-1.5**
KSH				*e*sP			**sP**	**04 34 12.5**	**-1.1**
KSH				*e*PP			**PnPn**	**04 35 08.3**	**-1.6**
KSH				*e*PcP			**PcP**	**04 36 51.5**	**+0.6**
KSH				*e*S			**S**	**04 39 11.0**	**-4.5**
KSH				*e*ScP			**ScP**	**04 40 32.0**	**-1.2**
KSH				*e*PcS			**PcS**	**04 40 35.3**	**-0.6**
KSH				*e*ScS			**ScS**	**04 44 29.3**	**-3.0**
KSH				pmax	pmax				
	comp=Z,26nm,0.7s								
KSH				pmax	pmax				
	comp=Z,130nm,3.6s								
KSH				LR	LR				
	comp=N,300nm,7.0s								
KSH				LR	LR				
	comp=E,280nm,10.2s								
KSH				LR	LR				
	comp=Z,210nm,7.2s								
HHC	**Hu-ho-hao-te**	**32.43**	**24**	⇓P			**P**	**04 34 04.0**	**-0.1**
HHC				pP			**pP**	**04 34 11.3**	**-0.3**
HHC				sP			**sP**	**04 34 14.5**	**-0.1**
HHC				PP			**PnPn**	**04 35 13.8**	**+2.4**
HHC				PcP			**PcP**	**04 36 51.0**	**-0.2**
HHC				S			**S**	**04 39 16.8**	**-0.5**
HHC				sS			**sS**	**04 39 29.5**	**-0.1**
HHC				SS			**SnSn**	**04 41 14.8**	**+3.7**
HHC				pmax	pmax				
	comp=Z,38nm,1.0s								
HHC				pmax	pmax				
	comp=Z,160nm,5.1s								
HHC				LR	LR				
	comp=N,1μm,12.9s								
HHC				LR	LR				
	comp=E,990nm,10.8s								
HHC				LR	LR				
	comp=Z,1μm,13.6s								
WMQ	**Urumqi**	**32.50**	**350**	P			**P**	**04 34 04.8**	**+0.1**
WMQ				pP			**pP**	**04 34 11.8**	**-0.3**
WMQ				sP			**sP**	**04 34 15.5**	**+0.3**
WMQ				S			**S**	**04 39 17.3**	**-1.0**
WMQ				SS			**SnSn**	**04 41 14.0**	**+1.1**
WMQ				pmax	pmax				
	comp=Z,26nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,270nm,5.2s								
WMQ				LR	LR				
	comp=N,480nm,26.5s								
WMQ				LR	LR				
	comp=E,650nm,25.2s								
WMQ				LR	LR				
	comp=Z,500nm,25.8s								
KBL	**Kabul**	**32.65**	**318**	*e*P			**P**	**04 34 06.5**	**+0.2**
KBL				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KBL	**Kabul**	**32.65**	**318**	*e*P			**P**	**04 34 06.5**	**+0.2**
	comp=Z,9.5nm,0.8s								
BJT	**Baijiatuau**	**33.80**	**30**	*e*P			**P**	**04 34 16.5**	**+0.5**
BJT				pmax	pmax				
	comp=Z,25nm,0.6s								
BJT	**Baijiatuau**	**33.80**	**30**	*e*P			**P**	**04 34 16.5**	**+0.5**
	comp=Z,25nm,0.6s								
BJI	**Beijing**	**33.82**	**30**	P			**P**	**04 34 16.5**	**+0.4**
BJI				S			**S**	**04 39 41.0**	**+2.3**
BJI				pmax	pmax				
	comp=Z,43nm,0.8s								
BJI				pmax	pmax				
	comp=Z,330nm,3.7s								
BJI				LR	LR				
	comp=N,990nm,15.5s								
BJI				LR	LR				
	comp=E,1μm,16.4s								
BJI				LR	LR				
	comp=Z,430nm,22.8s								
JOW	**Kunigami**	**34.71**	**60**	LR			LR	04 50 09.5	
	comp=Z,544nm,19.2s,baz=69,slow=39								
TKM2	**Tokmak 2**	**35.25**	**335**	P			**P**	**04 34 29.4**	**+0.7**
	SNR=18								
TKM2				P			**P**	**04 34 29.4**	**+0.7**
	SNR=18								
TKM2	**Tokmak 2**	**35.25**	**335**	*i* P			**P**	**04 34 29.4**	**+0.7**
TKM2	**Tokmak 2**	**35.25**	**335**	*e*P			**P**	**04 34 29.4**	**+0.7**
	comp=Z,21nm,0.8s								
TKM2				*e*pP			**pP**	**04 34 38.2**	**+2.0**
KBK	**Karagaybulak**	**35.30**	**334**	P			**P**	**04 34 31.0**	**+1.8**
	SNR=15								
KBK				P			**P**	**04 34 31.0**	**+1.8**
	SNR=15								
AML	**Almayashu**	**35.43**	**332**	P			**P**	**04 34 31.5**	**+0.9**
	SNR=9.8								
AML				P			**P**	**04 34 31.5**	**+0.9**
	SNR=9.8								
AAK	**Ala-Archa**	**35.48**	**334**	P			**P**	**04 34 31.9**	**+1.2**
	SNR=12								
AAK				P			**P**	**04 34 31.9**	**+1.2**
	SNR=12								
AAK	**Ala-Archa**	**35.48**	**334**	LR			LR	04 50 42.8	
	comp=Z,1μm,21.5s,baz=133,slow=39								
AAK	**Ala-Archa**	**35.48**	**334**	*i* P			**P**	**04 34 31.8**	**+1.2**
AAK	**Ala-Archa**	**35.48**	**334**	P			**P**	**04 34 31.0**	**+0.3**
	comp=Z,99nm,1.0s,SNR=11								
FRU	**Bishkek**	**35.59**	**334**	⇓*e*P			**P**	**04 34 32.5**	**+1.1**
FRU				pmax	pmax		

MKAR *PP **pP** **04 34 46.9 +0.5**
MKAR Makanchi Array 36.47 345 *e*P **P** **04 34 39.4 +0.4**
MKAR pP **pP** **04 34 46.9 +0.5**
SONM Songino Array 37.18 13 P **P** **04 34 45.1 0.0**
comp=Z,20nm,0.9s,baz=194,slow=8.6,SNR=143
SONM pP **pP** **04 34 53.3 +0.7**
comp=Z,17nm,0.8s,baz=196,slow=8.4,SNR=17
SONM PcP **PcP** **04 37 05.1 +0.2**
comp=Z,1.9nm,0.7s,baz=187,slow=1.7,SNR=4.2
SONM LR LR 04 51 39.2
comp=Z,822nm,20.2s,baz=16,slow=39
SONM Songino Array 37.18 13 P **P** **04 34 45.1 0.0**
SONM *PP **pP** **04 34 53.3 +0.7**
SONM 04 37 05.1
SONM Songino Array 37.18 13 P **P** **04 34 45.1 0.0**
SONM pP **pP** **04 34 53.3 +0.7**
SONM PcP **PcP** **04 37 05.1 +0.2**
ULN Ulaanbaatar 37.36 13 *e*P **P** **04 34 45.8 -0.8**
ULN *e**PP **pP** **04 34 54.4 +0.2**
ULN pmax pmax
comp=Z,19nm,0.8s
ULN Ulaanbaatar 37.36 13 *e*P **P** **04 34 45.8 -0.8**
comp=Z,19nm,0.8s
ULN *epP **pP** **04 34 54.4 +0.2**
ULN Ulaanbaatar 37.36 13 P **P** **04 34 46.9 +0.3**
SNR=14
ULN Ulaanbaatar 37.36 13 P **P** **04 34 46.2 -0.4**
BSY Bisya 37.52 292 P **P** **04 34 51.3 +3.1**
SNR=15
KK31 Karatay Array 37.68 330*ce*P **P** **04 34 49.0 -0.2**
KK31 pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array 37.68 330 *e*P **P** **04 34 49.3 +0.1**
KKAR Karatay Array 37.68 330 *e*P **P** **04 34 49.3 +0.1**
HATD Hatta, Dubai 38.88 295 P **P** **04 35 02.3 +2.7**
SNR=13
KSAR Wonju Array Be 39.02 43 P **P** **04 34 59.7 -0.9**
KSAR *PP **pP** **04 35 08.2 +0.1**
KSAR Wonju Array Be 39.02 43 P **P** **04 34 59.7 -0.9**
KSAR pP **pP** **04 35 08.2 +0.1**
KSRS Korea Array 39.05 43 P **P** **04 34 59.7 -1.2**
comp=Z,4.7nm,0.7s,baz=243,slow=8.7,SNR=11
KSRS pP **pP** **04 35 08.2 -0.2**
comp=Z,10nm,0.8s,baz=236,slow=9.5,SNR=12
KSRS LR LR 04 51 45.4
comp=Z,515nm,19.2s,baz=238,slow=37
ZAK Zakamensk 39.07 8⇑*iP* **P** **04 35 00.8 -0.2**
ZAK *e* 04 37 10.8
ZAK pmax pmax
comp=Z,11nm,1.1s
JNU Nakatsue 39.14 51 LR LR 04 52 12.5
comp=Z,341nm,19.3s,baz=235,slow=38
IMYA Miami 39.74 314 *e*P **P** **04 35 07.3 +0.5**
TLY Talaya 40.39 8 *e*P **P** **04 35 12.0 +0.2**
TLY *eS **S** **04 41 15.3 -3.2**
TLY *eSS SS 04 44 04.0 -14
TLY pmax pmax
comp=Z,11nm,0.7s
TLY MLR MLR
comp=Z,364nm,17.0s
TLY Talaya 40.39 8 *e*P **P** **04 35 12.9 +1.1**
comp=Z,24nm,1.1s
TLY Talaya 40.39 8 P **P** **04 35 13.2 +1.4**
SNR=9.1
TLY Talaya 40.39 8 P **P** **04 35 13.2 +1.4**
comp=Z,101nm,0.9s,SNR=5.4
IPAY Payeh 40.57 313 *e*P **P** **04 35 14.4 +0.6**
MBWA Marble Bar 40.84 143 *e*P **P** **04 35 14.6 -1.2**
comp=Z,48nm,1.3s
IRK Irkutsk 41.03 9 *e*P **P** **04 35 17.5 +0.4**
IRK *e* 04 36 57.5
IRK pmax pmax
comp=Z,60nm,2.1s
KURK Kurchatov 41.03 344 LR LR 04 57 23.8
comp=Z,327nm,18.6s,baz=160,slow=44
KURK Kurchatov 41.03 344*di*P **P** **04 35 17.3 +0.2**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK MLR MLR
comp=Z,372nm,17.0s
KURK Kurchatov 41.03 344 *e*P **P** **04 35 17.4 +0.4**
comp=Z,30nm,1.1s
KURK *epP **pP** **04 35 25.3 +0.7**
KURK Kurchatov 41.03 344 P **P** **04 35 17.3 +0.2**
SNR=11
KURK Kurchatov 41.03 344 P **P** **04 35 17.5 +0.4**
comp=Z,106nm,1.1s,SNR=9.4
IKRD Kardeh 41.07 314 *e*P P 04 35 13.5 -4.4
IBAF Bafgh 41.23 305 *e*P **P** **04 35 19.9 +0.7**
CN2 Changchun 41.34 34 ||P **P** **04 35 19.5 -0.2**
CN2 *epP **pP** **04 35 27.5 +0.2**
CN2 *eS **S** **04 41 32.8 +0.1**
CN2 pmax pmax
comp=Z,90nm,0.8s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s
CN2 LR LR
comp=E,700nm,14.0s
CN2 LR LR
comp=Z,800nm,15.0s
ABKT Ailbek 41.89 315 P **P** **04 35 25.6 +1.2**
comp=Z,528nm,0.7s,SNR=9.8
ICHK Chekchek 42.37 305 *e*P **P** **04 35 29.4 +0.7**
FITZ Fitzroy Crossi 42.46 134 P **P** **04 35 27.7 -1.5**
comp=Z,4.9nm,0.7s,baz=348,slow=0.9,SNR=6.2
FITZ LR LR 04 53 49.1
comp=Z,350nm,18.9s,baz=334,slow=37
FITZ Fitzroy Crossi 42.46 134 P **P** **04 35 27.7 -1.5**
HIA Hailar 42.63 24 *e*P **P** **04 35 29.6 -0.6**
HIA pmax pmax
comp=Z,43nm,0.8s
HIA Hailar 42.63 24 *e*P **P** **04 35 29.6 -0.6**
comp=Z,43nm,0.8s
IPAR Pars 42.76 301 *e*P **P** **04 35 32.2 +0.2**
ZAA0 Zalesovo Array 42.80 351 *e*P **P** **04 35 31.3 -0.2**
ZAA0 *epP **pP** **04 35 39.6 +0.6**
ZALV Zalesovo Beam 42.80 351 P **P** **04 35 31.4 0.0**
comp=Z,12nm,0.7s,baz=174,slow=8.5,SNR=74
ZALV pP **pP** **04 35 39.1 +0.1**
comp=Z,19nm,0.8s,baz=172,slow=8.3,SNR=16
ZALV LR LR 04 55 50.8
comp=Z,218nm,21.2s,baz=174,slow=40
ZALV Zalesovo Beam 42.80 351 P **P** **04 35 31.4 0.0**
ZALV *PP **pP** **04 35 39.2 +0.1**
ZALV Zalesovo Beam 42.80 351 P **P** **04 35 31.4 0.0**
ZALV pP **pP** **04 35 39.1 +0.1**
IANJ Anjilo 43.90 309 *e*P **P** **04 35 41.4 +0.5**
NVS Novosibirsk 43.91 350||*iP* **P** **04 35 39.2 -1.2**
NVS *e* 04 37 28.2
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=N,23nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.6s
MDJ Mudanjiang 44.16 36 P **P** **04 35 43.3 +0.7**
MDJ pP **pP** **04 35 49.5 -0.8**
MDJ sP **sP** **04 35 52.3 -1.0**
MDJ PP **PP** **04 37 26.5 +0.7**
MDJ PcP **PcP** **04 37 27.8 +0.5**
MDJ ScP **ScP** **04 41 18.5 +0.7**
MDJ PcS **PcS** **04 41 20.8 +0.5**
MDJ S **S** **04 42 15.5 +1.2**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,98nm,5.1s
MDJ LR LR
comp=N,510nm,17.7s
MDJ LR LR
comp=E,520nm,17.1s
MDJ LR LR
comp=Z,490nm,15.5s
IZEF Zefreh 44.24 305 *e*P **P** **04 35 43.9 +0.1**
IGAR Gharneh 44.32 305 *e*P **P** **04 35 45.2 +0.8**
IKIA Kiasar 44.35 310 *e*P **P** **04 35 47.3 +2.7**
IGLO Ghaloghah 44.35 311 *e*P **P** **04 35 46.2 +1.6**
ISHM Shahmirzad 44.49 310 *e*P **P** **04 35 47.0 +1.2**
ILAS Lasjerd 44.59 309 *e*P **P** **04 35 47.3 +0.8**
MEEK Meekatharra 44.62 149 *e*P **P** **04 35 45.8 -0.7**
IALA Alasht 44.96 310 *e*P **P** **04 35 51.1 +1.6**
IKLH Kolahrood 44.97 306 *e*P **P** **04 35 50.3 +0.7**
USRK Ussuriysk Arra 45.33 38 P **P** **04 35 51.4 -0.5**
comp=Z,7.5nm,0.8s,baz=235,slow=6.9,SNR=12
USRK pP **pP** **04 35 59.0 -0.5**
comp=Z,7.1nm,0.8s,baz=248,slow=7.3,SNR=6.2
USRK LR LR 04 56 52.4
comp=Z,351nm,20.0s,baz=186,slow=39
IPIR Pirpir 45.33 305 *e*P **P** **04 35 54.2 +1.7**
IPRN Peran 45.37 310 *e*P **P** **04 35 54.6 +2.0**
IVRN Varamin 45.40 308 *e*P **P** **04 35 54.2 +1.5**
BVAO Borovoye Array 45.57 339 P **P** **04 35 53.4 -0.3**
BVAR Borovoye Array 45.57 339 LR LR 04 58 08.6
comp=Z,258nm,19.7s,baz=142,slow=40
BRVK Borovoye 45.63 339*di*P **P** **04 35 54.0 -0.2**
BRVK pmax pmax
comp=Z,32nm,2.5s
BRVK Borovoye 45.63 339 *e*P **P** **04 35 53.6 -0.6**
comp=Z,12nm,0.8s
BRVK Borovoye 45.63 339 P **P** **04 35 54.0 -0.2**
comp=Z,90nm,0.6s,SNR=8.1
MAJO Matsushiro 46.02 50 *e*P **P** **04 35 57.3 -0.2**
MAJO pmax pmax
comp=Z,9.0nm,0.6s
MAJO Matsushiro 46.02 50 *e*P **P** **04 35 57.3 -0.2**
comp=Z,8.8nm,0.6s
MJAR Matsushiro Arr 46.02 50 P **P** **04 35 57.0 -0.5**
comp=Z,4.1nm,0.7s,baz=256,slow=10,SNR=7.2
MJAR pP **pP** **04 36 05.8 +0.6**
comp=Z,3.2nm,0.5s,baz=261,slow=11,SNR=3.6
MJAR PcP **PcP** **04 37 33.9 0.0**
comp=Z,4.2nm,0.8s,baz=244,slow=3.4,SNR=7.4
MJAR LR LR 04 57 31.9
comp=Z,369nm,18.1s,baz=250,slow=39
MJAR Matsushiro Arr 46.02 50 P **P** **04 35 57.0 -0.5**
MJAR *PP **pP** **04 36 05.8 +0.6**
MJAR 04 37 33.9
MJAR Matsushiro Arr 46.02 50 P **P** **04 35 57.0 -0.5**
MJAR pP **pP** **04 36 05.8 +0.6**
MJAR PcP **PcP** **04 37 33.9 0.0**
IR3 Iran Long-Peri 46.10 308 *e*P **P** **04 35 59.6 +1.3**
AB31 Akbulak array 47.21 329*ce*P **P** **04 36 06.8 +0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 47.21 329 *e*P **P** **04 36 06.8 +0.2**
comp=Z,11nm,0.7s
ABKAR *epP **pP** **04 36 15.1 +0.7**
KLR Kul'dur 48.15 32 *e*P P 04 36 09.0 -4.9
KLR *eS **S** **04 43 13.5 +2.2**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,74nm,1.8s
KLR MLR MLR
comp=Z,4μm,13.0s
BOD Bodaibo 48.17 14 *e*P **P** **04 36 13.2 -0.7**
BOD pmax pmax
comp=Z,37nm,1.7s
AKTO Aktyubinsk 48.93 329 LR LR 05 01 47.5
comp=Z,488nm,20.4s,baz=154,slow=42
HABR Khabarovsk 49.47 34 *e*P **P** **04 36 21.4 -2.6**
HABR *eS **S** **04 43 29.5 -0.4**
HABR *e*SS sS 04 43 35.0 -7.6
HABR 04 46 13.2
HABR *eSSS SSS 04 48 22.0
HABR pmax pmax
comp=Z,33nm,1.8s
HABR pmax pmax
comp=N,21nm,1.8s
HABR pmax pmax
comp=E,41nm,1.8s
HABR MLR MLR
comp=Z,411nm,15.0s
IDHR Dehrash 49.50 306||*eP* **P** **04 36 23.6 -1.2**
IBST Bostanabad 49.97 310 *eP* **P** **04 36 28.0 -0.4**
WRA Warramunga Arr 50.01 129 P **P** **04 36 27.6 -1.1**
comp=Z,13nm,0.7s,baz=307,slow=8.4,SNR=97
WRA pP **pP** **04 36 35.6 -0.8**
comp=Z,23nm,1.0s,baz=308,slow=8.6,SNR=18
WRA Warramunga Arr 50.01 129 P **P** **04 36 27.6 -1.1**
WRA *PP **pP** **04 36 35.6 -0.8**
WRA Warramunga Arr 50.01 129 P **P** **04 36 27.6 -1.1**
WRA pP **pP** **04 36 35.6 -0.8**
WRAB Tennant Creek 50.02 129 *e*P **P** **04 36 27.7 -0.9**
WRAB pmax pmax
comp=Z,20nm,0.8s
WRAB Tennant Creek 50.02 129 *e*P **P** **04 36 27.7 -0.9**
comp=Z,20nm,0.8s
WRAB Tennant Creek 50.02 129 P **P** **04 36 27.2 -1.5**
comp=Z,140nm,0.7s,SNR=8.6
WB2 Warramunga Arr 50.02 129 *e*P **P** **04 36 27.5 -1.2**
IHRS Heris 50.05 310 *e*P **P** **04 36 28.6 -0.4**
KMBL Kambalda 50.12 150 *e*P **P** **04 36 28.4 -0.8**
IAZR Azarshahr 50.65 309 *e*P **P** **04 36 34.6 +1.0**
IMRD Marand 51.17 311 *e*P **P** **04 36 38.2 +0.8**
MAK Makhachkala 51.36 316 *e*P **P** **04 36 36.9 -1.5**
AS31 Alice Springs 51.93 133 *e*P **P** **04 36 41.7 -1.4**
AS31 *epP **pP** **04 36 49.9 -0.9**
ASAR Alice Springs 51.93 133 P **P** **04 36 42.1 -0.9**
comp=Z,11nm,0.6s,baz=312,slow=6.7,SNR=130
ASAR pP **pP** **04 36 49.9 -0.9**
comp=Z,7.7nm,0.6s,baz=309,slow=6.6,SNR=14
ASAR Alice Springs 51.93 133 P **P** **04 36 42.1 -0.9**
ASAR *PP **pP** **04 36 49.9 -0.9**
ASAR Alice Springs 51.93 133 P **P** **04 36 42.1 -0.9**
ASAR pP **pP** **04 36 49.9 -0.9**
ASAJ Asahikawa 51.99 43 P **P** **04 36 43.5 +0.4**
comp=Z,7.8nm,0.7s,baz=277,slow=9.7
ASAJ pP **pP** **04 36 52.3 +1.4**
comp=Z,17nm,0.8s,baz=294,slow=20,SNR=3.5
ASAJ LR LR 05 02 59.5
comp=Z,244nm,18.1s,baz=222,slow=41
ASAJ Asahikawa 51.99 43 P **P** **04 36 43.5 +0.4**
ASAJ pP **pP** **04 36 52.3 +1.4**
SVE Sverdlovsk 52.08 337*ce*P **P** **04 36 44.2 +0.6**
SVE pmax pmax
comp=Z,57nm,0.9s
SVE MLR MLR
comp=Z,529nm,20.0s
GNI Garni 52.32 312 LR LR 05 02 16.9
comp=Z,287nm,19.1s,baz=278,slow=40
GNI Garni 52.32 312*di*P **P** **04 36 47.2 +1.3**
GNI pmax pmax
comp=Z,39nm,1.0s
GNI MLR MLR
comp=Z,269nm,19.0s
GNI Garni 52.32 312 *e*P **P** **04 36 46.6 +0.7**
comp=Z,57nm,0.8s
GNI Garni 52.32 312 P **P** **04 36 48.1 +2.2**
SNR=8.8
ARU Arti 52.62 336*di*P **P** **04 36 47.7 +0.1**
ARU 04 38 43.0
ARU S **S** **04 44 17.4 +4.1**
ARU SS **SS** **04 47 49.7 -2.1**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU MLR MLR
comp=Z,563nm,22.0s
ARU Arti 52.62 336 *e*P **P** **04 36 47.6 +0.1**
comp=Z,23nm,0.6s
ARU *epP **pP** **04 36 55.9 +0.6**
YSS Yuzh-Sakhalins 53.25 39 *e*P **P** **04 36 52.6 +0.2**
YSS *e*PP **pP** **04 37 00.8 +0.6**
YSS pmax pmax
comp=Z,35nm,0.9s
YSS Yuzh-Sakhalins 53.25 39 *e*P **P** **04 36 52.6 +0.2**
comp=Z,35nm,0.9s
YSS *epP **pP** **04 37 00.8 +0.6**
ZEI Tsey 53.76 315 *e*P **P** **04 36 57.6 +1.0**
ZEI pmax pmax
comp=Z,12nm,0.8s
KIV Kislovodsk 54.99 316 *e*P **P** **04 37 06.0 +0.7**
KIV pmax pmax
comp=Z,34nm,0.9s
KIV Kislovodsk 54.99 316 *e*P **P** **04 37 06.0 +0.7**
comp=Z,34nm,0.9s
KIV Kislovodsk 54.99 316 P **P** **04 37 06.3 +1.0**
SNR=8.9
KIV Kislovodsk 54.99 316 P **P** **04 37 06.5 +1.2**
comp=Z,251nm,0.8s,SNR=8.4
SOKR Solikamsk 55.45 338*di*P **P** **04 37 08.0 -0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,340nm,20.0s
YAK Yakutsk 56.05 19 *i*P **P** **04 37 11.4 -1.1**
YAK *e* 04 39 15.3
YAK *eS **S** **04 44 56.2 -3.1**
YAK *eSS SS 04 49 25.0 +39
YAK pmax pmax
comp=Z,40nm,0.6s
YAK MLR MLR
comp=Z,569nm,13.1s
YAK Yakutsk 56.05 19 *e*P **P** **04 37 11.6 -0.9**
comp=Z,63nm,0.7s
YAK *epP **pP** **04 37 18.3 -1.9**
SOC Sochi 56.92 315 *e*P **P** **04 37 18.9 -0.2**
VRHR Novokhopersk 58.21 324 *e*P **P** **04 37 27.1 -0.8**
VRHR pmax pmax
comp=E,6.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,1.0nm,0.3s
VORD Divnogorie 59.53 323 *e*P **P** **04 37 36.6 -0.5**
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,60nm,0.8s
VSR Storozhevoye 59.69 323 *e*P **P** **04 37 37.4 -0.8**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 60.51 309 *e*P **P** **04 37 43.0 -1.3**
comp=Z,12nm,0.6s
BR131 *epP **pP** **04 37 51.6 -0.5**
BRTR Keskin Array B 60.51 309 P **P** **04 37 43.1 -1.1**
comp=Z,16nm,0.7s,baz=119,slow=7.5,SNR=108
BRTR pP **pP** **04 37 51.0 -1.2**
comp=Z,16nm,0.7s,baz=121,slow=6.8,SNR=19
BRTR LR LR 05 07 39.9
comp=Z,192nm,19.6s,baz=109,slow=40
BRTR Keskin Array B 60.51 309*ce*P **P** **04 37 43.2 -1.1**
BRTR pmax pmax
comp=Z,16nm,0.7s
BRTR Keskin Array B 60.51 309 P **P** **04 37 43.1 -1.1**
BRTR pP **pP** **04 37 51.0 -1.2**
MOS Moscow 62.17 327 *e*P **P** **04 37 53.7 -1.3**
MOS *i* 04 38 00.6
MOS pmax pmax
comp=Z,43nm,0.7s
STKA Stephens Creek 62.31 136 P **P** **04 37 56.0 -0.3**
comp=Z,12nm,0.6s,baz=314,slow=8.4,SNR=35
STKA pP **pP** **04 38 04.2 -0.1**
comp=Z,19nm,1.0s,baz=308,slow=7.8,SNR=8.9
STKA LR LR 05 05 22.9
comp=Z,524nm,20.2s,baz=286,slow=36
STKA Stephens Creek 62.31 136 *e*P **P** **04 37 56.0 -0.3**
STKA Stephens Creek 62.31 136 *e*P **P** **04 37 55.6 -0.7**
STKA *e*PP **pP** **04 38 04.4 +0.2**
STKA pmax pmax
comp=Z,9.0nm,1.4s
STKA Stephens Creek 62.31 136 *e*P **P** **04 37 55.6 -0.7**
comp=Z,8.7nm,1.4s
STKA pP **pP** **04 38 04.2 -0.1**
STKA *epP **pP** **04 38 04.4 +0.2**
OBN Obninsk 62.51 327⇑*iP* **P** **04 37 57.2 -0.1**
OBN *e* 04 40 14.2
OBN *eS **S** **04 46 26.3 +3.2**
OBN *eSS **SS** **04 50 24.3 -2.9**
OBN pmax pmax
comp=Z,73nm,2.5s
OBN MLR MLR
comp=Z,300nm,20.0s
KLMR Klimovskoe 63.29 333 *e*P **P** **04 38 01.1 -1.3**
KLMR *e* 04 38 08.9
KLMR pmax pmax
comp=Z,34nm,1.3s
KLMR MLR MLR
comp=Z,371nm,16.0s
PETK Petropavlovsk- 64.39 36 P **P** **04 38 09.5 -0.3**
comp=Z,3.2nm,0.8s,baz=226,slow=8.1,SNR=4.4
PETK pP **pP** **04 38 17.3 -0.5**
comp=Z,6.7nm,0.7s,baz=216,slow=7.3,SNR=6.6
PETK LR LR 05 09 58.2
comp=Z,195nm,19.4s,baz=64,slow=40
PETK Petropavlovsk- 64.39 36 P **P** **04 38 09.5 -0.3**
PETK *PP **pP** **04 38 17.3 -0.5**
PETK Petropavlovsk- 64.39 36 P **P** **04 38 09.5 -0.3**
PETK pP **pP** **04 38 17.3 -0.5**
RMQ Roma 64.69 127 *e*P **P** **04 38 12.9 +0.7**
TLCR 64.90 314⇑P **P** **04 38 13.0 -0.2**
TLCR 64.90 314⇑*iP* **P** **04 38 13.0 -0.2**
SEY Seymchan 65.06 25||*eP* **P** **04 38 13.1 -0.9**
TIRR Tirgusor 65.07 314 ||P **P** **04 38 14.1 -0.3**
TIRR Tirgusor 65.07 314||*iP* **P** **04 38 14.1 -0.3**
CFR Carcaliu 65.37 314⇑P **P** **04 38 16.1 -0.2**
CFR Carcaliu 65.37 314⇑*iP* **P** **04 38 16.0 -0.2**
LEOM Leova 65.48 316 ||P **P** **04 38 17.2 +0.2**
LEOM Leova 65.48 316||*iP* **P** **04 38 17.2 +0.2**
AKASG Malin Array Be 65.59 320 P **P** **04 38 16.6 -1.0**
comp=Z,4.3nm,0.7s,baz=86,slow=5.3,SNR=14
AKASG pP **pP** **04 38 24.2 -1.3**
comp=Z,3.5nm,0.7s,baz=84,slow=5.7,SNR=6.9
AKASG LR LR 05 11 00.6
comp=Z,172nm,21.1s,baz=95,slow=40
AKASG Malin Array Be 65.59 320 P **P** **04 38 16.7 -1.0**
AKASG *PP **pP** **04 38 24.2 -1.3**
AKASG Malin Array Be 65.59 320*ce*P **P** **04 38 17.0 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 65.59 320 P **P** **04 38 16.6 -1.0**
AKASG pP **pP** **04 38 24.2 -1.3**
AKBB Malin Array Si 65.59 320 *e*P **P** **04 38 16.8 -0.9**
AKBB Malin Array Si 65.59 320 *e*P **P** **04 38 16.8 -0.9**
KIEV Kiev 65.60 320 *e*P **P** **04 38 16.9 -0.8**
KIEV *e*PP **pP** **04 38 24.9 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 65.60 320 *e*P **P** **04 38 16.9 -0.8**
comp=Z,8.2nm,0.9s
KIEV *epP **pP** **04 38 24.9 -0.7**
VRI Vrincioaia 66.44 315 ||P **P** **04 38 23.5 +0.2**
VRI Vrincioaia 66.44 315||*iP* **P** **04 38 23.5 +0.2**
PLOR Plostina 66.50 315 ||P **P** **04 38 24.2 +0.6**
PLOR Plostina 66.50 315||*iP* **P** **04 38 24.2 +0.6**
TESR 66.58 316||*iP* **P** **04 38 24.7 +0.6**
MLR Muntele Rosu 66.94 314 LR LR 05 11 16.5
comp=Z,91nm,20.7s,baz=109,slow=39
MLR Muntele Rosu 66.94 314⇑P **P** **04 38 27.2 +0.6**
MLR Muntele Rosu 66.94 314⇑*iP* **P** **04 38 27.2 +0.6**
MICGM Minsk 67.17 324||*eP* **P** **04 38 27.0 -0.7**
PUL Pulkovo 67.18 330⇑*eP* **P** **04 38 28.2 +0.6**
PUL MLR MLR
comp=Z,322nm,22.0s
MNK Minsk 67.20 324||*eP* **P** **04 38 27.0 -0.8**
MNK pmax pmax
comp=Z,50nm,1.0s
VOIR 67.56 314⇑P **P** **04 38 30.4 -0.1**
VOIR 67.56 314⇑*iP* **P** **04 38 30.4 -0.1**
JOF Joensuu 67.67 334 *e*P **P** **04 38 31.2 +0.6**
JOF Joensuu 67.67 334 *ep* **P** **04 38 31.2 +0.6**
JOF Joensuu 67.67 334 *ep* **P** **04 38 31.2 +0.6**
BURAR Bucovina Array 67.69 317⇑*iP* **P** **04 38 31.9 +0.6**
BUR08 Bucovina Ar. S 67.71 317 *e*P **P** **04 38 31.4 0.0**
BUR08 *epP **pP** **04 38 39.7 +0.4**
NACGM Naroch 67.88 325 *e* **P** **04 38 29.0 -3.1**
APA Apatity 68.47 339⇑*iP* P 04 38 42.6 +7.0
APA *eS **S** **04 47 40.0 +4.3**
APA *i* 04 48 16.0
VSU Vasula 68.64 328||*eP* **P** **04 38 36.7 -0.1**
VSU pmax pmax
comp=Z,25nm,0.6s
LVV L'vov 68.74 319 *eP* **P** **04 38 36.7 -1.0**
ARMA Armidale 68.79 129 *eP* **P** **04 38 39.5 +1.1**
ARMA Armidale 68.79 129 *eP* **P** **04 38 39.1 +0.7**
comp=Z,13nm,0.9s
GZR Gura Zlata 69.15 314 ||P **P** **04 38 39.5 -0.9**
GZR Gura Zlata 69.15 314||*iP* **P** **04 38 39.5 -0.9**
DRGR 69.31 316⇑P **P** **04 38 41.7 +0.3**
DRGR 69.31 316⇑*iP* **P** **04 38 41.7 +0.3**
TRPA Tarpa 69.54 317⇑*iP* **P** **04 38 43.0 +0.4**
KWP Kalwaria Pacla 69.58 319 *eP* **P** **04 38 43.1 +0.2**
KWP Kalwaria Pacla 69.58 319 *eP* **P** **04 38 43.1 +0.2**
KWP Kalwaria Pacla 69.58 319 *eP* **P** **04 38 42.6 -0.2**
comp=Z,22nm,0.8s
KWP *epP **pP** **04 38 51.1 +0.3**

KWP **Kalwaria Pacla** 69.58 319 ⇓*i*P P 04 38 42.6 -0.2
FINES **FINESS Array B** 69.63 331 P P 04 38 43.1 +0.2
comp=Z,15nm,0.7s,baz=92,slow=6.0,SNR=32
FINES pP pP 04 38 50.4 -0.4
comp=Z,20nm,0.7s,baz=99,slow=6.1,SNR=14
FINES LR LR 05 11 24.9
comp=Z,437nm,20.3s,baz=126,slow=38
FINES **FINESS Array B** 69.63 331 P P 04 38 43.1 +0.2
FINES *PP pP 04 38 50.4 -0.4
FINES **FINESS Array B** 69.63 331 P P 04 38 43.1 +0.2
FINES pP pP 04 38 50.4 -0.4
KAF **Kangasniemi** 69.68 332 *e*P P 04 38 43.5 +0.3
KAF **Kangasniemi** 69.68 332 *e*p P 04 38 43.5 +0.3
comp=Z,2.8nm,0.6s
KAF **Kangasniemi** 69.68 332 *e*p P 04 38 43.5 +0.3
comp=Z,2.8nm,0.6s
UZH **Uzhgorod** 69.75 318 *e*P P 04 38 43.3 -0.6
UZH *e* 04 38 51.3
UZH *e* 04 38 56.3
SUW **Suwalki** 69.80 323 *e*P P 04 38 43.4 -0.7
SUW *e*pP pP 04 38 51.5 -0.6
SUW LMZ LR 05 13 32.2
comp=Z,300nm,22.1s
SUW **Suwalki** 69.80 323 *e*P P 04 38 43.5 -0.6
SUW *e*PP pP 04 38 51.7 -0.4
SUW pmax pmax
comp=Z,64nm,0.9s
SUW **Suwalki** 69.80 323 *e*P P 04 38 43.5 -0.6
comp=Z,64nm,0.9s
SUW *e*pP pP 04 38 51.7 -0.4
BZS **Buzias** 69.98 314 ⇓P P 04 38 44.0 -1.4
BZS **Buzias** 69.98 314 ⇓*i*P P 04 38 44.0 -1.4
BEL **Belsk** 71.00 321 *e*P P 04 38 51.7 +0.2
BEL *e*pP pP 04 39 00.1 +0.7
BEL LMZ LR 05 14 09.1
comp=Z,400nm,20.3s
BEL **Belsk** 71.00 321 *e*P P 04 38 51.7 +0.2
BEL *e* 04 39 00.1
BEL MLR MLR
comp=Z,400nm,20.3s
NIE **Niedzica** 71.11 318 *e*P P 04 38 52.8 +0.5
NIE **Niedzica** 71.11 318 *e*P P 04 38 52.8 +0.5
PSZ **Piszkesteto** 71.30 317 ⇑P P 04 38 52.9 -0.6
PSZ **Piszkesteto** 71.30 317 *e*P P 04 38 52.3 -1.2
comp=Z,9.6nm,0.9s
PSZ **Piszkesteto** 71.30 317 ⇑*i*P P 04 38 52.9 -0.6
OJC **Ojcow** 71.50 319 *e*P P 04 38 54.6 0.0
OJC **Ojcow** 71.50 319 *e*P P 04 38 54.6 0.0
OJC **Ojcow** 71.50 319 *e*P P 04 38 54.0 -0.6
comp=Z,22nm,0.8s
ARCES **ARCESS Array B** 71.86 340 P P 04 38 56.9 +0.5
comp=Z,3.9nm,0.7s,baz=90,slow=6.7,SNR=15
ARCES pP pP 04 39 04.9 +0.5
comp=Z,6.8nm,0.8s,baz=79,slow=6.3,SNR=4.1
ARCES LR LR 05 14 03.4
comp=Z,473nm,20.4s,baz=121,slow=39
ARCES **ARCESS Array B** 71.86 340 P P 04 38 56.9 +0.5
ARCES *PP pP 04 39 04.9 +0.5
ARCES **ARCESS Array B** 71.86 340 P P 04 38 56.9 +0.5
ARCES pP pP 04 39 04.9 +0.5
PKSM **Moragy** 72.08 315 ⇑P P 04 38 57.8 -0.4
PKSM **Moragy** 72.08 315 ⇑*i*P P 04 38 57.8 -0.4
BILL **Bilibino** 72.17 22 *e*P P 04 38 57.7 -0.6
BILL *e**PP pP 04 39 05.8 -0.5
BILL pmax pmax
comp=Z,22nm,0.8s
BILL **Bilibino** 72.17 22 *e*P P 04 38 57.7 -0.6
comp=Z,22nm,0.8s
BILL *e*pP pP 04 39 05.8 -0.5
OKC **Ostrava-Krasne** 72.54 319 *i*P P 04 39 01.4 +0.6
OKC *e*PP pP 04 38 08.7 -0.1
OKC **Ostrava-Krasne** 72.54 319 ⇓*i*P P 04 39 01.4 +0.6
OKC *e*pP pP 04 39 08.7 -0.1
MORC **Moravsky Berou** 72.93 319 *e*P P 04 39 03.4 +0.2
MORC *e**PP pP 04 39 11.5 +0.3
MORC pmax pmax
comp=Z,18nm,0.9s
MORC **Moravsky Berou** 72.93 319 *e*P P 04 39 03.4 +0.2
comp=Z,16nm,0.9s
MORC *e*pP pP 04 39 11.5 +0.3
MORC **Moravsky Berou** 72.93 319 ⇓*i*P P 04 39 03.3 +0.1
ZST **Bratislava** 73.18 317 *e*P P 04 39 04.7 +0.1
ZST *e* 04 39 12.2
ZST pmax pmax
comp=Z,19nm,1.3s
ZST **Bratislava** 73.18 317 *e*P P 04 39 04.7 +0.1
ZST *e*pP pP 04 39 12.2 -0.4
VRAC **Vranov** 73.54 318 ⇑P P 04 39 07.3 +0.6
VRAC **Vranov** 73.54 318 ⇑*i*P P 04 39 07.3 +0.6
FX1 **Attu Island--F** 73.59 38 P P 04 39 06.9 0.0
comp=Z,14nm,0.7s,baz=326,slow=7.3,SNR=3.6
FX1 **Attu Island--F** 73.59 38 P P 04 39 06.9 0.0
FX1 **Attu Island--F** 73.59 38 P P 04 39 06.9 0.0
DPC **Dobruska-Polom** 73.73 319 ⇓*i*P P 04 39 08.4 +0.5
DPC *e**PP pP 04 39 16.6 +0.7
DPC **Dobruska-Polom** 73.73 319 *e*P P 04 39 08.6 +0.7
DPC pmax pmax
comp=Z,16nm,0.9s
DPC **Dobruska-Polom** 73.73 319 *e*P P 04 39 08.6 +0.7
comp=Z,16nm,0.9s
DPC **Dobruska-Polom** 73.73 319 ⇓*i*P P 04 39 08.4 +0.5
DPC *e*pP pP 04 39 16.6 +0.7
KOGS **Kog** 73.74 315 *e*P P 04 39 08.0 0.0
KSP **Ksiaz** 73.76 320 *e*P P 04 39 08.4 +0.4
KSP *e*pP pP 04 39 16.3 +0.3
KSP LMZ LR 05 15 39.6
comp=Z,200nm,21.5s
KSP **Ksiaz** 73.76 320 *e*P P 04 39 08.2 +0.2
KSP *e* 04 39 16.2
UPC **Upice** 73.93 319 *i*P P 04 39 09.4 +0.4
UPC *e**PP pP 04 39 17.6 +0.5
UPC **Upice** 73.93 319 ⇓*i*P P 04 39 09.4 +0.4
UPC *e*pP pP 04 39 17.6 +0.5
CONA **Conrad Observa** 74.01 317 ⇑*i*P P 04 39 09.7 +0.1
comp=Z,6.0nm,0.9s
CONA **Conrad Observa** 74.01 317 ⇑*i*P P 04 39 09.7 +0.1
comp=Z,6.0nm,0.9s
ARSA **Arzberg** 74.24 316 ⇑*i*P P 04 39 11.1 +0.2
comp=Z,5.0nm,0.8s
ARSA **Arzberg** 74.24 316 ⇑*i*P P 04 39 11.1 +0.2
comp=Z,5.0nm,0.8s
TREC **Trest** 74.26 318 *i*P P 04 39 11.4 +0.4
TREC *e**PP pP 04 39 18.9 -0.1
TREC **Trest** 74.26 318 ⇓*i*P P 04 39 11.4 +0.4
TREC *e*pP pP 04 39 18.9 -0.1
GROS **Grobnik** 74.26 315 *i*P P 04 39 10.9 -0.2
BOJS **Bojanci** 74.45 314 *i*P P 04 39 11.5 -0.6
SOKA **Soboth** 74.58 315 ⇑*i*P P 04 39 13.2 +0.2
comp=Z,12nm,1.0s
SOKA **Soboth** 74.58 315 ⇑*i*P P 04 39 13.2 +0.2
comp=Z,12nm,1.0s
BSD **Bornholm Skovb** 74.69 324 *i*P P 04 39 19.2 +5.9
comp=Z,30nm,0.9s
PVCC **Panska Ves** 74.85 319 *i*P P 04 39 14.6 +0.2
PVCC *e**PP pP 04 39 23.0 +0.6
PVCC **Panska Ves** 74.85 319 ⇓*i*P P 04 39 14.6 +0.2
PVCC *e*pP pP 04 39 23.0 +0.6
PRU **Pruhonice** 74.87 319 *i*P P 04 39 14.8 +0.3
PRU *e**PP pP 04 39 23.0 +0.5
PRU **Pruhonice** 74.87 319 ⇓*i*P P 04 39 14.8 +0.3
PRU *e*pP pP 04 39 23.0 +0.5
LJU **Ljubljana** 74.94 315 *e*P P 04 39 15.2 +0.2
MOA **Molln** 75.08 317 ⇑*i*P P 04 39 15.6 -0.2
comp=Z,9.4nm,0.9s
MOA **Molln** 75.08 317 ⇑*i*P P 04 39 15.6 -0.2
comp=Z,9.4nm,0.9s
BRG **Berggiesshubel** 75.25 320 *i*P P 04 39 16.7 0.0
comp=Z,18nm,0.9s
BRG *i* 04 39 24.8
comp=Z,17nm,0.8s
BRG PP PP 04 42 05.1 -0.1
comp=Z,62nm,2.4s
BRG
comp=N,311nm,16.9s
BRG
comp=E,221nm,16.5s
BRG
comp=Z,316nm,15.7s
BRG **Berggiesshubel** 75.25 320 *e*P P 04 39 16.9 +0.2
comp=Z,18nm,0.9s
BRG **Berggiesshubel** 75.25 320 *i*P P 04 39 16.7 0.0
BRG *i* 04 39 24.8
BRG 04 42 05.1
BRG pmax pmax
comp=Z,18nm,0.9s
BRG pmax pmax
comp=Z,62nm,2.4s
BRG MLR MLR
comp=N,311nm,16.9s
BRG MLR MLR
comp=E,221nm,16.5s
BRG MLR MLR
comp=Z,316nm,15.7s
RUE **Ruedersdorf** 75.34 321 *e*P P 04 39 17.2 +0.2
comp=Z,54nm,0.9s
RUE *e*pP pP 04 39 25.6 +0.5
RUE **Ruedersdorf** 75.34 321 *e*P P 04 39 17.3 +0.2
comp=Z,47nm,0.8s
RUE *e*pP pP 04 39 25.7 +0.5
VOY **Vojsko** 75.39 315 *e*P P 04 39 17.5 -0.2
VOY *e* 04 39 25.2
GEC2 **GERESS Array S** 75.44 318 *e*P P 04 39 17.9 0.0
comp=Z,21nm,0.8s
GEC2 *e*pP pP 04 39 26.1 +0.1
GEC2 **GERESS Array S** 75.44 318 *e*P P 04 39 17.9 0.0
GEC2 *e**PP pP 04 39 26.1 +0.1
GEC2 pmax pmax
comp=Z,21nm,0.8s
GERES **GERESS Array B** 75.44 318 P P 04 39 18.0 0.0
comp=Z,16nm,0.7s,baz=87,slow=5.5,SNR=133
GERES pP pP 04 39 25.9 -0.1
comp=Z,15nm,0.7s,baz=89,slow=5.7,SNR=21
GERES LR LR 05 18 29.2
comp=Z,166nm,19.2s,baz=300,slow=40
GERES **GERESS Array B** 75.44 318 P P 04 39 18.0 0.0
GERES *PP pP 04 39 25.9 -0.1
GERES **GERESS Array B** 75.44 318 P P 04 39 18.0 0.0
GERES pP pP 04 39 25.9 -0.1
HFS **Hagfors** 75.48 329 LR LR 05 13 39.1
comp=Z,150nm,20.0s,baz=89,slow=37
KHC **Kasperske Hory** 75.51 318 *i*P P 04 39 17.8 -0.5
KHC *e**PP pP 04 39 26.1 -0.2
KHC **Kasperske Hory** 75.51 318 *e*P P 04 39 17.8 -0.5
comp=Z,6.2nm,0.8s
KHC **Kasperske Hory** 75.51 318 ⇓*i*P P 04 39 17.8 -0.5
KHC *e*pP pP 04 39 26.1 -0.2
FBE **Freiberg** 75.62 320 *e*P P 04 39 19.3 +0.5
comp=Z,32nm,0.8s
FBE *e*pP pP 04 39 27.3 +0.5
KBA **Koelnbreinsper** 75.73 316 ⇑*i*P P 04 39 19.2 -0.5
KBA pmax pmax
comp=Z,8.0nm,1.0s
KBA **Koelnbreinsper** 75.73 316 ⇑*i*P P 04 39 19.2 -0.5
comp=Z,7.8nm,1.0s
KBA **Koelnbreinsper** 75.73 316 ⇑*i*P P 04 39 19.2 -0.5
comp=Z,7.8nm,1.0s
CLL **Collm** 75.83 320 *e*P P 04 39 19.7 -0.2
comp=Z,10.0nm,0.9s
CLL *e*pP pP 04 39 28.1 +0.1
CLL **Collm** 75.83 320 ⇓*i*P P 04 39 19.8 -0.2
CLL *i* 04 39 27.8
CLL *e*S S 04 48 59.0 -1.8
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,300nm,21.9s
CLL **Collm** 75.83 320 ⇓*i*P P 04 39 19.8 -0.2
comp=Z,10.0nm,0.9s
CLL *i*pP pP 04 39 27.8 -0.2
CLL *i*sP sP 04 39 29.6 -1.4
CLL *e*S S 04 48 59.0 -1.8
CLL *e*PPS PPS 04 49 53.0
CLL *e*SSS SSS 04 57 12.0
CLL *e* 04 58 18.0
CLL Lm MLR 05 17 00.0
comp=N,200nm,19.5s
CLL Lm MLR 05 17 00.0
comp=E,100nm,21.8s
CLL Lm MLR 05 17 00.0
comp=Z,300nm,21.9s
WET **Wettzell** 75.97 318 *e*P P 04 39 20.9 0.0
comp=Z,11nm,0.9s
WET **Wettzell** 75.97 318 *e*P P 04 39 20.9 0.0
WET pmax pmax
comp=Z,11nm,0.9s
RJOB **Jochberg** 76.08 316 *e*P P 04 39 21.3 -0.3
comp=Z,14nm,0.9s
SPB4 **Spitsbergen Ar** 76.18 348 *e*P P 04 39 21.5 0.0
SPB4 *e*pP pP 04 39 29.3 -0.3
TANN **Tannenbergstha** 76.20 319 *e*P P 04 39 22.2 0.0
comp=Z,7.0nm,0.9s
TANN *e*pP pP 04 39 30.3 +0.1
NKC **Novy Kostel** 76.22 319 *i*P P 04 39 22.2 0.0
NKC **Novy Kostel** 76.22 319 ⇓*i*P P 04 39 22.2 0.0
WERN **Wernitzgruen** 76.26 319 *e*P P 04 39 22.7 +0.2
comp=Z,8.0nm,0.9s
WERN *e*pP pP 04 39 30.9 +0.3
GUNZ **Gunzen** 76.29 319 *e*P P 04 39 22.8 +0.1
comp=Z,15nm,0.9s
GUNZ *e*pP pP 04 39 31.0 +0.3
WERD **Werda** 76.30 319 *e*P P 04 39 22.8 +0.1
comp=Z,14nm,0.9s
WERD *e*pP pP 04 39 30.9 +0.1
ROTZ **Rotzenmuhle** 76.39 319 *e*P P 04 39 23.9 +0.7
comp=Z,14nm,1.0s
ROTZ *e*pP pP 04 39 31.9 +0.6
PLN **Plauen** 76.39 319 *e*P P 04 39 23.3 +0.1
comp=Z,38nm,0.8s
NEUB **Neuenburg** 76.61 320 *e*P P 04 39 24.4 0.0
comp=Z,19nm,1.0s
NB2 **NORSAR Subarra** 76.71 330 P P 04 39 24.1 -0.7
comp=Z,24nm,1.2s,baz=89,slow=5.9
NOA **NORSAR Array B** 76.71 330 P P 04 39 24.1 -0.7
comp=Z,5.7nm,0.9s,baz=90,slow=5.8,SNR=15
NOA pP pP 04 39 32.8 -0.1
comp=Z,7.6nm,0.9s,baz=90,slow=5.8,SNR=7.5
NOA LR LR 05 15 56.3
comp=Z,227nm,20.3s,baz=100,slow=38
NOA **NORSAR Array B** 76.71 330 P P 04 39 24.2 -0.7
NOA *PP pP 04 39 32.8 -0.1
NOA **NORSAR Array B** 76.71 330 P P 04 39 24.1 -0.7
NOA pP pP 04 39 32.8 -0.1
MOX **Moxa** 76.73 319 *e*P P 04 39 25.1 0.0
comp=Z,11nm,0.8s
MOX *e*pP pP 04 39 33.4 +0.2
MOX **Moxa** 76.73 319 *e*P P 04 39 25.1 0.0
MOX *e**PP pP 04 39 33.4 +0.2
MOX pmax pmax
comp=Z,11nm,0.8s
LBTB **Lobatse** 76.81 241 *e*P P 04 39 26.3 +0.2
LBTB *e**PP pP 04 39 35.3 +1.2
LBTB pmax pmax
comp=Z,31nm,1.6s
LBTB **Lobatse** 76.81 241 *e*P P 04 39 26.3 +0.2
comp=Z,31nm,1.6s
LBTB *e*pP pP 04 39 35.3 +1.2
NAO01 **NORSAR Array S** 76.87 330 *e*P P 04 39 25.7 0.0
comp=Z,8.2nm,0.8s
WTTA **Wattenberg** 76.89 316 *i*P P 04 39 25.4 -0.9
WTTA pmax pmax
comp=Z,15nm,0.8s
WTTA **Wattenberg** 76.89 316 *i*P P 04 39 25.4 -0.9
comp=Z,15nm,0.8s
WTTA **Wattenberg** 76.89 316 *i*P P 04 39 25.4 -0.9
comp=Z,15nm,0.8s,SNR=8.6
GRF **Grafenberg Arr** 77.03 319 *e*P P 04 39 27.1 +0.2
comp=Z,121nm,2.7s
GRF *e*pP pP 04 39 35.4 +0.5
GRF *e*L L 05 17 29.3
comp=Z,214nm,20.9s
GRF **Grafenberg Arr** 77.03 319 *e*P P 04 39 27.1 +0.2
GRF *e**PP pP 04 39 35.4 +0.5
GRF pmax pmax
comp=Z,121nm,2.7s
GRF MLR MLR
comp=Z,200nm,20.9s
FUR **Furstenfeldbru** 77.08 317 *e*P P 04 39 27.1 -0.1
comp=Z,16nm,0.8s
FUR **Furstenfeldbru** 77.08 317 *e*P P 04 39 27.1 -0.1
FUR pmax pmax
comp=Z,16nm,0.8s
MOTA **Moosalm** 77.24 316 *i*P P 04 39 27.5 -0.8
MOTA pmax pmax
comp=Z,17nm,1.0s
MOTA **Moosalm** 77.24 316 *i*P P 04 39 27.5 -0.8
comp=Z,17nm,1.0s
MOTA **Moosalm** 77.24 316 *i*P P 04 39 27.5 -0.8
comp=Z,17nm,1.0s,SNR=12
BSEG **Bad Segeberg** 77.38 323 *e*P P 04 39 29.1 +0.4
BSEG *e*pP pP 04 39 37.2 +0.5
BSEG **Bad Segeberg** 77.38 323 *e*P P 04 39 29.1 +0.4
BSEG *e**PP pP 04 39 37.2 +0.5
BSEG pmax pmax
comp=Z,45nm,0.8s
CLZ **Clausthal** 77.45 321 *e*P P 04 39 29.5 +0.3
comp=Z,29nm,0.8s
CLZ *e*pP pP 04 39 37.6 +0.3
CLZ **Clausthal** 77.45 321 *e*P P 04 39 29.5 +0.3
CLZ *e**PP pP 04 39 37.6 +0.3
CLZ pmax pmax
comp=Z,29nm,0.8s
RETA **Reutte** 77.47 316 ⇓*i*P P 04 39 28.8 -0.6
comp=Z,20nm,0.9s
RETA **Reutte** 77.47 316 ⇓*i*P P 04 39 28.8 -0.6
comp=Z,20nm,0.9s
FETA **Feichten** 77.52 316 ⇑*i*P P 04 39 29.4 -0.5
comp=Z,11nm,0.9s
FETA **Feichten** 77.52 316 ⇑*i*P P 04 39 29.3 -0.5
comp=Z,11nm,0.9s
NRDL **Niedersach Rie** 77.58 321 *e*P P 04 39 30.3 +0.6
comp=Z,20nm,1.0s
NRDL *e*pP pP 04 39 38.2 +0.4
UBBA **Unterbreizbach** 77.75 320 *e*P P 04 39 31.0 +0.3
comp=Z,17nm,1.6s
FUORN **Ofenpass-Fuorn** 77.87 315 *e*P P 04 39 32.0 +0.1
comp=Z,131nm,2.5s
MUD **Monsted U'grnd** 77.91 326 *i*P P 04 39 31.7 +0.2
comp=Z,15nm,0.8s
DAVA **Damuels** 78.08 316 *i*P P 04 39 32.8 -0.2
comp=Z,20nm,0.8s
DAVA **Damuels** 78.08 316 *i*P P 04 39 32.8 -0.2
comp=Z,20nm,0.8s,SNR=12
BOSA **Boshof** 78.33 237 P P 04 39 36.0 +1.4
comp=Z,4.3nm,0.8s,baz=50,slow=5.0,SNR=7.2
BOSA **Boshof** 78.33 237 *e*P P 04 39 35.3 +0.8
BOSA pmax pmax
comp=Z,16nm,1.1s
BOSA **Boshof** 78.33 237 *e*P P 04 39 35.3 +0.8
comp=Z,16nm,1.1s
STU **Stuttgart** 78.42 318 *e*P P 04 39 34.9 +0.3
comp=Z,12nm,0.9s
STU **Stuttgart** 78.42 318 *e*P P 04 39 34.7 +0.1
STU pmax pmax
comp=Z,12nm,0.8s
STU **Stuttgart** 78.42 318 *e*P P 04 39 34.7 +0.1
comp=Z,12nm,0.8s
TUE **Stuetta** 78.51 315 *e*P P 04 39 35.4 -0.1
comp=Z,13nm,0.7s
TNS **Taunus Mts** 78.78 319 *e*P P 04 39 36.8 +0.2
comp=Z,11nm,0.8s
TNS **Taunus Mts** 78.78 319 *e*P P 04 39 36.8 +0.2
TNS pmax pmax
comp=Z,11nm,0.8s
IBBN **Ibbenburen** 79.03 321 *e*P P 04 39 38.1 +0.3
comp=Z,44nm,0.9s
IBBN *e*pP PcP 04 39 46.3 0.0
PGF **Pioggiola** 79.14 311 *e*P P 04 39 38.0 -0.8
comp=Z,14nm,0.8s
BUG **Bochum--Univer** 79.41 320 *e*P P 04 39 40.2 +0.3
comp=Z,34nm,0.9s
BUG *e*pP pP 04 39 48.2 +0.2
KEST **Kesra** 79.65 304 P P 04 39 41.6 0.0
comp=Z,3.7nm,0.9s,baz=331,slow=2.8,SNR=17
KEST LR LR 05 20 03.2
comp=Z,43nm,18.6s,baz=184,slow=40
KEST **Kesra** 79.65 304 *e*P P 04 39 42.1 +0.4
CDF **Champ du Feu** 79.72 317 *e*P P 04 39 41.1 -0.7
SENIN **Lac Senin/Sane** 79.93 315 *e*P P 04 39 43.5 +0.3
comp=Z,120nm,2.4s
HINF **Hinteralfeld** 80.07 317 *e*P P 04 39 42.9 -0.8
comp=Z,9.7nm,0.7s
SBF **Sospel** 80.12 313 *e*P P 04 39 43.5 -0.6
comp=Z,53nm,0.8s
MEM **Membach** 80.30 320 P P 04 39 45.1 +0.3
WLF **Walferdange** 80.31 319 P P 04 39 44.9 -0.1
comp=Z,38nm,3.2s
WLF **Walferdange** 80.31 319 *e*P P 04 39 44.8 -0.1
WLF pmax pmax
comp=Z,14nm,0.9s
WLF **Walferdange** 80.31 319 *e*P P 04 39 44.8 -0.1
comp=Z,14nm,0.9s
HAU **Haudompre** 80.38 317 *e*P P 04 39 44.5 -0.8
comp=Z,35nm,0.8s
HAU *e*R
comp=Z,202nm,22.0s
LPG **La Plagne** 80.41 315 *e*P P 04 39 45.5 -0.4
comp=Z,33nm,0.7s
LPL **La Plagne** 80.42 315 *e*P P 04 39 45.5 -0.4
comp=Z,53nm,0.7s
MBDF **Montbardon** 80.49 314 *e*P P 04 39 45.7 -0.5
comp=Z,20nm,0.8s
BNI **Bardonecchia** 80.52 314 *e*P P 04 39 46.0 -0.3
BNI pmax pmax
comp=Z,12nm,0.7s
BNI **Bardonecchia** 80.52 314 *e*P P 04 39 46.0 -0.3
comp=Z,12nm,0.7s
PAGF **Dort de Pagny** 80.73 318 *e*P P 04 39 47.5 +0.3
CABF **La Chapelle** 80.73 316 *e*P P 04 39 46.9 -0.4
comp=Z,40nm,0.9s
BCLA **Clavier** 80.77 320 P P 04 39 47.2 0.0
LMR **La Mourre** 80.86 312 *e*P P 04 39 47.5 -0.4
comp=Z,27nm,0.7s
GAMB **Gambell** 81.00 27 *e*P P 04 39 47.9 -0.3
comp=Z,9.2nm,0.8s
GAMB *e*pP pP 04 39 55.8 -0.5
ORIF **Oris-en-Rattie** 81.10 314 *e*P P 04 39 49.0 -0.3
comp=Z,18nm,0.8s
ORIF *e*R
comp=Z,156nm,21.5s
GIVF **Givet** 81.11 319 *e*P P 04 39 48.8 -0.4
comp=Z,18nm,0.8s
MEZF **Maizieres J'vi** 81.18 318 *e*P P 04 39 49.1 -0.4
SFTF **Sexfontaines** 81.23 317 *e*P P 04 39 49.2 -0.6
comp=Z,37nm,0.8s
DOU **Dourbes** 81.26 319 P P 04 39 49.6 -0.3
SNF **Seneffe** 81.40 320 P P 04 39 51.0 +0.3
comp=Z,49nm,3.7s
SMRF **Simiane la Rot** 81.44 313 *e*P P 04 39 51.1 0.0
comp=Z,32nm,0.9s
BAIF **Baives** 81.51 319 *e*P P 04 39 51.1 -0.2
comp=Z,59nm,0.9s
VIVF **Saint-Julien-l** 81.95 314 *e*P P 04 39 53.2 -0.6
comp=Z,21nm,0.9s
LOR **Lormes** 82.15 317 ⇓*i*P P 04 39 54.0 -0.8
comp=Z,28nm,0.9s
LOR *e*R
comp=Z,127nm,17.6s
TSUM **Tsumeb** 82.16 249 *e*P P 04 39 55.1 -0.3
comp=Z,2.7nm,0.8s
TNA **Tin City** 82.29 25 *e*P P 04 39 55.4 +0.4
comp=Z,9.3nm,0.9s
TNA *e*pP pP 04 40 04.0 +0.8
SSF **Saint Saulge** 82.42 316 *e*P P 04 39 55.5 -0.6
comp=Z,16nm,0.8s
MAW **Mawson** 82.52 192 LR LR 05 11 51.8
comp=Z,237nm,18.2s,baz=156,slow=32
AVF **Avril sur Loir** 82.57 316 *e*P P 04 39 56.2 -0.7
comp=Z,25nm,0.7s
LASF **Ste Croix** 82.65 313 *e*P P 04 39 57.3 -0.1
comp=Z,40nm,1.1s
BGF **Bois d'Agland** 82.95 316 *e*P P 04 39 58.6 -0.3
comp=Z,17nm,0.7s
SUR **Sutherland** 83.19 235 *e*P P 04 40 02.9 +2.3
comp=Z,17nm,0.8s
SUR **Sutherland** 83.19 235 P P 04 40 03.9 +3.3
comp=Z,120nm,0.7s,SNR=5.0
JMIC **Jan Mayen** 83.25 341 LR LR 05 18 18.7
comp=Z,211nm,18.9s,baz=191,slow=36
TCF **Toulx Ste Croi** 83.43 316 *e*P P 04 40 01.1 -0.3
comp=Z,21nm,0.9s
CAF **Calviac** 83.77 314 *e*P P 04 40 03.0 -0.2
comp=Z,22nm,0.8s
DAG **Danmarks Havn** 83.82 348 *i*P P 04 40 02.7 -0.1
comp=Z,28nm,0.8s
RJF **Les Rejaudoux** 84.08 315 *e*P P 04 40 04.7 -0.1
comp=Z,22nm,0.8s
RJF *e*R
comp=Z,239nm,23.0s
LDF **La Druitiere** 84.55 318 *e*P P 04 40 06.6 -0.5
comp=Z,38nm,0.7s
LFF **La Frestale** 84.69 315 *e*P P 04 40 07.9 +0.1
FLN **La Foliniere** 84.75 319 *e*P P 04 40 07.7 -0.3
comp=Z,43nm,0.9s
FLN *e*R
comp=Z,274nm,21.2s

TAM Tamanrasset 84.96 292 *e*P **P** 04 40 10.4 +0.6
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 84.96 292 *e*P **P** 04 40 10.4 +0.6
comp=Z,2.9nm,0.9s
MFF Saint Martin d 84.97 316 *e*P **P** 04 40 08.8 -0.4
comp=Z,37nm,0.9s
GRR Gorron 85.07 318 *e*P **P** 04 40 09.2 -0.5
EPF Esparros 85.36 313 *e*P **P** 04 40 10.2 -1.1
comp=Z,21nm,1.1s
ETSF Etsaut 86.03 313 *e*P **P** 04 40 14.7 0.0
comp=Z,24nm,0.8s
SGMF Saint Gilles 86.21 318 *e*P **P** 04 40 15.1 -0.2
SJPF Ste Jean 86.46 313 *e*P **P** 04 40 17.0 +0.3
comp=Z,22nm,0.9s
ROSF Rostrenen 86.65 319 *e*P **P** 04 40 17.3 -0.2
SCO Scoresbysund 87.55 343 *i* P **P** 04 40 21.5 +0.1
comp=Z,2.9nm,0.9s
RPZ Rata Peaks 88.28 135 LR LR 05 18 38.2
comp=Z,358nm,20.2s,baz=207,slow=35
COLD Coldfoot 88.46 21 *e*P **P** 04 40 25.9 +0.1
comp=Z,6.1nm,0.9s
COLD *e*pP **pP** 04 40 34.2 +0.3
ESDC Sonseca Array 89.28 310 P **P** 04 40 30.4 +0.1
comp=Z,2.3nm,0.7s,baz=58,slow=4.1,SNR=12
ESDC pP **pP** 04 40 38.3 -0.2
comp=Z,2.1nm,0.6s,baz=56,slow=4.2,SNR=8.0
ESDC LR LR 05 30 12.2
comp=Z,128nm,19.0s,baz=35,slow=42
ESDC Sonseca Array 89.28 310 P **P** 04 40 30.4 +0.1
ESDC pP **pP** 04 40 38.3 -0.2
SYO Syowa Base 89.36 197‖ *e*P **P** 04 40 30.6 +0.8
SYO Syowa Base 89.36 197‖ *e*pP pP 04 40 38.5 +0.5
TRF Thorofare Moun 90.17 24 *e*P **P** 04 40 33.8 -0.3
comp=Z,18nm,0.8s
TRF *e*pP **pP** 04 40 41.9 -0.4
COLA College 90.43 22 *e*P **P** 04 40 34.3 -0.7
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 90.43 22 *e*P **P** 04 40 34.3 -0.7
comp=Z,6.2nm,0.9s
TORD Torodi Ar. Bea 90.44 283 P **P** 04 40 36.8 +0.6
comp=Z,2.8nm,0.8s,baz=81,slow=4.6,SNR=19
TORD PP **PP** 04 44 09.5 -1.3
comp=Z,0.4nm,0.8s,baz=77,slow=6.9,SNR=3.2
TORD Torodi Ar. Bea 90.44 283 P **P** 04 40 36.8 +0.6
TORD PP **PP** 04 44 09.5 -1.3
SUMG Summit 90.50 347 *e*P **P** 04 40 35.6 -0.2
SUMG pmax pmax
comp=Z,16nm,1.2s
SUMG Summit 90.50 347 *e*P **P** 04 40 35.6 -0.2
comp=Z,16nm,1.2s
SUMG Summit 90.50 347 *i* P **P** 04 40 34.4 -1.4
comp=Z,8.1nm,0.8s
MCK McKinley 90.57 24 *e*P **P** 04 40 35.8 0.0
MCK *e**PP **pP** 04 40 43.7 -0.3
MCK pmax pmax
comp=Z,35nm,1.0s
MCK McKinley 90.57 24 *e*P **P** 04 40 35.8 0.0
comp=Z,35nm,1.0s
MCK *e*pP **pP** 04 40 43.6 -0.3
ILAR Eielson Array 90.84 22 P **P** 04 40 35.9 -1.1
comp=Z,4.2nm,0.7s,baz=300,slow=4.3,SNR=52
ILAR pP **pP** 04 40 43.9 -1.3
comp=Z,4.1nm,0.7s,baz=302,slow=4.3,SNR=16
ILAR PP PP 04 44 04.8 -7.5
comp=Z,0.6nm,0.8s,baz=313,slow=7.5,SNR=4.6
ILAR Eielson Array 90.84 22 P **P** 04 40 35.9 -1.1
ILAR *PP **pP** 04 40 43.9 -1.3
ILAR Eielson Array 90.84 22 P **P** 04 40 35.9 -1.1
ILAR pP **pP** 04 40 43.9 -1.3
ILAR PP PP 04 44 04.8 -7.5
MVO Moncorvo 91.13 312 *e*P **P** 04 40 39.8 +0.9
comp=Z,31nm,2.1s
PMR Palmer 91.51 25 *e*P **P** 04 40 39.8 -0.3
PMR *e**PP **pP** 04 40 47.9 -0.4
PMR pmax pmax
comp=Z,25nm,0.9s
PMR Palmer 91.51 25 *e*P **P** 04 40 39.8 -0.3
comp=Z,25nm,0.9s
PMR *e*pP **pP** 04 40 47.9 -0.4
SML Sawmill 91.74 25 *e*P **P** 04 40 41.9 +0.6
SML *e**PP **pP** 04 40 49.6 +0.1
SML pmax pmax
comp=Z,8.0nm,0.8s
SML Sawmill 91.74 25 *e*P **P** 04 40 41.9 +0.6
comp=Z,7.6nm,0.8s
SML *e*pP **pP** 04 40 49.6 +0.1
PCBR Castelo Branco 91.84 311 *e*P **P** 04 40 43.3 +1.2
comp=Z,26nm,2.0s
PBAR Barrancos 91.99 310 *e*P **P** 04 40 43.8 +0.9
comp=Z,28nm,1.7s
EVO Evora 92.62 310 *e*P **P** 04 40 45.4 -0.4
EVO *e*R
comp=Z,99nm,18.0s
EGAK Eagle 92.89 21 *e*P **P** 04 40 46.6 +0.1
comp=Z,45nm,1.8s
MENT Mentasta 93.00 23 *e*P **P** 04 40 47.5 +0.4
INK Inuvik 93.03 16 *e*P **P** 04 40 46.7 -0.3
INK *e**PP **pP** 04 40 54.6 -0.6
INK pmax pmax
comp=Z,98nm,2.8s
INK Inuvik 93.03 16 *e*P **P** 04 40 46.7 -0.3
comp=Z,98nm,2.8s
INK *e*pP **pP** 04 40 54.6 -0.6
RES Resolute Bay 93.46 3 *e*P **P** 04 40 48.6 -0.3
RES *e**PP **pP** 04 40 57.3 +0.2
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 93.46 3 *e*P **P** 04 40 48.6 -0.3
comp=Z,4.5nm,0.8s
RES *e*pP **pP** 04 40 57.3 +0.2
BMRM Bremner River 93.72 25 *e*P **P** 04 40 50.7 +0.2
comp=Z,30nm,0.9s
BMRM *e*pP **pP** 04 40 59.1 +0.5
DAWY Dawson 93.93 21 *e*P **P** 04 40 51.8 +0.4
DAWY *e*pP **pP** 04 40 59.6 0.0
YKA Yellowknife Ar 102.45 14 P **Pdif** 04 41 29.1 -0.5
comp=Z,0.6nm,0.7s,baz=330,slow=4.4,SNR=16
YKA pP 04 41 37.3
comp=Z,0.5nm,0.7s,baz=331,slow=4.5,SNR=7.1
YKA PP **PP** 04 45 36.6 -5.1
comp=Z,1.4nm,1.0s,baz=334,slow=7.5,SNR=10
YKA PKKP **PKKPdf** 04 57 37.7 -1.4
comp=Z,0.2nm,0.7s,baz=150,slow=2.3,SNR=3.9
YKA Yellowknife Ar 102.45 14 P **Pdif** 04 41 29.1 -0.5
YKA Yellowknife Ar 102.45 14 P **Pdif** 04 41 29.1 -0.5
YKA pP 04 41 37.4
YKA PP **PP** 04 45 36.6 -5.1
YKA PKKP **PKKPdf** 04 57 37.7 -1.4
ULM Lac du Bonnet 117.49 8 PKP **PKPdf** 04 46 18.7 -0.9
comp=Z,0.5nm,0.4s,baz=342,slow=3.2,SNR=2.9
ULM pPKP **pPKPdf** 04 46 27.2 -0.9
comp=Z,0.9nm,0.5s,baz=262,slow=1.7,SNR=2.7
ULM PKKPab **PKKPab** 04 56 49.0 +1.3
comp=Z,1.5nm,0.6s,baz=169,slow=4.3,SNR=3.9
ULM Lac du Bonnet 117.49 8 PKIKP **PKPdf** 04 46 18.7 -0.9
ULM 04 46 27.2
ULM Lac du Bonnet 117.49 8 PKP **PKPdf** 04 46 18.7 -0.9
ULM pPKP **pPKPdf** 04 46 27.2 -0.9
ULM PKKPab **PKKPab** 04 56 49.0 +1.3
MOOW Moose Ponds 119.97 21 *e*PKPdf **PKPdf** 04 46 25.3 +0.4
TPAW Teton Pass 120.12 22 *e*PKPdf **PKPdf** 04 46 25.4 +0.2
LOHW Long Hollow 120.14 21 *e*PKPdf **PKPdf** 04 46 25.0 -0.3
SNOW Snow King Moun 120.21 21 *e*PKPdf **PKPdf** 04 46 25.2 -0.3
REDW Red Top Meadow 120.27 22 *e*PKPdf **PKPdf** 04 46 25.4 -0.1
NVAR Mina Array Bea 121.16 30 PKP **PKPdf** 04 46 28.1 +0.7
comp=Z,3.7nm,0.7s,baz=305,slow=1.8,SNR=34
NVAR PKKPab **PKKPab** 04 56 35.0 +3.2
comp=Z,0.5nm,0.7s,baz=130,slow=5.4,SNR=4.7
NVAR Mina Array Bea 121.16 30 PKP **PKPdf** 04 46 28.1 +0.7
NVAR PKKPab **PKKPab** 04 56 35.0 +3.2
BW06 Boulder Array 121.24 21 *e*PKPdf **PKPdf** 04 46 26.8 -0.6
PDAR Pinedale Array 121.24 21 PKP **PKPdf** 04 46 26.8 -0.7
comp=Z,1.0nm,0.8s,baz=348,slow=1.2,SNR=7.5
PDAR pPKP **pPKPdf** 04 46 34.8 -1.1
comp=Z,0.8nm,0.9s,baz=90,slow=3.0,SNR=3.7
PDAR PKKPab **PKKPab** 04 56 32.5 +0.9
comp=Z,0.6nm,0.6s,baz=137,slow=6.7,SNR=6.0
PDAR Pinedale Array 121.24 21 PKP **PKPdf** 04 46 26.8 -0.7
PDAR pPKP **pPKPdf** 04 46 34.8 -1.1
PDAR PKKPab **PKKPab** 04 56 32.5 +0.9
HWUT Hardware Ranch 121.52 23 *e*PKPdf **PKPdf** 04 46 27.7 -0.2
DUG Dugway 122.22 25 *e*PKIKP **PKPdf** 04 46 29.4 +0.2
DUG Dugway 122.22 25 *e*PKPdf **PKPdf** 04 46 29.4 +0.2

N17A Moffit Pass 122.37 23‖ P **PKPdf** 04 46 29.4 -0.3
baz=122
PKM Peak Mountain 123.07 34‖ P **PKPdf** 04 46 31.2 +0.1
baz=123
O18A Roosevelt 123.27 23‖ P **PKPdf** 04 46 30.9 -0.4
baz=123
MPMC Manual Prospec 123.41 31↑ P **PKPdf** 04 46 31.5 -0.2
baz=123
N21A Black Mountain 123.73 20‖ P **PKPdf** 04 46 31.4 -0.9
baz=124
MSU Marysvale 123.90 25 *e*PKIKP **PKPdf** 04 46 32.9 +0.3
MSU Marysvale 123.90 25 *e*PKPdf **PKPdf** 04 46 32.9 +0.3
O20A White River Ci 124.03 21‖ P **PKPdf** 04 46 32.0 -0.8
baz=124
Q18A Rafter H Ranch 124.23 23↑ P **PKPdf** 04 46 33.0 -0.1
baz=124
R16A Teasdale 124.39 25↑ P **PKPdf** 04 46 33.4 -0.2
baz=124
R17A Hanksville Air 124.59 24‖ P **PKPdf** 04 46 33.2 -0.6
baz=124
Q19A Hogan Spring (124.69 23‖ P **PKPdf** 04 46 33.4 -0.6
baz=124
S16A Weppner Ranch, 124.81 26↑ P **PKPdf** 04 46 34.0 -0.3
baz=125
S18A Hurst Farm, BI 125.50 24‖ P **PKPdf** 04 46 35.4 -0.4
baz=125
U15A North Rim 125.60 27↑ P **PKPdf** 04 46 36.7 +0.7
baz=125
BELC Belle Mtn. Jos 125.78 32‖ P **PKPdf** 04 46 36.9 +0.7
baz=126
PFO Pinyon Flat Ob 125.85 32↑ P **PKPdf** 04 46 36.5 +0.2
baz=126
IRM Iron Mountain 126.09 31‖ P **PKPdf** 04 46 37.0 +0.4
baz=126
BC3 Big Chuckawall 126.33 32↑ P **PKPdf** 04 46 37.6 +0.3
baz=126
S21A Coal Bank Pass 126.38 22‖ P **PKPdf** 04 46 37.5 0.0
baz=126
MONP Monument Peak 126.42 33↑ P **PKPdf** 04 46 38.1 +0.5
baz=126
T23A Casias Ranch, 127.57 21↑ P **PKPdf** 04 46 40.2 +0.4
baz=127
X16A Lo Mia Camp, P 127.66 28‖ P **PKPdf** 04 46 39.7 -0.2
baz=127
ANMO Albuquerque 129.27 23 *e*PKIKP **PKPdf** 04 46 43.5 +0.5
ANMO Albuquerque 129.27 23 *e*PKPdf **PKPdf** 04 46 43.5 +0.5
W24A Lazy 6 Ranch, 129.43 22↑ P **PKPdf** 04 46 43.8 +0.5
baz=129
TUC Tucson 129.71 29 *e*PKIKP **PKPdf** 04 46 45.3 +1.6
TUC Tucson 129.71 29 *e*PKPdf **PKPdf** 04 46 45.3 +1.6
Y23A Lovelace Mesa, 130.33 23↑ P **PKPdf** 04 46 44.5 -0.5
baz=130
Z22A Elephant Butte 130.57 24↑ P **PKPdf** 04 46 44.9 -0.5
baz=130
Y25A Mesa, Roswell 130.84 22↑ P **PKPdf** 04 46 45.5 -0.4
baz=131
Z27A Tatum 131.91 20‖ P **PKPdf** 04 46 46.6 -1.3
baz=132
Z29A Hungry Hill Ra 132.46 19‖ P **PKPdf** 04 46 48.8 -0.1
baz=132
GDL2 Guadalupe Moun 132.51 22 *e*PKPdf **PKPdf** 04 46 49.9 +0.8
MNTX Cornudas Mount 132.57 24 *e*PKPdf **PKPdf** 04 46 49.4 +0.3
324A Moseley Ranch, 132.75 24↑ P **PKPdf** 04 46 49.0 -0.6
baz=132
325A Bean Ranch, Si 133.02 23↑ P **PKPdf** 04 46 49.9 -0.2
baz=133
426A McDonald Obser 134.01 23‖ P **PKPdf** 04 46 51.9 -0.2
baz=134
428A Kincaid Ranch, 134.45 21‖ P **PKPdf** 04 46 52.7 0.0
baz=134
527A Woodward Ranch 134.63 23‖ P **PKPdf** 04 46 53.1 -0.1
baz=134
626A Big Bend Ranch 134.96 24↑ P **PKPdf** 04 46 54.0 +0.3
baz=135
TXAR Lajitas Array 135.34 23 PKhKP PKPpre 04 46 49.5
comp=Z,0.3nm,0.8s,baz=134,slow=3.9,SNR=3.5
TXAR PKP **PKPdf** 04 46 54.8 +0.4
comp=Z,0.6nm,0.7s,baz=114,slow=0.5,SNR=8.7
TXAR PP **PP** 04 49 26.6 -2.7
comp=Z,0.3nm,0.7s,baz=34,slow=5.8,SNR=4.0
TXAR Lajitas Array 135.34 23 PKPpre PKPpre 04 46 49.5
TXAR PKP **PKPdf** 04 46 54.8 +0.4
TXAR PP **PP** 04 49 26.6 -2.7
628A Black Gap, Mar 135.50 22↑ P **PKPdf** 04 46 55.1 +0.4
baz=135
JCT Junction City 135.64 18 *e*PKIKP **PKPdf** 04 46 54.6 -0.3
JCT Junction City 135.64 18 *e*PKPdf **PKPdf** 04 46 54.6 -0.3
JCT Junction City 135.64 18↑ P **PKPdf** 04 46 55.1 +0.2
baz=135
BDFB Brasilia 143.82 260 PKP **PKPdf** 04 47 09.1 -1.0
comp=Z,7.3nm,0.7s,baz=142,slow=3.2,SNR=13
BDFB Brasilia 143.82 260 PKIKP **PKPdf** 04 47 09.1 -1.0
BDFB Brasilia 143.82 260 PKP **PKPdf** 04 47 09.1 -1.0
MTP Monte Pirata 144.58 327 *e*PKPdf **PKPab** 04 47 09.7 0.0
SJG San Juan 144.88 328 *e*PKIKP **PKPab** 04 47 10.5 -0.3
SJG San Juan 144.88 328 *e*PKPdf **PKPab** 04 47 10.5 -0.3
CELP Cerrillos 145.14 328 *e*PKPdf **PKPbc** 04 47 11.6 -0.1
OBIP Obispado Ponce 145.18 328 *e*PKPdf **PKPbc** 04 47 11.8 -0.1
LSP Las Mesas 145.31 329 *e*PKPbc **PKPdf** 04 47 12.6 0.0
CRPR Cabo Rojo, PR 145.47 329 *e*PKPbc **PKPdf** 04 47 12.8 0.0
SDPR Presa de Saban 146.52 336 *e*PKPbc **PKPbc** 04 47 16.4 +0.3
TRQA Torquist 146.69 214 *e*PKPbc **PKPab** 04 47 16.9 -0.3
PLCA Paso Flores 148.47 201 PKPbc **PKPbc** 04 47 22.1 +1.2
comp=Z,3.9nm,1.0s,baz=43,slow=15,SNR=3.9
PLCA pPKPbc **pPKPbc** 04 47 29.6 +0.4
comp=Z,6.9nm,0.7s,baz=134,slow=1.1,SNR=9.8
PLCA Paso Flores 148.47 201 *e*PKP2 **PKPbc** 04 47 21.8 +1.0
PLCA Paso Flores 148.47 201 *e*PKPbc **PKPbc** 04 47 21.8 +1.0
PLCA pPKPbc **pPKPbc** 04 47 29.6 +0.4
SAML Samuel 158.27 275 *e*PKPdf **PKPdf** 04 47 31.3 -0.7
SAML *e*PKPab **PKPab** 04 48 06.6 +0.4
LPAZ La Paz 162.96 253 *e*PKIKP **PKPdf** 04 47 36.9 -0.9
LPAZ *e* 04 48 26.8
LPAZ La Paz 162.96 253 *e*PKPdf **PKPdf** 04 47 36.9 -0.9
LPAZ *e*PKPab **PKPab** 04 48 26.8 -0.5
OTAV Otavalo 166.34 331 *e*PKPdf **PKPdf** 04 47 40.1 -0.6
OTAV *e*PKPab **PKPab** 04 48 39.7 -2.0

*ISCJB **31** 04:33:39.7±0.5, 61°.22S±0°.07×154°.2E±0°.2, h10km, mb4.6/14, MS4.6/11, Error ellipse: s-maj=14.5km s-min=9.3km az=169.9*
*IDC **31** 04:33:40.9±0.7, 61°.16S×153°.94E, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.6/12, mbtmp4.5/9, MS4.6/11, Ms1 4.6/11, ms1mx4.4/13, Error ellipse: s-maj=35.7km s-min=16.6km az=74.0*
*NEIC **31** 04:33:41.6±0.4, 61°.26S×154°.04E, h10km, mb4.8/7, Error ellipse: s-maj=19.2km s-min=8.7km az=79.0*
ISC 31 04:33:41.7±0.4, 61°.22S±0°.08×154°.2E±0°.1, h10km, n71, σ1§09/66, mb4.6/14, MS4.6/11, 2C-4D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.28**	**223**	P		P	Pn	04 35 33.0	-8.7
DRV				R				04 37 00.0	
DRV				S		Sn		04 37 04.0	-11
VNDA	**Vanda**	**16.56**	**174**	*e*P		**Pn**		**04 37 30.9**	**-2.8**
	40nm,1.2s								
MOO	**Moorlands**	**19.28**	**344**	*e*P		**P**		**04 38 06.9**	**+0.6**
RPZ	**Rata Peaks**	**20.20**	**37**	P		**P**		**04 38 17.1**	**+0.7**
	30nm,1.0s,baz=176,slow=9.1,SNR=8.0								
RPZ				LR		LR		04 44 29.8	
	comp=Z,2μm,20.9s,baz=188,slow=32								
RPZ	**Rata Peaks**	**20.20**	**37**	*e*P		**P**		**04 38 15.9**	**-0.5**
	105nm,1.4s								
QSPA	**South Pole Qui**	**28.87**	**180**	P		**P**		**04 39 42.0**	**+1.8**
	10nm,1.0s,baz=359,slow=4.2,SNR=15								
QSPA				LR		LR		04 50 37.9	
	comp=Z,2μm,21.7s,baz=17,slow=35								
QSPA	**South Pole Qui**	**28.87**	**180**	P		**P**		**04 39 42.0**	**+1.8**
STKA	**Stephens Creek**	**30.50**	**339**	P		**P**		**04 39 55.5**	**+0.9**
	5.6nm,0.8s,baz=157,slow=8.8,SNR=4.2								
STKA				LR		LR		04 49 13.9	
	comp=Z,1μm,21.9s,baz=160,slow=31								
STKA	**Stephens Creek**	**30.50**	**339**	P		**P**		**04 39 55.5**	**+0.9**
BBOO	**Buckleboo**	**30.78**	**329**	*e*P		**P**		**04 39 57.5**	**+0.4**
	312nm,1.0s								
MAW	**Mawson**	**36.49**	**220**	LR		LR		04 55 44.7	
	comp=Z,2μm,19.4s,baz=110,slow=36								
NWAO	**Narrogin (SRO)**	**37.01**	**303**	LR		LR		04 52 31.5	
	comp=Z,1μm,18.6s,baz=287,slow=31								
DZM	**Mont Dzumac**	**40.04**	**18**	*e*S		**S**		**04 47 19.7**	**-2.8**
	300nm,27.4s								

DZM *e*LR LR 04 52 08.1
2μm,25.8s
ASAR Alice Springs 40.06 330 P **P** 04 41 16.6 -0.4
7.7nm,0.9s,baz=163,slow=8.7,SNR=23
ASAR PcP **PcP** 04 43 21.3 -0.3
1.1nm,0.8s,baz=168,slow=4.2,SNR=4.5
ASAR Alice Springs 40.06 330 P **P** 04 41 16.6 -0.4
ASAR PcP **PcP** 04 43 21.3 -0.3
AS31 Alice Springs 40.06 330 *e*P **P** 04 41 16.0 -0.9
CTA Charters Tower 41.48 349 P **P** 04 41 29.1 +0.5
1.4nm,0.3s,baz=172,slow=5.5,SNR=2.8
CTA LR LR 04 55 45.8
comp=Z,1μm,20.6s,baz=184,slow=32
CTA Charters Tower 41.48 349 P **P** 04 41 29.1 +0.5
WB2 Warramunga Arr 43.54 332 *e*P **P** 04 41 44.3 -1.1
WRA Warramunga Arr 43.54 332 P **P** 04 41 44.5 -0.9
5.5nm,0.8s,baz=163,slow=7.2,SNR=24
WRA PcP **PcP** 04 43 32.3 -0.8
1.6nm,0.8s,baz=175,slow=2.5,SNR=4.5
WRA Warramunga Arr 43.54 332 P **P** 04 41 44.5 -0.9
WRA PcP **PcP** 04 43 32.3 -0.8
WRAB Tennant Creek 43.55 332 *e*P **P** 04 41 44.1 -1.3
18nm,1.0s
SNAA Sanae 46.43 190 *e*P **P** 04 42 05.5 -2.4
6.3nm,1.0s
FITZ Fitzroy Crossi 47.59 322 P **P** 04 42 17.4 0.0
5.7nm,0.9s,baz=167,slow=14,SNR=3.3
FITZ Fitzroy Crossi 47.59 322 P **P** 04 42 17.4 0.0
PMG Port Moresby 51.98 351 *e*P **P** 04 42 50.8 0.0
11nm,0.8s
TBI Tubuai 53.74 72 *e*S **S** 04 50 37.9 0.0
228nm,30.0s
TBI *e*LQ LQ 04 55 35.2
780nm,28.0s
TBI *e*LR LR 04 58 20.7
642nm,28.2s,baz=209
TBI *e*T T 05 40 46.4
128nm,0.3s
PAE Paea 58.63 68 *e*T T 05 46 56.8
3.5nm,0.3s
PPT2 Papeete2 58.70 68 *e*S **S** 04 51 43.0 -1.0
574nm,28.5s
PPT2 *e*LQ LQ 04 58 07.7
1μm,24.8s
PPT2 *e*LR LR 05 00 49.7
557nm,25.0s,baz=204
PPT2 *e*T T 05 47 01.6
5.2nm,0.3s
MEH Mehetia 59.13 70 *e*T T 05 47 34.5
79nm,0.3s
KAPI Kappang 61.74 320 LR LR 05 09 11.7
comp=Z,363nm,18.3s,baz=175,slow=35
DAV Davao City (W) 71.67 330 LR LR 05 12 22.2
comp=Z,167nm,21.2s,baz=196,slow=32
PLCA Paso Flores 72.08 146 P **P** 04 45 07.6 +1.9
4.7nm,0.8s,baz=211,slow=5.8,SNR=8.2
PLCA Paso Flores 72.08 146 P **P** 04 45 07.6 +1.9
BOSA Boshof 81.40 224 LR LR 05 20 22.2
comp=Z,294nm,18.8s,baz=166,slow=34
LBTB Lobatse 84.60 225 *e*P **P** 04 46 14.7 -0.5
12nm,1.3s
CMAR Chiang Mai Arr 90.79 309 P **P** 04 46 45.8 +1.0
0.8nm,0.3s,baz=178,slow=3.2,SNR=4.3
CMAR LR LR 05 21 54.4
comp=Z,238nm,21.6s,baz=152,slow=32
CMAR Chiang Mai Arr 90.79 309 P **P** 04 46 45.8 +1.0
CHTO Chiang Mai 91.11 309 *e*P **P** 04 46 46.0 -0.3
2.3nm,0.6s
MJAR Matsushiro Arr 98.29 347 LR LR 05 28 38.5
comp=Z,173nm,18.8s,baz=180,slow=34
NVAR Mina Array Bea 121.67 67 PKhKP PKPpre 04 52 27.0
0.2nm,0.7s,baz=187,slow=1.5,SNR=2.8
NVAR PKP **PKiKP** **04 52 36.7 +1.5**
0.6nm,0.7s,baz=205,slow=3.8,SNR=4.8
NVAR Mina Array Bea 121.67 67 PKPpre PKPpre 04 52 27.0
NVAR PKP **PKiKP** **04 52 36.7 +1.5**
MKAR Makanchi Array 122.19 309 PKhKP PKPpre 04 52 29.1
0.5nm,1.1s,baz=96,slow=2.9,SNR=2.8
MKAR PKP **PKPdf** **04 52 34.7 -0.9**
0.9nm,1.0s,baz=164,slow=1.0,SNR=4.5
MKAR Makanchi Array 122.19 309 PKPpre PKPpre 04 52 29.1
MKAR PKP **PKPdf** **04 52 34.6 -0.9**
KURK Kurchatov 126.80 310 PKhKP PKPpre 04 52 38.8
0.3nm,0.4s,baz=109,slow=5.1,SNR=2.7
KURK PKP **PKPdf** **04 52 43.0 -1.2**
0.3nm,0.3s,baz=145,slow=1.5,SNR=8.0
KURK Kurchatov 126.80 310 PKPbc PKPpre 04 52 38.8
KURK PKP **PKPdf** **04 52 43.0 -1.2**
KURK *e*PKPdf **PKiKP** **04 52 43.8 -0.8**
TORD Torodi Ar. Bea 128.02 215 PKP **PKPdf** **04 52 47.1 -0.6**
0.4nm,0.9s,baz=168,slow=2.7,SNR=2.7
TORD Torodi Ar. Bea 128.02 215 PKP **PKPdf** **04 52 47.1 -0.6**
BW06 Boulder Array 129.11 71 *e*PKPdf **PKPdf** **04 52 49.4 +0.2**
LOHW Long Hollow 129.29 69 *e*PKPdf **PKPdf** **04 52 49.9 +0.4**
MCK McKinley 131.76 30 *e*PKPdf **PKPdf** **04 52 53.5 +0.2**
ILAR Eielson Array 133.12 30 PKP **PKPdf** **04 52 57.2 +1.4**
0.5nm,0.9s,baz=271,slow=2.7,SNR=4.0
ILAR Eielson Array 133.12 30 PKP **PKPdf** **04 52 57.2 +1.4**
CSS Prodhromos 134.68 262 *e*PKPdf **PKPdf** **04 53 00.0 +0.4**
ARU Arti 138.95 303 *e*PKPdf **PKPdf** **04 53 07.1 +0.3**
YKA Yellowknife Ar 141.24 48 PKhKP PKPpre 04 53 07.6
0.2nm,0.8s,baz=233,slow=3.0,SNR=3.4
YKA Yellowknife Ar 141.24 48 PKPpre PKPpre 04 53 07.6
KEST Kesra 146.18 237 PKPbc **PKPbc** **04 53 21.1 -0.4**
0.8nm,0.9s,baz=166,slow=4.2,SNR=1.9
KEST Kesra 146.18 237 *e*PKPbc **PKPdf** **04 53 20.1 -0.3**
VRI Vrincioaia 146.28 267‖ *i*P **PKPab** **04 53 22.0 -0.2**
MLR Muntele Rosu 146.39 266 PKPbc **PKPab** **04 53 22.6 -0.2**
baz=162,slow=3.2
MLR Muntele Rosu 146.39 266 PKPbc **PKPab** **04 53 22.6 -0.2**
MLR Muntele Rosu 146.39 266‖ *i*P **PKPab** **04 53 25.1 +2.3**
VOIR 146.78 265‖ *i*P **PKPab** **04 53 26.3 +2.0**
TESR 146.78 268‖ *i*P **PKPbc** **04 53 23.1 +0.3**
AKASG Malin Array Be 148.41 276 PKPbc **PKPbc** **04 53 27.3 +0.2**
0.2nm,0.3s,baz=105,slow=3.2,SNR=3.9
AKASG Malin Array Be 148.41 276 PKPbc **PKPbc** **04 53 27.3 +0.2**
TRPA Tarpa 149.91 267↑ *i*P **PKPbc** **04 53 32.3 +1.4**
KWP Kalwaria Pacla 150.85 269 *e*PKPbc **PKPbc** **04 53 32.7 -0.4**
KWP Kalwaria Pacla 150.85 269↑ *i*P **PKPbc** **04 53 33.1 0.0**
RES Resolute Bay 152.81 33 *e*PKPbc **PKPbc** **04 53 36.6 -0.2**
RES *e*PKPab **PKPab** **04 53 48.0 0.0**

*IDC **31** 04:50:45.9±1.0, 3°.93N×96°.55E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/24, mbtmp4.1/11, Error ellipse: s-maj=51.7km s-min=16.5km az=56.0*
*NEIC **31** 04:50:50.5±0.5, 3°.77N×96°.34E, h35km, mb4.4/2, Error ellipse: s-maj=17.2km s-min=8.3km az=52.0*
*ISCJB **31** 04:50:52.3±0.6, 3°.95N±0°.09×96°.62E±0°.07, h63km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=8.4km az=32.1*
*DJA **31** 04:50:56, 3°.74N×96°.53E, h68km, MLv4.1/7*
ISC 31 04:50:54.5±0.8, 4°.0N±0°.1×96°.59E±0°.10, h63km, n30, σ0§83/31, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.45**	**83**	*e*Pn		**Pn**		**04 52 01.4**	**+1.8**
IPM				*e*Sn		Sn		**04 52 48.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**14.58**	**9**	Pn		**Pn**		**04 54 17.2**	**-0.3**
	baz=198,slow=14,SNR=2.4								
CMAR	**Chiang Mai Arr**	**14.58**	**9**	Pn		**Pn**		**04 54 17.2**	**-0.3**
WRA	**Warramunga Arr**	**44.05**	**124**	P		**P**		**04 58 55.8**	**-0.6**
	14nm,0.6s,baz=303,slow=9.2,SNR=84								
WRA	**Warramunga Arr**	**44.05**	**124**	P		**P**		**04 58 55.8**	**-0.6**
WRAB	**Tennant Creek**	**44.05**	**124**	*e*P		**P**		**04 58 55.4**	**-1.1**
	17nm,0.9s								
WB2	**Warramunga Arr**	**44.05**	**124**	*e*P		**P**		**04 58 55.4**	**-1.2**
MK31	**Makanchi Array**	**44.43**	**346**	*e*P		**P**		**04 58 58.4**	**-0.7**
MKAR	**Makanchi Array**	**44.43**	**346**	P		**P**		**04 58 58.5**	**-0.5**
	0.7nm,0.4s,baz=158,slow=9.0,SNR=25								
MKAR	**Makanchi Array**	**44.43**	**346**	P		**P**		**04 58 58.5**	**-0.5**
SONM	**Songino Array**	**44.51**	**9**	P		**P**		**04 59 00.5**	**+0.6**
	0.6nm,0.5s,baz=193,slow=9.4,SNR=8.1								
SONM	**Songino Array**	**44.51**	**9**	P		**P**		**04 59 00.5**	**+0.6**
ASAR	**Alice Springs**	**45.57**	**129**	P		**P**		**04 59 07.6**	**-0.9**
	2.4nm,0.6s,baz=300,slow=8.0,SNR=27								
ASAR	**Alice Springs**	**45.57**	**129**	P		**P**		**04 59 07.6**	**-0.9**
AS31	**Alice Springs**	**45.57**	**129**	*e*P		**P**		**04 59 07.4**	**-1.1**
KURK	**Kurchatov**	**48.98**	**345**	P		**P**		**04 59 33.5**	**-1.0**
	0.5nm,0.5s,baz=162,slow=7.2,SNR=6.1								
KURK	**Kurchatov**	**48.98**	**345**	*e*P		**P**		**04 59 34.3**	**-0.2**
	0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**50.75**	**351**	P		**P**		**04 59 47.4**	**-0.5**

0.7nm,0.3s,baz=162,slow=7.1,SNR=8.2
ZALV Zalesovo Beam 50.75 351 P P 04 59 47.4 -0.5
ABKAR Akbulak array 54.80 331 *eP* **P 05 00 16.6 -1.3**
STKA Stephens Creek 55.67 133 P **P 05 00 24.5 0.0**
2.2nm,0.7s,baz=308,slow=8.4,SNR=4.1
STKA Stephens Creek 55.67 133 P **P 05 00 24.5 0.0**
FINES FINESS Array B 77.28 332 P **P 05 02 41.2 -0.6**
2.3nm,0.9s,baz=104,slow=8.0,SNR=3.4
FINES FINESS Array B 77.28 332 P **P 05 02 41.2 -0.6**
ARCES ARCESS Array B 79.74 340 P **P 05 02 55.6 +0.3**
3.1nm,1.0s,baz=96,slow=8.3,SNR=3.9
ARCES ARCESS Array B 79.74 340 P **P 05 02 55.6 +0.3**
HFS Hagfors 83.03 330 P **P 05 03 13.3 +0.4**
1.9nm,0.8s,baz=64,slow=3.4,SNR=5.1
HFS Hagfors 83.03 330 P **P 05 03 13.3 +0.4**
TORD Torodi Ar. Bea 93.86 283 P **P 05 04 06.7 +0.9**
0.3nm,0.6s,baz=94,slow=5.2,SNR=6.4
TORD Torodi Ar. Bea 93.86 283 P **P 05 04 06.7 +0.9**

IDC 31 05:00:36.4±3.0, 0.47S×131.91E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=209.8km s-min=24.1km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.50**	**173**	P	P	05 05 05.3	0.0
	0.3nm,0.3s,baz=353,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.14**	**175**	P	P	05 05 44.6	+0.1
	6.2nm,0.7s,baz=350,slow=9.3,SNR=38						
STKA	**Stephens Creek**	**32.55**	**165**	P	P	05 07 09.1	-0.3
	3.0nm,0.9s,baz=329,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**63.95**	**324**	P	P	05 11 11.6	0.0
	0.1nm,0.5s,baz=111,slow=7.8,SNR=7.4						

NEIC 31 05:17:06.0, 19.35N×155.05W, h10km, MD3.5(HVO), **After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.09**	**298**	*eP*g	Pg	05 17 08.3	-0.2
STCH				*eS*g	Sg	05 17 10.8	+0.5
PUH	**Pauahi**	**0.17**	**281**	*eP*g	Pg	05 17 09.5	-0.3
PUH				*eS*g	Sg	05 17 12.0	-0.4
HON	**Honolulu**	**3.40**	**306**	*eP*n	Pn	05 17 54.8	-4.4
HON				*eS*n	Sn	05 18 33.2	-6.4
KIP	**Kipapa**	**3.47**	**307**	*eP*n	Pn	05 17 56.1	-4.0
KIP				*eS*n	Sn	05 18 35.8	-5.6

IDC 31 05:17:07.1±3.3, 33.05S×178.80W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/13, mbtmp3.8/2, Error ellipse: s-maj=175.4km s-min=49.7km az=166.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**27.52**	**77**	*eLR*	LR	05 22 25.7	
	133nm,25.5s						
ASAR	**Alice Springs**	**42.36**	**270**	P	P	05 25 03.0	-0.2
	0.5nm,0.5s,baz=110,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	**43.59**	**275**	P	P	05 25 13.2	0.0
	0.7nm,0.3s,baz=116,slow=8.2,SNR=32						
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc	PKPbc	05 36 52.0	+0.1
	2.1nm,0.8s,baz=29,slow=3.2,SNR=7.3						
BRTR	**Keskin Array B**	**153.15**	**294**	PKPbc	PKPbc	05 37 06.0	-0.9
	0.3nm,0.7s,baz=80,slow=2.5,SNR=2.4						

NNC 31 05:32:51.4±8.9, 36.91N×70.80E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=81.5km s-min=60.4km az=36.0
IDC 31 05:32:52.7±3.7, 36.33N×70.86E, h178km±30km, mb3.3/8, mb1 3.4/13, mb1mx3.2/30, mbtmp3.3/13, Error ellipse: s-maj=26.8km s-min=21.6km az=30.0
ISCJB 31 05:32:54.9±0.5, 36.58N±0.04×70.85E±0.08, h188km, mb3.4/7, Error ellipse: s-maj=9.5km s-min=4.7km az=167.8

ISC 31 05:32:56.1±0.7, 36.63N±0.05×70.96E±0.10, h188km, n40, σ1s59/52, mb3.5/7, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.91**	**164**	⇑P	**Pn**	**05 33 45.6**	**+1.4**
CEP				S	**Sn**	**05 34 23.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.52**	**147**	P	**Pn**	**05 33 53.8**	**+2.3**
SARP	**Sargodha**	**4.91**	**163**	P	**Pn**	**05 34 09.3**	**+0.3**
AML	**Almayashu**	**5.89**	**20**	P	**Pn**	**05 34 23.7**	**+1.7**
	SNR=125						
AML				P	**Pn**	**05 34 23.7**	**+1.7**
	SNR=125						
KZA	**Kyzart**	**6.37**	**30**	P	**Pn**	**05 34 29.7**	**+1.3**
	SNR=11						
KZA				P	**Pn**	**05 34 29.7**	**+1.3**
	SNR=11						
EKS2	**Erkin-Say**	**6.40**	**19**	P	**Pn**	**05 34 30.5**	**+2.0**
	SNR=43						
EKS2				P	**Pn**	**05 34 30.5**	**+2.0**
	SNR=43						
KK31	**Karatay Array**	**6.47**	**357**	Pn	**Pn**	**05 34 30.4**	**+1.1**
	2.1nm,0.3s,baz=180,slow=13,SNR=47						
KK31				Sn	**Sn**	**05 35 40.6**	**-2.4**
	12nm,0.5s,baz=186,slow=22,SNR=20						
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**05 34 33.1**	**+2.2**
	SNR=8.7						
AAK				P	**Pn**	**05 34 33.1**	**+2.2**
	SNR=8.7						
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**05 34 32.9**	**+2.1**
	5.6nm,0.3s,baz=170,slow=8.1,SNR=10						
AAK				S	**Sn**	**05 35 47.4**	**+1.6**
	1.9nm,0.3s,baz=320,slow=20,SNR=13						
KBK	**Karagaybulak**	**6.76**	**26**	P	**Pn**	**05 34 35.2**	**+2.0**
	SNR=9.9						
KBK				P	**Pn**	**05 34 35.2**	**+2.0**
	SNR=9.9						
ULHL	**Ulahol**	**6.94**	**34**	P	**Pn**	**05 34 37.7**	**+2.2**
	SNR=9.9						
ULHL				P	**Pn**	**05 34 37.7**	**+2.2**
	SNR=9.9						
USP	**Ospenovka**	**7.16**	**21**	P	**Pn**	**05 34 40.4**	**+2.1**
	SNR=12						
USP				P	**Pn**	**05 34 40.4**	**+2.1**
	SNR=12						
TKM2	**Tokmak 2**	**7.22**	**28**	P	**Pn**	**05 34 41.0**	**+1.8**
	SNR=26						
TKM2				P	**Pn**	**05 34 41.0**	**+1.8**
	SNR=26						
TKM2	**Tokmak 2**	**7.22**	**28**	⇑Pn	**Pn**	**05 34 40.5**	**+1.2**
	22nm,0.8s						
TKM2				⇑Sn	**Sn**	**05 36 00.6**	**-0.4**
	17nm,1.2s						
MK31	**Makanchi Array**	**13.20**	**36**	⇓Pn	**Pn**	**05 35 57.3**	**+0.9**
	0.8nm,0.5s,baz=206,slow=13,SNR=14						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**05 35 57.5**	**+1.1**
	0.2nm,0.3s,baz=205,slow=12,SNR=13						
DANN	**Dangsing**	**13.59**	**124**	*eP*	**Pn**	**05 36 01.3**	**-0.3**
	5.5nm,0.3s						
KOLN	**Koldanda**	**13.87**	**126**	*eP*	Pn	05 36 01.1	-3.9
GKN	**Gorkha**	**14.40**	**123**	*eP*	**Pn**	**05 36 10.7**	**-0.9**
	10nm,0.4s						
AB31	**Akbulak array**	**14.95**	**331**	⇓Pn	**P**	**05 36 19.4**	**+0.4**
	1.4nm,0.6s,baz=145,slow=12,SNR=23						
KURK	**Kurchatov**	**15.12**	**19**	P	**Pn**	**05 36 18.3**	**-1.7**
	0.1nm,0.3s,baz=209,slow=12,SNR=4.7						
PKI	**Pulchoki**	**15.20**	**122**	*eP*	**Pn**	**05 36 19.4**	**-2.2**
GUN	**Gumba**	**15.31**	**120**	*eP*	**P**	**05 36 23.6**	**0.0**
JIRN	**Jiri**	**15.68**	**120**	*eP*	**Pn**	**05 36 27.1**	**-0.4**
VOSK	**Vostochnaya**	**16.09**	**0**	⇓Pn	**P**	**05 36 31.6**	**+0.1**
	2.0nm,1.1s						
ZRNK	**Zerenda**	**16.38**	**356**	⇓Pn	**Pn**	**05 36 35.6**	**+0.3**
	3.6nm,1.1s						
BVAR	**Borovoye Array**	**16.40**	**359**	P	**Pn**	**05 36 36.2**	**+0.7**
	0.6nm,0.3s,baz=169,slow=10,SNR=10.0						
BVAR				S	**Sn**	**05 39 38.5**	**-0.9**
	0.2nm,0.3s,baz=172,slow=22,SNR=3.9						
RAMN	**Ramite**	**16.41**	**122**	*eP*	**P**	**05 36 31.7**	**-3.9**
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**05 36 38.6**	**0.0**
	0.6nm,0.3s,baz=142,slow=10,SNR=20						
AKTO	**Aktyubinsk**	**16.65**	**330**	⇓Pn	**P**	**05 36 38.0**	**+0.3**
	0.8nm,0.7s						
AKTO				⇓Sn	**S**	**05 39 42.6**	**+0.8**
	0.6nm,1.3s						
TAPN	**Taplejung**	**16.94**	**118**	*eP*	**P**	**05 36 40.8**	**-0.6**
ZALV	**Zalesovo Beam**	**19.81**	**25**	P	**P**	**05 37 13.1**	**+1.1**
	1.0nm,0.3s,baz=218,slow=11,SNR=10						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**05 39 50.2**	**+0.1**
	0.8nm,0.7s,baz=108,slow=8.9,SNR=3.9						
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**05 40 20.6**	**+0.2**
	3.1nm,0.9s,baz=124,slow=8.3,SNR=6.3						
NB2	**NORSAR Subarra**	**44.26**	**323**	P	**P**	**05 40 45.3**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**05 40 45.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=96,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	P	05 43 16.3	-4.4
	comp=Z,0.5nm,0.6s,baz=52,slow=5.1,SNR=3.9						
ILAR	**Eielson Array**	**74.66**	**16**	P	**P**	**05 44 13.7**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=316,slow=5.0,SNR=3.7						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**05 44 49.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=351,slow=5.5,SNR=20						
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**05 44 53.1**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=325,slow=4.6,SNR=7.5						

IDC 31 05:42:58.0±0.9, 34.90N×25.35E, h0km, mb3.9/13, mb1 3.9/14, mb1mx3.8/28, mbtmp3.8/14, ML3.6/1, Error ellipse: s-maj=23.1km s-min=16.2km az=144.0
ATH 31 05:43:02.6, 34.75N×25.46E, h39km±2km, MD3.4/14
CSEM 31 05:43:03.9±0.4, 34.80N×25.45E, h24km±2km, ML2.8/3
THE 31 05:43:05.2, 34.87N×25.45E, h18km±1km, ML2.8/3, Error ellipse: s-maj=1.9km s-min=0.9km az=8.0

ISC 31 05:43:02.6±1.2, 34.77N±0.06×25.49E±0.03, h32km±7km, n67, σ1s40/96, mb3.8/14, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.39**	**359**	P	**Pb**	**05 43 11.8**	**+0.2**
LAST				S	**Sb**	**05 43 16.9**	**-0.9**
LAST	**Lasithi**	**0.39**	**359**	*eP*B	**Pb**	**05 43 11.8**	**+0.2**
LAST				*eS*B	**Sn**	**05 43 19.2**	**+0.8**
LAST	**Lasithi**	**0.39**	**359**	P	**Pb**	**05 43 11.8**	**+0.2**
LAST				S	**Sb**	**05 43 16.9**	**-0.9**
LAST				*eS*b	**Sn**	**05 43 19.2**	**+0.8**
NPS	**Neapolis**	**0.50**	**12**	P	**Pn**	**05 43 13.6**	**0.0**
NPS				S	**Sb**	**05 43 19.9**	**-0.6**
NPS	**Neapolis**	**0.50**	**12**	*eP*N	**Pn**	**05 43 13.5**	**0.0**
NPS				*eS*N	**Sn**	**05 43 23.0**	**+1.9**
NPS	**Neapolis**	**0.50**	**12**	*eP*n	**Pn**	**05 43 13.5**	**0.0**
NPS				S	**Sb**	**05 43 19.9**	**-0.6**
NPS				*eS*n	**Sn**	**05 43 23.0**	**+1.9**
SIVA	**Sivas**	**0.61**	**294**	P	**Pn**	**05 43 15.8**	**+0.8**
SIVA	**Sivas**	**0.61**	**294**	*eP*N	**Pn**	**05 43 15.8**	**+0.8**
SIVA				*eS*N	**Sn**	**05 43 25.4**	**+1.7**
SIVA	**Sivas**	**0.61**	**294**	P	**Pn**	**05 43 15.8**	**+0.8**
SIVA				*eS*n	**Sn**	**05 43 25.4**	**+1.7**
ZKR	**Zakros**	**0.69**	**60**	P	**Pb**	**05 43 17.1**	**+0.8**
ZKR				S	**Sn**	**05 43 27.9**	**+2.1**
ZKR	**Zakros**	**0.69**	**60**	*eP*N	**Pb**	**05 43 17.1**	**+0.8**
ZKR				*eS*N	**Sn**	**05 43 28.6**	**+2.8**
ZKR	**Zakros**	**0.69**	**60**	P	**Pb**	**05 43 17.1**	**+0.8**
ZKR				S	**Sn**	**05 43 27.9**	**+2.1**
ZKR				*eS*n	**Sn**	**05 43 28.6**	**+2.8**
IDI	**Anoyia**	**0.71**	**317**	P	**Pb**	**05 43 16.9**	**+0.2**
IDI				S	**Sb**	**05 43 26.3**	**0.0**
IDI	**Anoyia**	**0.71**	**317**	*eP*N	**Pb**	**05 43 16.9**	**+0.2**
IDI				*eS*N	**Sn**	**05 43 28.1**	**+1.7**
IDI	**Anoyia**	**0.71**	**317**	P	**Pb**	**05 43 16.9**	**+0.2**
IDI				S	**Sb**	**05 43 26.3**	**0.0**
IDI				*eS*n	**Sn**	**05 43 28.1**	**+1.7**
VAM	**Vamos**	**1.23**	**301**	P	**Pb**	**05 43 26.4**	**+1.0**
VAM	**Vamos**	**1.23**	**301**	*eP*N	**Pb**	**05 43 26.4**	**+1.0**
VAM				*eS*N	**Sb**	**05 43 41.9**	**+1.0**
VAM	**Vamos**	**1.23**	**301**	P	**Pb**	**05 43 26.4**	**+1.0**
VAM				*eS*n	**Sb**	**05 43 41.9**	**+1.0**
KARP	**Karpathos**	**1.57**	**60**	P	**Pb**	**05 43 31.4**	**+0.2**
KARP	**Karpathos**	**1.57**	**60**	*eP*B	**Pb**	**05 43 31.4**	**+0.2**
KARP	**Karpathos**	**1.57**	**60**	P	**Pb**	**05 43 31.4**	**+0.2**
APE	**Apeiranthos**	**2.29**	**1**	P	**Pn**	**05 43 39.8**	**+1.6**
APE				S	**Sn**	**05 44 06.8**	**+1.4**
APE	**Apeiranthos**	**2.29**	**1**	*eP*N	**Pn**	**05 43 39.8**	**+1.6**
APE	**Apeiranthos**	**2.29**	**1**	P	**Pn**	**05 43 39.8**	**+1.6**
APE				S	**Sn**	**05 44 06.8**	**+1.4**
KYTH	**Kithira**	**2.50**	**308**	P	**Pn**	**05 43 42.9**	**+1.8**
KYTH	**Kithira**	**2.50**	**308**	*eP*N	**Pn**	**05 43 42.7**	**+1.6**
KYTH	**Kithira**	**2.50**	**308**	*eP*n	**Pn**	**05 43 42.7**	**+1.6**
ARG	**Arkhangelos**	**2.59**	**55**	*eP*N	**Pn**	**05 43 44.7**	**+2.4**
ARG	**Arkhangelos**	**2.59**	**55**	*eP*n	**Pn**	**05 43 44.7**	**+2.4**
VLI	**Veliai**	**2.84**	**314**	P	**Pn**	**05 43 47.1**	**+1.4**
VLI				S	**Sn**	**05 44 20.0**	**+1.2**
VLI	**Veliai**	**2.84**	**314**	*eP*N	**Pn**	**05 43 46.7**	**+1.0**
VLI	**Veliai**	**2.84**	**314**	*eP*n	**Pn**	**05 43 46.7**	**+1.0**
VLI	**Veliai**	**2.84**	**314**	P	**Pn**	**05 43 47.1**	**+1.4**
VLI				S	**Sn**	**05 44 20.0**	**+1.2**
SMG	**Samos**	**3.13**	**20**	*eP*N	**Pn**	**05 43 51.5**	**+1.8**
SMG	**Samos**	**3.13**	**20**	*eP*n	**Pn**	**05 43 51.5**	**+1.8**
DID	**Didima**	**3.28**	**327**	P	**Pn**	**05 43 53.0**	**+1.2**
DID				S	**Sn**	**05 43 51.0**	**+1.3**
DID	**Didima**	**3.28**	**327**	*eP*N	**Pn**	**05 43 53.0**	**+1.2**
DID				*eS*N	**Sn**	**05 44 31.8**	**+2.1**
DID	**Didima**	**3.28**	**327**	P	**Pn**	**05 43 53.0**	**+1.2**
DID				S	**Sn**	**05 44 31.0**	**+1.3**
DID				*eS*n	**Sn**	**05 44 31.8**	**+2.1**
VLX	**Vlachokerasia**	**3.61**	**317**	P	**Pn**	**05 43 58.0**	**+1.6**
VLX	**Vlachokerasia**	**3.61**	**317**	*eP*N	**Pn**	**05 43 56.8**	**+0.4**
VLX	**Vlachokerasia**	**3.61**	**317**	*eP*n	**Pn**	**05 43 56.8**	**+0.4**
VLX	**Vlachokerasia**	**3.61**	**317**	P	**Pn**	**05 43 58.0**	**+1.6**
CHOS	**Chios island**	**3.64**	**7**	*eP*N	**Pn**	**05 43 59.5**	**+2.8**
CHOS	**Chios island**	**3.64**	**7**	*eP*n	**Pn**	**05 43 59.5**	**+2.8**
PYL	**PYLOS**	**3.71**	**306**	*eP*N	**Pn**	**05 43 58.0**	**+0.4**
ITM	**Ithomi**	**3.76**	**311**	*eP*N	**Pn**	**05 43 58.5**	**+0.2**
LTK	**Loutraki**	**3.83**	**329**	*eP*N	**Pn**	**05 44 01.1**	**+1.8**
GUR	**Goura**	**4.05**	**322**	*eP*N	**Pn**	**05 44 03.9**	**+1.4**
GUR	**Goura**	**4.05**	**322**	*eP*n	**Pn**	**05 44 03.9**	**+1.4**
LKR	**Lokris**	**4.36**	**333**	*eP*N	**Pn**	**05 44 08.1**	**+1.6**
LKR	**Lokris**	**4.36**	**333**	*eP*n	**Pn**	**05 44 08.1**	**+1.6**
MMAI	**Mount Meron Ar**	**8.43**	**99**	Pn	**Pn**	**05 45 01.5**	**-1.0**
	0.8nm,0.3s,baz=280,slow=12,SNR=4.1						
MMAI				Sn	**Sn**	**05 46 33.5**	**-3.1**
	0.6nm,0.3s,baz=294,slow=22,SNR=3.3						
GERES	**GERESS Array B**	**16.55**	**332**	Pn	**P**	**05 46 54.8**	**+0.3**
	0.1nm,0.3s,baz=162,slow=13,SNR=2.4						
HFS	**Hagfors**	**26.52**	**347**	P	**P**	**05 48 36.1**	**-0.8**
	2.5nm,1.0s,baz=154,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**26.69**	**1**	P	**P**	**05 48 36.3**	**-2.2**
	3.4nm,1.0s,baz=168,slow=8.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**30.45**	**231**	P	**P**	**05 49 13.1**	**+0.7**
	0.5nm,0.3s,baz=34,slow=8.8,SNR=19						
ARCES	**ARCESS Array B**	**34.82**	**0**	P	**P**	**05 49 48.3**	**-1.8**
	4.8nm,1.1s,baz=183,slow=4.9,SNR=7.7						
BVAR	**Borovoye Array**	**36.42**	**46**	P	**P**	**05 50 04.5**	**+0.5**
	0.3nm,0.5s,baz=248,slow=5.8,SNR=3.8						
DBIC	**Dimbokro**	**39.54**	**232**	P	**P**	**05 50 29.6**	**-1.0**
	2.2nm,0.9s,baz=58,slow=9.5,SNR=2.4						
JMIC	**Jan Mayen**	**40.53**	**344**	P	**P**	**05 50 36.8**	**-1.5**
	104nm,0.4s,baz=162,slow=9.6,SNR=3.3						
KURK	**Kurchatov**	**41.22**	**51**	P	**P**	**05 50 44.0**	**-0.1**
	1.0nm,0.5s,baz=276,slow=8.6,SNR=7.7						
SPITS	**Spitsbergen Ar**	**43.69**	**357**	P	**P**	**05 51 02.4**	**-1.6**
	4.4nm,0.9s,baz=141,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**43.77**	**56**	P	**P**	**05 51 05.7**	**+0.7**
	0.3nm,0.4s,baz=266,slow=8.0,SNR=9.7						
ZALV	**Zalesovo Beam**	**45.08**	**46**	P	**P**	**05 51 15.3**	**-0.1**
	0.6nm,0.4s,baz=273,slow=8.9,SNR=3.2						
SONM	**Songino Array**	**59.52**	**51**	P	**P**	**05 53 03.6**	**+0.8**
	0.4nm,0.5s,baz=283,slow=7.7,SNR=5.8						
SCHQ	**Schefferville**	**63.66**	**320**	P	**P**	**05 53 30.5**	**+0.1**
	1.0nm,0.4s,baz=60,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**77.90**	**342**	P	**P**	**05 54 56.3**	**-0.5**
	0.1nm,0.4s,baz=32,slow=5.2,SNR=6.3						

IDC 31 05:48:59.1±2.0, 5.17S×151.06E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.7/6, Error ellipse: s-maj=76.7km s-min=23.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.72**	**222**	Pn	Pn	05 50 31.2	+5.8
	0.6nm,0.3s,baz=20,slow=18,SNR=3.2						
PMG				Sn	Sn	05 51 35.4	+3.7
	2.3nm,0.3s,baz=357,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**21.92**	**226**	P	P	05 53 55.1	+0.9
	1.5nm,0.6s,baz=50,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.73**	**220**	P	P	05 54 23.4	+1.0
	1.3nm,0.6s,baz=58,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**27.97**	**241**	P	P	05 54 50.7	-1.0
	5.1nm,0.8s,baz=65,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**65.73**	**329**	P	P	05 59 46.7	+0.8
	0.5nm,0.6s,baz=143,slow=5.1,SNR=5.4						
MKAR	**Makanchi Array**	**79.47**	**319**	P	P	06 01 08.0	+0.4
	0.4nm,0.9s,baz=86,slow=4.5,SNR=2.8						
ILAR	**Eielson Array**	**83.16**	**22**	P	P	06 01 27.5	+0.7
	0.3nm,0.7s,baz=239,slow=5.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.77**	**287**	PKPbc	PKPdf	06 08 46.9	+1.1
	2.6nm,0.7s,baz=74,slow=3.0,SNR=15						

ISCJB 31 06:00:06.9±0.7, 6.95S±0.2×155.75E±0.2, h35km, mb3.9/12, Error ellipse: s-maj=30.1km s-min=12.5km az=41.7
NEIC 31 06:00:08.2±0.4, 6.86S×155.51E, h35km, mb4.2/1, Error ellipse: s-maj=19.2km s-min=9.1km az=133.0
IDC 31 06:00:08.7±1.2, 6.81S×155.46E, h36km±7km, mb3.8/11, mb1 4.0/11, mb1mx3.9/17, mbtmp3.7/11, Error ellipse: s-maj=29.3km s-min=18.1km az=125.0

ISC 31 06:00:08.6±0.7, 6.83S±0.1×155.43E±0.2, h35km, h36km:pP-P, n28, σ0s86/40, mb3.9/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**24.26**	**235**	*eP*	**P**	**06 05 23.1**	**+0.5**
	4.8nm,0.7s						
WB2	**Warramunga Arr**	**24.26**	**235**	*eP*	**P**	**06 05 23.4**	**+0.7**
WRA	**Warramunga Arr**	**24.27**	**235**	P	**P**	**06 05 23.1**	**+0.2**
	1.0nm,0.4s,baz=60,slow=9.6,SNR=25						
WRA				pP	**pP**	**06 05 34.2**	**+1.4**
	2.9nm,0.7s,baz=61,slow=9.6,SNR=11						
WRA				PcP	**PcP**	**06 09 02.6**	**+0.1**
	0.3nm,0.4s,baz=66,slow=2.6,SNR=6.5						
WRA	**Warramunga Arr**	**24.27**	**235**	P	**P**	**06 05 23.1**	**+0.2**
WRA				pP	**pP**	**06 05 34.2**	**+1.4**
WRA				PcP	**PcP**	**06 09 02.6**	**+0.1**
ASAR	**Alice Springs**	**26.62**	**229**	P	**P**	**06 05 43.7**	**-0.3**
	0.5nm,0.5s,baz=62,slow=9.2,SNR=9.9						
ASAR				pP	**pP**	**06 05 54.5**	**+0.4**
	1.9nm,0.8s,baz=58,slow=9.6,SNR=6.8						
ASAR				PcP	**PcP**	**06 09 07.5**	**-0.2**
	0.1nm,0.3s,baz=72,slow=3.0,SNR=5.4						
ASAR	**Alice Springs**	**26.62**	**229**	P	**P**	**06 05 43.7**	**-0.3**
ASAR				pP	**pP**	**06 05 54.5**	**+0.4**
ASAR				PcP	**PcP**	**06 09 07.5**	**-0.2**
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**06 05 56.5**	**-0.6**
	2.9nm,1.0s,baz=20,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**06 05 56.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**31.12**	**246**	P	**P**	**06 06 23.7**	**-0.4**
	2.0nm,0.6s,baz=54,slow=8.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**31.12**	**246**	P	**P**	**06 06 23.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**61.08**	**295**	P	**P**	**06 10 20.4**	**+0.8**
	3.8nm,0.7s,baz=124,slow=5.3,SNR=18						
CMAR				pP	**pP**	**06 10 29.8**	**-0.5**
	1.3nm,0.5s,baz=112,slow=4.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**61.08**	**295**	P	**P**	**06 10 20.4**	**+0.8**
CMAR				pP	**pP**	**06 10 29.8**	**-0.5**
SONM	**Songino Array**	**69.40**	**327**	P	**P**	**06 11 13.6**	**+0.5**
	0.8nm,0.7s,baz=150,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**69.40**	**327**	P	**P**	**06 11 13.6**	**+0.5**
ILAR	**Eielson Array**	**83.04**	**21**	P	**P**	**06 12 29.4**	**-0.7**
	0.3nm,0.5s,baz=253,slow=5.1,SNR=11						
ILAR	**Eielson Array**	**83.04**	**21**	P	**P**	**06 12 29.4**	**-0.7**
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**06 12 33.0**	**-0.1**
	0.7nm,0.8s,baz=115,slow=4.3,SNR=6.0						
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**06 12 33.0**	**-0.1**
NVAR	**Mina Array Bea**	**91.27**	**52**	P	**P**	**06 13 10.3**	**-0.8**
	0.1nm,0.5s,baz=242,slow=1.9,SNR=2.6						
NVAR	**Mina Array Bea**	**91.27**	**52**	P	**P**	**06 13 10.3**	**-0.8**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**06 13 32.2**	**+0.4**
	0.4nm,0.5s,baz=266,slow=4.5,SNR=18						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**06 13 32.2**	**+0.4**
PDAR	**Pinedale Array**	**98.26**	**48**	P	**P**	**06 13 42.7**	**-0.2**
	0.3nm,0.8s,baz=274,slow=6.1,SNR=2.5						
PDAR	**Pin

DJA 31 06:35:15.5 5.°16N 94.°95E, h51km, MLv4.7/9
ISC 31 06:35:13.5±0.4, 5.°04N±0.°05 94.°68E±0.°05, h62km, h62km:pP-P,n335,σ1↑42/417, mb4.8/122, 45C-29D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.77**	**54**	P	**Pn**	**06 35 26.2**	**-2.4**
LHMI	**Lhok Sumawe**	**2.27**	**85**	P	**Pn**	**06 35 48.6**	**0.0**
TPTI		**3.06**	**125**	P	**Pn**	**06 35 59.1**	**-0.4**
TSI	**Tuntungan**	**4.17**	**111**	P	**Pn**	**06 36 15.5**	**+0.9**
PSI	**Prapat**	**4.79**	**118**	P	**Pn**	**06 36 23.0**	**-0.2**
IPM	**Ipoh**	**6.35**	**95**	*e*Pn	**Pn**	**06 36 42.7**	**-1.9**
IPM				*e*Sn	**Sn**	**06 37 52.2**	**-3.6**
MNSI	**Mandailing Nat**	**6.46**	**131**	P	**Pn**	**06 36 45.0**	**-1.1**
	76nm,0.4s,3μm0.6nm						
PDSI	**Padang**	**8.27**	**136**	P	Pn	06 37 15.8	+5.0
	69nm,0.8s,0.3nm						
CM31	**Chiang Mai Arr**	**13.97**	**17**	*e*Pn	**Pn**	**06 38 31.2**	**+2.7**
	30nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.97**	**17**	P	**P**	**06 38 31.4**	**-3.1**
	1.6nm,0.3s,baz=206,slow=12,SNR=30						
CMAR				LR	LR	06 43 40.1	
	comp=Z,201nm,21.5s,baz=35,slow=36						
CMAR	**Chiang Mai Arr**	**13.97**	**17**	P	**P**	**06 38 31.5**	**-3.1**
CMAR	**Chiang Mai Arr**	**13.97**	**17**	P	**P**	**06 38 31.4**	**-3.1**
CHTO	**Chiang Mai**	**14.31**	**17**	*e*P	**P**	**06 38 38.3**	**0.0**
CHTO	**Chiang Mai**	**14.31**	**17**	*e*P	**P**	**06 38 38.3**	**0.0**
CHTO	**Chiang Mai**	**14.31**	**17**	P	**P**	**06 38 38.3**	**0.0**
	47nm,1.0s						
KSM	**Kuching**	**16.00**	**102**	*e*P	**P**	**06 38 57.5**	**+0.3**
	16nm,0.6s						
KSM	**Kuching**	**16.00**	**102**	P	**P**	**06 38 59.9**	**+2.7**
	37nm,1.1s						
HYB	**Hyderabad**	**20.01**	**309**	*i* P	**P**	**06 39 42.0**	**+0.7**
HYB				*e*S	Sn	06 43 26.0	-2.2
QIZ	**Qiongzhong**	**20.30**	**46**	P	Pn	06 39 45.8	-1.1
QIZ				S	**S**	**06 43 29.0**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,21nm,2.1s						
QIZ				LR	LR		
	comp=N,290nm,18.2s						
QIZ				LR	LR		
	comp=E,130nm,20.1s						
QIZ				LR	LR		
	comp=Z,360nm,20.1s						
KMI	**Kunming**	**21.41**	**20**	P	**P**	**06 39 59.3**	**+2.7**
KMI				pP	pP	06 40 15.5	+5.4
KMI				sP	sP	06 40 27.5	+10
KMI				S	**S**	**06 43 49.3**	**-1.8**
KMI				SS	Sn	06 44 28.5	+26
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
KMI				pmax	pmax		
	comp=Z,99nm,4.1s						
KMI				LR	LR		
	comp=N,280nm,17.8s						
KMI				LR	LR		
	comp=E,160nm,16.7s						
KMI				LR	LR		
	comp=Z,260nm,23.3s						
BBKI	**Banjar Baru**	**21.85**	**112**	P	**P**	**06 40 03.1**	**+2.0**
GYA	**Guiyang**	**24.18**	**27**⇑	*i* P	**P**	**06 40 25.0**	**+0.7**
GYA				pP	**pP**	**06 40 42.8**	**+3.4**
GYA				sP	sP	06 40 51.8	+5.0
GYA				PP	pwP	06 41 02.3	+23
GYA				PcP	**PcP**	**06 44 05.5**	**+1.6**
GYA				S	**S**	**06 44 35.5**	**-2.9**
GYA				sS	**sS**	**06 45 06.0**	**+2.0**
GYA				ScP	**ScP**	**06 47 35.3**	**-2.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=N,450nm,15.0s						
GYA				LR	LR		
	comp=E,380nm,15.8s						
GYA				LR	LR		
	comp=Z,430nm,15.6s						
LSA	**Lhasa**	**24.75**	**353**	*e*P	**P**	**06 40 30.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,38nm,0.6s						
LSA	**Lhasa**	**24.75**	**353**	*e*P	**P**	**06 40 30.8**	**+0.9**
	comp=Z,38nm,0.6s						
KAPI	**Kappang**	**26.96**	**111**	P	**P**	**06 40 47.9**	**-1.7**
	comp=Z,11nm,0.8s,baz=315,slow=7.1,SNR=2.8						
KAPI				LR	LR	06 52 08.6	
	comp=Z,120nm,19.0s,baz=122,slow=38						
KAPI	**Kappang**	**26.96**	**111**	P	**P**	**06 40 47.9**	**-1.7**
CD2	**Chengdu**	**27.11**	**17**	P	**P**	**06 40 49.8**	**-0.9**
CD2				pP	**pP**	**06 41 06.0**	**+0.2**
CD2				sP	**sP**	**06 41 14.3**	**+1.1**
CD2				PP	PP	06 41 39.0	-14
CD2				S	**S**	**06 45 21.8**	**-2.9**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,4.4s						
CD2				LR	LR		
	comp=N,440nm,5.4s						
CD2				LR	LR		
	comp=Z,290nm,5.3s						
ENH	**Enshi**	**28.72**	**27**	*e*P	**P**	**06 41 04.1**	**-0.9**
	comp=Z,16nm,0.6s						
WHN	**Wuhan**	**31.41**	**34**	P	**P**	**06 41 29.5**	**+0.7**
WHN				S	S	06 46 39.3	+7.1
WHN				pmax	pmax		
	comp=Z,37nm,0.5s						
WHN				LR	LR		
	comp=Z,990nm,12.8s						
XAN	**Xi'an**	**31.74**	**23**	P	**P**	**06 41 30.5**	**-1.2**
XAN				pP	**pP**	**06 41 48.5**	**+1.5**
XAN				sP	**sP**	**06 41 57.0**	**+2.7**
XAN				PP	PP	06 42 40.3	-4.2
XAN				S	**S**	**06 46 36.5**	**-0.8**
XAN				sS	**sS**	**06 47 08.0**	**+4.7**
XAN				SS	SS	06 48 35.3	-20
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,20nm,6.4s						
XAN				LR	LR		
	comp=N,160nm,11.8s						
XAN				LR	LR		
	comp=E,62nm,12.2s						
XAN				LR	LR		
	comp=Z,83nm,13.7s						
LZH	**Lanzhou**	**32.03**	**14**	*e*P	P	06 41 38.0	+3.7
LZH				pP	pP	06 41 53.5	+3.9
LZH				sP	sP	06 42 01.0	+4.1
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA	**Gaotai**	**34.53**	**7**	⇑P	**P**	**06 41 55.8**	**-0.3**
GTA				PcP	**PcP**	**06 44 31.0**	**+1.1**
GTA				ScS	ScS	06 52 08.0	-5.0
GTA				pmax	pmax		
	comp=Z,24nm,0.8s						
NJ2	**Nanjing**	**35.13**	**37**	*e*P	**P**	**06 42 01.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
NJ2				LR	LR		
	comp=Z,410nm,13.1s						
FITZ	**Fitzroy Crossi**	**38.23**	**128**	P	**P**	**06 42 26.4**	**-1.4**
	comp=Z,5.0nm,0.9s,baz=277,slow=8.1,SNR=4.8						
FITZ	**Fitzroy Crossi**	**38.23**	**128**	P	**P**	**06 42 26.4**	**-1.4**
KSH	**Kashi**	**38.26**	**336**	*e*P	**P**	**06 42 26.8**	**-1.1**
KSH				*e*pP	**pP**	**06 42 42.3**	**-1.1**
KSH				*e*sP	**sP**	**06 42 49.5**	**-1.1**
KSH				PP	PP	06 43 57.5	+1.1
KSH				*e*PcP	**PcP**	**06 44 43.0**	**+1.9**
KSH				*e*S	**S**	**06 48 12.5**	**-5.0**
KSH				*e*PcS	**PcS**	**06 48 30.5**	**+0.3**
KSH				*e*ScS	**ScS**	**06 52 31.5**	**-2.2**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,81nm,4.7s						
KSH				LR	LR		
	comp=N,140nm,5.0s						
KSH				LR	LR		
	comp=E,120nm,5.4s						
KSH				LR	LR		
	comp=Z,180nm,5.4s						
HHC	**Hu-ho-hao-te**	**38.74**	**21**	*e*P	**P**	**06 42 31.8**	**-0.1**
HHC				pP	**pP**	**06 42 50.3**	**+2.9**
HHC				sP	**sP**	**06 42 59.5**	**+4.9**
HHC				PP	PP	06 44 07.0	+5.3
HHC				PcP	PcP	06 44 34.5	-8.0
HHC				S	**ScP**	**06 48 24.8**	**-0.7**
HHC				sS	sS	06 48 56.5	+5.4
HHC				SS	SS	06 51 12.0	-5.7
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.7s						
HHC				LR	LR		
	comp=N,240nm,10.8s						
HHC				LR	LR		
	comp=E,220nm,12.3s						
HHC				LR	LR		
	comp=Z,230nm,14.5s						
WMQ	**Urumqi**	**39.11**	**352**	P	**P**	**06 42 35.5**	**+0.7**
WMQ				pP	**pP**	**06 42 51.5**	**+1.1**
WMQ				sP	**sP**	**06 42 58.5**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				LR	LR		
	comp=N,91nm,22.5s						
WMQ				LR	LR		
	comp=E,96nm,26.7s						
WMQ				LR	LR		
	comp=Z,69nm,22.0s						
BJT	**Baijiatuao**	**39.85**	**26**	*e*P	**P**	**06 42 41.8**	**+0.8**
BJT				pmax	pmax		
	comp=Z,46nm,0.8s						
BJT	**Baijiatuao**	**39.85**	**26**	*e*P	**P**	**06 42 41.8**	**+0.8**
	comp=Z,46nm,0.8s						
BJI	**Beijing**	**39.87**	**26**	P	**P**	**06 42 42.0**	**+0.9**
BJI				S	**S**	**06 48 43.3**	**+1.9**
BJI				pmax	pmax		
	comp=Z,54nm,0.8s						
BJI				pmax	pmax		
	comp=Z,200nm,3.5s						
BJI				LR	LR		
	comp=N,280nm,24.8s						
BJI				LR	LR		
	comp=E,340nm,24.5s						
BJI				LR	LR		
	comp=Z,99nm,26.2s						
KZA	**Kyzart**	**40.74**	**338**	P	**P**	**06 42 50.4**	**+1.6**
	SNR=5.7						
KZA				P	**P**	**06 42 50.4**	**+1.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**41.34**	**339**	P	**P**	**06 42 54.7**	**+1.1**
	SNR=8.3						
TKM2				P	**P**	**06 42 54.7**	**+1.1**
	SNR=8.3						
TKM2	**Tokmak 2**	**41.34**	**339**	*e*P	**P**	**06 42 54.6**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TKM2	**Tokmak 2**	**41.34**	**339**	*e*P	**P**	**06 42 54.6**	**+1.1**
	comp=Z,6.7nm,0.6s						
KBK	**Karagaybulak**	**41.35**	**338**	P	**P**	**06 42 55.5**	**+1.9**
	SNR=9.4						
KBK				P	**P**	**06 42 55.5**	**+1.9**
	SNR=9.4						
AML	**Almayashu**	**41.39**	**336**	P	**P**	**06 42 55.3**	**+1.2**
	SNR=25						
AML				P	**P**	**06 42 55.3**	**+1.2**
	SNR=25						
AAK	**Ala-Archa**	**41.50**	**337**	P	**P**	**06 42 57.4**	**+2.6**
	SNR=9.1						
AAK				P	**P**	**06 42 57.4**	**+2.6**
	SNR=9.1						
AAK	**Ala-Archa**	**41.50**	**337**	*e*P	**P**	**06 42 55.8**	**+1.0**
AAK				pmax	pmax		
	comp=Z,46nm,0.8s						
AAK	**Ala-Archa**	**41.50**	**337**	*i* P	**P**	**06 42 57.3**	**+2.6**
AAK	**Ala-Archa**	**41.50**	**337**	*e*P	**P**	**06 42 55.8**	**+1.0**
	comp=Z,46nm,0.8s						
EKS2	**Erkin-Say**	**41.80**	**337**	P	**P**	**06 42 58.8**	**+1.6**
	SNR=11						
EKS2				P	**P**	**06 42 58.8**	**+1.6**
	SNR=11						
EKS2	**Erkin-Say**	**41.80**	**337**	*e*P	**P**	**06 42 58.4**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,11nm,0.8s						
EKS2	**Erkin-Say**	**41.80**	**337**	*e*P	**P**	**06 42 58.4**	**+1.2**
	comp=Z,11nm,0.8s						
USP	**Ospenovka**	**42.04**	**338**	P	**P**	**06 43 00.2**	**+1.2**
	SNR=13						
USP				P	**P**	**06 43 00.2**	**+1.2**
	SNR=13						
MK31	**Makanchi Array**	**42.95**	**348**	*e*P	**P**	**06 43 06.6**	**+0.3**
MK31	**Makanchi Array**	**42.95**	**348**	*e*P	**P**	**06 43 06.6**	**+0.3**
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**06 43 06.6**	**+0.2**
	comp=Z,23nm,0.7s,baz=167,slow=8.1,SNR=276						
MKAR				LR	LR	07 01 40.3	
	comp=Z,62nm,21.8s,baz=153,slow=37						
MKAR	**Makanchi Array**	**42.95**	**348**	*ce*P	**P**	**06 43 06.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,23nm,0.7s						
MKAR	**Makanchi Array**	**42.95**	**348**	*e*P	**P**	**06 43 06.7**	**+0.4**
KK31	**Karatay Array**	**43.52**	**334**	*ce*P	**P**	**06 43 11.5**	**+0.5**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KKAR	**Karatay Array**	**43.52**	**334**	*e*P	**P**	**06 43 12.0**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KKAR	**Karatay Array**	**43.52**	**334**	*e*P	**P**	**06 43 12.0**	**+1.0**
	comp=Z,4.0nm,0.4s						
SONM	**Songino Array**	**43.80**	**11**	P	**P**	**06 43 12.7**	**-0.6**
	comp=Z,12nm,0.8s,baz=190,slow=8.4,SNR=94						
SONM				PcP	**PcP**	**06 44 59.4**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=188,slow=3.7,SNR=11						
SONM				ScP	**ScP**	**06 48 46.9**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=208,slow=2.3,SNR=4.5						
SONM				LR	LR	07 04 02.2	
	comp=Z,101nm,18.4s,baz=107,slow=40						
SONM	**Songino Array**	**43.80**	**11**	P	**P**	**06 43 12.7**	**-0.6**
SONM						06 44 59.4	
SONM	**Songino Array**	**43.80**	**11**	P	**P**	**06 43 12.7**	**-0.6**
SONM				PcP	**PcP**	**06 44 59.4**	**+0.5**
SONM				ScP	**ScP**	**06 48 46.9**	**+1.4**
ULN	**Ulaanbaatar**	**43.97**	**12**	*e*P	**P**	**06 43 13.8**	**-0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	**Ulaanbaatar**	**43.97**	**12**	*e*P	**P**	**06 43 13.8**	**-0.8**
	comp=Z,7.3nm,0.7s						
KSAR	**Wonju Array Be**	**44.25**	**39**	P	**P**	**06 43 17.2**	**+0.3**
KSAR	**Wonju Array Be**	**44.25**	**39**	P	**P**	**06 43 17.1**	**+0.3**
KSRS	**Korea Array**	**44.28**	**39**	P	**P**	**06 43 17.1**	**0.0**
	comp=Z,8.5nm,0.7s,baz=219,slow=8.7,SNR=18						
KSRS				LR	LR	07 01 52.7	
	comp=Z,56nm,18.2s,baz=47,slow=36						
ZAK	**Zakamensk**	**45.76**	**8**⇓	*e*P	**P**	**06 43 28.0**	**-0.8**
ZAK				*e*		06 45 06.1	
WRA	**Warramunga Arr**	**46.23**	**124**	P	**P**	**06 43 32.1**	**-0.7**
	comp=Z,25nm,0.8s,baz=303,slow=9.1,SNR=104						
WRA	**Warramunga Arr**	**46.23**	**124**	P	**P**	**06 43 32.1**	**-0.7**
WRA	**Warramunga Arr**	**46.23**	**124**	P	**P**	**06 43 32.1**	**-0.7**
WRAB	**Tennant Creek**	**46.23**	**124**	*e*P	**P**	**06 43 32.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,29nm,0.7s						
WRAB	**Tennant Creek**	**46.23**	**124**	*e*P	**P**	**06 43 32.1**	**-0.8**
	comp=Z,29nm,0.7s						
WB2	**Warramunga Arr**	**46.24**	**124**	*e*P	**P**	**06 43 32.1**	**-0.8**
MOY	**Mondy**	**46.77**	**5**	*e*P	**P**	**06 43 36.7**	**0.0**
TLY	**Talaya**	**47.08**	**8**	*e*P	**P**	**06 43 38.3**	**-0.7**
TLY				*e*S	**S**	**06 50 27.6**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,60nm,18.0s						
TLY	**Talaya**	**47.08**	**8**	*e*P	**P**	**06 43 39.1**	**+0.1**
	comp=Z,8.6nm,0.8s						
CN2	**Changchun**	**47.16**	**30**	*e*P	**P**	**06 43 39.8**	**+0.1**
CN2				*e*pP	**pP**	**06 43 57.8**	**+2.1**
CN2				*e*S	**S**	**06 50 26.0**	**-1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
KURK	**Kurchatov**	**47.47**	**346**	*c* iP	**P**	**06 43 42.8**	**+0.8**
KURK				pmax	pmax		
	comp=Z,34nm,1.0s						
KURK				MLR	MLR		
	comp=Z,45nm,15.0s						
KURK	**Kurchatov**	**47.47**	**346**	*e*P	**P**	**06 43 43.0**	**+0.9**
	comp=Z,66nm,1.4s						
AS31	**Alice Springs**	**47.73**	**128**	*e*P	**P**	**06 43 43.7**	**-0.8**
ASAR	**Alice Springs**	**47.73**	**128**	P	**P**	**06 43 43.8**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=299,slow=7.8,SNR=61						
ASAR				PcP	**PcP**	**06 45 13.1**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=296,slow=2.3,SNR=5.1						
ASAR				ScP	**ScP**	**06 49 03.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=304,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**47.73**	**128**	P	**P**	**06 43 43.8**	**-0.8**
ASAR						06 45 13.1	
ASAR	**Alice Springs**	**47.73**	**128**	P	**P**	**06 43 43.8**	**-0.8**
ASAR				PcP	**PcP**	**06 45 13.1**	**+0.1**
ASAR				ScP	**ScP**	**06 49 03.4**	**+1.2**
HIA	**Hailar**	**48.92**	**22**	*e*P	**P**	**06 43 53.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HIA	**Hailar**	**48.92**	**22**	*e*P	**P**	**06 43 53.0**	**-0.2**
	comp=Z,9.2nm,0.6s						
ZAA0	**Zalesovo Array**	**49.41**	**352**	*e*P	**P**	**06 43 57.0**	**+0.1**
ZALV	**Zalesovo Beam**	**49.41**	**352**	P	**P**	**06 43 57.2**	**+0.3**
	comp=Z,23nm,0.5s,baz=177,slow=7.2,SNR=170						
ZALV				pP	**pP**	**06 44 10.7**	**-2.3**
	comp=Z,6.3nm,0.5s,baz=167,slow=7.2,SNR=7.2						
ZALV				PcP	**PcP**	**06 45 18.1**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=149,slow=3.4,SNR=2.3						
ZALV				ScP	**ScP**	**06 49 10.2**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=187,slow=5.7,SNR=3.9						
ZALV				LR	LR	07 09 11.6	
	comp=Z,29nm,20.5s,baz=237,slow=41						
ZALV	**Zalesovo Beam**	**49.41**	**352**	P	**P**	**06 43 57.2**	**+0.3**
ZALV				*PP	**pP**	**06 44 10.7**	**-2.3**
ZALV						06 45 18.1	
ZALV	**Zalesovo Beam**	**49.41**	**352**	P	**P**	**06 43 57.2**	**+0.3**
ZALV				pP	**pP**	**06 44 10.7**	**-2.3**
ZALV				PcP	**PcP**	**06 45 18.1**	**-0.3**
ZALV				ScP	**ScP**	**06 49 10.2**	**+1.6**
MDJ	**Mudanjiang**	**49.87**	**32**	P	**P**	**06 44 01.5**	**+0.9**
MDJ				pP	**pP**	**06 44 19.3**	**+2.6**
MDJ				sP	**sP**	**06 44 27.3**	**+3.5**
MDJ				PcP	**PcP**	**06 45 21.0**	**+0.7**
MDJ				PP	PP	06 45 55.3	-0.6
MDJ				ScP	**ScP**	**06 49 10.0**	**-0.8**
MDJ				PcS	**PcS**	**06 49 17.8**	**+0.7**
MDJ				S	**S**	**06 51 07.8**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.2s						
MDJ				LR	LR		
	comp=N,49nm,21.3s						
MDJ				LR	LR		
	comp=E,34nm,23.6s						
MDJ				LR	LR		
	comp=Z,91nm,26.0s						
MDJ	**Mudanjiang**	**49.87**	**32**	*e*P	**P**	**06 44 01.7**	**+1.1**
	comp=Z,20nm,1.1s						
NVS	**Novosibirsk**	**50.50**	**351**	*e*P	**P**	**06 44 02.5**	**-2.7**
NVS				pmax	pmax		
	comp=N,13nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,15nm,0.9s						
MJAR	**Matsushiro Arr**	**50.70**	**46**	P	**P**	**06 44 07.5**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=246,slow=9.0,SNR=6.3						
MJAR	**Matsushiro Arr**	**50.70**	**46**	P	**P**	**06 44 07.5**	**+0.4**
MJAR	**Matsushiro Arr**	**50.70**	**46**	P	**P**	**06 44 07.5**	**+0.4**
USRK	**Ussuriysk Arra**	**50.92**	**34**	P	**P**	**06 44 08.3**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=254,slow=5.6,SNR=9.6						
VOSK	**Vostochnaya**	**51.38**	**342**	P	**P**	**06 44 11.8**	**0.0**
VOSK				pmax	pmax		
	comp=Z,30nm,0.9s						
BVA0	**Borovoye Array**	**51.82**	**342**	*i* P	**P**	**06 44 14.9**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**51.88**	**342**	*c i* P	**P**	**06 44 15.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,23nm,1.0s						
BRVK	**Borovoye**	**51.88**	**342**	*e*P	**P**	**06 44 15.8**	**+0.2**
	comp=Z,17nm,0.8s						
AB31	**Akbulak array**	**52.96**	**332**	*ce*P	**P**	**06 44 24.0**	**+0.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKTO	**Aktyubinsk**	**54.68**	**332**	*i* P	**P**	**06 44 36.0**	**-0.1**
BOD	**Bodaibo**	**54.77**	**13**	*e*P	**P**	**06 44 36.1**	**-0.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HABR	**Khabarovsk**	**55.23**	**32**	*e*P	**P**	**06 44 37.9**	**-2.2**
HABR				*e*SP	**sP**	**06 45 00.9**	**-2.6**
HABR				*e*		06 45 37.5	
HABR				*e*		06 46 41.9	
HABR				S	**S**	**06 52 17.5**	**-1.6**
HABR				*e*		06 54 21.2	
HABR				*e*SS	SS	06 56 04.0	-0.2
HABR				pmax	pmax		
	comp=N,7.0nm,0.8s						
HABR				pmax	pmax		
	comp=Z,25nm,1.5s						
HABR				pmax	pmax		
	comp=E,38nm,1.9s						
HABR				MLR	MLR		
	comp=Z,174nm,20.0s						
GNI	**Garni**	**56.80**	**315**	*i* P	**P**	**06 44 52.5**	**+0.8**
GNI				pmax	pmax		
	comp=Z,14nm,1.0s						
ASAJ	**Asahikawa**	**57.22**	**39**	LR	LR	07 11 32.1	
	comp=Z,85nm,18.3s,baz=346,slow=38						
ASAJ	**Asahikawa**	**57.22**	**39**	*e*P	**P**	**06 44 54.7**	**+0.3**
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**57.79**	**133**	P	**P**	**06 44 58.1**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=302,slow=9.5,SNR=4.1						
STKA	**Stephens Creek**	**57.79**	**133**	*e*P	**P**	**06 44 58.2**	**-0.4**
STKA	**Stephens Creek**	**57.79**	**133**	*e*P	**P**	**06 44 58.2**	**-0.4**
	comp=Z,0.7nm,0.7s						
SVE	**Sverdlovsk**	**58.21**	**339**⇑	*i*P	**P**	**06 45 02.0**	**+0.9**
SVE				pmax	pmax		
	comp=Z,22nm,1.0s						
ZEI	**Tsey**	**58.47**	**318**	*e*P	**P**	**06 45 03.2**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**58.69**	**337**	*d i*P	**P**	**06 45 04.8**	**+0.4**
ARU						06 47 12.8	
ARU				S	**S**	**06 53 06.9**	**+2.5**
ARU				SS	**SS**	**06 56 56.6**	**-1.6**
ARU				pmax	pmax		
	comp=Z,31nm,2.5s						
ARU	**Arti**	**58.69**	**337**	*e*P	**P**	**06 45 04.4**	**0.0**
	comp=Z,12nm,1.0s						
KIV	**Kislovodsk**	**59.77**	**319**	*e*P	**P**	**06 45 12.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	**Kislovodsk**	**59.77**	**319**	*e*P	**P**	**06 45 12.9**	**+0.6**
	comp=Z,8.8nm,0.8s						
SOKR	**Solikamsk**	**61.62**	**339**	*e*P	**P**	**06 45 24.3**	**0.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR	**Novokhopersk**	**63.55**	**326**	*e*P	**P**	**06 45 36.7**	**-0.8**
VRHR				pmax	pmax		
	comp=N,7.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
BR131	**Keskin Array S**	**64.68**	**312**	*e*P	**P**	**06 45 45.1**	**-0.2**
	comp=Z,8.3nm,0.9s						
BRTR	**Keskin Array B**	**64.68**	**312**	P	**P**	**06 45 45.4**	**0.0**
	comp=Z,5.0nm,0.7s,baz=131,slow=6.9,SNR=26						
BRTR				pP	**pP**	**06 45 58.5**	**-3.5**
	comp=Z,1.8nm,0.6s,baz=118,slow=7.4,SNR=5.0						
BRTR				LR	LR

comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 68.05 328⇓ *e*P **P** 06 46 05.6 -0.7
OBN *e**PP **pP** 06 46 24.9 +1.8
OBN pmax pmax
comp=Z,57nm,2.5s
KLMR Klimovskoe 69.22 335 *e*P P 06 46 09.4 -4.1
KLMR *e* 06 46 28.0
KLMR pmax pmax
comp=Z,34nm,2.1s
CFR Carcaliu 69.99 316 ⇓P **P** **06 46 19.1 +0.6**
CFR Carcaliu 69.99 316⇓ *i*P **P** **06 46 19.1 +0.6**
PETK Petropavlovsk- 70.00 35 LR LR 07 17 23.7
comp=E,61nm,21.7s,baz=77,slow=36
AKASG Malin Array Be 70.69 322 P **P** **06 46 22.1 -0.6**
comp=E,5.9nm,0.6s,baz=92,slow=5.5,SNR=14
AKASG Malin Array Be 70.69 322 P **P** **06 46 22.2 -0.6**
AKASG Malin Array Be 70.69 322 P **P** **06 46 22.1 -0.6**
KIEV Kiev 70.70 322 *e*P **P** **06 46 21.8 -1.0**
KIEV pmax pmax
comp=E,5.0nm,0.6s
KIEV Kiev 70.70 322 *e*P **P** **06 46 21.8 -1.0**
comp=E,4.6nm,0.6s
VRI Vrincioaia 71.11 317 ⇓P **P** **06 46 27.0 +1.6**
VRI Vrincioaia 71.11 317⇓ *i*P **P** **06 46 27.0 +1.6**
PLOR Plostina 71.16 317 ⇓P **P** **06 46 27.2 +1.5**
PLOR Plostina 71.16 317⇓ *i*P **P** **06 46 27.2 +1.5**
SEY Seymchan 71.27 24⇑ *e*P **P** **06 46 25.7 -0.3**
TESR 71.30 317⇓ *i*P **P** **06 46 28.3 +1.7**
MLR Muntele Rosu 71.56 316 ⇓P **P** **06 46 29.6 +1.3**
MLR Muntele Rosu 71.56 316⇓ *i*P **P** **06 46 29.6 +1.3**
VOIR 72.17 316 ⇓P **P** **06 46 32.0 +0.1**
VOIR 72.17 316⇓ *i*P **P** **06 46 32.0 +0.1**
BURAR Bucovina Array 72.49 318⇑ *i*P **P** **06 46 35.2 +1.4**
BUR08 Bucovina Ar. S 72.51 318 *e*P **P** **06 46 34.6 +0.7**
LBTB Lobatse 73.38 242 *e*P **P** **06 46 41.6 +2.1**
LBTB pmax pmax
comp=Z,3.0nm,0.7s
LBTB Lobatse 73.38 242 *e*P **P** **06 46 41.6 +2.1**
comp=Z,3.2nm,0.7s
JOF Joensuu 73.62 335 *e*P **P** **06 46 40.3 +0.3**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 73.62 335 *e*p **P** **06 46 40.3 +0.3**
comp=Z,0.7nm,0.3s
JOF Joensuu 73.62 335 *e*p **P** **06 46 40.3 +0.3**
comp=Z,0.7nm,0.3s
DRGR 74.02 317 ⇓P **P** **06 46 44.1 +1.3**
DRGR 74.02 317⇓ *i*P **P** **06 46 44.1 +1.3**
TRPA Tarpa 74.36 319⇓ *i*P **P** **06 46 46.0 +1.4**
TRPA Tarpa 74.36 319⇑ *e*P **P** **06 46 45.5 +0.9**
KWP Kalwaria Pacla 74.52 320 *e*P **P** **06 46 46.4 +0.9**
KWP Kalwaria Pacla 74.52 320⇑ P **P** **06 46 46.7 +1.1**
KWP Kalwaria Pacla 74.52 320 *e*P **P** **06 46 46.3 +0.7**
comp=Z,13nm,0.8s
KWP Kalwaria Pacla 74.52 320⇑ *i*P **P** **06 46 46.7 +1.1**
BOSA Boshof 74.56 239 P **P** **06 46 48.1 +1.8**
comp=Z,3.2nm,0.9s,baz=46,slow=6.5,SNR=6.1
BOSA LR LR 07 14 11.2
comp=Z,51nm,19.6s,baz=141,slow=31
BOSA Boshof 74.56 239 P **P** **06 46 48.1 +1.8**
BOSA Boshof 74.56 239 P **P** **06 46 48.1 +1.8**
BZS Buzias 74.58 316 ⇓P **P** **06 46 46.5 +0.6**
BZS Buzias 74.58 316⇓ *i*P **P** **06 46 46.5 +0.6**
APA Apatity 74.67 340⇓ *e*P P 06 46 50.4 +4.4
FINES FINESS Array B 75.45 332 P **P** **06 46 50.8 +0.2**
comp=Z,2.2nm,0.5s,baz=95,slow=5.7,SNR=29
FINES pP **PcP** **06 47 05.0 +1.5**
comp=Z,3.0nm,0.5s,baz=88,slow=5.2,SNR=4.8
FINES FINESS Array B 75.45 332 P **P** **06 46 50.8 +0.2**
FINES *PP **PcP** **06 47 05.0 +1.5**
FINES FINESS Array B 75.45 332 P **P** **06 46 50.8 +0.2**
FINES pP **PcP** **06 47 05.0 +1.5**
KAF Kangasniemi 75.54 333 *e*P P 06 46 45.7 -5.4
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 75.54 333 *e*p P 06 46 45.7 -5.4
comp=Z,0.8nm,0.3s
KAF Kangasniemi 75.54 333 *e*p P 06 46 45.7 -5.4
comp=Z,0.8nm,0.3s
NIE Niedzica 76.03 320 *e*P **P** **06 46 55.6 +1.4**
NIE Niedzica 76.03 320 *e*P **P** **06 46 55.6 +1.4**
PSZ Piszkesteto 76.08 318⇑ P **P** **06 46 55.7 +1.1**
PSZ Piszkesteto 76.08 318 *e*P **P** **06 46 55.4 +0.8**
comp=Z,13nm,1.0s
PSZ Piszkesteto 76.08 318⇑ *i*P **P** **06 46 55.7 +1.1**
PSZ Piszkesteto 76.08 318⇓ *e*P **P** **06 46 55.7 +1.1**
BEL Belsk 76.11 322 *e*P **P** **06 46 55.3 +0.7**
BEL Belsk 76.11 322 *e*P **P** **06 46 55.3 +0.7**
OJC Ojcow 76.47 320 *e*P **P** **06 46 57.7 +1.0**
OJC Ojcow 76.47 320 *e*P **P** **06 46 57.7 +1.0**
OJC Ojcow 76.47 320 *e*P **P** **06 46 57.6 +0.9**
comp=Z,20nm,0.7s
PKSM Moragy 76.72 316⇑ *e*P **P** **06 46 58.5 +0.4**
OKC Ostrava-Krasne 77.48 320 *e*P **P** **06 47 03.2 +0.9**
OKC Ostrava-Krasne 77.48 320⇑ *e*P **P** **06 47 03.2 +0.9**
KEV Kevo 77.67 341 *e*P **P** **06 47 03.4 +0.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 77.67 341 *e*p **P** **06 47 03.4 +0.4**
comp=Z,1.0nm,0.4s
KEV Kevo 77.67 341 *e*p **P** **06 47 03.4 +0.4**
comp=Z,1.0nm,0.4s
MORC Moravsky Berou 77.86 320 ⇓P **P** **06 47 06.0 +1.4**
MORC Moravsky Berou 77.86 320 *e*P **P** **06 47 05.2 +0.6**
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 77.86 320⇓ *i*P **P** **06 47 06.0 +1.4**
ZST Bratislava 77.97 318 *e*P **P** **06 47 06.5 +1.3**
ZST *e* 06 47 15.2
ZST pmax pmax
comp=Z,20nm,0.9s
ZST Bratislava 77.97 318 *e*P **P** **06 47 06.5 +1.3**
ZST *e*PCP **PcP** **06 47 15.2 +0.5**
BEHE Becsehely 78.03 316⇑ *e*P **P** **06 47 07.0 +1.5**
ARCES ARCESS Array B 78.09 340 P **P** **06 47 06.0 +0.6**
comp=Z,4.0nm,0.6s,baz=96,slow=7.1,SNR=24
ARCES pP **pP** **06 47 20.4 -2.1**
comp=Z,4.9nm,0.5s,baz=101,slow=6.3,SNR=4.2
ARCES LR LR 07 27 44.5
comp=Z,116nm,18.2s,baz=191,slow=40
ARCES ARCESS Array B 78.09 340 P **P** **06 47 06.0 +0.6**
ARCES *PP **pP** **06 47 20.4 -2.1**
ARCES ARCESS Array B 78.09 340 P **P** **06 47 06.0 +0.6**
ARCES pP **pP** **06 47 20.4 -2.1**
TARA Tarawa 78.18 90 *e*P **P** **06 47 04.7 -2.3**
comp=Z,138nm,0.8s
SOP Sopron 78.29 318⇑ *e*P **P** **06 47 07.8 +0.9**
KOGS Kog 78.39 316 *i* P **P** **06 47 08.4 +1.0**
DPC Dobruska-Polom 78.70 320⇑ *i*P **P** **06 47 10.6 +1.4**
DPC Dobruska-Polom 78.70 320 *e*P **P** **06 47 10.3 +1.1**
comp=Z,16nm,1.0s
DPC Dobruska-Polom 78.70 320⇑ *i*P **P** **06 47 10.6 +1.4**
CSNA Conrad Observa 78.78 318⇓ *i*P **P** **06 47 10.6 +0.9**
comp=Z,7.4nm,1.1s
CSNA Conrad Observa 78.78 318⇓ *i*P **P** **06 47 10.6 +0.9**
comp=Z,7.4nm,1.1s
GROS Grobnik 78.90 316 *i* P **P** **06 47 11.2 +0.8**
UPC Upice 78.92 320 *e*P **P** **06 47 11.8 +1.5**
UPC Upice 78.92 320⇑ *e*P **P** **06 47 11.8 +1.5**
TREC Trest 79.14 319 *e*P **P** **06 47 12.7 +1.1**
TREC Trest 79.14 319⇑ *e*P **P** **06 47 12.7 +1.1**
SOKA Soboth 79.24 316⇑ *i*P **P** **06 47 13.4 +1.1**
comp=Z,19nm,1.0s
SOKA Soboth 79.24 316⇑ *i*P **P** **06 47 13.4 +1.1**
comp=Z,19nm,1.0s
VISS Visnje 79.32 316 *i* P **P** **06 47 13.5 +0.9**
OBKA Obir 79.56 316⇑ *i*P **P** **06 47 14.8 +0.8**
comp=Z,8.3nm,1.1s
OBKA Obir 79.56 316⇑ *i*P **P** **06 47 14.8 +0.8**
comp=Z,8.3nm,1.1s
CRNS Crni Vrh 79.74 316 *i* P **P** **06 47 15.9 +0.9**
PRU Pruhonice 79.81 320 *e*P **P** **06 47 16.5 +1.3**
PRU Pruhonice 79.81 320⇑ *e*P **P** **06 47 16.5 +1.3**
PVCC Panska Ves 79.83 320 *e*P **P** **06 47 16.8 +1.5**
PVCC Panska Ves 79.83 320⇑ *e*P **P** **06 47 16.8 +1.5**
MOA Molln 79.84 318⇓ *i*P **P** **06 47 16.2 +0.7**
comp=Z,5.3nm,0.9s
MOA Molln 79.84 318⇓ *i*P **P** **06 47 16.2 +0.7**
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 80.26 321 *e*P **P** **06 47 18.5 +0.9**
comp=Z,11nm,1.1s
BRG Berggiesshubel 80.26 321 *e*P **P** **06 47 18.8 +1.2**
comp=Z,11nm,1.1s
BRG Berggiesshubel 80.26 321 *e*P **P** **06 47 18.5 +0.9**
BRG pmax pmax
comp=Z,11nm,1.1s
GEC2 GERESS Array S 80.28 319 *e*P **P** **06 47 19.0 +1.1**
comp=Z,21nm,0.9s
GEC2 GERESS Array S 80.28 319 *e*P **P** **06 47 19.0 +1.1**
GEC2 pmax pmax
comp=Z,21nm,0.9s
GERES GERESS Array B 80.28 319 P **P** **06 47 19.1 +1.2**
comp=Z,17nm,0.9s,baz=96,slow=5.4,SNR=102
GERES pP **pP** **06 47 33.0 -2.0**
comp=Z,2.5nm,0.7s,baz=116,slow=4.5,SNR=4.3
GERES GERESS Array B 80.28 319 P **P** **06 47 19.1 +1.2**
GERES *PP **pP** **06 47 33.1 -2.0**
GERES GERESS Array B 80.28 319 P **P** **06 47 19.1 +1.2**
GERES pP **pP** **06 47 33.0 -2.0**
KHC Kasperske Hory 80.38 319⇑ *i*P **P** **06 47 19.2 +0.9**
KHC *e* 06 47 32.5
KHC Kasperske Hory 80.38 319 *e*P **P** **06 47 19.4 +1.1**
comp=Z,4.5nm,0.8s
KHC Kasperske Hory 80.38 319⇑ *i*P **P** **06 47 19.2 +0.9**
KHC *ex* x 06 47 32.5
KBA Koelnbreinsper 80.42 317⇑ *i*P **P** **06 47 19.0 +0.2**
KBA pmax pmax
comp=Z,8.0nm,1.2s
KBA Koelnbreinsper 80.42 317⇑ *i*P **P** **06 47 19.0 +0.2**
comp=Z,7.8nm,1.2s
KBA Koelnbreinsper 80.42 317⇑ *i*P **P** **06 47 19.0 +0.2**
comp=Z,7.8nm,1.2s
RUE Ruedersdorf 80.47 322 *e*P **P** **06 47 19.7 +1.1**
comp=Z,21nm,0.7s
FBE Freiberg 80.63 321 *e*P **P** **06 47 20.7 +1.1**
comp=Z,14nm,1.0s
RJOB Jochberg 80.83 317 *e*P **P** **06 47 21.3 +0.5**
comp=Z,15nm,1.3s
WET Wettzell 80.84 319 *e*P **P** **06 47 22.1 +1.3**
comp=Z,11nm,1.0s
WET Wettzell 80.84 319 *e*P **P** **06 47 22.1 +1.3**
WET pmax pmax
comp=Z,11nm,1.0s
CLL Collm 80.88 321 *e*P **P** **06 47 21.8 +0.9**
CLL Collm 80.88 321 *i* P **P** **06 47 21.3 +0.4**
CLL *e**PP **pP** **06 47 39.0 +0.9**
CLL *eS* **S** **06 57 22.0 -2.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 80.88 321 *i* P **P** **06 47 21.3 +0.4**
comp=Z,6.0nm,0.9s
CLL *e*PcP **PcP** **06 47 28.0 +0.7**
CLL *e*(pP) **pP** **06 47 39.0 +0.9**
CLL *eS* **S** **06 57 22.0 -2.6**
NKC Novy Kostel 81.17 320 *e*P **P** **06 47 23.4 +0.9**
NKC Novy Kostel 81.17 320⇑ *e*P **P** **06 47 23.4 +0.9**
GUNZ Gunzen 81.25 320 *e*P **P** **06 47 24.0 +1.0**
comp=Z,8.0nm,1.2s
WERD Werda 81.27 320 *e*P **P** **06 47 24.1 +1.1**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 81.31 319 *e*P **P** **06 47 25.0 +1.8**
comp=Z,11nm,1.0s
WTTA Wattenberg 81.59 317⇑ *i*P **P** **06 47 25.1 +0.1**
WTTA pmax pmax
comp=Z,19nm,1.0s
WTTA Wattenberg 81.59 317⇑ *i*P **P** **06 47 25.1 +0.1**
comp=Z,19nm,1.0s
WTTA Wattenberg 81.59 317⇑ *i*P **P** **06 47 25.1 +0.1**
comp=Z,19nm,1.0s
GRF Grafenberg Arr 81.94 319 *e*P **P** **06 47 27.8 +1.2**
comp=Z,20nm,1.1s
GRF Grafenberg Arr 81.94 319 *e*P **P** **06 47 27.8 +1.2**
GRF pmax pmax
comp=Z,20nm,1.1s
GRFO Grafenberg 81.94 319 *e*P **P** **06 47 28.2 +1.6**
GRFO pmax pmax
comp=Z,16nm,0.9s
GRFO Grafenberg 81.94 319 *e*P **P** **06 47 28.2 +1.6**
comp=Z,16nm,0.9s
MOTA Moosalm 81.96 317⇑ *i*P **P** **06 47 26.8 -0.1**
MOTA pmax pmax
comp=Z,15nm,0.9s
MOTA Moosalm 81.96 317⇑ *i*P **P** **06 47 26.8 -0.1**
comp=Z,15nm,0.9s
MOTA Moosalm 81.96 317⇑ *i*P **P** **06 47 26.8 -0.1**
comp=Z,15nm,0.9s
RETA Reutte 82.19 317⇑ *i*P **P** **06 47 28.5 +0.4**
comp=Z,12nm,0.6s
RETA Reutte 82.19 317⇑ *i*P **P** **06 47 28.5 +0.4**
comp=Z,12nm,0.6s
FETA Feichten 82.21 317⇑ *i*P **P** **06 47 28.6 +0.4**
comp=Z,12nm,1.1s
FETA Feichten 82.21 317⇑ *i*P **P** **06 47 28.6 +0.4**
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 82.44 331 P **P** **06 47 28.7 -0.2**
comp=Z,3.8nm,0.9s,baz=92,slow=5.6
NOA NORSAR Array B 82.44 331 P **P** **06 47 28.8 -0.2**
comp=Z,2.7nm,0.9s,baz=94,slow=5.4,SNR=4.6
NOA pP **pP** **06 47 43.0 -3.2**
comp=Z,1.2nm,0.7s,baz=94,slow=5.4,SNR=2.3
NOA NORSAR Array B 82.44 331 P **P** **06 47 28.8 -0.2**
NOA *PP **pP** **06 47 43.0 -3.2**
NOA NORSAR Array B 82.44 331 P **P** **06 47 28.8 -0.2**
NOA pP **pP** **06 47 43.0 -3.2**
FUORN Ofenpass-Fuorn 82.52 316 *e*P **P** **06 47 31.3 +1.3**
comp=Z,30nm,1.5s
CLZ Clausthal 82.54 321 *e*P **P** **06 47 30.8 +1.1**
comp=Z,13nm,1.1s
CLZ Clausthal 82.54 321 *e*P **P** **06 47 30.8 +1.1**
CLZ pmax pmax
comp=Z,13nm,1.1s
BSEG Bad Segeberg 82.63 324 *e*P **P** **06 47 31.1 +1.1**
comp=Z,22nm,1.0s
BSEG Bad Segeberg 82.63 324 *e*P **P** **06 47 31.1 +1.1**
BSEG pmax pmax
comp=Z,22nm,1.0s
NRDL Niedersach Rie 82.72 322 *e*P **P** **06 47 31.7 +1.3**
comp=Z,48nm,1.6s
DAVA Damuels 82.79 317⇓ *i*P **P** **06 47 32.0 +0.8**
comp=Z,11nm,0.8s
DAVA Damuels 82.79 317⇓ *i*P **P** **06 47 32.0 +0.8**
comp=Z,11nm,0.8s
TUE Stuetta 83.15 316 *e*P **P** **06 47 33.3 +0.1**
comp=Z,10nm,1.0s
KEST Kesra 83.29 305 P **P** **06 47 35.2 +1.3**
comp=Z,1.2nm,0.5s,baz=232,slow=4.9,SNR=7.9
KEST Kesra 83.29 305 *e*P **P** **06 47 35.0 +1.0**
PGF Pioggiola 83.43 312 *e*P **P** **06 47 35.3 +0.7**
RPZ Rata Peaks 83.69 135 LR LR 07 22 55.9
comp=Z,78nm,20.8s,baz=14,slow=34
BFO Black Forest 83.83 318 *e*P **P** **06 47 36.7 +0.3**
BFO pmax pmax
comp=Z,12nm,1.3s
BFO Black Forest 83.83 318 *e*P **P** **06 47 36.7 +0.3**
comp=Z,12nm,1.3s
IBBN Ibbenburen 84.16 322 *e*P **P** **06 47 38.7 +0.8**
comp=Z,24nm,1.2s
BUG Bochum-Univer 84.47 321 *e*P **P** **06 47 40.5 +1.0**
comp=Z,13nm,1.0s
CDF Champ du Feu 84.53 318 *e*P **P** **06 47 40.0 -0.1**
comp=Z,7.5nm,0.8s
SBF Sospel 84.55 313 *e*P **P** **06 47 40.8 +0.6**
comp=Z,22nm,0.8s
HINF Hinteralfeld 84.83 317 *e*P **P** **06 47 42.2 +0.7**
LPG La Plagne 84.98 315 *e*P **P** **06 47 43.3 +0.7**
comp=Z,18nm,0.8s
LPL La Plagne 85.00 315 *e*P **P** **06 47 43.4 +0.8**
comp=Z,38nm,1.0s
MBDF Montbardon 85.00 314 *e*P **P** **06 47 43.6 +1.1**
HAU Haudompre 85.17 318 *e*P **P** **06 47 43.4 +0.2**
comp=Z,29nm,0.9s
LMR La Mourre 85.24 313 *e*P **P** **06 47 44.3 +0.7**
comp=Z,30nm,1.2s
CABF La Chapelle 85.40 316 *e*P **P** **06 47 44.4 0.0**
ORIF Oris-en-Rattie 85.62 315 *e*P **P** **06 47 46.4 +0.8**
SMRF Simiane la Rot 85.89 314 *e*P **P** **06 47 48.0 +1.1**
MEZF Maizieres J'vi 86.01 318 *e*P **P** **06 47 47.9 +0.6**
SFTF Sexfontaines 86.03 318 *e*P **P** **06 47 47.9 +0.5**
comp=Z,27nm,0.9s
GIVF Givet 86.07 320 *e*P **P** **06 47 48.1 +0.5**
BAIF Baives 86.47 320 *e*P **P** **06 47 50.4 +0.9**
comp=Z,8.7nm,0.7s
VIVF Saint-Julien-l 86.48 315 *e*P **P** **06 47 50.3 +0.5**
comp=Z,14nm,1.0s
LOR Lormes 86.89 317 *e*P **P** **06 47 52.1 +0.4**
comp=Z,15nm,0.9s
SSF Saint Saulge 87.14 317 *e*P **P** **06 47 53.3 +0.4**
AVF Avril sur Loir 87.27 317 *e*P **P** **06 47 53.9 +0.4**
comp=Z,22nm,1.1s
BGF Bois d'Agland 87.63 316 *e*P **P** **06 47 56.2 +0.9**
comp=Z,19nm,1.0s
TCF Toulx Ste Croi 88.10 316 *e*P **P** **06 47 58.3 +0.8**
CAF Calviac 88.33 315 *e*P **P** **06 47 59.0 +0.4**
TNA Tin City 88.51 24 *e*P **P** **06 47 59.6 +0.7**
comp=Z,7.6nm,1.3s
LDF La Druitiere 89.43 319 *e*P **P** **06 48 04.4 +0.7**
comp=Z,35nm,1.1s
FLN La Foliniere 89.64 319 *e*P **P** **06 48 05.5 +0.8**
GRR Gorron 89.94 318 *e*P **P** **06 48 07.0 +1.0**
TORD Torodi Ar. Bea 91.76 283 P **P** **06 48 15.9 +0.7**
comp=Z,1.1nm,0.8s,baz=82,slow=4.9,SNR=5.7
TORD Torodi Ar. Bea 91.76 283 P **P** **06 48 15.9 +0.7**
ILAR Eielson Array 97.15 22 P **P** **06 48 38.1 -0.7**
comp=Z,0.7nm,0.8s,baz=261,slow=4.6,SNR=5.5
ILAR pP **pP** **06 48 51.4 -5.0**
comp=Z,0.3nm,0.7s,baz=308,slow=4.4,SNR=2.0
ILAR Eielson Array 97.15 22 P **P** **06 48 38.2 -0.7**
ILAR *PP **pP** **06 48 51.4 -5.0**
ILAR Eielson Array 97.15 22 P **P** **06 48 38.1 -0.7**
ILAR pP **pP** **06 48 51.4 -5.0**
DBIC Dimbokro 98.84 278 LR LR 07 27 43.2
comp=Z,54nm,21.6s,baz=236,slow=32
SCHQ Schefferville 118.38 348 PKP **PKPdf** **06 53 54.1 +0.1**
comp=Z,0.8nm,0.5s,baz=234,slow=9.1,SNR=6.2
SCHQ Schefferville 118.38 348 PKP **PKPdf** **06 53 54.1 +0.1**
ULM Lac du Bonnet 124.18 8 PKP **PKPdf** **06 54 05.0 -0.2**
comp=Z,1.8nm,0.5s,baz=291,slow=0.6,SNR=4.9
ULM Lac du Bonnet 124.18 8 PKIKP **PKPdf** **06 54 05.0 -0.2**
ULM Lac du Bonnet 124.18 8 PKP **PKPdf** **06 54 05.0 -0.2**
NVAR Mina Array Bea 127.03 32 PKP **PKPdf** **06 54 12.4 +1.1**
comp=Z,1.5nm,0.8s,baz=297,slow=1.8,SNR=10
NVAR pPKP **pPKPdf** **06 54 27.2 -2.3**
comp=Z,1.0nm,0.9s,baz=287,slow=1.4,SNR=3.7
NVAR Mina Array Bea 127.03 32 PKP **PKPdf** **06 54 12.4 +1.1**
NVAR pPKP **pPKPdf** **06 54 27.2 -2.3**
PDAR Pinedale Array 127.58 22 PKP **PKPdf** **06 54 12.2 -0.1**
comp=Z,1.3nm,0.9s,baz=75,slow=1.7,SNR=8.0
PDAR pPKP **pPKPdf** **06 54 27.4 -3.1**
comp=Z,0.3nm,0.5s,baz=118,slow=2.5,SNR=3.5
PDAR Pinedale Array 127.58 22 PKP **PKPdf** **06 54 12.2 -0.1**
PDAR pPKP **pPKPdf** **06 54 27.4 -3.1**
TXAR Lajitas Array 141.54 26 PKHKP PKPpre 06 54 33.3
comp=Z,0.6nm,0.6s,baz=290,slow=1.9,SNR=9.7
TXAR PKP **PKiKP** **06 54 40.1 -1.3**
comp=Z,0.9nm,0.7s,baz=321,slow=1.2,SNR=10.0
TXAR SKPbc **SKiKP** **06 58 11.6 -0.8**
comp=Z,0.3nm,0.6s,baz=205,slow=1.2,SNR=4.2
TXAR Lajitas Array 141.54 26 PKPpre PKPpre 06 54 33.3
TXAR PKP **PKiKP** **06 54 40.1 -1.3**
TXAR SKPbc **SKiKP** **06 58 11.6 -0.8**
BDFB Brasilia 141.88 251 PKP **PKPdf** **06 54 41.0 +1.5**
comp=Z,1.8nm,1.0s,baz=143,slow=10,SNR=3.1
BDFB Brasilia 141.88 251 PKIKP **PKPdf** **06 54 41.0 +1.5**
BDFB Brasilia 141.88 251 PKP **PKPdf** **06 54 41.0 +1.5**

IDC 31 06:42:44.9±13.0, 26°01'S×70°53'W, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.4/14, mbtmp4.1/1, Error ellipse: s-maj=788.7km s-min=106.1km az=8.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**80.27**	**70**	P		P	06 54 58.1	0.0
	1.2nm,0.7s,baz=253,slow=5.3,SNR=8.9							
ZALV	**Zalesovo Beam**	**146.64**	**27**	PKPbc	PKPbc		07 02 27.4	-0.8
	0.5nm,0.4s,baz=316,slow=4.0,SNR=4.8							
MKAR	**Makanchi Array**	**150.10**	**39**	PKPbc	PKPbc		07 02 37.0	-0.5
	0.6nm,0.8s,baz=305,slow=2.4,SNR=8.0							

IDC 31 06:45:01.7±3.9, 0°.68S×97°.13E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=134.3km s-min=72.0km az=72.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.10**	**5**	P		Pn	06 49 26.7	-0.4
	0.3nm,0.3s,baz=184,slow=9.9,SNR=3.0							
SONM	**Songino Array**	**48.99**	**8**	P		P	06 53 49.9	-0.3
	0.5nm,1.0s,baz=188,slow=6.0,SNR=3.7							
MKAR	**Makanchi Array**	**49.04**	**347**	P		P	06 53 50.6	+0.1
	0.5nm,0.6s,baz=148,slow=7.1,SNR=5.2							
ZALV	**Zalesovo Beam**	**55.39**	**351**	P		P	06 54 37.1	-0.4
	1.0nm,0.4s,baz=167,slow=7.4,SNR=7.0							
TXAR	**Lajitas Array**	**145.29**	**33**	PKPbc	PKPbc		07 04 41.5	-0.6
	0.3nm,0.7s,baz=299,slow=2.4,SNR=4.4							

*ISK **31** 06:51:52.8, 39°.33N×41°.04E, h9km, MD2.9*
*CSEM **31** 06:51:52.1±0.3, 39°.25N×40°.99E, h2km, MD2.9, Error ellipse: s-maj=9.4km s-min=6.2km az=136.0*
*ISCJB **31** 06:51:53.3±0.6, 39°.34N±0°.03×41°.00E±0°.05, h6km±7km, Error ellipse: s-maj=7.5km s-min=4.4km az=30.3*
*DDA **31** 06:51:54.2, 39°.32N×41°.13E, h7km, MD2.9*
ISC 31 06:51:52.6±1.2, 39°.33N±0°.03×41°.00E±0°.04, h7km±12km, n20, σ1s22/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.40**	**115**	*e*PG		**Pg**	**06 52 00.7**	**+0.3**
VRTB	**Varto-Mus**	**0.40**	**115**	*e*Pg		**Pg**	**06 52 00.7**	**+0.3**
BNGL	**BINGOL**	**0.40**	**162**	*i* P		**Pg**	**06 52 01.4**	**+1.0**
BNGL				*i* S		**Sb**	**06 52 08.2**	**-0.3**
BNGB	**Bing¶‖**	**0.42**	**216**	*e*PG		**Pg**	**06 52 01.6**	**+0.8**
BNGB				*e*SG		**Sg**	**06 52 08.5**	**+2.2**
BINT	**Bingol**	**0.60**	**221**	*e*Pg		**Pg**	**06 52 01.6**	**-2.6**
BINT				*e*Sg		**Sg**	**06 52 08.5**	**-3.6**
EZM	**Erzurum**	**0.64**	**26**	*e*PG		**Pg**	**06 52 05.2**	**+0.2**
EZM				*e*SG		**Sb**	**06 52 15.0**	**-0.6**
ERZM	**Erzurum**	**0.64**	**26**	*i* P		**Pg**	**06 52 05.1**	**+0.1**
ERZM				*i* S		**Sb**	**06 52 15.7**	**+0.1**
ERZM	**Erzurum**	**0.64**	**26**	*i* P		**Pg**	**06 52 05.1**	**+0.1**
ERZM				*i* S		**Sb**	**06 52 15.7**	**+0.1**
HOMI	**Horasan**	**1.00**	**44**	*i* P		**Pg**	**06 52 10.9**	**-1.0**
HOMI				*i* S		**Sn**	**06 52 27.1**	**-0.7**
ERZN	**Erzincan**	**1.02**	**285**	*e*PG		**Pb**	**06 52 13.1**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.25**	**328**	*e*PN		**Pb**	**06 52 17.4**	**+0.8**
BAYT	**Ayd¯–ntepe-Bay**	**1.25**	**328**	*e*Pn		**Pb**	**06 52 17.4**	**+0.8**
PTK	**Pertek**	**1.32**	**251**	*e*PN		**Pn**	**06 52 18.2**	**+0.5**
PTK	**Pertek**	**1.32**	**251**	*e*Pn		**Pn**	**06 52 18.3**	**+0.6**
AGRB	**Hanur-Agry**	**1.56**	**80**	*e*PN		**Pn**	**06 52 20.7**	**-0.3**
AGRB	**Hanur-Agry**	**1.56**	**80**	*e*Pn		**Pn**	**06 52 20.7**	**-0.3**
GUMT	**Gumushane**	**1.62**	**315**	*e*PN		**Pb**	**06 52 23.1**	**+0.1**
GUMT	**Gumushane**	**1.62**	**315**	*e*Pn		**Pb**	**06 52 23.1**	**+0.1**
ILIC	**ilic-Erzincan**	**1.89**	**274**	*e*PN		**Pn**	**06 52 26.7**	**+1.3**
ILIC	**ilic-Erzincan**	**1.89**	**274**	*e*Pn		**Pn**	**06 52 26.7**	**+1.3**

*NEIC **31** 06:55:42.8, 17°.24N×94°.45W, h156km, MD4.0(MEX), After MEX.*
MEX 31 06:55:42.8±1.5, 17°.24N×94°.45W, h156km±15km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.44**	**250**	*i* P		Pn	06 56 03.3	-1.4
CMIG				*e*S		Sn	06 56 18.6	-2.6
CMIG	**Matias Romero**	**0.44**	**250**	*i* P		Pn	06 56 03.3	-1.4
CMIG				*e*S		Sn	06 56 18.6	-2.6
PCIG		**1.93**	**142**	*i* P		Pn	06 56 17.0	-0.6
PCIG				*i* S		Sn	06 56 43.1	-1.2
PCIG		**1.93**	**142**	*i* P		Pn	06 56 17.0	-0.6
PCIG				*i* S		Sn	06 56 43.1	-1.2
HUIG	**Huatulco**	**2.16**	**228**	*i* P		Pn	06 56 17.3	-2.9
HUIG				*i* S		Sn	06 56 47.3	-1.7
HUIG	**Huatulco**	**2.16**	**228**	*i* P		Pn	06 56 17.3	-2.9
HUIG				*i* S		Sn	06 56 47.3	-1.7
OXX	**Oaxaca**	**2.18**	**266**	*i* P		Pn	06 56 20.8	+0.2
VHO	**Vista Hermosa**	**2.19**	**266**	*i* P		Pn	06 56 20.2	-0.5
VHO				*i* S		Sn	06 56 49.2	-0.8
VHO	**Vista Hermosa**	**2.19**	**266**	*i* P		Pn	06 56 20.2	-0.5
VHO				*i* S		Sn	06 56 49.2	-0.8
CCIG	**Comitan**	**2.42**	**113**	*i* P		Pn	06 56 22.4	-1.0
CCIG				*i* S		Sn	06 56 51.9	-2.9
CCIG	**Comitan**	**2.42**	**113**	*i* P		Pn	06 56 22.4	-1.

YAIG	**Yautepec**	**4.68**	**291**	*i* P	Pn	06 56 52.3	0.0
YAIG				*i* S	Sn	06 57 43.2	-3.3
YAIG	**Yautepec**	**4.68**	**291**	*i* P	Pn	06 56 52.3	0.0
YAIG				*i* S	Sn	06 57 43.2	-3.3

*ISCJB **31** 06:57:34.9±1.4, 36°.13N±0°.05×27°.69E±0°.04, h4km±11km, Error ellipse: s-maj=9.5km s-min=5.2km az=160.4*
*CSEM **31** 06:57:35.4±0.3, 36°.11N×27°.65E, h5km, MD3.2, Error ellipse: s-maj=8.8km s-min=5.3km az=138.0*
*ATH **31** 06:57:35.1, 36°.26N×27°.69E, h25km×3km, MD3.2/7*
*ISK **31** 06:57:35.6, 36°.17N×27°.72E, h5km, MD3.0*
*DDA **31** 06:57:37.4, 36°.21N×27°.80E, h5km, MD3.0*

ISC 31 06:57:34.8±1.5, 36°.26N±0°.04×27°.55E±0°.05, h0km±13km, n26, σ1°13/42, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.39**	**96**	*e*P	**Pb**	**06 57 43.8**	**-0.8**
ARG				*e*S	**Sg**	**06 57 48.6**	**+1.3**
ARG	**Arkhangelos**	**0.39**	**96**	*e*Pb	**Pb**	**06 57 43.8**	**-0.8**
ARG				*e*Sb	**Sg**	**06 57 48.6**	**+1.3**
KARP	**Karpathos**	**0.81**	**209**	*e*PN	**Pb**	**06 57 51.7**	**-0.1**
KARP				*e*SN	**Sb**	**06 58 02.9**	**-0.4**
KARP	**Karpathos**	**0.81**	**209**	*e*Pn	**Pb**	**06 57 51.7**	**-0.1**
KARP				*e*Sn	**Sb**	**06 58 02.9**	**-0.4**
BDRM	**Kayabasi**	**0.82**	**349**	*i* P	**Pn**	**06 57 55.1**	**+1.4**
BDRM				*i* S	**Sn**	**06 58 07.6**	**+1.0**
BDRM	**Kayabasi**	**0.82**	**349**	*i* P	**Pn**	**06 57 55.1**	**+1.4**
BDRM				*i* S	**Sn**	**06 58 07.6**	**+1.0**
BODT	**Bodrum**	**0.85**	**341**	*e*PG	**Pn**	**06 57 54.5**	**+0.5**
BODT				*e*SG	**Sn**	**06 58 07.7**	**+0.5**
BODT	**Bodrum**	**0.85**	**341**	*e*Pg	**Pn**	**06 57 54.5**	**+0.5**
BODT				*e*Sg	**Sn**	**06 58 07.7**	**+0.5**
TURN	**Turunc**	**0.98**	**51**	*i* P	Pg	06 57 50.5	-3.1
TURN				*i* S	**Sg**	**06 58 01.5**	**-4.9**
YER	**Yerkesik**	**1.01**	**30**	*e*PG	**Pn**	**06 57 56.7**	**+0.4**
YER				*e*SG	**Sn**	**06 58 11.9**	**+0.5**
YER	**Yerkesik**	**1.01**	**30**	*e*Pg	**Pn**	**06 57 56.7**	**+0.4**
YER				*e*Sg	**Sn**	**06 58 11.9**	**+0.5**
FETY	**Fethiye**	**1.22**	**72**	*e*PN	**Pg**	**06 57 58.7**	**+0.5**
FETY	**Fethiye**	**1.22**	**72**	*e*Pn	**Pg**	**06 57 58.7**	**+0.5**
SMG	**Samos**	**1.59**	**336**	*e*PN	**Pn**	**06 58 03.5**	**-0.7**
ZKR	**Zakros**	**1.63**	**226**	*e*PN	**Pb**	**06 58 05.7**	**0.0**
ZKR				*e*SN	**Sn**	**06 58 26.4**	**-0.1**
ZKR	**Zakros**	**1.63**	**226**	*e*Pn	**Pb**	**06 58 05.7**	**0.0**
ZKR				*e*Sn	**Sn**	**06 58 26.4**	**-0.1**
APE	**Apeiranthos**	**1.89**	**296**	*e*PN	**Pn**	**06 58 09.4**	**+1.1**
APE	**Apeiranthos**	**1.89**	**296**	*e*Pn	**Pn**	**06 58 09.4**	**+1.1**
ELL	**Elmali**	**1.89**	**74**	*e*PN	**Pn**	**06 58 09.1**	**+0.7**
ELL	**Elmali**	**1.89**	**74**	*e*Pn	**Pn**	**06 58 09.1**	**+0.7**
NPS	**Neapolis**	**1.93**	**240**	*e*PB	**Pn**	**06 58 09.6**	**+0.7**
NPS				*e*SN	**Sn**	**06 58 32.7**	**-1.2**
NPS	**Neapolis**	**1.93**	**240**	*e*Pb	**Pn**	**06 58 09.6**	**+0.7**
NPS				*e*Sn	**Sn**	**06 58 32.7**	**-1.2**
LAST	**Lasithi**	**2.08**	**239**	*e*PB	**Pn**	**06 58 11.6**	**+0.6**
LAST	**Lasithi**	**2.08**	**239**	*e*Pb	**Pn**	**06 58 11.6**	**+0.6**
IDI	**Anoyia**	**2.44**	**247**	*e*PB	**Pn**	**06 58 16.8**	**+0.8**
IDI				*e*SN	**Sn**	**06 58 45.7**	**-0.9**
IDI	**Anoyia**	**2.44**	**247**	*e*Pb	**Pn**	**06 58 16.8**	**+0.8**
IDI				*e*Sn	**Sn**	**06 58 45.7**	**-0.9**

*ISK **31** 07:14:49.2, 38°.73N×33°.55E, h5km, MD2.8*
*DDA **31** 07:14:49.2, 38°.68N×33°.62E, h7km, MD2.8*
*CSEM **31** 07:14:49.4±0.3, 38°.70N×33°.61E, h5km, MD2.8, Error ellipse: s-maj=6.8km s-min=5.4km az=124.0*

ISC 31 07:14:49.4±1.1, 38°.74N±0°.03×33°.58E±0°.03, h10km±10km, n20, σ0°.83/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULT	**Sultanhani-AKS**	**0.54**	**186**	*e*PG	**Pg**	**07 14 59.8**	**-0.2**
SULT				*e*SG	**Sb**	**07 15 08.1**	**-0.9**
SULT	**Sultanhani-AKS**	**0.54**	**186**	*e*Pg	**Pg**	**07 14 59.8**	**-0.2**
SULT				*e*Sg	**Sb**	**07 15 08.1**	**-0.9**
KAMT	**Kaman**	**0.64**	**9**	*e*PG	**Pb**	**07 15 02.4**	**-0.3**
KAMT				*e*SG	**Sg**	**07 15 11.2**	**+1.1**
KAMT	**Kaman**	**0.64**	**9**	*e*Pg	**Pb**	**07 15 02.4**	**-0.3**
KAMT				*e*Sg	**Sg**	**07 15 11.2**	**+1.1**
AFSR	**Af ar-Bala (A**	**0.81**	**331**	*e*PG	**Pb**	**07 15 05.4**	**-0.3**
AFSR	**Af ar-Bala (A**	**0.81**	**331**	*e*Pg	**Pb**	**07 15 05.4**	**-0.3**
BBAL	**Bala**	**0.88**	**336**	*i* P	**Pn**	**07 15 07.6**	**-0.4**
BBAL				*i* S	**Sn**	**07 15 21.1**	**+0.2**
BBAL	**Bala**	**0.88**	**336**	*i* P	**Pn**	**07 15 07.6**	**-0.4**
BBAL				*i* S	**Sn**	**07 15 21.1**	**+0.2**
AVNT	**Avonos**	**0.99**	**87**	*i* P	**Pg**	**07 15 07.0**	**-1.5**
AVNT				*i* S	**Sg**	**07 15 22.8**	**+1.3**
AVNT	**Avonos**	**0.99**	**87**	*i* P	**Pg**	**07 15 07.0**	**-1.5**
AVNT				*i* S	**Sg**	**07 15 22.8**	**+1.3**
CDAG	**Cicekdag**	**1.07**	**35**	*i* P	**Pg**	**07 15 09.5**	**-0.6**
CDAG				*i* S	**Sn**	**07 15 26.4**	**+0.7**
CDAG	**Cicekdag**	**1.07**	**35**	*i* P	**Pg**	**07 15 09.5**	**-0.6**
CDAG				*i* S	**Sn**	**07 15 26.4**	**+0.7**
KDHN	**Kadinhani**	**1.17**	**260**	*i* P	**Pn**	**07 15 11.9**	**0.0**
KDHN				*i* S	**Sn**	**07 15 29.2**	**+1.1**
KDHN	**Kadinhani**	**1.17**	**260**	*i* P	**Pn**	**07 15 11.9**	**0.0**
KDHN				*i* S	**Sn**	**07 15 29.2**	**+1.1**
KONT	**Konya--Tatoy**	**1.25**	**231**	*e*PN	**Pg**	**07 15 12.5**	**-0.9**
KONT	**Konya--Tatoy**	**1.25**	**231**	*e*Pn	**Pg**	**07 15 12.5**	**-0.9**
YOZ	**Yozgat**	**1.62**	**56**	*e*PN	**Pb**	**07 15 19.7**	**+0.2**
YOZ	**Yozgat**	**1.62**	**56**	*e*Pn	**Pb**	**07 15 19.7**	**+0.2**
CORM	**Corum**	**1.65**	**29**	*e*PN	**Pb**	**07 15 20.7**	**+0.7**
CORM	**Corum**	**1.65**	**29**	*e*Pn	**Pb**	**07 15 20.7**	**+0.7**

IDC 31 07:19:21.2±9.0, 13°.50N×92°.71E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=529.6km s-min=22.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**34.33**	**347**	P	P	07 26 09.4	-0.1
	0.4nm,0.8s,baz=160,slow=7.5,SNR=3.7						
KURK	**Kurchatov**	**38.85**	**346**	P		07 26 47.3	-0.6
	0.2nm,0.5s,baz=169,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**52.74**	**128**	P	P	07 28 38.0	-0.2
	1.0nm,0.5s,baz=308,slow=7.9,SNR=24						
ASAR	**Alice Springs**	**54.65**	**132**	P	P	07 28 52.2	+0.1
	0.7nm,0.5s,baz=308,slow=6.7,SNR=19						

*ISCJB **31** 07:27:15.9±0.4, 60°.63N±0°.03×150°.99W±0°.06, h67km±6km, mb3.6/1, Error ellipse: s-maj=5.6km s-min=4.0km az=137.4*
*NEIC **31** 07:27:17.1, 60°.61N×150°.99W, h55km, ML3.2(AEIC), After AEIC.*
*IDC **31** 07:27:21.2±8.8, 60°.95N×151°.10W, h75km±84km, mb3.2/1, mb1 3.2/3, mb1mx2.9/24, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=64.7km s-min=48.4km az=32.0*

ISC 31 07:27:17.3±1.0, 60°.63N±0°.03×151°.01W±0°.03, h52km±10km, n56, σ0°.84/65, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**0.41**	**107**	P	**Pn**	**07 27 27.1**	**-0.6**
FIB	**Fire Island**	**0.68**	**37**	P	**Pn**	**07 27 31.0**	**+0.2**
FIB				S	**Sn**	**07 27 42.2**	**+1.6**
RC01	**Rabbit Creek A**	**0.78**	**53**	P	**Pn**	**07 27 31.4**	**-0.7**
RC01				S	**Sn**	**07 27 43.0**	**+0.1**
DFR	**Drift River**	**0.83**	**268**	P	**Pn**	**07 27 32.1**	**-0.8**
SPCG	**Spurr Capps Gl**	**0.83**	**324**	P	**Pn**	**07 27 32.4**	**-0.5**
CRP	**Crater Peak**	**0.85**	**319**	P	**Pn**	**07 27 32.6**	**-0.6**
CRP				S	**Sn**	**07 27 45.1**	**+0.2**
SUA	**Susitna One**	**0.85**	**9**	P	**Pn**	**07 27 32.4**	**-0.8**
SUA				S	**Sn**	**07 27 44.4**	**-0.3**
CKL	**Chakachamna La**	**0.86**	**312**	P	**Pn**	**07 27 32.6**	**-0.7**
BRLK	**Bradley Lake**	**0.87**	**176**	P	**Pn**	**07 27 33.0**	**-0.3**
BRLK				S	**Sn**	**07 27 45.5**	**+0.4**
RDN	**Redoubt North**	**0.87**	**263**	P	**Pn**	**07 27 32.7**	**-0.8**
RSO	**Redoubt South**	**0.88**	**260**	P	**Pn**	**07 27 33.1**	**-0.5**
SEW	**Seward**	**0.94**	**123**	P	**Pn**	**07 27 33.5**	**-0.7**
NCT	**North Crescent**	**0.95**	**267**	P	**Pn**	**07 27 33.8**	**-0.6**
NCT				S	**Sn**	**07 27 47.2**	**+0.1**
STLK	**Strandline Lak**	**0.96**	**336**	P	**Pn**	**07 27 34.4**	**-0.2**
INE	**Iliamna NE**	**1.17**	**242**	P	**Pn**	**07 27 36.8**	**-0.7**
ILW	**Iliamna West**	**1.20**	**243**	P	**Pn**	**07 27 37.3**	**-0.6**
PMR	**Palmer**	**1.33**	**43**	P	**Pn**	**07 27 39.1**	**-0.4**
PMR				S	**Sn**	**07 27 56.1**	**+0.1**
SKT	**Skwentna**	**1.38**	**350**	P	**Pn**	**07 27 40.0**	**-0.2**
OPT	**Oil Point**	**1.48**	**230**	P	**Pn**	**07 27 41.7**	**+0.2**
SML	**Sawmill**	**1.76**	**46**	P	**Pn**	**07 27 44.9**	**-0.4**
AUW	**Augustine West**	**1.77**	**225**	P	**Pn**	**07 27 46.0**	**+0.5**
SCM	**Sheep Creek Mo**	**2.15**	**54**	P	**Pn**	**07 27 50.2**	**-0.6**
FOPK	**Fourpeaked Vol**	**2.25**	**215**	P	**Pn**	**07 27 52.3**	**+0.2**
PPLA	**Purkeypile**	**2.34**	**347**	P	**Pn**	**07 27 53.6**	**+0.1**
VLZ	**Valdez**	**2.34**	**76**	P	**Pn**	**07 27 52.5**	**-0.7**
DIV	**Divide**	**2.61**	**77**	P	**Pn**	**07 27 55.7**	**-1.3**
KLU	**Klutina**	**2.62**	**68**	P	**Pn**	**07 27 56.5**	**-0.7**
TRF	**Thorofare Moun**	**2.85**	**7**	P	**Pn**	**07 28 00.4**	**0.0**
KDAK	**Kodiak Island**	**2.97**	**196**	*e*Pn	**Pn**	**07 28 01.1**	**-0.7**
DHY	**Denali Highway**	**3.00**	**33**	P	**Pn**	**07 28 02.5**	**+0.1**
BMRM	**Bremner River**	**3.16**	**81**	P	**Pn**	**07 28 02.8**	**-1.7**
MCK	**McKinley**	**3.26**	**16**	P	**Pn**	**07 28 06.2**	**+0.2**
TT01	**Tatalina**	**3.30**	**316**	P	**Pn**	**07 28 06.2**	**-0.2**
HARP	**HAARP**	**3.33**	**55**	P	**Pn**	**07 28 06.6**	**-0.2**
PAX	**Paxson**	**3.53**	**46**	P	**Pn**	**07 28 09.5**	**-0.2**
NEA	**Nenana**	**4.06**	**12**	P	**Pn**	**07 28 17.3**	**+0.5**
WRH	**Wood River Hil**	**4.09**	**18**	P	**Pn**	**07 28 17.7**	**+0.6**
MENT	**Mentasta**	**4.17**	**53**	*e*Pn	**Pn**	**07 28 20.8**	**+2.5**
HDA	**Harding Lake**	**4.23**	**25**	P	**Pn**	**07 28 19.6**	**+0.5**
CCB	**Clear Creek Bu**	**4.30**	**19**	P	**Pn**	**07 28 20.0**	**0.0**
MLY	**Manley**	**4.42**	**2**	P	**Pn**	**07 28 21.8**	**0.0**
DOT	**Dot Lake**	**4.45**	**44**	*e*Pn	**Pn**	**07 28 23.1**	**+0.9**
COLA	**College**	**4.50**	**17**	P	**Pn**	**07 28 22.7**	**-0.1**
MDM	**Murphy Dome**	**4.53**	**15**	P	**Pn**	**07 28 23.3**	**0.0**
ILAR	**Eielson Array**	**4.57**	**23**	P	**Pn**	**07 28 24.3**	**+0.5**
	3.2nm,0.3s,baz=209,slow=14,SNR=221						
ILAR				S	**Sn**	**07 29 13.0**	**-2.6**
	1.6nm,0.3s,baz=209,slow=11,SNR=4.4						
ILAR	**Eielson Array**	**4.57**	**23**	P	**Pn**	**07 28 24.3**	**+0.5**
ILAR				S	**Sn**	**07 29 13.0**	**-2.6**
IL1	**Eielson Array**	**4.57**	**23**	P	**Pn**	**07 28 23.7**	**-0.1**
PRP	**Porcupine Dome**	**5.50**	**25**	P	**Pn**	**07 28 37.3**	**+0.6**
IM3	**Indian Mountai**	**5.51**	**348**	P	**Pn**	**07 28 36.6**	**-0.1**
EGAK	**Eagle**	**6.15**	**43**	*e*Pn	**Pn**	**07 28 44.8**	**-0.6**
	9.2nm,0.7s						
DAWY	**Dawson**	**6.41**	**52**	*e*Pn	**Pn**	**07 28 49.8**	**+0.7**
COLD	**Coldfoot**	**6.64**	**3**	P	**Pn**	**07 28 52.2**	**+0.2**
YKA	**Yellowknife Ar**	**17.29**	**68**	P	**P**	**07 31 16.9**	**+1.3**
	0.0nm,0.3s,baz=277,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**17.29**	**68**	P	**P**	**07 31 16.9**	**+1.3**
SONM	**Songino Array**	**55.21**	**307**	P	**P**	**07 36 44.2**	**-0.4**
	0.4nm,0.7s,baz=39,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**55.21**	**307**	P	**P**	**07 36 44.2**	**-0.4**

*NNC **31** 07:32:47.9±0.9, 50°.09N×79°.07E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=13.7km s-min=4.5km az=71.0*
*IDC **31** 07:32:47.7±1.6, 50°.03N×78°.44E, h0km, mb4.0/1, mb1 4.0/2, mb1mx3.3/26, mbtmp3.9/2, ML2.8/1, Error ellipse: s-maj=32.1km s-min=6.8km az=78.0*
*ISCJB **31** 07:32:48.8±0.6, 50°.07N±0°.05×78°.65E±0°.08, h10km, mb3.9/1, Error ellipse: s-maj=8.9km s-min=5.0km az=144.4*

ISC 31 07:32:49.7±0.8, 50°.10N±0°.07×78°.76E±0°.09, h10km, n12, σ1°.94/17, 8C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.54**	**345**	P	**Pg**	**07 33 00.1**	**-0.1**
	4.8nm,0.3s						
KURK	**Kurchatov**	**0.62**	**352**	Pg	**Pg**	**07 32 58.6**	**-3.1**
	6.3nm,0.3s,baz=143,slow=24,SNR=186						
KURK				Lg	Lg	07 33 08.8	
	6.2nm,0.3s,baz=144,slow=43,SNR=38						
KURK	**Kurchatov**	**0.62**	**352**	⇑P	**Pg**	**07 33 01.4**	**-0.3**
	11nm,0.3s						
KURK				⇑S	**Sb**	**07 33 11.2**	**-0.2**
	30nm,0.5s						
KURK				⇑Rg	Rg	07 33 14.3	
	76nm,0.9s						
MK31	**Makanchi Array**	**4.06**	**143**	⇓Pn	**Pn**	**07 33 52.5**	**+0.7**
	0.2nm,0.1s,baz=327,slow=11,SNR=68						
MK31				Pg	**Pb**	**07 33 59.1**	**-2.1**
	0.9nm,0.3s,baz=316,slow=15,SNR=24						
MK31				⇑Sn	**Sn**	**07 34 41.9**	**+2.4**
	1.6nm,0.4s						
MK31				⇑Lg	Lg	07 34 53.9	
	8.1nm,0.6s,baz=327,slow=27,SNR=23						
MKAR	**Makanchi Array**	**4.06**	**143**	Pn	**Pn**	**07 33 52.4**	**+0.5**
	0.6nm,0.3s,baz=322,slow=10,SNR=83						
MKAR				Pg	**Pb**	**07 33 59.7**	**-1.5**
	1.0nm,0.3s,baz=331,slow=15,SNR=22						
MKAR				Lg	Lg	07 34 52.9	
	2.4nm,0.3s,baz=336,slow=27,SNR=13						
ZALV	**Zalesovo Beam**	**5.37**	**42**	Pn	**Pn**	**07 34 12.8**	**+3.1**
	1.5nm,0.3s,baz=230,slow=15,SNR=22						
ZALV				Lg	Lg	07 35 39.7	
	0.6nm,0.3s,baz=225,slow=25,SNR=5.6						
VOSK	**Vostochnaya**	**5.53**	**301**	⇓Pn	**Pn**	**07 34 11.8**	**-0.2**
	2.0nm,1.0s						
VOSK				⇑Sn	**Sn**	**07 35 18.2**	**+2.7**
	2.3nm,0.6s						
VOSK				⇑Lg	Lg	07 35 44.4	
	2.0nm,0.6s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 34 19.8**	**+1.6**
	0.3nm,0.3s,baz=118,slow=12,SNR=4.8						
BVAR				Pg	Pb	07 34 28.4	-5.5
	0.6nm,0.3s,baz=107,slow=15,SNR=7.2						
BVAR				Sn	**Sn**	**07 35 24.0**	**-2.7**
	0.4nm,0.3s,baz=110,slow=25,SNR=2.7						
ZRNK	**Zerenda**	**6.72**	**299**	⇓Pn	**Pn**	**07 34 28.2**	**-0.1**
	0.9nm,0.6s						
ZRNK				⇓Sn	**Sn**	**07 35 46.6**	**+1.8**
	2.1nm,0.6s						
ZRNK				⇓Lg	Lg	07 36 24.6	
	3.5nm,1.2s						
TKM2	**Tokmak 2**	**7.50**	**198**	⇓Lg	Lg	07 36 45.4	
	1.8nm,0.5s						
KK31	**Karatay Array**	**9.01**	**222**	⇓Pn	Pn	07 35 07.0	+7.3
	0.2nm,0.4s,baz=36,slow=11,SNR=5.8						
KK31				⇑Sn	Sn	07 36 50.9	+10
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**31.61**	**327**	P	**P**	**07 39 12.3**	**+0.1**
	1.7nm,0.8s,baz=103,slow=11,SNR=3.1						

KRSC 31 08:09:37.2±1.9, 54°.94N×160°.35E, h334km±43km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.36**	**341**	*e*P	Pn	08 10 19.5	+0.1
KMNR	**Kamenistaya**	**0.82**	**356**	P	Pn	08 10 21.8	+1.2
MKZ	**Mys Kozlova**	**0.89**	**115**	*e*P	Pn	08 10 22.2	+1.5
MKZ				*e*S	S	08 10 55.0	-0.6
SPN	**Mys Shipunski**	**1.86**	**186**	P	Pn	08 10 27.3	+1.3
SPN				S	S	08 11 03.8	-1.3
NLC	**Nalytchevo**	**1.87**	**199**	P	Pn	08 10 27.0	+0.9
NLC				S	S	08 11 03.4	-1.9
SDLR	**Sedlovina**	**1.88**	**208**	*i* P	Pn	08 10 27.0	+0.7
KBTR	**Krutoberegovo**	**1.89**	**47**	P	Pn	08 10 27.4	+1.3
KBTR				*e*S	S	08 11 04.0	-1.4
SMAR	**Somma**	**1.91**	**209**	*i* P	Pn	08 10 27.5	+0.8
AVH	**Avacha**	**1.93**	**210**	P	Pn	08 10 27.8	+1.1
KOK	**Koryaka**	**1.94**	**212**	P	Pn	08 10 28.1	+1.4
UGLR	**Uglovaya**	**1.95**	**208**	P	Pn	08 10 28.0	+1.1
RUS	**Russkaya**	**2.74**	**204**	P	Pn	08 10 33.2	+0.2
MTVR	**Mutnovka**	**2.78**	**208**	S	S	08 11 19.6	+0.8
ASAK	**Asacha**	**2.95**	**211**	P	Pn	08 10 35.0	0.0

MAN 31 08:10:44, 11°.08N×124°.78E, h33km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.17**	**260**	*e*P	Pb	08 10 50.8	+0.4
OCLP				*e*S	Sn	08 10 53.1	+1.3
PLP	**Palo**	**0.21**	**67**	⇓*e*P	Pb	08 10 51.8	+1.0
PLP				*i* S	Sb	08 10 56.1	+0.8
MSLP	**Maasin**	**0.94**	**175**	*e*P	Pb	08 11 02.5	+0.6
MSLP				*e*S	Sb	08 11 17.9	+3.7

*ISCJB **31** 08:12:41.6±0.6, 11°.97N±0°.05×126°.00E±0°.08, h28km, mb3.9/10, MS3.2/3, Error ellipse: s-maj=11.1km s-min=7.1km az=23.3*
*IDC **31** 08:12:44.0±0.8, 11°.85N×125°.86E, h29km±4km, mb3.8/10, mb1 3.9/10, mb1mx3.7/20, mbtmp3.8/10, MS3.3/5, Ms1 3.3/5, ms1mx2.8/39, Error ellipse: s-maj=46.1km s-min=13.8km az=64.0*
*MAN **31** 08:12:45, 11°.94N×125°.68E, h20km, mb4.7, ML3.6, MS3.6*

ISC 31 08:12:43.5±0.7, 11°.87N±0°.07×125°.88E±0°.10, h28km, n27, σ0°.74/35, mb4.0/10, MS3.0/3, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.13**	**232**	⇑*e*P	**Pn**	**08 13 03.0**	**-0.4**
PLP				*i* S	**Sb**	**08 13 19.2**	**+0.5**
OCLP	**Ormoc**	**1.49**	**237**	*e*P	**Pb**	**08 13 10.6**	**0.0**
OCLP				*e*S	**Sb**	**08 13 29.9**	**+0.8**
MSLP	**Maasin**	**1.99**	**210**	*e*P	**Pb**	**08 13 17.8**	**-1.3**
PVCP	**Virac**	**2.41**	**316**	*e*P	**Pn**	**08 13 20.3**	**-0.8**
DAV	**Davao City (W)**	**4.78**	**184**	LR	LR	08 15 58.9	
	comp=Z,272nm,19.6s,baz=24,slow=41						
GUMO	**Guam**	**18.60**	**83**	LR	LR	08 22 59.3	
	comp=Z,73nm,18.7s,baz=250,slow=33						
CMAR	**Chiang Mai Arr**	**26.79**	**287**	P	**P**	**08 18 21.6**	**+0.1**
	1.3nm,0.3s,baz=100,slow=8.2,SNR=6.7						
CMAR				pP	**pP**	**08 18 30.4**	**+0.8**
	0.8nm,0.3s,baz=92,slow=7.1,SNR=1.6						
CMAR				LR	LR	08 28 06.9	
	comp=Z,30nm,20.5s,baz=200,slow=34						
MJAR	**Matsushiro Arr**	**26.96**	**22**	LR	LR	08 27 03.6	
	comp=Z,183nm,19.1s,baz=30,slow=32						
WRA	**Warramunga Arr**	**32.69**	**165**	P	**P**	**08 19 15.1**	**+1.4**
	0.7nm,0.9s,baz=329,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**36.18**	**167**	P	**P**	**08 19 43.5**	**-0.3**
	0.4nm,0.5s,baz=348,slow=7.0,SNR=8.8						
ASAR				PcP	**PcP**	**08 22 09.0**	**-0.2**
	0.4nm,0.7s,baz=347,slow=3.0,SNR=3.5						
TAPN	**Taplejung**	**38.93**	**299**	*e*P	**P**	**08 20 07.3**	**-0.3**
ODAN	**Odare**	**39.08**	**298**	*e*P	**P**	**08 20 08.6**	**-0.2**
SONM	**Songino Array**	**39.40**	**339**	P	**P**	**08 20 11.8**	**+0.8**
	0.8nm,0.8s,baz=154,slow=10,SNR=2.8						
SONM				pP	**pP**	**08 20 20.0**	**+0.6**
	0.8nm,0.8s,baz=160,slow=8.1,SNR=5.1						
SONM				LR	LR	08 37 14.3	
	comp=Z,25nm,19.8s,baz=129,slow=37						
RAMN	**Ramite**	**39.78**	**298**	*e*P	**P**	**08 20 14.2**	**-0.5**
JIRN	**Jiri**	**40.32**	**299**	*e*P	**P**	**08 20 19.0**	**-0.2**
	11nm,0.7s						
GUN	**Gumba**	**40.65**	**299**	*e*P	**P**	**08 20 21.8**	**-0.1**
PKI	**Pulchoki**	**40.97**	**298**	*e*P	**P**	**08 20 23.9**	**-0.6**
DMN	**Daman**	**41.24**	**298**	*e*P	**P**	**08 20 25.9**	**-0.8**
GKN	**Gorkha**	**41.73**	**299**	*e*P	**P**	**08 20 30.2**	**-0.4**
DANN	**Dangsing**	**42.57**	**299**	*e*P	**P**	**08 20 36.9**	**-0.7**
	20nm,0.9s						
KOLN	**Koldanda**	**42.57**	**298**	*e*P	**P**	**08 20 36.9**	**-0.6**
	6.5nm,0.6s						
STKA	**Stephens Creek**	**46.03**	**161**	P	**P**	**08 21 04.8**	**0.0**
	1.5nm,0.5s,baz=284,slow=2.6,SNR=4.7						
STKA				pP	**pP**	**08 21 13.3**	**+0.1**
	3.2nm,0.8s,baz=314,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**50.54**	**322**	P	**P**	**08 21 40.5**	**+1.0**
	4.9nm,0.8s,baz=116,slow=8.2,SNR=45						
MKAR				pP	**pP**	**08 21 49.8**	**+1.7**
	6.2nm,0.9s,baz=108,slow=8.5,SNR=19						
MKAR				PcP	**PcP**	**08 22 58.0**	**+0.9**
	0.5nm,0.8s,baz=102,slow=5.9,SNR=1.6						
ZALV	**Zalesovo Beam**	**53.05**	**331**	P	**P**	**08 21 57.9**	**-0.2**
	0.2nm,0.3s,baz=134,slow=8.5,SNR=3.8						
ZALV				pP	**pP**	**08 22 07.4**	**+0.7**
	1.7nm,0.7s,baz=104,slow=6.3,SNR=5.6						
BRTR	**Keskin Array B**	**84.23**	**309**	P	**P**	**08 25 12.0**	**-1.0**
	1.1nm,0.8s,baz=118,slow=4.5,SNR=5.0						
BRTR				pP	**pP**	**08 25 21.8**	**-0.3**
	1.2nm,0.8s,baz=104,slow=3.8,SNR=4.7						
FINES	**FINESS Array B**	**84.31**	**332**	P	**P**	**08 25 11.8**	**-0.9**
	2.8nm,1.0s,baz=76,sl

FORT	**Forest**	**8.85**	**96**	*e*P	**Pn**	**08 49 10.3**	**-1.2**
FORT				*e*S	Sn	08 50 44.3	-7.5
FORT	**Forest**	**8.85**	**96**	*e*Pn	Pn	08 49 03.3	-8.2
	83nm,0.6s						
FORT				*e*Sn	Sn	08 50 43.1	-8.6
MBWA	**Marble Bar**	**9.20**	**11**	*e*P	Pn	08 49 13.6	-2.7
MBWA				*e*S	Sx	08 50 48.7	
MBWA	**Marble Bar**	**9.20**	**11**	*e*Pn	Pn	08 49 13.0	-3.3
MBWA				*e*Sn	Sx	08 50 48.5	
FITZ	**Fitzroy Crossi**	**14.03**	**32**	Pn	Pn	08 50 18.2	-4.1
	2.0nm,0.3s,baz=220,slow=12,SNR=44						
FITZ				Sn	Sx	08 52 47.0	
	1.3nm,0.3s,baz=322,slow=19,SNR=7.4						
FITZ				LR	LR	08 56 26.1	
	comp=Z,56nm,20.2s,baz=70,slow=41						
FITZ	**Fitzroy Crossi**	**14.03**	**32**	*e*P	Pn	08 50 19.1	-3.2
FITZ				*e*S	Sx	08 52 43.4	
FITZ	**Fitzroy Crossi**	**14.03**	**32**	*e*Pn	Pn	08 50 19.0	-3.2
	27nm,0.7s						
FITZ				*e*Sn	Sx	08 52 46.6	
ASAR	**Alice Springs**	**15.76**	**69**	Pn	Pn	08 50 39.5	-6.2
	1.8nm,0.3s,baz=242,slow=12,SNR=86						
ASAR				Sn	Sx	08 53 25.5	
	1.0nm,0.3s,baz=246,slow=22,SNR=18						
ASAR	**Alice Springs**	**15.76**	**69**	Pn	Pn	08 50 39.5	-6.2
ASAR				Sn	Sx	08 53 25.5	
AS31	**Alice Springs**	**15.76**	**69**	*e*P	Pn	08 50 39.9	-5.8
BBOO	**Buckleboo**	**15.77**	**104**	*e*P	Pn	08 50 41.6	-4.1
BBOO				*e*S	Sx	08 53 27.6	
WRA	**Warramunga Arr**	**18.12**	**59**	P	Pn	08 51 10.1	-5.3
	0.8nm,0.3s,baz=231,slow=13,SNR=59						
WRA				S	Sx	08 54 23.0	
	0.8nm,0.3s,baz=235,slow=24,SNR=5.9						
WRA	**Warramunga Arr**	**18.12**	**59**	P	Pn	08 51 10.1	-5.3
WRA				S	Sx	08 54 23.0	
WB2	**Warramunga Arr**	**18.13**	**59**	*e*P	Pn	08 51 10.1	-5.5
WB2				*e*S	Sx	08 54 19.0	
WRAB	**Tennant Creek**	**18.13**	**59**	*e*P	Pn	08 51 10.0	-5.6
	12nm,0.6s						
WRAB				*e*S	Sx	08 54 21.5	
STKA	**Stephens Creek**	**20.43**	**101**	P	**P**	**08 51 40.4**	**-0.8**
	0.3nm,0.3s,baz=287,slow=11,SNR=13						
STKA				S	Sx	08 55 15.8	
	0.2nm,0.3s,baz=255,slow=16,SNR=2.5						
STKA				LR	LR	08 59 35.1	
	comp=Z,120nm,19.5s,baz=206,slow=38						
STKA	**Stephens Creek**	**20.43**	**101**	*e*P	**P**	**08 51 41.3**	**+0.2**
STKA	**Stephens Creek**	**20.43**	**101**	*e*P	**P**	**08 51 40.3**	**-0.8**
	12nm,1.2s						
STKA				S	Sx	08 55 15.8	
MTN	**Manton Dam**	**21.25**	**38**	*e*P	**P**	**08 51 49.7**	**-0.3**
QIS	**Mount Isa**	**21.88**	**69**	*e*P	**P**	**08 51 56.3**	**-0.6**
QIS				*e*S	Sx	08 55 45.2	
CMSA	**Cobar Meteorol**	**23.94**	**100**	*e*P	**P**	**08 52 18.0**	**0.0**
RMQ	**Roma**	**27.44**	**90**	*e*P	**P**	**08 52 50.8**	**+0.9**
CTA	**Charters Tower**	**27.58**	**75**	P	**P**	**08 52 53.9**	**+2.7**
	19nm,0.7s,baz=254,slow=11,SNR=14						
CTA	**Charters Tower**	**27.58**	**75**	*e*P	**P**	**08 52 53.3**	**+2.1**
CTA	**Charters Tower**	**27.58**	**75**	P	**P**	**08 52 53.9**	**+2.7**
SONM	**Songino Array**	**78.39**	**352**	P	**P**	**08 59 05.9**	**+1.6**
	1.5nm,0.8s,baz=165,slow=6.2,SNR=11						
SONM	**Songino Array**	**78.39**	**352**	P	**P**	**08 59 05.9**	**+1.6**
MKAR	**Makanchi Array**	**83.12**	**336**	P	**P**	**08 59 29.8**	**+0.3**
	0.3nm,0.7s,baz=142,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**83.12**	**336**	P	**P**	**08 59 29.8**	**+0.3**
ILAR	**Eielson Array**	**119.14**	**29**	PKP	**PKPdf**	**09 05 51.1**	**-1.1**
	1.2nm,1.1s,baz=248,slow=1.0,SNR=3.9						
ILAR	**Eielson Array**	**119.14**	**29**	PKP	**PKPdf**	**09 05 51.1**	**-1.1**
YKA	**Yellowknife Ar**	**133.54**	**31**	PKP	**PKPdf**	**09 06 20.0**	**+0.3**
	0.3nm,0.7s,baz=285,slow=1.9,SNR=8.7						
YKA	**Yellowknife Ar**	**133.54**	**31**	PKP	**PKPdf**	**09 06 20.1**	**+0.3**
PDAR	**Pinedale Array**	**140.41**	**58**	PKP	**PKPdf**	**09 06 34.0**	**+0.6**
	0.4nm,0.8s,baz=132,slow=2.2,SNR=3.9						
PDAR	**Pinedale Array**	**140.41**	**58**	PKP	**PKPdf**	**09 06 34.0**	**+0.6**
TXAR	**Lajitas Array**	**144.13**	**81**	PKP	PKPbc	09 06 39.7	+1.4
	1.4nm,0.9s,baz=221,slow=5.0,SNR=13						
TXAR	**Lajitas Array**	**144.13**	**81**	PKP	PKPbc	09 06 39.7	+1.4
ULM	**Lac du Bonnet**	**147.83**	**42**	PKPbc	**PKPbc**	**09 06 48.9**	**+0.2**
	5.1nm,0.6s,baz=284,slow=3.6,SNR=16						
ULM	**Lac du Bonnet**	**147.83**	**42**	PKPbc	**PKPbc**	**09 06 48.9**	**+0.2**

*BJI **31** 09:00:00.1, 7.°03S×130.°67E, h143km, mB5.1/17, mb4.7/34*
*ISCJB **31** 09:00:07.5±0.2, 6.°33S±0.°03×130.°17E±0.°05, h150km, mb4.5/39, Error ellipse: s-maj=7.2km s-min=3.5km az=161.3*
*IDC **31** 09:00:08.8±4.5, 6.°17S×130.°34E, h148km±43km, mb4.1/12, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, Error ellipse: s-maj=37.9km s-min=13.3km az=64.0*
*NEIC **31** 09:00:09.1±1.4, 6.°19S×130.°25E, h150km±15km, mb4.5/17, Error ellipse: s-maj=11.0km s-min=6.2km az=48.0*
*DJA **31** 09:00:11, 6.°03S×130.°49E, h150km, mb4.8/21*

ISC 31 09:00:08.1±0.4, 6.°37S±0.°04×130.°27E±0.°07, h150km, n113, σ1§89/125, mb4.6/39, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.88**	**349**	P	Pn	09 00 44.2	+2.4
MSAI	**Masohi**	**3.29**	**336**	P	Pn	09 01 02.7	+3.5
FAKI	**Fak Fak**	**3.96**	**30**	P	**Pn**	**09 01 06.4**	**-1.5**
NLAI	**Namlea**	**4.43**	**314**	P	Pn	09 01 18.0	+3.9
SWI	**Sorong**	**5.56**	**10**	P	**Pn**	**09 01 26.9**	**-2.2**
	529nm,0.7s,16μm4.1nm						
BAKI	**Biak**	**7.78**	**49**	P	Pn	09 02 00.5	+1.9
	313nm,0.6s,3μm1.2nm						
KDI	**Kendari**	**7.99**	**287**	P	Pn	09 02 07.0	+5.6
	108nm,1.2s,996nm0.3nm						
MRSI	**Marisa**	**10.74**	**309**	P	**Pn**	**09 02 39.6**	**+1.6**
	268nm,0.8s,2μm						
FITZ	**Fitzroy Crossi**	**12.50**	**201**	P	**Pn**	**09 03 03.0**	**+2.1**
	4.2nm,0.3s,baz=36,slow=11,SNR=40						
FITZ				S	**Sn**	**09 05 15.6**	**-3.7**
	8.3nm,0.3s,baz=150,slow=20,SNR=5.4						
FITZ	**Fitzroy Crossi**	**12.50**	**201**	*e*P	**Pn**	**09 03 03.0**	**+2.1**
FITZ				*e*S	Sn	09 05 13.7	-5.5
FITZ	**Fitzroy Crossi**	**12.50**	**201**	*e*Pn	**Pn**	**09 03 03.5**	**+2.6**
FITZ				*e*Sn	Sn	09 05 11.4	-7.8
FITZ				S	**Sn**	**09 05 15.6**	**-3.7**
WRAB	**Tennant Creek**	**14.05**	**164**	*e*Pn	**P**	**09 03 22.7**	**-1.2**
WRAB				*e*Sn	Sn	09 05 51.4	-5.2
WRA	**Warramunga Arr**	**14.06**	**164**	P	**P**	**09 03 22.6**	**-1.3**
	3.4nm,0.3s,baz=340,slow=13,SNR=60						
WRA				S	**Sn**	**09 05 52.4**	**-4.3**
	16nm,0.3s,baz=343,slow=22,SNR=18						
WRA	**Warramunga Arr**	**14.06**	**164**	P	**P**	**09 03 22.6**	**-1.3**
WRA				S	**Sn**	**09 05 52.4**	**-4.3**
WB2	**Warramunga Arr**	**14.06**	**164**	*e*Pn	**P**	**09 03 22.9**	**-1.1**
WB2				*e*Sn	Sn	09 05 48.8	-8.0
COEN	**Coen**	**14.77**	**122**	*e*Pn	**P**	**09 03 32.1**	**+0.2**
	177nm,0.3s						
BBKI	**Banjar Baru**	**15.64**	**280**	P	P	09 03 47.0	+5.5
	149nm,0.9s,3μm						
MYLDM	**Lahad Datu**	**16.42**	**314**	P	**P**	**09 03 53.6**	**+3.4**
	48nm,1.1s						
BLJI	**Banyuglugur**	**16.60**	**264**	P	Pn	09 03 57.5	+5.2
	92nm,0.7s						
QIS	**Mount Isa**	**16.76**	**148**	*e*P	**Pn**	**09 03 57.6**	**+3.4**
PMG	**Port Moresby**	**17.00**	**101**	*e*P	**Pn**	**09 04 00.1**	**+3.0**
	0.5nm,0.3s,baz=266,slow=14,SNR=2.6						
PMG	**Port Moresby**	**17.00**	**101**	*e*P	**Pn**	**09 03 58.1**	**+1.0**
	10nm,0.5s						
AS31	**Alice Springs**	**17.55**	**169**	*e*P	**Pn**	**09 04 07.1**	**+3.4**
AS31				*e*S	**S**	**09 07 11.4**	**-6.1**
ASAR	**Alice Springs**	**17.55**	**169**	P	**Pn**	**09 04 07.0**	**+3.3**
	20nm,0.3s,baz=350,slow=10,SNR=461						
ASAR				S	**S**	**09 07 12.9**	**-4.6**
	1.0nm,0.3s,baz=349,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**17.55**	**169**	P	**Pn**	**09 04 07.0**	**+3.3**
ASAR				S	**S**	**09 07 12.9**	**-4.6**
MBWA	**Marble Bar**	**17.89**	**214**	*e*P	**Pn**	**09 04 10.1**	**+2.4**
	18nm,0.9s						
MBWA				*e*S	S	09 07 17.4	-6.8
KKM	**Kota Kinabalu**	**18.68**	**311**	*e*P	**Pn**	**09 04 15.8**	**-1.4**
	21nm,0.4s						
KKM	**Kota Kinabalu**	**18.68**	**311**	P	**Pn**	**09 04 16.4**	**-0.8**
	87nm,1.1s						
SBUM	**Sibu**	**20.04**	**295**	P	Pn	09 04 31.9	-1.1
	64nm,0.9s						
CTA	**Charters Tower**	**20.66**	**133**	P	Pn	09 04 40.1	-0.3
	10nm,0.8s,baz=322,slow=13,SNR=6.3						
CTA	**Charters Tower**	**20.66**	**133**	P	Pn	09 04 40.1	-0.3
CTAO	**Charters Tower**	**20.66**	**133**	*e*P	Pn	09 04 39.7	-0.7
	9.6nm,0.8s						
FORT	**Forest**	**24.37**	**185**	*e*P	**P**	**09 05 13.8**	**+1.5**
	15nm,0.6s						
EIDS	**Eidsvold**	**27.44**	**136**	*e*P	**P**	**09 05 42.5**	**+2.4**
	14nm,1.0s						
STKA	**Stephens Creek**	**27.49**	**159**	P	**P**	**09 05 43.5**	**+3.1**
	6.0nm,0.4s,baz=348,slow=8.0,SNR=27						
STKA	**Stephens Creek**	**27.49**	**159**	*e*P	**P**	**09 05 43.0**	**+2.5**
STKA	**Stephens Creek**	**27.49**	**159**	*e*P	**P**	**09 05 43.2**	**+2.7**
	0.9nm,0.5s						
CMSA	**Cobar Meteorol**	**28.90**	**152**	*e*P	P	09 05 56.2	+3.2
ARMA	**Armidale**	**31.23**	**143**	*e*P	P	09 06 17.4	+3.8
	3.3nm,0.8s						
PSI	**Prapat**	**32.59**	**285**	P	P	09 06 29.8	+3.9
	18nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.54**	**309**	P	**P**	**09 07 24.6**	**-0.1**
	5.9nm,0.6s,baz=139,slow=7.4,SNR=27						
CMAR	**Chiang Mai Arr**	**39.54**	**309**	P	**P**	**09 07 24.6**	**-0.1**
NJ2	**Nanjing**	**39.73**	**345**	*e*P	P	09 07 27.5	+1.5
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
CHTO	**Chiang Mai**	**39.75**	**310**	*e*P	**P**	**09 07 26.8**	**+0.4**
	comp=Z,16nm,1.0s						
CHTO	**Chiang Mai**	**39.75**	**310**	P	**P**	**09 07 26.9**	**+0.4**
	comp=Z,18nm,1.1s						
WHN	**Wuhan**	**39.75**	**338**	P	**P**	**09 07 26.5**	**+0.3**
GYA	**Guiyang**	**39.86**	**326**	P	P	09 07 29.8	+2.4
GYA				pP	pP	09 08 01.5	+1.2
GYA				sP	sP	09 08 18.0	+0.7
GYA				PP	**PnPn**	**09 09 07.5**	**+0.4**
GYA				S	**S**	**09 13 22.8**	**+1.7**
GYA				sS	sS	09 14 18.8	+0.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,80nm,5.0s						
KMI	**Kunming**	**41.20**	**321**	P	P	09 07 44.0	+5.5
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ENH	**Enshi**	**41.53**	**332**	*e*P	**P**	**09 07 40.0**	**-0.9**
	comp=Z,5.2nm,0.7s						
CD2	**Chengdu**	**44.92**	**327**	P	P	09 08 10.0	+1.8
CD2				pP	pP	09 08 42.3	+0.6
CD2				sP	sP	09 08 58.8	+0.3
CD2				PP	**PP**	**09 09 58.0**	**+1.7**
CD2				S	**S**	**09 14 36.5**	**+1.5**
CD2				sS	sS	09 15 33.0	-0.4
CD2				SS	**SS**	**09 17 53.8**	**-6.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,5.3s						
XAN	**Xi'an**	**44.99**	**335**	P	**P**	**09 08 07.0**	**-1.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,23nm,4.6s						
BJT	**Baijiatuan**	**47.96**	**345**	*e*P	**P**	**09 08 31.1**	**-0.5**
	comp=Z,15nm,0.6s						
LZH	**Lanzhou**	**48.98**	**331**	*e*P	**P**	**09 08 40.0**	**+0.3**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.04**	**341**	*e*P	**P**	**09 08 48.8**	**+1.2**
HHC				pP	**pP**	**09 09 21.0**	**-0.8**
HHC				sP	**sP**	**09 09 37.0**	**-1.4**
HHC				PcP	**PcP**	**09 10 05.5**	**+0.3**
HHC				PP	**PP**	**09 10 46.8**	**+2.6**
HHC				S	**S**	**09 15 48.0**	**+0.8**
HHC				sS	**sS**	**09 16 45.3**	**-1.2**
HHC				SS	**SS**	**09 19 21.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,5.9s						
CN2	**Changchun**	**50.13**	**355**	*e*P	P	09 08 52.0	+3.9
CN2				*es*P	sP	09 09 41.0	+2.1
CN2				*e*S	S	09 15 52.0	+3.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
USRK	**Ussuriysk Arra**	**50.36**	**2**	P	**P**	**09 08 49.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=201,slow=6.6,SNR=3.9						
MDJ	**Mudanjiang**	**50.76**	**359**	P	P	09 08 54.8	+2.0
MDJ				pmax	pmax		
	comp=Z,180nm,4.3s						
RPZ	**Rata Peaks**	**51.57**	**143**	P	**P**	**09 08 59.9**	**+1.0**
	comp=Z,11nm,1.1s,baz=315,slow=4.3,SNR=2.8						
RPZ	**Rata Peaks**	**51.57**	**143**	P	**P**	**09 08 59.9**	**+1.0**
ODAN	**Odare**	**53.05**	**310**	*e*P	**P**	**09 09 10.2**	**-0.2**
	comp=Z,18nm,0.4s						
ODAN	**Odare**	**53.05**	**310**	*e*P	**P**	**09 09 10.2**	**-0.2**
	comp=Z,18nm,0.4s						
TAPN	**Taplejung**	**53.07**	**311**	*e*P	**P**	**09 09 10.4**	**-0.2**
	comp=Z,36nm,0.4s						
TAPN	**Taplejung**	**53.07**	**311**	*e*P	**P**	**09 09 10.4**	**-0.2**
	comp=Z,36nm,0.4s						
GTA	**Gaotai**	**53.56**	**331**	P	**P**	**09 09 13.8**	**+0.1**
GTA				pP	**pP**	**09 09 46.3**	**-2.1**
GTA				sP	**sP**	**09 10 02.0**	**-2.9**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RAMN	**Ramite**	**53.70**	**310**	*e*P	**P**	**09 09 15.3**	**+0.2**
	comp=Z,78nm,0.4s						
JIRN	**Jiri**	**54.38**	**311**	*e*P	**P**	**09 09 20.3**	**+0.1**
	comp=Z,13nm,0.3s						
GUN	**Gumba**	**54.74**	**311**	*e*P	**P**	**09 09 22.9**	**+0.1**
	comp=Z,52nm,0.4s						
PKI	**Pulchoki**	**54.92**	**310**	*e*P	**P**	**09 09 23.7**	**-0.4**
PKI	**Pulchoki**	**54.92**	**310**	*e*P	**P**	**09 09 23.7**	**-0.4**
KKN	**Kakani**	**55.14**	**310**	*e*P	**P**	**09 09 25.1**	**-0.4**
KKN	**Kakani**	**55.14**	**310**	*e*P	**P**	**09 09 25.1**	**-0.4**
DMN	**Daman**	**55.17**	**310**	*e*P	**P**	**09 09 25.7**	**-0.1**
DMN	**Daman**	**55.17**	**310**	*e*P	**P**	**09 09 25.7**	**-0.1**
GKN	**Gorkha**	**55.73**	**310**	*e*P	**P**	**09 09 29.6**	**-0.1**
	comp=Z,36nm,0.3s						
HYB	**Hyderabad**	**56.28**	**296**	*i* P	**P**	**09 09 32.5**	**-1.1**
KOLN	**Koldanda**	**56.41**	**309**	*e*P	**P**	**09 09 34.6**	**+0.1**
	comp=Z,25nm,0.6s						
KOLN	**Koldanda**	**56.41**	**309**	*e*P	**P**	**09 09 34.6**	**+0.1**
	comp=Z,25nm,0.6s						
DANN	**Dangsing**	**56.58**	**310**	*e*P	**P**	**09 09 35.7**	**-0.1**
	comp=Z,31nm,0.9s						
DANN	**Dangsing**	**56.58**	**310**	*e*P	**P**	**09 09 35.7**	**-0.1**
	comp=Z,31nm,0.9s						
ULN	**Ulaanbaatar**	**57.76**	**342**	*e*P	**P**	**09 09 43.9**	**+0.4**
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**57.94**	**341**	P	**P**	**09 09 45.1**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=161,slow=6.8,SNR=26						
SONM	**Songino Array**	**57.94**	**341**	P	**P**	**09 09 45.1**	**+0.4**
WMQ	**Urumqi**	**63.02**	**327**	*e*P	**P**	**09 10 18.0**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,14nm,1.0s						
KSH	**Kashi**	**67.74**	**317**	*e*P	**P**	**09 10 51.0**	**+1.2**
KSH				*e*PcP	**PcP**	**09 11 17.0**	**+1.5**
KSH				*e*pP	**pP**	**09 11 25.0**	**-1.0**
KSH				*e*sP	**sP**	**09 11 40.8**	**-1.3**
KSH				*e*PP	**PP**	**09 13 23.5**	**+2.2**
KSH				*e*ScP		09 15 05.5	
KSH				*e*PcS		09 15 20.5	
KSH				*e*S	**S**	**09 19 31.5**	**-4.2**
KSH				*e*ScS	**SKSac**	**09 20 32.0**	**-1.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,96nm,4.3s						
KSH				LR	LR		
	comp=N,160nm,4.9s						
KSH				LR	LR		
	comp=E,190nm,5.0s						
KSH				LR	LR		
	comp=Z,150nm,4.7s						
MK31	**Makanchi Array**	**67.85**	**327**	*e*P	**P**	**09 10 50.5**	**+0.3**
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**09 10 50.4**	**+0.2**
	comp=Z,17nm,0.4s,baz=113,slow=8.5,SNR=426						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**09 10 50.4**	**+0.2**
KZA	**Kyzart**	**69.48**	**319**	P	**P**	**09 11 02.5**	**+1.6**
	SNR=8.3						
KZA				P	**P**	**09 11 02.5**	**+1.6**
	SNR=8.3						
TKM2	**Tokmak 2**	**69.67**	**320**	P	**P**	**09 11 02.8**	**+1.0**
	SNR=11						
TKM2				P	**P**	**09 11 02.8**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**70.24**	**320**	P	**P**	**09 11 06.5**	**+1.3**
	SNR=5.5						
AAK				P	**P**	**09 11 06.5**	**+1.3**
	SNR=5.5						
AAK	**Ala-Archa**	**70.24**	**320**	P	**P**	**09 11 05.9**	**+0.7**
	comp=Z,3.3nm,0.3s,baz=125,slow=4.8,SNR=17						
AAK	**Ala-Archa**	**70.24**	**320**	P	**P**	**09 11 05.9**	**+0.7**
AML	**Almayashu**	**70.52**	**319**	P	**P**	**09 11 08.6**	**+1.4**
	SNR=14						
AML				P	**P**	**09 11 08.6**	**+1.4**
	SNR=14						
USP	**Ospenovka**	**70.54**	**320**	P	**P**	**09 11 07.9**	**+1.0**
	SNR=14						
USP				P	**P**	**09 11 07.9**	**+1.0**
	SNR=14						
EKS2	**Erkin-Say**	**70.71**	**319**	P	**P**	**09 11 09.1**	**+1.1**
	SNR=7.8						
EKS2				P	**P**	**09 11 09.1**	**+1.1**
	SNR=7.8						
EKS2	**Erkin-Say**	**70.71**	**319**	*e*P	**P**	**09 11 08.9**	**+0.9**
	comp=Z,9.0nm,0.8s						
ZAA0	**Zalesovo Array**	**71.14**	**334**	*e*P	**P**	**09 11 09.2**	**-1.1**
ZALV	**Zalesovo Beam**	**71.14**	**334**	P	**P**	**09 11 09.6**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=117,slow=5.3,SNR=21						
ZALV	**Zalesovo Beam**	**71.14**	**334**	P	**P**	**09 11 09.6**	**-0.6**
KURK	**Kurchatov**	**72.13**	**328**	P	**P**	**09 11 16.3**	**+0.1**
	comp=Z,6.9nm,0.7s,baz=129,slow=5.0,SNR=81						
KURK	**Kurchatov**	**72.13**	**328**	P	**P**	**09 11 16.3**	**+0.1**
	comp=Z,0.9nm,0.8s						
KKAR	**Karatay Array**	**73.05**	**319**	*e*P	**P**	**09 11 22.1**	**+0.2**
BVAR	**Borovoye Array**	**77.68**	**328**	P	**P**	**09 11 47.9**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=127,slow=7.7,SNR=20						
BVAR	**Borovoye Array**	**77.68**	**328**	P	**P**	**09 11 47.9**	**-0.1**
BRVK	**Borovoye**	**77.75**	**328**	*e*P	**P**	**09 11 48.1**	**-0.3**
	comp=Z,6.9nm,1.0s						
ABPO	**Ambohimpanom**	**81.39**	**252**	*e*P	P	09 12 15.2	+6.1
	comp=Z,10nm,0.5s						
ABKAR	**Akbulak array**	**82.19**	**321**	*e*P	**P**	**09 12 11.9**	**-0.4**
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**09 12 20.8**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=354,slow=1.3,SNR=11						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**09 12 20.8**	**+1.3**
ILAR	**Eielson Array**	**92.67**	**25**	P	**P**	**09 13 00.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**128.95**	**282**	PKP	**PKPdf**	**09 19 00.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=60,slow=2.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.95**	**282**	PKP	**PKPdf**	**09 19 00.6**	**+1.5**

IDC 31 09:23:56.7±5.2, 16.°01S×175.°62W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=190.4km s-min=104.0km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.88**	**240**	P	P	09 31 49.3	+0.4
	3.4nm,1.0s,baz=84,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**47.62**	**257**	P	P	09 32 34.5	-0.4
	0.4nm,0.5s,baz=95,slow=7.4,SNR=4.6						
ASAR	**Alice Springs**	**47.89**	**252**	P	P	09 32 36.8	-0.2
	3.4nm,0.5s,baz=87,slow=8.4,SNR=67						
ASAR				PcP	PcP	09 34 05.4	-0.3
	0.2nm,0.8s,baz=97,slow=3.9,SNR=4.2						

*CSEM **31** 09:33:00.9±0.3, 36.°94N×28.°25E, h2km, MD2.7, Error ellipse: s-maj=6.2km s-min=4.0km az=20.0*
*DDA **31** 09:33:01.0, 36.°97N×28.°16E, h7km, MD2.9*
*ISK **31** 09:33:00.7, 36.°97N×28.°26E, h5km, MD2.7*

ISC 31 09:33:00.2±1.2, 36.°92N±0.°03×28.°23E±0.°03, h2km±11km, n20, σ0§62/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.22**	**11**	*e*PG	**Pg**	**09 33 04.6**	**+0.2**
YER				*e*SG	**Sg**	**09 33 07.6**	**+0.3**
YER	**Yerkesik**	**0.22**	**11**	*e*Pg	**Pg**	**09 33 04.6**	**+0.2**
YER				*e*Sg	**Sg**	**09 33 07.6**	**+0.3**
TURN	**Turunc**	**0.30**	**99**	*i* P	**Pg**	**09 33 05.2**	**-0.7**
TURN				*i* S	**Sg**	**09 33 08.8**	**-1.0**
TURN	**Turunc**	**0.30**	**99**	*i* P	**Pg**	**09 33 05.2**	**-0.7**
TURN				*i* S	**Sg**	**09 33 08.8**	**-1.0**
BDRM	**Kayabasi**	**0.65**	**283**	*i* P	**Pg**	**09 33 12.7**	**+0.1**
BDRM				*i* S	**Sb**	**09 33 23.1**	**-0.6**
BDRM	**Kayabasi**	**0.65**	**283**	*i* P	**Pg**	**09 33 12.7**	**+0.1**
BDRM				*i* S	**Sb**	**09 33 23.1**	**-0.6**
FETY	**Fethiye**	**0.74**	**112**	*e*PG	**Pb**	**09 33 16.3**	**+0.5**
FETY				*e*SG	**Sg**	**09 33 25.3**	**+1.4**
FETY	**Fethiye**	**0.74**	**112**	*e*Pg	**Pb**	**09 33 16.3**	**+0.5**
FETY				*e*Sg	**Sg**	**09 33 25.3**	**+1.4**
BODT	**Bodrum**	**

PCAB				*e*Sn		**Sn**	**09 56 46.8**	**-0.2**
PCAB				A		A	09 56 49.9	
	9.8nm,0.3s							
PCAB	**Cabril**	**4.68**	**104**	P		**Pn**	**09 55 54.9**	**+2.3**
PCAB				S		**Sn**	**09 56 46.8**	**-0.2**
	4.9nm,0.3s							
PCAB	**Cabril**	**4.68**	**104**	P		**Pn**	**09 55 54.9**	**+2.3**
PCAB				S		**Sn**	**09 56 46.8**	**-0.2**
	4.9nm,0.3s							
POLO	**Lamas de Olo**	**4.96**	**107**	*e*Pn		**Pn**	**09 55 58.7**	**+2.2**
POLO				*e*Sn		**Sn**	**09 56 54.3**	**+0.4**
POLO				A		A	09 56 58.3	
	2.0nm,0.2s							
POLO	**Lamas de Olo**	**4.96**	**107**	*e*Pn		**Pn**	**09 55 58.7**	**+2.2**
POLO				*e*Sn		**Sn**	**09 56 54.3**	**+0.4**
	2.0nm,0.2s							
EPON	**Pontenova**	**5.10**	**84**	P		**Pn**	**09 55 59.0**	**+0.6**
	10nm,0.2s,SNR=25							
EPON				S		**Sn**	**09 56 54.1**	**-3.3**
	2.7nm,0.1s,SNR=8.9							
EPON	**Pontenova**	**5.10**	**84**	P		**Pn**	**09 55 59.0**	**+0.6**
	10nm,0.2s,SNR=25							
PVIS	**Viseu**	**5.16**	**114**	*e*Pn		**Pn**	**09 56 01.3**	**+2.1**
PVIS				*e*Sn		**Sn**	**09 56 58.7**	**-0.2**
PVIS				A		A	09 57 03.2	
	8.0nm,0.3s							
PVIS	**Viseu**	**5.16**	**114**	P		**Pn**	**09 56 01.3**	**+2.1**
PVIS				S		**Sn**	**09 56 58.7**	**-0.2**
	4.0nm,0.3s							
PVIS	**Viseu**	**5.16**	**114**	P		**Pn**	**09 56 01.3**	**+2.1**
PVIS				S		**Sn**	**09 56 58.7**	**-0.2**
	4.0nm,0.3s							
ERUA	**La Rua**	**5.17**	**94**	P		**Pn**	**09 56 00.8**	**+1.5**
	6.0nm,0.1s,SNR=7.9							
ERUA	**La Rua**	**5.17**	**94**	P		**Pn**	**09 56 00.8**	**+1.5**
	6.0nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**5.43**	**136**	*e*Pn		**Pn**	**09 56 05.1**	**+2.2**
PMAFR				*e*Sn		**Sn**	**09 57 05.0**	**-0.4**
PMAFR				A		A	09 57 07.6	
	25nm,0.7s							
PMAFR	**Mafra**	**5.43**	**136**	P		**Pn**	**09 56 05.3**	**+2.4**
	1.5nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**09 57 04.8**	**-0.6**
	14nm,0.2s,SNR=9.6							
PMAFR	**Mafra**	**5.43**	**136**	*e*Pn		**Pn**	**09 56 05.1**	**+2.2**
PMAFR				S		**Sn**	**09 57 04.8**	**-0.6**
	14nm,0.2s,SNR=9.6							
PTOM	**Tomar**	**5.45**	**126**	*e*Sn		**Sn**	**09 57 05.4**	**-0.4**
PTOM				A		A	09 57 09.1	
	9.7nm,0.2s							
PTOM	**Tomar**	**5.45**	**126**	S		**Sn**	**09 57 05.4**	**-0.4**
	4.8nm,0.2s							
PTOM	**Tomar**	**5.45**	**126**	S		**Sn**	**09 57 05.4**	**-0.4**
	4.8nm,0.2s							
MTE	**Manteigas**	**5.55**	**115**	*e*Pn		**Pn**	**09 56 06.0**	**+1.4**
MTE				*e*Sn		**Sn**	**09 57 07.2**	**-1.2**
MTE	**Manteigas**	**5.55**	**115**	P		**Pn**	**09 56 06.0**	**+1.4**
MTE				S		**Sn**	**09 57 07.2**	**-1.2**
MTE	**Manteigas**	**5.55**	**115**	P		**Pn**	**09 56 06.0**	**+1.4**
MTE				S		**Sn**	**09 57 07.2**	**-1.2**
ECAL	**Calabor**	**5.55**	**98**	P		**Pn**	**09 56 06.7**	**+2.1**
	1.7nm,0.2s,SNR=6.4							
ECAL				S		**Sn**	**09 57 07.6**	**-0.9**
	4.3nm,0.1s							
ECAL	**Calabor**	**5.55**	**98**	P		**Pn**	**09 56 06.7**	**+2.1**
	1.7nm,0.2s,SNR=6.4							
ECAL				S		**Sn**	**09 57 07.6**	**-0.9**
	4.3nm,0.1s							
MVO	**Moncorvo**	**5.57**	**107**	*e*Pn		**Pn**	**09 56 06.8**	**+1.9**
MVO				*e*Sn		**Sn**	**09 57 08.3**	**-0.7**
MVO				A		A	09 57 10.5	
	3.4nm,0.2s							
MVO	**Moncorvo**	**5.57**	**107**	P		**Pn**	**09 56 06.6**	**+1.7**
	0.4nm,0.0s,SNR=7.9							
MVO				S		**Sn**	**09 57 07.5**	**-1.5**
	2.4nm,0.1s,SNR=6.5							
MVO	**Moncorvo**	**5.57**	**107**	*e*Pn		**Pn**	**09 56 06.8**	**+1.9**
MVO				S		**Sn**	**09 57 07.5**	**-1.5**
	2.4nm,0.1s,SNR=6.5							
MVO				*e*Sn		**Sn**	**09 57 08.3**	**-0.7**
	3.4nm,0.2s							
PBRG	**Braganca**	**5.58**	**100**	*e*Pn		**Pn**	**09 56 07.0**	**+2.0**
PBRG				*e*Sn		**Sn**	**09 57 09.1**	**-0.1**
PBRG				A		A	09 57 11.9	
	2.9nm,0.1s							
PBRG	**Braganca**	**5.58**	**100**	P		**Pn**	**09 56 07.0**	**+2.0**
PBRG				S		**Sn**	**09 57 09.1**	**-0.1**
	1.4nm,0.1s							
PBRG	**Braganca**	**5.58**	**100**	P		**Pn**	**09 56 07.0**	**+2.0**
PBRG				S		**Sn**	**09 57 09.1**	**-0.1**
	1.4nm,0.1s							
PCBR	**Castelo Branco**	**5.89**	**120**	*e*Sn		**Sn**	**09 57 15.7**	**-1.0**
PCBR				A		A	09 57 17.9	
	1.7nm,0.2s							
PCBR	**Castelo Branco**	**5.89**	**120**	S		**Sn**	**09 57 15.7**	**-1.0**
	0.9nm,0.2s							
PCBR	**Castelo Branco**	**5.89**	**120**	S		**Sn**	**09 57 15.7**	**-1.0**
	0.9nm,0.2s							
PMTG	**Montargil**	**5.92**	**129**	*e*Pn		**Pn**	**09 56 11.8**	**+2.2**
PMTG				*e*Sn		**Sn**	**09 57 16.9**	**-0.5**
PMTG				A		A	09 57 22.1	
	4.4nm,0.1s							
PMTG	**Montargil**	**5.92**	**129**	*e*Pn		**Pn**	**09 56 11.8**	**+2.2**
PMTG				*e*Sn		**Sn**	**09 57 16.9**	**-0.5**
	4.4nm,0.1s							
PMRV	**Marv??o**	**6.18**	**123**	*e*Pn		**Pn**	**09 56 14.9**	**+1.7**
PMRV				*e*Sn		**Sn**	**09 57 22.9**	**-1.1**
PMRV	**Marv??o**	**6.18**	**123**	P		**Pn**	**09 56 14.9**	**+1.7**
PMRV				S		**Sn**	**09 57 22.9**	**-1.1**
PMRV	**Marv??o**	**6.18**	**123**	P		**Pn**	**09 56 14.9**	**+1.7**
PMRV				S		**Sn**	**09 57 22.9**	**-1.1**
EVO	**Evora**	**6.41**	**132**	*e*Pn		**Pn**	**09 56 18.2**	**+1.8**
EVO				*e*Sn		**Sn**	**09 57 27.6**	**-2.0**
EVO				A		A	09 57 31.9	
	7.2nm,0.1s							
EVO	**Evora**	**6.41**	**132**	P		**Pn**	**09 56 18.2**	**+1.8**
EVO				S		**Sn**	**09 57 27.6**	**-2.0**
	7.2nm,0.1s							
EVO	**Evora**	**6.41**	**132**	P		**Pn**	**09 56 18.2**	**+1.8**
EVO				S		**Sn**	**09 57 27.6**	**-2.0**
	7.2nm,0.1s							
PESTR	**Estremoz**	**6.42**	**128**	*e*Pn		**Pn**	**09 56 17.9**	**+1.4**
PESTR				*e*Sn		**Sn**	**09 57 26.9**	**-2.9**
PESTR				A		A	09 57 35.4	
	3.2nm,0.2s							
PESTR	**Estremoz**	**6.42**	**128**	P		**Pn**	**09 56 17.9**	**+1.4**
PESTR				S		**Sn**	**09 57 26.9**	**-2.9**
	3.2nm,0.2s							
PESTR	**Estremoz**	**6.42**	**128**	P		**Pn**	**09 56 17.9**	**+1.4**
PESTR				S		**Sn**	**09 57 26.9**	**-2.9**
	3.2nm,0.2s							
PNCL	**Nicolau / Gran**	**6.45**	**137**	*e*Pn		**Pn**	**09 56 19.1**	**+2.2**
PNCL				*e*Sn		**Sn**	**09 57 29.4**	**-1.2**
PNCL				A		A	09 57 34.4	
	6.1nm,0.3s							
PNCL	**Nicolau / Gran**	**6.45**	**137**	*e*Pn		**Pn**	**09 56 19.1**	**+2.2**
PNCL				*e*Sn		**Sn**	**09 57 29.4**	**-1.2**
	6.1nm,0.3s							
EARI	**Arriondas**	**6.52**	**84**	P		**Pn**	**09 56 18.9**	**+1.0**
	3.9nm,0.2s,SNR=22							
EARI				S		**Sn**	**09 57 28.3**	**-4.0**
	1.7nm,0.3s							
EARI	**Arriondas**	**6.52**	**84**	P		**Pn**	**09 56 18.9**	**+1.0**
	3.9nm,0.2s,SNR=22							
EPLA	**Plasencia**	**6.69**	**113**	P		**Pn**	**09 56 22.5**	**+2.3**
	1.2nm,0.0s,SNR=6.4							
EPLA				S		**Sn**	**09 57 33.7**	**-2.8**
	4.8nm,0.2s							
EPLA	**Plasencia**	**6.69**	**113**	P		**Pn**	**09 56 22.5**	**+2.3**
	1.2nm,0.0s,SNR=6.4							
EPLA				S		**Sn**	**09 57 33.7**	**-2.8**
	4.8nm,0.2s							
PTEO	**Sao Teotonio**	**6.81**	**141**	*e*Sn		**Sn**	**09 57 37.2**	**-2.2**
PTEO				A		A	09 57 45.1	
	16nm,0.6s							
PTEO	**Sao Teotonio**	**6.81**	**141**	S		**Sn**	**09 57 37.2**	**-2.2**
	8.2nm,0.6s							
PTEO	**Sao Teotonio**	**6.81**	**141**	S		**Sn**	**09 57 37.2**	**-2.2**
	8.2nm,0.6s							
EBAD	**Badajoz**	**6.83**	**126**	P		**Pn**	**09 56 23.7**	**+1.6**
	0.4nm,0.1s,SNR=6.4							
EBAD				S		**Sn**	**09 57 36.5**	**-3.5**
	3.0nm,0.2s,SNR=9.3							
EBAD	**Badajoz**	**6.83**	**126**	P		**Pn**	**09 56 23.7**	**+1.6**
	0.4nm,0.1s,SNR=6.4							
EBAD				S		**Sn**	**09 57 36.5**	**-3.5**
	3.0nm,0.2s,SNR=9.3							
PBEJ	**Beja**	**6.86**	**134**	*e*Sn		**Sn**	**09 57 37.6**	**-3.0**
PBEJ	**Beja**	**6.86**	**134**	S		**Sn**	**09 57 37.6**	**-3.0**
PBEJ	**Beja**	**6.86**	**134**	S		**Sn**	**09 57 37.6**	**-3.0**
MORF	**Marmelete**	**7.04**	**142**	*e*Pn		**Pn**	**09 56 26.6**	**+1.6**
MORF				*e*Sn		**Sn**	**09 57 42.3**	**-2.8**
MORF				A		A	09 57 49.4	
	8.5nm,0.2s							
MORF	**Marmelete**	**7.04**	**142**	P		**Pn**	**09 56 26.6**	**+1.6**
MORF				S		**Sn**	**09 57 42.3**	**-2.8**
	8.5nm,0.2s							
MORF	**Marmelete**	**7.04**	**142**	P		**Pn**	**09 56 26.6**	**+1.6**
MORF				S		**Sn**	**09 57 42.3**	**-2.8**
	8.5nm,0.2s							
PCVE	**Castro Verde**	**7.07**	**137**	*e*Pn		**Pn**	**09 56 27.8**	**+2.4**
PCVE				*e*Sn		**Sn**	**09 57 43.3**	**-2.5**
PCVE				A		A	09 57 48.0	
	4.4nm,0.4s							
PCVE	**Castro Verde**	**7.07**	**137**	P		**Pn**	**09 56 27.8**	**+2.4**
PCVE				S		**Sn**	**09 57 43.3**	**-2.5**
	4.4nm,0.4s							
PCVE	**Castro Verde**	**7.07**	**137**	P		**Pn**	**09 56 27.8**	**+2.4**
PCVE				S		**Sn**	**09 57 43.3**	**-2.5**
	4.4nm,0.4s							
PFVI	**Vila Bisbo**	**7.10**	**144**	*e*Sn		**Sn**	**09 57 44.0**	**-2.6**
PFVI				A		A	09 57 46.8	
	13nm,0.5s							
PFVI	**Vila Bisbo**	**7.10**	**144**	S		**Sn**	**09 57 44.7**	**-1.9**
	1.5nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**7.10**	**144**	*e*Sn		**Sn**	**09 57 44.0**	**-2.6**
	13nm,0.5s							
PFVI				S		**Sn**	**09 57 44.7**	**-1.9**
	1.5nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**7.21**	**129**	*e*Pn		**Pn**	**09 56 29.2**	**+1.9**
PBAR				*e*Sn		**Sn**	**09 57 47.1**	**-2.1**
PBAR				A		A	09 57 52.3	
	3.1nm,0.4s							
PBAR	**Barrancos**	**7.21**	**129**	P		**Pn**	**09 56 29.2**	**+1.9**
PBAR				S		**Sn**	**09 57 47.1**	**-2.1**
	3.1nm,0.4s							
PBAR	**Barrancos**	**7.21**	**129**	P		**Pn**	**09 56 29.2**	**+1.9**
PBAR				S		**Sn**	**09 57 47.1**	**-2.1**
	3.1nm,0.4s							
PVAQ	**Vaqueiros**	**7.41**	**137**	*e*Pn		**Pn**	**09 56 32.4**	**+2.3**
PVAQ				*e*Sn		**Sn**	**09 57 51.5**	**-2.6**
PVAQ				A		A	09 57 57.4	
	5.5nm,0.4s							
PVAQ	**Vaqueiros**	**7.41**	**137**	P		**Pn**	**09 56 32.4**	**+2.3**
PVAQ				S		**Sn**	**09 57 51.5**	**-2.6**
	5.5nm,0.4s							
PVAQ	**Vaqueiros**	**7.41**	**137**	P		**Pn**	**09 56 32.4**	**+2.3**
PVAQ				S		**Sn**	**09 57 51.5**	**-2.6**
	5.5nm,0.4s							
PBDV	**Barranco-do-Ve**	**7.43**	**138**	*e*Pn		Pn	09 56 32.9	+2.5
PBDV				*e*Sn		**Sn**	**09 57 51.5**	**-3.2**
PBDV				A		A	09 58 02.0	
	6.3nm,0.7s							
PBDV	**Barranco-do-Ve**	**7.43**	**138**	P		Pn	09 56 32.9	+2.5
PBDV				S		**Sn**	**09 57 51.5**	**-3.2**
	6.3nm,0.7s							
PBDV	**Barranco-do-Ve**	**7.43**	**138**	P		Pn	09 56 32.9	+2.5
PBDV				S		**Sn**	**09 57 51.5**	**-3.2**
	6.3nm,0.7s							
EGRO	**El Granado**	**7.43**	**135**	P		**Pn**	**09 56 32.7**	**+2.4**
	0.2nm,0.0s,SNR=7.9							
EGRO				S		**Sn**	**09 57 52.1**	**-2.5**
	1.6nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**7.43**	**135**	P		**Pn**	**09 56 32.7**	**+2.4**
	0.2nm,0.0s,SNR=7.9							
EGRO				S		**Sn**	**09 57 52.1**	**-2.5**
	1.6nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.70**	**130**	P		**Pn**	**09 56 36.0**	**+2.0**
	0.3nm,0.1s,SNR=8.5							
EMIN				S		**Sn**	**09 57 58.4**	**-2.9**
	0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.70**	**130**	P		**Pn**	**09 56 36.0**	**+2.0**
	0.3nm,0.1s,SNR=8.5							
EMIN				S		**Sn**	**09 57 58.4**	**-2.9**
	0.7nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**7.79**	**104**	P		Pn	09 56 38.1	+2.6
	3.0nm,0.2s,SNR=5.8							
GUD				S		**Sn**	**09 58 04.0**	**+0.2**
	0.4nm,0.1s							
GUD	**Guadarrama**	**7.79**	**104**	P		Pn	09 56 38.1	+2.6
	3.0nm,0.2s,SNR=5.8							
GUD				S		**Sn**	**09 58 04.0**	**+0.2**
	0.4nm,0.1s							
ELAN	**Lanestosa**	**7.82**	**85**	P		**Pn**	**09 56 36.9**	**+1.3**
	0.8nm,0.2s,SNR=7.8							
ELAN				S		**Sn**	**09 57 60.0**	**-4.1**
	1.3nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**7.82**	**85**	P		**Pn**	**09 56 36.9**	**+1.3**
	0.8nm,0.2s,SNR=7.8							
ESDC	**Sonseca Array**	**8.31**	**110**	P		Pn	09 56 44.4	+1.8
	1.9nm,0.1s,baz=295,slow=13,SNR=11							
ESDC				S		**Sn**	**09 58 15.2**	**-1.3**
	0.7nm,0.5s,baz=290,slow=24,SNR=4.8							
ESDC	**Sonseca Array**	**8.31**	**110**	P		**Pn**	**09 56 44.4**	**+1.8**
	1.9nm,0.1s,slow=13,SNR=11							
ESDC				S		**Sn**	**09 58 15.2**	**-1.3**
	0.7nm,0.5s,slow=24,SNR=4.8							
EADA	**Adamuz**	**8.70**	**120**	P		**Pn**	**09 56 49.1**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**09 58 22.9**	**-3.0**
	0.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**8.70**	**120**	P		**Pn**	**09 56 49.1**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**09 58 22.9**	**-3.0**
	0.1nm,0.2s,SNR=7.9							

*IDC **31** 10:01:19.8±8.5,52°.55N×161°.99W,h0km,mb3.8/4, mb1 3.8/4,mb1mx3.5/27,mbtmp3.8/4,Error ellipse: s-maj=229.0km s-min=35.6km az=171.0*
*NEIC **31** 10:01:34.7,53°.97N×163°.19W,h14km,ML3.0(AEIC),After AEIC.*
IDC 31 10:01:31.2±2.7,53°.83N±0°.09×163°.19W±0°.05,h9km±15km, n25,σ0s71/34,mb4.0/4,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.88**	**339**	P	**Pn**	**10 01 49.9**	**+0.1**
BRPK				S	**Sg**	**10 01 59.6**	**+0.1**
SSLS	**Shishaldin Sou**	**1.00**	**332**	P	**Pn**	**10 01 52.4**	**+0.9**
SSLS				S	**Sb**	**10 02 04.8**	**+0.7**
FALS	**False Pass**	**1.04**	**353**	P	**Pn**	**10 01 52.0**	**+0.1**
FALS				S	**Sg**	**10 02 04.0**	**-0.6**
WESE	**West Dahl East**	**1.04**	**309**	P	**Pn**	**10 01 53.0**	**+0.9**
DRIA	**Deer Island**	**1.26**	**25**	P	**Pn**	**10 01 55.0**	**0.0**
DT1	**Dutton Round H**	**1.38**	**22**	P	**Pn**	**10 01 56.5**	**-0.2**
DTNA	**Dutton South F**	**1.43**	**22**	P	**Pb**	**10 01 58.0**	**0.0**
DOL	**Dolgoi Island**	**1.53**	**30**	P	**Pn**	**10 01 59.0**	**+0.3**
AKUT	**Akutan**	**1.56**	**282**	P	**Pb**	**10 02 00.4**	**+0.2**
AKUT				*e*Sn	**Sn**	**10 02 18.6**	**-0.7**
AKUT				S	**Sg**	**10 02 21.6**	**+0.4**
AKLV	**Akutan Long Va**	**1.67**	**283**	P	**Pb**	**10 02 02.5**	**+0.4**
ZRO	**Akutan Zero**	**1.67**	**280**	P	**Pb**	**10 02 02.6**	**+0.5**
AKGG	**Akutan Green G**	**1.69**	**284**	P	**Pb**	**10 02 02.7**	**+0.1**
PS4A	**Pavlof South-4**	**1.71**	**27**	P	**Pb**	**10 02 02.3**	**-0.4**
PS4A				S	**Sb**	**10 02 24.4**	**+0.2**
AKRB	**Akutan Reef Bi**	**1.73**	**281**	P	**Pb**	**10 02 03.0**	**-0.1**
UNV	**Unalaska Valle**	**1.96**	**272**	P	**Pb**	**10 02 06.3**	**-0.8**
UNV				*e*Sn	**Sn**	**10 02 30.1**	**+0.8**
MREP	**Makushin Rep't**	**2.11**	**271**	P	**Pb**	**10 02 09.1**	**-0.5**
SDPT	**Sand Point**	**2.19**	**45**	P	**Pn**	**10 02 08.8**	**+1.0**
SDPT				*e*Sn	**Sn**	**10 02 35.7**	**+0.7**
SDPT				S	**Sb**	**10 02 36.8**	**-1.5**
MSOM	**Makushin Julie**	**2.23**	**271**	P	**Pb**	**10 02 10.6**	**-1.1**
CHGN	**Chignik**	**3.70**	**46**	*e*Pn	**Pn**	**10 02 30.4**	**+1.9**
CHGN				*e*Sn	**Sn**	**10 03 11.5**	**-0.5**
PETK	**Petropavlovsk-**	**23.10**	**284**	P	**P**	**10 06 37.0**	**-0.1**
	5.6nm,1.0s,baz=84,slow=14,SNR=3.5						
PETK	**Petropavlovsk-**	**23.10**	**284**	P	**P**	**10 06 37.0**	**-0.1**
YKA	**Yellowknife Ar**	**26.44**	**51**	P	P	10 07 00.0	-8.0
	0.0nm,0.3s,baz=270,slow=7.8,SNR=2.5						
KURK	**Kurchatov**	**63.66**	**321**	P	**P**	**10 12 02.8**	**+0.4**
	0.3nm,0.3s,baz=32,slow=7.1,SNR=7.9						
BVAR	**Borovoye Array**	**64.58**	**327**	P	**P**	**10 12 08.1**	**-0.3**
	0.7nm,0.6s,baz=51,slow=8.0,SNR=6.9						
MKAR	**Makanchi Array**	**65.41**	**317**	P	**P**	**10 12 13.2**	**-0.7**
	0.4nm,0.7s,baz=47,slow=5.6,SNR=4.3						

IDC 31 10:13:59.4±1.5,1°.82N×125°.83E,h0km,mb3.1/4, mb1 3.3/4,mb1mx3.3/17,mbtmp3.2/4,Error ellipse: s-maj=153.8km s-min=23.5km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**159**	P	P	10 19 07.8	-0.3
	0.3nm,0.4s,baz=339,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**26.53**	**163**	P	P	10 19 39.2	+0.2
	0.2nm,0.8s,baz=344,slow=11,SNR=3.4						
SONM	**Songino Array**	**48.82**	**343**	P	P	10 22 47.5	+0.8
	0.3nm,0.7s,baz=140,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**58.61**	**326**	P	P	10 23 57.5	-0.9
	0.2nm,0.8s,baz=131,slow=7.9,SNR=2.9						

*DJA **31** 10:21:55,3°.53S×140°.50E,h28km,MLv4.1/3*
IDC 31 10:21:51.4±1.6,3°.34S×140°.32E,h0km,mb3.6/3, mb1 4.0/4,mb1mx3.7/14,mbtmp3.7/4,ML4.2/1,MS2.9/4, Ms1 2.9/4,ms1mx2.6/26,Error ellipse: s-maj=75.6km s-min=27.7km az=101.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.50**	**199**	P	Pn	10 25 55.9	-1.2
	0.9nm,0.3s,baz=16,slow=13,SNR=11						
WRA				S	Sn	10 28 58.0	-15
	0.2nm,0.3s,baz=19,slow=23,SNR=3.7						
CTA	**Charters Tower**	**17.62**	**161**	LR	LR	10 33 29.3	
	comp=Z,28nm,18.8s,baz=55,slow=40						
FITZ	**Fitzroy Crossi**	**20.55**	**223**	LR	LR	10 35 08.0	
	comp=Z,37nm,20.6s,baz=266,slow=39						
ASAR	**Alice Springs**	**21.14**	**197**	P	P	10 26 38.4	+0.2
	3.9nm,0.6s,baz=26,slow=9.0,SNR=29						
ASAR				S	S	10 30 27.8	-6.5
	0.8nm,0.8s,baz=18,slow=26,SNR=4.0						
STKA	**Stephens Creek**	**28.41**	**178**	LR	LR	10 40 08.0	
	comp=Z,94nm,19.6s,baz=205,slow=39						
KSRS	**Korea Array**	**42.19**	**345**	LR	LR	10 45 44.7	
	comp=Z,3.7nm,18.4s,baz=134,slow=34						
MKAR	**Makanchi Array**	**71.27**	**322**	P	P	10 33 13.3	+0.6
	0.2nm,0.7s,baz=123,slow=5.3,SNR=3.4						
ILAR	**Eielson Array**	**85.74**	**24**	P	P	10 34 31.8	-0.3
	0.3nm,0.6s,baz=266,slow=4.5,SNR=7.6						

*ISCJB **31** 10:37:00.7±0.6,31°.22N±0°.07×104°.12E±0°.08,h10km, mb3.6/7,Error ellipse: s-maj=13.2km s-min=5.2km az=136.1*
*IDC **31** 10:37:01.4±1.0,31°.15N×103°.73E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.6/25,mbtmp3.6/9,ML2.9/1,Error ellipse: s-maj=39.7km s-min=17.3km az=58.0*
*BJI **31** 10:37:04.8,31°.24N×103°.85E,h14km,ML3.1/15*
ISC 31 10:37:02.3±0.8,31°.28N±0°.06×103°.96E±0°.07,h10km,n12, σ1s27/14,mb3.6/7,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.41**	**206**	Pg	**Pg**	**10 37 09.3**	**-1.0**
CD2				Sg	**Sg**	**10 37 15.0**	**-0.6**
CD2				*s*max	*s*max		
	comp=N,12μm,0.5s						
CD2				*s*max	*s*max		
	comp=E,12μm,0.6s						
LZH	**Lanzhou**	**4.80**	**359**	Pg	Pg	10 38 42.3	+8.1
LZH				Sg	**Sg**	**10 39 35.5**	**-0.9**
LZH				*s*max	*s*max		
	comp=N,61nm,1.2s						
LZH				*s*max	*s*max		
	comp=E,71nm,1.2s						
LZH				LR	LR		
	comp=N,420nm,6.2s						
LZH				LR	LR		
	comp=E,350nm,7.3s						
LZH				LR	LR		
	comp=Z,490nm,7.6s						
XAN	**Xi'an**	**5.01**	**55**	Pn	Pn	10 38 24.0	+6.4
XAN				Pg	**Pg**	**10 38 37.0**	**-1.2**
XAN				Sn	**Sb**	**10 39 28.5**	**-1.9**
XAN				Sg	**Sg**	**10 39 45.0**	**+1.9**
XAN				*s*max	*s*max		
	comp=N,28nm,0.6s						
XAN				*s*max	*s*max		
	comp=E,16nm,0.7s						
SONM	**Songino Array**	**16.64**	**6**	Pn	**P**	**10 40 57.5**	**-0.7**
	comp=E,0.0nm,0.3s,baz=181,slow=12,SNR=3.0						
KSRS	**Korea Array**	**20.69**	**66**	P	Pn	10 41 47.1	+2.3
	comp=E,1.0nm,0.6s,baz=249,slow=9.7,SNR=4.6						
MKAR	**Makanchi Array**	**22.77**	**319**	P	**P**	**10 42 06.8**	**+2.0**
	comp=E,0.6nm,0.8s,baz=147,slow=12,SNR=2.5						
ZALV	**Zalesovo Beam**	**26.51**	**334**	P	**P**	**10 42 40.3**	**+0.5**
	comp=E,1.0nm,0.5s,baz=144,slow=8.1,SNR=6.0						
KURK	**Kurchatov**	**27.04**	**323**	P	**P**	**10 42 45.4**	**+0.9**
	comp=E,0.5nm,0.6s,baz=128,slow=10,SNR=6.2						
ARCES	**ARCESS Array B**	**57.05**	**336**	P	**P**	**10 46 48.1**	**0.0**
	comp=E,3.2nm,0.9s,baz=76,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**58.68**	**146**	P	**P**	**10 47

BVAR				LR	LR	10 53 27.6			
	comp=Z,34nm,19.6s,baz=118,slow=42								
BVAR	**Borovoye Array**	**21.70**	**1**	P	**P**	**10 43 09.3**	**+1.7**		
TORD	**Torodi Ar. Bea**	**64.88**	**270**	P	P	10 48 58.3	+2.4		
	0.3nm,0.7s,baz=74,slow=5.0,SNR=3.1								
TORD	**Torodi Ar. Bea**	**64.88**	**270**	P	P	10 48 58.3	+2.4		
RES	**Resolute Bay**	**73.81**	**356**	*e*P	**P**	**10 49 48.8**	**-1.4**		
	2.5nm,0.5s								
ASAR	**Alice Springs**	**81.99**	**124**	P	P	10 50 41.0	+4.5		
	0.1nm,0.5s,baz=308,slow=6.0,SNR=3.1								
ASAR	**Alice Springs**	**81.99**	**124**	P	P	10 50 41.0	+4.5		
YKA	**Yellowknife Ar**	**86.45**	**2**	P	P	10 51 01.1	+2.6		
	0.1nm,0.5s,baz=346,slow=4.8,SNR=5.4								
YKA	**Yellowknife Ar**	**86.45**	**2**	P	P	10 51 01.1	+2.6		

*ISCJB **31** 10:42:33.8±0.4, 6.77N±0.04×72.92W±0.04, h172km±3km, mb4.0/23, Error ellipse: s-maj=6.5km s-min=6.0km az=27.8*

*FUNV **31** 10:42:34.5, 6.77N×73.10W, h170km, MW3.7*

*IDC **31** 10:42:34.4±0.7, 6.79N×72.93W, h162km±6km, mb3.7/13, mb1 3.9/14, mb1mx3.7/22, mbtmp3.7/14, Error ellipse: s-maj=14.0km s-min=10.1km az=89.0*

*NEIC **31** 10:42:34.8±0.3, 6.65N×73.15W, mb4.4/13, Error ellipse: s-maj=10.4km s-min=6.8km az=67.0*

NEIC Felt at Pamplona.

ISC 31 10:42:34.6±0.5, 6.79N±0.04×72.95W±0.06, h166km±4km, h165km; pP-P, n180, σ1°04/208, mb4.2/24, 56C-55D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**31**		*e*S		**Sn**	**10 43 24.8**	**-0.3**
ROSC	**El Rosal**	**2.36**	**216**		P		**Pn**	**10 43 15.4**	**+0.1**
	192nm,0.3s,baz=79,slow=14,SNR=224								
ROSC					S		**Sn**	**10 43 47.1**	**+0.3**
	314nm,0.3s,baz=90,slow=20,SNR=10								
ROSC	**El Rosal**	**2.36**	**216**		P		**Pn**	**10 43 15.4**	**+0.1**
ROSC					S		**Sn**	**10 43 47.1**	**+0.3**
SOCV	**Socops**	**2.55**	**54**	↑	*e*P		**Pn**	**10 43 18.1**	**+1.0**
SOCV					*e*S		**Sn**	**10 43 49.7**	**-0.4**
VIGV	**El Vigia**	**2.57**	**38**	↑	*e*P		**Pn**	**10 43 18.0**	**+0.6**
VIGV					*e*S		**Sn**	**10 43 50.4**	**-0.2**
ELOV	**Elorza**	**3.45**	**86**	↑	*e*P		**Pn**	**10 43 29.6**	**+1.4**
VIRV	**Villa del Rosa**	**3.73**	**8**	↓	*e*P		**Pn**	**10 43 30.3**	**-1.4**
VIRV					*e*S		**Sn**	**10 44 13.0**	**-3.4**
QARV	**Quebrada Arrib**	**4.16**	**35**		*e*P		**Pn**	**10 43 38.1**	**+0.8**
SANV	**Sanarito**	**4.32**	**51**	↑	*e*P		**Pn**	**10 43 39.7**	**+0.2**
DABV	**Dabajuro**	**4.70**	**29**		*e*P		**Pn**	**10 43 44.6**	**+0.3**
TEPV	**Terepaima**	**4.87**	**49**		*e*P		**Pn**	**10 43 47.0**	**+0.3**
BAUV	**El Baul**	**5.31**	**66**	↑	*i*P		**Pn**	**10 43 51.6**	**-0.8**
MAPV	**Macapo**	**5.37**	**56**	↑	*e*P		**Pn**	**10 43 53.3**	**+0.1**
MONV	**Montecano**	**5.91**	**30**		*e*P		**Pn**	**10 43 59.6**	**-0.7**
TURV	**Turiamo**	**6.22**	**54**		*e*P		**Pn**	**10 44 03.7**	**-0.7**
MERV	**Las Mercedes**	**7.03**	**69**		*e*P		**Pn**	**10 44 14.4**	**-0.6**
BCIP	**Isla Barro Col**	**7.22**	**290**		*e*Pn		Pn	10 44 13.4	-4.2
BIRV	**Birongo**	**7.55**	**61**		*e*P		**Pn**	**10 44 21.0**	**-1.0**
OTAV	**Otavalo**	**8.52**	**220**		*e*Pn		Pn	10 44 31.8	-3.4
PCJ	**Portland Cotta**	**11.63**	**340**		*i*P		**Pn**	**10 45 17.4**	**+1.7**
GWJ	**Greenwich**	**11.80**	**342**		*i*P		**Pn**	**10 45 19.4**	**+1.4**
STH	**Stony Hill**	**11.83**	**342**		*i*P		**Pn**	**10 45 19.0**	**+0.7**
MTDJ	**Mount Denham**	**12.21**	**339**		*e*Pn		**Pn**	**10 45 25.8**	**+2.5**
SDDR	**Presa de Saban**	**12.22**	**7**		*e*Pn		**P**	**10 45 27.3**	**-1.7**
BBJ	**Bamboo Saint A**	**12.27**	**340**		*i*P		**Pn**	**10 45 26.2**	**+2.3**
JTS	**JuntasAbangare**	**12.37**	**287**		*e*Pn		**Pn**	**10 45 22.4**	**-2.9**
JTS					*e*Sn		Sn	10 47 34.6	-7.9
SAML	**Samuel**	**18.42**	**148**		*e*P		**P**	**10 46 37.7**	**+0.2**
	4.2nm,0.6s								
SAML					*e*pP		**pP**	**10 47 05.5**	**-0.2**
SAML					*e*S		**S**	**10 49 58.9**	**-0.3**
TEIG	**Tepich**	**19.98**	**313**		P		**P**	**10 46 55.4**	**+1.1**
	14nm,0.5s,baz=319,slow=22,SNR=14								
TEIG	**Tepich**	**19.98**	**313**		*e*P		**P**	**10 46 54.7**	**+0.4**
	15nm,0.6s								
LPAZ	**La Paz**	**23.42**	**168**		*e*P		**P**	**10 47 28.1**	**-1.4**
	2.8nm,0.7s								
LPAZ					*e*pP		**pP**	**10 48 02.3**	**+1.2**
LPAZ					*e*S		**S**	**10 51 26.7**	**-4.3**
SIV	**San Ignacio**	**25.51**	**153**		P		**P**	**10 47 47.0**	**-0.9**
	0.2nm,0.4s,baz=346,slow=12,SNR=4.1								
SIV					pP		**pP**	**10 48 21.6**	**-0.5**
	1.2nm,0.6s,baz=342,slow=11,SNR=4.1								
SIV	**San Ignacio**	**25.51**	**153**		P		**P**	**10 47 47.0**	**-0.9**
SIV					pP		**pP**	**10 48 21.6**	**-0.5**
BDFB	**Brasilia**	**33.27**	**132**		P		**P**	**10 48 57.3**	**+0.7**
	3.5nm,0.5s,baz=288,slow=6.5,SNR=6.1								
BDFB	**Brasilia**	**33.27**	**132**		P		**P**	**10 48 57.3**	**+0.7**
SIUC	**Southern Illin**	**34.15**	**337**		*e*P		**P**	**10 49 04.7**	**+0.9**
	12nm,0.6s								
SFIN	**Scholer Farm**	**35.76**	**341**		↓P		**P**	**10 49 18.3**	**+0.7**
	baz=36,SNR=6.2								
528A	**Cox Ranch, San**	**36.41**	**313**		↓P		**P**	**10 49 23.0**	**-0.4**
	baz=36								
627A	**Terlingua Ranc**	**36.46**	**312**		↑P		**P**	**10 49 23.9**	**0.0**
	baz=36								
TXAR	**Lajitas Array**	**36.61**	**312**		P		**P**	**10 49 25.2**	**+0.1**
	1.3nm,0.6s,baz=126,slow=9.1,SNR=30								
TXAR					PcP		**PcP**	**10 51 46.7**	**+2.0**
	0.2nm,0.6s,baz=133,slow=5.2,SNR=3.7								
TXAR	**Lajitas Array**	**36.61**	**312**		P		**P**	**10 49 25.2**	**+0.1**
TXAR					PcP		**PcP**	**10 51 46.7**	**+2.0**
428A	**Kincaid Ranch,**	**36.65**	**314**		↓P		**P**	**10 49 25.8**	**+0.3**
	baz=37								
527A	**Woodward Ranch**	**37.00**	**313**		↓P		**P**	**10 49 28.3**	**-0.2**
	baz=37								
427A	**Hayter Ranch,**	**37.23**	**314**		↓P		**P**	**10 49 30.0**	**-0.3**
	baz=37								
Z29A	**Hungry Hill Ra**	**37.48**	**319**		↓P		**P**	**10 49 32.1**	**-0.3**
	baz=38								
426A	**McDonald Obser**	**37.58**	**313**		↑P		**P**	**10 49 33.4**	**0.0**
	baz=38,SNR=6.8								
X29A	**Tulia**	**38.22**	**320**		↓P		**P**	**10 49 38.6**	**0.0**
	baz=38								
Y28A	**McKinney Farm,**	**38.23**	**319**		↑P		**P**	**10 49 38.5**	**-0.2**
	baz=38								
Z27A	**Tatum**	**38.52**	**317**		↓P		**P**	**10 49 40.4**	**-0.7**
	baz=39,SNR=11								
X28A	**Dimmitt**	**38.58**	**320**		↑P		**P**	**10 49 41.3**	**-0.3**
	baz=39								
CPRX	**Cap Rock**	**38.79**	**316**		*e*P		**P**	**10 49 43.4**	**0.0**
	5.1nm,0.7s								
Y27A	**Causey**	**38.82**	**318**		↑P		**P**	**10 49 43.3**	**-0.3**
	baz=39								
225A	**Deer Hill, Car**	**38.94**	**315**		↓P		**P**	**10 49 45.0**	**+0.3**
	baz=39								
Z26A	**Caprock**	**39.01**	**317**		↓P		**P**	**10 49 45.0**	**-0.2**
	baz=39,SNR=8.3								
MNTX	**Cornudas Mount**	**39.11**	**314**		↑P		**P**	**10 49 46.2**	**+0.2**
	baz=39,SNR=7.0								
MNTX					↑P		**P**	**10 49 46.2**	**+0.2**
	baz=39,SNR=7.0								
125A	**Gardner Draw,**	**39.13**	**315**		↑P		**P**	**10 49 46.2**	**0.0**
	baz=39								
X27A	**F and S Farms,**	**39.24**	**319**		↓P		**P**	**10 49 47.0**	**-0.2**
	baz=39								
224A	**Cornudas Mount**	**39.42**	**314**		↑P		**P**	**10 49 49.1**	**+0.5**
	baz=39,SNR=11								
W27A	**Bowe Ranch, En**	**39.48**	**320**		↑P		**P**	**10 49 49.1**	**+0.1**
	baz=40								
Z25A	**Roswell**	**39.52**	**316**		↓P		**P**	**10 49 49.5**	**+0.1**
	baz=40								
W26A	**Owens Ranch, T**	**39.95**	**319**		↑P		**P**	**10 49 53.2**	**+0.2**
	baz=40								
Y24A	**Capitan**	**40.38**	**316**		↑P		**P**	**10 49 57.0**	**+0.4**
	baz=40,SNR=7.2								
W25A	**X Bar L Ranch,**	**40.48**	**319**		↓P		**P**	**10 49 57.7**	**+0.4**
	baz=40,SNR=5.7								
Z23A	**Rita Site, Whi**	**40.56**	**315**		↑P		**P**	**10 49 58.5**	**+0.5**
	baz=41								
R27A	**Eads**	**41.38**	**324**		↓P		**P**	**10 50 04.7**	**+0.1**
	baz=42,SNR=7.6								
R26A	**Arlington**	**41.78**	**323**		↑P		**P**	**10 50 08.3**	**+0.4**
	baz=42								
120A	**U Bar Ranch, L**	**41.91**	**312**		↑P		**P**	**10 50 09.9**	**+0.8**
	baz=42								
S25A	**Robets Cordova**	**41.96**	**322**		↓P		**P**	**10 50 10.3**	**+0.8**
	baz=42								
Y21A	**Point of Rocks**	**41.98**	**315**		↑P		**P**	**10 50 09.5**	**-0.2**
	baz=42								
Q26A	**Hugo**	**42.23**	**324**		↑P		**P**	**10 50 12.2**	**+0.7**
	baz=42								
ECSD	**EROS Data Cent**	**42.25**	**334**		*e*P		**P**	**10 50 10.8**	**-0.6**
	96nm,3.0s								
P26A	**Davis Ranch, A**	**42.55**	**325**		↓P		**P**	**10 50 14.5**	**+0.4**
	baz=43								
R24A	**Sanders Place,**	**42.73**	**322**		↑P		**P**	**10 50 16.9**	**+1.1**
	baz=43								
R23A	**Moffat**	**43.15**	**321**		↓P		**P**	**10 50 19.8**	**+0.6**
	baz=43								
S22A	**4UR Ranch, Cre**	**43.52**	**320**		↑P		**P**	**10 50 22.8**	**+0.6**
	baz=44								
EYMN	**Ely**	**43.95**	**342**		*e*P		**P**	**10 50 24.6**	**-0.5**
	8.3nm,0.6s								
S21A	**Coal Bank Pass**	**44.09**	**319**		↑P		**P**	**10 50 27.2**	**+0.5**
	baz=44								
Q22A	**Crested Butte,**	**44.24**	**321**		↓P		**P**	**10 50 28.6**	**+0.8**
	baz=44								
MVCO	**Mesa Verde**	**44.29**	**318**		↓P		**P**	**10 50 28.5**	**+0.2**
	baz=44								
X17A	**Forest Lakes**	**44.37**	**313**		↓P		**P**	**10 50 30.0**	**+1.0**
	baz=44,SNR=5.1								
S20A	**Disappointment**	**44.55**	**319**		↓P		**P**	**10 50 31.4**	**+1.1**
	baz=45,SNR=7.6								
P22A	**Eagle**	**44.59**	**322**		↑P		**P**	**10 50 31.5**	**+0.9**
	baz=45								
R20A	**Redvale**	**44.77**	**320**		↑P		**P**	**10 50 32.7**	**+0.8**
	baz=45								
O22A	**Kremmling**	**44.81**	**323**		↑P		**P**	**10 50 33.0**	**+0.6**
	baz=45,SNR=5.0								
PV01	**Paraox Valley**	**44.86**	**319**		*e*P		**P**	**10 50 34.0**	**+1.3**
N23A	**Red Feather La**	**44.92**	**324**		↑P		**P**	**10 50 34.0**	**+0.8**
	baz=45								
Q20A	**Ridgley Place,**	**45.16**	**320**		↓P		**P**	**10 50 36.2**	**+1.2**
	baz=45,SNR=6.1								
114A	**Black Gap (USA**	**45.17**	**310**		↓P		**P**	**10 50 35.9**	**+0.9**
	baz=45								
WUAZ	**Wupatki**	**45.36**	**315**		*e*P		**P**	**10 50 37.0**	**+0.4**
	4.7nm,0.8s								
WUAZ	**Wupatki**	**45.36**	**315**		↑P		**P**	**10 50 37.6**	**+1.0**
	baz=45,SNR=5.8								
Z14A	**Wintersburg**	**45.49**	**311**		↑P		**P**	**10 50 38.4**	**+0.9**
	baz=46								
AGMN	**Agassiz Nation**	**45.71**	**339**		*e*P		**P**	**10 50 39.1**	**+0.1**
	3.9nm,0.6s								
N21A	**Black Mountain**	**45.77**	**323**		↑P		**P**	**10 50 40.9**	**+1.0**
	baz=46								
Q19A	**Hogan Spring (**	**45.77**	**320**		↑P		**P**	**10 50 40.4**	**+0.7**
	baz=46,SNR=6.9								
Y14A	**Wickenburg**	**45.79**	**312**		↑P		**P**	**10 50 40.1**	**+0.2**
	baz=46								
U15A	**North Rim**	**46.46**	**315**		↓P		**P**	**10 50 46.1**	**+0.8**
	baz=46								
O19A	**Miners Draw (B**	**46.46**	**321**		↓P		**P**	**10 50 45.6**	**+0.4**
	baz=46								
M20A	**Sweetwater, Wa**	**46.61**	**323**		↓P		**P**	**10 50 46.9**	**+0.5**
	baz=47								
K21A	**Alcova**	**46.79**	**325**		↑P		**P**	**10 50 48.3**	**+0.6**
	baz=47								
N19A	**John Jarvie Ra**	**46.85**	**322**		↑P		**P**	**10 50 48.5**	**+0.3**
	baz=47								
I22A	**9 Mile Ranch,**	**47.19**	**327**		↑P		**P**	**10 50 50.9**	**+0.3**
	baz=47								
ULM	**Lac du Bonnet**	**47.37**	**340**		P		**P**	**10 50 51.3**	**-0.5**
	4.5nm,0.4s,baz=150,slow=6.7,SNR=18								
ULM	**Lac du Bonnet**	**47.37**	**340**		P		**P**	**10 50 51.3**	**-0.5**
O17A	**Robinson Place**	**47.41**	**320**		↓P		**P**	**10 50 53.3**	**+0.7**
	baz=48								
K20A	**Yeerstone Ra**	**47.43**	**325**		↑P		**P**	**10 50 52.9**	**+0.3**
	baz=48								
I21A	**Big Trails, Te**	**47.57**	**326**		↑P		**P**	**10 50 53.6**	**-0.2**
	baz=48								
L19A	**Farson**	**47.68**	**323**		↓P		**P**	**10 50 55.0**	**+0.3**
	baz=48								
M18A	**Lyman**	**47.71**	**322**		↑P		**P**	**10 50 55.0**	**+0.2**
	baz=48								
J20A	**Shoshoni**	**47.72**	**325**		↓P		**P**	**10 50 55.4**	**+0.6**
	baz=48								
K19A	**Absolon Red Bu**	**47.82**	**324**		↑P		**P**	**10 50 56.0**	**+0.3**
	baz=48								
F23A	**Volborg**	**47.87**	**330**		↑P		**P**	**10 50 55.8**	**0.0**
	baz=48								
N17A	**Moffit Pass**	**47.90**	**321**		↓P		**P**	**10 50 56.9**	**+0.5**
	baz=48,SNR=5.3								
O16A	**Springville**	**47.91**	**320**		↓P		**P**	**10 50 56.9**	**+0.5**
	baz=48								
G22A	**Birney**	**47.97**	**328**		↓P		**P**	**10 50 56.8**	**+0.1**
	baz=48								
L18A	**Fontenelle, Gr**	**47.98**	**323**		↓P		**P**	**10 50 57.5**	**+0.5**
	baz=48,SNR=6.3								
I20A	**Worland**	**48.12**	**326**		↓P		**P**	**10 50 58.3**	**+0.4**
	baz=48								
SCHQ	**Schefferville**	**48.16**	**5**		P		**P**	**10 50 58.7**	**+0.9**
	1.5nm,0.4s,baz=196,slow=7.2,SNR=17								
SCHQ	**Schefferville**	**48.16**	**5**		P		**P**	**10 50 58.7**	**+0.9**
BW06	**Boulder Array**	**48.20**	**324**		↓P		**P**	**10 50 58.6**	**-0.1**
	baz=48								
BW06					↓P		**P**	**10 50 58.6**	**-0.1**
	baz=48								
PDAR	**Pinedale Array**	**48.20**	**324**		P		**P**	**10 50 58.5**	**-0.1**
	1.3nm,0.7s,baz=129,slow=9.5,SNR=10								
PDAR	**Pinedale Array**	**48.20**	**324**		P		**P**	**10 50 58.5**	**-0.1**
J19A	**Crowheart**	**48.21**	**325**		↑P		**P**	**10 50 58.6**	**0.0**
	baz=48								
D24A	**Glendive**	**48.33**	**332**		↑P		**P**	**10 50 59.8**	**+0.5**
	baz=48								
F22A	**Rosebud**	**48.34**	**329**		↑P		**P**	**10 50 59.6**	**+0.2**
	baz=48								
H20A	**Greybull**	**48.40**	**327**		↓P		**P**	**10 50 59.7**	**-0.3**
	baz=48								
G21A	**Lodge Grass**	**48.46**	**328**		↑P		**P**	**10 51 00.3**	**-0.1**
	baz=49								
L17A	**Cokeville**	**48.59**	**322**		↑P		**P**	**10 51 01.3**	**-0.3**
	baz=49,SNR=19								
M16A	**Huntsville**	**48.60**	**321**		↓P		**P**	**10 51 01.7**	**0.0**
	baz=49								
E22A	**Miles City**	**48.64**	**330**		↓P		**P**	**10 51 01.3**	**-0.4**
	baz=49								
J18A	**Kendall Valley**	**48.74**	**324**		↑P		**P**	**10 51 02.7**	**-0.1**
	baz=49								
L16A	**Fish Haven**	**48.88**	**322**		↓P		**P**	**10 51 03.6**	**-0.2**
	baz=49,SNR=5.4								
J17A	**Brown Place, J**	**49.23**	**324**		↓P		**P**	**10 51 06.9**	**+0.4**
	baz=49								
D22A	**Cohagen**	**49.24**	**330**		↓P		**P**	**10 51 07.1**	**+0.8**
	baz=49,SNR=6.2								
DGMT	**Dagmar**	**49.25**	**333**		*e*P		**P**	**10 51 06.8**	**+0.5**
	15nm,0.6s								
DGMT	**Dagmar**	**49.25**	**333**		↑P		**P**	**10 51 07.1**	**+0.8**
	baz=49								
REDW	**Red Top Meadow**	**49.32**	**324**		*e*P		**P**	**10 51 07.5**	**+0.4**
	5.9nm,1.2s								
REDW					*e*PcP		PcP	10 52 21.6	-5.8
LOHW	**Long Hollow**	**49.32**	**324**		*e*P		**P**	**10 51 06.7**	**-0.5**
	18nm,2.0s								
F20A	**Billings**	**49.33**	**328**		↑P		**P**	**10 51 07.2**	**+0.1**
	baz=49								
L15A	**Malad City**	**49.46**	**321**		↑P		**P**	**10 51 07.6**	**-0.6**
	baz=50								
C22A	**Vida**	**49.52**	**331**		↓P		**P**	**10 51 09.0**	**+0.6**
	baz=50								
J16A	**Bone**	**49.71**	**323**		↑P		**P**	**10 51 10.5**	**+0.3**
	baz=50,SNR=5.2								
E20A	**Meyer Farm, Mu**	**49.79**	**329**		↓P		**P**	**10 51 11.1**	**+0.6**
	baz=50								
B22A	**Reddig Ranch S**	**49.96**	**332**		↓P		**P**	**10 51 12.9**	**+1.2**
	baz=50								
D20A	**Manuel Ranch,**	**50.18**	**329**		↓P		**P**	**10 51 13.7**	**+0.3**
	baz=50								
A22A	**Carney Farms,**	**50.42**	**332**		↓P		**P**	**10 51 16.2**	**+1.1**
	baz=50,SNR=6.1								
J14A	**Carey**	**50.89**	**322**		↓P		**P**	**10 51 19.5**	**+0.6**
	baz=51								
E17A	**Martinsdale**	**51.20**	**327**		↓P		**P**	**10 51 21.5**	**+0.3**
	baz=51								
D17A	**Six Diamond Ra**	**51.55**	**328**		↓P		**P**	**10 51 24.7**	**+1.0**
	baz=52								
HLID	**Hailey**	**51.56**	**322**		*e*P		**P**	**10 51 23.6**	**-0.4**
	35nm,2.4s								
HLID	**Hailey**	**51.56**	**322**		↑P		**P**	**10 51 24.3**	**+0.3**
	baz=52								
I13A	**Wildhorse Cree**	**51.58**	**323**		↓P		**P**	**10 51 24.7**	**+0.6**
	baz=52								
NVAR	**Mina Array Bea**	**51.62**	**315**		P		**P**	**10 51 25.2**	**+0.7**
	0.6nm,0.6s,baz=116,slow=6.2,SNR=6.6								
NVAR	**Mina Array Bea**	**51.62**	**315**		P		**P**	**10 51 25.2**	**+0.7**
B18A	**Beardsley Farm**	**51.88**	**329**		↓P		**P**	**10 51 27.0**	**+0.9**
	baz=52								
H13A	**Challis**	**52.02**	**323**		↓P		**P**	**10 51 27.4**	**+0.1**
	baz=52								
I12A	**Atlanta**	**52.13**	**322**		↓P		**P**	**10 51 28.4**	**+0.2**
	baz=52								
E15A	**Deer Lodge**	**52.16**	**326**		↑P		**P**	**10 51 28.7**	**+0.5**
	baz=52								
H12A	**Diamond D Ranc**	**52.37**	**323**		↑P		**P**	**10 51 30.3**	**+0.4**
	baz=52								
YKA	**Yellowknife Ar**	**63.35**	**340**		P		**P**	**10 52 45.7**	**-0.1**
	2.9nm,0.6s,baz=133,slow=6.6,SNR=101								
YKA					pP		**pP**	**10 53 24.5**	**-0.3**
	0.4nm,0.5s,baz=135,slow=6.8,SNR=2.0								
YKA	**Yellowknife Ar**	**63.35**	**340**		P		**P**	**10 52 45.7**	**-0.1**
YKA					pP		**pP**	**10 53 24.5**	**-0.3**
SUMG	**Summit**	**68.98**	**11**		*i*P		**P**	**10 53 23.0**	**+1.0**
	3.4nm,0.7s								
TORD	**Torodi Ar. Bea**	**73.58**	**78**		P		**P**	**10 53 49.6**	**-0.5**
	0.2nm,0.3s,baz=284,slow=7.3,SNR=7.4								
TORD	**Torodi Ar. Bea**	**73.58**	**78**		P		**P**	**10 53 49.6**	**-0.5**
ILAR	**Eielson Array**	**77.06**	**335**		P		**P**	**10 54 09.2**	**0.0**
	0.4nm,0.5s,baz=104,slow=4.3,SNR=8.4								
ILAR					pP		**pP**	**10 54 48.7**	**-0.9**
	0.2nm,0.6s,baz=133,slow=4.0,SNR=1.8								
ILAR	**Eielson Array**	**77.06**	**335**		P		**P**	**10 54 09.2**	**0.0**
ILAR					pP		**pP**	**10 54 48.7**	**-0.9**
NOA	**NORSAR Array B**	**81.27**	**29**		P		**P**	**10 54 33.7**	**+1.6**
	0.6nm,0.7s,baz=234,slow=14,SNR=2.6								
NOA	**NORSAR Array B**	**81.27**	**29**		P		**P**	**10 54 33.7**	**+1.6**
ARCES	**ARCESS Array B**	**86.64**	**20**		P		**P**	**10 54 59.6**	**+0.6**
	5.0nm,1.0s,baz=316,slow=3.3,SNR=5.6								
ARCES	**ARCESS Array B**	**86.64**	**20**		P		**P**	**10 54 59.6**	**+0.6**
MKAR	**Makanchi Array**	**122.29**	**20**		PKP		**PKPdf**	**11 01 09.9**	**-0.2**
	0.1nm,0.3s,baz=325,slow=2.3,SNR=5.4								
MKAR	**Makanchi Array**	**122.29**	**20**		PKP		**PKPdf**	**11 01 09.9**	**-0.2**
SONM	**Songino Array**	**125.61**	**1**		PKP		**PKPdf**	**11 01 17.4**	**+0.9**
	0.3nm,0.4s,baz=342,slow=1.7,SNR=2.8								
SONM	**Songino Array**	**125.61**	**1**		PKP		**PKPdf**	**11 01 17.4**	**+0.9**
CN2	**Changchun**	**126.96**	**343**		*e*PKP		**PKPdf**	**11 01 20.0**	**+0.9**
HHC	**Hu-ho-hao-te**	**132.41**	**355**		*e*PKP		**PKPdf**	**11 01 28.5**	**-1.2**
HHC					sPKP			11 02 27.8	
HHC					PP		**PP**	**11 03 57.8**	**+4.6**
HHC					PKS		**PKSdf**	**11 05 03.3**	**-2.9**
HHC					SKS		**SKSdf**	**11 08 21.8**	**-4.0**
HHC					SKKS		**SKKSac**	**11 10 30.8**	**-3.6**
HHC					SS		**SS**	**11 21 22.0**	**+3.9**
HHC					AMB	AMB			
	comp=Z,120nm,9.4s								
HHC					LR	LR			
	comp=N,83nm,20.4s								
HHC					LR	LR			
	comp=E,65nm,19.8s								
HHC					LR	LR			
	comp=Z,79nm,19.9s								
LZH	**Lanzhou**	**137.24**	**4**		*e*PKP		**PKPdf**	**11 01 41.0**	**+2.1**
LZH					sPKP			11 02 42.5	
CD2	**Chengdu**	**142.38**	**5**		PKP		**PKPdf**	**11 01 47.3**	**-1.0**
ASAR	**Alice Springs**	**149.23**	**234**		PKP		**PKPdf**	**11 02 00.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=118,slow=2.9,SNR=3.4								
ASAR					PKPbc		**PKPbc**	**11 02 03.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.5,SNR=9.3								
ASAR	**Alice Springs**	**149.23**	**234**		PKP		**PKPdf**	**11 02 00.4**	**+0.4**
ASAR					PKPbc		**PKPbc**	**11 02 03.8**	**-0.7**
WRA	**Warramunga Arr**	**150.47**	**241**		PKP		**PKPdf**	**11 02 02.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.6,SNR=3.7								
WRA					PKPbc		**PKPbc**	**11 02 07.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=106,slow=2.8,SNR=18								
WRA					pPKPbc		**pPKPbc**	**11 02 49.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=106,slow=3.1,SNR=2.3								

AAK	**Ala-Archa**	**21.55**	**326**	P		**P**	**10 58 52.2**	**+1.3**
	0.3nm,0.3s,baz=174,slow=7.4,SNR=4.4							
MKAR	**Makanchi Array**	**22.12**	**344**	P		**P**	**10 58 56.4**	**-0.5**
	4.1nm,0.6s,baz=158,slow=12,SNR=45							
SONM	**Songino Array**	**25.30**	**25**	P		**P**	**10 59 28.6**	**+0.6**
	1.8nm,0.7s,baz=204,slow=10,SNR=13							
KURK	**Kurchatov**	**26.68**	**343**	P		**P**	**10 59 39.7**	**-0.7**
	1.4nm,0.7s,baz=162,slow=8.9,SNR=14							
BVAR	**Borovoye Array**	**31.30**	**336**	LR	LR		11 14 02.3	
	comp=Z,34nm,19.1s,baz=238,slow=38							
WRA	**Warramunga Arr**	**62.03**	**133**	P		**P**	**11 04 23.9**	**+1.5**
	0.4nm,0.8s,baz=324,slow=7.0,SNR=3.2							
ASAR	**Alice Springs**	**64.42**	**136**	P		**P**	**11 04 39.2**	**+1.1**
	0.5nm,0.7s,baz=317,slow=6.3,SNR=5.9							

IDC 31 11:06:56.1±0.9, 42°.93S×72°.26W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.1/15, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=35.1km s-min=16.1km az=117.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.54**	**31**	Pn	Pn	11 07 40.0	+1.3
	6.9nm,0.3s,baz=215,slow=16,SNR=96						
PLCA				Pg	Pb	11 07 42.5	-0.2
	12nm,0.3s,baz=205,slow=15,SNR=108						
PLCA				Lg	Lg	11 08 17.1	
	24nm,0.3s,baz=309,slow=21,SNR=15						
QSPA	**South Pole Qui**	**47.32**	**180**	P	P	11 15 32.1	+0.8
	2.4nm,0.9s,baz=150,slow=4.9,SNR=6.4						
TXAR	**Lajitas Array**	**77.49**	**332**	P	P	11 18 53.1	-0.3
	0.7nm,0.8s,baz=139,slow=7.0,SNR=6.5						
ANMO	**Albuquerque**	**83.57**	**332**	P	P	11 19 26.3	+0.3
	0.7nm,0.9s,baz=166,slow=9.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**87.46**	**70**	P	P	11 19 43.9	-1.7
	0.5nm,0.9s,baz=237,slow=6.7,SNR=2.6						
NVAR	**Mina Array Bea**	**91.12**	**326**	P	P	11 20 02.4	-0.2
	0.4nm,0.8s,baz=149,slow=7.2,SNR=2.6						
PDAR	**Pinedale Array**	**91.65**	**333**	P	P	11 20 04.8	-0.2
	0.7nm,0.9s,baz=147,slow=5.4,SNR=5.2						
AKTO	**Aktyubinsk**	**145.63**	**60**	PKPbc	PKPdf	11 26 34.8	-0.8
	2.2nm,1.0s,baz=207,slow=2.3,SNR=6.3						
MKAR	**Makanchi Array**	**161.58**	**69**	PKPab	PKPab	11 27 42.8	-0.5
	0.4nm,0.9s,baz=274,slow=3.7,SNR=2.8						
SONM	**Songino Array**	**175.00**	**10**	PKPab	PKPab	11 28 42.5	+0.1
	0.1nm,0.3s,baz=340,slow=4.1,SNR=3.6						

NNC 31 11:13:44.7±1.9, 40°.77N×70°.49E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.1km s-min=9.0km az=16.0
IDC 31 11:13:47.5±1.2, 41°.01N×70°.59E, h0km, mb3.5/3, mb1 3.7/9, mb1mx3.4/31, mbtmp3.5/9, ML3.4/6, Error ellipse: s-maj=18.2km s-min=12.5km az=170.0
ISC 31 11:13:47.9±1.2, 40°.99N±0°.09×70°.74E±0°.06, h10km, n26, σ1s69/30, mb3.6/3, 10C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.12**	**355**	⇑Pn	**Pg**	**11 14 28.2**	**-0.4**
	6.2nm,0.3s,baz=178,slow=12,SNR=284						
KK31				⇓Sn	Sg	11 15 00.5	+4.4
	179nm,0.6s,baz=176,slow=28,SNR=35						
AML	**Almayashu**	**2.50**	**62**	P	**Pb**	**11 14 32.0**	**-1.0**
	SNR=26						
AML				P	**Pb**	**11 14 32.0**	**-1.0**
	SNR=26						
EKS2	**Erkin-Say**	**2.82**	**53**	P	**Pb**	**11 14 37.2**	**-1.2**
	SNR=9.8						
EKS2				P	**Pb**	**11 14 37.2**	**-1.2**
	SNR=9.8						
AAK	**Ala-Archa**	**3.25**	**58**	P	**Pb**	**11 14 44.6**	**-1.2**
	SNR=12						
AAK				P	**Pb**	**11 14 44.6**	**-1.2**
	SNR=12						
AAK	**Ala-Archa**	**3.25**	**58**	Pn	**Pb**	**11 14 43.4**	**-2.4**
	4.3nm,0.3s,baz=242,slow=14,SNR=37						
AAK				Pg	**Pg**	**11 14 49.8**	**-0.4**
	8.1nm,0.3s,baz=238,slow=18,SNR=21						
AAK				Sn	**Sb**	**11 15 28.0**	**+2.4**
	7.0nm,0.3s,baz=247,slow=16,SNR=6.5						
KZA	**Kyzart**	**3.56**	**71**	P	Pn	11 14 47.0	+3.5
	SNR=14						
KZA				P	Pn	11 14 47.0	+3.5
	SNR=14						
KBK	**Karagaybulak**	**3.56**	**61**	P	Pn	11 14 47.6	+4.2
	SNR=7.1						
KBK				P	Pn	11 14 47.6	+4.2
	SNR=7.1						
USP	**Ospenovka**	**3.61**	**50**	P	**Pb**	**11 14 52.6**	**+0.8**
	SNR=8.3						
USP				P	**Pb**	**11 14 52.6**	**+0.8**
	SNR=8.3						
TKM2	**Tokmak 2**	**4.11**	**60**	P	Pn	11 14 54.5	+3.7
	SNR=7.9						
TKM2				P	Pn	11 14 54.5	+3.7
	SNR=7.9						
TKM2	**Tokmak 2**	**4.11**	**60**	⇑Pn	**Pn**	**11 14 54.1**	**+3.2**
	3.1nm,0.5s						
TKM2				⇓Pg	**Pg**	**11 15 05.6**	**-0.9**
	10nm,0.5s						
TKM2				⇑Lg	Lg	11 16 00.3	
	25nm,0.6s						
KSH	**Kashi**	**4.26**	**108**	*e*Pn	**Pn**	**11 14 51.8**	**-1.2**
KSH				Sn	**Sn**	**11 15 39.8**	**-3.1**
KSH				smax	smax		
	comp=N,35nm,0.8s						
KSH				smax	smax		
	comp=E,33nm,0.5s						
MK31	**Makanchi Array**	**10.15**	**51**	Pn	**Pn**	**11 16 16.4**	**+2.7**
	comp=E,0.7nm,0.6s,baz=229,slow=13,SNR=13						
MK31				⇑Sn	Sn	11 18 20.1	+12
	comp=E,1.0nm,0.6s						
MK31				⇑Lg	Lg	11 19 11.8	
	comp=E,5.9nm,0.9s						
MKAR	**Makanchi Array**	**10.15**	**51**	Pn	Pn	11 16 17.1	+3.4
	comp=E,0.2nm,0.3s,baz=231,slow=14,SNR=17						
MKAR				Lg	Lg	11 19 10.9	
	comp=E,0.2nm,0.3s,baz=245,slow=25,SNR=4.8						
KURBB	**Kurchatov Arra**	**11.06**	**27**	⇓Lg	Lg	11 19 44.1	
	comp=E,2.3nm,0.7s						
KURK	**Kurchatov**	**11.17**	**27**	Pn	**Pn**	**11 16 26.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=219,slow=12,SNR=3.1						
KURK				Lg	Lg	11 19 41.8	
	comp=E,0.1nm,0.3s,baz=202,slow=28,SNR=7.0						
KURK	**Kurchatov**	**11.17**	**27**	⇑Lg	Lg	11 19 45.9	
	comp=E,1.1nm,1.0s						
AB31	**Akbulak array**	**11.24**	**321**	Pn	**Pn**	**11 16 28.3**	**-0.2**
	comp=E,3.3nm,0.6s,baz=134,slow=13,SNR=66						
AB31				⇓Sn	**Sn**	**11 18 32.3**	**-1.8**
	comp=E,1.2nm,0.6s,baz=130,slow=26,SNR=5.3						
VOSK	**Vostochnaya**	**11.74**	**1**	⇑Pn	**Pn**	**11 16 35.4**	**0.0**
	comp=E,1.9nm,0.9s						
VOSK				⇑Lg	Lg	11 20 00.7	
	comp=E,5.1nm,0.9s						
ZRNK	**Zerenda**	**12.03**	**355**	⇓Pn	**Pn**	**11 16 39.6**	**+0.4**
	comp=E,3.4nm,1.3s						
ZRNK				⇓Lg	Lg	11 20 09.2	
	comp=E,16nm,1.8s						
BVAR	**Borovoye Array**	**12.05**	**359**	Pn	**Pn**	**11 16 38.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=171,slow=14,SNR=5.3						
AKTO	**Aktyubinsk**	**12.96**	**321**	Pn	**Pn**	**11 16 50.5**	**-1.5**
	comp=E,0.5nm,0.3s,baz=132,slow=14,SNR=14						
AKTO	**Aktyubinsk**	**12.96**	**321**	⇑Pn	**Pn**	**11 16 51.4**	**-0.6**
	comp=E,0.4nm,0.5s						
AKTO				⇑Sn	**Sn**	**11 19 13.3**	**-2.8**
	comp=E,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**16.05**	**31**	Pn	**Pn**	**11 17 33.0**	**-0.5**
	comp=E,0.1nm,0.3s,baz=231,slow=14,SNR=3.8						
YKA	**Yellowknife Ar**	**76.78**	**3**	P	**P**	**11 25 39.9**	**+0.7**
	comp=E,0.1nm,0.6s,baz=354,slow=6.2,SNR=5.0						
WRA	**Warramunga Arr**	**84.54**	**122**	P	**P**	**11 26 23.6**	**+2.3**
	comp=E,0.5nm,0.8s,baz=331,slow=4.7,SNR=3.7						
ASAR	**Alice Springs**	**86.99**	**125**	P	**P**	**11 26 35.5**	**+2.1**
	comp=E,0.3nm,0.8s,baz=315,slow=4.2,SNR=3.6						

IDC 31 11:55:19.9±0.9, 30°.24S×118°.19E, h0km, mb4.1/2, mb1 4.6/6, mb1mx4.2/14, mbtmp4.4/6, ML4.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/28, Error ellipse: s-maj=41.4km s-min=19.2km az=114.0
NEIC 31 11:55:21.0, 30°.22S×117°.80E, h0km, mb4.3/1, ML4.4(AUST), After AUST.
ISC 31 11:55:19.0±1.8, 30°.22S±0°.04×117°.86E±0°.05, h1km±12km, n43, σ2s06/50, mb4.0/4, 1C-2D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**1.07**	**248**	⇓*i*P	**Pb**	**11 55 39.4**	**-1.0**
BLDU				*e*S	**Sb**	**11 55 51.8**	**-3.1**
BLDU				*e*RG	Rg	11 55 58.2	
KLBR	**Kellerberrin**	**1.38**	**184**	⇑*i*P	**Pb**	**11 55 46.3**	**+0.8**
KLBR				*e*S	**Sn**	**11 56 03.2**	**-1.0**
MORW	**Morawa**	**1.96**	**305**	⇓*i*P	**Pn**	**11 55 53.5**	**+0.2**
MORW				*e*S	**Sn**	**11 56 18.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**2.76**	**191**	Pn	**Pn**	**11 56 05.3**	**+1.0**
NWAO	22nm,0.3s,baz=13,slow=12,SNR=174			Pg	**Pg**	**11 56 12.3**	**+0.4**
	25nm,0.3s,baz=13,slow=14,SNR=8.8						
NWAO				Sn	**Sn**	**11 56 35.9**	**-2.3**
	130nm,0.3s,baz=100,slow=22,SNR=20						
NWAO				Lg	Lg	11 56 43.5	
	175nm,0.3s,baz=96,slow=20,SNR=25						
NWAO	**Narrogin (SRO)**	**2.76**	**191**	Pn	**Pn**	**11 56 05.3**	**+1.0**
NWAO				Pg	**Pg**	**11 56 12.3**	**+0.4**
NWAO				Sn	**Sn**	**11 56 35.9**	**-2.3**
NWAO				*e*Sn	Sb	11 56 36.6	-6.8
NWAO				Lg	Lg	11 56 43.5	
MEEK	**Meekatharra**	**3.63**	**11**	*e*P	**Pn**	**11 56 17.3**	**+1.0**
MEEK				*e*S	**Sn**	**11 56 58.3**	**-1.5**
KMBL	**Kambalda**	**3.64**	**109**	*e*P	**Pn**	**11 56 17.5**	**+1.0**
KMBL				*e*S	**Sn**	**11 56 58.8**	**-1.4**
RKGY	**Rocky Gully**	**4.45**	**189**	*e*P	**Pn**	**11 56 28.7**	**+1.2**
RKGY				*e*S	**Sn**	**11 57 17.7**	**-2.2**
FORT	**Forrest**	**8.81**	**96**	*e*P	**Pn**	**11 57 27.7**	**+0.1**
FORT				*e*S	**Sn**	**11 59 04.7**	**-2.9**
FORT	**Forrest**	**8.81**	**96**	*e*Pn	**Pn**	**11 57 28.9**	**+1.3**
	93nm,0.6s						
MBWA	**Marble Bar**	**9.17**	**11**	*e*P	**Pn**	**11 57 31.0**	**-1.5**
MBWA				*e*S	Sn	11 59 07.1	-9.3
FITZ	**Fitzroy Crossi**	**13.98**	**32**	Pn	**Pn**	**11 58 36.9**	**-1.5**
	2.4nm,0.3s,baz=219,slow=10,SNR=46						
FITZ				Sn	Sn	12 01 01.7	-13
	0.9nm,0.3s,baz=311,slow=23,SNR=8.2						
FITZ				LR	LR	12 03 39.7	
	comp=Z,34nm,18.9s,baz=49,slow=36						
FITZ	**Fitzroy Crossi**	**13.98**	**32**	*e*P	**Pn**	**11 58 36.6**	**-1.8**
FITZ				*e*S	Sn	12 01 03.3	-11
FITZ	**Fitzroy Crossi**	**13.98**	**32**	Pn	**Pn**	**11 58 36.9**	**-1.5**
FITZ				Sn	Sn	12 01 01.7	-13
ASAR	**Alice Springs**	**15.71**	**69**	Pn	**Pn**	**11 58 57.8**	**-3.9**
	1.7nm,0.3s,baz=241,slow=11,SNR=149						
ASAR				Sn	Sn	12 01 42.9	-14
	1.0nm,0.3s,baz=248,slow=22,SNR=14						
ASAR	**Alice Springs**	**15.71**	**69**	Pn	**Pn**	**11 58 57.8**	**-3.9**
ASAR				Sn	Sn	12 01 42.9	-14
AS31	**Alice Springs**	**15.71**	**69**	*e*Pn	**Pn**	**11 58 57.5**	**-4.2**
AS31				*e*Sn	Sn	12 01 41.1	-15
WRA	**Warramunga Arr**	**18.07**	**59**	Pn	**Pn**	**11 59 27.8**	**-3.7**
	1.0nm,0.3s,baz=231,slow=13,SNR=76						
WRA				Sn	Sn	12 02 40.9	-13
	0.6nm,0.3s,baz=230,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**18.07**	**59**	Pn	**Pn**	**11 59 27.8**	**-3.7**
WRA				Sn	Sn	12 02 41.0	-13
WB2	**Warramunga Arr**	**18.08**	**59**	*e*Pn	**Pn**	**11 59 27.6**	**-4.0**
WRAB	**Tennant Creek**	**18.09**	**59**	*e*Pn	**Pn**	**11 59 27.9**	**-3.7**
	16nm,0.7s						
WRAB				*e*Sn	Sn	12 02 32.9	-21
STKA	**Stephens Creek**	**20.39**	**101**	P	Pn	11 59 57.8	-1.6
	10nm,0.8s,baz=274,slow=11,SNR=16						
STKA				LR	LR	12 08 03.0	
	comp=Z,100nm,19.2s,baz=205,slow=38						
STKA	**Stephens Creek**	**20.39**	**101**	*e*P	Pn	11 59 57.8	-1.6
STKA	**Stephens Creek**	**20.39**	**101**	P	Pn	11 59 57.8	-1.6
QIS	**Mount Isa**	**21.84**	**69**	*e*P	**P**	**12 00 14.0**	**+1.0**
RMQ	**Roma**	**27.40**	**90**	*e*P	**P**	**12 01 08.2**	**+2.0**
CTA	**Charters Tower**	**27.54**	**75**	P	**P**	**12 01 09.0**	**+1.5**
	19nm,0.7s,baz=262,slow=10,SNR=11						
CTA				LR	LR	12 13 06.8	
	comp=Z,63nm,21.4s,baz=53,slow=39						
CTA	**Charters Tower**	**27.54**	**75**	*e*P	P	12 01 11.6	+4.2
CTA	**Charters Tower**	**27.54**	**75**	P	**P**	**12 01 09.0**	**+1.5**
SONM	**Songino Array**	**78.37**	**352**	P	**P**	**12 07 23.3**	**+2.4**
	1.0nm,0.7s,baz=162,slow=5.5,SNR=11						
SONM	**Songino Array**	**78.37**	**352**	P	**P**	**12 07 23.3**	**+2.4**
LBTB	**Lobatse**	**79.66**	**247**	P	**P**	**12 07 29.6**	**+0.9**
	1.6nm,0.7s,baz=153,slow=4.5,SNR=3.5						
LBTB	**Lobatse**	**79.66**	**247**	P	**P**	**12 07 29.6**	**+0.9**
MKAR	**Makanchi Array**	**83.11**	**336**	P	**P**	**12 07 47.5**	**+1.3**
	0.2nm,0.5s,baz=129,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**83.11**	**336**	P	**P**	**12 07 47.5**	**+1.3**
ILAR	**Eielson Array**	**119.10**	**29**	PKP	**PKPdf**	**12 14 09.2**	**+0.3**
	0.2nm,0.7s,baz=297,slow=3.0,SNR=3.5						
ILAR	**Eielson Array**	**119.10**	**29**	PKP	**PKPdf**	**12 14 09.2**	**+0.3**
YKA	**Yellowknife Ar**	**133.50**	**31**	PKP	**PKPdf**	**12 14 37.6**	**+1.2**
	0.2nm,0.6s,baz=286,slow=2.1,SNR=7.5						
YKA	**Yellowknife Ar**	**133.50**	**31**	PKP	**PKPdf**	**12 14 37.6**	**+1.2**
TXAR	**Lajitas Array**	**144.08**	**81**	PKP	**PKPdf**	**12 14 57.1**	**+0.3**
	1.3nm,0.9s,baz=209,slow=5.2,SNR=12						
TXAR	**Lajitas Array**	**144.08**	**81**	PKP	**PKPdf**	**12 14 57.1**	**+0.3**
ULM	**Lac du Bonnet**	**147.78**	**42**	PKPbc	**PKPab**	**12 15 06.5**	**-1.2**
	0.4nm,0.6s,baz=300,slow=3.0,SNR=14						
ULM	**Lac du Bonnet**	**147.78**	**42**	PKPbc	**PKPab**	**12 15 06.5**	**-1.2**

DJA 31 12:16:30, 9°.58S×109°.74E, h10km, MLv4.2/12
NEIC 31 12:16:36.8±0.7, 8°.92S×109°.64E, h35km, mb4.4/5, Error ellipse: s-maj=43.4km s-min=8.1km az=51.0
IDC 31 12:16:46.6±10.0, 8°.92S×109°.76E, h128km±95km, mb3.6/9, mb1 3.7/9, mb1mx3.6/19, mbtmp3.6/9, MS3.1/3, Ms1 3.1/3, ms1mx2.5/37, Error ellipse: s-maj=84.6km s-min=19.5km az=52.0
ISC 31 12:16:36.2±0.8, 9°.1S±0°.1×109°.67E±0°.08, h35km, n38, σ1s56/32, mb4.2/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.45**	**25**	P	**Pn**	**12 17 01.8**	**+1.9**
UGM	**Wanagama**	**1.48**	**35**	P	**Pn**	**12 17 03.4**	**+3.1**
PCJI	**Pacitan**	**1.76**	**58**	P	**Pn**	**12 17 08.0**	**+3.9**
BJII	**Banjamegara**	**1.79**	**1**	P	Pn	12 17 09.5	+4.9
SMRI	**Semarang**	**2.21**	**20**	P	Pn	12 17 15.4	+5.1
PWJI	**Pagerwojo**	**2.38**	**63**	P	**Pn**	**12 17 12.8**	**+0.1**
CISI	**Cisompet, Garu**	**2.41**	**310**	P	**Pn**	**12 17 15.7**	**+2.5**
SJI	**Sawahan**	**2.50**	**56**	P	**Pn**	**12 17 14.9**	**+0.5**
LEM	**Lembang**	**3.06**	**318**	P	Pn	12 17 29.6	+7.4
KAPI	**Kappang**	**10.81**	**68**	LR	LR	12 23 46.3	
	comp=Z,54nm,20.8s,baz=289,slow=39						
MBWA	**Marble Bar**	**15.39**	**142**	Pn	**P**	**12 20 14.8**	**-0.3**
	58nm,1.8s						
FITZ	**Fitzroy Crossi**	**17.89**	**122**	LR	LR	12 28 13.3	
	comp=Z,40nm,18.3s,baz=311,slow=38						
WRA	**Warramunga Arr**	**26.15**	**117**	P	**P**	**12 22 08.8**	**+1.4**
	0.4nm,0.3s,baz=124,slow=28,SNR=2.2						
WRA	**Warramunga Arr**	**26.15**	**117**	P	**P**	**12 22 08.8**	**+1.4**
WRAB	**Tennant Creek**	**26.15**	**117**	*e*P	**P**	**12 22 08.5**	**+1.0**
	11nm,1.3s						
ASAR	**Alice Springs**	**27.31**	**125**	P	**P**	**12 22 20.4**	**+2.6**
	0.6nm,1.0s,baz=290,slow=8.4,SNR=2.6						
ASAR	**Alice Springs**	**27.31**	**125**	P	**P**	**12 22 20.4**	**+2.6**
CMAR	**Chiang Mai Arr**	**29.39**	**339**	P	**P**	**12 22 36.6**	**+0.4**
	1.8nm,0.4s,baz=176,slow=8.6,SNR=19						
CMAR	**Chiang Mai Arr**	**29.39**	**339**	P	**P**	**12 22 36.6**	**+0.4**
STKA	**Stephens Creek**	**37.26**	**132**	LR	LR	12 38 33.5	
	comp=Z,71nm,19.0s,baz=204,slow=35						
LSA	**Lhasa**	**42.53**	**336**	*e*P	**P**	**12 24 28.7**	**-0.3**
	4.1nm,0.8s						
SONM	**Songino Array**	**56.79**	**357**	P	**P**	**12 26 16.3**	**-0.7**
	0.9nm,0.7s,baz=176,slow=8.3,SNR=11						
SONM	**Songino Array**	**56.79**	**357**	P	**P**	**12 26 16.3**	**-0.7**
TKM2	**Tokmak 2**	**60.41**	**332**	*e*P	**P**	**12 26 41.6**	**-0.7**
	3.5nm,0.8s						
MK31	**Makanchi Array**	**60.80**	**339**	*e*P	**P**	**12 26 44.0**	**-0.7**
MKAR	**Makanchi Array**	**60.80**	**339**	P	**P**	**12 26 44.1**	**-0.6**
	1.7nm,0.4s,baz=148,slow=7.9,SNR=70						
MKAR	**Makanchi Array**	**60.80**	**339**	P	**P**	**12 26 44.1**	**-0.6**
KURK	**Kurchatov**	**65.41**	**339**	P	**P**	**12 27 13.8**	**-1.3**
	1.6nm,0.5s,baz=154,slow=5.4,SNR=16						
KURK	**Kurchatov**	**65.41**	**339**	P	**P**	**12 27 13.8**	**-1.3**
ZALV	**Zalesovo Beam**	**66.27**	**344**	P	**P**	**12 27 19.3**	**-1.3**
	1.5nm,0.5s,baz=142,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**66.27**	**344**	P	**P**	**12 27 19.3**	**-1.3**
BVAR	**Borovoye Array**	**70.36**	**336**	P	**P**	**12 27 45.5**	**-0.9**
	1.3nm,0.6s,baz=140,slow=7.8,SNR=9.1						
BVAR	**Borovoye Array**	**70.36**	**336**	P	**P**	**12 27 45.5**	**-0.9**
ABKAR	**Akbulak array**	**72.59**	**328**	*e*P	**P**	**12 27 59.0**	**-0.8**
	4.5nm,0.8s						
BRTR	**Keskin Array B**	**85.21**	**311**	P	**P**	**12 29 08.9**	**-0.6**
	1.0nm,0.8s,baz=99,slow=5.6,SNR=4.4						
BRTR	**Keskin Array B**	**85.21**	**311**	P	**P**	**12 29 08.9**	**-0.6**
YKA	**Yellowknife Ar**	**117.90**	**22**	PKP	**PKPdf**	**12 35 17.3**	**-1.4**
	0.1nm,0.7s,baz=306,slow=1.3,SNR=3.8						
YKA	**Yellowknife Ar**	**117.90**	**22**	PKP	**PKPdf**	**12 35 17.3**	**-1.4**

CSEM 31 12:18:52.5, 41°.89N×20°.35E, h0km±999km, Albania
TIR 31 12:18:52.5±1.0, 41°.89N×20°.35E, h0km±999km, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.83**	**275**	*i* PG	Pb	12 19 10.3	+0.5
ULC				*i* SG	Sn	12 19 34.0	+10
ULC	**Ulcinj**	**0.83**	**275**	*i* Pg	Pb	12 19 10.3	+0.5
	SNR=90						
ULC				*i* Sg	Sn	12 19 34.0	+10
	SNR=90						
PDG	**Podgorica**	**0.97**	**304**	*i* PG	Pn	12 19 16.3	+2.9
PDG				*i* SG	Sn	12 19 44.0	+16
PDG	**Podgorica**	**0.97**	**304**	*i* Pg	Pn	12 19 16.3	+2.9
	SNR=90						
PDG				*i* Sg	Sn	12 19 44.0	+16
	SNR=90						
BUM	**Brajici-Budva**	**1.16**	**291**	*i* PG	Pb	12 19 15.3	-0.2
BUM				*i* SG	Sn	12 19 42.8	+10
BUM	**Brajici-Budva**	**1.16**	**291**	*i* Pg	Pb	12 19 15.3	-0.2
	SNR=90						
BUM				*i* Sg	Sn	12 19 42.8	+10
	SNR=90						
HCY	**Herceg Novi**	**1.49**	**292**	*i* PG	Pn	12 19 18.3	-2.2
HCY				*i* SG	Sn	12 19 48.2	+7.6
HCY	**Herceg Novi**	**1.49**	**292**	*i* Pg	Pn	12 19 18.3	-2.2
	SNR=90						
HCY				*i* Sg	Sn	12 19 48.2	+7.6
	SNR=90						

IDC 31 12:18:58.0±1.3, 55°.63S×26°.58W, h0km, mb4.4/3, mb1 4.4/3, mb1mx4.0/11, mbtmp4.3/3, MS3.8/5, Ms1 3.8/5, ms1mx3.6/13, Error ellipse: s-maj=55.3km s-min=44.3km az=156.0
ISCJB 31 12:19:01.8±0.7, 55°.7S±0°.1×26°.5W±0°.2, h38km, mb4.4/6, MS3.9/5, Error ellipse: s-maj=18.3km s-min=15.9km az=146.1
NEIC 31 12:19:03.2±0.4, 55°.63S×26°.47W, h35km, mb4.6/5, Error ellipse: s-maj=12.6km s-min=11.3km az=61.0
ISC 31 12:19:03.6±0.7, 55°.6S±0°.1×26°.5W±0°.1, h38km, n20, σ0s43/17, mb4.6/5, MS4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.97**	**157**	*e*P	**P**	**12 23 20.8**	**-0.5**
	4.4nm,0.8s						
PMSA	**Palmer Station**	**20.46**	**228**	*e*P	**P**	**12 23 38.2**	**+0.7**
	71nm,1.3s						
TRQA	**Tornquist**	**29.52**	**292**	*e*P	**P**	**12 25 04.0**	**-0.2**
	24nm,1.4s						
PLCA	**Paso Flores**	**32.31**	**279**	LR	LR	12 38 02.2	
	comp=Z,77nm,19.1s,baz=18,slow=36						
QSPA	**South Pole Qui**	**34.61**	**180**	*e*P	**P**	**12 25 48.7**	**0.0**
	3.9nm,0.7s						
BOSA	**Boshof**	**45.49**	**76**	P	**P**	**12 27 19.3**	**+0.1**
	2.8nm,0.8s,baz=195,slow=8.6,SNR=6.0						
BOSA				LR	LR	12 43 04.4	
	comp=Z,202nm,19.5s,baz=228,slow=32						
BOSA	**Boshof**	**45.49**	**76**	P	**P**	**12 27 19.3**	**+0.1**
LPAZ	**La Paz**	**50.46**	**304**	*e*P	**P**	**12 27 58.2**	**-0.1**
	5.0nm,0.6s						
DBIC	**Dimbokro**	**64.63**	**24**	LR	LR	12 51 29.9	
	comp=Z,90nm,20.4s,baz=107,slow=30						
TORD	**Torodi Ar. Bea**	**72.51**	**29**	P	**P**	**12 30 26.4**	**+0.1**
	3.8nm,0.6s,baz=198,slow=6.4,SNR=50						
TORD				LR	LR	12 57 41.1	
	comp=Z,67nm,18.4s,baz=150,slow=32						
TORD	**Torodi Ar. Bea**	**72.51**	**29**	P	**P**	**12 30 26.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**86.50**	**150**	LR	LR	13 07 07.5	
	comp=Z,58nm,18.9s,baz=126,slow=33						
ASAR	**Alice Springs**	**99.26**	**162**	P	**Pdif**	**12 32 41.2**	**-0.2**
	0.3nm,0.7s,baz=192,slow=5.3,SNR=4.2						
ASAR	**Alice Springs**	**99.26**	**162**	P	**Pdif**	**12 32 41.2**	**-0.2**
YKA	**Yellowknife Ar**	**136.12**	**318**	PKP	**P

TAR1	Taranto	1.80	274	*e*Pn	Pb	12 20 16.6	+0.4
LKD2	Lefkada island	1.81	154	P	Pn	12 20 14.8	+0.4
LKD2				S	Sb	12 20 39.0	-0.2
LKD2	Lefkada island	1.81	154	*e*PN	Pn	12 20 14.4	0.0
LKD2				*e*SN	Sg	12 20 40.9	-0.3
LKD2	Lefkada island	1.81	154	*e*Pn	Pn	12 20 14.4	0.0
LKD2	Lefkada island	1.81	154	P	Pn	12 20 14.8	+0.4
LKD2				S	Sb	12 20 39.0	-0.2
LKD2				*e*Sn	Sg	12 20 40.9	-0.3
BUM	Brajici-Budva	1.96	343	*e*Pn	Pn	12 20 15.4	-1.0
BUM				*e*Sn	Sn	12 20 42.8	+1.6
BUM	Brajici-Budva	1.96	343	*e*Pn	Pn	12 20 15.4	-1.0
BUM				*e*Sn	Sn	12 20 42.8	+1.6
THL	Klokotos Trika	2.01	115	P	Pn	12 20 17.5	+0.4
THL				S	Sb	12 20 44.2	-0.7
THL				*e*Sn	Sg	12 20 46.6	-1.0
TTG	Podgorica	2.02	352	⇓*i*Pn	Pn	12 20 16.6	-0.7
TTG				*e*Sn	Sn	12 20 44.2	+1.5
PDG	Podgorica	2.02	352	*e*Pn	Pn	12 20 15.8	-1.5
PDG	Podgorica	2.02	352	*e*Pn	Pn	12 20 15.8	-1.5
PDG				*e*Sn	Sn	12 20 44.2	+1.5
SKO	Skopje	2.05	41	*e*Pn	Pn	12 20 19.5	+1.8
GRG	Griva	2.16	75	P	Pn	12 20 19.8	+0.6
GRG				S	Sn	12 20 48.0	+1.8
GRG	Griva	2.16	75	P	Pn	12 20 19.8	+0.6
GRG				S	Sn	12 20 48.0	+1.8
PVY	Plav	2.18	6⇑	*i*Pn	Pn	12 20 20.2	+0.6
PVY				*e*Sn	Sn	12 20 49.1	+2.3
PVY	Plav	2.18	6⇑	*i*Pn	Pn	12 20 20.2	+0.6
PVY				*e*Sn	Sn	12 20 49.1	+2.3
HCY	Herceg Novi	2.20	337	⇓*i*Pn	Pn	12 20 18.1	-1.6
HCY				*e*Sn	Sn	12 20 48.2	+1.2
HCY	Herceg Novi	2.20	337	⇓*i*Pn	Pn	12 20 18.1	-1.6
HCY				*e*Sn	Sn	12 20 48.2	+1.2
LIT	Litokhoron	2.20	98	P	Pn	12 20 20.6	+0.8
LIT				S	Sn	12 20 49.0	+1.8
LIT	Litokhoron	2.20	98	*e*PN	Pn	12 20 20.3	+0.5
LIT	Litokhoron	2.20	98	*e*Pn	Pn	12 20 20.3	+0.5
LIT	Litokhoron	2.20	98	P	Pn	12 20 20.6	+0.8
LIT				S	Sn	12 20 49.0	+1.8
EVR	Evrytania	2.25	131	*e*PN	Pn	12 20 21.7	+1.2
EVR				*e*SN	Sg	12 20 53.3	-1.9
EVR	Evrytania	2.25	131	*e*Pn	Pn	12 20 21.7	+1.2
EVR				*e*Sn	Sg	12 20 53.3	-1.9
VLS	Valsamata	2.36	162	P	Pn	12 20 21.9	-0.1
VLS	Valsamata	2.36	162	*e*PN	Pn	12 20 21.9	-0.1
VLS				*e*SN	Sb	12 20 54.1	-0.9
VLS	Valsamata	2.36	162	P	Pn	12 20 21.9	-0.1
VLS				*e*Sn	Sb	12 20 54.1	-0.9
MAKR	Makrakomi, Fth	2.38	126	P	Pn	12 20 23.1	+0.8
MAKR	Makrakomi, Fth	2.38	126	P	Pn	12 20 23.1	+0.8
VAY	Valandovo	2.39	67	*i* Pn	Pn	12 20 24.1	+1.8
BEY	Berane	2.45	4⇑	*i*Pn	Pn	12 20 23.9	+0.6
BEY				*e*Sn	Sn	12 20 55.3	+1.9
IVA	Berane	2.45	4⇑	*i*Pn	Pn	12 20 23.9	+0.7
IVA				*e*Sn	Sn	12 20 55.3	+1.9
KFL	Anninata	2.48	159	P	Pn	12 20 23.8	+0.2
KFL	Anninata	2.48	159	P	Pn	12 20 23.8	+0.2
KNT	Kendrikon	2.58	72	P	Pn	12 20 25.2	+0.3
KNT				S	Sn	12 20 59.0	+2.6
KNT	Kendrikon	2.58	72	P	Pn	12 20 25.2	+0.3
KNT				S	Sn	12 20 59.0	+2.6
BRY	Bratogost	2.61	342⇑	*i*Pn	Pn	12 20 24.4	-1.1
BRY				*e*Sn	Sn	12 20 58.8	+1.4
BRY	Bratogost	2.61	342⇑	*i*Pn	Pn	12 20 24.4	-1.1
BRY				*e*Sn	Sn	12 20 58.8	+1.4
HORT	Hortiatis	2.64	85	P	Pn	12 20 26.4	+0.6
HORT				S	Sn	12 20 59.8	+1.7
HORT	Hortiatis	2.64	85	P	Pn	12 20 26.4	+0.6
HORT				S	Sn	12 20 59.8	+1.7
EFP	Efpalio	2.66	138	P	Pn	12 20 26.6	+0.5
EFP				S	Sn	12 21 00.2	+1.9
EFP	Efpalio	2.66	138	*e*PN	Pn	12 20 26.5	+0.5
EFP	Efpalio	2.66	138	*e*Pn	Pn	12 20 26.5	+0.5
EFP				S	Sn	12 21 00.2	+1.9
RLS	Riolos of Patr	2.76	149	P	Pn	12 20 27.7	+0.3
RLS	Riolos of Patr	2.76	149	*e*PN	Pn	12 20 27.4	0.0
RLS	Riolos of Patr	2.76	149	*e*Pn	Pn	12 20 27.4	0.0
RLS	Riolos of Patr	2.76	149	P	Pn	12 20 27.7	+0.3
UPM	Unac-Piva	2.83	349	⇓*i*Pn	Pn	12 20 28.3	-0.3
UPM				*e*SN	Sn	12 21 03.5	+0.6
UPM	Unac-Piva	2.83	349	⇓*i*Pn	Pn	12 20 28.3	-0.3
UPM				*e*SN	Sn	12 21 03.5	+0.6
LAKA	Lakka	2.84	140	P	Pn	12 20 29.2	+0.7
LAKA	Lakka	2.84	140	P	Pn	12 20 29.2	+0.7
STON	Ston	2.84	330	*e*Pn	Pn	12 20 26.0	-2.6
STON				Sn	Sn	12 21 00.6	-2.4
STON	Ston	2.84	330	*e*Pn	Pn	12 20 25.9	-2.6
STON				Sn	Sn	12 21 00.5	-2.4
SOH	Sokhos	2.85	81	*e*PB	Pn	12 20 29.6	+0.9
SOH				*e*SN	Sn	12 21 05.2	+2.0
SOH	Sokhos	2.85	81	*e*Pb	Pn	12 20 29.6	+0.9
SOH				*e*Sn	Sn	12 21 05.2	+2.0
PLG	Polygyros	2.90	90	*e*PN	Pn	12 20 29.6	+0.2
PLG				*e*SN	Sn	12 21 06.1	+1.6
PLG	Polygyros	2.90	90	*e*Pn	Pn	12 20 29.6	+0.2
PLG				*e*Sn	Sn	12 21 06.1	+1.6
PLE	Pljevlja	2.91	356⇑	*i*Pn	Pn	12 20 29.5	-0.1
PLE				*e*Sn	Sn	12 21 05.8	+1.1
PLE	Pljevlja	2.91	356⇑	*i*Pn	Pn	12 20 29.5	-0.1
PLE				*e*Sn	Sn	12 21 05.8	+1.1
KKB	Krupnik	2.97	60	P	Pn	12 20 33.4	+3.1
KKB	Krupnik	2.97	60	P	Pn	12 20 33.4	+3.1
NEO	Neokhori	2.97	111	*e*PN	Pn	12 20 30.6	+0.2
NEO	Neokhori	2.97	111	*e*Pn	Pn	12 20 30.6	+0.2
SELS	Selova	3.00	21	*e*Pn	Pn	12 20 31.0	+0.2
DSF	Desfina	3.01	131	P	Pn	12 20 31.6	+0.7
DSF				S	Sn	12 21 08.6	+1.5
DSF	Desfina	3.01	131	P	Pn	12 20 31.6	+0.7
DSF				S	Sn	12 21 08.6	+1.5
MS1	Monte Sant'Ang	3.08	296	*e*Pn	Pn	12 20 32.5	+0.6
LKR	Lokris	3.14	123	*e*PN	Pn	12 20 34.3	+1.6
LKR	Lokris	3.14	123	*e*Pn	Pn	12 20 34.3	+1.6
IVAS	Ivanjica	3.17	7	*e*Pn	Pn	12 20 32.2	-0.9
IVAS	Ivanjica	3.17	7	*e*Pn	Pn	12 20 32.2	-0.9
GUR	Goura	3.25	139	P	Pn	12 20 34.9	+0.6
GUR	Goura	3.25	139	*e*PN	Pn	12 20 34.6	+0.3
GUR	Goura	3.25	139	*e*Pn	Pn	12 20 34.6	+0.3
GUR	Goura	3.25	139	P	Pn	12 20 34.9	+0.6
MMB	Musomiste	3.30	68	P	Pn	12 20 35.7	+0.8
MMB	Musomiste	3.30	68	P	Pn	12 20 35.7	+0.8
NVR	Nevrokopi	3.33	73	*e*PN	Pn	12 20 34.3	-1.0
NVR	Nevrokopi	3.33	73	*e*Pn	Pn	12 20 34.3	-1.0
LTK	Loutraki	3.52	132	*e*PN	Pn	12 20 38.7	+0.7
LTK	Loutraki	3.52	132	*e*Pn	Pn	12 20 38.7	+0.7
GRUS	Gruza	3.55	13	*e*Pn	Pn	12 20 37.7	-0.6
GRUS	Gruza	3.55	13	*e*Pn	Pn	12 20 37.7	-0.6
ZAPS	Zavoj	3.62	37	*e*Pn	Pn	12 20 39.5	+0.3
ZAPS	Zavoj	3.62	37	*e*Pn	Pn	12 20 39.5	+0.3
DIVS	Divibare	3.68	4	*e*Pn	Pn	12 20 38.8	-1.3
DIVS	Divibare	3.68	4	*e*Pn	Pn	12 20 38.8	-1.3
ITM	Ithomi	3.70	150	*e*PN	Pn	12 20 41.2	+0.9
ITM	Ithomi	3.70	150	*e*Pn	Pn	12 20 41.3	+0.9
VLX	Vlachokerasia	3.72	144	*e*PB	Pn	12 20 43.5	+2.7
VLX	Vlachokerasia	3.72	144	*e*Pb	Pn	12 20 43.5	+2.7
ERET	Eretria	3.78	120	P	Pn	12 20 42.4	+0.8
ERET	Eretria	3.78	120	P	Pn	12 20 42.4	+0.8
BOLS	Boljevac	3.81	26	*e*Pn	Pn	12 20 42.5	+0.7
BOLS	Boljevac	3.81	26	*e*Pn	Pn	12 20 42.5	+0.7
PYL	PYLOS	3.89	154	*e*PN	Pn	12 20 40.2	-2.8
PYL	PYLOS	3.89	154	*e*Pn	Pn	12 20 40.2	-2.8
NAIG	Nisos Aigina	4.00	130	*e*PN	Pn	12 20 41.6	-3.0
NAIG	Nisos Aigina	4.00	130	*e*Pn	Pn	12 20 41.6	-3.0
RZN	Rozhen	4.04	70	P	Pb	12 20 51.9	-2.4
DID	Didima	4.04	135	P	Pn	12 20 44.9	-0.2
DID	Didima	4.04	135	*e*PN	Pn	12 20 45.5	+0.4
DID	Didima	4.04	135	P	Pn	12 20 44.9	-0.2
DID	Didima	4.04	135	*e*Pn	Pn	12 20 45.5	+0.4
TEKS	Tekeris	4.12	359	*e*Pn	Pn	12 20 43.4	-2.7
TEKS	Tekeris	4.12	359	*e*Pn	Pn	12 20 43.4	-2.7
MPEP	Malo Peshtene	4.23	45	P	Pn	12 20 51.4	+3.7
VLI	Veliai	4.51	144	*e*PN	Pn	12 20 52.2	+0.7
VLI	Veliai	4.51	144	*e*Pn	Pn	12 20 52.2	+0.7
RDO	Rodhopi	4.53	79	*e*PN	Pn	12 20 51.7	0.0
RDO	Rodhopi	4.53	79	*e*Pn	Pn	12 20 51.7	0.0
KDZ	Kurdzhali	4.53	72	P	Pn	12 20 52.4	+0.6
KDZ	Kurdzhali	4.53	72	P	Pn	12 20 52.4	+0.6
FGSL	Fruska Gora	4.73	1	*e*Pn	Pn	12 20 52.1	-2.4
FRGS	Fruska Gora	4.73	1	*e*Pn	Pn	12 20 52.1	-2.4
ALN	Alexandroupoli	4.89	82	*e*PN	Pn	12 20 57.3	+0.6
ALN	Alexandroupoli	4.89	82	*e*Pn	Pn	12 20 57.3	+0.6
BZS	Buzias	5.38	15⇑	*i*P	Pn	12 21 02.7	-0.8
BZS	Buzias	5.38	15⇑	*i*P	Pn	12 21 02.7	-0.8
NVLJ	Novalja	5.43	321	*e*Pn	Pn	12 21 00.8	-3.3
NVLJ				Sn	Sn	12 22 01.4	-5.4
NVLJ	Novalja	5.43	321	*e*Pn	Pn	12 21 00.8	-3.3
NVLJ				Sn	Sn	12 22 01.4	-5.4
GZR	Gura Zlata	5.47	24⇓	*i*P	Pn	12 21 05.0	+0.3
GZR	Gura Zlata	5.47	24⇓	*i*P	Pn	12 21 05.0	+0.3
VAM	Vamos	6.17	143	*e*PN	Pn	12 21 10.8	-3.5
VOIR		6.39	37⇑	*i*P	Pn	12 21 08.4	-9.0
SKDS	Skadanscina	6.57	323	*i* Sn	Sn	12 22 31.3	-3.6
JAVS	Javornik	6.82	325	*i* Pn	Pn	12 21 21.6	-1.7
JAVS				*i* Sn	Sn	12 22 36.9	-4.1
MLR	Muntele Rosu	6.85	40	Pn	Pn	12 21 28.7	+4.9
	0.1nm,0.3s,baz=285,slow=23,SNR=1.7						
VOY	Vojsko	7.00	325	*e*Pn	Pn	12 21 24.2	-1.6
VOY				*e*Sn	Sn	12 22 42.6	-2.9
VOY				*e*		12 22 45.1	
GERES	GERESS Array B	9.42	335	Pn	Pn	12 21 57.0	-2.0
	0.1nm,0.3s,baz=156,slow=14,SNR=5.2						
DAVOX	Davos/Dischmat	9.51	315	Pn	Pn	12 21 58.7	-1.6
	0.2nm,0.3s,baz=158,slow=18,SNR=3.5						
HFS	Hagfors	20.08	351	P	P	12 24 15.4	-1.1
	3.0nm,0.8s,baz=133,slow=14,SNR=1.5						
NB2	NORSAR Subarra	21.28	349	P	P	12 24 28.5	-1.1
	comp=Z,1.8nm,0.8s,baz=159,slow=9.3						
NB2	NORSAR Subarra	21.28	349	P	P	12 24 28.5	-1.1
	comp=Z,1.8nm,0.8s,baz=159,slow=9.1,SNR=4.4						
NOA	NORSAR Array B	21.28	349	P	P	12 24 28.0	-1.6
	comp=Z,1.9nm,0.8s,baz=159,slow=8.6,SNR=4.1						
MKAR	Makanchi Array	44.74	60	P	P	12 27 54.6	-1.9
	comp=Z,0.3nm,0.5s,baz=279,slow=7.6,SNR=5.2						
YKA	Yellowknife Ar	71.05	339	P	P	12 30 60.0	-0.9
	comp=Z,0.2nm,0.7s,baz=28,slow=4.7,SNR=7.0						

MDD 31 12:50:59.1±0.4, 37°04N×5°42W, h0km, mbLg2.9/15, 1C, Error ellipse: s-maj=3.2km s-min=3.0km az=142.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	Lijar	0.14	175	Pg	Pg	12 51 01.4	-0.5
LIJA				Lg	Lg	12 51 02.4	
EJIF	Jimena Fronter	0.59	184	Pg	Pg	12 51 10.7	+0.2
	27nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	12 51 19.1	
	208nm,0.3s,SNR=7.9						
EMIJ	Mijas	0.70	132	⇑Pg	Pg	12 51 11.1	-1.5
	31nm,0.3s,SNR=18						
EMIJ				Lg	Lg	12 51 22.2	
	296nm,0.4s,SNR=7.9						
EMAL	Malaga-Limoner	0.84	109	Pg	Pg	12 51 15.4	+0.2
EMAL				Lg	Lg	12 51 25.7	
CNIL	Conil	0.84	218	Pg	Pb	12 51 16.2	-0.4
ELOJ	Sierra Loja	1.02	84	Pg	Pg	12 51 18.8	0.0
	7.0nm,0.1s,SNR=7.9						
ELOJ				Lg	Lg	12 51 32.0	
	66nm,0.2s,SNR=7.9						
ELUQ	Luque	1.05	60	Pg	Pg	12 51 18.7	-0.7
	33nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	12 51 32.1	
	159nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.23	306	Pn	Pg	12 51 21.0	-1.8
	4.9nm,0.1s,SNR=7.9						
EMIN				Pg	Pb	12 51 21.9	-1.4
	21nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	12 51 38.6	
	74nm,0.2s,SNR=7.9						
ERON	Agron	1.29	91	Pg	Pg	12 51 23.3	-0.7
	10nm,0.3s,SNR=7.9						
ERON				Lg	Lg	12 51 42.0	
	79nm,0.4s,SNR=7.9						
EADA	Adamuz	1.31	30	Pg	Pg	12 51 22.4	-1.8
	20nm,0.2s,SNR=7.9						
EADA				Lg	Lg	12 51 40.0	
	62nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	1.50	80	Pg	Pn	12 51 26.4	-1.1
	11nm,0.2s,SNR=7.9						
ECOG				Lg	Lg	12 51 47.0	
	31nm,0.2s,SNR=7.9						
EGUA	Guajares	1.50	97	Pg	Pn	12 51 27.0	-0.3
	74nm,0.4s,SNR=7.9						
EGUA				Lg	Lg	12 51 46.3	
	278nm,0.4s,SNR=7.9						
PBAR	Barrancos	1.71	312	*e*Sn	Sg	12 51 54.4	+0.2
PBAR				A	A	12 52 05.5	
	85nm,0.6s						
PBAR	Barrancos	1.71	312	Lg	Lg	12 51 54.4	
	85nm,0.6s						
EGRO	El Granado	1.72	287	Pg	Pn	12 51 30.4	+0.1
	3.6nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	12 51 54.0	
	59nm,0.3s,SNR=7.9						
EQES	Quesada	2.02	67	Pg	Pn	12 51 35.7	+1.1
	5.2nm,0.1s,SNR=7.9						
EQES				Lg	Lg	12 52 02.6	
	36nm,0.2s,SNR=7.9						
EBER	Berja	2.03	93	Pg	Pn	12 51 35.4	+0.5
	10.0nm,0.4s,SNR=7.9						
EBER				Lg	Lg	12 52 04.3	
	41nm,0.4s,SNR=7.9						
PFVI	Vila Bisbo	2.73	273	Sn	Sn	12 52 14.3	-3.5
	20nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	12 52 24.7	
	48nm,0.2s,SNR=7.9						

*ISCJB **31** 12:51:07.5±0.4, 37°20N±0°03×5°39W±0°02, h10km, Error ellipse: s-maj=4.2km s-min=2.6km az=11.9*
*CSEM **31** 12:51:08.8±0.1, 37°11N×5°40W, h15km, ML3.5/17, Error ellipse: s-maj=3.7km s-min=2.3km az=12.0*
*MDD **31** 12:51:10.0±0.5, 37°06N×5°42W, h11km±1km, mbLg3.1/21, Error ellipse: s-maj=4.3km s-min=2.9km az=20.0, PRXIMO*
ISC 31 12:51:08.2±0.8, 37°09N±0°03×5°37W±0°02, h10km, n88, σ1s50/90, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	Jimena Fronter	0.64	187	Pg	Pg	12 51 20.7	+0.1
	52nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	12 51 28.9	
	420nm,0.3s,SNR=7.9						
EJIF	Jimena Fronter	0.64	187	Pg	Pg	12 51 20.7	+0.1
	52nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	12 51 28.9	
	420nm,0.3s,SNR=7.9						
EMIJ	Mijas	0.71	137	Pg	Pn	12 51 24.0	-0.3
	61nm,0.3s,SNR=7.9						
EMIJ				Lg	Lg	12 51 32.2	
	216nm,0.3s,SNR=7.9						
EMIJ	Mijas	0.71	137	Pg	Pn	12 51 24.0	-0.3
	61nm,0.3s,SNR=7.9						
EMIJ				Lg	Lg	12 51 32.2	
	216nm,0.3s,SNR=7.9						
CNIL	Conil	0.91	218	Lg	Lg	12 51 33.7	
CNIL	Conil	0.91	218	Lg	Lg	12 51 33.7	
ELOJ	Sierra Loja	0.97	86	Pg	Pn	12 51 28.9	+0.9
	53nm,0.3s,SNR=7.9						
ELOJ				Lg	Lg	12 51 42.1	
	180nm,0.4s,SNR=7.9						
ELOJ	Sierra Loja	0.97	86	Pg	Pn	12 51 28.9	+0.9
	53nm,0.3s,SNR=7.9						
ELOJ				Lg	Lg	12 51 42.1	
	180nm,0.4s,SNR=7.9						
ELUQ	Luque	1.00	61	Pg	Pn	12 51 29.4	+1.1
	210nm,0.4s,SNR=7.9						
ELUQ				Lg	Lg	12 51 42.3	
	388nm,0.2s,SNR=7.9						
ELUQ	Luque	1.00	61	Pg	Pn	12 51 29.4	+1.1
	210nm,0.4s,SNR=7.9						
ELUQ				Lg	Lg	12 51 42.3	
	388nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.24	304	Pg	Pg	12 51 32.3	+0.3
	38nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	12 51 48.2	
	62nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.24	304	Pg	Pg	12 51 32.3	+0.3
	38nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	12 51 48.2	
	62nm,0.2s,SNR=7.9						
EADA	Adamuz	1.25	30	Pg	Pg	12 51 32.9	+0.7
	30nm,0.1s,SNR=7.9						
EADA				Sn	Sn	12 51 49.0	+0.4
	34nm,0.1s,SNR=7.9						
EADA				Lg	Lg	12 51 50.6	
	203nm,0.1s,SNR=7.9						
EADA	Adamuz	1.25	30	Pg	Pg	12 51 32.9	+0.7
	30nm,0.1s,SNR=7.9						
EADA				Sn	Sn	12 51 49.0	+0.4
	34nm,0.1s,SNR=7.9						
EADA				Lg	Lg	12 51 50.6	
	203nm,0.1s,SNR=7.9						
ERON	Agron	1.25	93	Pg	Pg	12 51 32.9	+0.6
	39nm,0.4s,SNR=7.9						
ERON				Lg	Lg	12 51 50.3	
	157nm,0.4s,SNR=7.9						
ERON	Agron	1.25	93	Pg	Pg	12 51 32.9	+0.6
	39nm,0.4s,SNR=7.9						
ERON				Lg	Lg	12 51 50.3	
	157nm,0.4s,SNR=7.9						
ECOG	Cogollos-Vega	1.45	82	Pg	Pg	12 51 36.8	+0.7
	29nm,0.3s,SNR=7.9						
ECOG				Lg	Lg	12 51 57.3	
	115nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	1.45	82	Pg	Pg	12 51 36.8	+0.7
	29nm,0.3s,SNR=7.9						
ECOG				Lg	Lg	12 51 57.3	
	115nm,0.3s,SNR=7.9						
EGUA	Guajares	1.47	99	Pg	Pg	12 51 37.2	+0.9
	39nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	12 51 58.1	
	782nm,0.6s,SNR=7.9						
EGUA	Guajares	1.47	99	Pg	Pg	12 51 37.2	+0.9
	39nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	12 51 58.1	
	782nm,0.6s,SNR=7.9						
EGRO	El Granado	1.74	285	Pg	Pb	12 51 40.5	+0.2
	13nm,0.2s,SNR=7.9						
EGRO				Lg	Lg	12 52 03.2	
	140nm,0.3s,SNR=7.9						
EGRO	El Granado	1.74	285	Pg	Pb	12 51 40.5	+0.2
	13nm,0.2s,SNR=7.9						
EGRO				Lg	Lg	12 52 03.2	
	140nm,0.3s,SNR=7.9						
PVAQ	Vaqueiros	1.90	280	*e*Sg	Sg	12 52 09.4	+0.1
PVAQ				A	A	12 52 12.1	
	88nm,0.4s						
PVAQ	Vaqueiros	1.90	280	Lg	Lg	12 52 09.4	
	88nm,0.4s						
PVAQ	Vaqueiros	1.90	280	*e*Sg	Sg	12 52 09.4	+0.1
	88nm,0.4s						
EQES	Quesada	1.96	68	Pg	Pg	12 51 46.1	+0.3
	12nm,0.1s,SNR=7.9						
EQES				Lg	Lg	12 52 13.0	
	85nm,0.2s,SNR=7.9						
EQES	Quesada	1.96	68	Pg	Pg	12 51 46.1	+0.3
	12nm,0.1s,SNR=7.9						
EQES				Lg	Lg	12 52 13.0	
	85nm,0.2s,SNR=7.9						
EBER	Berja	1.99	95	Pg	Pg	12 51 46.5	+0.1
	19nm,0.4s,SNR=7.9						
EBER				Lg	Lg	12 52 14.0	
	101nm,0.6s,SNR=7.9						
EBER	Berja	1.99	95	Pg	Pg	12 51 46.5	+0.1
	19nm,0.4s,SNR=7.9						
EBER				Lg	Lg	12 52 14.0	
	101nm,0.6s,SNR=7.9						
PBDV	Barranco-do-Ve	2.05	275	*e*Pn	Pn	12 51 42.9	+0.1
PBDV				A	A	12 52 17.1	
	120nm,0.8s						
PBDV	Barranco-do-Ve	2.05	275	Pg	Pn	12 51 42.9	+0.1
PBDV	Barranco-do-Ve	2.05	275	*e*Pn	Pn	12 51 42.9	+0.1
	120nm,0.8s						
EBAD	Badajoz	2.11	322	Pn	Pn	12 51 43.8	+0.2
	7.1nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	12 52 15.6	
	83nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.11	322	Pn	Pn	12 51 43.8	+0.2
	7.1nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	12 52 15.6	
	83nm,0.2s,SNR=7.9						
PBEJ	Beja	2.19	296	*e*Sn	Sn	12 52 11.0	-1.0
PBEJ				A	A	12 52 24.9	
	47nm,0.3s						
PBEJ	Beja	2.19	296	Sn	Sn	12 52 11.0	-1.0
	24nm,0.3s						
PBEJ	Beja	2.19	296	Sn	Sn	12 52 11.0	-1.0
	24nm,0.3s						
PCVE	Castro Verde	2.20	285	*e*Sn	Sn	12 52 09.6	-2.4
PCVE				A	A	12 52 21.9	
	74nm,0.6s						
PCVE	Castro Verde	2.20	285	Sn	Sn	12 52 09.6	-2.4
	74nm,0.6s						
PCVE	Castro Verde	2.20	285	Sn	Sn	12 52 09.6	-2.4
	74nm,0.6s						
EHUE	Huescar	2.32	71	Pn	Pb	12 51 49.1	-1.1
	3

	14nm,0.5s								
PCBR	**Castelo Branco**	**3.21**	**330**		Sn	**Sn**	**12 52 35.1**	**-1.8**
	14nm,0.5s								
ETOB	**Tobarra**	**3.40**	**62**		Sn	**Sn**	**12 52 41.5**	**-0.2**
	8.0nm,0.2s,SNR=7.9								
ETOB					Lg	Lg	12 52 58.9		
	24nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**3.40**	**62**		Sn	**Sn**	**12 52 41.5**	**-0.2**
	8.0nm,0.2s,SNR=7.9								
ETOB					Lg	Lg	12 52 58.9		
	24nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**3.61**	**302**		Sn	**Sn**	**12 52 45.1**	**-1.8**
	38nm,0.5s,SNR=7.9								
PMAFR					Lg	Lg	12 53 04.6		
	50nm,0.4s,SNR=7.9								
PMAFR	**Mafra**	**3.61**	**302**		Sn	**Sn**	**12 52 45.1**	**-1.8**
	38nm,0.5s,SNR=7.9								
PMAFR					Lg	Lg	12 53 04.6		
	50nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**3.67**	**15**		Sn	**Sn**	**12 52 47.4**	**-1.2**
	8.6nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**3.67**	**15**		Sn	**Sn**	**12 52 47.4**	**-1.2**
	8.6nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**4.27**	**343**		*e*Sg	**Sb**	**12 53 19.2**	**+4.2**
MVO					A	A	12 53 28.8		
	46nm,0.5s								
MVO	**Moncorvo**	**4.27**	**343**		Sn	**Sn**	**12 53 01.3**	**-2.0**
	7.9nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**4.27**	**343**		Sn	**Sn**	**12 53 01.3**	**-2.0**
	7.9nm,0.3s,SNR=7.9								
MVO					*e*Sg	**Sb**	**12 53 19.2**	**+4.2**
	46nm,0.5s								
ETOR	**Torete**	**4.53**	**34**		Sn	**Sn**	**12 53 08.2**	**-1.6**
	8.6nm,0.3s,SNR=7.9								
ETOR					Lg	Lg	12 53 34.2		
	33nm,0.4s,SNR=7.9								
ETOR	**Torete**	**4.53**	**34**		Sn	**Sn**	**12 53 08.2**	**-1.6**
	8.6nm,0.3s,SNR=7.9								
ETOR					Lg	Lg	12 53 34.2		
	33nm,0.4s,SNR=7.9								
POLO	**Lamas de Olo**	**4.68**	**337**		*e*Sn	**Sn**	**12 53 11.1**	**-2.2**
POLO					A	A	12 53 48.5		
	14nm,0.6s								
PBRG	**Braganca**	**4.83**	**348**		*e*Sg	**Sb**	**12 53 34.3**	**+3.2**
PBRG					A	A	12 53 45.1		
	24nm,0.6s								
PBRG	**Braganca**	**4.83**	**348**		Lg	Lg	12 53 34.3		
	12nm,0.6s								
EMOS	**Mosqueruela**	**5.04**	**48**		Sn	**Sn**	**12 53 20.2**	**-2.1**
	1.7nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**5.04**	**48**		Sn	**Sn**	**12 53 20.2**	**-2.1**
	1.7nm,0.4s,SNR=7.9								
ELOB	**Lobios**	**5.21**	**337**		Sn	**Sn**	**12 53 23.8**	**-2.5**
	6.1nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**5.21**	**337**		Sn	**Sn**	**12 53 23.8**	**-2.5**
	6.1nm,0.3s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.36**	**336**		*e*Sg	**Sg**	**12 53 55.8**	**-4.5**
PGAV					A	A	12 54 05.9		
	22nm,0.6s								
EARI	**Arriondas**	**6.21**	**1**		Pn	**Pn**	**12 52 39.1**	**-0.7**
	2.7nm,0.6s,SNR=7.9								
EARI	**Arriondas**	**6.21**	**1**		Pn	**Pn**	**12 52 39.2**	**-0.7**
	2.7nm,0.6s,SNR=7.9								
ELAN	**Lanestosa**	**6.31**	**13**		Pn	**Pn**	**12 52 42.2**	**+0.9**
	1.0nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**6.31**	**13**		Pn	**Pn**	**12 52 42.2**	**+0.9**
	1.0nm,0.3s,SNR=7.9								

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*NEIC **31** 13:24:57.9, 17.66N×101.94W, h4km, mb5.2/40, MD5.2(MEX), After MEX.*
NEIC Felt [IV] at Ixtapa, [III] at Zihuatanejo and [II] at Mexico. Also felt at Acapulco, Buenavista, La Union, Lazaro Cardenas and Patzcuaro.
*ISCJB **31** 13:24:58.0±0.4, 17.69N±0.03×101.90W±0.02, h40km±3km, mb5.0/70, MS4.4/27, Error ellipse: s-maj=4.8km s-min=2.2km az=30.0*
*BJI **31** 13:24:58.7, 18.43N×100.97W, h25km, mB5.4/7, mb5.3/1, Ms5.2/6, Ms7 4.8/6*
*MEX **31** 13:24:58.0±0.4, 17.66N×101.94W, h5km±2km, MD5.1*
*IDC **31** 13:24:59.1±0.7, 17.95N×101.59W, h25km±3km, mb4.4/17, mb1 4.6/20, mb1mx4.5/26, mbtmp4.4/20, ML3.9/3, MS4.4/26, Ms1 4.4/26, ms1mx4.3/32, Error ellipse: s-maj=20.9km s-min=12.6km az=59.0*
*SZGRF **31** 13:25:11.1, 17.88N×101.63W, h33km, mb4.9, Near coast of Guerrero, Mexico*
ISC 31 13:24:58.6±0.4, 17.85N±0.03×101.80W±0.03, h27km±2km, h27km:pP-P, n517, σ1s37/839, mb5.1/69, MS4.5/27, 280C-326D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.40**	**128**	*e*P		**Pb**	**13 25 06.4**	**-0.9**
ZIIG				*i* S		**Sb**	**13 25 12.6**	**-0.6**
ZIIG	**Zihuatanejo**	**0.40**	**128**	*e*P		**Pb**	**13 25 06.4**	**-0.9**
ZIIG				*i* S		**Sb**	**13 25 12.6**	**-0.6**
CAIG	**El Cayaco**	**1.66**	**118**	*e*P		**Pn**	**13 25 24.9**	**-1.1**
CAIG				*i* S		**Sn**	**13 25 45.9**	**-0.5**
CAIG	**El Cayaco**	**1.66**	**118**	*e*P		**Pn**	**13 25 24.9**	**-1.1**
CAIG				*i* S		**Sn**	**13 25 45.9**	**-0.5**
MEIG	**Mezcala**	**2.07**	**88**	*e*P		**Pn**	**13 25 32.2**	**+0.4**
MEIG				*i* S		**Sb**	**13 25 59.0**	**-2.0**
MEIG	**Mezcala**	**2.07**	**88**	*e*P		**Pn**	**13 25 32.2**	**+0.4**
MEIG				*i* S		**Sb**	**13 25 59.0**	**-2.0**
ACX	**Acapulco**	**2.09**	**118**	*e*P		**Pn**	**13 25 31.1**	**-0.9**
ACX				*i* S		**Sn**	**13 25 55.0**	**-2.1**
PLIG	**Platanillo**	**2.25**	**76**	*e*P		**Pb**	**13 25 36.3**	**-2.3**
PLIG				*i* S		**Sb**	**13 26 04.2**	**-1.8**
PLIG	**Platanillo**	**2.25**	**76**	*e*P		**Pb**	**13 25 36.3**	**-2.3**
PLIG				*i* S		**Sb**	**13 26 04.2**	**-1.8**
EZ5V		**2.36**	**314**	*e*P		**Pn**	**13 25 34.1**	**-1.7**
EZ5V				*i* S		**Sn**	**13 26 01.2**	**-2.8**
R15V		**2.46**	**303**	*e*P		Pn	13 25 33.6	-3.3
R15V				*i* S		**Sn**	**13 26 05.3**	**-0.8**
SZVM	**Salazar**	**2.72**	**57**	*e*P		**Pn**	**13 25 43.4**	**+2.5**
SZVM				*i* S		**Sb**	**13 26 18.9**	**-1.1**
SZVM	**Salazar**	**2.72**	**57**	*e*P		**Pn**	**13 25 43.4**	**+2.5**
SZVM				*i* S		**Sb**	**13 26 18.9**	**-1.1**
MZVM		**2.77**	**61**	*e*P		**Pn**	**13 25 43.9**	**+2.6**
MZVM				*i* S		**Sb**	**13 26 18.1**	**-3.0**
YAIG	**Yautepec**	**2.78**	**68**	*e*P		**Pn**	**13 25 43.2**	**+1.7**
YAIG				*i* S		**Sb**	**13 26 18.8**	**-2.6**
YAIG	**Yautepec**	**2.78**	**68**	*e*P		**Pn**	**13 25 43.2**	**+1.7**
YAIG				*i* S		**Sb**	**13 26 18.8**	**-2.6**
SFJM	**Santa Fe**	**2.87**	**336**	*i* P		**Pn**	**13 25 44.3**	**+1.5**
SFJM				*i* S		**Sn**	**13 26 19.1**	**+2.5**
UNM	**Universidad Na**	**2.89**	**59**	*e*P		Pn	13 25 45.9	+2.8
UNM	**Universidad Na**	**2.89**	**59**	*e*P		Pn	13 25 45.9	+2.8
UNM				*i* S		**Sb**	**13 26 22.0**	**-2.6**
AZVM	**Cuida Lopez Ma**	**2.94**	**54**	*e*P		Pn	13 25 46.7	+2.9
AZVM				*i* S		**Sb**	**13 26 22.6**	**-3.6**
PBIG	**Penon de los B**	**3.02**	**58**	*e*P		Pn	13 25 47.5	+2.8
PBIG				*i* S		**Sb**	**13 26 25.5**	**-2.6**
VCVM	**Valle de Chalc**	**3.06**	**61**	*i* P		**Pn**	**13 25 48.2**	**+2.8**
VCVM				*i* S		**Sb**	**13 26 25.4**	**-4.0**
PTVM	**Pico Tres Padr**	**3.08**	**55**	*e*P		**Pn**	**13 25 48.0**	**+2.2**
PTVM				*i* S		**Sb**	**13 26 27.8**	**-2.3**
PTVM	**Pico Tres Padr**	**3.08**	**55**	*e*P		**Pn**	**13 25 48.0**	**+2.2**
PTVM				*i* S		**Sb**	**13 26 27.8**	**-2.3**
PPM	**Popocatepetl**	**3.24**	**68**	*e*P		**Pn**	**13 25 49.6**	**+1.4**
PPM				*i* S		**Sn**	**13 26 30.2**	**+4.0**
IIO	**Organos**	**3.39**	**59**	*e*P		**Pn**	**13 25 52.2**	**+2.1**
IIO				*i* S		**Sb**	**13 26 34.3**	**-4.9**
IIO	**Organos**	**3.39**	**59**	*e*P		**Pn**	**13 25 52.2**	**+2.1**
IIO				*i* S		**Sb**	**13 26 34.3**	**-4.9**
VTVM	**Tizayuca**	**3.44**	**56**	*i* P		**Pn**	**13 25 53.1**	**+2.4**
VTVM				*i* S		**Sb**	**13 26 36.9**	**-3.7**
CJM	**Chamela**	**3.49**	**299**	*e*P		**Pn**	**13 25 50.4**	**-0.7**
CJM				*i* S		**Sn**	**13 26 30.4**	**-1.1**
CJM	**Chamela**	**3.49**	**299**	*e*P		**Pn**	**13 25 50.4**	**-0.7**
CJM				*i* S		**Sn**	**13 26 30.4**	**-1.1**
DEIG	**Demacu**	**3.57**	**47**	*e*P		**Pn**	**13 25 55.2**	**+2.7**
DEIG	**Demacu**	**3.57**	**47**	*e*P		**Pn**	**13 25 55.2**	**+2.7**
DEIG				*i* S		**Sb**	**13 26 39.0**	**-5.3**
PNIG	**Pinotepa**	**3.80**	**112**	*e*P		**Pn**	**13 25 55.2**	**-0.1**
PNIG				*i* S		**Sn**	**13 26 40.8**	**+1.6**
PNIG	**Pinotepa**	**3.80**	**112**	*e*P		**Pn**	**13 25 55.2**	**-0.1**
PNIG				*i* S		**Sn**	**13 26 40.8**	**+1.6**
ANIG	**Ahuacatlan**	**4.09**	**322**	*e*P		**Pn**	**13 25 58.8**	**-0.8**
ANIG				*i* S		**Sn**	**13 26 46.8**	**+0.2**
ANIG	**Ahuacatlan**	**4.09**	**322**	*e*P		**Pn**	**13 25 58.8**	**-0.8**
ANIG				*i* S		**Sn**	**13 26 46.8**	**+0.2**
TPIG	**Tehuac#an**	**4.25**	**82**	*e*P		**Pn**	**13 26 03.3**	**+1.5**
TPIG				*i* S		**Sn**	**13 26 54.6**	**+3.9**
TPIG	**Tehuac#an**	**4.25**	**82**	*e*P		**Pn**	**13 26 03.3**	**+1.5**
TPIG				*i* S		**Sn**	**13 26 54.6**	**+3.9**
VHO	**Vista Hermosa**	**4.89**	**98**	*e*P		**Pn**	**13 26 11.8**	**+1.1**
VHO				*i* S		**Sn**	**13 27 08.0**	**+1.5**
VHO	**Vista Hermosa**	**4.89**	**98**	*e*P		**Pn**	**13 26 11.8**	**+1.1**
VHO				*i* S		**Sn**	**13 27 08.0**	**+1.5**
OXX	**Oaxaca**	**4.90**	**98**	*i* P		**Pn**	**13 26 13.1**	**+2.3**
OXX				*i* S		**Sn**	**13 27 08.5**	**+1.8**
HUIG	**Huatulco**	**5.83**	**110**	*e*P		**Pn**	**13 26 23.1**	**-0.2**
HUIG				*i* S		**Sn**	**13 27 30.7**	**+1.4**
HUIG	**Huatulco**	**5.83**	**110**	*e*P		**Pn**	**13 26 23.1**	**-0.2**
HUIG				*i* S		**Sn**	**13 27 30.7**	**+1.4**
CMIG	**Matias Romero**	**6.64**	**95**	Pn		**Pn**	**13 26 35.7**	**+1.2**
	16nm,0.3s,baz=272,slow=11,SNR=77							
CMIG					Sn	**Sn**	**13 27 48.5**	**-0.9**
	19nm,0.3s,baz=345,slow=12,SNR=4.1							
CMIG					Lg	Lg	13 28 24.7	
	106nm,0.3s,baz=40,slow=9.6,SNR=8.2							
CMIG					LR	LR	13 29 27.6	
	comp=Z,4μm,20.1s,baz=274,slow=42							
CMIG	**Matias Romero**	**6.64**	**95**	Pn		**Pn**	**13 26 35.7**	**+1.2**
CMIG					Sn	**Sn**	**13 27 48.5**	**-0.9**
CMIG				*i* S		Sb	13 27 52.5	-20
CMIG					Lg	Lg	13 28 24.7	
CMIG	**Matias Romero**	**6.64**	**95**	*e*P		**Pn**	**13 26 35.7**	**+1.2**
CMIG				*i* S		**Sn**	**13 27 52.5**	**+3.2**
MAIG	**Mazatlaan**	**6.86**	**322**	*i* P		**Pn**	**13 26 37.6**	**+0.2**
MAIG				*i* S		**Sn**	**13 27 55.5**	**+1.0**
MAIG	**Mazatlaan**	**6.86**	**322**	*i* P		**Pn**	**13 26 37.6**	**+0.2**
MAIG				*i* S		**Sn**	**13 27 55.5**	**+1.0**
TGIG		**8.35**	**96**	*e*P		Pn	13 27 01.4	+3.3
TGIG		**8.35**	**96**	*e*P		Pn	13 27 01.4	+3.3
PCIG		**8.49**	**103**	*i* P		**Pn**	**13 27 01.8**	**+1.9**
PCIG		**8.49**	**103**	*i* P		**Pn**	**13 27 01.8**	**+1.9**
CCIG	**Comitan**	**9.37**	**98**	*e*P		**Pn**	**13 27 14.0**	**+1.9**
CCIG	**Comitan**	**9.37**	**98**	*e*P		**Pn**	**13 27 14.0**	**+1.9**
THIG		**9.60**	**106**	*e*P		**Pn**	**13 27 17.5**	**+2.4**
THIG		**9.60**	**106**	*e*P		**Pn**	**13 27 17.5**	**+2.4**
LPIG	**La Paz**	**10.09**	**309**	*i* P		Pn	13 27 25.9	+4.1
LPIG	**La Paz**	**10.09**	**309**	*i* P		Pn	13 27 25.9	+4.1
TXAR	**Lajitas Array**	**11.56**	**352**	Pn		Pn	13 27 45.8	+3.8
	0.2nm,0.3s,baz=174,slow=12,SNR=58							
TXAR					Lg	Lg	13 31 01.7	
	0.3nm,0.3s,baz=189,slow=16,SNR=3.3							
TXAR					LR	LR	13 32 52.8	
	comp=Z,3μm,18.2s,baz=180,slow=41							
TXAR	**Lajitas Array**	**11.56**	**352**	Pn		Pn	13 27 45.8	+3.8
627A	**Terlingua Ranc**	**11.64**	**353**	⇑P		Pn	13 27 47.3	+4.1
	baz=12,SNR=28							
627A				⇑P		Pn	13 27 47.3	+4.1
	baz=12,SNR=28							
626A	**Big Bend Ranch**	**11.84**	**350**	⇑P		Pn	13 27 50.1	+4.2
	baz=12,SNR=28							
626A				⇑P		Pn	13 27 50.1	+4.2
	baz=12,SNR=28							
526A	**Mary Lane Ranc**	**12.33**	**351**	⇑P		Pn	13 27 56.6	+3.9
	baz=13,SNR=40							
526A				⇑P		Pn	13 27 56.6	+3.9
	baz=13,SNR=40							
527A	**Woodward Ranch**	**12.35**	**353**	⇓P		Pn	13 27 56.4	+3.6
	baz=13,SNR=26							
527A				⇓P		Pn	13 27 56.4	+3.6
	baz=13,SNR=26							
JCT	**Junction City**	**12.70**	**8**	*e*Pn		Pn	13 28 00.5	+2.9
JCT	**Junction City**	**12.70**	**8**	⇓P		**Pn**	**13 27 59.9**	**+2.3**
	baz=13,SNR=6.1							
JCT				⇓P		**Pn**	**13 27 59.9**	**+2.3**
	baz=13,SNR=6.1							
428A	**Kincaid Ranch,**	**12.84**	**357**	⇓P		Pn	13 28 02.9	+3.4
	baz=13,SNR=7.2							
428A				⇓P		Pn	13 28 02.9	+3.4
	baz=13,SNR=7.2							
426A	**McDonald Obser**	**12.92**	**351**	⇓P		Pn	13 28 04.4	+3.7
	baz=13,SNR=17							
426A				⇓P		Pn	13 28 04.4	+3.7
	baz=13,SNR=17							
TEIG	**Tepich**	**13.00**	**77**	Pn		**Pn**	**13 28 00.7**	**-1.0**
	1.6nm,0.3s,baz=283,slow=3.0,SNR=6.3							
TEIG					LR	LR	13 33 21.6	
	comp=Z,1μm,21.5s,baz=108,slow=39							
TEIG	**Tepich**	**13.00**	**77**	Pn		**Pn**	**13 28 00.7**	**-1.0**
	23nm,0.8s							
427A	**Hayter Ranch,**	**13.02**	**354**	⇓P		Pn	13 28 05.6	+3.6
	baz=13,SNR=11							
427A				⇓P		Pn	13 28 05.6	+3.6
	baz=13,SNR=11							
HKT	**Hockley**	**13.22**	**23**	*e*Pn		**Pn**	**13 28 03.7**	**-0.8**
328A	**Wristen Ranch,**	**13.50**	**356**	⇑P		Pn	13 28 11.8	+3.3
	baz=14							
328A				⇑P		Pn	13 28 11.8	+3.3
	baz=14							
CGIG		**13.67**	**337**	*e*P		**P**	**13 28 20.3**	**+0.8**
CGIG		**13.67**	**337**	*e*P		**P**	**13 28 20.3**	**+0.8**
325A	**Bean Ranch, Si**	**13.77**	**349**	⇓P		**Pn**	**13 28 15.0**	**+2.8**
	baz=14,SNR=9.0							
325A				⇓P		**Pn**	**13 28 15.0**	**+2.8**
	baz=14,SNR=9.0							
HSIG		**13.92**	**325**	*i* P		**Pn**	**13 28 16.3**	**+2.1**
HSIG		**13.92**	**325**	*i* P		**Pn**	**13 28 16.3**	**+2.1**
324A	**Moseley Ranch,**	**13.94**	**347**	⇓P		Pn	13 28 18.1	+3.5
	baz=14,SNR=17							
324A				⇓P		Pn	13 28 18.1	+3.5
	baz=14,SNR=17							
MNTX	**Cornudas Mount**	**14.16**	**347**	⇓P		**P**	**13 28 21.7**	**-3.1**
	baz=14,SNR=10							
MNTX				⇓P		**P**	**13 28 21.7**	**-3.1**
	baz=14,SNR=10							
MNTX				⇓P		**P**	**13 28 21.7**	**-3.1**
	baz=14,SNR=10							
MNTX				⇓P		**P**	**13 28 21.7**	**-3.1**
	baz=14,SNR=10							
226A	**Malaga, Loving**	**14.30**	**352**	⇑P		P	13 28 22.9	-3.5
	baz=14,SNR=13							
226A				⇑P		P	13 28 22.9	-3.5
	baz=14,SNR=13							
225A	**Deer Hill, Car**	**14.46**	**350**	⇑P		**P**	**13 28 25.1**	**-3.1**
	baz=15,SNR=19							
225A				⇑P		**P**	**13 28 25.1**	**-3.1**
	baz=15,SNR=19							
TGUH	**Tegucigalpa,Un**	**14.47**	**103**	*e*Pn		**Pn**	**13 28 22.0**	**+0.3**
CLNB	**Carlsbad**	**14.47**	**353**	*e*Pn		**P**	**13 28 29.5**	**+1.3**
GDL2	**Guadalupe Moun**	**14.47**	**351**	*e*Pn		**P**	**13 28 25.2**	**-3.1**
224A	**Cornudas Mount**	**14.56**	**347**	⇓P		**Pn**	**13 28 25.7**	**+2.7**
	baz=15,SNR=19							
224A				⇓P		**Pn**	**13 28 25.7**	**+2.7**
	baz=15,SNR=19							
320A	**Kipp Ranch, An**	**14.75**	**337**	⇓P		**P**	**13 28 28.9**	**-2.5**
	baz=15,SNR=25							
320A				⇓P		**P**	**13 28 28.9**	**-2.5**
	baz=15,SNR=25							
127A	**Arkansas Junct**	**14.83**	**355**	⇑P		**Pn**	**13 28 27.8**	**+1.2**
	baz=15,SNR=7.1							
127A				⇑P		**Pn**	**13 28 27.8**	**+1.2**
	baz=15,SNR=7.1							
126A	**Clayton Basin,**	**14.87**	**353**	⇓P		**P**	**13 28 33.3**	**+0.7**
	baz=15,SNR=6.9							
126A				⇓P		**P**	**13 28 33.3**	**+0.7**
	baz=15,SNR=6.9							
125A	**Gardner Draw,**	**14.97**	**351**	⇑P		**P**	**13 28 34.7**	**+1.0**
	baz=15,SNR=18							
125A				⇑P		**P**	**13 28 34.7**	**+1.0**
	baz=15,SNR=18							
221A	**Mesquite Ranch**	**15.10**	**340**	⇓P		**P**	**13 28 32.8**	**-2.4**
	baz=15,SNR=9.8							
221A				⇓P		**P**	**13 28 32.8**	**-2.4**
	baz=15,SNR=9.8							
CPRX	**Cap Rock**	**15.23**	**353**	*e*Pn		**P**	**13 28 37.2**	**+0.5**
220A	**Playas Peak, P**	**15.26**	**338**	⇑P		**P**	**13 28 37.2**	**+0.2**
	baz=15,SNR=11							
220A				⇑P		**P**	**13 28 37.2**	**+0.2**
	baz=15,SNR=11							
NATX	**Nacogdoches**	**15.28**	**24**	*e*P		**P**	**13 28 36.1**	**-1.0**
Z29A	**Hungry Hill Ra**	**15.34**	**0**	⇓P		**Pn**	**13 28 33.6**	**+0.1**
	baz=16							
Z29A				⇓P		**Pn**	**13 28 33.6**	**+0.1**
	baz=16							
Z27A	**Tatum**	**15.45**	**356**	⇓P		**Pn**	**13 28 35.2**	**+0.4**
	baz=16,SNR=12							
Z27A				⇓P		**Pn**	**13 28 35.2**	**+0.4**
	baz=16,SNR=12							
Z26A	**Caprock**	**15.48**	**353**	⇓P		**P**	**13 28 39.7**	**+0.3**
	baz=16,SNR=20							
Z26A				⇓P		**P**	**13 28 39.7**	**+0.3**
	baz=16,SNR=20							
Z25A	**Roswell**	**15.59**	**351**	⇓P		**P**	**13 28 41.7**	**+1.0**
	baz=16,SNR=12							
Z25A				⇓P		**P**	**13 28 41.7**	**+1.0**
	baz=16,SNR=12							
Z24A	**Sheeppen Canyo**	**15.74**	**349**	⇓P		**P**	**13 28 43.2**	**+0.7**
	baz=16,SNR=9.1							
Z24A				⇓P		**P**	**13 28 43.2**	**+0.7**
	baz=16,SNR=9.1							
Z23A	**Rita Site, Whi**	**15.86**	**346**	⇓P		**Pn**	**13 28 41.8**	**+1.7**
	baz=16,SNR=9.6							
Z23A				⇓P		**Pn**	**13 28 41.8**	**+1.7**
	baz=16,SNR=9.6							
120A	**U Bar Ranch, L**	**15.88**	**338**	⇑P		**P**	**13 28 42.9**	**-1.0**
	baz=16,SNR=9.2							
120A				⇑P		**P**	**13 28 42.9**	**-1.0**
	baz=16,SNR=9.2							
Y29A	**Porterfield Fa**	**15.94**	**0**	⇑P		**Pn**	**13 28 41.4**	**+0.2**
	baz=16							
Y29A				⇑P		**Pn**	**13 28 41.4**	**+0.2**
	baz=16							
Y28A	**McKinney Farm,**	**16.00**	**359**	⇓P		**Pn**	**13 28 41.9**	**0.0**
	baz=16							
Y28A				⇓P		**Pn**	**13 28 41.9**	**0.0**
	baz=16							
Y27A	**Causey**	**16.01**	**356**	⇑P		**Pn**	**13 28 42.8**	**+0.7**
	baz=16,SNR=9.1							
Y27A				⇑P		**Pn**	**13 28 42.8**	**+0.7**
	baz=16,SNR=9.1							
Z22A	**Elephant Butte**	**16.03**	**344**	⇑P		**P**	**13 28 47.4**	**+1.8**
	baz=16,SNR=13							
Z22A				⇑P		**P**	**13 28 47.4**	**+1.8**
	baz=16,SNR=13							
MSTX	**Muleshoe**	**16.08**	**357**	⇓P		**Pn**	**13 28 43.1**	**+0.2**
	baz=16							
MSTX				⇓P		**Pn**	**13 28 43.1**	**+0.2**
	baz=16							
Y26A	**Elida**	**16.11**	**354**	⇓P		**P**	**13 28 47.1**	**+0.7**
	baz=16,SNR=8.5							
Y26A				⇓P		**P**	**13 28 47.1**	**+0.7**
	baz=16,SNR=8.5							
Y25A	**Mesa, Roswell**	**16.21**	**351**	⇓P		**P**	**13 28 48.4**	**+0.8**
	baz=16,SNR=6.9							
Y25A				⇓P		**P**	**13 28 48.4**	**+0.8**
	baz=16,SNR=6.9							
Z21A	**St. Cloud Mine**	**16.27**	**342**	⇑P		**P**	**13 28 51.3**	**+2.9**
	baz=16,SNR=17							
Z21A				⇑P		**P**	**13 28 51.3**	**+2.9**
	baz=16,SNR=17							
Y23A	**Lovelace Mesa,**	**16.46**	**347**	⇓P		**P**	**13 28 50.0**	**-0.4**
	baz=17,SNR=23							
Y23A				⇓P		**P**	**13 28 50.0**	**-0.4**
	baz=17,SNR=23							
X29A	**Tulia**	**16.53**	**0**	⇓P		**Pn**	**13 28 49.0**	**+0.4**
	baz=17							
X29A				⇓P		**Pn**	**13 28 49.0**	**+0.4**
	baz=17							
Y22A	**Socorro**	**16.68**	**345**	⇓P		**P**	**13 28 52.2**	**-0.6**
	baz=17,SNR=17							
Y22A				⇓P		**P**	**13 28 52.2**	**-0.6**
	baz=17,SNR=17							
BNM	**Barren Site**	**16.80**	**346**	*e*Pn		**Pn**	**13 28 52.0**	**-0.2**
	23nm,1.0s							
LENM	**Lemitar**	**16.89**	**345**	*e*P		**P**	**13 28 56.9**	**+1.7**
LPM	**Los Pinos Moun**	**16.95**	**346**	*e*P		**P**	**13 28 57.8**	**+2.0**
AMTX	**Amarillo**	**16.96**	**0**	⇓P		**Pn**	**13 28 54.1**	**-0.1**
	baz=17,SNR=14							
AMTX				⇓P		**Pn**	**13 28 54.1**	**-0.1**
	baz=17,SNR=14							
AMTX				⇓P		**Pn**	**13 28 54.1**	**-0.1**
	baz=17,SNR=14							
AMTX				⇓P		**Pn**	**13 28 54.1**	**-0.1**
	baz=17,SNR=14							
Y20A	**Horse Springs,**	**17.04**	**341**	⇓P		**P**	**13 28 59.9**	**+3.0**
	baz=17,SNR=9.3							
Y20A				⇓P		**P**	**13 28 59.9**	**+3.0**
	baz=17,SNR=9.3							
LAZ	**Ladron**	**17.16**	**345**	*e*Pn		**P**	**13 28 57.5**	**-0.7**
	29nm,0.9s							
W27A	**Bowe Ranch, En**	**17.18**	**356**	⇓P		**P**	**13 28 59.1**	**+0.7**
	baz=17				

W19A			⇑P	Pn	13 29 14.5 +1.6	S21A	Coal Bank Pass	20.43 346 ⇑P	P	13 29 35.2 +1.1
	baz=19,SNR=5.2						baz=21,SNR=24			
U26A	Atchley Ranch,	18.55 355 ⇓P	Pn	13 29 14.0 +0.2		S21A		⇑P	P	13 29 35.2 +1.1
	baz=19,SNR=13						baz=21,SNR=24			
U26A		⇓P	Pn	13 29 14.0 +0.2		PFO	Pinyon Flat Ob	20.47 323 ⇑P	Pn	13 29 36.7 -0.1
	baz=19,SNR=13						baz=21,SNR=8.6			
V22A	San Miguel Ran	18.55 347 ⇓P	Pn	13 29 15.2 +1.3		PFO		⇑P	Pn	13 29 36.7 -0.1
	baz=19						baz=21,SNR=8.6			
V22A		⇓P	Pn	13 29 15.2 +1.3		T18A	Mexican Hat	20.49 341 ⇓P	Pn	13 29 35.9 -1.0
	baz=19						baz=21,SNR=24			
X16A	Lo Mia Camp, P	18.61 334 ⇓P	Pn	13 29 16.4 +1.8		T18A		⇓P	Pn	13 29 35.9 -1.0
	baz=19,SNR=16						baz=21,SNR=24			
X16A		⇓P	Pn	13 29 16.4 +1.8		BELC	Belle Mtn. Jos	20.50 324 ⇓P	Pn	13 29 37.2 +0.2
	baz=19,SNR=16						baz=21,SNR=12			
U25A	Circle Dot Ran	18.62 353 ⇓P	Pn	13 29 15.4 +0.7		BELC		⇓P	Pn	13 29 37.2 +0.2
	baz=19,SNR=12						baz=21,SNR=12			
U25A		⇓P	Pn	13 29 15.4 +0.7		R24A	Sanders Place,	20.51 353 ⇓P	P	13 29 36.0 +1.1
	baz=19,SNR=12						baz=21,SNR=11			
U24A	Moreno Valley	18.74 351 ⇓P	Pn	13 29 16.8 +0.6		R24A		⇓P	P	13 29 36.0 +1.1
	baz=19						baz=21,SNR=11			
U24A		⇓P	Pn	13 29 16.8 +0.6		R23A	Moffat	20.57 351 ⇑P	P	13 29 36.7 +1.1
	baz=19						baz=21,SNR=11			
TUL1	Tulsa	18.76 15 ⇑P	P	13 29 14.9 -0.7		R23A		⇑P	P	13 29 36.7 +1.1
	baz=19,SNR=5.6						baz=21,SNR=11			
TUL1		⇑P	P	13 29 14.9 -0.7		T17A	Navajo Res., N	20.66 339 ⇓P	Pn	13 29 38.2 -0.8
	baz=19,SNR=5.6						baz=21,SNR=13			
U23A	El Rito	18.81 349 ⇑P	Pn	13 29 17.6 +0.5		T17A		⇓P	Pn	13 29 38.2 -0.8
	baz=19,SNR=14						baz=21,SNR=13			
U23A		⇑P	Pn	13 29 17.6 +0.5		U15A	North Rim	20.70 335 ⇑P	Pn	13 29 38.6 -1.0
	baz=19,SNR=14						baz=21,SNR=19			
Y14A	Wickenburg	18.91 330 ⇓P	Pn	13 29 20.0 +2.0		U15A		⇑P	Pn	13 29 38.6 -1.0
	baz=19						baz=21,SNR=19			
Y14A		⇓P	Pn	13 29 20.0 +2.0		S20A	Disappointment	20.72 345 ⇑P	Pn	13 29 38.6 -1.1
	baz=19						baz=21,SNR=19			
V19A	Window Rock	18.92 342 ⇓P	Pn	13 29 19.6 +1.3		S20A		⇑P	Pn	13 29 38.6 -1.1
	baz=19,SNR=6.0						baz=21,SNR=19			
V19A		⇓P	Pn	13 29 19.6 +1.3		R22A	Saguache, Gunn	20.76 349 ⇑P	P	13 29 38.9 +1.2
	baz=19,SNR=6.0						baz=21,SNR=6.3			
U22A	Llaves	18.99 347 ⇓P	Pn	13 29 20.1 +0.9		R22A		⇑P	P	13 29 38.9 +1.2
	baz=19						baz=21,SNR=6.3			
U22A		⇓P	Pn	13 29 20.1 +0.9		S19A	Harvey Farm, M	20.84 343 ⇓P	P	13 29 39.3 +0.8
	baz=19						baz=21,SNR=14			
T27A	Campo	19.15 358 ⇓P	P	13 29 20.2 +0.2		S19A		⇓P	P	13 29 39.3 +0.8
	baz=19,SNR=16						baz=21,SNR=14			
T27A		⇓P	P	13 29 20.2 +0.2		GMRC	Granite Mounta	20.91 326 ⇑P	Pn	13 29 41.2 -0.6
	baz=19,SNR=16						baz=21,SNR=10.0			
T28A	Walsh	19.20 359 ⇑P	P	13 29 20.4 -0.1		GMRC		⇑P	Pn	13 29 41.2 -0.6
	baz=20,SNR=8.9						baz=21,SNR=10.0			
T28A		⇑P	P	13 29 20.4 -0.1		CBKS	Cedar Bluff	20.96 4 ⇓P	P	13 29 38.9 -0.7
	baz=20,SNR=8.9						baz=21			
V18A	Ganado	19.20 339 ⇓P	Pn	13 29 22.6 +1.0		CBKS		⇓P	P	13 29 38.9 -0.7
	baz=19,SNR=16						baz=21			
V18A		⇓P	Pn	13 29 22.6 +1.0		CBKS		⇓P	P	13 29 38.9 -0.7
	baz=19,SNR=16						baz=21			
U21A	Nageezi	19.22 346 ⇑P	Pn	13 29 22.9 +1.0		CBKS		⇓P	P	13 29 38.9 -0.7
	baz=19,SNR=13						baz=21			
U21A		⇑P	Pn	13 29 22.9 +1.0		S18A	Hurst Farm, Bl	21.03 342 ⇑P	P	13 29 41.7 +1.0
	baz=19,SNR=13						baz=21,SNR=14			
T26A	Comanche Natio	19.32 356 ⇑P	Pn	13 29 22.6 -0.4		S18A		⇑P	P	13 29 41.7 +1.0
	baz=20,SNR=13						baz=21,SNR=14			
T26A		⇑P	Pn	13 29 22.6 -0.4		Q26A	Hugo	21.05 356 ⇑P	P	13 29 41.1 +0.4
	baz=20,SNR=13						baz=21,SNR=11			
T25A	Trinidad	19.35 354 ⇓P	Pn	13 29 23.5 0.0		Q26A		⇑P	P	13 29 41.1 +0.4
	baz=20,SNR=8.9						baz=21,SNR=11			
T25A		⇓P	Pn	13 29 23.5 0.0		R21A	Cimarron	21.05 347 ⇑P	P	13 29 41.3 +0.5
	baz=20,SNR=8.9						baz=21,SNR=8.4			
T24A	Torres, Weston	19.36 352 ⇑P	Pn	13 29 25.1 +1.4		R21A		⇑P	P	13 29 41.3 +0.5
	baz=20,SNR=9.3						baz=21,SNR=8.4			
T24A		⇑P	Pn	13 29 25.1 +1.4		PV01	Paradox Valley	21.06 345 eP	P	13 29 41.2 +0.3
	baz=20,SNR=9.3						2um,0.9s			
V17A	Tonalea, Kykot	19.42 337 ⇑P	Pn	13 29 25.0 +0.7		R20A	Redvale	21.07 345 ⇓P	P	13 29 42.3 +1.3
	baz=20,SNR=11						baz=21,SNR=28			
V17A		⇑P	Pn	13 29 25.0 +0.7		R20A		⇓P	P	13 29 42.3 +1.3
	baz=20,SNR=11						baz=21,SNR=28			
T23A	Casias Ranch,	19.47 350 ⇓P	Pn	13 29 24.9 -0.1		KSCO	Kaye Shedlock'	21.10 358 ⇑P	P	13 29 41.6 +0.4
	baz=20,SNR=13						baz=21,SNR=7.0			
T23A		⇓P	Pn	13 29 24.9 -0.1		KSCO		⇑P	P	13 29 41.6 +0.4
	baz=20,SNR=13						baz=21,SNR=7.0			
U19A	Dine' College,	19.50 342 ⇑P	Pn	13 29 25.5 +0.1		Q25A	Bedland, Calha	21.10 355 ⇑P	P	13 29 41.7 +0.5
	baz=20,SNR=16						baz=21,SNR=9.7			
U19A		⇑P	Pn	13 29 25.5 +0.1		Q25A		⇑P	P	13 29 41.7 +0.5
	baz=20,SNR=16						baz=21,SNR=9.7			
WUAZ	Wupatki	19.54 336 ⇑P	Pn	13 29 27.0 +1.2		BBRC	Big Bear Solar	21.21 323 ⇓P	P	13 29 44.7 +2.2
	baz=20,SNR=28						baz=21,SNR=8.0			
WUAZ		⇑P	Pn	13 29 27.0 +1.2		BBRC		⇓P	P	13 29 44.7 +2.2
	baz=20,SNR=28						baz=21,SNR=8.0			
SWSC	Sam W. Stewart	19.61 323 ⇓P	Pn	13 29 27.3 +0.9		S17A	Black Ridge (B	21.24 340 ⇓P	P	13 29 44.2 +1.5
	baz=20						baz=21,SNR=16			
SWSC		⇓P	Pn	13 29 27.3 +0.9		S17A		⇓P	P	13 29 44.2 +1.5
	baz=20						baz=21,SNR=16			
T22A	Edith	19.61 348 ⇓P	Pn	13 29 26.6 0.0		Q24A	Divide	21.24 353 ⇓P	P	13 29 43.4 +0.5
	baz=20,SNR=7.6						baz=22			
T22A		⇓P	Pn	13 29 26.6 0.0		Q24A		⇓P	P	13 29 43.4 +0.5
	baz=20,SNR=7.6						baz=22			
S26A	Kim	19.75 356 ⇑P	P	13 29 27.2 +0.6		Q23A	Hartsel	21.27 351 ⇑P	P	13 29 43.8 +0.6
	baz=20,SNR=11						baz=22			
S26A		⇑P	P	13 29 27.2 +0.6		Q23A		⇑P	P	13 29 43.8 +0.6
	baz=20,SNR=11						baz=22			
U18A	Rough Rock, Ch	19.83 340 ⇓P	Pn	13 29 28.3 -0.8		HEC	Hector,Ludlow	21.30 325 ⇑P	P	13 29 45.2 +1.9
	baz=20,SNR=6.7						baz=21,SNR=7.8			
U18A		⇓P	Pn	13 29 28.3 -0.8		HEC		⇑P	P	13 29 45.2 +1.9
	baz=20,SNR=6.7						baz=21,SNR=7.8			
S25A	Robets Cordova	19.87 354 ⇓P	Pn	13 29 28.9 -0.7		SCI	San Clemente I	21.30 318 ⇓P	P	13 29 45.7 +2.4
	baz=20,SNR=13						baz=21			
S25A		⇓P	Pn	13 29 28.9 -0.7		SCI		⇓P	P	13 29 45.7 +2.4
	baz=20,SNR=13						baz=21			
MONP	Monument Peak	19.94 321 ⇑P	Pn	13 29 31.2 +0.7		R19A	Curley Farm, L	21.39 344 ⇓P	P	13 29 44.8 +0.4
	baz=20,SNR=7.6						baz=22,SNR=19			
MONP		⇑P	Pn	13 29 31.2 +0.7		R19A		⇓P	P	13 29 44.8 +0.4
	baz=20,SNR=7.6						baz=22,SNR=19			
BC3	Big Chuckawall	19.94 325 ⇓P	Pn	13 29 30.8 +0.4		Q22A	Crested Butte,	21.41 349 ⇓P	P	13 29 45.1 +0.5
	baz=20,SNR=9.3						baz=22,SNR=9.0			
BC3		⇓P	Pn	13 29 30.8 +0.4		Q22A		⇓P	P	13 29 45.1 +0.5
	baz=20,SNR=9.3						baz=22,SNR=9.0			
OXF	Oxford	19.94 31 eP	P	13 29 26.0 -2.5		CIS	Catalina Islan	21.50 319 ⇓P	P	13 29 47.4 +2.0
	78nm,1.0s						baz=22,SNR=8.2			
S24A	Houchin Ranch,	19.94 352 ⇓P	Pn	13 29 30.2 -0.4		CIS		⇓P	P	13 29 47.4 +2.0
	baz=20,SNR=19						baz=22,SNR=8.2			
S24A		⇓P	Pn	13 29 30.2 -0.4		Q21A	Lamborn Mesa,	21.51 348 ⇓P	P	13 29 46.7 +1.1
	baz=20,SNR=19						baz=22,SNR=6.2			
T19A	Beclabito	19.95 343 ⇓P	Pn	13 29 30.6 0.0		Q21A		⇓P	P	13 29 46.7 +1.1
	baz=20,SNR=15						baz=22,SNR=6.2			
T19A		⇓P	Pn	13 29 30.6 0.0		TUQ	Turquoise Moun	21.55 327 ⇓P	P	13 29 48.1 +2.1
	baz=20,SNR=15						baz=22,SNR=21			
U16A	Tuba City	20.01 337 ⇑P	Pn	13 29 31.6 +0.3		TUQ		⇓P	P	13 29 48.1 +2.1
	baz=20,SNR=9.4						baz=22,SNR=21			
U16A		⇑P	Pn	13 29 31.6 +0.3		S16A	Weppner Ranch,	21.58 338 ⇑P	P	13 29 47.7 +1.2
	baz=20,SNR=9.4						baz=22,SNR=11			
SDCO	Great Sand Dun	20.09 351 ⇑P	Pn	13 29 31.8 -0.6		S16A		⇑P	P	13 29 47.7 +1.2
	baz=20,SNR=23						baz=22,SNR=11			
SDCO		⇑P	Pn	13 29 31.8 -0.6		PAYG	Puerto Ayora	21.62 147 eP	P	13 29 48.4 +1.6
	baz=20,SNR=23					PAYG		eS	S	13 33 45.7 +0.6
SDCO		⇑P	Pn	13 29 31.8 -0.6		BFSC	Mount Baldy Ra	21.62 322 ⇑P	P	13 29 48.5 +1.7
	baz=20,SNR=23						baz=22,SNR=13			
IRM	Iron Mountain	20.16 326 ⇓P	Pn	13 29 33.3 +0.4		BFSC		⇑P	P	13 29 48.5 +1.7
	baz=20,SNR=62						baz=22,SNR=13			
IRM		⇓P	Pn	13 29 33.3 +0.4		R18A	Canyonlands Na	21.65 343 ⇓P	P	13 29 47.7 +0.5
	baz=20,SNR=62						baz=22,SNR=17			
MVCO	Mesa Verde	20.17 344 ⇓P	P	13 29 32.2 +1.0		R18A		⇓P	P	13 29 47.7 +0.5
	baz=20,SNR=15						baz=22,SNR=17			
MVCO		⇓P	P	13 29 32.2 +1.0		P26A	Davis Ranch, A	21.67 357 ⇑P	P	13 29 47.6 +0.2
	baz=20,SNR=15						baz=22,SNR=6.6			
HBAR	Harrisburg	20.22 27 eP	P	13 29 30.4 -1.1		P26A		⇑P	P	13 29 47.6 +0.2
U17A	Shonto	20.25 339 ⇓P	Pn	13 29 34.1 -0.1			baz=22,SNR=6.6			
	baz=20,SNR=7.7					UTMT	University of	21.68 29 eP	P	13 29 44.5 -2.8
U17A		⇓P	Pn	13 29 34.1 -0.1			117nm,0.9s			
	baz=20,SNR=7.7					P24A	Kohler Place,	21.75 353 ⇑P	P	13 29 48.8 +0.5
W13A	Hualapai Mount	20.27 330 ⇓P	Pn	13 29 34.6 +0.1			baz=22			
	baz=20					P24A		⇑P	P	13 29 48.8 +0.5
W13A		⇓P	Pn	13 29 34.6 +0.1			baz=22			
	baz=20					Q20A	Ridgley Place,	21.78 346 ⇓P	P	13 29 49.4 +0.9
S22A	4UR Ranch, Cre	20.31 348 ⇑P	Pn	13 29 34.2 -0.8			baz=22,SNR=11			
	baz=20,SNR=12					Q20A		⇓P	P	13 29 49.4 +0.9
S22A		⇑P	Pn	13 29 34.2 -0.8			baz=22,SNR=11			
	baz=20,SNR=12					R17A	Hanksville Air	21.92 341 ⇑P	P	13 29 50.5 +0.5
R25A	Fountain Ranch	20.34 354 ⇑P	Pn	13 29 34.0 -1.2			baz=22,SNR=14			
	baz=21,SNR=12					R17A		⇑P	P	13 29 50.5 +0.5
R25A		⇑P	Pn	13 29 34.0 -1.2			baz=22,SNR=14			
	baz=21,SNR=12					WVT	Waverly	22.01 31 eP	P	13 29 47.9 -2.9
R27A	Eads	20.38 358 ⇓P	P	13 29 34.0 +0.6			15nm,0.6s			
	baz=21,SNR=32					Q19A	Hogan Spring (	22.01 344 ⇑P	P	13 29 51.2 +0.2
R27A		⇓P	P	13 29 34.0 +0.6			baz=22,SNR=11			
	baz=21,SNR=32					Q19A		⇑P	P	13 29 51.2 +0.2
R26A	Arlington	20.43 356 ⇓P	P	13 29 34.6 +0.7			baz=22,SNR=11			
	baz=21,SNR=35					R16A	Teasdale	22.05 339 ⇑P	P	13 29 52.6 +1.1
R26A		⇓P	P	13 29 34.6 +0.7			baz=22,SNR=15			
	baz=21,SNR=35					R16A		⇑P	P	13 29 52.6 +1.1
							baz=22,SNR=15			
						P22A	Eagle	22.09 350 ⇑P	P	13 29 52.5 +0.5
							baz=22,SNR=5.3			
						P22A		⇑P	P	13 29 52.5 +0.5
							baz=22,SNR=5.3			
						ISCO	Idaho Springs	22.12 352 ⇓P	P	13 29 52.6 +0.3
							baz=22,SNR=21			
						ISCO		⇓P	P	13 29 52.6 +0.3
							baz=22,SNR=21			
						P21A	Newcastle	22.15 348 ⇑P	P	13 29 53.6 +1.1
							baz=22			
						P21A		⇑P	P	13 29 53.6 +1.1
							baz=22			
						R15A	Junction	22.26 338 ⇓P	P	13 29 55.1 +1.4
							baz=22,SNR=8.4			
						R15A		⇓P	P	13 29 55.1 +1.4
							baz=22,SNR=8.4			
						EDW2	Edwards Air Fo	22.27 323 ⇓P	P	13 29 54.8 +1.1
							baz=22,SNR=33			
						EDW2		⇓P	P	13 29 54.8 +1.1
							baz=22,SNR=33			
						O27A	Beecher Island	22.27 359 ⇓P	P	13 29 53.7 0.0
							baz=22,SNR=6.5			
						O27A		⇓P	P	13 29 53.7 0.0
							baz=22,SNR=6.5			
						P20A	De Beque	22.32 346 ⇓P	P	13 29 54.7 +0.4
							baz=22,SNR=11			
						P20A		⇓P	P	13 29 54.7 +0.4
							baz=22,SNR=11			
						ARUT	Antelope Range	22.33 335 eP	P	13 29 56.2 +1.7
							133nm,1.0s			
						O24A	Longmont	22.37 353 ⇑P	P	13 29 55.8 +0.9
							baz=23			
						O24A		⇑P	P	13 29 55.8 +0.9
							baz=23			
						Q18A	Rafter H Ranch	22.38 343 ⇑P	P	13 29 55.9 +1.0
							baz=23,SNR=6.0			
						Q18A		⇑P	P	13 29 55.9 +1.0
							baz=23,SNR=6.0			
						SRU	San Rafael	22.50 342 ⇓P	P	13 29 56.1 -0.2
							baz=23,SNR=8.6			
						SRU		⇓P	P	13 29 56.1 -0.2
							baz=23,SNR=8.6			
						Q16A	Castle Valley	22.52 341 ⇑P	P	13 29 57.3 +0.7
							baz=23,SNR=14			
						Q16A		⇑P	P	13 29 57.3 +0.7
							baz=23,SNR=14			
						LRMC	Laurel Mountai	22.53 324 ⇑P	P	13 29 57.8 +1.2
							baz=23,SNR=54			
						LRMC		⇑P	P	13 29 57.8 +1.2
							baz=23,SNR=54			
						O23A	Lake Granby, G	22.57 352 ⇓P	P	13 29 57.4 +0.4
							baz=23,SNR=11			
						O23A		⇓P	P	13 29 57.4 +0.4
							baz=23,SNR=11			
						P19A	Cripple Cowboy	22.58 345 ⇓P	P	13 29 57.4 +0.2
							baz=23,SNR=12			
						P19A		⇓P	P	13 29 57.4 +0.2
							baz=23,SNR=12			
						O22A	Kremmling	22.61 350 ⇑P	P	13 29 57.6 0.0
							baz=23,SNR=13			
						O22A		⇑P	P	13 29 57.6 0.0
							baz=23,SNR=13			
						BSC	Santa Cruz Isl	22.65 319 ⇑P	P	13 30 00.8 +3.0
							baz=23			
						BSC		⇑P	P	13 30 00.8 +3.0
							baz=23			
						O21A	Pagoda	22.82 349 ⇑P	P	13 30 01.1 +1.4
							baz=23,SNR=7.2			
						O21A		⇑P	P	13 30 01.1 +1.4
							baz=23,SNR=7.2			
						FURC	Furnace Creek,	22.83 327 ⇓P	P	13 30 01.1 +1.6
							baz=23			
						FURC		⇓P	P	13 30 01.1 +1.6
							baz=23			
						MPMC	Manual Prospec	22.85 326 ⇓P	P	13 30 00.7 +0.7
							baz=23,SNR=17			
						MPMC		⇓P	P	13 30 00.7 +0.7
							baz=23,SNR=17			
						R13A	O'Grain Ranch,	22.88 335 ⇓P	P	13 30 02.1 +1.7
							baz=23,SNR=15			
						R13A		⇓P	P	13 30 02.1 +1.7
							baz=23,SNR=15			
						N27A	Anderson Farm,	22.89 359 ⇓P	P	13 30 00.7 +0.5
							baz=23,SNR=9.5			
						N27A		⇓P	P	13 30 00.7 +0.5
							baz=23,SNR=9.5			
						O20A	White River Ci	22.89 347 ⇑P	P	13 30 01.6 +1.1
							baz=23,SNR=6.9			
						O20A		⇑P	P	13 30 01.6 +1.1
							baz=23,SNR=6.9			
						P18A	Preston Nutter	22.91 343 ⇓P	P	13 30 01.0 +0.4
							baz=23,SNR=6.0			
						P18A		⇓P	P	13 30 01.0 +0.4
							baz=23,SNR=6.0			
						ARVC	Arvin	22.93 322 ⇓P	P	13 30 01.9 +1.2
							baz=23			
						ARVC		⇓P	P	13 30 01.9 +1.2
							baz=23			
						N26A	Koester Ranch,	22.93 357 ⇑P	P	13 30 01.5 +0.7
							baz=23			
						N26A		⇑P	P	13 30 01.5 +0.7
							baz=23			
						BCIP	Isla Barro Col	23.01 109 eP	P	13 30 02.4 +0.8
						OGNE	Ogallala	23.02 360 eP	P	13 30 00.8 -0.8
							100nm,1.1s			
						N24A	Carr	23.05 354 ⇓P	P	13 30 02.3 +0.3
							baz=23			
						N24A		⇓P	P	13 30 02.3 +0.3
							baz=23			
						ISA	Isabella	23.10 323 ⇑P	P	13 30 03.9 +1.5
							baz=23,SNR=41			
						ISA		⇑P	P	13 30 03.9 +1.5
							baz=23,SNR=41			
						N23A	Red Feather La	23.24 352 ⇑P	P	13 30 04.2 +0.2
							baz=24,SNR=8.5			
						N23A		⇑P	P	13 30 04.2 +0.2
							baz=24,SNR=8.5			
						O19A	Miners Draw (B	23.25 346 ⇓P	P	13 30 04.7 +0.7
							baz=24,SNR=8.6			
						O19A		⇓P	P	13 30 04.7 +0.7
							baz=24,SNR=8.6			
						P16A	Fountain Green	23.31 340 ⇑P	P	13 30 05.7 +1.1
							baz=24,SNR=5.7			
						P16A		⇑P	P	13 30 05.7 +1.1
							baz=24,SNR=5.7			
						N21A	Black Mountain	23.36 349 ⇓P	P	13 30 06.3 +1.1
							baz=24,SNR=7.6			
						N21A		⇓P	P	13 30 06.3 +1.1
							baz=24,SNR=7.6			
						PKM	Peak Mountain	23.36 320 ⇓P	P	13 30 07.5 +2.3
							baz=24			
						PKM		⇓P	P	13 30 07.5 +2.3
							baz=24			
						O18A	Roosevelt	23.44 344 ⇑P	P	13 30 06.7 +0.8
							baz=24			
						O18A		⇑P	P	13 30 06.7 +0.8
							baz=24			
						P15A	Leamington	23.48 339 ⇑P	P	13 30 07.4 +1.1
							baz=24			
						P15A		⇑P	P	13 30 07.4 +1.1
							baz=24			
						GRAC	Grapevine Rang	23.50 327 ⇓P	P	13 30 08.3 +2.0
							baz=24			
						GRAC		⇓P	P	13 30 08.3 +2.0
							baz=24			
						O17A	Robinson Place	23.57 343 ⇑P	P	13 30 07.8 +0.6
							baz=24,SNR=7.6			
						O17A		⇑P	P	13 30 07.8 +0.6
							baz=24,SNR=7.6			
						N20A	Spence Gulch,	23.57 348 ⇑P	P	13 30 08.0 +0.7
							baz=24,SNR=6.0			
						N20A		⇑P	P	13 30 08.0 +0.7
							baz=24,SNR=6.0			
						M24A	Cheyenne	23.68 354 ⇓P	P	13 30 08.4 +0.2
							baz=24,SNR=8.2			
						M24A		⇓P	P	13 30 08.4 +0.2
							baz=24,SNR=8.2			
						BGNE	Belgrade	23.69 7 ⇓P	P	13 30 07.3 -0.8
							baz=24,SNR=6.7			
						BGNE		⇓P	P	13 30 07.3 -0.8
							baz=24,SNR=6.7			
						R11A	Troy Canyon, C	23.71 332 ⇑P	P	13 30 09.9 +1.2
							baz=24,SNR=14			
						R11A		⇑P	P	13 30 09.9 +1.2
							baz=24,SNR=14			
						SMMC	Simmler	23.75 321 ⇓P	P	13 30 10.8 +2.0
							baz=24			

SMMC ⇓P P 13 30 10.8 +2.0
baz=24
M23A Laramie 23.78 353 ⇑P P 13 30 09.4 +0.2
M23A baz=24 ⇑P P 13 30 09.4 +0.2
baz=24
N19A John Jarvie Ra 23.83 346 ⇑P P 13 30 09.6 0.0
N19A baz=24,SNR=19 ⇑P P 13 30 09.6 0.0
baz=24,SNR=19
M22A Cedar Creek Ra 23.83 351 ⇓P P 13 30 10.1 +0.3
M22A baz=24 ⇓P P 13 30 10.1 +0.3
baz=24
TKL Tuckaleechee C 23.88 38 P P 13 30 07.3 -2.6
TKL 19nm,0.5s,baz=198,slow=10,SNR=40 LR LR 13 42 56.8
comp=Z,340nm,18.5s,baz=237,slow=46
N18A Larsen Ranch, 24.02 345 ⇑P P 13 30 11.7 +0.2
N18A baz=24 ⇑P P 13 30 11.7 +0.2
baz=24
M21A Separation Pea 24.15 350 ⇓P P 13 30 13.6 +0.8
M21A baz=24,SNR=5.0 ⇓P P 13 30 13.6 +0.8
baz=24,SNR=5.0
O15A The Old Anders 24.18 340 ⇑P P 13 30 13.6 +0.7
O15A baz=24 ⇑P P 13 30 13.6 +0.7
baz=24
DUG Dugway 24.22 339 ⇑P P 13 30 14.2 +0.9
DUG baz=24,SNR=35 ⇑P P 13 30 14.2 +0.9
baz=24,SNR=35
N17A Moffit Pass 24.29 343 ⇓P P 13 30 14.9 +0.9
N17A baz=24,SNR=6.0 ⇓P P 13 30 14.9 +0.9
baz=24,SNR=6.0
MTUM Tungsten Hills 24.39 326 *e*P P 13 30 17.2 +2.3
M19A Rock Springs 24.41 347 ⇑P P 13 30 14.6 -0.5
baz=25,SNR=6.8
M19A baz=25,SNR=6.8 ⇑P P 13 30 14.6 -0.5
baz=25,SNR=6.8
L23A Garrett 24.41 353 ⇑P P 13 30 15.6 +0.5
L23A baz=25,SNR=5.8 ⇑P P 13 30 15.6 +0.5
baz=25,SNR=5.8
L21A Rawlins 24.50 350 ⇑P P 13 30 15.5 -0.4
L21A baz=25,SNR=5.8 ⇑P P 13 30 15.5 -0.4
baz=25,SNR=5.8
M18A Lyman 24.55 345 ⇓P P 13 30 16.2 -0.1
M18A baz=25,SNR=5.7 ⇓P P 13 30 16.2 -0.1
baz=25,SNR=5.7
TZTN Tazewell 24.62 37 *e*P P 13 30 16.8 0.0
29nm,1.0s
L20A Wamsutter 24.72 348 ⇓P P 13 30 18.6 +0.7
L20A baz=25,SNR=10.0 ⇓P P 13 30 18.6 +0.7
baz=25,SNR=10.0
M17A Scullys Gap (B 24.74 344 ⇓P P 13 30 18.2 +0.1
M17A baz=25,SNR=7.0 ⇓P P 13 30 18.2 +0.1
baz=25,SNR=7.0
N15A Stansbury Isla 24.75 340 ⇑P P 13 30 18.7 +0.6
N15A baz=25 ⇑P P 13 30 18.7 +0.6
baz=25
K27A Flueckinger Fa 24.77 359 ⇓P P 13 30 18.9 +0.7
K27A baz=25,SNR=18 ⇓P P 13 30 18.9 +0.7
baz=25,SNR=18
K26A Motz Farm, Whi 24.80 358 ⇓P P 13 30 18.9 +0.4
K26A baz=25,SNR=6.4 ⇓P P 13 30 18.9 +0.4
baz=25,SNR=6.4
M16A Huntsville 24.86 342 ⇑P P 13 30 19.5 +0.4
M16A baz=25 ⇑P P 13 30 19.5 +0.4
baz=25
L18A Fontenelle, Gr 25.01 345 ⇑P P 13 30 21.0 +0.5
L18A baz=25,SNR=6.0 ⇑P P 13 30 21.0 +0.5
baz=25,SNR=6.0
L19A Farson 25.02 347 ⇓P P 13 30 20.8 +0.2
L19A baz=25,SNR=8.8 ⇓P P 13 30 20.8 +0.2
baz=25,SNR=8.8
K22A Casper 25.05 352 ⇑P P 13 30 22.4 +1.6
K22A baz=25,SNR=15 ⇑P P 13 30 22.4 +1.6
baz=25,SNR=15
KMSC Kings Mountain 25.05 43 ⇑P P 13 30 19.1 -1.6
KMSC baz=25,SNR=7.7 ⇑P P 13 30 19.1 -1.6
baz=25,SNR=7.7
HDIL Hopedale 25.07 23 *e*P P 13 30 18.6 -2.2
NVAR Mina Array Bea 25.07 328 P P 13 30 23.5 +2.4
19nm,0.8s,baz=149,slow=9.8,SNR=104
NVAR pP pP 13 30 29.6 +0.6
84nm,0.9s,baz=147,slow=8.5,SNR=36
NVAR LR LR 13 40 05.3
comp=Z,642nm,19.8s,baz=212,slow=36
NVAR Mina Array Bea 25.07 328 P P 13 30 23.5 +2.4
NVAR pP pP 13 30 29.6 +0.6
M15A Larsen Ranch, 25.24 341 ⇑P P 13 30 23.2 +0.7
M15A baz=25,SNR=6.0 ⇑P P 13 30 23.2 +0.7
baz=25,SNR=6.0
GTBY Guantanamo Bay 25.32 81 *e*P P 13 30 24.1 +0.8
218nm,1.0s
K20A Yellowstone Ra 25.35 349 ⇑P P 13 30 25.2 +1.7
K20A baz=26,SNR=9.6 ⇑P P 13 30 25.2 +1.7
baz=26,SNR=9.6
L17A Cokeville 25.38 344 ⇑P P 13 30 23.3 -0.6
L17A baz=26 ⇑P P 13 30 23.3 -0.6
baz=26
ELK Elko 25.59 336 P P 13 30 26.7 +0.9
4.3nm,1.0s,baz=170,slow=7.3,SNR=11
ELK LR LR 13 41 45.1
comp=Z,1µm,18.2s,baz=150,slow=39
K19A Absolon Red Bu 25.61 348 ⇓P P 13 30 25.5 -0.3
baz=26,SNR=8.6
K19A baz=26,SNR=8.6 ⇓P P 13 30 25.5 -0.3
baz=26,SNR=8.6
K18A Toltan Ranch, 25.68 346 ⇓P P 13 30 26.9 +0.2
K18A baz=26,SNR=7.2 ⇓P P 13 30 26.9 +0.2
baz=26,SNR=7.2
BW06 Boulder Array 25.70 347 *e*P P 13 30 26.8 -0.1
37nm,0.9s
BW06 Boulder Array 25.70 347 ⇓P P 13 30 26.7 -0.1
baz=26,SNR=13
BW06 baz=26,SNR=13 ⇓P P 13 30 26.7 -0.1
baz=26,SNR=13
BW06 baz=26,SNR=13 ⇓P P 13 30 26.7 -0.1
baz=26,SNR=13
PDAR Pinedale Array 25.70 347 P P 13 30 26.8 0.0
5.5nm,0.7s,baz=154,slow=12,SNR=37
PDAR PcP PcP 13 33 57.0 +0.3
1.2nm,0.8s,baz=139,slow=7.0,SNR=3.1
PDAR LR LR 13 41 56.2
comp=Z,2µm,18.1s,baz=184,slow=40
PDAR Pinedale Array 25.70 347 P P 13 30 26.8 0.0
PDAR PcP PcP 13 33 57.0 +0.3
PD02 Pinedale Array 25.71 347 *e*P P 13 30 26.6 -0.3
PD01 Pinedale Array 25.71 347 *e*P P 13 30 26.7 -0.2
L15A Malad City 25.72 342 ⇓P P 13 30 27.2 +0.3
baz=26,SNR=8.9
L15A baz=26,SNR=8.9 ⇓P P 13 30 27.2 +0.3
baz=26,SNR=8.9
J22A Midwest 25.79 352 ⇑P P 13 30 27.6 +0.1
baz=26
J22A baz=26 ⇑P P 13 30 27.6 +0.1
baz=26
J21A Lysite 25.86 351 ⇓P P 13 30 28.9 +0.7
baz=26,SNR=9.7
J21A baz=26,SNR=9.7 ⇓P P 13 30 28.9 +0.7
baz=26,SNR=9.7
J20A Shoshoni 25.97 349 ⇓P P 13 30 30.1 +0.9
baz=26,SNR=12
J20A baz=26,SNR=12 ⇓P P 13 30 30.1 +0.9
baz=26,SNR=12

K17A Gardner Place, 26.00 345 ⇓P P 13 30 29.5 0.0
baz=26,SNR=15
K17A ⇓P P 13 30 29.5 0.0
baz=26,SNR=15
L14A Malta 26.01 340 ⇓P P 13 30 30.3 +0.8
baz=26,SNR=14
L14A ⇓P P 13 30 30.3 +0.8
baz=26,SNR=14
J19A Crowheart 26.07 348 ⇑P P 13 30 30.3 +0.2
baz=26,SNR=6.5
J19A ⇑P P 13 30 30.3 +0.2
baz=26,SNR=6.5
J18A Kendall Valley 26.22 346 ⇑P P 13 30 31.6 0.0
baz=26,SNR=18
J18A ⇑P P 13 30 31.6 0.0
baz=26,SNR=18
I22A 9 Mile Ranch, 26.26 352 ⇓P P 13 30 32.1 +0.3
baz=26,SNR=5.7
I22A ⇓P P 13 30 32.1 +0.3
baz=26,SNR=5.7
I21A Big Trails, Te 26.29 351 ⇑P P 13 30 31.8 -0.3
baz=26,SNR=5.3
I21A ⇑P P 13 30 31.8 -0.3
baz=26,SNR=5.3
K14A Jones Ranch, D 26.45 341 ⇓P P 13 30 34.0 +0.5
baz=27,SNR=10
K14A ⇓P P 13 30 34.0 +0.5
baz=27,SNR=10
WCN Washoe City 26.46 328 ⇑P P 13 30 36.1 +2.4
baz=27,SNR=8.2
WCN ⇑P P 13 30 36.1 +2.4
baz=27,SNR=8.2
J17A Brown Place, J 26.53 345 ⇑P P 13 30 34.7 +0.5
baz=27,SNR=14
J17A ⇑P P 13 30 34.7 +0.5
baz=27,SNR=14
I20A Worland 26.56 350 ⇓P P 13 30 34.9 +0.5
baz=27,SNR=6.8
I20A ⇓P P 13 30 34.9 +0.5
baz=27,SNR=6.8
I18A Diamond G Ranc 26.65 347 ⇓P P 13 30 36.1 +0.7
baz=27,SNR=10
I18A ⇓P P 13 30 36.1 +0.7
baz=27,SNR=10
J16A Bone 26.67 344 ⇑P P 13 30 36.2 +0.7
baz=27,SNR=14
J16A ⇑P P 13 30 36.2 +0.7
baz=27,SNR=14
H24A Dirks Ranch, A 26.91 356 ⇓P P 13 30 37.8 +0.2
baz=27
H24A ⇓P P 13 30 37.8 +0.2
baz=27
BLA Blacksburg 26.93 40 *e*P P 13 30 34.7 -3.0
31nm,0.7s
H22A Clearmont 26.94 353 ⇓P P 13 30 38.7 +0.9
baz=27,SNR=7.1
H22A ⇓P P 13 30 38.7 +0.9
baz=27,SNR=7.1
J15A Blackfoot 27.01 343 ⇑P P 13 30 38.9 +0.4
baz=27,SNR=12
J15A ⇑P P 13 30 38.9 +0.4
baz=27,SNR=12
I17A Pilgrim Ck. 27.02 346 ⇑P P 13 30 39.2 +0.5
baz=27,SNR=7.6
I17A ⇑P P 13 30 39.2 +0.5
baz=27,SNR=7.6
H20A Greybull 27.06 350 ⇓P P 13 30 38.9 0.0
baz=27,SNR=9.3
H20A ⇓P P 13 30 38.9 0.0
baz=27,SNR=9.3
I16A Newdale 27.20 345 ⇓P P 13 30 41.2 +0.9
baz=27,SNR=6.7
I16A ⇓P P 13 30 41.2 +0.9
baz=27,SNR=6.7
J14A Carey 27.26 341 ⇑P P 13 30 41.8 +1.0
baz=28
J14A ⇑P P 13 30 41.8 +1.0
baz=28
CNNC Cliffs of the 27.41 46 *e*P P 13 30 38.6 -3.3
30nm,0.6s
G23A Biddle 27.43 354 ⇓P P 13 30 42.0 -0.2
baz=28
G23A ⇓P P 13 30 42.0 -0.2
baz=28
G24A Alzada 27.48 356 ⇓P P 13 30 42.9 +0.2
baz=28
G24A ⇓P P 13 30 42.9 +0.2
baz=28
J13A Cove Ranch, Pi 27.54 340 ⇑P P 13 30 43.9 +0.6
baz=28,SNR=6.4
J13A ⇑P P 13 30 43.9 +0.6
baz=28,SNR=6.4
G22A Birney 27.55 353 ⇑P P 13 30 43.0 -0.3
baz=28,SNR=5.6
G22A ⇑P P 13 30 43.0 -0.3
baz=28,SNR=5.6
I15A Monteview 27.58 343 ⇓P P 13 30 44.8 +1.1
baz=28
I15A ⇓P P 13 30 44.8 +1.1
baz=28
YFT Old Faithful 27.59 346 *e*P P 13 30 42.2 -1.6
46nm,1.3s
ACSO Alum Creek Sta 27.60 32 *e*P P 13 30 43.7 +0.1
48nm,1.2s
HLID Hailey 27.76 340 ⇑P P 13 30 46.3 +1.0
baz=28,SNR=6.1
HLID ⇑P P 13 30 46.3 +1.0
baz=28,SNR=6.1
I14A Mackay 27.79 342 ⇑P P 13 30 46.6 +1.0
baz=28
I14A ⇑P P 13 30 46.6 +1.0
baz=28
YMR Madison River 27.82 346 *e*P P 13 30 46.7 +0.8
55nm,1.4s
YMR *e*pP pP 13 30 53.4 -0.5
H16A Russell Place, 27.92 346 ⇑P P 13 30 47.9 +1.1
baz=28,SNR=7.3
H16A ⇑P P 13 30 47.9 +1.1
baz=28,SNR=7.3
F23A Volborg 27.95 355 ⇑P P 13 30 46.2 -0.6
baz=28,SNR=5.6
F23A ⇑P P 13 30 46.2 -0.6
baz=28,SNR=5.6
I13A Wildhorse Cree 27.98 341 ⇓P P 13 30 48.1 +0.7
baz=28,SNR=6.0
I13A ⇓P P 13 30 48.1 +0.7
baz=28,SNR=6.0
H15A Lima 28.20 343 ⇓P P 13 30 50.4 +1.2
baz=28,SNR=9.9
H15A ⇓P P 13 30 50.4 +1.2
baz=28,SNR=9.9
I12A Atlanta 28.21 339 ⇓P P 13 30 50.4 +1.1
baz=28
I12A ⇓P P 13 30 50.4 +1.1
baz=28
SPMN St. Paul 28.31 13 ⇓P P 13 30 48.2 -1.7
baz=29,SNR=6.1
SPMN ⇓P P 13 30 48.2 -1.7
baz=29,SNR=6.1
F20A Billings 28.37 351 ⇑P P 13 30 50.7 +0.1
baz=29
F20A ⇑P P 13 30 50.7 +0.1
baz=29
G17A Pierce Place, 28.39 347 ⇓P P 13 30 51.8 +1.0
baz=29,SNR=6.2
G17A ⇓P P 13 30 51.8 +1.0
baz=29,SNR=6.2
H14A Leadore 28.40 342 ⇓P P 13 30 51.8 +0.8
baz=29,SNR=14
H14A ⇓P P 13 30 51.8 +0.8
baz=29,SNR=14
MCMT McKenzie Canyo 28.45 343 *e*P P 13 30 52.8 +1.3
6.9nm,0.8s
G16A Moss Hill, Enn 28.55 345 ⇑P P 13 30 53.3 +1.0
baz=29,SNR=6.2
G16A ⇑P P 13 30 53.3 +1.0
baz=29,SNR=6.2
H13A Challis 28.61 341 ⇑P P 13 30 53.8 +1.0
baz=29
H13A ⇑P P 13 30 53.8 +1.0
baz=29
G15A Dillon 28.66 344 ⇑P P 13 30 54.4 +1.1
baz=29,SNR=11
G15A ⇑P P 13 30 54.4 +1.1
baz=29,SNR=11
H12A Diamond D Ranc 28.79 340 ⇑P P 13 30 55.6 +1.2
baz=29
H12A ⇑P P 13 30 55.6 +1.2
baz=29

BOZ Bozeman (W) 28.90 346 ⇓P P 13 30 55.8 +0.4
baz=29,SNR=13
BOZ ⇓P P 13 30 55.8 +0.4
baz=29,SNR=13
BOZ ⇓P P 13 30 55.8 +0.4
baz=29,SNR=13
BOZ ⇓P P 13 30 55.8 +0.4
baz=29,SNR=13
F17A Fitzpatrick Pl 28.93 347 ⇓P P 13 30 56.8 +1.2
baz=29,SNR=8.8
F17A ⇓P P 13 30 56.8 +1.2
baz=29,SNR=8.8
G14A Jackson 29.00 343 ⇓P P 13 30 57.1 +0.8
baz=29
G14A ⇓P P 13 30 57.1 +0.8
baz=29
F16A Kennard Place, 29.03 346 ⇑P P 13 30 57.7 +1.2
baz=29,SNR=7.5
F16A ⇑P P 13 30 57.7 +1.2
baz=29,SNR=7.5
G13A Cobalt 29.09 342 ⇓P P 13 30 57.8 +0.8
baz=29,SNR=11
G13A ⇓P P 13 30 57.8 +0.8
baz=29,SNR=11
D24A Glendive 29.26 356 ⇑P P 13 30 58.7 +0.3
baz=30
D24A ⇑P P 13 30 58.7 +0.3
baz=30
F15A Butte 29.29 345 ⇑P P 13 30 59.5 +0.6
baz=30,SNR=21
F15A ⇑P P 13 30 59.5 +0.6
baz=30,SNR=21
D22A Cohagen 29.44 354 ⇓P P 13 31 00.4 +0.4
baz=30,SNR=7.0
D22A ⇓P P 13 31 00.4 +0.4
baz=30,SNR=7.0
D21A La Casta Ranch 29.45 353 ⇓P P 13 30 58.8 -1.3
baz=30
D21A ⇓P P 13 30 58.8 -1.3
baz=30
E17A Martinsdale 29.50 347 ⇓P P 13 31 01.1 +0.3
baz=30,SNR=5.1
E17A ⇓P P 13 31 01.1 +0.3
baz=30,SNR=5.1
D20A Manuel Ranch, 29.62 351 ⇓P P 13 31 02.0 +0.3
baz=30,SNR=6.1
D20A ⇓P P 13 31 02.0 +0.3
baz=30,SNR=6.1
C24A Savage 29.68 356 ⇑P P 13 31 02.7 +0.6
baz=30
C24A ⇑P P 13 31 02.7 +0.6
baz=30
F13A Darby 29.75 342 ⇓P P 13 31 03.4 +0.6
baz=30,SNR=16
F13A ⇓P P 13 31 03.4 +0.6
baz=30,SNR=16
E16A East Helena 29.75 346 ⇓P P 13 31 03.5 +0.6
baz=30
E16A ⇓P P 13 31 03.5 +0.6
baz=30
YBH Yreka Blue Hor 29.77 327 P P 13 31 04.0 +0.9
2.8nm,0.8s,baz=246,slow=14,SNR=3.2
YBH LR LR 13 44 00.6
comp=Z,128nm,19.7s,baz=280,slow=38
YBH Yreka Blue Hor 29.77 327 P P 13 31 04.0 +0.9
ROSC El Rosal 29.80 112 LR LR 13 43 04.9
comp=Z,162nm,20.4s,baz=103,slow=37
D19A Cripps Ranch, 29.81 350 ⇓P P 13 31 03.7 +0.3
baz=30,SNR=6.3
D19A ⇓P P 13 31 03.7 +0.3
baz=30,SNR=6.3
E15A Deer Lodge 29.88 345 ⇑P P 13 31 04.1 +0.1
baz=30,SNR=9.0
E15A ⇑P P 13 31 04.1 +0.1
baz=30,SNR=9.0
F12A Elk City 30.00 341 ⇑P P 13 31 05.5 +0.4
baz=30,SNR=15
F12A ⇑P P 13 31 05.5 +0.4
baz=30,SNR=15
D17A Six Diamond Ra 30.12 348 ⇑P P 13 31 06.2 0.0
baz=30,SNR=5.6
D17A ⇑P P 13 31 06.2 0.0
baz=30,SNR=5.6
D16A Dana Ranch, Ca 30.19 347 ⇓P P 13 31 07.1 +0.4
baz=30
D16A ⇓P P 13 31 07.1 +0.4
baz=30
E13A Victor 30.30 343 ⇑P P 13 31 08.1 +0.3
baz=30,SNR=11
E13A ⇑P P 13 31 08.1 +0.3
baz=30,SNR=11
C19A Slack Wire Ran 30.39 350 ⇑P P 13 31 08.3 -0.2
baz=31,SNR=5.5
C19A ⇑P P 13 31 08.3 -0.2
baz=31,SNR=5.5
D15A Lincoln 30.42 345 ⇓P P 13 31 09.2 +0.3
baz=31,SNR=5.8
D15A ⇓P P 13 31 09.2 +0.3
baz=31,SNR=5.8
MSO Missoula 30.59 344 ⇑P P 13 31 10.3 0.0
baz=31,SNR=7.1
MSO ⇑P P 13 31 10.3 0.0
baz=31,SNR=7.1
C17A Wharram Farm, 30.60 348 ⇑P P 13 31 10.4 0.0
baz=31,SNR=7.3
C17A ⇑P P 13 31 10.4 0.0
baz=31,SNR=7.3
B23A Brockton 30.64 356 ⇓P P 13 31 11.0 +0.4
baz=31
B23A ⇓P P 13 31 11.0 +0.4
baz=31
E12A Beaver Dam Sad 30.68 341 ⇑P P 13 31 11.0 -0.1
baz=31
E12A ⇑P P 13 31 11.0 -0.1
baz=31
D14A Greenough 30.71 344 ⇓P P 13 31 11.4 +0.1
baz=31,SNR=8.2
D14A ⇓P P 13 31 11.4 +0.1
baz=31,SNR=8.2
B20A Solberg Farm, 30.93 352 ⇓P P 13 31 11.2 -2.0
baz=31,SNR=5.4
B20A ⇓P P 13 31 11.2 -2.0
baz=31,SNR=5.4
C16A Fuhringer Ranc 30.96 347 ⇑P P 13 31 13.9 +0.4
baz=31
C16A ⇑P P 13 31 13.9 +0.4
baz=31
D13A Huson 30.97 343 ⇓P P 13 31 13.6 -0.1
baz=31,SNR=21
D13A ⇓P P 13 31 13.6 -0.1
baz=31,SNR=21
B19A Brinkman Farms 31.08 351 ⇑P P 13 31 13.4 -1.0
baz=31,SNR=8.4
B19A ⇑P P 13 31 13.4 -1.0
baz=31,SNR=8.4
B18A Beardsley Farm 31.15 350 ⇑P P 13 31 15.6 +0.4
baz=31,SNR=5.4
B18A ⇑P P 13 31 15.6 +0.4
baz=31,SNR=5.4
B17A L&G Farms, Che 31.24 348 ⇓P P 13 31 15.8 -0.1
baz=32,SNR=9.8
B17A ⇓P P 13 31 15.8 -0.1
baz=32,SNR=9.8
A19A Klindworth Far 31.51 351 ⇓P P 13 31 18.4 +0.1
baz=32,SNR=6.4
A19A ⇓P P 13 31 18.4 +0.1
baz=32,SNR=6.4
B16A M & M Farms, S 31.54 347 ⇓P P 13 31 18.0 -0.5
baz=32,SNR=7.0
B16A ⇓P P 13 31 18.0 -0.5
baz=32,SNR=7.0
SDV Santo Domingo 31.56 102 *e*P P 13 31 19.4 +0.1
13nm,0.8s
B15A Bradely Ranch, 31.63 346 ⇑P P 13 31 19.1 -0.3
baz=32,SNR=6.0
B15A ⇑P P 13 31 19.1 -0.3
baz=32,SNR=6.0
A18A Metzger Ranch, 31.67 350 ⇑P P 13 31 19.7 0.0
baz=32,SNR=9.2
A18A ⇑P P 13 31 19.7 0.0
baz=32,SNR=9.2
A17A Triple J Farms 31.85 349 ⇑P P 13 31 21.2 -0.1
baz=32,SNR=8.0
A17A ⇑P P 13 31 21.2 -0.1
baz=32,SNR=8.0
HOOD Mount Hood Mea 32.01 333 *e*P P 13 31 29.5 +6.7
A16A West Butte Ran 32.02 348 ⇓P P 13 31 22.6 -0.2

baz=32
A16A ⇓P P 13 31 22.6 -0.2
baz=32
B13A Whitefish 32.15 344 ⇑P P 13 31 24.1 +0.2
baz=32,SNR=6.8
B13A ⇑P P 13 31 24.1 +0.2
baz=32,SNR=6.8
C11A Tepee Creek (N 32.17 342 ⇑P P 13 31 24.6 +0.5
baz=32
C11A ⇑P P 13 31 24.6 +0.5
baz=32
A15A Johnson Ranch, 32.29 346 ⇑P P 13 31 24.9 -0.4
baz=32,SNR=10
A15A ⇑P P 13 31 24.9 -0.4
baz=32,SNR=10
WALA Waterton Lakes 32.64 345 *e*P P 13 31 29.1 +0.7
0.5nm,0.9s
A13A Flathead Natio 32.65 345 ⇑P P 13 31 29.0 +0.6
baz=33
A13A ⇑P P 13 31 29.0 +0.6
baz=33
ULM Lac du Bonnet 32.67 7 P P 13 31 26.6 -1.7
13nm,0.9s,baz=191,slow=9.6,SNR=26
ULM LR LR 13 46 07.4
comp=Z,699nm,18.5s,baz=208,slow=39
BINY Binghamton 32.75 37 *e*P P 13 31 27.4 -1.8
126nm,1.9s
NEW Newport 32.81 341 ⇓P P 13 31 30.2 +0.5
baz=33
NEW ⇓P P 13 31 30.2 +0.5
baz=33
A12A Yaak River Ran 32.98 343 ⇑P P 13 31 32.1 +0.8
baz=33
A12A ⇑P P 13 31 32.1 +0.8
baz=33
SJG San Juan 33.87 84 P P 13 31 39.5 +0.3
30nm,0.8s,baz=270,slow=6.5,SNR=14
ATAH Atahualpa 33.92 135 P P 13 31 42.8 +2.7
25nm,0.9s,baz=343,slow=6.6,SNR=20
ATAH Atahualpa 33.92 135 P P 13 31 42.8 +2.7
CBYP Canovanas 34.14 84 *e*P P 13 31 41.5 -0.1
8.6nm,0.8s
HUMP Col San Antoni 34.16 84 *e*P P 13 31 41.9 +0.2
50nm,1.0s
MTP Monte Pirata 34.44 84 *e*P P 13 31 44.1 -0.1
156nm,1.0s
BBB Bella Bella 40.03 335 LR LR 13 50 07.6
comp=Z,467nm,20.3s,baz=304,slow=38
YKA Yellowknife Ar 45.49 352 P P 13 33 14.2 -1.1
2.1nm,0.7s,baz=159,slow=7.6,SNR=44
YKA pP **pP** 13 33 21.6 -1.9
12nm,0.9s,baz=161,slow=7.4,SNR=47
YKA Yellowknife Ar 45.49 352 P P 13 33 14.2 -1.1
YKA pP **pP** 13 33 21.6 -1.9
DLBC Dease Lake 45.53 340 LR LR 13 51 56.9
comp=Z,672nm,19.9s,baz=268,slow=36
SCHQ Schefferville 45.56 28 P P 13 33 14.2 -1.8
5.4nm,0.8s,baz=231,slow=7.1,SNR=11
SCHQ Schefferville 45.56 28 P P 13 33 14.2 -1.8
TAOE Nuku Hiva Isla 46.25 238 *e*T T 14 22 29.5
863nm,0.3s
SAML Samuel 46.51 122 *e*P P 13 33 22.4 -1.6
42nm,1.3s
LPAZ La Paz 47.44 134 LR LR 13 51 37.1
comp=Z,434nm,19.7s,baz=256,slow=34
LPAZ La Paz 47.44 134 *e*P P 13 33 32.0 +0.1
BMRM Bremner River 52.64 335 *e*P P 13 34 11.8 +1.6
78nm,1.2s
MENT Mentasta 53.48 338 *e*P P 13 34 18.0 +1.7
MENT *e*pP **pP** 13 34 25.1 +0.4
MENT *e*sP **sP** 13 34 28.2 +0.2
EGAK Eagle 53.78 340 *e*P P 13 34 19.4 +0.9
DOT Dot Lake 54.04 338 *e*P P 13 34 21.9 +1.5
26nm,1.3s
DOT *e*pP **pP** 13 34 29.3 +0.5
PAX Paxson 54.14 337 *e*P P 13 34 22.1 +0.8
33nm,1.0s
PAX *e*pP **pP** 13 34 29.8 +0.2
INK Inuvik 54.26 346 *e*P P 13 34 21.9 0.0
40nm,1.2s
INK *e*pP **pP** 13 34 29.9 -0.4
SML Sawmill 54.60 335 *e*P P 13 34 24.4 -0.1
12nm,1.1s
SML *e*pP **pP** 13 34 32.9 0.0
PMR Palmer 54.81 335 *e*P P 13 34 25.2 -0.7
24nm,0.8s
PMR *e*pP **pP** 13 34 34.5 +0.2
LCO Las Campanas 55.43 147 *e*P P 13 34 29.2 -2.0
20nm,0.9s
ILAR Eielson Array 55.70 338 P P 13 34 33.0 +0.7
4.7nm,0.7s,baz=146,slow=4.9,SNR=69
ILAR pP **pP** 13 34 40.6 -0.2
31nm,1.0s,baz=147,slow=5.5,SNR=41
ILAR LR LR 14 00 43.9
comp=Z,1μm,18.8s,baz=300,slow=38
ILAR Eielson Array 55.70 338 P P 13 34 33.0 +0.7
ILAR pP **pP** 13 34 40.6 -0.2
RSO Redoubt South 55.81 332 *e*P P 13 34 33.0 -0.5
145nm,0.9s
RSO *e*pP **pP** 13 34 41.6 -0.3
MCK McKinley 55.87 337 *e*P P 13 34 33.8 +0.2
62nm,1.1s
MCK *e*pP **pP** 13 34 42.2 +0.1
PMOR Pomariorio Ree 55.95 237 *e*T T 14 34 42.6
19nm,0.2s
COLA College 56.10 338 *e*P P 13 34 35.7 +0.5
28nm,1.1s
COLA *e*pP **pP** 13 34 43.3 -0.3
TRF Thorofare Moun 56.23 336 *e*P P 13 34 36.7 +0.3
80nm,0.8s
TRF *e*pP **pP** 13 34 44.1 -0.8
RES Resolute Bay 56.97 2 LR LR 14 00 29.8
comp=Z,777nm,19.4s,baz=190,slow=38
RES Resolute Bay 56.97 2 *e*P P 13 34 39.7 -1.5
3.0nm,0.4s
MEH Mehetia 57.72 234 *e*T T 14 36 54.3
25nm,0.2s
COLD Coldfoot 58.21 340 *e*P P 13 34 51.2 +1.1
26nm,1.0s
COLD *e*pP **pP** 13 34 58.9 +0.3
TIAR Tiarei 58.54 236 *e*T T 14 37 56.0
11nm,0.3s
PPT2 Papeete2 58.74 236 *e*S S 13 42 53.5 -4.7
137nm,27.8s
PPT2 *e*SS **SS** 13 46 55.2 +3.3
84nm,25.5s
PPT2 *e*LR LR 13 52 19.8
190nm,22.8s
TBI Tubuai 62.00 230 *e*S S 13 43 40.2 +0.5
106nm,30.8s
TBI *e*LR LR 13 53 26.9
226nm,25.8s,baz=56
TBI *e*T T 14 42 14.0
5.3nm,0.2s
BDFB Brasilia 62.58 119 P P 13 35 21.1 +0.3
15nm,0.7s,baz=280,slow=8.7,SNR=19
BDFB LR LR 14 01 54.7
comp=Z,212nm,19.1s,baz=314,slow=36
BDFB Brasilia 62.58 119 P P 13 35 21.1 +0.3
TNA Tin City 64.06 335 *e*P P 13 35 31.1 +1.4
41nm,1.1s
TNA *e*pP **pP** 13 35 39.1 +0.8
PLCA Paso Flores 65.12 154 P P 13 35 38.0 +0.9
15nm,0.8s,baz=329,slow=8.5,SNR=27
PLCA LR LR 13 57 46.0
comp=Z,204nm,18.4s,baz=58,slow=30
PLCA Paso Flores 65.12 154 P P 13 35 38.0 +0.9
SUMG Summit 65.21 17 *e*P P 13 35 36.8 -0.8
17nm,0.9s
SUMG *e*pP **pP** 13 35 45.7 -0.5
SUMG Summit 65.21 17 *i*P P 13 35 37.2 -0.5
12nm,1.0s
GAMB Gambell 65.27 333 *e*P P 13 35 38.4 +0.8
30nm,1.6s
DAG Danmarks Havn 71.17 14 *i*P P 13 36 13.9 -0.6
38nm,0.8s
FX1 Attu Island--F 73.01 321 LR LR 14 03 51.8
comp=Z,67nm,20.2s,baz=284,slow=32
BILL Bilibino 74.32 337 *e*P P 13 36 34.4 +1.1
16nm,1.1s
BILL *e*pP **pP** 13 36 42.1 +0.1
PETK Petropavlovsk- 82.05 323 P P 13 37 18.7 +2.3
2.8nm,0.8s,baz=77,slow=7.1,SNR=6.8
PETK pP **pP** 13 37 26.5 +1.3
24nm,1.1s,baz=81,slow=7.4,SNR=8.8
PETK Petropavlovsk- 82.05 323 P P 13 37 18.7 +2.3
PETK pP **pP** 13 37 26.5 +1.3

FLN La Foliniere 83.98 41 *e*P P 13 37 27.0 +0.5
LDF La Druitiere 84.27 41 *e*P P 13 37 28.3 +0.3
88nm,1.2s
ESDC Sonseca Array 84.63 50 LR LR 14 12 59.6
comp=Z,122nm,19.2s,baz=305,slow=34
MFF Saint Martin d 84.95 43 *e*P P 13 37 32.7 +1.3
NB2 NORSAR Subarra 85.13 27 P P 13 37 33.1 +1.0
comp=Z,6.5nm,0.8s,baz=298,slow=5.1
NOA NORSAR Array B 85.13 27 P P 13 37 33.2 +1.1
comp=Z,2.6nm,0.9s,baz=301,slow=5.0,SNR=6.0
NOA pP **pP** 13 37 41.2 +0.4
comp=Z,4.6nm,0.8s,baz=303,slow=4.9,SNR=8.2
NOA LR LR 14 16 56.3
comp=Z,97nm,19.1s,baz=280,slow=37
NOA NORSAR Array B 85.13 27 P P 13 37 33.2 +1.1
NOA pP **pP** 13 37 41.2 +0.4
ARCES ARCESS Array B 85.28 16 P P 13 37 33.9 +1.2
comp=Z,4.3nm,0.6s,baz=308,slow=6.0,SNR=6.3
ARCES LR LR 14 17 48.2
comp=Z,254nm,19.0s,baz=329,slow=37
ARCES ARCESS Array B 85.28 16 P P 13 37 33.9 +1.2
BAIF Baives 86.35 38 *e*P P 13 37 40.0 +1.7
comp=Z,68nm,1.4s
RJF Les Rejaudoux 86.50 43 *e*P P 13 37 39.9 +0.7
TCF Toulx Ste Croi 86.58 42 *e*P P 13 37 40.9 +1.3
comp=Z,28nm,0.8s
BGF Bois d'Agland 86.88 42 *e*P P 13 37 42.4 +1.3
comp=Z,12nm,0.7s
SSF Saint Saulge 87.10 41 *e*P P 13 37 43.3 +1.2
comp=Z,15nm,0.7s
AVF Avril sur Loir 87.11 42 *e*P P 13 37 43.2 +1.1
comp=Z,20nm,0.9s
LOR Lormes 87.24 41 *e*P P 13 37 44.4 +1.6
comp=Z,26nm,0.7s
SFTF Sexfontaines 87.60 40 *e*P P 13 37 45.9 +1.4
LASF Ste Croix 88.51 44 *e*P P 13 37 51.3 +2.4
comp=Z,48nm,1.2s
ORIF Oris-en-Rattie 89.49 43 *e*P P 13 37 54.3 +0.7
GRF Grafenberg Arr 90.58 37 *e*P P 13 38 07.8 +9.3
comp=Z,12nm,1.7s
YAK Yakutsk 90.63 338 *e*P P 13 38 00.1 +1.8
comp=Z,21nm,1.0s
CLL Collm 90.78 35 *e*S **sS** 13 49 06.0 -2.7
CLL *e*SSS SKKPdf 13 58 42.0 -12
CLL LmH 14 20 00.0
comp=Z,100nm,20.1s
CLL LmV 14 22 00.0
comp=Z,200nm,19.0s
FINES FINESS Array B 90.79 22 P P 13 37 59.8 +0.7
comp=Z,1.7nm,0.7s,baz=202,slow=35,SNR=2.1
FINES LR LR 14 18 33.8
comp=Z,212nm,19.6s,baz=310,slow=36
FINES FINESS Array B 90.79 22 P P 13 37 59.8 +0.7
BRG Berggiesshubel 91.51 35 *e*P pP 13 38 13.8 +2.2
comp=Z,14nm,1.7s
BRG *e* 13 38 38.5
comp=Z,4.7nm,0.9s
GERES GERESS Array B 92.41 37 P P 13 38 06.7 -0.5
comp=Z,0.2nm,0.4s,baz=318,slow=5.8,SNR=3.6
GERES LR LR 14 21 12.8
comp=Z,220nm,18.2s,baz=67,slow=37
GERES GERESS Array B 92.41 37 P P 13 38 06.7 -0.5
PGF Pioggiola 92.56 44 *e*P P 13 38 09.1 +1.2
comp=Z,20nm,1.0s
LIC Lamto 94.52 82 *e*P P 13 38 17.0 -0.3
comp=Z,14nm,1.0s
DBIC Dimbokro 94.54 82 LR LR 14 17 28.5
comp=Z,121nm,18.7s,baz=286,slow=33
DZM Mont Dzumac 98.10 249 *e*LR LR 14 10 38.6
comp=Z,268nm,23.1s
AKASG Malin Array Be 99.34 29 LR LR 14 23 13.3
comp=Z,159nm,19.7s,baz=330,slow=35
MDJ Mudanjiang 102.19 325 P **Pdif** 13 38 54.0 +2.7
MDJ pmax pmax
comp=Z,13nm,2.5s
MDJ pmax pmax
comp=Z,180nm,4.8s
HHC Hu-ho-hao-te 113.89 333 *e*PKP **PKiKP** 13 43 33.8 -1.6
HHC sPKP 13 43 48.0
HHC PP **PP** 13 44 31.0 +3.0
HHC PKS **PKSdf** 13 47 08.8 -3.4
HHC SKS **SKSdf** 13 50 41.5 -4.5
HHC SKKS SKKSac 13 51 20.3 -9.0
HHC SS **SS** 14 00 13.0 -2.0
HHC AMB AMB
comp=Z,100nm,6.8s
HHC LR LR
comp=N,280nm,19.0s
HHC LR LR
comp=E,330nm,18.8s
HHC LR LR
comp=Z,230nm,18.9s
MKAR Makanchi Array 115.55 357 PKP **PKPdf** 13 43 37.1 -1.3
comp=Z,0.3nm,0.6s,baz=355,slow=1.3,SNR=4.2
MKAR pPKP PKiKP 13 43 45.5 +7.2
comp=Z,0.4nm,0.7s,baz=346,slow=1.1,SNR=3.9
MKAR Makanchi Array 115.55 357 PKP **PKPdf** 13 43 37.1 -1.3
MKAR pPKP PKiKP 13 43 45.5 +7.2
WMQ Urumqi 118.02 352 *e*PKP **PKPdf** 13 43 45.0 +1.7
WMQ LR LR
comp=N,250nm,23.2s
WMQ LR LR
comp=E,170nm,20.9s
WMQ LR LR
comp=Z,250nm,22.1s
LZH Lanzhou 121.12 336 *e*PKP **PKPdf** 13 43 50.0 +0.4
LZH sPKP 13 44 03.0
ENH Enshi 123.46 327 *e*PKPdf **PKPdf** 13 43 54.0 0.0
CD2 Chengdu 125.65 333 PKP **PKPdf** 13 43 59.5 +1.2
CD2 sPKP 13 44 13.8
CD2 PP **PP** 13 45 53.5 +4.7
CD2 PKS **PKSdf** 13 47 34.8 -0.2
CD2 SKS **SKSdf** 13 51 07.0 -1.7
CD2 SKKS **SKKSac** 13 52 42.0 -4.7
CD2 SS **SS** 14 02 46.0 -0.3
CD2 AMB AMB
comp=Z,160nm,5.9s
CD2 LR LR
comp=N,260nm,8.3s
CD2 LR LR
comp=Z,260nm,13.1s
WRA Warramunga Arr 127.06 258 PKP **PKPdf** 13 44 01.1 0.0
comp=Z,2.8nm,0.8s,baz=81,slow=2.1,SNR=15
WRA Warramunga Arr 127.06 258 PKP **PKPdf** 13 44 01.1 0.0
ASAR Alice Springs 127.86 254 PKP **PKPdf** 13 44 02.3 -0.3
comp=Z,1.1nm,0.7s,baz=93,slow=1.9,SNR=11
ASAR Alice Springs 127.86 254 PKP **PKPdf** 13 44 02.3 -0.3
GYA Guiyang 128.00 327 *e*Pdif **Pdif** 13 40 47.0 +0.4
GYA sPKP 13 44 17.0
GYA PP **PP** 13 46 09.8 +5.2
GYA PKS **PKSdf** 13 47 40.3 +0.5
GYA SKKS 13 52 58.0
GYA SS **SS** 14 03 15.5 -0.6
GYA AMB AMB
comp=Z,120nm,7.5s
GYA LR LR
comp=N,110nm,20.0s
GYA LR LR
comp=E,90nm,21.8s
GYA LR LR
comp=Z,100nm,20.6s
BOSA Boshof 130.52 113 PKP **PKPdf** 13 44 06.8 -0.8
comp=Z,5.2nm,0.9s,baz=196,slow=7.4,SNR=4.7
BOSA Boshof 130.52 113 PKP **PKPdf** 13 44 06.8 -0.8
KMI Kunming 131.05 330 PKP **PKPdf** 13 44 11.0 +2.1
KMI sPKP 13 44 21.8
KMI PP **PP** 13 46 31.8 +7.2
KMI AMB AMB
comp=Z,100nm,6.2s
KMI LR LR
comp=N,180nm,24.0s
KMI LR LR
comp=E,150nm,22.3s
KMI LR LR
comp=Z,190nm,19.7s
CMAR Chiang Mai Arr 138.56 329 PKP **PKPdf** 13 44 23.5 +0.7
comp=Z,1.8nm,0.8s,baz=336,slow=2.0,SNR=12
CMAR Chiang Mai Arr 138.56 329 PKP **PKPdf** 13 44 23.5 +0.7
HYB Hyderabad 144.95 359 *i*PKP **PKPab** 13 44 32.0 -1.4

WEL 31 13:40:22.3±0.7,36.40S×178.42E,h88km±4km,ML4.2/8,
Error ellipse: s-maj=5.2km s-min=4.3km az=90.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.17**	**184**	P*	Pn	13 40 43.7	-0.1
MXZ				S*	Sn	13 40 60.0	0.0
PUZ	**Puketiti**	**1.68**	**184**	PN	Pn	13 40 51.0	+0.7
PUZ				SN	Sn	13 41 12.5	+1.0
MWZ	**Matawai**	**2.06**	**200**	PN	Pn	13 40 55.8	+0.6
OPRZ	**Ohinepanea**	**2.08**	**225**	PN	Pn	13 40 55.5	+0.1
CNGZ	**Carnagh Statio**	**2.09**	**185**	PN	Pn	13 40 56.9	+1.3
MARZ	**Manawahe**	**2.11**	**221**	PN	Pn	13 40 56.1	+0.2
URZ	**Urewera**	**2.13**	**209**	PN	Pn	13 40 56.3	+0.1
URZ				SN	Sn	13 41 20.7	-1.3
EDRZ	**Edgecumbe**	**2.17**	**218**	PN	Pn	13 40 57.6	+0.9
TGRZ	**Tauranga**	**2.18**	**232**	PN	Pn	13 40 57.1	+0.3
KUZ	**Kuaotunu**	**2.20**	**260**	PN	Pn	13 40 56.8	-0.2
TARZ	**Mount Tarawera**	**2.39**	**219**	PN	Pn	13 41 01.4	+1.8
RRRZ	**Republican Roa**	**2.46**	**217**	PN	Pn	13 41 01.9	+1.3
PRGZ	**Paritu Road**	**2.56**	**189**	PN	Pn	13 41 01.7	-0.1
HRRZ	**Handcock Road**	**2.62**	**220**	PN	Pn	13 41 05.2	+2.5
PRRZ	**Plateau Road**	**2.65**	**217**	PN	Pn	13 41 03.9	+0.9
TOZ	**Tahuroa Road**	**2.69**	**239**	PN	Pn	13 41 03.8	+0.3
KNZ	**Kokohu**	**2.69**	**192**	PN	Pn	13 41 02.9	-0.6
MKAZ	**Moumakai**	**2.71**	**254**	PN	Pn	13 41 04.1	+0.3
ALRZ	**Allen Road**	**2.72**	**217**	PN	Pn	13 41 04.9	+0.9
RAHZ	**Arahi**	**2.73**	**202**	PN	Pn	13 41 04.3	+0.1
MHGZ	**Mahia Peninsul**	**2.78**	**188**	PN	Pn	13 41 04.6	-0.2
NMHZ	**Naumai**	**2.99**	**205**	PN	Pn	13 41 07.7	0.0
BKZ	**Black Stump Fm**	**3.16**	**208**	PN	Pn	13 41 09.0	-0.9
RATZ	**Rangitukua**	**3.24**	**220**	PN	Pn	13 41 11.7	+0.6
RITZ	**Rihia Road**	**3.28**	**217**	PN	Pn	13 41 12.1	+0.5
MCHZ	**McNeill Hill**	**3.33**	**204**	PN	Pn	13 41 11.3	-0.9
KATZ	**Kakaramea**	**3.36**	**219**	PN	Pn	13 41 14.0	+1.2
CKHZ	**Cape Kidnapper**	**3.43**	**198**	PN	Pn	13 41 13.0	-0.5
KRVZ	**Karewarewa**	**3.48**	**218**	PN	Pn	13 41 14.8	+0.4
OTVZ	**Oturere**	**3.52**	**217**	PN	Pn	13 41 15.1	+0.2
WTVZ	**West Tongariro**	**3.52**	**219**	PN	Pn	13 41 15.2	+0.3
HIZ	**Hauiti**	**3.54**	**232**	PN	Pn	13 41 16.6	+1.6
NGZ	**Ngauruhoe**	**3.56**	**218**	PN	Pn	13 41 16.7	+1.2
TWVZ	**Taurewa**	**3.57**	**221**	PN	Pn	13 41 15.9	+0.4
BHHZ	**Black Hill Sta**	**3.61**	**210**	PN	Pn	13 41 15.0	-1.0
KAHZ	**Kahuranaki**	**3.61**	**199**	PN	Pn	13 41 14.5	-1.5
TUVZ	**Tukino**	**3.61**	**216**	PN	Pn	13 41 18.1	+2.0
WPVZ	**Whakapapa**	**3.61**	**218**	PN	Pn	13 41 18.2	+2.1
MOVZ	**Moawhango**	**3.67**	**214**	PN	Pn	13 41 16.2	-0.7
MTVZ	**Mangateitei**	**3.79**	**217**	PN	Pn	13 41 20.5	+2.0
PXZ	**Pawanui**	**3.83**	**198**	PN	Pn	13 41 16.6	-2.4
PNHZ	**Pukenui**	**3.92**	**206**	PN	Pn	13 41 17.9	-2.4
VRZ	**Vera Road**	**3.98**	**226**	PN	Pn	13 41 23.4	+2.4
WPHZ	**Waipukurau**	**3.98**	**202**	PN	Pn	13 41 18.3	-2.8
PRHZ	**Porangahau**	**4.11**	**199**	PN	Pn	13 41 20.3	-2.5
TSZ	**Takapari Road**	**4.14**	**207**	PN	Pn	13 41 20.3	-2.9
DVHZ	**Dannevirke**	**4.28**	**204**	PN	Pn	13 41 21.8	-3.4
WAZ	**Wanganui**	**4.31**	**218**	PN	Pn	13 41 26.3	+0.8
BFZ	**Birch Farm**	**4.61**	**201**	PN	Pn	13 41 25.7	-3.8
MRZ	**Mangatainoka R**	**4.81**	**207**	PN	Pn	13 41 28.4	-3.9
HOWZ	**Holdsworth Sta**	**5.04**	**206**	PN	Pn	13 41 31.1	-4.3
OGWZ	**Otaki Gorge**	**5.10**	**209**	PN	Pn	13 41 33.0	-3.2
TMWZ	**Te Maipa**	**5.10**	**202**	PN	Pn	13 41 32.2	-4.1
KIW	**Kapiti Island**	**5.24**	**211**	PN	Pn	13 41 34.3	-3.7
MTW	**Mount Morrison**	**5.27**	**205**	PN	Pn	13 41 34.2	-4.3
CAW	**Cannon Point**	**5.38**	**208**	PN	Pn	13 41 36.1	-4.0
TRWZ	**Traveller**	**5.43**	**202**	PN	Pn	13 41 36.8	-3.9
MSWZ	**Moikau Station**	**5.59**	**205**	PN	Pn	13 41 38.8	-4.0
SNZO	**South Karori**	**5.70**	**209**	PN	Pn	13 41 39.2	-5.1
PLWZ	**Palliser**	**5.72**	**205**	PN	Pn	13 41 39.4	-5.4
TUWZ	**Tuamarina**	**6.12**	**213**	PN	Pn	13 41 45.2	-4.8
NNZ	**Nelson**	**6.22**	**218**	PN	Pn	13 41 47.3	-4.1
QRZ	**Quartz Range**	**6.39**	**224**	PN	Pn	13 41 50.1	-3.7
THZ	**Tophouse**	**6.86**	**217**	PN	Pn	13 41 56.3	-4.0
KHZ	**Kahutara**	**7.10**	**211**	PN	Pn	13 41 58.2	-5.2
DSZ	**Denniston Nort**	**7.42**	**222**	PN	Pn	13 42 03.1	-4.7
CTZ	**Chatham Island**	**8.26**	**154**	PN	Pn	13 42 20.9	+1.8
RPZ	**Rata Peaks**	**9.23**	**215**	PN	Pn	13 42 27.0	-5.5
ODZ	**Otahua Downs**	**10.46**	**212**	PN	Pn	13 42 42.3	-6.8
JCZ	**Jackson Bay**	**10.64**	**221**	PN	Pn	13 42 48.2	-3.6

*IDC **31** 13:56:23.7±1.2,15.45N×96.07E,h0km,mb4.0/12,*
mb1 4.2/13,mb1mx3.9/29,mbtmp4.0/13,ML4.7/1,MS3.7/7,
Ms1 3.7/7,ms1mx3.2/41,Error ellipse: s-maj=34.2km
s-min=24.4km az=48.0
*ISCJB **31** 13:56:24.3±3.2,15.8N±0.1×95.94E±0.06,h2km±17km,*
mb4.1/15,MS3.8/6,Error ellipse: s-maj=22.0km
s-min=8.3km az=164.6
*NEIC **31** 13:56:26.1±0.9,15.70N×95.96E,h10km,mb4.5/5,Error*
ellipse: s-maj=15.6km s-min=8.6km az=194.0

ISC 31 13:56:26.2±4.6,15.72N±0.10×95.94E±0.08,h11km±28km,
n63,σ1.918/65,mb4.1/15,MS3.8/6,Near south coast of
Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**3.95**	**46**	*e*Pn	**Pn**	**13 57 26.3**	**-0.5**
CM31				*e*Sn	**Sn**	**13 58 14.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**3.95**	**46**	Pn	**Pn**	**13 57 26.8**	**-0.1**
	12nm,0.3s,baz=234,slow=15,SNR=276						
CMAR				LR	LR	13 59 15.2	
	comp=Z,408nm,18.3s,baz=285,slow=42						
CMAR	**Chiang Mai Arr**	**3.95**	**46**	Pn	**Pn**	**13 57 26.8**	**-0.1**
CHTO	**Chiang Mai**	**4.20**	**43**	*e*Pn	**Pn**	**13 57 30.1**	**-0.3**
CHTO				*e*Sn	**Sn**	**13 58 18.0**	**-1.4**
SHL	**Shillong**	**10.50**	**339**	*e*P	**Pn**	**13 58 58.0**	**+1.0**
SHL				*e*S	**Sn**	**14 00 51.5**	**-3.3**
ODAN	**Odare**	**13.64**	**326**	*e*P	**Pn**	**13 59 38.6**	**-1.4**
	23nm,0.4s						
ODAN	**Odare**	**13.64**	**326**	*e*P	**Pn**	**13 59 38.6**	**-1.4**
	23nm,0.4s						
TAPN	**Taplejung**	**13.87**	**328**	*e*P	**Pn**	**13 59 42.1**	**-1.0**
	12nm,0.3s						
TAPN	**Taplejung**	**13.87**	**328**	*e*P	**Pn**	**13 59 42.1**	**-1.0**
	12nm,0.3s						
RAMN	**Ramite**	**14.15**	**324**	*e*P	**Pn**	**13 59 45.7**	**-1.3**
	26nm,0.6s						
RAMN	**Ramite**	**14.15**	**324**	*e*P	**Pn**	**13 59 45.7**	**-1.3**
	26nm,0.6s						
JIRN	**Jiri**	**14.93**	**324**	*e*P	**Pn**	**13 59 57.2**	**-0.5**
JIRN	**Jiri**	**14.93**	**324**	*e*P	**Pn**	**13 59 57.2**	**-0.5**
GUN	**Gumba**	**15.30**	**324**	*e*P	**Pn**	**14 00 01.6**	**-1.0**
GUN	**Gumba**	**15.30**	**324**	*e*P	**Pn**	**14 00 01.6**	**-1.0**
PKI	**Pulchoki**	**15.31**	**322**	*e*P	**Pn**	**14 00 02.7**	**-0.1**
	37nm,0.8s						
PKI	**Pulchoki**	**15.31**	**322**	*e*P	**Pn**	**14 00 02.7**	**-0.1**
	37nm,0.8s						
DMN	**Daman**	**15.52**	**321**	*e*P	**Pn**	**14 00 05.5**	**+0.1**
	57nm,0.9s						
DMN	**Daman**	**15.52**	**321**	*e*P	**Pn**	**14 00 05.5**	**+0.1**
	57nm,0.9s						
KKN	**Kakani**	**15.55**	**322**	*e*P	**Pn**	**14 00 06.1**	**+0.3**
	16nm,0.6s						
KKN	**Kakani**	**15.55**	**322**	*e*P	**Pn**	**14 00 06.1**	**+0.3**
	16nm,0.6s						
GKN	**Gorkha**	**16.09**	**321**	*e*P	**Pn**	**14 00 12.7**	**0.0**
	16nm,0.3s						
GKN	**Gorkha**	**16.09**	**321**	*e*P	**Pn**	**14 00 12.7**	**0.0**
	16nm,0.3s						
KOLN	**Koldanda**	**16.57**	**318**	*e*P	**P**	**14 00 20.2**	**-1.2**
	24nm,0.3s						
KOLN	**Koldanda**	**16.57**	**318**	*e*P	**P**	**14 00 20.2**	**-1.2**
	24nm,0.3s						
DANN	**Dangsing**	**16.88**	**320**	*e*P	**P**	**14 00 23.6**	**-1.3**
	34nm,0.8s						
DANN	**Dangsing**	**16.88**	**320**	*e*P	**P**	**14 00 23.6**	**-1.3**
	34nm,0.8s						
KAPI	**Kappang**	**31.31**	**129**	LR	LR	14 16 57.5	
	comp=Z,62nm,18.6s,baz=143,slow=40						
AAK	**Ala-Archa**	**32.52**	**330**	P	P	14 03 00.2	+2.9
	3.3nm,0.8s,baz=127,slow=6.1,SNR=14						
AAK	**Ala-Archa**	**32.52**	**330**	*e*P	**P**	**14 02 56.0**	**-1.4**
	15nm,0.8s						
MK31	**Makanchi Array**	**33.00**	**343**	*e*P	**P**	**14 03 01.2**	**-0.2**
MKAR	**Makanchi Array**	**33.00**	**343**	P	**P**	**14 03 03.2**	**+1.9**
	2.2nm,0.6s,baz=151,slow=10,SNR=45						
MKAR				PcP	**PcP**	**14 05 45.5**	**+0.4**
	0.4nm,0.7s,baz=114,slow=2.9,SNR=3.7						
MKAR	**Makanchi Array**	**33.00**	**343**	P	**P**	**14 03 03.2**	**+1.9**
MKAR				PcP	**PcP**	**14 05 45.5**	**+0.4**
SONM	**Songino Array**	**33.16**	**13**	P	**P**	**14 03 04.6**	**+1.7**
	0.2nm,0.6s,baz=200,slow=12,SNR=3.4						
SONM	**Songino Array**	**33.16**	**13**	P	**P**	**14 03 04.6**	**+1.7**
KKAR	**Karatay Array**	**34.88**	**327**	*e*P	**P**	**14 03 19.0**	**+1.3**
	1.0nm,0.6s						
KSRS	**Korea Array**	**35.59**	**46**	LR	LR	14 20 34.3	

comp=Z,90nm,18.2s,baz=218,slow=41
KURK Kurchatov 37.59 342 P **P** **14 03 41.9 +1.1**
7.6nm,0.6s,baz=152,slow=8.3,SNR=80
KURK PcP **PcP** **14 05 58.1 -0.4**
1.0nm,0.9s,baz=160,slow=2.5,SNR=5.6
KURK Kurchatov 37.59 342 *eP* **P** **14 03 41.5 +0.7**
7.7nm,0.7s
KURK PcP **PcP** **14 05 58.1 -0.4**
ZAA0 Zalesovo Array 39.12 350 *eP* **P** **14 03 53.9 +0.3**
ZALV Zalesovo Beam 39.12 350 P **P** **14 03 55.4 +1.8**
6.0nm,0.6s,baz=174,slow=8.6,SNR=46
ZALV Zalesovo Beam 39.12 350 P **P** **14 03 55.4 +1.8**
BVAR Borovoye Array 42.31 337 P **P** **14 04 20.9 +0.9**
0.8nm,0.6s,baz=126,slow=10.0,SNR=8.1
BVAR PcP **PcP** **14 06 13.2 -0.4**
0.5nm,0.7s,baz=147,slow=6.6,SNR=3.4
BVAR Borovoye Array 42.31 337 P **P** **14 04 20.9 +0.9**
BVAR PcP **PcP** **14 06 13.2 -0.4**
ABKAR Akbulak array 44.44 327 *eP* **P** **14 04 38.8 +1.6**
1.6nm,0.6s
AKTO Aktyubinsk 46.14 327 P **P** **14 04 52.3 +1.6**
2.5nm,0.7s,baz=121,slow=8.0,SNR=13
AKTO Aktyubinsk 46.14 327 P **P** **14 04 52.3 +1.6**
WRA Warramunga Arr 51.77 132 P **P** **14 05 32.2 -2.1**
0.9nm,0.6s,baz=327,slow=10,SNR=2.8
WRA Warramunga Arr 51.77 132 P **P** **14 05 32.2 -2.1**
NWAO Narrogin (SRO) 52.49 157 LR LR 14 25 42.9
comp=Z,95nm,20.8s,baz=120,slow=34
KIV Kislovodsk 52.96 314 *eP* **P** **14 05 42.7 -0.3**
14nm,0.9s
BR131 Keskin Array S 58.89 307 *eP* **P** **14 06 26.0 +0.4**
BRTR Keskin Array B 58.89 307 P **P** **14 06 26.0 +0.4**
1.0nm,0.7s,baz=57,slow=4.6,SNR=5.0
BRTR Keskin Array B 58.89 307 P **P** **14 06 26.0 +0.4**
STKA Stephens Creek 64.46 138 LR LR 14 38 10.4
comp=Z,126nm,18.3s,baz=205,slow=39
FINES FINESS Array B 66.70 331 P **P** **14 07 17.8 +0.7**
1.4nm,0.7s,baz=94,slow=7.8,SNR=7.4
FINES FINESS Array B 66.70 331 P **P** **14 07 17.8 +0.7**
VRAC Vranov 71.33 317 LR LR 14 44 28.7
comp=Z,68nm,18.4s,baz=167,slow=40
GERES GERESS Array B 73.26 317 P **P** **14 07 58.8 +1.0**
0.5nm,0.6s,baz=72,slow=4.3,SNR=4.5
GERES GERESS Array B 73.26 317 P **P** **14 07 58.8 +1.0**
NOA NORSAR Array B 73.84 330 LR LR 14 45 26.5
comp=Z,46nm,18.2s,baz=15,slow=40
ILAR Eielson Array 86.86 22 P **P** **14 09 09.3 -1.4**
0.4nm,0.7s,baz=304,slow=4.9,SNR=5.6
ILAR Eielson Array 86.86 22 P **P** **14 09 09.3 -1.4**

IDC 31 13:58:17.5±2.3, 8.04S×129.72E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=97.7km s-min=29.9km az=76.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.76**	**201**	Pn	Pn	14 00 53.7	+0.8
	0.5nm,0.3s,baz=28,slow=11,SNR=2.0						
FITZ				Sn	Sn	14 02 45.6	-8.6
	1.7nm,0.3s,baz=242,slow=15,SNR=9.5						
WRA	**Warramunga Ar**	**12.64**	**160**	Pn	Pn	14 01 18.5	-0.3
	0.3nm,0.3s,baz=334,slow=14,SNR=2.3						
WRA				Sn	Sn	14 03 31.2	-9.3
	1.4nm,0.3s,baz=326,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.04**	**166**	Pn	Pn	14 02 04.0	-0.6
	0.2nm,0.3s,baz=341,slow=11,SNR=4.7						
ASAR				Sn	Sn	14 04 52.5	-11
	0.3nm,0.3s,baz=353,slow=26,SNR=9.8						
MKAR	**Makanchi Array**	**68.95**	**327**	P	P	14 09 24.5	0.0
	0.1nm,0.3s,baz=113,slow=7.9,SNR=4.6						

IDC 31 14:04:03.0±2.9, 0.08S×132.98E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=158.0km s-min=26.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.79**	**176**	P	P	14 08 35.1	+0.1
	0.2nm,0.3s,baz=355,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**23.47**	**178**	P	P	14 09 14.4	0.0
	2.0nm,0.8s,baz=1.4,slow=11,SNR=10						
MKAR	**Makanchi Array**	**64.26**	**324**	P	P	14 14 40.0	-0.1
	0.3nm,0.7s,baz=122,slow=7.0,SNR=3.6						

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*IDC **31** 14:22:23.6±1.0, 15.56N×96.24E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/28, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=32.7km s-min=18.8km az=54.0*
*ISCJB **31** 14:22:25.6±0.8, 15.68N±0.09×96.05E±0.06, h28km, mb3.9/10, Error ellipse: s-maj=12.6km s-min=8.9km az=9.2*
ISC 31 14:22:27.6±1.0, 15.7N±0.1×96.1E±0.1, h28km, n22, σ1§49/22, mb4.0/10, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.90**	**45**	Pn	Pn	**14 23 26.5**	**+0.7**
	2.9nm,0.3s,baz=232,slow=15,SNR=106						
CMAR				Sn	**Sn**	**14 24 10.2**	**-0.4**
	1.3nm,0.3s,baz=225,slow=22,SNR=5.9						
SHL	**Shillong**	**10.58**	**339**	*eP*	Pn	14 25 06.0	+8.4
SHL				*eS*	Sn	14 26 44.5	-11
ODAN	**Odare**	**13.73**	**325**	*eP*	**Pn**	**14 25 38.4**	**-2.4**
	9.4nm,0.4s						
TAPN	**Taplejung**	**13.96**	**328**	*eP*	**Pn**	**14 25 41.3**	**-2.6**
	1.9nm,0.3s						
RAMN	**Ramite**	**14.25**	**323**	*eP*	**Pn**	**14 25 45.3**	**-2.6**
	3.6nm,0.3s						
JIRN	**Jiri**	**15.03**	**324**	*eP*	**Pn**	**14 25 57.1**	**-1.4**
GUN	**Gumba**	**15.39**	**324**	*eP*	**Pn**	**14 26 02.1**	**-1.2**
PKI	**Pulchoki**	**15.41**	**322**	*eP*	**Pn**	**14 26 03.0**	**-0.5**
DMN	**Daman**	**15.62**	**321**	*eP*	**Pn**	**14 26 06.3**	**+0.1**
KKN	**Kakani**	**15.65**	**322**	*eP*	**Pn**	**14 26 05.3**	**-1.2**
GKN	**Gorkha**	**16.19**	**321**	*eP*	**Pn**	**14 26 12.5**	**-0.9**
KOLN	**Koldanda**	**16.67**	**318**	*eP*	**P**	**14 26 20.8**	**-1.0**
AAK	**Ala-Archa**	**32.60**	**330**	**P**	**P**	**14 28 58.5**	**+1.5**
	0.9nm,0.7s,baz=157,slow=9.6,SNR=4.4						
MKAR	**Makanchi Array**	**33.07**	**343**	P	**P**	**14 29 02.3**	**+1.4**
	1.3nm,0.9s,baz=155,slow=10,SNR=13						
KURK	**Kurchatov**	**37.66**	**342**	P	**P**	**14 29 41.0**	**+0.8**
	2.8nm,0.7s,baz=153,slow=8.4,SNR=30						
KURK				PcP	**PcP**	**14 31 57.3**	**0.0**
	0.8nm,1.0s,baz=158,slow=2.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**39.18**	**349**	P	**P**	**14 29 54.5**	**+1.5**
	4.1nm,0.6s,baz=171,slow=8.7,SNR=18						
AKTO	**Aktyubinsk**	**46.23**	**327**	P	P	14 30 53.9	+3.5
	1.1nm,0.6s,baz=116,slow=9.6,SNR=4.5						
WRA	**Warramunga Arr**	**51.67**	**132**	P	**P**	**14 31 31.1**	**-1.3**
	1.1nm,0.6s,baz=315,slow=7.2,SNR=4.1						
ASAR	**Alice Springs**	**53.83**	**136**	P	**P**	**14 31 47.2**	**-1.2**
	0.4nm,0.7s,baz=310,slow=6.5,SNR=5.7						
BRTR	**Keskin Array B**	**59.00**	**307**	P	**P**	**14 32 27.4**	**+2.2**
	1.5nm,1.0s,baz=107,slow=7.7,SNR=5.0						
FINES	**FINESS Array B**	**66.79**	**331**	P	**P**	**14 33 16.8**	**+0.4**
	2.3nm,0.9s,baz=87,slow=7.4,SNR=4.3						
ILAR	**Eielson Array**	**86.84**	**22**	P	**P**	**14 35 09.2**	**-0.3**
	0.2nm,0.7s,baz=297,slow=4.0,SNR=4.3						

IDC 31 14:25:33.0±6.4, 21.81N×94.22E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, Error ellipse: s-maj=508.2km s-min=30.4km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**26.74**	**342**	P	P	14 31 14.3	0.0
	0.2nm,0.6s,baz=157,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**57.09**	**134**	P	P	14 35 21.1	-0.3
	0.1nm,0.4s,baz=322,slow=7.3,SNR=2.5						
ASAR	**Alice Springs**	**59.45**	**137**	P	P	14 35 38.0	+0.1
	0.1nm,0.5s,baz=313,slow=6.8,SNR=4.9						

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*MOS **31** 14:40:12.4±1.0, 22.93S×70.18W, h33km, mb5.5/16, Error ellipse: s-maj=18.2km s-min=7.8km az=109.4*
*ISCJB **31** 14:40:13.5±0.2, 22.93S±0.03×69.99W±0.04, h48km, mb5.0/79, MS4.2/15, Error ellipse: s-maj=5.0km s-min=3.6km az=9.3*
*NEIC **31** 14:40:14.9, 22.88S×70.27W, h55km, mb5.1/62, After GUC.*

NEIC Felt [III] at Mejillones and [II] at Antofagasta, Maria Elena, Sierra Gorda and Tocopilla.
*GUC **31** 14:40:14.9±0.5, 22.88S×70.27W, h55km±3km, ML5.3*
*IDC **31** 14:40:14.8±0.4, 22.93S×70.10W, h46km±3km, mb4.5/20, mb1 4.6/24, mb1mx4.6/24, mbtmp4.5/24, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=14.4km s-min=10.5km az=50.0*
*BJI **31** 14:40:17.7, 22.90S×69.90W, h51km, mB5.2/18, Ms5.5/14, Ms7 5.3/14*
ISC 31 14:40:14.6±0.2, 22.95S±0.03×70.04W±0.05, h45km, h45km:pP-P, n668, σ1§07/746, mb5.1/79, MS4.2/15, 192C-180D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.41**	**248**	⇑*iP*	**Pn**	**14 40 23.9**	**-0.6**
MECH				*iS*	**Sn**	**14 40 31.4**	**0.0**
MECH	**Mejillones**	**0.41**	**248**	⇑*iP*	**Pn**	**14 40 23.9**	**-0.6**
MECH				*iS*	**Sn**	**14 40 31.4**	**0.0**
MECH				AML	AML	14 40 33.0	
	comp=N,292μm,0.4s						
MACH	**Maria Elena**	**0.79**	**19**	⇑*iP*	**Pn**	**14 40 30.8**	**+1.1**
MACH				*iS*	**Sn**	**14 40 43.3**	**+2.7**
MACH	**Maria Elena**	**0.79**	**19**	⇑*iP*	**Pn**	**14 40 30.8**	**+1.1**
MACH				*iS*	**Sn**	**14 40 43.3**	**+2.7**
ANCH	**Antofagasta**	**0.81**	**205**	⇑*iP*	**Pn**	**14 40 29.3**	**-0.3**
ANCH				*iS*	**Sn**	**14 40 41.2**	**+0.7**
ANCH	**Antofagasta**	**0.81**	**205**	⇑*iP*	**Pn**	**14 40 29.3**	**-0.3**
ANCH				*iS*	**Sn**	**14 40 41.2**	**+0.7**
PB04	**Plate Boundary**	**0.85**	**37**	⇑*iP*	**Pn**	**14 40 27.6**	**-2.6**
PB04				*iS*	**Sn**	**14 40 37.1**	**-4.4**
PB04				AML	AML	14 40 37.9	
	comp=N,186μm,0.4s						
PB07	**Plate Boundary**	**1.23**	**7**	⇑*iP*	**Pn**	**14 40 36.3**	**+0.8**
PB07				*eS*	**Sn**	**14 40 52.5**	**+1.5**
PB07				AML	AML	14 40 54.4	
	comp=N,145μm,0.6s						
PB09	**Plate Boundary**	**1.36**	**33**	*eP*	**Pn**	**14 40 39.7**	**+2.3**
PB09				*iS*	**Sn**	**14 40 58.4**	**+4.0**
SPCH	**San Pedro de A**	**1.70**	**89**	*iP*	Pn	14 40 48.0	+5.9
SPCH				*iS*	Sn	14 41 11.8	+9.1
SPCH	**San Pedro de A**	**1.70**	**89**	*iP*	Pn	14 40 48.0	+5.9
SPCH				*iS*	Sn	14 41 11.8	+9.1
PB01	**Plate Boundary**	**1.96**	**15**	⇑*iP*	**Pn**	**14 40 46.8**	**+1.2**
PB01				*iS*	**Sn**	**14 41 11.0**	**+2.0**
PB01				AML	AML	14 41 21.8	
	comp=E,19μm,0.2s						
HMBC	**Humberstone**	**2.66**	**3**	AML	AML	14 41 48.4	
	comp=N,19μm,0.6s						
PSGC	**Pisagua**	**3.34**	**359**	AML	AML	14 42 06.6	
	comp=N,5μm,0.6s						
LCO	**Las Campanas**	**6.07**	**185**	*ePn*	**Pn**	**14 41 40.9**	**-1.2**
LPAZ	**La Paz**	**6.87**	**16**	*eP*	**Pn**	**14 41 55.5**	**+2.2**
LPAZ	**La Paz**	**6.87**	**16**	*ePn*	**Pn**	**14 41 55.5**	**+2.2**
CFAA	**Coronel Fontan**	**8.77**	**170**	P	**Pn**	**14 42 18.3**	**-0.6**
	comp=N,0.4nm,0.3s,baz=351,slow=13,SNR=16						
CFAA				S	**Sn**	**14 44 00.2**	**+3.8**
	comp=N,0.6nm,0.3s,baz=257,slow=19,SNR=1.9						
CFAA	**Coronel Fontan**	**8.77**	**170**	P	**Pn**	**14 42 18.3**	**-0.6**
CFAA				S	**Sn**	**14 44 00.2**	**+3.8**
SIV	**San Ignacio**	**10.93**	**52**	P	**Pn**	**14 42 48.7**	**+0.3**
	comp=N,5.9nm,0.3s,baz=248,slow=13,SNR=74						
SIV				S	**Sn**	**14 44 50.9**	**+1.5**
	comp=N,0.4nm,0.3s,baz=279,slow=19,SNR=4.4						
SIV				LR	LR	14 48 03.4	
	comp=N,1μm,20.6s,slow=43						
SIV	**San Ignacio**	**10.93**	**52**	P	**Pn**	**14 42 48.7**	**+0.3**
SIV				S	**Sn**	**14 44 50.9**	**+1.5**
NNA	**Nana**	**12.68**	**328**	P	**Pn**	**14 43 12.0**	**-0.5**
	comp=N,1.5nm,0.3s,baz=153,slow=16,SNR=2.0						
NNA				S	**Sn**	**14 45 30.9**	**-1.5**
	comp=N,3.9nm,0.3s,baz=222,slow=16,SNR=4.0						
NNA				LR	LR	14 47 46.4	
	comp=N,468nm,20.9s,baz=144,slow=36						
NNA	**Nana**	**12.68**	**328**	P	**Pn**	**14 43 12.0**	**-0.5**
NNA				S	**Sn**	**14 45 30.9**	**-1.5**
NNA	**Nana**	**12.68**	**328**	P	**Pn**	**14 43 12.0**	**-0.5**
NNA				S	**Sn**	**14 45 30.9**	**-1.5**
SAML	**Samuel**	**15.40**	**26**	*ePn*	**Pn**	**14 43 48.3**	**-0.6**
	comp=N,22nm,0.8s						
TRQA	**Torquist**	**16.57**	**157**	*ePn*	**Pn**	**14 44 04.2**	**+0.4**
	comp=N,48nm,0.9s						
ATAH	**Atahualpa**	**17.66**	**332**	P	**P**	**14 44 18.6**	**+0.3**
	comp=N,0.4nm,0.3s,baz=126,slow=14,SNR=6.2						
ATAH	**Atahualpa**	**17.66**	**332**	P	**P**	**14 44 18.6**	**+0.3**
PLCA	**Paso Flores**	**17.74**	**181**	P	**P**	**14 44 19.1**	**+0.4**
	comp=N,0.3nm,0.3s,baz=3.8,slow=12,SNR=6.4						
PLCA				LR	LR	14 51 12.1	
	comp=N,790nm,21.2s,baz=216,slow=37						
PLCA	**Paso Flores**	**17.74**	**181**	*eP*	**Pn**	**14 44 18.2**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,24nm,1.2s						
PLCA	**Paso Flores**	**17.74**	**181**	*ePn*	**Pn**	**14 44 18.2**	**-0.1**
	comp=Z,24nm,1.2s						
PLCA				P	**P**	**14 44 19.1**	**+0.4**
SPB	**Sao Paulo**	**20.78**	**96**	*eP*	**P**	**14 44 51.1**	**-0.9**
	comp=Z,32nm,0.8s						
BDFB	**Brasilia**	**22.01**	**75**	P	**P**	**14 45 07.0**	**+1.7**
	comp=Z,14nm,0.8s,baz=253,slow=9.3,SNR=14						
BDFB				LR	LR	14 54 59.0	
	comp=Z,490nm,20.1s,baz=252,slow=40						
BDFB	**Brasilia**	**22.01**	**75**	P	**P**	**14 45 07.0**	**+1.7**
BDFB	**Brasilia**	**22.01**	**75**	P	**P**	**14 45 07.0**	**+1.7**
OTAV	**Otavalo**	**24.46**	**339**	*eP*	**P**	**14 45 28.2**	**-1.7**
	comp=Z,19nm,0.9s						
ROSC	**El Rosal**	**27.95**	**351**	P	**P**	**14 46 02.8**	**+1.4**
	comp=Z,8.2nm,0.5s,baz=102,slow=20,SNR=6.3						
ROSC				LR	LR	14 58 03.8	
	comp=Z,345nm,21.1s,baz=190,slow=38						
ROSC	**El Rosal**	**27.95**	**351**	P	**P**	**14 46 02.8**	**+1.4**
SDV	**Santo Domingo**	**31.64**	**359**	*eP*	**P**	**14 46 31.4**	**-2.5**
	comp=Z,19nm,1.0s						
USHA	**Ushuaia**	**31.86**	**178**	LR	LR	15 00 22.1	
	comp=Z,279nm,19.6s,baz=335,slow=38						
JTS	**JuntasAbangare**	**36.12**	**335**	P	**P**	**14 47 13.6**	**+1.1**
	comp=Z,7.1nm,0.7s,baz=154,slow=3.3,SNR=5.9						
JTS	**JuntasAbangare**	**36.12**	**335**	*iP*	**P**	**14 47 14.0**	**+1.4**
JTS	**JuntasAbangare**	**36.12**	**335**	P	**P**	**14 47 13.6**	**+1.1**
RCBR	**Riachuelo**	**37.05**	**68**	P	**P**	**14 47 21.8**	**+1.3**
	comp=Z,11nm,0.8s,baz=232,slow=12,SNR=7.1						
RCBR				pP	**pP**	**14 47 33.2**	**+0.5**
	comp=Z,29nm,0.9s,baz=235,slow=9.9,SNR=9.6						
RCBR				LR	LR	15 03 13.3	
	comp=Z,218nm,19.4s,baz=234,slow=37						
RCBR	**Riachuelo**	**37.05**	**68**	P	**P**	**14 47 21.8**	**+1.3**
RCBR				pP	**pP**	**14 47 33.2**	**+0.5**
TGUH	**Tegucigalpa,Un**	**40.47**	**334**	*eP*	**P**	**14 47 50.2**	**+1.1**
	comp=Z,61nm,1.0s						
CELP	**Cerrillos**	**40.91**	**5**	*eP*	**P**	**14 47 50.9**	**-1.8**
CELP				*epP*	**pP**	**14 48 04.4**	**-0.6**
SJG	**San Juan**	**40.99**	**6**	*eP*	**P**	**14 47 50.6**	**-2.7**
SJG				pmax	pmax		
	comp=Z,22nm,0.6s						
SJG	**San Juan**	**40.99**	**6**	*eP*	**P**	**14 47 50.6**	**-2.7**
	comp=Z,22nm,0.6s						
MPR	**Mayaguez**	**41.01**	**4**	*eP*	**P**	**14 47 51.9**	**-1.6**
	comp=Z,74nm,1.4s						
MPR				*epP*	pP	14 48 10.9	+5.2
STVI	**Saint Thomas**	**41.35**	**7**	*eP*	**P**	**14 47 53.8**	**-2.5**
MTDJ	**Mount Denham**	**41.57**	**349**	*eP*	**P**	**14 47 59.1**	**+0.8**
	comp=Z,83nm,1.0s						
TEIG	**Tepich**	**46.46**	**336**	P	**P**	**14 48 37.0**	**-0.2**
	comp=Z,15nm,0.5s,baz=137,slow=2.8,SNR=16						
TEIG	**Tepich**	**46.46**	**336**	*eP*	**P**	**14 48 36.5**	**-0.7**
TEIG				P	**P**	**14 48 37.0**	**-0.2**
LRAL	**Lakeview Retre**	**57.98**	**343**	*eP*	**P**	**14 50 01.4**	**-1.2**
	comp=Z,9.5nm,1.0s						
HKT	**Hockley**	**58.15**	**334**	*eP*	**P**	**14 50 04.0**	**+0.2**
HKT				pmax	pmax		
	comp=Z,18nm,1.2s						
HKT	**Hockley**	**58.15**	**334**	*eP*	**P**	**14 50 04.0**	**+0.2**
	comp=Z,18nm,1.2s						
KMSC	**Kings Mountain**	**58.76**	**349**	⇑P	**P**	**14 50 08.5**	**+0.5**
	baz=59						
CPCT	**Cooper Cave**	**59.68**	**346**	*eP*	**P**	**14 50 14.0**	**-0.4**
TKL	**Tuckaleechee C**	**59.72**	**347**	P	**P**	**14 50 13.7**	**-1.0**
	comp=Z,15nm,0.8s,baz=168,slow=8.8,SNR=14						
TKL	**Tuckaleechee C**	**59.72**	**347**	P	**P**	**14 50 13.7**	**-1.0**
TKL	**Tuckaleechee C**	**59.72**	**347**	P	**P**	**14 50 13.7**	**-1.0**
SWET	**Sewanee**	**59.78**	**345**	*eP*	**P**	**14 50 14.3**	**-0.9**
	comp=Z,37nm,0.8s						
OXF	**Oxford**	**60.04**	**342**	*eP*	**P**	**14 50 15.0**	**-1.9**
OXF				pmax	pmax		
	comp=Z,65nm,1.0s						
OXF	**Oxford**	**60.04**	**342**	*eP*	**P**	**14 50 15.0**	**-1.9**
	comp=Z,65nm,1.0s						
PLAL	**Pickwick Lake**	**60.10**	**343**	*eP*	**P**	**14 50 15.9**	**-1.4**
	comp=Z,19nm,0.9s						
JCT	**Junction City**	**60.32**	**330**	⇓P	**P**	**14 50 18.8**	**-0.2**
	baz=60,SNR=23						
628A	**Black Gap, Mar**	**60.97**	**327**	⇑P	**P**	**14 50 23.8**	**+0.4**
	baz=61						
WVT	**Waverly**	**61.12**	**344**	*eP*	**P**	**14 50 21.9**	**-2.3**
WVT				pmax	pmax		
	comp=Z,36nm,0.9s						
WVT	**Waverly**	**61.12**	**344**	*eP*	**P**	**14 50 21.9**	**-2.3**
	comp=Z,36nm,0.9s						
627A	**Terlingua Ranc**	**61.19**	**327**	⇑P	**P**	**14 50 25.0**	**0.0**
	baz=61,SNR=12						
UALR	**University of**	**61.19**	**339**	*eP*	**P**	**14 50 24.4**	**-0.3**
	comp=Z,30nm,1.1s						
TXAR	**Lajitas Array**	**61.23**	**327**	P	**P**	**14 50 25.2**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=144,slow=8.7,SNR=40						
TXAR				LR	LR	15 13 31.5	
	comp=Z,121nm,20.4s,baz=175,slow=33						
TXAR	**Lajitas Array**	**61.23**	**327**	P	**P**	**14 50 25.2**	**-0.1**
TXAR	**Lajitas Array**	**61.23**	**327**	P	**P**	**14 50 25.2**	**-0.1**
SNAA	**Sanae**	**61.26**	**161**	*eP*	P	14 50 21.1	-3.8
SNAA	**Sanae**	**61.26**	**161**	*eP*	P	14 50 21.1	-3.8
MIAR	**Mount Ida**	**61.40**	**338**	*eP*	**P**	**14 50 26.0**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,31nm,0.9s						
MIAR	**Mount Ida**	**61.40**	**338**	*eP*	**P**	**14 50 26.0**	**-0.1**
	comp=Z,30nm,0.9s						
528A	**Cox Ranch, San**	**61.47**	**328**	⇓P	**P**	**14 50 26.8**	**-0.1**
	baz=62,SNR=16						
626A	**Big Bend Ranch**	**61.65**	**326**	⇓P	**P**	**14 50 28.6**	**+0.5**
	baz=62,SNR=62						
527A	**Woodward Ranch**	**61.87**	**327**	⇑P	**P**	**14 50 29.4**	**-0.2**
	baz=62,SNR=17						
428A	**Kincaid Ranch,**	**61.88**	**328**	⇑P	**P**	**14 50 29.8**	**+0.2**
	baz=62,SNR=6.1						
526A	**Mary Lane Ranc**	**62.04**	**327**	⇑P	**P**	**14 50 31.1**	**+0.3**
	baz=62,SNR=34						
427A	**Hayter Ranch,**	**62.34**	**328**	⇑P	**P**	**14 50 32.7**	**0.0**
	baz=62,SNR=11						
426A	**McDonald Obser**	**62.50**	**327**	⇓P	**P**	**14 50 34.1**	**+0.1**
	baz=63,SNR=28						
USIN	**University of**	**62.82**	**344**	*eP*	**P**	**14 50 34.5**	**-1.1**
	comp=Z,60nm,1.1s						
SIUC	**Southern Illin**	**62.98**	**343**	*eP*	**P**	**14 50 35.7**	**-1.0**
	comp=Z,44nm,1.0s						
326A	**Caldwell Ranch**	**63.00**	**328**	⇑P	**P**	**14 50 37.2**	**+0.1**
	baz=63,SNR=14						
425A	**Indio Mountain**	**63.08**	**326**	⇓P	**P**	**14 50 37.7**	**+0.1**
	baz=63,SNR=26						
227A	**Bennet, Jal**	**63.23**	**329**	⇓P	**P**	**14 50 38.8**	**+0.2**
	baz=63,SNR=7.2						
TUL1	**Tulsa**	**63.41**	**337**	⇓P	**P**	**14 50 38.9**	**-0.7**
	baz=64,SNR=6.6						
Z29A	**Hungry Hill Ra**	**63.53**	**331**	⇓P	**P**	**14 50 39.5**	**-1.0**
	baz=64						
WMOK	**Wichita Mounta**	**63.53**	**334**	*eP*	**P**	**14 50 39.4**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMOK	**Wichita Mounta**	**63.53**	**334**	*eP*	**P**	**14 50 39.4**	**-1.1**
	comp=Z,4.8nm,1.0s						
325A	**Bean Ranch, Si**	**63.54**	**327**	⇑P	**P**	**14 50 40.7**	**-0.1**
	baz=64,SNR=70						
OLIL	**Olney**	**63.65**	**344**	*eP*	**P**	**14 50 39.8**	**-1.3**
	comp=Z,27nm,0.9s						
226A	**Malaga, Loving**	**63.67**	**328**	⇓P	**P**	**14 50 42.2**	**+0.7**
	baz=64,SNR=23						
127A	**Arkansas Junct**	**63.81**	**329**	⇑P	**P**	**14 50 42.2**	**-0.3**
	baz=64,SNR=5.4						
324A	**Moseley Ranch,**	**63.86**	**326**	⇑P	**P**	**14 50 42.1**	**-0.7**
	baz=64,SNR=22						
Z28A	**Tucker Farm, M**	**63.87**	**330**	⇑P	**P**	**14 50 42.0**	**-0.8**
	baz=64						
GDL2	**Guadalupe Moun**	**63.91**	**328**	*eP*	**P**	**14 50 43.8**	**+0.7**
ACSO	**Alum Creek Sta**	**64.00**	**349**	*eP*	**P**	**14 50 42.5**	**-0.9**
MNTX	**Cornudas Mount**	**64.01**	**327**	*eP*	**P**	**14 50 42.9**	**-0.8**
	comp=Z,23nm,1.4s						
MNTX	**Cornudas Mount**	**64.01**	**327**	⇑P	**P**	**14 50 43.0**	**-0.7**
	baz=64,SNR=20						
MNTX				⇑P	**P**	**14 50 43.0**	**-0.7**
	baz=64,SNR=20						
Y29A	**Porterfield Fa**	**64.02**	**331**	⇓P	**P**	**14 50 43.0**	**-0.7**
	baz=64						
225A	**Deer Hill, Car**	**64.06**	**327**	⇓P	**P**	**14 50 44.1**	**-0.1**
	baz=64,SNR=16						
Z27A	**Tatum**	**64.27**	**329**	⇓P	**P**	**14 50 44.9**	**-0.6**
	baz=64,SNR=18						
Y28A	**McKinney Farm,**	**64.32**	**331**	⇑P	**P**	**14 50 44.8**	**-0.9**
	baz=64						
CPRX	**Cap Rock**	**64.35**	**329**	*eP*	**P**	**14 50 46.1**	**+0.2**
	comp=Z,6.9nm,0.8s						
224A	**Comanche Mount**	**64.39**	**327**	⇓P	**P**	**14 50 45.8**	**-0.5**
	baz=64,SNR=19						
125A	**Gardner Draw,**	**64.43**	**328**	⇓P	**P**	**14 50 46

	comp=Z,17nm,1.2s								
MDV	**Middlebury**	66.68	358	*e*P		P		14 51 01.3	+0.7
X23A	**Hourglass Bar** baz=67,SNR=9.4	66.73	328	⇑P		P		14 51 01.9	+0.5
LPM	**Los Pinos Moun**	66.73	328	*e*P		P		14 51 02.3	+0.9
LENM	**Lemitar**	66.78	327	*e*P		P		14 51 03.1	+1.3
Z20A	**Nine Sixteen R** baz=67,SNR=17	66.78	325	⇑P		P		14 51 02.8	+1.0
W24A	**Lazy 6 Ranch,** baz=67,SNR=12	66.86	329	⇑P		P		14 51 02.2	0.0
T28A	**Walsh** baz=67	66.96	333	⇑P		P		14 51 02.1	-0.6
V25A	**Rancho No Teng** baz=67,SNR=16	67.00	330	⇓P		P		14 51 03.2	+0.1
Y21A	**Point of Rocks** baz=67,SNR=20	67.01	327	⇓P		P		14 51 04.2	+0.9
LAZ	**Ladron** comp=Z,17nm,1.0s	67.05	327	*e*P		P		14 51 03.8	+0.4
U26A	**Atchley Ranch,** baz=67,SNR=21	67.06	331	⇓P		P		14 51 03.4	-0.1
X22A	**Bernardo** baz=67	67.07	327	⇓P		P		14 51 04.9	+1.3
ANMO	**Albuquerque**	67.16	328	*e*P		P		14 51 04.5	+0.4
ANMO	comp=Z,111nm,2.2s			pmax		pmax			
ANMO	**Albuquerque** comp=Z,111nm,2.2s	67.16	328	*e*P		P		14 51 04.5	+0.4
T27A	**Campo** baz=67,SNR=13	67.17	332	⇑P		P		14 51 03.9	-0.2
W23A	**Werner Place,** baz=67,SNR=9.2	67.18	328	⇓P		P		14 51 04.8	+0.6
V24A	**Rampart Ranch,** baz=67,SNR=23	67.22	329	⇑P		P		14 51 04.5	-0.1
QSPA	**South Pole Qui**	67.25	180	*e*P		P		14 51 04.7	+0.5
Y20A	**Horse Springs,** baz=67,SNR=16	67.29	326	⇓P		P		14 51 05.9	+0.9
TUC	**Tucson**	67.35	323	*e*P		P		14 51 06.5	+1.2
TUC	comp=Z,25nm,1.2s			pmax		pmax			
TUC	**Tucson** comp=Z,25nm,1.2s	67.35	323	*e*P		P		14 51 06.5	+1.2
LONY	**Lake Ozonia** comp=Z,14nm,0.9s	67.37	356	*e*P		P		14 51 05.5	+0.5
U25A	**Circle Dot Ran** baz=68,SNR=23	67.37	330	⇓P		P		14 51 05.4	-0.1
X21A	**Alamocita Cree** baz=68,SNR=29	67.41	327	⇓P		P		14 51 06.7	+0.9
CBKS	**Cedar Bluff**	67.45	335	*e*P		P		14 51 06.0	+0.3
CBKS	**Cedar Bluff**	67.45	335	*e*P		P		14 51 06.0	+0.3
CBKS				*e*pP		PcP		14 51 25.9	-6.9
CBKS	**Cedar Bluff** baz=68,SNR=13	67.45	335	⇓P		P		14 51 05.6	-0.1
CBKS	baz=68,SNR=13			⇓P		P		14 51 05.6	-0.1
W22A	**Albuquerque** baz=68	67.45	328	⇓P		P		14 51 06.8	+0.8
FRNY	**Flat Rock** comp=Z,42nm,1.1s	67.53	357	*e*P		P		14 51 06.5	+0.5
T26A	**Comanche Natio** baz=68,SNR=16	67.65	331	⇓P		P		14 51 07.0	-0.2
V23A	**Ortiz Mt. (NFS** baz=68,SNR=16	67.66	329	⇑P		P		14 51 07.9	+0.6
U24A	**Moreno Valley** baz=68,SNR=7.1	67.78	330	⇓P		P		14 51 08.9	+0.8
Y19A	**Nutrioso** baz=68,SNR=33	67.79	325	⇓P		P		14 51 09.4	+1.2
X20A	**Quemado** baz=68,SNR=14	67.85	326	⇓P		P		14 51 09.7	+1.1
W21A	**San Fidel** baz=68,SNR=7.7	67.88	327	⇑P		P		14 51 09.6	+0.9
SADO	**Sadowa** comp=Z,136nm,20.5s,baz=212,slow=35	67.90	353	LR		LR		15 20 06.3	
S26A	**Kim** baz=68,SNR=16	67.97	332	⇓P		P		14 51 09.5	+0.4
T25A	**Trinidad** baz=68,SNR=10	67.98	331	⇓P		P		14 51 09.9	+0.6
SCIA	**State Center** comp=Z,33nm,1.0s	68.00	342	*e*P		P		14 51 08.8	-0.3
Y18A	**Canyon Day Jun** baz=68,SNR=10	68.06	325	⇓P		P		14 51 10.5	+0.7
U23A	**El Rito** baz=68,SNR=13	68.14	329	⇓P		P		14 51 11.2	+0.9
V22A	**San Miguel Ran** baz=68	68.15	328	⇑P		P		14 51 11.4	+1.0
X19A	**St. Johns** baz=68,SNR=5.8	68.17	326	⇑P		P		14 51 11.4	+0.9
T24A	**Torres, Weston** baz=68,SNR=8.8	68.22	330	⇓P		P		14 51 11.6	+0.8
214A	**Organ Pipe Nat** baz=68,SNR=10	68.22	322	⇓P		P		14 51 11.9	+1.2
R27A	**Eads** baz=68,SNR=5.8	68.23	333	⇓P		P		14 51 10.4	-0.4
W20A	**Ramah** baz=68	68.31	327	⇑P		P		14 51 12.3	+0.9
S25A	**Robets Cordova** baz=68,SNR=7.8	68.42	331	⇓P		P		14 51 12.3	+0.3
U22A	**Llaves** baz=69,SNR=14	68.49	329	⇓P		P		14 51 13.7	+1.2
R26A	**Arlington** baz=69,SNR=14	68.52	332	⇑P		P		14 51 12.8	+0.2
X18A	**Snowflake** baz=69,SNR=5.2	68.59	325	⇑P		P		14 51 14.1	+1.0
W19A	**Sanders** baz=69,SNR=8.5	68.75	326	⇑P		P		14 51 15.0	+0.9
S24A	**Houchin Ranch,** baz=69,SNR=17	68.75	331	⇑P		P		14 51 15.0	+0.8
R25A	**Fountain Ranch** baz=69,SNR=6.8	68.76	332	⇓P		P		14 51 14.3	+0.2
KSCO	**Kaye Shedlock'** baz=69,SNR=6.1	68.78	333	⇓P		P		14 51 14.5	+0.4
V20A	**Brimhall** baz=69,SNR=6.0	68.82	327	⇑P		P		14 51 15.3	+0.7
114A	**Black Gap (USA** baz=69,SNR=8.6	68.85	322	⇑P		P		14 51 15.6	+1.0
X17A	**Forest Lakes** baz=69,SNR=17	68.90	325	⇑P		P		14 51 16.4	+1.3
U21A	**Nageezi** baz=69,SNR=16	68.92	328	⇑P		P		14 51 16.0	+0.8
W18A	**Petrified Fore** baz=69,SNR=8.6	68.94	326	⇓P		P		14 51 16.1	+0.8
SDCO	**Great Sand Dun**	68.97	330	*e*P		P		14 51 16.3	+0.7
SDCO	**Great Sand Dun** baz=69,SNR=41	68.97	330	⇑P		P		14 51 16.2	+0.6
SDCO	baz=69,SNR=41			⇑P		P		14 51 16.2	+0.6
T22A	**Edith** baz=69,SNR=10	69.03	329	⇑P		P		14 51 16.8	+0.9
V19A	**Window Rock** baz=69,SNR=6.8	69.05	327	⇑P		P		14 51 17.0	+1.0
Q26A	**Hugo** baz=69,SNR=11	69.08	333	⇓P		P		14 51 16.3	+0.3
BGNE	**Belgrade** baz=69,SNR=7.7	69.14	338	⇓P		P		14 51 15.9	-0.3
R24A	**Sanders Place,** baz=69,SNR=9.2	69.19	331	⇑P		P		14 51 17.7	+0.9
X16A	**Lo Mia Camp, P** baz=69,SNR=27	69.30	324	⇑P		P		14 51 18.6	+1.1
U20A	**Newcomb** baz=69,SNR=8.2	69.30	328	⇑P		P		14 51 18.1	+0.6
PQI	**Presque Isle** comp=Z,76nm,1.3s	69.31	1	*e*P		P		14 51 16.8	-0.3
113A	**Mohawk Valley,** baz=69,SNR=7.8	69.37	322	⇓P		P		14 51 18.6	+0.8
Q25A	**Bedland, Calha** baz=70,SNR=5.8	69.38	332	⇑P		P		14 51 18.2	+0.2
W17A	**Winslow** baz=70	69.42	325	⇓P		P		14 51 19.3	+1.1
R23A	**Moffat** baz=70,SNR=16	69.48	331	⇑P		P		14 51 19.3	+0.6
V18A	**Ganado** baz=70	69.50	326	⇓P		P		14 51 19.5	+0.7
P26A	**Davis Ranch, A** baz=70,SNR=7.3	69.54	333	⇑P		P		14 51 19.1	+0.2
U19A	**Dine' College,** baz=70,SNR=5.5	69.58	327	⇑P		P		14 51 19.4	+0.1
S22A	**4UR Ranch, Cre** baz=70,SNR=11	69.58	330	⇑P		P		14 51 19.9	+0.6
O27A	**Beecher Island** baz=70,SNR=8.8	69.71	334	⇑P		P		14 51 20.5	+0.7
Q24A	**Divide** baz=70,SNR=16	69.81	331	⇓P		P		14 51 21.3	+0.6
P25A	**Willow Gulch B** baz=70,SNR=15	69.84	332	⇑P		P		14 51 21.6	+0.8
V17A	**Tonalea, Kykot** baz=70,SNR=30	69.87	325	⇓P		P		14 51 22.2	+1.2
T19A	**Beclabito** baz=70,SNR=16	69.91	327	⇓P		P		14 51 22.0	+0.8
R22A	**Saguache, Gunn**	69.94	330	⇑P		P		14 51 22.6	+1.0
	baz=70,SNR=5.5								
MVCO	**Mesa Verde** comp=Z,24nm,0.9s	69.95	328	*e*P		P		14 51 22.4	+0.8
MVCO	**Mesa Verde** baz=70,SNR=18	69.95	328	⇓P		P		14 51 22.2	+0.7
S21A	**Coal Bank Pass** baz=70,SNR=19	69.97	329	⇑P		P		14 51 22.4	+0.6
U18A	**Rough Rock, Ch** baz=70,SNR=18	70.01	327	⇓P		P		14 51 22.9	+0.9
O26A	**Horse Wrangler** baz=70	70.10	333	⇓P		P		14 51 22.9	+0.6
WUAZ	**Wupatki** comp=Z,36nm,1.0s	70.10	325	*e*P		P		14 51 23.9	+1.4
WUAZ	**Wupatki** baz=70,SNR=29	70.10	325	⇓P		P		14 51 23.5	+1.1
DBIC	**Dimbokro** comp=Z,9.7nm,0.8s,baz=227,slow=6.4,SNR=13	70.15	73	P		P		14 51 23.0	0.0
DBIC	comp=Z,143nm,19.0s,baz=216,slow=34			LR		LR		15 19 30.8	
DBIC	**Dimbokro**	70.15	73	*e*P		P		14 51 23.2	+0.2
DBIC	**Dimbokro**	70.15	73	*e*P		P		14 51 23.2	+0.2
OGNE	**Ogallala** baz=70,SNR=5.6	70.18	335	⇓P		P		14 51 22.6	-0.1
O25A	**Wiggins** baz=70	70.32	333	⇑P		P		14 51 24.5	+0.9
S20A	**Disappointment** baz=70,SNR=19	70.38	329	⇑P		P		14 51 25.2	+1.0
R21A	**Cimarron** baz=70,SNR=16	70.42	329	⇓P		P		14 51 25.2	+0.8
U16A	**Tuba City** baz=70,SNR=22	70.45	326	⇑P		P		14 51 25.6	+1.1
Y12C	**Blythe** baz=71,SNR=9.4	70.52	322	⇓P		P		14 51 25.9	+1.2
Q22A	**Crested Butte,** baz=71,SNR=10	70.52	330	⇑P		P		14 51 26.0	+0.9
N26A	**Koester Ranch,** baz=71	70.55	334	⇑P		P		14 51 25.5	+0.4
U17A	**Shonto** baz=71,SNR=24	70.56	326	⇑P		P		14 51 26.3	+1.0
T18A	**Mexican Hat** baz=71,SNR=30	70.57	327	⇑P		P		14 51 25.8	+0.6
DVTC	**Desert V Tower** baz=71,SNR=6.8	70.65	320	⇓P		P		14 51 26.9	+1.1
R20A	**Redvale** baz=71,SNR=23	70.67	329	⇑P		P		14 51 27.2	+1.3
SWSC	**Sam W. Stewart** baz=71	70.67	320	⇓P		P		14 51 27.0	+1.3
S19A	**Harvey Farm, M** baz=71,SNR=33	70.69	328	⇑P		P		14 51 26.7	+0.7
ECSD	**EROS Data Cent** comp=Z,27nm,1.0s	70.70	340	*e*P		P		14 51 25.1	-0.6
ISCO	**Idaho Springs**	70.71	332	*e*P		P		14 51 27.1	+0.9
ISCO	comp=Z,43nm,1.7s			pmax		pmax			
ISCO	**Idaho Springs** comp=Z,43nm,1.7s	70.71	332	*e*P		P		14 51 27.1	+0.9
ISCO	**Idaho Springs** baz=71,SNR=12	70.71	332	⇓P		P		14 51 26.7	+0.5
PV01	**Paradox Valley** comp=Z,3μm,1.5s	70.72	329	*e*P		P		14 51 26.8	+0.6
O24A	**Longmont** baz=71	70.74	332	⇓P		P		14 51 26.6	+0.4
Q21A	**Lamborn Mesa,** baz=71	70.81	330	⇓P		P		14 51 27.4	+0.7
SMCO	**Snowmass** comp=Z,23nm,1.1s	70.81	330	*e*P		P		14 51 28.1	+1.1
M27A	**Reverse DX Ran** baz=71	70.81	335	⇓P		P		14 51 27.5	+1.0
T17A	**Navajo Res., N** baz=71,SNR=33	70.94	326	⇑P		P		14 51 28.9	+1.4
SPMN	**St. Paul** baz=71,SNR=8.3	70.95	343	⇑P		P		14 51 26.1	-1.1
BC3	**Big Chuckawall** baz=71,SNR=12	70.98	321	⇑P		P		14 51 28.6	+0.8
MONP	**Monument Peak** baz=71,SNR=7.8	71.00	320	⇓P		P		14 51 29.0	+0.9
BAR	**Barrett** comp=Z,19nm,1.1s	71.01	320	*e*P		P		14 51 29.1	+1.3
P22A	**Eagle** baz=71,SNR=10	71.05	331	⇑P		P		14 51 28.9	+0.7
S18A	**Hurst Farm, Bl** baz=71,SNR=66	71.06	327	⇓P		P		14 51 29.3	+0.9
PV04	**Paradox Valley**	71.08	329	*e*P		P		14 51 29.5	+1.1
W13A	**Hualapai Mount** baz=71,SNR=8.7	71.14	323	⇑P		P		14 51 30.1	+1.2
IRM	**Iron Mountain** baz=71,SNR=18	71.17	322	⇑P		P		14 51 29.8	+1.0
R19A	**Curley Farm, L** baz=71,SNR=17	71.17	328	⇑P		P		14 51 29.6	+0.6
O23A	**Lake Granby, G** baz=71,SNR=12	71.18	332	⇓P		P		14 51 29.8	+0.7
Q20A	**Ridgley Place,** baz=71	71.24	329	⇑P		P		14 51 29.6	+0.3
N24A	**Carr** baz=71	71.24	333	⇑P		P		14 51 30.2	+0.9
U15A	**North Rim** baz=71,SNR=25	71.27	325	⇑P		P		14 51 31.1	+1.4
P21A	**Newcastle** baz=71,SNR=24	71.30	330	⇑P		P		14 51 30.7	+0.9
M25A	**Palm-Egli Farm** baz=72	71.40	334	⇑P		P		14 51 30.8	+0.6
O22A	**Kremmling** baz=72,SNR=19	71.41	331	⇑P		P		14 51 30.9	+0.4
S17A	**Black Ridge (B** baz=72,SNR=13	71.43	327	⇓P		P		14 51 31.3	+0.9
L26A	**Underwood Farm** baz=72	71.52	335	⇑P		P		14 51 31.5	+0.6
PFO	**Pinyon Flat Ob**	71.53	320	*e*P		P		14 51 32.0	+0.8
PFO	**Pinyon Flat Ob**	71.53	320	*e*P		P		14 51 31.9	+0.8
PFO	**Pinyon Flat Ob** baz=72,SNR=8.1	71.53	320	⇓P		P		14 51 32.3	+1.2
BELC	**Belle Mtn. Jos** baz=72,SNR=5.4	71.55	321	⇓P		P		14 51 32.1	+0.9
R18A	**Canyonlands Na** baz=72,SNR=13	71.56	328	⇓P		P		14 51 31.8	+0.5
Q19A	**Hogan Spring (** baz=72,SNR=16	71.70	329	⇑P		P		14 51 32.8	+0.8
P20A	**De Beque** baz=72,SNR=7.3	71.72	330	⇓P		P		14 51 32.9	+0.8
M24A	**Cheyenne** baz=72,SNR=10	71.75	333	⇑P		P		14 51 33.4	+1.1
N23A	**Red Feather La** baz=72	71.75	332	⇓P		P		14 51 32.9	+0.5
K27A	**Flueckinger Fa** baz=72,SNR=5.5	71.76	336	⇓P		P		14 51 33.0	+0.8
O21A	**Pagoda** baz=72	71.87	331	⇑P		P		14 51 34.2	+1.0
PHWY	**Pilot Hill**	71.88	333	*e*P		P		14 51 34.0	+0.8
N22A	**Wattenberg Ran** baz=72,SNR=11	71.89	332	⇑P		P		14 51 34.3	+0.9
S16A	**Wegner Ranch,** baz=72,SNR=16	71.89	326	⇓P		P		14 51 34.0	+0.7
GMRC	**Granite Mounta** baz=72,SNR=16	71.91	322	⇓P		P		14 51 34.5	+1.1
R17A	**Hanksville Air** baz=72,SNR=18	71.99	327	⇓P		P		14 51 34.4	+0.7
TBI	**Tubuai** comp=Z,152nm,23.8s	72.04	252	*e*LR		LR		15 13 38.3	
P19A	**Cripple Cowboy** baz=72,SNR=32	72.10	329	⇑P		P		14 51 35.4	+0.9
K26A	**Motz Farm, Whi** baz=72	72.12	335	⇓P		P		14 51 34.9	+0.5
M23A	**Laramie** baz=72,SNR=13	72.13	333	⇑P		P		14 51 35.2	+0.6
O20A	**White River Ci** baz=72,SNR=16	72.16	330	⇓P		P		14 51 35.7	+0.9
Q18A	**Rafter H Ranch** baz=72,SNR=10	72.23	328	⇓P		P		14 51 36.1	+0.9
R16A	**Teasdale** baz=72,SNR=7.2	72.27	327	⇑P		P		14 51 36.5	+0.9
BBRC	**Big Bear Solar** baz=72	72.27	321	⇓P		P		14 51 36.9	+1.2
K25A	**Mack Ranch, Ha** baz=72	72.32	334	⇑P		P		14 51 36.2	+0.6
HEC	**Hector,Ludlow** baz=72	72.33	321	⇓P		P		14 51 37.0	+1.2
N21A	**Black Mountain** baz=72,SNR=6.2	72.33	331	⇓P		P		14 51 37.0	+1.1
SRU	**San Rafael**	72.43	328	*e*P		P		14 51 37.4	+0.9
SRU	**San Rafael**	72.43	328	*e*P		P		14 51 37.4	+0.9
SRU	**San Rafael** baz=72,SNR=30	72.43	328	⇑P		P		14 51 37.1	+0.6
TUQ	**Turquoise Moun** baz=73,SNR=7.8	72.53	322	⇓P		P		14 51 38.0	+0.9
Q16A	**Castle Valley** baz=73,SNR=9.9	72.60	327	⇑P		P		14 51 38.3	+0.8
R15A	**Junction** baz=73,SNR=6.9	72.61	326	⇑P		P		14 51 38.5	+0.9
L23A	**Garrett** baz=73	72.65	333	⇑P		P		14 51 37.9	+0.1
CCUT	**Cedar City**	72.68	325	*e*P		P		14 51 40.0	+1.9
BFSC	**Mount Baldy Ra** baz=73,SNR=8.8	72.69	320	⇓P		P		14 51 38.5	+0.5
O19A	**Miners Draw (B** baz=73,SNR=11	72.69	330	⇓P		P		14 51 38.6	+0.6
P18A	**Preston Nutter** baz=73	72.70	329	⇑P		P		14 51 39.0	+0.8
N20A	**Spence Gulch,** baz=73,SNR=12	72.73	331	⇓P		P		14 51 38.7	+0.4
MSU	**Marysvale**	72.79	327	*e*P		P		14 51 40.1	+1.4
MSU	**Marysvale**	72.79	327	*e*P		P		14 51 40.0	+1.4
P17A	**Butcher Ranch,** baz=73,SNR=12	72.82	328	⇑P		P		14 51 39.4	+0.7
ARUT	**Antelope Range**	72.90	325	*e*P		P		14 51 39.1	-0.2
ARUT	comp=Z,44nm,1.0s			pmax		pmax			
ARUT	**Antelope Range** comp=Z,44nm,1.0s	72.90	325	*e*P		P		14 51 39.1	-0.2
TMUT	**Trail Mountain**	72.91	328	*e*P		P		14 51 40.3	+0.8
MWC	**Mount Wilson**	72.91	320	*e*P		P		14 51 40.6	+1.2
MWC	**Mount Wilson**	72.91	320	*e*P		P		14 51 40.6	+1.2
GSC	**Goldstone**	72.94	321	*e*P		P		14 51 40.9	+1.5
GSC	**Goldstone**	72.94	321	*e*P		P		14 51 40.9	+1.5
M21A	**Separation Pea** baz=73,SNR=6.7	72.95	332	⇓P		P		14 51 40.1	+0.5
N19A	**John Jarvie Ra** baz=73,SNR=20	73.19	330	⇑P		P		14 51 41.3	+0.4
M20A	**Sweetwater, Wa** baz=73	73.22	331	⇓P		P		14 51 41.4	+0.3
J24A	**Dixon Ranch, L** baz=73,SNR=5.3	73.24	334	⇑P		P		14 51 42.1	+1.0
L21A	**Rawlins** baz=73,SNR=17	73.24	332	⇑P		P		14 51 41.6	+0.3
EDW2	**Edwards Air Fo** baz=73,SNR=7.5	73.33	320	⇑P		P		14 51 42.1	+0.4
P16A	**Fountain Green** baz=74	73.37	328	⇓P		P		14 51 43.1	+1.1
O17A	**Robinson Place** baz=74,SNR=24	73.38	329	⇑P		P		14 51 43.3	+1.2
K22A	**Casper** baz=74,SNR=5.4	73.44	333	⇑P		P		14 51 42.8	+0.5
R13A	**O'Grain Ranch,** baz=74,SNR=14	73.47	325	⇑P		P		14 51 44.1	+1.4
N18A	**Larsen Ranch,** baz=74	73.49	330	⇓P		P		14 51 43.0	+0.3
P15A	**Leamington** baz=74,SNR=8.1	73.65	327	⇓P		P		14 51 44.5	+0.9
RSSD	**Black Hills**	73.66	335	*e*P		P		14 51 44.1	+0.5
RSSD	**Black Hills**	73.66	335	*e*P		P		14 51 44.1	+0.5
I24A	**Kuemmerle Ranc** baz=74,SNR=5.4	73.67	335	⇓P		P		14 51 43.8	+0.3
L20A	**Wamsutter** baz=74,SNR=6.1	73.70	331	⇓P		P		14 51 44.3	+0.3
K21A	**Alcova** baz=74	73.73	332	⇑P		P		14 51 44.8	+0.7
DAU	**Daniels Canyon**	73.80	328	*e*P		P		14 51 45.6	+0.9
DAU	**Daniels Canyon**	73.80	328	*e*P		P		14 51 45.6	+0.9
MPMC	**Manual Prospec** baz=74,SNR=6.7	73.87	322	⇑P		P		14 51 45.8	+0.7
PPT2	**Papeete2** comp=Z,52nm,26.0s	73.97	257	*e*S		S		15 01 17.5	+2.1
PPT2	comp=Z,350nm,26.2s,baz=105			*e*LR		LR		15 14 31.9	
N17A	**Moffit Pass** baz=74,SNR=20	74.00	329	⇓P		P		14 51 46.7	+0.9
M18A	**Lyman** baz=74,SNR=5.2	74.02	330	⇓P		P		14 51 46.0	+0.2
JLU	**Jordanelle**	74.03	328	*e*P		P		14 51 47.2	+1.2
ISA	**Isabella**	74.16	321	*e*P		P		14 51 47.5	+0.9
ISA	**Isabella**	74.16	321	*e*P		P		14 51 47.5	+0.9
ISA	**Isabella** baz=74,SNR=13	74.16	321	⇓P		P		14 51 47.4	+0.9
K20A	**Yellowstone Ra** baz=74	74.22	332	⇑P		P		14 51 47.1	+0.2
L19A	**Farson** baz=74,SNR=6.6	74.23	331	⇑P		P		14 51 47.6	+0.6
N16A	**Rees Ranch, Co** baz=74	74.25	329	⇓P		P		14 51 48.2	+1.0
O15A	**The Old Anders** baz=74	74.29	328	⇓P		P		14 51 48.4	+1.0
M17A	**Scullys Gap (B** baz=74,SNR=7.1	74.34	329	⇓P		P		14 51 47.5	-0.2
H24A	**Dirks Ranch, A** baz=74,SNR=15	74.38	335	⇓P		P		14 51 47.4	-0.3
DUG	**Dugway**	74.39	327	*e*P		P		14 51 49.0	+1.1
DUG	**Dugway**	74.39	327	*e*P		P		14 51 49.0	+1.1
DUG	**Dugway** baz=74,SNR=22	74.39	327	⇑P		P		14 51 48.4	+0.5
J21A	**Lysite** baz=74,SNR=5.8	74.40	333	⇑P		P		14 51 48.4	+0.4
L18A	**Fontenelle, Gr** baz=74,SNR=13	74.40	330	⇑P		P		14 51 48.4	+0.4
PKM	**Peak Mountain** baz=74,SNR=7.5	74.43	319	⇑P		P		14 51 49.0	+0.7
I22A	**9 Mile Ranch,** baz=75,SNR=11	74.44	334	⇓P		P		14 51 48.4	+0.3
R11A	**Troy Canyon, C** baz=74,SNR=22	74.45	324	⇑P		P		14 51 49.6	+1.3
K19A	**Absolon Red Bu** baz=75,SNR=10	74.58	331	⇑P		P		14 51 48.9	-0.1
AGMN	**Agassiz Nation**	74.61	342	*e*P		P		14 51 47.8	-1.0
M16A	**Huntsville** baz=75	74.67	329	⇓P		P		14 51 49.6	0.0
J20A	**Shoshoni** baz=75,SNR=6.6	74.67	332	⇑P		P		14 51 50.1	+0.6
I21A	**Big Trails, Te** baz=75,SNR=22	74.71	333	⇓P		P		14 51 49.6	-0.1
N15A	**Stansbury Isla** baz=75	74.78	328	⇓P		P		14 51 50.4	+0.2
G24A	**Alzada** baz=75,SNR=6.2	74.82	336	⇓P		P		14 51 50.3	+0.1
BW06	**Boulder Array** baz=75,SNR=6.1	74.85	331	⇓P		P		14 51 50.3	-0.3
BW06	baz=75,SNR=6.1			⇓P		P		14 51 50.3	-0.3
PDAR	**Pinedale Array** comp=Z,1.6nm,0.5s,baz=135,slow=6.9,SNR=15	74.85	331	P		P		14 51 50.4	-0.3
PDAR	**Pinedale Array**	74.85	331	P		P		14 51 50.4	-0.3
PD02	**Pinedale Array**	74.86	331	*e*P		P		14 51 49.1	-1.6
HWUT	**Hardware Ranch** comp=Z,11nm,0.8s	74.87	329	*e*P		P		14 51 49.9	-0.8
PD01	**Pinedale Array**	74.87	331	*e*P		P		14 51 48.7	-2.1
L17A	**Cokeville** baz=75	74.92	330	⇑P		P		14 51 51.0	-0.1
H22A	**Clearmont** baz=75	74.97	334	⇓P		P		14 51 51.6	+0.5
K18A	**Toltan Ranch,** baz=75,SNR=14	74.97	331	⇓P		P		14 51 52.2	+0.9
J19A	**Crowheart** baz=75,SNR=17	75.02	332	⇑P		P		14 51 51.9	+0.3
G23A	**Biddle** baz=75,SNR=15	75.09	335	⇑P		P		14 51 51.9	+0.1
L16A	**Fish Haven** baz=75,SNR=7.8	75.12	329	⇓P		P		14 51 52.3	+0.1
I20A	**Worland** baz=75,SNR=7.7	75.17	333	⇑P		P		14 51 52.7	+0.4
M15A	**Larsen Ranch,** baz=75,SNR=16	75.18	328	⇑P		P		14 51 52.7	+0.2
MDND	**Maddock** baz=76,SNR=6.2	75.31	340	⇓P		P		14 51 53.1	+0.2
MTUM	**Tungsten Hills**	75.39	322	*e*P		P		14 51 55.0	+1.2
J18A	**Kendall Valley** baz=76,SNR=20	75.41	331	⇓P		P		14 51 54.0	+0.1
K17A	**Gardner Place,** baz=76,SNR=9.9	75.46	330	⇓P		P		14 51 54.4	+0.3
G22A	**Birney** baz=76,SNR=5.6	75.46	334	⇓P		P		14 51 53.8	-0.1
SYO	**Syowa Base**	75.52	159	⇑*e*P		P

K16A **Soda Springs** 75.83 330 ⇑P P 14 51 57.1 +0.8
baz=76,SNR=28
G21A **Lodge Grass** 75.83 334 ⇓P P 14 51 56.1 0.0
baz=76,SNR=14
J17A **Brown Place, J** 75.84 331 ⇑P P 14 51 57.0 +0.7
baz=76,SNR=12
REDW **Red Top Meadow** 75.90 331 *e*P P 14 51 57.2 +0.5
F22A **Rosebud** 75.91 335 ⇑P P 14 51 56.3 -0.1
baz=76,SNR=12
SNOW **Snow King Moun** 75.94 331 *e*P P 14 51 58.0 +1.0
LOHW **Long Hollow** 75.99 331 *e*P P 14 51 56.1 -1.0
comp=Z,11nm,1.1s
L14A **Malta** 76.00 328 ⇓P P 14 51 57.3 +0.2
baz=76,SNR=12
NVAR **Mina Array Bea** 76.00 323 P P 14 51 57.9 +0.6
comp=Z,6.3nm,0.9s,baz=152,slow=6.5,SNR=40
NVAR pP pP 14 52 10.2 -0.4
comp=Z,2.2nm,0.9s,baz=157,slow=6.0,SNR=5.3
NVAR **Mina Array Bea** 76.00 323 P P 14 51 57.9 +0.6
NVAR pP pP 14 52 10.2 -0.4
ELK **Elko** 76.03 326 *e*P P 14 51 58.4 +0.9
ELK **Elko** 76.03 326 *e*P P 14 51 58.4 +0.9
TPAW **Teton Pass** 76.05 331 *e*P P 14 51 58.5 +0.9
RRI2 **Red Ridge** 76.10 330 *e*P P 14 51 57.0 -0.9
comp=Z,40nm,1.5s
H19A **Powell** 76.12 332 ⇓P P 14 51 58.1 +0.3
baz=76
MOOW **Moose Ponds** 76.16 331 *e*P P 14 51 56.6 -1.5
comp=Z,25nm,1.6s
J16A **Bone** 76.18 330 ⇓P P 14 51 58.6 +0.4
baz=76,SNR=5.4
I17A **Pilgrim Ck.** 76.22 331 ⇑P P 14 51 59.5 +1.1
baz=76,SNR=9.6
G20A **Bridger** 76.24 333 ⇓P P 14 51 58.3 -0.1
baz=76,SNR=12
D24A **Glendive** 76.29 337 ⇑P P 14 51 58.9 +0.3
baz=76,SNR=6.9
ULM **Lac du Bonnet** 76.39 343 P P 14 51 57.9 -1.1
comp=Z,7.3nm,0.4s,baz=154,slow=6.1,SNR=28
ULM LR LR 15 24 03.0
comp=Z,129nm,20.2s,baz=57,slow=34
ULM **Lac du Bonnet** 76.39 343 P P 14 51 57.9 -1.1
ULM **Lac du Bonnet** 76.39 343 P P 14 51 57.9 -1.1
H18A **Shoshone NF, C** 76.42 332 ⇓P P 14 51 59.9 +0.4
baz=76,SNR=15
I16A **Newdale** 76.59 331 ⇓P P 14 52 01.2 +0.7
baz=77,SNR=11
LKWY **Lake** 76.65 332 *e*P P 14 51 59.1 -1.8
LKWY pmax pmax
comp=Z,43nm,1.5s
LKWY **Lake** 76.65 332 *e*P P 14 51 59.1 -1.8
comp=Z,43nm,1.5s
J15A **Blackfoot** 76.66 330 ⇑P P 14 52 01.8 +0.9
baz=77,SNR=12
D23A **Lindsay** 76.67 336 ⇑P P 14 52 01.4 +0.8
baz=77,SNR=8.4
C24A **Savage** 76.68 337 ⇑P P 14 52 01.5 +0.8
baz=77,SNR=9.0
F20A **Billings** 76.68 334 ⇑P P 14 52 01.1 +0.2
baz=77
YMR **Madison River** 76.98 331 *e*P P 14 52 02.2 -0.5
comp=Z,87nm,1.4s
D22A **Cohagen** 77.01 336 ⇓P P 14 52 03.3 +0.7
baz=77,SNR=8.1
F19A **Roth Farm, Mol** 77.05 333 ⇓P P 14 52 03.3 +0.3
baz=77,SNR=10
J14A **Carey** 77.11 329 ⇓P P 14 52 04.4 +0.9
baz=77
H16A **Russell Place,** 77.13 331 ⇓P P 14 52 04.8 +1.2
baz=77,SNR=8.9
I15A **Monteview** 77.14 330 ⇓P P 14 52 04.8 +1.3
baz=77,SNR=9.2
C23A **Lambert** 77.19 337 ⇑P P 14 52 04.1 +0.5
baz=77,SNR=5.9
E20A **Meyer Farm, Mu** 77.25 334 ⇓P P 14 52 04.6 +0.6
baz=77,SNR=18
QLMT **Earthquake Lak** 77.31 331 *e*P P 14 52 06.3 +1.7
DGMT **Dagmar** 77.39 337 *e*P P 14 52 05.8 +1.1
DGMT **Dagmar** 77.39 337 ⇑P P 14 52 05.2 +0.5
baz=78,SNR=6.9
C22A **Vida** 77.40 336 ⇑P P 14 52 05.2 +0.4
baz=78
F18A **Big Timber** 77.42 333 ⇓P P 14 52 05.3 +0.3
baz=78,SNR=15
WCN **Washoe City** 77.42 323 ⇓P P 14 52 06.3 +1.1
baz=78,SNR=5.3
E19A **Rath Farm, Rou** 77.48 334 ⇑P P 14 52 05.6 +0.3
baz=78,SNR=15
J13A **Cove Ranch, Pi** 77.48 329 ⇓P P 14 52 06.2 +0.8
baz=78,SNR=14
SCHQ **Schefferville** 77.51 2 P P 14 52 04.8 -0.4
comp=Z,6.0nm,0.7s,baz=191,slow=4.6,SNR=17
SCHQ **Schefferville** 77.51 2 P P 14 52 04.8 -0.4
I14A **Mackay** 77.54 329 ⇑P P 14 52 06.9 +1.1
baz=78,SNR=14
B23A **Brockton** 77.67 337 ⇓P P 14 52 06.8 +0.5
baz=78,SNR=5.9
HLID **Hailey** 77.72 329 *e*P P 14 52 08.1 +1.3
HLID **Hailey** 77.72 329 ⇓P P 14 52 07.9 +1.1
baz=78,SNR=28
D20A **Manuel Ranch,** 77.73 334 ⇑P P 14 52 06.9 +0.3
baz=78,SNR=12
F17A **Fitzpatrick Pl** 77.82 332 ⇓P P 14 52 08.2 +0.9
baz=78,SNR=5.8
I13A **Wildhorse Cree** 77.84 329 ⇓P P 14 52 08.6 +1.1
baz=78,SNR=20
C21A **Desert Coulee** 77.92 335 ⇓P P 14 52 07.7 0.0
baz=78,SNR=11
MCMT **McKenzie Canyo** 77.95 330 *e*P P 14 52 06.8 -1.4
comp=Z,11nm,1.2s
H14A **Leadore** 78.02 330 ⇑P P 14 52 09.6 +1.0
baz=78,SNR=8.1
E18A **Harlowton** 78.03 333 ⇑P P 14 52 08.9 +0.5
baz=78
BOZ **Bozeman (W)** 78.04 332 ⇓P P 14 52 08.7 +0.2
baz=78,SNR=12
BOZ ⇓P P 14 52 08.7 +0.2
baz=78,SNR=12
G15A **Dillon** 78.05 331 ⇑P P 14 52 09.3 +0.7
baz=78,SNR=17
D19A **Cripps Ranch,** 78.08 334 ⇓P P 14 52 09.0 +0.3
baz=78,SNR=9.4
F16A **Kennard Place,** 78.14 332 ⇑P P 14 52 09.7 +0.7
baz=78
I12A **Atlanta** 78.24 328 ⇑P P 14 52 10.6 +0.9
baz=78
DLMT **Dillon** 78.25 331 *e*P P 14 52 09.0 -0.7
comp=Z,27nm,1.3s
MFID **Camas Ranch** 78.30 328 *e*P P 14 52 09.7 -0.3
comp=Z,26nm,1.3s
MFID **Camas Ranch** 78.30 328 ⇑P P 14 52 10.7 +0.8
baz=78,SNR=13
E17A **Martinsdale** 78.34 333 ⇓P P 14 52 10.8 +0.6
baz=78,SNR=12
B21A **Ellsworth Farm** 78.39 336 ⇑P P 14 52 10.9 +0.6
baz=78,SNR=6.0
H13A **Challis** 78.40 329 ⇓P P 14 52 11.6 +1.1
baz=78,SNR=30
OHCM **Honcut** 78.42 322 *e*P P 14 52 11.5 +1.0
A22A **Carney Farms,** 78.45 337 ⇑P P 14 52 11.1 +0.5
baz=79,SNR=5.2
D18A **Linhart Farms,** 78.48 334 ⇑P P 14 52 11.4 +0.5
baz=79,SNR=7.4
LRM **Limekiln Ridge** 78.53 331 *e*P P 14 52 12.5 +1.1
G14A **Jackson** 78.54 330 ⇑P P 14 52 12.1 +0.7
baz=79
F15A **Butte** 78.57 331 ⇓P P 14 52 12.0 +0.5
baz=79,SNR=18
C19A **Slack Wire Ran** 78.61 334 ⇑P P 14 52 11.7 +0.1
baz=79
H12A **Diamond D Ranc** 78.67 329 ⇓P P 14 52 12.8 +0.8
baz=79,SNR=12
E16A **East Helena** 78.75 332 ⇑P P 14 52 12.9 +0.5
baz=79
G13A **Cobalt** 78.79 330 ⇑P P 14 52 13.8 +1.1
baz=79,SNR=66
D17A **Six Diamond Ra** 78.82 333 ⇑P P 14 52 13.1 +0.4
baz=79,SNR=25
A21A **Bergtoll Ranch** 78.82 336 ⇑P P 14 52 12.8 +0.2
baz=79,SNR=6.8
TORD **Torodi Ar. Bea** 78.83 71 P P 14 52 13.2 -0.2
comp=Z,14nm,0.4s,baz=254,slow=5.3,SNR=167
TORD pP pP 14 52 28.1 +1.5
comp=Z,6.9nm,0.5s,baz=249,slow=5.3,SNR=5.8
TORD **Torodi Ar. Bea** 78.83 71 P P 14 52 13.2 -0.2
TORD pP pP 14 52 28.1 +1.5
F14A **Wisdom** 78.94 331 ⇑P P 14 52 14.6 +1.1
baz=79,SNR=10
HRY **Holter Researc** 78.95 332 *e*P P 14 52 14.7 +1.2
D16A **Dana Ranch, Ca** 79.08 333 ⇑P P 14 52 15.0 +0.8
baz=79,SNR=23
E15A **Deer Lodge** 79.08 332 ⇓P P 14 52 14.8 +0.6
baz=79,SNR=19
A20A **Cobblestone Ra** 79.10 336 ⇑P P 14 52 14.2 0.0
baz=79,SNR=8.0
B19A **Brinkman Farms** 79.15 335 ⇓P P 14 52 14.5 +0.1
baz=79,SNR=6.8
C17A **Wharram Farm,** 79.23 333 ⇑P P 14 52 15.0 +0.1
baz=79,SNR=14
F13A **Darby** 79.36 330 ⇑P P 14 52 16.3 +0.5
baz=80,SNR=40
B18A **Beardsley Farm** 79.43 334 ⇓P P 14 52 15.9 -0.1
baz=80,SNR=16
E14A **Clinton** 79.45 331 ⇑P P 14 52 17.2 +0.9
baz=80
A19A **Klindworth Far** 79.46 335 ⇑P P 14 52 16.0 -0.1
baz=80,SNR=8.0
D15A **Lincoln** 79.51 332 ⇑P P 14 52 17.4 +0.8
baz=80,SNR=6.1
CHMT **Chamberlain Mo** 79.73 332 *e*P P 14 52 17.1 -0.7
comp=Z,18nm,1.7s
F12A **Elk City** 79.76 330 ⇑P P 14 52 18.2 +0.3
baz=80,SNR=8.7
B17A **L&G Farms, Che** 79.76 334 ⇓P P 14 52 17.5 -0.3
baz=80
C16A **Fuhringer Ranc** 79.77 333 ⇓P P 14 52 18.2 +0.3
baz=80
E13A **Victor** 79.79 331 ⇑P P 14 52 18.9 +0.9
baz=80,SNR=7.4
A18A **Metzger Ranch,** 79.88 335 ⇓P P 14 52 18.1 -0.3
baz=80,SNR=11
D14A **Greenough** 79.97 331 ⇑P P 14 52 19.7 +0.7
baz=80,SNR=5.5
MSO **Missoula** 79.97 331 ⇓P P 14 52 20.0 +1.0
baz=80,SNR=5.9
BMO **Blue Mountains** 80.07 328 *e*P P 14 52 19.1 -0.5
comp=Z,28nm,1.3s
SLMT **Seeley Lake** 80.09 332 *e*P P 14 52 18.3 -1.5
comp=Z,22nm,1.1s
C15A **Salmond Ranch,** 80.11 332 ⇓P P 14 52 20.6 +0.7
baz=80,SNR=23
B16A **M & M Farms, S** 80.23 333 ⇑P P 14 52 20.3 -0.1
baz=80,SNR=6.7
A17A **Triple J Farms** 80.24 334 ⇑P P 14 52 20.6 +0.2
baz=80,SNR=23
LHEM **Herd Peak** 80.38 323 P P 14 52 22.4 +0.8
E12A **Beaver Dam Sad** 80.40 330 ⇑P P 14 52 21.6 +0.2
baz=80
D13A **Huson** 80.40 331 ⇑P P 14 52 21.9 +0.6
baz=80,SNR=19
B15A **Bradely Ranch,** 80.51 333 ⇑P P 14 52 21.6 -0.3
baz=81,SNR=17
SWMT **Swartz Lake** 80.51 332 *e*P P 14 52 22.6 +0.6
comp=Z,12nm,1.3s
C14A **Swan Lake** 80.60 332 ⇑P P 14 52 23.1 +0.7
baz=81
A16A **West Butte Ran** 80.61 334 ⇑P P 14 52 22.7 +0.2
baz=81
TSUM **Tsumeb** 80.63 107 *e*P P 14 52 21.5 -1.9
comp=Z,22nm,1.1s
D12A **Red Ives Fores** 80.77 330 ⇓P P 14 52 23.7 +0.4
baz=81
B14A **Marquette Ranc** 80.85 332 ⇑P P 14 52 23.8 +0.1
baz=81,SNR=6.4
C13A **Hot Springs** 80.90 331 ⇓P P 14 52 24.7 +0.8
baz=81,SNR=11
A15A **Johnson Ranch,** 81.10 333 ⇓P P 14 52 24.5 -0.5
baz=81,SNR=8.3
BSMT **Bassoo Peak** 81.12 331 *e*P P 14 52 25.7 +0.4
comp=Z,22nm,1.2s
KTRM **Thmpson Ridge** 81.21 323 P P 14 52 27.2 +1.4
B13A **Whitefish** 81.38 332 ⇑P P 14 52 27.0 +0.5
baz=82,SNR=14
A14A **Double T Ranch** 81.38 333 ⇑P P 14 52 26.5 -0.1
baz=82,SNR=8.4
VIPM **Ingram Point** 81.49 326 P P 14 52 28.8 +1.5
VIPM **Ingram Point** 81.49 326 P P 14 52 28.8 +1.5
WALA **Waterton Lakes** 81.66 333 *e*P P 14 52 27.8 -0.2
comp=Z,0.8nm,0.9s
C11A **Tepee Creek (N** 81.77 331 ⇓P P 14 52 28.9 +0.3
baz=82,SNR=15
A13A **Flathead Natio** 81.78 332 ⇓P P 14 52 29.2 +0.6
baz=82
B12A **Libby** 81.94 331 ⇓P P 14 52 30.1 +0.7
baz=82,SNR=9.2
FFC **Flin Flon** 82.07 342 *ce*P P 14 52 29.5 -0.4
FFC **Flin Flon** 82.07 342 *e*P P 14 52 27.7 -2.1
comp=Z,22nm,1.2s
FFC **Flin Flon** 82.07 342 P P 14 52 29.5 -0.4
comp=Z,88nm,1.1s,SNR=8.6
HAWA **Hanford** 82.27 328 *e*P P 14 52 31.2 +0.1
comp=Z,21nm,1.0s
RSW **Rattlesnake Hi** 82.30 328 *e*P P 14 52 31.0 -0.4
comp=Z,37nm,1.1s
A12A **Yaak River Ran** 82.31 332 ⇓P P 14 52 31.8 +0.4
baz=82,SNR=10
NEW **Newport** 82.47 330 ⇓P P 14 52 32.0 -0.2
baz=83,SNR=5.3
OD2 **Odessa Site #2** 82.58 329 *e*P P 14 52 32.8 0.0
DPW **Davenport** 82.69 330 P P 14 52 34.2 +0.9
DPW **Davenport** 82.69 330 P P 14 52 34.2 +0.9
MAW **Mawson** 83.25 164 P P 14 52 36.3 +0.3
comp=Z,4.5nm,0.6s,baz=231,slow=6.5,SNR=5.3
MAW LR LR 15 32 37.4
comp=Z,97nm,20.2s,baz=39,slow=38
MAW **Mawson** 83.25 164 P P 14 52 36.3 +0.3
MAW **Mawson** 83.25 164 P P 14 52 36.3 +0.3
MDT **Midelt** 83.47 50 P P 14 52 38.7 +0.8
comp=Z,2.6nm,0.5s,baz=256,slow=5.1,SNR=3.5
MDT **Midelt** 83.47 50 P P 14 52 38.7 +0.8
ETW **Entiat** 83.51 328 P P 14 52 38.5 +0.9
MSKU **Masuku** 83.51 89 P P 14 52 39.0 +0.7
comp=Z,26nm,0.7s,baz=278,slow=7.8,SNR=5.7
MSKU **Masuku** 83.51 89 P P 14 52 39.0 +0.7
BOSA **Boshof** 83.69 118 P P 14 52 39.2 0.0
comp=Z,4.0nm,0.4s,baz=246,slow=4.6,SNR=22
BOSA pP pP 14 52 53.2 +0.6
comp=Z,7.9nm,0.4s,baz=258,slow=4.7,SNR=10
BOSA LR LR 15 25 45.2
comp=Z,96nm,19.0s,baz=73,slow=33
BOSA **Boshof** 83.69 118 *e*P P 14 52 37.0 -2.2
BOSA *PP pP 14 52 53.2 +0.6
BOSA pmax pmax
comp=Z,39nm,1.3s
BOSA **Boshof** 83.69 118 *e*P P 14 52 37.0 -2.2
comp=Z,39nm,1.3s
BOSA pP pP 14 52 53.2 +0.6
ESDC **Sonseca Array** 87.59 45 P P 14 52 58.4 +0.3
comp=Z,1.0nm,0.6s,baz=244,slow=5.2,SNR=5.9
ESDC pP pP 14 53 12.2 +0.7
comp=Z,1.5nm,0.8s,baz=250,slow=4.0,SNR=4.0
ESDC LR LR 15 28 48.9
comp=Z,111nm,20.3s,baz=195,slow=33
ESDC **Sonseca Array** 87.59 45 P P 14 52 58.4 +0.3
ESDC pP pP 14 53 12.2 +0.7
YKA **Yellowknife Ar** 92.20 341 P P 14 53 18.4 -0.6
comp=Z,8.8nm,0.7s,baz=139,slow=4.4,SNR=197
YKA pP pP 14 53 32.4 -0.1
comp=Z,2.0nm,0.8s,baz=140,slow=4.4,SNR=4.6
YKA **Yellowknife Ar** 92.20 341 P P 14 53 18.4 -0.6
YKA *PP pP 14 53 32.4 -0.1
YKA **Yellowknife Ar** 92.20 341 P P 14 53 18.4 -0.6
YKA pP pP 14 53 32.4 -0.1
KEST **Kesra** 95.01 53 P P 14 53 33.2 +0.5
comp=Z,0.6nm,0.5s,baz=270,slow=3.0,SNR=2.3
KEST LR LR 15 37 30.4
comp=Z,84nm,18.8s,baz=326,slow=36
KEST **Kesra** 95.01 53 P P 14 53 33.2 +0.5
ILAR **Eielson Array** 105.09 334 Pdiff Pdif 14 54 16.4 -0.7
comp=Z,0.4nm,0.8s,baz=129,slow=1.3,SNR=4.4
ILAR **Eielson Array** 105.09 334 P Pdif 14 54 16.4 -0.7
ILAR **Eielson Array** 105.09 334 Pdif Pdif 14 54 16.4 -0.7
DZM **Mont Dzumac** 109.11 235 *e*LR LR 15 30 46.6
comp=Z,99nm,24.4s
BRTR **Keskin Array B** 114.51 55 PKP PKPdf 14 58 49.9 -0.1
comp=Z,0.9nm,0.8s,baz=251,slow=2.6,SNR=3.8
BRTR **Keskin Array B** 114.51 55 PKIKP PKPdf 14 58 49.9 -0.1
BRTR **Keskin Array B** 114.51 55 PKP PKPdf 14 58 49.9 -0.1
OBN **Obninsk** 117.95 39 ⇓*i* PKIKP PKPdf 14 58 53.4 -2.5
OBN *e* 15 00 08.2
OBN *e*PS PKKPdf 15 09 51.0 +4.6
OBN *e*SS SKKSdf 15 16 49.3 -6.4
OBN pmax pmax
comp=Z,7.0nm,0.6s
KLMR **Klimovskoe** 119.28 32 PKIKP PKPdf 14 58 57.3 -1.0
KLMR pmax pmax
comp=Z,18nm,1.5s
ASAR **Alice Springs** 128.15 208 PKP PKPdf 14 59 15.9 -0.7
comp=Z,3.6nm,0.7s,baz=131,slow=1.7,SNR=39
ASAR pPKP pPKPdf 14 59 30.6 0.0
comp=Z,2.9nm,0.8s,baz=144,slow=2.3,SNR=11
ASAR **Alice Springs** 128.15 208 PKIKP PKPdf 14 59 16.0 -0.7
ASAR 14 59 30.6
ASAR **Alice Springs** 128.15 208 PKP PKPdf 14 59 15.9 -0.7
ASAR pPKP pPKPdf 14 59 30.6 0.0
ARU **Arti** 129.93 34 PKIKP PKPdf 14 59 19.1 +0.2
WRA **Warramunga Arr** 131.18 211 PKP PKPdf 14 59 22.0 -0.5
comp=Z,3.6nm,0.5s,baz=152,slow=1.7,SNR=26
WRA pPKP pPKPdf 14 59 36.5 +0.1
comp=Z,2.9nm,0.9s,baz=152,slow=1.7,SNR=5.0
WRA **Warramunga Arr** 131.18 211 PKIKP PKPdf 14 59 22.0 -0.5
WRA 14 59 36.5
WRA **Warramunga Arr** 131.18 211 PKP PKPdf 14 59 22.0 -0.5
WRA pPKP pPKPdf 14 59 36.5 +0.1
AKTO **Aktyubinsk** 131.41 42 PKP PKPdf 14 59 22.1 +0.2
comp=Z,1.4nm,0.8s,baz=186,slow=1.1,SNR=4.6
AKTO pPKP pPKPdf 14 59 36.4 +0.6
comp=Z,2.2nm,0.9s,baz=275,slow=2.0,SNR=4.8
AKTO **Aktyubinsk** 131.41 42 PKIKP PKPdf 14 59 22.1 +0.2
AKTO 14 59 36.4
AKTO **Aktyubinsk** 131.41 42 PKP PKPdf 14 59 22.1 +0.2
AKTO pPKP pPKPdf 14 59 36.4 +0.6
ABKAR **Akbulak array** 132.92 43 *e*PKP PKPdf 14 59 24.4 -0.4
PETK **Petropavlovsk-** 133.08 322 PKP PKPdf 14 59 24.9 -0.1
comp=Z,1.4nm,0.5s,baz=152,slow=2.5,SNR=5.4
PETK pPKP pPKPdf 14 59 40.0 +1.2
comp=Z,3.1nm,0.9s,baz=32,slow=2.4,SNR=2.5
PETK **Petropavlovsk-** 133.08 322 PKIKP PKPdf 14 59 24.9 -0.1
PETK 14 59 40.1
PETK **Petropavlovsk-** 133.08 322 PKP PKPdf 14 59 24.9 -0.1
PETK pPKP pPKPdf 14 59 40.0 +1.2
NVS **Novosibirsk** 142.42 25 *e*PKHKP PKPpre 14 59 37.5
NVS pmax pmax
comp=E,3.0nm,1.3s
NVS pmax pmax
comp=Z,11nm,1.3s
KURK **Kurchatov** 143.11 33 *c i* PKIKP PKPbc 14 59 41.3 +0.9
KURK **Kurchatov** 143.11 33 *e*PKPdf PKPbc 14 59 40.9 +0.5
ZAA0 **Zalesovo Array** 143.70 25 *e*PKPdf PKPbc 14 59 42.3 +0.4
ZALV **Zalesovo Beam** 143.70 25 PKP PKPbc 14 59 42.2 +0.2
comp=Z,6.1nm,0.7s,baz=308,slow=2.3,SNR=24
ZALV pPKP pPKPdf 14 59 56.8 -1.5
comp=Z,9.4nm,0.9s,baz=317,slow=3.5,SNR=8.0
ZALV **Zalesovo Beam** 143.70 25 PKIKP PKPbc 14 59 42.2 +0.2
ZALV 14 59 56.8
ZALV **Zalesovo Beam** 143.70 25 PKP PKPbc 14 59 42.2 +0.2
ZALV pPKP pPKPdf 14 59 56.8 -1.5
EKS2 **Erkin-Say** 144.15 48 P PKPdf 14 59 45.2 -0.5
SNR=13
EKS2 P PKPdf 14 59 45.2 -0.5
SNR=13
EKS2 **Erkin-Say** 144.15 48 *e*PKIKP PKPdf 14 59 45.1 -0.6
EKS2 **Erkin-Say** 144.15 48 *e*PKPdf PKPdf 14 59 45.0 -0.6
AML **Almayashu** 144.29 49 P PKPdf 14 59 45.5 -0.8
SNR=26
AML P PKPdf 14 59 45.5 -0.8
SNR=26
USP **Ospenovka** 144.41 47 P PKPdf 14 59 45.2 -0.8
SNR=9.7
USP P PKPdf 14 59 45.2 -0.8
SNR=9.7
AAK **Ala-Archa** 144.65 48 P PKPdf 14 59 46.6 -0.1
SNR=30
AAK P PKPdf 14 59 46.6 -0.1
SNR=30
AAK **Ala-Archa** 144.65 48 *c i* PKIKP PKPdf 14 59 47.0 +0.4
AAK pmax pmax
comp=Z,124nm,1.2s
AAK **Ala-Archa** 144.65 48 *e*PKPdf PKPdf 14 59 46.6 -0.1
FRU **Bishkek** 144.66 47 *i* PKIKP PKPdf 14 59 46.0 -0.5
FRU pmax pmax
comp=Z,70nm,1.6s
CHMS **Chumysh** 144.69 47 P PKPdf 14 59 46.6 +0.1
SNR=12
CHMS P PKPdf 14 59 46.6 +0.1
SNR=12
KBK **Karagaybulak** 144.95 47 P PKPdf 14 59 48.1 +1.0
SNR=22
KBK P PKPdf 14 59 48.1 +1.0
SNR=22
BOD **Bodaibo** 145.04 356 ⇑*i* PKP2 PKPbc 14 59 45.4 -0.6
BOD pmax pmax
comp=Z,51nm,1.1s
TKM2 **Tokmak 2** 145.29 47 P PKPdf 14 59 48.7 +0.9
SNR=28
TKM2 P PKPdf 14 59 48.7 +0.9
SNR=28
TKM2 **Tokmak 2** 145.29 47 *e*PKIKP PKPbc 14 59 47.1 -0.5
TKM2 **Tokmak 2** 145.29 47 *e*PKPdf PKPbc 14 59 47.1 -0.5
KZA **Kyzart** 145.38 48 P PKPab 14 59 49.9 +1.5
SNR=20
KZA P PKPab 14 59 49.9 +1.5
SNR=20
ASAJ **Asahikawa** 145.90 316 PKPbc PKPab 14 59 49.3 -0.4
comp=Z,18nm,0.9s,baz=247,slow=12,SNR=5.1
ASAJ **Asahikawa** 145.90 316 PKPbc PKPab 14 59 49.3 -0.4
ULHL **Ulahol** 146.00 47 P PKPab 14 59 51.3 +0.9
SNR=8.7
ULHL P PKPab 14 59 51.3 +0.9
SNR=8.7
POO **Poona** 146.00 91 *e*P PKPdf 14 59 49.0 -0.5
KSH **Kashi** 146.82 52 PKPbc PKPbc 14 59 51.5 -0.7
KSH *e*pPKP pPKPdf 15 00 02.0 -2.3
KSH *e*PKS PKSdf 15 03 25.5 -0.3
KSH *e*SKS SKSdf 15 06 55.0 -0.7
KSH *e*SKKS SKKSac 15 10 04.5 -0.4
KSH *e*SS SS 15 22 11.3 -2.0
KSH AMB AMB
comp=Z,170nm,4.5s
KSH LR LR
comp=N,170nm,5.4s
KSH LR LR
comp=E,170nm,5.1s
KSH LR LR
comp=Z,120nm,6.2s
MK31 **Makanchi Array** 147.42 36 *e*PKIKP PKPdf 14 59 51.1 +0.1
MK31 **Makanchi Array** 147.42 36 *e*PKPdf PKPdf 14 59 51.0 +0.1
MKAR **Makanchi Array** 147.42 36 PKPbc PKPdf 14 59 51.3 +0.3
comp=Z,10nm,0.6s,baz=299,slow=2.1,SNR=76
MKAR pPKPbc pPKPbc 15 00 06.5 -0.8
comp=Z,18nm,0.7s,baz=317,slow=3.3,SNR=22
MKAR **Makanchi Array** 147.42 36 *c i* PKIKP PKPdf 14 59 51.2 +0.3
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR **Makanchi Array** 147.42 36 PKPbc PKPdf 14 59 51.3 +0.3
MKAR pPKPbc pPKPbc 15 00 06.5 -0.8
HABR **Khabarovsk** 147.66 328 *ce*PKIKP PKPdf 14 59 50.3 -1.0
HABR *i* 14 59 55.5
HABR *e* 15 00 01.2
HABR *e* 15 03 19.4
HABR *e* 15 06 56.2
HABR *e* 15 15 57.2
HABR *e*SS SS 15 22 21.7 +0.5
HABR *e*SSS SSS 15 27 54.8
HABR pmax pmax
comp=N,30nm,1.9s
HABR pmax pmax
comp=Z,69nm,1.9s
HABR pmax pmax
comp=E,21nm,1.4s
HABR MLR MLR
comp=Z,52nm,18.0s
KLR **Kul'dur** 148.63 332 *e*PKHKP PKPpre 14 59 47.8
HYB **Hyderabad** 150.05 95 *i* PKP PKPbc 15 00 00.5 -0.6
HYB *ep*PKP pPKPdf 15 00 15.0 +4.9
HYB *es*PKP 15 00 30.0
IRK **Irkutsk** 150.43 7 *e*PKIKP PKPdf 14 59 56.8 +1.1
IRK pmax pmax
comp=Z,40nm,1.9s
MOY **Mondy** 150.50 11 *e*PKIKP PKPbc 15 00 02.2 +0.9
MOY pmax pmax
comp=Z,34nm,2.2s
DDI **Dehra Dun** 150.62 69 *ex* PKPbc 15 00 01.5 -0.7
TLY **Talaya** 150.91 8 *e*PKIKP PKPbc 15 00 01.4 -0.7
TLY *e* 15 00 09.8
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY **Talaya** 150.91 8 *e*PKPdf PKPdf 14 59 56.6 +0.2
TLY *e*PKPbc PKPbc 15 00 02.2 0.0

TLY					*e*PKPab	**PKPab**	**15 00 10.0**	**+0.5**
MJAR	**Matsushiro Arr**	**152.10**	**305**		PKPbc	**PKPbc**	**15 00 05.0**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=104,slow=2.3,SNR=13							
MJAR					PKPab	**PKPab**	**15 00 14.8**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=214,slow=4.1,SNR=9.4							
MJAR	**Matsushiro Arr**	**152.10**	**305**		PKIKP	**PKPbc**	**15 00 05.0**	**-0.4**
MJAR							15 00 14.8	
MJAR	**Matsushiro Arr**	**152.10**	**305**		PKPbc	**PKPbc**	**15 00 05.0**	**-0.4**
MJAR					PKPab	**PKPab**	**15 00 14.8**	**-0.2**
USRK	**Ussuriysk Arrz**	**152.12**	**325**		PKPbc	**PKPbc**	**15 00 05.0**	**-0.1**
	comp=Z,9.4nm,0.9s,baz=1.7,slow=1.2,SNR=9.8							
ZAK	**Zakamensk**	**152.12**	**9**	*e*PKIKP	**PKPbc**		**15 00 05.2**	**+0.1**
ZAK					pmax	pmax		
	comp=Z,7.0nm,1.1s							
WMQ	**Urumqi**	**152.25**	**36**		PKPbc	**PKPdf**	**15 00 01.8**	**+3.0**
WMQ					LR	LR		
	comp=N,48nm,18.6s							
WMQ					LR	LR		
	comp=E,74nm,22.5s							
WMQ					LR	LR		
	comp=Z,47nm,23.7s							
HIA	**Hailar**	**152.62**	**346**	*e*PKIKP		**PKPdf**	**14 59 58.2**	**-0.9**
HIA	**Hailar**	**152.62**	**346**	*e*PKPdf		**PKPdf**	**14 59 58.2**	**-0.9**
HIA				*e*PKPbc		**PKPbc**	**15 00 05.8**	**-0.3**
MDJ	**Mudanjiang**	**153.05**	**328**	PKPbc		**PKPdf**	**14 59 59.8**	**0.0**
SONM	**Songino Array**	**155.00**	**6**	PKP		**PKPdf**	**15 00 03.0**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=336,slow=1.0,SNR=14							
SONM				PKPbc	PKPab		15 00 11.3	-16
	comp=Z,1.5nm,0.6s,baz=319,slow=1.3,SNR=6.4							
SONM				pPKPbc	pPKPbc		15 00 26.0	+0.6
	comp=Z,3.0nm,0.7s,baz=348,slow=2.1,SNR=9.0							
SONM				PP		**PP**	**15 04 02.2**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=348,slow=6.3,SNR=4.6							
SONM	**Songino Array**	**155.00**	**6**	PKIKP		**PKPdf**	**15 00 03.0**	**+0.3**
SONM							15 00 11.3	
SONM							15 00 26.0	
SONM							15 04 02.2	
SONM	**Songino Array**	**155.00**	**6**	PKP		**PKPdf**	**15 00 03.0**	**+0.3**
SONM				PKPbc	PKPab		15 00 11.3	-16
SONM				pPKPbc	pPKPbc		15 00 26.0	+0.6
SONM				PP		**PP**	**15 04 02.2**	**-0.1**
ULN	**Ulaanbaatar**	**155.03**	**5**	*e*PKIKP		PKPdf	15 00 10.9	+8.1
ULN	**Ulaanbaatar**	**155.03**	**5**	*e*PKPdf		**PKPdf**	**14 59 59.9**	**-2.8**
ULN				*e*PKPbc		PKPab	15 00 10.9	-16
CN2	**Changchun**	**155.59**	**332**	*e*PKP		**PKPdf**	**15 00 06.5**	**+3.1**
CN2				*es*PKP			15 00 26.0	
CN2				*e*PP		PP	15 04 13.3	+7.5
CN2				*e*SS		SS	15 23 54.5	+6.1
CN2				AMB		AMB		
	comp=Z,200nm,10.0s							
CN2				LR		LR		
	comp=N,300nm,20.0s							
CN2				LR		LR		
	comp=E,400nm,20.0s							
CN2				LR		LR		
	comp=Z,600nm,22.0s							
KSRS	**Korea Array**	**158.84**	**317**	PKP		**PKPdf**	**15 00 07.4**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=160,slow=3.9,SNR=7.2							
KSRS				PKPab		**PKPab**	**15 00 43.7**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=56,slow=4.6,SNR=7.3							
KSAR	**Wonju Array Be**	**158.87**	**317**	PKIKP		**PKPdf**	**15 00 07.4**	**-0.4**
KSAR							15 00 43.7	
KSAR	**Wonju Array Be**	**158.87**	**317**	PKP		**PKPdf**	**15 00 07.4**	**-0.4**
KSAR				PKPab		**PKPab**	**15 00 43.6**	**-0.2**
GTA	**Gaotai**	**161.46**	**25**	*e*PKP		**PKPdf**	**15 00 11.5**	**+0.7**
GTA				pPKP		**pPKPdf**	**15 00 26.5**	**+1.7**
GTA				sPKP			15 00 33.0	
GTA				PP		**PP**	**15 04 39.3**	**+1.4**
GTA				AMB		AMB		
	comp=Z,130nm,5.7s							
LSA	**Lhasa**	**161.86**	**64**	*e*PKIKP		**PKPdf**	**15 00 11.9**	**0.0**
LSA	**Lhasa**	**161.86**	**64**	*e*PKPdf		**PKPdf**	**15 00 11.9**	**0.0**
HHC	**Hu-ho-hao-te**	**162.10**	**356**	*e*PKP		**PKPdf**	**15 00 10.5**	**-0.9**
HHC				PKS		**PKSdf**	**15 03 43.0**	**-1.6**
HHC				PP		**PP**	**15 04 45.3**	**+4.4**
HHC				SKS		**SKSdf**	**15 07 10.3**	**-2.4**
HHC				SKKS		**SKKSac**	**15 11 28.0**	**+1.5**
HHC				SS		**SS**	**15 25 00.3**	**+3.5**
HHC				AMB		AMB		
	comp=Z,120nm,9.4s							
HHC				LR		LR		
	comp=N,230nm,21.3s							
HHC				LR		LR		
	comp=E,200nm,20.6s							
HHC				LR		LR		
	comp=Z,200nm,19.8s							
LZH	**Lanzhou**	**165.87**	**21**	*e*PKP		**PKPdf**	**15 00 16.5**	**+1.5**
LZH				pPKP		**pPKPdf**	**15 00 28.3**	**-0.7**
LZH				sPKP			15 00 33.5	
CMAR	**Chiang Mai Arr**	**168.76**	**111**	PKP		**PKPdf**	**15 00 17.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=268,slow=2.3,SNR=8.9							
CMAR				PKPab		**PKPab**	**15 01 28.1**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=254,slow=4.2,SNR=4.5							
CMAR				pPKPab		**pPKPab**	**15 01 42.4**	**+0.9**
	comp=Z,2.3nm,1.2s,baz=236,slow=4.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	**168.76**	**111**	PKIKP		**PKPdf**	**15 00 17.2**	**-0.2**
CMAR							15 01 28.2	
CMAR	**Chiang Mai Arr**	**168.76**	**111**	PKP		**PKPdf**	**15 00 17.2**	**-0.2**
CMAR				PKPab		**PKPab**	**15 01 28.1**	**+0.2**
CMAR				pPKPab		**pPKPab**	**15 01 42.4**	**+0.9**
XAN	**Xi'an**	**168.91**	**4**	PKP		**PKPdf**	**15 00 16.8**	**-0.3**
CD2	**Chengdu**	**170.33**	**34**	PKP		**PKPdf**	**15 00 16.5**	**-1.6**
CD2				pPKP		**pPKPdf**	**15 00 32.0**	**-0.1**
CD2				sPKP			15 00 37.8	
CD2				PKPab		**PKPab**	**15 01 34.5**	**0.0**
CD2				PKS		**PKSdf**	**15 03 47.8**	**-2.8**
CD2				PP		**PP**	**15 05 25.5**	**+1.4**
CD2				SKS		**SKSdf**	**15 07 13.0**	**-5.1**
CD2				SKKS		**SKKSac**	**15 12 05.5**	**-2.6**
CD2				SS		**SS**	**15 26 18.8**	**-2.6**
CD2				AMB		AMB		
	comp=Z,170nm,5.4s							
CD2				LR		LR		
	comp=N,410nm,6.0s							
CD2				LR		LR		
	comp=Z,220nm,6.0s							
KMI	**Kunming**	**173.05**	**70**	PKP		**PKPdf**	**15 00 18.5**	**-1.3**
KMI				pPKP		**pPKPdf**	**15 00 34.8**	**+1.0**
GYA	**Guiyang**	**175.40**	**40**	PKP		**PKPdf**	**15 00 19.3**	**-1.1**
GYA				pPKP		**pPKPdf**	**15 00 35.5**	**+1.1**
GYA				sPKP			15 00 40.8	
GYA				PKPab		**PKPab**	**15 01 58.0**	**+0.8**
GYA				PKS		**PKSdf**	**15 03 50.5**	**-2.3**
GYA				PP		**PP**	**15 05 51.5**	**+2.3**
GYA				SKKS			15 12 31.3	
GYA				SS		**SS**	**15 27 07.8**	**-3.5**
GYA				AMB		AMB		
	comp=Z,130nm,8.0s							
GYA				LR		LR		
	comp=N,130nm,24.0s							
GYA				LR		LR		
	comp=E,110nm,25.8s							
GYA				LR		LR		
	comp=Z,120nm,24.6s							

*IDC **31** 15:03:39.7±0.8, 0.°47S×132.°97E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML4.3/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=39.0km s-min=11.6km az=75.0*

*ISCJB **31** 15:03:42.4±0.6, 0.°43S±0.°06×132.°99E±0.°09, h32km, mb4.1/10, MS3.5/3, Error ellipse: s-maj=12.6km s-min=7.7km az=168.4*

*DJA **31** 15:03:47, 0.°58S×132.°86E, h61km, MLv4.6/7*

ISC 31 15:03:44.5±0.8, 0.°40S±0.°09×133.°0E±0.°1, h32km, n30, σ1§17/27, mb4.1/10, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.80**	**255**	P	**Pn**	**15 04 12.0**	**-1.3**
FAKI	**Fak Fak**	**2.61**	**197**	P	**Pn**	**15 04 23.9**	**-0.6**
MSAI	**Masohi**	**5.01**	**234**	P	**Pn**	**15 05 00.2**	**+2.7**
	79nm,0.7s,911nm0.3nm						
TLE	**Tual**	**5.21**	**183**	P	**Pn**	**15 05 01.0**	**+0.8**
	339nm,0.8s,1.4nm						
LBMI	**Labuha**	**5.50**	**268**	P	**Pn**	**15 05 04.1**	**-0.2**
	108nm,1.0s,1µm0.4nm						
AAI	**Ambon**	**5.81**	**236**	P	**Pn**	**15 05 08.5**	**+0.1**
	203nm,0.8s,4µm0.7nm						
DAV	**Davao City (W)**	**10.48**	**315**	LR	LR	15 10 53.8	
	comp=Z,152nm,18.1s,baz=228,slow=41						
APSI	**Ampana**	**11.36**	**267**	P	Pn	15 06 34.5	+10
GUMO	**Guam**	**18.21**	**40**	LR	LR	15 13 56.6	

	comp=Z,64nm,19.1s,baz=28,slow=34							
FITZ	**Fitzroy Crossi**	**19.02**	**202**	P		**P**	**15 08 01.8**	**-2.0**
	0.9nm,0.3s,baz=37,slow=10,SNR=8.3							
FITZ				S		Sn	15 11 18.3	-19
	0.2nm,0.3s,baz=79,slow=16,SNR=3.5							
FITZ				LR		LR	15 15 32.5	
	comp=Z,67nm,20.1s,baz=326,slow=38							
WRA	**Warramunga Arr**	**19.46**	**176**	P		**P**	**15 08 07.2**	**-1.5**
	0.8nm,0.3s,baz=354,slow=12,SNR=24							
WRA				S		S	15 11 30.2	-17
	0.2nm,0.3s,baz=359,slow=23,SNR=3.4							
ASAR	**Alice Springs**	**23.14**	**178**	P		**P**	**15 08 46.9**	**-1.3**
	37nm,1.0s,baz=3.3,slow=11,SNR=129							
ASAR				S		**S**	**15 13 00.8**	**+3.1**
	2.0nm,0.8s,baz=359,slow=26,SNR=4.5							
CTA	**Charters Tower**	**23.48**	**147**	P		**P**	**15 08 52.5**	**+0.9**
	12nm,0.9s,baz=343,slow=10,SNR=5.9							
CTA				LR		LR	15 19 27.0	
	comp=Z,240nm,18.8s,baz=235,slow=40							
STKA	**Stephens Creek**	**32.34**	**166**	P		**P**	**15 10 09.8**	**-1.2**
	16nm,0.6s,baz=336,slow=8.5,SNR=53							
STKA				LR		LR	15 24 15.1	
	comp=Z,69nm,19.7s,baz=26,slow=38							
KSRS	**Korea Array**	**37.96**	**353**	LR		LR	15 26 14.7	
	comp=Z,74nm,18.0s,baz=354,slow=36							
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P		**P**	**15 11 03.2**	**+0.3**
	1.0nm,0.7s,baz=116,slow=6.7,SNR=9.9							
TAPN	**Taplejung**	**51.50**	**306**	*e*P		**P**	**15 12 47.3**	**-0.4**
ODAN	**Odare**	**51.55**	**305**	*e*P		**P**	**15 12 47.6**	**-0.5**
	7.2nm,0.7s							
RAMN	**Ramite**	**52.23**	**305**	*e*P		**P**	**15 12 53.1**	**-0.1**
	5.0nm,0.5s							
JIRN	**Jiri**	**52.85**	**306**	*e*P		**P**	**15 12 57.5**	**-0.4**
	2.1nm,0.4s							
GUN	**Gumba**	**53.21**	**306**	*e*P		**P**	**15 13 00.0**	**-0.5**
SONM	**Songino Array**	**53.33**	**338**	P		**P**	**15 13 01.5**	**+0.7**
	0.5nm,0.8s,baz=155,slow=6.7,SNR=3.7							
DMN	**Daman**	**53.72**	**305**	*e*P		**P**	**15 13 03.7**	**-0.4**
KOLN	**Koldanda**	**55.01**	**305**	*e*P		**P**	**15 13 13.2**	**-0.3**
	7.0nm,0.5s							
DANN	**Dangsing**	**55.10**	**306**	*e*P		**P**	**15 13 13.7**	**-0.5**
	7.8nm,0.7s							
MKAR	**Makanchi Array**	**64.53**	**324**	P		**P**	**15 14 19.0**	**+0.6**
	0.9nm,0.6s,baz=112,slow=8.7,SNR=19							
ZALV	**Zalesovo Beam**	**67.14**	**331**	P		**P**	**15 14 35.0**	**0.0**
	0.9nm,0.7s,baz=119,slow=8.4,SNR=5.8							
KURK	**Kurchatov**	**68.60**	**326**	P		**P**	**15 14 45.0**	**+0.7**
	2.0nm,0.9s,baz=116,slow=5.8,SNR=12							
BVAR	**Borovoye Array**	**74.20**	**326**	P		**P**	**15 15 18.7**	**+0.7**
	3.6nm,0.9s,baz=124,slow=7.5,SNR=20							
ILAR	**Eielson Array**	**86.14**	**25**	P		**P**	**15 16 22.0**	**-0.2**
	0.2nm,1.0s,baz=248,slow=4.7,SNR=5.8							

*TRN **31** 15:14:35.9, 18.°72N×65.°02W, h35km, MD4.0(RSPR)*

*ISCJB **31** 15:14:36.9±1.3, 18.°77N±0.°09×65.°07W±0.°04, h27km±10km, Error ellipse: s-maj=14.9km s-min=5.7km az=172.6*

*RSPR **31** 15:14:38.6, 18.°77N×65.°06W, h14km±1km, MD2.9/4*

*NEIC **31** 15:14:38.6, 18.°77N×65.°06W, h14km, MD2.9(RSPR), After RSPR.*

ISC 31 15:14:36.2±1.7, 18.°82N±0.°09×65.°06W±0.°03, h30km±11km, n28, σ0°40/41, 18C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.47**	**168**	*e*P	**Pb**	**15 14 46.4**	**+0.3**
STVI	**Saint Thomas**	**0.47**	**168**	*e*S	**Sb**	**15 14 53.1**	**+0.2**
STVI	**Saint Thomas**	**0.47**	**168**	*e*P	**Pb**	**15 14 46.4**	**+0.3**
STVI				*e*S	**Sb**	**15 14 53.1**	**+0.2**
STVI	**Saint Thomas**	**0.47**	**168**	*e*P	**Pb**	**15 14 46.4**	**+0.3**
STVI				*e*S	**Sb**	**15 14 53.1**	**+0.2**
TBVI	**Tortola**	**0.57**	**134**	*e*P	**Pb**	**15 14 47.6**	**-0.2**
TBVI				*e*S	**Sb**	**15 14 55.1**	**-0.6**
TBVI	**Tortola**	**0.57**	**134**	*e*P	**Pb**	**15 14 47.6**	**-0.2**
TBVI				*e*S	**Sb**	**15 14 55.1**	**-0.6**
TBVI	**Tortola**	**0.57**	**134**	*e*P	**Pb**	**15 14 47.6**	**-0.2**
TBVI				*e*S	**Sb**	**15 14 55.1**	**-0.6**
ABV	**Anegada**	**0.69**	**97**	*e*S	**Sn**	**15 14 59.8**	**+0.1**
ABV	**Anegada**	**0.69**	**97**	*e*S	**Sn**	**15 14 59.8**	**+0.1**
MTP	**Monte Pirata**	**0.86**	**214**	*e*P	**Pb**	**15 14 52.5**	**0.0**
MTP	**Monte Pirata**	**0.86**	**214**	*e*P	**Pb**	**15 14 52.5**	**0.0**
MTP	**Monte Pirata**	**0.86**	**214**	*e*P	**Pb**	**15 14 52.5**	**0.0**
CBYP	**Canovanas**	**0.93**	**235**	*e*P	**Pb**	**15 14 53.9**	**0.0**
CBYP	**Canovanas**	**0.93**	**235**	*e*S	**Sb**	**15 15 05.4**	**-0.5**
CBYP	**Canovanas**	**0.93**	**235**	*e*P	**Pb**	**15 14 53.9**	**0.0**
CBYP				*e*S	**Sb**	**15 15 05.4**	**-0.5**
CBYP	**Canovanas**	**0.93**	**235**	*e*P	**Pb**	**15 14 53.9**	**0.0**
CBYP				*e*S	**Sb**	**15 15 05.4**	**-0.5**
HUMP	**Col San Antoni**	**1.01**	**229**	*e*P	**Pb**	**15 14 55.0**	**0.0**
HUMP	**Col San Antoni**	**1.01**	**229**	*e*S	**Sb**	**15 15 07.0**	**-0.9**
HUMP	**Col San Antoni**	**1.01**	**229**	*e*P	**Pb**	**15 14 55.0**	**0.0**
HUMP				*e*S	**Sb**	**15 15 07.0**	**-0.9**
HUMP	**Col San Antoni**	**1.01**	**229**	*e*P	**Pb**	**15 14 55.4**	**+0.4**
HUMP				*e*S	**Sb**	**15 15 07.3**	**-0.7**
CDVI	**St. Croix**	**1.09**	**165**	*e*P	**Pb**	**15 14 56.2**	**-0.3**
CDVI	**St. Croix**	**1.09**	**165**	*e*S	**Sn**	**15 15 09.5**	**-0.1**
CDVI	**St. Croix**	**1.09**	**165**	*e*P	**Pb**	**15 14 56.2**	**-0.3**
CDVI				*e*S	**Sn**	**15 15 09.5**	**-0.1**
CDVI	**St. Croix**	**1.09**	**165**	*e*P	**Pb**	**15 14 56.2**	**-0.3**
CDVI				*e*S	**Sn**	**15 15 09.5**	**-0.1**
CPD	**Cerro la Pandu**	**1.12**	**227**	*e*P	**Pn**	**15 14 56.5**	**+0.6**
CPD	**Cerro la Pandu**	**1.12**	**227**	*e*S	**Sn**	**15 15 10.3**	**-0.1**
CPD	**Cerro la Pandu**	**1.12**	**227**	*e*P	**Pn**	**15 14 56.5**	**+0.6**
CPD				*e*S	**Sn**	**15 15 10.3**	**-0.1**
CPD	**Cerro la Pandu**	**1.12**	**227**	*e*P	**Pn**	**15 14 56.5**	**+0.6**
CPD				*e*S	**Sn**	**15 15 10.3**	**-0.1**

WEL 31 15:18:32.3±1.0, 36.°20S×178.°13E, h233km±10km, ML3.6/6, Error ellipse: s-maj=19.8km s-min=14.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.36**	**174**	PN	Pn	15 19 07.8	-0.2
PUZ	**Puketiti**	**1.87**	**177**	PN	Pn	15 19 12.4	+0.3
PUZ				SN	S	15 19 41.4	-2.1
MWZ	**Matawai**	**2.18**	**192**	PN	Pn	15 19 15.9	+0.7
MWZ				SN	S	15 19 48.1	-0.8
URZ	**Urewera**	**2.21**	**201**	PN	Pn	15 19 16.0	+0.7
URZ				SN	S	15 19 49.5	+0.3
KNZ	**Kokohu**	**2.84**	**187**	PN	Pn	15 19 22.6	+0.8
PXZ	**Pawanui**	**3.95**	**194**	PN	Pn	15 19 34.9	+0.2
TSZ	**Takapari Road**	**4.21**	**203**	PN	Pn	15 19 37.4	-0.5

*ISK **31** 15:24:42.6, 40.°46N×29.°19E, h5km, MD2.6*

*ISCJB **31** 15:24:43.7±0.4, 40.°49N±0.°05×29.°21E±0.°03, h5km±7km, Error ellipse: s-maj=8.3km s-min=3.9km az=175.6*

*CSEM **31** 15:24:43.8±0.1, 40.°47N×29.°20E, h8km, MD2.6, Error ellipse: s-maj=4.2km s-min=2.8km az=1.0*

*DDA **31** 15:24:44.0, 40.°43N×29.°23E, h7km, MD2.7*

ISC 31 15:24:43.9±0.9, 40.°45N±0.°03×29.°21E±0.°02, h8km±9km, n34, σ0°64/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.17**	**47**	*e*PG	**Pg**	**15 24 47.1**	**-0.3**
YLV				*e*SG	**Sg**	**15 24 50.1**	**+0.4**
YLV	**Yalova**	**0.17**	**47**	*e*Pg	**Pg**	**15 24 47.1**	**-0.3**
YLV				*e*Sg	**Sg**	**15 24 50.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.27**	**252**	*e*PG	**Pg**	**15 24 48.6**	**-0.5**
MDNY				*e*SG	**Sg**	**15 24 53.8**	**+1.1**
MDNY	**Mudanya-Bursa**	**0.27**	**252**	*e*Pg	**Pg**	**15 24 48.6**	**-0.5**
MDNY				*e*Sg	**Sg**	**15 24 53.8**	**+1.1**
ARMT	**Armutlu**	**0.29**	**293**	*e*PG	**Pg**	**15 24 49.3**	**-0.3**
ARMT				*e*SG	**Sg**	**15 24 53.9**	**+0.4**
ARMT	**Armutlu**	**0.29**	**293**	*e*Pg	**Pg**	**15 24 49.3**	**-0.3**
ARMT				*e*Sg	**Sg**	**15 24 53.9**	**+0.4**
ADVT	**Abdulvahap**	**0.40**	**93**	*e*PG	**Pg**	**15 24 51.3**	**-0.4**
ADVT	**Abdulvahap**	**0.40**	**93**	*e*Pg	**Pg**	**15 24 51.3**	**-0.4**
HRT	**Hereke**	**0.51**	**43**	*e*PG	**Pg**	**15 24 53.5**	**-0.1**
HRT	**Hereke**	**0.51**	**43**	*e*Pg	**Pg**	**15 24 53.5**	**-0.1**
CAVI	**Cavuskoy**	**0.54**	**117**	*e*PG	**Pb**	**15 24 55.1**	**-0.6**
CAVI	**Cavuskoy**	**0.54**	**117**	*e*Pg	**Pb**	**15 24 55.1**	**-0.6**
KCTX	**Karacabey (Bur**	**0.68**	**254**	*e*PG	**Pg**	**15 24 56.1**	**-0.9**
KCTX	**Karacabey (Bur**	**0.68**	**254**	*e*Pg	**Pg**	**15 24 56.1**	**-0.9**
BGKT	**Bogazkoy**	**0.80**	**335**	*e*PG	**Pb**	**15 24 59.9**	**-0.2**
BGKT	**Bogazkoy**	**0.80**	**335**	*e*Pg	**Pb**	**15 24 59.9**	**-0.2**
CTKS	**Kestenelik-??a**	**0.95**	**326**	*e*PG	**Pg**	**15 25 01.4**	**-0.7**
CTKS	**Kestenelik-??a**	**0.95**	**326**	*e*Pg	**Pg**	**15 25 01.4**	**-0.7**
GULT	**Gulveren**	**0.99**	**91**	*e*PG	**Pb**	**15 25 03.6**	**+0.2**
GULT	**Gulveren**	**0.99**	**91**	*e*Pg	**Pb**	**15 25 03.6**	**+0.2**
DURS	**Dursunbey**	**1.02**	**214**	*i* P	**Pn**	**15 25 04.7**	**0.0**
DURS				*i* S	**Sn**	**15 25 20.5**	**+1.3**
DURS	**Dursunbey**	**1.02**	**214**	*i* P	**Pn**	**15 25 04.7**	**0.0**
DURS				*i* S	**Sn**	**15 25 20.5**	**+1.3**
EDC	**Edincik**	**1.04**	**265**	*e*PG	**Pg**	**15 25 02.6**	**-1.1**
EDC	**Edincik**	**1.04**	**265**	*e*Pg	**Pg**	**15 25 02.7**	**-1.1**
SLVT	**Silivri**	**1.09**	**316**	*e*PG	**Pg**	**15 25 04.6**	**-0.1**
SLVT	**Silivri**	**1.09**	**316**	*e*Pg	**Pg**	**15 25 04.6**	**-0.1**
BORA	**Eskisehir**	**1.11**	**121**	*i* P	**Pb**	**15 25 05.5**	**+0.1**
BORA				*i* S	**Sg**	**15 25 19.2**	**-0.3**
BORA	**Eskisehir**	**1.11**	**121**	*i* P	**Pb**	**15 25 05.5**	**+0.1**
BORA				*i* S	**Sg**	**15 25 19.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.24**	**251**	*e*PN	**Pn**	**15 25 06.8**	**-0.7**
GONE	**Gonen-Balikesi**	**1.24**	**251**	*e*Pn	**Pn**	**15 25 06.8**	**-0.7**
BALY	**Balya**	**1.42**	**240**	*i* P	**Pn**	**15 25 09.5**	**-0.5**
BALY				*i* S	**Sg**	**15 25 30.4**	**+1.0**
BALY	**Balya**	**1.42**	**240**	*i* P	**Pn**	**15 25 09.5**	**-0.5**
BALY				*i* S	**Sg**	**15 25 30.4**	**+1.0**
ALT	**Altintas**	**1.56**	**153**	*e*PN	**Pb**	**15 25 13.2**	**+0.2**
ALT	**Altintas**	**1.56**	**153**	*e*Pn	**Pb**	**15 25 13.2**	**+0.2**

WEL 31 15:39:53.9±0.3, 39.°40S×174.°38E, h249km±2km, ML4.1/17, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.11**	**7**	PN	Pn	15 40 25.4	-0.7
DREZ	**Durham Road**	**0.25**	**327**	PN	Pn	15 40 25.9	-0.3
MHEZ	**Mangahewa**	**0.33**	**353**	PN	Pn	15 40 26.3	0.0
PKE	**Pukeiti**	**0.36**	**304**	PN	Pn	15 40 26.4	0.0
VRZ	**Vera Road**	**0.40**	**47**	PN	Pn	15 40 25.8	-0.7
NWEZ	**Newall Road**	**0.41**	**287**	PN	Pn	15 40 26.4	0.0
WAZ	**Wanganui**	**0.59**	**127**	PN	Pn	15 40 27.5	+0.6
WAZ				SN	S	15 40 52.4	-0.5
MTVZ	**Mangateitei**	**0.85**	**89**	PN	Pn	15 40 28.0	-0.1
MTVZ				SN	S	15 40 53.7	-1.3
TWVZ	**Taurewa**	**0.89**	**69**	PN	Pn	15 40 27.9	-0.4
TWVZ				SN	S	15 40 53.9	-1.5
TRVZ	**Turoa**	**0.92**	**84**	PN	Pn	15 40 28.5	-0.1
FWVZ	**Far West T-bar**	**0.92**	**81**	PN	Pn	15 40 28.5	-0.2
WPVZ	**Whakapapa**	**0.93**	**78**	PN	Pn	15 40 28.4	-0.2
WNVZ	**Wahianoa**	**0.95**	**86**	PN	Pn	15 40 28.7	-0.1
HIZ	**Hauiti**	**0.96**	**23**	PN	Pn	15 40 27.8	-0.9
NGZ	**Ngauruhoe**	**0.98**	**77**	PN	Pn	15 40 28.7	-0.2
WTVZ	**West Tongariro**	**0.98**	**74**	PN	Pn	15 40 28.7	-0.2
TUVZ	**Tukino**	**1.00**	**83**	PN	Pn	15 40 29.0	0.0
KRVZ	**Karewarewa**	**1.03**	**73**	PN	Pn	15 40 28.9	-0.2
MOVZ	**Moawhango**	**1.07**	**91**	PN	Pn	15 40 28.8	-0.4
KATZ	**Kakaramea**	**1.11**	**68**	PN	Pn	15 40 29.3	-0.3
RATZ	**Rangitukua**	**1.21**	**64**	PN	Pn	15 40 29.6	-0.5
RITZ	**Rihia Road**	**1.23**	**70**	PN	Pn	15 40 30.2	-0.1
WATZ	**Wairara**	**1.26**	**57**	PN	Pn	15 40 30.3	-0.2
BHHZ	**Black Hill Sta**	**1.31**	**94**	PN	Pn	15 40 30.3	-0.5
TSZ	**Takapari Road**	**1.39**	**119**	PN	Pn	15 40 31.3	0.0
DUWZ	**D'Urville Isla**	**1.44**	**194**	PN	Pn	15 40 31.6	-0.1
POWZ	**Post Office Ro**	**1.46**	**133**	PN	Pn	15 40 31.8	+0.1
PUKZ	**Pukenui**	**1.50**	**111**	PN	Pn	15 40 32.2	+0.1
KIWI	**Kapiti Island**	**1.52**	**165**	PN	Pn	15 40 32.0	-0.1
OGWZ	**Otaki Gorge**	**1.54**	**157**	PN	Pn	15 40 32.4	+0.1
OGWZ				SN	S	15 41 01.3	-1.5
MRZ	**Mangatainoka R

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.18**	**281**	⇓*i*P	**Pb**	**15 46 15.0**	**0.0**
	baz=275						
ENA				*e*S	**Sb**	**15 46 18.8**	**+0.1**
	baz=275						
EHP	**Heping Village**	**0.20**	**246**	P	**Pb**	**15 46 15.2**	**0.0**
	baz=237						
EHP				S	**Sb**	**15 46 20.1**	**+1.0**
	baz=237						
TWC	**Suao**	**0.23**	**339**	⇑*i*P	**Pb**	**15 46 15.5**	**-0.1**
	baz=343						
TWC				*i* S	**Sb**	**15 46 19.3**	**-0.4**
	baz=343						
ILA	**Ilan**	**0.41**	**335**	*i* P	**Pn**	**15 46 18.6**	**-1.3**
	baz=330						
ILA				*i* S	**Sn**	**15 46 25.1**	**-1.7**
	baz=330						
TWE	**Neicheng**	**0.41**	**323**	⇑*i*P	**Pn**	**15 46 18.3**	**-1.6**
	baz=324						
TWE				*i* S	**Sb**	**15 46 23.8**	**-0.4**
	baz=324						
ENTT	**Nioudou**	**0.42**	**306**	⇑*i*P	**Pn**	**15 46 18.5**	**-1.5**
	baz=305						
ENTT				S	**Sb**	**15 46 24.7**	**+0.2**
	baz=305						
TWD	**Chiawan**	**0.44**	**225**	⇑*i*P	**Pn**	**15 46 19.1**	**-1.2**
	baz=225						
TWD				S	**Sn**	**15 46 26.7**	**-0.8**
	baz=225						
HWA	**Hwalien**	**0.51**	**217**	*e*P	**Pn**	**15 46 20.9**	**-0.4**
	baz=213						
HWA				*e*S	**Sn**	**15 46 29.1**	**-0.2**
	baz=213						
NNS	**Nan Shan**	**0.52**	**275**	⇓*i*P	**Pn**	**15 46 20.3**	**-1.2**
	baz=276						
NNS				*e*S	**Sn**	**15 46 27.8**	**-1.9**
	baz=276						
NSK	**Sanguang**	**0.60**	**298**	P	**Pn**	**15 46 21.5**	**-1.1**
	baz=297						
NSK				*i* S	**Sb**	**15 46 29.5**	**-0.2**
	baz=297						
TWB1	**Santiao Chiao**	**0.61**	**4**	P	**Pb**	**15 46 21.3**	**-0.4**
	baz=1.0						
TWB1				S	**Sn**	**15 46 30.1**	**-1.8**
	baz=1.0						
WHF	**Hehuan Shan**	**0.66**	**248**	*i* P	**Pn**	**15 46 23.0**	**-0.8**
	baz=253						
WHF				S	**Sn**	**15 46 33.1**	**-0.5**
	baz=253						
TWA	**Mucha**	**0.67**	**331**	⇑P	**Pn**	**15 46 22.8**	**-0.7**
	baz=325						
TWA				*e*S	**Sn**	**15 46 31.7**	**-1.5**
	baz=325						
NWF	**Wu-fen Shan**	**0.69**	**348**	⇑*i*P	**Pn**	**15 46 23.3**	**-0.5**
	baz=342						
NWF				S	**Sn**	**15 46 32.8**	**-1.0**
	baz=342						
TWT	**Tachien**	**0.71**	**259**	P	**Pn**	**15 46 24.1**	**-0.1**
	baz=257						
TWT				S	**Sn**	**15 46 34.6**	**+0.2**
	baz=257						
ESL	**Shilin**	**0.74**	**219**	⇑P	**Pb**	**15 46 23.3**	**-0.5**
	baz=230						
ESL				S	**Sn**	**15 46 34.6**	**-0.2**
	baz=230						
TAP1	**Taipei**	**0.75**	**330**	*e*P	**Pn**	**15 46 24.2**	**-0.3**
	baz=329						
TAP1				*e*S	**Sn**	**15 46 34.7**	**-0.3**
	baz=329						
TWS1	**Kuangyinshan**	**0.85**	**326**	*e*P	**Pn**	**15 46 26.2**	**+0.2**
	baz=337						
TWS1				*e*S	**Sn**	**15 46 38.5**	**+0.8**
	baz=337						
NSTT	**Nanjuang**	**0.89**	**286**	P	**Pn**	**15 46 27.1**	**+0.6**
	baz=285						
NSTT				S	**Sn**	**15 46 39.0**	**+0.4**
	baz=285						
NCU	**National Centr**	**0.89**	**310**	*e*P	**Pn**	**15 46 26.7**	**+0.2**
	baz=296						
NCU				*e*S	**Sn**	**15 46 39.4**	**+0.7**
	baz=296						
TWY	**Chenhua**	**0.93**	**341**	*e*P	**Pb**	**15 46 26.5**	**-0.6**
	baz=341						
TWY				*e*S	**Sn**	**15 46 39.6**	**-0.1**
	baz=341						
HSN	**Hsinchu**	**0.97**	**295**	*e*P	**Pb**	**15 46 28.2**	**+0.5**
	baz=297						
HSN				*e*S	**Sn**	**15 46 41.6**	**+1.0**
	baz=297						
YOJ	**Yonaguni jima**	**0.98**	**86**	P	**Pb**	**15 46 27.5**	**-0.3**
YOJ				S	**Sn**	**15 46 40.8**	**0.0**
EHY	**Hungye**	**1.05**	**213**	*e*P	**Pn**	**15 46 27.5**	**-1.2**
	baz=211						
EHY				*e*S	**Sb**	**15 46 42.8**	**+0.5**
	baz=211						
TWQ1	**Liyutan**	**1.06**	**268**	*e*P	**Pb**	**15 46 30.4**	**+1.1**
	baz=267						
TWQ1				S	**Sb**	**15 46 44.5**	**+1.7**
	baz=267						
NSY	**Sanyi**	**1.07**	**272**	*e*P	**Pb**	**15 46 30.6**	**+1.1**
	baz=270						
NSY				*e*S	**Sb**	**15 46 45.1**	**+2.0**
	baz=270						
SMLT	**Sun Moon Lake**	**1.08**	**242**	P	**Pb**	**15 46 29.7**	**+0.1**
	baz=233						
SMLT				S	**Sb**	**15 46 44.9**	**+1.6**
	baz=233						
TYC	**Yuchr**	**1.10**	**244**	P	**Pb**	**15 46 30.1**	**+0.1**
	baz=231						
TYC				S	**Sb**	**15 46 45.5**	**+1.6**
	baz=231						
TCU	**Taichung**	**1.18**	**258**	*e*P	**Pb**	**15 46 32.1**	**+0.8**
	baz=256						
TCU				*e*S	**Sb**	**15 46 48.4**	**+2.3**
	baz=256						
TWF1	**Yuli**	**1.19**	**210**	*e*P	**Pn**	**15 46 29.4**	**-1.2**
	baz=221						
TWF1				*e*S	**Sb**	**15 46 47.4**	**+0.9**
	baz=221						
WNT	**Mingjian**	**1.26**	**246**	*e*P	**Pb**	**15 46 33.0**	**+0.4**
	baz=244						
WNT				*e*S	**Sb**	**15 46 51.1**	**+2.8**
	baz=244						
CHKT	**Chengkung**	**1.39**	**202**	*e*P	**Pb**	**15 46 33.9**	**-1.0**
	baz=186						
CHKT				*e*S	**Sb**	**15 46 53.4**	**+1.2**
	baz=186						
CHN5	**Tsauling**	**1.40**	**236**	P	**Pb**	**15 46 35.2**	**+0.1**
	baz=235						
CHN5				S	**Sb**	**15 46 53.9**	**+1.3**
	baz=235						
WGK	**Gukeng**	**1.44**	**241**	*e*P	**Pb**	**15 46 35.8**	**0.0**
	baz=239						
WGK				*e*S	**Sb**	**15 46 55.9**	**+2.2**
	baz=239						
ELDTW	**Lidau**	**1.47**	**215**	*e*P	**Pn**	**15 46 34.4**	**-0.1**
	baz=214						
ELDTW				*e*S	**Sb**	**15 46 54.2**	**-0.3**
	baz=214						
CHN2	**Minshiung**	**1.59**	**238**	*e*P	**Pb**	**15 46 38.5**	**+0.2**
	baz=236						
CHN2				*e*S	**Sb**	**15 46 58.9**	**+1.0**
	baz=236						
WTCT	**Ta-ch'eng**	**1.60**	**251**	*e*P	**Pb**	**15 46 38.1**	**-0.4**
	baz=249						
WTCT				*e*S	**Sb**	**15 46 59.1**	**+0.7**
	baz=249						
CHN4	**Tsaushan**	**1.61**	**230**	*e*P	**Pb**	**15 46 38.4**	**-0.3**
	baz=229						
CHN4				*e*S	**Sb**	**15 47 00.1**	**+1.5**
	baz=229						
IRIF	**Iriomote-Funau**	**1.63**	**92**	P	**Pn**	**15 46 36.7**	**0.0**
IRIF				S	**Sn**	**15 46 57.4**	**+0.5**
STYT	**Tauyuan**	**1.63**	**222**	*e*P	**Pb**	**15 46 38.0**	**-1.1**
	baz=211						
STYT				*e*S	**Sb**	**15 46 59.3**	**+0.1**
	baz=211						
CHY	**Chiayi**	**1.65**	**238**	*e*P	**Pb**	**15 46 39.3**	**0.0**
	baz=236						
CHY				*e*S	**Sb**	**15 47 01.7**	**+2.1**
	baz=236						
WTP	**Ta-pu**	**1.67**	**227**	P	**Pb**	**15 46 39.1**	**-0.5**
	baz=226						
WTP				*e*S	**Sb**	**15 47 01.1**	**+0.9**
	baz=226						
HATJ	**Hateruma jima**	**1.74**	**101**	*e*S	**Sn**	**15 47 00.3**	**+0.8**
TWK	**Hsinying**	**1.74**	**230**	*e*P	**Pb**	**15 46 40.3**	**-0.6**
	baz=229						
TWK				*e*S	**Sb**	**15 47 03.1**	**+0.9**
	baz=229						
WSF	**Szhu**	**1.74**	**245**	*e*P	**Pb**	**15 46 39.9**	**-0.9**
	baz=243						
WSF				*e*S	**Sb**	**15 47 02.5**	**+0.3**
	baz=243						
TWG	**Pinlang**	**1.75**	**207**	*e*P	**Pn**	**15 46 37.9**	**-0.5**
	baz=195						
CHN1	**Nanshi**	**1.77**	**227**	*e*P	**Pb**	**15 46 40.5**	**-0.8**
	baz=226						
CHN1				*e*S	**Sb**	**15 47 04.2**	**+1.2**
	baz=226						
SGST	**Jiashian**	**1.80**	**224**	P	**Pb**	**15 46 41.0**	**-0.9**
	baz=210						
SGST				*e*S	**Sb**	**15 47 05.3**	**+1.3**
	baz=210						
CHN8	**Yiju**	**1.89**	**237**	*e*P	**Pn**	**15 46 40.5**	**+0.2**
	baz=222						
CHN8				*e*S	**Sb**	**15 47 06.9**	**+0.2**
	baz=222						
JKRS	**Kuro-shima**	**1.89**	**94**	P	**Pn**	**15 46 40.6**	**+0.3**
JKRS				S	**Sn**	**15 47 04.5**	**+1.1**
CHN3	**Shinhua**	**1.95**	**228**	*e*P	**Pb**	**15 46 43.5**	**-0.9**
	baz=227						
CHN3				*e*S	**Sb**	**15 47 09.1**	**+0.8**
	baz=227						
ECL	**Taimali**	**2.00**	**207**	*e*P	**Pn**	**15 46 41.9**	**+0.1**
	baz=196						
ECL				*e*S	**Sb**	**15 47 08.0**	**-1.8**
	baz=196						
SCLT	**Jiali**	**2.01**	**233**	*e*P	**Pb**	**15 46 44.2**	**-1.2**
	baz=231						
JIJ	**Ishigaki jima**	**2.01**	**90**	P	**Pn**	**15 46 42.1**	**+0.2**
JIJ				S	**Sn**	**15 47 05.9**	**-0.3**
SSD	**Sandimen**	**2.03**	**216**	*e*P	**Pb**	**15 46 44.3**	**-1.4**
	baz=216						
SSD				*e*S	**Sb**	**15 47 10.2**	**-0.5**
	baz=216						
TWM1	**Shoushan**	**2.09**	**222**	*e*P	**Pb**	**15 46 45.8**	**-1.1**
	baz=221						
TWM1				*e*S	**Sb**	**15 47 13.0**	**+0.6**
	baz=221						
EAST	**Anshuo**	**2.24**	**207**	*e*P	**Pb**	**15 46 47.0**	**-2.4**
	baz=198						
JTJ	**Tarama**	**2.53**	**84**	P	**Pn**	**15 46 50.3**	**+1.3**
JTJ				S	**Sn**	**15 47 20.5**	**+1.5**

*IDC **31** 15:46:42.5±0.8, 7.°59N×93.°87E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, MS3.5/2, Ms1 3.6/2, ms1mx2.8/46, Error ellipse: s-maj=43.7km s-min=15.2km az=54.0*
*ISCJB **31** 15:46:43.7±0.5, 7.°54N±0.°07×93.°93E±0.°09, h20km, mb4.3/23, MS3.6/2, Error ellipse: s-maj=14.9km s-min=7.8km az=144.0*
*NEIC **31** 15:46:48.8±1.8, 7.°58N×93.°92E, h46km±15km, mb4.4/4, Error ellipse: s-maj=20.9km s-min=5.6km az=54.0*

ISC 31 15:46:45.7±0.7, 7.°6N±0.°1×93.°9E±0.°1, h20km, n60, σ0.°66/58, mb4.3/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**7.74**	**113**	*e*Pn	**Pn**	**15 48 37.0**	**-0.3**
	16nm,0.5s						
CM31	**Chiang Mai Arr**	**11.89**	**24**	*e*Pn	**Pn**	**15 49 35.8**	**+1.6**
	11nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.89**	**24**	Pn	Pn	15 49 37.6	+3.4
	0.2nm,0.3s,baz=207,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**11.89**	**24**	Pn	Pn	15 49 37.6	+3.4
CHTO	**Chiang Mai**	**12.22**	**23**	*e*Pn	**Pn**	**15 49 38.4**	**-0.2**
	3.5nm,0.8s						
ODAN	**Odare**	**20.16**	**343**	*e*P	Pn	15 51 20.2	-0.9
ODAN	**Odare**	**20.16**	**343**	*e*P	Pn	15 51 20.2	-0.9
RAMN	**Ramite**	**20.48**	**341**	*e*P	**P**	**15 51 23.7**	**+1.1**
	62nm,0.6s						
RAMN	**Ramite**	**20.48**	**341**	*e*P	**P**	**15 51 23.7**	**+1.1**
	62nm,0.6s						
TAPN	**Taplejung**	**20.53**	**344**	*e*P	**P**	**15 51 23.0**	**-0.2**
TAPN	**Taplejung**	**20.53**	**344**	*e*P	**P**	**15 51 23.0**	**-0.2**
JIRN	**Jiri**	**21.27**	**341**	*e*P	**P**	**15 51 32.3**	**+1.0**
	19nm,0.7s						
JIRN	**Jiri**	**21.27**	**341**	*e*P	**P**	**15 51 32.3**	**+1.0**
	19nm,0.7s						
PKI	**Pulchoki**	**21.46**	**339**	*e*P	**P**	**15 51 33.9**	**+0.7**
	14nm,0.5s						
PKI	**Pulchoki**	**21.46**	**339**	*e*P	**P**	**15 51 33.9**	**+0.7**
	14nm,0.5s						
DMN	**Daman**	**21.60**	**338**	*e*P	**P**	**15 51 35.9**	**+1.2**
	25nm,0.8s						
DMN	**Daman**	**21.60**	**338**	*e*P	**P**	**15 51 35.9**	**+1.2**
	25nm,0.8s						
GUN	**Gumba**	**21.61**	**340**	*e*P	**P**	**15 51 35.1**	**+0.2**
	25nm,0.6s						
GUN	**Gumba**	**21.61**	**340**	*e*P	**P**	**15 51 35.1**	**+0.2**
	25nm,0.6s						
KKN	**Kakani**	**21.70**	**339**	*e*P	**P**	**15 51 36.5**	**+0.8**
	20nm,0.6s						
KKN	**Kakani**	**21.70**	**339**	*e*P	**P**	**15 51 36.5**	**+0.8**
	20nm,0.6s						
GKN	**Gorkha**	**22.13**	**338**	*e*P	**P**	**15 51 40.0**	**-0.3**
GKN	**Gorkha**	**22.13**	**338**	*e*P	**P**	**15 51 40.0**	**-0.3**
LSA	**Lhasa**	**22.17**	**354**	*e*Pn	**P**	**15 51 40.0**	**-1.0**
	18nm,0.8s						
KOLN	**Koldanda**	**22.33**	**335**	*e*P	**P**	**15 51 43.1**	**+0.6**
	15nm,0.5s						
KOLN	**Koldanda**	**22.33**	**335**	*e*P	**P**	**15 51 43.1**	**+0.6**
	15nm,0.5s						
DANN	**Dangsing**	**22.78**	**336**	*e*P	**P**	**15 51 47.1**	**-0.3**
	21nm,0.6s						
DANN	**Dangsing**	**22.78**	**336**	*e*P	**P**	**15 51 47.1**	**-0.3**
	21nm,0.6s						
AAK	**Ala-Archa**	**38.88**	**337**	P	**P**	**15 54 11.2**	**+1.2**
	2.5nm,0.9s,baz=142,slow=5.1,SNR=7.7						
AAK	**Ala-Archa**	**38.88**	**337**	*e*P	**P**	**15 54 09.6**	**-0.4**
	10nm,0.8s						
AAK				P	**P**	**15 54 11.2**	**+1.2**
MK31	**Makanchi Array**	**40.33**	**348**	*e*P	**P**	**15 54 21.4**	**-0.5**
MKAR	**Makanchi Array**	**40.33**	**348**	P	**P**	**15 54 21.2**	**-0.7**
	1.0nm,0.7s,baz=162,slow=9.5,SNR=7.8						
MKAR	**Makanchi Array**	**40.33**	**348**	P	**P**	**15 54 21.2**	**-0.7**
KKAR	**Karatay Array**	**40.92**	**334**	*e*P	**P**	**15 54 27.1**	**+0.4**
	1.2nm,0.5s						
SONM	**Songino Array**	**41.52**	**13**	P	**P**	**15 54 31.3**	**-0.4**
	2.3nm,1.0s,baz=197,slow=8.6,SNR=6.8						
SONM	**Songino Array**	**41.52**	**13**	P	**P**	**15 54 31.3**	**-0.4**
ZAA0	**Zalesovo Array**	**46.83**	**353**	*e*P	**P**	**15 55 13.5**	**-0.5**
ZALV	**Zalesovo Beam**	**46.83**	**353**	P	**P**	**15 55 13.8**	**-0.2**
	1.6nm,0.3s,baz=171,slow=8.1,SNR=15						
ZALV	**Zalesovo Beam**	**46.83**	**353**	P	**P**	**15 55 13.8**	**-0.2**
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**15 55 25.9**	**0.0**
	1.9nm,0.5s,baz=305,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**15 55 25.9**	**0.0**
WB2	**Warramunga Arr**	**48.30**	**125**	*e*P	**P**	**15 55 25.3**	**-0.7**
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**15 55 38.5**	**+0.1**
	2.7nm,0.7s,baz=301,slow=7.5,SNR=34						
ASAR				PcP	**PcP**	**15 56 58.9**	**+0.2**
	0.9nm,0.7s,baz=308,slow=3.8,SNR=4.7						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**15 55 38.5**	**+0.1**
ASAR				PcP	**PcP**	**15 56 58.9**	**+0.2**
ABKAR	**Akbulak array**	**50.38**	**332**	*e*P	**P**	**15 55 40.8**	**-0.6**
	1.0nm,0.4s						
ASF	**Jabal al Asfar**	**58.17**	**303**	LR	LR	16 22 22.3	
	comp=Z,16nm,21.5s,baz=97,slow=37						
STKA	**Stephens Creek**	**60.08**	**133**	P	**P**	**15 56 52.2**	**+0.5**
	1.7nm,0.6s,baz=315,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**60.08**	**133**	P	**P**	**15 56 52.2**	**+0.5**
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**15 57 06.9**	**-0.9**
	0.5nm,0.7s,baz=111,slow=6.3,SNR=2.6						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**15 57 06.9**	**-0.9**
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**15 58 12.7**	**-0.2**
	3.5nm,0.8s,baz=111,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**15 58 12.7**	**-0.2**
ARCES	**ARCESS Array B**	**75.47**	**340**	P	**P**	**15 58 27.5**	**-0.6**
	2.8nm,0.8s,baz=116,slow=5.5,SNR=4.1						
ARCES				LR	LR	16 33 22.3	
	comp=Z,87nm,18.2s,baz=346,slow=37						
ARCES	**ARCESS Array B**	**75.47**	**340**	P	**P**	**15 58 27.5**	**-0.6**
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**15 58 42.6**	**+0.3**
	0.4nm,0.5s,baz=90,slow=4.0,SNR=4.6						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**15 58 42.6**	**+0.3**
NOA	**NORSAR Array B**	**79.87**	**331**	P	**P**	**15 58 52.8**	**0.0**
	0.9nm,0.8s,baz=96,slow=4.1,SNR=2.8						
NOA	**NORSAR Array B**	**79.87**	**331**	P	**P**	**15 58 52.8**	**0.0**
TORD	**Torodi Ar. Bea**	**90.42**	**283**	P	**P**	**15 59 47.0**	**+0.5**
	0.8nm,1.0s,baz=75,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**90.42**	**283**	P	**P**	**15 59 47.0**	**+0.5**

*TIF **31** 16:00:12.0, 43.°09N×45.°63E, h20km±12km*
*NNC **31** 16:00:13.3±4.0, 44.°37N×45.°42E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=139.3km s-min=12.8km az=159.0*
*MOS **31** 16:00:15.4±0.8, 42.°95N×45.°54E, h21km, mb4.2/1, Error ellipse: s-maj=11.7km s-min=6.5km az=25.1*
*ISCJB **31** 16:00:16.1±0.3, 43.°06N±0.°03×45.°56E±0.°02, h23km, Error ellipse: s-maj=4.8km s-min=2.2km az=12.3*

ISC 31 16:00:15.7±0.9, 43.°02N±0.°03×45.°55E±0.°02, h23km, n32, σ1.°63/54, 8C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.33**	**26**	⇓*i*PG	**Pn**	**16 00 26.7**	**+1.5**
SNJR	**Sundja**	**0.54**	**275**	*e*PG	**Pn**	**16 00 29.7**	**+1.6**
BTLR	**Botlikh**	**0.61**	**126**	⇓*i*PG	**Pn**	**16 00 30.0**	**+1.0**
BTLR				*e*S	**Sn**	**16 00 41.5**	**+3.3**
BTLR				pmax	pmax		
	comp=Z,171nm,0.3s						
VLKR	**Vladikavkaz**	**0.64**	**273**	*e*PG	**Pn**	**16 00 30.4**	**+0.9**
VLKR				*e*S	**Sn**	**16 00 43.2**	**+4.2**
DLMR	**Dylym**	**0.79**	**86**	*e*PG	**Pn**	**16 00 31.0**	**-0.5**
DLMR				*e*S	**Sn**	**16 00 43.9**	**+1.2**
DLMR				pmax	pmax		
	comp=Z,115nm,0.2s						
BTKR	**Batakoyurt**	**0.82**	**296**	*e*PG	**Pn**	**16 00 31.9**	**0.0**
BTKR				*i* S	**Sn**	**16 00 45.7**	**+2.4**
TRKR	**Terskaya**	**0.92**	**320**	⇑*i*PG	**Pb**	**16 00 32.7**	**-0.4**
TRKR				*i* S	**Sn**	**16 00 47.5**	**+1.7**
DBC	**Dubki**	**0.94**	**90**	*i* PG	**Pb**	**16 00 32.2**	**-1.2**
DBC				*i* S	**Sn**	**16 00 46.2**	**-0.1**
LACR	**Lac**	**0.94**	**259**	⇑*i*PG	**Pn**	**16 00 33.1**	**-0.6**
LACR				*i* S	**Sn**	**16 00 47.6**	**+1.1**
ARNR	**Ardon**	**0.95**	**281**	*e*PG	**Pn**	**16 00 33.2**	**-0.4**
ARNR				*e*S	**Sn**	**16 00 47.6**	**+1.1**
UNCR	**Uncukul**	**0.96**	**108**	*e*PG	**Pn**	**16 00 33.0**	**-0.9**
UNCR				*e*S	**Sn**	**16 00 48.0**	**+1.1**
UNCR				pmax	pmax		
	comp=Z,129nm,0.3s						
XNZR	**Khunzakh**	**0.97**	**119**	⇓*i*PG	**Pn**	**16 00 34.0**	**-0.2**
XNZR				*e*S	**Sn**	**16 00 49.5**	**+2.1**
XNZR				pmax	pmax		
	comp=Z,99nm,0.2s						
KMSR	**Komsomolskaya**	**0.98**	**291**	⇑*i*PG	**Pb**	**16 00 34.1**	**0.0**
KMSR				*i* S	**Sn**	**16 00 49.0**	**+1.6**
KRNR	**Karanay**	**1.01**	**100**	⇑*i*PG	**Pb**	**16 00 34.0**	**-0.7**
KRNR				*i* S	**Sn**	**16 00 48.2**	**-0.1**
KRNR				pmax	pmax		
	comp=Z,51nm,0.2s						
KORR	**Kora**	**1.09**	**274**	⇑*i*PG	**Pb**	**16 00 35.3**	**-0.6**
KORR				*i* S	**Sn**	**16 00 51.8**	**+1.8**
PRTR	**Priterechnaya**	**1.18**	**309**	⇓*i*PG	**Pn**	**16 00 35.8**	**-1.0**
PRTR				*i* S	**Sb**	**16 00 52.6**	**+0.3**
ZEI	**Tsey**	**1.24**	**259**	⇓*i*PG	**Pn**	**16 00 36.3**	**-1.6**
ZEI				*i* S	**Sb**	**16 00 53.2**	**-1.0**
LSNR	**Lesken**	**1.29**	**282**	*e*PG	**Pn**	**16 00 37.2**	**-1.3**
LSNR				*i* S	**Sb**	**16 00 55.0**	**-0.7**
TBLG	**Delisi**	**1.42**	**205**	*i* PG	**Pb**	**16 00 40.0**	**-1.5**
TBLG				*i* S	**Sb**	**16 01 00.9**	**+1.7**
TBLG	**Delisi**	**1.42**	**205**	P	**Pb**	**16 00 40.1**	**-1.5**
TBLG				S	**Sb**	**16 01 00.9**	**+1.7**
MAK	**Makhachkala**	**1.44**	**92**	*e*PG	Pb	16 00 46.8	+5.0
KMKR	**Kumukh**	**1.45**	**127**	*e*PG	**Pn**	**16 00 40.0**	**-0.7**
KMKR				S	**Sb**	**16 01 01.0**	**+0.8**
KMKR				pmax	pmax		
	comp=Z,129nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.45**	**266**	⇑*i*PG	**Pn**	**16 00 38.9**	**-1.9**
GOR	**Gori**	**1.48**	**226**	P	**Pb**	**16 00 43.1**	**+0.4**
GOR				S	**Sb**	**16 01 02.0**	**+0.9**
DGRG	**David-gareji**	**1.57**	**185**	P	**Pb**	**16 00 42.7**	**-1.5**
DGRG				S	**Sb**	**16 01 05.3**	**+1.7**
ONI	**Oni**	**1.60**	**255**	P	**Pn**	**16 00 42.6**	**-0.1**
ONI				S	**Sb**	**16 01 03.4**	**-1.1**
URKR	**Urkarakh**	**1.76**	**118**	⇓*i*PN	**Pn**	**16 00 44.5**	**-0.4**
URKR				*i* S	**Sb**	**16 01 12.0**	**+2.9**
URKR				pmax	pmax		
	comp=Z,36nm,0.3s						
AKH	**Akhalkalaki**	**2.22**	**224**	P	**Pn**	**16 00 51.4**	**+0.1**
AKH				S	**Sb**	**16 01 21.1**	**-1.2**
KIV	**Kislovodsk**	**2.29**	**295**	⇑Pn	Pn	16 00 48.8	-3.4
	comp=Z,22nm,0.7s						
KIV				⇓Sn	**Sn**	**16 01 15.4**	**-4.2**
	comp=Z,117nm,0.7s						
KSMR	**Kasumkent**	**2.38**	**126**	⇓*i*PN	**Pn**	**16 00 52.5**	**-0.9**
KSMR				*i* S	**Sb**	**16 01 23.0**	**-3.8**
AKTO	**Aktyubinsk**	**11.31**	**45**	⇑Sn	Sn	16 04 45.3	-16
	comp=Z,0.6nm,1.1s						
AB31	**Akbulak array**	**11.76**	**53**	Pn	Pn	16 02 54.4	-7.6
	comp=Z,0.1nm,0.2s,baz=240,slow=11,SNR=17						
AB31				⇓Sn	Sn	16 04 55.1	-17
	comp=Z,0.6nm,0.5s,baz=242,slow=20,SNR=9.4						

KRSC 31 16:07:53.7±1.0, 53.°18N×162.°65E, h40km±40km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.48**	**339**	*e*P	Pn	16 08 19.0	+1.2
MKZ				*e*S	Sn	16 08 37.2	+1.3
SPN	**Mys Shipunski**	**1.58**	**268**	*e*P	Pn	16 08 20.3	+1.1
SPN				*e*S	Sn	16 08 39.8	+1.3
NLC	**Nalytchevo**	**1.99**	**271**	P	Pn	16 08 26.2	+1.4
NLC				*e*S	Sn	16 08 49.8	+1.4
KII	**Karymskiy**	**2.09**	**295**	P	Pn	16 08 28.3	+2.0
SDLR	**Sedlovina**	**2.27**	**274**	*e*P	Pn	16 08 30.1	+1.9
SDLR				*e*S	Sn	16 08 57.8	+2.2
UGLR	**Uglovaya**	**2.30**	**272**	*e*P	Pn	16 08 31.4	+2.1
SMAR	**Somma**	**2.32**	**274**	*e*P	Pn	16 08 31.5	+1.9
**

NEIC Felt [IV] at Alto Hospicio, Camina, Huara, Iquique, Pica and Pozo Almonte; [III] at Arica, Camarones and Pisagua.
*GUC **31** 16:29:36.7±0.4, 19°.63S×69°.44W, h100km, 3km, ML5.6*
*MOS **31** 16:29:37.4±1.1, 19°.05S×69°.04W, h105km, mb5.4/39, Error ellipse: s-maj=15.6km s-min=6.5km az=115.2*
*IDC **31** 16:29:37.1±0.3, 19°.495×69°.16W, h106km±2km, mb4.9/22, mb1 5.0/24, mb1mx5.0/25, mbtmp4.9/24, MS4.3/17, Ms1 4.3/17, ms1mx4.2/25, Error ellipse: s-maj=9.2km s-min=8.2km az=45.0*
*LDG **31** 16:29:37.4±0.4, 19°.26S×69°.02W, h106km, Mb5.1/17, Ms4.2/10, Error ellipse: s-maj=22.1km s-min=12.5km az=34.0*
*BJI **31** 16:29:38.7, 19°.40S×69°.00W, h102km, mB5.5/24*
ISC 31 16:29:36.7±0.2, 19°.47S±0°.03×69°.16W±0°.04, h105km, h105km:pP-P, n912, σ112/1577, mb5.4/182, 402C-435D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.53**	**309**	⇑*i*	*i*P		**Pn**	**16 29 53.4**	**-0.2**
MNMC					*i* S		**Sn**	**16 30 05.7**	**-0.5**
MNMC					AML		AML	16 30 07.8	
	comp=E,613μm,0.3s								
PSGC	**Pisagua**	**0.92**	**262**	⇑*i*	*i*P		**Pn**	**16 29 54.1**	**-2.7**
PSGC					*i* S		**Sn**	**16 30 07.2**	**-4.7**
PSGC					AML		AML	16 30 08.7	
	comp=E,146μm,0.4s								
HMBC	**Humberstone**	**1.06**	**220**	⇑*i*	*i*P		**Pn**	**16 29 55.4**	**-2.9**
HMBC					*i* S		**Sn**	**16 30 09.5**	**-5.1**
HMBC					AML		AML	16 30 11.8	
	comp=E,232μm,0.5s								
ARCH	**Arica**	**1.45**	**312**	⇓*i*	*i*P		**Pn**	**16 30 02.0**	**-0.6**
ARCH					*i* S		**Sn**	**16 30 21.2**	**-1.1**
ARCH					AML		AML	16 30 23.1	
	comp=N,155μm,0.6s								
PB01	**Plate Boundary**	**1.60**	**191**	⇑*i*	*i*P		**Pn**	**16 30 02.4**	**-2.1**
PB01					*i* S		**Sn**	**16 30 22.0**	**-3.7**
PB01					AML		AML	16 30 24.4	
	comp=N,149μm,0.3s								
LPAZ	**La Paz**	**3.31**	**17**	*e*P			Pn	16 30 30.9	+3.6
LPAZ				*e*				16 31 02.0	
LPAZ	**La Paz**	**3.31**	**17**	*e*Pn			Pn	16 30 30.9	+3.6
LPAZ				*e*Sn			**Sn**	**16 31 02.0**	**-4.3**
SIV	**San Ignacio**	**8.45**	**67**	P			**Pn**	**16 31 36.5**	**+0.2**
	comp=N,99nm,0.3s,baz=267,slow=11,SNR=2504								
SIV	**San Ignacio**	**8.45**	**67**	P			**Pn**	**16 31 36.5**	**+0.2**
LCO	**Las Campanas**	**9.61**	**188**	*e*Pn			**Pn**	**16 31 53.6**	**+1.4**
	comp=N,302nm,0.8s								
LCO				*e*Sn			Sn	16 33 21.5	-17
NNA	**Nana**	**10.49**	**314**	P			**Pn**	**16 32 02.4**	**-1.7**
	comp=N,4.9nm,0.3s,baz=138,slow=13,SNR=12								
NNA				S			**Sn**	**16 34 00.6**	**+0.9**
	comp=N,26nm,0.3s,baz=232,slow=17,SNR=4.3								
NNA	**Nana**	**10.49**	**314**	*ce*P			**Pn**	**16 32 02.0**	**-2.1**
NNA	**Nana**	**10.49**	**314**	*e*Pn			Pn	16 32 00.7	-3.4
	comp=N,126nm,0.8s								
NNA				*e*Sn			Sn	16 33 51.4	-8.3
NNA				S				16 34 00.6	
NNA	**Nana**	**10.49**	**314**	Pn			**Pn**	**16 32 01.6**	**-2.5**
	comp=N,292nm,0.4s,SNR=5.2								
SAML	**Samuel**	**11.95**	**30**	⇑*i*	Pn		**Pn**	**16 32 22.1**	**-1.6**
	comp=N,114nm,1.1s								
CFAA	**Coronel Fontan**	**12.12**	**176**	P			Pn	16 32 19.9	-5.9
	comp=N,0.4nm,0.3s,baz=356,slow=14,SNR=20								
CFAA				S			Sn	16 34 46.4	+7.3
	comp=N,0.3nm,0.3s,baz=324,slow=19,SNR=2.1								
CFAA	**Coronel Fontan**	**12.12**	**176**	P			Pn	16 32 19.9	-5.9
CFAA				S			Sn	16 34 46.4	+7.3
ATAH	**Atahualpa**	**15.19**	**323**	P			**Pn**	**16 33 05.9**	**-0.2**
	comp=N,0.6nm,0.3s,baz=145,slow=15,SNR=15								
ATAH				S			**Sn**	**16 35 56.3**	**+2.1**
	comp=N,0.5nm,0.3s,baz=142,slow=19,SNR=2.0								
ATAH	**Atahualpa**	**15.19**	**323**	P			**Pn**	**16 33 05.9**	**-0.2**
ATAH				S			**Sn**	**16 35 56.3**	**+2.1**
BDFB	**Brasilia**	**20.51**	**83**	P			**P**	**16 34 06.6**	**-0.2**
	comp=N,368nm,0.7s,baz=257,slow=13,SNR=74								
BDFB				S			**S**	**16 37 53.1**	**+2.3**
	comp=N,36nm,1.0s,baz=210,slow=20,SNR=1.5								
BDFB				LR			LR	16 43 37.1	
	comp=N,1μm,20.7s,baz=75,slow=41								
BDFB	**Brasilia**	**20.51**	**83**	P			**P**	**16 34 06.6**	**-0.2**
BDFB				S			**S**	**16 37 53.1**	**+2.3**
BDFB	**Brasilia**	**20.51**	**83**	P			**P**	**16 34 06.6**	**-0.2**
BDFB				S			**S**	**16 37 53.1**	**+2.3**
SPB	**Sao Paulo**	**20.62**	**105**	⇑*e*Pn			**P**	**16 34 05.1**	**-2.7**
	comp=N,187nm,0.8s								
SPB				*e*Sn			**S**	**16 37 47.9**	**-4.6**
PLCA	**Paso Flores**	**21.23**	**183**	P			**P**	**16 34 13.3**	**-1.0**
	comp=N,102nm,0.9s,baz=357,slow=11,SNR=55								
PLCA				S			**S**	**16 38 05.5**	**+1.1**
	comp=N,1.8nm,0.7s,baz=13,slow=19,SNR=1.7								
PLCA	**Paso Flores**	**21.23**	**183**	*e*P			**P**	**16 34 12.9**	**-1.4**
PLCA				S			**S**	**16 38 05.5**	**+1.1**
PLCA				pmax			pmax		
	comp=Z,146nm,1.0s								
PLCA	**Paso Flores**	**21.23**	**183**	*e*P			**P**	**16 34 12.9**	**-1.4**
	comp=Z,146nm,1.0s								
PLCA				*e*S			**pP**	**16 34 32.2**	**-2.0**
PLCA				S			**S**	**16 38 05.5**	**+1.1**
OTAV	**Otavalo**	**21.60**	**334**	⇓*e*P			**P**	**16 34 19.6**	**+0.8**
	comp=Z,246nm,1.4s								
OTAV				*e*S			**S**	**16 38 12.3**	**-0.2**
ROSC	**El Rosal**	**24.70**	**348**	P			**P**	**16 34 49.7**	**+1.1**
	comp=Z,8.6nm,0.4s,baz=107,slow=18,SNR=8.7								
ROSC				S			**S**	**16 39 05.6**	**+2.3**
	comp=Z,6.8nm,0.4s,baz=95,slow=19,SNR=2.6								
ROSC				LR			LR	16 45 38.9	
	comp=Z,977nm,19.6s,baz=186,slow=39								
ROSC	**El Rosal**	**24.70**	**348**	*e*P			**P**	**16 34 47.8**	**-0.8**
ROSC				S			**S**	**16 39 05.6**	**+2.3**
CAM4	**Nova Friburgo**	**25.00**	**101**	⇓*i*P			**P**	**16 34 50.6**	**-0.6**
CAM4				*i*				16 34 51.8	
CAM4				*i*				16 34 55.2	
CAM4				*i*				16 34 58.3	
CAM4				*i*				16 35 04.0	
CAM4				*i*				16 35 12.6	
CAM4				*i*				16 35 17.1	
CAM4				*i*				16 35 27.9	
CAM4				*i*				16 35 31.6	
PAYG	**Puerto Ayora**	**27.88**	**310**	*e*P			**P**	**16 35 17.0**	**+0.1**
	comp=Z,103nm,1.4s								
SDV	**Santo Domingo**	**28.21**	**357**	*e*P			**P**	**16 35 19.4**	**-0.5**
	comp=Z,39nm,1.0s								
EFI	**East Falkland**	**33.31**	**167**	*e*P			**P**	**16 36 05.4**	**+1.2**
JTS	**JuntasAbangare**	**33.41**	**331**	*d*iP			P	16 36 07.9	+2.3
JTS	**JuntasAbangare**	**33.41**	**331**	*e*P			**P**	**16 36 05.4**	**-0.2**
	comp=Z,403nm,2.3s								
BIM	**Bigot**	**34.70**	**14**	*e*P			**P**	**16 36 16.4**	**-0.2**
MVM	**Montagne Vaucl**	**34.77**	**14**	*e*P			**P**	**16 36 16.4**	**-0.9**
FDF	**Fort de France**	**34.89**	**14**	*e*P			**P**	**16 36 16.2**	**-2.1**
FDF				pmax			pmax		
	comp=Z,98nm,0.7s								
FDF	**Fort de France**	**34.89**	**14**	*e*P			**P**	**16 36 16.2**	**-2.1**
	comp=Z,98nm,0.7s								
FDF	**Fort de France**	**34.89**	**14**	*e*P			**P**	**16 36 17.0**	**-1.3**
RCBR	**Riachuelo**	**35.08**	**72**	P			**P**	**16 36 20.2**	**+0.1**
	comp=Z,230nm,0.8s,baz=236,slow=9.6,SNR=172								
RCBR				S			**S**	**16 41 45.9**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=114,slow=20,SNR=1.6								
RCBR				LR			LR	16 51 35.4	
	comp=Z,401nm,20.5s,baz=208,slow=38								
RCBR	**Riachuelo**	**35.08**	**72**	*e*P			**P**	**16 36 20.2**	**+0.1**
	comp=Z,255nm,0.8s								
RCBR				S			**S**	**16 41 45.9**	**+0.7**
USHA	**Ushuaia**	**35.31**	**179**	P			**P**	**16 36 21.3**	**-0.1**
	comp=Z,22nm,0.9s,baz=5.0,slow=5.0,SNR=6.9								
USHA				pP			**pP**	**16 36 44.6**	**-0.5**
	comp=Z,15nm,0.7s,baz=358,slow=11,SNR=3.1								
USHA				LR			LR	16 51 58.8	
	comp=Z,357nm,19.6s,baz=329,slow=38								
USHA	**Ushuaia**	**35.31**	**179**	P			**P**	**16 36 21.3**	**-0.1**
USHA				pP			**pP**	**16 36 44.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**37.29**	**3**	*e*P			**P**	**16 36 39.1**	**+0.4**
	comp=Z,61nm,1.2s								
OBIP	**Obispado Ponce**	**37.36**	**4**	*e*P			**P**	**16 36 38.0**	**-1.3**
	comp=Z,169nm,1.1s								
OBIP				*e*pP			**pP**	**16 37 02.2**	**-0.9**
CELP	**Cerrillos**	**37.39**	**4**	*e*P			**P**	**16 36 39.3**	**-0.3**
SJG	**San Juan**	**37.46**	**5**	P			**P**	**16 36 39.7**	**-0.4**
	comp=Z,119nm,1.1s,baz=267,slow=0.5,SNR=21								
SJG				S			**S**	**16 42 16.2**	**-4.9**
	comp=Z,32nm,1.0s,baz=90,slow=21,SNR=34								
SJG	**San Juan**	**37.46**	**5**	*e*P			**P**	**16 36 39.5**	**-0.6**
SJG				S			**S**	**16 42 16.2**	**-4.9**
SJG				pmax			pmax		
	comp=Z,121nm,1.2s								
SJG	**San Juan**	**37.46**	**5**	*e*P			**P**	**16 36 39.5**	**-0.6**
	comp=Z,121nm,1.2s								
SJG				S			**S**	**16 42 16.2**	**-4.9**
LSP	**Las Mesas**	**37.46**	**3**	*e*P			**P**	**16 36 40.8**	**+0.6**
LSP				*e*pP			**pP**	**16 37 03.5**	**-0.6**
LSP				*e*sP			**sP**	**16 37 15.1**	**-1.0**
MPR	**Mayaguez**	**37.50**	**3**	*e*P			**P**	**16 36 40.5**	**0.0**
	comp=Z,62nm,0.8s								
HUMP	**Col San Antoni**	**37.52**	**5**	*e*P			**P**	**16 36 40.1**	**-0.5**
	comp=Z,60nm,1.4s								
LRS	**Lares**	**37.59**	**4**	*e*P			**P**	**16 36 40.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**37.79**	**330**	*e*P			**P**	**16 36 44.2**	**+1.3**
	comp=Z,489nm,2.0s								
STVI	**Saint Thomas**	**37.81**	**7**	*e*P			**P**	**16 36 41.1**	**-1.9**
	comp=Z,44nm,1.4s								
SDDR	**Presa de Saban**	**38.27**	**357**	*e*P			**P**	**16 36 46.3**	**-0.7**
	comp=Z,41nm,1.1s								
MTDJ	**Mount Denham**	**38.35**	**347**	*e*P			**P**	**16 36 49.0**	**+1.2**
	comp=Z,173nm,1.4s								
HOPE	**Hope Point**	**42.77**	**152**	*e*P			**P**	**16 37 25.2**	**+1.6**
	comp=Z,109nm,0.9s								
TEIG	**Tepich**	**43.67**	**334**	*e*P			**P**	**16 37 31.4**	**+0.2**
	comp=Z,35nm,0.5s								
TEIG				*e*pP			**pP**	**16 37 53.4**	**-2.3**
TRIS	**Tristan da Cun**	**52.30**	**122**	*e*P			**P**	**16 38 37.9**	**+0.3**
	comp=Z,119nm,0.7s								
TRIS				*e*pP			**pP**	**16 39 03.4**	**+0.6**
BRAL	**Brewton**	**53.05**	**341**	*e*P			**P**	**16 38 43.2**	**+0.1**
	comp=Z,104nm,0.8s								
BRAL				*e*pP			**pP**	**16 39 08.4**	**+0.1**
NHSC	**New Hope**	**53.33**	**348**	*e*P			**P**	**16 38 45.8**	**+0.7**
	comp=Z,544nm,1.4s								
NHSC				pP			**pP**	**16 39 10.6**	**+0.3**
NHSC				*e*sP			**sP**	**16 39 22.0**	**0.0**
GOGA	**Godfrey**	**54.33**	**345**	*e*P			**P**	**16 38 51.9**	**-0.4**
GOGA				*e**PP			**pP**	**16 39 17.3**	**-0.4**
GOGA				pmax			pmax		
	comp=Z,10.0nm,0.6s								
GOGA	**Godfrey**	**54.33**	**345**	*e*P			**P**	**16 38 51.9**	**-0.4**
	comp=Z,9.9nm,0.6s								
GOGA				*e*pP			**pP**	**16 39 17.3**	**-0.4**
KVTX	**Kingsville**	**54.39**	**328**	*e*P			**P**	**16 38 54.4**	**+1.4**
	comp=Z,876nm,2.1s								
JSC	**Jenkinsville**	**54.68**	**348**	*e*P			**P**	**16 38 55.3**	**+0.4**
JSC				*e**PP			**pP**	**16 39 17.1**	**-3.1**
JSC	**Jenkinsville**	**54.68**	**348**	*e*P			**P**	**16 38 55.2**	**+0.4**
JSC				*e*pP			**pP**	**16 39 17.1**	**-3.1**
LRAL	**Lakeview Retre**	**54.92**	**342**	*e*P			**P**	**16 38 55.7**	**-0.9**
	comp=Z,23nm,0.8s								
LRAL				*e*pP			**pP**	**16 39 20.4**	**-1.7**
HKT	**Hockley**	**55.45**	**332**	*e*P			**P**	**16 39 00.8**	**+0.4**
HKT				*e**PP			**pP**	**16 39 24.6**	**-1.2**
HKT				pmax			pmax		
	comp=Z,184nm,1.7s								
HKT	**Hockley**	**55.45**	**332**	*e*P			**P**	**16 39 00.8**	**+0.4**
	comp=Z,184nm,1.7s								
HKT				*e*pP			**pP**	**16 39 24.6**	**-1.2**
KMSC	**Kings Mountain**	**55.52**	**348**	⇓P			**P**	**16 39 01.5**	**+0.5**
	baz=56,SNR=10								
KMSC				⇓P			**P**	**16 39 01.5**	**+0.5**
	baz=56,SNR=10								
NATX	**Nacogdoches**	**56.50**	**334**	*e*P			**P**	**16 39 08.5**	**+0.5**
	comp=Z,503nm,1.8s								
CPCT	**Cooper Cave**	**56.53**	**345**	*e*P			**P**	**16 39 07.6**	**-0.5**
CPCT				*e*pP			**pP**	**16 39 32.7**	**-0.9**
TKL	**Tuckaleechee C**	**56.55**	**346**	P			**P**	**16 39 08.1**	**-0.2**
	comp=Z,27nm,1.0s,baz=146,slow=7.7,SNR=16								
TKL				pP			**pP**	**16 39 33.0**	**-0.8**
	comp=Z,38nm,0.7s,baz=200,slow=5.7,SNR=8.2								
TKL	**Tuckaleechee C**	**56.55**	**346**	*e*P			**P**	**16 39 07.6**	**-0.7**
TKL				*e**PP			**pP**	**16 39 33.0**	**-0.8**
TKL	**Tuckaleechee C**	**56.55**	**346**	*e*P			**P**	**16 39 07.6**	**-0.7**
TKL				*e*pP			**pP**	**16 39 29.5**	**-4.3**
TKL				pP			**pP**	**16 39 33.0**	**-0.8**
SWET	**Sewanee**	**56.67**	**344**	*e*P			**P**	**16 39 08.6**	**-0.6**
	comp=Z,55nm,0.5s								
SWET				*e*pP			**pP**	**16 39 33.2**	**-1.5**
OXF	**Oxford**	**57.03**	**340**	*e*P			**P**	**16 39 10.3**	**-1.4**
OXF				pmax			pmax		
	comp=Z,70nm,0.6s								
OXF	**Oxford**	**57.03**	**340**	*e*P			**P**	**16 39 10.3**	**-1.4**
	comp=Z,70nm,0.6s								
PLAL	**Pickwick Lake**	**57.05**	**342**	*e*P			**P**	**16 39 10.6**	**-1.3**
	comp=Z,99nm,1.4s								
PLAL				*e*pP			**pP**	**16 39 34.5**	**-2.9**
PLAL				*e*sP			**sP**	**16 39 47.1**	**-1.8**
BLA	**Blacksburg**	**57.37**	**349**	*e*P			**P**	**16 39 14.8**	**+0.7**
BLA				pmax			pmax		
	comp=Z,183nm,1.4s								
BLA	**Blacksburg**	**57.37**	**349**	*e*P			**P**	**16 39 14.8**	**+0.7**
	comp=Z,183nm,1.4s								
JCT	**Junction City**	**57.75**	**329**	*e*P			**P**	**16 39 16.7**	**-0.2**
JCT				pmax			pmax		
	comp=Z,14nm,0.7s								
JCT	**Junction City**	**57.75**	**329**	*e*P			**P**	**16 39 16.6**	**-0.2**
	comp=Z,14nm,0.7s								
JCT	**Junction City**	**57.75**	**329**	⇑P			**P**	**16 39 16.8**	**-0.1**
	baz=58,SNR=8.4								
JCT				⇑P			**P**	**16 39 16.8**	**-0.1**
	baz=58,SNR=8.4								
WVT	**Waverly**	**58.05**	**342**	*e*P			**P**	**16 39 17.8**	**-1.0**
WVT				*e**PP			**pP**	**16 39 42.4**	**-2.0**
WVT				*e**SP			**sP**	**16 39 54.0**	**-2.0**
WVT				pmax			pmax		
	comp=Z,37nm,0.6s								
WVT	**Waverly**	**58.05**	**342**	*e*P			**P**	**16 39 17.8**	**-1.0**
	comp=Z,37nm,0.6s								
WVT				*e*pP			**pP**	**16 39 42.4**	**-2.0**
WVT				*e*sP			**sP**	**16 39 54.0**	**-2.0**
UALR	**University of**	**58.27**	**338**	*e*P			**P**	**16 39 20.1**	**-0.3**
	comp=Z,114nm,1.4s								
UALR				*e*pP			**pP**	**16 39 46.7**	**+0.7**
HBAR	**Harrisburg**	**58.40**	**339**	*e*P			**P**	**16 39 20.9**	**-0.3**
RFTA	**Plano**	**58.44**	**333**	*e*P			**P**	**16 39 21.3**	**-0.3**
RFTA				*e*pP			**pP**	**16 39 46.0**	**-1.3**
MIAR	**Mount Ida**	**58.52**	**336**	*e*P			**P**	**16 39 21.9**	**-0.2**
MIAR				*e**PP			**pP**	**16 39 46.9**	**-0.9**
MIAR				pmax			pmax		
	comp=Z,131nm,1.4s								
MIAR	**Mount Ida**	**58.52**	**336**	*e*P			**P**	**16 39 21.9**	**-0.2**
	comp=Z,131nm,1.4s								
MIAR				*e*pP			**pP**	**16 39 46.9**	**-0.9**
628A	**Black Gap, Mar**	**58.54**	**325**	⇓P			**P**	**16 39 23.0**	**+0.6**
	baz=59								
628A				⇓P			**P**	**16 39 23.0**	**+0.6**
	baz=59								
UTMT	**University of**	**58.55**	**341**	*e*P			**P**	**16 39 21.1**	**-1.2**
	comp=Z,328nm,1.5s								
627A	**Terlingua Ranc**	**58.78**	**325**	⇓P			**P**	**16 39 24.3**	**+0.1**
	baz=59,SNR=23								
627A				⇓P			**P**	**16 39 24.3**	**+0.1**
	baz=59,SNR=23								
TXAR	**Lajitas Array**	**58.84**	**325**	P			**P**	**16 39 24.6**	**0.0**
	comp=Z,2.5nm,0.4s,baz=153,slow=8.2,SNR=69								
TXAR	**Lajitas Array**	**58.84**	**325**	P			**P**	**16 39 24.6**	**0.0**
TXAR	**Lajitas Array**	**58.84**	**325**	P			**P**	**16 39 24.6**	**0.0**
528A	**Cox Ranch, San**	**59.02**	**326**	⇓P			**P**	**16 39 25.7**	**-0.1**
	baz=59,SNR=26								
528A				⇓P			**P**	**16 39 25.7**	**-0.1**
	baz=59,SNR=26								
626A	**Big Bend Ranch**	**59.27**	**324**	⇑P			**P**	**16 39 27.9**	**+0.4**
	baz=60,SNR=60								
626A				⇑P			**P**	**16 39 27.9**	**+0.4**
	baz=60,SNR=60								
428A	**Kincaid Ranch,**	**59.41**	**326**	⇑P			**P**	**16 39 28.8**	**+0.3**
	baz=60,SNR=10								
428A				⇑P			**P**	**16 39 28.8**	**+0.3**
	baz=60,SNR=10								
527A	**Woodward Ranch**	**59.44**	**325**	⇑P			**P**	**16 39 28.8**	**0.0**
	baz=60,SNR=17								
527A				⇑P			**P**	**16 39 28.8**	**0.0**
	baz=60,SNR=17								
MVL	**Millersville**	**59.54**	**354**	*e*P			**P**	**16 39 30.0**	**+1.0**
	comp=Z,46nm,1.3s								
MVL				*e*pP			**pP**	**16 39 57.6**	**+2.9**
526A	**Mary Lane Ranc**	**59.63**	**325**	⇓P			**P**	**16 39 30.4**	**+0.3**
	baz=60,SNR=40								
526A				⇓P			**P**	**16 39 30.4**	**+0.3**
	baz=60,SNR=40								
USIN	**University of**	**59.72**	**343**	*e*P			**P**	**16 39 28.6**	**-1.7**
	comp=Z,89nm,1.1s								
USIN				*e*pP			**pP**	**16 39 56.9**	**+0.9**
427A	**Hayter Ranch,**	**59.88**	**326**	⇓P			**P**	**16 39 31.7**	**0.0**
	baz=60,SNR=22								
427A				⇓P			**P**	**16 39 31.7**	**0.0**
	baz=60,SNR=22								
SIUC	**Southern Illin**	**59.93**	**342**	*e*P			**P**	**16 39 30.9**	**-0.9**
	comp=Z,161nm,1.1s								
SIUC				*e*pP			**pP**	**16 39 57.4**	**-0.2**
328A	**Wristen Ranch,**	**59.99**	**327**	⇑P			**P**	**16 39 32.4**	**-0.1**
	baz=60,SNR=20								
328A				⇑P			**P**	**16 39 32.4**	**-0.1**
	baz=60,SNR=20								
426A	**McDonald Obser**	**60.08**	**325**	⇑P			**P**	**16 39 33.3**	**+0.1**
	baz=60,SNR=26								
426A				⇑P			**P**	**16 39 33.3**	**+0.1**
	baz=60,SNR=26								
SHEL	**Horse Pasture**	**60.22**	**98**	*e*P			**P**	**16 39 35.4**	**+1.1**
SHEL				pmax			pmax		
	comp=Z,163nm,0.8s								
SHEL	**Horse Pasture**	**60.22**	**98**	*e*P			**P**	**16 39 35.4**	**+1.1**
	comp=Z,163nm,0.8s								
SSPA	**Standing Stone**	**60.34**	**352**	*e*P			**P**	**16 39 35.0**	**+0.5**
	comp=Z,60nm,1.4s								
SSPA				*e*pP			**pP**	**16 40 00.8**	**+0.6**
326A	**Caldwell Ranch**	**60.55**	**326**	⇓P			**P**	**16 39 36.4**	**+0.1**
	baz=61,SNR=19								
326A				⇓P			**P**	**16 39 36.4**	**+0.1**
	baz=61,SNR=19								
BLO	**Bloomington**	**60.55**	**345**	*e*P			**P**	**16 39 35.4**	**-0.6**
BLO				pmax			pmax		
	comp=Z,69nm,1.0s								
BLO	**Bloomington**	**60.55**	**345**	*e*P			**P**	**16 39 35.4**	**-0.6**
	comp=Z,69nm,1.0s								
OLIL	**Olney**	**60.56**	**343**	*e*P			**P**	**16 39 35.5**	**-0.5**
	comp=Z,170nm,1.6s								
TUL1	**Tulsa**	**60.58**	**335**	⇑P			**P**	**16 39 36.1**	**-0.1**
	baz=61,SNR=13								
TUL1				⇑P			**P**	**16 39 36.1**	**-0.1**
	baz=61,SNR=13								
425A	**Indio Mountain**	**60.68**	**325**	⇓P			**P**	**16 39 37.2**	**0.0**
	baz=61,SNR=44								
425A				⇓P			**P**	**16 39 37.2**	**0.0**
	baz=61,SNR=44								
227A	**Bennet, Jal**	**60.74**	**327**	⇑P			**P**	**16 39 37.9**	**+0.3**
	baz=61,SNR=10								
227A				⇑P			**P**	**16 39 37.9**	**+0.3**
	baz=61,SNR=10								
ACSO	**Alum Creek Sta**	**60.77**	**348**	*e*P			**P**	**16 39 37.2**	**-0.3**
	comp=Z,137nm,1.2s								
ACSO				*e*pP			**pP**	**16 40 04.0**	**+0.8**
WMOK	**Wichita Mounta**	**60.82**	**332**	*e*P			**P**	**16 39 37.1**	**-0.8**
WMOK				*e**PP			**pP**	**16 40 03.9**	**+0.2**
WMOK				*e*				16 40 21.1	
WMOK				pmax			pmax		
	comp=Z,45nm,1.5s								
WMOK	**Wichita Mounta**	**60.82**	**332**	*e*P			**P**	**16 39 37.1**	**-0.8**
	comp=Z,45nm,1.5s								
WMOK				*e*pP			**pP**	**16 40 03.9**	**+0.2**
WMOK				*e*PcP			**PcP**	**16 40 21.1**	**+0.3**
Z29A	**Hungry Hill Ra**	**60.95**	**329**	⇑P			**P**	**16 39 38.2**	**-0.8**
	baz=61								
Z29A				⇑P			**P**	**16 39 38.2**	**-0.8**
	baz=61								
RKT	**Rikitea**	**60.97**	**254**	*e*S			**S**	**16 47 54.0**	**+4.2**
	comp=Z,637nm,23.5s								
RKT				*e*LR			LR	16 58 01.5	
	comp=Z,1μm,35.0s								
325A	**Bean Ranch, Si**	**61.13**	**325**	⇓P			**P**	**16 39 40.2**	**-0.1**
	baz=61,SNR=71								
325A				⇓P			**P**	**16 39 40.2**	**-0.1**
	baz=61,SNR=71								
226A	**Malaga, Loving**	**61.20**	**326**	⇓P			**P**	**16 39 41.3**	**+0.6**
	baz=61,SNR=28								
226A				⇓P			**P**	**16 39 41.3**	**+0.6**
	baz=61,SNR=28								
CLNB	**Carlsbad**	**61.25**	**327**	*e*P			**P**	**16 39 41.3**	**+0.3**
	comp=Z,4.1nm,0.7s								
127A	**Arkansas Junct**	**61.30**	**327**	⇑P			**P**	**16 39 41.1**	**-0.3**
	baz=62,SNR=7.9								
127A				⇑P			**P**	**16 39

Z26A ⇓P P 16 39 46.4 -0.3
baz=62,SNR=18
Y27A Causey 62.17 328 ⇑P P 16 39 46.7 -0.5
baz=62,SNR=16
Y27A ⇑P P 16 39 46.7 -0.5
baz=62,SNR=16
X28A Dimmitt 62.21 329 ⇓P P 16 39 46.8 -0.7
baz=62
X28A ⇓P P 16 39 46.8 -0.7
baz=62
AMTX Amarillo 62.26 330 P P 16 39 46.3 -1.4
W29A Amraillo 62.44 330 ⇑P P 16 39 48.3 -0.6
baz=63
W29A ⇑P P 16 39 48.3 -0.6
baz=63
Z25A Roswell 62.48 327 ⇓P P 16 39 48.8 -0.5
baz=63,SNR=17
Z25A ⇓P P 16 39 48.8 -0.5
baz=63,SNR=17
Y26A Elida 62.53 328 ⇑P P 16 39 49.5 -0.1
baz=63
Y26A ⇑P P 16 39 49.5 -0.1
baz=63
HDIL Hopedale 62.59 343 *e*P P 16 39 48.8 -0.8
comp=Z,580nm,2.1s
HDIL *ep*P **pP** 16 40 14.1 -1.5
X27A F and S Farms, 62.75 329 ⇑P P 16 39 50.8 -0.2
baz=63
X27A ⇑P P 16 39 50.8 -0.2
baz=63
W28A Vega 62.81 330 ⇑P P 16 39 51.2 -0.2
baz=63
W28A ⇑P P 16 39 51.2 -0.2
baz=63
222A Williams Famil 62.85 324 ⇓P P 16 39 52.5 +0.7
baz=63,SNR=14
222A ⇓P P 16 39 52.5 +0.7
baz=63,SNR=14
Z24A Sheeppen Canyo 62.86 326 ⇑P P 16 39 51.8 -0.1
baz=63,SNR=27
Z24A ⇑P P 16 39 51.8 -0.1
baz=63,SNR=27
AAM Ann Arbor 62.90 348 *e*P P 16 39 51.5 -0.2
AAM pmax pmax
comp=Z,76nm,1.3s
AAM Ann Arbor 62.90 348 *e*P P 16 39 51.5 -0.2
comp=Z,76nm,1.3s
Y25A Mesa, Roswell 62.97 327 ⇓P P 16 39 52.0 -0.6
baz=63,SNR=14
Y25A ⇓P P 16 39 52.0 -0.6
baz=63,SNR=14
X26A CR and CF Fran 63.02 328 ⇑P P 16 39 52.6 -0.3
baz=63,SNR=12
X26A ⇑P P 16 39 52.6 -0.3
baz=63,SNR=12
W27A Bowe Ranch, En 63.07 329 ⇓P P 16 39 52.8 -0.3
baz=63
W27A ⇓P P 16 39 52.8 -0.3
baz=63
320A Kipp Ranch, An 63.08 323 ⇓P P 16 39 54.1 +0.8
baz=63,SNR=12
320A ⇓P P 16 39 54.1 +0.8
baz=63,SNR=12
221A Mesquite Ranch 63.16 324 ⇓P P 16 39 54.9 +1.1
baz=63,SNR=6.2
221A ⇓P P 16 39 54.9 +1.1
baz=63,SNR=6.2
V28A Channing 63.22 330 ⇑P P 16 39 54.0 -0.2
baz=64,SNR=5.5
V28A ⇑P P 16 39 54.0 -0.2
baz=64,SNR=5.5
122A Conniff Cattle 63.25 325 ⇓P P 16 39 55.3 +0.9
baz=64
122A ⇓P P 16 39 55.3 +0.9
baz=64
MDV Middlebury 63.26 357 P P 16 39 52.6 -1.3
comp=Z,877nm,0.4s
MDV *ep*P **pP** 16 40 19.8 -0.2
Z23A Rita Site, Whi 63.26 326 ⇑P P 16 39 54.9 +0.4
baz=64,SNR=6.5
Z23A ⇑P P 16 39 54.9 +0.4
baz=64,SNR=6.5
W26A Owens Ranch, T 63.43 329 ⇑P P 16 39 55.5 0.0
baz=64,SNR=5.5
W26A ⇑P P 16 39 55.5 0.0
baz=64,SNR=5.5
X25A Clemmons Ranch 63.43 328 ⇑P P 16 39 55.1 -0.5
baz=64
X25A ⇑P P 16 39 55.1 -0.5
baz=64
220A Playas Peak, P 63.50 323 ⇓P P 16 39 56.6 +0.5
baz=64,SNR=37
220A ⇓P P 16 39 56.6 +0.5
baz=64,SNR=37
121A Cookes Peak, D 63.55 324 ⇑P P 16 39 57.4 +0.9
baz=64,SNR=18
121A ⇑P P 16 39 57.4 +0.9
baz=64,SNR=18
Z22A Elephant Butte 63.65 325 ⇑P P 16 39 57.9 +0.9
baz=64,SNR=36
Z22A ⇑P P 16 39 57.9 +0.9
baz=64,SNR=36
KSU1 Kansas State U 63.68 336 *e*P P 16 39 56.2 -0.7
comp=Z,81nm,1.1s
KSU1 *ep*P **pP** 16 40 23.1 +0.2
Y23A Lovelace Mesa, 63.69 326 ⇑P P 16 39 57.4 +0.1
baz=64,SNR=5.5
Y23A ⇑P P 16 39 57.4 +0.1
baz=64,SNR=5.5
X24A Lazy VL Ranch, 63.85 327 ⇓P P 16 39 58.4 0.0
baz=64
X24A ⇓P P 16 39 58.4 0.0
baz=64
W25A X Bar L Ranch, 63.88 328 ⇓P P 16 39 58.3 -0.2
baz=64,SNR=17
W25A ⇓P P 16 39 58.3 -0.2
baz=64,SNR=17
LONY Lake Ozonia 63.97 356 *e*P P 16 39 59.1 +0.4
comp=Z,76nm,1.4s
LONY *ep*P **pP** 16 40 26.1 +1.4
V26A Tequesquite Ra 64.01 329 ⇑P P 16 39 59.2 -0.1
baz=64
V26A ⇑P P 16 39 59.2 -0.1
baz=64
120A U Bar Ranch, L 64.04 323 ⇑P P 16 40 00.6 +1.0
baz=64,SNR=12
120A ⇑P P 16 40 00.6 +1.0
baz=64,SNR=12
Z21A St. Cloud Mine 64.08 325 ⇑P P 16 40 01.0 +1.1
baz=64,SNR=9.3
Z21A ⇑P P 16 40 01.0 +1.1
baz=64,SNR=9.3
FRNY Flat Rock 64.12 356 *e*P P 16 40 00.0 +0.4
comp=Z,88nm,1.4s
FRNY *ep*P **pP** 16 40 23.9 -1.8
FRNY *es*P **sP** 16 40 37.4 +0.3
BNM Barren Site 64.16 326 *e*P P 16 40 00.6 +0.2
comp=Z,99nm,1.8s
BNM *ep*P **pP** 16 40 26.3 -0.2
Y22A Socorro 64.17 326 ⇑P P 16 40 01.2 +0.7
baz=64,SNR=6.9
Y22A ⇑P P 16 40 01.2 +0.7
baz=64,SNR=6.9
Y22D IRIS PASSCAL I 64.25 326 ⇑P P 16 40 02.0 +1.1
baz=64
Y22D ⇑P P 16 40 02.0 +1.1
baz=64
X23A Hourglass Bar 64.26 327 ⇓P P 16 40 01.6 +0.5
baz=64
X23A ⇓P P 16 40 01.6 +0.5
baz=64
SNAA Sanae 64.27 161 *e*P P 16 39 57.0 -3.5
SNAA pmax pmax
comp=Z,34nm,1.0s
SNAA Sanae 64.27 161 *e*P P 16 39 57.0 -3.5
comp=Z,34nm,1.0s
LPM Los Pinos Moun 64.28 326 *e*P P 16 40 01.6 +0.4
LPM *ep*P **pP** 16 40 27.8 +0.5
T28A Walsh 64.29 331 ⇑P P 16 40 00.7 -0.4
baz=64
T28A ⇑P P 16 40 00.7 -0.4
baz=64
W24A Lazy 6 Ranch, 64.35 328 ⇑P P 16 40 01.5 -0.1
baz=65,SNR=8.0
W24A ⇑P P 16 40 01.5 -0.1
baz=65,SNR=8.0
LENM Lemitar 64.35 326 *e*P P 16 40 01.8 +0.1
MSNY Massena 64.36 356 *e*P P 16 40 01.8 +0.6
comp=Z,545nm,1.1s
MSNY *ep*P **pP** 16 40 23.7 -3.5
MSNY *es*P **sP** 16 40 36.3 -2.5
Z20A Nine Sixteen R 64.44 324 ⇑P P 16 40 03.4 +1.2
baz=65,SNR=24
Z20A ⇑P P 16 40 03.4 +1.2
baz=65,SNR=24
V25A Rancho No Teng 64.45 329 ⇑P P 16 40 02.3 0.0
baz=65,SNR=30
V25A ⇑P P 16 40 02.3 0.0
baz=65,SNR=30
U26A Atchley Ranch, 64.47 329 ⇓P P 16 40 02.5 +0.1
baz=65,SNR=21
U26A ⇓P P 16 40 02.5 +0.1
baz=65,SNR=21
T27A Campo 64.52 331 ⇓P P 16 40 02.6 0.0
baz=65,SNR=18
T27A ⇓P P 16 40 02.6 0.0
baz=65,SNR=18
Y21A Point of Rocks 64.61 325 ⇑P P 16 40 04.5 +1.2
baz=65,SNR=26
Y21A ⇑P P 16 40 04.5 +1.2
baz=65,SNR=26
LAZ Ladron 64.62 326 *e*P P 16 40 04.6 +1.2
comp=Z,71nm,1.8s
LAZ *ep*P **pP** 16 40 29.8 +0.3
LAZ *e*PcP **PcP** 16 40 36.5 0.0
X22A Bernardo 64.63 326 ⇓P P 16 40 04.7 +1.3
baz=65
X22A ⇓P P 16 40 04.7 +1.3
baz=65
CBKS Cedar Bluff 64.67 334 *e*P P 16 40 03.4 -0.1
CBKS *e**PP **pP** 16 40 30.0 +0.5
CBKS pmax pmax
comp=Z,82nm,1.1s
CBKS Cedar Bluff 64.67 334 *e*P P 16 40 03.4 -0.1
comp=Z,82nm,1.1s
CBKS *ep*P **pP** 16 40 30.0 +0.5
CBKS Cedar Bluff 64.67 334 ⇑P P 16 40 03.8 +0.3
baz=65,SNR=15
CBKS ⇑P P 16 40 03.8 +0.3
baz=65,SNR=15
CBKS ⇑P P 16 40 03.8 +0.3
baz=65,SNR=15
CBKS ⇑P P 16 40 03.8 +0.3
baz=65,SNR=15
V24A Rampart Ranch, 64.68 328 ⇑P P 16 40 03.8 0.0
baz=65,SNR=13
V24A ⇑P P 16 40 03.8 0.0
baz=65,SNR=13
ANMO Albuquerque 64.68 327 *e*P P 16 40 04.0 +0.2
ANMO *e**PP **pP** 16 40 30.5 +0.6
ANMO pmax pmax
comp=Z,52nm,1.5s
ANMO Albuquerque 64.68 327 *e*P P 16 40 04.0 +0.2
comp=Z,52nm,1.5s
ANMO *ep*P **pP** 16 40 30.5 +0.6
W23A Werner Place, 64.69 327 ⇓P P 16 40 04.3 +0.4
baz=65,SNR=8.3
W23A ⇓P P 16 40 04.3 +0.4
baz=65,SNR=8.3
U25A Circle Dot Ran 64.79 329 ⇓P P 16 40 04.8 +0.3
baz=65,SNR=28
U25A ⇓P P 16 40 04.8 +0.3
baz=65,SNR=28
Y20A Horse Springs, 64.91 325 ⇑P P 16 40 06.4 +1.0
baz=65,SNR=22
Y20A ⇑P P 16 40 06.4 +1.0
baz=65,SNR=22
W22A Albuquerque 64.99 326 ⇓P P 16 40 06.8 +1.0
baz=65
W22A ⇓P P 16 40 06.8 +1.0
baz=65
SCIA State Center 65.00 340 *e*P P 16 40 05.1 -0.3
comp=Z,94nm,1.0s
SCIA *ep*P **pP** 16 40 31.1 -0.4
X21A Alamocita Cree 65.00 325 ⇓P P 16 40 06.9 +1.0
baz=65,SNR=22
X21A ⇓P P 16 40 06.9 +1.0
baz=65,SNR=22
T26A Comanche Natio 65.02 330 ⇓P P 16 40 06.2 +0.2
baz=65,SNR=25
T26A ⇓P P 16 40 06.2 +0.2
baz=65,SNR=25
TUC Tucson 65.10 322 *e*P P 16 40 07.3 +0.8
TUC pmax pmax
comp=Z,51nm,1.4s
TUC Tucson 65.10 322 *e*P P 16 40 07.2 +0.8
comp=Z,51nm,1.4s
V23A Ortiz Mt. (NFS 65.16 327 ⇓P P 16 40 07.7 +0.8
baz=65,SNR=20
V23A ⇓P P 16 40 07.7 +0.8
baz=65,SNR=20
U24A Moreno Valley 65.22 328 ⇑P P 16 40 08.2 +0.8
baz=66,SNR=6.2
U24A ⇑P P 16 40 08.2 +0.8
baz=66,SNR=6.2
S26A Kim 65.33 330 ⇑P P 16 40 08.4 +0.5
baz=66,SNR=36
S26A ⇑P P 16 40 08.4 +0.5
baz=66,SNR=36
T25A Trinidad 65.38 330 ⇑P P 16 40 09.0 +0.7
baz=66,SNR=16
T25A ⇑P P 16 40 09.0 +0.7
baz=66,SNR=16
W21A San Fidel 65.43 326 ⇑P P 16 40 09.6 +1.0
baz=66,SNR=6.9
W21A ⇑P P 16 40 09.6 +1.0
baz=66,SNR=6.9
Y19A Nutrioso 65.43 324 ⇑P P 16 40 10.2 +1.4
baz=66,SNR=47
Y19A ⇑P P 16 40 10.2 +1.4
baz=66,SNR=47
X20A Quemado 65.45 325 ⇑P P 16 40 09.9 +1.1
baz=66,SNR=17
X20A ⇑P P 16 40 09.9 +1.1
baz=66,SNR=17
GLMI Grayling 65.52 348 *e*P P 16 40 06.5 -2.2
GLMI *ep*P **pP** 16 40 33.6 -1.3
R27A Eads 65.56 331 ⇓P P 16 40 09.2 -0.1
baz=66,SNR=8.9
R27A ⇓P P 16 40 09.2 -0.1
baz=66,SNR=8.9
U23A El Rito 65.62 328 ⇓P P 16 40 10.6 +0.8
baz=66,SNR=9.2
U23A ⇓P P 16 40 10.6 +0.8
baz=66,SNR=9.2
T24A Torres, Weston 65.64 329 ⇑P P 16 40 10.9 +0.8
baz=66,SNR=16
T24A ⇑P P 16 40 10.9 +0.8
baz=66,SNR=16
V22A San Miguel Ran 65.66 327 ⇓P P 16 40 11.2 +1.0
baz=66
V22A ⇓P P 16 40 11.2 +1.0
baz=66
Y18A Canyon Day Jun 65.74 323 ⇑P P 16 40 11.5 +0.9
baz=66,SNR=17
Y18A ⇑P P 16 40 11.5 +0.9
baz=66,SNR=17
X19A St. Johns 65.80 324 ⇑P P 16 40 12.0 +0.9
baz=66,SNR=11
X19A ⇑P P 16 40 12.0 +0.9
baz=66,SNR=11
S25A Robets Cordova 65.81 330 ⇓P P 16 40 11.5 +0.5
baz=66,SNR=12
S25A ⇓P P 16 40 11.5 +0.5
baz=66,SNR=12
R26A Arlington 65.87 331 ⇑P P 16 40 11.5 +0.2
baz=66,SNR=34
R26A ⇑P P 16 40 11.5 +0.2
baz=66,SNR=34
W20A Ramah 65.90 325 ⇑P P 16 40 12.6 +0.9
baz=66,SNR=23
W20A ⇑P P 16 40 12.6 +0.9
baz=66,SNR=23
V21A Milan 65.95 326 ⇑P P 16 40 13.0 +1.0
baz=66
V21A ⇑P P 16 40 13.0 +1.0
baz=66
U22A Llaves 65.99 327 ⇑P P 16 40 13.4 +1.2
baz=66,SNR=18
U22A ⇑P P 16 40 13.4 +1.2
baz=66,SNR=18
214A Organ Pipe Nat 66.06 320 ⇑P P 16 40 13.8 +1.3
baz=66,SNR=22
214A ⇑P P 16 40 13.8 +1.3
baz=66,SNR=22
KSCO Kaye Shedlock' 66.08 332 ⇑P P 16 40 13.2 +0.6
baz=66,SNR=9.6
KSCO ⇑P P 16 40 13.2 +0.6
baz=66,SNR=9.6
T23A Casias Ranch, 66.09 328 ⇑P P 16 40 13.7 +0.8
baz=66
T23A ⇑P P 16 40 13.7 +0.8
baz=66
R25A Fountain Ranch 66.13 330 ⇓P P 16 40 13.2 +0.2
baz=66
R25A ⇓P P 16 40 13.2 +0.2
baz=66
S24A Houchin Ranch, 66.17 329 ⇓P P 16 40 14.4 +1.0
baz=66,SNR=23
S24A ⇓P P 16 40 14.4 +1.0
baz=66,SNR=23
X18A Snowflake 66.24 324 ⇑P P 16 40 15.0 +1.1
baz=66,SNR=9.8
X18A ⇑P P 16 40 15.0 +1.1
baz=66,SNR=9.8
BGNE Belgrade 66.26 337 ⇓P P 16 40 13.9 +0.3
baz=66,SNR=17
BGNE ⇓P P 16 40 13.9 +0.3
baz=66,SNR=17
W19A Sanders 66.37 325 ⇑P P 16 40 15.6 +1.0
baz=67,SNR=7.4
W19A ⇑P P 16 40 15.6 +1.0
baz=67,SNR=7.4
V20A Brimhall 66.39 326 ⇓P P 16 40 15.4 +0.6
baz=67,SNR=7.0
V20A ⇓P P 16 40 15.4 +0.6
baz=67,SNR=7.0
SDCO Great Sand Dun 66.39 329 ⇓*i*P P 16 40 15.3 +0.5
comp=Z,105nm,1.5s
SDCO *ep*P **PcP** 16 40 41.8 -2.1
SDCO Great Sand Dun 66.39 329 ⇑P P 16 40 15.6 +0.8
baz=67,SNR=51
SDCO ⇑P P 16 40 15.6 +0.8
baz=67,SNR=51
SDCO ⇑P P 16 40 15.6 +0.8
baz=67,SNR=51
SDCO ⇑P P 16 40 15.6 +0.8
baz=67,SNR=51
Q26A Hugo 66.40 331 ⇑P P 16 40 15.4 +0.7
baz=67,SNR=17
Q26A ⇑P P 16 40 15.4 +0.7
baz=67,SNR=17
U21A Nageezi 66.44 327 ⇓P P 16 40 15.8 +0.7
baz=67,SNR=15
U21A ⇓P P 16 40 15.8 +0.7
baz=67,SNR=15
T22A Edith 66.51 328 ⇑P P 16 40 16.4 +0.9
baz=67,SNR=17
T22A ⇑P P 16 40 16.4 +0.9
baz=67,SNR=17
W18A Petrified Fore 66.56 324 ⇓P P 16 40 16.7 +0.8
baz=67,SNR=5.6
W18A ⇓P P 16 40 16.7 +0.8
baz=67,SNR=5.6
X17A Forest Lakes 66.58 323 ⇑P P 16 40 17.6 +1.4
baz=67,SNR=14
X17A ⇑P P 16 40 17.6 +1.4
baz=67,SNR=14
R24A Sanders Place, 66.58 330 ⇓P P 16 40 16.9 +0.9
baz=67,SNR=10
R24A ⇓P P 16 40 16.9 +0.9
baz=67,SNR=10
S23A Nye Farm, Mont 66.60 329 ⇓P P 16 40 16.9 +0.7
baz=67
S23A ⇓P P 16 40 16.9 +0.7
baz=67
V19A Window Rock 66.63 325 ⇓P P 16 40 17.3 +0.9
baz=67,SNR=7.9
V19A ⇓P P 16 40 17.3 +0.9
baz=67,SNR=7.9
114A Black Gap (USA 66.66 321 ⇑P P 16 40 17.6 +1.3
baz=67,SNR=20
114A ⇑P P 16 40 17.6 +1.3
baz=67,SNR=20
Q25A Bedland, Calha 66.73 331 ⇑P P 16 40 17.2 +0.3
baz=67
Q25A ⇑P P 16 40 17.2 +0.3
baz=67
P26A Davis Ranch, A 66.84 332 ⇑P P 16 40 18.1 +0.6
baz=67,SNR=5.7
P26A ⇑P P 16 40 18.1 +0.6
baz=67,SNR=5.7
U20A Newcomb 66.85 326 ⇑P P 16 40 18.3 +0.6
baz=67,SNR=8.6
U20A ⇑P P 16 40 18.3 +0.6
baz=67,SNR=8.6
R23A Moffat 66.90 329 ⇑P P 16 40 18.9 +0.8
baz=67,SNR=17
R23A ⇑P P 16 40 18.9 +0.8
baz=67,SNR=17
O27A Beecher Island 66.98 333 ⇑P P 16 40 19.3 +0.9
baz=67,SNR=6.2
O27A ⇑P P 16 40 19.3 +0.9
baz=67,SNR=6.2
X16A Lo Mia Camp, P 67.00 323 ⇑P P 16 40 19.9 +1.2
baz=67,SNR=26
X16A ⇑P P 16 40 19.9 +1.2
baz=67,SNR=26
S22A 4UR Ranch, Cre 67.04 328 ⇓P P 16 40 19.6 +0.6
baz=67,SNR=13
S22A ⇓P P 16 40 19.6 +0.6
baz=67,SNR=13
W17A Winslow 67.07 324 ⇑P P 16 40 20.2 +1.2
baz=67
W17A ⇑P P 16 40 20.2 +1.2
baz=67
V18A Ganado 67.11 325 ⇑P P 16 40 19.8 +0.5
baz=67
V18A ⇑P P 16 40 19.8 +0.5
baz=67
Z14A Wintersburg 67.12 321 ⇑P P 16 40 20.3 +1.0
baz=67,SNR=6.0
Z14A ⇑P P 16 40 20.3 +1.0
baz=67,SNR=6.0
U19A Dine' College, 67.15 326 ⇓P P 16 40 19.7 0.0
baz=67,SNR=5.2
U19A ⇓P P 16 40 19.7 0.0
baz=67,SNR=5.2
P25A Willow Gulch B 67.18 331 ⇓P P 16 40 20.6 +0.9
baz=67,SNR=6.6
P25A ⇓P P 16 40 20.6 +0.9
baz=67,SNR=6.6
Q24A Divide 67.19 330 ⇓P P 16 40 20.6 +0.7
baz=67,SNR=18
Q24A ⇓P P 16 40 20.6 +0.7
baz=67,SNR=18
113A Mohawk Valley, 67.20 320 ⇑P P 16 40 20.8 +1.1
baz=67,SNR=12
113A ⇑P P 16 40 20.8 +1.1
baz=67,SNR=12
R22A Saguache, Gunn 67.38 329 ⇑P P 16 40 22.2 +1.0
baz=68
R22A ⇑P P 16 40 22.2 +1.0
baz=68
OGNE Ogallala 67.42 334 *e*P P 16 40 20.2 -0.8
comp=Z,14nm,0.5s
OGNE *ep*P **PcP** 16 40 48.1 +0.3
S21A Coal Bank Pass 67.46 328 ⇑P P 16 40 22.3 +0.6
baz=68,SNR=17
S21A ⇑P P 16 40 22.3 +0.6
baz=68,SNR=17
T19A Beclabito 67.46 326 ⇑P P 16 40 21.9 +0.4
baz=68,SNR=17
T19A ⇑P P 16 40 21.9 +0.4
baz=68,SNR=17
Q23A Hartsel 67.47 330 ⇑P P 16 40 22.3 +0.6
baz=68
Q23A ⇑P P 16 40 22.3 +0.6
baz=68
MVCO Mesa Verde 67.47 327 ⇓*i*P P 16 40 22.1 +0.4
comp=Z,136nm,1.8s
MVCO Mesa Verde 67.47 327 ⇓P P 16 40 22.2 +0.6
baz=68,SNR=21
MVCO ⇓P P 16 40 22.2 +0.6
baz=68,SNR=21
V17A Tonalea, Kykot 67.52 324 ⇑P P 16 40 23.1 +1.2
baz=68,SNR=38
V17A ⇑P P 16 40 23.1 +1.2
baz=68,SNR=38
P24A Kohler Place, 67.52 331 ⇓P P 16 40 22.7 +0.9
baz=68
P24A ⇓P P 16 40 22.7 +0.9
baz=68
Y14A Wickenburg 67.56 321 ⇓P P 16 40 23.2 +1.1

baz=68,SNR=22
Y14A ⇓P P 16 40 23.2 +1.1
baz=68,SNR=22
U18A Rough Rock, Ch 67.60 325 ⇑P P 16 40 23.4 +1.0
baz=68,SNR=14
U18A ⇑P P 16 40 23.4 +1.0
baz=68,SNR=14
O25A Wiggins 67.64 332 ⇑P P 16 40 23.4 +0.9
baz=68,SNR=6.1
O25A ⇑P P 16 40 23.4 +0.9
baz=68,SNR=6.1
ECSD EROS Data Cent 67.75 339 *eP* P 16 40 22.9 -0.1
comp=Z,113nm,1.5s
WUAZ Wupatki 67.76 324 ⇓*iP* P 16 40 24.6 +1.1
comp=Z,54nm,1.1s
WUAZ *epP* **pP** 16 40 50.1 +0.3
WUAZ Wupatki 67.76 324 ⇓P P 16 40 24.7 +1.3
baz=68,SNR=25
WUAZ ⇓P P 16 40 24.7 +1.3
baz=68,SNR=25
P23A Jefferson 67.84 330 ⇓P P 16 40 25.1 +1.1
baz=68
P23A ⇓P P 16 40 25.1 +1.1
baz=68
S20A Disappointment 67.88 327 ⇑P P 16 40 25.4 +1.2
baz=68,SNR=30
S20A ⇑P P 16 40 25.4 +1.2
baz=68,SNR=30
R21A Cimarron 67.88 328 ⇑P P 16 40 25.1 +0.9
baz=68,SNR=22
R21A ⇑P P 16 40 25.1 +0.9
baz=68,SNR=22
Q22A Crested Butte, 67.95 329 ⇑P P 16 40 25.6 +0.9
baz=68,SNR=16
Q22A ⇑P P 16 40 25.6 +0.9
baz=68,SNR=16
GLA Glamis 68.04 320 *eP* P 16 40 25.4 +0.3
GLA pmax pmax
comp=Z,210nm,2.1s
GLA Glamis 68.04 320 *eP* P 16 40 25.4 +0.3
comp=Z,210nm,2.1s
GLA Glamis 68.04 320 ⇑P P 16 40 26.3 +1.2
baz=68,SNR=5.4
GLA ⇑P P 16 40 26.3 +1.2
baz=68,SNR=5.4
M27A Reverse DX Ran 68.05 334 ⇑P P 16 40 25.6 +0.6
baz=68
M27A ⇑P P 16 40 25.6 +0.6
baz=68
LIC Lamto 68.06 75 ⇑*iP* P 16 40 25.4 -0.2
comp=Z,93nm,0.6s,baz=245
LIC *eR*
comp=Z,551nm,20.8s
ISCO Idaho Springs 68.07 330 ⇓*iP* P 16 40 25.9 +0.4
ISCO *e**PP **pP** 16 40 51.8 0.0
ISCO *e**SP **sP** 16 41 02.0 -1.2
ISCO pmax pmax
comp=Z,100nm,1.7s
ISCO Idaho Springs 68.07 330 ⇓*iP* P 16 40 25.9 +0.4
comp=Z,100nm,1.7s
ISCO *epP* **pP** 16 40 51.8 0.0
ISCO *esP* **sP** 16 41 02.0 -1.2
ISCO Idaho Springs 68.07 330 ⇑P P 16 40 26.2 +0.8
baz=68,SNR=25
ISCO ⇑P P 16 40 26.2 +0.8
baz=68,SNR=25
O24A Longmont 68.08 331 ⇓P P 16 40 26.0 +0.7
baz=68
O24A ⇓P P 16 40 26.0 +0.7
baz=68
U16A Tuba City 68.08 324 ⇑P P 16 40 26.6 +1.2
baz=68,SNR=18
U16A ⇑P P 16 40 26.6 +1.2
baz=68,SNR=18
T18A Mexican Hat 68.14 326 ⇓P P 16 40 26.3 +0.6
baz=68,SNR=39
T18A ⇓P P 16 40 26.3 +0.6
baz=68,SNR=39
R20A Redvale 68.16 328 ⇓P P 16 40 27.0 +1.1
baz=68,SNR=26
R20A ⇓P P 16 40 27.0 +1.1
baz=68,SNR=26
U17A Shonto 68.16 325 ⇓P P 16 40 27.1 +1.1
baz=68,SNR=18
U17A ⇓P P 16 40 27.1 +1.1
baz=68,SNR=18
S19A Harvey Farm, M 68.21 327 ⇑P P 16 40 26.8 +0.5
baz=68,SNR=25
S19A ⇑P P 16 40 26.8 +0.5
baz=68,SNR=25
PV01 Paradox Valley 68.21 327 *eP* P 16 40 26.9 +0.6
comp=Z,10µm,1.7s
PV01 *epP* **pP** 16 40 53.3 +0.7
PV01 *esP* **sP** 16 41 05.1 +1.1
SMCO Snowmass 68.23 329 *eP* P 16 40 27.1 +0.5
comp=Z,109nm,1.8s
SMCO *epP* **pP** 16 40 52.0 -0.8
Q21A Lamborn Mesa, 68.25 329 ⇓P P 16 40 27.4 +0.9
baz=68
Q21A ⇓P P 16 40 27.4 +0.9
baz=68
M26A McRoberts Ranc 68.32 333 ⇑P P 16 40 27.6 +0.9
baz=69
M26A ⇑P P 16 40 27.6 +0.9
baz=69
Y12C Blythe 68.34 320 ⇑P P 16 40 28.2 +1.3
baz=69,SNR=12
Y12C ⇑P P 16 40 28.2 +1.3
baz=69,SNR=12
DBIC Dimbokro 68.40 74 P P 16 40 27.7 +0.1
comp=Z,178nm,0.9s,baz=223,slow=6.5,SNR=165
DBIC pP **pP** 16 40 55.1 +1.1
comp=Z,27nm,0.7s,baz=244,slow=6.4,SNR=2.1
DBIC sP **sP** 16 41 06.1 +0.7
comp=Z,49nm,1.0s,baz=223,slow=7.4,SNR=2.0
DBIC LR LR 17 09 02.6
comp=Z,444nm,20.0s,baz=239,slow=35
DBIC Dimbokro 68.40 74 ⇑*iP* P 16 40 27.6 0.0
DBIC *e**PP **pP** 16 40 54.1 +0.1
DBIC *PP **pP** 16 40 55.1 +1.1
DBIC *SP **sP** 16 41 06.1 +0.7
DBIC *e* 16 42 54.8
DBIC pmax pmax
comp=Z,226nm,0.9s
DBIC Dimbokro 68.40 74 ⇑*iP* P 16 40 27.6 0.0
comp=Z,226nm,0.9s
DBIC *epP* **pP** 16 40 54.1 +0.1
DBIC pP **pP** 16 40 55.1 +1.1
DBIC *esP* **sP** 16 41 04.0 -1.4
DBIC sP sP 16 41 06.1 +0.8
DBIC *ePP* **PP** 16 42 54.8 -5.3
P22A Eagle 68.45 330 ⇓P P 16 40 28.4 +0.7
baz=69,SNR=18
P22A ⇓P P 16 40 28.4 +0.7
baz=69,SNR=18
L27A T5 Ranch, Ells 68.48 334 ⇓P P 16 40 28.6 +0.9
baz=69
L27A ⇓P P 16 40 28.6 +0.9
baz=69
T17A Navajo Res., N 68.53 325 ⇓P P 16 40 29.9 +1.6
baz=69,SNR=44
T17A ⇓P P 16 40 29.9 +1.6
baz=69,SNR=44
O23A Lake Granby, G 68.54 330 ⇑P P 16 40 29.3 +1.0
baz=69,SNR=16
O23A ⇑P P 16 40 29.3 +1.0
baz=69,SNR=16
N24A Carr 68.56 332 ⇑P P 16 40 29.4 +1.1
baz=69
N24A ⇑P P 16 40 29.4 +1.1
baz=69
DVTC Desert V Tower 68.56 319 ⇓P P 16 40 29.9 +1.5
baz=69,SNR=6.1
DVTC ⇓P P 16 40 29.9 +1.5
baz=69,SNR=6.1
SWSC Sam W. Stewart 68.56 319 ⇑P P 16 40 29.6 +1.4
baz=69,SNR=9.0
SWSC ⇑P P 16 40 29.6 +1.4
baz=69,SNR=9.0
PV04 Paradox Valley 68.58 327 ⇓*iP* P 16 40 29.1 +0.5
S18A Hurst Farm, Bl 68.61 326 ⇓P P 16 40 29.9 +1.1
baz=69,SNR=43
S18A ⇓P P 16 40 29.9 +1.1
baz=69,SNR=43
M25A Palm-Egli Farm 68.69 332 ⇑P P 16 40 29.9 +0.8
baz=69
M25A ⇑P P 16 40 29.9 +0.8
baz=69
R19A Curley Farm, L 68.69 327 ⇓P P 16 40 29.8 +0.5
baz=69,SNR=14
R19A ⇓P P 16 40 29.8 +0.5
baz=69,SNR=14
Q20A Ridgley Place, 68.70 328 ⇓P P 16 40 29.7 +0.4
baz=69
Q20A ⇓P P 16 40 29.7 +0.4
baz=69
P21A Newcastle 68.73 329 ⇓P P 16 40 30.6 +1.2
baz=69,SNR=6.0
P21A ⇓P P 16 40 30.6 +1.2
baz=69,SNR=6.0
L26A Underwood Farm 68.76 334 ⇓P P 16 40 30.4 +0.9
baz=69
L26A ⇓P P 16 40 30.4 +0.9
baz=69
MAIT Maitri 68.78 159 *eP* P 16 40 31.4 +2.3
O22A Kremmling 68.80 330 ⇓P P 16 40 30.5 +0.5
baz=69,SNR=32
O22A ⇓P P 16 40 30.5 +0.5
baz=69,SNR=32
BC3 Big Chuckawall 68.84 320 ⇓P P 16 40 31.4 +1.3
baz=69,SNR=33
BC3 ⇓P P 16 40 31.4 +1.3
baz=69,SNR=33
W13A Hualapai Mount 68.90 322 ⇓P P 16 40 32.0 +1.4
baz=69,SNR=23
W13A ⇓P P 16 40 32.0 +1.4
baz=69,SNR=23
MONP Monument Peak 68.92 319 ⇓P P 16 40 32.1 +1.4
baz=69,SNR=25
MONP ⇓P P 16 40 32.1 +1.4
baz=69,SNR=25
U15A North Rim 68.93 324 ⇓P P 16 40 32.5 +1.7
baz=69,SNR=44
U15A ⇓P P 16 40 32.5 +1.7
baz=69,SNR=44
BAR Barrett 68.94 318 ⇓*iP* P 16 40 31.7 +1.0
comp=Z,245nm,2.0s
BAR *epP* **pP** 16 40 57.0 -0.1
K27A Flueckinger Fa 68.97 334 ⇑P P 16 40 31.6 +1.0
baz=69,SNR=6.6
K27A ⇑P P 16 40 31.6 +1.0
baz=69,SNR=6.6
IRM Iron Mountain 69.00 320 ⇑P P 16 40 32.4 +1.4
baz=69,SNR=44
IRM ⇑P P 16 40 32.4 +1.4
baz=69,SNR=44
S17A Black Ridge (B 69.00 326 ⇓P P 16 40 32.3 +1.2
baz=69,SNR=19
S17A ⇓P P 16 40 32.3 +1.2
baz=69,SNR=19
M24A Cheyenne 69.05 332 ⇓P P 16 40 32.5 +1.1
baz=69,SNR=12
M24A ⇓P P 16 40 32.5 +1.1
baz=69,SNR=12
R18A Canyonlands Na 69.08 327 ⇑P P 16 40 32.1 +0.5
baz=69,SNR=11
R18A ⇑P P 16 40 32.1 +0.5
baz=69,SNR=11
N23A Red Feather La 69.09 331 ⇑P P 16 40 32.5 +0.8
baz=69,SNR=14
N23A ⇑P P 16 40 32.5 +0.8
baz=69,SNR=14
BRSD Miller 69.19 338 ⇓P P 16 40 31.6 -0.3
baz=69
BRSD ⇓P P 16 40 31.6 -0.3
baz=69
Q19A Hogan Spring (69.19 327 ⇓P P 16 40 33.0 +0.8
baz=69,SNR=17
Q19A ⇓P P 16 40 33.0 +0.8
baz=69,SNR=17
DRLN Deer Lake 69.19 8 *eP* P 16 40 32.3 +0.5
comp=Z,43nm,0.9s
PHWY Pilot Hill 69.20 332 ⇓*iP* P 16 40 32.6 +0.2
comp=Z,103nm,1.6s
PHWY *epP* **pP** 16 41 00.1 +1.3
L25A Engebretsen Ra 69.23 333 ⇑P P 16 40 33.2 +0.8
baz=70
L25A ⇑P P 16 40 33.2 +0.8
baz=70
N22A Wattenberg Ran 69.26 331 ⇓P P 16 40 33.9 +1.1
baz=70,SNR=17
N22A ⇓P P 16 40 33.9 +1.1
baz=70,SNR=17
O21A Pagoda 69.28 329 ⇓P P 16 40 34.1 +1.3
baz=70,SNR=7.6
O21A ⇓P P 16 40 34.1 +1.3
baz=70,SNR=7.6
109C Camp Elliot, M 69.35 318 ⇓P P 16 40 34.2 +1.1
baz=70
109C ⇓P P 16 40 34.2 +1.1
baz=70
K26A Motz Farm, Whi 69.35 334 ⇑P P 16 40 34.0 +0.9
baz=70
K26A ⇑P P 16 40 34.0 +0.9
baz=70
BELC Belle Mtn. Jos 69.40 320 ⇓P P 16 40 35.0 +1.3
baz=70,SNR=27
BELC ⇓P P 16 40 35.0 +1.3
baz=70,SNR=27
PFO Pinyon Flat Ob 69.42 319 ⇓*iP* P 16 40 34.9 +1.2
PFO *e**PP **PcP** 16 40 55.9 -0.6
PFO *e**SP **sP** 16 41 12.0 +0.5
PFO pmax pmax
comp=Z,42nm,1.2s
PFO Pinyon Flat Ob 69.42 319 ⇓*iP* P 16 40 34.9 +1.2
comp=Z,42nm,1.2s
PFO *epP* **PcP** 16 40 55.9 -0.6
PFO *esP* **sP** 16 41 12.0 +0.5
PFO Pinyon Flat Ob 69.42 319 P P 16 40 35.1 +1.2
comp=Z,154nm,0.7s,SNR=11
PFO Pinyon Flat Ob 69.42 319 ⇓P P 16 40 35.2 +1.5
baz=70,SNR=24
PFO ⇓P P 16 40 35.2 +1.5
baz=70,SNR=24
M23A Laramie 69.45 331 ⇑P P 16 40 34.7 +0.8
baz=70,SNR=8.0
M23A ⇑P P 16 40 34.7 +0.8
baz=70,SNR=8.0
S16A Weppner Ranch, 69.49 325 ⇑P P 16 40 35.1 +0.9
baz=70,SNR=25
S16A ⇑P P 16 40 35.1 +0.9
baz=70,SNR=25
R17A Hanksville Air 69.53 326 ⇓P P 16 40 35.4 +1.1
baz=70,SNR=6.7
R17A ⇓P P 16 40 35.4 +1.1
baz=70,SNR=6.7
P19A Cripple Cowboy 69.56 328 ⇓P P 16 40 35.6 +1.0
baz=70,SNR=24
P19A ⇓P P 16 40 35.6 +1.0
baz=70,SNR=24
O20A White River Ci 69.59 329 ⇓P P 16 40 35.7 +0.9
baz=70,SNR=10
O20A ⇓P P 16 40 35.7 +0.9
baz=70,SNR=10
LDFC Landfair 69.60 321 *eP* P 16 40 36.1 +1.3
comp=Z,163nm,1.6s
LDFC *ePcP* **pP** 16 40 58.4 -2.9
LDFC *epP* **pwP** 16 41 03.3 +2.1
N21A Black Mountain 69.72 330 ⇑P P 16 40 36.6 +1.0
baz=70
N21A ⇑P P 16 40 36.6 +1.0
baz=70
GMRC Granite Mounta 69.73 320 ⇓P P 16 40 37.1 +1.5
baz=70,SNR=35
GMRC ⇓P P 16 40 37.1 +1.5
baz=70,SNR=35
Q18A Rafter H Ranch 69.75 327 ⇓P P 16 40 36.5 +0.9
baz=70,SNR=9.8
Q18A ⇓P P 16 40 36.5 +0.9
baz=70,SNR=9.8
M22A Cedar Creek Ra 69.80 331 ⇓P P 16 40 36.9 +0.9
baz=70,SNR=11
M22A ⇓P P 16 40 36.9 +0.9
baz=70,SNR=11
R16A Teasdale 69.84 326 ⇓P P 16 40 37.3 +1.0
baz=70,SNR=8.6
R16A ⇓P P 16 40 37.3 +1.0
baz=70,SNR=8.6
MURC Murrieta 69.88 319 ⇓P P 16 40 37.7 +1.2
baz=70,SNR=7.6
MURC ⇓P P 16 40 37.7 +1.2
baz=70,SNR=7.6
SRU San Rafael 69.95 327 *eP* P 16 40 36.8 -0.2
SRU *e**PP **pP** 16 41 03.8 +0.4
SRU pmax pmax
comp=Z,29nm,1.0s
SRU San Rafael 69.95 327 *eP* P 16 40 36.8 -0.2
comp=Z,29nm,1.0s
SRU *epP* **pP** 16 41 03.8 +0.4
SRU San Rafael 69.95 327 ⇑P P 16 40 37.8 +0.8
baz=70,SNR=8.4
SRU ⇑P P 16 40 37.8 +0.8
baz=70,SNR=8.4
L23A Garrett 69.96 332 ⇓P P 16 40 37.4 +0.4
baz=70,SNR=7.0
L23A ⇓P P 16 40 37.4 +0.4
baz=70,SNR=7.0
EYMN Ely 70.03 344 *eP* P 16 40 36.5 -0.5
comp=Z,63nm,1.4s
N20A Spence Gulch, 70.14 329 ⇓P P 16 40 38.8 +0.7
baz=70,SNR=21
N20A ⇓P P 16 40 38.8 +0.7
baz=70,SNR=21
O19A Miners Draw (B 70.14 329 ⇑P P 16 40 38.9 +0.8
baz=70,SNR=8.6
O19A ⇑P P 16 40 38.9 +0.8
baz=70,SNR=8.6
Q16A Castle Valley 70.15 326 ⇓P P 16 40 39.3 +1.1
baz=70,SNR=12
Q16A ⇓P P 16 40 39.3 +1.1
baz=70,SNR=12
HEC Hector,Ludlow 70.17 320 ⇑P P 16 40 39.9 +1.6
baz=70,SNR=7.2
HEC ⇑P P 16 40 39.9 +1.6
baz=70,SNR=7.2
P18A Preston Nutter 70.20 327 ⇑P P 16 40 39.5 +0.9
baz=70,SNR=24
P18A ⇑P P 16 40 39.5 +0.9
baz=70,SNR=24
R15A Junction 70.22 325 ⇓P P 16 40 39.9 +1.2
baz=70,SNR=9.6
R15A ⇓P P 16 40 39.9 +1.2
baz=70,SNR=9.6
M21A Separation Pea 70.31 330 ⇓P P 16 40 40.0 +0.8
baz=71,SNR=10.0
M21A ⇓P P 16 40 40.0 +0.8
baz=71,SNR=10.0
SCI San Clemente I 70.32 317 ⇓P P 16 40 40.4 +1.3
baz=70,SNR=7.7
SCI ⇓P P 16 40 40.4 +1.3
baz=70,SNR=7.7
TUQ Turquoise Moun 70.33 321 ⇑P P 16 40 40.4 +1.1
baz=71,SNR=13
TUQ ⇑P P 16 40 40.4 +1.1
baz=71,SNR=13
CCUT Cedar City 70.33 324 ⇓*iP* P 16 40 41.2 +1.9
comp=Z,252nm,2.0s
CCUT *epP* **pP** 16 41 07.1 +1.3
CCUT *esP* **sP** 16 41 18.6 +1.4
P17A Butcher Ranch, 70.33 327 ⇑P P 16 40 40.0 +0.8
baz=71,SNR=11
P17A ⇑P P 16 40 40.0 +0.8
baz=71,SNR=11
MSU Marysvale 70.38 325 *eP* P 16 40 41.0 +1.3
MSU *e**PP **pP** 16 41 06.2 +0.1
MSU *e**SP **sP** 16 41 19.3 +1.8
MSU Marysvale 70.38 325 *eP* P 16 40 41.0 +1.3
MSU *epP* **pP** 16 41 06.2 +0.1
MSU *esP* **sP** 16 41 19.3 +1.8
TMUT Trail Mountain 70.44 327 *eP* P 16 40 40.9 +0.8
comp=Z,61nm,1.6s
J24A Dixon Ranch, L 70.49 333 ⇑P P 16 40 41.2 +1.1
baz=71,SNR=7.4
J24A ⇑P P 16 40 41.2 +1.1
baz=71,SNR=7.4
CIS Catalina Islan 70.51 318 ⇑P P 16 40 41.5 +1.3
baz=71,SNR=6.9
CIS ⇑P P 16 40 41.5 +1.3
baz=71,SNR=6.9
ARUT Antelope Range 70.55 324 *eP* P 16 40 42.3 +1.7
ARUT *e**PP **pP** 16 41 08.6 +1.5
ARUT pmax pmax
comp=Z,69nm,1.0s
ARUT Antelope Range 70.55 324 *eP* P 16 40 42.2 +1.7
comp=Z,69nm,1.0s
ARUT *epP* **pP** 16 41 08.6 +1.5
O18A Roosevelt 70.56 328 ⇑P P 16 40 41.7 +1.1
baz=71,SNR=5.7
O18A ⇑P P 16 40 41.7 +1.1
baz=71,SNR=5.7
BFSC Mount Baldy Ra 70.58 319 ⇓P P 16 40 42.0 +1.1
baz=71,SNR=19
BFSC ⇓P P 16 40 42.0 +1.1
baz=71,SNR=19
L21A Rawlins 70.60 331 ⇓P P 16 40 41.3 +0.4
baz=71,SNR=16
L21A ⇓P P 16 40 41.3 +0.4
baz=71,SNR=16
M20A Sweetwater, Wa 70.61 330 ⇓P P 16 40 41.6 +0.6
baz=71,SNR=14
M20A ⇓P P 16 40 41.6 +0.6
baz=71,SNR=14
N19A John Jarvie Ra 70.62 329 ⇓P P 16 40 41.6 +0.5
baz=71,SNR=23
N19A ⇓P P 16 40 41.6 +0.5
baz=71,SNR=23
QSPA South Pole Qui 70.71 180 LR LR 17 11 05.3
comp=Z,143nm,21.5s,baz=300,slow=35
QSPA South Pole Qui 70.71 180 ⇓*iP* P 16 40 41.5 +0.3
comp=Z,35nm,1.1s
QSPA *epP* **pP** 16 41 07.5 -0.1
K22A Casper 70.75 332 ⇓P P 16 40 42.3 +0.6
baz=71,SNR=7.2
K22A ⇓P P 16 40 42.3 +0.6
baz=71,SNR=7.2
GSC Goldstone 70.77 320 *eP* P 16 40 43.0 +1.1
GSC *e**PP **pP** 16 41 08.5 +0.1
GSC *e**SP **sP** 16 41 21.4 +1.6
GSC pmax pmax
comp=Z,134nm,1.7s
GSC Goldstone 70.77 320 *eP* P 16 40 43.0 +1.1
comp=Z,134nm,1.7s
GSC *epP* **pP** 16 41 08.5 +0.1
GSC *esP* **sP** 16 41 21.4 +1.6
GSC Goldstone 70.77 320 ⇓P P 16 40 43.6 +1.7
baz=71,SNR=24
GSC ⇓P P 16 40 43.6 +1.7
baz=71,SNR=24
MWC Mount Wilson 70.82 319 ⇓*iP* P 16 40 43.5 +1.1
MWC *e**PP **pP** 16 41 09.6 +0.7
MWC *e**SP **sP** 16 41 19.8 -0.4
MWC pmax pmax
comp=Z,279nm,2.0s
MWC Mount Wilson 70.82 319 ⇓*iP* P 16 40 43.5 +1.1
comp=Z,279nm,2.0s
MWC *epP* **pP** 16 41 09.6 +0.7
MWC *esP* **sP** 16 41 19.8 -0.4
PASC Pasadena Art C 70.87 319 *eP* P 16 40 43.8 +1.4
comp=Z,98nm,1.4s
PASC *epP* **pP** 16 41 09.6 +0.7
O17A Robinson Place 70.87 327 ⇑P P 16 40 43.9 +1.3
baz=71,SNR=32
O17A ⇑P P 16 40 43.9 +1.3
baz=71,SNR=32
RSSD Black Hills 70.87 334 *eP* P 16 40 42.7 +0.2
RSSD *e**PP **pP** 16 41 07.6 -1.4
RSSD pmax pmax
comp=Z,21nm,0.9s
RSSD Black Hills 70.87 334 *eP* P 16 40 42.7 +0.2
comp=Z,20nm,0.9s
RSSD *epP* **pP** 16 41 07.6 -1.4
I24A Kuemmerle Ranc 70.91 334 ⇑P P 16 40 43.4 +0.8
baz=71,SNR=9.0
I24A ⇑P P 16 40 43.4 +0.8
baz=71,SNR=9.0
P16A Fountain Green 70.91 326 ⇑P P 16 40 44.2 +1.4
baz=71
P16A ⇑P P 16 40 44.2 +1.4
baz=71
J23A Dilts Ranch, B 70.93 333 ⇓P P 16 40 44.3 +1.6
baz=71
J23A ⇓P P 16 40 44.3 +1.6
baz=71
N18A Larsen Ranch, 70.93 329 ⇑P P 16 40 43.3 +0.4
baz=71
N18A ⇑P P 16 40 43.3 +0.4
baz=71
K21A Alcova 71.07 331 ⇓P P 16 40 44.7 +1.0
baz=71
K21A ⇓P P 16 40 44.7 +1.0
baz=71
L20A Wamsutter 71.08 330 ⇑P P 16 40 44.4 +0.6

baz=74,SNR=25
L20A ⇑P P 16 40 44.4 +0.6
baz=71,SNR=25
M19A Rock Springs 71.08 329 ⇓P P 16 40 44.1 +0.3
baz=71
M19A ⇓P P 16 40 44.1 +0.3
baz=71
R13A O'Grain Ranch, 71.12 324 ⇓P P 16 40 46.0 +1.8
baz=71,SNR=30
R13A ⇓P P 16 40 46.0 +1.8
baz=71,SNR=30
MPU Maple Canyon 71.20 327 *e*P P 16 40 45.6 +1.1
comp=Z,171nm,2.0s
MPU *e*pP pP 16 41 11.2 +0.1
P15A Leamington 71.21 326 ⇓P P 16 40 45.7 +1.1
baz=71,SNR=9.3
P15A ⇓P P 16 40 45.7 +1.1
baz=71,SNR=9.3
EDW2 Edwards Air Fo 71.21 319 ⇑P P 16 40 45.5 +1.0
baz=71,SNR=21
EDW2 ⇑P P 16 40 45.5 +1.0
baz=71,SNR=21
O16A Springville 71.27 327 ⇓P P 16 40 46.1 +1.2
baz=72
O16A ⇓P P 16 40 46.1 +1.2
baz=72
DAU Daniels Canyon 71.30 327 *e*P P 16 40 46.3 +1.0
DAU Daniels Canyon 71.30 327 *e*P P 16 40 46.3 +1.0
J22A Midwest 71.34 332 ⇑P P 16 40 45.6 +0.4
baz=72,SNR=9.6
J22A ⇑P P 16 40 45.6 +0.4
baz=72,SNR=9.6
BLG Laguna Peak 71.38 318 ⇓P P 16 40 46.8 +1.2
baz=72,SNR=7.5
BLG ⇓P P 16 40 46.8 +1.2
baz=72,SNR=7.5
LRMC Laurel Mountai 71.42 320 ⇑P P 16 40 47.2 +1.3
baz=72,SNR=15
LRMC ⇑P P 16 40 47.2 +1.3
baz=72,SNR=15
M18A Lyman 71.47 329 ⇓P P 16 40 46.4 +0.2
baz=72,SNR=6.5
M18A ⇓P P 16 40 46.4 +0.2
baz=72,SNR=6.5
N17A Moffit Pass 71.48 328 ⇑P P 16 40 47.4 +1.1
baz=72,SNR=25
N17A ⇑P P 16 40 47.4 +1.1
baz=72,SNR=25
OSI Osito Adit 71.49 319 *e*P P 16 40 47.2 +1.0
comp=Z,42nm,1.0s
OSI *e*pP pP 16 41 13.4 +0.6
OSI *es*P sP 16 41 24.6 +0.5
OSI Osito Adit 71.49 319 ⇓P P 16 40 47.3 +1.0
baz=72,SNR=6.8
OSI ⇓P P 16 40 47.3 +1.0
baz=72,SNR=6.8
JLU Jordanelle 71.54 327 *e*P P 16 40 47.8 +1.2
comp=Z,165nm,1.8s
JLU *e*pP pP 16 41 13.9 +0.8
AGMN Agassiz Nation 71.56 342 *e*P P 16 40 45.9 -0.4
comp=Z,28nm,0.8s
K20A Yellowstone Ra 71.59 331 ⇓P P 16 40 47.0 +0.2
baz=72,SNR=16
K20A ⇓P P 16 40 47.0 +0.2
baz=72,SNR=16
FURC Furnace Creek, 71.59 321 ⇑P P 16 40 48.3 +1.7
baz=72,SNR=16
FURC ⇑P P 16 40 48.3 +1.7
baz=72,SNR=16
H24A Dirks Ranch, A 71.60 334 ⇑P P 16 40 47.0 +0.3
baz=72,SNR=24
H24A ⇑P P 16 40 47.0 +0.3
baz=72,SNR=24
L19A Farson 71.64 330 ⇑P P 16 40 47.9 +0.8
baz=72,SNR=20
L19A ⇑P P 16 40 47.9 +0.8
baz=72,SNR=20
BSC Santa Cruz Isl 71.67 318 ⇓P P 16 40 48.3 +1.0
baz=72,SNR=6.0
BSC ⇓P P 16 40 48.3 +1.0
baz=72,SNR=6.0
MPMC Manual Prospec 71.69 320 ⇓P P 16 40 48.6 +1.0
baz=72,SNR=21
MPMC ⇓P P 16 40 48.6 +1.0
baz=72,SNR=21
J21A Lysite 71.72 332 ⇓P P 16 40 48.3 +0.7
baz=72,SNR=13
J21A ⇓P P 16 40 48.3 +0.7
baz=72,SNR=13
I22A 9 Mile Ranch, 71.72 333 ⇓P P 16 40 48.0 +0.5
baz=72,SNR=21
I22A ⇓P P 16 40 48.0 +0.5
baz=72,SNR=21
N16A Rees Ranch, Co 71.74 328 ⇓P P 16 40 49.0 +1.2
baz=72,SNR=10
N16A ⇓P P 16 40 49.0 +1.2
baz=72,SNR=10
M17A Scullys Gap (B 71.80 328 ⇑P P 16 40 48.5 +0.4
baz=72,SNR=10
M17A ⇑P P 16 40 48.5 +0.4
baz=72,SNR=10
O15A The Old Anders 71.83 326 ⇓P P 16 40 49.6 +1.3
baz=72,SNR=9.9
O15A ⇓P P 16 40 49.6 +1.3
baz=72,SNR=9.9
L18A Fontenelle, Gr 71.83 329 ⇑P P 16 40 49.0 +0.7
baz=72,SNR=16
L18A ⇑P P 16 40 49.0 +0.7
baz=72,SNR=16
ARVC Arvin 71.89 319 ⇑P P 16 40 50.0 +1.4
baz=72
ARVC ⇑P P 16 40 50.0 +1.4
baz=72
DUG Dugway 71.94 326 *e*P P 16 40 50.0 +1.1
DUG *e**PP pP 16 41 16.0 +0.5
DUG pmax pmax
comp=Z,88nm,1.5s
DUG Dugway 71.94 326 *e*P P 16 40 50.0 +1.1
comp=Z,88nm,1.5s
DUG *e*pP pP 16 41 16.0 +0.5
DUG Dugway 71.94 326 ⇑P P 16 40 50.2 +1.2
baz=72,SNR=32
DUG ⇑P P 16 40 50.2 +1.2
baz=72,SNR=32
K19A Absolon Red Bu 71.95 330 ⇑P P 16 40 49.3 +0.3
baz=72,SNR=16
K19A ⇑P P 16 40 49.3 +0.3
baz=72,SNR=16
J20A Shoshoni 72.01 331 ⇓P P 16 40 50.1 +0.9
baz=72,SNR=10
J20A ⇓P P 16 40 50.1 +0.9
baz=72,SNR=10
I21A Big Trails, Te 72.02 332 ⇑P P 16 40 49.4 +0.1
baz=72,SNR=41
I21A ⇑P P 16 40 49.4 +0.1
baz=72,SNR=41
G24A Alzada 72.02 335 ⇓P P 16 40 49.8 +0.6
baz=72
G24A ⇓P P 16 40 49.8 +0.6
baz=72
ISA Isabella 72.03 320 *e*P P 16 40 50.8 +1.4
ISA *e**PP pP 16 41 16.8 +0.8
ISA *e**SP sP 16 41 27.9 +0.6
ISA pmax pmax
comp=Z,44nm,1.1s
ISA Isabella 72.03 320 *e*P P 16 40 50.8 +1.4
comp=Z,44nm,1.1s
ISA *e*pP pP 16 41 16.8 +0.8
ISA *es*P sP 16 41 27.9 +0.6
ISA Isabella 72.03 320 ⇑P P 16 40 51.0 +1.6
baz=72,SNR=41
ISA ⇑P P 16 40 51.0 +1.6
baz=72,SNR=41
R11A Troy Canyon, C 72.14 323 ⇑P P 16 40 51.7 +1.5
baz=72,SNR=33
R11A ⇑P P 16 40 51.7 +1.5
baz=72,SNR=33
M16A Huntsville 72.16 328 ⇑P P 16 40 50.5 +0.3
baz=72
M16A ⇑P P 16 40 50.5 +0.3
baz=72
H22A Clearmont 72.23 333 ⇓P P 16 40 50.6 +0.1
baz=72,SNR=8.9
H22A ⇓P P 16 40 50.6 +0.1
baz=72,SNR=8.9
BW06 Boulder Array 72.24 330 *e*P P 16 40 50.9 +0.1
comp=Z,42nm,1.5s
BW06 Boulder Array 72.24 330 ⇓P P 16 40 50.9 +0.1
baz=72,SNR=16
BW06 ⇓P P 16 40 50.9 +0.1
baz=72,SNR=16
BW06 ⇓P P 16 40 50.9 +0.1
baz=72,SNR=16
PDAR Pinedale Array 72.24 330 P P 16 40 50.9 +0.1
comp=Z,5.9nm,0.8s,baz=124,slow=7.7,SNR=37
PDAR pP pP 16 41 17.6 +0.3
comp=Z,3.8nm,0.9s,baz=114,slow=9.0,SNR=3.5
PDAR LR LR 17 12 37.4
comp=Z,215nm,21.3s,baz=151,slow=36
PDAR Pinedale Array 72.24 330 P P 16 40 50.9 +0.1
PDAR pP pP 16 41 17.6 +0.3
PD02 Pinedale Array 72.25 330 *e*P P 16 40 50.7 -0.2
PD01 Pinedale Array 72.26 330 *e*P P 16 40 50.3 -0.5
N15A Stansbury Isla 72.30 327 ⇓P P 16 41 50.5 +0.5
baz=72
N15A ⇓P P 16 40 51.5 +0.5
baz=72
CWC Cottonwood Cre 72.30 320 ⇓P P 16 40 52.4 +1.3
baz=72,SNR=31
CWC ⇓P P 16 40 52.4 +1.3
baz=72,SNR=31
G23A Biddle 72.31 334 ⇓P P 16 40 51.5 +0.6
baz=73,SNR=17
G23A ⇓P P 16 40 51.5 +0.6
baz=73,SNR=17
HWUT Hardware Ranch 72.34 328 *e*P P 16 40 51.5 +0.2
comp=Z,327nm,2.6s
MDND Maddock 72.36 339 ⇑P P 16 40 51.7 +0.7
baz=73,SNR=9.3
MDND ⇑P P 16 40 51.7 +0.7
baz=73,SNR=9.3
PKM Peak Mountain 72.36 318 ⇓P P 16 40 53.0 +1.4
baz=73,SNR=23
PKM ⇓P P 16 40 53.0 +1.4
baz=73,SNR=23
L17A Cokeville 72.37 329 ⇓P P 16 40 51.8 +0.3
baz=73,SNR=6.3
L17A ⇓P P 16 40 51.8 +0.3
baz=73,SNR=6.3
K18A Toltan Ranch, 72.37 330 ⇓P P 16 40 52.6 +1.1
baz=73,SNR=12
K18A ⇓P P 16 40 52.6 +1.1
baz=73,SNR=12
J19A Crowheart 72.39 331 ⇓P P 16 40 52.1 +0.5
baz=73,SNR=11
J19A ⇓P P 16 40 52.1 +0.5
baz=73,SNR=11
F24A Ekalaka 72.45 335 ⇓P P 16 40 52.3 +0.5
baz=73,SNR=11
F24A ⇓P P 16 40 52.3 +0.5
baz=73,SNR=11
I20A Worland 72.50 332 ⇓P P 16 40 52.6 +0.5
baz=73,SNR=13
I20A ⇓P P 16 40 52.6 +0.5
baz=73,SNR=13
H21A Big Horn, Sher 72.55 333 ⇓P P 16 40 52.6 +0.1
baz=73,SNR=5.1
H21A ⇓P P 16 40 52.6 +0.1
baz=73,SNR=5.1
L16A Fish Haven 72.58 328 ⇑P P 16 40 53.2 +0.4
baz=73,SNR=9.3
L16A ⇑P P 16 40 53.2 +0.4
baz=73,SNR=9.3
M15A Larsen Ranch, 72.68 327 ⇑P P 16 40 54.0 +0.7
baz=73,SNR=26
M15A ⇑P P 16 40 54.0 +0.7
baz=73,SNR=26
F23A Volborg 72.74 334 ⇓P P 16 40 53.8 +0.3
baz=73,SNR=8.9
F23A ⇓P P 16 40 53.8 +0.3
baz=73,SNR=8.9
SMMC Simmler 72.74 318 ⇑P P 16 40 55.5 +1.8
baz=73,SNR=8.4
SMMC ⇑P P 16 40 55.5 +1.8
baz=73,SNR=8.4
J18A Kendall Valley 72.80 330 ⇓P P 16 40 54.5 +0.4
baz=73,SNR=32
J18A ⇓P P 16 40 54.5 +0.4
baz=73,SNR=32
H20A Greybull 72.86 332 ⇑P P 16 40 54.4 +0.1
baz=73,SNR=18
H20A ⇑P P 16 40 54.4 +0.1
baz=73,SNR=18
K17A Gardner Place, 72.88 329 ⇓P P 16 40 54.9 +0.4
baz=73,SNR=8.7
K17A ⇓P P 16 40 54.9 +0.4
baz=73,SNR=8.7
AHID Auburn Hatcher 72.98 329 *e*P P 16 40 55.8 +0.7
comp=Z,26nm,0.9s
E24A Baker 72.99 335 ⇑P P 16 40 56.0 +1.1
baz=73,SNR=25
E24A ⇑P P 16 40 56.0 +1.1
baz=73,SNR=25
L15A Malad City 73.05 328 ⇓P P 16 40 56.0 +0.5
baz=73,SNR=37
L15A ⇓P P 16 40 56.0 +0.5
baz=73,SNR=37
I18A Diamond G Ranc 73.08 330 ⇓P P 16 40 56.7 +0.9
baz=73,SNR=18
I18A ⇓P P 16 40 56.7 +0.9
baz=73,SNR=18
HVU Hansel Valley 73.08 327 *e*P P 16 40 55.9 +0.2
HVU *e**PP pP 16 41 22.1 -0.2
HVU pmax pmax
comp=Z,70nm,1.5s
HVU Hansel Valley 73.08 327 *e*P P 16 40 55.9 +0.2
comp=Z,70nm,1.5s
HVU *e*pP pP 16 41 22.1 -0.2
PTRM Twissleman Ran 73.09 319 *e*P P 16 40 57.8 +2.0
PTRM *e*pP pP 16 41 24.1 +1.7
G21A Lodge Grass 73.10 333 ⇓P P 16 40 56.2 +0.6
baz=73,SNR=8.9
G21A ⇓P P 16 40 56.2 +0.6
baz=73,SNR=8.9
F22A Rosebud 73.14 334 ⇑P P 16 40 56.3 +0.5
baz=73,SNR=11
F22A ⇑P P 16 40 56.3 +0.5
baz=73,SNR=11
MTUM Tungsten Hills 73.19 321 *e*P P 16 40 57.8 +1.3
J17A Brown Place, J 73.24 330 ⇑P P 16 40 57.6 +1.0
baz=74,SNR=18
J17A ⇑P P 16 40 57.6 +1.0
baz=74,SNR=18
K16A Soda Springs 73.27 329 ⇑P P 16 40 58.1 +1.3
baz=74,SNR=36
K16A ⇑P P 16 40 58.1 +1.3
baz=74,SNR=36
REDW Red Top Meadow 73.31 330 *e*P P 16 40 57.2 +0.2
comp=Z,150nm,2.0s
REDW *e*pP pP 16 41 24.5 +0.8
ULM Lac du Bonnet 73.32 342 P P 16 40 56.3 -0.3
comp=Z,25nm,0.5s,baz=154,slow=6.5,SNR=31
ULM pP pP 16 41 23.8 +0.5
comp=Z,8.0nm,0.4s,baz=164,slow=5.9,SNR=3.0
ULM LR LR 17 14 08.2
comp=Z,189nm,19.3s,baz=109,slow=36
ULM Lac du Bonnet 73.32 342 *e*P P 16 40 56.1 -0.5
ULM *e**PP pP 16 41 22.4 -0.9
ULM pmax pmax
comp=Z,116nm,1.5s
ULM Lac du Bonnet 73.32 342 *e*P P 16 40 56.1 -0.5
comp=Z,116nm,1.5s
ULM *e*pP pP 16 41 22.4 -0.9
ULM pP pP 16 41 23.8 +0.5
E23A Ismay 73.33 335 ⇓P P 16 40 57.2 +0.3
baz=74
E23A ⇓P P 16 40 57.2 +0.3
baz=74
SNOW Snow King Moun 73.34 330 *e*P P 16 40 58.2 +0.9
comp=Z,29nm,1.2s
LOHW Long Hollow 73.38 330 *e*P P 16 40 57.9 +0.4
comp=Z,171nm,2.3s
D24A Glendive 73.45 336 ⇓P P 16 40 58.6 +1.0
baz=74,SNR=11
D24A ⇓P P 16 40 58.6 +1.0
baz=74,SNR=11
TPAW Teton Pass 73.45 330 *e*P P 16 40 58.6 +0.6
comp=Z,94nm,1.8s
L14A Malta 73.50 327 ⇑P P 16 40 58.8 +0.7
baz=74
L14A ⇑P P 16 40 58.8 +0.7
baz=74
RRI2 Red Ridge 73.52 329 *e*P P 16 40 59.0 +0.6
comp=Z,193nm,1.8s
RRI2 *e*pP pP 16 41 25.5 +0.5
G20A Bridger 73.53 332 ⇓P P 16 40 58.3 +0.1
baz=74,SNR=18
G20A ⇓P P 16 40 58.3 +0.1
baz=74,SNR=18
F21A Absaloka Mine, 73.54 333 ⇑P P 16 40 58.8 +0.6
baz=74,SNR=6.3
F21A ⇑P P 16 40 58.8 +0.6
baz=74,SNR=6.3
MLAC Mammoth Lakes 73.54 321 ⇑P P 16 41 00.2 +1.6
baz=74,SNR=6.5
MLAC ⇑P P 16 41 00.2 +1.6
baz=74,SNR=6.5
E22A Miles City 73.55 334 ⇓P P 16 40 58.3 +0.2
baz=74
E22A ⇓P P 16 40 58.3 +0.2
baz=74
MOOW Moose Ponds 73.55 330 *e*P P 16 40 58.6 +0.1
comp=Z,102nm,1.9s
MOOW *e*pP pP 16 41 25.4 +0.3
I17A Pilgrim Ck. 73.60 330 ⇑P P 16 41 00.1 +1.3
baz=74,SNR=20
I17A ⇑P P 16 41 00.1 +1.3
baz=74,SNR=20
J16A Bone 73.61 329 ⇓P P 16 40 59.7 +0.9
baz=74,SNR=14
J16A ⇓P P 16 40 59.7 +0.9
baz=74,SNR=14
ELK Elko 73.63 325 *e*P P 16 41 00.0 +1.0
ELK Elko 73.63 325 *e*P P 16 40 60.0 +1.0
DCID1 Drake Creek 73.64 330 *e*pP P 16 41 00.2 +1.2
NVAR Mina Array Bea 73.76 322 P P 16 41 01.1 +1.3
comp=Z,10nm,0.7s,baz=148,slow=6.1,SNR=92
NVAR pP pP 16 41 27.4 +0.9
comp=Z,16nm,1.0s,baz=140,slow=6.7,SNR=6.4
NVAR sP sP 16 41 38.5 +0.7
comp=Z,3.9nm,0.6s,baz=160,slow=6.5,SNR=3.3
NVAR LR LR 17 16 38.3
comp=Z,108nm,18.9s,baz=243,slow=38
NVAR Mina Array Bea 73.76 322 P P 16 41 01.1 +1.3
NVAR pP pP 16 41 27.4 +0.9
NVAR sP sP 16 41 38.5 +0.7
H18A Shoshone NF, C 73.76 331 ⇑P P 16 41 00.2 +0.5
baz=74,SNR=22
H18A ⇑P P 16 41 00.2 +0.5
baz=74,SNR=22
C24A Savage 73.83 336 ⇑P P 16 41 00.7 +0.9
baz=74,SNR=7.7
C24A ⇑P P 16 41 00.7 +0.9
baz=74,SNR=7.7
D23A Lindsay 73.84 335 ⇑P P 16 41 01.1 +1.2
baz=74,SNR=11
D23A ⇑P P 16 41 01.1 +1.2
baz=74,SNR=11
K14A Jones Ranch, D 73.84 328 ⇓P P 16 41 00.6 +0.5
baz=74,SNR=12
K14A ⇓P P 16 41 00.6 +0.5
baz=74,SNR=12
RLMT Red Lodge 73.92 332 ⇑P P 16 41 01.7 +1.1
baz=74
RLMT ⇑P P 16 41 01.7 +1.1
baz=74
RLMT ⇑P P 16 41 01.7 +1.1
baz=74
RLMT ⇑P P 16 41 01.7 +1.1
baz=74
TBI Tubuai 73.94 251 *e*S S 16 50 28.1 +3.1
comp=Z,474nm,26.0s
TBI *e*LR LR 17 03 58.7
comp=Z,1μm,32.5s,baz=108
F20A Billings 73.96 333 ⇓P P 16 41 01.0 +0.4
baz=74,SNR=11
F20A ⇓P P 16 41 01.0 +0.4
baz=74,SNR=11
I16A Newdale 74.00 330 ⇑P P 16 41 02.1 +1.1
baz=74,SNR=17
I16A ⇑P P 16 41 02.1 +1.1
baz=74,SNR=17
SCHQ Schefferville 74.02 1 P P 16 41 01.0 +0.3
comp=Z,21nm,1.0s,baz=175,slow=5.0,SNR=23
SCHQ pP pP 16 41 28.2 +0.9
comp=Z,23nm,1.1s,baz=184,slow=6.0,SNR=3.3
SCHQ LR LR 17 16 28.2
comp=Z,161nm,18.2s,baz=244,slow=38
SCHQ Schefferville 74.02 1 *e*P P 16 41 00.5 -0.2
comp=Z,34nm,1.1s
SCHQ *e*pP pP 16 41 28.0 +0.6
SCHQ pP pP 16 41 28.2 +0.9
E21A Keefer Ranch, 74.09 334 ⇑P P 16 41 02.3 +0.9
baz=74,SNR=8.3
E21A ⇑P P 16 41 02.3 +0.9
baz=74,SNR=8.3
J15A Blackfoot 74.10 329 ⇓P P 16 41 02.7 +1.1
baz=74,SNR=12
J15A ⇓P P 16 41 02.7 +1.1
baz=74,SNR=12
YFT Old Faithful 74.13 330 *e*P P 16 41 02.9 +1.1
comp=Z,18nm,0.8s
G18A Lazy EL Ranch, 74.20 332 ⇓P P 16 41 03.0 +0.8
baz=74
G18A ⇓P P 16 41 03.0 +0.8
baz=74
D22A Cohagen 74.21 335 ⇓P P 16 41 03.3 +1.2
baz=74,SNR=46
D22A ⇓P P 16 41 03.3 +1.2
baz=74,SNR=46
YNR Norris Junctio 74.25 331 *e*P P 16 41 04.2 +1.7
comp=Z,28nm,1.1s
F19A Roth Farm, Mol 74.35 332 ⇑P P 16 41 03.6 +0.7
baz=75
F19A ⇑P P 16 41 03.6 +0.7
baz=75
C23A Lambert 74.35 336 ⇓P P 16 41 03.7 +0.9
baz=75,SNR=8.2
C23A ⇓P P 16 41 03.7 +0.9
baz=75,SNR=8.2
YMR Madison River 74.35 330 *e*P P 16 41 04.6 +1.5
comp=Z,182nm,1.6s
D21A La Casta Ranch 74.48 334 ⇓P P 16 41 04.6 +1.0
baz=75,SNR=20
D21A ⇓P P 16 41 04.6 +1.0
baz=75,SNR=20
E20A Meyer Farm, Mu 74.50 333 ⇑P P 16 41 04.8 +1.0
baz=75,SNR=28
E20A ⇑P P 16 41 04.8 +1.0
baz=75,SNR=28
H16A Russell Place, 74.51 330 ⇓P P 16 41 05.6 +1.5
baz=75,SNR=16
H16A ⇓P P 16 41 05.6 +1.5
baz=75,SNR=16
DGMT Dagmar 74.52 337 *e*P P 16 41 04.2 +0.4
comp=Z,99nm,1.1s
DGMT *e*pP pP 16 41 28.6 -1.9
DGMT Dagmar 74.52 337 ⇓P P 16 41 04.9 +1.2
baz=75
DGMT ⇓P P 16 41 04.9 +1.2
baz=75
I15A Monteview 74.57 329 ⇑P P 16 41 06.0 +1.7
baz=75
I15A ⇑P P 16 41 06.0 +1.7
baz=75
C22A Vida 74.58 335 ⇓P P 16 41 04.8 +0.7
baz=75,SNR=6.1
C22A ⇓P P 16 41 04.8 +0.7
baz=75,SNR=6.1
J14A Carey 74.58 328 ⇓P P 16 41 05.7 +1.3
baz=75,SNR=31
J14A ⇓P P 16 41 05.7 +1.3
baz=75,SNR=31
GCMT Greycliff 74.62 332 P P 16 41 04.7 +0.2
comp=Z,84nm,1.4s
QLMT Earthquake Lak 74.69 330 *e*P P 16 41 06.4 +1.4
F18A Big Timber 74.73 332 ⇑P P 16 41 05.9 +0.8
baz=75,SNR=23
F18A ⇑P P 16 41 05.9 +0.8
baz=75,SNR=23
PMOR Pomariorio Ree 74.73 259 *e*P P 16 41 06.8 +1.1
comp=Z,114nm,1.0s
E19A Rath Farm, Rou 74.75 333 ⇓P P 16 41 06.0 +0.8
baz=75,SNR=40
E19A ⇓P P 16 41 06.0 +0.8
baz=75,SNR=40
B23A Brockton 74.82 336 ⇓P P 16 41 06.6 +1.1
baz=75,SNR=14
B23A ⇓P P 16 41 06.6 +1.1
baz=75,SNR=14
J13A Cove Ranch, Pi 74.97 328 ⇓P P 16 41 07.9 +1.3
baz=75,SNR=19

J13A ⇓P P 16 41 07.9 +1.3
baz=75,SNR=19
D20A Manuel Ranch, 74.97 334 ⇓P P 16 41 07.1 +0.7
baz=75,SNR=24
D20A ⇓P P 16 41 07.1 +0.7
baz=75,SNR=24
I14A Mackay 74.99 329 ⇑P P 16 41 08.2 +1.4
baz=75,SNR=26
I14A ⇑P P 16 41 08.2 +1.4
baz=75,SNR=26
B22A Reddig Ranch S 75.07 336 ⇓P P 16 41 07.9 +0.9
baz=75,SNR=12
B22A ⇓P P 16 41 07.9 +0.9
baz=75,SNR=12
H15A Lima 75.11 329 ⇓P P 16 41 08.7 +1.3
baz=75,SNR=5.7
H15A ⇓P P 16 41 08.7 +1.3
baz=75,SNR=5.7
C21A Desert Coulee 75.13 335 ⇓P P 16 41 07.9 +0.6
baz=75,SNR=12
C21A ⇓P P 16 41 07.9 +0.6
baz=75,SNR=12
F17A Fitzpatrick Pl 75.15 331 ⇓P P 16 41 09.1 +1.5
baz=75
F17A ⇓P P 16 41 09.1 +1.5
baz=75
G16A Moss Hill, Enn 75.16 330 ⇑P P 16 41 08.6 +0.8
baz=75,SNR=14
G16A ⇑P P 16 41 08.6 +0.8
baz=75,SNR=14
A23A Redstone 75.18 337 ⇓P P 16 41 08.5 +0.9
baz=75
A23A ⇓P P 16 41 08.5 +0.9
baz=75
WCN Washoe City 75.18 322 *e*P P 16 41 08.8 +0.8
WCN pmax pmax
comp=Z,24nm,1.2s
WCN Washoe City 75.18 322 *e*P P 16 41 08.8 +0.8
comp=Z,24nm,1.2s
WCN Washoe City 75.18 322 ⇓P P 16 41 09.6 +1.7
baz=75,SNR=6.3
WCN ⇓P P 16 41 09.6 +1.7
baz=75,SNR=6.3
HLID Hailey 75.21 328 *e*P P 16 41 09.5 +1.5
comp=Z,54nm,1.1s
HLID Hailey 75.21 328 ⇑P P 16 41 09.5 +1.5
baz=75,SNR=46
HLID ⇑P P 16 41 09.5 +1.5
baz=75,SNR=46
I13A Wildhorse Cree 75.31 328 ⇓P P 16 41 10.1 +1.5
baz=76,SNR=32
I13A ⇓P P 16 41 10.1 +1.5
baz=76,SNR=32
E18A Harlowton 75.33 332 ⇓P P 16 41 09.5 +1.0
baz=76
E18A ⇓P P 16 41 09.5 +1.0
baz=76
D19A Cripps Ranch, 75.34 333 ⇑P P 16 41 09.2 +0.7
baz=76,SNR=26
D19A ⇑P P 16 41 09.2 +0.7
baz=76,SNR=26
MCMT McKenzie Canyo 75.36 329 *e*P P 16 41 10.0 +1.0
comp=Z,12nm,1.0s
BOZ Bozeman (W) 75.40 331 *e*P P 16 41 09.3 +0.3
BOZ *e**PP pP 16 41 35.1 -0.7
BOZ pmax pmax
comp=Z,100nm,1.9s
BOZ Bozeman (W) 75.40 331 *e*P P 16 41 09.3 +0.3
comp=Z,100nm,1.9s
BOZ *e*pP pP 16 41 35.1 -0.7
BOZ Bozeman (W) 75.40 331 ⇑P P 16 41 09.7 +0.7
baz=76,SNR=16
BOZ ⇑P P 16 41 09.7 +0.7
baz=76,SNR=16
BOZ ⇑P P 16 41 09.7 +0.7
baz=76,SNR=16
BOZ ⇑P P 16 41 09.7 +0.7
baz=76,SNR=16
C20A Veseth Ranch, 75.41 334 ⇑P P 16 41 09.2 +0.3
baz=76,SNR=6.8
C20A ⇑P P 16 41 09.2 +0.3
baz=76,SNR=6.8
G15A Dillon 75.44 330 ⇑P P 16 41 10.4 +1.1
baz=76,SNR=18
G15A ⇑P P 16 41 10.4 +1.1
baz=76,SNR=18
H14A Leadore 75.45 329 ⇓P P 16 41 10.5 +1.1
baz=76,SNR=16
H14A ⇓P P 16 41 10.5 +1.1
baz=76,SNR=16
F16A Kennard Place, 75.50 331 ⇑P P 16 41 10.3 +0.7
baz=76
F16A ⇑P P 16 41 10.3 +0.7
baz=76
PAE Paea 75.55 256 *e*P P 16 41 12.0 +1.7
comp=Z,19nm,1.1s
PPT2 Papeete2 75.56 256 *e*P P 16 41 12.5 +2.0
comp=Z,59nm,1.2s
PPT2 *e*S S 16 50 47.8 +4.4
comp=Z,338nm,28.5s
PPT2 *e*LR LR 17 04 43.1
comp=Z,824nm,28.5s
B21A Ellsworth Farm 75.58 335 ⇓P P 16 41 10.8 +1.0
baz=76
B21A ⇓P P 16 41 10.8 +1.0
baz=76
A22A Carney Farms, 75.60 336 ⇑P P 16 41 11.0 +1.0
baz=76,SNR=14
A22A ⇑P P 16 41 11.0 +1.0
baz=76,SNR=14
DLMT Dillon 75.64 330 ⇓*i*P P 16 41 11.3 +0.9
DLMT *e*pP pP 16 41 35.9 -1.2
E17A Martinsdale 75.66 332 ⇑P P 16 41 11.5 +1.0
baz=76,SNR=21
E17A ⇑P P 16 41 11.5 +1.0
baz=76,SNR=21
I12A Atlanta 75.74 328 ⇓P P 16 41 12.4 +1.4
baz=76
I12A ⇓P P 16 41 12.4 +1.4
baz=76
D18A Linhart Farms, 75.76 333 ⇑P P 16 41 11.8 +0.8
baz=76,SNR=14
D18A ⇑P P 16 41 11.8 +0.8
baz=76,SNR=14
MFID Camas Ranch 75.82 327 *e*P P 16 41 12.6 +1.2
comp=Z,76nm,1.3s
MFID *e*pP pP 16 41 39.0 +0.8
MFID Camas Ranch 75.82 327 ⇑P P 16 41 12.8 +1.4
baz=76,SNR=35
MFID ⇑P P 16 41 12.8 +1.4
baz=76,SNR=35
H13A Challis 75.85 329 ⇓P P 16 41 12.9 +1.3
baz=76,SNR=40
H13A ⇓P P 16 41 12.9 +1.3
baz=76,SNR=40
C19A Slack Wire Ran 75.86 333 ⇑P P 16 41 12.3 +0.8
baz=76,SNR=23
C19A ⇑P P 16 41 12.3 +0.8
baz=76,SNR=23
LRM Limekiln Ridge 75.91 330 *e*P P 16 41 12.8 +0.8
F15A Butte 75.94 330 ⇑P P 16 41 13.2 +1.0
baz=76,SNR=15
F15A ⇑P P 16 41 13.2 +1.0
baz=76,SNR=15
G14A Jackson 75.96 329 ⇓P P 16 41 13.5 +1.2
baz=76
G14A ⇓P P 16 41 13.5 +1.2
baz=76
B20A Solberg Farm, 75.99 334 ⇑P P 16 41 12.9 +0.7
baz=76,SNR=15
B20A ⇑P P 16 41 12.9 +0.7
baz=76,SNR=15
A21A Bergtoll Ranch 75.99 335 ⇓P P 16 41 12.8 +0.6
baz=76,SNR=6.4
A21A ⇓P P 16 41 12.8 +0.6
baz=76,SNR=6.4
E16A East Helena 76.09 331 ⇓P P 16 41 13.8 +0.9
baz=76
E16A ⇓P P 16 41 13.8 +0.9
baz=76
D17A Six Diamond Ra 76.11 332 ⇓P P 16 41 13.9 +0.8
baz=76,SNR=36
D17A ⇓P P 16 41 13.9 +0.8
baz=76,SNR=36
H12A Diamond D Ranc 76.14 328 ⇓P P 16 41 14.6 +1.3
baz=76,SNR=20
H12A ⇓P P 16 41 14.6 +1.3
baz=76,SNR=20
G13A Cobalt 76.22 329 ⇓P P 16 41 15.2 +1.5
baz=76,SNR=76
G13A ⇓P P 16 41 15.2 +1.5
baz=76,SNR=76
OHCM Honcut 76.23 321 *e*P P 16 41 14.8 +1.2
OHCM *e*pP pP 16 41 41.4 +1.0
HRY Holter Researc 76.29 331 *e*P P 16 41 15.2 +1.2
HRY *e*pP pP 16 41 41.2 +0.4
A20A Cobblestone Ra 76.30 335 ⇓P P 16 41 14.6 +0.6
baz=76,SNR=19
A20A ⇓P P 16 41 14.6 +0.6
baz=76,SNR=19
F14A Wisdom 76.33 330 ⇑P P 16 41 15.9 +1.5
baz=77,SNR=12
F14A ⇑P P 16 41 15.9 +1.5
baz=77,SNR=12
B19A Brinkman Farms 76.38 334 ⇓P P 16 41 15.2 +0.7
baz=77,SNR=13
B19A ⇓P P 16 41 15.2 +0.7
baz=77,SNR=13
EGMT Eagleton 76.38 333 *e*P P 16 41 14.5 +0.1
comp=Z,35nm,0.9s
EGMT *e*pP pP 16 41 40.5 -0.8
EGMT Eagleton 76.38 333 ⇓P P 16 41 15.0 +0.5
baz=77,SNR=15
EGMT ⇓P P 16 41 15.0 +0.5
baz=77,SNR=15
D16A Dana Ranch, Ca 76.41 332 ⇑P P 16 41 16.1 +1.4
baz=77,SNR=9.1
D16A ⇑P P 16 41 16.1 +1.4
baz=77,SNR=9.1
E15A Deer Lodge 76.45 331 ⇑P P 16 41 16.0 +1.0
baz=77,SNR=16
E15A ⇑P P 16 41 16.0 +1.0
baz=77,SNR=16
C17A Wharram Farm, 76.52 332 ⇑P P 16 41 15.7 +0.5
baz=77,SNR=17
C17A ⇑P P 16 41 15.7 +0.5
baz=77,SNR=17
A19A Klindworth Far 76.67 334 ⇓P P 16 41 16.5 +0.5
baz=77,SNR=19
A19A ⇓P P 16 41 16.5 +0.5
baz=77,SNR=19
B18A Beardsley Farm 76.68 334 ⇓P P 16 41 16.9 +0.8
baz=77,SNR=36
B18A ⇓P P 16 41 16.9 +0.8
baz=77,SNR=36
F13A Darby 76.78 329 ⇓P P 16 41 18.0 +1.2
baz=77,SNR=41
F13A ⇓P P 16 41 18.0 +1.2
baz=77,SNR=41
E14A Clinton 76.84 330 ⇓P P 16 41 18.6 +1.5
baz=77,SNR=16
E14A ⇓P P 16 41 18.6 +1.5
baz=77,SNR=16
D15A Lincoln 76.85 331 ⇓P P 16 41 18.3 +1.1
baz=77,SNR=7.7
D15A ⇓P P 16 41 18.3 +1.1
baz=77,SNR=7.7
TOA0 Torodi Ar. Sit 76.90 71 *e*P P 16 41 17.7 -0.3
TOA0 *e*pP pP 16 41 43.6 -1.2
TOA0 *es*P sP 16 41 56.2 0.0
TOA0 *e*PP PP 16 43 57.1 -16
TORD Torodi Ar. Bea 76.90 71 P P 16 41 17.8 -0.2
comp=Z,38nm,0.6s,baz=252,slow=5.2,SNR=229
TORD pP pP 16 41 45.2 +0.4
comp=Z,53nm,0.9s,baz=256,slow=5.3,SNR=5.2
TORD sP sP 16 41 56.9 +0.7
comp=Z,37nm,1.0s,baz=250,slow=4.9,SNR=2.0
TORD PP PP 16 44 01.4 -11
comp=Z,32nm,1.0s,baz=246,slow=7.6,SNR=6.8
TORD S S 16 50 56.1 -1.8
comp=Z,7.6nm,1.0s,baz=244,slow=9.2,SNR=14
TORD LR LR 17 14 30.9
comp=Z,508nm,19.1s,baz=190,slow=35
TORD Torodi Ar. Bea 76.90 71 P P 16 41 17.8 -0.2
TORD pP pP 16 41 45.2 +0.4
TORD sP sP 16 41 56.9 +0.7
TORD PP PP 16 44 01.4 -11
TORD S S 16 50 56.1 -1.8
B17A L&G Farms, Che 77.04 333 ⇓P P 16 41 18.5 +0.4
baz=77,SNR=8.2
B17A ⇓P P 16 41 18.5 +0.4
baz=77,SNR=8.2
C16A Fuhringer Ranc 77.08 332 ⇑P P 16 41 19.1 +0.7
baz=77
C16A ⇑P P 16 41 19.1 +0.7
baz=77
CHMT Chamberlain Mo 77.09 331 *e*P P 16 41 18.9 +0.2
CHMT *e*pP pP 16 41 46.5 +1.0
A18A Metzger Ranch, 77.12 334 ⇑P P 16 41 18.8 +0.3
baz=77,SNR=9.4
A18A ⇑P P 16 41 18.8 +0.3
baz=77,SNR=9.4
E13A Victor 77.18 330 ⇓P P 16 41 20.4 +1.4
baz=77,SNR=17
E13A ⇓P P 16 41 20.4 +1.4
baz=77,SNR=17
F12A Elk City 77.20 329 ⇑P P 16 41 20.2 +1.0
baz=77,SNR=17
F12A ⇑P P 16 41 20.2 +1.0
baz=77,SNR=17
D14A Greenough 77.33 331 ⇓P P 16 41 20.9 +0.9
baz=78,SNR=13
D14A ⇓P P 16 41 20.9 +0.9
baz=78,SNR=13
MSO Missoula 77.35 330 *e*P P 16 41 21.4 +1.5
comp=Z,43nm,1.4s
MSO Missoula 77.35 330 ⇓P P 16 41 21.3 +1.3
baz=78,SNR=9.5
MSO ⇓P P 16 41 21.3 +1.3
baz=78,SNR=9.5
C15A Salmond Ranch, 77.44 332 ⇑P P 16 41 21.7 +1.2
baz=78,SNR=28
C15A ⇑P P 16 41 21.7 +1.2
baz=78,SNR=28
SLMT Seeley Lake 77.45 331 *e*P P 16 41 21.5 +0.9
A17A Triple J Farms 77.50 333 ⇓P P 16 41 21.3 +0.6
baz=78,SNR=25
A17A ⇓P P 16 41 21.3 +0.6
baz=78,SNR=25
B16A M & M Farms, S 77.52 333 ⇓P P 16 41 21.1 +0.2
baz=78
B16A ⇓P P 16 41 21.1 +0.2
baz=78
BMO Blue Mountains 77.59 327 *e*P P 16 41 21.9 +0.6
BMO *e**PP pP 16 41 49.1 +0.9
BMO pmax pmax
comp=Z,137nm,2.0s
BMO Blue Mountains 77.59 327 *e*P P 16 41 21.9 +0.6
comp=Z,137nm,2.0s
BMO *e*pP pP 16 41 49.1 +0.9
D13A Huson 77.79 330 ⇑P P 16 41 23.6 +1.2
baz=78
D13A ⇑P P 16 41 23.6 +1.2
baz=78
B15A Bradely Ranch, 77.82 332 ⇓P P 16 41 22.9 +0.3
baz=78,SNR=17
B15A ⇓P P 16 41 22.9 +0.3
baz=78,SNR=17
E12A Beaver Dam Sad 77.83 329 ⇑P P 16 41 23.5 +0.9
baz=78
E12A ⇑P P 16 41 23.5 +0.9
baz=78
SWMT Swartz Lake 77.88 331 *e*P P 16 41 23.8 +0.9
SWMT *e*pP pP 16 41 48.5 -1.3
A16A West Butte Ran 77.88 333 ⇓P P 16 41 23.5 +0.6
baz=78,SNR=34
A16A ⇓P P 16 41 23.5 +0.6
baz=78,SNR=34
C14A Swan Lake 77.95 331 ⇓P P 16 41 24.4 +1.1
baz=78
C14A ⇓P P 16 41 24.4 +1.1
baz=78
B14A Marquette Ranc 78.17 332 ⇓P P 16 41 25.1 +0.6
baz=78,SNR=12
B14A ⇓P P 16 41 25.1 +0.6
baz=78,SNR=12
D12A Red Ives Fores 78.18 330 ⇓P P 16 41 25.6 +1.0
baz=78,SNR=28
D12A ⇓P P 16 41 25.6 +1.0
baz=78,SNR=28
JTMT Jette 78.18 331 *e*P P 16 41 24.8 +0.2
JTMT *e*pP pP 16 41 52.4 +0.9
C13A Hot Springs 78.27 331 ⇓P P 16 41 26.0 +1.1
baz=78,SNR=22
C13A ⇓P P 16 41 26.0 +1.1
baz=78,SNR=22
A15A Johnson Ranch, 78.39 332 ⇑P P 16 41 25.7 0.0
baz=79,SNR=8.9
A15A ⇑P P 16 41 25.7 0.0
baz=79,SNR=8.9
BLMT Blacktail Moun 78.41 331 *e*P P 16 41 27.4 +1.5
SYO Syowa Base 78.48 160 ⇓*e*P P 16 41 25.2 -0.6
SYO Syowa Base 78.48 160 ⇓*i*X 16 41 29.2
BSMT Bassoo Peak 78.49 331 *e*P P 16 41 27.7 +1.3
BSMT *e*pP pP 16 41 54.2 +0.9
KHMM Horse Mountain 78.53 321 *e*pP pP 16 41 55.1 +1.5
A14A Double T Ranch 78.69 332 ⇑P P 16 41 27.6 +0.2
baz=79,SNR=13
A14A ⇑P P 16 41 27.6 +0.2
baz=79,SNR=13
C12B Naegeli Ranch, 78.71 330 ⇓P P 16 41 28.7 +1.3
baz=79
C12B ⇓P P 16 41 28.7 +1.3
baz=79
B13A Whitefish 78.72 331 ⇓P P 16 41 28.4 +0.9
baz=79,SNR=18
B13A ⇓P P 16 41 28.4 +0.9
baz=79,SNR=18
KTRM Thompson Ridge 78.97 322 P P 16 41 30.5 +1.5
WALA Waterton Lakes 78.97 332 *e*P P 16 41 29.6 +0.6
comp=Z,1.2nm,1.1s
WALA pP pP 16 41 54.9 -1.0
FFC Flin Flon 79.04 341 *ce*P P 16 41 29.2 +0.2
FFC Flin Flon 79.04 341 *e*P P 16 41 28.4 -0.6
comp=Z,82nm,1.7s
FFC *e*pP pP 16 41 54.8 -1.1
FFC Flin Flon 79.04 341 P P 16 41 29.6 +0.6
comp=Z,95nm,0.8s,SNR=10.0
KRMB Red Mountain 79.04 321 *e*P P 16 41 30.4 +0.9
comp=Z,66nm,1.5s
KRMB *e*pP pP 16 41 55.1 -1.3
A13A Flathead Natio 79.11 332 ⇓P P 16 41 31.0 +1.4
baz=79
A13A ⇓P P 16 41 31.0 +1.4
baz=79
C11A Tepee Creek (N 79.17 330 ⇑P P 16 41 30.8 +0.9
baz=79
C11A ⇑P P 16 41 30.8 +0.9
baz=79
B12A Libby 79.31 331 ⇓P P 16 41 31.9 +1.2
baz=80,SNR=5.7
B12A ⇓P P 16 41 31.9 +1.2
baz=80,SNR=5.7
A12A Yaak River Ran 79.67 331 ⇑P P 16 41 33.7 +1.0
baz=80,SNR=12
A12A ⇑P P 16 41 33.7 +1.0
baz=80,SNR=12
FRIS Frissel Point 79.71 324 P P 16 41 34.4 +1.3
HAWA Hanford 79.78 327 *e*P P 16 41 34.2 +1.0
HAWA *e*pP pP 16 42 00.5 +0.3
SUR Sutherland 79.81 121 *e*P P 16 41 35.1 +1.0
comp=Z,49nm,1.0s
SUR *e*pP pP 16 42 02.2 +1.1
SUR Sutherland 79.81 121 P P 16 41 35.0 +1.0
comp=Z,245nm,1.0s,SNR=9.7
RSW Rattlesnake Hi 79.81 327 *e*P P 16 41 34.8 +1.3
RSW *e*pP pP 16 42 01.5 +1.0
NEW Newport 79.88 330 *e*P P 16 41 34.2 +0.4
NEW pmax pmax
comp=Z,49nm,1.8s
NEW Newport 79.88 330 *e*P P 16 41 34.1 +0.4
comp=Z,49nm,1.8s
NEW Newport 79.88 330 ⇑P P 16 41 34.0 +0.2
baz=80,SNR=5.8
NEW ⇑P P 16 41 34.0 +0.2
baz=80,SNR=5.8
OD2 Odessa Site #2 80.05 328 *e*P P 16 41 35.7 +1.1
OD2 *e*pP pP 16 42 01.6 -0.1
HOOD Mount Hood Mea 80.18 325 *e*P P 16 41 36.7 +1.1
comp=Z,62nm,1.2s
HOOD *e*pP pP 16 42 03.6 +1.0
MORF Marmelete 80.19 45 *e*P P 16 41 40.3 +4.7
comp=Z,138nm,2.0s
COR Corvallis 80.61 324 *e*pP pP 16 42 06.0 +1.3
MDT Midelt 80.63 50 P P 16 41 39.8 +1.5
comp=Z,12nm,0.8s,baz=225,slow=6.5,SNR=7.7
MDT pP pP 16 42 05.6 +0.3
comp=Z,10nm,1.0s,baz=232,slow=4.8,SNR=2.9
MDT Midelt 80.63 50 P P 16 41 39.8 +1.5
MDT pP pP 16 42 05.6 +0.3
PBDV Barranco-do-Ve 80.63 45 *e*P P 16 41 42.8 +4.8
comp=Z,87nm,1.6s
NAC Naches 80.67 327 P P 16 41 39.8 +1.8
PNCL Nicolau / Gran 80.71 44 *e*P P 16 41 43.3 +5.0
comp=Z,80nm,1.6s
PCVE Castro Verde 80.77 45 *e*P P 16 41 43.2 +4.5
comp=Z,75nm,1.3s
TSUM Tsumeb 80.85 107 *e*P P 16 41 40.3 +0.5
comp=Z,42nm,1.0s
TSUM *e*PcP PcP 16 41 48.0 +1.9
TSUM *e*pP pP 16 42 07.5 +0.6
PVAQ Vaqueiros 80.86 45 *e*P P 16 41 44.5 +5.3
comp=Z,90nm,1.7s
ETW Entiat 81.00 328 *e*P P 16 41 41.0 +1.1
ETW *e*pP pP 16 42 07.6 +0.7
LON Longmire 81.19 326 *e*P P 16 41 41.4 +0.6
LON pmax pmax
comp=Z,127nm,2.3s
LON Longmire 81.19 326 *e*P P 16 41 41.4 +0.6
comp=Z,127nm,2.3s
EVO Evora 81.28 44 *e*P P 16 41 43.8 +2.4
comp=Z,92nm,1.1s
EVO *e*pP pP 16 42 11.3 +2.8
EVO *e*R
comp=Z,144nm,19.0s
RVW Rose Valley 81.30 326 P P 16 41 42.4 +1.1
PTOM Tomar 81.62 43 *e*P P 16 41 47.9 +4.8
comp=Z,94nm,1.3s
PBAR Barrancos 81.73 45 *e*P P 16 41 44.3 +0.5
comp=Z,50nm,1.5s
PESTR Estremoz 81.74 44 *e*P P 16 41 45.7 +1.9
comp=Z,72nm,1.1s
BMW Boistfort Moun 81.77 326 *e*P P 16 41 45.4 +1.6
BMW *e**PP pP 16 42 12.4 +1.4
BMW Boistfort Moun 81.77 326 *e*P P 16 41 45.4 +1.6
BMW *e*pP pP 16 42 12.4 +1.4
RPW Rockport 82.16 328 *e*P P 16 41 46.0 +0.2
RPW *e*pP pP 16 42 13.4 +0.4
JCW Jim Creek 82.20 327 *e*P P 16 41 45.8 -0.2
JCW *e*pP pP 16 42 12.3 -0.9
GNW Green Mountain 82.25 327 *e*P P 16 41 45.9 -0.4
comp=Z,46nm,1.8s
GNW *e*pP pP 16 42 13.6 +0.2
MTE Manteigas 82.61 43 *e*P P 16 41 49.8 +1.4
comp=Z,92nm,1.7s
MTE Manteigas 82.61 43 *e*P P 16 41 52.8 +4.5
comp=Z,75nm,1.3s
MSKU Masuku 82.63 89 P P 16 41 50.4 +1.3
comp=Z,46nm,0.8s,baz=258,slow=7.0,SNR=14
MSKU pP pP 16 42 16.6 +0.3
comp=Z,41nm,1.0s,baz=262,slow=6.7,SNR=3.6
MSKU Masuku 82.63 89 P P 16 41 50.4 +1.3
MSKU pP pP 16 42 16.6 +0.3
VDB Vedder Mountai 82.83 328 P P 16 41 49.8 +0.6
MVO Moncorvo 83.35 42 *e*P P 16 41 53.5 +1.3
comp=Z,81nm,1.5s
RAR Rarotonga 83.70 250 LR LR 17 12 23.4
comp=Z,192nm,18.5s,baz=325,slow=31
PBRG Braganca 83.88 42 *e*P P 16 41 56.0 +1.1
comp=Z,64nm,1.6s
TAM Tamanrasset 84.12 63 *e*P P 16 41 57.3 +0.6
TAM *e**PP pP 16 42 24.8 +0.9
TAM pmax pmax
comp=Z,31nm,1.1s
TAM Tamanrasset 84.12 63 *e*P P 16 41 57.3 +0.6
comp=Z,31nm,1.1s
TAM *e*pP pP 16 42 24.8 +0.9
PAB San Pablo 84.24 45 *e*P P 16 41 57.4 +0.6
PAB *e**PP pP 16 42 23.4 -0.6
PAB pmax pmax
comp=Z,26nm,0.8s
PAB San Pablo 84.24 45 *e*P P 16 41 57.4 +0.6
comp=Z,26nm,0.8s
PAB *e*pP pP 16 42 23.4 -0.6
ESDC Sonseca Array 84.56 45 P P 16 41 59.2 +0.8
comp=Z,7.2nm,0.8s,baz=250,slow=5.1,SNR=18
ESDC pP pP 16 42 26.3 +0.7
comp=Z,10nm,1.0s,baz=240,slow=5.0,SNR=3.0
ESDC S S 16 52 14.4 -2.3
comp=Z,0.2nm,0.4s,baz=262,slow=17,SNR=3.0

ESDC LR LR 17 16 36.3
comp=Z,115nm,18.3s,baz=225,slow=33
ESDC Sonseca Array 84.56 45 P **P** **16 41 59.2 +0.8**
ESDC pP **pP** **16 42 26.3 +0.7**
ESDC S **S** **16 52 14.4 -2.3**
ESLA Sonseca Array 84.56 45 *eP* **P** **16 41 59.1 +0.8**
comp=Z,4.3nm,0.9s
BOSA Boshof 84.61 118 P **P** **16 41 59.4 +0.3**
comp=Z,12nm,0.8s,baz=253,slow=4.6,SNR=18
BOSA pP **pP** **16 42 27.1 +0.7**
comp=Z,26nm,1.0s,baz=238,slow=4.5,SNR=5.6
BOSA LR LR 17 18 05.2
comp=Z,211nm,19.3s,baz=166,slow=34
BOSA Boshof 84.61 118 *eP* **P** **16 41 58.7 -0.4**
BOSA *PP **pP** **16 42 27.1 +0.7**
BOSA pmax pmax
comp=Z,45nm,1.1s
BOSA Boshof 84.61 118 *eP* **P** **16 41 58.7 -0.4**
comp=Z,45nm,1.1s
BOSA *epP **pP** **16 42 26.1 -0.3**
BOSA pP **pP** **16 42 27.1 +0.7**
LBTB Lobatse 86.08 115 *eP* **P** **16 42 06.0 -0.5**
LBTB *e*PP **pP** **16 42 34.2 +0.4**
LBTB *e* 16 45 25.4
LBTB pmax pmax
comp=Z,30nm,0.9s
LBTB Lobatse 86.08 115 *eP* **P** **16 42 06.0 -0.5**
comp=Z,30nm,0.9s
LBTB *e* 16 42 17.3
LBTB *epP **pP** **16 42 34.2 +0.4**
LBTB *ePP **PP** **16 45 25.4 -2.6**
MAW Mawson 86.33 163 LR LR 17 19 37.8
comp=Z,157nm,20.8s,baz=45,slow=35
SFJD Kangerlussuaq 87.31 7 P **P** **16 42 12.0 +0.8**
comp=Z,12nm,0.8s,baz=173,slow=3.4,SNR=5.5
SFJD pP **pP** **16 42 39.0 +0.4**
comp=Z,11nm,0.8s,baz=208,slow=7.0,SNR=3.3
SFJD Kangerlussuaq 87.31 7 *eP* **P** **16 42 11.2 +0.1**
SFJD *PP **pP** **16 42 39.0 +0.4**
SFJD pmax pmax
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 87.31 7 *eP* **P** **16 42 11.2 +0.1**
comp=Z,17nm,1.1s
SFJD *epP **pP** **16 42 38.4 -0.1**
SFJD pP **pP** **16 42 39.0 +0.4**
SFJD Kangerlussuaq 87.31 7 *i* P **P** **16 42 11.6 +0.5**
comp=Z,9.1nm,0.8s
SJPF Ste Jean 88.05 43 *eP* **P** **16 42 16.8 +1.5**
ETSF Etsaut 88.38 43 *eP* **P** **16 42 17.6 +0.7**
comp=Z,11nm,0.7s
EPF Esparros 89.02 43 *eP* **P** **16 42 21.5 +1.6**
comp=Z,18nm,1.0s
YKA Yellowknife Ar 89.20 341 P **P** **16 42 20.9 +0.7**
comp=Z,53nm,0.8s,baz=134,slow=4.7,SNR=782
YKA pP **pP** **16 42 48.1 +0.4**
comp=Z,18nm,0.8s,baz=134,slow=4.8,SNR=4.0
YKA sP **sP** **16 43 00.1 +1.3**
comp=Z,12nm,0.7s,baz=134,slow=4.7,SNR=2.4
YKA Yellowknife Ar 89.20 341 P **P** **16 42 20.9 +0.7**
YKA *PP **pP** **16 42 48.1 +0.4**
YKA *SP **sP** **16 43 00.2 +1.3**
YKA Yellowknife Ar 89.20 341 P **P** **16 42 20.9 +0.7**
YKA pP **pP** **16 42 48.1 +0.4**
YKA sP **sP** **16 43 00.1 +1.3**
LFF La Frestale 90.17 42 *eP* **P** **16 42 24.7 -0.4**
comp=Z,53nm,0.8s
MFF Saint Martin d 90.40 40 *eP* **P** **16 42 26.8 +0.6**
comp=Z,30nm,0.8s
GRR Gorron 90.83 38 *eP* **P** **16 42 28.4 +0.3**
comp=Z,24nm,0.7s
LDF La Druitiere 91.35 38 *eP* **P** **16 42 31.0 +0.4**
comp=Z,31nm,0.9s
DRV Dumont d'Urvil 91.39 191 PP PP 16 45 55.0 -14
DRV S SKSac 16 52 37.0 -16
DRV SS SS 16 59 17.0 -10
BORG Borgarnes 91.58 19 P **P** **16 42 32.3 +1.1**
comp=Z,9.9nm,0.8s,baz=225,slow=11,SNR=2.7
BORG Borgarnes 91.58 19 P **P** **16 42 32.3 +1.1**
BORG Borgarnes 91.58 19 P **P** **16 42 32.3 +1.1**
TCF Toulx Ste Croi 91.70 41 *eP* **P** **16 42 33.0 +0.7**
comp=Z,28nm,0.9s
BGF Bois d'Agland 92.21 41 *eP* **P** **16 42 35.6 +1.0**
KEST Kesra 92.27 53 P **P** **16 42 36.5 +1.2**
comp=Z,1.1nm,0.8s,baz=225,slow=4.3,SNR=2.7
KEST LR LR 17 24 13.7
comp=Z,82nm,19.4s,baz=241,slow=36
KEST Kesra 92.27 53 P **P** **16 42 36.3 +1.0**
DLBC Dease Lake 92.30 333 *eP* **P** **16 42 35.5 +0.7**
DLBC *epP **pP** **16 43 01.7 -0.7**
DLBC *esP **sP** **16 43 13.4 -0.1**
AVF Avril sur Loir 92.63 41 *eP* **P** **16 42 37.3 +0.8**
SSF Saint Saulge 92.84 41 *eP* **P** **16 42 38.1 +0.6**
comp=Z,11nm,0.6s
LOR Lormes 93.15 41 *eP* **P** **16 42 39.0 +0.1**
comp=Z,10nm,0.6s
LOR *eR
comp=Z,117nm,18.0s
ORIF Oris-en-Rattie 93.44 43 *eP* **P** **16 42 40.9 +0.4**
comp=Z,19nm,0.9s
ORIF *eR
comp=Z,218nm,21.2s
SUMG Summit 94.10 9 *eP* **P** **16 42 44.0 +0.7**
SUMG *e*PP **pP** **16 43 11.9 +1.1**
SUMG *e* 16 46 31.3
SUMG pmax pmax
comp=Z,32nm,1.2s
SUMG Summit 94.10 9 *eP* **P** **16 42 44.0 +0.7**
comp=Z,32nm,1.2s
SUMG *epP **pP** **16 43 11.9 +1.1**
SUMG *ePP **PP** **16 46 31.3 +0.2**
SUMG Summit 94.10 9 *i* P **P** **16 42 44.6 +1.4**
comp=Z,15nm,1.1s
SFTF Sexfontaines 94.26 40 *eP* **P** **16 42 44.9 +0.9**
comp=Z,24nm,0.9s
MEZF Maizieres J'vi 94.39 40 *eP* **P** **16 42 45.6 +1.0**
comp=Z,43nm,0.8s
HAU Haudompre 94.98 41 *eP* **P** **16 42 47.6 +0.2**
HAU *eR
comp=Z,116nm,21.2s
HINF Hinteralfeld 95.22 41 *eP* **P** **16 42 49.2 +0.7**
comp=Z,4.0nm,0.6s
CDF Champ du Feu 95.72 41 *eP* **P** **16 42 51.7 +0.9**
comp=Z,4.3nm,0.6s
GRF Grafenberg Arr 98.60 40 *e*Pdiff Pdif 16 43 11.6 +7.9
GRF Grafenberg Arr 98.60 40 *eP* Pdif 16 43 11.6 +7.9
INK Inuvik 98.96 340 *eP* Pdif 16 43 05.2 +0.4
INK pmax pmax
comp=Z,61nm,2.3s
INK Inuvik 98.96 340 *eP* Pdif 16 43 05.2 +0.4
comp=Z,61nm,2.3s
GERES GERESS Array B 99.86 42 P **Pdif** **16 43 09.6 +0.2**
comp=Z,0.4nm,0.7s,baz=255,slow=3.0,SNR=3.8
GERES PP **PP** **16 47 13.6 -2.1**
comp=Z,2.5nm,1.2s,baz=226,slow=8.9,SNR=4.0
GERES GERESS Array B 99.86 42 P **Pdif** **16 43 09.6 +0.2**
GERES 16 47 13.6
GERES GERESS Array B 99.86 42 P **Pdif** **16 43 09.6 +0.2**
GERES PP **PP** **16 47 13.6 -2.1**
KHC Kasperske Hory 99.87 41 *ePP* PP 16 47 13.2 -2.5
DAG Danmarks Havn 100.61 10 *i* P **Pdif** **16 43 13.1 +1.1**
comp=Z,22nm,0.9s
BRG Berggiesshubel 100.63 40 *e*(P) 16 47 25.6
comp=Z,9.3nm,1.3s
PRU Pruhonice 100.73 41 *ePP* PP 16 47 18.7 -3.4
NOA NORSAR Array B 102.28 29 P **Pdif** **16 43 20.5 +0.7**
comp=Z,0.6nm,0.9s,baz=150,slow=10.0,SNR=2.9
NOA NORSAR Array B 102.28 29 P **Pdif** **16 43 20.5 +0.7**
NOA NORSAR Array B 102.28 29 P **Pdif** **16 43 20.5 +0.7**
ILAR Eielson Array 102.32 335 P **Pdif** **16 43 20.0 +0.2**
comp=Z,0.4nm,0.6s,baz=101,slow=3.5,SNR=5.7
ILAR PP **PP** **16 47 28.6 -5.1**
comp=Z,2.2nm,1.2s,baz=92,slow=7.1,SNR=6.2
ILAR Eielson Array 102.32 335 P **Pdif** **16 43 20.0 +0.2**
ILAR 16 47 28.6
ILAR Eielson Array 102.32 335 P **Pdif** **16 43 20.0 +0.2**
ILAR PP **PP** **16 47 28.6 -5.1**
HFS Hagfors 103.18 31 PP PP 16 47 39.3 -0.9
comp=Z,8.4nm,1.1s,baz=214,slow=7.0,SNR=4.7
HFS Hagfors 103.18 31 PP PP 16 47 39.3 -0.9
MLR Muntele Rosu 107.13 47 PP PP 16 48 09.3 -0.7
comp=Z,6.2nm,1.2s,baz=304,slow=5.5,SNR=9.2
MLR Muntele Rosu 107.13 47 PP PP 16 48 09.3 -0.7
FINES FINESS Array B 109.38 30 PKKPbc PKKPbc 16 59 00.1 -2.0
comp=Z,2.2nm,0.9s,baz=114,slow=1.7,SNR=4.7
FINES FINESS Array B 109.38 30 PKKPbc PKKPbc 16 59 00.1 -2.0

ARCES ARCESS Array B 109.70 22 PKKPbc PKKPbc 16 58 58.7 -2.7
comp=Z,6.1nm,1.0s,baz=101,slow=4.7,SNR=5.8
ARCES ARCESS Array B 109.70 22 PKKPbc PKKPbc 16 58 58.7 -2.7
KIEV Kiev 110.06 42 *e*PP PP 16 48 35.7 +4.7
AKASG Malin Array Be 110.07 42 PP PP 16 48 27.8 -3.2
comp=Z,2.5nm,0.9s,baz=258,slow=7.3,SNR=7.2
AKASG Malin Array Be 110.07 42 PP PP 16 48 27.8 -3.2
DZM Mont Dzumac 111.76 235 *e*PP PP 16 48 51.9 +8.5
comp=Z,108nm,25.7s
DZM Mont Dzumac 111.76 235 *e*PS PS 16 58 21.0 +3.2
comp=Z,183nm,30.4s
DZM *e*LR LR 17 21 20.9
comp=Z,441nm,31.9s
BRTR Keskin Array B 111.84 54 PP PP 16 48 41.4 -3.0
comp=Z,3.5nm,1.0s,baz=246,slow=7.1,SNR=5.2
BRTR PKKPbc **PKKPbc** **16 58 52.4 -1.2**
comp=Z,0.2nm,0.3s,baz=58,slow=4.6,SNR=2.7
BRTR Keskin Array B 111.84 54 PP PP 16 48 41.4 -3.0
BRTR PKKPbc **PKKPbc** **16 58 52.4 -1.2**
KIV Kislovodsk 118.86 50 *e*PP PP 16 49 31.9 -1.4
STKA Stephens Creek 121.05 211 PKP **PKPdf** **16 48 17.4 -0.2**
comp=Z,1.8nm,0.6s,baz=130,slow=3.4,SNR=7.4
STKA Stephens Creek 121.05 211 PKIKP **PKPdf** **16 48 17.4 -0.2**
STKA Stephens Creek 121.05 211 PKP **PKPdf** **16 48 17.4 -0.2**
FX1 Attu Island--F 121.94 321 PKP **PKPdf** **16 48 18.3 -0.2**
comp=Z,26nm,1.0s,baz=63,slow=2.3,SNR=3.4
FX1 Attu Island--F 121.94 321 PKIKP **PKPdf** **16 48 18.3 -0.2**
FX1 Attu Island--F 121.94 321 PKP **PKPdf** **16 48 18.3 -0.2**
ARU Arti 126.59 33 *e*PKIKP **PKPdf** **16 48 28.4 +1.1**
ARU Arti 126.59 33 *e*PKPdf **PKPdf** **16 48 28.4 +1.1**
AKTO Aktyubinsk 128.26 40 PKP **PKPdf** **16 48 31.3 +0.6**
comp=Z,2.2nm,0.8s,baz=332,slow=4.7,SNR=4.3
AKTO PP **PP** **16 50 36.8 +0.7**
comp=Z,1.7nm,0.7s,baz=306,slow=9.8,SNR=3.6
AKTO Aktyubinsk 128.26 40 PKIKP **PKPdf** **16 48 31.3 +0.6**
AKTO 16 50 36.8
AKTO Aktyubinsk 128.26 40 PKP **PKPdf** **16 48 31.3 +0.6**
AKTO PP **PP** **16 50 36.8 +0.7**
ABKAR Akbulak array 129.80 41 *e*PKPdf **PKPdf** **16 48 34.5 +0.9**
ABKAR *e*SKP 16 51 45.5
PETK Petropavlovsk- 130.79 324 PKP **PKPdf** **16 48 36.2 +0.8**
comp=Z,3.0nm,0.5s,baz=104,slow=2.5,SNR=26
PETK pPKP **pPKPdf** **16 49 04.4 +0.3**
comp=Z,9.6nm,1.0s,baz=116,slow=2.0,SNR=4.4
PETK SKPbc **SKPab** **16 51 49.6 -0.6**
comp=Z,3.1nm,0.8s,baz=107,slow=4.8,SNR=4.3
PETK Petropavlovsk- 130.79 324 PKIKP **PKPdf** **16 48 36.2 +0.8**
PETK 16 49 04.4
PETK Petropavlovsk- 130.79 324 PKP **PKPdf** **16 48 36.2 +0.8**
PETK pPKP **pPKPdf** **16 49 04.4 +0.3**
PETK SKPbc **SKPab** **16 51 49.6 -0.6**
AS31 Alice Springs 131.59 209 *e*PKPdf **PKPdf** **16 48 36.9 -1.1**
AS31 *e*SKP 16 51 51.0
ASAR Alice Springs 131.59 209 PKhKP PKPpre 16 48 20.8
comp=Z,0.3nm,0.5s,baz=138,slow=2.7,SNR=7.0
ASAR PKP **PKPdf** **16 48 37.7 -0.3**
comp=Z,4.3nm,0.5s,baz=137,slow=1.6,SNR=42
ASAR pPKP pPKPdf 16 49 06.1 -0.6
comp=Z,3.6nm,0.9s,baz=148,slow=2.6,SNR=3.6
ASAR SKPbc **SKPbc** **16 51 52.7 -1.3**
comp=Z,8.0nm,1.1s,baz=147,slow=4.4,SNR=12
ASAR Alice Springs 131.59 209 PKHKP PKPpre 16 48 20.8
ASAR 16 48 37.7
ASAR 16 49 06.1
ASAR Alice Springs 131.59 209 PKPpre PKPpre 16 48 20.8
ASAR PKP **PKPdf** **16 48 37.7 -0.3**
ASAR pPKP pPKPdf 16 49 06.1 -0.6
ASAR SKPbc **SKPbc** **16 51 52.7 -1.3**
BRVK Borovoye 134.17 33 *i* PKIKP **PKPdf** **16 48 42.9 +1.1**
BVAR Borovoye Array 134.24 33 PKP **PKPdf** **16 48 43.0 +1.0**
comp=Z,1.5nm,0.7s,baz=304,slow=3.3,SNR=8.6
BVAR Borovoye Array 134.24 33 PKIKP **PKPdf** **16 48 43.0 +1.0**
BVAR Borovoye Array 134.24 33 PKP **PKPdf** **16 48 43.0 +1.0**
WRA Warramunga Arr 134.56 212 PKhKP PKPpre 16 48 31.5
comp=Z,0.3nm,0.4s,baz=164,slow=1.8,SNR=11
WRA PKP **PKPdf** **16 48 43.6 0.0**
comp=Z,4.2nm,0.4s,baz=156,slow=1.6,SNR=45
WRA SKPbc **SKPbc** **16 52 03.3 -1.0**
comp=Z,8.1nm,1.0s,baz=151,slow=2.6,SNR=9.7
WRA Warramunga Arr 134.56 212 PKHKP PKPpre 16 48 31.5
WRA 16 48 43.6
WRA Warramunga Arr 134.56 212 PKPpre PKPpre 16 48 31.5
WRA PKP **PKPdf** **16 48 43.6 0.0**
WRA SKPbc **SKPbc** **16 52 03.3 -1.0**
KKAR Karatay Array 138.80 46 *e*PKHKP PKPpre 16 48 44.8
KKAR *e* 16 51 43.2
KKAR Karatay Array 138.80 46 *e*PKPpre PKPpre 16 48 44.8
KKAR *e*PP **PP** **16 51 43.2 -0.2**
NVS Novosibirsk 138.93 24 *e*PKIKP **PKPdf** **16 48 49.1 -1.4**
NVS pmax pmax
comp=E,4.0nm,1.5s
NVS pmax pmax
comp=Z,14nm,1.5s
KURK Kurchatov 139.74 32 PKhKP PKPpre 16 48 44.7
comp=Z,1.0nm,0.8s,baz=311,slow=3.3,SNR=8.2
KURK PKP **PKiKP** **16 48 53.1 -1.5**
comp=Z,1.5nm,0.7s,baz=308,slow=2.1,SNR=8.6
KURK PP **PP** **16 51 52.2 +3.7**
comp=Z,1.1nm,0.8s,baz=300,slow=6.9,SNR=3.9
KURK SKPbc **SKPbc** **16 52 16.2 -2.2**
comp=Z,1.6nm,0.7s,baz=296,slow=5.1,SNR=4.5
KURK Kurchatov 139.74 32 PKHKP PKPpre 16 48 44.7
KURK 16 48 53.1
KURK 16 51 52.2
KURK Kurchatov 139.74 32 PKPpre PKPpre 16 48 44.7
KURK *e*PKPpre PKPpre 16 48 47.1
KURK PKP **PKiKP** **16 48 53.1 -1.5**
KURK PP **PP** **16 51 52.2 +3.7**
KURK SKPbc **SKPbc** **16 52 16.2 -2.2**
ZAA0 Zalesovo Array 140.21 24 *e*PKPpre PKPpre 16 48 48.1
ZAA0 *ep*PKPdf pPKPdf 16 49 12.6 -9.1
ZAA0 *e*SKP 16 52 18.4
ZALV Zalesovo Beam 140.21 24 PKhKP PKPpre 16 48 45.8
comp=Z,2.1nm,0.5s,baz=327,slow=1.6,SNR=13
ZALV PKP **PKiKP** **16 48 53.5 -1.9**
comp=Z,7.2nm,0.7s,baz=298,slow=2.2,SNR=20
ZALV SKPbc **SKPbc** **16 52 19.3 -0.3**
comp=Z,5.0nm,0.8s,baz=326,slow=3.6,SNR=4.5
ZALV Zalesovo Beam 140.21 24 PKHKP PKPpre 16 48 45.8
ZALV 16 48 53.5
ZALV Zalesovo Beam 140.21 24 PKPpre PKPpre 16 48 45.8
ZALV PKP **PKiKP** **16 48 53.5 -1.9**
ZALV SKPbc **SKPbc** **16 52 19.3 -0.3**
BOD Bodaibo 141.63 357 *e*PKHKP PKPpre 16 48 49.4
BOD pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 141.66 45 PKP **PKPdf** **16 48 55.5 -0.6**
comp=Z,3.1nm,0.8s,baz=256,slow=2.8,SNR=7.1
AAK PP **PP** **16 52 02.7 +1.7**
comp=Z,11nm,1.2s,baz=299,slow=5.9,SNR=6.4
AAK Ala-Archa 141.66 45 *e*PKHKP PKPpre 16 48 50.3
AAK 16 48 55.5
AAK 16 52 02.7
AAK Ala-Archa 141.66 45 *e*PKPdf PKPdf 16 48 50.3 -5.9
AAK PKP **PKPdf** **16 48 55.5 -0.6**
AAK *ePP **PP** **16 52 02.5 +1.5**
AAK PP PP 16 52 02.7 +1.7
ASAJ Asahikawa 143.87 320 PKP **PKPdf** **16 48 59.5 -0.2**
comp=Z,10nm,0.8s,baz=68,slow=1.7,SNR=9.0
ASAJ Asahikawa 143.87 320 PKP **PKPdf** **16 48 59.5 -0.2**
MK31 Makanchi Array 144.11 34 *e*PKIKP **PKPdf** **16 48 58.6 -1.6**
MK31 Makanchi Array 144.11 34 *e*PKPdf **PKPdf** **16 48 58.6 -1.6**
MKAR Makanchi Array 144.11 34 PKP **PKPdf** **16 48 59.1 -1.1**
comp=Z,3.9nm,0.7s,baz=339,slow=2.4,SNR=44
MKAR PP **PP** **16 52 16.0 +0.9**
comp=Z,1.1nm,0.8s,baz=310,slow=5.1,SNR=2.0
MKAR SKPbc **SKPbc** **16 52 27.5 -2.1**
comp=Z,4.0nm,1.0s,baz=288,slow=3.8,SNR=4.8
MKAR Makanchi Array 144.11 34 *e*PKIKP **PKPdf** **16 48 59.0 -1.1**
MKAR 16 52 16.0
MKAR Makanchi Array 144.11 34 *e*PKPdf **PKPdf** **16 48 59.0 -1.2**
MKAR PKP PKPbc 16 48 59.1 +0.6
MKAR PP **PP** **16 52 16.0 +0.9**
MKAR SKPbc **SKPbc** **16 52 27.5 -2.1**
POO Poona 145.05 85 *ex* x 16 48 57.5
HABR Khabarovsk 145.08 332 *ce*PKIKP **PKPdf** **16 49 01.2 -0.5**
HABR *e* 16 52 20.7
HABR 16 56 05.0
HABR *e*SS SS 17 11 06.3 +4.4
HABR MLR MLR
comp=Z,110nm,22.0s
KLR Kul'dur 145.89 335 *e*PKHKP PKPpre 16 49 00.0
KLR pmax pmax
comp=Z,180nm,1.8s

IRK Irkutsk 146.89 7 *e*PKP2 **PKPbc** **16 49 05.8 -0.9**
IRK pmax pmax
comp=Z,82nm,1.7s
GUMO Guam 146.90 265 PKPbc **PKPbc** **16 49 07.4 -0.4**
comp=Z,106nm,0.5s,baz=0.0,slow=6.1,SNR=5.4
GUMO Guam 146.90 265 PKIKP **PKPbc** **16 49 07.4 -0.4**
GUMO Guam 146.90 265 PKPbc **PKPbc** **16 49 07.4 -0.4**
KHET Khetri 146.91 68 *eP* **PKPdf** **16 49 05.1 -0.4**
MOY Mondy 146.95 11 *e*PKP2 **PKPab** **16 49 07.2 -1.4**
MOY pmax pmax
comp=Z,58nm,1.4s
TLY Talaya 147.36 8 *e*PKP2 **PKPab** **16 49 08.9 -1.2**
TLY pmax pmax
comp=Z,34nm,1.4s
TLY MLR MLR
comp=Z,61nm,20.0s
TLY Talaya 147.36 8 *e*PKPdf **PKPdf** **16 49 04.5 -1.1**
CIT Chita 147.44 357 *e*PKIKP **PKPbc** **16 49 07.2 -1.1**
CIT *e* 16 49 35.8
CIT *e* 16 49 49.5
CIT pmax pmax
comp=Z,119nm,2.2s
KKR Kurukshetra 147.49 65 *eP* **PKPdf** **16 49 04.3 -2.1**
KUDL Kundal 147.49 68 *eP* **PKPdf** **16 49 06.6 +0.2**
BHGR Bahadurgarh 147.81 67 *eP* **PKPdf** **16 49 06.4 -0.5**
SONA Sohna 148.00 68 *eP* **PKPdf** **16 49 06.4 -0.9**
AYAN Aya Nagar 148.00 67 *eP* **PKPdf** **16 49 08.0 +0.7**
NDI New Delhi 148.05 67 *eP* **PKPdf** **16 49 05.0 -2.3**
BISR Bishrakh 148.26 67 *eP* **PKPdf** **16 49 08.2 +0.6**
DDI Dehra Dun 148.46 64 *ex* **PKPdf** **16 49 08.6 +0.5**
DDI *eS* **pPKPbc** **16 49 40.1 -0.1**
ZAK Zakamensk 148.57 9 *e*PKIKP **PKPbc** **16 49 08.8 -2.6**
ZAK pmax pmax
comp=Z,19nm,1.3s
AGRA Agra 148.89 69 *eP* **PKPdf** **16 49 06.1 -2.6**
WMQ Urumqi 148.93 33 PKPbc **PKPdf** **16 49 07.5 -0.9**
WMQ LR LR
comp=N,120nm,26.2s
WMQ LR LR
comp=E,120nm,23.6s
WMQ LR LR
comp=Z,120nm,21.0s
HYB Hyderabad 149.32 89 *i* PKP **PKPdf** **16 49 09.0 -0.7**
HYB *e* 16 49 16.0
HYB *e* 16 49 42.5
HYB *es*PKP 16 50 22.0
HIA Hailar 149.42 349 *e*PKIKP **PKPdf** **16 49 09.5 +0.5**
HIA *e* 16 49 18.2
HIA *e* 16 49 40.5
HIA Hailar 149.42 349 *e*PKPdf **PKPdf** **16 49 09.5 +0.5**
HIA *e*PKPbc **PKiKP** **16 49 13.4 -1.1**
HIA *e*PKPab **PKPab** **16 49 18.2 -0.3**
HIA *ep*PKPdf **pPKPdf** **16 49 40.5 +2.7**
HIA *e*SKP 16 52 34.6
USRK Ussuriysk Arra 149.66 329 PKPbc **PKPbc** **16 49 14.3 +0.2**
comp=Z,29nm,0.8s,baz=75,slow=2.2,SNR=48
USRK pPKPbc **pPKPbc** **16 49 42.6 -0.1**
comp=Z,43nm,1.0s,baz=48,slow=2.9,SNR=5.1
MDJ Mudanjiang 150.46 332 PKPbc **PKPdf** **16 49 10.5 -0.2**
MDJ pPKP **pPKPdf** **16 49 38.0 -1.5**
MDJ sPKP 16 49 48.8
MDJ PKS **PKSdf** **16 52 45.5 +0.1**
MDJ SKS **SKSdf** **16 56 08.5 -0.4**
MDJ SS SS 17 12 06.8 +4.4
MDJ AMB AMB
comp=Z,260nm,4.4s
MDJ LR LR
comp=N,37nm,25.4s
MDJ Mudanjiang 150.46 332 *e*PKPdf **PKPbc** **16 49 15.8 -0.3**
MDJ *ep*PKPdf **pPKPdf** **16 49 42.9 +3.4**
MJAR Matsushiro Arr 150.60 311 PKPbc **PKPbc** **16 49 17.0 +0.3**
comp=N,14nm,0.5s,baz=102,slow=1.0,SNR=50
MJAR pPKPbc **pPKPbc** **16 49 45.3 -0.1**
comp=N,18nm,0.9s,baz=129,slow=0.6,SNR=4.5
MJAR Matsushiro Arr 150.60 311 PKIKP **PKPbc** **16 49 17.0 +0.3**
MJAR 16 49 45.3
MJAR Matsushiro Arr 150.60 311 PKPbc **PKPbc** **16 49 17.0 +0.3**
MJAR pPKPbc **pPKPbc** **16 49 45.3 -0.1**
MAJO Matsushiro 150.60 311 *e*PKIKP **PKPbc** **16 49 16.6 -0.1**
MAJO *e* 16 49 43.3
MAJO Matsushiro 150.60 311 *e*PKPbc **PKPbc** **16 49 16.6 -0.1**
MAJO *ep*PKPdf **pPKPdf** **16 49 43.3 +3.3**
MAT Matsushiro 150.60 311 PKP **PKPbc** **16 49 16.2 -0.5**
SONM Songino Array 151.47 6 PKP **PKPdf** **16 49 13.2 +0.8**
comp=N,3.4nm,0.9s,baz=332,slow=2.2,SNR=15
SONM PKPbc **PKiKP** **16 49 19.3 +0.3**
comp=N,13nm,0.4s,baz=336,slow=1.5,SNR=198
SONM pPKPbc **pPKPbc** **16 49 48.4 +1.2**
comp=N,14nm,0.7s,baz=302,slow=1.2,SNR=4.3
SONM Songino Array 151.47 6 PKIKP **PKPdf** **16 49 13.2 +0.8**
SONM 16 49 48.4
SONM Songino Array 151.47 6 PKP **PKPdf** **16 49 13.2 +0.8**
SONM PKPbc **PKiKP** **16 49 19.3 +0.3**
SONM pPKPbc **pPKPbc** **16 49 48.4 +1.2**
ULN Ulaanbaatar 151.50 5 *e*PKIKP **PKPdf** **16 49 13.4 +1.0**
ULN *e* 16 52 55.8
ULN Ulaanbaatar 151.50 5 *e*PKPdf **PKPdf** **16 49 13.4 +1.0**
ULN *e*PKPbc **PKiKP** **16 49 19.3 +0.2**
ULN *e*PP PP 16 52 55.8 -2.1
CN2 Changchun 152.82 336 *e*PKPbc **PKPdf** **16 49 16.0 +1.7**
CN2 PKPab **PKPab** **16 49 33.0 +0.2**
CN2 *ep*PKP **pPKPdf** **16 49 39.0 -4.1**
CN2 *e*PP PP 16 53 10.5 +5.1
CN2 *e*SS SS 17 12 32.3 +4.1
CN2 AMB AMB
comp=Z,300nm,8.0s
KOLN Koldanda 153.75 67 *eP* **PKPdf** **16 49 16.8 +0.4**
KOLN Koldanda 153.75 67 *eP* **PKPdf** **16 49 16.8 +0.4**
DANN Dangsing 153.76 65 *eP* **PKPdf** **16 49 17.6 +1.1**
DANN Dangsing 153.76 65 *eP* **PKPdf** **16 49 17.6 +1.1**
KAPI Kappang 154.14 201 PKPab **PKPab** **16 49 39.0 -0.1**
comp=Z,69nm,0.8s,baz=162,slow=1.9,SNR=12
KAPI Kappang 154.14 201 *e*PKPab **PKPab** **16 49 38.7 -0.4**
GKN Gorkha 154.59 66 *eP* **PKPdf** **16 49 18.1 +0.6**
GKN Gorkha 154.59 66 *eP* **PKPdf** **16 49 18.1 +0.6**
DMN Daman 155.09 66 *eP* **PKPdf** **16 49 18.8 +0.5**
DMN Daman 155.09 66 *eP* **PKPdf** **16 49 18.8 +0.5**
KKN Kakani 155.20 66 *eP* **PKPdf** **16 49 19.8 +1.4**
KKN Kakani 155.20 66 *e*PKIKP **PKPdf** **16 49 19.8 +1.4**
KKN Kakani 155.20 66 *eP* **PKPdf** **16 49 19.8 +1.4**
PKI Pulchoki 155.36 66 *eP* **PKPdf** **16 49 20.5 +1.7**
PKI Pulchoki 155.36 66 *e*PKIKP **PKPdf** **16 49 20.5 +1.7**
PKI Pulchoki 155.36 66 *eP* **PKPdf** **16 49 20.5 +1.7**
GUN Gumba 155.68 65 *eP* **PKPdf** **16 49 20.9 +1.6**
GUN Gumba 155.68 65 *eP* **PKPdf** **16 49 20.9 +1.6**
JIRN Jiri 156.01 65 *eP* **PKPdf** **16 49 21.8 +2.1**
JIRN Jiri 156.01 65 *eP* **PKPdf** **16 49 21.8 +2.1**
RAMN Ramite 156.53 67 *eP* **PKPdf** **16 49 21.1 +0.8**
RAMN Ramite 156.53 67 *eP* **PKPdf** **16 49 21.1 +0.8**
KSRS Korea Array 156.69 324 PKP **PKPdf** **16 49 19.2 -0.6**
comp=Z,2.5nm,0.8s,baz=47,slow=2.2,SNR=6.1
KSRS PKPab **PKPab** **16 49 49.9 +0.4**
comp=Z,12nm,1.0s,baz=52,slow=4.6,SNR=12
KSRS pPKPab **pPKPab** **16 50 17.4 +0.2**
comp=Z,22nm,1.3s,baz=56,slow=4.1,SNR=3.0
KSAR Wonju Array Be 156.72 324 PKIKP **PKPdf** **16 49 19.2 -0.7**
KSAR 16 49 49.9
KSAR Wonju Array Be 156.72 324 PKP **PKPdf** **16 49 19.2 -0.7**
KSAR PKPab **PKPab** **16 49 49.9 +0.3**
KSAR pPKPab **pPKPab** **16 50 17.4 +0.1**
ODAN Odare 157.24 67 *eP* **PKPdf** **16 49 21.4 +0.2**
ODAN Odare 157.24 67 *eP* **PKPdf** **16 49 21.4 +0.2**
TAPN Taplejung 157.39 65 *eP* **PKPdf** **16 49 23.1 +1.7**
TAPN Taplejung 157.39 65 *eP* **PKPdf** **16 49 23.1 +1.7**
GTA Gaotai 157.96 23 PKP **PKPdf** **16 49 22.5 +0.9**
GTA pPKP **PKPab** **16 49 52.0 -3.1**
GTA *s*PKP 16 50 05.5
GTA SKS **SKSdf** **16 56 14.8 -3.2**
GTA SKKS **SKKSac** **17 00 17.5 +3.1**
GTA AMB AMB
comp=Z,230nm,5.2s
HHC Hu-ho-hao-te 158.68 358 *e*PKP **PKPdf** **16 49 19.5 -2.8**
HHC PKS **PKSdf** **16 52 52.3 -3.7**
HHC PP PP 16 53 39.3 +1.6
HHC SKS **SKSdf** **16 56 13.5 -5.1**
HHC SKKS **SKKSac** **17 00 15.5 -2.4**
HHC AMB AMB
comp=Z,140nm,9.5s
HHC LR LR
comp=N,140nm,21.1s
HHC LR LR
comp=E,250nm,20.4s

HHC					LR	LR			
	comp=Z,150nm,19.7s								
BJI	**Beijing**	**158.99**	**349**		PKP	**PKPdf**	**16 49 22.5**	**0.0**	
BJI					SS	SS	17 13 36.8	+2.8	
BJI					LR	LR			
	comp=N,1μm,10.4s								
BJI					LR	LR			
	comp=E,690nm,17.0s								
BJI					LR	LR			
	comp=Z,120nm,27.6s								
LSA	**Lhasa**	**159.43**	**57**	*e*	PKIKP	**PKPdf**	**16 49 24.0**	**0.0**	
LSA				*e*			16 49 54.5		
LSA				*e*			16 53 40.2		
LSA	**Lhasa**	**159.43**	**57**	*e*	PKPdf	**PKPdf**	**16 49 24.0**	**0.0**	
LSA				*e*	PKPdf	**pPKPdf**	**16 49 54.5**	**+1.6**	
LSA				*e*	PP	PP	16 53 40.2	-3.7	
LZH	**Lanzhou**	**162.33**	**19**	*e*	PKP	PKPdf	16 49 20.0	-6.6	
LZH					pPKP	PKPab	16 50 04.0	-10	
LZH					PKP		16 50 13.0		
LZH					sPKP		16 50 22.3		
LZH					PP	PP	16 53 54.0	-3.7	
LZH					SKKS		17 00 31.5		
LZH					SS	SS	17 14 05.0	-4.8	
LZH					AMB	AMB			
	comp=Z,300nm,5.6s								
XAN	**Xi'an**	**165.38**	**6**		PKP	**PKPdf**	**16 49 30.0**	**+0.7**	
CD2	**Chengdu**	**166.93**	**28**		PKP	**PKPdf**	**16 49 29.0**	**-1.6**	
CD2					pPKP	**pPKPdf**	**16 49 57.5**	**-2.0**	
CD2					sPKP		16 50 08.5		
CD2					PKPab	**PKPab**	**16 50 34.8**	**+0.3**	
CD2					PKS	**PKSdf**	**16 53 00.5**	**-2.9**	
CD2					PP	PP	16 54 23.5	+1.7	
CD2					SKS	**SKSdf**	**16 56 21.0**	**-4.2**	
CD2					SKKS	**SKKSac**	**17 00 58.8**	**-1.6**	
CD2					SS	SS	17 14 56.0	-1.0	
CD2					AMB	AMB			
	comp=Z,210nm,5.9s								
CD2					LR	LR			
	comp=N,330nm,6.5s								
CD2					LR	LR			
	comp=Z,270nm,6.5s								
CMAR	**Chiang Mai Arr**	**168.70**	**93**		PKP	**PKPdf**	**16 49 32.6**	**+0.6**	
	comp=Z,1.5nm,0.9s,baz=286,slow=2.1,SNR=11								
CMAR					pPKP	**pPKPdf**	**16 50 01.6**	**+0.5**	
	comp=Z,3.4nm,1.1s,baz=273,slow=1.7,SNR=4.2								
CMAR					PKPab	**PKPab**	**16 50 43.2**	**+0.4**	
	comp=Z,4.1nm,0.7s,baz=257,slow=6.5,SNR=23								
CMAR					pPKPab	**pPKPab**	**16 51 10.7**	**+0.2**	
	comp=Z,3.5nm,1.1s,baz=267,slow=5.4,SNR=2.5								
CMAR					PP	PP	16 54 33.2	+0.5	
	comp=Z,2.8nm,1.1s,baz=256,slow=6.1,SNR=5.0								
CMAR	**Chiang Mai Arr**	**168.70**	**93**		PKIKP	**PKPdf**	**16 49 32.7**	**+0.6**	
CMAR							16 50 01.6		
CMAR							16 50 43.2		
CMAR							16 54 33.2		
CMAR	**Chiang Mai Arr**	**168.70**	**93**		PKP	**PKPdf**	**16 49 32.6**	**+0.6**	
CMAR					pPKP	**pPKPdf**	**16 50 01.6**	**+0.5**	
CMAR					PKPab	**PKPab**	**16 50 43.2**	**+0.4**	
CMAR					pPKPab	**pPKPab**	**16 51 10.7**	**+0.2**	
CMAR					PP	PP	16 54 33.2	+0.5	
KMI	**Kunming**	**170.62**	**52**		PKP	**PKPdf**	**16 49 32.3**	**-1.0**	
KMI					pPKP	**pPKPdf**	**16 49 58.5**	**-3.8**	
KMI					sPKP		16 50 11.5		
GYA	**Guiyang**	**172.05**	**28**		PKP	**PKPdf**	**16 49 33.3**	**-0.6**	
GYA					sPKP		16 50 12.5		
GYA					PKPab	**PKPab**	**16 50 56.8**	**-0.5**	
GYA					PKS	**PKSdf**	**16 53 04.3**	**-2.1**	
GYA					PP	PP	16 54 49.8	+2.1	
GYA					SKKS		17 01 23.5		
GYA					SS	SS	17 15 46.0	-2.0	
GYA					AMB	AMB			
	comp=Z,130nm,8.0s								
GYA					LR	LR			
	comp=N,130nm,25.0s								
GYA					LR	LR			
	comp=E,110nm,26.8s								
GYA					LR	LR			
	comp=Z,120nm,24.6s								

*WEL **31** 16:53:44.2±0.3,37.00S×177.18E,h5km,ML4.5/11,Error ellipse: s-maj=2.7km s-min=2.0km az=0.0*
*IDC **31** 16:53:48.5±8.3,37.52S×176.39E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.9/12,mbtmp3.9/3,Error ellipse: s-maj=260.1km s-min=30.4km az=46.0*

NEIC 31 16:53:44.3,36.94S×177.17E,h12km,ML4.5(WEL)**, After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.59**	**178**	PG	Pg	16 53 54.5	-1.3
WIZ				SG	Sg	16 54 01.8	-2.0
WIZ				SG	Sb	16 54 02.0	-2.9
WIZ	**White Island**	**0.59**	**178**	P*	Pg	16 53 54.5	-1.3
WIZ				S*	Sg	16 54 02.0	-1.7
MYRZ	**Mayor Island**	**0.82**	**245**	P*	Pg	16 53 59.5	-0.6
OPRZ	**Ohinepanea**	**1.03**	**208**	P*	Pb	16 54 01.7	-2.4
OPRZ	**Ohinepanea**	**1.03**	**208**	P*	Pb	16 54 01.7	-2.4
TGRZ	**Tauranga**	**1.07**	**222**	P*	Pb	16 54 02.8	-2.1
TGRZ	**Tauranga**	**1.07**	**222**	P*	Pb	16 54 02.8	-2.1
MXZ	**Matakaoa Point**	**1.10**	**125**	P*	Pb	16 54 03.2	-2.2
MXZ				S*	Sb	16 54 16.8	-2.9
MXZ	**Matakaoa Point**	**1.10**	**125**	P*	Pb	16 54 03.2	-2.2
MXZ				S*	Sb	16 54 17.6	-2.1
MARZ	**Manawahe**	**1.12**	**200**	P*	Pb	16 54 03.4	-2.3
MARZ	**Manawahe**	**1.12**	**200**	P*	Pb	16 54 03.4	-2.3
KUZ	**Kuaotunu**	**1.18**	**279**	P*	Pb	16 54 05.0	-1.5
KUZ	**Kuaotunu**	**1.18**	**279**	P*	Pb	16 54 05.0	-1.5
URZ	**Urewera**	**1.32**	**182**	*e*Pn	Pn	16 54 04.7	-4.0
PUZ	**Puketiti**	**1.43**	**143**	PN	Pn	16 54 09.3	-0.8
PUZ	**Puketiti**	**1.43**	**143**	Pn	Pn	16 54 09.5	-0.6
TOZ	**Tahuroa Road**	**1.55**	**239**	*e*P*	Pn	16 54 10.1	-1.5
TOZ	**Tahuroa Road**	**1.55**	**239**	P*	Pn	16 54 10.0	-1.7
MKAZ	**Moumakai**	**1.61**	**263**	PN	Pn	16 54 11.6	-0.9
MKAZ	**Moumakai**	**1.61**	**263**	Pn	Pn	16 54 11.6	-0.9
OUZ	**Omahuta**	**3.36**	**300**	*e*Pn	Pn	16 54 37.2	+0.6
SNZO	**South Karori**	**4.77**	**203**	Pn	Pn	16 54 57.5	+1.5
ASAR	**Alice Springs**	**39.30**	**277**	P	P	17 01 14.8	+1.4
	0.7nm,1.0s,baz=119,slow=7.6,SNR=3.2						
ASAR	**Alice Springs**	**39.30**	**277**	P	P	17 01 14.8	+1.4
WRA	**Warramunga Arr**	**40.91**	**282**	P	P	17 01 28.6	+1.9
	1.6nm,0.8s,baz=120,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**40.91**	**282**	P	P	17 01 28.6	+1.9
QSPA	**South Pole Qui**	**53.19**	**180**	P	P	17 03 03.7	+1.6
	2.8nm,0.6s,baz=45,slow=6.2,SNR=9.7						
QSPA	**South Pole Qui**	**53.19**	**180**	P	P	17 03 03.7	+1.6
TORD	**Torodi Ar. Bea**	**155.97**	**191**	PKPab	PKPab	17 14 08.7	+2.9
	0.6nm,0.7s,baz=182,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**155.97**	**191**	PKPab	PKPab	17 14 08.7	+2.9

IDC 31 17:13:16.7±2.2,6.82S×128.69E,h0km,mb3.1/1, mb1 3.7/4,mb1mx3.4/16,mbtmp3.5/4,ML3.5/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/14,Error ellipse: s-maj=84.5km s-min=30.0km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.60**	**195**	Pn	Pn	17 16 03.9	+0.2
	0.3nm,0.3s,baz=24,slow=10.0,SNR=2.4						
FITZ				Sn	Sn	17 17 57.4	-17
	0.3nm,0.3s,baz=312,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**14.15**	**158**	Pn	Pn	17 16 39.5	+0.8
	0.2nm,0.3s,baz=336,slow=12,SNR=6.3						
WRA				Sn	Sn	17 19 01.9	-15
	0.3nm,0.3s,baz=334,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.48**	**164**	P	Pn	17 17 21.4	-0.8
	0.2nm,0.3s,baz=341,slow=9.9,SNR=29						
ASAR				S	Sn	17 20 21.8	-16
	0.1nm,0.3s,baz=345,slow=26,SNR=6.0						
HNR	**Honiara**	**31.05**	**97**	LR	LR	17 30 52.8	
	comp=Z,61nm,21.5s,baz=222,slow=34						
MKAR	**Makanchi Array**	**67.37**	**327**	P	P	17 24 13.9	0.0
	0.3nm,0.8s,baz=142,slow=6.8,SNR=2.7						

*JMA **31** 17:31:53.3±0.2,43.54N×147.82E,h0km,M4.0*
*ISCJB **31** 17:31:54.7±0.9,43.71N±0.06×148.03E±0.07,h41km±9km, mb3.7/15,MS3.4/1,Error ellipse: s-maj=10.7km s-min=7.7km az=154.6*
*MOS **31** 17:31:55.3±0.9,43.77N×148.01E,h49km,mb4.2/6,Error ellipse: s-maj=13.7km s-min=11.9km az=74.9*

*SKHL **31** 17:31:55.4±0.4,43.76N×148.09E,h39km±7km,mb5.0/1*
*IDC **31** 17:31:57.1±0.7,43.72N×147.96E,h46km±5km,mb3.4/14, mb1 3.7/16,mb1mx3.6/25,mbtmp3.5/16,MS3.1/2, Ms1 3.3/2,ms1mx2.7/35,Error ellipse: s-maj=18.7km s-min=14.1km az=164.0*

ISC 31 17:31:56.8±0.7,43.67N±0.06×147.96E±0.06,h44km±5km, h43km;pP-P,n58,σ1¶04/71,mb3.7/15,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.56**	**284**	*i* PN	**Pn**	**17 32 21.1**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.56**	**284**	⇓ *i* P	**Pn**	**17 32 21.1**	**-1.0**
YUK				AMB	AMB	17 32 22.1	
	150nm,0.4s						
YUK				AMB	AMB	17 32 22.1	
	230nm,0.4s						
YUK				AMB	AMB	17 32 22.1	
	600nm,0.4s						
YUK				*i* S	**Sn**	**17 32 40.1**	**-1.0**
YUK				A	A	17 32 41.3	
	2μm,0.4s						
YUK				A	A	17 32 41.3	
	4μm,0.4s						
NEM2	**Nemuro 2**	**1.64**	**260**	P	**Pn**	**17 32 21.8**	**-1.4**
NEM2				*e*S	**Sn**	**17 32 42.6**	**-0.5**
JRA	**Rausu**	**2.07**	**278**	P	**Pn**	**17 32 28.7**	**-0.4**
JRA				*e*S	**Sn**	**17 32 53.9**	**+0.2**
JNK	**Nakash**	**2.36**	**269**	P	**Pn**	**17 32 32.3**	**-0.7**
JNK				*e*S	**Sn**	**17 33 00.6**	**-0.1**
JAK	**Akkeshi**	**2.48**	**255**	P	**Pn**	**17 32 33.7**	**-0.9**
JTKR	**Abashiri--Toko**	**2.95**	**277**	P	**Pn**	**17 32 41.6**	**+0.5**
JTKR				*e*S	**Sn**	**17 33 17.9**	**+2.7**
JAR	**Ashorobuto**	**3.07**	**265**	P	**Pn**	**17 32 42.8**	**0.0**
JMP	**Maruseppu**	**3.35**	**277**	P	**Pn**	**17 32 47.4**	**+0.8**
JCH	**Churui**	**3.53**	**254**	P	**Pn**	**17 32 48.6**	**-0.4**
ERM	**Erimo**	**3.90**	**247**	*e*PN	**Pn**	**17 32 55.6**	**+1.4**
ERM	**Erimo**	**3.90**	**247**	*e*P	**Pn**	**17 32 55.6**	**+1.4**
ASAJ	**Asahikawa**	**3.90**	**278**	P	**Pn**	**17 32 56.1**	**+1.9**
	2.2nm,0.3s,baz=82,slow=15,SNR=20						
ASAJ				LR	LR	17 34 34.6	
	comp=Z,147nm,19.1s,baz=341,slow=40						
ASAJ	**Asahikawa**	**3.90**	**278**	PN	**Pn**	**17 32 56.2**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JFR	**Furan**	**3.94**	**264**	P	**Pn**	**17 32 54.5**	**-0.3**
JNBK	**Urakawa-nobuka**	**4.07**	**252**	P	**Pn**	**17 32 56.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.93**	**314**	*e*PN	**Pn**	**17 33 08.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.93**	**314**	*e*P	**Pn**	**17 33 08.5**	**+0.3**
YSS				*e*rx	rx	17 33 20.4	
YSS				*e*S	**Sn**	**17 34 03.6**	**-0.3**
YSS				A	A	17 34 04.9	
	comp=Z,30nm,0.5s						
JKB	**Kayabe**	**5.40**	**253**	P	**Pn**	**17 33 14.8**	**0.0**
TYV	**Tymovskoe**	**8.05**	**335**	*e*P	**Pn**	**17 33 53.0**	**+2.0**
SKR	**Severo-Kuril's**	**8.95**	**35**	*e*PN	**Pn**	**17 34 02.0**	**-1.3**
SKR	**Severo-Kuril's**	**8.95**	**35**	*e*P	**Pn**	**17 34 02.0**	**-1.3**
MAJO	**Matsushiro**	**10.31**	**230**	*e*PN	Pn	17 34 16.5	-5.6
PETK	**Petropavlovsk-**	**11.44**	**31**	P	**Pn**	**17 34 36.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=202,slow=13,SNR=8.6						
PETK	**Petropavlovsk-**	**11.44**	**31**	*e*PN	**Pn**	**17 34 36.3**	**-1.1**
SONM	**Songino Array**	**29.05**	**293**	P	**P**	**17 37 52.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=84,slow=8.5,SNR=4.9						
SONM	**Songino Array**	**29.05**	**293**	P	**P**	**17 37 52.0**	**-0.8**
KDAK	**Kodiak Island**	**38.87**	**47**	P	**P**	**17 39 16.7**	**-0.8**
	comp=Z,16nm,1.1s,baz=315,slow=7.1,SNR=4.8						
KDAK	**Kodiak Island**	**38.87**	**47**	P	**P**	**17 39 16.7**	**-0.8**
KDAK				pmax	pmax		
	comp=Z,16nm,1.1s						
ILAR	**Eielson Array**	**41.21**	**36**	P	**P**	**17 39 36.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=270,slow=9.5,SNR=9.6						
ILAR	**Eielson Array**	**41.21**	**36**	P	**P**	**17 39 36.8**	**0.0**
ILAR	**Eielson Array**	**41.21**	**36**	*e*P	**P**	**17 39 39.4**	**+2.6**
ZALV	**Zalesovo Beam**	**41.52**	**307**	PcP	**PcP**	**17 41 36.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.3,SNR=4.7						
MKAR	**Makanchi Array**	**45.14**	**298**	P	**P**	**17 40 08.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=80,slow=8.3,SNR=13						
MKAR	**Makanchi Array**	**45.14**	**298**	*e*P	**P**	**17 40 08.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.14**	**298**	*e*P	**P**	**17 40 08.8**	**0.0**
KURK	**Kurchatov**	**46.06**	**304**	P	**P**	**17 40 16.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.8,SNR=7.5						
KURK				PcP	**PcP**	**17 41 51.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=82,slow=3.2,SNR=4.8						
KURK	**Kurchatov**	**46.06**	**304**	P	**P**	**17 40 16.3**	**+0.3**
KURK						17 41 51.9	
CMAR	**Chiang Mai Arr**	**48.07**	**254**	LR	LR	18 03 03.0	
	comp=Z,42nm,20.4s,baz=163,slow=39						
AAK	**Ala-Archa**	**51.92**	**296**	P	**P**	**17 41 01.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=145,slow=5.3,SNR=5.4						
AAK	**Ala-Archa**	**51.92**	**296**	P	**P**	**17 41 01.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**55.54**	**34**	P	**P**	**17 41 27.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=301,slow=7.3,SNR=6.5						
YKA				pP	**pP**	**17 41 38.1**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=300,slow=6.7,SNR=9.2						
YKA	**Yellowknife Ar**	**55.54**	**34**	P	**P**	**17 41 27.4**	**+0.3**
YKA				*PP	**pP**	**17 41 38.1**	**-1.5**
YKA	**Yellowknife Ar**	**55.54**	**34**	*e*P	**P**	**17 41 29.9**	**+2.8**
WRA	**Warramunga Arr**	**64.52**	**194**	P	**P**	**17 42 28.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=14,slow=6.9,SNR=6.6						
WRA	**Warramunga Arr**	**64.52**	**194**	P	**P**	**17 42 28.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**17 42 31.9**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=36,slow=7.1,SNR=9.9						
FINES				pP	**pP**	**17 42 47.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=67,slow=5.0,SNR=1.0						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**17 42 31.9**	**-1.2**
FINES				*PP	**pP**	**17 42 47.3**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**67.12**	**58**	P	**P**	**17 42 47.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=293,slow=7.6,SNR=4.3						
NVAR				pP	**pP**	**17 42 59.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=292,slow=7.8,SNR=7.7						
ASAR	**Alice Springs**	**68.24**	**194**	P	**P**	**17 42 53.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=12,slow=6.2,SNR=9.8						
ASAR	**Alice Springs**	**68.24**	**194**	*e*P	**P**	**17 42 53.8**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**69.51**	**50**	P	**P**	**17 43 01.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=261,slow=2.9,SNR=3.5						
PDAR				pP	**pP**	**17 43 15.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=288,slow=1.2,SNR=5.4						
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**17 43 02.5**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=30,slow=6.4,SNR=4.8						
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**17 43 02.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**79.52**	**331**	P	**P**	**17 43 57.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=53,slow=5.2,SNR=5.4						
GERES	**GERESS Array B**	**79.52**	**331**	P	**P**	**17 43 57.7**	**-1.0**
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**17 44 13.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.6,SNR=6.2						
TXAR				pP	**pP**	**17 44 26.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=296,slow=4.0,SNR=5.0						
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**17 44 13.8**	**+0.4**
TXAR				*PP	**pP**	**17 44 26.8**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **31** 17:36:38.8±0.5,32.47N×105.36E,h0km,mb4.3/20, mb1 4.4/23,mb1mx4.2/34,mbtmp4.3/23,ML3.9/3,MS3.6/6, Ms1 3.6/6,ms1mx3.1/39,Error ellipse: s-maj=21.0km s-min=11.1km az=57.0*
*ISCJB **31** 17:36:38.5±0.2,32.40N±0.02×105.37E±0.03,h11km, mb4.4/37,MS3.5/6,Error ellipse: s-maj=3.6km s-min=3.4km az=42.3*
*BJI **31** 17:36:39.2,32.42N×105.41E,h13km,mB4.7/5,mb4.3/13, ML4.3/22,Ms4.2/18,Ms7 3.8/13*
*NEIC **31** 17:36:40.3±2.1,32.46N×105.31E,h11km±13km,mb4.4/26, Error ellipse: s-maj=4.4km s-min=4.1km az=54.0*
*MOS **31** 17:36:41.6±0.9,32.40N×105.33E,h33km,mb4.6/27,Error ellipse: s-maj=8.8km s-min=6.3km az=102.1*

ISC 31 17:36:40.3±0.3,32.40N±0.03×105.35E±0.03,h11km,n165, σ1¶14/183,mb4.5/37,MS3.5/6,3C-1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.01**	**223**	Pn	**Pb**	**17 37 15.8**	**-1.1**
CD2					Pg	**Pg**	**17 37 16.8**	**-2.1**
CD2					Sn	**Sg**	**17 37 44.0**	**-1.0**
CD2					Sg	**Sb**	**17 37 46.3**	**+4.3**
CD2					smax	smax		
	comp=N,19μm,0.6s							
CD2					smax	smax		
	comp=E,23μm,0.8s							
XAN	**Xi'an**	**3.41**	**60**		Pn	**Pn**	**17 37 34.0**	**+0.5**
XAN					Pg	**Pb**	**17 37 41.8**	**+1.0**
XAN					Sn	**Sn**	**17 38 13.5**	**-0.4**
XAN					Sg	**Sb**	**17 38 22.5**	**+0.3**
XAN					smax	smax		
	comp=N,1μm,0.7s							
XAN					smax	smax		
	comp=E,950nm,0.8s							
XAN					LR	LR		
	comp=N,3μm,6.6s							
XAN					LR	LR		
	comp=E,630nm,5.4s							
XAN					LR	LR		
	comp=Z,460nm,7.5s							
LZH	**Lanzhou**	**3.88**	**342**		Pn	**Pn**	**17 37 41.5**	**+1.4**
LZH					Pg	**Pg**	**17 37 51.5**	**-3.2**
LZH					Sn	**Sn**	**17 38 23.0**	**-2.8**
LZH					Sg	**Sb**	**17 38 38.8**	**+2.8**
LZH					smax	smax		
	comp=N,2μm,0.7s							
LZH					smax	smax		
	comp=E,2μm,0.6s							
LZH					LR	LR		
	comp=N,3μm,5.4s							
LZH					LR	LR		
	comp=E,3μm,5.1s							
LZH					LR	LR		
	comp=Z,3μm,7.8s							
ENH	**Enshi**	**4.13**	**120**	*e*Pn		**Pn**	**17 37 45.2**	**+1.9**
ENH				*e*Pb		**Pb**	**17 37 53.7**	**+0.7**
ENH				*e*Pg		**Pg**	**17 37 58.8**	**-0.5**
ENH				*e*Sb		**Sb**	**17 38 44.1**	**+1.3**
KMI	**Kunming**	**7.60**	**198**	Pn		**Pn**	**17 38 32.3**	**+1.0**
KMI				Sn		**Sn**	**17 39 58.3**	**+0.7**
KMI				smax	smax			
	comp=N,95nm,1.3s							
KMI				smax	smax			
	comp=E,59nm,1.1s							
KMI				LR	LR			
	comp=N,410nm,6.9s							
KMI				LR	LR			
	comp=E,910nm,6.2s							
KMI				LR	LR			
	comp=Z,400nm,6.9s							
WHN	**Wuhan**	**7.91**	**101**	P		**Pn**	**17 38 34.3**	**-0.9**
WHN				S		**Sn**	**17 40 04.0**	**-0.6**
GTA	**Gaotai**	**8.31**	**329**	*e*P		**Pn**	**17 38 40.3**	**-0.6**
GTA				pP		Pb	17 38 44.5	-20
GTA				sP			17 38 47.3	
GTA				S		**Sn**	**17 40 17.3**	**+2.5**
GTA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
GTA				LR	LR			
	comp=N,870nm,11.4s							
GTA				LR	LR			
	comp=E,1μm,11.9s							
GTA				LR	LR			
	comp=Z,590nm,9.7s							
NJ2	**Nanjing**	**11.44**	**88**	*e*P		Pn	17 39 31.0	+7.4
NJ2				pP			17 39 34.3	
NJ2				sP			17 39 37.3	
NJ2				PP			17 39 40.3	
NJ2				S		Sn	17 41 45.3	+14
NJ2				sS			17 41 47.3	
NJ2				pmax	pmax			
	comp=Z,20nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,160nm,3.9s							
NJ2				smax	smax			
	comp=N,90nm,1.2s							
NJ2				smax	smax			
	comp=E,110nm,1.2s							
NJ2				LR	LR			
	comp=N,510nm,15.7s							
NJ2				LR	LR			
	comp=E,760nm,13.8s							
NJ2				LR	LR			
	comp=Z,700nm,14.0s							
GZH	**Guangzhou**	**11.66**	**141**	P		**Pn**	**17 39 24.0**	**-2.7**
GZH				S		**Sn**	**17 41 31.8**	**-5.2**
GZH				LR	LR			
	comp=N,990nm,6.9s							
GZH				LR	LR			
	comp=E,800nm,7.1s							
LSA	**Lhasa**	**12.47**	**261**	*e*P		**Pn**	**17 39 39.5**	**+1.3**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LSA	**Lhasa**	**12.47**	**261**	*e*Pn		**Pn**	**17 39 39.5**	**+1.3**
	comp=Z,5.7nm,0.7s							
CHTO	**Chiang Mai**	**14.71**	**205**	*e*P		**Pn**	**17 40 08.2**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.6s							
CHTO	**Chiang Mai**	**14.71**	**205**	*e*Pn		**Pn**	**17 40 08.2**	**-0.2**
	comp=Z,4.6nm,0.6s							
CM31	**Chiang Mai Arr**	**15.04**	**204**	*e*Pn		**Pn**	**17 40 13.8**	**+1.0**
	comp=Z,5.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**15.04**	**204**	Pn		**Pn**	**17 40 13.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=14,slow=9.6,SNR=21							
CMAR	**Chiang Mai Arr**	**15.04**	**204**	Pn		**Pn**	**17 40 13.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**15.04**	**204**	Pn		**Pn**	**17 40 13.7**	**+0.9**
SONM	**Songino Array**	**15.44**	**3**	Pn		**Pn**	**17 40 17.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=184

comp=Z,32nm,0.9s
GKN Gorkha 18.43 262 *e*P P 17 40 55.4 -0.5
comp=Z,14nm,0.5s
GKN Gorkha 18.43 262 *e*P P 17 40 55.4 -0.5
comp=Z,14nm,0.5s
DANN Dangsing 19.06 263 *e*P Pn 17 41 03.2 -0.5
comp=Z,16nm,0.5s
DANN Dangsing 19.06 263 *e*P Pn 17 41 03.2 -0.5
comp=Z,16nm,0.5s
KSAR Wonju Array Be 19.14 69 P Pn 17 41 04.6 +0.3
KSAR Wonju Array Be 19.14 69 P Pn 17 41 04.6 +0.3
KSRS Korea Array 19.17 68 P Pn 17 41 04.6 0.0
comp=Z,0.7nm,0.3s,baz=253,slow=11,SNR=24
KSRS LR LR 17 48 47.2
comp=Z,193nm,18.4s,baz=40,slow=38
KSRS Korea Array 19.17 68 P Pn 17 41 04.6 0.0
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,193nm,18.4s
TLY Talaya 19.31 357 *e*P Pn 17 41 08.6 +2.3
TLY pmax pmax
comp=Z,3.0nm,0.8s
KOLN Koldanda 19.37 262 *e*P P 17 41 05.9 -0.4
comp=Z,32nm,0.8s
KOLN Koldanda 19.37 262 *e*P P 17 41 05.9 -0.4
comp=Z,32nm,0.8s
MOY Mondy 19.52 352 *e*P Pn 17 41 09.3 +0.4
IRK Irkutsk 19.84 358 *e*P Pn 17 41 12.7 0.0
IRK pmax pmax
comp=Z,23nm,1.5s
HIA Hailar 20.00 28 *e*P P 17 41 12.7 -0.1
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 20.00 28 *e*Pn P 17 41 12.7 -0.1
comp=Z,3.9nm,0.6s
JOW Kunigami 20.67 100 LR LR 17 49 01.9
comp=Z,163nm,18.1s,baz=103,slow=36
MK31 Makanchi Array 22.74 316 *e*P P 17 41 41.5 -0.9
MK31 Makanchi Array 22.74 316 *e*P P 17 41 41.5 -0.9
MKAR Makanchi Array 22.74 316 P P 17 41 42.0 -0.4
comp=Z,8.1nm,0.8s,baz=119,slow=12,SNR=29
MKAR Makanchi Array 22.74 316 *i*P P 17 41 42.0 -0.4
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 22.74 316 P P 17 41 42.0 -0.4
TKM2 Tokmak 2 25.67 303 P P 17 42 12.8 +2.5
SNR=6.7
TKM2 P P 17 42 12.8 +2.5
SNR=6.7
TKM2 Tokmak 2 25.67 303 *e*P P 17 42 10.3 -0.1
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 25.67 303 *e*P P 17 42 10.3 -0.1
comp=Z,5.8nm,0.8s
KZA Kyzart 25.73 301 P P 17 42 13.1 +2.0
SNR=7.2
KZA P P 17 42 13.1 +2.0
SNR=7.2
KLR Kul'dur 25.92 42 *e*P P 17 42 13.1 +0.8
ZAA0 Zalesovo Array 26.05 332 *e*P P 17 42 12.3 -1.2
ZALV Zalesovo Beam 26.05 332 P P 17 42 13.1 -0.4
comp=Z,2.9nm,0.7s,baz=130,slow=9.5,SNR=17
ZALV PcP PcP 17 45 41.2 +0.1
comp=Z,0.3nm,0.4s,baz=153,slow=4.4,SNR=2.3
ZALV Zalesovo Beam 26.05 332 P P 17 42 13.1 -0.4
ZALV 17 45 41.2
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 26.05 332 P P 17 42 13.1 -0.4
ZALV PcP PcP 17 45 41.2 +0.1
KBK Karagaybulak 26.07 302 P P 17 42 16.2 +2.3
SNR=6.3
KBK P P 17 42 16.2 +2.3
SNR=6.3
AAK Ala-Archa 26.39 302 P P 17 42 18.0 +1.1
comp=Z,2.6nm,1.0s,baz=139,slow=8.4,SNR=7.4
AAK LR LR 17 53 55.6
comp=Z,133nm,20.0s,baz=210,slow=39
AAK Ala-Archa 26.39 302 *e*P P 17 42 19.7 +2.8
AAK pmax pmax
comp=Z,16nm,2.5s
AAK Ala-Archa 26.39 302 *e*P P 17 42 17.8 +0.9
comp=Z,15nm,1.0s
USP Ospenovka 26.53 303 P P 17 42 19.8 +1.8
SNR=10.0
USP P P 17 42 19.8 +1.8
SNR=10.0
AML Almayashu 26.87 300 P P 17 42 23.0 +1.5
SNR=11
AML P P 17 42 23.0 +1.5
SNR=11
KURK Kurchatov 26.88 321 P P 17 42 21.0 0.0
comp=Z,3.2nm,0.7s,baz=135,slow=8.4,SNR=34
KURK PcP PcP 17 45 42.5 -0.5
comp=Z,0.6nm,0.5s,baz=119,slow=2.3,SNR=5.1
KURK Kurchatov 26.88 321 *ce*P P 17 42 21.9 +0.9
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 26.88 321 *e*P P 17 42 20.3 -0.7
comp=Z,7.2nm,0.8s
KURK PcP PcP 17 45 42.5 -0.5
EKS2 Erkin-Say 26.91 301 *e*P P 17 42 20.9 -0.6
EKS2 pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 26.91 301 *e*P P 17 42 20.9 -0.6
comp=Z,2.1nm,0.7s
MJAR Matsushiro Arr 27.32 72 LR LR 17 53 31.4
comp=Z,118nm,19.0s,baz=260,slow=37
KKAR Karatay Array 29.35 301 *e*P P 17 42 43.7 +0.5
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 29.35 301 *e*P P 17 42 43.7 +0.5
comp=Z,1.2nm,0.4s
KBL Kabul 30.26 284 P P 17 42 50.1 -1.5
KBL Kabul 30.26 284 P P 17 42 50.1 -1.5
ASAJ Asahikawa 31.24 57 P P 17 42 59.9 0.0
comp=Z,12nm,1.1s,baz=291,slow=13,SNR=3.2
ASAJ Asahikawa 31.24 57 P P 17 42 59.9 0.0
ASAJ pmax pmax
comp=Z,12nm,1.1s
ASAJ Asahikawa 31.24 57 P P 17 42 59.9 0.0
BRVK Borovoye 32.53 320 *e*P P 17 43 12.7 +1.6
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 32.53 320 *e*P P 17 43 11.5 +0.5
comp=Z,2.7nm,0.7s
YAK Yakutsk 33.52 21 *e*P P 17 43 19.4 -0.1
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 33.52 21 *e*P P 17 43 19.4 -0.1
comp=Z,5.4nm,0.6s
ABKAR Akbulak array 37.63 310 *e*P P 17 43 54.9 -0.1
comp=Z,1.8nm,0.5s
SVE Sverdlovsk 39.11 322 *e*P P 17 44 08.9 +1.5
SVE pmax pmax
comp=Z,10.0nm,1.1s
KAPI Kappang 39.65 157 P P 17 44 12.5 +0.2
comp=Z,19nm,0.8s,baz=322,slow=12
KAPI Kappang 39.65 157 P P 17 44 12.5 +0.2
ARU Arti 40.08 321 *c i*P P 17 44 16.4 +0.9
ARU 17 45 45.7
ARU S S 17 50 22.2 +1.0
ARU SS SS 17 53 14.4 -4.0
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 40.08 321 *e*P P 17 44 15.3 -0.2
comp=Z,5.3nm,0.8s
GUMO Guam 40.62 108 LR LR 18 01 05.8
comp=Z,41nm,21.8s,baz=139,slow=36
PETK Petropavlovsk- 42.52 45 LR LR 18 04 13.3
comp=Z,73nm,19.0s,baz=130,slow=39
VRHR Novokhopersk 49.46 312 *e*P P 17 45 30.2 -0.1
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,7.0nm,0.3s
VRHR pmax pmax
comp=Z,4.0nm,0.3s
KLMR Klimovskoe 50.61 325 P P 17 45 33.7 -5.2
KLMR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 50.99 312 *e*P P 17 45 40.9 -1.0
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.8s
OBN Obninsk 52.24 317 *e*P P 17 45 52.1 +0.9
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,100nm,15.0s
FITZ Fitzroy Crossi 53.84 156 P P 17 46 04.1 +0.8
comp=Z,2.5nm,0.4s,baz=342,slow=9.4,SNR=4.4
FITZ Fitzroy Crossi 53.84 156 P P 17 46 04.1 +0.8
ARCES ARCESS Array B 56.52 335 P P 17 46 22.2 0.0
comp=Z,5.1nm,0.8s,baz=82,slow=8.7,SNR=11
ARCES ARCESS Array B 56.52 335 P P 17 46 22.2 0.0
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 56.52 335 P P 17 46 22.2 0.0
BRTR Keskin Array B 57.03 299 P P 17 46 26.5 0.0
comp=Z,1.2nm,0.6s,baz=104,slow=7.9,SNR=7.9
BRTR Keskin Array B 57.03 299 *i*P P 17 46 26.6 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 57.03 299 P P 17 46 26.5 0.0
FINES FINESS Array B 57.09 326 P P 17 46 25.7 -0.6
comp=Z,2.2nm,0.7s,baz=81,slow=6.1,SNR=10.0
FINES FINESS Array B 57.09 326 P P 17 46 25.7 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 57.09 326 P P 17 46 25.7 -0.6
AKASG Malin Array Be 57.28 313 P P 17 46 27.1 -0.7
comp=Z,3.2nm,0.6s,baz=70,slow=6.6,SNR=6.7
AKASG Malin Array Be 57.28 313 *i*P P 17 46 27.1 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 57.28 313 P P 17 46 27.1 -0.7
WRAB Tennant Creek 58.98 148 *e*P P 17 46 40.5 +0.5
WRAB Tennant Creek 58.98 148 *e*P P 17 46 40.5 +0.5
comp=Z,13nm,0.7s
WRA Warramunga Arr 58.98 148 P P 17 46 40.7 +0.6
comp=Z,12nm,0.7s,baz=339,slow=7.7,SNR=77
WRA Warramunga Arr 58.98 148 P P 17 46 40.7 +0.6
WRA Warramunga Arr 58.98 148 P P 17 46 40.7 +0.6
WB2 Warramunga Arr 58.99 148 *e*P P 17 46 40.7 +0.6
KWP Kalwaria Pacla 61.60 313 *e*P P 17 46 57.3 -0.4
KWP Kalwaria Pacla 61.60 313 *e*P P 17 46 57.3 -0.4
comp=Z,7.8nm,0.6s
AS31 Alice Springs 62.07 150 *e*P P 17 46 59.0 -2.0
ASAR Alice Springs 62.07 150 P P 17 47 01.8 +0.7
comp=Z,4.9nm,0.7s,baz=331,slow=6.7,SNR=71
ASAR Alice Springs 62.07 150 P P 17 47 01.8 +0.7
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR Alice Springs 62.07 150 P P 17 47 01.8 +0.7
NB2 NORSAR Subarra 64.14 327 P P 17 47 14.3 -0.2
comp=Z,0.7nm,0.7s,baz=46,slow=5.1
NOA NORSAR Array B 64.14 327 P P 17 47 13.4 -1.1
comp=Z,1.5nm,0.7s,baz=71,slow=6.9,SNR=3.7
NOA NORSAR Array B 64.14 327 P P 17 47 13.4 -1.1
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 64.14 327 P P 17 47 13.4 -1.1
MORC Moravsky Berou 64.72 314 P P 17 47 18.3 -0.2
MORC Moravsky Berou 64.72 314 P P 17 47 18.3 -0.2
NWAO Narrogin (SRO) 65.94 169 P P 17 47 27.3 +1.0
comp=Z,4.0nm,0.7s,baz=11,slow=10,SNR=3.4
NWAO Narrogin (SRO) 65.94 169 P P 17 47 27.3 +1.0
NWAO pmax pmax
comp=Z,4.0nm,0.7s
NWAO Narrogin (SRO) 65.94 169 P P 17 47 27.3 +1.0
GERES GERESS Array B 67.40 314 P P 17 47 36.0 +0.2
comp=Z,1.0nm,0.8s,baz=69,slow=7.3,SNR=8.3
GERES GERESS Array B 67.40 314 P P 17 47 36.0 +0.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 67.40 314 P P 17 47 36.0 +0.2
ILAR Eielson Array 68.21 26 P P 17 47 40.0 -0.5
comp=Z,0.3nm,0.8s,baz=293,slow=3.4,SNR=3.1
ILAR Eielson Array 68.21 26 P P 17 47 40.0 -0.5
ILAR Eielson Array 68.21 26 P P 17 47 40.0 -0.5
KDAK Kodiak Island 69.17 34 P P 17 47 46.5 0.0
comp=Z,3.9nm,0.7s,baz=0.0,slow=9.1,SNR=2.7
KDAK Kodiak Island 69.17 34 P P 17 47 46.5 0.0
KDAK pmax pmax
comp=Z,4.0nm,0.7s
KDAK Kodiak Island 69.17 34 P P 17 47 46.5 0.0
INK Inuvik 70.58 20 P P 17 47 53.7 -1.3
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 70.58 20 P P 17 47 53.7 -1.3
comp=Z,3.1nm,0.9s
STKA Stephens Creek 72.53 148 P P 17 48 07.6 +0.4
comp=Z,5.2nm,0.8s,baz=317,slow=9.3,SNR=5.2
STKA Stephens Creek 72.53 148 P P 17 48 07.6 +0.4
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 72.53 148 P P 17 48 07.6 +0.4
PGF Pioggiola 73.13 310 *e*P P 17 48 11.3 +0.3
LPG La Plagne 73.14 313 *e*P P 17 48 11.3 +0.1
comp=Z,11nm,0.6s
LPL La Plagne 73.14 313 *e*P P 17 48 11.2 +0.1
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 73.96 313 *e*P P 17 48 16.2 +0.4
comp=Z,17nm,0.9s
MBAR Mbarara 77.36 261 P P 17 48 28.7 -7.1
MBAR Mbarara 77.36 261 P P 17 48 28.6 -7.1
YKA Yellowknife Ar 80.14 18 P P 17 48 49.5 -0.6
comp=Z,0.9nm,0.7s,baz=330,slow=5.2,SNR=20
YKA Yellowknife Ar 80.14 18 P P 17 48 49.5 -0.6
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 80.14 18 P P 17 48 49.5 -0.6
FFC Flin Flon 90.09 15 *ce*P P 17 49 40.4 +0.3

IDC 31 17:37:30.5±1.4, 4.°11N×127.°96E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.8/7, Error ellipse: s-maj=118.3km s-min=17.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
WRA	**Warramunga Arr**	**24.71**	**166**	P	P	17 42 54.3	+0.7
	0.5nm,0.5s,baz=345,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**28.21**	**168**	P	P	17 43 25.2	0.0
	0.2nm,0.5s,baz=346,slow=7.7,SNR=4.2						
STKA	**Stephens Creek**	**38.07**	**161**	P	P	17 44 50.0	-1.0
	1.0nm,0.5s,baz=336,slow=10.0,SNR=2.5						
SONM	**Songino Array**	**47.34**	**340**	P	P	17 46 06.4	+0.1
	1.1nm,1.0s,baz=156,slow=8.7,SNR=3.9						
MKAR	**Makanchi Array**	**57.95**	**325**	P	P	17 47 24.8	0.0
	1.1nm,0.5s,baz=114,slow=8.0,SNR=29						
AAK	**Ala-Archa**	**60.91**	**317**	P	P	17 47 45.9	+0.4
	0.5nm,0.4s,baz=117,slow=9.0,SNR=3.7						
KURK	**Kurchatov**	**62.09**	**327**	P	P	17 47 52.6	-0.4
	1.7nm,0.5s,baz=127,slow=6.3,SNR=27						

*DJA **31** 17:47:43, 0.°03N×126.°31E, h54km, MLv3.4/3*
IDC 31 17:47:37.6±1.9, 1.°60N×127.°06E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, Error ellipse: s-maj=180.3km s-min=21.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**162**	P	P	17 52 38.8	-0.8
	0.6nm,0.7s,baz=340,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**25.98**	**166**	P	P	17 53 12.8	+0.6
	0.4nm,0.4s,baz=348,slow=13,SNR=19						
MKAR	**Makanchi Array**	**59.49**	**326**	P	P	17 57 42.7	+0.1
	0.1nm,0.3s,baz=115,slow=7.2,SNR=7.3						
KURK	**Kurchatov**	**63.71**	**328**	P	P	17 58 10.7	-0.2
	0.3nm,0.6s,baz=127,slow=6.1,SNR=5.8						

*DJA **31** 17:46:51, 9.°00S×110.°70E, h40km, MLv3.1/9*
IDC 31 17:49:40.4±2.3, 8.°93S×118.°31E, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=170.5km s-min=19.7km az=55.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KAPI	**Kappang**	**4.15**	**20**	LR	LR	17 52 42.6	
	comp=Z,109nm,20.7s,baz=145,slow=44						
WRA	**Warramunga Arr**	**18.97**	**127**	P	P	17 54 02.5	-1.0
	0.5nm,0.3s,baz=304,slow=12,SNR=11						
WRA				S	Sn	17 57 21.9	-16
	0.1nm,0.3s,baz=310,slow=24,SNR=2.2						
ASAR	**Alice Springs**	**20.91**	**136**	P	Pn	17 54 26.1	-1.1
	1.1nm,0.4s,baz=314,slow=8.9,SNR=32						
STKA	**Stephens Creek**	**31.44**	**140**	P	P	17 56 03.2	-0.5
	1.1nm,0.3s,baz=313,slow=11,SNR=5.7						
SONM	**Songino Array**	**57.50**	**351**	P	P	17 59 32.5	+1.0
	0.2nm,0.6s,baz=174,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**64.09**	**333**	P	P	18 00 17.6	+1.3
	0.1nm,0.5s,baz=133,slow=6.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**68.74**	**340**	P	P	18 00 44.5	-1.5
	0.3nm,0.4s,baz=148,slow=6.2,SNR=2.4						

SKHL 31 18:17:59.8±0.8, 54.°21N×125.°97E, h8km±1km, mb4.4/6, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KROS	**Kirovskiy**	**0.63**	**69**	*i* Pg	Pg	18 18 10.9	-1.1
KROS				AMB	AMB	18 18 11.8	
	160nm,0.5s						
KROS				AMB	AMB	18 18 11.8	
	240nm,0.5s						
KROS				AMB	AMB	18 18 11.8	
	260nm,0.5s						
KROS				pPg	Pb	18 18 13.3	+0.2
KROS				*e*Sg	Sg	18 18 19.1	-1.1
KROS				A	A	18 18 21.5	
	350nm,0.5s						
KROS				A	A	18 18 21.5	
	370nm,0.5s						
KROS				A	A	18 18 21.5	
	320nm,0.5s						
ZEA	**Zeya**	**0.89**	**122**	*i* Pg	Pg	18 18 16.7	-0.3
ZEA				AMB	AMB	18 18 17.5	
	120nm,0.2s						
ZEA				AMB	AMB	18 18 17.5	
	200nm,0.2s						
ZEA				pPg	Pn	18 18 18.8	+0.2
ZEA				*e*Sg	Sg	18 18 28.6	0.0
ZEA				A	A	18 18 29.8	
	580nm,0.5s						
ZEA				A	A	18 18 29.8	
	840nm,0.5s						
ZEA				AMS	AMS	18 18 37.0	
	1μm,2.0s						
ZEA				AMS	AMS	18 18 37.0	
	1μm,2.0s						
YASR	**Yasnyy**	**1.51**	**127**	*i* Pg	Pn	18 18 26.5	-0.6
YASR				AMB	AMB	18 18 27.7	
	15nm,0.2s						
YASR				AMB	AMB	18 18 27.7	
	45nm,0.2s						
YASR				AMB	AMB	18 18 27.7	
	70nm,0.2s						
YASR				*e*Sg	Sn	18 18 46.5	-0.5
YASR				A	A	18 18 49.5	
	400nm,0.5s						
YASR				A	A	18 18 49.5	
	70nm,0.5s						
YASR				A	A	18 18 49.5	
	100nm,0.5s						
BMKR	**Bomnak**	**1.75**	**72**	*e*Pg	Pb	18 18 31.4	-0.8
BMKR				AMB	AMB	18 18 32.5	
	369nm,0.4s						
BMKR				*e*Sg	Sb	18 18 55.0	+0.7
BMKR				A	A	18 18 59.3	
	790nm,0.4s						
TUP	**Tupik**	**3.53**	**276**	*e*Pn	Pb	18 18 59.1	-3.4
TUP				*e*Pg	Pg	18 19 07.1	-0.4
TUP				AMB	AMB	18 19 10.8	
	27nm,0.4s						
TUP				*e*Sn	Sn	18 19 39.9	+3.0
TUP				*e*Sg	Sg	18 19 52.6	-0.7
TUP				A	A	18 19 55.5	
	121nm,1.0s						
EKMR	**Ekimchan**	**4.31**	**103**	*e*Pn	Pn	18 19 06.4	+0.8
EKMR				*e*Pg	Pb	18 19 17.5	+1.7
EKMR				AMB	AMB	18 19 20.4	
	5.0nm,0.3s						
EKMR				AMB	AMB	18 19 20.4	
	11nm,0.3s						
EKMR				AMB	AMB	18 19 20.4	
	16nm,0.3s						
EKMR				*e*Sg	Sg	18 20 13.5	-4.7
EKMR				A	A	18 20 28.5	
	42nm,0.5s						
EKMR				A	A	18 20 28.5	
	25nm,0.5s						
EKMR				A	A	18 20 28.5	
	27nm,0.5s						
CRS	**Chara**	**5.13**	**305**	*e*Sg	Sg	18 20 42.9	-1.8

*TRN **31** 18:31:18.6, 18.°75N×65.°01W, h56km, MD2.5(RSPR)*
*NEIC **31** 18:31:20.0, 18.°80N×64.°97W, h60km, MD2.5(RSPR), After RSPR.*
RSPR 31 18:31:20.0, 18.°80N×64.°97W, h60km±3km, MD2.5/3, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
STVI	**Saint Thomas**	**0.44**	**179**	*e*P	Pn	18 31 30.9	-0.4
STVI	**Saint Thomas**	**0.44**	**179**	*e*S	Sn	18 31 39.1	-0.5
STVI	**Saint Thomas**	**0.44**	**179**	*e*P	Pn	18 31 30.9	-0.4
STVI				*e*S	Sn	18 31 39.1	-0.5
STVI	**Saint Thomas**	**0.44**	**179**	*e*P	Pn	18 31 30.9	-0.4
STVI				*e*S	Sn	18 31 39.1	-0.5
TBVI	**Tortola**	**0.50**	**139**	*e*P	Pn	18 31 31.3	-0.7
TBVI	**Tortola**	**0.50**	**139**	*e*P	Pn	18 31 31.3	-0.7
TBVI	**Tortola**	**0.50**	**139**	*e*P	Pn	18 31 31.3	-0.7
MTP	**Monte Pirata**	**0.89**	**219**	*e*P	Pn	18 31 35.6	-1.0
MTP	**Monte Pirata**	**0.89**	**219**	*e*S	Sn	18 31 48.2	-0.7
MTP	**Monte Pirata**	**0.89**	**219**	*e*P	Pn	18 31 35.6	-1.0
MTP				*e*S	Sn	18 31 48.2	-0.7
MTP	**Monte Pirata**	**0.89**	**219**	*e*P	Pn	18 31 35.6	-1.0
MTP				*e*S	Sn	18 31 48.2	-0.7
CBYP	**Canovanas**	**0.99**	**239**	*e*P	Pn	18 31 37.3	-0.8
CBYP	**Canovanas**	**0.99**	**239**	*e*S	Sn	18 31 50.4	-1.0
CBYP	**Canovanas**	**0.99**	**239**	*e*P	Pn	18 31 37.3	-0.8
CBYP				*e*S	Sn	18 31 50.4	-1.0
CBYP	**Canovanas**	**0.99**	**239**	*e*P	Pn	18 31 37.3	-0.8
CBYP				*e*S	Sn	18 31 50.4	-1.0
HUMP	**Col San Antoni**	**1.06**	**232**	*e*S	Sn	18 31 52.4	-0.5
HUMP	**Col San Antoni**	**1.06**	**232**	*e*S	Sn	18 31 52.4	-0.5

JMA 31 19:42:13.0±0.2, 25.°66N×123.°34E, h197km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
IRIF	**Iriomote-Funau**	**1.37**	**165**	P	Pn	19 42 45.1	-0.2
IRIF				*e*S	Sn	19 43 10.5	+0.2
JIJ	**Ishigaki jima**	**1.48**	**150**	P	Pn	19 42 46.1	-0.2
JIJ				S	Sn	19 43 11.7	-0.4
JKRS	**Kuro-shima**	**1.54**	**157**	P	Pn	19 42 47.1	+0.3
JKRS				S	Sn	19 43 13.1	0.0
JTJ	**Tarama**	**1.60**	**129**	P	Pn	19 42 47.6	+0.3
JTJ				S	Sn	19 43 14.3	+0.4
HATJ	**Hateruma jima**	**1.65**	**165**	P	Pn	19 42 48.0	+0.1
HATJ				*e*S	Sn	19 43 15.0	+0.1
JMJ	**Miyako jima 2**	**1.96**	**115**	P	Pn	19 42 51.0	+0.1
JMJ				*e*S	Sn	19 43 19.8	-0.5
JOGS	**Gusukube**	**2.08**	**115**	P	Pn	19 42 52.4	+0.3
JOGS				S	Sn	19 43 22.2	-0.2
JKE	**Kume jima 2**	**3.17**	**77**	P	Pn	19 43 03.2	-1.3
JAGN	**Aguni-jima**	**3.63**	**74**	P	Pn	19 43 08.2	-1.8
JJT2	**Tamagusuku 2**	**4.00**	**82**	P	Pn	19 43 13.1	-1.5
JOW	**Kunigami**	**4.58**	**74**	P	Pn	19 43 19.0	-3.0

IDC 31 19:53:56.2±1.0, 55.°57S×26.°74W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx3.1/14, Error ellipse: s-maj=39.7km s-min=30.7km az=93.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
PMSA	**Palmer Station**	**20.41**	**228**	LR	LR	20 05 15.8	
	comp=Z,109nm,18.8s,baz=26,slow=33						
QSPA	**South Pole Qui**	**34.68**	**180**	P	P	20 00 47.2	0.0
	1.7nm,0.6s,baz=187,slow=5.7,SNR=5.2						
CFAA	**Coronel Fontan**	**37.61**	**292**	P	P	20 01 11.9	-0.6
	0.2nm,0.7s,baz=159,slow=8.6,SNR=3.7						
LBTB	**Lobatse**	**48.62**	**73**	LR	LR	20 19 29.9	
	comp=Z,38nm,18.3s,baz=288,slow=32						

TORD	**Torodi Ar. Bea**	**72.51**	**29**	P	P	20 05 24.6	0.0		
	1.9nm,0.5s,baz=200,slow=6.2,SNR=32								
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	PKPdf	20 13 17.5	-0.1		
	0.2nm,0.7s,baz=119,slow=2.1,SNR=3.6								
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	PKPbc	20 13 47.2	+0.2		
	0.7nm,0.7s,baz=128,slow=3.4,SNR=13								
SONM	**Songino Array**	**150.44**	**85**	PKPbc	PKPbc	20 13 47.9	-0.9		
	0.6nm,0.9s,baz=218,slow=3.5,SNR=3.8								

IDC ***31*** *19:55:19.4±1.2, 11.84N×93.47E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/24, mbtmp3.5/8, ML3.9/1, Error ellipse: s-maj=42.6km s-min=20.8km az=59.0*

ISC 31 19:55:20.9±1.2, 11.8N±0.2×93.5E±0.2, h10km, n15, σ1°24/13, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.45**	**38**	Pn	**Pn**	**19 57 24.2**	**+0.7**
	0.4nm,0.3s,baz=228,slow=15,SNR=15						
ODAN	**Odare**	**16.01**	**340**	*e*P	**P**	**19 59 08.5**	**-1.6**
	8.4nm,0.5s						
TAPN	**Taplejung**	**16.36**	**342**	*e*P	**P**	**19 59 12.5**	**-1.5**
RAMN	**Ramite**	**16.37**	**338**	*e*P	**P**	**19 59 13.4**	**-0.7**
	6.8nm,0.5s						
JIRN	**Jiri**	**17.16**	**338**	*e*P	**P**	**19 59 24.8**	**+1.8**
PKI	**Pulchoki**	**17.39**	**335**	*e*P	**P**	**19 59 27.7**	**+2.2**
GKN	**Gorkha**	**18.09**	**334**	*e*P	P	19 59 36.6	+3.5
	3.1nm,0.3s						
KOLN	**Koldanda**	**18.36**	**331**	*e*P	P	19 59 42.3	+6.2
MKAR	**Makanchi Array**	**36.11**	**347**	P	**P**	**20 00 23.0**	**-0.1**
	0.1nm,0.4s,baz=164,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**37.49**	**14**	P	**P**	**20 02 34.0**	**-0.9**
	0.2nm,0.6s,baz=184,slow=12,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.57**	**352**	P	**P**	**20 03 16.9**	**0.0**
	0.5nm,0.3s,baz=169,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**51.14**	**128**	P	**P**	**20 04 24.0**	**-0.5**
	0.8nm,0.8s,baz=303,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**52.99**	**132**	P	**P**	**20 04 38.7**	**+0.5**
	0.4nm,0.9s,baz=310,slow=6.5,SNR=6.2						
FINES	**FINESS Array B**	**58.93**	**332**	P	**P**	**20 06 25.9**	**0.0**
	1.9nm,0.9s,baz=125,slow=7.0,SNR=4.7						
GERES	**GERESS Array B**	**74.47**	**318**	P	**P**	**20 07 00.0**	**+0.3**
	0.8nm,0.8s,baz=103,slow=5.8,SNR=6.2						

IDC 31 19:55:58.7±1.2, 55.58S×26.59W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.8/12, mbtmp4.1/2, Error ellipse: s-maj=86.6km s-min=33.5km az=101.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.67**	**180**	P	P	20 02 49.6	-0.1
	1.3nm,0.6s,baz=214,slow=3.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**72.48**	**29**	P	P	20 07 27.0	0.0
	1.4nm,0.5s,baz=201,slow=5.6,SNR=16						
YKA	**Yellowknife Ar**	**136.05**	**318**	PKP	PKPdf	20 15 20.2	+0.1
	0.1nm,0.5s,baz=118,slow=2.2,SNR=2.6						
ILAR	**Eielson Array**	**150.312**		PKPbc	PKPbc	20 15 49.1	-0.5
	0.6nm,0.7s,baz=129,slow=3.1,SNR=6.9						
SONM	**Songino Array**	**150.36**	**85**	PKPbc	PKPbc	20 15 50.8	-0.4
	0.1nm,0.5s,baz=227,slow=4.0,SNR=3.2						

IDC 31 20:02:20.8±7.9, 14.55N×145.78E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=309.1km s-min=22.4km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.08**	**198**	P	P	20 09 23.4	-1.0
	1.1nm,0.9s,baz=24,slow=9.4,SNR=3.5						
ASAR	**Alice Springs**	**39.72**	**197**	P	P	20 09 56.2	+1.0
	0.2nm,0.5s,baz=18,slow=13,SNR=5.0						
SONM	**Songino Array**	**46.47**	**324**	P	P	20 10 50.0	+0.2
	0.5nm,0.7s,baz=141,slow=6.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**61.36**	**324**	P	P	20 12 38.3	-0.2
	0.3nm,0.4s,baz=110,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**61.42**	**316**	P	P	20 12 38.9	-0.2
	0.9nm,0.6s,baz=91,slow=8.2,SNR=22						

IDC ***31*** *20:05:08.6±1.9, 12.28N×92.67E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/27, Error ellipse: s-maj=52.8km s-min=22.0km az=67.0*

ISCJB ***31*** *20:05:11.4±0.9, 12.42N±0.09×92.89E±0.08, h26km, mb3.5/6, MS3.3/1, Error ellipse: s-maj=13.1km s-min=10.8km az=30.0*

ISC 31 20:05:13.0±1.3, 12.4N±0.1×92.8E±0.1, h26km, n15, σ1°02/15, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.48**	**44**	Pn	**Pn**	**20 07 15.6**	**+1.3**
	0.2nm,0.3s,baz=237,slow=17,SNR=10						
CMAR				Sn	**Sn**	**20 08 48.0**	**-1.2**
	0.1nm,0.3s,baz=125,slow=32,SNR=1.6						
ODAN	**Odare**	**15.25**	**341**	*e*P	**Pn**	**20 08 46.2**	**-0.7**
	2.6nm,0.2s						
RAMN	**Ramite**	**15.59**	**339**	*e*P	**Pn**	**20 08 50.3**	**-1.1**
	4.6nm,0.3s						
TAPN	**Taplejung**	**15.62**	**343**	*e*P	**Pn**	**20 08 50.7**	**-1.0**
	4.0nm,0.3s						
JIRN	**Jiri**	**16.39**	**339**	*e*P	**Pn**	**20 09 01.6**	**-0.1**
DMN	**Daman**	**16.75**	**336**	*e*P	**P**	**20 09 07.0**	**-1.2**
GKN	**Gorkha**	**17.29**	**335**	*e*P	**P**	**20 09 13.5**	**-0.6**
DANN	**Dangsing**	**17.96**	**333**	*e*P	**P**	**20 09 23.6**	**+1.9**
MKAR	**Makanchi Array**	**35.41**	**348**	P	**P**	**20 12 07.0**	**+0.2**
	0.9nm,0.8s,baz=162,slow=8.4,SNR=10						
SONM	**Songino Array**	**37.13**	**15**	P	**P**	**20 12 22.2**	**+0.6**
	0.5nm,0.7s,baz=198,slow=7.9,SNR=4.7						
KSRS	**Korea Array**	**40.12**	**45**	P	**P**	**20 12 46.4**	**-0.2**
	0.8nm,0.5s,baz=237,slow=8.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.93**	**353**	P	**P**	**20 13 01.7**	**+0.4**
	0.6nm,0.6s,baz=166,slow=7.6,SNR=4.1						
USRK	**Ussuriysk Array**	**46.18**	**39**	LR	LR	20 33 00.4	
	comp=Z,31nm,18.5s,baz=183,slow=36						
WRA	**Warramunga Arr**	**52.03**	**128**	P	**P**	**20 14 20.5**	**-0.3**
	0.4nm,0.3s,baz=301,slow=9.8,SNR=8.2						
ASAR	**Alice Springs**	**53.88**	**132**	P	**P**	**20 14 33.8**	**-0.6**
	0.3nm,0.9s,baz=310,slow=6.6,SNR=4.6						

IDC 31 20:08:50.4±13.0, 20.87S×65.34W, h428km±89km, mb3.0/2, mb1 3.2/4, mb1mx2.9/17, mbtmp3.0/4, Error ellipse: s-maj=224.7km s-min=39.9km az=22.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**6.32**	**41**	P	P	20 10 26.7	-0.8
	0.9nm,0.3s,baz=232,slow=11,SNR=19						
BDFB	**Brasilia**	**17.26**	**75**	P	P	20 12 27.4	+1.1
	0.8nm,0.3s,baz=244,slow=12,SNR=9.8						
TORD	**Torodi Ar. Bea**	**74.02**	**69**	P	P	20 19 41.2	-0.3
	0.5nm,0.5s,baz=256,slow=5.2,SNR=15						
YKA	**Yellowknife Ar**	**91.74**	**339**	P	P	20 21 11.0	+0.6
	0.1nm,0.5s,baz=134,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**143.14**	**38**	PKP	PKPdf	20 27 33.4	-1.0
	0.4nm,0.6s,baz=307,slow=2.8,SNR=7.2						

IDC 31 20:10:52.4±3.5, 20.47S×176.04W, h197km±33km, mb3.6/7, mb1 3.7/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=30.4km s-min=18.5km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**33**	P	Pn	20 12 42.1	+0.2
	4.8nm,0.3s,baz=288,slow=3.2,SNR=3.4						
AFI				S	Sn	20 14 01.6	-7.2
	16nm,0.3s,baz=61,slow=18,SNR=3.4						
CTA	**Charters Tower**	**35.32**	**264**	P	P	20 17 29.9	+0.8
	11nm,0.9s,baz=70,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**39.46**	**244**	P	P	20 18 03.8	+0.1
	1.8nm,0.6s,baz=70,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**46.31**	**256**	P	P	20 18 58.2	-0.6
	2.1nm,0.9s,baz=97,slow=7.7,SNR=15						
ASAR				PcP	PcP	20 20 30.6	-0.1
	0.7nm,0.6s,baz=114,slow=3.9,SNR=6.8						
WRA	**Warramunga Arr**	**46.42**	**262**	P	P	20 18 59.1	-0.7
	0.5nm,0.3s,baz=96,slow=7.7,SNR=29						
QSPA	**South Pole Qui**	**69.60**	**180**	P	P	20 21 40.4	+0.3
	1.6nm,0.8s,baz=52,slow=7.0,SNR=6.9						
PETK	**Petropavlovsk-**	**76.73**	**344**	P	P	20 22 22.1	+0.5
	1.9nm,0.8s,baz=128,slow=8.9,SNR=2.6						
TXAR	**Lajitas Array**	**85.50**	**57**	P	P	20 23 07.5	-1.0
	0.2nm,0.7s,baz=231,slow=5.7,SNR=3.7						
BRTR	**Keskin Array B**	**148.16**	**314**	PKPbc	PKPbc	20 30 15.4	+0.1
	0.4nm,0.5s,baz=133,slow=7.0,SNR=3.3						

ISCJB ***31*** *20:18:16.2±0.6, 36.94N±0.04×28.25E±0.03, h4km±7km, Error ellipse: s-maj=7.2km s-min=3.9km az=19.8*
CSEM ***31*** *20:18:16.8±0.3, 36.95N×28.27E, h2km, MD2.6, Error ellipse: s-maj=7.1km s-min=4.2km az=24.0*
DDA ***31*** *20:18:16.8, 36.98N×28.26E, h7km, MD2.7*
ISK ***31*** *20:18:16.4, 36.96N×28.24E, h11km, MD2.6*

ISC 31 20:18:15.7±1.2, 36.89N±0.04×28.25E±0.03, h3km±13km, n16, σ0°48/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.25**	**7**	*e*PG	**Pg**	**20 18 20.5**	**0.0**
YER				*e*SG	**Sg**	**20 18 24.1**	**+0.4**
YER	**Yerkesik**	**0.25**	**7**	*e*Pg	**Pg**	**20 18 20.5**	**0.0**
YER				*e*Sg	**Sg**	**20 18 24.1**	**+0.4**
TURN	**Turunc**	**0.29**	**93**	*i* P	**Pg**	**20 18 21.1**	**-0.1**
TURN				*i* S	**Sg**	**20 18 24.4**	**-0.5**
TURN	**Turunc**	**0.29**	**93**	*i* P	**Pg**	**20 18 21.1**	**-0.1**
TURN				*i* S	**Sg**	**20 18 24.4**	**-0.5**
BDRM	**Kayabasi**	**0.67**	**285**	*i* P	**Pg**	**20 18 27.9**	**-0.6**
BDRM				*i* S	**Sb**	**20 18 39.3**	**-0.3**
FETY	**Fethiye**	**0.72**	**110**	*e*PG	**Pn**	**20 18 32.2**	**-0.5**
FETY				*e*SG	**Sb**	**20 18 41.7**	**+0.6**
FETY	**Fethiye**	**0.72**	**110**	*e*Pg	**Pn**	**20 18 32.2**	**-0.5**
FETY				*e*Sg	**Sb**	**20 18 41.7**	**+0.6**
BODT	**Bodrum**	**0.77**	**283**	*e*PG	**Pb**	**20 18 32.1**	**+0.4**
BODT				*e*SG	**Sg**	**20 18 41.3**	**+0.9**
BODT	**Bodrum**	**0.77**	**283**	*e*Pg	**Pb**	**20 18 32.1**	**+0.4**
BODT				*e*Sg	**Sg**	**20 18 41.3**	**+0.9**
AYDN	**Tasoluk**	**0.82**	**339**	*i* P	**Pg**	**20 18 31.4**	**-0.1**
AYDN				*i* S	**Sg**	**20 18 41.7**	**-0.5**
DNZL	**Cakiroluk**	**1.02**	**38**	*i* P	**Pg**	**20 18 35.7**	**+0.4**
DNZL				*i* S	**Sg**	**20 18 48.3**	**-0.3**
DNZL	**Cakiroluk**	**1.02**	**38**	*i* P	**Pg**	**20 18 35.7**	**+0.4**
DNZL				*i* S	**Sg**	**20 18 48.3**	**-0.3**
GCAM	**G?zelcaml?**	**1.14**	**315**	*i* P	**Pb**	**20 18 37.8**	**-0.2**
GCAM				*i* S	**Sb**	**20 18 52.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.14**	**315**	*i* P	**Pb**	**20 18 37.8**	**-0.2**
GCAM				*i* S	**Sb**	**20 18 52.8**	**-0.5**
ELL	**Elmali**	**1.34**	**96**	*e*PN	**Pn**	**20 18 41.6**	**+0.2**
ELL	**Elmali**	**1.34**	**96**	*e*Pn	**Pn**	**20 18 41.6**	**+0.2**

IDC 31 20:50:48.5±1.6, 7.13S×125.99E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=141.2km s-min=29.5km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.10**	**148**	Pn	Pn	20 54 24.9	+1.7
	0.1nm,0.3s,baz=325,slow=12,SNR=4.2						
WRA				Sn	Sn	20 57 02.3	-9.0
	0.1nm,0.3s,baz=336,slow=26,SNR=2.1						
ASAR	**Alice Springs**	**18.11**	**156**	P	Pn	20 55 00.8	-0.9
	0.2nm,0.3s,baz=336,slow=12,SNR=13						
MKAR	**Makanchi Array**	**66.21**	**329**	P	P	21 01 38.8	+0.6
	0.1nm,0.4s,baz=130,slow=7.7,SNR=3.5						
KURK	**Kurchatov**	**70.60**	**330**	P	P	21 02 05.0	-0.6
	0.9nm,1.2s,baz=126,slow=4.7,SNR=4.1						

IDC 31 20:52:05.6±2.5, 15.53N×95.94E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/26, mbtmp3.8/4, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/32, Error ellipse: s-maj=34.5km s-min=23.9km az=179.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.09**	**44**	Pn	Pn	20 53 07.7	-1.9
	3.4nm,0.3s,baz=234,slow=15,SNR=88						
CMAR				Sn	Sn	20 54 01.8	+3.6
	0.2nm,0.3s,baz=173,slow=16,SNR=1.9						
CMAR				Lg	Lg	20 54 16.1	
	0.8nm,0.3s,baz=232,slow=31,SNR=5.8						
MKAR	**Makanchi Array**	**33.19**	**343**	P	P	20 58 44.3	+0.2
	0.4nm,0.6s,baz=152,slow=11,SNR=6.3						
KURK	**Kurchatov**	**37.78**	**342**	P	P	20 59 22.9	-0.5
	1.3nm,0.6s,baz=152,slow=8.4,SNR=14						
ZALV	**Zalesovo Beam**	**39.31**	**350**	P	P	20 59 36.1	-0.2
	1.4nm,0.6s,baz=170,slow=9.5,SNR=9.9						
ASAJ	**Asahikawa**	**48.62**	**44**	LR	LR	21 20 06.0	
	comp=Z,67nm,21.1s,baz=311,slow=35						

ISCJB ***31*** *20:59:36.6±0.5, 38.94N±0.03×22.86E±0.04, h20km±5km, Error ellipse: s-maj=5.1km s-min=4.5km az=165.8*
CSEM ***31*** *20:59:36.2±0.2, 38.95N×22.83E, h15km, ML1.6/3, Error ellipse: s-maj=6.2km s-min=5.0km az=113.0*
ATH ***31*** *20:59:36.6, 38.93N×22.84E, h16km±2km, MD2.7/9*
THE ***31*** *20:59:36.3, 38.91N×22.92E, h25km±2km, ML1.6/3, Error ellipse: s-maj=2.2km s-min=0.5km az=123.0*

ISC 31 20:59:36.3±0.9, 38.94N±0.02×22.83E±0.03, h16km±7km, n31, σ0°42/50, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAL	**Atalanti**	**0.28**	**149**	P	**Pg**	**20 59 42.2**	**-0.2**
ATAL				S	**Sg**	**20 59 46.6**	**0.0**
ATAL	**Atalanti**	**0.28**	**149**	P	**Pg**	**20 59 42.2**	**-0.2**
ATAL				S	**Sg**	**20 59 46.6**	**0.0**
LKR	**Lokris**	**0.31**	**155**	P	**Pg**	**20 59 42.7**	**-0.2**
LKR				S	**Sg**	**20 59 47.3**	**-0.1**
LKR	**Lokris**	**0.31**	**155**	*e*PB	**Pg**	**20 59 42.8**	**-0.2**
LKR				*e*SB	**Sg**	**20 59 47.8**	**+0.4**
LKR	**Lokris**	**0.31**	**155**	P	**Pg**	**20 59 42.7**	**-0.2**
LKR				S	**Sg**	**20 59 47.3**	**-0.1**
LKR				*e*Sb	**Sg**	**20 59 47.8**	**+0.4**
NEO	**Neokhori**	**0.48**	**39**	*e*PB	**Pb**	**20 59 46.6**	**+0.3**
NEO				*e*SB	**Sg**	**20 59 52.8**	**+0.4**
NEO	**Neokhori**	**0.48**	**39**	*e*Pb	**Pb**	**20 59 46.6**	**+0.3**
NEO				*e*Sb	**Sg**	**20 59 52.8**	**+0.4**
XOR	**Xorichti**	**0.51**	**33**	P	**Pg**	**20 59 46.1**	**-0.4**
XOR	**Xorichti**	**0.51**	**33**	P	**Pg**	**20 59 46.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.55**	**278**	P	**Pb**	**20 59 48.4**	**+0.8**
MAKR				S	**Sn**	**20 59 57.5**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.55**	**278**	P	**Pb**	**20 59 48.4**	**+0.8**
DSF	**Desfina**	**0.58**	**205**	P	**Pg**	**20 59 47.3**	**-0.4**
DSF				S	**Sb**	**20 59 56.2**	**+0.3**
DSF	**Desfina**	**0.58**	**205**	P	**Pg**	**20 59 47.3**	**-0.4**
DSF				S	**Sb**	**20 59 56.2**	**+0.3**
KALE	**Kalithea**	**0.77**	**225**	P	**Pb**	**20 59 51.3**	**0.0**
KALE				S	**Sn**	**21 00 02.9**	**-0.8**
KALE	**Kalithea**	**0.77**	**225**	P	**Pb**	**20 59 51.3**	**0.0**
KALE				S	**Sn**	**21 00 02.9**	**-0.8**
EVR	**Evrytania**	**0.80**	**269**	*e*PN	**Pb**	**20 59 51.8**	**0.0**
EVR				*e*SN	**Sg**	**21 00 03.2**	**+0.7**
EVR	**Evrytania**	**0.80**	**269**	*e*Pn	**Pb**	**20 59 51.8**	**0.0**
EFP	**Efpalio**	**0.89**	**235**	*e*PN	**Pb**	**20 59 53.2**	**0.0**
EFP				*e*SN	**Sn**	**21 00 06.1**	**-0.4**
EFP	**Efpalio**	**0.89**	**235**	*e*Pn	**Pb**	**20 59 53.2**	**0.0**
THL	**Klokotos Trika**	**0.89**	**315**	*e*PN	**Pb**	**20 59 53.6**	**+0.2**
THL				*e*SN	**Sn**	**21 00 06.5**	**-0.2**
THL	**Klokotos Trika**	**0.89**	**315**	*e*Pn	**Pb**	**20 59 53.6**	**+0.2**
LTK	**Loutraki**	**0.92**	**173**	*e*PN	**Pg**	**20 59 54.1**	**0.0**
LTK				*e*SN	**Sn**	**21 00 07.1**	**-0.2**
LTK	**Loutraki**	**0.92**	**173**	*e*Pn	**Pg**	**20 59 54.1**	**0.0**
GUR	**Goura**	**1.07**	**201**	*e*PN	**Pn**	**20 59 56.7**	**0.0**
GUR				*e*SN	**Sn**	**21 00 12.0**	**+0.8**
GUR	**Goura**	**1.07**	**201**	*e*Pn	**Pn**	**20 59 56.7**	**0.0**
PTL	**Penteli**	**1.20**	**137**	*e*PN	**Pb**	**20 59 58.8**	**+0.2**
PTL				*e*SN	**Sg**	**21 00 14.9**	**-0.2**
PTL	**Penteli**	**1.20**	**137**	*e*Pn	**Pb**	**20 59 58.8**	**+0.2**
DID	**Didima**	**1.46**	**167**	*e*PN	**Pb**	**21 00 03.5**	**+0.4**
DID	**Didima**	**1.46**	**167**	*e*Pn	**Pb**	**21 00 03.5**	**+0.4**
VLX	**Vlachokerasia**	**1.60**	**193**	*e*PN	**Pb**	**21 00 06.3**	**+0.7**
VLX	**Vlachokerasia**	**1.60**	**193**	*e*Pn	**Pb**	**21 00 06.3**	**+0.7**

IDC 31 21:01:07.0±1.7, 16.67S×178.12W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/17, mbtmp3.9/5, Error ellipse: s-maj=99.4km s-min=24.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**240**	P	P	21 08 39.2	-0.2
	3.9nm,1.1s,baz=100,slow=5.5,SNR=6.0						
WRA	**Warramunga Arr**	**45.14**	**258**	P	P	21 09 26.0	+0.3
	0.5nm,0.3s,baz=94,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**45.40**	**253**	P	P	21 09 27.4	-0.4
	2.3nm,0.5s,baz=88,slow=8.8,SNR=39						
ILAR	**Eielson Array**	**84.62**	**13**	P	P	21 13 41.7	-0.3
	0.1nm,0.4s,baz=217,slow=5.4,SNR=8.5						
TXAR	**Lajitas Array**	**85.10**	**58**	P	P	21 13 45.6	+0.2
	0.2nm,0.6s,baz=194,slow=7.2,SNR=2.3						

IDC 31 21:01:43.9±2.2, 0.25S×133.41E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=124.9km s-min=23.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.59**	**177**	P	P	21 06 13.5	-0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.28**	**179**	P	P	21 06 53.9	+0.4
	0.7nm,0.5s,baz=357,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.40**	**167**	P	P	21 08 15.4	-0.1
	1.5nm,0.8s,baz=347,slow=9.9,SNR=3.3						
MKAR	**Makanchi Array**	**64.65**	**324**	P	P	21 12 23.6	0.0
	0.3nm,0.9s,baz=133,slow=7.0,SNR=1.9						

ISCJB ***31*** *21:08:37.2±0.7, 40.32N±0.02×25.81E±0.04, h2km±5km, Error ellipse: s-maj=4.7km s-min=3.8km az=160.3*
ATH ***31*** *21:08:37.8, 40.35N×25.89E, h23km±1km, MD3.1/6*
CSEM ***31*** *21:08:38.1±0.1, 40.32N×25.86E, h2km, MD2.9, Error ellipse: s-maj=2.3km s-min=2.1km az=142.0*
DDA ***31*** *21:08:38.5, 40.32N×25.93E, h6km, MD2.8*
ISK ***31*** *21:08:38.6, 40.31N×25.96E, h6km, MD2.9*

ISC 31 21:08:38.2±1.1, 40.34N±0.02×25.86E±0.03, h6km±10km, n59, σ0°53/84, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.46**	**29**	*e*PG	**Pg**	**21 08 47.1**	**0.0**
ENEZ				*e*SG	**Sb**	**21 08 55.1**	**-0.6**
ENEZ	**Enez**	**0.46**	**29**	*e*Pg	**Pg**	**21 08 47.1**	**0.0**
ENEZ				*e*Sg	**Sb**	**21 08 55.1**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.47**	**82**	*e*PG	**Pg**	**21 08 47.6**	**+0.3**
GELI				*e*SG	**Sg**	**21 08 52.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.47**	**82**	*e*Pg	**Pg**	**21 08 47.6**	**+0.3**
GELI				*e*Sg	**Sg**	**21 08 52.8**	**-0.7**
BOZC	**Bozcaada**	**0.52**	**163**	*i* P	**Pg**	**21 08 48.5**	**+0.4**
BOZC				*i* S	**Sg**	**21 08 55.8**	**+0.9**
ALN	**Alexandroupoli**	**0.58**	**14**	*e*PN	**Pg**	**21 08 49.4**	**0.0**
ALN				*e*SN	**Sg**	**21 08 56.4**	**-0.5**
ALN	**Alexandroupoli**	**0.58**	**14**	*e*Pn	**Pg**	**21 08 49.4**	**0.0**
ALN				*e*Sn	**Sg**	**21 08 56.4**	**-0.5**
ERIK	**Erikli-Kesan**	**0.60**	**56**	*e*PG	**Pg**	**21 08 49.7**	**-0.1**
ERIK				*e*SG	**Sg**	**21 08 57.9**	**+0.3**
ERIK	**Erikli-Kesan**	**0.60**	**56**	*e*Pg	**Pg**	**21 08 49.7**	**-0.1**
ERIK				*e*Sg	**Sg**	**21 08 57.9**	**+0.3**
EZN	**Ezine**	**0.62**	**145**	*e*PG	**Pg**	**21 08 50.0**	**-0.1**
EZN				*e*SG	**Sg**	**21 08 57.9**	**-0.3**
EZN	**Ezine**	**0.62**	**145**	*e*Pg	**Pg**	**21 08 50.0**	**-0.1**
EZN				*e*Sg	**Sg**	**21 08 57.9**	**-0.3**
LIA	**Limnos Island**	**0.68**	**230**	*e*PN	**Pg**	**21 08 51.4**	**+0.1**
LIA				*e*SN	**Sb**	**21 09 01.7**	**-0.4**
LIA	**Limnos Island**	**0.68**	**230**	*e*Pn	**Pg**	**21 08 51.4**	**+0.1**
LIA				*e*Sn	**Sb**	**21 09 01.7**	**-0.4**
LPK	**Lapseki**	**0.69**	**87**	*e*PG	**Pg**	**21 08 51.0**	**-0.4**
LPK	**Lapseki**	**0.69**	**87**	*e*Pg	**Pg**	**21 08 51.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.06**	**70**	*e*PG	**Pg**	**21 08 58.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.06**	**70**	*e*Pg	**Pg**	**21 08 58.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.10**	**87**	*e*PG	**Pg**	**21 08 59.0**	**-0.3**
KRBG	**Karabiga-Canak**	**1.10**	**87**	*e*Pg	**Pg**	**21 08 59.0**	**-0.3**
PRK	**Paraskevi**	**1.13**	**164**	*e*PN	**Pg**	**21 09 00.0**	**0.0**
PRK				*e*SN	**Sb**	**21 09 15.5**	**+0.3**
PRK	**Paraskevi**	**1.13**	**164**	*e*Pn	**Pg**	**21 09 00.0**	**0.0**
PRK				*e*S

ISA					*e*S	**Sg**	**21 09 41.9**	**-0.5**		
ISA	**Isabella**	**0.63**	**293**	⇑P	**Pg**	**21 09 34.0**	**-0.1**			
	baz=0.6									
ISA				⇑S	**Sg**	**21 09 42.0**	**-0.4**			
	baz=0.6									
MPMC	**Manual Prospec**	**0.68**	**19**	⇓P	**Pg**	**21 09 35.2**	**+0.2**			
	baz=0.7,SNR=1000									
GSC	**Goldstone**	**0.79**	**98**	*e*Pg	**Pg**	**21 09 37.4**	**+0.4**			
GSC				*e*S	**Sb**	**21 09 49.4**	**+1.0**			
GSC	**Goldstone**	**0.79**	**98**	P	**Pg**	**21 09 37.5**	**+0.5**			
	baz=0.8,SNR=356									
GSC				⇓S	**Sg**	**21 09 48.5**	**+1.2**			
	baz=0.8									
RRX	**Edison Barstow**	**0.82**	**131**	P	**Pg**	**21 09 38.3**	**+0.7**			
	baz=0.8,SNR=287									
RRX				⇑S	**Sg**	**21 09 49.5**	**+1.1**			
	baz=0.8									
ARVC	**Arvin**	**0.92**	**252**	⇓P	**Pg**	**21 09 39.0**	**-0.5**			
	baz=0.9,SNR=30									
ARVC				⇓S	**Sb**	**21 09 51.6**	**-0.5**			
	baz=0.9									
CWC	**Cottonwood Cre**	**1.05**	**346**	⇑P	**Pg**	**21 09 41.5**	**-0.5**			
	baz=1.1,SNR=707									
CWC				⇑S	**Sg**	**21 09 55.3**	**-0.6**			
	baz=1.1									
OSI	**Osito Adit**	**1.13**	**225**	*e*Pg	**Pg**	**21 09 42.7**	**-0.7**			
OSI				*e*S	**Sn**	**21 10 00.2**	**+1.1**			
OSI	**Osito Adit**	**1.13**	**225**	P	**Pg**	**21 09 42.9**	**-0.5**			
	baz=1.1,SNR=218									
VES	**Vestal, Richgr**	**1.16**	**292**	⇑P	**Pg**	**21 09 43.5**	**-0.6**			
	baz=1.1,SNR=1000									
VES				⇑S	**Sg**	**21 09 58.8**	**-0.3**			
	baz=1.1									
BFSC	**Mount Baldy Ra**	**1.18**	**176**	Pn	**Pb**	**21 09 44.0**	**-0.3**			
	baz=1.2,SNR=336									
MWC	**Mount Wilson**	**1.22**	**192**	*e*Pn	**Pb**	**21 09 44.7**	**-0.3**			
MWC				*e*S	**Sn**	**21 10 02.0**	**+0.5**			
DECC	**Green Verdugo**	**1.26**	**202**	⇓Pb	**Pn**	**21 09 45.3**	**-0.1**			
	baz=1.2,SNR=278									
DECC				⇑Sb	**Sn**	**21 10 02.5**	**+0.2**			
	baz=1.2									
PASC	**Pasadena Art C**	**1.29**	**196**	*e*Pn	**Pn**	**21 09 45.8**	**0.0**			
PASC				*e*S	**Sn**	**21 10 03.5**	**+0.4**			
SHOC	**Shoshone**	**1.30**	**68**	Pn	**Pn**	**21 09 45.5**	**-0.4**			
	baz=1.3,SNR=164									
HEC	**Hector,Ludlow**	**1.31**	**116**	Pn	**Pn**	**21 09 45.7**	**-0.5**			
	baz=1.3,SNR=1000									
BBRC	**Big Bear Solar**	**1.34**	**149**	⇓Pb	**Pn**	**21 09 47.4**	**+0.7**			
	baz=1.4,SNR=245									
BBRC				⇑Sn	**Sb**	**21 10 04.9**	**+0.4**			
	baz=1.4									
RCTC	**Rector, Farmer**	**1.50**	**307**	⇑Pb	**Pn**	**21 09 48.8**	**+0.2**			
	baz=1.5,SNR=23									
RCTC				⇑Sb	**Sn**	**21 10 08.5**	**+0.3**			
	baz=1.5									
TUQ	**Turquoise Moun**	**1.50**	**89**	Pn	**Pn**	**21 09 48.3**	**-0.5**			
	baz=1.5,SNR=1000									
GRAC	**Grapevine Rang**	**1.61**	**11**	⇓Pb	**Pn**	**21 09 50.7**	**+0.4**			
	baz=1.6,SNR=122									
TIN	**Tinemaha**	**1.68**	**347**	⇑Pb	**Pn**	**21 09 51.9**	**+0.6**			
	baz=1.7,SNR=31									
BLG	**Laguna Peak**	**1.69**	**220**	⇓Pn	**Pn**	**21 09 50.9**	**-0.5**			
	baz=1.7,SNR=311									
BLG				⇓Sn	**Sn**	**21 10 12.9**	**-0.1**			
	baz=1.7									
FMP	**Fort Macarthur**	**1.76**	**195**	⇓Pn	**Pn**	**21 09 52.3**	**+0.1**			
	baz=1.8,SNR=11									
PKM	**Peak Mountain**	**1.77**	**253**	⇓Pb	**Pb**	**21 09 54.0**	**-0.3**			
	baz=1.7,SNR=384									
PKM				⇑Sb	**Sb**	**21 10 17.2**	**+0.6**			
	baz=1.7									
GMRC	**Granite Mounta**	**1.83**	**110**	Pn	**Pn**	**21 09 52.3**	**-1.1**			
	baz=1.8,SNR=136									
SMMC	**Simmler**	**1.83**	**267**	⇓Pb	**Pn**	**21 09 54.3**	**+1.0**			
	baz=1.8,SNR=243									
MURC	**Murrieta**	**1.87**	**166**	Pn	**Pn**	**21 09 54.1**	**+0.3**			
	baz=1.9,SNR=216									
MURC				⇓Sn	**Sn**	**21 10 17.9**	**+0.4**			
	baz=1.9									
BELC	**Belle Mtn. Jos**	**2.02**	**134**	Pn	**Pn**	**21 09 55.5**	**-0.5**			
	baz=2.0,SNR=103									
CIS	**Catalina Islan**	**2.08**	**195**	Pn	**Pn**	**21 09 56.5**	**-0.2**			
	baz=2.1,SNR=77									
PFO	**Pinyon Flat Ob**	**2.10**	**149**	*e*Pn	**Pn**	**21 09 57.0**	**-0.1**			
PFO				*e*Pg	**Pg**	**21 10 02.5**	**+0.4**			
PFO				*e*S	**Sb**	**21 10 27.8**	**+1.6**			
PFO	**Pinyon Flat Ob**	**2.10**	**149**	⇑Pn	**Pn**	**21 09 56.8**	**-0.3**			
	baz=2.1,SNR=66									
LDFC	**Landfair**	**2.19**	**98**	*e*Pn	**Pn**	**21 09 56.8**	**-1.5**			
LDFC				*e*S	**Sb**	**21 10 30.4**	**+1.5**			
IRM	**Iron Mountain**	**2.49**	**120**	⇓Pn	**Pn**	**21 10 01.5**	**-0.8**			
	baz=2.5,SNR=86									
SCI	**San Clemente I**	**2.52**	**195**	⇓Pn	**Pn**	**21 10 02.5**	**-0.2**			
	baz=2.5,SNR=60									
109C	**Camp Elliot, M**	**2.58**	**168**	⇑Pn	**Pn**	**21 10 03.5**	**0.0**			
	baz=2.6									
BC3	**Big Chuckawall**	**2.59**	**132**	Pn	**Pn**	**21 10 02.9**	**-0.9**			
	baz=2.6,SNR=35									
NEE2	**Needles Airpor**	**2.66**	**103**	Pn	**Pn**	**21 10 03.8**	**-0.8**			
	baz=2.7,SNR=37									
MONP	**Monument Peak**	**2.75**	**156**	⇓Pn	**Pn**	**21 10 06.1**	**0.0**			
	baz=2.8,SNR=9.7									
BAR	**Barrett**	**2.88**	**161**	*e*Pn	**Pn**	**21 10 08.0**	**+0.4**			
BAR				*e*S	**Sb**	**21 10 49.2**	**+0.9**			
NVAR	**Mina Array Bea**	**3.04**	**352**	Pn	**Pn**	**21 10 11.1**	**+1.0**			
	3.1nm,0.3s,baz=178,slow=15,SNR=58									
NVAR				Pg	**Pb**	**21 10 17.9**	**+1.8**			
	22nm,0.3s,baz=176,slow=16,SNR=102									
NVAR				Lg	Lg	21 10 59.1				
	24nm,0.3s,baz=178,slow=29,SNR=5.0									
NVAR				LR	LR	21 11 33.6				
	comp=Z,173nm,20.4s,baz=205,slow=43									
NVAR	**Mina Array Bea**	**3.04**	**352**	Pn	**Pn**	**21 10 11.1**	**+1.0**			
NVAR				Pg	**Pb**	**21 10 17.9**	**+1.8**			
NVAR				Lg	Lg	21 10 59.1				
Y12C	**Blythe**	**3.15**	**121**	Pn	**Pn**	**21 10 10.4**	**-0.9**			
	baz=3.2,SNR=80									
W13A	**Hualapai Mount**	**3.19**	**95**	⇓Pn	**Pn**	**21 10 11.8**	**-0.3**			
	baz=3.2,SNR=44									
GLA	**Glamis**	**3.39**	**133**	*e*Pn	**Pn**	**21 10 15.2**	**+0.5**			
GLA				*e*S	**Sg**	**21 11 08.0**	**-2.5**			
GLA	**Glamis**	**3.39**	**133**	Pn	**Pn**	**21 10 13.7**	**-1.0**			
	baz=3.4,SNR=8.4									
R11A	**Troy Canyon, C**	**3.41**	**30**	⇑Pn	**Pn**	**21 10 15.1**	**0.0**			
	baz=3.4,SNR=19									
CCUT	**Cedar City**	**4.13**	**58**	*e*Pn	**Pn**	**21 10 26.4**	**+1.2**			
CCUT				*e*Pg	**Pg**	**21 10 40.4**	**-0.6**			
CCUT				*e*S	**Sg**	**21 11 31.2**	**-3.3**			
Y14A	**Wickenburg**	**4.19**	**109**	⇑Pn	**Pn**	**21 10 25.0**	**-0.7**			
	baz=4.2,SNR=19									
ARUT	**Antelope Range**	**4.20**	**54**	*e*Pn	**Pn**	**21 10 27.2**	**+1.1**			
ARUT				*e*S	**Pg**	**21 10 40.3**	**-2.0**			
SAC	**San Andreas**	**4.33**	**301**	*e*Pn	**Pn**	**21 10 28.1**	**+0.5**			
Z14A	**Wintersburg**	**4.48**	**116**	⇓Pn	**Pn**	**21 10 29.0**	**-0.7**			
	baz=4.5,SNR=18									
114A	**Black Gap (USA**	**4.84**	**122**	Pn	**Pn**	**21 10 33.7**	**-0.9**			
	baz=4.9,SNR=73									
BMN	**Battle Mountai**	**5.02**	**5**	*e*Pn	**Pn**	**21 10 38.7**	**+1.4**			
	32nm,0.8s									
BMN				*e*S	**Sg**	**21 11 59.7**	**-3.4**			
WUAZ	**Wupatki**	**5.21**	**87**	*e*Pn	**Pn**	**21 10 41.1**	**+1.2**			
WUAZ				*e*S	**Sg**	**21 12 06.1**	**-3.1**			
X16A	**Lo Mia Camp, P**	**5.29**	**99**	⇓Pn	**Pn**	**21 10 41.5**	**+0.5**			
	baz=5.3,SNR=10									
214A	**Organ Pipe Nat**	**5.38**	**129**	⇓Pn	**Pn**	**21 10 41.1**	**-1.0**			
	baz=5.4,SNR=6.6									
MSU	**Marysvale**	**5.43**	**54**	*e*Pn	**Pn**	**21 10 45.0**	**+2.0**			
	22nm,0.5s									
MSU				*e*S	**Sb**	**21 12 03.9**	**+1.7**			
ELK	**Elko**	**5.68**	**20**	Pn	**Pn**	**21 10 47.8**	**+1.5**			
	1.2nm,0.3s,baz=202,slow=9.3,SNR=23									
ELK				Pg	Pg	21 11 07.2	-3.3			
	5.4nm,0.3s,baz=204,slow=13,SNR=29									
ELK				Lg	Lg	21 12 21.7				
	3.2nm,0.3s,baz=289,slow=16,SNR=4.7									
ELK	**Elko**	**5.68**	**20**	*e*Pn	**Pn**	**21 10 47.9**	**+1.5**			
ELK				Pg	Pg	21 11 07.2	-3.3			
ELK				*e*Pg	Pb	21 11 08.2	+7.2			
ELK				*e*S	**Sg**	**21 12 21.5**	**-2.6**			
ELK				Lg	Lg	21 12 21.7				
DUG	**Dugway**	**6.17**	**38**	*e*Pn	**Pn**	**21 10 54.1**	**+1.1**			
	30nm,0.7s									
DUG				*e*Pg	**Pg**	**21 11 17.9**	**-2.0**			
DUG				*e*S	**Sg**	**21 12 36.2**	**-3.6**			
TMUT	**Trail Mountain**	**6.50**	**51**	*e*Pn	**Pn**	**21 11 00.7**	**+3.0**			
	18nm,0.7s									
TMUT				*e*Pg	**Pg**	**21 11 28.9**	**+2.8**			
TMUT				*e*S	**Sg**	**21 12 54.3**	**+4.0**			
TUC	**Tucson**	**6.58**	**116**	*e*Pn	**Pn**	**21 10 57.8**	**-0.8**			
	13nm,0.8s									
TUC				*e*S	**Sg**	**21 12 50.2**	**-2.7**			
MPU	**Maple Canyon**	**6.68**	**45**	*e*Pn	Pn	21 11 03.7	+3.6			
	9.2nm,0.7s									
MPU				*e*Pg	**Pg**	**21 11 30.0**	**+0.3**			
MPU				*e*S	**Sg**	**21 12 52.9**	**-3.3**			
SRU	**San Rafael**	**6.84**	**55**	*e*Pn	Pn	21 11 06.9	+4.6			
JLU	**Jordanelle**	**7.18**	**42**	*e*Pn	**Pn**	**21 11 07.8**	**+0.8**			
	2.9nm,0.8s									
YBH	**Yreka Blue Hor**	**7.40**	**330**	Lg	Lg	21 13 11.2				
	0.2nm,0.3s,baz=198,slow=20,SNR=5.6									
PV10	**Paradox Valley**	**7.58**	**65**	*e*Pn	**Pn**	**21 11 14.8**	**+2.3**			
	585nm,0.8s									
PV10				*e*Pg	Pg	21 11 52.3	+5.3			
MVCO	**Mesa Verde**	**7.69**	**74**	*e*Pn	**Pn**	**21 11 15.8**	**+1.9**			
MVCO				*e*Pg	**Pg**	**21 11 48.0**	**-1.0**			
MVCO				*e*S	**Sg**	**21 13 25.6**	**-2.9**			
PV04	**Paradox Valley**	**7.69**	**65**	*e*Pn	Pn	21 11 17.4	+3.5			
PV04				*e*Pg	**Pg**	**21 11 47.6**	**-1.4**			
PV04				*e*S	**Sg**	**21 13 25.9**	**-2.7**			
PV01	**Paradox Valley**	**7.86**	**67**	*e*Pn	Pn	21 11 20.1	+3.9			
PV01				*e*S	Sg	21 13 26.4	-7.5			
HLID	**Hailey**	**8.53**	**17**	*e*Pn	**Pn**	**21 11 27.1**	**+1.5**			
	2.2nm,0.9s									
ANMO	**Albuquerque**	**9.26**	**90**	Pg	Pg	21 12 11.9				
	0.3nm,0.3s,baz=286,slow=12,SNR=13									
ANMO				Lg	Lg	21 14 11.1				
	0.1nm,0.3s,baz=197,slow=19,SNR=3.4									
ANMO	**Albuquerque**	**9.26**	**90**	Pg	Pg	21 12 11.9				
ANMO				Lg	Lg	21 14 11.1				
PDAR	**Pinedale Array**	**9.72**	**38**	Pn	Pn	21 11 45.4	+3.6			
	baz=226,slow=12,SNR=5.7									
PDAR				Pg		21 12 26.1				
	0.0nm,0.3s,baz=230,slow=11,SNR=6.2									
PDAR	**Pinedale Array**	**9.72**	**38**	Pn	Pn	21 11 45.4	+3.6			
PDAR				Pg		21 12 26.1				
TXAR	**Lajitas Array**	**13.36**	**113**	Pn	**Pn**	**21 12 33.7**	**+2.2**			
	0.2nm,0.3s,baz=291,slow=12,SNR=17									
TXAR	**Lajitas Array**	**13.36**	**113**	Pn	**Pn**	**21 12 33.7**	**+2.2**			
ULM	**Lac du Bonnet**	**21.73**	**40**	P	**P**	**21 14 14.8**	**+1.7**			
	4.1nm,0.8s,baz=227,slow=9.4,SNR=6.5									
ULM	**Lac du Bonnet**	**21.73**	**40**	P	**P**	**21 14 14.8**	**+1.7**			
YKA	**Yellowknife Ar**	**27.17**	**3**	P	**P**	**21 15 06.8**	**+1.8**			
	0.2nm,0.7s,baz=185,slow=8.9,SNR=6.5									
YKA	**Yellowknife Ar**	**27.17**	**3**	P	**P**	**21 15 06.8**	**+1.8**			
CMIG	**Matias Romero**	**27.35**	**126**	LR	LR	21 25 59.3				
	comp=Z,64nm,18.7s,baz=185,slow=37									
ILAR	**Eielson Array**	**34.20**	**338**	P	P	21 16 10.9	+3.9			
	0.9nm,0.8s,baz=157,slow=7.5,SNR=13									
ILAR	**Eielson Array**	**34.20**	**338**	P	P	21 16 10.9	+3.9			
CN2	**Changchun**	**82.45**	**319**	*e*P	**P**	**21 21 46.0**	**+1.7**			
HHC	**Hu-ho-hao-te**	**91.60**	**325**	*e*P	**P**	**21 22 27.5**	**-1.6**			
HHC				sP	**sP**	**21 22 34.5**	**+0.6**			
HHC				PP	**PP**	**21 26 08.3**	**+1.8**			
HHC				SKS	**SKSac**	**21 32 58.0**	**-4.0**			
HHC				S	**S**	**21 33 25.5**	**-3.8**			
HHC				sS	**ScS**	**21 33 33.5**	**+1.4**			
HHC				SS	**SS**	**21 39 35.0**	**+0.6**			
HHC				pmax	pmax					
	comp=Z,7.0nm,0.8s									
HHC				pmax	pmax					
	comp=Z,150nm,5.5s									
HHC				LR	LR					
	comp=N,100nm,18.4s									
HHC				LR	LR					
	comp=E,100nm,17.8s									
HHC				LR	LR					
	comp=Z,81nm,16.9s									
NJ2	**Nanjing**	**94.42**	**315**	*e*P	**P**	**21 22 41.5**	**-0.6**			
LZH	**Lanzhou**	**99.00**	**327**	*e*P	P	21 23 03.0	0.0			
LZH				pP	pP	21 23 06.5	0.0			
LZH				sP	sP	21 23 08.0	+0.2			

BYKL ***31*** *21:17:01.3±0.5, 57.37N×120.74E*
IDC ***31*** *21:17:02.2±2.3, 57.68N×120.35E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML2.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/32, Error ellipse: s-maj=55.1km s-min=23.5km az=148.0*
MOS ***31*** *21:17:04.4±1.4, 57.43N×120.75E, h8km, mb4.4/1, Error ellipse: s-maj=23.1km s-min=13.2km az=63.3*

ISC 31 21:17:00.6±1.4, 57.41N±0.04×120.80E±0.03, h0km±10km, n50, σ2.2s06/56, mb3.5/6, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KHNR	**Khani**	**0.66**	**223**	*i* Pg	**Pg**	**21**	**17**	**12.6**	**-0.7**
KHNR				*e*Sg	**Sg**	**21**	**17**	**19.8**	**-2.1**
CRS	**Chara**	**1.47**	**251**	*e*P	**Pn**	**21**	**17**	**27.4**	**-1.0**
CRS				*e*		21	17	44.8	
CRS				pmax	pmax				
	comp=Z,315nm,0.4s								
CRS				smax	smax				
	comp=E,550nm,0.4s								
CRS	**Chara**	**1.47**	**251**	⇑*i* Pg	**Pn**	**21**	**17**	**27.0**	**-1.4**
CRS				*e*Sg	**Sb**	**21**	**17**	**44.8**	**-3.2**
CRS				Pmax					
	comp=E,315nm,1.2s								
CRS				Smax					
	comp=E,578nm,1.3s								
CLNS	**Chul'man**	**2.31**	**103**	*e*Pn	**Pb**	**21**	**17**	**42.7**	**-0.4**
CLNS				*e*Pg	**Pg**	**21**	**17**	**44.3**	**-0.5**
CLNS				*e*Sg	**Sg**	**21**	**18**	**15.0**	**+0.4**
ALDR	**Aldan**	**2.73**	**62**	*e*Pg	**Pb**	**21**	**17**	**50.2**	**-0.1**
ALDR				*e*Sg	**Sb**	**21**	**18**	**26.2**	**+1.8**
NLYR	**Nelyaty**	**2.94**	**254**	*e*P	**Pn**	**21**	**17**	**48.2**	**-0.3**
NLYR				*e*		21	18	28.9	
NLYR				pmax	pmax				
	comp=Z,213nm,0.8s								
NLYR				smax	smax				
	comp=E,735nm,1.2s								
NLYR	**Nelyaty**	**2.94**	**254**	*e*Pn	**Pn**	**21**	**17**	**48.4**	**-0.1**
NLYR				⇑*i*Pg	**Pb**	**21**	**17**	**53.2**	**-0.6**
NLYR				*e*Sg	**Sb**	**21**	**18**	**29.7**	**-0.6**
NLYR				Pmax					
	comp=E,214nm,0.8s								
NLYR				Smax					
	comp=E,734nm,1.1s								
TUP	**Tupik**	**3.03**	**189**	*e*P	**Pn**	**21**	**17**	**50.3**	**+0.4**
TUP				*e*S	**Sn**	**21**	**18**	**24.8**	**-2.0**
TUP				pmax	pmax				
	comp=Z,141nm,0.6s								
TUP				smax	smax				
	comp=E,643nm,0.8s								
TUP	**Tupik**	**3.03**	**189**	⇓*i*Pn	**Pn**	**21**	**17**	**50.2**	**+0.4**
TUP				⇓*i*Pg	**Pb**	**21**	**17**	**54.6**	**-0.8**
TUP				*e*Sg	**Sb**	**21**	**18**	**33.1**	**+0.2**
TUP				Pmax					
	comp=E,217nm,0.6s								
TUP				Smax					
	comp=E,638nm,0.7s								
TNDR	**Tynda**	**3.15**	**134**	*e*	**Pn**	**21**	**17**	**53.0**	**+1.5**
TNDR				*e*		21	17	54.8	
TNDR				*e*Sg	**Sb**	**21**	**18**	**39.0**	**+2.6**
BOD	**Bodaibo**	**3.68**	**279**	*e*P	**Pb**	**21**	**18**	**07.6**	**+1.2**
BOD				*e*S	**Sn**	**21**	**18**	**42.3**	**-0.3**
BOD				pmax	pmax				
	comp=Z,23nm,0.5s								
BOD				smax	smax				
	comp=N,233nm,0.6s								
BOD	**Bodaibo**	**3.68**	**279**	*e*Pn	**Pn**	**21**	**17**	**58.3**	**-0.3**
BOD				*e*Pg	**Pb**	**21**	**18**	**06.1**	**-0.3**
BOD				*e*		21	18	42.8	
BOD				*e*Sg	**Sb**	**21**	**18**	**52.6**	**+1.1**
BOD				Pmax					
	comp=N,24nm,0.7s								
BOD				Smax					
	comp=N,233nm,1.0s								
SVKR	**Severomuysk**	**4.19**	**255**	*e*Pg	**Pb**	**21**	**18**	**16.3**	**+1.1**
SVKR				*e*Sg	**Sb**	**21**	**19**	**09.8**	**+3.5**
SVKR				Pmax					
	comp=N,47nm,0.5s								
SVKR				Smax					
	comp=N,413nm,0.9s								
YOA	**Uoyan**	**5.15**	**259**	*e*P	**Pb**	**21**	**18**	**34.4**	**+2.9**
YOA				pmax	pmax				
	comp=Z,43nm,0.8s								
YOA	**Uoyan**	**5.15**	**259**	*e*Pg	**Pb**	**21**	**18**	**31.1**	**-0.4**
YOA				*e*Sg	**Sb**	**21**	**19**	**37.2**	**+3.3**
YOA				Pmax					
	comp=Z,113nm,1.3s								
YOA				Smax					
	comp=Z,803nm,1.5s								
KMO	**Kumora**	**5.51**	**258**	*e*P	**Pn**	**21**	**18**	**24.2**	**+0.3**
KMO				*e*S	**Sn**	**21**	**19**	**22.8**	**-5.1**
KMO	**Kumora**	**5.51**	**258**	*e*	Pn	21	18	27.6	+3.7
KMO				*e*Pg	**Pb**	**21**	**18**	**39.1**	**+1.5**
KMO				*e*Sg	**Sb**	**21**	**19**	**49.0**	**+4.8**
KMO				Pmax					
	comp=Z,9.0nm,0.4s								
KMO				Smax					
	comp=Z,233nm,1.3s								
YLYR	**Ulyunkhan**	**5.96**	**249**	*e*P	Pg	21	18	50.1	-4.5
YLYR				*e*S	**Sn**	**21**	**19**	**35.9**	**-2.9**
YLYR				pmax	pmax				
	comp=Z,1.0nm,0.1s								
YLYR				smax	smax				
	comp=E,96nm,1.8s								
YLYR	**Ulyunkhan**	**5.96**	**249**	*e*	Pg	21	18	50.2	-4.4
YLYR				*e*Sg	Sb	21	20	02.8	+5.8
YLYR				Smax					
	comp=E,95nm,1.8s								
NIZ	**Nizh Angarsk**	**6.43**	**260**	*e*P	Pg	21	18	59.9	-3.8
NIZ				pmax	pmax				
	comp=Z,4.0nm,1.0s								
NIZ	**Nizh Angarsk**	**6.43**	**260**	*e*	Pn	21	18	39.5	+3.0
NIZ				*e*Pg	**Pb**	**21**	**18**	**56.3**	**+3.0**
NIZ				*e*Sg	Sb	21	20	18.2	+7.6
NIZ				Pmax					
	comp=Z,6.0nm,0.6s								
NIZ				Smax					
	comp=Z,67nm,0.9s								
CIT	**Chita**	**6.84**	**221**	*e*Sg	Sb	21	20	30.2	+7.8
CIT				Smax					
	comp=Z,372nm,1.4s								
SYVR	**Suvo**	**7.19**	**243**	*e*P	Pb	21	19	11.9	+5.7
SYVR				pmax	pmax				
	comp=Z,20nm,1.8s								
SYVR	**Suvo**	**7.19**	**243**	*e*Pg	Pb	21	19	11.0	+4.8
SYVR				*e*Sg	Sg	21	20	44.1	-7.1
SYVR				Pmax					
	comp=Z,21nm,1.8s								
SYVR				Smax					
	comp=Z,114nm,1.6s								
HIA	**Hailar**	**8.19**	**185**	*e*	Sx	21	20	17.8	
HIA				*e*Sg	Sg	21	21	13.2	-10
OGRR	**Ongureny**	**8.38**	**249**	*e*Pg	Pb	21	19	32.8	+6.3
OGRR				*e*Sg	Sg	21	21	20.7	-8.9
OGRR				Pmax					
	comp=Z,3.0nm,0.8s								
OGRR				Smax					
	comp=Z,62nm,2.1s								
KPC	**Khapcheranga**	**9.20**	**216**	*e*P	**Pn**	**21**	**19**	**15.8**	**+1.3**
KPC				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KPC	**Khapcheranga**	**9.20**	**216**	*e*	**Pn**	**21**	**19**	**16.5**	**+2.0**
KPC				*e*Pg		21	19	45.1	
KPC				*e*		21	21	19.7	
KPC				*e*Sg	**SbSb**	**21**	**21**	**42.2**	**+6.8**
KPC				Pmax					
	comp=Z,2.0nm,0.6s								
KPC				Smax					
	comp=Z,86nm,1.4s								
TRG	**Tyrgan**	**9.50**	**247**	*e*	**Sn**	**21**	**21**	**09.6**	**+3.6**
TRG				*e*Sg		21	21	55.2	
TRG				Smax					
	comp=Z,31nm,2.0s								
TLY	**Talaya**	**11.48**	**247**	*e*	Px	21	21	01.6	
TLY				*e*Sg		21	22	54.4	
TLY				Smax					
	comp=Z,22nm,1.2s								
ARS	**Arshan**	**11.96**	**250**	*e*Sg		21	23	11.5	
ARS				Smax					
	comp=Z,60nm,1.3s								
ZAK	**Zakamensk**	**12.48**	**243**	*e*	PgPg	21	21	03.7	+4.0
ZAK				*e*Sg		21	23	27.5	
ZAK				Smax					
	comp=Z,17nm,2.5s								
SONM	**Songino Array**	**12.95**	**228**	Pn	Pn	21	20	09.3	+3.4
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=3.3								
SONM				Lg	Lg	21	23	47.2	
	comp=Z,0.4nm,0.3s,baz=32,slow=26,SNR=12								
**SONM

IDC 31 21:25:59.7±1.6, 3°92'N×126°49'E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/28, Error ellipse: s-maj=157.3km s-min=25.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.53**	**61**	LR	LR	21 36 48.2	
	comp=Z,42nm,19.2s,baz=239,slow=32						
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	21 31 24.8	0.0
	0.8nm,0.5s,baz=343,slow=11,SNR=3.8						
CBIJ	**Chichi jima**	**27.50**	**31**	LR	LR	21 41 01.3	
	comp=Z,1μm,18.9s,baz=124,slow=33						
SONM	**Songino Array**	**47.05**	**342**	P	P	21 34 33.6	+0.4
	0.4nm,0.6s,baz=156,slow=8.9,SNR=5.2						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	21 35 49.5	+0.3
	0.3nm,0.4s,baz=117,slow=8.0,SNR=7.5						
KURK	**Kurchatov**	**61.45**	**328**	P	P	21 36 17.1	-0.9
	0.4nm,0.3s,baz=129,slow=6.4,SNR=4.7						

*BJI **31** 21:51:49.6, 36°.75N×141°.17E, h32km, mB5.8/51, mb5.7/69, Ms5.6/78, Ms7 5.5/70*

*MOS **31** 21:51:50.0±1.0, 36°.78N×141°.31E, h33km, mb5.7/111, MS5.4/58, Error ellipse: s-maj=7.7km s-min=5.6km az=110.2*

*JMA **31** 21:51:51.8±0.1, 36°.72N×141°.28E, h47km±2km, M5.8*

JMA Felt IV J1.

*ISCJB **31** 21:51:51.6±0.1, 36°.75N±0°.02×141°.22E±0°.01, h39km, mb5.6/350, MS5.4/263, Error ellipse: s-maj=2.4km s-min=1.5km az=167.3*

*DJA **31** 21:51:52, 36°.50N×141°.15E, h10km, Mw5.9/50*

*IDC **31** 21:51:52.9±0.5, 36°.74N×141°.31E, h42km±4km, mb5.0/24, mb1 5.2/31, mb1mx5.2/31, mbtmp5.1/31, ML4.6/7, MS5.3/42, Ms1 5.4/42, ms1mx5.3/46, Error ellipse: s-maj=10.8km s-min=7.9km az=161.0*

*NEIC **31** 21:51:52.2±0.1, 36°.72N×141°.15E, h34km, mb5.6/177, ME5.3, MS5.3/167, MW5.7, MW5.7(NIED), Error ellipse: s-maj=3.1km s-min=2.2km az=150.0 Broadband fault plane solution: P waves. NP1:φs20.00000°, δ80.00000°, λ100.00000°. NP2:φs155.00000°, δ14.00000°, λ45.00000°. Principal axes: T Plg54.0000°, Azm302.0000°; N Plg0.0000°, Azm0.0000°; P Plg34.0000°, Azm101.0000°; Moment Tensor Solution. s78 Moment tensor: Scale 10^17 Nm; Mrr1.12; Mθθ0.41; Mφφ-1.53; Mrθ1.81; Mθφ-1.81; Mφr3.37; Best double couple: M=4.40000×10^17 NP1: φs27.00000°, δ77.00000°, λ87.00000°. NP2:φs222.00000°, δ13.00000°, λ104.00000°. Principal axes: T 3.5200, Plg57.0000°, Azm292.0000°; N 1.4900, Plg3.0000°, Azm27.0000°; P -5.0000, Plg31.0000°, Azm119.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Niiza, [III] at Sendai and Tsukuba and [II] at Tokyo. Also felt at Akiruno, Atsugi, Ayase, Choshi, Furukawa, Higashi-murayama, Inzai, Kawasaki, Koganei, Maebashi, Matsudo, Ryugasaki, Ujiie, Yokohama and Yokosuka. Recorded [4 JMA] in Fukushima and Ibaraki; [3 JMA] in Chiba, Gumma, Miyagi, Saitama and Tochigi; [2 JMA] in Aomori, Iwate, Kanagawa, Nagano, Niigata, Shizuoka, Yamagata and Yamanashi; [1 JMA] in Akita and Gifu.

*SZGRF **31** 21:51:55.8, 37°.18N×141°.78E, h43km, mb5.5, MS5.7, Near east coast of eastern Honshu, Japan*

*BGS **31** 21:51:59.1±2.3, 37°.12N×137°.47E, h33km, mb5.4, MS5.7*

*NIED **31** 21:52:00, 36°.70N×141°.40E, h41km, Mw5.7 Best double couple: M=4.65000×10^17 NP1:φs25.00000°, δ76.00000°, λ83.00000°. NP2:φs232.00000°, δ15.00000°, λ116.00000°.*

ISC 31 21:51:52.1±0.2, 36.75N±0°.03×141°.22E±0°.02, h35km: pP-P, n1639, σ1s12/2587, mb5.6/348, MS5.5/264, 720C-535D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**316**	⇓P	**Pn**	**21 52 03.2**	**+0.6**
ONAJ				S	**Sn**	**21 52 11.6**	**+1.7**
JHO	**Hitachi**	**0.55**	**255**	⇓P	**Pn**	**21 52 03.8**	**+0.4**
JHO				S	**Sn**	**21 52 12.4**	**+1.1**
JFK	**Kawauchi**	**0.67**	**336**	⇓P	**Pn**	**21 52 05.5**	**+0.3**
JFK				S	**Sn**	**21 52 15.1**	**+0.6**
JFT	**Otama**	**1.04**	**317**	⇓P	**Pn**	**21 52 11.9**	**+1.7**
JFT				S	**Sn**	**21 52 24.8**	**+1.3**
JSB	**Shiboa**	**1.07**	**282**	⇓P	**Pn**	**21 52 12.5**	**+1.9**
JMM	**Marumori**	**1.16**	**343**	⇓P	**Pn**	**21 52 12.2**	**+0.4**
JMM				S	**Sn**	**21 52 27.9**	**+1.4**
JFY	**Yanaizu**	**1.38**	**299**	⇓P	**Pn**	**21 52 16.6**	**+1.8**
JFY				S	**Sn**	**21 52 36.0**	**+4.1**
JAG	**Ashikaga**	**1.46**	**258**	⇓P	**Pn**	**21 52 17.0**	**+1.0**
JAG				S	**Sn**	**21 52 35.6**	**+1.7**
JKT	**Katashina**	**1.59**	**271**	⇓P	**Pn**	**21 52 19.7**	**+1.9**
JKT				S	**Sn**	**21 52 39.6**	**+2.5**
TOK	**Tokyo**	**1.59**	**228**	⇓P	**Pn**	**21 52 18.8**	**+1.1**
JIO	**Ouri**	**1.70**	**3**	⇓P	**Pn**	**21 52 19.2**	**0.0**
JYS	**Shirataka**	**1.73**	**328**	⇓P	**Pn**	**21 52 21.5**	**+1.8**
JHK	**Hiroka**	**1.83**	**286**	⇓P	**Pn**	**21 52 23.2**	**+2.1**
JRY	**Ryogami san**	**2.01**	**249**	⇓P	**Pn**	**21 52 24.7**	**+1.1**
JGK	**Kuni**	**2.09**	**265**	⇓P	**Pn**	**21 52 27.0**	**+2.4**
JYA	**Atsumi**	**2.19**	**327**	P	**Pn**	**21 52 28.1**	**+2.1**
JMK	**Ichinoseki**	**2.19**	**360**	P	**Pn**	**21 52 26.5**	**+0.5**
JYK	**Kaneyama**	**2.27**	**343**	⇓P	**Pn**	**21 52 28.7**	**+1.7**
JOD2	**Odawara 2**	**2.28**	**230**	P	**Pn**	**21 52 28.7**	**+1.4**
OFUJ	**Ofunato**	**2.35**	**8**	⇓P	**Pn**	**21 52 28.2**	**0.0**
AJI	**Ajiro2**	**2.43**	**226**	⇓P	**Pn**	**21 52 30.6**	**+1.3**
MJAR	**Matsushiro Arr**	**2.43**	**266**	P	**Pn**	**21 52 30.7**	**+1.3**
	333nm,0.3s,baz=97,slow=9.6,SNR=1865						
MJAR				S	**Sn**	**21 53 01.0**	**+3.1**
	582nm,0.3s,baz=90,slow=28,SNR=8.0						
MJAR				LR	LR	21 53 40.1	
	comp=Z,90μm,21.4s,baz=75,slow=43						
MJAR	**Matsushiro Arr**	**2.43**	**266**	P	**Pn**	**21 52 30.7**	**+1.3**
MJAR				S	**Sn**	**21 53 01.0**	**+3.1**
MJAR				pmax	pmax		
	comp=Z,333nm,0.3s						
MJAR				smax	smax		
	comp=N,582nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,90μm,21.4s						
MJAR	**Matsushiro Arr**	**2.43**	**266**	P	**Pn**	**21 52 30.7**	**+1.3**
MJAR				S	**Sn**	**21 53 01.0**	**+3.1**
MAJO	**Matsushiro**	**2.44**	**266**	*e*P	**Pn**	**21 52 32.0**	**+2.6**
MAJO				*e*		21 53 04.6	
MAJO	**Matsushiro**	**2.44**	**266**	*e*Pn	**Pn**	**21 52 32.0**	**+2.6**
MAJO				*e*Sn	Sn	21 53 04.6	+6.7
MAT	**Matsushiro**	**2.44**	**266**	P	**Pn**	**21 52 31.2**	**+1.8**
MAT				S	**Sn**	**21 53 00.0**	**+2.0**
MAT	**Matsushiro**	**2.44**	**266**	P	**Pn**	**21 52 32.1**	**+2.7**
JJN	**Nakama**	**2.48**	**279**	P	**Pn**	**21 52 32.9**	**+3.0**
JYN	**Shimob**	**2.50**	**241**	P	**Pn**	**21 52 32.2**	**+1.8**
JNG	**Nsakai**	**2.54**	**263**	⇓P	**Pn**	**21 52 33.5**	**+2.6**
JNT	**Takato**	**2.64**	**252**	⇓P	**Pn**	**21 52 34.9**	**+2.6**
JRG	**Rokugo**	**2.68**	**350**	P	**Pn**	**21 52 34.5**	**+1.8**
JSD	**Sado**	**2.69**	**299**	P	**Pn**	**21 52 34.3**	**+1.5**
JOM	**Ohasama**	**2.71**	**1**	P	**Pn**	**21 52 34.0**	**+0.8**
JIZS	**Izushimoda**	**2.79**	**224**	P	**Pn**	**21 52 36.1**	**+1.9**
MIYJ	**Miyakonagasawa**	**2.86**	**9**	P	**Pn**	**21 52 35.1**	**-0.1**
JYW	**Yuwa**	**2.89**	**344**	P	**Pn**	**21 52 38.1**	**+2.4**
SHZ3	**Shizuoka 3**	**2.97**	**236**	P	**Pn**	**21 52 39.2**	**+2.4**
JNY	**Yasuok**	**3.06**	**244**	P	Pn	21 52 41.2	+3.2
JTT	**Ttatey**	**3.13**	**268**	P	Pn	21 52 42.6	+3.7
JGN	**Niukaw**	**3.19**	**262**	P	Pn	21 52 43.1	+3.2
HMMJ	**Hamamatsu 2**	**3.42**	**237**	P	**Pn**	**21 52 45.6**	**+2.7**
JAO	**Obara**	**3.54**	**246**	⇓P	**Pn**	**21 52 47.6**	**+3.0**
JKG	**Kaga**	**3.97**	**265**	P	Pn	21 52 54.1	+3.7
JFM	**Mihama**	**4.41**	**255**	P	Pn	21 53 00.0	+3.4
JOT	**Ohata**	**4.62**	**358**	P	**Pn**	**21 53 01.6**	**+2.2**
ERM	**Erimo**	**5.46**	**15**	*c* *i*P	**Pn**	**21 53 10.7**	**-0.2**
ERM	**Erimo**	**5.46**	**15**	*e*Pn	**Pn**	**21 53 10.9**	**0.0**
ERM				*e*Sn	**Sn**	**21 54 14.3**	**+1.8**
ERM	**Erimo**	**5.46**	**15**	Pn	**Pn**	**21 53 10.6**	**-0.3**
	comp=Z,3μm,0.6s,SNR=55						
ASAJ	**Asahikawa**	**7.43**	**8**	P	**Pn**	**21 53 37.7**	**-0.3**
	comp=Z,35nm,0.3s,baz=223,slow=11,SNR=148						
ASAJ				S	**Sn**	**21 54 58.1**	**-2.7**
	comp=Z,34nm,0.3s,baz=218,slow=29,SNR=4.0						
ASAJ				LR	LR	21 57 11.1	
	comp=Z,17μm,19.6s,baz=194,slow=43						
ASAJ	**Asahikawa**	**7.43**	**8**	P	**Pn**	**21 53 37.7**	**-0.3**
ASAJ				S	**Sn**	**21 54 58.2**	**-2.7**
ASAJ				pmax	pmax		
	comp=Z,35nm,0.3s						
ASAJ				smax	smax		
	comp=N,34nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,17μm,19.6s						
ASAJ	**Asahikawa**	**7.43**	**8**	*e*Pn	**Pn**	**21 53 37.6**	**-0.3**
ASAJ				S	**Sn**	**21 54 58.1**	**-2.7**
ASAJ				*e*Sn	**Sn**	**21 55 02.1**	**+1.2**
JNU	**Nakatsue**	**9.23**	**250**	P	**Pn**	**21 54 05.6**	**+2.8**
	comp=Z,5.5nm,0.3s,baz=68,slow=9.5,SNR=77						
JNU				LR	LR	21 57 55.8	
	comp=Z,19μm,0.3s,baz=66,slow=39						
JNU	**Nakatsue**	**9.23**	**250**	*e*Pn	Pn	21 54 06.2	+3.4
VLA	**Vladivostok**	**9.57**	**314**	*d* *i*P	**Pn**	**21 54 10.4**	**+3.1**
VLA				*e*S	**Sn**	**21 55 58.5**	**+4.9**
VLA				MLR	MLR		
	comp=E,472μm,16.0s						
CBIJ	**Chichi jima**	**9.66**	**175**	P	**Pn**	**21 54 06.3**	**-2.4**
	comp=E,116nm,0.3s,baz=63,slow=21,SNR=7.4						
CBIJ				S	Sn	21 55 47.3	-8.7
	comp=E,121nm,0.3s,baz=270,slow=20,SNR=4.0						
CBIJ	**Chichi jima**	**9.66**	**175**	P	**Pn**	**21 54 06.3**	**-2.4**
CBIJ				S	Sn	21 55 47.3	-8.7
USRK	**Ussuriysk Arra**	**10.22**	**320**	P	**Pn**	**21 54 19.1**	**+2.8**
	comp=E,17nm,0.3s,baz=134,slow=13,SNR=79						
USRK				LR	LR	21 58 04.3	
	comp=E,36μm,19.7s,baz=304,slow=36						
YSS	**Yuzh-Sakhalins**	**10.26**	**6**	*e*P	**Pn**	**21 54 16.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**10.26**	**6**	*e*Pn	**Pn**	**21 54 16.1**	**-0.6**
YSS				*e*ScP	**ScP**	**22 03 53.2**	**+0.8**
KSRS	**Korea Array**	**10.65**	**278**	P	Pn	21 54 25.9	+3.9
	comp=E,3.6nm,0.3s,baz=90,slow=12,SNR=76						
KSRS				LR	LR	21 58 20.4	
	comp=E,32μm,20.3s,baz=95,slow=36						
KSRS	**Korea Array**	**10.65**	**278**	P	Pn	21 54 26.0	+3.9
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,32μm,20.3s						
KSAR	**Wonju Array Be**	**10.68**	**278**	P	Pn	21 54 26.0	+3.5
KSAR	**Wonju Array Be**	**10.68**	**278**	P	Pn	21 54 25.9	+3.5
INCN	**Inchon**	**11.67**	**278**	*e*Pn	Pn	21 54 41.4	+5.3
MDJ	**Mudanjiang**	**11.81**	**315**	P	**Pn**	**21 54 37.8**	**-0.1**
MDJ				S	**Sn**	**21 56 48.5**	**+0.1**
MDJ				PcP	**PcP**	**22 00 24.5**	**0.0**
MDJ				ScP	**ScP**	**22 03 55.5**	**+0.9**
MDJ				PcS	**PcS**	**22 04 00.5**	**+2.1**
MDJ				ScS	**ScS**	**22 07 31.3**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,2μm,9.3s						
MDJ				LR	LR		
	comp=N,19μm,18.6s						
MDJ				LR	LR		
	comp=E,12μm,21.5s						
MDJ				LR	LR		
	comp=Z,29μm,23.0s						
MDJ	**Mudanjiang**	**11.81**	**315**	*e*Pn	Pn	21 54 41.8	+3.9
	comp=Z,464nm,1.3s						
UGL	**Uglegorsk**	**12.33**	**3**	*e*P	**Pn**	**21 54 47.0**	**+2.0**
UGL				pmax	pmax		
	comp=Z,60nm,0.8s						
UGL				MLR	MLR		
	comp=N,11μm,20.0s						
UGL				MLR	MLR		
	comp=E,14μm,20.0s						
HABR	**Khabarovsk**	**12.56**	**341**	*e*P	**Pn**	**21 54 48.2**	**+0.1**
HABR				*e*		21 57 05.3	
HABR				pmax	pmax		
	comp=E,28nm,1.3s						
HABR				pmax	pmax		
	comp=Z,45nm,1.1s						
HABR				pmax	pmax		
	comp=N,47nm,1.8s						
HABR				MLR	MLR		
	comp=Z,15μm,16.0s						
CN2	**Changchun**	**13.94**	**305**	⇑P	**Pn**	**21 55 08.3**	**+1.3**
CN2				*e*pP	**P**	**21 55 17.0**	**+2.4**
CN2				*e*S	**Sn**	**21 57 42.3**	**+1.9**
CN2				pmax	pmax		
	comp=Z,40nm,1.4s						
CN2				pmax	pmax		
	comp=Z,1μm,5.0s						
CN2				LR	LR		
	comp=N,13μm,18.0s						
CN2				LR	LR		
	comp=E,12μm,18.0s						
CN2				LR	LR		
	comp=Z,15μm,19.0s						
KLR	**Kul'dur**	**14.25**	**334**	*e*P	Pn	21 55 06.7	-4.5
KLR				*e*		21 57 48.0	
SNY	**Shenyang**	**14.57**	**296**	⇑P	**Pn**	**21 55 17.3**	**+1.7**
SNY				S	Sn	21 58 02.0	+6.3
SNY				pmax	pmax		
	comp=Z,81nm,1.6s						
SNY				pmax	pmax		
	comp=Z,2μm,3.5s						
SNY				LR	LR		
	comp=N,17μm,15.7s						
SNY				LR	LR		
	comp=E,23μm,18.6s						
SNY				LR	LR		
	comp=Z,28μm,21.6s						
JOW	**Kunigami**	**14.79**	**232**	P	**Pn**	**21 55 19.6**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=49,slow=15,SNR=3.5						
JOW				LR	LR	22 00 58.9	
	comp=Z,7μm,21.2s,baz=219,slow=37						
JOW	**Kunigami**	**14.79**	**232**	*e*Pn	**Pn**	**21 55 17.5**	**-1.2**
DL2	**Dalian**	**15.63**	**284**	⇑ *i*P	**P**	**21 55 32.0**	**-1.5**
DL2				S	**Sn**	**21 58 25.8**	**+4.1**
DL2				pmax	pmax		
	comp=Z,180nm,0.7s						
DL2				pmax	pmax		
	comp=Z,3μm,7.8s						
DL2				LR	LR		
	comp=N,11μm,19.6s						
DL2				LR	LR		
	comp=E,4μm,15.1s						
DL2				LR	LR		
	comp=Z,14μm,19.0s						
SSE	**Sheshan**	**17.55**	**257**	P	**Pn**	**21 55 52.8**	**-1.1**
SSE				sP	**sP**	**21 56 06.0**	**-2.3**
SSE				S	**Sn**	**21 59 06.0**	**-2.3**
SSE				pmax	pmax		
	comp=Z,60nm,1.2s						
SSE				pmax	pmax		
	comp=Z,3μm,9.0s						
SSE				LR	LR		
	comp=N,9μm,18.9s						
SSE				LR	LR		
	comp=E,9μm,18.9s						
SSE				LR	LR		
	comp=Z,16μm,19.5s						
NJ2	**Nanjing**	**19.03**	**262**	*e*P	**P**	**21 56 09.5**	**-1.6**
NJ2				pP	**pP**	**21 56 17.8**	**-2.4**
NJ2				sP	**sP**	**21 56 21.5**	**-3.2**
NJ2				S	**Sn**	**21 59 42.0**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,50nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,2μm,7.7s						
NJ2				LR	LR		
	comp=N,8μm,20.8s						
NJ2				LR	LR		
	comp=E,17μm,18.1s						
NJ2				LR	LR		
	comp=Z,18μm,19.5s						
TIA	**Tai'an**	**19.38**	**276**	⇑P	**P**	**21 56 14.0**	**-0.9**
TIA				pmax	pmax		
	comp=Z,340nm,1.0s						
TIA				LR	LR		
	comp=N,9μm,16.0s						
TIA				LR	LR		
	comp=E,14μm,16.7s						
TIA				LR	LR		
	comp=Z,17μm,19.0s						
BJI	**Beijing**	**19.89**	**287**	P	**P**	**21 56 19.5**	**-0.8**
BJI				S	**S**	**22 00 00.5**	**-1.7**
BJI				pmax	pmax		
	comp=Z,180nm,0.8s						
BJI				pmax	pmax		
	comp=Z,930nm,3.6s						
BJI				LR	LR		
	comp=N,6μm,18.6s						
BJI				LR	LR		
	comp=E,8μm,22.8s						
BJI				LR	LR		
	comp=Z,7μm,27.6s						
BJT	**Baijiatuan**	**19.89**	**287**	*e*P	**P**	**21 56 19.2**	**-1.2**
BJT				pmax	pmax		
	comp=Z,393nm,0.8s						
BJT	**Baijiatuan**	**19.89**	**287**	*e*P	**P**	**21 56 19.1**	**-1.2**
	comp=Z,393nm,0.8s						
HIA	**Hailar**	**19.99**	**315**	*e*P	**P**	**21 56 18.0**	**-3.5**
HIA				pmax	pmax		
	comp=Z,55nm,0.8s						
HIA	**Hailar**	**19.99**	**315**	*e*Pn	**P**	**21 56 18.0**	**-3.5**
	comp=Z,55nm,0.8s						
PETK	**Petropavlovsk-**	**20.00**	**30**	P	**P**	**21 56 22.2**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=207,slow=9.6,SNR=17						
PETK				LR	LR	22 04 28.9	
	comp=Z,3μm,19.1s,baz=221,slow=38						
PETK	**Petropavlovsk-**	**20.00**	**30**	P	**P**	**21 56 22.3**	**+0.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,3μm,19.1s						
PETK	**Petropavlovsk-**	**20.00**	**30**	P	**P**	**21 56 22.2**	**+0.7**
PET	**Petropavlovsk**	**20.33**	**31**	*e*P	**P**	**21 56 24.8**	**-0.3**
PET				MLR	MLR		
	comp=Z,6μm,20.0s						
PET	**Petropavlovsk**	**20.33**	**31**	*e*P	**P**	**21 56 24.8**	**-0.3**
PET				LR	LR		
	comp=Z,6μm,20.0s						
YHNB	**Yeheng**	**20.84**	**240**	*e*P	**P**	**21 56 31.8**	**+0.9**
	comp=Z,153nm,1.1s						
YHNB				LR	LR		
	comp=Z,6μm,22.0s						
NACB	**Ninganchiao**	**21.01**	**239**	*e*P	**P**	**21 56 30.5**	**-2.1**
	comp=Z,64nm,0.8s						
SSLB	**Suanglung**	**21.70**	**239**	*e*P	**P**	**21 56 38.1**	**-2.0**
	comp=Z,98nm,1.0s						
YULB	**Yu-li**	**21.73**	**238**	*e*P	**P**	**21 56 38.1**	**-2.2**
	comp=Z,69nm,0.8s						
TPUB	**Ta-pu**	**22.25**	**239**	*e*P	**P**	**21 56 43.0**	**-3.0**
	comp=Z,136nm,0.7s						
TWG	**Pinlang**	**22.27**	**237**	*e*P	**P**	**21 56 43.6**	**-2.5**
	comp=Z,192nm,1.0s						
QZH	**Quanzhou**	**22.66**	**245**	⇑ *i*P	**P**	**21 56 48.0**	**-2.3**
QZH				pP	**pP**	**21 56 56.5**	**-3.1**
QZH				S	S	22 00 48.0	-8.1
QZH				pmax	pmax		
	comp=Z,130nm,0.8s						
QZH				LR	LR		
	comp=N,8μm,14.2s						
QZH				LR	LR		
	comp=E,7μm,13.3s						
QZH				LR	LR		
	comp=Z,14μm,14.3s						
TIY	**Taiyuan**	**22.91**	**281**	*e*P	**P**	**21 56 53.5**	**+0.6**
TIY				S	**S**	**22 01 02.5**	**+2.1**
TIY				pmax	pmax		
	comp=Z,1μm,5.0s						
TIY				LR	LR		
	comp=N,7μm,16.1s						
TIY				LR	LR		
	comp=E,14μm,15.0s						
TIY				LR	LR		
	comp=Z,21μm,18.5s						
WHN	**Wuhan**	**23.17**	**262**	P	**P**	**21 56 54.5**	**-1.0**
WHN				S	**S**	**22 00 58.3**	**-6.4**
WHN				pmax	pmax		
	comp=Z,490nm,0.7s						
WHN				LR	LR		
	comp=N,17μm,18.9s						
WHN				LR	LR		
	comp=E,28μm,14.7s						
WHN				LR	LR		
	comp=Z,34μm,18.2s						
GUMO	**Guam**	**23.30**	**171**	P	**P**	**21 56 56.5**	**-0.4**
	comp=Z,195nm,1.0s,baz=132,slow=3.0,SNR=4.8						
GUMO	**Guam**	**23.30**	**171**	P	**P**	**21 56 56.5**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,195nm,1.0s						
GUMO	**Guam**	**23.30**	**171**	*e*P	**P**	**21 56 55.2**	**-1.7**
	comp=Z,800nm,1.4s						
GUMO				LR	LR		
	comp=Z,3μm,20.0s						
HHC	**Hu-ho-hao-te**	**23.42**	**289**	⇑P	**P**	**21 56 55.0**	**-3.0**
HHC				pP	**pP**	**21 57 04.3**	**-3.3**
HHC				sP	**sP**	**21 57 08.3**	**-3.7**
HHC				PP	**PnPn**	**21 57 26.8**	**+1.9**
HHC				S	**S**	**22 01 05.8**	**-3.1**
HHC				sS	sS	22 01 18.5	-6.9
HHC				SS	**SnSn**	**22 01 52.5**	**+6.8**
HHC				pmax	pmax		
	comp=Z,33nm,1.1s						
HHC				pmax	pmax		
	comp=Z,1μm,6.3s						
HHC				LR	LR		
	comp=N,6μm,13.5s						
HHC				LR	LR		
	comp=E,5μm,14.3s						
HHC				LR	LR		
	comp=Z,7μm,14.9s						
CIT	**Chita**	**24.77**	**317**	*e*P	**P**	**21 57 08.4**	**-2.1**
CIT				*e*		22 01 26.9	
CIT				pmax	pmax		
	comp=Z,544nm,2.2s						
YAK	**Yakutsk**	**26.31**	**348**	*e*P	**P**	**21 57 23.4**	**-0.7**
YAK				pmax	pmax		
	comp=Z,611nm,1.1s						
YAK				MLR	MLR		
	comp=Z,9μm,20.0s						
YAK	**Yakutsk**	**26.31**	**348**	*e*P	**P**	**21 57 23.4**	**-0.7**
	comp=Z,611nm,1.1s						
YAK				LR	LR		
	comp=Z,9μm,20.0s						
XAN	**Xi'an**	**26.41**	**274**	P	**P**	**21 57 24.0**	**-1.4**
XAN				pP	**pP**	**21 57 33.3**	**-2.1**
XAN				sP	**sP**	**21 57 37.5**	**-2.1**
XAN				PP	**PnPn**	**21 58 02.5**	**-3.3**
XAN				S	S	22 01 44.0	-13
XAN				pmax	pmax		
	comp=Z,26nm,0.8s						
XAN				pmax	pmax		
	comp=Z,340nm,8.6s						
XAN				LR	LR		
	comp=N,5μm,15.7s						
XAN				LR	LR		
	comp=E,2μm,15.6s						
XAN				LR	LR		
	comp=Z,2μm,18.0s						
ENH	**Enshi**	**27.16**	**266**	*e*P	**P**	**21 57 32.1**	**0.0**
	comp=Z,513nm,0.7s						
ENH				LR	LR		
	comp=Z,11μm,19.0s						
ULN	**Ulaanbaatar**	**27.39**	**305**	*e*P	**P**	**21 57 34.5**	**+0.3**
ULN				*e*		22 00 53.1	
ULN				pmax	pmax		
	comp=Z,73nm,0.7s						
ULN				MLR	MLR		
	comp=Z,9μm,19.0s						
ULN	**Ulaanbaatar**	**27.39**	**305**	*e*P	**P**	**21 57 34.5**	**+0.3**
	comp=Z,73nm,0.7s						
ULN				*e*PcP	**PcP**	**22 00 53.1**	**+0.6**
ULN				LR	LR		
	comp=Z,9μm,19.0s						
HKC	**Hong Kong Obse**	**27.48**	**246**	⇑ *e*P	**P**	**21 57 36.0**	**+1.0**
FX1	**Attu Island--F**	**27.51**	**44**	P	**P**	**21 57 36.0**	**+1.0**
	comp=Z,19nm,0.6s,baz=69,slow=1.1,SNR=8.6						
FX1				LR	LR	22 06 08.0	
	comp=Z,2μm,21.1s,baz=262,slow=31						
FX1	**Attu Island--F**	**27.51**	**44**	P	**P**	**21 57 36.1**	**+1.0**
FX1				pmax	pmax		
	comp=Z,19nm,0.6s						
FX1				MLR	MLR		
	comp=Z,2μm,21.1s						
FX1	**Attu Island--F**	**27.51**	**44**	P	**P**	**21 57 36.0**	**+1.0**
GZH	**Guangzhou**	**27.62**	**248**	P	P	21 57 30.3	-6.0
GZH				S	S	22 02 05.8	-10
GZH				LR	LR		
	comp=N,5μm,13.7s						
GZH				LR	LR		
	comp=E,4μm,15.3s						
GZ

comp=Z,6.3nm,1.3s,baz=132,slow=2.2,SNR=4.5
SONM LR LR 22 09 00.5
comp=Z,8µm,18.4s,baz=123,slow=37
SONM Songino Array 27.82 304 P P 21 57 37.7 -0.3
SONM pmax pmax
comp=Z,103nm,0.8s
SONM pmax pmax
comp=N,6.0nm,1.3s
SONM MLR MLR
comp=Z,8µm,18.4s
SONM Songino Array 27.82 304 P P 21 57 37.7 -0.3
SONM ScP **ScP 22 04 29.9 -1.6**
WAKE Wake Island 28.27 121 PFAKE 21 57 50.0 +7.9
WAKE LR LR
comp=Z,12µm,22.0s
LZH Lanzhou 29.96 280 ⇑P **P 21 57 56.8 -0.5**
LZH pP **pP 21 58 06.0 -1.3**
LZH sP **sP 21 58 11.0 -0.6**
LZH S **S 22 02 51.0 -1.8**
LZH sS **sS 22 03 05.0 -4.4**
LZH SS **SnSn 22 04 27.3 +1.5**
LZH pmax pmax
comp=Z,220nm,1.0s
LZH pmax pmax
comp=Z,990nm,4.0s
LZH LR LR
comp=N,8µm,13.7s
LZH LR LR
comp=E,20µm,15.2s
LZH LR LR
comp=Z,25µm,16.4s
IRK Irkutsk 30.17 313 *eP* **P 21 57 59.0 +0.2**
IRK *e* 21 58 52.0
IRK pmax pmax
comp=Z,113nm,2.6s
ZAK Zakamensk 30.32 309 ⇑*iP* **P 21 57 59.6 -0.6**
ZAK pmax pmax
comp=Z,31nm,1.2s
TLY Talaya 30.40 311 *c iP* **P 21 58 00.1 -0.7**
TLY *e* 21 59 21.7
TLY *e*SS SS 22 04 54.9 -14
TLY pmax pmax
comp=Z,55nm,0.9s
TLY MLR MLR
comp=Z,10µm,18.0s
TLY Talaya 30.40 311 *eP* **P 21 58 01.3 +0.5**
comp=Z,60nm,0.7s
TLY LR LR
comp=Z,13µm,19.0s
TLY Talaya 30.40 311 P **P 21 58 01.2 +0.4**
comp=Z,355nm,0.9s,SNR=11
GYA Guiyang 31.02 261 ⇑*iP* **P 21 58 06.8 +0.1**
GYA pP **pP 21 58 17.5 +0.8**
GYA PP **PnPn 21 59 10.3 +1.9**
GYA PcP **PcP 22 01 02.8 +0.8**
GYA S **S 22 03 08.5 -1.0**
GYA sS **sS 22 03 24.5 -1.6**
GYA ScP **ScP 22 04 42.0 -0.1**
GYA SS **SnSn 22 04 52.0 +0.3**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,240nm,4.9s
GYA LR LR
comp=N,6µm,16.0s
GYA LR LR
comp=E,4µm,17.8s
GYA LR LR
comp=Z,6µm,16.6s
CD2 Chengdu 31.52 270 ⇑*iP* **P 21 58 10.0 -0.9**
CD2 pP **pP 21 58 19.8 -1.2**
CD2 sP **sP 21 58 24.0 -1.2**
CD2 PP **PnPn 21 59 14.0 -0.7**
CD2 S **S 22 03 13.8 -3.2**
CD2 sS **sS 22 03 30.5 -3.2**
CD2 SS **SnSn 22 05 02.3 -1.3**
CD2 pmax pmax
comp=Z,270nm,0.8s
CD2 pmax pmax
comp=Z,880nm,5.4s
CD2 LR LR
comp=N,12µm,17.8s
CD2 LR LR
comp=Z,12µm,16.7s
MOY Mondy 32.00 311 *eP* **P 21 58 15.4 +0.4**
MOY pmax pmax
comp=Z,119nm,3.1s
GTA Gaotai 32.50 288 ⇑P **P 21 58 19.5 0.0**
GTA pP **pP 21 58 30.0 +0.4**
GTA sP **sP 21 58 32.8 -1.1**
GTA PP **PnPn 21 59 28.3 +1.0**
GTA PcP **PcP 22 01 07.3 +1.5**
GTA S **S 22 03 27.0 -5.3**
GTA ScP **ScP 22 04 46.5 -0.4**
GTA ScS **ScS 22 08 44.0 -2.4**
GTA pmax pmax
comp=Z,100nm,0.7s
GTA pmax pmax
comp=Z,970nm,4.7s
GTA LR LR
comp=N,870nm,16.6s
GTA LR LR
comp=E,1µm,11.9s
GTA LR LR
comp=Z,590nm,9.7s
QIZ Qiongzhong 32.67 246 P **P 21 58 22.3 +1.2**
QIZ pP **pP 21 58 28.0 -3.2**
QIZ sP **sP 21 58 34.3 -1.1**
QIZ S **S 22 03 34.8 -0.3**
QIZ sS **sS 22 03 48.0 -3.7**
QIZ pmax pmax
comp=Z,29nm,1.1s
QIZ pmax pmax
comp=Z,570nm,9.6s
QIZ LR LR
comp=N,3µm,20.1s
QIZ LR LR
comp=Z,5µm,17.3s
QIZ Qiongzhong 32.67 246 *eP* **P 21 58 22.6 +1.5**
comp=Z,17nm,0.8s
QIZ LR LR
comp=Z,4µm,20.0s
DAV Davao City (W) 32.81 210 PFAKE 21 58 30.0 +7.7
DAV LR LR
comp=Z,3µm,20.0s
BILL Bilibino 34.34 16 *eP* **P 21 58 34.6 -0.4**
BILL pmax pmax
comp=Z,116nm,1.5s
BILL MLR MLR
comp=Z,3µm,22.0s
BILL Bilibino 34.34 16 *eP* **P 21 58 34.6 -0.4**
comp=Z,116nm,1.5s
BILL LR LR
comp=Z,3µm,22.0s
KMI Kunming 34.77 262 ⇑P **P 21 58 39.3 -0.2**
KMI pP **pP 21 58 51.0 +1.4**
KMI sP **sP 21 58 56.0 +2.1**
KMI PP **PnPn 21 59 57.0 +0.8**
KMI S **S 22 04 02.0 -5.9**
KMI sS **sS 22 04 23.0 -1.6**
KMI pmax pmax
comp=Z,190nm,0.8s
KMI pmax pmax
comp=Z,870nm,4.5s
KMI LR LR
comp=N,6µm,18.7s
KMI LR LR
comp=E,8µm,19.0s
KMI LR LR
comp=Z,12µm,19.8s
MIDW Midway 35.73 92 *eP* **P 21 58 47.2 -0.2**
MIDW LR LR
comp=Z,8µm,22.0s
MYLDM Lahad Datu 37.70 219 P **P 21 59 06.2 +1.9**
SDKM Sandakan 37.98 221 P **P 21 59 08.6 +1.8**
KKM Kota Kinabalu 38.17 223 *eP* **P 21 59 10.1 +1.7**
comp=Z,41nm,0.8s
KKM LR LR
comp=Z,2µm,21.0s
KKM Kota Kinabalu 38.17 223 P **P 21 59 10.4 +2.0**
MNI Manado 38.26 207 P **P 21 59 10.4 +1.3**
comp=Z,182nm,1.2s,comp=Z,2µm
TSM Tawau 38.77 219 P **P 21 59 15.2 +1.8**
GAMB Gambell 39.03 31 *eP* **P 21 59 15.4 +0.4**
comp=Z,98nm,1.6s

LBMI Labuha 39.33 202 P **P 21 59 19.6 +1.7**
comp=Z,318nm,1.1s,comp=Z,3µm
WMQ Urumqi 40.83 297 P **P 21 59 31.8 +1.5**
WMQ pP **pP 21 59 41.8 +1.2**
WMQ sP **sP 21 59 45.8 +1.0**
WMQ S **S 22 05 40.3 +1.2**
WMQ SS **SS 22 08 37.5 -3.2**
WMQ pmax pmax
comp=Z,470nm,0.9s
WMQ pmax pmax
comp=Z,3µm,3.7s
WMQ LR LR
comp=N,2µm,23.8s
WMQ LR LR
comp=E,6µm,25.2s
WMQ LR LR
comp=Z,8µm,24.3s
CHTO Chiang Mai 41.08 256 *eP* **P 21 59 32.9 +0.4**
CHTO pmax pmax
comp=Z,60nm,0.9s
CHTO Chiang Mai 41.08 256 *eP* **P 21 59 32.9 +0.4**
comp=Z,60nm,0.9s
TNA Tin City 41.17 29 *eP* **P 21 59 34.7 +2.0**
comp=Z,230nm,1.5s
CM31 Chiang Mai Arr 41.28 255 *eP* **P 21 59 34.4 +0.2**
comp=Z,30nm,0.8s
CM31 LR LR
comp=Z,6µm,19.0s
CMAR Chiang Mai Arr 41.28 255 P **P 21 59 34.7 +0.5**
comp=Z,37nm,0.8s,baz=46,slow=6.4,SNR=183
CMAR LR LR 22 18 56.1
comp=Z,7µm,18.8s,baz=60,slow=39
CMAR Chiang Mai Arr 41.28 255 P **P 21 59 34.7 +0.5**
CMAR pmax pmax
comp=Z,37nm,0.8s
CMAR MLR MLR
comp=Z,7µm,18.8s
CMAR Chiang Mai Arr 41.28 255 P **P 21 59 34.7 +0.5**
LUWI Luwuk 41.33 209 P **P 21 59 36.1 +1.6**
comp=Z,118nm,1.5s,comp=Z,2µm
ZAA0 Zalesovo Array 41.99 313 *eP* **P 21 59 39.4 -0.2**
ZALV Zalesovo Beam 41.99 313 P **P 21 59 39.6 +0.1**
comp=Z,64nm,0.6s,baz=98,slow=7.1,SNR=403
ZALV PcP **PcP 22 01 34.1 -0.1**
comp=Z,20nm,0.7s,baz=101,slow=1.5,SNR=5.9
ZALV pPcP 22 01 47.1
comp=Z,29nm,0.7s,baz=98,slow=3.6,SNR=3.6
ZALV LR LR 22 18 02.2
comp=Z,8µm,18.5s,baz=92,slow=37
ZALV Zalesovo Beam 41.99 313 P **P 21 59 39.7 +0.1**
ZALV 22 01 34.1
ZALV 22 01 47.2
ZALV pmax pmax
comp=Z,64nm,0.6s
ZALV MLR MLR
comp=Z,8µm,18.5s
ZALV Zalesovo Beam 41.99 313 P **P 21 59 39.6 +0.1**
ZALV PcP **PcP 22 01 34.1 -0.1**
ZALV pPcP 22 01 47.1
AAI Ambon 42.03 200 P pP 21 59 51.0 +0.5
comp=Z,474nm,1.0s,comp=Z,4µm
LSA Lhasa 42.08 275 P **P 21 59 43.0 +1.8**
LSA sP **sP 21 59 54.5 -1.2**
LSA PP **PP 22 01 23.0 +4.1**
LSA S **S 22 05 56.5 -2.2**
LSA sS **sS 22 06 12.0 -3.6**
LSA pmax pmax
comp=Z,110nm,1.0s
LSA pmax pmax
comp=Z,770nm,11.0s
LSA LR LR
comp=N,890nm,15.0s
LSA LR LR
comp=E,4µm,16.0s
LSA LR LR
comp=Z,6µm,20.0s
LSA Lhasa 42.08 275 *eP* **P 21 59 42.4 +1.2**
LSA pmax pmax
comp=Z,76nm,0.8s
LSA MLR MLR
comp=Z,7µm,19.0s
LSA Lhasa 42.08 275 *eP* **P 21 59 42.4 +1.2**
comp=Z,76nm,0.8s
LSA LR LR
comp=Z,7µm,19.0s
BTM Bintulu 42.26 224 P **P 21 59 44.0 +1.8**
NVS Novosibirsk 42.92 314 ⇑*iP* **P 21 59 45.9 -1.2**
NVS *e*S **S 22 06 06.9 -2.6**
NVS *e*SS **SnSn 22 09 40.3 +2.1**
NVS pmax pmax
comp=N,38nm,1.3s
NVS pmax pmax
comp=E,131nm,1.3s
NVS pmax pmax
comp=Z,188nm,1.3s
NVS smax smax
comp=N,18nm,1.5s
NVS smax smax
comp=E,37nm,1.9s
SMKI Samarinda 43.20 216 P **P 21 59 52.8 +3.0**
comp=E,150nm,1.4s,comp=E,2µm
SHL Shillong 43.25 270 *eP* **P 21 59 50.0 -0.4**
SHL *ex* x 22 06 18.0
SBUM Sibu 43.36 225 P **P 21 59 52.5 +1.5**
SBUM Sibu 43.36 225 P **P 21 59 52.7 +1.6**
comp=E,53nm,1.3s,comp=E,838nm
MK31 Makanchi Array 44.14 302 *ceP* **P 21 59 57.4 +0.3**
MK31 pmax pmax
comp=Z,77nm,0.6s
MK31 Makanchi Array 44.14 302 *eP* **P 21 59 57.4 +0.3**
MKAR Makanchi Array 44.14 302 P **P 21 59 57.6 +0.5**
comp=Z,47nm,0.6s,baz=88,slow=9.6,SNR=489
MKAR LR LR 22 18 49.8
comp=Z,6µm,21.2s,baz=86,slow=37
MKAR Makanchi Array 44.14 302 *ceP* **P 21 59 57.5 +0.5**
MKAR pmax pmax
comp=Z,47nm,0.6s
MKAR Makanchi Array 44.14 302 P **P 21 59 57.6 +0.5**
AGT Agartala 44.55 268 *eP* **P 22 00 02.0 +1.4**
AGT *ex* x 22 00 54.0
KSM Kuching 45.25 226 *eP* **P 22 00 07.1 +0.9**
comp=Z,116nm,0.9s
KSM LR LR
comp=Z,1µm,21.0s
KSM Kuching 45.25 226 P **P 22 00 07.6 +1.4**
KSM Kuching 45.25 226 P **P 22 00 07.5 +1.3**
comp=Z,154nm,0.9s,comp=Z,2µm
STKI Sintang 45.73 224 P **P 22 00 11.5 +1.4**
comp=Z,114nm,1.5s,comp=Z,7µm
TAPN Taplejung 45.81 274 *eP* **P 22 00 11.8 +0.8**
comp=Z,214nm,0.8s
TAPN Taplejung 45.81 274 *eP* **P 22 00 11.8 +0.8**
comp=Z,214nm,0.8s
SVW2 Sparrevohn 45.84 37 *eP* **P 22 00 12.3 +1.9**
KURK Kurchatov 45.98 308 *ceP* **P 22 00 11.7 0.0**
KURK pmax pmax
comp=Z,264nm,1.0s
KURK Kurchatov 45.98 308 *eP* **P 22 00 11.7 0.0**
comp=Z,220nm,0.8s
KURK LR LR
comp=Z,10µm,19.0s
KAPI Kappang 46.15 210 *eP* **P 22 00 12.9 -0.3**
comp=Z,426nm,1.4s
KAPI LR LR
comp=Z,1µm,22.0s
KBKI Kotabaru 46.19 216 P sP 22 00 26.8 -1.3
PMG Port Moresby 46.25 172 *eP* **P 22 00 14.9 +0.9**
PMG pmax pmax
comp=Z,61nm,1.2s
PMG Port Moresby 46.25 172 *eP* **P 22 00 15.5 +1.4**
comp=Z,45nm,0.8s
PMG LR LR
comp=Z,1µm,22.0s
BKSI Bulukumba 46.27 210 P **P 22 00 15.2 +0.9**
comp=Z,87nm,1.2s,comp=Z,1µm
ODAN Odare 46.28 274 *eP* **P 22 00 15.4 +0.8**
comp=Z,195nm,0.6s
ODAN Odare 46.28 274 *eP* **P 22 00 15.4 +0.8**
comp=Z,195nm,0.6s
RAMN Ramite 46.87 274 *eP* **P 22 00 20.0 +0.7**
comp=Z,558nm,0.8s
RAMN Ramite 46.87 274 *eP* **P 22 00 20.0 +0.7**
comp=Z,558nm,0.8s
JIRN Jiri 46.89 275 *eP* **P 22 00 20.7 +1.2**
comp=Z,232nm,0.6s
JIRN Jiri 46.89 275 *eP* **P 22 00 20.7 +1.2**

comp=Z,232nm,0.6s
BBKI Banjar Baru 46.97 217 P **P 22 00 20.5 +0.8**
comp=Z,227nm,0.9s,comp=Z,2µm
GUN Gumba 47.03 276 *eP* **P 22 00 21.4 +0.8**
comp=Z,497nm,0.8s
GUN Gumba 47.03 276 *eP* **P 22 00 21.4 +0.8**
comp=Z,497nm,0.8s
RSO Redoubt South 47.22 38 *eP* **P 22 00 21.4 0.0**
KDAK Kodiak Island 47.41 42 *i* P P 22 00 30.8 +8.1
KDAK Kodiak Island 47.41 42 *eP* **P 22 00 22.6 0.0**
comp=Z,45nm,0.7s
KDAK LR LR
comp=Z,4µm,21.0s
KDAK Kodiak Island 47.41 42 P **P 22 00 22.0 -0.7**
comp=Z,374nm,0.8s,SNR=11
CAL Calcutta 47.54 268 *eP* **P 22 00 22.9 -1.2**
CAL *e*S **S 22 07 18.4 +1.4**
SPU Mount Spurr 47.55 37 *eP* **P 22 00 24.9 +1.1**
PKI Pulchoki 47.55 276 *eP* **P 22 00 25.1 +0.4**
comp=Z,199nm,0.7s
PKI Pulchoki 47.55 276 *eP* **P 22 00 25.1 +0.4**
PKI pmax pmax
comp=Z,199nm,0.7s
PKI Pulchoki 47.55 276 *eP* **P 22 00 25.1 +0.4**
comp=Z,199nm,0.7s
KKN Kakani 47.56 276 *eP* **P 22 00 25.3 +0.7**
comp=Z,228nm,0.6s
KKN Kakani 47.56 276 *eP* **P 22 00 25.3 +0.7**
KKN pmax pmax
comp=Z,228nm,0.6s
KKN Kakani 47.56 276 *eP* **P 22 00 25.3 +0.7**
comp=Z,228nm,0.6s
DMN Daman 47.78 276 *eP* **P 22 00 26.9 +0.6**
comp=Z,158nm,0.8s
DMN Daman 47.78 276 *eP* **P 22 00 26.9 +0.6**
comp=Z,158nm,0.8s
GKN Gorkha 47.98 277 *eP* **P 22 00 28.5 +0.7**
comp=Z,484nm,0.7s
GKN Gorkha 47.98 277 *eP* **P 22 00 28.5 +0.7**
comp=Z,484nm,0.7s
TRF Thorofare Moun 48.35 34 *eP* **P 22 00 29.5 -0.6**
comp=Z,48nm,1.0s
COLD Coldfoot 48.47 29 *eP* **P 22 00 31.7 +0.9**
comp=Z,22nm,0.8s
DANN Dangsing 48.53 277 *eP* **P 22 00 33.2 +1.0**
comp=Z,1µm,0.8s
DANN Dangsing 48.53 277 *eP* **P 22 00 33.2 +1.0**
comp=Z,1µm,0.8s
AAA Alma-Ata 48.58 299 *i* P P 22 00 33.9 +1.8
AAA *e*S **S 22 07 34.7 +3.3**
AAA pmax pmax
comp=Z,2µm,5.6s
AAA smax smax
comp=E,2µm,8.1s
AAA MLR MLR
comp=Z,20µm,16.0s
RC01 Rabbit Creek A 48.67 37 *eP* **P 22 00 33.0 +0.5**
comp=Z,73nm,1.0s
IPM Ipoh 48.87 239 *eP* **P 22 00 34.6 +0.1**
comp=Z,65nm,0.8s
IPM Ipoh 48.87 239 P **P 22 00 35.4 +0.9**
SEW Seward 48.88 38 *eP* **P 22 00 34.2 +0.3**
comp=Z,108nm,1.2s
KOLN Koldanda 48.91 277 *eP* **P 22 00 35.8 +0.8**
comp=Z,237nm,0.8s
KOLN Koldanda 48.91 277 *eP* **P 22 00 35.8 +0.8**
comp=Z,237nm,0.8s
PMR Palmer 48.94 36 *eP* **P 22 00 34.0 -0.4**
PMR pmax pmax
comp=Z,100nm,1.1s
PMR Palmer 48.94 36 *eP* **P 22 00 34.0 -0.4**
comp=Z,100nm,1.1s
MCK McKinley 48.95 34 *eP* **P 22 00 35.0 +0.4**
MCK pmax pmax
comp=Z,37nm,0.8s
MCK McKinley 48.95 34 *eP* **P 22 00 35.0 +0.4**
comp=Z,38nm,0.8s
MYKOM Kota Tinggi 48.97 234 P **P 22 00 36.7 +1.4**
MYKOM Kota Tinggi 48.97 234 P sP 22 00 48.2 -1.6
KGM Kluang 49.15 234 P **P 22 00 38.1 +1.5**
HNR Honiara 49.20 155 LR LR 22 18 16.9
comp=Z,4µm,21.8s,baz=322,slow=32
SML Sawmill 49.31 36 *eP* **P 22 00 38.2 +0.8**
SML Sawmill 49.31 36 *eP* **P 22 00 38.2 +0.8**
FRIM Kepong 49.36 237 P **P 22 00 39.5 +1.3**
ULHL Ulahol 49.36 298 P **P 22 00 39.4 +1.1**
SNR=5.4
ULHL P **P 22 00 39.4 +1.1**
SNR=5.4
COLA College 49.40 32 *eP* **P 22 00 38.8 +0.9**
COLA pmax pmax
comp=Z,38nm,0.7s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 49.40 32 *eP* **P 22 00 38.8 +0.9**
comp=Z,38nm,0.7s
COLA LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 49.63 299 P **P 22 00 41.6 +1.3**
SNR=214
TKM2 P **P 22 00 41.6 +1.3**
SNR=214
TKM2 Tokmak 2 49.63 299 *i* P P 22 00 41.6 +1.3
TKM2 Tokmak 2 49.63 299 *eP* **P 22 00 41.5 +1.3**
comp=Z,112nm,0.6s
TKM2 LR LR
comp=Z,19µm,20.0s
ILAR Eielson Array 49.81 32 P **P 22 00 40.3 -0.8**
comp=Z,2.2nm,0.9s,baz=267,slow=4.2,SNR=16
ILAR LR LR 22 22 37.7
comp=Z,1µm,21.7s,baz=274,slow=37
ILAR Eielson Array 49.81 32 P **P 22 00 40.3 -0.8**
ILAR Eielson Array 49.81 32 P **P 22 00 40.3 -0.8**
KZA Kyzart 50.12 298 P **P 22 00 46.2 +2.0**
SNR=72
KZA P **P 22 00 46.2 +2.0**
SNR=72
KBK Karagaybulak 50.16 298 P **P 22 00 45.5 +1.2**
SNR=179
KBK P **P 22 00 45.5 +1.2**
SNR=179
CHMS Chumysh 50.20 299 P **P 22 00 45.3 +0.8**
SNR=33
CHMS P **P 22 00 45.3 +0.8**
SNR=33
MTN Manton Dam 50.24 193 *eP* **P 22 00 44.7 -0.1**
USP Ospenovka 50.30 299 P **P 22 00 45.9 +0.7**
SNR=50
USP P **P 22 00 45.9 +0.7**
SNR=50
FRU Bishkek 50.34 299 ⇑*iP* **P 22 00 46.0 +0.5**
FRU *i* 22 00 59.6
FRU *e*S **S 22 07 56.0 -0.1**
FRU pmax pmax
comp=Z,180nm,2.0s
FRU smax smax
comp=N,450nm,3.4s
FRU MLR MLR
comp=E,12µm,19.5s
FRU MLR MLR
comp=Z,13µm,19.5s
COEN Coen 50.47 178 *eP* **P 22 00 47.2 +0.6**
comp=Z,490nm,0.9s
AAK Ala-Archa 50.49 299 P **P 22 00 47.5 +0.7**
SNR=40
AAK P **P 22 00 47.5 +0.7**
SNR=40
AAK Ala-Archa 50.49 299 *ceP* **P 22 00 47.3 +0.5**
AAK pmax pmax
comp=Z,82nm,0.7s
AAK Ala-Archa 50.49 299 *eP* **P 22 00 47.3 +0.5**
comp=Z,267nm,0.9s
AAK LR LR
comp=Z,19µm,20.0s
AAK Ala-Archa 50.49 299 P **P 22 00 47.0 +0.2**
comp=Z,396nm,0.7s,SNR=49
PAX Paxson 50.55 35 *eP* **P 22 00 48.4 +1.6**
PAX pmax pmax
comp=Z,18nm,0.9s
PAX Paxson 50.55 35 *eP* **P 22 00 48.4 +1.6**
comp=Z,18nm,0.9s
DIV Divide 50.59 37 *eP* **P 22 00 48.4 +1.3**
comp=Z,92nm,1.0s
PPBI Pangkal Pinang 50.62 228 P **P 22 00 49.8 +2.0**
comp=Z,221nm,0.9s,comp=Z,2µm
BRVK Borovoye 50.70 313 *ceP* **P 22 00 48.4 +0.4**
BRVK pmax pmax

comp=Z,221nm,2.5s
BRVK Borovoye 50.70 313 *e*P **P** **22 00 48.5 +0.4**
comp=Z,59nm,0.8s
BRVK LR LR
comp=Z,10μm,19.0s
BRVK Borovoye 50.70 313 P **P** **22 00 48.7 +0.7**
comp=Z,393nm,0.8s,SNR=28
EKS2 Erkin-Say 50.99 299 P **P** **22 00 51.2 +0.7**
SNR=61
EKS2 P **P** **22 00 51.2 +0.7**
SNR=61
EKS2 Erkin-Say 50.99 299 *e*P **P** **22 00 51.2 +0.7**
EKS2 pmax pmax
comp=Z,40nm,0.7s
EKS2 Erkin-Say 50.99 299 *e*P **P** **22 00 51.2 +0.7**
comp=Z,40nm,0.7s
DOT Dot Lake 51.12 34 *e*P **P** **22 00 51.5 +0.5**
comp=Z,8.1nm,0.7s
BMRM Bremner River 51.17 37 *e*P **P** **22 00 52.8 +1.3**
comp=Z,56nm,0.9s
LHMI Lhok Sumawe 51.20 243 P sP 22 01 05.9 -0.9
AML Almayashu 51.20 298 P **P** **22 00 53.8 +1.4**
SNR=171
AML P **P** **22 00 53.8 +1.4**
SNR=171
TSI Tuntungan 51.27 240 P P 22 00 57.5 +4.8
comp=Z,79nm,1.4s
BLJI Banyuglugur 51.29 216 P P 22 01 00.3 +7.5
comp=Z,68nm,0.9s
MENT Mentasta 51.35 34 *e*P **P** **22 00 54.4 +1.6**
NBBI Negara 51.36 215 P P 22 01 02.3 +9.0
comp=Z,236nm,1.4s,comp=Z,4μm
RGRI Rengat 51.57 233 P **P** **22 00 57.3 +2.3**
comp=Z,650nm,1.1s
BKNI Bangkinang 51.91 235 P **P** **22 00 59.1 +1.6**
comp=Z,293nm,1.0s,comp=Z,5μm
SJI Sawahan 52.17 218 P **P** **22 00 59.7 +0.3**
comp=Z,157nm,1.5s,comp=Z,3μm
BSI Banda Aceh 52.21 245 P P 22 01 08.2 +8.5
comp=Z,54nm,1.6s
DDI Dehra Dun 52.21 282 *e*P **P** **22 00 58.8 -0.9**
DDI *ex* x 22 08 31.4
EGAK Eagle 52.26 32 *e*P **P** **22 01 00.0 +0.6**
comp=Z,27nm,0.7s
EGAK LR LR
comp=Z,1μm,19.0s
MNSI Mandailing Nat 52.53 237 P **P** **22 01 03.4 +1.3**
comp=Z,93nm,1.3s,comp=Z,2μm
BJII Banjamegara 52.87 221 P **P** **22 01 06.0 +1.4**
comp=Z,120nm,2.2s,comp=Z,2μm
PPI Padang Panjang 52.92 235 P **P** **22 01 07.0 +2.1**
comp=Z,57nm,1.4s,comp=Z,2μm
DLH Dalhousie 52.92 286 *e*P **P** **22 01 06.0 +0.9**
DLH *ex* x 22 01 17.0
UGM Wanagama 52.94 219 *e*P **P** **22 01 05.4 +0.2**
DAWY Dawson 53.12 33 *e*P **P** **22 01 07.0 +1.1**
KK31 Karatay Array 53.13 300*ce*P **P** **22 01 06.6 +0.3**
KK31 pmax pmax
comp=Z,18nm,0.5s
KKAR Karatay Array 53.13 300 *e*P **P** **22 01 06.7 +0.4**
KKAR pmax pmax
comp=Z,59nm,0.8s
KKAR Karatay Array 53.13 300 *e*P **P** **22 01 06.7 +0.4**
comp=Z,58nm,0.8s
GSI Gunungsitoli 53.53 239 P **P** **22 01 10.3 +0.9**
comp=Z,250nm,1.6s,comp=Z,7μm
AGRA Agra 53.65 279 *e*P **P** **22 01 09.9 -0.3**
AYAN Aya Nagar 53.74 281 AMb AMB 22 01 15.2
comp=Z,107nm,0.7s
KSI Kapahiang 53.95 230 P **P** **22 01 14.8 +2.2**
comp=Z,208nm,1.0s,comp=Z,3μm
KUDL Kundal 54.39 281 *e*P **P** **22 01 15.1 -0.6**
KUDL AMb AMB 22 01 17.5
comp=Z,84nm,1.0s
KIP Kipapa 54.42 89*ce*P **P** **22 01 17.0 +1.1**
KIP pmax pmax
comp=Z,87nm,1.2s
INK Inuvik 54.70 27 LR LR 22 26 59.7
comp=Z,2μm,20.9s,baz=295,slow=38
INK Inuvik 54.70 27 *e*P **P** **22 01 17.8 +0.5**
INK pmax pmax
comp=Z,132nm,1.4s
INK Inuvik 54.70 27 *e*P **P** **22 01 17.8 +0.5**
comp=Z,132nm,1.4s
KHET Khetri 54.96 281 *e*P **P** **22 01 19.3 -0.5**
KHET AMb AMB 22 01 22.2
comp=Z,96nm,1.0s
SVE Sverdlovsk 55.26 319*d i*P **P** **22 01 22.2 +0.7**
SVE *e*S **S** **22 09 03.1 +0.6**
SVE pmax pmax
comp=Z,178nm,0.9s
SVE pmax pmax
comp=Z,719nm,13.9s
SVE MLR MLR
comp=Z,8μm,16.0s
NGP Nagpur 55.69 272 *e*P **P** **22 01 24.7 -0.4**
NGP *ex* x 22 09 07.5
SOKR Solikamsk 56.46 323*c i*P **P** **22 01 30.4 +0.4**
SOKR S **S** **22 09 14.4 -4.0**
SOKR SSS SSS 22 15 24.1
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,4μm,17.0s
ARU Arti 56.47 319*c i*P **P** **22 01 30.3 +0.1**
ARU 22 02 24.8
ARU *e* 22 03 34.6
ARU PPP PPP 22 04 53.3
ARU S **S** **22 09 18.6 -0.1**
ARU 22 11 21.5
ARU SS **SS** **22 13 03.9 -1.7**
ARU SSS SSS 22 15 22.2
ARU pmax pmax
comp=Z,264nm,1.7s
ARU MLR MLR
comp=Z,6μm,19.0s
ARU Arti 56.47 319 *e*P **P** **22 01 30.5 +0.4**
comp=Z,216nm,0.8s
ARU LR LR
comp=Z,6μm,20.0s
ARU Arti 56.47 319 P **P** **22 01 30.8 +0.6**
comp=Z,772nm,0.7s,SNR=69
FITZ Fitzroy Crossi 56.51 198 *e*P **P** **22 01 31.5 +0.7**
FITZ Fitzroy Crossi 56.51 198 *e*P **P** **22 01 31.3 +0.5**
comp=Z,67nm,1.1s
CTA Charters Tower 56.73 174 *e*P **P** **22 01 31.5 -0.9**
CTAO Charters Tower 56.73 174 *e*P **P** **22 01 32.1 -0.3**
CTAO pmax pmax
comp=Z,15nm,0.7s
CTAO MLR MLR
comp=Z,2μm,21.0s
CTAO Charters Tower 56.73 174 *e*P **P** **22 01 32.0 -0.3**
comp=Z,15nm,0.7s
CTAO LR LR
comp=Z,2μm,21.0s
WRAB Tennant Creek 56.75 188 *e*P **P** **22 01 31.7 -0.9**
WRAB pmax pmax
comp=Z,131nm,1.1s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 56.75 188 *e*P **P** **22 01 31.6 -0.9**
comp=Z,131nm,1.1s
WRAB LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 56.75 188 P **P** **22 01 31.6 -0.9**
comp=Z,483nm,1.0s,SNR=25
WB2 Warramunga Arr 56.76 188 *e*P **P** **22 01 31.6 -1.0**
WRA Warramunga Arr 56.76 188 P **P** **22 01 31.7 -0.9**
comp=Z,64nm,0.9s,baz=3.4,slow=7.2,SNR=131
WRA LR LR 22 26 17.8
comp=Z,2μm,20.1s,baz=20,slow=36
WRA Warramunga Arr 56.76 188 P **P** **22 01 31.7 -0.9**
WRA pmax pmax
comp=Z,64nm,0.9s
WRA MLR MLR
comp=Z,2μm,20.1s
WRA Warramunga Arr 56.76 188 P **P** **22 01 31.7 -0.9**
POHA Pohakuloa 57.27 89 *e*P **P** **22 01 37.0 +0.3**
KBL Kabul 57.37 291 *e*P **P** **22 01 37.1 -0.1**
KBL *e*S S 22 09 22.3 -9.4
KBL pmax pmax
comp=Z,96nm,0.9s
KBL Kabul 57.37 291 *e*P **P** **22 01 37.1 -0.1**
comp=Z,96nm,0.9s
KBL *e*S S 22 09 22.3 -9.4
AB31 Akbulak array 58.00 310*ce*P **P** **22 01 40.7 -0.4**
AB31 pmax pmax
comp=Z,67nm,0.6s
ABKAR Akbulak array 58.00 310 *e*P **P** **22 01 41.2 0.0**
comp=Z,56nm,0.6s
HYB Hyderabad 58.04 268 *i* P **P** **22 01 41.0 -0.9**
comp=Z,110nm,1.0s
HYB *e*sP **sP** **22 01 56.0 -0.6**
HYB *e*PP **PP** **22 03 52.0 +1.4**
HYB *e*S **S** **22 09 40.0 -0.5**
AKTO Aktyubinsk 58.75 312 LR LR 22 28 19.9
comp=Z,6μm,19.1s,baz=52,slow=37
AKTO Aktyubinsk 58.75 312 *i* P **P** **22 01 45.9 -0.4**
AKTO pmax pmax
comp=Z,10.0nm,0.7s
DLBC Dease Lake 58.94 38 *e*P **P** **22 01 49.6 +1.9**
HOPEN Hopen 60.27 346 *e*P **P** **22 01 58.3 +1.9**
HOPEN *e*S **S** **22 10 09.2 +1.5**
HOPEN AMS AMS 22 31 27.7
comp=Z,4μm,16.0s
ALE Alert 60.40 3 P **P** **22 01 57.0 -0.2**
comp=Z,124nm,1.0s,SNR=14
AS31 Alice Springs 60.49 188 *e*P **P** **22 01 57.7 -0.9**
ASAR Alice Springs 60.49 188 P **P** **22 01 58.0 -0.6**
comp=Z,41nm,0.8s,baz=9.2,slow=5.7,SNR=207
ASAR PKP2bc 22 31 29.3
comp=Z,1.6nm,1.0s,baz=174,slow=2.2,SNR=6.5
ASAR Alice Springs 60.49 188 P **P** **22 01 58.0 -0.6**
ASAR pmax pmax
comp=Z,41nm,0.8s
ASAR Alice Springs 60.49 188 P **P** **22 01 58.0 -0.6**
ASAR ⇑*e* 22 31 29.3
SPA0 Spitsbergen Ar 60.77 349 *e*P **P** **22 02 00.6 +0.8**
SPA0 *e*S **S** **22 10 14.7 +0.7**
SPITS Spitsbergen Ar 60.77 349 LR LR 22 29 19.2
comp=Z,2μm,21.9s,baz=45,slow=37
SPB4 Spitsbergen Ar 60.77 349 *e*P **P** **22 01 59.3 -0.5**
KBS Kingsbay 60.91 350 *e*P **P** **22 02 01.7 +1.0**
KBS *e*S **S** **22 10 16.4 +0.6**
KBS Kingsbay 60.91 350*ce*P **P** **22 02 01.7 +1.0**
KBS pmax pmax
comp=Z,140nm,2.5s
KBS Kingsbay 60.91 350 *e*P **P** **22 02 01.7 +1.0**
comp=Z,43nm,1.0s
KBS LR LR
comp=Z,1μm,20.0s
MBWA Marble Bar 61.07 203 *e*P **P** **22 02 02.7 +0.3**
comp=Z,93nm,0.8s
MBWA LR LR
comp=Z,642nm,22.0s
POO Poona 61.23 272 *e*P **P** **22 02 03.2 -0.6**
BOM Bombay 61.86 273 *ex* **PP** **22 04 21.4 -2.9**
BOM ⇓ 22 04 50.3
comp=Z,143nm,14.2s
LVZ Lovozero 62.30 336 PFAKE 22 02 20.0 +10
LVZ LR LR
comp=Z,6μm,19.0s
LVZ Lovozero 62.30 336 P **P** **22 02 11.1 +0.8**
comp=Z,374nm,1.3s,SNR=6.3
EIDS Eidsvold 62.49 170 *e*P **P** **22 02 11.7 -0.2**
comp=Z,38nm,1.1s
BJO Bjornoya 62.66 345 AMS AMS 22 30 56.7
comp=Z,4μm,25.9s
APA Apatity 62.88 336⇓ *i*P **P** **22 02 14.6 +0.5**
APA *i* 22 02 27.4
APA *i* 22 02 54.0
APA *i* PS **PnS** **22 10 54.0 -5.6**
APA pmax pmax
comp=Z,50nm,1.2s
APA MLR MLR
comp=Z,7μm,17.0s
RES Resolute Bay 62.91 14 LR LR 22 37 35.5
comp=Z,826nm,18.2s,baz=147,slow=44
RES Resolute Bay 62.91 14 *e*P **P** **22 02 14.4 +0.2**
RES pmax pmax
comp=Z,43nm,0.9s
RES Resolute Bay 62.91 14 *e*P **P** **22 02 14.4 +0.2**
comp=Z,43nm,0.9s
DZM Mont Dzumac 63.17 154 *e*P **P** **22 02 16.1 -0.5**
comp=Z,125nm,1.2s
DZM *e*S S 22 10 36.5 -9.1
comp=Z,1μm,28.7s
DZM *e*LR LR 22 20 40.3
comp=Z,8μm,21.3s
KEV Kevo 63.65 339 *e*P **P** **22 02 19.7 +0.6**
KEV Kevo 63.65 339 PFAKE 22 02 30.0 +11
KEV LR LR
comp=Z,4μm,19.0s
KEV Kevo 63.65 339 *ep* **P** **22 02 19.7 +0.6**
KEV Kevo 63.65 339 *ep* **P** **22 02 19.7 +0.6**
ABKT Ailbek 63.84 299 P **P** **22 02 21.6 +0.6**
comp=Z,477nm,0.8s,SNR=34
KLMR Klimovskoe 63.91 328*c i*P **P** **22 02 20.9 -0.1**
KLMR *e*PPP PPP 22 06 11.5
KLMR *e*S S 22 11 06.7 +13
KLMR pmax pmax
comp=Z,217nm,1.3s
KLMR MLR MLR
comp=Z,4μm,20.0s
YKA Yellowknife Ar 64.13 30 P **P** **22 02 22.4 0.0**
comp=Z,4.2nm,0.7s,baz=301,slow=6.4,SNR=62
YKA pP **pP** **22 02 34.8 +1.7**
comp=Z,34nm,1.1s,baz=296,slow=6.5,SNR=20
YKA PKP2bc 22 31 11.4
baz=107,slow=2.0,SNR=4.9
YKA Yellowknife Ar 64.13 30 P **P** **22 02 22.4 0.0**
YKA **PP* **pP** **22 02 34.8 +1.7**
YKA pmax pmax
comp=Z,34nm,1.1s
YKA Yellowknife Ar 64.13 30 P **P** **22 02 22.4 0.0**
YKA pP **pP** **22 02 34.9 +1.7**
YKA ⇑*e* 22 31 11.4
COCO West Island 64.14 229 *i* P P 22 02 26.7 +3.6
COCO West Island 64.14 229 *e*P **P** **22 02 25.3 +2.2**
comp=Z,191nm,1.1s
COCO LR LR
comp=Z,724nm,21.0s
ARCES ARCESS Array B 64.20 339 P **P** **22 02 23.2 +0.4**
comp=Z,19nm,0.8s,baz=58,slow=7.6,SNR=35
ARCES LR LR 22 35 51.8
comp=Z,3μm,18.4s,baz=32,slow=41
ARCES ARCESS Array B 64.20 339 P **P** **22 02 23.2 +0.4**
ARCES pmax pmax
comp=Z,19nm,0.8s
ARCES MLR MLR
comp=Z,3μm,18.4s
ARCES ARCESS Array B 64.20 339 P **P** **22 02 23.2 +0.4**
ARE0 ARCESS Array S 64.20 339 *e*P **P** **22 02 23.5 +0.6**
TRD Trivandrum 64.37 261 *ex* x 22 04 25.1
MSVF Nonsavu 64.38 141 *e*P **P** **22 02 26.1 +1.4**
MSVF pmax pmax
comp=Z,134nm,1.4s
MSVF MLR MLR
comp=Z,4μm,21.0s
MSVF Nonsavu 64.38 141 *e*P **P** **22 02 26.1 +1.4**
comp=Z,134nm,1.4s
MSVF LR LR
comp=Z,4μm,21.0s
MSVF Nonsavu 64.38 141 P **P** **22 02 26.6 +1.9**
comp=Z,266nm,1.3s,SNR=5.5
KTK1 Kautokeino 65.17 339 *e*P **P** **22 02 29.8 +0.7**
KTK1 *e*S **S** **22 11 10.0 +0.7**
KTK1 *e*SS **SS** **22 15 22.4 +1.3**
KTK1 AMS AMS 22 32 27.4
comp=Z,7μm,22.3s
TRO Tromso 65.93 341 *e*P **P** **22 02 34.0 0.0**
TRO *e*S **S** **22 11 21.3 +2.8**
TRO *e*SS **SS** **22 15 36.8 +3.9**
XMAS Kiritimati 66.03 106 PFAKE 22 02 50.0 +14
XMAS LR LR
comp=Z,6μm,22.0s
DAG Danmarks Havn 66.04 355 *i* P **P** **22 02 34.1 -0.5**
comp=Z,177nm,0.7s
DAG *i* 22 02 47.8
DAG *e*S **S** **22 11 19.8 +0.1**
DAG
comp=Z,1μm,19.0s
JOF Joensuu 66.14 332 *e*P **P** **22 02 35.7 +0.3**
JOF Joensuu 66.14 332 *ep* **P** **22 02 35.7 +0.3**
JOF Joensuu 66.14 332 *ep* **P** **22 02 35.7 +0.3**
NLWA Neilton Lookou 67.02 47 *e*P **P** **22 02 43.0 +1.6**
comp=Z,69nm,1.0s
NLWA LR LR
comp=Z,1μm,21.0s
AFI Afiamalu 67.07 130 PFAKE 22 02 50.0 +7.9
AFI LR LR
comp=Z,4μm,22.0s
HDW Hoodsport 67.37 47 P **P** **22 02 45.4 +1.7**
MOS Moscow 67.38 323 *e*P **P** **22 02 41.9 -1.6**
MOS *e* 22 02 54.7
MOS *e* 22 03 09.2
MOS *e* 22 05 09.2
MOS *e*PPP PPP 22 06 49.4
MOS *e*S **S** **22 11 34.9 -1.6**
MOS *e* 22 11 55.0
MOS *e*SS **SS** **22 15 58.6 +2.6**
MOS pmax pmax
comp=Z,113nm,1.4s
MOS smax smax
comp=E,79μm,4.7s
MOS smax smax
comp=N,62μm,3.7s
MOS MLR MLR
comp=Z,4μm,14.0s
CMW Cultus Mountai 67.52 46 P **P** **22 02 46.0 +1.3**
ARMA Armidale 67.53 170 *e*P **P** **22 02 45.3 +0.6**
ARMA Armidale 67.53 170 *e*P **P** **22 02 44.9 +0.1**
comp=Z,99nm,1.5s
GNW Green Mountain 67.54 47 *e*P **P** **22 02 46.4 +1.7**
comp=Z,38nm,1.3s
JCW Jim Creek 67.75 46 *e*P **P** **22 02 47.0 +1.0**
VRHR Novokhopersk 67.79 318 *e*P **P** **22 02 45.1 -1.1**
VRHR *e**SP **sP** **22 02 56.3 -4.7**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s
VRHR MLR MLR
comp=N,1μm,17.0s
VRHR MLR MLR
comp=E,4μm,17.0s
VRHR MLR MLR
comp=Z,7μm,17.0s
BMW Boistfort Moun 67.86 48 *e*P **P** **22 02 48.4 +1.6**
BMW Boistfort Moun 67.86 48 *e*P **P** **22 02 48.4 +1.6**
RPW Rockport 67.86 45 *e*P **P** **22 02 47.7 +1.0**
STEI Steigen 68.08 341 *e*P **P** **22 02 48.1 +0.4**
OBN Obninsk 68.23 323⇑ *e*P **P** **22 02 48.6 -0.2**
OBN *i* S **S** **22 11 41.5 -5.1**
OBN pmax pmax
comp=Z,224nm,2.5s
OBN MLR MLR
comp=Z,4μm,16.0s
OBN Obninsk 68.23 323 *e*P **P** **22 02 48.6 -0.2**
comp=Z,120nm,0.6s
OBN LR LR
comp=Z,2μm,19.0s
OBN Obninsk 68.23 323 P **P** **22 02 48.4 -0.4**
comp=Z,494nm,0.6s,SNR=9.8
STKA Stephens Creek 68.28 180 P **P** **22 02 49.2 -0.1**
comp=Z,19nm,0.9s,baz=349,slow=6.4,SNR=22
STKA pP **pP** **22 03 02.4 +2.3**
comp=Z,31nm,0.8s,baz=347,slow=6.1,SNR=13
STKA LR LR 22 31 03.0
comp=Z,2μm,20.8s,baz=355,slow=34
STKA Stephens Creek 68.28 180 *e*P **P** **22 02 49.3 0.0**
STKA Stephens Creek 68.28 180 *e*P **P** **22 02 49.5 +0.2**
STKA **PP* **pP** **22 03 02.4 +2.3**
STKA Stephens Creek 68.28 180 *e*P **P** **22 02 49.5 +0.2**
STKA pP **pP** **22 03 02.4 +2.3**
FORT Forrest 68.31 192 *e*P **P** **22 02 49.7 +0.2**
FORT Forrest 68.31 192 *e*P **P** **22 02 49.4 -0.1**
RVW Rose Valley 68.31 48 P **P** **22 02 51.0 +1.4**
PUL Pulkovo 68.36 329 *e*P **P** **22 02 50.8 +1.3**
PUL pmax pmax
comp=Z,63nm,0.8s
KAF Kangasniemi 68.48 333 *e*P **P** **22 02 50.1 -0.2**
KAF Kangasniemi 68.48 333 *ep* **P** **22 02 50.1 -0.2**
KAF Kangasniemi 68.48 333 *ep* **P** **22 02 50.1 -0.2**
MAK Makhachkala 68.51 308 *e*P **P** **22 02 49.4 -1.4**
MAK *e* 22 03 12.8
MAK *e* 22 05 24.4
MAK *e*PPP PPP 22 07 02.9
MAK *e*S **S** **22 11 47.7 -2.6**
MAK *e* 22 12 44.4
MAK pmax pmax
comp=Z,22nm,0.8s
MAK MLR MLR
comp=Z,4μm,14.0s
LON Longmire 68.56 47 *e*P **P** **22 02 52.2 +1.1**
LON Longmire 68.56 47 *e*P **P** **22 02 52.2 +1.1**
COR Corvallis 68.77 50 *e*P **P** **22 02 54.4 +2.0**
COR pmax pmax
comp=Z,115nm,1.1s
COR Corvallis 68.77 50 *e*P **P** **22 02 54.4 +2.0**
comp=Z,115nm,1.1s
FINES FINESS Array B 68.99 332 P **P** **22 02 53.5 0.0**
comp=Z,38nm,0.7s,baz=64,slow=6.9,SNR=125
FINES pP **pP** **22 03 05.8 +1.5**
comp=Z,106nm,0.6s,baz=60,slow=8.2,SNR=37
FINES LR LR 22 35 25.7
comp=Z,5μm,18.4s,baz=51,slow=38
FINES FINESS Array B 68.99 332 P **P** **22 02 53.5 0.0**
FINES **PP* **pP** **22 03 05.8 +1.5**
FINES pmax pmax
comp=Z,38nm,0.7s
FINES MLR MLR
comp=Z,5μm,18.4s
FINES FINESS Array B 68.99 332 P **P** **22 02 53.5 0.0**
FINES pP **pP** **22 03 05.8 +1.5**
KEBM Edson Butte 69.01 52 *e*P **P** **22 02 55.5 +1.4**
comp=Z,222nm,1.3s
VSR Storozhevoye 69.04 319 *e*P **P** **22 02 53.8 -0.2**
VSR *e**SP **sP** **22 03 05.0 -3.9**
VSR *e*S **S** **22 11 54.2 -2.2**
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.7s
VSR smax smax
comp=E,140nm,2.8s
VSR smax smax
comp=Z,90nm,2.8s
VSR MLR MLR
comp=N,3μm,14.0s
VSR MLR MLR
comp=E,4μm,14.0s
VORD Divnogorie 69.11 319 *e*P **P** **22 02 54.0 -0.4**
VORD *e**SP **sP** **22 03 05.6 -3.7**
VORD *e*S **S** **22 11 53.7 -3.5**
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,30nm,0.6s
VORD smax smax
comp=E,190nm,4.6s
VORD smax smax
comp=Z,130nm,2.4s
VORD smax smax
comp=N,160nm,2.3s
VORD MLR MLR
comp=Z,8μm,17.0s
VORD MLR MLR
comp=N,24μm,20.0s
VORD MLR MLR
comp=E,5μm,16.0s
EBG Ellensburg 69.20 47 P **P** **22 02 56.5 +1.3**
VLL Laurance Lake 69.30 48 P **P** **22 02 57.4 +1.5**
BBOO Buckleboo 69.37 185 *e*P **P** **22 02 56.2 +0.2**
comp=E,919nm,0.8s
HOOD Mount Hood Mea 69.39 48 *e*P **P** **22 02 58.1 +1.6**
comp=E,115nm,1.1s
VFP Flag Point 69.51 48 P **P** **22 02 58.5 +1.3**
MOR8 Moi Rana 69.57 340⇑ *i*P **P** **22 02 55.7 -1.3**
FRIS Frissel Point 69.70 50 P **P** **22 02 59.9 +1.4**
STOK Stokkvaagen 69.84 340 *e*P **P** **22 03 01.2 +2.5**
KRMB Red Mountain 69.98 53 *e*P **P** **22 03 00.3 +0.1**
OD2 Odessa Site #2 70.02 45 *e*P **P** **22 03 00.5 +0.4**
RSW Rattlesnake Hi 70.04 47 *e*P **P** **22 03 01.7 +1.3**
HAWA Hanford 70.08 47 *e*P **P** **22 03 01.2 +0.7**
comp=E,87nm,1.6s
HAWA LR LR
comp=Z,769nm,20.0s
KTRM Thompson Ridge 70.12 52 P **P** **22 03 02.6 +1.6**
H2OWA Water 70.14 47 P **P** **22 03 01.8 +1.0**
JMIC Jan Mayen 70.39 350 LR LR 22 36 37.2
comp=Z,750nm,19.1s,baz=267,slow=38

NEW	**Newport**	**70.44**	**44**	*e*P		**P**		**22 03 03.2 +0.4**	
NEW					pmax	pmax			
	comp=Z,38nm,1.1s								
NEW					MLR	MLR			
	comp=Z,1µm,20.0s								
NEW	**Newport**	**70.44**	**44**	*e*P		**P**		**22 03 03.2 +0.4**	
	comp=Z,38nm,1.1s								
NEW					LR	LR			
	comp=Z,1µm,20.0s								
NEW	**Newport**	**70.44**	**44**	⇓P		**P**		**22 03 03.1 +0.4**	
	baz=70,SNR=9.7								
NEW				⇓P		**P**		**22 03 03.1 +0.4**	
	baz=70,SNR=9.7								
NEW				⇓P		**P**		**22 03 03.1 +0.4**	
	baz=70,SNR=9.7								
KHMM	**Horse Mountain**	**70.44**	**53**	*e*P		**P**		**22 03 05.0 +2.0**	
	comp=Z,104nm,1.2s								
VSU	**Vasula**	**70.62**	**330**	*c i*P		**P**		**22 03 03.7 +0.2**	
VSU					pmax	pmax			
	comp=Z,78nm,1.2s								
DGRG	**David-gareji**	**70.65**	**308**	P		**P**		**22 03 04.5 +0.3**	
DGRG				S		**S**		**22 12 12.9 -2.8**	
ZEI	**Tsey**	**70.87**	**309**	*e*P		**P**		**22 03 05.0 -0.7**	
ZEI					pmax	pmax			
	comp=Z,15nm,0.6s								
A12A	**Yaak River Ran**	**70.87**	**43**	⇑P		**P**		**22 03 06.3 +0.9**	
	baz=71								
A12A				⇑P		**P**		**22 03 06.3 +0.9**	
	baz=71								
A12A				⇑P		**P**		**22 03 06.3 +0.9**	
	baz=71								
TBLG	**Delisi**	**70.90**	**308**	*i* P		**P**		**22 03 05.8 +0.2**	
TBLG				*e*S		**S**		**22 12 12.6 -6.0**	
TBLG	**Delisi**	**70.90**	**308**	P		**P**		**22 03 05.9 +0.2**	
TBLG				S		**S**		**22 12 12.7 -6.0**	
SUMG	**Summit**	**70.96**	**360**	*e*P		**P**		**22 03 06.8 +0.9**	
SUMG					pmax	pmax			
	comp=Z,46nm,1.0s								
SUMG	**Summit**	**70.96**	**360**	*e*P		**P**		**22 03 06.8 +0.9**	
	comp=Z,46nm,1.0s								
SUMG	**Summit**	**70.96**	**360**	*i* P		**P**		**22 03 06.5 +0.6**	
	comp=Z,31nm,0.9s								
SUMG									
	comp=Z,2µm,18.0s								
KIV	**Kislovodsk**	**70.97**	**311**	⇑*e*P		**P**		**22 03 06.6 +0.5**	
KIV				*e*				22 06 01.6	
KIV				*e*S		**S**		**22 12 21.9 +2.4**	
KIV					pmax	pmax			
	comp=Z,215nm,1.7s								
KIV					MLR	MLR			
	comp=Z,3µm,18.0s								
KIV	**Kislovodsk**	**70.97**	**311**	*e*P		**P**		**22 03 06.3 +0.2**	
	comp=Z,146nm,0.8s								
KIV					LR	LR			
	comp=Z,4µm,20.0s								
KIV	**Kislovodsk**	**70.97**	**311**	P		**P**		**22 03 06.2 +0.1**	
	comp=Z,597nm,0.7s,SNR=53								
LNOR	**Lincton Mounta**	**71.09**	**47**	*e*P		**P**		**22 03 07.8 +1.0**	
LNOR	**Lincton Mounta**	**71.09**	**47**	*e*P		**P**		**22 03 07.8 +1.0**	
C11A	**Tepee Creek (N**	**71.16**	**44**	⇓P		**P**		**22 03 07.6 +0.5**	
	baz=71								
C11A				⇓P		**P**		**22 03 07.6 +0.5**	
	baz=71								
C11A				⇓P		**P**		**22 03 07.6 +0.5**	
	baz=71								
GOR	**Gori**	**71.16**	**309**	P		**P**		**22 03 08.4 +1.2**	
KCPM	**Cahto Peak**	**71.17**	**54**	*e*P		**P**		**22 03 08.7 +1.3**	
	comp=Z,25nm,0.7s								
KIPM	**Iron Peak**	**71.17**	**54**	*e*P		**P**		**22 03 08.2 +0.8**	
	comp=Z,150nm,1.4s								
ONI	**Oni**	**71.24**	**309**	P		**P**		**22 03 08.4 +0.7**	
ONI				S		**S**		**22 12 22.1 -0.5**	
KLBR	**Kellerberrin**	**71.45**	**201**	*e*P		**P**		**22 03 08.4 -0.4**	
NSS	**Namsos**	**71.49**	**339**	*e*P		**P**		**22 03 07.9 -0.8**	
GNI	**Garni**	**71.75**	**307**	LR		LR		22 37 35.1	
	comp=Z,3µm,18.1s,baz=58,slow=38								
GNI	**Garni**	**71.75**	**307**	*e*P		**P**		**22 03 12.3 +1.4**	
GNI	**Garni**	**71.75**	**307**	*ce*P		**P**		**22 03 12.0 +1.0**	
GNI					pmax	pmax			
	comp=Z,73nm,1.7s								
GNI	**Garni**	**71.75**	**307**	*e*P		**P**		**22 03 11.6 +0.6**	
	comp=Z,72nm,0.8s								
B13A	**Whitefish**	**71.84**	**43**	⇓P		**P**		**22 03 12.0 +0.7**	
	baz=72,SNR=23								
B13A				⇓P		**P**		**22 03 12.0 +0.7**	
	baz=72,SNR=23								
B13A				⇓P		**P**		**22 03 12.0 +0.7**	
	baz=72,SNR=23								
AKH	**Akhalkalaki**	**71.86**	**308**	P		**P**		**22 03 12.7 +1.0**	
AKH				S		**S**		**22 12 30.5 +0.5**	
BSMT	**Bassoo Peak**	**71.96**	**43**	*e*P		**P**		**22 03 13.0 +0.8**	
LBCM	**Butte Creek Ri**	**71.98**	**52**	P		**P**		**22 03 13.3 +1.0**	
A14A	**Double T Ranch**	**72.06**	**42**	⇑P		**P**		**22 03 13.1 +0.4**	
	baz=72,SNR=10								
A14A				⇑P		**P**		**22 03 13.1 +0.4**	
	baz=72,SNR=10								
A14A				⇑P		**P**		**22 03 13.1 +0.4**	
	baz=72,SNR=10								
CAN	**Canberra**	**72.07**	**173**	*e*P		**P**		**22 03 13.0 +0.5**	
CAN					pmax	pmax			
	comp=Z,46nm,1.5s								
CAN					MLR	MLR			
	comp=Z,2µm,22.0s								
CAN	**Canberra**	**72.07**	**173**	*e*P		**P**		**22 03 13.0 +0.5**	
	comp=Z,46nm,1.5s								
CAN					LR	LR			
	comp=Z,2µm,22.0s								
CNB	**Canberra Magne**	**72.10**	**173**	*e*P		**P**		**22 03 13.4 +0.7**	
BLMT	**Blacktail Moun**	**72.11**	**43**	*e*P		**P**		**22 03 13.7 +0.7**	
D12A	**Red Ives Fores**	**72.11**	**44**	⇑P		**P**		**22 03 13.1 +0.2**	
	baz=72								
D12A				⇑P		**P**		**22 03 13.1 +0.2**	
	baz=72								
D12A				⇑P		**P**		**22 03 13.1 +0.2**	
	baz=72								
C13A	**Hot Springs**	**72.18**	**43**	⇑P		**P**		**22 03 14.0 +0.7**	
	baz=72,SNR=10								
C13A				⇑P		**P**		**22 03 14.0 +0.7**	
	baz=72,SNR=10								
C13A				⇑P		**P**		**22 03 14.0 +0.7**	
	baz=72,SNR=10								
BMO	**Blue Mountains**	**72.23**	**47**	*e*P		**P**		**22 03 14.0 +0.4**	
	comp=Z,31nm,1.0s								
BMO					LR	LR			
	comp=Z,620nm,19.0s								
JTMT	**Jette**	**72.30**	**43**	*e*P		**P**		**22 03 14.9 +0.8**	
E12A	**Beaver Dam Sad**	**72.35**	**45**	⇓P		**P**		**22 03 14.9 +0.5**	
	baz=72,SNR=25								
E12A				⇓P		**P**		**22 03 14.9 +0.5**	
	baz=72,SNR=25								
E12A				⇓P		**P**		**22 03 14.9 +0.5**	
	baz=72,SNR=25								
SCO	**Scoresbysund**	**72.38**	**354**	*i* P		**P**		**22 03 14.8 +0.9**	
	comp=Z,10nm,0.8s								
A15A	**Johnson Ranch,**	**72.42**	**42**	⇑P		**P**		**22 03 14.6 -0.2**	
	baz=72,SNR=12								
A15A				⇑P		**P**		**22 03 14.6 -0.2**	
	baz=72,SNR=12								
A15A				⇑P		**P**		**22 03 14.6 -0.2**	
	baz=72,SNR=12								
DIGO	**Kars**	**72.48**	**308**	*i* P		**P**		**22 03 15.8 +0.4**	
B14A	**Marquette Ranc**	**72.50**	**42**	⇓P		**P**		**22 03 16.0 +0.7**	
	baz=72,SNR=11								
B14A				⇓P		**P**		**22 03 16.0 +0.7**	
	baz=72,SNR=11								
B14A				⇓P		**P**		**22 03 16.0 +0.7**	
	baz=72,SNR=11								
KARS	**Kars**	**72.55**	**308**	*e*P		P		22 03 08.2 -7.6	
D13A	**Huson**	**72.58**	**44**	⇑P		**P**		**22 03 15.9 +0.2**	
	baz=72,SNR=16								
D13A				⇑P		**P**		**22 03 15.9 +0.2**	
	baz=72,SNR=16								
D13A				⇑P		**P**		**22 03 15.9 +0.2**	
	baz=72,SNR=16								
C14A	**Swan Lake**	**72.58**	**43**	⇓P		**P**		**22 03 16.2 +0.5**	
	baz=72								
C14A				⇓P		**P**		**22 03 16.2 +0.5**	
	baz=72								
C14A				⇓P		**P**		**22 03 16.2 +0.5**	
	baz=72								
SWMT	**Swartz Lake**	**72.60**	**43**	*e*P		**P**		**22 03 16.5 +0.6**	
MICGM	**Minsk**	**72.64**	**326**	⇑*i*P		**P**		**22 03 15.0 -0.8**	
MNK	**Minsk**	**72.66**	**326**	⇑*i*P		**P**		**22 03 15.0 -0.9**	
MNK				*e*				22 03 27.0	
MNK				*e*S		**S**		**22 12 40.0 +1.6**	
MNK					pmax	pmax			
	comp=Z,220nm,1.0s								
MNK					MLR	MLR			
	comp=E,10µm,18.0s								
MNK					MLR	MLR			
	comp=Z,10µm,18.0s								
MNK					MLR	MLR			
	comp=N,10µm,18.0s								
OHCM	**Honcut**	**72.72**	**54**	*e*P		**P**		**22 03 16.8 +0.3**	
DYDN	**Diyadin**	**72.76**	**307**	*i* P		**P**		**22 03 18.0 +1.0**	
CLDR	**Caldiran**	**72.83**	**306**	*e*P		**P**		**22 03 18.4 +0.8**	
NWAO	**Narrogin (SRO)**	**72.86**	**201**	*e*P		**P**		**22 03 17.3 +0.1**	
NWAO					pmax	pmax			
	comp=Z,30nm,0.8s								
NWAO					MLR	MLR			
	comp=Z,710nm,20.0s								
NWAO	**Narrogin (SRO)**	**72.86**	**201**	*e*P		**P**		**22 03 17.3 +0.1**	
	comp=Z,30nm,0.8s								
NWAO					LR	LR			
	comp=Z,710nm,20.0s								
NACGM	**Naroch**	**72.88**	**327**	*e*P		**P**		**22 03 14.0 -3.2**	
F12A	**Elk City**	**72.91**	**45**	⇓P		**P**		**22 03 17.9 +0.2**	
	baz=73,SNR=42								
F12A				⇓P		**P**		**22 03 17.9 +0.2**	
	baz=73,SNR=42								
F12A				⇓P		**P**		**22 03 17.9 +0.2**	
	baz=73,SNR=42								
B15A	**Bradely Ranch,**	**72.91**	**42**	⇑P		**P**		**22 03 18.2 +0.5**	
	baz=73,SNR=29								
B15A				⇑P		**P**		**22 03 18.2 +0.5**	
	baz=73,SNR=29								
B15A				⇑P		**P**		**22 03 18.2 +0.5**	
	baz=73,SNR=29								
ARTV	**Artvin**	**72.97**	**309**	*i* P		**P**		**22 03 19.1 +0.8**	
BCA	**Borcka**	**73.01**	**309**	*e*P		P		22 03 09.5 -8.8	
MSO	**Missoula**	**73.02**	**44**	*e*P		**P**		**22 03 19.0 +0.6**	
	comp=Z,40nm,1.4s								
MSO					LR	LR			
	comp=Z,480nm,21.0s								
MSO	**Missoula**	**73.02**	**44**	⇓P		**P**		**22 03 18.9 +0.6**	
	baz=73,SNR=8.3								
MSO				⇓P		**P**		**22 03 18.9 +0.6**	
	baz=73,SNR=8.3								
MSO				⇓P		**P**		**22 03 18.9 +0.6**	
	baz=73,SNR=8.3								
SLMT	**Seeley Lake**	**73.03**	**43**	*e*P		**P**		**22 03 18.8 +0.3**	
DAGI	**Agillar**	**73.03**	**309**	*i* P		**P**		**22 03 19.1 +0.6**	
DBOC	**Borcka**	**73.04**	**309**	*i* P		**P**		**22 03 18.9 +0.4**	
A16A	**West Butte Ran**	**73.05**	**41**	⇓P		**P**		**22 03 18.5 0.0**	
	baz=73								
A16A				⇓P		**P**		**22 03 18.5 0.0**	
	baz=73								
A16A				⇓P		**P**		**22 03 18.5 0.0**	
	baz=73								
D14A	**Greenough**	**73.12**	**44**	⇑P		**P**		**22 03 18.9 0.0**	
	baz=73,SNR=19								
D14A				⇑P		**P**		**22 03 18.9 0.0**	
	baz=73,SNR=19								
D14A				⇑P		**P**		**22 03 18.9 0.0**	
	baz=73,SNR=19								
AGRB	**Hanur-Agry**	**73.19**	**307**	*e*P		**P**		**22 03 20.8 +1.2**	
C15A	**Salmond Ranch,**	**73.20**	**43**	⇓P		**P**		**22 03 20.2 +0.7**	
	baz=73,SNR=24								
C15A				⇓P		**P**		**22 03 20.2 +0.7**	
	baz=73,SNR=24								
C15A				⇓P		**P**		**22 03 20.2 +0.7**	
	baz=73,SNR=24								
DDEM	**Demirkent**	**73.24**	**309**	*i* P		**P**		**22 03 20.4 +0.6**	
B16A	**M & M Farms, S**	**73.31**	**42**	⇑P		**P**		**22 03 20.3 +0.4**	
	baz=73,SNR=9.0								
B16A				⇑P		**P**		**22 03 20.3 +0.4**	
	baz=73,SNR=9.0								
B16A				⇑P		**P**		**22 03 20.3 +0.4**	
	baz=73,SNR=9.0								
CHMT	**Chamberlain Mo**	**73.36**	**44**	*e*P		**P**		**22 03 20.8 +0.3**	
F13A	**Darby**	**73.41**	**45**	⇓P		**P**		**22 03 20.4 -0.3**	
	baz=73,SNR=12								
F13A				⇓P		**P**		**22 03 20.4 -0.3**	
	baz=73,SNR=12								
F13A				⇓P		**P**		**22 03 20.4 -0.3**	
	baz=73,SNR=12								
VANB	**Van**	**73.48**	**306**	*e*P		**P**		**22 03 22.4 +1.2**	
E14A	**Clinton**	**73.52**	**44**	⇑P		**P**		**22 03 21.4 0.0**	
	baz=73								
E14A				⇑P		**P**		**22 03 21.4 0.0**	
	baz=73								
E14A				⇑P		**P**		**22 03 21.4 0.0**	
	baz=73								
A17A	**Triple J Farms**	**73.52**	**41**	⇑P		**P**		**22 03 21.4 +0.2**	
	baz=73,SNR=9.2								
A17A				⇑P		**P**		**22 03 21.4 +0.2**	
	baz=73,SNR=9.2								
A17A				⇑P		**P**		**22 03 21.4 +0.2**	
	baz=73,SNR=9.2								
ANN	**Anapa**	**73.61**	**314**	*c i*P		**P**		**22 03 21.1 -0.6**	
ANN				*i* *PP		**pP**		**22 03 31.4 -1.2**	
ANN				*e*				22 06 04.4	
ANN				*i* S		**SKiKP**		**22 12 48.0 -0.8**	
ANN					pmax	pmax			
	comp=Z,98nm,1.5s								
ANN					MLR	MLR			
	comp=Z,3µm,17.0s								
HOMI	**Horasan**	**73.62**	**308**	*i* P		**P**		**22 03 23.3 +1.1**	
C16A	**Fuhringer Ranc**	**73.65**	**42**	⇑P		**P**		**22 03 22.5 +0.4**	
	baz=74,SNR=16								
C16A				⇑P		**P**		**22 03 22.5 +0.4**	
	baz=74,SNR=16								
C16A				⇑P		**P**		**22 03 22.5 +0.4**	
	baz=74,SNR=16								
D15A	**Lincoln**	**73.69**	**43**	⇑P		**P**		**22 03 22.6 +0.3**	
	baz=74								
D15A				⇑P		**P**		**22 03 22.6 +0.3**	
	baz=74								
D15A				⇑P		**P**		**22 03 22.6 +0.3**	
	baz=74								
H12A	**Diamond D Ranc**	**73.84**	**46**	⇑P		**P**		**22 03 23.3 0.0**	
	baz=74,SNR=8.3								
H12A				⇑P		**P**		**22 03 23.3 0.0**	
	baz=74,SNR=8.3								
H12A				⇑P		**P**		**22 03 23.3 0.0**	
	baz=74,SNR=8.3								
WCN	**Washoe City**	**73.85**	**53**	*e*P		**P**		**22 03 24.8 +1.3**	
WCN					pmax	pmax			
	comp=Z,119nm,1.5s								
WCN	**Washoe City**	**73.85**	**53**	*e*P		**P**		**22 03 24.8 +1.3**	
	comp=Z,119nm,1.5s								
WCN	**Washoe City**	**73.85**	**53**	⇓P		**P**		**22 03 24.1 +0.6**	
	baz=74,SNR=6.1								
WCN				⇓P		**P**		**22 03 24.1 +0.6**	
	baz=74,SNR=6.1								
WCN				⇓P		**P**		**22 03 24.1 +0.6**	
	baz=74,SNR=6.1								
HAKT	**HAKKARI**	**73.85**	**305**	*i* P		**P**		**22 03 23.3 -0.2**	
B17A	**L&G Farms, Che**	**73.86**	**41**	⇑P		**P**		**22 03 23.8 +0.6**	
	baz=74,SNR=15								
B17A				⇑P		**P**		**22 03 23.8 +0.6**	
	baz=74,SNR=15								
B17A				⇑P		**P**		**22 03 23.8 +0.6**	
	baz=74,SNR=15								
G13A	**Cobalt**	**73.88**	**46**	⇓P		**P**		**22 03 23.4 -0.1**	
	baz=74,SNR=20								
G13A				⇓P		**P**		**22 03 23.4 -0.1**	
	baz=74,SNR=20								
G13A				⇓P		**P**		**22 03 23.4 -0.1**	
	baz=74,SNR=20								
MFID	**Camas Ranch**	**73.92**	**48**	*e*P		**P**		**22 03 24.3 +0.6**	
	comp=Z,3µm,0.7s								
MFID	**Camas Ranch**	**73.92**	**48**	⇑P		**P**		**22 03 24.4 +0.6**	
	baz=74,SNR=22								
MFID				⇑P		**P**		**22 03 24.4 +0.6**	
	baz=74,SNR=22								
MFID				⇑P		**P**		**22 03 24.4 +0.6**	
	baz=74,SNR=22								
F14A	**Wisdom**	**73.94**	**45**	⇑P		**P**		**22 03 24.0 +0.1**	
	baz=74								
F14A				⇑P		**P**		**22 03 24.0 +0.1**	
	baz=74								
F14A				⇑P		**P**		**22 03 24.0 +0.1**	
	baz=74								
A18A	**Metzger Ranch,**	**73.98**	**40**	⇓P		**P**		**22 03 24.0 +0.1**	
	baz=74								
A18A				⇓P		**P**		**22 03 24.0 +0.1**	
	baz=74								
A18A				⇓P		**P**		**22 03 24.0 +0.1**	
	baz=74								
E15A	**Deer Lodge**	**73.99**	**44**	⇑P		**P**		**22 03 24.4 +0.3**	
	baz=74,SNR=17								
E15A				⇑P		**P**		**22 03 24.4 +0.3**	
	baz=74,SNR=17								
FFC	**Flin Flon**	**74.02**	**33**	*ce*P		**P**		**22 03 24.4 +0.5**	
FFC	**Flin Flon**	**74.02**	**33**	*e*P		**P**		**22 03 24.5 +0.6**	
	comp=Z,72nm,1.0s								
FFC					LR	LR			
	comp=Z,1µm,21.0s								
ERZM	**Erzurum**	**74.04**	**308**	*i* P		**P**		**22 03 25.4 +0.7**	
EZM	**Erzurum**	**74.04**	**308**	*e*P		**P**		**22 03 24.2 -0.4**	
TOO	**Toolangi**	**74.06**	**176**	*e*P		**P**		**22 03 24.9 +0.7**	
CUKT	**Cukurca**	**74.09**	**305**	*e*P		**P**		**22 03 24.5 -0.3**	
I12A	**Atlanta**	**74.11**	**47**	⇑P		**P**		**22 03 25.4 +0.4**	
	baz=74,SNR=38								
I12A				⇑P		**P**		**22 03 25.4 +0.4**	
	baz=74,SNR=38								
I12A				⇑P		**P**		**22 03 25.4 +0.4**	
	baz=74,SNR=38								
H13A	**Challis**	**74.17**	**46**	⇑P		**P**		**22 03 25.6 +0.4**	
	baz=74,SNR=37								
H13A				⇑P		**P**		**22 03 25.6 +0.4**	
	baz=74,SNR=37								
H13A				⇑P		**P**		**22 03 25.6 +0.4**	
	baz=74,SNR=37								
D16A	**Dana Ranch, Ca**	**74.22**	**43**	⇑P		**P**		**22 03 25.9 +0.5**	
	baz=74,SNR=5.7								
D16A				⇑P		**P**		**22 03 25.9 +0.5**	
	baz=74,SNR=5.7								
D16A				⇑P		**P**		**22 03 25.9 +0.5**	
	baz=74,SNR=5.7								
HRY	**Holter Researc**	**74.26**	**43**	*e*P		**P**		**22 03 26.4 +0.7**	
HFS	**Hagfors**	**74.28**	**336**	LR		LR		22 38 46.1	
	comp=Z,7µm,19.7s,baz=28,slow=38								
C17A	**Wharram Farm,**	**74.28**	**42**	⇑P		**P**		**22 03 25.9 +0.2**	
	baz=74,SNR=5.5								
C17A				⇑P		**P**		**22 03 25.9 +0.2**	
	baz=74,SNR=5.5								
C17A				⇑P		**P**		**22 03 25.9 +0.2**	
	baz=74,SNR=5.5								
B18A	**Beardsley Farm**	**74.34**	**41**	⇑P		**P**		**22 03 26.5 +0.5**	
	baz=74,SNR=18								
B18A				⇑P		**P**		**22 03 26.5 +0.5**	
	baz=74,SNR=18								
B18A				⇑P		**P**		**22 03 26.5 +0.5**	
	baz=74,SNR=18								
NB2	**NORSAR Subarra**	**74.39**	**337**	P		**P**		**22 03 26.0 +0.1**	
	comp=Z,53nm,0.8s,baz=41,slow=6.2								
NOA	**NORSAR Array B**	**74.39**	**337**	P		**P**		**22 03 26.1 +0.1**	
	comp=Z,34nm,0.8s,baz=39,slow=5.8,SNR=134								
NOA					LR	LR		22 39 21.6	
	comp=Z,5µm,19.1s,baz=35,slow=38								
NOA	**NORSAR Array B**	**74.39**	**337**	P		**P**		**22 03 26.1 +0.1**	
NOA					pmax	pmax			
	comp=Z,34nm,0.8s								
NOA					MLR	MLR			
	comp=Z,5µm,19.1s								
NOA	**NORSAR Array B**	**74.39**	**337**	P		**P**		**22 03 26.1 +0.1**	
VRTB	**Varto-Mus**	**74.41**	**307**	*e*P		**P**		**22 03 28.3 +1.6**	
F15A	**Butte**	**74.42**	**44**	⇓P		**P**		**22 03 27.2 +0.5**	
	baz=74,SNR=59								
F15A				⇓P		**P**		**22 03 27.2 +0.5**	
	baz=74,SNR=59								
F15A				⇓P		**P**		**22 03 27.2 +0.5**	
	baz=74,SNR=59								
AKASG	**Malin Array Be**	**74.42**	**322**	P		**P**		**22 03 26.2 -0.1**	
	comp=Z,54nm,0.5s,baz=47,slow=5.8,SNR=238								
AKASG					pP	**pP**		**22 03 38.6 +1.4**	
	comp=Z,78nm,0.7s,baz=46,slow=5.8,SNR=17								
AKASG					LR	LR		22 39 05.1	
	comp=Z,6µm,19.5s,baz=45,slow=38								
AKASG	**Malin Array Be**	**74.42**	**322**	*ce*P		**P**		**22 03 26.2 -0.1**	
AKASG					pmax	pmax			
	comp=Z,55nm,0.5s								
AKASG	**Malin Array Be**	**74.42**	**322**	P		**P**		**22 03 26.2 -0.1**	
AKASG					pP	**pP**		**22 03 38.6 +1.4**	
AKBB	**Malin Array Si**	**74.42**	**322**	*e*P		**P**		**22 03 25.7 -0.6**	
AKBB				*e*PP		**pP**		**22 03 38.4 +1.1**	
AKBB	**Malin Array Si**	**74.42**	**322**	*e*P		**P**		**22 03 25.7 -0.6**	
AKBB				*e*pP		**pP**		**22 03 38.4 +1.1**	
KIEV	**Kiev**	**74.44**	**322**	*e*P		**P**		**22 03 25.8 -0.6**	
KIEV					pmax	pmax			
	comp=Z,83nm,0.7s								
KIEV					MLR	MLR			
	comp=Z,6µm,19.0s								
KIEV	**Kiev**	**74.44**	**322**	*e*P		**P**		**22 03 25.8 -0.6**	
	comp=Z,82nm,0.7s								
KIEV					LR	LR			
	comp=Z,6µm,19.0s								
LRM	**Limekiln Ridge**	**74.45**	**44**	*e*P		**P**		**22 03 27.6 +0.6**	
LRM				*e*pP		**pP**		**22 03 38.1 +0.3**	
E16A	**East Helena**	**74.45**	**43**	⇑P		**P**		**22 03 27.4 +0.6**	
	baz=74								
E16A				⇑P		**P**		**22 03 27.4 +0.6**	
	baz=74								
E16A				⇑P		**P**		**22 03 27.4 +0.6**	
	baz=74								
NC602	**NORSAR Array S**	**74.52**	**337**	*e*P		**P**		**22 03 26.6 -0.1**	
NC602				*e*S		**S**		**22 12 59.6 +0.5**	
KOPT	**Kop Dagi**	**74.53**	**308**	*i* P		**P**		**22 03 26.5 -1.1**	
BAYT	**Ayd¨–ntepe-Bay**	**74.53**	**309**	*e*P		**P**		**22 03 24.2 -3.2**	
A19A	**Klindworth Far**	**74.55**	**40**	⇓P		**P**		**22 03 27.7 +0.5**	
	baz=74,SNR=25								
A19A				⇓P		**P**		**22 03 27.7 +0.5**	
	baz=74,SNR=25								
A19A				⇓P		**P**		**22 03 27.7 +0.5**	
	baz=74,SNR=25								
EGMT	**Eagleton**	**74.58**	**41**	*e*P		**P**		**22 03 28.0 +0.6**	
EGMT				*e*pP		**pP**		**22 03 39.4 +1.0**	
EGMT					LR	LR			
	comp=Z,1µm,20.0s								
EGMT	**Eagleton**	**74.58**	**41**	⇑P		**P**		**22 03 27.8 +0.3**	
	baz=74,SNR=6.2								
EGMT				⇑P		**P**		**22 03 27.8 +0.3**	
	baz=74,SNR=6.2								
EGMT				⇑P		**P**		**22 03 27.8 +0.3**	
	baz=74,SNR=6.2								
D17A	**Six Diamond Ra**	**74.62**	**42**	⇑P		**P**		**22 03 28.1 +0.3**	
	baz=74,SNR=7.5								
D17A				⇑P		**P**		**22 03 28.1 +0.3**	
	baz=74,SNR=7.5				

BMN	**Battle Mountai**	**74.81**	**51**	*e*P	**P**	**22 03 30.2**	**+1.2**
	comp=Z,89nm,1.2s						
BMN				*ep*P	**pP**	**22 03 41.1**	**+1.2**
BMN				LR	LR		
	comp=Z,799nm,20.0s						
MCMT	**McKenzie Canyo**	**74.83**	**45**	*e*P	**P**	**22 03 29.2**	**+0.1**
	comp=Z,3.6nm,0.7s						
G15A	**Dillon**	**74.83**	**45**	⇑P	**P**	**22 03 29.3**	**+0.2**
	baz=75,SNR=34						
G15A				⇑P	**P**	**22 03 29.3**	**+0.2**
	baz=75,SNR=34						
G15A				⇑P	**P**	**22 03 29.3**	**+0.2**
	baz=75,SNR=34						
GUMT	**Gumushane**	**74.91**	**309**	*e*P	P	22 03 23.2	-6.3
J13A	**Cove Ranch, Pi**	**74.91**	**47**	⇓P	**P**	**22 03 30.6**	**+1.1**
	baz=75,SNR=19						
J13A				⇓P	**P**	**22 03 30.6**	**+1.1**
	baz=75,SNR=19						
J13A				⇓P	**P**	**22 03 30.6**	**+1.1**
	baz=75,SNR=19						
E17A	**Martinsdale**	**74.95**	**43**	⇑P	**P**	**22 03 30.5**	**+0.8**
	baz=75,SNR=8.0						
E17A				⇑P	**P**	**22 03 30.5**	**+0.8**
	baz=75,SNR=8.0						
E17A				⇑P	**P**	**22 03 30.5**	**+0.8**
	baz=75,SNR=8.0						
A20A	**Cobblestone Ra**	**75.00**	**40**	⇓P	**P**	**22 03 30.3**	**+0.5**
	baz=75,SNR=10						
A20A				⇓P	**P**	**22 03 30.3**	**+0.5**
	baz=75,SNR=10						
A20A				⇓P	**P**	**22 03 30.3**	**+0.5**
	baz=75,SNR=10						
BNGB	**Bing¶ll**	**75.00**	**308**	*e*P	**P**	**22 03 30.4**	**+0.4**
BOZ	**Bozeman (W)**	**75.02**	**44**	*e*P	**P**	**22 03 30.9**	**+0.8**
BOZ				*e**PP	**pP**	**22 03 41.9**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,37nm,0.9s						
BOZ				MLR	MLR		
	comp=Z,832nm,20.0s						
BOZ	**Bozeman (W)**	**75.02**	**44**	*e*P	**P**	**22 03 30.9**	**+0.8**
	comp=Z,37nm,0.9s						
BOZ				*ep*P	**pP**	**22 03 41.9**	**+0.9**
BOZ				LR	LR		
	comp=Z,832nm,20.0s						
BOZ	**Bozeman (W)**	**75.02**	**44**	⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
BOZ				⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
BOZ				⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
BOZ				⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
BOZ				⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
BOZ				⇑P	**P**	**22 03 30.8**	**+0.7**
	baz=75,SNR=19						
I14A	**Mackay**	**75.02**	**46**	⇑P	**P**	**22 03 31.3**	**+1.1**
	baz=75,SNR=37						
I14A				⇑P	**P**	**22 03 31.3**	**+1.1**
	baz=75,SNR=37						
I14A				⇑P	**P**	**22 03 31.3**	**+1.1**
	baz=75,SNR=37						
SUW	**Suwalki**	**75.04**	**327**	*e*P	**P**	**22 03 29.7**	**-0.1**
SUW				*e*PcP	**pP**	**22 03 41.4**	**+0.6**
SUW				*e*S	**S**	**22 13 05.5**	**+0.4**
SUW				LMZ	LR	22 39 22.8	
	comp=Z,5μm,19.3s						
SUW	**Suwalki**	**75.04**	**327**	*e*P	**P**	**22 03 30.2**	**+0.3**
SUW				*e**PP	**pP**	**22 03 41.3**	**+0.6**
SUW				pmax	pmax		
	comp=Z,124nm,1.0s						
SUW	**Suwalki**	**75.04**	**327**	*e*P	**P**	**22 03 30.2**	**+0.3**
	comp=Z,124nm,1.0s						
SUW				*ep*P	**pP**	**22 03 41.3**	**+0.6**
D18A	**Linhart Farms,**	**75.07**	**42**	⇓P	**P**	**22 03 30.8**	**+0.5**
	baz=75						
D18A				⇓P	**P**	**22 03 30.8**	**+0.5**
	baz=75						
D18A				⇓P	**P**	**22 03 30.8**	**+0.5**
	baz=75						
H15A	**Lima**	**75.07**	**45**	⇑P	**P**	**22 03 30.5**	**0.0**
	baz=75,SNR=6.5						
H15A				⇑P	**P**	**22 03 30.5**	**0.0**
	baz=75,SNR=6.5						
H15A				⇑P	**P**	**22 03 30.5**	**0.0**
	baz=75,SNR=6.5						
ESPY	**Espiye-Giresun**	**75.11**	**310**	*e*P	P	22 03 23.2	-7.3
C19A	**Slack Wire Ran**	**75.13**	**41**	⇑P	**P**	**22 03 31.4**	**+0.7**
	baz=75,SNR=20						
C19A				⇑P	**P**	**22 03 31.4**	**+0.7**
	baz=75,SNR=20						
C19A				⇑P	**P**	**22 03 31.4**	**+0.7**
	baz=75,SNR=20						
G16A	**Moss Hill, Enn**	**75.17**	**44**	⇓P	**P**	**22 03 31.5**	**+0.4**
	baz=75						
G16A				⇓P	**P**	**22 03 31.5**	**+0.4**
	baz=75						
G16A				⇓P	**P**	**22 03 31.5**	**+0.4**
	baz=75						
KELT	**Kelkit**	**75.23**	**309**	*i* P	**P**	**22 03 28.3**	**-3.1**
ERZN	**Erzincan**	**75.26**	**308**	*e*P	**P**	**22 03 32.8**	**+1.3**
NVAR	**Mina Array Bea**	**75.28**	**53**	P	**P**	**22 03 32.8**	**+0.9**
	comp=Z,19nm,0.8s,baz=289,slow=5.8,SNR=92						
NVAR				LR	LR	22 30 38.4	
	comp=Z,947nm,21.2s,baz=64,slow=31						
NVAR	**Mina Array Bea**	**75.28**	**53**	P	**P**	**22 03 32.8**	**+0.9**
J14A	**Carey**	**75.34**	**47**	⇓P	**P**	**22 03 33.5**	**+1.4**
	baz=75,SNR=30						
J14A				⇓P	**P**	**22 03 33.5**	**+1.4**
	baz=75,SNR=30						
J14A				⇓P	**P**	**22 03 33.5**	**+1.4**
	baz=75,SNR=30						
MLAC	**Mammoth Lakes**	**75.39**	**54**	⇑P	**P**	**22 03 33.3**	**+0.8**
	baz=75,SNR=11						
MLAC				⇑P	**P**	**22 03 33.3**	**+0.8**
	baz=75,SNR=11						
MLAC				⇑P	**P**	**22 03 33.3**	**+0.8**
	baz=75,SNR=11						
E18A	**Harlowton**	**75.40**	**42**	⇓P	**P**	**22 03 33.2**	**+0.9**
	baz=75,SNR=6.5						
E18A				⇓P	**P**	**22 03 33.2**	**+0.9**
	baz=75,SNR=6.5						
E18A				⇓P	**P**	**22 03 33.2**	**+0.9**
	baz=75,SNR=6.5						
F17A	**Fitzpatrick Pl**	**75.40**	**43**	⇑P	**P**	**22 03 32.7**	**+0.5**
	baz=75,SNR=6.0						
F17A				⇑P	**P**	**22 03 32.7**	**+0.5**
	baz=75,SNR=6.0						
F17A				⇑P	**P**	**22 03 32.7**	**+0.5**
	baz=75,SNR=6.0						
SIM	**Simferopol'**	**75.42**	**315**	*ce*P	**P**	**22 03 32.2**	**0.0**
SIM				*e*S	**S**	**22 13 08.0**	**-1.7**
SIM				pmax	pmax		
	comp=Z,41nm,0.9s						
SIM				MLR	MLR		
	comp=Z,3μm,18.0s						
A21A	**Bergtoll Ranch**	**75.44**	**39**	⇑P	**P**	**22 03 32.6**	**+0.3**
	baz=75,SNR=11						
A21A				⇑P	**P**	**22 03 32.6**	**+0.3**
	baz=75,SNR=11						
A21A				⇑P	**P**	**22 03 32.6**	**+0.3**
	baz=75,SNR=11						
I15A	**Monteview**	**75.53**	**46**	⇑P	**P**	**22 03 34.0**	**+0.9**
	baz=75						
I15A				⇑P	**P**	**22 03 34.0**	**+0.9**
	baz=75						
I15A				⇑P	**P**	**22 03 34.0**	**+0.9**
	baz=75						
UMR	**Umm Al-Rimmam**	**75.55**	**296**	*e*P	**P**	**22 03 33.0**	**-0.2**
UMR				AMb	AMB	22 03 37.3	
	comp=Z,130nm,1.8s						
D19A	**Cripps Ranch,**	**75.58**	**41**	⇓P	**P**	**22 03 33.8**	**+0.6**
	baz=75,SNR=8.7						
D19A				⇓P	**P**	**22 03 33.8**	**+0.6**
	baz=75,SNR=8.7						
D19A				⇓P	**P**	**22 03 33.8**	**+0.6**
	baz=75,SNR=8.7						
QLMT	**Earthquake Lak**	**75.63**	**45**	*e*P	**P**	**22 03 34.4**	**+0.7**
C20A	**Veseth Ranch,**	**75.70**	**41**	⇑P	**P**	**22 03 34.6**	**+0.8**
	baz=76						
C20A				⇑P	**P**	**22 03 34.6**	**+0.8**
	baz=76						
C20A				⇑P	**P**	**22 03 34.6**	**+0.8**
	baz=76						
G17A	**Pierce Place,**	**75.71**	**44**	⇓P	**P**	**22 03 34.9**	**+0.8**
	baz=76						
G17A				⇓P	**P**	**22 03 34.9**	**+0.8**
	baz=76						
G17A				⇓P	**P**	**22 03 34.9**	**+0.8**
	baz=76						
MTUM	**Tungsten Hills**	**75.73**	**54**	*e*P	**P**	**22 03 34.9**	**+0.5**
FOO	**Floro**	**75.75**	**340**	*e*P	**P**	**22 03 33.8**	**+0.1**
FOO				AMS	AMS	22 40 02.4	
	comp=Z,3μm,23.6s						
B21A	**Ellsworth Farm**	**75.75**	**40**	⇓P	**P**	**22 03 34.6**	**+0.5**
	baz=76,SNR=10						
B21A				⇓P	**P**	**22 03 34.6**	**+0.5**
	baz=76,SNR=10						
B21A				⇓P	**P**	**22 03 34.6**	**+0.5**
	baz=76,SNR=10						
KBD	**Kabd**	**75.78**	**296**	*e*P	**P**	**22 03 34.3**	**-0.2**
KBD				AMb	AMB	22 03 40.2	
	comp=Z,121nm,1.4s						
H16A	**Russell Place,**	**75.81**	**45**	⇑P	**P**	**22 03 35.6**	**+0.8**
	baz=76,SNR=8.7						
H16A				⇑P	**P**	**22 03 35.6**	**+0.8**
	baz=76,SNR=8.7						
H16A				⇑P	**P**	**22 03 35.6**	**+0.8**
	baz=76,SNR=8.7						
BHD	**Baghdad**	**75.81**	**301**	*i* P	**P**	**22 03 32.0**	**-2.6**
BHD				*i* PcP	**pP**	**22 03 45.0**	**-0.6**
BHD				*i* PP	PP	22 06 40.0	+15
BHD				*i* PPP	PPP	22 08 21.0	
BHD				*i* S	**S**	**22 13 11.0**	**-3.3**
BHD				*i* SKS	SKSac	22 13 32.0	-10
BHD				*i* PS	**PnS**	**22 14 03.0**	**+9.2**
ELK	**Elko**	**75.85**	**50**	*e*P	**P**	**22 03 36.1**	**+1.0**
ELK				*e**PP	**pP**	**22 03 46.2**	**+0.2**
ELK	**Elko**	**75.85**	**50**	*e*P	**P**	**22 03 36.0**	**+1.0**
ELK				*ep*P	**pP**	**22 03 46.2**	**+0.2**
QRN	**Al-Qurain**	**75.86**	**295**	*e*P	**P**	**22 03 34.9**	**-0.1**
QRN				AMb	AMB	22 03 49.4	
	comp=Z,530nm,0.8s						
PTK	**Pertek**	**75.87**	**308**	*e*P	**P**	**22 03 35.5**	**+0.3**
MARD	**Mardin**	**75.90**	**306**	*i* P	P	22 03 32.1	-3.2
F18A	**Big Timber**	**75.92**	**43**	⇓P	**P**	**22 03 36.0**	**+0.8**
	baz=76,SNR=8.1						
F18A				⇓P	**P**	**22 03 36.0**	**+0.8**
	baz=76,SNR=8.1						
F18A				⇓P	**P**	**22 03 36.0**	**+0.8**
	baz=76,SNR=8.1						
J15A	**Blackfoot**	**75.92**	**46**	⇑P	**P**	**22 03 36.8**	**+1.5**
	baz=75,SNR=14						
J15A				⇑P	**P**	**22 03 36.8**	**+1.5**
	baz=75,SNR=14						
J15A				⇑P	**P**	**22 03 36.8**	**+1.5**
	baz=75,SNR=14						
A22A	**Carney Farms,**	**75.95**	**39**	⇑P	**P**	**22 03 35.4**	**+0.1**
	baz=75,SNR=15						
A22A				⇑P	**P**	**22 03 35.4**	**+0.1**
	baz=75,SNR=15						
A22A				⇑P	**P**	**22 03 35.4**	**+0.1**
	baz=75,SNR=15						
SMMC	**Simmler**	**75.96**	**56**	⇑P	**P**	**22 03 36.4**	**+0.8**
	baz=76						
SMMC				⇑P	**P**	**22 03 36.4**	**+0.8**
	baz=76						
SMMC				⇑P	**P**	**22 03 36.4**	**+0.8**
	baz=76						
DIYA	**Diyarbakir**	**75.97**	**307**	*i* P	**P**	**22 03 37.0**	**+1.4**
KONO	**Kongsberg**	**75.97**	**337**	*e*P	**P**	**22 03 35.8**	**+0.7**
KONO				*e*S	**S**	**22 13 14.5**	**-0.8**
KONO	**Kongsberg**	**75.97**	**337**	PFAKE		22 03 50.0	+15
KONO				LR	LR		
	comp=Z,7μm,19.0s						
YMR	**Madison River**	**75.99**	**44**	*e*P	**P**	**22 03 37.0**	**+1.2**
	comp=Z,21nm,0.8s						
K14A	**Jones Ranch, D**	**76.01**	**47**	⇑P	**P**	**22 03 37.0**	**+1.2**
	baz=76,SNR=16						
K14A				⇑P	**P**	**22 03 37.0**	**+1.2**
	baz=76,SNR=16						
K14A				⇑P	**P**	**22 03 37.0**	**+1.2**
	baz=76,SNR=16						
GCMT	**Greycliff**	**76.01**	**43**	*e*P	**P**	**22 03 36.8**	**+1.0**
	comp=Z,92nm,1.5s						
GCMT				*ep*P	**PcP**	**22 03 47.9**	**-0.2**
D20A	**Manuel Ranch,**	**76.02**	**41**	⇓P	**P**	**22 03 36.6**	**+0.9**
	baz=76,SNR=8.5						
D20A				⇓P	**P**	**22 03 36.6**	**+0.9**
	baz=76,SNR=8.5						
D20A				⇓P	**P**	**22 03 36.6**	**+0.9**
	baz=76,SNR=8.5						
RDF	**Al-Radifah**	**76.02**	**296**	*e*P	**P**	**22 03 36.2**	**+0.3**
RDF				AMb	AMB	22 03 40.4	
	comp=Z,256nm,1.0s						
RAO	**Raoul Island**	**76.05**	**144**	PFAKE		22 03 50.0	+14
RAO				LR	LR		
	comp=Z,3μm,19.0s						
NAY	**Al-Naaiem**	**76.06**	**296**	*e*P	**P**	**22 03 35.7**	**-0.4**
NAY				AMb	AMB	22 03 41.6	
	comp=Z,77nm,1.3s						
ILIC	**ilic-Erzincan**	**76.06**	**309**	*e*P	**P**	**22 03 37.9**	**+1.8**
E19A	**Rath Farm, Rou**	**76.07**	**42**	⇑P	**P**	**22 03 36.8**	**+0.8**
	baz=76,SNR=15						
E19A				⇑P	**P**	**22 03 36.8**	**+0.8**
	baz=76,SNR=15						
E19A				⇑P	**P**	**22 03 36.8**	**+0.8**
	baz=76,SNR=15						
C21A	**Desert Coulee**	**76.10**	**40**	⇓P	**P**	**22 03 36.6**	**+0.4**
	baz=76						
C21A				⇓P	**P**	**22 03 36.6**	**+0.4**
	baz=76						
C21A				⇓P	**P**	**22 03 36.6**	**+0.4**
	baz=76						
YNR	**Norris Junctio**	**76.12**	**44**	*e*P	**P**	**22 03 37.4**	**+0.9**
	comp=Z,68nm,1.3s						
YNR				*ep*P	**PcP**	**22 03 49.1**	**+0.5**
TPH	**Tonopah**	**76.18**	**53**	PFAKE		22 03 50.0	+13
TPH				LR	LR		
	comp=Z,1μm,22.0s						
SFJD	**Kangerlussuaq**	**76.18**	**5**	LR	LR	22 37 35.2	
	comp=Z,2μm,21.5s,baz=355,slow=36						
SFJD	**Kangerlussuaq**	**76.18**	**5**	*e*P	**P**	**22 03 36.8**	**+0.7**
SFJD				*e**PP	**PcP**	**22 03 47.9**	**-0.2**
SFJD				pmax	pmax		
	comp=Z,16nm,0.8s						
SFJD	**Kangerlussuaq**	**76.18**	**5**	*e*P	**P**	**22 03 36.8**	**+0.7**
	comp=Z,16nm,0.8s						
SFJD				*ep*P	**PcP**	**22 03 47.9**	**-0.2**
SFJD	**Kangerlussuaq**	**76.18**	**5**	*i* P	**P**	**22 03 37.4**	**+1.3**
	comp=Z,11nm,0.9s						
SFJD				*i* S	**S**	**22 13 17.0**	**-0.2**
SFJD							
	comp=Z,1μm,19.0s						
I16A	**Newdale**	**76.18**	**45**	⇑P	**P**	**22 03 38.4**	**+1.6**
	baz=76,SNR=22						
I16A				⇑P	**P**	**22 03 38.4**	**+1.6**
	baz=76,SNR=22						
I16A				⇑P	**P**	**22 03 38.4**	**+1.6**
	baz=76,SNR=22						
YFT	**Old Faithful**	**76.19**	**45**	*e*P	**P**	**22 03 39.4**	**+2.4**
	comp=Z,54nm,1.1s						
KEMA	**Kemaliye**	**76.22**	**309**	*i* P	**P**	**22 03 36.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**76.23**	**308**	*e*P	**P**	**22 03 37.1**	**-0.1**
VES	**Vestal, Richgr**	**76.26**	**56**	⇓P	**P**	**22 03 37.0**	**-0.2**
	baz=76,SNR=16						
VES				⇓P	**P**	**22 03 37.0**	**-0.2**
	baz=76,SNR=16						
VES				⇓P	**P**	**22 03 37.0**	**-0.2**
	baz=76,SNR=16						
RSDY	**Resadiye-TOKAT**	**76.27**	**310**	*e*P	**P**	**22 03 35.8**	**-1.4**
L14A	**Malta**	**76.28**	**48**	⇑P	**P**	**22 03 38.3**	**+0.9**
	baz=76,SNR=10						
L14A				⇑P	**P**	**22 03 38.3**	**+0.9**
	baz=76,SNR=10						
L14A				⇑P	**P**	**22 03 38.3**	**+0.9**
	baz=76,SNR=10						
PKM	**Peak Mountain**	**76.32**	**57**	⇑P	**P**	**22 03 38.9**	**+1.1**
	baz=76,SNR=8.8						
PKM				⇑P	**P**	**22 03 38.9**	**+1.1**
	baz=76,SNR=8.8						
PKM				⇑P	**P**	**22 03 38.9**	**+1.1**
	baz=76,SNR=8.8						
ELZG	**Elazig**	**76.36**	**308**	*i* P	**P**	**22 03 39.6**	**+1.7**
F19A	**Roth Farm, Mol**	**76.37**	**43**	⇑P	**P**	**22 03 38.3**	**+0.5**
	baz=76,SNR=10						
F19A				⇑P	**P**	**22 03 38.3**	**+0.5**
	baz=76,SNR=10						
F19A				⇑P	**P**	**22 03 38.3**	**+0.5**
	baz=76,SNR=10						
LKWY	**Lake**	**76.37**	**44**	*e*P	**P**	**22 03 40.3**	**+2.3**
LKWY				*e**PP	**PcP**	**22 03 51.3**	**+1.6**
LKWY				pmax	pmax		
	comp=Z,30nm,1.1s						
LKWY				MLR	MLR		
	comp=Z,1μm,20.0s						
LKWY	**Lake**	**76.37**	**44**	*e*P	**P**	**22 03 40.3**	**+2.3**
	comp=Z,30nm,1.1s						
LKWY				*ep*P	**PcP**	**22 03 51.3**	**+1.6**
LKWY				LR	LR		
	comp=Z,1μm,20.0s						
H17A	**Grant Village**	**76.38**	**44**	⇓P	**P**	**22 03 40.6**	**+2.5**
	baz=76,SNR=16						
H17A				⇓P	**P**	**22 03 40.6**	**+2.5**
	baz=76,SNR=16						
H17A				⇓P	**P**	**22 03 40.6**	**+2.5**
	baz=76,SNR=16						
E20A	**Meyer Farm, Mu**	**76.39**	**42**	⇓P	**P**	**22 03 38.5**	**+0.6**
	baz=76,SNR=11						
E20A				⇓P	**P**	**22 03 38.5**	**+0.6**
	baz=76,SNR=11						
E20A				⇓P	**P**	**22 03 38.5**	**+0.6**
	baz=76,SNR=11						
ERBA	**Erbaa**	**76.45**	**311**	*i* P	**P**	**22 03 38.2**	**-0.1**
J16A	**Bone**	**76.48**	**46**	⇓P	**P**	**22 03 39.7**	**+1.2**
	baz=76,SNR=9.0						
J16A				⇓P	**P**	**22 03 39.7**	**+1.2**
	baz=76,SNR=9.0						
J16A				⇓P	**P**	**22 03 39.7**	**+1.2**
	baz=76,SNR=9.0						
FLWY	**Flagg Ranch**	**76.50**	**45**	*e*P	**P**	**22 03 40.9**	**+2.2**
	comp=Z,42nm,1.1s						
DCID1	**Drake Creek**	**76.53**	**45**	*e*P	**P**	**22 03 40.1**	**+1.3**
	comp=Z,95nm,1.1s						
DCID1				*ep*P	**PcP**	**22 03 50.5**	**+0.1**
CWC	**Cottonwood Cre**	**76.58**	**55**	⇓P	**P**	**22 03 39.3**	**+0.1**
	baz=76,SNR=13						
CWC				⇓P	**P**	**22 03 39.3**	**+0.1**
	baz=76,SNR=13						
CWC				⇓P	**P**	**22 03 39.3**	**+0.1**
	baz=76,SNR=13						
RRI2	**Red Ridge**	**76.60**	**46**	*e*P	**P**	**22 03 40.6**	**+1.3**
	comp=Z,112nm,1.5s						
D21A	**La Casta Ranch**	**76.64**	**41**	⇓P	**P**	**22 03 39.8**	**+0.5**
	baz=76						
D21A				⇓P	**P**	**22 03 39.8**	**+0.5**
	baz=76						
D21A				⇓P	**P**	**22 03 39.8**	**+0.5**
	baz=76						
RLMT	**Red Lodge**	**76.65**	**43**	PFAKE		22 03 50.0	+10
RLMT				LR	LR		
	comp=Z,1μm,20.0s						
BER	**Bergen**	**76.66**	**339**	*e*P	**P**	**22 03 38.7**	**-0.3**
BER				AMS	AMS	22 40 26.2	
	comp=Z,4μm,20.1s						
I17A	**Pilgrim Ck.**	**76.67**	**45**	⇓P	**P**	**22 03 41.6**	**+1.9**
	baz=76,SNR=15						
I17A				⇓P	**P**	**22 03 41.6**	**+1.9**
	baz=76,SNR=15						
I17A				⇓P	**P**	**22 03 41.6**	**+1.9**
	baz=76,SNR=15						
ODD1	**Odda**	**76.67**	**338**	*e*P	**P**	**22 03 39.3**	**+0.2**
ODD1				AMB	AMB	22 03 53.6	
	comp=Z,124nm,1.8s						
MOOW	**Moose Ponds**	**76.68**	**45**	*e*P	**P**	**22 03 41.1**	**+1.4**
	comp=Z,33nm,1.1s						
MOOW				*ep*P	**PcP**	**22 03 51.9**	**+0.9**
HVU	**Hansel Valley**	**76.71**	**48**	*e*P	**P**	**22 03 41.3**	**+1.5**
HVU				pmax	pmax		
	comp=Z,45nm,1.1s						
HVU	**Hansel Valley**	**76.71**	**48**	*e*P	**P**	**22 03 41.3**	**+1.5**
	comp=Z,45nm,1.1s						
H18A	**Shoshone NF, C**	**76.71**	**44**	⇓P	**P**	**22 03 40.6**	**+0.7**
	baz=76						
H18A				⇓P	**P**	**22 03 40.6**	**+0.7**
	baz=76						
H18A				⇓P	**P**	**22 03 40.6**	**+0.7**
	baz=76						
GRAC	**Grapevine Rang**	**76.71**	**54**	⇓P	**P**	**22 03 40.7**	**+0.9**
	baz=77,SNR=7.1						
GRAC				⇓P	**P**	**22 03 40.7**	**+0.9**
	baz=77,SNR=7.1						
GRAC				⇓P	**P**	**22 03 40.7**	**+0.9**
	baz=77,SNR=7.1						
TPAW	**Teton Pass**	**76.72**	**45**	*e*P	**P**	**22 03 41.8**	**+1.8**
	comp=Z,68nm,1.2s						
TPAW				*ep*P	**PcP**	**22 03 52.6**	**+1.3**
B23A	**Brockton**	**76.76**	**39**	⇑P	**P**	**22 03 40.2**	**+0.4**
	baz=77,SNR=9.6						
B23A				⇑P	**P**	**22 03 40.2**	**+0.4**
	baz=77,SNR=9.6						
B23A				⇑P	**P**	**22 03 40.2**	**+0.4**
	baz=77,SNR=9.6						
K16A	**Soda Springs**	**76.76**	**46**	⇓P	**P**	**22 03 41.5**	**+1.4**
	baz=77,SNR=26						
K16A				⇓P	**P**	**22 03 41.5**	**+1.4**
	baz=77,SNR=26						
K16A				⇓P	**P**	**22 03 41.5**	**+1.4**
	baz=77,SNR=26						
DIKM	**Dikmen**	**76.77**	**312**	*e*P	P	22 03 36.3	-3.6
ISA	**Isabella**	**76.77**	**55**	*e*P	**P**	**22 03 39.9**	**-0.3**
ISA				*e**PP	**PcP**	**22 03 52.8**	**+1.4**
ISA				pmax	pmax		
	comp=Z,65nm,1.2s						
ISA	**Isabella**	**76.77**	**55**	*e*P	**P**	**22 03 39.9**	**-0.3**
	comp=Z,65nm,1.2s						
ISA				*ep*P	**PcP**	**22 03 52.8**	**+1.4**
ISA	**Isabella**	**76.77**	**55**	⇓P	**P**	**22 03 39.7**	**-0.5**
	baz=77,SNR=12						
ISA				⇓P	**P**	**22 03 39.7**	**-0.5**
	baz=77,SNR=12						
ISA				⇓P	**P**	**22 03 39.7**	**-0.5**
	baz=77,SNR=12						
L15A	**Malad City**	**76.80**	**47**	⇑P	**P**	**22 03 41.0**	**+0.7**
	baz=77,SNR=7.7						
L15A				⇑P	**P**	**22 03 41.0**	**+0.7**
	baz=77,SNR=7.7						
L15A				⇑P	**P**	**22 03 41.0**	**+0.7**
	baz=77,SNR=7.7						
MALT	**Malatya**	**76.83**	**308**	PFAKE		22 03 50.0	+10
MALT				LR	LR		
	comp=Z,58nm,22.0s						
F20A	**Billings**	**76.83**	**42**	⇓P	**P**	**22 03 40.6**	**+0.2**
	baz=77						
F20A				⇓P	**P**	**22 03 40.6**	**+0.2**
	baz=77						
F20A				⇓P	**P**	**22 03 40.6**	**+0.2**
	baz=77						
TOKA	**Tokat**	**76.83**	**311**	*i* P	**P**	**22 03 38.7**	**-1.8**
LOHW	**Long Hollow**	**76.84**	**45**	*e*P	**P**	**22 03 41.6**	**+1.0**
	comp=Z,13nm,1.2s						
LOHW				*ep*P	**PcP**	**22 03 52.8**	**+1.0**
ARVC	**Arvin**	**76.85**	**56**	⇑P	**P**	**22 03 40.6**	**0.0**
	baz=77						
ARVC				⇑P	**P**	**22 03 40.6**	**0.0**
	baz=77						
ARVC				⇑P	**P**	**22 03 40.6**	**0.0**
	baz=77						
SNOW	**Snow King Moun**	**76.85**	**45**	*e*P	**P**	**22 03 42.5**	**+1.7**
	comp=Z,51nm,1.0s						
SNOW				*ep*P	**PcP**	**22 03 53.4**	**+1.5**
REDW	**Red Top Meadow**	**76.86**	**45**	*e*P	**P**	**22 03 42.2**	**+1.5**
	comp=Z,80nm,1.3s						
REDW				*ep*P	**PcP**	**22 03 52.9**	**+1.1**
E21A	**Keefer Ranch,**	**76.93**	**41**	⇓P	**P**	**22 03 41.6**	**+0.7**
	baz=77						
E21A				⇓P

KIS MLR MLR
comp=Z,10µm,17.0s
KIS Kishinev 77.01 320 *e*P **P 22 03 39.0 -2.2**
KIS Kishinev 77.01 320 *e*PcP **PcP 22 03 52.0 -0.1**
KIS Kishinev 77.01 320 *e*PP PP 22 06 30.0 -4.2
D22A Cohagen 77.01 40 ⇓P **P 22 03 41.9 +0.6**
baz=77,SNR=8.3
D22A ⇓P **P 22 03 41.9 +0.6**
baz=77,SNR=8.3
D22A ⇓P **P 22 03 41.9 +0.6**
baz=77,SNR=8.3
R11A Troy Canyon, C 77.05 52 ⇑P **P 22 03 42.5 +0.6**
baz=77,SNR=58
R11A ⇑P **P 22 03 42.5 +0.6**
baz=77,SNR=58
R11A ⇑P **P 22 03 42.5 +0.6**
baz=77,SNR=58
AHID Auburn Hatcher 77.08 46 *e*P **P 22 03 43.1 +1.1**
AHID *e*pP **pP 22 03 53.0 +0.1**
AHID LR LR
comp=Z,829nm,21.0s
H19A Powell 77.09 44 ⇓P **P 22 03 43.0 +1.1**
baz=77,SNR=5.0
H19A ⇓P **P 22 03 43.0 +1.1**
baz=77,SNR=5.0
H19A ⇓P **P 22 03 43.0 +1.1**
baz=77,SNR=5.0
URFA Urfa 77.09 307 *e*P **P 22 03 42.8 +0.8**
C23A Lambert 77.09 39 ⇑P **P 22 03 42.0 +0.2**
baz=77,SNR=5.3
C23A ⇑P **P 22 03 42.0 +0.2**
baz=77,SNR=5.3
C23A ⇑P **P 22 03 42.0 +0.2**
baz=77,SNR=5.3
M15A Larsen Ranch, 77.10 48 ⇓P **P 22 03 42.8 +0.8**
baz=77,SNR=28
M15A ⇓P **P 22 03 42.8 +0.8**
baz=77,SNR=28
M15A ⇓P **P 22 03 42.8 +0.8**
baz=77,SNR=28
DGMT Dagmar 77.15 38 *e*P **P 22 03 42.3 +0.3**
comp=Z,66nm,1.0s
DGMT Dagmar 77.15 38 ⇓P **P 22 03 42.2 +0.1**
baz=77
DGMT ⇓P **P 22 03 42.2 +0.1**
baz=77
DGMT ⇓P **P 22 03 42.2 +0.1**
baz=77
AKCD Akcadag 77.16 308 *i* P **P 22 03 43.2 +0.8**
G20A Bridger 77.17 43 ⇓P **P 22 03 42.2 -0.1**
baz=77
G20A ⇓P **P 22 03 42.2 -0.1**
baz=77
G20A ⇓P **P 22 03 42.2 -0.1**
baz=77
MPMC Manual Prospec 77.19 55 ⇑P **P 22 03 43.0 +0.3**
baz=77,SNR=20
MPMC ⇑P **P 22 03 43.0 +0.3**
baz=77,SNR=20
MPMC ⇑P **P 22 03 43.0 +0.3**
baz=77,SNR=20
K17A Gardner Place, 77.20 46 ⇓P **P 22 03 43.0 +0.4**
baz=77
K17A ⇓P **P 22 03 43.0 +0.4**
baz=77
K17A ⇓P **P 22 03 43.0 +0.4**
baz=77
OSI Osito Adit 77.22 56 *e*P **P 22 03 43.2 +0.6**
comp=Z,52nm,0.8s
OSI Osito Adit 77.22 56 ⇓P **P 22 03 43.3 +0.6**
baz=77
OSI ⇓P **P 22 03 43.3 +0.6**
baz=77
OSI ⇓P **P 22 03 43.3 +0.6**
baz=77
BLG Laguna Peak 77.28 57 ⇑P **P 22 03 43.0 0.0**
baz=77
BLG ⇑P **P 22 03 43.0 0.0**
baz=77
BLG ⇑P **P 22 03 43.0 0.0**
baz=77
BZK Bozkurt 77.32 313 *e*P **P 22 03 41.7 -1.3**
FURC Furnace Creek, 77.35 54 ⇓P **P 22 03 43.8 +0.5**
baz=77,SNR=15
FURC ⇓P **P 22 03 43.8 +0.5**
baz=77,SNR=15
FURC ⇓P **P 22 03 43.8 +0.5**
baz=77,SNR=15
L16A Fish Haven 77.36 47 ⇑P **P 22 03 44.4 +0.8**
baz=77,SNR=7.2
L16A ⇑P **P 22 03 44.4 +0.8**
baz=77,SNR=7.2
L16A ⇑P **P 22 03 44.4 +0.8**
baz=77,SNR=7.2
F21A Absaloka Mine, 77.37 42 ⇓P **P 22 03 43.7 +0.3**
baz=77
F21A ⇓P **P 22 03 43.7 +0.3**
baz=77
F21A ⇓P **P 22 03 43.7 +0.3**
baz=77
LRMC Laurel Mountai 77.40 55 ⇓P **P 22 03 43.9 +0.1**
baz=77,SNR=18
LRMC ⇓P **P 22 03 43.9 +0.1**
baz=77,SNR=18
LRMC ⇓P **P 22 03 43.9 +0.1**
baz=77,SNR=18
N15A Stansbury Isla 77.40 48 ⇑P **P 22 03 44.6 +0.9**
baz=77,SNR=28
N15A ⇑P **P 22 03 44.6 +0.9**
baz=77,SNR=28
N15A ⇑P **P 22 03 44.6 +0.9**
baz=77,SNR=28
J18A Kendall Valley 77.43 45 ⇓P **P 22 03 44.5 +0.5**
baz=77,SNR=6.5
J18A ⇓P **P 22 03 44.5 +0.5**
baz=77,SNR=6.5
J18A ⇓P **P 22 03 44.5 +0.5**
baz=77,SNR=6.5
D23A Lindsay 77.50 40 ⇓P **P 22 03 44.8 +0.8**
baz=77,SNR=11
D23A ⇓P **P 22 03 44.8 +0.8**
baz=77,SNR=11
D23A ⇓P **P 22 03 44.8 +0.8**
baz=77,SNR=11
LVV L'vov 77.51 324 *e*P **P 22 03 42.7 -1.3**
LVV *e* 22 03 56.3
LVV *e* 22 06 46.3
LVV *e* 22 08 33.7
LVV *e*S **S 22 13 30.5 -2.0**
LVV *e* 22 14 19.3
LVV *e* 22 18 27.9
LVV MLR MLR
comp=N,2µm,16.0s
LVV MLR MLR
comp=E,4µm,16.0s
LVV MLR MLR
comp=Z,4µm,16.0s
IAS Iasi 77.53 320 ⇑P **P 22 03 44.5 +0.4**
IAS Iasi 77.53 320 ⇑*i*P **P 22 03 44.5 +0.4**
HWUT Hardware Ranch 77.53 47 *e*P **P 22 03 44.9 +0.4**
comp=Z,91nm,1.4s
HWUT *e*pP **pP 22 03 56.6 +1.2**
HWUT LR LR
comp=Z,701nm,20.0s
EDW2 Edwards Air Fo 77.55 56 ⇑P **P 22 03 44.9 +0.4**
baz=77,SNR=23
EDW2 ⇑P **P 22 03 44.9 +0.4**
baz=77,SNR=23
EDW2 ⇑P **P 22 03 44.9 +0.4**
baz=77,SNR=23
E22A Miles City 77.59 41 ⇓P **P 22 03 44.9 +0.3**
baz=77,SNR=5.1
E22A ⇓P **P 22 03 44.9 +0.3**
baz=77,SNR=5.1
E22A ⇓P **P 22 03 44.9 +0.3**
baz=77,SNR=5.1
BEL Belsk 77.59 327 *i* P **P 22 03 45.3 +0.9**
BEL *e*PcP **pP 22 03 57.2 +1.9**
BEL LMZ LR 22 39 50.7
comp=Z,2µm,22.8s
BEL Belsk 77.59 327 ⇑*i*P **P 22 03 45.3 +0.9**
BEL *e* 22 03 57.2
BEL MLR MLR
comp=Z,2µm,22.8s
BSD Bornholm Skovb 77.62 332 *i* P **P 22 03 44.7 +0.3**
comp=Z,69nm,0.8s
BSD
comp=Z,2µm,17.0s
L17A Cokeville 77.63 46 ⇑P **P 22 03 45.4 +0.3**
baz=78
L17A ⇑P **P 22 03 45.4 +0.3**
baz=78
L17A ⇑P **P 22 03 45.4 +0.3**
baz=78
LEOM Leova 77.65 319 ⇓P **P 22 03 45.1 +0.3**
LEOM Leova 77.65 319 ⇓*i*P **P 22 03 45.1 +0.3**
DUG Dugway 77.65 49 *e*P **P 22 03 46.0 +0.9**
DUG *e**PP **pP 22 03 56.9 +0.8**
DUG pmax pmax
comp=Z,95nm,1.2s
DUG MLR MLR
comp=Z,789nm,20.0s
DUG Dugway 77.65 49 *e*P **P 22 03 46.0 +0.9**
comp=Z,95nm,1.2s
DUG *e*pP **pP 22 03 56.9 +0.8**
DUG LR LR
comp=Z,789nm,20.0s
DUG Dugway 77.65 49 ⇑P **P 22 03 46.0 +0.9**
baz=78,SNR=46
DUG ⇑P **P 22 03 46.0 +0.9**
baz=78,SNR=46
DUG ⇑P **P 22 03 46.0 +0.9**
baz=78,SNR=46
C24A Savage 77.66 39 ⇓P **P 22 03 44.8 -0.1**
baz=78
C24A ⇓P **P 22 03 44.8 -0.1**
baz=78
C24A ⇓P **P 22 03 44.8 -0.1**
baz=78
M16A Huntsville 77.67 47 ⇓P **P 22 03 45.7 +0.4**
baz=78
M16A ⇓P **P 22 03 45.7 +0.4**
baz=78
M16A ⇓P **P 22 03 45.7 +0.4**
baz=78
CTKT Corum 77.67 312 *i* P **P 22 03 46.0 +0.7**
OUZ Omahuta 77.69 153 *e*P **P 22 03 45.6 +0.8**
DECC Green Verdugo 77.69 56 ⇓P **P 22 03 45.5 +0.2**
baz=78
DECC ⇓P **P 22 03 45.5 +0.2**
baz=78
DECC ⇓P **P 22 03 45.5 +0.2**
baz=78
G21A Lodge Grass 77.71 42 ⇑P **P 22 03 45.2 -0.2**
baz=78
G21A ⇑P **P 22 03 45.2 -0.2**
baz=78
G21A ⇑P **P 22 03 45.2 -0.2**
baz=78
H20A Greybull 77.75 43 ⇑P **P 22 03 45.8 +0.2**
baz=78
H20A ⇑P **P 22 03 45.8 +0.2**
baz=78
H20A ⇑P **P 22 03 45.8 +0.2**
baz=78
DGAR Diego Garcia 77.76 251 PFAKE 22 04 00.0 +14
DGAR LR LR
comp=Z,1µm,20.0s
SNART Snartemo 77.77 337 ⇑*i*P **P 22 03 45.8 +0.6**
SNART AMB AMB 22 04 02.6
comp=Z,105nm,1.7s
K18A Toltan Ranch, 77.78 46 ⇑P **P 22 03 46.8 +0.9**
baz=78
K18A ⇑P **P 22 03 46.8 +0.9**
baz=78
K18A ⇑P **P 22 03 46.8 +0.9**
baz=78
O15A The Old Anders 77.81 49 ⇑P **P 22 03 47.0 +1.0**
baz=78
O15A ⇑P **P 22 03 47.0 +1.0**
baz=78
O15A ⇑P **P 22 03 47.0 +1.0**
baz=78
PASC Pasadena Art C 77.84 56 *e*P **P 22 03 46.4 +0.4**
F22A Rosebud 77.86 41 ⇓P **P 22 03 46.2 +0.1**
baz=78,SNR=6.0
F22A ⇓P **P 22 03 46.2 +0.1**
baz=78,SNR=6.0
F22A ⇓P **P 22 03 46.2 +0.1**
baz=78,SNR=6.0
PINB Pinarbasi 77.88 309 *i* P **P 22 03 46.2 -0.4**
TOS Tosya 77.88 312 *e*P **P 22 03 47.6 +1.3**
E23A Ismay 77.89 40 ⇑P **P 22 03 46.8 +0.6**
baz=78,SNR=6.2
E23A ⇑P **P 22 03 46.8 +0.6**
baz=78,SNR=6.2
E23A ⇑P **P 22 03 46.8 +0.6**
baz=78,SNR=6.2
MWC Mount Wilson 77.89 56 *e*P **P 22 03 46.9 +0.3**
MWC *e**PP **pP 22 03 57.9 +0.3**
MWC pmax pmax
comp=Z,49nm,1.0s
MWC Mount Wilson 77.89 56 *e*P **P 22 03 46.9 +0.3**
comp=Z,49nm,1.0s
MWC *e*pP **pP 22 03 57.9 +0.3**
J19A Crowheart 77.94 45 ⇓P **P 22 03 47.7 +1.0**
baz=78,SNR=11
J19A ⇓P **P 22 03 47.7 +1.0**
baz=78,SNR=11
J19A ⇓P **P 22 03 47.7 +1.0**
baz=78,SNR=11
BALT Daday 77.94 313 *i* P **P 22 03 47.7 +0.9**
GZT Gaziantep 77.94 308 *i* P **P 22 03 47.8 +1.0**
PD02 Pinedale Array 77.96 45 *e*P **P 22 03 46.8 -0.1**
PD02 *e*pP **pP 22 03 57.4 -0.5**
BW06 Boulder Array 77.97 45 *e*P **P 22 03 47.0 +0.1**
BW06 LR LR
comp=Z,852nm,21.0s
BW06 Boulder Array 77.97 45 ⇓P **P 22 03 47.1 +0.1**
baz=78
BW06 ⇓P **P 22 03 47.1 +0.1**
baz=78
BW06 ⇓P **P 22 03 47.1 +0.1**
baz=78
BW06 ⇓P **P 22 03 47.1 +0.1**
baz=78
BW06 ⇓P **P 22 03 47.1 +0.1**
baz=78
BW06 ⇓P **P 22 03 47.1 +0.1**
baz=78
PDAR Pinedale Array 77.97 45 P **P 22 03 47.2 +0.2**
comp=Z,8.7nm,0.7s,baz=278,slow=2.2,SNR=13
PDAR LR LR 22 32 44.6
comp=Z,634nm,21.1s,baz=324,slow=32
PDAR Pinedale Array 77.97 45 P **P 22 03 47.2 +0.2**
D24A Glendive 77.98 39 ⇓P **P 22 03 47.3 +0.5**
baz=78,SNR=8.8
D24A ⇓P **P 22 03 47.3 +0.5**
baz=78,SNR=8.8
D24A ⇓P **P 22 03 47.3 +0.5**
baz=78,SNR=8.8
I20A Worland 78.02 44 ⇓P **P 22 03 47.3 +0.2**
baz=78
I20A ⇓P **P 22 03 47.3 +0.2**
baz=78
I20A ⇓P **P 22 03 47.3 +0.2**
baz=78
CORM Corum 78.04 311 *e*P **P 22 03 47.6 +0.3**
ILGA Ilgaz 78.05 313 *i* P **P 22 03 48.2 +0.7**
N16A Rees Ranch, Co 78.05 48 ⇑P **P 22 03 48.1 +0.6**
baz=78
N16A ⇑P **P 22 03 48.1 +0.6**
baz=78
N16A ⇑P **P 22 03 48.1 +0.6**
baz=78
GKP Gorka Klasztor 78.07 329 *e*P **P 22 03 47.4 +0.4**
GKP *e*S **S 22 13 36.8 -1.5**
GKP LMZ LR 22 40 50.9
comp=Z,5µm,19.4s
GKP Gorka Klasztor 78.07 329 ⇑*e*P **P 22 03 47.4 +0.4**
GKP *e*S **S 22 13 36.8 -1.5**
GKP MLR MLR
comp=Z,5µm,19.4s
GSC Goldstone 78.08 55 *e*P **P 22 03 47.8 +0.2**
GSC *e**PP **pP 22 04 00.9 +2.4**
GSC pmax pmax
comp=Z,71nm,1.3s
GSC Goldstone 78.08 55 *e*P **P 22 03 47.8 +0.2**
comp=Z,71nm,1.3s
GSC *e*pP **pP 22 04 00.9 +2.4**
COP Copenhagen 78.11 333 *i* P **P 22 03 48.2 +1.1**
comp=Z,59nm,0.8s
COP *e*S **S 22 13 37.3 -1.3**
COP
comp=Z,2µm,18.0s
BNN Bunyan 78.12 310 *e*P **P 22 03 46.3 -1.5**
M17A Scullys Gap (B 78.14 47 ⇑P **P 22 03 48.0 +0.1**
baz=78,SNR=6.6
M17A ⇑P **P 22 03 48.0 +0.1**
baz=78,SNR=6.6
M17A ⇑P **P 22 03 48.0 +0.1**
baz=78,SNR=6.6
R13A O'Grain Ranch, 78.17 51 ⇑P **P 22 03 49.1 +0.9**
baz=78,SNR=21
R13A ⇑P **P 22 03 49.1 +0.9**
baz=78,SNR=21
R13A ⇑P **P 22 03 49.1 +0.9**
baz=78,SNR=21
H21A Big Horn, Sher 78.18 43 ⇑P **P 22 03 48.5 +0.5**
baz=78,SNR=6.6
H21A ⇑P **P 22 03 48.5 +0.5**
baz=78,SNR=6.6
H21A ⇑P **P 22 03 48.5 +0.5**
baz=78,SNR=6.6
TLCR 78.19 318 ⇓P **P 22 03 48.2 +0.4**
TLCR 78.19 318 ⇓*i*P **P 22 03 48.2 +0.4**
JLU Jordanelle 78.22 48 *e*P **P 22 03 49.3 +0.8**
comp=Z,46nm,1.1s
L18A Fontenelle, Gr 78.23 46 ⇓P **P 22 03 48.9 +0.5**
baz=78,SNR=7.8
L18A ⇓P **P 22 03 48.9 +0.5**
baz=78,SNR=7.8
L18A ⇓P **P 22 03 48.9 +0.5**
baz=78,SNR=7.8
KWP Kalwaria Pacla 78.27 324 *e*P **P 22 03 49.1 +0.9**
KWP *e*S **S 22 13 40.5 -0.1**
KWP LMZ LR 22 41 41.1
comp=Z,7µm,17.2s
KWP Kalwaria Pacla 78.27 324 ⇑P **P 22 03 49.1 +0.9**
KWP Kalwaria Pacla 78.27 324 *e*P **P 22 03 48.9 +0.7**
comp=Z,308nm,1.1s
KWP *e*pP **pP 22 04 01.0 +1.9**
KWP LR LR
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 78.27 324 ⇑*i*P **P 22 03 49.1 +0.9**
KMRS Kahramanmaras 78.28 308 *e*P **P 22 03 48.7 +0.2**
GAZ Gaziantep 78.28 308 *e*P **P 22 03 48.4 -0.2**
SCI San Clemente I 78.29 58 ⇑P **P 22 03 48.7 +0.1**
baz=78
SCI ⇑P **P 22 03 48.7 +0.1**
baz=78
SCI ⇑P **P 22 03 48.7 +0.1**
baz=78
K19A Absolon Red Bu 78.34 45 ⇑P **P 22 03 48.7 -0.3**
baz=78
K19A ⇑P **P 22 03 48.7 -0.3**
baz=78
K19A ⇑P **P 22 03 48.7 -0.3**
baz=78
F23A Volborg 78.35 41 ⇑P **P 22 03 49.1 +0.3**
baz=78,SNR=9.9
F23A ⇑P **P 22 03 49.1 +0.3**
baz=78,SNR=9.9
F23A ⇑P **P 22 03 49.1 +0.3**
baz=78,SNR=9.9
GHRR 78.36 319 ⇑*i*P **P 22 03 50.0 +1.3**
P15A Leamington 78.36 49 ⇑P **P 22 03 49.8 +0.7**
baz=78,SNR=16
P15A ⇑P **P 22 03 49.8 +0.7**
baz=78,SNR=16
P15A ⇑P **P 22 03 49.8 +0.7**
baz=78,SNR=16
E24A Baker 78.36 40 ⇓P **P 22 03 49.0 +0.1**
baz=78
E24A ⇓P **P 22 03 49.0 +0.1**
baz=78
E24A ⇓P **P 22 03 49.0 +0.1**
baz=78
N17A Moffit Pass 78.38 47 ⇑P **P 22 03 49.6 +0.3**
baz=78,SNR=9.6
N17A ⇑P **P 22 03 49.6 +0.3**
baz=78,SNR=9.6
N17A ⇑P **P 22 03 49.6 +0.3**
baz=78,SNR=9.6
BUR08 Bucovina Ar. S 78.42 322 *e*P **P 22 03 49.6 +0.4**
BUR08 *e*pP **pP 22 04 02.1 +1.9**
J20A Shoshoni 78.43 44 ⇓P **P 22 03 49.9 +0.5**
baz=78,SNR=9.0
J20A ⇓P **P 22 03 49.9 +0.5**
baz=78,SNR=9.0
J20A ⇓P **P 22 03 49.9 +0.5**
baz=78,SNR=9.0
BURAR Bucovina Array 78.44 322 P **P 22 03 50.2 +0.9**
BURAR Bucovina Array 78.44 322 ⇑*i*P **P 22 03 49.6 +0.3**
O16A Springville 78.44 48 ⇑P **P 22 03 50.5 +0.9**
baz=78
O16A ⇑P **P 22 03 50.5 +0.9**
baz=78
O16A ⇑P **P 22 03 50.5 +0.9**
baz=78
TESR 78.45 320 ⇑*i*P **P 22 03 50.5 +1.2**
DAU Daniels Canyon 78.45 48 *e*P **P 22 03 50.8 +1.0**
DAU Daniels Canyon 78.45 48 *e*P **P 22 03 50.8 +1.0**
LLD Lille Linde 78.46 333 *i* P **P 22 03 49.6 +0.5**
comp=Z,129nm,0.7s
MPU Maple Canyon 78.48 49 *e*P **P 22 03 50.8 +1.0**
comp=Z,154nm,1.3s
MPU *e*pP **pP 22 04 01.6 +0.9**
L19A Farson 78.51 46 ⇑P **P 22 03 50.5 +0.6**
baz=78
L19A ⇑P **P 22 03 50.5 +0.6**
baz=78
L19A ⇑P **P 22 03 50.5 +0.6**
baz=78
M18A Lyman 78.52 47 ⇑P **P 22 03 49.9 -0.1**
baz=78
M18A ⇑P **P 22 03 49.9 -0.1**
baz=78
M18A ⇑P **P 22 03 49.9 -0.1**
baz=78
SAFT Safranbolu 78.54 313 *e*P **P 22 03 50.0 +0.2**
CDAG Cicekdag 78.54 311 *i* P **P 22 03 50.2 +0.2**
CFR Carcaliu 78.55 318 ⇑P **P 22 03 50.0 +0.2**
CFR Carcaliu 78.55 318 ⇑*i*P **P 22 03 50.0 +0.2**
I21A Big Trails, Te 78.58 43 ⇑P **P 22 03 51.2 +1.0**
baz=78,SNR=7.3
I21A ⇑P **P 22 03 51.2 +1.0**
baz=78,SNR=7.3
I21A ⇑P **P 22 03 51.2 +1.0**
baz=78,SNR=7.3
TUQ Turquoise Moun 78.58 54 ⇑P **P 22 03 50.8 +0.4**
baz=78,SNR=28
TUQ ⇑P **P 22 03 50.8 +0.4**
baz=78,SNR=28
TUQ ⇑P **P 22 03 50.8 +0.4**
baz=78,SNR=28
ANDN Andirin 78.58 308 *i* P P 22 03 44.6 -5.7
KUZU Kuzuini 78.61 307 *i* P **P 22 03 49.0 -1.4**
MUD Monsted U'grnd 78.64 335 *i* P **P 22 03 50.6 +0.5**
comp=Z,21nm,0.8s
MUD *i* 22 04 04.2
MUD
comp=Z,4µm,20.0s
PETR 78.67 319 ⇑*i*P **P 22 03 52.2 +1.7**
HEC Hector,Ludlow 78.68 55 ⇑P **P 22 03 51.0 +0.2**
baz=78,SNR=21
HEC ⇑P **P 22 03 51.0 +0.2**
baz=78,SNR=21
HEC ⇑P **P 22 03 51.0 +0.2**
baz=78,SNR=21
G23A Biddle 78.70 41 ⇑P **P 22 03 50.9 +0.1**
baz=78
G23A ⇑P **P 22 03 50.9 +0.1**
baz=78
G23A ⇑P **P 22 03 50.9 +0.1**
baz=78
P16A Fountain Green 78.71 49 ⇑P **P 22 03 51.9 +0.8**
baz=78
P16A ⇑P **P 22 03 51.9 +0.8**
baz=78
P16A ⇑P **P 22 03 51.9 +0.8**
baz=78
ARUT Antelope Range 78.74 51 *e*P **P 22 03 51.9 +0.7**
ARUT pmax pmax
comp=Z,107nm,1.3s
ARUT Antelope Range 78.74 51 *e*P **P 22 03 51.9 +0.7**
comp=Z,107nm,1.3s
F24A Ekalaka 78.77 40 ⇑P **P 22 03 51.2 0.0**
baz=79,SNR=6.1
F24A ⇑P **P 22 03 51.2 0.0**
baz=79,SNR=6.1

F24A ⇑P P 22 03 51.2 0.0
baz=79,SNR=6.1
AVNT Avonos 78.77 310 *i* P P 22 03 51.5 +0.1
J21A Lysite 78.79 44 ⇑P P 22 03 51.8 +0.3
baz=79
J21A ⇑P P 22 03 51.8 +0.3
baz=79
J21A ⇑P P 22 03 51.8 +0.3
baz=79
MURC Murrieta 78.83 56 ⇓P P 22 03 51.6 0.0
baz=79,SNR=7.4
MURC ⇓P P 22 03 51.6 0.0
baz=79,SNR=7.4
MURC ⇓P P 22 03 51.6 0.0
baz=79,SNR=7.4
VRI Vrincioaia 78.84 320 P P 22 03 53.0 +1.6
VRI Vrincioaia 78.84 320 ⇑*i*P P 22 03 52.2 +0.8
TIRR Tirgusor 78.88 318 *e*P P 22 03 52.2 +0.6
TIRR *e**PP **pP** 22 04 03.3 +0.7
TIRR Tirgusor 78.88 318 *e*P P 22 03 52.2 +0.6
TIRR *ep*P **pP** 22 04 03.3 +0.7
TIRR Tirgusor 78.88 318 ⇑*i*P P 22 03 52.0 +0.4
PLOR Plostina 78.89 320 ⇑P P 22 03 52.4 +0.7
PLOR Plostina 78.89 320 ⇑*i*P P 22 03 52.4 +0.7
O17A Robinson Place 78.90 48 ⇑P P 22 03 52.8 +0.7
baz=79,SNR=16
O17A ⇑P P 22 03 52.8 +0.7
baz=79,SNR=16
O17A ⇑P P 22 03 52.8 +0.7
baz=79,SNR=16
BR131 Keskin Array S 78.92 311 *ep*P **pP** 22 04 05.2 +2.0
BR131 LR LR
comp=Z,1μm,19.0s
BRTR Keskin Array B 78.92 311 P P 22 03 52.4 +0.2
comp=Z,16nm,0.9s,baz=96,slow=4.6,SNR=48
BRTR LR LR 22 44 57.2
comp=Z,2μm,18.7s,baz=206,slow=40
BRTR Keskin Array B 78.92 311 *ce*P P 22 03 52.4 +0.2
BRTR pmax pmax
comp=Z,16nm,0.9s
BRTR Keskin Array B 78.92 311 P P 22 03 52.4 +0.2
CCUT Cedar City 78.94 51 *e*P P 22 03 53.3 +0.9
comp=Z,121nm,1.4s
CCUT *ep*P **pP** 22 04 03.7 +0.4
KOZT Kozan 78.97 309 *e*P P 22 03 51.6 -0.7
EFOR EFORIE 79.01 317 ⇑*i*P P 22 03 53.7 +1.4
GRER 79.03 319 ⇓*i*P P 22 03 54.6 +2.1
N18A Larsen Ranch, 79.04 47 ⇓P P 22 03 53.0 +0.1
baz=79
N18A ⇓P P 22 03 53.0 +0.1
baz=79
N18A ⇓P P 22 03 53.0 +0.1
baz=79
MVU Marysvale 79.06 50 PFAKE 22 04 10.0 +17
MVU LR LR
comp=Z,884nm,22.0s
MSU Marysvale 79.08 50 *e*P P 22 03 54.4 +1.2
MSU *e**PP **pP** 22 04 04.8 +0.7
MSU Marysvale 79.08 50 *e*P P 22 03 54.4 +1.2
MSU *ep*P **pP** 22 04 04.8 +0.7
KAMT Kaman 79.10 311 *e*P P 22 03 53.0 -0.1
G24A Alzada 79.13 41 ⇓P P 22 03 52.7 -0.4
baz=79
G24A ⇓P P 22 03 52.7 -0.4
baz=79
G24A ⇓P P 22 03 52.7 -0.4
baz=79
GMRC Granite Mounta 79.15 55 ⇑P P 22 03 53.7 +0.3
baz=79,SNR=16
GMRC ⇑P P 22 03 53.7 +0.3
baz=79,SNR=16
GMRC ⇑P P 22 03 53.7 +0.3
baz=79,SNR=16
L20A Wamsutter 79.15 45 ⇓P P 22 03 53.8 +0.4
baz=79,SNR=5.9
L20A ⇓P P 22 03 53.8 +0.4
baz=79,SNR=5.9
L20A ⇓P P 22 03 53.8 +0.4
baz=79,SNR=5.9
UZH Uzhgorod 79.16 324 *e*P P 22 03 53.1 0.0
UZH *e* 22 04 05.9
UZH *e* 22 06 58.9
UZH *e*S **S** **22 13 49.7 -0.4**
UZH *i* 22 18 59.9
UZH MLR MLR
comp=N,2μm,15.0s
UZH MLR MLR
comp=E,4μm,15.0s
UZH MLR MLR
comp=Z,2μm,15.0s
TMUT Trail Mountain 79.18 49 *e*P P 22 03 54.7 +0.9
comp=Z,68nm,1.3s
OJC Ojcow 79.19 326 *i* P P 22 03 53.8 +0.6
OJC *es*P **sP** **22 04 06.6 -1.6**
OJC *ep*PP 22 07 03.3
OJC *e*S **S** **22 13 54.9 +4.5**
OJC L L 22 44 46.8
comp=Z,2.8nm,17.9s
OJC Ojcow 79.19 326 ⇑*i*P P 22 03 53.8 +0.6
OJC *es*P 22 04 06.6
OJC *e*S **S** **22 13 54.9 +4.5**
OJC MLR MLR
comp=Z,3μm,17.9s
OJC Ojcow 79.19 326 *e*P P 22 03 53.9 +0.6
R15A Junction 79.20 50 ⇓P P 22 03 55.0 +1.2
baz=79,SNR=12
R15A ⇓P P 22 03 55.0 +1.2
baz=79,SNR=12
R15A ⇓P P 22 03 55.0 +1.2
baz=79,SNR=12
BMR Baia Mare 79.25 322 P P 22 03 54.9 +1.3
BMR Baia Mare 79.25 322 ⇑*i*P P 22 03 54.7 +1.1
J22A Midwest 79.28 43 ⇑P P 22 03 54.3 +0.2
baz=79,SNR=5.7
J22A ⇑P P 22 03 54.3 +0.2
baz=79,SNR=5.7
J22A ⇑P P 22 03 54.3 +0.2
baz=79,SNR=5.7
O18A Roosevelt 79.29 48 ⇓P P 22 03 55.4 +1.2
baz=79,SNR=12
O18A ⇓P P 22 03 55.4 +1.2
baz=79,SNR=12
O18A ⇓P P 22 03 55.4 +1.2
baz=79,SNR=12
109C Camp Elliot, M 79.32 57 ⇓P P 22 03 54.4 +0.2
baz=79
109C ⇓P P 22 03 54.4 +0.2
baz=79
109C ⇓P P 22 03 54.4 +0.2
baz=79
LDFC Landfair 79.33 54 *e*P P 22 03 55.2 +0.8
LDFC *ep*P **pP** **22 04 07.9 +2.5**
PFO Pinyon Flat Ob 79.33 56 *e*P P 22 03 54.5 0.0
PFO pmax pmax
comp=Z,112nm,1.2s
PFO MLR MLR
comp=Z,3μm,22.0s
PFO Pinyon Flat Ob 79.33 56 *e*P P 22 03 54.5 0.0
comp=Z,112nm,1.2s
PFO LR LR
comp=Z,3μm,22.0s
PFO Pinyon Flat Ob 79.33 56 P P 22 03 55.0 +0.5
comp=Z,140nm,1.1s,SNR=15
PFO Pinyon Flat Ob 79.33 56 ⇓P P 22 03 54.5 0.0
baz=79,SNR=21
PFO ⇓P P 22 03 54.5 0.0
baz=79,SNR=21
PFO ⇓P P 22 03 54.5 0.0
baz=79,SNR=21
NIG Nigde 79.34 310 *e*P P 22 03 53.5 -1.1
LOD Lodumlu 79.34 312 *e*P P 22 03 55.4 +1.0
PGOR Pogoanele 79.34 319 ⇓*i*P P 22 03 55.6 +1.4
BBAL Bala 79.35 312 *i* P P 22 03 54.8 +0.4
P17A Butcher Ranch, 79.35 48 ⇓P P 22 03 55.4 +0.8
baz=79,SNR=16
P17A ⇓P P 22 03 55.4 +0.8
baz=79,SNR=16
P17A ⇓P P 22 03 55.4 +0.8
baz=79,SNR=16
AMRR Amara 79.36 318 ⇑P P 22 03 55.4 +1.2
AMRR Amara 79.36 318 ⇑*i*P P 22 03 55.4 +1.2
K21A Alcova 79.36 44 ⇓P P 22 03 54.9 +0.3
baz=79
K21A ⇓P P 22 03 54.9 +0.3
baz=79
K21A ⇓P P 22 03 54.9 +0.3
baz=79
N19A John Jarvie Ra 79.38 47 ⇓P P 22 03 54.8 +0.1
baz=79,SNR=6.2
N19A ⇓P P 22 03 54.8 +0.1
baz=79,SNR=6.2
N19A ⇓P P 22 03 54.8 +0.1
baz=79,SNR=6.2
TRPA Tarpa 79.39 323 ⇑*i*P P 22 03 55.3 +1.0
TRPA Tarpa 79.39 323 ⇑*e*P P 22 03 55.3 +1.0
BELC Belle Mtn. Jos 79.39 56 ⇓P P 22 03 54.5 -0.4
baz=79,SNR=13
BELC ⇓P P 22 03 54.5 -0.4
baz=79,SNR=13
BELC ⇓P P 22 03 54.5 -0.4
baz=79,SNR=13
ISR Istrita 79.44 319 ⇑P P 22 03 56.0 +1.2
ISR Istrita 79.44 319 ⇑*i*P P 22 03 56.0 +1.2
AFSR Af˘ar-Bala (A 79.44 312 *e*P P 22 03 55.9 +1.0
Q16A Castle Valley 79.44 49 ⇓P P 22 03 56.0 +0.9
baz=79,SNR=17
Q16A ⇓P P 22 03 56.0 +0.9
baz=79,SNR=17
Q16A ⇓P P 22 03 56.0 +0.9
baz=79,SNR=17
H24A Dirks Ranch, A 79.44 41 ⇓P P 22 03 54.7 -0.2
baz=79,SNR=6.8
H24A ⇓P P 22 03 54.7 -0.2
baz=79,SNR=6.8
H24A ⇓P P 22 03 54.7 -0.2
baz=79,SNR=6.8
DOPR Dopca 79.46 320 ⇑*i*P P 22 03 56.9 +2.0
TAU Tasmania Unive 79.48 175 PFAKE 22 04 10.0 +15
TAU LR LR
comp=Z,2μm,22.0s
MLR Muntele Rosu 79.50 320 LR LR 22 42 32.5
comp=Z,2μm,18.6s,baz=49,slow=38
MLR Muntele Rosu 79.50 320 P P 22 03 56.5 +1.3
MLR Muntele Rosu 79.50 320 ⇑*i*P P 22 03 55.7 +0.5
NIE Niedzica 79.53 325 *i* P P 22 03 56.2 +1.1
NIE *es*P **sP** **22 04 08.3 -1.9**
NIE Niedzica 79.53 325 ⇑*i*P P 22 03 56.2 +1.1
NIE *es*P 22 04 08.3
P18A Preston Nutter 79.55 48 ⇑P P 22 03 56.4 +0.6
baz=79,SNR=10
P18A ⇑P P 22 03 56.4 +0.6
baz=79,SNR=10
P18A ⇑P P 22 03 56.4 +0.6
baz=79,SNR=10
M20A Sweetwater, Wa 79.57 46 ⇑P P 22 03 56.4 +0.7
baz=79,SNR=5.7
M20A ⇑P P 22 03 56.4 +0.7
baz=79,SNR=5.7
M20A ⇑P P 22 03 56.4 +0.7
baz=79,SNR=5.7
R16A Teasdale 79.65 50 ⇑P P 22 03 57.5 +1.3
baz=80,SNR=40
R16A ⇑P P 22 03 57.5 +1.3
baz=80,SNR=40
R16A ⇑P P 22 03 57.5 +1.3
baz=80,SNR=40
SRU San Rafael 79.71 49 *e*P P 22 03 57.3 +0.7
SRU pmax pmax
comp=Z,87nm,1.0s
SRU San Rafael 79.71 49 *e*P P 22 03 57.2 +0.7
comp=Z,88nm,1.0s
SRU San Rafael 79.71 49 ⇓P P 22 03 57.1 +0.5
baz=80,SNR=30
SRU ⇓P P 22 03 57.1 +0.5
baz=80,SNR=30
SRU ⇓P P 22 03 57.1 +0.5
baz=80,SNR=30
L21A Rawlins 79.73 45 ⇑P P 22 03 56.7 +0.1
baz=80,SNR=8.0
L21A ⇑P P 22 03 56.7 +0.1
baz=80,SNR=8.0
L21A ⇑P P 22 03 56.7 +0.1
baz=80,SNR=8.0
BAR Barrett 79.74 57 *e*P P 22 03 56.8 +0.2
BAR *ep*P **pP** **22 04 07.4 -0.2**
GULE Gulek 79.75 309 *i* P P 22 03 57.9 +1.2
K22A Casper 79.76 44 ⇑P P 22 03 56.9 +0.2
baz=80
K22A ⇑P P 22 03 56.9 +0.2
baz=80
K22A ⇑P P 22 03 56.9 +0.2
baz=80
MONP Monument Peak 79.78 57 ⇓P P 22 03 57.2 +0.2
baz=80,SNR=18
MONP ⇓P P 22 03 57.2 +0.2
baz=80,SNR=18
MONP ⇓P P 22 03 57.2 +0.2
baz=80,SNR=18
O19A Miners Draw (B 79.79 47 ⇓P P 22 03 56.6 -0.4
baz=80
O19A ⇓P P 22 03 56.6 -0.4
baz=80
O19A ⇓P P 22 03 56.6 -0.4
baz=80
J23A Dilts Ranch, B 79.80 43 ⇑P P 22 03 56.3 -0.6
baz=80
J23A ⇑P P 22 03 56.3 -0.6
baz=80
J23A ⇑P P 22 03 56.3 -0.6
baz=80
ULM Lac du Bonnet 79.82 33 P P 22 03 56.4 -0.2
comp=Z,12nm,0.8s,baz=308,slow=6.1,SNR=18
ULM Lac du Bonnet 79.82 33 P P 22 03 56.4 -0.2
ULM pmax pmax
comp=Z,13nm,0.8s
ULM Lac du Bonnet 79.82 33 *e*P P 22 03 56.7 0.0
comp=Z,75nm,1.2s
ULM *ep*P **pP** **22 04 07.6 -0.1**
ULM LR LR
comp=Z,1μm,21.0s
IRM Iron Mountain 79.86 55 ⇑P P 22 03 57.7 +0.4
baz=80,SNR=19
IRM ⇑P P 22 03 57.7 +0.4
baz=80,SNR=19
IRM ⇑P P 22 03 57.7 +0.4
baz=80,SNR=19
SULR 79.88 319 ⇑*i*P P 22 03 56.2 -0.9
S16A Weppner Ranch, 79.93 50 ⇑P P 22 03 58.7 +0.9
baz=80,SNR=22
S16A ⇑P P 22 03 58.7 +0.9
baz=80,SNR=22
S16A ⇑P P 22 03 58.7 +0.9
baz=80,SNR=22
N20A Spence Gulch, 79.95 46 ⇓P P 22 03 58.6 +0.8
baz=80,SNR=7.9
N20A ⇓P P 22 03 58.6 +0.8
baz=80,SNR=7.9
N20A ⇓P P 22 03 58.6 +0.8
baz=80,SNR=7.9
Q18A Rafter H Ranch 79.95 48 ⇑P P 22 03 57.9 +0.1
baz=80,SNR=9.8
Q18A ⇑P P 22 03 57.9 +0.1
baz=80,SNR=9.8
Q18A ⇑P P 22 03 57.9 +0.1
baz=80,SNR=9.8
SULT Sultanhani-AKS 79.95 310 *e*P P 22 03 57.5 -0.2
BC3 Big Chuckawall 79.96 56 ⇓P P 22 03 58.0 +0.1
baz=80,SNR=22
BC3 ⇓P P 22 03 58.0 +0.1
baz=80,SNR=22
BC3 ⇓P P 22 03 58.0 +0.1
baz=80,SNR=22
M21A Separation Pea 79.97 45 ⇑P P 22 03 58.0 0.0
baz=80,SNR=6.9
M21A ⇑P P 22 03 58.0 0.0
baz=80,SNR=6.9
M21A ⇑P P 22 03 58.0 0.0
baz=80,SNR=6.9
I24A Kuemmerle Ranc 80.00 42 ⇓P P 22 03 57.8 -0.1
baz=80
I24A ⇓P P 22 03 57.8 -0.1
baz=80
I24A ⇓P P 22 03 57.8 -0.1
baz=80
RAC Raciborz 80.00 327 *e*P P 22 03 58.7 +1.1
RAC MLR MLR
comp=Z,2μm,17.0s
VOIR 80.00 320 P P 22 03 58.4 +0.6
VOIR 80.00 320 ⇓*i*P P 22 03 58.2 +0.4
R17A Hanksville Air 80.03 49 ⇓P P 22 03 58.7 +0.5
baz=80,SNR=20
R17A ⇓P P 22 03 58.7 +0.5
baz=80,SNR=20
R17A ⇓P P 22 03 58.7 +0.5
baz=80,SNR=20
RUE Ruedersdorf 80.05 330 *e*P P 22 03 58.5 +0.7
comp=Z,74nm,1.1s
RUE *ep*P **pP** **22 04 10.9 +2.1**
RUE *e*S **S** **22 13 56.3 -3.1**
RUE Ruedersdorf 80.05 330 *e*P P 22 03 58.2 +0.4
comp=Z,64nm,0.9s
W13A Hualapai Mount 80.11 54 ⇑P P 22 03 59.1 +0.3
baz=80,SNR=21
W13A ⇑P P 22 03 59.1 +0.3
baz=80,SNR=21
W13A ⇑P P 22 03 59.1 +0.3
baz=80,SNR=21
RAR Rarotonga 80.12 126 PFAKE 22 04 10.0 +11
RAR LR LR
comp=Z,4μm,21.0s
RSSD Black Hills 80.14 42 *e*P P 22 03 58.9 +0.1
RSSD *e**PP **pP** **22 04 11.2 +1.4**
RSSD pmax pmax
comp=Z,34nm,1.0s
RSSD Black Hills 80.14 42 *e*P P 22 03 58.9 +0.1
comp=Z,34nm,1.0s
RSSD *ep*P **pP** **22 04 11.2 +1.4**
MERS Mersin 80.16 309 *e*P P 22 03 57.5 -1.3
SWSC Sam W. Stewart 80.17 56 ⇑P P 22 03 58.9 0.0
baz=80,SNR=8.5
SWSC ⇑P P 22 03 58.9 0.0
baz=80,SNR=8.5
SWSC ⇑P P 22 03 58.9 0.0
baz=80,SNR=8.5
OKC Ostrava-Krasne 80.20 327 ⇑*i*P P 22 03 59.3 +0.6
OKC *e**PP **pP** **22 04 08.9 -0.8**
OKC *es* **S** **22 14 02.4 +1.3**
OKC MLR MLR
comp=Z,2μm,15.3s
OKC Ostrava-Krasne 80.20 327 ⇑*i*P P 22 03 59.3 +0.6
OKC *ep*P **pP** **22 04 08.9 -0.8**
OKC *es* **S** **22 14 02.4 +1.3**
OKC AMS AMS 22 42 40.0
comp=Z,2μm,15.3s
DRGR 80.24 322 P P 22 04 00.0 +0.9
DRGR 80.24 322 ⇑*i*P P 22 03 59.7 +0.6
KSP Ksiaz 80.26 328 *e*P P 22 03 59.9 +0.9
KSP *ep*PP **PP** **22 06 59.0 -2.2**
KSP *es* **S** **22 14 01.4 -0.3**
KSP LMZ LR 22 42 49.0
comp=Z,4μm,18.3s
KSP Ksiaz 80.26 328 *e*P P 22 03 59.6 +0.6
KSP *e* 22 04 09.6
KSP *e* 22 06 58.5
KSP *es* **S** **22 14 00.0 -1.7**
KSP *es*S **SS** **22 19 19.0 +7.1**
KSP MLR MLR
comp=Z,9μm,18.3s
PRD Provadia 80.26 317 P pP 22 04 12.0 +1.9
P19A Cripple Cowboy 80.30 47 ⇓P P 22 04 00.2 +0.5
baz=80,SNR=11
P19A ⇓P P 22 04 00.2 +0.5
baz=80,SNR=11
P19A ⇓P P 22 04 00.2 +0.5
baz=80,SNR=11
U15A North Rim 80.30 52 ⇓P P 22 04 00.8 +0.9
baz=80,SNR=29
U15A ⇓P P 22 04 00.8 +0.9
baz=80,SNR=29
U15A ⇓P P 22 04 00.8 +0.9
baz=80,SNR=29
J24A Dixon Ranch, L 80.33 43 ⇓P P 22 03 59.3 -0.4
baz=80
J24A ⇓P P 22 03 59.3 -0.4
baz=80
J24A ⇓P P 22 03 59.3 -0.4
baz=80
N21A Black Mountain 80.43 46 ⇓P P 22 04 00.9 +0.4
baz=80,SNR=5.5
N21A ⇓P P 22 04 00.9 +0.4
baz=80,SNR=5.5
N21A ⇓P P 22 04 00.9 +0.4
baz=80,SNR=5.5
S17A Black Ridge (B 80.47 50 ⇑P P 22 04 00.9 +0.3
baz=80,SNR=32
S17A ⇑P P 22 04 00.9 +0.3
baz=80,SNR=32
S17A ⇑P P 22 04 00.9 +0.3
baz=80,SNR=32
MORC Moravsky Berou 80.51 327 ⇑P P 22 04 01.3 +0.8
MORC Moravsky Berou 80.51 327 *e*P P 22 04 01.1 +0.7
comp=Z,112nm,1.3s
MORC *ep*P **pP** **22 04 12.6 +1.2**
MORC Moravsky Berou 80.51 327 ⇑*i*P P 22 04 01.3 +0.8
Y12C Blythe 80.52 55 ⇓P P 22 04 01.1 +0.3
baz=80,SNR=17
Y12C ⇓P P 22 04 01.1 +0.3
baz=80,SNR=17
Y12C ⇓P P 22 04 01.1 +0.3
baz=80,SNR=17
M22A Cedar Creek Ra 80.53 45 ⇓P P 22 04 01.1 +0.1
baz=80
M22A ⇓P P 22 04 01.1 +0.1
baz=80
M22A ⇓P P 22 04 01.1 +0.1
baz=80
R18A Canyonlands Na 80.55 49 ⇑P P 22 04 01.1 0.0
baz=80,SNR=20
R18A ⇑P P 22 04 01.1 0.0
baz=80,SNR=20
R18A ⇑P P 22 04 01.1 0.0
baz=80,SNR=20
Q19A Hogan Spring (80.57 48 ⇑P P 22 04 01.3 +0.2
baz=80,SNR=16
Q19A ⇑P P 22 04 01.3 +0.2
baz=80,SNR=16
Q19A ⇑P P 22 04 01.3 +0.2
baz=80,SNR=16
DPC Dobruska-Polom 80.61 328 *e*P P 22 04 01.9 +0.9
DPC Dobruska-Polom 80.61 328 *e*P P 22 04 01.9 +0.9
DPC Dobruska-Polom 80.61 328 ⇑*i*P P 22 04 01.8 +0.8
DPC *ep*P **pP** **22 04 12.2 +0.2**
DPC *es* **S** **22 14 04.1 -1.4**
DPC AMS AMS 22 42 50.0
comp=Z,4μm,19.1s
RAYN Ar Rayn 80.62 292 P P 22 04 01.0 -0.5
comp=Z,658nm,0.8s,SNR=20
UPC Upice 80.63 328 ⇑*i*P P 22 04 01.9 +0.9
UPC *e**PP **pP** **22 04 12.3 +0.3**
UPC Upice 80.63 328 ⇑*i*P P 22 04 01.9 +0.9
UPC *ep*P **pP** **22 04 12.3 +0.3**
LOT Lotru 80.65 321 ⇓*i*P P 22 04 02.3 +0.9
K24A Anderson Ranch 80.65 43 ⇓P P 22 04 00.8 -0.7
baz=80
K24A ⇓P P 22 04 00.8 -0.7
baz=80
K24A ⇓P P 22 04 00.8 -0.7
baz=80
HUMR Humele 80.66 319 ⇑*i*P P 22 04 00.9 -0.4
BORA Eskisehir 80.72 313 *i* P P 22 04 01.5 -0.3
SEYT Eskypehyr 80.72 313 *i* P P 22 03 59.3 -2.5
GLA Glamis 80.75 56 *e*P P 22 04 03.1 +1.0
GLA pmax pmax
comp=Z,127nm,1.1s
GLA Glamis 80.75 56 *e*P P 22 04 03.1 +1.0
comp=Z,127nm,1.1s
GLA Glamis 80.75 56 ⇑P P 22 04 02.4 +0.4
baz=81,SNR=9.4
GLA ⇑P P 22 04 02.4 +0.4
baz=81,SNR=9.4
GLA ⇑P P 22 04 02.4 +0.4
baz=81,SNR=9.4
PSZ Piszkesteto 80.80 324 P P 22 04 03.0 +0.9
PSZ Piszkesteto 80.80 324 ⇑*e*P P 22 04 02.8 +0.7
comp=Z,119nm,1.1s
PSZ *ep*P **pP** **22 04 14.7 +1.6**
PSZ LR LR
comp=Z,3μm,19.0s
PSZ Piszkesteto 80.80 324 ⇑*i*P P 22 04 02.9 +0.9
PSZ Piszkesteto 80.80 324 ⇑*e*P P 22 04 03.0 +0.9
T17A Navajo Res., N 80.87 50 ⇓P P 22 04 02.9 0.0
baz=81,SNR=15
T17A ⇓P P 22 04 02.9 0.0
baz=81,SNR=15
T17A ⇓P P 22 04 02.9 0.0
baz=81,SNR=15
HLG Helgoland 80.91 334 *e*P P 22 04 03.0 +0.6
comp=Z,145nm,1.1s
HLG *ep*P **pP** **22 04 15.4 +2.0**

S18A Hurst Farm, Bl 80.93 50 ⇓P **P 22 04 03.3 +0.1**
baz=81,SNR=29
S18A ⇓P **P 22 04 03.3 +0.1**
baz=81,SNR=29
S18A ⇓P **P 22 04 03.3 +0.1**
baz=81,SNR=29
M23A Laramie 80.98 44 ⇓P **P 22 04 03.3 -0.1**
baz=81,SNR=5.7
M23A ⇓P **P 22 04 03.3 -0.1**
baz=81,SNR=5.7
M23A ⇓P **P 22 04 03.3 -0.1**
baz=81,SNR=5.7
R19A Curley Farm, L 80.99 49 ⇓P **P 22 04 04.0 +0.5**
baz=81,SNR=23
R19A ⇓P **P 22 04 04.0 +0.5**
baz=81,SNR=23
R19A ⇓P **P 22 04 04.0 +0.5**
baz=81,SNR=23
SZH Strazhica 81.01 318 P **P 22 04 03.2 0.0**
N22A Wattenberg Ran 81.01 45 ⇑P **P 22 04 03.7 +0.1**
baz=81
N22A ⇑P **P 22 04 03.7 +0.1**
baz=81
N22A ⇑P **P 22 04 03.7 +0.1**
baz=81
PV04 Paradox Valley 81.14 48 *e*P **P 22 04 05.2 +1.0**
Q20A Ridgley Place, 81.14 48 ⇓P **P 22 04 04.6 +0.3**
baz=81,SNR=18
Q20A ⇓P **P 22 04 04.6 +0.3**
baz=81,SNR=18
Q20A ⇓P **P 22 04 04.6 +0.3**
baz=81,SNR=18
BOLV Bolvadin 81.17 312 *i* P **P 22 04 04.3 0.0**
GZR Gura Zlata 81.19 321 P **P 22 04 04.9 +0.7**
GZR Gura Zlata 81.19 321 ⇓*i*P **P 22 04 04.8 +0.6**
JMB Yambol 81.20 317 P **P 22 04 05.5 +1.3**
U16A Tuba City 81.21 51 ⇑P **P 22 04 05.7 +1.0**
baz=81,SNR=49
U16A ⇑P **P 22 04 05.7 +1.0**
baz=81,SNR=49
U16A ⇑P **P 22 04 05.7 +1.0**
baz=81,SNR=49
U17A Shonto 81.21 51 ⇑P **P 22 04 05.2 +0.5**
baz=81,SNR=28
U17A ⇑P **P 22 04 05.2 +0.5**
baz=81,SNR=28
U17A ⇑P **P 22 04 05.2 +0.5**
baz=81,SNR=28
BRG Berggiesshubel 81.22 329 ⇑*i*P **P 22 04 04.6 +0.5**
comp=Z,43nm,0.9s
BRG *i* 22 04 16.2
comp=Z,76nm,1.2s
BRG PP **PP 22 07 13.0 +4.0**
BRG S **S 22 14 14.0 +2.3**
BRG SS SS 22 19 35.0 +8.9
BRG
comp=N,2µm,18.3s
BRG
comp=E,2µm,16.2s
BRG
comp=Z,4µm,16.6s
BRG Berggiesshubel 81.22 329 *e*P **P 22 04 04.6 +0.5**
comp=Z,220nm,2.2s
BRG *e*pP **pP 22 04 17.0 +1.9**
BRG Berggiesshubel 81.22 329 *i*P **P 22 04 04.6 +0.5**
BRG *i* 22 04 16.2
BRG 22 07 13.0
BRG S **S 22 14 14.0 +2.3**
BRG SS SS 22 19 35.0 +8.9
BRG pmax pmax
comp=Z,43nm,0.9s
BRG MLR MLR
comp=N,2µm,18.3s
BRG MLR MLR
comp=E,2µm,16.2s
BRG MLR MLR
comp=Z,4µm,16.6s
PVCC Panska Ves 81.22 329 ⇑*i*P **P 22 04 04.8 +0.6**
PVCC *e**PP **pP 22 04 14.7 -0.5**
PVCC MLR MLR
comp=Z,6µm,17.5s
PVCC Panska Ves 81.22 329 ⇑*i*P **P 22 04 04.8 +0.6**
PVCC *e*pP **pP 22 04 14.7 -0.5**
PVCC AMS AMS 22 43 00.0
comp=Z,6µm,17.5s
N23A Red Feather La 81.24 45 ⇓P **P 22 04 05.5 +0.6**
baz=81,SNR=9.1
N23A ⇓P **P 22 04 05.5 +0.6**
baz=81,SNR=9.1
N23A ⇓P **P 22 04 05.5 +0.6**
baz=81,SNR=9.1
AGMN Agassiz Nation 81.25 35 PFAKE 22 04 20.0 +16
AGMN LR LR
comp=Z,1µm,20.0s
CLL Collm 81.26 330 *e*P **P 22 04 04.5 +0.1**
comp=Z,66nm,0.9s
CLL *e*pP **pP 22 04 16.9 +1.5**
CLL *e*S **S 22 14 08.8 -3.3**
CLL Collm 81.26 330 ⇑*i*P **P 22 04 04.4 +0.1**
CLL *i* 22 04 16.5
CLL *e*S **S 22 14 13.0 +0.9**
CLL pmax pmax
comp=Z,66nm,0.9s
CLL Collm 81.26 330 ⇑*i*P **P 22 04 04.4 +0.1**
comp=Z,66nm,0.9s
CLL *i* pP **pP 22 04 16.5 +1.1**
CLL *e*PP **PP 22 07 08.0 -1.4**
CLL *e*PPP PPP 22 09 06.0
CLL *e*S **S 22 14 13.0 +0.9**
CLL *e*PS **PnS 22 15 01.0 -0.9**
CLL *e*PPS PPS 22 15 20.0
CLL *e*SS SS 22 19 42.0 +15
CLL *e* 22 20 30.0
CLL *e*SSS SSS 22 23 00.0
CLL *e* 22 23 54.0
CLL *e* 22 27 00.0
CLL LmH 22 42 00.0
comp=N,3µm,19.2s
CLL LmH 22 42 00.0
comp=E,3µm,20.3s
VRAC Vranov 81.27 327 LR LR 22 43 52.9
comp=E,3µm,18.4s,baz=34,slow=38
VRAC Vranov 81.27 327 P **P 22 04 05.7 +1.2**
VRAC Vranov 81.27 327 ⇑*i*P **P 22 04 05.5 +1.0**
P21A Newcastle 81.27 47 ⇑P **P 22 04 05.8 +0.8**
baz=81
P21A ⇑P **P 22 04 05.8 +0.8**
baz=81
P21A ⇑P **P 22 04 05.8 +0.8**
baz=81
T18A Mexican Hat 81.36 50 ⇑P **P 22 04 05.2 -0.2**
baz=81,SNR=30
T18A ⇑P **P 22 04 05.2 -0.2**
baz=81,SNR=30
T18A ⇑P **P 22 04 05.2 -0.2**
baz=81,SNR=30
O22A Kremmling 81.38 46 ⇓P **P 22 04 05.8 +0.2**
baz=81,SNR=7.4
O22A ⇓P **P 22 04 05.8 +0.2**
baz=81,SNR=7.4
O22A ⇓P **P 22 04 05.8 +0.2**
baz=81,SNR=7.4
FBE Freiberg 81.42 330 *e*P **P 22 04 05.9 +0.7**
comp=Z,83nm,0.9s
FBE *e*pP **pP 22 04 18.3 +2.1**
S19A Harvey Farm, M 81.42 49 ⇑P **P 22 04 06.0 +0.2**
baz=81,SNR=35
S19A ⇑P **P 22 04 06.0 +0.2**
baz=81,SNR=35
S19A ⇑P **P 22 04 06.0 +0.2**
baz=81,SNR=35
WUAZ Wupatki 81.45 52 *e*P **P 22 04 06.8 +0.9**
comp=Z,120nm,1.1s
WUAZ *e*pP **pP 22 04 20.0 +3.1**
WUAZ LR LR
comp=Z,769nm,19.0s
WUAZ Wupatki 81.45 52 ⇑P **P 22 04 06.7 +0.8**
baz=81,SNR=28
WUAZ ⇑P **P 22 04 06.7 +0.8**
baz=81,SNR=28
WUAZ ⇑P **P 22 04 06.7 +0.8**
baz=81,SNR=28
NRDL Niedersach Rie 81.46 332 *e*P **P 22 04 05.6 +0.3**
comp=Z,32nm,1.0s
NRDL *e*pP **pP 22 04 18.1 +1.8**
M24A Cheyenne 81.49 44 ⇑P **P 22 04 06.8 +0.7**
baz=81,SNR=8.0
M24A ⇑P **P 22 04 06.8 +0.7**
baz=81,SNR=8.0
M24A ⇑P **P 22 04 06.8 +0.7**
baz=81,SNR=8.0
SMOL Smolenice 81.49 326 *e*P **P 22 04 07.2 +1.5**
SMOL Smolenice 81.49 326 *e*P **P 22 04 07.2 +1.5**
L25A Engebretsen Ra 81.50 43 ⇓P **P 22 04 06.4 +0.4**
baz=81
L25A ⇓P **P 22 04 06.4 +0.4**
baz=81
L25A ⇓P **P 22 04 06.4 +0.4**
baz=81
PV01 Paradox Valley 81.51 48 *e*P **P 22 04 06.6 +0.3**
comp=Z,11µm,1.4s
PV01 *e*pP **pP 22 04 17.3 +0.1**
BUD Budapest 81.52 325 ⇑*e*P **P 22 04 06.4 +0.6**
ASF Jabal al Asfar 81.54 304 LR LR 22 44 15.5
comp=Z,2µm,19.5s,baz=287,slow=38
K26A Motz Farm, Whi 81.56 42 ⇑P **P 22 04 06.1 -0.2**
baz=81,SNR=6.1
K26A ⇑P **P 22 04 06.1 -0.2**
baz=81,SNR=6.1
K26A ⇑P **P 22 04 06.1 -0.2**
baz=81,SNR=6.1
R20A Redvale 81.59 48 ⇓P **P 22 04 07.1 +0.5**
baz=81,SNR=42
R20A ⇓P **P 22 04 07.1 +0.5**
baz=81,SNR=42
R20A ⇓P **P 22 04 07.1 +0.5**
baz=81,SNR=42
BZS Buzias 81.61 322 P **P 22 04 06.8 +0.5**
BZS Buzias 81.61 322 ⇑*i*P **P 22 04 06.6 +0.3**
113A Mohawk Valley, 81.62 55 ⇑P **P 22 04 06.8 +0.1**
baz=82,SNR=18
113A ⇑P **P 22 04 06.8 +0.1**
baz=82,SNR=18
113A ⇑P **P 22 04 06.8 +0.1**
baz=82,SNR=18
PRA Prague 81.62 329 ⇑P **P 22 04 07.0 +0.7**
PRA pP **pP 22 04 20.0 +2.7**
PRA AMS AMS 22 43 00.0
P22A Eagle 81.63 46 ⇓P **P 22 04 07.7 +0.8**
baz=81,SNR=13
P22A ⇓P **P 22 04 07.7 +0.8**
baz=81,SNR=13
P22A ⇓P **P 22 04 07.7 +0.8**
baz=81,SNR=13
PRU Pruhonice 81.64 328 ⇑*i*P **P 22 04 07.0 +0.6**
PRU *e**PP **pP 22 04 17.2 -0.2**
PRU *e*S **S 22 14 17.3 +1.2**
PRU MLR MLR
comp=Z,5µm,18.7s
PRU Pruhonice 81.64 328 ⇑*i*P **P 22 04 07.0 +0.6**
PRU *e*pP **pP 22 04 17.2 -0.2**
PRU *e*S **S 22 14 17.3 +1.2**
PRU *e*XS sS 22 14 39.7 +5.4
PRU AMS AMS 22 43 00.0
comp=Z,5µm,18.7s
Q21A Lamborn Mesa, 81.65 47 ⇑P **P 22 04 07.8 +0.8**
baz=82,SNR=12
Q21A ⇑P **P 22 04 07.8 +0.8**
baz=82,SNR=12
Q21A ⇑P **P 22 04 07.8 +0.8**
baz=82,SNR=12
URZ Urewera 81.67 152 *e*P **P 22 04 05.0 -1.4**
O23A Lake Granby, G 81.71 45 ⇓P **P 22 04 08.2 +0.9**
baz=82
O23A ⇓P **P 22 04 08.2 +0.9**
baz=82
O23A ⇓P **P 22 04 08.2 +0.9**
baz=82
V17A Tonalea, Kykot 81.75 52 ⇓P **P 22 04 08.3 +0.8**
baz=82,SNR=54
V17A ⇓P **P 22 04 08.3 +0.8**
baz=82,SNR=54
V17A ⇓P **P 22 04 08.3 +0.8**
baz=82,SNR=54
TREC Trest 81.76 328 ⇑*i*P **P 22 04 07.7 +0.6**
TREC *e*S **S 22 14 18.0 +0.5**
TREC MLR MLR
comp=Z,4µm,19.3s
TREC Trest 81.76 328 ⇑*i*P **P 22 04 07.7 +0.6**
TREC *e*S **S 22 14 18.0 +0.5**
TREC AMS AMS 22 43 40.0
comp=Z,4µm,19.3s
SMCO Snowmass 81.78 47 *e*P **P 22 04 07.4 -0.5**
comp=Z,71nm,1.4s
LFK Lefkose 81.78 308 *e*P **P 22 04 06.7 -0.9**
Z14A Wintersburg 81.79 54 ⇓P **P 22 04 08.0 +0.4**
baz=82,SNR=6.2
Z14A ⇓P **P 22 04 08.0 +0.4**
baz=82,SNR=6.2
Z14A ⇓P **P 22 04 08.0 +0.4**
baz=82,SNR=6.2
GDZ Gediz 81.80 313 *i* P **P 22 04 07.6 -0.1**
U18A Rough Rock, Ch 81.82 50 ⇓P **P 22 04 08.7 +0.8**
baz=82,SNR=26
U18A ⇓P **P 22 04 08.7 +0.8**
baz=82,SNR=26
U18A ⇓P **P 22 04 08.7 +0.8**
baz=82,SNR=26
NEUB Neuenburg 81.83 331 *e*P **P 22 04 07.6 +0.3**
comp=Z,68nm,0.9s
NEUB *e*pP **pP 22 04 20.1 +1.7**
S20A Disappointment 81.83 49 ⇑P **P 22 04 08.6 +0.6**
baz=82,SNR=15
S20A ⇑P **P 22 04 08.6 +0.6**
baz=82,SNR=15
S20A ⇑P **P 22 04 08.6 +0.6**
baz=82,SNR=15
ZST Bratislava 81.87 326 *e*P **P 22 04 08.9 +1.2**
ZST pmax pmax
comp=Z,156nm,2.2s
ZST Bratislava 81.87 326 *e*P **P 22 04 08.9 +1.2**
CLZ Clausthal 81.87 332 *e*P **P 22 04 08.3 +0.6**
comp=Z,55nm,0.9s
CLZ *e*pP **pP 22 04 20.7 +2.0**
CLZ *e*S **S 22 14 15.0 -3.5**
CLZ Clausthal 81.87 332 *e*P **P 22 04 08.3 +0.6**
CLZ *e**PP **pP 22 04 20.7 +2.0**
CLZ *e*S **S 22 14 15.0 -3.5**
CLZ pmax pmax
comp=Z,55nm,0.9s
PKSG 81.88 325 ⇑*e*P **P 22 04 08.2 +0.5**
N24A Carr 81.89 44 ⇓P **P 22 04 08.7 +0.6**
baz=82
N24A ⇓P **P 22 04 08.7 +0.6**
baz=82
N24A ⇓P **P 22 04 08.7 +0.6**
baz=82
M25A Palm-Egli Farm 81.94 44 ⇓P **P 22 04 09.6 +1.3**
baz=82
M25A ⇓P **P 22 04 09.6 +1.3**
baz=82
M25A ⇓P **P 22 04 09.6 +1.3**
baz=82
KAC Achnashellach 81.96 342 *e*P **P 22 04 08.2 +0.3**
KAC Achnashellach 81.96 342 P **P 22 04 08.2 +0.3**
R21A Cimarron 81.97 48 ⇓P **P 22 04 09.6 +0.9**
baz=82,SNR=33
R21A ⇓P **P 22 04 09.6 +0.9**
baz=82,SNR=33
R21A ⇓P **P 22 04 09.6 +0.9**
baz=82,SNR=33
MMAI Mount Meron Ar 82.00 305 LR LR 22 44 02.0
comp=Z,2µm,21.1s,baz=60,slow=38
ISP Isparta 82.01 312 PFAKE 22 04 20.0 +11
ISP LR LR
comp=Z,2µm,20.0s
Q22A Crested Butte, 82.02 47 ⇑P **P 22 04 09.8 +0.8**
baz=82,SNR=16
Q22A ⇑P **P 22 04 09.8 +0.8**
baz=82,SNR=16
Q22A ⇑P **P 22 04 09.8 +0.8**
baz=82,SNR=16
DIM Dimitrovgrad 82.05 317 P **P 22 04 09.9 +1.2**
K27A Flueckinger Fa 82.06 42 ⇑P **P 22 04 09.4 +0.5**
baz=82
K27A ⇑P **P 22 04 09.4 +0.5**
baz=82
K27A ⇑P **P 22 04 09.4 +0.5**
baz=82
T19A Beclabito 82.08 50 ⇑P **P 22 04 09.7 +0.5**
baz=82,SNR=21
T19A ⇑P **P 22 04 09.7 +0.5**
baz=82,SNR=21
X16A Lo Mia Camp, P 82.10 53 ⇑P **P 22 04 10.2 +0.8**
baz=82,SNR=32
X16A ⇑P **P 22 04 10.2 +0.8**
baz=82,SNR=32
X16A ⇑P **P 22 04 10.2 +0.8**
baz=82,SNR=32
MPEP Malo Peshtene 82.11 319 P **P 22 04 09.1 +0.1**
CSS Prodhromos 82.11 308 *e*P **P 22 04 07.2 -2.0**
CSS Prodhromos 82.11 308 *e*P **P 22 04 09.4 +0.2**
comp=Z,48nm,0.7s
CSS LR LR
comp=Z,3µm,21.0s
PKST T"s 82.14 325 ⇑*e*P **P 22 04 09.3 +0.2**
W17A Winslow 82.15 52 ⇓P **P 22 04 10.3 +0.7**
baz=82
W17A ⇓P **P 22 04 10.3 +0.7**
baz=82
W17A ⇓P **P 22 04 10.3 +0.7**
baz=82
MVCO Mesa Verde 82.15 49 *e*P **P 22 04 10.4 +0.7**
comp=Z,93nm,1.1s
MVCO *e*pP **pP 22 04 23.4 +2.8**
MVCO LR LR
comp=Z,770nm,21.0s
MVCO Mesa Verde 82.15 49 ⇓P **P 22 04 10.2 +0.6**
baz=82,SNR=20
MVCO ⇓P **P 22 04 10.2 +0.6**
baz=82,SNR=20
MVCO ⇓P **P 22 04 10.2 +0.6**
baz=82,SNR=20
ISCO Idaho Springs 82.16 46 *e*P **P 22 04 11.0 +1.3**
ISCO pmax pmax
comp=Z,15nm,0.7s
ISCO MLR MLR
comp=Z,839nm,21.0s
ISCO Idaho Springs 82.16 46 *e*P **P 22 04 11.0 +1.3**
comp=Z,15nm,0.7s
ISCO LR LR
comp=Z,839nm,21.0s
ISCO Idaho Springs 82.16 46 ⇓P **P 22 04 10.3 +0.6**
baz=82
ISCO ⇓P **P 22 04 10.3 +0.6**
baz=82
ISCO ⇓P **P 22 04 10.3 +0.6**
baz=82
TANN Tannenbergstha 82.17 330 *e*P **P 22 04 09.8 +0.5**
comp=Z,14nm,1.0s
TANN *e*pP **pP 22 04 22.2 +1.9**
KPL Plockton 82.19 343 *e*P **P 22 04 09.1 0.0**
KPL AMB AMB 22 04 10.8
comp=Z,234nm,3.6s
KPL Plockton 82.19 343 P **P 22 04 09.1 0.0**
KPL AMB AMB 22 04 10.8
comp=Z,234nm,3.6s
WERD Werda 82.21 330 *e*P **P 22 04 09.9 +0.5**
comp=Z,20nm,0.9s
WERD *e*pP **pP 22 04 22.3 +1.9**
114A Black Gap (USA 82.22 55 ⇑P **P 22 04 10.4 +0.6**
baz=82,SNR=10
114A ⇑P **P 22 04 10.4 +0.6**
baz=82,SNR=10
114A ⇑P **P 22 04 10.4 +0.6**
baz=82,SNR=10
V18A Ganado 82.23 51 ⇑P **P 22 04 10.9 +0.8**
baz=82,SNR=14
V18A ⇑P **P 22 04 10.9 +0.8**
baz=82,SNR=14
V18A ⇑P **P 22 04 10.9 +0.8**
baz=82,SNR=14
PLN Plauen 82.24 330 *e*P **P 22 04 10.3 +0.7**
comp=Z,116nm,1.1s
PLN *e*pP **pP 22 04 22.7 +2.1**
O24A Longmont 82.25 45 ⇓P **P 22 04 11.0 +1.0**
baz=82,SNR=6.4
O24A ⇓P **P 22 04 11.0 +1.0**
baz=82,SNR=6.4
O24A ⇓P **P 22 04 11.0 +1.0**
baz=82,SNR=6.4
GUNZ Gunzen 82.26 330 *e*P **P 22 04 10.2 +0.5**
comp=Z,35nm,1.3s
GUNZ *e*pP **pP 22 04 22.6 +1.9**
KHAL Karahalli 82.27 313 *i* P P 22 04 06.8 -3.2
DEMI Demirci 82.28 313 *i* P **P 22 04 10.2 +0.1**
S21A Coal Bank Pass 82.28 48 ⇓P **P 22 04 11.4 +0.9**
baz=82,SNR=22
S21A ⇓P **P 22 04 11.4 +0.9**
baz=82,SNR=22
S21A ⇓P **P 22 04 11.4 +0.9**
baz=82,SNR=22
LEF Lefka 82.29 308 *e*P P 22 04 05.3 -4.8
WERN Wernitzgruen 82.30 330 *e*P **P 22 04 10.5 +0.6**
comp=Z,19nm,1.0s
WERN *e*pP **pP 22 04 23.0 +2.0**
U19A Dine' College, 82.31 50 ⇑P **P 22 04 11.2 +0.7**
baz=82,SNR=46
U19A ⇑P **P 22 04 11.2 +0.7**
baz=82,SNR=46
U19A ⇑P **P 22 04 11.2 +0.7**
baz=82,SNR=46
NKC Novy Kostel 82.32 330 ⇑*i*P **P 22 04 10.4 +0.4**
NKC *e**PP **pP 22 04 20.9 -0.1**
NKC MLR MLR
comp=Z,3µm,13.8s
NKC Novy Kostel 82.32 330 ⇑*i*P **P 22 04 10.4 +0.4**
NKC *e*pP **pP 22 04 20.9 -0.1**
NKC AMS AMS 22 44 10.0
comp=Z,3µm,13.8s
MOX Moxa 82.33 330 *e*P **P 22 04 10.4 +0.4**
comp=Z,28nm,1.4s
MOX *e*pP **pP 22 04 22.9 +1.8**
MOX *e*L L 22 45 08.1
comp=Z,4µm,19.0s
MOX Moxa 82.33 330 *e*P **P 22 04 10.4 +0.4**
MOX *e**PP **pP 22 04 22.9 +1.8**
MOX pmax pmax
comp=Z,28nm,1.4s
MOX MLR MLR
comp=Z,4µm,19.0s
KDZ Kurdzhali 82.39 317 P **P 22 04 11.7 +1.2**
M26A McRoberts Ranc 82.42 43 ⇓P **P 22 04 11.7 +0.9**
baz=82
M26A ⇓P **P 22 04 11.7 +0.9**
baz=82
M26A ⇓P **P 22 04 11.7 +0.9**
baz=82
PGB Panagyurishte 82.44 318 P **P 22 04 11.4 +0.5**
BALY Balya 82.45 315 *i* P **P 22 04 10.8 -0.1**
PLD Plovdiv 82.47 318 P **P 22 04 10.9 0.0**
PLD Plovdiv 82.47 318 P **P 22 04 10.9 0.0**
PLD Plovdiv 82.47 318 P **P 22 04 10.9 0.0**
PLD Plovdiv 82.47 318 P **P 22 04 10.9 0.0**
IBBN Ibbenburen 82.47 333 *e*P **P 22 04 10.9 +0.2**
comp=Z,64nm,0.8s
IBBN *e*pP **pP 22 04 23.3 +1.6**
SOP Sopron 82.50 326 ⇑*e*P **P 22 04 12.0 +1.1**
PKS9 Tamasi 82.52 324 ⇑*e*P **P 22 04 11.2 +0.1**
R22A Saguache, Gunn 82.53 47 ⇑P **P 22 04 13.0 +1.3**
baz=82,SNR=15
R22A ⇑P **P 22 04 13.0 +1.3**
baz=82,SNR=15
R22A ⇑P **P 22 04 13.0 +1.3**
baz=82,SNR=15
BRSD Miller 82.55 39 ⇑P **P 22 04 11.3 -0.1**
baz=82
BRSD ⇑P **P 22 04 11.3 -0.1**
baz=82
BRSD ⇑P **P 22 04 11.3 -0.1**
baz=82
ALN Alexandroupoli 82.56 316 P **P 22 04 10.6 -0.8**
ALN Alexandroupoli 82.56 316 P **P 22 04 10.6 -0.8**
ALN Alexandroupoli 82.56 316 P **P 22 04 10.6 -0.8**
PKSM Moragy 82.62 324 P **P 22 04 11.9 +0.3**
PKSM Moragy 82.62 324 ⇑*i*P **P 22 04 11.5 -0.1**
PKSM Moragy 82.62 324 ⇑*e*P **P 22 04 11.6 -0.1**
CONA Conrad Observa 82.63 326 ⇑*i*P **P 22 04 12.7 +1.0**
comp=Z,42nm,1.2s
CONA Conrad Observa 82.63 326 ⇑*i*P **P 22 04 12.7 +1.0**
comp=Z,42nm,1.2s,SNR=27
KORT Korkueli 82.65 311 *i* P P 22 04 08.7 -3.4
U20A Newcomb 82.68 50 ⇓P **P 22 04 12.8 +0.5**
baz=82,SNR=17
U20A ⇓P **P 22 04 12.8 +0.5**
baz=82,SNR=17

U20A ⇓P P 22 04 12.8 +0.5
baz=82,SNR=17
KHC Kasperske Hory 82.70 328 ⇑*i*P P 22 04 12.5 +0.4
KHC *e**PP pP 22 04 22.5 -0.6
KHC MLR MLR
comp=Z,5µm,18.5s
KHC Kasperske Hory 82.70 328 *e*P P 22 04 12.4 +0.4
comp=Z,32nm,0.6s
KHC *ep*P pP 22 04 24.1 +1.0
KHC Kasperske Hory 82.70 328 ⇑*i*P P 22 04 12.5 +0.4
KHC *ep*P pP 22 04 22.5 -0.6
KHC *ex* x 22 04 33.5
KHC AMS AMS 22 44 00.0
comp=Z,5µm,18.5s
RZN Rozhen 82.75 317 P P 22 04 13.2 +0.6
214A Organ Pipe Nat 82.76 55 ⇑P P 22 04 13.0 +0.4
baz=83,SNR=8.5
214A ⇑P P 22 04 13.0 +0.4
baz=83,SNR=8.5
214A ⇑P P 22 04 13.0 +0.4
baz=83,SNR=8.5
ROTZ Rotzenmuhle 82.78 329 *e*P P 22 04 13.4 +1.0
comp=Z,52nm,1.7s
ROTZ *ep*P pP 22 04 25.8 +2.4
ROTZ *e*S S 22 14 25.6 -2.2
V19A Window Rock 82.78 51 ⇓P P 22 04 14.0 +1.0
baz=83,SNR=7.7
V19A ⇓P P 22 04 14.0 +1.0
baz=83,SNR=7.7
V19A ⇓P P 22 04 14.0 +1.0
baz=83,SNR=7.7
M27A Reverse DX Ran 82.79 43 ⇓P P 22 04 13.5 +0.8
baz=83
M27A ⇓P P 22 04 13.5 +0.8
baz=83
M27A ⇓P P 22 04 13.5 +0.8
baz=83
O25A Wiggins 82.80 45 ⇑P P 22 04 13.4 +0.6
baz=83,SNR=7.0
O25A ⇑P P 22 04 13.4 +0.6
baz=83,SNR=7.0
O25A ⇑P P 22 04 13.4 +0.6
baz=83,SNR=7.0
S22A 4UR Ranch, Cre 82.81 48 ⇑P P 22 04 14.1 +0.9
baz=83,SNR=27
S22A ⇑P P 22 04 14.1 +0.9
baz=83,SNR=27
S22A ⇑P P 22 04 14.1 +0.9
baz=83,SNR=27
UBBA Unterbreizbach 82.83 331 *e*P P 22 04 13.8 +1.3
comp=Z,18nm,0.8s
UBBA *ep*P pP 22 04 26.2 +2.7
GEC2 GERESS Array S 82.87 328 *e*P P 22 04 13.1 +0.1
comp=Z,26nm,1.4s
GEC2 *ep*P pP 22 04 25.6 +1.6
GEC2 GERESS Array S 82.87 328 *e*P P 22 04 13.1 +0.1
GEC2 *e**PP pP 22 04 25.6 +1.6
GEC2 pmax pmax
comp=Z,26nm,1.4s
GERES GERESS Array B 82.87 328 P P 22 04 13.1 +0.1
comp=Z,17nm,0.6s,baz=35,slow=5.6,SNR=229
GERES PKKPbc PKKPbc 22 22 34.2 -1.1
comp=Z,0.6nm,0.8s,baz=198,slow=3.9,SNR=4.6
GERES LR LR 22 44 42.6
comp=Z,4µm,18.2s,baz=32,slow=38
GERES GERESS Array B 82.87 328 P P 22 04 13.1 +0.1
GERES pmax pmax
comp=Z,17nm,0.6s
GERES MLR MLR
comp=Z,4µm,18.2s
GERES GERESS Array B 82.87 328 P P 22 04 13.1 +0.1
GERES PKKPbc PKKPbc 22 22 34.2 -1.1
EAB Aberfoyle 82.89 341 *e*P P 22 04 12.2 -0.6
EAB Aberfoyle 82.89 341 P P 22 04 12.2 -0.6
AKHS Akhisar 82.91 314 *i*P P 22 04 12.8 -0.5
W19A Sanders 82.96 51 ⇓P P 22 04 14.6 +0.7
baz=83,SNR=20
W19A ⇓P P 22 04 14.6 +0.7
baz=83,SNR=20
W19A ⇓P P 22 04 14.6 +0.7
baz=83,SNR=20
EAU Auchinoon 82.97 341 *e*P P 22 04 13.3 +0.1
EAU Auchinoon 82.97 341 P P 22 04 13.3 +0.1
DNZL Cakiroluk 82.98 312 *i*P P 22 04 13.9 0.0
Q24A Divide 82.98 46 ⇑P P 22 04 14.4 +0.3
baz=83
Q24A ⇑P P 22 04 14.4 +0.3
baz=83
Q24A ⇑P P 22 04 14.4 +0.3
baz=83
X18A Snowflake 82.98 52 ⇓P P 22 04 14.6 +0.6
baz=83,SNR=9.3
X18A ⇓P P 22 04 14.6 +0.6
baz=83,SNR=9.3
X18A ⇓P P 22 04 14.6 +0.6
baz=83,SNR=9.3
WET Wettzell 82.98 329 *e*P P 22 04 14.2 +0.7
comp=Z,23nm,1.4s
WET *ep*P pP 22 04 26.6 +2.1
WET Wettzell 82.98 329 *e*P P 22 04 14.2 +0.7
WET *e**PP pP 22 04 26.6 +2.1
WET pmax pmax
comp=Z,23nm,1.4s
RHK3 Tenkes 83.04 324⇑ *e*P P 22 04 13.8 0.0
V20A Brimhall 83.09 50 ⇑P P 22 04 14.9 +0.4
baz=83,SNR=14
V20A ⇑P P 22 04 14.9 +0.4
baz=83,SNR=14
V20A ⇑P P 22 04 14.9 +0.4
baz=83,SNR=14
WTSB Winterswijk 83.09 334 *e*P P 22 04 13.3 -0.6
comp=Z,51nm,1.2s
WTSB *ex* 22 04 28.0
comp=Z,112nm,1.7s
R23A Moffat 83.10 47 ⇑P P 22 04 15.7 +1.1
baz=83,SNR=20
R23A ⇑P P 22 04 15.7 +1.1
baz=83,SNR=20
R23A ⇑P P 22 04 15.7 +1.1
baz=83,SNR=20
O26A Horse Wrangler 83.16 44 ⇓P P 22 04 15.2 +0.5
baz=83,SNR=5.3
O26A ⇓P P 22 04 15.2 +0.5
baz=83,SNR=5.3
O26A ⇓P P 22 04 15.2 +0.5
baz=83,SNR=5.3
U21A Nageezi 83.17 49 ⇓P P 22 04 15.6 +0.6
baz=83,SNR=18
U21A ⇓P P 22 04 15.6 +0.6
baz=83,SNR=18
U21A ⇓P P 22 04 15.6 +0.6
baz=83,SNR=18
P25A Willow Gulch B 83.17 45 ⇑P P 22 04 15.3 +0.4
baz=83
P25A ⇑P P 22 04 15.3 +0.4
baz=83
P25A ⇑P P 22 04 15.3 +0.4
baz=83
N27A Anderson Farm, 83.20 43 ⇑P P 22 04 15.3 +0.4
baz=83
N27A ⇑P P 22 04 15.3 +0.4
baz=83
N27A ⇑P P 22 04 15.3 +0.4
baz=83
GRF Grafenberg Arr 83.23 330 *e*P P 22 04 15.6 +0.8
comp=Z,218nm,2.3s
GRF *ep*P pP 22 04 28.0 +2.2
GRF *e*L L 22 44 15.1
comp=Z,3µm,19.9s
GRF Grafenberg Arr 83.23 330 *e*P P 22 04 15.6 +0.8
GRF *e**PP pP 22 04 28.0 +2.2
GRF pmax pmax
comp=Z,218nm,2.3s
GRF MLR MLR
comp=Z,3µm,19.9s
GRFO Grafenberg 83.24 330 *e*P P 22 04 15.6 +0.8
GRFO pmax pmax
comp=Z,147nm,1.2s
GRFO Grafenberg 83.24 330 *e*P P 22 04 15.6 +0.8
comp=Z,147nm,1.2s
T22A Edith 83.24 48 ⇑P P 22 04 16.0 +0.6
baz=83,SNR=34
T22A ⇑P P 22 04 16.0 +0.6
baz=83,SNR=34
T22A ⇑P P 22 04 16.0 +0.6
baz=83,SNR=34
PGBU Glenifferbraes 83.27 341 *e*P P 22 04 15.6 +0.9
PGBU AMB AMB 22 04 33.5
comp=Z,178nm,3.8s
PGBU Glenifferbraes 83.27 341 P P 22 04 15.6 +0.9
PGBU AMB AMB 22 04 33.5
comp=Z,178nm,3.8s
ARSA Arzberg 83.29 326 *i*P P 22 04 15.5 +0.4
comp=Z,20nm,1.2s
ARSA Arzberg 83.29 326 *i*P P 22 04 15.5 +0.4
comp=Z,20nm,1.2s,SNR=17
BEHE Becsehely 83.30 325⇑ *e*P P 22 04 14.9 -0.3
S23A Nye Farm, Mont 83.32 47 ⇓P P 22 04 16.6 +0.9
baz=83,SNR=5.9
S23A ⇓P P 22 04 16.6 +0.9
baz=83,SNR=5.9
S23A ⇓P P 22 04 16.6 +0.9
baz=83,SNR=5.9
KAVA Kavala 83.33 317 P P 22 04 15.8 +0.4
KAVA Kavala 83.33 317 P P 22 04 15.8 +0.4
MMB Musomiste 83.35 318 P P 22 04 16.2 +0.7
BUG Bochum–Univer 83.35 333 *e*P P 22 04 15.3 0.0
comp=Z,17nm,1.2s
BUG *ep*P pP 22 04 27.7 +1.4
ESK Eskdalemuir 83.37 340 *e*P P 22 04 16.4 +1.1
ESK pmax pmax
comp=Z,24nm,0.9s
ESK MLR MLR
comp=Z,3µm,20.0s
ESK Eskdalemuir 83.37 340 *e*P P 22 04 16.4 +1.1
comp=Z,24nm,0.9s
ESK LR LR
comp=Z,3µm,20.0s
OGNE Ogallala 83.39 43 *e*P P 22 04 15.2 -0.6
comp=Z,234nm,1.7s
OGNE LR LR
comp=Z,870nm,19.0s
MOA Molln 83.39 327 *i*P P 22 04 16.0 +0.4
comp=Z,17nm,0.8s
MOA Molln 83.39 327 *i*P P 22 04 16.0 +0.4
comp=Z,17nm,0.8s,SNR=20
Y18A Canyon Day Jun 83.41 53 ⇑P P 22 04 16.9 +0.7
baz=83,SNR=25
Y18A ⇑P P 22 04 16.9 +0.7
baz=83,SNR=25
Y18A ⇑P P 22 04 16.9 +0.7
baz=83,SNR=25
NVR Nevrokopi 83.44 318 P P 22 04 16.1 +0.1
NVR Nevrokopi 83.44 318 P P 22 04 16.1 +0.1
NVR Nevrokopi 83.44 318 *e*PN P 22 04 16.5 +0.5
EYMN Ely 83.45 33 *e*P P 22 04 15.7 -0.3
comp=Z,112nm,1.1s
EYMN *ep*P pP 22 04 27.4 +0.4
EYMN LR LR
comp=Z,926nm,20.0s
X19A St. Johns 83.46 52 ⇓P P 22 04 17.2 +0.7
baz=83,SNR=26
X19A ⇓P P 22 04 17.2 +0.7
baz=83,SNR=26
X19A ⇓P P 22 04 17.2 +0.7
baz=83,SNR=26
R24A Sanders Place, 83.50 47 ⇑P P 22 04 17.4 +0.8
baz=83,SNR=10
R24A ⇑P P 22 04 17.4 +0.8
baz=83,SNR=10
R24A ⇑P P 22 04 17.4 +0.8
baz=83,SNR=10
KKB Krupnik 83.50 318 P P 22 04 17.0 +0.7
DIVS Divibare 83.50 322 P P 22 04 16.6 +0.3
W20A Ramah 83.50 51 ⇑P P 22 04 17.1 +0.4
baz=83,SNR=13
W20A ⇑P P 22 04 17.1 +0.4
baz=83,SNR=13
W20A ⇑P P 22 04 17.1 +0.4
baz=83,SNR=13
SNZO South Karori 83.52 155 PFAKE 22 04 30.0 +14
SNZO LR LR
comp=Z,2µm,21.0s
Q25A Bedland, Calha 83.53 46 ⇓P P 22 04 17.1 +0.4
baz=83
Q25A ⇓P P 22 04 17.1 +0.4
baz=83
Q25A ⇓P P 22 04 17.1 +0.4
baz=83
PRK Paraskevi 83.55 315 P P 22 04 16.6 +0.1
PRK Paraskevi 83.55 315 P P 22 04 16.6 +0.1
PRK Paraskevi 83.55 315 P P 22 04 16.6 +0.1
KOGS Kog 83.56 325 *e*P P 22 04 16.3 -0.2
KOGS *ep*P pP 22 04 28.6 +1.1
KOGS *e*SKSac S 22 14 33.2 -2.7
SDCO Great Sand Dun 83.59 47 *e*P P 22 04 18.0 +0.8
comp=Z,47nm,1.1s
SDCO *ep*P pP 22 04 30.7 +2.5
SDCO LR LR
comp=Z,620nm,21.0s
SDCO Great Sand Dun 83.59 47 ⇑P P 22 04 17.7 +0.5
baz=83,SNR=22
SDCO ⇑P P 22 04 17.7 +0.5
baz=83,SNR=22
SDCO ⇑P P 22 04 17.7 +0.5
baz=83,SNR=22
SDCO ⇑P P 22 04 17.7 +0.5
baz=83,SNR=22
SDCO ⇑P P 22 04 17.7 +0.5
baz=83,SNR=22
V21A Milan 83.59 50 ⇑P P 22 04 17.5 +0.4
baz=83,SNR=22
V21A ⇑P P 22 04 17.5 +0.4
baz=83,SNR=22
V21A ⇑P P 22 04 17.5 +0.4
baz=83,SNR=22
AYDN Tasoluk 83.69 313 *i*P P 22 04 18.5 +1.1
U22A Llaves 83.69 49 ⇓P P 22 04 18.4 +0.7
baz=84,SNR=14
U22A ⇓P P 22 04 18.4 +0.7
baz=84,SNR=14
U22A ⇓P P 22 04 18.4 +0.7
baz=84,SNR=14
T23A Casias Ranch, 83.75 48 ⇑P P 22 04 18.9 +0.9
baz=84,SNR=14
T23A ⇑P P 22 04 18.9 +0.9
baz=84,SNR=14
T23A ⇑P P 22 04 18.9 +0.9
baz=84,SNR=14
SRS Serrai 83.75 318 P P 22 04 16.8 -0.8
SRS Serrai 83.75 318 P P 22 04 16.8 -0.8
SRS Serrai 83.75 318 P P 22 04 16.8 -0.8
Y19A Nutrioso 83.79 52 ⇓P P 22 04 19.1 +0.9
baz=84,SNR=19
Y19A ⇓P P 22 04 19.1 +0.9
baz=84,SNR=19
Y19A ⇓P P 22 04 19.1 +0.9
baz=84,SNR=19
S24A Houchin Ranch, 83.83 47 ⇑P P 22 04 19.3 +0.8
baz=84,SNR=18
S24A ⇑P P 22 04 19.3 +0.8
baz=84,SNR=18
S24A ⇑P P 22 04 19.3 +0.8
baz=84,SNR=18
TUC Tucson 83.86 54 *e*P P 22 04 18.9 +0.5
TUC *e**PP pP 22 04 32.3 +2.9
TUC pmax pmax
comp=Z,56nm,1.2s
TUC MLR MLR
comp=Z,2µm,21.0s
TUC Tucson 83.86 54 *e*P P 22 04 18.9 +0.5
comp=Z,56nm,1.2s
TUC *ep*P pP 22 04 32.3 +2.9
TUC LR LR
comp=Z,2µm,21.0s
X20A Quemado 83.89 51 ⇓P P 22 04 19.7 +1.1
baz=84,SNR=9.1
X20A ⇓P P 22 04 19.7 +1.1
baz=84,SNR=9.1
X20A ⇓P P 22 04 19.7 +1.1
baz=84,SNR=9.1
GROS Grobnik 83.89 326 *i*P P 22 04 18.2 -0.1
GROS *i*pP pP 22 04 30.5 +1.2
GROS *e*PP PP 22 07 33.7 +2.5
TNS Taunus Mts 83.90 332 *e*P P 22 04 18.6 +0.4
comp=Z,8.0nm,0.7s
TNS *ep*P pP 22 04 31.0 +1.7
TNS Taunus Mts 83.90 332 *e*P P 22 04 18.6 +0.4
TNS *e**PP pP 22 04 31.0 +1.7
TNS pmax pmax
comp=Z,8.0nm,0.7s
SOKA Soboth 83.94 326⇑ *i*P P 22 04 18.7 +0.2
comp=Z,60nm,1.1s
SOKA Soboth 83.94 326⇑ *i*P P 22 04 18.7 +0.2
comp=Z,60nm,1.1s
Q26A Hugo 83.94 45 ⇑P P 22 04 18.4 -0.3
baz=84
Q26A ⇑P P 22 04 18.4 -0.3
baz=84
Q26A ⇑P P 22 04 18.4 -0.3
baz=84
V22A San Miguel Ran 83.97 49 ⇑P P 22 04 19.5 +0.4
baz=84
V22A ⇑P P 22 04 19.5 +0.4
baz=84
V22A ⇑P P 22 04 19.5 +0.4
baz=84
KESW Keswick, Cumbr 83.99 340 *e*P P 22 04 18.9 +0.4
KESW AMB AMB 22 04 22.4
comp=Z,142nm,3.1s
KESW AMS AMS 22 45 16.3
comp=Z,3µm,19.2s
KESW Keswick, Cumbr 83.99 340 P P 22 04 18.9 +0.4
KESW AMB AMB 22 04 22.4
comp=Z,142nm,3.1s
KESW AMS AMS 22 45 16.3
comp=Z,3µm,19.2s
R25A Fountain Ranch 84.03 46 ⇑P P 22 04 19.5 +0.3
baz=84,SNR=9.0
R25A ⇑P P 22 04 19.5 +0.3
baz=84,SNR=9.0
R25A ⇑P P 22 04 19.5 +0.3
baz=84,SNR=9.0
W21A San Fidel 84.04 50 ⇑P P 22 04 20.3 +0.9
baz=84
W21A ⇑P P 22 04 20.3 +0.9
baz=84
W21A ⇑P P 22 04 20.3 +0.9
baz=84
GCAM G?zelcaml? 84.04 313 *i*P P 22 04 19.7 +0.6
OUR Ouranopolis 84.08 317 P P 22 04 18.7 -0.5
OUR Ouranopolis 84.08 317 P P 22 04 18.7 -0.5
OUR Ouranopolis 84.08 317 P P 22 04 18.7 -0.5
SOH Sokhos 84.08 318 P P 22 04 18.4 -0.9
SOH Sokhos 84.08 318 P P 22 04 18.4 -0.9
SOH Sokhos 84.08 318 P P 22 04 18.4 -0.9
KNT Kendrikon 84.09 318 P P 22 04 18.3 -1.0
KNT Kendrikon 84.09 318 P P 22 04 18.3 -1.0
KNT Kendrikon 84.09 318 P P 22 04 18.3 -1.0
RJOB Jochberg 84.11 328 *e*P P 22 04 20.0 +0.7
comp=Z,37nm,1.4s
RJOB *ep*P pP 22 04 32.4 +2.0
U23A El Rito 84.12 49 ⇑P P 22 04 20.9 +1.0
baz=84,SNR=42
U23A ⇑P P 22 04 20.9 +1.0
baz=84,SNR=42
U23A ⇑P P 22 04 20.9 +1.0
baz=84,SNR=42
ECSD EROS Data Cent 84.23 38 *e*P P 22 04 20.1 +0.2
comp=Z,64nm,1.0s
ECSD *ep*P pP 22 04 31.1 0.0
ECSD LR LR
comp=Z,1µm,22.0s
CHOS Chios island 84.26 314 P P 22 04 20.2 -0.1
TOD Tromm 84.26 331 *e*P P 22 04 20.2 +0.2
TOD Tromm 84.26 331 *e*P P 22 04 20.2 +0.2
SMG Samos 84.27 313 P P 22 04 19.6 -0.7
SMG Samos 84.27 313 P P 22 04 19.6 -0.7
SMG Samos 84.27 313 *e*PB P 22 04 20.0 -0.3
S25A Robets Cordova 84.27 47 ⇓P P 22 04 21.5 +1.0
baz=84
S25A ⇓P P 22 04 21.5 +1.0
baz=84
S25A ⇓P P 22 04 21.5 +1.0
baz=84
OBKA Obir 84.29 326⇑ *i*P P 22 04 20.1 -0.2
comp=Z,16nm,0.8s
OBKA Obir 84.29 326⇑ *i*P P 22 04 20.1 -0.2
comp=Z,16nm,0.8s
T24A Torres, Weston 84.31 47 ⇑P P 22 04 22.2 +1.3
baz=84,SNR=26
T24A ⇑P P 22 04 22.2 +1.3
baz=84,SNR=26
T24A ⇑P P 22 04 22.2 +1.3
baz=84,SNR=26
BDRM Kayabasi 84.34 313 *i*P P 22 04 20.3 -0.4
PLG Polygyros 84.35 317 P P 22 04 20.4 -0.3
PLG Polygyros 84.35 317 P P 22 04 20.4 -0.3
PLG Polygyros 84.35 317 P P 22 04 20.4 -0.3
PLG Polygyros 84.35 317 *e*PB P 22 04 20.7 0.0
PLE Pljevlja 84.36 321⇑ *i*P P 22 04 21.1 +0.3
Y20A Horse Springs, 84.38 52 ⇑P P 22 04 22.1 +0.9
baz=84,SNR=50
Y20A ⇑P P 22 04 22.1 +0.9
baz=84,SNR=50
Y20A ⇑P P 22 04 22.1 +0.9
baz=84,SNR=50
HORT Hortiatis 84.38 318 P P 22 04 19.3 -1.6
HORT Hortiatis 84.38 318 P P 22 04 19.3 -1.6
KBA Koelnbreinsper 84.38 327 *i*P P 22 04 20.9 0.0
KBA pmax pmax
comp=Z,23nm,0.6s
KBA Koelnbreinsper 84.38 327 *i*P P 22 04 20.9 0.0
comp=Z,23nm,0.6s
KBA Koelnbreinsper 84.38 327 *i*P P 22 04 20.9 0.0
comp=Z,23nm,0.6s,SNR=24
KSCO Kaye Shedlock˚ 84.39 45 ⇓P P 22 04 21.5 +0.5
baz=84
KSCO ⇓P P 22 04 21.5 +0.5
baz=84
KSCO ⇓P P 22 04 21.5 +0.5
baz=84
X21A Alamocita Cree 84.39 51 ⇑P P 22 04 22.0 +0.8
baz=84,SNR=30
X21A ⇑P P 22 04 22.0 +0.8
baz=84,SNR=30
X21A ⇑P P 22 04 22.0 +0.8
baz=84,SNR=30
EIL Elat 84.40 303 LR LR 22 48 40.6
comp=Z,2µm,18.4s,baz=74,slow=40
R26A Arlington 84.41 46 ⇓P P 22 04 21.3 +0.2
baz=84,SNR=16
R26A ⇓P P 22 04 21.3 +0.2
baz=84,SNR=16
R26A ⇓P P 22 04 21.3 +0.2
baz=84,SNR=16
FUR Furstenfeldbru 84.41 329 *e*P P 22 04 21.3 +0.5
comp=Z,46nm,1.0s
FUR *ep*P pP 22 04 33.8 +1.9
FUR Furstenfeldbru 84.41 329 *e*P P 22 04 21.3 +0.5
FUR *e**PP pP 22 04 33.8 +1.9
FUR pmax pmax
comp=Z,46nm,1.0s
IVA Berane 84.44 321⇑ *i*P P 22 04 20.7 -0.4
BEBN Eben Emael 84.45 333 P P 22 04 21.0 +0.1
comp=Z,18nm,1.5s
MEM Membach 84.49 333 P P 22 04 20.6 -0.5
comp=Z,27nm,1.5s
GRG Griva 84.50 318 P P 22 04 20.8 -0.6
GRG Griva 84.50 318 P P 22 04 20.8 -0.6
GRG Griva 84.50 318 P P 22 04 20.8 -0.6
ARG Arkhangelos 84.51 312 P P 22 04 21.9 +0.4
ARG Arkhangelos 84.51 312 P P 22 04 21.9 +0.4
ARG Arkhangelos 84.51 312 P P 22 04 21.9 +0.4
ARG Arkhangelos 84.51 312 *e*PN P 22 04 22.0 +0.4
ABH Alteburg 84.52 332 *e*P P 22 04 21.5 +0.2
V23A Ortiz Mt. (NFS 84.52 49 ⇑P P 22 04 23.2 +1.4
baz=84,SNR=17
V23A ⇑P P 22 04 23.2 +1.4
baz=84,SNR=17
V23A ⇑P P 22 04 23.2 +1.4
baz=84,SNR=17
W22A Albuquerque 84.55 50 ⇓P P 22 04 23.1 +1.1
baz=84
W22A ⇓P P 22 04 23.1 +1.1
baz=84
W22A ⇓P P 22 04 23.1 +1.1
baz=84
MYKA Terra Mystica 84.60 327⇑ *i*P P 22 04 21.4 -0.5
comp=Z,30nm,0.6s
MYKA Terra Mystica 84.60 327⇑ *i*P P 22 04 21.3 -0.5
comp=Z,30nm,0.6s
PVY Plav 84.61 321⇑ *i*P P 22 04 21.5 -0.5
U24A Moreno Valley 84.62 48 ⇑P P 22 04 23.8 +1.3
baz=84,SNR=12
U24A ⇑P P 22 04 23.8 +1.3
baz=84,SNR=12

U24A					⇑P		P	22 04 23.8	+1.3
	baz=84,SNR=12										
T25A	**Trinidad**	**84.64**	**47**	⇓P			P	22 04 22.9	+0.5
	baz=84,SNR=26										
T25A					⇓P		P	22 04 22.9	+0.5
	baz=84,SNR=26										
T25A					⇓P		P	22 04 22.9	+0.5
	baz=84,SNR=26										
LJU	**Ljubljana**	**84.65**	**326**	*i* P			P	22 04 21.7	-0.4
LJU					*ep*P		pP	22 04 33.8	+0.7
PPT2	**Papeete2**	**84.66**	**116**	*e*S			S	22 14 46.8	-0.8
	comp=Z,3µm,33.5s										
PPT2					*e*SS		SS	22 20 17.5	-2.5
	comp=Z,573nm,24.8s										
PPT2					*e*LR		LR	22 30 56.5			
	comp=Z,9µm,28.2s,baz=311										
UPM	**Unac-Piva**	**84.69**	**322**	⇑*i*P			P	22 04 22.2	-0.4
BOJS	**Bojanci**	**84.73**	**325**	*e*P			P	22 04 22.3	-0.2
Y21A	**Point of Rocks**	**84.75**	**51**	⇑P			P	22 04 24.1	+1.0
	baz=85,SNR=24										
Y21A					⇑P		P	22 04 24.1	+1.0
	baz=85,SNR=24										
Y21A					⇑P		P	22 04 24.1	+1.0
	baz=85,SNR=24										
Z20A	**Nine Sixteen R**	**84.76**	**52**	⇑P			P	22 04 23.8	+0.7
	baz=85,SNR=61										
Z20A					⇑P		P	22 04 23.8	+0.7
	baz=85,SNR=61										
Z20A					⇑P		P	22 04 23.8	+0.7
	baz=85,SNR=61										
STU	**Stuttgart**	**84.78**	**330**	*e*P			P	22 04 22.9	+0.3
	comp=Z,37nm,1.1s										
STU					*ep*P		pP	22 04 35.4	+1.7
STU	**Stuttgart**	**84.78**	**330**	*e*P			P	22 04 22.9	+0.3
STU					*e**PP		pP	22 04 35.1	+1.4
STU					pmax		pmax				
	comp=Z,49nm,0.7s										
STU	**Stuttgart**	**84.78**	**330**	*e*P			P	22 04 22.9	+0.3
	comp=Z,49nm,0.7s										
STU					*ep*P		pP	22 04 35.1	+1.4
R27A	**Eads**	**84.79**	**45**	⇓P			P	22 04 23.0	0.0
	baz=85,SNR=12										
R27A					⇓P		P	22 04 23.0	0.0
	baz=85,SNR=12										
R27A					⇓P		P	22 04 23.0	0.0
	baz=85,SNR=12										
LAZ	**Ladron**	**84.82**	**51**	*e*P			P	22 04 24.2	+0.8
	comp=Z,30nm,1.3s										
LAZ					*ep*P		pP	22 04 35.2	+0.7
RUP	**Ruppelstein**	**84.85**	**332**	*e*P			P	22 04 23.2	+0.2
RUP	**Ruppelstein**	**84.85**	**332**	*e*P			P	22 04 23.2	+0.2
S26A	**Kim**	**84.86**	**46**	⇓P			P	22 04 23.2	-0.3
	baz=85,SNR=8.6										
S26A					⇓P		P	22 04 23.2	-0.3
	baz=85,SNR=8.6										
S26A					⇓P		P	22 04 23.2	-0.3
	baz=85,SNR=8.6										
ANMO	**Albuquerque**	**84.88**	**50**	*e*P			P	22 04 24.3	+0.6
ANMO					*e**PP		pP	22 04 38.0	+3.3
ANMO					pmax		pmax				
	comp=Z,58nm,1.1s										
ANMO					MLR		MLR				
	comp=Z,655nm,21.0s										
ANMO	**Albuquerque**	**84.88**	**50**	*e*P			P	22 04 24.2	+0.6
	comp=Z,58nm,1.1s										
ANMO					*ep*P		pP	22 04 38.0	+3.3
ANMO					LR		LR				
	comp=Z,655nm,21.0s										
BCLA	**Clavier**	**84.90**	**333**	P			P	22 04 23.2	0.0
	comp=Z,46nm,1.9s										
BCLA					AP		pP	22 04 34.5	+0.3
W23A	**Werner Place,**	**84.93**	**49**	⇑P			P	22 04 24.8	+0.9
	baz=85,SNR=8.4										
W23A					⇑P		P	22 04 24.8	+0.9
	baz=85,SNR=8.4										
W23A					⇑P		P	22 04 24.8	+0.9
	baz=85,SNR=8.4										
NKY	**Niksic**	**84.94**	**321**	⇑*i*P			P	22 04 23.3	-0.4
WATA	**Walderalm**	**84.94**	**328**	⇑*i*P			P	22 04 23.4	-0.3
WATA					pmax		pmax				
	comp=Z,11nm,0.6s										
WATA	**Walderalm**	**84.94**	**328**	⇑*i*P			P	22 04 23.4	-0.3
	comp=Z,11nm,0.6s										
WATA	**Walderalm**	**84.94**	**328**	⇑*i*P			P	22 04 23.4	-0.3
	comp=Z,11nm,0.6s,SNR=17										
VOY	**Vojsko**	**84.94**	**326**	*e*P			P	22 04 22.4	-1.2
VOY					*e*			22 04 34.4			
WTTA	**Wattenberg**	**84.97**	**328**	*i* P			P	22 04 23.8	-0.1
WTTA					pmax		pmax				
	comp=Z,17nm,0.8s										
WTTA	**Wattenberg**	**84.97**	**328**	*i* P			P	22 04 23.8	-0.1
	comp=Z,17nm,0.8s										
WTTA	**Wattenberg**	**84.97**	**328**	*i* P			P	22 04 23.8	-0.1
	comp=Z,17nm,0.8s,SNR=12										
ABTA	**Abfaltersbach**	**85.00**	**327**	⇑*i*P			P	22 04 22.7	-1.2
	comp=Z,16nm,1.0s										
ABTA	**Abfaltersbach**	**85.00**	**327**	⇑*i*P			P	22 04 22.7	-1.2
	comp=Z,16nm,1.0s,SNR=8.5										
PHP	**Peshkopia**	**85.02**	**320**	P			P	22 04 23.2	-0.8
STNC	**Stoke**	**85.05**	**339**	AMS		AMS	AMS	22 42 09.1			
	comp=Z,4µm,28.1s										
LIT	**Litokhoron**	**85.06**	**318**	P			P	22 04 23.6	-0.6
LIT	**Litokhoron**	**85.06**	**318**	P			P	22 04 23.6	-0.6
LIT	**Litokhoron**	**85.06**	**318**	P			P	22 04 23.6	-0.6
TTG	**Podgorica**	**85.08**	**321**	⇑*i*P			P	22 04 24.3	+0.1
LENM	**Lemitar**	**85.08**	**51**	*e*P			P	22 04 25.3	+0.6
LENM					*ep*P		pP	22 04 35.5	-0.2
V24A	**Rampart Ranch,**	**85.08**	**48**	⇓P			P	22 04 26.0	+1.3
	baz=85,SNR=14										
V24A					⇓P		P	22 04 26.0	+1.3
	baz=85,SNR=14										
V24A					⇓P		P	22 04 26.0	+1.3
	baz=85,SNR=14										
T26A	**Comanche Natio**	**85.09**	**47**	⇓P			P	22 04 24.6	-0.1
	baz=85,SNR=21										
T26A					⇓P		P	22 04 24.6	-0.1
	baz=85,SNR=21										
T26A					⇓P		P	22 04 24.6	-0.1
	baz=85,SNR=21										
BRY	**Bratogost**	**85.10**	**322**	⇑*i*P			P	22 04 23.7	-0.8
120A	**U Bar Ranch, L**	**85.10**	**53**	⇓P			P	22 04 25.4	+0.7
	baz=85,SNR=16										
120A					⇓P		P	22 04 25.4	+0.7
	baz=85,SNR=16										
120A					⇓P		P	22 04 25.4	+0.7
	baz=85,SNR=16										
MOTA	**Moosalm**	**85.13**	**329**	⇓*i*P			P	22 04 24.4	-0.2
MOTA					pmax		pmax				
	comp=Z,19nm,0.9s										
MOTA	**Moosalm**	**85.13**	**329**	⇓*i*P			P	22 04 24.4	-0.2
	comp=Z,19nm,0.9s										
MOTA	**Moosalm**	**85.13**	**329**	⇓*i*P			P	22 04 24.4	-0.2
	comp=Z,19nm,0.9s,SNR=13										
BGNE	**Belgrade**	**85.13**	**41**	⇑P			P	22 04 24.2	-0.4
	baz=85										
BGNE					⇑P		P	22 04 24.2	-0.4
	baz=85										
BGNE					⇑P		P	22 04 24.2	-0.4
	baz=85										
U25A	**Circle Dot Ran**	**85.14**	**48**	⇑P			P	22 04 25.4	+0.5
	baz=85,SNR=24										
U25A					⇑P		P	22 04 25.4	+0.5
	baz=85,SNR=24										
U25A					⇑P		P	22 04 25.4	+0.5
	baz=85,SNR=24										
S27A	**Las Animas**	**85.15**	**46**	⇑P			P	22 04 24.9	0.0
	baz=85										
S27A					⇑P		P	22 04 24.9	0.0
	baz=85										
S27A					⇑P		P	22 04 24.9	0.0
	baz=85										
LANF	**Langenberg**	**85.15**	**331**	*e*P			P	22 04 25.0	+0.5
LANF	**Langenberg**	**85.15**	**331**	*e*P			P	22 04 25.0	+0.5
LANF	**Langenberg**	**85.15**	**331**	*e*P			P	22 04 25.0	+0.5
RETA	**Reutte**	**85.16**	**329**	*i* P			P	22 04 24.8	+0.1
	comp=Z,34nm,0.7s										
RETA	**Reutte**	**85.16**	**329**	*i* P			P	22 04 24.8	+0.1
	comp=Z,34nm,0.7s,SNR=34										
FNA	**Florina**	**85.17**	**319**	P			P	22 04 23.1	-1.7
FNA	**Florina**	**85.17**	**319**	P			P	22 04 23.1	-1.7
FNA	**Florina**	**85.17**	**319**	P			P	22 04 23.1	-1.7
SNF	**Seneffe**	**85.19**	**334**	P			P	22 04 24.7	+0.1
	comp=Z,38nm,1.6s										
SNF					AP		pP	22 04 37.0	+1.3
LPM	**Los Pinos Moun**	**85.20**	**50**	*e*P			P	22 04 25.8	+0.5
Z21A	**St. Cloud Mine**	**85.21**	**52**	⇓P			P	22 04 26.1	+0.7
	baz=85,SNR=10										
Z21A					⇓P		P	22 04 26.1	+0.7
	baz=85,SNR=10										
Z21A					⇓P		P	22 04 26.1	+0.7
	baz=85,SNR=10										
WLF	**Walferdange**	**85.22**	**333**	P			P	22 04 25.2	+0.4
	comp=Z,73nm,2.3s										
WLF					AP		pP	22 04 36.2	+0.4
WLF	**Walferdange**	**85.22**	**333**	*e*P			P	22 04 25.6	+0.8
	comp=Z,342nm,2.1s										
WLF					*ep*P		pP	22 04 38.0	+2.2
WLF	**Walferdange**	**85.22**	**333**	*e*P			P	22 04 25.6	+0.8
WLF					pmax		pmax				
	comp=Z,159nm,1.6s										
WLF					MLR		MLR				
	comp=Z,3µm,19.0s										
WLF	**Walferdange**	**85.22**	**333**	*e*P			P	22 04 25.6	+0.8
	comp=Z,159nm,1.6s										
WLF					LR		LR				
	comp=Z,3µm,19.0s										
Y22A	**Socorro**	**85.24**	**51**	⇑P			P	22 04 25.8	+0.4
	baz=85,SNR=11										
Y22A					⇑P		P	22 04 25.8	+0.4
	baz=85,SNR=11										
Y22A					⇑P		P	22 04 25.8	+0.4
	baz=85,SNR=11										
KZN	**Kozani**	**85.30**	**318**	P			P	22 04 24.9	-0.6
BNM	**Barren Site**	**85.31**	**50**	*e*P			P	22 04 26.2	+0.4
	comp=Z,24nm,0.9s										
GIVF	**Givet**	**85.34**	**334**	*e*P			P	22 04 25.3	-0.1
	comp=Z,27nm,0.7s										
W24A	**Lazy 6 Ranch,**	**85.35**	**49**	⇑P			P	22 04 27.0	+1.0
	baz=85,SNR=19										
W24A					⇑P		P	22 04 27.0	+1.0
	baz=85,SNR=19										
W24A					⇑P		P	22 04 27.0	+1.0
	baz=85,SNR=19										
BUM	**Brajici-Budva**	**85.36**	**321**	⇑*i*P			P	22 04 25.6	-0.2
V25A	**Rancho No Teng**	**85.40**	**48**	⇑P			P	22 04 27.2	+0.9
	baz=85,SNR=38										
V25A					⇑P		P	22 04 27.2	+0.9
	baz=85,SNR=38										
V25A					⇑P		P	22 04 27.2	+0.9
	baz=85,SNR=38										
DOU	**Dourbes**	**85.42**	**334**	P			P	22 04 25.7	-0.1
	comp=Z,39nm,2.1s										
DOU					AP		pP	22 04 38.4	+1.5
ULC	**Ulcinj**	**85.43**	**321**	⇑*i*P			P	22 04 26.0	0.0
HCY	**Herceg Novi**	**85.45**	**321**	⇑*i*P			P	22 04 25.7	-0.4
APE	**Apeiranthos**	**85.46**	**314**	⇑P			P	22 04 25.2	-1.1
APE	**Apeiranthos**	**85.46**	**314**	*e*PB			P	22 04 25.3	-1.1
APE	**Apeiranthos**	**85.46**	**314**	⇑*i*P			P	22 04 25.2	-1.1
BFO	**Black Forest**	**85.47**	**331**	*e*P			P	22 04 26.3	+0.2
	comp=Z,53nm,1.1s										
BFO					*ep*P		pP	22 04 38.7	+1.5
BFO	**Black Forest**	**85.47**	**331**	*e*P			P	22 04 26.3	+0.2
BFO					*e**PP		pP	22 04 38.7	+1.5
BFO					pmax		pmax				
	comp=Z,53nm,1.1s										
BFO	**Black Forest**	**85.47**	**331**	*e*P			P	22 04 26.2	0.0
	comp=Z,98nm,1.1s										
BFO					LR		LR				
	comp=Z,3µm,19.0s										
BFO	**Black Forest**	**85.47**	**331**	P			P	22 04 26.3	+0.2
	comp=Z,365nm,0.7s,SNR=24										
WLF1	**Llynfaes**	**85.50**	**340**	AMS		AMS	AMS	22 45 52.2			
	comp=Z,3µm,16.1s										
FOEL	**Foel Wylfa**	**85.52**	**339**	*e*P			P	22 04 26.9	+0.7
FOEL					AMB		AMB	22 04 33.5			
	comp=Z,104nm,2.5s										
FOEL					AMS		AMS	22 47 37.6			
	comp=Z,3µm,15.7s										
FOEL	**Foel Wylfa**	**85.52**	**339**	P			P	22 04 26.9	+0.7
FOEL					AMB		AMB	22 04 33.5			
	comp=Z,104nm,2.5s										
FOEL					AMS		AMS	22 47 37.6			
	comp=Z,3µm,15.7s										
KARP	**Karpathos**	**85.54**	**312**	P			P	22 04 26.2	-0.5
KARP	**Karpathos**	**85.54**	**312**	P			P	22 04 26.2	-0.5
KARP	**Karpathos**	**85.54**	**312**	*e*PN			P	22 04 26.8	+0.1
U26A	**Atchley Ranch,**	**85.54**	**47**	⇓P			P	22 04 27.4	+0.5
	baz=85,SNR=23										
U26A					⇓P		P	22 04 27.4	+0.5
	baz=85,SNR=23										
U26A					⇓P		P	22 04 27.4	+0.5
	baz=85,SNR=23										
FETA	**Feichten**	**85.54**	**329**	⇑*i*P			P	22 04 26.8	+0.1
	comp=Z,18nm,0.8s										
FETA	**Feichten**	**85.54**	**329**	⇑*i*PcP			P	22 04 26.8	+0.1
	comp=Z,18nm,0.8s,SNR=6.3										
TIR	**Tirane**	**85.56**	**320**	*e*P			P	22 04 26.8	+0.1
TIR					*e**PP		pP	22 04 39.4	+1.6
TIR					MLR		MLR				
	comp=Z,10µm,20.0s										
TIR	**Tirane**	**85.56**	**320**	*e*P			P	22 04 26.8	+0.1
TIR					*ep*P		pP	22 04 39.4	+1.6
TIR					LR		LR				
	comp=Z,10µm,20.0s										
TIR	**Tirane**	**85.56**	**320**	P			P	22 04 26.8	+0.1
220A	**Playas Peak, P**	**85.59**	**53**	⇓P			P	22 04 27.5	+0.3
	baz=85,SNR=16										
220A					⇓P		P	22 04 27.5	+0.3
	baz=85,SNR=16										
220A					⇓P		P	22 04 27.5	+0.3
	baz=85,SNR=16										
BAIF	**Baives**	**85.59**	**334**	*e*P			P	22 04 26.6	0.0
	comp=Z,70nm,1.2s										
NEST	**Nestorio**	**85.61**	**319**	P			P	22 04 26.7	-0.4
NVLJ	**Novalja**	**85.62**	**325**	P			P	22 04 25.5	-1.3
SCHQ	**Schefferville**	**85.65**	**16**	P			P	22 04 27.4	+0.5
	comp=Z,9.4nm,0.7s,baz=345,slow=5.9,SNR=25										
SCHQ					LR		LR	22 48 21.9			
	comp=Z,550nm,18.1s,baz=194,slow=40										
SCHQ	**Schefferville**	**85.65**	**16**	*e*P			P	22 04 27.3	+0.5
	comp=Z,25nm,0.9s										
121A	**Cookes Peak, D**	**85.65**	**52**	⇑P			P	22 04 27.7	+0.2
	baz=86,SNR=14										
121A					⇑P		P	22 04 27.7	+0.2
	baz=86,SNR=14										
121A					⇑P		P	22 04 27.7	+0.2
	baz=86,SNR=14										
T27A	**Campo**	**85.68**	**46**	⇓P			P	22 04 28.1	+0.6
	baz=86										
T27A					⇓P		P	22 04 28.1	+0.6
	baz=86										
T27A					⇓P		P	22 04 28.1	+0.6
	baz=86										
DAVA	**Damuels**	**85.69**	**329**	⇑*i*P			P	22 04 27.6	+0.2
	comp=Z,38nm,0.8s										
DAVA	**Damuels**	**85.69**	**329**	⇑*i*PcP			P	22 04 27.6	+0.2
	comp=Z,38nm,0.8s,SNR=11										
Z22A	**Elephant Butte**	**85.69**	**51**	⇑P			P	22 04 28.0	+0.3
	baz=86,SNR=24										
Z22A					⇑P		P	22 04 28.0	+0.3
	baz=86,SNR=24										
Z22A					⇑P		P	22 04 28.0	+0.3
	baz=86,SNR=24										
THL	**Klokotos Trika**	**85.70**	**317**	P			P	22 04 25.5	-1.9
ELSH	**Elham, Standar**	**85.71**	**336**	AMS		AMS	AMS	22 46 15.9			
	comp=Z,4µm,20.0s										
PTL	**Pentelli**	**85.74**	**315**	*e*PB			P	22 04 26.8	-0.9
ATAL	**Atalanti**	**85.76**	**316**	P			P	22 04 26.6	-1.1
ATAL	**Atalanti**	**85.76**	**316**	P			P	22 04 26.6	-1.1
X24A	**Lazy VL Ranch,**	**85.76**	**49**	⇓P			P	22 04 29.0	+0.9
	baz=86										
X24A					⇓P		P	22 04 29.0	+0.9
	baz=86										
X24A					⇓P		P	22 04 29.0	+0.9
	baz=86										
LKR	**Lokris**	**85.80**	**316**	P			P	22 04 26.6	-1.3
LKR	**Lokris**	**85.80**	**316**	P			P	22 04 26.6	-1.3
LKR	**Lokris**	**85.80**	**316**	*e*PB			P	22 04 26.8	-1.1
Y23A	**Lovelace Mesa,**	**85.81**	**50**	⇓P			P	22 04 28.6	+0.4
	baz=86,SNR=26										
Y23A					⇓P		P	22 04 28.6	+0.4
	baz=86,SNR=26										
Y23A					⇓P		P	22 04 28.6	+0.4
	baz=86,SNR=26										
CDF	**Champ du Feu**	**85.82**	**331**	*e*P			P	22 04 27.9	0.0
	comp=Z,142nm,1.0s										
LIBD	**Limburg**	**85.90**	**331**	*e*P			P	22 04 28.2	0.0
LIBD	**Limburg**	**85.90**	**331**	*e*P			P	22 04 28.2	0.0
W25A	**X Bar L Ranch,**	**85.91**	**48**	⇓P			P	22 04 29.5	+0.7
	baz=86,SNR=21										
W25A					⇓P		P	22 04 29.5	+0.7
	baz=86,SNR=21										
W25A					⇓P		P	22 04 29.5	+0.7
	baz=86,SNR=21										
V26A	**Tequesquite Ra**	**85.92**	**48**	⇓P			P	22 04 29.1	+0.3
	baz=86,SNR=24										
V26A					⇓P		P	22 04 29.1	+0.3
	baz=86,SNR=24										
V26A					⇓P		P	22 04 29.1	+0.3
	baz=86,SNR=24										
320A	**Kipp Ranch, An**	**85.96**	**54**	⇑P			P	22 04 29.2	+0.2
	baz=86,SNR=5.8										
320A					⇑P		P	22 04 29.2	+0.2
	baz=86,SNR=5.8										
320A					⇑P		P	22 04 29.2	+0.2
	baz=86,SNR=5.8										
FELD	**Feldberg im Sc**	**85.97**	**331**	*e*P			P	22 04 28.4	-0.4
T28A	**Walsh**	**85.99**	**46**	⇑P			P	22 04 28.7	-0.3
	baz=86										
T28A					⇑P		P	22 04 28.7	-0.3
	baz=86										
T28A					⇑P		P	22 04 28.7	-0.3
	baz=86										
ECH	**Echery**	**86.02**	**331**	*e*P			P	22 04 28.3	-0.6
ECH					*e**PP		pP	22 04 41.5	+1.5
ECH					pmax		pmax				
	comp=Z,48nm,0.9s										
ECH					MLR		MLR				
	comp=Z,2µm,19.0s										
ECH	**Echery**	**86.02**	**331**	*e*P			P	22 04 28.3	-0.6
	comp=Z,48nm,0.9s										
ECH					*ep*P		pP	22 04 41.5	+1.5
ECH					LR		LR				
	comp=Z,2µm,19.0s										
ECH	**Echery**	**86.02**	**331**	*e*P			P	22 04 28.9	0.0
MAKR	**Makrakomi, Fth**	**86.03**	**317**	P			P	22 04 28.1	-1.0
MAKR	**Makrakomi, Fth**	**86.03**	**317**	P			P	22 04 28.1	-1.0
122A	**Conniff Cattle**	**86.04**	**52**	⇑P			P	22 04 29.9	+0.6
	baz=86										
122A					⇑P		P	22 04 29.9	+0.6
	baz=86										
122A					⇑P		P	22 04 29.9	+0.6
	baz=86										
DLF	**Lyons Farm**	**86.06**	**341**	*e*P			P	22 04 28.4	-0.5
FUORN	**Ofenpass-Fuorn**	**86.06**	**329**	*e*P			P	22 04 29.8	+0.4
DAVOX	**Davos/Dischmat**	**86.09**	**329**	LR		LR	LR	22 46 37.9			
	comp=Z,6µm,19.1s,baz=11,slow=38										
CBKS	**Cedar Bluff**	**86.14**	**43**	*e*P			P	22 04 29.4	-0.3
CBKS					pmax		pmax				
	comp=Z,103nm,1.2s										
CBKS					MLR		MLR				
	comp=Z,630nm,19.0s										
CBKS	**Cedar Bluff**	**86.14**	**43**	*e*P			P	22 04 29.4	-0.3
	comp=Z,103nm,1.2s										
CBKS					LR		LR				
	comp=Z,630nm,19.0s										
CBKS	**Cedar Bluff**	**86.14**	**43**	⇑P			P	22 04 29.0	-0.7
	baz=86										
CBKS					⇑P		P	22 04 29.0	-0.7
	baz=86										
CBKS					⇑P		P	22 04 29.0	-0.7
	baz=86										
CBKS					⇑P		P	22 04 29.0	-0.7
	baz=86										
CBKS					⇑P		P	22 04 29.0	-0.7
	baz=86										
CBKS					⇑P		P	22 04 29.0	-0.7
	baz=86										
Y24A	**Capitan**	**86.19**	**50**	⇓P			P	22 04 30.2	-0.1
	baz=86,SNR=10										
Y24A					⇓P		P	22 04 30.2	-0.1
	baz=86,SNR=10										
Y24A					⇓P		P	22 04 30.2	-0.1
	baz=86,SNR=10										
DSF	**Desfina**	**86.23**	**316**	P			P	22 04 27.1	-3.0
DSF	**Desfina**	**86.23**	**316**	P			P	22 04 27.1	-3.0
MCH1	**Michaelchurch**	**86.25**	**339**	*e*P			P	22 04 29.6	-0.3
MCH1					AMB		AMB	22 04 34.5			
	comp=Z,150nm,3.1s										
MCH1					AMS		AMS	22 43 10.0			
	comp=Z,3µm,26.5s										
MCH1	**Michaelchurch**	**86.25**	**339**	P			P	22 04 29.6	-0.3
MCH1					AMB		AMB	22 04 34.5			
	comp=Z,150nm,3.1s										
MCH1					AMS		AMS	22 43 10.0			
	comp=Z,3µm,26.5s										
X25A	**Clemmons Ranch**	**86.26**	**49**	⇓P			P	22 04 30.9	+0.4
	baz=86,SNR=5.8										
X25A					⇓P		P	22 04 30.9	+0.4
	baz=86,SNR=5.8										
X25A					⇓P		P	22 04 30.9	+0.4
	baz=86,SNR=5.8										
JAN	**Janina**	**86.26**	**318**	P			P	22 04 29.8	-0.4
EVR	**Evrytania**	**86.27**	**317**	*e*PN			P	22 04 30.3	-0.1
PAGF	**Fort de Pagny**	**86.29**	**332**	*e*P			P	22 04 30.5	+0.3
	comp=Z,48nm,0.9s										
WOL	**Wolverton**	**86.32**	**337**	AMS		AMS	AMS	22 47 05.5			
	comp=Z,3µm,15.1s										
SWN1	**Swindon**	**86.32**	**338**	*e*P			P	22 04 28.9	-1.3
SWN1					AMB		AMB	22 04 43.5			
	comp=Z,231nm,1.7s										
SWN1					AMS		AMS	22 44 04.6			
	comp=Z,5µm,28.5s										
SWN1	**Swindon**	**86.32**	**338**

SFTF Sexfontaines 86.84 332 *e*P P **22 04 32.9 +0.1**
comp=Z,238nm,1.1s,baz=32
W27A Bowe Ranch, En 86.85 48 ⇑P P **22 04 33.9 +0.5**
baz=87,SNR=24
W27A ⇑P P **22 04 33.9 +0.5**
baz=87,SNR=24
W27A ⇑P P **22 04 33.9 +0.5**
baz=87,SNR=24
V28A Channing 86.87 47 ⇓P P **22 04 33.4 0.0**
baz=87
V28A ⇓P P **22 04 33.4 0.0**
baz=87
V28A ⇓P P **22 04 33.4 0.0**
baz=87
LKD2 Lefkada island 86.99 318 P P **22 04 32.8 -1.0**
LKD2 Lefkada island 86.99 318 P P **22 04 32.8 -1.0**
IDI Anoyia 87.07 313 *e*P P **22 04 34.0 -0.3**
comp=Z,44nm,0.7s
Z25A Roswell 87.07 50 ⇑P P **22 04 34.6 +0.2**
baz=87
Z25A ⇑P P **22 04 34.6 +0.2**
baz=87
Z25A ⇑P P **22 04 34.6 +0.2**
baz=87
RLS Riolos of Patr 87.07 317 P P **22 04 33.7 -0.4**
RLS Riolos of Patr 87.07 317 P P **22 04 33.7 -0.4**
RLS Riolos of Patr 87.07 317 *e*PN P **22 04 33.9 -0.2**
X27A F and S Farms, 87.12 48 ⇓P P **22 04 35.0 +0.4**
baz=87,SNR=5.2
X27A ⇓P P **22 04 35.0 +0.4**
baz=87,SNR=5.2
X27A ⇓P P **22 04 35.0 +0.4**
baz=87,SNR=5.2
Y26A Elida 87.18 49 ⇓P P **22 04 35.0 0.0**
baz=87
Y26A ⇓P P **22 04 35.0 0.0**
baz=87
Y26A ⇓P P **22 04 35.0 0.0**
baz=87
VLI Veliai 87.20 315 *e*PN P **22 04 32.9 -1.9**
SCIA State Center 87.26 37 *e*P P **22 04 35.9 +0.8**
SCIA *e*pP **pP** **22 04 46.8 +0.7**
SCIA LR LR
comp=Z,1μm,21.0s
HEX Exmoor 87.31 339 *e*P P **22 04 34.8 -0.3**
HEX Exmoor 87.31 339 P P **22 04 34.8 -0.3**
224A Cornudas Mount 87.38 51 ⇑P P **22 04 35.9 -0.1**
baz=87,SNR=16
224A ⇑P P **22 04 35.9 -0.1**
baz=87,SNR=16
224A ⇑P P **22 04 35.9 -0.1**
baz=87,SNR=16
VAM Vamos 87.39 313 *e*PN P **22 04 35.1 -0.7**
KFL Anninata 87.41 317 P P **22 04 34.2 -1.6**
ITM Ithomi 87.44 316 P P **22 04 34.7 -1.3**
ITM Ithomi 87.44 316 P P **22 04 34.7 -1.3**
ITM Ithomi 87.44 316 *e*PN P **22 04 34.8 -1.3**
VLS Valsamata 87.47 317 *e*PN P **22 04 35.6 -0.5**
SENIN Lac Senin/Sane 87.48 330 *e*P P **22 04 36.2 0.0**
125A Gardner Draw, 87.53 50 ⇑P P **22 04 36.7 +0.1**
baz=87,SNR=20
125A ⇑P P **22 04 36.7 +0.1**
baz=87,SNR=20
125A ⇑P P **22 04 36.7 +0.1**
baz=87,SNR=20
Z26A Caprock 87.53 50 ⇓P P **22 04 36.6 0.0**
baz=87,SNR=16
Z26A ⇓P P **22 04 36.6 0.0**
baz=87,SNR=16
Z26A ⇓P P **22 04 36.6 0.0**
baz=87,SNR=16
Y27A Causey 87.60 49 ⇓P P **22 04 36.9 -0.1**
baz=87
Y27A ⇓P P **22 04 36.9 -0.1**
baz=87
Y27A ⇓P P **22 04 36.9 -0.1**
baz=87
KSU1 Kansas State U 87.62 41 *e*P P **22 04 36.6 -0.2**
KSU1 *e*pP **pP** **22 04 49.1 +1.2**
KSU1 LR LR
comp=Z,853nm,20.0s
CABF La Chapelle 87.75 331 *e*P P **22 04 37.1 -0.3**
CPRX Cap Rock 87.76 50 *e*P P **22 04 37.7 0.0**
comp=Z,40nm,1.3s
CPRX *e*pP **pP** **22 04 51.1 +2.2**
MSTX Muleshoe 87.78 48 ⇑P P **22 04 38.3 +0.5**
baz=88
MSTX ⇑P P **22 04 38.3 +0.5**
baz=88
MSTX ⇑P P **22 04 38.3 +0.5**
baz=88
AMTX Amarillo 87.80 47 *e*P P **22 04 38.3 +0.5**
comp=Z,17nm,0.6s
AMTX *e*pP **pP** **22 04 51.6 +2.6**
AMTX LR LR
comp=Z,777nm,20.0s
324A Moseley Ranch, 87.83 52 ⇑P P **22 04 38.0 -0.1**
baz=88,SNR=6.4
324A ⇑P P **22 04 38.0 -0.1**
baz=88,SNR=6.4
324A ⇑P P **22 04 38.0 -0.1**
baz=88,SNR=6.4
DYA Yadsworthy 87.91 339 AMS AMS 22 44 10.4
comp=Z,3μm,25.7s
VLC Villacollemand 87.96 327 PFAKE 22 04 50.0 +12
VLC LR LR
comp=Z,3μm,19.0s
Z27A Tatum 87.96 49 ⇓P P **22 04 38.3 -0.4**
baz=88,SNR=16
Z27A ⇓P P **22 04 38.3 -0.4**
baz=88,SNR=16
Z27A ⇓P P **22 04 38.3 -0.4**
baz=88,SNR=16
AQU L'Aquila 88.00 324 ⇑P P **22 04 39.1 +0.5**
AQU L'Aquila 88.00 324 *e*P P **22 04 38.7 +0.1**
comp=Z,37nm,0.8s
AQU *e*pP **pP** **22 04 51.3 +1.6**
AQU LR LR
comp=Z,4μm,22.0s
AQU L'Aquila 88.00 324 ⇑*i*P P **22 04 39.1 +0.5**
GDL2 Guadalupe Moun 88.02 51 *e*P P **22 04 39.4 +0.3**
LOR Lormes 88.06 333 *e*P P **22 04 38.6 -0.2**
comp=Z,227nm,1.4s,baz=40
LOR *e*R
comp=Z,3μm,18.5s
X29A Tulia 88.09 47 ⇑P P **22 04 40.1 +0.8**
baz=88
X29A ⇑P P **22 04 40.1 +0.8**
baz=88
X29A ⇑P P **22 04 40.1 +0.8**
baz=88
Y28A McKinney Farm, 88.14 48 ⇓P P **22 04 39.4 -0.1**
baz=88
Y28A ⇓P P **22 04 39.4 -0.1**
baz=88
Y28A ⇓P P **22 04 39.4 -0.1**
baz=88
325A Bean Ranch, Si 88.20 52 ⇑P P **22 04 39.8 -0.2**
baz=88,SNR=8.9
325A ⇑P P **22 04 39.8 -0.2**
baz=88,SNR=8.9
325A ⇑P P **22 04 39.8 -0.2**
baz=88,SNR=8.9
FLN La Foliniere 88.30 336 *e*P P **22 04 39.9 +0.1**
comp=Z,49nm,1.0s
RSL Roselend 88.30 330 *e*P P **22 04 40.7 +0.6**
RSL Roselend 88.30 330 *e*P P **22 04 40.7 +0.6**
RSL Roselend 88.30 330 *e*P P **22 04 40.7 +0.6**
127A Arkansas Junct 88.31 50 ⇑P P **22 04 40.2 -0.2**
baz=88
127A ⇑P P **22 04 40.2 -0.2**
baz=88
127A ⇑P P **22 04 40.2 -0.2**
baz=88
LDF La Druitiere 88.33 335 *e*P P **22 04 40.2 +0.2**
comp=Z,29nm,0.7s
SSF Saint Saulge 88.36 333 *e*P P **22 04 40.3 +0.1**
comp=Z,88nm,1.2s
LPL La Plagne 88.40 330 *e*P P **22 04 40.5 -0.2**
comp=Z,30nm,0.6s
LPG La Plagne 88.41 330 *e*P P **22 04 40.7 -0.1**
comp=Z,40nm,0.6s
JSA Saint Aubin 88.47 337 AMS AMS 22 48 43.4
comp=Z,3μm,16.1s
Z28A Tucker Farm, M 88.48 49 ⇑P P **22 04 40.8 -0.4**
baz=88
Z28A ⇑P P **22 04 40.8 -0.4**
baz=88
HYF Humbligny 88.50 333 *e*P P **22 04 41.5 +0.6**
TBI Tubuai 88.52 121 *e*S S **22 15 23.1 -1.5**
comp=Z,549nm,27.8s
TBI *e*SS **SS** **22 21 13.3 -3.0**
comp=Z,344nm,28.2s
TBI *e*LR LR 22 32 34.7
comp=Z,8μm,26.5s,baz=315
425A Indio Mountain 88.59 52 ⇑P P **22 04 41.8 +0.1**
baz=88,SNR=6.4
425A ⇑P P **22 04 41.8 +0.1**
baz=88,SNR=6.4
425A ⇑P P **22 04 41.8 +0.1**
baz=88,SNR=6.4
CUC Castrocucco 88.63 321 *e*P P **22 04 40.7 -0.9**
comp=Z,15nm,0.9s
CUC LR LR
comp=Z,3μm,19.0s
AVF Avril sur Loir 88.65 333 *e*P P **22 04 41.8 +0.3**
comp=Z,62nm,0.7s
GRR Gorron 88.75 336 *e*P P **22 04 42.2 +0.2**
comp=Z,171nm,1.2s
TIP Timpagrande 88.76 320 PFAKE 22 04 50.0 +7.7
TIP LR LR
comp=Z,5μm,21.0s
BNI Bardonecchia 88.80 330 *e*P P **22 04 42.1 -0.3**
BNI pmax pmax
comp=Z,13nm,0.9s
BNI MLR MLR
comp=Z,3μm,19.0s
BNI Bardonecchia 88.80 330 *e*P P **22 04 42.1 -0.3**
comp=Z,13nm,0.9s
BNI LR LR
comp=Z,3μm,19.0s
GLMI Grayling 88.83 31 *e*P P **22 04 43.0 +0.5**
comp=Z,86nm,1.0s
GLMI *e*pP **pP** **22 04 54.8 +1.2**
GLMI LR LR
comp=Z,1μm,20.0s
326A Caldwell Ranch 88.86 51 ⇑P P **22 04 42.8 -0.2**
baz=89
326A ⇑P P **22 04 42.8 -0.2**
baz=89
326A ⇑P P **22 04 42.8 -0.2**
baz=89
Z29A Hungry Hill Ra 88.91 48 ⇑P P **22 04 43.3 +0.1**
baz=89
Z29A ⇑P P **22 04 43.3 +0.1**
baz=89
Z29A ⇑P P **22 04 43.3 +0.1**
baz=89
BGF Bois d'Agland 89.03 333 *e*P P **22 04 43.6 +0.3**
comp=Z,31nm,0.9s
MBDF Mombardon 89.03 329 *e*P P **22 04 42.8 -0.8**
comp=Z,46nm,0.8s
ORIF Oris-en-Rattie 89.23 330 *e*P P **22 04 44.2 -0.2**
comp=Z,23nm,0.7s
ORIF *e*R
comp=Z,3μm,21.0s
PLDF La Plantade 89.24 332 *e*P P **22 04 45.7 +1.3**
PLDF La Plantade 89.24 332 *e*P P **22 04 45.7 +1.3**
PLDF La Plantade 89.24 332 *e*P P **22 04 45.7 +1.3**
426A McDonald Obser 89.27 51 ⇓P P **22 04 44.7 -0.4**
baz=89
426A ⇓P P **22 04 44.7 -0.4**
baz=89
426A ⇓P P **22 04 44.7 -0.4**
baz=89
AGO Saint Agoulin 89.35 332 *e*P P **22 04 45.2 +0.3**
AGO Saint Agoulin 89.35 332 *e*P P **22 04 45.2 +0.3**
MSEY Mahe Island 89.36 264 PFAKE 22 05 00.0 +15
MSEY LR LR
comp=Z,2μm,19.0s
SGMF Saint Gilles 89.42 337 *e*P P **22 04 45.4 +0.3**
comp=Z,49nm,0.8s
SBF Sospel 89.46 329 *e*P P **22 04 44.9 -0.6**
comp=Z,49nm,0.7s
TCF Toulx Ste Croi 89.49 333 *e*P P **22 04 45.8 +0.3**
427A Hayter Ranch, 89.54 51 ⇓P P **22 04 45.9 -0.3**
baz=89
427A ⇓P P **22 04 45.9 -0.3**
baz=89
427A ⇓P P **22 04 45.9 -0.3**
baz=89
ROSF Rostrenen 89.57 337 *e*P P **22 04 46.2 +0.4**
comp=Z,93nm,0.9s
WMOK Wichita Mounta 89.58 46 *e*P P **22 04 46.6 +0.4**
WMOK pmax pmax
comp=Z,37nm,1.1s
WMOK MLR MLR
comp=Z,723nm,21.0s
WMOK Wichita Mounta 89.58 46 *e*P P **22 04 46.6 +0.4**
comp=Z,37nm,1.1s
WMOK LR LR
comp=Z,723nm,21.0s
526A Mary Lane Ranc 89.65 52 ⇓P P **22 04 46.9 +0.1**
baz=90,SNR=15
526A ⇓P P **22 04 46.9 +0.1**
baz=90,SNR=15
526A ⇓P P **22 04 46.9 +0.1**
baz=90,SNR=15
PYM Petit Puy Mans 89.65 332 *e*P P **22 04 46.6 +0.2**
PYM Petit Puy Mans 89.65 332 *e*P P **22 04 46.6 +0.2**
PYM Petit Puy Mans 89.65 332 *e*P P **22 04 46.6 +0.2**
VIVF Saint-Julien-l 89.76 331 *e*P P **22 04 46.7 -0.2**
comp=Z,31nm,0.8s
PGF Pioggiola 89.85 327 *e*P P **22 04 46.8 -0.6**
comp=Z,71nm,1.2s
527A Woodward Ranch 89.89 52 ⇑P P **22 04 47.6 -0.3**
baz=90
527A ⇑P P **22 04 47.6 -0.3**
baz=90
527A ⇑P P **22 04 47.6 -0.3**
baz=90
QUIF Quistinic 89.91 337 *e*P P **22 04 47.5 +0.1**
626A Big Bend Ranch 89.97 52 ⇓P P **22 04 48.0 -0.2**
baz=90
626A ⇓P P **22 04 48.0 -0.2**
baz=90
626A ⇓P P **22 04 48.0 -0.2**
baz=90
LBL Lubilhac 90.00 332 *e*P P **22 04 48.3 +0.3**
LBL Lubilhac 90.00 332 *e*P P **22 04 48.3 +0.3**
LBL Lubilhac 90.00 332 *e*P P **22 04 48.3 +0.3**
MFF Saint Martin d 90.06 335 *e*P P **22 04 48.5 +0.4**
comp=Z,84nm,1.1s
428A Kincaid Ranch, 90.07 51 ⇓P P **22 04 49.0 +0.4**
baz=90
428A ⇓P P **22 04 49.0 +0.4**
baz=90
428A ⇓P P **22 04 49.0 +0.4**
baz=90
SMRF Simiane la Rot 90.14 330 *e*P P **22 04 48.6 0.0**
HDIL Hopedale 90.18 36 PFAKE 22 05 00.0 +11
HDIL LR LR
comp=Z,2μm,22.0s
LMR La Mourre 90.28 329 *e*P P **22 04 48.7 -0.5**
comp=Z,34nm,0.8s
528A Cox Ranch, San 90.40 51 ⇓P P **22 04 50.4 +0.2**
baz=90
528A ⇓P P **22 04 50.4 +0.2**
baz=90
528A ⇓P P **22 04 50.4 +0.2**
baz=90
TUL1 Tulsa 90.40 43 ⇓P P **22 04 49.9 -0.1**
baz=90,SNR=5.1
TUL1 ⇓P P **22 04 49.9 -0.1**
baz=90,SNR=5.1
TUL1 ⇓P P **22 04 49.9 -0.1**
baz=90,SNR=5.1
TXAR Lajitas Array 90.41 52 P P **22 04 50.5 +0.3**
comp=Z,15nm,1.0s,baz=296,slow=3.2,SNR=70
TXAR pP **pP** **22 05 01.6 +0.2**
comp=Z,15nm,0.8s,baz=284,slow=3.1,SNR=24
TXAR PKKPbc **PKKPbc** **22 22 19.4 +2.4**
comp=Z,0.2nm,0.5s,baz=158,slow=5.3,SNR=4.6
TXAR LR LR 22 39 20.9
comp=Z,1μm,21.6s,baz=0.0,slow=32
TXAR Lajitas Array 90.41 52 P P **22 04 50.5 +0.3**
TXAR *PP **pP** **22 05 01.6 +0.2**
TXAR pmax pmax
comp=Z,15nm,1.0s
TXAR MLR MLR
comp=Z,1μm,21.6s
TXAR Lajitas Array 90.41 52 P P **22 04 50.5 +0.3**
TXAR pP **pP** **22 05 01.6 +0.2**
TXAR PKKPbc **PKKPbc** **22 22 19.4 +2.4**
RJF Les Rejaudoux 90.58 333 *e*P P **22 04 51.1 +0.5**
comp=Z,86nm,1.2s
RJF *e*R
comp=Z,3μm,18.2s
CAF Calviac 90.70 332 *e*P P **22 04 51.9 +0.7**
comp=Z,73nm,1.2s
LASF Ste Croix 90.74 331 *e*P P **22 04 51.8 +0.4**
628A Black Gap, Mar 90.80 52 ⇑P P **22 04 51.8 -0.2**
baz=91
628A ⇑P P **22 04 51.8 -0.2**
baz=91
628A ⇑P P **22 04 51.8 -0.2**
baz=91
LFF La Frestale 91.18 333 *e*P P **22 04 54.0 +0.6**
comp=Z,47nm,0.7s
SLM Saint Louis 91.23 38 *e*P P **22 04 54.0 +0.3**
SLM *e*PP **pP** **22 05 07.1 +2.3**
SLM Saint Louis 91.23 38 *e*P P **22 04 54.0 +0.3**
SLM *e*pP **pP** **22 05 07.1 +2.3**
AAM Ann Arbor 91.30 32 PFAKE 22 05 10.0 +16
AAM LR LR
comp=Z,1μm,20.0s
SFIN Scholer Farm 91.35 35 ⇑P P **22 04 54.5 +0.3**
baz=91
SFIN ⇑P P **22 04 54.5 +0.3**
baz=91
SFIN ⇑P P **22 04 54.5 +0.3**
baz=91
FVM French Village 91.64 38 *e*P P **22 04 56.1 +0.4**
FVM *e*PP **pP** **22 05 08.6 +1.8**
FVM pmax pmax
comp=Z,36nm,1.1s
FVM French Village 91.64 38 *e*P P **22 04 56.0 +0.4**
comp=Z,36nm,1.1s
FVM *e*pP **pP** **22 05 08.6 +1.8**
JCT Junction City 92.02 49 *e*P P **22 04 56.8 -0.8**
JCT pmax pmax
comp=Z,21nm,0.8s
JCT MLR MLR
comp=Z,815nm,20.0s
JCT Junction City 92.02 49 *e*P P **22 04 56.8 -0.8**
comp=Z,21nm,0.8s
JCT LR LR
comp=Z,815nm,20.0s
JCT Junction City 92.02 49 ⇑P P **22 04 57.3 -0.3**
baz=92
JCT ⇑P P **22 04 57.3 -0.3**
baz=92
JCT ⇑P P **22 04 57.3 -0.3**
baz=92
OLIL Olney 92.19 36 *e*P P **22 04 58.7 +0.5**
comp=Z,17nm,1.0s
OLIL *e*pP **pP** **22 05 09.8 +0.5**
MSNY Massena 92.33 25 *e*P P **22 04 59.0 +0.3**
comp=Z,66nm,0.9s
WDD Wield Dalam 92.42 319 PFAKE 22 05 10.0 +11
WDD LR LR
comp=Z,3μm,19.0s
SIUC Southern Illin 92.45 38 *e*P P **22 05 00.0 +0.7**
comp=Z,16nm,0.8s
SIUC *e*pP **pP** **22 05 12.6 +2.0**
MIAR Mount Ida 92.63 42 *e*P P **22 05 00.8 +0.5**
MIAR *e*PP **pP** **22 05 13.7 +2.3**
MIAR pmax pmax
comp=Z,87nm,1.1s
MIAR MLR MLR
comp=Z,1μm,20.0s
MIAR Mount Ida 92.63 42 *e*P P **22 05 00.8 +0.5**
comp=Z,87nm,1.1s
MIAR *e*pP **pP** **22 05 13.7 +2.3**
MIAR LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 92.76 25 PFAKE 22 05 10.0 +9.3
LONY LR LR
comp=Z,1μm,19.0s
ERPA Erie 92.95 29 PFAKE 22 05 10.0 +8.4
ERPA LR LR
comp=Z,857nm,19.0s
EPF Esparros 92.97 332 *e*P P **22 05 01.5 -0.3**
comp=Z,23nm,1.0s
ALLY Alegheny Colle 93.28 30 *e*P P 22 04 59.7 -3.5
comp=Z,35nm,1.1s
ACSO Alum Creek Sta 93.29 32 *e*P P **22 05 03.4 +0.1**
comp=Z,25nm,1.2s
ACSO *e*pP **pP** **22 05 16.6 +2.2**
ACSO LR LR
comp=Z,863nm,22.0s
ETSF Etsaut 93.42 333 *e*P P **22 05 04.5 +0.6**
comp=Z,30nm,0.7s
SJPF Ste Jean 93.47 333 *e*P P **22 05 04.7 +0.7**
LBNH Lisbon 93.96 23 PFAKE 22 05 20.0 +14
LBNH LR LR
comp=Z,1μm,22.0s
NATX Nacogdoches 94.11 45 PFAKE 22 05 20.0 +13
NATX LR LR
comp=Z,1μm,22.0s
BINY Binghamton 94.39 27 PFAKE 22 05 20.0 +12
BINY LR LR
comp=Z,2μm,20.0s
HKT Hockley 94.77 47 *e*P P **22 05 10.6 +0.5**
HKT Hockley 94.77 47 *e*P P **22 05 10.6 +0.5**
OXF Oxford 94.86 40 *e*P P **22 05 10.4 -0.1**
OXF *e*PP **pP** **22 05 21.9 +0.3**
OXF pmax pmax
comp=Z,35nm,1.1s
OXF MLR MLR
comp=Z,807nm,20.0s
OXF Oxford 94.86 40 *e*P P **22 05 10.4 -0.1**
comp=Z,35nm,1.1s
OXF *e*pP **pP** **22 05 21.9 +0.3**
OXF LR LR
comp=Z,807nm,20.0s
KEST Kesra 95.15 323 P P **22 05 11.6 -0.4**
comp=Z,1.6nm,0.7s,baz=67,slow=7.7,SNR=4.2
KEST LR LR 22 53 02.4
comp=Z,1μm,18.1s,baz=176,slow=38
KEST Kesra 95.15 323 *e*P P **22 05 12.1 +0.1**
PLAL Pickwick Lake 95.16 39 PFAKE 22 05 20.0 +8.1
PLAL LR LR
comp=Z,838nm,22.0s
KVTX Kingsville 95.28 50 PFAKE 22 05 20.0 +7.5
KVTX LR LR
comp=Z,810nm,20.0s
SWET Sewanee 96.03 37 *e*pP pP 22 05 28.7 +1.6
VBMS Vicksburg 96.05 42 PFAKE 22 05 30.0 +14
VBMS LR LR
comp=Z,1μm,19.0s
CPCT Cooper Cave 96.52 36 *e*pP pP 22 05 32.3 +3.0
BLA Blacksburg 96.91 32 PFAKE 22 05 30.0 +10
BLA LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 97.25 39 PFAKE 22 05 30.0 +8.5
LRAL LR LR
comp=Z,873nm,22.0s
CBN Corbin 97.33 30 PFAKE 22 05 30.0 +8.3
CBN LR LR
comp=Z,1μm,21.0s
ESDC Sonseca Array 97.47 334 P P **22 05 22.3 -0.1**
comp=Z,2.2nm,0.7s,baz=18,slow=4.5,SNR=13
ESDC PP PP 22 09 00.5 -18
comp=Z,1.7nm,0.9s,baz=18,slow=6.7,SNR=5.9
ESDC LR LR 22 53 47.3
comp=Z,3μm,21.4s,baz=20,slow=38
ESDC Sonseca Array 97.47 334 P P **22 05 22.3 -0.1**
ESDC PP PP 22 09 00.5 -18
ESLA Sonseca Array 97.47 334 PFAKE 22 05 30.0 +7.5
ESLA LR LR
comp=Z,26μm,22.0s
PAB San Pablo 97.72 334 PFAKE 22 05 40.0 +16
PAB LR LR
comp=Z,4μm,22.0s
MTE Manteigas 98.04 336 PFAKE 22 05 40.0 +15
MTE LR LR
comp=Z,3μm,21.0s
GOGA Godfrey 98.69 37 PFAKE 22 05 40.0 +12
GOGA LR LR
comp=Z,1μm,20.0s
RKT Rikitea 98.79 112 *e*SKSac **SKSac** **22 16 05.5 +1.6**
comp=Z,682nm,34.2s
RKT *e*SP **SP** **22 18 19.2 -2.3**
comp=Z,665nm,30.8s
RKT *e*SS **SS** **22 23 40.1 -3.1**
comp=Z,1μm,30.8s
RKT *e*LR LR 22 37 33.5

comp=Z,6μm,25.0s,baz=308
BRAL **Brewton** **98.83** **40** PFAKE 22 05 40.0 +11
BRAL LR LR
comp=Z,769nm,20.0s
RER **Riviere de l'E** **98.90** **250** PFAKE 22 05 40.0 +11
RER LR LR
comp=Z,816nm,19.0s
CNNC **Cliffs of the** **99.66** **32** PFAKE 22 05 40.0 +7.8
CNNC LR LR
comp=Z,1μm,21.0s
EVO **Evora** **99.88** **336** *e*P **Pdif** **22 05 31.6 -1.5**
comp=Z,54nm,1.2s
EVO *e*R
comp=Z,4μm,23.0s
NHSC **New Hope** **100.47** **34** PFAKE 22 05 50.0 +14
NHSC LR LR
comp=Z,2μm,21.0s
KMBO **Kilima Mbogo** **101.86** **278** *e*P **Pdif** **22 05 43.6 +1.0**
KMBO pmax pmax
comp=Z,21nm,1.8s
KMBO MLR MLR
comp=Z,1μm,19.0s
KMBO **Kilima Mbogo** **101.86** **278** *e*Pdif **Pdif** **22 05 43.6 +1.0**
comp=Z,21nm,1.8s
KMBO LR LR
comp=Z,1μm,19.0s
DRV **Dumont d'Urvil** **103.10** **180** SKKS **Sdif** **22 17 31.0 +1.2**
DRV SP **SP** **22 19 02.0 -3.6**
DRV SS **SS** **22 24 35.0 -6.6**
RTC **Rabat Centre** **103.58** **333** PFAKE 22 06 00.0 +10
RTC LR LR
comp=Z,2μm,19.0s
ABPO **Ambohimpanom** **104.24** **257** PFAKE 22 06 00.0 +7.1
ABPO LR LR
comp=Z,704nm,20.0s
CASY **Casey** **105.39** **192** PFAKE 22 10 20.0
CASY LR LR
comp=Z,674nm,22.0s
TEIG **Tepich** **106.56** **48** PFAKE 22 10 30.0
TEIG LR LR
comp=Z,581nm,20.0s
MBAR **Mbarara** **106.69** **282** PFAKE 22 10 30.0
MBAR LR LR
comp=Z,175nm,22.0s
TAM **Tamanrasset** **107.52** **317** *e*PKP 22 10 15.2
TAM LR LR
comp=Z,982nm,20.0s
TGUH **Tegucigalpa,Un** **111.88** **52** PFAKE 22 10 40.0
TGUH LR LR
comp=Z,856nm,22.0s
GTBY **Guantanamo Bay** **114.01** **38** PFAKE 22 10 40.0 +12
GTBY LR LR
comp=Z,720nm,20.0s
MTDJ **Mount Denham** **114.21** **41** PFAKE 22 10 40.0 +12
MTDJ LR LR
comp=Z,792nm,21.0s
GRTK **Grand Turk** **114.49** **33** PFAKE 22 10 40.0 +11
GRTK LR LR
comp=Z,2μm,21.0s
VNDA **Vanda** **114.71** **175** PFAKE 22 10 40.0 +13
VNDA LR LR
comp=Z,721nm,20.0s
JTS **JuntasAbangare** **116.20** **52** PFAKE 22 10 40.0 +7.8
JTS LR LR
comp=Z,572nm,22.0s
SDDR **Presa de Saban** **116.63** **35** PFAKE 22 10 40.0 +7.0
SDDR LR LR
comp=Z,2μm,20.0s
TOA0 **Torodi Ar. Sit** **117.42** **315** *e*PKPdf **PKPdf** **22 10 33.9 -0.7**
TOA0 *e*PP **PP** **22 11 43.5 -1.9**
TORD **Torodi Ar. Bea** **117.42** **315** PKP **PKPdf** **22 10 33.8 -0.7**
comp=Z,1.6nm,0.6s,baz=11,slow=1.7,SNR=16
TORD PP **PP** **22 11 40.2 -5.2**
comp=Z,3.9nm,0.8s,baz=28,slow=6.9,SNR=5.9
TORD PKKPbc **PKKPbc** **22 20 56.8 +0.5**
comp=Z,1.1nm,0.9s,baz=233,slow=3.9,SNR=4.9
TORD **Torodi Ar. Bea** **117.42** **315** PKP **PKPdf** **22 10 33.8 -0.7**
TORD PP **PP** **22 11 40.2 -5.2**
TORD PKKPbc **PKKPbc** **22 20 56.8 +0.5**
MAW **Mawson** **119.22** **205** PFAKE 22 10 50.0 +14
MAW LR LR
comp=Z,924nm,21.0s
SJG **San Juan** **119.62** **30** PFAKE 22 10 50.0 +11
SJG LR LR
comp=Z,685nm,21.0s
BCIP **Isla Barro Col** **120.24** **49** PFAKE 22 10 50.0 +10
BCIP LR LR
comp=Z,517nm,21.0s
PAYG **Puerto Ayora** **120.45** **65** PFAKE 22 10 50.0 +10
PAYG LR LR
comp=Z,2μm,21.0s
RPN **Rapa Nui** **120.56** **103** PFAKE 22 10 50.0 +10
RPN LR LR
comp=Z,3μm,20.0s
ANWB **Willy Bob** **121.67** **26** PFAKE 22 10 50.0 +7.4
ANWB LR LR
comp=Z,865nm,20.0s
LBTB **Lobatse** **124.45** **263** *e*PKIKP **PKPdf** **22 10 48.4 +0.6**
LBTB MLR MLR
comp=Z,1μm,22.0s
LBTB **Lobatse** **124.45** **263** *e*PKPdf **PKPdf** **22 10 48.4 +0.6**
LBTB LR LR
comp=Z,1μm,22.0s
FDF **Fort de France** **124.61** **27** PFAKE 22 11 00.0 +12
FDF LR LR
comp=Z,538nm,21.0s
SDV **Santo Domingo** **125.64** **40** *e*PKPdf **PKPdf** **22 10 50.4 -0.3**
SDV LR LR
comp=Z,371nm,22.0s
BOSA **Boshof** **126.37** **259** PKP **PKPdf** **22 10 51.4 -0.1**
comp=Z,9.0nm,0.8s,baz=52,slow=2.7,SNR=14
BOSA **Boshof** **126.37** **259** PKIKP **PKPdf** **22 10 51.4 -0.1**
BOSA pmax pmax
comp=Z,9.0nm,0.8s
BOSA **Boshof** **126.37** **259** PKP **PKPdf** **22 10 51.4 -0.1**
BOSA *e*PKPdf **PKiKP** **22 10 52.7 +0.8**
BOSA LR LR
comp=Z,891nm,20.0s
DBIC **Dimbokro** **126.39** **316** PKP **PKPdf** **22 10 51.8 0.0**
comp=Z,8.3nm,0.7s,baz=12,slow=2.2,SNR=26
DBIC **Dimbokro** **126.39** **316** PKIKP **PKPdf** **22 10 51.8 0.0**
DBIC pmax pmax
comp=Z,8.0nm,0.7s
DBIC **Dimbokro** **126.39** **316** *e*PKPdf **PKPdf** **22 10 51.7 -0.1**
DBIC PKP **PKPdf** **22 10 51.8 0.0**
DBIC LR LR
comp=Z,2μm,22.0s
QSPA **South Pole Qui** **126.50** **180** PFAKE 22 11 00.0 +10
QSPA LR LR
comp=Z,1μm,22.0s
SACV **Santiago Islan** **126.60** **342** PFAKE 22 11 00.0 +7.8
SACV LR LR
comp=Z,1μm,19.0s
GRGR **Grenville** **126.81** **28** PFAKE 22 11 00.0 +7.4
GRGR LR LR
comp=Z,756nm,20.0s
LIC **Lamto** **126.85** **316** *e*PKIKP **PKPdf** **22 10 52.1 -0.6**
comp=Z,27nm,0.9s
LIC *e*R
comp=Z,3μm,22.0s
ROSC **El Rosal** **126.94** **46** *e*PKPdf **PKPdf** **22 10 53.8 +0.4**
SYO **Syowa Base** **127.89** **207**⇓ *e*P **PKPdf** **22 10 52.0 -0.9**
SYO **Syowa Base** **127.89** **207**⇓ *e*P pPKPdf 22 11 05.6 +1.3
TSUM **Tsumeb** **127.97** **274** *e*PKPdf **PKPdf** **22 10 55.5 +0.7**
TSUM LR LR
comp=Z,1μm,22.0s
OTAV **Otavalo** **128.00** **54** *e*PKPdf **PKPdf** **22 10 55.5 0.0**
OTAV LR LR
comp=Z,597nm,20.0s
SUR **Sutherland** **131.42** **257** PFAKE 22 11 10.0 +9.0
SUR LR LR
comp=Z,989nm,21.0s
NNA **Nana** **137.87** **64***c* *i*PKIKP **PKPdf** **22 11 14.6 +1.2**
NNA **Nana** **137.87** **64** *e*PKPdf **PKPdf** **22 11 13.4 0.0**
NNA LR LR
comp=Z,888nm,20.0s
SHEL **Horse Pasture** **144.15** **296** PFAKE 22 11 40.0 +15
SHEL LR LR
comp=Z,1μm,20.0s
SAML **Samuel** **144.55** **45** *e*PKPdf **PKPab** **22 11 23.4 -0.5**
SAML LR LR
comp=Z,664nm,20.0s
LPAZ **La Paz** **146.97** **60** *e*PKP2 **PKPbc** **22 11 32.1 -0.1**
LPAZ MLR MLR
comp=Z,1μm,21.0s
LPAZ **La Paz** **146.97** **60** *e*PKPbc **PKPbc** **22 11 32.1 -0.1**
LPAZ LR LR
comp=Z,1μm,21.0s
PMSA **Palmer Station** **148.16** **160** PFAKE 22 11 40.0 +3.8
PMSA LR LR
comp=Z,2μm,22.0s
RCBR **Riachuelo** **149.11** **354** *e*PKPbc **PKPbc** **22 11 37.1 -0.2**
RCBR LR LR
comp=Z,997nm,19.0s
LCO **Las Campanas** **152.19** **83** *e*PKPbc **PKPbc** **22 11 44.5 0.0**
LCO LR LR
comp=Z,1μm,20.0s
PLCA **Paso Flores** **154.98** **109** PKPbc **PKPbc** **22 11 49.6 -0.3**
comp=Z,2.2nm,0.8s,baz=224,slow=13,SNR=4.0
PLCA **Paso Flores** **154.98** **109** *e*PKIKP **PKPbc** **22 11 49.0 -0.9**
PLCA *e* 22 12 05.4
PLCA MLR MLR
comp=Z,996nm,21.0s
PLCA **Paso Flores** **154.98** **109** *e*PKPbc **PKPbc** **22 11 49.0 -0.9**
PLCA *e*PKPab **PKPab** **22 12 05.4 -0.1**
PLCA LR LR
comp=Z,996nm,21.0s
BDFB **Brasilia** **157.42** **24** PKP **PKPdf** **22 11 45.1 +0.1**
comp=Z,4.1nm,1.1s,baz=51,slow=3.9,SNR=4.4
BDFB PKPab **PKPab** **22 12 17.5 +1.1**
comp=Z,9.6nm,1.1s,baz=281,slow=6.0,SNR=4.6
BDFB **Brasilia** **157.42** **24** PKIKP **PKPdf** **22 11 45.1 +0.1**
BDFB pmax pmax
comp=Z,4.0nm,1.1s
BDFB **Brasilia** **157.42** **24** PKP **PKPdf** **22 11 45.1 +0.1**
BDFB PKPab **PKPab** **22 12 17.5 +1.1**
EFI **East Falkland** **159.76** **144** PFAKE 22 12 00.0 +13
EFI LR LR
comp=Z,2μm,22.0s
TRQA **Tornquist** **161.53** **101** *e*PKPab **PKPab** **22 12 33.6 -0.4**
TRQA LR LR
comp=Z,2μm,20.0s
SPB **Sao Paulo** **164.91** **32** PFAKE 22 12 00.0 +7.3
SPB LR LR
comp=Z,957nm,22.0s

JMA 31 21:58:09.8±0.2, 36.70N×141.29E, h47km±2km, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**316**	P	Pn	21 58 21.3	-0.4
JHO	**Hitachi**	**0.59**	**261**	P	Pn	21 58 21.7	-0.3
JFK	**Kawauchi**	**0.74**	**334**	P	Pn	21 58 23.8	-0.3
JFT	**Otama**	**1.12**	**317**	P	Pn	21 58 30.2	+1.1
JMM	**Marumori**	**1.23**	**341**	P	Pn	21 58 30.7	+0.1
JFY	**Yanaizu**	**1.45**	**300**	P	Pn	21 58 35.3	+1.7
JAG	**Ashikaga**	**1.50**	**260**	P	Pn	21 58 35.2	+0.9

*IDC **31** 21:58:13.1±1.7, 36.55N×141.04E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=41.7km s-min=26.8km az=81.0*
*JMA **31** 21:58:18.9±0.1, 36.73N×141.25E, h45km±2km, M3.6*
JMA Felt I J1.

ISC 31 21:58:17.4±1.6, 36.7N±0.1×140.7E±0.1, h32km, n10, σ1§02/6, mb3.8/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.14**	**238**	P	Pn	21 58 30.8	+7.4
JHO				S	Sn	21 58 39.2	+12
ONAJ	**Iwakimizuishiy**	**0.42**	**9**	P	Pn	21 59 29.8	+2.5
ONAJ				S	Sn	21 58 37.7	+3.7
JFK	**Kawauchi**	**0.69**	**10** ⇓	P	Pn	21 58 32.2	+1.2
JFK				S	**Sn**	**21 58 41.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.02**	**267**	Pn	**Pn**	**21 58 49.9**	**+0.6**
	3.2nm,0.3s,baz=88,slow=15,SNR=7.2						
MJAR				Pg	Pb	21 58 58.5	+5.0
	11nm,0.3s,baz=89,slow=15,SNR=6.7						
MJAR				Lg	Lg	21 59 29.6	
	12nm,0.3s,baz=253,slow=26,SNR=4.4						
MAT	**Matsushiro**	**2.02**	**267**	P	**Pn**	**21 58 49.7**	**+0.4**
MAT				S	**Sb**	**21 59 17.3**	**-1.1**
MAT	**Matsushiro**	**2.02**	**267**	P	Pb	21 58 58.4	+4.8
MAT				S	Sb	21 59 26.1	+7.7
ASAJ	**Asahikawa**	**7.56**	**10**	Pn	**Pn**	**22 00 04.8**	**-0.6**
	0.6nm,0.3s,baz=212,slow=13,SNR=4.4						
SONM	**Songino Array**	**27.52**	**305**	P	P	22 04 05.7	+4.6
	0.9nm,0.5s,baz=105,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**56.64**	**187**	P	**P**	**22 07 57.4**	**-0.1**
	0.8nm,0.8s,baz=7.2,slow=7.8,SNR=2.7						
AKASG	**Malin Array Be**	**74.23**	**322**	P	P	22 09 52.6	+1.7
	0.4nm,0.3s,baz=47,slow=5.6,SNR=4.0						

*ISCJB **31** 22:02:31.2±0.3, 42.82N±0.05×137.78E±0.06, h281km±4km, mb3.4/14, Error ellipse: s-maj=8.7km s-min=6.7km az=167.4*
*JMA **31** 22:02:31.4±0.2, 42.80N×137.74E, h280km±3km, M3.3*
*IDC **31** 22:02:32.0±1.1, 42.89N×137.71E, h272km±10km, mb3.2/14, mb1 3.3/19, mb1mx3.3/27, mbtmp3.2/19, Error ellipse: s-maj=12.8km s-min=11.4km az=176.0*

ISC 31 22:02:31.9±0.7, 42.77N±0.06×137.80E±0.05, h278km±7km, n32, σ1§28/41, mb3.4/14, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.42**	**118**	P	**Pn**	**22 03 12.5**	**+0.2**
JOSM				*e*S	**S**	**22 03 44.6**	**+0.3**
JYM2	**Yakumo 2**	**2.01**	**108**	P	**Pn**	**22 03 17.2**	**+0.4**
JSK	**Shakotan**	**2.04**	**73**	P	**Pn**	**22 03 17.0**	**0.0**
JEW	**Eniwo**	**2.69**	**87**	P	**Pn**	**22 03 23.6**	**+0.7**
JEW				*e*S	**S**	**22 04 04.6**	**+1.1**
JOT	**Ohata**	**2.79**	**119**	P	**Pn**	**22 03 24.1**	**+0.1**
JOT				*e*S	**S**	**22 04 05.3**	**-0.1**
JHR	**Hokuryu**	**3.03**	**70**	P	**Pn**	**22 03 26.9**	**+0.6**
JYG	**Yagishiri**	**3.11**	**57**	P	**Pn**	**22 03 27.3**	**+0.1**
JFR	**Furan**	**3.54**	**82**	P	**Pn**	**22 03 32.1**	**+0.3**
JFR				*e*S	**S**	**22 04 18.5**	**-1.1**
ASAJ	**Asahikawa**	**3.74**	**67**	P	**Pn**	**22 03 33.4**	**-0.7**
	5.3nm,0.3s,baz=253,slow=11,SNR=25						
JWK2	**Keihoku**	**3.90**	**48**	P	**Pn**	**22 03 36.8**	**+1.1**
JWK2				*e*S	**S**	**22 04 28.1**	**+1.4**
JCH	**Churui**	**4.10**	**90**	P	**Pn**	**22 03 36.5**	**-1.6**
JCH				*e*S	**S**	**22 04 26.7**	**-4.3**
USRK	**Ussuriysk Arra**	**4.46**	**291**	P	**Pn**	**22 03 41.1**	**-1.0**
	0.8nm,0.3s,baz=96,slow=12,SNR=12						
USRK				S	**S**	**22 04 35.9**	**-2.4**
	0.1nm,0.3s,baz=98,slow=14,SNR=4.1						
JMK	**Ichinoseki**	**4.61**	**145**	P	**Pn**	**22 03 43.8**	**-0.2**
JMK				*e*S	**S**	**22 04 39.7**	**-2.0**
JTKR	**Abashiri--Toko**	**4.61**	**73**	P	**Pn**	**22 03 43.9**	**0.0**
JTKR				*e*S	**S**	**22 04 40.3**	**-1.2**
NEM2	**Nemuro 2**	**5.85**	**81**	P	**Pn**	**22 03 56.8**	**-1.9**
NEM2				*e*S	S	22 05 01.7	-6.7
MJAR	**Matsushiro Arr**	**6.23**	**177**	P	**Pn**	**22 04 05.0**	**+1.5**
	1.2nm,0.3s,baz=360,slow=12,SNR=5.4						
KSRS	**Korea Array**	**9.24**	**238**	P	**Pn**	**22 04 42.2**	**+1.4**
	0.2nm,0.3s,baz=52,slow=13,SNR=5.3						
JNU	**Nakatsue**	**11.07**	**212**	P	**P**	**22 05 05.8**	**-0.9**
	0.9nm,0.3s,baz=73,slow=19,SNR=8.4						
SONM	**Songino Array**	**22.57**	**294**	P	**P**	**22 07 07.8**	**-1.0**
	0.6nm,0.7s,baz=97,slow=7.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**36.12**	**307**	P	**P**	**22 09 07.0**	**-0.6**
	1.2nm,0.6s,baz=91,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**38.91**	**296**	P	**P**	**22 09 30.3**	**-0.8**
	0.6nm,0.7s,baz=82,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**40.78**	**246**	P	**P**	**22 09 48.4**	**+1.8**
	0.4nm,0.9s,baz=42,slow=6.3,SNR=4.9						
ILAR	**Eielson Array**	**46.27**	**35**	P	**P**	**22 10 30.6**	**+1.0**
	2.2nm,0.5s,baz=267,slow=5.4,SNR=42						
YKA	**Yellowknife Ar**	**60.27**	**31**	P	**P**	**22 12 09.9**	**-1.0**
	0.1nm,0.3s,baz=310,slow=6.5,SNR=4.7						
FINES	**FINESS Array B**	**62.46**	**330**	P	**P**	**22 12 25.5**	**0.0**
	2.0nm,0.5s,baz=41,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**62.48**	**184**	P	**P**	**22 12 26.8**	**+0.6**
	0.4nm,0.5s,baz=1.3,slow=7.4,SNR=15						
NOA	**NORSAR Array B**	**67.83**	**335**	P	**P**	**22 12 59.6**	**-0.4**
	1.2nm,0.7s,baz=41,slow=6.1,SNR=3.5						
AKASG	**Malin Array Be**	**68.10**	**319**	P	**P**	**22 13 00.9**	**-0.8**
	0.6nm,0.3s,baz=44,slow=6.8,SNR=4.2						
BRTR	**Keskin Array B**	**73.04**	**309**	P	**P**	**22 13 32.0**	**+0.2**
	0.3nm,0.5s,baz=92,slow=6.3,SNR=3.3						
NVAR	**Mina Array Bea**	**73.75**	**53**	P	**P**	**22 13 37.4**	**+1.3**
	0.5nm,0.5s,baz=293,slow=4.8,SNR=3.2						
ULM	**Lac du Bonnet**	**76.19**	**32**	P	**P**	**22 13 48.9**	**-0.6**
	2.2nm,0.6s,baz=352,slow=3.2,SNR=3.7						
TXAR	**Lajitas Array**	**88.70**	**50**	P	**P**	**22 14 55.4**	**+1.1**
	0.1nm,0.5s,baz=268,slow=2.2,SNR=5.8						

IDC 31 22:06:36.3±2.1, 18.08S×178.13W, h595km±28km, mb3.2/7, mb1 3.5/8, mb1mx3.3/18, mbtmp3.3/8, Error ellipse: s-maj=81.6km s-min=14.5km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.38**	**57**	P	P	22 08 29.8	0.0
	3.0nm,0.3s,baz=50,slow=23,SNR=4.2						
STKA	**Stephens Creek**	**38.78**	**241**	P	P	22 13 11.1	-0.3
	5.7nm,0.8s,baz=56,slow=9.6,SNR=10						
WRA	**Warramunga Arr**	**44.87**	**260**	P	P	22 13 59.4	+0.1
	3.7nm,0.3s,baz=98,slow=6.2,SNR=158						
ASAR	**Alice Springs**	**45.00**	**254**	P	P	22 14 00.1	-0.2
	7.7nm,0.7s,baz=90,slow=7.8,SNR=153						
TXAR	**Lajitas Array**	**85.86**	**58**	P	P	22 18 14.9	+0.4
	0.7nm,0.8s,baz=222,slow=7.3,SNR=6.3						
ILAR	**Eielson Array**	**85.99**	**13**	P	P	22 18 14.2	0.0
	0.8nm,1.0s,baz=222,slow=5.0,SNR=10.0						
PDAR	**Pinedale Array**	**87.29**	**43**	P	P	22 18 20.8	-0.3
	0.4nm,0.8s,baz=239,slow=1.6,SNR=3.5						
YKA	**Yellowknife Ar**	**94.37**	**25**	P	P	22 18 52.4	-0.6
	0.1nm,0.5s,baz=230,slow=5.5,SNR=2.6						

IDC 31 22:11:26.1±2.6, 17.35S×176.60W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/18, mbtmp4.2/4, ML2.5/1, Error ellipse: s-maj=176.5km s-min=31.5km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.77**	**54**	P	Pn	22 12 53.1	0.0
	6.9nm,0.3s,baz=30,slow=19,SNR=7.0						
AFI				Sn	Sn	22 13 46.7	-13
	17nm,0.3s,baz=39,slow=20,SNR=12						
STKA	**Stephens Creek**	**40.41**	**241**	P	P	22 19 06.7	+0.5
	1.1nm,0.4s,baz=68,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**46.43**	**259**	P	P	22 19 54.4	-0.7
	0.4nm,0.5s,baz=96,slow=8.1,SNR=5.3						
ASAR	**Alice Springs**	**46.60**	**254**	P	P	22 19 56.1	-0.2
	6.4nm,0.7s,baz=88,slow=8.4,SNR=70						

*BJI **31** 22:24:17.9, 53.69N×160.30E, h58km, mB5.1/12, mb4.5/28, Ms4.7/12, Ms7 4.4/12*
*MOS **31** 22:24:20.7±1.1, 53.58N×159.71E, h56km, mb4.5/33, Error ellipse: s-maj=10.1km s-min=6.8km az=76.7*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*ISCJB **31** 22:24:22.9±0.3, 53.39N±0.03×159.85E±0.06, h80km±2km, mb4.3/72, Error ellipse: s-maj=6.8km s-min=2.4km az=33.6*
*IDC **31** 22:24:23.7±0.6, 53.60N×159.83E, h67km±4km, mb3.9/31, mb1 4.1/33, mb1mx4.0/36, mbtmp3.9/33, Error ellipse: s-maj=14.6km s-min=6.0km az=154.0*
*NEIC **31** 22:24:23.8±0.5, 53.53N×159.75E, h73km±5km, mb4.6/18, Error ellipse: s-maj=8.2km s-min=4.8km az=151.0*
*KRSC **31** 22:24:24.1±0.3, 53.40N×159.97E, h51km±38km, ML4.7*

ISC 31 22:24:22.1±0.4, 53.33N±0.03×160.02E±0.03, h62km±2km, h61km; pP-P, n258, σ1§36/330, mb4.5/72, 8C-4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.23**	**180**	*e*Pn	**Pn**	**22 24 33.9**	**+1.3**
SPN	**Mys Shipunski**	**0.23**	**180**	*e*Sn	**Pn**	**22 24 52.6**	**+1.8**
NLC	**Nalytchevo**	**0.44**	**249**	*i* P	**Pn**	**22 24 40.1**	**+1.5**
NLC	**Nalytchevo**	**0.44**	**249**	PN	**Pn**	**22 24 35.0**	**+1.5**
NLC	**Nalytchevo**	**0.44**	**249**	*i* P	**Pn**	**22 24 35.0**	**+1.5**
SDLR	**Sedlovina**	**0.68**	**266**	*i* P	**Pn**	**22 24 38.0**	**+1.6**
UGLR	**Uglovaya**	**0.73**	**261**	*i* P	**Pn**	**22 24 38.7**	**+1.8**
SMAR	**Somma**	**0.73**	**265**	*i* P	**Pn**	**22 24 38.5**	**+1.4**
SMAR				*e*S	**Sn**	**22 24 48.1**	**0.0**
AVH	**Avacha**	**0.77**	**265**	*i* P	**Pn**	**22 24 39.2**	**+1.8**
KII	**Karymskiy**	**0.78**	**334**	*i* P	**Pn**	**22 24 38.8**	**+1.3**
KOK	**Koryaka**	**0.83**	**268**	*i* P	**Pn**	**22 24 39.7**	**+1.6**
KOK				*e*S	**Sn**	**22 24 50.5**	**+0.5**
PET	**Petropavlovsk**	**0.88**	**250** ⇓	*i* PN	**Pn**	**22 24 40.2**	**+1.6**
PET				*e*S	**Sn**	**22 24 52.4**	**+1.6**
PET	comp=Z,200nm,1.5s			pmax	pmax		
PET	comp=Z,3μm,0.4s			pmax	pmax		
PET	comp=Z,3μm,0.3s			pmax	pmax		
PET	comp=E,1μm,2.6s			smax	smax		
PET	comp=N,2μm,2.6s			smax	smax		
PET	comp=E,13μm,0.3s			smax	smax		
PET	comp=E,14μm,0.4s			smax	smax		
PET	comp=N,13μm,0.4s			smax	smax		
	comp=N,16μm,0.4s						
PET	**Petropavlovsk**	**0.88**	**250**	*e*Pn	**Pn**	**22 24 39.9**	**+1.3**
PET				*e*Sn	**Sn**	**22 24 52.6**	**+1.8**
PET	**Petropavlovsk**	**0.88**	**250**	*i* P	**Pn**	**22 24 40.1**	**+1.5**
PET				*i* S	**Sn**	**22 24 51.3**	**+0.5**
INSR	**Institute**	**0.89**	**253**	*i* P	**Pn**	**22 24 40.4**	**+1.6**
INSR				*i* S	**Sn**	**22 24 52.0**	**+0.9**
RUS	**Russkaya**	**1.28**	**226**	PN	**Pn**	**22 24 45.1**	**+1.2**
RUS				S	**Sn**	**22 24 59.8**	**-0.4**
RUS	**Russkaya**	**1.28**	**226**	*i* P	**Pn**	**22 24 45.1**	**+1.2**
RUS				*e*S	**Sn**	**22 24 59.8**	**-0.4**
MTVR	**Mutnovka**	**1.40**	**233**	*i* P	**Pn**	**22 24 47.4**	**+1.8**
MTVR				*i* S	**Sn**	**22 25 03.9**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.41**	**262**	*e*Pn	**Pn**	**22 24 47.2**	**+1.6**
PEA0B				*e*Sn	**Sn**	**22 25 05.9**	**+2.6**
PETK	**Petropavlovsk-**	**1.41**	**262**	P	**Pn**	**22 24 47.5**	**+1.8**
	comp=N,300nm,0.3s,baz=76,slow=18,SNR=2924						
PETK				S	**Sn**	**22 25 05.5**	**+2.1**
	comp=N,318nm,0.3s,baz=18,slow=24,SNR=16						
PETK	**Petropavlovsk-**	**1.41**	**262**	PN	**Pn**	**22 24 47.5**	**+1.8**
PETK				pmax	pmax		
	comp=Z,300nm,0.3s						
PETK	**Petropavlovsk-**	**1.41**	**262**	P	**Pn**	**22 24 47.5**	**+1.8**
PETK				S	**Sn**	**22 25 05.5**	**+2.1**
MKZ	**Mys Kozlova**	**1.59**	**39**	PN	**Pn**	**22 24 48.8**	**+0.9**
MKZ				S	**Sn**	**22 25 06.2**	**-1.2**
MKZ	**Mys Kozlova**	**1.59**	**39**	*i* P	**Pn**	**22 24 48.8**	**+0.9**
MKZ				*i* S	**Sn**	**22 25 06.2**	**-1.2**
ASAK	**Asacha**	**1.60**	**234**	*i* P	**Pn**	**22 24 50.5**	**+2.3**
ASAK				*i* S	**Sn**	**22 25 09.3**	**+1.4**
TUMR	**Tumrok**	**1.96**	**2**	*i* P	**Pn**	**22 24 55.3**	**+2.3**
TUMR				*i* S	**Sn**	**22 25 17.4**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.25**	**243**	*e*P	**Pn**	**22 24 59.4**	**+2.5**
KMNR	**Kamenistaya**	**2.43**	**3**	*e*P	**Pn**	**22 25 02.2**	**+2.7**
KMNR				*i* S	**Sn**	**22 25 29.1**	**+1.0**
BZMR	**Bezymyannaya**	**2.62**	**6**	*e*P	**Pn**	**22 25 04.7**	**+2.6**
BZMR				*e*S	**Sn**	**22 25 33.8**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.64**	**8**	P	**Pn**	**22 25 03.9**	**+1.6**
BZGR				*i* S	**Sn**	**22 25 32.5**	**-0.8**
KPT	**Kopyto**	**2.64**	**2**	*e*P	**Pn**	**22 25 04.5**	**+2.2**
KPT				*i* S	**Sn**	**22 25 33.4**	**+0.2**
BZWR	**Bezymyannyi-We**	**2.65**	**6**	P	**Pn**	**22 25 04.7**	**+2.2**
BZWR				*i* S	**Sn**	**22 25 33.4**	**-0.2**
ESO	**Esso**	**2.71**	**344**	PN	**Pn**	**22 25 05.1**	**+1.9**
ESO	**Esso**	**2.71**	**344**	*i* P	**Pn**	**22 25 05.1**	**+1.9**
ZLN	**Zelenaya**	**2.73**	**9**	P	**Pn**	**22 25 06.4**	**+2.9**
ZLN				*i* S	**Sn**	**22 25 36.4**	**+1.0**
KOZ	**Kozyrevsk**	**2.73**	**358**	*e*P	**Pn**	**22 25 05.8**	**+2.3**
KOZ				*i* S	**Sn**	**22 25 36.1**	**+0.8**
KOZR	**Kozyr**	**2.74**	**359**	PN	**Pn**	**22 25 05.8**	**+2.2**
KRSR	**Krestovskiy**	**2.91**	**6**	*e*P	**Pn**	**22 25 08.5**	**+2.5**
KRSR				*e*S	**Sn**	**22 25 40.0**	**+0.3**
SRDR	**Sredinnyy**	**3.00**	**357**	*e*P	**Pn**	**22 25 08.8**	**+1.7**
SRDR				*e*S	**Sn**	**22 25 40.4**	**-1.4**
KLY	**Klyuchi**	**3.01**	**7**	PN	**Pn**	**22 25 10.3**	**+3.1**
KLY	**Klyuchi**	**3.01**	**7**	*e*P	**Pn**	**22 25 10.3**	**+3.1**
KLY				*i* S	**Sn**	**22 25 43.9**	**+1.9**
KBTR	**Krutoberegovo**	**3.31**	**28**	PN	**Pn**	**22

SMKR **Semkarok** 3.36 14 *e*P **Pn** **22 25 15.0 +2.9**
SMKR *i* S **Sn** **22 25 51.7 +0.9**
SRKR Sorokina 3.39 11 *e*P Pn 22 25 16.7 +4.1
SRKR *i* S **Sn** **22 25 54.4 +2.8**
SKR Severo-Kuril's 3.59 224 *e*PN **Pn** **22 25 17.0 +1.9**
BKI Bering 3.96 59 PN **Pn** **22 25 21.3 +1.1**
BKI Bering 3.96 59 *i* P **Pn** **22 25 21.3 +1.1**
BKI *i* S **Sn** **22 26 02.0 -3.3**
TILK Tilichiki 7.88 23 P Pn 22 26 17.5 +3.8
FX1 Attu Island--F 7.93 88 P **Pn** **22 26 16.0 +1.5**
comp=Z,43nm,0.3s,baz=52,slow=2.4,SNR=36
FX1 S **Sn** **22 27 39.1 -3.5**
comp=Z,15nm,0.3s,baz=90,slow=20,SNR=6.6
FX1 Attu Island--F 7.93 88 PN **Pn** **22 26 16.0 +1.5**
FX1 pmax pmax
comp=Z,43nm,0.3s
FX1 Attu Island--F 7.93 88 P **Pn** **22 26 16.0 +1.5**
FX1 S **Sn** **22 27 39.1 -3.5**
ASAJ Asahikawa 14.71 238 P **Pn** **22 27 48.1 +1.7**
comp=Z,1.6nm,0.3s,baz=76,slow=14,SNR=14
ASAJ Asahikawa 14.71 238 P **Pn** **22 27 48.1 +1.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 14.71 238 P **Pn** **22 27 48.1 +1.7**
ERM Erimo 15.99 232 *e*P **Pn** **22 28 01.3 -1.6**
ERM Erimo 15.99 232 *e*Pn **Pn** **22 28 03.1 +0.2**
HABR Khabarovsk 16.45 263 *e*P **Pn** **22 28 07.6 -0.9**
HABR *e*S **Sn** **22 31 11.9 +1.9**
HABR pmax pmax
comp=N,47nm,2.6s
HABR pmax pmax
comp=Z,75nm,2.6s
HABR pmax pmax
comp=E,57nm,1.8s
HABR MLR MLR
comp=Z,376nm,15.0s
KLR Kul'dur 18.10 268 *e*P **P** **22 28 27.8 -0.7**
YAK Yakutsk 18.25 310 *e*P **P** **22 28 29.7 -0.4**
YAK *e* 22 31 06.4
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 18.25 310 *e*P **P** **22 28 29.2 -0.8**
comp=Z,19nm,0.4s
USRK Ussuriysk Arra 20.49 255 P Pn 22 28 56.1 -1.2
comp=Z,2.3nm,0.6s,baz=54,slow=12,SNR=7.5
MAJO Matsushiro 22.66 231 *e*P **P** **22 29 19.1 +1.1**
MAJO pmax pmax
comp=Z,36nm,0.6s
MAJO Matsushiro 22.66 231 *e*P **P** **22 29 19.1 +1.1**
comp=Z,36nm,0.6s
MAT Matsushiro 22.66 231 P **P** **22 29 18.8 +0.8**
MJAR Matsushiro Arr 22.66 231 P **P** **22 29 19.2 +1.1**
comp=Z,15nm,0.6s,baz=12,slow=11,SNR=43
MJAR Matsushiro Arr 22.66 231 P **P** **22 29 19.2 +1.1**
MJAR pmax pmax
comp=Z,15nm,0.6s
MJAR Matsushiro Arr 22.66 231 P **P** **22 29 19.2 +1.1**
CN2 Changchun 24.57 261 *e*P **P** **22 29 34.3 -1.6**
CN2 *e*pP **pP** **22 29 47.5 -3.4**
CN2 *e*S **S** **22 33 49.8 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,600nm,14.0s
CN2 LR LR
comp=E,600nm,14.0s
CN2 LR LR
comp=Z,700nm,16.0s
BOD Bodaibo 25.99 299 *e*P **P** **22 29 47.8 -0.9**
BOD pmax pmax
comp=Z,6.0nm,0.9s
KDAK Kodiak Island 26.73 61 P **P** **22 29 55.6 +0.4**
comp=Z,6.3nm,0.9s,baz=338,slow=24,SNR=5.2
KDAK Kodiak Island 26.73 61 P **P** **22 29 55.6 +0.4**
KDAK pmax pmax
comp=Z,6.0nm,0.9s
KDAK Kodiak Island 26.73 61 P **P** **22 29 55.6 +0.4**
KSRS Korea Array 27.27 247 P **P** **22 29 59.8 -0.5**
comp=Z,2.1nm,1.1s,baz=41,slow=9.4,SNR=4.1
KSRS Korea Array 27.27 247 P **P** **22 29 59.8 -0.5**
KSRS pmax pmax
comp=Z,2.0nm,1.1s
KSAR Wonju Array Be 27.30 247 P **P** **22 29 59.8 -0.8**
KSAR Wonju Array Be 27.30 247 P **P** **22 29 59.8 -0.8**
ILAR Eielson Array 28.68 46 P **P** **22 30 13.8 +1.2**
comp=Z,0.7nm,0.8s,baz=260,slow=8.7,SNR=8.5
ILAR pP **pP** **22 30 28.1 +0.4**
comp=Z,1.8nm,0.8s,baz=256,slow=8.2,SNR=11
ILAR Eielson Array 28.68 46 P **P** **22 30 13.8 +1.2**
ILAR *PP **pP** **22 30 28.2 +0.4**
ILAR Eielson Array 28.68 46 P **P** **22 30 13.8 +1.2**
ILAR pP **pP** **22 30 28.1 +0.4**
INK Inuvik 33.71 38 P **P** **22 30 57.5 +0.8**
comp=Z,0.7nm,0.4s,baz=287,slow=7.9,SNR=5.0
INK Inuvik 33.71 38 P **P** **22 30 57.5 +0.8**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 33.71 38 P **P** **22 30 57.5 +0.8**
SONM Songino Array 33.80 283 P **P** **22 30 56.4 -1.6**
comp=Z,0.7nm,0.4s,baz=59,slow=8.1,SNR=11
SONM PcP **PcP** **22 33 36.7 +1.0**
comp=Z,1.3nm,0.5s,baz=82,slow=1.4,SNR=10
SONM Songino Array 33.80 283 P **P** **22 30 56.4 -1.6**
SONM 22 33 36.7
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 33.80 283 P **P** **22 30 56.4 -1.6**
SONM PcP **PcP** **22 33 36.7 +1.0**
HHC Hu-ho-hao-te 34.60 269 *e*P **P** **22 31 04.0 -1.0**
HHC pP **pP** **22 31 19.0 -1.3**
HHC sP **sP** **22 31 27.3 -0.3**
HHC PP PP 22 32 22.3 -1.9
HHC S **S** **22 36 29.0 -0.8**
HHC sS **sS** **22 36 55.8 0.0**
HHC SS SS 22 38 45.3 -16
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.9s
HHC LR LR
comp=N,250nm,12.2s
HHC LR LR
comp=E,340nm,11.2s
HHC LR LR
comp=Z,490nm,12.0s
JOW Kunigami 35.41 234 P **P** **22 31 13.3 +1.4**
comp=Z,19nm,0.4s,baz=20,slow=10,SNR=4.2
JOW Kunigami 35.41 234 P **P** **22 31 13.3 +1.4**
NJ2 Nanjing 36.29 251 *e*P **P** **22 31 19.8 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 42.30 269 *e*P **P** **22 32 08.5 -1.1**
LZH pP **pP** **22 32 23.0 -2.3**
LZH sP **sP** **22 32 31.0 -1.4**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=N,580nm,15.4s
LZH LR LR
comp=E,760nm,15.9s
LZH LR LR
comp=Z,380nm,14.9s
GTA Gaotai 42.54 276 *e*P **P** **22 32 11.3 -0.2**
GTA pP **pP** **22 32 28.0 +0.8**
GTA sP **sP** **22 32 33.5 -0.8**
GTA pmax pmax
comp=Z,6.0nm,0.6s
ZAA0 Zalesovo Array 42.61 302 *e*P **P** **22 32 09.7 -1.9**
ZAA0 *e*PcP **PcP** **22 34 02.6 -0.1**
ZALV Zalesovo Beam 42.61 302 P **P** **22 32 09.8 -1.9**
comp=Z,2.0nm,0.5s,baz=58,slow=6.6,SNR=11
ZALV PcP **PcP** **22 34 03.0 +0.2**
comp=Z,1.6nm,0.5s,baz=92,slow=3.3,SNR=10
ZALV Zalesovo Beam 42.61 302 P **P** **22 32 09.8 -1.9**
ZALV 22 34 03.0
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.61 302 P **P** **22 32 09.8 -1.9**
ZALV PcP **PcP** **22 34 03.0 +0.2**
NVS Novosibirsk 42.94 304 *e*P **P** **22 32 12.0 -2.4**
NVS *e* 22 32 29.5
NVS *e* 22 38 36.4
NVS pmax pmax
comp=N,2.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS pmax pmax
comp=Z,9.0nm,0.9s
YKA Yellowknife Ar 43.02 43 P **P** **22 32 16.6 +1.7**
comp=Z,0.5nm,0.6s,baz=300,slow=8.0,SNR=8.0
YKA pP **pP** **22 32 30.9 +0.4**
comp=Z,1.3nm,0.7s,baz=299,slow=7.7,SNR=9.9
YKA Yellowknife Ar 43.02 43 P **P** **22 32 16.6 +1.7**
YKA *PP **pP** **22 32 30.9 +0.4**
YKA Yellowknife Ar 43.02 43 P **P** **22 32 16.6 +1.7**
YKA pP **pP** **22 32 30.9 +0.4**
RES Resolute Bay 43.12 22 P **P** **22 32 16.3 +0.8**
comp=Z,1.0nm,0.5s,baz=334,slow=6.3,SNR=8.9
RES Resolute Bay 43.12 22 P **P** **22 32 16.3 +0.8**
RES pmax pmax
comp=Z,1.0nm,0.5s
RES Resolute Bay 43.12 22 P **P** **22 32 16.3 +0.8**
CD2 Chengdu 45.95 264 P **P** **22 32 38.8 +0.1**
CD2 pP **pP** **22 32 53.5 -1.1**
CD2 sP **sP** **22 33 00.3 -1.4**
CD2 PP PP 22 34 27.8 +0.6
CD2 S **S** **22 39 20.0 +1.2**
CD2 sS **sS** **22 39 45.3 -0.4**
CD2 SS SS 22 42 38.0 -6.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,360nm,7.1s
CD2 LR LR
comp=N,490nm,13.1s
CD2 LR LR
comp=Z,300nm,11.9s
SPITS Spitsbergen Ar 46.89 350 P **P** **22 32 44.7 -0.8**
comp=Z,3.9nm,0.4s,baz=35,slow=7.1,SNR=65
SPITS Spitsbergen Ar 46.89 350 P **P** **22 32 44.7 -0.8**
SPITS pmax pmax
comp=Z,4.0nm,0.4s
SPITS Spitsbergen Ar 46.89 350 P **P** **22 32 44.7 -0.8**
GYA Guiyang 47.51 257 *e*P **P** **22 32 52.0 +1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 47.57 302 P **P** **22 32 50.0 -1.0**
comp=Z,8.7nm,0.4s,baz=60,slow=7.6,SNR=58
KURK PcP **PcP** **22 34 20.2 +0.3**
comp=Z,2.3nm,0.5s,baz=49,slow=3.0,SNR=11
KURK Kurchatov 47.57 302 *c iP* **P** **22 32 49.1 -1.9**
KURK pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 47.57 302 *e*P **P** **22 32 49.4 -1.6**
comp=Z,14nm,0.4s
KURK *e*PcP **PcP** **22 34 18.2 -1.7**
MK31 Makanchi Array 48.01 295 *e*P **P** **22 32 53.1 -1.5**
MK31 Makanchi Array 48.01 295 *e*P **P** **22 32 53.1 -1.5**
MKAR Makanchi Array 48.01 295 P **P** **22 32 53.3 -1.3**
comp=Z,2.3nm,0.4s,baz=56,slow=6.4,SNR=122
MKAR Makanchi Array 48.01 295 P **P** **22 32 53.3 -1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 48.01 295 P **P** **22 32 53.3 -1.3**
DAG Danmarks Havn 50.16 360 *i* P **P** **22 33 10.5 0.0**
comp=Z,22nm,0.9s
BVAR Borovoye Array 50.20 308 P **P** **22 33 09.4 -1.8**
comp=Z,3.3nm,0.5s,baz=59,slow=6.6,SNR=25
BVAR PcP **PcP** **22 34 29.3 -0.1**
comp=Z,1.8nm,0.5s,baz=77,slow=2.6,SNR=6.6
BVAR ScP **ScP** **22 38 18.1 -1.5**
comp=Z,0.7nm,0.7s,baz=123,slow=5.5,SNR=5.0
BVAR pScP 22 38 31.8
comp=Z,1.1nm,0.7s,baz=93,slow=7.4,SNR=5.5
BVAR Borovoye Array 50.20 308 P **P** **22 33 09.4 -1.8**
BVAR 22 34 29.3
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 50.20 308 P **P** **22 33 09.4 -1.8**
BVAR PcP **PcP** **22 34 29.3 -0.1**
BVAR ScP **ScP** **22 38 18.1 -1.5**
BVAR pScP 22 38 31.8
BRVK Borovoye 50.23 308 *e*P **P** **22 33 11.2 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 50.23 308 *e*P **P** **22 33 09.9 -1.5**
comp=Z,3.2nm,0.5s
BRVK *e*PcP **PcP** **22 34 28.3 -1.2**
KMI Kunming 50.82 260 P **P** **22 33 17.3 +0.8**
KMI pP **pP** **22 33 33.3 +0.8**
KMI sP **sP** **22 33 39.0 -0.6**
KMI pmax pmax
comp=Z,2.0nm,1.2s
ARCES ARCESS Array B 53.05 342 P **P** **22 33 29.9 -2.2**
comp=Z,4.5nm,0.8s,baz=32,slow=6.5,SNR=8.5
ARCES PcP **PcP** **22 34 40.3 +0.5**
comp=Z,3.8nm,0.8s,baz=42,slow=5.6,SNR=3.6
ARCES ARCESS Array B 53.05 342 P **P** **22 33 29.9 -2.2**
ARCES 22 34 40.3
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 53.05 342 P **P** **22 33 29.9 -2.2**
ARCES PcP **PcP** **22 34 40.3 +0.5**
ARU Arti 53.19 317 *d iP* **P** **22 33 32.2 -1.1**
ARU S **S** **22 40 59.1 -0.1**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 53.19 317 *e*P **P** **22 33 32.0 -1.3**
comp=Z,4.1nm,0.9s
SUMG Summit 53.73 7 *e*P **P** **22 33 38.5 +1.0**
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 53.73 7 *e*P **P** **22 33 38.5 +1.0**
comp=Z,17nm,1.1s
SUMG Summit 53.73 7 *i* P **P** **22 33 38.3 +0.7**
comp=Z,9.9nm,0.9s
AAK Ala-Arcba 54.93 296 *c iP* **P** **22 33 45.7 -0.8**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Arcba 54.93 296 *e*P **P** **22 33 45.1 -1.4**
comp=Z,12nm,0.4s
EKS2 Erkin-Say 55.30 296 *e*P **P** **22 33 48.7 -0.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.5s
EKS2 Erkin-Say 55.30 296 *e*P **P** **22 33 48.7 -0.4**
comp=Z,3.3nm,0.5s
NVAR Mina Array Bea 55.70 70 P **P** **22 33 55.1 +3.0**
comp=Z,2.1nm,0.8s,baz=298,slow=7.9,SNR=8.4
NVAR pP **pP** **22 34 09.4 +1.0**
comp=Z,0.7nm,0.6s,baz=293,slow=8.2,SNR=3.7
NVAR Mina Array Bea 55.70 70 P **P** **22 33 55.1 +3.0**
NVAR pP **pP** **22 34 09.4 +1.0**
ELK Elko 55.80 66 *e*P P 22 33 48.2 -4.7
ELK Elko 55.80 66 *e*P P 22 33 48.1 -4.7
MOOW Moose Ponds 56.14 61 *e*P P 22 33 49.8 -5.4
comp=Z,1.2nm,0.6s
KKAR Karatay Array 56.73 299 *e*P **P** **22 33 57.4 -1.7**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 56.73 299 *e*P **P** **22 33 57.4 -1.7**
comp=Z,2.2nm,0.5s
PD01 Pinedale Array 57.42 61 *e*P P 22 33 57.2 -7.1
BW06 Boulder Array 57.44 61 *e*P P 22 34 00.7 -3.7
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 57.60 310 *e*P **P** **22 34 03.6 -1.6**
comp=Z,0.9nm,0.4s
AKTO Aktyubinsk 57.63 312 P **P** **22 34 04.1 -1.2**
comp=Z,1.3nm,0.5s,baz=74,slow=9.4,SNR=6.7
AKTO PcP **PcP** **22 34 56.9 -1.0**
comp=Z,2.7nm,0.6s,baz=64,slow=7.2,SNR=7.0
AKTO ScP **ScP** **22 38 53.6 +1.6**
comp=Z,1.2nm,0.8s,baz=19,slow=7.3,SNR=5.1
AKTO Aktyubinsk 57.63 312 P **P** **22 34 04.1 -1.2**
AKTO 22 34 56.9
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 57.63 312 P **P** **22 34 04.1 -1.2**
AKTO PcP **PcP** **22 34 56.9 -1.0**
AKTO ScP **ScP** **22 38 53.6 +1.6**
SFJD Kangerlussuaq 57.79 14 P **P** **22 34 06.7 +0.5**
comp=Z,3.9nm,0.4s,baz=298,slow=5.8,SNR=5.7
SFJD Kangerlussuaq 57.79 14 P **P** **22 34 06.7 +0.5**
SFJD pmax pmax
comp=Z,4.0nm,0.4s
SFJD Kangerlussuaq 57.79 14 P **P** **22 34 06.7 +0.5**
CHTO Chiang Mai 57.91 258 *e*P **P** **22 34 08.3 +0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 57.91 258 *e*P **P** **22 34 08.3 +0.6**
comp=Z,2.8nm,0.6s
TAPN Taplejung 58.15 274 *e*P **P** **22 34 08.6 -1.0**
TAPN Taplejung 58.15 274 *e*P **P** **22 34 08.6 -1.0**
CMAR Chiang Mai Arr 58.19 258 P **P** **22 34 09.9 +0.2**
comp=Z,1.9nm,0.7s,baz=25,slow=6.9,SNR=13
CMAR Chiang Mai Arr 58.19 258 P **P** **22 34 09.9 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 58.19 258 P **P** **22 34 09.9 +0.2**
ODAN Odare 58.70 274 *e*P **P** **22 34 13.0 -0.4**
ODAN Odare 58.70 274 *e*P **P** **22 34 13.0 -0.4**
GUN Gumba 58.83 276 *e*P **P** **22 34 13.0 -1.4**
GUN Gumba 58.83 276 *e*P **P** **22 34 13.0 -1.4**
RAMN Ramite 59.10 274 *e*P **P** **22 34 15.0 -1.2**
comp=Z,20nm,0.5s
RAMN Ramite 59.10 274 *e*P **P** **22 34 15.0 -1.2**
comp=Z,20nm,0.5s
KKN Kakani 59.27 276 *e*P **P** **22 34 16.4 -1.0**
comp=Z,5.1nm,0.3s
RSSD Black Hills 59.31 56 *e*P P 22 34 12.6 -4.8
RSSD pmax pmax
comp=Z,12nm,0.7s
RSSD Black Hills 59.31 56 *e*P P 22 34 12.6 -4.8
comp=Z,12nm,0.7s
PKI Pulchoki 59.36 276 *e*P **P** **22 34 17.1 -1.0**
PKI Pulchoki 59.36 276 *e*P **P** **22 34 17.1 -1.0**
PKI Pulchoki 59.36 276 *e*P **P** **22 34 17.1 -1.0**
GKN Gorkha 59.50 277 *e*P **P** **22 34 17.9 -0.9**
GKN Gorkha 59.50 277 *e*P **P** **22 34 17.9 -0.9**
DMN Daman 59.51 276 *e*P **P** **22 34 18.3 -0.7**
DMN Daman 59.51 276 *e*P **P** **22 34 18.3 -0.7**
DANN Dangsing 59.77 278 *e*P **P** **22 34 19.9 -0.9**
DANN Dangsing 59.77 278 *e*P **P** **22 34 19.9 -0.9**
FINES FINESS Array B 59.88 336 P **P** **22 34 19.9 -0.9**
comp=Z,1.4nm,0.4s,baz=28,slow=8.2,SNR=31
FINES PcP **PcP** **22 35 06.0 -0.5**
comp=Z,1.8nm,0.6s,baz=28,slow=4.8,SNR=3.5
FINES FINESS Array B 59.88 336 P **P** **22 34 19.9 -0.9**
FINES 22 35 06.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 59.88 336 P **P** **22 34 19.9 -0.9**
FINES PcP **PcP** **22 35 06.0 -0.5**
KOLN Koldanda 60.29 277 *e*P **P** **22 34 23.2 -1.1**
comp=Z,4.6nm,0.4s
NB2 NORSAR Subarra 63.30 344 P **P** **22 34 42.7 -1.1**
comp=Z,1.0nm,0.6s,baz=22,slow=6.9
NOA NORSAR Array B 63.30 344 P **P** **22 34 43.0 -0.8**
comp=Z,1.3nm,0.7s,baz=22,slow=6.6,SNR=6.7
NOA NORSAR Array B 63.30 344 P **P** **22 34 43.0 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 63.30 344 P **P** **22 34 43.0 -0.8**
KBL Kabul 63.69 293 *e*P **P** **22 34 45.1 -2.0**
KBL pmax pmax
comp=Z,2.0nm,0.8s
KBL Kabul 63.69 293 *e*P **P** **22 34 45.1 -2.0**
comp=Z,2.0nm,0.8s
SCHQ Schefferville 65.46 28 P **P** **22 34 57.7 -0.3**
comp=Z,0.7nm,0.3s,baz=59,slow=16,SNR=8.0
SCHQ Schefferville 65.46 28 P **P** **22 34 57.7 -0.3**
IPM Ipoh 68.28 247 *e*P **P** **22 35 16.2 -0.2**
comp=Z,4.4nm,0.6s
AKASG Malin Array Be 68.39 329 P **P** **22 35 14.8 -1.8**
comp=Z,0.9nm,0.3s,baz=28,slow=6.9,SNR=6.9
AKASG Malin Array Be 68.39 329 *i* P **P** **22 35 15.6 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 68.39 329 P **P** **22 35 14.8 -1.8**
TXAR Lajitas Array 70.58 67 P **P** **22 35 32.9 +2.2**
comp=Z,1.4nm,0.8s,baz=299,slow=4.7,SNR=15
TXAR pP **pP** **22 35 49.0 +1.5**
comp=Z,1.9nm,0.5s,baz=298,slow=4.7,SNR=14
TXAR Lajitas Array 70.58 67 P **P** **22 35 32.9 +2.2**
TXAR *PP **pP** **22 35 49.0 +1.5**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 70.58 67 P **P** **22 35 32.9 +2.2**
TXAR pP **pP** **22 35 49.0 +1.5**
CLL Collm 72.11 339 *e*P **P** **22 35 39.0 -0.4**
BUR08 Bucovina Ar. S 72.32 330 *e*P **P** **22 35 40.2 -0.6**
BURAR Bucovina Array 72.34 330 ⇑ *i*P **P** **22 35 39.7 -1.3**
MORC Moravsky Berou 72.49 336 *e*P **P** **22 35 39.2 -2.5**
MORC pmax pmax
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 72.49 336 *e*P **P** **22 35 39.2 -2.5**
comp=Z,3.9nm,1.1s
TRPA Tarpa 72.67 332 ⇑ *i*P **P** **22 35 42.2 -0.5**
PSZ Piszkesteto 73.59 333 *e*P **P** **22 35 46.9 -1.4**
PSZ pmax pmax
comp=Z,3.0nm,0.9s
PSZ Piszkesteto 73.59 333 *e*P **P** **22 35 46.9 -1.4**
comp=Z,3.4nm,0.9s
DRGR 73.83 331 ⇑ P **P** **22 35 49.5 -0.2**
DRGR 73.83 331 ⇑ *i*P **P** **22 35 49.5 -0.2**
MLR Muntele Rosu 74.02 328 P **P** **22 35 50.6 -0.3**
comp=Z,0.5nm,0.5s,baz=335,slow=9.4,SNR=13
MLR Muntele Rosu 74.02 328 ⇑ P **P** **22 35 50.6 -0.3**
MLR Muntele Rosu 74.02 328 P **P** **22 35 50.6 -0.3**
MLR Muntele Rosu 74.02 328 ⇑ *i*P **P** **22 35 50.6 -0.3**
GERES GERESS Array B 74.27 338 P **P** **22 35 51.9 -0.4**
comp=Z,0.7nm,0.4s,baz=29,slow=6.1,SNR=16
GERES GERESS Array B 74.27 338 P **P** **22 35 51.9 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 74.27 338 P **P** **22 35 51.9 -0.4**
BAIF Baives 74.98 344 *e*P **P** **22 35 56.5 +0.3**
comp=Z,22nm,1.1s
BZS Buzias 75.21 331 ⇓ P **P** **22 35 58.1 +0.5**
BZS Buzias 75.21 331 ⇓ *i*P **P** **22 35 58.1 +0.5**
CDF Champ du Feu 76.03 342 *e*P **P** **22 36 03.4 +1.0**
WRA Warramunga Arr 76.28 205 P **P** **22 36 04.7 +0.8**
comp=Z,0.8nm,0.6s,baz=9.4,slow=6.0,SNR=4.9
WRA Warramunga Arr 76.28 205 P **P** **22 36 04.7 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 76.28 205 P **P** **22 36 04.7 +0.8**
MEZF Maizieres J'vi 76.34 343 *e*P **P** **22 36 04.5 +0.5**
BRTR Keskin Array B 76.41 320 P **P** **22 36 04.2 -0.6**
comp=Z,0.6nm,0.5s,baz=34,slow=2.8,SNR=6.9
BRTR Keskin Array B 76.41 320 *i* P **P** **22 36 04.1 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 76.41 320 P **P** **22 36 04.2 -0.6**
HAU Haudompre 76.59 342 *e*P **P** **22 36 06.5 +1.0**
SFTF Sexfontaines 76.63 343 *e*P **P** **22 36 05.9 +0.2**
comp=Z,38nm,1.1s
HINF Hinteralfeld 76.68 342 *e*P **P** **22 36 06.6 +0.6**
LDF La Druitiere 77.06 347 *e*P **P** **22 36 08.9 +0.8**
GRR Gorron 77.36 347 *e*P **P** **22 36 10.0 +0.2**
SGMF Saint Gilles 77.71 348 *e*P **P** **22 36 11.8 +0.1**
comp=Z,14nm,0.6s
ROSF Rostrenen 77.72 349 *e*P **P** **22 36 11.8 +0.1**
comp=Z,32nm,0.9s
LOR Lormes 77.74 344 *e*P **P** **22 36 12.1 +0.2**
SSF Saint Saulge 78.00 344 *e*P **P** **22 36 13.4 +0.1**
QUIF Quistinic 78.12 349 *e*P **P** **22 36 14.0 +0.1**
AVF Avril sur Loir 78.29 344 *e*P **P** **22 36 15.3 +0.4**
comp=Z,25nm,1.2s
BGF Bois d'Agland 78.60 344 *e*P **P** **22 36 17.0 +0.3**
LPL La Plagne 78.91 341 *e*P **P** **22 36 20.0 +1.3**
comp=Z,23nm,1.0s
LPG La Plagne 78.92 341 *e*P **P** **22 36 20.1 +1.3**
comp=Z,12nm,0.8s
TCF Toul-Ste Croi 78.96 345 *e*P **P** **22 36 19.0 +0.3**
MFF Saint Martin d 79.01 346 *e*P **P** **22 36 19.5 +0.6**
ORIF Oris-en-Rattie 79.65 342 *e*P **P** **22 36 23.8 +1.2**
comp=Z,16nm,0.9s
MBDF Montbardon 79.66 341 *e*P **P** **22 36 23.2 +0.5**
ASAR Alice Springs 79.96 204 P **P** **22 36 25.9 +1.7**
comp=Z,1.1nm,0.6s,baz=14,slow=5.5,SNR=16
ASAR Alice Springs 79.96 204 P **P** **22 36 25.9 +1.7**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.96 204 P **P** **22 36 25.9 +1.7**
RJF Les Rejaudoux 80.03 345 *e*P **P** **22 36 25.2 +0.7**
comp=Z,4.8nm,0.6s
CAF Calviac 80.31 344 *e*P **P** **22 36 27.2 +1.1**
LFF La Frestale 80.51 345 *e*P **P** **22 36 28.2 +1.2**
comp=Z,13nm,0.6s
SMRF Simiane la Rot 80.62 342 *e*P **P** **22 36 28.2 +0.5**
EPF Esparros 82.43 345 *e*P **P** **22 36 38.0 +0.7**
comp=Z,3.9nm,0.6s

SJPF	**Ste Jean**	**82.58**	**346**	*e*P	**P**	**22**	**36**	**39.5 +1.4**
	comp=Z,7.2nm,0.8s							
ETSF	**Etsaut**	**82.70**	**346**	*e*P	**P**	**22**	**36**	**39.9 +1.2**
	comp=Z,5.1nm,0.6s							
ESDC	**Sonseca Array**	**86.33**	**348**	P	**P**	**22**	**36**	**58.2 +1.1**
	comp=Z,3.7nm,0.7s,baz=1.5,slow=5.1,SNR=20							
ESDC	**Sonseca Array**	**86.33**	**348**	P	**P**	**22**	**36**	**58.2 +1.1**
KEST	**Kesra**	**87.72**	**336**	P	**P**	**22**	**37**	**04.0 +0.1**
	comp=Z,1.1nm,0.8s,baz=223,slow=23,SNR=5.5							
KEST	**Kesra**	**87.72**	**336**	P	**P**	**22**	**37**	**04.0 +0.1**
DBIC	**Dimbokro**	**118.87**	**343**	PKP	**PKPdf**	**22**	**43**	**03.5 0.0**
	comp=Z,2.3nm,0.8s,baz=107,slow=7.3,SNR=4.2							
DBIC	**Dimbokro**	**118.87**	**343**	PKIKP	**PKPdf**	**22**	**43**	**03.5 0.0**
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.9s							
DBIC	**Dimbokro**	**118.87**	**343**	PKP	**PKPdf**	**22**	**43**	**03.5 0.0**

*IDC **31** 22:51:45.8±1.0, 13°.36N×120°.67E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=25.7km s-min=10.0km az=103.0*

MAN 31 22:51:46, 13°.62N×120°.39E, h36km, mb4.3, ML3.2, MS3.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.72**	**48**	Pg	Pn	22 52 00.3	+0.5
	134nm,0.3s,baz=54,slow=2.9,SNR=12						
TGY				Lg	Lg	22 52 12.7	
	200nm,0.3s,baz=90,slow=20,SNR=12						
CMAR	**Chiang Mai Arr**	**21.16**	**286**	P	P	22 56 37.1	+8.9
	2.4nm,1.0s,baz=101,slow=9.2,SNR=7.8						
SONM	**Songino Array**	**36.05**	**344**	P	P	22 58 51.2	+7.1
	0.4nm,0.6s,baz=164,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**36.07**	**157**	P	P	22 58 45.6	+1.2
	1.0nm,0.4s,baz=335,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**39.35**	**160**	P	P	22 59 15.0	+2.9
	2.2nm,0.6s,baz=337,slow=6.6,SNR=27						
MKAR	**Makanchi Array**	**45.91**	**324**	P	P	23 00 13.1	+7.9
	0.3nm,0.7s,baz=125,slow=10,SNR=4.9						

*ISCJB **31** 22:56:01.8±0.5, 38°.33N±0°.03×38°.90E±0°.03, h4km±6km, Error ellipse: s-maj=4.8km s-min=4.2km az=163.1*
*CSEM **31** 22:56:01.7, 38°.34N×38°.93E, h14km, MD2.6, After DDA*
*DDA **31** 22:56:01.7, 38°.34N×38°.93E, h14km, MD2.6*
*ISK **31** 22:56:01.3, 38°.34N×38°.91E, h5km, MD2.6*

ISC 31 22:56:01.8±0.9, 38°.34N±0°.03×38°.90E±0°.03, h14km±7km, n17, σ0°.44/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.17**	**23**	*i* P	**Pg**	**22 56 06.1**	**0.0**
ELZG				*i* S	**Sg**	**22 56 09.0**	**0.0**
ELZG	**Elazig**	**0.17**	**23**	*i* P	**Pg**	**22 56 06.1**	**0.0**
ELZG				*i* S	**Sg**	**22 56 09.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.32**	**83**	*e*PG	**Pg**	**22 56 08.0**	**-0.6**
SVRC				*e*SG	**Sg**	**22 56 13.0**	**-0.1**
MYA	**Malataya**	**0.37**	**268**	*e*PG	**Pg**	**22 56 09.5**	**+0.1**
MYA				*e*SG	**Sg**	**22 56 15.3**	**+0.7**
PTK	**Pertek**	**0.67**	**35**	*e*PG	**Pg**	**22 56 14.4**	**-0.5**
PTK				*e*SG	**Sg**	**22 56 24.5**	**+0.7**
AKCD	**Akcadag**	**0.77**	**267**	*i* P	**Pg**	**22 56 16.4**	**-0.4**
AKCD				*i* S	**Sb**	**22 56 27.7**	**+0.3**
AKCD	**Akcadag**	**0.77**	**267**	*i* P	**Pg**	**22 56 16.4**	**-0.4**
AKCD				*i* S	**Sb**	**22 56 27.7**	**+0.3**
URFA	**Urfa**	**0.90**	**184**	*e*PG	**Pg**	**22 56 19.5**	**+0.2**
URFA				*e*SG	**Sb**	**22 56 31.1**	**0.0**
KEMA	**Kemaliye**	**0.98**	**341**	*i* P	**Pb**	**22 56 20.2**	**-0.4**
KEMA				*i* S	**Sn**	**22 56 35.0**	**+0.1**
KEMA	**Kemaliye**	**0.98**	**341**	*i* P	**Pb**	**22 56 20.2**	**-0.4**
KEMA				*i* S	**Sn**	**22 56 35.0**	**+0.1**
DIYA	**Diyarbakir**	**1.05**	**113**	*i* P	**Pb**	**22 56 21.4**	**-0.3**
DIYA				*i* S	**Sg**	**22 56 36.2**	**+0.4**
DIYA	**Diyarbakir**	**1.05**	**113**	*i* P	**Pb**	**22 56 21.4**	**-0.3**
DIYA				*i* S	**Sg**	**22 56 36.2**	**+0.4**
ILIC	**ilic-Erzincan**	**1.14**	**347**	*e*PN	**Pb**	**22 56 23.2**	**-0.1**
ERZN	**Erzincan**	**1.40**	**27**	*e*PN	**Pb**	**22 56 28.2**	**+0.4**
BEST	**Besiri**	**1.92**	**103**	*i* P	**Pb**	**22 56 36.1**	**-0.5**
BEST				*i* S	**Sb**	**22 57 01.4**	**+0.9**
KUZU	**Kuzuini**	**2.13**	**223**	*i* P	**Pg**	**22 56 43.0**	**+0.3**
KUZU				*i* S	**Sg**	**22 57 09.7**	**-0.7**
KUZU	**Kuzuini**	**2.13**	**223**	*i* P	**Pg**	**22 56 43.0**	**+0.3**
KUZU				*i* S	**Sg**	**22 57 09.7**	**-0.7**

*PGC **31** 23:04:02.3±29.0, 48°.27N×129°.00W, h10km, ML3.0/12, Mw3.6, 246km Wsw of Tofino, Bc Vancouver Island Region*
*IDC **31** 23:04:03.1±2.4, 48°.46N×129°.19W, h0km, mb3.6/2, mb1 3.8/8, mb1mx3.6/26, mbtmp3.5/8, ML3.4/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/37, Error ellipse: s-maj=43.8km s-min=13.7km az=73.0*
*ISCJB **31** 23:04:05.4±1.1, 48°.58N±0°.06×128°.5W±0°.1, h10km, mb3.4/2, Error ellipse: s-maj=13.2km s-min=6.6km az=156.9*

ISC 31 23:04:05.6±1.7, 48°.5N±0°.1×128°.6W±0°.1, h10km, n23, σ0°.93/24, 8D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.66**	**36**	⇑Pn	**Pn**	**23 04 33.5**	**-1.3**
BPBC	**Brooks Peninsu**	**1.71**	**18**	⇑Pn	**Pn**	**23 04 34.4**	**-1.2**
MAYB	**Maynard**	**2.09**	**26**	⇑Pn	**Pn**	**23 04 40.5**	**-0.4**
GDR	**Gold River**	**2.10**	**53**	⇑Pn	**Pn**	**23 04 40.6**	**-0.3**
WOSB	**Woss**	**2.11**	**39**	⇓Pn	**Pn**	**23 04 40.9**	**-0.1**
OZB	**Mount Ozzard**	**2.11**	**77**	⇓Pn	**Pn**	**23 04 40.2**	**-0.8**
HOLB	**Holberg**	**2.13**	**8**	⇑Pn	**Pn**	**23 04 41.5**	**+0.2**
BTB	**Buttle Lake**	**2.24**	**64**	⇑Pn	**Pn**	**23 04 42.9**	**0.0**
PHC	**Port Hardy**	**2.31**	**19**	⇑Pn	**Pn**	**23 04 43.8**	**+0.1**
NCRB	**Newcastle Ridg**	**2.51**	**41**	⇑Pn	**Pn**	**23 04 46.9**	**+0.3**
CBB	**Campbell River**	**2.60**	**54**	⇑Pn	**Pn**	**23 04 48.4**	**+0.7**
ALB	**Alberni**	**2.60**	**72**	⇓Pn	**Pn**	**23 04 47.3**	**-0.5**
MGB	**Mount Grey**	**2.64**	**78**	⇓Pn	**Pn**	**23 04 47.1**	**-1.3**
PFB	**Port Renfrew**	**2.77**	**88**	⇓Pn	**Pn**	**23 04 48.8**	**-1.4**
PFB				⇓Sn	**Sn**	**23 05 23.1**	**-0.6**
BBB	**Bella Bella**	**3.67**	**5**	Pn	**Pn**	**23 05 01.7**	**-0.7**
	9.4nm,0.3s,baz=202,slow=11,SNR=41						
BBB				Sn	**Sn**	**23 05 46.2**	**+0.6**
	3.2nm,0.3s,baz=148,slow=21,SNR=5.8						
BBB	**Bella Bella**	**3.67**	**5**	⇓Pn	**Pn**	**23 05 02.5**	**+0.1**
BBB				⇓Sn	**Sn**	**23 05 44.7**	**-0.9**
YBH	**Yreka Blue Hor**	**7.98**	**146**	Pn	Pn	23 06 03.8	+2.1
	0.1nm,0.3s,baz=347,slow=7.8,SNR=5.4						
YBH				LR	LR	23 08 57.3	
	comp=Z,287nm,18.8s,baz=7.3,slow=36						
NVAR	**Mina Array Bea**	**12.56**	**140**	Pn	Pn	23 07 08.5	+3.9
	0.0nm,0.3s,baz=319,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**14.51**	**106**	Pn	**P**	**23 07 38.6**	**+0.7**
	0.1nm,0.3s,baz=302,slow=8.6,SNR=11						
YKA	**Yellowknife Ar**	**16.02**	**24**	Pn	**Pn**	**23 07 50.8**	**0.0**
	0.0nm,0.3s,baz=207,slow=11,SNR=6.2						
ILAR	**Eielson Array**	**19.00**	**336**	P	**P**	**23 08 25.1**	**-1.9**
	0.0nm,0.3s,baz=156,slow=11,SNR=5.2						
ULM	**Lac du Bonnet**	**21.29**	**73**	P	**P**	**23 08 53.3**	**+1.2**
	2.9nm,0.8s,baz=303,slow=11,SNR=3.8						
TXAR	**Lajitas Array**	**27.08**	**126**	P	**P**	**23 09 49.8**	**+1.3**
	0.8nm,1.0s,baz=327,slow=6.1,SNR=4.8						

*ISCJB **31** 23:08:54.1±0.3, 8°.85S±0°.05×160°.34E±0°.07, h69km, mb4.4/27, Error ellipse: s-maj=9.4km s-min=6.4km az=4.5*
*IDC **31** 23:08:54.2±1.2, 8°.76S×160°.34E, h55km±10km, mb4.2/19, mb1 4.4/19, mb1mx4.3/21, mbtmp4.2/19, MS3.7/4, Ms1 3.7/4, ms1mx3.3/31, Error ellipse: s-maj=20.8km s-min=14.3km az=110.0*
*NEIC **31** 23:08:54.5±1.1, 8°.78S×160°.37E, h60km±10km, mb4.6/7, Error ellipse: s-maj=10.0km s-min=8.2km az=142.0*

ISC 31 23:08:55.5±0.4, 8°.84S±0°.06×160°.37E±0°.10, h69km, n81, σ1°.07/88, mb4.5/27, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.72**	**215**	P	**Pn**	**23 09 09.3**	**-1.2**
	688nm,0.3s,baz=156,slow=4.1,SNR=313						
HNR				S	**Sn**	**23 09 21.3**	**-0.3**
	6µm,0.3s,baz=31,slow=19,SNR=364						
HNR	**Honiara**	**0.72**	**215**	*e*Pn	**Pn**	**23 09 09.5**	**-1.0**
HNR				*e*Sn	**Sn**	**23 09 18.6**	**-3.1**
DZM	**Mont Dzumac**	**14.39**	**157**	*e*Pn	**Pn**	**23 12 15.7**	**-0.1**
DZM				*e*Sn	**Sn**	**23 14 53.4**	**-0.8**
COEN	**Coen**	**17.60**	**252**	*e*P	**P**	**23 13 00.2**	**+3.8**
CTA	**Charters Tower**	**17.64**	**229**	LR	LR	23 18 53.7	
	comp=Z,274nm,19.6s,baz=49,slow=34						
WRAB	**Tennant Creek**	**27.46**	**243**	*e*P	**P**	**23 14 35.5**	**+0.1**
	3.1nm,0.6s						
WB2	**Warramunga Arr**	**27.47**	**243**	*e*P	**P**	**23 14 35.5**	**+0.1**
WRA	**Warramunga Arr**	**27.48**	**243**	P	**P**	**23 14 35.6**	**+0.2**
	2.1nm,0.4s,baz=69,slow=9.1,SNR=19						
WRA	**Warramunga Arr**	**27.48**	**243**	P	**P**	**23 14 35.6**	**+0.2**
AFI	**Afiamalu**	**27.75**	**103**	LR	LR	23 22 42.7	
	comp=Z,114nm,21.2s,baz=60,slow=30						
STKA	**Stephens Creek**	**28.80**	**215**	P	**P**	**23 14 47.7**	**+0.6**
	1.3nm,0.5s,baz=53,slow=16,SNR=2.9						
STKA				LR	LR	23 25 31.6	
	comp=Z,137nm,19.5s,baz=27,slow=35						
STKA	**Stephens Creek**	**28.80**	**215**	P	**P**	**23 14 47.7**	**+0.6**
AS31	**Alice Springs**	**29.29**	**237**	*e*P	**P**	**23 14 50.9**	**-0.7**
ASAR	**Alice Springs**	**29.29**	**237**	P	**P**	**23 14 51.0**	**-0.6**
	0.9nm,0.3s,baz=65,slow=10,SNR=27						
ASAR				PcP	**PcP**	**23 17 56.0**	**-1.0**
	0.7nm,0.4s,baz=82,slow=2.6,SNR=6.2						
ASAR				ScP	**ScP**	**23 21 35.1**	**+2.3**
	0.3nm,0.7s,baz=68,slow=2.7,SNR=5.8						
ASAR	**Alice Springs**	**29.29**	**237**	P	**P**	**23 14 51.0**	**-0.6**
ASAR				PcP	**PcP**	**23 17 56.0**	**-1.0**
ASAR				ScP	**ScP**	**23 21 35.1**	**+2.3**
FITZ	**Fitzroy Crossi**	**34.95**	**251**	*e*P	**P**	**23 15 40.8**	**-0.3**
	2.9nm,0.5s						
RPZ	**Rata Peaks**	**35.97**	**167**	P	**P**	**23 15 52.3**	**+2.8**
	11nm,0.3s,baz=275,slow=6.2,SNR=7.6						
RPZ	**Rata Peaks**	**35.97**	**167**	P	**P**	**23 15 52.4**	**+2.8**
MJAR	**Matsushiro Arr**	**49.72**	**337**	P	**P**	**23 17 39.2**	**-1.6**
	1.7nm,0.7s,baz=126,slow=2.5,SNR=4.9						
MJAR	**Matsushiro Arr**	**49.72**	**337**	P	**P**	**23 17 39.2**	**-1.6**
KSRS	**Korea Array**	**55.16**	**329**	P	**P**	**23 18 20.9**	**-0.2**
	3.6nm,0.9s,baz=143,slow=8.0,SNR=7.9						
KSAR	**Wonju Array Be**	**55.18**	**329**	P	**P**	**23 18 20.9**	**-0.3**
USRK	**Ussuriysk Arra**	**58.71**	**336**	P	**P**	**23 18 46.2**	**+0.2**
	9.9nm,0.8s,baz=153,slow=6.4,SNR=16						
PETK	**Petropavlovsk-**	**61.75**	**358**	P	**P**	**23 19 06.8**	**+0.2**
	4.9nm,0.8s,baz=145,slow=5.4,SNR=4.9						
PETK				LR	LR	23 43 03.5	
	comp=Z,107nm,19.0s,baz=139,slow=33						
PETK	**Petropavlovsk-**	**61.75**	**358**	P	**P**	**23 19 06.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**66.39**	**295**	P	**P**	**23 19 39.1**	**+1.4**
	3.7nm,0.9s,baz=118,slow=4.6,SNR=14						
CMAR	**Chiang Mai Arr**	**66.39**	**295**	P	**P**	**23 19 39.1**	**+1.4**
CHTO	**Chiang Mai**	**66.50**	**295**	*e*P	**P**	**23 19 39.3**	**+0.9**
	1.6nm,0.6s						
ULN	**Ulaanbaatar**	**73.46**	**326**	*e*P	**P**	**23 20 20.9**	**+0.2**
	6.0nm,0.8s						
SONM	**Songino Array**	**73.81**	**325**	P	**P**	**23 20 24.2**	**+1.5**
	7.9nm,0.8s,baz=139,slow=5.4,SNR=42						
SONM	**Songino Array**	**73.81**	**325**	P	**P**	**23 20 24.2**	**+1.5**
KDAK	**Kodiak Island**	**76.60**	**24**	P	**P**	**23 20 37.8**	**-0.5**
	18nm,1.0s,baz=176,slow=4.5,SNR=4.6						
KDAK	**Kodiak Island**	**76.60**	**24**	P	**P**	**23 20 37.8**	**-0.5**
BILL	**Bilibino**	**76.81**	**2**	*e*P	**P**	**23 20 39.5**	**+0.2**
	4.1nm,0.6s						
TAPN	**Taplejung**	**78.92**	**300**	*e*P	**P**	**23 20 52.8**	**+0.5**
TAPN	**Taplejung**	**78.92**	**300**	*e*P	**P**	**23 20 52.8**	**+0.5**
RAMN	**Ramite**	**79.76**	**299**	*e*P	**P**	**23 20 57.3**	**+0.4**
RAMN	**Ramite**	**79.76**	**299**	*e*P	**P**	**23 20 57.3**	**+0.4**
GUN	**Gumba**	**80.63**	**300**	*e*P	**P**	**23 21 02.3**	**+0.6**
	9.4nm,0.7s						
GUN	**Gumba**	**80.63**	**300**	*e*P	**P**	**23 21 02.3**	**+0.6**
	9.4nm,0.7s						
PKI	**Pulchoki**	**80.95**	**300**	*e*P	**P**	**23 21 03.5**	**+0.2**
	6.5nm,0.6s						
KKN	**Kakani**	**81.11**	**300**	*e*P	**P**	**23 21 04.4**	**+0.3**
DMN	**Daman**	**81.22**	**300**	*e*P	**P**	**23 21 05.5**	**+0.8**
GKN	**Gorkha**	**81.72**	**300**	*e*P	**P**	**23 21 07.4**	**+0.2**
MCK	**McKinley**	**81.85**	**20**	*e*P	**P**	**23 21 06.2**	**-0.7**
	12nm,0.8s						
KOLN	**Koldanda**	**82.55**	**300**	*e*P	**P**	**23 21 11.5**	**-0.1**
	8.3nm,0.6s						
DANN	**Dangsing**	**82.56**	**300**	*e*P	**P**	**23 21 11.6**	**-0.1**
COLA	**College**	**82.94**	**20**	*e*P	**P**	**23 21 11.7**	**-0.8**
	9.8nm,0.8s						
ILAR	**Eielson Array**	**83.20**	**20**	P	**P**	**23 21 12.9**	**-1.0**
	3.1nm,0.5s,baz=245,slow=5.1,SNR=81						
ILAR	**Eielson Array**	**83.20**	**20**	P	**P**	**23 21 12.9**	**-1.0**
MK31	**Makanchi Array**	**88.32**	**318**	*e*P	**P**	**23 21 39.8**	**+0.1**
MKAR	**Makanchi Array**	**88.32**	**318**	P	**P**	**23 21 40.1**	**+0.5**
	1.6nm,0.6s,baz=90,slow=6.2,SNR=26						
MKAR	**Makanchi Array**	**88.32**	**318**	P	**P**	**23 21 40.1**	**+0.5**
ZALV	**Zalesovo Beam**	**88.71**	**325**	P	**P**	**23 21 40.6**	**-0.6**
	1.1nm,0.8s,baz=108,slow=4.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**88.71**	**325**	P	**P**	**23 21 40.6**	**-0.6**
NVAR	**Mina Array Bea**	**88.71**	**51**	P	**P**	**23 21 42.8**	**+0.9**
	2.2nm,0.8s,baz=240,slow=7.2,SNR=15						
NVAR	**Mina Array Bea**	**88.71**	**51**	P	**P**	**23 21 42.8**	**+0.9**
INK	**Inuvik**	**89.60**	**20**	P	**P**	**23 21 45.7**	**+0.6**
	0.7nm,0.6s,baz=260,slow=6.1,SNR=3.6						
INK	**Inuvik**	**89.60**	**20**	P	**P**	**23 21 45.7**	**+0.6**
KURK	**Kurchatov**	**91.59**	**321**	P	**P**	**23 21 53.9**	**-0.8**
	0.8nm,0.3s,baz=98,slow=3.7,SNR=6.8						
KURK	**Kurchatov**	**91.59**	**321**	P	**P**	**23 21 53.9**	**-0.8**
YKA	**Yellowknife Ar**	**95.48**	**28**	P	**P**	**23 22 12.1**	**-0.3**
	1.8nm,0.7s,baz=258,slow=4.6,SNR=26						
YKA	**Yellowknife Ar**	**95.48**	**28**	P	**P**	**23 22 12.1**	**-0.3**
PD01	**Pinedale Array**	**95.97**	**48**	*e*P	**P**	**23 22 15.2**	**-0.2**
PD02	**Pinedale Array**	**95.98**	**48**	*e*P	**P**	**23 22 15.1**	**-0.4**
PDAR	**Pinedale Array**	**95.98**	**48**	P	**P**	**23 22 15.7**	**+0.2**
	1.8nm,0.7s,baz=231,slow=2.4,SNR=16						
PDAR	**Pinedale Array**	**95.98**	**48**	P	**P**	**23 22 15.7**	**+0.2**
FINES	**FINESS Array B**	**117.75**	**337**	PKP	**PKPdf**	**23 27 33.1**	**-0.4**
	3.3nm,0.9s,baz=111,slow=4.2,SNR=8.9						
FINES	**FINESS Array B**	**117.75**	**337**	PKP	**PKPdf**	**23 27 33.1**	**-0.4**
AKASG	**Malin Array Be**	**122.10**	**326**	PKP	**PKPdf**	**23 27 41.0**	**-1.3**
	0.5nm,0.4s,baz=90,slow=0.9,SNR=4.7						
AKASG	**Malin Array Be**	**122.10**	**326**	PKP	**PKPdf**	**23 27 41.0**	**-1.3**
BOSA	**Boshof**	**122.88**	**228**	PKP	**PKPdf**	**23 27 44.4**	**-0.2**
	3.5nm,1.1s,baz=279,slow=7.5,SNR=3.5						
BOSA	**Boshof**	**122.88**	**228**	PKP	**PKPdf**	**23 27 44.4**	**-0.2**
BRTR	**Keskin Array B**	**123.58**	**312**	PKP	**PKPdf**	**23 27 44.7**	**-1.0**
	0.6nm,0.7s,baz=136,slow=5.5,SNR=3.9						
BRTR	**Keskin Array B**	**123.58**	**312**	PKP	**PKPdf**	**23 27 44.7**	**-1.0**
GERES	**GERESS Array B**	**131.31**	**331**	PKP	**PKPdf**	**23 28 00.4**	**+0.4**
	0.6nm,0.6s,baz=66,slow=1.6,SNR=8.4						
GERES	**GERESS Array B**	**131.31**	**331**	PKP	**PKPdf**	**23 28 00.4**	**+0.4**
ESDC	**Sonseca Array**	**146.25**	**338**	PKPbc	**PKPbc**	**23 28 28.9**	**+0.2**
	0.4nm,0.5s,baz=33,slow=2.2,SNR=4.8						
ESDC	**Sonseca Array**	**146.25**	**338**	PKPbc	**PKPbc**	**23 28 28.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**158.64**	**283**	PKP	**PKPdf**	**23 28 46.1**	**-0.1**
	0.9nm,0.9s,baz=359,slow=1.1,SNR=4.6						
TORD				PKPab	**PKPab**	**23 29 19.8**	**-2.0**
	0.4nm,0.7s,baz=84,slow=4.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**158.64**	**283**	PKP	**PKPdf**	**23 28 46.1**	**-0.1**
TORD				PKPab	**PKPab**	**23 29 19.8**	**-2.0**

*BJI **31** 23:21:08.6, 53°.26N×160°.00E, h39km, mB5.0/12, mb4.5/19, Ms4.5/6, Ms7 4.2/7*
*MOS **31** 23:21:09.9±1.2, 52°.82N×160°.08E, h48km, mb4.6/39, Error ellipse: s-maj=8.3km s-min=5.2km az=92.3*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*SZGRF **31** 23:21:09.8, 52°.29N×159°.83E, h33km, mb4.8, MS4.4, Off east coast of Kamchatka Peninsula, Russia*
*IDC **31** 23:21:10.1±0.6, 52°.92N×160°.03E, h31km±4km, mb4.0/29, mb1 4.2/31, mb1mx4.2/32, mbtmp4.0/31, ML4.2/2, Error ellipse: s-maj=14.9km s-min=8.9km az=164.0*
*KRSC **31** 23:21:11.6±0.3, 52°.85N×160°.18E, h41km±20km, ML4.7*
*NEIC **31** 23:21:11.9±0.7, 52°.89N×160°.07E, h50km±6km, mb4.5/29, Error ellipse: s-maj=9.2km s-min=5.0km az=165.0*
*ISCJB **31** 23:21:11.5±0.5, 52°.84N±0°.03×160°.04E±0°.05, h58km±3km, mb4.4/78, MS4.2/1, Error ellipse: s-maj=6.7km s-min=2.8km az=38.5*

ISC 31 23:21:10.3±0.4, 52°.76N±0°.04×160°.25E±0°.03, h41km±3km, h41km:pP-P, n300, σ1°.40/357, mb4.5/78, 17C-28D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.37**	**338**	PN	**Pn**	**23 21 18.8**	**-0.6**
SPN	**Mys Shipunski**	**0.37**	**338**	*i* P	**Pn**	**23 21 18.8**	**-0.6**
NLC	**Nalytchevo**	**0.69**	**307**	PN	**Pn**	**23 21 23.2**	**-0.3**
NLC	**Nalytchevo**	**0.69**	**307**	*i* P	**Pn**	**23 21 23.2**	**-0.3**
UGLR	**Uglovaya**	**0.97**	**298**	*i* P	**Pn**	**23 21 27.9**	**+0.3**
SDLR	**Sedlovina**	**0.98**	**303**	*i* P	**Pn**	**23 21 27.8**	**+0.2**
PET	**Petropavlovsk**	**1.00**	**286**	⇓*i* PN	**Pn**	**23 21 28.1**	**+0.2**
PET				*e*S	**Sn**	**23 21 41.8**	**+1.0**
PET				pmax	pmax		
	comp=Z,4µm,1.0s						
PET				pmax	pmax		
	comp=Z,3µm,0.8s						
PET				pmax	pmax		
	comp=Z,400nm,4.2s						
PET				smax	smax		
	comp=N,7µm,0.7s						
PET				smax	smax		
	comp=E,6µm,0.6s						
PET	**Petropavlovsk**	**1.00**	**286**	*e*Pn	**Pn**	**23 21 27.7**	**-0.1**
PET	**Petropavlovsk**	**1.00**	**286**	*i* P	**Pn**	**23 21 28.0**	**+0.2**
PET				*i* S	**Sn**	**23 21 39.5**	**-1.3**
SMAR	**Somma**	**1.01**	**301**	*i* P	**Pn**	**23 21 27.8**	**-0.4**
AVH	**Avacha**	**1.05**	**300**	*i* P	**Pn**	**23 21 29.0**	**+0.5**
AVH				*e*S	**Sn**	**23 21 41.3**	**-0.6**
RUS	**Russkaya**	**1.11**	**254**	PN	**Pn**	**23 21 29.6**	**+0.3**
RUS				S	**Sn**	**23 21 42.2**	**-1.1**
RUS	**Russkaya**	**1.11**	**254**	*e*P	**Pn**	**23 21 29.6**	**+0.3**
RUS				*i* S	**Sn**	**23 21 42.2**	**-1.1**
KOK	**Koryaka**	**1.11**	**299**	*i* P	**Pn**	**23 21 29.9**	**+0.5**
MTVR	**Mutnovka**	**1.29**	**258**	*e*P	**Pn**	**23 21 32.6**	**+0.7**
MTVR				*e*S	**Sn**	**23 21 47.6**	**-0.4**
KII	**Karymskiy**	**1.37**	**340**	*i* P	**Pn**	**23 21 33.6**	**+0.7**
KII				*i* S	**Sn**	**23 21 49.2**	**-0.7**
ASAK	**Asacha**	**1.48**	**256**	*i* P	**Pn**	**23 21 35.7**	**+1.2**
ASAK				*e*S	**Sn**	**23 21 52.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.58**	**284**	*e*Pn	**Pn**	**23 21 36.9**	**+1.1**
PETK	**Petropavlovsk-**	**1.58**	**284**	Pn	**Pn**	**23 21 36.7**	**+0.9**
	comp=E,207nm,0.3s,baz=100,slow=20,SNR=610						
PETK				Sn	**Sn**	**23 21 56.1**	**+1.0**
	comp=E,90nm,0.3s,baz=93,slow=25,SNR=11						
PETK	**Petropavlovsk-**	**1.58**	**284**	PN	**Pn**	**23 21 36.7**	**+0.9**
PETK						23 21 56.1	
PETK				pmax	pmax		
	comp=Z,207nm,0.3s						
PETK				smax	smax		
	comp=N,90nm,0.3s						
PETK	**Petropavlovsk-**	**1.58**	**284**	Pn	**Pn**	**23 21 36.7**	**+0.9**
PETK				Sn	**Sn**	**23 21 56.1**	**+1.0**
MKZ	**Mys Kozlova**	**2.00**	**25**	PN	**Pn**	**23 21 41.1**	**-0.4**
MKZ				S	**Sn**	**23 22 01.9**	**-3.5**
MKZ	**Mys Kozlova**	**2.00**	**25**	*e*P	**Pn**	**23 21 41.1**	**-0.4**
MKZ				*i* S	**Sn**	**23 22 01.9**	**-3.5**
MIPR	**Malaya Ipel'ka**	**2.19**	**259**	*e*P	**Pn**	**23 21 46.2**	**+2.1**
TUMR	**Tumrok**	**2.53**	**359**	*i* P	**Pn**	**23 21 50.8**	**+1.9**
TUMR				*i* S	**Sn**	**23 22 18.8**	**+0.3**
KMNR	**Kamenistaya**	**3.00**	**360**	*e*P	**Pn**	**23 21 57.6**	**+2.2**
KMNR				*e*S	**Sn**	**23 22 30.1**	**-0.1**
BZMR	**Bezymyannaya**	**3.19**	**2**	P	**Pn**	**23 21 58.9**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**3.20**	**4**	P	**Pn**	**23 22 00.1**	**+2.0**
BZGR				*i* S	**Sn**	**23 22 35.0**	**0.0**
KPT	**Kopyto**	**3.21**	**360**	P	**Pn**	**23 22 00.7**	**+2.4**
KPT				*i* S	**Sn**	**23 22 36.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**3.22

ILAR Eielson Array 28.98 45 P **P** 23 27 05.8 +0.4
comp=Z,0.8nm,0.8s,baz=254,slow=8.0,SNR=11
ILAR Eielson Array 28.98 45 P **P** 23 27 05.9 +0.4
ILAR Eielson Array 28.98 45 P **P** 23 27 05.8 +0.4
ULN Ulaanbaatar 33.67 283 *e*P **P** 23 27 46.4 -0.7
ULN pmax pmax
comp=Z,12nm,1.5s
ULN Ulaanbaatar 33.67 283 *e*P **P** 23 27 46.4 -0.7
comp=Z,12nm,1.5s
SONM Songino Array 34.07 284 P **P** 23 27 49.3 -1.2
comp=Z,2.7nm,1.0s,baz=60,slow=7.9,SNR=9.0
SONM PcP **PcP** 23 30 27.4 +0.2
comp=Z,1.9nm,0.8s,baz=74,slow=1.9,SNR=9.1
SONM Songino Array 34.07 284 P **P** 23 27 49.3 -1.2
SONM 23 30 27.4
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 34.07 284 P **P** 23 27 49.3 -1.2
SONM PcP **PcP** 23 30 27.4 +0.2
INK Inuvik 34.08 37 P **P** 23 27 50.5 +0.4
comp=Z,1.5nm,0.5s,baz=282,slow=7.3,SNR=7.6
INK Inuvik 34.08 37 *e*P **P** 23 27 51.2 +1.1
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 34.08 37 *e*P **P** 23 27 51.2 +1.1
comp=Z,4.2nm,0.9s
HHC Hu-ho-hao-te 34.74 270 *e*P **P** 23 27 54.8 -1.5
HHC pP **pP** 23 28 07.0 -0.7
HHC sP **sP** 23 28 12.5 -0.1
HHC PP PP 23 29 12.3 -3.1
HHC S **S** 23 33 19.8 -3.8
HHC sS **sS** 23 33 40.5 -2.0
HHC SS SS 23 35 34.0 -21
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.8s
HHC LR LR
comp=N,220nm,10.3s
HHC LR LR
comp=E,180nm,11.7s
HHC LR LR
comp=Z,230nm,10.6s
LZH Lanzhou 42.43 270 *e*P **P** 23 29 01.0 0.0
LZH pP **pP** 23 29 13.5 +1.0
LZH pmax pmax
comp=Z,16nm,1.5s
GTA Gaotai 42.74 277 *e*P **P** 23 29 04.0 +0.6
GTA pP **pP** 23 29 16.5 +1.6
GTA sP **sP** 23 29 22.3 +2.5
GTA pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 43.04 303 P **P** 23 29 03.4 -2.1
comp=Z,0.6nm,0.6s,baz=59,slow=5.7,SNR=5.2
ZALV Zalesovo Beam 43.04 303 P **P** 23 29 03.4 -2.1
ZALV Zalesovo Beam 43.04 303 P **P** 23 29 03.4 -2.1
YKA Yellowknife Ar 43.35 42 P **P** 23 29 08.6 +0.8
comp=Z,0.8nm,0.6s,baz=299,slow=8.2,SNR=13
YKA Yellowknife Ar 43.35 42 P **P** 23 29 08.6 +0.8
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 43.35 42 P **P** 23 29 08.6 +0.8
NVS Novosibirsk 43.38 305 *e*P **P** 23 29 05.7 -2.5
NVS pmax pmax
comp=N,1.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 43.60 22 P **P** 23 29 09.8 +0.1
comp=Z,2.2nm,0.8s,baz=310,slow=8.1,SNR=10.0
RES Resolute Bay 43.60 22 *e*P **P** 23 29 11.1 +1.4
RES pmax pmax
comp=Z,14nm,1.5s
RES Resolute Bay 43.60 22 *e*P **P** 23 29 11.1 +1.4
comp=Z,14nm,1.5s
CD2 Chengdu 46.03 265 P **P** 23 29 30.3 +0.7
CD2 pP **pP** 23 29 43.0 +1.7
CD2 sP **sP** 23 29 48.8 +2.6
CD2 PP PP 23 31 18.3 +0.4
CD2 S **S** 23 36 10.0 -1.9
CD2 sS **sS** 23 36 31.8 +0.5
CD2 SS **ScS** 23 39 26.8 +5.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,210nm,7.1s
CD2 LR LR
comp=N,360nm,5.4s
CD2 LR LR
comp=Z,220nm,6.0s
GYA Guiyang 47.52 258 *e*P **P** 23 29 41.8 +0.4
GYA pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 47.99 302 P **P** 23 29 43.7 -0.9
comp=Z,3.3nm,0.5s,baz=58,slow=7.3,SNR=9.2
KURK Kurchatov 47.99 302 *ce*P **P** 23 29 42.7 -1.9
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 47.99 302 *e*P **P** 23 29 42.9 -1.8
comp=Z,5.8nm,0.5s
MK31 Makanchi Array 48.39 296 *e*P **P** 23 29 45.8 -2.0
MK31 Makanchi Array 48.39 296 *e*P **P** 23 29 45.8 -2.0
MKAR Makanchi Array 48.39 296 P **P** 23 29 46.1 -1.6
comp=Z,1.9nm,0.5s,baz=56,slow=6.9,SNR=82
MKAR Makanchi Array 48.39 296 P **P** 23 29 46.1 -1.6
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 48.39 296 *e*P **P** 23 29 46.2 -1.6
BVAR Borovoye Array 50.67 309 P **P** 23 30 03.3 -1.7
comp=Z,1.8nm,0.5s,baz=56,slow=7.1,SNR=15
BVAR Borovoye Array 50.67 309 P **P** 23 30 03.3 -1.7
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.67 309 P **P** 23 30 03.3 -1.7
BRVK Borovoye 50.70 309 *e*P **P** 23 30 04.9 -0.4
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.70 309 *e*P **P** 23 30 04.9 -0.4
comp=Z,2.6nm,0.6s
DAG Danmarks Havn 50.74 360 *i* P **P** 23 30 05.6 +0.4
comp=Z,44nm,1.0s
FFC Flin Flon 53.19 46 *ce*P **P** 23 30 26.4 +2.7
ARCES ARCESS Array B 53.64 342 P **P** 23 30 26.5 -0.3
comp=Z,1.5nm,0.7s,baz=31,slow=9.9,SNR=6.2
ARCES ARCESS Array B 53.64 342 P **P** 23 30 26.5 -0.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 53.64 342 P **P** 23 30 26.5 -0.3
ARU Arti 53.71 318 *d i*P **P** 23 30 39.6 +0.2
ARU *PP **pP** 23 30 29.7
ARU S **S** 23 37 55.6 -2.6
ARU SS **SKiKP** 23 41 32.0 -5.6
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 53.71 318 *e*P **P** 23 30 26.4 -1.1
comp=Z,30nm,2.1s
SUMG Summit 54.28 7 *e*P **P** 23 30 32.5 +0.5
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 54.28 7 *e*P **P** 23 30 32.5 +0.5
comp=Z,11nm,1.0s
SUMG Summit 54.28 7 *i* P **P** 23 30 32.7 +0.7
comp=Z,7.7nm,0.9s
TKM2 Tokmak 2 54.52 296 *e*P **P** 23 30 32.6 -1.3
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 54.52 296 *e*P **P** 23 30 32.6 -1.3
comp=Z,1.8nm,0.6s
LSA Lhasa 54.54 274 *e*P **P** 23 30 34.8 +0.3
LSA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 54.54 274 *e*P **P** 23 30 34.8 +0.3
comp=Z,2.2nm,0.8s
AAK Ala-Archa 55.31 296 P **P** 23 30 38.8 -0.8
comp=Z,3.9nm,0.9s,baz=138,slow=3.5,SNR=10.0
AAK Ala-Archa 55.31 296 *de*P **P** 23 30 38.8 -0.8
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 55.31 296 *e*P **P** 23 30 38.4 -1.2
comp=Z,19nm,0.9s
EKS2 Erkin-Say 55.68 297 *e*P **P** 23 30 41.5 -0.7
EKS2 pmax pmax
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 55.68 297 *e*P **P** 23 30 41.5 -0.7
comp=Z,5.3nm,1.0s
NVAR Mina Array Bea 55.77 70 P **P** 23 30 43.8 +0.8
comp=Z,1.0nm,0.7s,baz=298,slow=7.4,SNR=7.5
NVAR pP **pP** 23 30 53.4 -1.5
comp=Z,1.2nm,0.8s,baz=294,slow=7.5,SNR=5.9
NVAR Mina Array Bea 55.77 70 P **P** 23 30 43.8 +0.8
NVAR pP **pP** 23 30 53.4 -1.5
ELK Elko 55.91 66 *e*P **P** 23 30 45.2 +1.2
ELK Elko 55.91 66 *e*P **P** 23 30 45.2 +1.2
RLMT Red Lodge 56.14 58 *e*P P 23 30 40.7 -4.8
comp=Z,25nm,1.3s
KKAR Karatay Array 57.13 299 *e*P **P** 23 30 51.3 -1.1
KKAR pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 57.13 299 *e*P **P** 23 30 51.3 -1.1
comp=Z,12nm,1.2s
BW06 Boulder Array 57.60 61 *e*P **P** 23 30 57.8 +1.9
comp=Z,16nm,1.9s
PDAR Pinedale Array 57.60 61 P **P** 23 30 58.0 +2.0
comp=Z,0.7nm,0.6s,baz=317,slow=3.1,SNR=7.5
PDAR Pinedale Array 57.60 61 P **P** 23 30 58.0 +2.0
DUG Dugway 57.63 65 *e*P **P** 23 30 57.8 +1.7
DUG pmax pmax
comp=Z,10.0nm,1.7s
DUG Dugway 57.63 65 *e*P **P** 23 30 57.8 +1.7
comp=Z,9.8nm,1.7s
JOF Joensuu 57.91 335 *e*P **P** 23 30 57.7 +0.2
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 57.91 335 *ep* **P** 23 30 57.7 +0.2
comp=Z,1.0nm,0.3s
JOF Joensuu 57.91 335 *ep* **P** 23 30 57.7 +0.2
comp=Z,1.0nm,0.3s
CHTO Chiang Mai 57.93 259 *e*P **P** 23 30 59.1 +0.9
CHTO pmax pmax
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 57.93 259 *e*P **P** 23 30 59.1 +0.9
comp=Z,1.4nm,0.6s
ABKAR Akbulak array 58.08 311 *e*P **P** 23 30 58.0 -0.9
comp=Z,1.3nm,0.6s
CMAR Chiang Mai Arr 58.21 258 P **P** 23 31 01.4 +1.2
comp=Z,1.0nm,0.8s,baz=19,slow=7.0,SNR=7.1
CMAR Chiang Mai Arr 58.21 258 P **P** 23 31 01.4 +1.2
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 58.21 258 P **P** 23 31 01.4 +1.2
TAPN Taplejung 58.33 274 *e*P **P** 23 31 00.8 -0.5
comp=Z,6.2nm,0.6s
TAPN Taplejung 58.33 274 *e*P **P** 23 31 00.8 -0.5
comp=Z,6.2nm,0.6s
ULM Lac du Bonnet 58.98 47 P **P** 23 31 06.0 +0.9
comp=Z,1.4nm,0.3s,baz=320,slow=6.9,SNR=3.1
ULM Lac du Bonnet 58.98 47 P **P** 23 31 06.0 +0.9
ULM pmax pmax
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 58.98 47 P **P** 23 31 06.0 +0.9
GUN Gumba 59.02 276 *e*P **P** 23 31 06.4 +0.2
comp=Z,6.2nm,0.4s
RAMN Ramite 59.29 275 *e*P **P** 23 31 07.0 -0.9
comp=Z,15nm,0.5s
RAMN Ramite 59.29 275 *e*P **P** 23 31 07.0 -0.9
comp=Z,15nm,0.5s
KKN Kakani 59.47 277 *e*P **P** 23 31 09.1 -0.1
comp=Z,8.5nm,0.4s
PKI Pulchoki 59.56 276 *e*P **P** 23 31 09.4 -0.5
comp=Z,8.7nm,0.8s
PKI Pulchoki 59.56 276 *e*P **P** 23 31 09.4 -0.5
PKI pmax pmax
comp=Z,9.0nm,0.8s
PKI Pulchoki 59.56 276 *e*P **P** 23 31 09.4 -0.5
comp=Z,8.7nm,0.8s
GKN Gorkha 59.71 277 *e*P **P** 23 31 10.3 -0.4
comp=Z,4.1nm,0.3s
DMN Daman 59.71 277 *e*P **P** 23 31 11.0 +0.2
DMN Daman 59.71 277 *e*P **P** 23 31 11.0 +0.2
KAF Kangasniemi 59.83 337 *e*P **P** 23 31 10.2 -0.6
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 59.83 337 *ep* **P** 23 31 10.2 -0.6
comp=Z,1.7nm,0.4s,baz=31,slow=6.4
KAF Kangasniemi 59.83 337 *ep* **P** 23 31 10.2 -0.6
comp=Z,1.7nm,0.4s,baz=31,slow=6.4
DANN Dangsing 59.98 278 *e*P **P** 23 31 12.1 -0.6
DANN Dangsing 59.98 278 *e*P **P** 23 31 12.1 -0.6
FINES FINESS Array B 60.47 337 P **P** 23 31 14.9 -0.2
comp=Z,3.7nm,0.5s,baz=34,slow=8.5,SNR=40
FINES FINESS Array B 60.47 337 P **P** 23 31 14.9 -0.2
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 60.47 337 P **P** 23 31 14.9 -0.2
KOLN Koldanda 60.50 278 *e*P **P** 23 31 15.4 -0.8
comp=Z,4.4nm,0.4s
NB2 NORSAR Subarra 63.89 344 P **P** 23 31 38.3 0.0
comp=Z,2.6nm,0.4s,baz=24,slow=6.9
NOA NORSAR Array B 63.89 344 P **P** 23 31 38.2 0.0
comp=Z,5.1nm,0.7s,baz=22,slow=6.7,SNR=24
NOA NORSAR Array B 63.89 344 P **P** 23 31 38.2 0.0
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 63.89 344 P **P** 23 31 38.2 0.0
KBL Kabul 64.05 293 *e*P **P** 23 31 37.7 -2.2
KBL pmax pmax
comp=Z,2.0nm,0.8s
KBL Kabul 64.05 293 *e*P **P** 23 31 37.7 -2.2
comp=Z,2.3nm,0.8s
NAO01 NORSAR Array S 64.13 344 *e*P **P** 23 31 39.4 -0.3
comp=Z,2.5nm,0.5s
SCHQ Schefferville 65.90 28 P **P** 23 31 51.5 +0.2
comp=Z,1.7nm,0.5s,baz=345,slow=6.6,SNR=14
SCHQ Schefferville 65.90 28 P **P** 23 31 51.5 +0.2
AKASG Malin Array Be 68.95 329 P **P** 23 32 10.4 -0.2
comp=Z,6.1nm,0.5s,baz=28,slow=6.1,SNR=16
AKASG Malin Array Be 68.95 329 P **P** 23 32 10.4 -0.2
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 68.95 329 P **P** 23 32 10.4 -0.2
AKBB Malin Array Si 68.95 329 *e*P **P** 23 32 09.8 -0.8
AKBB Malin Array Si 68.95 329 *e*P **P** 23 32 09.8 -0.8
KIEV Kiev 68.96 329 *e*P **P** 23 32 10.7 0.0
KIEV Kiev 68.96 329 *e*P **P** 23 32 10.7 0.0
WMOK Wichita Mounta 69.19 60 *e*P **P** 23 32 13.9 +1.5
WMOK pmax pmax
comp=Z,2.0nm,0.9s
WMOK Wichita Mounta 69.19 60 *e*P **P** 23 32 13.9 +1.5
comp=Z,2.0nm,0.9s
ZEI Tsey 70.21 315 *e*P **P** 23 32 17.7 -1.1
ZEI pmax pmax
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 70.68 67 P **P** 23 32 23.6 +1.9
comp=Z,0.5nm,0.6s,baz=295,slow=3.6,SNR=9.1
TXAR pP **pP** 23 32 32.0 -1.9
comp=Z,0.6nm,0.6s,baz=299,slow=4.6,SNR=6.1
TXAR Lajitas Array 70.68 67 P **P** 23 32 23.6 +1.9
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 70.68 67 P **P** 23 32 23.6 +1.9
TXAR pP **pP** 23 32 32.0 -1.9
KWP Kalwaria Pacla 71.83 332 *i*P **P** 23 32 29.2 +0.9
KWP Kalwaria Pacla 71.83 332 *e*P **P** 23 32 29.0 +0.7
comp=Z,33nm,1.0s
KWP Kalwaria Pacla 71.83 332 *i*P **P** 23 32 29.2 +0.9
OJC Ojcow 72.09 335 *e*P **P** 23 32 30.8 +1.0
OJC Ojcow 72.09 335 *e*P **P** 23 32 30.8 +1.0
OJC Ojcow 72.09 335 *e*P **P** 23 32 30.8 +1.0
NIE Niedzica 72.68 334 *e*P **P** 23 32 34.8 +1.4
NIE Niedzica 72.68 334 *e*P **P** 23 32 34.8 +1.4
CLL Collm 72.70 339 *e*P **P** 23 32 33.7 +0.3
comp=Z,8.0nm,0.9s
CLL Collm 72.70 339 *i*P **P** 23 32 33.7 +0.3
CLL *i* 23 32 44.7
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 72.70 339 *i*P **P** 23 32 33.7 +0.3
comp=Z,8.0nm,1.0s
CLL *epP **pP** 23 32 45.0 -0.7
CLZ Clausthal 72.74 341 *e*P **P** 23 32 34.8 +1.1
comp=Z,8.0nm,0.9s
CLZ Clausthal 72.74 341 *e*P **P** 23 32 34.8 +1.1
CLZ pmax pmax
comp=Z,8.0nm,0.9s
UPC Upice 72.77 337 *e*P **P** 23 32 34.7 +0.9
UPC Upice 72.77 337 *e*P **P** 23 32 34.7 +0.9
DPC Dobruska-Polom 72.84 337 *e*P **P** 23 32 35.1 +0.8
OKC Ostrava-Krasne 72.86 335 *e*P **P** 23 32 35.4 +1.0
OKC Ostrava-Krasne 72.86 335 *e*P **P** 23 32 35.4 +1.0
BUR08 Bucovina Ar. S 72.89 330 *e*P **P** 23 32 34.9 +0.2
BURAR Bucovina Array 72.91 330 *i*P **P** 23 32 35.6 +0.8
LEOM Leova 72.97 328 *i*P **P** 23 32 35.7 +0.7
LEOM Leova 72.97 328 *i*P **P** 23 32 35.7 +0.7
MORC Moravsky Berou 73.07 336 *i*P **P** 23 32 36.8 +1.1
MORC Moravsky Berou 73.07 336 *e*P **P** 23 32 36.2 +0.6
comp=Z,5.7nm,0.9s
MORC Moravsky Berou 73.07 336 *i*P **P** 23 32 36.8 +1.1
TRPA Tarpa 73.24 332 *i*P **P** 23 32 37.9 +1.3
TESR 73.45 329 *i*P **P** 23 32 39.2 +1.3
PRU Pruhonice 73.59 338 *e*P **P** 23 32 39.5 +0.6
PRU Pruhonice 73.59 338 *e*P **P** 23 32 39.3 +0.6
MOX Moxa 73.62 340 *e*P **P** 23 32 39.6 +0.7
comp=Z,4.0nm,1.0s
MOX Moxa 73.62 340 *e*P **P** 23 32 39.6 +0.7
MOX pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 73.74 336 *i*P **P** 23 32 41.1 +1.5
VRAC Vranov 73.74 336 *i*P **P** 23 32 41.0 +1.5
WERN Wernitzgruen 73.80 339 *e*P **P** 23 32 41.0 +1.1
comp=Z,7.0nm,1.2s
TLCR 73.92 327 *i*P **P** 23 32 41.2 +0.6
TLCR 73.92 327 *i*P **P** 23 32 41.2 +0.6
VRI Vrincioaia 74.00 328 *i*P **P** 23 32 41.7 +0.5
VRI Vrincioaia 74.00 328 *i*P **P** 23 32 41.7 +0.5
PLOR Plostina 74.04 328 *i*P **P** 23 32 41.1 -0.3
PLOR Plostina 74.04 328 *i*P **P** 23 32 41.1 -0.3
CFR Carcaliu 74.15 327 *i*P **P** 23 32 42.2 +0.2
CFR Carcaliu 74.15 327 *i*P **P** 23 32 42.2 +0.2
PSZ Piszkesteto 74.17 334 *i*P **P** 23 32 43.4 +1.2
PSZ Piszkesteto 74.17 334 *e*P **P** 23 32 42.7 +0.5
comp=Z,5.3nm,0.9s
PSZ Piszkesteto 74.17 334 *i*P **P** 23 32 43.4 +1.2
GRER 74.35 328 *i*P **P** 23 32 45.3 +2.1
DRGR 74.40 331 *i*P **P** 23 32 44.2 +0.6
DRGR 74.40 331 *i*P **P** 23 32 44.2 +0.6
MLR Muntele Rosu 74.58 329 *i*P **P** 23 32 45.8 +1.1
MLR Muntele Rosu 74.58 329 *i*P **P** 23 32 45.8 +1.1
GRF Grafenberg Arr 74.61 340 *e*P **P** 23 32 46.0 +1.4
comp=Z,12nm,0.7s
GRF Grafenberg Arr 74.61 340 *eL* L 00 14 13.0
comp=Z,233nm,21.6s
GRF Grafenberg Arr 74.61 340 *e*P **P** 23 32 46.0 +1.4
GRF pmax pmax
comp=Z,12nm,0.7s
KHC Kasperske Hory 74.62 338 *e*P **P** 23 32 46.1 +1.3
KHC Kasperske Hory 74.62 338 *e*P **P** 23 32 46.1 +1.3
KHC Kasperske Hory 74.62 338 *e*P **P** 23 32 46.0 +1.3
TIRR Tirgusor 74.69 326 *i*P **P** 23 32 45.7 +0.5
TIRR Tirgusor 74.69 326 *i*P **P** 23 32 45.7 +0.5
ISR Istrita 74.72 328 *i*P **P** 23 32 46.5 +1.1
ISR Istrita 74.72 328 *i*P **P** 23 32 46.5 +1.1
WET Wettzell 74.76 338 *e*P **P** 23 32 46.4 +0.8
comp=Z,8.0nm,1.3s
WET Wettzell 74.76 338 *e*P **P** 23 32 46.4 +0.8
WET pmax pmax
comp=Z,8.0nm,1.3s
GERES GERESS Array B 74.86 338 P **P** 23 32 47.0 +0.8
comp=Z,2.3nm,0.8s,baz=39,slow=5.7,SNR=13
GERES pP **pP** 23 32 57.5 -1.0
comp=Z,0.7nm,0.7s,baz=28,slow=6.0,SNR=4.1
GERES GERESS Array B 74.86 338 P **P** 23 32 47.0 +0.8
GERES *PP **pP** 23 32 57.5 -1.0
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 74.86 338 P **P** 23 32 47.0 +0.8
GERES pP **pP** 23 32 57.5 -1.0
SULR 75.21 328 *i*P **P** 23 32 47.0 -1.1
BAIF Baives 75.57 344 *e*P **P** 23 32 50.8 +0.7
comp=Z,8.2nm,0.8s
GZR Gura Zlata 75.65 331 *i*P **P** 23 32 51.3 +0.5
GZR Gura Zlata 75.65 331 *i*P **P** 23 32 51.3 +0.5
BZS Buzias 75.79 331 *i*P **P** 23 32 51.8 +0.4
BZS Buzias 75.79 331 *i*P **P** 23 32 51.8 +0.4
WRA Warramunga Arr 75.82 205 P **P** 23 32 52.1 +0.3
comp=Z,2.7nm,1.1s,baz=21,slow=6.0,SNR=4.8
WRA Warramunga Arr 75.82 205 P **P** 23 32 52.1 +0.3
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 75.82 205 P **P** 23 32 52.1 +0.3
CDF Champ du Feu 76.61 342 *e*P **P** 23 32 56.9 +0.7
comp=Z,14nm,0.9s
PAGF Fort de Pagny 76.76 343 *i*P **P** 23 32 58.7 +1.7
BR131 Keskin Array S 76.94 321 *e*P **P** 23 32 58.2 -0.1
comp=Z,2.8nm,0.6s
BRTR Keskin Array B 76.94 321 P **P** 23 32 58.6 +0.4
comp=Z,2.6nm,0.5s,baz=37,slow=3.0,SNR=21
BRTR Keskin Array B 76.94 321 P **P** 23 32 58.7 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 76.94 321 P **P** 23 32 58.6 +0.4
HAU Haudompre 77.18 342 *e*P **P** 23 32 59.9 +0.6
GRR Gorron 77.95 347 *e*P **P** 23 33 04.1 +0.5
TUE Stuetta 78.06 340 *e*P **P** 23 33 06.0 +1.5
SGMF Saint Gilles 78.31 348 *e*P **P** 23 33 06.1 +0.6
AVF Avril sur Loir 78.88 344 *i*P **P** 23 33 09.4 +0.7
comp=Z,8.3nm,0.9s
BGF Bois d'Agland 79.19 344 *e*P **P** 23 33 11.1 +0.6
ASAR Alice Springs 79.49 204 P **P** 23 33 13.8 +1.6
comp=Z,1.0nm,0.5s,baz=16,slow=5.1,SNR=21
ASAR pP **pP** 23 33 23.8 -0.9
comp=Z,0.8nm,0.6s,baz=16,slow=5.2,SNR=4.2
ASAR Alice Springs 79.49 204 P **P** 23 33 13.8 +1.6
ASAR *PP **pP** 23 33 23.8 -0.9
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 79.49 204 P **P** 23 33 13.8 +1.6
ASAR pP **pP** 23 33 23.8 -0.9
LPL La Plagne 79.50 341 *i*P **P** 23 33 14.1 +1.6
comp=Z,6.0nm,0.6s
LPG La Plagne 79.52 341 *e*P **P** 23 33 14.3 +1.7
comp=Z,7.1nm,0.6s
ORIF Oris-en-Rattie 80.24 342 *e*P **P** 23 33 17.9 +1.6
comp=Z,21nm,1.1s
CAF Calviac 80.90 344 *e*P **P** 23 33 21.3 +1.5
LFF La Frestale 81.10 345 *e*P **P** 23 33 22.1 +1.3
SJPF Ste Jean 83.18 346 *e*P **P** 23 33 33.5 +1.8
ETSF Etsaut 83.29 346 *e*P **P** 23 33 34.1 +1.7
comp=Z,7.6nm,0.7s
ESDC Sonseca Array 86.93 348 P **P** 23 33 50.2 -0.5
comp=Z,0.4nm,0.5s,baz=1.7,slow=5.7,SNR=4.8
ESDC Sonseca Array 86.93 348 P **P** 23 33 50.2 -0.5
KEST Kesra 88.30 337 P **P** 23 33 57.6 +0.3
comp=Z,1.6nm,1.0s,baz=272,slow=10,SNR=3.7
KEST Kesra 88.30 337 P **P** 23 33 57.6 +0.3

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*JMA **31** 23:33:43.7±0.2, 43.12N×146.67E, h44km±3km, M3.7*
*ISCJB **31** 23:33:44.3±1.5, 43.2N±0.1×146.6E±0.1, h53km±11km, mb3.5/7, Error ellipse: s-maj=23.7km s-min=12.6km az=156.8*
*IDC **31** 23:33:49.7±4.5, 43.62N×146.51E, h68km±32km, mb3.3/7, mb1 3.5/9, mb1mx3.3/24, mbtmp3.3/9, ML3.1/2, Error ellipse: s-maj=98.7km s-min=23.3km az=173.0*

ISC 31 23:33:44.7±2.7, **43.2N**±0.1×**146.7E**±0.1, **h43**km±22km, **n18, s0f71/22, mb3.5/7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.70**	**288**	P			**Pn**	**23 33 57.5**	**-0.6**
NEM2				*e*S			**Sn**	**23 34 07.5**	**-0.3**
JRA	**Rausu**	**1.36**	**306**	P			**Pn**	**23 34 07.2**	**0.0**
JAK	**Akkeshi**	**1.44**	**264**	P			**Pn**	**23 34 08.0**	**-0.3**
JAK				*e*S			**Sn**	**23 34 25.7**	**-0.3**
JNK	**Nakash**	**1.48**	**288**	P			**Pn**	**23 34 08.5**	**-0.2**
JNK				*e*S			**Sn**	**23 34 26.2**	**-0.6**
JOB	**Onbets**	**2.08**	**264**	P			**Pn**	**23 34 17.2**	**+0.2**
JAR	**Ashorobuto**	**2.11**	**275**	P			**Pn**	**23 34 17.7**	**+0.2**
JAR				*e*S			**Sn**	**23 34 43.1**	**+0.6**
JTKR	**Abashiri--Toko**	**2.16**	**293**	P			**Pn**	**23 34 18.9**	**+0.8**
JCH	**Churui**	**2.48**	**259**	P			**Pn**	**23 34 22.7**	**+0.2**
JCH				*e*S			**Sn**	**23 34 51.9**	**+0.4**
JMP	**Maruseppu**	**2.54**	**291**	P			**Pn**	**23 34 24.5**	**+1.1**
ASAJ	**Asahikawa** 3.6nm,0.3s,baz=93,slow=15,SNR=14	**3.10**	**290**	P			**Pn**	**23 34 32.2**	**+1.1**
ASAJ				S			Sn	23 35 13.3	+6.5
USRK	**Ussuriysk Arra** 3.1nm,0.3s,baz=218,slow=18,SNR=3.8	**10.67**	**281**	P			Pn	23 36 18.4	+3.6
SONM	**Songino Array** 0.3nm,0.3s,baz=90,slow=20,SNR=4.9	**28.37**	**294**	P			**P**	**23 39 35.3**	**+0.5**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=90,slow=8.3,SNR=6.0	**42.18**	**36**	P			**P**	**23 41 33.4**	**+0.6**

0.2nm,0.5s,baz=258,slow=7.0,SNR=7.1
MKAR Makanchi Array 44.54 298 P **P 23 41 52.2 +0.2**
0.4nm,0.5s,baz=79,slow=9.3,SNR=17
BVAR Borovoye Array 49.60 310 P **P 23 42 30.7 -0.6**
0.2nm,0.4s,baz=81,slow=10,SNR=4.2
YKA Yellowknife Ar 56.50 33 P **P 23 43 21.5 -0.5**
0.1nm,0.4s,baz=299,slow=6.6,SNR=5.9
FINES FINESS Array B 65.24 333 P **P 23 44 19.8 -1.5**
2.5nm,0.9s,baz=44,slow=12,SNR=7.5
TXAR Lajitas Array 83.28 56 P **P 23 46 07.8 +0.8**
0.3nm,0.6s,baz=327,slow=1.3,SNR=4.2

IDC 31 23:57:52.2±2.0, 17.96S×178.15W, h559^{km}±25^{km}, mb3.3/7, mb1 3.6/8, mb1mx3.3/18, mbtmp3.4/8, Error ellipse: s-maj=48.1km s-min=16.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.33**	**58**	P	P	23 59 44.1	+0.1
	5.7nm,0.3s,baz=196,slow=4.5,SNR=4.4						
STKA	**Stephens Creek**	**38.82**	**241**	P	P	00 04 29.4	-0.5
	5.7nm,0.5s,baz=83,slow=9.1,SNR=20						
WRA	**Warramunga Arr**	**44.87**	**260**	P	P	00 05 17.2	-0.4
	4.1nm,0.5s,baz=96,slow=7.3,SNR=73						
ASAR	**Alice Springs**	**45.02**	**254**	P	P	00 05 18.9	+0.2
	13nm,0.6s,baz=87,slow=8.8,SNR=170						
ASAR				PcP	PcP	00 06 46.9	-0.9
	0.6nm,0.4s,baz=105,slow=4.0,SNR=4.2						
MJAR	**Matsushiro Arr**	**68.10**	**323**	P	P	00 07 56.6	-0.1
	0.7nm,0.4s,baz=150,slow=5.6,SNR=5.0						
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	00 09 34.1	+0.7
	0.4nm,0.7s,baz=222,slow=5.0,SNR=6.2						
ILAR	**Eielson Array**	**85.88**	**13**	P	P	00 09 31.3	-1.4
	0.6nm,1.1s,baz=220,slow=4.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**89.14**	**290**	P	P	00 09 50.7	+1.6
	0.4nm,0.5s,baz=166,slow=3.0,SNR=4.3						
BRTR	**Keskin Array B**	**145.00**	**315**	PKP	PKPdf	00 16 26.6	0.0
	0.6nm,0.5s,baz=112,slow=2.7,SNR=7.1						
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	PKPbc	00 16 33.2	-1.2
	0.4nm,0.5s,baz=32,slow=3.3,SNR=5.4						

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*PGC **31** 23:58:32.0±8.4, 57.06N×139.52W, h10^{km}, ML3.6/4, 248km south of Yakutat, Ak Off Coast Of Southeastern Alaska*

NEIC 31 23:58:34.2, 57.03N×139.61W, h12^{km}, ML2.8(AEIC), **4D, After AEIC., Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIT	**Sitka**	**2.34**	**88**	P	Pn	23 59 07.5	-5.0
SIT				S	Sn	23 59 33.9	-7.3
PNL	**Peninsula**	**2.65**	**2**	P	Pn	23 59 11.2	-5.6
PNL				S	Sn	23 59 39.9	-9.0
BESE	**Bessie Mountai**	**2.98**	**57**	P	Pn	23 59 17.3	-4.1
BESE				S	Sn	23 59 49.7	-7.5
CHX	**Chaix Hills**	**3.14**	**346**	P	Pn	23 59 19.4	-4.3
CHX				S	Sn	23 59 53.8	-7.4
SAMH	**Samovar Hills**	**3.17**	**349**	P	Pn	23 59 19.3	-4.7
SAMH				S	Sn	23 59 55.1	-6.8
SKAG	**Skagway**	**3.33**	**41**	*e*Pn	Pn	23 59 22.6	-3.4
SKAG				*e*Sn	Sn	23 59 59.5	-5.9
RKAV	**Rock Avalanche**	**3.40**	**345**	P	Pn	23 59 22.2	-5.1
BAGL	**Bagley Icefiel**	**3.70**	**341**	P	Pn	23 59 25.9	-5.2
ISLE	**Juniper Island**	**3.85**	**340**	P	Pn	23 59 27.9	-5.6
CRAG	**Craig**	**3.94**	**111**	*e*Pn	Pn	23 59 30.3	-4.2
CRAG				*e*Sn	Sn	00 00 13.1	-7.5
HYT	**Haines Junctio**	**3.96**	**15**	⇓Pn	Pn	23 59 31.3	-3.7
KIAG	**Kiagna River**	**4.16**	**341**	P	Pn	23 59 32.3	-5.4
WHY	**Whitehorse**	**4.39**	**32**	⇑Pn	Pn	23 59 37.6	-3.2
WHY				⇑Sn	Sn	00 00 24.7	-7.3
BMRM	**Bremner River**	**4.72**	**329**	*e*Pn	Pn	23 59 47.5	+2.2
NDB	**Naden**	**4.88**	**126**	⇑Pn	Pn	23 59 42.3	-5.2
DLBC	**Dease Lake**	**5.33**	**71**	⇓Pn	Pn	23 59 51.1	-2.5
DLBC				⇑Sn	Sn	00 00 47.6	-7.3
DIB	**Dawson Inlet,**	**5.61**	**130**	⇓Pn	Pn	23 59 54.5	-2.8
MOBC	**Moresby Island**	**5.86**	**128**	⇓Pn	Pn	23 59 58.3	-2.7
MOBC				⇑Sn	Sn	00 01 00.8	-7.3
BNB	**Barry Inlet**	**6.37**	**131**	P	Pn	00 00 03.8	-4.1
DAWY	**Dawson**	**7.06**	**1**	⇑Pn	Pn	00 00 13.8	-3.6
DAWY				⇑Sn	Sn	00 01 27.1	-10

ISC Computed Locations for January 2009

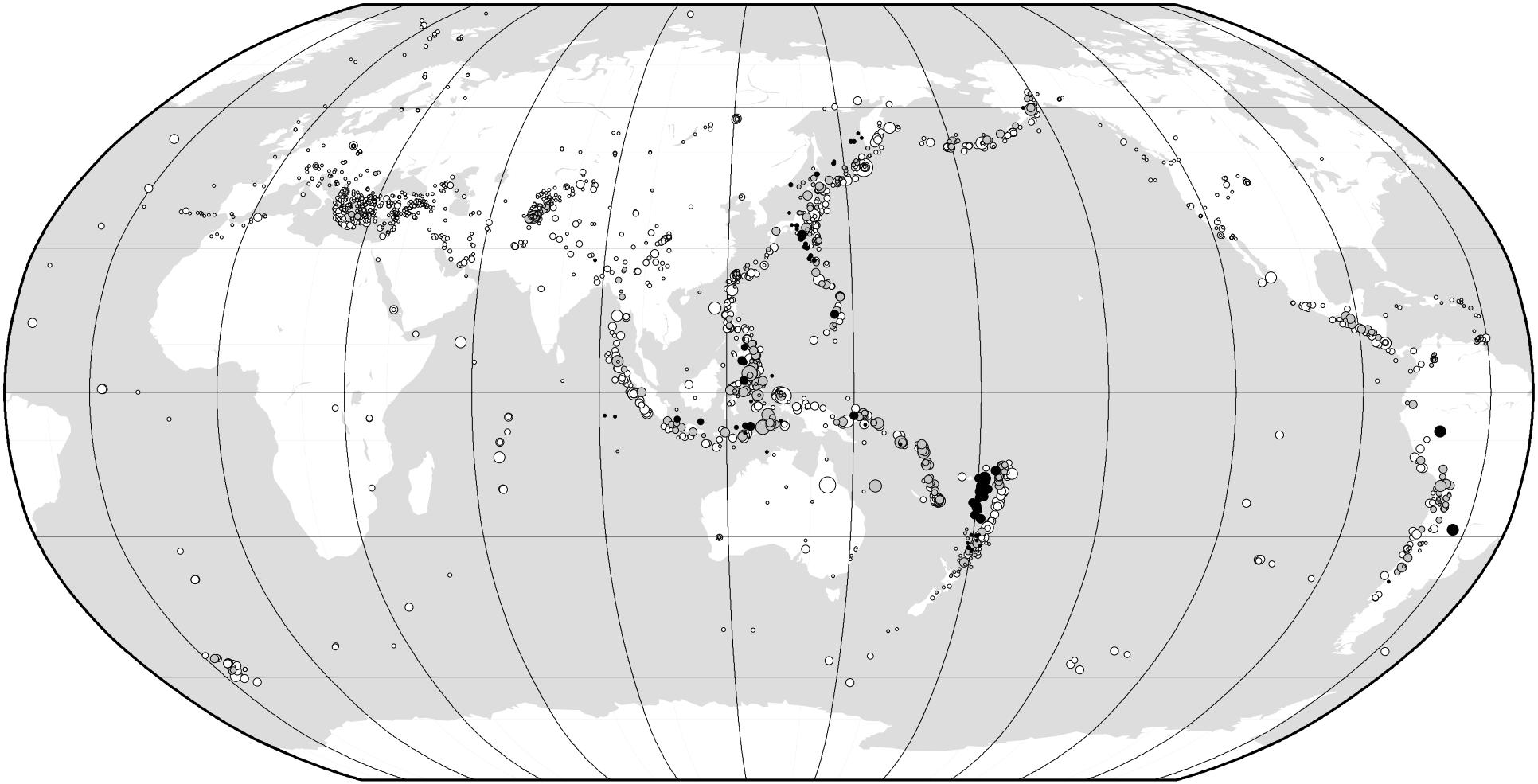

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2596 Events